FCC SAR Test Report

APPLICANT	:	Qualcomm Technologies, Inc. 5775 Morehouse Drive, San Diego, CA 92121-1714
EQUIPMENT	:	Qualcomm WiFi 7/BT Combo module
BRAND NAME	:	Qualcomm
MODEL NAME	:	QCNCM825
FCC ID	:	J9C-QCNCM825
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

The product was tested inside of Lenovo Notebook Computer.

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.02

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People's Republic of China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA462112	Rev. 01	Initial issue of report.	Jul. 30, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Qualcomm Technologies, Inc., Qualcomm WiFi 7/BT Combo module, QCNCM825,** are as follows.

Equipment Class	Band	Reported SAR	Highest Simultaneous Transmission	Measured APD	Scaled PD
		Body (Separation 0mm) (1g SAR W/kg)	1g SAR (W/kg)	Body (W/m^2)	psPD (W/m^2)
DTS	2.4GHz WLAN	1.09	1.57		
NII	5GHz WLAN	**1.13**	1.57		
6CD	6GHz WLAN	1.10	1.51	6.28	7.81
DSS	Bluetooth	0.39	1.48		
Date of Testing:		2024/7/15 ~ 2024/7/19			

Declaration of Conformity:
The test results with all measurement uncertainty excluded are 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.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR) and Power density exposure limits (1 mW/cm^2 = 10 W/m^2) specified in FCC 47 CFR part 2 (2.1093), ANSI/IEEE C95.1-1992 and FCC 47 CFR Part1.1310, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR05-KS, SAR06-KS, SAR04-KS	CN1257	314309

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)
- IEC TR 63170:2018
- IEC 62479:2010
- 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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Qualcomm WiFi 7/BT Combo module
Brand Name	Qualcomm
Model Name	QCNCM825
FCC ID	J9C-QCNCM825
S/N	Sample 1: YX0B4KZ5 Sample 2: YX0B4KW4 Sample 3: YX0B4KTR
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2472 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 2.4GHz 802.11be EHT20/EHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 5GHz 802.11be EHT20/EHT40/EHT80/EHT160 WLAN 6GHz 802.11a WLAN 6GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11be EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE/QHS
Remark: 1. The EUT has no voice function. 2. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO and MIMO mode. 3. The device support DBS (Dual Band Simultaneous) function, when the device 2.4GHz and 5GHz or 6GHz transmit at the same time the module will limit different output power for simultaneous transmission compliance. 4. This device is convertible type notebook PC, and there are two mode as usage way, one is laptop mode, another is tablet mode. 5. There are three samples under test, sample 1/2 is 1st source, sample 3 is 2nd source. The detailed difference can be referred to QCNCM825_Operational Description of Product Equality Declaration exhibit separately. Sample 1/3 with AWAN antenna and sample 2 with INNOWAVE antenna. According to the difference, sample 1/2 was all chosen to perform full SAR testing, and the sample 3 are verified the difference with the sample 1.	

Host Information	
Equipment Name	Notebook Computer
Brand Name	Lenovo
Model Name	IdeaPad 5 2-in-1 14Q8X9, IdeaPad 5 2-in-1 14Q8X9********(The"*"in model name can be 0 to 9,A to Z,a to z,"-", blank,or any symbol, for marketing use only, with no impact on RF compliance of the product)
EUT Stage	Identical Prototype

5. RF Exposure Limits

5.1 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.

5.2 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.

5.3 RF Exposure limit for below 6GHz

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.

5.4 RF Exposure limit for above 6GHz

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310. The unit of power density evaluation is W/m2 or mW/cm2.

Peak Spatially Averaged Power Density was evaluated over a square area of 4cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

6. Specific Absorption Rate (SAR)

6.1 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.

6.2 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:

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

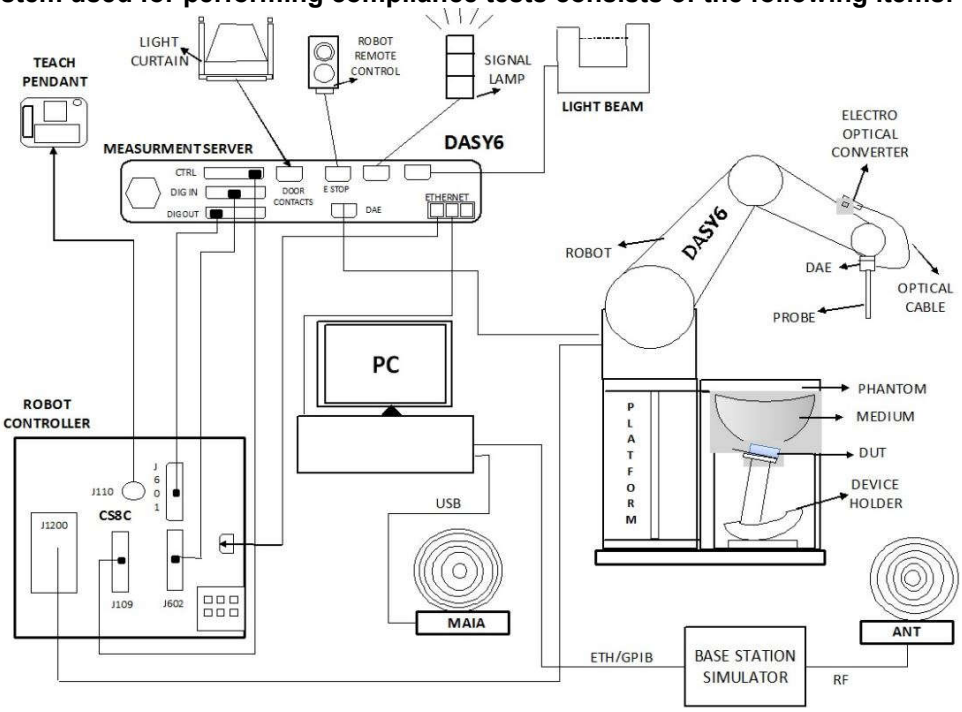
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 or Win10 and the DASY5 or 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.

Note: 1. DASY6 software used: DASY6 mmWave V3.0.0.841 and older generations and used the developed Plane-to-Plane Phase Reconstruction (PTP-PR) Algorithm which was used in PD measurement.

7.1 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.

<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	4 MHz – 10 GHz Linearity: ±0.2 dB (30 MHz – 10 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

7.2 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.

Photo of DAE

7.3 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	

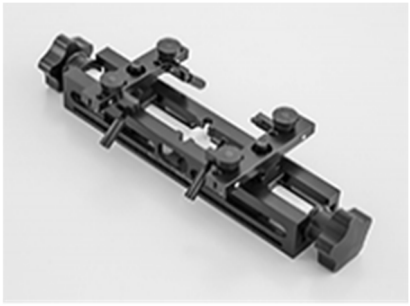
The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

7.4 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

8. 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

8.1 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

8.2 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.

8.3 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.	

8.4 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	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
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.

8.5 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.

8.6 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.

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	2450MHz System Validation Kit	D2450V2	1095	2024/2/8	2025/2/7
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1031	2023/2/22	2026/2/21
SPEAG	5G Verification Source	10GHz	2005	2023/11/20	2024/11/19
SPEAG	Data Acquisition Electronics	DAE4	1303	2023/11/20	2024/11/19
SPEAG	Dosimetric E-Field Probe	EX3DV4	7764	2023/10/5	2024/10/4
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9553	2023/10/18	2024/10/17
SPEAG	mmWave Phantom	mmWave	1065	NCR	NCR
SPEAG	ELI Phantom	ELI V8.0	TP-2134	NCR	NCR
Testo	Thermo-Hygrometer	HTC-1	55009	2024/1/4	2025/1/3
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schwarz	Signal Generator	SMB100A	100455	2024/1/2	2025/1/1
Keysight	Preamplifier	83017A	MY57280106	2024/4/18	2025/4/17
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2024/7/4	2025/7/3
Agilent	ENA Series Network Analyzer	E5071C	MY46112129	2024/7/4	2025/7/3
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2023/8/17	2024/8/16
Anritsu	Vector Signal Generator	MG3710A	6201682672	2024/1/2	2025/1/1
R&S	Base Station	CMW500	143030	2024/7/4	2025/7/3
Rohde & Schwarz	Power Meter	NRVD	102081	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRP50S	101385	2023/10/11	2024/10/10
R&S	BLUETOOTH TESTER	CBT	100641	2024/1/2	2025/1/1
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2023/10/11	2024/10/10
TES	DIGITAC THERMOMETER	TYPE-K	220305411	2024/1/4	2025/1/3
mini-circuits	amplifier	ZVE-3W-83+	162601250	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	

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
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

10. System Verification

10.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1.

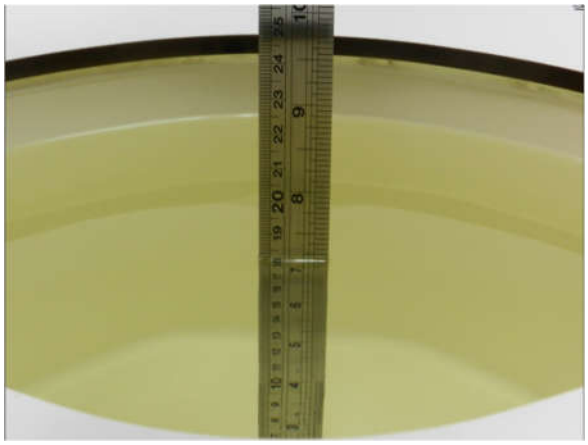


Fig 10.1 Photo of Liquid Height for Body SAR

10.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
2450	55.0	0	0	0	0	45.0	1.80	39.2

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
2450	Head	22.8	1.860	39.100	1.80	39.20	3.33	-0.26	±5	2024/7/15
5250	Head	22.7	4.570	36.000	4.71	35.90	-2.97	0.28	±5	2024/7/16
5600	Head	22.8	4.970	35.400	5.07	35.50	-1.97	-0.28	±5	2024/7/17
5750	Head	22.6	5.140	35.200	5.22	35.40	-1.53	-0.56	±5	2024/7/18
6500	Head	22.8	6.080	34.000	6.07	34.50	0.16	-1.45	±5	2024/7/19

10.3 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)	Tissue Type	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 (%)
2024/7/15	2450	Head	50	1095	7764	1303	2.810	52.60	56.2	6.84
2024/7/16	5250	Head	50	1113	7764	1303	4.230	81.50	84.6	3.80
2024/7/17	5600	Head	50	1113	7764	1303	4.430	82.60	88.6	7.26
2024/7/18	5750	Head	50	1113	7764	1303	4.310	80.80	86.2	6.68
2024/7/19	6500	Head	50	1031	7764	1303	14.800	297.00	296	-0.34

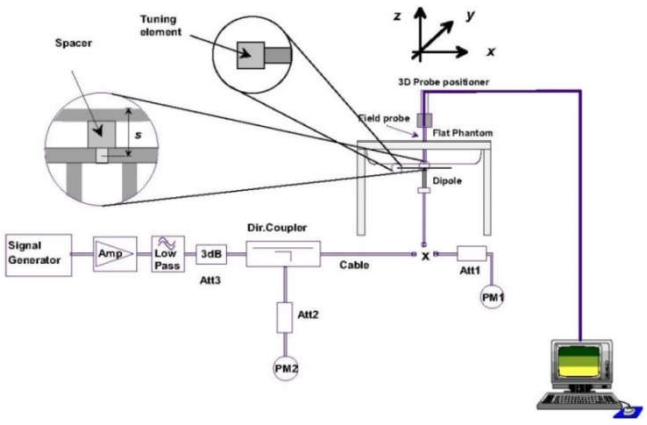


Fig 11.3.1 System Performance Check Setup

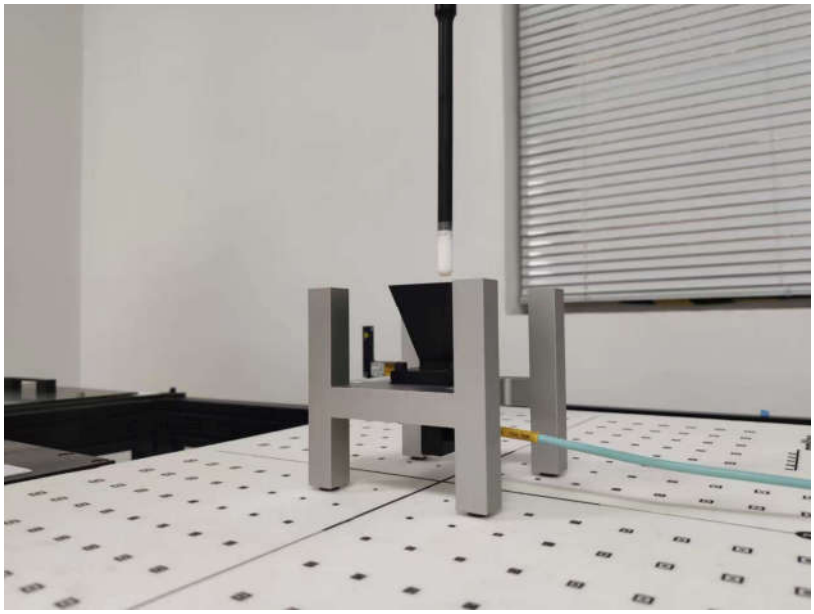
Fig 11.3.2 Setup Photo

10.4 PD System Verification 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.

Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Input Power (mW)	Measured 4 cm^2 (W/m^2)	Normalized(1) 4 cm^2 (W/m^2)	Targeted 4 cm^2 (W/m^2)	Deviation (dB)	Date
10	10GHz_2005	9553	1303	10	63	61.7	155.2	161	-0.16	2024/7/16

Note: (1) means the measured PD was normalized to Prad power which can be referred to DASY Calibration Certificate in appendix C.



System Verification Setup Photo

11. RF Exposure Positions

11.1 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.

11.2 SAR testing for Notebook Computer

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

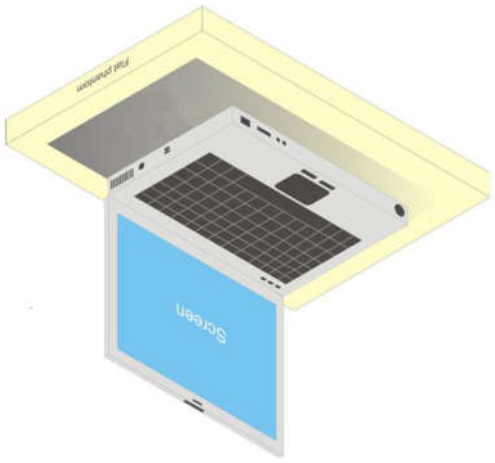


Illustration for Laptop Setup

<EUT Setup Photos>

Please refer to Appendix D for the test setup photos.

11.3 Miscellaneous Testing Considerations

- Evaluate SAR using 6-7 GHz parameters per IEC/IEEE 62209-1528:2020.
- Per procedures of KDB Pubs. 447498 and 248227
- Where supported by the test system, also report estimated absorbed (epithelial) power density (for reference purposes only, not specifically for compliance) and estimated incident PD, derived from measured SAR.
- In addition, for the highest SAR test configurations evaluate incident PD using the mmw near-field probe and total-field/power-density reconstruction method (2 mm closest meas. plane)

Adjust measured results per amount that measurement uncertainty exceeds 30 % (see e.g. IEC 62479:2010)

12. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<WLAN Conducted Power>

General Note:

1. 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.
2. 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.
3. 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).
4. 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.
5. 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.
6. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
7. 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
8. 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

9. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing.
10. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.
11. 802.11 ax/be supports both full tone size mode and partial tone size mode, after verification on partial tone size mode that partial size tone mode power will not be higher than full tone size mode, therefore, full tone mode power was chosen to be measured in this report.

