RF Exposure report

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

Product Name	Qualcomm WiFi 7/BT Combo module
Brand Name	Qualcomm
Model No.	QCNCM825
Applicant	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013
FCC ID	MSQ-QCNCM825
Date of EUT Receipt	May 7, 2024
Date of Test(s)	May 20, 2024 ~ May 31, 2024
Date of Issue	Jun. 18, 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 / Kimmy Chiou	PM / Afu Chen	Approved By / John Yeh
Kimmy Chiou	afu Chen	John Yeh

Date: Jun. 18, 2024

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2405000293ES	00	Initial creation of document	Jun. 06, 2024	Kimmy Chiou	
TESA2405000293ES	01	Update power	Jun. 18, 2024	Kimmy Chiou	*

Note:

1. The mark " * " is the revised version of the report due to comments submitted by the certification.
2. Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
   And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

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
KDB616217D04v01r02
KDB248227D01v02r01
IEC/IEEE 62209-1528:2020
SPEAG DASY6 System Handbook
SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)
IEC TR 63170:2018
IEC 62479:2010

1.2 Description of EUT

Product Name:	Qualcomm WiFi 7/BT Combo module	
Brand Name:	Qualcomm	
Model No.:	QCNCM825	
FCC ID	MSQ-QCNCM825	
Host Information	Product Type: Notebook PC Brand Name: ASUS Model Name: HT5306Q, JT5306Q All models are electrically identical, different model names are for marketing purpose.	
Duty Cycle	WLAN802.11	Please refer to section 7
	Bluetooth	Please refer to section 7
Supported radios (TX Frequency Range, MHz)	802.11 b/g/n/ac/ax/be	2.4GHz (2400.0 – 2483.5 MHz)
	802.11a/n/ac/ax/be	5.2GHz (5150.0 –5350.0 MHz) 5.6GHz (5470.0 – 5725.0 MHz) 5.8GHz (5725.0 – 5850.0 MHz) 5.9GHz (5850.0 – 5895.0 MHz)
	802.11ax/be	6.2GHz (5925.0 – 6425.0 MHz) 6.5GHz (6425.0 – 6525.0 MHz) 6.7GHz (6525.0 – 6875.0 MHz) 7.0GHz (6875.0 – 7125.0 MHz)
	Bluetooth	2.4GHz (2400.0 – 2483.5 MHz)

1.3 Maximum value

Summary of Maximum SAR and Power Density Value			
Mode	Highest SAR 1g (W/kg)	Highest APD (W/m^2)	Highest PD (W/m^2)
Bluetooth(GFSK)	0.37	N/A	N/A
2.4G WLAN	0.48	N/A	N/A
5.2G WLAN	0.66	N/A	N/A
5.3G WLAN	0.83	N/A	N/A
5.6G WLAN	0.84	N/A	N/A
5.8G WLAN	0.96	N/A	N/A
5.9G WLAN	1.04	N/A	N/A
6G WLAN	1.05	8.18	6.99

1.4 Antenna Information

Tablet mode_WLAN

Vendor	INPAQ									
Antenna	Main									
Part Number	WA-F-LE-02-051									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	-1.14	2.66	2.66	4.17	4.17	4.45	4.66	4.81	4.81	3.08
Antenna	Aux									
Part Number	WA-F-LE-01-013									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	1.10	1.95	1.95	2.05	1.81	1.34	2.69	2.86	2.86	1.04

Note: Antenna information is provided by the applicant.

2 MEASUREMENT SYSTEM

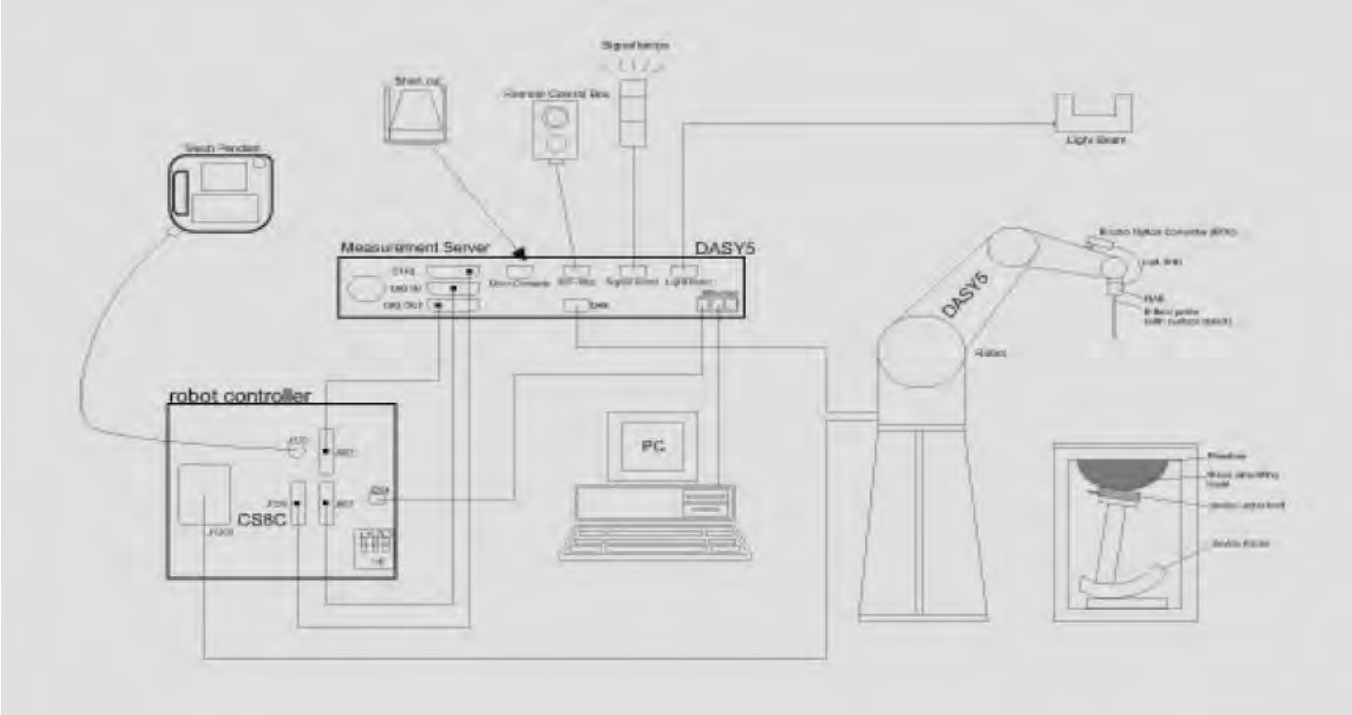
2.1 Test Facility

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

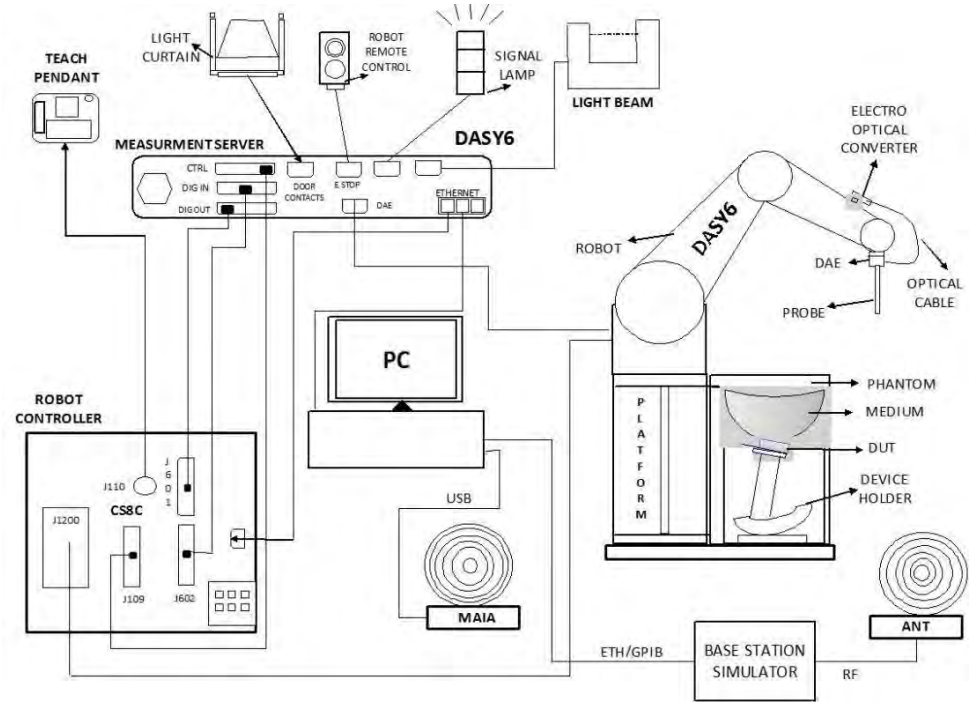
Block Diagram (DASY5)

A block diagram of the SAR measurement System is given in below. This SAR measurement system uses a computer-controlled 3-D stepper motor system (SPEAG DASY 5 professional system). The model EX3DV4 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ ($|Ei|^2$)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.



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 2450/5250/5600/5750/6500/7000MHz 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 (ELI)

Model	ELI	
Construction	The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Shell Thickness	2 ± 0.2 mm	
Filling Volume	Approx. 30 liters	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	

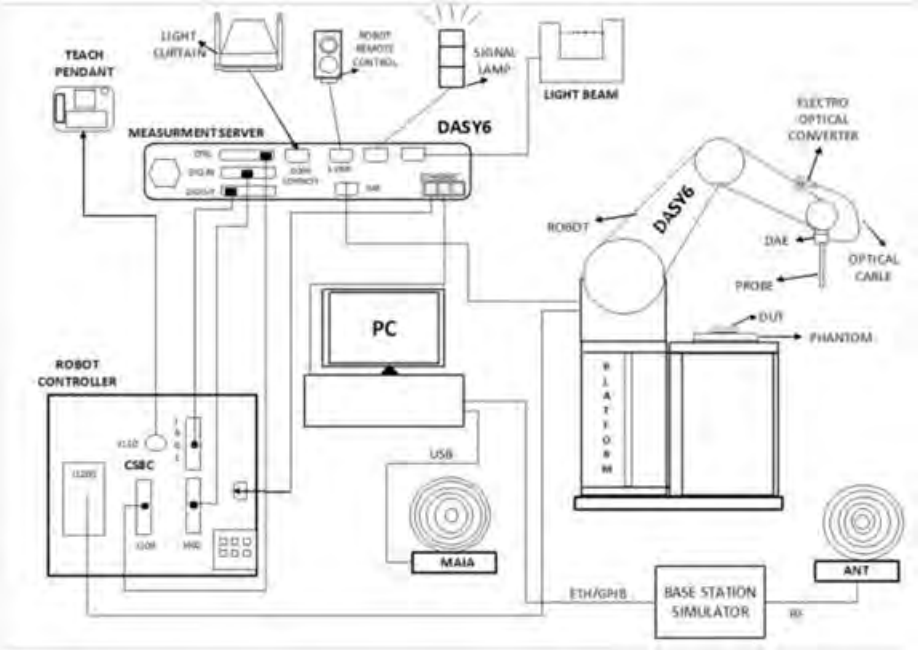
DEVICE HOLDER

Construction	The device holder (Supporter) for Notebook is made by POM (polyoxymethylene resin) , which is non-metal and non-conductive. The height can be adjusted to fit varies kind of notebooks.	 Device Holder

2.3 PD system

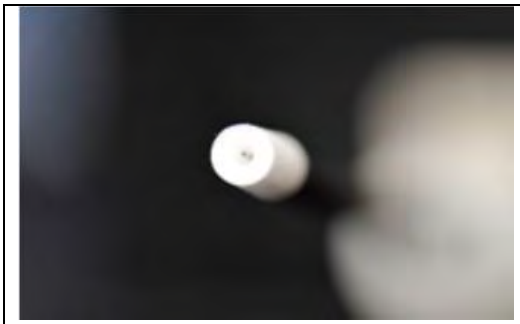
Block Diagram (DASY6)

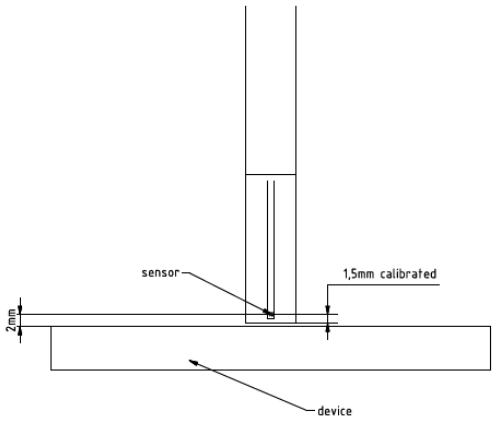
Power density measurements for mmWave frequencies were performed using SPEAG DASY6 with cDASY6 5G module. The DASY6 included a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the 5G phantom cover.



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
2402	39.282	1.757	39.432	1.805	0.38%	2.70%	± 5%	May. 21, 2024
2412	39.265	1.766	39.415	1.813	0.38%	2.64%	± 5%	
2417	39.257	1.771	39.406	1.818	0.38%	2.67%	± 5%	
2437	39.222	1.788	39.370	1.835	0.38%	2.60%	± 5%	
2441	39.215	1.792	39.363	1.839	0.38%	2.62%	± 5%	
2450	39.200	1.800	39.347	1.847	0.37%	2.61%	± 5%	
2457	39.191	1.807	39.338	1.853	0.38%	2.52%	± 5%	
2462	39.184	1.813	39.332	1.857	0.38%	2.44%	± 5%	
2467	39.177	1.818	39.325	1.862	0.38%	2.41%	± 5%	
2472	39.171	1.823	39.319	1.867	0.38%	2.39%	± 5%	
2480	39.160	1.832	39.309	1.874	0.38%	2.29%	± 5%	
5190	36.010	4.650	36.144	4.692	0.37%	0.91%	± 5%	May. 22, 2024
5230	35.970	4.690	36.098	4.733	0.36%	0.92%	± 5%	
5250	35.950	4.710	36.076	4.754	0.35%	0.93%	± 5%	
5270	35.930	4.730	36.053	4.774	0.34%	0.93%	± 5%	
5310	35.890	4.770	36.007	4.816	0.33%	0.96%	± 5%	May. 23, 2024
5530	35.605	4.997	35.756	5.045	0.42%	0.97%	± 5%	
5600	35.500	5.070	35.676	5.117	0.50%	0.93%	± 5%	
5610	35.490	5.080	35.664	5.127	0.49%	0.93%	± 5%	
5690	35.410	5.160	35.573	5.209	0.46%	0.95%	± 5%	
5750	35.350	5.220	35.504	5.271	0.44%	0.98%	± 5%	
5775	35.325	5.245	35.476	5.297	0.43%	0.99%	± 5%	
5850	35.250	5.323	35.390	5.375	0.40%	0.99%	± 5%	
5855	35.245	5.328	35.384	5.380	0.39%	0.98%	± 5%	
6105	34.974	5.604	35.092	5.641	0.34%	0.66%	± 5%	May. 24, 2024
6265	34.782	5.793	34.900	5.809	0.34%	0.28%	± 5%	
6425	34.590	5.982	34.708	5.979	0.34%	-0.04%	± 5%	
6500	34.500	6.070	34.618	6.059	0.34%	-0.18%	± 5%	
6625	34.350	6.215	34.468	6.192	0.34%	-0.37%	± 5%	
6705	34.254	6.308	34.372	6.278	0.34%	-0.47%	± 5%	
6785	34.158	6.401	34.276	6.364	0.35%	-0.57%	± 5%	
6905	34.014	6.540	34.132	6.493	0.35%	-0.72%	± 5%	May. 26, 2024
6985	33.918	6.633	34.036	6.580	0.35%	-0.79%	± 5%	
7000	33.900	6.650	34.018	6.596	0.35%	-0.81%	± 5%	

3.4 The composition of the tissue simulating liquid:

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

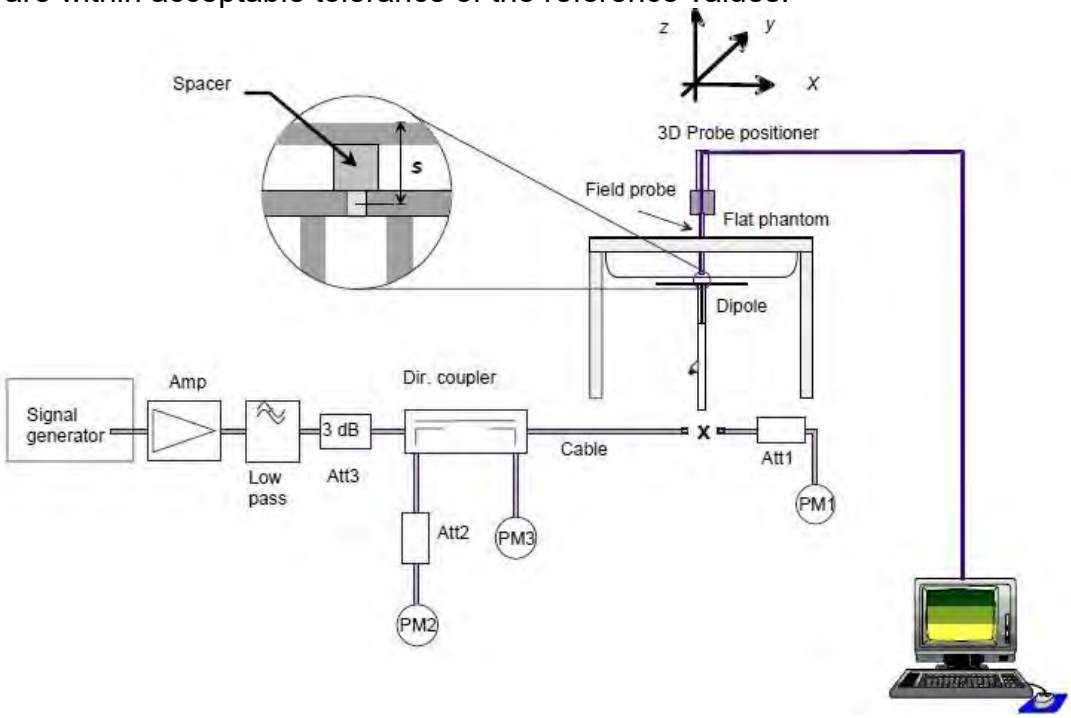
Broad-band head tissue simulating liquids	SPEAG Product	Frequency range (MHz)	Main Ingredients
	HBBL600-10000V6	600 - 10000	Water, Oil

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

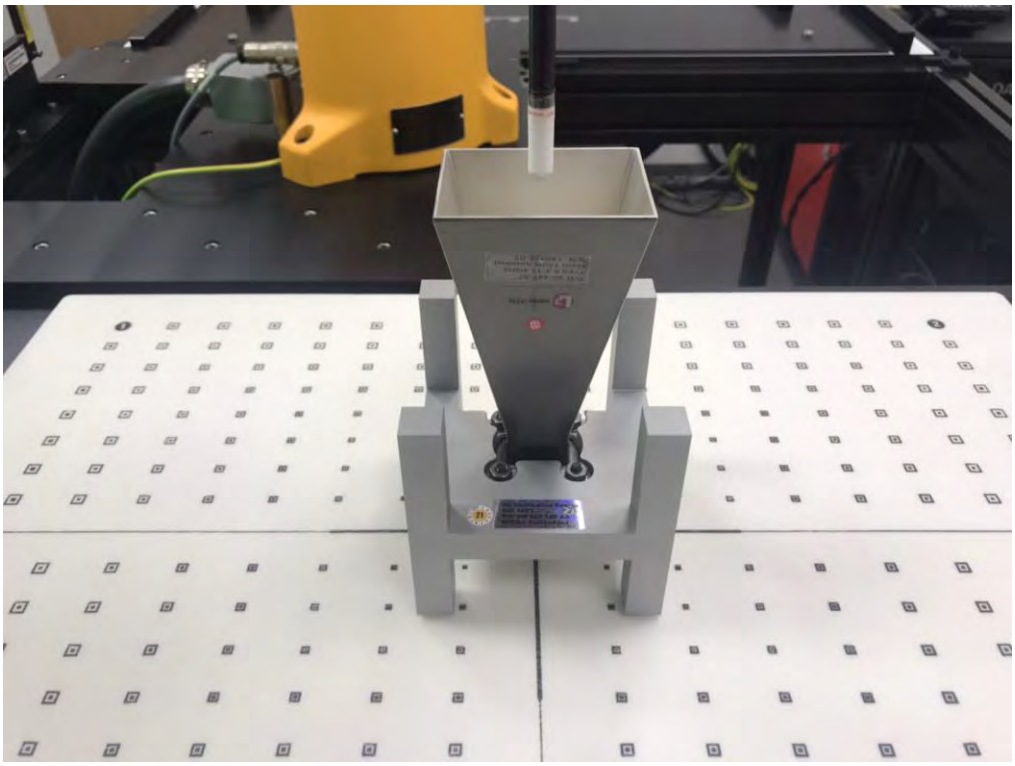
Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=250mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D2450V2	728	2450	53.4	13.9	55.6	4.12	± 10%	May.21,2024
Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=100mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D5GHzV2	1023	5250	78.8	7.73	77.3	-1.90	± 10%	May.22,2024
D5GHzV2	1023	5600	81.3	8.33	83.3	2.46	± 10%	May.23,2024
D5GHzV2	1023	5750	78	8.33	83.3	6.79	± 10%	May.23,2024
Validation Kit	S/N	Frequency (MHz)	1W Target 1g-SAR (W/kg)	pin=100mW Measured 1g-SAR (W/kg)	Normalized to 1W 1g-SAR (W/kg)	Deviation (%)	Limit	Measurement Date
D6.5GHzV2	1006	6500	296	29.1	291	-1.69	± 10%	May.25,2024
D7GHzV2	1007	7000	281	26.4	264	-6.05	± 10%	May.26,2024

4 PD SYSTEM VERIFICATION

4.1 System check

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.



