



No. 24T04Z100905-010



SAR TEST REPORT

No. 24T04Z100905-010

For

OnePlus Technology (Shenzhen) Co., Ltd.

Tablet

Model Name: OPD2403

with

Hardware Version: 88666_1_11

Software Version: OPD2403_14.1.0

FCC ID: 2ABZ2-OPD2403

Issued Date: 2024-06-14

Note:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
24T04Z100905-010	Rev.0	2024-06-12	Initial creation of test report
24T04Z100905-010	Rev.1	2024-06-14	Update the information on page 56. Update the information on page 57.

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1 Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China 100191

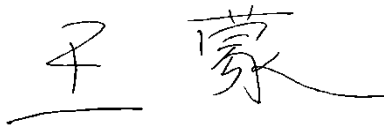
1.3. Testing Environment

Normal Temperature: 15-35°C
Extreme Temperature: -10/+55°C
Relative Humidity: 20-75%

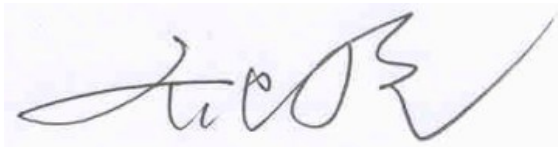
1.4. Project data

Testing Start Date: 2024-05-25
Testing End Date: 2024-06-05

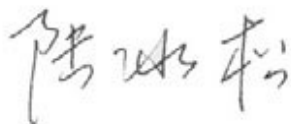
1.5. Signature



Wang Meng
(Prepared this test report)



Qi Dianyuan
(Reviewed this test report)



Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for OnePlus Technology (Shenzhen) Co., Ltd. Tablet OPD2403 are as follows:

Table 2.1: Highest Reported SAR (1g)

Technology Band	ANT	Body SAR 1g (W/kg)
WLAN 2.4GHz	0	0.65
	1	0.54
	MIMO	0.59
WLAN 5GHz	0	0.94
	1	0.93
	MIMO	0.93
WLAN 6GHz	0	0.12
	1	0.16
Bluetooth	0	0.16
	1	0.17

The SAR values found for the tablet PC are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 0mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of **(Table 2.1)**, and the values are:

Body: 0.94 W/kg(1g)

Table 2.2: The sum of SAR values for WiFi-2.4 + WiFi-5G

	Position	WiFi-5G	WiFi-2.4G	Sum
Highest SAR value for Body	Top 0mm	0.541	0.938	1.479

According to the above tables, the highest sum of reported SAR values is **1.479 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 15.

Conclusion:

According to the above tables, the sum of reported SAR values is <1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

3 Client Information

3.1 Applicant Information

Company Name:	OnePlus Technology (Shenzhen) Co., Ltd.
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3.2 Manufacturer Information

Company Name:	OnePlus Technology (Shenzhen) Co., Ltd.
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Contact Person:	Ariel Cheng
E-mail:	ariel.cheng@oneplus.com
Telephone:	(86)75561882366
Fax:	/

4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

4.1 About EUT

Description:	Tablet		
Model name:	OPD2403		
Operating mode(s):	Wi-Fi(2.4G), Wi-Fi(5G), Wi-Fi(6G),BT		
Tested Tx Frequency:	2412 – 2462 MHz (Wi-Fi 2.4G)		
	2400 – 2483.5 MHz (Bluetooth)		
	5180 – 5240 MHz	(Wi-Fi 5G)	
	5260 – 5320 MHz		
	5500 – 5700 MHz		
	5745 – 5825 MHz		
	5925 – 6425 MHz	(Wi-Fi 6E)	
	6425 – 6525 MHz		
	6525 – 6875 MHz		
	6875 – 7125 MHz		
Test device production information:	Production unit		
Device type:	Portable device		
Antenna type:	Integrated antenna		
Hotspot mode:	Support		

4.2 Internal Identification of EUT used during the test

EUT ID*	IMEI/SN	HW Version	SW Version
EUT1	W621521000006E3U900931	88666_1_11	OPD2403_14.1.0
EUT2	W621521000006E3U900935	88666_1_11	OPD2403_14.1.0
EUT3	W621521000006E3U900928	88666_1_11	OPD2403_14.1.0

*EUT ID: is used to identify the test sample in the lab internally.

Note: It is performed to test SAR with the EUT1-2 and conducted power with the EUT3.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	BLT009	/	Sunwoda Electronic Co., Ltd.

*AE ID: is used to identify the test sample in the lab internally.

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

ANSI C95.1–1992:IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

IEEE 1528–2013: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

KDB447498 D01: General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

KDB616217 D04 SAR for laptop and tablets v01r02 SAR Evaluation Considerations for Laptop, Notebook, Notebook and Tablet Computers.

KDB941225 D06 Hotspot Mode SAR v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

KDB248227 D01 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations

TCB Workshop April 27, 2022:RF Exposure Procedures

6 Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

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

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = c \left(\frac{\delta T}{\delta t} \right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

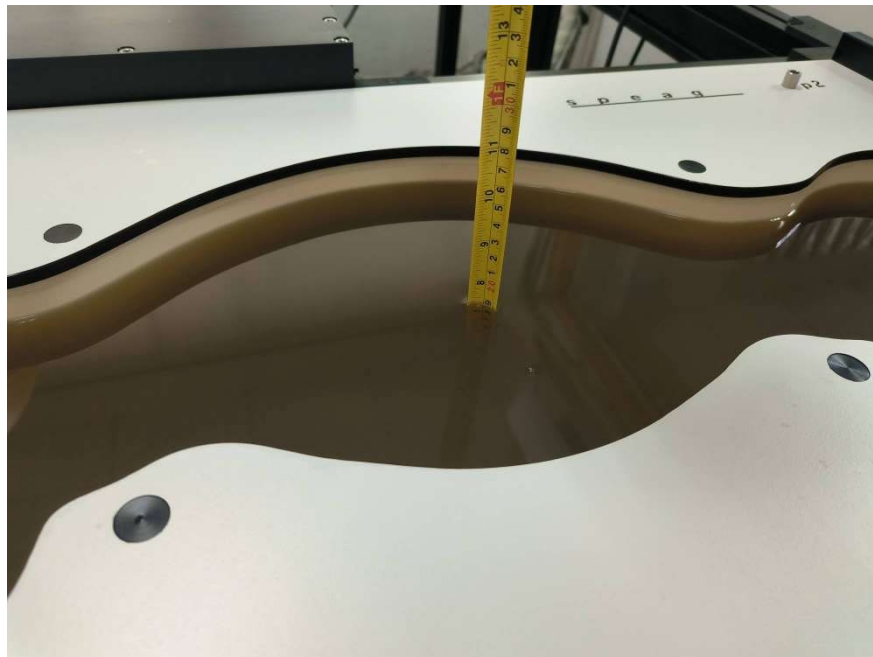
Frequency(MHz)	Liquid Type	Conductivity(σ)	$\pm 5\%$ Range	Permittivity(ϵ)	$\pm 5\%$ Range
2450	Head	1.80	1.62~1.98	39.2	35.28~43.12
5250	Head	4.71	4.47~4.95	35.93	34.13~37.73
5600	Head	5.07	4.82~5.32	35.53	33.8~37.3
5750	Head	5.22	4.96~5.48	35.36	33.59~37.13
6500	Head	6.07	5.77~6.37	34.50	32.78~36.23

7.2 Dielectric Performance

Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ϵ	Drift (%)	Conductivity σ (S/m)	Drift (%)
2024/5/25	Head	2450 MHz	39.55	0.89	1.841	2.28
2024/6/5	Head	5250 MHz	35.40	-1.48	4.750	0.85
2024/6/5	Head	5250 MHz	35.00	-2.59	4.619	-1.93
2024/6/5	Head	5600 MHz	34.74	-2.22	5.133	1.24
2024/6/5	Head	5600 MHz	34.03	-4.22	5.009	-1.20
2024/6/5	Head	5750 MHz	34.44	-2.60	5.305	1.63
2024/6/5	Head	5750 MHz	33.75	-4.55	5.207	-0.25
2024/5/26	Head	6500 MHz	34.00	-1.45	6.080	0.16

