RF Exposure report

The following samples were submitted and identified on behalf of the client as:

Product Name	SCT02
Brand Name	Withings
Model No.	SCT02
Applicant	Withings 2 rue Maurice Hartmann, 92130 Issy-les-Moulineaux, FRANCE
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013
FCC ID	XNASCT02
Contains FCC ID	2AAGMGM02SA
Date of EUT Receipt	May 08, 2024
Date of Test(s)	May 23, 2024 ~ May 26, 2024
Date of Issue	Jun. 26, 2024

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Ltd. Central RF Lab or testing done by SGS Taiwan Ltd. Central RF Lab in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Ltd. Central RF Lab in writing.

Signed on behalf of SGS

Clerk / Cindy Chou	PM / Tom Chiang	Approved By / John Yeh
Cindy Chou	Tom Chiang	John Yeh

Date: Jun. 26, 2024

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2404000226E5	00	Initial creation of document	Jun. 11, 2024	Cindy Chou	
TESA2404000226E5	01	Modify comment	Jun. 21, 2024	Cindy Chou	*
TESA2404000226E5	02	Modify comment	Jun. 24, 2024	Cindy Chou	*
TESA2404000226E5	03	Modify comment	Jun. 26, 2024	Cindy Chou	*

Note:

1. The mark " * " is the revised version of the report due to comments submitted by the certification.

Contents

1 GENERAL INFORMATION

1.1 Test Methodology

The SAR testing method and procedure for this device is in accordance with the following standards:
IEEE/ANSI C95.1-1992
IEEE 1528-2013
KDB447498D01v06
KDB865664D01v01r04
KDB865664D02v01r02
KDB941225D05v02r05
KDB248227D01v02r01

1.2 Description of EUT

Product Name	SCT02	
Brand Name	Withings	
Model No.	SCT02	
Mac address	a4:7e:fa:2e:68:18	
FCC ID	XNASCT02	
Contains FCC ID	2AAGMGM02SA	
Duty Cycle	CAT.M1 FDD	1
	WLAN802.11	Please refer to section 6
	Bluetooth	Please refer to section 6
Supported radios (TX Frequency Range, MHz)	CAT.M1 FDD Band 2	1850-1910
	CAT.M1 FDD Band 4	1710-1755
	CAT.M1 FDD Band 12	699-716
	CAT.M1 FDD Band 13	777-787
Supported radios (TX Frequency Range, MHz)	802.11 b/g/n/	2.4GHz (2400.0 – 2483.5 MHz)
	Bluetooth	2.4GHz (2400.0 – 2483.5 MHz)

1.3 Maximum value

Summary of Maximum SAR Value	
Mode	Highest SAR 1g (W/kg)
LTE Band 2	1.18
2.4G WLAN	0.17
Bluetooth(GPSK)	0.02

1.4 Antenna Information

WWAN

Vendor	SINBON			
Antenna	LTE Antenna			
Part Number	A9707184-D			
Frequency(MHz)	12	13	4	2
	699~716	777~787	1710~1755	1850~1910
Gain (dBi)	2.11	0.36	-0.70	-0.21

WLAN

Vendor	WITHINGS
Antenna	PCB Antenna
Part Number	BCM9Fractal
Frequency(MHz)	2412~2462
Gain (dBi)	2.80

BLE

Vendor	ethertronics
Antenna	Ceramic Antenna
Part Number	1001312
Frequency(MHz)	2402~2480
Gain (dBi)	1.88

Note: Antenna information is provided by the applicant.

2 MEASUREMENT SYSTEM

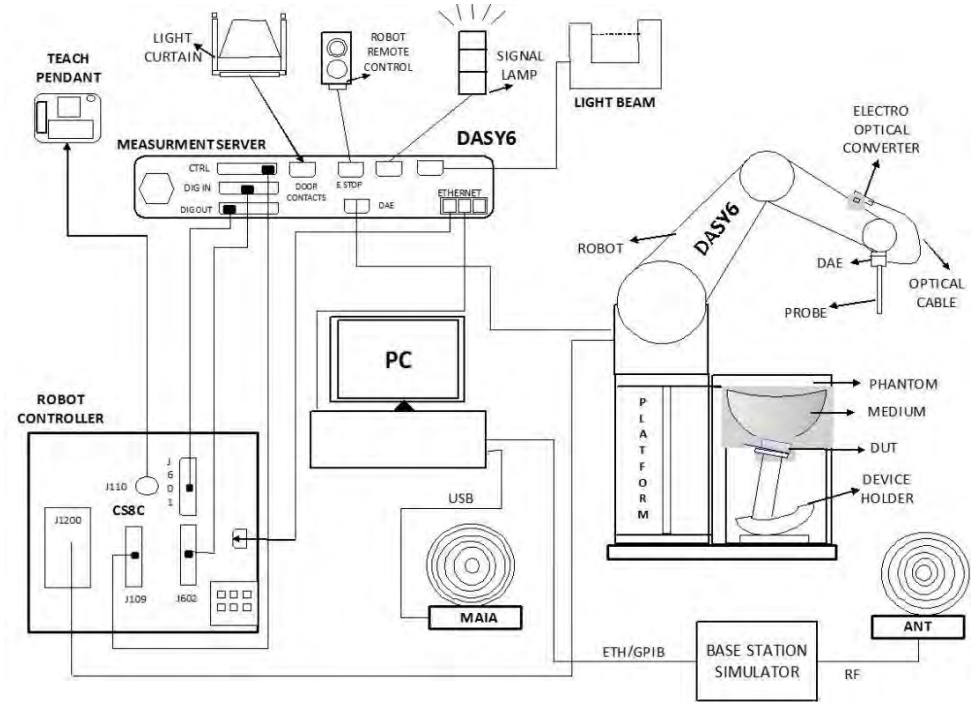
2.1 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	1F, No. 8, Alley 15, Lane 120, Sec. 1, NeiHu Road, Neihu District, Taipei City, 11493, Taiwan.	SAR 2	TW0029	TW3702
		SAR 6		
		SAR 8		
	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 33383, Taiwan	**SAR 1**	TW0028	
		SAR 4		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan	SAR 3	TW0027	
		SAR 7		
Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.				

2.2 SAR System

Block Diagram (DASY6)

The DASY system used for performing compliance tests consists of the following items:

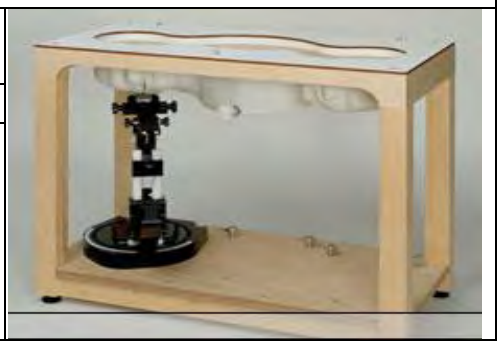


- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Windows 10 and the DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

EX3DV4 E-Field Probe

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 750/1750/1900/2450MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Tip diameter: 2.5 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

PHANTOM (SAM)

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.	
Shell Thickness	2 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Height: 850 mm; Length: 1000 mm; Width: 500 mm	

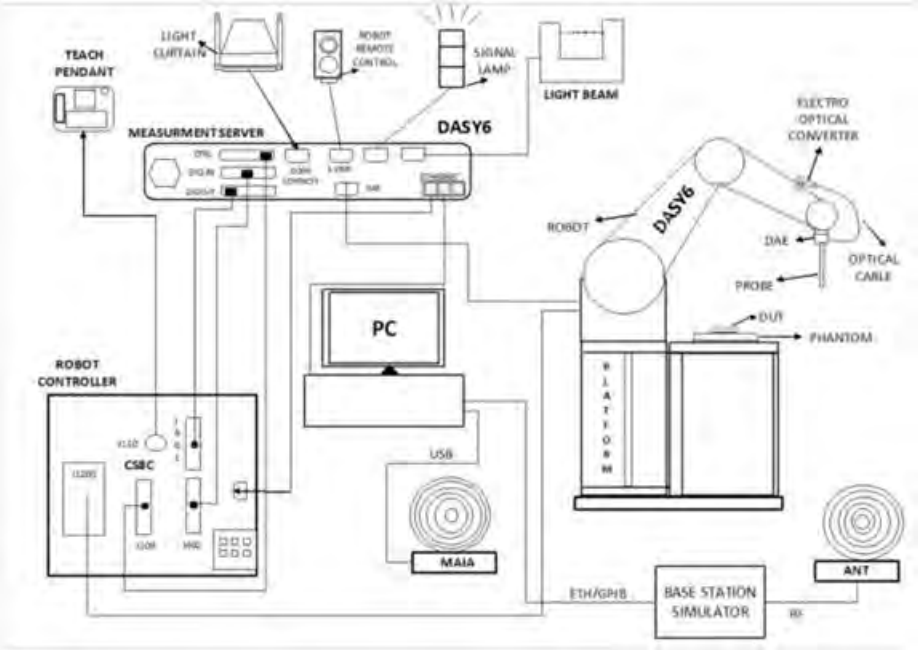
DEVICE HOLDER

Construction	In combination with the Twin SAM Phantom V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).	 Device Holder

2.3 PD system

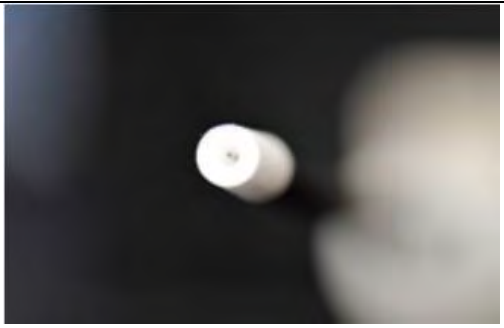
Block Diagram (DASY6)

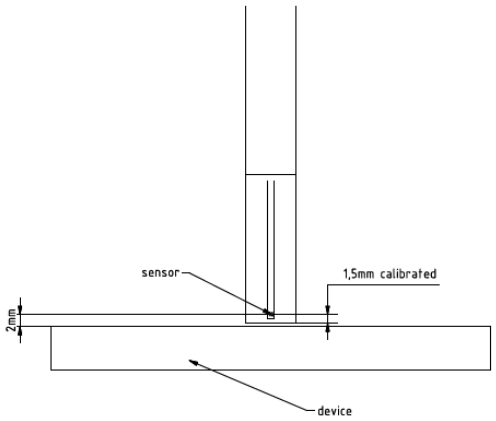
Power density measurements for mmWave frequencies were performed using SPEAG DASY6 with cDASY6 5G module. The DASY6 included a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the 5G phantom cover.



