

## RF Exposure report



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

<b>Product Name</b>	Notebook Computer
<b>Brand Name</b>	HP
<b>Model No.</b>	TPN-W156
<b>Applicant</b>	HP Inc. 1501 Page Mill Road Palo Alto, CA 94304
<b>Standards</b>	IEEE/ANSI C95.1-1992, IEEE 1528-2013
<b>FCC ID</b>	B94-MT7921S
<b>Date of EUT Receipt</b>	Sep. 27, 2023
<b>Date of Test(s)</b>	Nov. 01, 2023 ~ Nv. 04, 2023
<b>Date of Issue</b>	Dec. 01, 2023

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.

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**Signed on behalf of SGS**

Clerk / Cindy Chou	PM / Afu Chen	Approved By / John Yeh
<i>Cindy Chou</i>	<i>afu Chen</i>	<i>John Teh</i>

**Date: Dec. 01, 2023**

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## Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2309000526EN	00	Initial creation of document	Dec. 01, 2023	Cindy Chou	

Note:

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

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## 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

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## 1.2 Description of EUT

Product Name	Notebook Computer	
Brand Name	HP	
Model No.	TPN-W156	
FCC ID	B94-MT7921S	
Integrated WLAN Module	Brand Name: MediaTek Model Name: MT7921	
Duty Cycle	WLAN802.11	Please refer to section 6
	Bluetooth	Please refer to section 6
Supported radios (TX Frequency Range, MHz)	802.11 b/g/n/ac/ax	2.4GHz (2400.0 – 2483.5 MHz)
	802.11a/n/ac/ax	5.2GHz (5150.0 – 5350.0 MHz) 5.6GHz (5470.0 – 5725.0 MHz) 5.8GHz (5725.0 – 5850.0 MHz)
	Bluetooth 5.2	2.4GHz (2400.0 – 2483.5 MHz)

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### 1.3 Maximum value

Vendor1

Summary of Maximum SAR	
Mode	Highest SAR 1g (W/kg)
Bluetooth(GFSK)	0.08
2.4G WLAN	0.42
5G WLAN	0.58

Vendor2

Summary of Maximum SAR	
Mode	Highest SAR 1g (W/kg)
Bluetooth(GFSK)	0.08
2.4G WLAN	0.35
5G WLAN	0.61

### 1.4 Antenna Information

Vendor	Vendor1									
Antenna	Ant1									
Part Number	025.9027Q.0001(WA-P-LE-03-017)									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	2.36	1.46	1.48	1.66	2.51	2.32	1.21	2.22	1.87	2.46
Antenna	Ant2									
Part Number	025.9027P.0001(WA-P-LE-03-016)									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	2.17	1.29	2.15	2.62	2.55	2.12	2.17	1.53	1.59	2.05
Vendor	Vendor2									
Antenna	Ant1									
Part Number	025.9027Z.0001(OACAR022028N)									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	-0.83	-0.26	0.06	0.65	1.57	1.78	2.92	-1.22	-1.22	-0.09
Antenna	Ant2									
Part Number	025.9027Y.0001(OACAR022027N)									
Frequency(MHz)	2400~2500	5150~5250	5250~5350	5470~5725	5725~5850	5850~5895	5925~6425	6425~6525	6525~6875	6875~7125
Gain (dBi)	-0.52	0.94	0.94	2.71	2.45	1.02	0.81	-0.31	0.62	0.16

Note: Antenna information is provided by the applicant.

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## 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		
	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.

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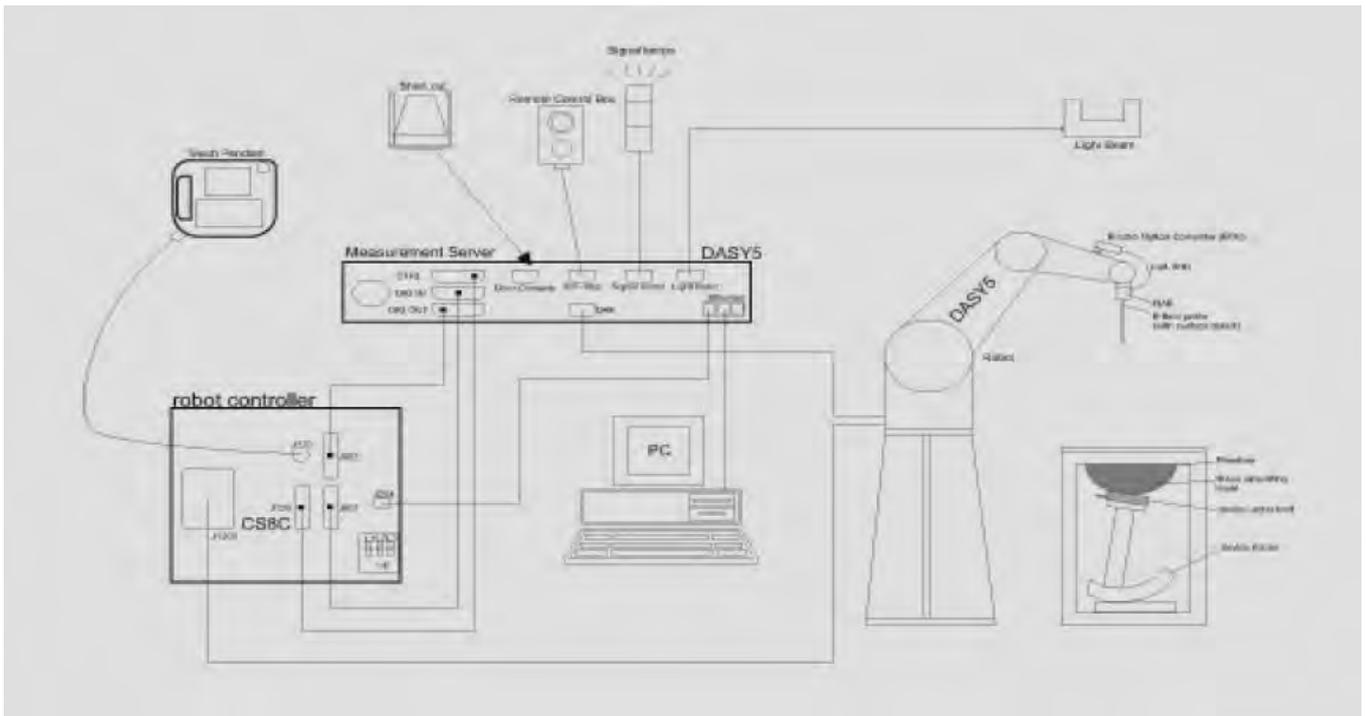
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## 2.2 SAR System

### 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  $SAR = \sigma (|E|)^2 / \rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-simulant.



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**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 MHz 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%.	

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**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.	 <p style="text-align: center;">Device Holder</p>
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### 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 from 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  $\pm 5\%$  of the target values.

#### 3.3 Measurement results of Tissue Simulant Liquid

Measured Frequency (MHz)	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$	Limit	Measurement Date
2412	39.265	1.766	40.166	1.794	2.29%	1.57%	$\pm 5\%$	Nov. 01, 2023
2437	39.222	1.788	40.121	1.816	2.29%	1.54%	$\pm 5\%$	Nov. 01, 2023
2450	39.200	1.800	40.098	1.828	2.29%	1.56%	$\pm 5\%$	Nov. 01, 2023
2462	39.184	1.813	40.083	1.839	2.29%	1.45%	$\pm 5\%$	Nov. 01, 2023
2480	39.160	1.832	40.060	1.855	2.30%	1.26%	$\pm 5\%$	Nov. 01, 2023
5190	36.010	4.650	36.895	4.718	2.46%	1.47%	$\pm 5\%$	Nov. 02, 2023
5210	35.990	4.670	36.872	4.739	2.45%	1.48%	$\pm 5\%$	Nov. 02, 2023
5230	35.970	4.690	36.849	4.760	2.44%	1.49%	$\pm 5\%$	Nov. 02, 2023
5250	35.950	4.710	36.827	4.781	2.44%	1.51%	$\pm 5\%$	Nov. 02, 2023
5270	35.930	4.730	36.804	4.802	2.43%	1.52%	$\pm 5\%$	Nov. 02, 2023
5290	35.910	4.750	36.781	4.823	2.43%	1.54%	$\pm 5\%$	Nov. 02, 2023
5530	35.605	4.997	36.507	5.078	2.53%	1.63%	$\pm 5\%$	Nov. 03, 2023
5600	35.500	5.070	36.427	5.151	2.61%	1.60%	$\pm 5\%$	Nov. 03, 2023
5610	35.490	5.080	36.415	5.161	2.61%	1.59%	$\pm 5\%$	Nov. 03, 2023
5680	35.420	5.150	36.335	5.235	2.58%	1.65%	$\pm 5\%$	Nov. 03, 2023
5690	35.410	5.160	36.324	5.245	2.58%	1.65%	$\pm 5\%$	Nov. 03, 2023
5745	35.355	5.215	36.261	5.301	2.56%	1.65%	$\pm 5\%$	Nov. 04, 2023
5750	35.350	5.220	36.255	5.309	2.56%	1.70%	$\pm 5\%$	Nov. 04, 2023
5775	35.325	5.245	36.227	5.335	2.55%	1.72%	$\pm 5\%$	Nov. 04, 2023
5785	35.315	5.255	36.215	5.346	2.55%	1.73%	$\pm 5\%$	Nov. 04, 2023

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### 3.4 The composition of the tissue simulating liquid:

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

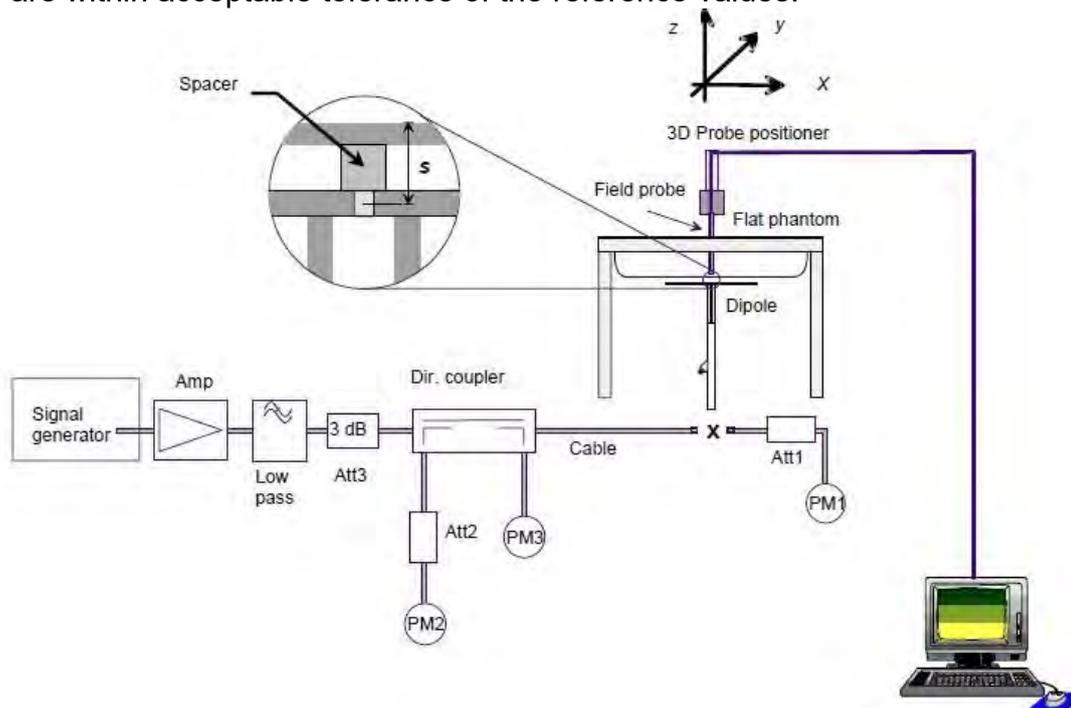
Broad-band head tissue simulating liquids	SPEAG Product	Frequency range (MHz)	Main Ingredients
	HBBL600-10000V6	600 - 10000	Water, Oil

### 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

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### 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	727	2450	53.1	13.1	52.4	-1.32	± 10%	Nov.01,2023
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	1349	5250	80.4	7.79	77.9	-3.11	± 10%	Nov.02,2023
D5GHzV2	1349	5600	83.1	8.38	83.8	0.84	± 10%	Nov.03,2023
D5GHzV2	1349	5750	81.4	8.28	82.8	1.72	± 10%	Nov.04,2023

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## 4 TEST CONFIGURATIONS

### 4.1 Test Environment

Ambient Temperature: 22±2° C

Tissue Simulating Liquid: 22±2° C

### 4.2 Test Note

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

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specified maximum output power and the adjusted SAR is  $\leq 1.2$  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.

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### 4.3 Test position

#### Laptop mode SAR test position (0mm)

For laptop PC, according to KDB 616217 D04, SAR evaluation is required for the bottom surface of the keyboard. This EUT was tested in the base of EUT directly against the flat phantom. The required minimum test separation distance for incorporating transmitters and antennas into laptop computer display is determined with the display screen opened at an angle of 90° to the keyboard compartment.

The antennas are located at the top of panel which the distance of antenna to human body is over 20cm, so SAR test is not required for notebook mode.

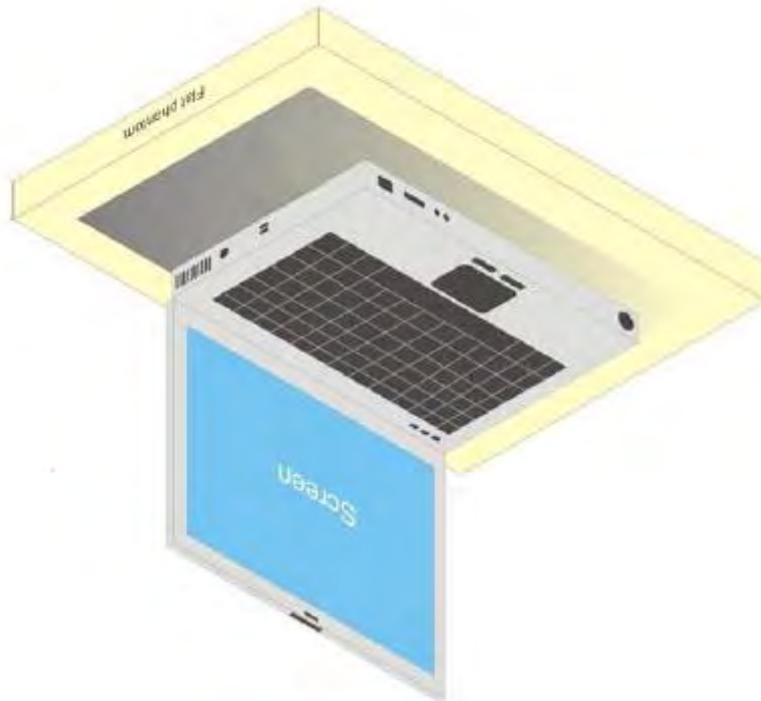


Illustration for Laptop Setup

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### 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.

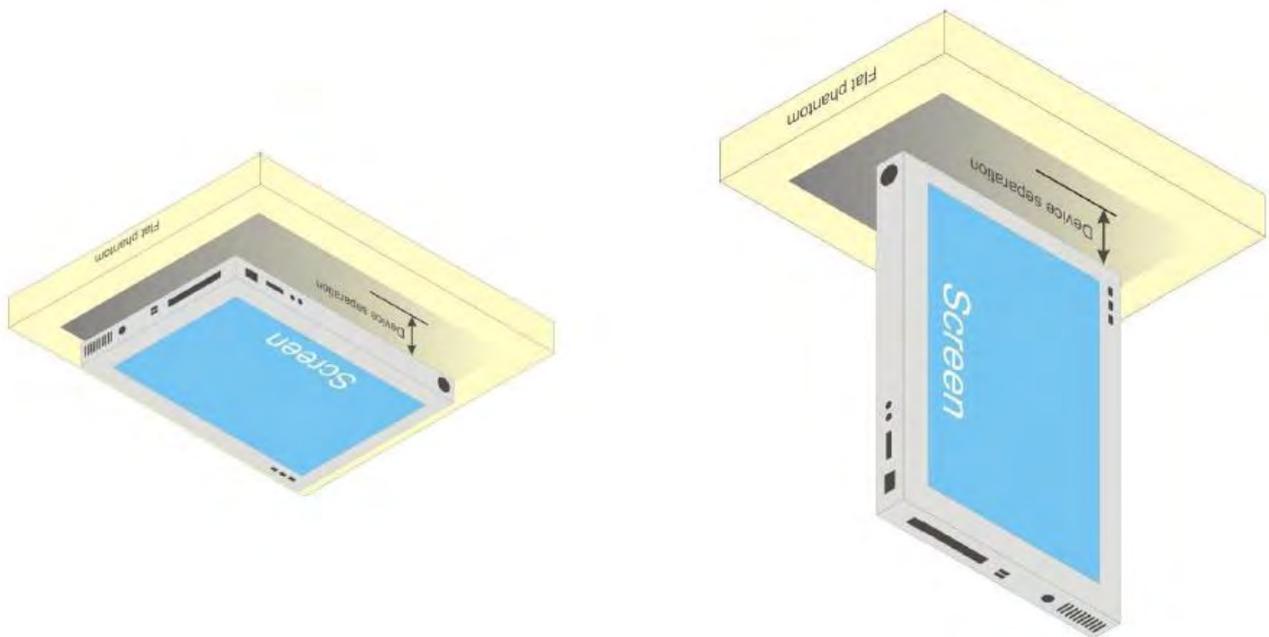


Illustration for Tablet Setup

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#### 4.4 Power verification of device mode

The device is a convertible laptop computer with predefined single fixed power to each device modes. For the device modes verification, the measured conducted output power is monitored qualitatively to identify the triggering characteristics and recorded quantitatively.

##### Results and conclusion

The measured output power versus lid angle is tabulated in the following table based on the guidance from 2019-11 TCB workshop, and the triggering verification complies with the device mode / power level declared by the manufacturer.

