FCC SAR TEST REPORT

FCC ID	:	**E2KAX211D2**
Equipment	:	**WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card**
Brand Name	:	**DELL**
Model Name	:	**AX211D2W**
Applicant	:	**DELL Inc. One Dell Way, Round Rock, TX 78682, USA**
Standard	:	**FCC 47 CFR Part 2 (2.1093)**

The product was installed into Portable Computer (Brand Name DELL, Model Name: P35S, P35S001) during test.

The product was received on Jan. 27, 2022 and testing was started from Feb. 20, 2022 and completed on Mar. 09, 2022. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA212106-03	01	Initial issue of report	Apr. 12, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for DELL Inc., WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card, AX211D2W, are as follows.

Equipment Class	Frequency Band		Highest SAR Summary Body 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
DTS	WLAN	2.4GHz WLAN	1.19	1.40
NII		5GHz WLAN	1.09	1.39
6XD		6GHz WLAN	1.17	1.39
DSS	2.4GHz Band	Bluetooth	0.57	1.40

Equipment Class	Frequency Band		Reported SAR Body 1g SAR (W/kg)	APD Body (W/m^2)	Reported PD Body (W/m^2)
6XD	WLAN	6GHz WLAN	1.17	7.53	7.89
Date of Testing:			2022/2/20 ~ 2022/3/9		

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR) specified in FCC 47 CFR part 2 (2.1093), Human Exposure to RF Radiation Limits (1.0 mW/cm^2=10 W/m^2) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Daisy Peng

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card
Brand Name	DELL
Model Name	AX211D2W
FCC ID	E2KAX211D2
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE

Remark:
1. This device had two antenna vendors, RF exposure evaluation is selected Speed as the main tested, HB will spot check worst case for each power state found in Speed.
2. The device implements P and G sensor detection, the G-sensor is control when the device from laptop change to tablet mode that device will limit different output power for SAR compliance. For laptop mode the p-sensor will detect device is close or away human body and limit output power for SAR compliance detail control logic refer to operational description.

Host Information	
Equipment Name	Portable Computer
Brand Name	DELL
Model Name	P35S, P35S001
EUT Stage	Identical Prototype

WLAN Antenna Information									
1 SPEED Notebook Mode	Ant. Type	PIFA	connector		2 SPEED Tablet Mode	Ant. Type	PIFA	connector	
	Model No.	Main:F-0G-FH-6151-003-00(DC33002OU6L) Aux:F-0G-FH-6151-003-00(DC33002OU6L)				Model No.	Main:F-0G-FH-6151-003-00(DC33002OU6L) Aux:F-0G-FH-6151-003-00(DC33002OU6L)		
	Peak Gain (dBi)					Peak Gain (dBi)			
	2400~2483.5MHz	Main:1.92 Aux:1.97	5470~5725MHz	Main:2.87 Aux:2.65		2400~2483.5MHz	Main:1.1 Aux:-0.94	5470~5725MHz	Main:0.02 Aux:0.71
	5150~5250MHz	Main:2.31 Aux:1.76	5725~5850MHz	Main:3.27 Aux:2.95		5150~5250MHz	Main:1.34 Aux:-0.14	5725~5850MHz	Main:-0.72 Aux:0.71
	5250~5350MHz	Main:2.4 Aux:1.78	5925-6425MHz	Main:3.25 Aux:2.93		5250~5350MHz	Main:1.3 Aux:-0.14	5925-6425MHz	Main:1.72 Aux:2.64
	6425-6525MHz	Main:2.75 Aux:2.26	6525-6825MHz	Main:3.69 Aux:3.11		6425-6525MHz	Main:0.58 Aux:-0.19	6525-6825MHz	Main:0.49 Aux:0.3
	6875-7125 MHz	Main:3.69 Aux:3.23				6875-7125 MHz	Main:-0.13 Aux:-0.32		
1 HB Notebook Mode	Ant. Type	PIFA	connector		2 HB Tablet Mode	Ant. Type	PIFA	connector	
	Model No.	Main:330-24012(DC33002OV6L) Aux:330-24012(DC33002OV6L)				Model No.	Main:330-24012(DC33002OV6L) Aux:330-24012(DC33002OV6L)		
	Peak Gain (dBi)					Peak Gain (dBi)			
	2400~2483.5MHz	Main:1.54 Aux:-0.62	5470~5725MHz	Main:0.53 Aux:2.67		2400~2483.5MHz	Main:-1.74 Aux:-1.86	5470~5725MHz	Main:0.44 Aux:-1.31
	5150~5250MHz	Main:0.53 Aux:0.18	5725~5850MHz	Main:0.16 Aux:2.64		5150~5250MHz	Main:2.52 Aux:-0.81	5725~5850MHz	Main:0.07 Aux:-1.9
	5250~5350MHz	Main:0.53 Aux:-0.26	5925-6425MHz	Main:1.16 Aux:3.47		5250~5350MHz	Main:2.52 Aux:-1.27	5925-6425MHz	Main:1.21 Aux:1.17
	6425-6525MHz	Main:0.83 Aux:3.27	6525-6825MHz	Main:1.39 Aux:3.84		6425-6525MHz	Main:-0.98 Aux:1.62	6525-6825MHz	Main:0.76 Aux:3.35
	6875-7125 MHz	Main:1.56 Aux:3.5				6875-7125 MHz	Main:-0.41 Aux:2.18		

4. Sensor Triggering angle and power verification

General Note:

1. The following guidance should be applied to laptops/tablets that use Hall Effect or gravity sensors to detect lid angle for the purpose of power reduction:

Step 1: With the lid is in closed mode (0 degrees), open the screen in 10 degree steps until laptop mode is obtained
Step 2: Lower the screen 5 degrees. Closed mode should be reobtained. If not keep lowering in 5 degree steps
Step 3: Open the screen in 1 degree steps until laptop mode is reobtained
Step 4: Continue opening the screen in 1 degree steps until at least 5 degrees past where laptop mode was obtained
Step 5: Then continue opening the screen in 10 degree steps until tablet mode is obtained
Step 6: Power measurements should be taken at each step
Step 7: Reverse this procedure going from tablet mode back down to closed mode

level 1 to level3								
Screen angle (degree) v.s. power	Wireless		WLAN Ant 1					
	Band		2.4GHz WLAN	5.2GHz WLAN	5.3GHz WLAN	5.5GHz WLAN	5.8GHz WLAN	6GHz WLAN
	NB	0	20.80	17.45	17.50	17.40	17.30	13.40
		10	20.80	17.45	17.50	17.40	17.30	13.40
		20	20.80	17.45	17.50	17.40	17.30	13.40
		30	20.80	17.45	17.50	17.40	17.30	13.40
		40	20.80	17.45	17.50	17.40	17.30	13.40
		50	20.80	17.45	17.50	17.40	17.30	13.40
		60	20.80	17.45	17.50	17.40	17.30	13.40
		70	20.80	17.45	17.50	17.40	17.30	13.40
		80	20.80	17.45	17.50	17.40	17.30	13.40
		90	20.80	17.45	17.50	17.40	17.30	13.40
		100	20.80	17.45	17.50	17.40	17.30	13.40
		110	20.80	17.45	17.50	17.40	17.30	13.40
		120	20.80	17.45	17.50	17.40	17.30	13.40
		130	20.80	17.45	17.50	17.40	17.30	13.40
		140	20.80	17.45	17.50	17.40	17.30	13.40
		150	20.80	17.45	17.50	17.40	17.30	13.40
		160	20.80	17.45	17.50	17.40	17.30	13.40
		170	20.80	17.45	17.50	17.40	17.30	13.40
		180	20.80	17.45	17.50	17.40	17.30	13.40
		181	20.80	17.45	17.50	17.40	17.30	13.40
		182	20.80	17.45	17.50	17.40	17.30	13.40
		183	20.80	17.45	17.50	17.40	17.30	13.40
		184	20.80	17.45	17.50	17.40	17.30	13.40
		185	20.80	17.45	17.50	17.40	17.30	13.40
		186	20.80	17.45	17.50	17.40	17.30	13.40
		187	20.80	17.45	17.50	17.40	17.30	13.40
		188	20.80	17.45	17.50	17.40	17.30	13.40
		189	20.80	17.45	17.50	17.40	17.30	13.40
	TB	190	19.80	12.85	12.90	12.70	12.90	13.40
		191	19.80	12.85	12.90	12.70	12.90	13.40
		192	19.80	12.85	12.90	12.70	12.90	13.40
		193	19.80	12.85	12.90	12.70	12.90	13.40
		194	19.80	12.85	12.90	12.70	12.90	13.40
		195	19.80	12.85	12.90	12.70	12.90	13.40
		196	19.80	12.85	12.90	12.70	12.90	13.40
		197	19.80	12.85	12.90	12.70	12.90	13.40

		198	19.80	12.85	12.90	12.70	12.90	13.40
		199	19.80	12.85	12.90	12.70	12.90	13.40
		200	19.80	12.85	12.90	12.70	12.90	13.40
		210	19.80	12.85	12.90	12.70	12.90	13.40
		220	19.80	12.85	12.90	12.70	12.90	13.40
		230	19.80	12.85	12.90	12.70	12.90	13.40
		240	19.80	12.85	12.90	12.70	12.90	13.40
		250	19.80	12.85	12.90	12.70	12.90	13.40
		260	19.80	12.85	12.90	12.70	12.90	13.40
		270	19.80	12.85	12.90	12.70	12.90	13.40
		280	19.80	12.85	12.90	12.70	12.90	13.40
		290	19.80	12.85	12.90	12.70	12.90	13.40
		300	19.80	12.85	12.90	12.70	12.90	13.40
		310	19.80	12.85	12.90	12.70	12.90	13.40
		320	19.80	12.85	12.90	12.70	12.90	13.40
		330	19.80	12.85	12.90	12.70	12.90	13.40
		340	19.80	12.85	12.90	12.70	12.90	13.40
		350	19.80	12.85	12.90	12.70	12.90	13.40
		360	19.80	12.85	12.90	12.70	12.90	13.40

level 2 to level3								
	Wireless		WLAN Ant 1					
	Band		2.4GHz WLAN	5.2GHz WLAN	5.3GHz WLAN	5.5GHz WLAN	5.8GHz WLAN	6GHz WLAN
Screen angle (degree) v.s. power	NB	0	14.40	10.35	10.40	11.50	11.80	13.20
		10	14.40	10.35	10.40	11.50	11.80	13.20
		20	14.40	10.35	10.40	11.50	11.80	13.20
		30	14.40	10.35	10.40	11.50	11.80	13.20
		40	14.40	10.35	10.40	11.50	11.80	13.20
		50	14.40	10.35	10.40	11.50	11.80	13.20
		60	14.40	10.35	10.40	11.50	11.80	13.20
		70	14.40	10.35	10.40	11.50	11.80	13.20
		80	14.40	10.35	10.40	11.50	11.80	13.20
		90	14.40	10.35	10.40	11.50	11.80	13.20
		100	14.40	10.35	10.40	11.50	11.80	13.20
		110	14.40	10.35	10.40	11.50	11.80	13.20
		120	14.40	10.35	10.40	11.50	11.80	13.20
		130	14.40	10.35	10.40	11.50	11.80	13.20
		140	14.40	10.35	10.40	11.50	11.80	13.20
		150	14.40	10.35	10.40	11.50	11.80	13.20
		160	14.40	10.35	10.40	11.50	11.80	13.20
		170	14.40	10.35	10.40	11.50	11.80	13.20
		180	14.40	10.35	10.40	11.50	11.80	13.20
		181	14.40	10.35	10.40	11.50	11.80	13.20
		182	14.40	10.35	10.40	11.50	11.80	13.20
		183	14.40	10.35	10.40	11.50	11.80	13.20
		184	14.40	10.35	10.40	11.50	11.80	13.20
		185	14.40	10.35	10.40	11.50	11.80	13.20
		186	14.40	10.35	10.40	11.50	11.80	13.20
		187	14.40	10.35	10.40	11.50	11.80	13.20
		188	14.40	10.35	10.40	11.50	11.80	13.20

		189	14.40	10.35	10.40	11.50	11.80	13.20
	TB	190	19.80	12.85	12.90	12.70	12.90	13.40
		191	19.80	12.85	12.90	12.70	12.90	13.40
		192	19.80	12.85	12.90	12.70	12.90	13.40
		193	19.80	12.85	12.90	12.70	12.90	13.40
		194	19.80	12.85	12.90	12.70	12.90	13.40
		195	19.80	12.85	12.90	12.70	12.90	13.40
		196	19.80	12.85	12.90	12.70	12.90	13.40
		197	19.80	12.85	12.90	12.70	12.90	13.40
		198	19.80	12.85	12.90	12.70	12.90	13.40
		199	19.80	12.85	12.90	12.70	12.90	13.40
		200	19.80	12.85	12.90	12.70	12.90	13.40
		210	19.80	12.85	12.90	12.70	12.90	13.40
		220	19.80	12.85	12.90	12.70	12.90	13.40
		230	19.80	12.85	12.90	12.70	12.90	13.40
		240	19.80	12.85	12.90	12.70	12.90	13.40
		250	19.80	12.85	12.90	12.70	12.90	13.40
		260	19.80	12.85	12.90	12.70	12.90	13.40
		270	19.80	12.85	12.90	12.70	12.90	13.40
		280	19.80	12.85	12.90	12.70	12.90	13.40
		290	19.80	12.85	12.90	12.70	12.90	13.40
		300	19.80	12.85	12.90	12.70	12.90	13.40
		310	19.80	12.85	12.90	12.70	12.90	13.40
		320	19.80	12.85	12.90	12.70	12.90	13.40
		330	19.80	12.85	12.90	12.70	12.90	13.40
		340	19.80	12.85	12.90	12.70	12.90	13.40
		350	19.80	12.85	12.90	12.70	12.90	13.40
		360	19.80	12.85	12.90	12.70	12.90	13.40

level 1 to level3								
	Wireless		WLAN Ant 2					
	Band		2.4GHz WLAN	5.2GHz WLAN	5.3GHz WLAN	5.5GHz WLAN	5.8GHz WLAN	6GHz WLAN
Screen angle (degree) v.s. power	NB	0	20.60	17.35	17.40	17.40	17.50	13.50
		10	20.60	17.35	17.40	17.40	17.50	13.50
		20	20.60	17.35	17.40	17.40	17.50	13.50
		30	20.60	17.35	17.40	17.40	17.50	13.50
		40	20.60	17.35	17.40	17.40	17.50	13.50
		50	20.60	17.35	17.40	17.40	17.50	13.50
		60	20.60	17.35	17.40	17.40	17.50	13.50
		70	20.60	17.35	17.40	17.40	17.50	13.50
		80	20.60	17.35	17.40	17.40	17.50	13.50
		90	20.60	17.35	17.40	17.40	17.50	13.50
		100	20.60	17.35	17.40	17.40	17.50	13.50
		110	20.60	17.35	17.40	17.40	17.50	13.50
		120	20.60	17.35	17.40	17.40	17.50	13.50
		130	20.60	17.35	17.40	17.40	17.50	13.50
		140	20.60	17.35	17.40	17.40	17.50	13.50
		150	20.60	17.35	17.40	17.40	17.50	13.50
		160	20.60	17.35	17.40	17.40	17.50	13.50
		170	20.60	17.35	17.40	17.40	17.50	13.50

