

163.3 T7.5 ANT 2# 40.45 5AR Sensor Rear View T7.5

ANNEX I Dynamic antenna switching test considerations

Antenna	Trigger Position	Trigger Distance(mm)
	Rear	16
l# Main Antenna	Bottom	16
Main Mitcinia	Front	11

Note: According to customer requirements, Front edge is tested with normal power of 10mm.



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According to the above description, this device was tested by the manufacturer to determine the SAR sensor triggering distances for the rear and bottom edge of the device. The measured power state within \pm 5mm of the triggering points (or until touching the phantom) is included for rear and each applicable edge.

To ensure all production units are compliant it is necessary to test SAR at a distance 1mm less than the smallest distance from the device and SAR phantom with the device at maximum output power without power reduction.

We tested the power and got the different proximity sensor triggering distances for rear and bottom edge. But the manufacturer has declared 16mm is the most conservative triggering distance for main antenna. So base on the most conservative triggering distance of 16mm, additional SAR measurements were required at 15mm from the highest SAR position between rear and bottom edge of main antenna.

Rear

Moving device toward the phantom:

The power state											
Distance [mm] 21 20 19 18 17 16 15 14 13 12 11								11			
Main antenna	Normal	Normal	Normal	Normal	Normal	Low	Low	Low	Low	Low	Low

Moving device away from the phantom:

The power state											
Distance [mm]	11	12	13	14	15	16	17	18	19	20	21
Main antenna	Low	Low	Low	Low	Low	Low	Normal	Normal	Normal	Normal	Normal

Bottom Edge

Moving device toward the phantom:

The power state											
Distance [mm]	21	20	19	18	17	16	15	14	13	12	11
Main antenna	Low										

Moving device away from the phantom:

The power state											
Distance [mm]	11	12	13	14	15	16	17	18	19	20	21
Main antenna	Low										

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The influence of table tilt angles to proximity sensor triggering is determined by positioning each edge that contains a transmitting antenna, perpendicular to the flat phantom, at the smallest sensor triggering test distance by rotating the device around the edge next to the phantom in $\leq 10^{\circ}$ increments until the tablet is ±45° or more from the vertical position at 0°.



The bottom edge evaluation for main antenna

Based on the above evaluation, we come to the conclusion that the sensor triggering is not released and normal maximum output power is not restored within the $\pm 45^{\circ}$ range at the smallest sensor triggering test distance declared by manufacturer.



ANNEX J SPOT CHECK

J.1 Dielectric Performance and System Validation

Frequency(MHz)	Liquid Type	Conductivity(o)	± 5% Range	Permittivity(ε)	± 5% Range				
1750	Body	1.49	1.42~1.56	53.4	50.7~56.1				
2450	Head	1.80	1.71~1.89	39.2	37.2~41.2				

Table J.1-1: Targets for tissue simulating liquid

Table J.1-2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Туре	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2019-9-3	Body	1750 MHz	53.32	-0.15	1.49	0.00
2019-9-3	Head	2450 MHz	38.58	-1.58	1.8	0.00

Table J.1-3: System Validation of Head

Measurement		Target value (W/kç		Measured value(W/kg)		Deviation	
Date	Frequency	10 g	1 g	10 g	1 g	10 g	1 g
(yyyy-mm-dd)		Average	Average	Average	Average	Average	Average
2019-9-3	2450 MHz	24.2	51.6	23.96	50.88	-0.99%	-1.40%

Table J.1-4: System Verification of Body

Measurement		Target val	ue (W/kg)	Measured	value (W/kg)	Devia	ation
Date	Frequency	10 g	1 g	10 g	1 g	10 g	1 g
(yyyy-mm-dd)		Average	Average	Average	Average	Average	Average
2019-9-3	1750 MHz	19.5	36.8	19.6	36.76	0.51%	-0.11%



J.2 SAR test result for spot check

Test Band	Channel	Frequency	Tune-Up	Measured Power	Test Position	Measured 10g SAR	Measured 1g SAR	Reported 10g SAR	Reported 1g SAR	Power Drift	Figure
LTE1700-FDD66	132322	1745	24	23.49	Bottom	0.58	1	0.65	1.12	-0.09	<u>Fig J.1</u>
WLAN2450	11	2462	16	15.3	Left Tilt	0.235	0.586	0.28	0.69	0.04	<u>Fig J.2</u>