Note: The liquid temperature is 22.0°C

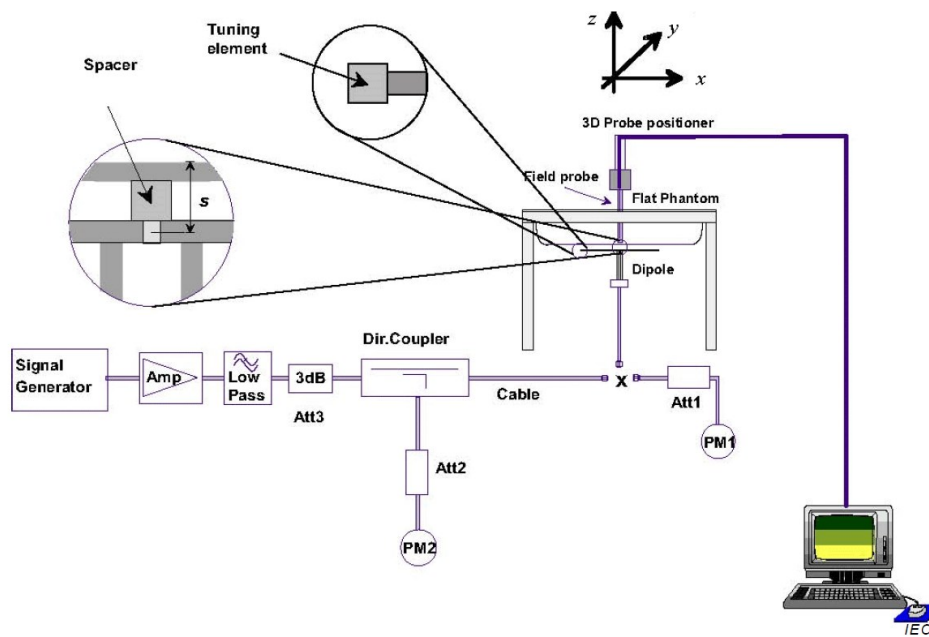


Picture 7-1 Liquid depth in the Flat Phantom

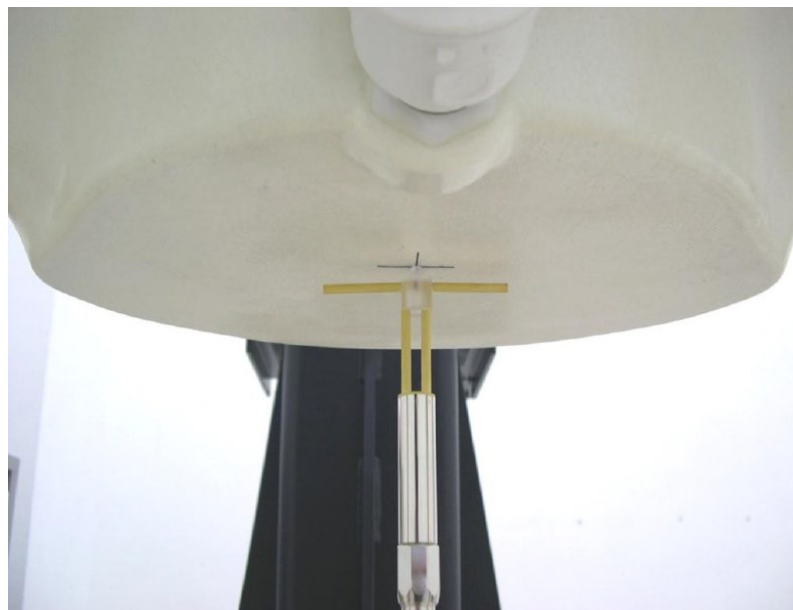
8 System verification

8.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

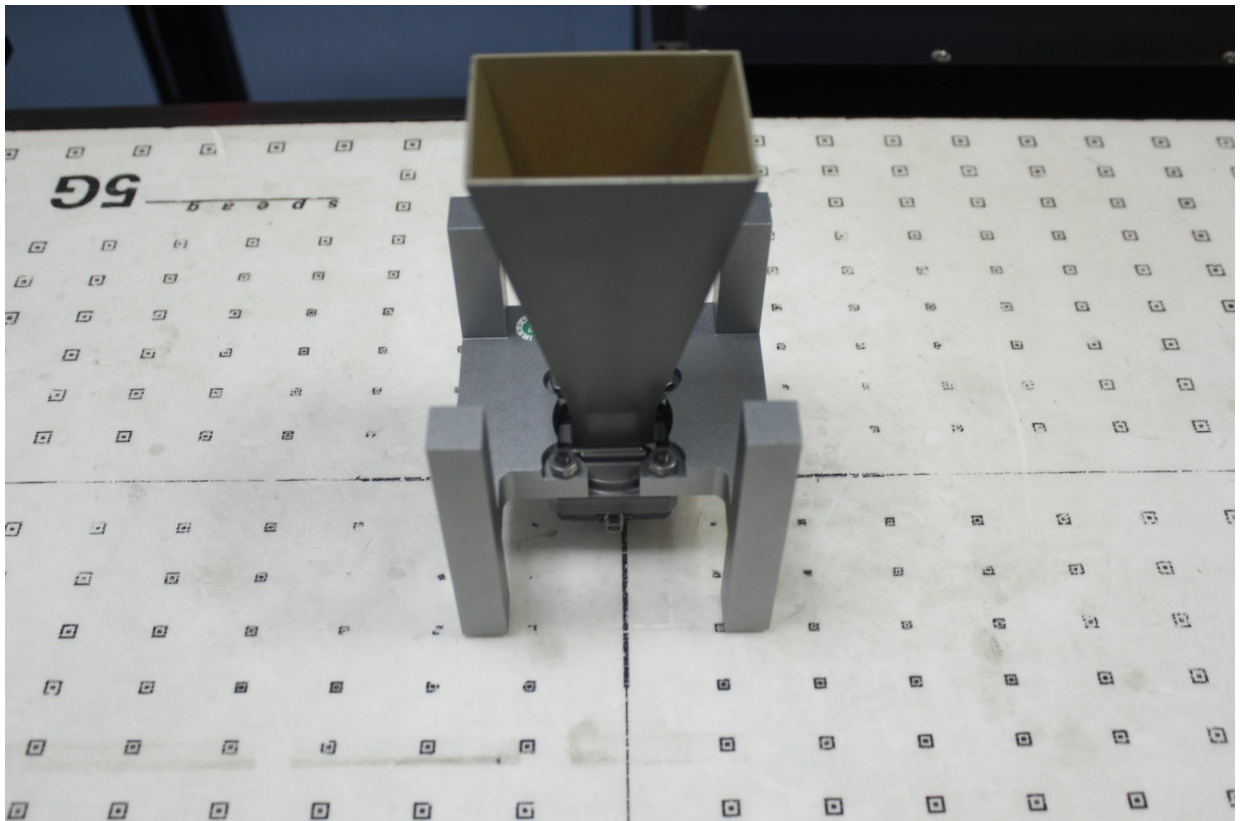
Table 8.1: System Verification of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2024/5/25	2450 MHz	24.7	52.1	24.6	52.8	-0.24%	1.34%
2024/6/5	5250 MHz	22.8	79.6	21.9	77.6	-3.95%	-2.51%
2024/6/5	5250 MHz	22.8	79.6	22.0	77.7	-3.51%	-2.39%
2024/6/5	5600 MHz	23.8	83.6	23.0	81.8	-3.36%	-2.15%
2024/6/5	5600 MHz	23.8	83.6	23.1	81.4	-2.94%	-2.63%
2024/6/5	5750 MHz	22.7	80.5	21.7	77.7	-4.41%	-3.48%
2024/6/5	5750 MHz	22.7	80.5	21.9	77.7	-3.52%	-3.48%
2024/5/26	6500 MHz	53.3	289.0	52.1	279.0	-2.25%	-3.46%

8.3 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.

Date	Frequency (GHz)	5G Verification Source	Probe S/N	Distance (mm)	Measured 4cm ² (W/m ²)	Targeted 4cm ² (W/m ²)	Deviation (db)
2024/5/30	10	10GHz_1005	9492	10	55.0	55.5	0.04



Picture 8.3 System Setup for System Evaluation

9 Measurement Procedures

9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

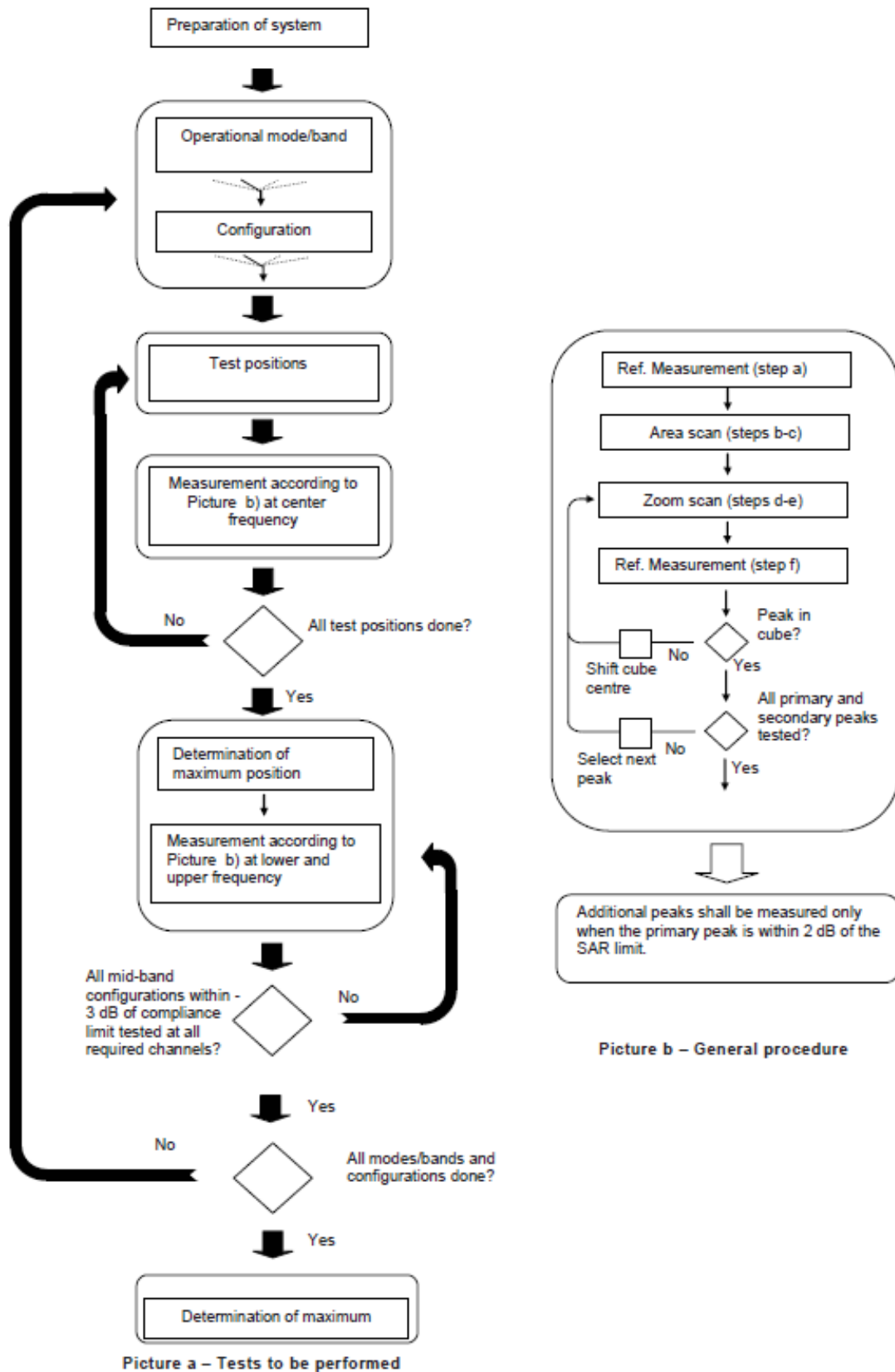
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

