

A35

Reference Manual



SAMSUNG MEDISON
DIAGNOSTIC ULTRASOUND SYSTEM

Version 3.01

A35

Reference Manual

English

Table of Contents

PART 1. OB REFERENCE

OB REFERENCE 9

GESTATIONAL AGE AND FETAL GROWTH FORMULA AND TABLE LIST 9

ABDOMINAL CIRCUMFERENCE (AC)

KOREAN	9
HADLOCK	9
HANSMANN	10
MERZ	10
JEANTY	12
SHINOZUKA	13
JSUM	14
CHITTY (D)	15
CHITTY (M)	15
CAMPBELL	16
ASUM(SCW)	16
CFEF	17
JOHNSEN	18
KURMANAVICIUS	18
NICOLAIDES	19

BIPARIETAL DIAMETER (BPD)

KOREAN	21
HANSMANN	21
HADLOCK	23
MERZ	23
JEANTY	25
SABBAGHA	26
SHINOZUKA	26
JSUM	28
OSAKA	29

CHITTY (OUT-IN)	32
CHITTY (OUT-OUT)	34
CAMPBELL	35
KURTZ	36
ASUM(SCW)	37
BESSIS	37
CFEF	38
JOHNSEN	39
REMPEN	40
KURMANAVICIUS	41
NICOLAIDES	41

CROWN-RUMP LENGTH (CRL)

KOREAN	43
ROBINSON	44
HANSMANN	44
SHINOZUKA	45
JUSM	47
NELSON	48
HADLOCK	48
OSAKA	49
ASUM(SCW)	50
REMPEN	51

FEMUR LENGTH (FL)

KOREAN	53
HADLOCK	53
MERZ	54
HANSMANN	55
HOHLER	56
JEANTY	56
SHINOZUKA	59
JSUM	61
OSAKA	63
CHITTY	65
CAMPBELL	67

ASUM(SCW)	67
DOUBILET	68
BESSIS	68
CFEF	69
JOHNSEN	70
KURMANAVICIUS	71
NICOLAIDES	71
ANTERIOR POSTERIOR THORACIC DIAMETER (APTD)	
HANSMANN	73
ANTERIOR POSTERIOR THORACIC DIAMETER (APTD) AND THORAX TRANSVERSE DIAMETER (TTD)	
SHINOZUKA	74
TOKYO	75
GESTATIONAL SAC (GS)	
KOREAN	76
HANSMANN	76
HELLMAN	77
NYBERG	77
TOKYO	77
REMPEN	78
OCCIPITAL FRONTAL DIAMETER (OFD)	
HANSMANN	79
ASUM(SCW)	80
KOREAN	81
KURMANAVICIUS	81
NICOLAIDES	82
INNER OCULAR DISTANCE (IOD)	
HANSMANN	84

OUTER OCULAR DISTANCE (OOD)	
JEANTY	84
HANSMANN	85
HUMERUS (HUM)	
JEANTY	86
KOREAN	88
MERZ	88
OSAKA	89
ASUM(SCW)	90
HANSMANN	91
TIBIA (TIB)	
JEANTY	91
MERZ	93
HANSMANN	94
THORAX TRANSVERSE DIAMETER (TTD)	
HANSMANN	94
CEREBELLUM (CEREB)	
HILL	95
CHITTY	96
GOLDSTEIN	96
NICOLAIDES	97
ULNA	
JEANTY	99
MERZ	100
HANSMANN	100
HEAD CIRCUMFERENCE (HC)	
KOREAN	101
HANSMANN	101
HADLOCK	102

MERZ	103
CHITTY (D)	105
CHITTY (M)	106
CAMPBELL	108
ASUM (SCW)	108
CFEF	109
JOHNSEN	110
KURMANAVICIUS	111
NICOLAIDES	112
FETAL TRUNK CROSS-SECTIONAL AREA (FTA)	
OSAKA	114
CLAVICLE (CLAV)	
YARKONI	116
LENGTH OF VERTEBRAL (VERTEBRAL)	
TOKYO	117
RADIUS LENGTH (RAD)	
MERZ	118
JEANTY	118
HANSMANN	119
MIDDLE ABDOMINAL DIAMETER (MAD)	
EIK-NESSH	119
JOHNSEN	121
KURMANAVICIUS	121
MID CEREBRAL ARTERY (MCA)-RESISTANCE INDEX (RI)	
SHINOZUKA	122
JSUM	122
KURMANAVICIUS	123

MID CEREBRAL ARTERY (MCA)-PULSATILITY INDEX (PI)	
SHINOZUKA	123
JSUM	124
UMBILICAL ARTERY (UMA)-RESISTANCE INDEX (RI)	
SHINOZUKA	124
JSUM	125
KURMANAVICIUS	125
UMBILICAL ARTERY (UMA)-PULSATILITY INDEX (PI)	
SHINOZUKA	126
JSUM	126
UTERINE ARTERY-RESISTANCE INDEX (RI)	
KURMANAVICIUS	127
BAHLMANN	127
UTERINE ARTERY-PULSATILITY INDEX (PI)	
BAHLMANN	128
ANTERIOR POSTERIOR ABDOMINAL DIAMETER (APD)	
HANSMANN	128
BESSIS	128
TRANSVERSE ABDOMINAL DIAMETER (TAD)	
CFEF	129
THORACIC CIRCUMFERENCE (THC)	
CHITKARA	130
FIBULA LENGTH (FIB)	
JEANTY	130
HANSMANN	131

NUCHAL THICKNESS (NT)

YAGEL 131

LATERAL VENTRICULAR WIDTH (LT./RT. VA)

JOHNSON 132

HEMISPHERIC WIDTH (LT. HEM, RT. HEM)

JOHNSON 133

RENAL LENGTH (RENAL L)

HANSMANN 133

RENAL ANTERIOR-POSTERIOR LENGTH (RENAL AP)

HANSMANN 134

CISTERNA MAGNA DIAMETER (CM)

NICOLAIDES 134

AMNIOTIC FLUID INDEX (AFI)

MOORE 136

NASAL BONE LENGTH (NB)

SONEK 137

FETAL RATIO REFERENCE**137****FEMUR LENGTH/FOOT LENGTH (FL/FOOT)**

CAMPBELL 137

BPDO/OFD0 (CEPHLIC INDEX)

HADLOCK 137

FEMUR LENGTH/ABDOMINAL CIRCUMFERENCE (FL/AC)

HADLOCK 137

FEMUR LENGTH/HEAD CIRCUMFERENCE (FL/HC)

HADLOCK 138

FEMUR LENGTH/BIPARIETAL DIAMETER (FL/BPD)

HOHLER 138

THORACIC CIRCUMFERENCE/ABDOMINAL CIRCUMFERENCE (THC/AC)

CHITKARA 138

HEAD CIRCUMFERENCE (HC) / ABDOMINAL CIRCUMFERENCE (AC)

CAMPBELL 139

LATERAL VENTRICULAR WIDTH (LV) / HEMISPHERIC WIDTH (HW)

JOHNSON 139

ESTIMATED FETAL WEIGHT FORMULA**140****METHOD USING**

BPD, AC 140

BPD, FL, FTA 140

BPD, APTD, TTD, FL 140

BPD, APTD, TTD, SL 140

BPD, TTD 141

AC, FL 141

BPD, AC, FL 141

HC, AC, FL 142

BPD, HC, AC, FL 142

AC 142

BPD, AC 143

AC, HC 143

ESTIMATED FETAL WEIGHT GROWTH REFERENCE 143

ESTIMATE FETAL WEIGHT (EFW)

BRENNER	143
DOUBILET	144
OSAKA	144
HADLOCK	146
SHINOZUKA	147
JSUM	147
WILLIAMS	148
YARKONI (TWINS)	148
HANSMANN	149
JOHNSEN	149

ESTIMATE FETAL WEIGHT ALGORITHM 150

ESTIMATE FETAL WEIGHT (EFW)

CAMPBELL	150
HADLOCK	150
HADLOCK1	150
HADLOCK2	151
HADLOCK3	151
HADLOCK4	151
HANSMANN	152
MERZ	152
OSAKA	152
SHEPARD	153
SHINOZUKA1	153
SHINOZUKA2	153
SHINOZUKA3	153
FERRERO	153
HIGGINBOTTOM	154
THURNAU	154
WARSOFF	154

WEINER1	154
WEINER2	154
WOO	154

PART 2. Cardiology Reference

CARDIOLOGY REFERENCE 155

CARDIOLOGY 2D 155

BSA (Body Surface Area)	155
LV. Ventricle (2D)	155
LV Vol. d (LV Volume Diastolic)	155
LV Vol. s (LV Volume Systolic)	156
Stroke Volume (SV)	156
Stroke Volume Index (SI)	156
Cardiac Output (CO)	156
Cardiac Index (CI)	156
Ejection Fraction (EF)	156
Fraction Shortening (%FS)	156
LV Mass	156
LV Mass Index	156
LV Vol. (MOD, Method Of Disk)	157
LV Vol. (A/L)	157
LV Vol. (Bullet)	157
LV Mass	158
LA Vol. (Left Atrium Volume)	159
LVOT Area	159
RVOT Area	159
Mitral Valve (MV) Area	159
Tricuspid Valve (TV) Area	159
Aorta Diameter	160
Shunt	160

CARDIOLOGY M MODE 160

Left Ventricle	160
LV Mass	161
LV Mass Index	161
Right Ventricle	161
MV (Mitral Valve)	161
Ao/LA	162
Area	162

CARDIOLOGY C MODE 163

AV Regurg (AR), MV Regurg (MR), TV Regurg (TR)	163
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CARDIOLOGY DOPPLER 164

LVOT, RVOT, Aortic Valve, Mitral Valve, Tricuspid Valve, Pulmonic Valve	164
Pulmonic Veins, Hepatic Veins	166
Aortic Valve	167
Mitral Valve	167
Tricuspid Valve	167
Pulmonic Valve	167
QP : QS = Pulmonic CO / Sysemic CO	167
Velocity Circumferential Fiber Shortening (Circ / Sec)	167
Propagation Velocity (Vp)	167

UROLOGY REFERENCE 168

Resistivity Index	168
Pulsatility Index	168
S/D (ratio of Systolic to Diastolic Velocity)	168
D/S (ratio of Diastolic to Systolic Velocity)	168
Pressure Gradient	168
Volume Flow (Area)	168
Volume Flow (Dist.)	168
Prostate Vloume (3 Distances)	168
Prostate Vloume (3 Distances x Factor)	168
Prostate Vloume (Ellipsoid)	168
Prostate Vloume (Sum of 20 Disks)	169
Prostate Spec. Antigen	169
Residual Volume	169
%STA	169
%STD	169

FETAL HEART REFERENCE 169

Stroke Volume (SV)	169
Cardiac Output (CO)	169
Ejection Fraction (EF)	169
LV Vol. d (LV Volume Diastolic)	169
LV Vol. s (LV Volume Systolic)	170
LV Mass	170
Fractional Shortening of Left Ventricle Internal diameter	170
Resistivity Index	170
Pulsatility Index	170
S/D (ratio of Systolic to Diastolic Velocity)	170
D/S (ratio of Diastolic to Systolic Velocity)	170
Preload Index	170

VASCULAR REFERENCE 171

CAROTID, UE ARTERY, LE ARTERY, LE VEIN 171

Resistivity Index	171
Pulsatility Index	171
S/D (ratio of Systolic to Diastolic Velocity)	171
D/S (ratio of Diastolic to Systolic Velocity)	171
Pressure Gradient	171
%STA	171
%STD	171
Volume Flow (Area)	171
Volume Flow (Dist.)	171

GYNECOLOGY REFERENCE 172

Resistivity Index	172
Pulsatility Index	172
S/D (ratio of Systolic to Diastolic Velocity)	172
D/S (ratio of Diastolic to Systolic Velocity)	172
Pressure Gradient	172
%STA	172
%STD	172
Volume Flow (Area)	172
Volume Flow (Dist.)	172
Vol.	172
Follicle Vol.	172

ABDOMEN REFERENCE 173

Resistivity Index	173
Pulsatility Index	173
S/D (ratio of Systolic to Diastolic Velocity)	173
D/S (ratio of Diastolic to Systolic Velocity)	173
Pressure Gradient	173

%STA	173
%STD	173
Volume Flow (Area)	173
Volume Flow (Dist.)	173
Vol.	173
Vol. Index	173

SMALL PART REFERENCE 174

THYROID, BREAST, TESTIS, SUPERFICIAL 174

Resistivity Index	174
Pulsatility Index	174
S/D (ratio of Systolic to Diastolic Velocity)	174
D/S (ratio of Diastolic to Systolic Velocity)	174
Pressure Gradient	174
%STA	174
%STD	174
Volume Flow (Area)	174
Volume Flow (Dist.)	174
Vol.	174
Follicle Vol.	175
Mass Vol.	175

TCD REFERENCE 175

Resistivity Index	175
Pulsatility Index	175
S/D (ratio of Systolic to Diastolic Velocity)	175
D/S (ratio of Diastolic to Systolic Velocity)	175
Pressure Gradient	176
%STA	176
%STD	176
Volume Flow (Area)	176
Volume Flow (Dist.)	176

PART 3. ACOUSTIC OUTPUT TABLES

ACOUSTIC OUTPUT TABLES 177

IEC 60601-2-37 TABLES 177

Symbols and Definitions	177
Explanatory Notes	178
L4-7	179
L5-13IS	180
L5-13/50	182
L7-16IS	183
LA3-14A	185
LA3-16A	186
LA5-18B	188
LS6-15	189
C2-6IC	191
CA1-7A	192
CA2-8A	194
CF4-9	195
CV1-8A	197
SC1-6	198
EA2-11B	200
EC4-9IS	201
P2-4BA	203
V2-6	205
V4-8	206
V5-9	208
VR5-9	209
CW2.0	211
CW4.0	211
CW6.0	212
DP2B	212

FDA TABLES 213

Symbols and Definitions	213
Explanatory Notes	214
L4-7	215
L5-13IS	216
L5-13/50	218
L7-16IS	219
LA3-14A	221
LA3-16A	222
LA5-18B	224
LS6-15	225
C2-6IC	227
CA1-7A	228
CA2-8A	230
CF4-9	231
CV1-8A	233
SC1-6	234
EA2-11B	236
EC4-9IS	237
P2-4BA	239
V2-6	241
V4-8	242
V5-9	244
VR5-9	245
CW2.0	247
CW4.0	247
CW6.0	248
DP2B	248

PATIENT-APPLIED PART TEMPERATURE TABLE 249

:: OB Reference

Gestational Age and Fetal Growth Formula and Table List

Abdominal Circumference (AC): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = 7.403506 + 0.76191 \times AC + 0.004492304 \times AC^2$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 7.4 cm

Max Range: 35.4 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$AC = 135.54085 \times MA - 5.9973 \times MA^2 - 94.588168$$

Output Unit: cm

Input Unit: w (week)

Min Range: 12 w

Max Range: 40 w

Age (w)	Meas (cm)	±SD (cm)
12	5.932	0.794
16	10.793	0.728
20	15.086	0.742
24	19.300	1.258
28	23.988	0.870

Age (w)	Meas (cm)	±SD (cm)
32	27.738	0.799
34	29.578	0.771
36	31.731	0.583
38	33.514	0.370
40	34.490	1.608

Abdominal Circumference (AC): HADLOCK

GA Table

Frank P. Hadlock, Russell L.Deter, Ronald B. Harrist, Seung K. Park,. "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984; 152: 497-501.

$$GA = 8.14 + 0.753 \times AC + 0.0036 \times AC^2$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 4.83 cm

Max Range: 38.04 cm

Standard Deviation:

Min (w)	Max (w)	±2SD
12	18	1.66
18	24	2.06
24	30	2.18

Min (w)	Max (w)	±2SD
30	36	2.96
36	42	3.04

Fetal Growth Table

Frank P. Hadlock, Russell L. Deter, Ronald B. Harrist, Seung K. Park, "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984; 152:497-501

$$\text{Graph} = 1.61 \times \text{MA} - 0.00998 \times \text{MA}^2 - 13.3$$

Output Unit: cm

Input Unit: w (weeks)

Min Range: 12 w

Max Range: 40 w

Standard Deviation: 2SD = 2.68 cm

Abdominal Circumference (AC): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986, p.431.

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
5.3	12w0d	15.5	22w0d	24.9	32w0d
6.3	13w0d	16.5	23w0d	25.8	33w0d
7.5	14w0d	17.3	24w0d	26.8	34w0d
8.5	15w0d	18.3	25w0d	27.7	35w0d
9.7	16w0d	19.1	26w0d	28.7	36w0d
10.7	17w0d	20.2	27w0d	29.6	37w0d
11.6	18w0d	21.1	28w0d	30.6	38w0d
12.6	19w0d	22.2	29w0d	31.5	39w0d
13.5	20w0d	23.0	30w0d	32.0	40w0d
14.5	21w0d	24.0	31w0d		

Abdominal Circumference (AC): MERZ

GA Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Text book and Atlas, 1991 Georg Thieme Verlag, 308-338

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.6	12w1d	10w6d	13w2d	20.4	26w1d	24w3d	27w6d
5.8	12w2d	11w1d	13w4d	20.6	26w3d	24w4d	28w1d
6.0	12w4d	11w2d	13w5d	20.8	26w4d	24w6d	28w2d
6.2	12w5d	11w4d	13w6d	21.0	26w6d	25w0d	28w4d
6.4	12w6d	11w5d	14w1d	21.2	27w0d	25w1d	28w5d
6.6	13w1d	11w6d	14w2d	21.4	27w1d	25w2d	28w6d
6.8	13w2d	12w0d	14w4d	21.6	27w2d	25w4d	29w1d
7.0	13w4d	12w1d	14w5d	21.8	27w4d	25w5d	29w2d
7.2	13w4d	12w3d	14w6d	22.0	27w5d	25w6d	29w4d
7.4	13w6d	12w4d	15w1d	22.2	27w6d	26w1d	29w5d
7.6	14w0d	12w6d	15w2d	22.4	28w1d	26w2d	29w6d
7.8	14w1d	12w6d	15w4d	22.6	28w2d	26w3d	30w1d
8.0	14w3d	13w1d	15w5d	22.8	28w4d	26w4d	30w2d
8.2	14w4d	13w2d	15w6d	23.0	28w5d	26w6d	30w4d
8.4	14w6d	13w4d	16w1d	23.2	28w6d	27w0d	30w5d
8.6	15w0d	13w5d	16w2d	23.4	29w0d	27w1d	30w6d
8.8	15w1d	13w6d	16w4d	23.6	29w1d	27w3d	31w1d
9.0	15w3d	14w0d	16w5d	23.8	29w3d	27w4d	31w2d
9.2	15w4d	14w1d	16w6d	24.0	29w4d	27w5d	31w4d
9.4	15w5d	14w3d	17w1d	24.2	29w6d	27w6d	31w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
9.6	15w6d	14w4d	17w2d
9.8	16w1d	14w6d	17w4d
10.0	16w2d	14w6d	17w5d
10.2	16w4d	15w1d	17w6d
10.4	16w5d	15w2d	18w1d
10.6	16w6d	15w4d	18w2d
10.8	17w1d	15w5d	18w3d
11.0	17w2d	15w6d	18w4d
11.2	17w3d	16w0d	18w6d
11.4	17w4d	16w1d	19w0d
11.6	17w6d	16w3d	19w1d
11.8	18w0d	16w4d	19w3d
12.0	18w1d	16w6d	19w4d
12.2	18w3d	17w0d	19w6d
12.4	18w4d	17w1d	20w0d
12.6	18w6d	17w2d	20w1d
12.8	19w0d	17w4d	20w3d
13.0	19w1d	17w5d	20w4d
13.2	19w2d	17w6d	20w6d
13.4	19w4d	18w0d	21w0d
13.6	19w5d	18w1d	21w1d
13.8	19w6d	18w3d	21w3d
14.0	20w1d	18w4d	21w4d
14.2	20w2d	18w6d	21w6d
14.4	20w4d	19w0d	22w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
24.4	30w0d	28w1d	31w6d
24.6	30w1d	28w2d	32w1d
24.8	30w3d	28w3d	32w2d
25.0	30w4d	28w4d	32w4d
25.2	30w6d	28w6d	32w5d
25.4	30w6d	29w0d	32w6d
25.6	31w1d	29w1d	33w1d
25.8	31w2d	29w3d	33w2d
26.0	31w4d	29w4d	33w4d
26.2	31w5d	29w5d	33w5d
26.4	31w6d	29w6d	33w6d
26.6	32w1d	30w1d	34w1d
26.8	32w2d	30w2d	34w2d
27.0	32w4d	30w4d	34w4d
27.2	32w5d	30w4d	34w5d
27.4	32w6d	30w6d	34w6d
27.6	33w0d	31w0d	35w1d
27.8	33w1d	31w1d	35w2d
28.0	33w3d	31w3d	35w4d
28.2	33w4d	31w4d	35w5d
28.4	33w6d	31w5d	35w6d
28.6	34w0d	31w6d	36w1d
28.8	34w1d	32w1d	36w2d
29.0	34w3d	32w2d	36w4d
29.2	34w4d	32w4d	36w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
14.6	20w5d	19w1d	22w1d
14.8	20w6d	19w2d	22w3d
15.0	21w1d	19w4d	22w4d
15.2	21w1d	19w5d	22w6d
15.4	21w3d	19w6d	23w0d
15.6	21w4d	20w1d	23w1d
15.8	21w6d	20w1d	23w3d
16.0	22w0d	20w3d	23w4d
16.2	22w1d	20w4d	23w6d
16.4	22w3d	20w6d	24w0d
16.6	22w4d	21w0d	24w1d
16.8	22w6d	21w1d	24w3d
17.0	23w0d	21w2d	24w4d
17.2	23w1d	21w4d	24w6d
17.4	23w2d	21w5d	25w0d
17.6	23w4d	21w6d	25w1d
17.8	23w5d	22w1d	25w3d
18.0	23w6d	22w1d	25w4d
18.2	24w1d	22w3d	25w6d
18.4	24w2d	22w4d	26w0d
18.6	24w4d	22w6d	26w1d
18.8	24w5d	23w0d	26w3d
19.0	24w6d	23w1d	26w4d
19.2	25w0d	23w2d	26w6d
19.4	25w1d	23w4d	27w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
29.4	34w5d	32w4d	36w6d
29.6	34w6d	32w6d	37w1d
29.8	35w1d	33w0d	37w1d
30.0	35w2d	33w1d	37w3d
30.2	35w4d	33w3d	37w4d
30.4	35w5d	33w4d	37w6d
30.6	35w6d	33w5d	38w0d
30.8	36w1d	33w6d	38w1d
31.0	36w2d	34w1d	38w3d
31.2	36w4d	34w2d	38w4d
31.4	36w4d	34w4d	38w6d
31.6	36w6d	34w4d	39w0d
31.8	37w0d	34w6d	39w1d
32.0	37w1d	35w0d	39w3d
32.2	37w3d	35w1d	39w4d
32.4	37w4d	35w3d	39w6d
32.6	37w6d	35w4d	40w0d
32.8	38w0d	35w5d	40w1d
33.0	38w1d	35w6d	40w3d
33.2	38w3d	36w1d	40w4d
33.4	38w4d	36w2d	40w6d
33.6	38w5d	36w4d	41w0d
33.8	38w6d	36w5d	41w1d
34.0	39w1d	36w6d	41w3d
34.2	39w2d	37w0d	41w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
19.6	25w3d	23w5d	27w1d
19.8	25w4d	23w6d	27w3d
20.0	25w6d	24w1d	27w4d
20.2	26w0d	24w2d	27w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
34.4	39w4d	37w1d	41w6d
34.6	39w5d	37w3d	42w0d
34.8	39w6d	37w4d	42w1d

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	5.8	4	7.6
13	6.8	5	8.7
14	7.9	6	9.8
15	8.9	6.9	10.9
16	9.9	7.9	11.9
17	11	8.9	13
18	12	9.9	14.1
19	13	10.8	15.2
20	14	11.8	16.2
21	15.1	12.8	17.3
22	16.1	13.8	18.4
23	17.1	14.8	19.5
24	18.2	15.8	20.5
25	19.2	16.7	21.6
26	20.2	17.7	22.7

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	21.2	18.7	23.8
28	22.3	19.7	24.8
29	23.3	20.7	25.9
30	24.3	21.7	27
31	25.3	22.7	28
32	26.4	23.7	29.1
33	27.4	24.6	30.2
34	28.4	25.6	31.2
35	29.5	26.6	32.3
36	30.5	27.6	33.4
37	31.5	28.6	34.4
38	32.5	29.6	35.5
39	33.6	30.6	36.5
40	34.6	31.6	37.6

Abdominal Circumference (AC): JEANTY

Fetal Growth Table

Jeanty, P, Coussaert, E., Cantraine, F., "Normal Growth of the Abdominal Perimeter" American Journal of Perinatology, 1:129, 1984

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	5.70	3.50	8.00
13	6.70	4.50	9.00
14	7.70	5.50	10.00
15	8.80	6.50	11.00
16	9.80	7.60	12.00
17	10.90	8.60	13.10
18	11.90	9.70	14.20
19	13.00	10.80	15.20
20	14.10	11.90	16.30
21	15.20	12.90	17.40
22	16.30	14.00	18.50
23	17.30	15.10	19.60
24	18.40	16.20	20.60
25	19.50	17.20	21.70
26	20.50	18.30	22.70

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	21.50	19.30	23.80
28	22.50	20.30	24.80
29	23.50	21.30	25.70
30	24.40	22.20	26.70
31	25.40	23.10	27.60
32	26.20	24.00	28.50
33	27.10	24.80	29.30
34	27.90	25.60	30.10
35	28.60	26.40	30.90
36	29.30	27.10	31.60
37	30.00	27.80	32.20
38	30.60	28.30	32.80
39	31.10	28.90	33.30
40	31.60	29.40	33.80

Abdominal Circumference (AC): SHINOZUKA

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
10.0	15w3d	1w1d	22.0	27w3d	1w5d
10.5	16w0d	1w1d	22.5	28w0d	1w5d
11.0	16w4d	1w1d	23.0	28w4d	1w5d
11.5	17w0d	1w1d	23.5	29w0d	1w5d
12.0	17w4d	1w2d	24.0	29w4d	1w6d
12.5	18w0d	1w2d	24.5	30w1d	1w6d
13.0	18w4d	1w2d	25.0	30w5d	1w6d
13.5	19w0d	1w2d	25.5	31w2d	1w6d
14.0	19w4d	1w2d	26.0	31w6d	1w6d
14.5	20w0d	1w2d	26.5	32w3d	1w6d
15.0	20w3d	1w3d	27.0	33w1d	1w6d
15.5	21w0d	1w3d	27.5	33w5d	2w0d
16.0	21w3d	1w3d	28.0	34w2d	2w0d
16.5	22w0d	1w3d	28.5	35w0d	2w0d
17.0	22w3d	1w3d	29.0	35w4d	2w0d
17.5	22w6d	1w3d	29.5	36w2d	2w0d
18.0	23w3d	1w4d	30.0	37w0d	2w0d
18.5	23w6d	1w4d	30.5	37w5d	2w0d
19.0	24w3d	1w4d	31.0	38w2d	2w1d

Meas (cm)	Age (wd)	±SD (wd)
19.5	24w6d	1w4d
20.0	25w3d	1w4d
20.5	25w6d	1w4d
21.0	26w3d	1w5d
21.5	27w0d	1w5d

Meas (cm)	Age (wd)	±SD (wd)
31.5	39w0d	2w1d
32.0	39w6d	2w1d
32.5	40w4d	2w1d
33.0	41w2d	2w1d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)	Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
16w3d	10.90	9.50	12.40	30w3d	24.70	22.20	27.10
17w3d	12.00	10.40	13.50	31w3d	25.60	23.00	28.10
18w3d	13.00	11.40	14.60	32w3d	26.50	23.80	29.00
19w3d	14.00	12.30	15.70	33w3d	27.30	24.50	29.90
20w3d	15.10	13.30	16.80	34w3d	28.10	25.30	30.70
21w3d	16.10	14.20	17.80	35w3d	28.90	26.00	31.60
22w3d	17.10	15.10	18.90	36w3d	29.70	26.60	32.40
23w3d	18.10	16.10	20.00	37w3d	30.40	27.30	33.20
24w3d	19.10	17.00	21.10	38w3d	31.10	27.90	34.00
25w3d	20.10	17.90	22.10	39w3d	31.80	28.50	34.70
26w3d	21.00	18.80	23.10	40w3d	32.40	29.10	35.40
27w3d	22.00	19.70	24.20	41w3d	33.00	29.60	36.10
28w3d	22.90	20.50	25.20	42w3d	33.60	30.10	36.70
29w3d	23.80	21.40	26.10				

Abdominal Circumference (AC): JSUM

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
10.0	15w3d	1w1d	22.0	27w3d	1w5d
10.5	16w0d	1w1d	22.5	28w0d	1w5d
11.0	16w4d	1w1d	23.0	28w4d	1w5d
11.5	17w0d	1w1d	23.5	29w0d	1w5d
12.0	17w4d	1w2d	24.0	29w4d	1w6d
12.5	18w0d	1w2d	24.5	30w1d	1w6d
13.0	18w4d	1w2d	25.0	30w5d	1w6d
13.5	19w0d	1w2d	25.5	31w2d	1w6d
14.0	19w4d	1w2d	26.0	31w6d	1w6d
14.5	20w0d	1w2d	26.5	32w3d	1w6d
15.0	20w3d	1w3d	27.0	33w1d	1w6d
15.5	21w0d	1w3d	27.5	33w5d	2w0d
16.0	21w3d	1w3d	28.0	34w2d	2w0d
16.5	22w0d	1w3d	28.5	35w0d	2w0d
17.0	22w3d	1w3d	29.0	35w4d	2w0d
17.5	22w6d	1w3d	29.5	36w2d	2w0d
18.0	23w3d	1w4d	30.0	37w0d	2w0d
18.5	23w6d	1w4d	30.5	37w5d	2w0d
19.0	24w3d	1w4d	31.0	38w2d	2w1d

Meas (cm)	Age (wd)	±SD (wd)
19.5	24w6d	1w4d
20.0	25w3d	1w4d
20.5	25w6d	1w4d
21.0	26w3d	1w5d
21.5	27w0d	1w5d

Meas (cm)	Age (wd)	±SD (wd)
31.5	39w0d	2w1d
32.0	39w6d	2w1d
32.5	40w4d	2w1d
33.0	41w2d	2w1d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)	Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
16w3d	10.90	9.50	12.40	30w3d	24.70	22.20	27.10
17w3d	12.00	10.40	13.50	31w3d	25.60	23.00	28.10
18w3d	13.00	11.40	14.60	32w3d	26.50	23.80	29.00
19w3d	14.00	12.30	15.70	33w3d	27.30	24.50	29.90
20w3d	15.10	13.30	16.80	34w3d	28.10	25.30	30.70
21w3d	16.10	14.20	17.80	35w3d	28.90	26.00	31.60
22w3d	17.10	15.10	18.90	36w3d	29.70	26.60	32.40
23w3d	18.10	16.10	20.00	37w3d	30.40	27.30	33.20
24w3d	19.10	17.00	21.10	38w3d	31.10	27.90	34.00
25w3d	20.10	17.90	22.10	39w3d	31.80	28.50	34.70
26w3d	21.00	18.80	23.10	40w3d	32.40	29.10	35.40
27w3d	22.00	19.70	24.20	41w3d	33.00	29.60	36.10
28w3d	22.90	20.50	25.20	42w3d	33.60	30.10	36.70
29w3d	23.80	21.40	26.10				

Abdominal Circumference (AC): CHITTY (D)

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 3. Abdominal Measurement"
British Journal of Obstetrics and Gynaecology, February 1994. Vol 101. pp125-131

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	5.58	5.05	6.11
13	6.74	6.13	7.34
14	7.89	7.2	8.57
15	9.03	8.27	9.79
16	10.16	9.33	11
17	11.29	10.38	12.21
18	12.41	11.42	13.4
19	13.52	12.45	14.59
20	14.62	13.48	15.77
21	15.71	14.49	16.94
22	16.8	15.5	18.1
23	17.87	16.49	19.25
24	18.93	17.48	20.38
25	19.98	18.45	21.51
26	21.02	19.41	22.63
27	22.04	20.36	23.73

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	23.06	21.29	24.82
29	24.05	22.22	25.89
30	25.04	23.12	26.96
31	26.01	24.02	28.01
32	26.97	24.9	29.04
33	27.91	25.76	30.06
34	28.84	26.61	31.06
35	29.75	27.44	32.05
36	30.64	28.26	33.02
37	31.51	29.06	33.97
38	32.37	29.84	34.91
39	33.21	30.6	35.82
40	34.04	31.35	36.72
41	34.84	32.08	37.6
42	35.62	32.78	38.46

Abdominal Circumference (AC): CHITTY (M)

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 3. Abdominal Measurement"
British Journal of Obstetrics and Gynaecology, February 1994. Vol 101. pp125-131

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	5.89	5.13	6.66
13	7.09	6.26	7.91
14	8.27	7.39	9.15
15	9.45	8.5	10.39
16	10.62	9.62	11.62
17	11.78	10.72	12.84
18	12.93	11.82	14.05
19	14.08	12.9	15.25
20	15.21	13.98	16.45
21	16.34	15.05	17.63
22	17.46	16.1	18.81
23	18.56	17.15	19.97
24	19.66	18.19	21.12
25	20.74	19.21	22.27
26	21.81	20.22	23.39
27	22.87	21.22	24.51

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	23.91	22.21	25.61
29	24.94	23.18	26.7
30	25.96	24.14	27.78
31	26.96	25.08	28.84
32	27.95	26.01	29.89
33	28.92	26.93	30.92
34	29.88	27.82	31.93
35	30.82	28.7	32.93
36	31.74	29.57	33.91
37	32.64	30.41	34.88
38	33.53	31.24	35.82
39	34.4	32.05	36.75
40	35.25	32.84	37.66
41	36.08	33.62	38.54
42	36.89	34.37	39.41

Abdominal Circumference (AC): CAMPBELL

GA Table

Professor Campbell's Group at Harris birthright Centre, King's College Hospital

Meas (cm)	Age (wd)	±days (wd)	Meas (cm)	Age (wd)	±days (wd)
9.00	14w0d	02w0d	24.20	28w0d	02w6d
10.10	15w0d	02w1d	25.30	29w0d	02w6d
11.20	16w0d	02w1d	26.40	30w0d	03w0d
12.30	17w0d	02w1d	27.50	31w0d	03w1d
13.40	18w0d	02w1d	28.60	32w0d	03w1d
14.50	19w0d	02w1d	29.70	33w0d	03w4d
15.60	20w0d	02w2d	30.80	34w0d	04w0d
16.70	21w0d	02w2d	31.70	35w0d	04w2d
17.80	22w0d	02w2d	32.50	36w0d	04w2d
18.80	23w0d	02w3d	33.10	37w0d	04w2d
19.90	24w0d	02w4d	33.80	38w0d	04w2d
21.00	25w0d	02w5d	34.40	39w0d	0w0d
22.10	26w0d	02w5d	35.00	40w0d	0w0d
23.10	27w0d	02w6d			

Abdominal Circumference (AC): ASUM(SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

$$GA = 0.0000367 \times (AC \times 10)^2 + 0.07715 \times (AC \times 10) + 7.192$$

Output Unit: w(weeks)

Input Unit: cm

Min Range: 4.74 cm

Max Range: 37.29 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (mm)
11	5.2	1.0	27	23.0	2.5
12	6.3	1.0	28	24.2	2.5
13	7.4	1.0	29	25.9	2.5
14	8.4	1.0	30	26.2	2.5
15	9.6	1.0	31	27.2	3.0
16	10.6	1.0	32	28.3	3.0
17	12.0	1.5	33	29.4	3.0
18	13.1	1.5	34	30.5	3.0
19	14.0	1.5	35	31.5	3.0

Age (w)	Meas (cm)	±2SD (cm)
20	15.1	1.5
21	16.4	2.0
22	17.6	2.0
23	18.6	2.0
24	20.1	2.0
25	21.2	2.0
26	22.3	2.5

Age (w)	Meas (cm)	±2SD (mm)
36	32.5	3.5
37	33.3	3.5
38	34.2	3.5
39	35.6	3.5
40	36.2	3.5
41	36.7	3.5

Abdominal Circumference (AC): CFEF

GA Table

J. Créquat, M. Duyme, G. Brodaty.

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil, 2000 Jun;28(6): 435-45

Meas (cm)	Age (w)
9.50	15
10.64	16
11.80	17
12.92	18
14.04	19
15.14	20
16.23	21
17.30	22
18.36	23

Meas (cm)	Age (w)
19.40	24
20.44	25
21.45	26
22.45	27
23.44	28
24.40	29
25.36	30
26.30	31
27.22	32

Meas (cm)	Age (w)
28.12	33
29.02	34
29.88	35
30.74	36
31.60	37
32.47	38
33.24	39
33.90	40

Fetal Growth Table

J. Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Age (w)	Meas (cm)	10% (cm)	90% (cm)
15	9.50	8.50	10.40
16	10.60	9.60	11.70
17	11.80	10.70	12.90
18	12.90	11.70	14.10
19	14.00	12.80	15.30
20	15.10	13.80	16.50
21	16.20	14.80	17.60
22	17.30	15.80	18.80
23	18.40	16.80	19.90
24	19.40	17.80	21.00
25	20.40	18.70	22.10
26	21.50	19.70	23.20
27	22.50	20.60	24.30

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	23.40	21.50	25.40
29	24.40	22.40	26.40
30	25.40	23.30	27.40
31	26.30	24.20	28.40
32	27.20	25.00	29.40
33	28.10	25.80	30.40
34	29.00	26.70	31.40
35	29.90	27.50	32.30
36	30.70	28.30	33.30
37	31.60	29.00	34.20
38	32.50	29.80	35.10
39	33.20	30.50	36.00
40	33.90	31.10	36.70

Abdominal Circumference (AC): JOHNSEN

Fetal Growth Table

Johnsen SL, Wilsgaard T, Rasmussen S, Sollien R, Kiserud T. "Longitudinal reference charts for growth of the fetal head, abdomen and femur" Eur J Obstet Gynecol Reprod Biol, 2006 Aug; 127(2): 172-85

Age (w)	Meas (cm)	10% (cm)	90% (cm)
10	3.70	3.10	4.40
11	4.70	4.10	5.50
12	5.80	5.10	6.70
13	6.90	6.10	7.90
14	8.10	7.20	9.10
15	9.30	8.30	10.30
16	10.40	9.40	11.60
17	11.60	10.50	12.80
18	12.80	11.60	14.10
19	14.00	12.80	15.30
20	15.10	13.90	16.50
21	16.30	15.00	17.70
22	17.40	16.00	18.90
23	18.60	17.10	20.10
24	19.70	18.20	21.30
25	20.80	19.20	22.50

Age (w)	Meas (cm)	10% (cm)	90% (cm)
26	21.90	20.30	23.60
27	23.00	21.30	24.80
28	24.00	22.30	25.90
29	25.10	23.30	27.00
30	26.10	24.30	28.10
31	27.20	25.20	29.20
32	28.20	26.20	30.30
33	29.20	27.10	31.40
34	30.20	28.00	32.50
35	31.20	29.00	33.50
36	32.10	29.90	34.60
37	33.10	30.80	35.60
38	34.10	31.60	36.70
39	35.00	32.50	37.70
40	36.00	33.40	38.70
41	36.80	34.10	39.60

Abdominal Circumference (AC): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Zimmermann R, Huch R, Huch A, Wisser J. "Fetal ultrasound biometry: 2. Abdomen and femur length reference values" Br J Obstet Gynaecol, 1999 Feb;106(2): 136-43

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	5.66	4.53	6.79
13	6.82	5.61	8.03
14	7.98	6.69	9.27
15	9.13	7.76	10.50
16	10.27	8.83	11.72
17	11.40	9.88	12.93
18	12.53	10.93	14.13
19	13.64	11.97	15.32
20	14.75	12.99	16.51
21	15.85	14.01	17.68
22	16.93	15.02	18.84
23	18.00	16.01	20.00
24	19.06	16.99	21.13
25	20.11	17.96	22.26
26	21.15	18.92	23.37
27	22.17	19.87	24.48

Age (w)	Meas (cm)	5% (cm)	95% (cm)
28	23.18	20.80	25.56
29	24.17	21.71	26.63
30	25.15	22.61	27.69
31	26.11	23.50	28.73
32	27.06	24.36	29.76
33	27.99	25.22	30.77
34	28.90	26.05	31.76
35	29.80	26.87	32.73
36	30.68	27.67	33.69
37	31.54	28.45	34.62
38	32.38	29.21	35.54
39	33.20	29.95	36.44
40	34.00	30.68	37.32
41	34.78	31.38	38.18
42	35.53	32.06	39.01

Abdominal Circumference (AC): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1;4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	9.00	8.00	10.20
14w1d	9.00	8.00	10.20
14w2d	9.00	8.00	10.20
14w3d	9.00	8.00	10.20
14w4d	9.00	8.00	10.20
14w5d	9.00	8.00	10.20
14w6d	9.00	8.00	10.20
15w0d	9.90	8.80	11.20
15w1d	9.90	8.80	11.20
15w2d	9.90	8.80	11.20
15w3d	9.90	8.80	11.20
15w4d	9.90	8.80	11.20
15w5d	9.90	8.80	11.20
15w6d	9.90	8.80	11.20
16w0d	10.80	9.60	12.20
16w1d	10.80	9.60	12.20
16w2d	10.80	9.60	12.20
16w3d	10.80	9.60	12.20
16w4d	10.80	9.60	12.20

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	23.10	20.50	25.90
27w1d	23.10	20.50	25.90
27w2d	23.10	20.50	25.90
27w3d	23.10	20.50	25.90
27w4d	23.10	20.50	25.90
27w5d	23.10	20.50	25.90
27w6d	23.10	20.50	25.90
28w0d	24.30	21.60	27.20
28w1d	24.30	21.60	27.20
28w2d	24.30	21.60	27.20
28w3d	24.30	21.60	27.20
28w4d	24.30	21.60	27.20
28w5d	24.30	21.60	27.20
28w6d	24.30	21.60	27.20
29w0d	25.40	22.60	28.50
29w1d	25.40	22.60	28.50
29w2d	25.40	22.60	28.50
29w3d	25.40	22.60	28.50
29w4d	25.40	22.60	28.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	10.80	9.60	12.20
16w6d	10.80	9.60	12.20
17w0d	11.80	10.50	13.30
17w1d	11.80	10.50	13.30
17w2d	11.80	10.50	13.30
17w3d	11.80	10.50	13.30
17w4d	11.80	10.50	13.30
17w5d	11.80	10.50	13.30
17w6d	11.80	10.50	13.30
18w0d	12.80	11.40	14.40
18w1d	12.80	11.40	14.40
18w2d	12.80	11.40	14.40
18w3d	12.80	11.40	14.40
18w4d	12.80	11.40	14.40
18w5d	12.80	11.40	14.40
18w6d	12.80	11.40	14.40
19w0d	13.90	12.30	15.60
19w1d	13.90	12.30	15.60
19w2d	13.90	12.30	15.60
19w3d	13.90	12.30	15.60
19w4d	13.90	12.30	15.60
19w5d	13.90	12.30	15.60
19w6d	13.90	12.30	15.60
20w0d	14.90	13.30	16.80

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	25.40	22.60	28.50
29w6d	25.40	22.60	28.50
30w0d	26.60	23.70	29.80
30w1d	26.60	23.70	29.80
30w2d	26.60	23.70	29.80
30w3d	26.60	23.70	29.80
30w4d	26.60	23.70	29.80
30w5d	26.60	23.70	29.80
30w6d	26.60	23.70	29.80
31w0d	27.70	24.60	31.00
31w1d	27.70	24.60	31.00
31w2d	27.70	24.60	31.00
31w3d	27.70	24.60	31.00
31w4d	27.70	24.60	31.00
31w5d	27.70	24.60	31.00
31w6d	27.70	24.60	31.00
32w0d	28.70	25.60	32.20
32w1d	28.70	25.60	32.20
32w2d	28.70	25.60	32.20
32w3d	28.70	25.60	32.20
32w4d	28.70	25.60	32.20
32w5d	28.70	25.60	32.20
32w6d	28.70	25.60	32.20
33w0d	29.70	26.50	33.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	14.90	13.30	16.80
20w2d	14.90	13.30	16.80
20w3d	14.90	13.30	16.80
20w4d	14.90	13.30	16.80
20w5d	14.90	13.30	16.80
20w6d	14.90	13.30	16.80
21w0d	16.10	14.30	18.10
21w1d	16.10	14.30	18.10
21w2d	16.10	14.30	18.10
21w3d	16.10	14.30	18.10
21w4d	16.10	14.30	18.10
21w5d	16.10	14.30	18.10
21w6d	16.10	14.30	18.10
22w0d	17.20	15.30	19.30
22w1d	17.20	15.30	19.30
22w2d	17.20	15.30	19.30
22w3d	17.20	15.30	19.30
22w4d	17.20	15.30	19.30
22w5d	17.20	15.30	19.30
22w6d	17.20	15.30	19.30
23w0d	18.30	16.30	20.60
23w1d	18.30	16.30	20.60
23w2d	18.30	16.30	20.60
23w3d	18.30	16.30	20.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	29.70	26.50	33.40
33w2d	29.70	26.50	33.40
33w3d	29.70	26.50	33.40
33w4d	29.70	26.50	33.40
33w5d	29.70	26.50	33.40
33w6d	29.70	26.50	33.40
34w0d	30.70	27.40	34.50
34w1d	30.70	27.40	34.50
34w2d	30.70	27.40	34.50
34w3d	30.70	27.40	34.50
34w4d	30.70	27.40	34.50
34w5d	30.70	27.40	34.50
34w6d	30.70	27.40	34.50
35w0d	31.60	28.20	35.50
35w1d	31.60	28.20	35.50
35w2d	31.60	28.20	35.50
35w3d	31.60	28.20	35.50
35w4d	31.60	28.20	35.50
35w5d	31.60	28.20	35.50
35w6d	31.60	28.20	35.50
36w0d	32.40	28.90	36.40
36w1d	32.40	28.90	36.40
36w2d	32.40	28.90	36.40
36w3d	32.40	28.90	36.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	18.30	16.30	20.60
23w5d	18.30	16.30	20.60
23w6d	18.30	16.30	20.60
24w0d	19.50	17.40	21.90
24w1d	19.50	17.40	21.90
24w2d	19.50	17.40	21.90
24w3d	19.50	17.40	21.90
24w4d	19.50	17.40	21.90
24w5d	19.50	17.40	21.90
24w6d	19.50	17.40	21.90
25w0d	20.70	18.40	23.30
25w1d	20.70	18.40	23.30
25w2d	20.70	18.40	23.30
25w3d	20.70	18.40	23.30
25w4d	20.70	18.40	23.30
25w5d	20.70	18.40	23.30
25w6d	20.70	18.40	23.30
26w0d	21.90	19.50	24.60
26w1d	21.90	19.50	24.60
26w2d	21.90	19.50	24.60
26w3d	21.90	19.50	24.60
26w4d	21.90	19.50	24.60
26w5d	21.90	19.50	24.60
26w6d	21.90	19.50	24.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	32.40	28.90	36.40
36w5d	32.40	28.90	36.40
36w6d	32.40	28.90	36.40
37w0d	33.20	29.50	37.20
37w1d	33.20	29.50	37.20
37w2d	33.20	29.50	37.20
37w3d	33.20	29.50	37.20
37w4d	33.20	29.50	37.20
37w5d	33.20	29.50	37.20
37w6d	33.20	29.50	37.20
38w0d	33.90	30.20	38.00
38w1d	33.90	30.20	38.00
38w2d	33.90	30.20	38.00
38w3d	33.90	30.20	38.00
38w4d	33.90	30.20	38.00
38w5d	33.90	30.20	38.00
38w6d	33.90	30.20	38.00
39w0d	34.50	30.70	38.70
39w1d	34.50	30.70	38.70
39w2d	34.50	30.70	38.70
39w3d	34.50	30.70	38.70
39w4d	34.50	30.70	38.70
39w5d	34.50	30.70	38.70
39w6d	34.50	30.70	38.70

✚ Biparietal Diameter (BPD): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = 1.20007 \times BPD + 0.2076 \times BPD^2 + 9.209216$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 1.9 cm

Max Range: 9.4 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$BPD = 51.06104 \times MA - 4.6719 \times MA^2 - 35.053334$$

Output Unit: cm

Input Unit: w (week)

Min Range: 12 w

Max Range: 40 w

Age (w)	Meas (cm)	±SD (cm)
12	1.970	0.219
16	3.483	0.213
20	4.783	0.231
24	5.978	0.287
28	7.164	0.256

Age (w)	Meas (cm)	±SD (cm)
32	8.122	0.263
34	8.496	0.244
36	8.849	0.225
38	9.093	0.121
40	9.401	0.188

✚ Biparietal Diameter (BPD): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986, p.440-441.

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.9	13w3d	12w2d	14w3d
3.0	13w5d	12w5d	14w5d
3.1	14w0d	12w6d	15w1d
3.2	14w2d	13w2d	15w3d
3.3	14w4d	13w3d	15w6d
3.4	15w0d	13w5d	16w2d
3.5	15w2d	14w1d	16w3d
3.6	15w4d	14w3d	16w6d
3.7	16w0d	14w6d	17w1d
3.8	16w2d	15w0d	17w4d
3.9	16w4d	15w3d	17w6d
4.0	17w0d	15w5d	18w1d
4.1	17w2d	16w0d	18w4d
4.2	17w4d	16w3d	18w6d
4.3	17w6d	16w4d	19w1d
4.4	18w1d	16w6d	19w3d
4.5	18w4d	17w2d	19w6d
4.6	18w6d	17w4d	20w1d
4.7	19w1d	17w6d	20w4d
4.8	19w3d	18w0d	20w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
6.8	25w6d	24w3d	27w2d
6.9	26w1d	24w6d	27w4d
7.0	26w3d	25w0d	27w6d
7.1	26w5d	25w2d	28w3d
7.2	27w1d	25w4d	28w4d
7.3	27w3d	26w0d	29w2d
7.4	27w6d	26w1d	29w4d
7.5	28w1d	26w3d	29w6d
7.6	28w4d	26w5d	30w2d
7.7	28w6d	27w1d	30w5d
7.8	29w2d	27w2d	31w3d
7.9	29w5d	27w3d	32w0d
8.0	30w0d	27w6d	32w1d
8.1	30w3d	28w2d	32w4d
8.2	31w0d	28w6d	33w1d
8.3	31w2d	29w0d	33w5d
8.4	31w6d	29w3d	34w2d
8.5	32w2d	29w6d	34w4d
8.6	32w5d	30w1d	35w1d
8.7	33w2d	30w2d	36w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.9	19w5d	18w1d	21w1d
5.0	20w0d	18w4d	21w1d
5.1	20w3d	19w0d	21w6d
5.2	20w5d	19w2d	22w1d
5.3	21w0d	19w3d	22w4d
5.4	21w3d	20w0d	22w6d
5.5	21w5d	20w2d	23w0d
5.6	22w0d	20w5d	23w2d
5.7	22w2d	21w0d	23w4d
5.8	22w5d	21w3d	23w6d
5.9	23w0d	21w4d	24w3d
6.0	23w2d	21w6d	24w4d
6.1	23w4d	22w1d	25w0d
6.2	24w0d	22w4d	25w3d
6.3	24w2d	22w6d	25w4d
6.4	24w4d	23w1d	26w0d
6.5	24w6d	23w4d	26w2d
6.6	25w1d	23w6d	26w5d
6.7	25w3d	24w1d	27w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
8.8	33w5d	31w0d	36w3d
8.9	34w2d	31w4d	37w0d
9.0	34w5d	32w0d	37w3d
9.1	35w1d	32w1d	38w5d
9.2	35w6d	33w2d	39w2d
9.3	36w5d	33w5d	39w5d
9.4	37w3d	34w5d	40w1d
9.5	38w3d	35w2d	41w0d
9.6	38w6d	35w2d	41w3d
9.7	39w0d	35w6d	42w0d
9.8	39w2d	36w3d	42w0d
9.9	39w3d	36w4d	42w4d
10.0	39w4d	36w5d	42w2d
10.1	39w5d	37w1d	42w4d
10.2	39w6d	37w1d	42w2d
10.3	40w0d	37w2d	42w2d
10.4	40w1d	37w3d	42w2d
10.5	40w2d	37w6d	42w2d

Fetal Growth Table

Hansmann, Hackeloer, Stauch, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology"
Springer-Verlag, New York, 1986. p.176

Age (w)	Meas (cm)	5% (cm)	95% (cm)
10	1.4	0.9	1.8
11	1.7	1.3	2.2
12	2.1	1.6	2.5
13	2.4	2	2.9
14	2.8	2.3	3.2
15	3.1	2.7	3.6
16	3.5	3	3.9
17	3.8	3.4	4.3
18	4.2	3.7	4.6
19	4.5	4	4.9
20	4.8	4.4	5.3
21	5.1	4.7	5.6
22	5.5	5	5.9
23	5.8	5.3	6.2
24	6.1	5.6	6.5
25	6.4	5.9	6.8

Age (w)	Meas (cm)	5% (cm)	95% (cm)
26	6.7	6.2	7.1
27	7	6.5	7.4
28	7.2	6.8	7.7
29	7.5	7	7.9
30	7.7	7.3	8.2
31	7.9	7.5	8.4
32	8.2	7.7	8.6
33	8.4	7.9	8.8
34	8.6	8.1	9
35	8.7	8.3	9.2
36	8.9	8.4	9.3
37	9	8.6	9.5
38	9.1	8.7	9.6
39	9.3	8.8	9.7
40	9.3	8.9	9.8

✚ Biparietal Diameter (BPD): HADLOCK

GA Table

Hadlock, F., Deter, R.L., Harrist, R.B., Park, S.K. "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984, 152: 497-501.

$$GA = 9.54 + 1.482 \times BPD + 0.1676 \times BPD^2$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 1.36 cm

Max Range: 10.18 cm

Standard Deviation:

Min Range (w)	Max Range (w)	±2SD (w)
12	18	1.19
18	24	1.73
24	30	2.18
30	36	3.08
36	42	3.20

Fetal Growth Table

Frank P. Hadlock, Russell L.Deter, Ronald B. Harrist, Seung K. Park,. "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984; 152:497-501.

$$\text{Equation} = 0.41 \times MA - 0.000061 \times MA^3 - 3.08$$

Output Unit: cm

Input Unit: w (weeks)

Min Range: 12 w

Max Range: 40 w

Standard Deviation: 2SD = 0.6 cm

✚ Biparietal Diameter (BPD): MERZ

GA Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.1	12w1d	10w5d	13w5d	6.2	24w1d	22w1d	26w1d
2.2	12w3d	10w6d	13w6d	6.3	24w4d	22w4d	26w4d
2.3	12w5d	11w1d	14w1d	6.4	24w6d	22w6d	26w6d
2.4	13w0d	11w4d	14w4d	6.5	25w1d	23w1d	27w1d
2.5	13w1d	11w5d	14w5d	6.6	25w4d	23w4d	27w4d
2.6	13w4d	12w0d	15w0d	6.7	25w6d	23w6d	27w6d
2.7	13w6d	12w1d	15w3d	6.8	26w1d	24w1d	28w2d
2.8	14w1d	12w4d	15w5d	6.9	26w4d	24w3d	28w4d
2.9	14w2d	12w5d	15w6d	7.0	26w6d	24w5d	28w6d
3.0	14w4d	13w0d	16w1d	7.1	27w1d	25w1d	29w2d
3.1	14w6d	13w2d	16w4d	7.2	27w4d	25w4d	29w5d
3.2	15w1d	13w4d	16w6d	7.3	27w6d	25w6d	30w0d
3.3	15w3d	13w6d	17w0d	7.4	28w2d	26w1d	30w3d
3.4	15w5d	14w0d	17w3d	7.5	28w4d	26w4d	30w5d
3.5	16w0d	14w2d	17w5d	7.6	29w0d	26w6d	31w1d
3.6	16w2d	14w4d	18w0d	7.7	29w3d	27w1d	31w4d
3.7	16w4d	14w6d	18w1d	7.8	29w6d	27w4d	32w0d
3.8	16w6d	15w1d	18w4d	7.9	30w1d	27w6d	32w2d
3.9	17w1d	15w3d	18w6d	8.0	30w4d	28w2d	32w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.0	17w3d	15w5d	19w1d
4.1	17w5d	15w6d	19w4d
4.2	18w0d	16w1d	19w6d
4.3	18w2d	16w4d	20w1d
4.4	18w4d	16w6d	20w3d
4.5	18w6d	17w1d	20w5d
4.6	19w1d	17w3d	21w0d
4.7	19w3d	17w4d	21w1d
4.8	19w5d	17w6d	21w4d
4.9	20w0d	18w1d	21w6d
5.0	20w3d	18w4d	22w1d
5.1	20w5d	18w6d	22w4d
5.2	21w0d	19w1d	22w6d
5.3	21w2d	19w3d	23w1d
5.4	21w4d	19w5d	23w4d
5.5	21w6d	20w0d	23w6d
5.6	22w1d	20w2d	24w1d
5.7	22w4d	20w4d	24w3d
5.8	22w6d	20w6d	24w5d
5.9	23w1d	21w1d	25w1d
6.0	23w4d	21w4d	25w4d
6.1	23w6d	21w6d	25w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
8.1	30w6d	28w5d	33w1d
8.2	31w2d	29w1d	33w4d
8.3	31w5d	29w4d	33w6d
8.4	32w1d	29w6d	34w2d
8.5	32w4d	30w2d	34w5d
8.6	32w6d	30w5d	35w1d
8.7	33w2d	31w0d	35w4d
8.8	33w6d	31w4d	36w1d
8.9	34w1d	31w6d	36w4d
9.0	34w4d	32w2d	36w6d
9.1	35w1d	32w6d	37w3d
9.2	35w4d	33w1d	37w6d
9.3	35w6d	33w4d	38w1d
9.4	36w3d	34w0d	38w6d
9.5	36w6d	34w4d	39w2d
9.6	37w2d	34w6d	39w5d
9.7	37w6d	35w3d	40w1d
9.8	38w2d	35w6d	40w5d
9.9	38w6d	36w3d	41w1d
10.0	39w2d	36w6d	41w6d
10.1	39w6d	37w2d	42w2d
10.2	40w2d	37w6d	42w6d

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	2	1.5	2.4
13	2.4	1.9	2.8
14	2.8	2.3	3.2
15	3.1	2.7	3.6
16	3.5	3	4
17	3.9	3.4	4.4
18	4.3	3.8	4.8
19	4.6	4.1	5.1
20	5	4.5	5.5
21	5.3	4.8	5.8
22	5.6	5.1	6.2
23	6	5.4	6.5
24	6.3	5.7	6.8
25	6.6	6	7.1
26	6.9	6.3	7.4

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	7.2	6.6	7.7
28	7.4	6.9	8
29	7.7	7.1	8.3
30	7.9	7.4	8.5
31	8.2	7.6	8.8
32	8.4	7.8	9
33	8.6	8	9.2
34	8.9	8.2	9.5
35	9.1	8.4	9.7
36	9.3	8.6	9.9
37	9.4	8.8	10.1
38	9.6	9	10.3
39	9.8	9.1	10.4
40	9.9	9.3	10.6

Biparietal Diameter (BPD): JEANTY

GA Table

Jeanty, P., Romero, R. "Obstetrical Ultrasound" McGraw-Hill Book Company, pages 57-61, 1984.

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.00	09w1d	06w4d	11w6d
1.10	09w4d	06w6d	12w1d
1.20	09w5d	07w0d	12w3d
1.30	10w0d	07w2d	12w5d
1.40	10w2d	07w4d	12w6d
1.50	10w4d	07w6d	13w1d
1.60	10w6d	08w1d	13w3d
1.70	11w1d	08w3d	13w5d
1.80	11w2d	08w4d	14w0d
1.90	11w4d	08w6d	14w1d
2.00	11w6d	09w1d	14w4d
2.10	12w1d	09w3d	14w6d
2.20	12w3d	09w5d	15w0d
2.30	12w4d	09w6d	15w2d
2.40	12w6d	10w1d	15w4d
2.50	13w1d	10w4d	15w6d
2.60	13w3d	10w5d	16w1d
2.70	13w5d	11w0d	16w3d
2.80	14w0d	11w2d	16w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.30	21w1d	18w4d	23w6d
5.40	21w4d	18w6d	24w1d
5.50	21w6d	19w1d	24w4d
5.60	22w1d	19w4d	24w6d
5.70	22w4d	19w6d	25w1d
5.80	22w6d	20w1d	25w4d
5.90	23w1d	20w4d	25w6d
6.00	23w4d	20w6d	26w1d
6.10	23w6d	21w1d	26w4d
6.20	24w1d	21w4d	26w6d
6.30	24w4d	21w6d	27w1d
6.40	24w6d	22w1d	27w4d
6.50	25w2d	22w4d	27w6d
6.60	25w4d	22w6d	28w2d
6.70	26w0d	23w2d	28w4d
6.80	26w3d	23w5d	29w0d
6.90	26w5d	24w0d	29w3d
7.00	27w1d	24w3d	29w6d
7.10	27w4d	24w6d	30w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.90	14w1d	11w4d	16w6d
3.00	14w4d	11w6d	17w1d
3.10	14w6d	12w1d	17w3d
3.20	15w1d	12w2d	17w5d
3.30	15w2d	12w4d	18w0d
3.40	15w4d	12w6d	18w2d
3.50	15w6d	13w1d	18w4d
3.60	16w1d	13w4d	18w6d
3.70	16w3d	13w5d	19w1d
3.80	16w5d	14w0d	19w3d
3.90	17w0d	14w2d	19w5d
4.00	17w2d	14w4d	19w6d
4.10	17w4d	14w6d	20w1d
4.20	17w6d	15w1d	20w4d
4.30	18w1d	15w3d	20w6d
4.40	18w3d	15w5d	21w1d
4.50	18w5d	16w0d	21w3d
4.60	19w0d	16w2d	21w5d
4.70	19w2d	16w4d	22w0d
4.80	19w4d	16w6d	22w2d
4.90	19w6d	17w1d	22w4d
5.00	20w2d	17w4d	22w6d
5.10	20w4d	17w6d	23w1d
5.20	20w6d	18w1d	23w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
7.20	27w6d	25w1d	30w4d
7.30	28w2d	25w4d	30w6d
7.40	28w5d	26w0d	31w2d
7.50	29w1d	26w3d	31w5d
7.60	29w4d	26w6d	32w1d
7.70	29w6d	27w1d	32w4d
7.80	30w2d	27w4d	33w0d
7.90	30w5d	28w0d	33w3d
8.00	31w1d	28w4d	33w6d
8.10	31w4d	28w6d	34w2d
8.20	32w0d	29w2d	34w5d
8.30	32w4d	29w6d	35w1d
8.40	32w6d	30w1d	35w4d
8.50	33w3d	30w5d	36w0d
8.60	33w6d	31w1d	36w4d
8.70	34w2d	31w4d	37w0d
8.80	34w6d	32w1d	37w3d
8.90	35w2d	32w4d	37w6d
9.00	35w5d	33w0d	38w3d
9.10	36w1d	33w4d	38w6d
9.20	36w5d	34w0d	39w3d
9.30	37w1d	34w4d	39w6d
9.40	37w5d	35w0d	40w3d
9.50	38w2d	35w4d	40w6d

✦ Biparietal Diameter (BPD): SABBAGHA

GA Table

Sabbagha, R.E., et. al. "Standardization of Sonar Cephalometry and Gestational Age"
Obstetrics and Gynecology, Vol. 52, No.4: 403, October, 1978

Meas (cm)	Age (wd)	±days (wd)	Meas (cm)	Age (wd)	±days (wd)
3.70	16w0d	1w0d	7.50	29w0d	3w0d
4.00	17w0d	1w3d	7.80	30w0d	3w0d
4.30	18w0d	1w3d	8.00	31w0d	3w0d
4.50	19w0d	1w3d	8.30	32w0d	3w0d
4.70	20w0d	1w3d	8.50	33w0d	3w0d
5.00	21w0d	1w3d	8.70	34w0d	3w0d
5.30	22w0d	1w3d	8.80	35w0d	3w0d
5.60	23w0d	1w3d	9.00	36w0d	3w0d
5.90	24w0d	1w3d	9.20	37w0d	3w0d
6.20	25w0d	1w3d	9.30	38w0d	3w0d
6.60	26w0d	1w3d	9.40	39w0d	3w0d
6.90	27w0d	2w0d	9.50	40w0d	3w0d
7.20	28w0d	2w0d			

✦ Biparietal Diameter (BPD): SHINOZUKA

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)	Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
1.30	10w1d	09w4d	10w5d	5.20	21w6d	20w6d	22w6d
1.40	10w3d	09w6d	11w0d	5.30	22w1d	21w0d	23w2d
1.50	10w5d	10w1d	11w2d	5.40	22w3d	21w2d	23w4d
1.60	11w0d	10w3d	11w4d	5.50	22w5d	21w4d	23w6d
1.70	11w2d	10w5d	11w6d	5.60	23w1d	22w0d	24w2d
1.80	11w4d	11w0d	12w1d	5.70	23w3d	22w2d	24w4d
1.90	11w6d	11w2d	12w3d	5.80	23w5d	22w4d	24w6d
2.00	12w1d	11w4d	12w5d	5.90	24w1d	23w0d	25w2d
2.10	12w3d	11w6d	13w0d	6.00	24w3d	23w1d	25w5d
2.20	12w6d	12w2d	13w3d	6.10	24w5d	23w3d	26w0d
2.30	13w1d	12w3d	13w6d	6.20	25w1d	23w6d	26w3d
2.40	13w3d	12w5d	14w1d	6.30	25w3d	24w1d	26w5d
2.50	13w5d	13w0d	14w3d	6.40	25w5d	24w3d	27w0d
2.60	14w0d	13w2d	14w5d	6.50	26w1d	24w6d	27w3d
2.70	14w2d	13w4d	15w0d	6.60	26w3d	25w0d	27w6d
2.80	14w4d	13w6d	15w2d	6.70	26w6d	25w3d	28w2d
2.90	14w6d	14w1d	15w4d	6.80	27w2d	25w6d	28w5d
3.00	15w1d	14w3d	15w6d	6.90	27w4d	26w1d	29w0d
3.10	15w3d	14w5d	16w1d	7.00	28w0d	26w4d	29w3d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
3.20	15w5d	15w0d	16w3d
3.30	16w0d	15w2d	16w5d
3.40	16w2d	15w4d	17w0d
3.50	16w4d	15w6d	17w2d
3.60	16w6d	16w0d	17w5d
3.70	17w1d	16w2d	18w0d
3.80	17w4d	16w5d	18w3d
3.90	17w6d	17w0d	18w5d
4.00	18w1d	17w2d	19w0d
4.10	18w3d	17w4d	19w2d
4.20	18w5d	17w6d	19w4d
4.30	19w0d	18w1d	19w6d
4.40	19w2d	18w3d	20w1d
4.50	19w4d	18w5d	20w3d
4.60	20w0d	19w0d	21w0d
4.70	20w2d	19w2d	21w2d
4.80	20w4d	19w4d	21w4d
4.90	20w6d	19w6d	21w6d
5.00	21w1d	20w1d	22w1d
5.10	21w3d	20w3d	22w3d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
7.10	28w3d	27w0d	29w6d
7.20	28w5d	27w1d	30w2d
7.30	29w1d	27w4d	30w5d
7.40	29w4d	28w0d	31w1d
7.50	30w0d	28w3d	31w4d
7.60	30w3d	28w6d	32w0d
7.70	30w6d	29w1d	32w4d
7.80	31w2d	29w4d	33w0d
7.90	31w5d	30w0d	33w3d
8.00	32w1d	30w3d	33w6d
8.10	32w5d	31w0d	34w3d
8.20	33w1d	31w2d	35w0d
8.30	33w5d	31w6d	35w4d
8.40	34w2d	32w3d	36w1d
8.50	34w6d	33w0d	36w5d
8.60	35w3d	33w3d	37w3d
8.70	36w0d	34w0d	38w0d
8.80	36w5d	34w5d	38w5d
8.90	37w4d	35w4d	39w4d
9.00	38w3d	36w2d	40w4d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
10w3d	1.43	1.08	1.77
11w3d	1.76	1.41	2.12
12w3d	2.10	1.74	2.47
13w3d	2.44	2.07	2.82
14w3d	2.78	2.40	3.16
15w3d	3.12	2.73	3.51
16w3d	3.46	3.06	3.86
17w3d	3.80	3.39	4.20
18w3d	4.13	3.72	4.55
19w3d	4.46	4.04	4.88
20w3d	4.79	4.36	5.22
21w3d	5.11	4.67	5.55
22w3d	5.42	4.97	5.87
23w3d	5.73	5.27	6.18
24w3d	6.03	5.56	6.49
25w3d	6.32	5.85	6.79
26w3d	6.60	6.12	7.08

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
27w3d	6.87	6.38	7.36
28w3d	7.14	6.64	7.63
29w3d	7.39	6.88	7.89
30w3d	7.63	7.11	8.14
31w3d	7.85	7.33	8.38
32w3d	8.06	7.53	8.60
33w3d	8.26	7.72	8.80
34w3d	8.45	7.90	8.99
35w3d	8.61	8.06	9.17
36w3d	8.76	8.20	9.33
37w3d	8.90	8.32	9.47
38w3d	9.01	8.43	9.59
39w3d	9.11	8.52	9.70
40w3d	9.18	8.59	9.78
41w3d	9.24	8.63	9.85
42w3d	9.28	8.66	9.89

✦ Biparietal Diameter (BPD): JSUM

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)	Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
1.30	10w1d	09w4d	10w5d	5.20	21w6d	20w6d	22w6d
1.40	10w3d	09w6d	11w0d	5.30	22w1d	21w0d	23w2d
1.50	10w5d	10w1d	11w2d	5.40	22w3d	21w2d	23w4d
1.60	11w0d	10w3d	11w4d	5.50	22w5d	21w4d	23w6d
1.70	11w2d	10w5d	11w6d	5.60	23w1d	22w0d	24w2d
1.80	11w4d	11w0d	12w1d	5.70	23w3d	22w2d	24w4d
1.90	11w6d	11w2d	12w3d	5.80	23w5d	22w4d	24w6d
2.00	12w1d	11w4d	12w5d	5.90	24w1d	23w0d	25w2d
2.10	12w3d	11w6d	13w0d	6.00	24w3d	23w1d	25w5d
2.20	12w6d	12w2d	13w3d	6.10	24w5d	23w3d	26w0d
2.30	13w1d	12w3d	13w6d	6.20	25w1d	23w6d	26w3d
2.40	13w3d	12w5d	14w1d	6.30	25w3d	24w1d	26w5d
2.50	13w5d	13w0d	14w3d	6.40	25w5d	24w3d	27w0d
2.60	14w0d	13w2d	14w5d	6.50	26w1d	24w6d	27w3d
2.70	14w2d	13w4d	15w0d	6.60	26w3d	25w0d	27w6d
2.80	14w4d	13w6d	15w2d	6.70	26w6d	25w3d	28w2d
2.90	14w6d	14w1d	15w4d	6.80	27w2d	25w6d	28w5d
3.00	15w1d	14w3d	15w6d	6.90	27w4d	26w1d	29w0d
3.10	15w3d	14w5d	16w1d	7.00	28w0d	26w4d	29w3d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)	Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
3.20	15w5d	15w0d	16w3d	7.10	28w3d	27w0d	29w6d
3.30	16w0d	15w2d	16w5d	7.20	28w5d	27w1d	30w2d
3.40	16w2d	15w4d	17w0d	7.30	29w1d	27w4d	30w5d
3.50	16w4d	15w6d	17w2d	7.40	29w4d	28w0d	31w1d
3.60	16w6d	16w0d	17w5d	7.50	30w0d	28w3d	31w4d
3.70	17w1d	16w2d	18w0d	7.60	30w3d	28w6d	32w0d
3.80	17w4d	16w5d	18w3d	7.70	30w6d	29w1d	32w4d
3.90	17w6d	17w0d	18w5d	7.80	31w2d	29w4d	33w0d
4.00	18w1d	17w2d	19w0d	7.90	31w5d	30w0d	33w3d
4.10	18w3d	17w4d	19w2d	8.00	32w1d	30w3d	33w6d
4.20	18w5d	17w6d	19w4d	8.10	32w5d	31w0d	34w3d
4.30	19w0d	18w1d	19w6d	8.20	33w1d	31w2d	35w0d
4.40	19w2d	18w3d	20w1d	8.30	33w5d	31w6d	35w4d
4.50	19w4d	18w5d	20w3d	8.40	34w2d	32w3d	36w1d
4.60	20w0d	19w0d	21w0d	8.50	34w6d	33w0d	36w5d
4.70	20w2d	19w2d	21w2d	8.60	35w3d	33w3d	37w3d
4.80	20w4d	19w4d	21w4d	8.70	36w0d	34w0d	38w0d
4.90	20w6d	19w6d	21w6d	8.80	36w5d	34w5d	38w5d
5.00	21w1d	20w1d	22w1d	8.90	37w4d	35w4d	39w4d
5.10	21w3d	20w3d	22w3d	9.00	38w3d	36w2d	40w4d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)	Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
10w3d	1.43	1.08	1.77	27w3d	6.87	6.38	7.36
11w3d	1.76	1.41	2.12	28w3d	7.14	6.64	7.63
12w3d	2.10	1.74	2.47	29w3d	7.39	6.88	7.89
13w3d	2.44	2.07	2.82	30w3d	7.63	7.11	8.14
14w3d	2.78	2.40	3.16	31w3d	7.85	7.33	8.38
15w3d	3.12	2.73	3.51	32w3d	8.06	7.53	8.60
16w3d	3.46	3.06	3.86	33w3d	8.26	7.72	8.80
17w3d	3.80	3.39	4.20	34w3d	8.45	7.90	8.99
18w3d	4.13	3.72	4.55	35w3d	8.61	8.06	9.17
19w3d	4.46	4.04	4.88	36w3d	8.76	8.20	9.33
20w3d	4.79	4.36	5.22	37w3d	8.90	8.32	9.47
21w3d	5.11	4.67	5.55	38w3d	9.01	8.43	9.59
22w3d	5.42	4.97	5.87	39w3d	9.11	8.52	9.70
23w3d	5.73	5.27	6.18	40w3d	9.18	8.59	9.78
24w3d	6.03	5.56	6.49	41w3d	9.24	8.63	9.85
25w3d	6.32	5.85	6.79	42w3d	9.28	8.66	9.89
26w3d	6.60	6.12	7.08				

Biparietal Diameter (BPD): OSAKA

GA Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.30	10w0d	3.40	15w4d	5.50	22w0d	7.60	29w3d
1.40	10w1d	3.50	16w0d	5.60	22w3d	7.70	29w6d
1.50	10w3d	3.60	16w2d	5.70	22w5d	7.80	30w2d
1.60	10w5d	3.70	16w4d	5.80	23w0d	7.90	30w4d
1.70	11w0d	3.80	16w6d	5.90	23w3d	8.00	31w0d
1.80	11w1d	3.90	17w1d	6.00	23w5d	8.10	31w3d
1.90	11w3d	4.00	17w3d	6.10	24w0d	8.20	32w0d
2.00	11w5d	4.10	17w5d	6.20	24w3d	8.30	32w3d
2.10	12w0d	4.20	18w0d	6.30	24w5d	8.40	32w6d
2.20	12w2d	4.30	18w2d	6.40	25w0d	8.50	33w3d
2.30	12w4d	4.40	18w4d	6.50	25w3d	8.60	33w6d
2.40	12w6d	4.50	18w6d	6.60	25w5d	8.70	34w0d
2.50	13w1d	4.60	19w2d	6.70	26w0d	8.80	35w0d
2.60	13w3d	4.70	19w4d	6.80	26w3d	8.90	35w4d
2.70	13w5d	4.80	19w6d	6.90	26w5d	9.00	36w2d
2.80	14w0d	4.90	20w1d	7.00	27w1d	9.10	37w0d
2.90	14w1d	5.00	20w3d	7.10	27w4d	9.20	37w6d
3.00	14w3d	5.10	20w5d	7.20	27w6d	9.30	39w0d
3.10	14w5d	5.20	21w1d	7.30	28w2d	9.40	40w0d
3.20	15w0d	5.30	21w3d	7.40	28w4d		
3.30	15w2d	5.40	21w5d	7.50	29w0d		

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (wd)	Meas (cm)	±SD (cm)
10w0d	1.33	0.19
10w1d	1.38	0.19
10w2d	1.44	0.19
10w3d	1.50	0.19
10w4d	1.55	0.19
10w5d	1.61	0.19
10w6d	1.66	0.20
11w0d	1.72	0.20
11w1d	1.77	0.20
11w2d	1.83	0.20
11w3d	1.88	0.20
11w4d	1.93	0.20
11w5d	1.99	0.21
11w6d	2.04	0.21
12w0d	2.09	0.21
12w1d	2.15	0.21
12w2d	2.20	0.21
12w3d	2.25	0.21
12w4d	2.31	0.21
12w5d	2.36	0.22
12w6d	2.41	0.22
13w0d	2.46	0.22

Age (wd)	Meas (cm)	±SD (cm)
25w1d	6.43	0.32
25w2d	6.47	0.33
25w3d	6.51	0.33
25w4d	6.55	0.33
25w5d	6.59	0.33
25w6d	6.63	0.33
26w0d	6.67	0.33
26w1d	6.71	0.33
26w2d	6.75	0.33
26w3d	6.80	0.33
26w4d	6.84	0.33
26w5d	6.88	0.33
26w6d	6.92	0.34
27w0d	6.95	0.34
27w1d	6.99	0.34
27w2d	7.03	0.34
27w3d	7.07	0.34
27w4d	7.11	0.34
27w5d	7.15	0.34
27w6d	7.19	0.34
28w0d	7.23	0.34
28w1d	7.27	0.34

Age (wd)	Meas (cm)	±SD (cm)
13w1d	2.52	0.22
13w2d	2.57	0.22
13w3d	2.62	0.22
13w4d	2.67	0.23
13w5d	2.72	0.23
13w6d	2.77	0.23
14w0d	2.82	0.23
14w1d	2.87	0.23
14w2d	2.93	0.23
14w3d	2.98	0.23
14w4d	3.03	0.24
14w5d	3.08	0.24
14w6d	3.13	0.24
15w0d	3.18	0.24
15w1d	3.23	0.24
15w2d	3.28	0.24
15w3d	3.33	0.24
15w4d	3.38	0.25
15w5d	3.42	0.25
15w6d	3.47	0.25
16w0d	3.52	0.25
16w1d	3.57	0.25
16w2d	3.62	0.25
16w3d	3.67	0.25

Age (wd)	Meas (cm)	±SD (cm)
28w2d	7.30	0.34
28w3d	7.34	0.34
28w4d	7.38	0.35
28w5d	7.42	0.35
28w6d	7.45	0.35
29w0d	7.49	0.35
29w1d	7.53	0.35
29w2d	7.56	0.35
29w3d	7.60	0.35
29w4d	7.64	0.35
29w5d	7.67	0.35
29w6d	7.71	0.35
30w0d	7.74	0.35
30w1d	7.78	0.35
30w2d	7.81	0.35
30w3d	7.85	0.36
30w4d	7.88	0.36
30w5d	7.92	0.36
30w6d	7.95	0.36
31w0d	7.98	0.36
31w1d	8.02	0.36
31w2d	8.05	0.36
31w3d	8.08	0.36
31w4d	8.12	0.36

Age (wd)	Meas (cm)	±SD (cm)
16w4d	3.72	0.25
16w5d	3.77	0.26
16w6d	3.81	0.26
17w0d	3.86	0.26
17w1d	3.91	0.26
17w2d	3.96	0.26
17w3d	4.01	0.26
17w4d	4.05	0.26
17w5d	4.10	0.27
17w6d	4.15	0.27
18w0d	4.20	0.27
18w1d	4.24	0.27
18w2d	4.29	0.27
18w3d	4.34	0.27
18w4d	4.39	0.27
18w5d	4.43	0.27
18w6d	4.48	0.28
19w0d	4.53	0.28
19w1d	4.57	0.28
19w2d	4.62	0.28
19w3d	4.67	0.28
19w4d	4.71	0.28
19w5d	4.76	0.28
19w6d	4.80	0.28

Age (wd)	Meas (cm)	±SD (cm)
31w5d	8.15	0.36
31w6d	8.18	0.36
32w0d	8.21	0.36
32w1d	8.24	0.36
32w2d	8.27	0.36
32w3d	8.31	0.36
32w4d	8.34	0.37
32w5d	8.37	0.37
32w6d	8.40	0.37
33w0d	8.43	0.37
33w1d	8.46	0.37
33w2d	8.48	0.37
33w3d	8.51	0.37
33w4d	8.54	0.37
33w5d	8.57	0.37
33w6d	8.60	0.37
34w0d	8.62	0.37
34w1d	8.65	0.37
34w2d	8.68	0.37
34w3d	8.70	0.37
34w4d	8.73	0.37
34w5d	8.75	0.37
34w6d	8.78	0.37
35w0d	8.80	0.37

Age (wd)	Meas (cm)	±SD (cm)
20w0d	4.85	0.29
20w1d	4.90	0.29
20w2d	4.94	0.29
20w3d	4.99	0.29
20w4d	5.03	0.29
20w5d	5.08	0.29
20w6d	5.12	0.29
21w0d	5.17	0.29
21w1d	5.21	0.29
21w2d	5.26	0.30
21w3d	5.30	0.30
21w4d	5.35	0.30
21w5d	5.39	0.30
21w6d	5.44	0.30
22w0d	5.48	0.30
22w1d	5.52	0.30
22w2d	5.57	0.30
22w3d	5.61	0.30
22w4d	5.66	0.31
22w5d	5.70	0.31
22w6d	5.74	0.31
23w0d	5.79	0.31
23w1d	5.83	0.31
23w2d	5.87	0.31

Age (wd)	Meas (cm)	±SD (cm)
35w1d	8.83	0.38
35w2d	8.85	0.38
35w3d	8.87	0.38
35w4d	8.90	0.38
35w5d	8.92	0.38
35w6d	8.94	0.38
36w0d	8.96	0.38
36w1d	8.98	0.38
36w2d	9.00	0.38
36w3d	9.02	0.38
36w4d	9.04	0.38
36w5d	9.06	0.38
36w6d	9.08	0.38
37w0d	9.10	0.38
37w1d	9.12	0.38
37w2d	9.14	0.38
37w3d	9.15	0.38
37w4d	9.17	0.38
37w5d	9.18	0.38
37w6d	9.20	0.38
38w0d	9.21	0.38
38w1d	9.23	0.38
38w2d	9.24	0.38
38w3d	9.26	0.39

Age (wd)	Meas (cm)	±SD (cm)
23w3d	5.92	0.31
23w4d	5.96	0.31
23w5d	6.00	0.31
23w6d	6.05	0.32
24w0d	6.09	0.32
24w1d	6.13	0.32
24w2d	6.17	0.32
24w3d	6.22	0.32
24w4d	6.26	0.32
24w5d	6.30	0.32
24w6d	6.34	0.32
25w0d	6.39	0.32

Age (wd)	Meas (cm)	±SD (cm)
38w4d	9.27	0.39
38w5d	9.28	0.39
38w6d	9.29	0.39
39w0d	9.30	0.39
39w1d	9.31	0.39
39w2d	9.32	0.39
39w3d	9.33	0.39
39w4d	9.34	0.39
39w5d	9.35	0.39
39w6d	9.36	0.39
40w0d	9.36	0.39

■ Biparietal Diameter (BPD): CHITTY (OUT-IN)