<Laptop Mode>
<For Non DBS>

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	14.19	15.50	14.22	15.50	17.22	18.50	97.54
		6	2437	14.38	15.50	14.42	15.50	17.41	18.50	
		11	2462	14.41	15.50	14.30	15.50	17.37	18.50	
		12	2467	14.45	15.50	14.29	15.50	17.38	18.50	
		13	2472	14.35	15.50	14.19	15.50	17.28	18.50	
	802.11g 6Mbps	1	2412	Not Required	15.50	Not Required	15.50	Not Required	18.50	Not Required
		6	2437		15.50		15.50		18.50	
		11	2462		15.50		15.50		18.50	
		12	2467		15.50		15.50		18.50	
		13	2472		10.50		10.50		13.50	
	802.11n-HT20 MCS0	1	2412		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		11	2462		15.50		15.50		18.50	
		12	2467		14.50		14.50		17.50	
		13	2472		10.50		10.50		13.50	
	802.11n-HT40 MCS0	3	2422		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		9	2452		15.50		15.50		18.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11ac-VHT20 MCS0	1	2412		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		11	2462		15.50		15.50		18.50	
		12	2467		14.50		14.50		17.50	
		13	2472		10.50		10.50		13.50	
	802.11ac-VHT40 MCS0	3	2422		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		9	2452		15.50		15.50		18.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11ax-HE20 MCS0	1	2412		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		11	2462		15.50		15.50		18.50	
		12	2467		14.50		14.50		17.50	
		13	2472		10.50		10.50		13.50	
	802.11ax-HE40 MCS0	3	2422		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		9	2452		15.50		15.50		18.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11be-EHT20 MCS0	1	2412		15.50		15.50		18.50	

		6	2437		15.50		15.50		18.50	
		11	2462		15.50		15.50		18.50	
		12	2467		14.50		14.50		17.50	
		13	2472		10.50		10.50		13.50	
	802.11be-EHT40 MCS0	3	2422		15.50		15.50		18.50	
		6	2437		15.50		15.50		18.50	
		9	2452		15.50		15.50		18.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	14.50	Not Required	14.50	Not Required	17.50	Not Required
		40	5200		14.50		14.50		17.50	
		44	5220		14.50		14.50		17.50	
		48	5240		14.50		14.50		17.50	
	802.11n-HT20 MCS0	36	5180		14.50		14.50		17.50	
		40	5200		14.50		14.50		17.50	
		44	5220		14.50		14.50		17.50	
		48	5240		14.50		14.50		17.50	
	802.11n-HT40 MCS0	38	5190		14.50		14.50		17.50	
		46	5230		14.50		14.50		17.50	
	802.11ac-VHT20 MCS0	36	5180		14.50		14.50		17.50	
		40	5200		14.50		14.50		17.50	
		44	5220		14.50		14.50		17.50	
		48	5240		14.50		14.50		17.50	
	802.11ac-VHT40 MCS0	38	5190		14.50		14.50		17.50	
		46	5230		14.50		14.50		17.50	
	802.11ac-VHT80 MCS0	42	5210		14.50		14.50		17.50	
	802.11ax-HE20 MCS0	36	5180		14.50		14.50		17.50	
		40	5200		14.50		14.50		17.50	
		44	5220		14.50		14.50		17.50	
		48	5240		14.50		14.50		17.50	
	802.11ax-HE40 MCS0	38	5190		14.50		14.50		17.50	
		46	5230		14.50		14.50		17.50	
	802.11ax-HE80 MCS0	42	5210		14.50		14.50		17.50	
	802.11be-EHT20 MCS0	36	5180		14.50		14.50		17.50	
		40	5200		14.50		14.50		17.50	
		44	5220		14.50		14.50		17.50	
		48	5240		14.50		14.50		17.50	
	802.11be-EHT40 MCS0	38	5190		14.50		14.50		17.50	
		46	5230		14.50		14.50		17.50	
	802.11be-EHT80 MCS0	42	5210		14.50		14.50		17.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	14.50	Not Required	14.50	Not Required	17.50	Not Required
		56	5280		14.50		14.50		17.50	
		60	5300		14.50		14.50		17.50	
		64	5320		14.50		14.50		17.50	
	802.11n-HT20 MCS0	52	5260		14.50		14.50		17.50	
		56	5280		14.50		14.50		17.50	
		60	5300		14.50		14.50		17.50	
		64	5320		14.50		14.50		17.50	
	802.11n-HT40 MCS0	54	5270		14.50		14.50		17.50	

		62	5310		14.50		14.50		17.50	
	802.11ac-VHT20 MCS0	52	5260		14.50		14.50		17.50	
		56	5280		14.50		14.50		17.50	
		60	5300		14.50		14.50		17.50	
		64	5320		14.50		14.50		17.50	
	802.11ac-VHT40 MCS0	54	5270		14.50		14.50		17.50	
		62	5310		14.50		14.50		17.50	
	802.11ac-VHT80 MCS0	58	5290	13.91	14.50	14.14	14.50	17.04	17.50	100.00
	802.11ac-VHT160 MCS0	50	5250	Not Required	13.75	Not Required	13.75	Not Required	16.75	Not Required
	802.11ax-HE20 MCS0	52	5260		14.50		14.50		17.50	
		56	5280		14.50		14.50		17.50	
		60	5300		14.50		14.50		17.50	
		64	5320		14.50		14.50		17.50	
	802.11ax-HE40 MCS0	54	5270		14.50		14.50		17.50	
		62	5310		14.50		14.50		17.50	
	802.11ax-HE80 MCS0	58	5290		14.50		14.50		17.50	
	802.11ax-HE160 MCS0	50	5250		13.75		13.75		16.75	
	802.11be-EHT20 MCS0	52	5260		14.50		14.50		17.50	
		56	5280		14.50		14.50		17.50	
		60	5300		14.50		14.50		17.50	
		64	5320		14.50		14.50		17.50	
	802.11be-EHT40 MCS0	54	5270		14.50		14.50		17.50	
		62	5310		14.50		14.50		17.50	
	802.11be-EHT80 MCS0	58	5290		14.50		14.50		17.50	
	802.11be-EHT160 MCS0	50	5250		13.75		13.75		16.75	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	14.50	Not Required	17.50	Not Required
		116	5580		14.50		14.50		17.50	
		124	5620		14.50		14.50		17.50	
		132	5660		14.50		14.50		17.50	
		140	5700		14.50		14.50		17.50	
		144	5720		14.50		14.50		17.50	
	802.11n-HT20 MCS0	100	5500		14.50		14.50		17.50	
		116	5580		14.50		14.50		17.50	
		124	5620		14.50		14.50		17.50	
		132	5660		14.50		14.50		17.50	
		140	5700		14.50		14.50		17.50	
		144	5720		14.50		14.50		17.50	
	802.11n-HT40 MCS0	102	5510		14.50		14.50		17.50	
		110	5550		14.50		14.50		17.50	
		126	5630		14.50		14.50		17.50	
		134	5670		14.50		14.50		17.50	
		142	5710		14.50		14.50		17.50	
	802.11ac-VHT20 MCS0	100	5500		14.50		14.50		17.50	
		116	5580		14.50		14.50		17.50	
		124	5620		14.50		14.50		17.50	
		132	5660		14.50		14.50		17.50	
		140	5700		14.50		14.50		17.50	
		144	5720		14.50		14.50		17.50	
	802.11ac-VHT40 MCS0	102	5510		14.50		14.50		17.50	
		110	5550		14.50		14.50		17.50	
		126	5630		14.50		14.50		17.50	
		134	5670		14.50		14.50		17.50	
		142	5710		14.50		14.50		17.50	
	802.11ac-VHT80 MCS0	106	5530	13.81	14.50	14.10	14.50	17.47	17.50	100.00
		122	5610	13.71	14.50	14.15	14.50	17.45	17.50	
		138	5690	13.59	14.50	14.06	14.50	17.34	17.50	

	802.11ac-VHT160 MCS0	114	5570	Not Required	14.25	Not Required	14.25	Not Required	17.25	Not Required
	802.11ax-HE20 MCS0	100	5500		14.50		14.50		17.50	
		116	5580		14.50		14.50		17.50	
		124	5620		14.50		14.50		17.50	
		132	5660		14.50		14.50		17.50	
		140	5700		14.50		14.50		17.50	
		144	5720		14.50		14.50		17.50	
	802.11ax-HE40 MCS0	102	5510		14.50		14.50		17.50	
		110	5550		14.50		14.50		17.50	
		126	5630		14.50		14.50		17.50	
		134	5670		14.50		14.50		17.50	
		142	5710		14.50		14.50		17.50	
	802.11ax-HE80 MCS0	106	5530		14.50		14.50		17.50	
		122	5610		14.50		14.50		17.50	
		138	5690		14.50		14.50		17.50	
	802.11ax-HE160 MCS0	114	5570		14.25		14.25		17.25	
	802.11be-EHT20 MCS0	100	5500		14.50		14.50		17.50	
		116	5580		14.50		14.50		17.50	
		124	5620		14.50		14.50		17.50	
		132	5660		14.50		14.50		17.50	
		140	5700		14.50		14.50		17.50	
		144	5720		14.50		14.50		17.50	
	802.11be-EHT40 MCS0	102	5510		14.50		14.50		17.50	
		110	5550		14.50		14.50		17.50	
		126	5630		14.50		14.50		17.50	
		134	5670		14.50		14.50		17.50	
		142	5710		14.50		14.50		17.50	
	802.11be-EHT80 MCS0	106	5530		14.50		14.50		17.50	
		122	5610		14.50		14.50		17.50	
		138	5690		14.50		14.50		17.50	
	802.11be-EHT160 MCS0	114	5570		14.25		14.25		17.25	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	15.50	Not Required	15.50	Not Required	18.50	Not Required
		157	5785		15.50		15.50		18.50	
		165	5825		15.50		15.50		18.50	
	802.11n-HT20 MCS0	149	5745		15.50		15.50		18.50	
		157	5785		15.50		15.50		18.50	
		165	5825		15.50		15.50		18.50	
	802.11n-HT40 MCS0	151	5755		15.50		15.50		18.50	
		159	5795		15.50		15.50		18.50	
	802.11ac-VHT20 MCS0	149	5745		15.50		15.50		18.50	
		157	5785		15.50		15.50		18.50	
		165	5825		15.50		15.50		18.50	
	802.11ac-VHT40 MCS0	151	5755		15.50		15.50		18.50	
		159	5795		15.50		15.50		18.50	
	802.11ac-VHT80 MCS0	155	5775	14.53	15.50	14.88	15.50	17.72	18.50	100.00
	802.11ax-HE20 MCS0	149	5745	Not Required	15.50	Not Required	15.50	Not Required	18.50	Not Required
		157	5785		15.50		15.50		18.50	
		165	5825		15.50		15.50		18.50	
	802.11ax-HE40 MCS0	151	5755		15.50		15.50		18.50	
		159	5795		15.50		15.50		18.50	
	802.11ax-HE80 MCS0	155	5775		15.50		15.50		18.50	
	802.11be-EHT20 MCS0	149	5745		15.50		15.50		18.50	
		157	5785		15.50		15.50		18.50	
		165	5825		15.50		15.50		18.50	
	802.11be-EHT40 MCS0	151	5755		15.50		15.50		18.50	
		159	5795		15.50		15.50		18.50	

	802.11be-EHT80 MCS0	155	5775		15.50		15.50		18.50		

<6GHz WLAN> standard client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		15.50		15.50		18.50	
			45	6175		15.50		15.50		18.50	
			93	6415		15.50		15.50		18.50	
		802.11ax-HE20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		15.50		15.50		18.50	
			45	6175		15.50		15.50		18.50	
			93	6415		15.50		15.50		18.50	
		802.11ax-HE40 MCS0	3	5965		15.50		15.50		18.50	
			43	6165		15.50		15.50		18.50	
			91	6405		15.50		15.50		18.50	
		802.11ax-HE80 MCS0	7	5985		15.50		15.50		18.50	
			39	6145		15.50		15.50		18.50	
			87	6305		15.50		15.50		18.50	
		802.11ax-HE160 MCS0	15	6025		15.50		15.50		18.50	
			47	6185		15.50		15.50		18.50	
		802.11be-EHT20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		15.50		15.50		18.50	
			45	6175		15.50		15.50		18.50	
			93	6415		15.50		15.50		18.50	
		802.11be-EHT40 MCS0	3	5965		15.50		15.50		18.50	
			43	6165		15.50		15.50		18.50	
			91	6405		15.50		15.50		18.50	
		802.11be-EHT80 MCS0	7	5985		15.50		15.50		18.50	
			39	6145		15.50		15.50		18.50	
			87	6305		15.50		15.50		18.50	
		802.11be-EHT160 MCS0	15	6025		15.50		15.50		18.50	
			47	6185		15.50		15.50		18.50	
		802.11be-EHT320 MCS0	31	6105	14.85	15.50	14.86	15.50	17.87	18.50	100.00
			95	6425	14.38	15.50	14.71	15.50	17.56	18.50	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	14.50	Not Required	14.50	Not Required	17.50	Not Required
			149	6695		14.50		14.50		17.50	
			181	6885		14.50		14.50		17.50	
		802.11ax-HE20 MCS0	117	6535		14.50		14.50		17.50	
			149	6695		14.50		14.50		17.50	
			181	6885		14.50		14.50		17.50	
		802.11ax-HE40 MCS0	123	6565		14.50		14.50		17.50	
			147	6685		14.50		14.50		17.50	
			179	6845		14.50		14.50		17.50	
		802.11ax-HE80 MCS0	135	6625		14.50		14.50		17.50	
			151	6705		14.50		14.50		17.50	
			167	6385		14.50		14.50		17.50	
		802.11ax-HE160 MCS0	143	6665		14.50		14.50		17.50	
		802.11be-EHT20 MCS0	117	6535		14.50		14.50		17.50	
			149	6695		14.50		14.50		17.50	
			181	6885		14.50		14.50		17.50	
		802.11be-EHT40 MCS0	123	6565		14.50		14.50		17.50	
			147	6685		14.50		14.50		17.50	
			179	6845		14.50		14.50		17.50	

		802.11be-EHT80 MCS0	135	6625		14.50		14.50		17.50		
			151	6705		14.50		14.50		17.50		
			167	6385		14.50		14.50		17.50		
		802.11be-EHT160 MCS0	143	6665		14.50		14.50		17.50		
		802.11be-EHT320 MCS0	159	6745	13.93	14.50	13.94	14.50	16.95	17.50	100.00	

<6GHz WLAN> indoor client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		-1.50		-1.50		1.50	
			45	6175		-1.50		-1.50		1.50	
			93	6415		-1.50		-1.50		1.50	
		802.11ax-HE20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11ax-HE40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11ax-HE80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		12.75		12.75		15.75	
		802.11be-EHT20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11be-EHT40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11be-EHT80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11be-EHT160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		12.75		12.75		15.75	
		802.11be-EHT320 MCS0	31	6105	14.85	15.50	14.86	15.50	17.87	18.50	100.00
			95	6425	14.38	15.50	14.71	15.50	17.56	18.50	
	UNII 6 (6.425-6.525GHz)	802.11a 6Mbps	97	6435	Not Required	0.00	Not Required	0.00	Not Required	3.00	Not Required
			105	6475		0.00		0.00		3.00	
			113	6515		0.00		0.00		3.00	
		802.11ax-HE20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11ax-HE40 MCS0	99	6445		6.25		6.25		9.25	
			115	6525		6.25		6.25		9.25	
		802.11ax-HE80 MCS0	103	6465		9.00		9.00		12.00	
			119	6545		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	111	6505		13.25		13.25		16.25	
		802.11be-EHT20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	

		802.11be-EHT40 MCS0	99	6445		6.25		6.25		9.25		
			115	6525		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	103	6465		9.00		9.00		12.00		
			119	6545		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	111	6505		13.25		13.25		16.25		
		802.11be-EHT320 MCS0	127	6585	14.31	15.00	14.74	15.00	17.54	18.00	100.00	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	-0.25	Not Required	-0.25	Not Required	2.75	Not Required	
			149	6695		-0.25		-0.25		2.75		
			181	6885		-0.25		-0.25		2.75		
		802.11ax-HE20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11ax-HE40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11ax-HE80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11ax-HE160 MCS0	143	6665		13.25		13.25		16.25		
		802.11be-EHT20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11be-EHT40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	143	6665		13.25		13.25		16.25		
		802.11be-EHT320 MCS0	159	6745	13.93	14.50	13.94	14.50	16.95	17.50	100.00	
	UNII 8 (6.885-7.125GHz)	802.11a 6Mbps	189	5955	Not Required	0.25	Not Required	0.25	Not Required	3.25	Not Required	
			209	6175		0.25		0.25		3.25		
			233	7115		0.25		0.25		3.25		
		802.11ax-HE20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11ax-HE40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11ax-HE80 MCS0	199	6945		9.25		9.25		12.25		
			215	7025		9.25		9.25		12.25		
		802.11ax-HE160 MCS0	207	6985		13.00		13.00		16.00		
		802.11be-EHT20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11be-EHT40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11be-EHT80 MCS0	199	6945		9.25		9.25		12.25		
			215	7025		9.25		9.25		12.25		
		802.11be-EHT160 MCS0	207	6985		13.00		13.00		16.00		
		802.11be-EHT320 MCS0	191	6905	13.69	14.50	14.24	14.50	16.98	17.50	100.00	