		180	20.60	17.35	17.40	17.40	17.50	13.50
		181	20.60	17.35	17.40	17.40	17.50	13.50
		182	20.60	17.35	17.40	17.40	17.50	13.50
		183	20.60	17.35	17.40	17.40	17.50	13.50
		184	20.60	17.35	17.40	17.40	17.50	13.50
		185	20.60	17.35	17.40	17.40	17.50	13.50
		186	20.60	17.35	17.40	17.40	17.50	13.50
		187	20.60	17.35	17.40	17.40	17.50	13.50
		188	20.60	17.35	17.40	17.40	17.50	13.50
		189	20.60	17.35	17.40	17.40	17.50	13.50
	TB	190	19.30	12.85	13.00	13.00	12.70	13.50
		191	19.30	12.85	13.00	13.00	12.70	13.50
		192	19.30	12.85	13.00	13.00	12.70	13.50
		193	19.30	12.85	13.00	13.00	12.70	13.50
		194	19.30	12.85	13.00	13.00	12.70	13.50
		195	19.30	12.85	13.00	13.00	12.70	13.50
		196	19.30	12.85	13.00	13.00	12.70	13.50
		197	19.30	12.85	13.00	13.00	12.70	13.50
		198	19.30	12.85	13.00	13.00	12.70	13.50
		199	19.30	12.85	13.00	13.00	12.70	13.50
		200	19.30	12.85	13.00	13.00	12.70	13.50
		210	19.30	12.85	13.00	13.00	12.70	13.50
		220	19.30	12.85	13.00	13.00	12.70	13.50
		230	19.30	12.85	13.00	13.00	12.70	13.50
		240	19.30	12.85	13.00	13.00	12.70	13.50
		250	19.30	12.85	13.00	13.00	12.70	13.50
		260	19.30	12.85	13.00	13.00	12.70	13.50
		270	19.30	12.85	13.00	13.00	12.70	13.50
		280	19.30	12.85	13.00	13.00	12.70	13.50
		290	19.30	12.85	13.00	13.00	12.70	13.50
		300	19.30	12.85	13.00	13.00	12.70	13.50
		310	19.30	12.85	13.00	13.00	12.70	13.50
		320	19.30	12.85	13.00	13.00	12.70	13.50
		330	19.30	12.85	13.00	13.00	12.70	13.50
		340	19.30	12.85	13.00	13.00	12.70	13.50
		350	19.30	12.85	13.00	13.00	12.70	13.50
		360	19.30	12.85	13.00	13.00	12.70	13.50

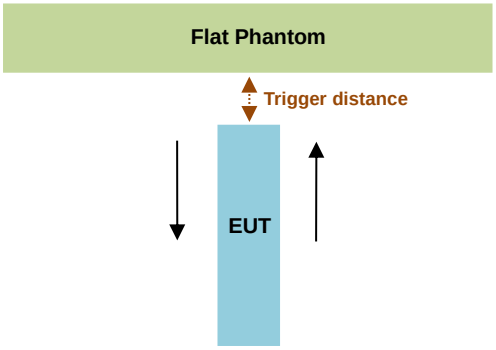
level 2 to level3								
	Wireless		WLAN Ant 2					
	Band		2.4GHz WLAN	5.2GHz WLAN	5.3GHz WLAN	5.5GHz WLAN	5.8GHz WLAN	6GHz WLAN
Screen angle (degree) v.s. power	NB	0	14.50	10.25	10.50	11.50	12.00	13.50
		10	14.50	10.25	10.50	11.50	12.00	13.50
		20	14.50	10.25	10.50	11.50	12.00	13.50
		30	14.50	10.25	10.50	11.50	12.00	13.50
		40	14.50	10.25	10.50	11.50	12.00	13.50
		50	14.50	10.25	10.50	11.50	12.00	13.50
		60	14.50	10.25	10.50	11.50	12.00	13.50
		70	14.50	10.25	10.50	11.50	12.00	13.50
		80	14.50	10.25	10.50	11.50	12.00	13.50

		90	14.50	10.25	10.50	11.50	12.00	13.50
		100	14.50	10.25	10.50	11.50	12.00	13.50
		110	14.50	10.25	10.50	11.50	12.00	13.50
		120	14.50	10.25	10.50	11.50	12.00	13.50
		130	14.50	10.25	10.50	11.50	12.00	13.50
		140	14.50	10.25	10.50	11.50	12.00	13.50
		150	14.50	10.25	10.50	11.50	12.00	13.50
		160	14.50	10.25	10.50	11.50	12.00	13.50
		170	14.50	10.25	10.50	11.50	12.00	13.50
		180	14.50	10.25	10.50	11.50	12.00	13.50
		181	14.50	10.25	10.50	11.50	12.00	13.50
		182	14.50	10.25	10.50	11.50	12.00	13.50
		183	14.50	10.25	10.50	11.50	12.00	13.50
		184	14.50	10.25	10.50	11.50	12.00	13.50
		185	14.50	10.25	10.50	11.50	12.00	13.50
		186	14.50	10.25	10.50	11.50	12.00	13.50
		187	14.50	10.25	10.50	11.50	12.00	13.50
		188	14.50	10.25	10.50	11.50	12.00	13.50
		189	14.50	10.25	10.50	11.50	12.00	13.50
		190	19.30	12.85	13.00	13.00	12.70	13.50
		191	19.30	12.85	13.00	13.00	12.70	13.50
		192	19.30	12.85	13.00	13.00	12.70	13.50
		193	19.30	12.85	13.00	13.00	12.70	13.50
		194	19.30	12.85	13.00	13.00	12.70	13.50
		195	19.30	12.85	13.00	13.00	12.70	13.50
		196	19.30	12.85	13.00	13.00	12.70	13.50
		197	19.30	12.85	13.00	13.00	12.70	13.50
		198	19.30	12.85	13.00	13.00	12.70	13.50
		199	19.30	12.85	13.00	13.00	12.70	13.50
		200	19.30	12.85	13.00	13.00	12.70	13.50
		210	19.30	12.85	13.00	13.00	12.70	13.50
		220	19.30	12.85	13.00	13.00	12.70	13.50
	TB	230	19.30	12.85	13.00	13.00	12.70	13.50
		240	19.30	12.85	13.00	13.00	12.70	13.50
		250	19.30	12.85	13.00	13.00	12.70	13.50
		260	19.30	12.85	13.00	13.00	12.70	13.50
		270	19.30	12.85	13.00	13.00	12.70	13.50
		280	19.30	12.85	13.00	13.00	12.70	13.50
		290	19.30	12.85	13.00	13.00	12.70	13.50
		300	19.30	12.85	13.00	13.00	12.70	13.50
		310	19.30	12.85	13.00	13.00	12.70	13.50
		320	19.30	12.85	13.00	13.00	12.70	13.50
		330	19.30	12.85	13.00	13.00	12.70	13.50
		340	19.30	12.85	13.00	13.00	12.70	13.50
		350	19.30	12.85	13.00	13.00	12.70	13.50
		360	19.30	12.85	13.00	13.00	12.70	13.50

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

For the device is fully integrated, touch sensing capacitive sensor. It uses a charge transfer capacitive acquisition method that is capable of near range proximity detection. In this device offers a state of the art capacitive sensing engine with an embedded sampling capacitor and voltage regulator allowing the overall solution cost to be reduced and improving system immunity in noisy environments.
Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated as following, and the shortest triggering distances were reported and used for SAR assessment.
In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



Proximity Sensor Trigger Distance (mm)		
Exposure Position	Bottom of Laptop	
	Moving toward	Moving away
Minimum	30	31

<Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

Since the antenna and sensor are collocated and all of the peak SAR location is overlapping with the sensor pad for this device, therefore, According to KDB 616217 section6.3, these procedures do not apply and are not required for this device. due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device.

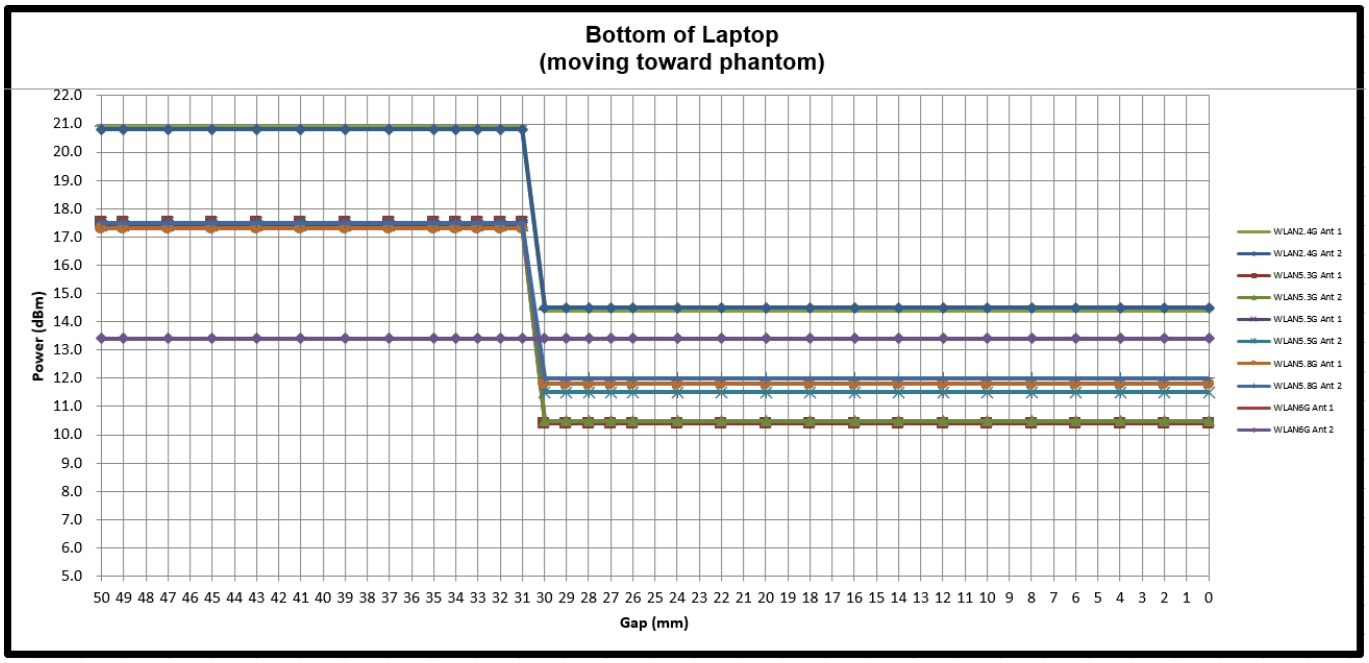
Proximity sensor power reduction

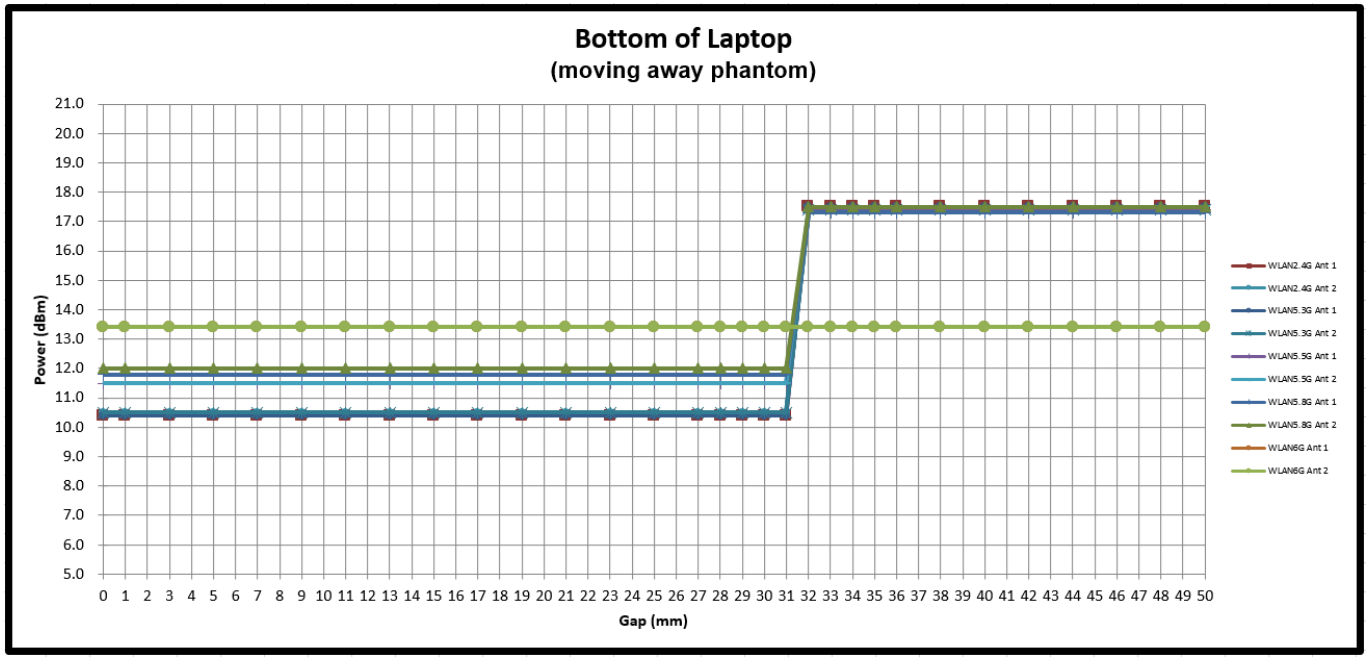
Exposure Position / wireless mode	Bottom of Laptop (1)
2.4GHz WLAN Ant 1	6.5 dB
2.4GHz WLAN Ant 2	6.5 dB
2.4GHz WLAN Ant 1+2	6.5 dB
5.2GHz WLAN Ant 1	7.5 dB
5.2GHz WLAN Ant 2	7.5 dB
5.2GHz WLAN Ant 1+2	7.5 dB
5.3GHz WLAN Ant 1	7.5 dB
5.3GHz WLAN Ant 2	7.5 dB
5.3GHz WLAN Ant 1+2	7.5 dB
5.5GHz WLAN Ant 1	6.5 dB
5.5GHz WLAN Ant 2	6.5 dB
5.5GHz WLAN Ant 1+2	6.5 dB
5.8GHz WLAN Ant 1	6 dB
5.8GHz WLAN Ant 2	6 dB
5.8GHz WLAN Ant 1+2	6 dB
WiFi 6E Ant 1	0 dB
WiFi 6E Ant 2	0 dB
WiFi 6E Ant 1+2	0 dB

Remark:

1. (1): Reduced maximum limit applied by activation of proximity sensor.
2. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown as below
3. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
   - Bottom of Laptop: 29 mm

