


FCC SAR TEST REPORT

FCC ID : UZ7TC530E
Equipment : Touch Computer
Brand Name : Zebra
Model Name : TC530E
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Dec. 06, 2023 and testing was started from Dec. 25, 2023 and completed on Jan. 10, 2024. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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



Approved by: Cona Huang / Deputy Manager



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History of this test report

Report No.	Version	Description	Issued Date
FA3D0601	01	Initial issue of report	Feb. 01, 2024



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for Zebra Technologies Corporation, Touch Computer, TC530E, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)	Highest Simultaneous Transmission 10g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	Product Specific (Separation 0mm)		
		1g SAR (W/kg)					
DXX	NFC				< 0.01		2.19
DTS	2.4GHz WLAN	1.09	1.15	1.15		1.59	
NII	5GHz WLAN	1.18	1.16		2.19	1.59	2.19
6CD	6GHz WLAN	0.51	0.25		0.48	1.59	2.19
DSS	Bluetooth	0.03	0.03	0.03		1.32	
Equipment Class	Frequency Band	Head Reported APD (mW/cm ²)	Body-worn Reported APD (mW/cm ²)	Product Specific Reported APD (mW/cm ²)	Reported PD (mW/cm ²)		
6CD	6GHz WLAN	0.39	0.21	1.16	0.78		
Date of Testing:		2023/12/25 ~ 2024/1/10					

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093), Human Exposure to RF Radiation Limits (1.0 mW/cm²=10 W/m²) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Paula Chen

2. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 941225 D07 UMPC Mini Tablet v01r02
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)



3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Touch Computer
Brand Name	Zebra
Model Name	TC530E
FCC ID	UZ7TC530E
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz~6425 MHz, 6425 MHz~6525 MHz, 6525 MHz~6875 MHz, 6875 MHz~7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DV1-1
SW Version	13-11-28.00-TN-U00-PRD-NEM-04
FW Version(WLAN)	FUSION_QA_4_1.2.0.001_R
FW Version(NFC)	PN7160_AR_11.02.00
MFD	13NOV23
EUT Stage	Identical Prototype
Remark:	
<ol style="list-style-type: none"> There are two kinds of samples as below. RF exposure evaluation selects sample 1 as the main test and sample 2 spot check worst case found in sample 1. There are four batteries. RF exposure evaluation selects battery 1 as the main test and battery 2/3/4 spot check worst case found in battery 1. The device implements sensor detection for SAR compliance at different exposure conditions and the power verification include in appendix F. The device support DBS mode (Dual band simultaneous) for WLAN operation, when the DBS mode is active the device will limit different maximum power for Sim-Tx SAR compliance, Details about the power management decision are provided in the operational description. The device 2.4GHz support hotspot operation via 5/6GHz receive signal. 	

Sample list	
Sample1	SE4720 + Base config
Sample2	Lowell + Base config



Specification of Accessories				
Adapter	Brand Name	Zebra	Model	SAWA-65-20005A
			Part Number	PWR-WUA5V12W0US
Battery 1 (1x)	Brand Name	Zebra	Model	BT-000442
			Part Number	BT-000442-0020
Battery 2 (1.5x)	Brand Name	Zebra	Model	BT-000442A
			Part Number	BT-000442-0820
Battery 3 (Wireless Battery)	Brand Name	Zebra	Model	BT-000442
			Part Number	BT-000442-002B
Battery 4 (1x)	Brand Name	Zebra	Model	BT-000442
			Part Number	BT-000442-1020
USB TYPE A to TYPE C cable	Brand Name	Zebra	Part Number	CBL-TC5X-USBC2A-01
USB TYPE C to 3.5mm audio connector	Brand Name	Zebra	Part Number	ADP-USBC-35MM1-01
3.5mm Earphone	Brand Name	Zebra	Part Number	HDST-35MM-PTT1-01
Rugged Headset	Brand Name	Zebra	Part Number	HS2100-OTH
USB TYPE C Earphone	Brand Name	Zebra	Part Number	HDST-USBC-PTT1-01
Trigger Handle	Brand Name	Zebra	Part Number	TRG-NGTC5-ELEC-01
Soft Holster	Brand Name	Zebra	Part Number	SG-NGTC5TC7-HLSTR-01
TC53/TC58 RUGGED BOOT	Brand Name	Zebra	Part Number	SG-NGTC5EXO1-01
3.5mm to 3.5mm audio connector	Brand Name	Zebra	Part Number	CBL-HS2100-3MS1-01

4. RF Exposure Limits

4.1 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.

4.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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



4.3 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.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm² per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

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

5. Specific Absorption Rate (SAR)

5.1 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.

5.2 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:

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

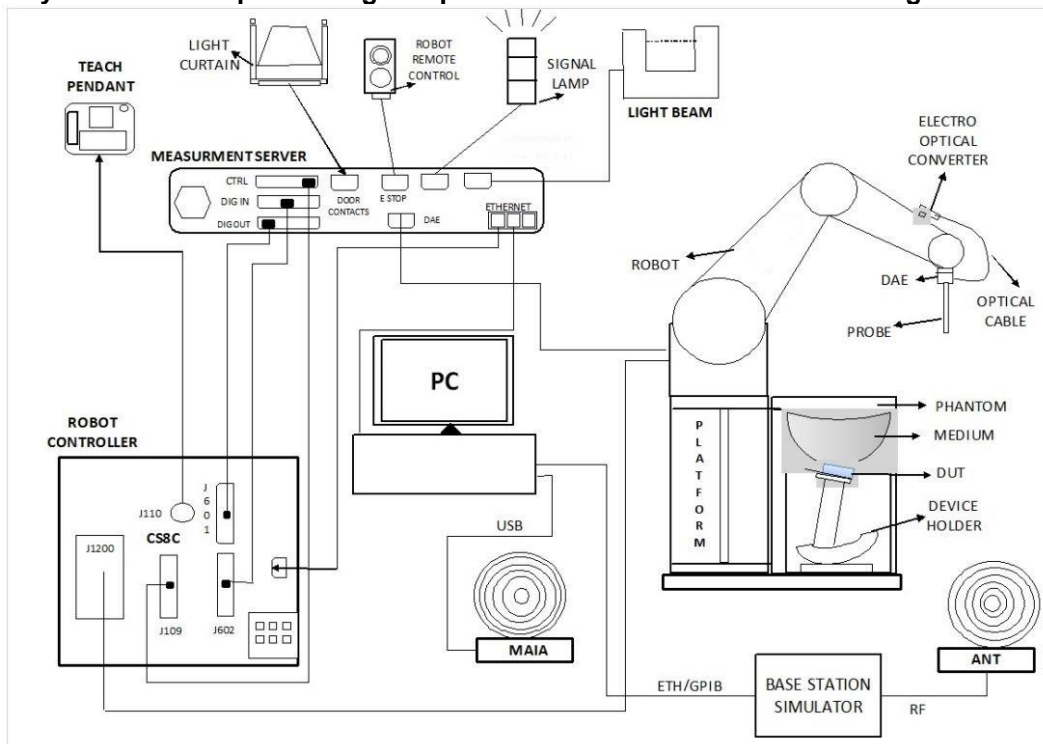
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

6. System Description and Setup

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



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

6.1 Test Site Location


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

Laboratory	EMC & Wireless Communications Laboratory		Wensan Laboratory				
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan				
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY	SAR18-HY	SAR21-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY	SAR19-HY	SAR22-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY	SAR20-HY	


6.2 E-Field Probe

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

<ES3DV3 Probe>

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

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/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	

6.3 Data Acquisition Electronics (DAE)

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


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



Fig 5.1 Photo of DAE

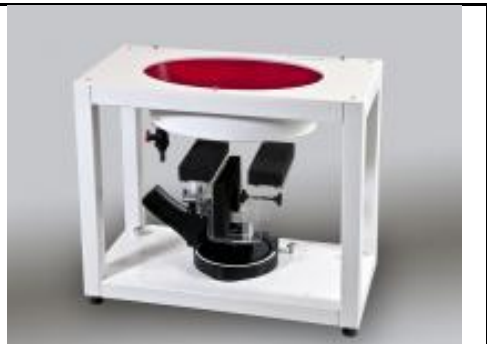
6.4 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

6.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

7. Measurement Procedures

The measurement procedures are as follows:

- (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

7.1 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 from 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

7.2 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.

7.3 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 dB) 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 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.	

7.4 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$		≤ 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 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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.				

7.5 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.

7.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS 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.



8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	2450MHz System Validation Kit ⁽²⁾	D2450V2	806	Mar. 24, 2022	Mar. 22, 2024
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHzV2	1006	May. 25, 2023	May. 23, 2025
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHzV2	1171	Apr. 20, 2021	Apr. 17, 2024
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1003	Mar. 15, 2023	Mar. 14, 2024
SPEAG	13MHz System Validation Kit	CLA13	1011	Jul. 10, 2023	Jul. 09, 2024
SPEAG	5G Verification Source	10GHz	1020	Jan. 20, 2023	Jan. 19, 2024
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9461	Oct. 12, 2023	Oct. 11, 2024
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 14, 2023	Jul. 13, 2024
SPEAG	Data Acquisition Electronics	DAE4	854	Aug. 17, 2023	Aug. 16, 2024
SPEAG	Data Acquisition Electronics	DAE4	1512	Mar. 20, 2023	Mar. 19, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 18, 2023	Jul. 17, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7439	Feb. 21, 2023	Feb. 20, 2024
Testo	Hygro meter	608-H1	45196600	Nov. 02, 2023	Nov. 01, 2024
R&S	BT Base Station	CBT	101136	Oct. 22, 2023	Oct. 21, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 27, 2023	Sep. 26, 2024
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 30, 2023	Oct. 29, 2024
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2023	Sep. 18, 2024
SPEAG	Dielectric Probe Kit	DAK-12	1156	Jul. 17, 2023	Jul. 16, 2024
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 09, 2023	Aug. 08, 2024
Anritsu	Power Meter	ML2495A	1419002	Aug. 17, 2023	Aug. 16, 2024
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2023	Aug. 17, 2024
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 10, 2023	Jul. 09, 2024
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2023	Oct. 15, 2024
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

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



9. System Verification

9.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18°C to 25°C, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.

The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
13	22.2	0.757	53.424	0.75	55.00	0.93	-2.87	±5	2024/1/5
2450	22.3	1.821	39.879	1.80	39.20	1.17	1.73	±5	2023/12/25
2450	22.4	1.814	39.763	1.80	39.20	0.78	1.44	±5	2023/12/26
2450	22.1	1.787	39.900	1.80	39.20	-0.72	1.79	±5	2024/1/9
2450	22.9	1.771	39.781	1.80	39.20	-1.61	1.48	±5	2024/1/10
5250	22.5	4.660	36.865	4.71	35.95	-1.06	2.55	±5	2023/12/27
5600	22.6	4.978	36.073	5.07	35.50	-1.81	1.61	±5	2023/12/28
5750	22.7	5.137	35.887	5.22	35.35	-1.59	1.52	±5	2023/12/29
6500	22.8	6.040	34.900	6.07	34.50	-0.49	1.16	±5	2023/12/28

9.2 System Performance Check Results

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

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR-05	2024/1/5	13	250	CLA13-1011	EX3DV4 - SN7306	DAE4 Sn853	0.134	0.544	0.536	-0.74	0.083	0.340	0.332	-2.35
SAR-05	2023/12/25	2450	50	D2450V2-806	EX3DV4 - SN7306	DAE4 Sn853	2.530	52.700	50.6	-3.98	1.180	24.400	23.6	-3.28
SAR-05	2023/12/26	2450	50	D2450V2-806	EX3DV4 - SN7306	DAE4 Sn853	2.670	52.700	53.4	1.33	1.250	24.400	25	2.46
SAR-05	2024/1/9	2450	50	D2450V2-806	EX3DV4 - SN7306	DAE4 Sn853	2.490	52.700	49.8	-5.50	1.150	24.400	23	-5.74
SAR-05	2024/1/10	2450	250	D2450V2-806	EX3DV4 - SN7306	DAE4 Sn853	12.000	52.700	48	-8.92	5.760	24.400	23.04	-5.57
SAR-05	2023/12/27	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7306	DAE4 Sn853	3.700	80.300	74	-7.85	1.060	23.000	21.2	-7.83
SAR-05	2023/12/28	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7306	DAE4 Sn853	3.920	83.400	78.4	-6.00	1.100	23.700	22	-7.17
SAR-05	2023/12/29	5750	50	D5GHzV2-1006-5750	EX3DV4 - SN7306	DAE4 Sn853	3.720	80.900	74.4	-8.03	1.080	22.900	21.6	-5.68
SAR-01	2023/12/28	6500	100	D6.5GHzV2-1003	EX3DV4 - SN7439	DAE4 Sn1512	30.200	297.000	302	1.68	5.480	54.500	54.8	0.55

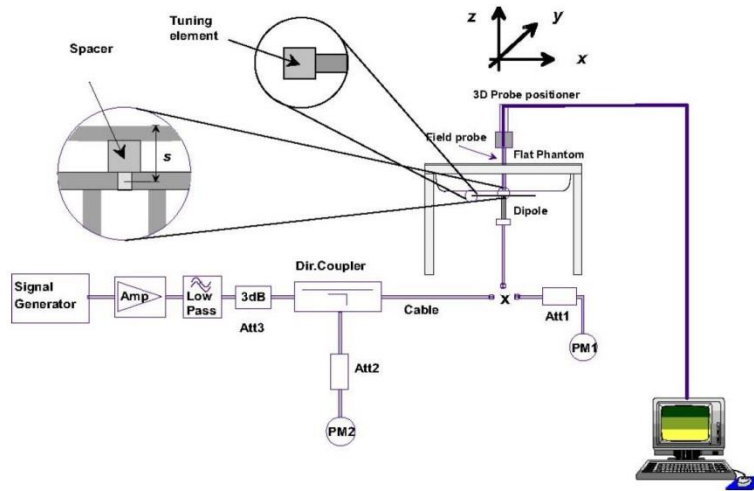


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

9.3 PD System Performance Check Results

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

Test Location	Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Measured 4 cm ² (W/m ²)	Targeted 4 cm ² (W/m ²)	Deviation (dB)	Date
SAR01	10G	10GHz_1020	EUmmWV4-9424	DAE4-854	10mm	53.1	54.9	-0.14	2023/12/25