GA Table

Altman DG, Chitty LS: New Charts for ultrasound dating of pregnancy. Ultrasound in Obstetrics and Gynecology, Vol. 10: 174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.10	12w5d	11w6d	13w5d
2.20	13w0d	12w1d	14w0d
2.30	13w2d	12w3d	14w2d
2.40	13w4d	12w4d	14w4d
2.50	13w6d	12w6d	14w6d
2.60	14w1d	13w1d	15w1d
2.70	14w3d	13w3d	15w3d
2.80	14w5d	13w4d	15w5d
2.90	14w6d	13w6d	16w0d
3.00	15w1d	14w1d	16w2d
3.10	15w3d	14w3d	16w5d
3.20	15w5d	14w4d	17w0d
3.30	16w0d	14w6d	17w2d
3.40	16w2d	15w1d	17w4d
3.50	16w4d	15w3d	17w6d
3.60	16w6d	15w5d	18w2d
3.70	17w1d	15w6d	18w4d
3.80	17w3d	16w1d	18w6d
3.90	17w6d	16w3d	19w2d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.60	23w1d	21w2d	25w2d
5.70	23w4d	21w4d	25w4d
5.80	23w6d	21w6d	26w0d
5.90	24w1d	22w1d	26w3d
6.00	24w4d	22w3d	26w6d
6.10	24w6d	22w5d	27w1d
6.20	25w2d	23w1d	27w4d
6.30	25w4d	23w3d	28w0d
6.40	26w0d	23w5d	28w3d
6.50	26w2d	24w0d	28w6d
6.60	26w5d	24w2d	29w1d
6.70	27w0d	24w4d	29w4d
6.80	27w3d	25w0d	30w0d
6.90	27w5d	25w2d	30w3d
7.00	28w1d	25w4d	30w6d
7.10	28w3d	25w6d	31w2d
7.20	28w6d	26w2d	31w5d
7.30	29w2d	26w4d	32w1d
7.40	29w4d	26w6d	32w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.00	18w1d	16w5d	19w4d
4.10	18w3d	17w0d	19w6d
4.20	18w5d	17w2d	20w2d
4.30	19w0d	17w4d	20w4d
4.40	19w2d	17w6d	20w6d
4.50	19w4d	18w1d	21w2d
4.60	19w6d	18w3d	21w4d
4.70	20w2d	18w5d	22w0d
4.80	20w4d	19w0d	22w2d
4.90	20w6d	19w2d	22w5d
5.00	21w1d	19w4d	23w0d
5.10	21w4d	19w6d	23w3d
5.20	21w6d	20w1d	23w5d
5.30	22w1d	20w3d	24w1d
5.40	22w4d	20w5d	24w4d
5.50	22w6d	21w0d	24w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
7.50	30w0d	27w2d	33w0d
7.60	30w2d	27w4d	33w3d
7.70	30w5d	27w6d	33w6d
7.80	31w1d	28w2d	34w2d
7.90	31w4d	28w4d	34w5d
8.00	31w6d	28w6d	35w1d
8.10	32w2d	29w2d	35w5d
8.20	32w5d	29w4d	36w1d
8.30	33w1d	30w0d	36w4d
8.40	33w3d	30w2d	37w0d
8.50	33w6d	30w5d	37w3d
8.60	34w2d	31w0d	38w0d
8.70	34w5d	31w2d	38w3d
8.80	35w1d	31w5d	38w6d
8.90	35w4d	32w0d	39w3d

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell. "Charts of Fetal Size: 2. Head Measurement" British Journal of Obstetrics and Gynaecology, January 1994. Vol 101. pp35-43

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	1.83	1.57	2.09
13	2.2	1.93	2.47
14	2.56	2.28	2.84
15	2.93	2.64	3.22
16	3.28	2.99	3.58
17	3.63	3.33	3.94
18	3.98	3.66	4.3
19	4.32	4	4.64
20	4.65	4.32	4.99
21	4.98	4.64	5.32
22	5.3	4.95	5.65
23	5.61	5.25	5.97
24	5.92	5.55	6.29
25	6.21	5.84	6.59
26	6.5	6.12	6.89
27	6.78	6.39	7.18

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	7.05	6.65	7.46
29	7.31	6.9	7.73
30	7.57	7.15	7.99
31	7.81	7.38	8.24
32	8.04	7.6	8.48
33	8.26	7.81	8.71
34	8.47	8.02	8.93
35	8.67	8.21	9.14
36	8.86	8.38	9.33
37	9.03	8.55	9.52
38	9.2	8.7	9.69
39	9.35	8.85	9.85
40	9.48	8.97	9.99
41	9.61	9.09	10.12
42	9.72	9.19	10.24

Biparietal Diameter (BPD): CHITTY (OUT-OUT)

GA Table

D.G. Altman, L.S. Chitty. "New Charts for Ultrasound Dating of Pregnancy" Ultrasound in Obstetrics and Gynecology, Vol.10, pp174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.20	12w4d	11w5d	13w4d	5.70	22w5d	20w5d	24w5d
2.30	12w6d	12w0d	13w6d	5.80	23w0d	21w0d	25w1d
2.40	13w1d	12w1d	14w1d	5.90	23w2d	21w2d	25w4d
2.50	13w3d	12w3d	14w3d	6.00	23w5d	21w4d	25w6d
2.60	13w4d	12w5d	14w5d	6.10	24w0d	21w6d	26w2d
2.70	13w6d	12w6d	15w0d	6.20	24w2d	22w1d	26w5d
2.80	14w1d	13w1d	15w2d	6.30	24w5d	22w4d	27w0d
2.90	14w3d	13w3d	15w4d	6.40	25w0d	22w6d	27w3d
3.00	14w5d	13w4d	15w6d	6.50	25w2d	23w1d	27w6d
3.10	15w0d	13w6d	16w1d	6.60	25w5d	23w3d	28w2d
3.20	15w2d	14w1d	16w3d	6.70	26w0d	23w5d	28w4d
3.30	15w4d	14w3d	16w5d	6.80	26w3d	24w0d	29w0d
3.40	15w5d	14w4d	17w0d	6.90	26w5d	24w2d	29w3d
3.50	16w0d	14w6d	17w2d	7.00	27w1d	24w4d	29w6d
3.60	16w2d	15w1d	17w5d	7.10	27w3d	25w0d	30w2d
3.70	16w4d	15w3d	18w0d	7.20	27w6d	25w2d	30w4d
3.80	16w6d	15w4d	18w2d	7.30	28w1d	25w4d	31w0d
3.90	17w1d	15w6d	18w4d	7.40	28w4d	25w6d	31w3d
4.00	17w3d	16w1d	19w0d	7.50	28w6d	26w2d	31w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.10	17w5d	16w3d	19w2d	7.60	29w2d	26w4d	32w2d
4.20	18w0d	16w4d	19w4d	7.70	29w5d	26w6d	32w5d
4.30	18w2d	16w6d	19w6d	7.80	30w0d	27w1d	33w1d
4.40	18w4d	17w1d	20w2d	7.90	30w3d	27w4d	33w4d
4.50	19w0d	17w3d	20w4d	8.00	30w5d	27w6d	34w0d
4.60	19w2d	17w5d	20w6d	8.10	31w1d	28w1d	34w3d
4.70	19w4d	18w0d	21w2d	8.20	31w4d	28w3d	34w6d
4.80	19w6d	18w2d	21w4d	8.30	31w6d	28w6d	35w2d
4.90	20w1d	18w4d	22w0d	8.40	32w2d	29w1d	35w6d
5.00	20w3d	18w5d	22w2d	8.50	32w5d	29w4d	36w2d
5.10	20w5d	19w0d	22w4d	8.60	33w1d	29w6d	36w5d
5.20	21w1d	19w2d	23w0d	8.70	33w3d	30w1d	37w1d
5.30	21w3d	19w4d	23w2d	8.80	33w6d	30w4d	37w4d
5.40	21w5d	19w6d	23w5d	8.90	34w2d	30w6d	38w1d
5.50	22w0d	20w1d	24w0d	9.00	34w5d	31w1d	38w4d
5.60	22w2d	20w3d	24w3d	9.10	35w1d	31w4d	39w0d

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 2. Head Measurement" British Journal of Obstetrics and Gynaecology, January 1994. Vol 101. pp35-43

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	1.97	1.68	2.25
13	2.35	2.06	2.65
14	2.73	2.43	3.03
15	3.1	2.8	3.41
16	3.47	3.16	3.79
17	3.83	3.51	4.16
18	4.19	3.86	4.52
19	4.54	4.2	4.88
20	4.88	4.54	5.23
21	5.22	4.86	5.57
22	5.55	5.19	5.91
23	5.87	5.5	6.23
24	6.18	5.8	6.55
25	6.48	6.1	6.86
26	6.78	6.38	7.17
27	7.06	6.66	7.46

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	7.34	6.93	7.74
29	7.6	7.19	8.01
30	7.86	7.43	8.28
31	8.1	7.67	8.53
32	8.33	7.9	8.77
33	8.55	8.11	9
34	8.76	8.31	9.21
35	8.96	8.5	9.42
36	9.15	8.68	9.61
37	9.32	8.84	9.79
38	9.48	8.99	9.96
39	9.62	9.13	10.11
40	9.75	9.26	10.25
41	9.87	9.36	10.37
42	9.97	9.46	10.48

Biparietal Diameter (BPD): CAMPBELL

GA Table

Professor Campbell's Group at Harris birthright Centre, King's College Hospital

Meas (cm)	Age (wd)	±days (wd)
2.40	13w0d	0w0d
2.80	14w0d	01w0d
3.20	15w0d	01w0d
3.70	16w0d	01w0d
4.10	17w0d	01w0d
4.40	18w0d	01w0d
4.70	19w0d	01w1d
5.10	20w0d	01w1d
5.40	21w0d	01w1d
5.80	22w0d	01w1d
6.10	23w0d	01w2d
6.40	24w0d	01w2d
6.70	25w0d	01w2d
7.00	26w0d	01w3d

Meas (cm)	Age (wd)	±days (wd)
7.30	27w0d	01w3d
7.50	28w0d	01w4d
7.80	29w0d	01w4d
8.00	30w0d	01w5d
8.30	31w0d	01w6d
8.50	32w0d	02w0d
8.70	33w0d	02w1d
8.90	34w0d	02w3d
9.10	35w0d	02w5d
9.30	36w0d	02w6d
9.50	37w0d	03w0d
9.70	38w0d	0w0d
9.90	39w0d	0w0d
10.00	40w0d	0w0d

Biparietal Diameter (BPD): KURTZ

GA Table

Kurtz AB, et. al., "Analysis of biparietal diameter as an accurate indicator of gestational age"
Journal of Clinical Ultrasound, 8: 319-326, August 1980

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
2.0	12w0d	0w0d	6.0	23w6d	1w5d
2.1	12w0d	0w0d	6.1	24w1d	1w5d
2.2	12w5d	0w4d	6.2	24w4d	1w4d
2.3	13w0d	0w4d	6.3	24w6d	1w4d
2.4	13w1d	0w4d	6.4	25w2d	1w4d
2.5	13w4d	0w4d	6.5	25w4d	1w4d
2.6	13w5d	0w4d	6.6	26w0d	1w4d
2.7	14w0d	0w4d	6.7	26w3d	1w3d
2.8	14w2d	0w5d	6.8	26w5d	1w3d
2.9	14w4d	0w5d	6.9	27w1d	1w2d
3.0	14w6d	0w5d	7.0	27w4d	1w1d
3.1	15w1d	0w6d	7.1	27w6d	1w1d
3.2	15w2d	0w6d	7.2	28w2d	1w1d
3.3	15w4d	0w6d	7.3	28w5d	1w1d
3.4	15w6d	0w6d	7.4	29w1d	1w0d
3.5	16w1d	1w0d	7.5	29w4d	1w0d
3.6	16w3d	1w0d	7.6	30w0d	1w0d
3.7	16w5d	1w1d	7.7	30w2d	1w2d
3.8	17w0d	1w1d	7.8	30w4d	1w2d

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
3.9	17w2d	1w1d	7.9	31w1d	1w3d
4.0	17w4d	1w1d	8.0	31w4d	1w3d
4.1	17w6d	1w3d	8.1	32w1d	1w3d
4.2	18w1d	1w4d	8.2	32w4d	1w3d
4.3	18w3d	1w6d	8.3	33w0d	1w4d
4.4	18w6d	1w6d	8.4	33w3d	1w5d
4.5	19w1d	2w1d	8.5	34w0d	1w5d
4.6	19w3d	2w0d	8.6	34w2d	1w6d
4.7	19w5d	1w6d	8.7	35w0d	1w4d
4.8	20w0d	1w6d	8.8	35w3d	1w5d
4.9	20w2d	1w5d	8.9	36w1d	1w5d
5.0	20w4d	1w4d	9.0	36w4d	1w5d
5.1	20w6d	1w4d	9.1	37w1d	1w2d
5.2	21w1d	1w5d	9.2	37w6d	1w1d
5.3	21w4d	1w5d	9.3	38w2d	1w0d
5.4	21w6d	1w6d	9.4	39w0d	1w1d
5.5	22w1d	1w6d	9.5	39w5d	1w1d
5.6	22w4d	1w6d	9.6	40w2d	1w1d
5.7	22w6d	1w5d	9.7	41w0d	1w1d
5.8	23w1d	1w5d	9.8	41w6d	1w2d
5.9	23w4d	1w4d			

▣ Biparietal Diameter (BPD): ASUM(SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements
(Revised May 2001)

$$GA = 0.397 \times (BPD \times 10) - 0.00306 \times (BPD \times 10)^2 + 0.00002788 \times (BPD \times 10)^3 + 4.933$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 1.70 cm

Max Range: 9.84 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements
(Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
11	1.6	0.2	27	6.8	0.5
12	2.0	0.4	28	7.2	0.4
13	2.4	0.4	29	7.5	0.4
14	2.8	0.4	30	7.6	0.4
15	3.1	0.4	31	8.0	0.6
16	3.6	0.5	32	8.1	0.4
17	3.9	0.5	33	8.4	0.6
18	4.2	0.4	34	8.6	0.6
19	4.5	0.5	35	8.8	0.65

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
20	4.7	0.4	36	9.0	0.6
21	4.9	0.4	37	9.2	0.65
22	5.2	0.5	38	9.3	0.6
23	5.7	0.5	39	9.5	0.8
24	6.0	0.6	40	9.6	0.8
25	6.4	0.6	41	9.8	0.8
26	6.7	0.4			

▣ Biparietal Diameter (BPD): BESSIS

GA Table

The data are those provided by Dr. Bessis to M. Le Bel. (Same as SIGMA 20, see memo from Ch. Gahwiler dated, June 23, 1983)

Meas (cm)	Age (wd)	±days (wd)
1.90	11w4d	0w6d
2.35	13w0d	0w6d
3.65	17w0d	0w6d
4.90	21w0d	1w0d
6.05	25w0d	1w2d
7.20	29w0d	1w5d
8.15	33w0d	2w4d
8.75	37w0d	4w4d
9.70	39w6d	4w4d

✚ Biparietal Diameter (BPD): CFEF

GA Table

J. Créquat, M. Duyme, G. Brodaty.

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil, 2000 Jun;28(6): 435-45

Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)
1.53	11	5.45	22	8.21	33
1.94	12	5.75	23	8.40	34
2.33	13	6.04	24	8.59	35
2.71	14	6.32	25	8.76	36
3.08	15	6.59	26	8.92	37
3.45	16	6.85	27	9.07	38
3.81	17	7.10	28	9.21	39
4.15	18	7.35	29	9.34	40
4.50	19	7.58	30	9.40	41
4.82	20	7.80	31		
5.14	21	8.01	32		

Fetal Growth Table

J. Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
11	1.50	1.30	1.80	27	6.90	6.40	7.30
12	1.90	1.70	2.20	28	7.10	6.70	7.60
13	2.30	2.10	2.60	29	7.40	6.90	7.80
14	2.70	2.40	3.00	30	7.60	7.10	8.00
15	3.10	2.80	3.40	31	7.80	7.30	8.30
16	3.50	3.10	3.80	32	8.00	7.50	8.50
17	3.80	3.50	4.10	33	8.20	7.70	8.70
18	4.20	3.80	4.50	34	8.40	7.90	8.90
19	4.50	4.10	4.90	35	8.60	8.10	9.10
20	4.80	4.50	5.20	36	8.80	8.30	9.20
21	5.10	4.80	5.50	37	8.90	8.50	9.40
22	5.50	5.10	5.80	38	9.10	8.60	9.50
23	5.80	5.30	6.20	39	9.20	8.70	9.70
24	6.00	5.60	6.50	40	9.30	8.90	9.80
25	6.30	5.90	6.70	41	9.40	8.90	9.90
26	6.60	6.20	7.00				

✚ Biparietal Diameter (BPD): JOHNSEN

GA Table

Johnsen SL, Rasmussen S, Sollien R, Kiserud T. "Fetal age assessment based on ultrasound head biometry and the effect of maternal and fetal factors" Acta Obstet Gynecol Scand, 2004 Aug; 83(8): 716-23

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
1.40	10w3d	09w6d	10w6d
1.50	10w5d	10w1d	11w2d
1.60	10w6d	10w3d	11w3d
1.70	11w1d	10w4d	11w5d
1.80	11w3d	10w6d	12w0d
1.90	11w5d	11w1d	12w2d
2.00	12w0d	11w2d	12w4d
2.10	12w2d	11w4d	12w6d
2.20	12w3d	11w6d	13w1d
2.30	12w5d	12w1d	13w3d
2.40	13w0d	12w2d	13w5d
2.50	13w2d	12w4d	14w0d
2.60	13w3d	12w6d	14w1d
2.70	13w5d	13w0d	14w3d
2.80	14w0d	13w2d	14w5d
2.90	14w2d	13w4d	15w0d
3.00	14w4d	13w6d	15w2d
3.10	14w6d	14w0d	15w4d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
3.80	16w5d	15w6d	17w4d
3.90	17w0d	16w1d	17w6d
4.00	17w2d	16w3d	18w1d
4.10	17w4d	16w5d	18w3d
4.20	17w6d	17w0d	18w5d
4.30	18w1d	17w2d	19w1d
4.40	18w3d	17w4d	19w3d
4.50	18w5d	17w6d	19w5d
4.60	19w0d	18w1d	20w0d
4.70	19w3d	18w3d	20w3d
4.80	19w5d	18w5d	20w5d
4.90	20w0d	19w0d	21w0d
5.00	20w2d	19w2d	21w3d
5.10	20w4d	19w4d	21w5d
5.20	21w0d	20w0d	22w0d
5.30	21w2d	20w2d	22w3d
5.40	21w4d	20w4d	22w5d
5.50	22w0d	20w6d	23w1d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
3.20	15w0d	14w2d	15w6d
3.30	15w2d	14w4d	16w1d
3.40	15w4d	14w6d	16w3d
3.50	15w6d	15w1d	16w5d
3.60	16w1d	15w2d	17w0d
3.70	16w3d	15w4d	17w2d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
5.60	22w2d	21w2d	23w3d
5.70	22w5d	21w4d	23w6d
5.80	23w0d	21w6d	24w1d
5.90	23w3d	22w2d	24w4d
6.00	23w5d	22w4d	25w0d

Fetal Growth Table

Johnsen SL, Wilsgaard T, Rasmussen S, Sollien R, Kiserud T. "Longitudinal reference charts for growth of the fetal head, abdomen and femur" Eur J Obstet Gynecol Reprod Biol, 2006 Aug; 127(2): 172-85

Age (w)	Meas (cm)	10% (cm)	90% (cm)
10w	1.40	1.20	1.60
11w	1.70	1.50	1.90
12w	2.00	1.80	2.30
13w	2.40	2.10	2.70
14w	2.70	2.50	3.00
15w	3.10	2.80	3.40
16w	3.50	3.10	3.80
17w	3.80	3.50	4.20
18w	4.20	3.80	4.50
19w	4.50	4.20	4.90
20w	4.90	4.50	5.20
21w	5.20	4.90	5.60

Age (w)	Meas (cm)	10% (cm)	90% (cm)
26w	6.80	6.40	7.20
27w	7.10	6.60	7.50
28w	7.30	6.90	7.80
29w	7.60	7.20	8.00
30w	7.80	7.40	8.30
31w	8.10	7.60	8.60
32w	8.30	7.80	8.80
33w	8.50	8.00	9.00
34w	8.70	8.20	9.30
35w	8.90	8.40	9.50
36w	9.10	8.60	9.70
37w	9.30	8.80	9.80

Age (w)	Meas (cm)	10% (cm)	90% (cm)
22w	5.50	5.20	5.90
23w	5.90	5.50	6.30
24w	6.20	5.80	6.60
25w	6.50	6.10	6.90

Age (w)	Meas (cm)	10% (cm)	90% (cm)
38w	9.50	8.90	10.00
39w	9.60	9.10	10.20
40w	9.80	9.20	10.40
41w	9.9	9.30	10.50

Biparietal Diameter (BPD): REMPEN

GA Table

Rempen A. "Biometrie in der Fruhgraviditat (I. Trimenon)" Der Frauenarzt, 32: 425, 1991

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
0.30	6w6d	05w5d	08w0d
0.40	7w1d	06w0d	08w2d
0.50	7w3d	06w2d	08w4d
0.60	7w5d	06w4d	08w6d
0.70	8w0d	06w6d	09w1d
0.80	8w2d	07w1d	09w3d
0.90	8w4d	07w3d	09w5d
1.00	8w6d	07w5d	10w0d
1.10	9w1d	08w0d	10w2d
1.20	9w3d	08w2d	10w4d
1.30	9w5d	08w4d	10w6d
1.40	10w0d	08w6d	11w1d
1.50	10w2d	09w1d	11w3d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.60	10w4d	09w3d	11w5d
1.70	10w6d	09w5d	12w0d
1.80	11w1d	10w0d	12w2d
1.90	11w3d	10w2d	12w4d
2.00	11w5d	10w4d	12w6d
2.10	12w0d	10w6d	13w1d
2.20	12w2d	11w1d	13w3d
2.30	12w4d	11w3d	13w5d
2.40	12w6d	11w5d	14w0d
2.50	13w1d	12w0d	14w2d
2.60	13w3d	12w2d	14w4d
2.70	13w5d	12w4d	14w6d

Fetal Growth Table

Rempen A. "Biometrie in der Fruhgraviditat (I. Trimenon)" Der Frauenarzt, 32: 425, 1991

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
6w2d	0.20	0.00	0.57
6w3d	0.25	0.00	0.62
6w4d	0.30	0.00	0.67
6w5d	0.34	0.00	0.71
6w6d	0.39	0.02	0.76
7w0d	0.43	0.06	0.80
7w1d	0.48	0.11	0.85
7w2d	0.53	0.16	0.90
7w3d	0.57	0.20	0.94
7w4d	0.62	0.25	0.99
7w5d	0.67	0.30	1.04
7w6d	0.71	0.34	1.08
8w0d	0.76	0.39	1.13
8w1d	0.80	0.43	1.17
8w2d	0.85	0.48	1.22
8w3d	0.89	0.52	1.26
8w4d	0.94	0.57	1.31
8w5d	0.98	0.61	1.35
8w6d	1.03	0.66	1.40
9w0d	1.07	0.70	1.44
9w1d	1.12	0.75	1.49
9w2d	1.16	0.79	1.53
9w3d	1.21	0.84	1.58
9w4d	1.25	0.88	1.62
9w5d	1.30	0.93	1.67

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
9w6d	1.34	0.97	1.71
10w0d	1.39	1.02	1.76
10w1d	1.43	1.06	1.80
10w2d	1.48	1.11	1.85
10w3d	1.52	1.15	1.89
10w4d	1.57	1.20	1.94
10w5d	1.61	1.24	1.98
10w6d	1.65	1.28	2.02
11w0d	1.70	1.33	2.07
11w1d	1.74	1.37	2.11
11w2d	1.79	1.42	2.16
11w3d	1.83	1.46	2.20
11w4d	1.87	1.50	2.24
11w5d	1.92	1.55	2.29
11w6d	1.96	1.59	2.33
12w0d	2.00	1.63	2.37
12w1d	2.05	1.68	2.42
12w2d	2.09	1.72	2.46
12w3d	2.13	1.76	2.50
12w4d	2.18	1.81	2.55
12w5d	2.22	1.85	2.59
12w6d	2.26	1.89	2.63
13w0d	2.31	1.94	2.68
13w1d	2.35	1.98	2.72
13w2d	2.39	2.02	2.76

✚ Biparietal Diameter (BPD): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Visser J, Huch R, Huch A, Zimmermann R. "Fetal ultrasound biometry: 1. Head reference values" Br J Obstet Gynaecol, 1999 Feb; 106(2): 126-35

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12w	2.10	1.70	2.50
13w	2.49	2.08	2.90
14w	2.87	2.45	3.29
15w	3.25	2.82	3.68
16w	3.62	3.18	4.06
17w	3.99	3.53	4.44
18w	4.35	3.88	4.81
19w	4.70	4.22	5.17
20w	5.04	4.56	5.53
21w	5.38	4.88	5.88
22w	5.71	5.20	6.22
23w	6.03	5.51	6.55
24w	6.34	5.81	6.87
25w	6.65	6.11	7.19
26w	6.94	6.39	7.49
27w	7.22	6.66	7.78

Age (w)	Meas (cm)	5% (cm)	95% (cm)
28w	7.49	6.92	8.07
29w	7.76	7.17	8.34
30w	8.01	7.41	8.60
31w	8.25	7.64	8.85
32w	8.47	7.86	9.09
33w	8.69	8.06	9.31
34w	8.89	8.25	9.53
35w	9.08	8.43	9.73
36w	9.26	8.60	9.91
37w	9.42	8.75	10.09
38w	9.57	8.89	10.25
39w	9.70	9.01	10.39
40w	9.82	9.12	10.52
41w	9.92	9.21	10.63
42w	10.01	9.29	10.73

✚ Biparietal Diameter (BPD): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1; 4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	3.10	2.80	3.40
14w1d	3.10	2.80	3.40
14w2d	3.10	2.80	3.40
14w3d	3.10	2.80	3.40
14w4d	3.10	2.80	3.40
14w5d	3.10	2.80	3.40
14w6d	3.10	2.80	3.40
15w0d	3.40	3.10	3.70
15w1d	3.40	3.10	3.70
15w2d	3.40	3.10	3.70
15w3d	3.40	3.10	3.70
15w4d	3.40	3.10	3.70
15w5d	3.40	3.10	3.70
15w6d	3.40	3.10	3.70
16w0d	3.70	3.40	4.00
16w1d	3.70	3.40	4.00
16w2d	3.70	3.40	4.00
16w3d	3.70	3.40	4.00
16w4d	3.70	3.40	4.00

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	7.20	6.60	7.80
27w1d	7.20	6.60	7.80
27w2d	7.20	6.60	7.80
27w3d	7.20	6.60	7.80
27w4d	7.20	6.60	7.80
27w5d	7.20	6.60	7.80
27w6d	7.20	6.60	7.80
28w0d	7.50	6.90	8.10
28w1d	7.50	6.90	8.10
28w2d	7.50	6.90	8.10
28w3d	7.50	6.90	8.10
28w4d	7.50	6.90	8.10
28w5d	7.50	6.90	8.10
28w6d	7.50	6.90	8.10
29w0d	7.80	7.20	8.50
29w1d	7.80	7.20	8.50
29w2d	7.80	7.20	8.50
29w3d	7.80	7.20	8.50
29w4d	7.80	7.20	8.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	3.70	3.40	4.00
16w6d	3.70	3.40	4.00
17w0d	4.00	3.60	4.30
17w1d	4.00	3.60	4.30
17w2d	4.00	3.60	4.30
17w3d	4.00	3.60	4.30
17w4d	4.00	3.60	4.30
17w5d	4.00	3.60	4.30
17w6d	4.00	3.60	4.30
18w0d	4.30	3.90	4.70
18w1d	4.30	3.90	4.70
18w2d	4.30	3.90	4.70
18w3d	4.30	3.90	4.70
18w4d	4.30	3.90	4.70
18w5d	4.30	3.90	4.70
18w6d	4.30	3.90	4.70
19w0d	4.60	4.20	5.00
19w1d	4.60	4.20	5.00
19w2d	4.60	4.20	5.00
19w3d	4.60	4.20	5.00
19w4d	4.60	4.20	5.00
19w5d	4.60	4.20	5.00
19w6d	4.60	4.20	5.00
20w0d	4.90	4.50	5.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	7.80	7.20	8.50
29w6d	7.80	7.20	8.50
30w0d	8.10	7.40	8.80
30w1d	8.10	7.40	8.80
30w2d	8.10	7.40	8.80
30w3d	8.10	7.40	8.80
30w4d	8.10	7.40	8.80
30w5d	8.10	7.40	8.80
30w6d	8.10	7.40	8.80
31w0d	8.30	7.70	9.00
31w1d	8.30	7.70	9.00
31w2d	8.30	7.70	9.00
31w3d	8.30	7.70	9.00
31w4d	8.30	7.70	9.00
31w5d	8.30	7.70	9.00
31w6d	8.30	7.70	9.00
32w0d	8.60	7.90	9.30
32w1d	8.60	7.90	9.30
32w2d	8.60	7.90	9.30
32w3d	8.60	7.90	9.30
32w4d	8.60	7.90	9.30
32w5d	8.60	7.90	9.30
32w6d	8.60	7.90	9.30
33w0d	8.80	8.10	9.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	4.90	4.50	5.40
20w2d	4.90	4.50	5.40
20w3d	4.90	4.50	5.40
20w4d	4.90	4.50	5.40
20w5d	4.90	4.50	5.40
20w6d	4.90	4.50	5.40
21w0d	5.20	4.80	5.70
21w1d	5.20	4.80	5.70
21w2d	5.20	4.80	5.70
21w3d	5.20	4.80	5.70
21w4d	5.20	4.80	5.70
21w5d	5.20	4.80	5.70
21w6d	5.20	4.80	5.70
22w0d	5.60	5.10	6.10
22w1d	5.60	5.10	6.10
22w2d	5.60	5.10	6.10
22w3d	5.60	5.10	6.10
22w4d	5.60	5.10	6.10
22w5d	5.60	5.10	6.10
22w6d	5.60	5.10	6.10
23w0d	5.90	5.40	6.40
23w1d	5.90	5.40	6.40
23w2d	5.90	5.40	6.40
23w3d	5.90	5.40	6.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	8.80	8.10	9.60
33w2d	8.80	8.10	9.60
33w3d	8.80	8.10	9.60
33w4d	8.80	8.10	9.60
33w5d	8.80	8.10	9.60
33w6d	8.80	8.10	9.60
34w0d	9.00	8.30	9.80
34w1d	9.00	8.30	9.80
34w2d	9.00	8.30	9.80
34w3d	9.00	8.30	9.80
34w4d	9.00	8.30	9.80
34w5d	9.00	8.30	9.80
34w6d	9.00	8.30	9.80
35w0d	9.20	8.50	10.00
35w1d	9.20	8.50	10.00
35w2d	9.20	8.50	10.00
35w3d	9.20	8.50	10.00
35w4d	9.20	8.50	10.00
35w5d	9.20	8.50	10.00
35w6d	9.20	8.50	10.00
36w0d	9.40	8.60	10.20
36w1d	9.40	8.60	10.20
36w2d	9.40	8.60	10.20
36w3d	9.40	8.60	10.20

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	5.90	5.40	6.40
23w5d	5.90	5.40	6.40
23w6d	5.90	5.40	6.40
24w0d	6.20	5.70	6.80
24w1d	6.20	5.70	6.80
24w2d	6.20	5.70	6.80
24w3d	6.20	5.70	6.80
24w4d	6.20	5.70	6.80
24w5d	6.20	5.70	6.80
24w6d	6.20	5.70	6.80
25w0d	6.60	6.00	7.10
25w1d	6.60	6.00	7.10
25w2d	6.60	6.00	7.10
25w3d	6.60	6.00	7.10
25w4d	6.60	6.00	7.10
25w5d	6.60	6.00	7.10
25w6d	6.60	6.00	7.10
26w0d	6.90	6.30	7.50
26w1d	6.90	6.30	7.50
26w2d	6.90	6.30	7.50
26w3d	6.90	6.30	7.50
26w4d	6.90	6.30	7.50
26w5d	6.90	6.30	7.50
26w6d	6.90	6.30	7.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	9.40	8.60	10.20
36w5d	9.40	8.60	10.20
36w6d	9.40	8.60	10.20
37w0d	9.50	8.70	10.30
37w1d	9.50	8.70	10.30
37w2d	9.50	8.70	10.30
37w3d	9.50	8.70	10.30
37w4d	9.50	8.70	10.30
37w5d	9.50	8.70	10.30
37w6d	9.50	8.70	10.30
38w0d	9.60	8.80	10.40
38w1d	9.60	8.80	10.40
38w2d	9.60	8.80	10.40
38w3d	9.60	8.80	10.40
38w4d	9.60	8.80	10.40
38w5d	9.60	8.80	10.40
38w6d	9.60	8.80	10.40
39w0d	9.70	8.90	10.50
39w1d	9.70	8.90	10.50
39w2d	9.70	8.90	10.50
39w3d	9.70	8.90	10.50
39w4d	9.70	8.90	10.50
39w5d	9.70	8.90	10.50
39w6d	9.70	8.90	10.50

■ Crown-Rump Length (CRL): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = CRL \times 1.08815 + 6.321988$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.9 cm

Max Range: 5.4 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$CRL = 90.37523XMA - 54.736362$$

Output Unit: cm

Input Unit: w (week)

Min Range: 7 w

Max Range: 11 w

Age (w)	Meas (cm)	±SD (cm)
7	1.045	0.287
8	1.589	0.304
9	2.339	0.291

Age (w)	Meas (cm)	±SD (cm)
10	3.307	0.297
11	4.286	0.346

✚ Crown-Rump Length (CRL): ROBINSON

GA Table

Robinson HP, Fleming JEE British Journal of Obstetrics and Gynecology 82:702-710, September 1975

$$GA = 8.052 \times \sqrt{CRL \times 10} + 23.73$$

Output Unit: d (days)

Input Unit: cm

Min Range: 0.70 cm

Max Range: 7.96 cm

✚ Crown-Rump Length (CRL): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986, p.439.

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)	Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
0.60	06w1d	05w1d	07w0d	5.20	12w2d	11w0d	13w4d
0.70	06w2d	05w3d	07w2d	5.40	12w3d	11w0d	13w5d
0.80	06w4d	05w4d	07w3d	5.60	12w4d	11w1d	13w6d
0.90	06w6d	05w6d	07w6d	5.80	12w5d	11w2d	14w0d
1.00	07w0d	06w1d	08w0d	6.00	12w6d	11w3d	14w1d
1.10	07w2d	06w2d	08w1d	6.30	13w0d	11w4d	14w3d
1.20	07w3d	06w3d	08w3d	6.60	13w2d	11w5d	14w5d
1.30	07w4d	06w5d	08w4d	7.00	13w3d	12w0d	15w0d
1.40	07w6d	06w6d	08w6d	7.30	13w5d	12w1d	15w1d

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)	Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
1.50	08w0d	07w0d	09w0d	7.60	13w6d	12w2d	15w3d
1.60	08w2d	07w2d	09w1d	8.00	14w1d	12w4d	15w5d
1.70	08w3d	07w3d	09w2d	8.30	14w2d	12w5d	16w0d
1.80	08w4d	07w4d	09w4d	8.60	14w4d	12w6d	16w2d
1.90	08w5d	07w5d	09w5d	9.00	14w6d	13w1d	16w4d
2.00	08w6d	07w6d	09w6d	9.30	15w1d	13w3d	16w6d
2.10	09w0d	08w0d	10w0d	9.60	15w3d	13w4d	17w1d
2.20	09w1d	08w1d	10w1d	10.00	15w5d	13w6d	17w3d
2.30	09w2d	08w2d	10w2d	10.30	16w0d	14w1d	17w6d
2.40	09w3d	08w3d	10w3d	10.60	16w2d	14w3d	18w1d
2.60	09w5d	08w5d	10w5d	11.00	16w4d	14w5d	18w4d
2.80	10w0d	08w6d	11w1d	11.30	17w0d	15w0d	19w0d
3.00	10w2d	09w1d	11w2d	11.60	17w2d	15w2d	19w2d
3.20	10w3d	09w2d	11w4d	12.00	17w4d	15w4d	19w4d
3.40	10w5d	09w4d	11w5d	12.30	18w0d	16w0d	20w0d
3.60	10w6d	09w5d	12w0d	12.60	18w2d	16w2d	20w3d
3.80	11w1d	09w6d	12w2d	13.00	18w6d	16w5d	20w6d
4.00	11w2d	10w1d	12w3d	13.30	19w1d	17w0d	21w2d
4.20	11w3d	10w2d	12w4d	13.60	19w4d	17w3d	21w6d
4.40	11w4d	10w3d	12w6d	14.00	20w0d	17w6d	22w2d
4.60	11w6d	10w5d	13w0d	14.30	20w3d	18w1d	22w5d
4.80	12w0d	10w6d	13w2d	14.60	20w6d	18w4d	23w1d
5.00	12w1d	10w6d	13w3d	15.00	21w3d	19w0d	23w5d

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittmann. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986

Age (wd)	Meas (cm)	-2SD (cm)	+2SD (cm)
06w1d	0.69	0.23	1.15
06w2d	0.76	0.28	1.25
06w3d	0.83	0.32	1.34
06w4d	0.90	0.36	1.43
06w5d	0.96	0.39	1.52
06w6d	1.02	0.43	1.61
07w0d	1.08	0.47	1.69
07w1d	1.14	0.50	1.78
07w2d	1.21	0.54	1.87
07w3d	1.27	0.58	1.96
07w4d	1.33	0.62	2.05
07w5d	1.40	0.66	2.14
07w6d	1.47	0.70	2.24
08w0d	1.54	0.75	2.34
08w1d	1.62	0.80	2.44
08w3d	1.78	0.91	2.65
08w5d	1.96	1.03	2.88
09w0d	2.15	1.17	3.12
09w2d	2.36	1.33	3.39
09w4d	2.59	1.51	3.66
09w6d	2.83	1.70	3.96

Age (wd)	Meas (cm)	-2SD (cm)	+2SD (cm)
12w2d	5.56	4.00	7.13
12w4d	5.94	4.32	7.55
12w6d	6.31	4.64	7.98
13w2d	6.88	5.13	8.63
13w4d	7.26	5.56	9.06
13w6d	7.63	5.78	9.48
14w2d	8.18	6.25	10.11
14w4d	8.54	6.56	10.52
14w6d	8.89	6.86	10.92
15w2d	9.39	7.28	11.50
15w4d	9.71	7.55	11.87
15w6d	10.01	7.80	12.22
16w2d	10.44	8.15	12.73
16w4d	10.70	8.36	13.04
16w6d	10.95	8.56	13.34
17w2d	11.30	8.83	13.77
17w4d	11.51	8.99	14.04
17w6d	11.72	9.15	14.29
18w2d	12.00	9.35	14.65
18w4d	12.19	9.48	14.89
18w6d	12.37	9.62	15.12

Age (wd)	Meas (cm)	-2SD (cm)	+2SD (cm)
10w2d	3.24	2.03	4.44
10w4d	3.53	2.27	4.79
10w6d	3.83	2.52	5.14
11w2d	4.32	2.93	5.71
11w4d	4.66	3.22	6.13
11w6d	5.02	3.53	6.51

Age (wd)	Meas (cm)	-2SD (cm)	+2SD (cm)
19w1d	12.55	9.75	15.36
19w3d	12.74	9.89	15.60
19w5d	12.94	10.03	15.85
20w0d	13.16	10.20	16.12
20w1d	13.28	10.29	16.26
20w2d	13.40	10.40	16.41

✦ Crown-Rump Length (CRL): SHINOZUKA

GA Table

N.Shinozuka. "Fetal biometry standard values" <http://www.shinozuka.com>, 1996

Age (w)	Meas (cm)	±SD (cm)
0.50	06w3d	00w3d
1.00	07w3d	00w4d
1.50	08w1d	00w5d
2.00	08w6d	00w6d
2.50	09w4d	00w6d

Age (w)	Meas (cm)	±SD (cm)
3.00	10w2d	01w0d
3.50	10w6d	01w1d
4.00	11w3d	01w1d
4.50	11w6d	01w2d
5.00	12w2d	01w3d

Fetal Growth Table

N.Shinozuka. "Fetal biometry standard values" <http://www.shinozuka.com>, 1996

Age (wd)	Meas (cm)	-1.64 SD (cm)	+1.64 SD (cm)
7w0d	0.79	0.51	1.07
7w1d	0.86	0.55	1.17
7w2d	0.93	0.6	1.27
7w3d	1.01	0.65	1.37
7w4d	1.09	0.71	1.47
7w5d	1.17	0.76	1.58
7w6d	1.25	0.82	1.69
8w0d	1.34	0.88	1.80
8w1d	1.43	0.95	1.91
8w2d	1.52	1.01	2.03
8w3d	1.61	1.08	2.15
8w4d	1.71	1.15	2.27
8w5d	1.81	1.22	2.39
8w6d	1.91	1.30	2.52
9w0d	2.01	1.38	2.65
9w1d	2.12	1.46	2.78
9w2d	2.23	1.54	2.91
9w3d	2.34	1.63	3.05
9w4d	2.45	1.72	3.18
9w5d	2.57	1.81	3.32
9w6d	2.68	1.90	3.47
10w0d	2.80	1.99	3.61

Age (wd)	Meas (cm)	-1.64 SD (cm)	+1.64 SD (cm)
10w1d	2.93	2.09	3.76
10w2d	3.05	2.19	3.91
10w3d	3.18	2.29	4.06
10w4d	3.31	2.40	4.22
10w5d	3.44	2.51	4.38
10w6d	3.58	2.62	4.54
11w0d	3.71	2.73	4.70
11w1d	3.85	2.84	4.86
11w2d	4.00	2.96	5.03
11w3d	4.14	3.08	5.20
11w4d	4.29	3.20	5.37
11w5d	4.44	3.33	5.55
11w6d	4.59	3.45	5.73
12w0d	4.74	3.58	5.91
12w1d	4.90	3.72	6.09
12w2d	5.06	3.85	6.27
12w3d	5.22	3.99	6.46
12w4d	5.39	4.13	6.65
12w5d	5.55	4.27	6.84
12w6d	5.72	4.41	7.03
13w0d	5.89	4.56	7.23

✚ Crown-Rump Length (CRL): JUSM

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
0.50	06w3d	00w3d	3.00	10w2d	01w0d
1.00	07w3d	00w4d	3.50	10w6d	01w1d
1.50	08w1d	00w5d	4.00	11w3d	01w1d
2.00	08w6d	00w6d	4.50	11w6d	01w2d
2.50	09w4d	00w6d	5.00	12w2d	01w3d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	Meas (cm)	-1.64 SD (cm)	+1.64 SD (cm)
7w0d	0.79	0.51	1.07
7w1d	0.86	0.55	1.17
7w2d	0.93	0.6	1.27
7w3d	1.01	0.65	1.37
7w4d	1.09	0.71	1.47
7w5d	1.17	0.76	1.58
7w6d	1.25	0.82	1.69
8w0d	1.34	0.88	1.80

Age (wd)	Meas (cm)	-1.64 SD (cm)	+1.64 SD (cm)
8w1d	1.43	0.95	1.91
8w2d	1.52	1.01	2.03
8w3d	1.61	1.08	2.15
8w4d	1.71	1.15	2.27
8w5d	1.81	1.22	2.39
8w6d	1.91	1.30	2.52
9w0d	2.01	1.38	2.65
9w1d	2.12	1.46	2.78
9w2d	2.23	1.54	2.91
9w3d	2.34	1.63	3.05
9w4d	2.45	1.72	3.18
9w5d	2.57	1.81	3.32
9w6d	2.68	1.90	3.47
10w0d	2.80	1.99	3.61
10w1d	2.93	2.09	3.76
10w2d	3.05	2.19	3.91
10w3d	3.18	2.29	4.06
10w4d	3.31	2.40	4.22
10w5d	3.44	2.51	4.38
10w6d	3.58	2.62	4.54
11w0d	3.71	2.73	4.70
11w1d	3.85	2.84	4.86
11w2d	4.00	2.96	5.03
11w3d	4.14	3.08	5.20

Age (wd)	Meas (cm)	-1.64 SD (cm)	+1.64 SD (cm)
11w4d	4.29	3.20	5.37
11w5d	4.44	3.33	5.55
11w6d	4.59	3.45	5.73
12w0d	4.74	3.58	5.91
12w1d	4.90	3.72	6.09
12w2d	5.06	3.85	6.27
12w3d	5.22	3.99	6.46
12w4d	5.39	4.13	6.65
12w5d	5.55	4.27	6.84
12w6d	5.72	4.41	7.03
13w0d	5.89	4.56	7.23

❏ Crown-Rump Length (CRL): NELSON

GA Table

Nelson, L. "Comparison of Methods for Determining Crown-Rump Measurement by Real-Time Ultrasound." Journal of Clinical Ultrasound, 9: 67-70, February, 1981.

$$GA = 51.0008 + 0.6 \times CRL$$

Output Unit: d (days)

Input Unit: cm

Min Range: 0.15 cm

Max Range: 11.5 cm

❏ Crown-Rump Length (CRL): HADLOCK

GA Table

Frank P. Hadlock, Yogesh P. Shah, Donna J. Kanon, Joshua V. Lindsey, "Fetal Crown-Rump Length: Reevaluation of Relation to Menstrual Age(5-18 weeks) with High-Resolution Real-Time US" Radiology, 1992; 182: 501-505

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)	Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
0.2	5w5d	5w2d	6w1d	6.2	12w4d	11w4d	13w4d
0.3	5w6d	5w3d	6w3d	6.3	12w5d	11w5d	13w5d
0.4	6w1d	5w4d	6w4d	6.4	12w6d	11w5d	13w6d
0.5	6w1d	5w5d	6w5d	6.5	12w6d	11w5d	13w6d
0.6	6w3d	5w6d	6w6d	6.6	12w6d	11w6d	14w0d
0.7	6w4d	6w1d	7w1d	6.7	13w0d	12w0d	14w0d
0.8	6w5d	6w1d	7w2d	6.8	13w1d	12w0d	14w1d
0.9	6w6d	6w2d	7w3d	6.9	13w1d	12w0d	14w1d
1.0	7w1d	6w4d	7w5d	7.0	13w1d	12w1d	14w2d
1.1	7w1d	6w4d	7w5d	7.1	13w2d	12w2d	14w3d
1.2	7w3d	6w6d	8w0d	7.2	13w3d	12w2d	14w3d
1.3	7w4d	6w6d	8w1d	7.3	13w3d	12w2d	14w3d
1.4	7w5d	7w1d	8w2d	7.4	13w4d	12w3d	14w4d
1.5	7w6d	7w2d	8w4d	7.5	13w4d	12w4d	14w5d
1.6	8w0d	7w3d	8w4d	7.6	13w5d	12w4d	14w6d
1.7	8w1d	7w3d	8w5d	7.7	13w6d	12w5d	14w6d
1.8	8w2d	7w4d	9w0d	7.8	13w6d	12w5d	14w6d
1.9	8w3d	7w5d	9w1d	7.9	13w6d	12w6d	15w0d
2.0	8w4d	7w6d	9w2d	8.0	14w0d	12w6d	15w1d
2.1	8w5d	8w0d	9w3d	8.1	14w1d	13w0d	15w2d

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
2.2	8w6d	8w1d	9w4d
2.3	9w0d	8w2d	9w5d
2.4	9w1d	8w3d	9w6d
2.5	9w1d	8w3d	10w0d
2.6	9w3d	8w5d	10w1d
2.7	9w4d	8w5d	10w2d
2.8	9w4d	8w6d	10w3d
2.9	9w5d	8w6d	10w3d
3.0	9w6d	9w1d	10w5d
3.1	10w0d	9w1d	10w6d
3.2	10w1d	9w2d	10w6d
3.3	10w1d	9w3d	11w0d
3.4	10w2d	9w3d	11w1d
3.5	10w3d	9w4d	11w2d
3.6	10w4d	9w5d	11w2d
3.7	10w4d	9w5d	11w3d
3.8	10w5d	9w6d	11w4d
3.9	10w6d	10w0d	11w5d
4.0	10w6d	10w0d	11w5d
4.1	11w0d	10w1d	11w6d
4.2	11w1d	10w1d	12w0d
4.3	11w1d	10w2d	12w1d
4.4	11w1d	10w2d	12w1d
4.5	11w2d	10w3d	12w1d
4.6	11w3d	10w3d	12w2d
4.7	11w4d	10w4d	12w3d

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
8.2	14w1d	13w0d	15w2d
8.3	14w1d	13w0d	15w2d
8.4	14w2d	13w1d	15w3d
8.5	14w3d	13w2d	15w4d
8.6	14w4d	13w2d	15w5d
8.7	14w4d	13w3d	15w5d
8.8	14w5d	13w4d	15w6d
8.9	14w6d	13w4d	16w0d
9.0	14w6d	13w5d	16w1d
9.1	15w0d	13w6d	16w1d
9.2	15w1d	13w6d	16w2d
9.3	15w1d	14w	16w3d
9.4	15w2d	14w1d	16w4d
9.5	15w2d	14w1d	16w4d
9.6	15w3d	14w1d	16w4d
9.7	15w4d	14w2d	16w5d
9.8	15w4d	14w2d	16w6d
9.9	15w5d	14w3d	17w0d
10.0	15w6d	14w4d	17w1d
10.1	16w0d	14w5d	17w2d
10.2	16w1d	14w6d	17w3d
10.3	16w1d	14w6d	17w3d
10.4	16w2d	15w0d	17w4d
10.5	16w3d	15w1d	17w5d
10.6	16w4d	15w1d	17w6d
10.7	16w4d	15w2d	17w6d

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
4.8	11w4d	10w5d	12w4d
4.9	11w5d	10w5d	12w4d
5.0	11w5d	10w5d	12w4d
5.1	11w6d	10w6d	12w5d
5.2	11w6d	11w0d	12w6d
5.3	12w0d	11w0d	13w0d
5.4	12w0d	11w0d	13w0d
5.5	12w1d	11w1d	13w0d
5.6	12w1d	11w2d	13w1d
5.7	12w2d	11w2d	13w2d
5.8	12w2d	11w2d	13w2d
5.9	12w3d	11w3d	13w3d
6.0	12w4d	11w4d	13w4d
6.1	12w4d	11w4d	13w4d

Meas (cm)	Age (wd)	-2SD (wd)	+2SD (wd)
10.8	16w5d	15w3d	18w0d
10.9	16w6d	15w3d	18w1d
11.0	16w6d	15w4d	18w2d
11.1	17w0d	15w4d	18w3d
11.2	17w1d	15w5d	18w3d
11.3	17w1d	15w6d	18w4d
11.4	17w2d	15w6d	18w5d
11.5	17w3d	16w0d	18w6d
11.6	17w4d	16w1d	18w6d
11.7	17w4d	16w1d	19w0d
11.8	17w5d	16w2d	19w1d
11.9	17w6d	16w3d	19w2d
12.0	17w6d	16w3d	19w2d
12.1	18w0d	16w4d	19w3d

Crown-Rump Length (CRL): OSAKA

GA Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
0.90	07w1d	2.30	09w2d	3.70	10w4d	5.10	11w6d
1.00	07w3d	2.40	09w3d	3.80	10w5d	5.20	11w6d
1.10	07w4d	2.50	09w3d	3.90	10w6d	5.30	12w0d
1.20	07w6d	2.60	09w4d	4.00	10w6d	5.40	12w1d
1.30	08w0d	2.70	09w5d	4.10	11w0d	5.50	12w1d

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.40	08w1d	2.80	09w6d	4.20	11w0d	5.60	12w2d
1.50	08w2d	2.90	09w6d	4.30	11w1d	5.70	12w2d
1.60	08w3d	3.00	10w0d	4.40	11w2d	5.80	12w3d
1.70	08w4d	3.10	10w1d	4.50	11w2d	5.90	12w3d
1.80	08w5d	3.20	10w1d	4.60	11w3d	6.00	12w4d
1.90	08w6d	3.30	10w2d	4.70	11w3d	6.10	12w5d
2.00	09w0d	3.40	10w3d	4.80	11w4d	6.20	12w5d
2.10	09w0d	3.50	10w3d	4.90	11w5d	6.30	12w6d
2.20	09w1d	3.60	10w4d	5.00	11w6d		

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (w)	Meas (cm)	±1.5SD (cm)	Age (w)	Meas (cm)	±1.5SD (cm)
6	0.52	0.10	10	2.99	0.28
7	0.90	0.14	11	4.06	0.31
8	1.41	0.19	12	5.32	0.31
9	2.11	0.24			

■ Crown-Rump Length (CRL): ASUM(SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

$$GA = -0.0007 \times (CRL \times 10)^2 + 0.1584 \times (CRL \times 10) + 5.2876$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.1 cm

Max Range: 8.7 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)
05w2d	0.1	08w3d	2.0	11w4d	5.2
05w3d	0.2	08w4d	2.1	11w5d	5.5
05w4d	0.3	08w5d	2.2	11w6d	5.6
05w5d	0.3	08w6d	2.2	12w0d	5.7
05w6d	0.4	09w0d	2.3	12w1d	5.8
06w0d	0.4	09w1d	2.4	12w2d	6.0
06w1d	0.5	09w2d	2.6	12w3d	6.1
06w2d	0.6	09w3d	2.7	12w4d	6.3
06w3d	0.7	09w4d	2.8	12w5d	6.4

Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)
06w4d	0.8	09w5d	2.9	12w6d	6.5
06w5d	0.9	09w6d	3.1	13w0d	6.8
06w6d	1.0	10w0d	3.4	13w1d	7.0
07w0d	1.1	10w1d	3.6	13w2d	7.2
07w1d	1.1	10w2d	3.7	13w3d	7.4
07w2d	1.2	10w3d	3.8	13w4d	7.6
07w3d	1.2	10w4d	3.9	13w5d	7.7
07w4d	1.3	10w5d	3.9	13w6d	8.0
07w5d	1.4	10w6d	4.0	14w0d	8.1
07w6d	1.5	11w0d	4.4	14w1d	8.4
08w0d	1.7	11w1d	4.5	14w2d	8.5
08w1d	1.8	11w2d	4.7	14w3d	8.6
08w2d	1.9	11w3d	4.8	14w4d	8.7

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
0.6	6w4d	5w5d	7w3d	4.5	11w1d	10w2d	12w0d
0.7	6w5d	5w6d	7w4d	4.6	11w2d	10w3d	12w1d
0.8	6w6d	6w0d	7w5d	4.7	11w2d	10w3d	12w1d
0.9	7w0d	6w1d	7w6d	4.8	11w3d	10w4d	12w2d
1.0	7w1d	6w2d	8w0d	4.9	11w4d	10w5d	12w3d
1.1	7w2d	6w3d	8w1d	5.0	11w4d	10w5d	12w3d
1.2	7w3d	6w4d	8w2d	5.1	11w5d	10w6d	12w4d
1.3	7w4d	6w5d	8w3d	5.2	11w5d	10w6d	12w4d
1.4	7w5d	6w6d	8w4d	5.3	11w6d	11w0d	12w5d
1.5	7w6d	7w0d	8w5d	5.4	12w0d	11w1d	12w6d
1.6	7w6d	7w0d	8w5d	5.5	12w0d	11w1d	12w6d
1.7	8w0d	7w1d	8w6d	5.6	12w1d	11w2d	13w0d
1.8	8w1d	7w2d	9w0d	5.7	12w1d	11w2d	13w0d
1.9	8w2d	7w3d	9w1d	5.8	12w2d	11w3d	13w1d
2.0	8w3d	7w4d	9w2d	5.9	12w3d	11w4d	13w2d
2.1	8w4d	7w5d	9w3d	6.0	12w3d	11w4d	13w2d
2.2	8w5d	7w6d	9w4d	6.1	12w4d	11w5d	13w3d
2.3	8w5d	7w6d	9w4d	6.2	12w4d	11w5d	13w3d
2.4	8w6d	8w0d	9w5d	6.3	12w5d	11w6d	13w4d
2.5	9w0d	8w1d	9w6d	6.4	12w5d	11w6d	13w4d
2.6	9w1d	8w2d	10w0d	6.5	12w6d	12w0d	13w5d
2.7	9w2d	8w3d	10w1d	6.6	12w6d	12w0d	13w5d
2.8	9w3d	8w4d	10w2d	6.7	13w0d	12w1d	13w6d
2.9	9w3d	8w4d	10w2d	6.8	13w0d	12w1d	13w6d

➤ Crown-Rump Length (CRL): REMPEN

GA Table

Rempen A. "Biometrie in der Fruhgraviditat (I. Trimenon)" Der Frauenarzt, 32:425, 1991

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
0.2	6w0d	5w1d	6w6d	4.1	10w5d	9w6d	11w4d
0.3	6w1d	5w2d	7w0d	4.2	10w6d	10w0d	11w5d
0.4	6w2d	5w3d	7w1d	4.3	11w0d	10w1d	11w6d
0.5	6w3d	5w4d	7w2d	4.4	11w0d	10w1d	11w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
3.0	9w4d	8w5d	10w3d
3.1	9w5d	8w6d	10w4d
3.2	9w6d	9w0d	10w5d
3.3	9w6d	9w0d	10w5d
3.4	10w0d	9w1d	10w6d
3.5	10w1d	9w2d	11w0d
3.6	10w2d	9w3d	11w1d
3.7	10w2d	9w3d	11w1d
3.8	10w3d	9w4d	11w2d
3.9	10w4d	9w5d	11w3d
4.0	10w5d	9w6d	11w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
6.9	13w1d	12w2d	14w0d
7.0	13w1d	12w2d	14w0d
7.1	13w2d	12w3d	14w1d
7.2	13w2d	12w3d	14w1d
7.3	13w3d	12w4d	14w2d
7.4	13w3d	12w4d	14w2d
7.5	13w4d	12w5d	14w3d
7.6	13w4d	12w5d	14w3d
7.7	13w4d	12w5d	14w3d
7.8	13w5d	12w6d	14w4d

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
7w0d	0.95	0.17	1.73
7w1d	1.05	0.27	1.83
7w2d	1.15	0.37	1.93
7w3d	1.25	0.47	2.03
7w4d	1.35	0.57	2.13
7w5d	1.46	0.68	2.24
7w6d	1.56	0.78	2.34
8w0d	1.67	0.89	2.45
8w1d	1.78	1.00	2.56
8w2d	1.89	1.11	2.67
8w3d	2.00	1.22	2.78
8w4d	2.11	1.33	2.89
8w5d	2.23	1.45	3.01
8w6d	2.35	1.57	3.13
9w0d	2.46	1.68	3.24
9w1d	2.58	1.80	3.36
9w2d	2.70	1.92	3.48
9w3d	2.83	2.05	3.61

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
10w6d	4.13	3.35	4.91
11w0d	4.26	3.48	5.04
11w1d	4.40	3.62	5.18
11w2d	4.54	3.76	5.32
11w3d	4.69	3.91	5.47
11w4d	4.83	4.05	5.61
11w5d	4.98	4.20	5.76
11w6d	5.12	4.34	5.90
12w0d	5.27	4.49	6.05
12w1d	5.42	4.64	6.20
12w2d	5.57	4.79	6.35
12w3d	5.73	4.95	6.51
12w4d	5.88	5.10	6.66
12w5d	6.03	5.25	6.81
12w6d	6.19	5.41	6.97
13w0d	6.35	5.57	7.13
13w1d	6.51	5.73	7.29
13w2d	6.67	5.89	7.45

Fetal Growth Table

Rempen A. "Biometrie in der Frühgravidität (I. Trimenon)" Der Frauenarzt, 32:425, 1991

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
05w5d	0.12	0.00	0.90
05w6d	0.21	0.00	0.99
06w0d	0.30	0.00	1.08
06w1d	0.38	0.00	1.16
06w2d	0.47	0.00	1.25
06w3d	0.57	0.00	1.35
6w4d	0.66	0.00	1.44
6w5d	0.75	0.00	1.53
6w6d	0.85	0.07	1.63

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
9w4d	2.95	2.17	3.73
9w5d	3.07	2.29	3.85
9w6d	3.20	2.42	3.98
10w0d	3.33	2.55	4.11
10w1d	3.46	2.68	4.24
10w2d	3.59	2.81	4.37
10w3d	3.72	2.94	4.50
10w4d	3.85	3.07	4.63
10w5d	3.99	3.21	4.77

Femur Length (FL): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = FL \times 2.36855 + 0.2089 \times FL^2 + 10.513242$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.7 cm

Max Range: 7.3 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

Age (w)	Meas (cm)	±SD (cm)	Age (w)	Meas (cm)	±SD (cm)
12	0.790	0.142	32	6.100	0.205
16	1.900	0.133	34	6.461	0.226
20	3.000	0.204	36	6.710	0.222
24	4.190	0.198	38	7.013	0.245
28	5.196	0.209	40	7.287	0.216

Femur Length (FL): HADLOCK

GA Table

Frank P. Hadlock, Russell L. Deter, Ronald B. Harrist, Seung K. Park., "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984; 152:497-501.

$$GA = 10.35 + 2.460 \times FL + 0.170 \times FL^2$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.64 cm

Max Range: 8.20 cm

Standard Deviation:

Min Range (w)	Max Range (w)	±2SD (w)
12	18	1.38
18	24	1.80
24	30	2.08
30	36	2.96
36	42	3.12

Fetal Growth Table

Hadlock, F., Deter, R.L., Harrist, R.B., Park, S.K. "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984, 152: 497-501.

$$\text{Equation} = 0.427 \times MA - 0.0034 \times MA^2 - 3.91$$

Output Unit: cm

Input Unit: w (weeks)

Min Range: 12 w

Max Range: 40 w

Standard Deviation: 2SD = 0.6 cm

Femur Length (FL): MERZ

GA Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.0	12w2d	11w1d	13w4d
1.1	12w5d	11w4d	13w6d
1.2	13w0d	11w6d	14w1d
1.3	13w2d	12w1d	14w4d
1.4	13w5d	12w3d	15w0d
1.5	14w0d	12w5d	15w2d
1.6	14w3d	13w1d	15w5d
1.7	14w5d	13w3d	16w0d
1.8	15w1d	13w6d	16w3d
1.9	15w3d	14w1d	16w5d
2.0	15w6d	14w4d	17w1d
2.1	16w1d	14w6d	17w3d
2.2	16w4d	15w1d	17w6d
2.3	16w6d	15w3d	18w1d
2.4	17w1d	15w6d	18w4d
2.5	17w4d	16w1d	19w1d
2.6	17w6d	16w3d	19w3d
2.7	18w2d	16w6d	19w6d
2.8	18w4d	17w1d	20w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.6	25w3d	23w4d	27w1d
4.7	25w6d	24w0d	27w4d
4.8	26w1d	24w3d	28w0d
4.9	26w4d	24w5d	28w2d
5.0	26w6d	25w1d	28w5d
5.1	27w2d	25w4d	29w1d
5.2	27w5d	25w6d	29w4d
5.3	28w1d	26w1d	30w0d
5.4	28w4d	26w4d	30w4d
5.5	29w0d	27w0d	31w0d
5.6	29w3d	27w3d	31w3d
5.7	29w6d	27w6d	31w6d
5.8	30w1d	28w1d	32w1d
5.9	30w4d	28w4d	32w4d
6.0	31w0d	29w0d	33w0d
6.1	31w4d	29w4d	33w4d
6.2	31w6d	29w6d	33w6d
6.3	32w2d	30w2d	34w2d
6.4	32w6d	30w6d	34w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.9	19w0d	17w4d	20w4d
3.0	19w3d	17w6d	20w6d
3.1	19w5d	18w1d	21w1d
3.2	20w1d	18w4d	21w4d
3.3	20w4d	18w6d	22w1d
3.4	20w6d	19w1d	22w3d
3.5	21w1d	19w4d	22w6d
3.6	21w4d	20w0d	23w1d
3.7	21w6d	20w2d	23w4d
3.8	22w2d	20w5d	23w6d
3.9	22w5d	21w0d	24w3d
4.0	23w1d	21w3d	24w6d
4.1	23w3d	21w5d	25w1d
4.2	23w6d	22w1d	25w4d
4.3	24w1d	22w4d	25w6d
4.4	24w4d	22w6d	26w3d
4.5	25w0d	23w1d	26w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
6.5	33w1d	31w1d	35w1d
6.6	33w4d	31w4d	35w4d
6.7	34w1d	32w0d	36w1d
6.8	34w4d	32w3d	36w4d
6.9	35w0d	32w6d	37w1d
7.0	35w3d	33w2d	37w4d
7.1	35w6d	33w6d	38w0d
7.2	36w2d	34w1d	38w3d
7.3	36w6d	34w4d	39w0d
7.4	37w2d	35w1d	39w4d
7.5	37w5d	35w4d	39w6d
7.6	38w1d	36w0d	40w3d
7.7	38w5d	36w4d	40w6d
7.8	39w1d	37w0d	41w3d
7.9	39w4d	37w3d	41w6d
8.0	40w1d	37w6d	42w2d

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.90	0.50	1.30
13	1.20	0.80	1.60
14	1.50	1.10	1.90
15	1.80	1.40	2.20
16	2.10	1.70	2.50
17	2.40	2.00	2.80
18	2.70	2.20	3.10
19	3.00	2.50	3.40
20	3.20	2.80	3.70
21	3.50	3.10	4.00
22	3.80	3.40	4.20
23	4.10	3.60	4.50
24	4.30	3.90	4.80
25	4.60	4.10	5.10
26	4.90	4.40	5.30

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	5.10	4.60	5.60
28	5.30	4.90	5.80
29	5.60	5.10	6.10
30	5.80	5.30	6.30
31	6.00	5.60	6.50
32	6.30	5.80	6.80
33	6.50	6.00	7.00
34	6.70	6.20	7.20
35	6.90	6.40	7.40
36	7.10	6.60	7.60
37	7.30	6.80	7.80
38	7.50	6.90	8.00
39	7.60	7.10	8.20
40	7.80	7.30	8.40

Femur Length (FL): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986, p431.

Meas (cm)	Age (wd)
1.0	13w0d
1.2	14w0d
1.6	15w0d
1.8	16w0d
2.2	17w0d
2.5	18w0d
2.8	19w0d
3.1	20w0d
3.4	21w0d
3.6	22w0d

Meas (cm)	Age (wd)
3.9	23w0d
4.1	24w0d
4.4	25w0d
4.7	26w0d
4.9	27w0d
5.1	28w0d
5.4	29w0d
5.6	30w0d
5.9	31w0d
6.1	32w0d

Meas (cm)	Age (wd)
6.3	33w0d
6.5	34w0d
6.7	35w0d
6.9	36w0d
7.1	37w0d
7.3	38w0d
7.4	39w0d
7.5	40w0d

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986, p.182.

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.8	0.4	1.3
13	1.1	0.6	1.6
14	1.4	0.9	1.8

Age (w)	Meas (cm)	5% (cm)	95% (cm)
15	1.7	1.2	2.1
16	2.0	1.5	2.4
17	2.3	1.8	2.7
18	2.5	2.1	3.0
19	2.8	2.4	3.3
20	3.1	2.6	3.6
21	3.4	2.9	3.8
22	3.6	3.2	4.1
23	3.9	3.5	4.4
24	4.2	3.7	4.6
25	4.4	4.0	4.9
26	4.7	4.2	5.1
27	4.9	4.5	5.4
28	5.2	4.7	5.6
29	5.4	5.0	5.9
30	5.6	5.2	6.1
31	5.9	5.4	6.3
32	6.1	5.6	6.5
33	6.3	5.8	6.7
34	6.5	6.0	6.9
35	6.7	6.2	7.1
36	6.8	6.4	7.3
37	7.0	6.5	7.4
38	7.1	6.7	7.6

Age (w)	Meas (cm)	5% (cm)	95% (cm)
39	7.3	6.8	7.7
40	7.4	7.0	7.9

❏ Femur Length (FL): HOHLER

GA Table

Hohler, C.W., Quetel, T.A. "Fetal Femur Length: Equations for Computer Calculation of Gestational Age from Ultrasound Measurements." American Journal of Obstetrics and Gynecology, Vol. 143, No. 4: 479-481, June 15, 1982

$$GA = 9.18 + 2.67 \times FL + 0.16 \times FL^2$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 1.0 cm

Max Range: 8.0 cm

❏ Femur Length (FL): JEANTY

GA Table

Jeanty et al., "Estimation of Gestational Age from Measurements of Fetal Long Bones" Journal of Ultrasound in Medicine, February 1984. Vol 3. pp75-79

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.0	12w4d	10w3d	14w6d
1.1	12w6d	10w5d	15w1d
1.2	13w2d	11w1d	15w4d
1.3	13w4d	11w3d	15w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.4	13w6d	11w5d	16w1d
1.5	14w1d	12w0d	16w3d
1.6	14w4d	12w3d	16w6d
1.7	14w6d	12w5d	17w1d
1.8	15w1d	13w0d	17w3d
1.9	15w4d	13w3d	17w6d
2.0	15w6d	13w5d	18w1d
2.1	16w2d	14w1d	18w4d
2.2	16w4d	14w3d	18w6d
2.3	16w6d	14w5d	19w1d
2.4	17w2d	15w1d	19w4d
2.5	17w4d	15w3d	19w6d
2.6	18w0d	15w6d	20w1d
2.7	18w2d	16w1d	20w4d
2.8	18w5d	16w4d	20w6d
2.9	19w0d	16w6d	21w1d
3.0	19w3d	17w1d	21w4d
3.1	19w6d	17w4d	22w0d
3.2	20w1d	17w6d	22w2d
3.3	20w4d	18w2d	22w5d
3.4	20w6d	18w5d	23w1d
3.5	21w1d	19w0d	23w3d
3.6	21w4d	19w3d	23w6d
3.7	22w0d	19w6d	24w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
3.8	22w3d	20w1d	24w4d
3.9	22w5d	20w4d	24w6d
4.0	23w1d	20w6d	25w2d
4.1	23w4d	21w2d	25w5d
4.2	23w6d	21w5d	26w1d
4.3	24w2d	22w1d	26w4d
4.4	24w5d	22w4d	26w6d
4.5	25w0d	22w6d	27w1d
4.6	25w3d	23w1d	27w4d
4.7	25w6d	23w4d	28w0d
4.8	26w1d	24w0d	28w3d
4.9	26w4d	24w3d	29w6d
5.0	27w0d	24w6d	29w1d
5.1	27w3d	25w1d	29w4d
5.2	27w6d	25w4d	30w0d
5.3	28w1d	26w0d	30w3d
5.4	28w4d	26w3d	30w6d
5.5	29w1d	26w6d	31w2d
5.6	29w4d	27w2d	31w5d
5.7	29w6d	27w5d	32w1d
5.8	30w2d	28w1d	32w4d
5.9	30w5d	28w4d	32w6d
6.0	31w1d	28w6d	33w2d
6.1	31w4d	29w3d	33w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
6.2	32w0d	29w6d	34w1d
6.3	32w3d	30w1d	34w4d
6.4	32w6d	30w5d	35w1d
6.5	33w2d	31w1d	35w4d
6.6	33w5d	31w4d	35w6d
6.7	34w1d	32w0d	36w3d
6.8	34w4d	32w3d	36w6d
6.9	35w0d	32w6d	37w1d
7.0	35w4d	33w2d	37w5d
7.1	35w6d	33w5d	38w1d
7.2	36w3d	34w1d	38w4d
7.3	36w6d	34w4d	39w0d
7.4	37w2d	35w1d	39w4d
7.5	37w5d	35w4d	39w6d
7.6	38w1d	36w0d	40w3d
7.7	38w4d	36w3d	40w6d
7.8	39w1d	36w6d	41w2d
7.9	39w4d	37w2d	41w5d
8.0	40w0d	37w6d	42w1d

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age (w)	Meas (cm)	5% (cm)	95% (cm)
11	0.6	0.6	0.6

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.9	0.9	0.9
13	1.2	0.6	1.9
14	1.5	0.5	1.9
15	1.9	1.1	2.6
16	2.2	1.3	2.4
17	2.5	2.0	2.9
18	2.8	1.9	3.1
19	3.1	2.3	3.8
20	3.3	2.2	3.9
21	3.6	2.7	4.5
22	3.9	2.9	4.4
23	4.1	3.5	4.8
24	4.4	3.4	4.9
25	4.6	3.8	5.4
26	4.9	3.9	5.3
27	5.1	4.5	5.7
28	5.3	4.5	5.7
29	5.6	4.9	6.2
30	5.8	4.9	6.2
31	6	5.3	6.7
32	6.2	5.3	6.7
33	6.4	5.6	7.1
34	6.5	5.7	7.0
35	6.7	6.1	7.3

Age (w)	Meas (cm)	5% (cm)	95% (cm)
36	6.9	6.1	7.4
37	7.1	6.4	7.7
38	7.2	6.2	7.9
39	7.4	6.4	8.3
40	7.5	6.6	8.1

Femur Length (FL): SHINOZUKA

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
2.00	16w1d	15w2d	17w0d
2.10	16w3d	15w4d	17w2d
2.20	16w6d	16w0d	17w5d
2.30	17w1d	16w1d	18w1d
2.40	17w3d	16w3d	18w3d
2.50	17w6d	16w6d	18w6d
2.60	18w1d	17w1d	19w1d
2.70	18w3d	17w3d	19w3d
2.80	18w6d	17w6d	19w6d
2.90	19w1d	18w1d	20w1d
3.00	19w4d	18w3d	20w5d
3.10	20w0d	18w6d	21w1d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
3.20	20w2d	19w1d	21w3d
3.30	20w5d	19w4d	21w6d
3.40	21w1d	20w0d	22w2d
3.50	21w3d	20w2d	22w4d
3.60	21w6d	20w5d	23w0d
3.70	22w2d	21w0d	23w4d
3.80	22w5d	21w3d	24w0d
3.90	23w1d	21w6d	24w3d
4.00	23w4d	22w2d	24w6d
4.10	24w0d	22w5d	25w2d
4.20	24w3d	23w1d	25w5d
4.30	24w6d	23w4d	26w1d
4.40	25w3d	24w1d	26w5d
4.50	25w6d	24w3d	27w2d
4.60	26w2d	24w6d	27w5d
4.70	26w5d	25w2d	28w1d
4.80	27w2d	25w6d	28w5d
4.90	27w5d	26w2d	29w1d
5.00	28w2d	26w6d	29w5d
5.10	28w5d	27w2d	30w1d
5.20	29w2d	27w5d	30w6d
5.30	29w5d	28w1d	31w2d
5.40	30w2d	28w5d	31w6d
5.50	30w5d	29w1d	32w2d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
5.60	31w2d	29w5d	32w6d
5.70	31w6d	30w2d	33w3d
5.80	32w3d	30w6d	34w0d
5.90	33w0d	31w2d	34w5d
6.00	33w3d	31w5d	35w1d
6.10	34w0d	32w2d	35w5d
6.20	34w4d	32w6d	36w2d
6.30	35w1d	33w3d	36w6d
6.40	35w5d	34w0d	37w3d
6.50	36w2d	34w4d	38w0d
6.60	37w0d	35w2d	38w5d
6.70	37w4d	35w5d	39w3d
6.80	38w1d	36w2d	40w0d
6.90	38w5d	36w6d	40w4d
7.00	39w3d	37w4d	41w2d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
16w3d	2.14	1.74	2.54
17w3d	2.40	1.99	2.80
18w3d	2.65	2.25	3.06

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
19w3d	2.91	2.50	3.32
20w3d	3.16	2.74	3.58
21w3d	3.41	2.99	3.84
22w3d	3.66	3.23	4.09
23w3d	3.91	3.47	4.34
24w3d	4.15	3.71	4.59
25w3d	4.39	3.94	4.83
26w3d	4.62	4.17	5.07
27w3d	4.84	4.39	5.30
28w3d	5.06	4.61	5.52
29w3d	5.28	4.81	5.74
30w3d	5.48	5.01	5.95
31w3d	5.68	5.21	6.16
32w3d	5.87	5.39	6.35
33w3d	6.05	5.57	6.54
34w3d	6.22	5.73	6.71
35w3d	6.38	5.89	6.88
36w3d	6.53	6.03	7.03
37w3d	6.67	6.17	7.18
38w3d	6.80	6.29	7.31
39w3d	6.91	6.40	7.43
40w3d	7.01	6.49	7.53
41w3d	7.10	6.57	7.62
42w3d	7.17	6.64	7.70

Femur Length (FL): JSUM

GA Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
2.00	16w1d	15w2d	17w0d
2.10	16w3d	15w4d	17w2d
2.20	16w6d	16w0d	17w5d
2.30	17w1d	16w1d	18w1d
2.40	17w3d	16w3d	18w3d
2.50	17w6d	16w6d	18w6d
2.60	18w1d	17w1d	19w1d
2.70	18w3d	17w3d	19w3d
2.80	18w6d	17w6d	19w6d
2.90	19w1d	18w1d	20w1d
3.00	19w4d	18w3d	20w5d
3.10	20w0d	18w6d	21w1d
3.20	20w2d	19w1d	21w3d
3.30	20w5d	19w4d	21w6d
3.40	21w1d	20w0d	22w2d
3.50	21w3d	20w2d	22w4d
3.60	21w6d	20w5d	23w0d
3.70	22w2d	21w0d	23w4d
3.80	22w5d	21w3d	24w0d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
3.90	23w1d	21w6d	24w3d
4.00	23w4d	22w2d	24w6d
4.10	24w0d	22w5d	25w2d
4.20	24w3d	23w1d	25w5d
4.30	24w6d	23w4d	26w1d
4.40	25w3d	24w1d	26w5d
4.50	25w6d	24w3d	27w2d
4.60	26w2d	24w6d	27w5d
4.70	26w5d	25w2d	28w1d
4.80	27w2d	25w6d	28w5d
4.90	27w5d	26w2d	29w1d
5.00	28w2d	26w6d	29w5d
5.10	28w5d	27w2d	30w1d
5.20	29w2d	27w5d	30w6d
5.30	29w5d	28w1d	31w2d
5.40	30w2d	28w5d	31w6d
5.50	30w5d	29w1d	32w2d
5.60	31w2d	29w5d	32w6d
5.70	31w6d	30w2d	33w3d
5.80	32w3d	30w6d	34w0d
5.90	33w0d	31w2d	34w5d
6.00	33w3d	31w5d	35w1d
6.10	34w0d	32w2d	35w5d
6.20	34w4d	32w6d	36w2d

Meas (cm)	Age (wd)	-SD (wd)	+SD (wd)
6.30	35w1d	33w3d	36w6d
6.40	35w5d	34w0d	37w3d
6.50	36w2d	34w4d	38w0d
6.60	37w0d	35w2d	38w5d
6.70	37w4d	35w5d	39w3d
6.80	38w1d	36w2d	40w0d
6.90	38w5d	36w6d	40w4d
7.00	39w3d	37w4d	41w2d

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
16w3d	2.14	1.74	2.54
17w3d	2.40	1.99	2.80
18w3d	2.65	2.25	3.06
19w3d	2.91	2.50	3.32
20w3d	3.16	2.74	3.58
21w3d	3.41	2.99	3.84
22w3d	3.66	3.23	4.09
23w3d	3.91	3.47	4.34
24w3d	4.15	3.71	4.59
25w3d	4.39	3.94	4.83

Age (wd)	Meas (cm)	-1.5SD (cm)	+1.5SD (cm)
26w3d	4.62	4.17	5.07
27w3d	4.84	4.39	5.30
28w3d	5.06	4.61	5.52
29w3d	5.28	4.81	5.74
30w3d	5.48	5.01	5.95
31w3d	5.68	5.21	6.16
32w3d	5.87	5.39	6.35
33w3d	6.05	5.57	6.54
34w3d	6.22	5.73	6.71
35w3d	6.38	5.89	6.88
36w3d	6.53	6.03	7.03
37w3d	6.67	6.17	7.18
38w3d	6.80	6.29	7.31
39w3d	6.91	6.40	7.43
40w3d	7.01	6.49	7.53
41w3d	7.10	6.57	7.62
42w3d	7.17	6.64	7.70

Femur Length (FL): OSAKA

GA Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
0.90	13w0d	2.50	18w1d	4.10	24w1d	5.70	31w3d
1.00	13w2d	2.60	18w4d	4.20	24w4d	5.80	31w6d
1.10	13w4d	2.70	18w6d	4.30	25w0d	5.90	32w3d
1.20	13w6d	2.80	19w2d	4.40	25w3d	6.00	32w6d
1.30	14w1d	2.90	19w4d	4.50	25w6d	6.10	33w4d
1.40	14w4d	3.00	20w0d	4.60	26w2d	6.20	34w1d
1.50	14w6d	3.10	20w2d	4.70	26w4d	6.30	34w4d
1.60	15w1d	3.20	20w5d	4.80	27w1d	6.40	35w2d
1.70	15w3d	3.30	21w0d	4.90	27w4d	6.50	35w5d
1.80	15w5d	3.40	21w3d	5.00	28w0d	6.60	36w3d
1.90	16w1d	3.50	21w5d	5.10	28w3d	6.70	36w6d
2.00	16w3d	3.60	22w1d	5.20	28w6d	6.80	37w1d
2.10	16w6d	3.70	22w4d	5.30	29w2d	6.90	38w3d
2.20	17w1d	3.80	23w1d	5.40	29w6d	7.00	39w1d
2.30	17w3d	3.90	23w2d	5.50	30w2d	7.10	39w6d
2.40	18w0d	4.00	23w5d	5.60	30w6d		

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (wd)	Meas (cm)	±SD (cm)	Age (wd)	Meas (cm)	±SD (cm)
13w0d	0.94	0.21	26w4d	4.69	0.26
13w1d	0.98	0.21	26w5d	4.72	0.27
13w2d	1.03	0.21	26w6d	4.75	0.27
13w3d	1.07	0.21	27w0d	4.78	0.27
13w4d	1.12	0.21	27w1d	4.82	0.27
13w5d	1.17	0.21	27w2d	4.85	0.27
13w6d	1.21	0.22	27w3d	4.88	0.27
14w0d	1.26	0.22	27w4d	4.91	0.27
14w1d	1.30	0.22	27w5d	4.91	0.27
14w2d	1.35	0.22	27w6d	4.97	0.27
14w3d	1.39	0.22	28w0d	5.01	0.27
14w4d	1.44	0.22	28w1d	5.04	0.27
14w5d	1.48	0.22	28w2d	5.07	0.27
14w6d	1.53	0.22	28w3d	5.10	0.27
15w0d	1.57	0.22	28w4d	5.13	0.27
15w1d	1.61	0.22	28w5d	5.16	0.27
15w2d	1.66	0.22	28w6d	5.19	0.27
15w3d	1.70	0.22	29w0d	5.22	0.27
15w4d	1.75	0.22	29w1d	5.25	0.27
15w5d	1.79	0.22	29w2d	5.28	0.28
15w6d	1.83	0.22	29w3d	5.31	0.28
16w0d	1.88	0.22	29w4d	5.34	0.28
16w1d	1.92	0.22	29w5d	5.37	0.28
16w2d	1.96	0.22	29w6d	5.40	0.28

Age (wd)	Meas (cm)	±SD (cm)
16w3d	2.01	0.23
16w4d	2.05	0.23
16w5d	2.09	0.23
16w6d	2.13	0.23
17w0d	2.18	0.23
17w1d	2.22	0.23
17w2d	2.26	0.23
17w3d	2.30	0.23
17w4d	2.34	0.23
17w5d	2.39	0.23
17w6d	2.43	0.23
18w0d	2.47	0.23
18w1d	2.51	0.23
18w2d	2.55	0.23
18w3d	2.59	0.23
18w4d	2.63	0.23
18w5d	2.67	0.23
18w6d	2.71	0.23
19w0d	2.75	0.24
19w1d	2.79	0.24
19w2d	2.83	0.24
19w3d	2.87	0.24
19w4d	2.91	0.24
19w5d	2.95	0.24
19w6d	2.99	0.24
20w0d	3.03	0.24

Age (wd)	Meas (cm)	±SD (cm)
30w0d	5.43	0.28
30w1d	5.46	0.28
30w2d	5.49	0.28
30w3d	5.52	0.28
30w4d	5.54	0.28
30w5d	5.57	0.28
30w6d	5.60	0.28
31w0d	5.63	0.28
31w1d	5.66	0.28
31w2d	5.69	0.28
31w3d	5.71	0.28
31w4d	5.74	0.28
31w5d	5.77	0.28
31w6d	5.80	0.29
32w0d	5.82	0.29
32w1d	5.85	0.29
32w2d	5.88	0.29
32w3d	5.90	0.29
32w4d	5.93	0.29
32w5d	5.96	0.29
32w6d	5.98	0.29
33w0d	6.01	0.29
33w1d	6.04	0.29
33w2d	6.06	0.29
33w3d	6.09	0.29
33w4d	6.11	0.29

Age (wd)	Meas (cm)	±SD (cm)
20w1d	3.07	0.24
20w2d	3.11	0.24
20w3d	3.15	0.24
20w4d	3.19	0.24
20w5d	3.23	0.24
20w6d	3.27	0.24
21w0d	3.30	0.24
21w1d	3.34	0.24
21w2d	3.38	0.24
21w3d	3.42	0.24
21w4d	3.46	0.25
21w5d	3.49	0.25
21w6d	3.53	0.25
22w0d	3.57	0.25
22w1d	3.61	0.25
22w2d	3.64	0.25
22w3d	3.68	0.25
22w4d	3.72	0.25
22w5d	3.75	0.25
22w6d	3.79	0.25
23w0d	3.83	0.25
23w1d	3.86	0.25
23w2d	3.90	0.25
23w3d	3.93	0.25
23w4d	3.97	0.25
23w5d	4.01	0.25

Age (wd)	Meas (cm)	±SD (cm)
33w5d	6.14	0.29
33w6d	6.16	0.29
34w0d	6.19	0.29
34w1d	6.21	0.29
34w2d	6.24	0.29
34w3d	6.26	0.30
34w4d	6.29	0.30
34w5d	6.31	0.30
34w6d	6.34	0.30
35w0d	6.36	0.30
35w1d	6.39	0.30
35w2d	6.41	0.30
35w3d	6.43	0.30
35w4d	6.46	0.30
35w5d	6.48	0.30
35w6d	6.50	0.30
36w0d	6.53	0.30
36w1d	6.55	0.30
36w2d	6.57	0.30
36w3d	6.60	0.30
36w4d	6.62	0.30
36w5d	6.64	0.30
36w6d	6.66	0.30
37w0d	6.69	0.31
37w1d	6.71	0.31
37w2d	6.73	0.31