EUmmWVx probe

The EUmmWVx probe is based on the pseudo-vector probe design, which not only measures the field magnitude but also derives its polarization ellipse. The design entails two small 0.8mm dipole sensors mechanically protected by high-density foam, printed on both sides of a 0.9mm wide and 0.12mm thick glass substrate. The body of the probe is specifically constructed to minimize distortion by the scattered fields. The probe consist of two sensors with different angles (1 and 2) arranged in the same plane in the probe axis. Three or more measurements of the two sensors are taken for different probe rotational angles to derive the amplitude and polarization information. The probe design allows measurements at distances as small as 2mm from the sensors to the surface of the device under test (DUT). The typical sensor to probe tip distance is 1.5 mm. The exact distance is calibrated.

	Two dipoles optimally arranged to obtain pseudo-vector information.Minimum 3 measurements/ point, 120º rotated around probe axis. Sensors (0.8mm length) printed on glass substrate protected by high density foam.Low perturbation of the measured field. Requires positioner which can do accurate probe rotation.
Frequency Range	750 MHz – 110 GHz

Dynamic Range	< 20 V/m – 10,000 V/m with PRE-10 (min < 50 V/m - 3000 V/m)
Position Precision	< 0.2 mm (DASY6)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: encapsulation 8 mm (internal sensor < 1mm) Distance from probe tip to dipole centers: < 2 mm. Sensor displacement to probe's calibration point: < 0.3 mm
Applications	 E-field measurements of 5G devices and other mm-wave transmitters operating above 10GHz in < 2 mm distance from device (free-space).Power density, H-field and far-field analysis using total field reconstruction (cDASY6 5G module required)
Compatibility	cDASY6 + 5G-Module SW1.0 and higher

mmWave Phantom

The mmWave Phantom approximates free-space conditions, allowing for the evaluation of the antenna side of the device and the front (screen) side or any opposite-radiating side of wireless devices operating above 10 GHz without distorting the RF field. It consists of a 40mm thick Rohacell plate used as a test bed, which has a loss tangent ($\tan \delta$) $\leq$ 0.05 and a relative permittivity (ϵr) $\leq$ 1.2. High-performance RF absorbers are placed below the foam.

3 SAR SYSTEM VERIFICATION

3.1 Tissue Simulating Liquid

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with homogeneous tissue simulating liquid. For head SAR testing, the liquid height from the ear rint (ERP) of the phantom to the liquid top surface is larger than 15cm. For body SAR testing, the liquid height fromeference po the center of the flat phantom to the liquid top surface is larger than 15cm.

3.2 Tissue Simulant Liquid measurement

The dielectric properties for this Head-simulant fluid were measured by using the SPEAG Dielectric Assessment Kit (DAKS-3.5)
All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The measured conductivity and permittivity are all within ± 5% of the target values.

3.3 Measurement results of Tissue Simulant Liquid

Measured Frequency (MHz)	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	% dev εr	% dev σ	Limit	Measurement Date
704	42.15	0.89	43.094	0.909	2.25%	2.49%	± 5%	May. 24, 2024
707.5	42.13	0.89	43.073	0.910	2.25%	2.57%	± 5%	
711	42.11	0.89	43.057	0.911	2.25%	2.66%	± 5%	
750	41.90	0.89	42.855	0.914	2.28%	2.70%	± 5%	
782	41.75	0.89	42.688	0.918	2.25%	2.71%	± 5%	
1720	40.15	1.36	41.039	1.403	2.21%	3.16%	± 5%	May. 25, 2024
1732.5	40.13	1.36	41.019	1.411	2.22%	3.64%	± 5%	
1745	40.11	1.37	41.000	1.418	2.22%	3.61%	± 5%	
1750	40.10	1.37	40.992	1.421	2.22%	3.72%	± 5%	
1860	40.00	1.40	40.913	1.456	2.28%	4.00%	± 5%	
1880	40.00	1.40	40.913	1.457	2.28%	4.07%	± 5%	
1900	40.00	1.40	40.913	1.458	2.28%	4.14%	± 5%	
2402	39.29	1.76	40.145	1.835	2.18%	4.41%	± 5%	May. 26, 2024
2412	39.27	1.77	40.128	1.844	2.20%	4.40%	± 5%	
2437	39.22	1.79	40.083	1.866	2.19%	4.33%	± 5%	
2440	39.22	1.79	40.078	1.869	2.20%	4.35%	± 5%	
2450	39.20	1.80	40.060	1.878	2.19%	4.33%	± 5%	
2457	39.19	1.81	40.051	1.884	2.20%	4.23%	± 5%	
2462	39.18	1.81	40.045	1.889	2.20%	4.20%	± 5%	
2467	39.18	1.82	40.038	1.893	2.20%	4.12%	± 5%	
2472	39.17	1.82	40.032	1.898	2.20%	4.09%	± 5%	
2480	39.16	1.83	40.022	1.905	2.20%	3.98%	± 5%	

3.4 The composition of the tissue simulating liquid:

Simulating Liquids for 600 MHz -10 GHz, Manufactured by SPEAG:

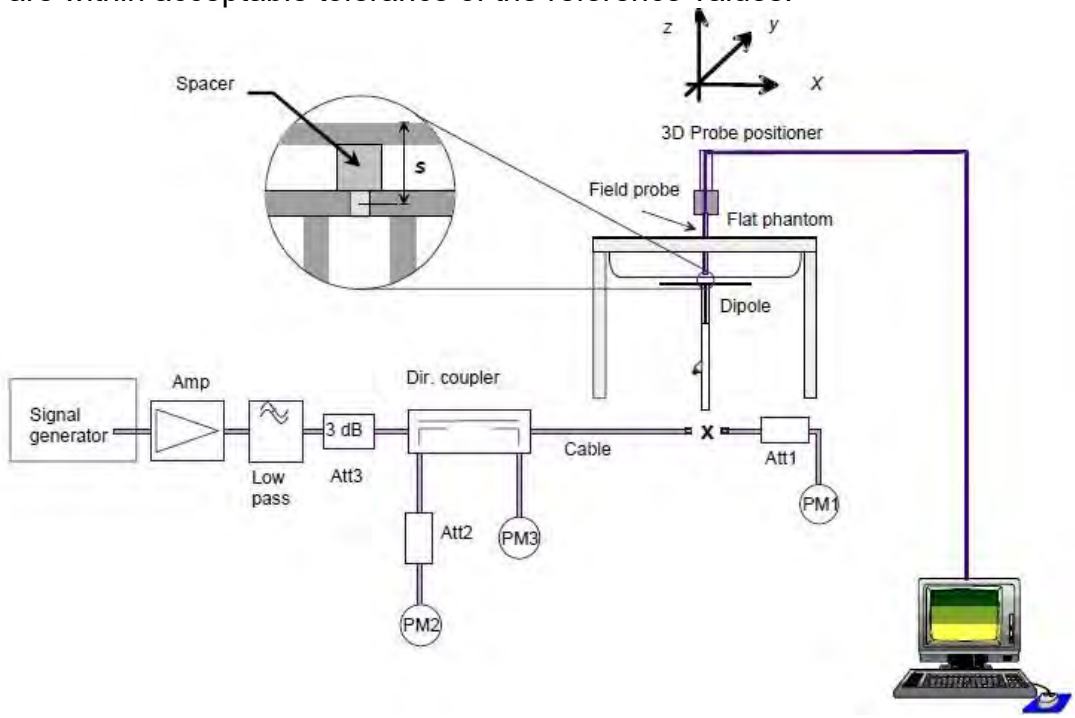
Broad-band head tissue simulating liquids	SPEAG Product	Frequency range (MHz)	Main Ingredients
	HBBL600-10000V6	600 - 10000	Water, Oil

3.5 System check

The microwave circuit arrangement for system check is sketched in below. The daily system accuracy verification occurs within the flat section of the SAM phantom and ELI phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values.

The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed with SAR values normalized to 1W forward power delivered to the dipole.

During the tests, the liquid depth from the center of the flat phantom to the liquid top surface was 15 cm above in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



The block diagram of system check

3.6 System check results

Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=250mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D750V3	1015	750	8.63	2.22	8.88	2.90	± 10%	May.24,2024
D1750V2	1008	1750	36.4	8.92	35.68	-1.98	± 10%	May.25,2024
D1900V2	5d056	1900	40.5	10.8	43.2	6.67	± 10%	May.25,2024
D2450V2	728	2450	53.4	13.2	52.8	-1.12	± 10%	May.26,2024

4 TEST CONFIGURATIONS

4.1 Test Environment

Ambient Temperature: 22±2° C
Tissue Simulating Liquid: 22±2° C

4.2 Test Note

- **General:** Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s).
- **General:** The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
- **General:** During the SAR testing, the DASY system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
- **General:** According to KDB447498D01v06, testing of other required channels is not required when the reported 1-g SAR for the highest output channel is ≤ 0.8 W/kg, when the transmission band is ≤ 100 MHz.
- **General:** According to KDB865664D01v01r04, SAR measurement variability must be assessed for each frequency band. When the original highest measured SAR is ≥ 0.8 W/kg, repeated that measurement once. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
- **LTE:** LTE modes test according to **KDB 941225D05v02r05.**

a. Per Section 5.2.1, the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation.

- Using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.
- When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

b. Per Section 5.2.2, the largest channel bandwidth and measure SAR for QPSK with 50% RB allocation

- The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

c. Per Section 5.2.3, the largest channel bandwidth and measure SAR for QPSK with 100% RB allocation

- For QPSK with 100% RB allocation, SAR is not required when the highest

maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg.

- Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

d. Per Section 5.2.4, Higher order modulations

- For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

e. Per Section 5.3, other channel bandwidth standalone SAR test requirements

- For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 5.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth.

- TDD LTE was tested at highest duty factor using UL-DL configuration 0 with 6 UL subframes and 2 special subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4.2, the duty factor for UL-DL configuration 0/special subframe configuration 6 using extended cyclic prefix is 0.633.

- **WLAN 2.4GHz:** 802.11b DSSS SAR Test Requirements: SAR is measured for 2.4 GHz 802.11b DSSS mode using the highest measured maximum output power channel, when the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest

measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

- **WLAN 2.4GHz:** 802.11g/n OFDM SAR Test Exclusion Requirements: SAR is not required for 802.11g/n since the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

4.3 Test position

Body SAR test position (0 mm)

All surfaces were tested with 0mm distance.