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### Device mode verification by power measurement

Antenna	Operation mode	Lid angle	WLAN 802.11b	WLAN 802.11n(40M) 5.2G	WLAN 802.11n(40M) 5.3G	WLAN 802.11a 5.6G	WLAN 802.11a 5.8G
Ant1	Lid close	0°	n/a	n/a	n/a	n/a	n/a
		10°	n/a	n/a	n/a	n/a	n/a
		20°	n/a	n/a	n/a	n/a	n/a
		30°	n/a	n/a	n/a	n/a	n/a
	Laptop	40°	17.94	16.44	16.41	17.43	17.48
		35°	17.90	16.42	16.32	17.45	17.42
	Lid close	30°	n/a	n/a	n/a	n/a	n/a
		31°	n/a	n/a	n/a	n/a	n/a
		32°	n/a	n/a	n/a	n/a	n/a
		33°	n/a	n/a	n/a	n/a	n/a
		34°	n/a	n/a	n/a	n/a	n/a
	Laptop	35°	17.81	16.50	16.35	17.35	17.40
		36°	17.89	16.41	16.46	17.38	17.50
		37°	17.81	16.49	16.48	17.46	17.48
		38°	17.81	16.32	16.42	17.41	17.35
		38°	17.91	16.36	16.49	17.50	17.38
		39°	17.81	16.45	16.36	17.32	17.39
		40°	17.95	16.32	16.36	17.38	17.34
		50°	17.93	16.36	16.33	17.44	17.35
		60°	17.84	16.34	16.40	17.45	17.31
		70°	17.84	16.34	16.45	17.36	17.48
		80°	17.87	16.50	16.41	17.48	17.41
		90°	17.98	16.50	16.47	17.50	17.31
		100°	17.95	16.43	16.44	17.49	17.33
		110°	17.92	16.34	16.37	17.33	17.38
		120°	17.84	16.44	16.43	17.43	17.43
		130°	17.92	16.42	16.38	17.41	17.40
		140°	17.83	16.36	16.41	17.37	17.35
		150°	17.96	16.44	16.47	17.43	17.34
		160°	18.00	16.42	16.37	17.42	17.31
		170°	17.99	16.49	16.45	17.43	17.42
	180°	17.94	16.43	16.33	17.34	17.46	
	190°	17.84	16.48	16.31	17.34	17.44	
	Tablet	200°	12.92	11.38	11.44	11.42	11.48
	Laptop	195°	17.91	16.32	16.46	17.35	17.33
		196°	17.96	16.35	16.45	17.47	17.44
		197°	17.97	16.31	16.47	17.35	17.43
		198°	17.90	16.46	16.35	17.34	17.46
		199°	17.92	16.34	16.48	17.34	17.33
	Tablet	200°	12.93	11.48	11.49	11.44	11.39
		201°	12.82	11.47	11.32	11.45	11.35
		202°	12.93	11.34	11.38	11.42	11.38
		203°	12.91	11.36	11.36	11.32	11.50
		204°	12.92	11.45	11.37	11.42	11.34
		205°	12.86	11.44	11.45	11.45	11.44
		215°	12.96	11.48	11.33	11.49	11.38
		225°	12.90	11.48	11.37	11.41	11.38
		235°	12.97	11.50	11.46	11.49	11.41
		245°	12.98	11.41	11.45	11.37	11.34
		255°	12.95	11.50	11.34	11.38	11.37
265°		12.92	11.31	11.39	11.32	11.32	
275°		13.00	11.38	11.33	11.35	11.47	
285°		12.90	11.41	11.50	11.44	11.48	
295°		12.82	11.33	11.44	11.33	11.46	
305°		12.95	11.48	11.48	11.32	11.39	
315°		12.92	11.32	11.40	11.39	11.41	
325°		12.87	11.46	11.35	11.38	11.36	
335°		12.84	11.34	11.39	11.45	11.48	
345°		12.83	11.44	11.35	11.48	11.40	
355°	12.97	11.40	11.39	11.41	11.35		
360°	12.93	11.35	11.45	11.50	11.36		

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Ant1	Tablet	350°	12.99	11.50	11.39	11.42	11.48
		340°	12.99	11.43	11.33	11.45	11.44
		330°	12.89	11.36	11.42	11.43	11.45
		320°	12.81	11.39	11.32	11.39	11.33
		310°	12.86	11.32	11.32	11.38	11.47
		300°	12.86	11.48	11.45	11.45	11.49
		290°	12.94	11.44	11.42	11.36	11.35
		280°	12.86	11.40	11.40	11.31	11.40
		270°	12.83	11.45	11.50	11.44	11.49
		260°	12.85	11.46	11.49	11.50	11.46
		250°	12.97	11.32	11.36	11.34	11.35
		240°	13.00	11.48	11.37	11.49	11.45
		230°	12.95	11.36	11.33	11.43	11.34
		220°	12.86	11.31	11.31	11.38	11.37
		210°	12.81	11.44	11.31	11.47	11.48
		200°	12.93	11.38	11.44	11.32	11.49
		190°	12.93	11.41	11.34	11.39	11.38
		180°	12.84	11.44	11.46	11.48	11.49
		170°	12.92	11.48	11.38	11.42	11.42
		160°	12.86	11.35	11.44	11.32	11.44
	Laptop	150°	17.85	16.36	16.31	17.44	17.41
		155°	17.98	16.42	16.36	17.37	17.36
	Tablet	160°	12.87	11.37	11.36	11.43	11.44
		159°	17.96	16.31	16.40	17.41	17.36
	Laptop	158°	17.81	16.48	16.42	17.39	17.40
		157°	17.97	16.42	16.47	17.32	17.36
		156°	17.87	16.32	16.41	17.36	17.48
		155°	17.86	16.47	16.43	17.47	17.37
		154°	17.99	16.43	16.41	17.44	17.47
		153°	17.94	16.44	16.34	17.35	17.32
		152°	17.85	16.48	16.48	17.41	17.49
		151°	17.90	16.48	16.42	17.34	17.32
		150°	17.98	16.32	16.35	17.41	17.33
		140°	17.93	16.32	16.50	17.33	17.46
		130°	17.87	16.37	16.40	17.46	17.43
		120°	17.85	16.44	16.33	17.41	17.50
		110°	17.91	16.39	16.44	17.46	17.47
		100°	17.84	16.37	16.47	17.31	17.40
		90°	17.97	16.33	16.38	17.42	17.43
		80°	17.84	16.45	16.35	17.31	17.36
		70°	17.99	16.47	16.47	17.39	17.48
		60°	17.89	16.48	16.48	17.36	17.39
		50°	17.98	16.47	16.46	17.42	17.40
		Lid close	40°	17.85	16.41	16.36	17.44
	30°		n/a	n/a	n/a	n/a	n/a
	Laptop	35°	17.87	16.50	16.35	17.34	17.39
		34°	17.83	16.40	16.48	17.37	17.31
		33°	17.86	16.39	16.31	17.41	17.39
		32°	17.83	16.35	16.40	17.44	17.31
		31°	17.90	16.41	16.39	17.31	17.47
	Lid close	30°	n/a	n/a	n/a	n/a	n/a
		29°	n/a	n/a	n/a	n/a	n/a
		28°	n/a	n/a	n/a	n/a	n/a
		27°	n/a	n/a	n/a	n/a	n/a
		26°	n/a	n/a	n/a	n/a	n/a
		25°	n/a	n/a	n/a	n/a	n/a
		15°	n/a	n/a	n/a	n/a	n/a
		5°	n/a	n/a	n/a	n/a	n/a
		4°	n/a	n/a	n/a	n/a	n/a
		3°	n/a	n/a	n/a	n/a	n/a
		2°	n/a	n/a	n/a	n/a	n/a
		1°	n/a	n/a	n/a	n/a	n/a
0°	n/a	n/a	n/a	n/a	n/a		

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Antenna	Operation mode	Lid angle	WLAN 802.11b	WLAN 802.11n(40M) 5.2G	WLAN 802.11n(40M) 5.3G	WLAN 802.11a 5.6G	WLAN 802.11a 5.8G
Ant2	Lid close	0°	n/a	n/a	n/a	n/a	n/a
		10°	n/a	n/a	n/a	n/a	n/a
		20°	n/a	n/a	n/a	n/a	n/a
		30°	n/a	n/a	n/a	n/a	n/a
	Laptop	40°	17.81	16.34	16.44	17.49	17.36
		35°	17.82	16.41	16.32	17.33	17.46
	Lid close	30°	n/a	n/a	n/a	n/a	n/a
		31°	n/a	n/a	n/a	n/a	n/a
		32°	n/a	n/a	n/a	n/a	n/a
		33°	n/a	n/a	n/a	n/a	n/a
	Laptop	34°	n/a	n/a	n/a	n/a	n/a
		35°	17.82	16.45	16.40	17.42	17.39
		36°	17.92	16.35	16.42	17.45	17.41
		37°	17.85	16.47	16.35	17.45	17.37
		38°	18.00	16.44	16.50	17.44	17.45
		38°	17.96	16.32	16.45	17.43	17.33
		39°	17.83	16.41	16.46	17.34	17.37
		40°	17.94	16.35	16.39	17.40	17.42
		50°	17.88	16.43	16.50	17.35	17.46
		60°	17.81	16.47	16.40	17.32	17.32
		70°	17.87	16.47	16.40	17.41	17.38
		80°	17.86	16.41	16.31	17.37	17.44
		90°	17.97	16.44	16.37	17.32	17.39
		100°	17.81	16.38	16.31	17.36	17.50
		110°	17.84	16.34	16.37	17.43	17.48
		120°	17.99	16.33	16.33	17.43	17.43
		130°	17.98	16.41	16.49	17.40	17.42
		140°	17.81	16.38	16.48	17.44	17.40
		150°	17.86	16.40	16.49	17.46	17.37
		160°	17.93	16.42	16.32	17.47	17.33
	170°	17.91	16.49	16.40	17.33	17.45	
	180°	17.96	16.31	16.36	17.33	17.43	
	190°	17.86	16.44	16.47	17.42	17.42	
	Tablet	200°	12.86	11.46	11.32	11.50	11.44
	Laptop	195°	17.83	16.49	16.34	17.33	17.48
		196°	17.82	16.44	16.47	17.33	17.32
		197°	17.86	16.34	16.32	17.46	17.38
		198°	17.82	16.44	16.40	17.45	17.38
		199°	17.98	16.38	16.32	17.37	17.42
	Tablet	200°	12.97	11.49	11.37	11.50	11.50
		201°	12.93	11.41	11.35	11.40	11.32
		202°	12.86	11.50	11.47	11.34	11.33
		203°	12.96	11.39	11.34	11.39	11.32
		204°	12.90	11.34	11.32	11.43	11.38
		205°	12.92	11.35	11.37	11.34	11.36
		215°	12.93	11.49	11.43	11.35	11.48
		225°	12.98	11.40	11.47	11.43	11.48
		235°	12.81	11.43	11.32	11.40	11.35
		245°	12.85	11.39	11.41	11.32	11.34
		255°	12.96	11.41	11.31	11.31	11.48
		265°	12.82	11.34	11.34	11.35	11.42
		275°	12.94	11.49	11.33	11.46	11.41
		285°	12.83	11.40	11.35	11.47	11.35
		295°	12.93	11.31	11.42	11.36	11.48
		305°	12.99	11.34	11.42	11.47	11.42
		315°	12.94	11.40	11.34	11.31	11.38
		325°	12.99	11.31	11.38	11.45	11.46
		335°	12.83	11.37	11.45	11.31	11.42
		345°	12.89	11.43	11.45	11.39	11.48
		355°	12.92	11.35	11.46	11.40	11.47
360°		12.88	11.31	11.46	11.47	11.42	

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Ant2	Tablet	350°	12.86	11.35	11.49	11.33	11.38	
		340°	12.99	11.49	11.47	11.35	11.31	
		330°	12.97	11.48	11.38	11.38	11.44	
		320°	12.81	11.35	11.35	11.32	11.50	
		310°	12.87	11.33	11.46	11.44	11.38	
		300°	12.97	11.36	11.46	11.40	11.39	
		290°	13.00	11.45	11.42	11.36	11.39	
		280°	12.95	11.39	11.47	11.33	11.42	
		270°	12.83	11.36	11.33	11.40	11.36	
		260°	12.90	11.41	11.36	11.39	11.33	
		250°	12.97	11.40	11.46	11.45	11.34	
		240°	12.90	11.37	11.45	11.44	11.50	
		230°	12.95	11.35	11.39	11.44	11.40	
		220°	12.83	11.39	11.36	11.35	11.34	
		210°	12.84	11.44	11.36	11.32	11.42	
		200°	12.98	11.48	11.34	11.34	11.46	
		190°	12.99	11.50	11.50	11.34	11.49	
		180°	12.83	11.46	11.44	11.44	11.47	
		170°	12.82	11.33	11.42	11.32	11.37	
		160°	12.84	11.40	11.39	11.39	11.32	
		Laptop	150°	17.83	16.35	16.34	17.37	17.49
			155°	17.96	16.44	16.36	17.45	17.43
		Tablet	160°	13.00	11.45	11.45	11.47	11.36
			159°	17.99	16.31	16.35	17.50	17.38
		Laptop	158°	17.84	16.32	16.48	17.31	17.47
			157°	17.84	16.42	16.37	17.39	17.47
			156°	17.85	16.47	16.42	17.31	17.39
			155°	17.88	16.39	16.32	17.32	17.38
	154°		17.90	16.41	16.38	17.48	17.49	
	153°		17.87	16.40	16.31	17.36	17.31	
	152°		17.93	16.41	16.36	17.38	17.36	
	151°		17.81	16.47	16.46	17.44	17.42	
	150°		17.93	16.44	16.43	17.44	17.48	
	140°		17.98	16.41	16.41	17.43	17.35	
	130°		17.97	16.35	16.41	17.36	17.33	
	120°		17.82	16.39	16.44	17.35	17.40	
	110°		17.89	16.37	16.39	17.37	17.31	
	100°		17.89	16.48	16.38	17.40	17.39	
	90°		17.89	16.43	16.47	17.41	17.48	
	80°		17.94	16.31	16.41	17.49	17.42	
	70°		17.82	16.33	16.45	17.49	17.47	
	60°		17.88	16.46	16.43	17.49	17.44	
	50°		17.92	16.41	16.48	17.39	17.47	
	40°		17.85	16.32	16.37	17.31	17.50	
	Lid close		30°	n/a	n/a	n/a	n/a	n/a
			35°	17.91	16.42	16.43	17.48	17.42
	Laptop		34°	17.92	16.46	16.40	17.31	17.32
			33°	17.98	16.37	16.33	17.38	17.43
		32°	17.99	16.44	16.46	17.43	17.31	
		31°	17.91	16.40	16.47	17.49	17.43	
		30°	n/a	n/a	n/a	n/a	n/a	
	Lid close	29°	n/a	n/a	n/a	n/a	n/a	
		28°	n/a	n/a	n/a	n/a	n/a	
		27°	n/a	n/a	n/a	n/a	n/a	
		26°	n/a	n/a	n/a	n/a	n/a	
25°		n/a	n/a	n/a	n/a	n/a		
15°		n/a	n/a	n/a	n/a	n/a		
5°		n/a	n/a	n/a	n/a	n/a		
4°		n/a	n/a	n/a	n/a	n/a		
3°		n/a	n/a	n/a	n/a	n/a		
2°		n/a	n/a	n/a	n/a	n/a		
1°		n/a	n/a	n/a	n/a	n/a		
0°		n/a	n/a	n/a	n/a	n/a		

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## 4.5 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

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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 4cm<sup>2</sup> per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

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

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## 5 MAXIMUM OUTPUT POWER

### 5.1 WLAN

Notebook mode

Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	19.00	18.97
		6	2437		19.00	18.93
		11	2462		19.00	18.82
		12	2467		15.50	15.26
		13	2472		9.00	8.76
	802.11g	6Mbps	1	2412	17.00	16.78
			2	2417	17.50	17.34
			6	2437	18.00	17.85
			10	2457	17.50	17.31
			11	2462	16.50	16.28
			12	2467	10.50	10.34
	802.11n20-HT0	MCS0	13	2472	6.00	5.82
			1	2412	17.00	16.76
			2	2417	17.50	17.31
			6	2437	18.00	17.80
			10	2457	17.50	17.30
			11	2462	16.50	16.31
	802.11ac20-VHT0	MCS0	12	2467	10.50	10.31
			13	2472	6.00	5.77
			1	2412	17.00	16.78
			2	2417	17.50	17.29
			6	2437	18.00	17.79
			10	2457	17.50	17.26
	802.11ax20-HE0	MCS0	11	2462	16.50	16.32
			12	2467	10.50	10.32
			13	2472	6.00	5.81
			1	2412	17.00	16.80
			2	2417	17.50	17.26
			6	2437	18.00	17.83
	802.11n40-HT0	MCS0	10	2457	17.50	17.27
			11	2462	16.50	16.34
			12	2467	10.50	10.34
			13	2472	6.00	5.77
			3	2422	15.00	14.82
			4	2427	15.50	15.30
	802.11ac40-VHT0	MCS0	6	2437	16.00	15.78
			8	2447	15.50	15.27
			9	2452	15.00	14.81
			10	2457	8.50	8.30
			11	2462	6.50	6.34
			3	2422	15.00	14.77
	802.11ax40-HE0	MCS0	4	2427	15.50	15.29
			6	2437	16.00	15.82
			8	2447	15.50	15.28
			9	2452	15.00	14.85
			10	2457	8.50	8.29
			11	2462	6.50	6.31
	802.11ax40-HE0	MCS0	3	2422	15.00	14.80
4			2427	15.50	15.34	
6			2437	16.00	15.78	
8			2447	15.50	15.28	
9			2452	15.00	14.81	
10			2457	8.50	8.33	
11	2462	6.50	6.28			

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Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	16.00	15.97
		40	5200		17.00	16.92
		44	5220		17.50	17.49
		48	5240		18.00	17.98
	802.11n20-HT0	36	5180	MCS0	16.00	15.76
		40	5200		17.00	16.84
		44	5220		17.50	17.33
		48	5240		18.00	17.77
	802.11ac20-VHT0	36	5180	MCS0	16.00	15.84
		40	5200		17.00	16.83
		44	5220		17.50	17.30
		48	5240		18.00	17.81
	802.11ax20-HE0	36	5180	MCS0	16.00	15.80
		40	5200		17.00	16.78
		44	5220		17.50	17.34
		48	5240		18.00	17.79
	802.11n40-HT0	38	5190	MCS0	15.00	14.77
		46	5230		17.50	17.31
802.11ac40-VHT0	38	5190	MCS0	15.00	14.78	
	46	5230		17.50	17.32	
802.11ax40-HE0	38	5190	MCS0	15.00	14.85	
	46	5230		17.50	17.28	
802.11ac80-VHT0	42	5210	MCS0	14.00	13.79	
802.11ax80-HE0	42	5210	MCS0	14.00	13.78	
Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	18.50	18.47
		56	5280		18.00	17.93
		60	5300		18.00	17.99
		64	5320		15.50	15.46
	802.11n20-HT0	52	5260	MCS0	18.50	18.35
		56	5280		18.00	17.84
		60	5300		18.00	17.81
		64	5320		15.50	15.26
	802.11ac20-VHT0	52	5260	MCS0	18.50	18.34
		56	5280		18.00	17.85
		60	5300		18.00	17.82
		64	5320		15.50	15.29
	802.11ax20-HE0	52	5260	MCS0	18.50	18.30
		56	5280		18.00	17.76
		60	5300		18.00	17.79
		64	5320		15.50	15.32
	802.11n40-HT0	54	5270	MCS0	17.50	17.28
		62	5310		15.00	14.89
802.11ac40-VHT0	54	5270	MCS0	17.50	17.33	
	62	5310		15.00	14.93	
802.11ax40-HE0	54	5270	MCS0	17.50	17.32	
	62	5310		15.00	14.95	
802.11ac80-VHT0	58	5290	MCS0	14.00	13.79	
802.11ax80-HE0	58	5290	MCS0	14.00	13.85	

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Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	16.50	16.26
		104	5520		17.50	17.48
		116	5580		18.50	18.41
		120	5600		18.50	18.40
		136	5680		18.50	18.42
		140	5700		17.50	17.27
	802.11n20-HT0	100	5500	MCS0	16.50	16.29
		104	5520		17.50	17.26
		120	5600		18.50	18.31
		136	5680		18.50	18.30
		140	5700		17.50	17.30
		144	5720		18.50	18.29
	802.11ac20-VHT0	100	5500	MCS0	16.50	16.29
		104	5520		17.50	17.33
		120	5600		18.50	18.33
		136	5680		18.50	18.33
		140	5700		17.50	17.35
		144	5720		18.50	18.26
	802.11ax20-HE0	100	5500	MCS0	16.50	16.27
		104	5520		17.50	17.33
		120	5600		18.50	18.34
		136	5680		18.50	18.35
		140	5700		17.50	17.34
		144	5720		18.50	18.26
	802.11n40-HT0	102	5510	MCS0	16.50	16.32
		110	5550		17.50	17.28
		118	5590		17.50	17.34
		134	5670		17.50	17.26
		142	5710		17.50	17.26
	802.11ac40-VHT0	102	5510	MCS0	16.50	16.35
		110	5550		17.50	17.26
		118	5590		17.50	17.34
		134	5670		17.50	17.28
		142	5710		17.50	17.34
	802.11ax40-HE0	102	5510	MCS0	16.50	16.33
		110	5550		17.50	17.35
		118	5590		17.50	17.34
		134	5670		17.50	17.30
		142	5710		17.50	17.35
	802.11ac80-VHT0	106	5530	MCS0	14.50	14.35
		122	5610		16.50	16.33
		138	5690		16.50	16.28
	802.11ax80-HE0	106	5530	MCS0	14.50	14.30
		122	5610		16.50	16.32
		138	5690		16.50	16.29