<For DBS>

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	12.29	13.50	12.61	13.50	15.46	16.50	97.54
		6	2437	12.46	13.50	12.72	13.50	15.60	16.50	
		11	2462	12.26	13.50	12.58	13.50	15.43	16.50	
		12	2467	12.44	13.50	12.41	13.50	15.44	16.50	
		13	2472	12.35	13.50	12.40	13.50	15.39	16.50	
	802.11g 6Mbps	1	2412	Not Required	13.50	Not Required	13.50	Not Required	16.50	Not Required
		6	2437		13.50		13.50		16.50	
		11	2462		13.50		13.50		16.50	
		12	2467		13.50		13.50		16.50	
		13	2472		10.50		10.50		13.50	
	802.11n-HT20 MCS0	1	2412		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		11	2462		13.50		13.50		16.50	
		12	2467		13.50		13.50		16.50	
		13	2472		10.50		10.50		13.50	
	802.11n-HT40 MCS0	3	2422		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		9	2452		13.50		13.50		16.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11ac-VHT20 MCS0	1	2412		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		11	2462		13.50		13.50		16.50	
		12	2467		13.50		13.50		16.50	
		13	2472		10.50		10.50		13.50	
	802.11ac-VHT40 MCS0	3	2422		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		9	2452		13.50		13.50		16.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11ax-HE20 MCS0	1	2412		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		11	2462		13.50		13.50		16.50	
		12	2467		13.50		13.50		16.50	
		13	2472		10.50		10.50		13.50	
	802.11ax-HE40 MCS0	3	2422		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		9	2452		13.50		13.50		16.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	
	802.11be-EHT20 MCS0	1	2412		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		11	2462		13.50		13.50		16.50	
		12	2467		13.50		13.50		16.50	
		13	2472		10.50		10.50		13.50	
	802.11be-EHT40 MCS0	3	2422		13.50		13.50		16.50	
		6	2437		13.50		13.50		16.50	
		9	2452		13.50		13.50		16.50	
		10	2457		13.25		13.25		16.25	
		11	2462		8.00		8.00		11.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	12.50	Not Required	12.50	Not Required	15.50	Not Required
		40	5200		12.50		12.50		15.50	
		44	5220		12.50		12.50		15.50	
		48	5240		12.50		12.50		15.50	
	802.11n-HT20 MCS0	36	5180		12.50		12.50		15.50	
		40	5200		12.50		12.50		15.50	
		44	5220		12.50		12.50		15.50	
		48	5240		12.50		12.50		15.50	
	802.11n-HT40 MCS0	38	5190		12.50		12.50		15.50	
		46	5230		12.50		12.50		15.50	
	802.11ac-VHT20 MCS0	36	5180		12.50		12.50		15.50	
		40	5200		12.50		12.50		15.50	
		44	5220		12.50		12.50		15.50	
		48	5240		12.50		12.50		15.50	
	802.11ac-VHT40 MCS0	38	5190		12.50		12.50		15.50	
		46	5230		12.50		12.50		15.50	
	802.11ac-VHT80 MCS0	42	5210		12.50		12.50		15.50	
	802.11ax-HE20 MCS0	36	5180		12.50		12.50		15.50	
		40	5200		12.50		12.50		15.50	
		44	5220		12.50		12.50		15.50	
		48	5240		12.50		12.50		15.50	
	802.11ax-HE40 MCS0	38	5190		12.50		12.50		15.50	
		46	5230		12.50		12.50		15.50	
	802.11ax-HE80 MCS0	42	5210		12.50		12.50		15.50	
	802.11be-EHT20 MCS0	36	5180		12.50		12.50		15.50	
		40	5200		12.50		12.50		15.50	
		44	5220		12.50		12.50		15.50	
		48	5240		12.50		12.50		15.50	
	802.11be-EHT40 MCS0	38	5190		12.50		12.50		15.50	
		46	5230		12.50		12.50		15.50	
	802.11be-EHT80 MCS0	42	5210		12.50		12.50		15.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	12.50	Not Required	12.50	Not Required	15.50	Not Required
		56	5280		12.50		12.50		15.50	
		60	5300		12.50		12.50		15.50	
		64	5320		12.50		12.50		15.50	
	802.11n-HT20 MCS0	52	5260		12.50		12.50		15.50	
		56	5280		12.50		12.50		15.50	
		60	5300		12.50		12.50		15.50	
		64	5320		12.50		12.50		15.50	
	802.11n-HT40 MCS0	54	5270		12.50		12.50		15.50	
		62	5310		12.50		12.50		15.50	
	802.11ac-VHT20 MCS0	52	5260		12.50		12.50		15.50	
		56	5280		12.50		12.50		15.50	
		60	5300		12.50		12.50		15.50	
		64	5320		12.50		12.50		15.50	
	802.11ac-VHT40 MCS0	54	5270		12.50		12.50		15.50	
		62	5310		12.50		12.50		15.50	
	802.11ac-VHT80 MCS0	58	5290	11.94	12.50	11.97	12.50	14.97	15.50	100.00
	802.11ac-VHT160 MCS0	50	5250	Not Required	12.50	Not Required	12.50	Not Required	15.50	Not Required
	802.11ax-HE20 MCS0	52	5260		12.50		12.50		15.50	

		56	5280		12.50		12.50		15.50	
		60	5300		12.50		12.50		15.50	
		64	5320		12.50		12.50		15.50	
	802.11ax-HE40 MCS0	54	5270		12.50		12.50		15.50	
		62	5310		12.50		12.50		15.50	
	802.11ax-HE80 MCS0	58	5290		12.50		12.50		15.50	
	802.11ax-HE160 MCS0	50	5250		12.50		12.50		15.50	
	802.11be-EHT20 MCS0	52	5260		12.50		12.50		15.50	
		56	5280		12.50		12.50		15.50	
		60	5300		12.50		12.50		15.50	
		64	5320		12.50		12.50		15.50	
	802.11be-EHT40 MCS0	54	5270		12.50		12.50		15.50	
		62	5310		12.50		12.50		15.50	
	802.11be-EHT80 MCS0	58	5290		12.50		12.50		15.50	
	802.11be-EHT160 MCS0	50	5250		12.50		12.50		15.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	12.50	Not Required	12.50	Not Required	15.50	Not Required
		116	5580		12.50		12.50		15.50	
		124	5620		12.50		12.50		15.50	
		132	5660		12.50		12.50		15.50	
		140	5700		12.50		12.50		15.50	
		144	5720		12.50		12.50		15.50	
	802.11n-HT20 MCS0	100	5500		12.50		12.50		15.50	
		116	5580		12.50		12.50		15.50	
		124	5620		12.50		12.50		15.50	
		132	5660		12.50		12.50		15.50	
		140	5700		12.50		12.50		15.50	
		144	5720		12.50		12.50		15.50	
	802.11n-HT40 MCS0	102	5510		12.50		12.50		15.50	
		110	5550		12.50		12.50		15.50	
		126	5630		12.50		12.50		15.50	
		134	5670		12.50		12.50		15.50	
		142	5710		12.50		12.50		15.50	
	802.11ac-VHT20 MCS0	100	5500		12.50		12.50		15.50	
		116	5580		12.50		12.50		15.50	
		124	5620		12.50		12.50		15.50	
		132	5660		12.50		12.50		15.50	
		140	5700		12.50		12.50		15.50	
		144	5720		12.50		12.50		15.50	
	802.11ac-VHT40 MCS0	102	5510		12.50		12.50		15.50	
		110	5550		12.50		12.50		15.50	
		126	5630		12.50		12.50		15.50	
		134	5670		12.50		12.50		15.50	
		142	5710		12.50		12.50		15.50	
	802.11ac-VHT80 MCS0	106	5530	11.83	12.50	12.01	12.50	14.93	15.50	100.00
		122	5610	11.53	12.50	11.96	12.50	14.76	15.50	
		138	5690	11.41	12.50	11.92	12.50	14.68	15.50	
	802.11ac-VHT160 MCS0	114	5570	Not Required	12.50	Not Required	12.50	Not Required	15.50	Not Required
	802.11ax-HE20 MCS0	100	5500		12.50		12.50		15.50	
		116	5580		12.50		12.50		15.50	
		124	5620		12.50		12.50		15.50	
		132	5660		12.50		12.50		15.50	
		140	5700		12.50		12.50		15.50	
		144	5720		12.50		12.50		15.50	
	802.11ax-HE40 MCS0	102	5510		12.50		12.50		15.50	
		110	5550		12.50		12.50		15.50	
		126	5630		12.50		12.50		15.50	

		134	5670		12.50		12.50		15.50	
		142	5710		12.50		12.50		15.50	
	802.11ax-HE80 MCS0	106	5530		12.50		12.50		15.50	
		122	5610		12.50		12.50		15.50	
		138	5690		12.50		12.50		15.50	
	802.11ax-HE160 MCS0	114	5570		12.50		12.50		15.50	
	802.11be-EHT20 MCS0	100	5500		12.50		12.50		15.50	
		116	5580		12.50		12.50		15.50	
		124	5620		12.50		12.50		15.50	
		132	5660		12.50		12.50		15.50	
		140	5700		12.50		12.50		15.50	
		144	5720		12.50		12.50		15.50	
	802.11be-EHT40 MCS0	102	5510		12.50		12.50		15.50	
		110	5550		12.50		12.50		15.50	
		126	5630		12.50		12.50		15.50	
		134	5670		12.50		12.50		15.50	
		142	5710		12.50		12.50		15.50	
	802.11be-EHT80 MCS0	106	5530		12.50		12.50		15.50	
		122	5610		12.50		12.50		15.50	
		138	5690		12.50		12.50		15.50	
	802.11be-EHT160 MCS0	114	5570		12.50		12.50		15.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	13.50	Not Required	13.50	Not Required	16.50	Not Required
		157	5785		13.50		13.50		16.50	
		165	5825		13.50		13.50		16.50	
	802.11n-HT20 MCS0	149	5745		13.50		13.50		16.50	
		157	5785		13.50		13.50		16.50	
		165	5825		13.50		13.50		16.50	
	802.11n-HT40 MCS0	151	5755		13.50		13.50		16.50	
		159	5795		13.50		13.50		16.50	
	802.11ac-VHT20 MCS0	149	5745		13.50		13.50		16.50	
		157	5785		13.50		13.50		16.50	
		165	5825		13.50		13.50		16.50	
	802.11ac-VHT40 MCS0	151	5755		13.50		13.50		16.50	
		159	5795		13.50		13.50		16.50	
	802.11ac-VHT80 MCS0	155	5775	12.39	13.50	12.54	13.50	15.48	16.50	100.00
	802.11ax-HE20 MCS0	149	5745	Not Required	13.50	Not Required	13.50	Not Required	16.50	Not Required
		157	5785		13.50		13.50		16.50	
		165	5825		13.50		13.50		16.50	
	802.11ax-HE40 MCS0	151	5755		13.50		13.50		16.50	
		159	5795		13.50		13.50		16.50	
	802.11ax-HE80 MCS0	155	5775		13.50		13.50		16.50	
	802.11be-EHT20 MCS0	149	5745		13.50		13.50		16.50	
		157	5785		13.50		13.50		16.50	
		165	5825		13.50		13.50		16.50	
	802.11be-EHT40 MCS0	151	5755		13.50		13.50		16.50	
		159	5795		13.50		13.50		16.50	
	802.11be-EHT80 MCS0	155	5775		13.50		13.50		16.50	

<6GHz WLAN> standard client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		13.50		13.50		16.50	
			45	6175		13.50		13.50		16.50	
			93	6415		13.50		13.50		16.50	
		802.11ax-HE20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		13.50		13.50		16.50	
			45	6175		13.50		13.50		16.50	
			93	6415		13.50		13.50		16.50	
		802.11ax-HE40 MCS0	3	5965		13.50		13.50		16.50	
			43	6165		13.50		13.50		16.50	
			91	6405		13.50		13.50		16.50	
		802.11ax-HE80 MCS0	7	5985		13.50		13.50		16.50	
			39	6145		13.50		13.50		16.50	
			87	6305		13.50		13.50		16.50	
		802.11ax-HE160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		13.50		13.50		16.50	
		802.11be-EHT20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		13.50		13.50		16.50	
			45	6175		13.50		13.50		16.50	
			93	6415		13.50		13.50		16.50	
		802.11be-EHT40 MCS0	3	5965		13.50		13.50		16.50	
			43	6165		13.50		13.50		16.50	
			91	6405		13.50		13.50		16.50	
		802.11be-EHT80 MCS0	7	5985		13.50		13.50		16.50	
			39	6145		13.50		13.50		16.50	
			87	6305		13.50		13.50		16.50	
		802.11be-EHT160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		13.50		13.50		16.50	
		802.11be-EHT320 MCS0	31	6105	12.53	13.50	12.80	13.50	15.68	16.50	100.00
			95	6425	12.26	13.50	12.29	13.50	15.29	16.50	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	13.50	Not Required	13.50	Not Required	16.50	Not Required
			149	6695		13.50		13.50		16.50	
			181	6885		13.50		13.50		16.50	
		802.11ax-HE20 MCS0	117	6535		13.50		13.50		16.50	
			149	6695		13.50		13.50		16.50	
			181	6885		13.50		13.50		16.50	
		802.11ax-HE40 MCS0	123	6565		13.50		13.50		16.50	
			147	6685		13.50		13.50		16.50	
			179	6845		13.50		13.50		16.50	
		802.11ax-HE80 MCS0	135	6625		13.50		13.50		16.50	
			151	6705		13.50		13.50		16.50	
			167	6385		13.50		13.50		16.50	
		802.11ax-HE160 MCS0	143	6665		13.50		13.50		16.50	
		802.11be-EHT20 MCS0	117	6535		13.50		13.50		16.50	
			149	6695		13.50		13.50		16.50	
			181	6885		13.50		13.50		16.50	
		802.11be-EHT40 MCS0	123	6565		13.50		13.50		16.50	
			147	6685		13.50		13.50		16.50	
			179	6845		13.50		13.50		16.50	
		802.11be-EHT80	135	6625		13.50		13.50		16.50	

		MCS0	151	6705		13.50		13.50		16.50		
			167	6385		13.50		13.50		16.50		
		802.11be-EHT160 MCS0	143	6665		13.50		13.50		16.50		
		802.11be-EHT320 MCS0	159	6745	12.55	13.50	12.68	13.50	15.63	16.50	100.00	

<6GHz WLAN> indoor client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		-1.50		-1.50		1.50	
			45	6175		-1.50		-1.50		1.50	
			93	6415		-1.50		-1.50		1.50	
		802.11ax-HE20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11ax-HE40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11ax-HE80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		12.75		12.75		15.75	
		802.11be-EHT20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11be-EHT40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11be-EHT80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11be-EHT160 MCS0	15	6025		13.50		13.50		16.50	
			47	6185		12.75		12.75		15.75	
		802.11be-EHT320 MCS0	31	6105	12.53	13.50	12.80	13.50	15.68	16.50	100.00
			95	6425	12.26	13.50	12.29	13.50	15.29	16.50	
	UNII 6 (6.425-6.525GHz)	802.11a 6Mbps	97	6435	Not Required	0.00	Not Required	0.00	Not Required	3.00	Not Required
			105	6475		0.00		0.00		3.00	
			113	6515		0.00		0.00		3.00	
		802.11ax-HE20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11ax-HE40 MCS0	99	6445		6.25		6.25		9.25	
			115	6525		6.25		6.25		9.25	
		802.11ax-HE80 MCS0	103	6465		9.00		9.00		12.00	
			119	6545		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	111	6505		13.25		13.25		16.25	
		802.11be-EHT20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11be-EHT40	99	6445		6.25		6.25		9.25	

		MCS0	115	6525		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	103	6465		9.00		9.00		12.00		
			119	6545		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	111	6505		13.25		13.25		16.25		
		802.11be-EHT320 MCS0	127	6585	12.42	13.50	12.60	13.50	15.52	16.50	100.00	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	-0.25	Not Required	-0.25	Not Required	2.75	Not Required	
			149	6695		-0.25		-0.25		2.75		
			181	6885		-0.25		-0.25		2.75		
		802.11ax-HE20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11ax-HE40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11ax-HE80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11ax-HE160 MCS0	143	6665		13.25		13.25		16.25		
		802.11be-EHT20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11be-EHT40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	143	6665		13.25		13.25		16.25		
		802.11be-EHT320 MCS0	159	6745	12.55	13.50	12.68	13.50	15.63	16.50	100.00	
	UNII 8 (6.885-7.125GHz)	802.11a 6Mbps	189	5955	Not Required	0.25	Not Required	0.25	Not Required	3.25	Not Required	
			209	6175		0.25		0.25		3.25		
			233	7115		0.25		0.25		3.25		
		802.11ax-HE20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11ax-HE40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11ax-HE80 MCS0	199	6945		9.25		9.25		12.25		
			215	7025		9.25		9.25		12.25		
		802.11ax-HE160 MCS0	207	6985		13.00		13.00		16.00		
		802.11be-EHT20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11be-EHT40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11be-EHT80 MCS0	199	6945		9.25		9.25		12.25		
			215	7025		9.25		9.25		12.25		
		802.11be-EHT160 MCS0	207	6985		13.00		13.00		16.00		
		802.11be-EHT320 MCS0	191	6905	12.42	13.50	12.66	13.50	15.55	16.50	100.00	