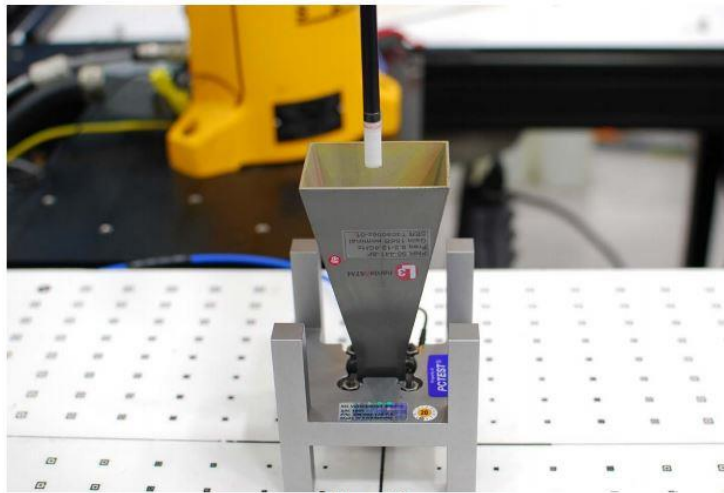


Figure 4-3
System Verification Setup Photo

System Performance Check Setup

10. RF Exposure Positions

10.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

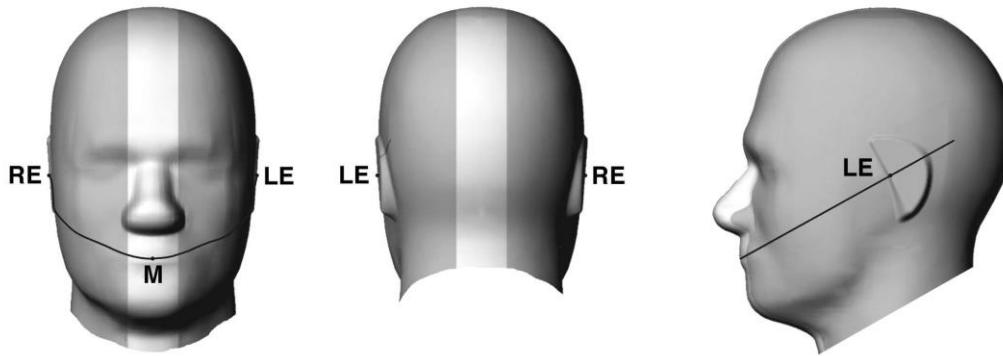


Fig 9.1.1 Front, back, and side views of SAM twin phantom

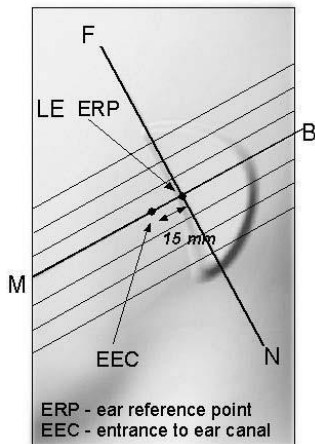


Fig 9.1.2 Close-up side view of phantom showing the ear region.

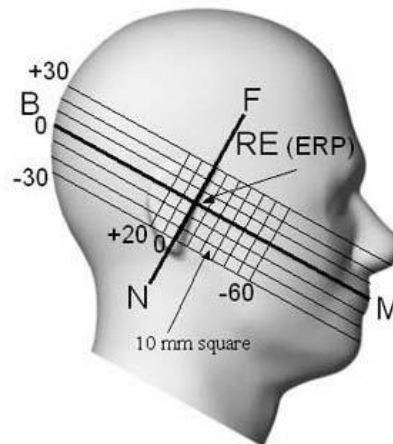


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

10.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

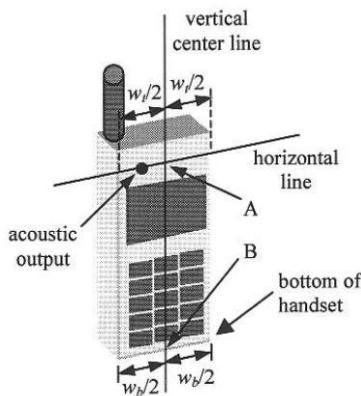


Fig 9.2.1 Handset vertical and horizontal reference lines—“fixed case”

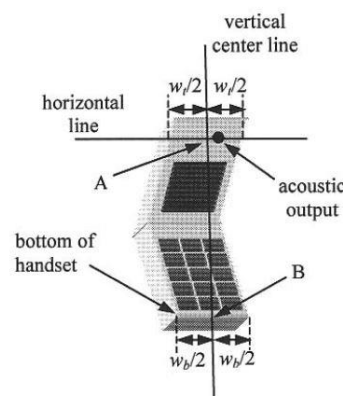


Fig 9.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

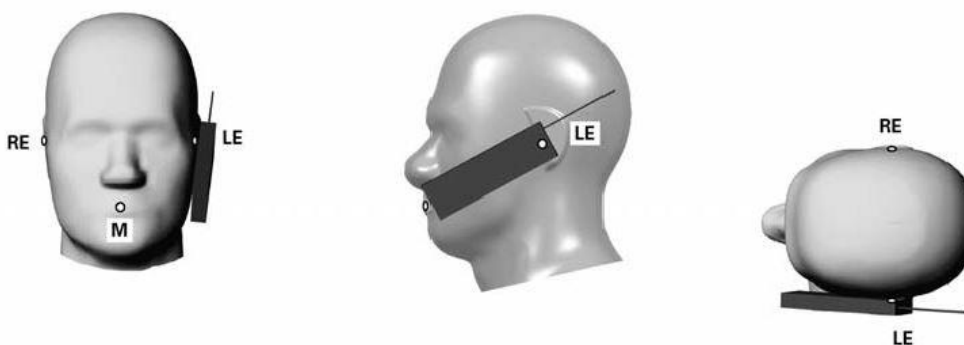


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

10.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

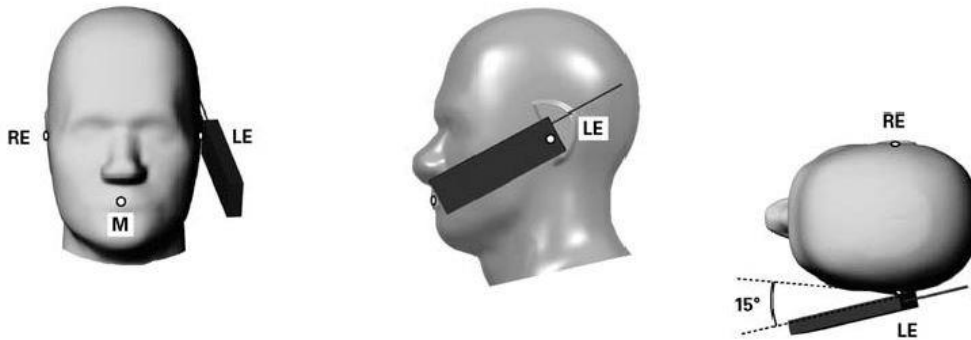


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

10.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

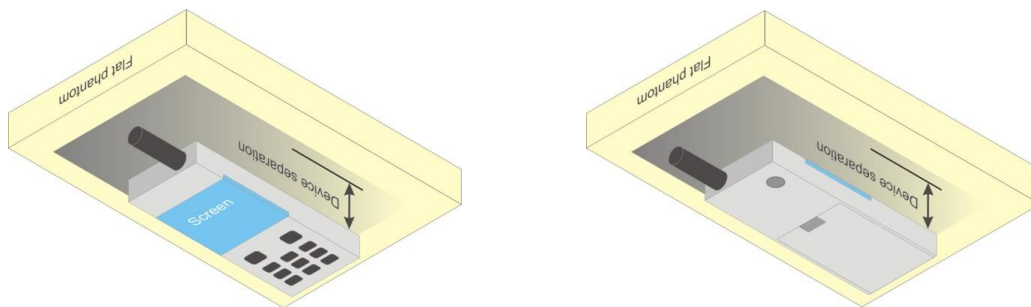


Fig 9.4 Body Worn Position

10.5 Product Specific Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

10.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W \geq 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.



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

General Note:

1. For each antenna, transmit power in MIMO operation is equal to the power in SISO operation, RF exposure is performed MIMO operation only except for 2.4GHz WLAN.
2. 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.
3. 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.
4. 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).
5. 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.
6. 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 closest/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.
7. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
8. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
9. 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
10. 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



<2.4GHz WLAN_Power table 0_Non-DBS & DBS>																	
Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2				
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %		
802.11b 1Mbps	1	2412	20.90	21.00	85.83	20.70	21.00	85.83	20.90	21.00	20.80	21.00	23.86	24.00	85.83		
	6	2437	20.80	21.00		20.90	21.00		20.80	21.00	20.90	21.00	23.86	24.00			
	11	2462	19.10	19.50		19.30	19.50		19.10	19.50	19.10	19.50	22.11	22.50			
802.11g 6Mbps	1	2412	not required	21.00	not required	not required	21.00	not required	not required	not required	not required	not required	not required	not required	not required	24.00	
	6	2437		21.50			21.50									21.50	24.50
	11	2462		16.00			16.00									16.00	19.00
802.11n-HT20 MCS0	1	2412	not required	20.00	not required	not required	20.00	not required	not required	not required	not required	not required	not required	not required	not required	23.00	
	6	2437		20.50			20.50									20.50	23.50
	11	2462		13.00			13.00									13.00	16.00
802.11n-HT40 MCS0	3	2422	not required	19.00	not required	not required	19.00	not required	not required	not required	not required	not required	not required	not required	not required	22.00	
	6	2437		19.00			19.00									19.00	22.00
	9	2452		13.00			13.00									13.00	16.00
802.11ac-VHT20 MCS0	1	2412	not required	20.00	not required	not required	20.00	not required	not required	not required	not required	not required	not required	not required	not required	23.00	
	6	2437		20.50			20.50									20.50	23.50
	11	2462		13.00			13.00									13.00	16.00
802.11ac-VHT40 MCS0	3	2422	not required	19.00	not required	not required	19.00	not required	not required	not required	not required	not required	not required	not required	not required	22.00	
	6	2437		19.00			19.00									19.00	22.00
	9	2452		13.00			13.00									13.00	16.00
802.11ax-HE20 MCS0	1	2412	not required	20.00	not required	not required	20.00	not required	not required	not required	not required	not required	not required	not required	not required	23.00	
	6	2437		20.50			20.50									20.50	23.50
	11	2462		13.00			13.00									13.00	16.00
802.11ax-HE40 MCS0	3	2422	not required	19.00	not required	not required	19.00	not required	not required	not required	not required	not required	not required	not required	not required	22.00	
	6	2437		19.00			19.00									19.00	22.00
	9	2452		13.00			13.00									13.00	16.00



<5.2GHz WLAN_Power table 0_Non-DBS & DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
802.11a 6Mbps	36	5180	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
	40	5200		19.00			19.00			19.00		22.00			
	44	5220		19.00			19.00			19.00		22.00			
	48	5240		18.50			18.50			18.50		22.00			
802.11n-HT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
	40	5200		19.50			19.50			19.50		22.50			
	44	5220		19.50			19.50			19.50		22.50			
	48	5240		19.50			19.50			19.50		22.50			
802.11n-HT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
	46	5230		20.00			20.00			20.00		23.00			
802.11ac-VHT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
	40	5200		19.50			19.50			19.50		22.50			
	44	5220		19.50			19.50			19.50		22.50			
802.11ac-VHT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
	46	5230		20.00			20.00			20.00		23.00			
802.11ac-VHT80 MCS0	42	5210		18.00			18.00			18.00		21.00			
802.11ax-HE20 MCS0	36	5180		19.00			19.00			19.00		22.00			
	40	5200		19.50			19.50			19.50		22.50			
	44	5220		19.50			19.50			19.50		22.50			
	48	5240		19.50			19.50			19.50		22.50			
802.11ax-HE40 MCS0	38	5190	18.00	18.00	18.00	21.00									
	46	5230	20.00	20.00	20.00	23.00									
802.11ax-HE80 MCS0	42	5210	18.00	18.00	18.00	21.00									



<5.3GHz WLAN_Power table 0_Non-DBS & DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
802.11a 6Mbps	52	5260	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
	56	5280		18.50						18.50		21.50			
	60	5300		19.00						19.00		22.00			
	64	5320		19.00						19.00		22.00			
802.11n-HT20 MCS0	52	5260	not required	19.00	not required	not required	19.00	not required	18.80	19.00	not required	18.50	not required	21.66	85.89
	56	5280		20.00						20.00		22.61			
	60	5300		20.00						20.00		22.61			
	64	5320		18.00						18.00		20.77			
802.11n-HT40 MCS0	54	5270	not required	20.00	not required	not required	20.00	not required	19.70	20.00	not required	19.50	not required	22.61	23.00
	62	5310		17.00						17.00		20.00			
802.11ac-VHT20 MCS0	52	5260	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
	56	5280		20.00						20.00		23.00			
	60	5300		20.00						20.00		23.00			
	64	5320		18.00						18.00		21.00			
802.11ac-VHT40 MCS0	54	5270	not required	20.00	not required	not required	20.00	not required	20.00	20.00	not required	20.00	not required	23.00	not required
	62	5310		17.00						17.00		20.00			
802.11ac-VHT80 MCS0	58	5290	not required	17.50	not required	not required	17.50	not required	not required	17.50	not required	17.50	not required	20.50	not required
802.11ac-VHT160 MCS0	50	5250		13.5						13.5		16.50			
802.11ax-HE20 MCS0	52	5260	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
	56	5280		20.00						20.00		23.00			
	60	5300		20.00						20.00		23.00			
	64	5320		18.00						18.00		21.00			
802.11ax-HE40 MCS0	54	5270	not required	20.00	not required	not required	20.00	not required	not required	20.00	not required	20.00	not required	23.00	not required
	62	5310		17.00						17.00		20.00			
802.11ax-HE80 MCS0	58	5290	not required	17.50	not required	not required	17.50	not required	not required	17.50	not required	17.50	not required	20.50	not required
802.11ax-HE160 MCS0	50	5250		13.5						13.5		16.50			