J.3 Reported SAR Comparison

Exposure	Technology	Highest Reported	Highest Reported	Equipment
Configuration	Band	original	spot check	Class
	GSM850	0.26		
	GSM1900	0.11		
	WCDMA1900	0.22		
	WCDMA1700	0.15		
Llood	WCDMA 850	0.24		
Head	LTE Band2	0.19		DOF
(Separation	LTE Band5	0.17		PCE
Distance	LTE Band7	0.23		
0mm)	LTE Band12	0.13		
	LTE Band13	0.10		
	LTE Band41	0.13		
	LTE Band66	0.08		
	WLAN 2.4 GHz	0.45	0.69	DTS
	GSM850	0.40		
	GSM1900	0.18		
	WCDMA1900	0.22		
	WCDMA1700	0.60		
Listenst	WCDMA 850	0.12		
Hotspot	LTE Band2	0.36		505
(Separation	LTE Band5	0.27		PCE
Distance	LTE Band7	0.36		
10mm/15mm)	LTE Band12	0.11		
	LTE Band13	0.23		
-	LTE Band41	0.22		
	LTE Band66	1.43	1.12	
	WLAN 2.4 GHz	0.18		DTS

Table 3.1-1: Highest Reported SAR (1g)

Note: The spot check results marked blue are larger than the original result.

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J.4 MAIN TEST INSTRUMENTS

	Table J.4-1: List of Main Instruments									
No.	Name	Туре	Serial Number	Calibration Date	Valid Period					
01	Network analyzer	N5239A	MY46110673	January 24, 2019	One year					
02	Power meter	NRVD	102083	October 24, 2018	One year					
03	Power sensor	NRV-Z5	100542	October 24, 2018	One year					
04	Signal Generator	E4438C	MY49070393	January 4, 2019	One Year					
05	Amplifier	60S1G4	0331848	No Calibration R	equested					
06	Directional Coupler	778D	MY48220584	No Calibration R	equested					
07	Directional Coupler	772D	MY46151265	No Calibration R	equested					
08	BTS	E5515C	MY50263375	January 17, 2019	One year					
09	BTS	CMW500	159890	January 3, 2019	One year					
10	E-field Probe	SPEAG EX3DV4	3617	January 31, 2019	One year					
11	DAE	SPEAG DAE4	771	January 11, 2019	One year					
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 16, 2019	One year					
13	Dipole Validation Kit	SPEAG D2450V2	853	July 17, 2019	One year					

END OF REPORT BODY

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J.5 GRAPH RESULTS

LTE1700-FDD66_CH132322 Bottom

Date: 9/23/2019 Electronics: DAE4 Sn771 Medium: body 1750 MHz Medium parameters used: f =1745 ; σ = 1.486 mho/m; ϵ r = ; ρ = 1000 kg/m³ Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C Communication System: LTE1700-FDD66 Duty Cycle: 1:1.58 Probe: EX3DV4 – SN3617 ConvF(8.03,8.03,8.03)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 1.41 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 27.53 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 1.67 W/kg SAR(1 g) = 1 W/kg; SAR(10 g) = 0.58 W/kg Maximum value of SAR (measured) = 1.43 W/kg







WLAN2450_CH11 Left Tilt

Date: 9/23/2019Electronics: DAE4 Sn771 Medium: head 2450 MHz Medium parameters used: f = 2462; $\sigma = 1.811$ mho/m; $\epsilon r = 38.57$; $\rho = 1000$ kg/m³ Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C Communication System: WLAN2450 2462 Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(7.62,7.62,7.62)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Maximum value of SAR (interpolated) = 0.845 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 9.225 V/m; Power Drift = 0.04 dB Peak SAR (extrapolated) = 1.54 W/kg SAR(1 g) = 0.586 W/kg; SAR(10 g) = 0.235 W/kg Maximum value of SAR (measured) = 1.03 W/kg



Fig J.2



J.6 ANNEX SYSTEM VALIDATION RESULTS

2450 MHz

Date: 2019-9-23 Electronics: DAE4 Sn771 Medium: Head 2450 MHz Medium parameters used: f = 2450 MHz; σ =1.38 mho/m; ϵ_r = 40.1; ρ = 1000 kg/m³ Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(7.62,7.62,7.62)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000
mm
Reference Value = 114.92 V/m; Power Drift = -0.05
Fast SAR: SAR(1 g) = 12.67 W/kg; SAR(10 g) = 6.02 W/kg
Maximum value of SAR (interpolated) = 22.28 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value =114.92 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 25.44 W/kg SAR(1 g) = 12.72 W/kg; SAR(10 g) = 5.99 W/kg Maximum value of SAR (measured) = 21.54 W/kg