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Ant 1						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	18.50	18.44
		157	5785		18.50	18.49
		165	5825		18.50	18.42
	802.11n20-HT0	149	5745	MCS0	18.50	18.31
		157	5785		18.50	18.35
		165	5825		18.50	18.34
	802.11ac20-VHT0	149	5745	MCS0	18.50	18.30
		157	5785		18.50	18.32
		165	5825		18.50	18.30
	802.11ax20-HE0	149	5745	MCS0	18.50	18.28
		157	5785		18.50	18.26
		165	5825		18.50	18.35
	802.11n40-HT0	151	5755	MCS0	17.50	17.31
		159	5795		17.50	17.30
	802.11ac40-VHT0	151	5755	MCS0	17.50	17.32
		159	5795		17.50	17.25
	802.11ax40-HE0	151	5755	MCS0	17.50	17.27
		159	5795		17.50	17.30
802.11ac80-VHT0	155	5775	MCS0	16.50	16.28	
802.11ax80-HE0	155	5775	MCS0	16.50	16.30	

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	19.00	18.90
		6	2437		19.00	18.98
		11	2462		19.00	18.88
		12	2467		15.50	15.34
		13	2472		9.00	8.80
	802.11g	1	2412	6Mbps	17.00	16.77
		2	2417		17.50	17.34
		6	2437		18.00	17.83
		10	2457		17.50	17.32
		11	2462		16.50	16.29
		12	2467		10.50	10.30
	802.11n20-HT0	1	2412	MCS0	6.00	5.81
		2	2417		17.00	16.80
		6	2437		17.50	17.29
		10	2457		18.00	17.85
		11	2462		17.50	17.34
		12	2467		16.50	16.31
	802.11ac20-VHT0	10	2457	MCS0	10.50	10.35
		11	2462		6.00	5.83
		12	2467		17.00	16.77
		13	2472		17.50	17.33
		6	2437		18.00	17.77
		10	2457		17.50	17.29
	802.11ax20-HE0	11	2462	MCS0	16.50	16.34
		12	2467		10.50	10.33
		13	2472		6.00	5.76
		1	2412		17.00	16.81
		2	2417		17.50	17.33
		6	2437		18.00	17.84
	802.11n40-HT0	10	2457	MCS0	17.50	17.29
		11	2462		16.50	16.27
		12	2467		10.50	10.29
		13	2472		6.00	5.83
		3	2422		15.00	14.84
		4	2427		15.50	15.28
	802.11ac40-VHT0	6	2437	MCS0	16.00	15.78
		8	2447		15.50	15.30
		9	2452		15.00	14.76
		10	2457		8.50	8.26
		11	2462		6.50	6.34
		3	2422		15.00	14.81
	802.11ax40-HE0	4	2427	MCS0	15.50	15.31
		6	2437		16.00	15.76
		8	2447		15.50	15.32
		9	2452		15.00	14.80
		10	2457		8.50	8.26
		11	2462		6.50	6.30
	802.11ax40-HE0	3	2422	MCS0	15.00	14.81
		4	2427		15.50	15.27
		6	2437		16.00	15.78
		8	2447		15.50	15.34
		9	2452		15.00	14.84
10		2457	8.50		8.28	
11	2462	6.50	6.32			

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	16.00	15.60
		40	5200		17.00	16.98
		44	5220		17.50	17.47
		48	5240		18.00	17.88
	802.11n20-HT0	36	5180	MCS0	16.00	15.81
		40	5200		17.00	16.76
		44	5220		17.50	17.31
		48	5240		18.00	17.76
	802.11ac20-VHT0	36	5180	MCS0	16.00	15.74
		40	5200		17.00	16.85
		44	5220		17.50	17.33
		48	5240		18.00	17.85
	802.11ax20-HE0	36	5180	MCS0	16.00	15.76
		40	5200		17.00	16.84
		44	5220		17.50	17.29
		48	5240		18.00	17.77
	802.11n40-HT0	38	5190	MCS0	15.00	14.82
		46	5230		17.50	17.35
802.11ac40-VHT0	38	5190	MCS0	15.00	14.78	
	46	5230		17.50	17.32	
802.11ax40-HE0	38	5190	MCS0	15.00	14.84	
	46	5230		17.50	17.29	
802.11ac80-VHT0	42	5210	MCS0	14.00	13.76	
802.11ax80-HE0	42	5210	MCS0	14.00	13.77	
Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	18.50	18.40
		56	5280		18.00	17.83
		60	5300		18.00	17.80
		64	5320		15.50	15.37
	802.11n20-HT0	52	5260	MCS0	18.50	18.31
		56	5280		18.00	17.79
		60	5300		18.00	17.82
		64	5320		15.50	15.35
	802.11ac20-VHT0	52	5260	MCS0	18.50	18.33
		56	5280		18.00	17.84
		60	5300		18.00	17.80
		64	5320		15.50	15.26
	802.11ax20-HE0	52	5260	MCS0	18.50	18.28
		56	5280		18.00	17.79
		60	5300		18.00	17.75
		64	5320		15.50	15.32
	802.11n40-HT0	54	5270	MCS0	17.50	17.34
		62	5310		15.00	14.92
802.11ac40-VHT0	54	5270	MCS0	17.50	17.26	
	62	5310		15.00	14.88	
802.11ax40-HE0	54	5270	MCS0	17.50	17.32	
	62	5310		15.00	14.85	
802.11ac80-VHT0	58	5290	MCS0	14.00	13.85	
802.11ax80-HE0	58	5290	MCS0	14.00	13.84	

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	16.50	16.35
		104	5520		17.50	17.47
		116	5580		18.50	18.42
		120	5600		18.50	18.34
		136	5680		18.50	18.45
		140	5700		17.50	17.26
	802.11n20-HT0	100	5500	MCS0	16.50	16.29
		104	5520		17.50	17.35
		120	5600		18.50	18.34
		136	5680		18.50	18.32
		140	5700		17.50	17.27
		144	5720		18.50	18.27
	802.11ac20-VHT0	100	5500	MCS0	16.50	16.31
		104	5520		17.50	17.35
		120	5600		18.50	18.30
		136	5680		18.50	18.30
		140	5700		17.50	17.26
		144	5720		18.50	18.26
	802.11ax20-HE0	100	5500	MCS0	16.50	16.34
		104	5520		17.50	17.28
		120	5600		18.50	18.32
		136	5680		18.50	18.35
		140	5700		17.50	17.33
		144	5720		18.50	18.33
	802.11n40-HT0	102	5510	MCS0	16.50	16.31
		110	5550		17.50	17.35
		118	5590		17.50	17.30
		134	5670		17.50	17.33
		142	5710		17.50	17.29
	802.11ac40-VHT0	102	5510	MCS0	16.50	16.31
		110	5550		17.50	17.30
		118	5590		17.50	17.27
		134	5670		17.50	17.35
		142	5710		17.50	17.27
	802.11ax40-HE0	102	5510	MCS0	16.50	16.26
		110	5550		17.50	17.31
		118	5590		17.50	17.34
		134	5670		17.50	17.35
		142	5710		17.50	17.30
	802.11ac80-VHT0	106	5530	MCS0	14.50	14.31
		122	5610		16.50	16.33
		138	5690		16.50	16.29
	802.11ax80-HE0	106	5530	MCS0	14.50	14.26
		122	5610		16.50	16.27
		138	5690		16.50	16.26

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Ant 2						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	18.50	18.38
		157	5785		18.50	18.48
		165	5825		18.50	18.34
	802.11n20-HT0	149	5745	MCS0	18.50	18.30
		157	5785		18.50	18.33
		165	5825		18.50	18.34
	802.11ac20-VHT0	149	5745	MCS0	18.50	18.29
		157	5785		18.50	18.33
		165	5825		18.50	18.27
	802.11ax20-HE0	149	5745	MCS0	18.50	18.24
		157	5785		18.50	18.32
		165	5825		18.50	18.27
	802.11n40-HT0	151	5755	MCS0	17.50	17.30
		159	5795		17.50	17.29
	802.11ac40-VHT0	151	5755	MCS0	17.50	17.32
		159	5795		17.50	17.30
	802.11ax40-HE0	151	5755	MCS0	17.50	17.29
		159	5795		17.50	17.25
802.11ac80-VHT0	155	5775	MCS0	16.50	16.27	
802.11ax80-HE0	155	5775	MCS0	16.50	16.29	

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Tablet mode

Ant 1							
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)	
2.45GHz	802.11b	1	2412	1Mbps	14.00	13.83	
		6	2437		14.00	13.81	
		11	2462		14.00	13.97	
		12	2467		14.00	13.80	
		13	2472		9.00	8.85	
	802.11g	1	2412	6Mbps	14.00	13.87	
		6	2437		14.00	13.81	
		11	2462		14.00	13.84	
		12	2467		10.50	10.32	
	802.11n20-HT0	1	2412	MCS0	14.00	13.85	
		6	2437		14.00	13.80	
		11	2462		14.00	13.78	
		12	2467		10.50	10.29	
	802.11ac20-VHT0	1	2412	MCS0	14.00	13.78	
		6	2437		14.00	13.87	
		11	2462		14.00	13.83	
		12	2467		10.50	10.29	
	802.11ax20-HE0	1	2412	MCS0	14.00	13.81	
		6	2437		14.00	13.84	
		11	2462		14.00	13.85	
		12	2467		10.50	10.35	
	802.11n40-HT0	3	2422	MCS0	14.00	13.85	
		6	2437		14.00	13.80	
		9	2452		14.00	13.87	
		10	2457		8.50	8.33	
	802.11ac40-VHT0	3	2422	MCS0	14.00	13.85	
		6	2437		14.00	13.74	
		9	2452		14.00	13.79	
		10	2457		8.50	8.32	
	802.11ax40-HE0	3	2422	MCS0	14.00	13.84	
		6	2437		14.00	13.81	
		9	2452		14.00	13.78	
		10	2457		8.50	8.28	
			11	2462		6.50	6.32

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Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	12.50	12.34
		40	5200		12.50	12.35
		44	5220		12.50	12.33
		48	5240		12.50	12.35
	802.11n20-HT0	36	5180	MCS0	12.50	12.34
		40	5200		12.50	12.34
		44	5220		12.50	12.37
	802.11ac20-VHT0	48	5240	MCS0	12.50	12.32
		36	5180		12.50	12.28
		40	5200		12.50	12.37
	802.11ax20-HE0	44	5220	MCS0	12.50	12.36
		48	5240		12.50	12.31
		36	5180		12.50	12.34
	802.11n40-HT0	40	5200	MCS0	12.50	12.37
		44	5220		12.50	12.34
		48	5240		12.50	12.29
	802.11ac40-VHT0	38	5190	MCS0	12.50	12.36
		46	5230		12.50	12.35
802.11ax40-HE0	38	5190	MCS0	12.50	12.34	
	46	5230		12.50	12.28	
802.11ac80-VHT0	38	5190	MCS0	12.50	12.37	
	46	5230		12.50	12.28	
802.11ax80-HE0	42	5210	MCS0	12.50	12.49	
	42	5210		12.50	12.36	
Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	12.50	12.28
		56	5280		12.50	12.34
		60	5300		12.50	12.37
		64	5320		12.50	12.32
	802.11n20-HT0	52	5260	MCS0	12.50	12.31
		56	5280		12.50	12.28
		60	5300		12.50	12.30
	802.11ac20-VHT0	64	5320	MCS0	12.50	12.35
		52	5260		12.50	12.37
		56	5280		12.50	12.32
	802.11ax20-HE0	60	5300	MCS0	12.50	12.32
		64	5320		12.50	12.30
		52	5260		12.50	12.35
	802.11n40-HT0	56	5280	MCS0	12.50	12.33
		60	5300		12.50	12.31
		64	5320		12.50	12.37
	802.11ac40-VHT0	54	5270	MCS0	12.50	12.37
		62	5310		12.50	12.34
802.11ax40-HE0	54	5270	MCS0	12.50	12.28	
	62	5310		12.50	12.31	
802.11ac80-VHT0	54	5270	MCS0	12.50	12.32	
	62	5310		12.50	12.30	
802.11ax80-HE0	58	5290	MCS0	12.50	12.46	
	58	5290		12.50	12.34	

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Ant 1						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	12.50	12.37
		116	5580		12.50	12.30
		120	5600		12.50	12.36
		140	5700		12.50	12.28
		144	5720		12.50	12.36
	802.11n20-HT0	100	5500	MCS0	12.50	12.29
		116	5580		12.50	12.22
		120	5600		12.50	12.32
		136	5680		12.50	12.28
		140	5700		12.50	12.37
	802.11ac20-VHT0	100	5500	MCS0	12.50	12.31
		116	5580		12.50	12.30
		120	5600		12.50	12.36
		140	5700		12.50	12.35
		144	5720		12.50	12.36
	802.11ax20-HE0	100	5500	MCS0	12.50	12.31
		116	5580		12.50	12.33
		120	5600		12.50	12.34
		140	5700		12.50	12.35
		144	5720		12.50	12.34
	802.11n40-HT0	102	5510	MCS0	12.50	12.32
		110	5550		12.50	12.33
		118	5590		12.50	12.33
		134	5670		12.50	12.31
		142	5710		12.50	12.30
	802.11ac40-VHT0	102	5510	MCS0	12.50	12.34
		110	5550		12.50	12.30
		118	5590		12.50	12.36
		134	5670		12.50	12.30
		142	5710		12.50	12.29
	802.11ax40-HE0	102	5510	MCS0	12.50	12.28
		110	5550		12.50	12.25
		118	5590		12.50	12.37
		134	5670		12.50	12.34
		142	5710		12.50	12.36
	802.11ac80-VHT0	106	5530	MCS0	12.50	12.45
		122	5610		12.50	12.10
		138	5690		12.50	12.49
	802.11ax80-HE0	106	5530	MCS0	12.50	12.31
		122	5610		12.50	12.35
		138	5690		12.50	12.34

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Ant 1						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	12.50	12.34
		157	5785		12.50	12.35
		165	5825		12.50	12.31
	802.11n20-HT0	149	5745	MCS0	12.50	12.34
		157	5785		12.50	12.28
		165	5825		12.50	12.34
	802.11ac20-VHT0	149	5745	MCS0	12.50	12.30
		157	5785		12.50	12.26
		165	5825		12.50	12.28
	802.11ax20-HE0	149	5745	MCS0	12.50	12.37
		157	5785		12.50	12.28
		165	5825		12.50	12.35
	802.11n40-HT0	151	5755	MCS0	12.50	12.36
		159	5795		12.50	12.38
	802.11ac40-VHT0	151	5755	MCS0	12.50	12.33
		159	5795		12.50	12.35
	802.11ax40-HE0	151	5755	MCS0	12.50	12.28
		159	5795		12.50	12.32
802.11ac80-VHT0	155	5775	MCS0	12.50	12.48	
802.11ax80-HE0	155	5775	MCS0	12.50	12.32	

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
2.45GHz	802.11b	1	2412	1Mbps	14.00	13.99
		6	2437		14.00	13.97
		11	2462		14.00	13.85
		12	2467		14.00	13.82
		13	2472		9.00	8.86
	802.11g	1	2412	6Mbps	14.00	13.78
		6	2437		14.00	13.74
		11	2462		14.00	13.79
		12	2467		10.50	10.36
	802.11n20-HT0	13	2472	MCS0	6.00	5.87
		1	2412		14.00	13.79
		6	2437		14.00	13.81
		11	2462		14.00	13.85
	802.11ac20-VHT0	12	2467	MCS0	10.50	10.28
		13	2472		6.00	5.79
		1	2412		14.00	13.82
		6	2437		14.00	13.80
	802.11ax20-HE0	11	2462	MCS0	14.00	13.79
		12	2467		10.50	10.29
		13	2472		6.00	5.72
		1	2412		14.00	13.74
	802.11n40-HT0	6	2437	MCS0	14.00	13.85
		11	2462		14.00	13.81
		12	2467		10.50	10.34
		13	2472		6.00	5.86
	802.11n40-HT0	3	2422	MCS0	14.00	13.78
		6	2437		14.00	13.78
		9	2452		14.00	13.85
		10	2457		8.50	8.35
	802.11ac40-VHT0	11	2462	MCS0	6.50	6.28
		3	2422		14.00	13.85
		6	2437		14.00	13.78
		9	2452		14.00	13.85
	802.11ax40-HE0	10	2457	MCS0	8.50	8.37
		11	2462		6.50	6.37
		3	2422		14.00	13.79
		6	2437		14.00	13.83
	802.11ax40-HE0	9	2452	MCS0	14.00	13.81
		10	2457		8.50	8.36
		11	2462		6.50	6.37
3		2422	14.00		13.79	

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.15-5.25 GHz	802.11a	36	5180	6Mbps	12.50	12.35
		40	5200		12.50	12.37
		44	5220		12.50	12.30
		48	5240		12.50	12.34
	802.11n20-HT0	36	5180	MCS0	12.50	12.32
		40	5200		12.50	12.35
		44	5220		12.50	12.33
	802.11ac20-VHT0	44	5220	MCS0	12.50	12.32
		36	5180		12.50	12.34
		40	5200		12.50	12.29
	802.11ax20-HE0	44	5220	MCS0	12.50	12.33
		36	5180		12.50	12.37
		48	5240		12.50	12.29
	802.11n40-HT0	44	5220	MCS0	12.50	12.31
		38	5190		12.50	12.28
		46	5230		12.50	12.29
	802.11ac40-VHT0	38	5190	MCS0	12.50	12.35
		46	5230		12.50	12.29
802.11ax40-HE0	38	5190	MCS0	12.50	12.37	
	46	5230		12.50	12.33	
802.11ac80-VHT0	38	5190	MCS0	12.50	12.36	
	46	5230		12.50	12.29	
802.11ax80-HE0	42	5210	MCS0	12.50	12.48	
	42	5210		12.50	12.36	

Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.25-5.35 GHz	802.11a	52	5260	6Mbps	12.50	12.33
		56	5280		12.50	12.34
		60	5300		12.50	12.35
		64	5320		12.50	12.32
	802.11n20-HT0	52	5260	MCS0	12.50	12.37
		56	5280		12.50	12.38
		60	5300		12.50	12.36
	802.11ac20-VHT0	60	5300	MCS0	12.50	12.34
		52	5260		12.50	12.33
		64	5320		12.50	12.31
	802.11ax20-HE0	60	5300	MCS0	12.50	12.33
		52	5260		12.50	12.28
		64	5320		12.50	12.35
	802.11n40-HT0	56	5280	MCS0	12.50	12.31
		60	5300		12.50	12.36
		64	5320		12.50	12.28
	802.11ac40-VHT0	54	5270	MCS0	12.50	12.35
		62	5310		12.50	12.37
	802.11ax40-HE0	54	5270	MCS0	12.50	12.31
		62	5310		12.50	12.33
802.11ac80-VHT0	54	5270	MCS0	12.50	12.35	
	62	5310		12.50	12.28	
802.11ax80-HE0	58	5290	MCS0	12.50	12.49	
	58	5290		12.50	12.30	