<5.5GHz WLAN_Power table 0_Non-DBS & DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2									
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %							
802.11a 6Mbps	100	5500	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required							
	116	5580		18.50			18.50			18.50		21.50										
	124	5620		18.50			18.50			18.50		21.50										
	132	5660		18.50			18.50			18.50		21.50										
144	5720	18.50		18.50			18.50			21.50												
802.11n-HT20 MCS0	100	5500		19.00			19.00			19.00		22.00		22.00		not required	19.00	19.00	19.00	22.00	22.00	not required
	116	5580		19.00			19.00			19.00		22.00		22.00								
	124	5620		19.00			19.00			19.00		22.00		22.00								
	132	5660		19.00			19.00			19.00		22.00		22.00								
	144	5720		19.00			19.00			19.00		22.00		22.00								
802.11n-HT40 MCS0	102	5510		19.00			19.00		19.00	22.00	22.00	not required	18.80	19.00		18.50	19.00	22.00	85.87			
	110	5550		19.50			19.50		19.50	22.01	22.50											
	126	5630		19.50			19.50		19.50	22.41	22.50											
	134	5670		19.00			19.00		19.00	21.66	22.00											
	142	5710		20.00			20.00		20.00	22.91	23.00											
802.11ac-VHT20 MCS0	100	5500		19.00			19.00		19.00	22.00	22.00	not required	19.00	19.00		19.00	19.00	22.00	not required			
	116	5580		19.00			19.00		19.00	22.00	22.00											
	124	5620		19.00			19.00		19.00	22.00	22.00											
	132	5660		19.00			19.00		19.00	22.00	22.00											
	144	5720		19.00			19.00		19.00	22.00	22.00											
802.11ac-VHT40 MCS0	102	5510	19.00	19.00	19.00	22.00	22.00	not required	19.00	19.00	19.00	19.00	22.00	not required								
	110	5550	19.50	19.50	19.50	22.50	22.50															
	126	5630	19.50	19.50	19.50	22.50	22.50															
	134	5670	19.00	19.00	19.00	22.00	22.00															
802.11ac-VHT80 MCS0	106	5530	17.50	17.50	17.50	20.11	20.50	not required	17.20	17.50	17.00	17.50	20.11	85.77								
	122	5610	18.50	18.50	18.50	20.96	21.50															
	138	5690	20.00	20.00	20.00	22.81	23.00															
802.11ac-VHT160 MCS0	114	5570	15.50	15.50	15.50	18.50	18.50	15.50	15.50	15.50	15.50	18.50	18.50									
802.11ax-HE20 MCS0	100	5500	19.00	19.00	19.00	22.00	22.00	not required	19.00	19.00	19.00	19.00	22.00	not required								
	116	5580	19.00	19.00	19.00	22.00	22.00															
	124	5620	19.00	19.00	19.00	22.00	22.00															
	132	5660	19.00	19.00	19.00	22.00	22.00															
	144	5720	19.00	19.00	19.00	22.00	22.00															
802.11ax-HE40 MCS0	102	5510	19.00	19.00	19.00	22.00	22.00	not required	19.00	19.00	19.00	19.00	22.00	not required								
	110	5550	19.50	19.50	19.50	22.50	22.50															
	126	5630	19.50	19.50	19.50	22.50	22.50															
	134	5670	19.00	19.00	19.00	22.00	22.00															
802.11ax-HE80 MCS0	106	5530	17.50	17.50	17.50	20.50	20.50	not required	17.50	17.50	17.50	17.50	20.50	not required								
	122	5610	18.50	18.50	18.50	21.50	21.50															
	138	5690	20.00	20.00	20.00	23.00	23.00															
802.11ax-HE160 MCS0	114	5570	15.50	15.50	15.50	18.50	18.50	15.50	15.50	15.50	15.50	18.50	18.50									



<5.8GHz WLAN_Power table 0_Non-DBS & DBS>																			
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2					
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %			
5.8GHz WLAN	802.11a 6Mbps	149	5745	not required	20.50	not required	not required	20.50	not required	20.00	20.50	20.10	20.50	23.06	23.50	86.00			
		157	5785		20.50			20.50		20.20	20.50	20.40	20.50	23.31	23.50				
		165	5825		20.50			20.50		20.20	20.50	20.50	23.36	23.50					
	802.11n-HT20 MCS0	149	5745		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50	not required
		157	5785		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50	
		165	5825		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50	
	802.11n-HT40 MCS0	151	5755		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
		159	5795		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
	802.11ac-VHT20 MCS0	149	5745		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
		157	5785		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
		165	5825		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
	802.11ac-VHT40 MCS0	151	5755		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
		159	5795		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
	802.11ac-VHT80 MCS0	155	5775		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
	802.11ax-HE20 MCS0	149	5745		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
		157	5785		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
		165	5825		20.50			20.50		20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	23.50
	802.11ax-HE40 MCS0	151	5755		20.00			20.00		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00
159		5795	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00					
802.11ax-HE80 MCS0	155	5775	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	23.00					

<WiFi 6E_Power table 0_Non-DBS & DBS>																			
WiFi 6E	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2					
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %			
WiFi 6E	802.11a 6Mbps	1	5955	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	not required	not required	not required	not required			
		57	6235		15.50			15.50									15.50	15.50	18.50
		113	6515		1.50			1.50									1.50	1.50	4.50
		173	6815		16.00			16.00									16.00	16.00	19.00
		233	7115		2.00			2.00									2.00	2.00	5.00
	802.11ax-HE20 MCS0	1	5955		15.50			15.50									15.50	15.50	18.50
		57	6235		15.50			15.50									15.50	15.50	18.50
		113	6515		4.00			4.00									4.00	4.00	7.00
		173	6815		16.00			16.00									16.00	16.00	19.00
	802.11ax-HE40 MCS0	233	7115		5.00			5.00									5.00	5.00	8.00
		3	5965		15.50			15.50									15.50	15.50	18.50
		59	6245		15.50			15.50									15.50	15.50	18.50
		107	6485		7.50			7.50									7.50	7.50	10.50
	802.11ax-HE80 MCS0	171	6805		16.00			16.00									16.00	16.00	19.00
		227	7085		8.50			8.50									8.50	8.50	11.50
		7	5985		15.50			15.50									15.50	15.50	18.50
		71	6305		15.50			15.50									15.50	15.50	18.50
	802.11ax-HE160 MCS0	119	6545		10.00			10.00									10.00	10.00	13.00
		167	6785		16.00			16.00									16.00	16.00	19.00
		215	7025		10.50			10.50									10.50	10.50	13.50
		15	6025		15.50			15.50									14.40	15.50	17.51
	802.11ax-HE160 MCS0	47	6185		15.50			15.50									15.00	15.50	18.11
		111	6505		13.00			13.00									12.70	13.00	15.61
		143	6665		16.00			16.00									15.50	16.00	18.46
207		6985	13.50	13.50	12.60	13.50	15.46												
15.50		15.50	15.20	15.50	18.11	18.50													



<2.4GHz WLAN_Power table 1_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2			
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	14.90	16.00	85.83	14.80	16.00	85.83	14.90	16.00	14.80	16.00	17.86	19.00	85.83	
	6	2437	14.70	16.00		14.80	16.00		14.90	16.00	15.00	16.00	17.96	19.00		
	11	2462	14.80	16.00		15.00	16.00		15.10	16.00	15.20	16.00	18.16	19.00		
802.11g 6Mbps	1	2412	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	11	2462		16.00			16.00					16.00	16.00		19.00	
802.11n-HT20 MCS0	1	2412	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	11	2462		13.00			13.00					13.00	13.00		16.00	
802.11n-HT40 MCS0	3	2422	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	9	2452		13.00			13.00					13.00	13.00		16.00	
802.11ac-VHT20 MCS0	1	2412	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	11	2462		13.00			13.00					13.00	13.00		16.00	
802.11ac-VHT40 MCS0	3	2422	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	9	2452		13.00			13.00					13.00	13.00		16.00	
802.11ax-HE20 MCS0	1	2412	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	11	2462		13.00			13.00					13.00	13.00		16.00	
802.11ax-HE40 MCS0	3	2422	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	16.00	16.00	not required	19.00	not required
	6	2437		16.00			16.00					16.00	16.00		19.00	
	9	2452		13.00			13.00					13.00	13.00		16.00	



<5.2GHz WLAN_Power table 1_Non-DBS>

5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2													
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %											
5.2GHz WLAN	802.11a 6Mbps	36	5180	not required	17.00	not required	not required	not required	17.00	not required	17.00	not required	17.00	not required	20.00	not required											
		40	5200		17.00												17.00	17.00	17.00	20.00							
		44	5220		17.00												17.00	17.00	17.00	20.00							
		48	5240		17.00												17.00	17.00	17.00	20.00							
	802.11n-HT20 MCS0	36	5180		17.00												17.00	17.00	17.00	20.00							
		40	5200		17.00												17.00	17.00	17.00	20.00							
		44	5220		17.00												17.00	17.00	17.00	20.00							
		48	5240		17.00												17.00	17.00	17.00	20.00							
	802.11n-HT40 MCS0	38	5190		17.00												17.00	17.00	17.00	20.00							
		46	5230		17.00												17.00	17.00	17.00	20.00							
	802.11ac-VHT20 MCS0	36	5180		17.00												17.00	17.00	17.00	20.00							
		40	5200		17.00												17.00	17.00	17.00	20.00							
		44	5220		17.00												17.00	17.00	17.00	20.00							
	802.11ac-VHT40 MCS0	38	5190		17.00												17.00	17.00	17.00	20.00							
		46	5230		17.00												17.00	17.00	17.00	20.00							
	802.11ac-VHT80 MCS0	42	5210		17.00												17.00	16.90	17.00	16.50	17.00	19.71	20.00	85.77			
	802.11ax-HE20 MCS0	36	5180		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required
		40	5200		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required
		44	5220		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required
		48	5240		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required
802.11ax-HE40 MCS0	38	5190	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required													
	46	5230	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required													
802.11ax-HE80 MCS0	42	5210	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	not required													



<5.3GHz WLAN_Power table 1_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2								
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %						
802.11a 6Mbps	52	5260	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required					
	56	5280		17.00													17.00	17.00	17.00	20.00	
	60	5300		17.00													17.00	17.00	17.00	20.00	
	64	5320		17.00													17.00	17.00	17.00	20.00	
802.11n-HT20 MCS0	52	5260	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required					
	56	5280		17.00													17.00	17.00	17.00	20.00	
	60	5300		17.00													17.00	17.00	17.00	20.00	
	64	5320		17.00													17.00	17.00	17.00	20.00	
802.11n-HT40 MCS0	54	5270	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	85.87					
	62	5310		17.00													17.00	16.70	17.00	16.50	17.00
802.11ac-VHT20 MCS0	52	5260	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
	56	5280		17.00														17.00	17.00	17.00	20.00
	60	5300		17.00														17.00	17.00	17.00	20.00
	64	5320		17.00														17.00	17.00	17.00	20.00
802.11ac-VHT40 MCS0	54	5270	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
	62	5310		17.00														17.00	16.60	17.00	16.40
802.11ac-VHT80 MCS0	58	5290	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
802.11ac-VHT160 MCS0	50	5250		13.50														13.50	13.50	13.50	16.50
802.11ax-HE20 MCS0	52	5260	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
	56	5280		17.00														17.00	17.00	17.00	20.00
	60	5300		17.00														17.00	17.00	17.00	20.00
	64	5320		17.00														17.00	17.00	17.00	20.00
802.11ax-HE40 MCS0	54	5270	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
	62	5310		17.00														17.00	17.00	17.00	20.00
802.11ax-HE80 MCS0	58	5290	not required	17.00	not required	not required	17.00	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required				
802.11ax-HE160 MCS0	50	5250		13.50														13.50	13.50	13.50	16.50



<5.5GHz WLAN_Power table 1_Non-DBS>

5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2															
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %													
5.5GHz WLAN	802.11a 6Mbps	100	5500	not required	17.00	not required	not required	17.00	not required	not required	17.00	not required	17.00	not required	20.00	not required													
		116	5580		17.00												17.00	17.00	17.00	20.00									
		124	5620		17.00												17.00	17.00	17.00	20.00									
		132	5660		17.00												17.00	17.00	17.00	20.00									
		144	5720		17.00												17.00	17.00	17.00	20.00									
	802.11n-HT20 MCS0	100	5500		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		116	5580		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		124	5620		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		132	5660		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		144	5720		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11n-HT40 MCS0	102	5510		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		110	5550		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		126	5630		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		134	5670		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ac-VHT20 MCS0	102	5510		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		110	5550		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		126	5630		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		134	5670		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ac-VHT40 MCS0	106	5530		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		122	5610		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		138	5690		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ac-VHT80 MCS0	106	5530		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		122	5610		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		138	5690		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ac-VHT160 MCS0	114	5570		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	18.50	18.50	
	802.11ax-HE20 MCS0	100	5500		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00
		116	5580		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		124	5620		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		132	5660		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		144	5720		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ax-HE40 MCS0	102	5510		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		110	5550		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		126	5630		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		134	5670		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ax-HE80 MCS0	106	5530		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		122	5610		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
		138	5690		17.00												17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	20.00	20.00	
	802.11ax-HE160 MCS0	114	5570		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	18.50	18.50	



<5.8GHz WLAN_Power table 1_Non-DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2																					
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %																			
5.8GHz WLAN	802.11a 6Mbps	149	5745	not required	17.50	not required	not required	not required	17.50	not required	17.50	not required	17.50	not required	20.50	not required																			
		157	5785		17.50												17.50	17.50	17.50	17.50	20.50														
		165	5825		17.50												17.50	17.50	17.50	17.50	20.50														
	802.11n-HT20 MCS0	149	5745		17.50												17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.50	20.50							
		157	5785		17.50												17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.50	20.50							
		165	5825		17.50												17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.50	20.50							
	802.11n-HT40 MCS0	151	5755		17.50												17.50	17.50	17.50	17.50	16.60	17.50	16.80	17.50	19.71	20.50	85.87								
		159	5795		17.50												17.50	17.50	17.50	16.70	17.50	16.80	17.50	19.76	20.50										
	802.11ac-VHT20 MCS0	149	5745		17.50												17.50	17.50	17.50	17.50	not required	17.50	not required	17.50	not required	17.50	not required	20.50	not required						
		157	5785		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	20.50
		165	5825		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	17.50
	802.11ac-VHT40 MCS0	151	5755		17.50												17.50	17.50	17.50	17.50	not required	17.50	not required	17.50	not required	17.50	not required	20.50	not required						
		159	5795		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	20.50
	802.11ac-VHT80 MCS0	155	5775		17.50												17.50	17.50	17.50	17.50	16.80	17.50	16.90	17.50	19.86	20.50	85.77								
	802.11ax-HE20 MCS0	149	5745		17.50												17.50	17.50	17.50	17.50	not required	17.50	not required	17.50	not required	17.50	not required	20.50	not required						
		157	5785		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	20.50
		165	5825		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	17.50
	802.11ax-HE40 MCS0	151	5755		17.50												17.50	17.50	17.50	17.50	not required	17.50	not required	17.50	not required	17.50	not required	20.50	not required						
		159	5795		17.50												17.50	17.50	17.50	17.50										17.50	17.50	17.50	17.50	17.50	20.50
	802.11ax-HE80 MCS0	155	5775		17.50												17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.50								