<Tablet Mode>
<For Non DBS>

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	11.21	12.00	11.28	12.00	14.26	15.00	97.54
		6	2437	11.32	12.00	11.33	12.00	14.34	15.00	
		11	2462	10.89	12.00	11.11	12.00	14.01	15.00	
		12	2467	11.19	12.00	11.05	12.00	14.13	15.00	
		13	2472	11.07	12.00	10.76	12.00	13.93	15.00	
	802.11g 6Mbps	1	2412	Not Required	12.00	Not Required	12.00	Not Required	15.00	Not Required
		6	2437		12.00		12.00		15.00	
		11	2462		12.00		12.00		15.00	
		12	2467		12.00		12.00		15.00	
		13	2472		10.50		10.50		13.50	
	802.11n-HT20 MCS0	1	2412		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		11	2462		12.00		12.00		15.00	
		12	2467		12.00		12.00		15.00	
		13	2472		10.50		10.50		13.50	
	802.11n-HT40 MCS0	3	2422		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		9	2452		12.00		12.00		15.00	
		10	2457		12.00		12.00		15.00	
		11	2462		8.00		8.00		11.00	
	802.11ac-VHT20 MCS0	1	2412		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		11	2462		12.00		12.00		15.00	
		12	2467		12.00		12.00		15.00	
		13	2472		10.50		10.50		13.50	
	802.11ac-VHT40 MCS0	3	2422		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		9	2452		12.00		12.00		15.00	
		10	2457		12.00		12.00		15.00	
		11	2462		8.00		8.00		11.00	
	802.11ax-HE20 MCS0	1	2412		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		11	2462		12.00		12.00		15.00	
		12	2467		12.00		12.00		15.00	
		13	2472		10.50		10.50		13.50	
	802.11ax-HE40 MCS0	3	2422		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		9	2452		12.00		12.00		15.00	
		10	2457		12.00		12.00		15.00	
		11	2462		8.00		8.00		11.00	
	802.11be-EHT20 MCS0	1	2412		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		11	2462		12.00		12.00		15.00	
		12	2467		12.00		12.00		15.00	
		13	2472		10.50		10.50		13.50	
	802.11be-EHT40 MCS0	3	2422		12.00		12.00		15.00	
		6	2437		12.00		12.00		15.00	
		9	2452		12.00		12.00		15.00	
		10	2457		12.00		12.00		15.00	
		11	2462		8.00		8.00		11.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	11.50	Not Required	11.50	Not Required	14.50	Not Required
		40	5200		11.50		11.50		14.50	
		44	5220		11.50		11.50		14.50	
		48	5240		11.50		11.50		14.50	
	802.11n-HT20 MCS0	36	5180		11.50		11.50		14.50	
		40	5200		11.50		11.50		14.50	
		44	5220		11.50		11.50		14.50	
		48	5240		11.50		11.50		14.50	
	802.11n-HT40 MCS0	38	5190		11.50		11.50		14.50	
		46	5230		11.50		11.50		14.50	
	802.11ac-VHT20 MCS0	36	5180		11.50		11.50		14.50	
		40	5200		11.50		11.50		14.50	
		44	5220		11.50		11.50		14.50	
		48	5240		11.50		11.50		14.50	
	802.11ac-VHT40 MCS0	38	5190		11.50		11.50		14.50	
		46	5230		11.50		11.50		14.50	
	802.11ac-VHT80 MCS0	42	5210		11.50		11.50		14.50	
	802.11ax-HE20 MCS0	36	5180		11.50		11.50		14.50	
		40	5200		11.50		11.50		14.50	
		44	5220		11.50		11.50		14.50	
		48	5240		11.50		11.50		14.50	
	802.11ax-HE40 MCS0	38	5190		11.50		11.50		14.50	
		46	5230		11.50		11.50		14.50	
	802.11ax-HE80 MCS0	42	5210		11.50		11.50		14.50	
	802.11be-EHT20 MCS0	36	5180		11.50		11.50		14.50	
		40	5200		11.50		11.50		14.50	
		44	5220		11.50		11.50		14.50	
		48	5240		11.50		11.50		14.50	
	802.11be-EHT40 MCS0	38	5190		11.50		11.50		14.50	
		46	5230		11.50		11.50		14.50	
	802.11be-EHT80 MCS0	42	5210		11.50		11.50		14.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	11.50	Not Required	11.50	Not Required	14.50	Not Required
		56	5280		11.50		11.50		14.50	
		60	5300		11.50		11.50		14.50	
		64	5320		11.50		11.50		14.50	
	802.11n-HT20 MCS0	52	5260		11.50		11.50		14.50	
		56	5280		11.50		11.50		14.50	
		60	5300		11.50		11.50		14.50	
		64	5320		11.50		11.50		14.50	
	802.11n-HT40 MCS0	54	5270		11.50		11.50		14.50	
		62	5310		11.50		11.50		14.50	
	802.11ac-VHT20 MCS0	52	5260		11.50		11.50		14.50	
		56	5280		11.50		11.50		14.50	
		60	5300		11.50		11.50		14.50	
		64	5320		11.50		11.50		14.50	
	802.11ac-VHT40 MCS0	54	5270		11.50		11.50		14.50	
		62	5310		11.50		11.50		14.50	
	802.11ac-VHT80 MCS0	58	5290	10.95	11.50	11.02	11.50	14.00	14.50	100.00
	802.11ac-VHT160 MCS0	50	5250	Not Required	11.50	Not Required	11.50	Not Required	14.50	Not Required
	802.11ax-HE20 MCS0	52	5260		11.50		11.50		14.50	

		56	5280		11.50		11.50		14.50	
		60	5300		11.50		11.50		14.50	
		64	5320		11.50		11.50		14.50	
	802.11ax-HE40 MCS0	54	5270		11.50		11.50		14.50	
		62	5310		11.50		11.50		14.50	
	802.11ax-HE80 MCS0	58	5290		11.50		11.50		14.50	
	802.11ax-HE160 MCS0	50	5250		11.50		11.5		14.50	
	802.11be-EHT20 MCS0	52	5260		11.50		11.50		14.50	
		56	5280		11.50		11.50		14.50	
		60	5300		11.50		11.50		14.50	
		64	5320		11.50		11.50		14.50	
	802.11be-EHT40 MCS0	54	5270		11.50		11.50		14.50	
		62	5310		11.50		11.50		14.50	
	802.11be-EHT80 MCS0	58	5290		11.50		11.50		14.50	
	802.11be-EHT160 MCS0	50	5250		11.50		11.5		14.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	11.00	Not Required	11.00	Not Required	14.00	Not Required
		116	5580		11.00		11.00		14.00	
		124	5620		11.00		11.00		14.00	
		132	5660		11.00		11.00		14.00	
		140	5700		11.00		11.00		14.00	
		144	5720		11.00		11.00		14.00	
	802.11n-HT20 MCS0	100	5500		11.00		11.00		14.00	
		116	5580		11.00		11.00		14.00	
		124	5620		11.00		11.00		14.00	
		132	5660		11.00		11.00		14.00	
		140	5700		11.00		11.00		14.00	
		144	5720		11.00		11.00		14.00	
	802.11n-HT40 MCS0	102	5510		11.00		11.00		14.00	
		110	5550		11.00		11.00		14.00	
		126	5630		11.00		11.00		14.00	
		134	5670		11.00		11.00		14.00	
		142	5710		11.00		11.00		14.00	
	802.11ac-VHT20 MCS0	100	5500		11.00		11.00		14.00	
		116	5580		11.00		11.00		14.00	
		124	5620		11.00		11.00		14.00	
		132	5660		11.00		11.00		14.00	
		140	5700		11.00		11.00		14.00	
		144	5720		11.00		11.00		14.00	
	802.11ac-VHT40 MCS0	102	5510		11.00		11.00		14.00	
		110	5550		11.00		11.00		14.00	
		126	5630		11.00		11.00		14.00	
		134	5670		11.00		11.00		14.00	
		142	5710		11.00		11.00		14.00	
	802.11ac-VHT80 MCS0	106	5530	10.10	11.00	10.31	11.00	13.22	14.00	100.00
		122	5610	9.87	11.00	10.40	11.00	13.15	14.00	
		138	5690	9.77	11.00	10.38	11.00	13.10	14.00	
	802.11ac-VHT160 MCS0	114	5570	Not Required	11.00	Not Required	11.00	Not Required	14.00	Not Required
	802.11ax-HE20 MCS0	100	5500		11.00		11.00		14.00	
		116	5580		11.00		11.00		14.00	
		124	5620		11.00		11.00		14.00	
		132	5660		11.00		11.00		14.00	
		140	5700		11.00		11.00		14.00	
		144	5720		11.00		11.00		14.00	
	802.11ax-HE40 MCS0	102	5510		11.00		11.00		14.00	
		110	5550		11.00		11.00		14.00	
		126	5630		11.00		11.00		14.00	

		134	5670		11.00		11.00		14.00	
		142	5710		11.00		11.00		14.00	
	802.11ax-HE80 MCS0	106	5530		11.00		11.00		14.00	
		122	5610		11.00		11.00		14.00	
		138	5690		11.00		11.00		14.00	
	802.11ax-HE160 MCS0	114	5570		11.00		11.00		14.00	
	802.11be-EHT20 MCS0	100	5500		11.00		11.00		14.00	
		116	5580		11.00		11.00		14.00	
		124	5620		11.00		11.00		14.00	
		132	5660		11.00		11.00		14.00	
		140	5700		11.00		11.00		14.00	
		144	5720		11.00		11.00		14.00	
	802.11be-EHT40 MCS0	102	5510		11.00		11.00		14.00	
		110	5550		11.00		11.00		14.00	
		126	5630		11.00		11.00		14.00	
		134	5670		11.00		11.00		14.00	
		142	5710		11.00		11.00		14.00	
	802.11be-EHT80 MCS0	106	5530		11.00		11.00		14.00	
		122	5610		11.00		11.00		14.00	
		138	5690		11.00		11.00		14.00	
	802.11be-EHT160 MCS0	114	5570		11.00		11.00		14.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	11.00	Not Required	11.00	Not Required	14.00	Not Required
		157	5785		11.00		11.00		14.00	
		165	5825		11.00		11.00		14.00	
	802.11n-HT20 MCS0	149	5745		11.00		11.00		14.00	
		157	5785		11.00		11.00		14.00	
		165	5825		11.00		11.00		14.00	
	802.11n-HT40 MCS0	151	5755		11.00		11.00		14.00	
		159	5795		11.00		11.00		14.00	
	802.11ac-VHT20 MCS0	149	5745		11.00		11.00		14.00	
		157	5785		11.00		11.00		14.00	
		165	5825		11.00		11.00		14.00	
	802.11ac-VHT40 MCS0	151	5755		11.00		11.00		14.00	
		159	5795		11.00		11.00		14.00	
	802.11ac-VHT80 MCS0	155	5775	9.95	11.00	10.55	11.00	13.27	14.00	100.00
	802.11ax-HE20 MCS0	149	5745	Not Required	11.00	Not Required	11.00	Not Required	14.00	Not Required
		157	5785		11.00		11.00		14.00	
		165	5825		11.00		11.00		14.00	
	802.11ax-HE40 MCS0	151	5755		11.00		11.00		14.00	
		159	5795		11.00		11.00		14.00	
	802.11ax-HE80 MCS0	155	5775		11.00		11.00		14.00	
	802.11be-EHT20 MCS0	149	5745		11.00		11.00		14.00	
		157	5785		11.00		11.00		14.00	
		165	5825		11.00		11.00		14.00	
	802.11be-EHT40 MCS0	151	5755		11.00		11.00		14.00	
		159	5795		11.00		11.00		14.00	
	802.11be-EHT80 MCS0	155	5775		11.00		11.00		14.00	

<6GHz WLAN> standard client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		10.00		10.00		13.00	
			45	6175		10.00		10.00		13.00	
			93	6415		10.00		10.00		13.00	
		802.11ax-HE20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		10.00		10.00		13.00	
			45	6175		10.00		10.00		13.00	
			93	6415		10.00		10.00		13.00	
		802.11ax-HE40 MCS0	3	5965		10.00		10.00		13.00	
			43	6165		10.00		10.00		13.00	
			91	6405		10.00		10.00		13.00	
		802.11ax-HE80 MCS0	7	5985		10.00		10.00		13.00	
			39	6145		10.00		10.00		13.00	
			87	6305		10.00		10.00		13.00	
		802.11ax-HE160 MCS0	15	6025		10.00		10.00		13.00	
			47	6185		10.00		10.00		13.00	
		802.11be-EHT20 MCS0	2	5935		-10.00		-10.00		-7.00	
			1	5955		10.00		10.00		13.00	
			45	6175		10.00		10.00		13.00	
			93	6415		10.00		10.00		13.00	
		802.11be-EHT40 MCS0	3	5965		10.00		10.00		13.00	
			43	6165		10.00		10.00		13.00	
			91	6405		10.00		10.00		13.00	
		802.11be-EHT80 MCS0	7	5985		10.00		10.00		13.00	
			39	6145		10.00		10.00		13.00	
			87	6305		10.00		10.00		13.00	
		802.11be-EHT160 MCS0	15	6025		10.00		10.00		13.00	
			47	6185		10.00		10.00		13.00	
		802.11be-EHT320 MCS0	31	6105	9.24	10.00	9.69	10.00	12.48	13.00	100.00
			95	6425	8.92	10.00	9.00	10.00	11.97	13.00	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	9.00	Not Required	9.00	Not Required	12.00	Not Required
			149	6695		9.00		9.00		12.00	
			181	6885		9.00		9.00		12.00	
		802.11ax-HE20 MCS0	117	6535		9.00		9.00		12.00	
			149	6695		9.00		9.00		12.00	
			181	6885		9.00		9.00		12.00	
		802.11ax-HE40 MCS0	123	6565		9.00		9.00		12.00	
			147	6685		9.00		9.00		12.00	
			179	6845		9.00		9.00		12.00	
		802.11ax-HE80 MCS0	135	6625		9.00		9.00		12.00	
			151	6705		9.00		9.00		12.00	
			167	6385		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	143	6665		9.00		9.00		12.00	
		802.11be-EHT20 MCS0	117	6535		9.00		9.00		12.00	
			149	6695		9.00		9.00		12.00	
			181	6885		9.00		9.00		12.00	
		802.11be-EHT40 MCS0	123	6565		9.00		9.00		12.00	
			147	6685		9.00		9.00		12.00	
			179	6845		9.00		9.00		12.00	
		802.11be-EHT80	135	6625		9.00		9.00		12.00	

		MCS0	151	6705		9.00		9.00		12.00	
			167	6385		9.00		9.00		12.00	
		802.11be-EHT160 MCS0	143	6665		9.00		9.00		12.00	
		802.11be-EHT320 MCS0	159	6745	8.45	9.00	8.27	9.00	11.37	12.00	100.00

<6GHz WLAN> indoor client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		-1.50		-1.50		1.50	
			45	6175		-1.50		-1.50		1.50	
			93	6415		-1.50		-1.50		1.50	
		802.11ax-HE20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11ax-HE40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11ax-HE80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	15	6025		10.00		10.00		13.00	
			47	6185		10.00		10.00		13.00	
		802.11be-EHT20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11be-EHT40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11be-EHT80 MCS0	7	5985		9.00		9.00		12.00	
			39	6145		9.00		9.00		12.00	
			87	6305		9.00		9.00		12.00	
		802.11be-EHT160 MCS0	15	6025		10.00		10.00		13.00	
			47	6185		10.00		10.00		13.00	
		802.11be-EHT320 MCS0	31	6105	9.24	10.00	9.69	10.00	12.48	13.00	100.00
			95	6425	8.92	10.00	9.00	10.00	11.97	13.00	
	UNII 6 (6.425-6.525GHz)	802.11a 6Mbps	97	6435	Not Required	0.00	Not Required	0.00	Not Required	3.00	Not Required
			105	6475		0.00		0.00		3.00	
			113	6515		0.00		0.00		3.00	
		802.11ax-HE20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11ax-HE40 MCS0	99	6445		6.25		6.25		9.25	
			115	6525		6.25		6.25		9.25	
		802.11ax-HE80 MCS0	103	6465		9.00		9.00		12.00	
			119	6545		9.00		9.00		12.00	
		802.11ax-HE160 MCS0	111	6505		9.00		9.00		12.00	
		802.11be-EHT20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11be-EHT40	99	6445		6.25		6.25		9.25	

