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PART 0 SAR CHAR REPORT

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Date of Testing:
02/07/24 - 03/15/24
Test Site/Location:
Element Washington DC LLC,
Columbia, MD, USA
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FCC ID:	**C3K2085**
APPLICANT:	**MICROSOFT CORPORATION**

Report Type: Part 0 SAR Characterization
DUT Type: Portable Computing Device
Model(s): 2085

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Test results reported herein relate only to the item(s) tested.

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RJ Ortanez
Executive Vice President

ilac-MRA
ACCREDITED
CERT #2041.01

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1 DEVICE UNDER TEST

1.1 Device Overview

This device uses the Qualcomm® FastConnect feature to control and manage transmitting power in real time and to ensure the time-averaged RF exposure is in compliance with the FCC requirement at all times for WLAN operations. Additionally, this device supports BT/NFC technologies, but the output power of these modems is not controlled by the FastConnect algorithm.

Band & Mode	Operating Modes	Tx Frequency
2.4 GHz WIFI	Data	2412 - 2472 MHz
5 GHz WIFI	Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz
6 GHz WIFI	Data	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6855 MHz U-NII-8: 6875 - 7115 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz

1.2 Time-Averaging for SAR

This device is enabled with Qualcomm® FastConnect algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from WLAN is in compliance with FCC requirements. This Part 0 report shows SAR characterization of WLAN radios. Characterization is achieved by determining P_{Limit} for WLAN that corresponds to the exposure design targets after accounting for all device design related uncertainties, i.e., SAR_design_target (< FCC SAR limit). The SAR characterization is denoted as SAR Char in this report. Section 1.3 includes a nomenclature of the specific terms used in this report.

The compliance test under the static transmission scenario and simultaneous transmission analysis are reported in Part 1 report. The validation of the time-averaging algorithm and compliance under the dynamic (time- varying) transmission scenario for WLAN technologies are reported in Part 2 report (report SN could be found in Section 1.4 – Bibliography).

1.3 Nomenclature for Part 0 Report

Technology	Term	Description
WLAN	P_{Limit}	Power level that corresponds to the exposure design target (*SAR_design_target)* after accounting for all device design related uncertainties
	P_{Max}	Maximum tune up output power
	SAR_design_target	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	SAR Char	Table containing *Plimit* for all technologies and bands

1.4 Bibliography

Report Type	Report Serial Number
SAR Evaluation Report (Part 1)	1M2311170118-01.C3K
RF Exposure Part 2 Test Report	1M2311170118-22.C3K
RF Exposure Compliance Summary Report	1M2311170118-02.C3K

2 SAR MEASUREMENTS

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ	=	conductivity of the tissue-simulating material (S/m)
ρ	=	mass density of the tissue-simulating material (kg/m^3)
E	=	Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

2.2 SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 2-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.

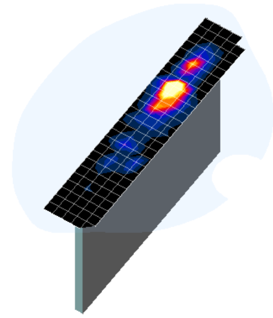

Figure 2-1
Sample SAR Area Scan

3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 2-1) and IEEE 1528-2013. On the basis

of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 2-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 2-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

3 SAR CHARACTERIZATION

3.1 DSI and SAR Determination

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

When 1g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g SAR limit.

The device state index (DSI) conditions used in Table 3-1 represent different exposure scenarios.

Table 3-1
DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
No Motion and/or Laptop mode (DSI=0)	▪ Device transmits in laptop mode when keyboard accessory is attached and at an angle ≤210° or no motion is detected	*Laptop SAR per KDB Publication 616217 D04v01r02*
Motion and Tablet Mode (DSI=1)	▪ Device transmits in tablet when motion is detected and no keyboard accessory is attached or keyboard accessory is attached at >210° angle	*Tablet SAR per KDB Publication 648474 D04v01r03*

3.2 SAR Design Target

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer (see Table 3-2).

Table 3-2
***SAR_design_target* Calculations**

SAR_design_target	
$SAR\_design\_target < SAR\_regulatory\_limit \times 10^{\frac{-Total\ Uncertainty}{10}}$	
1g SAR (W/kg)	
Total Uncertainty	1.0 dB
SAR_regulatory_limit	1.6 W/kg
SAR_design_target	1.0 W/kg

3.3 SAR Char

SAR test results corresponding to P_{Max} for each antenna/technology/band/DSI can be found in the SAR Part 1 Evaluation Report (report SN could be found in Section 1.4 – Bibliography).