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Ant 2						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.6GHz	802.11a	100	5500	6Mbps	12.50	12.36
		116	5580		12.50	12.32
		120	5600		12.50	12.40
		140	5700		12.50	12.32
		144	5720		12.50	12.31
	802.11n20-HT0	100	5500	MCS0	12.50	12.34
		116	5580		12.50	12.32
		120	5600		12.50	12.31
		136	5680		12.50	12.35
		140	5700		12.50	12.35
	802.11ac20-VHT0	100	5500	MCS0	12.50	12.37
		116	5580		12.50	12.26
		120	5600		12.50	12.30
		140	5700		12.50	12.32
		144	5720		12.50	12.35
	802.11ax20-HE0	100	5500	MCS0	12.50	12.31
		116	5580		12.50	12.22
		120	5600		12.50	12.33
		140	5700		12.50	12.28
		144	5720		12.50	12.32
	802.11n40-HT0	102	5510	MCS0	12.50	12.34
		110	5550		12.50	12.22
		118	5590		12.50	12.36
		134	5670		12.50	12.33
		142	5710		12.50	12.29
	802.11ac40-VHT0	102	5510	MCS0	12.50	12.31
		110	5550		12.50	12.26
		118	5590		12.50	12.35
		134	5670		12.50	12.33
		142	5710		12.50	12.36
	802.11ax40-HE0	102	5510	MCS0	12.50	12.32
		110	5550		12.50	12.22
		118	5590		12.50	12.35
		134	5670		12.50	12.30
		142	5710		12.50	12.31
	802.11ac80-VHT0	106	5530	MCS0	12.50	12.37
		122	5610		12.50	12.35
		138	5690		12.50	12.48
	802.11ax80-HE0	106	5530	MCS0	12.50	12.34
		122	5610		12.50	12.36
		138	5690		12.50	12.35

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Ant 2						
Mode	Mode	Channel	Frequency (MHz)	Data Rate	Max. Rated Avg. Power + Max. Tolerance (dBm)	Average power (dBm)
5.8GHz	802.11a	149	5745	6Mbps	12.50	12.34
		157	5785		12.50	12.35
		165	5825		12.50	12.32
	802.11n20-HT0	149	5745	MCS0	12.50	12.37
		157	5785		12.50	12.36
		165	5825		12.50	12.34
	802.11ac20-VHT0	149	5745	MCS0	12.50	12.30
		157	5785		12.50	12.31
		165	5825		12.50	12.35
	802.11ax20-HE0	149	5745	MCS0	12.50	12.34
		157	5785		12.50	12.37
		165	5825		12.50	12.33
	802.11n40-HT0	151	5755	MCS0	12.50	12.34
		159	5795		12.50	12.31
	802.11ac40-VHT0	151	5755	MCS0	12.50	12.30
		159	5795		12.50	12.31
	802.11ax40-HE0	151	5755	MCS0	12.50	12.36
		159	5795		12.50	12.31
802.11ac80-VHT0	155	5775	MCS0	12.50	12.44	
802.11ax80-HE0	155	5775	MCS0	12.50	12.31	

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## 5.2 Bluetooth

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	11.50	10.01	8.50	8.10	8.50	8.03
	CH 39	2441		9.88		7.94		7.86
	CH 78	2480		10.28		8.23		8.29

## 5.3 BLE

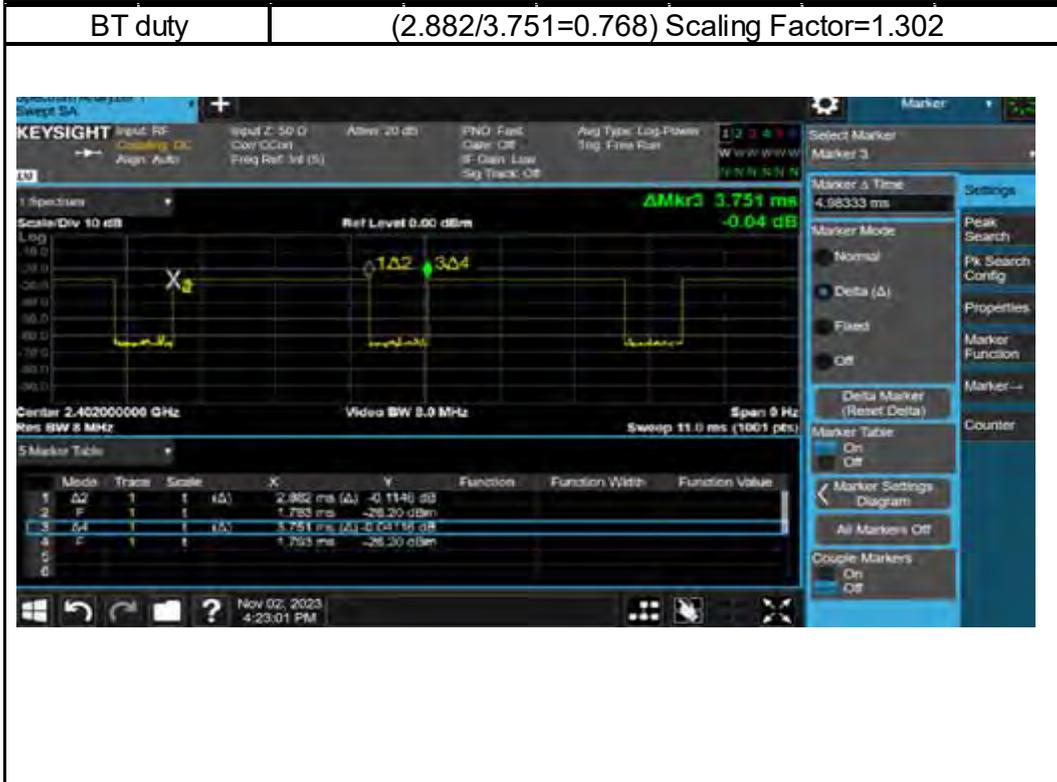
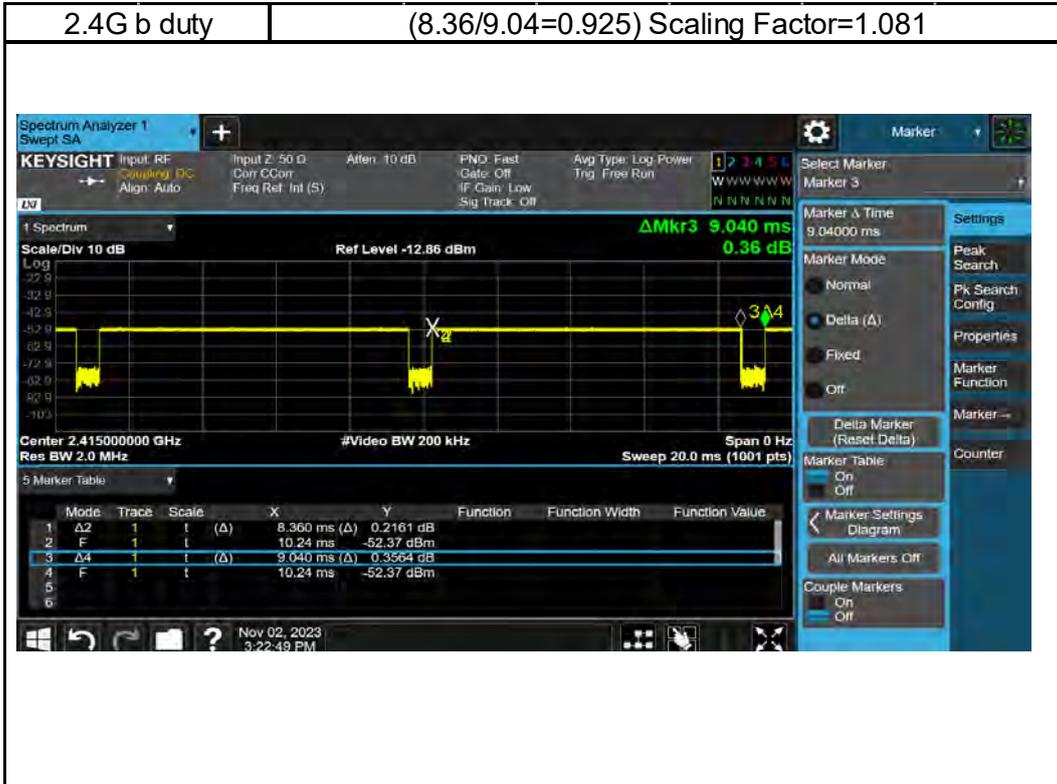
Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_1M	CH 00	2402	11.5	9.84
	CH 19	2440		9.71
	CH 39	2480		9.92
Mode	Channel	Frequency (MHz)	GFSK	
			Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Output Power (dBm)
BLE_2M	CH 00	2402	11.5	9.82
	CH 19	2440		9.75
	CH 39	2480		9.89

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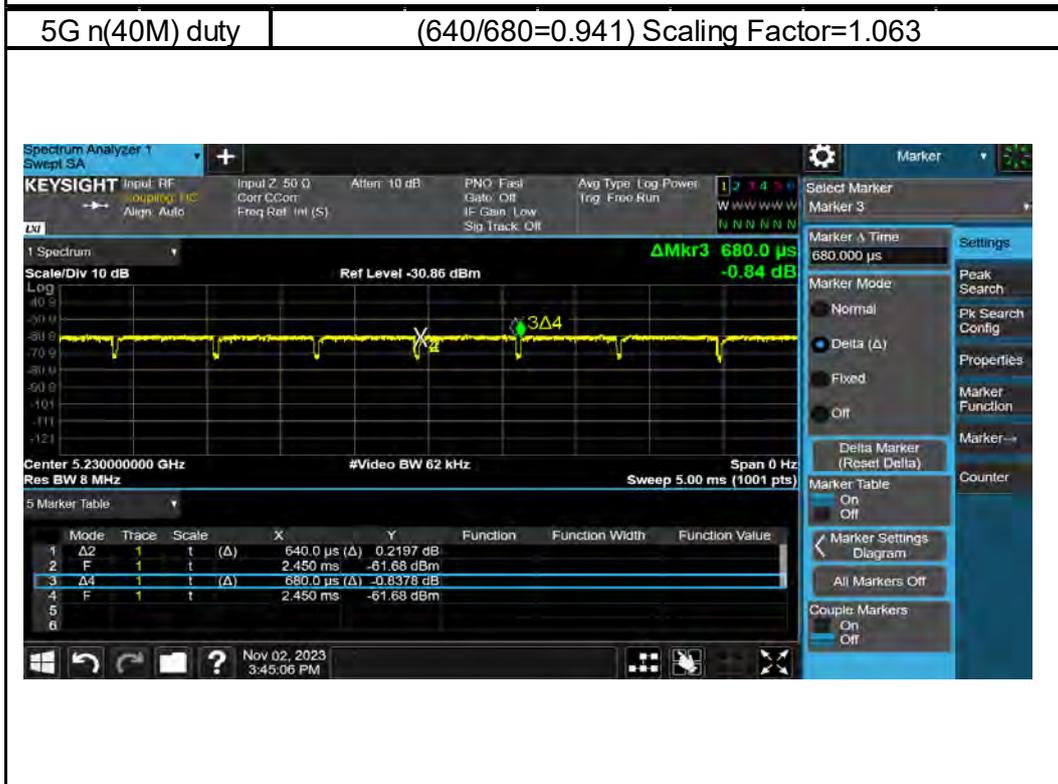
## 6 DUTY CYCLE



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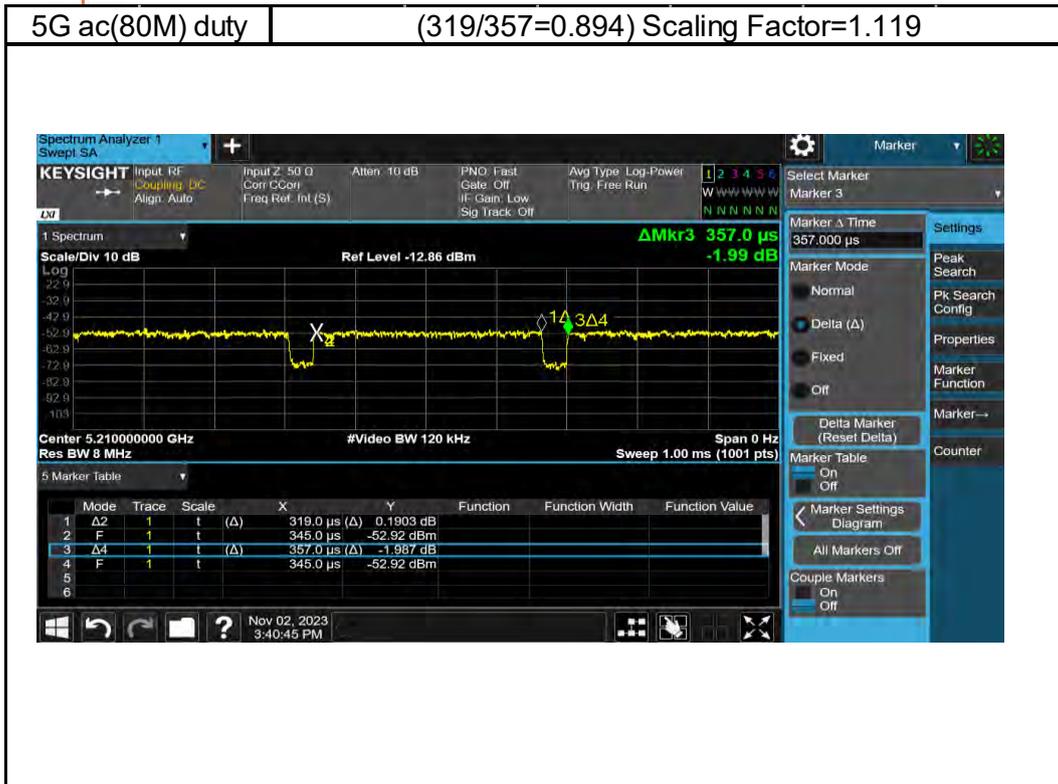
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## 7 SUMMARY OF RESULTS

### 7.1 Decision rules

Reported measurement data comply with Test Methodology in section 1.1.

Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 7.2 Summary of SAR Results

Tablet mode

Vendor1

Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
										Measured	Reported	
WLAN 802.11b	Ant 1	Back Surface	0	11	2462	14.00	13.97	1.08	100.69%	0.083	0.091	-
WLAN 802.11b	Ant 1	Top Edge	0	1	2412	14.00	13.83	1.08	103.99%	0.305	0.343	-
WLAN 802.11b	Ant 1	Top Edge	0	6	2437	14.00	13.81	1.08	104.47%	0.310	0.350	-
WLAN 802.11b	Ant 1	Top Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.354	0.385	001
WLAN 802.11b	Ant 1	Bottom Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.002	0.002	-
WLAN 802.11b	Ant 1	Right Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.004	0.004	-
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
Bluetooth(GFSK)	Ant 1	Back Surface	0	78	2480	11.50	10.28	1.30	132.43%	0.021	0.036	-
Bluetooth(GFSK)	Ant 1	Top Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.049	0.084	002
Bluetooth(GFSK)	Ant 1	Bottom Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.001	0.002	-
Bluetooth(GFSK)	Ant 1	Right Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.002	0.003	-
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
WLAN 802.11ac(80M) 5.2G	Ant 1	Back Surface	0	42	5210	12.50	12.49	1.03	100.23%	0.107	0.111	-
WLAN 802.11ac(80M) 5.2G	Ant 1	Top Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.474	0.491	003
WLAN 802.11ac(80M) 5.2G	Ant 1	Bottom Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.058	0.060	-
WLAN 802.11ac(80M) 5.2G	Ant 1	Right Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.067	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
WLAN 802.11ac(80M) 5.3G	Ant 1	Back Surface	0	58	5290	12.50	12.46	1.03	100.93%	0.394	0.411	-
WLAN 802.11ac(80M) 5.3G	Ant 1	Top Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.421	0.439	004
WLAN 802.11ac(80M) 5.3G	Ant 1	Bottom Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.057	0.059	-
WLAN 802.11ac(80M) 5.3G	Ant 1	Right Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.091	0.095	-
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
WLAN 802.11ac(80M) 5.6G	Ant 1	Back Surface	0	138	5690	12.50	12.49	1.03	100.23%	0.291	0.301	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Top Edge	0	106	5530	12.50	12.45	1.03	101.16%	0.379	0.396	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Top Edge	0	122	5610	12.50	12.10	1.03	109.65%	0.451	0.511	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Top Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.557	0.577	005
WLAN 802.11ac(80M) 5.6G	Ant 1	Bottom Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.058	0.060	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Right Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.052	0.054	-
Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
WLAN 802.11ac(80M) 5.8G	Ant 1	Back Surface	0	155	5775	12.50	12.48	1.03	100.46%	0.376	0.390	-
WLAN 802.11ac(80M) 5.8G	Ant 1	Top Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.521	0.541	006
WLAN 802.11ac(80M) 5.8G	Ant 1	Bottom Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.067	0.070	-
WLAN 802.11ac(80M) 5.8G	Ant 1	Right Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.079	0.082	-
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
WLAN 802.11b	Ant 2	Back Surface	0	1	2412	14.00	13.99	1.08	100.23%	0.092	0.100	-
WLAN 802.11b	Ant 2	Top Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.348	0.377	-
WLAN 802.11b	Ant 2	Top Edge	0	6	2437	14.00	13.97	1.08	100.69%	0.369	0.402	-
WLAN 802.11b	Ant 2	Top Edge	0	11	2462	14.00	13.85	1.08	103.51%	0.378	0.423	007
WLAN 802.11b	Ant 2	Bottom Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.001	0.001	-
WLAN 802.11b	Ant 2	Left Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.003	0.003	-
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
WLAN 802.11ac(80M) 5.2G	Ant 2	Back Surface	0	42	5210	12.50	12.48	1.03	100.46%	0.072	0.075	-
WLAN 802.11ac(80M) 5.2G	Ant 2	Top Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.297	0.308	008
WLAN 802.11ac(80M) 5.2G	Ant 2	Bottom Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.054	0.056	-
WLAN 802.11ac(80M) 5.2G	Ant 2	Left Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.052	0.054	-
Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
WLAN 802.11ac(80M) 5.3G	Ant 2	Back Surface	0	58	5290	12.50	12.49	1.03	100.23%	0.090	0.094	-
WLAN 802.11ac(80M) 5.3G	Ant 2	Top Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.409	0.423	009
WLAN 802.11ac(80M) 5.3G	Ant 2	Bottom Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.054	0.056	-
WLAN 802.11ac(80M) 5.3G	Ant 2	Left Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.059	0.061	-

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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 802.11ac(80M) 5.6G	Ant 2	Back Surface	0	138	5690	12.50	12.48	1.03	100.46%	0.041	0.042	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	106	5530	12.50	12.37	1.03	103.04%	0.438	0.466	010
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	122	5610	12.50	12.35	1.03	103.51%	0.232	0.248	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.256	0.266	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Bottom Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.069	0.072	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Left Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.047	0.049	-
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
WLAN 802.11ac(80M) 5.8G	Ant 2	Back Surface	0	155	5775	12.50	12.44	1.03	101.39%	0.087	0.091	-
WLAN 802.11ac(80M) 5.8G	Ant 2	Top Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.364	0.381	011
WLAN 802.11ac(80M) 5.8G	Ant 2	Bottom Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.071	0.074	-
WLAN 802.11ac(80M) 5.8G	Ant 2	Left Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.065	0.068	-