0 dB = 21.54 W/kg = 13.33 dB W/kg

Fig.B.1 validation 2450 MHz 250mW



1750 MHz

Date: 2019-9-23 Electronics: DAE4 Sn771 Medium: Body 1750 MHz Medium parameters used: f = 1750 MHz; $\sigma = 1.49$ mho/m; $\varepsilon_r = 53.32$; $\rho = 1000$ kg/m³ Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1 Probe: EX3DV4 – SN3617 ConvF(8.03,8.03,8.03)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm Reference Value = 100.91 V/m; Power Drift = -0.09

Fast SAR: SAR(1 g) = 9.16 W/kg; SAR(10 g) = 4.87 W/kg Maximum value of SAR (interpolated) = 15.39 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value =100.91 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 16.31 W/kg SAR(1 g) = 9.19 W/kg; SAR(10 g) = 4.9 W/kg

Maximum value of SAR (measured) = 13.41 W/kg









The SAR system verification must be required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR.

Date	Band	Position	Area scan (1g)	Zoom scan (1g)	Drift (%)
2019-9-13	2450	Head	9.16	9.19	-0.33
2019-9-13	1750	Body	12.67	12.72	-0.39

Table B.1 Comparison between area scan and zoom scan for system verification



ANNEX K Probe Calibration Certificate

Probe 3617 Calibration Certificate Probe 3617 Calibration Certificate

Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland



Schweizerischer Kalibrierdienst S Service suisse d'étalonnage С Servizio svizzero di taratura S

Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

CTTL (Auden) Client

Certificate No: EX3-3617_Jan19

CALIBRATION	CERTIFICATE								
Object	EX3DV4 - SN:361	7							
Calibration procedure(s) QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes									
Calibration date:	January 31, 2019	January 31, 2019							
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%. Calibration Equipment used (M&TE critical for calibration)									
Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration						
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19						
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19						
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19						
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02682)	Apr-19						
DAE4	SN: 660	19-Dec-18 (No. DAE4-660 Dec18)	Dec-19						
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013 Dec18)	Dec-19						
Secondary Standards	ID	Check Date (in house)	Scheduled Check						
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20						
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20						
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20						
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20						
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19						
Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature						
Approved by:	Katja Pokovic	Technical Manager	pol the						
Issued: February 2, 2019 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.									

Certificate No: EX3-3617_Jan19

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Schweizerischer Kalibrierdienst S

- Service suisse d'étalonnage С
- Servizio svizzero di taratura S
- Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Glossary:

5	
TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx.v.z
DCP	diode compression point
CF	crest factor (1/duty_cvcle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization &	9 rotation around an axis that is in the plane normal to probe axis (at measurement center).
	i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement
- Techniques", June 2013 IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from handb) held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010 d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 9 = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx, y, z * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

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EX3DV4 - SN:3617

January 31, 2019

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3617

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)	
Norm (μV/(V/m) ²) ^A	0.35	0.21 0.32		± 10.1 %	
DCP (mV) ^B	102.9	95.7	101.9		

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	151.4	± 3.0 %	±4.7 %
		Y	0.00	0.00	1.00		154.7	1	
		Z	0.00	0.00	1.00		150.4	1	
10352-	Pulse Waveform (200Hz, 10%)	Х	5.31	73.42	14.63	10.00	60.0	± 2.6 %	± 9.6 %
AAA		Y	2.86	65.84	11.90		60.0	1	
		Z	15.00	87.67	20.10		60.0	1	
10353-	Pulse Waveform (200Hz, 20%)	X	10.57	81.97	16.23	6.99	80.0	± 1.7 %	± 9.6 %
AAA	50 O2	Y	2.03	65.40	10.27]	80.0	1	
		Z	15.00	89.79	19.80		80.0	1	
10354-	Pulse Waveform (200Hz, 40%)	Х	15.00	86.62	16.29	3.98	95.0	± 1.1 %	± 9.6 %
AAA		Y	0.82	61.50	6.58]	95.0	1	
		Z	15.00	97.47	22.01		95.0	1	
10355-	Pulse Waveform (200Hz, 60%)	X	15.00	89.99	16.64	2.22	120.0	± 1.2 %	± 9.6 %
AAA		Y	0.40	60.00	3.98]	120.0	1	
		Z	15.00	114.21	28.32]	120.0	1	
10387-	QPSK Waveform, 1 MHz	X	0.65	62.36	8.93	0.00	150.0	± 3.9 %	± 9.6 %
AAA		Y	0.45	60.00	5.43		150.0		
		Z	0.90	65.62	10.92		150.0		
10388-	QPSK Waveform, 10 MHz	X	2.42	70.53	17.16	0.00	150.0	± 1.8 %	± 9.6 %
AAA		Y	1.99	67.57	15.24		150.0		
		Z	2.71	72.39	18.22		150.0		
10396-	64-QAM Waveform, 100 kHz	X	3.78	75.33	20.79	3.01	150.0	± 0.7 %	± 9.6 %
AAA		Y	3.23	71.01	18.81		150.0		
		Z	3.71	74.94	20.97		150.0		
10399-	64-QAM Waveform, 40 MHz	X	3.58	68.11	16.37	0.00	150.0	±4.0 %	± 9.6 %
AAA		Y	3.32	66.75	15.59		150.0		
		Z	3.71	68.68	16.83		150.0		
10414-	WLAN CCDF, 64-QAM, 40MHz	Х	4.84	66.21	15.87	0.00	150.0	± 6.7 %	± 9.6 %
AAA		Y	4.48	64.72	15.19		150.0		
		Z	4.93	66.43	16.14		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