- a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
- b) all configurations for each device position in a), e.g., antenna extended and retracted, and
- c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

Step 3: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

			≤ 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			$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 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 <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

9.3 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

9.4 Power Drift

To control the output power stability during the SAR test, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

According to the KDB447498 D01, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

11 Conducted Output Power

11.1 Wi-Fi and BT Measurement result

The maximum output power for BT

	GFSK			Tune up	EDR2M-4_DQPSK			Tune up	EDR3M-8DPSK			Tune up
	Channel 0	Channel 39	Channel 78		Channel 0	Channel 39	Channel 78		Channel 0	Channel 39	Channel 78	
ANT0	11.48	11.60	11.14	13.00	9.22	8.97	8.58	12.00	9.32	9.12	8.46	12.00
ANT1	11.43	11.36	11.96	13.00	9.17	8.81	8.60	13.00	9.16	8.80	8.56	13.00

WIFI2.4G Tune up

Band	Mode	Channel	ANT0 tune up stand-alone	ANT0 tune up 2.4G+5G/6G simultaneous transmission	ANT1 tune up stand-alone	ANT1 tune up 2.4G+5G/6G simultaneous transmission	Mimo tune up stand-alone	Mimo tune up 2.4G+5G/6G simultaneous transmission
2G4_TxPowerProfile	802.11b_2G_20M	2G4 TxPwr Cck 20mhz 1M FCC CH1	18	18	18	18	21	21
		2G4 TxPwr Cck 20mhz 1M FCC CH2	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH3	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH4	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH5	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH6	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH7	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH8	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH9	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH10	20	18.5	19.5	18	22.5	21.5
		2G4 TxPwr Cck 20mhz 1M FCC CH11	18	18	18	18	21	21
		2G4 TxPwr Oldm 20mhz 6M FCC CH1	13	13	13	13	16	16
		2G4 TxPwr Oldm 20mhz 6M FCC CH2	13	13	13	13	16	16
		2G4 TxPwr Oldm 20mhz 6M FCC CH3	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH4	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH5	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH6	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH7	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH8	19	18.5	19	18	22	21.5
		2G4 TxPwr Oldm 20mhz 6M FCC CH9	19	18.5	19	18	22	21.5
	802.11g_2G_20M	2G4 TxPwr Oldm 20mhz 6M FCC CH10	13	13	13	13	16	16
		2G4 TxPwr Oldm 20mhz 6M FCC CH11	13	13	13	13	16	16
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH1	13	13	13	13	16	16
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH2	13	13	13	13	16	16
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH3	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH4	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH6	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH7	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH8	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH9	18	18	18	18	21	21
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr ht-mm 20mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH1	12	12	12	12	14.5	14.5
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH2	13	13	13	13	16	16
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH3	18	18	18	18	21	21
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH4	18	18	18	18	21	21
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH6	18	18	18	18	21	21
	802.11a_2G_40M	2G4 TxPwr ht-mm 40mhz MCS0 FCC CH7	13	13	13	13	16	16
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH8	13	13	13	13	16	16
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH9	12	12	11.5	11.5	15	15
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr ht-mm 40mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr he-su 20mhz MCS0 FCC CH1	13	13	13	13	16	16
		2G4 TxPwr he-su 20mhz MCS0 FCC CH2	13	13	13	13	16	16
		2G4 TxPwr he-su 20mhz MCS0 FCC CH3	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH4	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH6	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH7	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH8	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH9	18	18	18	18	21	21
		2G4 TxPwr he-su 20mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr he-su 20mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH1	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH2	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH3	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH4	13	13	13	13	16	16
	802.11b_2G_20M	2G4 TxPwr he-su 40mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr he-su 40mhz MCS0 FCC CH6	18	18	18	18	21	21
		2G4 TxPwr he-su 40mhz MCS0 FCC CH7	18	18	18	18	21	21
		2G4 TxPwr he-su 40mhz MCS0 FCC CH8	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH9	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr he-su 40mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH1	13	13	13	13	16	16
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH2	13	13	13	13	16	16
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH3	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH4	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH6	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH7	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH8	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH9	18	18	18	18	21	21
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr eht-su 20mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH1	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH2	13	13	13	13	16	16
	802.11be_2G_40M	2G4 TxPwr eht-su 40mhz MCS0 FCC CH3	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH4	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH5	18	18	18	18	21	21
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH6	18	18	18	18	21	21
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH7	18	18	18	18	21	21
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH8	18	18	18	18	21	21
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH9	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH10	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH11	13	13	13	13	16	16
		2G4 TxPwr eht-su 40mhz MCS0 FCC CH12	13	13	13	13	16	16

WIFI5G Tune up

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
5G_TxPowerProfile_B1	802.11a_5G_20M	5G TxPwr Ofdm 20mhz 6M FCC CH36	11.50	12.00	14.5
		5G TxPwr Ofdm 20mhz 6M FCC CH40	13.00	14.00	16.5
		5G TxPwr Ofdm 20mhz 6M FCC CH44	13.50	14.00	16.5
		5G TxPwr Ofdm 20mhz 6M FCC CH48	13.50	14.00	16.5
	802.11n_5G_20M	5G TxPwr ht-mm 20mhz MCS0 FCC CH36	11.50	12.00	14.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH40	13.50	14.00	16.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH44	13.50	14.00	16.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH48	13.50	14.00	16.5
	802.11n_5G_40M	5G TxPwr ht-mm 40mhz MCS0 FCC CH38	12.50	13.00	15.5
		5G TxPwr ht-mm 40mhz MCS0 FCC CH46	15.00	16.00	17.5
	802.11ac_5G_20M	5G TxPwr vht 20mhz MCS0 FCC CH36	11.50	12.00	14.5
		5G TxPwr vht 20mhz MCS0 FCC CH40	13.50	14.00	16.5
		5G TxPwr vht 20mhz MCS0 FCC CH44	13.50	14.00	16.5
		5G TxPwr vht 20mhz MCS0 FCC CH48	13.50	14.00	16.5
	802.11ac_5G_40M	5G TxPwr vht 40mhz MCS0 FCC CH38	13.50	13.00	16.5
		5G TxPwr vht 40mhz MCS0 FCC CH46	15.50	16.00	18
	802.11ac_5G_80M	5G TxPwr vht 80mhz MCS0 FCC CH42	15.00	15.00	18
		5G TxPwr he-su 20mhz MCS0 FCC CH36	11.50	12.00	14.5
	802.11ax_5G_20M	5G TxPwr he-su 20mhz MCS0 FCC CH40	13.50	14.00	16.5
		5G TxPwr he-su 20mhz MCS0 FCC CH44	13.50	14.00	16.5
		5G TxPwr he-su 20mhz MCS0 FCC CH48	13.50	14.00	16.5
		5G TxPwr he-su 40mhz MCS0 FCC CH38	12.00	12.50	15
	802.11ax_5G_40M	5G TxPwr he-su 40mhz MCS0 FCC CH46	15.00	16.00	17.5
		5G TxPwr he-su 80mhz MCS0 FCC CH42	14.50	15.00	17.5
	802.11be_5G_20M	5G TxPwr eht-su 20mhz MCS0 FCC CH36	11.50	12.00	14.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH40	13.50	14.50	16.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH44	13.50	14.00	16.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH48	13.50	14.50	16.5
	802.11be_5G_40M	5G TxPwr eht-su 40mhz MCS0 FCC CH38	12.00	12.50	15
		5G TxPwr eht-su 40mhz MCS0 FCC CH46	15.00	15.50	17.5
	802.11be_5G_80M	5G TxPwr eht-su 80mhz MCS0 FCC CH42	14.50	15.00	17.5
		5G TxPwr Ofdm 20mhz 6M FCC CH52	16.00	16.00	18.5
5G_TxPowerProfile_B2	802.11a_5G_20M	5G TxPwr Ofdm 20mhz 6M FCC CH56	16.00	16.00	18.5
		5G TxPwr Ofdm 20mhz 6M FCC CH60	14.00	14.00	17
		5G TxPwr Ofdm 20mhz 6M FCC CH64	12.00	12.50	15
		5G TxPwr ht-mm 20mhz MCS0 FCC CH52	16.00	16.00	18.5
	802.11n_5G_20M	5G TxPwr ht-mm 20mhz MCS0 FCC CH56	16.00	16.00	18.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH60	14.00	14.00	17
		5G TxPwr ht-mm 20mhz MCS0 FCC CH64	12.00	12.50	15
		5G TxPwr ht-mm 40mhz MCS0 FCC CH54	13.00	14.50	16
	802.11n_5G_40M	5G TxPwr ht-mm 40mhz MCS0 FCC CH62	13.00	13.00	16
		5G TxPwr vht 20mhz MCS0 FCC CH52	16.00	16.00	18.5
	802.11ac_5G_20M	5G TxPwr vht 20mhz MCS0 FCC CH56	16.00	16.00	18.5
		5G TxPwr vht 20mhz MCS0 FCC CH60	14.00	14.00	17
		5G TxPwr vht 20mhz MCS0 FCC CH64	12.00	12.50	15
		5G TxPwr vht 40mhz MCS0 FCC CH54	13.50	14.50	16.5
	802.11ac_5G_40M	5G TxPwr vht 40mhz MCS0 FCC CH62	13.50	13.00	16.5
		5G TxPwr vht 80mhz MCS0 FCC CH58	15.00	15.50	18
	802.11ac_5G_80M	5G TxPwr vht 160mhz MCS0 FCC CH50	14.00	14.00	17
		5G TxPwr he-su 20mhz MCS0 FCC CH52	16.00	16.00	18.5
	802.11ax_5G_20M	5G TxPwr he-su 20mhz MCS0 FCC CH56	16.00	16.00	18.5
		5G TxPwr he-su 20mhz MCS0 FCC CH60	14.00	14.00	17
		5G TxPwr he-su 20mhz MCS0 FCC CH64	12.00	12.50	15
		5G TxPwr he-su 40mhz MCS0 FCC CH54	14.00	14.00	17
	802.11ax_5G_40M	5G TxPwr he-su 40mhz MCS0 FCC CH62	12.50	13.00	15.5
		5G TxPwr he-su 80mhz MCS0 FCC CH58	15.00	15.00	18
	802.11ax_5G_80M	5G TxPwr he-su 160mhz MCS0 FCC CH50	14.00	14.50	17
		5G TxPwr eht-su 20mhz MCS0 FCC CH52	16.00	16.00	18.5
	802.11be_5G_20M	5G TxPwr eht-su 20mhz MCS0 FCC CH56	16.00	16.00	18.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH60	14.00	14.00	17
		5G TxPwr eht-su 20mhz MCS0 FCC CH64	12.00	12.50	15
		5G TxPwr eht-su 40mhz MCS0 FCC CH54	14.00	13.50	17
	802.11ax_5G_40M	5G TxPwr eht-su 40mhz MCS0 FCC CH62	14.00	13.00	16
		5G TxPwr eht-su 80mhz MCS0 FCC CH58	15.00	15.00	18
	802.11ax_5G_80M	5G TxPwr eht-su 160mhz MCS0 FCC CH50	13.50	14.00	16.5
		5G TxPwr eht-su 160mhz MCS0 FCC CH50	13.50	14.00	16.5