4.4 Test limit

§ 2.1093(d)(1)
Applications for equipment authorization of portable RF sources subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in § 1.1310 as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request. The SAR limits specified in § 1.1310(a) through (c) of this chapter shall be used for evaluation of portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1). A minimum separation distance applicable to the operating configurations and exposure conditions of the device shall be used for the evaluation. In general, maximum time-averaged power levels must be used for evaluation. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.
Radiofrequency radiation exposure limits.
§ 1.1310(a)
Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) within the frequency range of 100 kHz to 6 GHz (inclusive).
§ 1.1310(b)
The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.
§ 1.1310(c)
The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

Note to paragraphs (a) through (c):
SAR is a measure of the rate of energy absorption due to exposure to RF electromagnetic energy. These SAR limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized SAR in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE Std C95.1-1992, copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5, copyright 1986 by NCRP, Bethesda, Maryland 20814. Limits for whole body SAR and peak spatial-average SAR are based

on recommendations made in both of these documents. The MPE limits in Table 1 are based generally on criteria published by the NCRP in “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3, copyright 1986 by NCRP, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, these MPE exposure limits for field strength and power density are also generally based on criteria recommended by the ANSI in Section 4.1 of “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” ANSI/IEEE Std C95.1-1992, copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

Portable devices that transmit at frequencies above 6 GHz shall be evaluated in terms of the MPE limits specified in Table 1 to § 1.1310(e)(1).
According to ANSI/IEEE C95.1-1992, the criteria listed in the following Table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.
Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.
Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

5 MAXIMUM OUTPUT POWER

5.1 FDD CAT.M1

LTE Band 2_Cat.M1									
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1860	1880	1900		
Channel					18700	18900	19100		
20	QPSK	1	0	0	18.78	18.59	18.57	19.50	0
		1	5	0	18.90	18.58	18.52	19.50	0
		1	0	7	18.55	18.56	18.53	19.50	0
		1	5	7	18.74	18.80	18.55	19.50	0-1
		1	0	15	18.42	18.70	18.54	19.50	0-1
		1	5	15	18.51	18.51	18.56	19.50	0-1
		3	0	0	19.13	18.56	18.54	19.50	0-1
		3	3	15	18.92	18.52	18.70	19.50	0-1
		6	0	0	19.20	18.68	18.57	19.50	0-1
		6	0	15	18.80	18.72	18.61	19.50	0-1
	16-QAM	1	0	0	18.73	18.54	18.56	19.50	0-1
		1	5	0	18.73	18.64	18.48	19.50	0-1
		1	0	7	18.32	18.70	18.63	19.50	0-1
		1	5	7	18.54	18.51	18.38	19.50	0-2
		1	0	15	18.49	18.54	18.39	19.50	0-2
		1	5	15	18.58	18.50	18.46	19.50	0-2
		3	0	0	18.51	18.41	18.31	19.50	0-2
		3	3	15	18.45	18.42	18.38	19.50	0-2
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1857.5	1880	1902.5		
Channel					18675	18900	19125		
15	QPSK	1	0	0	18.74	18.70	18.52	19.50	0
		1	5	0	18.81	18.64	18.64	19.50	0
		1	0	5	18.63	18.57	18.47	19.50	0
		1	5	5	18.71	18.57	18.57	19.50	0-1
		1	0	11	18.80	18.76	18.57	19.50	0-1
		1	5	11	18.58	18.74	18.62	19.50	0-1
		3	0	0	18.74	18.66	18.65	19.50	0-1
		3	3	11	18.68	18.64	18.63	19.50	0-1
		6	0	0	18.65	18.51	18.60	19.50	0-1
		6	0	11	18.67	18.58	18.58	19.50	0-1
	16-QAM	1	0	0	18.73	18.67	18.48	19.50	0-1
		1	5	0	18.68	18.59	18.65	19.50	0-1
		1	0	5	18.71	18.73	18.54	19.50	0-1
		1	5	5	18.51	18.53	18.24	19.50	0-2
		1	0	11	18.56	18.54	18.36	19.50	0-2
		1	5	11	18.48	18.43	18.34	19.50	0-2
		3	0	0	18.45	18.41	18.30	19.50	0-2
		3	3	11	18.50	18.49	18.40	19.50	0-2

BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1855	1880	1905		
Channel					18650	18900	19150		
10	QPSK	1	0	0	18.68	18.70	18.55	19.50	0
		1	5	0	18.68	18.62	18.54	19.50	0
		1	0	3	18.77	18.62	18.57	19.50	0
		1	5	3	18.77	18.70	18.58	19.50	0-1
		1	0	7	18.80	18.63	18.47	19.50	0-1
		1	5	7	18.78	18.66	18.64	19.50	0-1
		4	0	0	18.76	18.63	18.55	19.50	0-1
		4	2	7	18.63	18.57	18.47	19.50	0-1
		6	0	0	18.73	18.73	18.46	19.50	0-1
		6	0	7	18.73	18.76	18.45	19.50	0-1
	16-QAM	1	0	0	18.78	18.67	18.61	19.50	0-1
		1	5	0	18.64	18.74	18.48	19.50	0-1
		1	0	3	18.59	18.64	18.63	19.50	0-1
		1	5	3	18.46	18.45	18.31	19.50	0-2
		1	0	7	18.52	18.42	18.35	19.50	0-2
		1	5	7	18.42	18.43	18.41	19.50	0-2
		4	2	0	18.44	18.58	18.45	19.50	0-2
		4	2	7	18.46	18.45	18.40	19.50	0-2

BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1852.5	1880	1907.5		
Channel					18625	18900	19175		
5	QPSK	1	0	0	18.72	18.55	18.57	19.50	0
		1	5	0	18.74	18.64	18.49	19.50	0
		1	0	1	18.70	18.69	18.58	19.50	0
		1	5	1	18.75	18.72	18.67	19.50	0
		1	0	3	18.69	18.54	18.63	19.50	0
		1	5	3	18.65	18.64	18.52	19.50	0
		3	0	0	18.68	18.64	18.45	19.50	0
		3	3	3	18.75	18.61	18.66	19.50	0
		6	0	0	18.70	18.58	18.46	19.50	0-1
		6	0	1	18.76	18.72	18.46	19.50	0-1
		6	0	3	18.73	18.75	18.52	19.50	0-1
	16-QAM	1	0	0	18.65	18.64	18.59	19.50	0
		1	5	0	18.60	18.64	18.42	19.50	0
		1	0	1	18.65	18.75	18.50	19.50	0
		1	5	1	18.67	18.76	18.55	19.50	0
		1	0	3	18.67	18.61	18.55	19.50	0
		1	5	3	18.74	18.70	18.60	19.50	0
		3	0	0	18.79	18.70	18.57	19.50	0
		3	3	3	18.67	18.61	18.56	19.50	0

LTE Band 4_Cat.M1									
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1720	1732.5	1745		
Channel					20050	20175	20300		
20	QPSK	1	0	0	20.30	20.31	20.08	21.00	0
		1	5	0	20.22	20.39	20.20	21.00	0
		1	0	7	20.06	20.29	20.04	21.00	0
		1	5	7	20.15	20.37	20.12	21.00	0-1
		1	0	15	20.22	20.12	20.09	21.00	0-1
		1	5	15	20.20	20.31	20.07	21.00	0-1
		3	0	0	20.10	20.44	20.10	21.00	0-1
		3	3	15	20.15	20.36	20.06	21.00	0-1
		6	0	0	20.14	20.50	19.94	21.00	0-1
		6	0	15	20.23	20.27	20.02	21.00	0-1
	16-QAM	1	0	0	20.14	20.12	20.10	21.00	0-1
		1	5	0	20.13	20.19	20.03	21.00	0-1
		1	0	7	20.14	20.18	20.09	21.00	0-1
		1	5	7	20.14	20.20	20.00	21.00	0-2
		1	0	15	20.20	20.33	19.99	21.00	0-2
		1	5	15	20.26	20.19	20.08	21.00	0-2
		3	0	0	20.18	20.14	20.08	21.00	0-2
		3	3	15	20.12	20.18	20.03	21.00	0-2
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1717.5	1732.5	1747.5		
Channel					20025	20175	20325		
15	QPSK	1	0	0	20.20	20.18	19.93	21.00	0
		1	5	0	20.09	20.26	19.95	21.00	0
		1	0	5	20.19	20.27	20.09	21.00	0
		1	5	5	20.24	20.12	20.09	21.00	0-1
		1	0	11	20.10	20.19	20.11	21.00	0-1
		1	5	11	20.04	20.19	20.08	21.00	0-1
		3	0	0	20.00	20.25	20.13	21.00	0-1
		3	3	11	20.07	20.24	20.05	21.00	0-1
		6	0	0	20.14	20.25	20.04	21.00	0-1
		6	0	11	20.10	20.25	20.09	21.00	0-1
	16-QAM	1	0	0	20.22	20.27	20.05	21.00	0-1
		1	5	0	20.12	20.28	19.98	21.00	0-1
		1	0	5	20.13	20.29	20.08	21.00	0-1
		1	5	5	20.17	20.24	20.11	21.00	0-2
		1	0	11	20.23	20.17	20.13	21.00	0-2
		1	5	11	20.17	20.22	20.00	21.00	0-2
		3	0	0	20.03	20.24	20.11	21.00	0-2
		3	3	11	20.08	20.28	20.13	21.00	0-2

BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1715	1732.5	1750		
Channel					20000	20175	20350		
10	QPSK	1	0	0	20.18	20.22	19.98	21.00	0
		1	5	0	20.29	20.20	20.05	21.00	0
		1	0	3	20.03	20.26	20.05	21.00	0
		1	5	3	20.17	20.24	20.03	21.00	0-1
		1	0	7	20.19	20.21	20.00	21.00	0-1
		1	5	7	20.13	20.24	19.97	21.00	0-1
		4	0	0	20.10	20.14	19.95	21.00	0-1
		4	2	7	20.17	20.24	20.04	21.00	0-1
		6	0	0	20.22	20.20	20.00	21.00	0-1
		6	0	7	20.18	20.17	20.06	21.00	0-1
	16-QAM	1	0	0	20.05	20.29	20.02	21.00	0-1
		1	5	0	20.11	20.26	20.10	21.00	0-1
		1	0	3	20.22	20.17	20.11	21.00	0-1
		1	5	3	20.08	20.34	20.05	21.00	0-2
		1	0	7	20.12	20.25	20.06	21.00	0-2
		1	5	7	20.08	20.28	20.05	21.00	0-2
		4	2	0	20.16	20.29	20.07	21.00	0-2
		4	2	7	20.18	20.11	20.06	21.00	0-2

BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					1712.5	1732.5	1752.5		
Channel					19975	20175	20375		
5	QPSK	1	0	0	20.27	20.29	20.06	21.00	0
		1	5	0	20.17	20.29	20.15	21.00	0
		1	0	1	20.17	20.28	20.00	21.00	0
		1	5	1	20.07	20.20	20.08	21.00	0
		1	0	3	20.23	20.36	20.02	21.00	0
		1	5	3	20.11	20.10	20.08	21.00	0
		3	0	0	20.24	20.27	19.93	21.00	0
		3	3	3	20.04	20.11	20.04	21.00	0
		6	0	0	20.06	20.25	20.19	21.00	0-1
		6	0	1	20.15	20.27	20.14	21.00	0-1
		6	0	3	20.23	20.33	20.14	21.00	0-1
	16-QAM	1	0	0	20.04	20.31	20.04	21.00	0
		1	5	0	20.11	20.27	19.95	21.00	0
		1	0	1	20.06	20.13	20.10	21.00	0
		1	5	1	20.14	20.17	20.13	21.00	0
		1	0	3	20.10	20.30	20.14	21.00	0
		1	5	3	20.10	20.25	20.13	21.00	0
		3	0	0	20.13	20.24	20.03	21.00	0
		3	3	3	20.22	20.19	19.97	21.00	0

LTE Band 12_Cat.M1									
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					704	707.5	711		
Channel					23060	23095	23130		
10	QPSK	1	0	0	22.18	22.21	22.16	23.00	0
		1	5	0	22.17	22.27	22.20	23.00	0
		1	0	3	22.11	22.18	22.05	23.00	0
		1	5	3	22.18	22.23	22.10	23.00	0-1
		1	0	7	22.17	22.20	22.16	23.00	0-1
		1	5	7	22.08	22.22	22.09	23.00	0-1
		4	0	0	22.21	22.71	22.12	23.00	0-1
		4	2	7	22.19	22.70	22.13	23.00	0-1
		6	0	0	22.06	21.76	22.05	23.00	0-1
		6	0	7	22.16	21.80	22.01	23.00	0-1
	16-QAM	1	0	0	22.12	22.25	22.07	23.00	0-1
		1	5	0	22.09	22.26	22.10	23.00	0-1
		1	0	3	22.17	22.09	22.10	23.00	0-1
		1	5	3	22.12	22.13	22.00	23.00	0-2
		1	0	7	22.04	22.12	22.16	23.00	0-2
		1	5	7	22.15	22.24	22.05	23.00	0-2
		4	2	0	22.05	21.93	22.00	23.00	0-2
		4	2	7	22.02	21.84	22.17	23.00	0-2
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					701.5	707.5	713.5		
Channel					23035	23095	23155		
5	QPSK	1	0	0	22.05	22.20	22.16	23.00	0
		1	5	0	22.18	22.04	22.10	23.00	0
		1	0	1	22.08	22.05	22.12	23.00	0
		1	5	1	22.17	22.16	22.09	23.00	0
		1	0	3	22.14	22.01	22.02	23.00	0
		1	5	3	22.13	22.07	22.09	23.00	0
		3	0	0	22.19	22.17	22.15	23.00	0
		3	3	3	22.17	22.10	22.16	23.00	0
		6	0	0	22.07	22.12	22.15	23.00	0-1
		6	0	1	22.06	22.00	22.13	23.00	0-1
		6	0	3	22.02	22.04	22.12	23.00	0-1
	16-QAM	1	0	0	22.15	22.20	22.19	23.00	0
		1	5	0	22.05	22.13	22.03	23.00	0
		1	0	1	22.11	22.02	22.06	23.00	0
		1	5	1	22.17	22.17	22.15	23.00	0
		1	0	3	22.18	22.07	22.09	23.00	0
		1	5	3	22.14	22.07	22.16	23.00	0
		3	0	0	22.10	22.01	22.11	23.00	0
		3	3	3	22.00	22.14	22.08	23.00	0

LTE Band 13_Cat.M1									
BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)						782			
Channel						23230			
10	QPSK	1	0	0		17.40		18.00	0
		1	5	0		17.50		18.00	0
		1	0	3		18.00		18.00	0
		1	5	3		17.25		18.00	0-1
		1	0	7		17.29		18.00	0-1
		1	5	7		17.27		18.00	0-1
		4	0	0		17.29		18.00	0-1
		4	2	7		17.28		18.00	0-1
		6	0	0		17.27		18.00	0-1
		6	0	7		17.30		18.00	0-1
	16-QAM	1	0	0		17.33		18.00	0-1
		1	5	0		17.25		18.00	0-1
		1	0	3		17.32		18.00	0-1
		1	5	3		17.25		18.00	0-2
		1	0	7		17.24		18.00	0-2
		1	5	7		17.17		18.00	0-2
		4	2	0		17.30		18.00	0-2
		4	2	7		17.28		18.00	0-2

BW(MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Conducted power (dBm)			Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
Frequency (MHz)					779.5	782	784.5		
Channel					23205	23230	23255		
5	QPSK	1	0	0	17.28	17.16	17.25	18.00	0
		1	5	0	17.27	17.32	17.30	18.00	0
		1	0	1	17.17	17.34	17.26	18.00	0
		1	5	1	17.19	17.21	17.34	18.00	0
		1	0	3	17.29	17.23	17.30	18.00	0
		1	5	3	17.29	17.25	17.29	18.00	0
		3	0	0	17.22	17.34	17.26	18.00	0
		3	3	3	17.36	17.30	17.25	18.00	0
		6	0	0	17.32	17.24	17.38	18.00	0-1
		6	0	1	17.26	17.22	17.26	18.00	0-1
		6	0	3	17.27	17.27	17.34	18.00	0-1
	16-QAM	1	0	0	17.27	17.23	17.32	18.00	0
		1	5	0	17.25	17.22	17.37	18.00	0
		1	0	1	17.29	17.29	17.32	18.00	0
		1	5	1	17.23	17.21	17.27	18.00	0
		1	0	3	17.25	17.26	17.33	18.00	0
		1	5	3	17.16	17.32	17.33	18.00	0
		3	0	0	17.30	17.34	17.18	18.00	0
		3	3	3	17.20	17.22	17.32	18.00	0

5.2 WLAN

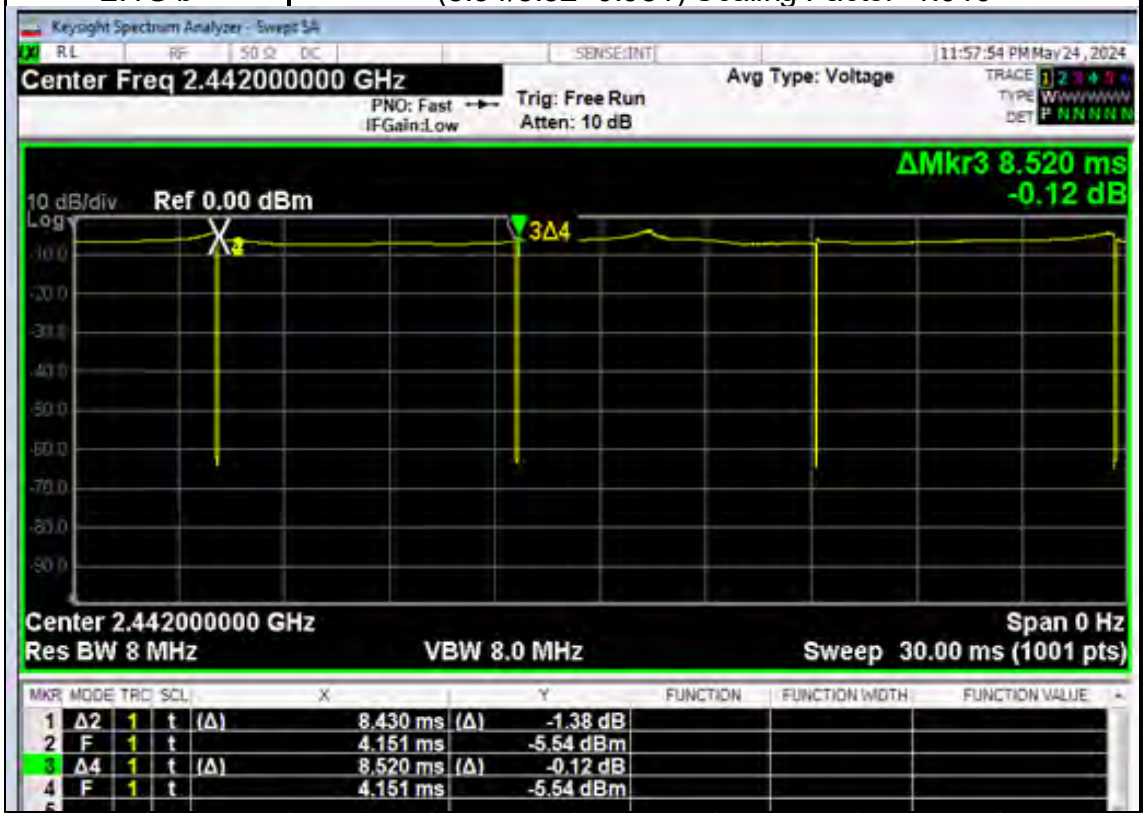
Ant WLANB						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	12.00	11.98
		6	2437		11.00	10.90
		11	2462		10.00	9.97
	802.11g	1	2412	6Mbps	14.00	13.57
		6	2437		15.00	14.47
		11	2462		14.00	13.40
	802.11n20-HT0	1	2412	MCS0	15.00	14.32
		6	2437		14.00	13.40
		11	2462		14.00	13.55