Age (wd)	Meas (cm)	±SD (cm)	Age (wd)	Meas (cm)	±SD (cm)
23w6d	4.04	0.25	37w3d	6.75	0.31
24w0d	4.08	0.25	37w4d	6.77	0.31
24w1d	4.11	0.26	37w5d	6.79	0.31
24w2d	4.15	0.26	37w6d	6.82	0.31
24w3d	4.18	0.26	38w0d	6.84	0.31
24w4d	4.22	0.26	38w1d	6.86	0.31
24w5d	4.25	0.26	38w2d	6.88	0.31
24w6d	4.28	0.26	38w3d	6.90	0.31
25w0d	4.32	0.26	38w4d	6.92	0.31
25w1d	4.35	0.26	38w5d	6.94	0.31
25w2d	4.39	0.26	38w6d	6.96	0.31
25w3d	4.42	0.26	39w0d	6.98	0.31
25w4d	4.45	0.26	39w1d	7.00	0.31
25w5d	4.49	0.26	39w2d	7.02	0.31
25w6d	4.52	0.26	39w3d	7.04	0.31
26w0d	4.56	0.26	39w4d	7.06	0.32
26w1d	4.59	0.26	39w5d	7.08	0.32
26w2d	4.62	0.26	39w6d	7.10	0.32
26w3d	4.65	0.26	40w0d	7.12	0.32

Femur Length (FL): CHITTY

GA Table

D.G. Altman, L.S. Chitty, "New Charts for Ultrasound Dating of Pregnancy" Ultrasound in Obstetrics and Gynecology, Vol.10, p174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.00	13w0d	12w1d	13w6d	3.90	22w4d	20w5d	24w3d
1.10	13w2d	12w3d	14w1d	4.00	22w6d	21w1d	24w6d
1.20	13w4d	12w5d	14w4d	4.10	23w2d	21w3d	25w2d
1.30	13w6d	13w0d	14w6d	4.20	23w5d	21w6d	25w5d
1.40	14w1d	13w1d	15w1d	4.30	24w1d	22w1d	26w1d
1.50	14w3d	13w3d	15w3d	4.40	24w3d	22w4d	26w4d
1.60	14w5d	13w5d	15w6d	4.50	24w6d	22w6d	27w1d
1.70	15w0d	14w0d	16w1d	4.60	25w2d	23w2d	27w4d
1.80	15w2d	14w2d	16w3d	4.70	25w5d	23w4d	28w0d
1.90	15w5d	14w4d	16w6d	4.80	26w1d	24w0d	28w3d
2.00	16w0d	14w6d	17w1d	4.90	26w4d	24w3d	29w0d
2.10	16w2d	15w1d	17w3d	5.00	27w0d	24w5d	29w3d
2.20	16w4d	15w3d	17w6d	5.10	27w3d	25w1d	30w0d
2.30	16w6d	15w5d	18w1d	5.20	27w6d	25w4d	30w3d
2.40	17w2d	16w0d	18w4d	5.30	28w2d	26w0d	31w0d
2.50	17w4d	16w2d	18w6d	5.40	28w5d	26w2d	31w3d
2.60	17w6d	16w4d	19w2d	5.50	29w2d	26w5d	32w0d
2.70	18w2d	16w6d	19w5d	5.60	29w5d	27w1d	32w3d
2.80	18w4d	17w1d	20w0d	5.70	30w1d	27w4d	33w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.90	18w6d	17w4d	20w3d
3.00	19w2d	17w6d	20w5d
3.10	19w4d	18w1d	21w1d
3.20	20w0d	18w3d	21w4d
3.30	20w2d	18w5d	22w0d
3.40	20w5d	19w1d	22w2d
3.50	21w0d	19w3d	22w5d
3.60	21w3d	19w5d	23w1d
3.70	21w5d	20w1d	23w4d
3.80	22w1d	20w3d	24w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.80	30w4d	28w0d	33w4d
5.90	31w1d	28w3d	34w1d
6.00	31w4d	28w6d	34w4d
6.10	32w1d	29w2d	35w1d
6.20	32w4d	29w5d	35w5d
6.30	33w1d	30w1d	36w2d
6.40	33w4d	30w4d	36w6d
6.50	34w1d	31w0d	37w3d
6.60	34w4d	31w3d	38w0d
6.70	35w1d	32w0d	38w5d

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 4. Femur Length" British Journal of Obstetrics and Gynaecology, February 1994. Vol 101. pp132-135

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	0.77	0.55	1.00
13	1.09	0.86	1.33
14	1.41	1.17	1.65
15	1.72	1.47	1.97
16	2.03	1.77	2.28
17	2.33	2.07	2.59
18	2.63	2.36	2.90
19	2.92	2.64	3.20
20	3.21	2.92	3.49
21	3.49	3.20	3.78
22	3.76	3.46	4.06
23	4.03	3.72	4.34
24	4.29	3.98	4.61
25	4.55	4.23	4.87
26	4.80	4.47	5.13
27	5.04	4.70	5.38

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	5.27	4.93	5.62
29	5.50	5.14	5.85
30	5.71	5.35	6.07
31	5.92	5.55	6.29
32	6.12	5.74	6.49
33	6.31	5.93	6.69
34	6.49	6.10	6.88
35	6.66	6.26	7.06
36	6.82	6.42	7.23
37	6.97	6.56	7.38
38	7.11	6.69	7.53
39	7.24	6.81	7.67
40	7.36	6.92	7.79
41	7.46	7.02	7.90
42	7.56	7.11	8.01

Femur Length (FL): CAMPBELL

GA Table

Professor Campbell's Group at Harris birthright Centre, King's College Hospital

Meas (cm)	Age (wd)	±days (wd)	Meas (cm)	Age (wd)	±days (wd)
1.80	15w0d	00w6d	5.40	28w0d	01w4d
2.20	16w0d	00w6d	5.60	29w0d	01w5d
2.50	17w0d	00w6d	5.80	30w0d	01w6d
2.80	18w0d	01w0d	6.10	31w0d	02w0d
3.00	19w0d	01w0d	6.30	32w0d	02w1d
3.30	20w0d	01w0d	6.50	33w0d	02w3d
3.60	21w0d	01w0d	6.60	34w0d	02w4d
3.90	22w0d	01w1d	6.80	35w0d	02w6d
4.20	23w0d	01w1d	6.90	36w0d	03w1d
4.40	24w0d	01w1d	7.10	37w0d	00w0d
4.70	25w0d	01w2d	7.20	38w0d	00w0d
4.90	26w0d	01w3d	7.40	39w0d	00w0d
5.20	27w0d	01w3d	7.50	40w0d	00w0d

Femur Length (FL): ASUM(SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

$$GA = -0.41 \times (FL \times 10) + 0.002884 \times (FL \times 10)^2 + 0.00003924 \times (FL \times 10)^3 + 8.284$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.68 cm

Max Range: 7.76 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
11	0.8	0.20	22	3.7	0.50	33	6.5	0.40
12	1.0	0.25	23	4.3	0.50	34	6.6	0.40
13	1.1	0.25	24	4.5	0.40	35	6.7	0.60
14	1.5	0.30	25	4.8	0.50	36	6.9	0.60
15	1.7	0.35	26	4.9	0.50	37	7.2	0.50
16	2.2	0.40	27	5.0	0.50	38	7.3	0.55
17	2.5	0.40	28	5.4	0.40	39	7.5	0.60
18	2.8	0.50	29	5.5	0.55	40	7.6	0.40
19	3.0	0.50	30	5.8	0.60	41	7.7	0.50
20	3.2	0.60	31	5.9	0.55			
21	3.4	0.60	32	6.2	0.60			

Femur Length (FL): DOUBILET

GA Table

Doubilet PM, Benson CB. "Improved Prediction of Gestational Age in the Late Third Trimester" Journal of Ultrasound in Medicine, 12; 647-653, 1993

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.00	13w5d	3.30	20w1d	5.60	29w3d
1.10	13w6d	3.40	20w3d	5.70	29w6d
1.20	14w1d	3.50	20w5d	5.80	30w3d
1.30	14w3d	3.60	21w1d	5.90	30w6d
1.40	14w4d	3.70	21w3d	6.00	31w3d
1.50	14w6d	3.80	21w6d	6.10	31w6d
1.60	15w1d	3.90	22w1d	6.20	32w4d
1.70	15w3d	4.00	22w4d	6.30	33w0d
1.80	15w4d	4.10	22w6d	6.40	33w4d
1.90	15w6d	4.20	23w2d	6.50	34w1d
2.00	16w1d	4.30	23w5d	6.60	34w5d
2.10	16w3d	4.40	24w1d	6.70	35w2d
2.20	16w5d	4.50	24w4d	6.80	35w6d
2.30	17w0d	4.60	24w6d	6.90	36w4d
2.40	17w2d	4.70	25w2d	7.00	37w1d
2.50	17w4d	4.80	25w5d	7.10	37w5d
2.60	17w6d	4.90	26w1d	7.20	38w2d
2.70	18w1d	5.00	26w4d	7.30	39w0d
2.80	18w4d	5.10	27w0d	7.40	39w4d

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
2.90	18w6d	5.20	27w4d	7.50	40w2d
3.00	19w1d	5.30	28w0d	7.60	40w6d
3.10	19w3d	5.40	28w3d	7.70	41w4d
3.20	19w5d	5.50	28w6d	7.80	42w0d

Femur Length (FL): BESSIS

GA Table

The data are those provided by Dr. Bessis to M. Le Bel. (Same as SIGMA 20, see memo from Ch. Gahwiler dated, June 23, 1983)

Meas (cm)	Age (wd)	±days (wd)
1.04	13w0d	1w0d
2.22	17w0d	1w1d
3.37	21w0d	1w1d
4.45	25w0d	1w3d
5.42	29w0d	1w4d
6.42	33w0d	2w1d
6.90	37w0d	2w6d
7.34	41w0d	4w0d

Femur Length (FL): CFEF

GA Table

J. Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)
0.63	12	3.78	22	6.11	32
0.98	13	4.05	23	6.30	33
1.33	14	4.31	24	6.47	34
1.66	15	4.56	25	6.64	35
1.99	16	4.81	26	6.81	36
2.31	17	5.05	27	6.96	37
2.62	18	5.28	28	7.11	38
2.92	19	5.49	29	7.24	39
3.22	20	5.71	30	7.37	40
3.50	21	5.91	31	7.40	41

Fetal Growth Table

J. Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	0.60	0.40	0.90	27	5.10	4.70	5.40
13	1.00	0.70	1.20	28	5.30	4.90	5.70
14	1.30	1.10	1.60	29	5.50	5.10	5.90
15	1.70	1.40	1.90	30	5.70	5.30	6.10
16	2.00	1.70	2.30	31	5.90	5.50	6.30
17	2.30	2.00	2.60	32	6.10	5.70	6.50
18	2.60	2.30	2.90	33	6.30	5.90	6.70
19	2.90	2.60	3.20	34	6.50	6.10	6.90
20	3.20	2.90	3.50	35	6.60	6.20	7.10
21	3.50	3.20	3.80	36	6.80	6.40	7.20
22	3.80	3.40	4.10	37	7.00	6.50	7.40
23	4.10	3.70	4.40	38	7.10	6.70	7.50
24	4.30	4.00	4.70	39	7.20	6.80	7.70
25	4.60	4.20	4.90	40	7.40	6.90	7.80
26	4.80	4.40	5.20	41	7.40	7.00	7.90

Femur Length (FL): JOHNSEN

GA Table

Johnsen SL, Rasmussen S, Sollien R, Kiserud T. "Fetal age assessment based on femur length at 10-25 weeks of gestation, and reference ranges for femur length to head circumference ratios" Acta Obstet Gynecol Scand, 2005 Aug; 84(8): 725-33

Meas (cm)	Age (wd)	10% (wd)	90% (wd)	Meas (cm)	Age (wd)	10% (wd)	90% (wd)
0.20	10w4d	10w0d	11w1d	2.40	17w4d	16w5d	18w2d
0.30	11w0d	10w3d	11w4d	2.50	17w6d	17w0d	18w4d
0.40	11w3d	10w6d	12w0d	2.60	18w1d	17w2d	19w0d
0.50	11w5d	11w1d	12w3d	2.70	18w3d	17w5d	19w2d
0.60	12w1d	11w3d	12w5d	2.80	18w6d	18w0d	19w5d
0.70	12w3d	11w6d	13w0d	2.90	19w1d	18w2d	20w0d
0.80	12w5d	12w1d	13w3d	3.00	19w4d	18w5d	20w2d
0.90	13w0d	12w3d	13w5d	3.10	19w6d	19w0d	20w5d
1.00	13w2d	12w5d	14w0d	3.20	20w2d	19w2d	21w1d
1.10	13w4d	13w0d	14w2d	3.30	20w4d	19w5d	21w3d
1.20	13w6d	13w2d	14w4d	3.40	21w0d	20w0d	21w6d
1.30	14w1d	13w4d	14w6d	3.50	21w2d	20w3d	22w1d
1.40	14w3d	13w6d	15w1d	3.60	21w5d	20w6d	22w4d
1.50	14w5d	14w1d	15w3d	3.70	22w1d	21w1d	23w0d
1.60	15w1d	14w3d	15w6d	3.80	22w3d	21w4d	23w3d
1.70	15w3d	14w5d	16w1d	3.90	22w6d	22w0d	23w6d
1.80	15w5d	15w0d	16w3d	4.00	23w2d	22w2d	24w1d
1.90	16w0d	15w2d	16w5d	4.10	23w5d	22w5d	24w4d
2.00	16w2d	15w4d	17w0d	4.20	24w1d	23w1d	25w0d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)	Meas (cm)	Age (wd)	10% (wd)	90% (wd)
2.10	16w4d	15w6d	17w2d	4.30	24w4d	23w4d	25w3d
2.20	16w6d	16w1d	17w5d	4.40	25w0d	24w0d	25w6d
2.30	17w1d	16w3d	18w0d				

Fetal Growth Table

Johnsen SL, Rasmussen S, Sollien R, Kiserud T. "Fetal age assessment based on femur length at 10-25 weeks of gestation, and reference ranges for femur length to head circumference ratios" Acta Obstet Gynecol Scand, 2005 Aug; 84(8): 725-33

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
10w	0.20	0.10	0.30	26w	4.70	4.40	5.10
11w	0.40	0.20	0.50	27w	4.90	4.60	5.30
12w	0.60	0.40	0.80	28w	5.20	4.80	5.50
13w	0.80	0.70	1.10	29w	5.40	5.00	5.70
14w	1.20	0.90	1.40	30w	5.60	5.20	6.00
15w	1.50	1.20	1.80	31w	5.80	5.40	6.20
16w	1.80	1.50	2.20	32w	6.00	5.60	6.40
17w	2.10	1.80	2.50	33w	6.20	5.80	6.50
18w	2.50	2.20	2.80	34w	6.30	6.00	6.70
19w	2.80	2.50	3.20	35w	6.50	6.10	6.90
20w	3.10	2.80	3.50	36w	6.70	6.30	7.10
21w	3.40	3.10	3.80	37w	6.90	6.40	7.30
22w	3.70	3.40	4.10	38w	7.00	6.60	7.50
23w	4.00	3.60	4.30	39w	7.20	6.70	7.70
24w	4.20	3.90	4.60	40w	7.40	6.90	7.90
25w	4.50	4.20	4.80	41w	7.50	7.10	8.00

Femur Length (FL): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Zimmermann R, Huch R, Huch A, Visser J. "Fetal ultrasound biometry: 2. Abdomen and femur length reference values" Br J Obstet Gynaecol, 1999 Feb;106(2): 136-43

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12w	0.70	0.41	0.98
13w	1.03	0.72	1.34
14w	1.36	1.03	1.69
15w	1.68	1.33	2.04
16w	2.00	1.63	2.37
17w	2.30	1.92	2.69
18w	2.61	2.21	3.00
19w	2.90	2.49	3.31
20w	3.19	2.76	3.61
21w	3.47	3.03	3.90
22w	3.74	3.30	4.18
23w	4.01	3.56	4.45
24w	4.26	3.81	4.72
25w	4.52	4.05	4.98
26w	4.76	4.29	5.23
27w	5.00	4.52	5.48

Age (w)	Meas (cm)	5% (cm)	95% (cm)
28w	5.23	4.75	5.71
29w	5.45	4.97	5.94
30w	5.67	5.18	6.16
31w	5.88	5.39	6.38
32w	6.09	5.59	6.58
33w	6.28	5.78	6.79
34w	6.47	5.96	6.98
35w	6.65	6.14	7.16
36w	6.83	6.31	7.34
37w	7.00	6.48	7.51
38w	7.16	6.64	7.68
39w	7.31	6.79	7.84
40w	7.46	6.93	7.99
41w	7.60	7.07	8.13
42w	7.73	7.20	8.26

Femur Length (FL): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1; 4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	1.70	1.40	1.90
14w1d	1.70	1.40	1.90
14w2d	1.70	1.40	1.90
14w3d	1.70	1.40	1.90
14w4d	1.70	1.40	1.90
14w5d	1.70	1.40	1.90
14w6d	1.70	1.40	1.90
15w0d	1.90	1.70	2.20
15w1d	1.90	1.70	2.20
15w2d	1.90	1.70	2.20
15w3d	1.90	1.70	2.20
15w4d	1.90	1.70	2.20
15w5d	1.90	1.70	2.20
15w6d	1.90	1.70	2.20
16w0d	2.20	1.90	2.50
16w1d	2.20	1.90	2.50
16w2d	2.20	1.90	2.50
16w3d	2.20	1.90	2.50
16w4d	2.20	1.90	2.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	5.10	4.70	5.50
27w1d	5.10	4.70	5.50
27w2d	5.10	4.70	5.50
27w3d	5.10	4.70	5.50
27w4d	5.10	4.70	5.50
27w5d	5.10	4.70	5.50
27w6d	5.10	4.70	5.50
28w0d	5.30	4.90	5.80
28w1d	5.30	4.90	5.80
28w2d	5.30	4.90	5.80
28w3d	5.30	4.90	5.80
28w4d	5.30	4.90	5.80
28w5d	5.30	4.90	5.80
28w6d	5.30	4.90	5.80
29w0d	5.60	5.10	6.00
29w1d	5.60	5.10	6.00
29w2d	5.60	5.10	6.00
29w3d	5.60	5.10	6.00
29w4d	5.60	5.10	6.00

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	2.20	1.90	2.50
16w6d	2.20	1.90	2.50
17w0d	2.40	2.10	2.80
17w1d	2.40	2.10	2.80
17w2d	2.40	2.10	2.80
17w3d	2.40	2.10	2.80
17w4d	2.40	2.10	2.80
17w5d	2.40	2.10	2.80
17w6d	2.40	2.10	2.80
18w0d	2.70	2.40	3.00
18w1d	2.70	2.40	3.00
18w2d	2.70	2.40	3.00
18w3d	2.70	2.40	3.00
18w4d	2.70	2.40	3.00
18w5d	2.70	2.40	3.00
18w6d	2.70	2.40	3.00
19w0d	3.00	2.60	3.30
19w1d	3.00	2.60	3.30
19w2d	3.00	2.60	3.30
19w3d	3.00	2.60	3.30
19w4d	3.00	2.60	3.30
19w5d	3.00	2.60	3.30
19w6d	3.00	2.60	3.30
20w0d	3.20	2.90	3.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	5.60	5.10	6.00
29w6d	5.60	5.10	6.00
30w0d	5.80	5.30	6.30
30w1d	5.80	5.30	6.30
30w2d	5.80	5.30	6.30
30w3d	5.80	5.30	6.30
30w4d	5.80	5.30	6.30
30w5d	5.80	5.30	6.30
30w6d	5.80	5.30	6.30
31w0d	6.00	5.50	6.50
31w1d	6.00	5.50	6.50
31w2d	6.00	5.50	6.50
31w3d	6.00	5.50	6.50
31w4d	6.00	5.50	6.50
31w5d	6.00	5.50	6.50
31w6d	6.00	5.50	6.50
32w0d	6.20	5.70	6.70
32w1d	6.20	5.70	6.70
32w2d	6.20	5.70	6.70
32w3d	6.20	5.70	6.70
32w4d	6.20	5.70	6.70
32w5d	6.20	5.70	6.70
32w6d	6.20	5.70	6.70
33w0d	6.40	5.90	6.90

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	3.20	2.90	3.60
20w2d	3.20	2.90	3.60
20w3d	3.20	2.90	3.60
20w4d	3.20	2.90	3.60
20w5d	3.20	2.90	3.60
20w6d	3.20	2.90	3.60
21w0d	3.50	3.20	3.90
21w1d	3.50	3.20	3.90
21w2d	3.50	3.20	3.90
21w3d	3.50	3.20	3.90
21w4d	3.50	3.20	3.90
21w5d	3.50	3.20	3.90
21w6d	3.50	3.20	3.90
22w0d	3.80	3.40	4.20
22w1d	3.80	3.40	4.20
22w2d	3.80	3.40	4.20
22w3d	3.80	3.40	4.20
22w4d	3.80	3.40	4.20
22w5d	3.80	3.40	4.20
22w6d	3.80	3.40	4.20
23w0d	4.10	3.70	4.50
23w1d	4.10	3.70	4.50
23w2d	4.10	3.70	4.50
23w3d	4.10	3.70	4.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	6.40	5.90	6.90
33w2d	6.40	5.90	6.90
33w3d	6.40	5.90	6.90
33w4d	6.40	5.90	6.90
33w5d	6.40	5.90	6.90
33w6d	6.40	5.90	6.90
34w0d	6.60	6.10	7.10
34w1d	6.60	6.10	7.10
34w2d	6.60	6.10	7.10
34w3d	6.60	6.10	7.10
34w4d	6.60	6.10	7.10
34w5d	6.60	6.10	7.10
34w6d	6.60	6.10	7.10
35w0d	6.80	6.30	7.30
35w1d	6.80	6.30	7.30
35w2d	6.80	6.30	7.30
35w3d	6.80	6.30	7.30
35w4d	6.80	6.30	7.30
35w5d	6.80	6.30	7.30
35w6d	6.80	6.30	7.30
36w0d	6.90	6.40	7.40
36w1d	6.90	6.40	7.40
36w2d	6.90	6.40	7.40
36w3d	6.90	6.40	7.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	4.10	3.70	4.50
23w5d	4.10	3.70	4.50
23w6d	4.10	3.70	4.50
24w0d	4.30	3.90	4.70
24w1d	4.30	3.90	4.70
24w2d	4.30	3.90	4.70
24w3d	4.30	3.90	4.70
24w4d	4.30	3.90	4.70
24w5d	4.30	3.90	4.70
24w6d	4.30	3.90	4.70
25w0d	4.60	4.20	5.00
25w1d	4.60	4.20	5.00
25w2d	4.60	4.20	5.00
25w3d	4.60	4.20	5.00
25w4d	4.60	4.20	5.00
25w5d	4.60	4.20	5.00
25w6d	4.60	4.20	5.00
26w0d	4.80	4.40	5.30
26w1d	4.80	4.40	5.30
26w2d	4.80	4.40	5.30
26w3d	4.80	4.40	5.30
26w4d	4.80	4.40	5.30
26w5d	4.80	4.40	5.30
26w6d	4.80	4.40	5.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	6.90	6.40	7.40
36w5d	6.90	6.40	7.40
36w6d	6.90	6.40	7.40
37w0d	7.10	6.60	7.60
37w1d	7.10	6.60	7.60
37w2d	7.10	6.60	7.60
37w3d	7.10	6.60	7.60
37w4d	7.10	6.60	7.60
37w5d	7.10	6.60	7.60
37w6d	7.10	6.60	7.60
38w0d	7.20	6.70	7.70
38w1d	7.20	6.70	7.70
38w2d	7.20	6.70	7.70
38w3d	7.20	6.70	7.70
38w4d	7.20	6.70	7.70
38w5d	7.20	6.70	7.70
38w6d	7.20	6.70	7.70
39w0d	7.30	6.80	7.80
39w1d	7.30	6.80	7.80
39w2d	7.30	6.80	7.80
39w3d	7.30	6.80	7.80
39w4d	7.30	6.80	7.80
39w5d	7.30	6.80	7.80
39w6d	7.30	6.80	7.80

Anterior Posterior Thoracic Diameter (APTD): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986

Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)
2.25	14w	4.65	22w	7.01	30w	9.30	38w
2.58	15w	4.90	23w	7.25	31w	9.53	39w
2.85	16w	5.15	24w	7.62	32w	9.68	40w
3.11	17w	5.48	25w	7.93	33w	9.84	41w
3.46	18w	5.80	26w	8.15	34w	9.91	42w
3.75	19w	6.15	27w	8.40	35w		
4.00	20w	6.39	28w	8.75	36w		
4.34	21w	6.70	29w	9.02	37w		

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986

Age (w)	Meas (cm)	Min (cm)	Max (cm)	Age (w)	Meas (cm)	Min (cm)	Max (cm)
14	2.25	2.25	2.25	29	6.70	5.70	7.70
15	2.58	2.21	2.95	30	7.01	6.01	8.01
16	2.85	2.45	3.25	31	7.25	6.10	8.40
17	3.11	2.61	3.61	32	7.62	6.52	8.72
18	3.46	3.02	3.90	33	7.93	6.81	9.05
19	3.75	3.25	4.25	34	8.15	6.90	9.40
20	4.00	3.40	4.60	35	8.40	7.08	9.72
21	4.34	3.76	4.92	36	8.75	7.40	10.10
22	4.65	4.04	5.26	37	9.02	7.62	10.42
23	4.90	4.20	5.60	38	9.30	7.90	10.70
24	5.15	4.35	5.95	39	9.53	8.06	11.00
25	5.48	4.68	6.28	40	9.68	8.16	11.20
26	5.80	4.95	6.65	41	9.84	8.32	11.35
27	6.15	5.30	7.00	42	9.91	8.41	11.40
28	6.39	5.43	7.35				

Anterior Posterior Thoracic Diameter (APTD) and Thorax Transverse Diameter (TTD): SHINOZUKA

GA Table

Norio Shinozuka, Haruo Masuda, Hideyuki Kagawa, and Yuji Taketani. Department of Obstetrics and Gynecology, Faculty of Medicine, University of Tokyo. Jpn J Med Ultrasonics 23(12) 877-888, 1996

Meas (cm ²)	Age (wd)	±SD (wd)	Meas (cm ²)	Age (wd)	±SD (wd)
10.00	16w1d	01w1d	52.00	29w3d	01w6d
12.00	17w0d	01w1d	54.00	30w0d	01w6d
14.00	17w6d	01w1d	56.00	30w3d	01w6d
16.00	18w4d	01w1d	58.00	31w0d	02w0d
18.00	19w3d	01w1d	60.00	31w3d	02w0d
20.00	20w1d	01w1d	62.00	31w6d	02w0d
22.00	20w6d	01w2d	64.00	32w3d	02w1d
24.00	21w4d	01w2d	66.00	32w6d	02w1d
26.00	22w2d	01w2d	68.00	33w3d	02w1d
28.00	22w6d	01w2d	70.00	33w6d	02w2d
30.00	23w4d	01w2d	72.00	34w2d	02w2d
32.00	24w1d	01w3d	74.00	34w6d	02w3d
34.00	24w5d	01w3d	76.00	35w3d	02w3d
36.00	25w3d	01w3d	78.00	35w6d	02w3d
38.00	25w6d	01w3d	80.00	36w3d	02w4d
40.00	26w3d	01w4d	82.00	37w0d	02w4d
42.00	27w0d	01w4d	84.00	37w4d	02w4d
44.00	27w3d	01w4d	86.00	38w1d	02w4d

Meas (cm ²)	Age (wd)	±SD (wd)
46.00	28w0d	01w5d
48.00	28w4d	01w5d
50.00	29w0d	01w5d

Meas (cm ²)	Age (wd)	±SD (wd)
88.00	38w5d	02w5d
90.00	39w2d	02w5d

Fetal Growth Table

Norio Shinozuka, Haruo Masuda, Hideyuki Kagawa, and Yuji Taketani. Department of Obstetrics and Gynecology, Faculty of Medicine, University of Tokyo. Jpn J Med Ultrasonics 23(12) 877-888,1996

Age (wd)	Meas (cm ²)	-1.28SD (cm ²)	+1.28SD (cm ²)
16w3d	11.20	7.90	14.60
17w3d	13.30	9.70	17.00
18w3d	15.60	11.60	19.60
19w3d	18.10	13.70	22.40
20w3d	20.80	16.10	25.50
21w3d	23.60	18.50	28.80
22w3d	26.70	21.20	32.20
23w3d	29.90	23.90	35.90
24w3d	33.20	26.80	39.70
25w3d	36.70	29.80	43.60
26w3d	40.30	33.00	47.70
27w3d	44.10	36.20	52.00
28w3d	47.90	39.40	56.30
29w3d	51.80	42.80	60.80

Age (wd)	Meas (cm ²)	-1.28SD (cm ²)	+1.28SD (cm ²)
30w3d	55.70	46.20	65.30
31w3d	59.70	49.60	69.90
32w3d	63.80	53.00	74.50
33w3d	67.80	56.50	79.20
34w3d	71.90	59.90	83.90
35w3d	75.90	63.30	88.60
36w3d	79.90	66.60	93.30
37w3d	83.90	69.80	97.90
38w3d	87.70	72.90	102.50
39w3d	91.50	76.00	107.00
40w3d	95.10	78.90	111.40
41w3d	98.60	81.60	115.70
42w3d	102.00	84.10	119.80

Anterior Posterior Thoracic Diameter (APTD) and Thorax Transverse Diameter (TTD): TOKYO

GA Table

Norio Shinozuka, Haruo Masuda, Hideyuki Kagawa, and Yuji Taketani. Department of Obstetrics and Gynecology, Faculty of Medicine, University of Tokyo. Jpn J Med Ultrasonics 23(12) 877-888,1996

Meas (cm ²)	Age (wd)	±SD (wd)
10.00	16w1d	01w1d
12.00	17w0d	01w1d
14.00	17w6d	01w1d
16.00	18w4d	01w1d
18.00	19w3d	01w1d
20.00	20w1d	01w1d
22.00	20w6d	01w2d
24.00	21w4d	01w2d
26.00	22w2d	01w2d
28.00	22w6d	01w2d
30.00	23w4d	01w2d
32.00	24w1d	01w3d
34.00	24w5d	01w3d
36.00	25w3d	01w3d
38.00	25w6d	01w3d
40.00	26w3d	01w4d
42.00	27w0d	01w4d
44.00	27w3d	01w4d

Meas (cm ²)	Age (wd)	±SD (wd)
52.00	29w3d	01w6d
54.00	30w0d	01w6d
56.00	30w3d	01w6d
58.00	31w0d	02w0d
60.00	31w3d	02w0d
62.00	31w6d	02w0d
64.00	32w3d	02w1d
66.00	32w6d	02w1d
68.00	33w3d	02w1d
70.00	33w6d	02w2d
72.00	34w2d	02w2d
74.00	34w6d	02w3d
76.00	35w3d	02w3d
78.00	35w6d	02w3d
80.00	36w3d	02w4d
82.00	37w0d	02w4d
84.00	37w4d	02w4d
86.00	38w1d	02w4d

Meas (cm ²)	Age (wd)	±SD (wd)
46.00	28w0d	01w5d
48.00	28w4d	01w5d
50.00	29w0d	01w5d

Fetal Growth Table

Norio Shinozuka, Haruo Masuda, Hideyuki Kagawa, and Yuji Taketani. Department of Obstetrics and Gynecology, Faculty of Medicine, University of Tokyo. Jpn J Med Ultrasonics 23(12) 877-888, 1996

Age (wd)	Meas (cm ²)	-1.28SD (cm ²)	+1.28SD (cm ²)
16w3d	11.20	7.90	14.60
17w3d	13.30	9.70	17.00
18w3d	15.60	11.60	19.60
19w3d	18.10	13.70	22.40
20w3d	20.80	16.10	25.50
21w3d	23.60	18.50	28.80
22w3d	26.70	21.20	32.20
23w3d	29.90	23.90	35.90
24w3d	33.20	26.80	39.70
25w3d	36.70	29.80	43.60
26w3d	40.30	33.00	47.70
27w3d	44.10	36.20	52.00
28w3d	47.90	39.40	56.30
29w3d	51.80	42.80	60.80

Meas (cm ²)	Age (wd)	±SD (wd)
88.00	38w5d	02w5d
90.00	39w2d	02w5d

Age (wd)	Meas (cm ²)	-1.28SD (cm ²)	+1.28SD (cm ²)
30w3d	55.70	46.20	65.30
31w3d	59.70	49.60	69.90
32w3d	63.80	53.00	74.50
33w3d	67.80	56.50	79.20
34w3d	71.90	59.90	83.90
35w3d	75.90	63.30	88.60
36w3d	79.90	66.60	93.30
37w3d	83.90	69.80	97.90
38w3d	87.70	72.90	102.50
39w3d	91.50	76.00	107.00
40w3d	95.10	78.90	111.40
41w3d	98.60	81.60	115.70
42w3d	102.00	84.10	119.80

Gestational Sac (GS): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = GS \times 0.71887 + 6.156004$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 2.5 cm

Max Range: 6.1 cm

Gestational Sac (GS): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.36

Meas (cm)	Age (wd)
0.7	4w6d
0.9	5w5d
1.0	6w0d
1.3	6w2d
1.5	6w5d
2.4	7w3d
2.8	8w2d
3.4	9w0d

Gestational Sac (GS): HELLMAN

GA Table

Hellman LM, Kobayashi M, Fillisti L, et al, "Growth and development of the human fetus prior to the twentieth week of gestation" American Journal of Obstetrics and Gynecology, 103:789-800, 1969

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.0	5w0d	2.3	6w6d	3.6	8w5d	4.9	10w4d
1.1	5w1d	2.4	7w0d	3.7	8w6d	5.0	10w5d
1.2	5w2d	2.5	7w1d	3.8	9w0d	5.1	10w6d
1.3	5w3d	2.6	7w2d	3.9	9w1d	5.2	11w0d
1.4	5w4d	2.7	7w3d	4.0	9w2d	5.3	11w1d
1.5	5w5d	2.8	7w4d	4.1	9w3d	5.4	11w2d
1.6	5w6d	2.9	7w5d	4.2	9w4d	5.5	11w3d
1.7	6w0d	3.0	7w6d	4.3	9w5d	5.6	11w4d
1.8	6w1d	3.1	8w0d	4.4	9w6d	5.7	11w5d
1.9	6w2d	3.2	8w1d	4.5	10w0d	5.8	11w6d
2.0	6w3d	3.3	8w2d	4.6	10w1d	5.9	12w0d
2.1	6w4d	3.4	8w3d	4.7	10w2d	6.0	12w1d
2.2	6w5d	3.5	8w4d	4.8	10w3d		

Gestational Sac (GS): NYBERG

GA Table

Nyberg, David, A., Hill, Lyndon, M., Bohm-Vele, Marcela., Mendelson, Ellen, B. "Transvaginal Ultrasound." Mosby Yearbook, 76. 1992

$$GA = 1.32 \times GS + 4.299$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.14 cm

Max Range: 5.54 cm

Gestational Sac (GS): TOKYO

GA Table

Tokyo University Takashi Okai, et al. Japan Society of Obstetrics and Gynecology, Vol.38, No.8

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
1.0	4w0d	1w0d	4.1	9w0d	2w0d
1.6	5w0d	1w1d	4.8	10w0d	2w1d
2.2	6w0d	1w4d	5.7	11w0d	2w2d
2.7	7w0d	1w5d	6.7	12w0d	2w3d
3.4	8w0d	1w6d			

Gestational Sac (GS): REMPEN

GA Table

Rempen A. "Biometrie in der Fruhgraviditat (I. Trimenon)" Der Frauenarzt, 32: 425, 1991

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
0.20	04w6d	03w3d	06w2d	3.80	09w1d	07w5d	10w4d
0.30	05w0d	03w4d	06w3d	3.90	09w2d	07w6d	10w5d
0.40	05w1d	03w5d	06w4d	4.00	09w3d	08w0d	10w6d
0.50	05w2d	03w6d	06w5d	4.10	09w4d	08w1d	11w0d
0.60	05w2d	03w6d	06w5d	4.20	09w5d	08w2d	11w1d
0.70	05w3d	04w0d	06w6d	4.30	09w6d	08w3d	11w2d
0.80	05w4d	04w1d	07w0d	4.40	09w6d	08w3d	11w2d
0.90	05w5d	04w2d	07w1d	4.50	10w0d	08w4d	11w3d
1.00	05w5d	04w2d	07w1d	4.60	10w1d	08w5d	11w4d
1.10	05w6d	04w3d	07w2d	4.70	10w2d	08w6d	11w5d
1.20	06w0d	04w4d	07w3d	4.80	10w3d	09w0d	11w6d
1.30	06w1d	04w5d	07w4d	4.90	10w4d	09w1d	12w0d
1.40	06w2d	04w6d	07w5d	5.00	10w5d	09w2d	12w1d
1.50	06w2d	04w6d	07w5d	5.10	10w6d	09w3d	12w2d
1.60	06w3d	05w0d	07w6d	5.20	11w0d	09w4d	12w3d
1.70	06w4d	05w1d	08w0d	5.30	11w1d	09w5d	12w4d
1.80	06w5d	05w2d	08w1d	5.40	11w2d	09w6d	12w5d
1.90	06w6d	05w3d	08w2d	5.50	11w3d	10w0d	12w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.00	06w6d	05w3d	08w2d	5.60	11w4d	10w1d	13w0d
2.10	07w0d	05w4d	08w3d	5.70	11w5d	10w2d	13w1d
2.20	07w1d	05w5d	08w4d	5.80	11w6d	10w3d	13w2d
2.30	07w2d	05w6d	08w5d	5.90	12w0d	10w4d	13w3d
2.40	07w3d	06w0d	08w6d	6.00	12w1d	10w5d	13w4d
2.50	07w4d	06w1d	09w0d	6.10	12w2d	10w6d	13w5d
2.60	07w4d	06w1d	09w0d	6.20	12w3d	11w0d	13w6d
2.70	07w5d	06w2d	09w1d	6.30	12w4d	11w1d	14w0d
2.80	07w6d	06w3d	09w2d	6.40	12w5d	11w2d	14w1d
2.90	08w0d	06w4d	09w3d	6.50	12w6d	11w3d	14w2d
3.00	08w1d	06w5d	09w4d	6.60	13w0d	11w4d	14w3d
3.10	08w2d	06w6d	09w5d	6.70	13w1d	11w5d	14w4d
3.20	08w3d	07w0d	09w6d	6.80	13w2d	11w6d	14w5d
3.30	08w3d	07w0d	09w6d	6.90	13w3d	12w0d	14w6d
3.40	08w4d	07w1d	10w0d	7.00	13w4d	12w1d	15w0d
3.50	08w5d	07w2d	10w1d	7.10	13w5d	12w2d	15w1d
3.60	08w6d	07w3d	10w2d	7.20	14w0d	12w4d	15w3d
3.70	09w0d	07w4d	10w3d	7.30	14w1d	12w5d	15w4d

Fetal Growth Table

Rempen A. "Biometrie in der Frühgravidität (I. Trimenon)" Der Frauenarzt, 32: 425, 1991

Age (wd)	Meas (cm)	5% (cm)	95% (cm)	Age (wd)	Meas (cm)	5% (cm)	95% (cm)
04w4d	0.05	0.00	1.10	09w0d	3.66	2.61	4.71
04w5d	0.18	0.00	1.23	09w1d	3.76	2.71	4.81
04w6d	0.32	0.00	1.37	09w2d	3.85	2.80	4.90
05w0d	0.45	0.00	1.50	09w3d	3.95	2.90	5.00
05w1d	0.58	0.00	1.63	09w4d	4.04	2.99	5.09
05w2d	0.71	0.00	1.76	09w5d	4.13	3.08	5.18
05w3d	0.84	0.00	1.89	09w6d	4.22	3.17	5.27
05w4d	0.97	0.00	2.02	10w0d	4.31	3.26	5.36
05w5d	1.09	0.04	2.14	10w1d	4.40	3.35	5.45
05w6d	1.22	0.17	2.27	10w2d	4.49	3.44	5.54
06w0d	1.34	0.29	2.39	10w3d	4.57	3.52	5.62
06w1d	1.46	0.41	2.51	10w4d	4.66	3.61	5.71
06w2d	1.59	0.54	2.64	10w5d	4.74	3.69	5.79
06w3d	1.71	0.66	2.76	10w6d	4.82	3.77	5.87
06w4d	1.83	0.78	2.88	11w0d	4.90	3.85	5.95
06w5d	1.94	0.89	2.99	11w1d	4.98	3.93	6.03
06w6d	2.06	1.01	3.11	11w2d	5.06	4.01	6.11
07w0d	2.17	1.12	3.22	11w3d	5.14	4.09	6.19
07w1d	2.29	1.24	3.34	11w4d	5.21	4.16	6.26
07w2d	2.40	1.35	3.45	11w5d	5.29	4.24	6.34
07w3d	2.51	1.46	3.56	11w6d	5.36	4.31	6.41
07w4d	2.62	1.57	3.67	12w0d	5.43	4.38	6.48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)	Age (wd)	Meas (cm)	5% (cm)	95% (cm)
07w5d	2.73	1.68	3.78	12w1d	5.51	4.46	6.56
07w6d	2.84	1.79	3.89	12w2d	5.58	4.53	6.63
08w0d	2.95	1.90	4.00	12w3d	5.64	4.59	6.69
08w1d	3.05	2.00	4.10	12w4d	5.71	4.66	6.76
08w2d	3.16	2.11	4.21	12w5d	5.78	4.73	6.83
08w3d	3.26	2.21	4.31	12w6d	5.84	4.79	6.89
08w4d	3.36	2.31	4.41	13w0d	5.91	4.86	6.96
08w5d	3.46	2.41	4.51	13w1d	5.97	4.92	7.02
08w6d	3.56	2.51	4.61	13w2d	6.03	4.98	7.08

Occipital Frontal Diameter (OFD): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986, p.431.

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
3.1	14w0d	7.2	23w0d	10.3	32w0d
3.8	15w0d	7.6	24w0d	10.5	33w0d
4.1	16w0d	8.0	25w0d	10.7	34w0d
4.6	17w0d	8.4	26w0d	10.9	35w0d
5.0	18w0d	8.8	27w0d	11.1	36w0d
5.4	19w0d	9.1	28w0d	11.2	37w0d
5.8	20w0d	9.5	29w0d	11.3	38w0d

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
6.3	21w0d	9.8	30w0d	11.4	39w0d
6.7	22w0d	10.0	31w0d	11.5	40w0d

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer- Verlag, New York, 1986, p.176.

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
10	1.4	0.7	2.1	26	8.0	7.3	8.7
11	1.8	1.1	2.5	27	8.3	7.6	9.0
12	2.3	1.6	3.0	28	8.7	8.0	9.4
13	2.7	2.0	3.4	29	9.0	8.3	9.7
14	3.1	2.4	3.8	30	9.3	8.6	10.0
15	3.6	2.9	4.3	31	9.6	8.9	10.3
16	4.0	3.3	4.7	32	9.9	9.2	10.6
17	4.4	3.7	5.1	33	10.2	9.5	10.8
18	4.8	4.1	5.5	34	10.4	9.7	11.1
19	5.3	4.6	6.0	35	10.6	9.9	11.3
20	5.7	5.0	6.4	36	10.9	10.2	11.6
21	6.1	5.4	6.8	37	11.1	10.4	11.8
22	6.5	5.8	7.2	38	11.2	10.5	11.9
23	6.9	6.2	7.6	39	11.4	10.7	12.1
24	7.2	6.5	7.9	40	11.5	10.8	12.2
25	7.6	6.9	8.3				

Occipital Frontal Diameter (OFD): ASUM(SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

$$GA = 0.381 \times (OFD \times 10) - 0.00344 \times (OFD \times 10)^2 + 0.00002298 \times (OFD \times 10)^3 + 4.189$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 2.12 cm

Max Range: 12.17 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
11	2.1	0.20	27	8.6	0.45
12	2.4	0.20	28	9.5	0.50
13	2.9	0.30	29	9.7	0.55
14	3.4	0.30	30	9.8	0.55
15	3.8	0.30	31	10.1	0.50
16	4.6	0.30	32	10.2	0.50
17	5.0	0.30	33	10.7	0.55
18	5.4	0.35	34	10.8	0.55
19	5.7	0.35	35	10.9	0.55
20	6.1	0.35	36	11.2	0.55

Age (w)	Meas (cm)	±2SD (cm)
21	6.3	0.40
22	6.8	0.35
23	7.6	0.40
24	7.9	0.40
25	8.2	0.45
26	8.4	0.45

Age (w)	Meas (cm)	±2SD (cm)
37	11.3	0.60
38	11.6	0.55
39	11.9	0.60
40	12.0	0.60
41	12.2	0.60

Age (w)	Meas (cm)	±SD (cm)
12	2.503	0.391
16	4.250	0.269
20	5.918	0.303
24	7.479	0.564
28	9.173	0.393

Age (w)	Meas (cm)	±SD (cm)
32	10.283	0.357
34	10.716	0.390
36	11.553	0.365
38	12.053	0.233
40	12.059	0.598

✦ Occipital Frontal Diameter (OFD): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = OFD \times 1.55941 + 0.07730580 \times OFD^2 + 7.937391$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 2.4 cm

Max Range: 12.4 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$OFD = 59.56658 \times MA - 4.5874 \times MA^2 - 40.707331$$

Output Unit: cm

Input Unit: w (week)

Min Range: 12w

Max Range: 40w

✦ Occipital Frontal Diameter (OFD): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Visser J, Huch R, Huch A, Zimmermann R. "Fetal ultrasound biometry: 1. Head reference values" Br J Obstet Gynaecol, 1999 Feb; 106(2): 126-35

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12w	2.46	2.02	2.91
13w	2.96	2.49	3.43
14w	3.45	2.96	3.94
15w	3.93	3.43	4.44
16w	4.41	3.88	4.94
17w	4.87	4.32	5.42
18w	5.32	4.76	5.89
19w	5.77	5.18	6.35
20w	6.20	5.59	6.81
21w	6.62	5.99	7.24
22w	7.02	6.37	7.67

Age (w)	Meas (cm)	5% (cm)	95% (cm)
28w	9.16	8.39	9.93
29w	9.46	8.67	10.25
30w	9.74	8.93	10.55
31w	10.01	9.18	10.84
32w	10.25	9.41	11.10
33w	10.48	9.61	11.35
34w	10.69	9.80	11.58
35w	10.88	9.97	11.78
36w	11.04	10.11	11.97
37w	11.19	10.24	12.13
38w	11.31	10.34	12.28

Age (w)	Meas (cm)	5% (cm)	95% (cm)
23w	7.41	6.75	8.08
24w	7.79	7.11	8.48
25w	8.16	7.45	8.87
26w	8.51	7.78	9.24
27w	8.84	8.09	9.59

Age (w)	Meas (cm)	5% (cm)	95% (cm)
39w	11.41	10.42	12.40
40w	11.48	10.47	12.49
41w	11.53	10.51	12.56
42w	11.56	10.51	12.61

Occipital Frontal Diameter (OFD): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1; 4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	3.90	3.50	4.20
14w1d	3.90	3.50	4.20
14w2d	3.90	3.50	4.20
14w3d	3.90	3.50	4.20
14w4d	3.90	3.50	4.20
14w5d	3.90	3.50	4.20
14w6d	3.90	3.50	4.20
15w0d	4.20	3.90	4.60
15w1d	4.20	3.90	4.60
15w2d	4.20	3.90	4.60
15w3d	4.20	3.90	4.60
15w4d	4.20	3.90	4.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	9.10	8.40	9.90
27w1d	9.10	8.40	9.90
27w2d	9.10	8.40	9.90
27w3d	9.10	8.40	9.90
27w4d	9.10	8.40	9.90
27w5d	9.10	8.40	9.90
27w6d	9.10	8.40	9.90
28w0d	9.50	8.70	10.30
28w1d	9.50	8.70	10.30
28w2d	9.50	8.70	10.30
28w3d	9.50	8.70	10.30
28w4d	9.50	8.70	10.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
15w5d	4.20	3.90	4.60
15w6d	4.20	3.90	4.60
16w0d	4.60	4.20	5.00
16w1d	4.60	4.20	5.00
16w2d	4.60	4.20	5.00
16w3d	4.60	4.20	5.00
16w4d	4.60	4.20	5.00
16w5d	4.60	4.20	5.00
16w6d	4.60	4.20	5.00
17w0d	5.00	4.60	5.40
17w1d	5.00	4.60	5.40
17w2d	5.00	4.60	5.40
17w3d	5.00	4.60	5.40
17w4d	5.00	4.60	5.40
17w5d	5.00	4.60	5.40
17w6d	5.00	4.60	5.40
18w0d	5.40	5.00	5.90
18w1d	5.40	5.00	5.90
18w2d	5.40	5.00	5.90
18w3d	5.40	5.00	5.90
18w4d	5.40	5.00	5.90
18w5d	5.40	5.00	5.90
18w6d	5.40	5.00	5.90
19w0d	5.80	5.40	6.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
28w5d	9.50	8.70	10.30
28w6d	9.50	8.70	10.30
29w0d	9.80	9.10	10.70
29w1d	9.80	9.10	10.70
29w2d	9.80	9.10	10.70
29w3d	9.80	9.10	10.70
29w4d	9.80	9.10	10.70
29w5d	9.80	9.10	10.70
29w6d	9.80	9.10	10.70
30w0d	10.20	9.40	11.00
30w1d	10.20	9.40	11.00
30w2d	10.20	9.40	11.00
30w3d	10.20	9.40	11.00
30w4d	10.20	9.40	11.00
30w5d	10.20	9.40	11.00
30w6d	10.20	9.40	11.00
31w0d	10.50	9.60	11.30
31w1d	10.50	9.60	11.30
31w2d	10.50	9.60	11.30
31w3d	10.50	9.60	11.30
31w4d	10.50	9.60	11.30
31w5d	10.50	9.60	11.30
31w6d	10.50	9.60	11.30
32w0d	10.70	9.90	11.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
19w1d	5.80	5.40	6.30
19w2d	5.80	5.40	6.30
19w3d	5.80	5.40	6.30
19w4d	5.80	5.40	6.30
19w5d	5.80	5.40	6.30
19w6d	5.80	5.40	6.30
20w0d	6.20	5.70	6.80
20w1d	6.20	5.70	6.80
20w2d	6.20	5.70	6.80
20w3d	6.20	5.70	6.80
20w4d	6.20	5.70	6.80
20w5d	6.20	5.70	6.80
20w6d	6.20	5.70	6.80
21w0d	6.70	6.10	7.20
21w1d	6.70	6.10	7.20
21w2d	6.70	6.10	7.20
21w3d	6.70	6.10	7.20
21w4d	6.70	6.10	7.20
21w5d	6.70	6.10	7.20
21w6d	6.70	6.10	7.20
22w0d	7.10	6.50	7.70
22w1d	7.10	6.50	7.70
22w2d	7.10	6.50	7.70
22w3d	7.10	6.50	7.70

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
32w1d	10.70	9.90	11.60
32w2d	10.70	9.90	11.60
32w3d	10.70	9.90	11.60
32w4d	10.70	9.90	11.60
32w5d	10.70	9.90	11.60
32w6d	10.70	9.90	11.60
33w0d	11.00	10.10	11.90
33w1d	11.00	10.10	11.90
33w2d	11.00	10.10	11.90
33w3d	11.00	10.10	11.90
33w4d	11.00	10.10	11.90
33w5d	11.00	10.10	11.90
33w6d	11.00	10.10	11.90
34w0d	11.20	10.30	12.10
34w1d	11.20	10.30	12.10
34w2d	11.20	10.30	12.10
34w3d	11.20	10.30	12.10
34w4d	11.20	10.30	12.10
34w5d	11.20	10.30	12.10
34w6d	11.20	10.30	12.10
35w0d	11.30	10.50	12.30
35w1d	11.30	10.50	12.30
35w2d	11.30	10.50	12.30
35w3d	11.30	10.50	12.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
22w4d	7.10	6.50	7.70
22w5d	7.10	6.50	7.70
22w6d	7.10	6.50	7.70
23w0d	7.50	6.90	8.20
23w1d	7.50	6.90	8.20
23w2d	7.50	6.90	8.20
23w3d	7.50	6.90	8.20
23w4d	7.50	6.90	8.20
23w5d	7.50	6.90	8.20
23w6d	7.50	6.90	8.20
24w0d	7.90	7.30	8.60
24w1d	7.90	7.30	8.60
24w2d	7.90	7.30	8.60
24w3d	7.90	7.30	8.60
24w4d	7.90	7.30	8.60
24w5d	7.90	7.30	8.60
24w6d	7.90	7.30	8.60
25w0d	8.30	7.70	9.00
25w1d	8.30	7.70	9.00
25w2d	8.30	7.70	9.00
25w3d	8.30	7.70	9.00
25w4d	8.30	7.70	9.00
25w5d	8.30	7.70	9.00
25w6d	8.30	7.70	9.00

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
35w4d	11.30	10.50	12.30
35w5d	11.30	10.50	12.30
35w6d	11.30	10.50	12.30
36w0d	11.50	10.60	12.40
36w1d	11.50	10.60	12.40
36w2d	11.50	10.60	12.40
36w3d	11.50	10.60	12.40
36w4d	11.50	10.60	12.40
36w5d	11.50	10.60	12.40
36w6d	11.50	10.60	12.40
37w0d	11.60	10.70	12.50
37w1d	11.60	10.70	12.50
37w2d	11.60	10.70	12.50
37w3d	11.60	10.70	12.50
37w4d	11.60	10.70	12.50
37w5d	11.60	10.70	12.50
37w6d	11.60	10.70	12.50
38w0d	11.60	10.70	12.60
38w1d	11.60	10.70	12.60
38w2d	11.60	10.70	12.60
38w3d	11.60	10.70	12.60
38w4d	11.60	10.70	12.60
38w5d	11.60	10.70	12.60
38w6d	11.60	10.70	12.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
26w0d	8.70	8.10	9.50
26w1d	8.70	8.10	9.50
26w2d	8.70	8.10	9.50
26w3d	8.70	8.10	9.50
26w4d	8.70	8.10	9.50
26w5d	8.70	8.10	9.50
26w6d	8.70	8.10	9.50

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
39w0d	11.60	10.70	12.60
39w1d	11.60	10.70	12.60
39w2d	11.60	10.70	12.60
39w3d	11.60	10.70	12.60
39w4d	11.60	10.70	12.60
39w5d	11.60	10.70	12.60
39w6d	11.60	10.70	12.60

Age (w)	Meas (cm)	5% (cm)	95% (cm)
22	1.4	1.1	1.7
23	1.4	1.1	1.7
24	1.5	1.2	1.8
25	1.5	1.2	1.9
26	1.6	1.3	1.9

Age (w)	Meas (cm)	5% (cm)	95% (cm)
37	2.0	1.7	2.3
38	2.1	1.7	2.4
39	2.1	1.8	2.4
40	2.1	1.8	2.4

Inner Ocular Distance (IOD): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986, p.177

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.8	0.4	1.1
13	0.8	0.5	1.1
14	0.9	0.6	1.2
15	1.0	0.6	1.3
16	1.0	0.7	1.3
17	1.1	0.8	1.4
18	1.1	0.8	1.5
19	1.2	0.9	1.5
20	1.3	1.0	1.6
21	1.3	1.0	1.6

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	1.6	1.3	1.9
28	1.7	1.4	2.0
29	1.7	1.4	2.0
30	1.8	1.5	2.1
31	1.8	1.5	2.1
32	1.9	1.5	2.2
33	1.9	1.6	2.2
34	1.9	1.6	2.2
35	2.0	1.6	2.3
36	2.0	1.7	2.3

Outer Ocular Distance (OOD): JEANTY

GA Table

Jeanty, P., Rodesch, F., Delbeke, D., Dumont, J. "Estimation of Gestational Age from Measurements of Fetal Long Bones" Journal of Ultrasound Medicine, 3: 75-79, February, 1984

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.50	10w3d	07w1d	13w6d
1.60	11w0d	07w5d	14w3d
1.70	11w4d	08w2d	15w0d
1.80	12w1d	08w6d	15w4d
1.90	12w6d	09w4d	16w1d
2.00	13w3d	10w1d	16w5d
2.10	14w0d	10w5d	17w2d
2.20	14w4d	11w2d	17w6d
2.30	15w1d	11w6d	18w4d
2.40	15w6d	12w4d	19w1d
2.50	16w3d	13w1d	19w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.10	25w6d	23w1d	29w1d
4.20	26w4d	23w4d	29w6d
4.30	27w1d	23w6d	30w3d
4.40	27w5d	24w3d	31w0d
4.50	28w2d	25w0d	31w4d
4.60	28w6d	25w4d	32w1d
4.70	29w4d	26w1d	32w6d
4.80	30w1d	26w6d	33w3d
4.90	30w5d	27w2d	34w0d
5.00	31w2d	27w6d	34w4d
5.10	31w6d	28w4d	35w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.60	17w0d	13w5d	20w2d
2.70	17w4d	14w2d	20w6d
2.80	18w1d	14w6d	21w4d
2.90	18w6d	15w4d	22w1d
3.00	19w3d	16w1d	22w5d
3.10	20w0d	16w4d	23w2d
3.20	20w4d	17w1d	23w6d
3.30	21w1d	17w6d	24w4d
3.40	21w5d	18w3d	25w1d
3.50	22w2d	19w0d	25w5d
3.60	22w6d	19w4d	26w2d
3.70	23w4d	20w1d	26w6d
3.80	24w1d	20w6d	27w3d
3.90	24w5d	21w3d	28w0d
4.00	25w2d	22w0d	28w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.20	32w4d	29w1d	35w6d
5.30	33w0d	29w5d	36w3d
5.40	33w4d	30w2d	37w0d
5.50	34w1d	30w6d	37w4d
5.60	34w6d	31w4d	38w1d
5.70	35w3d	32w1d	38w5d
5.80	36w0d	32w5d	39w2d
5.90	36w4d	33w2d	39w6d
6.00	37w1d	33w6d	40w4d
6.10	37w6d	34w4d	41w1d
6.20	38w3d	35w1d	41w4d
6.30	39w0d	35w5d	42w2d
6.40	39w4d	36w2d	42w6d
6.50	40w1d	36w6d	43w4d

Outer Ocular Distance (OOD): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; p.177

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	1.6	1.1	2.0
13	1.8	1.4	2.3
14	2.0	1.6	2.5
15	2.3	1.8	2.7
16	2.5	2.0	2.9
17	2.7	2.2	3.1
18	2.9	2.4	3.3
19	3.1	2.6	3.5
20	3.3	2.8	3.7
21	3.5	3.0	3.9
22	3.6	3.2	4.1
23	3.8	3.4	4.3
24	4.0	3.5	4.4
25	4.2	3.7	4.6
26	4.3	3.9	4.7

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	4.5	4.0	4.9
28	4.6	4.2	5.1
29	4.8	4.3	5.2
30	4.9	4.5	5.3
31	5.0	4.6	5.5
32	5.2	4.7	5.6
33	5.3	4.9	5.7
34	5.4	5.0	5.8
35	5.5	5.1	6.0
36	5.6	5.2	6.1
37	5.7	5.3	6.2
38	5.8	5.4	6.3
39	5.9	5.5	6.4
40	6.0	5.6	6.4

Humerus (HUM): JEANTY

GA Table

Jeanty et al., "Estimation of Gestational Age from Measurements of Fetal Long Bones"
Journal of Ultrasound in Medicine, February 1984. Vol 3. pp75-79

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.0	12w4d	9w6d	15w2d
1.1	12w6d	10w1d	15w4d
1.2	13w1d	10w3d	15w6d
1.3	13w4d	10w6d	16w1d
1.4	13w6d	11w1d	16w4d
1.5	14w1d	11w3d	16w6d
1.6	14w4d	11w6d	17w2d
1.7	14w6d	12w1d	17w4d
1.8	15w1d	12w4d	18w0d
1.9	15w4d	12w6d	18w2d
2.0	15w6d	13w1d	18w5d
2.1	16w2d	13w4d	19w1d
2.2	16w5d	13w6d	19w3d
2.3	17w1d	14w2d	19w6d
2.4	17w3d	14w5d	20w1d
2.5	17w6d	15w1d	20w4d
2.6	18w1d	15w4d	21w0d
2.7	18w4d	15w6d	21w3d
2.8	19w0d	16w2d	21w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.9	19w3d	16w5d	22w1d
3.0	19w6d	17w1d	22w4d
3.1	20w2d	17w4d	23w0d
3.2	20w5d	18w0d	23w4d
3.3	21w1d	18w3d	23w6d
3.4	21w4d	18w6d	24w2d
3.5	22w0d	19w2d	24w6d
3.6	22w4d	19w5d	25w1d
3.7	22w6d	20w1d	25w5d
3.8	23w3d	20w4d	26w1d
3.9	23w6d	21w1d	26w4d
4.0	24w2d	21w4d	27w1d
4.1	24w6d	22w0d	27w4d
4.2	25w2d	22w4d	28w0d
4.3	25w5d	23w0d	28w4d
4.4	26w1d	23w4d	29w0d
4.5	26w5d	24w0d	29w4d
4.6	27w1d	24w4d	30w0d
4.7	27w5d	25w0d	30w4d
4.8	28w1d	25w4d	31w0d
4.9	28w6d	26w0d	31w4d
5.0	29w2d	26w4d	32w0d
5.1	29w6d	27w1d	32w4d
5.2	30w2d	27w4d	33w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.3	30w6d	28w1d	33w4d
5.4	31w3d	28w5d	34w1d
5.5	32w0d	29w1d	34w5d
5.6	32w4d	29w6d	35w2d
5.7	33w1d	30w2d	35w6d
5.8	33w4d	30w6d	36w3d
5.9	34w1d	31w3d	36w6d
6.0	34w6d	32w0d	37w4d
6.1	35w2d	32w4d	38w1d
6.2	35w6d	33w1d	38w5d
6.3	36w4d	33w6d	39w2d
6.4	37w1d	34w3d	39w6d
6.5	37w5d	35w0d	40w4d
6.6	38w2d	35w4d	41w1d
6.7	38w6d	36w1d	41w5d
6.8	39w4d	36w6d	42w2d
6.9	40w1d	37w3d	42w6d

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age (w)	Meas (cm)	5% (cm)	95% (cm)
11	0.6	0.6	0.6
12	0.9	0.3	1
13	1.3	0.5	2
14	1.6	0.5	2
15	1.8	1.1	2.6
16	2.1	1.2	2.5
17	2.4	1.9	2.9
18	2.7	1.8	3
19	2.9	2.2	3.6
20	3.2	2.3	3.6
21	3.4	2.8	4
22	3.6	2.8	4
23	3.8	3.2	4.5
24	4.1	3.1	4.6
25	4.3	3.5	5.1

Age (w)	Meas (cm)	5% (cm)	95% (cm)
26	4.5	3.6	4.9
27	4.6	4.2	5.1
28	4.8	4.1	5.2
29	5	4.4	5.6
30	5.2	4.4	5.6
31	5.3	4.7	5.9
32	5.5	4.7	5.9
33	5.6	5	6.2
34	5.7	5	6.2
35	5.8	5.2	6.5
36	6	5.3	6.3
37	6.1	5.7	6.4
38	6.1	5.5	6.6
39	6.2	5.6	6.9
40	6.3	5.6	6.9

✚ Humerus (HUM): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = HUM \times 3.02718 + 0.2005 \times HUM^2 + 9.907522$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.7 cm

Max Range: 7.3 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$HUM = 36.79948 \times MA - 2.9359 \times MA^2 - 33.413660$$

Output Unit: cm

Input Unit: w (week)

Min Range: 12 w

Max Range: 40 w

Age (w)	Meas (cm)	±SD (cm)
12	0.690	0.118
16	1.796	0.122
20	2.803	0.129
24	3.802	0.169
28	4.605	0.178

Age (w)	Meas (cm)	±SD (cm)
32	5.495	0.212
34	5.800	0.253
36	6.114	0.249
38	6.396	0.256
40	6.579	0.316

✚ Humerus (HUM): MERZ

GA Table

Merz, Eberband, "Ultrasonic Mensuration of Fetal Limb Bones in the Second and Third Trimesters." J Clin Ultrasound 15: 175-183, Table 1, March/April 1987

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.00	13w0d	3.70	23w0d	5.60	33w0d
1.20	14w0d	3.80	24w0d	5.80	34w0d
1.40	15w0d	4.20	25w0d	5.90	35w0d
1.70	16w0d	4.30	26w0d	6.00	36w0d
2.00	17w0d	4.50	27w0d	6.10	37w0d
2.30	18w0d	4.70	28w0d	6.40	38w0d
2.60	19w0d	4.80	29w0d	6.50	39w0d
2.90	20w0d	5.00	30w0d	6.60	40w0d
3.20	21w0d	5.30	31w0d		
3.30	22w0d	5.40	32w0d		

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.80	0.40	1.10
13	1.10	0.70	1.40
14	1.40	1.00	1.70
15	1.60	1.30	2.00
16	1.90	1.60	2.30
17	2.20	1.80	2.60
18	2.50	2.10	2.80
19	2.70	2.40	3.10
20	3.00	2.60	3.40
21	3.20	2.90	3.60
22	3.50	3.10	3.90
23	3.70	3.30	4.10
24	4.00	3.60	4.40
25	4.20	3.80	4.60
26	4.40	4.00	4.80

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	4.60	4.20	5.00
28	4.80	4.40	5.20
29	5.00	4.60	5.40
30	5.20	4.80	5.60
31	5.40	4.90	5.80
32	5.50	5.10	6.00
33	5.70	5.30	6.20
34	5.90	5.40	6.30
35	6.00	5.50	6.50
36	6.10	5.70	6.60
37	6.30	5.80	6.70
38	6.40	5.90	6.90
39	6.50	6.00	7.00
40	6.60	6.20	7.10

Humerus (HUM): OSAKA

GA Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Meas (cm)	Age (wd)
1.00	13w0d
1.10	13w2d
1.20	13w5d
1.30	14w0d
1.40	14w2d
1.50	14w5d
1.60	15w0d
1.70	15w3d
1.80	15w5d
1.90	16w1d
2.00	16w3d
2.10	16w5d
2.20	17w2d
2.30	17w4d
2.40	18w0d
2.50	18w3d
2.60	18w6d
2.70	19w1d

Meas (cm)	Age (wd)
2.80	19w4d
2.90	20w0d
3.00	20w3d
3.10	20w5d
3.20	21w2d
3.30	21w4d
3.40	22w1d
3.50	22w4d
3.60	23w0d
3.70	23w3d
3.80	23w6d
3.90	24w2d
4.00	24w6d
4.10	25w3d
4.20	26w0d
4.30	26w3d
4.40	26w6d
4.50	27w3d

Meas (cm)	Age (wd)
4.60	28w0d
4.70	28w4d
4.80	29w1d
4.90	29w5d
5.00	30w3d
5.10	31w0d
5.20	31w5d
5.30	32w3d
5.40	33w1d
5.50	33w6d
5.60	34w4d
5.70	35w3d
5.80	36w2d
5.90	37w1d
6.00	38w1d
6.10	39w2d
6.20	40w0d

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (w)	Meas (cm)	±1.5 SD (cm)	Age (w)	Meas (cm)	±1.5 SD (cm)
13	1.12	0.21	27	4.48	0.42
14	1.33	0.24	28	4.67	0.41
15	1.56	0.27	29	4.86	0.40
16	1.81	0.30	30	5.03	0.39
17	2.06	0.33	31	5.19	0.38
18	2.32	0.36	32	5.34	0.37
19	2.57	0.38	33	5.48	0.36
20	2.83	0.40	34	5.61	0.34
21	3.09	0.41	35	5.72	0.33
22	3.34	0.42	36	5.83	0.32
23	3.59	0.43	37	5.93	0.31
24	3.83	0.43	38	6.03	0.29
25	4.05	0.43	39	6.11	0.28
26	4.27	0.47	40	6.19	0.28

Humerus (HUM): ASUM(SCW)**GA Table**

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements
(Revised May 2001)

$$GA = 0.406 \times (HUM \times 10) - 0.002804 \times (HUM \times 10)^2 + 0.0000563 \times (HUM \times 10)^3 + 8.411$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 0.68 cm

Max Range: 6.83 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements
(Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
11	0.8	0.30	27	4.7	0.40
12	0.9	0.20	28	5.0	0.50
13	1.1	0.30	29	5.1	0.50
14	1.4	0.40	30	5.2	0.50
15	1.7	0.55	31	5.4	0.50
16	2.1	0.40	32	5.6	0.50
17	2.5	0.50	33	5.7	0.60
18	2.7	0.55	34	5.9	0.55
19	2.9	0.50	35	6.0	0.60
20	3.1	0.50	36	6.2	0.50

Age (w)	Meas (cm)	±2SD (cm)
21	3.2	0.60
22	3.5	0.60
23	3.8	0.40
24	4.0	0.60
25	4.3	0.50
26	4.4	0.40

Age (w)	Meas (cm)	±2SD (cm)
37	6.3	0.60
38	6.4	0.60
39	6.5	0.55
40	6.6	0.60
41	6.8	0.60

Age (w)	Meas (cm)	5% (cm)	95% (cm)
23	3.8	3.3	4.2
24	4.0	3.5	4.5
25	4.2	3.7	4.7
26	4.4	3.9	4.9

Age (w)	Meas (cm)	5% (cm)	95% (cm)
38	6.3	5.9	6.8
39	6.5	6.0	7.0
40	6.6	6.1	7.1

✚ Humerus (HUM): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; p.177

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.9	0.9	0.9
13	1.1	0.6	1.6
14	1.4	0.9	1.9
15	1.7	1.2	2.2
16	2.0	1.5	2.5
17	2.2	1.8	2.7
18	2.5	2.0	3.0
19	2.8	2.3	3.3
20	3.0	2.5	3.5
21	3.3	2.8	3.8
22	3.5	3.0	4.0

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	4.6	4.1	5.1
28	4.8	4.3	5.3
29	5.0	4.5	5.5
30	5.1	4.7	5.6
31	5.3	4.8	5.8
32	5.5	5.0	6.0
33	5.6	5.1	6.1
34	5.8	5.3	6.3
35	5.9	5.4	6.4
36	6.1	5.6	6.5
37	6.2	5.7	6.7

✚ Tibia (TIB): JEANTY

GA Table

Jeanty et al., "Estimation of Gestational Age from Measurements of Fetal Long Bones"
Journal of Ultrasound in Medicine, February 1984. Vol 3. pp75-79

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.00	13w3d	10w4d	16w2d
1.10	13w5d	10w6d	16w4d
1.20	14w1d	11w1d	17w0d
1.30	14w3d	11w4d	17w2d
1.40	14w6d	11w6d	17w5d
1.50	15w1d	12w1d	18w0d
1.60	15w4d	12w4d	18w3d
1.70	15w6d	13w0d	18w6d
1.80	16w1d	13w2d	19w1d
1.90	16w4d	13w5d	19w4d
2.00	17w0d	14w1d	19w6d
2.10	17w3d	14w4d	20w2d
2.20	17w6d	14w6d	20w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
4.00	25w2d	22w3d	28w1d
4.10	25w5d	22w6d	28w4d
4.20	26w1d	23w2d	29w1d
4.30	26w4d	23w5d	29w4d
4.40	27w1d	24w1d	30w0d
4.50	27w4d	24w4d	30w4d
4.60	28w0d	25w1d	30w6d
4.70	28w4d	25w4d	31w3d
4.80	29w0d	26w1d	31w6d
4.90	29w3d	26w4d	32w2d
5.00	29w6d	27w0d	32w6d
5.10	30w3d	27w4d	33w2d
5.20	30w6d	28w0d	33w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.30	18w1d	15w1d	21w1d
2.40	18w4d	15w4d	21w3d
2.50	18w6d	16w0d	21w6d
2.60	19w2d	16w3d	22w1d
2.70	19w5d	16w6d	22w4d
2.80	20w1d	17w1d	23w0d
2.90	20w4d	17w4d	23w4d
3.00	21w0d	18w1d	23w6d
3.10	21w3d	18w4d	24w2d
3.20	21w6d	18w6d	24w5d
3.30	22w1d	19w2d	25w1d
3.40	22w4d	19w5d	25w4d
3.50	23w1d	20w1d	26w0d
3.60	23w4d	20w4d	26w3d
3.70	23w6d	21w0d	26w6d
3.80	24w3d	21w4d	27w2d
3.90	24w6d	21w6d	27w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
5.30	31w3d	28w4d	34w2d
5.40	31w6d	29w0d	34w6d
5.50	32w3d	29w4d	35w2d
5.60	32w6d	30w0d	35w6d
5.70	33w3d	30w4d	36w2d
5.80	33w6d	31w0d	36w6d
5.90	34w3d	31w4d	37w2d
6.00	34w6d	32w0d	37w6d
6.10	35w3d	32w4d	38w2d
6.20	35w6d	33w0d	38w6d
6.30	36w4d	33w4d	39w3d
6.40	37w0d	34w1d	39w6d
6.50	37w4d	34w4d	40w3d
6.60	38w0d	35w1d	41w0d
6.70	38w4d	35w5d	41w4d
6.80	39w1d	36w1d	42w0d
6.90	39w5d	36w6d	42w4d

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age (w)	Meas (cm)	5% (cm)	95% (cm)
11	0.4	0.4	0.4
12	0.7	0.7	0.7
13	1	0.4	1.7
14	1.3	0.2	1.9
15	1.6	0.5	2.7
16	1.9	0.7	2.5
17	2.2	1.5	2.9
18	2.4	1.4	2.9
19	2.7	1.9	3.5
20	2.9	1.9	3.5
21	3.2	2.4	3.9
22	3.4	2.5	3.9
23	3.6	3	4.3
24	3.9	2.8	4.5
25	4.1	3.1	5

Age (w)	Meas (cm)	5% (cm)	95% (cm)
26	4.3	3.3	4.9
27	4.5	3.9	5.1
28	4.7	3.8	5.2
29	4.9	4	5.7
30	5.1	4.1	5.6
31	5.2	4.6	5.8
32	5.4	4.6	5.9
33	5.6	4.9	6.2
34	5.7	4.7	6.4
35	5.9	4.8	6.9
36	6	4.9	6.8
37	6.1	5.2	7.1
38	6.2	5.4	6.9
39	6.4	5.8	6.9
40	6.5	5.8	6.9

Tibia (TIB): MERZ

GA Table

Merz, E., et al. "Ultrasonic Mensuration of Fetal Limb Bones in the Second and Third Trimesters." J Clin Ultrasound 15: 175-183, Table 1, March/April 1987

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
0.90	13w0d	3.00	21w0d	4.60	29w0d	6.10	37w0d
1.00	14w0d	3.20	22w0d	4.80	30w0d	6.20	38w0d
1.30	15w0d	3.60	23w0d	5.10	31w0d	6.40	39w0d
1.60	16w0d	3.70	24w0d	5.20	32w0d	6.50	40w0d
1.80	17w0d	4.00	25w0d	5.40	33w0d	6.60	41w0d
2.20	18w0d	4.20	26w0d	5.70	34w0d	6.80	42w0d
2.50	19w0d	4.40	27w0d	5.80	35w0d		
2.70	20w0d	4.50	28w0d	6.00	36w0d		

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.70	0.40	1.00	27	4.50	4.00	4.90
13	1.00	0.60	1.30	28	4.70	4.20	5.10
14	1.20	0.90	1.60	29	4.90	4.40	5.30
15	1.50	1.20	1.90	30	5.00	4.60	5.50
16	1.80	1.40	2.10	31	5.20	4.80	5.70
17	2.10	1.70	2.40	32	5.40	5.00	5.80
18	2.30	2.00	2.70	33	5.60	5.10	6.00
19	2.60	2.20	3.00	34	5.70	5.30	6.20
20	2.80	2.50	3.20	35	5.90	5.40	6.30
21	3.10	2.70	3.50	36	6.00	5.60	6.50
22	3.30	2.90	3.70	37	6.20	5.70	6.60
23	3.60	3.20	4.00	38	6.30	5.90	6.80
24	3.80	3.40	4.20	39	6.40	6.00	6.90
25	4.00	3.60	4.40	40	6.60	6.10	7.00
26	4.20	3.80	4.60				

Tibia (TIB): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.182

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.7	0.7	0.7	27	4.4	3.9	4.9
13	1.0	1.0	1.0	28	4.6	4.1	5.1
14	1.2	0.7	1.7	29	4.8	4.3	5.3
15	1.5	0.9	2.0	30	5.0	4.5	5.5
16	1.7	1.2	2.2	31	5.2	4.7	5.7
17	2.0	1.5	2.5	32	5.4	4.8	5.9
18	2.2	1.7	2.7	33	5.5	5.0	6.0
19	2.5	2.0	3.0	34	5.7	5.2	6.2
20	2.7	2.2	3.3	35	5.8	5.3	6.4
21	3.0	2.5	3.5	36	6.0	5.5	6.5
22	3.2	2.7	3.8	37	6.1	5.6	6.7
23	3.5	3.0	4.0	38	6.3	5.8	6.8
24	3.7	3.2	4.2	39	6.4	5.9	6.9
25	4.0	3.4	4.5	40	6.6	6.1	7.1
26	4.2	3.7	4.7				

Thorax Transverse Diameter (TTD): HANSMANN

GA Table

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
1.7	12w0d	6.5	27w0d
2.0	13w0d	6.9	28w0d
2.4	14w0d	7.2	29w0d
2.7	15w0d	7.4	30w0d
3.1	16w0d	7.8	31w0d
3.4	17w0d	8.1	32w0d
3.7	18w0d	8.3	33w0d
4.0	19w0d	8.6	34w0d
4.4	20w0d	8.9	35w0d
4.7	21w0d	9.2	36w0d
5.0	22w0d	9.4	37w0d
5.3	23w0d	9.7	38w0d
5.6	24w0d	9.9	39w0d
5.9	25w0d	10.1	40w0d
6.2	26w0d		

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986

Age (w)	Meas (cm)	Min (cm)	Max (cm)	Age (w)	Meas (cm)	Min (cm)	Max (cm)
12	1.70	1.70	1.70	27	6.50	5.90	7.30
13	2.00	2.00	2.00	28	6.90	6.20	7.70
14	2.40	2.00	2.80	29	7.20	6.40	8.00
15	2.70	2.30	3.10	30	7.40	6.70	8.30
16	3.10	2.70	3.50	31	7.80	7.00	8.60
17	3.40	3.00	3.80	32	8.10	7.30	8.90
18	3.70	3.30	4.20	33	8.30	7.50	9.30
19	4.00	3.60	4.60	34	8.60	7.80	9.60
20	4.40	3.90	4.90	35	8.90	8.00	9.90
21	4.70	4.20	5.30	36	9.20	8.30	10.20
22	5.00	4.50	5.60	37	9.40	8.50	10.50
23	5.30	4.80	6.00	38	9.70	8.70	10.80
24	5.60	5.00	6.30	39	9.90	8.90	11.10
25	5.90	5.30	6.70	40	10.10	9.10	11.40
26	6.20	5.60	7.00	41	10.20	9.20	11.70

Cerebellum (CEREB): HILL

GA Table

Hill LM, David G, Fries J, Hixson J, Dawn R. "The Transverse Cerebellar Diameter in Estimating Gestational Age in the Large for Gestational Age Fetus" Obstetrics and Gynecology, 75:981-985, June 1990

Meas (cm)	Age (wd)	±2SD (wd)	Meas (cm)	Age (wd)	±2SD (wd)
1.4	15w1d	1w0d	3.5	29w3d	2w0d
1.5	15w6d	1w0d	3.6	30w0d	2w3d
1.6	16w4d	1w0d	3.7	30w4d	2w3d
1.7	17w1d	1w0d	3.8	31w1d	2w3d
1.8	17w6d	1w0d	3.9	31w6d	2w3d
1.9	18w4d	1w6d	4.0	32w2d	2w3d
2.0	19w2d	1w6d	4.1	32w6d	2w3d
2.1	20w0d	1w6d	4.2	33w3d	2w3d
2.2	20w5d	1w6d	4.3	33w6d	2w3d
2.3	21w3d	1w6d	4.4	34w3d	2w3d
2.4	22w1d	1w6d	4.5	34w6d	2w3d
2.5	22w6d	1w6d	4.6	35w2d	2w3d
2.6	23w4d	1w6d	4.7	35w5d	2w3d
2.7	24w1d	2w0d	4.8	36w1d	3w1d
2.8	24w6d	2w0d	4.9	36w4d	3w1d
2.9	25w4d	2w0d	5.0	36w6d	3w1d
3.0	26w1d	2w0d	5.1	37w1d	3w1d
3.1	26w6d	2w0d	5.2	37w4d	3w1d

Meas (cm)	Age (wd)	±2SD (wd)
3.2	27w4d	2w0d
3.3	28w1d	2w0d
3.4	28w6d	2w0d

Meas (cm)	Age (wd)	±2SD (wd)
5.4	38w0d	3w1d
5.5	38w2d	3w1d
5.6	38w4d	3w1d

■ Cerebellum (CEREB): CHITTY

GA Table

D.G. Altman, L.S. Chitty. "New Charts for Ultrasound Dating of Pregnancy" Ultrasound in Obstetrics and Gynecology, Vol.10, p174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.30	14w3d	13w1d	16w0d
1.40	15w2d	14w0d	16w6d
1.50	16w2d	14w6d	17w5d
1.60	17w0d	15w4d	18w4d
1.70	17w6d	16w3d	19w3d
1.80	18w5d	17w2d	20w2d
1.90	19w4d	18w0d	21w1d
2.00	20w3d	18w6d	22w0d
2.10	21w1d	19w4d	22w6d
2.20	22w0d	20w2d	23w5d
2.30	22w5d	21w0d	24w4d
2.40	23w4d	21w5d	25w4d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.50	24w2d	22w2d	26w3d
2.60	25w0d	23w0d	27w3d
2.70	25w6d	23w4d	28w2d
2.80	26w4d	24w1d	29w2d
2.90	27w2d	24w5d	30w2d
3.00	28w0d	25w1d	31w2d
3.10	28w6d	25w5d	32w2d
3.20	29w4d	26w1d	33w3d
3.30	30w2d	26w4d	34w4d
3.40	31w0d	26w6d	35w5d
3.50	31w5d	27w2d	36w6d
3.60	32w3d	27w4d	38w1d

■ Cerebellum (CEREB): GOLDSTEIN

Fetal Growth Table

Cerebellar measurements with ultrasonography in the evaluation of fetal growth and development. AM J. Obstet. Gynecol. 156:1065-1069, 1987

Age (w)	Meas (cm)	10% (cm)	90% (cm)
15	1.40	1.00	1.60
16	1.60	1.40	1.70
17	1.70	1.60	1.80
18	1.80	1.70	1.90
19	1.90	1.80	2.20
20	2.00	1.80	2.20
21	2.20	1.90	2.40
22	2.30	2.10	2.40
23	2.40	2.20	2.60
24	2.50	2.20	2.80
25	2.80	2.30	2.90
26	2.90	2.50	3.20
27	3.00	2.60	3.20

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	3.10	2.70	3.40
29	3.40	2.90	3.80
30	3.50	3.10	4.00
31	3.80	3.20	4.30
32	3.80	3.30	4.20
33	4.00	3.20	4.40
34	4.00	3.30	4.40
35	4.05	3.10	4.70
36	4.30	3.60	5.50
37	4.50	3.70	5.50
38	4.85	4.00	5.50
39	5.20	5.20	5.50

Cerebellum (CEREB): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1; 4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	1.40	1.20	1.50
14w1d	1.40	1.20	1.50
14w2d	1.40	1.20	1.50
14w3d	1.40	1.20	1.50
14w4d	1.40	1.20	1.50
14w5d	1.40	1.20	1.50
14w6d	1.40	1.20	1.50
15w0d	1.50	1.30	1.70
15w1d	1.50	1.30	1.70
15w2d	1.50	1.30	1.70
15w3d	1.50	1.30	1.70
15w4d	1.50	1.30	1.70
15w5d	1.50	1.30	1.70
15w6d	1.50	1.30	1.70
16w0d	1.60	1.40	1.80
16w1d	1.60	1.40	1.80
16w2d	1.60	1.40	1.80
16w3d	1.60	1.40	1.80
16w4d	1.60	1.40	1.80

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	3.10	2.70	3.40
27w1d	3.10	2.70	3.40
27w2d	3.10	2.70	3.40
27w3d	3.10	2.70	3.40
27w4d	3.10	2.70	3.40
27w5d	3.10	2.70	3.40
27w6d	3.10	2.70	3.40
28w0d	3.20	2.90	3.60
28w1d	3.20	2.90	3.60
28w2d	3.20	2.90	3.60
28w3d	3.20	2.90	3.60
28w4d	3.20	2.90	3.60
28w5d	3.20	2.90	3.60
28w6d	3.20	2.90	3.60
29w0d	3.30	3.00	3.70
29w1d	3.30	3.00	3.70
29w2d	3.30	3.00	3.70
29w3d	3.30	3.00	3.70
29w4d	3.30	3.00	3.70

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	1.60	1.40	1.80
16w6d	1.60	1.40	1.80
17w0d	1.70	1.50	1.90
17w1d	1.70	1.50	1.90
17w2d	1.70	1.50	1.90
17w3d	1.70	1.50	1.90
17w4d	1.70	1.50	1.90
17w5d	1.70	1.50	1.90
17w6d	1.70	1.50	1.90
18w0d	1.80	1.60	2.10
18w1d	1.80	1.60	2.10
18w2d	1.80	1.60	2.10
18w3d	1.80	1.60	2.10
18w4d	1.80	1.60	2.10
18w5d	1.80	1.60	2.10
18w6d	1.80	1.60	2.10
19w0d	2.00	1.70	2.20
19w1d	2.00	1.70	2.20
19w2d	2.00	1.70	2.20
19w3d	2.00	1.70	2.20
19w4d	2.00	1.70	2.20
19w5d	2.00	1.70	2.20
19w6d	2.00	1.70	2.20
20w0d	2.10	1.90	2.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	3.30	3.00	3.70
29w6d	3.30	3.00	3.70
30w0d	3.50	3.10	3.90
30w1d	3.50	3.10	3.90
30w2d	3.50	3.10	3.90
30w3d	3.50	3.10	3.90
30w4d	3.50	3.10	3.90
30w5d	3.50	3.10	3.90
30w6d	3.50	3.10	3.90
31w0d	3.60	3.20	4.00
31w1d	3.60	3.20	4.00
31w2d	3.60	3.20	4.00
31w3d	3.60	3.20	4.00
31w4d	3.60	3.20	4.00
31w5d	3.60	3.20	4.00
31w6d	3.60	3.20	4.00
32w0d	3.70	3.40	4.20
32w1d	3.70	3.40	4.20
32w2d	3.70	3.40	4.20
32w3d	3.70	3.40	4.20
32w4d	3.70	3.40	4.20
32w5d	3.70	3.40	4.20
32w6d	3.70	3.40	4.20
33w0d	3.90	3.50	4.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	2.10	1.90	2.40
20w2d	2.10	1.90	2.40
20w3d	2.10	1.90	2.40
20w4d	2.10	1.90	2.40
20w5d	2.10	1.90	2.40
20w6d	2.10	1.90	2.40
21w0d	2.20	2.00	2.50
21w1d	2.20	2.00	2.50
21w2d	2.20	2.00	2.50
21w3d	2.20	2.00	2.50
21w4d	2.20	2.00	2.50
21w5d	2.20	2.00	2.50
21w6d	2.20	2.00	2.50
22w0d	2.40	2.10	2.70
22w1d	2.40	2.10	2.70
22w2d	2.40	2.10	2.70
22w3d	2.40	2.10	2.70
22w4d	2.40	2.10	2.70
22w5d	2.40	2.10	2.70
22w6d	2.40	2.10	2.70
23w0d	2.50	2.20	2.80
23w1d	2.50	2.20	2.80
23w2d	2.50	2.20	2.80
23w3d	2.50	2.20	2.80

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	3.90	3.50	4.30
33w2d	3.90	3.50	4.30
33w3d	3.90	3.50	4.30
33w4d	3.90	3.50	4.30
33w5d	3.90	3.50	4.30
33w6d	3.90	3.50	4.30
34w0d	4.00	3.60	4.40
34w1d	4.00	3.60	4.40
34w2d	4.00	3.60	4.40
34w3d	4.00	3.60	4.40
34w4d	4.00	3.60	4.40
34w5d	4.00	3.60	4.40
34w6d	4.00	3.60	4.40
35w0d	4.10	3.70	4.60
35w1d	4.10	3.70	4.60
35w2d	4.10	3.70	4.60
35w3d	4.10	3.70	4.60
35w4d	4.10	3.70	4.60
35w5d	4.10	3.70	4.60
35w6d	4.10	3.70	4.60
36w0d	4.20	3.80	4.70
36w1d	4.20	3.80	4.70
36w2d	4.20	3.80	4.70
36w3d	4.20	3.80	4.70

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	2.50	2.20	2.80
23w5d	2.50	2.20	2.80
23w6d	2.50	2.20	2.80
24w0d	2.60	2.40	3.00
24w1d	2.60	2.40	3.00
24w2d	2.60	2.40	3.00
24w3d	2.60	2.40	3.00
24w4d	2.60	2.40	3.00
24w5d	2.60	2.40	3.00
24w6d	2.60	2.40	3.00
25w0d	2.80	2.50	3.10
25w1d	2.80	2.50	3.10
25w2d	2.80	2.50	3.10
25w3d	2.80	2.50	3.10
25w4d	2.80	2.50	3.10
25w5d	2.80	2.50	3.10
25w6d	2.80	2.50	3.10
26w0d	2.90	2.60	3.30
26w1d	2.90	2.60	3.30
26w2d	2.90	2.60	3.30
26w3d	2.90	2.60	3.30
26w4d	2.90	2.60	3.30
26w5d	2.90	2.60	3.30
26w6d	2.90	2.60	3.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	4.20	3.80	4.70
36w5d	4.20	3.80	4.70
36w6d	4.20	3.80	4.70
37w0d	4.30	3.90	4.80
37w1d	4.30	3.90	4.80
37w2d	4.30	3.90	4.80
37w3d	4.30	3.90	4.80
37w4d	4.30	3.90	4.80
37w5d	4.30	3.90	4.80
37w6d	4.30	3.90	4.80
38w0d	4.40	4.00	4.90
38w1d	4.40	4.00	4.90
38w2d	4.40	4.00	4.90
38w3d	4.40	4.00	4.90
38w4d	4.40	4.00	4.90
38w5d	4.40	4.00	4.90
38w6d	4.40	4.00	4.90
39w0d	4.50	4.10	5.10
39w1d	4.50	4.10	5.10
39w2d	4.50	4.10	5.10
39w3d	4.50	4.10	5.10
39w4d	4.50	4.10	5.10
39w5d	4.50	4.10	5.10
39w6d	4.50	4.10	5.10

Ulna: JEANTY

GA Table

Jeanty et al., "Estimation of Gestational Age from Measurements of Fetal Long Bones"
Journal of Ultrasound in Medicine, February 1984. Vol 3. pp75-79

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.00	13w1d	10w1d	16w1d	3.80	25w1d	22w1d	28w1d
1.10	13w4d	10w4d	16w4d	3.90	25w4d	22w4d	28w5d
1.20	13w6d	10w6d	16w6d	4.00	26w1d	23w1d	29w1d
1.30	14w1d	11w1d	17w2d	4.10	26w5d	23w4d	29w5d
1.40	14w4d	11w4d	17w5d	4.20	27w1d	24w1d	30w2d
1.50	15w0d	11w6d	18w0d	4.30	27w5d	24w5d	30w6d
1.60	15w3d	12w2d	18w3d	4.40	28w2d	25w1d	31w2d
1.70	15w5d	12w5d	18w6d	4.50	28w6d	25w6d	31w6d
1.80	16w1d	13w1d	19w1d	4.60	29w3d	26w2d	32w3d
1.90	16w4d	13w4d	19w4d	4.70	29w6d	26w6d	33w0d
2.00	16w6d	13w6d	20w0d	4.80	30w4d	27w3d	33w4d
2.10	17w2d	14w2d	20w3d	4.90	31w1d	28w0d	34w1d
2.20	17w5d	14w5d	20w6d	5.00	31w4d	28w4d	34w5d
2.30	18w1d	15w1d	21w1d	5.10	32w1d	29w1d	35w2d
2.40	18w4d	15w4d	21w4d	5.20	32w6d	29w5d	35w6d
2.50	19w0d	16w0d	22w1d	5.30	33w3d	30w2d	36w3d
2.60	19w3d	16w3d	22w4d	5.40	34w0d	30w6d	37w0d
2.70	19w6d	16w6d	22w6d	5.50	34w4d	31w4d	37w5d
2.80	20w2d	17w2d	23w3d	5.60	35w1d	32w1d	38w2d
2.90	20w6d	17w5d	23w6d	5.70	35w6d	32w6d	38w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
3.00	21w1d	18w1d	24w2d	5.80	36w3d	33w3d	39w4d
3.10	21w5d	18w4d	24w6d	5.90	37w1d	34w0d	40w1d
3.20	22w1d	19w1d	25w1d	6.00	37w5d	34w4d	40w6d
3.30	22w5d	19w4d	25w5d	6.10	38w2d	35w2d	41w3d
3.40	23w1d	20w1d	26w1d	6.20	39w0d	35w6d	42w0d
3.50	23w4d	20w4d	26w5d	6.30	39w4d	36w4d	42w5d
3.60	24w1d	21w1d	27w1d	6.40	40w2d	37w1d	43w2d
3.70	24w4d	21w4d	27w5d				

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
11	0.5	0.5	0.5	26	4.1	3.4	4.4
12	0.8	0.8	0.8	27	4.3	3.7	4.8
13	1.1	0.3	1.8	28	4.4	3.7	4.8
14	1.3	0.4	1.7	29	4.6	4.0	5.1
15	1.6	1.0	2.2	30	4.7	3.8	5.4
16	1.9	0.8	2.4	31	4.9	3.9	5.9
17	2.1	1.1	3.2	32	5.0	4.0	5.8
18	2.4	1.3	3.0	33	5.2	4.3	6.0
19	2.6	2.0	3.2	34	5.3	4.4	5.9
20	2.9	2.1	3.2	35	5.4	4.7	6.1
21	3.1	2.5	3.6	36	5.5	4.7	6.1
22	3.3	2.4	3.7	37	5.6	4.9	6.2

Age (w)	Meas (cm)	5% (cm)	95% (cm)
23	3.5	2.7	4.3
24	3.7	2.9	4.1
25	3.9	3.4	4.4

Age (w)	Meas (cm)	5% (cm)	95% (cm)
38	5.7	4.8	6.3
39	5.7	4.9	6.6
40	5.8	5.0	6.5

Ulna: MERZ

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.6	0.3	0.9
13	0.9	0.5	1.2
14	1.2	0.8	1.5
15	1.4	1.1	1.8
16	1.7	1.4	2.1
17	2.0	1.7	2.3
18	2.3	1.9	2.6
19	2.5	2.2	2.9
20	2.8	2.4	3.1
21	3.0	2.7	3.4
22	3.3	2.9	3.6
23	3.5	3.1	3.9
24	3.7	3.3	4.1
25	3.9	3.5	4.3
26	4.1	3.7	4.5

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	4.3	3.9	4.7
28	4.5	4.1	4.9
29	4.7	4.3	5.1
30	4.8	4.4	5.2
31	5.0	4.6	5.4
32	5.1	4.7	5.5
33	5.3	4.9	5.7
34	5.4	5.0	5.8
35	5.5	5.1	6.0
36	5.6	5.2	6.1
37	5.7	5.3	6.2
38	5.8	5.4	6.3
39	5.9	5.5	6.4
40	6.0	5.6	6.5

Ulna: HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.183

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.7	0.7	0.7
13	1.0	0.5	1.5
14	1.3	0.8	1.8
15	1.6	1.1	2.1
16	1.8	1.3	2.3
17	2.1	1.6	2.6
18	2.4	1.9	2.9
19	2.6	2.1	3.1
20	2.9	2.4	3.4
21	3.1	2.6	3.6
22	3.3	2.8	3.8
23	3.6	3.1	4.1
24	3.8	3.3	4.3
25	4.0	3.5	4.5
26	4.2	3.7	4.7

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	4.4	3.9	4.9
28	4.6	4.1	5.1
29	4.8	4.3	5.3
30	4.9	4.4	5.4
31	5.1	4.6	5.6
32	5.3	4.8	5.8
33	5.4	4.9	5.9
34	5.6	5.1	6.1
35	5.7	5.2	6.2
36	5.8	5.3	6.3
37	6.0	5.5	6.5
38	6.1	5.6	6.6
39	6.2	5.7	6.7
40	6.3	5.8	6.8

Head Circumference (HC): KOREAN

GA Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

$$GA = HC \times 1.43245 - 0.010208 \times HC^2 - 0.342015$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 7.4 cm

Max Range: 35.4 cm

Fetal Growth Table

Y.G Park. "The Standardization of Fetal body parts according to the normal Korean Gestational Age in Ultrasound" Korean Ultrasound Institute, Vol. 14, No.2, 1995

Output Unit: cm

Input Unit: w (week)

Min Range: 12w

Max Range: 40w

Age (w)	Meas (cm)	±SD (cm)
12	7.246	0.791
16	12.505	0.746
20	17.188	0.743
24	21.522	1.250

Age (w)	Meas (cm)	±SD (cm)
28	25.989	0.870
32	29.231	0.798
34	30.578	0.771
36	32.239	0.577

Age (w)	Meas (cm)	±SD (cm)
38	33.522	0.297
40	37.283	1.389

Head Circumference (HC): HANSMANN

GA Table

Hansmann, Hackeloer, Staudach, Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology." Springer-Verlag, New York, 1986, p431.