⁶ Numerical linearization parameter: uncertainty not required.
 ⁶ Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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EX3DV4- SN:3617

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3617

Sensor Model Parameters

	C1 fF	C2 fF	α V ⁻¹	T1 ms.V ⁻²	T2 ms.V ⁻¹	T3 ms	T4 V ⁻²	T5 V ⁻¹	Т6
Х	38.8	281.02	33.92	10.58	0.71	4.99	1.88	0.20	1.01
Y	39.2	310.65	39.54	8.92	1.27	5.05	0.00	0.75	1.01
Z	40.7	300.62	35.22	10.39	0.59	5.05	1.28	0.33	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	14.6
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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EX3DV4- SN:3617

January 31, 2019

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3617

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
64	54.2	0.75	12.45	12.45	12.45	0.00	1.00	± 13.3 %
150	52.3	0.76	11.88	11.88	11.88	0.00	1.00	± 13.3 %
300	45.3	0.87	11.40	11.40	11.40	0.08	1.20	± 13.3 %
450	43.5	0.87	10.54	10.54	10.54	0.14	1.40	± 13.3 %
750	41.9	0.89	10.03	10.03	10.03	0.63	0.84	± 12.0 %
835	41.5	0.90	9.75	9.75	9.75	0.39	0.95	± 12.0 %
900	41.5	0.97	9.66	9.66	9.66	0.47	0.85	± 12.0 %
1450	40.5	1.20	8.68	8.68	8.68	0.37	0.80	± 12.0 %
1640	40.2	1.31	8.48	8.48	8.48	0.38	0.80	± 12.0 %
1750	40.1	1.37	8.38	8.38	8.38	0.36	0.82	± 12.0 %
1810	40.0	1.40	8.11	8.11	8.11	0.32	0.84	± 12.0 %
1900	40.0	1.40	8.14	8.14	8.14	0.32	0.85	± 12.0 %
2000	40.0	1.40	8.13	8.13	8.13	0.28	0.84	± 12.0 %
2100	39.8	1.49	8.30	8.30	8.30	0.37	0.85	± 12.0 %
2300	39.5	1.67	7.74	7.74	7.74	0.32	0.84	± 12.0 %
2450	39.2	1.80	7.62	7.62	7.62	0.31	0.95	± 12.0 %
2600	39.0	1.96	7.19	7.19	7.19	0.43	0.85	± 12.0 %
3300	38.2	2.71	6.98	6.98	6.98	0.25	1.20	± 13.1 %
3500	37.9	2.91	6.97	6.97	6.97	0.50	1.20	± 13.1 %
3700	37.7	3.12	6.89	6.89	6.89	0.20	1.20	± 13.1 %
3900	37.5	3.32	6.88	6.88	6.88	0.20	1.20	± 13.1 %
4600	36.7	4.04	6.84	6.84	6.84	0.20	1.50	± 13.1 %
4950	36.3	4.40	5.60	5.60	5.60	0.40	1.80	± 13.1 %
5200	36.0	4.66	5.50	5.50	5.50	0.40	1.80	± 13.1 %
5250	35.9	4.71	5.39	5.39	5.39	0.40	1.80	± 13.1 %
5300	35.9	4.76	5.25	5.25	5.25	0.40	1.80	± 13.1 %
5500	35.6	4.96	5.18	5.18	5.18	0.40	1.80	± 13.1 %
5600	35.5	5.07	5.06	5.06	5.06	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.07	5.07	5.07	0.40	1.80	± 13.1 %
5800	35.3	5.27	5.04	5.04	5.04	0.40	1.80	± 13.1 %

^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.
^F At frequencies below 3 GHz, the validity of tissue parameters (ɛ and ơ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ɛ and ơ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

diameter from the boundary

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