.

P_{Limit} is calculated by linearly scaling with the measured SAR at the P_{part0} to correspond to the *SAR_design_target*. When $P_{Limit} < P_{Max}$, P_{part0} was used as P_{Limit} in the Smart Transmit EFS. When $P_{Limit} > P_{Max}$ and $P_{part0} = P_{Max}$, calculated P_{Limit} was used in the Smart Transmit EFS. All reported SAR obtained from the P_{part0} SAR tests was less than *SAR_Design_target*+ 1 dB Uncertainty. The final P_{Limit} determination for each exposure scenario corresponding to *SAR_design_target* are shown in Table 3-3.

Table 3-3
P_{Limit} Determination

Device State Index (DSI)	P_{Limit} Determination Scenarios
0	P_{Limit} is calculated based on 1g Body Laptop SAR at 0 mm for bottom edge with keyboard accessory attached and 1g Tablet SAR when no motion is detected for back, top, right, and left edges at 25mm
1	P_{Limit} is calculated based on 1g Body Tablet SAR at 0 mm for back, top, bottom, right, and left surfaces with and without keyboard accessory.

Table 3-4
SAR Characterizations

Exposure Scenario			Maximum Tune-Up Output Power*	Laptop or Tablet	Tablet
Averaging Volume				1g	1g
Spacing				0 mm, 25 mm	0 mm
DSI				0	1
Technology/Band	Antenna	Antenna Group	Pmax		
2.4 GHz WIFI	R	AG0	20.0	33.1	18.00
2.4 GHz WIFI	L	AG1	20.0	31.6	16.50
5 GHz WIFI	R	AG0	19.5	24.5	15.50
5 GHz WIFI	L	AG1	19.5	25.3	17.75
6 GHz WIFI	R	AG0	19.0	26.1	14.25
6 GHz WIFI	L	AG1	19.0	27.1	13.75

Notes:

1. When $P_{Max} < P_{Limit,}$ the DUT will operate at a power level up to P_{Max}.
2. MIMO is not included in SAR CHAR due to the two antennas being in separate Antenna Groups.