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
10.6	14w0d	21.5	23w0d	31.1	32w0d
11.5	15w0d	22.6	24w0d	31.8	33w0d
12.7	16w0d	24.0	25w0d	32.5	34w0d
14.0	17w0d	25.1	26w0d	33.2	35w0d
15.2	18w0d	26.3	27w0d	33.7	36w0d
16.4	19w0d	27.4	28w0d	34.0	37w0d
17.6	20w0d	28.4	29w0d	34.4	38w0d
19.0	21w0d	29.3	30w0d	34.7	39w0d
20.3	22w0d	30.3	31w0d	34.9	40w0d

Fetal Growth Table

Hansmann, Hackeloer, Staudach, Wittman "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer- Verlag, New York, 1986, p.176.

Age (w)	Meas (cm)	5% (cm)	95% (cm)
10	5	2.6	7.4
11	6.3	3.8	8.7
12	7.5	5.1	10.0
13	8.8	6.4	11.2
14	10.1	7.6	12.5
15	11.3	8.9	13.8
16	12.6	10.1	15.0
17	13.8	11.4	16.3
18	15.1	12.6	17.5
19	16.3	13.8	18.7
20	17.5	15.0	19.9
21	18.7	16.2	21.1
22	19.8	17.4	22.3
23	21.0	18.5	23.4
24	22.1	19.6	24.5
25	23.2	20.7	25.6

Age (w)	Meas (cm)	5% (cm)	95% (cm)
26	24.2	21.8	26.6
27	25.2	22.8	27.7
28	26.2	23.8	28.6
29	27.1	24.7	29.6
30	28.1	25.6	30.5
31	28.9	26.5	31.3
32	29.7	27.3	32.2
33	30.5	28.1	32.9
34	31.2	28.8	33.6
35	31.9	29.4	34.3
36	32.5	30.0	34.9
37	33.0	30.6	35.5
38	33.5	31.1	35.9
39	33.9	31.5	36.4
40	34.3	31.9	36.7

Head Circumference (HC): HADLOCK

GA Table

Frank P. Hadlock, Russell L.Deter, Ronald B. Harrist, Seung K. Park, "Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters" Radiology, 1984; 152:497-501.

$$GA = 8.96 + 0.54 \times HC + 0.0003 \times HC^3$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 5.5 cm

Max Range: 35.7 cm

Standard Deviation:

Min Range(w)	Max Range(w)	±2SD(w)
12	18	1.19
18	24	1.48
24	30	2.06
30	36	2.98
36	42	2.70

Fetal Growth Table

Hadlock, F., Deter, R.L., Harrist, R.B., Park, S.K. «Estimating Fetal Age: Computer-Assisted Analysis of Multiple Fetal Growth Parameters» Radiology, 1984, 152: 497-501.

$$\text{Equation} = 1.56 \times \text{MA} - 0.0002548 \times \text{MA}^3 - 11.48$$

Output Unit: cm

Input Unit: w (weeks)

Min Range: 12 w

Max Range: 40w

Standard Deviation: 2SD = 2.00 cm

Head Circumference (HC): MERZ

GA Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Text book and Atlas, 1991 Georg Thieme Verlag, 308-338

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
7.2	12w1d	11w0d	13w1d	22.0	23w2d	21w4d	25w0d
7.4	12w2d	11w1d	13w4d	22.2	23w4d	21w6d	25w1d
7.6	12w3d	11w1d	13w4d	22.4	23w4d	21w6d	25w2d
7.8	12w4d	11w2d	13w5d	22.6	23w6d	22w1d	25w4d
8.0	12w5d	11w4d	13w6d	22.8	24w0d	22w1d	25w6d
8.2	12w6d	11w4d	14w0d	23.0	24w1d	22w3d	26w0d
8.4	12w6d	11w5d	14w1d	23.2	24w3d	22w4d	26w1d
8.6	13w1d	11w6d	14w2d	23.4	24w4d	22w5d	26w2d
8.8	13w1d	12w0d	14w3d	23.6	24w5d	22w6d	26w4d
9.0	13w2d	12w1d	14w4d	23.8	24w6d	23w1d	26w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
9.2	13w4d	12w2d	14w5d	24.0	25w1d	23w2d	26w6d
9.4	13w4d	12w3d	14w6d	24.2	25w2d	23w4d	27w1d
9.6	13w5d	12w4d	14w6d	24.4	25w4d	23w5d	27w2d
9.8	13w6d	12w5d	15w1d	24.6	25w5d	23w6d	27w4d
10.0	14w0d	12w6d	15w1d	24.8	25w6d	24w1d	27w5d
10.2	14w1d	12w6d	15w4d	25.0	26w0d	24w1d	27w6d
10.4	14w2d	13w0d	15w4d	25.2	26w1d	24w3d	28w0d
10.6	14w3d	13w1d	15w5d	25.4	26w3d	24w4d	28w1d
10.8	14w4d	13w2d	15w6d	25.6	26w4d	24w6d	28w3d
11.0	14w5d	13w3d	16w0d	25.8	26w6d	25w0d	28w4d
11.2	14w6d	13w4d	16w1d	26.0	27w0d	25w1d	28w6d
11.4	15w0d	13w5d	16w2d	26.2	27w1d	25w3d	29w0d
11.6	15w1d	13w6d	16w3d	26.4	27w3d	25w4d	29w1d
11.8	15w2d	14w0d	16w4d	26.6	27w4d	25w6d	29w3d
12.0	15w3d	14w1d	16w5d	26.8	27w6d	26w0d	29w4d
12.2	15w4d	14w1d	17w0d	27.0	28w1d	26w1d	30w0d
12.4	15w5d	14w2d	17w1d	27.2	28w2d	26w3d	30w1d
12.6	15w6d	14w3d	17w1d	27.4	28w4d	26w4d	30w3d
12.8	16w0d	14w4d	17w3d	27.6	28w5d	26w6d	30w4d
13.0	16w1d	14w5d	17w4d	27.8	28w6d	27w0d	30w6d
13.2	16w2d	14w6d	17w5d	28.0	29w1d	27w1d	31w0d
13.4	16w3d	15w0d	17w6d	28.2	29w2d	27w3d	31w1d
13.6	16w4d	15w1d	18w0d	28.4	29w4d	27w5d	31w4d
13.8	16w5d	15w2d	18w1d	28.6	29w6d	27w6d	31w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
14.0	16w6d	15w4d	18w2d
14.2	17w0d	15w4d	18w3d
14.4	17w1d	15w6d	18w4d
14.6	17w2d	15w6d	18w5d
14.8	17w4d	16w0d	19w0d
15.0	17w4d	16w1d	19w1d
15.2	17w6d	16w2d	19w2d
15.4	17w6d	16w3d	19w3d
15.6	18w1d	16w4d	19w4d
15.8	18w1d	16w5d	19w5d
16.0	18w3d	16w6d	19w6d
16.2	18w4d	17w0d	20w0d
16.4	18w5d	17w1d	20w1d
16.6	18w6d	17w2d	20w2d
16.8	19w0d	17w4d	20w4d
17.0	19w1d	17w4d	20w4d
17.2	19w2d	17w6d	20w6d
17.4	19w3d	17w6d	20w6d
17.6	19w4d	18w0d	21w1d
17.8	19w6d	18w1d	21w3d
18.0	19w6d	18w2d	21w4d
18.2	20w1d	18w4d	21w5d
18.4	20w1d	18w4d	21w6d
18.6	20w3d	18w6d	22w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
28.8	30w0d	28w1d	31w6d
29.0	30w1d	28w2d	32w1d
29.2	30w4d	28w4d	32w3d
29.4	30w5d	28w6d	32w4d
29.6	30w6d	29w0d	32w6d
29.8	31w1d	29w1d	33w0d
30.0	31w3d	29w3d	33w3d
30.2	31w4d	29w4d	33w4d
30.4	31w6d	29w6d	33w6d
30.6	32w1d	30w1d	34w1d
30.8	32w2d	30w2d	34w2d
31.0	32w4d	30w4d	34w4d
31.2	32w6d	30w6d	34w6d
31.4	33w1d	31w1d	35w1d
31.6	33w3d	31w3d	35w3d
31.8	33w4d	31w4d	35w4d
32.0	33w6d	31w6d	36w0d
32.2	34w1d	32w0d	36w1d
32.4	34w3d	32w2d	36w4d
32.6	34w5d	32w4d	36w6d
32.8	34w6d	32w6d	37w0d
33.0	35w1d	33w1d	37w2d
33.2	35w4d	33w2d	37w5d
33.4	35w6d	33w4d	38w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
18.8	20w4d	19w0d	22w1d
19.0	20w5d	19w1d	22w2d
19.2	20w6d	19w2d	22w4d
19.4	21w1d	19w4d	22w5d
19.6	21w1d	19w4d	22w6d
19.8	21w3d	19w5d	23w0d
20.0	21w4d	19w6d	23w2d
20.2	21w5d	20w0d	23w3d
20.4	21w6d	20w1d	23w4d
20.6	22w1d	20w3d	23w6d
20.8	22w1d	20w4d	23w6d
21.0	22w3d	20w5d	24w1d
21.2	22w4d	20w6d	24w2d
21.4	22w5d	21w0d	24w3d
21.6	22w6d	21w1d	24w4d
21.8	23w1d	21w3d	24w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
33.6	36w1d	33w6d	38w2d
33.8	36w3d	34w1d	38w4d
34.0	36w4d	34w3d	38w6d
34.2	36w6d	34w5d	39w1d
34.4	37w1d	35w0d	39w3d
34.6	37w4d	35w2d	39w5d
34.8	37w6d	35w4d	40w1d
35.0	38w1d	35w6d	40w4d
35.2	38w4d	36w1d	40w6d
35.4	38w6d	36w4d	41w1d
35.6	39w1d	36w6d	41w3d
35.8	39w4d	37w1d	41w6d
36.0	39w6d	37w4d	42w1d
36.2	40w1d	37w6d	42w3d
36.4	40w4d	38w1d	42w6d

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	7.6	6.3	9.0	27	25.9	24.3	27.7
13	9.0	7.7	10.4	28	26.9	25.3	28.7
14	10.4	9.0	11.8	29	27.9	26.2	29.6
15	11.7	10.4	13.2	30	28.8	27.1	30.6
16	13.1	11.7	14.6	31	29.6	27.9	31.5
17	14.4	13.0	15.9	32	30.5	28.8	32.3
18	15.7	14.2	17.2	33	31.3	29.6	33.2
19	16.9	15.5	18.5	34	32.1	30.3	34.0
20	18.2	16.7	19.7	35	32.8	31.1	34.7
21	19.4	17.9	21	36	33.6	31.8	35.5
22	20.5	19.0	22.2	37	34.2	32.4	36.2
23	21.7	20.1	23.3	38	34.9	33.1	36.8
24	22.8	21.2	24.5	39	35.5	33.7	37.5
25	23.9	22.3	25.6	40	36.1	34.3	38.1
26	24.9	23.3	26.6				

Head Circumference (HC): CHITTY (D)

GA Table

D.G. Altman, L.S. Chitty. "New Charts for Ultrasound Dating of Pregnancy" Ultrasound in Obstetrics and Gynecology, Vol.10, p174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)	Meas (cm)	Age (wd)	5% (wd)	95% (wd)
8.00	12w4d	11w3d	13w5d	20.50	22w5d	21w3d	24w2d
8.50	12w6d	11w6d	14w1d	21.00	23w1d	21w5d	24w5d
9.00	13w2d	12w2d	14w4d	21.50	23w4d	22w1d	25w1d
9.50	13w5d	12w4d	15w0d	22.00	24w0d	22w4d	25w5d
10.00	14w1d	13w0d	15w3d	22.50	24w3d	22w6d	26w1d
10.50	14w4d	13w3d	15w5d	23.00	24w6d	23w2d	26w5d
11.00	15w0d	13w6d	16w1d	23.50	25w3d	23w5d	27w1d
11.50	15w3d	14w2d	16w4d	24.00	25w6d	24w1d	27w5d
12.00	15w6d	14w5d	17w0d	24.50	26w2d	24w3d	28w2d
12.50	16w2d	15w1d	17w3d	25.00	26w5d	24w6d	28w6d
13.00	16w4d	15w4d	17w6d	25.50	27w2d	25w2d	29w3d
13.50	17w0d	15w6d	18w2d	26.00	27w5d	25w5d	30w0d
14.00	17w3d	16w2d	18w5d	26.50	28w2d	26w1d	30w4d
14.50	17w6d	16w5d	19w1d	27.00	28w6d	26w4d	31w2d
15.00	18w2d	17w1d	19w3d	27.50	29w3d	27w0d	32w0d
15.50	18w5d	17w4d	19w6d	28.00	30w0d	27w3d	32w4d
16.00	19w1d	17w6d	20w2d	28.50	30w4d	27w6d	33w3d
16.50	19w3d	18w2d	20w5d	29.00	31w1d	28w3d	34w1d
17.00	19w6d	18w5d	21w1d	29.50	31w5d	28w6d	35w0d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
17.50	20w2d	19w1d	21w4d
18.00	20w5d	19w3d	22w0d
18.50	21w1d	19w6d	22w3d
19.00	21w4d	20w2d	22w6d
19.50	22w0d	20w4d	23w2d
20.00	22w2d	21w0d	23w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
30.00	32w3d	29w3d	35w6d
30.50	33w1d	30w0d	36w5d
31.00	33w6d	30w3d	37w4d
31.50	34w4d	31w0d	38w4d
32.00	35w3d	31w5d	39w4d

Age (w)	Meas (cm)	10% (cm)	90% (cm)
24	22.12	20.91	23.34
25	23.21	21.96	24.45
26	24.26	22.98	25.53
27	25.27	23.97	26.58

Age (w)	Meas (cm)	10% (cm)	90% (cm)
40	34.40	32.71	36.10
41	34.74	33.02	36.47
42	35.03	33.27	36.78

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 2. Head Measurement" British Journal of Obstetrics and Gynaecology, January 1994. Vol 101. pp35-43

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	6.81	5.96	7.67
13	8.22	7.33	9.11
14	9.60	8.69	10.52
15	10.97	10.02	11.92
16	12.31	11.34	13.29
17	13.64	12.63	14.64
18	14.93	13.89	15.97
19	16.20	15.14	17.27
20	17.45	16.35	18.54
21	18.66	17.54	19.79
22	19.85	18.69	21.00
23	21.00	19.81	22.19

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	26.25	24.91	27.58
29	27.18	25.82	28.55
30	28.07	26.68	29.47
31	28.92	27.50	30.35
32	29.73	28.27	31.18
33	30.49	29.00	31.97
34	31.20	29.69	32.72
35	31.87	30.32	33.41
36	32.48	30.90	34.05
37	33.04	31.44	34.64
38	33.55	31.92	35.18
39	34.00	32.34	35.67

Head Circumference (HC): CHITTY (M)

GA Table

D.G. Altman, L.S. Chitty, "New Charts for Ultrasound Dating of Pregnancy" Ultrasound in Obstetrics and Gynecology, Vol.10, p174-191, 1997

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
8.50	12w6d	12w1d	13w4d
9.00	13w2d	12w4d	14w0d
9.50	13w5d	12w6d	14w3d
10.00	14w0d	13w2d	14w6d
10.50	14w3d	13w4d	15w2d
11.00	14w6d	14w0d	15w6d
11.50	15w2d	14w3d	16w2d
12.00	15w5d	14w5d	16w5d
12.50	16w1d	15w1d	17w1d
13.00	16w3d	15w3d	17w4d
13.50	16w6d	15w6d	18w0d
14.00	17w2d	16w1d	18w3d
14.50	17w5d	16w4d	18w6d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
21.00	22w6d	21w2d	24w4d
21.50	23w2d	21w5d	25w0d
22.00	23w5d	22w0d	25w4d
22.50	24w1d	22w3d	26w0d
23.00	24w4d	22w6d	26w3d
23.50	25w0d	23w1d	27w0d
24.00	25w3d	23w4d	27w3d
24.50	25w6d	24w0d	28w0d
25.00	26w3d	24w3d	28w3d
25.50	26w6d	24w6d	29w0d
26.00	27w3d	25w2d	29w4d
26.50	27w6d	25w5d	30w1d
27.00	28w3d	26w2d	30w5d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
15.00	18w1d	17w0d	19w2d
15.50	18w3d	17w2d	19w5d
16.00	18w6d	17w5d	20w1d
16.50	19w2d	18w0d	20w4d
17.00	19w5d	18w3d	21w0d
17.50	20w0d	18w5d	21w3d
18.00	20w3d	19w1d	21w6d
18.50	20w6d	19w3d	22w2d
19.00	21w2d	19w6d	22w6d
19.50	21w5d	20w1d	23w2d
20.00	22w0d	20w4d	23w5d
20.50	22w3d	20w6d	24w1d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
27.50	29w0d	26w5d	31w2d
28.00	29w4d	27w2d	32w0d
28.50	30w1d	27w5d	32w4d
29.00	30w5d	28w2d	33w2d
29.50	31w2d	28w6d	34w0d
30.00	32w0d	29w3d	34w5d
30.50	32w5d	30w0d	35w3d
31.00	33w3d	30w5d	36w2d
31.50	34w1d	31w2d	37w1d
32.00	34w6d	32w0d	38w0d
32.50	35w5d	32w5d	38w6d

Fetal Growth Table

L.S. Chitty, D.G. Altman, S. Campbell, "Charts of Fetal Size: 2. Head Measurement" British Journal of Obstetrics and Gynaecology, January 1994. Vol 101. pp35-43

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	6.96	6.13	7.78
13	8.37	7.52	9.22
14	9.77	8.89	10.65
15	11.15	10.24	12.06
16	12.51	11.57	13.45
17	13.85	12.88	14.81
18	15.16	14.16	16.15
19	16.44	15.41	17.47
20	17.70	16.64	18.76
21	18.93	17.84	20.02
22	20.13	19.01	21.25
23	21.30	20.15	22.44
24	22.43	21.26	23.61
25	23.53	22.33	24.74
26	24.60	23.36	25.83
27	25.63	24.36	26.89

Age (w)	Meas (cm)	10% (cm)	90% (cm)
28	26.62	25.32	27.91
29	27.57	26.24	28.89
30	28.48	27.12	29.83
31	29.34	27.96	30.73
32	30.16	28.75	31.58
33	30.94	29.50	32.38
34	31.67	30.20	33.14
35	32.35	30.85	33.85
36	32.98	31.45	34.51
37	33.56	32.00	35.12
38	34.08	32.49	35.68
39	34.56	32.94	36.18
40	34.97	33.32	36.62
41	35.33	33.65	37.01
42	35.63	33.93	37.34

Head Circumference (HC): CAMPBELL

GA Table

Professor Campbell's Group at Harris birthright Centre, King's College Hospital

Meas (cm)	Age (wd)	±days (wd)	Meas (cm)	Age (wd)	±days (wd)
11.50	14w0d	01w3d	27.10	28w0d	02w5d
12.60	15w0d	01w3d	28.10	29w0d	02w6d
13.70	16w0d	01w4d	29.00	30w0d	03w0d
14.80	17w0d	01w5d	29.90	31w0d	03w1d
15.90	18w0d	01w6d	30.80	32w0d	03w4d
17.00	19w0d	02w0d	31.50	33w0d	03w6d
18.10	20w0d	02w1d	32.00	34w0d	04w1d
19.20	21w0d	02w2d	32.50	35w0d	04w1d
20.40	22w0d	02w3d	33.00	36w0d	04w2d
21.50	23w0d	02w3d	33.50	37w0d	04w2d
22.70	24w0d	02w3d	34.00	38w0d	05w0d
23.80	25w0d	02w3d	34.30	39w0d	00w0d
24.90	26w0d	02w4d	34.50	40w0d	00w0d
26.00	27w0d	02w5d			

Head Circumference (HC): ASUM (SCW)

GA Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

$$GA = 0.0001797 \times (HC \times 10)^2 + 0.02631 \times (HC \times 10) + 9.667$$

Output Unit: w (weeks)

Input Unit: cm

Min Range: 3.81 cm

Max Range: 35.11 cm

Fetal Growth Table

Australasian Society for Ultrasound in Medicine.

Policies and Statements – [D7] Statement On Normal Ultrasonic Fetal Measurements (Revised May 2001)

Age (w)	Meas (cm)	±2SD (cm)	Age (w)	Meas (cm)	±2SD (cm)
11	5.9	1.5	27	25.0	2.0
12	7.0	1.5	28	26.3	2.0
13	8.4	1.5	29	26.9	2.5
14	9.6	1.5	30	27.4	2.5
15	10.8	1.5	31	28.4	2.5
16	12.8	1.5	32	28.8	2.5
17	14.1	1.5	33	30.0	2.5
18	15.1	2.0	34	30.5	2.5
19	16.0	2.0	35	31.0	2.5

Age (w)	Meas (cm)	±2SD (cm)
20	17.0	2.0
21	17.6	2.0
22	18.8	2.0
23	21.0	2.0
24	22.0	2.0
25	23.1	2.0
26	23.8	2.0

Age (w)	Meas (cm)	±2SD (cm)
36	31.7	2.5
37	32.1	2.5
38	32.8	2.5
39	33.6	2.5
40	34.0	2.5
41	34.4	2.5

Head Circumference (HC): CFEF

GA Table

J. Créquat, M. Duyme, G. Brodaty.

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil, 2000 Jun;28(6): 435-45

Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)
12.08	16	20.66	23	26.30	29	30.36	35
13.44	17	21.71	24	27.08	30	30.88	36
14.75	18	22.73	25	27.83	31	31.35	37
16.02	19	23.67	26	28.52	32	31.78	38
17.24	20	24.60	27	29.20	33	32.18	39
18.42	21	25.47	28	29.81	34	32.40	40
19.57	22						

Fetal Growth Table

J. Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
16	12.10	11.10	13.10	29	26.30	24.60	28.00
17	13.40	12.40	14.50	30	27.10	25.40	28.80
18	14.80	13.60	15.90	31	27.80	26.10	29.60
19	16.00	14.90	17.20	32	28.50	26.70	30.40
20	17.20	16.00	18.50	33	29.20	27.30	31.00
21	18.40	17.10	19.70	34	29.80	27.90	31.70
22	19.60	18.20	20.90	35	30.40	28.40	32.30
23	20.70	19.20	22.00	36	30.90	28.90	32.90
24	21.70	20.30	23.10	37	31.40	29.30	33.40
25	22.70	21.20	24.20	38	31.80	29.70	33.90
26	23.70	22.20	25.20	39	32.20	30.10	34.30
27	24.60	23.00	26.20	40	32.40	30.30	34.60
28	25.50	23.90	27.10				

Head Circumference (HC): JOHNSEN

GA Table

Johnsen SL, Rasmussen S, Sollien R, Kiserud T. "Fetal age assessment based on ultrasound head biometry and the effect of maternal and fetal factors" Acta Obstet Gynecol Scand, 2004 Aug; 83(8): 716-23

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
5.00	10w2d	09w5d	10w6d
5.20	10w3d	10w0d	11w0d
5.40	10w4d	10w1d	11w2d
5.60	10w6d	10w2d	11w3d
5.80	11w0d	10w3d	11w4d
6.00	11w1d	10w4d	11w5d
6.20	11w2d	10w5d	11w6d
6.40	11w3d	10w6d	12w0d
6.60	11w4d	11w0d	12w1d
6.80	11w5d	11w1d	12w2d
7.00	11w6d	11w2d	12w4d
7.20	12w0d	11w3d	12w5d
7.40	12w1d	11w4d	12w6d
7.60	12w2d	11w5d	13w0d
7.80	12w3d	11w6d	13w1d
8.00	12w4d	12w0d	13w2d
8.20	12w5d	12w1d	13w3d
8.40	13w0d	12w2d	13w4d
8.60	13w1d	12w3d	13w5d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
13.60	17w0d	16w1d	17w6d
13.80	17w1d	16w3d	18w0d
14.00	17w2d	16w4d	18w1d
14.20	17w3d	16w5d	18w2d
14.40	17w4d	16w6d	18w3d
14.60	17w6d	17w0d	18w5d
14.80	18w0d	17w1d	18w6d
15.00	18w1d	17w2d	19w0d
15.20	18w2d	17w3d	19w1d
15.40	18w3d	17w4d	19w2d
15.60	18w4d	17w5d	19w3d
15.80	18w5d	18w0d	19w5d
16.00	19w0d	18w1d	19w6d
16.20	19w1d	18w2d	20w0d
16.40	19w2d	18w3d	20w1d
16.60	19w3d	18w4d	20w2d
16.80	19w4d	18w5d	20w3d
17.00	19w5d	18w6d	20w5d
17.20	20w0d	19w0d	20w6d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
8.80	13w2d	12w4d	14w0d
9.00	13w3d	12w5d	14w1d
9.20	13w4d	12w6d	14w2d
9.40	13w5d	13w0d	14w3d
9.60	13w6d	13w1d	14w4d
9.80	14w0d	13w2d	14w5d
10.00	14w1d	13w3d	14w6d
10.20	14w2d	13w4d	15w0d
10.40	14w3d	13w5d	15w2d
10.60	14w4d	13w6d	15w3d
10.80	14w6d	14w1d	15w4d
11.00	15w0d	14w2d	15w5d
11.20	15w1d	14w3d	15w6d
11.40	15w2d	14w4d	16w0d
11.60	15w3d	14w5d	16w1d
11.80	15w4d	14w6d	16w2d
12.00	15w5d	15w0d	16w4d
12.20	15w6d	15w1d	16w5d
12.40	16w0d	15w2d	16w6d
12.60	16w1d	15w3d	17w0d
12.80	16w3d	15w4d	17w1d
13.00	16w4d	15w5d	17w2d
13.20	16w5d	15w6d	17w3d
13.40	16w6d	16w0d	17w5d

Meas (cm)	Age (wd)	10% (wd)	90% (wd)
17.40	20w1d	19w2d	21w0d
17.60	20w2d	19w3d	21w1d
17.80	20w3d	19w4d	21w3d
18.00	20w4d	19w5d	21w4d
18.20	20w5d	19w6d	21w5d
18.40	21w0d	20w0d	21w6d
18.60	21w1d	20w2d	22w0d
18.80	21w2d	20w3d	22w2d
19.00	21w3d	20w4d	22w3d
19.20	21w4d	20w5d	22w4d
19.40	21w6d	20w6d	22w5d
19.60	22w0d	21w0d	23w0d
19.80	22w1d	21w2d	23w1d
20.00	22w2d	21w3d	23w2d
20.20	22w3d	21w4d	23w3d
20.40	22w5d	21w5d	23w4d
20.60	22w6d	21w6d	23w6d
20.80	23w0d	22w1d	24w0d
21.00	23w1d	22w2d	24w1d
21.20	23w3d	22w3d	24w3d
21.40	23w4d	22w4d	24w4d
21.60	23w5d	22w5d	24w5d
21.80	23w6d	23w0d	24w6d
22.00	24w1d	23w1d	25w1d

Fetal Growth Table

Johnsen SL, Wilsgaard T, Rasmussen S, Sollien R, Kiserud T. "Longitudinal reference charts for growth of the fetal head, abdomen and femur" Eur J Obstet Gynecol Reprod Biol, 2006 Aug; 127(2): 172-85

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
10w	4.90	4.20	5.60	26w	24.00	22.70	25.30
11w	6.00	5.20	6.80	27w	25.00	23.70	26.30
12w	7.10	6.30	8.10	28w	25.90	24.60	27.30
13w	8.40	7.50	9.30	29w	26.80	25.50	28.30
14w	9.60	8.70	10.60	30w	27.70	26.30	29.20
15w	10.90	9.90	11.90	31w	28.50	27.10	30.00
16w	12.10	11.10	13.20	32w	29.30	27.90	30.90
17w	13.40	12.40	14.50	33w	30.10	28.60	31.60
18w	14.70	13.60	15.80	34w	30.70	29.20	32.30
19w	15.90	14.80	17.10	35w	31.40	29.80	33.00
20w	17.20	16.00	18.40	36w	32.00	30.40	33.60
21w	18.40	17.20	19.60	37w	32.50	30.90	34.20
22w	19.60	18.40	20.80	38w	33.00	31.40	34.70
23w	20.70	19.50	22.00	39w	33.40	31.80	35.20
24w	21.80	20.60	23.10	40w	33.80	32.20	35.60
25w	22.90	21.70	24.20	41w	34.10	32.40	35.90

Head Circumference (HC): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Visser J, Huch R, Huch A, Zimmermann R. "Fetal ultrasound biometry: 1. Head reference values" Br J Obstet Gynaecol, 1999 Feb; 106(2): 126-35

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
12w	7.21	5.97	8.45	28w	26.27	24.44	28.11
13w	8.61	7.33	9.89	29w	27.16	25.29	29.03
14w	9.99	8.67	11.31	30w	28.00	26.09	29.91
15w	11.35	9.99	12.70	31w	28.79	26.84	30.73
16w	12.68	11.29	14.07	32w	29.53	27.55	31.51
17w	13.99	12.56	15.42	33w	30.22	28.21	32.24
18w	15.27	13.81	16.74	34w	30.87	28.81	32.92
19w	16.52	15.02	18.03	35w	31.45	29.36	33.55
20w	17.75	16.21	19.29	36w	31.99	29.86	34.12
21w	18.94	17.36	20.52	37w	32.46	30.30	34.63
22w	20.10	18.49	21.71	38w	32.88	30.68	35.09
23w	21.22	19.57	22.87	39w	33.24	31.00	35.48
24w	22.31	20.62	24.00	40w	33.54	31.26	35.82
25w	23.36	21.64	25.09	41w	33.77	31.46	36.09
26w	24.37	22.61	26.13	42w	33.94	31.59	36.30
27w	25.34	23.55	27.14				

Head Circumference (HC): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1; 4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	11.00	10.20	11.80
14w1d	11.00	10.20	11.80
14w2d	11.00	10.20	11.80
14w3d	11.00	10.20	11.80
14w4d	11.00	10.20	11.80
14w5d	11.00	10.20	11.80
14w6d	11.00	10.20	11.80
15w0d	12.00	11.10	12.90
15w1d	12.00	11.10	12.90
15w2d	12.00	11.10	12.90
15w3d	12.00	11.10	12.90
15w4d	12.00	11.10	12.90
15w5d	12.00	11.10	12.90
15w6d	12.00	11.10	12.90
16w0d	13.00	12.00	14.00
16w1d	13.00	12.00	14.00
16w2d	13.00	12.00	14.00
16w3d	13.00	12.00	14.00
16w4d	13.00	12.00	14.00

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	25.60	23.80	27.70
27w1d	25.60	23.80	27.70
27w2d	25.60	23.80	27.70
27w3d	25.60	23.80	27.70
27w4d	25.60	23.80	27.70
27w5d	25.60	23.80	27.70
27w6d	25.60	23.80	27.70
28w0d	26.70	24.80	28.80
28w1d	26.70	24.80	28.80
28w2d	26.70	24.80	28.80
28w3d	26.70	24.80	28.80
28w4d	26.70	24.80	28.80
28w5d	26.70	24.80	28.80
28w6d	26.70	24.80	28.80
29w0d	27.70	25.70	29.90
29w1d	27.70	25.70	29.90
29w2d	27.70	25.70	29.90
29w3d	27.70	25.70	29.90
29w4d	27.70	25.70	29.90

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	13.00	12.00	14.00
16w6d	13.00	12.00	14.00
17w0d	14.10	13.00	15.20
17w1d	14.10	13.00	15.20
17w2d	14.10	13.00	15.20
17w3d	14.10	13.00	15.20
17w4d	14.10	13.00	15.20
17w5d	14.10	13.00	15.20
17w6d	14.10	13.00	15.20
18w0d	15.20	14.10	16.40
18w1d	15.20	14.10	16.40
18w2d	15.20	14.10	16.40
18w3d	15.20	14.10	16.40
18w4d	15.20	14.10	16.40
18w5d	15.20	14.10	16.40
18w6d	15.20	14.10	16.40
19w0d	16.30	15.10	17.60
19w1d	16.30	15.10	17.60
19w2d	16.30	15.10	17.60
19w3d	16.30	15.10	17.60
19w4d	16.30	15.10	17.60
19w5d	16.30	15.10	17.60
19w6d	16.30	15.10	17.60
20w0d	17.50	16.20	18.90

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	27.70	25.70	29.90
29w6d	27.70	25.70	29.90
30w0d	28.70	26.60	30.90
30w1d	28.70	26.60	30.90
30w2d	28.70	26.60	30.90
30w3d	28.70	26.60	30.90
30w4d	28.70	26.60	30.90
30w5d	28.70	26.60	30.90
30w6d	28.70	26.60	30.90
31w0d	29.60	27.40	31.90
31w1d	29.60	27.40	31.90
31w2d	29.60	27.40	31.90
31w3d	29.60	27.40	31.90
31w4d	29.60	27.40	31.90
31w5d	29.60	27.40	31.90
31w6d	29.60	27.40	31.90
32w0d	30.40	28.20	32.80
32w1d	30.40	28.20	32.80
32w2d	30.40	28.20	32.80
32w3d	30.40	28.20	32.80
32w4d	30.40	28.20	32.80
32w5d	30.40	28.20	32.80
32w6d	30.40	28.20	32.80
33w0d	31.10	28.80	33.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	17.50	16.20	18.90
20w2d	17.50	16.20	18.90
20w3d	17.50	16.20	18.90
20w4d	17.50	16.20	18.90
20w5d	17.50	16.20	18.90
20w6d	17.50	16.20	18.90
21w0d	18.70	17.30	20.10
21w1d	18.70	17.30	20.10
21w2d	18.70	17.30	20.10
21w3d	18.70	17.30	20.10
21w4d	18.70	17.30	20.10
21w5d	18.70	17.30	20.10
21w6d	18.70	17.30	20.10
22w0d	19.80	18.40	21.40
22w1d	19.80	18.40	21.40
22w2d	19.80	18.40	21.40
22w3d	19.80	18.40	21.40
22w4d	19.80	18.40	21.40
22w5d	19.80	18.40	21.40
22w6d	19.80	18.40	21.40
23w0d	21.00	19.50	22.70
23w1d	21.00	19.50	22.70
23w2d	21.00	19.50	22.70
23w3d	21.00	19.50	22.70

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	31.10	28.80	33.60
33w2d	31.10	28.80	33.60
33w3d	31.10	28.80	33.60
33w4d	31.10	28.80	33.60
33w5d	31.10	28.80	33.60
33w6d	31.10	28.80	33.60
34w0d	31.70	29.40	34.20
34w1d	31.70	29.40	34.20
34w2d	31.70	29.40	34.20
34w3d	31.70	29.40	34.20
34w4d	31.70	29.40	34.20
34w5d	31.70	29.40	34.20
34w6d	31.70	29.40	34.20
35w0d	32.30	29.90	34.80
35w1d	32.30	29.90	34.80
35w2d	32.30	29.90	34.80
35w3d	32.30	29.90	34.80
35w4d	32.30	29.90	34.80
35w5d	32.30	29.90	34.80
35w6d	32.30	29.90	34.80
36w0d	32.70	30.30	35.30
36w1d	32.70	30.30	35.30
36w2d	32.70	30.30	35.30
36w3d	32.70	30.30	35.30

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	21.00	19.50	22.70
23w5d	21.00	19.50	22.70
23w6d	21.00	19.50	22.70
24w0d	22.20	20.60	24.00
24w1d	22.20	20.60	24.00
24w2d	22.20	20.60	24.00
24w3d	22.20	20.60	24.00
24w4d	22.20	20.60	24.00
24w5d	22.20	20.60	24.00
24w6d	22.20	20.60	24.00
25w0d	23.40	21.70	25.20
25w1d	23.40	21.70	25.20
25w2d	23.40	21.70	25.20
25w3d	23.40	21.70	25.20
25w4d	23.40	21.70	25.20
25w5d	23.40	21.70	25.20
25w6d	23.40	21.70	25.20
26w0d	24.50	22.70	26.40
26w1d	24.50	22.70	26.40
26w2d	24.50	22.70	26.40
26w3d	24.50	22.70	26.40
26w4d	24.50	22.70	26.40
26w5d	24.50	22.70	26.40
26w6d	24.50	22.70	26.40

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	32.70	30.30	35.30
36w5d	32.70	30.30	35.30
36w6d	32.70	30.30	35.30
37w0d	33.00	30.60	35.60
37w1d	33.00	30.60	35.60
37w2d	33.00	30.60	35.60
37w3d	33.00	30.60	35.60
37w4d	33.00	30.60	35.60
37w5d	33.00	30.60	35.60
37w6d	33.00	30.60	35.60
38w0d	33.20	30.80	35.80
38w1d	33.20	30.80	35.80
38w2d	33.20	30.80	35.80
38w3d	33.20	30.80	35.80
38w4d	33.20	30.80	35.80
38w5d	33.20	30.80	35.80
38w6d	33.20	30.80	35.80
39w0d	33.30	30.90	35.90
39w1d	33.30	30.90	35.90
39w2d	33.30	30.90	35.90
39w3d	33.30	30.90	35.90
39w4d	33.30	30.90	35.90
39w5d	33.30	30.90	35.90
39w6d	33.30	30.90	35.90

Fetal Trunk cross-sectional Area (FTA): OSAKA

GA Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
5.60	14w0d	26.00	22w5d	47.00	29w0d	68.00	34w4d
6.00	14w2d	27.00	23w1d	48.00	29w2d	69.00	34w6d
7.00	14w5d	28.00	23w3d	49.00	29w4d	70.00	35w1d
8.00	15w3d	29.00	23w5d	50.00	29w6d	71.00	35w3d
9.00	16w1d	30.00	24w0d	51.00	30w1d	72.00	35w5d
10.00	16w3d	31.00	24w2d	52.00	30w3d	73.00	36w0d
11.00	16w5d	32.00	24w5d	53.00	30w5d	74.00	36w2d
12.00	17w3d	33.00	25w0d	54.00	30w6d	75.00	36w4d
13.00	17w6d	34.00	25w2d	55.00	31w1d	76.00	36w6d
14.00	18w2d	35.00	25w4d	56.00	31w3d	77.00	37w1d
15.00	18w4d	36.00	25w6d	57.00	31w5d	78.00	37w3d
16.00	19w1d	37.00	26w1d	58.00	32w0d	79.00	37w5d
17.00	19w4d	38.00	26w3d	59.00	32w2d	80.00	37w6d
18.00	19w6d	39.00	26w5d	60.00	32w3d	81.00	38w2d
19.00	20w2d	40.00	27w0d	61.00	32w5d	82.00	38w4d
20.00	20w5d	41.00	27w2d	62.00	33w0d	83.00	39w0d
21.00	21w0d	42.00	27w4d	63.00	33w2d	84.00	39w1d
22.00	21w3d	43.00	27w6d	64.00	33w4d	85.00	39w3d
23.00	21w5d	44.00	28w1d	65.00	33w6d	86.00	39w6d
24.00	22w1d	45.00	28w3d	66.00	34w0d	86.60	40w0d
25.00	22w3d	46.00	28w5d	67.00	34w2d		

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (wd)	Meas (cm)	±SD (cm ²)	Age (wd)	Meas (cm)	±SD (cm ²)
14w0d	5.60	1.20	27w1d	40.40	4.80
14w1d	5.80	1.20	27w2d	40.90	4.80
14w2d	6.00	1.20	27w3d	41.40	4.90
14w3d	6.30	1.30	27w4d	41.90	4.90
14w4d	6.50	1.30	27w5d	42.40	5.00
14w5d	6.80	1.30	27w6d	42.90	5.00
14w6d	7.10	1.30	28w0d	43.40	5.10
15w0d	7.30	1.40	28w1d	44.00	5.10
15w1d	7.60	1.40	28w2d	44.50	5.20
15w2d	7.80	1.40	28w3d	45.00	5.20
15w3d	8.10	1.50	28w4d	45.50	5.30
15w4d	8.40	1.50	28w5d	46.00	5.30
15w5d	8.70	1.50	28w6d	46.60	5.40
15w6d	8.90	1.50	29w0d	47.10	5.40
16w0d	9.20	1.60	29w1d	47.60	5.50
16w1d	9.50	1.60	29w2d	48.10	5.60
16w2d	9.80	1.60	29w3d	48.70	5.60
16w3d	10.10	1.70	29w4d	49.20	5.70
16w4d	10.40	1.70	29w5d	49.70	5.70
16w5d	10.70	1.70	29w6d	50.20	5.80
16w6d	11.00	1.80	30w0d	50.80	5.80
17w0d	11.30	1.80	30w1d	51.30	5.90

Age (wd)	Meas (cm)	±SD (cm ²)
17w1d	11.60	1.80
17w2d	11.90	1.90
17w3d	12.20	1.90
17w4d	12.50	1.90
17w5d	12.80	2.00
17w6d	13.20	2.00
18w0d	13.50	2.00
18w1d	13.80	2.10
18w2d	14.10	2.10
18w3d	14.50	2.10
18w4d	14.80	2.20
18w5d	15.20	2.20
18w6d	15.50	2.20
19w0d	15.80	2.30
19w1d	16.20	2.30
19w2d	16.60	2.30
19w3d	16.90	2.40
19w4d	17.30	2.40
19w5d	17.60	2.50
19w6d	18.00	2.50
20w0d	18.40	2.50
20w1d	18.70	2.60
20w2d	19.10	2.60
20w3d	19.50	2.60

Age (wd)	Meas (cm)	±SD (cm ²)
30w2d	51.80	5.90
30w3d	52.40	6.00
30w4d	52.90	6.10
30w5d	53.40	6.10
30w6d	54.00	6.20
31w0d	54.50	6.20
31w1d	55.00	6.30
31w2d	55.60	6.40
31w3d	56.10	6.40
31w4d	56.70	6.50
31w5d	57.20	6.50
31w6d	57.70	6.60
32w0d	58.30	6.70
32w1d	58.80	6.70
32w2d	59.40	6.80
32w3d	59.90	6.80
32w4d	60.40	6.90
32w5d	61.00	7.00
32w6d	61.50	7.00
33w0d	62.10	7.10
33w1d	62.60	7.10
33w2d	63.10	7.20
33w3d	63.70	7.30
33w4d	64.20	7.30

Age (wd)	Meas (cm)	±SD (cm ²)
20w4d	19.90	2.70
20w5d	20.20	2.70
20w6d	20.60	2.80
21w0d	21.00	2.80
21w1d	21.40	2.80
21w2d	21.80	2.90
21w3d	22.20	2.90
21w4d	22.60	3.00
21w5d	23.00	3.00
21w6d	23.40	3.00
22w0d	23.80	3.10
22w1d	24.20	3.10
22w2d	24.70	3.20
22w3d	25.10	3.20
22w4d	25.50	3.30
22w5d	25.90	3.30
22w6d	26.40	3.30
23w0d	26.80	3.40
23w1d	27.20	3.40
23w2d	27.70	3.50
23w3d	28.10	3.50
23w4d	28.50	3.60
23w5d	29.00	3.60
23w6d	29.40	3.70

Age (wd)	Meas (cm)	±SD (cm ²)
33w5d	64.70	7.40
33w6d	65.30	7.50
34w0d	65.80	7.50
34w1d	66.40	7.60
34w2d	66.90	7.60
34w3d	67.40	7.70
34w4d	67.90	7.80
34w5d	68.50	7.80
34w6d	69.00	7.90
35w0d	69.50	8.00
35w1d	70.10	8.00
35w2d	70.60	8.10
35w3d	71.10	8.20
35w4d	71.60	8.20
35w5d	72.20	8.30
35w6d	72.70	8.40
36w0d	73.20	8.40
36w1d	73.70	8.50
36w2d	74.20	8.60
36w3d	74.70	8.60
36w4d	75.20	8.70
36w5d	75.70	8.80
36w6d	76.20	8.80
37w0d	76.80	8.90

Age (wd)	Meas (cm)	±SD (cm ²)
24w0d	29.90	3.70
24w1d	30.30	3.70
24w2d	30.80	3.80
24w3d	31.30	3.80
24w4d	31.70	3.90
24w5d	32.20	3.90
24w6d	32.60	4.00
25w0d	33.10	4.00
25w1d	33.60	4.10
25w2d	34.10	4.10
25w3d	34.50	4.20
25w4d	35.00	4.20
25w5d	35.50	4.30
25w6d	36.00	4.30
26w0d	36.50	4.40
26w1d	36.90	4.40
26w2d	37.40	4.50
26w3d	37.90	4.50
26w4d	38.40	4.60
26w5d	38.90	4.60
26w6d	39.40	4.70
27w0d	39.90	4.70

Age (wd)	Meas (cm)	±SD (cm ²)
37w1d	77.30	9.00
37w2d	77.70	9.10
37w3d	78.20	9.10
37w4d	78.70	9.20
37w5d	79.20	9.30
37w6d	79.70	9.30
38w0d	80.20	9.40
38w1d	80.70	9.50
38w2d	81.10	9.60
38w3d	81.60	9.60
38w4d	82.10	9.70
38w5d	82.60	9.80
38w6d	83.00	9.80
39w0d	83.50	9.90
39w1d	83.90	10.00
39w2d	84.40	10.10
39w3d	84.80	10.10
39w4d	85.30	10.20
39w5d	85.70	10.30
39w6d	86.10	10.40
40w0d	86.60	10.40

Clavicle (CLAV): YARKONI

GA Table

Yarkoni, S., et. al. "Clavicular Measurement: A New Biometric Parameter for Fetal Evaluation." Journal of Ultrasound in Medicine 4: 467-470, September, 1985.

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
1.1	13w6d	8w3d	17w2d
1.2	14w4d	9w1d	18w1d
1.3	14w3d	10w0d	19w6d
1.4	15w2d	11w6d	20w5d
1.5	16w1d	12w5d	21w4d
1.6	18w0d	12w3d	21w3d
1.7	18w5d	13w2d	22w2d
1.8	19w4d	14w1d	23w0d
1.9	19w3d	16w0d	24w6d
2	20w2d	16w6d	25w5d
2.1	21w1d	17w4d	26w4d
2.2	22w6d	17w3d	26w2d
2.3	23w5d	18w2d	27w1d
2.4	24w4d	19w1d	28w0d
2.5	24w3d	21w0d	29w6d
2.6	25w1d	21w5d	30w5d
2.7	26w0d	22w4d	30w3d
2.8	27w6d	22w3d	31w2d

Meas (cm)	Age (wd)	5% (wd)	95% (wd)
2.9	28w5d	23w2d	32w1d
3	29w4d	24w0d	34w0d
3.1	29w2d	25w6d	34w6d
3.2	30w1d	26w5d	35w4d
3.3	31w0d	27w4d	35w3d
3.4	32w6d	27w3d	36w2d
3.5	33w5d	28w1d	37w1d
3.6	33w3d	29w0d	39w0d
3.7	34w2d	30w6d	39w5d
3.8	35w1d	31w5d	40w4d
3.9	37w0d	32w4d	40w3d
4	37w6d	32w2d	41w2d
4.1	38w4d	33w1d	42w0d
4.2	38w3d	35w0d	43w6d
4.3	39w2d	35w6d	44w5d
4.4	40w1d	36w5d	45w4d
4.5	41w6d	36w3d	45w3d

Fetal Growth Table

Yarkoni, S., Schmidt, W., Jeanty, P. et. al. (1985) Clavicle measurement: A new biometric parameter for fetal evaluation. J. Ultrasound Med., 4, 467-470

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
15	1.60	1.10	2.10	28	2.90	2.40	3.40
16	1.70	1.20	2.20	29	3.00	2.50	3.50
17	1.80	1.30	2.30	30	3.10	2.60	3.60
18	1.90	1.40	2.40	31	3.20	2.70	3.70
19	2.00	1.50	2.50	32	3.30	2.80	3.80
20	2.10	1.60	2.60	33	3.40	2.90	3.90
21	2.20	1.70	2.70	34	3.50	3.00	4.00
22	2.30	1.80	2.80	35	3.60	3.10	4.10
23	2.40	1.90	2.90	36	3.70	3.20	4.20
24	2.50	2.00	3.00	37	3.80	3.30	4.30
25	2.60	2.10	3.10	38	3.90	3.40	4.40
26	2.70	2.20	3.20	39	4.00	3.50	4.50
27	2.80	2.30	3.30	40	4.10	3.60	4.60

Length of Vertebral (Vertebral): TOKYO

GA Table

Tokyo University Takashi Okai, et al. Japan Society of Obstetrics and Gynecology, Vol.38, No.8

Meas (cm)	Age (wd)	±SD (wd)	Meas (cm)	Age (wd)	±SD (wd)
4.05	21w0d	01w0d	6.72	31w0d	04w0d
4.39	22w0d	01w2d	6.93	32w0d	04w3d
4.71	23w0d	01w4d	7.13	33w0d	04w6d
5.01	24w0d	01w5d	7.32	34w0d	05w0d
5.30	25w0d	02w0d	7.51	35w0d	05w3d
5.57	26w0d	02w3d	7.70	36w0d	05w5d
5.82	27w0d	02w5d	7.89	37w0d	06w0d
6.06	28w0d	03w0d	8.08	38w0d	06w2d
6.30	29w0d	03w3d	8.27	39w0d	06w4d
6.51	30w0d	03w4d	8.47	40w0d	06w6d

Radius Length (RAD): MERZ

Fetal Growth Table

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991 Georg Thieme Verlag, 308-338

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	0.5	0.1	0.8
13	0.7	0.4	1.1
14	1.0	0.7	1.4
15	1.3	0.9	1.6
16	1.5	1.2	1.9
17	1.8	1.4	2.1
18	2.0	1.6	2.4
19	2.2	1.9	2.6
20	2.5	2.1	2.9
21	2.7	2.3	3.1
22	2.9	2.5	3.3
23	3.1	2.7	3.5
24	3.3	2.9	3.7
25	3.5	3.1	3.9
26	3.7	3.2	4.1

Age (w)	Meas (cm)	5% (cm)	95% (cm)
27	3.8	3.4	4.3
28	4.0	3.6	4.4
29	4.1	3.7	4.6
30	4.3	3.8	4.7
31	4.4	4.0	4.9
32	4.5	4.1	5.0
33	4.7	4.2	5.1
34	4.8	4.3	5.2
35	4.9	4.4	5.3
36	5.0	4.5	5.4
37	5.1	4.6	5.5
38	5.1	4.7	5.6
39	5.2	4.7	5.7
40	5.3	4.8	5.8

Radius Length (RAD): JEANTY

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age (w)	Meas (cm)	5% (cm)	95% (cm)
11	0.5	0.5	0.5
12	0.7	0.7	0.7
13	1.0	1.0	1.0
14	1.3	0.8	1.3
15	1.5	1.2	1.9
16	1.8	0.9	2.1
17	2.0	1.1	2.9
18	2.2	1.4	2.6
19	2.4	2.0	2.9
20	2.7	2.1	2.8
21	2.9	2.5	3.2
22	3.1	2.4	3.4
23	3.2	2.6	3.9
24	3.4	2.7	3.8
25	3.6	3.1	4.0

Age (w)	Meas (cm)	5% (cm)	95% (cm)
26	3.7	3.0	4.1
27	3.9	3.3	4.5
28	4.0	3.3	4.5
29	4.2	3.6	4.7
30	4.3	3.4	4.9
31	4.4	3.4	5.3
32	4.5	3.7	5.1
33	4.6	4.1	5.1
34	4.7	3.9	5.3
35	4.8	3.8	5.7
36	4.8	4.1	5.4
37	4.9	4.5	5.3
38	4.9	4.5	5.3
39	5.0	4.6	5.4
40	5.0	4.6	5.4

Radius Length (RAD): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.183

Age (w)	Meas (cm)	10% (cm)	90% (cm)
12	0.7	0.7	0.7
13	1.0	0.6	1.4
14	1.3	0.8	1.7
15	1.5	1.1	2.0
16	1.8	1.3	2.2
17	2.0	1.4	2.6
18	2.2	1.5	2.9
19	2.4	2.0	2.9
20	2.7	2.2	3.2
21	2.9	2.4	3.3
22	3.1	2.7	3.4
23	3.2	2.6	3.9
24	3.4	2.6	4.2
25	3.6	3.1	4.1
26	3.7	3.2	4.3

Age (w)	Meas (cm)	10% (cm)	90% (cm)
27	3.9	3.3	4.5
28	4.0	3.3	4.8
29	4.2	3.6	4.7
30	4.3	3.6	4.9
31	4.4	3.8	5.0
32	4.5	3.7	5.3
33	4.6	4.1	5.1
34	4.7	4.0	5.3
35	4.8	4.1	5.4
36	4.8	4.9	5.7
37	4.9	4.5	5.3
38	4.9	4.5	5.4
39	5.0	4.5	5.4
40	5.0	4.6	5.5

Middle Abdominal Diameter (MAD): EIK-NESSH

GA Table

Eik-Nes SH, Jorgensen NP, Grottum P, Lokvik B. Normal range curves for the intrauterine growth of the fetal abdominal diameters, Submitted JCU.

$$\text{MAD} = (\text{APD} + \text{TAD}) / 2$$

Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)	Meas (cm)	Age (wd)
3.60	16w0d	5.50	23w0d	7.40	28w2d	9.30	33w6d
3.70	16w3d	5.60	23w2d	7.50	28w4d	9.40	34w1d
3.80	16w6d	5.70	23w4d	7.60	28w6d	9.50	34w3d
3.90	17w3d	5.80	23w6d	7.70	29w1d	9.60	34w6d
4.00	17w6d	5.90	24w1d	7.80	29w3d	9.70	35w1d
4.10	18w2d	6.00	24w3d	7.90	29w5d	9.80	35w3d
4.20	18w4d	6.10	24w5d	8.00	30w0d	9.90	35w6d
4.30	19w0d	6.20	25w0d	8.10	30w2d	10.00	36w1d
4.40	19w3d	6.30	25w2d	8.20	30w4d	10.10	36w4d
4.50	19w5d	6.40	25w4d	8.30	30w6d	10.20	37w0d
4.60	20w1d	6.50	25w6d	8.40	31w1d	10.30	37w3d
4.70	20w3d	6.60	26w1d	8.50	31w3d	10.40	37w6d
4.80	20w5d	6.70	26w3d	8.60	31w5d	10.50	38w2d
4.90	21w1d	6.80	26w5d	8.70	32w0d	10.60	38w5d
5.00	21w3d	6.90	27w0d	8.80	32w2d	10.70	39w1d
5.10	21w5d	7.00	27w2d	8.90	32w4d	10.80	39w5d
5.20	22w0d	7.10	27w3d	9.00	32w6d		
5.30	22w2d	7.20	27w5d	9.10	33w1d		
5.40	22w5d	7.30	28w0d	9.20	33w4d		

Fetal Growth Table

Eik-Nes SH, Jorgensen NP, Grotum P, Lokvik B. Normal range curves for the intrauterine growth of the fetal abdominal diameters, Submitted JCU.

$$\text{MAD} = (\text{APD} + \text{TAD}) / 2$$

Age (wd)	Meas (cm)
16w0d	3.60
16w3d	3.70
16w6d	3.80
17w3d	3.90
17w6d	4.00
18w2d	4.10
18w4d	4.20
19w0d	4.30
19w3d	4.40
19w5d	4.50
20w1d	4.60
20w3d	4.70
20w5d	4.80
21w1d	4.90
21w3d	5.00
21w5d	5.10
22w0d	5.20
22w2d	5.30
22w5d	5.40
23w0d	5.50

Age (wd)	Meas (cm)
24w5d	6.10
25w0d	6.20
25w2d	6.30
25w4d	6.40
25w6d	6.50
26w1d	6.60
26w3d	6.70
26w5d	6.80
27w0d	6.90
27w2d	7.00
27w3d	7.10
27w5d	7.20
28w0d	7.30
28w2d	7.40
28w4d	7.50
28w6d	7.60
29w1d	7.70
29w3d	7.80
29w5d	7.90
30w0d	8.00

Age (wd)	Meas (cm)
31w3d	8.50
31w5d	8.60
32w0d	8.70
32w2d	8.80
32w4d	8.90
32w6d	9.00
33w1d	9.10
33w4d	9.20
33w6d	9.30
34w1d	9.40
34w3d	9.50
34w6d	9.60
35w1d	9.70
35w3d	9.80
35w6d	9.90
36w1d	10.00
36w4d	10.10
37w0d	10.20
37w3d	10.30
37w6d	10.40

Age (wd)	Meas (cm)
23w2d	5.60
23w4d	5.70
23w6d	5.80
24w1d	5.90
24w3d	6.00

Age (wd)	Meas (cm)
30w2d	8.10
30w4d	8.20
30w6d	8.30
31w1d	8.40

Age (wd)	Meas (cm)
38w2d	10.50
38w5d	10.60
39w1d	10.70
39w5d	10.80

✚ Middle Abdominal Diameter (MAD): JOHNSEN

Fetal Growth Table

Johnsen SL, Wilsgaard T, Rasmussen S, Sollien R, Kiserud T. "Longitudinal reference charts for growth of the fetal head, abdomen and femur" Eur J Obstet Gynecol Reprod Biol, 2006 Aug; 127(2): 172-85

Age (w)	Meas (cm)	10% (cm)	90% (cm)
10	1.10	1.00	1.40
11	1.50	1.30	1.70
12	1.80	1.60	2.10
13	2.10	1.90	2.40
14	2.50	2.20	2.80
15	2.90	2.60	3.20
16	3.20	2.90	3.60
17	3.60	3.30	4.00
18	4.00	3.60	4.40
19	4.30	4.00	4.80
20	4.70	4.30	5.10
21	5.10	4.60	5.50
22	5.40	5.00	5.90
23	5.80	5.30	6.30
24	6.10	5.70	6.70
25	6.50	6.00	7.00

Age (w)	Meas (cm)	10% (cm)	90% (cm)
26	6.80	6.30	7.40
27	7.20	6.60	7.80
28	7.50	7.00	8.10
29	7.90	7.30	8.50
30	8.20	7.60	8.80
31	8.50	7.90	9.20
32	8.80	8.20	9.50
33	9.20	8.50	9.90
34	9.50	8.80	10.20
35	9.80	9.10	10.60
36	10.10	9.30	10.90
37	10.40	9.60	11.20
38	10.70	9.90	11.50
39	11.00	10.20	11.90
40	11.30	10.40	12.20
41	11.50	10.60	12.40

✚ Middle Abdominal Diameter (MAD): KURMANAVICIUS

Fetal Growth Table

Kurmanavicius J, Wright EM, Royston P, Zimmermann R, Huch R, Huch A, Wisser J. "Fetal ultrasound biometry: 2. Abdomen and femur length reference values" Br J Obstet Gynaecol, 1999 Feb; 106(2): 136-43

Age (w)	Meas (cm)	5% (cm)	95% (cm)
12	1.81	1.45	2.18
13	2.19	1.79	2.58
14	2.55	2.14	2.97
15	2.92	2.48	3.36
16	3.29	2.82	3.75
17	3.65	3.16	4.14
18	4.01	3.49	4.52
19	4.36	3.82	4.90
20	4.71	4.15	5.28
21	5.06	4.47	5.65
22	5.41	4.80	6.02
23	5.75	5.11	6.39
24	6.09	5.43	6.75
25	6.42	5.74	7.11
26	6.75	6.04	7.47
27	7.08	6.34	7.82

Age (w)	Meas (cm)	5% (cm)	95% (cm)
28	7.40	6.64	8.16
29	7.72	6.93	8.50
30	8.03	7.22	8.84
31	8.64	7.50	9.17
32	8.64	7.78	9.50
33	8.94	8.05	9.82
34	9.23	8.32	10.14
35	9.51	8.58	10.45
36	9.79	8.84	10.75
37	10.07	9.09	11.05
38	10.34	9.33	11.34
39	10.60	9.57	11.63
40	10.85	9.80	11.91
41	11.10	10.02	12.18
42	11.34	10.24	12.45

Mid Cerebral Artery (MCA)-Resistance Index (RI): SHINOZUKA

Fetal Growth Table

N.Shinozuka & H.Kagawa 1996. <http://www.shinozuka.com>

Age (wd)	10%	90%	Age (wd)	10%	90%
21w3d	0.77	0.86	32w3d	0.78	0.92
22w3d	0.78	0.89	33w3d	0.77	0.91
23w3d	0.79	0.91	34w3d	0.76	0.90
24w3d	0.80	0.92	35w3d	0.75	0.89
25w3d	0.80	0.93	36w3d	0.73	0.88
26w3d	0.80	0.94	37w3d	0.72	0.87
27w3d	0.80	0.94	38w3d	0.70	0.86
28w3d	0.80	0.95	39w3d	0.68	0.85
29w3d	0.80	0.94	40w3d	0.66	0.84
30w3d	0.79	0.94	41w3d	0.64	0.83
31w3d	0.79	0.93			

Mid Cerebral Artery (MCA)-Resistance Index (RI): JSUM

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	10%	90%	Age (wd)	10%	90%
21w3d	0.77	0.86	32w3d	0.78	0.92
22w3d	0.78	0.89	33w3d	0.77	0.91
23w3d	0.79	0.91	34w3d	0.76	0.90
24w3d	0.80	0.92	35w3d	0.75	0.89
25w3d	0.80	0.93	36w3d	0.73	0.88
26w3d	0.80	0.94	37w3d	0.72	0.87
27w3d	0.80	0.94	38w3d	0.70	0.86
28w3d	0.80	0.95	39w3d	0.68	0.85
29w3d	0.80	0.94	40w3d	0.66	0.84
30w3d	0.79	0.94	41w3d	0.64	0.83
31w3d	0.79	0.93			

Mid Cerebral Artery (MCA)-Resistance Index (RI): KURMANAVICIUS

Fetal Growth Table

J.kurmanavicius, I.Florion, J.Wisser, G. Hebisch, R.Zimmermann, R.Muller, R.Huch and A.Huch, "Reference resistance indices of the umbilical, fetal middle cerebral and uterine arteries at 24-42 weeks of gestation" Ultrasound Obstet. Gynecol., 10 (1997) 112-120

Age (week)	Meas	5%
24	0.87	0.78
25	0.88	0.79
26	0.89	0.80
27	0.90	0.80
28	0.90	0.80
29	0.90	0.79
30	0.90	0.79
31	0.89	0.78
32	0.88	0.76
33	0.87	0.75

Age (week)	Meas	5%
34	0.86	0.73
35	0.85	0.72
36	0.83	0.70
37	0.81	0.68
38	0.80	0.66
39	0.78	0.63
40	0.76	0.61
41	0.73	0.58
42	0.71	0.56

Mid Cerebral Artery (MCA)-Pulsatility Index (PI): SHINOZUKA

Fetal Growth Table

N.Shinozuka & H.Kagawa 1996. <http://www.shinozuka.com>

Age (wd)	10%	90%
21w3d	1.51	2.02
22w3d	1.56	2.19
23w3d	1.59	2.34
24w3d	1.62	2.46
25w3d	1.64	2.54
26w3d	1.65	2.60
27w3d	1.65	2.63
28w3d	1.65	2.63
29w3d	1.63	2.61
30w3d	1.61	2.57
31w3d	1.58	2.52

Age (wd)	10%	90%
32w3d	1.54	2.45
33w3d	1.49	2.38
34w3d	1.44	2.30
35w3d	1.38	2.21
36w3d	1.32	2.13
37w3d	1.25	2.05
38w3d	1.19	1.98
39w3d	1.12	1.92
40w3d	1.05	1.87
41w3d	0.99	1.83

✦ Mid Cerebral Artery (MCA)-Pulsatility Index (PI): JSUM

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	10%	90%	Age (wd)	10%	90%
21w3d	1.51	2.02	32w3d	1.54	2.45
22w3d	1.56	2.19	33w3d	1.49	2.38
23w3d	1.59	2.34	34w3d	1.44	2.30
24w3d	1.62	2.46	35w3d	1.38	2.21
25w3d	1.64	2.54	36w3d	1.32	2.13
26w3d	1.65	2.60	37w3d	1.25	2.05
27w3d	1.65	2.63	38w3d	1.19	1.98
28w3d	1.65	2.63	39w3d	1.12	1.92
29w3d	1.63	2.61	40w3d	1.05	1.87
30w3d	1.61	2.57	41w3d	0.99	1.83
31w3d	1.58	2.52			

✦ Umbilical Artery (UaA)-Resistance Index (RI): SHINOZUKA

Fetal Growth Table

N.Shinozuka & H.Kagawa 1996. <http://www.shinozuka.com>

Age (wd)	10%	90%	Age (wd)	10%	90%
13w3d	0.76	0.96	28w3d	0.59	0.75
14w3d	0.73	0.92	29w3d	0.58	0.74
15w3d	0.71	0.89	30w3d	0.57	0.74
16w3d	0.69	0.86	31w3d	0.56	0.73
17w3d	0.67	0.84	32w3d	0.55	0.72
18w3d	0.66	0.83	33w3d	0.54	0.71
19w3d	0.65	0.81	34w3d	0.53	0.70
20w3d	0.64	0.80	35w3d	0.52	0.70
21w3d	0.64	0.79	36w3d	0.51	0.69
22w3d	0.63	0.78	37w3d	0.50	0.68
23w3d	0.62	0.78	38w3d	0.50	0.67
24w3d	0.62	0.77	39w3d	0.50	0.67
25w3d	0.61	0.77	40w3d	0.50	0.67
26w3d	0.61	0.76	41w3d	0.50	0.67
27w3d	0.60	0.75			

Umbilical Artery (UmA)-Resistance Index (RI): JSUM

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	10%	90%	Age (wd)	10%	90%
13w3d	0.76	0.96	28w3d	0.59	0.75
14w3d	0.73	0.92	29w3d	0.58	0.74
15w3d	0.71	0.89	30w3d	0.57	0.74
16w3d	0.69	0.86	31w3d	0.56	0.73
17w3d	0.67	0.84	32w3d	0.55	0.72
18w3d	0.66	0.83	33w3d	0.54	0.71
19w3d	0.65	0.81	34w3d	0.53	0.70
20w3d	0.64	0.80	35w3d	0.52	0.70
21w3d	0.64	0.79	36w3d	0.51	0.69
22w3d	0.63	0.78	37w3d	0.50	0.68
23w3d	0.62	0.78	38w3d	0.50	0.67
24w3d	0.62	0.77	39w3d	0.50	0.67
25w3d	0.61	0.77	40w3d	0.50	0.67
26w3d	0.61	0.76	41w3d	0.50	0.67
27w3d	0.60	0.75			

Umbilical Artery (UmA)-Resistance Index (RI): KURMANAVICIUS

Fetal Growth Table

J.kurmanavicius, I.Florion, J.Wisser, G. Hebisch, R.Zimmermann, R.Muller, R.Huch and A.Huch, "Reference resistance indices of the umbilical, fetal middle cerebral and uterine arteries at 24-42 weeks of gestation" Ultrasound Obstet. Gynecol., 10 (1997) 112-120

Age (w)	Meas	5%	95%	Age (w)	Meas	5%	95%
24	0.72	0.61	0.83	34	0.62	0.51	0.74
25	0.71	0.60	0.82	35	0.61	0.50	0.73
26	0.70	0.59	0.81	36	0.60	0.49	0.73
27	0.69	0.58	0.80	37	0.59	0.47	0.72
28	0.68	0.57	0.79	38	0.58	0.46	0.71
29	0.67	0.56	0.79	39	0.57	0.45	0.70
30	0.66	0.55	0.78	40	0.56	0.44	0.69
31	0.65	0.54	0.77	41	0.55	0.43	0.68
32	0.64	0.53	0.76	42	0.54	0.42	0.67
33	0.63	0.52	0.75				

Umbilical Artery (UmA)-Pulsatility Index (PI): SHINOZUKA

Fetal Growth Table

N.Shinozuka & H.Kagawa 1996. <http://www.shinozuka.com>

Age (wd)	10%	90%	Age (wd)	10%	90%
13w3d	1.29	2.58	28w3d	0.88	1.25
14w3d	1.20	2.22	29w3d	0.87	1.23
15w3d	1.13	1.97	30w3d	0.85	1.21
16w3d	1.08	1.79	31w3d	0.82	1.19
17w3d	1.05	1.66	32w3d	0.80	1.16
18w3d	1.02	1.57	33w3d	0.78	1.14
19w3d	1.00	1.50	34w3d	0.75	1.12
20w3d	0.99	1.45	35w3d	0.73	1.10
21w3d	0.97	1.41	36w3d	0.70	1.08
22w3d	0.96	1.37	37w3d	0.68	1.06
23w3d	0.95	1.35	38w3d	0.67	1.05
24w3d	0.94	1.33	39w3d	0.66	1.04
25w3d	0.92	1.31	40w3d	0.66	1.03
26w3d	0.91	1.29	41w3d	0.67	1.03
27w3d	0.90	1.27			

Umbilical Artery (UmA)-Pulsatility Index (PI): JSUM

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	10%	90%	Age (wd)	10%	90%
13w3d	1.29	2.58	28w3d	0.88	1.25
14w3d	1.20	2.22	29w3d	0.87	1.23
15w3d	1.13	1.97	30w3d	0.85	1.21
16w3d	1.08	1.79	31w3d	0.82	1.19
17w3d	1.05	1.66	32w3d	0.80	1.16
18w3d	1.02	1.57	33w3d	0.78	1.14
19w3d	1.00	1.50	34w3d	0.75	1.12
20w3d	0.99	1.45	35w3d	0.73	1.10
21w3d	0.97	1.41	36w3d	0.70	1.08
22w3d	0.96	1.37	37w3d	0.68	1.06
23w3d	0.95	1.35	38w3d	0.67	1.05
24w3d	0.94	1.33	39w3d	0.66	1.04
25w3d	0.92	1.31	40w3d	0.66	1.03
26w3d	0.91	1.29	41w3d	0.67	1.03
27w3d	0.90	1.27			

Uterine Artery-Resistance Index (RI): KURMANAVICIUS

Fetal Growth Table

J. Kurmanavicius, I. Florion, J. Wisser, G. Hebisch, R. Zimmermann, R. Müller, R. Huch and A. Huch, "Reference resistance indices of the umbilical, fetal middle cerebral and uterine arteries at 24-42 weeks of gestation" *Ultrasound Obstet. Gynecol.*, 10 (1997) 112-120

Age (w)	5%	Meas	95%
24	0.33	0.45	0.61
25	0.33	0.45	0.61
26	0.33	0.45	0.61
27	0.33	0.44	0.61
28	0.33	0.44	0.60
29	0.32	0.44	0.60
30	0.32	0.44	0.60
31	0.32	0.44	0.59
32	0.32	0.44	0.59
33	0.32	0.43	0.59

Age (w)	5%	Meas	95%
34	0.32	0.43	0.59
35	0.32	0.43	0.58
36	0.32	0.43	0.58
37	0.32	0.43	0.58
38	0.32	0.43	0.57
39	0.32	0.42	0.57
40	0.32	0.42	0.57
41	0.31	0.42	0.56
42	0.31	0.42	0.56

Uterine Artery-Resistance Index (RI): BAHLMANN

Fetal Growth Table

Age (w)	Meas	5%	95%
18	0.450	0.222	0.659
19	0.430	0.204	0.641
20	0.420	0.194	0.630
21	0.410	0.186	0.622
22	0.410	0.180	0.615
23	0.400	0.175	0.610
24	0.400	0.171	0.605
25	0.390	0.167	0.601
26	0.380	0.163	0.597
27	0.380	0.160	0.593
28	0.380	0.157	0.590
29	0.380	0.154	0.587
30	0.380	0.152	0.584

Age (w)	Meas	5%	95%
31	0.370	0.150	0.581
32	0.370	0.147	0.578
33	0.370	0.145	0.576
34	0.370	0.144	0.574
35	0.360	0.142	0.571
36	0.360	0.140	0.569
37	0.360	0.139	0.567
38	0.360	0.137	0.566
39	0.360	0.136	0.564
40	0.360	0.135	0.562
41	0.350	0.134	0.561
42	0.350	0.133	0.559

Uterine Artery-Pulsatility Index (PI): BAHLMANN

Fetal Growth Table

Age (w)	Meas	5%	95%	Age (w)	Meas	5%	95%
18	0.890	0.509	1.407	31	0.710	0.349	1.207
19	0.840	0.460	1.356	32	0.710	0.345	1.199
20	0.810	0.436	1.328	33	0.700	0.341	1.192
21	0.800	0.420	1.309	34	0.700	0.337	1.185
22	0.780	0.407	1.293	35	0.690	0.333	1.178
23	0.770	0.397	1.280	36	0.680	0.330	1.171
24	0.760	0.388	1.268	37	0.680	0.326	1.164
25	0.750	0.381	1.258	38	0.670	0.322	1.157
26	0.740	0.374	1.248	39	0.670	0.322	1.157
27	0.740	0.369	1.239	40	0.660	0.313	1.143
28	0.730	0.363	1.230	41	0.660	0.308	1.134
29	0.720	0.358	1.222	42	0.650	0.302	1.125
30	0.720	0.354	1.214				

Anterior Posterior Abdominal Diameter (APD): HANSMANN

Fetal Growth Table

Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)
15	2.60	22	4.70	29	6.70	36	8.70
16	2.90	23	4.90	30	7.00	37	9.00
17	3.10	24	5.20	31	7.30	38	9.30
18	3.50	25	5.50	32	7.60	39	9.50
19	3.80	26	5.80	33	7.90	40	9.70
20	4.00	27	6.10	34	8.20	41	9.80
21	4.30	28	6.40	35	8.40	42	9.90

Anterior Posterior Abdominal Diameter (APD): BESSIS

GA Table

The data are those provided by Dr. Bessis to M. Le Bel. (Same as SIGMA 20, see memo from Ch. Gahwiler dated, June 23, 1983)

Meas (cm)	Age (wd)	±days (wd)	Meas (cm)	Age (wd)	±days (wd)
2.50	14w0d	01w1d	8.20	33w4d	03w1d
7.00	28w5d	02w1d	8.40	34w3d	03w4d
7.50	30w5d	02w3d	8.60	35w5d	04w1d
8.00	32w4d	03w1d	8.80	37w1d	04w6d

Transverse Abdominal Diameter (TAD): CFEF

GA Table

J.Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Meas (cm)	Age (w)	Meas (cm)	Age (w)	Meas (cm)	Age (w)
1.35	11	5.15	22	8.47	33
1.70	12	5.47	23	8.75	34
2.05	13	5.78	24	9.00	35
2.40	14	6.10	25	9.23	36
2.76	15	6.40	26	9.48	37
3.12	16	6.71	27	9.70	38
3.47	17	7.02	28	9.93	39
3.83	18	7.32	29	10.16	40
4.16	19	7.61	30	10.30	41
4.52	20	7.92	31		
4.83	21	8.21	32		

Fetal Growth Table

J.Créquat, M. Duyme, G. Brodaty

Biométrie 2000. Tables de croissance foetale par le Collège Français d'Echographie Foetale (CFEF) et l'Inserm U155

Gynecol Obstet Fertil 2000 Jun;28(6): 435-45

Age (w)	Meas (cm)	10% (cm)	90% (cm)	Age (w)	Meas (cm)	10% (cm)	90% (cm)
11	1.40	1.10	1.60	27	6.70	6.10	7.30
12	1.70	1.40	2.00	28	7.00	6.40	7.70
13	2.10	1.70	2.40	29	7.30	6.60	8.00
14	2.40	2.00	2.80	30	7.60	6.90	8.30
15	2.80	2.40	3.20	31	7.90	7.20	8.70
16	3.10	2.70	3.60	32	8.20	7.40	9.00
17	3.50	3.00	3.90	33	8.50	7.70	9.30
18	3.80	3.40	4.30	34	8.80	7.90	9.60
19	4.20	3.70	4.60	35	9.00	8.10	9.90
20	4.50	4.00	5.00	36	9.20	8.30	10.20
21	4.80	4.30	5.30	37	9.50	8.50	10.50
22	5.20	4.70	5.70	38	9.70	8.60	10.80
23	5.50	4.90	6.00	39	9.90	8.70	11.10
24	5.80	5.20	6.30	40	10.20	8.90	11.50
25	6.10	5.50	6.70	41	10.30	8.90	11.70
26	6.40	5.80	7.00				

✚ Thoracic Circumference (ThC): CHITKARA

Fetal Growth Table

Chitkara U, Rosenberg J, Chervenak FA, et al. "Prenatal Sonographic Assessment of the Fetal Thorax: Normal Values" American Journal of Obstetrics and Gynecology, 156: 1069, 1987

Age (w)	Meas (cm)	5% (cm)	95% (cm)
16	9.1	6.4	11.9
17	10.0	7.3	12.8
18	11.0	8.2	13.7
19	11.9	9.1	14.6
20	12.8	10.0	15.5
21	13.7	11.0	16.4
22	14.6	11.9	17.3
23	15.5	12.8	18.2
24	16.4	13.7	19.1
25	17.3	14.6	20.0
26	18.2	15.5	21.0
27	19.1	16.4	21.9
28	20.0	17.3	22.8

Age (w)	Meas (cm)	5% (cm)	95% (cm)
29	21.0	18.2	23.7
30	21.9	19.1	24.6
31	22.8	20.0	25.5
32	23.7	20.9	26.4
33	24.6	21.8	27.3
34	25.5	22.8	28.2
35	26.4	23.7	29.1
36	27.3	24.6	30.0
37	28.2	25.5	30.9
38	29.1	26.4	31.9
39	30.0	27.3	32.8
40	30.9	28.2	33.7

✚ Fibula Length (FIB): JEANTY

Fetal Growth Table

Jeanty, P. "Fetal Limb Biometry" (Letter) Radiology, 147: 602, 1983

Age	Mean (cm)	5% (cm)	95% (cm)
11	0.2	0.2	0.2
12	0.5	0.5	0.5
13	0.8	0.8	0.8
14	1.1	0.6	1.1
15	1.4	1.0	1.8
16	1.7	0.6	2.2
17	1.9	0.7	3.1
18	2.2	1.0	2.8
19	2.4	1.8	3.0
20	2.7	1.8	3.0
21	2.9	2.4	3.4
22	3.1	2.1	3.7
23	3.3	2.3	4.4
24	3.5	2.6	4.1
25	3.7	3.3	4.2

Age	Mean (cm)	5% (cm)	95% (cm)
26	3.9	3.2	4.3
27	4.1	3.5	4.7
28	4.3	3.6	4.7
29	4.5	4.0	5.0
30	4.7	3.8	5.2
31	4.8	4.0	5.7
32	5.0	4.0	5.6
33	5.1	4.3	5.9
34	5.2	4.6	5.6
35	5.4	5.1	5.7
36	5.5	5.1	5.6
37	5.6	5.5	5.8
38	5.7	5.4	5.9
39	5.8	5.5	6.2
40	5.9	5.4	6.2

Fibula Length (FIB): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.182

Age (w)	50% (cm)	5% (cm)	95% (cm)	Age (w)	50% (cm)	5% (cm)	95% (cm)
12	0.6	0.6	0.6	27	4.4	3.7	5.0
13	0.9	0.9	0.9	28	4.5	3.8	5.3
14	1.2	0.6	1.9	29	4.7	4.1	5.4
15	1.5	0.9	2.1	30	4.9	4.3	5.6
16	1.8	1.3	2.3	31	5.1	4.2	5.9
17	2.1	1.3	2.8	32	5.2	4.2	6.3
18	2.3	1.5	3.1	33	5.4	4.6	6.2
19	2.6	1.9	3.3	34	5.5	4.6	6.5
20	2.8	2.1	3.6	35	5.7	5.1	6.2
21	3.1	2.4	3.7	36	5.8	5.4	6.3
22	3.3	2.7	3.9	37	5.9	5.4	6.5
23	3.5	2.8	4.2	38	6.1	5.6	6.5
24	3.7	2.9	4.5	39	6.2	5.6	6.7
25	4.0	3.4	4.5	40	6.3	5.9	6.7
26	4.2	3.6	4.7				

Nuchal Thickness (NT): YAGEL

Fetal Growth Table

Yagel S, Anteby EY, Rosen L, et al: Assessment of first trimester nuchal translucency by daily reference intervals. Ultrasound Obstet Gynecol 11: 262, 1998

Age (d)	Meas (cm)	-1.96SD (cm)	+1.96SD (cm)
60	0.10	0.04	0.19
61	0.10	0.04	0.19
62	0.11	0.04	0.19
63	0.11	0.04	0.19
64	0.11	0.04	0.19
65	0.11	0.04	0.19
66	0.11	0.05	0.20
67	0.12	0.05	0.20
68	0.12	0.05	0.20
69	0.12	0.05	0.21
70	0.13	0.05	0.21
71	0.13	0.06	0.22
72	0.13	0.06	0.22
73	0.14	0.06	0.22
74	0.14	0.07	0.23
75	0.15	0.07	0.24
76	0.15	0.08	0.24
77	0.16	0.08	0.25
78	0.16	0.08	0.25
79	0.17	0.09	0.26
80	0.17	0.09	0.27

Age (d)	Meas (cm)	-1.96SD (cm)	+1.96SD (cm)
81	0.18	0.10	0.28
82	0.19	0.10	0.28
83	0.19	0.11	0.29
84	0.20	0.12	0.30
85	0.21	0.12	0.31
86	0.22	0.13	0.32
87	0.22	0.14	0.33
88	0.23	0.14	0.34
89	0.24	0.15	0.35
90	0.25	0.16	0.36
91	0.26	0.17	0.38
92	0.27	0.18	0.39
93	0.28	0.19	0.40
94	0.29	0.19	0.41
95	0.31	0.20	0.43
96	0.32	0.22	0.44
97	0.33	0.23	0.46
98	0.35	0.24	0.48
99	0.36	0.25	0.49
100	0.38	0.26	0.51
101	0.39	0.28	0.53
102	0.41	0.29	0.55
103	0.43	0.30	0.57
104	0.44	0.32	0.59
105	0.46	0.34	0.62

■ Lateral Ventricular Width (Lt./Rt. Va): JOHNSON

Fetal Growth Table

Johnson ML, Dunne MG, Mack LA, Rashbaum CL.