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
5G_TxPowerProfile_B3	802.11a_5G_20M	5G TxPwr Ofdm 20mhz 6M FCC CH100	12.50	12.50	15.5
		5G TxPwr Ofdm 20mhz 6M FCC CH104	14.00	14.50	17
		5G TxPwr Ofdm 20mhz 6M FCC CH108	15.00	14.5	18
		5G TxPwr Ofdm 20mhz 6M FCC CH112	15.00	14	18
		5G TxPwr Ofdm 20mhz 6M FCC CH116	15.00	14	17.5
		5G TxPwr Ofdm 20mhz 6M FCC CH120	15.00	13.5	17.5
		5G TxPwr Ofdm 20mhz 6M FCC CH124	15.00	14	17.5
		5G TxPwr Ofdm 20mhz 6M FCC CH128	15.00	14	18
		5G TxPwr Ofdm 20mhz 6M FCC CH132	15.00	14.5	18
		5G TxPwr Ofdm 20mhz 6M FCC CH136	14.50	14.50	17.5
	802.11n_5G_20M	5G TxPwr Ofdm 20mhz 6M FCC CH140	13.00	13.50	16
		5G TxPwr ht-mm 20mhz MCS0 FCC CH100	12.50	12.50	15.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH104	14.00	14.50	17
		5G TxPwr ht-mm 20mhz MCS0 FCC CH108	15.00	14.5	18
		5G TxPwr ht-mm 20mhz MCS0 FCC CH112	15.00	14	18
		5G TxPwr ht-mm 20mhz MCS0 FCC CH116	15.00	14	17.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH120	15.00	13.5	17.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH124	15.00	14	17.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH128	15.00	14.5	18
		5G TxPwr ht-mm 20mhz MCS0 FCC CH132	15.00	14.5	18
	802.11n_5G_40M	5G TxPwr ht-mm 20mhz MCS0 FCC CH136	14.50	14.50	17.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH140	13.00	13.50	16
		5G TxPwr ht-mm 40mhz MCS0 FCC CH102	11.50	12.50	14.5
		5G TxPwr ht-mm 40mhz MCS0 FCC CH110	15.50	14.5	18.5
		5G TxPwr ht-mm 40mhz MCS0 FCC CH118	15.50	14.5	18
		5G TxPwr ht-mm 40mhz MCS0 FCC CH126	15.50	14.5	18.5
		5G TxPwr ht-mm 40mhz MCS0 FCC CH134	13.00	13.50	16
		5G TxPwr vht 20mhz MCS0 FCC CH100	12.50	12.00	15
		5G TxPwr vht 20mhz MCS0 FCC CH104	14.00	14.50	17
		5G TxPwr vht 20mhz MCS0 FCC CH108	15.00	14.5	18
	802.11ac_5G_20M	5G TxPwr vht 20mhz MCS0 FCC CH112	15.00	14.5	18
		5G TxPwr vht 20mhz MCS0 FCC CH116	15.00	14	18
		5G TxPwr vht 20mhz MCS0 FCC CH120	15.00	14	17.5
		5G TxPwr vht 20mhz MCS0 FCC CH124	15.00	14	18
		5G TxPwr vht 20mhz MCS0 FCC CH128	15.00	14.5	18
		5G TxPwr vht 20mhz MCS0 FCC CH132	15.00	14.5	18
		5G TxPwr vht 20mhz MCS0 FCC CH136	14.50	14.50	17.5
		5G TxPwr vht 20mhz MCS0 FCC CH140	13.00	13.50	16
	802.11ac_5G_40M	5G TxPwr vht 40mhz MCS0 FCC CH102	12.50	12.50	15.5
		5G TxPwr vht 40mhz MCS0 FCC CH110	15.50	14.5	18
		5G TxPwr vht 40mhz MCS0 FCC CH118	15.50	14.5	18
		5G TxPwr vht 40mhz MCS0 FCC CH126	15.50	14.5	18
		5G TxPwr vht 40mhz MCS0 FCC CH134	14.00	13.50	16.5
	802.11ac_5G_80M	5G TxPwr vht 80mhz MCS0 FCC CH106	13.00	13.50	16.5
		5G TxPwr vht 80mhz MCS0 FCC CH122	15.00	14.00	18
	802.11ac_5G_160M	5G TxPwr vht 160mhz MCS0 FCC CH114	8.00	8.00	11
	802.11ax_5G_20M	5G TxPwr he-su 20mhz MCS0 FCC CH100	12.50	12.00	15
		5G TxPwr he-su 20mhz MCS0 FCC CH104	14.00	14.50	17
		5G TxPwr he-su 20mhz MCS0 FCC CH108	15.00	14.50	18
		5G TxPwr he-su 20mhz MCS0 FCC CH112	15.00	14.50	18
		5G TxPwr he-su 20mhz MCS0 FCC CH116	15.00	14.00	17.5
		5G TxPwr he-su 20mhz MCS0 FCC CH120	15.00	14.00	17.5
		5G TxPwr he-su 20mhz MCS0 FCC CH124	15.00	14.00	18
		5G TxPwr he-su 20mhz MCS0 FCC CH128	15.00	14.00	18
		5G TxPwr he-su 20mhz MCS0 FCC CH132	15.00	14.00	18
		5G TxPwr he-su 20mhz MCS0 FCC CH136	15.00	14.50	18
	802.11ax_5G_40M	5G TxPwr he-su 20mhz MCS0 FCC CH140	13.00	13.50	16
		5G TxPwr he-su 40mhz MCS0 FCC CH102	11.50	12.00	14.5
		5G TxPwr he-su 40mhz MCS0 FCC CH110	15.00	14.50	18
		5G TxPwr he-su 40mhz MCS0 FCC CH118	15.00	14.00	17.5
		5G TxPwr he-su 40mhz MCS0 FCC CH126	15.00	14.50	18
	802.11ax_5G_80M	5G TxPwr he-su 40mhz MCS0 FCC CH134	13.00	13.50	16
		5G TxPwr he-su 80mhz MCS0 FCC CH106	13.50	13.50	16.5
		5G TxPwr he-su 80mhz MCS0 FCC CH122	15.00	14.00	18
	802.11be_5G_20M	5G TxPwr he-su 160mhz MCS0 FCC CH114	8.50	8.50	11.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH100	12.50	12.50	15.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH104	14.00	14.50	17
		5G TxPwr eht-su 20mhz MCS0 FCC CH108	15.00	14.50	18
		5G TxPwr eht-su 20mhz MCS0 FCC CH112	15.00	14.00	18
		5G TxPwr eht-su 20mhz MCS0 FCC CH116	15.00	14.00	17.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH120	15.00	14.00	17.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH124	15.00	14.00	18
		5G TxPwr eht-su 20mhz MCS0 FCC CH128	15.00	14.00	18
		5G TxPwr eht-su 20mhz MCS0 FCC CH132	15.00	14.50	18
	802.11be_5G_40M	5G TxPwr eht-su 20mhz MCS0 FCC CH136	15.00	14.50	18
		5G TxPwr eht-su 20mhz MCS0 FCC CH140	13.00	13.50	16
		5G TxPwr eht-su 40mhz MCS0 FCC CH102	12.00	12.00	15
		5G TxPwr eht-su 40mhz MCS0 FCC CH110	15.00	14.00	18
		5G TxPwr eht-su 40mhz MCS0 FCC CH118	14.50	14.00	18
	802.11be_5G_80M	5G TxPwr eht-su 40mhz MCS0 FCC CH126	15.00	14.00	18
		5G TxPwr eht-su 40mhz MCS0 FCC CH134	13.00	13.50	16
	802.11be_5G_160M	5G TxPwr eht-su 80mhz MCS0 FCC CH106	13.00	13.50	16
		5G TxPwr eht-su 80mhz MCS0 FCC CH122	15.00	14.00	18
	802.11be_5G_160M	5G TxPwr eht-su 160mhz MCS0 FCC CH114	8.00	8.00	11