5.3 BLE

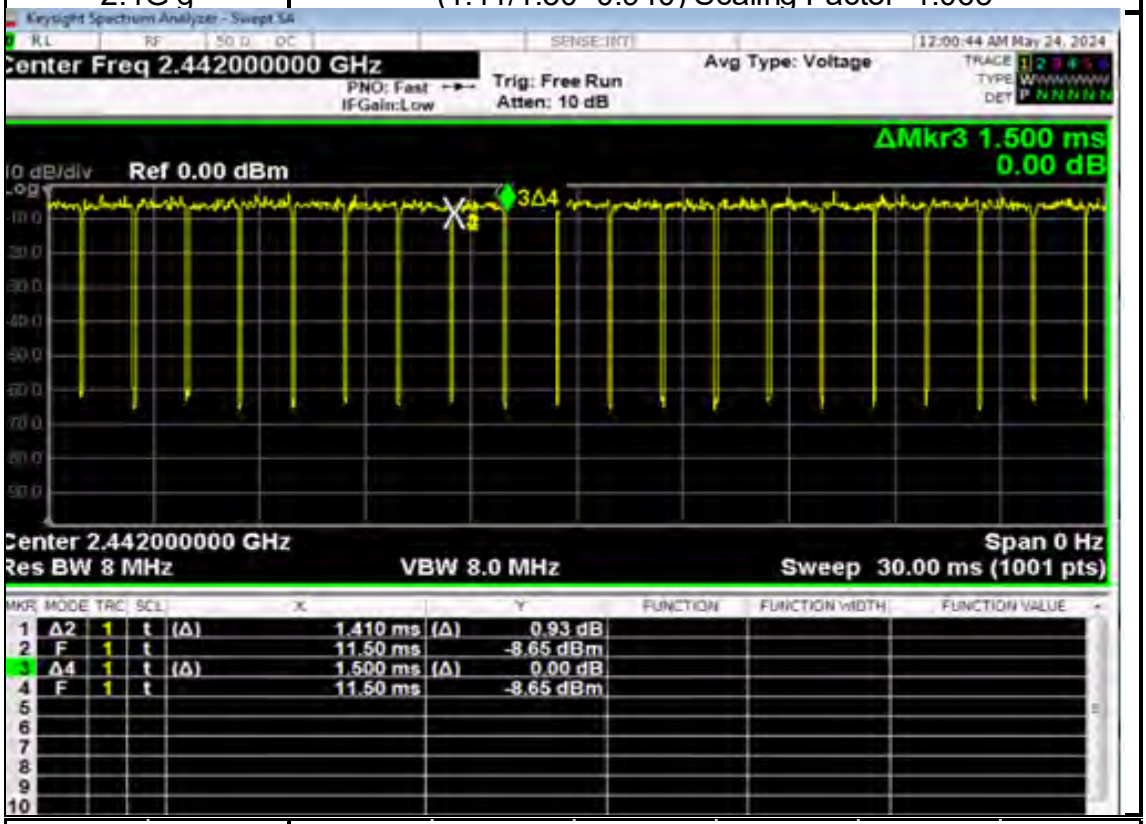
Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_1M	CH 00	2402	6	5.38
	CH 19	2440		5.22
	CH 39	2480		5.10
Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_2M	CH 00	2402	6	5.36
	CH 19	2440		5.21
	CH 39	2480		5.09

6 DUTY CYCLE

2.4G b	(8.34/8.52=0.981) Scaling Factor=1.019



2.4G g	(1.41/1.50=0.940) Scaling Factor=1.063



2.4G BLE 1M	(0.42/0.63=0.666) Scaling Factor=1.501

7 SUMMARY OF RESULTS

7.1 Decision rules

Reported measurement data comply with Test Methodology in section 1.1.
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

7.2 Summary of SAR Results

WWAN

Band	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		ID
												Measured	Reported	
LTE Band 2			1	5	Front Surface	0	18700	1860	19.50	18.90	114.82%	0.044	0.051	-
LTE Band 2			3	0	Front Surface	0	18700	1860	19.50	19.13	108.89%	0.056	0.061	-
LTE Band 2			1	5	Back Surface	0	18700	1860	19.50	18.90	114.82%	1.025	1.177	-
LTE Band 2			1	5	Back Surface	0	18900	1880	19.50	18.80	117.49%	0.998	1.173	-
LTE Band 2			1	0	Back Surface	0	19100	1900	19.50	18.57	123.88%	0.940	1.164	-
LTE Band 2			3	0	Back Surface	0	18700	1860	19.50	19.13	108.89%	0.995	1.083	-
LTE Band 2			3	0	Back Surface	0	18900	1880	19.50	18.56	124.17%	0.934	1.160	-
LTE Band 2			3	3	Back Surface	0	19100	1900	19.50	18.70	120.23%	0.902	1.084	-
LTE Band 2	20MHz	QPSK	6	0	Back Surface	0	18700	1860	19.50	19.20	107.15%	1.100	1.179	001
LTE Band 2			1	5	Top Edge	0	18700	1860	19.50	18.90	114.82%	0.009	0.010	-
LTE Band 2			3	0	Top Edge	0	18700	1860	19.50	19.13	108.89%	0.010	0.011	-
LTE Band 2			1	5	Bottom Edge	0	18700	1860	19.50	18.90	114.82%	0.023	0.026	-
LTE Band 2			3	0	Bottom Edge	0	18700	1860	19.50	19.13	108.89%	0.025	0.027	-
LTE Band 2			1	5	Left Edge	0	18700	1860	19.50	18.90	114.82%	0.461	0.529	-
LTE Band 2			3	0	Left Edge	0	18700	1860	19.50	19.13	108.89%	0.473	0.515	-
LTE Band 2			1	5	Right Edge	0	18700	1860	19.50	18.90	114.82%	0.151	0.173	-
LTE Band 2			3	0	Right Edge	0	18700	1860	19.50	19.13	108.89%	0.158	0.172	-
LTE Band 2*			6	0	Back Surface	0	18700	1860	19.50	19.20	107.15%	1.080	1.157	-
LTE Band 4			1	5	Front Surface	0	20175	1732.5	21.00	20.39	115.08%	0.039	0.045	-
LTE Band 4			3	0	Front Surface	0	20175	1732.5	21.00	20.44	113.76%	0.053	0.060	-
LTE Band 4			1	0	Back Surface	0	20050	1720	21.00	20.30	117.49%	0.920	1.081	-
LTE Band 4			1	5	Back Surface	0	20175	1732.5	21.00	20.39	115.08%	0.933	1.074	-
LTE Band 4			1	5	Back Surface	0	20300	1745	21.00	20.20	120.23%	0.901	1.083	-
LTE Band 4			3	3	Back Surface	0	20050	1720	21.00	20.15	121.62%	0.913	1.110	-
LTE Band 4			3	0	Back Surface	0	20175	1732.5	21.00	20.44	113.76%	0.925	1.052	-
LTE Band 4			3	0	Back Surface	0	20300	1745	21.00	20.10	123.03%	0.870	1.070	-
LTE Band 4	20MHz	QPSK	6	0	Back Surface	0	20175	1732.5	21.00	20.50	112.20%	0.970	1.088	002
LTE Band 4			1	5	Top Edge	0	20175	1732.5	21.00	20.39	115.08%	0.005	0.006	-
LTE Band 4			3	0	Top Edge	0	20175	1732.5	21.00	20.44	113.76%	0.006	0.007	-
LTE Band 4			1	5	Bottom Edge	0	20175	1732.5	21.00	20.39	115.08%	0.018	0.021	-
LTE Band 4			3	0	Bottom Edge	0	20175	1732.5	21.00	20.44	113.76%	0.021	0.024	-
LTE Band 4			1	5	Left Edge	0	20175	1732.5	21.00	20.39	115.08%	0.398	0.458	-
LTE Band 4			3	0	Left Edge	0	20175	1732.5	21.00	20.44	113.76%	0.402	0.457	-
LTE Band 4			1	5	Right Edge	0	20175	1732.5	21.00	20.39	115.08%	0.131	0.151	-
LTE Band 4			3	0	Right Edge	0	20175	1732.5	21.00	20.44	113.76%	0.145	0.165	-
LTE Band 4*			6	0	Back Surface	0	20175	1732.5	21.00	20.50	112.20%	0.965	1.083	-
LTE Band 12			1	5	Front Surface	0	23095	707.5	23.00	22.27	118.30%	0.019	0.022	-
LTE Band 12			4	0	Front Surface	0	23095	707.5	23.00	22.71	106.91%	0.025	0.027	-
LTE Band 12			1	5	Back Surface	0	23095	707.5	23.00	22.27	118.30%	0.573	0.678	-
LTE Band 12			4	0	Back Surface	0	23060	704	23.00	22.21	119.95%	0.682	0.818	003
LTE Band 12			4	0	Back Surface	0	23095	707.5	23.00	22.71	106.91%	0.644	0.688	-
LTE Band 12			4	2	Back Surface	0	23130	711	23.00	22.13	122.18%	0.561	0.685	-
LTE Band 12			6	0	Back Surface	0	23060	704	23.00	22.16	121.34%	0.670	0.813	-
LTE Band 12	10MHz	QPSK	1	5	Top Edge	0	23095	707.5	23.00	22.27	118.30%	0.002	0.002	-
LTE Band 12			4	0	Top Edge	0	23095	707.5	23.00	22.71	106.91%	0.004	0.004	-
LTE Band 12			1	5	Bottom Edge	0	23095	707.5	23.00	22.27	118.30%	0.012	0.014	-
LTE Band 12			4	0	Bottom Edge	0	23095	707.5	23.00	22.71	106.91%	0.014	0.015	-
LTE Band 12			1	5	Left Edge	0	23095	707.5	23.00	22.27	118.30%	0.260	0.308	-
LTE Band 12			4	0	Left Edge	0	23095	707.5	23.00	22.71	106.91%	0.284	0.304	-
LTE Band 12			1	5	Right Edge	0	23095	707.5	23.00	22.27	118.30%	0.085	0.101	-
LTE Band 12			4	0	Right Edge	0	23095	707.5	23.00	22.71	106.91%	0.091	0.097	-
LTE Band 13			1	0	Front Surface	0	23230	782	18.00	18.00	100.00%	0.009	0.009	-
LTE Band 13			4	0	Front Surface	0	23230	782	18.00	17.29	117.76%	0.008	0.009	-
LTE Band 13			1	0	Back Surface	0	23230	782	18.00	18.00	100.00%	0.190	0.190	004
LTE Band 13			4	0	Back Surface	0	23230	782	18.00	17.29	117.76%	0.165	0.194	-
LTE Band 13			1	0	Top Edge	0	23230	782	18.00	18.00	100.00%	0.004	0.004	-
LTE Band 13			4	0	Top Edge	0	23230	782	18.00	17.29	117.76%	0.003	0.004	-
LTE Band 13	10MHz	QPSK	1	0	Bottom Edge	0	23230	782	18.00	18.00	100.00%	0.008	0.008	-
LTE Band 13			4	0	Bottom Edge	0	23230	782	18.00	17.29	117.76%	0.007	0.008	-
LTE Band 13			1	0	Left Edge	0	23230	782	18.00	18.00	100.00%	0.077	0.077	-
LTE Band 13			4	0	Left Edge	0	23230	782	18.00	17.29	117.76%	0.068	0.080	-
LTE Band 13			1	0	Right Edge	0	23230	782	18.00	18.00	100.00%	0.022	0.022	-
LTE Band 13			4	0	Right Edge	0	23230	782	18.00	17.29	117.76%	0.019	0.022	-