Power Measurement during Sensor Trigger distance testing





6. RF Exposure Limits

6.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

7. Specific Absorption Rate (SAR)

7.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

7.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

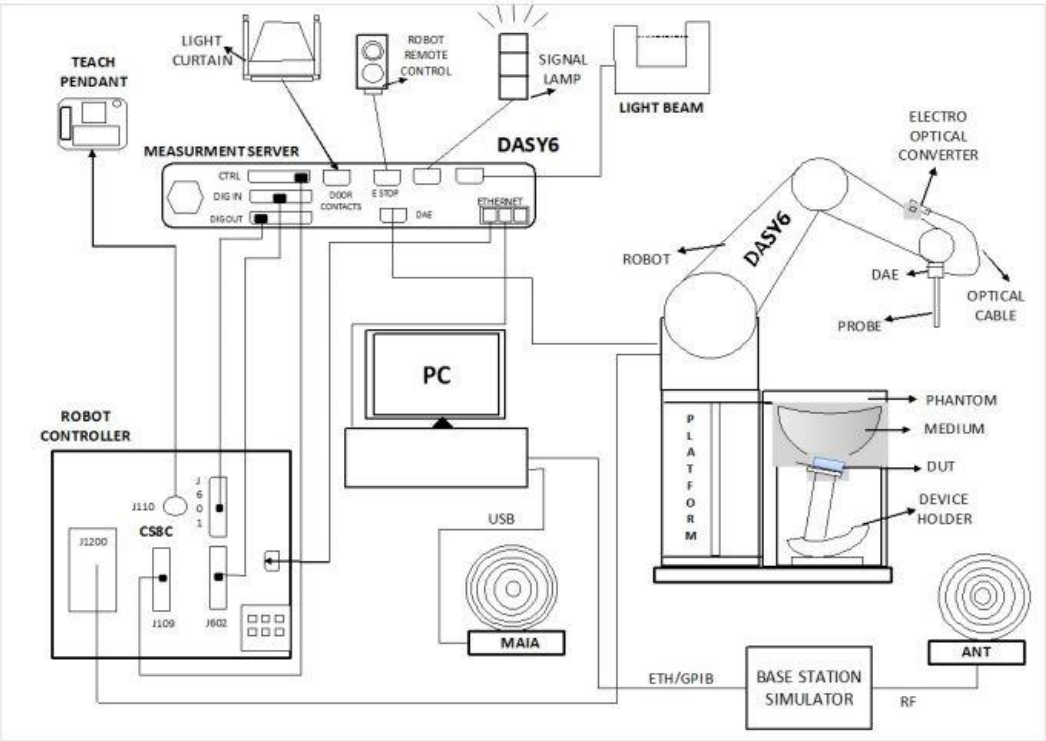
SAR is expressed in units of Watts per kilogram (W/kg)

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^{\mathbf{2}}}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

8. System Description and Setup

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



- The DASY system in DASY6/DASY5 V5.2 SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY5/DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 Test Site Location

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	EMC & Wireless Communications Laboratory		Wensan Laboratory		
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan		
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	

8.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

8.3 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

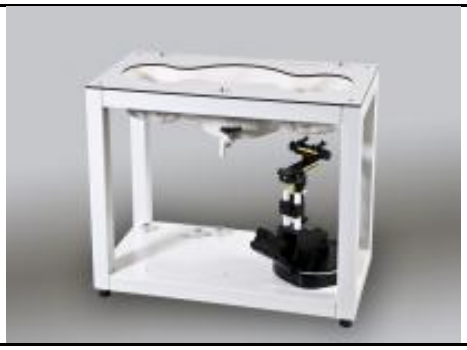
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

8.4 Phantom

<SAM Twin Phantom>

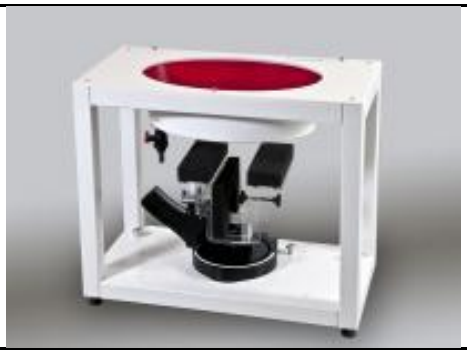
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

8.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

9.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 17, 2021	Aug. 17, 2022
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 15, 2021	Sep. 14, 2022
SPEAG	5GHz System Validation Kit(2)	D5GHzV2	1128	Dec. 16, 2019	Dec. 13, 2022
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1003	Sep. 24, 2021	Sep. 23, 2022
SPEAG	5G Verification Source	10GHz	1020	Jan. 18, 2022	Jan. 17, 2023
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9441	Nov. 24, 2021	Nov. 23, 2022
SPEAG	Data Acquisition Electronics	DAE4	376	Nov. 22, 2021	Nov. 21, 2022
SPEAG	Data Acquisition Electronics	DAE4	778	May. 21, 2021	May. 20, 2022
SPEAG	Data Acquisition Electronics	DAE4	679	Jun. 01, 2021	May. 31, 2022
SPEAG	Data Acquisition Electronics	DAE4	1647	Jan. 19, 2022	Jan. 18, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Oct. 21, 2021	Oct. 20, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3976	Jan. 27, 2022	Jan. 26, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 26, 2021	Jul. 25, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Jan. 27, 2022	Jan. 26, 2023
RCPTWN	Thermometer	HTC-1	TM685-1	Oct. 28, 2021	Oct. 27, 2022
RCPTWN	Thermometer	HTC-1	TM560-2	Oct. 28, 2021	Oct. 27, 2022
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Oct. 24, 2021	Oct. 23, 2022
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 07, 2021	Sep. 06, 2022
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 24, 2021	Sep. 23, 2022
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Oct. 26, 2021	Oct. 25, 2022
Anritsu	Power Meter	ML2495A	1419002	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Meter	ML2496A	2119003	Jun. 09, 2021	Jun. 08, 2022
Anritsu	Power Sensor	MA2411B	1726150	Oct. 09, 2021	Oct. 08, 2022
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 16, 2021	Jul. 15, 2022
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 19, 2021	Aug. 18, 2022
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 12, 2021	Oct. 11, 2022
Mini-Circuits	Power Amplifier	ZVE-8G+	479102029	Sep. 06, 2021	Sep. 05, 2022
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

11. System Verification

11.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18℃ to 25℃, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18℃ to 25℃ and within ± 2℃ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.
The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
2450	22.6	1.822	39.458	1.80	39.20	1.22	0.66	±5	2022/2/20
2450	22.2	1.824	39.386	1.80	39.20	1.33	0.47	±5	2022/3/2
2450	22.2	1.863	39.399	1.80	39.20	3.50	0.51	±5	2022/3/8
5250	22.4	4.882	37.248	4.71	35.95	3.65	3.61	±5	2022/2/24
5250	22.2	4.660	36.379	4.71	35.95	-1.06	1.19	±5	2022/3/9
5600	22.7	4.976	36.492	5.07	35.50	-1.85	2.79	±5	2022/2/21
5600	22.2	4.996	35.910	5.07	35.50	-1.46	1.15	±5	2022/3/9
5750	22.7	5.138	36.290	5.22	35.35	-1.57	2.66	±5	2022/2/21
5750	22.4	5.426	36.505	5.22	35.35	3.95	3.27	±5	2022/2/24
5750	22.2	5.159	35.674	5.22	35.35	-1.17	0.92	±5	2022/3/9
6500	22.5	6.210	34.400	6.07	34.50	2.31	-0.29	±5	2022/3/8

11.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2022/2/20	2450	250	D2450V2-736	EX3DV4 - SN7625	DAE4 Sn376	13.00	54.20	52	-4.06
2022/3/2	2450	50	D2450V2-736	EX3DV4 - SN3931	DAE4 Sn1647	2.64	54.20	52.8	-2.58
2022/3/8	2450	50	D2450V2-736	EX3DV4 - SN3976	DAE4 Sn778	2.72	54.20	54.4	0.37
2022/2/24	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7306	DAE4 Sn679	7.84	81.70	78.4	-4.04
2022/3/9	5250	50	D5GHzV2-1006-5250	EX3DV4 - SN3976	DAE4 Sn778	3.81	81.70	76.2	-6.73
2022/2/21	5600	50	D5GHzV2-1128-5600	EX3DV4 - SN7625	DAE4 Sn376	3.92	82.40	78.4	-4.85
2022/3/9	5600	50	D5GHzV2-1006-5600	EX3DV4 - SN3976	DAE4 Sn778	3.99	85.10	79.8	-6.23
2022/2/21	5750	50	D5GHzV2-1128-5750	EX3DV4 - SN7625	DAE4 Sn376	3.75	79.10	75	-5.18
2022/2/24	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN7306	DAE4 Sn679	7.91	81.40	79.1	-2.83
2022/3/9	5750	50	D5GHzV2-1006-5750	EX3DV4 - SN3976	DAE4 Sn778	3.76	81.40	75.2	-7.62
2022/3/8	6500	100	D6.5GHzV2-1003	EX3DV4 - SN3976	DAE4 Sn778	27.30	292.00	273	-6.51

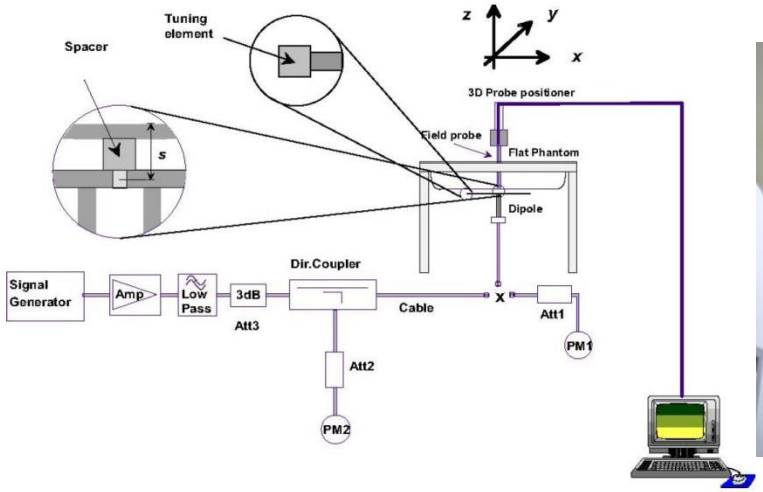


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11.3 PD System Performance Check Results

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

Test Site	Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Measured 4 cm^2 (W/m^2)	Targeted 4 cm^2 (W/m^2)	Deviation (dB)	Date
SAR06-HY	10G	10GHz_1020	9441	778	10	46	51.7	-0.51	2022/3/2

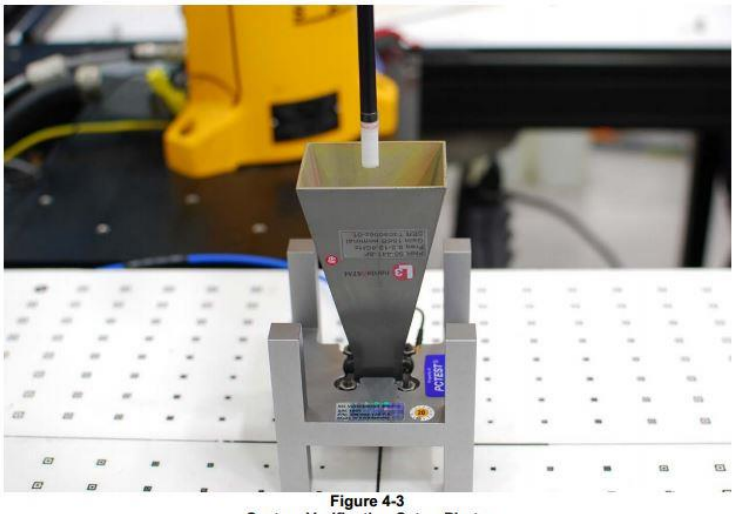


Figure 4-3
System Verification Setup Photo

System Performance Check Setup

12. RF Exposure Positions

12.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

13. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
4. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
5. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
6. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
7. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
8. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
9. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
10. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
11. When SAR testing for 802.11ax is required
    a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
    b. Otherwise, consider the fully allocated channel for SAR testing
    c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel

State 1(NB sensor off)

<2.4GHz WLAN>

2.4GHz WLAN				Ant 1(B)			Ant 2(A)			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	20.90	21.00	99.00	20.60	21.00	99.00							
		6	2437	20.80	21.00		20.60	21.00								
		11	2462	20.60	21.00		20.80	21.00								
		12	2467	20.40	21.00		20.50	21.00								
		13	2472	20.40	21.00		20.40	21.00								
	802.11g 6Mbps	1	2412	Not Required	20.00	Not Required	Not Required	19.75	Not Required							
		6	2437		21.00			21.00								
		11	2462		18.50			18.75								
		12	2467		18.50			18.75								
		13	2472		18.50			18.75								
	802.11n-HT20 MCS0	1	2412		20.00			19.75		Not Required	16.75	Not Required	16.75	Not Required	19.75	Not Required
		6	2437		21.00			21.00			18.00		18.00		21.00	
		11	2462		18.50			18.75			15.75		15.75		18.75	
		12	2467		18.50			18.75			15.75		15.75		18.75	
		13	2472		18.50			18.75			15.75		15.75		18.75	
	802.11n-HT40 MCS0	3	2422		16.00			16.25			13.25		13.25		16.25	
		6	2437		21.00			21.00			18.00		18.00		21.00	
		9	2452		16.00			17.50			14.50		14.50		17.50	
		10	2457		16.00			17.50			14.50		14.50		17.50	
		11	2462		16.00			17.50			14.50		14.50		17.50	
	802.11ax-HE20 MCS0	1	2412		20.00			19.75			16.75		16.75		19.75	
		6	2437		21.00			21.00			18.00		18.00		21.00	
		11	2462		18.50			18.75			15.75		15.75		18.75	
		12	2467		18.50			18.75			15.75		15.75		18.75	
		13	2472		18.50			18.75			15.75		15.75		18.75	
	802.11ax-HE40 MCS0	3	2422		16.00			16.25			13.25		13.25		16.25	
		6	2437		21.00			21.00			18.00		18.00		21.00	
		9	2452		16.00			17.50			14.50		14.50		17.50	
		10	2457		16.00			17.50			14.50		14.50		17.50	
		11	2462		16.00			17.50			14.50		14.50		17.50	

<5GHz WLAN>

5.2GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	18.00	Not Required	Not Required	18.00	Not Required							
		40	5200		18.00			18.00								
		44	5220		18.00			18.00								
		48	5240		18.00			18.00								
	802.11n-HT20 MCS0	36	5180		18.00			18.00		Not Required	15.00	Not Required	15.00	Not Required	18.00	Not Required
		40	5200		18.00			18.00			15.00		15.00		18.00	
		44	5220		18.00			18.00			15.00		15.00		18.00	
		48	5240		18.00			18.00			15.00		15.00		18.00	
	802.11n-HT40 MCS0	38	5190		18.00			18.00			15.00		15.00		18.00	
		46	5230		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT20 MCS0	36	5180		18.00			18.00			15.00		15.00		18.00	
		40	5200		18.00			18.00			15.00		15.00		18.00	
		44	5220		18.00			18.00			15.00		15.00		18.00	
		48	5240		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT40 MCS0	38	5190		18.00			18.00			15.00		15.00		18.00	
		46	5230		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT80 MCS0	42	5210		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE20 MCS0	36	5180		18.00			18.00			15.00		15.00		18.00	
		40	5200		18.00			18.00			15.00		15.00		18.00	
		44	5220		18.00			18.00			15.00		15.00		18.00	
		48	5240		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE40 MCS0	38	5190		18.00			18.00			15.00		15.00		18.00	
		46	5230		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE80 MCS0	42	5210		18.00			18.00			15.00		15.00		18.00	

5.3GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	18.00	Not Required	Not Required	18.00	Not Required							
		56	5280		18.00			18.00								
		60	5300		18.00			18.00								
		64	5320		18.00			18.00								
	802.11n-HT20 MCS0	52	5260		18.00			18.00		Not Required	15.00	Not Required	15.00	Not Required	18.00	Not Required
		56	5280		18.00			18.00			15.00		15.00		18.00	
		60	5300		18.00			18.00			15.00		15.00		18.00	
		64	5320		18.00			18.00			15.00		15.00		18.00	
	802.11n-HT40 MCS0	54	5270		18.00			18.00			15.00		15.00		18.00	
		62	5310		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT20 MCS0	52	5260		18.00			18.00			15.00		15.00		18.00	
		56	5280		18.00			18.00			15.00		15.00		18.00	
		60	5300		18.00			18.00			15.00		15.00		18.00	
		64	5320		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT40 MCS0	54	5270		18.00			18.00			15.00		15.00		18.00	
		62	5310		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT80 MCS0	58	5290	17.50	18.00	98.80	17.40	18.00	98.80		15.00		15.00		18.00	
	802.11ac-VHT160 MCS0	50	5250	Not Required	15.00	Not Required	Not Required	15.00	Not Required		12.00		12.00		15.00	
	802.11ax-HE20 MCS0	52	5260		18.00			18.00			15.00		15.00		18.00	
		56	5280		18.00			18.00			15.00		15.00		18.00	
		60	5300		18.00			18.00			15.00		15.00		18.00	
		64	5320		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE40 MCS0	54	5270		18.00			18.00			15.00		15.00		18.00	
		62	5310		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE80 MCS0	58	5290		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE160 MCS0	50	5250		15.00			15.00			12.00		12.00		15.00	