		MCS0	115	6525		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	103	6465		9.00		9.00		12.00		
			119	6545		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	111	6505		9.00		9.00		12.00		
		802.11be-EHT320 MCS0	127	6585	8.31	9.00	8.29	9.00	11.31	12.00	100.00	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	-0.25	Not Required	-0.25	Not Required	2.75	Not Required	
			149	6695		-0.25		-0.25		2.75		
			181	6885		-0.25		-0.25		2.75		
		802.11ax-HE20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11ax-HE40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11ax-HE80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11ax-HE160 MCS0	143	6665		9.00		9.00		12.00		
		802.11be-EHT20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11be-EHT40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	135	6625		9.00		9.00		12.00		
			151	6705		9.00		9.00		12.00		
			167	6385		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	143	6665		9.00		9.00		12.00		
		802.11be-EHT320 MCS0	159	6745	8.45	9.00	8.27	9.00	11.37	12.00	100.00	
	UNII 8 (6.885-7.125GHz)	802.11a 6Mbps	189	5955	Not Required	0.25	Not Required	0.25	Not Required	3.25	Not Required	
			209	6175		0.25		0.25		3.25		
			233	7115		0.25		0.25		3.25		
		802.11ax-HE20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11ax-HE40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11ax-HE80 MCS0	199	6945		9.00		9.00		12.00		
			215	7025		9.00		9.00		12.00		
		802.11ax-HE160 MCS0	207	6985		9.00		9.00		12.00		
		802.11be-EHT20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11be-EHT40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11be-EHT80 MCS0	199	6945		9.00		9.00		12.00		
			215	7025		9.00		9.00		12.00		
		802.11be-EHT160 MCS0	207	6985		9.00		9.00		12.00		
		802.11be-EHT320 MCS0	191	6905	8.26	9.00	8.52	9.00	11.40	12.00	100.00	

<For DBS>

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	8.91	10.00	9.16	10.00	12.05	13.00	97.54
		6	2437	9.03	10.00	9.23	10.00	12.14	13.00	
		11	2462	8.98	10.00	9.14	10.00	12.07	13.00	
		12	2467	8.95	10.00	9.06	10.00	12.02	13.00	
		13	2472	8.85	10.00	9.03	10.00	11.95	13.00	
	802.11g 6Mbps	1	2412	Not Required	10.00	Not Required	10.00	Not Required	13.00	Not Required
		6	2437		10.00		10.00		13.00	
		11	2462		10.00		10.00		13.00	
		12	2467		10.00		10.00		13.00	
		13	2472		10.00		10.00		13.00	
	802.11n-HT20 MCS0	1	2412		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		11	2462		10.00		10.00		13.00	
		12	2467		10.00		10.00		13.00	
		13	2472		10.00		10.00		13.00	
	802.11n-HT40 MCS0	3	2422		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		9	2452		10.00		10.00		13.00	
		10	2457		10.00		10.00		13.00	
		11	2462		8.00		8.00		11.00	
	802.11ac-VHT20 MCS0	1	2412		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		11	2462		10.00		10.00		13.00	
		12	2467		10.00		10.00		13.00	
		13	2472		10.00		10.00		13.00	
	802.11ac-VHT40 MCS0	3	2422		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		9	2452		10.00		10.00		13.00	
		10	2457		10.00		10.00		13.00	
		11	2462		8.00		8.00		11.00	
	802.11ax-HE20 MCS0	1	2412		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		11	2462		10.00		10.00		13.00	
		12	2467		10.00		10.00		13.00	
		13	2472		10.00		10.00		13.00	
	802.11ax-HE40 MCS0	3	2422		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		9	2452		10.00		10.00		13.00	
		10	2457		10.00		10.00		13.00	
		11	2462		8.00		8.00		11.00	
	802.11be-EHT20 MCS0	1	2412		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		11	2462		10.00		10.00		13.00	
		12	2467		10.00		10.00		13.00	
		13	2472		10.00		10.00		13.00	
	802.11be-EHT40 MCS0	3	2422		10.00		10.00		13.00	
		6	2437		10.00		10.00		13.00	
		9	2452		10.00		10.00		13.00	
		10	2457		10.00		10.00		13.00	
		11	2462		8.00		8.00		11.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	9.50	Not Required	9.50	Not Required	12.50	Not Required
		40	5200		9.50		9.50		12.50	
		44	5220		9.50		9.50		12.50	
		48	5240		9.50		9.50		12.50	
	802.11n-HT20 MCS0	36	5180		9.50		9.50		12.50	
		40	5200		9.50		9.50		12.50	
		44	5220		9.50		9.50		12.50	
		48	5240		9.50		9.50		12.50	
	802.11n-HT40 MCS0	38	5190		9.50		9.50		12.50	
		46	5230		9.50		9.50		12.50	
	802.11ac-VHT20 MCS0	36	5180		9.50		9.50		12.50	
		40	5200		9.50		9.50		12.50	
		44	5220		9.50		9.50		12.50	
		48	5240		9.50		9.50		12.50	
	802.11ac-VHT40 MCS0	38	5190		9.50		9.50		12.50	
		46	5230		9.50		9.50		12.50	
	802.11ac-VHT80 MCS0	42	5210		9.50		9.50		12.50	
	802.11ax-HE20 MCS0	36	5180		9.50		9.50		12.50	
		40	5200		9.50		9.50		12.50	
		44	5220		9.50		9.50		12.50	
		48	5240		9.50		9.50		12.50	
	802.11ax-HE40 MCS0	38	5190		9.50		9.50		12.50	
		46	5230		9.50		9.50		12.50	
	802.11ax-HE80 MCS0	42	5210		9.50		9.50		12.50	
	802.11be-EHT20 MCS0	36	5180		9.50		9.50		12.50	
		40	5200		9.50		9.50		12.50	
		44	5220		9.50		9.50		12.50	
		48	5240		9.50		9.50		12.50	
	802.11be-EHT40 MCS0	38	5190		9.50		9.50		12.50	
		46	5230		9.50		9.50		12.50	
	802.11be-EHT80 MCS0	42	5210		9.50		9.50		12.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	9.50	Not Required	9.50	Not Required	12.50	Not Required
		56	5280		9.50		9.50		12.50	
		60	5300		9.50		9.50		12.50	
		64	5320		9.50		9.50		12.50	
	802.11n-HT20 MCS0	52	5260		9.50		9.50		12.50	
		56	5280		9.50		9.50		12.50	
		60	5300		9.50		9.50		12.50	
		64	5320		9.50		9.50		12.50	
	802.11n-HT40 MCS0	54	5270		9.50		9.50		12.50	
		62	5310		9.50		9.50		12.50	
	802.11ac-VHT20 MCS0	52	5260		9.50		9.50		12.50	
		56	5280		9.50		9.50		12.50	
		60	5300		9.50		9.50		12.50	
		64	5320		9.50		9.50		12.50	
	802.11ac-VHT40 MCS0	54	5270		9.50		9.50		12.50	
		62	5310		9.50		9.50		12.50	
	802.11ac-VHT80 MCS0	58	5290	8.52	9.50	8.64	9.50	11.59	12.50	100.00
	802.11ac-VHT160 MCS0	50	5250	Not Required	9.50	Not Required	9.50	Not Required	12.50	Not Required
	802.11ax-HE20 MCS0	52	5260		9.50		9.50		12.50	

		56	5280		9.50		9.50		12.50	
		60	5300		9.50		9.50		12.50	
		64	5320		9.50		9.50		12.50	
	802.11ax-HE40 MCS0	54	5270		9.50		9.50		12.50	
		62	5310		9.50		9.50		12.50	
	802.11ax-HE80 MCS0	58	5290		9.50		9.50		12.50	
	802.11ax-HE160 MCS0	50	5250		9.50		9.5		12.50	
	802.11be-EHT20 MCS0	52	5260		9.50		9.50		12.50	
		56	5280		9.50		9.50		12.50	
		60	5300		9.50		9.50		12.50	
		64	5320		9.50		9.50		12.50	
	802.11be-EHT40 MCS0	54	5270		9.50		9.50		12.50	
		62	5310		9.50		9.50		12.50	
	802.11be-EHT80 MCS0	58	5290		9.50		9.50		12.50	
	802.11be-EHT160 MCS0	50	5250		9.50		9.5		12.50	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	9.00	Not Required	9.00	Not Required	12.00	Not Required
		116	5580		9.00		9.00		12.00	
		124	5620		9.00		9.00		12.00	
		132	5660		9.00		9.00		12.00	
		140	5700		9.00		9.00		12.00	
		144	5720		9.00		9.00		12.00	
	802.11n-HT20 MCS0	100	5500		9.00		9.00		12.00	
		116	5580		9.00		9.00		12.00	
		124	5620		9.00		9.00		12.00	
		132	5660		9.00		9.00		12.00	
		140	5700		9.00		9.00		12.00	
		144	5720		9.00		9.00		12.00	
	802.11n-HT40 MCS0	102	5510		9.00		9.00		12.00	
		110	5550		9.00		9.00		12.00	
		126	5630		9.00		9.00		12.00	
		134	5670		9.00		9.00		12.00	
		142	5710		9.00		9.00		12.00	
	802.11ac-VHT20 MCS0	100	5500		9.00		9.00		12.00	
		116	5580		9.00		9.00		12.00	
		124	5620		9.00		9.00		12.00	
		132	5660		9.00		9.00		12.00	
		140	5700		9.00		9.00		12.00	
		144	5720		9.00		9.00		12.00	
	802.11ac-VHT40 MCS0	102	5510		9.00		9.00		12.00	
		110	5550		9.00		9.00		12.00	
		126	5630		9.00		9.00		12.00	
		134	5670		9.00		9.00		12.00	
		142	5710		9.00		9.00		12.00	
	802.11ac-VHT80 MCS0	106	5530	7.80	9.00	7.87	9.00	10.85	12.00	100.00
		122	5610	7.66	9.00	7.98	9.00	10.83	12.00	
		138	5690	7.55	9.00	7.86	9.00	10.72	12.00	
	802.11ac-VHT160 MCS0	114	5570	Not Required	9.00	Not Required	9.00	Not Required	12.00	Not Required
	802.11ax-HE20 MCS0	100	5500		9.00		9.00		12.00	
		116	5580		9.00		9.00		12.00	
		124	5620		9.00		9.00		12.00	
		132	5660		9.00		9.00		12.00	
		140	5700		9.00		9.00		12.00	
		144	5720		9.00		9.00		12.00	
	802.11ax-HE40 MCS0	102	5510		9.00		9.00		12.00	
		110	5550		9.00		9.00		12.00	
		126	5630		9.00		9.00		12.00	

		134	5670		9.00		9.00		12.00	
		142	5710		9.00		9.00		12.00	
	802.11ax-HE80 MCS0	106	5530		9.00		9.00		12.00	
		122	5610		9.00		9.00		12.00	
		138	5690		9.00		9.00		12.00	
	802.11ax-HE160 MCS0	114	5570		9.00		9.00		12.00	
	802.11be-EHT20 MCS0	100	5500		9.00		9.00		12.00	
		116	5580		9.00		9.00		12.00	
		124	5620		9.00		9.00		12.00	
		132	5660		9.00		9.00		12.00	
		140	5700		9.00		9.00		12.00	
		144	5720		9.00		9.00		12.00	
	802.11be-EHT40 MCS0	102	5510		9.00		9.00		12.00	
		110	5550		9.00		9.00		12.00	
		126	5630		9.00		9.00		12.00	
		134	5670		9.00		9.00		12.00	
		142	5710		9.00		9.00		12.00	
	802.11be-EHT80 MCS0	106	5530		9.00		9.00		12.00	
		122	5610		9.00		9.00		12.00	
		138	5690		9.00		9.00		12.00	
	802.11be-EHT160 MCS0	114	5570		9.00		9.00		12.00	

				Ant 1		Ant 2		Ant 1+2		
	Mode	Channel	Frequency (MHz)	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	9.00	Not Required	9.00	Not Required	12.00	Not Required
		157	5785		9.00		9.00		12.00	
		165	5825		9.00		9.00		12.00	
	802.11n-HT20 MCS0	149	5745		9.00		9.00		12.00	
		157	5785		9.00		9.00		12.00	
		165	5825		9.00		9.00		12.00	
	802.11n-HT40 MCS0	151	5755		9.00		9.00		12.00	
		159	5795		9.00		9.00		12.00	
	802.11ac-VHT20 MCS0	149	5745		9.00		9.00		12.00	
		157	5785		9.00		9.00		12.00	
		165	5825		9.00		9.00		12.00	
	802.11ac-VHT40 MCS0	151	5755		9.00		9.00		12.00	
		159	5795		9.00		9.00		12.00	
	802.11ac-VHT80 MCS0	155	5775	7.64	9.00	8.09	9.00	10.88	12.00	100.00
	802.11ax-HE20 MCS0	149	5745	Not Required	9.00	Not Required	9.00	Not Required	12.00	Not Required
		157	5785		9.00		9.00		12.00	
		165	5825		9.00		9.00		12.00	
	802.11ax-HE40 MCS0	151	5755		9.00		9.00		12.00	
		159	5795		9.00		9.00		12.00	
	802.11ax-HE80 MCS0	155	5775		9.00		9.00		12.00	
	802.11be-EHT20 MCS0	149	5745		9.00		9.00		12.00	
		157	5785		9.00		9.00		12.00	
		165	5825		9.00		9.00		12.00	
	802.11be-EHT40 MCS0	151	5755		9.00		9.00		12.00	
		159	5795		9.00		9.00		12.00	
	802.11be-EHT80 MCS0	155	5775		9.00		9.00		12.00	

<6GHz WLAN> standard client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		8.50		8.50		11.50	
			45	6175		8.50		8.50		11.50	
			93	6415		8.50		8.50		11.50	
		802.11ax-HE20 MCS0	2	5935		-8.50		-8.50		-7.00	
			1	5955		8.50		8.50		11.50	
			45	6175		8.50		8.50		11.50	
			93	6415		8.50		8.50		11.50	
		802.11ax-HE40 MCS0	3	5965		8.50		8.50		11.50	
			43	6165		8.50		8.50		11.50	
			91	6405		8.50		8.50		11.50	
		802.11ax-HE80 MCS0	7	5985		8.50		8.50		11.50	
			39	6145		8.50		8.50		11.50	
			87	6305		8.50		8.50		11.50	
		802.11ax-HE160 MCS0	15	6025		8.50		8.50		11.50	
			47	6185		8.50		8.50		11.50	
		802.11be-EHT20 MCS0	2	5935		-8.50		-8.50		-7.00	
			1	5955		8.50		8.50		11.50	
			45	6175		8.50		8.50		11.50	
			93	6415		8.50		8.50		11.50	
		802.11be-EHT40 MCS0	3	5965		8.50		8.50		11.50	
			43	6165		8.50		8.50		11.50	
			91	6405		8.50		8.50		11.50	
		802.11be-EHT80 MCS0	7	5985		8.50		8.50		11.50	
			39	6145		8.50		8.50		11.50	
			87	6305		8.50		8.50		11.50	
		802.11be-EHT160 MCS0	15	6025		8.50		8.50		11.50	
			47	6185		8.50		8.50		11.50	
		802.11be-EHT320 MCS0	31	6105	7.57	8.50	7.81	8.50	10.70	11.50	100.00
			95	6425	7.49	8.50	7.38	8.50	10.45	11.50	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	8.00	Not Required	8.00	Not Required	11.00	Not Required
			149	6695		8.00		8.00		11.00	
			181	6885		8.00		8.00		11.00	
		802.11ax-HE20 MCS0	117	6535		8.00		8.00		11.00	
			149	6695		8.00		8.00		11.00	
			181	6885		8.00		8.00		11.00	
		802.11ax-HE40 MCS0	123	6565		8.00		8.00		11.00	
			147	6685		8.00		8.00		11.00	
			179	6845		8.00		8.00		11.00	
		802.11ax-HE80 MCS0	135	6625		8.00		8.00		11.00	
			151	6705		8.00		8.00		11.00	
			167	6385		8.00		8.00		11.00	
		802.11ax-HE160 MCS0	143	6665		8.00		8.00		11.00	
		802.11be-EHT20 MCS0	117	6535		8.00		8.00		11.00	
			149	6695		8.00		8.00		11.00	
			181	6885		8.00		8.00		11.00	
		802.11be-EHT40 MCS0	123	6565		8.00		8.00		11.00	
			147	6685		8.00		8.00		11.00	
			179	6845		8.00		8.00		11.00	
		802.11be-EHT80	135	6625		8.00		8.00		11.00	

		MCS0	151	6705		8.00		8.00		11.00	
			167	6385		8.00		8.00		11.00	
		802.11be-EHT160 MCS0	143	6665		8.00		8.00		11.00	
		802.11be-EHT320 MCS0	159	6745	6.82	8.00	6.99	8.00	9.92	11.00	100.00