<WiFi 6E_Power table 1_Non-DBS>																				
Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2							
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %					
WiFi 6E	802.11a 6Mbps	1	5955	not required	10.50	not required	not required	10.50	not required	not required	10.50	not required	not required	not required	not required	not required	13.50			
		57	6235		10.50												13.50			
		113	6515		1.50												4.50			
		173	6815		10.00												13.00			
	233	7115	2.00		5.00												86.00			
	1	5955	10.50		10.50													10.50	13.50	
	57	6235	10.50		10.50													10.50	13.50	
	113	6515	4.00		7.00													85.40		
	173	6815	10.00		10.00												10.00		13.00	
	233	7115	5.00		8.00												85.58			
	3	5965	10.50		10.50														10.50	13.50
	59	6245	10.50		10.50													10.50	13.50	
	107	6485	7.50		10.50													7.50	10.50	
	171	6805	10.00		13.00												85.67			
	227	7085	8.50		11.50													85.80		
	7	5985	10.50		10.50														10.50	13.50
	71	6305	10.50		10.50														10.50	13.50
	119	6545	9.00		12.00												85.80			
	167	6785	10.00		13.00													85.80		
	215	7025	9.00		12.00														85.80	
15	6025	10.50	10.50	10.20	10.50	10.10	10.50	13.16	13.50											
47	6185	10.50	10.50	9.80	10.50	9.50	10.50	12.66	13.50											
111	6505	9.00	12.00	8.30	9.00	8.30	9.00	11.31	12.00											
143	6665	10.00	13.00	9.90	10.00	9.70	10.00	12.81	13.00											
207	6985	9.00	12.00	8.80	9.00	8.90	9.00	11.86	12.00											



<2.4GHz WLAN_Power table 1_DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2								
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %						
2.4GHz WLAN	802.11b 1Mbps	1	2412	13.00	14.00	85.83	12.70	14.00	85.83	13.20	14.00	12.90	14.00	16.06	17.00	85.83						
		6	2437	12.80	14.00		12.60	14.00		12.80	14.00	12.80	14.00	15.81	17.00							
		11	2462	13.00	14.00		13.10	14.00		13.20	14.00	13.20	14.00	16.21	17.00							
	802.11g 6Mbps	1	2412	not required	14.00	not required	not required	14.00	not required	not required	not required	not required	14.00	14.00	17.00	not required						
		6	2437		14.00			14.00					14.00	14.00	17.00							
		11	2462		14.00			14.00					14.00	14.00	17.00							
	802.11n-HT20 MCS0	1	2412		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		11	2462		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00
	802.11n-HT40 MCS0	3	2422		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		9	2452		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00
	802.11ac-VHT20 MCS0	1	2412		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		11	2462		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00
	802.11ac-VHT40 MCS0	3	2422		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		9	2452		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00
	802.11ax-HE20 MCS0	1	2412		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		11	2462		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00
	802.11ax-HE40 MCS0	3	2422		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		6	2437		14.00			14.00					14.00	14.00	14.00		14.00	14.00	14.00	14.00	14.00	17.00
		9	2452		13.00			13.00					13.00	13.00	13.00		13.00	13.00	13.00	13.00	13.00	16.00



<5.2GHz WLAN_Power table 1_DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	not required	15.50	not required	not required	15.50	not required	not required	15.50	not required	15.50	not required	18.50	not required
		40	5200		15.50			15.50			18.50					
		44	5220		15.50			15.50			18.50					
		48	5240		15.50			15.50			18.50					
	802.11n-HT20 MCS0	36	5180		15.50			15.50			18.50					
		40	5200		15.50			15.50			18.50					
		44	5220		15.50			15.50			18.50					
		48	5240		15.50			15.50			18.50					
	802.11n-HT40 MCS0	38	5190		15.50			15.50			18.50					
		46	5230		15.50			15.50			18.50					
	802.11ac-VHT20 MCS0	36	5180		15.50			15.50			18.50					
		40	5200		15.50			15.50			18.50					
		44	5220		15.50			15.50			18.50					
	802.11ac-VHT40 MCS0	38	5190		15.50			15.50			18.50					
		46	5230		15.50			15.50			18.50					
	802.11ac-VHT80 MCS0	42	5210		15.50			15.50			18.50					
	802.11ax-HE20 MCS0	36	5180		15.50			15.50			18.50					
		40	5200		15.50			15.50			18.50					
		44	5220		15.50			15.50			18.50					
		48	5240		15.50			15.50			18.50					
802.11ax-HE40 MCS0	38	5190	15.50	15.50	18.50											
	46	5230	15.50	15.50	18.50											
802.11ax-HE80 MCS0	42	5210	15.50	15.50	18.50											



<5.3GHz WLAN_Power table 1_DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2						
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %				
802.11a 6Mbps	52	5260	not required	15.50	not required	not required	15.50	not required	not required	15.50	not required	15.50	not required	18.50	not required				
	56	5280		15.50												15.50	15.50	15.50	18.50
	60	5300		15.50												15.50	15.50	15.50	18.50
	64	5320		15.50												15.50	15.50	15.50	18.50
802.11n-HT20 MCS0	52	5260	not required	15.50	not required	not required	15.50	not required	not required	15.50	not required	15.50	not required	18.50	not required				
	56	5280		15.50												15.50	15.50	15.50	18.50
	60	5300		15.50												15.50	15.50	15.50	18.50
	64	5320		15.50												15.50	15.50	15.50	18.50
802.11n-HT40 MCS0	54	5270	not required	15.50	not required	not required	15.50	not required	not required	15.20	15.50	15.00	15.50	18.11	18.50	85.87			
	62	5310		15.50						15.50	15.20	15.50	18.11	18.50					
802.11ac-VHT20 MCS0	52	5260	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required				
	56	5280		15.50												15.50	15.50	15.50	18.50
	60	5300		15.50												15.50	15.50	15.50	18.50
	64	5320		15.50												15.50	15.50	15.50	18.50
802.11ac-VHT40 MCS0	54	5270	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required				
	62	5310		15.50												15.50	15.50	15.50	18.50
802.11ac-VHT80 MCS0	58	5290	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	85.77				
802.11ac-VHT160 MCS0	50	5250		13.5												13.5	13.5	13.5	17.57
802.11ax-HE20 MCS0	52	5260	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required				
	56	5280		15.50												15.50	15.50	15.50	18.50
	60	5300		15.50												15.50	15.50	15.50	18.50
	64	5320		15.50												15.50	15.50	15.50	18.50
802.11ax-HE40 MCS0	54	5270	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required				
	62	5310		15.50												15.50	15.50	15.50	18.50
802.11ax-HE80 MCS0	58	5290	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required				
802.11ax-HE160 MCS0	50	5250		13.5												13.5	13.5	13.5	16.50



<5.5GHz WLAN_Power table 1_DB5>

5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2													
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %											
5.5GHz WLAN	802.11a 6Mbps	100	5500	not required	15.50	not required	not required	15.50	not required	not required	15.50	not required	15.50	not required	15.50	not required	not required										
		116	5580		15.50			15.50			15.50		15.50		15.50												
		124	5620		15.50			15.50			15.50		15.50		15.50												
		132	5660		15.50			15.50			15.50		15.50		15.50												
	802.11n-HT20 MCS0	144	5720		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
		100	5500		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
		116	5580		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
		124	5620		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
	802.11n-HT40 MCS0	132	5660		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		144	5720		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		102	5510		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		110	5550		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ac-VHT20 MCS0	126	5630		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		134	5670		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		142	5710		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		100	5500		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ac-VHT40 MCS0	116	5580		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		124	5620		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		132	5660		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		144	5720		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ac-VHT80 MCS0	102	5510		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		110	5550		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		126	5630		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		134	5670		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ac-VHT160 MCS0	142	5710		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		106	5530		15.50			15.50			15.50		15.50		15.50			15.50	14.90	15.50	15.00	15.50	17.96	18.50	18.50	85.77	
		122	5610		15.50			15.50			15.50		15.50		15.50			15.50	14.50	15.50	14.90	15.50	17.71	18.50	18.50	85.77	
	802.11ax-HE20 MCS0	138	5690		15.50			15.50			15.50		15.50		15.50			15.50	14.20	15.50	14.80	15.50	17.52	18.50	18.50	85.80	
		114	5570		15.50			15.50			15.50		15.50		15.50			15.50	14.60	15.50	14.70	15.50	17.66	18.50	18.50	85.80	
		100	5500		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
	802.11ax-HE40 MCS0	116	5580		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		124	5620		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		132	5660		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		144	5720		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ax-HE80 MCS0	102	5510		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		110	5550		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		126	5630		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		134	5670		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ax-HE160 MCS0	142	5710		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		106	5530		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		122	5610		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	802.11ax-HE160 MCS0	138	5690		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
		114	5570		15.50			15.50			15.50		15.50		15.50			15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50



<5.8GHz WLAN_Power table 1_DB5>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2																	
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %															
5.8GHz WLAN	802.11a 6Mbps	149	5745	not required	15.50	not required	not required	not required	15.50	not required	15.50	not required	15.50	not required	18.50	not required															
		157	5785		15.50												15.50	15.50	15.50	15.50	15.50										
		165	5825		15.50												15.50	15.50	15.50	15.50	15.50										
	802.11n-HT20 MCS0	149	5745		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		157	5785		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		165	5825		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
	802.11n-HT40 MCS0	151	5755		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		159	5795		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
	802.11ac-VHT20 MCS0	149	5745		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		157	5785		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		165	5825		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
	802.11ac-VHT40 MCS0	151	5755		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
		159	5795		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50		
	802.11ac-VHT80 MCS0	155	5775		15.50												15.50	15.50	15.50	15.50	15.50	15.30	15.50	15.50	15.50	15.50	18.41	18.50	85.77		
	802.11ax-HE20 MCS0	149	5745		15.50												15.50	15.50	15.50	15.50	15.50	not required	15.50	not required	15.50	not required	15.50	not required	18.50	not required	
		157	5785		15.50												15.50	15.50	15.50	15.50	15.50										15.50
		165	5825		15.50												15.50	15.50	15.50	15.50	15.50										15.50
	802.11ax-HE40 MCS0	151	5755		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
		159	5795		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	
	802.11ax-HE80 MCS0	155	5775		15.50												15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	



<WiFi 6E_Power table 1_DB5>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
WiFi 6E	802.11a 6Mbps	1	5955	not required	10.50	not required	not required	10.50	not required	not required	10.50	not required	10.50	not required	13.50	86.00
		57	6235		10.50			10.50			10.50		13.50			
		113	6515		1.50			1.50			1.50		4.50			
		173	6815		10.00			10.00			10.00		13.00			
	802.11ax-HE20 MCS0	233	7115		2.00			2.00			2.00		5.00		85.40	
		1	5955		10.50			10.50			10.50		13.50			
		57	6235		10.50			10.50			10.50		13.50			
		113	6515		4.00			4.00			4.00		7.00			
	802.11ax-HE40 MCS0	173	6815		10.00			10.00			10.00		13.00		85.58	
		233	7115		5.00			5.00			5.00		8.00			
		3	5965		10.50			10.50			10.50		13.50			
		59	6245		10.50			10.50			10.50		13.50			
	802.11ax-HE80 MCS0	107	6485		7.50			7.50			7.50		10.50		85.67	
		171	6805		10.00			10.00			10.00		13.00			
		227	7085		8.50			8.50			8.50		11.50			
		7	5985		10.50			10.50			10.50		13.50			
	802.11ax-HE160 MCS0	71	6305		10.50			10.50			10.50		13.50		85.80	
		119	6545		9.00			9.00			9.00		12.00			
		167	6785		10.00			10.00			10.00		13.00			
		215	7025		9.00			9.00			9.00		12.00			
802.11ax-HE160 MCS0	15	6025	10.50	10.50	10.20	10.50	10.10	10.50	13.16	13.50	85.80					
	47	6185	10.50	10.50	9.80	10.50	9.50	10.50	12.66	13.50						
	111	6505	9.00	9.00	8.30	9.00	8.30	9.00	11.31	12.00						
	143	6665	10.00	10.00	9.90	10.00	9.70	10.00	12.81	13.00						
		207	6985	9.00	9.00	8.80	9.00	8.90	9.00	11.86	12.00					



<2.4GHz WLAN_Power table 2_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2					
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %			
802.11b 1Mbps	1	2412	20.00	20.50	85.83	19.60	20.50	85.83	20.10	20.50	19.90	20.50	23.01	23.50	85.83			
	6	2437	19.90	20.50		19.80	20.50		19.90	20.50	19.90	20.50	22.91	23.50				
	11	2462	19.10	19.50		19.30	19.50		19.10	19.50	19.10	19.50	22.11	22.50				
802.11g 6Mbps	1	2412	not required	20.50	not required	not required	20.50	not required	not required	not required	not required	not required	not required	not required	not required	23.50		
	6	2437		20.50			20.50									20.50	20.50	23.50
	11	2462		16.00			16.00									16.00	16.00	19.00
802.11n-HT20 MCS0	1	2412		20.00			20.00									20.00	20.00	23.00
	6	2437		20.50			20.50									20.50	20.50	23.50
	11	2462		13.00			13.00									13.00	13.00	16.00
802.11n-HT40 MCS0	3	2422		19.00			19.00									19.00	19.00	22.00
	6	2437		19.00			19.00									19.00	19.00	22.00
	9	2452		13.00			13.00									13.00	13.00	16.00
802.11ac-VHT20 MCS0	1	2412		20.00			20.00									20.00	20.00	23.00
	6	2437		20.50			20.50									20.50	20.50	23.50
	11	2462		13.00			13.00									13.00	13.00	16.00
802.11ac-VHT40 MCS0	3	2422		19.00			19.00									19.00	19.00	22.00
	6	2437		19.00			19.00									19.00	19.00	22.00
	9	2452		13.00			13.00									13.00	13.00	16.00
802.11ax-HE20 MCS0	1	2412	20.00	20.00	20.00	20.00	23.00											
	6	2437	20.50	20.50	20.50	20.50	23.50											
	11	2462	13.00	13.00	13.00	13.00	16.00											
802.11ax-HE40 MCS0	3	2422	19.00	19.00	19.00	19.00	22.00											
	6	2437	19.00	19.00	19.00	19.00	22.00											
	9	2452	13.00	13.00	13.00	13.00	16.00											