System Verification Setup Photo

4.2 System check result

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

Frequency (MHz)	PD Verification Source (MHz)	Probe S/N	DAE S/N	Distance (mm)	Prad (mW)	Measured 4cm^2 (W/m^2)	Target 4cm^2 (W/m^2)	Deviation (dB)	Date
10000	10000	9399	1719	10	93.3	51	56.4	-0.44	May.27,2024

5 TEST CONFIGURATIONS

5.1 Test Environment

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

5.2 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).
- **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.
- **WLAN 5GHz:** Initial Test Configuration: An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. Since the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration

specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for subsequent test configuration.

- **WLAN 5GHz:** Based on FCC guidance, general principles of KDB248227D01 can be applied to 802.11ax to determine initial test configuration with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency band.
- **WLAN 6GHz:** Per October 2020 & April 2021 TCB Workshop Interim procedures and FCC guidance, start instead with a minimum of 5 test channels across the full band, then adapt and apply conducted power and SAR test reduction procedures of KDB Pub. 248227 v02r02. WIFI 6E SAR is measured by using 6-7GHz parameters per IEC/IEEE62209- 1528:2020 and report also estimated absorbed PD (for reference purposes only, not specifically for compliance). For the highest SAR test configurations also measure incident PD (total) using mmW near-field probe and total-field/power-density reconstruction method.
- **WLAN 6GHz:** Per equipment manufacturer guidance, power density was measured at d=2mm with the grid step (0.0625λ) for determining compliance at d=2mm.
- **WLAN 6GHz:** According to October 2020 TCB Workshop Interim procedures, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.67 dB (85%) was used to determine the psPD measurement scaling factor.
- **WLAN 6GHz:** Per FCC guidance, for simultaneous transmission evaluation, using SAR sum and SPLSR for simultaneous transmit exclusion analyses and evaluations.

5.3 Test position

Tablet mode SAR test position (0mm)

For full-size tablet, according to KDB 616217 D04, SAR evaluation is required for back surface and edges of the devices. The back surface and edges of the tablet are tested with the tablet touching the phantom. Exposures from antennas through the front surface of the display section of a tablet are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary. When voice mode is supported on a tablet and it is limited to speaker mode or headset operations only, additional SAR testing for this type of voice use is not required.

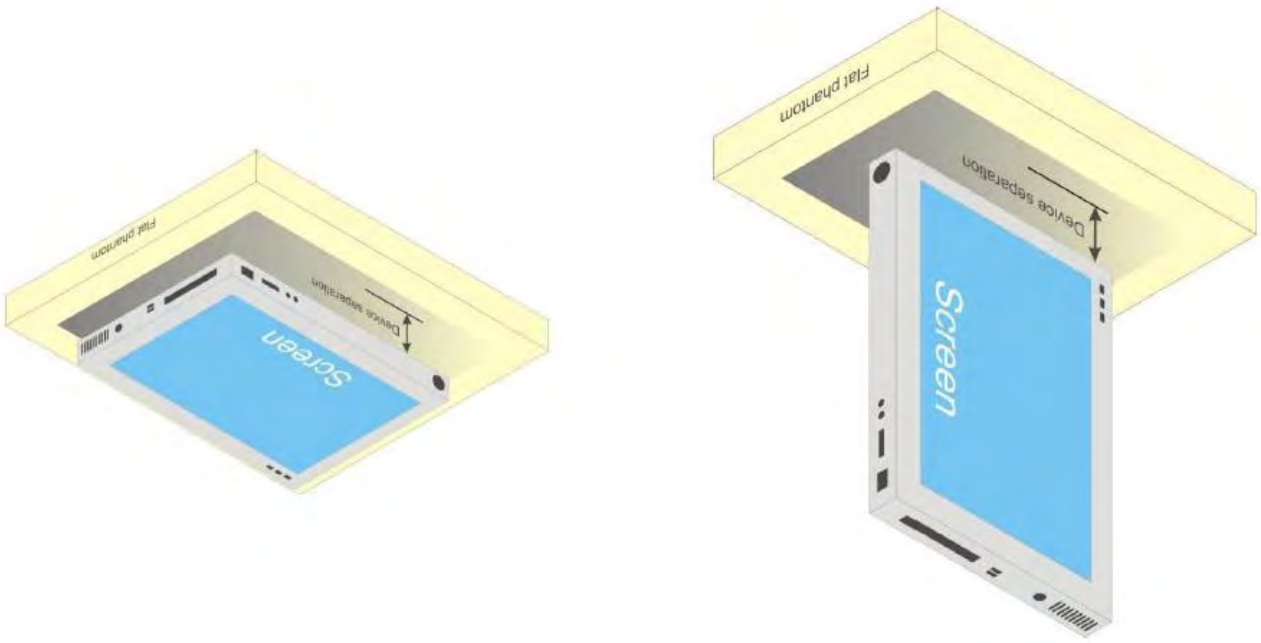


Illustration for Tablet Setup

5.4 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)

6 MAXIMUM OUTPUT POWER

6.1 WLAN

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	19.50	18.26
		6	2437		19.50	18.17
		11	2462		19.50	18.15
		12	2467		15.75	15.62
		13	2472		15.75	15.61
	802.11g	1	2412	6Mbps	19.50	18.10
		6	2437		19.50	18.00
		11	2462		19.50	17.96
		12	2467		17.50	17.42
		13	2472		13.75	13.73
	802.11n20-HT0	1	2412	MCS0	19.25	17.76
		6	2437		19.50	18.02
		11	2462		16.50	15.12
		12	2467		14.50	14.38
		13	2472		10.50	10.43
	802.11ac20-VHT0	1	2412	MCS0	19.25	17.88
		6	2437		19.50	17.90
		11	2462		16.50	14.96
		12	2467		14.50	14.42
		13	2472		10.50	10.45
	802.11ax20-HE0	1	2412	MCS0	19.25	17.93
		6	2437		19.50	18.12
		11	2462		16.50	14.96
		12	2467		14.50	14.35
		13	2472		10.50	10.37
	802.11be20-EHT0	1	2412	MCS0	19.25	17.95
		6	2437		19.50	17.91
		11	2462		16.50	15.11
		12	2467		14.50	14.41
		13	2472		10.50	10.36
	802.11n40-HT0	3	2422	MCS0	16.25	14.90
		6	2437		17.50	15.94
		9	2452		15.75	14.29
		10	2457		13.25	13.20
		11	2462		8.00	7.95
	802.11ac40-VHT0	3	2422	MCS0	16.25	14.84
		6	2437		17.50	16.16
		9	2452		15.75	14.20
		10	2457		13.25	13.25
		11	2462		8.00	7.97
	802.11ax40-HE0	3	2422	MCS0	16.25	14.89
		6	2437		17.50	16.12
		9	2452		15.75	14.27
		10	2457		13.25	13.25
		11	2462		8.00	7.97
	802.11be40-EHT0	3	2422	MCS0	16.25	14.91
		6	2437		17.50	16.14
		9	2452		15.75	14.28
		10	2457		13.25	13.24
		11	2462		8.00	7.95

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	19.50	18.28
		6	2437		19.50	18.34
		11	2462		19.50	18.44
		12	2467		15.75	15.67
		13	2472		15.75	15.60
	802.11g	1	2412	6Mbps	19.50	18.16
		6	2437		19.50	17.98
		11	2462		19.50	18.04
		12	2467		17.50	17.45
		13	2472		13.75	13.71
	802.11n20-HT0	1	2412	MCS0	19.25	17.79
		6	2437		19.50	18.16
		11	2462		16.50	15.05
		12	2467		14.50	14.43
		13	2472		10.50	10.44
	802.11ac20-VHT0	1	2412	MCS0	19.25	17.77
		6	2437		19.50	18.07
		11	2462		16.50	15.11
		12	2467		14.50	14.47
		13	2472		10.50	10.41
	802.11ax20-HE0	1	2412	MCS0	19.25	17.74
		6	2437		19.50	18.01
		11	2462		16.50	15.04
		12	2467		14.50	14.38
		13	2472		10.50	10.39
	802.11be20-EHT0	1	2412	MCS0	19.25	17.81
		6	2437		19.50	17.95
		11	2462		16.50	15.17
		12	2467		14.50	14.43
		13	2472		10.50	10.38
	802.11n40-HT0	3	2422	MCS0	16.25	14.79
		6	2437		17.50	16.15
		9	2452		15.75	14.36
		10	2457		13.25	13.19
		11	2462		8.00	7.89
	802.11ac40-VHT0	3	2422	MCS0	16.25	14.69
		6	2437		17.50	16.17
		9	2452		15.75	14.30
		10	2457		13.25	13.25
		11	2462		8.00	7.89
	802.11ax40-HE0	3	2422	MCS0	16.25	14.78
		6	2437		17.50	16.09
		9	2452		15.75	14.33
		10	2457		13.25	13.25
		11	2462		8.00	7.94
	802.11be40-EHT0	3	2422	MCS0	16.25	14.82
		6	2437		17.50	16.02
		9	2452		15.75	14.43
		10	2457		13.25	13.22
		11	2462		8.00	7.92

MIMO

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	17.00	16.35
		40	5200		17.00	16.55
		44	5220		17.00	16.40
		48	5240		17.00	16.48
	802.11n20-HT0	36	5180	MCS0	17.00	16.50
		40	5200		17.00	16.56
		44	5220		17.00	16.45
		48	5240		17.00	16.37
	802.11ac20-VHT0	36	5180	MCS0	17.00	16.46
		40	5200		17.00	16.59
		44	5220		17.00	16.57
		48	5240		17.00	16.60
	802.11ax20-HE0	36	5180	MCS0	17.00	16.35
		40	5200		17.00	16.35
		44	5220		17.00	16.58
		48	5240		17.00	16.47
	802.11be20-EHT0	36	5180	MCS0	17.00	16.53
		40	5200		17.00	16.55
		44	5220		17.00	16.45
		48	5240		17.00	16.46
	802.11n40-HT0	38	5190	MCS0	16.50	16.47
		46	5230		17.00	16.62
	802.11ac40-VHT0	38	5190	MCS0	16.50	16.39
		46	5230		17.00	16.56
	802.11ax40-HE0	38	5190	MCS0	16.50	16.35
		46	5230		17.00	16.34
	802.11be40-EHT0	38	5190	MCS0	16.50	16.33
		46	5230		17.00	16.30
	802.11ac80-VHT0	42	5210	MCS0	16.00	15.83
	802.11ax80-HE0	42	5210	MCS0	16.00	15.98
	802.11be80-EHT0	42	5210	MCS0	16.00	15.87
	802.11ac160-VHT0	50	5250	MCS0	13.75	13.24
	802.11ax160-HE0	50	5250	MCS0	13.75	13.07
	802.11be160-EHT0	50	5250	MCS0	13.75	13.34

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	17.00	16.54
		56	5280		17.00	16.41
		60	5300		17.00	16.43
		64	5320		17.00	16.36
	802.11n20-HT0	52	5260	MCS0	17.00	16.57
		56	5280		17.00	16.54
		60	5300		17.00	16.43
		64	5320		17.00	16.35
	802.11ac20-VHT0	52	5260	MCS0	17.00	16.34
		56	5280		17.00	16.35
		60	5300		17.00	16.46
		64	5320		17.00	16.38
	802.11ax20-HE0	52	5260	MCS0	17.00	16.53
		56	5280		17.00	16.52
		60	5300		17.00	16.57
		64	5320		17.00	16.58
	802.11be20-EHT0	52	5260	MCS0	17.00	16.37
		56	5280		17.00	16.38
		60	5300		17.00	16.36
		64	5320		17.00	16.33
	802.11n40-HT0	54	5270	MCS0	17.00	16.80
		62	5310		15.50	15.45
	802.11ac40-VHT0	54	5270	MCS0	17.00	16.42
		62	5310		17.00	16.37
	802.11ax40-HE0	54	5270	MCS0	17.00	16.46
		62	5310		17.00	16.57
	802.11be40-EHT0	54	5270	MCS0	17.00	16.47
		62	5310		17.00	16.46
	802.11ac80-VHT0	58	5290	MCS0	15.75	15.22
	802.11ax80-HE0	58	5290	MCS0	15.75	15.27
	802.11be80-EHT0	58	5290	MCS0	15.75	15.12

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	14.50	14.14
		120	5600		14.50	14.19
		140	5700		14.50	14.07
		144	5720		14.50	14.21
	802.11n20-HT0	100	5500	MCS0	14.50	14.23
		120	5600		14.50	14.14
		140	5700		14.50	14.13
		144	5720		14.50	14.16
	802.11ac20-VHT0	100	5500	MCS0	14.50	14.02
		120	5600		14.50	14.05
		140	5700		14.50	14.02
		144	5720		14.50	14.02
	802.11ax20-HE0	100	5500	MCS0	14.50	14.17
		120	5600		14.50	14.27
		140	5700		14.50	14.16
		144	5720		14.50	14.14
	802.11be20-EHT0	100	5500	MCS0	14.50	14.02
		120	5600		14.50	14.19
		140	5700		14.50	14.25
		144	5720		14.50	14.14
	802.11n40-HT0	102	5510	MCS0	14.50	14.24
		118	5590		14.50	14.03
		134	5670		14.50	14.16
		142	5710		14.50	14.22
	802.11ac40-VHT0	102	5510	MCS0	14.50	14.08
		118	5590		14.50	14.22
		134	5670		14.50	14.07
		142	5710		14.50	14.27
	802.11ax40-HE0	102	5510	MCS0	14.50	14.13
		118	5590		14.50	14.03
		134	5670		14.50	14.17
		142	5710		14.50	14.02
	802.11be40-EHT0	102	5510	MCS0	14.50	14.29
		118	5590		14.50	14.19
		134	5670		14.50	14.06
		142	5710		14.50	14.19
	802.11ac80-VHT0	106	5530	MCS0	14.50	14.46
		122	5610		14.50	14.48
		138	5690		14.50	14.41
	802.11ax80-HE0	106	5530	MCS0	14.50	14.01
		122	5610		14.50	14.17
		138	5690		14.50	14.12
	802.11be80-EHT0	106	5530	MCS0	14.50	14.04
		122	5610		14.50	14.28
		138	5690		14.50	14.14
	802.11ac160-VHT0	114	5570	MCS0	14.25	13.92
	802.11ax160-HE0	114	5570	MCS0	14.25	13.85
	802.11be160-EHT0	114	5570	MCS0	14.25	13.78

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	14.50	14.19
		157	5785		14.50	14.28
		165	5825		14.50	14.22
	802.11n20-HT0	149	5745	MCS0	14.50	14.15
		157	5785		14.50	14.07
		165	5825		14.50	14.06
	802.11ac20-VHT0	149	5745	MCS0	14.50	14.18
		157	5785		14.50	14.18
		165	5825		14.50	14.21
	802.11ax20-HE0	149	5745	MCS0	14.50	14.09
		157	5785		14.50	14.18
		165	5825		14.50	14.15
	802.11be20-EHT0	149	5745	MCS0	14.50	14.16
		157	5785		14.50	14.06
		165	5825		14.50	14.03
	802.11n40-HT0	151	5755	MCS0	14.50	14.20
		159	5795		14.50	14.10
	802.11ac40-VHT0	151	5755	MCS0	14.50	14.12
		159	5795		14.50	14.24
	802.11ax40-HE0	151	5755	MCS0	14.50	14.11
		159	5795		14.50	14.20
	802.11be40-EHT0	151	5755	MCS0	14.50	14.24
		159	5795		14.50	14.27
	802.11ac80-VHT0	155	5775	MCS0	14.50	14.41
	802.11ax80-HE0	155	5775	MCS0	14.50	14.23
	802.11be80-EHT0	155	5775	MCS0	14.50	14.15

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
5.9GHz	802.11a	169	5845	6Mbps	14.50	13.94
		173	5865		14.50	14.00
		177	5885		14.50	13.96
	802.11n20-HT0	169	5845	MCS0	14.50	14.10
		173	5865		14.50	14.19
		177	5885		14.50	14.14
	802.11ac20-VHT0	169	5845	MCS0	14.50	13.97
		173	5865		14.50	13.98
		177	5885		14.50	14.16
	802.11ax20-HE0	169	5845	MCS0	14.50	14.08
		173	5865		14.50	14.07
		177	5885		14.50	13.90
	802.11be20-EHT0	169	5845	MCS0	14.50	14.11
		173	5865		14.50	14.10
		177	5885		14.50	14.16
	802.11n40-HT0	167	5835	MCS0	14.50	14.04
		175	5875		14.50	14.05
	802.11ac40-VHT0	167	5835	MCS0	14.50	14.05
		175	5875		14.50	14.09
	802.11ax40-HE0	167	5835	MCS0	14.50	14.17
		175	5875		14.50	13.94
	802.11be40-EHT0	167	5835	MCS0	14.50	13.95
		175	5875		14.50	14.04
	802.11ac80-VHT0	171	5855	MCS0	14.50	14.21
	802.11ax80-HE0	171	5855	MCS0	14.50	14.04
	802.11be80-EHT0	171	5855	MCS0	14.50	14.19
	802.11ac160-VHT0	163	5815	MCS0	13.50	13.02
	802.11ax160-HE0	163	5815	MCS0	13.50	13.16
	802.11be160-EHT0	163	5815	MCS0	13.50	12.91

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	17.00	15.27
		40	5200		17.00	15.27
		44	5220		17.00	15.18
		48	5240		17.00	15.01
	802.11n20-HT0	36	5180	MCS0	17.00	15.00
		40	5200		17.00	15.04
		44	5220		17.00	15.14
		48	5240		17.00	15.02
	802.11ac20-VHT0	36	5180	MCS0	17.00	15.16
		40	5200		17.00	15.02
		44	5220		17.00	15.02
		48	5240		17.00	15.04
	802.11ax20-HE0	36	5180	MCS0	17.00	15.17
		40	5200		17.00	15.18
		44	5220		17.00	15.02
		48	5240		17.00	15.25
	802.11be20-EHT0	36	5180	MCS0	17.00	15.21
		40	5200		17.00	15.13
		44	5220		17.00	15.08
		48	5240		17.00	15.06
	802.11n40-HT0	38	5190	MCS0	17.00	15.38
		46	5230		17.00	15.32
	802.11ac40-VHT0	38	5190	MCS0	17.00	15.23
		46	5230		17.00	15.05
	802.11ax40-HE0	38	5190	MCS0	17.00	15.14
		46	5230		17.00	15.17
	802.11be40-EHT0	38	5190	MCS0	17.00	15.26
		46	5230		17.00	15.02
	802.11ac80-VHT0	42	5210	MCS0	16.50	14.51
	802.11ax80-HE0	42	5210	MCS0	16.50	14.72
	802.11be80-EHT0	42	5210	MCS0	16.50	14.51
	802.11ac160-VHT0	50	5250	MCS0	13.75	11.84
	802.11ax160-HE0	50	5250	MCS0	13.75	11.88
	802.11be160-EHT0	50	5250	MCS0	13.75	11.86