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
5G_TxPowerProfile_B4	802.11a_5G_20M	5G TxPwr Ofdm 20mhz 6M FCC CH149	16.50	14.50	19.5
		5G TxPwr Ofdm 20mhz 6M FCC CH153	16.50	14.50	19.5
		5G TxPwr Ofdm 20mhz 6M FCC CH157	16.50	14.00	19.5
		5G TxPwr Ofdm 20mhz 6M FCC CH161	16.50	14.00	19.5
		5G TxPwr Ofdm 20mhz 6M FCC CH165	16.50	14.00	19.5
	802.11n_5G_20M	5G TxPwr ht-mm 20mhz MCS0 FCC CH149	16.50	14.50	19.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH153	16.50	14.50	19.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH157	16.50	14.00	19.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH161	16.50	14.00	19.5
		5G TxPwr ht-mm 20mhz MCS0 FCC CH165	16.50	14.00	19.5
	802.11n_5G_40M	5G TxPwr ht-mm 40mhz MCS0 FCC CH151	17.00	14.50	20
		5G TxPwr ht-mm 40mhz MCS0 FCC CH159	17.00	14.50	20
		5G TxPwr vht 20mhz MCS0 FCC CH149	16.50	14.50	19.5
	802.11ac_5G_20M	5G TxPwr vht 20mhz MCS0 FCC CH153	16.50	14.50	19.5
		5G TxPwr vht 20mhz MCS0 FCC CH157	16.50	14.00	19.5
		5G TxPwr vht 20mhz MCS0 FCC CH161	16.50	14.00	19.5
		5G TxPwr vht 20mhz MCS0 FCC CH165	16.50	14.50	19.5
	802.11ac_5G_40M	5G TxPwr vht 40mhz MCS0 FCC CH151	17.00	14.50	20
		5G TxPwr vht 40mhz MCS0 FCC CH159	17.00	14.00	20
	802.11ac_5G_80M	5G TxPwr vht 80mhz MCS0 FCC CH155	16.00	15.00	19
	802.11ax_5G_20M	5G TxPwr he-su 20mhz MCS0 FCC CH149	16.50	14.50	19.5
		5G TxPwr he-su 20mhz MCS0 FCC CH153	16.50	14.50	19.5
		5G TxPwr he-su 20mhz MCS0 FCC CH157	16.50	14.00	19.5
		5G TxPwr he-su 20mhz MCS0 FCC CH161	16.50	14.00	19.5
		5G TxPwr he-su 20mhz MCS0 FCC CH165	16.50	14.00	19.5
	802.11ax_5G_40M	5G TxPwr he-su 40mhz MCS0 FCC CH151	17.00	14.00	19.5
		5G TxPwr he-su 40mhz MCS0 FCC CH159	17.00	14.00	19.5
	802.11ax_5G_80M	5G TxPwr he-su 80mhz MCS0 FCC CH155	16.00	15.00	19
	802.11be_5G_20M	5G TxPwr eht-su 20mhz MCS0 FCC CH149	17.00	14.50	19.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH153	17.00	14.50	19.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH157	17.00	14.00	19.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH161	17.00	14.00	19.5
		5G TxPwr eht-su 20mhz MCS0 FCC CH165	16.50	14.00	19.5
	802.11be_5G_40M	5G TxPwr eht-su 40mhz MCS0 FCC CH151	17.00	14.00	19.5
		5G TxPwr eht-su 40mhz MCS0 FCC CH159	17.00	14.00	19.5
	802.11be_5G_80M	5G TxPwr eht-su 80mhz MCS0 FCC CH155	16.00	15.00	19

WIFI6E Tune up

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
6G_TxPowerProfile_B5	802.11a_6G_20M	6G TxPwr Ofdm 20mhz 6M FCC CH1	4.5	5.5	7.5
		6G TxPwr Ofdm 20mhz 6M FCC CH5	6.5	6.5	9.5
		6G TxPwr Ofdm 20mhz 6M FCC CH9	6.5	6.5	9.5
		6G TxPwr Ofdm 20mhz 6M FCC CH13	6.5	6.5	9.5
		6G TxPwr Ofdm 20mhz 6M FCC CH17	6.5	6.5	9.5
		6G TxPwr Ofdm 20mhz 6M FCC CH21	6.5	6.5	9.5
		6G TxPwr Ofdm 20mhz 6M FCC CH25	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH29	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH33	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH37	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH41	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH45	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH49	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH53	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH57	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH61	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH65	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH69	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH73	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH77	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH81	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH85	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH89	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH93	6	6	9
	802.11ax_6G_20M	6G TxPwr he-su 20mhz MCS0 FCC CH1	4.5	5	7.5
		6G TxPwr he-su 20mhz MCS0 FCC CH5	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH9	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH13	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH17	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH21	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH25	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH29	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH33	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH37	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH41	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH45	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH49	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH53	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH57	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH61	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH65	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH69	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH73	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH77	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH81	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH85	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH89	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH93	6	6	9
	802.11ax_6G_40M	6G TxPwr he-su 40mhz MCS0 FCC CH3	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH11	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH19	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH27	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH35	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH43	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH51	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH59	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH67	7	7.5	10
		6G TxPwr he-su 40mhz MCS0 FCC CH75	6.5	7	9.5
	802.11ax_6G_80M	6G TxPwr he-su 80mhz MCS0 FCC CH7	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH15	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH23	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH31	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH39	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH47	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH55	7.5	7.5	10.5
		6G TxPwr he-su 80mhz MCS0 FCC CH63	7	7	10
		6G TxPwr he-su 160mhz MCS0 FCC CH15	7.5	7.5	10.5
		6G TxPwr he-su 160mhz MCS0 FCC CH47	7.5	7.5	10.5
	802.11be_6G_20M	6G TxPwr eht-su 20mhz MCS0 FCC CH1	4.5	5	7.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH5	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH9	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH13	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH17	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH21	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH25	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH29	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH33	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH37	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH41	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH45	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH49	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH53	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH57	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH61	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH65	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH69	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH73	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH77	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH81	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH85	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH89	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH93	6	6	9
	802.11be_6G_40M	6G TxPwr eht-su 40mhz MCS0 FCC CH3	7	7.5	10
		6G TxPwr eht-su 40mhz MCS0 FCC CH11	7	7.5	10
		6G TxPwr eht-su 40mhz MCS0 FCC CH19	7	7.5	10
		6G TxPwr eht-su 40mhz MCS0 FCC CH27	7	7	10
		6G TxPwr eht-su 40mhz MCS0 FCC CH35	7	7	10
		6G TxPwr eht-su 40mhz MCS0 FCC CH43	6.5	7	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH51	6.5	7	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH59	6.5	7	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH67	6.5	7	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH75	6.5	7	9.5
	802.11be_6G_80M	6G TxPwr eht-su 80mhz MCS0 FCC CH7	7.5	7.5	10.5
		6G TxPwr eht-su 80mhz MCS0 FCC CH23	7.5	7.5	10.5
		6G TxPwr eht-su 80mhz MCS0 FCC CH39	7.5	7.5	10.5
		6G TxPwr eht-su 80mhz MCS0 FCC CH55	7	7.5	10
		6G TxPwr eht-su 80mhz MCS0 FCC CH71	7	7.5	10
		6G TxPwr eht-su 80mhz MCS0 FCC CH87	7	7	10
		6G TxPwr eht-su 160mhz MCS0 FCC CH15	7	7.5	10
		6G TxPwr eht-su 160mhz MCS0 FCC CH47	7	7.5	10
		6G TxPwr eht-su 160mhz MCS0 FCC CH79	7	7	10
		6G TxPwr eht-su 320mhz MCS0 FCC CH31	7.5	7.5	10.5
	802.11be_6G_320M	6G TxPwr eht-su 320mhz MCS0 FCC CH63	7.5	7.5	10.5

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
6G_TxPowerProfile_B6	802.11a_6G_20M	6G TxPwr Ofdm 20mhz 6M FCC CH97	6.5	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH101	6.5	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH105	6.5	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH109	6.5	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH113	6.5	6.5	9
	802.11ax_6G_20M	6G TxPwr he-su 20mhz MCS0 FCC CH97	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH101	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH105	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH109	6.5	6.5	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH113	6.5	6.5	9.5
	802.11ax_6G_40M	6G TxPwr he-su 40mhz MCS0 FCC CH99	9	8.5	11.5
		6G TxPwr he-su 40mhz MCS0 FCC CH107	9	8.5	11.5
		6G TxPwr he-su 40mhz MCS0 FCC CH115	9	9	12
		6G TxPwr he-su 80mhz MCS0 FCC CH103	9	9	12
		6G TxPwr he-su 160mhz MCS0 FCC CH111	9.5	9.5	12.5
	802.11be_6G_20M	6G TxPwr eht-su 20mhz MCS0 FCC CH97	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH101	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH105	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH109	6.5	6.5	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH113	6.5	6.5	9.5
	802.11be_6G_40M	6G TxPwr eht-su 40mhz MCS0 FCC CH99	8.5	8.5	11.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH107	8.5	8.5	11.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH115	8.5	9	11.5
		6G TxPwr eht-su 80mhz MCS0 FCC CH103	9	9	12
		6G TxPwr eht-su 160mhz MCS0 FCC CH111	9	9	12
	802.11be_6G_320M	6G TxPwr eht-su 320mhz MCS0 FCC CH95	8.5	8	11