4 EQUIPMENT LIST

Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
E4438C	ESG Vector Signal Generator	11/14/2023	Annual	11/14/2024	MY45093852
E4438C	ESG Vector Signal Generator	11/15/2023	Annual	11/15/2024	MY45092078
N5182A	MXG Vector Signal Generator	10/12/2023	Annual	10/12/2024	MY47400015
N5182A	MXG Vector Signal Generator	7/4/2023	Annual	7/4/2024	MY48180366
8753ES	S-Parameter Vector Network Analyzer	1/10/2024	Annual	1/10/2025	MY40001472
E5515C	Wireless Communications Test Set	CBT	N/A	CBT	US41140256
E5515C	Wireless Communications Test Set	1/10/2024	Annual	1/10/2025	MY50262130
N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
15S1G6	Amplifier	CBT	N/A	CBT	433973
15S1G6	Amplifier	CBT	N/A	CBT	433974
150A100C	Amplifier	CBT	N/A	CBT	350132
MN8110B	I/O Adaptor	CBT	N/A	CBT	6261747881
ML2496A	Power Meter	6/15/2023	Annual	6/15/2024	1138001
ML2496A	Power Meter	4/4/2023	Annual	4/4/2024	1840005
MA2411B	Pulse Power Sensor	8/22/2023	Annual	8/22/2024	1726262
MA2411B	Pulse Power Sensor	11/8/2023	Annual	11/8/2024	1027293
MT8821C	Radio Communication Analyzer MT8821C	12/15/2023	Annual	12/15/2024	6200901190
MT8821C	Radio Communication Analyzer MT8821C	7/7/2023	Annual	7/7/2024	6262044715
MT8821C	Radio Communication Analyzer MT8821C	7/5/2023	Annual	7/5/2024	6262150000
MT8821C	Radio Communication Analyzer MT8821C	3/31/2023	Annual	3/31/2024	6201381794
MT8000A	Radio Communication Test Station	3/21/2023	Annual	3/31/2024	6261987983
MT8000A	Radio Communication Test Station	4/6/2023	Annual	4/6/2024	6272337439
MT8000A	Radio Communication Test Station	10/17/2023	Annual	10/17/2024	6262036828
MA24106A	USB Power Sensor	6/15/2023	Annual	6/15/2024	1827530
MA24106A	USB Power Sensor	12/4/2023	Annual	12/4/2024	1520501
4052	Long Stem Thermometer	10/16/2023	Biennial	10/16/2025	230703247
4052	Long Stem Thermometer	10/16/2023	Biennial	10/16/2025	230702935
4052	Long Stem Thermometer	2/17/2023	Biennial	2/17/2025	230111049
4040	Therm./ Clock/ Humidity Monitor	1/15/2024	Annual	1/15/2025	160574418
500-196-30	CD-6"ASX 6Inch Digital Caliper	2/16/2022	Triennial	2/16/2025	A20238413
N6705B	DC Power Analyzer	5/5/2021	Triennial	5/5/2024	MY53004059
N9020A	MXA Signal Analyzer	4/6/2023	Annual	4/6/2024	MY48010233
N9020A	MXA Signal Analyzer	4/26/2022	Biennial	4/26/2024	MY56470202
BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
VLF-6000+	Low Pass Filter DC to 6000 MHz	7/5/2023	Annual	7/5/2024	31634
BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
NC-100	Torque Wrench	CBT	N/A	CBT	22217
NC-100	Torque Wrench	CBT	N/A	CBT	1262
CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	120504
CMW500	Wideband Radio Communication Tester	1/10/2024	Annual	1/10/2025	131453
CMW500	Wideband Radio Communication Tester	7/4/2023	Annual	7/4/2024	166818
CMW500	Wideband Radio Communication Tester	7/17/2023	Annual	7/17/2024	171008
DAK-3.5	Dielectric Assessment Kit	11/13/2023	Annual	11/13/2024	1277
DAKS-3.5	Portable Dielectric Assessment Kit	8/14/2023	Annual	8/14/2024	1041
MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1331
MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1390
DAK-12	Dielectric Assessment Kit (4MHz - 3GHz)	11/13/2023	Annual	11/13/2024	1121
CLA-13	Confined Loop Antenna	9/12/2023	Annual	9/12/2024	1002
D2450V2	2450 MHz SAR Dipole	8/18/2021	Triennial	8/18/2024	719
D2450V2	2450 MHz SAR Dipole	11/25/2021	Triennial	11/25/2024	981
D5GHzV2	5 GHz SAR Dipole	2/21/2024	Annual	2/21/2025	1057
D5GHzV2	5 GHz SAR Dipole	1/17/2024	Annual	1/17/2025	1191
D6.5GHzV2	6.5 GHz SAR Dipole	1/10/2024	Annual	1/10/2025	1018
D6.5GHzV2	6.5 GHz SAR Dipole	1/10/2024	Annual	1/10/2025	1020
5G Verification Source 10GHz	10GHz System Verification Antenna	8/11/2023	Annual	8/11/2024	1004
5G Verification Source 10GHz	10GHz System Verification Antenna	3/5/2024	Annual	3/5/2025	1002
DAE4	Dasy Data Acquisition Electronics	6/15/2023	Annual	6/15/2024	1334
DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1530
DAE4	Dasy Data Acquisition Electronics	5/16/2023	Annual	5/16/2024	1678
DAE4	Dasy Data Acquisition Electronics	4/14/2023	Annual	4/14/2024	1368
DAE4	Dasy Data Acquisition Electronics	1/9/2024	Annual	1/9/2025	1533
DAE4	Dasy Data Acquisition Electronics	11/15/2023	Annual	11/15/2024	1323
DAE4ip	Dasy Data Acquisition Electronics	10/18/2023	Annual	10/18/2024	1638
EX3DV4	SAR Probe	5/9/2023	Annual	5/9/2024	7660
EX3DV4	SAR Probe	1/17/2024	Annual	1/17/2025	7713
EX3DV4	SAR Probe	11/14/2023	Annual	11/14/2024	7551
EX3DV4	SAR Probe	7/7/2023	Annual	7/7/2024	7410
EX3DV4	SAR Probe	4/18/2023	Annual	4/18/2024	7718
EX3DV4	SAR Probe	1/11/2024	Annual	1/11/2025	7803
EX3DV4	SAR Probe	6/15/2023	Annual	6/15/2024	7409
EUmmWV4	EUmmWV4 Probe	2/2/2024	Annual	2/2/2025	9622

Note:

1. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. Each equipment item was used solely within its respective calibration period.

5 MEASUREMENT UNCERTAINTIES

For SAR Measurements

Applicable for SAR measurements < 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

Applicable for SAR measurements > 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	9.3	N	1	1	1	9.3	9.3	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				13.8	13.6	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				27.6	27.1	

The above measurement uncertainties are according to IEEE Std. 1528-2013