"Evaluation of Fetal Intracranial Anatomy by Static and Real-Time Ultrasound" Journal of Clinical Ultrasound, 8: 311-318, August 1980

Age (w)	Lat Vent (cm)	Age (w)	Lat Vent (cm)
15	0.75	28	1.1
16	0.86	29	1.0
17	0.85	30	1.0
18	0.83	31	1.0
20	0.82	32	1.1
21	0.76	33	1.1
22	0.82	34	1.1
23	0.83	35	1.1
24	0.83	36	1.1
25	1.1	37	1.2
26	0.9	40	1.2
27	0.9		

✦ Hemispheric Width (Lt. Hem, Rt. Hem): JOHNSON

Fetal Growth Table

Johnson ML, Dunne MG, Mack LA, Rashbaum CL.

"Evaluation of Fetal Intracranial Anatomy by Static and Real-Time Ultrasound" Journal of Clinical Ultrasound, 8: 311-318, August 1980

Age (w)	HW (cm)	Age (w)	HW (cm)
15	1.40	28	3.30
16	1.50	29	3.40
17	1.50	30	3.40
18	1.80	31	3.40
20	1.90	32	3.60
21	2.20	33	3.40
22	2.60	34	3.80
23	2.50	35	3.80
24	2.70	36	3.90
25	3.00	37	4.10
26	3.00	40	4.30
27	3.00		

✦ Renal Length (Renal L): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.180

Age (w)	Meas (cm)	5% (cm)	95% (cm)	Age (w)	Meas (cm)	5% (cm)	95% (cm)
20	2.80	2.10	3.60	31	3.50	2.80	4.20
21	2.90	2.20	3.60	32	3.60	2.90	4.30
22	3.00	2.20	3.70	33	3.60	2.90	4.30
23	3.00	2.30	3.70	34	3.70	3.00	4.40
24	3.10	2.40	3.80	35	3.80	3.00	4.50
25	3.10	2.40	3.90	36	3.80	3.10	4.50
26	3.20	2.50	3.90	37	3.90	3.20	4.60
27	3.30	2.60	4.00	38	3.90	3.20	4.70
28	3.30	2.60	4.00	39	4.00	3.30	4.70
29	3.40	2.70	4.10	40	4.10	3.30	4.80
30	3.40	2.70	4.20				

Renal Anterior-Posterior Length (Renal AP): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.180

Age (w)	Meas (cm)	5% (cm)	95% (cm)
20	1.50	1.10	1.90
21	1.50	1.10	1.90
22	1.60	1.20	2.00
23	1.60	1.20	2.00
24	1.70	1.30	2.10
25	1.70	1.30	2.10
26	1.80	1.40	2.20
27	1.80	1.40	2.20
28	1.80	1.40	2.20
29	1.90	1.50	2.30
30	1.90	1.50	2.30

Age (w)	Meas (cm)	5% (cm)	95% (cm)
31	2.00	1.60	2.40
32	2.00	1.60	2.40
33	2.10	1.70	2.50
34	2.10	1.70	2.50
35	2.10	1.70	2.50
36	2.20	1.80	2.60
37	2.20	1.80	2.60
38	2.30	1.90	2.70
39	2.30	1.90	2.70
40	2.30	1.90	2.70

Cisterna Magna Diameter (CM): NICOLAIDES

Fetal Growth Table

Snijders RJ, Nicolaides KH. "Fetal biometry at 14-40 weeks' gestation" Ultrasound in obstetrics and Gynecology, 1994 Jan 1;4(1): 34-48

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
14w0d	0.35	0.19	0.53
14w1d	0.35	0.19	0.53
14w2d	0.35	0.19	0.53
14w3d	0.35	0.19	0.53
14w4d	0.35	0.19	0.53
14w5d	0.35	0.19	0.53
14w6d	0.35	0.19	0.53
15w0d	0.38	0.21	0.57
15w1d	0.38	0.21	0.57
15w2d	0.38	0.21	0.57
15w3d	0.38	0.21	0.57
15w4d	0.38	0.21	0.57
15w5d	0.38	0.21	0.57
15w6d	0.38	0.21	0.57
16w0d	0.41	0.24	0.60
16w1d	0.41	0.24	0.60
16w2d	0.41	0.24	0.60
16w3d	0.41	0.24	0.60
16w4d	0.41	0.24	0.60

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
27w0d	0.66	0.46	0.89
27w1d	0.66	0.46	0.89
27w2d	0.66	0.46	0.89
27w3d	0.66	0.46	0.89
27w4d	0.66	0.46	0.89
27w5d	0.66	0.46	0.89
27w6d	0.66	0.46	0.89
28w0d	0.68	0.47	0.91
28w1d	0.68	0.47	0.91
28w2d	0.68	0.47	0.91
28w3d	0.68	0.47	0.91
28w4d	0.68	0.47	0.91
28w5d	0.68	0.47	0.91
28w6d	0.68	0.47	0.91
29w0d	0.69	0.49	0.93
29w1d	0.69	0.49	0.93
29w2d	0.69	0.49	0.93
29w3d	0.69	0.49	0.93
29w4d	0.69	0.49	0.93

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
16w5d	0.41	0.24	0.60
16w6d	0.41	0.24	0.60
17w0d	0.43	0.26	0.63
17w1d	0.43	0.26	0.63
17w2d	0.43	0.26	0.63
17w3d	0.43	0.26	0.63
17w4d	0.43	0.26	0.63
17w5d	0.43	0.26	0.63
17w6d	0.43	0.26	0.63
18w0d	0.46	0.28	0.66
18w1d	0.46	0.28	0.66
18w2d	0.46	0.28	0.66
18w3d	0.46	0.28	0.66
18w4d	0.46	0.28	0.66
18w5d	0.46	0.28	0.66
18w6d	0.46	0.28	0.66
19w0d	0.49	0.31	0.69
19w1d	0.49	0.31	0.69
19w2d	0.49	0.31	0.69
19w3d	0.49	0.31	0.69
19w4d	0.49	0.31	0.69
19w5d	0.49	0.31	0.69
19w6d	0.49	0.31	0.69
20w0d	0.51	0.33	0.72

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
29w5d	0.69	0.49	0.93
29w6d	0.69	0.49	0.93
30w0d	0.70	0.50	0.94
30w1d	0.70	0.50	0.94
30w2d	0.70	0.50	0.94
30w3d	0.70	0.50	0.94
30w4d	0.70	0.50	0.94
30w5d	0.70	0.50	0.94
30w6d	0.70	0.50	0.94
31w0d	0.72	0.51	0.96
31w1d	0.72	0.51	0.96
31w2d	0.72	0.51	0.96
31w3d	0.72	0.51	0.96
31w4d	0.72	0.51	0.96
31w5d	0.72	0.51	0.96
31w6d	0.72	0.51	0.96
32w0d	0.73	0.52	0.97
32w1d	0.73	0.52	0.97
32w2d	0.73	0.52	0.97
32w3d	0.73	0.52	0.97
32w4d	0.73	0.52	0.97
32w5d	0.73	0.52	0.97
32w6d	0.73	0.52	0.97
33w0d	0.74	0.53	0.98

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
20w1d	0.51	0.33	0.72
20w2d	0.51	0.33	0.72
20w3d	0.51	0.33	0.72
20w4d	0.51	0.33	0.72
20w5d	0.51	0.33	0.72
20w6d	0.51	0.33	0.72
21w0d	0.54	0.35	0.75
21w1d	0.54	0.35	0.75
21w2d	0.54	0.35	0.75
21w3d	0.54	0.35	0.75
21w4d	0.54	0.35	0.75
21w5d	0.54	0.35	0.75
21w6d	0.54	0.35	0.75
22w0d	0.56	0.37	0.77
22w1d	0.56	0.37	0.77
22w2d	0.56	0.37	0.77
22w3d	0.56	0.37	0.77
22w4d	0.56	0.37	0.77
22w5d	0.56	0.37	0.77
22w6d	0.56	0.37	0.77
23w0d	0.58	0.39	0.80
23w1d	0.58	0.39	0.80
23w2d	0.58	0.39	0.80
23w3d	0.58	0.39	0.80

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
33w1d	0.74	0.53	0.98
33w2d	0.74	0.53	0.98
33w3d	0.74	0.53	0.98
33w4d	0.74	0.53	0.98
33w5d	0.74	0.53	0.98
33w6d	0.74	0.53	0.98
34w0d	0.75	0.53	0.99
34w1d	0.75	0.53	0.99
34w2d	0.75	0.53	0.99
34w3d	0.75	0.53	0.99
34w4d	0.75	0.53	0.99
34w5d	0.75	0.53	0.99
34w6d	0.75	0.53	0.99
35w0d	0.75	0.54	1.00
35w1d	0.75	0.54	1.00
35w2d	0.75	0.54	1.00
35w3d	0.75	0.54	1.00
35w4d	0.75	0.54	1.00
35w5d	0.75	0.54	1.00
35w6d	0.75	0.54	1.00
36w0d	0.76	0.54	1.00
36w1d	0.76	0.54	1.00
36w2d	0.76	0.54	1.00
36w3d	0.76	0.54	1.00

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
23w4d	0.58	0.39	0.80
23w5d	0.58	0.39	0.80
23w6d	0.58	0.39	0.80
24w0d	0.60	0.41	0.82
24w1d	0.60	0.41	0.82
24w2d	0.60	0.41	0.82
24w3d	0.60	0.41	0.82
24w4d	0.60	0.41	0.82
24w5d	0.60	0.41	0.82
24w6d	0.60	0.41	0.82
25w0d	0.62	0.43	0.85
25w1d	0.62	0.43	0.85
25w2d	0.62	0.43	0.85
25w3d	0.62	0.43	0.85
25w4d	0.62	0.43	0.85
25w5d	0.62	0.43	0.85
25w6d	0.62	0.43	0.85
26w0d	0.64	0.44	0.87
26w1d	0.64	0.44	0.87
26w2d	0.64	0.44	0.87
26w3d	0.64	0.44	0.87
26w4d	0.64	0.44	0.87
26w5d	0.64	0.44	0.87
26w6d	0.64	0.44	0.87

Age (wd)	Meas (cm)	5% (cm)	95% (cm)
36w4d	0.76	0.54	1.00
36w5d	0.76	0.54	1.00
36w6d	0.76	0.54	1.00
37w0d	0.76	0.54	1.01
37w1d	0.76	0.54	1.01
37w2d	0.76	0.54	1.01
37w3d	0.76	0.54	1.01
37w4d	0.76	0.54	1.01
37w5d	0.76	0.54	1.01
37w6d	0.76	0.54	1.01
38w0d	0.76	0.55	1.01
38w1d	0.76	0.55	1.01
38w2d	0.76	0.55	1.01
38w3d	0.76	0.55	1.01
38w4d	0.76	0.55	1.01
38w5d	0.76	0.55	1.01
38w6d	0.76	0.55	1.01
39w0d	0.76	0.55	1.01
39w1d	0.76	0.55	1.01
39w2d	0.76	0.55	1.01
39w3d	0.76	0.55	1.01
39w4d	0.76	0.55	1.01
39w5d	0.76	0.55	1.01
39w6d	0.76	0.55	1.01

Amniotic Fluid Index (AFI): MOORE

Fetal Growth Table

Moore TR, Cayle JE: The amniotic fluid index in normal human pregnancy.

Am J Obstet Gynecol 162: 1168, 1990

Age (w)	Mean (cm)	5% (cm)	95% (cm)
16	12.10	7.90	18.50
17	12.70	8.30	19.40
18	13.30	8.70	20.20
19	13.70	9.00	20.70
20	14.10	9.30	21.20
21	14.30	9.50	21.40
22	14.50	9.70	21.60
23	14.60	9.80	21.80
24	14.70	9.80	21.90
25	14.70	9.70	22.10
26	14.70	9.70	22.30
27	14.60	9.50	22.60
28	14.60	9.40	22.80
29	14.50	9.20	23.10

Age (w)	Mean (cm)	5% (cm)	95% (cm)
30	14.50	9.00	23.40
31	14.40	8.80	23.80
32	14.40	8.60	24.20
33	14.30	8.30	24.50
34	14.20	8.10	24.80
35	14.00	7.90	24.90
36	13.80	7.70	24.90
37	13.50	7.50	24.40
38	13.20	7.30	23.90
39	12.70	7.20	22.60
40	12.30	7.10	21.40
41	11.60	7.00	19.40
42	11.00	6.90	17.50

✦ Nasal Bone Length (NB): SONEK

Fetal Growth Table

Sonek JD, McKenna D, Webb D, Croom C, Nicolaides K. "Nasal bone length throughout gestation: normal ranges based on 3537 fetal ultrasound measurements" Obstetrics and Gynecology, 2003 Feb;21(2): 152-5.

Age (w)	Mean (cm)	5% (cm)	95% (cm)	Age (w)	Mean (cm)	5% (cm)	95% (cm)
11	0.23	0.14	0.33	26	0.89	0.74	1.09
12	0.28	0.18	0.42	27	0.92	0.75	1.13
13	0.31	0.23	0.46	28	0.98	0.76	1.21
14	0.38	0.25	0.53	29	0.98	0.77	1.18
15	0.43	0.30	0.57	30	1.00	0.79	1.26
16	0.47	0.34	0.62	31	1.04	0.82	1.26
17	0.53	0.40	0.66	32	1.05	0.86	1.36
18	0.57	0.43	0.70	33	1.08	0.87	1.28
19	0.63	0.50	0.79	34	1.09	0.91	1.28
20	0.67	0.52	0.83	35	1.10	0.85	1.41
21	0.71	0.56	0.90	36	1.08	0.78	1.28
22	0.75	0.58	0.93	37	1.14	0.87	1.45
23	0.79	0.64	0.96	38	1.17	0.93	1.57
24	0.83	0.68	1.00	39	1.09	0.92	1.40
25	0.85	0.65	1.07	40	1.21	1.04	1.45

Fetal Ratio Reference

✦ Femur Length/Foot Length (FL/Foot): CAMPBELL

Fetal Ratio

Campbell J, Henderson A, Campbell S. "The fetal femur/foot length ratio: a new parameter to assess dysplastic limb reduction" Obstetrics and Gynecology, 1988 Aug;72(2): 181-4

- The normal value ($\pm 2SD$) for this ratio during the period 14-40 weeks is 0.99 ± 0.12 . (87%-111%)

✦ BPD₀/OFD₀ (Cephalic Index): HADLOCK

Fetal Ratio

Frank P. Hadlock, R. L. Deter, R. J. Carpenter, S. K. Park. "Estimating Fetal Age: Effect of Head Shape on BPD" American Journal of Roentgenology, 137: 83-854, July 1981

- The normal value ($\pm 2SD$) for this ratio during the period 14-40 weeks is $78.3 \pm 8.8\%$. (70%-86%)

✦ Femur Length/Abdominal Circumference (FL/AC): HADLOCK

Fetal Ratio

Frank P. Hadlock, Russell L. Deter, Ronald B. Harrist, Ellen Roecker, Seung K. Park. "A Date-Independent Predictor of Intrauterine Growth Retardation: Femur Length/Abdominal Circumference Ratio" American Journal of Roentgenology, 141: 979-984, November 1983

- The normal value ($\pm 2SD$) for this ratio during the period 14-40 weeks is $22 \pm 2\%$. (20%-24%)

✦ Femur Length/Head Circumference (FL/HC): HADLOCK

Fetal Ratio

Hadlock FP, Harrist RB, Shah Y, Park SK. "The Femur Length/Head Circumference Relation in Obstetric Sonography" Journal of Ultrasound in Medicine, 3(10), October 1984, pp.439-442

Age (w)	Meas (cm)	±2SD (%)
15	16.2	1.8
16	14.9	3.2
17	16.1	3.0
18	16.9	2.2
19	17.2	2.2
20	18.3	3.0
21	18.1	4.4
22	19.3	1.8
23	20.0	1.6
24	19.8	2.2
25	19.5	1.6
26	19.5	1.8
27	19.5	1.8
28	19.7	1.8

Age (w)	Meas (cm)	±2SD (%)
29	20.2	1.2
30	20.3	2.2
31	20.3	2.0
32	20.2	2.2
33	20.7	1.6
34	20.6	2.4
35	21.2	2.2
36	21.1	2.0
37	21.7	1.8
38	21.8	1.8
39	22.0	2.8
40	21.6	1.8
41	22.4	1.6
42	22.0	3.8

✦ Femur Length/BiParietal Diameter (FL/BPD): HOHLER

Fetal Ratio

Charles W. Hohler, Thomas A. Quetel. "Comparison of Ultrasound Femur Length and Biparietal Diameter in Late Pregnancy" American Journal of Obstetrics and Gynecology, 141: 759-762, 1981

- The nomal value (90% Confidence Interval) for this ratio during the period 23-40 weeks is 79±8%. (71%-87%)

✦ Thoracic Circumference/Abdominal Circumference (ThC/AC): CHITKARA

Fetal Ratio

Chitkara U, Rosenberg J, Chervenak FA, et al. "Prenatal Sonographic Assessment of the Fetal Thorax: Normal Values" American Journal of Obstetrics and Gynecology, 156: 1069, 1987

- The nomal value (±2SD) for this ratio during the period 16-40 weeks is 89±12%. (77%-101%)

Head Circumference (HC) / Abdominal Circumference (AC): CAMPBELL

Fetal Growth Table

Campbell, s. "Ultrasound Measurement of the Fetal Head to Abdomen Circumference Ratio in the Assessment of Growth Retardation." Br J Obstetrics and Gynecology, Vol. 84. 165-174. March 1977.

Age (w)	Mean	5%	95%	Age (w)	Mean	5%	95%
13	1.23	1.14	1.31	28	1.13	1.05	1.22
14	1.23	1.14	1.31	29	1.10	0.99	1.21
15	1.22	1.05	1.39	30	1.10	0.99	1.21
16	1.22	1.05	1.39	31	1.07	0.96	1.17
17	1.18	1.07	1.29	32	1.07	0.96	1.17
18	1.18	1.07	1.29	33	1.04	0.96	1.11
19	1.18	1.09	1.26	34	1.04	0.96	1.11
20	1.18	1.09	1.26	35	1.02	0.93	1.11
21	1.15	1.06	1.25	36	1.02	0.93	1.11
22	1.15	1.06	1.25	37	0.98	0.92	1.05
23	1.13	1.05	1.21	38	0.98	0.92	1.05
24	1.13	1.05	1.21	39	0.97	0.87	1.06
25	1.13	1.04	1.22	40	0.97	0.87	1.06
26	1.13	1.04	1.22	41	0.96	0.93	1.00
27	1.13	1.05	1.22	42	0.96	0.93	1.00

Lateral Ventricular Width (LV) / Hemispheric Width (HW): JOHNSON

Fetal Growth Table

Johnson ML, Dunne MG, Mack LA, Rashbaum CL. "Evaluation of Fetal Intracranial Anatomy by Static and Real-Time Ultrasound" Journal of Clinical Ultrasound, 8: 311-318, August 1980.

Age (w)	Mean	-2SD	+2SD	Age (w)	Mean	-2SD	+2SD
15	56.00	40.00	71.00	28	31.00	18.00	45.00
16	57.00	45.00	69.00	29	29.00	22.00	37.00
17	52.00	42.00	62.00	30	30.00	26.00	34.00
18	46.00	40.00	52.00	31	29.00	23.00	36.00
20	43.00	29.00	57.00	32	31.00	26.00	36.00
21	35.00	27.00	43.00	33	31.00	25.00	37.00
22	32.00	26.00	38.00	34	28.00	23.00	33.00
23	33.00	24.00	42.00	35	29.00	26.00	31.00
24	31.00	23.00	39.00	36	28.00	23.00	34.00
25	34.00	26.00	42.00	37	29.00	24.00	34.00
26	30.00	24.00	36.00	40	28.00	22.00	33.00
27	28.00	23.00	34.00				

Estimated Fetal Weight Formula

Method using (BPD, AC)

Shepard Method [grams]

[Equation]

$$\text{Log}_{10}(\text{EFW}) = \{(0.166 \times \text{BPD}) + (0.046 \times \text{AC}) - (0.002646 \times \text{AC} \times \text{BPD}) - 1.7492\} \times 1000$$

[Input Range]

AC: 15.5~40.0 cm

BPD: 3.1~10.0 cm

EFW: 224.0~4925.0 g

[Reference]

Shepard MJ, et al, "An Evaluation of Two Equations for Predicting Fetal Weight by Ultrasound," American Journal of Ob & Gyn, January 1982; 142(1): 47-54

Hadlock Method [grams]

[Equation]

$$\text{Log}_{10}(\text{EFW}) = 1.1134 + (0.05845 \times \text{AC}) - (0.000604 \times \text{AC}^2) + (0.1694 \times \text{BPD}) - (0.007365 \times \text{BPD}^2) + (0.000595 \times \text{AC} \times \text{BPD})$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Robert J. Carpenter, Russell L. Deter, Seung K. Park. "Sonographic Estimation of Fetal Weight" Radiology, 1984; 150: 535-540

Merz Method [grams]

[Equation]

$$\text{EFW} = 157.07186 \times \text{AC} + 15.90391 \times \text{BPD}^2 - 3200.40479$$

[Reference]

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991, Georg Thieme Verlag, 308-338

Method using (BPD, FL, FTA)

Osaka University [grams]

[Equation]

$$\text{EFW} = 1.25647 \times \text{BPD}^3 + 3.50665 \times \text{FL} \times \text{FTA} + 6.3$$

[Reference]

Mineo Aoki. "The Diagnosis and Treatment of IUGR" Perineitaru Kea (Japanese Journal of Perinatal Care), 1990; Vol.9 NO.5, p407-422 (in Japanese)

Method using (BPD, APTD, TTD, FL)

Shinozuka 3 Method [grams]

[Equation]

$$\text{EFW} = (1.07 \times \text{BPD}^3) + (3.42 \times \text{APTD} \times \text{TTD} \times \text{FL})$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987; 157: 1140-5

Method using (BPD, APTD, TTD, SL)

Shinozuka 2 Method [grams]

[Equation]

$$\text{EFW} = (1.07 \times \text{BPD}^3) + (2.91 \times \text{APTD} \times \text{TTD} \times \text{SL})$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987; 157: 1140-5

Method using (BPD, TTD)

Hansmann's fetal weight [grams]

[Equation]

$$EFW = \{(0.649145 \times TTD) - (1.05775 \times BPD) + (0.0930707 \times BPD^2) - (0.020562 \times TTD^2) + 0.515263\} \times 1000$$

$$\pm 2SD = 14.6\%$$

[Low Range]

$$BPD: 5.9 \text{ cm} \sim \infty$$

$$TTD: 5.6 \text{ cm} \sim \infty$$

$$EFW: 500.0 \text{ g} \sim \infty$$

[Reference]

Hansmann, Hackeloer, Staudach, Wittman, "Ultrasound Diagnosis in Obstetrics and Gynecology," Springer-Verlag, New York, 1986

Method using (AC, FL)

Hadlock 1 Method [grams]

[Equation]

$$\text{Log}_{10}(EFW) = (0.05281 \times AC) + (0.1938 \times FL) - (0.004 \times AC \times FL) + 1.304 \pm 2SD = 16\%$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3: 333-337, February 1, 1985

Ferrero [grams]

[Equation]

$$\text{Log}_{10}(EFW) = (0.13244 \times AC) - (0.12996 \times FL) - (0.00173588 \times AC^2) + (0.00309212 \times FL \times AC) + (2.18984 \times FL / AC) + 0.77125$$

[Reference]

Ferrero A, Maggi E, Giancotti A, et al: Regression formula for estimation of fetal weight with use of abdominal circumference and femur length: A prospective study. J Ultrasound Med 13: 823, 1994

Method using (BPD, AC, FL)

Hadlock 2 Method [grams]

[Equation]

$$\text{Log}_{10}(EFW) = (0.0316 \times BPD) + (0.0457 \times AC) + (0.1623 \times FL) - (0.0034 \times AC \times FL) + 1.335 \pm 2SD = 15\%$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3: 333-337, February 1, 1985

Shinozuka 1 Method [grams]

[Equation]

$$EFW = (1.07 \times BPD^3) + (0.30 \times AC^2 \times FL)$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987;157: 1140-5

Woo [grams]

[Equation]

$$\text{Log}_{10}(\text{EFW}) = (0.15549 \times \text{BPD}) + (0.04864 \times \text{AC}) - (0.00279682 \times \text{BPD} \times \text{AC}) + (0.037769 \times \text{FL}) - (0.000494529 \times \text{AC} \times \text{FL}) + 1.13705$$

[Reference]

Woo JS, Wan CW, Cho KM: Computer-assisted evaluation of ultrasonic fetal weight prediction using multiple regression equations with and without the fetal femur length, J Ultrasound Med 4:65, 1985

Method using (HC, AC, FL)**Hadlock 3 Method [grams]**

[Equation]

$$\text{Log}_{10}(\text{EFW}) = (0.0107 \times \text{HC}) + (0.0438 \times \text{AC}) + (0.158 \times \text{FL}) - (0.00326 \times \text{AC} \times \text{FL}) + 1.326$$

$\pm 2\text{SD} = 15\%$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3: 333-337, February 1, 1985

Weiner2 [grams]

[Equation]

$$\text{Log}_{10}(\text{EFW}) = (0.02253 \times \text{HC}) + (0.01645 \times \text{AC}) + (0.06439 \times \text{FL}) + 1.6961$$

[Reference]

Weiner CP, Sabbagha RE, Vaisrub N, et al: Ultrasonic fetal weight prediction: Role of head circumference and femur length. Obstet Gynecol 65: 812, 1985

Method using (BPD, HC, AC, FL)**Hadlock 4 Method [grams]**

[Equation]

$$\text{Log}_{10}(\text{EFW}) = (0.0064 \times \text{HC}) + (0.0424 \times \text{AC}) + (0.00061 \times \text{BPD} \times \text{AC}) + (0.174 \times \text{FL}) - (0.00386 \times \text{AC} \times \text{FL}) + 1.3596 \pm 2\text{SD} = 14.8\%$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3: 333-337, February 1, 1985

Method using (AC)**Campbell's fetal weight [grams]**

[Equation]

$$\text{Log}_e(\text{EFW}) = \{(0.282 \times \text{AC}) - (0.003318 \times \text{AC}^2) - 4.564\} \times 1000$$

[Input Range]

AC: 21.0 ~ 40.0 cm

EFW: 900 ~ 4085 g

[Reference]

Campbell, S., Wilkin, D. "Ultrasonic Measurement of Fetal Abdomen Circumference in the Estimation of Fetal Weight." British Journal of OB & GYN, 82, 9: 689-697, September 1975

Higginbottom [grams]

[Equation]

$$\text{EFW} = \text{AC}^3 \times 0.0816$$

[Reference]

Higginbottom J, Slater J. Porter G, et al: Estimation of fetal weight from ultrasonic measurement of trunk circumference. Br J Obstet Gynecol 82: 698, 1975

Method using (BPD, AC)

Thurnau [grams]

[Equation]

$$EFW = (9.337 \times BPD \times AC) - 229$$

[Reference]

Thurnau GR, Tamura RK, Sabbagha R, et al: A simple estimated fetal weight equation based on real-time ultrasound measurements of fetuses less than thirty-four weeks' gestation. Am J Obstet Gynecol 145: 557, 1983

Warsof [grams]

[Equation]

$$\text{Log}_{10}(EFW) = \{(0.144 \times BPD) + (0.032 \times AC) - (0.000111 \times AC \times BPD^2) - 1.599\} \times 1000$$

[Reference]

Warsof SL, Gohari P, Berkowitz RL, et al: The estimation of fetal weight by computer-assisted analysis. Am J Obstet Gynecol 120: 881, 1977

Method using (AC, HC)

Weiner1 [grams]

[Equation]

$$\text{Log}_{10}(EFW) = (0.04035 \times HC) + (0.01285 \times AC) + 1.6575$$

[Reference]

Weiner CP, Sabbagha RE, Vaisrub N, et al: Ultrasonic fetal weight prediction: Role of head circumference and femur length. Obstet Gynecol 65: 812, 1985

Estimated Fetal Weight Growth Reference

Estimate Fetal Weight (EFW): BRENNER

Fetal Growth Table

Brenner WE, Edelman DA, Hendricks CH. "A Standard of Fetal Growth for the United States of America" American Journal of Obstetrics and Gynecology, 126: 555-564, November 1976

Age (w)	Meas (g)	10% (g)	90% (g)	Age (w)	Meas (g)	10% (g)	90% (g)
21	410	280	860	33	2010	1480	2690
22	480	320	920	34	2220	1670	2880
23	550	370	990	35	2430	1870	3090
24	640	420	1080	36	2650	2190	3290
25	740	490	1180	37	2870	2310	3470
26	860	570	1320	38	3030	2510	3610
27	990	660	1470	39	3170	2680	3750
28	1150	770	1660	40	3280	2750	3870
29	1310	890	1890	41	3360	2800	3980
30	1460	1030	2100	42	3410	2830	4060
31	1630	1180	2290	43	3420	2840	4100
32	1810	1310	2500	44	3390	2790	4110

Estimate Fetal Weight (EFW): DOUBILET

Fetal Growth Table

Improved Birth Weight Table for Neonates Developed from Gestations Dated by Early Ultrasonography. Peter M. Doubilet, MD, PhD, Carol B. Benson, MD, Allan S. Nadel, MD, Steven A. Ringer, MD, PhD. by the American Institute of Ultrasound in Medicine J Ultrasound Med 16: 241-249, 1997

Age (w)	Meas (g)	10% (g)	90% (g)	Age (w)	Meas (g)	10% (g)	90% (g)
25	660	490	889	35	2383	1919	2959
26	760	568	1016	36	2622	2129	3230
27	875	660	1160	37	2859	2340	3493
28	1005	765	1322	38	3083	2544	3736
29	1153	884	1504	39	3288	2735	3952
30	1319	1020	1706	40	3462	2904	4127
31	1502	1171	1928	41	3597	3042	4254
32	1702	1338	2167	42	3685	3142	4322
33	1918	1519	2421	43	3717	3195	4324
34	2146	1714	2687				

Estimate Fetal Weight (EFW): OSAKA

Fetal Growth Table

Osaka University Method 1989, 3 by Univ. Of Osaka

Age (wd)	Meas (g)	±SD (g)	Age (wd)	Meas (g)	±SD (g)
16w0d	137	29	28w1d	1275	158
16w1d	142	29	28w2d	1296	160
16w2d	147	29	28w3d	1318	162
16w3d	153	29	28w4d	1340	164
16w4d	158	30	28w5d	1363	167
16w5d	164	30	28w6d	1385	169
16w6d	170	30	29w0d	1407	171
17w0d	176	31	29w1d	1430	174
17w1d	182	31	29w2d	1453	176
17w2d	188	32	29w3d	1476	178
17w3d	195	33	29w4d	1499	181
17w4d	202	33	29w5d	1522	183
17w5d	209	34	29w6d	1545	185
17w6d	216	35	30w0d	1568	188
18w0d	223	35	30w1d	1592	190
18w1d	231	36	30w2d	1615	192
18w2d	238	37	30w3d	1639	195
18w3d	246	38	30w4d	1663	197
18w4d	254	39	30w5d	1687	200
18w5d	263	40	30w6d	1711	202

Age (wd)	Meas (g)	±SD (g)
18w6d	271	41
19w0d	280	42
19w1d	289	43
19w2d	298	44
19w3d	308	45
19w4d	317	46
19w5d	327	48
19w6d	337	49
20w0d	347	50
20w1d	358	51
20w2d	368	53
20w3d	379	54
20w4d	390	56
20w5d	401	57
20w6d	413	58
21w0d	425	60
21w1d	436	61
21w2d	449	63
21w3d	461	65
21w4d	474	66
21w5d	486	68
21w6d	499	69
22w0d	513	71
22w1d	526	73

Age (wd)	Meas (g)	±SD (g)
31w0d	1735	204
31w1d	1759	207
31w2d	1783	209
31w3d	1808	212
31w4d	1832	214
31w5d	1857	217
31w6d	1881	219
32w0d	1906	222
32w1d	1930	224
32w2d	1955	227
32w3d	1980	229
32w4d	2005	232
32w5d	2029	234
32w6d	2054	237
33w0d	2079	239
33w1d	2104	242
33w2d	2129	244
33w3d	2154	247
33w4d	2179	250
33w5d	2204	252
33w6d	2229	255
34w0d	2254	257
34w1d	2279	260
34w2d	2304	263

Age (wd)	Meas (g)	±SD (g)
22w2d	540	74
22w3d	553	76
22w4d	568	78
22w5d	582	80
22w6d	596	81
23w0d	611	83
23w1d	626	85
23w2d	641	87
23w3d	656	89
23w4d	672	91
23w5d	688	92
23w6d	704	94
24w0d	720	96
24w1d	736	98
24w2d	753	100
24w3d	770	102
24w4d	787	104
24w5d	804	106
24w6d	822	108
25w0d	839	110
25w1d	857	112
25w2d	875	114
25w3d	893	116
25w4d	912	118

Age (wd)	Meas (g)	±SD (g)
34w3d	2329	265
34w4d	2354	268
34w5d	2379	271
34w6d	2403	274
35w0d	2428	276
35w1d	2453	279
35w2d	2478	282
35w3d	2502	285
35w4d	2527	288
35w5d	2551	290
35w6d	2576	293
36w0d	2600	296
36w1d	2624	299
36w2d	2648	302
36w3d	2672	305
36w4d	2696	308
36w5d	2720	311
36w6d	2744	314
37w0d	2767	317
37w1d	2791	320
37w2d	2814	323
37w3d	2837	326
37w4d	2860	329
37w5d	2883	332

Age (wd)	Meas (g)	±SD (g)
25w5d	930	120
25w6d	949	123
26w0d	968	125
26w1d	987	127
26w2d	1007	129
26w3d	1026	131
26w4d	1046	133
26w5d	1066	135
26w6d	1086	138
27w0d	1106	140
27w1d	1127	142
27w2d	1147	144
27w3d	1168	146
27w4d	1189	149
27w5d	1210	151
27w6d	1232	153
28w0d	1253	155

Age (wd)	Meas (g)	±SD (g)
37w6d	2906	335
38w0d	2928	339
38w1d	2950	342
38w2d	2973	345
38w3d	2995	348
38w4d	3016	352
38w5d	3038	355
38w6d	3059	358
39w0d	3080	362
39w1d	3101	365
39w2d	3121	369
39w3d	3142	372
39w4d	3162	376
39w5d	3182	379
39w6d	3201	383
40w0d	3220	387

Estimate Fetal Weight (EFW): HADLOCK

Fetal Growth Table

Frank P. Hadlock, Ronald B. Harrist, Juan Martinez-Poyer, "In Utero Analysis of Fetal Growth: A Sonographic Weight Standard" Radiology, 1991; 181: 129-133.

Age (w)	Meas (g)	10% (g)	90% (g)
10	35	29	41
11	45	37	53
12	58	48	68
13	73	61	85
14	93	77	109
15	117	97	137
16	146	121	171
17	181	150	212
18	223	185	261
19	273	227	319
20	331	275	387
21	399	331	467
22	478	398	559
23	568	471	665
24	670	556	784
25	785	652	918

Age (w)	Meas (g)	10% (g)	90% (g)
26	913	758	1068
27	1055	876	1234
28	1210	1004	1416
29	1379	1145	1613
30	1559	1294	1824
31	1751	1453	2049
32	1953	1621	2285
33	2162	1794	2530
34	2377	1973	2781
35	2595	2154	3036
36	2813	2335	3291
37	3028	2513	3543
38	3236	2686	3786
39	3435	2851	4019
40	3619	3004	4234

Estimate Fetal Weight (EFW): SHINOZUKA

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Japanese Journal of Medical Ultrasonics, Vol.23, No.12, 1996, pp877-888

Age (wd)	Meas (g)	-1.5SD (g)	+1.5SD (g)
18w3d	216	163	269
19w3d	279	211	348
20w3d	349	264	434
21w3d	427	324	529
22w3d	513	392	634
23w3d	609	469	748
24w3d	714	555	873
25w3d	830	651	1009
26w3d	956	756	1156
27w3d	1092	870	1313
28w3d	1237	993	1481
29w3d	1391	1123	1658

Age (wd)	Meas (g)	-1.5SD (g)	+1.5SD (g)
30w3d	1552	1261	1843
31w3d	1720	1404	2035
32w3d	1892	1551	2233
33w3d	2068	1701	2434
34w3d	2244	1851	2638
35w3d	2420	1999	2841
36w3d	2592	2143	3041
37w3d	2758	2280	3236
38w3d	2915	2407	3422
39w3d	3059	2521	3596
40w3d	3187	2618	3756
41w3d	3296	2695	3896

Estimate Fetal Weight (EFW): JSUM

Fetal Growth Table

Norio Shinozuka, Takashi Okai, et al. "Standard Values of Ultrasonographic Fetal Biometry"
Journal of Medical Ultrasonics, Vol.30, No.3, pp. 416-440, 2003

Age (wd)	Meas (g)	-1.5SD (g)	+1.5SD (g)
18w3d	216	163	269
19w3d	279	211	348
20w3d	349	264	434
21w3d	427	324	529
22w3d	513	392	634
23w3d	609	469	748
24w3d	714	555	873
25w3d	830	651	1009
26w3d	956	756	1156
27w3d	1092	870	1313
28w3d	1237	993	1481
29w3d	1391	1123	1658

Age (wd)	Meas (g)	-1.5SD (g)	+1.5SD (g)
30w3d	1552	1261	1843
31w3d	1720	1404	2035
32w3d	1892	1551	2233
33w3d	2068	1701	2434
34w3d	2244	1851	2638
35w3d	2420	1999	2841
36w3d	2592	2143	3041
37w3d	2758	2280	3236
38w3d	2915	2407	3422
39w3d	3059	2521	3596
40w3d	3187	2618	3756
41w3d	3296	2695	3896

Estimate Fetal Weight (EFW): WILLIAMS

Fetal Growth Table

Williams RL, Creasy RK, Cunningham GC, et al: Fetal growth and perinatal viability in California. Obstet Gynecol 1982 May; 59(5): 624-32

Age (w)	Meas (g)	Min (g)	Max (g)
22	513	320	746
23	589	365	861
24	675	417	989
25	773	477	1132
26	882	546	1289
27	1005	627	1463
28	1143	720	1653
29	1298	829	1859
30	1484	955	2136
31	1695	1100	2402
32	1920	1284	2673
33	2155	1499	2910

Age (w)	Meas (g)	Min (g)	Max (g)
34	2394	1728	3132
35	2628	1974	3333
36	2849	2224	3521
37	3052	2455	3706
38	3227	2642	3867
39	3364	2790	3994
40	3462	2881	4080
41	3524	2946	4127
42	3589	3011	4185
43	3626	3044	4221
44	3633	3043	4233

Estimate Fetal Weight (EFW): YARKONI (TWINS)

Fetal Growth Table

Yarkoni S, Reece EA, Holford T, et al: Estimated fetal weight in the evaluation of growth in twin gestations: A prospective longitudinal study. Obstet Gynecol 69: 636, 1987.

Age (w)	Meas (g)	5% (g)	95% (g)
16	154	132	207
17	215	173	249
18	276	214	291
19	300	223	412
20	324	232	534
21	432	275	705
22	540	319	876
23	598	347	880
24	656	376	885
25	793	549	1118
26	931	722	1352
27	1087	755	1563

Age (w)	Meas (g)	5% (g)	95% (g)
28	1244	789	1774
29	1395	900	1883
30	1546	1011	1992
31	1693	1198	2392
32	1840	1385	2793
33	2032	1491	3000
34	2224	1597	3208
35	2427	1703	3336
36	2631	1809	3465
37	2824	2239	3679
38	3017	2669	3894

Estimate Fetal Weight (EFW): HANSMANN

Fetal Growth Table

Hansmann, Hackeloer, Staudach and Wittman. "Ultrasound Diagnosis in Obstetrics and Gynecology" Springer-Verlag, New York, 1986; P.186

Age (w)	Meas (g)	-2SD (g)	+2SD (g)
9	45	44	46
10	48	45	51
11	54	48	60
12	63	54	72
13	77	63	91
14	96	74	118
15	122	90	154
16	155	111	199
17	197	136	258
18	247	166	328
19	307	203	411
20	377	246	508
21	456	294	618
22	545	348	742
23	644	409	879
24	753	475	1031

Age (w)	Meas (g)	-2SD (g)	+2SD (g)
25	871	547	1195
26	1000	626	1374
27	1139	711	1567
28	1288	802	1774
29	1448	899	1997
30	1618	1003	2233
31	1798	1113	2483
32	1984	1226	2742
33	2176	1342	3010
34	2369	1460	3278
35	2557	1575	3539
36	2734	1682	3786
37	2890	1776	4004
38	3016	1849	4183
39	3099	1888	4310
40	3131	1887	4375

Estimate Fetal Weight (EFW): JOHNSEN

Fetal Growth Table

Johnsen SL, Rasmussen S, Wilsgaard T, Sollien R, Kiserud T. "Longitudinal reference ranges for estimated fetal weight" Acta Obstet Gynecol Scand, 2006;85(3): 286-97

Age (w)	Meas (g)	5% (g)	95% (g)
20	340	269	429
21	416	333	520
22	503	406	623
23	602	490	740
24	713	583	870
25	835	684	1015
26	970	801	1174
27	1116	925	1347
28	1274	1058	1534
29	1442	1199	1734
30	1619	1347	1946
31	1805	1502	2168

Age (w)	Meas (g)	5% (g)	95% (g)
32	1997	1662	2400
33	2194	1824	2638
34	2393	1988	2880
35	2593	2152	3124
36	2791	2313	3367
37	2984	2471	3605
38	3171	2621	3835
39	3347	2764	4054
40	3511	2896	4258
41	3661	3015	4444
42	3793	3121	4609

Estimate Fetal Weight Algorithm

Estimate Fetal Weight (EFW): CAMPBELL

[Equation]

$$e^{(0.282 \times AC - 0.003318 \times AC^2 - 4.564)} \times 1000$$

[Range]

AC: 21~40cm

EFW: 900g~4085g

[Reference]

Campbell, S., Wilkin, D. "Ultrasonic Measurement of Fetal Abdomen Circumference in the Estimation of Fetal Weight." British Journal of OB & GYN, 82, 9: 689-697, September 1975

[Summary]

Assessment of birth weight predictions on 140 fetuses who were delivered within 48 hours. The accuracy of predictions varied with the size of the fetus:

- at a predicted weight of 1kg, 95% of birth weights fell within 160g
- at a predicted weight of 2kg, 95% of birth weights fell within 290g
- at a predicted weight of 3kg, 95% of birth weights fell within 450g
- at a predicted weight of 4kg, 95% of birth weights fell within 590g

By Extrapolation, at 32 weeks menstrual age, 87% of babies below the 5th centile would be detected by this method but that the diagnosis rate would fall to 63% at 38 weeks

Estimate Fetal Weight (EFW): HADLOCK

[Equation]

$$10^{(1.1134 + 0.05845 \times AC - 0.000604 \times AC^2 + 0.1694 \times BPD - 0.007365 \times BPD^2 + 0.000595 \times AC \times BPD)}$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Robert J. Carpenter, Russell L. Deter, Seung K. Park. "Sonographic Estimation of Fetal Weight" Radiology, 1984; 150:535-540

[Summary]

Sonographic measurements were made in 167 live-born fetuses one week before delivery (mean 1.64 days $\pm$ 1.8 S.D.). All fetuses were weighted immediately after delivery; mean birth weight was found to be 2.754g $\pm$ 930 S.D.

Data were Divided into several groups by weight:

<1,500g	: mean 1,024 $\pm$ 301 S.D
1,500-2,000g	: mean 1,767 $\pm$ 199 S.D
2,000-2,500g	: mean 2,248 $\pm$ 134 S.D
2,500-3,000g	: mean 2,668 $\pm$ 133 S.D
3,000-3,500g	: mean 3,227 $\pm$ 147 S.D
3,500-4,000g	: mean 3,686 $\pm$ 123 S.D
>4,000g	: mean 4,301 $\pm$ 173 S.D

Estimate Fetal Weight (EFW): HADLOCK1

[Equation]

$$10^{(1.304 + 0.05281 \times AC + 0.1938 \times FL - 0.004 \times AC \times FL)}$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3:333-337, February 1, 1985

[Summary]

The study population consisted of 109 predominately middle class Caucasian patients. The majority of patients were examined within 3 days of delivery, and all patients were examined within at least 1 week of delivery.

- Summary of accuracy of models (Mean deviation = SD(%))

<1,500g	: -3.9±8.3
1,500-2,000g	: 0.9±8.5
2,000-2,500g	: 1.6±8.5
2,500-3,000g	: 0.3±7.6
3,000-3,500g	: -1.9±7.2
3,500-4,000g	: -0.7±6.8
>4,000g	: 5.2±5.2

Estimate Fetal Weight (EFW): HADLOCK2

[Equation]

$$10^{(1.335 - 0.0034 \times AC \times FL + 0.0316 \times BPD + 0.0457 \times AC + 0.1623 \times FL)}$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3:333-337, February 1, 1985

[Summary]

The study population consisted of 109 predominately middle class Caucasian patients. The majority of patients were examined within 3 days of delivery, and all patients were examined within at least 1 week of delivery.

- Summary of accuracy of models (Mean deviation = SD(%))

<1,500g	: -5.3±9.0
1,500-2,000g	: 2.2±7.0
2,000-2,500g	: 3.2±7.6
2,500-3,000g	: 1.3±7.7
3,000-3,500g	: 0.4±6.0
3,500-4,000g	: 1.4±7.1
>4,000g	: 4.8±5.1

Estimate Fetal Weight (EFW): HADLOCK3

[Equation]

$$10^{(1.326 - 0.00326 \times AC \times FL + 0.0107 \times HC + 0.0438 \times AC + 0.158 \times FL)}$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3:333-337, February 1, 1985

[Summary]

The study population consisted of 109 predominately middle class Caucasian patients. The majority of patients were examined within 3 days of delivery, and all patients were examined within at least 1 week of delivery.

- Summary of accuracy of models (Mean deviation = SD(%))

<1,500g	: -4.6±9.7
1,500-2,000g	: 2.5±7.4
2,000-2,500g	: 4.9±7.3
2,500-3,000g	: 1.7±6.6
3,000-3,500g	: 0.2±5.9
3,500-4,000g	: 3.2±6.9
>4,000g	: 6.3±5.1

Estimate Fetal Weight (EFW): HADLOCK4

[Equation]

$$10^{(1.3596 - 0.00386 \times AC \times FL + 0.0064 \times HC + 0.00061 \times BPD \times AC + 0.0424 \times AC + 0.174 \times FL)}$$

[Reference]

Frank P. Hadlock, R. B. Harrist, Ralph S. Sharman, Russell L. Deter, Seung K. Park. "Estimation of fetal weight with the use of head, body, and femur measurement-A prospective study" American Journal of Obstetrics and Gynaecology, Vol 151. No.3:333-337, February 1, 1985

[Summary]

The study population consisted of 109 predominately middle class Caucasian patients. The majority of patients were examined within 3 days of delivery, and all patients were examined within at least 1 week of delivery.

- Summary of accuracy of models (Mean deviation = SD(%))

<1,500g	: 5.4±9.0
1,500-2,000g	: -1.4±7.0
2,000-2,500g	: -2.6±7.8
2,500-3,000g	: -0.4±7.4
3,000-3,500g	: 0.9±5.9
3,500-4,000g	: -1.2±7.2
>4,000g	: -4.0±5.2

Estimate Fetal Weight (EFW): HANSMANN

[Equation]

$$(0.649145 \times \text{TTD} - 0.020562 \times \text{TTD}^2 - 1.05775 \times \text{BPD} + 0.0930707 \times \text{BPD}^2 + 0.515263) \times 1000$$

[Range]

BPD: 5.9 ~ cm

TTD: 5.6 ~ cm

EFW: 500.0 ~ g

[Reference]

Hansmann, Hackeloer, Staudach, Wittman, "Ultrasound Diagnosis in Obstetrics and Gynecology," Springer-Verlag, New York, 1986

Estimate Fetal Weight (EFW): MERZ

[Equation]

$$157.07186 \times \text{AC} + 15.90391 \times \text{BPD}^2 - 3200.40479$$

[Range]

BPD: 7.0 ~ 10.5cm

AC: 21.8 ~ 36.5cm

EFW: 1003 ~ 4286g

[Reference]

E. Merz, W. Goldhofer, E. Timor-Tritsch "Ultrasound in Gynecology and Obstetrics" Textbook and Atlas, 1991, Georg Thieme Verlag, 308-338

Merz E, Lieser H, Schicketanz KH, Harlé J "Intrauterine Gewichtsschätzung mittels Ultraschall. Ein Vergleich mehrerer Gewichtsschätzungsmethoden sowie die Entwicklung einer neuen Formel zur Bestimmung des Fetalgewichtes", Ultraschall Med, 1998, 9(1):15-24

[Summary]

The fetal weights were estimated in 196 fetuses between 24 and 42 weeks of gestation.

- Most Reliable Formula

< 2500g: Shepard

2500g ~ 3499g: Shepard, Hansmann, Merz

3500g ~ 4520g: Schillinger, Hansmann, Shepard, Merz

Estimate Fetal Weight (EFW): OSAKA

[Equation]

$$1.25647 \times \text{BPD}^3 + 3.50665 \times \text{FL} \times \text{FTA} + 6.3$$

[Reference]

Mineo Aoki. Perinatal Care, Vol.9 No.5, p407-422

Estimate Fetal Weight (EFW): SHEPARD

[Equation]

$$10^{(0.166 \times \text{BPD} + 0.046 \times \text{AC} - 0.002646 \times \text{BPD} \times \text{AC} - 1.7492)} \times 1000$$

[Range]

BPD: 3.1 ~ 10.0cm

AC: 15.5 ~ 40.0cm

EFW: 224.0 ~ 4925.0g

[Reference]

Shepard MJ, et al, "An Evaluation of Two Equations for Predicting Fetal Weight by Ultrasound," American Journal of Ob & Gyn, January 1982; 142(1):47-54

[Summary]

73 patients underwent ultrasound evaluation within 2 days of delivery.

- Difference in percentage of fetal weight estimates

Within $\pm 25\text{gm/kg}$ of actual weight: 16.4

Within $\pm 50\text{gm/kg}$ of actual weight: 26.0

Within $\pm 100\text{gm/kg}$ of actual weight: 50.7

More than $\pm 100\text{gm/kg}$ of actual weight: 49.3

The average difference between actual and predicted weight for the sample as a whole was -12.85 gm (SE 40.85)

Estimate Fetal Weight (EFW): SHINOZUKA1

[Equation]

$$1.07 \times \text{BPD}^3 + 0.30 \times \text{AC}^2 \times \text{FL}$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987;157:1140-5

Estimate Fetal Weight (EFW): SHINOZUKA2

[Equation]

$$1.07 \times \text{BPD}^3 + 2.91 \times \text{APTD} \times \text{TTD} \times \text{SL}$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987;157:1140-5

Estimate Fetal Weight (EFW): SHINOZUKA3

[Equation]

$$1.07 \times \text{BPD}^3 + 3.42 \times \text{APTD} \times \text{TTD} \times \text{FL}$$

[Reference]

N.Shinozuka et al. "Formulas for Fetal Weight Estimation by Ultrasound Measurements based on Neonatal Specific Gravities and Volumes" American Journal of Obstetrics and Gynecology, 1987;157:1140-5

Estimate Fetal Weight (EFW): FERRERO

[Equation]

$$10^{(0.77125 + (0.13244 \times \text{AC}) - (0.12996 \times \text{FL}) - (0.00173588 \times \text{AC} \times \text{AC}) + (0.00309212 \times \text{FL} \times \text{AC}) + (2.18984 \times \text{FL}/\text{AC}))}$$

[Reference]

Ferrero A, Maggi E, Giancotti A, et al: Regression formula for estimation of fetal weight with use of abdominal circumference and femur length: A prospective study. J Ultrasound Med 13:823, 1994

Estimate Fetal Weight (EFW): HIGGINBOTTOM

[Equation]

$$AC^3 \times 0.0816$$

[Reference]

Higginbottom J, Slater J, Porter G, et al: Estimation of fetal weight from ultrasonic measurement of trunk circumference. Br J Obstet Gynecol 82:698, 1975

Estimate Fetal Weight (EFW): THURNAU

[Equation]

$$BPD \times AC \times 9.337 - 229$$

[Reference]

Thurnau GR, Tamura RK, Sabbagha R, et al: A simple estimated fetal weight equation based on real-time ultrasound measurements of fetuses less than thirty-four weeks' gestation. Am J Obstet Gynecol 145:557, 1983

Estimate Fetal Weight (EFW): WARSOFF

[Equation]

$$10^{((0.144 \times BPD) + (0.032 \times AC) - (0.000111 \times AC \times BPD \times BPD) - 1.599) \times 1000}$$

[Reference]

Warsoff SL, Gohari P, Berkowitz RL, et al: The estimation of fetal weight by computer-assisted analysis. Am J Obstet Gynecol 120:881, 1977

Estimate Fetal Weight (EFW): WEINER1

[Equation]

$$10^{(1.6575 + (0.04035 \times HC) + (0.01285 \times AC))}$$

[Reference]

Weiner CP, Sabbagha RE, Vaisrub N, et al: Ultrasonic fetal weight prediction: Role of head circumference and femur length. Obstet Gynecol 65:812, 1985

Estimate Fetal Weight (EFW): WEINER2

[Equation]

$$10^{(1.6961 + (0.02253 \times HC) + (0.01645 \times AC) + (0.06439 \times FL))}$$

[Reference]

Weiner CP, Sabbagha RE, Vaisrub N, et al: Ultrasonic fetal weight prediction: Role of head circumference and femur length. Obstet Gynecol 65:812, 1985

Estimate Fetal Weight (EFW): WOO

[Equation]

$$10^{(1.13705 + (0.15549 \times BPD) + (0.04864 \times AC) - (0.00279682 \times BPD \times AC) + (0.037769 \times FL) - (0.000494529 \times AC \times FL))}$$

[Reference]

Woo JS, Wan CW, Cho KM

Computer-assisted evaluation of ultrasonic fetal weight prediction using multiple regression equations with and without the fetal femur length, J Ultrasound Med 4:65, 1985

:: Cardiology Reference

Cardiology 2D

BSA (Body Surface Area)

BSA can be calculated by entering patient's weight and height in New Patient Input Screen.

$$BSA = H^{0.725} \times W^{0.425} \times 0.007184 (cm^2)$$

where, H: centimeters, W: kilograms

Reference: Grossman, W. "Cardiac Catheterization and Angiography." Blood Flow

Measurement: Hemodynamic Principles, 1980. Chapter 8, page 90.

LV. Ventricle (2D)

LVd: Left Ventricle Diastole

LVs: Left Ventricle Systole

LVIDd: Left Ventricle Internal Dimension Diastole

LVIDs: Left Ventricle Internal Dimension Systole

LVPWd: Left Ventricle Posterior Wall Dimension Diastole

LVPWs: Left Ventricle Posterior Wall Dimension Systole

IVSd: Interventricular Septal Thickness Diastole

IVSs: Interventricular Septal Thickness Systole

EDV : End Diastolic Volume

ESV : End Systolic Volume

IVS% (IVS% Thickening)

$$IVS\% = \frac{IVSs - IVSd}{IVSd} \times 100 (\%)$$

LVPW% (LVPW% Thickening)

$$LVPW\% = \frac{LVPWs - LVPWd}{LVPWd} \times 100 (\%)$$

IVSd/LVPWd (Interventricular Septum to Posterior Wall Thickness Ratio Diastole)

$$IVSd / LVPWd = \frac{IVSd}{LVPWd}$$

IVSs/LVPWs (Interventricular Septum to Posterior Wall Thickness Ratio Systole)

$$IVSs / LVPWs = \frac{IVSs}{LVPWs}$$

LV Vol. d (LV Volume Diastolic)

$$\text{Teichholz : } EDV = \frac{7.0}{2.4 + LVIDd} \times LVIDd^3$$

Reference: Teichholz, L.E., Kreulen, T., Herman, M.V., et. al. "Problems in echocardiographic volume determinations: echocardiographic-angiographic correlations in the presence or absence of asynergy." American Journal of Cardiology, 1976, 37:7.

$$\text{Cubed : } EDV = LVIDd^3$$

Reference: Pombo, J.F., et. al. "Left Ventricular Volumes and Ejection Fraction by Echocardiography" Circulation, Vol. XLIII, 482, April, 1971

$$\text{Gibson : } EDV = 0.52 \times (0.98 \times LVIDd + 5.90) \times LVIDd^2$$

Reference: "Basic Echocardiography" Iowa Heart Center, Mark J. Harry R.D.C.S., R.V.T. Jan, 1997 p. 30

❏ LV Vol. s (LV Volume Systolic)

$$\text{Teichholz: } ESV = \frac{7.0}{2.4 + LVIDs} \times LVIDs^3$$

Reference: Teichholz, L.E., Kreulen, T., Herman, M.V., et. al. "Problems in echocardiographic volume determinations: echocardiographic-angiographic correlations in the presence or absence of asynergy." American Journal of Cardiology, 1976, 37:7.

$$\text{Cubed: } ESV = LVIDs^3$$

Reference: Pombo, J.F., et. al. "Left Ventricular Volumes and Ejection Fraction by Echocardiography." Circulation, Vol. XLIII, 482, April, 1971.

$$\text{Gibson: } ESV = 0.52 \times (1.14 \times LVIDs + 4.18) \times LVIDs^2$$

Reference: "Basic Echocardiography" Iowa Heart Center, Mark J. Harry R.D.C.S., R.V.T. Jan, 1997 p.30

❏ Stroke Volume (SV)

$$SV = (EDV - ESV) (ml)$$

❏ Stroke Volume Index (SI)

$$SI = SV / BSA$$

❏ Cardiac Output (CO)

$$CO = \frac{(SV \times HR)}{1000}$$

❏ Cardiac Index (CI)

$$CI = CO / BSA$$

❏ Ejection Fraction (EF)

Reference: Oh, J.K., Seward, J.B., Tajik, A.J. "The Echo Manual" Boston: Little, Brown and Company, 1994; 43

$$EF = \frac{(EDV - ESV)}{EDV} \times 100 (\%)$$

❏ Fraction Shortening (%FS)

$$FS = \frac{(LVIDd - LVIDs)}{LVIDd} \times 100 (\%)$$

❏ LV Mass

$$LVmass = 1.04 \times [(LVIDd + LVPWd + LVSD)^3 - LVIDd^3] \times 0.8 + 0.6 \quad (g)$$

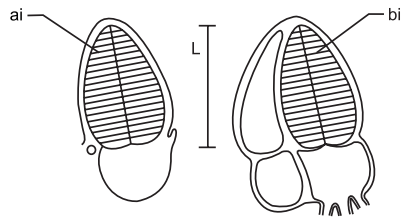
Reference: Oh, J.K., Seward, J.B. The Echo Manual. Boston: Little, Brown and company, 1994, p.43.

❏ LV Mass Index

$$LV \text{ Mass Index} = LV \text{ Mass} / BSA$$

LV Vol. (MOD, Method Of Disk)

MOD is used for calculation left ventricular volume from measurements taken in two scan planes. The calculation of volume for both methods (2-chamber or the 4-chamber view) results from summation of areas from diameters of 20 cylinders or discs of equal height, apportioned over the left ventricular length



$$V = \frac{\pi}{4} \cdot \sum_{i=1}^n a_i b_i \cdot \frac{L}{n}$$

[Single Plane]

$$LVEDV \ A2C \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} a_i^2 \times \frac{L}{20} \quad (i = 1 \sim 20)$$

$$LVESV \ A2C \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} a_i^2 \times \frac{L}{20} \quad (i = 1 \sim 20)$$

$$LVEDV \ A4C \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} b_i^2 \times \frac{L}{20} \quad (i = 1 \sim 20)$$

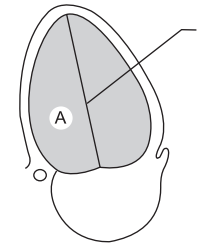
$$LVESV \ A4C \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} b_i^2 \times \frac{L}{20} \quad (i = 1 \sim 20)$$

[Bi-Plane]

$$LVEDV \ BP \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} a_i b_i \times \frac{L}{20} \quad (i = 1 \sim 20), L = \text{Maximum length from LVLd}$$

$$LVEDS \ BP \ MOD \ (ml) = \frac{\pi}{4} \times \sum_{i=1}^{20} a_i b_i \times \frac{L}{20} \quad (i = 1 \sim 20), L = \text{Maximum length from LVLs}$$

LV Vol. (A/L)



$$V = 0.85 \cdot \frac{A^2}{L}$$

LV Volume: Single Plane Area Length

$$LVEDV \ A2C \ AL \ (ml) = \frac{8}{3\pi} \times \frac{Ad^2}{Ld}$$

$$LVEDV \ A2C \ AL \ (ml) = \frac{8}{3\pi} \times \frac{Ad^2}{Ld}$$

$$LVEDV \ A4C \ AL \ (ml) = \frac{8}{3\pi} \times \frac{Ad^2}{Ld}$$

$$LVESV \ A4C \ AL \ (ml) = \frac{8}{3\pi} \times \frac{As^2}{Ls}$$

LV Vol. (Bullet)

LVA: Left Ventricle Short-axis Area Diastolic

LVLd: Left Ventricle Apical Length Diastolic

LVA: Left Ventricle Short-axis Area Systolic

LVLd: Left Ventricle Apical Length Systolic

Vol. d (Diastolic Volume)

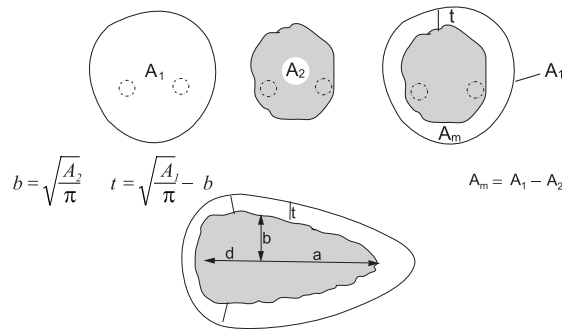
$$EDV = \frac{5}{6} \times LVAd \times LVLd$$

Vol. s (Systolic Volume)

$$ESV = \frac{5}{6} \times LVAs \times LVLs$$

LV Mass

LV MASS BY AREA LENGTH(AL) AND TRUNCATED ELLIPSOID(TE)



$$LV \text{ MASS(AL)} = 1.05 \{ [5/6A_2(a+d+t)] - [5/6A_2(a+d)] \}$$

$$LV \text{ MASS(TE)} = 1.05 \pi \{ (b+t)^2 \left[\frac{2}{3}((a+t)+d - \frac{d^3}{3(a+t)^2}) \right] - b^2 \left[\frac{2}{3}a+d - \frac{d^3}{3a^2} \right] \}$$

AL(Area Length) Method

$$LVMass = 1.05 \times \left[\left(\frac{5}{6} \times A1 \times (L+t) \right) - \left(\frac{5}{6} \times A2 \times L \right) \right] \quad (g)$$

where,

A1 : LVAd SAX PM Epi (cm²) A2 : LVAd SAX PM (cm²)

L : LVLd apical (cm) t : LV Myo Thck (cm)

Myocardial Thickness (Myo Thck)

$$MyoThck = \sqrt{\frac{A1}{\pi}} - \sqrt{\frac{A2}{\pi}} \quad (cm)$$

where,

A1 : LVAd SAX PM Epi (cm²) A2 : LVAd SAX PM (cm²)

TE(Truncated Ellipsoid) Method

$$LVMass = 1.05 \times \left[A1 \left(\frac{2}{3} \times (a+t) + d - \frac{d^3}{3(a+t)^2} \right) \right] - A2 \left(\frac{2}{3} \times (a+d) - \frac{d^3}{3a^2} \right) \quad (g)$$

where,

A1 : LVAd SAX PM Epi (cm²) A2 : LVAd SAX PM (cm²)

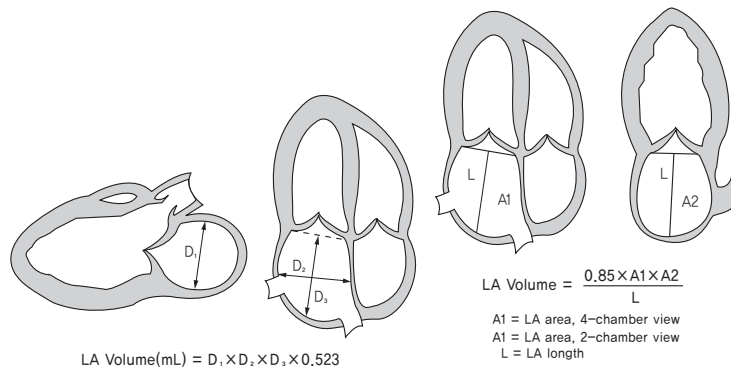
L : LVLd apical (cm) t : LV Myo Thck (cm)

a : LV TE a(cm) d : LV TE d (cm)

LV Mass Index

$$LVmass \text{ Index} = LV \text{ Mass} / BSA \quad (g / m^2)$$

LA Vol. (Left Atrium Volume)



LA Area

$$Vol. = \frac{\pi}{4} \times LA \text{ Major} \times LA \text{ Minor} \text{ (ml)}$$

LA Volume

Prolate Ellipse Method

$$Vol. = \frac{4}{3} \pi \times \frac{LA \text{ Major}}{2} \times \frac{LA \text{ Minor}}{2} \times \frac{LA \text{ Diam}}{2} \text{ (ml)}$$

Area Length Method

$$LAEDV \text{ BP AL (ml)} = \frac{0.85 \times LAAd \ A4C \times LAAd \ A2C}{LA \text{ Major}}$$

$$LAESV \text{ BP AL (ml)} = \frac{0.85 \times LAAs \ A4C \times LAAs \ A2C}{LA \text{ Major}}$$

LA Volume Index

$$Volume \text{ Index} = Volume / BSA$$

LVOT Area

$$LVOTarea = \frac{\pi \times LVOTdiam^2}{4} \text{ (cm}^2\text{)}$$

RVOT Area

$$RVOTarea = \frac{\pi \times RVOTdiam^2}{4} \text{ (cm}^2\text{)}$$

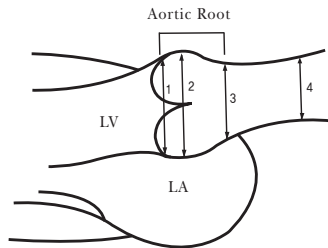
Mitral Valve (MV) Area

$$MVarea = \frac{\pi \times MVdiam1 \times MVdiam2}{4}$$

Tricuspid Valve (TV) Area

$$TVarea = \frac{\pi \times TVdiam1 \times TVdiam2}{4} \text{ (cm}^2\text{)}$$

Aorta Diameter



1. Ao Diam
2. Ao Sinus Diam
3. Ao ST Junct Diam
4. Asc Ao Diam

Shunt

IVC(Inferior Vena Cava) % Change

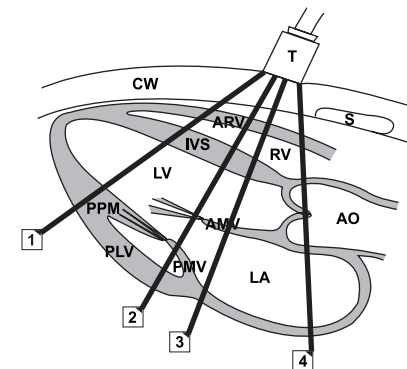
$$IVCIns / Exp = \frac{IVCdiamExp - IVCdiamInsp}{IVCdiamInsp} \times 100 \quad (\%)$$

SVC(Superior Vena Cava) % Change

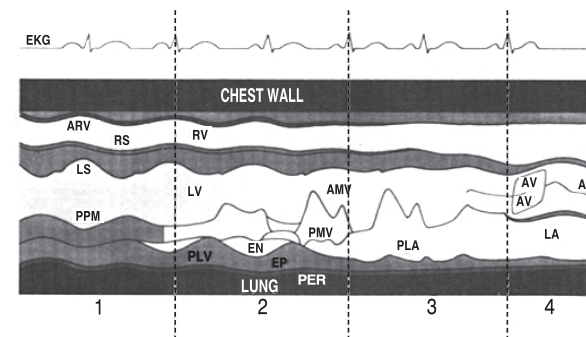
$$SVCIns / Exp = \frac{SVCdiamExp - SVCdiamInsp}{SVCdiamInsp} \times 100 \quad (\%)$$

Cardiology M mode

Left Ventricle



Reference: Harvey Feigenbaum, "Echocardiography", 1995 fifth edition



Reference: Harvey Feigenbaum, "Echocardiography", 1995 fifth edition

LVDd : Left Ventricle Dimension Diastole
LVDs : Left Ventricle Dimension Systole

LVPWd : Left Ventricle Posterior Wall Dimension Diastole
LVPWs : Left Ventricle Posterior Wall Dimension Systole

IVSd : Interventricular Septal Thickness Diastole
IVSs : Interventricular Septal Thickness Systole

EDV: End Diastolic Volume
ESV: End Systolic Volume

LV Mass

$$LV_{mass} = 1.04 \cdot [(LVIDd + LVPWDd + IVSd)^3 - LVIDd^3] \times 0.8 + 0.6 \text{ (g)}$$

Reference: Oh, J.K., Seward, J.B. The Echo Manual. Boston: Little, Brown and company, 1994, p.43.

LV Mass Index

$$LV \text{ Mass Index} = LV \text{ Mass} / BSA$$

Right Ventricle

RV PEP/ET (RV Pre-Ejection Period / Ejection Time)

$$RV \text{ PEP} / ET = \frac{RV \text{ PEP}}{RV \text{ ET}}$$

MV (Mitral Valve)

Definition for the Mitral Valve

D: end of systolic, immediately before the opening of the Mitral Valve

E: the arterial leaflet of the Mitral valve open, it peaks at E

F: lowest point of the initial diastolic closing

A: In atrial systole, blood is propelled through the Mitral orifice and the Mitral leaflets reopen the peak of this phase of Mitral valve motion is indicated as A

C: complete closure occurs after the onset of ventricular systole

A-C interval (unit : msec)

The distance between the A point and the C point

Mitral Valve D-E Excursion (unit : cm)

Distance between the onset of the opening of the Mitral valve at D and the maximum opening of the anterior Mitral valve leaflet at E

Mitral Valve D-E Slope (unit : cm/sec)

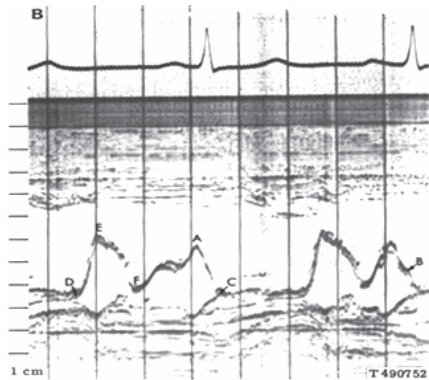
Automatically calculated from the D-E excursion the rate of change that exists between two point(D, E)

Mitral Valve E-F Slope (unit : cm/sec)

The rate of change that exists between two point(E, F)

EPSS (Mitral Valve E Point Septal Separation) (unit : cm)

Distance between the Mitral Valve E point and posterior edge of the interventricular septum at the same point in time



<Figure – Mitral Valve M mode Waveform>

■ Ao/LA

Aortic Root Diameter (unit:cm) : Ao Root

The distance between the leading echo of the anterior aortic wall and the leading echo of the posterior aortic wall at R wave of the electrocardiogram

Aortic Valve Cusp Separation (unit:cm) : Ao Cusp Sep

The distance between the trailing echo of the anterior aortic valve leaflet and the leading echo of the posterior aortic valve leaflet in early diastole

Left Atrial Diameter (unit:cm) : LA Diam

The distance between the trailing edge of the posterior aortic wall echo and the leading edge of the posterior left atrial wall echo at the level of aortic wall at the R wave of the delectrocardiogram.

■ LA/Ao

$$LA / Ao = LA \text{ Diam} / Ao \text{ Root}$$

LV PEP/ET (LV Pre-Ejection Period / Ejection Time)

$$LV \text{ PEP} / ET = \frac{LV \text{ PEP}}{LV \text{ ET}}$$

■ Area

Area

$$Area = \pi / 4 \times (Diam)^2 \quad \text{or} \quad \pi / 4 \times Diam_1 \times Diam_2$$

Cardiology C mode

AV Regurg (AR), MV Regurg (MR), TV Regurg (TR)

PISA(Proximal Isovelocity Surface Area)-Radius

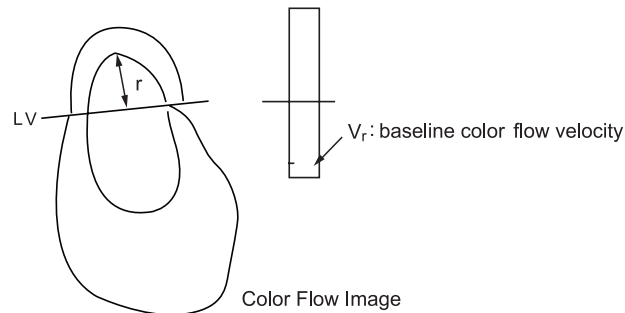
Reference: Oh, J.K., Seward, J.B., Tajik, A.J. The Echo Manual. Boston: Little, Brown and Company, 1994, p.106.

Schmailzl, K., Omerod, O., Editors. Ultrasound in Cardiology. Blackwell Science, 1994, p.125.

PISA-Radius is the radial distance of the isovelocity shell from the orifice (Figure - Regurgitant Flow-PISA Radius)

PISA-Radius = Radial distance of the isovelocity shell from the orifice in cm

Regurgitant Flow

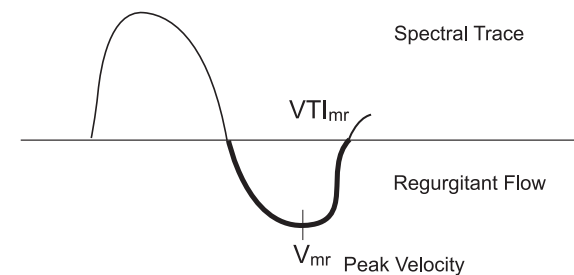


<Figure – Regurgitant Flow-PISA Radius>

PISA-Alias Velocity

Reference: Schmailzl, K., Omerod, O., Editors. Ultrasound in Cardiology. Blackwell Science, 1994, p.125.

PISA-Alias Velocity is the peak velocity of the regurgitant jet on the Doppler display (Figure – Regurgitant Flow-PISA Alias Velocity)



<Figure – Regurgitant Flow-PISA Alias Velocity>

Regurgitant Volume Flow Rate (Rate)

$$Flow\ Rate = 2 \times \pi \times (PISA\ Radius)^2 \times (PISA\ Alias\ Vel)$$

Effective Regurgitant Orifice(ERO)

Reference: Oh, J.K., Seward, J.B., Tajik, A.J. The Echo Manual. Boston: Little, Brown and Company, 1994, pp. 108-109

V_{max} is the peak velocity of the mitral regurgitant jet measured on the Doppler display.

$$PISA - ERO = \frac{PISA - Rate}{V_{max}} (cm^2)$$

Regurgitant Volume (Vol.)

Reference: Oh, J.K., Seward, J.B., Tajik, A.J. The Echo Manual. Boston: Little, Brown and Company, 1994, pp. 108-109

$$PISA - Vol. = ERO \times VTI \text{ (ml)}$$

Where:

PISA-Vol. = Regurgitant volume in milliliters

PISA-ERO = Effective Regurgitant area in cm².

VTI = Velocity integral of the Regurgitant flow measured on the Doppler display

Regurgitant Fraction

$$\text{Regurgitant Fraction} = \text{Regurgitant Volume} / SV \times 100 \text{ (\%)}$$

Cardiology Doppler

LVOT, RVOT, Aortic Valve, Mitral Valve, Tricuspid Valve, Pulmonic Valve

HR(Heart Rate)

$$HR = \# \text{ Beat} \times 60 / \text{time (bpm : bit / min)}$$

Max Pressure Gradient

$$PG_{\max} = 4 \times V_{\max}^2 \text{ (mmHg)}$$

where, Vmax :Max Velocity (m/sec)

PHT (Pressure Half Time)

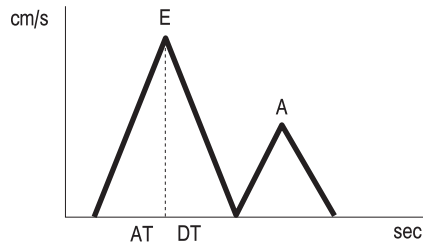
Reference: Oh, J.K., Seward, J.B., Tajik, A.J. The Echo Manual. Boston: Little, Brown and Company, 1994, p.59-60

Pressure half-time (PHT) is the time it takes for the peak pressure gradient to fall to half of its peak value. DT is deceleration time in centimeters per second from the peak velocity to the baseline.