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
6G_TxPowerProfile_B7	802.11a_6G_20M	6G TxPwr Ofdm 20mhz 6M FCC CH117	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH121	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH125	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH129	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH133	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH137	6	6.5	9
		6G TxPwr Ofdm 20mhz 6M FCC CH141	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH145	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH149	6	6	9
		6G TxPwr Ofdm 20mhz 6M FCC CH153	8	7	10
		6G TxPwr Ofdm 20mhz 6M FCC CH157	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH161	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH165	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH169	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH173	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH177	8	8.5	11
		6G TxPwr Ofdm 20mhz 6M FCC CH181	6.5	7	9.5
	802.11ax_6G_20M	6G TxPwr he-su 20mhz MCS0 FCC CH117	7	7.5	10
		6G TxPwr he-su 20mhz MCS0 FCC CH121	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH125	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH129	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH133	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH137	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH141	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH145	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH149	6.5	7	9.5
		6G TxPwr he-su 20mhz MCS0 FCC CH153	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH157	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH161	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH165	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH169	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH173	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH177	8	8.5	11
		6G TxPwr he-su 20mhz MCS0 FCC CH181	6.5	7	9.5
	802.11ax_6G_40M	6G TxPwr he-su 40mhz MCS0 FCC CH123	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH131	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH139	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH147	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH155	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH163	9	9	12
		6G TxPwr he-su 40mhz MCS0 FCC CH171	9	9.5	12
		6G TxPwr he-su 40mhz MCS0 FCC CH179	9	9.5	12
		6G TxPwr he-su 80mhz MCS0 FCC CH119	9	9.5	12
		6G TxPwr he-su 80mhz MCS0 FCC CH135	9	9.5	12
	802.11ax_6G_80M	6G TxPwr he-su 80mhz MCS0 FCC CH151	9	9.5	12
		6G TxPwr he-su 80mhz MCS0 FCC CH167	9	9.5	12
		6G TxPwr he-su 80mhz MCS0 FCC CH183	9	9.5	12
		6G TxPwr he-su 160mhz MCS0 FCC CH143	9.5	9.5	12.5
		6G TxPwr he-su 160mhz MCS0 FCC CH175	9.5	9.5	12.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH117	7.5	7.5	10.5
	802.11be_6G_20M	6G TxPwr eht-su 20mhz MCS0 FCC CH121	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH125	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH129	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH133	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH137	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH141	8.5	8.5	11.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH145	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH149	6.5	7	9.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH153	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH157	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH161	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH165	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH169	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH173	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH177	8	8.5	11
		6G TxPwr eht-su 20mhz MCS0 FCC CH181	6.5	7	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH123	9	9	12
	802.11be_6G_40M	6G TxPwr eht-su 40mhz MCS0 FCC CH131	9	9	12
		6G TxPwr eht-su 40mhz MCS0 FCC CH139	9	9	12
		6G TxPwr eht-su 40mhz MCS0 FCC CH147	9	9	12
		6G TxPwr eht-su 40mhz MCS0 FCC CH155	9	9	12
		6G TxPwr eht-su 40mhz MCS0 FCC CH163	9	9	12
		6G TxPwr eht-su 40mhz MCS0 FCC CH171	9	9	12
	802.11be_6G_80M	6G TxPwr eht-su 40mhz MCS0 FCC CH179	9	9	12
		6G TxPwr eht-su 80mhz MCS0 FCC CH119	9	9.5	12
		6G TxPwr eht-su 80mhz MCS0 FCC CH135	9	9.5	12
		6G TxPwr eht-su 80mhz MCS0 FCC CH151	9	9.5	12
		6G TxPwr eht-su 80mhz MCS0 FCC CH167	9	9.5	12
		6G TxPwr eht-su 80mhz MCS0 FCC CH183	9	9.5	12
	802.11be_6G_160M	6G TxPwr eht-su 160mhz MCS0 FCC CH143	9	9	12
		6G TxPwr eht-su 160mhz MCS0 FCC CH175	9	9	12
	802.11be_6G_320M	6G TxPwr eht-su 320mhz MCS0 FCC CH127	9.5	9	12
		6G TxPwr eht-su 320mhz MCS0 FCC CH159	9.5	9.5	12.5

Band	Mode	Channel	ANT0 tune up stand-alone	ANT1 tune up stand-alone	Mimo tune up stand-alone
6G_TxPowerProfile_B8	802.11a_6G_20M	6G TxPwr Ofdm 20mhz 6M FCC CH185	3.5	3	6
		6G TxPwr Ofdm 20mhz 6M FCC CH189	3.5	3	6
		6G TxPwr Ofdm 20mhz 6M FCC CH193	3.5	3	6
		6G TxPwr Ofdm 20mhz 6M FCC CH197	3.5	3	6
		6G TxPwr Ofdm 20mhz 6M FCC CH201	3.5	3	6
		6G TxPwr Ofdm 20mhz 6M FCC CH205	3	3.5	6
		6G TxPwr Ofdm 20mhz 6M FCC CH209	3	3.5	6
		6G TxPwr Ofdm 20mhz 6M FCC CH213	5.5	6	8.5
		6G TxPwr Ofdm 20mhz 6M FCC CH217	5.5	6	8.5
		6G TxPwr Ofdm 20mhz 6M FCC CH221	5.5	6	8.5
		6G TxPwr Ofdm 20mhz 6M FCC CH225	5.5	6	8.5
		6G TxPwr Ofdm 20mhz 6M FCC CH229	5.5	6	8.5
		6G TxPwr Ofdm 20mhz 6M FCC CH233	-4.5	-4.5	-1.5
	802.11ax_6G_20M	6G TxPwr he-su 20mhz MCS0 FCC CH185	3.5	3	6
		6G TxPwr he-su 20mhz MCS0 FCC CH189	6	6.5	9
		6G TxPwr he-su 20mhz MCS0 FCC CH193	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH197	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH201	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH205	6	6	8.5
		6G TxPwr he-su 20mhz MCS0 FCC CH209	2.5	3.5	6
		6G TxPwr he-su 20mhz MCS0 FCC CH213	6	6	9
		6G TxPwr he-su 20mhz MCS0 FCC CH217	5.5	6	8.5
		6G TxPwr he-su 20mhz MCS0 FCC CH221	5.5	6	8.5
		6G TxPwr he-su 20mhz MCS0 FCC CH225	5.5	6	8.5
		6G TxPwr he-su 20mhz MCS0 FCC CH229	5.5	6	8.5
		6G TxPwr he-su 20mhz MCS0 FCC CH233	-15.5	-16	-13
	802.11ax_6G_40M	6G TxPwr he-su 40mhz MCS0 FCC CH187	7	7	10
		6G TxPwr he-su 40mhz MCS0 FCC CH195	7	7	10
		6G TxPwr he-su 40mhz MCS0 FCC CH203	6.5	6.5	9.5
		6G TxPwr he-su 40mhz MCS0 FCC CH211	6.5	6.5	9.5
		6G TxPwr he-su 40mhz MCS0 FCC CH219	6.5	6.5	9.5
	802.11ax_6G_80M	6G TxPwr he-su 40mhz MCS0 FCC CH227	6.5	6.5	9.5
		6G TxPwr he-su 80mhz MCS0 FCC CH199	7	7	10
	802.11ax_6G_160M	6G TxPwr he-su 80mhz MCS0 FCC CH215	6.5	7	9.5
		6G TxPwr he-su 160mhz MCS0 FCC CH207	7	7	9.5
	802.11be_6G_20M	6G TxPwr eht-su 20mhz MCS0 FCC CH185	3.5	3	6
		6G TxPwr eht-su 20mhz MCS0 FCC CH189	6	6.5	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH193	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH197	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH201	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH205	6	6	9
		6G TxPwr eht-su 20mhz MCS0 FCC CH209	2.5	6	7.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH213	5.5	6	8.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH217	5.5	6	8.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH221	5.5	6	8.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH225	5.5	6	8.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH229	5.5	6	8.5
		6G TxPwr eht-su 20mhz MCS0 FCC CH233	-15	-16	-13
	802.11be_6G_40M	6G TxPwr eht-su 40mhz MCS0 FCC CH187	6.5	6.5	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH195	6.5	6.5	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH203	6.5	6.5	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH211	6.5	6.5	9.5
		6G TxPwr eht-su 40mhz MCS0 FCC CH219	6	6.5	9
	802.11be_6G_80M	6G TxPwr eht-su 40mhz MCS0 FCC CH227	6.5	6.5	9.5
		6G TxPwr eht-su 80mhz MCS0 FCC CH199	7	7	10
	802.11be_6G_160M	6G TxPwr eht-su 80mhz MCS0 FCC CH215	7	7	10
		6G TxPwr eht-su 160mhz MCS0 FCC CH207	6.5	7	9.5
	802.11be_6G_320M	6G TxPwr eht-su 320mhz MCS0 FCC CH191	7	7	10

The maximum output power for WiFi 2.4G CHAIN 0 –stand-alone

802.11b	Channel\data	1Mbps
WLAN2450	11(2462MHz)	16.77
	6(2437(MHz)	18.80
	1(2412MHz)	16.51
802.11g	Channel\data	6Mbps
WLAN2450	11(2462MHz)	11.48
	6(2437(MHz)	17.53
	1(2412MHz)	11.78
802.11n-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.49
	6(2437(MHz)	16.47
	1(2412MHz)	11.16
802.11n-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	10.45
	6(2437MHz)	16.14
	3(2422MHz)	10.07
802.11ax-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.23
	6(2437(MHz)	16.20
	1(2412MHz)	11.09
802.11ax-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.70
	6(2437MHz)	16.70
	3(2422MHz)	11.50
802.11be	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.24
	6(2437(MHz)	16.19
	1(2412MHz)	11.08
802.11be	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.70
	6(2437MHz)	16.72
	3(2422MHz)	11.57