5.5GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500		18.00			18.00								
		120	5600		18.00			18.00								
		124	5620		18.00			18.00								
		132	5660		18.00			18.00								
		144	5720		18.00			18.00								
	802.11n-HT20 MCS0	100	5500		18.00			18.00			15.00		15.00		18.00	
		116	5580		18.00			18.00			15.00		15.00		18.00	
		124	5620		18.00			18.00			15.00		15.00		18.00	
		132	5660		18.00			18.00			15.00		15.00		18.00	
		144	5720		18.00			18.00			15.00		15.00		18.00	
	802.11n-HT40 MCS0	102	5510		18.00			18.00			15.00		15.00		18.00	
		110	5550		18.00			18.00			15.00		15.00		18.00	
		126	5630	Not Required	18.00	Not Required	Not Required	18.00	Not Required		15.00		15.00		18.00	
		134	5670		18.00			18.00			15.00		15.00		18.00	
		142	5710		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT20 MCS0	100	5500		18.00			18.00			15.00		15.00		18.00	
		116	5580		18.00			18.00			15.00		15.00		18.00	
		124	5620		18.00			18.00			15.00		15.00		18.00	
		132	5660		18.00			18.00			15.00		15.00		18.00	
		144	5720		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT40 MCS0	102	5510		18.00			18.00			15.00		15.00		18.00	
		110	5550		18.00			18.00			15.00		15.00		18.00	
		126	5630		18.00			18.00			15.00		15.00		18.00	
		134	5670		18.00			18.00			15.00		15.00		18.00	
		142	5710		18.00			18.00		Not Required	15.00	Not Required	15.00	Not Required	18.00	Not Required
	802.11ac-VHT80 MCS0	106	5530	17.40	18.00		17.50	18.00			15.00		15.00		18.00	
		122	5610	17.40	18.00	98.80	17.30	18.00	98.80		15.00		15.00		18.00	
		138	5690	17.30	18.00		17.30	18.00			15.00		15.00		18.00	
	802.11ac-VHT160 MCS0	114	5570		16.00			16.00			13.00		13.00		16.00	
	802.11ax-HE20 MCS0	100	5500		18.00			18.00			15.00		15.00		18.00	
		116	5580		18.00			18.00			15.00		15.00		18.00	
		124	5620		18.00			18.00			15.00		15.00		18.00	
		132	5660		18.00			18.00			15.00		15.00		18.00	
		144	5720		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE40 MCS0	102	5510		18.00			18.00			15.00		15.00		18.00	
		110	5550	Not Required	18.00	Not Required	Not Required	18.00	Not Required		15.00		15.00		18.00	
		126	5630		18.00			18.00			15.00		15.00		18.00	
		134	5670		18.00			18.00			15.00		15.00		18.00	
		142	5710		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE80 MCS0	106	5530		18.00			18.00			15.00		15.00		18.00	
		122	5610		18.00			18.00			15.00		15.00		18.00	
		138	5690		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE160 MCS0	114	5570		16.00			16.00			13.00		13.00		16.00	

5.8GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	18.00	Not Required	Not Required	18.00	Not Required							
		157	5785		18.00			18.00								
		165	5825		18.00			18.00								
	802.11n-HT20 MCS0	149	5745		18.00			18.00		Not Required	15.00	Not Required	15.00	Not Required	18.00	Not Required
		157	5785		18.00			18.00			15.00		15.00		18.00	
		165	5825		18.00			18.00			15.00		15.00		18.00	
	802.11n-HT40 MCS0	151	5755		18.00			18.00			15.00		15.00		18.00	
		159	5795		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT20 MCS0	149	5745		18.00			18.00			15.00		15.00		18.00	
		157	5785		18.00			18.00			15.00		15.00		18.00	
		165	5825		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT40 MCS0	151	5755		18.00			18.00			15.00		15.00		18.00	
		159	5795		18.00			18.00			15.00		15.00		18.00	
	802.11ac-VHT80 MCS0	155	5775	17.30	18.00	98.80	17.50	18.00	98.80		15.00		15.00		18.00	
	802.11ax-HE20 MCS0	149	5745	Not Required	18.00	Not Required	Not Required	18.00	Not Required		15.00		15.00		18.00	
		157	5785		18.00			18.00			15.00		15.00		18.00	
		165	5825		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE40 MCS0	151	5755		18.00			18.00			15.00		15.00		18.00	
		159	5795		18.00			18.00			15.00		15.00		18.00	
	802.11ax-HE80 MCS0	155	5775		18.00			18.00			15.00		15.00		18.00	

<6GHz WLAN>

WiFi 6E				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
WiFi 6E	802.11ax-HE20 MCS0	1	5955	Not Required	7.00	Not Required	Not Required	7.00	Not Required	Not Required	4.00	Not Required	4.00	Not Required	7.00	Not Required
		57	6235		7.00			7.00			4.00		4.00		7.00	
		113	6515		7.00			7.00			4.00		4.00		7.00	
		173	6815		7.00			7.00			4.00		4.00		7.00	
		233	7115		7.00			7.00			4.00		4.00		7.00	
	802.11ax-HE40 MCS0	3	5965		10.00			10.00			7.00		7.00		10.00	
		59	6245		10.00			10.00			7.00		7.00		10.00	
		107	6485		10.00			10.00			7.00		7.00		10.00	
		171	6805		10.00			10.00			7.00		7.00		10.00	
		227	7085		10.00			10.00			7.00		7.00		10.00	
	802.11ax-HE80 MCS0	7	5985		13.00			13.00			10.00		10.00		13.00	
		71	6305		13.00			13.00			10.00		10.00		13.00	
		119	6545		13.00			13.00			10.00		10.00		13.00	
		167	6785		13.00			13.00			10.00		10.00		13.00	
		215	7025		13.00			13.00			10.00		10.00		13.00	
	802.11ax-HE160 MCS0	15	6025	13.40	13.50	97.70	13.40	13.50	97.70		10.50		10.50		13.50	
		79	6345	13.10	13.50		13.40	13.50			10.50		10.50		13.50	
		111	6505	13.10	13.50		13.40	13.50			10.50		10.50		13.50	
		143	6665	13.10	13.50		13.10	13.50			10.50		10.50		13.50	
		207	6985	13.20	13.50		13.10	13.50			10.50		10.50		13.50	

State 2(NB sensor on)

<2.4GHz WLAN>

2.4GHz WLAN				Ant 1(B)			Ant 2(A)			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	14.30	14.50	99.50	14.50	14.50	99.50							
		6	2437	14.40	14.50		14.50	14.50								
		11	2462	14.40	14.50		14.50	14.50								
		12	2467	14.30	14.50		14.50	14.50								
		13	2472	14.30	14.50		14.40	14.50								
	802.11g 6Mbps	1	2412	Not Required	14.50	Not Required	Not Required	14.50	Not Required							
		6	2437		14.50			14.50								
		11	2462		14.50			14.50								
		12	2467		14.50			14.50								
		13	2472		14.50			14.50								
	802.11n-HT20 MCS0	1	2412		14.50			14.50		Not Required	11.50	Not Required	11.50	Not Required	14.50	Not Required
		6	2437		14.50			14.50			11.50		11.50		14.50	
		11	2462		14.50			14.50			11.50		11.50		14.50	
		12	2467		14.50			14.50			11.50		11.50		14.50	
		13	2472		14.50			14.50			11.50		11.50		14.50	
	802.11n-HT40 MCS0	3	2422		14.50			14.50			11.50		11.50		14.50	
		6	2437		14.50			14.50			11.50		11.50		14.50	
		9	2452		14.50			14.50			11.50		11.50		14.50	
		10	2457		14.50			14.50			11.50		11.50		14.50	
		11	2462		14.50			14.50			11.50		11.50		14.50	
	802.11ax-HE20 MCS0	1	2412		14.50			14.50			11.50		11.50		14.50	
		6	2437		14.50			14.50			11.50		11.50		14.50	
		11	2462		14.50			14.50			11.50		11.50		14.50	
		12	2467		14.50			14.50			11.50		11.50		14.50	
		13	2472		14.50			14.50			11.50		11.50		14.50	
	802.11ax-HE40 MCS0	3	2422		14.50			14.50			11.50		11.50		14.50	
		6	2437		14.50			14.50			11.50		11.50		14.50	
		9	2452		14.50			14.50			11.50		11.50		14.50	
		10	2457		14.50			14.50			11.50		11.50		14.50	
		11	2462		14.50			14.50			11.50		11.50		14.50	

<5GHz WLAN>

5.2GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	10.50	Not Required	Not Required	10.50	Not Required							
		40	5200		10.50			10.50								
		44	5220		10.50			10.50								
		48	5240		10.50			10.50								
	802.11n-HT20 MCS0	36	5180		10.50			10.50		Not Required	7.50	Not Required	7.50	Not Required	10.50	Not Required
		40	5200		10.50			10.50			7.50		7.50		10.50	
		44	5220		10.50			10.50			7.50		7.50		10.50	
		48	5240		10.50			10.50			7.50		7.50		10.50	
	802.11n-HT40 MCS0	38	5190		10.50			10.50			7.50		7.50		10.50	
		46	5230		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT20 MCS0	36	5180		10.50			10.50			7.50		7.50		10.50	
		40	5200		10.50			10.50			7.50		7.50		10.50	
		44	5220		10.50			10.50			7.50		7.50		10.50	
		48	5240		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT40 MCS0	38	5190		10.50			10.50			7.50		7.50		10.50	
		46	5230		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT80 MCS0	42	5210		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE20 MCS0	36	5180		10.50			10.50			7.50		7.50		10.50	
		40	5200		10.50			10.50			7.50		7.50		10.50	
		44	5220		10.50			10.50			7.50		7.50		10.50	
		48	5240		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE40 MCS0	38	5190		10.50			10.50			7.50		7.50		10.50	
		46	5230		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE80 MCS0	42	5210		10.50			10.50			7.50		7.50		10.50	

5.3GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	10.50	Not Required	Not Required	10.50	Not Required							
		56	5280		10.50			10.50								
		60	5300		10.50			10.50								
		64	5320		10.50			10.50								
	802.11n-HT20 MCS0	52	5260		10.50			10.50		Not Required	7.50	Not Required	7.50	Not Required	10.50	Not Required
		56	5280		10.50			10.50			7.50		7.50		10.50	
		60	5300		10.50			10.50			7.50		7.50		10.50	
		64	5320		10.50			10.50			7.50		7.50		10.50	
	802.11n-HT40 MCS0	54	5270		10.50			10.50			7.50		7.50		10.50	
		62	5310		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT20 MCS0	52	5260		10.50			10.50			7.50		7.50		10.50	
		56	5280		10.50			10.50			7.50		7.50		10.50	
		60	5300		10.50			10.50			7.50		7.50		10.50	
		64	5320		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT40 MCS0	54	5270		10.50			10.50			7.50		7.50		10.50	
		62	5310		10.50			10.50			7.50		7.50		10.50	
	802.11ac-VHT80 MCS0	58	5290	10.30	10.50	98.80		10.50			7.50		7.50		10.50	
	802.11ac-VHT160 MCS0	50	5250	10.40	10.50	98.80	10.50	10.50	98.80	7.50	7.50	7.35	7.50	10.44	10.50	98.80
	802.11ax-HE20 MCS0	52	5260	Not Required	10.50	Not Required	Not Required	10.50	Not Required	Not Required	7.50	Not Required	7.50	Not Required	10.50	Not Required
		56	5280		10.50			10.50			7.50		7.50		10.50	
		60	5300		10.50			10.50			7.50		7.50		10.50	
		64	5320		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE40 MCS0	54	5270		10.50			10.50			7.50		7.50		10.50	
		62	5310		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE80 MCS0	58	5290		10.50			10.50			7.50		7.50		10.50	
	802.11ax-HE160 MCS0	50	5250		10.50			10.50			7.50		7.50		10.50	

5.5GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	11.50	Not Required	Not Required	11.50	Not Required							
		116	5580		11.50			11.50								
		124	5620		11.50			11.50								
		132	5660		11.50			11.50								
		144	5720		11.50			11.50								
	802.11n-HT20 MCS0	100	5500		11.50			11.50		Not Required	8.50	Not Required	8.50	Not Required	11.50	Not Required
		116	5580		11.50			11.50			8.50		8.50		11.50	
		124	5620		11.50			11.50			8.50		8.50		11.50	
		132	5660		11.50			11.50			8.50		8.50		11.50	
		144	5720		11.50			11.50			8.50		8.50		11.50	
	802.11n-HT40 MCS0	102	5510		11.50			11.50			8.50		8.50		11.50	
		110	5550		11.50			11.50			8.50		8.50		11.50	
		126	5630		11.50			11.50			8.50		8.50		11.50	
		134	5670		11.50			11.50			8.50		8.50		11.50	
		142	5710		11.50			11.50			8.50		8.50		11.50	
	802.11ac-VHT20 MCS0	100	5500		11.50			11.50			8.50		8.50		11.50	
		116	5580		11.50			11.50			8.50		8.50		11.50	
		124	5620		11.50			11.50			8.50		8.50		11.50	
		132	5660		11.50			11.50			8.50		8.50		11.50	
		144	5720		11.50			11.50			8.50		8.50		11.50	
	802.11ac-VHT40 MCS0	102	5510		11.50			11.50			8.50		8.50		11.50	
		110	5550		11.50			11.50			8.50		8.50		11.50	
		126	5630		11.50			11.50			8.50		8.50		11.50	
		134	5670		11.50			11.50			8.50		8.50		11.50	
		142	5710		11.50			11.50			8.50		8.50		11.50	
	802.11ac-VHT80 MCS0	106	5530	10.90	11.50	98.80		11.50			8.50		8.50		11.50	
		122	5610	10.70	11.50			11.50			8.50		8.50		11.50	
		138	5690	10.60	11.50			11.50			8.50		8.50		11.50	
	802.11ac-VHT160 MCS0	114	5570	11.50	11.50	98.80	11.50	11.50	98.80	8.35	8.50	8.23	8.50	11.30	11.50	98.80
	802.11ax-HE20 MCS0	100	5500	Not Required	11.50	Not Required	Not Required	11.50	Not Required	Not Required	8.50	Not Required	8.50	Not Required	11.50	Not Required
		116	5580		11.50			11.50			8.50		8.50		11.50	
		124	5620		11.50			11.50			8.50		8.50		11.50	
		132	5660		11.50			11.50			8.50		8.50		11.50	
		144	5720		11.50			11.50			8.50		8.50		11.50	
	802.11ax-HE40 MCS0	102	5510		11.50			11.50			8.50		8.50		11.50	
		110	5550		11.50			11.50			8.50		8.50		11.50	
		126	5630		11.50			11.50			8.50		8.50		11.50	
		134	5670		11.50			11.50			8.50		8.50		11.50	
		142	5710		11.50			11.50			8.50		8.50		11.50	
	802.11ax-HE80 MCS0	106	5530		11.50			11.50			8.50		8.50		11.50	
		122	5610		11.50			11.50			8.50		8.50		11.50	
		138	5690		11.50			11.50			8.50		8.50		11.50	
	802.11ax-HE160 MCS0	114	5570		11.50			11.50			8.50		8.50		11.50	