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	17.00	15.13
		56	5280		17.00	15.29
		60	5300		17.00	15.15
		64	5320		17.00	15.23
	802.11n20-HT0	52	5260	MCS0	17.00	15.26
		56	5280		17.00	15.23
		60	5300		17.00	15.09
		64	5320		17.00	15.19
	802.11ac20-VHT0	52	5260	MCS0	17.00	15.07
		56	5280		17.00	15.07
		60	5300		17.00	15.25
		64	5320		17.00	15.08
	802.11ax20-HE0	52	5260	MCS0	17.00	15.28
		56	5280		17.00	15.04
		60	5300		17.00	15.25
		64	5320		17.00	15.28
	802.11be20-EHT0	52	5260	MCS0	17.00	15.22
		56	5280		17.00	15.27
		60	5300		17.00	15.15
		64	5320		17.00	15.28
	802.11n40-HT0	54	5270	MCS0	17.00	15.37
		62	5310		17.00	13.92
	802.11ac40-VHT0	54	5270	MCS0	17.00	15.25
		62	5310		17.00	15.15
	802.11ax40-HE0	54	5270	MCS0	17.00	15.15
		62	5310		17.00	15.01
	802.11be40-EHT0	54	5270	MCS0	17.00	15.10
		62	5310		17.00	15.03
	802.11ac80-VHT0	58	5290	MCS0	15.75	14.02
	802.11ax80-HE0	58	5290	MCS0	15.75	14.00
	802.11be80-EHT0	58	5290	MCS0	15.75	14.04

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	14.50	12.62
		120	5600		14.50	12.56
		140	5700		14.50	12.55
		144	5720		14.50	12.54
	802.11n20-HT0	100	5500	MCS0	14.50	12.70
		120	5600		14.50	12.57
		140	5700		14.50	12.76
		144	5720		14.50	12.52
	802.11ac20-VHT0	100	5500	MCS0	14.50	12.67
		120	5600		14.50	12.67
		140	5700		14.50	12.58
		144	5720		14.50	12.53
	802.11ax20-HE0	100	5500	MCS0	14.50	12.51
		120	5600		14.50	12.51
		140	5700		14.50	12.54
		144	5720		14.50	12.54
	802.11be20-EHT0	100	5500	MCS0	14.50	12.55
		120	5600		14.50	12.73
		140	5700		14.50	12.75
		144	5720		14.50	12.71
	802.11n40-HT0	102	5510	MCS0	14.50	12.73
		118	5590		14.50	12.57
		134	5670		14.50	12.78
		142	5710		14.50	12.57
	802.11ac40-VHT0	102	5510	MCS0	14.50	12.57
		118	5590		14.50	12.75
		134	5670		14.50	12.69
		142	5710		14.50	12.75
	802.11ax40-HE0	102	5510	MCS0	14.50	12.64
		118	5590		14.50	12.74
		134	5670		14.50	12.78
		142	5710		14.50	12.51
	802.11be40-EHT0	102	5510	MCS0	14.50	12.57
		118	5590		14.50	12.70
		134	5670		14.50	12.57
		142	5710		14.50	12.76
	802.11ac80-VHT0	106	5530	MCS0	14.50	12.95
		122	5610		14.50	12.87
		138	5690		14.50	12.85
	802.11ax80-HE0	106	5530	MCS0	14.50	12.65
		122	5610		14.50	12.62
		138	5690		14.50	12.64
	802.11be80-EHT0	106	5530	MCS0	14.50	12.77
		122	5610		14.50	12.51
		138	5690		14.50	12.75
	802.11ac160-VHT0	114	5570	MCS0	14.25	12.52
	802.11ax160-HE0	114	5570	MCS0	14.25	12.41
	802.11be160-EHT0	114	5570	MCS0	14.25	12.32

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	14.50	12.64
		157	5785		14.50	12.56
		165	5825		14.50	12.67
	802.11n20-HT0	149	5745	MCS0	14.50	12.72
		157	5785		14.50	12.62
		165	5825		14.50	12.57
	802.11ac20-VHT0	149	5745	MCS0	14.50	12.69
		157	5785		14.50	12.68
		165	5825		14.50	12.59
	802.11ax20-HE0	149	5745	MCS0	14.50	12.61
		157	5785		14.50	12.54
		165	5825		14.50	12.63
	802.11be20-EHT0	149	5745	MCS0	14.50	12.68
		157	5785		14.50	12.56
		165	5825		14.50	12.56
	802.11n40-HT0	151	5755	MCS0	14.50	12.80
		159	5795		14.50	12.69
	802.11ac40-VHT0	151	5755	MCS0	14.50	12.67
		159	5795		14.50	12.68
	802.11ax40-HE0	151	5755	MCS0	14.50	12.64
		159	5795		14.50	12.80
	802.11be40-EHT0	151	5755	MCS0	14.50	12.79
		159	5795		14.50	12.55
	802.11ac80-VHT0	155	5775	MCS0	14.50	12.84
	802.11ax80-HE0	155	5775	MCS0	14.50	12.54
	802.11be80-EHT0	155	5775	MCS0	14.50	12.50

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
5.9GHz	802.11a	169	5845	6Mbps	14.50	12.78
		173	5865		14.50	12.78
		177	5885		14.50	12.77
	802.11n20-HT0	169	5845	MCS0	14.50	12.71
		173	5865		14.50	12.54
		177	5885		14.50	12.58
	802.11ac20-VHT0	169	5845	MCS0	14.50	12.71
		173	5865		14.50	12.73
		177	5885		14.50	12.63
	802.11ax20-HE0	169	5845	MCS0	14.50	12.65
		173	5865		14.50	12.61
		177	5885		14.50	12.76
	802.11be20-EHT0	169	5845	MCS0	14.50	12.77
		173	5865		14.50	12.53
		177	5885		14.50	12.50
	802.11n40-HT0	167	5835	MCS0	14.50	12.66
		175	5875		14.50	12.70
	802.11ac40-VHT0	167	5835	MCS0	14.50	12.63
		175	5875		14.50	12.53
	802.11ax40-HE0	167	5835	MCS0	14.50	12.58
		175	5875		14.50	12.75
	802.11be40-EHT0	167	5835	MCS0	14.50	12.73
		175	5875		14.50	12.58
	802.11ac80-VHT0	171	5855	MCS0	14.50	12.85
	802.11ax80-HE0	171	5855	MCS0	14.50	12.57
	802.11be80-EHT0	171	5855	MCS0	14.50	12.59
	802.11ac160-VHT0	163	5815	MCS0	13.50	11.72
	802.11ax160-HE0	163	5815	MCS0	13.50	11.60
	802.11be160-EHT0	163	5815	MCS0	13.50	11.61

6.2 WLAN 6GHz

MIMO

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
U-NII-5 6.2GHz	802.11a	1	5955	6Mbps	13.50	13.09
		45	6175		13.50	13.15
		93	6415		13.50	13.08
	802.11ax20-HE0	1	5955	MCS0	13.50	13.17
		45	6175		13.50	13.19
		93	6415		13.50	13.19
	802.11be20-EHT0	1	5955	MCS0	13.50	13.09
		45	6175		13.50	13.15
		93	6415		13.50	13.14
	802.11ax40-HE0	3	5965	MCS0	13.50	13.12
		43	6165		13.50	13.05
		91	6405		13.50	13.19
	802.11be40-EHT0	3	5965	MCS0	13.50	13.06
		43	6165		13.50	13.14
		91	6405		13.50	13.05
	802.11ax80-HE0	7	5985	MCS0	13.50	13.11
		39	6145		13.50	13.11
		87	6385		13.50	13.10
	802.11be80-EHT0	7	5985	MCS0	13.50	13.02
		39	6145		13.50	13.00
		87	6385		13.50	13.01
	802.11ax160-HE0	15	6025	MCS0	13.50	13.15
		47	6185		13.50	13.05
		79	6345		13.50	13.18
	802.11be160-EHT0	15	6025	MCS0	13.50	13.06
		47	6185		13.50	13.03
		79	6345		13.50	13.14
	802.11be320-EHT0	31	6105	MCS0	13.50	13.23
		63	6265		13.50	13.30

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
U-NII-6 6.5GHz	802.11a	97	6435	6Mbps	0.00	-0.23
		105	6475		0.00	-0.31
		113	6515		0.00	-0.33
	802.11ax20-HE0	97	6435	MCS0	3.75	2.94
		105	6475		3.75	3.05
		113	6515		3.75	3.02
	802.11be20-EHT0	97	6435	MCS0	3.75	2.90
		105	6475		3.75	3.03
		113	6515		3.75	2.88
	802.11ax40-HE0	99	6445	MCS0	6.25	5.47
		107	6485		6.25	5.46
	802.11be40-EHT0	99	6445	MCS0	6.25	5.53
		107	6485		6.25	5.36
	802.11ax80-HE0	103	6465	MCS0	9.50	8.72
		119	6545		9.00	8.11
	802.11be80-EHT0	103	6465	MCS0	9.50	8.67
		119	6545		9.00	8.18
	802.11ax160-HE0	111	6505	MCS0	13.00	12.28
	802.11be160-EHT0	111	6505	MCS0	13.00	12.18
	802.11be320-EHT0	95	6425	MCS0	14.00	13.56

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
U-NII-7 6.7GHz	802.11a	117	6535	6Mbps	13.00	12.41
		149	6695		13.00	12.60
		181	6855		14.00	13.13
	802.11ax20-HE0	117	6535	MCS0	13.00	12.33
		149	6695		13.00	12.69
		181	6855		14.00	13.09
	802.11be20-EHT0	117	6535	MCS0	13.00	12.42
		149	6695		13.00	12.65
		181	6855		14.00	13.13
	802.11ax40-HE0	115	6525	MCS0	6.25	5.65
		147	6685		13.00	12.61
		179	6845		14.00	13.10
	802.11be40-EHT0	115	6525	MCS0	6.25	5.75
		147	6685		13.00	12.56
		179	6845		14.00	13.16
	802.11ax80-HE0	135	6625	MCS0	13.00	12.55
		151	6705		13.00	12.99
		167	6785		14.00	13.24
	802.11be80-EHT0	135	6625	MCS0	13.00	12.31
		151	6705		13.00	12.53
		167	6785		14.00	13.14
	802.11ax160-HE0	143	6665	MCS0	13.00	12.34
		175	6825		12.25	11.89
	802.11be160-EHT0	143	6665	MCS0	13.00	12.43
		175	6825		12.25	11.89
	802.11be320-EHT0	127	6585	MCS0	13.00	12.48
		159	6745		13.00	11.88

Main						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Main Average power (dBm)
U-NII-8 7.0GHz	802.11a	185	6875	6Mbps	0.25	0.20
		209	6995		0.25	0.14
		233	7115		0.25	0.21
	802.11ax20-HE0	185	6875	MCS0	3.50	2.47
		209	6995		3.50	2.46
		233	7115		-7.75	-8.04
	802.11be20-EHT0	185	6875	MCS0	3.50	2.56
		209	6995		3.50	2.44
		233	7115		-7.75	-8.12
	802.11ax40-HE0	187	6885	MCS0	6.50	5.46
		227	7085		6.50	5.41
	802.11be40-EHT0	187	6885	MCS0	6.50	5.46
		227	7085		6.50	5.56
	802.11ax80-HE0	183	6865	MCS0	9.00	7.99
		199	6945		9.25	8.24
		215	7025		9.25	8.17
	802.11be80-EHT0	183	6865	MCS0	9.00	7.92
		199	6945		9.25	8.30
		215	7025		9.25	8.27
	802.11ax160-HE0	207	6985	MCS0	13.00	11.98
	802.11be160-EHT0	207	6985	MCS0	13.00	12.04
	802.11be320-EHT0	191	6905	MCS0	15.50	14.68

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
U-NII-5 6.2GHz	802.11a	1	5955	6Mbps	13.50	12.08
		45	6175		13.50	12.08
		93	6415		13.50	12.10
	802.11ax20-HE0	1	5955	MCS0	13.50	12.18
		45	6175		13.50	12.15
		93	6415		13.50	12.12
	802.11be20-EHT0	1	5955	MCS0	13.50	12.02
		45	6175		13.50	12.13
		93	6415		13.50	12.10
	802.11ax40-HE0	3	5965	MCS0	13.50	12.18
		43	6165		13.50	12.14
		91	6405		13.50	12.11
	802.11be40-EHT0	3	5965	MCS0	13.50	12.08
		43	6165		13.50	12.09
		91	6405		13.50	12.15
	802.11ax80-HE0	7	5985	MCS0	13.50	12.07
		39	6145		13.50	12.15
		87	6385		13.50	12.10
	802.11be80-EHT0	7	5985	MCS0	13.50	12.06
		39	6145		13.50	12.08
		87	6385		13.50	12.16
	802.11ax160-HE0	15	6025	MCS0	13.50	12.10
		47	6185		13.50	12.10
		79	6345		13.50	12.03
	802.11be160-EHT0	15	6025	MCS0	13.50	12.19
		47	6185		13.50	12.13
		79	6345		13.50	12.18
	802.11be320-EHT0	31	6105	MCS0	13.50	12.22
		63	6265		13.50	12.43

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
U-NII-6 6.5GHz	802.11a	97.00	6435.00	6Mbps	0.00	-0.22
		105.00	6475.00		0.00	-0.31
		113.00	6515.00		0.00	-0.25
	802.11ax20-HE0	97.00	6435.00	MCS0	3.75	2.87
		105.00	6475.00		3.75	3.01
		113.00	6515.00		3.75	2.99
	802.11be20-EHT0	97.00	6435.00	MCS0	3.75	2.86
		105.00	6475.00		3.75	2.99
		113.00	6515.00		3.75	2.91
	802.11ax40-HE0	99.00	6445.00	MCS0	6.25	5.37
		107.00	6485.00		6.25	5.49
	802.11be40-EHT0	99.00	6445.00	MCS0	6.25	5.43
		107.00	6485.00		6.25	5.39
	802.11ax80-HE0	103.00	6465.00	MCS0	9.50	8.77
		119.00	6545.00		9.00	8.15
	802.11be80-EHT0	103.00	6465.00	MCS0	9.50	8.72
		119.00	6545.00		9.00	8.23
	802.11ax160-HE0	111.00	6505.00	MCS0	13.00	12.13
	802.11be160-EHT0	111.00	6505.00	MCS0	13.00	12.10
	802.11be320-EHT0	95.00	6425.00	MCS0	14.50	13.15

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
U-NII-7 6.7GHz	802.11a	117	6535	6Mbps	13.00	12.45
		149	6695		13.00	12.60
		181	6855		15.50	13.20
	802.11ax20-HE0	117	6535	MCS0	13.00	12.50
		149	6695		13.00	12.68
		181	6855		15.50	13.29
	802.11be20-EHT0	117	6535	MCS0	13.00	12.37
		149	6695		13.00	12.60
		181	6855		15.50	13.28
	802.11ax40-HE0	115	6525	MCS0	6.25	5.60
		147	6685		13.00	12.53
		179	6845		15.50	13.26
	802.11be40-EHT0	115	6525	MCS0	6.25	5.72
		147	6685		13.00	12.69
		179	6845		15.50	13.22
	802.11ax80-HE0	135	6625	MCS0	13.00	12.54
		151	6705		13.00	12.98
		167	6785		15.50	13.32
	802.11be80-EHT0	135	6625	MCS0	13.00	12.32
		151	6705		13.00	12.63
		167	6785		15.50	13.30
	802.11ax160-HE0	143	6665	MCS0	13.00	12.49
		175	6825		12.25	11.93
	802.11be160-EHT0	143	6665	MCS0	13.00	12.33
		175	6825		12.25	11.81
	802.11be320-EHT0	127	6585	MCS0	13.00	12.45
		159	6745		13.00	11.75

Aux						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Aux Average power (dBm)
U-NII-8 7.0GHz	802.11a	185.00	6875.00	6Mbps	0.25	0.19
		209.00	6995.00		0.25	0.22
		233.00	7115.00		0.25	0.21
	802.11ax20-HE0	185.00	6875.00	MCS0	3.50	2.59
		209.00	6995.00		3.50	2.48
		233.00	7115.00		-7.75	-8.15
	802.11be20-EHT0	185.00	6875.00	MCS0	3.50	2.42
		209.00	6995.00		3.50	2.49
		233.00	7115.00		-7.75	-8.28
	802.11ax40-HE0	187.00	6885.00	MCS0	6.50	5.45
		227.00	7085.00		6.50	5.48
	802.11be40-EHT0	187.00	6885.00	MCS0	6.50	5.50
		227.00	7085.00		6.50	5.47
	802.11ax80-HE0	183.00	6865.00	MCS0	9.00	7.92
		199.00	6945.00		9.25	8.32
		215.00	7025.00		9.25	8.57
	802.11be80-EHT0	183.00	6865.00	MCS0	9.00	7.92
		199.00	6945.00		9.25	8.29
		215.00	7025.00		9.25	8.27
	802.11ax160-HE0	207.00	6985.00	MCS0	13.00	12.40
	802.11be160-EHT0	207.00	6985.00	MCS0	13.00	11.93
	802.11be320-EHT0	191.00	6905.00	MCS0	15.50	15.12

6.3 Bluetooth

Aux

Mode	Channel	Frequency (MHz)	1Mbps		2Mbps		3Mbps	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
BR/EDR	CH 00	2402	16.00	14.32	12.00	10.98	12.00	10.99
	CH 39	2441		14.04		10.62		10.61
	CH 78	2480		14.02		10.26		10.27

Main

Mode	Channel	Frequency (MHz)	1Mbps		2Mbps		3Mbps	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
BR/EDR	CH 00	2402	16.00	15.52	12.00	10.12	12.00	10.08
	CH 39	2441		15.95		10.11		10.03
	CH 78	2480		14.75		11.89		11.81

6.4 BLE

Aux

Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_1M	CH 00	2402	16	11.32
	CH 19	2440		11.31
	CH 39	2480		10.60

Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_2M	CH 00	2402	16	8.65
	CH 19	2440		8.34
	CH 39	2480		7.94

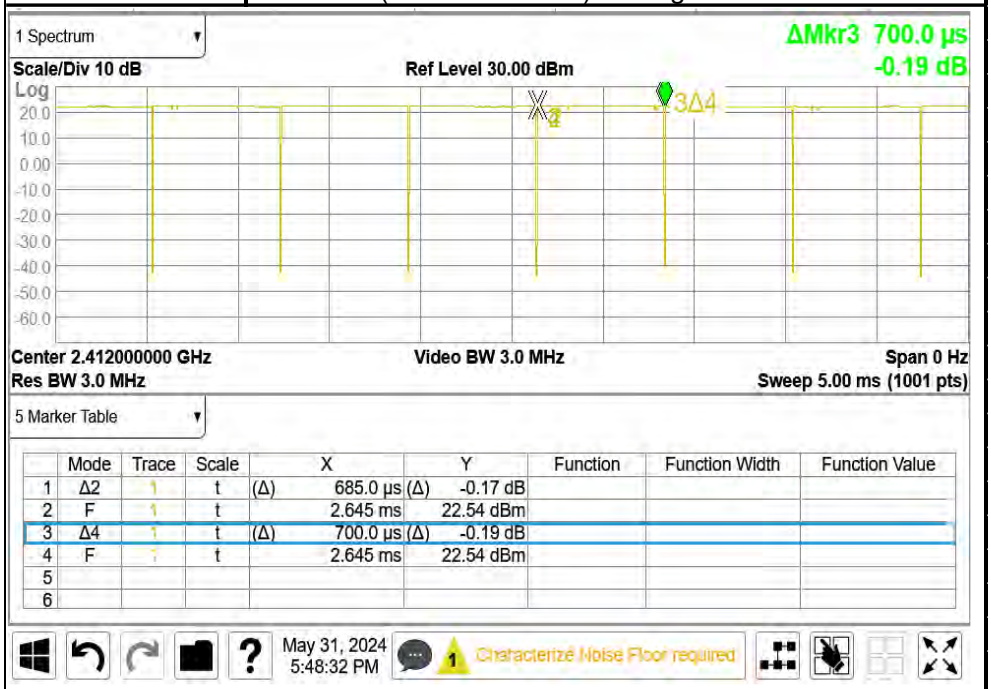
Main

Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_1M	CH 00	2402	16	12.59
	CH 19	2440		12.92
	CH 39	2480		12.12