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Vendor2

Band	Antenna	Position	Distance (mm)	Channel	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Duty cycle scaling	Power scaling	Averaged SAR over 1g (W/kg)		ID
										Measured	Reported	
WLAN 802.11b	Ant 1	Back Surface	0	11	2462	14.00	13.97	1.08	100.69%	0.151	0.164	-
WLAN 802.11b	Ant 1	Top Edge	0	1	2412	14.00	13.83	1.08	103.99%	0.137	0.154	-
WLAN 802.11b	Ant 1	Top Edge	0	6	2437	14.00	13.81	1.08	104.47%	0.166	0.187	-
WLAN 802.11b	Ant 1	Top Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.213	0.232	012
WLAN 802.11b	Ant 1	Bottom Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.002	0.002	-
WLAN 802.11b	Ant 1	Right Edge	0	11	2462	14.00	13.97	1.08	100.69%	0.039	0.042	-
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
Bluetooth(GFSK)	Ant 1	Back Surface	0	78	2480	11.50	10.28	1.30	132.43%	0.031	0.054	-
Bluetooth(GFSK)	Ant 1	Top Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.044	0.076	013
Bluetooth(GFSK)	Ant 1	Bottom Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.001	0.002	-
Bluetooth(GFSK)	Ant 1	Right Edge	0	78	2480	11.50	10.28	1.30	132.43%	0.007	0.012	-
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
WLAN 802.11ac(80M) 5.2G	Ant 1	Back Surface	0	42	5210	12.50	12.49	1.03	100.23%	0.052	0.054	-
WLAN 802.11ac(80M) 5.2G	Ant 1	Top Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.352	0.364	014
WLAN 802.11ac(80M) 5.2G	Ant 1	Bottom Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.001	0.001	-
WLAN 802.11ac(80M) 5.2G	Ant 1	Right Edge	0	42	5210	12.50	12.49	1.03	100.23%	0.044	0.046	-
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
WLAN 802.11ac(80M) 5.3G	Ant 1	Back Surface	0	58	5290	12.50	12.46	1.03	100.93%	0.071	0.074	-
WLAN 802.11ac(80M) 5.3G	Ant 1	Top Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.581	0.606	015
WLAN 802.11ac(80M) 5.3G	Ant 1	Bottom Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.002	0.002	-
WLAN 802.11ac(80M) 5.3G	Ant 1	Right Edge	0	58	5290	12.50	12.46	1.03	100.93%	0.049	0.051	-
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
WLAN 802.11ac(80M) 5.6G	Ant 1	Back Surface	0	138	5690	12.50	12.49	1.03	100.23%	0.061	0.063	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Top Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.313	0.324	016
WLAN 802.11ac(80M) 5.6G	Ant 1	Bottom Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.001	0.001	-
WLAN 802.11ac(80M) 5.6G	Ant 1	Right Edge	0	138	5690	12.50	12.49	1.03	100.23%	0.062	0.064	-
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
WLAN 802.11ac(80M) 5.8G	Ant 1	Back Surface	0	155	5775	12.50	12.48	1.03	100.46%	0.055	0.057	-
WLAN 802.11ac(80M) 5.8G	Ant 1	Top Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.294	0.305	017
WLAN 802.11ac(80M) 5.8G	Ant 1	Bottom Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.001	0.001	-
WLAN 802.11ac(80M) 5.8G	Ant 1	Right Edge	0	155	5775	12.50	12.48	1.03	100.46%	0.064	0.066	-
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
WLAN 802.11b	Ant 2	Back Surface	0	1	2412	14.00	13.99	1.08	100.23%	0.093	0.101	-
WLAN 802.11b	Ant 2	Top Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.282	0.306	-
WLAN 802.11b	Ant 2	Top Edge	0	6	2437	14.00	13.97	1.08	100.69%	0.324	0.353	018
WLAN 802.11b	Ant 2	Top Edge	0	11	2462	14.00	13.85	1.08	103.51%	0.298	0.333	-
WLAN 802.11b	Ant 2	Bottom Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.001	0.001	-
WLAN 802.11b	Ant 2	Left Edge	0	1	2412	14.00	13.99	1.08	100.23%	0.003	0.003	-
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
WLAN 802.11ac(80M) 5.2G	Ant 2	Back Surface	0	42	5210	12.50	12.48	1.03	100.46%	0.056	0.058	-
WLAN 802.11ac(80M) 5.2G	Ant 2	Top Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.311	0.323	019
WLAN 802.11ac(80M) 5.2G	Ant 2	Bottom Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.001	0.001	-
WLAN 802.11ac(80M) 5.2G	Ant 2	Left Edge	0	42	5210	12.50	12.48	1.03	100.46%	0.002	0.002	-
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
WLAN 802.11ac(80M) 5.3G	Ant 2	Back Surface	0	58	5290	12.50	12.49	1.03	100.23%	0.053	0.055	-
WLAN 802.11ac(80M) 5.3G	Ant 2	Top Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.309	0.320	020
WLAN 802.11ac(80M) 5.3G	Ant 2	Bottom Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.001	0.001	-
WLAN 802.11ac(80M) 5.3G	Ant 2	Left Edge	0	58	5290	12.50	12.49	1.03	100.23%	0.002	0.002	-
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
WLAN 802.11ac(80M) 5.6G	Ant 2	Back Surface	0	138	5690	12.50	12.48	1.03	100.46%	0.056	0.058	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	106	5630	12.50	12.37	1.03	103.04%	0.331	0.352	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	122	5610	12.50	12.35	1.03	103.51%	0.347	0.371	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Top Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.388	0.403	021
WLAN 802.11ac(80M) 5.6G	Ant 2	Bottom Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.001	0.001	-
WLAN 802.11ac(80M) 5.6G	Ant 2	Left Edge	0	138	5690	12.50	12.48	1.03	100.46%	0.003	0.003	-
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
WLAN 802.11ac(80M) 5.8G	Ant 2	Back Surface	0	155	5775	12.50	12.44	1.03	101.39%	0.055	0.058	-
WLAN 802.11ac(80M) 5.8G	Ant 2	Top Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.330	0.346	022
WLAN 802.11ac(80M) 5.8G	Ant 2	Bottom Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.001	0.001	-
WLAN 802.11ac(80M) 5.8G	Ant 2	Left Edge	0	155	5775	12.50	12.44	1.03	101.39%	0.003	0.003	-

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**Note:**

Reported SAR = measured SAR \* Power scaling \* Duty cycle scaling

**7.3 Reporting statements of conformity**

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

**7.4 Conclusion**

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

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## 8 SIMULTANEOUS TRANSMISSION ANALYSIS

### 8.1 Simultaneous Transmission Scenarios:

Simultaneous Transmit Configurations	Body
WLAN 2.4GHz Ant 1 + WLAN 2.4GHz Ant 2	Yes
WLAN 2.4GHz Ant 1 + WLAN 2.4GHz Ant 2 + BT Ant 1	Yes
WLAN 5GHz Ant 1 + WLAN 5GHz Ant 2	Yes
WLAN 5GHz Ant 1 + WLAN 5GHz Ant 2 + BT Ant 1	Yes

Note:

1. For 2.4/5GHz WLAN Ant1 and Ant2 antennas, the maximum output power of each antenna during simultaneous transmission is the same with or less than that used in standalone transmission, and we used the sum of 1-g SAR provision in KDB447498D01 to exclude the simultaneous transmitted SAR measurement.

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## 8.2 Estimated SAR calculation

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

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

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

## 8.3 SPLSR evaluation and analysis

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

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

The ratio is determined by  $(\text{SAR1} + \text{SAR2})^{1.5}/R_i$ , rounded to two decimal digits, and must be  $\leq 0.04$  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  $R_i$  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.

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### Simultaneous Transmission Combination

#### Vendor1

Vendor1		Reported SAR					Scenario 1	Scenario 2	Scenario 3	Scenario 4
Exposure Position		1	2	3	4	5	1+2	1+2+5	3+4	3+4+5
		2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1	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)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Back Surface	0	0.091	0.100	0.411	0.094	0.036	0.191	0.227	0.505	0.541
Top Edge	0	0.385	0.423	0.577	0.466	0.084	0.808	0.892	1.043	1.127
Bottom Edge	0	0.002	0.001	0.070	0.074	0.002	0.003	0.005	0.144	0.146
Left Edge	0		0.003		0.068		0.003	0.003	0.068	0.068
Right Edge	0	0.004		0.095		0.003	0.004	0.007	0.095	0.098

#### Vendor2

Vendor2		Reported SAR					Scenario 1	Scenario 2	Scenario 3	Scenario 4
Exposure Position		1	2	3	4	5	1+2	1+2+5	3+4	3+4+5
		2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1	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)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Back Surface	0	0.164	0.101	0.074	0.058	0.054	0.265	0.319	0.132	0.186
Top Edge	0	0.232	0.353	0.606	0.403	0.076	0.585	0.661	1.009	1.085
Bottom Edge	0	0.002	0.001	0.002	0.001	0.002	0.003	0.005	0.003	0.005
Left Edge	0		0.003		0.003		0.003	0.003	0.003	0.003
Right Edge	0	0.042		0.066		0.012	0.042	0.054	0.066	0.078

### 8.4 Conclusion

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

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## 9 INSTRUMENTS LIST

Equipment List					
Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
SPEAG	Data acquisition Electronics	DAE4	1260	Sep/14/2023	Sep/13/2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	3770	May/23/2023	May/22/2024
SPEAG	System Validation Dipole	D2450V2	727	Apr/25/2023	Apr/24/2024
SPEAG	System Validation Dipole	D5GHzV2	1349	Mar/20/2023	Mar/19/2024
SPEAG	Dielectric Assessment Kit	DAKS-3.5	1053	Feb/27/2023	Feb/26/2024
R&S	MXG Analog Signal Generator	SMB100A03	182012	May/23/2023	May/22/2024
Agilent	Dual-directional coupler	772D	MY46151258	Sep/26/2023	Sep/25/2024
Agilent	Dual-directional coupler	778D	MY46151242	Sep/26/2023	Sep/25/2024
EMCI	Amplifier	EMC 2830P	980156	Calibration not required	Calibration not required
R&S	Power Meter	NRX	105651	Nov/25/2022	Nov/24/2023
R&S	Power Sensor	NRP6A	104246	Nov/22/2022	Nov/21/2023
R&S	Power Sensor	NRP6A	104247	Nov/22/2022	Nov/21/2023
SPEAG	Software	DASY 52 V52.10.4.1527	N/A	Calibration not required	Calibration not required
SPEAG	Phantom	ELI	N/A	Calibration not required	Calibration not required
TECPEL	Digital thermometer	DTM-303A	TP131515	Jun/02/2023	Jun/01/2024

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# 10 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 Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
<b>Measurement system</b>									
Probe calibration	6.55%	N	1	1	1	1	6.55%	6.55%	∞
<i>Isotropy, Axial</i>	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
<i>Isotropy, Hemispherical</i>	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%	∞
<b>Measurement drift (class A evaluation)</b>	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%	∞
<b>Test Sample related</b>									
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%	∞
<b>Phantom and Setup</b>									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	2.61%	N	1	1	0.64	0.43	1.67%	1.12%	M
Liquid Conductivity (mea.)	1.73%	N	1	1	0.6	0.49	1.04%	0.85%	M
Combined standard uncertainty		RSS					11.88%	11.79%	
Expant uncertainty (95% confidence interval), K=2							23.76%	23.58%	

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

A	c	D	e		f	g	h=c * f / e	i=c * g / e	k
Source of Uncertainty	Tolerance/ Uncertainty	Probability Distributio	Div	Div Value	ci (1g)	ci (10g)	Standard uncertainty	Standard uncertainty	vi, or Veff
<b>Measurement system</b>									
Probe calibration	6.00%	N	1	1	1	1	6.00%	6.00%	∞
<i>Isotropy , Axial</i>	3.50%	R	√3	1.732	1	1	2.02%	2.02%	∞
<i>Isotropy, Hemispherical</i>	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%	∞
<b>Measurement drift (class A evaluation)</b>									
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%	∞
<b>Test Sample related</b>									
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%	∞
<b>Phantom and Setup</b>									
Phantom Uncertainty	4.00%	R	√3	1.732	1	1	2.31%	2.31%	∞
Liquid permittivity (mea.)	2.30%	N	1	1	0.64	0.43	1.47%	0.99%	M
Liquid Conductivity (mea.)	1.57%	N	1	1	0.6	0.49	0.94%	0.77%	M
Combined standard uncertainty		RSS					11.55%	11.48%	
Expant uncertainty (95% confidence interval), K=2							23.10%	22.95%	

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## 11 SAR MEASUREMENT RESULTS

Date: 2023/11/1

ID: 001

Report No. :TESA2309000526EN

WLAN 802.11b\_Body\_Top Edge\_CH 11\_0mm\_Ant1

Communication System: WLAN 2.45G; Frequency: 2462 MHz; Duty cycle= 1:1.081

Medium parameters used:  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.839 \text{ S/m}$ ;  $\epsilon_r = 40.083$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2462 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.527 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.364 V/m; Power Drift = 0.01dB

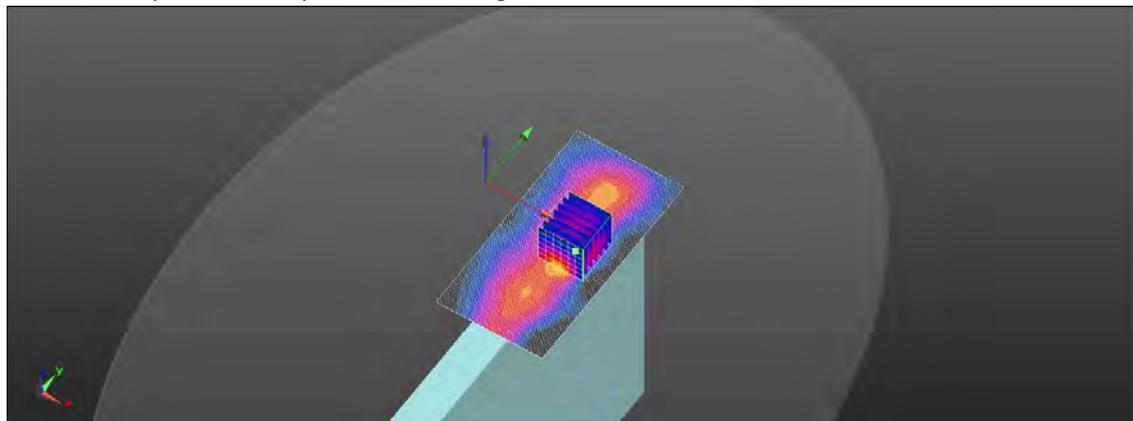
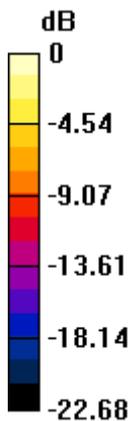
Peak SAR (extrapolated) = 0.999 W/kg

**SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.134 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.3 mm

Ratio of SAR at M2 to SAR at M1 = 39.7%

Maximum value of SAR (measured) = 0.662 W/kg



0 dB = 0.662 W/kg = -1.79 dBW/kg

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Date: 2023/11/1

ID: 002

Report No. :TESA2309000526EN

Bluetooth(GFSK)\_Body\_Top Edge\_CH 78\_0mm\_Ant1

Communication System: Bluetooth; Frequency: 2480 MHz; Duty cycle= 1:1.302

Medium parameters used:  $f = 2480 \text{ MHz}$ ;  $\sigma = 1.855 \text{ S/m}$ ;  $\epsilon_r = 40.06$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2480 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0666 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.999 V/m; Power Drift = 0.08 dB

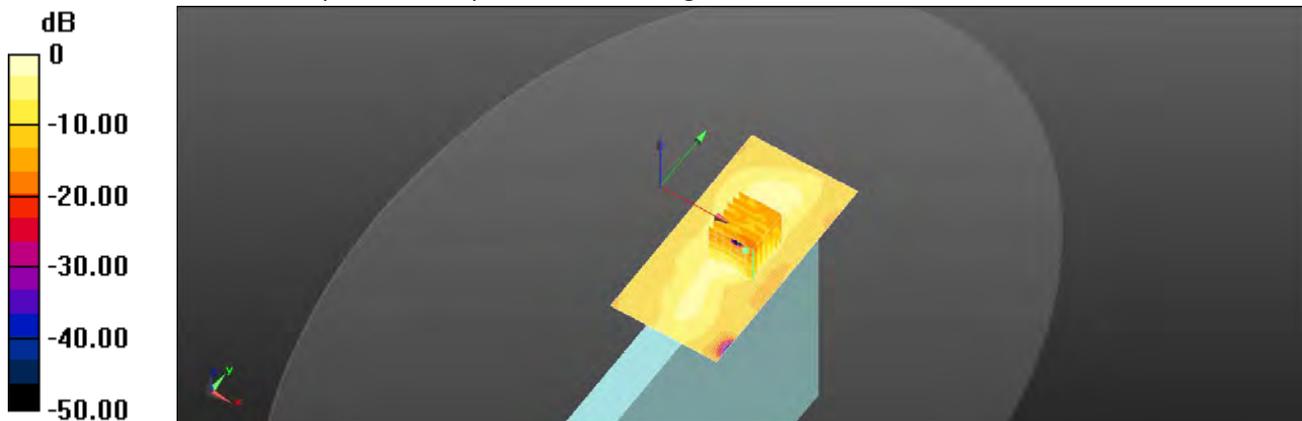
Peak SAR (extrapolated) = 0.110 W/kg

**SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.022 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.1 mm

Ratio of SAR at M2 to SAR at M1 = 47.4%

Maximum value of SAR (measured) = 0.0808 W/kg



0 dB = 0.0666 W/kg = -11.76 dBW/kg

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Date: 2023/11/2

ID: 003

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.2G\_Body\_Top Edge\_CH 42\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5210 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5210 \text{ MHz}$ ;  $\sigma = 4.739 \text{ S/m}$ ;  $\epsilon_r = 36.872$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.44, 5.44, 5.44) @ 5210 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.961 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.346 V/m; Power Drift = 0.16 dB

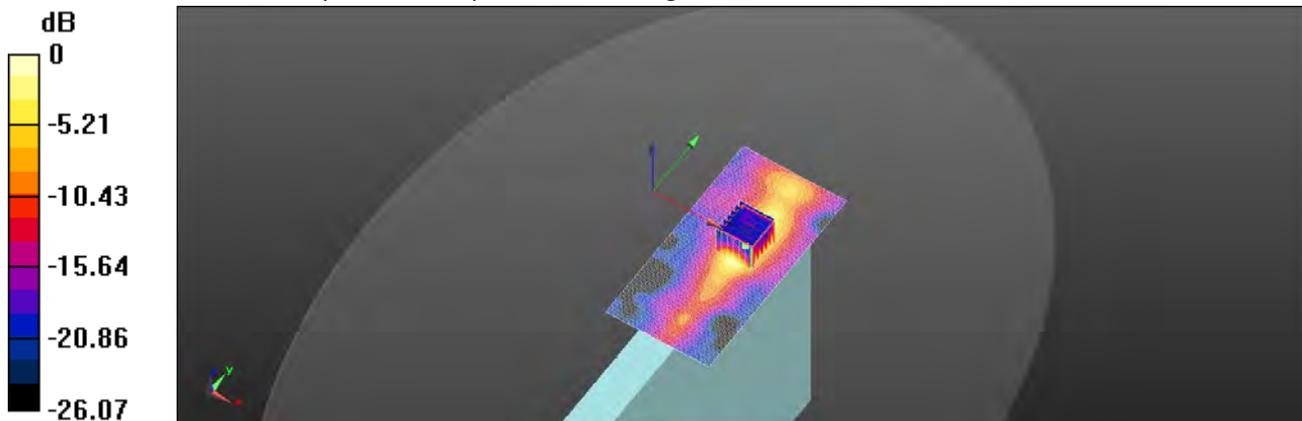
Peak SAR (extrapolated) = 1.82 W/kg

**SAR(1 g) = 0.474 W/kg; SAR(10 g) = 0.156 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.8 mm

Ratio of SAR at M2 to SAR at M1 = 58.6%

Maximum value of SAR (measured) = 0.973 W/kg



0 dB = 0.973 W/kg = -0.12 dBW/kg

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Date: 2023/11/2

ID: 004

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.3G\_Body\_Top Edge\_CH 58\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5290 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5290 \text{ MHz}$ ;  $\sigma = 4.823 \text{ S/m}$ ;  $\epsilon_r = 36.781$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.33, 5.33, 5.33) @ 5290 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.839 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.064 V/m; Power Drift = 0.02 dB