5.8GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	12.00	Not Required	Not Required	12.00	Not Required							
		157	5785		12.00			12.00								
		165	5825		12.00			12.00								
	802.11n-HT20 MCS0	149	5745		12.00			12.00		Not Required	9.00	Not Required	9.00	Not Required	12.00	Not Required
		157	5785		12.00			12.00			9.00		9.00		12.00	
		165	5825		12.00			12.00			9.00		9.00		12.00	
	802.11n-HT40 MCS0	151	5755	11.80	12.00	98.80	12.00	12.00	98.80		9.00		9.00		12.00	
		159	5795	11.90	12.00		12.00	12.00			9.00		9.00		12.00	
	802.11ac-VHT20 MCS0	149	5745	Not Required	12.00	Not Required	Not Required	12.00	Not Required		9.00		9.00		12.00	
		157	5785		12.00			12.00			9.00		9.00		12.00	
		165	5825		12.00			12.00			9.00		9.00		12.00	
	802.11ac-VHT40 MCS0	151	5755		12.00			12.00			9.00		9.00		12.00	
		159	5795		12.00			12.00			9.00		9.00		12.00	
	802.11ac-VHT80 MCS0	155	5775	11.80	12.00	98.80	12.00	12.00	98.80	9.00	9.00	9.00	9.00	12.00	12.00	98.80
	802.11ax-HE20 MCS0	149	5745	Not Required	12.00	Not Required	Not Required	12.00	Not Required		9.00		9.00		12.00	
		157	5785		12.00			12.00			9.00		9.00		12.00	
		165	5825		12.00			12.00			9.00		9.00		12.00	
	802.11ax-HE40 MCS0	151	5755		12.00			12.00			9.00		9.00		12.00	
		159	5795		12.00			12.00			9.00		9.00		12.00	
	802.11ax-HE80 MCS0	155	5775		12.00			12.00			9.00		9.00		12.00	

<6GHz WLAN>

WiFi 6E				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
WiFi 6E	802.11ax-HE20 MCS0	1	5955	Not Required	7.00	Not Required	Not Required	7.00	Not Required	Not Required	4.00	Not Required	4.00	Not Required	7.00	Not Required
		57	6235		7.00			7.00			4.00		4.00		7.00	
		113	6515		7.00			7.00			4.00		4.00		7.00	
		173	6815		7.00			7.00			4.00		4.00		7.00	
		233	7115		7.00			7.00			4.00		4.00		7.00	
	802.11ax-HE40 MCS0	3	5965		10.00			10.00			7.00		7.00		10.00	
		59	6245		10.00			10.00			7.00		7.00		10.00	
		107	6485		10.00			10.00			7.00		7.00		10.00	
		171	6805		10.00			10.00			7.00		7.00		10.00	
		227	7085		10.00			10.00			7.00		7.00		10.00	
	802.11ax-HE80 MCS0	7	5985		13.00			13.00			10.00		10.00		13.00	
		71	6305		13.00			13.00			10.00		10.00		13.00	
		119	6545		13.00			13.00			10.00		10.00		13.00	
		167	6785		11.50			11.50			8.50		8.50		11.50	
		215	7025		13.00			13.00			10.00		10.00		13.00	
	802.11ax-HE160 MCS0	15	6025	13.40	13.50	97.70	13.40	13.50	97.70	10.00	10.50	10.00	10.50	13.00	13.50	97.70
		79	6345	13.10	13.50		13.40	13.50		10.21	10.50	10.15	10.50	13.19	13.50	
		111	6505	13.10	13.50		13.40	13.50		10.22	10.50	10.27	10.50	13.26	13.50	
		143	6665	11.50	12.00		11.40	12.00		8.28	9.00	8.11	9.00	11.21	12.00	
		207	6985	13.20	13.50		13.10	13.50		10.25	10.50	10.40	10.50	13.34	13.50	

State 3(TB)

<2.4GHz WLAN>

2.4GHz WLAN				Ant 1(B)			Ant 2(A)			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	19.50	20.00	99.50	19.90	20.00	99.50							
		6	2437	19.80	20.00		19.30	20.00								
		11	2462	19.20	20.00		19.50	20.00								
		12	2467	19.20	20.00		19.30	20.00								
		13	2472	18.10	20.00		19.10	20.00								
	802.11g 6Mbps	1	2412	Not Required	20.00	Not Required	Not Required	19.75	Not Required							
		6	2437		20.00			20.00								
		11	2462		18.50			18.75								
		12	2467		18.50			18.75								
		13	2472		18.50			18.75								
	802.11n-HT20 MCS0	1	2412		20.00			19.75		Not Required	16.75	Not Required	16.75	Not Required	19.75	Not Required
		6	2437		20.00			20.00			17.00		17.00		20.00	
		11	2462		18.50			18.75			15.75		15.75		18.75	
		12	2467		18.50			18.75			15.75		15.75		18.75	
		13	2472		18.50			18.75			15.75		15.75		18.75	
	802.11n-HT40 MCS0	3	2422		16.00			16.25			13.25		13.25		16.25	
		6	2437		20.00			20.00			17.00		17.00		20.00	
		9	2452		16.00			17.50			14.50		14.50		17.50	
		10	2457		16.00			17.50			14.50		14.50		17.50	
		11	2462		16.00			17.50			14.50		14.50		17.50	
	802.11ax-HE20 MCS0	1	2412		20.00			19.75			16.75		16.75		19.75	
		6	2437		20.00			20.00			17.00		17.00		20.00	
		11	2462		18.50			18.75			15.75		15.75		18.75	
		12	2467		18.50			18.75			15.75		15.75		18.75	
		13	2472		18.50			18.75			15.75		15.75		18.75	
	802.11ax-HE40 MCS0	3	2422		16.00			16.25			13.25		13.25		16.25	
		6	2437		20.00			20.00			17.00		17.00		20.00	
		9	2452		16.00			17.50			14.50		14.50		17.50	
		10	2457		16.00			17.50			14.50		14.50		17.50	
		11	2462		16.00			17.50			14.50		14.50		17.50	

<5GHz WLAN>

5.2GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	14.00	Not Required	Not Required	14.00	Not Required							
		40	5200		14.00			14.00								
		44	5220		14.00			14.00								
		48	5240		14.00			14.00								
	802.11n-HT20 MCS0	36	5180		14.00			14.00		Not Required	11.00	Not Required	11.00	Not Required	14.00	Not Required
		40	5200		14.00			14.00			11.00		11.00		14.00	
		44	5220		14.00			14.00			11.00		11.00		14.00	
		48	5240		14.00			14.00			11.00		11.00		14.00	
	802.11n-HT40 MCS0	38	5190		14.00			14.00			11.00		11.00		14.00	
		46	5230		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT20 MCS0	36	5180		14.00			14.00			11.00		11.00		14.00	
		40	5200		14.00			14.00			11.00		11.00		14.00	
		44	5220		14.00			14.00			11.00		11.00		14.00	
		48	5240		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT40 MCS0	38	5190		14.00			14.00			11.00		11.00		14.00	
		46	5230		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT80 MCS0	42	5210		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE20 MCS0	36	5180		14.00			14.00			11.00		11.00		14.00	
		40	5200		14.00			14.00			11.00		11.00		14.00	
		44	5220		14.00			14.00			11.00		11.00		14.00	
		48	5240		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE40 MCS0	38	5190		14.00			14.00			11.00		11.00		14.00	
		46	5230		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE80 MCS0	42	5210		14.00			14.00			11.00		11.00		14.00	

5.3GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	14.00	Not Required	Not Required	14.00	Not Required							
		56	5280		14.00			14.00								
		60	5300		14.00			14.00								
		64	5320		14.00			14.00								
	802.11n-HT20 MCS0	52	5260		14.00			14.00		Not Required	11.00	Not Required	11.00	Not Required	14.00	Not Required
		56	5280		14.00			14.00			11.00		11.00		14.00	
		60	5300		14.00			14.00			11.00		11.00		14.00	
		64	5320		14.00			14.00			11.00		11.00		14.00	
	802.11n-HT40 MCS0	54	5270		14.00			14.00			11.00		11.00		14.00	
		62	5310		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT20 MCS0	52	5260		14.00			14.00			11.00		11.00		14.00	
		56	5280		14.00			14.00			11.00		11.00		14.00	
		60	5300		14.00			14.00			11.00		11.00		14.00	
		64	5320		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT40 MCS0	54	5270		14.00			14.00			11.00		11.00		14.00	
		62	5310		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT80 MCS0	58	5290		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT160 MCS0	50	5250	12.90	14.00	98.80	13.00	14.00	98.80		11.00		11.00		14.00	
	802.11ax-HE20 MCS0	52	5260	Not Required	14.00	Not Required	Not Required	14.00	Not Required		11.00		11.00		14.00	
		56	5280		14.00			14.00			11.00		11.00		14.00	
		60	5300		14.00			14.00			11.00		11.00		14.00	
		64	5320		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE40 MCS0	54	5270		14.00			14.00			11.00		11.00		14.00	
		62	5310		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE80 MCS0	58	5290		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE160 MCS0	50	5250		14.00			14.00			11.00		11.00		14.00	

5.5GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	14.50	Not Required	Not Required	14.50	Not Required							
		116	5580		14.50			14.50								
		124	5620		14.50			14.50								
		132	5660		14.50			14.50								
		144	5720		14.50			14.50								
	802.11n-HT20 MCS0	100	5500		14.50			14.50		Not Required	11.50	Not Required	11.50	Not Required	14.50	Not Required
		116	5580		14.50			14.50			11.50		11.50		14.50	
		124	5620		14.50			14.50			11.50		11.50		14.50	
		132	5660		14.50			14.50			11.50		11.50		14.50	
		144	5720		14.50			14.50			11.50		11.50		14.50	
	802.11n-HT40 MCS0	102	5510		14.50			14.50			11.50		11.50		14.50	
		110	5550		14.50			14.50			11.50		11.50		14.50	
		126	5630		14.50			14.50			11.50		11.50		14.50	
		134	5670		14.50			14.50			11.50		11.50		14.50	
		142	5710		14.50			14.50			11.50		11.50		14.50	
	802.11ac-VHT20 MCS0	100	5500		14.50			14.50			11.50		11.50		14.50	
		116	5580		14.50			14.50			11.50		11.50		14.50	
		124	5620		14.50			14.50			11.50		11.50		14.50	
		132	5660		14.50			14.50			11.50		11.50		14.50	
		144	5720		14.50			14.50			11.50		11.50		14.50	
	802.11ac-VHT40 MCS0	102	5510		14.50			14.50			11.50		11.50		14.50	
		110	5550		14.50			14.50			11.50		11.50		14.50	
		126	5630		14.50			14.50			11.50		11.50		14.50	
		134	5670		14.50			14.50			11.50		11.50		14.50	
		142	5710		14.50			14.50			11.50		11.50		14.50	
	802.11ac-VHT80 MCS0	106	5530	13.00	14.50	98.80	12.90	14.50	98.80		11.50		11.50		14.50	
		122	5610	12.80	14.50		12.70	14.50			11.50		11.50		14.50	
		138	5690	12.90	14.50		12.70	14.50			11.50		11.50		14.50	
	802.11ac-VHT160 MCS0	114	5570	12.70	14.50	98.80	13.00	14.50	98.80		11.50		11.50		14.50	
	802.11ax-HE20 MCS0	100	5500	Not Required	14.50	Not Required	Not Required	14.50	Not Required		11.50		11.50		14.50	
		116	5580		14.50			14.50			11.50		11.50		14.50	
		124	5620		14.50			14.50			11.50		11.50		14.50	
		132	5660		14.50			14.50			11.50		11.50		14.50	
		144	5720		14.50			14.50			11.50		11.50		14.50	
	802.11ax-HE40 MCS0	102	5510		14.50			14.50			11.50		11.50		14.50	
		110	5550		14.50			14.50			11.50		11.50		14.50	
		126	5630		14.50			14.50			11.50		11.50		14.50	
		134	5670		14.50			14.50			11.50		11.50		14.50	
		142	5710		14.50			14.50			11.50		11.50		14.50	
	802.11ax-HE80 MCS0	106	5530		14.50			14.50			11.50		11.50		14.50	
		122	5610		14.50			14.50			11.50		11.50		14.50	
		138	5690		14.50			14.50			11.50		11.50		14.50	
	802.11ax-HE160 MCS0	114	5570		14.50			14.50			11.50		11.50		14.50	

5.8GHz WLAN				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	14.00	Not Required	Not Required	14.00	Not Required							
		157	5785		14.00			14.00								
		165	5825		14.00			14.00								
	802.11n-HT20 MCS0	149	5745		14.00			14.00		Not Required	11.00	Not Required	11.00	Not Required	14.00	Not Required
		157	5785		14.00			14.00			11.00		11.00		14.00	
		165	5825		14.00			14.00			11.00		11.00		14.00	
	802.11n-HT40 MCS0	151	5755	12.80	14.00	98.80	12.80	14.00	98.80		11.00		11.00		14.00	
		159	5795	12.80	14.00		12.70	14.00			11.00		11.00		14.00	
	802.11ac-VHT20 MCS0	149	5745	Not Required	14.00	Not Required	Not Required	14.00	Not Required		11.00		11.00		14.00	
		157	5785		14.00			14.00			11.00		11.00		14.00	
		165	5825		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT40 MCS0	151	5755		14.00			14.00			11.00		11.00		14.00	
		159	5795		14.00			14.00			11.00		11.00		14.00	
	802.11ac-VHT80 MCS0	155	5775	12.90	14.00	98.80	12.70	14.00	98.80		11.00		11.00		14.00	
	802.11ax-HE20 MCS0	149	5745	Not Required	14.00	Not Required	Not Required	14.00	Not Required		11.00		11.00		14.00	
		157	5785		14.00			14.00			11.00		11.00		14.00	
		165	5825		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE40 MCS0	151	5755		14.00			14.00			11.00		11.00		14.00	
		159	5795		14.00			14.00			11.00		11.00		14.00	
	802.11ax-HE80 MCS0	155	5775		14.00			14.00			11.00		11.00		14.00	

<6GHz WLAN>

WiFi 6E				Ant 1			Ant 2			Ant 1+2(1)		Ant 1+2(2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
WiFi 6E	802.11ax-HE20 MCS0	1	5955	Not Required	7.00	Not Required	Not Required	7.00	Not Required	Not Required	4.00	Not Required	4.00	Not Required	7.00	Not Required
		57	6235		7.00			7.00			4.00		4.00		7.00	
		113	6515		7.00			7.00			4.00		4.00		7.00	
		173	6815		7.00			7.00			4.00		4.00		7.00	
		233	7115		7.00			7.00			4.00		4.00		7.00	
	802.11ax-HE40 MCS0	3	5965		10.00			10.00			7.00		7.00		10.00	
		59	6245		10.00			10.00			7.00		7.00		10.00	
		107	6485		10.00			10.00			7.00		7.00		10.00	
		171	6805		10.00			10.00			7.00		7.00		10.00	
		227	7085		10.00			10.00			7.00		7.00		10.00	
	802.11ax-HE80 MCS0	7	5985		13.00			13.00			10.00		10.00		13.00	
		71	6305		13.00			13.00			10.00		10.00		13.00	
		119	6545		13.00			13.00			10.00		10.00		13.00	
		167	6785		13.00			13.00			10.00		10.00		13.00	
		215	7025		13.00			13.00			10.00		10.00		13.00	
	802.11ax-HE160 MCS0	15	6025	13.40	13.50	97.70	13.40	13.50	97.70		10.50		10.50		13.50	
		79	6345	13.10	13.50		13.40	13.50			10.50		10.50		13.50	
		111	6505	13.10	13.50		13.40	13.50			10.50		10.50		13.50	
		143	6665	13.10	13.50		13.10	13.50			10.50		10.50		13.50	
		207	6985	13.20	13.50		13.10	13.50			10.50		10.50		13.50	