Acceleration (Acc)

$$Acc = V_{\max} / AccT$$

Where, Vmax: Max Velocity, AccT: Acceleration Time

**Deceleration (Dec)**

$$Dec = V_{\max} / Dec T$$

Where, $V_{\max}$: Max Velocity, DecT: Deceleration Time

AccT/ET

$$AccT / ET = \frac{AccT}{EjectT}$$

CSA(Cross Sectional Area)

$$Area = \pi \times \left(\frac{Diam}{2}\right)^2$$

where, Diam: diameter

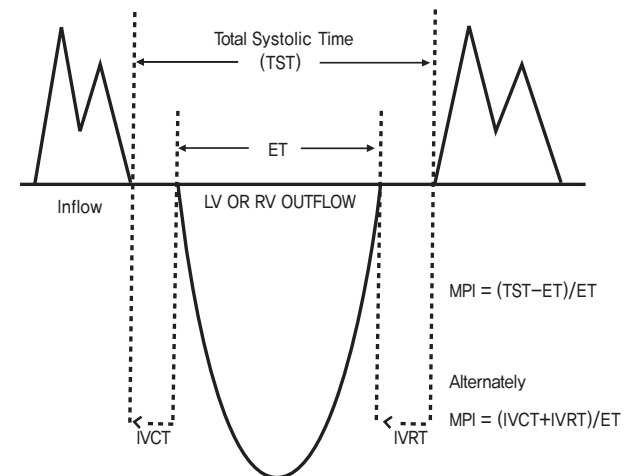
SV (Stroke Volume)

$$SV = VTI \times Area \quad (ml)$$

where, Area: LVOT area, RVOT area, or TV area

CO (Cardiac Output)

$$CO = \frac{(SV \times HR)}{1000}$$

Tei Index

$$Tei Index = (IVRT + IVCT) / Eject T$$

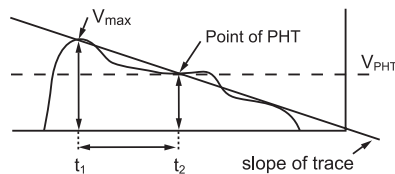
Where, IVRT: Isovolumic Relaxation Time, IVCT: Isovolumic Contraction Time, EjectT: Ejection Time

TST (Total Systolic Time)

$$TST = IVRT + IVCT + Eject T$$

MPI (Myocardial Performance Index (Tei Index))

$$MPI = (TST - ET) / ET$$

MVA(Mitral Valve Area) by PHT

$$V_{PHT} = V_{max} \cdot \sqrt{2} = \frac{V_{max}}{1.4}$$

$$PHT = t_2 - t_1$$

$$slope = \frac{(t_2 - t_1)}{(V_{PHT} - V_{max})} = \frac{PHT}{\frac{V_{max}}{1.4} - V_{max}}$$

$$PHT = slope \times V_{max} \times (-0.29)$$

$$MVA = \frac{220}{PHT} \text{ (cm}^2\text{)}$$

Where ; PHT is Pressure Half Time (milliseconds)

Reference: John H. Phillipse, "Practical Quantitative Doppler Echocardiography", p47, chapter6, CRC press, 1991

dp/dt

$$dp / dt = \frac{32000}{dp / dtTime} \text{ (msec)}$$

CONT(Continuity Equation)

When there is a constant flow in a flow channel with a Stenosis, the flow volume at the Stenosis portion equals that at nonstenotic portions. This equation is valid not only in a constant flow, but also in a pulsatility flow channel.

$SV1 = SV2$ Where, SV1: stroke volume in the nonstenotic area, SV2: stroke volume in the stenotic area

Pulmonic Veins, Hepatic Veins

Reference: Oh, J.K., Seward, J.B., Tajik, A.J. The Echo Manual. Boston: Little, Brown and Company, 1994, p.48

Diastolic Velocity(Dias Vel.)

Velocity measured at diastole.

Systolic Velocity (Sys Vel.)

Velocity measured at systole.

Atrial Reversal Velocity(A. Rev. Vel)

Atrial reversal velocity is the peak velocity of the atrial reversal component.

Pulmonary Vein A-Wave Duration (A. Rev Dur)

Pulmonary atrial flow reversal duration is the time between the diastolic component of pulmonary venous flow and the closure of the mitral valve.

Sys/Dia (Systole/Diastole)

Ratio of the velocity measured at systole and the velocity measured at diastole.

Plum Vein-MV A Duration

Plum Vein-MV A Dur.= Plum Vein Dur.- MV A Dur.

✦ Aortic Valve

AV Area by VTI

$$AVA (VTI) = VTI / AV VTI \times \pi \times (LVOT Diam / 2)^2$$

AV Area by Vmax

$$AVA (V max) = V max / AV V max \times \pi \times (LVOT Diam / 2)^2$$

✦ Mitral Valve

MV Area by VTI

$$MVA (VTI) = VTI / MV VTI \times \pi \times (LVOT Diam / 2)^2$$

MV Area by Vmax

$$MVA (V max) = V max / MV V max \times \pi \times (LVOT Diam / 2)^2$$

✦ Tricuspid Valve

TV Area by VTI

$$TVA (VTI) = VTI / TV VTI \times \pi \times (LVOT Diam / 2)^2$$

TV Area by Vmax

$$TVA (V max) = V max / TV V max \times \pi \times (LVOT Diam / 2)^2$$

✦ Pulmonic Valve

PV Area by VTI

$$PVA (VTI) = VTI / PV VTI \times \pi \times (LVOT Diam / 2)^2$$

PV Area by Vmax

$$PVA (V max) = V max / PV V max \times \pi \times (LVOT Diam / 2)^2$$

✦ QP : QS = Pulmonic CO / Sysemic CO

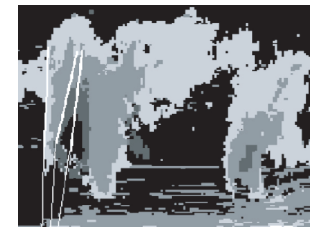
$$Qp : Qs = Pulm. CO / Sys. CO$$

$$CO = \frac{Pulm.SV \times Pulm.HR}{1000} \quad (l/ml)$$

✦ Velocity Circumferential Fiber Shortening (Circ / Sec)

$$Vcf = ((LVIDd - LVIDs) / LVIDd) \times (1 / LVET)$$

✦ Propagation Velocity (Vp)



Main aliased velocity
Front aliased velocity
Black-to-colour transition

:: Urology Reference

❏ Resistivity Index

$$RI = \frac{V_{systolic} - V_{diastolic}}{V_{systolic}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

❏ Pulsatility Index

$$PI = \frac{V_{systolic} - V_{diastolic}}{V_{mean}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.585

❏ S/D (ratio of Systolic to Diastolic Velocity)

$$S/D = \frac{V_{systolic}}{V_{diastolic}}$$

Reference: Ameriso S, et al., "Pulseless Transcranial Doppler Finding in Takayasu's Arteritis," J Clin Ultrasound, September 1990; 18:592-6

❏ D/S (ratio of Diastolic to Systolic Velocity)

$$D/S = \frac{V_{diastolic}}{V_{systolic}}$$

❏ Pressure Gradient

$$PG \max = 4 \times V^2 \text{ (mmHg)}$$

where, PGmax :Max Pressure gradient

V: the maximum instantaneous velocity (m/sec)

❏ Volume Flow (Area)

$$VolumeFlow = Area \times TAMV \times 60 \text{ (ml / min)}$$

❏ Volume Flow (Dist.)

$$VolumeFlow = \frac{\pi \times d^2}{4} \times TAMV \times 60 \text{ (ml / min)}$$

❏ Prostate Vloume (3 Distances)

$$Vol. = \frac{4}{3} \pi \cdot \frac{1stDia}{2} \cdot \frac{2ndDia}{2} \cdot \frac{3rdDia}{2} \text{ (ml)}$$

❏ Prostate Vloume (3 Distances x Factor)

$$Vol. = 1stDia \cdot 2ndDia \cdot 3rdDia \cdot Factor$$

❏ Prostate Vloume (Ellipsoid)

$$Vol. = \frac{4}{3} \pi \cdot \frac{MainDia}{2} \cdot \left(\frac{BesideDia}{2} \right)^2$$

✦ Prostate Volume (Sum of 20 Disks)

$$Vol. = \frac{\pi}{4} \sum_{i=1}^n a_i^2 \cdot \frac{L}{n}, \text{ where } n = 20$$

✦ Prostate Spec. Antigen

$$PSAD = PSA / \text{Prostate Volume}$$

✦ Residual Volume

$$V_{res} = V_{pre} - V_{post}$$

✦ %STA

$$\%STA = \frac{\text{Stenosis Area}}{\text{BloodVessel Area}} \times 100 \quad (\%)$$

Reference: Jacob, Normaan M et, al., "Duplex Carotid Sonography : Criteria for Stenosis, Accuracy, and Pitfalls," Radiology 154: 385~391, 1985.

✦ %STD

$$\%STD = \frac{\text{StenosisDist}}{\text{BloodVesselDist}} \times 100 \quad (\%)$$

Reference: Taylor K. J. W., Burns P. N., Breslau P., "Clinical Applications of Doppler

✦ Fetal Heart Reference

✦ Stroke Volume (SV)

$$SV = (EDV - ESV) \text{ (ml)}$$

where, EDV : End Diastolic Volume, ESV : End Systolic Volume

✦ Cardiac Output (CO)

$$CO = \frac{(SV \times HR)}{1000}$$

✦ Ejection Fraction (EF)

$$EF = \frac{(EDV - ESV)}{EDV} \times 100 \quad (\%)$$

where, EDV : End Diastolic Volume, ESV : End Systolic Volume

Reference: Oh, J.K., Seward, J.B., Tajik, A.J. "The Echo Manual" Boston: Little, Brown and Company, 1994; 43

✦ LV Vol. d (LV Volume Diastolic)

$$\text{Teichholz} \quad EDV = \frac{7.0}{2.4 + LVIDd} \times LVIDd^3$$

Reference: Teichholz, L.E., Kreulen, T., Herman, M.V., et. al. "Problems in echocardiographic volume determinations: echocardiographic-angiographic correlations in the presence or absence of asynergy." American Journal of Cardiology, 1976, 37:7.

$$\text{Cubed } EDV = LVIDd^3$$

Reference: Pombo, J.F., et. al. "Left Ventricular Volumes and Ejection Fraction by Echocardiography." Circulation, Vol. XLIII, 482, April, 1971.

$$\text{Gibson } EDV = 0.52 \times (0.98 \times LVIDd + 5.90) \times LVIDd^2$$

Reference: "Basic Echocardiography" Iowa Heart Center, Mark J. Harry R.D.C.S., R.V.T. Jan, 1997 p. 30

LV Vol. s (LV Volume Systolic)

$$\text{Teichholz } ESV = \frac{7.0}{2.4 + LVIDs} \times LVIDs^3$$

Reference: Teichholz, L.E., Kreulen, T., Herman, M.V., et. al. "Problems in echocardiographic volume determinations: echocardiographic-angiographic correlations in the presence or absence of asynergy." American Journal of Cardiology, 1976, 37:7.

$$\text{Cubed } EDV = LVIDs^3$$

Reference: Pombo, J.F., et. al. "Left Ventricular Volumes and Ejection Fraction by Echocardiography." Circulation, Vol. XLIII, 482, April, 1971.

$$\text{Gibson } EDV = 0.52 \times (1.14 \times LVIDs + 4.18) \times LVIDs^2$$

Reference: "Basic Echocardiography" Iowa Heart Center, Mark J. Harry R.D.C.S., R.V.T. Jan, 1997 p. 30

LV Mass

$$LV_{\text{mass}}(\text{grams}) = 1.04 \cdot [(LVIDd + LVPWd + IVSd)^3 - LVIDd^3] \times 0.8 + 0.6$$

Reference: Oh, J.K., Seward, J.B. The Echo Manual. Boston: Little, Brown and company, 1994, p.43

Fractional Shortening of Left Ventricle Internal diameter

A percent change in LV cavity dimension with systolic contraction

$$FS = \frac{LVIDd - LVIDs}{LVIDd} \times 100 (\%)$$

Harvey Feigenbaum, "Echocardiography", 1995 fifth edition

Resistivity Index

$$RI = \frac{V_{\text{systolic}} - V_{\text{diastolic}}}{V_{\text{systolic}}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

Pulsatility Index

$$PI = \frac{V_{\text{systolic}} - V_{\text{diastolic}}}{V_{\text{mean}}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.585

S/D (ratio of Systolic to Diastolic Velocity)

$$S / D = \frac{V_{\text{systolic}}}{V_{\text{diastolic}}}$$

Reference: Ameriso S, et al., "Pulseless Transcranial Doppler Finding in Takayasu's Arteritis," J Clin Ultrasound, September 1990; 18:592-6

D/S (ratio of Diastolic to Systolic Velocity)

$$D / S = \frac{V_{\text{diastolic}}}{V_{\text{systolic}}}$$

Preload Index

Artrial Reversal Flow / Systolic Flow

Reference: Toru Kanzaki, Yoshihide Chiba, Evaluation of the Preload Condition of the Fetus by Inferior Vena Caval Blood Flow Pattern Fetal Diagn Ther 1990; 5: 168-174

⚙ Vascular Reference

Carotid, UE Artery, LE Artery, LE Vein

⚙ Resistivity Index

$$RI = \frac{V_{systolic} - V_{diastolic}}{V_{systolic}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.585

⚙ Pulsatility Index

$$PI = \frac{V_{systolic} - V_{diastolic}}{V_{mean}}$$

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Reference: Ameriso S, et al., "Pulseless Transcranial Doppler Finding in Takayasu's Arteritis," J Clin Ultrasound, September 1990; 18: 592-6

⚙ D/S (ratio of Diastolic to Systolic Velocity)

$$D / S = \frac{V_{diastolic}}{V_{systolic}}$$

⚙ Pressure Gradient

$$PG \max = 4 \times V^2 \text{ (mmHg)}$$

where, PGmax : Max Pressure gradient

V : the maximum instantaneous velocity(m/sec)

⚙ %STA

$$\%STA = \frac{\text{Stenosis Area}}{\text{BloodVessel Area}} \times 100 (\%)$$

Reference: Jacob, Normaan M et, al., "Duplex Carotid Sonography : Criteria for Stenosis, Accuracy, and Pitfalls," Radiology 154: 385~391, 1985.

⚙ %STD

$$\%STD = \frac{\text{StenosisDist}}{\text{BloodVesselDist}} \times 100 (\%)$$

Reference: Taylor K. J. W., Burns P. N., Breslau P., "Clinical Applications of Doppler Ultrasound", Raven Press, N.Y., pages 130-136.

⚙ Volume Flow (Area)

$$\text{VolumeFlow} = \text{Area} \times \text{TAMV} \times 60 \text{ (ml min)}$$

⚙ Volume Flow (Dist.)

$$\text{VolumeFlow} = \frac{\pi \times d^2}{4} \times \text{TAMV} \times 60 \text{ (ml / min)}$$

:: Gynecology Reference

❏ Resistivity Index

$$RI = \frac{V_{systolic} - V_{diastolic}}{V_{systolic}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

❏ Pulsatility Index

$$PI = \frac{V_{systolic} - V_{diastolic}}{V_{mean}}$$

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Reference: Jacob, Norman M et, al., "Duplex Carotid Sonography : Criteria for Stenosis, Accuracy, and Pitfalls," Radiology 154: 385~391, 1985.

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❏ Volume Flow (Dist.)

$$VolumeFlow = \frac{\pi \times d^2}{4} \times TAMV \times 60 \text{ (ml / min)}$$

❏ Vol.

$$Vol. = \pi / 6 \times Length \times Height \times Width,$$

❏ Follicle Vol.

$$Follicle \ Vol. = \pi / 6 \times (Dist.)^3$$

:: Abdomen Reference

❏ Resistivity Index

$$RI = \frac{V_{systolic} - V_{diastolic}}{V_{systolic}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

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$$VolumeFlow = Area \times TAMV \times 60 \text{ (ml min)}$$

❏ Volume Flow (Dist.)

$$VolumeFlow = \frac{\pi \times d^2}{4} \times TAMV \times 60 \text{ (ml / min)}$$

❏ Vol.

$$Vol. = \pi / 6 \times Length \times Height \times Width$$

❏ Vol. Index

$$Vol.Index = Length \times Height \times Width / 27$$

❖ Small Part Reference

Thyroid, Breast, Testis, Superficial

❖ Resistivity Index

$$RI = \frac{Vsystolic - Vdiastolic}{Vsystolic}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

❖ Pulsatility Index

$$PI = \frac{Vsystolic - Vdiastolic}{Vmean}$$

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$$PG \max = 4 \times V^2 \text{ (mmHg)}$$

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❖ Volume Flow (Dist.)

$$VolumeFlow = \frac{\pi \times d^2}{4} \times TAMV \times 60 \text{ (ml / min)}$$

❖ Vol.

$$Vol. = \pi / 6 \times Length \times Height \times Width,$$

✚ Follicle Vol.

$$Follicle\ Vol. = \pi / 6 \times (Dist.)^3$$

✚ Mass Vol.

$$Mass\ Vol. = \pi / 6 \times (Dist.)^3$$

⚡ TCD Reference

✚ Resistivity Index

$$RI = \frac{V_{systolic} - V_{diastolic}}{V_{systolic}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.586

✚ Pulsatility Index

$$PI = \frac{V_{systolic} - V_{diastolic}}{V_{mean}}$$

Reference: Burns, Peter N., "The Physical principles of Doppler Spectral Analysis," Journal of Clinical Ultrasound, Nov./Dec. 1987, Vol.15, No.9, p.585

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✦ Pressure Gradient

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✦ Volume Flow (Dist.)

$$\text{VolumeFlow} = \frac{\pi \times d^2}{4} \times \text{TAMV} \times 60 \text{ (ml / min)}$$

∴ Acoustic Output Tables

IEC 60601-2-37 Tables

▣ Symbols and Definitions

Standard 60601-2-37 published by the International Electrotechnical Commission (IEC) requires the declaration of acoustic output information. The definitions and units of the symbols in those tables are listed below, and are consistent with IEC 60601-2-37 and IEC 62359. Definitions for CAPITALIZED parameters, if not found here, can be found in the reference documents.

All table entries have been obtained at the operating conditions that give rise to the Maximum Index Value (shown in the second row of the table). Due to the complexities of the system user interface, it may be difficult to exactly replicate the declared condition. Contact Samsung Medison for further information as needed.

Note that Samsung Medison provides information for both of the TIS non-scanned columns. The 'Aaprt ≤ 1' (cm²) column is an 'at_surface' TIS value and the 'Aaprt > 1' (cm²) column is a 'below surface' TIS value. The tables will provide additional informational flags (**) in the event that the largest TIS non-scanned value is an 'at_surface' value with Aaprt > 1 cm², or if the largest TIS non-scanned value is a 'below_surface' value with Aaprt ≤ 1 cm² case (very rare).

A_{aprt}	the -12 dB OUTPUT BEAM AREA, or transmit aperture area, of the ultrasonic beam. Derived from the -12 dB OUTPUT BEAM DIMENSIONS. (centimeters squared)
d_{eq} at max. I_{pi}	the EQUIVALENT BEAM DIAMETER at the point where the free-field (non-attenuated), PULSE INTENSITY INTEGRAL is a maximum (centimeters).
$d_{eq}(z_b)$	the EQUIVALENT BEAM DIAMETER at axial distance z_b . Equal to $[(4/n)(P_a(z_b) / I_{ta, \alpha}(z_b))]^{0.5}$. (centimeters)

Dim of A_{aprt}	the -12 dB OUTPUT BEAM DIMENSIONS. The active aperture dimensions in the azimuthal and elevational directions. (centimeters). For scanned modes, the 'X-dim' is the length of the entire scanned aperture.
f_{awf}	the ACOUSTIC WORKING FREQUENCY. Center frequency. (megahertz)
Focal Length	The nominal focal points, azimuthal (FL _x) and elevational (FL _y), for the operating condition. (centimeters).
$I_{pa, \alpha}$ at max. MI	the ATTENUATED PULSE-AVERAGE INTENSITY at the depth of reported MI, $z_{at-max-Ipi, \alpha}$ (watts per square centimeter).
$I_{ta, \alpha}(z)$	the ATTENUATED TEMPORAL-AVERAGE INTENSITY at axial distance z . (milliwatts per square centimeter)
MI	the displayed parameter representing potential cavitation bio-effects. (unit-less)
P	the time-average ultrasonic OUTPUT POWER radiated by the transducer for the transmit pattern(s) associated with the reported Index. For TIS_non_scan and TIB_non_scan this is the total acoustic power of the non-scanned beam(s). For TIC it is the total acoustic power of the contributing modes (which will be listed separately, for the reader to sum). The reported maximum TIS_scan value may (likely) come from a combinational mode. In this case, $P = P_1 + P_{1x1}$. P_1 is the BOUNDED OUTPUT POWER (the maximum power emitted from a one cm width of the active (scanned) transmit aperture of the transducer in the scan plane direction) of each the <u>scanned</u> transmit modes. For instance in 2D color mode P1_2D and P1_Col will be listed. P_{1x1} is the maximum contribution from any one square centimeter of the <u>non-scanned</u> transmit mode(s) active aperture. (milliwatts).
$P_a(z)$	the (ultrasonic) ATTENUATED OUTPUT POWER at axial distance z_s for the non-scanned modes or TRANSMIT PATTERNS. (milliwatts)
$P_{r, \alpha}$	the ATTENUATED PEAK-RAREFACTIONAL ACOUSTIC PRESSURE associated with the transmit pattern giving rise to the reported value of MI. (megapascals)

P_r at max. I_{pi}	the PEAK–RAREFACTIONAL ACOUSTIC PRESSURE at the point where the free–field (non–attenuated), PULSE INTENSITY INTEGRAL is a maximum (megapascals).
pr	the PULSE REPETITION RATE associated with the transmit pattern giving rise to the reported value of MI (pulses per second).
TIB	the BONE THERMAL INDEX for applications, such as fetal (second and third trimester) or neonatal cephalic (through the fontanelle), in which the ultrasound beam passes through soft tissue and a focal region is in the immediate vicinity of bone. (unit-less)
TIC	the CRANIAL BONE THERMAL INDEX.
TIS_{scan}	the SOFT TISSUE THERMAL INDEX in a scanning mode. (unit-less)
$TIS_{non-scan}$	the SOFT TISSUE THERMAL INDEX in a non–auto scanning mode. (unit-less)
t_d	the PULSE DURATION associated with the TRANSMIT PATTERN giving rise to the reported value of MI. (microseconds)
$Z_{at-max-I_{pi, a}}$	the axial distance from the transducer where the ATTENUATED PULSE INTENSITY INTEGRAL $I_{pi, a}$ is maximum.
z_b	the distance where $TIB_{non-scan}$ is determined. For non-scanned modes, Distance along the beam axis to the plane where the product of the ATTENUATED OUTPUT POWER and ATTENUATED TEMPORAL–AVERAGE INTENSITY ($P_a(z) \times I_{ta, a}(z)$) maximizes. (centimeters)
z_{bp}	value equal to 1.5 times the EQUIVALENT APERTURE DIAMETER (D_{eq}). Also equals $1.69 * \sqrt{A_{aprt}}$. (centimeters)
z_s	the distance where $TIS_{non-scan}$ is determined. The axial distance corresponding to the location of $\max[\min(P_a(z), I_{ta, a}(z) \times 1 \text{ cm}^2)]$, where $z \geq z_{bp}$. (centimeters)

Explanatory Notes

- (a) This index is not required to this operating mode.
 - (b) This probe is not intended for adult transcranial uses.
 - (c) This formulation for TIS is less than that for an alternate formulation in this mode.
 - (d) The maximum index value is less than 1.0
- * If the MI comes from a scanning mode Transmit Pattern (pulse), the 'pr' listed is the average per second for the 'worst case' scan line. 'pr' for scanning modes is the product of the frame rate and the number of pulse per line of the Transmit Pattern .
- ** The max TIS unscanned value is an 'at_surface' value and occurs for aperture > 1.0 cm², OR The max TIS unscanned value is a 'below_surface' value and occurs for aperture <= 1.0 cm².
- + The max TIB for this combinational mode = the at_surface TIS_scanned value. The non-scanned–TIB value indicated is the below_surface max. A "+" is used when the TIB value is less than the TIS_scanned value for the operating condition.
- # In Color M mode, the color pulses are non-scanned. A'Col#' notifies when Color M mode is the operating condition.

L4-7

L4-7: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.69	2.19	0.242**	0.182	0.369+	(b)
Associated Acoustic Parameters	P _{t,α}	(MPa)	3.37	-	-	-	-	-
	P	(mW)	-	2D P1:126	M P1x1:12.7	-	M P:16.8	(b)
	Min.of [P _α (z _s), I _{ta, α} (z _s)x1cm ²]	(mW)	-	-	-	11.3	-	-
	Z _i	(cm)	-	-	-	1.70	-	-
	Z _{bp}	(cm)	-	-	-	1.84	-	-
	Z _b	(cm)	-	-	-	-	1.70	-
	z_at_max_lpi, α	(cm)	0.600	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.670	-
	f _{awf}	(MHz)	3.98	3.65	4.01	3.39	3.39	(b)
Dim of A _{aprt}	X (cm)	-	2.51	1.98	1.98	1.98	(b)	
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)	
Other Information	t _d	(μsec)	0.310	-	-	-	-	-
	prr	(pulses/sec)	59.5*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	3.23	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.664	-
	I _{pa, α} at max. MI	(W/cm ²)	378	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	8.00	8.00	-	-
FLy (cm)		-	-	2.80	2.80	-	-	
Operating Control Conditions	Control 1		MI					
	Control 2			TIS_as				
	Control 3				TIS_as_U			
	Control 4					TIS_bs	TIB_bs	

Control 1: 2D Mode, 2D:3.9MHz, Focus:1.2cm, FR:59.46, Data No:92343935-750439

Control 2: 2D Mode, 2D:5.6MHz, Focus:5.0cm, FR:50.06, Data No:92572354-913243

Control 3: 2D+M Mode, 2D:5.6MHz M:5.6MHz, Focus:8.0cm, FR:17.47, Data No:92581635-436930

Control 4: 2D+M Mode, 2D:3.4MHz M:3.4MHz, Focus:8.0cm, FR:17.47, Data No:92460614-117561

L4-7: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.67	3.40	3.22	1.91**	3.16+	(b)	
Associated Acoustic Parameters	P _{t, a} (MPa)	3.32	-	-	-	-	-	
	p (mW)	-	2D P1:5.39 PD P1:5.31 Col P1x1:143	PD P1x1:143	-	Col P:137	(b)	
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	84.6	-	-	
	z _s (cm)	-	-	-	1.60	-	-	
	z _{bp} (cm)	-	-	-	1.64	-	-	
	z _b (cm)	-	-	-	-	1.60	-	
	z_at_max_lpi, a (cm)	0.600	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.586	-	
	f _{awf} (MHz)	3.97	2D :3.62 PD :3.51 Col :4.73	4.73	4.73	4.73	(b)	
Dim of A _{aprt}	X (cm)	-	2D :4.42 PD :2.55 Col :1.56	1.56	1.56	1.56	(b)	
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)	
Other Information	t _d (μsec)	0.309	-	-	-	-	-	
	prr (pulses/sec)	20.5*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.28	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.551	-	
	I _{pa, a} at max. MI (W/cm ²)	379	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	8.00	8.00	-	-
		FLy (cm)	-	-	2.80	2.80	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as	TIS_as_U	TIS_bs			
	Control 3					TIB_bs		

Control 1: 2D+Color Mode, 2D:3.9MHz Col:3.4MHz, Focus:1.2cm, FR:20.48, Data No:92601880-281677

Control 2: Triple Mode, 2D:3.9MHz PD:3.4MHz Col:4.7MHz, Focus:8.0cm, FR:3.11, Data No:93365539-917385

Control 3: Triple Mode, 2D:3.9MHz PD:3.4MHz Col:4.7MHz, Focus:8.0cm, FR:3.11, Data No:93353416-137263

L4-7: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.68	3.37	4.42	2.62**	4.45	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	3.10	-	-	-	-	-
	P (mW)	-	2D P1:9.18 PD P1x1:143	PD P1x1:196	-	PD P:193	(b)
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	116	-	-
	Z _s (cm)	-	-	-	1.60	-	-
	Z _{bp} (cm)	-	-	-	1.64	-	-
	Z _b (cm)	-	-	-	-	1.60	-
	z_at_max_lpi,a (cm)	1.40	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.584	-
	f _{awf} (MHz)	3.40	2D :3.64 PD :4.72	4.73	4.73	4.73	(b)
	Dim of A _{aprt}	X (cm)	-	2D :4.42 PD :1.56	1.56	1.56	(b)
	Y (cm)	-	0.600	0.600	0.600	(b)	
Other Information	t _d (μsec)	0.791	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.57	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.549	-
	I _{pa,a} at max. MI (W/cm ²)	356	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	8.00	8.00	-
	FLy (cm)	-	-	2.80	2.80	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U	TIS_bs		
	Control 4					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:3.4MHz, Focus:5.0cm, Data No:93522388-931951

Control 2: 2D+Pulsed Doppler Mode, 2D:3.9MHz PD:4.7MHz, Focus:8.0cm, FR:5.86, Data No:93351776-328940

Control 3: Pulsed Doppler Mode, PD:4.7MHz, Focus:8.0cm, Data No:93357269-302500

Control 4: Pulsed Doppler Mode, PD:4.7MHz, Focus:8.0cm, Data No:93350279-887502

L5-13IS

L5-13IS: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.75	0.849	0.166	0.119**	0.237+	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	4.25	-	-	-	-	-
	P (mW)	-	2D P1:17.6 M P1x1:4.29	M P1x1:4.29	-	M P:3.10	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	3.06	-	-
	z _s (cm)	-	-	-	0.600	-	-
	z _{bp} (cm)	-	-	-	1.36	-	-
	z _b (cm)	-	-	-	-	0.700	-
	z_at_max_lpi, α (cm)	0.800	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.219	-
	f _{awf} (MHz)	5.92	8.14	8.14	8.14	6.07	(b)
	Dim of A _{aprt}	X (cm)	-	2D :3.80 M :1.62	1.62	1.62	0.554
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.289	-	-	-	-	-
	prr (pulses/sec)	24.5*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.86	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.211	-
	I _{pa, α} at max. MI (W/cm ²)	656	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as	TIS_as_U	TIS_bs		
	Control 3					TIB_bs	

Control 1: 2D Mode, 2D:6.2MHz, Focus:3.2cm, FR:24.50, Data No:3542214581-353177

Control 2: 2D+M Mode, 2D:12.3MHz M:12.3MHz, Focus:6.5cm, FR:18.61, Data No:3541982176-256851

Control 3: 2D+M Mode, 2D:5.6MHz M:5.6MHz, Focus:2.5cm, FR:24.06, Data No:3542119141-598011

L5-13IS: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.54	2.66	1.59	1.04**	1.57+	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	3.81	-	-	-	-	-
	P (mW)	-	2D P1:1.22 Col P1:89.4	PD P1x1:49.0	-	PD P:30.6	(b)
	Min.of [P _o (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	35.5	-	-
	Z _s (cm)	-	-	-	1.00	-	-
	Z _{bp} (cm)	-	-	-	1.40	-	-
	Z _b (cm)	-	-	-	-	1.00	-
	z_at_max_lpi,α (cm)	0.600	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.287	-
	f _{awf} (MHz)	6.10	2D :7.17 Col :6.14	6.83	6.14	6.12	(b)
	Dim of A _{aprt}	X (cm)	-	2D :2.36 Col :1.17	1.70	1.70	0.832
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.414	-	-	-	-	-
	p _{rr} (pulses/sec)	326*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.31	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.231	-
	I _{pa,α} at max. MI (W/cm ²)	641	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: 2D+Color Mode, 2D:6.8MHz Col:6.2MHz, Focus:1.0Cm, FR:27.16, Data No:3542327597-227067
Control 2: 2D+Color Mode, 2D:6.8MHz Col:6.2MHz, Focus:1.7Cm, FR:26.25, Data No:3542395207-290113
Control 3: Triple Mode, 2D:6.8MHz Col:6.2MHz PD:6.8MHz, Focus:6.5Cm, FR:9.87, Data No:3544617731-75381
Control 4: Triple Mode, 2D:6.8MHz Col:6.2MHz PD:6.2MHz, Focus:6.5Cm, FR:9.87, Data No:3543852262-964447
Control 5: Triple Mode, 2D:6.8MHz Col:6.2MHz PD:6.2MHz, Focus:3.2Cm, FR:11.92, Data No:3543567514-469628

L5-13IS: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.53	3.13	4.99	3.66**	4.39	(b)
Associated Acoustic Parameters	P _{t, α} (MPa)	3.78	-	-	-	-	-
	P (mW)	-	2D P1:0.778 PD P1x1:106	PD P1x1:172	-	PD P:159	(b)
	Min.of [P _α (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	114	-	-
	z _s (cm)	-	-	-	0.600	-	-
	z _{bp} (cm)	-	-	-	1.40	-	-
	z _b (cm)	-	-	-	-	1.00	-
	z _{at_max_lpi, α} (cm)	0.600	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.533	-
	f _{awf} (MHz)	6.11	2D :6.58 PD :6.15	6.10	6.75	6.14	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 3.80 PD: 1.70	1.70	1.70	1.70
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.954	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.20	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.512	-
	I _{pa, α} at max. MI (W/cm ²)	547	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:6.2MHz, Focus:3.2cm, Data No:3543560115-821386
Control 2: 2D+Pulsed Doppler Mode, 2D:6.8MHz PD:6.2MHz, Focus:6.5cm, FR:7.14, Data No:3543847589-90046
Control 3: Pulsed Doppler Mode, PD:6.2MHz, Focus:6.5cm, Data No:3543845467-766949
Control 4: Pulsed Doppler Mode, PD:6.8MHz, Focus:6.5cm, Data No:3544610587-172184

L5-13/50

L5-13/50: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		0.995	0.574	0.0560	0.0310**	0.0614+	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	2.54	-	-	-	-	-
	P (mW)	-	2D P1:19.0	M P1x1:1.85	-	M P:0.960	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	1.19	-	-
	z _s (cm)	-	-	-	1.40	-	-
	z _{bp} (cm)	-	-	-	1.35	-	-
	z _b (cm)	-	-	-	-	1.00	-
	z _{at_max_lpi, α} (cm)	1.10	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.230	-
	f _{awf} (MHz)	6.53	6.35	6.35	5.44	6.53	(b)
	X (cm)	-	2.81	1.59	1.59	0.388	(b)
Dim of A _{aprt}	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.192	-	-	-	-	-
	pr _r (pulses/sec)	46.4*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.07	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.219	-
	I _{pa, α} at max. MI (W/cm ²)	230	-	-	-	-	-
	FLx (cm)	-	-	6.50	6.50	-	-
	Focal Length	FLy (cm)	-	-	2.00	2.00	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: 2D Mode, 2D:7.7MHz, Focus:1.0cm, FR:46.40, Data No:1287306825-99449

Control 2: 2D Mode, 2D:7.7MHz, Focus:6.5cm, FR:34.08, Data No:1287328763-484900

Control 3: 2D+M Mode, 2D:7.7MHz M:7.7MHz, Focus:6.5cm, FR:15.98, Data No:128730754-167423

Control 4: 2D+M Mode, 2D:5.6MHz M:5.6MHz, Focus:6.5cm, FR:15.98, Data No:1287272142-32773

Control 5: 2D+M Mode, 2D:7.7MHz M:7.7MHz, Focus:1.0cm, FR:22.13, Data No:1287308814-151996

L5-13/50: 2D + Color, Triple, CPA & Triple CPA

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.27	1.36	1.29	0.643**	1.33+	(b)
Associated Acoustic Parameters	P _{r,α}	(MPa)	3.13	-	-	-	-	-
	p	(mW)	-	2D P1:0.802 Col P1:1.92 PD P1x1:35.2	PD P1x1:35.2	-	PD P:16.2	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²]	(mW)	-	-	-	17.6	-	-
	z _s	(cm)	-	-	-	1.30	-	-
	z _{bp}	(cm)	-	-	-	1.35	-	-
	z _b	(cm)	-	-	-	-	0.600	-
	z_at_max_lpi, α	(cm)	0.900	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.206	-
	f _{awf}	(MHz)	6.12	2D :5.44 Col :6.25 PD :7.68	7.68	7.67	7.67	(b)
Dim of A _{aprt}	X (cm)	-	2D :4.97 Col :3.61 PD :1.59	1.59	1.59	0.194	(b)	
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)	
Other Information	t _d	(μsec)	0.591	-	-	-	-	-
	p _{rr}	(pulses/sec)	67.6*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	3.60	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.206	-
	I _{pa, α} at max. MI	(W/cm ²)	431	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as	TIS_as_U				
	Control 3				TIS_bs			
	Control 4					TIB_bs		

Control 1: 2D+Color Mode, 2D:5.1MHz Col:6.2MHz, Focus:1.0cm, FR:7.51, Data No:1287452892-269520

Control 2: Triple Mode, 2D:5.1MHz Col:6.2MHz PD:7.7MHz, Focus:6.5cm, FR:2.96, Data No:1288152240-505444

Control 3: Triple Mode, 2D:5.1MHz Col:6.2MHz PD:7.7MHz, Focus:6.5cm, FR:2.96, Data No:1288198916-581765

Control 4: Triple Mode, 2D:5.1MHz Col:6.2MHz PD:7.7MHz, Focus:0.5cm, FR:4.39, Data No:1288111210-870463

L5-13/50: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.27	1.35	1.71	0.904**	1.43	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	3.13	-	-	-	-	-
	P (mW)	-	2D P1:1.56 PD P1x1:35.8	PD P1x1:46.7	-	PD P:17.8	(b)
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	24.7	-	-
	Z _s (cm)	-	-	-	1.20	-	-
	Z _{bp} (cm)	-	-	-	1.35	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi,a (cm)	0.900	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.209	-
	f _{awf} (MHz)	6.12	2D :5.44 PD :7.68	7.68	7.68	7.70	(b)
	Dim of A _{aprt}	X (cm)	-	2D :4.97 PD :1.59	1.59	1.59	0.194
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.593	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.64	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.209	-
	I _{pa,a} at max. MI (W/cm ²)	420	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U	TIS_bs		
	Control 4					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 6.2MHz, Focus: 1.0cm, Data No: 1287732232-425782

Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD: 7.7MHz, Focus: 6.5cm, FR: 6.25, Data No: 1288150727-982098

Control 3: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 6.5cm, Data No: 1288196757-962459

Control 4: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 0.5cm, Data No: 1288249067-686708

L7-16IS

L7-16IS: 2D & 2D+M mode

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.22	1.05	0.221	0.129**	0.170+	(b)	
Associated Acoustic Parameters	P _{t,a}	(MPa)	3.15	-	-	-	-	
	P	(mW)	-	2D P1: 20.3 M P1x1: 5.38	M P1x1: 5.38	-	M P: 3.41	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	3.15	-	-
	z _s	(cm)	-	-	-	0.900	-	-
	z _{bp}	(cm)	-	-	-	1.45	-	-
	z _b	(cm)	-	-	-	-	1.18	-
	z_at_max_lpi, a	(cm)	1.18	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.262	-
	f _{awf}	(MHz)	6.69	8.62	8.62	8.62	6.69	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 3.80 M: 1.82	1.82	1.82	0.515	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)	
Other Information	t _d	(μsec)	0.273	-	-	-	-	-
	prr	(pulses/sec)	28.6*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	4.02	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.261	-
	I _{pa, a} at max. MI	(W/cm ²)	361	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
	Fly (cm)	-	-	1.50	1.50	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as	TIS_as_U	TIS_bs			
	Control 3					TIB_bs		

Control 1: 2D Mode, 2D: 6.8MHz, Focus: 1.7cm, FR: 28.59, Data No: 58633427-81093

Control 2: 2D+M Mode, 2D: 10.3MHz M: 10.3MHz, Focus: 6.5cm, FR: 19.54, Data No: 58598686-623441

Control 3: 2D+M Mode, 2D: 6.8MHz M: 6.8MHz, Focus: 1.7cm, FR: 27.25, Data No: 58635263-769426

L7-16IS: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.10	1.83	1.48	0.966**	1.27+	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	3.01	-	-	-	-	-
	P (mW)	-	2D P1: 0.609 Col P1: 9.73 PD P1x1: 40.3	PD P1x1: 40.3	-	PD P: 23.3	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	26.3	-	-
	Z _s (cm)	-	-	-	0.800	-	-
	Z _{bp} (cm)	-	-	-	1.49	-	-
	Z _b (cm)	-	-	-	-	1.00	-
	z_at_max_lpi, a (cm)	0.600	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.265	-
	f _{awf} (MHz)	7.48	2D: 8.01 Col: 6.99 PD: 7.70	7.70	7.70	6.85	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 3.80 Col: 2.42 PD: 1.94	1.94	1.94	0.752
	Y (cm)	-	0.400	0.400	0.400	(b)	
Other Information	t _d (μsec)	0.215	-	-	-	-	-
	prr (pulses/sec)	384*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.48	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.178	-
	I _{pa, a} at max. MI (W/cm ²)	419	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	1.50	1.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as	TIS_as_U	TIS_bs		
	Control 3					TIB_bs	

Control 1: 2D+Color Mode, 2D: 7.7MHz Col: 7.7MHz, Focus: 1.0cm, FR: 29.57, Data No: 58890751-919415
Control 2: Triple Mode, 2D: 7.7MHz Col: 6.8MHz PD: 7.7MHz, Focus: 6.5cm, FR: 10.09, Data No: 59442118-762973
Control 3: Triple Mode, 2D: 7.7MHz Col: 6.8MHz PD: 6.8MHz, Focus: 2.5cm, FR: 13.72, Data No: 59105787-513030

L7-16IS: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.24	2.63	4.33	2.83**	2.74	(b)
Associated Acoustic Parameters	P _{t, α} (MPa)	3.23	-	-	-	-	-
	P (mW)	-	2D P1: 0.529 PD P1x1: 71.1	PD P1x1: 118	-	PD P: 118	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	77.3	-	-
	Z _s (cm)	-	-	-	0.800	-	-
	Z _{bp} (cm)	-	-	-	1.49	-	-
	Z _b (cm)	-	-	-	-	0.800	-
	z_at_max_lpi, α (cm)	0.900	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.624	-
	f _{awf} (MHz)	6.83	2D: 8.03 PD: 7.70	7.70	7.70	7.70	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 3.80 PD: 1.94	1.94	1.94	1.94
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.829	-	-	-	-	-
	p _{rr} (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.03	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.624	-
	I _{pa, α} at max. MI (W/cm ²)	462	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}	TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 1.7cm, Data No: 59068866-498806
Control 2: 2D+Pulsed Doppler Mode, 2D: 7.7MHz PD: 7.7MHz, Focus: 6.5cm, FR: 7.81, Data No: 59440660-868940
Control 3: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 6.5cm, Data No: 59451205-730253

LA3-14A

LA3-14A: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.45	0.531	0.0645	0.0400**	0.142+	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	3.24	-	-	-	-	-	-
	P (mW)	-	2D P1:21.5	M P1x1:2.74	-	M P:1.42	(b)	
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	1.70	-	-
	Z _i (cm)	-	-	-	1.40	-	-	
	Z _{bp} (cm)	-	-	-	1.43	-	-	
	Z _b (cm)	-	-	-	-	1.50	-	
	z_at_max_lpi, a (cm)	1.10	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.133	-	
	f _{awf} (MHz)	4.97	5.17	4.94	4.94	5.17	(b)	
	Dim of A _{aprt}	X (cm)	-	1.84	1.59	1.59	0.621	(b)
	Y (cm)	-	0.450	0.450	0.450	0.450	(b)	
Other Information	t _d (μsec)	0.269	-	-	-	-	-	
	prr (pulses/sec)	22.4*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.77	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.132	-	
	I _{pa, a} at max. MI (W/cm ²)	572	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	1.70	1.70	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS _{as}					
	Control 3			TIS _{as_U}	TIS _{bs}			
	Control 4					TIB _{bs}		

Control 1: 2D Mode, 2D:4.7MHz, Focus:1.7cm, FR:22.41, Data No:1789556430-727605

Control 2: 2D Mode, 2D:5.1MHz, Focus:2.5cm, FR:48.67, Data No:1272338096-676244

Control 3: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:6.5cm, FR:15.97, Data No:1789571281-924503

Control 4: 2D+M Mode, 2D:5.1MHz M:5.1MHz, Focus:2.5cm, FR:20.54, Data No:1272392940-780881

LA3-14A:2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.50	0.748	0.573	0.307**	0.979	(b)	
Associated Acoustic Parameters	P _{r,α} (MPa)	3.64	-	-	-	-	-	
	P (mW)	-	2D P1:0.304 Col P1:6.86 PD P1x1:19.9	PD P1x1:19.9	-	PD P:16.6	(b)	
	Min.of [P _o (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	10.7	-	-	
	Z _s (cm)	-	-	-	1.50	-	-	
	z _{bp} (cm)	-	-	-	1.43	-	-	
	z _b (cm)	-	-	-	-	1.40	-	
	z_at_max_lpi,α (cm)	1.10	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.212	-	
	f _{awf} (MHz)	5.86	2D:4.67 Col:5.14 PD:6.04	6.04	6.04	6.11	(b)	
	Dim of A _{aprt}	X (cm)	-	2D:4.97 Col:4.07 PD:1.59	1.59	1.59	0.854	(b)
		Y (cm)	-	0.450	0.450	0.450	(b)	
	Other Information	t _d (μsec)	0.270	-	-	-	-	-
prr (pulses/sec)		64.7*	-	-	-	-	-	
P _r at max. I _{pi} (MPa)		4.32	-	-	-	-	-	
d _{eq} at max. I _{pi} (cm)		-	-	-	-	0.184	-	
I _{pa,α} at max. MI (W/cm ²)		852	-	-	-	-	-	
Focal Length		FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	1.70	1.70	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as	TIS_as_U	TIS_bs			
	Control 3					TIB_bs		

Control 1: 2D+Color Mode, 2D:4.1MHz Col:6.2MHz, Focus:1.7cm, FR:6.47, Data No:1272468691-608038

Control 2: Triple Mode, 2D:4.1MHz Col:5.1MHz PD:6.2MHz, Focus:6.5cm, FR:2.60, Data No:1272617256-940048

Control 3: Triple Mode, 2D:4.1MHz Col:5.1MHz PD:6.2MHz, Focus:4.0cm, FR:3.15, Data No:1272613652-224910

LA3-14A:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.56	0.855	1.07	0.596**	1.40	(b)	
Associated Acoustic Parameters	P _{t,a} (MPa)	3.76	-	-	-	-	-	
	P (mW)	-	2D P1:1.03 PD P1x1:28.9	PD P1x1:37.0	-	PD P:24.1	(b)	
	Min.of [P _o (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	20.6	-	-	
	Z _s (cm)	-	-	-	1.40	-	-	
	Z _{bp} (cm)	-	-	-	1.43	-	-	
	Z _b (cm)	-	-	-	-	1.30	-	
	z_at_max_lpi,a (cm)	1.40	-	-	-	-	-	
	d _{eq} (Z _b) (cm)	-	-	-	-	0.224	-	
	f _{awf} (MHz)	5.78	2D:4.62 PD:6.05	6.08	6.08	6.14	(b)	
	Dim of A _{aprt}	X (cm)	-	2D:4.97 PD:1.59	1.59	1.59	0.854	(b)
	Y (cm)	-	0.450	0.450	0.450	0.450	(b)	
Other Information	t _d (μsec)	0.358	-	-	-	-	-	
	prr (pulses/sec)	2000	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	4.52	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.217	-	
	I _{pa,a} at max. MI (W/cm ²)	672	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	1.70	1.70	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U	TIS_bs			
	Control 4					TIB_bs		

Control 1: 2D+Pulsed Doppler Mode, 2D:4.1MHz PD:6.2MHz, Focus:2.5cm, FR:6.25, Data No:1272637091-614286
Control 2: 2D+Pulsed Doppler Mode, 2D:4.1MHz PD:6.2MHz, Focus:6.5cm, FR:6.25, Data No:1272651258-402856
Control 3: Pulsed Doppler Mode, PD:6.2MHz, Focus:6.5cm, Data No:1272717519-995600
Control 4: Pulsed Doppler Mode, PD:6.2MHz, Focus:4.0cm, Data No:1272710086-75490

LA3-16A

LA3-16A: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.61	0.966	0.0733	0.0445**	0.134+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	4.23	-	-	-	-	-
	P (mW)	-	2D P1:26.8	M P1x1:2.34	-	M P:1.22	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	1.42	-	-
	z _s (cm)	-	-	-	1.10	-	-
	z _{bp} (cm)	-	-	-	1.15	-	-
	z _b (cm)	-	-	-	-	1.00	-
	z _{at_max_lpi, a} (cm)	1.10	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.136	-
	f _{awf} (MHz)	6.91	7.56	6.58	6.58	6.17	(b)
	Dim of A _{aprt}	X (cm)	-	1.80	1.15	1.15	0.475
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.196	-	-	-	-	-
	prr (pulses/sec)	38.3*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	5.01	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.132	-
	I _{pa, a} at max. MI (W/cm ²)	679	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	4.70	4.70	-
	Fly (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U	TIS_bs		
	Control 4					TIB_bs	

Control 1: 2D Mode, 2D:7.7MHz, Focus:1.7cm, FR:38.28, Data No:3034296036-978211
Control 2: 2D Mode, 2D:10.3MHz, Focus:4.0cm, FR:83.33, Data No:3034353316-648857
Control 3: 2D+M Mode, 2D:7.7MHz M:7.7MHz, Focus:4.7cm, FR:31.71, Data No:3034379552-230909
Control 4: 2D+M Mode, 2D:6.2MHz M:6.2MHz, Focus:1.7cm, FR:36.50, Data No:3034368315-230145

LA3-16A: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.62	0.972	0.892	0.506**	1.15	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	3.99	-	-	-	-	-
	P (mW)	-	2D P1:2.07 Col P1:28.1	PD P1x1:27.4	-	PD P:15.2	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	15.5	-	-
	Z _s (cm)	-	-	-	1.20	-	-
	Z _{bp} (cm)	-	-	-	1.40	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi, a (cm)	1.00	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.223	-
	f _{awf} (MHz)	6.10	2D:6.15 Col:6.81	6.84	6.84	6.84	(b)
	Dim of A _{aprt}	X (cm)	-	2D:2.28 Col:1.62	1.70	1.70	0.119
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.426	-	-	-	-	-
	pr _r (pulses/sec)	91.6*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.53	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.207	-
	I _{pa, a} at max. MI (W/cm ²)	813	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: 2D+Color Mode, 2D:6.2MHz Col:6.2MHz, Focus:1.7cm, FR:7.63, Data No:3034478217-976751
Control 2: 2D+Color Mode, 2D:6.2MHz Col:6.8MHz, Focus:1.0cm, FR:13.89, Data No:3034729500-590659
Control 3: Triple Mode, 2D:6.2MHz Col:5.6MHz PD:6.8MHz, Focus:6.5cm, FR:3.25, Data No:3034819419-111671
Control 4: Triple Mode, 2D:6.2MHz Col:5.6MHz PD:6.8MHz, Focus:0.5cm, FR:4.48, Data No:3034800337-790942

LA3-16A:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.54	0.888	1.48	0.804**	1.63	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	3.82	-	-	-	-	-
	P (mW)	-	2D P1:4.04 PD P1x1:24.2	PD P1x1:45.6	-	PD P:26.3	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	24.7	-	-
	z _s (cm)	-	-	-	1.30	-	-
	z _{bp} (cm)	-	-	-	1.40	-	-
	z _b (cm)	-	-	-	-	1.20	-
	z _{at_max_lpi, α} (cm)	1.10	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.220	-
	f _{awf} (MHz)	6.17	2D:6.15 PD:6.69	6.83	6.83	6.16	(b)
	Dim of A _{aprt}	X (cm)	-	2D:3.80 PD:1.70	1.70	1.70	0.832
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
Other Information	t _d (μsec)	0.209	-	-	-	-	-
	prr (pulses/sec)	10.4*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.80	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.177	-
	I _{pa, α} at max. MI (W/cm ²)	738	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: 2D+Pulsed Doppler Mode, 2D:6.2MHz PD:5.6MHz, Focus:1.7cm, FR:10.42, Data No:3034846677-456240
Control 2: 2D+Pulsed Doppler Mode, 2D:6.2MHz PD:6.8MHz, Focus:6.5cm, FR:10.42, Data No:3034864581-698693
Control 3: Pulsed Doppler Mode, PD:6.8MHz, Focus:6.5cm, Data No:3034975834-230624
Control 4: Pulsed Doppler Mode, PD:6.2MHz, Focus:3.2cm, Data No:3034923196-611932

LA5-18B

LA5-18B: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.69	1.22	0.138	0.0810**	0.123+	(b)
Associated Acoustic Parameters	P _{t,a}	(MPa)	4.80	-	-	-	-	-
	P	(mW)	-	2D P1:28.5	M P1x1:3.37	-	M P:1.43	(b)
	Min.of [P _a (z), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	1.97	-	-
	Z _i	(cm)	-	-	-	0.900	-	-
	Z _{bp}	(cm)	-	-	-	1.35	-	-
	Z _b	(cm)	-	-	-	-	0.700	-
	z_at_max_lpi, a	(cm)	0.600	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.195	-
	f _{awf}	(MHz)	8.09	9.02	8.63	8.63	5.91	(b)
Dim of A _{aprt}	X (cm)	-	1.60	1.82	1.82	0.594	(b)	
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)	
Other Information	t _d	(μsec)	0.0900	-	-	-	-	-
	prr	(pulses/sec)	30.3*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	5.10	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.149	-
	I _{pa, a} at max. MI	(W/cm ²)	1060	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	1.50	1.50	-	-
Operating Control Conditions	Control 1		MI					
	Control 2			TIS_as				
	Control 3				TIS_as_U	TIS_bs		
	Control 4						TIB_bs	

Control 1: 2D Mode, 2D:10.3MHz, Focus:1.0cm, FR:30.26, Data No:277646672-142385

Control 2: 2D Mode, 2D:12.3MHz, Focus:3.2cm, FR:63.72, Data No:277707098-70885

Control 3: 2D+M Mode, 2D:10.3MHz M:10.3MHz, Focus:6.5cm, FR:19.88, Data No:277727940-638453

Control 4: 2D+M Mode, 2D:6.2MHz M:6.2MHz, Focus:2.5cm, FR:26.80, Data No:277732753-55786

LA5-18B:2D + Color, Triple, CPA &Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.54	1.10	0.824	0.422**	1.11	(b)	
Associated Acoustic Parameters	P _{r,α} (MPa)	4.22	-	-	-	-	-	
	P (mW)	-	2D P1:0.953 Col P1:29.9	PD P1x1:22.7	-	PD P:11.3	(b)	
	Min.of [P _α (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	11.6	-	-	
	z _s (cm)	-	-	-	1.00	-	-	
	z _{bp} (cm)	-	-	-	0.976	-	-	
	z _b (cm)	-	-	-	-	0.700	-	
	z _{at_max_lpi,α} (cm)	0.600	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.161	-	
	f _{awf} (MHz)	7.50	2D:5.50 Col:7.57	7.63	7.63	7.70	(b)	
	Dim of A _{aprt}	X (cm)	-	2D:2.16 Col:1.39	1.94	0.950	0.119	(b)
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)	
Other Information	t _d (μsec)	0.339	-	-	-	-	-	
	p _{rr} (pulses/sec)	86.6*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	4.38	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.154	-	
	I _{pa,α} at max. MI (W/cm ²)	689	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	6.50	3.20	-	-
		FLy (cm)	-	-	1.50	1.50	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D:5.1MHz Col:7.7MHz, Focus:1.0cm, FR:6.66, Data No:27775430-562460

Control 2: 2D+Color Mode, 2D:5.1MHz Col:7.7MHz, Focus:1.0cm, FR:12.39, Data No:277831035-616059

Control 3: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:6.5cm, FR:2.66, Data No:277894268-43584

Control 4: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:3.2cm, FR:3.49, Data No:27788855-641631

Control 5: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:0.5cm, FR:3.97, Data No:277867144-581765

LA5-18B:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.63	0.928	1.81	1.01**	1.73	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	4.22	-	-	-	-	-
	P (mW)	-	2D P1:4.16 PD P1x1:22.8	PD P1x1:49.7	-	PD P:29.0	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	31.5	-	-
	z _s (cm)	-	-	-	0.800	-	-
	z _{bp} (cm)	-	-	-	1.39	-	-
	z _b (cm)	-	-	-	-	1.00	-
	z_at_max_lpi, a (cm)	1.10	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.243	-
	f _{awf} (MHz)	6.75	2D:5.21 PD:7.61	7.65	6.76	6.84	(b)
	Dim of A _{aprt}	X (cm)	-	2D:3.80 PD:1.39	1.94	1.94	0.950
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
Other Information	t _d (μsec)	0.554	-	-	-	-	-
	p _{rr} (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	5.09	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.204	-
	I _{pa, a} at max. MI (W/cm ²)	817	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	FLy (cm)	-	-	1.50	1.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:6.8MHz, Focus:1.7cm, Data No:277921569-287736

Control 2: 2D+Pulsed Doppler Mode, 2D:5.1MHz PD:7.7MHz, Focus:4.7cm, FR:7.81, Data No:277912707-61649

Control 3: Pulsed Doppler Mode, PD:7.7MHz, Focus:6.5cm, Data No:277967794-721619

Control 4: Pulsed Doppler Mode, PD:6.8MHz, Focus:6.5cm, Data No:277937811-789880

Control 5: Pulsed Doppler Mode, PD:6.8MHz, Focus:3.2cm, Data No:277929697-712223

LS6-15

LS6-15: 2D & 2D + M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.03	0.676	0.0578	0.0360**	0.0590+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	2.57	-	-	-	-	-
	P (mW)	-	2D P1: 19.4	MP1x1: 1.44	-	M P: 0.540	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	0.904	-	-
	z _s (cm)	-	-	-	0.800	-	-
	z _{bp} (cm)	-	-	-	1.20	-	-
	z _b (cm)	-	-	-	-	0.800	-
	z _{at_max_lpi, a} (cm)	0.900	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.144	-
	f _{awf} (MHz)	6.19	7.31	8.43	8.43	6.19	(b)
	Dim of A _{aprt}	X (cm)	-	1.66	1.44	1.44	0.400
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
Other Information	t _d (μsec)	0.146	-	-	-	-	-
	prr (pulses/sec)	73.1*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.95	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.135	-
	I _{pa, a} at max. MI (W/cm ²)	471	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	1.20	1.20	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U	TIS_bs		
	Control 4					TIB_bs	

Control 1: 2D Mode, 2D: 6.2MHz, Focus: 1.7cm, FR: 73.08, Data No: 347947066-746954

Control 2: 2D Mode, 2D: 7.7MHz, Focus: 4.7cm, FR: 64.29, Data No: 347974564-353047

Control 3: 2D+M Mode, 2D: 10.3MHz M: 10.3MHz, Focus: 6.5cm, FR: 26.14, Data No: 347996378-435262

Control 4: 2D+M Mode, 2D: 6.2MHz M: 6.2MHz, Focus: 1.7cm, FR: 34.76, Data No: 347948306-868390

LS6-15: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.13	0.691	0.485	0.348**	0.944	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.94	-	-	-	-	-
	P (mW)	-	2D P1: 1.19 Col P1: 5.27 PD P1x1: 14.9	PD P1x1: 14.9	-	PD P: 8.82	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	10.7	-	-
	Z _s (cm)	-	-	-	0.700	-	-
	Z _{bp} (cm)	-	-	-	1.20	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi,a (cm)	0.700	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.156	-
	f _{awf} (MHz)	6.73	2D: 6.19 Col: 6.82 PD: 6.82	6.82	6.82	6.79	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.56 Col: 2.52 PD: 1.44	1.44	1.44	0.160
	Y (cm)	-	0.350	0.350	0.350	(b)	
Other Information	t _d (μsec)	0.380	-	-	-	-	-
	prr (pulses/sec)	123*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.44	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.154	-
	I _{pa,a} at max. MI (W/cm ²)	516	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	1.20	1.20	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as	TIS_as_U	TIS_bs		
	Control 3					TIB_bs	

Control 1: 2D+Color Mode, 2D: 6.2MHz Col: 6.8MHz, Focus: 1.0cm, FR: 8.77, Data No: 348019125-787060

Control 2: Triple Mode, 2D: 6.2MHz Col: 6.8MHz PD: 6.8MHz, Focus: 6.5cm, FR: 3.39, Data No: 348063306-32849

Control 3: Triple Mode, 2D: 6.2MHz Col: 6.8MHz PD: 6.8MHz, Focus: 0.5cm, FR: 4.76, Data No: 348036314-700399

LS6-15: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.22	0.661	0.913	0.657**	1.29	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	3.17	-	-	-	-	-
	P (mW)	-	2D P1: 2.99 PD P1x1: 17.6	PD P1x1: 28.1	-	PD P: 20.7	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	20.2	-	-
	z _s (cm)	-	-	-	0.700	-	-
	z _{bp} (cm)	-	-	-	1.20	-	-
	z _b (cm)	-	-	-	-	0.800	-
	z _{at_max_lpi, α} (cm)	0.900	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.246	-
	f _{awf} (MHz)	6.70	2D: 6.20 PD: 6.81	6.82	6.82	6.79	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.56 PD: 0.960	1.44	1.44	0.600
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
Other Information	t _d (μsec)	0.561	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.92	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.207	-
	I _{pa, α} at max. MI (W/cm ²)	491	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-
	Fly (cm)	-	-	1.20	1.20	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 1.7cm, Data No: 348042598-282739

Control 2: 2D+Pulsed Doppler Mode, 2D: 6.2MHz PD: 6.8MHz, Focus: 4.0cm, FR: 10.42, Data No: 348054623-289958

Control 3: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 6.5cm, Data No: 348061418-950875

Control 4: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 2.5cm, Data No: 348046007-657119

C2-6IC

C2-6IC: 2D & 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.33	1.55	0.137**	0.174	0.334+	(b)
Associated Acoustic Parameters	P _{t,a}	(MPa)	2.16	-	-	-	-	-
	P	(mW)	-	2D P1: 88.1	MP1x1: 7.83	-	MP: 8.92	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	13.9	-	-
	Z _i	(cm)	-	-	-	4.30	-	-
	Z _{bp}	(cm)	-	-	-	3.45	-	-
	Z _b	(cm)	-	-	-	-	0.700	-
	z_at_max_lpi, a	(cm)	0.700	-	-	-	-	-
	d _{eq} (Z _b)	(cm)	-	-	-	-	0.515	-
	f _{awf}	(MHz)	2.65	3.70	3.67	2.62	2.65	(b)
	Dim of A _{aprt}	X (cm)	-	2.46	0.945	3.46	0.378	(b)
Y (cm)		-	1.20	1.20	1.20	1.20	(b)	
Other Information	t _d	(usec)	0.811	-	-	-	-	-
	pr _r	(pulses/sec)	50.6*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	2.31	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.515	-
	I _{pa, a} at max. MI	(W/cm ²)	119	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	3.50	17.5	-	-
FLy (cm)		-	-	7.00	7.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D Mode, 2D: 2.4MHz, Focus: 2.0cm, FR: 50.62, Data No: 83882996-640003

Control 2: 2D Mode, 2D: 3.9MHz, Focus: 3.5cm, FR: 189.42, Data No: 82884588-733996

Control 3: 2D+M Mode, 2D: 3.9MHz M: 3.9MHz, Focus: 3.5cm, FR: 44.92, Data No: 82886684-35604

Control 4: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 17.5cm, FR: 15.72, Data No: 83911677-879459

Control 5: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 2.0cm, FR: 48.18, Data No: 83884066-551184

C2-6IC: 2D + Color, Triple, CPA & Triple CPA

Index Label			M.I.	TIS		TIB	TIC	
				scan	non-scan			non-scan
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.45	2.08	1.59**	2.17	3.40	(b)
Associated Acoustic Parameters	P _{r,α}	(MPa)	2.52	-	-	-	-	-
	P	(mW)	-	2D P1: 0.665 Col P1: 142	PD P1x1: 109	-	PD P: 82.6	(b)
	Min.of [P _α (z _s), I _{ta,α} (z _s)x1cm ²]	(mW)	-	-	-	148	-	-
	z _s	(cm)	-	-	-	4.30	-	-
	z _{bp}	(cm)	-	-	-	3.45	-	-
	z _b	(cm)	-	-	-	-	0.600	-
	z _{at_max_lpi,α}	(cm)	3.80	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.482	-
	f _{awf}	(MHz)	3.00	2D: 3.66 Col: 3.06	3.08	3.08	3.08	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 4.25 Col: 2.20	1.70	3.46	0.378	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)	
Other Information	t _d	(μsec)	0.668	-	-	-	-	-
	pr _r	(pulses/sec)	93.9*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	3.48	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.482	-
	I _{pa,α} at max. MI	(W/cm ²)	251	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	8.80	17.5	-	-
	FLy (cm)	-	-	7.00	7.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS _{as}					
	Control 3			TIS _{as_U}				
	Control 4				TIS _{bs}			
	Control 5					TIB _{bs}		

Control 1: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 10.43, Data No: 83047255-621818

Control 2: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 20.85, Data No: 83061136-378712

Control 3: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 4.57, Data No: 83736908-374205

Control 4: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 17.5cm, FR: 2.72, Data No: 83834497-863734

Control 5: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 2.0cm, FR: 4.82, Data No: 83619601-984880

C2-6IC: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.51	1.61	2.18**	2.69	4.18	(b)	
Associated Acoustic Parameters	P _{t,a} (MPa)	2.63	-	-	-	-	-	
	P (mW)	-	2D P1: 0.643 PD P1x1: 110	PD P1x1: 149	-	PD P: 304	(b)	
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	184	-	-	
	Z _s (cm)	-	-	-	4.40	-	-	
	Z _{bp} (cm)	-	-	-	3.45	-	-	
	Z _b (cm)	-	-	-	-	3.20	-	
	z_at_max_lpi,a (cm)	3.10	-	-	-	-	-	
	d _{eq} (Z _b) (cm)	-	-	-	-	0.829	-	
	f _{awf} (MHz)	3.03	2D: 3.59 PD: 3.07	3.08	3.08	3.08	(b)	
	Dim of A _{aprt}	X (cm)	-	2D: 6.05 PD: 1.70	1.70	3.46	1.70	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)	
Other Information	t _d (μsec)	1.60	-	-	-	-	-	
	p _{rr} (pulses/sec)	999	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.46	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.477	-	
	I _{pa,a} at max. MI (W/cm ²)	247	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	8.80	17.5	-	-
		FLy (cm)	-	-	7.00	7.00	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS _{as}					
	Control 3			TIS _{as_U}		TIB _{bs}		
	Control 4				TIS _{bs}			

Control 1: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 5.0cm, Data No: 83656351-410572

Control 2: 2D+Pulsed Doppler Mode, 2D: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 10.71, Data No: 83728716-698780

Control 3: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 8.8cm, Data No: 83740962-954595

Control 4: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 17.5cm, Data No: 83832049-198199

CA1-7A

CA1-7A: 2D& 2D+M mode

Index Label		M.I.	TIS		TIB	TIC	
			scan	non-scan			non-scan
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.52	1.51	0.111**	0.267	0.657+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	2.46	-	-	-	-	-
	P (mW)	-	2D P1:115	M P1x1:10.9	-	M P:36.6	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	27.0	-	-
	z _s (cm)	-	-	-	3.50	-	-
	z _{bp} (cm)	-	-	-	3.41	-	-
	z _b (cm)	-	-	-	-	4.50	-
	z _{at_max_lpi, a} (cm)	5.00	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.658	-
	f _{awf} (MHz)	2.61	2.76	2.14	2.08	2.04	(b)
	Dim of A _{aprt}	X (cm)	-	2.55	0.779	2.90	2.41
	Y (cm)	-	1.40	1.40	1.40	1.40	(b)
Other Information	t _d (μsec)	0.467	-	-	-	-	-
	prr (pulses/sec)	23.1*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.56	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.643	-
	I _{pa, a} at max. MI (W/cm ²)	223	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	3.50	17.5	-
	FLy (cm)	-	-	6.00	6.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: 2D Mode, 2D:3.9MHz, Focus:8.8cm, FR:23.13, Data No:3729887646-231237

Control 2: 2D Mode, 2D:3.9MHz, Focus:5.0cm, FR:80.68, Data No:3729974651-685553

Control 3: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:3.5cm, FR:32.52, Data No:3730032643-388123

Control 4: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:17.5cm, FR:11.43, Data No:3730039272-197661

Control 5: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:14.5cm, FR:13.64, Data No:3730038147-206463

CA1-7A:2D + Color, Triple, CPA & Triple CPA, Color M

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.50	1.84	0.861**	1.44	3.28	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.36	-	-	-	-	-
	P (mW)	-	2D P1:15.6 Col P1:128	M P1x1:6.22 Col# P1x1:59.2	-	M P:20.4 Col# P:201	(b)
	Min.of [P _α (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	M:11.4 Col#:98.9	-	-
	Z _s (cm)	-	-	-	M:3.40 Col#:3.60	-	-
	Z _{bp} (cm)	-	-	-	M:3.11 Col#:3.57	-	-
	Z _b (cm)	-	-	-	-	M:4.40 Col#:4.00	-
	z_at_max_lpi, α (cm)	5.60	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	M:0.873 Col#:0.872	-
	f _{awf} (MHz)	2.48	2D:2.13 Col:2.76	M:2.56 Col#:2.78	M:2.48 Col#:2.77	M:2.48 Col#:1.92	(b)
	Dim of A _{aprt} X (cm)	-	2D:4.00 Col:2.48	M:0.779 Col#:0.708	M:2.41 Col#:3.19	M:2.41 Col#:3.19	(b)
	Y (cm)	-	1.40	1.40	1.40	1.40	(b)
Other Information	t _d (μsec)	0.613	-	-	-	-	-
	pr _r (pulses/sec)	102*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.74	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	M:0.820 Col#:0.668	-
	I _{pa,α} at max. MI (W/cm ²)	327	-	-	-	-	-
	Focal Length FLx (cm)	-	-	3.50	14.5	-	-
	Fly (cm)	-	-	6.00	6.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: 2D+Color Mode, 2D:2.1MHz Col:2.8MHz, Focus:8.8cm, FR:11.30, Data No:3730119955-503630
Control 2: 2D+Color Mode, 2D:2.1MHz Col:2.8MHz, Focus:5.0cm, FR:26.25, Data No:3730203484-212980
Control 3: Color M Mode, Col:2.9MHz M:2.8MHz, Focus:3.5cm, Data No:152083245-462457
Control 4: Color M Mode, Col:2.9MHz M:2.8MHz, Focus:14.5cm, Data No:152087356-323067
Control 5: Color M Mode, Col:2.9MHz M:1.9MHz, Focus:14.5cm, Data No:152093809-638655

CA1-7A:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.42	0.810	1.03**	1.98	4.44	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.26	-	-	-	-	-
	P (mW)	-	2D P1:13.1 PD P1x1:60.1	PD P1x1:78.1	-	PD P:324	(b)
	Min.of [P _o (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	179	-	-
	z _s (cm)	-	-	-	3.80	-	-
	z _{bp} (cm)	-	-	-	3.73	-	-
	z _b (cm)	-	-	-	-	4.20	-
	z _{at_max_lpi,α} (cm)	4.60	-	-	-	-	-
	d _{req} (z _b) (cm)	-	-	-	-	0.837	-
	f _{awf} (MHz)	2.56	2D:2.14 PD:2.37	2.76	2.32	2.36	(b)
	Dim of A _{aprt}	X (cm)	-	2D:5.66 PD:0.637	2.19	3.47	3.47
	Y (cm)	-	1.40	1.40	1.40	1.40	(b)
Other Information	t _d (μsec)	0.546	-	-	-	-	-
	pr _r (pulses/sec)	1500	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.30	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.688	-
	I _{pa,α} at max. MI (W/cm ²)	445	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	11.0	17.5	-
	FLy (cm)	-	-	6.00	6.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:2.8MHz, Focus:6.8cm, FR:11.72, Data No:3730283946-552380
Control 2: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:2.4MHz, Focus:3.5cm, FR:15.62, Data No:3730290581-238506
Control 3: Pulsed Doppler Mode, PD:2.8MHz, Focus:11.0cm, Data No:3730359124-611090
Control 4: Pulsed Doppler Mode, PD:2.4MHz, Focus:17.5cm, Data No:3730334349-389607
Control 5: Pulsed Doppler Mode, PD:2.4MHz, Focus:17.5cm, Data No:3730332688-872116

CA2-8A

CA2-8A: 2D& 2D+M mode

Index Label			M.I.	TIS		TIB	TIC	
				scan	non-scan			non-scan
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.58	1.48	0.141	0.200	0.409+	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.57	-	-	-	-	-	-
	P (mW)	-	2D P1:88.0	M P1x1:10.2	-	M P:10.2	-	(b)
	Min.of [P _a (zs), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	16.3	-	-
	Z _i (cm)	-	-	-	-	3.70	-	-
	Z _{bp} (cm)	-	-	-	-	3.16	-	-
	Z _b (cm)	-	-	-	-	-	1.60	-
	z_at_max_lpi, a (cm)	1.40	-	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	-	0.424	-
	f _{awf} (MHz)	2.65	3.54	2.91	2.58	2.91	-	(b)
	Dim of A _{aprt}	X (cm)	-	2.57	0.660	2.90	0.660	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)	
Other Information	t _d (µsec)	0.628	-	-	-	-	-	-
	prr (pulses/sec)	44.0*	-	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.69	-	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	-	0.419	-
	I _{pa, a} at max. MI (W/cm ²)	208	-	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	17.5	-	-
	FLy (cm)	-	-	7.00	7.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U		TIB_bs		
	Control 4				TIS_bs			

Control 1: 2D Mode, 2D:2.4MHz, Focus:2.0cm, FR:43.98, Data No:1638194531-807343

Control 2: 2D Mode, 2D:4.7MHz, Focus:3.5cm, FR:96.82, Data No:1638574615-853038

Control 3: 2D+M Mode, 2D:2.9MHz M:2.9MHz, Focus:2.0cm, FR:41.84, Data No:1638595475-797893

Control 4: 2D+M Mode, 2D:2.4MHz M:2.4MHz, Focus:17.5cm, FR:13.71, Data No:1638607340-110257

CA2-8A:2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.49	1.82	1.14	0.966	3.11	(b)	
Associated Acoustic Parameters	P _{t, α} (MPa)	2.35	-	-	-	-	-	
	P (mW)	-	2D P1:7.06 Col P1:119	PD P1x1:77.7	-	PD P:76.8	(b)	
	Min.of [P _α (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	72.5	-	-	
	Z _s (cm)	-	-	-	4.00	-	-	
	Z _{bp} (cm)	-	-	-	3.47	-	-	
	Z _b (cm)	-	-	-	-	1.00	-	
	z_at_max_lpi, α (cm)	4.10	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.465	-	
	f _{awf} (MHz)	2.48	2D:2.54 Col:3.07	3.07	2.80	3.07	(b)	
	Dim of A _{aprt}	X (cm)	-	2D:6.34 Col:1.72	0.660	3.50	0.396	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)	
Other Information	t _d (μsec)	0.567	-	-	-	-	-	
	pr _r (pulses/sec)	7.31*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.44	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.465	-	
	I _{pa, α} at max. MI (W/cm ²)	384	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	3.50	17.5	-	-
		FLy (cm)	-	-	7.00	7.00	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:5.0cm, FR:7.31, Data No:1638921722-342054

Control 2: 2D+Color Mode, 2D:2.1MHz Col:3.1MHz, Focus:2.0cm, FR:20.39, Data No:1638693520-13891

Control 3: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:3.5cm, FR:7.48, Data No:1638939642-980346

Control 4: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:2.8MHz, Focus:17.5cm, FR:4.01, Data No:1638934476-946611

Control 5: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:2.0cm, FR:7.65, Data No:1638937098-109487

CA2-8A:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.52	1.18	1.50	1.73	4.22	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.55	-	-	-	-	-
	P (mW)	-	2D P1:9.82 PD P1x1:72.8	PD P1x1:113	-	PD P:113	(b)
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	118	-	-
	Z _i (cm)	-	-	-	4.30	-	-
	Z _{bp} (cm)	-	-	-	3.47	-	-
	Z _b (cm)	-	-	-	-	1.60	-
	z_at_max_lpi,a (cm)	1.70	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.467	-
	f _{awf} (MHz)	2.82	2D:2.51 PD:3.06	2.80	3.08	2.80	(b)
	Dim of A _{aprt}	X (cm) Y (cm)	- -	2D:6.34 PD:0.660 1.20	3.50 1.20	0.660 1.20	(b) (b)
Other Information	t _d (μsec)	1.29	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.04	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.404	-
	I _{pa,a} at max. MI (W/cm ²)	367	-	-	-	-	-
	Focal Length	FLx (cm) FLy (cm)	- -	- -	3.50 7.00	17.5 7.00	- -
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}		TIB _{bs}	
	Control 4				TIS _{bs}		

Control 1: Pulsed Doppler Mode, PD:2.8MHz, Focus:3.5cm, Data No:1639011249-856502

Control 2: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:3.1MHz, Focus:3.5cm, FR:18.87, Data No:1638978458-69757

Control 3: Pulsed Doppler Mode, PD:2.8MHz, Focus:3.5cm, Data No:1639014189-133243

Control 4: Pulsed Doppler Mode, PD:3.1MHz, Focus:17.5cm, Data No:1639096466-956777

CF4-9

CF4-9: 2D & 2D + M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.24	0.571	0.0435	0.0290**	0.0806+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	2.85	-	-	-	-	-
	P (mW)	-	2D P1:23.2	M P1x1:1.82	-	M P:1.64	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	1.21	-	-
	z _s (cm)	-	-	-	1.10	-	-
	z _{bp} (cm)	-	-	-	1.24	-	-
	z _b (cm)	-	-	-	-	1.10	-
	z _{at_max_lpi, a} (cm)	1.20	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.315	-
	f _{awf} (MHz)	5.26	5.16	5.02	5.00	5.16	(b)
	Dim of A _{aprt}	X (cm)	-	1.65	1.27	1.27	1.05
	Y (cm)	-	0.420	0.420	0.420	0.420	(b)
Other Information	t _d (μsec)	0.243	-	-	-	-	-
	prr (pulses/sec)	75.2*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.28	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.312	-
	I _{pa, a} at max. MI (W/cm ²)	337	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	9.00	9.00	-
	FLy (cm)	-	-	2.50	2.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: 2D Mode, 2D: 6.2MHz, Focus: 2.0cm, FR: 75.16, Data No: 40110622-455641

Control 2: 2D Mode, 2D: 6.2MHz, Focus: 6.5cm, FR: 57.61, Data No: 401112611-553361

Control 3: 2D+M Mode, 2D: 6.2MHz M:6.2MHz, Focus: 9.0cm, FR: 20.34, Data No: 401120233-541763

Control 4: 2D+M Mode, 2D: 5.1MHz M:5.1MHz, Focus: 9.0cm, FR: 20.34, Data No: 401096250-62644

Control 5: 2D+M Mode, 2D: 6.2MHz M:6.2MHz, Focus: 6.5cm, FR: 27.05, Data No: 401114242-209187

CF4-9: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.11	0.529	0.450	0.328**	0.791	(b)	
Associated Acoustic Parameters	P _{t,a} (MPa)	2.52	-	-	-	-	-	
	P (mW)	-	2D P1:0.820 PD P1:2.38 Col P1x1:21.4	PD P1x1:21.4	-	PD P:21.2	(b)	
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	15.7	-	-	
	Z _s (cm)	-	-	-	1.00	-	-	
	Z _{bp} (cm)	-	-	-	1.34	-	-	
	Z _b (cm)	-	-	-	-	1.00	-	
	z_at_max_lpi,a (cm)	1.30	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.445	-	
	f _{awf} (MHz)	5.10	2D :5.06 PD :5.24 Col :4.40	4.40	4.40	4.40	(b)	
	Dim of A _{aprt}	X (cm)	2D :2.32 PD :2.32 Col :1.77	1.77	1.48	1.48	(b)	
	Y (cm)	-	0.420	0.420	0.420	(b)		
Other Information	t _d (μsec)	0.256	-	-	-	-	-	
	p _{rr} (pulses/sec)	7.21*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.13	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.442	-	
	I _{pa,a} at max. MI (W/cm ²)	274	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	9.00	7.50	-	-
		Fly (cm)	-	-	2.50	2.50	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS _{as}	TIS _{as_U}				
	Control 3				TIS _{bs}	TIB _{bs}		

Control 1: 2D+Color Mode, 2D: 5.1MHz Col: 5.1MHz, Focus: 2.0cm, FR: 7.21, Data No: 401164202-379534
Control 2: Triple Mode, 2D: 5.1MHz PD:5.1MHz Col: 4.4MHz, Focus: 9.0cm, FR: 2.50, Data No: 401551229-340068
Control 3: Triple Mode, 2D: 5.1MHz PD:5.1MHz Col: 4.4MHz, Focus: 7.5cm, FR: 2.57, Data No: 401536954-299431

CF4-9: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.26	0.521	0.744	0.535**	1.30	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.85	-	-	-	-	-
	P (mW)	-	2D P1:2.37 PD P1x1:21.9	PD P1x1:35.5	-	PD P:34.6	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	25.5	-	-
	z _s (cm)	-	-	-	1.00	-	-
	z _{bp} (cm)	-	-	-	1.34	-	-
	z _b (cm)	-	-	-	-	1.00	-
	z _{at_max_lpi, α} (cm)	1.00	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.443	-
	f _{awf} (MHz)	5.12	2D :4.98 PD :4.45	4.40	4.40	4.40	(b)
	Dim of A _{aprt}	X (cm)	-	2D :2.32 PD :1.48	1.77	1.48	1.48
	Y (cm)	-	0.420	0.420	0.420	0.420	(b)
Other Information	t _d (μsec)	0.654	-	-	-	-	-
	p _{rr} (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.26	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.434	-
	I _{pa, α} at max. MI (W/cm ²)	392	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	9.00	7.50	-
	Fly (cm)	-	-	2.50	2.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}	TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 2.0cm, Data No: 401591972-638220
Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD:4.4MHz, Focus: 7.5cm, FR: 7.81, Data No: 401521418-715621
Control 3: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 9.0cm, Data No: 401549448-727772
Control 4: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 7.5cm, Data No: 401530424-44514

CV1-8A

CV1-8A: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.57	1.28	0.0994**	0.143	0.362+	(b)
Associated Acoustic Parameters	P _{t,a}	(MPa)	2.85	-	-	-	-	-
	P	(mW)	-	2D P1:81.8	M P1x1:7.70	-	M P:6.69	(b)
	Min.of [P _a (zs), I _{ta,a} (z) _s 1cm ²]	(mW)	-	-	-	11.8	-	-
	z _i	(cm)	-	-	-	2.60	-	-
	z _{bp}	(cm)	-	-	-	2.60	-	-
	z _b	(cm)	-	-	-	-	0.600	-
	z_at_max_lpi,a	(cm)	0.600	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.364	-
	f _{awf}	(MHz)	3.27	3.28	2.71	2.55	2.72	(b)
Dim of A _{aprt}	X (cm)	-	1.18	1.81	2.14	0.438	(b)	
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)	
Other Information	t _d	(μsec)	0.390	-	-	-	-	-
	prr	(pulses/sec)	50.4*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	2.94	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.357	-
	I _{pa,a} at max. MI	(W/cm ²)	272	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	14.5	17.5	-	-
	FLy (cm)	-	-	5.00	5.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D Mode, 2D:3.6MHz, Focus:2.0cm, FR:50.37, Data No:1815495637-615890

Control 2: 2D Mode, 2D:3.6MHz, Focus:2.0cm, FR:110.91, Data No:1815577193-909487

Control 3: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:14.5cm, FR:18.73, Data No:1815629236-988826

Control 4: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:17.5cm, FR:15.68, Data No:1815630535-90893

Control 5: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:2.0cm, FR:47.93, Data No:1815601245-464300