<5.2GHz WLAN_Power table 2_Non-DBS>

5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
		40	5200		19.00			19.00			19.00		22.00			
		44	5220		19.00			19.00			19.00		22.00			
		48	5240		18.50			18.50			18.50		22.00			
	802.11n-HT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
	802.11n-HT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
		46	5230		20.00			20.00			20.00		23.00			
	802.11ac-VHT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
	802.11ac-VHT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
		46	5230		20.00			20.00			20.00		23.00			
	802.11ac-VHT80 MCS0	42	5210		18.00			18.00			18.00		21.00			
	802.11ax-HE20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
		48	5240		19.50			19.50			19.50		22.50			
	802.11ax-HE40 MCS0	38	5190		18.00			18.00			18.00		21.00			
46		5230	20.00	20.00	20.00	23.00										
802.11ax-HE80 MCS0	42	5210	18.00	18.00	18.00	21.00										



<5.3GHz WLAN_Power table 2_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2							
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %					
802.11a 6Mbps	52	5260	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	86.00					
	56	5280		18.50						18.50				21.50						
	60	5300		19.00						19.00				22.00						
	64	5320		19.00						19.00				22.00						
802.11n-HT20 MCS0	52	5260		19.00					19.00	18.80	19.00	18.50	19.00	21.66	22.00	85.89				
	56	5280		20.00					20.00	19.60	20.00	19.60	20.00	22.61	23.00					
	60	5300		20.00					20.00	19.50	20.00	19.70	20.00	22.61	23.00					
	64	5320		18.00					18.00	18.00	18.00	17.50	18.00	20.77	21.00					
802.11n-HT40 MCS0	54	5270		20.00					20.00	19.70	20.00	19.50	20.00	22.61	23.00	85.87				
	62	5310		17.00					17.00	16.50	17.00	16.70	17.00	19.61	20.00					
802.11ac-VHT20 MCS0	52	5260		not required					19.00	not required	not required	18.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
	56	5280							20.00						20.00				23.00	
	60	5300							20.00						20.00				23.00	
	64	5320							18.00						18.00				21.00	
802.11ac-VHT40 MCS0	54	5270							20.00					20.00	20.00	20.00	20.00	20.00	23.00	not required
	62	5310							17.00					17.00	17.00	17.00	17.00	20.00		
802.11ac-VHT80 MCS0	58	5290	17.50		17.50	17.50	17.50	17.50	20.50											
802.11ac-VHT160 MCS0	50	5250	13.5		13.5	13.5	13.5	13.5	16.50					not required						
802.11ax-HE20 MCS0	52	5260	not required		19.00	not required	not required	13.5	not required					not required	19.00	not required	19.00	not required	22.00	not required
	56	5280			20.00										20.00				23.00	
	60	5300			20.00										20.00				23.00	
	64	5320			18.00										18.00				21.00	
802.11ax-HE40 MCS0	54	5270			20.00									20.00	20.00	20.00	20.00	23.00	not required	
	62	5310			17.00									17.00	17.00	17.00	17.00	20.00		
802.11ax-HE80 MCS0	58	5290			17.50									17.50	17.50	17.50	17.50	20.50		
802.11ax-HE160 MCS0	50	5250			13.5									13.5	13.5	13.5	13.5	16.50		



<5.5GHz WLAN_Power table 2_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2			
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required	
	116	5580		18.50			18.50			21.50						
	124	5620		18.50			18.50			21.50						
	132	5660		18.50			18.50			21.50						
	144	5720		18.50			18.50			21.50						
802.11n-HT20 MCS0	100	5500	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required	
	116	5580		19.00			19.00			22.00						
	124	5620		19.00			19.00			22.00						
	132	5660		19.00			19.00			22.00						
	144	5720		19.00			19.00			22.00						
802.11n-HT40 MCS0	102	5510	not required	19.00	not required	not required	19.00	not required	18.80	19.00	18.50	19.00	22.00	22.00	85.87	
	110	5550		19.50			19.50		19.10	19.50	18.90	19.50	22.01	22.50		
	126	5630		19.50			19.50		19.40	19.50	19.40	19.50	22.41	22.50		
	134	5670		19.00			19.00		18.80	19.00	18.50	19.00	21.66	22.00		
	142	5710		20.00			20.00		20.00	20.00	19.80	20.00	22.91	23.00		
802.11ac-VHT20 MCS0	100	5500	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required	
	116	5580		19.00			19.00			19.00		19.00		22.00		
	124	5620		19.00			19.00			19.00		19.00		22.00		
	132	5660		19.00			19.00			19.00		19.00		22.00		
	144	5720		19.00			19.00			19.00		19.00		22.00		
802.11ac-VHT40 MCS0	102	5510	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required	
	110	5550		19.50			19.50			19.50		19.50		22.50		
	126	5630		19.50			19.50			19.50		19.50		22.50		
	134	5670		19.00			19.00			19.00		19.00		22.00		
	142	5710		20.00			20.00			20.00		20.00		23.00		
802.11ac-VHT80 MCS0	106	5530	not required	17.50	not required	not required	17.50	not required	17.20	17.50	17.00	17.50	20.11	20.50	85.77	
	122	5610		18.50			18.50		18.10	18.50	17.80	18.50	20.96	21.50		
	138	5690		20.00			20.00		19.60	20.00	20.00	20.00	22.81	23.00		
802.11ac-VHT160 MCS0	114	5570	not required	15.50	not required	not required	15.50	not required	not required	not required	not required	15.50	not required	18.50	not required	
802.11ax-HE20 MCS0	100	5500		19.00			19.00					19.00		19.00		22.00
	116	5580		19.00			19.00					19.00		19.00		22.00
	124	5620		19.00			19.00					19.00		19.00		22.00
	132	5660		19.00			19.00					19.00		19.00		22.00
	144	5720		19.00			19.00					19.00		19.00		22.00
802.11ax-HE40 MCS0	102	5510		19.00			19.00					19.00		19.00		22.00
	110	5550		19.50			19.50					19.50		19.50		22.50
	126	5630		19.50			19.50					19.50		19.50		22.50
	134	5670		19.00			19.00					19.00		19.00		22.00
	142	5710		20.00			20.00					20.00		20.00		23.00
802.11ax-HE80 MCS0	106	5530		17.50			17.50					17.50		17.50		20.50
	122	5610		18.50			18.50					18.50		18.50		21.50
	138	5690		20.00			20.00					20.00		20.00		23.00
802.11ax-HE160 MCS0	114	5570		15.50			15.50					15.50		15.50		18.50



<5.8GHz WLAN_Power table 2_Non-DBS>

Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2												
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %										
5.8GHz WLAN	802.11a 6Mbps	149	5745	not required	20.50	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required	not required	86.00							
		157	5785		20.50														20.50	20.20	20.50	20.40	20.50	23.31	23.50
		165	5825		20.50														20.50	20.20	20.50	20.50	23.36	23.50	
	802.11n-HT20 MCS0	149	5745		20.50													20.50	20.50	20.50	20.50	20.50	23.50		
		157	5785		20.50													20.50	20.50	20.50	20.50	23.50			
		165	5825		20.50													20.50	20.50	20.50	20.50	23.50			
	802.11n-HT40 MCS0	151	5755		20.00													20.00	20.00	20.00	20.00	23.00			
		159	5795		20.00													20.00	20.00	20.00	20.00	23.00			
	802.11ac-VHT20 MCS0	149	5745		20.50													20.50	20.50	20.50	20.50	23.50			
		157	5785		20.50													20.50	20.50	20.50	20.50	23.50			
		165	5825		20.50													20.50	20.50	20.50	20.50	23.50			
	802.11ac-VHT40 MCS0	151	5755		20.00													20.00	20.00	20.00	20.00	23.00			
159		5795	20.00	20.00	20.00	20.00	20.00	23.00																	
802.11ac-VHT80 MCS0	155	5775	20.00	20.00	20.00	20.00	20.00	23.00																	
802.11ax-HE20 MCS0	149	5745	20.50	20.50	20.50	20.50	20.50	23.50																	
	157	5785	20.50	20.50	20.50	20.50	20.50	23.50																	
	165	5825	20.50	20.50	20.50	20.50	20.50	23.50																	
802.11ax-HE40 MCS0	151	5755	20.00	20.00	20.00	20.00	20.00	23.00																	
	159	5795	20.00	20.00	20.00	20.00	20.00	23.00																	
802.11ax-HE80 MCS0	155	5775	20.00	20.00	20.00	20.00	20.00	23.00																	



<WiFi 6E_Power table 2_Non-DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
WiFi 6E	802.11a 6Mbps	1	5955	not required	16.00	not required	not required	16.00	not required	not required	16.00	not required	16.00	not required	19.00	not required
		57	6235		16.00			16.00			16.00		19.00			
		113	6515		1.50			1.50			1.50		4.50			
		173	6815		16.00			16.00			16.00		19.00			
	802.11ax-HE20 MCS0	233	7115		2.00			2.00			2.00		5.00			
		1	5955		16.00			16.00			16.00		19.00			
		57	6235		16.00			16.00			16.00		19.00			
		113	6515		4.00			4.00			4.00		8.00			
	802.11ax-HE40 MCS0	173	6815		16.00			16.00			16.00		19.00			
		233	7115		5.00			5.00			5.00		8.00			
		3	5965		16.00			16.00			16.00		19.00			
		59	6245		16.00			16.00			16.00		19.00			
	802.11ax-HE80 MCS0	107	6485		7.50			7.50			7.50		10.50			
		171	6805		16.00			16.00			16.00		19.00			
		227	7085		8.50			8.50			8.50		11.50			
		7	5985		16.00			16.00			16.00		19.00			
	802.11ax-HE160 MCS0	71	6305		16.00			16.00			16.00		19.00			
		119	6545		10.00			10.00			10.00		13.00			
		167	6785		16.00			16.00			16.00		19.00			
		215	7025		10.50			10.50			10.50		13.50			
802.11ax-HE160 MCS0	15	6025	16.00	16.00	15.60	16.00	15.70	16.00	18.66	19.00	85.80					
	47	6185	16.00	16.00	15.90	16.00	15.90	16.00	18.91	19.00						
	111	6505	13.00	13.00	12.70	13.00	12.50	13.00	15.61	16.00						
	143	6665	16.00	16.00	15.80	16.00	15.70	16.00	18.76	19.00						
		207	6985	13.50	13.50	12.60	13.50	12.30	13.50	15.46	16.00					



<2.4GHz WLAN_Power table 2_DBS>

				Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	18.00	18.50	85.83	18.00	18.50	85.83	18.00	18.50	18.20	18.50	21.11	21.50	85.83
		6	2437	17.70	18.50		18.10	18.50		18.00	18.50	18.30	18.50	21.16	21.50	
		11	2462	18.10	18.50		18.10	18.50		18.00	18.50	18.30	18.50	21.16	21.50	
	802.11g 6Mbps	1	2412	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		11	2462		16.00			16.00			16.00		16.00		19.00	
	802.11n-HT20 MCS0	1	2412	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		11	2462		13.00			13.00			13.00		13.00		16.00	
	802.11n-HT40 MCS0	3	2422	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		9	2452		13.00			13.00			13.00		13.00		16.00	
	802.11ac-VHT20 MCS0	1	2412	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		11	2462		13.00			13.00			13.00		13.00		16.00	
	802.11ac-VHT40 MCS0	3	2422	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		9	2452		13.00			13.00			13.00		13.00		16.00	
	802.11ax-HE20 MCS0	1	2412	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		11	2462		13.00			13.00			13.00		13.00		16.00	
	802.11ax-HE40 MCS0	3	2422	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		6	2437		18.50			18.50			18.50		18.50		21.50	
		9	2452		13.00			13.00			13.00		13.00		16.00	



<5.2GHz WLAN_Power table 2_DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	not required	19.00	not required	not required	19.00	not required	not required	19.00	not required	19.00	not required	22.00	not required
		40	5200		19.00			19.00			19.00		22.00			
		44	5220		19.00			19.00			19.00		22.00			
		48	5240		18.50			18.50			18.50		22.00			
	802.11n-HT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
		48	5240		19.50			19.50			19.50		22.50			
	802.11n-HT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
		46	5230		20.00			20.00			20.00		23.00			
	802.11ac-VHT20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
		48	5240		19.50			19.50			19.50		22.50			
	802.11ac-VHT40 MCS0	38	5190		18.00			18.00			18.00		21.00			
		46	5230		20.00			20.00			20.00		23.00			
	802.11ac-VHT80 MCS0	42	5210		18.00			18.00			18.00		21.00			
	802.11ax-HE20 MCS0	36	5180		19.00			19.00			19.00		22.00			
		40	5200		19.50			19.50			19.50		22.50			
		44	5220		19.50			19.50			19.50		22.50			
		48	5240		19.50			19.50			19.50		22.50			
	802.11ax-HE40 MCS0	38	5190		18.00			18.00			18.00		21.00			
		46	5230		20.00			20.00			20.00		23.00			
	802.11ax-HE80 MCS0	42	5210		18.00			18.00			18.00		21.00			



<5.3GHz WLAN_Power table 2_DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	not required	18.50	not required	not required	18.50	not required	not required	18.50	not required	18.50	not required	21.50	not required
		56	5280		18.50			18.50			21.50					
		60	5300		19.00			19.00			22.00					
		64	5320		19.00			19.00			22.00					
	802.11n-HT20 MCS0	52	5260		19.00			19.00			22.00					
		56	5280		20.00			20.00			23.00					
		60	5300		20.00			20.00			23.00					
		64	5320		18.00			18.00			21.00					
	802.11n-HT40 MCS0	54	5270		20.00			20.00			23.00					
		62	5310		17.00			17.00			20.00					
	802.11ac-VHT20 MCS0	52	5260		19.00			19.00			22.00					
		56	5280		20.00			20.00			23.00					
		60	5300		20.00			20.00			23.00					
		64	5320		18.00			18.00			21.00					
	802.11ac-VHT40 MCS0	54	5270		20.00			20.00			23.00					
		62	5310		17.00			17.00			20.00					
	802.11ac-VHT80 MCS0	58	5290		17.50			17.50			20.50					
		50	5250		13.5			13.5			16.50					
	802.11ac-VHT160 MCS0	52	5260		19.00			19.00			22.00					
		56	5280		20.00			20.00			23.00					
		60	5300		20.00			20.00			23.00					
		64	5320		18.00			18.00			21.00					
	802.11ax-HE20 MCS0	54	5270		20.00			20.00			23.00					
		62	5310		17.00			17.00			20.00					
	802.11ax-HE40 MCS0	58	5290		17.50			17.50			20.50					
		50	5250		13.5			13.5			16.50					
	802.11ax-HE80 MCS0	54	5270		20.00			20.00			23.00					
		62	5310		17.00			17.00			20.00					
802.11ax-HE160 MCS0	58	5290	17.50	17.50	20.50											
	50	5250	13.5	13.5	16.50											