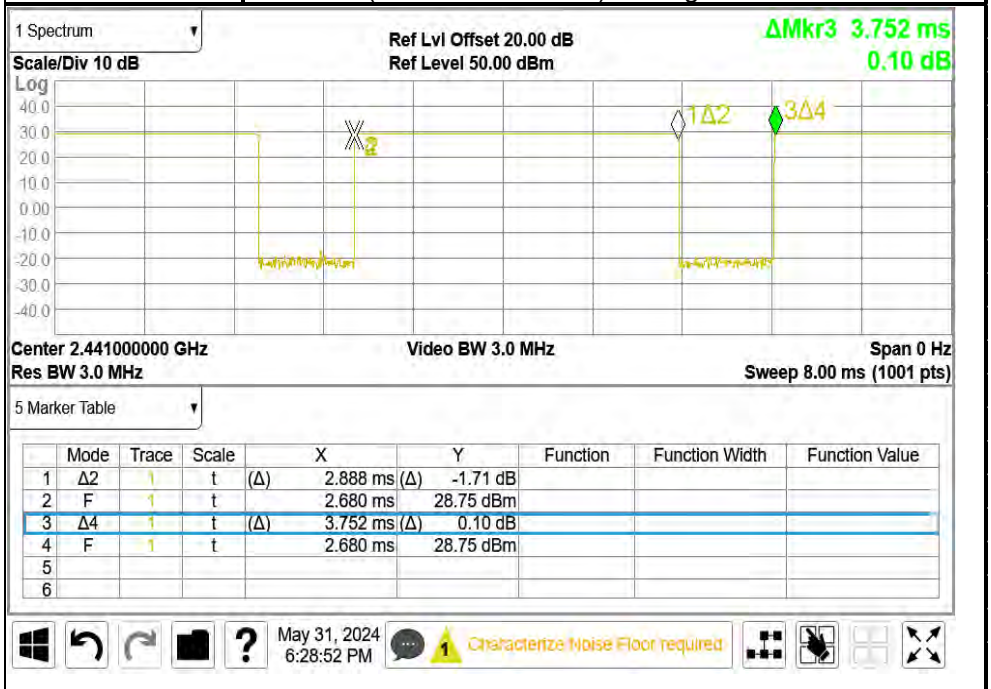
Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg.Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_2M	CH 00	2402	16	9.90
	CH 19	2440		10.23
	CH 39	2480		9.46

7 DUTY CYCLE

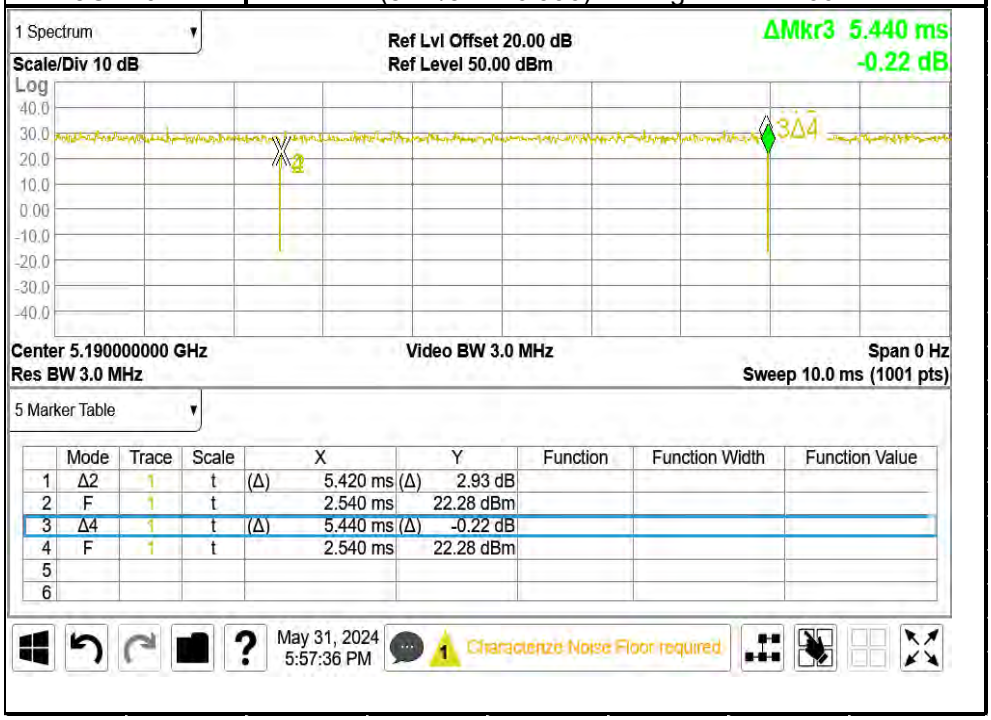
2.4G b	(0.685/0.7=0.978) Scaling Factor=1.022



BT	(2.888/3.572=0.808) Scaling Factor=1.237

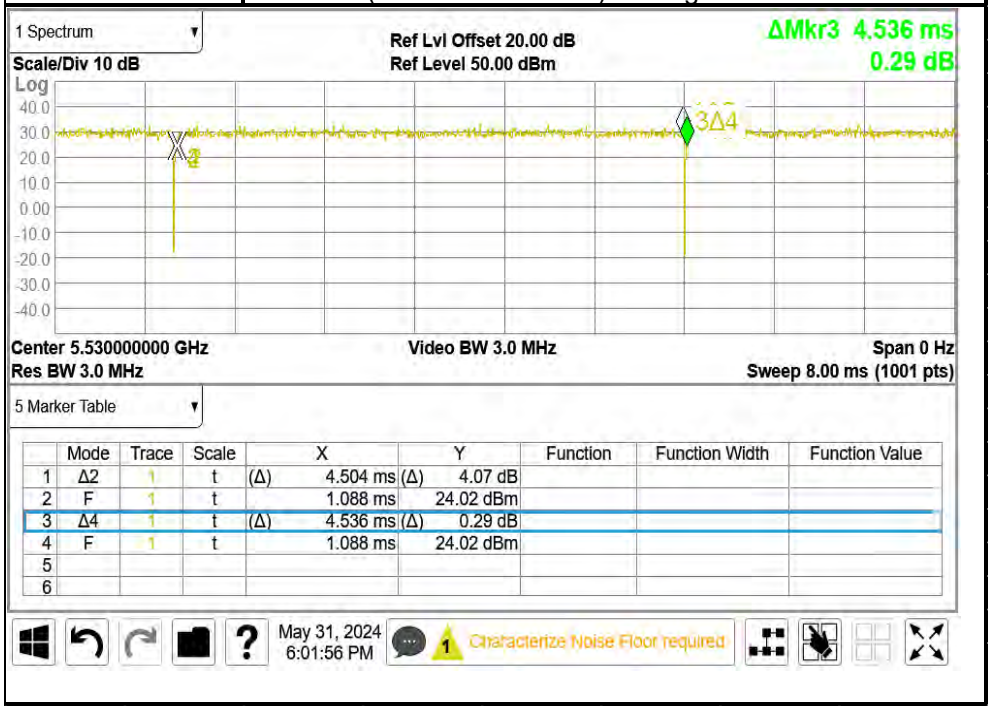


5G n40M	(5.42/5.44=0.996) Scaling Factor=1.004



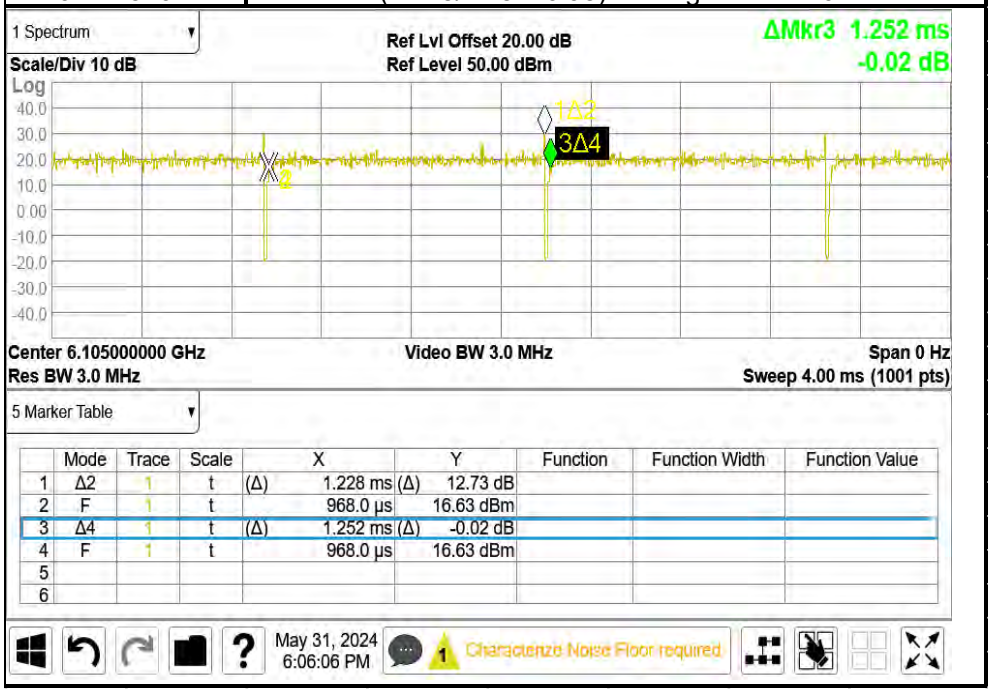
	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	Δ2	1	t	(Δ) 5.420 ms	(Δ) 2.93 dB			
2	F	1	t	2.540 ms	22.28 dBm			
3	Δ4	1	t	(Δ) 5.440 ms	(Δ) -0.22 dB			
4	F	1	t	2.540 ms	22.28 dBm			
5								
6								

5G ac80M	(4.504/4.536=0.992) Scaling Factor=1.008



	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	Δ2	1	t	(Δ) 4.504 ms	(Δ) 4.07 dB			
2	F	1	t	1.088 ms	24.02 dBm			
3	Δ4	1	t	(Δ) 4.536 ms	(Δ) 0.29 dB			
4	F	1	t	1.088 ms	24.02 dBm			
5								
6								

6E be320M	(1.228/1.252=0.98) Scaling Factor=1.02



6E ax80M	(5.128/5.168=0.992) Scaling Factor=1.008

8 SUMMARY OF RESULTS

8.1 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.

8.2 Summary of SAR Results

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	Main	Back Surface	0	1	2412	19.50	18.26	1.02	133.05%	0.036	0.049	-
WLAN 802.11b	Main	Top Edge	0	1	2412	19.50	18.26	1.02	133.05%	0.355	0.483	001
WLAN 802.11b	Main	Top Edge	0	6	2437	19.50	18.17	1.02	135.83%	0.211	0.293	-
WLAN 802.11b	Main	Top Edge	0	11	2462	19.50	18.15	1.02	136.46%	0.201	0.280	-
WLAN 802.11b	Main	Bottom Edge	0	1	2412	19.50	18.26	1.02	133.05%	0.024	0.033	-
WLAN 802.11b	Main	Left Edge	0	1	2412	19.50	18.26	1.02	133.05%	0.032	0.044	-
WLAN 802.11b	Main	Right Edge	0	1	2412	19.50	18.26	1.02	133.05%	0.068	0.092	-

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	
Bluetooth(GFSK)	Main	Back Surface	0	39	2441	16.00	15.95	1.24	101.16%	0.022	0.028	-
Bluetooth(GFSK)	Main	Top Edge	0	39	2441	16.00	15.95	1.24	101.16%	0.292	0.365	002
Bluetooth(GFSK)	Main	Bottom Edge	0	39	2441	16.00	15.95	1.24	101.16%	0.011	0.014	-
Bluetooth(GFSK)	Main	Left Edge	0	39	2441	16.00	15.95	1.24	101.16%	0.001	0.001	-
Bluetooth(GFSK)	Main	Right Edge	0	39	2441	16.00	15.95	1.24	101.16%	0.055	0.069	-

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	Aux	Back Surface	0	11	2462	19.50	18.44	1.02	127.64%	0.033	0.043	-
WLAN 802.11b	Aux	Top Edge	0	1	2412	19.50	18.28	1.02	132.43%	0.066	0.089	-
WLAN 802.11b	Aux	Top Edge	0	6	2437	19.50	18.34	1.02	130.62%	0.093	0.124	-
WLAN 802.11b	Aux	Top Edge	0	11	2462	19.50	18.44	1.02	127.64%	0.219	0.286	003
WLAN 802.11b	Aux	Bottom Edge	0	11	2462	19.50	18.44	1.02	127.64%	0.060	0.078	-
WLAN 802.11b	Aux	Left Edge	0	11	2462	19.50	18.44	1.02	127.64%	0.032	0.042	-
WLAN 802.11b	Aux	Right Edge	0	11	2462	19.50	18.44	1.02	127.64%	0.029	0.038	-

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	
Bluetooth(GFSK)	Aux	Back Surface	0	00	2402	16.00	14.32	1.24	147.23%	0.012	0.022	-
Bluetooth(GFSK)	Aux	Top Edge	0	00	2402	16.00	14.32	1.24	147.23%	0.072	0.131	004
Bluetooth(GFSK)	Aux	Bottom Edge	0	00	2402	16.00	14.32	1.24	147.23%	0.018	0.033	-
Bluetooth(GFSK)	Aux	Left Edge	0	00	2402	16.00	14.32	1.24	147.23%	0.011	0.020	-
Bluetooth(GFSK)	Aux	Right Edge	0	00	2402	16.00	14.32	1.24	147.23%	0.008	0.015	-

MIMO

Band	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 802.11n(40M) 5.2G	Back Surface	0	38	5190	16.50	16.47	1.00	100.69%	0.109	0.142	-
						15.38		129.42%			
WLAN 802.11n(40M) 5.2G	Back Surface	0	46	5230	17.00	16.62	1.00	109.14%	0.133	0.197	-
						15.32		147.23%			
WLAN 802.11n(40M) 5.2G	Top Edge	0	38	5190	16.50	16.47	1.00	100.69%	0.508	0.660	005
						15.38		129.42%			
WLAN 802.11n(40M) 5.2G	Top Edge	0	46	5230	17.00	16.62	1.00	109.14%	0.443	0.655	-
						15.32		147.23%			
WLAN 802.11n(40M) 5.2G	Bottom Edge	0	38	5190	16.50	16.47	1.00	100.69%	0.089	0.116	-
						15.38		129.42%			
WLAN 802.11n(40M) 5.2G	Bottom Edge	0	46	5230	17.00	16.62	1.00	109.14%	0.095	0.140	-
						15.32		147.23%			
WLAN 802.11n(40M) 5.2G	Left Edge	0	38	5190	16.50	16.47	1.00	100.69%	0.108	0.140	-
						15.38		129.42%			
WLAN 802.11n(40M) 5.2G	Left Edge	0	46	5230	17.00	16.62	1.00	109.14%	0.134	0.198	-
						15.32		147.23%			
WLAN 802.11n(40M) 5.2G	Right Edge	0	38	5190	16.50	16.47	1.00	100.69%	0.162	0.210	-
						15.38		129.42%			
WLAN 802.11n(40M) 5.2G	Right Edge	0	46	5230	17.00	16.62	1.00	109.14%	0.165	0.244	-
						15.32		147.23%			
Band	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 802.11n(40M) 5.3G	Back Surface	0	54	5270	17.00	16.80	1.00	104.71%	0.110	0.161	-
						15.37		145.55%			
WLAN 802.11n(40M) 5.3G	Back Surface	0	62	5310	15.50	15.45	1.00	101.16%	0.091	0.131	-
						13.92		143.88%			
WLAN 802.11n(40M) 5.3G	Top Edge	0	54	5270	17.00	16.80	1.00	104.71%	0.569	0.831	006
						15.37		145.55%			
WLAN 802.11n(40M) 5.3G	Top Edge	0	62	5310	15.50	15.45	1.00	101.16%	0.379	0.547	-
						13.92		143.88%			
WLAN 802.11n(40M) 5.3G	Bottom Edge	0	54	5270	17.00	16.80	1.00	104.71%	0.099	0.145	-
						15.37		145.55%			
WLAN 802.11n(40M) 5.3G	Bottom Edge	0	62	5310	15.50	15.45	1.00	101.16%	0.061	0.088	-
						13.92		143.88%			
WLAN 802.11n(40M) 5.3G	Left Edge	0	54	5270	17.00	16.80	1.00	104.71%	0.103	0.151	-
						15.37		145.55%			
WLAN 802.11n(40M) 5.3G	Left Edge	0	62	5310	15.50	15.45	1.00	101.16%	0.076	0.110	-
						13.92		143.88%			
WLAN 802.11n(40M) 5.3G	Right Edge	0	54	5270	17.00	16.80	1.00	104.71%	0.202	0.295	-
						15.37		145.55%			
WLAN 802.11n(40M) 5.3G	Right Edge	0	62	5310	15.50	15.45	1.00	101.16%	0.116	0.168	-
						13.92		143.88%			
Band	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 802.11ac(80M) 5.6G	Back Surface	0	106	5530	14.50	14.46	1.01	100.93%	0.116	0.167	-
						12.95		142.89%			
WLAN 802.11ac(80M) 5.6G	Back Surface	0	122	5610	14.50	14.48	1.01	100.46%	0.149	0.219	-
						12.87		145.55%			
WLAN 802.11ac(80M) 5.6G	Back Surface	0	138	5690	14.50	14.41	1.01	102.09%	0.182	0.268	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.6G	Top Edge	0	106	5530	14.50	14.46	1.01	100.93%	0.582	0.838	007
						12.95		142.89%			
WLAN 802.11ac(80M) 5.6G	Top Edge	0	122	5610	14.50	14.48	1.01	100.46%	0.531	0.779	-
						12.87		145.55%			
WLAN 802.11ac(80M) 5.6G	Top Edge	0	138	5690	14.50	14.41	1.01	102.09%	0.557	0.821	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.6G	Bottom Edge	0	106	5530	14.50	14.46	1.01	100.93%	0.118	0.170	-
						12.95		142.89%			
WLAN 802.11ac(80M) 5.6G	Bottom Edge	0	122	5610	14.50	14.48	1.01	100.46%	0.116	0.170	-
						12.87		145.55%			
WLAN 802.11ac(80M) 5.6G	Bottom Edge	0	138	5690	14.50	14.41	1.01	102.09%	0.118	0.174	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.6G	Left Edge	0	106	5530	14.50	14.46	1.01	100.93%	0.189	0.272	-
						12.95		142.89%			
WLAN 802.11ac(80M) 5.6G	Left Edge	0	122	5610	14.50	14.48	1.01	100.46%	0.212	0.311	-
						12.87		145.55%			
WLAN 802.11ac(80M) 5.6G	Left Edge	0	138	5690	14.50	14.41	1.01	102.09%	0.127	0.187	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.6G	Right Edge	0	106	5530	14.50	14.46	1.01	100.93%	0.234	0.337	-
						12.95		142.89%			
WLAN 802.11ac(80M) 5.6G	Right Edge	0	122	5610	14.50	14.48	1.01	100.46%	0.295	0.433	-
						12.87		145.55%			
WLAN 802.11ac(80M) 5.6G	Right Edge	0	138	5690	14.50	14.41	1.01	102.09%	0.283	0.417	-
						12.85		146.22%			

Band	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 802.11ac(80M) 5.8G	Back Surface	0	155	5775	14.50	14.41	1.01	102.09%	0.141	0.208	-
						12.84		146.55%			
WLAN 802.11ac(80M) 5.8G	Top Edge	0	155	5775	14.50	14.41	1.01	102.09%	0.649	0.959	008
						12.84		146.55%			
WLAN 802.11ac(80M) 5.8G	Bottom Edge	0	155	5775	14.50	14.41	1.01	102.09%	0.099	0.146	-
						12.84		146.55%			
WLAN 802.11ac(80M) 5.8G	Left Edge	0	155	5775	14.50	14.41	1.01	102.09%	0.112	0.165	-
						12.84		146.55%			
WLAN 802.11ac(80M) 5.8G	Right Edge	0	155	5775	14.50	14.41	1.01	102.09%	0.126	0.186	-
						12.84		146.55%			

Band	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 802.11ac(80M) 5.9G	Back Surface	0	171	5855	14.50	14.21	1.01	106.91%	0.121	0.178	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.9G	Top Edge	0	171	5855	14.50	14.21	1.01	106.91%	0.708	1.044	009
						12.85		146.22%			
WLAN 802.11ac(80M) 5.9G	Bottom Edge	0	171	5855	14.50	14.21	1.01	106.91%	0.067	0.099	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.9G	Left Edge	0	171	5855	14.50	14.21	1.01	106.91%	0.098	0.144	-
						12.85		146.22%			
WLAN 802.11ac(80M) 5.9G	Right Edge	0	171	5855	14.50	14.21	1.01	106.91%	0.131	0.193	-
						12.85		146.22%			