CV1-8A:2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.49	1.40	0.620	0.583	2.59	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.57	-	-	-	-	-
	P (mW)	-	2D P1:10.7 Col P1:87.5	PD P1x1:50.5	-	PD P:50.5	(b)
	Min.of [P _o (zS), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	47.7	-	-
	Z _s (cm)	-	-	-	3.30	-	-
	Z _{bp} (cm)	-	-	-	3.30	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi, α (cm)	0.600	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.395	-
	f _{awf} (MHz)	2.97	2D:2.66 Col:3.03	2.58	2.56	2.58	(b)
	Dim of A _{aprt} X (cm)	-	2D:1.97 Col:1.34	0.384	3.45	0.384	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)
Other Information	t _d (μsec)	0.558	-	-	-	-	-
	prr (pulses/sec)	160*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.74	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.394	-
	I _{pa, α} at max. MI (W/cm ²)	280	-	-	-	-	-
	Focal Length FLx (cm)	-	-	2.00	17.5	-	-
	Fly (cm)	-	-	5.00	5.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}		TIB _{bs}	
	Control 4				TIS _{bs}		

Control 1: 2D+Color Mode, 2D:2.4MHz Col:3.1MHz, Focus:2.0cm, FR:17.81, Data No:1815666473-657561

Control 2: 2D+Color Mode, 2D:2.4MHz Col:3.1MHz, Focus:2.0cm, FR:32.90, Data No:1815728397-289575

Control 3: Triple Mode, 2D:2.4MHz Col:2.6MHz PD:2.6MHz, Focus:2.0cm, FR:6.77, Data No:1815773856-26611

Control 4: Triple Mode, 2D:2.4MHz Col:2.6MHz PD:2.6MHz, Focus:17.5cm, FR:3.66, Data No:1815859335-494096

CV1-8A:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.41	0.641	0.854	1.01	2.94	(b)	
Associated Acoustic Parameters	P _{t,α} (MPa)	2.27	-	-	-	-	-	
	P (mW)	-	2D P1:13.5 PD P1x1:33.4	PD P1x1:58.8	-	PD P:56.1	(b)	
	Min.of [P _a (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	82.5	-	-	
	Z _s (cm)	-	-	-	3.30	-	-	
	Z _{bp} (cm)	-	-	-	3.30	-	-	
	Z _b (cm)	-	-	-	-	0.600	-	
	z_at_max_lpi, α (cm)	2.50	-	-	-	-	-	
	d _{eq} (Z _b) (cm)	-	-	-	-	0.384	-	
	f _{awf} (MHz)	2.58	2D:2.70 PD:2.94	3.05	2.56	2.58	(b)	
	Dim of A _{aprt}	X (cm)	-	2D:4.06 PD:0.986	0.658	3.45	0.384	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)	
Other Information	t _d (μsec)	1.46	-	-	-	-	-	
	p _{rr} (pulses/sec)	999	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	2.65	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.384	-	
	I _{pa,α} at max. MI (W/cm ²)	292	-	-	-	-	-	
		FLx (cm)	-	-	3.50	17.5	-	-
		FLy (cm)	-	-	5.00	5.00	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: Pulsed Doppler Mode, PD:2.6MHz, Focus:3.5cm, Data No:1815931909-216424

Control 2: 2D+Pulsed Doppler Mode, 2D:2.4MHz PD:3.1MHz, Focus:5.0cm, FR:21.51, Data No:1815877553-398045

Control 3: Pulsed Doppler Mode, PD:3.1MHz, Focus:3.5cm, Data No:1815959332-631651

Control 4: Pulsed Doppler Mode, PD:2.6MHz, Focus:17.5cm, Data No:1815953603-299790

Control 5: Pulsed Doppler Mode, PD:2.6MHz, Focus:2.0cm, Data No:1815929612-344718

SC1-6

SC1-6: 2D & 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.56	0.835	0.103	0.216	0.582+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	2.08	-	-	-	-	-
	P (mW)	-	2D P1: 83.3	MP1x1: 11.4	-	MP: 12.5	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	24.1	-	-
	z _s (cm)	-	-	-	3.80	-	-
	z _{bp} (cm)	-	-	-	3.81	-	-
	z _b (cm)	-	-	-	-	2.90	-
	z _{at_max_lpi, a} (cm)	3.30	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.343	-
	f _{awf} (MHz)	1.76	2.11	1.91	1.88	1.72	(b)
Dim of A _{aprt}	X (cm)	-	2.41	0.660	4.22	1.12	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
Other Information	t _d (μsec)	0.833	-	-	-	-	-
	pr _r (pulses/sec)	82.9*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.55	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.336	-
	I _{pa, a} at max. MI (W/cm ²)	176	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	17.5	-
	FLy (cm)	-	-	6.50	6.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: 2D Mode, 2D: 1.7MHz, Focus: 3.5cm, FR: 82.87, Data No: 2081572738-81161

Control 2: 2D Mode, 2D: 2.2MHz, Focus: 2.0cm, FR: 88.59, Data No: 2082174814-259546

Control 3: 2D+M Mode, 2D: 1.9MHz M: 1.9MHz, Focus: 2.0cm, FR: 42.15, Data No: 2081991865-38131

Control 4: 2D+M Mode, 2D: 1.9MHz M: 1.9MHz, Focus: 17.5cm, FR: 13.75, Data No: 2082135787-345151

Control 5: 2D+M Mode, 2D: 1.7MHz M: 1.7MHz, Focus: 3.5cm, FR: 39.30, Data No: 2081805491-518871

SC1-6: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.54	1.22	1.03	0.842	3.02	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.46	-	-	-	-	-
	P (mW)	-	2D P1: 4.31 Col P1: 90.3	PD P1x1: 77.1	-	PD P: 77.1	(b)
	Min.of [P _a (z _s), I _{ta,a} (z _s)x1cm ²] (mW)	-	-	-	63.4	-	-
	Z _s (cm)	-	-	-	3.20	-	-
	Z _{bp} (cm)	-	-	-	3.16	-	-
	Z _b (cm)	-	-	-	-	1.50	-
	z_at_max_lpi,a (cm)	3.70	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.423	-
	f _{awf} (MHz)	2.56	2D: 1.98 Col: 2.74	2.80	2.79	2.80	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 4.65 Col: 1.95	0.528	2.90	0.528
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
Other Information	t _d (μsec)	0.586	-	-	-	-	-
	prr (pulses/sec)	107*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.31	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.344	-
	I _{pa,a} at max. MI (W/cm ²)	387	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	3.50	17.5	-
	FLy (cm)	-	-	6.50	6.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}		TIB _{bs}	
	Control 4				TIS _{bs}		

Control 1: 2D+Color Mode, 2D: 1.8MHz Col: 2.8MHz, Focus: 5.0cm, FR: 11.89, Data No: 2082500813-68073

Control 2: 2D+Color Mode, 2D: 1.8MHz Col: 2.8MHz, Focus: 3.5cm, FR: 25.95, Data No: 2082573123-162769

Control 3: Triple Mode, 2D: 1.8MHz Col: 1.9MHz PD: 2.8MHz, Focus: 3.5cm, FR: 5.66, Data No: 2083453887-631088

Control 4: Triple Mode, 2D: 1.8MHz Col: 1.9MHz PD: 2.8MHz, Focus: 17.5cm, FR: 3.11, Data No: 2083373482-517711

SC1-6: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.74	0.872	1.19	1.48	3.61	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.75	-	-	-	-	-
	P (mW)	-	2D P1: 3.91 PD P1x1: 68.8	PD P1x1: 92.1	-	PD P: 228	(b)
	Min.of [P _α (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	111	-	-
	z _s (cm)	-	-	-	2.90	-	-
	z _{bp} (cm)	-	-	-	2.86	-	-
	z _b (cm)	-	-	-	-	4.00	-
	z _{at_max_lpi,α} (cm)	3.90	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.836	-
	f _{awf} (MHz)	2.50	2D: 1.99 PD: 2.55	2.70	2.79	1.92	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 6.34 PD: 0.792	0.792	2.38	2.90
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
Other Information	t _d (μsec)	0.592	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.76	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.803	-
	I _{pa,α} at max. MI (W/cm ²)	461	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	5.00	14.5	-
	FLy (cm)	-	-	6.50	6.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 6.8cm, Data No: 2083141908-619951

Control 2: 2D+Pulsed Doppler Mode, 2D: 1.8MHz PD: 2.8MHz, Focus: 5.0cm, FR: 18.87, Data No: 2083134663-421692

Control 3: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 5.0cm, Data No: 2083263792-416893

Control 4: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 14.5cm, Data No: 2083426660-30917

Control 5: Pulsed Doppler Mode, PD: 1.9MHz, Focus: 17.5cm, Data No: 2082977793-233208

EA2-11B

EA2-11B: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.50	0.611	0.0490	0.0310**	0.0970+	(b)
Associated Acoustic Parameters	P _{t, a} (MPa)	3.31	-	-	-	-	-	-
	P (mW)	-	2D P1:25.4	M P1x1:2.04	-	M P:1.21	(b)	-
	Min.of [P _a (z _s), I _a (z _s)x1cm ²]	(mW)	-	-	-	1.29	-	-
	Z _i (cm)	-	-	-	-	1.30	-	-
	Z _{bp} (cm)	-	-	-	-	1.49	-	-
	Z _b (cm)	-	-	-	-	-	0.600	-
	z_at_max_lpi, a (cm)	1.30	-	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	-	0.222	-
	f _{awf} (MHz)	4.87	5.05	5.09	5.09	5.39	(b)	-
Dim of A _{aprt}	X (cm)	-	1.55	1.30	1.30	0.248	(b)	-
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)	-
Other Information	t _d (μsec)	0.458	-	-	-	-	-	-
	prr (pulses/sec)	27.5*	-	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.01	-	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	-	0.222	-
	I _{pa, a} at max. MI (W/cm ²)	423	-	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	6.50	6.50	-	-
		FLy (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U	TIS_bs			
	Control 4					TIB_bs		

Control 1: 2D Mode, 2D:4.4MHz, Focus:1.5cm, FR:27.50, Data No:700192084-330640

Control 2: 2D Mode, 2D:4.7MHz, Focus:3.0cm, FR:25.59, Data No:700225779-439065

Control 3: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:6.5cm, FR:19.16, Data No:700238904-804655

Control 4: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:0.5cm, FR:27.72, Data No:700220370-148726

EA2-11B:2D + Color, Triple, CPA &Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		0.712	0.459	0.414	0.334**	0.857	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	1.62	-	-	-	-	-
	p (mW)	-	2D P1:0.105 Col P1:1.58 PD P1x1:16.9	PD P1x1:16.9	-	PD P:12.4	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	13.6	-	-
	z _s (cm)	-	-	-	0.600	-	-
	z _{bp} (cm)	-	-	-	0.377	-	-
	z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi, α (cm)	1.80	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.262	-
	f _{awf} (MHz)	5.19	2D :5.71 Col :5.60 PD :5.15	5.15	5.15	5.15	(b)
	Dim of A _{aprt}	X (cm)	-	2D :2.65 Col :1.27 PD :0.0830	0.0830	0.0830	0.248
	Y (cm)	-	0.600	0.600	0.600	(b)	
Other Information	t _d (μsec)	0.659	-	-	-	-	-
	prr (pulses/sec)	2000	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.12	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.256	-
	I _{pa, α} at max. MI (W/cm ²)	129	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	0.500	0.500	-
	FLy (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as	TIS_as_U	TIS_bs		
	Control 3					TIB_bs	

Control 1: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:3.0cm, FR:9.17, Data No:700900881-536094

Control 2: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:0.5cm, FR:9.57, Data No:700844875-48969

Control 3: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:1.5cm, FR:9.40, Data No:700876064-847602

EA2-11B:Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.32	0.458	0.771	0.511**	1.57	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	2.99	-	-	-	-	-
	P (mW)	-	2D P1:0.0980 PD P1x1:18.6	PD P1x1:31.5	-	PD P:22.4	(b)
	Min.of [P _o (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	20.9	-	-
	Z _s (cm)	-	-	-	0.800	-	-
	Z _{bp} (cm)	-	-	-	1.07	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi,α (cm)	1.50	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.257	-
	f _{awf} (MHz)	5.12	2D :5.71 PD :5.15	5.13	5.14	5.15	(b)
	Dim of A _{aprt}	X (cm)	-	2D :2.65 PD :0.0830	1.24	0.662	0.248
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.720	-	-	-	-	-
	p _{rr} (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.72	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.257	-
	I _{pa,α} at max. MI (W/cm ²)	348	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	7.50	4.00	-
	FLy (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:5.1MHz, Focus:3.0cm, Data No:700898490-583191

Control 2: 2D+Pulsed Doppler Mode, 2D:4.7MHz PD:5.1MHz, Focus:0.5cm, FR:8.93, Data No:700843239-516290

Control 3: Pulsed Doppler Mode, PD:5.1MHz, Focus:7.5cm, Data No:701028446-766499

Control 4: Pulsed Doppler Mode, PD:5.1MHz, Focus:4.0cm, Data No:700935940-828636

Control 5: Pulsed Doppler Mode, PD:5.1MHz, Focus:1.5cm, Data No:700873743-3746

EC4-9IS

EC4-9IS: 2D & 2D + M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.12	0.676	0.0720**	0.0440	0.112+	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.50	-	-	-	-	-
	P (mW)	-	2D P1: 26.8	MP1x1: 3.16	-	M P: 2.41	(b)
	Min. of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	1.91	-	-
	z _s (cm)	-	-	-	1.70	-	-
	z _{bp} (cm)	-	-	-	1.74	-	-
	z _b (cm)	-	-	-	-	1.40	-
	z _{at_max_lpi, α} (cm)	0.600	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.294	-
	f _{awf} (MHz)	5.03	5.29	4.78	4.78	4.97	(b)
	Dim of A _{aprt}	X (cm)	-	1.46	1.77	1.77	0.580
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.357	-	-	-	-	-
	prr (pulses/sec)	26.1*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.75	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.268	-
	I _{pa, α} at max. MI (W/cm ²)	253	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	9.00	9.00	-
	Fly (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: 2D Mode, 2D: 4.4MHz, Focus: 1.5cm, FR: 26.07, Data No: 2659272708-174249

Control 2: 2D Mode, 2D: 5.1MHz, Focus: 4.0cm, FR: 94.08, Data No: 2659190243-346181

Control 3: 2D+M Mode, 2D: 4.4MHz M: 4.4MHz, Focus: 9.0cm, FR: 14.30, Data No: 2659296416-952616

Control 4: 2D+M Mode, 2D: 4.4MHz M: 4.4MHz, Focus: 3.0cm, FR: 23.15, Data No: 2659277513-507230

EC4-9IS: 2D + Color, Triple, CPA & Triple CPA

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.17	1.15	0.749	0.560**	1.58	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.74	-	-	-	-	-	-
	P (mW)	-	2D P1: 0.0780 Col P1: 43.2	PD P1x1: 28.1	-	PD P: 22.6	(b)	
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	21.0	-	-	
	z _s (cm)	-	-	-	0.700	-	-	
	z _{bp} (cm)	-	-	-	1.07	-	-	
	z _b (cm)	-	-	-	-	0.600	-	
	z_at_max_lpi, a (cm)	0.600	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.254	-	
	f _{awf} (MHz)	5.43	2D: 5.86 Col: 5.58	5.60	5.59	5.59	(b)	
	Dim of A _{aprt} X (cm)	-	2D: 2.65 Col: 0.814	1.08	0.662	0.248	(b)	
Other Information	Y (cm)	-	0.600	0.600	0.600	0.600	(b)	
	t _d (μsec)	0.271	-	-	-	-	-	
	p _{rr} (pulses/sec)	70.1*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.03	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.254	-	
	I _{pa, a} at max. MI (W/cm ²)	326	-	-	-	-	-	
	Focal Length FLx (cm)	-	-	6.50	4.00	-	-	
	FLy (cm)	-	-	4.00	4.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D: 5.1MHz Col: 5.6MHz, Focus: 15.0cm, FR: 5.39, Data No: 2659349184-659042
Control 2: 2D+Color Mode, 2D: 5.1MHz Col: 5.6MHz, Focus: 5.0cm, FR: 5.43, Data No: 2659345376-33710
Control 3: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 6.50cm, FR: 1.86, Data No: 2660065760-267070
Control 4: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 4.00cm, FR: 1.89, Data No: 2659997308-631641
Control 5: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 15.0cm, FR: 1.90, Data No: 2659928587-882207

EC4-9IS: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.38	0.600	1.28	0.833**	2.05	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	3.23	-	-	-	-	-
	P (mW)	-	2D P1: 0.357 PD P1x1: 22.6	PD P1x1: 48.2	-	PD P: 29.5	(b)
	Min.of [P _o (z _s), I _{ta,α} (z _s)x1cm ²] (mW)	-	-	-	31.4	-	-
	z _s (cm)	-	-	-	0.700	-	-
	z _{bp} (cm)	-	-	-	1.07	-	-
	z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi,α (cm)	0.600	-	-	-	-	-
	d _{req} (z _b) (cm)	-	-	-	-	0.255	-
	f _{awf} (MHz)	5.48	2D: 5.61 PD: 5.48	5.58	5.57	5.59	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.65 PD: 0.662	1.24	0.662	0.248
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.667	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.67	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.255	-
	I _{pa,α} at max. MI (W/cm ²)	415	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	7.50	4.00	-
	FLy (cm)	-	-	4.00	4.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 15.0cm, Data No: 2659919941-984195
Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD: 5.6MHz, Focus: 4.00cm, FR: 7.81, Data No: 2659983181-24527
Control 3: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 7.50cm, Data No: 2660082082-512986
Control 4: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 4.00cm, Data No: 2659988738-946484
Control 5: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 15.0cm, Data No: 2659932516-992309

P2-4BA

P2-4BA: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.67	2.71	0.190**	0.265	0.787+	4.81
Associated Acoustic Parameters	P _{t, a} (MPa)	2.32	-	-	-	-	-
	P (mW)	-	2D P1:210	M P1x1:14.0	-	M P:42.2	2D P:169 M P:8.46
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	28.7	-	-
	Z _s (cm)	-	-	-	2.70	-	-
	Z _{bp} (cm)	-	-	-	2.64	-	-
	Z _b (cm)	-	-	-	-	3.30	-
	z_at_max_lpi, a (cm)	3.90	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.808	-
	f _{awf} (MHz)	1.93	2.71	2.85	1.94	1.82	1.86
	Dim of A _{aprt} X (cm)	-	1.02	2.03	2.03	2.03	0.559
	Y (cm)	-	1.20	1.20	1.20	1.20	1.20
Other Information	t _d (usec)	0.731	-	-	-	-	-
	prr (pulses/sec)	82.1*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.92	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.722	-
	I _{pa, a} at max. MI (W/cm ²)	343	-	-	-	-	-
	Focal Length FLx (cm)	-	-	16.0	16.0	-	-
	Fly (cm)	-	-	6.40	6.40	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	
	Control 6						TIC_as

Control 1: 2D Mode, 2D: 2.0MHz, Focus: 6.0cm, FR: 82.10, Data No: 2454149582-966068

Control 2: 2D Mode, 2D: 3.6MHz, Focus: 4.0cm, FR: 96.75, Data No: 2454081154-552254

Control 3: 2D+M Mode, 2D: 3.6MHz M: 3.6MHz, Focus: 16.0cm, FR: 33.96, Data No: 2454098260-788240

Control 4: 2D+M Mode, 2D: 2.1MHz M: 2.1MHz, Focus: 16.0cm, FR: 33.96, Data No: 2454270045-490032

Control 5: 2D+M Mode, 2D: 1.9MHz M: 1.9MHz, Focus: 16.0cm, FR: 33.96, Data No: 2454206107-513815

Control 6: 2D+M Mode, 2D: 1.8MHz M: 1.8MHz, Focus: 2.0cm, FR: 101.38, Data No: 2454100941-729688

P2-4BA: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.64	2.39	0.987**	1.39	3.47	4.57
Associated Acoustic Parameters	P _{t,α} (MPa)	2.56	-	-	-	-	-
	P (mW)	-	2D P1:24.8 Col P1:178	PD P1x1:81.0	-	PD P:196	2D P:16.6 Col P:152
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	114	-	-
	z _s (cm)	-	-	-	2.90	-	-
	z _{bp} (cm)	-	-	-	2.64	-	-
	z _b (cm)	-	-	-	-	3.70	-
	z _{at_max_lpi, α} (cm)	0.900	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.728	-
	f _{awf} (MHz)	2.44	2D:2.05 Col:2.54	2.56	2.55	2.20	2D:1.98 Col:2.20
	Dim of A _{aprt}	X (cm) Y (cm)	- -	1.02 1.20	1.98 1.20	2.03 1.20	2.03 1.20
Other Information	t _d (μsec)	0.587	-	-	-	-	-
	prr (pulses/sec)	319*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.58	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.589	-
	I _{pa, α} at max. MI (W/cm ²)	242	-	-	-	-	-
	Focal Length	FLx (cm) FLy (cm)	- -	- -	14.0 6.40	16.0 6.40	- -
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
					TIS_bs		
						TIB_bs	
							TIC_as

Control 1: 2D+Color Mode, 2D: 1.8MHz Col:2.6MHz, Focus: 2.0cm, FR: 39.92, Data No: 2454281773-538438

Control 2: 2D+Color Mode, 2D: 1.8MHz Col:2.6MHz, Focus: 4.0cm, FR: 20.34, Data No: 2454288293-353431

Control 3: Triple Mode, 2D: 1.8MHz Col:2.6MHz, PD:2.6MHz, Focus: 14.0cm, FR: 6.43, Data No: 2454807772-336040

Control 4: Triple Mode, 2D: 1.8MHz Col:2.6MHz PD:2.6MHz, Focus: 16.0cm, FR: 5.82, Data No: 2454835110-948125

Control 5: Triple Mode, 2D: 1.8MHz Col:2.6MHz PD:2.2MHz, Focus: 16.0cm, FR: 5.82, Data No: 2454650442-161876

Control 6: 2D+Color Mode, 2D: 1.8MHz Col:2.2MHz, Focus: 2.0cm, FR: 20.73, Data No: 2454382841-920385

P2-4BA: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.63	1.39	1.84**	2.37	5.48	4.75
Associated Acoustic Parameters	P _{t, a} (MPa)	2.60	-	-	-	-	-
	P (mW)	-	2D P1:42.6 PD P1x1:83.3	PD P1x1:151	-	PD P:302	PD P:304
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	194	-	-
	z _j (cm)	-	-	-	3.00	-	-
	z _{bp} (cm)	-	-	-	2.64	-	-
	z _b (cm)	-	-	-	-	3.40	-
	z_at_max_lpi, a (cm)	1.30	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.749	-
	f _{awf} (MHz)	2.53	2D:1.93 PD:2.51	2.55	2.56	2.19	2.55
	Dim of A _{aprt} X (cm)	-	1.42	1.68	2.03	1.98	1.68
Y (cm)	-	1.20	1.20	1.20	1.20	1.20	
Other Information	t _d (μsec)	1.43	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.69	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.652	-
	I _{pa, a} at max. MI (W/cm ²)	258	-	-	-	-	-
	Focal Length FLx (cm)	-	-	12.0	16.0	-	-
	FLy (cm)	-	-	6.40	6.40	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			TIC_as
					TIS_bs		
						TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 2.0cm, Data No: 2454684747-897776

Control 2: 2D+Pulsed Doppler Mode, 2D: 1.8MHz PD:2.6MHz, Focus: 10.0cm, FR: 21.13, Data No: 2454774598-376681

Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 12.0cm, Data No: 2454787761-287992

Control 4: Pulsed Doppler Mode, PD:2.6MHz, Focus:16.0cm, Data No:2454833467-814415

Control 5: Pulsed Doppler Mode, PD:2.2MHz, Focus:14.0cm, Data No:2454629270-931040

P2-4BA: CW mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			0.0786	(a)	1.69	1.21**	4.14	4.35
Associated Acoustic Parameters	P _{t,a}	(MPa)	0.109	-	-	-	-	-
	P	(mW)	-	(a)	CW P1x1:185	-	CW P:185	CW P:185
	Min.of [P _o (z _s), I _{ta,a} (z _s)x1cm ²]	(mW)	-	-	-	132	-	-
	z _s	(cm)	-	-	-	1.60	-	-
	z _{bp}	(cm)	-	-	-	1.59	-	-
	z _b	(cm)	-	-	-	-	4.10	-
	z_at_max_lpi,a	(cm)	0.00	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.575	-
	f _{awf}	(MHz)	1.92	(a)	1.92	1.92	1.92	1.92
	Dim of A _{aprt}	X (cm)	-	(a)	0.737	0.737	0.737	0.737
	Y (cm)	-	(a)	1.20	1.20	1.20	1.20	
Other Information	t _d	(μsec)	CW	-	-	-	-	-
	p _{rr}	(pulses/sec)	CW	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	0.124	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.552	-
	I _{pa,a} at max. MI	(W/cm ²)	0.400	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	10.0	10.0	-	-
		FLy (cm)	-	-	6.40	6.40	-	-
Operating Control Conditions	Control 1	MI						
	Control 2			TIS_as_U	TIS_bs	TIB_bs	TIC_as	

Control 1: CW Mode, CW: 1.9MHz, Focus: 2.0cm, Data No: 1841072859-333332

Control 2: CW Mode, CW: 1.9MHz, Focus: 10.0cm, Data No: 1841074378-364049

V2-6

V2-6: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.59	0.445	0.0490	0.0850	0.194+	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	2.38	-	-	-	-	-	-
	P (mW)	-	2D P1: 38.4	MP1x1: 4.38	-	MP: 14.1	(b)	-
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	8.22	-	-	-
	Z _s (cm)	-	-	-	3.60	-	-	-
	Z _{bp} (cm)	-	-	-	3.60	-	-	-
	Z _b (cm)	-	-	-	-	4.30	-	-
	z_at_max_lpi, α (cm)	4.00	-	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.858	-	-
	f _{awf} (MHz)	2.25	2.43	2.36	2.17	2.17	(b)	-
Dim of A _{aprt}	X (cm)	-	2.63	0.620	3.47	3.47	(b)	-
	Y (cm)	-	1.30	1.30	1.30	1.30	(b)	-
Other Information	t _d (usec)	0.670	-	-	-	-	-	-
	prf (pulses/sec)	44.8*	-	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.10	-	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.768	-	-
	I _{pa, α} at max. MI (W/cm ²)	282	-	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	17.5	-	-
	Fly (cm)	-	-	7.00	7.00	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs	TIB_bs		

Control 1: 2D Mode, 2D: 2.1MHz, Focus: 5.0cm, FR: 44.76, Data No: 3541914742-506559

Control 2: 2D Mode, 2D: 2.4MHz, Focus: 3.5cm, FR: 47.67, Data No: 3541835951-103919

Control 3: 2D+M Mode, 2D: 2.1MHz M: 2.1MHz, Focus: 2.0cm, FR: 48.54, Data No: 3541692450-560830

Control 4: 2D+M Mode, 2D: 2.2MHz M: 2.2MHz, Focus: 17.5cm, FR: 15.76, Data No: 3542033231-854299

V2-6: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.02	1.11	0.833	0.649**	2.67	(b)	
Associated Acoustic Parameters	P _{t,a} (MPa)	1.63	-	-	-	-	-	
	P (mW)	-	2D P1: 0.369 Col P1: 90.0	PD P1x1: 67.9	-	PD P: 67.9	(b)	
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1 cm²] (mW)	-	-	-	52.9	-	-	
	z _s (cm)	-	-	-	1.40	-	-	
	z _{bp} (cm)	-	-	-	1.36	-	-	
	z _b (cm)	-	-	-	-	1.40	-	
	z _{at_max_lpi, a} (cm)	0.600	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.451	-	
	f _{awf} (MHz)	2.54	2D: 2.85 Col: 2.57	2.58	2.58	2.58	(b)	
	Dim of A _{aprt}	X (cm)	-	2D: 3.66 Col: 1.77	0.496	0.496	0.496	(b)
	Y (cm)	-	1.30	1.30	1.30	1.30	(b)	
Other Information	t _d (μsec)	0.582	-	-	-	-	-	
	prr (pulses/sec)	428*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	1.72	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.451	-	
	I _{pa, a} at max. MI (W/cm²)	103	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	2.00	2.00	-	-
		FLy (cm)	-	-	7.00	7.00	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS _{as}					
	Control 3			TIS _{as_U}	TIS _{bs}	TIB _{bs}		

Control 1: 2D+Color Mode, 2D: 2.6MHz Col: 2.6MHz, Focus: 2.0cm, FR: 47.53, Data No: 3542106246-201198

Control 2: 2D+Color Mode, 2D: 2.6MHz Col: 2.6MHz, Focus: 2.0cm, FR: 47.53, Data No: 3542123586-765494

Control 3: Triple Mode, 2D: 2.6MHz Col: 2.6MHz PD: 2.6MHz, Focus: 2.0cm, FR: 17.84, Data No: 3543430223-47365

V2-6: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.53	0.975	1.05	1.08	3.84	(b)
Associated Acoustic Parameters	P _{t,α} (MPa)	2.22	-	-	-	-	-
	P (mW)	-	2D P1: 0.130 PD P1x1: 79.3	PD P1x1: 85.3	-	PD P: 94.3	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	89.1	-	-
	Z _s (cm)	-	-	-	2.90	-	-
	Z _{bp} (cm)	-	-	-	2.84	-	-
	Z _b (cm)	-	-	-	-	1.30	-
	z_at_max_lpi, α (cm)	1.20	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.463	-
	f _{awf} (MHz)	2.12	2D: 2.90 PD: 2.58	2.58	2.56	2.13	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 5.95 PD: 0.496	0.496	2.17	0.868
	Y (cm)	-	1.30	1.30	1.30	1.30	(b)
Other Information	t _d (μsec)	1.72	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.40	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.399	-
	I _{pa, α} at max. MI (W/cm ²)	178	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	8.80	-
	FLy (cm)	-	-	7.00	7.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U			
	Control 4				TIS_bs		
	Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 2.1MHz, Focus: 2.0cm, Data No: 3542802493-761216
Control 2: 2D+Pulsed Doppler Mode, 2D: 2.6MHz PD: 2.6MHz, Focus: 2.0cm, FR: 14.29, Data No: 3543411874-539922
Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 2.0cm, Data No: 3543423054-476214
Control 4: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 8.8cm, Data No: 3543696770-422915
Control 5: Pulsed Doppler Mode, PD: 2.1MHz, Focus: 3.5cm, Data No: 3542921535-367402

V4-8

V4-8: 2D& 2D+M mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.54	0.765	0.0750	0.103	0.253+	(b)
Associated Acoustic Parameters	P _{t,a}	(MPa)	2.57	-	-	-	-	-
	P	(mW)	-	2D P1: 47.6	MP1x1: 5.11	-	M P: 6.18	(b)
	Min.of [P _o (z _s), I _{ta,a} (z _s)x1cm ²]	(mW)	-	-	-	7.24	-	-
	z _s	(cm)	-	-	-	3.10	-	-
	z _{bp}	(cm)	-	-	-	3.02	-	-
	z _b	(cm)	-	-	-	-	3.30	-
	z _{at_max_lpi,a}	(cm)	2.90	-	-	-	-	-
	d _{eq} (z _b)	(cm)	-	-	-	-	0.293	-
	f _{awf}	(MHz)	2.80	3.38	3.07	2.98	2.65	(b)
	Dim of A _{aprt}	X (cm)	-	1.86	0.546	2.89	1.20	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)	
Other Information	t _d	(μsec)	0.522	-	-	-	-	-
	prr	(pulses/sec)	47.1*	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	2.87	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.281	-
	I _{pa,a} at max. MI	(W/cm ²)	364	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	17.5	-	-
		Fly (cm)	-	-	6.20	6.15	-	-
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D Mode, 2D: 2.7MHz, Focus: 3.5cm, FR: 47.14, Data No: 3573963914-306704
Control 2: 2D Mode, 2D: 3.6MHz, Focus: 2.0cm, FR: 201.50, Data No: 3573715095-97336
Control 3: 2D+M Mode, 2D: 3.1MHz M: 3.1MHz, Focus: 2.0cm, FR: 47.93, Data No: 3573558528-209848
Control 4: 2D+M Mode, 2D: 3.1MHz M: 3.1MHz, Focus: 17.5cm, FR: 15.68, Data No: 3573689966-738257
Control 5: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 5.0cm, FR: 41.86, Data No: 3573893369-161981

V4-8: 2D + Color, Triple, CPA & Triple CPA

Index Label			M.I.	TIS		TIB	TIC	
				scan	non-scan			non-scan
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			1.32	0.957	0.779	0.661	2.22	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.29	-	-	-	-	-	-
	P (mW)	-	2D P1: 0.468 Col P1: 65.1	PD P1x1: 53.1	-	PD P: 52.7	(b)	
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	45.2	-	-	
	z _s (cm)	-	-	-	2.40	-	-	
	z _{bp} (cm)	-	-	-	2.35	-	-	
	z _b (cm)	-	-	-	-	1.20	-	
	z_at_max_lpi, a (cm)	3.20	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.417	-	
	f _{awf} (MHz)	3.00	2D: 3.61 Col: 3.06	3.08	3.07	3.08	(b)	
	Dim of A _{aprt} X (cm)	-	2D: 3.19 Col: 1.47	0.655	1.75	0.655	(b)	
Other Information	Y (cm)	-	1.10	1.10	1.10	1.10	(b)	
	t _d (μsec)	0.479	-	-	-	-	-	
	p _{rr} (pulses/sec)	103*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	3.16	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.297	-	
	I _{pa, a} at max. MI (W/cm ²)	325	-	-	-	-	-	
	Focal Length FLx (cm)	-	-	3.50	8.80	-	-	
	FLy (cm)	-	-	6.20	6.20	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U				
	Control 4				TIS_bs			
	Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 10.27, Data No: 3574149826-184143
Control 2: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 2.0cm, FR: 22.74, Data No: 3574074366-230069
Control 3: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 4.70, Data No: 3575624035-168588
Control 4: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 4.49, Data No: 3575871139-386605
Control 5: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 4.70, Data No: 3575640567-30384

V4-8: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.52	0.683	1.51	1.06**	2.47	(b)
Associated Acoustic Parameters	P _{t, α} (MPa)	2.65	-	-	-	-	-
	P (mW)	-	2D P1: 0.233 PD P1x1: 46.3	PD P1x1: 50.4	-	PD P: 54.8	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	35.6	-	-
	Z _s (cm)	-	-	-	0.800	-	-
	Z _{bp} (cm)	-	-	-	1.44	-	-
	Z _b (cm)	-	-	-	-	1.00	-
	z_at_max_lpi, α (cm)	3.10	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.406	-
	f _{awf} (MHz)	3.04	2D: 3.66 PD: 3.08	6.28	6.28	3.07	(b)
	Dim of A _{aprt} X (cm)	-	2D: 5.24 PD: 0.655	0.655	0.655	0.655	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)
Other Information	t _d (μsec)	1.21	-	-	-	-	-
	p _{rr} (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.33	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.288	-
	I _{pa, α} at max. MI (W/cm ²)	308	-	-	-	-	-
	Focal Length FLx (cm)	-	-	3.50	3.50	-	-
	Fly (cm)	-	-	6.20	6.20	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 5.0cm, Data No: 3575683846-596293
Control 2: 2D+Pulsed Doppler Mode, 2D: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 14.29, Data No: 3575619728-863287
Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 3.5cm, Data No: 3574963971-734782
Control 4: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 3.5cm, Data No: 3575617821-395834

V5-9

V5-9: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		1.21	0.532	0.0670	0.0370**	0.0860+	(b)	
Associated Acoustic Parameters	P _{t,a} (MPa)	2.59	-	-	-	-	-	
	P (mW)	-	2D P1: 21.0	MP1x1: 2.79	-	MP: 1.54	(b)	
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	1.54	-	-
	Z _i (cm)	-	-	-	-	1.70	-	-
	Z _{bp} (cm)	-	-	-	-	1.60	-	-
	Z _b (cm)	-	-	-	-	-	1.70	-
	z_at_max_lpi, a (cm)	1.10	-	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	-	0.222	-
	f _{awf} (MHz)	4.55	5.31	5.05	5.05	5.05	-	(b)
Dim of A _{aprt}	X (cm)	-	0.938	1.49	1.49	0.856	(b)	
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)	
Other Information	t _d (μsec)	0.261	-	-	-	-	-	
	prr (pulses/sec)	30.1*	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	2.95	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.205	-	
	I _{pa, a} at max. MI (W/cm ²)	244	-	-	-	-	-	
	FLx (cm)	-	-	7.50	7.50	-	-	
	Focal Length Fly (cm)	-	-	3.50	3.50	-	-	
Operating Control Conditions	Control 1	MI						
	Control 2		TIS_as					
	Control 3			TIS_as_U	TIS_bs			
	Control 4					TIB_bs		

Control 1: 2D Mode, 2D: 4.7MHz, Focus: 1.5cm, FR: 30.08, Data No: 3546959882-345780

Control 2: 2D Mode, 2D: 4.7MHz, Focus: 0.5cm, FR: 126.67, Data No: 3547210501-284136

Control 3: 2D+M Mode, 2D: 5.1MHz M: 5.1MHz, Focus: 7.5cm, FR: 18.74, Data No: 3547328747-116356

Control 4: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 3.0cm, FR: 26.64, Data No: 3547231276-914988

V5-9: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		0.867	0.615	0.531	0.375**	1.18	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	1.82	-	-	-	-	-
	P (mW)	-	2D P1: 0.305 Col P1: 24.8	PD P1x1: 21.7	-	PD P: 18.3	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	15.3	-	-
	z _s (cm)	-	-	-	0.600	-	-
	z _{bp} (cm)	-	-	-	0.377	-	-
	z _b (cm)	-	-	-	-	1.40	-
	z _{at_max_lpi, α} (cm)	1.40	-	-	-	-	-
	d _{req} (z _b) (cm)	-	-	-	-	0.228	-
	f _{awf} (MHz)	4.43	2D: 5.06 Col: 5.14	5.13	5.14	4.41	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.65 Col: 1.02	1.49	0.0830	0.497
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.757	-	-	-	-	-
	pr _r (pulses/sec)	2000	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.14	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.219	-
	I _{pa, α} at max. MI (W/cm ²)	162	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	9.00	0.500	-
	FLy (cm)	-	-	4.00	4.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 4.4MHz, Focus: 3.0cm, FR: 1.91, Data No: 3548147165-915895

Control 2: 2D+Color Mode, 2D: 4.7MHz Col: 5.1MHz, Focus: 1.5cm, FR: 6.13, Data No: 3547418298-198101

Control 3: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 9.0cm, FR: 1.83, Data No: 3549059197-464341

Control 4: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 0.5cm, FR: 1.93, Data No: 3548593659-937887

Control 5: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 4.4MHz, Focus: 3.0cm, FR: 1.91, Data No: 3548161223-408076

V5-9: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.30	0.448	0.951	0.521**	1.48	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	2.71	-	-	-	-	-
	P (mW)	-	2D P1: 0.137 PD P1x1: 18.2	PD P1x1: 38.9	-	PD P: 25.5	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	21.3	-	-
	Z _s (cm)	-	-	-	1.70	-	-
	Z _{bp} (cm)	-	-	-	1.60	-	-
	Z _b (cm)	-	-	-	-	1.30	-
	z_at_max_lpi, a (cm)	1.20	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.240	-
	f _{awf} (MHz)	4.36	2D: 5.12 PD: 5.14	5.13	5.13	5.13	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.65 PD: 0.0830	1.49	1.49	0.497
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.793	-	-	-	-	-
	prr (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.18	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.227	-
	I _{pa, a} at max. MI (W/cm ²)	358	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	9.00	9.00	-
	FLy (cm)	-	-	4.00	4.00	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}	TIS _{bs}		
	Control 4					TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 3.0cm, Data No: 3548141878-435099

Control 2: 2D+Pulsed Doppler Mode, 2D: 4.7MHz PD: 5.1MHz Focus: 0.5cm, FR: 9.77, Data No: 3548617538-35952

Control 3: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 9.0cm, Data No: 3549054092-690538

Control 4: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 3.0cm, Data No: 3548725931-165218

VR5-9

VR5-9: 2D& 2D+M mode

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.50	0.611	0.0490	0.0310**	0.0970+	(b)
Associated Acoustic Parameters	P _{r, a} (MPa)	3.31	-	-	-	-	-
	P (mW)	-	2D P1: 25.4	MP1x1: 2.04	-	M P: 1.21	(b)
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	1.29	-	-
	z _s (cm)	-	-	-	1.30	-	-
	z _{bp} (cm)	-	-	-	1.49	-	-
	z _b (cm)	-	-	-	-	0.600	-
	z _{at_max_lpi, a} (cm)	1.30	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.222	-
	f _{awf} (MHz)	4.87	5.05	5.09	5.09	5.39	(b)
Dim of A _{aprt}	X (cm)	-	1.55	1.30	1.30	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.458	-	-	-	-	-
	prr (pulses/sec)	27.5*	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	4.01	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.222	-
	I _{pa, a} at max. MI (W/cm ²)	423	-	-	-	-	-
	FLx (cm)	-	-	6.50	6.50	-	-
	Focal Length Fly (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS_as				
	Control 3			TIS_as_U	TIS_bs		
	Control 4					TIB_bs	

Control 1: 2D Mode, 2D: 4.4MHz, Focus: 1.5cm, FR: 27.50, Data No: 700192084-330640

Control 2: 2D Mode, 2D: 4.7MHz, Focus: 3.0cm, FR: 25.59, Data No: 700225779-439065

Control 3: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 6.5cm, FR: 19.16, Data No: 700238904-804655

Control 4: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 0.5cm, FR: 27.72, Data No: 700220370-148726

VR5-9: 2D + Color, Triple, CPA & Triple CPA

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		0.712	0.459	0.414	0.334**	0.857	(b)
Associated Acoustic Parameters	P _{t,a} (MPa)	1.62	-	-	-	-	-
	P (mW)	-	2D P1: 0.105 Col P1: 1.58 PD P1x1: 16.9	PD P1x1: 16.9	-	PD P: 12.4	(b)
	Min.of [P _a (z _s), I _{ta, a} (z _s)x1cm ²] (mW)	-	-	-	13.6	-	-
	Z _s (cm)	-	-	-	0.600	-	-
	Z _{bp} (cm)	-	-	-	0.377	-	-
	Z _b (cm)	-	-	-	-	0.600	-
	z_at_max_lpi,a (cm)	1.80	-	-	-	-	-
	d _{eq} (z _b) (cm)	-	-	-	-	0.262	-
	f _{awf} (MHz)	5.19	2D: 5.71 Col: 5.60 PD: 5.15	5.15	5.15	5.15	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.65 Col: 1.27 PD: 0.0830	0.0830	0.0830	0.248
	Y (cm)	-	0.600	0.600	0.600	(b)	
Other Information	t _d (μsec)	0.659	-	-	-	-	-
	prr (pulses/sec)	2000	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	2.12	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.256	-
	I _{pa,a} at max. MI (W/cm ²)	129	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	0.500	0.500	-
	Fly (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}	TIS _{as_U}	TIS _{bs}		
	Control 3					TIB _{bs}	

Control 1: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 3.0cm, FR: 9.17, Data No: 700900881-536094

Control 2: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 0.5cm, FR: 9.57, Data No: 700844875-48969

Control 3: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 1.5cm, FR: 9.40, Data No: 700876064-847602

VR5-9: Pulsed Doppler & 2D + Pulsed Doppler

Index Label		M.I.	TIS			TIB	TIC
			scan	non-scan		non-scan	
				A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value		1.32	0.458	0.771	0.511**	1.57	(b)
Associated Acoustic Parameters	P _{r,α} (MPa)	2.99	-	-	-	-	-
	P (mW)	-	2D P1: 0.0980 PD P1x1: 18.6	PD P1x1: 31.5	-	PD P: 22.4	(b)
	Min.of [P _o (z _s), I _{ta, α} (z _s)x1 cm ²] (mW)	-	-	-	20.9	-	-
	z _s (cm)	-	-	-	0.800	-	-
	z _{bp} (cm)	-	-	-	1.07	-	-
	z _b (cm)	-	-	-	-	0.600	-
	z _{at_max_lpi, α} (cm)	1.50	-	-	-	-	-
	d _{req} (z _b) (cm)	-	-	-	-	0.257	-
	f _{awf} (MHz)	5.12	2D: 5.71 PD: 5.15	5.13	5.14	5.15	(b)
	Dim of A _{aprt}	X (cm)	-	2D: 2.65 PD: 0.0830	1.24	0.662	0.248
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
Other Information	t _d (μsec)	0.720	-	-	-	-	-
	pr _r (pulses/sec)	999	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	3.72	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.257	-
	I _{pa, α} at max. MI (W/cm ²)	348	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	7.50	4.00	-
	FLy (cm)	-	-	3.50	3.50	-	-
Operating Control Conditions	Control 1	MI					
	Control 2		TIS _{as}				
	Control 3			TIS _{as_U}			
	Control 4				TIS _{bs}		
	Control 5					TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 3.0cm, Data No: 700898490-583191

Control 2: 2D+Pulsed Doppler Mode, 2D: 4.7MHz PD: 5.1MHz, Focus: 0.5cm, FR: 8.93, Data No: 700843239-516290

Control 3: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 7.5cm, Data No: 701028446-766499

Control 4: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 4.0cm, Data No: 700935940-828636

Control 5: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 1.5cm, Data No: 700873743-3746

CW2.0

CW2.0: CW mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			0.0480	(a)	0.523	0.423**	1.61	1.39
Associated Acoustic Parameters	P _{t, α} (MPa)	0.0670	-	-	-	-	-	-
	P (mW)	-	(a)	CW P1x1: 57.0	-	CW P: 57.0	CW P: 57.0	-
	Min _{of} {P _α (z _s), I _{ta, α} (z _s)x1cm ² } (mW)	-	-	-	46.1	-	-	-
	Z _s (cm)	-	-	-	1.60	-	-	-
	Z _{bp} (cm)	-	-	-	1.54	-	-	-
	Z _b (cm)	-	-	-	-	2.40	-	-
	z_at_max_lpi, α (cm)	2.40	-	-	-	-	-	-
	d _{eq} (Z _b) (cm)	-	-	-	-	0.505	-	-
	f _{bwf} (MHz)	1.92	(a)	1.92	1.92	1.92	1.92	1.92
	Dim of A _{aprt} X (cm)	-	(a)	0.600	0.600	0.600	0.600	0.600
	Y (cm)	-	(a)	1.38	1.38	1.38	1.38	1.38
Other Information	t _d (μsec)	CW	-	-	-	-	-	-
	pr _r (pulses/sec)	CW	-	-	-	-	-	-
	P _r at max. I _{pi} (MPa)	0.0780	-	-	-	-	-	-
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.505	-	-
	I _{pa, α} at max. MI (W/cm ²)	0.156	-	-	-	-	-	-
	Focal Length FL _x (cm)	-	-	5.50	5.50	-	-	-
		Fly (cm)	-	-	5.50	5.50	-	-
Operating Control Conditions	Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as	

Control 1: CW Mode, CW: 1.9MHz, Focus: 5.5cm, Data No: 753117672-648108

CW4.0

CW4.0: CW mode

Index Label		M.I.	TIS			TIB	TIC	
			scan	non-scan		non-scan		
				A _{aprt} ≤1	A _{aprt} >1			
Maximum Index Value		0.0410	(a)	1.31	0.978**	2.14	2.49	
Associated Acoustic Parameters	P _{t, α} (MPa)	0.0800	-	-	-	-	-	
	P (mW)	-	(a)	CWP1x1: 71.5	-	CWP P: 71.5	CWP P: 71.5	
	Min. of [P _o (z _s), I _{ta, α} (z _s)x1cm ²] (mW)	-	-	-	53.3	-	-	
	z _s (cm)	-	-	-	1.10	-	-	
	z _{bp} (cm)	-	-	-	1.08	-	-	
	z _b (cm)	-	-	-	-	1.20	-	
	z_at_max_lpi, α (cm)	1.20	-	-	-	-	-	
	d _{eq} (z _b) (cm)	-	-	-	-	0.520	-	
	f _{awf} (MHz)	3.85	(a)	3.85	3.85	3.85	3.85	
Dim of A _{aprt}	X (cm)	-	(a)	0.450	0.450	0.450	0.450	
	Y (cm)	-	(a)	0.900	0.900	0.900	0.900	
Other Information	t _d (μsec)	CW	-	-	-	-	-	
	p _{rr} (pulses/sec)	CW	-	-	-	-	-	
	P _r at max. I _{pi} (MPa)	0.104	-	-	-	-	-	
	d _{eq} at max. I _{pi} (cm)	-	-	-	-	0.494	-	
	I _{pa, α} at max. MI (W/cm ²)	0.212	-	-	-	-	-	
	Focal Length	FLx (cm)	-	-	4.50	4.50	-	-
		Fly (cm)	-	-	4.50	4.50	-	-
Operating Control Conditions	Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as	

Control 1: CW Mode, CW: 3.9MHz, Focus: 4.5cm, Data No: 599230944-924220

CW6.0

CW6.0: CW mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			0.0340	(a)	0.404	0.275**	0.941	0.616
Associated Acoustic Parameters	P _{t, α}	(MPa)	0.0840	-	-	-	-	-
	P	(mW)	-	(a)	CW P1x1: 13.8	-	CW P: 13.8	CW P: 13.8
	Min _{of} [P _α (z _s), I _{ta, α} (z _s)x1cm ²]	(mW)	-	-	-	9.39	-	-
	Z _s	(cm)	-	-	-	0.900	-	-
	Z _{bp}	(cm)	-	-	-	0.838	-	-
	Z _b	(cm)	-	-	-	-	1.00	-
	z_at_max_lpi, α	(cm)	1.00	-	-	-	-	-
	d _{eq} (Z _b)	(cm)	-	-	-	-	0.215	-
	f _{bwf}	(MHz)	6.16	(a)	6.16	6.16	6.16	6.16
Dim of A _{aprt}	X (cm)	-	(a)	0.350	0.350	0.350	0.350	
	Y (cm)	-	(a)	0.700	0.700	0.700	0.700	
Other Information	t _d	(μsec)	CW	-	-	-	-	-
	pr _r	(pulses/sec)	CW	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	0.104	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.215	-
	I _{pa, α} at max. MI	(W/cm ²)	0.248	-	-	-	-	-
	Focal Length	FLx (cm)	-	-	2.00	2.00	-	-
		Fly (cm)	-	-	2.00	2.00	-	-
Operating Control Conditions	Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as	

Control 1: CW Mode, CW: 6.2MHz, Focus: 2.0cm, Data No: 1237835348-947719

DP2B

DP2B: CW mode

Index Label			M.I.	TIS			TIB	TIC
				scan	non-scan		non-scan	
					A _{aprt} ≤1	A _{aprt} >1		
Maximum Index Value			0.0436	(a)	0.549	0.450**	1.38	1.56
Associated Acoustic Parameters	P _{t, a}	(MPa)	0.0604	-	-	-	-	-
	P	(mW)	-	(a)	CW P1x1:59.9	-	CW P:59.9	CW P:59.9
	Min.of [P _o (z _s), I _{ta, a} (z _s)x1cm ²]	(mW)	-	-	-	49.1	-	-
	Z _s	(cm)	-	-	-	1.50	-	-
	Z _{bp}	(cm)	-	-	-	1.44	-	-
	Z _b	(cm)	-	-	-	-	3.20	-
	z_at_max_lpi, a	(cm)	3.20	-	-	-	-	-
	d _{eq} (Z _b)	(cm)	-	-	-	-	0.544	-
	f _{awf}	(MHz)	1.92	(a)	1.92	1.92	1.92	1.92
Dim of A _{aprt}	X (cm)	-	(a)	1.36	1.36	1.36	1.36	
	Y (cm)	-	(a)	0.680	0.680	0.680	0.680	
Other Information	t _d	(μsec)	CW	-	-	-	-	-
	p _{rr}	(pulses/sec)	CW	-	-	-	-	-
	P _r at max. I _{pi}	(MPa)	0.0770	-	-	-	-	-
	d _{eq} at max. I _{pi}	(cm)	-	-	-	-	0.544	-
	I _{pa, a} at max. MI	(W/cm ²)	0.121	-	-	-	-	-
	FLx (cm)	-	-	6.00	6.00	-	-	-
	Focal Length	Fly (cm)	-	-	6.00	6.00	-	-
Operating Control Conditions	Control 1	MI		TIS _{as_U}	TIS _{bs}	TIB _{bs}	TIC _{as}	

Control 1: CW Mode, CW: 1.9MHz, Focus: 6.0cm, Data No: 271058315-627080

FDA Tables

Symbols and Definitions

All table entries have been obtained at the same operating conditions that give rise to the maximum Index Value in the second row. Due to the complexities of the system user interface, it may be difficult to exactly replicate the declared condition. Contact Samsung Medison for further information.

Symbols used in the table are described below.

MI	the Mechanical Index.
TIS _{scan}	the Soft Tissue Thermal Index in an auto-scanning mode.
TIS _{non-scan}	the Soft Tissue Thermal Index in a non-auto-scanning mode.
TIB	the Bone Thermal Index.
TIC	the Cranial Thermal Index.
A _{aprt}	the area of the active aperture (square centimeters).
p _{r,3}	the derated peak rarefactional pressure associated with the transmit pattern giving rise to the value reported under MI (meg zapascals).
W _o	For TIB and TIC: time average acoustic power at the source, in milliwatts. (Also see the definitions for W _{o1} and W _{o1x1} that follow.) For TIS scan, W _o = W _{o1} + W _{o1x1} For TIS non_scan, W _o = W _{o1x1}
W _{o1} :	For scanning modes and/or scanning components of combinational modes: time average acoustic power at the source, per cm, in milliwatts. This is the acoustic power emitted from the central 1-cm length, in the scan direction, of the aperture corresponding to the scanned pulses.
W _{o1x1} :	For non-scanning modes and/or non-scanning components of combinational modes: time average acoustic power at the source, per cm ² , in milliwatts. This is the acoustic power emitted from the central 1 cm ² of the active non-scanned aperture through which the highest acoustic power is being transmitted.
W ₃ (z ₁)	the derated ultrasonic power at axial distance z ₁ (milliwatts).

I _{TA,3} (z ₁)	the derated spatial-peak, temporal-average intensity at axial distance z ₁ (milliwatts per square centimeter).
z ₁	the axial distance corresponding to the location of max[min(W ₃ (z), I _{TA,3} (z) × 1 cm ²)], where z = z _{bp} (centimeters).
z _{bp}	$1.69\sqrt{A_{aprt}}$ (centimeters).
z _{sp}	For MI, the axial distance at which p _{r,3} is measured for TIB, the axial distance at which TIB is a maximum (i.e., z _{sp} = z _{B,3}) (centimeters).
d _{eq} (z)	the equivalent beam diameter as a function of axial distance z, and is equal to $[(4)/(W_o/I_{TA}(z))]^{0.5}$ where I _{TA} (z) is the temporal-average intensity as a function of z (centimeters).
f _c	is the center frequency (MHz). For MI, f _c is the center frequency associated with the transmit pattern giving rise to the maximum reported value of MI. For TI, for combined modes involving transmit patterns of unequal center frequency, f _c is defined as the overall range of center frequencies of the respective transmit patterns.
Dim. of A _{aprt}	the active aperture dimensions for the azimuthal and elevational planes (centimeters).
PD	the pulse duration (microseconds) associated with the transmit pattern giving rise to the reported value of MI.
PRF	the pulse repetition frequency associated with the transmit pattern giving rise to the reported value of MI (Hz).
p _r @PII _{max}	the peak rarefactional pressure at the point where the freefield, spatial-peak pulse intensity integral is a maximum (megapascals). See Section 6.2.4.1 of the Output Display Standard, entitled "Measurement Methodology for Mechanical and Thermal Indices".
d _{eq} @PII _{max}	the equivalent beam diameter at the point where the freefield, spatial-peak pulse intensity integral is a maximum (centimeters). See Section 6.2.5.1 of the Output Display Standard, entitled "Measurement Methodology for Mechanical and Thermal Indices".
FL	the focal length, or azimuthal and elevational lengths, if different (centimeters).

$I_{PA,3}@MI_{max}$ the derated pulse average intensity at the point of maximum reported MI (Watts per square centimeter).

The Acoustic Measurement Precision and Acoustic Measurement Uncertainty are summarized below.

Quantity	Precision	Total Uncertainty
PII.3 (derated pulse intensity integral)	3.2 %	+ 21 % - 24 %
Wo (acoustic power)	6.2 %	+/- 19 %
Pr.3 (derated rarefaction pressure)	5.4 %	+/- 15 %
Fc (center frequency)	< 1 %	+/- 4.5 %

Explanatory Notes

- (a) This index is not required to this operating mode.
- (b) This probe is not intended for adult transcranial uses.
- (c) This formulation for TIS is less than that for an alternate formulation in this mode.
- (d) The maximum index value is less than 1.0
- * If the MI comes from a scanning mode Transmit Pattern (pulse), the 'pr' listed is the average per second for the 'worst case' scan line. 'pr' for scanning modes is the product of the frame rate and the number of pulse per line of the Transmit Pattern.
- ** The max TIS unscanned value is an 'at_surface' value and occurs for aperture > 1.0 cm², OR The max TIS unscanned value is a 'below_surface' value and occurs for aperture <= 1.0 cm².
- + The max TIB for this combinational mode = the at_surface TIS_scanned value. The non-scanned-TIB value indicated is the below_surface max. A "+" is used when the TIB value is less than the TIS_scanned value for the operating condition.
- # In Color M mode, the color pulses are non-scanned. A'Col#' notifies when Color M mode is the operating condition.

L4-7

L4-7: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1	Non-scan	
Maximum index value	1.69	2.19	0.242**	0.182	0.369+	(b)
P _{r3} (MPa)	3.37	-	-	-	-	-
W ₀ (mW)	-	2D W01:126	M W01x1:12.7	-	M W0:16.8	(b)
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	11.3	-	-
z ₁ (cm)	-	-	-	1.70	-	-
Z _{bp} (cm)	-	-	-	1.84	-	-
Z _{sp} (cm)	0.600	-	-	-	1.70	-
d _{eq} (z) (cm)	-	-	-	-	0.670	-
fc (MHz)	3.98	3.65	4.01	3.39	3.39	(b)
Dim. of A _{aprt}	X (cm)	-	2.51	1.98	1.98	(b)
	Y (cm)	-	0.600	0.600	0.600	(b)
PD (μsec)	0.310	-	-	-	-	-
PRF (Hz)	59.5*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.23	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.664	-
Focal Length	FLx (cm)	-	5.00	8.00	-	(b)
	FLy (cm)	-	2.80	2.80	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	378	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs	TIB_bs	

Control 1: 2D Mode, 2D:3.9MHz, Focus:1.2cm, FR:59.46, Data No:92343935-750439

Control 2: 2D Mode, 2D:5.6MHz, Focus:5.0cm, FR:50.06, Data No:92572354-913243

Control 3: 2D+M Mode, 2D:5.6MHz M:5.6MHz, Focus:8.0cm, FR:17.47, Data No:92581635-436930

Control 4: 2D+M Mode, 2D:3.4MHz M:3.4MHz, Focus:8.0cm, FR:17.47, Data No:92460614-117561

L4-7: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.67	3.40	3.22	1.91**	3.16+	(b)
P _{r3} (MPa)	3.32	-	-	-	-	-
W ₀ (mW)	-	2D W01:5.39 PD W01:5.31 Col W01x1:143	PD W01x1:143	-	PD W0:137	(b)
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	84.6	-	-
z ₁ (cm)	-	-	-	1.60	-	-
Z _{bp} (cm)	-	-	-	1.64	-	-
Z _{sp} (cm)	0.600	-	-	-	1.60	-
d _{eq} (z) (cm)	-	-	-	-	0.586	-
fc (MHz)	3.97	2D :3.62 PD :3.51 Col :4.73	4.73	4.73	4.73	(b)
Dim. of A _{aprt}	X (cm)	-	2D :4.42 PD :2.55 Col :1.56	1.56	1.56	(b)
	Y (cm)	-	0.600	0.600	0.600	(b)
PD (μsec)	0.309	-	-	-	-	-
PRF (Hz)	20.5*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.28	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.551	-
Focal Length	FLx (cm)	-	8.00	8.00	8.00	(b)
	FLy (cm)	-	2.80	2.80	2.80	(b)
I _{PA,3} @MI _{max} (W/cm²)	379	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as	TIS_as_U	TIS_bs		
Control 3					TIB_bs	

Control 1: 2D+Color Mode, 2D:3.9MHz Col:3.4MHz, Focus:1.2cm, FR:20.48, Data No:92601880-281677

Control 2: Triple Mode, 2D:3.9MHz PD:3.4MHz Col:4.7MHz, Focus:8.0cm, FR:3.11, Data No:93365539-917385

Control 3: Triple Mode, 2D:3.9MHz PD:3.4MHz Col:4.7MHz, Focus:8.0cm, FR:3.11, Data No:93353416-137263

L4-7: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1	Non-scan	
Maximum index value	1.68	3.37	4.42	2.62**	4.45	(b)
P _{r3} (MPa)	3.10	-	-	-	-	-
W ₀ (mW)	-	2D W01:9.18 PD W01x1:143	PD W01x1:196	-	PD W0:193	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	116	-	-
z ₁ (cm)	-	-	-	1.60	-	-
Z _{bp} (cm)	-	-	-	1.64	-	-
Z _{sp} (cm)	1.40	-	-	-	1.60	-
d _{eq} (z) (cm)	-	-	-	-	0.584	-
fc (MHz)	3.40	2D :3.64 PD :4.72	4.73	4.73	4.73	(b)
Dim. of A _{sprt}	X (cm)	2D :4.42 PD :1.56	1.56	1.56	1.56	(b)
	Y (cm)	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.791	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @PIL _{max} (MPa)	3.57	-	-	-	-	-
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.549	-
Focal Length	FLx (cm)	8.00	8.00	8.00	-	(b)
	FLy (cm)	2.80	2.80	2.80	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	356	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U	TIS_bs		
Control 4					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:3.4MHz, Focus:5.0cm, Data No:93522388-931951

Control 2: 2D+Pulsed Doppler Mode, 2D:3.9MHz PD:4.7MHz, Focus:8.0cm, FR:5.86, Data No:93351776-328940

Control 3: Pulsed Doppler Mode, PD:4.7MHz, Focus:8.0cm, Data No:93357269-302500

Control 4: Pulsed Doppler Mode, PD:4.7MHz, Focus:8.0cm, Data No:93350279-887502

L5-13IS

L5-13IS: 2D & 2D + M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.75	0.849	0.166	0.119**	0.237+	(b)	
P _{r3} (MPa)	4.25	-	-	-	-	-	
W ₀ (mW)	-	2D W01:17.6 M W01x1:4.29	M W01x1:4.29	-	M W0:3.10	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	3.06	-	-	
z ₁ (cm)	-	-	-	0.600	-	-	
Z _{bp} (cm)	-	-	-	1.36	-	-	
Z _{sp} (cm)	0.800	-	-	-	0.700	-	
d _{eq} (z) (cm)	-	-	-	-	0.219	-	
fc (MHz)	5.92	8.14	8.14	8.14	6.07	(b)	
Dim. of A _{sprt}	X (cm)	-	2D: 3.80 M: 1.62	1.62	1.62	0.554	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
PD (μsec)	0.289	-	-	-	-	-	
PRF (Hz)	24.5*	-	-	-	-	-	
P _r @PIL _{max} (MPa)	4.86	-	-	-	-	-	
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.211	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	2.00	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	656	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as	TIS_as_U	TIS_bs			
Control 3					TIB_bs		

Control 1: 2D Mode, 2D: 6.2MHz, Focus: 3.2cm, FR: 24.50, Data No: 3542214581-353177

Control 2: 2D+M Mode, 2D: 12.3MHz M: 12.3MHz, Focus: 6.5cm, FR: 18.61, Data No: 3541982176-256851

Control 3: 2D+M Mode, 2D: 5.6MHz M: 5.6MHz, Focus: 2.5cm, FR: 24.06, Data No: 3542119141-598011

L5-13IS: 2D+Color Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.54	2.66	1.59	1.04**	1.57+	(b)
P _{r3} (MPa)	3.81	-	-	-	-	-
W ₀ (mW)	-	2D W01:1.22 Col W01:89.4	PD W01x1:49.0	-	PD W0:30.6	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	35.5	-	-
z ₁ (cm)	-	-	-	1.00	-	-
Z _{bp} (cm)	-	-	-	1.40	-	-
Z _{sp} (cm)	0.600	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.287	-
fc (MHz)	6.10	2D: 7.17 Col: 6.14	6.83	6.14	6.12	(b)
Dim. of A _{aprt}	X (cm)	2D: 2.36 Col: 1.17	1.70	1.70	0.832	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.414	-	-	-	-	-
PRF (Hz)	326*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	4.31	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.231	-
Focal Length	FLx (cm)	-	1.70	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	641	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D+Color Mode, 2D: 6.8MHz Col: 6.2MHz, Focus: 1.0cm, FR: 27.16, Data No: 3542327597-227067
Control 2: 2D+Color Mode, 2D: 6.8MHz Col: 6.2MHz, Focus: 1.7cm, FR: 26.25, Data No: 3542395207-290113
Control 3: Triple Mode, 2D: 6.8MHz Col: 6.2MHz PD: 6.8MHz, Focus: 6.5cm, FR: 9.87, Data No: 3544617731-75381
Control 4: Triple Mode, 2D: 6.8MHz Col: 6.2MHz PD: 6.2MHz, Focus: 6.5cm, FR: 9.87, Data No: 3543852262-964447
Control 5: Triple Mode, 2D: 6.8MHz Col: 6.2MHz PD: 6.2MHz, Focus: 3.2cm, FR: 11.92, Data No: 3543567514-469628

L5-13IS: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.53	3.13	4.99	3.66**	4.39	(b)
P _{r3} (MPa)	3.78	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.778 PD W01x1:106	PD W01x1:172	-	PD W0:159	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	114	-	-
z ₁ (cm)	-	-	-	0.600	-	-
Z _{bp} (cm)	-	-	-	1.40	-	-
Z _{sp} (cm)	0.600	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.533	-
fc (MHz)	6.11	2D: 6.58 PD: 6.15	6.10	6.75	6.14	(b)
Dim. of A _{aprt}	X (cm)	2D: 3.80 PD: 1.70	1.70	1.70	1.70	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.954	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	4.20	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.512	-
Focal Length	FLx (cm)	-	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	-	(b)
I _{PA3} @MI _{max} (W/cm²)	547	-	-	-	-	-
Control 1	MI					
Control 2		TIS _{as}				
Control 3			TIS _{as_U}			
Control 4				TIS _{bs}		
Control 5					TIB _{bs}	

Control 1: Pulsed Doppler Mode, PD: 6.2MHz, Focus: 3.2cm, Data No: 3543560115-821386
Control 2: 2D+Pulsed Doppler Mode, 2D: 6.8MHz PD: 6.2MHz, Focus: 6.5cm, FR: 7.14, Data No: 3543847589-90046
Control 3: Pulsed Doppler Mode, PD: 6.2MHz, Focus: 6.5cm, Data No: 3543845467-766949
Control 4: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 6.5cm, Data No: 3544610587-172184
Control 5: Pulsed Doppler Mode, PD: 6.2MHz, Focus: 6.5cm, Data No: 3543841230-226237

L5-13/50

L5-13/50: 2D & 2D + M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.995	0.574	0.0560	0.0310**	0.0614+	(b)
P _{r,3} (MPa)	2.54	-	-	-	-	-
W ₀ (mW)	-	2D W01:19.0	MW01x1:1.85	-	MW0:0.960	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	1.19	-	-
z ₁ (cm)	-	-	-	1.40	-	-
Z _{bp} (cm)	-	-	-	1.35	-	-
Z _{sp} (cm)	1.10	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.230	-
fc (MHz)	6.53	6.35	6.35	5.44	6.53	(b)
Dim. of A _{sprt}	X (cm)	-	2.81	1.59	0.388	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.192	-	-	-	-	-
PRF (Hz)	46.4*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.07	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.219	-
Focal Length	FLx (cm)	-	6.50	6.50	6.50	(b)
	FLy (cm)	-	2.00	2.00	2.00	(b)
I _{PA,3} @MI _{max} (W/cm ²)	230	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D Mode, 2D: 7.7MHz, Focus: 1.0cm, FR: 46.40, Data No: 1287306825-99449

Control 2: 2D Mode, 2D: 7.7MHz, Focus: 6.5cm, FR: 34.08, Data No: 1287328763-484900

Control 3: 2D+M Mode, 2D: 7.7MHz M: 7.7MHz, Focus: 6.5cm, FR: 15.98, Data No: 1287330754-167423

Control 4: 2D+M Mode, 2D: 5.6MHz M: 5.6MHz, Focus: 6.5cm, FR: 15.98, Data No: 1287272142-32773

Control 5: 2D+M Mode, 2D: 7.7MHz M: 7.7MHz, Focus: 1.0cm, FR: 22.13, Data No: 1287308814-151996

L5-13/50: 2D + Color Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.27	1.36	1.29	0.643**	1.33+	(b)
P _{r,3} (MPa)	3.13	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.802 Col W01:1.92 PD W01x1:35.2	PD W01x1:35.2	-	PD W0:16.2	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	17.6	-	-
z ₁ (cm)	-	-	-	1.30	-	-
Z _{bp} (cm)	-	-	-	1.35	-	-
Z _{sp} (cm)	0.900	-	-	-	0.600	-
d _{eq} (z) (cm)	-	-	-	-	0.206	-
fc (MHz)	6.12	2D: 5.44 Col: 6.25 PD: 7.68	7.68	7.67	7.67	(b)
Dim. of A _{aprt}	X (cm)	2D: 4.97 Col: 3.61 PD: 1.59	1.59	1.59	0.194	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.591	-	-	-	-	-
PRF (Hz)	67.6*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.60	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.206	-
Focal Length	FLx (cm)	-	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	431	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as	TIS_as_U			
Control 3				TIS_bs		
Control 4					TIB_bs	

Control 1: 2D+Color Mode, 2D: 5.1MHz Col: 6.2MHz, Focus: 1.0cm, FR: 7.51, Data No: 1287452892-269520

Control 2: Triple Mode, 2D: 5.1MHz Col: 6.2MHz PD: 7.7MHz, Focus: 6.5cm, FR: 2.96, Data No: 1288152240-505444

Control 3: Triple Mode, 2D: 5.1MHz Col: 6.2MHz PD: 7.7MHz, Focus: 6.5cm, FR: 2.96, Data No: 1288198916-581765

Control 4: Triple Mode, 2D: 5.1MHz Col: 6.2MHz PD: 7.7MHz, Focus: 0.5cm, FR: 4.39, Data No: 1288111210-870463

L5-13/50: Pulsed Doppler & 2D + Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.27	1.35	1.71	0.904**	1.43	(b)	
P _{r3} (MPa)	3.13	-	-	-	-	-	
W ₀ (mW)	-	2D W01:1.56 PD W01x1:35.8	PD W01x1:46.7	-	PD W0:17.8	(b)	
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	24.7	-	-	
z ₁ (cm)	-	-	-	1.20	-	-	
Z _{bp} (cm)	-	-	-	1.35	-	-	
Z _{sp} (cm)	0.900	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.209	-	
fc (MHz)	6.12	2D: 5.44 PD: 7.68	7.68	7.68	7.70	(b)	
Dim. of A _{sprt}	X (cm)	-	2D: 4.97 PD: 1.59	1.59	1.59	0.194	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
PD (μsec)	0.593	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.64	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.209	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	2.00	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	420	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}	TIS _{bs}			
Control 4					TIB _{bs}		

Control 1: Pulsed Doppler Mode, PD: 6.2MHz, Focus: 1.0cm, Data No: 1287732232-425782

Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD: 7.7MHz, Focus: 6.5cm, FR: 6.25, Data No: 1288150727-982098

Control 3: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 6.5cm, Data No: 1288196757-962459

Control 4: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 0.5cm, Data No: 1288249067-686708

L7-16IS

L7-16IS: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.22	1.05	0.221	0.129**	0.170+	(b)	
P _{c3} (MPa)	3.15	-	-	-	-	-	
W ₀ (mW)	-	2D W01:20.3 M W01x1:5.38	M W01x1:5.38	-	M W0:3.41	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	3.15	-	-	
z ₁ (cm)	-	-	-	0.900	-	-	
Z _{bp} (cm)	-	-	-	1.45	-	-	
Z _{sp} (cm)	1.18	-	-	-	1.18	-	
d _{eq} (z) (cm)	-	-	-	-	0.262	-	
fc (MHz)	6.69	8.62	8.62	8.62	6.69	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 3.80 M: 1.82	1.82	1.82	0.515	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
PD (μsec)	0.273	-	-	-	-	-	
PRF (Hz)	28.6*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.02	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.261	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	1.50	1.50	1.50	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	361	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as	TIS_as_U	TIS_bs			
Control 3					TIB_bs		

Control 1: 2D Mode, 2D: 6.8MHz, Focus: 1.7cm, FR: 28.59, Data No: 58633427-81093

Control 2: 2D+M Mode, 2D: 10.3MHz M: 10.3MHz, Focus: 6.5cm, FR: 19.54, Data No: 58598686-623441

Control 3: 2D+M Mode, 2D: 6.8MHz M: 6.8MHz, Focus: 1.7cm, FR: 27.25, Data No: 58635263-769426

L7-16IS: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.10	1.83	1.48	0.966**	1.27+	(b)
P _{c3} (MPa)	3.01	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.609 Col W01:9.73 PD W01x1:40.3	PD W01x1:40.3	-	PD W0:23.3	(b)
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	26.3	-	-
z ₁ (cm)	-	-	-	0.800	-	-
Z _{bp} (cm)	-	-	-	1.49	-	-
Z _{sp} (cm)	0.600	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.265	-
fc (MHz)	7.48	2D: 8.01 Col: 6.99 PD: 7.70	7.70	7.70	6.85	(b)
Dim. of A _{aprt}	X (cm)	2D: 3.80 Col: 2.42 PD: 1.94	1.94	1.94	0.752	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.215	-	-	-	-	-
PRF (Hz)	384*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.48	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.178	-
Focal Length	FLx (cm)	-	6.50	6.50	-	(b)
	FLy (cm)	-	1.50	1.50	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	419	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as	TIS_as_U	TIS_bs		
Control 3					TIB_bs	

Control 1: 2D+Color Mode, 2D: 7.7MHz Col: 7.7MHz, Focus: 1.0cm, FR: 29.57, Data No: 58890751-919415
Control 2: Triple Mode, 2D: 7.7MHz Col: 6.8MHz PD: 7.7MHz, Focus: 6.5cm, FR: 10.09, Data No: 59442118-762973
Control 3: Triple Mode, 2D: 7.7MHz Col: 6.8MHz PD: 6.8MHz, Focus: 2.5cm, FR: 13.72, Data No: 59105787-513030

L7-16IS: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.24	2.63	4.33	2.83**	2.74	(b)
P _{c3} (MPa)	3.23	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.529 PD W01x1:71.1	PDW01x1:118	-	PDW0:118	(b)
min of [W ₃ (z ₁), I _{TA,3} (z ₁)] (mW)	-	-	-	77.3	-	-
z ₁ (cm)	-	-	-	0.800	-	-
Z _{bp} (cm)	-	-	-	1.49	-	-
Z _{sp} (cm)	0.900	-	-	-	0.800	-
d _{eq} (z) (cm)	-	-	-	-	0.624	-
fc (MHz)	6.83	2D: 8.03 PD: 7.70	7.70	7.70	7.70	(b)
Dim. of A _{aprt}	X (cm)	-	1.94	1.94	1.94	(b)
	Y (cm)	-	0.400	0.400	0.400	(b)
PD (μsec)	0.829	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	4.03	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.624	-
Focal Length	FLx (cm)	-	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	462	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U	TIS_bs	TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 1.7cm, Data No: 59068866-498806
Control 2: 2D+Pulsed Doppler Mode, 2D: 7.7MHz PD: 7.7MHz, Focus: 6.5cm, FR: 7.81, Data No: 59440660-868940
Control 3: Pulsed Doppler Mode, PD: 7.7MHz, Focus: 6.5cm, Data No: 59451205-730253

LA3-14A

LA3-14A: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.45	0.531	0.0645	0.0400**	0.142+	(b)	
P _{ε3} (MPa)	3.24	-	-	-	-	-	
W ₀ (mW)	-	2D W01:21.5	M W01x1:2.74	-	M W0:1.42	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	1.70	-	-	
z ₁ (cm)	-	-	-	1.40	-	-	
Z _{bp} (cm)	-	-	-	1.43	-	-	
Z _{sp} (cm)	1.10	-	-	-	1.50	-	
d _{eq} (z) (cm)	-	-	-	-	0.133	-	
fc (MHz)	4.97	5.17	4.94	4.94	5.17	(b)	
Dim. of A _{aprt}	X (cm)	-	1.84	1.59	1.59	0.621	(b)
	Y (cm)	-	0.450	0.450	0.450	0.450	(b)
PD (μsec)	0.269	-	-	-	-	-	
PRF (Hz)	22.4*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.77	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.132	-	
Focal Length	FLx (cm)	-	2.50	6.50	6.50	-	(b)
	FLy (cm)	-	1.70	1.70	1.70	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	572	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D:4.7MHz, Focus:1.7cm, FR:22.41, Data No:1789556430-727605

Control 2: 2D Mode, 2D:5.1MHz, Focus:2.5cm, FR:48.67, Data No:1272338096-676244

Control 3: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:6.5cm, FR:15.97, Data No:1789571281-924503

Control 4: 2D+M Mode, 2D:5.1MHz M:5.1MHz, Focus:2.5cm, FR:20.54, Data No:1272392940-780881

LA3-14A: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.50	0.748	0.573	0.307**	0.979	(b)	
P _{c3} (MPa)	3.64	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.304 Col W01:6.86 PD W01x1:19.9	PD W01x1:19.9	-	PD W0:16.6	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	10.7	-	-	
z ₁ (cm)	-	-	-	1.50	-	-	
Z _{bp} (cm)	-	-	-	1.43	-	-	
Z _{sp} (cm)	1.10	-	-	-	1.40	-	
d _{eq} (z) (cm)	-	-	-	-	0.212	-	
fc (MHz)	5.86	2D:4.67 Col:5.14 PD:6.04	6.04	6.04	6.11	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:4.97 Col:4.07 PD:1.59	1.59	1.59	0.854	(b)
	Y (cm)	-	0.450	0.450	0.450	0.450	(b)
PD (μsec)	0.270	-	-	-	-	-	
PRF (Hz)	64.7*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.32	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.184	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	1.70	1.70	1.70	-	(b)
I _{PA3} @MI _{max} (W/cm²)	852	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as	TIS_as_U	TIS_bs			
Control 3					TIB_bs		

Control 1: 2D+Color Mode, 2D:4.1MHz Col:6.2MHz, Focus:1.7cm, FR:6.47, Data No:1272468691-608038

Control 2: Triple Mode, 2D:4.1MHz Col:5.1MHz PD:6.2MHz, Focus:6.5cm, FR:2.60, Data No:1272617256-940048

Control 3: Triple Mode, 2D:4.1MHz Col:5.1MHz PD:6.2MHz, Focus:4.0cm, FR:3.15, Data No:1272613652-224910

LA3-14A: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.56	0.855	1.07	0.596**	1.40	(b)	
P _{r3} (MPa)	3.76	-	-	-	-	-	
W ₀ (mW)	-	2D W01:1.03 PD W01x1:28.9	PD W01x1:37.0	-	PD W0:24.1	(b)	
min of [W ₃ (z ₁), I _{PA3} (z ₁)]	(mW)	-	-	20.6	-	-	
z ₁ (cm)	-	-	-	1.40	-	-	
Z _{bp} (cm)	-	-	-	1.43	-	-	
Z _{sp} (cm)	1.40	-	-	-	1.30	-	
d _{eq} (z) (cm)	-	-	-	-	0.224	-	
fc (MHz)	5.78	2D:4.62 PD:6.05	6.08	6.08	6.14	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:4.97 PD:1.59	1.59	1.59	0.854	(b)
	Y (cm)	-	0.450	0.450	0.450	0.450	(b)
PD (μsec)	0.358	-	-	-	-	-	
PRF (Hz)	2000	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.52	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.217	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	1.70	1.70	1.70	-	(b)
I _{PA3} @M _I _{max} (W/cm²)	672	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D+Pulsed Doppler Mode, 2D:4.1MHz PD:6.2MHz, Focus:2.5cm, FR:6.25, Data No:1272637091-614286

Control 2: 2D+Pulsed Doppler Mode, 2D:4.1MHz PD:6.2MHz, Focus:6.5cm, FR:6.25, Data No:1272651258-402856

Control 3: Pulsed Doppler Mode, PD:6.2MHz, Focus:6.5cm, Data No:1272717519-995600

Control 4: Pulsed Doppler Mode, PD:6.2MHz, Focus:4.0cm, Data No:1272710086-75490

LA3-16A

LA3-16A: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.61	0.966	0.0733	0.0445**	0.134+	(b)	
P _{r3} (MPa)	4.23	-	-	-	-	-	
W ₀ (mW)	-	2D W01:26.8	M W01x1:2.34	-	M W0:1.22	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	1.42	-	-	
z ₁ (cm)	-	-	-	1.10	-	-	
Z _{bp} (cm)	-	-	-	1.15	-	-	
Z _{sp} (cm)	1.10	-	-	-	1.00	-	
d _{eq} (z) (cm)	-	-	-	-	0.136	-	
f _c (MHz)	6.91	7.56	6.58	6.58	6.17	(b)	
Dim. of A _{aprt}	X (cm)	-	1.80	1.15	0.475	(b)	
	Y (cm)	-	0.400	0.400	0.400	(b)	
PD (μsec)	0.196	-	-	-	-	-	
PRF (Hz)	38.3*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	5.01	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.132	-	
Focal Length	FLx (cm)	-	4.00	4.70	4.70	-	(b)
	FLy (cm)	-	2.00	2.00	2.00	-	(b)
I _{PA3} @M _I _{max} (W/cm ²)	679	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D:7.7MHz, Focus:1.7cm, FR:38.28, Data No:3034296036-978211

Control 2: 2D Mode, 2D:10.3MHz, Focus:4.0cm, FR:83.33, Data No:3034353316-648857

Control 3: 2D+M Mode, 2D:7.7MHz M:7.7MHz, Focus:4.7cm, FR:31.71, Data No:3034379552-230909

Control 4: 2D+M Mode, 2D:6.2MHz M:6.2MHz, Focus:1.7cm, FR:36.50, Data No:3034368315-230145

LA3-16A: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.62	0.972	0.892	0.506**	1.15	(b)	
P _{c3} (MPa)	3.99	-	-	-	-	-	
W ₀ (mW)	-	2D W01:2.07 Col W01:28.1	PD W01x1:27.4	-	PD W0:15.2	(b)	
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	15.5	-	-	
z ₁ (cm)	-	-	-	1.20	-	-	
Z _{bp} (cm)	-	-	-	1.40	-	-	
Z _{sp} (cm)	1.00	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.223	-	
fc (MHz)	6.10	2D:6.15 Col:6.81	6.84	6.84	6.84	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:2.28 Col:1.62	1.70	1.70	0.119	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
PD (μsec)	0.426	-	-	-	-	-	
PRF (Hz)	91.6*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.53	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.207	-	
Focal Length	FLx (cm)	-	1.00	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	2.00	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	813	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D+Color Mode, 2D:6.2MHz Col:6.2MHz, Focus:1.7cm, FR:7.63, Data No:3034478217-976751

Control 2: 2D+Color Mode, 2D:6.2MHz Col:6.8MHz, Focus:1.0cm, FR:13.89, Data No:3034729500-590659

Control 3: Triple Mode, 2D:6.2MHz Col:5.6MHz PD:6.8MHz, Focus:6.5cm, FR:3.25, Data No:3034819419-111671

Control 4: Triple Mode, 2D:6.2MHz Col:5.6MHz PD:6.8MHz, Focus:0.5cm, FR:4.48, Data No:3034800337-790942

LA3-16A: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.54	0.888	1.48	0.804**	1.63	(b)	
P _{c3} (MPa)	3.82	-	-	-	-	-	
W ₀ (mW)	-	2D W01:4.04 PD W01x1:24.2	PD W01x1:45.6	-	PD W0:26.3	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	24.7	-	-	
z ₁ (cm)	-	-	-	1.30	-	-	
Z _{bp} (cm)	-	-	-	1.40	-	-	
Z _{sp} (cm)	1.10	-	-	-	1.20	-	
d _{eq} (z) (cm)	-	-	-	-	0.220	-	
fc (MHz)	6.17	2D:6.15 PD:6.69	6.83	6.83	6.16	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:3.80 PD:1.70	1.70	1.70	0.832	(b)
	Y (cm)	-	0.400	0.400	0.400	0.400	(b)
PD (μsec)	0.209	-	-	-	-	-	
PRF (Hz)	10.4*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.80	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.177	-	
Focal Length	FLx (cm)	-	6.50	6.50	6.50	-	(b)
	FLy (cm)	-	2.00	2.00	2.00	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	738	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D+Pulsed Doppler Mode, 2D:6.2MHz PD:5.6MHz, Focus:1.7cm, FR:10.42, Data No:3034846677-456240

Control 2: 2D+Pulsed Doppler Mode, 2D:6.2MHz PD:6.8MHz, Focus:6.5cm, FR:10.42, Data No:3034864581-698693

Control 3: Pulsed Doppler Mode, PD:6.8MHz, Focus:6.5cm, Data No:3034975834-230624

Control 4: Pulsed Doppler Mode, PD:6.2MHz, Focus:3.2cm, Data No:3034923196-611932