<2.4GHz Bluetooth>

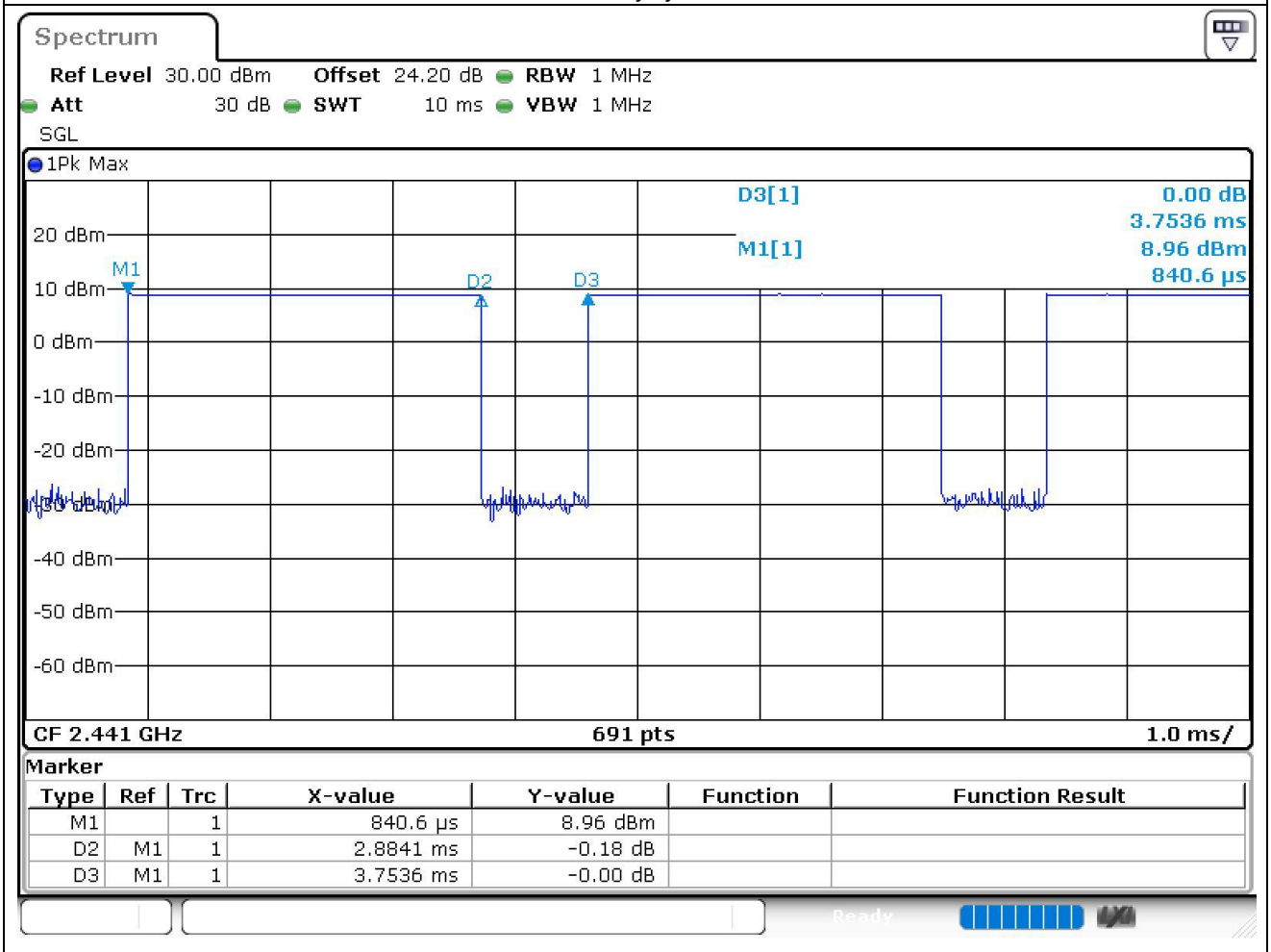
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	9.20	Not Required	Not Required
	CH 39	2441	9.20		
	CH 78	2480	9.20		
Tune-up Limit			10.5	9.5	9.5

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	Not Required	Not Required
	CH 19	2440		
	CH 39	2480		
Tune-up Limit			10.5	10.5

General Note:

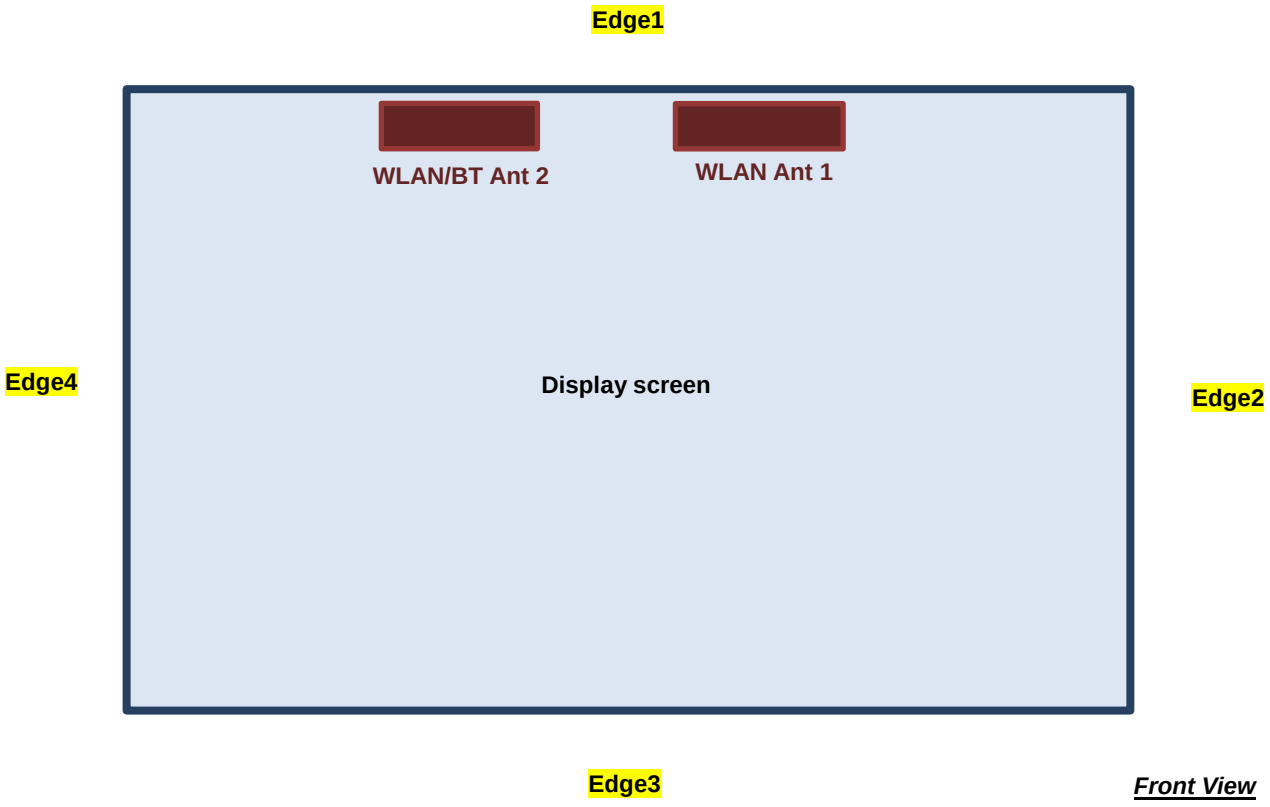
1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 77% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

BT Duty cycle



14. Antenna Location

<For Tablet>

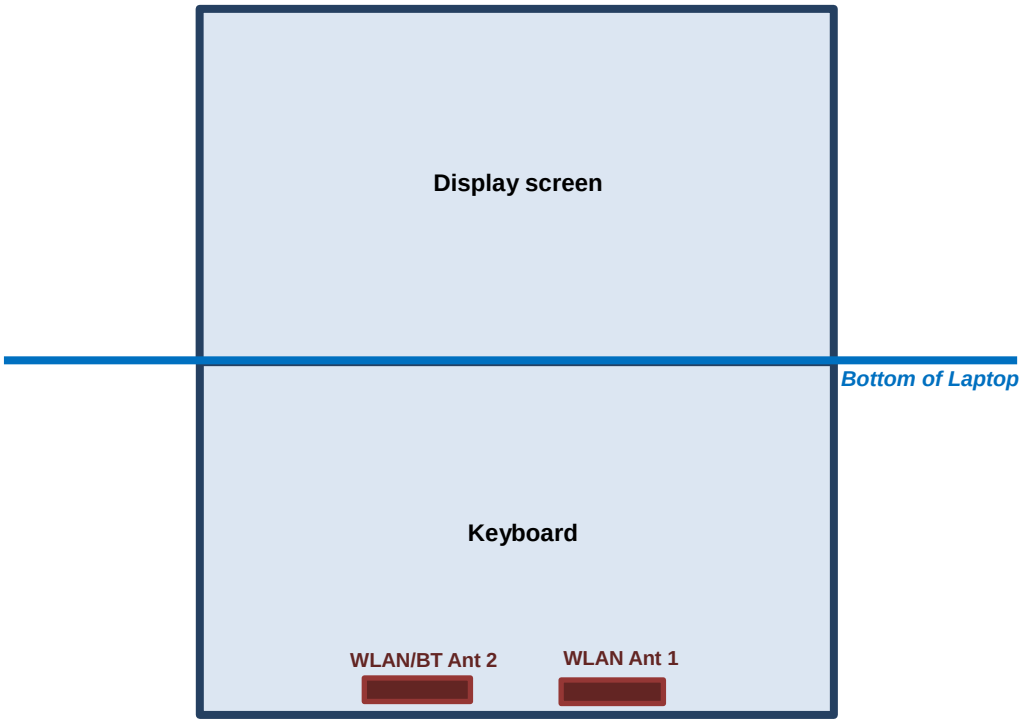


Front View

The separation distance for antenna to edge:

Antenna	To Edge1 (mm)	To Edge2 (mm)	To Edge3 (mm)	To Edge4 (mm)
WLAN Antenna 1	3.3	104	192.7	144
WLAN/BT Antenna 2	3.3	164	192.7	80

<For Laptop>



The separation distance for antenna to edge:

Antenna	To Bottom of Laptop (mm)
WLAN Antenna 1	3.6
WLAN/BT Antenna 2	3.6

<SAR test exclusion table>

General Note:

1. The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
2. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
3. Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
4. Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
5. Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison
6. Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
   a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
   b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

Exposure Position	Wireless Interface	BT ANT 2	2.4GHz WLAN ANT 1	2.4GHz WLAN ANT 2	5GHz WLAN ANT 1	5GHz WLAN ANT 2
	Calculated Frequency (MHz)	2480	2472	2472	5825	5825
	Maximum power (dBm)	10.5	21.0	21.0	18.0	18.0
	Maximum rated power(mW)	11.22	125.89	125.89	63.10	63.10
Bottom Face	Separation distance(mm)	3.6	3.6	3.6	3.6	3.6
	exclusion threshold	3.5	39.6	39.6	30.5	30.5
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Edge 1	Separation distance(mm)	3.3	3.3	3.3	3.3	3.3
	exclusion threshold	3.5	39.6	39.6	30.5	30.5
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Edge 2	Separation distance(mm)	164.0	104.0	164.0	104.0	164.0
	exclusion threshold	1235.0	635.0	1235.0	602.0	1202.0
	Testing required?	**No**	**No**	**No**	**No**	**No**
Edge 3	Separation distance(mm)	192.7	192.7	192.7	192.7	192.7
	exclusion threshold	1522.0	1522.0	1522.0	1489.0	1489.0
	Testing required?	**No**	**No**	**No**	**No**	**No**
Edge 4	Separation distance(mm)	80.0	144.0	80.0	144.0	80.0
	exclusion threshold	395.0	1035.0	395.0	1002.0	362.0
	Testing required?	**No**	**No**	**No**	**No**	**No**
Bottom of Laptop	Separation distance(mm)	3.6	3.6	3.6	3.6	3.6
	exclusion threshold	3.5	39.6	39.6	30.5	30.5
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when 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.
2. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For WLAN SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
6. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
7. Additional 5/6GHz WLAN MIMO mode output power state2 for Laptop mode just for Sim-Tx analysis.
8. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain
9. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

WLAN PD Note:

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
6. The measurement procedure consists of measuring the PDinc at two different distances: 2 mm (compliance distance) and λ/5. The grid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPDn fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10 \cdot log_{10} \frac{iPD_n(2mm)}{iPD_n(\lambda/5)} \geq -1$$

15.1 Body SAR

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	29mm	Speed	Ant 1	State 1	1	2412	20.90	21.00	1.023	99.5	1.005	0.08	0.089	0.092
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 1	State 2	6	2437	14.40	14.50	1.023	99.5	1.005	-0.01	0.740	0.761
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Speed	Ant 1	State 3	6	2437	19.80	20.00	1.047	99.5	1.005	0.11	0.220	0.232
01	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	6	2437	19.80	20.00	1.047	99.5	1.005	0.04	1.130	1.189
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	1	2412	19.50	20.00	1.122	99.5	1.005	-0.09	1.020	1.150
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	11	2462	19.20	20.00	1.202	99.5	1.005	0.13	0.957	1.156
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	12	2467	19.20	20.00	1.202	99.5	1.005	0.06	0.768	0.928
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	13	2472	18.10	20.00	1.549	99.5	1.005	0.13	0.750	1.167
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	29mm	HB	Ant 1	State 1	1	2412	20.90	21.00	1.023	99.5	1.005	0.03	0.066	0.068
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 1	State 2	1	2412	14.30	14.50	1.047	99.5	1.005	0.05	0.785	0.826
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 1	State 2	6	2437	14.40	14.50	1.023	99.5	1.005	0.02	0.712	0.732
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 1	State 2	11	2462	14.40	14.50	1.023	99.5	1.005	0.07	0.738	0.759
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 1	State 2	12	2467	14.30	14.50	1.047	99.5	1.005	0.09	0.649	0.683
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 1	State 2	13	2472	14.30	14.50	1.047	99.5	1.005	-0.17	0.667	0.702
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 1	State 3	6	2437	19.80	20.00	1.047	99.5	1.005	0.08	0.917	0.965
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 1	State 3	1	2412	19.50	20.00	1.122	99.5	1.005	0.16	0.823	0.928
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 1	State 3	11	2462	19.20	20.00	1.202	99.5	1.005	-0.05	0.749	0.905
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 1	State 3	12	2467	19.20	20.00	1.202	99.5	1.005	-0.19	0.739	0.893
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 1	State 3	13	2472	18.10	20.00	1.549	99.5	1.005	0.03	0.581	0.904
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	29mm	Speed	Ant 2	State 1	11	2462	20.80	21.00	1.047	99.5	1.005	0.02	0.058	0.061
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	State 2	1	2412	14.50	14.50	1.000	99.5	1.005	0.11	1.050	1.055
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	State 2	6	2437	14.50	14.50	1.000	99.5	1.005	0.13	0.999	1.004
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	State 2	11	2462	14.50	14.50	1.000	99.5	1.005	0.15	1.030	1.035
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	State 2	12	2467	14.50	14.50	1.000	99.5	1.005	0.02	0.966	0.971
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	State 2	13	2472	14.40	14.50	1.023	99.5	1.005	0.07	1.020	1.049
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Speed	Ant 2	State 3	1	2412	19.90	20.00	1.023	99.5	1.005	0.18	0.414	0.426
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 2	State 3	1	2412	19.90	20.00	1.023	99.5	1.005	-0.16	1.130	1.162
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 2	State 3	6	2437	19.30	20.00	1.175	99.5	1.005	0	0.931	1.099
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 2	State 3	11	2462	19.50	20.00	1.122	99.5	1.005	0.19	1.030	1.161
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 2	State 3	12	2467	19.30	20.00	1.175	99.5	1.005	-0.08	0.790	0.933
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 2	State 3	13	2472	19.10	20.00	1.230	99.5	1.005	0.02	0.716	0.885
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	29mm	HB	Ant 2	State 1	11	2462	20.80	21.00	1.047	99.5	1.005	0.17	0.044	0.046
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 2	State 2	1	2412	14.50	14.50	1.000	99.5	1.005	0.01	1.030	1.035
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 2	State 2	6	2437	14.50	14.50	1.000	99.5	1.005	0.06	0.990	0.995
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 2	State 2	11	2462	14.50	14.50	1.000	99.5	1.005	0.09	1.020	1.025
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 2	State 2	12	2467	14.50	14.50	1.000	99.5	1.005	0.01	0.912	0.917
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	HB	Ant 2	State 2	13	2472	14.40	14.50	1.023	99.5	1.005	0.09	0.937	0.964
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 2	State 3	1	2412	19.90	20.00	1.023	99.5	1.005	0.14	1.010	1.039
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 2	State 3	6	2437	19.30	20.00	1.175	99.5	1.005	0.03	0.980	1.157
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 2	State 3	11	2462	19.50	20.00	1.122	99.5	1.005	-0.07	0.969	1.093
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 2	State 3	12	2467	19.30	20.00	1.175	99.5	1.005	0.03	0.891	1.052
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	HB	Ant 2	State 3	13	2472	19.10	20.00	1.230	99.5	1.005	0.17	0.886	1.095