WLAN_6GHz_MIMO

Band	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)		Estimated APD W/m^2 (4cm^2)		ID
									Measured	Reported	Measured	Reported	
U-NII-5 6.2GHz 802.11be(320M)	Back Surface	0	31	6105	13.50	13.23	1.02	106.41%	0.134	0.184	1.08	1.479	-
						12.22		134.28%					
U-NII-5 6.2GHz 802.11be(320M)	Back Surface	0	63	6265	13.50	13.30	1.02	104.71%	0.117	0.153	1.28	1.670	-
						12.43		127.94%					
U-NII-5 6.2GHz 802.11be(320M)	Top Edge	0	31	6105	13.50	13.23	1.02	106.41%	0.725	0.993	5.23	7.163	010
						12.22		134.28%					
U-NII-5 6.2GHz 802.11be(320M)	Top Edge	0	63	6265	13.50	13.30	1.02	104.71%	0.641	0.836	4.59	5.990	011
						12.43		127.94%					
U-NII-5 6.2GHz 802.11be(320M)	Bottom Edge	0	31	6105	13.50	13.23	1.02	106.41%	0.095	0.130	0.799	1.094	-
						12.22		134.28%					
U-NII-5 6.2GHz 802.11be(320M)	Bottom Edge	0	63	6265	13.50	13.30	1.02	104.71%	0.108	0.141	0.832	1.086	-
						12.43		127.94%					
U-NII-5 6.2GHz 802.11be(320M)	Left Edge	0	31	6105	13.50	13.23	1.02	106.41%	0.112	0.153	0.903	1.237	-
						12.22		134.28%					
U-NII-5 6.2GHz 802.11be(320M)	Left Edge	0	63	6265	13.50	13.30	1.02	104.71%	0.189	0.247	1.4	1.827	-
						12.43		127.94%					
U-NII-5 6.2GHz 802.11be(320M)	Right Edge	0	31	6105	13.50	13.23	1.02	106.41%	0.239	0.327	1.63	2.232	-
						12.22		134.28%					
U-NII-5 6.2GHz 802.11be(320M)	Right Edge	0	63	6265	13.50	13.30	1.02	104.71%	0.311	0.406	2.11	2.753	-
						12.43		127.94%					
Band	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)		Estimated APD W/m^2 (4cm^2)		ID
									Measured	Reported	Measured	Reported	
U-NII-6 6.5GHz 802.11be(320M)	Back Surface	0	95	6425	14.00	13.56	1.02	110.66%	0.152	0.189	1.14	1.414	-
						13.15		121.62%					
U-NII-6 6.5GHz 802.11be(320M)	Top Edge	0	95	6425	14.00	13.56	1.02	110.66%	0.849	1.053	6.59	8.175	012
						13.15		121.62%					
U-NII-6 6.5GHz 802.11be(320M)	Bottom Edge	0	95	6425	14.00	13.56	1.02	110.66%	0.056	0.069	0.611	0.758	-
						13.15		121.62%					
U-NII-6 6.5GHz 802.11be(320M)	Left Edge	0	95	6425	14.00	13.56	1.02	110.66%	0.169	0.210	1.31	1.625	-
						13.15		121.62%					
U-NII-6 6.5GHz 802.11be(320M)	Right Edge	0	95	6425	14.00	13.56	1.02	110.66%	0.245	0.304	1.73	2.146	-
						13.15		121.62%					
Band	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)		Estimated APD W/m^2 (4cm^2)		ID
									Measured	Reported	Measured	Reported	
U-NII-7 6.7GHz 802.11ax(80M)	Back Surface	0	167	6785	14.00	13.24	1.01	119.12%	0.134	0.161	1.1	1.321	-
						13.32		116.95%					
U-NII-7 6.7GHz 802.11ax(80M)	Top Edge	0	135	6625	13.00	12.55	1.01	110.92%	0.770	0.863	6.01	6.735	-
						12.54		111.17%					
U-NII-7 6.7GHz 802.11ax(80M)	Top Edge	0	151	6705	13.00	12.99	1.01	100.23%	0.732	0.741	5.71	5.782	-
						12.98		100.46%					
U-NII-7 6.7GHz 802.11ax(80M)	Top Edge	0	167	6785	14.00	13.24	1.01	119.12%	0.868	1.042	6.76	8.117	013
						13.32		116.95%					
U-NII-7 6.7GHz 802.11ax(80M)	Bottom Edge	0	167	6785	14.00	13.24	1.01	119.12%	0.050	0.060	0.58	0.696	-
						13.32		116.95%					
U-NII-7 6.7GHz 802.11ax(80M)	Left Edge	0	167	6785	14.00	13.24	1.01	119.12%	0.202	0.243	1.55	1.861	-
						13.32		116.95%					
U-NII-7 6.7GHz 802.11ax(80M)	Right Edge	0	167	6785	14.00	13.24	1.01	119.12%	0.302	0.363	1.98	2.378	-
						13.32		116.95%					
Band	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)		Estimated APD W/m^2 (4cm^2)		ID
									Measured	Reported	Measured	Reported	
U-NII-8 7.0GHz 802.11be(320M)	Back Surface	0	191	6905	15.50	14.68	1.02	120.78%	0.171	0.211	1.42	1.749	-
						15.12		109.14%					
U-NII-8 7.0GHz 802.11be(320M)	Top Edge	0	191	6905	15.50	14.68	1.02	120.78%	0.766	0.944	6.02	7.416	014
						15.12		109.14%					
U-NII-8 7.0GHz 802.11be(320M)	Bottom Edge	0	191	6905	15.50	14.68	1.02	120.78%	0.083	0.102	0.731	0.901	-
						15.12		109.14%					
U-NII-8 7.0GHz 802.11be(320M)	Left Edge	0	191	6905	15.50	14.68	1.02	120.78%	0.134	0.165	1.02	1.257	-
						15.12		109.14%					
U-NII-8 7.0GHz 802.11be(320M)	Right Edge	0	191	6905	15.50	14.68	1.02	120.78%	0.263	0.324	1.81	2.230	-
						15.12		109.14%					

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

8.3 Summary of PD Results

Band	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Tune-up Scaling	Duty cycle scaling	Measurement uncertainty	PD result(4cm)				ID
										Measured Total psPD (W/m^2)	Reported Total psPD (W/m^2)	Measured Normal psPD (W/m^2)	Reported Normal psPD (W/m^2)	
U-NII-5 6.2GHz 802.11be(320M)	Top Edge	2	31	6105	13.50	13.23	106.41%	1.02	1.55	1.710	3.630	1.640	3.482	015
						12.22	134.28%							
	Top Edge	2	63	6265	13.50	13.30	104.71%	1.02	1.55	1.430	2.892	1.240	2.508	016
						12.43	127.94%							
U-NII-6 6.5GHz 802.11be(320M)	Top Edge	2	95	6425	14.00	13.56	110.66%	1.02	1.55	2.170	4.172	1.640	3.153	017
						13.15	121.62%							
U-NII-7 6.7GHz 802.11ax(80M)	Top Edge	2	167	6785	14.00	13.24	119.12%	1.00	1.55	2.180	4.025	1.790	3.305	018
						13.32	116.95%							
U-NII-8 7.0GHz 802.11be(320M)	Top Edge	2	191	6905	15.50	14.68	120.78%	1.02	1.55	3.660	6.989	3.000	5.729	019
						15.12	109.14%							

Note:
Reported PD = measured PD * Power scaling * Duty cycle scaling * Uncertainty scaling

8.4 Reporting statements of conformity

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

8.5 Conclusion

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

9 SIMULTANEOUS TRANSMISSION ANALYSIS

9.1 Simultaneous Transmission Scenarios:

Simultaneous Transmission configurations
WLAN 2.4GHz Main + BT Aux
WLAN 2.4GHz Aux + BT Main
WLAN 5GHz Main + WLAN 5GHz Aux + BT Main + BT Aux
WLAN 6GHz Main + WLAN 6GHz Aux + BT Main + BT Aux
WLAN 2.4GHz Main + WLAN 2.4GHz Aux + WLAN 5GHz Main + WLAN 5GHz Aux
WLAN 2.4GHz Main + WLAN 2.4GHz Aux + WLAN 6GHz Main + WLAN 6GHz Aux
WLAN 5GHz Aux + WLAN 5GHz Main + BT Aux
WLAN 5GHz Aux + WLAN 5GHz Main + BT Main
WLAN 6GHz Aux + WLAN 6GHz Main + BT Aux
WLAN 6GHz Aux + WLAN 6GHz Main + BT Main
WLAN 2.4GHz Main + WLAN 2.4GHz Aux

9.2 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.

9.3 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.

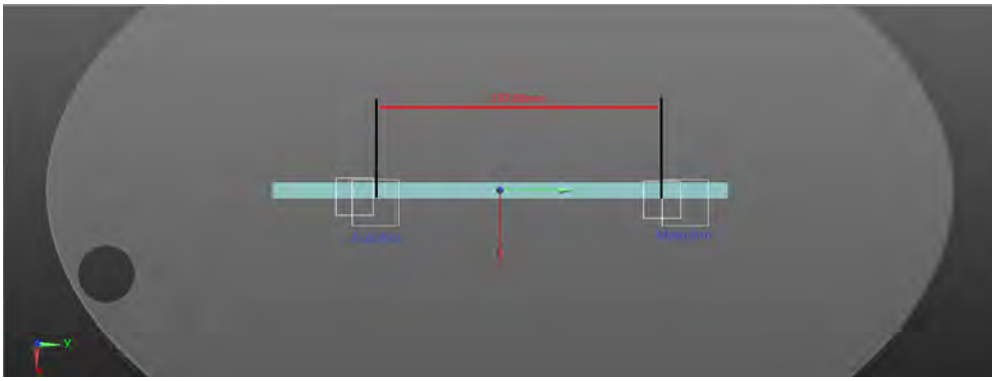
When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna.

Simultaneous Transmission Combination

Exposure Position		Reported SAR						Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	Scenario 9	Scenario 10	Scenario 11
		1	2	3	4	5	6	1+6	2+5	3+5+6	1+2+3	1+2+4	4+5+6	3+5	3+6	4+5	4+6	1+2
		2.4GHz WLAN Main	2.4GHz WLAN Aux	5GHz WLAN MIMO	6GHz WLAN MIMO	Bluetooth Main	Bluetooth Aux	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Σ(SAR) 1g SAR (W/kg)										
Back Surface	0	0.049	0.043	0.268	0.211	0.028	0.022	0.071	0.071	0.318	0.360	0.303	0.261	0.296	0.290	0.239	0.233	0.092
Top Edge	0	0.483	0.286	1.044	1.053	0.365	0.131	0.614	0.651	1.540	1.813	1.822	1.549	1.409	1.175	1.418	1.184	0.769
Bottom Edge	0	0.033	0.078	0.174	0.141	0.014	0.033	0.066	0.092	0.221	0.285	0.252	0.188	0.188	0.207	0.155	0.174	0.111
Left Edge	0	0.044	0.042	0.311	0.247	0.001	0.020	0.064	0.043	0.332	0.397	0.333	0.268	0.312	0.331	0.248	0.267	0.086
Right Edge	0	0.092	0.038	0.433	0.406	0.069	0.015	0.107	0.107	0.517	0.563	0.536	0.490	0.502	0.448	0.475	0.421	0.130

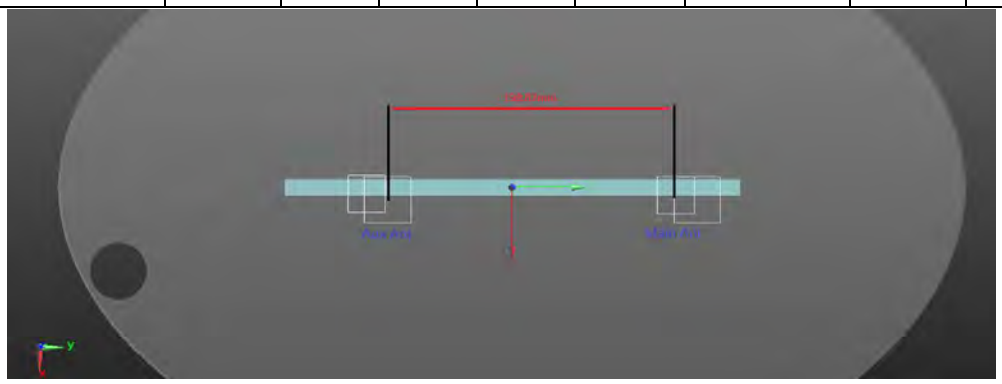
Scenario 4:

Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top Edge	WLAN 2.4G Main	0.483	0.80	11.80	-0.40	-	-	-	-
	WLAN 2.4G Aux	0.286	-0.70	-9.16	-0.45	-	-	-	-
	WLAN 5G MIMO Main	1.044	0.68	10.58	-0.42	-	-	-	-
	WLAN 5G MIMO Aux	0.772	0.32	-9.48	-0.44	2.585	197.88	0.021	SPLSR ≤ 0.04, Not required



Conditions	SAR Value (W/kg)	ΣSAR < 1.6 (W/kg)
WLAN 2.4G Aux	0.286	-
WLAN 5G MIMO Aux	0.772	1.058
WLAN 2.4G Main	0.483	-
WLAN 5G MIMO Main	1.044	1.527

Scenario 5:									
Position	Conditions	SAR Value (W/kg)	Coordinates (cm)			ΣSAR (W/kg)	Peak Location Separation Distance (mm)	SPLSR	Simultaneous Transmission SAR Test
			x	y	z				
Top Edge	WLAN 2.4G Main	0.483	0.80	11.80	-0.40	-	-	-	-
	WLAN 2.4G Aux	0.286	-0.70	-9.16	-0.45	-	-	-	-
	6G WLAN MIMO Main	1.053	0.66	10.60	-0.42	-	-	-	-
	6G WLAN MIMO Aux	0.799	0.24	-9.56	-0.44	2.621	198.07	0.021	SPLSR ≤ 0.04, Not required



Conditions	SAR Value (W/kg)	ΣSAR < 1.6 (W/kg)
WLAN 2.4G Aux	0.286	-
WLAN 6G MIMO Aux	0.799	1.085
WLAN 2.4G Main	0.483	-
WLAN 6G MIMO Main	1.053	1.536

9.4 Conclusion

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

10 INSTRUMENTS LIST

Equipment List					
Manufacturer	**Device**	**Type**	**Serial number**	**Date of last calibration**	**Date of next calibration**
SPEAG	Data acquisition Electronics	DAE4	1719	Jan/17/2024	Jan/16/2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7642	Feb/21/2024	Feb/20/2025
SPEAG	E-field Probe for Near Field Application	EUmmWV3	9399	Jan/23/2024	Jan/22/2025
SPEAG	System Validation Dipole	D2450V2	728	Aug/28/2023	Aug/27/2024
SPEAG	System Validation Dipole	D5GHzV2	1023	Jan/24/2024	Jan/23/2025
SPEAG	System Validation Dipole	D6.5GHzV2	1006	Aug/16/2023	Aug/15/2024
SPEAG	System Validation Dipole	D7GHzV2	1007	Aug/16/2023	Aug/15/2024
SPEAG	5G Verification Source 10GHz	5G-Veri10	1070	Aug/08/2023	Aug/07/2024
SPEAG	Dielectric Assessment Kit	DAKS-3.5	1053	Feb/21/2024	Feb/20/2025
R&S	MXG Analog Signal Generator	SMB100A03	182012	May/21/2024	May/20/2025
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 Sensor	NRP18S	101973	Feb/27/2024	Feb/26/2025
R&S	Power Meter	NRX	102191	Feb/27/2024	Feb/26/2025
R&S	Power Sensor	NRP18S	109065	Oct/23/2023	Oct/22/2024
SPEAG	Software	DASY 52 V52.10.4.1527	N/A	Calibration not required	Calibration not required
SPEAG	Software	DASY 6 V16.0.0.116	N/A	Calibration not required	Calibration not required
SPEAG	Software	DASY 6 mmWave V2.4.2.62	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	mmWave Phantom	N/A	Calibration not required	Calibration not required
LKM	Digital thermometer	DTM3000	EC14010603	Sep/27/2023	Sep/26/2024
TECPEL	Digital thermometer	DTM-303A	TP130077	Sep/25/2023	Sep/24/2024

11 UNCERTAINTY BUDGET

Measurement Uncertainty evaluation template for DUT SAR test (3-6G)

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
Measurement system									
Probe calibration	6.55%	N	1	1	1	1	6.55%	6.55%	∞
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.)	0.50%	N	1	1	0.64	0.43	0.32%	0.22%	M
Liquid Conductivity (mea.)	0.99%	N	1	1	0.6	0.49	0.59%	0.49%	M
Combined standard uncertainty		RSS					11.74%	11.72%	
Expant uncertainty (95% confidence interval),							23.47%	23.44%	

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	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.)	0.38%	N	1	1	0.64	0.43	0.24%	0.16%	M
Liquid Conductivity (mea.)	2.70%	N	1	1	0.6	0.49	1.62%	1.32%	M
Combined standard uncertainty		RSS					11.53%	11.49%	
Expant uncertainty (95% confidence interval),							23.07%	22.97%	

DASY6 Uncertainty Budget
According to IEC/IEEE 62209-1528
(Frequency band: 6GHz - 10GHz range)

a	b	c	d		e	e	f=b * e / d	f=b * e / d
Source of Uncertainty	Uncertainty Value (±%)	Probability Distributioin	Div.	Div. Value	(ci) 1g	(ci) 10g	Std. uncertainty (1g) (±%)	Std. uncertainty (10g) (±%)
Measurement system errors								
Probe calibration	18.6	N	2	2	1	1	9.3	9.3
Probe Calibration Drift	1.7	R	√3	1.732	1	1	1.0	1.0
Probe Linearity	4.7	R	√3	1.732	1	1	2.7	2.7
Broadband Signal	2.8	R	√3	1.732	1	1	1.6	1.6
Probe Isotropy	7.6	R	√3	1.732	1	1	4.4	4.4
Data Acquisition	0.3	N	1	1	1	1	0.3	0.3
RF Ambient	1.8	N	1	1	1	1	1.8	1.8
Probe positioning	0.2	N	1	1	0.67	0.67	0.1	0.1
Data Processing	3.5	N	1	1	1	1	3.5	3.5
Phantom and device errors								
Conductivity (meas.)DAK	2.5	N	1	1	0.78	0.71	2.0	1.8
Conductivity (temp.)BB	2.4	R	√3	1.732	0.78	0.71	1.1	1.0
Phantom Permittivity	14.0	R	√3	1.732	0.5	0.5	4.0	4.0
Distance DUT - TSL	2.0	N	1	1	2	2	4.0	4.0
Device Positioning (±0.5mm)	1.0	N	1	1	1	1	1.0	1.0
Device Holder	3.6	N	1	1	1	1	3.6	3.6
DUT Modulationm	2.4	R	√3	1.732	1	1	1.4	1.4
Time-average SAR	0.0	R	√3	1.732	1	1	0.0	0.0
DUT drift	2.5	N	1	1	1	1	2.5	2.5
Val Antenna Unc.	0.0	N	1	1	1	1	0.0	0.0
Unc. Input Power	0.0	N	1	1	1	1	0.0	0.0
Correction to the SAR results								
Deviation to Target	1.90	N	1	1	1	0.84	1.9	1.6
SAR scaling		R	√3	1.732	1	1	0.0	0.0
Combined Std. uncertainty							14.0	13.9
Expanded Std. uncertainty (95% confidence interval), K=2							28.0	27.8

cDASY6 Module mmWave Uncertainty Budget for PD Evaluation Distances to the Antennas ≧λ/ 5 In Compliance with IEC/IEEE 63195

a	b	c	d		e	f=b * e / d	g
Source of Uncertainty	Uncertainty Value (+-dB)	Probability Distributioin	Div.	Div. Value	ci	Std. uncertainty (+-dB)	(vi) Veff
Uncertainty terms dependent on the measurement system							
Probe calibration	0.49	N	1	1	1	0.49	∞
Probe correction	0.00	R	√3	1.732	1	0.00	∞
Frequency response (BW≦1GHz)	0.20	R	√3	1.732	1	0.12	∞
Sensor cross coupling	0.00	R	√3	1.732	1	0.00	∞
Isotropy	0.50	R	√3	1.732	1	0.29	∞
Linearity	0.20	R	√3	1.732	1	0.12	∞
Probe scattering	0.00	R	√3	1.732	1	0.00	∞
Probe positioning offset	0.30	R	√3	1.732	1	0.17	∞
Probe positioning repeatability	0.04	R	√3	1.732	1	0.02	∞
Sensor mechanical offset	0.00	R	√3	1.732	1	0.00	∞
Probe spatial resolution	0.00	R	√3	1.732	1	0.00	∞
Field impedance dependance	0.00	R	√3	1.732	1	0.00	∞
Amplitude and phase drift	0.00	R	√3	1.732	1	0.00	∞
Amplitude and phase noise	0.04	R	√3	1.732	1	0.02	∞
Measurement area truncation	0.00	R	√3	1.732	1	0.00	∞
Data acquisition	0.03	N	1	1	1	0.03	∞
Sampling	0.00	R	√3	1	1	0.00	∞
Field reconstruction	2.00	R	√3	1.732	1	1.15	∞
Forward transformation	0.00	R	√3	1.732	1	0.00	∞
Power density scaling	-	R	√3	1.732	1	-	∞
Spatial averaging	0.10	R	√3	1.732	1	0.06	∞
System detection limit	0.04	R	√3	1.732	1	0.02	∞
Uncertainty terms dependent on the DUT and environmental factors							
Probe coupling with DUT	0.00	R	√3	1.732	1	0.00	∞
Modulation response	0.40	R	√3	1.732	1	0.23	∞
Integration time	0.00	R	√3	1.732	1	0.00	∞
Response time	0.00	R	√3	1.732	1	0.00	∞
Device holder influence	0.10	R	√3	1.732	1	0.06	∞
DUT alignment	0.00	R	√3	1.732	1	0.00	∞
RF ambient conditions	0.04	R	√3	1.732	1	0.02	∞
Ambient reflections	0.04	R	√3	1.732	1	0.02	∞
Immunity / secondary reception	0.00	R	√3	1.732	1	0.00	∞
Drift of the DUT	-	R	√3	1.732	1	-	∞
Combined Std. uncertainty						1.33	
Expanded Std. uncertainty (95% confidence interval), K=2						2.67	