The maximum output power for WiFi 2.4G CHAIN 0 –simultaneous transmission

802.11b	Channel\data	1Mbps
WLAN2450	11(2462MHz)	16.77
	6(2437(MHz)	17.00
	1(2412MHz)	16.51
802.11g	Channel\data	6Mbps
WLAN2450	11(2462MHz)	11.48
	6(2437(MHz)	16.52
	1(2412MHz)	11.78
802.11n-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.49
	6(2437(MHz)	16.47
	1(2412MHz)	11.16
802.11n-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	10.45
	6(2437MHz)	16.14
	3(2422MHz)	10.07
802.11ax-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.23
	6(2437(MHz)	16.20
	1(2412MHz)	11.09
802.11ax-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.70
	6(2437MHz)	16.70
	3(2422MHz)	11.50
802.11be	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.24
	6(2437(MHz)	16.19
	1(2412MHz)	11.08
802.11be	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.70
	6(2437MHz)	16.72
	3(2422MHz)	11.57

The maximum output power for WiFi 2.4G CHAIN 1 –stand-alone

802.11b	Channel\data	1Mbps
WLAN2450	11(2462MHz)	16.45
	6(2437(MHz)	18.43
	1(2412MHz)	16.38
802.11g	Channel\data	6Mbps
WLAN2450	11(2462MHz)	11.64
	6(2437(MHz)	17.82
	1(2412MHz)	11.48
802.11n-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.34
	6(2437(MHz)	16.49
	1(2412MHz)	11.18
802.11n-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	10.45
	6(2437MHz)	16.57
	3(2422MHz)	9.87
802.11ax-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.07
	6(2437(MHz)	16.23
	1(2412MHz)	10.04
802.11ax-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.68
	6(2437MHz)	16.51
	3(2422MHz)	11.32
802.11be	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.02
	6(2437(MHz)	16.23
	1(2412MHz)	11.03
802.11be	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.64
	6(2437MHz)	16.66
	3(2422MHz)	11.35

The maximum output power for WiFi 2.4G CHAIN 1 –simultaneous transmission

802.11b	Channel\data	1Mbps
WLAN2450	11(2462MHz)	16.45
	6(2437(MHz)	17.21
	1(2412MHz)	16.38
802.11g	Channel\data	6Mbps
WLAN2450	11(2462MHz)	11.64
	6(2437(MHz)	16.83
	1(2412MHz)	11.48
802.11n-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.34
	6(2437(MHz)	16.49
	1(2412MHz)	11.18
802.11n-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	10.45
	6(2437MHz)	16.57
	3(2422MHz)	9.87
802.11ax-20MHz	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.07
	6(2437(MHz)	16.23
	1(2412MHz)	10.04
802.11ax-40MHz	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.68
	6(2437MHz)	16.51
	3(2422MHz)	11.32
802.11be	Channel\data	MCS0
WLAN2450	11(2462MHz)	11.02
	6(2437(MHz)	16.23
	1(2412MHz)	11.03
802.11be	Channel\data	MCS0
WLAN2450	9(2452MHz)	11.64
	6(2437MHz)	16.66
	3(2422MHz)	11.35

The maximum output power for WiFi 2.4G MIMO –stand-alone

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	19.62
	6(2437(MHz)	21.87
	1(2412MHz)	19.46
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	14.57
	6(2437(MHz)	20.69
	1(2412MHz)	14.64
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.43
	6(2437(MHz)	19.49
	1(2412MHz)	14.18
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	13.46
	6(2437(MHz)	19.37
	3(2422MHz)	12.98
802.11ax-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.16
	6(2437(MHz)	19.23
	1(2412MHz)	13.61
802.11ax-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	14.70
	6(2437(MHz)	19.62
	3(2422MHz)	14.42
802.11be	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.14
	6(2437(MHz)	19.22
	1(2412MHz)	14.07
802.11be	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	14.68
	6(2437(MHz)	19.70
	3(2422MHz)	14.47

The maximum output power for WiFi 2.4G MIMO –simultaneous transmission

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	19.62
	6(2437(MHz)	20.28
	1(2412MHz)	19.46
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	14.57
	6(2437(MHz)	19.81
	1(2412MHz)	14.64
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.43
	6(2437(MHz)	19.49
	1(2412MHz)	14.18
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	13.46
	6(2437(MHz)	19.37
	3(2422MHz)	12.98
802.11ax-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.16
	6(2437(MHz)	19.23
	1(2412MHz)	13.61
802.11ax-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	14.70
	6(2437(MHz)	19.62
	3(2422MHz)	14.42
802.11be	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	14.14
	6(2437(MHz)	19.22
	1(2412MHz)	14.07
802.11be	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	14.68
	6(2437(MHz)	19.70
	3(2422MHz)	14.47

The maximum output power for WiFi 5G CHAIN 0

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	9.68
40(5200 MHz)	11.48
44(5220 MHz)	11.66
48(5240 MHz)	11.74
52(5260 MHz)	14.05
56(5280 MHz)	14.10
60(5300 MHz)	12.20
64(5320 MHz)	10.15
100(5500 MHz)	10.68
104(5520 MHz)	12.26
108(5540 MHz)	13.36
112(5560 MHz)	13.31
116(5580 MHz)	13.12
120(5600 MHz)	13.11
124(5620 MHz)	13.16
128(5640 MHz)	13.15
132(5660 MHz)	13.33
136(5680 MHz)	12.99
140(5700 MHz)	11.22
149(5745 MHz)	14.87
153(5765 MHz)	14.85
157(5785 MHz)	14.95
161(5805 MHz)	14.92
165(5825 MHz)	14.88
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	9.75
40(5200 MHz)	11.51
44(5220 MHz)	11.66
48(5240 MHz)	11.80
52(5260 MHz)	14.08
56(5280 MHz)	14.07
60(5300 MHz)	12.21
64(5320 MHz)	10.21
100(5500 MHz)	10.71
104(5520 MHz)	12.28
108(5540 MHz)	13.37
112(5560 MHz)	13.38
116(5580 MHz)	13.17
120(5600 MHz)	13.20
124(5620 MHz)	13.28
128(5640 MHz)	13.28
132(5660 MHz)	13.42
136(5680 MHz)	12.96
140(5700 MHz)	11.17
149(5745 MHz)	14.86
153(5765 MHz)	15.00
157(5785 MHz)	15.03
161(5805 MHz)	15.09
165(5825 MHz)	14.90
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	10.72
46(5230 MHz)	13.14
54(5270 MHz)	11.21
62(5310 MHz)	11.15
102(5510 MHz)	9.89
110(5550 MHz)	13.80
118(5590 MHz)	13.56
126(5630 MHz)	13.77
134(5670 MHz)	11.18
151(5755 MHz)	15.62
159(5795 MHz)	15.70

802.11ac(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	9.77
40(5200 MHz)	11.54
44(5220 MHz)	11.70
48(5240 MHz)	11.81
52(5260 MHz)	14.03
56(5280 MHz)	14.10
60(5300 MHz)	12.13
64(5320 MHz)	10.22
100(5500 MHz)	10.71
104(5520 MHz)	12.27
108(5540 MHz)	13.48
112(5560 MHz)	13.34
116(5580 MHz)	13.22
120(5600 MHz)	13.24
124(5620 MHz)	13.34
128(5640 MHz)	13.27
132(5660 MHz)	13.41
136(5680 MHz)	12.99
140(5700 MHz)	11.18
149(5745 MHz)	14.95
153(5765 MHz)	14.93
157(5785 MHz)	15.00
161(5805 MHz)	15.05
165(5825 MHz)	14.96
802.11ac(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	11.60
46(5230 MHz)	13.95
54(5270 MHz)	11.94
62(5310 MHz)	11.95
102(5510 MHz)	10.71
110(5550 MHz)	13.80
118(5590 MHz)	13.61
126(5630 MHz)	13.81
134(5670 MHz)	12.03
151(5755 MHz)	15.59
159(5795 MHz)	15.69
802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	13.10
58(5290 MHz)	13.33
106(5530 MHz)	11.54
122(5610 MHz)	13.36
155(5775 MHz)	14.36
802.11ac(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	12.06
114(5570 MHz)	6.42

802.11ax(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	9.90
40(5200 MHz)	11.61
44(5220 MHz)	11.80
48(5240 MHz)	11.91
52(5260 MHz)	14.13
56(5280 MHz)	14.24
60(5300 MHz)	12.32
64(5320 MHz)	10.30
100(5500 MHz)	10.75
104(5520 MHz)	12.37
108(5540 MHz)	13.31
112(5560 MHz)	13.40
116(5580 MHz)	13.23
120(5600 MHz)	13.25
124(5620 MHz)	13.34
128(5640 MHz)	13.25
132(5660 MHz)	13.48
136(5680 MHz)	13.07
140(5700 MHz)	11.31
149(5745 MHz)	14.99
153(5765 MHz)	15.06
157(5785 MHz)	15.04
161(5805 MHz)	15.10
165(5825 MHz)	15.02
802.11ax(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	10.41
46(5230 MHz)	13.33
54(5270 MHz)	12.23
62(5310 MHz)	10.82
102(5510 MHz)	9.97
110(5550 MHz)	13.32
118(5590 MHz)	13.15
126(5630 MHz)	13.33
134(5670 MHz)	11.41
151(5755 MHz)	15.18
159(5795 MHz)	15.23
802.11ax(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	12.97
58(5290 MHz)	13.30
106(5530 MHz)	11.53
122(5610 MHz)	13.30
155(5775 MHz)	14.28
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	12.45
114(5570 MHz)	6.74