<5.5GHz WLAN_Power table 2_DBS>

5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
802.11a 6Mbps	100	5500		18.50			18.50			18.50		18.50		21.50		
	116	5580		18.50			18.50			18.50		18.50		21.50		
	124	5620		18.50			18.50			18.50		18.50		21.50		
	132	5660		18.50			18.50			18.50		18.50		21.50		
	144	5720		18.50			18.50			18.50		18.50		21.50		
802.11n-HT20 MCS0	100	5500		19.00			19.00			19.00		19.00		22.00		
	116	5580		19.00			19.00			19.00		19.00		22.00		
	124	5620		19.00			19.00			19.00		19.00		22.00		
	132	5660		19.00			19.00			19.00		19.00		22.00		
	144	5720		19.00			19.00			19.00		19.00		22.00		
802.11n-HT40 MCS0	102	5510		19.00			19.00			19.00		19.00		22.00		
	110	5550		19.50			19.50		not required	19.50	not required	19.50	not required	22.50	not required	not required
	126	5630		19.50			19.50		not required	19.00	not required	19.00	not required	22.00		
	134	5670		19.00			19.00		not required	19.50	not required	19.50	not required	22.50		
802.11ac-VHT20 MCS0	100	5500		19.00			19.00			19.00		19.00		22.00		
	116	5580		19.00			19.00			19.00		19.00		22.00		
	124	5620		19.00			19.00			19.00		19.00		22.00		
	144	5720		19.00			19.00			19.00		19.00		22.00		
802.11ac-VHT40 MCS0	102	5510		19.00			19.00			19.00		19.00		22.00		
	110	5550	not required	19.50	not required	not required	19.50	not required		19.50		19.50		22.50		
	126	5630	not required	19.50	not required	not required	19.50	not required		19.50		19.50		22.50		
	134	5670		19.00			19.00			19.00		19.00		22.00		
802.11ac-VHT80 MCS0	106	5530		17.50			17.50			17.20	17.50	17.00	17.50	20.11	20.50	
	122	5610		18.50			18.50			18.10	18.50	17.80	18.50	20.96	21.50	85.77
	138	5690		19.50			19.50			18.80	19.50	19.30	19.50	22.07	22.50	
	142	5710		19.50			19.50			19.50		19.50		22.50		
802.11ac-VHT160 MCS0	114	5570		15.50			15.50			15.50		15.50		18.50		
802.11ax-HE20 MCS0	100	5500		19.00			19.00			19.00		19.00		22.00		
	116	5580		19.00			19.00			19.00		19.00		22.00		
	124	5620		19.00			19.00			19.00		19.00		22.00		
	132	5660		19.00			19.00			19.00		19.00		22.00		
	144	5720		19.00			19.00			19.00		19.00		22.00		
802.11ax-HE40 MCS0	102	5510		19.00			19.00			19.00		19.00		22.00		
	110	5550		19.50			19.50		not required	19.50	not required	19.50	not required	22.50	not required	not required
	126	5630		19.50			19.50		not required	19.50	not required	19.50	not required	22.50		
	134	5670		19.00			19.00			19.00		19.00		22.00		
802.11ax-HE80 MCS0	106	5530		17.50			17.50			17.50		17.50		20.50		
	122	5610		18.50			18.50			18.50		18.50		21.50		
	138	5690		19.50			19.50			19.50		19.50		22.50		
	142	5710		19.50			19.50			19.50		19.50		22.50		
802.11ax-HE160 MCS0	114	5570		15.50			15.50			15.50		15.50		18.50		



<5.8GHz WLAN_Power table 2_DBS>

5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2																	
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %															
	802.11a 6Mbps	149	5745	not required	18.50	not required	not required	not required	18.50	not required	18.50	not required	18.50	not required	21.50	not required															
		157	5785		18.50												18.50	18.50	18.50	21.50											
		165	5825		18.50												18.50	18.50	18.50	21.50											
	802.11n-HT20 MCS0	149	5745		18.50												18.50	18.50	18.50	21.50											
		157	5785		18.50												18.50	18.50	18.50	21.50											
		165	5825		18.50												18.50	18.50	18.50	21.50											
	802.11n-HT40 MCS0	151	5755		18.50												18.50	18.50	18.50	21.50											
		159	5795		18.50												18.50	18.50	18.50	21.50											
	802.11ac-VHT20 MCS0	149	5745		18.50												18.50	18.50	18.50	21.50											
		157	5785		18.50												18.50	18.50	18.50	21.50											
		165	5825		18.50												18.50	18.50	18.50	21.50											
	802.11ac-VHT40 MCS0	151	5755		18.50												18.50	18.50	18.50	21.50											
		159	5795		18.50												18.50	18.50	18.50	21.50											
	802.11ac-VHT80 MCS0	155	5775		18.50												18.50	18.10	18.50	18.50	18.50	21.31	21.50	85.77							
	802.11ax-HE20 MCS0	149	5745		18.50												18.50	not required	18.50	not required	18.50	not required	18.50	not required	18.50	not required	21.50	not required			
		157	5785		18.50												18.50												18.50	18.50	21.50
		165	5825		18.50												18.50												18.50	18.50	21.50
	802.11ax-HE40 MCS0	151	5755		18.50												18.50												18.50	18.50	21.50
		159	5795		18.50												18.50												18.50	18.50	21.50
	802.11ax-HE80 MCS0	155	5775		18.50												18.50												18.50	18.50	21.50



<WiFi 6E_Power table 2_DBS>

	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2					
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %			
WiFi 6E	802.11a 6Mbps	1	5955	not required	16.00	not required	not required	16.00	not required	not required	16.00	not required	16.00	not required	19.00	not required			
		57	6235		16.00			16.00			16.00		19.00						
		113	6515		1.50			1.50			1.50		4.50						
		173	6815		16.00			16.00			16.00		19.00						
		233	7115		2.00			2.00			2.00		5.00						
	802.11ax-HE20 MCS0	1	5955		16.00			16.00			16.00		19.00						
		57	6235		16.00			16.00			16.00		19.00						
		113	6515		4.00			4.00			4.00		8.00						
		173	6815		16.00			16.00			16.00		19.00						
		233	7115		5.00			5.00			5.00		8.00						
	802.11ax-HE40 MCS0	3	5965		16.00			16.00			16.00		19.00						
		59	6245		16.00			16.00			16.00		19.00						
		107	6485		7.50			7.50			7.50		10.50						
		171	6805		16.00			16.00			16.00		19.00						
		227	7085		8.50			8.50			8.50		11.50						
	802.11ax-HE80 MCS0	7	5985		16.00			16.00			16.00		19.00						
		71	6305		16.00			16.00			16.00		19.00						
		119	6545		10.00			10.00			10.00		13.00						
		167	6785		16.00			16.00			16.00		19.00						
		215	7025		10.50			10.50			10.50		13.50						
	802.11ax-HE160 MCS0	15	6025		16.00			16.00			15.60		16.00		15.70		16.00	18.66	19.00
		47	6185		16.00			16.00			15.90		16.00		15.90		16.00	18.91	19.00
		111	6505		13.00			13.00			12.70		13.00		12.50		13.00	15.61	16.00
		143	6665		16.00			16.00			15.80		16.00		15.70		16.00	18.76	19.00
		207	6985		13.50			13.50			12.60		13.50		12.30		13.50	15.46	16.50



<2.4GHz WLAN_Power table 3_Non-DBS & DBS>

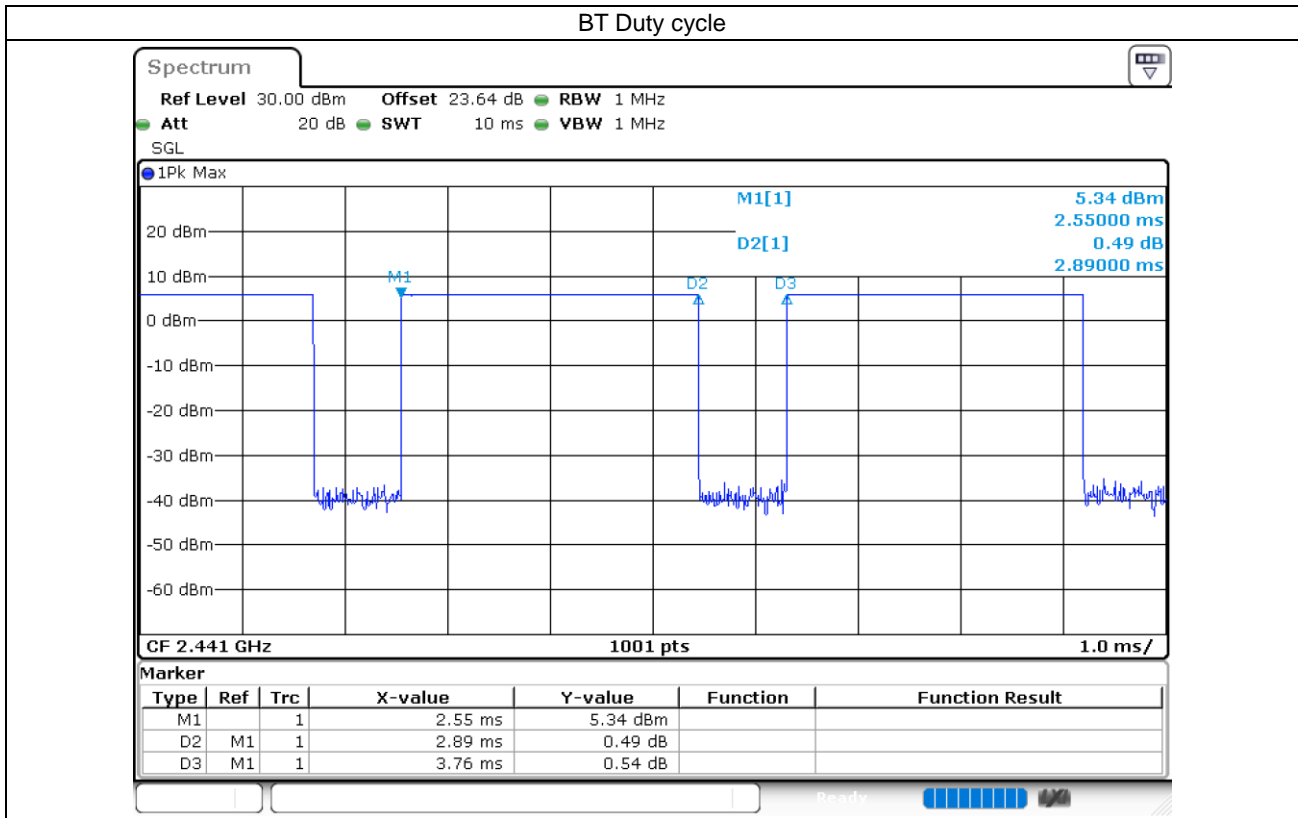
Mode	Channel	Frequency (MHz)	Ant 1			Ant 2			Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
			Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
802.11b 1Mbps	1	2412	14.90	16.00	85.83	14.80	16.00	85.83	14.90	16.00	14.80	16.00	17.86	19.00	85.83
	6	2437	14.70	16.00		14.80	16.00		14.90	16.00	15.00	16.00	17.96	19.00	
	11	2462	14.80	16.00		15.00	16.00		15.10	16.00	15.20	16.00	18.16	19.00	
802.11g 6Mbps	1	2412	not required	16.00	not required	not required	16.00	not required	not required	not required	not required	not required	16.00	19.00	not required
	6	2437		16.00			16.00						16.00	19.00	
	11	2462		16.00			16.00						16.00	19.00	
802.11n-HT20 MCS0	1	2412		16.00			16.00						16.00	19.00	
	6	2437		16.00			16.00						16.00	19.00	
	11	2462		13.00			13.00						13.00	16.00	
802.11n-HT40 MCS0	3	2422		16.00			16.00						16.00	19.00	
	6	2437		16.00			16.00						16.00	19.00	
	9	2452		13.00			13.00						13.00	16.00	
802.11ac-VHT20 MCS0	1	2412		16.00			16.00						16.00	19.00	
	6	2437		16.00			16.00						16.00	19.00	
	11	2462		13.00			13.00						13.00	16.00	
802.11ac-VHT40 MCS0	3	2422		16.00			16.00						16.00	19.00	
	6	2437		16.00			16.00						16.00	19.00	
	9	2452		13.00			13.00						13.00	16.00	
802.11ax-HE20 MCS0	1	2412	16.00	16.00	16.00	19.00									
	6	2437	16.00	16.00	16.00	19.00									
	11	2462	13.00	13.00	13.00	16.00									
802.11ax-HE40 MCS0	3	2422	16.00	16.00	16.00	19.00									
	6	2437	16.00	16.00	16.00	19.00									
	9	2452	13.00	13.00	13.00	16.00									

<2.4GHz Bluetooth>

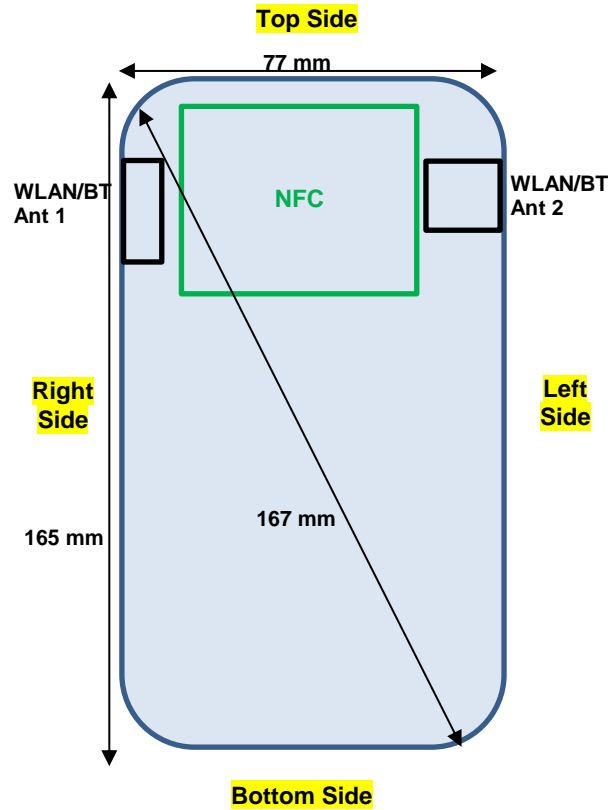
	Mode	Channel	Frequency (MHz)	Ant 1			Ant 2		
				Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
Bluetooth	BR / EDR 1Mbps	0	2402	6.09	6.50	76.86	4.74	6.00	76.86
		39	2441	6.11	6.50		5.43	6.00	
		78	2480	6.39	6.50		5.65	6.00	
	BR / EDR 2Mbps	0	2402	Not Required	5.00	Not Required	Not Required	4.00	Not Required
		39	2441		5.00			4.00	
		78	2480		5.00			4.00	
	BR / EDR 3Mbps	0	2402		5.00			4.00	
		39	2441		5.00			4.00	
		78	2480		5.00			4.00	
	LE 1Mbps	0	2402		6.50			5.50	
		19	2440		6.50			5.50	
		39	2480		6.50			5.50	
	LE 2Mbps	0	2402	6.50	5.50				
		19	2440	6.50	5.50				
		39	2480	6.50	5.50				

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.86% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.