<6GHz WLAN> indoor client

					Ant 1		Ant 2		Ant 1+2		Duty Cycle %
	Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	
WiFi 6E	UNII 5 (5.925-6.425GHz)	802.11a 6Mbps	2	5935	Not Required	-1.00	Not Required	-1.00	Not Required	2.00	Not Required
			1	5955		-1.50		-1.50		1.50	
			45	6175		-1.50		-1.50		1.50	
			93	6415		-1.50		-1.50		1.50	
		802.11ax-HE20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11ax-HE40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11ax-HE80 MCS0	7	5985		8.50		8.50		11.50	
			39	6145		8.50		8.50		11.50	
			87	6305		8.50		8.50		11.50	
		802.11ax-HE160 MCS0	15	6025		8.50		8.50		11.50	
			47	6185		8.50		8.50		11.50	
		802.11be-EHT20 MCS0	2	5935		2.00		2.00		5.00	
			1	5955		2.00		2.00		5.00	
			45	6175		2.00		2.00		5.00	
			93	6415		2.00		2.00		5.00	
		802.11be-EHT40 MCS0	3	5965		6.00		6.00		9.00	
			43	6165		6.00		6.00		9.00	
			91	6405		6.00		6.00		9.00	
		802.11be-EHT80 MCS0	7	5985		8.50		8.50		11.50	
			39	6145		8.50		8.50		11.50	
			87	6305		8.50		8.50		11.50	
		802.11be-EHT160 MCS0	15	6025		8.50		8.50		11.50	
			47	6185		8.50		8.50		11.50	
		802.11be-EHT320 MCS0	31	6105	7.57	8.50	7.81	8.50	10.70	11.50	100.00
			95	6425	7.49	8.50	7.38	8.50	10.45	11.50	
	UNII 6 (6.425-6.525GHz)	802.11a 6Mbps	97	6435	Not Required	0.00	Not Required	0.00	Not Required	3.00	Not Required
			105	6475		0.00		0.00		3.00	
			113	6515		0.00		0.00		3.00	
		802.11ax-HE20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11ax-HE40 MCS0	99	6445		6.25		6.25		9.25	
			115	6525		6.25		6.25		9.25	
		802.11ax-HE80 MCS0	103	6465		8.50		8.50		11.50	
			119	6545		8.50		8.50		11.50	
		802.11ax-HE160 MCS0	111	6505		8.50		8.50		11.50	
		802.11be-EHT20 MCS0	97	6435		3.75		3.75		6.75	
			105	6475		3.75		3.75		6.75	
			113	6515		3.75		3.75		6.75	
		802.11be-EHT40	99	6445		6.25		6.25		9.25	

		MCS0	115	6525		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	103	6465		8.50		8.50		11.50		
			119	6545		8.50		8.50		11.50		
		802.11be-EHT160 MCS0	111	6505		8.50		8.50		11.50		
		802.11be-EHT320 MCS0	127	6585	7.15	8.50	6.92	8.50	10.05	11.50	100.00	
	UNII 7 (6.525-6.885GHz)	802.11a 6Mbps	117	6535	Not Required	-0.25	Not Required	-0.25	Not Required	2.75	Not Required	
			149	6695		-0.25		-0.25		2.75		
			181	6885		-0.25		-0.25		2.75		
		802.11ax-HE20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11ax-HE40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11ax-HE80 MCS0	135	6625		8.00		8.00		11.00		
			151	6705		8.00		8.00		11.00		
			167	6385		8.00		8.00		11.00		
		802.11ax-HE160 MCS0	143	6665		8.00		8.00		11.00		
		802.11be-EHT20 MCS0	117	6535		3.50		3.50		6.50		
			149	6695		3.50		3.50		6.50		
			181	6885		3.50		3.50		6.50		
		802.11be-EHT40 MCS0	123	6565		6.25		6.25		9.25		
			147	6685		6.25		6.25		9.25		
			179	6845		6.25		6.25		9.25		
		802.11be-EHT80 MCS0	135	6625		8.00		8.00		11.00		
			151	6705		8.00		8.00		11.00		
			167	6385		8.00		8.00		11.00		
		802.11be-EHT160 MCS0	143	6665		8.00		8.00		11.00		
		802.11be-EHT320 MCS0	159	6745	6.82	8.00	6.99	8.00	9.92	11.00	100.00	
	UNII 8 (6.885-7.125GHz)	802.11a 6Mbps	189	5955	Not Required	0.25	Not Required	0.25	Not Required	3.25	Not Required	
			209	6175		0.25		0.25		3.25		
			233	7115		0.25		0.25		3.25		
		802.11ax-HE20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11ax-HE40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11ax-HE80 MCS0	199	6945		7.50		7.50		10.50		
			215	7025		7.50		7.50		10.50		
		802.11ax-HE160 MCS0	207	6985		7.50		7.50		10.50		
		802.11be-EHT20 MCS0	189	5955		0.00		0.00		3.00		
			209	6175		0.00		0.00		3.00		
			233	7115		-7.75		-7.75		-4.75		
		802.11be-EHT40 MCS0	187	6885		6.50		6.50		9.50		
			203	6965		6.50		6.50		9.50		
			227	7085		6.50		6.50		9.50		
		802.11be-EHT80 MCS0	199	6945		7.50		7.50		10.50		
			215	7025		7.50		7.50		10.50		
		802.11be-EHT160 MCS0	207	6985		7.50		7.50		10.50		
		802.11be-EHT320 MCS0	191	6905	6.47	7.50	6.70	7.50	9.60	10.50	100.00	

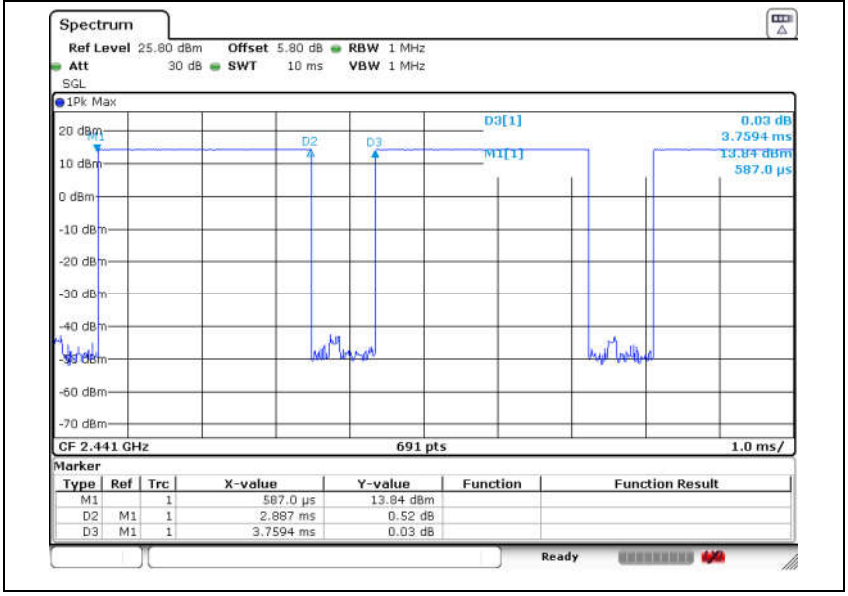
<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.99% for Ant1, and 76.79% for Ant2 as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Bluetooth time-domain plot for Ant1

Bluetooth time-domain plot for Ant2



<Ant1>

Mode	Channel	Frequency (MHz)	Average power (dBm)			Tune-up Limit
			1Mbps	2Mbps	3Mbps	
BR / EDR	CH 00	2402	8.16	Not Required	Not Required	9.00
	CH 39	2441	7.56			9.00
	CH 78	2480	7.74			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE_1M	CH 00	2402	Not Required
	CH 19	2440	
	CH 39	2480	
Tune-up Limit			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			2Mbps
LE_2M	CH 01	2404	Not Required
	CH 19	2440	
	CH 38	2478	
Tune-up Limit			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			6Mbps
QHS	CH 01	2404	Not Required
	CH 18	2438	
	CH 38	2478	
Tune-up Limit			9.00

<Ant2>

Mode	Channel	Frequency (MHz)	Average power (dBm)			Tune-up Limit
			1Mbps	2Mbps	3Mbps	
BR / EDR	CH 00	2402	8.09	Not Required	Not Required	9.00
	CH 39	2441	7.33			9.00
	CH 78	2480	7.48			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE_1M	CH 00	2402	Not Required
	CH 19	2440	
	CH 39	2480	
Tune-up Limit			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			2Mbps
LE_2M	CH 01	2404	Not Required
	CH 19	2440	
	CH 38	2478	
Tune-up Limit			9.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			6Mbps
QHS	CH 01	2404	Not Required
	CH 18	2438	
	CH 38	2478	
Tune-up Limit			9.00

13. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

<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 Main Ant	BT AUX Ant	2.4GHz WLAN ANT 1+2	5/6GHz WLAN ANT 1+2
	Calculated Frequency (MHz)	2480	2480	**2462**	5825
	Maximum power (dBm)	16.0	16.0	17.5	17.0
	Maximum rated power(mW)	39.81	39.81	56.23	50.12
Bottom Face	Separation distance(mm)	5.0	5.0	5.0	5.0
	exclusion threshold	12.5	12.5	17.7	24.2
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**
Edge 1	Separation distance(mm)	4.9	4.9	4.9	4.9
	exclusion threshold	12.5	12.5	17.7	24.2
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**
Edge 2	Separation distance(mm)	58.3	263.8	58.3	58.3
	exclusion threshold	178.0	2233.0	179.0	145.0
	Testing required?	**No**	**No**	**No**	**No**
Edge 3	Separation distance(mm)	211.0	211.0	211.0	211.0
	exclusion threshold	1705.0	1705.0	1706.0	1672.0
	Testing required?	**No**	**No**	**No**	**No**
Edge 4	Separation distance(mm)	257.3	51.8	51.8	51.8
	exclusion threshold	2168.0	113.0	114.0	80.0
	Testing required?	**No**	**No**	**No**	**No**

14. 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 SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
   d. 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.
4. For WLAN6GHz doesn't support wireless router capability.
5. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors.
6. Per October 2020 TCB Workshop Interim procedures, start instead with a minimum of 5 test channels across the full band, then adapt and apply conducted power and SAR test reduction procedures of KDB Pub. 248227 v02r02
7. For testing the WLAN 6GHz of this DUT, the selection of test channels was based on FCC guidance, with five channels selected across the entire WLAN 6GHz Bands. For the U-NII-5/U-NII-7 band supporting Standard AP mode and indoor Client mode, the higher output mode was measured among the selected channels.
8. Absorbed power density (APD) using a 4cm^2 averaging area is reported based on SAR measurements.
9. 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.
10. This EUT has two typical use conditions which are Laptop mode and tablet mode. So for SAR testing, laptop/tablet modes are all evaluated.

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, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. Per KDB 248227 D01v02r02, when SAR measurement is required for at least one of the two U-NII bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is < 1.2 W/kg, SAR is not required for the 160 MHz channel.
4. 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.
5. 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.
6. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing.
7. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
8. Per October 2022 TCB Workshop, IPD and SAR test frequencies for 5.85-7.125 GHz portable devices, continue with adapt and apply conducted power-based channel picks and test reduction procedures of KDB 248227 (v02r02), also in case of 320 MHz (pre-802.11be).

14.1 Body SAR

<Laptop Mode>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Antenna Type	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 Face	0mm	Ant 1+2(1)	For Non DBS	6	2437	2	INNOWAVE	14.38	15.50	1.294	97.54	1.025	0.1	0.741	0.983
01	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	2	INNOWAVE	14.19	15.50	1.352	97.54	1.025	0.19	0.760	**1.053**
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	11	2462	2	INNOWAVE	14.30	15.50	1.318	97.54	1.025	0.04	0.683	0.923
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	13	2472	2	INNOWAVE	14.19	15.50	1.352	97.54	1.025	-0.18	0.622	0.862
	WLAN2.4GHz	802.11b 1Mbps	Front Edge	0mm	Ant 1+2(1)	For Non DBS	1	2412	2	INNOWAVE	14.19	15.50	1.352	97.54	1.025	0.1	0.552	0.765
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For DBS	1	2412	2	INNOWAVE	12.29	13.50	1.321	97.54	1.025	0.07	0.524	0.710
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	6	2437	1	AWAN	14.38	15.50	1.294	97.54	1.025	0.12	0.706	0.937
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	1	AWAN	14.19	15.50	1.352	97.54	1.025	0.08	0.716	0.992
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	11	2462	1	AWAN	14.30	15.50	1.318	97.54	1.025	0.04	0.623	0.842
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	13	2472	1	AWAN	14.19	15.50	1.352	97.54	1.025	-0.17	0.582	0.807
	WLAN2.4GHz	802.11b 1Mbps	Front Edge	0mm	Ant 1+2(1)	For Non DBS	1	2412	1	AWAN	14.19	15.50	1.352	97.54	1.025	-0.03	0.297	0.412
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For DBS	1	2412	1	AWAN	12.29	13.50	1.321	97.54	1.025	-0.12	0.494	0.669
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	3	AWAN	14.19	15.50	1.352	97.54	1.025	0.04	0.688	0.953
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	0	2402	2	INNOWAVE	8.16	9.00	1.215	76.99	1.082	0.04	0.094	0.124
	Bluetooth	1Mbps	Front Edge	0mm	Ant 1	For Non DBS	0	2402	2	INNOWAVE	8.16	9.00	1.215	76.99	1.082	-0.07	0.076	0.100
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	39	2441	2	INNOWAVE	7.56	9.00	1.395	76.99	1.082	0.1	0.100	0.151
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	78	2480	2	INNOWAVE	7.74	9.00	1.338	76.99	1.082	0.04	0.094	0.136
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	0	2402	1	AWAN	8.16	9.00	1.215	76.99	1.082	0.01	0.116	0.152
	Bluetooth	1Mbps	Front Edge	0mm	Ant 1	For Non DBS	0	2402	1	AWAN	8.16	9.00	1.215	76.99	1.082	0.03	0.032	0.042
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	39	2441	1	AWAN	7.56	9.00	1.395	76.99	1.082	0.01	0.096	0.145
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	For Non DBS	78	2480	1	AWAN	7.74	9.00	1.338	76.99	1.082	0.03	0.099	0.143
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	0	2402	2	INNOWAVE	8.09	9.00	1.233	76.79	1.085	0.12	0.107	0.143
	Bluetooth	1Mbps	Front Edge	0mm	Ant 2	For Non DBS	0	2402	2	INNOWAVE	8.09	9.00	1.233	76.79	1.085	-0.03	0.073	0.098
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	39	2441	2	INNOWAVE	7.33	9.00	1.469	76.79	1.085	0.08	0.098	0.156
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	78	2480	2	INNOWAVE	7.48	9.00	1.419	76.79	1.085	-0.13	0.082	0.126
02	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	0	2402	1	AWAN	8.09	9.00	1.233	76.79	1.085	0.05	0.126	**0.169**
	Bluetooth	1Mbps	Front Edge	0mm	Ant 2	For Non DBS	0	2402	1	AWAN	8.09	9.00	1.233	76.79	1.085	-0.04	0.065	0.087
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	39	2441	1	AWAN	7.33	9.00	1.469	76.79	1.085	0.04	0.097	0.155
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	For Non DBS	78	2480	1	AWAN	7.48	9.00	1.419	76.79	1.085	0.09	0.086	0.132
03	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	2	INNOWAVE	13.91	14.50	1.146	100	1.000	0.08	0.983	**1.126**
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	58	5290	2	INNOWAVE	11.94	12.50	1.138	100	1.000	0.05	0.628	0.714
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	1	AWAN	13.91	14.50	1.146	100	1.000	0.08	0.362	0.415
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	58	5290	1	AWAN	11.94	12.50	1.138	100	1.000	0.07	0.231	0.263
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	3	AWAN	13.91	14.50	1.146	100	1.000	0.11	0.341	0.391
04	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	2	INNOWAVE	13.81	14.50	1.172	100	1.000	0.06	0.934	**1.095**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	122	5610	2	INNOWAVE	13.71	14.50	1.199	100	1.000	0.08	0.747	0.896
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	138	5690	2	INNOWAVE	13.59	14.50	1.233	100	1.000	0.01	0.666	0.821
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	114	5570	2	INNOWAVE	11.48	12.50	1.265	100	1.000	0.04	0.583	0.737
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	1	AWAN	13.81	14.50	1.172	100	1.000	0.03	0.557	0.653
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	122	5610	1	AWAN	13.71	14.50	1.199	100	1.000	-0.08	0.510	0.612
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	138	5690	1	AWAN	13.59	14.50	1.233	100	1.000	-0.08	0.476	0.587
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	114	5570	1	AWAN	11.48	12.50	1.265	100	1.000	-0.09	0.355	0.449
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	3	AWAN	13.81	14.50	1.172	100	1.000	0.09	0.533	0.625
05	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	2	INNOWAVE	14.53	15.50	1.250	100	1.000	-0.02	0.829	**1.036**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	155	5775	2	INNOWAVE	12.39	13.50	1.291	100	1.000	-0.08	0.513	0.662
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	1	SKU3 AWAN	14.53	15.50	1.250	100	1.000	0.16	0.527	0.659
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	155	5775	1	SKU3 AWAN	12.39	13.50	1.291	100	1.000	0.06	0.299	0.386
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	3	SKU1 AWAN	14.53	15.50	1.250	100	1.000	0.03	0.496	0.620