12 SAR MEASUREMENT RESULTS

Date: 2024/5/21

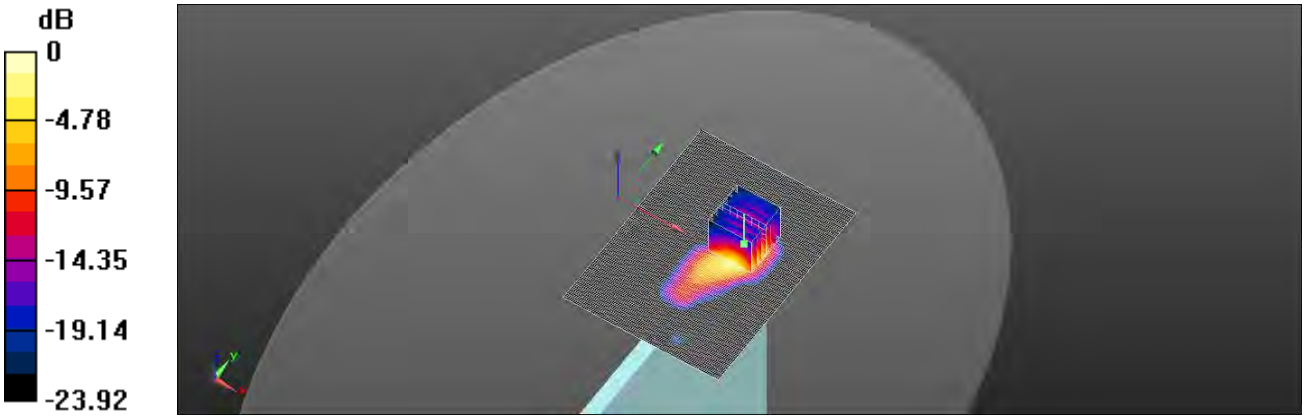
ID: 001
Report No. :TESA2405000293ES
WLAN 802.11b_Body_Top Edge_CH 1_0mm_Main
Communication System: WLAN; Frequency: 2412 MHz;Duty Cycle: 1:1.022
Medium parameters used: f = 2412 MHz; σ = 1.813 S/m; ε_r = 39.415; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(7.74, 7.66, 7.62) @ 2412 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.684 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.79 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.821 W/kg
SAR(1 g) = 0.355 W/kg; SAR(10 g) = 0.144 W/kg
Smallest distance from peaks to all points 3 dB below = 7 mm
Ratio of SAR at M2 to SAR at M1 = 46.8%
Maximum value of SAR (measured) = 0.572 W/kg



0 dB = 0.572 W/kg = -2.43 dBW/kg

Date: 2024/5/21

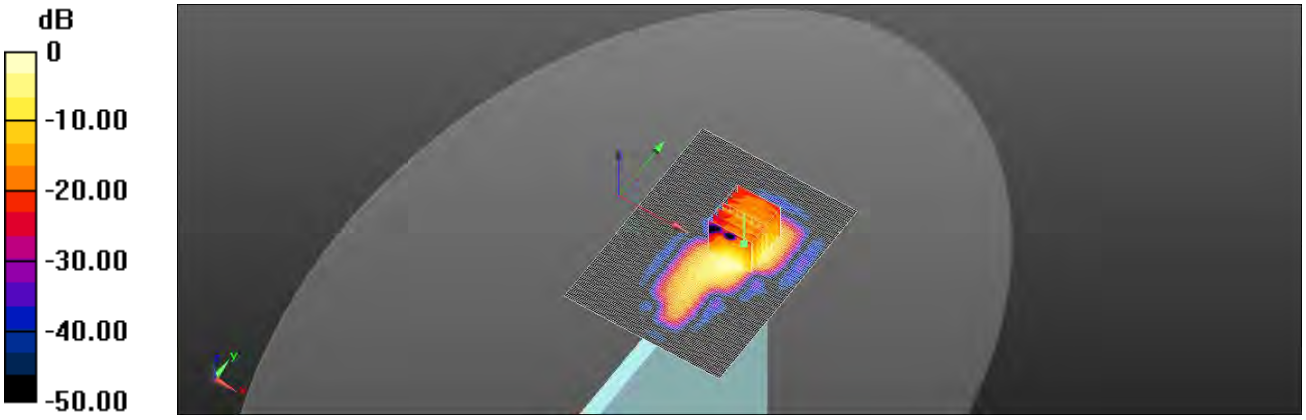
ID: 002
Report No. :TESA2405000293ES
Bluetooth(GFSK)_Body_Top Edge_CH 39_0mm_Main
Communication System: Bluetooth; Frequency: 2441 MHz;Duty Cycle: 1:1.237
Medium parameters used: f = 2441 MHz; σ = 1.839 S/m; ε_r = 39.363; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(7.74, 7.66, 7.62) @ 2441 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (91x121x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.653 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.62 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.656 W/kg
SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.115 W/kg
Smallest distance from peaks to all points 3 dB below = 6.7 mm
Ratio of SAR at M2 to SAR at M1 = 46.5%
Maximum value of SAR (measured) = 0.486 W/kg



0 dB = 0.486 W/kg = -3.13 dBW/kg

Date: 2024/5/21

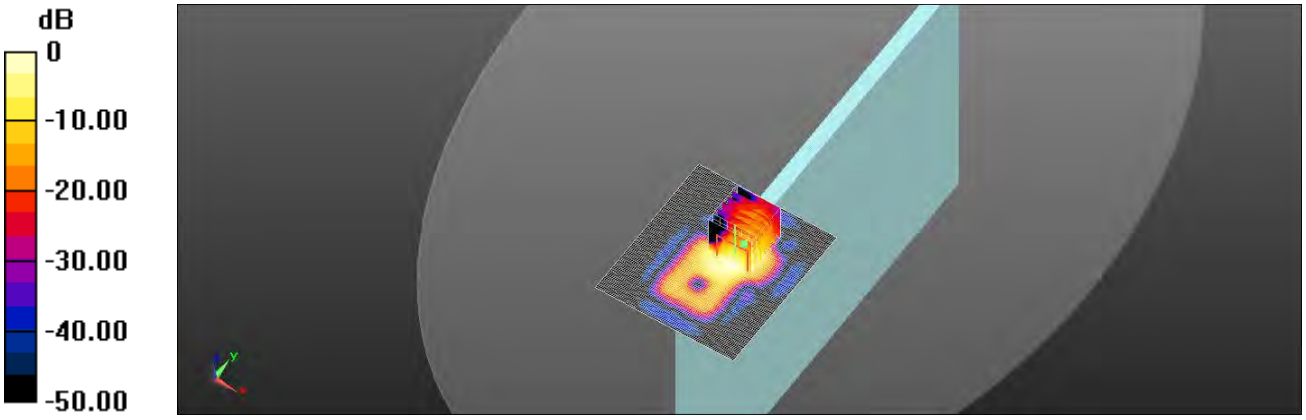
ID: 003
Report No. :TESA2405000293ES
WLAN 802.11b_Body_Top Edge_CH 11_0mm_Aux
Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1.022
Medium parameters used: f = 2462 MHz; σ = 1.857 S/m; ε_r = 39.332; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(7.74, 7.66, 7.62) @ 2462 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (81x91x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.458 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.120 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.525 W/kg
SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.082 W/kg
Smallest distance from peaks to all points 3 dB below = 5.4 mm
Ratio of SAR at M2 to SAR at M1 = 41.9%
Maximum value of SAR (measured) = 0.362 W/kg



0 dB = 0.362 W/kg = -4.41 dBW/kg

Date: 2024/5/21

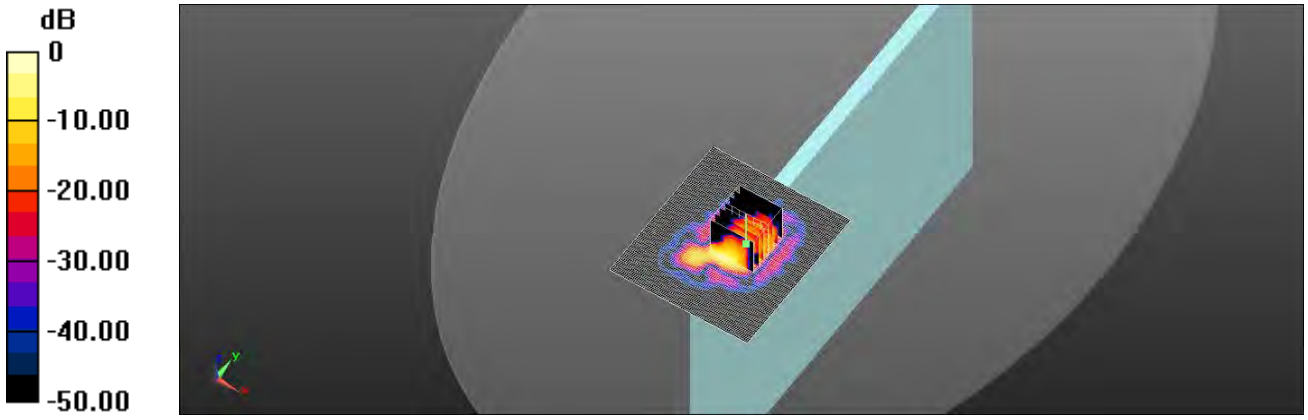
ID: 004
Report No. :TESA2405000293ES
Bluetooth(GFSK)_Body_Top Edge_CH 00_0mm_Aux
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1.237
Medium parameters used: f = 2402 MHz; σ = 1.805 S/m; ε_r = 39.432; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(7.74, 7.66, 7.62) @ 2402 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (81x91x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.0868 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.221 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.072 W/kg; SAR(10 g) = 0.025 W/kg
Smallest distance from peaks to all points 3 dB below = 6.3 mm
Ratio of SAR at M2 to SAR at M1 = 47.3%
Maximum value of SAR (measured) = 0.119 W/kg



0 dB = 0.119 W/kg = -9.24 dBW/kg

Date: 2024/5/22

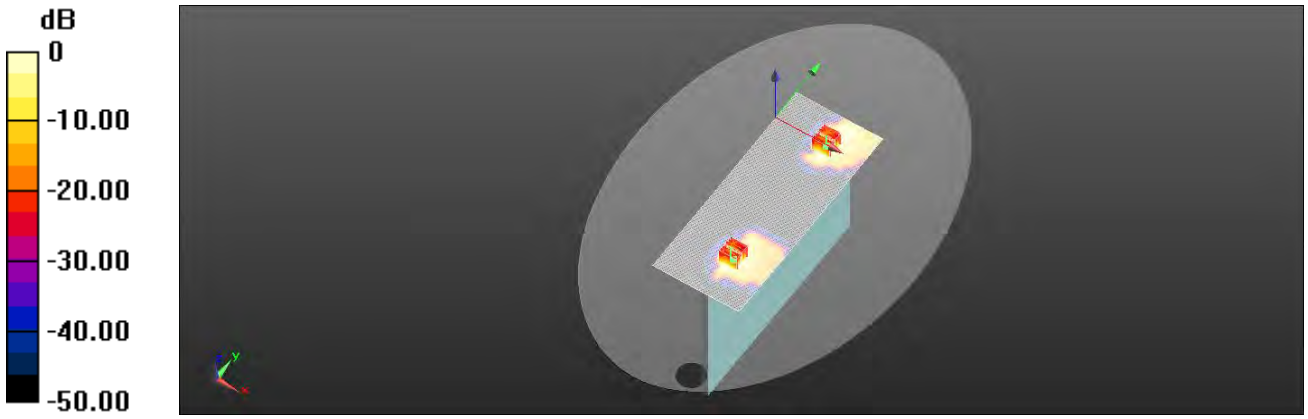
ID: 005
Report No. :TESA2405000293ES
WLAN 802.11n(40M) 5.2G_Body_Top Edge_CH 38_0mm_MIMO
Communication System: WLAN; Frequency: 5190 MHz;Duty Cycle: 1:1.004
Medium parameters used: f = 5190 MHz; σ = 4.692 S/m; ε_r = 36.144; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.78, 5.7, 5.67) @ 5190 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x301x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.12 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.90 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.88 W/kg
SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.170 W/kg
Smallest distance from peaks to all points 3 dB below = 5.6 mm
Ratio of SAR at M2 to SAR at M1 = 57.2%
Maximum value of SAR (measured) = 0.951 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.90 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.151 W/kg
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 58.3%
Maximum value of SAR (measured) = 0.823 W/kg



0 dB = 0.951 W/kg = -0.22 dBW/kg

Date: 2024/5/22

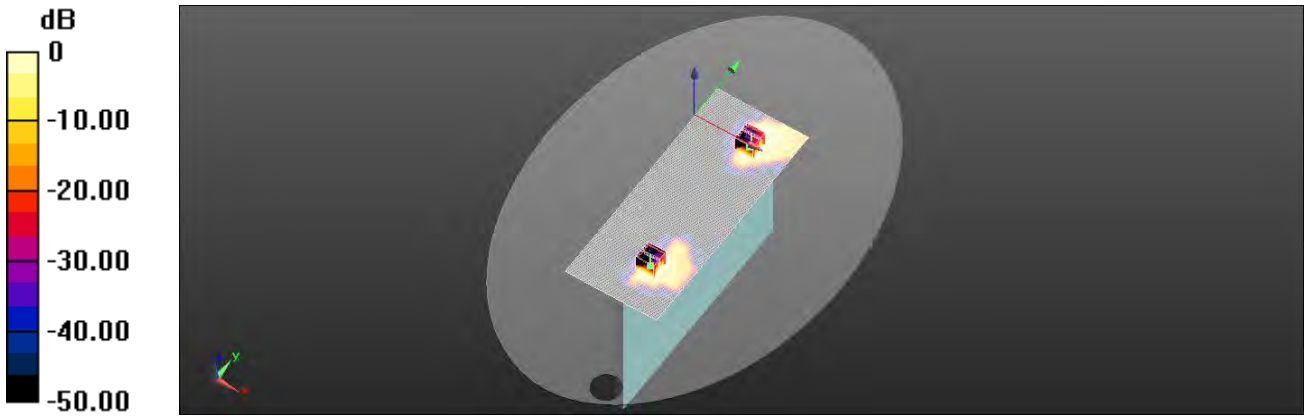
ID: 006
Report No. :TESA2405000293ES
WLAN 802.11n(40M) 5.3G_Body_Top Edge_CH 54_0mm_MIMO
Communication System: WLAN; Frequency: 5270 MHz;Duty Cycle: 1:1.004
Medium parameters used: f = 5270 MHz; σ = 4.774 S/m; ε_r = 36.053; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.78, 5.7, 5.67) @ 5270 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x301x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.71 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.92 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 2.04 W/kg
SAR(1 g) = 0.497 W/kg; SAR(10 g) = 0.156 W/kg
Smallest distance from peaks to all points 3 dB below = 6.1 mm
Ratio of SAR at M2 to SAR at M1 = 55.1%
Maximum value of SAR (measured) = 0.949 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.92 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 2.22 W/kg
SAR(1 g) = 0.569 W/kg; SAR(10 g) = 0.190 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 54.6%
Maximum value of SAR (measured) = 1.10 W/kg



0 dB = 1.10 W/kg = 0.41 dBW/kg

Date: 2024/5/23

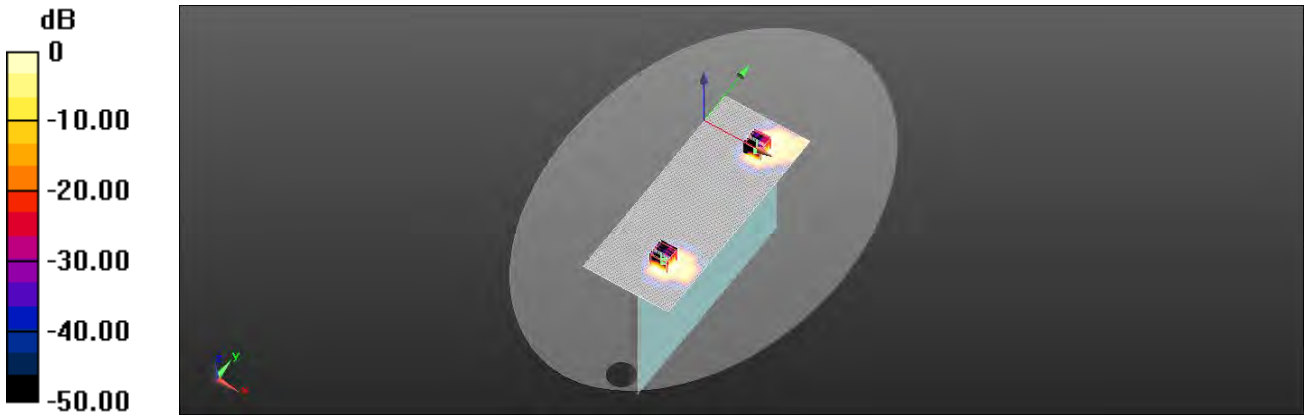
ID: 007
Report No. :TESA2405000293ES
WLAN 802.11ac(80M) 5.6G_Body_Top Edge_CH 106_0mm_MIMO
Communication System: WLAN; Frequency: 5530 MHz;Duty Cycle: 1:1.008
Medium parameters used: f = 5530 MHz; σ = 5.045 S/m; ε_r = 35.756; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.04, 4.93, 4.88) @ 5530 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x301x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.79 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.77 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 0.556 W/kg; SAR(10 g) = 0.184 W/kg
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 53%
Maximum value of SAR (measured) = 1.08 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.77 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 2.48 W/kg
SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.177 W/kg
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 52%
Maximum value of SAR (measured) = 1.13 W/kg



0 dB = 1.08 W/kg = 0.33 dBW/kg

Date: 2024/5/23

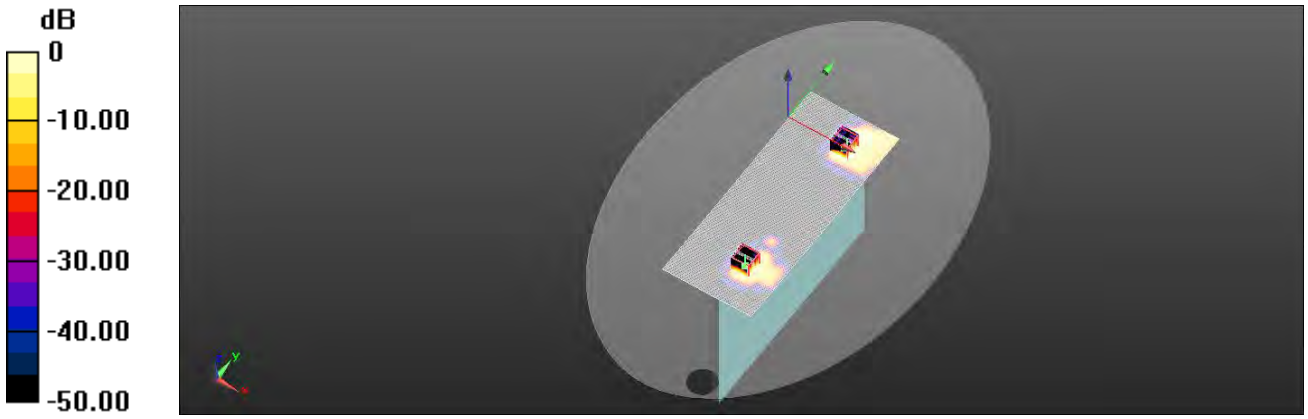
ID: 008
Report No. :TESA2405000293ES
WLAN 802.11ac(80M) 5.8G_Body_Top Edge_CH 155_0mm_MIMO
Communication System: WLAN; Frequency: 5775 MHz;Duty Cycle: 1:1.008
Medium parameters used: f = 5775 MHz; σ = 5.297 S/m; ε_r = 35.476; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.19, 5.1, 5.07) @ 5775 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x301x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.68 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.68 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.91 W/kg
SAR(1 g) = 0.649 W/kg; SAR(10 g) = 0.192 W/kg
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 52.5%
Maximum value of SAR (measured) = 1.25 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.68 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.02 W/kg
SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.156 W/kg
Smallest distance from peaks to all points 3 dB below = 5.7 mm
Ratio of SAR at M2 to SAR at M1 = 52.6%
Maximum value of SAR (measured) = 0.958 W/kg