12. Antenna Location



Back View

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WLAN/BT Antenna 1	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
WLAN/BT Antenna 2	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WLAN/BT Antenna 1	Yes	Yes	Yes	No	Yes	Yes
WLAN/BT Antenna 2	Yes	Yes	Yes	No	Yes	Yes

General Note:

- Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.



13. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. The 2.4GHz product specific SAR is not required, due to hotspot mode the measured SAR scaled to the maximum output power, including tolerance is less than 1.2 W/kg .
5. For 5.3GHz / 5.5GHz /6GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16 cm.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For 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.
6. Additional SISO operation for 2.4GHz WLAN is performed Sim-Tx analysis.
7. The device support DBS mode (Dual band simultaneous) for WLAN operation, for RF Exposure was performed at non-DBS power level to do DBS Sim-Tx analysis, if some exposure position does not meet simultaneous transmission requirement additional SAR at DBS power level to meet Sim-Tx compliance.
8. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

WLAN PD Note:

1. The WiFi 6E PD was performed according 2020 TCB workshop RF Exposure 5G RFX Policies Interim Procedures.
2. First, evaluate SAR using 6-7 GHz parameters per IEC/IEEE 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).
3. Per Interim Procedures. The 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
4. 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.
5. The WiFi 6E RF Exposure results are used for simultaneous transmission analysis with the other transmitters and total exposure ratio, the analysis can be found in this report section 14.
6. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
7. Power density was calculated by repeated E-field measurements on two measurement planes separated by $\lambda/4$.
8. 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.
9. The measurement procedure consists of measuring the PD_{inc} at two different distances: 2 mm (compliance distance) and $\lambda/5$. 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 iPD_n fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1 dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

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

NFC Note:

1. NFC was evaluated for extremity based on hand usage conditions.
2. NFC 13.56MHz antenna port is not available on the device to support conducted power measurement, therefore the measured results are referred to as reported SAR.
3. NFC SAR test tissue-simulating liquid parameter: refer to IEC/IEEE 62209-1528 2020.



13.1 Head SAR

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	20.00	20.50	1.122	85.83	1.165	0.06	0.061	0.080
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	20.00	20.50	1.122	85.83	1.165	-0.09	0.040	0.052
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	20.00	20.50	1.122	85.83	1.165	-0.08	0.215	0.281
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	20.00	20.50	1.122	85.83	1.165	0.13	0.053	0.069
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 2	1	2412	20.00	20.50	1.122	85.83	1.165	0.14	0.206	0.269
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 3	1	2412	20.00	20.50	1.122	85.83	1.165	-0.17	0.201	0.263
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 1	Battery 4	1	2412	20.00	20.50	1.122	85.83	1.165	0.17	0.204	0.267
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	Non-DBS	Sample 2	Battery 1	1	2412	20.00	20.50	1.122	85.83	1.165	-0.01	0.352	0.460
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1	Power table 2	DBS	Sample 2	Battery 1	11	2462	18.10	18.50	1.096	85.83	1.165	-0.02	0.206	0.263
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	6	2437	19.80	20.50	1.175	85.83	1.165	0.16	0.677	0.927
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	6	2437	19.80	20.50	1.175	85.83	1.165	-0.1	0.385	0.527
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	6	2437	19.80	20.50	1.175	85.83	1.165	0.07	0.331	0.453
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	6	2437	19.80	20.50	1.175	85.83	1.165	0.18	0.237	0.324
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.60	20.50	1.230	85.83	1.165	-0.1	0.642	0.920
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 1	11	2462	19.30	19.50	1.047	85.83	1.165	0.01	0.649	0.792
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 2	6	2437	19.80	20.50	1.175	85.83	1.165	0.08	0.654	0.895
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 3	6	2437	19.80	20.50	1.175	85.83	1.165	0.03	0.614	0.840
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 1	Battery 4	6	2437	19.80	20.50	1.175	85.83	1.165	-0.08	0.629	0.861
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 2	Battery 1	6	2437	19.80	20.50	1.175	85.83	1.165	0.1	0.685	0.938
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 2	Battery 1	1	2412	19.60	20.50	1.230	85.83	1.165	0.07	0.612	0.877
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	Non-DBS	Sample 2	Battery 1	11	2462	19.30	19.50	1.047	85.83	1.165	0.09	0.632	0.771
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 2	Power table 2	DBS	Sample 2	Battery 1	11	2462	18.10	18.50	1.096	85.83	1.165	-0.13	0.393	0.502
01	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.17	0.814	1.089
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.1	0.349	0.467
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	-0.17	0.577	0.772
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.04	0.359	0.480
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	6	2437	19.90	20.50	1.148	85.83	1.165	-0.01	0.774	1.035
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	11	2462	19.10	19.50	1.096	85.83	1.165	-0.08	0.729	0.931
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 2	1	2412	19.90	20.50	1.148	85.83	1.165	-0.18	0.801	1.071
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 3	1	2412	19.90	20.50	1.148	85.83	1.165	0.1	0.792	1.059
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 4	1	2412	19.90	20.50	1.148	85.83	1.165	0.12	0.769	1.029
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.05	0.799	1.069
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	6	2437	19.90	20.50	1.148	85.83	1.165	-0.18	0.765	1.023
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	11	2462	19.10	19.50	1.096	85.83	1.165	0.07	0.773	0.987
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(1)	Power table 2	DBS	Sample 1	Battery 1	11	2462	18.00	18.50	1.122	85.83	1.165	0.04	0.556	0.727



FCC SAR TEST REPORT

Report No. : FA3D0601

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	54	5270	19.50	20.00	1.122	85.87	1.165	-0.05	0.337	0.441
	WLAN5GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	54	5270	19.50	20.00	1.122	85.87	1.165	0.01	0.309	0.404
02	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	54	5270	19.50	20.00	1.122	85.87	1.165	-0.09	0.432	0.565
	WLAN5GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	54	5270	19.50	20.00	1.122	85.87	1.165	-0.05	0.367	0.480
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 2	54	5270	19.50	20.00	1.122	85.87	1.165	-0.11	0.406	0.531
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 3	54	5270	19.50	20.00	1.122	85.87	1.165	0.12	0.422	0.552
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 4	54	5270	19.50	20.00	1.122	85.87	1.165	-0.19	0.385	0.503
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	54	5270	19.50	20.00	1.122	85.87	1.165	0.17	0.378	0.494
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	138	5690	19.60	20.00	1.096	85.77	1.166	-0.18	0.534	0.683
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	138	5690	19.60	20.00	1.096	85.77	1.166	0.1	0.519	0.664
03	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	138	5690	19.60	20.00	1.096	85.77	1.166	-0.05	0.731	0.935
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	138	5690	19.60	20.00	1.096	85.77	1.166	0.08	0.557	0.712
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	106	5530	17.00	17.50	1.122	85.77	1.166	-0.03	0.301	0.394
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	122	5610	17.80	18.50	1.175	85.77	1.166	-0.17	0.365	0.500
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	142	5710	19.80	20.00	1.047	85.87	1.165	0.14	0.647	0.789
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 2	138	5690	19.60	20.00	1.096	85.77	1.166	-0.11	0.701	0.896
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 3	138	5690	19.60	20.00	1.096	85.77	1.166	0.12	0.693	0.886
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 4	138	5690	19.60	20.00	1.096	85.77	1.166	-0.19	0.692	0.885
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	138	5690	19.60	20.00	1.096	85.77	1.166	0.11	0.638	0.816
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	106	5530	17.00	17.50	1.122	85.77	1.166	-0.12	0.344	0.450
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	122	5610	17.80	18.50	1.175	85.77	1.166	0.09	0.501	0.686
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	142	5710	19.80	20.00	1.047	85.87	1.165	0.18	0.625	0.762
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	DBS	Sample 1	Battery 1	138	5690	18.80	19.50	1.175	85.77	1.166	-0.03	0.577	0.790
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.08	0.641	0.799
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.01	0.633	0.789
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.03	0.861	1.073
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	-0.08	0.780	0.972
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	149	5745	20.00	20.50	1.122	86	1.163	-0.08	0.762	0.994
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	157	5785	20.20	20.50	1.072	86	1.163	0.1	0.807	1.006
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	149	5745	20.00	20.50	1.122	86	1.163	-0.08	0.712	0.929
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	157	5785	20.20	20.50	1.072	86	1.163	0.1	0.762	0.950
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 2	165	5825	20.20	20.50	1.072	86	1.163	0.12	0.852	1.062
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 3	165	5825	20.20	20.50	1.072	86	1.163	0.16	0.822	1.024
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 4	165	5825	20.20	20.50	1.072	86	1.163	-0.19	0.814	1.014
04	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.02	0.945	1.178
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	149	5745	20.00	20.50	1.122	86	1.163	0.16	0.901	1.176
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	157	5785	20.20	20.50	1.072	86	1.163	0.09	0.906	1.129
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	DBS	Sample 2	Battery 1	155	5775	18.10	18.50	1.096	85.77	1.166	0.06	0.573	0.733

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m ²)	Reported APD (W/m ²)
	WLAN6GHz	802.11ax-HE160 MCS0	Right Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	47	6185	15.90	16.00	1.023	85.8	1.166	0	0.313	0.373	2.410	2.876
	WLAN6GHz	802.11ax-HE160 MCS0	Right Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	47	6185	15.90	16.00	1.023	85.8	1.166	-0.1	0.298	0.356	2.300	2.744
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	47	6185	15.90	16.00	1.023	85.8	1.166	0.07	0.331	0.395	1.610	1.921
	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	47	6185	15.90	16.00	1.023	85.8	1.166	0.03	0.200	0.239	2.560	3.054
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	15	6025	15.60	16.00	1.096	85.8	1.166	0.04	0.276	0.353	2.200	2.813
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	111	6505	12.70	13.00	1.072	85.8	1.166	-0.09	0.172	0.215	1.320	1.649
05	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	143	6665	15.70	16.00	1.072	85.8	1.166	-0.17	0.408	0.510	3.120	3.898
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 1	Battery 1	207	6985	12.60	13.50	1.230	85.8	1.166	-0.01	0.289	0.415	1.730	2.482
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 2	143	6665	15.70	16.00	1.072	85.8	1.166	-0.08	0.388	0.485	3.060	3.823
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 3	143	6665	15.70	16.00	1.072	85.8	1.166	-0.11	0.372	0.465	2.960	3.698
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 4	143	6665	15.70	16.00	1.072	85.8	1.166	0.15	0.368	0.460	2.920	3.648
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 2	Battery 1	143	6665	15.70	16.00	1.072	85.8	1.166	-0.07	0.327	0.409	2.490	3.111



<Bluetooth SAR>

Table with 17 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains 27 rows of Bluetooth SAR test data.

13.2 Hotspot SAR

<WLAN SAR>

Table with 19 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Status, Non-DBS / DBS, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains 36 rows of WLAN SAR test data.



<Bluetooth SAR>

Table with 18 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains 30 rows of Bluetooth SAR data.

13.3 Body Worn Accessory SAR

<WLAN SAR>

Table with 20 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Status, Non-DBS / DBS, Holster, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains 40 rows of WLAN SAR data.



Table with 20 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Status, Non-DBS / DBS, Holster, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains multiple rows of test data for various frequencies and antenna configurations.

Table with 20 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Status, Non-DBS / DBS, Holster, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg), Measured APD (W/m^2), Reported APD (W/m^2). Contains multiple rows of test data for 6GHz band.