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Antenna Type	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)	Measured APD (W/m^2)
06	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	31	6105	2	INNOWAVE	14.85	15.50	1.161	100	1.000	-0.09	0.882	**1.024**	**6.28**
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	95	6425	2	INNOWAVE	14.38	15.50	1.294	100	1.000	0.07	0.705	0.912	5.71
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	127	6585	2	INNOWAVE	14.31	15.00	1.172	100	1.000	0.04	0.752	0.881	5.35
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	159	6745	2	INNOWAVE	13.93	14.50	1.140	100	1.000	0.02	0.626	0.714	4.46
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	2	INNOWAVE	13.69	14.50	1.205	100	1.000	0.09	0.665	0.801	4.73
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	31	6105	2	INNOWAVE	12.53	13.50	1.250	100	1.000	0.06	0.572	0.715	4.1
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	95	6425	2	INNOWAVE	12.53	13.50	1.250	100	1.000	-0.01	0.473	0.591	3.39
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	127	6585	2	INNOWAVE	12.53	13.50	1.250	100	1.000	0.01	0.509	0.636	3.65
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	159	6745	2	INNOWAVE	12.53	13.50	1.250	100	1.000	0.02	0.497	0.621	3.56
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	191	6905	2	INNOWAVE	12.53	13.50	1.250	100	1.000	0.09	0.528	0.660	3.78
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	31	6105	1	AWAN	14.85	15.50	1.161	100	1.000	-0.08	0.810	0.941	5.77
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	95	6425	1	AWAN	14.38	15.50	1.294	100	1.000	0.1	0.549	0.711	3.91
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	127	6585	1	AWAN	14.31	15.00	1.172	100	1.000	-0.18	0.644	0.755	4.59
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	159	6745	1	AWAN	13.93	14.50	1.140	100	1.000	0.1	0.616	0.702	4.39
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	1	AWAN	13.69	14.50	1.205	100	1.000	0.12	0.665	0.801	4.73
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	31	6105	1	AWAN	12.42	13.50	1.282	100	1.000	-0.05	0.525	0.673	3.76
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	95	6425	1	AWAN	12.42	13.50	1.282	100	1.000	0.17	0.356	0.457	2.55
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	127	6585	1	AWAN	12.42	13.50	1.282	100	1.000	0.05	0.469	0.601	3.36
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	159	6745	1	AWAN	12.42	13.50	1.282	100	1.000	0.06	0.503	0.645	3.61
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	191	6905	1	AWAN	12.42	13.50	1.282	100	1.000	0.04	0.543	0.696	3.89
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	31	6105	3	AWAN	14.85	15.50	1.161	100	1.000	0.09	0.761	0.884	5.61

<Tablet Mode>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Antenna Type	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 Face	0mm	Ant 1+2(1)	For Non DBS	6	2437	2	INNOWAVE	11.32	12.00	1.169	97.54	1.025	-0.18	0.761	0.912
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 1+2(1)	For Non DBS	6	2437	2	INNOWAVE	11.32	12.00	1.169	97.54	1.025	0.1	0.141	0.169
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	2	INNOWAVE	11.21	12.00	1.199	97.54	1.025	0.12	0.777	0.955
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	11	2462	2	INNOWAVE	10.89	12.00	1.291	97.54	1.025	0.09	0.671	0.888
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	13	2472	2	INNOWAVE	10.76	12.00	1.330	97.54	1.025	0.08	0.711	0.970
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For DBS	1	2412	2	INNOWAVE	8.91	10.00	1.285	97.54	1.025	0.03	0.519	0.684
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	6	2437	1	AWAN	11.32	12.00	1.169	97.54	1.025	-0.17	0.794	0.952
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 1+2(1)	For Non DBS	6	2437	1	AWAN	11.32	12.00	1.169	97.54	1.025	-0.03	0.076	0.091
07	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	1	AWAN	11.21	12.00	1.199	97.54	1.025	0.14	0.888	**1.092**
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	11	2462	1	AWAN	10.89	12.00	1.291	97.54	1.025	0.09	0.690	0.913
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	13	2472	1	AWAN	10.76	12.00	1.330	97.54	1.025	0.11	0.659	0.899
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(2)	For DBS	1	2412	1	AWAN	8.91	10.00	1.285	97.54	1.025	0.06	0.593	0.781
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	3	AWAN	11.21	12.00	1.199	97.54	1.025	0.04	0.831	1.022
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	0	2402	2	INNOWAVE	8.16	9.00	1.215	76.99	1.082	-0.02	0.241	0.317
	Bluetooth	1Mbps	Edge 1	0mm	Ant 1	Full Power	0	2402	2	INNOWAVE	8.16	9.00	1.215	76.99	1.082	0.05	0.049	0.064
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	39	2441	2	INNOWAVE	7.56	9.00	1.395	76.99	1.082	0.17	0.229	0.346
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	78	2480	2	INNOWAVE	7.74	9.00	1.338	76.99	1.082	-0.05	0.205	0.297
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	0	2402	1	AWAN	8.16	9.00	1.215	76.99	1.082	0.04	0.289	0.380
	Bluetooth	1Mbps	Edge 1	0mm	Ant 1	Full Power	0	2402	1	AWAN	8.16	9.00	1.215	76.99	1.082	0.06	0.018	0.024
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	39	2441	1	AWAN	7.56	9.00	1.395	76.99	1.082	0.08	0.251	0.379
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Full Power	78	2480	1	AWAN	7.74	9.00	1.338	76.99	1.082	0.03	0.261	0.378
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	0	2402	2	INNOWAVE	8.09	9.00	1.233	76.79	1.085	-0.05	0.217	0.290
	Bluetooth	1Mbps	Edge 1	0mm	Ant 2	Full Power	0	2402	2	INNOWAVE	8.09	9.00	1.233	76.79	1.085	0.09	0.068	0.091
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	39	2441	2	INNOWAVE	7.33	9.00	1.469	76.79	1.085	0.12	0.182	0.290
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	78	2480	2	INNOWAVE	7.48	9.00	1.419	76.79	1.085	0.08	0.153	0.236
08	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	0	2402	1	AWAN	8.09	9.00	1.233	76.79	1.085	0.03	0.291	**0.389**
	Bluetooth	1Mbps	Edge 1	0mm	Ant 2	Full Power	0	2402	1	AWAN	8.09	9.00	1.233	76.79	1.085	0.01	0.034	0.045
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	39	2441	1	AWAN	7.33	9.00	1.469	76.79	1.085	-0.01	0.130	0.207
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	Full Power	78	2480	1	AWAN	7.48	9.00	1.419	76.79	1.085	-0.09	0.208	0.320
09	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	2	INNOWAVE	10.95	11.50	1.135	100	1.000	-0.05	0.928	**1.053**
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	58	5290	2	INNOWAVE	10.95	11.50	1.135	100	1.000	0.18	0.343	0.389
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	58	5290	2	INNOWAVE	8.52	9.50	1.253	100	1.000	0.05	0.628	0.787
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	1	AWAN	10.95	11.50	1.135	100	1.000	0.14	0.717	0.814
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	58	5290	1	AWAN	10.95	11.50	1.135	100	1.000	-0.17	0.166	0.188
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	58	5290	1	AWAN	8.52	9.50	1.253	100	1.000	-0.07	0.485	0.608
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	3	AWAN	10.95	11.50	1.135	100	1.000	0.01	0.700	0.795
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	2	INNOWAVE	10.10	11.00	1.230	100	1.000	0.17	0.863	1.062
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	122	5610	2	INNOWAVE	9.87	11.00	1.297	100	1.000	-0.05	0.714	0.926
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	138	5690	2	INNOWAVE	9.77	11.00	1.327	100	1.000	0.01	0.644	0.855
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	106	5530	2	INNOWAVE	10.10	11.00	1.230	100	1.000	0.1	0.302	0.372
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	114	5570	2	INNOWAVE	9.91	11.00	1.285	100	1.000	0.04	0.803	1.032
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	114	5570		INNOWAVE	7.66	9.00	1.361	100	1.000	0.04	0.519	0.707
10	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	1	AWAN	10.10	11.00	1.230	100	1.000	-0.17	0.911	**1.121**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	122	5610	1	AWAN	9.87	11.00	1.297	100	1.000	0.04	0.800	1.038
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	138	5690	1	AWAN	9.77	11.00	1.327	100	1.000	-0.01	0.708	0.940
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	106	5530	1	AWAN	10.10	11.00	1.230	100	1.000	-0.08	0.284	0.349
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	114	5570	1	AWAN	9.91	11.00	1.285	100	1.000	0.09	0.841	1.081
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	114	5570		AWAN	7.66	9.00	1.361	100	1.000	-0.05	0.522	0.711
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	3	AWAN	10.10	11.00	1.230	100	1.000	-0.01	0.893	1.099
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	2	INNOWAVE	9.95	11.00	1.274	100	1.000	0.05	0.829	1.056
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	155	5775	2	INNOWAVE	9.95	11.00	1.274	100	1.000	0.06	0.254	0.323

	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	155	5775	2	INNOWAVE	7.64	9.00	1.368	100	1.000	0.11	0.506	0.692
11	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	1	AWAN	9.95	11.00	1.274	100	1.000	0.09	0.842	**1.072**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	155	5775	1	AWAN	9.95	11.00	1.274	100	1.000	-0.09	0.278	0.354
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	155	5775	1	AWAN	7.64	9.00	1.368	100	1.000	0.18	0.514	0.703
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	3	AWAN	9.95	11.00	1.274	100	1.000	0.07	0.811	1.033

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Antenna Type	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)	Measured APD (W/m^2)
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	31	6105	2	INNOWAVE	9.24	10.00	1.191	100	1.000	-0.08	0.800	0.953	4.48
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	95	6425	2	INNOWAVE	8.92	10.00	1.282	100	1.000	0.13	0.847	1.086	4.75
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	127	6585	2	INNOWAVE	8.31	9.00	1.172	100	1.000	0.12	0.735	0.862	4.12
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	159	6745	2	INNOWAVE	8.45	9.00	1.135	100	1.000	0.03	0.815	0.925	4.56
12	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	2	INNOWAVE	8.26	9.00	1.186	100	1.000	0.02	0.930	**1.103**	**5.21**
	WLAN6GHz	802.11be-EHT320 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	191	6905	2	INNOWAVE	8.26	9.00	1.186	100	1.000	0.18	0.426	0.505	2.39
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	31	6105	2	INNOWAVE	7.57	8.50	1.239	100	1.000	-0.05	0.492	0.609	2.64
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For DBS	95	6425	2	INNOWAVE	7.38	8.50	1.294	100	1.000	-0.15	0.521	0.674	2.80
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For DBS	127	6585	2	INNOWAVE	6.92	8.50	1.439	100	1.000	-0.08	0.452	0.650	2.43
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	159	6745	2	INNOWAVE	6.82	8.00	1.312	100	1.000	0.06	0.501	0.657	2.69
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	191	6905	2	INNOWAVE	6.47	7.50	1.268	100	1.000	0.05	0.572	0.725	3.07
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	31	6105	1	AWAN	9.24	10.00	1.191	100	1.000	0.16	0.727	0.866	4.07
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	95	6425	1	AWAN	8.92	10.00	1.282	100	1.000	-0.1	0.662	0.849	3.71
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	127	6585	1	AWAN	8.31	9.00	1.172	100	1.000	0.07	0.839	0.983	4.70
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For Non DBS	159	6745	1	AWAN	8.45	9.00	1.135	100	1.000	0.18	0.789	0.896	4.42
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	1	AWAN	8.26	9.00	1.186	100	1.000	-0.1	0.925	1.097	5.18
	WLAN6GHz	802.11be-EHT320 MCS0	Edge 1	0mm	Ant 1+2(1)	For Non DBS	191	6905	1	AWAN	8.26	9.00	1.186	100	1.000	0.01	0.205	0.243	1.15
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	31	6105	1	AWAN	7.57	8.50	1.239	100	1.000	0.06	0.406	0.503	3.23
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For DBS	95	6425	1	AWAN	7.38	8.50	1.294	100	1.000	0.13	0.369	0.478	2.94
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(2)	For DBS	127	6585	1	AWAN	6.92	8.50	1.439	100	1.000	0.03	0.468	0.673	3.73
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	159	6745	1	AWAN	6.82	8.00	1.312	100	1.000	-0.05	0.440	0.577	3.51
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For DBS	191	6905	1	AWAN	6.47	7.50	1.268	100	1.000	0.04	0.516	0.654	4.11
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	3	AWAN	8.26	9.00	1.186	100	1.000	0.04	0.894	1.060	4.88

14.2 Repeated SAR Measurement

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Antenna Type	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	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	INNOWAVE	13.91	14.50	1.146	100	1.000	0.08	0.983	1	1.126
2nd	WLAN5.3GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	58	5290	INNOWAVE	13.91	14.50	1.146	100	1.000	0.11	0.910	1.080	1.042
1st	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	INNOWAVE	13.81	14.50	1.172	100	1.000	0.06	0.934	1	1.095
2nd	WLAN5.5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	106	5530	INNOWAVE	13.81	14.50	1.172	100	1.000	0.11	0.889	1.051	1.042
1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	AWAN	9.95	11.00	1.274	100	1.000	0.09	0.842	1	1.072
2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	155	5775	AWAN	9.95	11.00	1.274	100	1.000	-0.01	0.811	1.038	1.033
1st	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	INNOWAVE	8.26	9.00	1.186	100	1.000	0.02	0.930	1	1.103
2nd	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	191	6905	INNOWAVE	8.26	9.00	1.186	100	1.000	0.04	0.911	1.021	1.080
1st	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	AWAN	11.21	12.00	1.199	97.54	1.025	0.14	0.888	1	1.092
2nd	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1+2(1)	For Non DBS	1	2412	AWAN	11.21	12.00	1.199	97.54	1.025	0.04	0.831	1.069	1.022

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.

14.3 PD Test Result

Power Density General Notes:

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. Batteries are fully charged at the beginning of the measurements.
3. Absorbed power density (APD) using a 4cm^2 averaging area is reported based on SAR measurements.
4. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
5. 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.
6. 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.
7. The WiFi 6GHz PD was performed according 2020 TCB workshop RF Exposure 5G RFX Policies Interim Procedures.
8. First, evaluate SAR using 6-7 GHz parameters per IEC/EEE 62209-1528:2020 and using highest SAR test configurations evaluate incident PD using the mmw near-field probe and total-field/power-density reconstruction method (2 mm closest meas. plane)
9. Per October 2020 TCB Workshop, for distances smaller than λ/5, used the developed Plane-to-Plane Phase Reconstruction (PTP-PR) Algorithm which was used in PD measurement.
10. Per April 2021 TCB Workshop, For the highest SAR test configurations also measure incident PD (total) using power-density reconstruction method in 2 mm closest measurement plane.
11. 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.