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 1	State 1	58	5290	17.50	18.00	1.122	98.8	1.012	-0.03	0.251	0.285
02	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	50	5250	10.40	10.50	1.023	98.8	1.012	-0.12	1.050	1.087
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	58	5290	10.30	10.50	1.047	98.8	1.012	-0.01	1.010	1.070
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Speed	Ant 1	State 3	50	5250	12.90	14.00	1.288	98.8	1.012	0.13	0.168	0.219
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	50	5250	12.90	14.00	1.288	98.8	1.012	-0.16	0.504	0.657
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 1	State 1	58	5290	17.50	18.00	1.122	98.8	1.012	0.06	0.218	0.248
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	50	5250	10.40	10.50	1.023	98.8	1.012	-0.08	1.010	1.046
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	58	5290	10.30	10.50	1.047	98.8	1.012	-0.1	1.000	1.060
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	HB	Ant 1	State 3	50	5250	12.90	14.00	1.288	98.8	1.012	-0.14	0.611	0.797
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 2	State 1	58	5290	17.40	18.00	1.148	98.8	1.012	0.17	0.160	0.186
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	50	5250	10.50	10.50	1.000	98.8	1.012	-0.14	0.710	0.719
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Speed	Ant 2	State 3	50	5250	13.00	14.00	1.259	98.8	1.012	-0.03	0.129	0.164
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	50	5250	13.00	14.00	1.259	98.8	1.012	0.01	0.448	0.571
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 2	State 1	58	5290	17.40	18.00	1.148	98.8	1.012	0.05	0.189	0.220
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 2	State 2	50	5250	10.50	10.50	1.000	98.8	1.012	-0.08	0.675	0.683
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	HB	Ant 2	State 3	50	5250	13.00	14.00	1.259	98.8	1.012	-0.11	0.593	0.756
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	50	5250	7.50	7.50	1.000	98.8	1.012	-0.01	0.585	0.592
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	50	5250	7.35	7.50	1.035	98.8	1.012	-0.01	0.666	0.698
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(1)	State 2	50	5250	7.50	7.50	1.000	98.8	1.012	0.06	0.555	0.562
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(2)	State 2	50	5250	7.35	7.50	1.035	98.8	1.012	0.06	0.672	0.704
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 1	State 1	106	5530	17.40	18.00	1.148	98.8	1.012	0.01	0.168	0.195
03	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	-0.13	1.080	1.093
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	106	5530	10.90	11.50	1.148	98.8	1.012	0.05	0.936	1.088
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Speed	Ant 1	State 3	114	5570	12.70	14.50	1.514	98.8	1.012	-0.14	0.254	0.389
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	114	5570	12.70	14.50	1.514	98.8	1.012	0.08	0.706	1.081
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	106	5530	13.00	14.50	1.413	98.8	1.012	0.01	0.695	0.993
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 1	State 1	106	5530	17.40	18.00	1.148	98.8	1.012	0.06	0.097	0.113
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	0.08	0.866	0.876
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	106	5530	10.90	11.50	1.148	98.8	1.012	-0.04	0.744	0.864
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	HB	Ant 1	State 3	114	5570	12.70	14.50	1.514	98.8	1.012	0.05	0.682	1.045
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	HB	Ant 1	State 3	106	5530	13.00	14.50	1.413	98.8	1.012	0.07	0.664	0.949
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 2	State 1	106	5530	17.50	18.00	1.122	98.8	1.012	0.02	0.283	0.321
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	-0.09	0.758	0.767
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Speed	Ant 2	State 3	114	5570	13.00	14.50	1.413	98.8	1.012	0.02	0.228	0.326
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	114	5570	13.00	14.50	1.413	98.8	1.012	0.04	0.678	0.969
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	106	5530	12.90	14.50	1.445	98.8	1.012	0.09	0.644	0.942
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 2	State 1	106	5530	17.50	18.00	1.122	98.8	1.012	0.05	0.226	0.257
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 2	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	-0.15	0.553	0.560
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 1	0mm	HB	Ant 2	State 3	114	5570	13.00	14.50	1.413	98.8	1.012	-0.13	0.551	0.788
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	114	5570	8.35	8.50	1.035	98.8	1.012	0.11	0.665	0.697
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	114	5570	8.23	8.50	1.064	98.8	1.012	0.11	0.559	0.602
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(1)	State 2	114	5570	8.35	8.50	1.035	98.8	1.012	-0.18	0.642	0.673
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(2)	State 2	114	5570	8.23	8.50	1.064	98.8	1.012	-0.18	0.538	0.579

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 1	State 1	155	5775	17.30	18.00	1.175	98.8	1.012	0.05	0.132	0.157
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	155	5775	11.80	12.00	1.047	98.8	1.012	0.17	0.781	0.828
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	151	5755	11.80	12.00	1.047	98.8	1.012	-0.1	0.770	0.816
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Speed	Ant 1	State 3	155	5775	12.90	14.00	1.288	98.8	1.012	-0.09	0.248	0.323
04	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	155	5775	12.90	14.00	1.288	98.8	1.012	0.13	0.805	1.049
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	151	5755	12.80	14.00	1.318	98.8	1.012	0.03	0.635	0.847
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 1	State 1	155	5775	17.30	18.00	1.175	98.8	1.012	0.08	0.116	0.138
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	155	5775	11.80	12.00	1.047	98.8	1.012	0.09	0.732	0.776
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	HB	Ant 1	State 3	155	5775	12.90	14.00	1.288	98.8	1.012	0.06	0.797	1.039
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	HB	Ant 1	State 3	151	5755	12.80	14.00	1.318	98.8	1.012	0.06	0.651	0.868
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	Speed	Ant 2	State 1	155	5775	17.50	18.00	1.122	98.8	1.012	-0.01	0.243	0.276
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	155	5775	12.00	12.00	1.000	98.8	1.012	-0.1	0.964	0.976
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	151	5755	12.00	12.00	1.000	98.8	1.012	-0.17	0.953	0.964
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Speed	Ant 2	State 3	155	5775	12.70	14.00	1.349	98.8	1.012	-0.19	0.155	0.212
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	155	5775	12.70	14.00	1.349	98.8	1.012	0.15	0.714	0.975
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	151	5755	12.80	14.00	1.318	98.8	1.012	0.11	0.669	0.892
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	29mm	HB	Ant 2	State 1	155	5775	17.50	18.00	1.122	98.8	1.012	0.06	0.226	0.257
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 2	State 2	155	5775	12.00	12.00	1.000	98.8	1.012	-0.13	0.789	0.798
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	HB	Ant 2	State 3	155	5775	12.70	14.00	1.349	98.8	1.012	-0.05	0.544	0.743
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	155	5775	9.00	9.00	1.000	98.8	1.012	0.06	0.623	0.630
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	155	5775	9.00	9.00	1.000	98.8	1.012	0.06	0.654	0.662
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(1)	State 2	155	5775	9.00	9.00	1.000	98.8	1.012	0.12	0.572	0.579
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(2)	State 2	155	5775	9.00	9.00	1.000	98.8	1.012	0.12	0.585	0.592

<WiFi 6E SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	APD (W/m2)
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	29mm	Speed	Ant 1	State 1	15	6025	13.40	13.50	1.023	97.7	1.024	0.11	0.062	0.065	0.187
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	15	6025	13.40	13.50	1.023	97.7	1.024	0.11	0.638	0.669	4.040
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	79	6345	13.10	13.50	1.096	97.7	1.024	0.14	0.551	0.619	4.050
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	111	6505	13.10	13.50	1.096	97.7	1.024	-0.05	0.722	0.811	4.820
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	143	6665	11.50	12.00	1.122	97.7	1.024	0.01	0.422	0.485	2.820
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	207	6985	13.20	13.50	1.072	97.7	1.024	0.06	0.755	0.828	5.270
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom Face	0mm	Speed	Ant 1	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.03	0.242	0.254	1.270
	WLAN6GHz	802.11ax-HE160 MCS0	Edge 1	0mm	Speed	Ant 1	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.11	0.432	0.453	2.600
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	29mm	HB	Ant 1	State 1	15	6025	13.40	13.50	1.023	97.7	1.024	0.03	0.073	0.076	0.230
05	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	207	6985	13.20	13.50	1.072	97.7	1.024	-0.01	1.070	1.174	7.530
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	15	6025	13.40	13.50	1.023	97.7	1.024	0.08	0.893	0.936	5.656
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	79	6345	13.10	13.50	1.096	97.7	1.024	0.04	0.771	0.866	5.670
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	111	6505	13.10	13.50	1.096	97.7	1.024	0.05	0.991	1.113	6.748
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	143	6665	11.50	12.00	1.122	97.7	1.024	-0.09	0.591	0.679	3.948
	WLAN6GHz	802.11ax-HE160 MCS0	Edge 1	0mm	HB	Ant 1	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.13	0.422	0.442	2.580
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	29mm	Speed	Ant 2	State 1	15	6025	13.40	13.50	1.023	97.7	1.024	0.11	0.042	0.044	0.140
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	15	6025	13.40	13.50	1.023	97.7	1.024	0.17	1.040	1.090	5.820
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	79	6345	13.40	13.50	1.023	97.7	1.024	0	0.988	1.035	4.820
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	111	6505	13.40	13.50	1.023	97.7	1.024	0.15	0.972	1.019	4.700
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	143	6665	11.40	12.00	1.148	97.7	1.024	-0.1	0.422	0.496	2.480
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	207	6985	13.10	13.50	1.096	97.7	1.024	-0.13	0.855	0.960	2.430
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom Face	0mm	Speed	Ant 2	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.16	0.322	0.337	1.680
	WLAN6GHz	802.11ax-HE160 MCS0	Edge 1	0mm	Speed	Ant 2	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.14	0.647	0.678	4.390
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	29mm	HB	Ant 2	State 1	15	6025	13.40	13.50	1.023	97.7	1.024	0.09	0.030	0.031	0.110
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 2	State 2	15	6025	13.40	13.50	1.023	97.7	1.024	0.01	0.732	0.767	4.400
	WLAN6GHz	802.11ax-HE160 MCS0	Edge 1	0mm	HB	Ant 2	State 3	15	6025	13.40	13.50	1.023	97.7	1.024	0.15	0.455	0.477	3.080
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	15	6025	10.00	10.50	1.122	97.7	1.024	0.02	0.664	0.763	4.280
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	15	6025	10.00	10.50	1.122	97.7	1.024	0.02	0.718	0.825	4.930
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	47	6185	10.21	10.50	1.069	97.7	1.024	0.08	0.556	0.609	4.390
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	47	6185	10.15	10.50	1.084	97.7	1.024	0.08	0.611	0.678	3.950
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	111	6505	10.22	10.50	1.067	97.7	1.024	-0.01	0.538	0.588	3.940
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	111	6505	10.27	10.50	1.054	97.7	1.024	-0.01	0.686	0.741	4.890
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	175	6825	8.28	8.50	1.052	97.7	1.024	-0.09	0.516	0.556	3.830
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	175	6825	8.11	8.50	1.094	97.7	1.024	-0.09	0.544	0.609	4.180
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(1)	State 2	207	6985	10.25	10.50	1.059	97.7	1.024	0.13	0.611	0.663	4.210
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1+2(2)	State 2	207	6985	10.40	10.50	1.023	97.7	1.024	0.13	0.634	0.664	4.370
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(1)	State 2	15	6025	10.00	10.50	1.122	97.7	1.024	0.02	0.429	0.493	3.650
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1+2(2)	State 2	15	6025	10.00	10.50	1.122	97.7	1.024	0.02	0.522	0.600	3.910

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Bottom of Laptop	29mm	Speed	Ant 2	0	2402	9.20	10.50	1.349	77	1.082	0.03	0.017	0.025
	Bluetooth	1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	0	2402	9.20	10.50	1.349	77	1.082	0.09	0.280	0.408
	Bluetooth	1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	39	2441	9.20	10.50	1.349	77	1.082	0.12	0.263	0.383
06	Bluetooth	1Mbps	Bottom of Laptop	0mm	Speed	Ant 2	78	2480	9.20	10.50	1.349	77	1.082	0.09	0.390	0.569
	Bluetooth	1Mbps	Bottom Face	0mm	Speed	Ant 2	0	2402	9.20	10.50	1.349	77	1.082	-0.13	0.072	0.104
	Bluetooth	1Mbps	Edge 1	0mm	Speed	Ant 2	0	2402	9.20	10.50	1.349	77	1.082	0.03	0.085	0.124
	Bluetooth	1Mbps	Bottom of Laptop	0mm	HB	Ant 2	78	2480	9.20	10.50	1.349	77	1.082	-0.06	0.333	0.486

15.2 6GHz PD Test Result

Band	Mode	Test Position	Gap (mm)	Antenna	Config	Ch.	Freq. (MHz)	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m^2)	Total psPD (W/m^2)
WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	15	6025	13.40	0.0625	2.86	-0.40563615	3.03	4.15
WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	10mm	Ant 1	NB	15	6025	13.40	0.25	3.14		2.02	2.3
WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	207	6985	13.20	0.0625	3.8	0.174907322	3.75	4.63
WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	8.59mm	Ant 1	NB	207	6985	13.20	0.25	3.65		2.55	2.82