0 dB = 1.25 W/kg = 0.97 dBW/kg

Date: 2024/5/23

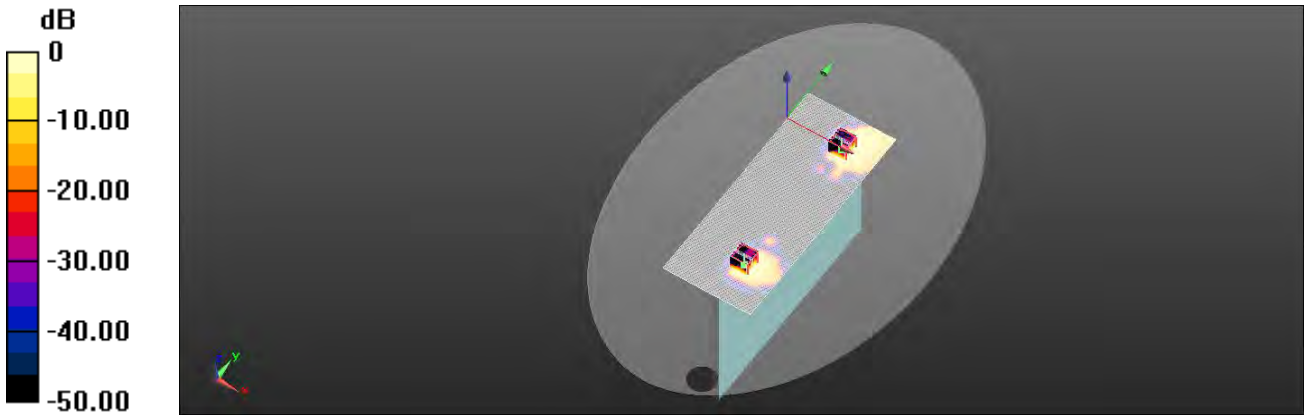
ID: 009
Report No. :TESA2405000293ES
WLAN 802.11ac(80M) 5.9G_Body_Top Edge_CH 171_0mm_MIMO
Communication System: WLAN; Frequency: 5855 MHz;Duty Cycle: 1:1.008
Medium parameters used: f = 5855 MHz; σ = 5.38 S/m; ε_r = 35.384; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.19, 5.1, 5.07) @ 5855 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (121x301x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 1.85 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.93 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.97 W/kg
SAR(1 g) = 0.708 W/kg; SAR(10 g) = 0.219 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 50.7%
Maximum value of SAR (measured) = 1.36 W/kg
Zoom Scan (7x7x12)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.93 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 0.524 W/kg; SAR(10 g) = 0.168 W/kg
Smallest distance from peaks to all points 3 dB below = 5.6 mm
Ratio of SAR at M2 to SAR at M1 = 50.9%
Maximum value of SAR (measured) = 1.03 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg

ID: 010
Report No. :TESA2405000293ES
Measurement Report_U-NII-5 6.2GHz 802.11be(320M)_Body_Top Edge_CH 31_0mm_MIMO
Ambient temperature: 22.7˚C; Liquid temperature: 21.6˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHZ],Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Top Edge, 0.00	6105.0, 31	5.64	5.641	35.092

Hardware Setup

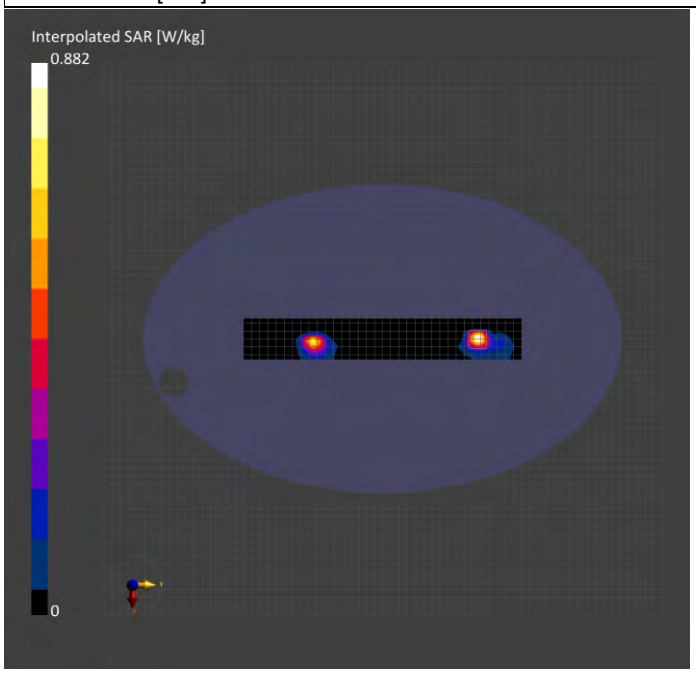
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20DEG PROBE TILT)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 340.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.631	0.725
psSAR8g [W/kg]	0.230	0.261
psSAR10g [W/kg]	0.201	0.228
psPDab (4.0cm2, sq) [W/m2]		5.23
Power Drift [dB]	-0.16	-0.06
M2/M1 [%]		57.0
Dist 3dB Peak [mm]		6.8



ID: 011
Report No. :TESA2405000293ES
Measurement Report_U-NII-5 6.2GHz 802.11be(320M)_Body_Top Edge_CH 63_0mm_MIMO
Ambient temperature: 22.7˚C; Liquid temperature: 21.6˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHZ],Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Top Edge, 0.00	6265.0, 63	5.64	5.809	34.9

Hardware Setup

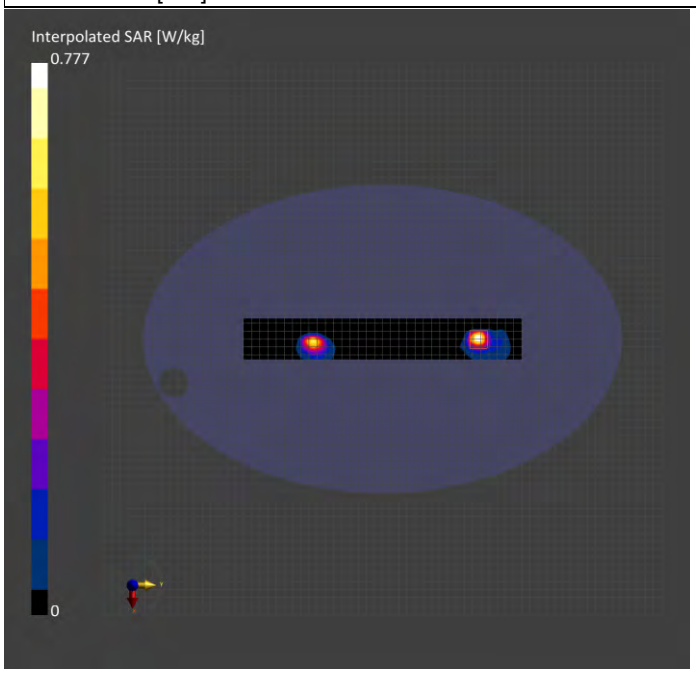
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20DEG PROBE TILT)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 340.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.564	0.641
psSAR8g [W/kg]	0.202	0.230
psSAR10g [W/kg]	0.176	0.200
psPDab (4.0cm2, sq) [W/m2]		4.59
Power Drift [dB]	-0.18	-0.07
M2/M1 [%]		56.1
Dist 3dB Peak [mm]		6.8



ID: 012
Report No. :TESA2405000293ES
Measurement Report_U-NII-6 6.5GHz 802.11be(320M)_Body_Top Edge_CH 95_0mm_MIMO
Ambient temperature: 22.7˚C; Liquid temperature: 21.6˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHZ],Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Top Edge, 0.00	6425.0, 95	5.64	5.979	34.708

Hardware Setup

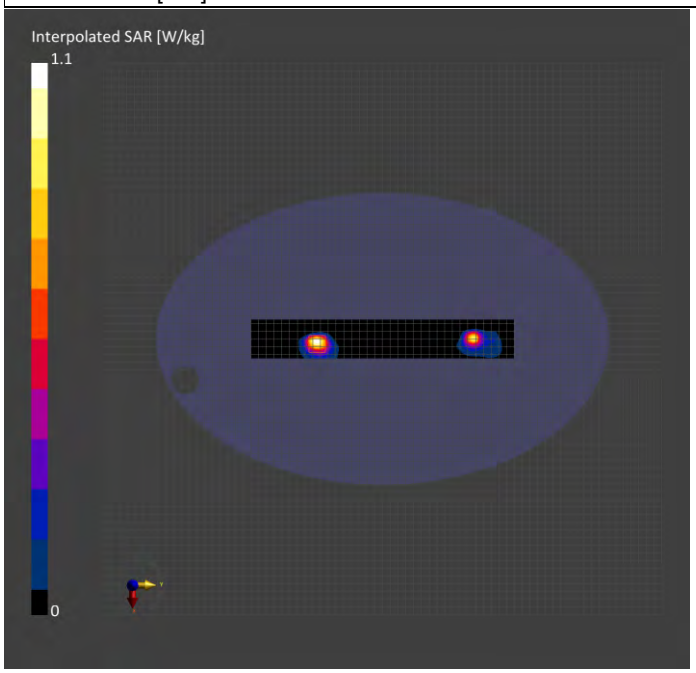
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20DEG PROBE TILT)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 340.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.822	0.849
psSAR8g [W/kg]	0.316	0.330
psSAR10g [W/kg]	0.279	0.290
psPDab (4.0cm2, sq) [W/m2]		6.59
Power Drift [dB]	-0.09	-0.10
M2/M1 [%]		56.2
Dist 3dB Peak [mm]		6.5



ID: 013
Report No. :TESA2405000293ES
Measurement Report_U-NII-7 6.7GHz 802.11ax(80M)_Body_Top Edge_CH 167_0mm_MIMO
Ambient temperature: 22.7˚C; Liquid temperature: 21.6˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHZ],Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Top Edge, 0.00	6785.0, 167	5.64	6.364	34.276

Hardware Setup

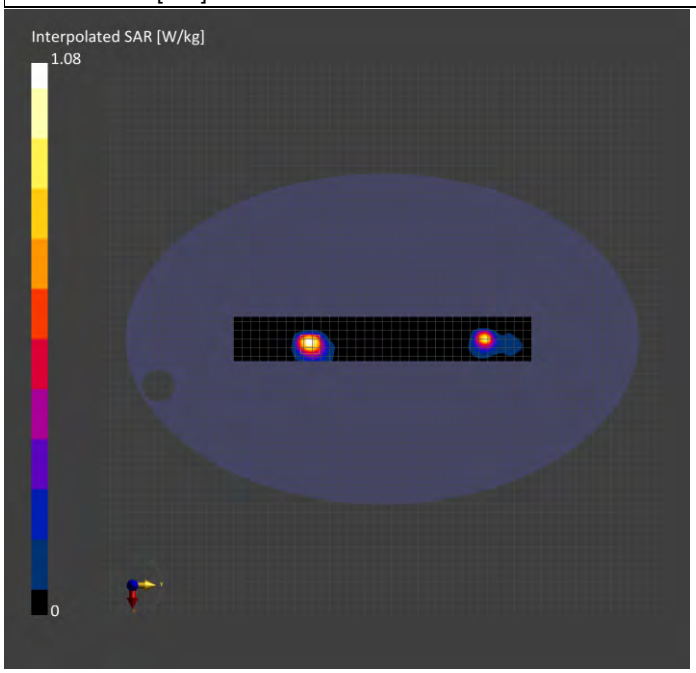
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20DEG PROBE TILT)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 340.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-24	2024-05-24
psSAR1g [W/kg]	0.856	0.868
psSAR8g [W/kg]	0.331	0.338
psSAR10g [W/kg]	0.291	0.298
psPDab (4.0cm2, sq) [W/m2]		6.76
Power Drift [dB]	0.16	0.15
M2/M1 [%]		53.9
Dist 3dB Peak [mm]		6.8



ID: 014
Report No. :TESA2405000293ES
Measurement Report_U-NII-8 7.0GHz 802.11be(320M)_Body_Top Edge_CH 191_0mm_MIMO
Ambient temperature: 23.0˚C; Liquid temperature: 21.8˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Frequency [MHZ],Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	Top Edge, 0.00	6905.0, 191	5.75	6.493	34.132

Hardware Setup

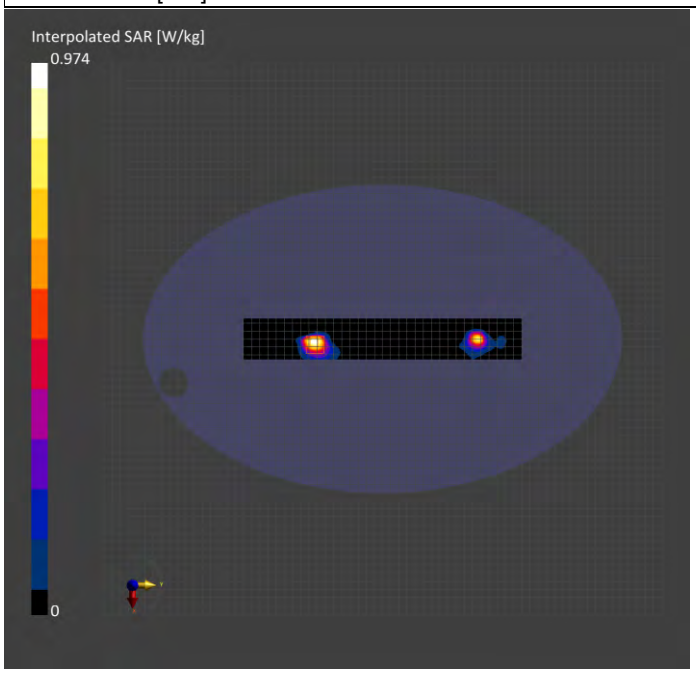
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20DEG PROBE TILT)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 340.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	0.783	0.766
psSAR8g [W/kg]	0.300	0.301
psSAR10g [W/kg]	0.264	0.265
psPDab (4.0cm2, sq) [W/m2]		6.02
Power Drift [dB]	-0.18	-0.06
M2/M1 [%]		52.7
Dist 3dB Peak [mm]		7.3



13 PD MEASUREMENT RESULTS

ID: 015
Report No. :TESA2405000293ES
Measurement Report_Top Edge, U-NII-5, MIMO
IEEE 802.11be(320MHz, MCS0, 99pc duty cycle), Channel 31 (6105.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

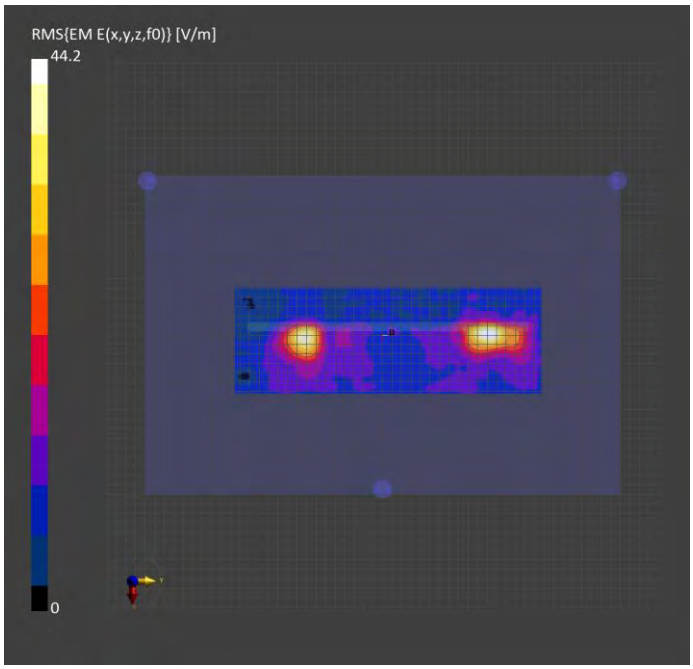
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	110.0 x 320.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	1.64
psPDtot+ [W/m^2]	1.71
psPDmod+ [W/m^2]	2.31
E_{max} [V/m]	44.2
Power Drift [dB]	-0.15



ID: 016
Report No. :TESA2405000293ES
Measurement Report_Top Edge, U-NII-5, MIMO
IEEE 802.11be(320MHz, MCS0, 99pc duty cycle), Channel 63 (6265.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

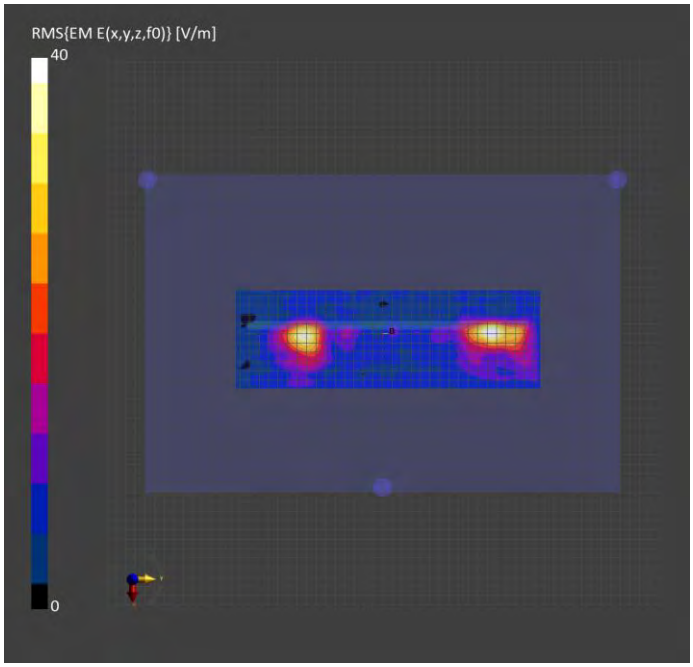
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	100.0 x 320.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	1.24
psPDtot+ [W/m^2]	1.43
psPDmod+ [W/m^2]	1.85
E_{max} [V/m]	40.0
Power Drift [dB]	0.12



ID: 017
Report No. :TESA2405000293ES
Measurement Report_Top Edge, U-NII-6, MIMO
IEEE 802.11be(320MHz, MCS0, 99pc duty cycle), Channel 95 (6425.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

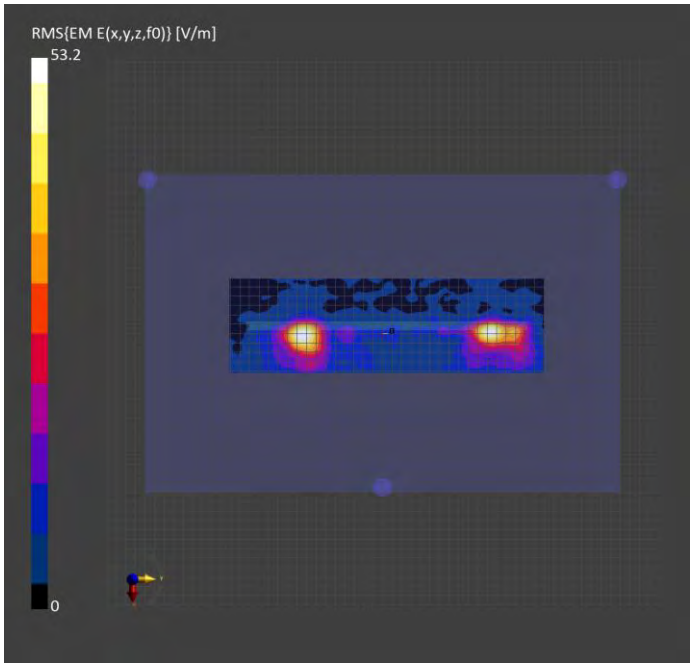
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	100.0 x 330.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	1.64
psPDtot+ [W/m^2]	2.17
psPDmod+ [W/m^2]	3.01
E_{max} [V/m]	53.2
Power Drift [dB]	-0.16