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

<WLAN PD>

<Laptop Mode>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	Antenna Type	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 Face	2mm	Ant 1+2(1)	2	INNOWAVE	31	6105	14.85	0.0625	3.37	0.39	3.760	4.000
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom Face	10mm	Ant 1+2(1)	2	INNOWAVE	31	6105	14.85	0.15	3.08		1.74	1.67
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	191	6905	13.69	0.0625	2	0.56	2.81	3.4
	WLAN6GHz	802.11ax-HE160 MCS0	Bottom Face	8.59mm	Ant 1+2(1)	2	INNOWAVE	191	6905	13.69	0.15	1.76		1.730	1.71

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	Antenna Type	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	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	31	6105	14.85	15.50	1.161	100	1.000	0.0625	1.5535	0.01	2.700	4.87	3.320	5.99
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	95	6425	14.38	15.50	1.294	100	1.000	0.0625	1.5535	-0.07	3.020	6.07	3.190	6.41
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	127	6585	14.31	15.00	1.172	100	1.000	0.0625	1.5535	-0.05	2.140	3.90	2.380	4.33
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	159	6745	13.93	14.50	1.140	100	1.000	0.0625	1.5535	0.04	2.700	4.78	2.950	5.23
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	191	6905	13.69	14.50	1.205	100	1.000	0.0625	1.5535	0.05	2.920	5.47	3.370	6.31
01	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	31	6105	14.85	15.50	1.161	100	1.000	0.0625	1.5535	0.06	3.760	6.78	4.000	**7.22**
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	95	6425	14.38	15.50	1.294	100	1.000	0.0625	1.5535	0.04	2.340	4.70	3.230	6.49
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	127	6585	14.31	15.00	1.172	100	1.000	0.0625	1.5535	0.03	2.350	4.28	2.430	4.43
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	159	6745	13.93	14.50	1.140	100	1.000	0.0625	1.5535	0.06	3.730	6.61	3.870	6.86
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	191	6905	13.69	14.50	1.205	100	1.000	0.0625	1.5535	0.09	2.810	5.26	3.400	6.36

<Tablet Mode>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	Antenna Type	Ch.	Freq. (MHz)	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m^2)	Total psPD (W/m^2)
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	31	6105	7.57	0.0625	2.2	0.46	3.280	4.060
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	10mm	Ant 1+2(1)	2	INNOWAVE	31	6105	7.57	0.15	1.98		1.52	1.69
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	191	6905	6.47	0.0625	1.55	0.54	1.66	2.53
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	8.59mm	Ant 1+2(1)	2	INNOWAVE	191	6905	6.47	0.15	1.37		1.020	1.27

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	Antenna Type	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	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	31	6105	7.57	8.50	1.239	100	1.000	0.0625	1.5535	0.06	1.830	3.52	2.740	5.27
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	95	6425	7.49	8.50	1.262	100	1.000	0.0625	1.5535	-0.08	2.560	5.02	3.550	6.96
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	127	6585	7.15	8.50	1.365	100	1.000	0.0625	1.5535	-0.03	2.900	6.15	3.370	7.14
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	159	6745	6.82	8.00	1.312	100	1.000	0.0625	1.5535	0.01	1.400	2.85	1.610	3.28
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	1	AWAN	191	6905	6.47	7.50	1.268	100	1.000	0.0625	1.5535	0.06	0.442	0.87	0.644	1.27
	WLAN6GHz	802.11be-EHT320 MCS0	Edge 1	2mm	Ant 1+2(1)	1	AWAN	127	6585	7.15	8.50	1.365	100	1.000	0.0625	1.5535	0.06	0.711	1.51	0.740	1.57
02	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	31	6105	7.57	8.50	1.239	100	1.000	0.0625	1.5535	-0.06	3.280	6.31	4.060	**7.81**
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	95	6425	7.49	8.50	1.262	100	1.000	0.0625	1.5535	-0.09	2.740	5.37	3.620	7.10
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	127	6585	7.15	8.50	1.365	100	1.000	0.0625	1.5535	0.08	1.650	3.50	2.020	4.28
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	159	6745	6.82	8.00	1.312	100	1.000	0.0625	1.5535	0.01	2.620	5.34	3.300	6.73
	WLAN6GHz	802.11be-EHT320 MCS0	Bottom Face	2mm	Ant 1+2(1)	2	INNOWAVE	191	6905	6.47	7.50	1.268	100	1.000	0.0625	1.5535	0.13	1.660	3.27	2.530	4.98
	WLAN6GHz	802.11be-EHT320 MCS0	Edge 1	2mm	Ant 1+2(1)	2	INNOWAVE	31	6105	7.57	8.50	1.239	100	1.000	0.0625	1.5535	0.06	0.819	1.58	1.020	1.96

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Notebook Computer
		Body
1.	WLAN 2.4GHz + WLAN 5GHz	Yes
2.	WLAN 2.4GHz + WLAN 6GHz	Yes
3.	WLAN 2.4GHz + Bluetooth	Yes
4.	WLAN 5GHz + Bluetooth	Yes
5.	WLAN 6GHz + Bluetooth	Yes

General Note:

1. The EUT has no voice function means data only.
2. According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
3. According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can transmit simultaneously.
4. According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz cannot transmit simultaneously.
5. According to the EUT characteristic, WLAN 2.4GHz and Bluetooth can transmit simultaneously.
6. WLAN2.4GHz/WLAN5GHz/6GHz MIMO SAR can represent SISO SAR to do co-located SAR analysis.
7. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
8. The maximum SAR summation is calculated based on the same configuration and test position.
9. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) 1g 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 for 1g SAR, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 15.2.
10. The WLAN6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The simultaneous transmission and test exemption analysis were compliant with KDB 447498 D01. For the device does not support FR2 or other MPE field measurement, therefore section 15 in the SAR report has no TER analysis according to KDB 987594 requirement.

15.1 Body Exposure Conditions

<Laptop Mode>
<For Non DBS>

Exposure Position	1	2	3	4	5	2+4+5	3+4+5	1+4	1+5
	WLAN2.4GHz Ant 1+2	WLAN5GHz Ant 1+2	WLAN6GHz Ant 1+2	Bluetooth Ant 1	Bluetooth Ant 2	Summed	Summed	Summed	Summed
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Bottom Face	1.053	1.126	1.024	0.152	0.169	1.45	1.35	1.21	1.22

<For DBS>

Exposure Position	1	2	3	1+2	1+3
	WLAN2.4GHz Ant 1+2	WLAN5GHz Ant 1+2	WLAN6GHz Ant 1+2	Summed	Summed
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Bottom Face	0.710	0.748	0.715	1.46	1.43

<Tablet Mode>
<For Non DBS>

Exposure Position	1	2	3	4	5	2+4+5	3+4+5	1+4	1+5	SPLSR
	WLAN2.4GHz Ant 1+2	WLAN5GHz Ant 1+2	WLAN6GHz Ant 1+2	Bluetooth Ant 1	Bluetooth Ant 2	Summed	Summed	Summed	Summed	
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Bottom Face	1.092	1.121	1.103	0.380	0.389	**1.89**	**1.87**	1.47	**1.48**	**1&2**
Edge 1	0.169	0.389	1.103	0.064	0.091	0.54	1.26	0.23	0.26	

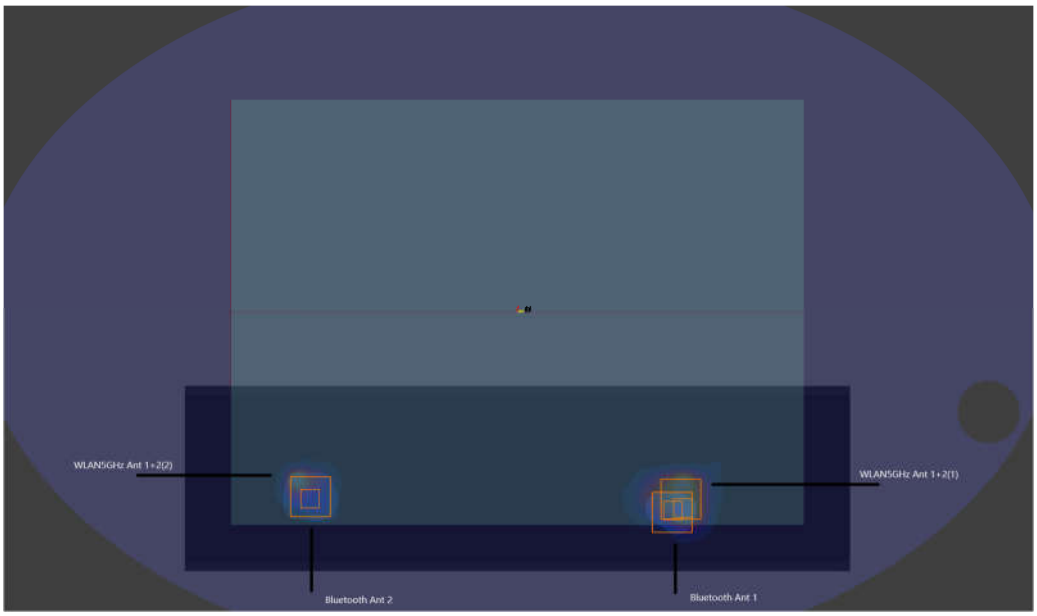
<For DBS>

Exposure Position	1	2	3	1+2	1+3
	WLAN2.4GHz Ant 1+2	WLAN5GHz Ant 1+2	WLAN6GHz Ant 1+2	Summed	Summed
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Bottom Face	0.781	0.787	0.725	**1.57**	**1.51**
Edge 1	0.169	0.389	0.725	0.56	0.89

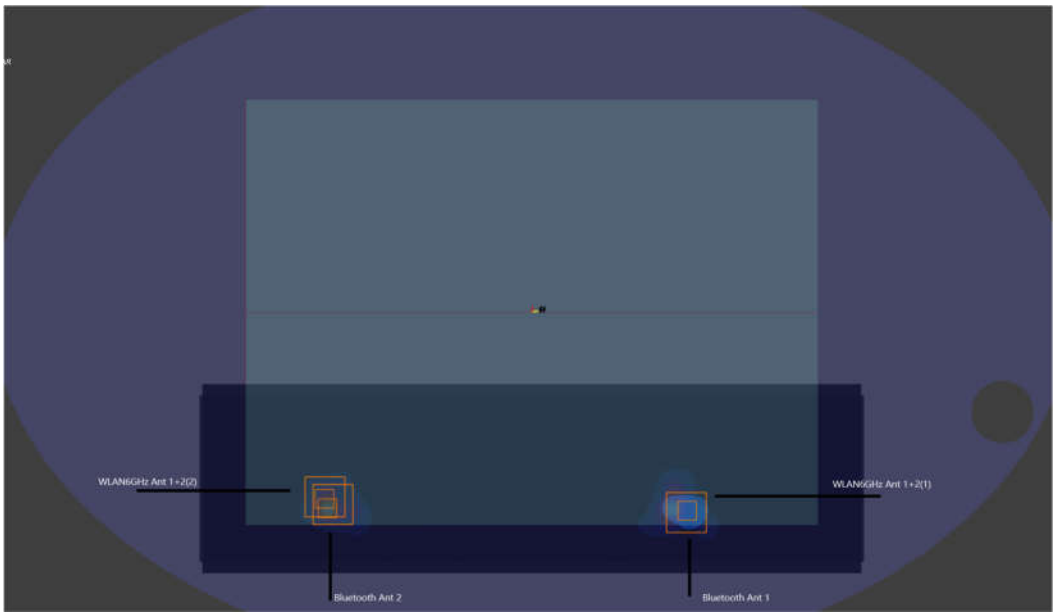
15.2 SPLSR Evaluation and Analysis

General Note:

1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. SPLSR = (SAR1 + SAR2)1.5 / (min. separation distance, mm). If SPLSR ≤ 0.04 for 1g SAR, simultaneously transmission SAR measurement is not necessary.



WLAN5GHz (Ant1+2) +Bluetooth Ant1+ Bluetooth Ant2 (0mm)_Bottom Face



WLAN6GHz (Ant1+2) +Bluetooth Ant1+ Bluetooth Ant2 (0mm)_Bottom Face

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	WLAN5GHz Ant 1+2(1)	Bottom Face	1.121	1.50	0mm	92.6	-119.1	-177	212.5	1.89	0.01	Not required
	Bluetooth Ant 1		0.380									
	WLAN5GHz Ant 1+2(2)		1.121	1.51		95.6	93.4	-177				
	Bluetooth Ant 2		0.389									
	WLAN5GHz Ant 1+2(1)	Bottom Face	1.121	1.50	0mm	92.6	-119.1	-177	202.9	1.89	0.01	Not required
	Bluetooth Ant 1		0.380									
	WLAN5GHz Ant 1+2(2)		1.121	1.51								
	Bluetooth Ant 2		0.389			110.5	83	-177				
	WLAN5GHz Ant 1+2(1)	Bottom Face	1.121	1.50	0mm				198.2	1.89	0.01	Not required
	Bluetooth Ant 1		0.380			101	-115	-177				
	WLAN5GHz Ant 1+2(2)		1.121	1.51								
	Bluetooth Ant 2		0.389			110.5	83	-177				
	WLAN5GHz Ant 1+2(1)	Bottom Face	1.121	1.50	0mm				208.5	1.89	0.01	Not required
	Bluetooth Ant 1		0.380			101	-115	-177				
	WLAN5GHz Ant 1+2(2)		1.121	1.51		95.6	93.4	-177				
	Bluetooth Ant 2		0.389									

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 2	WLAN6GHz Ant 1+2(1)	Bottom Face	1.103	1.48	0mm	104.2	-111.3	-177	188.2	1.87	0.01	Not required
	Bluetooth Ant 1		0.380									
	WLAN6GHz Ant 1+2(2)		1.103	1.49		108.3	76.9	-177				
	Bluetooth Ant 2		0.389									
	WLAN6GHz Ant 1+2(1)	Bottom Face	1.103	1.48	0mm	104.2	-111.3	-177	194.4	1.87	0.01	Not required
	Bluetooth Ant 1		0.380									
	WLAN6GHz Ant 1+2(2)		1.103	1.49								
	Bluetooth Ant 2		0.389			110.5	83	-177				
	WLAN6GHz Ant 1+2(1)	Bottom Face	1.103	1.48	0mm				198.2	1.87	0.01	Not required
	Bluetooth Ant 1		0.380			101	-115	-177				
	WLAN6GHz Ant 1+2(2)		1.103	1.49								
	Bluetooth Ant 2		0.389			110.5	83	-177				
	WLAN6GHz Ant 1+2(1)	Bottom Face	1.103	1.48	0mm				192.0	1.87	0.01	Not required
	Bluetooth Ant 1		0.380			101	-115	-177				
	WLAN6GHz Ant 1+2(2)		1.103	1.49		108.3	76.9	-177				
	Bluetooth Ant 2		0.389									

Test Engineer：Martin Li, Varus Wang, Light Wang, Ricky Gu

16. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

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.

Uncertainty Budget According to IEC/IEEE 62209-1528 (Frequency band: 4 MHz - 10 GHz range)							
Error Description	**Uncert. Value (±%)**	**Prob. Dist.**	**Div.**	**(Ci) 1g**	**(Ci) 10g**	**Standard Uncertainty (1g) (±%)**	**Standard Uncertainty (10g) (±%)**
Measurement System errors							
Probe calibration	18.6	N	2	1	1	9.3	9.3
Probe calibration drift	1.7	R	1.732	1	1	1.0	1.0
Probe linearity and detection Limit	4.7	R	1.732	1	1	2.7	2.7
Broadband signal	2.8	R	1.732	1	1	1.6	1.6
Probe isotropy	7.6	R	1.732	1	1	4.4	4.4
Other probe and data acquisition errors	2.4	N	1	1	1	2.4	2.4
RF ambient and noise	1.8	N	1	1	1	1.8	1.8
Probe positioning errors	0.006	N	1	0.5	0.5	0.0	0.0
Data processing errors	4.0	N	1	1	1	4.0	4.0
Phantom and Device Errors							
Measurement of phantom conductivity (σ)	2.5	N	1	0.78	0.71	2.0	1.8
Temperature effects (medium)	5.4	R	1.732	0.78	0.71	2.4	2.2
Shell permittivity	14.0	R	1.732	0.5	0.5	4.0	4.0
Distance between the radiating element of the DUT and the phantom medium	2.0	N	1	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	1.0	N	1	1	1	1.0	1.0
Device holder effects	3.6	N	1	1	1	3.6	3.6
Effect of operating mode on probe sensitivity	2.4	R	1.732	1	1	1.4	1.4
Time-average SAR	1.7	R	1.732	1	1	1.0	1.0
Variation in SAR due to drift in output of DUT	2.5	N	1	1	1	2.5	2.5
Validation antenna uncertainty (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Correction to the SAR results							
Phantom deviation from target (ε´,σ)	1.9	N	1	1	0.84	1.9	1.6
SAR scaling	0.0	R	1.732	1	1	0.0	0.0
Combined Std. Uncertainty						**14.5%**	**14.4%**
Coverage Factor for 95 %						**K=2**	**K=2**
Expanded STD Uncertainty						**29.0%**	**28.8%**

SAR Uncertainty Budget for frequency range 4MHz to 10GHz

cDASY6 Module mmWave Uncertainty Budget Evaluation Distances to the Antennas > λ/2π In Compliance with IEC TR 63170					
Error Description	**Uncertainty Value (±dB)**	**Probability**	**Divisor**	**(Ci)**	**Standard Uncertainty (±dB)**
Uncertainty terms dep endent on the measurement system					
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**

PD Uncertainty Budget

17. 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 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

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

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

[8] 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

[9] IEC 62479:2010 Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

[10] IEC TR 63170: 2018 Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz

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

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

[13] SPEAG DASY6 System Handbook

[14] SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz)

------THE END------