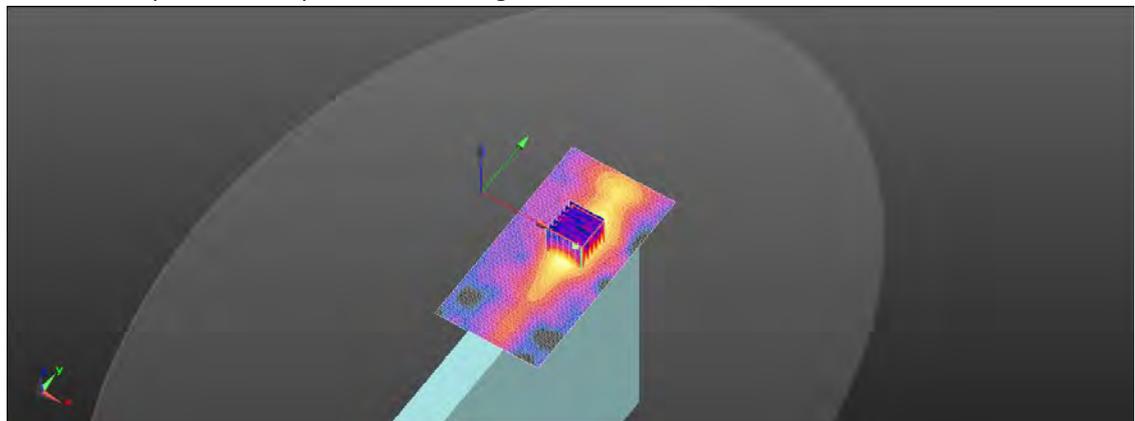
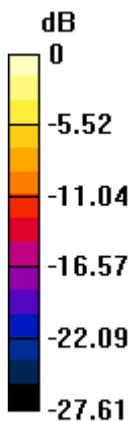
Peak SAR (extrapolated) = 1.69 W/kg

**SAR(1 g) = 0.421 W/kg; SAR(10 g) = 0.135 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.9 mm

Ratio of SAR at M2 to SAR at M1 = 57.4%

Maximum value of SAR (measured) = 0.890 W/kg



0 dB = 0.890 W/kg = -0.51 dBW/kg

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Date: 2023/11/3

ID: 005

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.6G\_Body\_Top Edge\_CH 138\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5690 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5690 \text{ MHz}$ ;  $\sigma = 5.245 \text{ S/m}$ ;  $\epsilon_r = 36.324$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.84, 4.84, 4.84) @ 5690 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.885 V/m; Power Drift = -0.16 dB

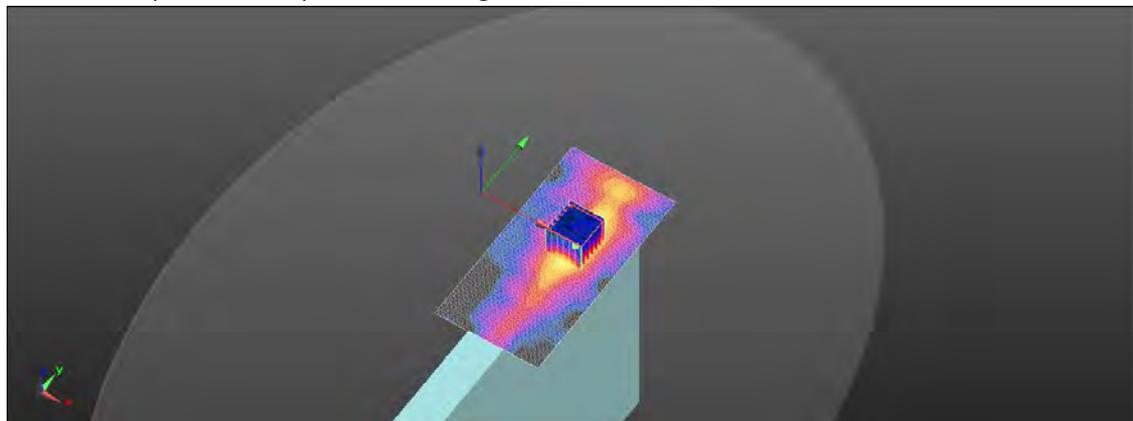
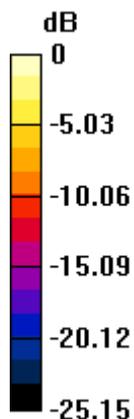
Peak SAR (extrapolated) = 2.46 W/kg

**SAR(1 g) = 0.557 W/kg; SAR(10 g) = 0.170 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.6 mm

Ratio of SAR at M2 to SAR at M1 = 54.5%

Maximum value of SAR (measured) = 1.24 W/kg



0 dB = 1.24 W/kg = 0.93 dBW/kg

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Date: 2023/11/4

ID: 006

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.8G\_Body\_Top Edge\_CH 155\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5775 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5775 \text{ MHz}$ ;  $\sigma = 5.335 \text{ S/m}$ ;  $\epsilon_r = 36.227$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.9, 4.9, 4.9) @ 5775 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** 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 = 3.997 V/m; Power Drift = 0.03 dB

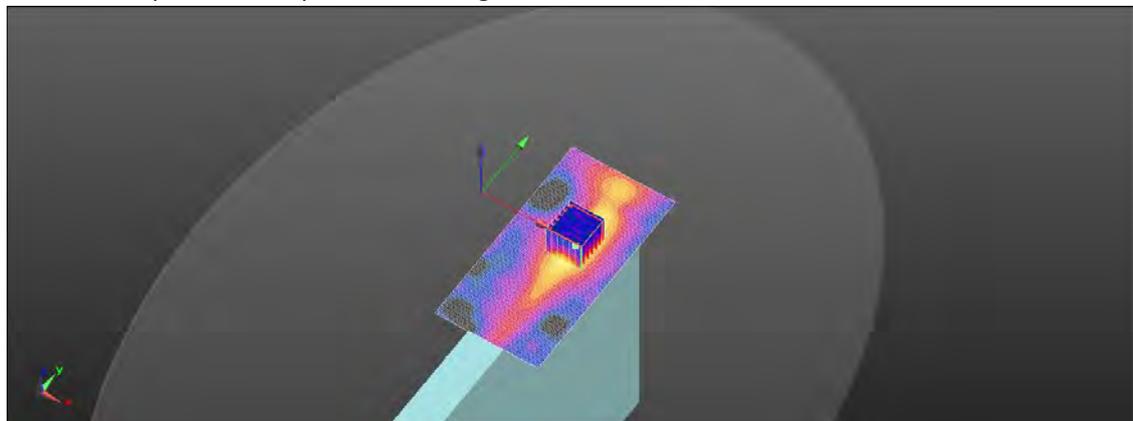
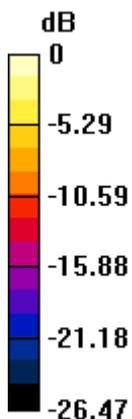
Peak SAR (extrapolated) = 2.32 W/kg

**SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.158 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.5 mm

Ratio of SAR at M2 to SAR at M1 = 53.8%

Maximum value of SAR (measured) = 1.15 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

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Date: 2023/11/1

ID: 007

Report No. :TESA2309000526EN

WLAN 802.11b\_Body\_Top Edge\_CH 11\_0mm\_Ant2

Communication System: WLAN 2.45G; Frequency: 2462 MHz; Duty cycle= 1:1.081

Medium parameters used:  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.839 \text{ S/m}$ ;  $\epsilon_r = 40.083$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2462 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.522 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.796 V/m; Power Drift = 0.14 dB

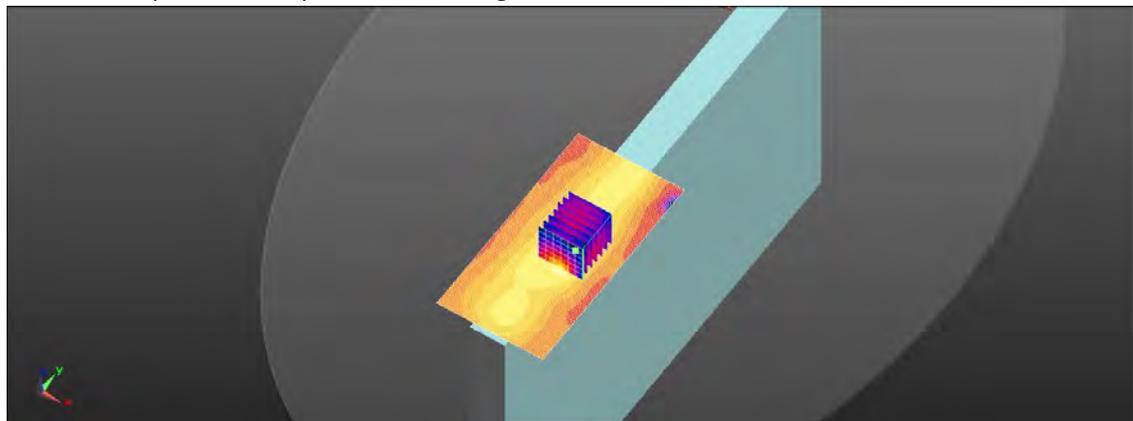
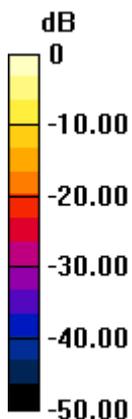
Peak SAR (extrapolated) = 0.933 W/kg

**SAR(1 g) = 0.378 W/kg; SAR(10 g) = 0.158 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.1 mm

Ratio of SAR at M2 to SAR at M1 = 46%

Maximum value of SAR (measured) = 0.633 W/kg



0 dB = 0.522 W/kg = -2.83 dBW/kg

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Date: 2023/11/2

ID: 008

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.2G\_Body\_Top Edge\_CH 42\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5210 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5210 \text{ MHz}$ ;  $\sigma = 4.739 \text{ S/m}$ ;  $\epsilon_r = 36.872$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.44, 5.44, 5.44) @ 5210 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.655 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.471 V/m; Power Drift = 0.08 dB

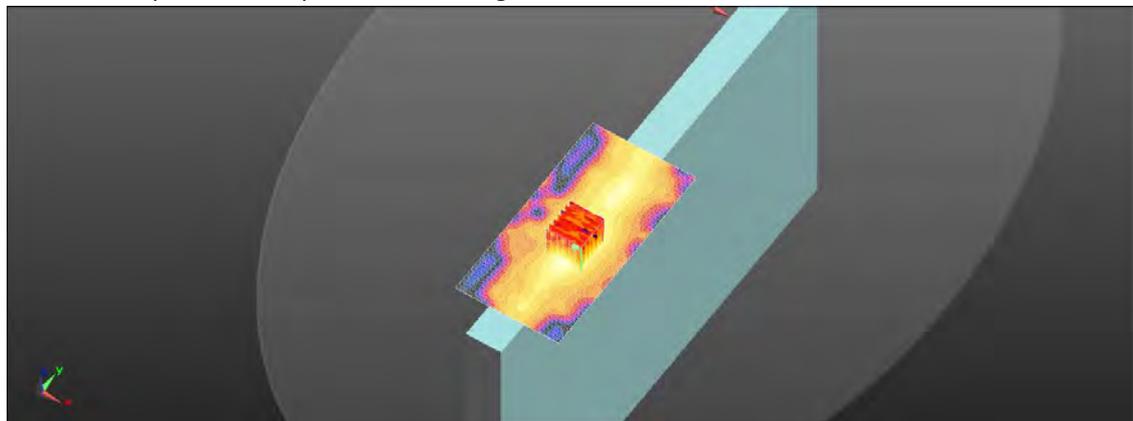
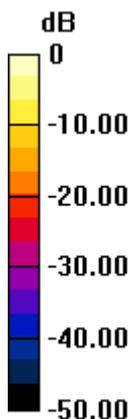
Peak SAR (extrapolated) = 1.39 W/kg

**SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.094 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.1 mm

Ratio of SAR at M2 to SAR at M1 = 54.4%

Maximum value of SAR (measured) = 0.629 W/kg



0 dB = 0.629 W/kg = -2.01 dBW/kg

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Date: 2023/11/2

ID: 009

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.3G\_Body\_Top Edge\_CH 58\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5290 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5290$  MHz;  $\sigma = 4.823$  S/m;  $\epsilon_r = 36.781$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.33, 5.33, 5.33) @ 5290 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.898 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.021 V/m; Power Drift = 0.05 dB

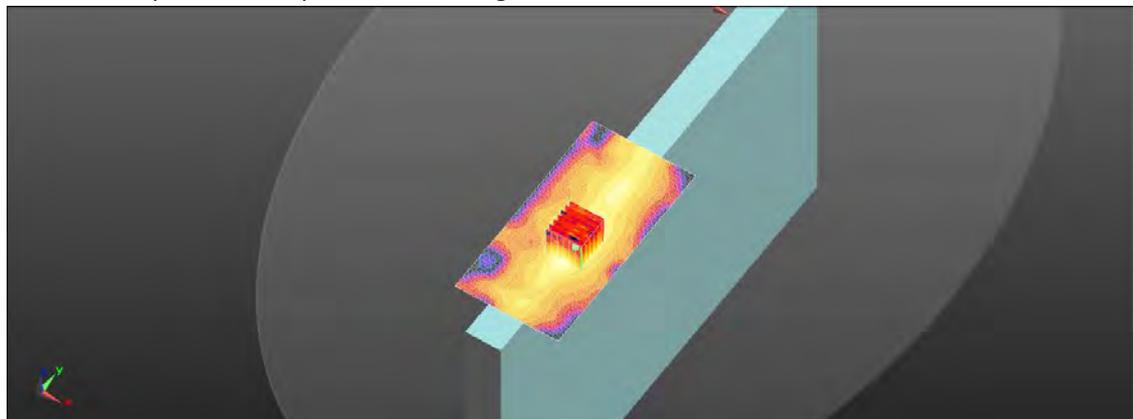
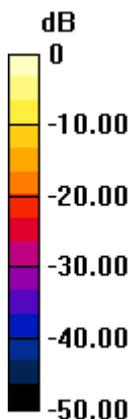
Peak SAR (extrapolated) = 1.98 W/kg

**SAR(1 g) = 0.409 W/kg; SAR(10 g) = 0.125 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.8 mm

Ratio of SAR at M2 to SAR at M1 = 52.9%

Maximum value of SAR (measured) = 0.900 W/kg



0 dB = 0.900 W/kg = -0.46 dBW/kg

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Date: 2023/11/3

ID: 010

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.6G\_Body\_Top Edge\_CH 106\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5530 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5530 \text{ MHz}$ ;  $\sigma = 5.078 \text{ S/m}$ ;  $\epsilon_r = 36.507$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.84, 4.84, 4.84) @ 5530 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.960 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.048 V/m; Power Drift = 0.11 dB

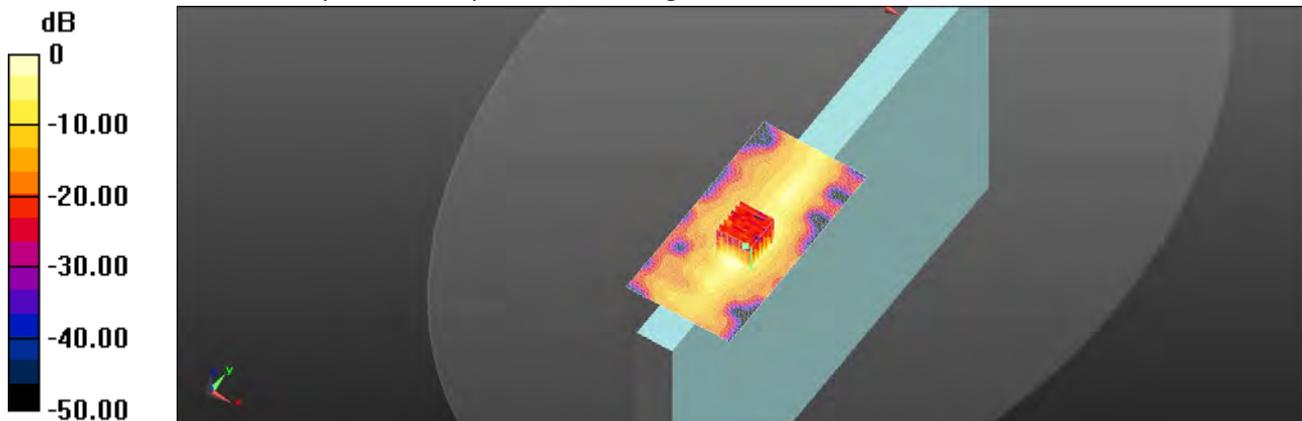
Peak SAR (extrapolated) = 2.13 W/kg

**SAR(1 g) = 0.438 W/kg; SAR(10 g) = 0.132 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.3 mm

Ratio of SAR at M2 to SAR at M1 = 52.4%

Maximum value of SAR (measured) = 0.970 W/kg



0 dB = 0.970 W/kg = -0.13 dBW/kg

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Date: 2023/11/4

ID: 011

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.8G\_Body\_Top Edge\_CH 155\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5775 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5775 \text{ MHz}$ ;  $\sigma = 5.335 \text{ S/m}$ ;  $\epsilon_r = 36.227$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.9, 4.9, 4.9) @ 5775 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.842 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.891 V/m; Power Drift = 0.09 dB

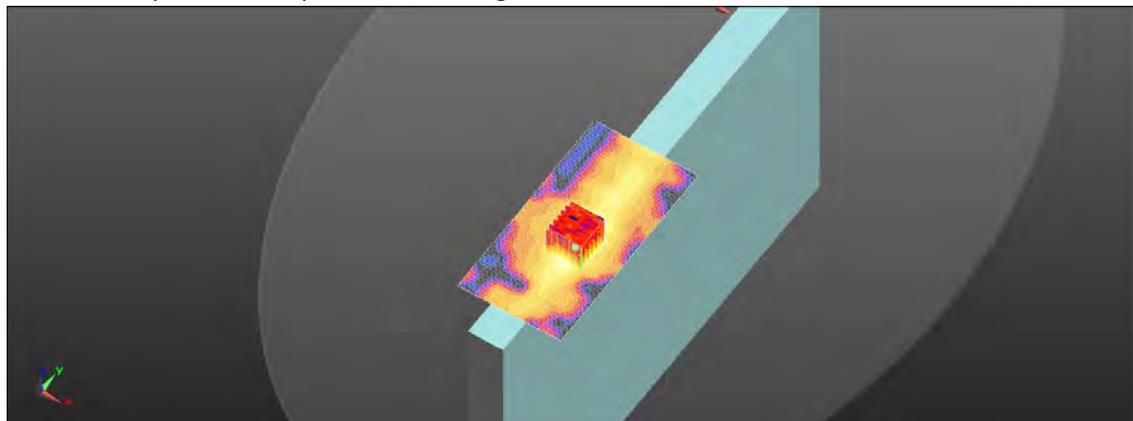
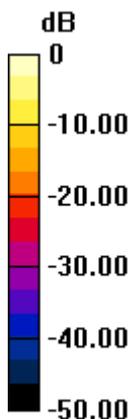
Peak SAR (extrapolated) = 1.99 W/kg