**<Bluetooth SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Holster	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 1	-	Sample 1	Battery 1	78	2480	6.39	6.50	1.026	76.86	1.084	0	0.001	0.001
14	Bluetooth	1Mbps	Back	10mm	Ant 1	-	Sample 1	Battery 1	78	2480	6.39	6.50	1.026	76.86	1.084	0.14	0.025	0.028
	Bluetooth	1Mbps	Back	0mm	Ant 1	Holster	Sample 1	Battery 1	78	2480	6.39	6.50	1.026	76.86	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Back	10mm	Ant 1	-	Sample 1	Battery 2	78	2480	6.39	6.50	1.026	76.86	1.084	-0.12	0.022	0.024
	Bluetooth	1Mbps	Back	10mm	Ant 1	-	Sample 1	Battery 3	78	2480	6.39	6.50	1.026	76.86	1.084	0.06	0.020	0.022
	Bluetooth	1Mbps	Back	10mm	Ant 1	-	Sample 1	Battery 4	78	2480	6.39	6.50	1.026	76.86	1.084	0.01	0.023	0.026
	Bluetooth	1Mbps	Back	10mm	Ant 1	-	Sample 2	Battery 1	78	2480	6.39	6.50	1.026	76.86	1.084	0.08	0.011	0.012
	Bluetooth	1Mbps	Front	10mm	Ant 2	-	Sample 1	Battery 1	78	2480	5.65	6.00	1.084	76.86	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Back	10mm	Ant 2	-	Sample 1	Battery 1	78	2480	5.65	6.00	1.084	76.86	1.084	0.09	0.011	0.013
	Bluetooth	1Mbps	Back	0mm	Ant 2	Holster	Sample 1	Battery 1	78	2480	5.65	6.00	1.084	76.86	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Back	10mm	Ant 2	-	Sample 1	Battery 2	78	2480	5.65	6.00	1.084	76.86	1.084	-0.07	0.008	0.009
	Bluetooth	1Mbps	Back	10mm	Ant 2	-	Sample 1	Battery 3	78	2480	5.65	6.00	1.084	76.86	1.084	0.11	0.009	0.011
	Bluetooth	1Mbps	Back	10mm	Ant 2	-	Sample 1	Battery 4	78	2480	5.65	6.00	1.084	76.86	1.084	-0.19	0.008	0.009
	Bluetooth	1Mbps	Back	10mm	Ant 2	-	Sample 2	Battery 1	78	2480	5.65	6.00	1.084	76.86	1.084	-0.14	0.007	0.008

13.4 Product Specific SAR**<WLAN SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	0.01	0.097	0.130
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	0.1	0.876	1.173
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	-0.17	0.922	1.234
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	0.04	1.100	1.473
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	-0.08	0.195	0.261
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 2	58	5290	16.40	17.00	1.148	85.77	1.166	-0.12	1.040	1.392
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 3	58	5290	16.40	17.00	1.148	85.77	1.166	0.09	1.020	1.366
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 4	58	5290	16.40	17.00	1.148	85.77	1.166	0.13	1.080	1.446
15	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 2	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	-0.14	1.380	1.847
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	-0.06	0.112	0.153
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	0.09	0.564	0.772
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	-0.11	0.815	1.117
16	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	-0.06	1.290	1.767
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	0.11	0.169	0.232
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 2	138	5690	16.30	17.00	1.175	85.77	1.166	0.09	1.270	1.740
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 3	138	5690	16.30	17.00	1.175	85.77	1.166	0.07	1.240	1.699
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 4	138	5690	16.30	17.00	1.175	85.77	1.166	0.12	1.190	1.630
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 2	Battery 1	138	5690	16.30	17.00	1.175	85.77	1.166	-0.16	1.240	1.699
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	0.04	0.178	0.243
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	0.09	0.765	1.048
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	-0.12	1.250	1.712
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	0.09	1.570	2.151
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	0.07	0.307	0.420
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	159	5795	16.70	17.50	1.202	85.87	1.165	0.09	1.480	2.073
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 2	155	5775	16.80	17.50	1.175	85.77	1.166	-0.15	1.500	2.055
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 3	155	5775	16.80	17.50	1.175	85.77	1.166	0.03	1.480	2.027
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 4	155	5775	16.80	17.50	1.175	85.77	1.166	0.1	1.450	1.986
17	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 2	Battery 1	155	5775	16.80	17.50	1.175	85.77	1.166	-0.06	1.600	2.192
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 2	Battery 1	159	5795	16.70	17.50	1.202	85.87	1.165	0.11	1.550	2.171



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Measured APD (W/m ²)	Reported APD (W/m ²)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	15	6025	10.10	10.50	1.096	85.8	1.166	-0.14	0.023	0.029	0.561	0.717
	WLAN6GHz	802.11ax-HE160 MCS0	Back	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	15	6025	10.10	10.50	1.096	85.8	1.166	0.06	0.058	0.074	1.420	1.815
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	15	6025	10.10	10.50	1.096	85.8	1.166	-0.11	0.131	0.167	3.190	4.078
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	15	6025	10.10	10.50	1.096	85.8	1.166	-0.01	0.275	0.352	6.690	8.553
	WLAN6GHz	802.11ax-HE160 MCS0	Top Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	15	6025	10.10	10.50	1.096	85.8	1.166	-0.13	0.033	0.042	0.803	1.027
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	47	6185	9.50	10.50	1.259	85.8	1.166	0.02	0.245	0.360	6.350	9.321
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	111	6505	8.30	9.00	1.175	85.8	1.166	0.02	0.309	0.423	7.500	10.274
18	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	143	6665	9.70	10.00	1.072	85.8	1.166	-0.03	0.381	0.476	9.260	11.569
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(1)	Power table 1	Non-DBS	Sample 1	Battery 1	207	6985	8.80	9.00	1.047	85.8	1.166	0.06	0.199	0.243	4.820	5.885
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 2	143	6665	9.70	10.00	1.072	85.8	1.166	0.01	0.375	0.469	9.110	11.382
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 3	143	6665	9.70	10.00	1.072	85.8	1.166	0.05	0.372	0.465	8.920	11.145
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 4	143	6665	9.70	10.00	1.072	85.8	1.166	-0.14	0.376	0.470	8.990	11.232
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 2	Battery 1	143	6665	9.70	10.00	1.072	85.8	1.166	0.03	0.337	0.421	8.190	10.233

<NFC SAR>

Plot No.	Band	Test Position	Gap (mm)	Sample	Freq. (MHz)	Power Drift (dB)	Measured 10g SAR (W/kg)
19	NFC	Front	0mm	Sample 1	13.56	0	< 0.001
	NFC	Back	0mm	Sample 1	13.56	0	< 0.001
	NFC	Left Side	0mm	Sample 1	13.56	0	< 0.001
	NFC	Right Side	0mm	Sample 1	13.56	0	< 0.001
	NFC	Top Side	0mm	Sample 1	13.56	0	< 0.001
	NFC	Front	0mm	Sample 2	13.56	0	< 0.001



13.5 Supplemental SAR Results

General Note:

- 1. Guidance is here provided in regard to RF devices that use sensors to detect a "on-body" use conditions...
2. Accordingly, it is possible to consider that, if the particular device under test (DUT) is shown to be RF-exposure-compliant at 25 mm...

<WLAN SAR>

Table with 19 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Status, Non-DBS / DBS, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Contains multiple rows of test data.



13.6 6GHz PD SAR Result

Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	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	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	0.0625	1.5	0.522396181	2.93	3.27
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	10mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	0.25	1.33		2.19	2.24
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	207	6985	8.80	0.0625	2.36	0.46576142	3	3.63
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	8.59mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	207	6985	8.80	0.25	2.12		1.53	1.68

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	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)
01	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 1+2	Power table 2	Non-DBS	Sample 1	15	6025	15.60	16.00	1.096	85.80	1.166	0.0625	1.5535	0.02	2.59	5.14	3.47	6.89
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 1+2	Power table 2	Non-DBS	Sample 1	47	6185	15.90	16.00	1.023	85.80	1.166	0.0625	1.5535	-0.07	2.61	4.84	4.22	7.82
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 1+2	Power table 2	Non-DBS	Sample 1	111	6505	12.50	13.00	1.122	85.80	1.166	0.0625	1.5535	-0.09	1.13	2.30	1.52	3.09
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 1+2	Power table 2	Non-DBS	Sample 1	143	6665	15.70	16.00	1.072	85.80	1.166	0.0625	1.5535	0.15	3.15	6.11	4.03	7.82
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 1+2	Power table 2	Non-DBS	Sample 1	207	6985	12.30	13.50	1.318	85.80	1.166	0.0625	1.5535	-0.1	1.4	3.34	1.93	4.61
	WLAN6GHz	802.11a 6Mbps	Front	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	10.50	1.096	85.80	1.166	0.0625	1.5535	0.01	0.245	0.49	0.273	0.54
	WLAN6GHz	802.11a 6Mbps	Back	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	10.50	1.096	85.80	1.166	0.0625	1.5535	-0.06	0.617	1.23	0.689	1.37
	WLAN6GHz	802.11a 6Mbps	Left Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	10.50	1.096	85.80	1.166	0.0625	1.5535	0.03	1.39	2.76	1.55	3.08
	WLAN6GHz	802.11a 6Mbps	Top Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	10.50	1.096	85.80	1.166	0.0625	1.5535	0.02	0.351	0.70	0.392	0.78
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	15	6025	10.10	10.50	1.096	85.80	1.166	0.0625	1.5535	0	2.93	5.82	3.27	6.49
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	47	6185	9.50	10.50	1.259	85.80	1.166	0.0625	1.5535	-0.03	2.95	6.73	3.28	7.48
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	111	6505	8.30	9.00	1.175	85.80	1.166	0.0625	1.5535	0	3.24	6.90	3.44	7.32
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	143	6665	9.70	10.00	1.072	85.80	1.166	0.0625	1.5535	0.05	3.19	6.19	3.49	6.77
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 1+2	Power table 1	Non-DBS	Sample 1	207	6985	8.80	9.00	1.047	85.80	1.166	0.0625	1.5535	0	3	5.69	3.63	6.89

13.7 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Status	Non-DBS / DBS	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.17	0.814	-	1.089
2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 1+2(2)	Power table 2	Non-DBS	Sample 1	Battery 1	1	2412	19.90	20.50	1.148	85.83	1.165	0.11	0.799	1.019	1.069
1st	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.02	0.945	-	1.178
2nd	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 1+2(1)	Power table 2	Non-DBS	Sample 2	Battery 1	165	5825	20.20	20.50	1.072	86	1.163	0.08	0.901	1.049	1.123
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	0.09	0.866	-	1.159
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 1+2(2)	Power table 1	Non-DBS	Sample 1	Battery 1	58	5290	16.40	17.00	1.148	85.77	1.166	0.09	0.842	1.029	1.127

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
- 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.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

14. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific
Non-DBS					
1.	2.4GHz WLAN Ant 1+2 (5/6GHz WLAN Rx)			Yes	
2.	2.4GHz WLAN Ant 2 + Bluetooth Ant 1 (5/6GHz WLAN Rx)			Yes	
3.	2.4GHz WLAN Ant 1 + Bluetooth Ant 2 (5/6GHz WLAN Rx)			Yes	
4.	2.4GHz WLAN Ant 2 + Bluetooth Ant 1 + NFC	Yes	Yes		Yes
5.	2.4GHz WLAN Ant 1 + Bluetooth Ant 2 + NFC	Yes	Yes		Yes
6.	5/6GHz WLAN Ant 1+2 + Bluetooth Ant 1 / 2 + NFC	Yes	Yes		Yes
DBS					
7.	WLAN2.4GHz Ant 1+2 + WLAN5/6GHz Ant 1+2 + NFC	Yes	Yes		Yes
8.	WLAN2.4GHz Ant 1 + WLAN5/6GHz Ant 1+2 + Bluetooth Ant 2 + NFC	Yes	Yes		Yes
9.	WLAN2.4GHz Ant 2 + WLAN5/6GHz Ant 1+2 + Bluetooth Ant 1 + NFC	Yes	Yes		Yes

General Note:

1. The device 2.4GHz support hotspot operation via 5/6GHz receive signal.
2. The worst case reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission.
3. The Scaled SAR summation is calculated based on the same configuration and test position.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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 $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

14.1 Head Exposure Conditions

<Non-DBS>

Exposure Position	1	2	3	4	5	6	1+6 Summed 1g SAR (W/kg)	2+5 Summed 1g SAR (W/kg)	4+5 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 2 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	WLAN5/6GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)				
Right Cheek at 0mm	0.080	0.938	1.089	0.799	0.001	0.033	0.113	0.939	0.800	0.832
Right Tilted at 0mm	0.052	0.527	0.467	0.789	0.001	0.001	0.053	0.528	0.790	0.790
Left Cheek at 0mm	0.460	0.453	0.772	1.178	0.013	0.001	0.461	0.466	1.191	1.179
Left Tilted at 0mm	0.069	0.324	0.480	0.972	0.001	0.001	0.070	0.325	0.973	0.973

<DBS>

Exposure Position	1	2	3	4	5	6	3+4 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)	2+4+5 Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 2 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	WLAN5/6GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)			
Right Cheek at 0mm	0.080	0.502	0.727	0.799	0.001	0.033	1.526	0.912	1.302
Right Tilted at 0mm	0.052	0.527	0.467	0.789	0.001	0.001	1.256	0.842	1.317
Left Cheek at 0mm	0.263	0.453	0.772	0.790	0.013	0.001	1.562	1.054	1.256
Left Tilted at 0mm	0.069	0.324	0.480	0.972	0.001	0.001	1.452	1.042	1.297

14.2 Hotspot Exposure Conditions

Exposure Position	1	2	3	5	6	1+6 Summed 1g SAR (W/kg)	2+5 Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 2 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)		
Front at 10mm -	0.024	0.073	0.106	0.001	0.001	0.025	0.074
Back at 10mm -	0.432	0.183	1.148	0.028	0.013	0.445	0.211
Left side at 10mm -	0.084	0.023	0.242	0.001	0.001	0.085	0.024
Right side at 10mm -	0.332	0.100	0.983	0.001	0.001	0.333	0.101
Top side at 10mm -	0.047	0.122	0.136	0.001	0.001	0.048	0.123

14.3 Body-Worn Accessory Exposure Conditions

<Non-DBS>

Exposure Position	1	2	3	4	5	6	1+6 Summed 1g SAR (W/kg)	2+5 Summed 1g SAR (W/kg)	4+5 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 2 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	WLAN5/6GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)				
Front at 10mm	0.024	0.073	0.106	0.310	0.001	0.001	0.025	0.074	0.311	0.311
Back at 10mm	0.432	0.183	1.148	1.159	0.028	0.013	0.445	0.211	1.187	1.172
Back at 0mm Holster	0.177	0.050	0.798	0.712	0.001	0.001	0.178	0.051	0.713	0.713

<DBS>

Exposure Position	1	2	3	4	5	6	3+4 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)	2+4+5 Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 2 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	WLAN5/6GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)			
Front at 10mm	0.024	0.073	0.106	0.310	0.001	0.001	0.416	0.335	0.384
Back at 10mm	0.255	0.102	0.793	0.795	0.028	0.013	1.588	1.063	0.925
Back at 0mm Holster	0.177	0.050	0.798	0.712	0.001	0.001	1.510	0.890	0.763

14.4 Product Specific Exposure Conditions

<Non-DBS&DBS>

Exposure Position	Exposure Position	1	2	1+2 Summed 10g SAR (W/kg)
		WLAN5/6GHz Ant 1+2 10g SAR (W/kg)	NFC 10g SAR (W/kg)	
Front at 0mm	Front	0.243	0.001	0.244
Back at 0mm	Back	1.173	0.001	1.174
Left Side at 0mm	Left Side	1.712	0.001	1.713
Right Side at 0mm	Right Side	2.192	0.001	2.193
Top Side at 0mm	Top Side	0.420	0.001	0.421

Test Engineer : Ben Wang, Putzie Chen, Carter Jhuang and Mood Huang

15. Uncertainty Assessment

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A 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/√3	1/√6	1/√2

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

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

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

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

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



Applicable for SAR Measurements:

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

Applicable for Power Density Measurements:

Error Description	Uncertainty Value (±dB)	Probability	Divisor	(Ci)	Standard Uncertainty (±dB)
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response (BW ≤ 1 GHz)	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependence	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 dependent 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



16. References

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