* - repeated at the highest SAR measurement according to the KDB 865664 D01

WLAN

Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
										Measured	Reported	
WLAN 802.11b	Ant WLANB	Front Surface	0	1	2412	12.00	11.98	1.02	100.46%	0.053	0.054	-
WLAN 802.11b	Ant WLANB	Back Surface	0	1	2412	12.00	11.98	1.02	100.46%	0.106	0.109	-
WLAN 802.11b	Ant WLANB	Top Edge	0	1	2412	12.00	11.98	1.02	100.46%	0.019	0.019	-
WLAN 802.11b	Ant WLANB	Bottom Edge	0	1	2412	12.00	11.98	1.02	100.46%	0.006	0.006	-
WLAN 802.11b	Ant WLANB	Left Edge	0	1	2412	12.00	11.98	1.02	100.46%	0.150	0.154	005
WLAN 802.11b	Ant WLANB	Left Edge	0	6	2437	11.00	10.90	1.02	102.33%	0.142	0.148	-
WLAN 802.11b	Ant WLANB	Left Edge	0	11	2462	10.00	9.97	1.02	100.69%	0.141	0.145	-
WLAN 802.11b	Ant WLANB	Right Edge	0	1	2412	12.00	11.98	1.02	100.46%	0.036	0.037	-
WLAN 802.11g	Ant WLANB	Front Surface	0	6	2437	15.00	14.47	1.06	112.98%	0.064	0.077	-
WLAN 802.11g	Ant WLANB	Back Surface	0	6	2437	15.00	14.47	1.06	112.98%	0.126	0.151	-
WLAN 802.11g	Ant WLANB	Top Edge	0	6	2437	15.00	14.47	1.06	112.98%	0.024	0.029	-
WLAN 802.11g	Ant WLANB	Bottom Edge	0	6	2437	15.00	14.47	1.06	112.98%	0.006	0.007	-
WLAN 802.11g	Ant WLANB	Left Edge	0	1	2412	14.00	13.57	1.06	110.41%	0.124	0.146	-
WLAN 802.11g	Ant WLANB	Left Edge	0	6	2437	15.00	14.47	1.06	112.98%	0.140	0.168	006
WLAN 802.11g	Ant WLANB	Left Edge	0	11	2462	14.00	13.40	1.06	114.82%	0.131	0.160	-
WLAN 802.11g	Ant WLANB	Right Edge	0	6	2437	15.00	14.47	1.06	112.98%	0.045	0.054	-

Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
										Measured	Reported	
BLE_1M	Ant BLE	Front Surface	0	00	2402	6.00	5.38	1.50	115.35%	0.006	0.010	-
BLE_1M	Ant BLE	Back Surface	0	00	2402	6.00	5.38	1.50	115.35%	0.007	0.012	-
BLE_1M	Ant BLE	Top Edge	0	00	2402	6.00	5.38	1.50	115.35%	0.004	0.007	-
BLE_1M	Ant BLE	Bottom Edge	0	00	2402	6.00	5.38	1.50	115.35%	0.001	0.002	-
BLE_1M	Ant BLE	Left Edge	0	00	2402	6.00	5.38	1.50	115.35%	0.010	0.017	007
BLE_1M	Ant BLE	Left Edge	0	19	2440	6.00	5.22	1.50	119.67%	0.006	0.011	-
BLE_1M	Ant BLE	Left Edge	0	39	2480	6.00	5.10	1.50	123.03%	0.006	0.011	-
BLE_1M	Ant BLE	Right Edge	0	00	2402	6.00	5.38	1.50	115.35%	0.003	0.005	-

Note:
Reported SAR = measured SAR * Power scaling * Duty cycle scaling

7.3 Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

7.4 Conclusion

The device is compliant because all the standalone results are less than their corresponding criteria.

8 SIMULTANEOUS TRANSMISSION ANALYSIS

8.1 Simultaneous Transmission Scenarios:

Simultaneous Transmission configurations	Body
WWAN + WLAN 2.4GHz + BT	Yes

8.2 Estimated SAR calculation

According to KDB447498 D01v06 – When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$$\text{Estimated SAR} = \frac{\text{Max. tune up power (mW)}}{\text{Min. test separation distance(mm)}} \times \frac{\sqrt{\text{f(GHz)}}}{7.5}$$

If the minimum test separation distance is < 5mm, a distance of 5mm is used for estimated SAR calculation. When the test separation distance is >50mm, the 0.4W/kg is used for SAR-1g.

8.3 SPLSR evaluation and analysis

Per KDB447498D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR sum to peak location separation ratio(SPLSR).

The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion.

The ratio is determined by **(SAR1 + SAR2)^1.5/Ri**, rounded to two decimal digits, and must be **≤ 0.04** for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

SAR1 and SAR2 are the highest reported or estimated SAR for each antenna in the pair, and Ri is the separation distance between the peak SAR locations for the antenna pair in mm.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna.

Simultaneous Transmission Combination

			FCC Reported SAR			Scenario1
	Exposure Position		1	2	6	1+2+6
			WWAN	2.4GHz WLAN Ant WLANB	Bluetooth Ant WLANB	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 2	Front Surface	0	0.061	0.077	0.010	0.148
	Back Surface	0	1.179	0.151	0.012	1.342
	Top Edge	0	0.011	0.029	0.007	0.047
	Bottom Edge	0	0.027	0.007	0.002	0.036
	Left Edge	0	0.529	0.168	0.017	0.714
	Right Edge	0	0.173	0.054	0.005	0.232
LTE Band 4	Front Surface	0	0.060	0.077	0.010	0.147
	Back Surface	0	1.110	0.151	0.012	1.273
	Top Edge	0	0.007	0.029	0.007	0.043
	Bottom Edge	0	0.024	0.007	0.002	0.033
	Left Edge	0	0.458	0.168	0.017	0.643
	Right Edge	0	0.165	0.054	0.005	0.224
LTE Band 12	Front Surface	0	0.027	0.077	0.010	0.114
	Back Surface	0	0.818	0.151	0.012	0.981
	Top Edge	0	0.004	0.029	0.007	0.040
	Bottom Edge	0	0.015	0.007	0.002	0.024
	Left Edge	0	0.308	0.168	0.017	0.493
	Right Edge	0	0.101	0.054	0.005	0.160
LTE Band 13	Front Surface	0	0.009	0.077	0.010	0.096
	Back Surface	0	0.194	0.151	0.012	0.357
	Top Edge	0	0.004	0.029	0.007	0.040
	Bottom Edge	0	0.008	0.007	0.002	0.017
	Left Edge	0	0.080	0.168	0.017	0.265
	Right Edge	0	0.022	0.054	0.005	0.081

8.4 Conclusion

The simultaneous transmission is compliant because both SAR sum and/or SPLSR are less than their corresponding criteria.

9 INSTRUMENTS LIST

Equipment List					
Manufacturer	**Device**	**Type**	**Serial number**	**Date of last calibration**	**Date of next calibration**
SPEAG	Data acquisition Electronics	DAE4	558	Nov/20/2023	Nov/19/2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7686	Sep/21/2023	Sep/20/2024
SPEAG	System Validation Dipole	D750V3	1015	Sep/18/2023	Sep/17/2024
SPEAG	System Validation Dipole	D1750V2	1008	Sep/19/2023	Sep/18/2024
SPEAG	System Validation Dipole	D1900V2	5d056	Aug/25/2023	Aug/24/2024
SPEAG	System Validation Dipole	D2450V2	728	Aug/28/2023	Aug/27/2024
SPEAG	Dielectric Assessment Kit	DAKS-3.5	1053	Feb/21/2024	Feb/20/2025
Agilent	MXG Analog Signal Generator	N5181A	MY50144143	May/03/2024	May/02/2025
R&S	MXG Analog Signal Generator	SMB100A03	182996	Mar/29/2024	Mar/28/2025
Agilent	Dual-directional coupler	772D	MY52180142	Oct/23/2023	Oct/22/2024
Agilent	Dual-directional coupler	778D	MY52180302	Oct/23/2023	Oct/22/2024
EMCI	Amplifier	ZHL-42	980189	Calibration not required	Calibration not required
EMCI	Amplifier	ZVE-8G	980190	Calibration not required	Calibration not required
R&S	Power Meter	NRX	102034	Dec/13/2023	Dec/12/2024
R&S	Power Sensor	NRP18S	101974	Nov/21/2023	Nov/20/2024
R&S	Power Sensor	NRP18S	109066	Oct/23/2023	Oct/22/2024
SPEAG	Software	DASY 8 V16.0.2.83	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	SAM	N/A	Calibration not required	Calibration not required
Anritsu	Radio Communication Test	MT8820C	6201061014	Sep/23/2023	Sep/22/2024
LKM	Digital thermometer	DTM3000	EC14010603	Sep/27/2023	Sep/26/2024
TECPEL	Digital thermometer	DTM-303A	TP130077	Sep/25/2023	Sep/24/2024

10 UNCERTAINTY BUDGET

Measurement Uncertainty evaluation template for DUT SAR test (0.3-3G)

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
Measurement system									
Probe calibration	6.00%	N	1	1	1	1	6.00%	6.00%	∞
Isotropy , Axial	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
Isotropy, Hemispherical	9.60%	R	√3	1.732	1	1	5.54%	5.54%	∞
Modulation Response	2.40%	R	√3	1.732	1	1	1.40%	1.40%	∞
Boundary Effect	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Linearity	4.70%	R	√3	1.732	1	1	2.71%	2.71%	∞
Detection Limits	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Readout Electronics	0.30%	N	1	1	1	1	0.30%	0.30%	∞
Response time	0.80%	R	√3	1.732	1	1	0.46%	0.46%	∞
Integration Time	2.60%	R	√3	1.732	1	1	1.50%	1.50%	∞
Measurement drift (class A evaluation)	1.75%	R	√3	1.732	1	1	1.01%	1.01%	∞
RF ambient condition - noise	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
RF ambient conditions - reflections	3.00%	R	√3	1.732	1	1	1.73%	1.73%	∞
Probe positioner Mechanical restrictions	0.40%	R	√3	1.732	1	1	0.23%	0.23%	∞
Probe Positioning with respect to phantom shell	2.90%	R	√3	1.732	1	1	1.67%	1.67%	∞
Post-processing	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Max SAR Eval	1.00%	R	√3	1.732	1	1	0.58%	0.58%	∞
Test Sample related									
Test sample positioning	2.90%	N	1	1	1	1	2.90%	2.90%	M-1
Device Holder Uncertainty	3.60%	N	1	1	1	1	3.60%	3.60%	M-1
Drift of output power	5.00%	R	√3	1.732	1	1	2.89%	2.89%	∞
Phantom and Setup									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	2.31%	N	1	1	0.64	0.43	1.48%	0.99%	M
Liquid Conductivity (mea.)	4.42%	N	1	1	0.6	0.49	2.65%	2.17%	M
Combined standard uncertainty		RSS					11.81%	11.65%	
Expant uncertainty (95% confidence interval), K=2							23.63%	23.31%	