**SAR(1 g) = 0.364 W/kg; SAR(10 g) = 0.107 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.2 mm

Ratio of SAR at M2 to SAR at M1 = 49.2%

Maximum value of SAR (measured) = 0.827 W/kg



0 dB = 0.827 W/kg = -0.82 dBW/kg

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Member of SGS Group

Date: 2023/11/1

ID: 012

Report No. :TESA2309000526EN

WLAN 802.11b\_Body\_Top Edge\_CH 11\_0mm\_Ant1

Communication System: WLAN 2.45G; Frequency: 2462 MHz; Duty cycle= 1:1.081

Medium parameters used:  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.839 \text{ S/m}$ ;  $\epsilon_r = 40.083$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2462 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.339 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.348 V/m; Power Drift = 0.16 dB

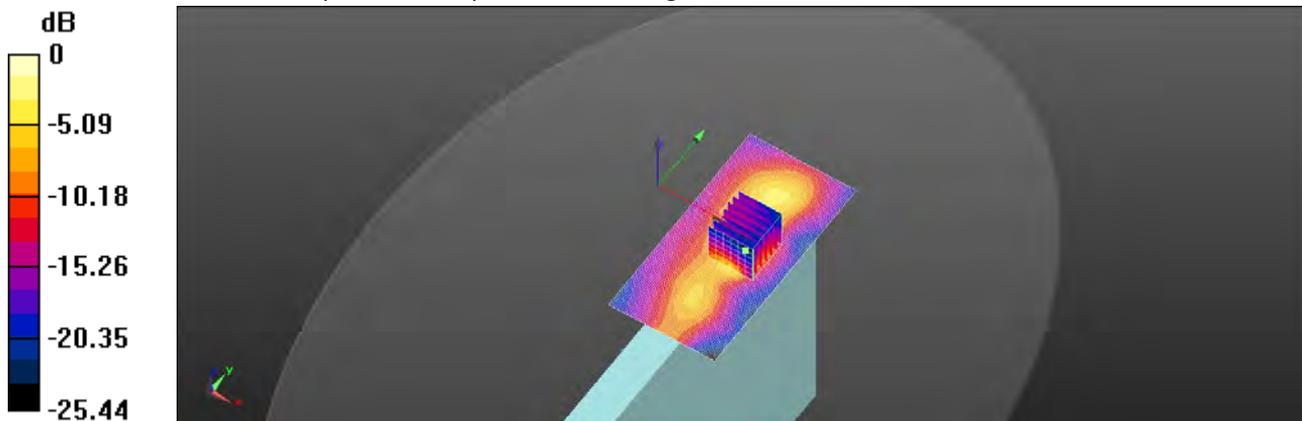
Peak SAR (extrapolated) = 0.472 W/kg

**SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.095 W/kg**

Smallest distance from peaks to all points 3 dB below = 6.7 mm

Ratio of SAR at M2 to SAR at M1 = 47.4%

Maximum value of SAR (measured) = 0.336 W/kg



0 dB = 0.339 W/kg = -4.70 dBW/kg

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Date: 2023/11/1

ID: 013

Report No. :TESA2309000526EN

Bluetooth(GFSK)\_Body\_Top Edge\_CH 78\_0mm\_Ant1

Communication System: Bluetooth; Frequency: 2480 MHz; Duty cycle= 1:1.302

Medium parameters used:  $f = 2480 \text{ MHz}$ ;  $\sigma = 1.855 \text{ S/m}$ ;  $\epsilon_r = 40.06$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2480 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x121x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0461 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.381 V/m; Power Drift = -0.04 dB

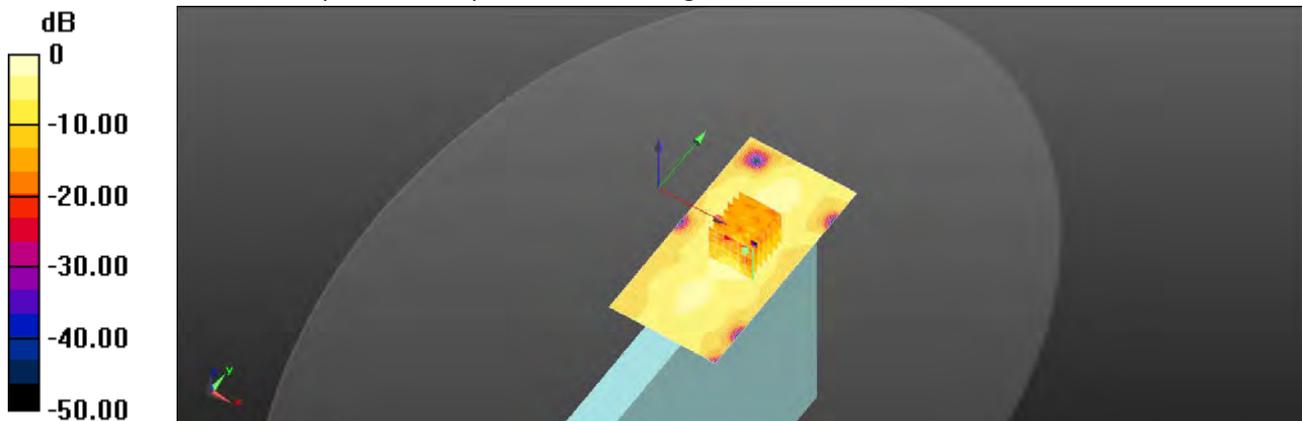
Peak SAR (extrapolated) = 0.114 W/kg

**SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.017 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.7 mm

Ratio of SAR at M2 to SAR at M1 = 44.8%

Maximum value of SAR (measured) = 0.0823 W/kg



0 dB = 0.0461 W/kg = -13.36 dBW/kg

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Date: 2023/11/2

ID: 014

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.2G\_Body\_Top Edge\_CH 42\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5210 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5210 \text{ MHz}$ ;  $\sigma = 4.739 \text{ S/m}$ ;  $\epsilon_r = 36.872$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.44, 5.44, 5.44) @ 5210 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.746 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.399 V/m; Power Drift = -0.16 dB

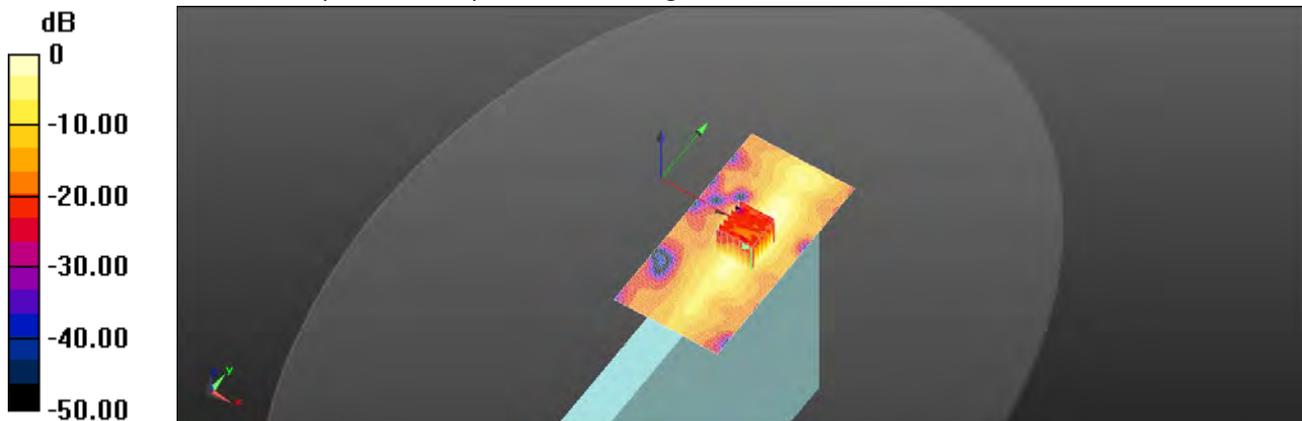
Peak SAR (extrapolated) = 1.33 W/kg

**SAR(1 g) = 0.352 W/kg; SAR(10 g) = 0.104 W/kg**

Smallest distance from peaks to all points 3 dB below = 6.1 mm

Ratio of SAR at M2 to SAR at M1 = 58.4%

Maximum value of SAR (measured) = 0.708 W/kg



0 dB = 0.708 W/kg = -1.50 dBW/kg

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Date: 2023/11/2

ID: 015

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.3G\_Body\_Top Edge\_CH 58\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5290 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5290$  MHz;  $\sigma = 4.823$  S/m;  $\epsilon_r = 36.781$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.33, 5.33, 5.33) @ 5290 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 1.23 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.105 V/m; Power Drift = 0.09 dB

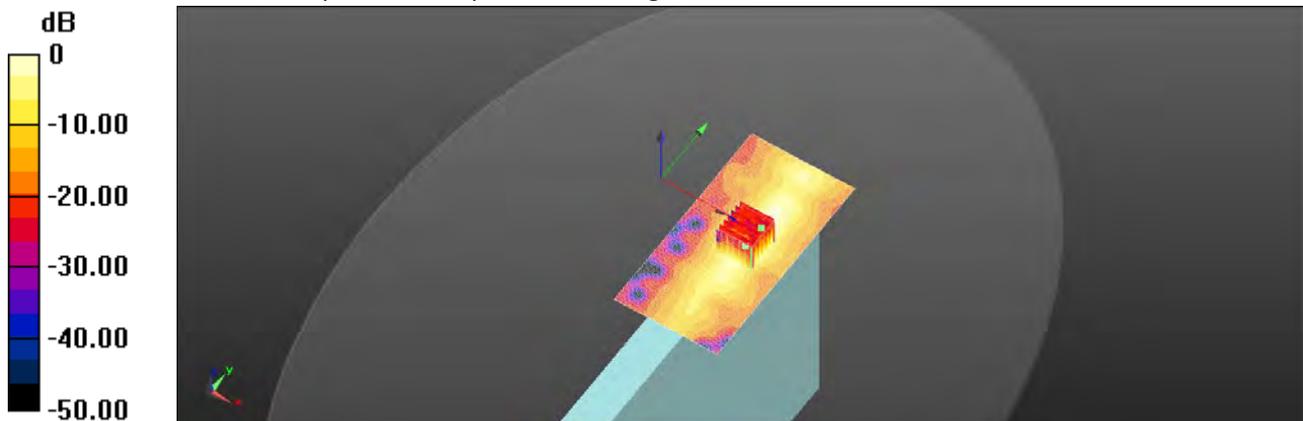
Peak SAR (extrapolated) = 2.22 W/kg

**SAR(1 g) = 0.581 W/kg; SAR(10 g) = 0.181 W/kg**

Smallest distance from peaks to all points 3 dB below = 6.1 mm

Ratio of SAR at M2 to SAR at M1 = 58.2%

Maximum value of SAR (measured) = 1.16 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

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Date: 2023/11/3

ID: 016

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.6G\_Body\_Top Edge\_CH 138\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5690 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5690 \text{ MHz}$ ;  $\sigma = 5.245 \text{ S/m}$ ;  $\epsilon_r = 36.324$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.84, 4.84, 4.84) @ 5690 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.618 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.779 V/m; Power Drift = -0.02 dB

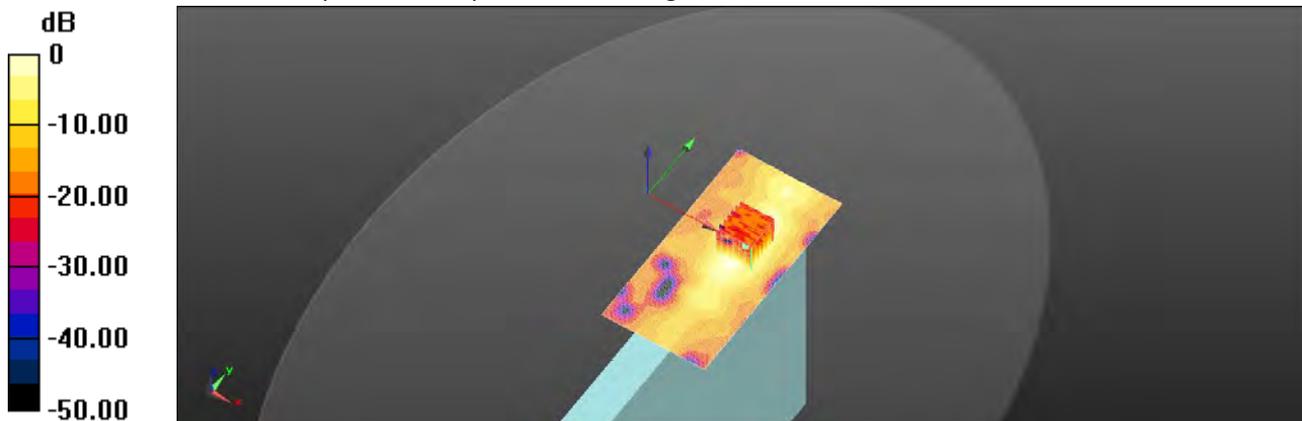
Peak SAR (extrapolated) = 1.69 W/kg

**SAR(1 g) = 0.313 W/kg; SAR(10 g) = 0.100 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.6 mm

Ratio of SAR at M2 to SAR at M1 = 51.8%

Maximum value of SAR (measured) = 0.645 W/kg



0 dB = 0.645 W/kg = -1.90 dBW/kg

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Date: 2023/11/4

ID: 017

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.8G\_Body\_Top Edge\_CH 155\_0mm\_Ant1

Communication System: WLAN 5G; Frequency: 5775 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5775 \text{ MHz}$ ;  $\sigma = 5.335 \text{ S/m}$ ;  $\epsilon_r = 36.227$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.9, 4.9, 4.9) @ 5775 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.589 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.642 V/m; Power Drift = -0.05 dB

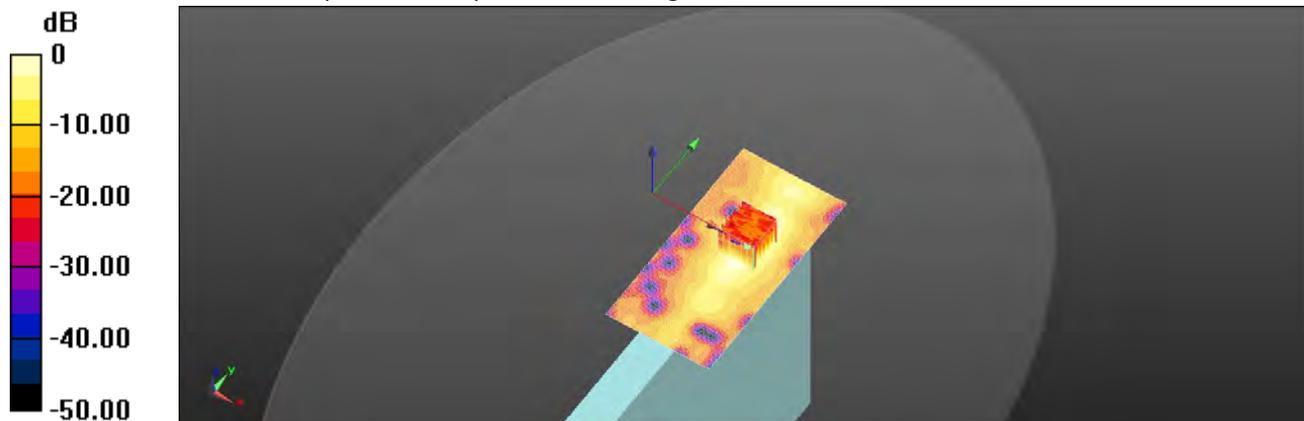
Peak SAR (extrapolated) = 1.37 W/kg

**SAR(1 g) = 0.294 W/kg; SAR(10 g) = 0.094 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.4 mm

Ratio of SAR at M2 to SAR at M1 = 51.5%

Maximum value of SAR (measured) = 0.579 W/kg



0 dB = 0.579 W/kg = -2.37 dBW/kg

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Date: 2023/11/1

ID: 018

Report No. :TESA2309000526EN

WLAN 802.11b\_Body\_Top Edge\_CH 6\_0mm\_Ant2

Communication System: WLAN 2.45G; Frequency: 2437 MHz; Duty cycle= 1:1.081

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.816$  S/m;  $\epsilon_r = 40.121$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2437 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x131x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.447 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.985 V/m; Power Drift = 0.18 dB

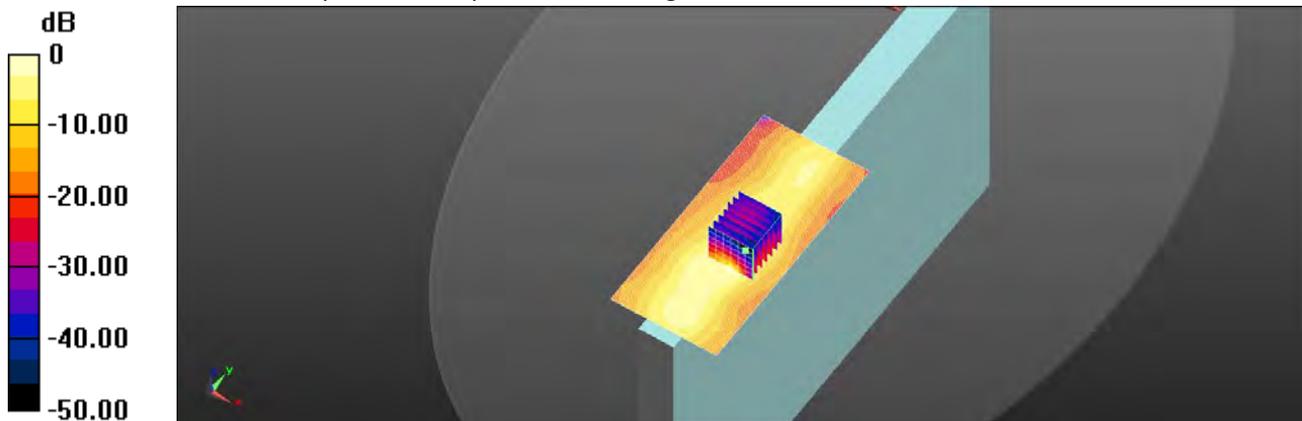
Peak SAR (extrapolated) = 0.727 W/kg

**SAR(1 g) = 0.324 W/kg; SAR(10 g) = 0.148 W/kg**

Smallest distance from peaks to all points 3 dB below = 6.7 mm

Ratio of SAR at M2 to SAR at M1 = 44.9%

Maximum value of SAR (measured) = 0.518 W/kg



0 dB = 0.447 W/kg = -3.50 dBW/kg

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Date: 2023/11/2

ID: 019

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.2G\_Body\_Top Edge\_CH 42\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5210 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5210 \text{ MHz}$ ;  $\sigma = 4.739 \text{ S/m}$ ;  $\epsilon_r = 36.872$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.44, 5.44, 5.44) @ 5210 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.557 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.422 V/m; Power Drift = -0.11 dB