ID: 018
Report No. :TESA2405000293ES
Measurement Report_Top Edge, U-NII-7, MIMO
IEEE 802.11ax(80MHz, MCS0, 99pc duty cycle), Channel 167 (6785.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

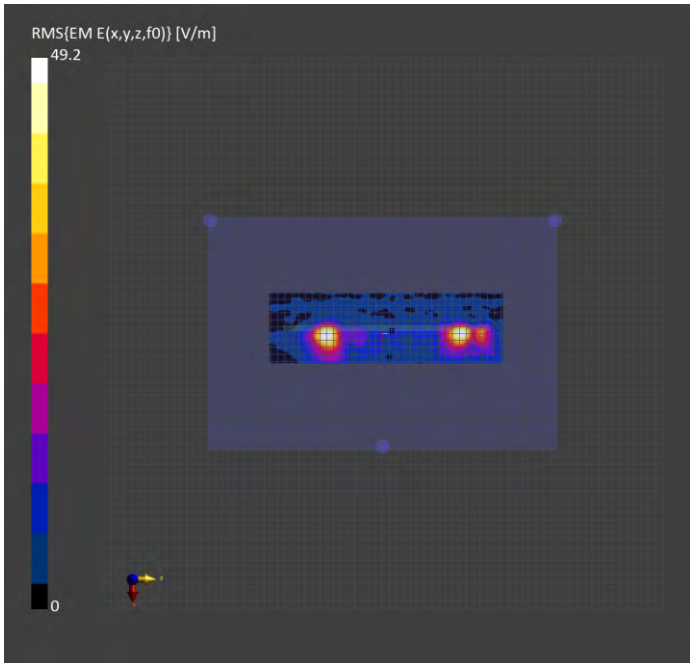
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	100.0 x 330.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	1.79
psPDtot+ [W/m^2]	2.18
psPDmod+ [W/m^2]	2.66
E_{max} [V/m]	49.2
Power Drift [dB]	0.15



ID: 019
Report No. :TESA2405000293ES
Measurement Report_Top Edge, U-NII-8, MIMO
IEEE 802.11be(320MHz, MCS0, 99pc duty cycle), Channel 191 (6905.0 MHz)

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	Top Edge, 2.00	1.0

Hardware Setup

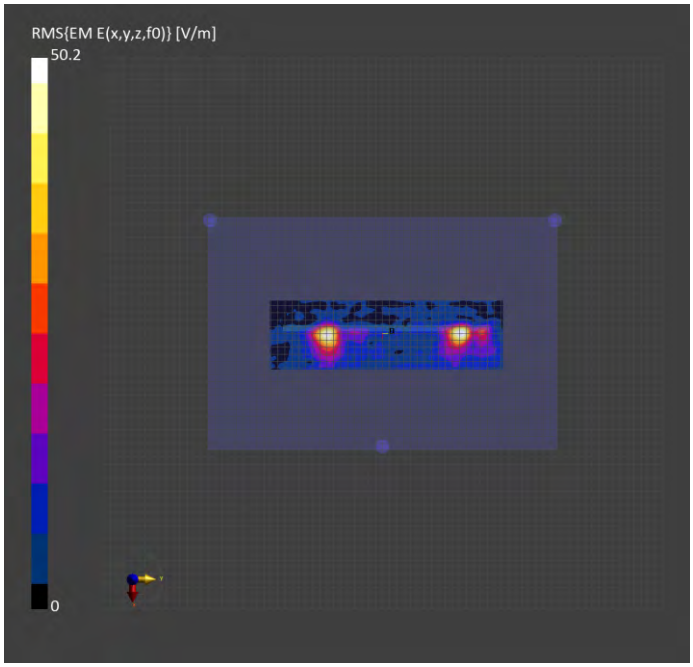
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	100.0 x 330.0
Grid Steps [lambda]	0.0625 x 0.0625
Sensor Surface [mm]	2.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	3.00
psPDtot+ [W/m^2]	3.66
psPDmod+ [W/m^2]	4.14
E_{max} [V/m]	50.2
Power Drift [dB]	-0.11



14 SAR SYSTEM CHECK RESULTS

Date: 2024/5/21

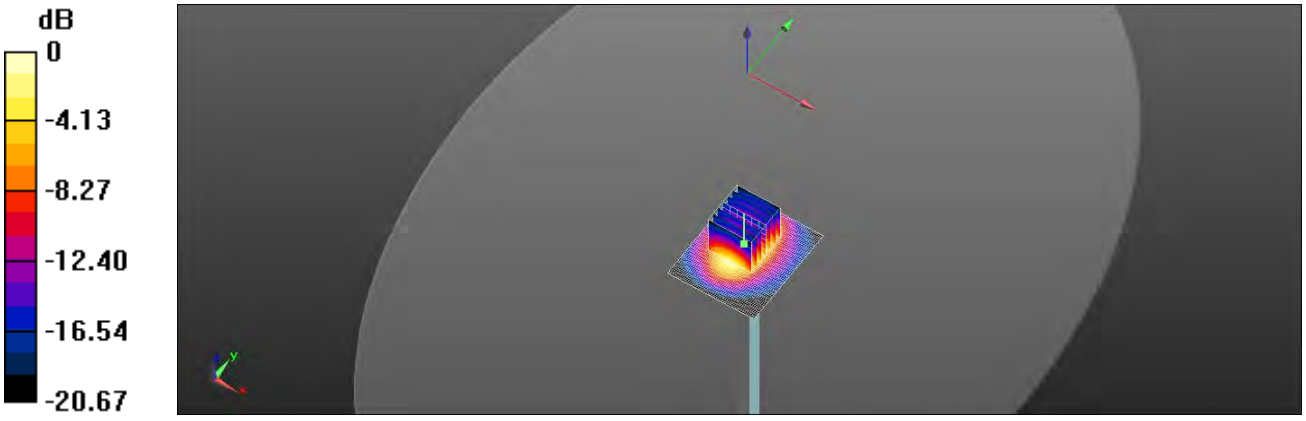
Report No. :TESA2405000293ES
Dipole 2450 MHz_SN:728
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.847 S/m; εr = 39.347; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.5°C; Liquid temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(7.74, 7.66, 7.62) @ 2450 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (51x61x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 22.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.48 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 27.9 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.59 W/kg
Smallest distance from peaks to all points 3 dB below = 10 mm
Ratio of SAR at M2 to SAR at M1 = 59.5%
Maximum value of SAR (measured) = 20.9 W/kg



0 dB = 20.9 W/kg = 13.20 dBW/kg

Date: 2024/5/22

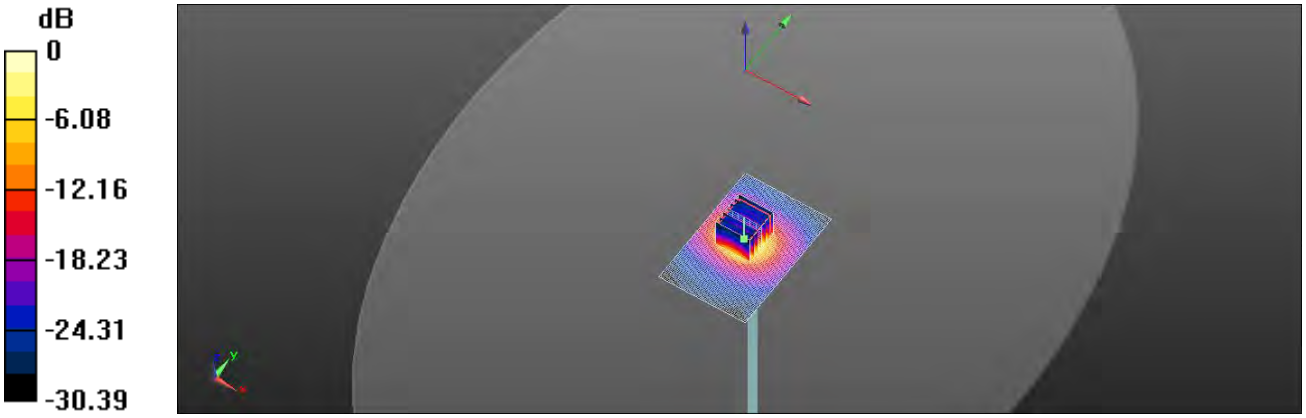
Report No. :TESA2405000293ES
Dipole 5250 MHz_SN:1023
Communication System: CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.754 S/m; ε_r = 36.076; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.2°C; Liquid temperature: 21.1°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.78, 5.7, 5.67) @ 5250 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 15.8 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 49.41 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 7.73 W/kg; SAR(10 g) = 2.22 W/kg
Smallest distance from peaks to all points 3 dB below = 6.8 mm
Ratio of SAR at M2 to SAR at M1 = 60.3%
Maximum value of SAR (measured) = 15.6 W/kg



0 dB = 15.6 W/kg = 11.94 dBW/kg

Date: 2024/5/23

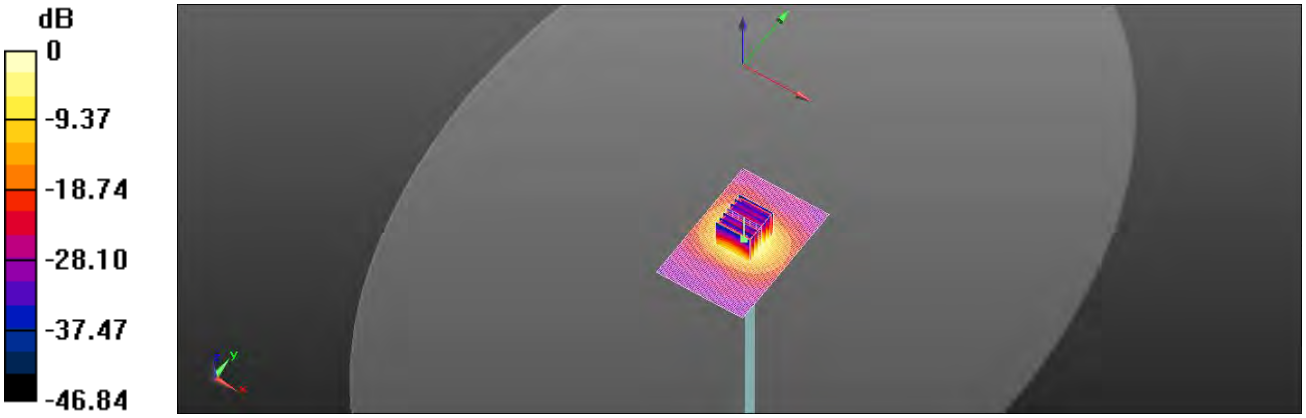
Report No. :TESA2405000293ES
Dipole 5600 MHz_SN:1023
Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.117 S/m; ε_r = 35.676; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.04, 4.93, 4.88) @ 5600 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 18.1 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 58.09 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 36.0 W/kg
SAR(1 g) = 8.33 W/kg; SAR(10 g) = 2.33 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 53.1%
Maximum value of SAR (measured) = 17.7 W/kg



0 dB = 17.7 W/kg = 12.47 dBW/kg

Date: 2024/5/23

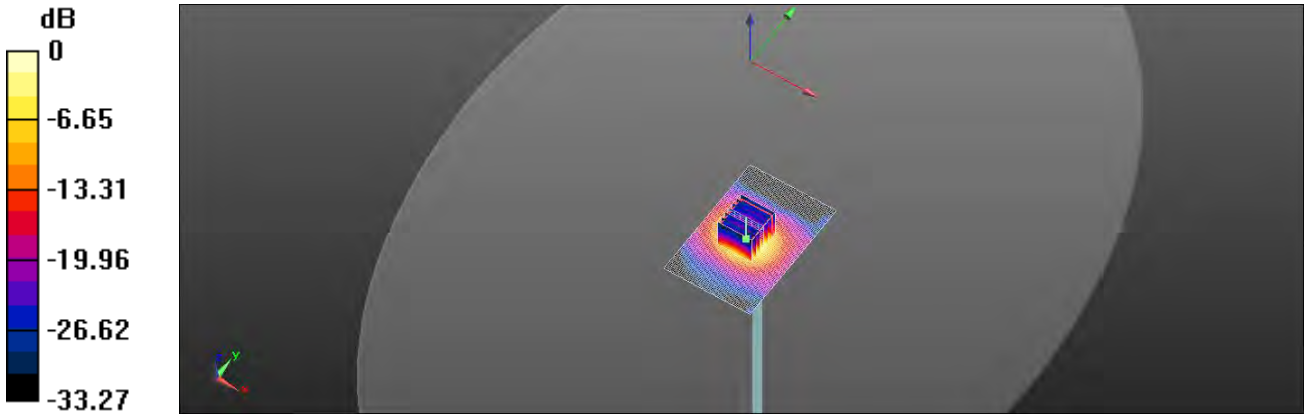
Report No. :TESA2405000293ES
Dipole 5750 MHz_SN:1023
Communication System: CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.271 S/m; ε_r = 35.504; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient temperature: 22.4°C; Liquid temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7642; ConvF(5.19, 5.1, 5.07) @ 5750 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1719; Calibrated: 2024/1/17
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Area Scan (61x91x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 18.2 W/kg

Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.56 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 8.33 W/kg; SAR(10 g) = 2.41 W/kg
Smallest distance from peaks to all points 3 dB below = 6.8 mm
Ratio of SAR at M2 to SAR at M1 = 58.8%
Maximum value of SAR (measured) = 16.9 W/kg



0 dB = 16.9 W/kg = 12.28 dBW/kg

Report No. :TESA2405000293ES
Measurement Report
Dipole_D6500-SN:1006
Ambient temperature: 22.7˚C; Liquid temperature: 21.6˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 5.00	5.64	6.059	34.618

Hardware Setup

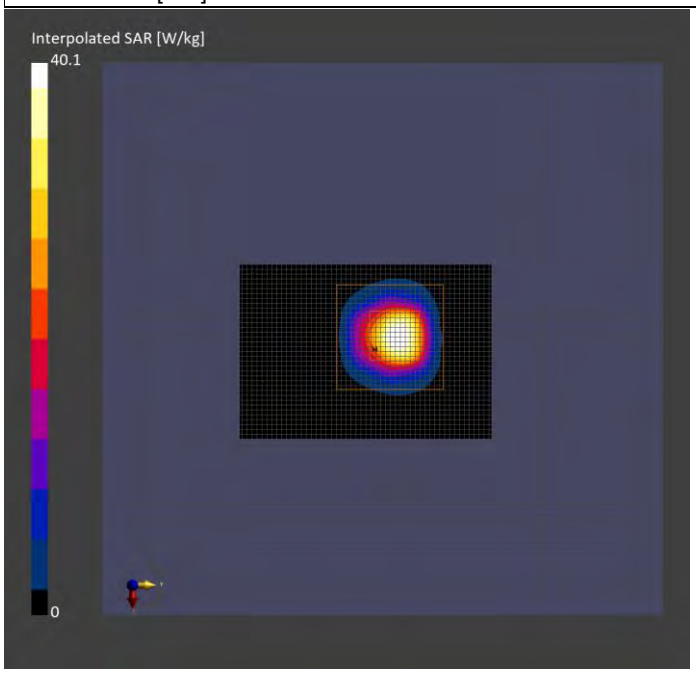
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	36.0 x 51.0	22.0 x 222.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-25	2024-05-25
psSAR1g [W/kg]	25.3	29.1
psSAR8g [W/kg]	6.33	6.53
psSAR10g [W/kg]	5.23	5.35
psPDab (4.0cm2, sq) [W/m2]		131
Power Drift [dB]	-0.11	-0.02
M2/M1 [%]		50.8
Dist 3dB Peak [mm]		4.8



Report No. :TESA2405000293ES
Measurement Report
Dipole_D7000-SN:1007
Ambient temperature: 23.0˚C; Liquid temperature: 21.8˚C

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 5.00	5.75	6.596	34.018

Hardware Setup

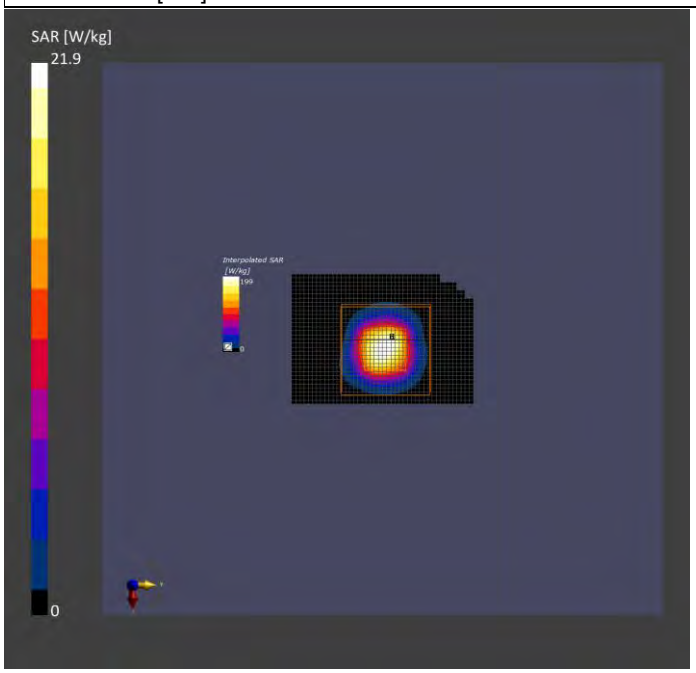
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7642, 2024-02-21	DAE4 Sn1719, 2024-01-17

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	36.0 x 45.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26	2024-05-26
psSAR1g [W/kg]	25.1	26.4
psSAR8g [W/kg]	5.56	5.65
psSAR10g [W/kg]	4.58	4.62
psPDab (4.0cm2, sq) [W/m2]		113
Power Drift [dB]	0.06	0.06
M2/M1 [%]		48.2
Dist 3dB Peak [mm]		4.6



15 PD SYSTEM CHECK RESULTS

Report No. :TESA2405000293ES
Measurement Report
5G Verification Source 10GHz-SN:1070
Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Conversion Factor
5G	FRONT, 10.00	1.0

Hardware Setup

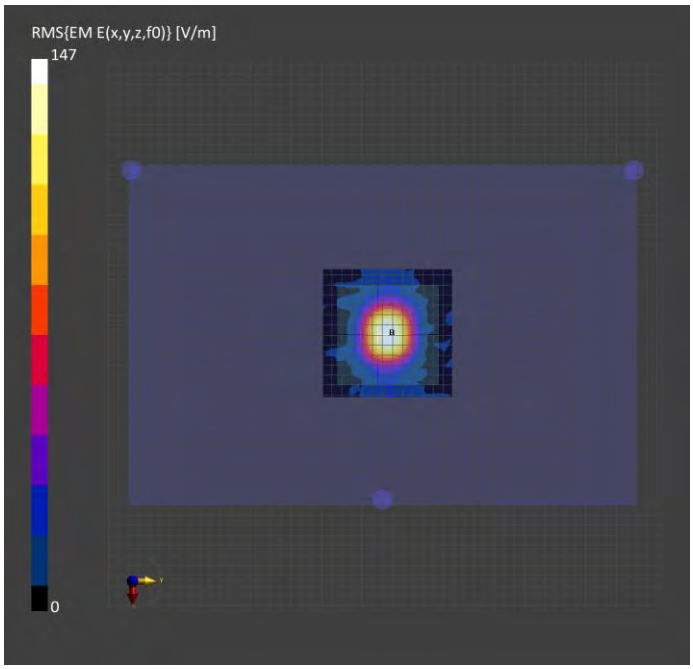
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1076	Air -	EUmmWV3 - SN9399_F1-55GHz, 2024-01-23	DAE4 Sn1719, 2024-01-17

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0

Measurement Results

Scan Type	5G Scan
Date	2024-05-27
Avg. Area [cm^2]	1.00
psPDn+ [W/m^2]	50.9
psPDtot+ [W/m^2]	51.0
psPDmod+ [W/m^2]	51.2
E_{max} [V/m]	144
Power Drift [dB]	0.08



16 APPENDIXES

Refer to separated files for the following appendixes.

16.1 SAR_Appendix A Photographs

16.2 SAR_Appendix B DAE & Probe Cal. Certificate

16.3 SAR_Appendix C Phantom Description & Dipole Cal. Certificate

- End of report -