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Config	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for Measurement Uncertainty	Power Drift (dB)	Normal psPD (W/m^2)	Scaled Normal psPD (W/m^2)	Total psPD (W/m^2)	Scaled Total psPD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	15	6025	13.40	13.50	1.023	97.70	1.024	0.0625	1.5535	-0.06	3.03	4.93	4.15	6.76
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	79	6345	13.10	13.50	1.096	97.70	1.024	0.0625	1.5535	0.08	2.46	4.29	3.61	6.30
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	111	6505	13.10	13.50	1.096	97.70	1.024	0.0625	1.5535	0.03	2.09	3.65	3.22	5.62
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	143	6665	11.60	12.00	1.096	97.70	1.024	0.0625	1.5535	0.08	1.24	2.16	1.59	2.77
01	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	207	6985	13.20	13.50	1.072	97.70	1.024	0.0625	1.5535	-0.08	3.75	6.39	4.63	7.89
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1	NB	15	6025	13.40	13.50	1.023	97.70	1.024	0.0625	1.5535	0.07	3.28	5.34	4.67	7.60
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	15	6025	13.40	13.50	1.023	97.70	1.024	0.0625	1.5535	-0.01	3.4	5.53	4.1	6.67
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	79	6345	13.40	13.50	1.023	97.70	1.024	0.0625	1.5535	0.09	3.16	5.14	4.01	6.53
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	111	6505	13.40	13.50	1.023	97.70	1.024	0.0625	1.5535	-0.09	3.3	5.37	4.12	6.71
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	143	6665	11.60	12.00	1.096	97.70	1.024	0.0625	1.5535	-0.07	2.01	3.51	2.4	4.19
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	207	6985	13.10	13.50	1.096	97.70	1.024	0.0625	1.5535	0.01	3.36	5.86	4.17	7.27
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 2	NB	207	6985	13.10	13.50	1.096	97.70	1.024	0.0625	1.5535	0.04	2.52	4.40	3.3	5.76
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	2mm	Ant 1+2	NB	207	6985	13.4	13.5	1.023	97.70	1.024	0.0625	1.5535	0.07	1.62	2.64	2.28	3.71

15.3 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	6	2437	19.80	20.00	1.047	99.5	1.005	0.04	1.130	-	1.189
2nd	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Speed	Ant 1	State 3	6	2437	19.80	20.00	1.047	99.5	1.005	0.12	1.090	0.59	1.147
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	50	5250	10.40	10.50	1.023	98.8	1.012	-0.12	1.050	-	1.087
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	50	5250	10.40	10.50	1.023	98.8	1.012	-0.12	0.988	1.06	1.023
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	-0.13	1.080	-	1.093
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Speed	Ant 1	State 2	114	5570	11.50	11.50	1.000	98.8	1.012	-0.13	1.020	1.06	1.032
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	155	5775	12.00	12.00	1.000	98.8	1.012	-0.1	0.964	-	0.976
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Speed	Ant 2	State 2	155	5775	12.00	12.00	1.000	98.8	1.012	-0.1	0.922	1.05	0.933
1st	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	207	6985	13.20	13.50	1.072	97.7	1.024	-0.01	1.070	-	1.174
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Bottom of Laptop	0mm	HB	Ant 1	State 2	207	6985	13.20	13.50	1.072	97.7	1.024	-0.01	1.010	1.06	1.108

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WLAN2.4GHz Ant 1 + WLAN2.4GHz Ant 2	Yes
2.	WLAN2.4GHz Ant 1 + Bluetooth Ant 2	Yes
3.	WLAN 5/6GHz Ant 1 + WLAN 5/6GHz Ant 2 + Bluetooth Ant 2	Yes
4.	WLAN 5/6GHz Ant 1+2 + Bluetooth Ant 2	Yes

General Note:

1. The worst case WLAN reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
2. WLAN RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode. Therefore SPLSR calculation was choose worst case with SAR test results of each antenna in SISO mode perform evaluation.
3. The Scaled SAR summation is calculated based on the same configuration and test position.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 15.2.

16.1 Body Exposure Conditions

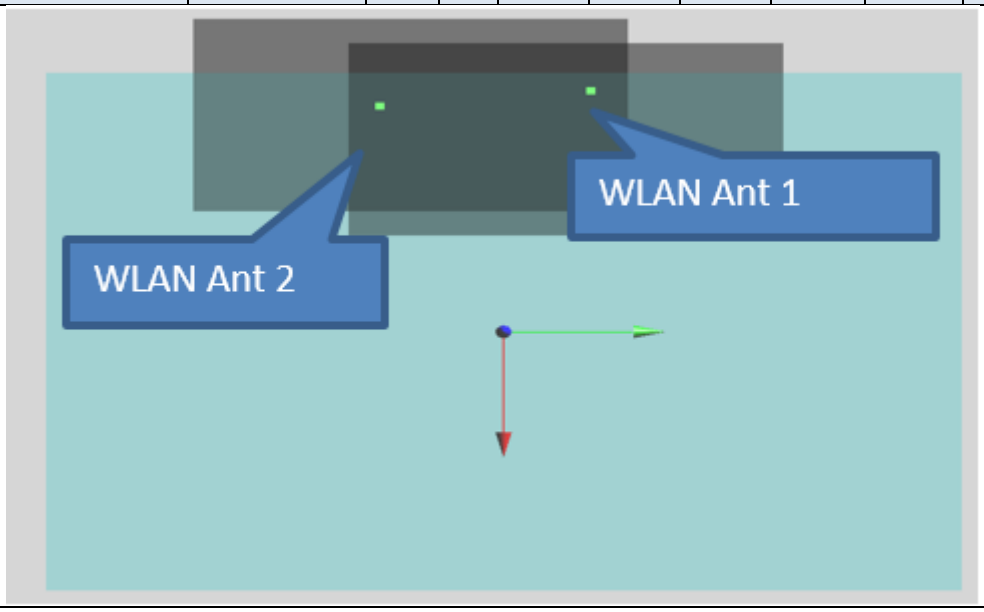
Exposure Position	1	2	3	4	5	6	1+5 Summed 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	3+4+5 Summed 1g SAR (W/kg)	5+6 Summed 1g SAR (W/kg)	1+2 SPLSR	1+2 Case No	3+4+5 SPLSR	3+4+5 Case No
	WLAN2.4GHz Ant 1	WLAN2.4GHz Ant 2	WLAN5/6GHz Ant 1	WLAN5/6GHz Ant 2	Bluetooth Ant 2	WLAN5/6GHz Ant 1+2								
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)								
Bottom of Laptop at 0mm	0.826	1.055	1.174	1.090	0.569	0.825	**1.395**	**1.881**		**1.394**	**0.04**	**case 1**		
Edge 1 at 0mm	1.189	1.162	1.081	0.975	0.124		**1.313**	**2.351**	**2.180**		**0.04**	**Case 3**	**0.04**	**Case 2**
Bottom Face at 0mm	0.232	0.426	0.389	0.337	0.104		**0.336**	**0.658**	**0.830**					

16.2 SPLSR Evaluation and Analysis

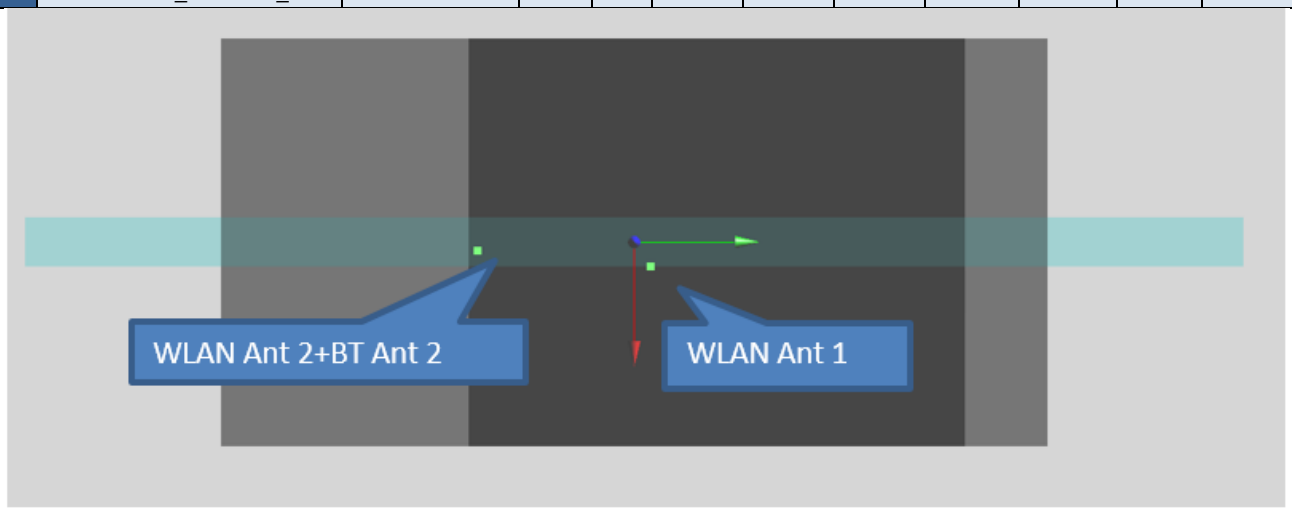
General Note:

1. Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas.
2. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary
3. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.

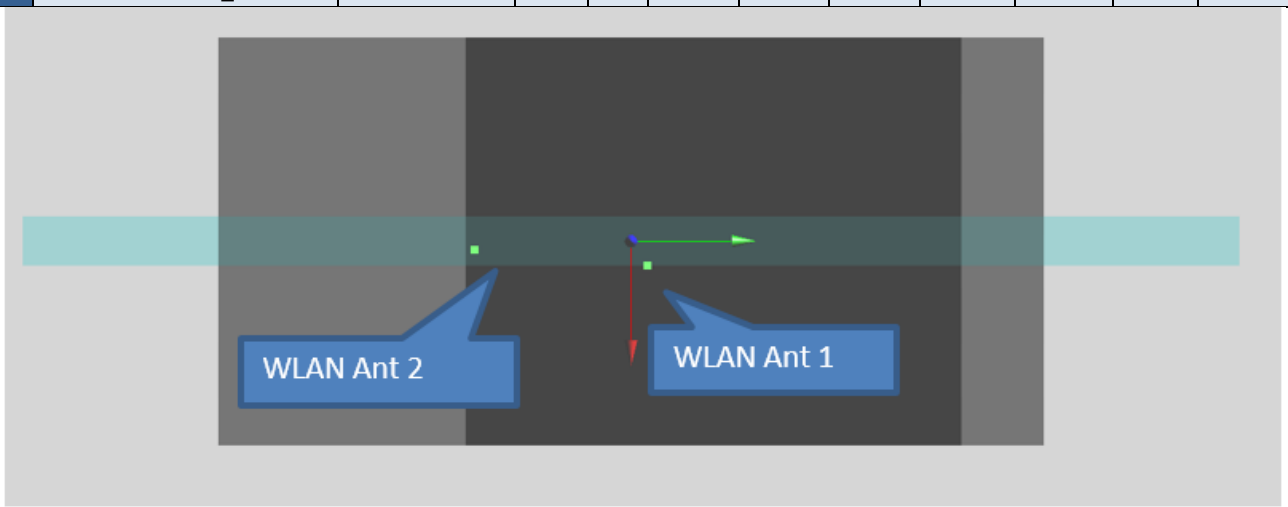
Case 1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WLAN2.4GHz_Ant 1	Bottom of Laptop	0.826	0	-93.2	23.4	2.72	69.4	1.88	0.04	Not required
	WLAN2.4GHz_Ant 2		1.055	0	-95.4	-46	2.79				



Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WLAN5/6GHz_Ant 1	Edge 1	1.081	0	-12.58	35.2	2.27	74.1	2.18	0.04	Not required
	WLAN5/6GHz_Ant 2+BT_Ant 2		1.099	0	-8.38	-38.81	2.42				



Case 3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WLAN2.4GHz_Ant 1	Edge 1	1.189	0	0.6	24.2	5.62	80.6	2.35	0.04	Not required
	WLAN2.4GHz_Ant 2		1.162	0	2.62	-56.4	5.46				



Test Engineer：Carter Jhuang, Jeff Tsao Shane Song and Mood Huang

17. Uncertainty Assessment

Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[a]	1/k[b]	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Applicable for SAR Measurements:

Uncertainty Budget (4 MHz - 10 GHz range)							
Error Description	**Uncertainty Value (±%)**	**Probability**	**Divisor**	**(Ci) 1g**	**(Ci) 10g**	**Standard Uncertainty (1g) (±%)**	**Standard Uncertainty (10g) (±%)**
Measurement System							
Probe Calibration	18.60	N	2	1	1	9.3	9.3
Axial Isotropy	4.70	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.60	R	1.732	0.7	0.7	3.9	3.9
Linearity	4.70	R	1.732	1	1	2.7	2.7
Modulation Response	4.68	R	1.732	1	1	2.7	2.7
System Detection Limits	1.00	R	1.732	1	1	0.6	0.6
Boundary Effects	2.00	R	1.732	1	1	1.2	1.2
Readout Electronics	0.30	N	1	1	1	0.3	0.3
Response Time	0.00	R	1.732	1	1	0.0	0.0
Integration Time	2.60	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.00	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.00	R	1.732	1	1	1.7	1.7
Probe Positioner	0.40	R	1.732	1	1	0.2	0.2
Probe Positioning	6.70	R	1.732	1	1	3.9	3.9
Post-processing	4.00	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Holder	3.60	N	1	1	1	3.6	3.6
Test sample Positioning	3.03	N	1	1	1	3.0	3.0
Power Scaling	0.00	R	1.732	1	1	0.0	0.0
Power Drift	5.00	R	1.732	1	1	2.9	2.9
Phantom and Setup							
Phantom Uncertainty	7.60	R	1.732	1	1	4.4	4.4
SAR correction	0.00	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.03	N	1	0.78	0.77	0.0	0.0
Liquid Conductivity (target)	5.00	R	1.732	0.78	0.77	2.3	2.2
Liquid Conductivity (mea.)	2.50	R	1.732	0.78	0.77	1.1	1.1
Temp. unc. - Conductivity	3.68	R	1.732	0.78	0.77	1.7	1.6
Liquid Permittivity Repeatability	0.02	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.00	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.50	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.84	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						14.5%	14.2%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.4%

Applicable for Power Density Measurements:

Error Description	Uncertainty Value (±dB)	Probability	Divisor	(Ci)	Standard Uncertainty (±dB)
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response (BW ≤ 1 GHz)	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependance	0.00	R	1.732	1	0.00
Amplitude and phase drift	0.00	R	1.732	1	0.00
Amplitude and phase noise	0.04	R	1.732	1	0.02
Measurement area truncation	0.00	R	1.732	1	0.00
Data acquisition	0.03	N	1	1	0.03
Sampling	0.00	R	1.732	1	0.00
Field reconstruction	2.00	R	1.732	1	1.15
Forward transformation	0.00	R	1.732	1	0.00
Power density scaling	0.00	R	1.732	1	0.00
Spatial averaging	0.10	R	1.732	1	0.06
System detection limit	0.04	R	1.732	1	0.02
Uncertainty terms dep endent on the DUT and environmental factors					
Probe coupling with DUT	0.00	R	1.732	1	0.0
Modulation response	0.40	R	1.732	1	0.2
Integration time	0.00	R	1.732	1	0.0
Response time	0.00	R	1.732	1	0.0
Device holder influence	0.10	R	1.732	1	0.1
DUT alignment	0.00	R	1.732	1	0.0
RF ambient conditions	0.04	R	1.732	1	0.0
Ambient reflections	0.04	R	1.732	1	0.0
Immunity / secondary reception	0.00	R	1.732	1	0.0
Drift of the DUT		R	1.732	1	
Combined Std. Uncertainty					1.34
Expanded STD Uncertainty (95%)					**2.68**

18. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

[8] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[9] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

[10] IEC/IEEE 62209-1528:2020, “Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)”, Oct. 2020

[11] SPEAG DASY6 System Handbook

[12] SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)