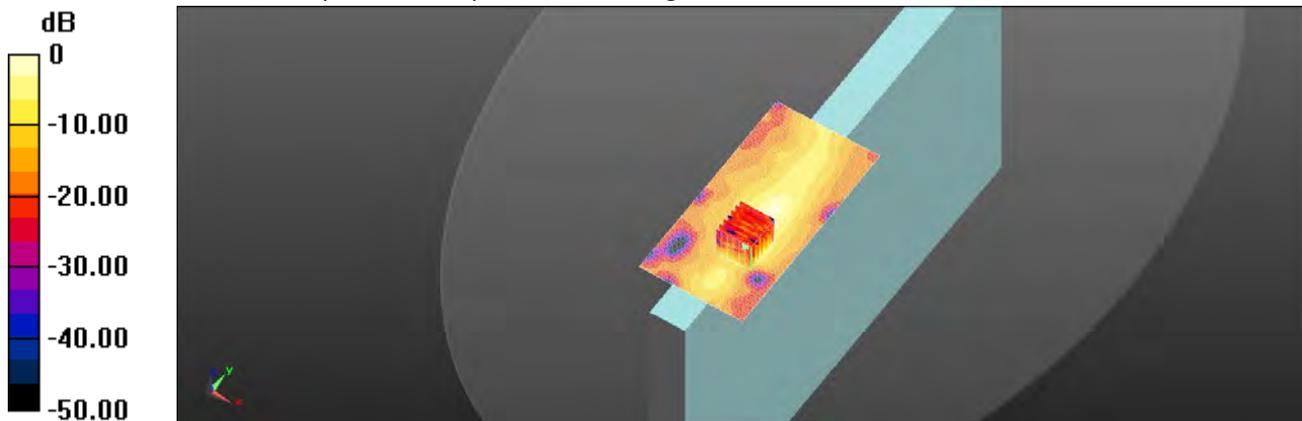
Peak SAR (extrapolated) = 1.26 W/kg

**SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.080 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.6 mm

Ratio of SAR at M2 to SAR at M1 = 59%

Maximum value of SAR (measured) = 0.666 W/kg



0 dB = 0.666 W/kg = -1.77 dBW/kg

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Date: 2023/11/2

ID: 020

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.3G\_Body\_Top Edge\_CH 58\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5290 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5290$  MHz;  $\sigma = 4.823$  S/m;  $\epsilon_r = 36.781$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.33, 5.33, 5.33) @ 5290 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.556 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.885 V/m; Power Drift = -0.10 dB

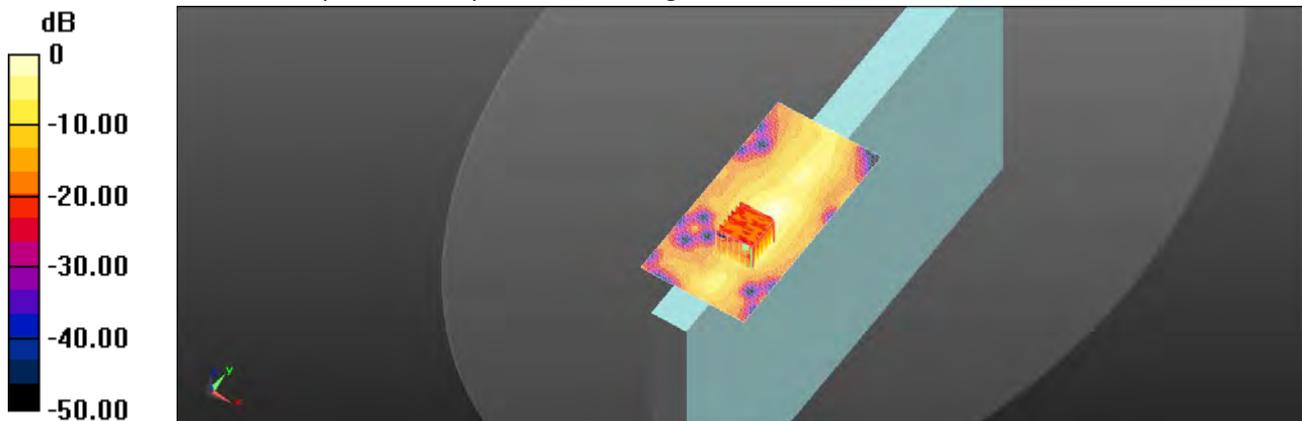
Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.309 W/kg; SAR(10 g) = 0.082 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) = 0.663 W/kg



0 dB = 0.663 W/kg = -1.78 dBW/kg

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Date: 2023/11/3

ID: 021

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.6G\_Body\_Top Edge\_CH 138\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5690 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5690 \text{ MHz}$ ;  $\sigma = 5.245 \text{ S/m}$ ;  $\epsilon_r = 36.324$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.84, 4.84, 4.84) @ 5690 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.767 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.463 V/m; Power Drift = -0.06 dB

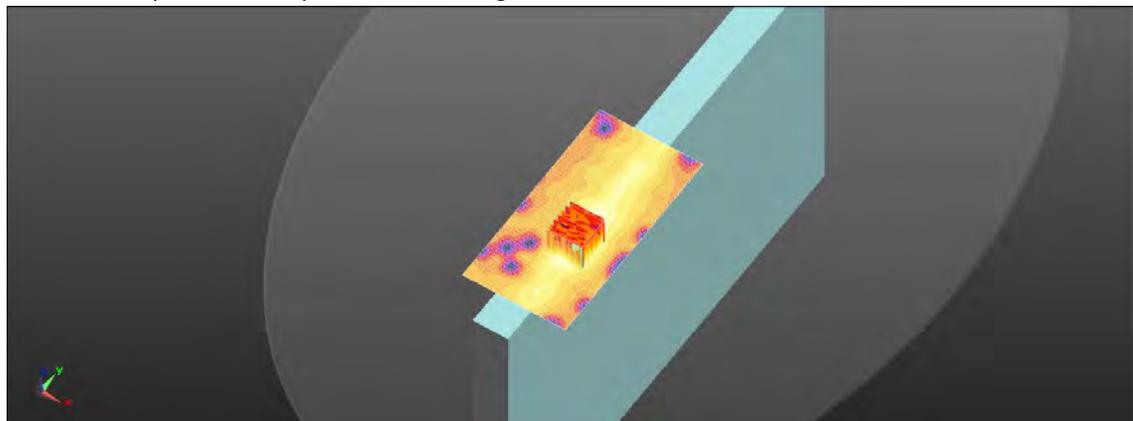
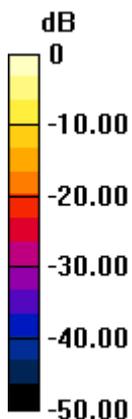
Peak SAR (extrapolated) = 1.76 W/kg

**SAR(1 g) = 0.388 W/kg; SAR(10 g) = 0.120 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.7 mm

Ratio of SAR at M2 to SAR at M1 = 54.3%

Maximum value of SAR (measured) = 0.814 W/kg



0 dB = 0.814 W/kg = -0.89 dBW/kg

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Date: 2023/11/4

ID: 022

Report No. :TESA2309000526EN

WLAN 802.11ac(80M) 5.8G\_Body\_Top Edge\_CH 155\_0mm\_Ant2

Communication System: WLAN 5G; Frequency: 5775 MHz; Duty cycle= 1:1.119

Medium parameters used:  $f = 5775 \text{ MHz}$ ;  $\sigma = 5.335 \text{ S/m}$ ;  $\epsilon_r = 36.227$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.9, 4.9, 4.9) @ 5775 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (71x141x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.678 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.831 V/m; Power Drift = -0.15 dB

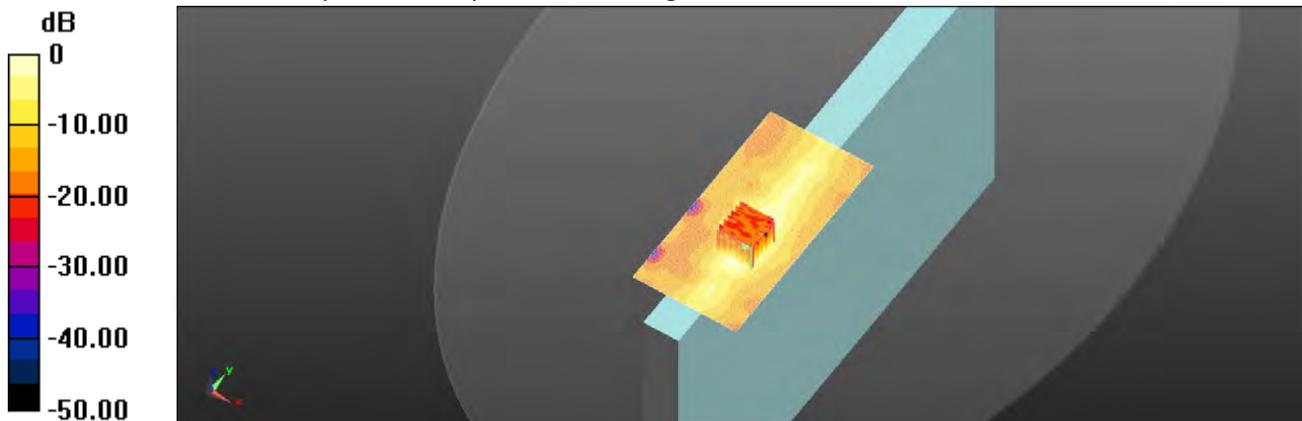
Peak SAR (extrapolated) = 1.43 W/kg

**SAR(1 g) = 0.330 W/kg; SAR(10 g) = 0.102 W/kg**

Smallest distance from peaks to all points 3 dB below = 5.8 mm

Ratio of SAR at M2 to SAR at M1 = 55.1%

Maximum value of SAR (measured) = 0.690 W/kg



0 dB = 0.690 W/kg = -1.61 dBW/kg

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## 12 SAR SYSTEM CHECK RESULTS

Date: 2023/11/1

Report No. :TESA2309000526EN

Dipole 2450 MHz\_SN:727

Communication System: CW; Frequency: 2450 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.828$  S/m;  $\epsilon_r = 40.098$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.87, 7.87, 7.87) @ 2450 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (51x51x1):** Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 19.6 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.4 V/m; Power Drift = -0.01 dB

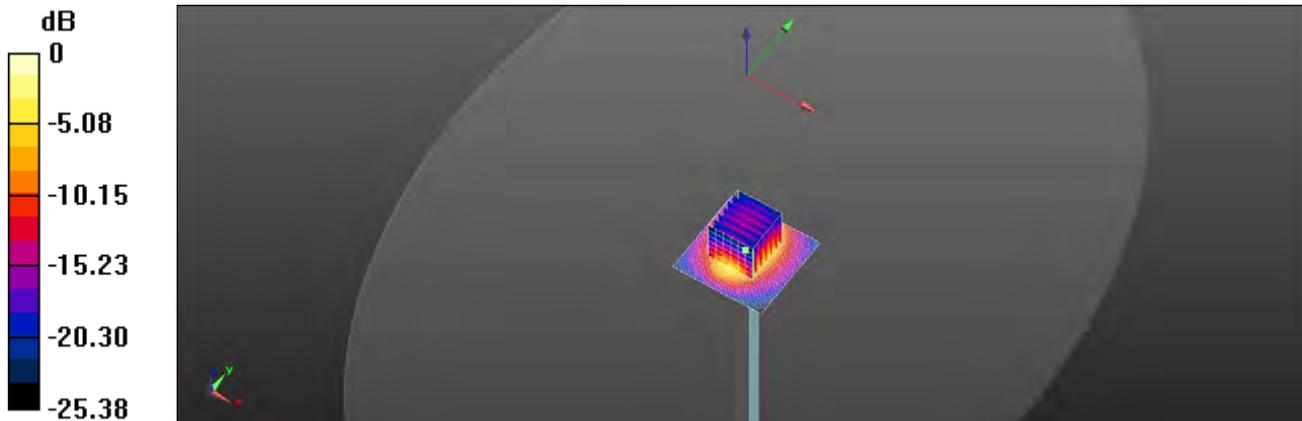
Peak SAR (extrapolated) = 24.0 W/kg

**SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.48 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 56.3%

Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 19.6 W/kg = 12.91 dBW/kg

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Date: 2023/11/2

Report No. :TESA2309000526EN

Dipole 5250 MHz\_SN:1349

Communication System: CW; Frequency: 5250 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.781$  S/m;  $\epsilon_r = 36.827$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient temperature: 22.3°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(5.44, 5.44, 5.44) @ 5250 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x61x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 15.4 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 57.10 V/m; Power Drift = -0.09 dB

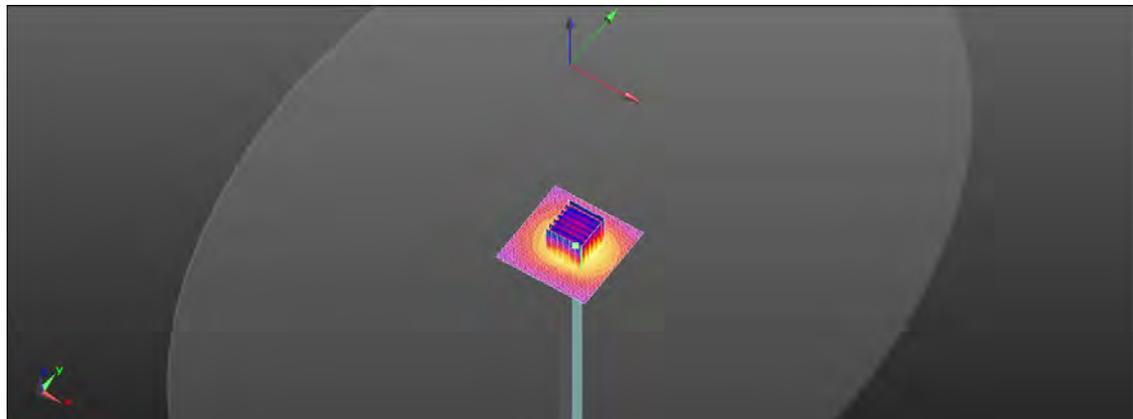
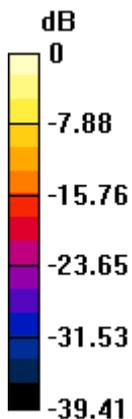
Peak SAR (extrapolated) = 32.1 W/kg

**SAR(1 g) = 7.79 W/kg; SAR(10 g) = 2.24 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 55%

Maximum value of SAR (measured) = 16.1 W/kg



0 dB = 16.1 W/kg = 12.07 dBW/kg

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Date: 2023/11/3

**Report No. :TESA2309000526EN**

**Dipole 5600 MHz\_SN:1349**

Communication System: CW; Frequency: 5600 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 5600 \text{ MHz}$ ;  $\sigma = 5.151 \text{ S/m}$ ;  $\epsilon_r = 36.427$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.1°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.84, 4.84, 4.84) @ 5600 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x61x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 16.8 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 58.37 V/m; Power Drift = 0.04 dB

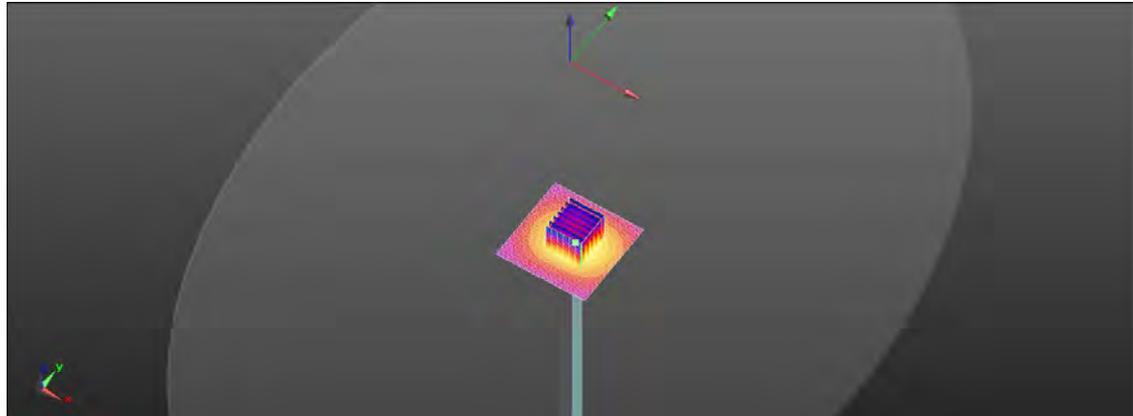
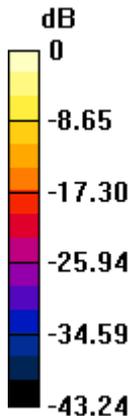
Peak SAR (extrapolated) = 35.6 W/kg

**SAR(1 g) = 8.38 W/kg; SAR(10 g) = 2.38 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 53.3%

Maximum value of SAR (measured) = 17.7 W/kg



0 dB = 17.7 W/kg = 12.48 dBW/kg

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Date: 2023/11/4

**Report No. :TESA2309000526EN**

**Dipole 5750 MHz\_SN:1349**

Communication System: CW; Frequency: 5750 MHz; Duty cycle= 1:1

Medium parameters used:  $f = 5750 \text{ MHz}$ ;  $\sigma = 5.309 \text{ S/m}$ ;  $\epsilon_r = 36.255$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient temperature: 22.2°C; Liquid temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(4.9, 4.9, 4.9) @ 5750 MHz; Calibrated: 2023/5/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1260; Calibrated: 2023/9/14
- Phantom: ELI
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

**Area Scan (61x61x1):** Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 16.6 W/kg

**Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 56.92 V/m; Power Drift = 0.04 dB

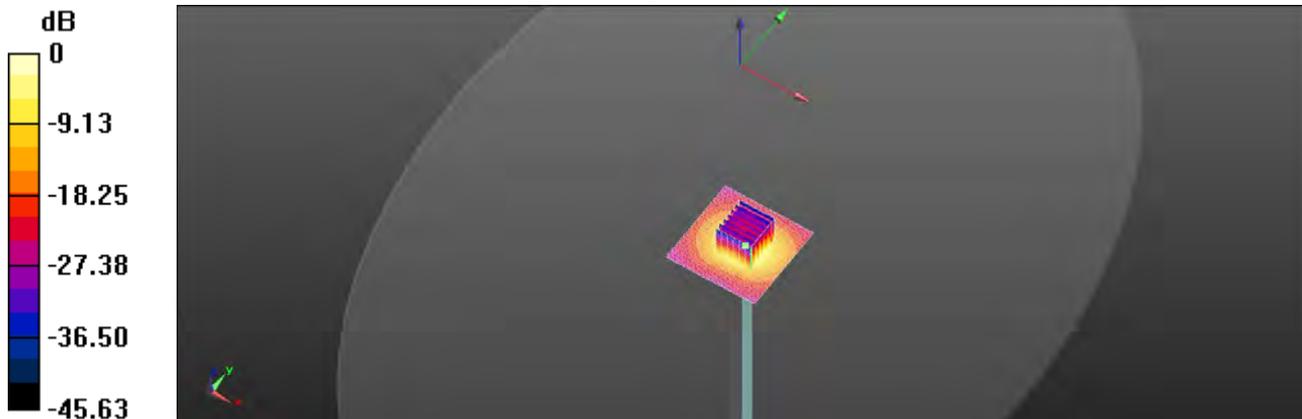
Peak SAR (extrapolated) = 34.6 W/kg

**SAR(1 g) = 8.28 W/kg; SAR(10 g) = 2.36 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 53.8%

Maximum value of SAR (measured) = 17.3 W/kg



0 dB = 17.3 W/kg = 12.38 dBW/kg

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## 13 APPENDIXES

**Refer to separated files for the following appendixes.**

**13.1 SAR\_Appendix A Photographs**

**13.2 SAR\_Appendix B DAE & Probe Cal. Certificate**

**13.3 SAR\_Appendix C Phantom Description & Dipole Cal. Certificate**

**- End of report -**

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