LA5-18B

LA5-18B: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				Non-scan
			Aaprt≤1	Aaprt>1			
Maximum index value	1.69	1.22	0.138	0.0810**	0.123+	(b)	
P _{r3} (MPa)	4.80	-	-	-	-	-	
W ₀ (mW)	-	2D W01:28.5	M W01x1:3.37	-	M W0:1.43	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	1.97	-	-	
z ₁ (cm)	-	-	-	0.900	-	-	
Z _{bp} (cm)	-	-	-	1.35	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.700	-	
d _{eq} (z) (cm)	-	-	-	-	0.195	-	
fc (MHz)	8.09	9.02	8.63	8.63	5.91	(b)	
Dim. of A _{aprt}	X (cm)	-	1.60	1.82	1.82	0.594	(b)
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
PD (μsec)	0.0900	-	-	-	-	-	
PRF (Hz)	30.3*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	5.10	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.149	-	
Focal Length	FLx (cm)	-	3.20	6.50	6.50	-	(b)
	FLy (cm)	-	1.50	1.50	1.50	-	(b)
I _{PA3} @M _I _{max} (W/cm ²)	1060	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D:10.3MHz, Focus:1.0cm, FR:30.26, Data No:277646672-142385

Control 2: 2D Mode, 2D:12.3MHz, Focus:3.2cm, FR:63.72, Data No:277707098-70885

Control 3: 2D+M Mode, 2D:10.3MHz M:10.3MHz, Focus:6.5cm, FR:19.88, Data No:277727940-638453

Control 4: 2D+M Mode, 2D:6.2MHz M:6.2MHz, Focus:2.5cm, FR:26.80, Data No:277732753-55786

LA5-18B: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				Non-scan
			Aaprt≤1	Aaprt>1			
Maximum index value	1.54	1.10	0.824	0.422**	1.11	(b)	
P _{r3} (MPa)	4.22	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.953 Col W01:29.9	PD W01x1:22.7	-	PD W0:11.3	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	11.6	-	-	
z ₁ (cm)	-	-	-	1.00	-	-	
Z _{bp} (cm)	-	-	-	0.976	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.700	-	
d _{eq} (z) (cm)	-	-	-	-	0.161	-	
fc (MHz)	7.50	2D:5.50 Col:7.57	7.63	7.63	7.70	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:2.16 Col:1.39	1.94	0.950	0.119	(b)
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
PD (μsec)	0.339	-	-	-	-	-	
PRF (Hz)	86.6*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.38	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.154	-	
Focal Length	FLx (cm)	-	1.00	6.50	3.20	-	(b)
	FLy (cm)	-	1.50	1.50	1.50	-	(b)
I _{PA3} @M _I _{max} (W/cm²)	689	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D:5.1MHz Col:7.7MHz, Focus:1.0cm, FR:6.66, Data No:27775430-562460

Control 2: 2D+Color Mode, 2D:5.1MHz Col:7.7MHz, Focus:1.0cm, FR:12.39, Data No:277831035-616059

Control 3: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:6.5cm, FR:2.66, Data No:277894268-43584

Control 4: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:3.2cm, FR:3.49, Data No:277888855-641631

Control 5: Triple Mode, 2D:5.1MHz Col:6.8MHz PD:7.7MHz, Focus:0.5cm, FR:3.97, Data No:277867144-581765

LA5-18B: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1		
Maximum index value	1.63	0.928	1.81	1.01**	1.73	(b)
P _{r,3} (MPa)	4.22	-	-	-	-	-
W ₀ (mW)	-	2D W01:4.16 PD W01x1:22.8	PD W01x1:49.7	-	PD W0:29.0	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	31.5	-	-
z ₁ (cm)	-	-	-	0.800	-	-
Z _{bp} (cm)	-	-	-	1.39	-	-
Z _{sp} (cm)	1.10	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.243	-
fc (MHz)	6.75	2D:5.21 PD:7.61	7.65	6.76	6.84	(b)
Dim. of A _{aprt}	X (cm)	-	2D:3.80 PD:1.39	1.94	1.94	(b)
	Y (cm)	-	0.350	0.350	0.350	(b)
PD (μsec)	0.554	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	5.09	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.204	-
Focal Length	FLx (cm)	-	4.70	6.50	6.50	(b)
	FLy (cm)	-	1.50	1.50	1.50	(b)
I _{PA,3} @MI _{max} (W/cm ²)	817	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD:6.8MHz, Focus:1.7cm, Data No:277921569-287736

Control 2: 2D+Pulsed Doppler Mode, 2D:5.1MHz PD:7.7MHz, Focus:4.7cm, FR:7.81, Data No:277912707-61649

Control 3: Pulsed Doppler Mode, PD:7.7MHz, Focus:6.5cm, Data No:277967794-721619

Control 4: Pulsed Doppler Mode, PD:6.8MHz, Focus:6.5cm, Data No:277937811-789880

Control 5: Pulsed Doppler Mode, PD:6.8MHz, Focus:3.2cm, Data No:277929697-712223

LS6-15

LS6-15: 2D & 2D + M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.03	0.676	0.0578	0.0360**	0.0590+	(b)	
P _{r3} (MPa)	2.57	-	-	-	-	-	
W ₀ (mW)	-	2D W01:19.4	M W01x1:1.44	-	M W0:0.540	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	0.904	-	-	
z ₁ (cm)	-	-	-	0.800	-	-	
Z _{bp} (cm)	-	-	-	1.20	-	-	
Z _{sp} (cm)	0.900	-	-	-	0.800	-	
d _{eq} (z) (cm)	-	-	-	-	0.144	-	
fc (MHz)	6.19	7.31	8.43	8.43	6.19	(b)	
Dim. of A _{aprt}	X (cm)	-	1.66	1.44	1.44	(b)	
	Y (cm)	-	0.350	0.350	0.350	(b)	
PD (μsec)	0.146	-	-	-	-	-	
PRF (Hz)	73.1*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.95	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.135	-	
Focal Length	FLx (cm)	-	4.70	6.50	6.50	-	(b)
	FLy (cm)	-	1.20	1.20	1.20	-	(b)
I _{PA3} @MI _{max} (W/cm²)	471	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D: 6.2MHz, Focus: 1.7cm, FR: 73.08, Data No: 347947066-746954

Control 2: 2D Mode, 2D: 7.7MHz, Focus: 4.7cm, FR: 64.29, Data No: 347974564-353047

Control 3: 2D+M Mode, 2D: 10.3MHz M: 10.3MHz, Focus: 6.5cm, FR: 26.14, Data No: 347996378-435262

Control 4: 2D+M Mode, 2D: 6.2MHz M: 6.2MHz, Focus: 1.7cm, FR: 34.76, Data No: 347948306-868390

LS6-15: 2D + Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.13	0.691	0.485	0.348**	0.944	(b)
P _{c3} (MPa)	2.94	-	-	-	-	-
W ₀ (mW)	-	2D W01:1.19 Col W01:5.27 PD W01x1:14.9	PD W01x1:14.9	-	PD W0:8.82	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	10.7	-	-
z ₁ (cm)	-	-	-	0.700	-	-
Z _{bp} (cm)	-	-	-	1.20	-	-
Z _{sp} (cm)	0.700	-	-	-	0.600	-
d _{eq} (z) (cm)	-	-	-	-	0.156	-
fc (MHz)	6.73	2D: 6.19 Col: 6.82 PD: 6.82	6.82	6.82	6.79	(b)
Dim. of A _{aprt}	X (cm)	-	2D: 2.56 Col: 2.52 PD: 1.44	1.44	0.160	(b)
	Y (cm)	-	0.350	0.350	0.350	(b)
PD (μsec)	0.380	-	-	-	-	-
PRF (Hz)	123*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.44	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.154	-
Focal Length	FLx (cm)	-	6.50	6.50	-	(b)
	FLy (cm)	-	1.20	1.20	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	516	-	-	-	-	-
Control 1	MI					
Control 2		TIS _{as}	TIS _{as_U}	TIS _{bs}		
Control 3					TIB _{bs}	

Control 1: 2D+Color Mode, 2D: 6.2MHz Col: 6.8MHz, Focus: 1.0cm, FR: 8.77, Data No: 348019125-787060

Control 2: Triple Mode, 2D: 6.2MHz Col: 6.8MHz PD: 6.8MHz, Focus: 6.5cm, FR: 3.39, Data No: 348063306-32849

Control 3: Triple Mode, 2D: 6.2MHz Col: 6.8MHz PD: 6.8MHz, Focus: 0.5cm, FR: 4.76, Data No: 348036314-700399

LS6-15: Pulsed Doppler & 2D + Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.22	0.661	0.913	0.657**	1.29	(b)	
P _{c3} (MPa)	3.17	-	-	-	-	-	
W ₀ (mW)	-	2D W01:2.99 PD W01x1:17.6	PD W01x1:28.1	-	PD W0:20.7	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	20.2	-	-	
z ₁ (cm)	-	-	-	0.700	-	-	
Z _{bp} (cm)	-	-	-	1.20	-	-	
Z _{sp} (cm)	0.900	-	-	-	0.800	-	
d _{eq} (z) (cm)	-	-	-	-	0.246	-	
fc (MHz)	6.70	2D: 6.20 PD: 6.81	6.82	6.82	6.79	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 2.56 PD: 0.960	1.44	1.44	0.600	(b)
	Y (cm)	-	0.350	0.350	0.350	0.350	(b)
PD (μsec)	0.561	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.92	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.207	-	
Focal Length	FLx (cm)	-	4.00	6.50	6.50	-	(b)
	FLy (cm)	-	1.20	1.20	1.20	-	(b)
I _{PA,3} @M _I _{max} (W/cm²)	491	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}	TIS _{bs}			
Control 4					TIB _{bs}		

Control 1: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 1.7cm, Data No: 348042598-282739

Control 2: 2D+Pulsed Doppler Mode, 2D: 6.2MHz PD: 6.8MHz, Focus: 4.0cm, FR: 10.42, Data No: 348054623-289958

Control 3: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 6.5cm, Data No: 348061418-950875

Control 4: Pulsed Doppler Mode, PD: 6.8MHz, Focus: 2.5cm, Data No: 348046007-657119

C2-61C

C2-61C: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1	Non-scan	
Maximum index value	1.33	1.55	0.137**	0.174	0.334+	(b)
P _{r3} (MPa)	2.16	-	-	-	-	-
W ₀ (mW)	-	2D W01:88.1	M W01x1:7.83	-	M W0:8.92	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	13.9	-	-
z ₁ (cm)	-	-	-	4.30	-	-
Z _{bp} (cm)	-	-	-	3.45	-	-
Z _{sp} (cm)	0.700	-	-	-	0.700	-
d _{eq} (z) (cm)	-	-	-	-	0.515	-
fc (MHz)	2.65	3.70	3.67	2.62	2.65	(b)
Dim. of A _{sprt}	X (cm)	-	2.46	0.945	3.46	0.378
	Y (cm)	-	1.20	1.20	1.20	(b)
PD (μsec)	0.811	-	-	-	-	-
PRF (Hz)	50.6*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	2.31	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.515	-
Focal Length	FLx (cm)	-	3.50	3.50	17.5	-
	FLy (cm)	-	7.00	7.00	7.00	-
I _{PA3} @MI _{max} (W/cm ²)	119	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D Mode, 2D: 2.4MHz, Focus: 2.0cm, FR: 50.62, Data No: 83882996-640003

Control 2: 2D Mode, 2D: 3.9MHz, Focus: 3.5cm, FR: 189.42, Data No: 82884588-733996

Control 3: 2D+M Mode, 2D: 3.9MHz M: 3.9MHz, Focus: 3.5cm, FR: 44.92, Data No: 82886684-35604

Control 4: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 17.5cm, FR: 15.72, Data No: 83911677-879459

Control 5: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 2.0cm, FR: 48.18, Data No: 83884066-551184

C2-61C: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.45	2.08	1.59**	2.17	3.40	(b)	
P _{r3} (MPa)	2.52	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.665 Col W01:142	PD W01x1:109	-	PD W0:82.6	(b)	
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	148	-	-	
z ₁ (cm)	-	-	-	4.30	-	-	
Z _{bp} (cm)	-	-	-	3.45	-	-	
Z _{sp} (cm)	3.80	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.482	-	
fc (MHz)	3.00	2D: 3.66 Col: 3.06	3.08	3.08	3.08	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 4.25 Col: 2.20	1.70	3.46	0.378	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
PD (μsec)	0.668	-	-	-	-	-	
PRF (Hz)	93.9*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.48	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.482	-	
Focal Length	FLx (cm)	-	5.00	8.80	17.5	-	(b)
	FLy (cm)	-	7.00	7.00	7.00	-	(b)
I _{PA3} @M _I _{max} (W/cm²)	251	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 10.43, Data No: 83047255-621818

Control 2: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 20.85, Data No: 83061136-378712

Control 3: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 4.57, Data No: 83736908-374205

Control 4: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 17.5cm, FR: 2.72, Data No: 83834497-863734

Control 5: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 2.0cm, FR: 4.82, Data No: 83619601-984880

C2-6IC: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1	Non-scan	
Maximum index value	1.51	1.61	2.18**	2.69	4.18	(b)
P _{r3} (MPa)	2.63	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.643 PD W01x1:110	PD W01x1:149	-	PD W0:304	(b)
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	184	-	-
z ₁ (cm)	-	-	-	4.40	-	-
Z _{bp} (cm)	-	-	-	3.45	-	-
Z _{sp} (cm)	3.10	-	-	-	3.20	-
d _{eq} (z) (cm)	-	-	-	-	0.829	-
fc (MHz)	3.03	2D :3.59 PD :3.07	3.08	3.08	3.08	(b)
Dim. of A _{aprt}	X (cm)	2D :6.05 PD :1.70	1.70	3.46	1.70	(b)
	Y (cm)	-	1.20	1.20	1.20	(b)
PD (μsec)	1.60	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.46	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.477	-
Focal Length	FLx (cm)	-	8.80	8.80	17.5	(b)
	FLy (cm)	-	7.00	7.00	7.00	(b)
I _{PA3} @MI _{max} (W/cm ²)	247	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U		TIB_bs	
Control 4				TIS_bs		

Control 1: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 5.0cm, Data No: 83656351-410572

Control 2: 2D+Pulsed Doppler Mode, 2D: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 10.71, Data No: 83728716-698780

Control 3: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 8.8cm, Data No: 83740962-954595

Control 4: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 17.5cm, Data No: 83832049-198199

CA1-7A

CA1-7A: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.52	1.51	0.111**	0.267	0.657+	(b)
P _{r3} (MPa)	2.46	-	-	-	-	-
W ₀ (mW)	-	2D W01:115	M W01x1:10.9	-	M W0:36.6	(b)
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	27.0	-	-
z ₁ (cm)	-	-	-	3.50	-	-
Z _{bp} (cm)	-	-	-	3.41	-	-
Z _{sp} (cm)	5.00	-	-	-	4.50	-
d _{eq} (z) (cm)	-	-	-	-	0.658	-
f _c (MHz)	2.61	2.76	2.14	2.08	2.04	(b)
Dim. of A _{aprt}	X (cm)	-	2.55	0.779	2.90	2.41 (b)
	Y (cm)	-	1.40	1.40	1.40	1.40 (b)
PD (μsec)	0.467	-	-	-	-	-
PRF (Hz)	23.1*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.56	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.643	-
Focal Length	FLx (cm)	-	5.00	3.50	17.5	- (b)
	FLy (cm)	-	6.00	6.00	6.00	- (b)
I _{PA3} @MI _{max} (W/cm²)	223	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D Mode, 2D:3.9MHz, Focus:8.8cm, FR:23.13, Data No:3729887646-231237

Control 2: 2D Mode, 2D:3.9MHz, Focus:5.0cm, FR:80.68, Data No:3729974651-685553

Control 3: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:3.5cm, FR:32.52, Data No:3730032643-388123

Control 4: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:17.5cm, FR:11.43, Data No:3730039272-197661

Control 5: 2D+M Mode, 2D:2.1MHz M:2.1MHz, Focus:14.5cm, FR:13.64, Data No:3730038147-206463

CA1-7A: 2D+Color, Triple, CPA & Triple CPA, Color M

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.50	1.84	0.861**	1.44	3.28	(b)
P _{r3} (MPa)	2.36	-	-	-	-	-
W ₀ (mW)	-	2D W01:15.6 Col W01:128	MW01x1:6.22 Col# W01x1:59.2	-	M W0:20.4 Col# W0:201	(b)
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	M:11.4 Col#:98.9	-	-
z ₁ (cm)	-	-	-	M:3.40 Col#:3.60	-	-
Z _{bp} (cm)	-	-	-	M:3.11 Col#:3.57	-	-
Z _{sp} (cm)	5.60	-	-	-	M:4.40 Col#:4.00	-
d _{eq} (z) (cm)	-	-	-	-	M:0.873 Col#:0.872	-
fc (MHz)	2.48	2D:2.13 Col:2.76	M:2.56 Col#:2.78	M:2.48 Col#:2.77	M:2.48 Col#:1.92	(b)
Dim. of A _{aprt}	X (cm)	-	M:0.779 Col#:0.708	M:2.41 Col#:3.19	M:2.41 Col#:3.19	(b)
	Y (cm)	-	1.40	1.40	1.40	(b)
PD (μsec)	0.613	-	-	-	-	-
PRF (Hz)	102*	-	-	-	-	-
P _{r1} @P _{II} _{max} (MPa)	3.74	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	M:0.820 Col#:0.668	-
Focal Length	FLx (cm)	-	5.00	3.50	14.5	(b)
	Fly (cm)	-	6.00	6.00	6.00	(b)
I _{PA,3} @M _I _{max} (W/cm ²)	327	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D+Color Mode, 2D:2.1MHz Col:2.8MHz, Focus:8.8cm, FR:11.30, Data No:3730119955-503630
Control 2: 2D+Color Mode, 2D:2.1MHz Col:2.8MHz, Focus:5.0cm, FR:26.25, Data No:3730203484-212980
Control 3: Color M Mode, Col:2.9MHz M:2.8MHz, Focus:3.5cm, Data No:152083245-462457
Control 4: Color M Mode, Col:2.9MHz M:2.8MHz, Focus:14.5cm, Data No:152087356-323067
Control 5: Color M Mode, Col:2.9MHz M:1.9MHz, Focus:14.5cm, Data No:152093809-638655

CA1-7A: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.42	0.810	1.03**	1.98	4.44	(b)
P _{r3} (MPa)	2.26	-	-	-	-	-
W ₀ (mW)	-	2D W01:13.1 PD W01x1:60.1	PD W01x1:78.1	-	PD W0:324	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	179	-	-
z ₁ (cm)	-	-	-	3.80	-	-
Z _{bp} (cm)	-	-	-	3.73	-	-
Z _{sp} (cm)	4.60	-	-	-	4.20	-
d _{eq} (z) (cm)	-	-	-	-	0.837	-
fc (MHz)	2.56	2D:2.14 PD:2.37	2.76	2.32	2.36	(b)
Dim. of A _{aprt}	X (cm)	2D:5.66 PD:0.637	2.19	3.47	3.47	(b)
	Y (cm)	-	1.40	1.40	1.40	(b)
PD (μsec)	0.546	-	-	-	-	-
PRF (Hz)	1500	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.30	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.688	-
Focal Length	FLx (cm)	-	3.50	11.0	17.5	(b)
	Fly (cm)	-	6.00	6.00	6.00	(b)
I _{PA,3} @MI _{max} (W/cm ²)	445	-	-	-	-	-
Control 1	MI					
Control 2		TIS _{as}				
Control 3			TIS _{as_U}			
Control 4				TIS _{bs}		
Control 5					TIB _{bs}	

Control 1: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:2.8MHz, Focus:6.8cm, FR:11.72, Data No:3730283946-552380
Control 2: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:2.4MHz, Focus:3.5cm, FR:15.62, Data No:3730290581-238506
Control 3: Pulsed Doppler Mode, PD:2.8MHz, Focus:11.0cm, Data No:3730359124-611090
Control 4: Pulsed Doppler Mode, PD:2.4MHz, Focus:17.5cm, Data No:3730334349-389607
Control 5: Pulsed Doppler Mode, PD:2.4MHz, Focus:17.5cm, Data No:3730332688-872116

CA2-8A

CA2-8A: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				Non-scan
			Aaprt≤1	Aaprt>1			
Maximum index value	1.58	1.48	0.141	0.200	0.409+	(b)	
P _{I,3} (MPa)	2.57	-	-	-	-	-	
W ₀ (mW)	-	2D W01:88.0	M W01x1:10.2	-	M W0:10.2	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)] (mW)	-	-	-	16.3	-	-	
z ₁ (cm)	-	-	-	3.70	-	-	
Z _{bp} (cm)	-	-	-	3.16	-	-	
Z _{sp} (cm)	1.40	-	-	-	1.60	-	
d _{eq} (z) (cm)	-	-	-	-	0.424	-	
fc (MHz)	2.65	3.54	2.91	2.58	2.91	(b)	
Dim. of A _{sprt}	X (cm)	-	2.57	0.660	2.90	0.660	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
PD (μsec)	0.628	-	-	-	-	-	
PRF (Hz)	44.0*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.69	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.419	-	
Focal Length	FLx (cm)	-	3.50	2.00	17.5	-	(b)
	FLy (cm)	-	7.00	7.00	7.00	-	(b)
I _{PA,3} @M _I _{max} (W/cm ²)	208	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U		TIB_bs		
Control 4				TIS_bs			

Control 1: 2D Mode, 2D:2.4MHz, Focus:2.0cm, FR:43.98, Data No:1638194531-807343

Control 2: 2D Mode, 2D:4.7MHz, Focus:3.5cm, FR:96.82, Data No:1638574615-853038

Control 3: 2D+M Mode, 2D:2.9MHz M:2.9MHz, Focus:2.0cm, FR:41.84, Data No:1638595475-797893

Control 4: 2D+M Mode, 2D:2.4MHz M:2.4MHz, Focus:17.5cm, FR:13.71, Data No:1638607340-110257

CA2-8A: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.49	1.82	1.14	0.966	3.11	(b)	
P _{I3} (MPa)	2.35	-	-	-	-	-	
W ₀ (mW)	-	2D W01:7.06 Col W01:119	PD W01x1:77.7	-	PD W0:76.8	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	72.5	-	-	
z ₁ (cm)	-	-	-	4.00	-	-	
Z _{bp} (cm)	-	-	-	3.47	-	-	
Z _{sp} (cm)	4.10	-	-	-	1.00	-	
d _{eq} (z) (cm)	-	-	-	-	0.465	-	
f _c (MHz)	2.48	2D:2.54 Col:3.07	3.07	2.80	3.07	(b)	
Dim. of A _{aprt}	X (cm)	-	2D:6.34 Col:1.72	0.660	3.50	0.396	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
PD (μsec)	0.567	-	-	-	-	-	
PRF (Hz)	7.31*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.44	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.465	-	
Focal Length	FLx (cm)	-	2.00	3.50	17.5	-	(b)
	FLy (cm)	-	7.00	7.00	7.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	384	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:5.0cm, FR:7.31, Data No:1638921722-342054

Control 2: 2D+Color Mode, 2D:2.1MHz Col:3.1MHz, Focus:2.0cm, FR:20.39, Data No:1638693520-13891

Control 3: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:3.5cm, FR:7.48, Data No:1638939642-980346

Control 4: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:2.8MHz, Focus:17.5cm, FR:4.01, Data No:1638934476-946611

Control 5: Triple Mode, 2D:2.1MHz Col:2.8MHz PD:3.1MHz, Focus:2.0cm, FR:7.65, Data No:1638937098-109487

CA2-8A: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.52	1.18	1.50	1.73	4.22	(b)
P _{r,3} (MPa)	2.55	-	-	-	-	-
W ₀ (mW)	-	2D W01:9.82 PD W01x1:72.8	PD W01x1:113	-	PD W0:113	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	118	-	-
z ₁ (cm)	-	-	-	4.30	-	-
Z _{bp} (cm)	-	-	-	3.47	-	-
Z _{sp} (cm)	1.70	-	-	-	1.60	-
d _{eq} (z) (cm)	-	-	-	-	0.467	-
fc (MHz)	2.82	2D:2.51 PD:3.06	2.80	3.08	2.80	(b)
Dim. of A _{aprt}	X (cm)	-	2D:6.34 PD:0.660	0.660	3.50	0.660 (b)
	Y (cm)	-	1.20	1.20	1.20	(b)
PD (μsec)	1.29	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.04	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.404	-
Focal Length	FLx (cm)	-	3.50	3.50	17.5	- (b)
	FLy (cm)	-	7.00	7.00	7.00	- (b)
I _{PA,3} @MI _{max} (W/cm ²)	367	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U		TIB_bs	
Control 4				TIS_bs		

Control 1: Pulsed Doppler Mode, PD:2.8MHz, Focus:3.5cm, Data No:1639011249-856502

Control 2: 2D+Pulsed Doppler Mode, 2D:2.1MHz PD:3.1MHz, Focus:3.5cm, FR:18.87, Data No:1638978458-69757

Control 3: Pulsed Doppler Mode, PD:2.8MHz, Focus:3.5cm, Data No:1639014189-133243

Control 4: Pulsed Doppler Mode, PD:3.1MHz, Focus:17.5cm, Data No:1639096466-956777

CF4-9

CF4-9: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.24	0.571	0.0435	0.0290**	0.0806+	(b)
P _{r,3} (MPa)	2.85	-	-	-	-	-
W ₀ (mW)	-	2D W01:23.2	M W01x1:1.82	-	M W0:1.64	(b)
min of [W ₃ (z ₁), I _{TA,3} (z ₁)] (mW)	-	-	-	1.21	-	-
z ₁ (cm)	-	-	-	1.10	-	-
Z _{bp} (cm)	-	-	-	1.24	-	-
Z _{sp} (cm)	1.20	-	-	-	1.10	-
d _{eq} (z) (cm)	-	-	-	-	0.315	-
fc (MHz)	5.26	5.16	5.02	5.00	5.16	(b)
Dim. of A _{aprt}	X (cm)	-	1.65	1.27	1.05	(b)
	Y (cm)	-	0.420	0.420	0.420	(b)
PD (μsec)	0.243	-	-	-	-	-
PRF (Hz)	75.2*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.28	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.312	-
Focal Length	FLx (cm)	-	6.50	9.00	-	(b)
	Fly (cm)	-	2.50	2.50	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	337	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D Mode, 2D: 6.2MHz, Focus: 2.0cm, FR: 75.16, Data No: 401100622-455641

Control 2: 2D Mode, 2D: 6.2MHz, Focus: 6.5cm, FR: 57.61, Data No: 401112611-553361

Control 3: 2D+M Mode, 2D: 6.2MHz M:6.2MHz, Focus: 9.0cm, FR: 20.34, Data No: 401120233-541763

Control 4: 2D+M Mode, 2D: 5.1MHz M:5.1MHz, Focus: 9.0cm, FR: 20.34, Data No: 401096250-62644

Control 5: 2D+M Mode, 2D: 6.2MHz M:6.2MHz, Focus: 6.5cm, FR: 27.05, Data No: 401114242-209187

CF4-9: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.11	0.529	0.450	0.328**	0.791	(b)
P _{r3} (MPa)	2.52	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.820 PD W01:2.38 Col W01x1:21.4	PD W01x1:21.4	-	PD W0:21.2	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	15.7	-	-
z ₁ (cm)	-	-	-	1.00	-	-
Z _{bp} (cm)	-	-	-	1.34	-	-
Z _{sp} (cm)	1.30	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.445	-
fc (MHz)	5.10	2D :5.06 PD :5.24 Col :4.40	4.40	4.40	4.40	(b)
Dim. of A _{aprt}	X (cm)	-	2D :2.32 PD :2.32 Col :1.77	1.77	1.48	(b)
	Y (cm)	-	0.420	0.420	0.420	(b)
PD (μsec)	0.256	-	-	-	-	-
PRF (Hz)	7.21*	-	-	-	-	-
P _r @PII _{max} (MPa)	3.13	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.442	-
Focal Length	FLx (cm)	-	9.00	9.00	7.50	(b)
	FLy (cm)	-	2.50	2.50	2.50	(b)
I _{PA3} @MI _{max} (W/cm ²)	274	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as	TIS_as_U			
Control 3				TIS_bs	TIB_bs	

Control 1: 2D+Color Mode, 2D: 5.1MHz Col:5.1MHz, Focus: 2.0cm, FR: 7.21, Data No: 401164202-379534
Control 2: Triple Mode, 2D: 5.1MHz PD:5.1MHz Col:4.4MHz, Focus: 9.0cm, FR: 2.50, Data No: 401551229-340068
Control 3: Triple Mode, 2D: 5.1MHz PD:5.1MHz Col:4.4MHz, Focus: 7.5cm, FR: 2.57, Data No: 401536954-299431

CF4-9: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.26	0.521	0.744	0.535**	1.30	(b)
P _{r3} (MPa)	2.85	-	-	-	-	-
W ₀ (mW)	-	2D W01:2.37 PD W01x1:21.9	PD W01x1:35.5	-	PD W0:34.6	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	25.5	-	-
z ₁ (cm)	-	-	-	1.00	-	-
Z _{bp} (cm)	-	-	-	1.34	-	-
Z _{sp} (cm)	1.00	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.443	-
fc (MHz)	5.12	2D :4.98 PD :4.45	4.40	4.40	4.40	(b)
Dim. of A _{aprt}	X (cm)	-	2D :2.32 PD :1.48	1.77	1.48	(b)
	Y (cm)	-	0.420	0.420	0.420	(b)
PD (μsec)	0.654	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @PII _{max} (MPa)	3.26	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.434	-
Focal Length	FLx (cm)	-	7.50	9.00	7.50	(b)
	FLy (cm)	-	2.50	2.50	2.50	(b)
I _{PA3} @MI _{max} (W/cm²)	392	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs	TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 2.0cm, Data No: 401591972-638220
Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD:4.4MHz, Focus: 7.5cm, FR: 7.81, Data No: 401521418-715621
Control 3: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 9.0cm, Data No: 401549448-727772
Control 4: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 7.5cm, Data No: 401530424-44514

CV1-8A

CV1-8A: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.57	1.28	0.0994**	0.143	0.362+	(b)	
P _{r3} (MPa)	2.85	-	-	-	-	-	
W ₀ (mW)	-	2D W01:81.8	M W01x1:7.70	-	M W0:6.69	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	11.8	-	-	
z ₁ (cm)	-	-	-	2.60	-	-	
Z _{bp} (cm)	-	-	-	2.60	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.364	-	
fc (MHz)	3.27	3.28	2.71	2.55	2.72	(b)	
Dim. of A _{sprt}	X (cm)	-	1.18	1.81	2.14	0.438	(b)
	Y (cm)	-	1.10	1.10	1.10	(b)	
PD (μsec)	0.390	-	-	-	-	-	
PRF (Hz)	50.4*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.94	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.357	-	
Focal Length	FLx (cm)	-	2.00	14.5	17.5	-	(b)
	FLy (cm)	-	5.00	5.00	5.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	272	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: 2D Mode, 2D:3.6MHz, Focus:2.0cm, FR:50.37, Data No:1815495637-615890

Control 2: 2D Mode, 2D:3.6MHz, Focus:2.0cm, FR:110.91, Data No:1815577193-909487

Control 3: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:14.5cm, FR:18.73, Data No:1815629236-988826

Control 4: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:17.5cm, FR:15.68, Data No:1815630535-90893

Control 5: 2D+M Mode, 2D:2.7MHz M:2.7MHz, Focus:2.0cm, FR:47.93, Data No:1815601245-464300

CV1-8A: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.49	1.40	0.620	0.583	2.59	(b)	
P _{r3} (MPa)	2.57	-	-	-	-	-	
W ₀ (mW)	-	2D W01:10.7 Col W01:87.5	PD W01x1:50.5	-	PD W0:50.5	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	47.7	-	-	
z ₁ (cm)	-	-	-	3.30	-	-	
Z _{bp} (cm)	-	-	-	3.30	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.395	-	
fc (MHz)	2.97	2D:2.66 Col:3.03	2.58	2.56	2.58	(b)	
Dim. of A _{sprt}	X (cm)	-	2D:1.97 Col:1.34	0.384	3.45	0.384	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)
PD (μsec)	0.558	-	-	-	-	-	
PRF (Hz)	160*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.74	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.394	-	
Focal Length	FLx (cm)	-	2.00	2.00	17.5	-	(b)
	FLy (cm)	-	5.00	5.00	5.00	-	(b)
I _{PA3} @M _I _{max} (W/cm ²)	280	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U		TIB_bs		
Control 4				TIS_bs			

Control 1: 2D+Color Mode, 2D:2.4MHz Col:3.1MHz, Focus:2.0cm, FR:17.81, Data No:1815666473-657561

Control 2: 2D+Color Mode, 2D:2.4MHz Col:3.1MHz, Focus:2.0cm, FR:32.90, Data No:1815728397-289575

Control 3: Triple Mode, 2D:2.4MHz Col:2.6MHz PD:2.6MHz, Focus:2.0cm, FR:6.77, Data No:1815773856-26611

Control 4: Triple Mode, 2D:2.4MHz Col:2.6MHz PD:2.6MHz, Focus:17.5cm, FR:3.66, Data No:1815859335-494096

CV1-8A: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.41	0.641	0.854	1.01	2.94	(b)	
P _{r,3} (MPa)	2.27	-	-	-	-	-	
W ₀ (mW)	-	2D W01:13.5 PD W01x1:33.4	PD W01x1:58.8	-	PD W0:56.1	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)] (mW)	-	-	-	82.5	-	-	
z ₁ (cm)	-	-	-	3.30	-	-	
Z _{bp} (cm)	-	-	-	3.30	-	-	
Z _{sp} (cm)	2.50	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.384	-	
fc (MHz)	2.58	2D:2.70 PD:2.94	3.05	2.56	2.58	(b)	
Dim. of A _{sprt}	X (cm)	-	2D:4.06 PD:0.986	0.658	3.45	0.384	(b)
	Y (cm)	-	1.10	1.10	1.10	1.10	(b)
PD (μsec)	1.46	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.65	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.384	-	
Focal Length	FLx (cm)	-	5.00	3.50	17.5	-	(b)
	FLy (cm)	-	5.00	5.00	5.00	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	292	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: Pulsed Doppler Mode, PD:2.6MHz, Focus:3.5cm, Data No:1815931909-216424
Control 2: 2D+Pulsed Doppler Mode, 2D:2.4MHz PD:3.1MHz, Focus:5.0cm, FR:21.51, Data No:1815877553-398045
Control 3: Pulsed Doppler Mode, PD:3.1MHz, Focus:3.5cm, Data No:1815959332-631651
Control 4: Pulsed Doppler Mode, PD:2.6MHz, Focus:17.5cm, Data No:1815953603-299790
Control 5: Pulsed Doppler Mode, PD:2.6MHz, Focus:2.0cm, Data No:1815929612-344718

SC1-6

SC1-6: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.56	0.835	0.103	0.216	0.582+	(b)	
P _{r,3} (MPa)	2.08	-	-	-	-	-	
W ₀ (mW)	-	2D W01:83.3	M W01x1:11.4	-	M W0:12.5	(b)	
min of {W ₃ (z ₁), I _{TA,3} (z ₁)}	(mW)	-	-	24.1	-	-	
z ₁ (cm)	-	-	-	3.80	-	-	
Z _{bp} (cm)	-	-	-	3.81	-	-	
Z _{sp} (cm)	3.30	-	-	-	2.90	-	
d _{eq} (z) (cm)	-	-	-	-	0.343	-	
fc (MHz)	1.76	2.11	1.91	1.88	1.72	(b)	
Dim. of A _{sprt}	X (cm)	-	2.41	0.660	4.22	1.12	(b)
	Y (cm)	-	1.20	1.20	1.20	1.20	(b)
PD (μsec)	0.833	-	-	-	-	-	
PRF (Hz)	82.9*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.55	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.336	-	
Focal Length	FLx (cm)	-	2.00	2.00	17.5	-	(b)
	FLy (cm)	-	6.50	6.50	6.50	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	176	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}				
Control 4				TIS _{bs}			
Control 5					TIB _{bs}		

Control 1: 2D Mode, 2D: 1.7MHz, Focus: 3.5cm, FR: 82.87, Data No: 2081572738-81161
Control 2: 2D Mode, 2D: 2.2MHz, Focus: 2.0cm, FR: 88.59, Data No: 2082174814-259546
Control 3: 2D+M Mode, 2D: 1.9MHz M: 1.9MHz, Focus: 2.0cm, FR: 42.15, Data No: 2081991865-38131
Control 4: 2D+M Mode, 2D: 1.9MHz M: 1.9MHz, Focus: 17.5cm, FR: 13.75, Data No: 2082135787-345151
Control 5: 2D+M Mode, 2D: 1.7MHz M: 1.7MHz, Focus: 3.5cm, FR: 39.30, Data No: 2081805491-518871

SC1-6: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.54	1.22	1.03	0.842	3.02	(b)
P _{r,3} (MPa)	2.46	-	-	-	-	-
W ₀ (mW)	-	2D W01:4.31 Col W01:90.3	PD W01x1:77.1	-	PD W0:77.1	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	63.4	-	-
z ₁ (cm)	-	-	-	3.20	-	-
Z _{bp} (cm)	-	-	-	3.16	-	-
Z _{sp} (cm)	3.70	-	-	-	1.50	-
d _{eq} (z) (cm)	-	-	-	-	0.423	-
fc (MHz)	2.56	2D: 1.98 Col: 2.74	2.80	2.79	2.80	(b)
Dim. of A _{aprt}	X (cm)	2D: 4.65 Col: 1.95	0.528	2.90	0.528	(b)
	Y (cm)	-	1.20	1.20	1.20	(b)
PD (μsec)	0.586	-	-	-	-	-
PRF (Hz)	107*	-	-	-	-	-
P _r @PII _{max} (MPa)	3.31	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.344	-
Focal Length	FLx (cm)	-	3.50	3.50	17.5	(b)
	FLy (cm)	-	6.50	6.50	6.50	(b)
I _{PA,3} @MI _{max} (W/cm²)	387	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U		TIB_bs	
Control 4				TIS_bs		

Control 1: 2D+Color Mode, 2D: 1.8MHz Col: 2.8MHz, Focus: 5.0cm, FR: 11.89, Data No: 2082500813-68073

Control 2: 2D+Color Mode, 2D: 1.8MHz Col: 2.8MHz, Focus: 3.5cm, FR: 25.95, Data No: 2082573123-162769

Control 3: Triple Mode, 2D: 1.8MHz Col: 1.9MHz PD: 2.8MHz, Focus: 3.5cm, FR: 5.66, Data No: 2083453887-631088

Control 4: Triple Mode, 2D: 1.8MHz Col: 1.9MHz PD: 2.8MHz, Focus: 17.5cm, FR: 3.11, Data No: 2083373482-517711

SC1-6: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.74	0.872	1.19	1.48	3.61	(b)
P _{c3} (MPa)	2.75	-	-	-	-	-
W ₀ (mW)	-	2D W01:3.91 PD W01x1:68.8	PD W01x1:92.1	-	PD W0:228	(b)
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	111	-	-
z ₁ (cm)	-	-	-	2.90	-	-
Z _{dp} (cm)	-	-	-	2.86	-	-
Z _{sp} (cm)	3.90	-	-	-	4.00	-
d _{eq} (z) (cm)	-	-	-	-	0.836	-
fc (MHz)	2.50	2D: 1.99 PD: 2.55	2.70	2.79	1.92	(b)
Dim. of A _{sprt}	X (cm)	2D: 6.34 PD: 0.792	0.792	2.38	2.90	(b)
	Y (cm)	-	1.20	1.20	1.20	(b)
PD (μsec)	0.592	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @PII _{max} (MPa)	3.76	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.803	-
Focal Length	FLx (cm)	-	5.00	5.00	14.5	(b)
	FLy (cm)	-	6.50	6.50	6.50	(b)
I _{PA3} @MI _{max} (W/cm²)	461	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 6.8cm, Data No: 2083141908-619951

Control 2: 2D+Pulsed Doppler Mode, 2D: 1.8MHz PD: 2.8MHz, Focus: 5.0cm, FR: 18.87, Data No: 2083134663-421692

Control 3: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 5.0cm, Data No: 2083263792-416893

Control 4: Pulsed Doppler Mode, PD: 2.8MHz, Focus: 14.5cm, Data No: 2083426660-30917

Control 5: Pulsed Doppler Mode, PD: 1.9MHz, Focus: 17.5cm, Data No: 2082977793-233208

EA2-11B

EA2-11B: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.50	0.611	0.0490	0.0310**	0.0970+	(b)	
P _{r3} (MPa)	3.31	-	-	-	-	-	
W ₀ (mW)	-	2D W01:25.4	M W01x1:2.04	-	M W0:1.21	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	1.29	-	-	
z ₁ (cm)	-	-	-	1.30	-	-	
Z _{bp} (cm)	-	-	-	1.49	-	-	
Z _{sp} (cm)	1.30	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.222	-	
fc (MHz)	4.87	5.05	5.09	5.09	5.39	(b)	
Dim. of A _{aprt}	X (cm)	-	1.55	1.30	1.30	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.458	-	-	-	-	-	
PRF (Hz)	27.5*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.01	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.222	-	
Focal Length	FLx (cm)	-	3.00	6.50	6.50	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	423	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D:4.4MHz, Focus:1.5cm, FR:27.50, Data No:700192084-330640

Control 2: 2D Mode, 2D:4.7MHz, Focus:3.0cm, FR:25.59, Data No:700225779-439065

Control 3: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:6.5cm, FR:19.16, Data No:700238904-804655

Control 4: 2D+M Mode, 2D:4.7MHz M:4.7MHz, Focus:0.5cm, FR:27.72, Data No:700220370-148726

EA2-11B: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	0.712	0.459	0.414	0.334**	0.857	(b)	
P _{r3} (MPa)	1.62	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.105 Col W01:1.58 PD W01x1:16.9	PD W01x1:16.9	-	PD W0:12.4	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)]	(mW)	-	-	13.6	-	-	
z ₁ (cm)	-	-	-	0.600	-	-	
Z _{bp} (cm)	-	-	-	0.377	-	-	
Z _{sp} (cm)	1.80	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.262	-	
fc (MHz)	5.19	2D :5.71 Col :5.60 PD :5.15	5.15	5.15	5.15	(b)	
Dim. of A _{aprt}	X (cm)	-	2D :2.65 Col :1.27 PD :0.0830	0.0830	0.0830	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.659	-	-	-	-	-	
PRF (Hz)	2000	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.12	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.256	-	
Focal Length	FLx (cm)	-	0.500	0.500	0.500	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA3} @MI _{max} (W/cm²)	129	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as	TIS_as_U	TIS_bs			
Control 3					TIB_bs		

Control 1: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:3.0cm, FR:9.17, Data No:700900881-536094

Control 2: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:0.5cm, FR:9.57, Data No:700844875-48969

Control 3: Triple Mode, 2D:4.7MHz Col:5.1MHz PD:5.1MHz, Focus:1.5cm, FR:9.40, Data No:700876064-847602

EA2-11B: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.32	0.458	0.771	0.511**	1.57	(b)	
P _{r3} (MPa)	2.99	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.0980 PD W01x1:18.6	PD W01x1:31.5	-	PD W0:22.4	(b)	
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	20.9	-	-	
z ₁ (cm)	-	-	-	0.800	-	-	
Z _{sp} (cm)	-	-	-	1.07	-	-	
Z _{sp} (cm)	1.50	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.257	-	
fc (MHz)	5.12	2D :5.71 PD :5.15	5.13	5.14	5.15	(b)	
Dim. of A _{sprt}	X (cm)	-	2D :2.65 PD :0.0830	1.24	0.662	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.720	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @PIL _{max} (MPa)	3.72	-	-	-	-	-	
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.257	-	
Focal Length	FLx (cm)	-	0.500	7.50	4.00	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA3} @MIL _{max} (W/cm²)	348	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: Pulsed Doppler Mode, PD:5.1MHz, Focus:3.0cm, Data No:700898490-583191

Control 2: 2D+Pulsed Doppler Mode, 2D:4.7MHz PD:5.1MHz, Focus:0.5cm, FR:8.93, Data No:700843239-516290

Control 3: Pulsed Doppler Mode, PD:5.1MHz, Focus:7.5cm, Data No:701028446-766499

Control 4: Pulsed Doppler Mode, PD:5.1MHz, Focus:4.0cm, Data No:700935940-828636

Control 5: Pulsed Doppler Mode, PD:5.1MHz, Focus:1.5cm, Data No:700873743-3746

EC4-9IS

EC4-9IS: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.12	0.676	0.0720**	0.0440	0.112+	(b)	
P _{r3} (MPa)	2.50	-	-	-	-	-	
W ₀ (mW)	-	2D W01:26.8	M W01x1:3.16	-	M W0:2.41	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	1.91	-	-	
z ₁ (cm)	-	-	-	1.70	-	-	
Z _{bp} (cm)	-	-	-	1.74	-	-	
Z _{sp} (cm)	0.600	-	-	-	1.40	-	
d _{eq} (z) (cm)	-	-	-	-	0.294	-	
fc (MHz)	5.03	5.29	4.78	4.78	4.97	(b)	
Dim. of A _{aprt}	X (cm)	-	1.46	1.77	0.580	(b)	
	Y (cm)	-	0.600	0.600	0.600	(b)	
PD (μsec)	0.357	-	-	-	-	-	
PRF (Hz)	26.1*	-	-	-	-	-	
P _r @PIL _{max} (MPa)	2.75	-	-	-	-	-	
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.268	-	
Focal Length	FLx (cm)	-	4.00	9.00	9.00	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	253	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D: 4.4MHz, Focus: 1.5cm, FR: 26.07, Data No: 2659272708-174249

Control 2: 2D Mode, 2D: 5.1MHz, Focus: 4.0cm, FR: 94.08, Data No: 2659190243-346181

Control 3: 2D+M Mode, 2D: 4.4MHz M: 4.4MHz, Focus: 9.0cm, FR: 14.30, Data No: 2659296416-952616

Control 4: 2D+M Mode, 2D: 4.4MHz M: 4.4MHz, Focus: 3.0cm, FR: 23.15, Data No: 2659277513-507230

EC4-9IS: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.17	1.15	0.749	0.560**	1.58	(b)	
P _{c,3} (MPa)	2.74	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.0780 Col W01:43.2	PD W01x1:28.1	-	PD W0:22.6	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	21.0	-	-	
z ₁ (cm)	-	-	-	0.700	-	-	
Z _{bp} (cm)	-	-	-	1.07	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.254	-	
fc (MHz)	5.43	2D: 5.86 Col: 5.58	5.60	5.59	5.59	(b)	
Dim. of A _{sprt}	X (cm)	-	2D: 2.65 Col: 0.814	1.08	0.662	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.271	-	-	-	-	-	
PRF (Hz)	70.1*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.03	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.254	-	
Focal Length	FLx (cm)	-	0.500	6.50	4.00	-	(b)
	FLy (cm)	-	4.00	4.00	4.00	-	(b)
I _{PA,3} @M _I _{max} (W/cm ²)	326	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: 2D+Color Mode, 2D: 5.1MHz Col: 5.6MHz, Focus: 15.0cm, FR: 5.39, Data No: 2659349184-659042
Control 2: 2D+Color Mode, 2D: 5.1MHz Col: 5.6MHz, Focus: 5.0cm, FR: 5.43, Data No: 2659345376-33710
Control 3: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 6.50cm, FR: 1.86, Data No: 2660065760-267070
Control 4: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 4.00cm, FR: 1.89, Data No: 2659997308-631641
Control 5: Triple Mode, 2D: 5.1MHz Col: 5.6MHz PD: 5.6MHz, Focus: 15.0cm, FR: 1.90, Data No: 2659928587-882207

EC4-9IS: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.38	0.600	1.28	0.833**	2.05	(b)	
P _{c3} (MPa)	3.23	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.357 PD W01x1:22.6	PD W01x1:48.2	-	PD W0:29.5	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	31.4	-	-	
z ₁ (cm)	-	-	-	0.700	-	-	
Z _{bp} (cm)	-	-	-	1.07	-	-	
Z _{sp} (cm)	0.600	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.255	-	
f _c (MHz)	5.48	2D: 5.61 PD: 5.48	5.58	5.57	5.59	(b)	
Dim. of A _{aprt}	X (cm)	2D: 2.65 PD: 0.662	1.24	0.662	0.248	(b)	
	Y (cm)	-	0.600	0.600	0.600	(b)	
PD (μsec)	0.667	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.67	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.255	-	
Focal Length	FLx (cm)	-	4.00	7.50	4.00	-	(b)
	FLy (cm)	-	4.00	4.00	4.00	-	(b)
I _{PA3} @M _I _{max} (W/cm ²)	415	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}				
Control 4				TIS _{bs}			
Control 5					TIB _{bs}		

Control 1: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 15.0cm, Data No: 2659919941-984195
Control 2: 2D+Pulsed Doppler Mode, 2D: 5.1MHz PD: 5.6MHz, Focus: 4.00cm, FR: 7.81, Data No: 2659983181-24527
Control 3: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 7.50cm, Data No: 2660082082-512986
Control 4: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 4.00cm, Data No: 2659988738-946484
Control 5: Pulsed Doppler Mode, PD: 5.6MHz, Focus: 15.0cm, Data No: 2659932516-992309

P2-4BA

P2-4BA: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.67	2.71	0.190**	0.265	0.787+	4.81
P _{r,3} (MPa)	2.32	-	-	-	-	-
W ₀ (mW)	-	2D W01:210	M W01x1:14.0	-	M W0:42.2	2D W0:169 M W0:8.46
min of [W ₃ (z ₁), I _{TA,3} (z ₁)] (mW)	-	-	-	28.7	-	-
z ₁ (cm)	-	-	-	2.70	-	-
Z _{bp} (cm)	-	-	-	2.64	-	-
Z _{sp} (cm)	3.90	-	-	-	3.30	-
d _{eq} (z) (cm)	-	-	-	-	0.808	-
fc (MHz)	1.93	2.71	2.85	1.94	1.82	1.86
Dim. of A _{aprt}	X (cm)	-	1.02	2.03	2.03	0.559
	Y (cm)	-	1.20	1.20	1.20	1.20
PD (μsec)	0.731	-	-	-	-	-
PRF (Hz)	82.1*	-	-	-	-	-
P _r @PIL _{max} (MPa)	2.92	-	-	-	-	-
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.722	-
Focal Length	FLx (cm)	-	4.00	16.0	16.0	2.00
	FLy (cm)	-	6.40	6.40	6.40	6.40
I _{PA,3} @MI _{max} (W/cm ²)	343	-	-	-	-	-
Control 1	MI					
Control 2		TIS _{as}				
Control 3			TIS _{as_U}			
Control 4				TIS _{bs}		
Control 5					TIB _{bs}	
Control 6						TIC _{as}

Control 1: 2D Mode, 2D: 2.0MHz, Focus: 6.0cm, FR: 82.10, Data No: 2454149582-966068

Control 2: 2D Mode, 2D: 3.6MHz, Focus: 4.0cm, FR: 96.75, Data No: 2454081154-552254

Control 3: 2D+M Mode, 2D: 3.6MHz M:3.6MHz, Focus:16.0cm, FR: 33.96, Data No: 2454098260-788240

Control 4: 2D+M Mode, 2D: 2.1MHz M:2.1MHz, Focus:16.0cm, FR: 33.96, Data No: 2454270045-490032

Control 5: 2D+M Mode, 2D: 1.9MHz M:1.9MHz, Focus:16.0cm, FR: 33.96, Data No: 2454206107-513815

Control 6: 2D+M Mode, 2D:1.8MHz M:1.8MHz, Focus:2.0cm, FR:101.38, Data No:2454100941-729688

P2-4BA: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.64	2.39	0.987**	1.39	3.47	4.57
P _{r3} (MPa)	2.56	-	-	-	-	-
W ₀ (mW)	-	2D W01:24.8 Col W01:178	PD W01x1:81.0	-	PD W0:196	2D W0:16.6 Col W0:152
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	114	-	-
z ₁ (cm)	-	-	-	2.90	-	-
Z _{bp} (cm)	-	-	-	2.64	-	-
Z _{sp} (cm)	0.900	-	-	-	3.70	-
d _{eq} (z) (cm)	-	-	-	-	0.728	-
fc (MHz)	2.44	2D:2.05 Col:2.54	2.56	2.55	2.20	2D:1.98 Col:2.20
Dim. of A _{aprt}	X (cm)	-	1.02	1.98	2.03	0.559
	Y (cm)	-	1.20	1.20	1.20	1.20
PD (μsec)	0.587	-	-	-	-	-
PRF (Hz)	319*	-	-	-	-	-
P _r @PIL _{max} (MPa)	2.58	-	-	-	-	-
d _{eq} @PIL _{max} (cm)	-	-	-	-	0.589	-
Focal Length	FLx (cm)	-	4.00	14.0	16.0	2.00
	FLy (cm)	-	6.40	6.40	6.40	6.40
I _{PA,3} @MI _{max} (W/cm²)	242	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	
Control 6						TIC_as

Control 1: 2D+Color Mode, 2D:1.8MHz Col:2.6MHz, Focus:2.0cm, FR:39.92, Data No:2454281773-538438

Control 2: 2D+Color Mode, 2D:1.8MHz Col:2.6MHz, Focus:4.0cm, FR:20.34, Data No:2454288293-353431

Control 3: Triple Mode, 2D:1.8MHz Col:2.6MHz, PD:2.6MHz, Focus:14.0cm, FR:6.43, Data No:2454807772-336040

Control 4: Triple Mode, 2D:1.8MHz Col:2.6MHz PD:2.6MHz, Focus:14.0cm, FR:5.82, Data No:2454835110-948125

Control 5: Triple Mode, 2D:1.8MHz Col:2.6MHz PD:2.2MHz, Focus:16.0cm, FR:5.82, Data No:2454650442-161876

Control 6: 2D+Color Mode, 2D:1.8MHz Col:2.2MHz, Focus:2.0cm, FR:20.73, Data No:2454382841-920385

P2-4BA: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.63	1.39	1.84**	2.37	5.48	4.75
P _{r3} (MPa)	2.60	-	-	-	-	-
W ₀ (mW)	-	2D W01:42.6 PD W01x1:83.3	PD W01x1:151	-	PD W0:302	PD W0:304
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	194	-	-
z ₁ (cm)	-	-	-	3.00	-	-
Z _{bp} (cm)	-	-	-	2.64	-	-
Z _{sp} (cm)	1.30	-	-	-	3.40	-
d _{eq} (z) (cm)	-	-	-	-	0.749	-
fc (MHz)	2.53	2D:1.93 PD:2.51	2.55	2.56	2.19	2.55
Dim. of A _{aprt}	X (cm)	-	1.42	1.68	1.98	1.68
	Y (cm)	-	1.20	1.20	1.20	1.20
PD (μsec)	1.43	-	-	-	-	-
PRF (Hz)	999	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	2.69	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.652	-
Focal Length	FLx (cm)	-	10.0	12.0	-	12.0
	FLy (cm)	-	6.40	6.40	6.40	6.40
I _{PA3} @MI _{max} (W/cm ²)	258	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			TIC_as
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 2.0cm, Data No: 2454684747-897776

Control 2: 2D+Pulsed Doppler Mode, 2D: 1.8MHz PD: 2.6MHz, Focus: 10.0cm, FR: 21.13, Data No: 2454774598-376681

Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 12.0cm, Data No: 2454787761-287992

Control 4: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 12.0cm, Data No: 2454833467-814415

Control 5: Pulsed Doppler Mode, PD: 2.2MHz, Focus: 14.0cm, Data No: 2454629270-931040

P2-4BA: CW mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.0786	(a)	1.69	1.21**	4.14	4.35
P _{r3} (MPa)	0.109	-	-	-	-	-
W ₀ (mW)	-	(a)	CW W01x1:185	-	CW W0:185	CW W0:185
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	132	-	-
z ₁ (cm)	-	-	-	1.60	-	-
Z _{bp} (cm)	-	-	-	1.59	-	-
Z _{sp} (cm)	0.00	-	-	-	4.10	-
d _{eq} (z) (cm)	-	-	-	-	0.575	-
fc (MHz)	1.92	(a)	1.92	1.92	1.92	1.92
Dim. of A _{aprt}	X (cm)	(a)	0.737	0.737	0.737	0.737
	Y (cm)	(a)	1.20	1.20	1.20	1.20
PD (μsec)	CW	-	-	-	-	-
PRF (Hz)	CW	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	0.124	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.552	-
Focal Length	FLx (cm)	(a)	10.0	10.0	-	10.0
	FLy (cm)	(a)	6.40	6.40	-	6.40
I _{PA3} @MI _{max} (W/cm ²)	0.400	-	-	-	-	-
Control 1	MI					
Control 2			TIS_as_U	TIS_bs	TIB_bs	TIC_as

Control 1: CW Mode, CW: 1.9MHz, Focus: 2.0cm, Data No: 1841072859-333332

Control 2: CW Mode, CW: 1.9MHz, Focus: 10.0cm, Data No: 1841074378-364049

V2-6

V2-6: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan			
			Aaprt≤1	Aaprt>1		
Maximum index value	1.59	0.445	0.0490	0.0850	0.194+	(b)
P _{r3} (MPa)	2.38	-	-	-	-	-
W ₀ (mW)	-	2D W01:38.4	M W01x1:4.38	-	M W0:14.1	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	8.22	-	-
z ₁ (cm)	-	-	-	3.60	-	-
Z _{bp} (cm)	-	-	-	3.60	-	-
Z _{sp} (cm)	4.00	-	-	-	4.30	-
d _{eq} (z) (cm)	-	-	-	-	0.858	-
fc (MHz)	2.25	2.43	2.36	2.17	2.17	(b)
Dim. of A _{aprt}	X (cm)	-	2.63	0.620	3.47	(b)
	Y (cm)	-	1.30	1.30	1.30	(b)
PD (μsec)	0.670	-	-	-	-	-
PRF (Hz)	44.8*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	3.10	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.768	-
Focal Length	FLx (cm)	-	3.50	2.00	17.5	(b)
	Fly (cm)	-	7.00	7.00	7.00	(b)
I _{PA3} @M _I _{max} (W/cm²)	282	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs	TIB_bs	

Control 1: 2D Mode, 2D: 2.1MHz, Focus: 5.0cm, FR: 44.76, Data No: 3541914742-506559

Control 2: 2D Mode, 2D: 2.4MHz, Focus: 3.5cm, FR: 47.67, Data No: 3541835951-103919

Control 3: 2D+M Mode, 2D: 2.1MHz M: 2.1MHz, Focus: 2.0cm, FR: 48.54, Data No: 3541692450-560830

Control 4: 2D+M Mode, 2D: 2.2MHz M: 2.2MHz, Focus: 17.5cm, FR: 15.76, Data No: 3542033231-854299

V2-6: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.02	1.11	0.833	0.649**	2.67	(b)
P _{r3} (MPa)	1.63	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.369 Col W01:90.0	PD W01x1:67.9	-	PD W0:67.9	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	52.9	-	-
z ₁ (cm)	-	-	-	1.40	-	-
Z _{bp} (cm)	-	-	-	1.36	-	-
Z _{sp} (cm)	0.600	-	-	-	1.40	-
d _{eq} (z) (cm)	-	-	-	-	0.451	-
f _c (MHz)	2.54	2D: 2.85 Col: 2.57	2.58	2.58	2.58	(b)
Dim. of A _{aprt}	X (cm)	-	2D: 3.66 Col: 1.77	0.496	0.496	(b)
	Y (cm)	-	1.30	1.30	1.30	(b)
PD (μsec)	0.582	-	-	-	-	-
PRF (Hz)	428*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	1.72	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.451	-
Focal Length	FL _x (cm)	-	2.00	2.00	2.00	(b)
	FL _y (cm)	-	7.00	7.00	7.00	(b)
I _{PA,3} @M _I _{max} (W/cm ²)	103	-	-	-	-	-
Control 1	MI					
Control 2		TIS _{as}				
Control 3			TIS _{as_U}	TIS _{bs}	TIB _{bs}	

Control 1: 2D+Color Mode, 2D: 2.6MHz Col: 2.6MHz, Focus: 2.0cm, FR: 47.53, Data No: 3542106246-201198

Control 2: 2D+Color Mode, 2D: 2.6MHz Col: 2.6MHz, Focus: 2.0cm, FR: 47.53, Data No: 3542123586-765494

Control 3: Triple Mode, 2D: 2.6MHz Col: 2.6MHz PD: 2.6MHz, Focus: 2.0cm, FR: 17.84, Data No: 3543430223-47365

V2-6: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.53	0.975	1.05	1.08	3.84	(b)	
P _{r,3} (MPa)	2.22	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.130 PD W01x1:79.3	PD W01x1:85.3	-	PD W0:94.3	(b)	
min of [W ₃ (z ₁), I _{TA,3} (z ₁)]	(mW)	-	-	89.1	-	-	
z ₁ (cm)	-	-	-	2.90	-	-	
Z _{bp} (cm)	-	-	-	2.84	-	-	
Z _{sp} (cm)	1.20	-	-	-	1.30	-	
d _{eq} (z) (cm)	-	-	-	-	0.463	-	
fc (MHz)	2.12	2D: 2.90 PD: 2.58	2.58	2.56	2.13	(b)	
Dim. of A _{sprt}	X (cm)	-	2D: 5.95 PD: 0.496	0.496	2.17	0.868	(b)
	Y (cm)	-	1.30	1.30	1.30	1.30	(b)
PD (μsec)	1.72	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	2.40	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.399	-	
Focal Length	FLx (cm)	-	2.00	2.00	8.80	-	(b)
	FLy (cm)	-	7.00	7.00	7.00	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	178	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}				
Control 4				TIS _{bs}			
Control 5					TIB _{bs}		

Control 1: Pulsed Doppler Mode, PD: 2.1MHz, Focus: 2.0cm, Data No: 3542802493-761216

Control 2: 2D+Pulsed Doppler Mode, 2D: 2.6MHz PD: 2.6MHz, Focus: 2.0cm, FR: 14.29, Data No: 3543411874-539922

Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 2.0cm, Data No: 3543423054-476214

Control 4: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 8.8cm, Data No: 3543696770-422915

Control 5: Pulsed Doppler Mode, PD: 2.1MHz, Focus: 3.5cm, Data No: 3542921535-367402

V4-8

V4-8: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	1.54	0.765	0.0750	0.103	0.253+	(b)
P _{r3} (MPa)	2.57	-	-	-	-	-
W ₀ (mW)	-	2D W01:47.6	M W01x1:5.11	-	M W0:6.18	(b)
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	7.24	-	-
z ₁ (cm)	-	-	-	3.10	-	-
Z _{bp} (cm)	-	-	-	3.02	-	-
Z _{sp} (cm)	2.90	-	-	-	3.30	-
d _{eq} (z) (cm)	-	-	-	-	0.293	-
fc (MHz)	2.80	3.38	3.07	2.98	2.65	(b)
Dim. of A _{aprt}	X (cm)	-	1.86	0.546	2.89	(b)
	Y (cm)	-	1.10	1.10	1.10	(b)
PD (μsec)	0.522	-	-	-	-	-
PRF (Hz)	47.1*	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	2.87	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.281	-
Focal Length	FLx (cm)	-	2.00	2.00	17.5	(b)
	Fly (cm)	-	6.20	6.20	6.20	(b)
I _{PA,3} @MI _{max} (W/cm²)	364	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as				
Control 3			TIS_as_U			
Control 4				TIS_bs		
Control 5					TIB_bs	

Control 1: 2D Mode, 2D: 2.7MHz, Focus: 3.5cm, FR: 47.14, Data No: 3573963914-306704

Control 2: 2D Mode, 2D: 3.6MHz, Focus: 2.0cm, FR: 201.50, Data No: 3573715095-97336

Control 3: 2D+M Mode, 2D: 3.1MHz M: 3.1MHz, Focus: 2.0cm, FR: 47.93, Data No: 3573558528-209848

Control 4: 2D+M Mode, 2D: 3.1MHz M: 3.1MHz, Focus: 17.5cm, FR: 15.68, Data No: 3573689966-738257

Control 5: 2D+M Mode, 2D: 2.4MHz M: 2.4MHz, Focus: 5.0cm, FR: 41.86, Data No: 3573893369-161981

V4-8: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				
			Aaprt≤1	Aaprt>1	Non-scan		
Maximum index value	1.32	0.957	0.779	0.661	2.22	(b)	
P _{r,3} (MPa)	2.29	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.468 Col W01:65.1	PD W01x1:53.1	-	PD W0:52.7	(b)	
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	45.2	-	-	
z ₁ (cm)	-	-	-	2.40	-	-	
Z _{bp} (cm)	-	-	-	2.35	-	-	
Z _{sp} (cm)	3.20	-	-	-	1.20	-	
d _{eq} (z) (cm)	-	-	-	-	0.417	-	
fc (MHz)	3.00	2D: 3.61 Col: 3.06	3.08	3.07	3.08	(b)	
Dim. of A _{aprt}	X (cm)	2D: 3.19 Col: 1.47	0.655	1.75	0.655	(b)	
	Y (cm)	-	1.10	1.10	1.10	(b)	
PD (μsec)	0.479	-	-	-	-	-	
PRF (Hz)	103*	-	-	-	-	-	
P _r @P _{II,max} (MPa)	3.16	-	-	-	-	-	
d _{eq} @P _{II,max} (cm)	-	-	-	-	0.297	-	
Focal Length	FL _x (cm)	-	2.00	3.50	8.80	-	(b)
	FL _y (cm)	-	6.20	6.20	6.20	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	325	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}				
Control 4				TIS _{bs}			
Control 5					TIB _{bs}		

Control 1: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 5.0cm, FR: 10.27, Data No: 3574149826-184143
Control 2: 2D+Color Mode, 2D: 3.1MHz Col: 3.1MHz, Focus: 2.0cm, FR: 22.74, Data No: 3574074366-230069
Control 3: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 4.70, Data No: 3575624035-168588
Control 4: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 8.8cm, FR: 4.49, Data No: 3575871139-386605
Control 5: Triple Mode, 2D: 3.1MHz Col: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 4.70, Data No: 3575640567-30384

V4-8: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.52	0.683	1.51	1.06**	2.47	(b)	
P _{r3} (MPa)	2.65	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.233 PD W01x1:46.3	PD W01x1:50.4	-	PD W0:54.8	(b)	
min of {W ₃ (z ₁), I _{TA3} (z ₁)}	(mW)	-	-	35.6	-	-	
z ₁ (cm)	-	-	-	0.800	-	-	
Z _{dp} (cm)	-	-	-	1.44	-	-	
Z _{sp} (cm)	3.10	-	-	-	1.00	-	
d _{eq} (z) (cm)	-	-	-	-	0.406	-	
fc (MHz)	3.04	2D: 3.66 PD: 3.08	6.28	6.28	3.07	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 5.24 PD: 0.655	0.655	0.655	(b)	
	Y (cm)	-	1.10	1.10	1.10	(b)	
PD (μsec)	1.21	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.33	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.288	-	
Focal Length	FLx (cm)	-	3.50	3.50	3.50	-	(b)
	FLy (cm)	-	6.20	6.20	6.20	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	308	-	-	-	-	-	
Control 1	MI						
Control 2		TIS _{as}					
Control 3			TIS _{as_U}	TIS _{bs}			
Control 4					TIB _{bs}		

Control 1: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 5.0cm, Data No: 3575683846-596293
Control 2: 2D+Pulsed Doppler Mode, 2D: 3.1MHz PD: 3.1MHz, Focus: 3.5cm, FR: 14.29, Data No: 3575619728-863287
Control 3: Pulsed Doppler Mode, PD: 2.6MHz, Focus: 3.5cm, Data No: 3574963971-734782
Control 4: Pulsed Doppler Mode, PD: 3.1MHz, Focus: 3.5cm, Data No: 3575617821-395834

V5-9

V5-9: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan				Non-scan
			Aaprt≤1	Aaprt>1			
Maximum index value	1.21	0.532	0.0670	0.0370**	0.0860+	(b)	
P _{r,3} (MPa)	2.59	-	-	-	-	-	
W ₀ (mW)	-	2D W01:21.0	M W01x1:2.79	-	M W0:1.54	(b)	
min of {W ₃ (z ₁), I _{TA,3} (z ₁)}	(mW)	-	-	1.54	-	-	
z ₁ (cm)	-	-	-	1.70	-	-	
Z _{bp} (cm)	-	-	-	1.60	-	-	
Z _{sp} (cm)	1.10	-	-	-	1.70	-	
d _{eq} (z) (cm)	-	-	-	-	0.222	-	
fc (MHz)	4.55	5.31	5.05	5.05	5.05	(b)	
Dim. of A _{sprt}	X (cm)	-	0.938	1.49	0.856	(b)	
	Y (cm)	-	0.600	0.600	0.600	(b)	
PD (μsec)	0.261	-	-	-	-	-	
PRF (Hz)	30.1*	-	-	-	-	-	
P _r @PII _{max} (MPa)	2.95	-	-	-	-	-	
d _{eq} @PII _{max} (cm)	-	-	-	-	0.205	-	
Focal Length	FLx (cm)	-	0.500	7.50	7.50	-	(b)
	Fly (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	244	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D: 4.7MHz, Focus: 1.5cm, FR: 30.08, Data No: 3546959882-345780

Control 2: 2D Mode, 2D: 4.7MHz, Focus: 0.5cm, FR: 126.67, Data No: 3547210501-284136

Control 3: 2D+M Mode, 2D: 5.1MHz M: 5.1MHz, Focus: 7.5cm, FR: 18.74, Data No: 3547328747-116356

Control 4: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 3.0cm, FR: 26.64, Data No: 3547231276-914988

V5-9: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	0.867	0.615	0.531	0.375**	1.18	(b)	
P _{r,3} (MPa)	1.82	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.305 Col W01:24.8	PD W01x1:21.7	-	PD W0:18.3	(b)	
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	15.3	-	-	
z ₁ (cm)	-	-	-	0.600	-	-	
Z _{bp} (cm)	-	-	-	0.377	-	-	
Z _{sp} (cm)	1.40	-	-	-	1.40	-	
d _{eq} (z) (cm)	-	-	-	-	0.228	-	
fc (MHz)	4.43	2D: 5.06 Col: 5.14	5.13	5.14	4.41	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 2.65 Col: 1.02	1.49	0.0830	0.497	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.757	-	-	-	-	-	
PRF (Hz)	2000	-	-	-	-	-	
P _r @PII _{max} (MPa)	2.14	-	-	-	-	-	
d _{eq} @PII _{max} (cm)	-	-	-	-	0.219	-	
Focal Length	FLx (cm)	-	1.50	9.00	0.500	-	(b)
	FLy (cm)	-	4.00	4.00	4.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	162	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 4.4MHz, Focus: 3.0cm, FR: 1.91, Data No: 3548147165-915895

Control 2: 2D+Color Mode, 2D: 4.7MHz Col: 5.1MHz, Focus: 1.5cm, FR: 6.13, Data No: 3547418298-198101

Control 3: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 9.0cm, FR: 1.83, Data No: 3549059197-464341

Control 4: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 0.5cm, FR: 1.93, Data No: 3548593659-937887

Control 5: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 4.4MHz, Focus: 3.0cm, FR: 1.91, Data No: 3548161223-408076

V5-9: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.30	0.448	0.951	0.521**	1.48	(b)	
P _{r,3} (MPa)	2.71	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.137 PD W01x1:18.2	PD W01x1:38.9	-	PD W0:25.5	(b)	
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	21.3	-	-	
z ₁ (cm)	-	-	-	1.70	-	-	
Z _{bp} (cm)	-	-	-	1.60	-	-	
Z _{sp} (cm)	1.20	-	-	-	1.30	-	
d _{eq} (z) (cm)	-	-	-	-	0.240	-	
fc (MHz)	4.36	2D: 5.12 PD: 5.14	5.13	5.13	5.13	(b)	
Dim. of A _{aprt}	X (cm)	-	2D: 2.65 PD: 0.0830	1.49	1.49	0.497	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.793	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	3.18	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.227	-	
Focal Length	FLx (cm)	-	0.500	9.00	9.00	-	(b)
	FLy (cm)	-	4.00	4.00	4.00	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	358	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: Pulsed Doppler Mode, PD: 4.4MHz, Focus: 3.0cm, Data No: 3548141878-435099

Control 2: 2D+Pulsed Doppler Mode, 2D: 4.7MHz PD: 5.1MHz, Focus: 0.5cm, FR: 9.77, Data No: 3548617538-35952

Control 3: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 9.0cm, Data No: 3549054092-690538

Control 4: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 3.0cm, Data No: 3548725931-165218

VR5-9

VR5-9: 2D& 2D+M mode

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.50	0.611	0.0490	0.0310**	0.0970+	(b)	
P _{r3} (MPa)	3.31	-	-	-	-	-	
W ₀ (mW)	-	2D W01:25.4	M W01x1:2.04	-	M W0:1.21	(b)	
min of [W ₃ (z ₁), I _{TA3} (z ₁)] (mW)	-	-	-	1.29	-	-	
z ₁ (cm)	-	-	-	1.30	-	-	
Z _{bp} (cm)	-	-	-	1.49	-	-	
Z _{sp} (cm)	1.30	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.222	-	
fc (MHz)	4.87	5.05	5.09	5.09	5.39	(b)	
Dim. of A _{aprt}	X (cm)	-	1.55	1.30	1.30	(b)	
	Y (cm)	-	0.600	0.600	0.600	(b)	
PD (μsec)	0.458	-	-	-	-	-	
PRF (Hz)	27.5*	-	-	-	-	-	
P _r @P _{II} _{max} (MPa)	4.01	-	-	-	-	-	
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.222	-	
Focal Length	FLx (cm)	-	3.00	6.50	6.50	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA3} @MI _{max} (W/cm ²)	423	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U	TIS_bs			
Control 4					TIB_bs		

Control 1: 2D Mode, 2D: 4.4MHz, Focus: 1.5cm, FR: 27.50, Data No: 700192084-330640

Control 2: 2D Mode, 2D: 4.7MHz, Focus: 3.0cm, FR: 25.59, Data No: 700225779-439065

Control 3: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 6.5cm, FR: 19.16, Data No: 700238904-804655

Control 4: 2D+M Mode, 2D: 4.7MHz M: 4.7MHz, Focus: 0.5cm, FR: 27.72, Data No: 700220370-148726

VR5-9: 2D+Color, Triple, CPA & Triple CPA

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.712	0.459	0.414	0.334**	0.857	(b)
P _{r3} (MPa)	1.62	-	-	-	-	-
W ₀ (mW)	-	2D W01:0.105 Col W01:1.58 PD W01x1:16.9	PD W01x1:16.9	-	PD W0:12.4	(b)
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	13.6	-	-
z ₁ (cm)	-	-	-	0.600	-	-
Z _{bp} (cm)	-	-	-	0.377	-	-
Z _{sp} (cm)	1.80	-	-	-	0.600	-
d _{eq} (z) (cm)	-	-	-	-	0.262	-
fc (MHz)	5.19	2D: 5.71 Col: 5.60 PD: 5.15	5.15	5.15	5.15	(b)
Dim. of A _{aprt}	X (cm)	2D: 2.65 Col: 1.27 PD: 0.0830	0.0830	0.0830	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	(b)
PD (μsec)	0.659	-	-	-	-	-
PRF (Hz)	2000	-	-	-	-	-
P _r @PII _{max} (MPa)	2.12	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.256	-
Focal Length	FLx (cm)	-	0.500	0.500	-	(b)
	FLy (cm)	-	3.50	3.50	-	(b)
I _{PA,3} @MI _{max} (W/cm ²)	129	-	-	-	-	-
Control 1	MI					
Control 2		TIS_as	TIS_as_U	TIS_bs		
Control 3					TIB_bs	

Control 1: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 3.0cm, FR: 9.17, Data No: 700900881-536094
Control 2: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 0.5cm, FR: 9.57, Data No: 700844875-48969
Control 3: Triple Mode, 2D: 4.7MHz Col: 5.1MHz PD: 5.1MHz, Focus: 1.5cm, FR: 9.40, Data No: 700876064-847602

VR5-9: Pulsed Doppler & 2D+Pulsed Doppler

Index Label	MI	TIS			TIB	TIC	
		Scan	Non-scan		Non-scan		
			Aaprt≤1	Aaprt>1			
Maximum index value	1.32	0.458	0.771	0.511**	1.57	(b)	
P _{ca} (MPa)	2.99	-	-	-	-	-	
W ₀ (mW)	-	2D W01:0.0980 PD W01x1:18.6	PD W01x1:31.5	-	PD W0:22.4	(b)	
min of [W ₃ (z ₁), I _{PA,3} (z ₁)] (mW)	-	-	-	20.9	-	-	
z ₁ (cm)	-	-	-	0.800	-	-	
Z _{bp} (cm)	-	-	-	1.07	-	-	
Z _{sp} (cm)	1.50	-	-	-	0.600	-	
d _{eq} (z) (cm)	-	-	-	-	0.257	-	
fc (MHz)	5.12	2D :5.71 PD :5.15	5.13	5.14	5.15	(b)	
Dim. of A _{aprt}	X (cm)	-	2D :2.65 PD :0.0830	1.24	0.662	0.248	(b)
	Y (cm)	-	0.600	0.600	0.600	0.600	(b)
PD (μsec)	0.720	-	-	-	-	-	
PRF (Hz)	999	-	-	-	-	-	
P _r @PII _{max} (MPa)	3.72	-	-	-	-	-	
d _{eq} @PII _{max} (cm)	-	-	-	-	0.257	-	
Focal Length	FLx (cm)	-	0.500	7.50	4.00	-	(b)
	FLy (cm)	-	3.50	3.50	3.50	-	(b)
I _{PA,3} @MI _{max} (W/cm²)	348	-	-	-	-	-	
Control 1	MI						
Control 2		TIS_as					
Control 3			TIS_as_U				
Control 4				TIS_bs			
Control 5					TIB_bs		

Control 1: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 3.0cm, Data No: 700898490-583191
Control 2: 2D+Pulsed Doppler Mode, 2D: 4.7MHz PD: 5.1MHz, Focus: 0.5cm, FR: 8.93, Data No: 700843239-516290
Control 3: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 7.5cm, Data No: 701028446-766499
Control 4: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 4.0cm, Data No: 700935940-828636
Control 5: Pulsed Doppler Mode, PD: 5.1MHz, Focus: 1.5cm, Data No: 700873743-3746

CW2.0

CW2.0: CW mode

Index Label	MI	Scan	TIS		TIB	TIC
			Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.0480	(a)	0.523	0.423**	1.61	1.39
P _{r,3} (MPa)	0.0670	-	-	-	-	-
W ₀ (mW)	-	(a)	CW W01x1:57.0	-	CW W0:57.0	CW W0:57.0
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	46.1	-	-
z ₁ (cm)	-	-	-	1.60	-	-
Z _{bip} (cm)	-	-	-	1.54	-	-
Z _{ip} (cm)	2.40	-	-	-	2.40	-
d _{eq} (z) (cm)	-	-	-	-	0.505	-
fc (MHz)	1.92	(a)	1.92	1.92	1.92	1.92
Dim. of A _{aprt}	X (cm)	(a)	0.600	0.600	0.600	0.600
	Y (cm)	(a)	1.38	1.38	1.38	1.38
PD (μsec)	CW	-	-	-	-	-
PRF (Hz)	CW	-	-	-	-	-
P _r @PII _{max} (MPa)	0.0780	-	-	-	-	-
d _{eq} @PII _{max} (cm)	-	-	-	-	0.505	-
Focal Length	FLx (cm)	(a)	5.50	5.50	-	5.50
	FLy (cm)	(a)	5.50	5.50	-	5.50
I _{PA,3} @MI _{max} (W/cm ²)	0.156	-	-	-	-	-
Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as

Control 1: CW Mode, CW: 1.9MHz, Focus: 5.5cm, Data No: 753117672-648108

CW4.0

CW4.0: CW mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprts≤1	Aaprt>1		
Maximum index value	0.0410	(a)	1.31	0.978**	2.14	2.49
P _{r3} (MPa)	0.0800	-	-	-	-	-
W ₀ (mW)	-	(a)	CW W01x1:71.5	-	CW W0:71.5	CW W0:71.5
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	53.3	-	-
z ₁ (cm)	-	-	-	1.10	-	-
Z _{bip} (cm)	-	-	-	1.08	-	-
Z _{ip} (cm)	1.20	-	-	-	1.20	-
d _{eq} (z) (cm)	-	-	-	-	0.520	-
fc (MHz)	3.85	(a)	3.85	3.85	3.85	3.85
Dim. of A _{aprt}	X (cm)	(a)	0.450	0.450	0.450	0.450
	Y (cm)	(a)	0.900	0.900	0.900	0.900
PD (μsec)	CW	-	-	-	-	-
PRF (Hz)	CW	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	0.104	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.494	-
Focal Length	FLx (cm)	(a)	4.50	4.50	-	4.50
	FLy (cm)	(a)	4.50	4.50	-	4.50
I _{PA3} @MI _{max} (W/cm²)	0.212	-	-	-	-	-
Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as

Control 1: CW Mode, CW: 3.9MHz, Focus: 4.5cm, Data No: 599230944-924220

CW6.0

CW6.0: CW mode

Index Label	MI	Scan	TIS		TIB	TIC
			Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.0340	(a)	0.404	0.275**	0.941	0.616
P _{r,3} (MPa)	0.0840	-	-	-	-	-
W ₀ (mW)	-	(a)	CW W01x1:13.8	-	CW W0:13.8	CW W0:13.8
min of [W ₃ (z ₁), I _{PA,3} (z ₁)]	(mW)	-	-	9.39	-	-
z ₁ (cm)	-	-	-	0.900	-	-
Z _{bp} (cm)	-	-	-	0.838	-	-
Z _{sp} (cm)	1.00	-	-	-	1.00	-
d _{eq} (z) (cm)	-	-	-	-	0.215	-
fc (MHz)	6.16	(a)	6.16	6.16	6.16	6.16
Dim. of A _{aprt}	X (cm)	(a)	0.350	0.350	0.350	0.350
	Y (cm)	(a)	0.700	0.700	0.700	0.700
PD (μsec)	CW	-	-	-	-	-
PRF (Hz)	CW	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	0.104	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.215	-
Focal Length	FLx (cm)	(a)	2.00	2.00	-	2.00
	FLy (cm)	(a)	2.00	2.00	-	2.00
I _{PA,3} @MI _{max} (W/cm ²)	0.248	-	-	-	-	-
Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as

Control 1: CW Mode, CW: 6.2MHz, Focus: 2.0cm, Data No: 123785348-947719

DP2B

DP2B: CW mode

Index Label	MI	TIS			TIB	TIC
		Scan	Non-scan		Non-scan	
			Aaprt≤1	Aaprt>1		
Maximum index value	0.0436	(a)	0.549	0.450**	1.38	1.56
P _{r3} (MPa)	0.0604	-	-	-	-	-
W ₀ (mW)	-	(a)	CW W01x1:59.9	-	CW W0:59.9	CW W0:59.9
min of [W ₃ (z ₁), I _{PA3} (z ₁)] (mW)	-	-	-	49.1	-	-
z ₁ (cm)	-	-	-	1.50	-	-
Z _{bp} (cm)	-	-	-	1.44	-	-
Z _{sp} (cm)	3.20	-	-	-	3.20	-
d _{eq} (z) (cm)	-	-	-	-	0.544	-
fc (MHz)	1.92	(a)	1.92	1.92	1.92	1.92
Dim. of A _{aprt}	X (cm)	(a)	1.36	1.36	1.36	1.36
	Y (cm)	(a)	0.680	0.680	0.680	0.680
PD (μsec)	CW	-	-	-	-	-
PRF (Hz)	CW	-	-	-	-	-
P _r @P _{II} _{max} (MPa)	0.0770	-	-	-	-	-
d _{eq} @P _{II} _{max} (cm)	-	-	-	-	0.544	-
Focal Length	FLx (cm)	(a)	6.00	6.00	-	6.00
	FLy (cm)	(a)	6.00	6.00	-	6.00
I _{PA3} @MI _{max} (W/cm²)	0.121	-	-	-	-	-
Control 1	MI		TIS_as_U	TIS_bs	TIB_bs	TIC_as

Control 1: CW Mode, CW: 1.9MHz, Focus: 6.0cm, Data No: 271058315-627080

Patient-Applied Part Temperature Table

Transducer	Surface Temperature In-Air (°C)	Surface Temperature Simulated-Use (°C)
L4-7	44.6	41.1
LS-13IS	43.2	<41
LS-13/50	42.4	41.4
L7-16IS	45.2	41.2
LS6-15	41.1	42.7
C2-6IC	43.7	41.6
C5-8	44.7	<41
CF4-9	44.7	<41
EC4-9IS	42.8	42.1
SC1-6	47.2	41.5
VR5-9	43.1	42.6
P2-4BA	45.1	<41
V2-6	44.3	<41
V4-8	41.4	<41
V5-9	43.8	41.6
CW2.0	<41	<41
CW4.0	47.8	<41
CW6.0	<41	<41
CA2-8A	43.9	41.5
LA3-16A	45	41.5
CA1-7A	46.8	41.5
CV1-8A	46.4	<41
DP2B	<41	<41
LA3-14A	43.5	41.4
LA5-18B	43	<41
EA2-11B	43.1	<41