11 SAR MEASUREMENT RESULTS

ID: 001
Report No. :TESA2404000226E5
Measurement Report_LTE Band 2 (20MHz)_Body_Back Surface_CH 18700_QPSK_6-0_0mm
Ambient temperature: 22.5°C; Liquid temperature: 21.2°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Back Surface, 0.00	1860.0,18700	8.89	1.456	40.913

Hardware Setup

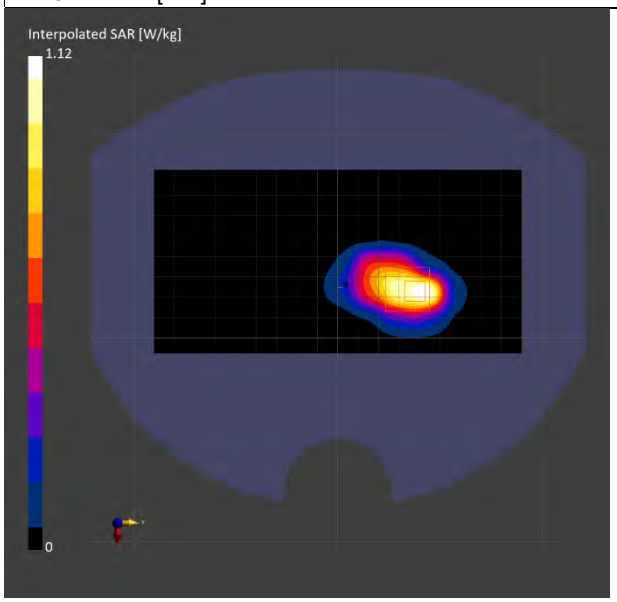
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-25	2024-05-25
psSAR1g [W/kg]	0.895	1.10
psSAR8g [W/kg]	0.514	0.593
psSAR10g [W/kg]	0.472	0.545
Power Drift [dB]	-0.05	-0.02
M2/M1 [%]		53.2
Dist 3dB Peak [mm]		8.6



ID: 002
Report No. :TESA2404000226E5
Measurement Report_LTE Band 4 (20MHz)_Body_Back Surface_CH 20175_QPSK_6-0_0mm
Ambient temperature: 22.5°C; Liquid temperature: 21.2°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Back Surface, 0.00	1732.5,20175	9.18	1.411	41.019

Hardware Setup

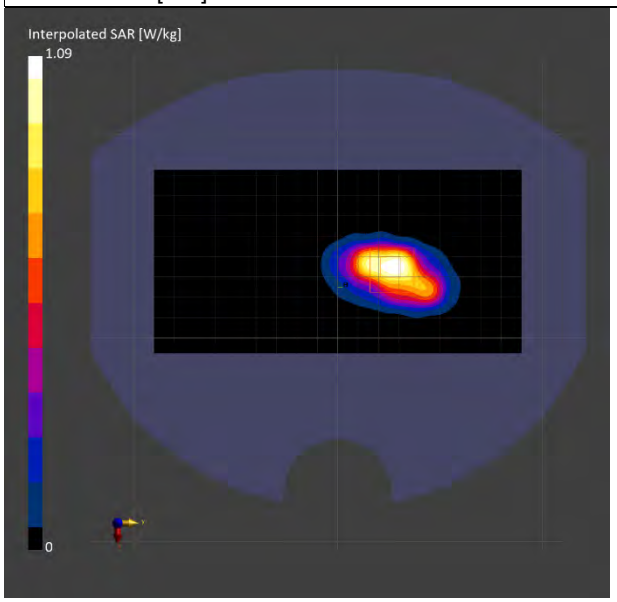
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-25	2024-05-25
psSAR1g [W/kg]	0.893	0.970
psSAR8g [W/kg]	0.510	0.504
psSAR10g [W/kg]	0.467	0.461
Power Drift [dB]	-0.04	-0.03
M2/M1 [%]		54.2
Dist 3dB Peak [mm]		8.4



ID: 003
Report No. :TESA2404000226E5
Measurement Report _LTE Band 12 (10MHz)_Body_Back Surface_CH 23060_QPSK_4-0_0mm
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Back Surface, 0.00	704.0,23060	10.47	0.909	43.094

Hardware Setup

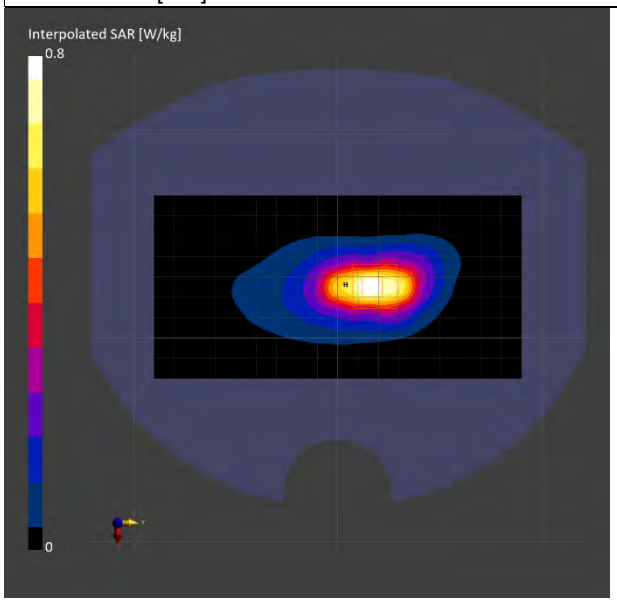
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.663	0.682
psSAR8g [W/kg]	0.423	0.408
psSAR10g [W/kg]	0.393	0.380
Power Drift [dB]	-0.01	-0.03
M2/M1 [%]		54.9
Dist 3dB Peak [mm]		9.6



ID: 004
Report No. :TESA2404000226E5
Measurement Report_LTE Band 13 (10MHz)_Body_Back Surface_CH 23230_QPSK_1-0_0mm
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Back Surface, 0.00	782.0,23230	10.47	0.918	42.688

Hardware Setup

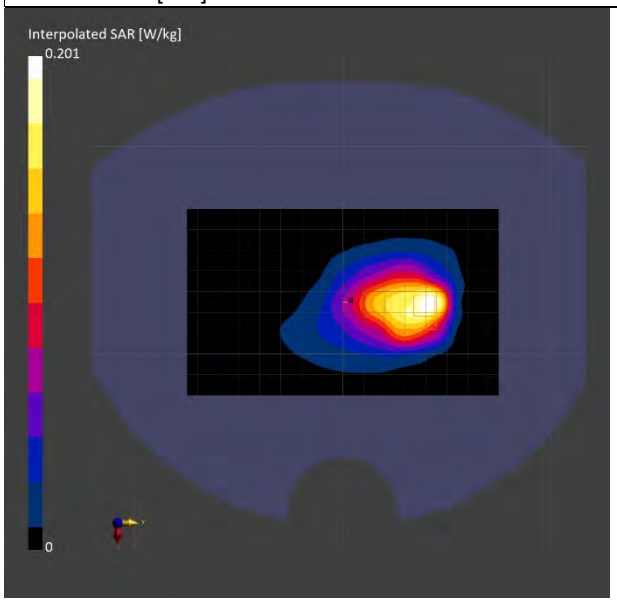
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 150.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.169	0.190
psSAR8g [W/kg]	0.111	0.104
psSAR10g [W/kg]	0.104	0.096
Power Drift [dB]	-0.02	-0.02
M2/M1 [%]		53.2
Dist 3dB Peak [mm]		8.0



ID: 005
Report No. : TESA2404000226E5
Measurement Report_WLAN 802.11b_Body_Left Edge_CH 1_0mm_Ant WLANB
Ambient temperature: 22.3°C; Liquid temperature: 21.5°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Left Edge, 0.00	2412.0, 1	8.05	1.844	40.128

Hardware Setup

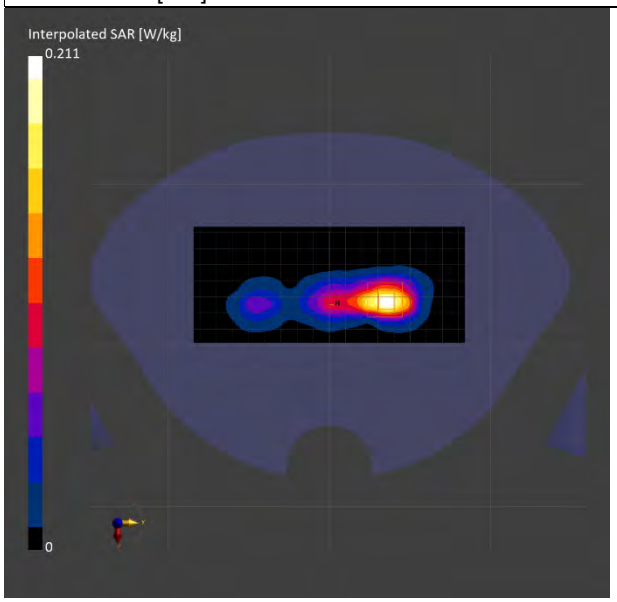
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	72.0 x 168.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	0.160	0.150
psSAR8g [W/kg]	0.082	0.076
psSAR10g [W/kg]	0.074	0.069
Power Drift [dB]	0.05	-0.01
M2/M1 [%]		57.1
Dist 3dB Peak [mm]		6.8



ID: 006
Report No. : TESA2404000226E5
Measurement Report_WLAN 802.11g_Body_Left Edge_CH 6_0mm_Ant WLANB
Ambient temperature: 22.3°C; Liquid temperature: 21.5°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Left Edge, 0.00	2437.0, 6	8.05	1.866	40.083

Hardware Setup

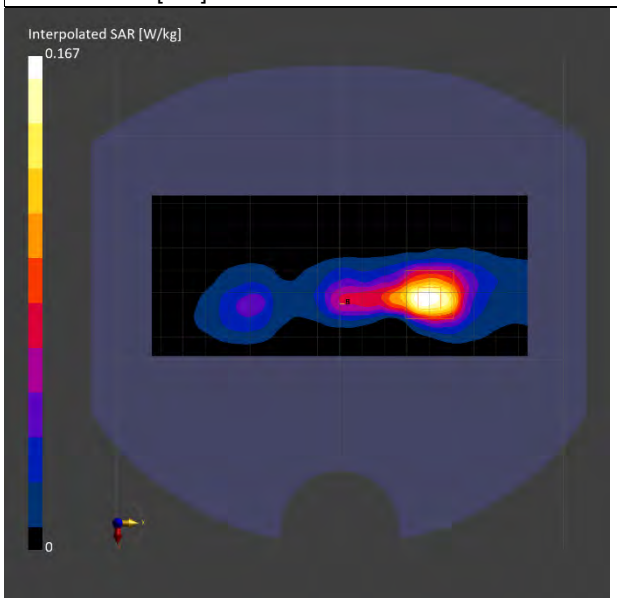
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	72.0 x 168.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	0.131	0.140
psSAR8g [W/kg]	0.067	0.071
psSAR10g [W/kg]	0.060	0.064
Power Drift [dB]	0.04	-0.02
M2/M1 [%]		54.2
Dist 3dB Peak [mm]		7.3



ID: 007
Report No. : TESA2404000226E5
Measurement Report_BLE_1M_Body_Left Edge_CH 00_0mm_Ant BLE
Ambient temperature: 22.3°C; Liquid temperature: 21.5°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Left Edge, 0.00	2402.0, 00	8.05	1.835	40.145

Hardware Setup

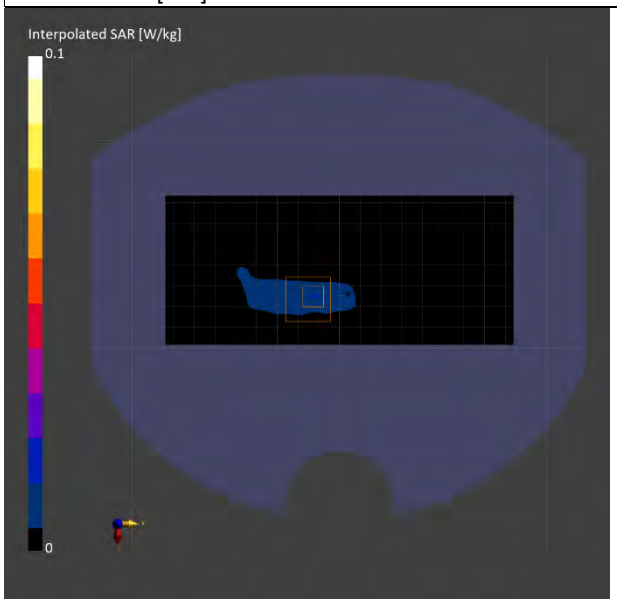
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	72.0 x 168.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	0.012	0.010
psSAR8g [W/kg]	0.006	0.007
psSAR10g [W/kg]	0.006	0.007
Power Drift [dB]	0.002	0.005
M2/M1 [%]		70.9
Dist 3dB Peak [mm]		5.1



12 SAR SYSTEM CHECK RESULTS

Report No. : TESA2404000226E5
Measurement Report
Dipole_D750-SN: 1015
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 15.00	10.47	0.914	42.855

Hardware Setup

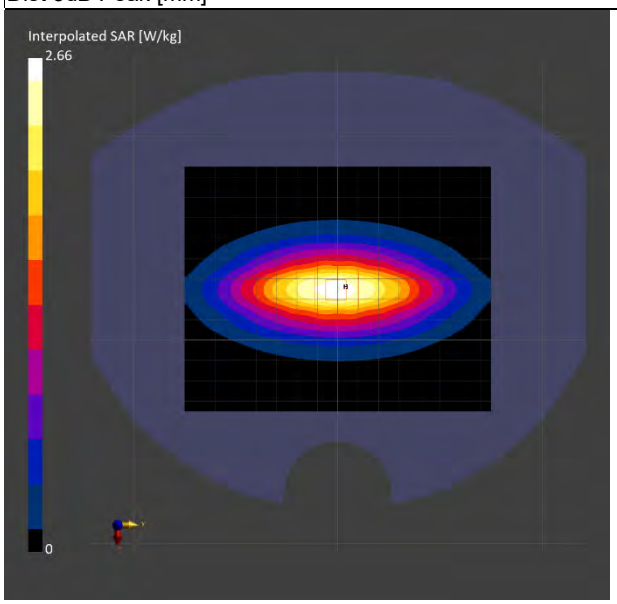
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 150.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	2.27	2.22
psSAR8g [W/kg]	1.54	1.45
psSAR10g [W/kg]	1.45	1.37
Power Drift [dB]	0.02	0.01
M2/M1 [%]		61.0
Dist 3dB Peak [mm]		13.0



Report No. : TESA2404000226E5
Measurement Report
Dipole_D1750-SN: 1008
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 10.00	9.18	1.421	40.992

Hardware Setup

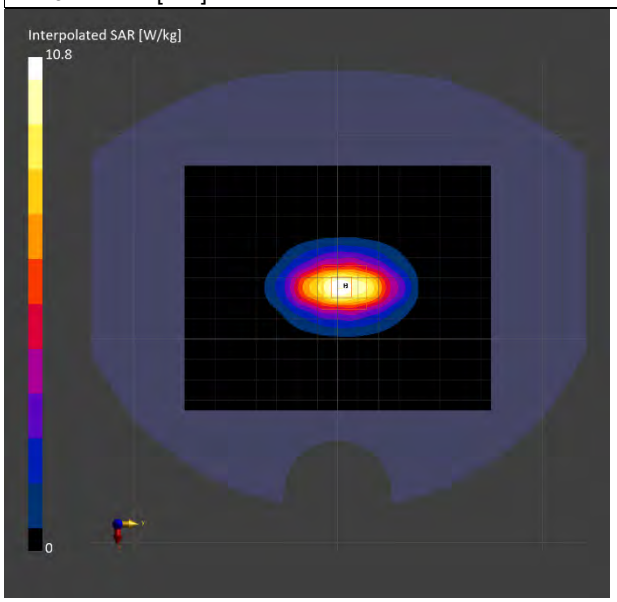
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 150.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-25	2024-05-25
psSAR1g [W/kg]	8.68	8.92
psSAR8g [W/kg]	5.04	5.20
psSAR10g [W/kg]	4.62	4.80
Power Drift [dB]	-0.03	0.04
M2/M1 [%]		55.2
Dist 3dB Peak [mm]		10.0



Report No. : TESA2404000226E5
Measurement Report
Dipole_D1900-SN: 5d056
Ambient temperature: 22.5°C; Liquid temperature: 21.2°C
Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 10.00	8.89	1.458	40.913

Hardware Setup

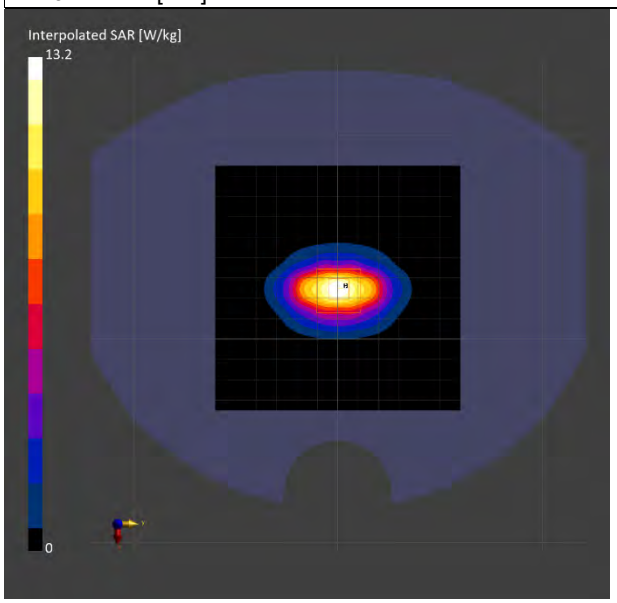
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-25	2024-05-25
psSAR1g [W/kg]	10.4	10.8
psSAR8g [W/kg]	5.90	6.13
psSAR10g [W/kg]	5.40	5.63
Power Drift [dB]	-0.04	-0.04
M2/M1 [%]		54.2
Dist 3dB Peak [mm]		10.0



Report No. : TESA2404000226E5
Measurement Report
Dipole_D2450-SN:728
Ambient temperature: 22.3°C; Liquid temperature: 21.5°C
Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 10.00	8.05	1.878	40.060

Hardware Setup

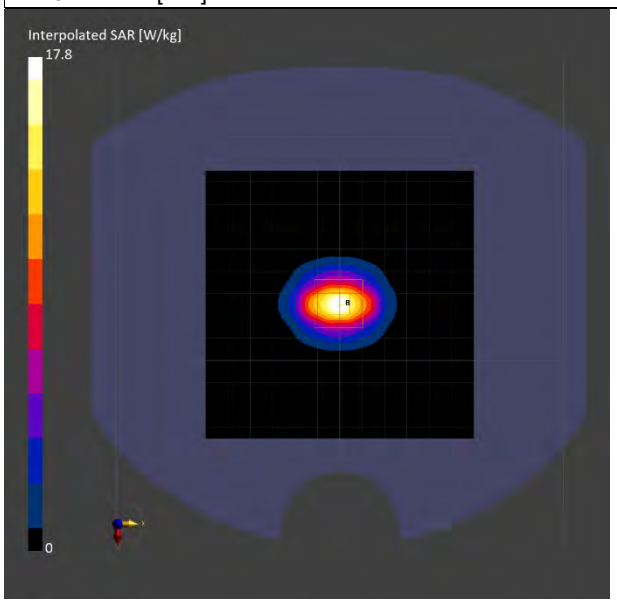
Phantom	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM	EX3DV4 - SN7686, 2023-09-21	DAE4 Sn558, 2023-11-20

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	13.2	13.2
psSAR8g [W/kg]	6.57	6.70
psSAR10g [W/kg]	5.91	6.05
Power Drift [dB]	0.01	0.02
M2/M1 [%]		55.1
Dist 3dB Peak [mm]		9.0



13 APPENDIXES

Refer to separated files for the following appendixes.

13.1 SAR_Appendix A Photographs

13.2 SAR_Appendix B DAE & Probe Cal. Certificate

13.3 SAR_Appendix C Phantom Description & Dipole Cal. Certificate

- End of report -