802.11be(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	9.87
40(5200 MHz)	11.64
44(5220 MHz)	11.80
48(5240 MHz)	11.88
52(5260 MHz)	14.17
56(5280 MHz)	14.17
60(5300 MHz)	12.27
64(5320 MHz)	10.27
100(5500 MHz)	10.74
104(5520 MHz)	12.31
108(5540 MHz)	13.42
112(5560 MHz)	13.41
116(5580 MHz)	13.21
120(5600 MHz)	13.21
124(5620 MHz)	13.35
128(5640 MHz)	13.30
132(5660 MHz)	13.46
136(5680 MHz)	13.10
140(5700 MHz)	11.29
149(5745 MHz)	15.00
153(5765 MHz)	15.02
157(5785 MHz)	15.10
161(5805 MHz)	15.14
165(5825 MHz)	14.98
802.11be(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	10.41
46(5230 MHz)	13.37
54(5270 MHz)	12.27
62(5310 MHz)	12.31
102(5510 MHz)	10.03
110(5550 MHz)	13.16
118(5590 MHz)	12.92
126(5630 MHz)	13.13
134(5670 MHz)	11.43
151(5755 MHz)	15.01
159(5795 MHz)	15.04
802.11be(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	12.96
58(5290 MHz)	13.30
106(5530 MHz)	11.49
122(5610 MHz)	13.36
155(5775 MHz)	14.25
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	11.79
114(5570 MHz)	6.05

The maximum output power for WiFi 5G CHAIN 1

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	10.34
40(5200 MHz)	12.42
44(5220 MHz)	12.36
48(5240 MHz)	12.46
52(5260 MHz)	14.49
56(5280 MHz)	14.18
60(5300 MHz)	12.23
64(5320 MHz)	10.63
100(5500 MHz)	10.54
104(5520 MHz)	12.67
108(5540 MHz)	12.62
112(5560 MHz)	12.76
116(5580 MHz)	12.83
120(5600 MHz)	12.99
124(5620 MHz)	13.13
128(5640 MHz)	13.22
132(5660 MHz)	13.28
136(5680 MHz)	13.26
140(5700 MHz)	11.61
149(5745 MHz)	13.03
153(5765 MHz)	13.02
157(5785 MHz)	12.76
161(5805 MHz)	12.27
165(5825 MHz)	12.08
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	10.30
40(5200 MHz)	12.37
44(5220 MHz)	12.31
48(5240 MHz)	12.42
52(5260 MHz)	14.45
56(5280 MHz)	14.24
60(5300 MHz)	12.18
64(5320 MHz)	10.54
100(5500 MHz)	10.52
104(5520 MHz)	12.65
108(5540 MHz)	12.79
112(5560 MHz)	12.92
116(5580 MHz)	12.98
120(5600 MHz)	13.08
124(5620 MHz)	13.29
128(5640 MHz)	13.35
132(5660 MHz)	13.39
136(5680 MHz)	13.18
140(5700 MHz)	11.58
149(5745 MHz)	13.07
153(5765 MHz)	13.09
157(5785 MHz)	12.84
161(5805 MHz)	12.35
165(5825 MHz)	12.05
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	11.46
46(5230 MHz)	14.44
54(5270 MHz)	12.54
62(5310 MHz)	11.27
102(5510 MHz)	10.76
110(5550 MHz)	13.07
118(5590 MHz)	13.03
126(5630 MHz)	13.42
134(5670 MHz)	11.93
151(5755 MHz)	13.43
159(5795 MHz)	13.02

802.11ac(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	10.23
40(5200 MHz)	12.32
44(5220 MHz)	12.30
48(5240 MHz)	12.40
52(5260 MHz)	14.43
56(5280 MHz)	14.31
60(5300 MHz)	12.17
64(5320 MHz)	10.53
100(5500 MHz)	10.46
104(5520 MHz)	12.62
108(5540 MHz)	12.59
112(5560 MHz)	12.64
116(5580 MHz)	12.71
120(5600 MHz)	12.80
124(5620 MHz)	12.86
128(5640 MHz)	12.84
132(5660 MHz)	12.88
136(5680 MHz)	13.08
140(5700 MHz)	11.53
149(5745 MHz)	12.99
153(5765 MHz)	13.00
157(5785 MHz)	12.69
161(5805 MHz)	12.23
165(5825 MHz)	12.53
802.11ac(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	11.44
46(5230 MHz)	14.41
54(5270 MHz)	12.51
62(5310 MHz)	11.28
102(5510 MHz)	10.76
110(5550 MHz)	12.60
118(5590 MHz)	13.17
126(5630 MHz)	13.35
134(5670 MHz)	11.90
151(5755 MHz)	13.36
159(5795 MHz)	12.93
802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	13.28
58(5290 MHz)	13.56
106(5530 MHz)	11.80
122(5610 MHz)	12.47
155(5775 MHz)	13.04
802.11ac(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	12.42
114(5570 MHz)	6.39

802.11ax(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	10.31
40(5200 MHz)	12.45
44(5220 MHz)	12.34
48(5240 MHz)	12.47
52(5260 MHz)	14.45
56(5280 MHz)	14.36
60(5300 MHz)	12.20
64(5320 MHz)	10.61
100(5500 MHz)	10.46
104(5520 MHz)	12.67
108(5540 MHz)	12.57
112(5560 MHz)	12.55
116(5580 MHz)	12.66
120(5600 MHz)	12.75
124(5620 MHz)	12.74
128(5640 MHz)	12.71
132(5660 MHz)	12.88
136(5680 MHz)	13.21
140(5700 MHz)	11.65
149(5745 MHz)	12.95
153(5765 MHz)	12.92
157(5785 MHz)	12.71
161(5805 MHz)	12.22
165(5825 MHz)	12.02
802.11ax(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	10.96
46(5230 MHz)	14.11
54(5270 MHz)	12.07
62(5310 MHz)	11.37
102(5510 MHz)	10.30
110(5550 MHz)	12.52
118(5590 MHz)	12.74
126(5630 MHz)	12.90
134(5670 MHz)	11.74
151(5755 MHz)	12.92
159(5795 MHz)	12.49
802.11ax(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	13.37
58(5290 MHz)	13.41
106(5530 MHz)	11.76
122(5610 MHz)	12.67
155(5775 MHz)	13.02
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	12.81
114(5570 MHz)	6.77

802.11be(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	10.34
40(5200 MHz)	12.50
44(5220 MHz)	12.39
48(5240 MHz)	12.51
52(5260 MHz)	14.46
56(5280 MHz)	14.48
60(5300 MHz)	12.30
64(5320 MHz)	10.63
100(5500 MHz)	10.58
104(5520 MHz)	12.72
108(5540 MHz)	12.51
112(5560 MHz)	12.57
116(5580 MHz)	12.62
120(5600 MHz)	12.75
124(5620 MHz)	12.85
128(5640 MHz)	12.74
132(5660 MHz)	12.85
136(5680 MHz)	13.22
140(5700 MHz)	11.63
149(5745 MHz)	12.88
153(5765 MHz)	12.93
157(5785 MHz)	12.67
161(5805 MHz)	12.25
165(5825 MHz)	12.02
802.11be(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	10.82
46(5230 MHz)	13.98
54(5270 MHz)	11.92
62(5310 MHz)	11.20
102(5510 MHz)	10.14
110(5550 MHz)	12.08
118(5590 MHz)	12.51
126(5630 MHz)	12.72
134(5670 MHz)	11.53
151(5755 MHz)	12.80
159(5795 MHz)	12.32
802.11be(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	13.49
58(5290 MHz)	13.40
106(5530 MHz)	11.79
122(5610 MHz)	12.69
155(5775 MHz)	13.05
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	12.07
114(5570 MHz)	6.09

The maximum output power for WiFi 5G MIMO

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	13.03
40(5200 MHz)	14.99
44(5220 MHz)	15.03
48(5240 MHz)	15.13
52(5260 MHz)	17.29
56(5280 MHz)	17.15
60(5300 MHz)	15.23
64(5320 MHz)	13.41
100(5500 MHz)	13.62
104(5520 MHz)	15.48
108(5540 MHz)	16.25
112(5560 MHz)	16.11
116(5580 MHz)	15.91
120(5600 MHz)	15.77
124(5620 MHz)	15.86
128(5640 MHz)	16.06
132(5660 MHz)	16.35
136(5680 MHz)	16.14
140(5700 MHz)	14.43
149(5745 MHz)	17.81
153(5765 MHz)	17.70
157(5785 MHz)	17.67
161(5805 MHz)	17.65
165(5825 MHz)	17.67
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	13.04
40(5200 MHz)	14.97
44(5220 MHz)	15.01
48(5240 MHz)	15.13
52(5260 MHz)	17.28
56(5280 MHz)	17.17
60(5300 MHz)	15.21
64(5320 MHz)	13.39
100(5500 MHz)	13.63
104(5520 MHz)	15.48
108(5540 MHz)	16.28
112(5560 MHz)	16.13
116(5580 MHz)	15.93
120(5600 MHz)	15.85
124(5620 MHz)	15.98
128(5640 MHz)	16.18
132(5660 MHz)	16.44
136(5680 MHz)	16.08
140(5700 MHz)	14.39
149(5745 MHz)	17.83
153(5765 MHz)	17.84
157(5785 MHz)	17.76
161(5805 MHz)	17.76
165(5825 MHz)	17.69
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	14.12
46(5230 MHz)	16.85
54(5270 MHz)	14.94
62(5310 MHz)	14.22
102(5510 MHz)	13.36
110(5550 MHz)	16.63
118(5590 MHz)	16.34
126(5630 MHz)	16.68
134(5670 MHz)	14.58
151(5755 MHz)	18.35
159(5795 MHz)	18.31

802.11ac(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	13.02
40(5200 MHz)	14.96
44(5220 MHz)	15.02
48(5240 MHz)	15.13
52(5260 MHz)	17.24
56(5280 MHz)	17.22
60(5300 MHz)	15.16
64(5320 MHz)	13.39
100(5500 MHz)	13.60
104(5520 MHz)	15.46
108(5540 MHz)	16.41
112(5560 MHz)	16.23
116(5580 MHz)	16.05
120(5600 MHz)	15.94
124(5620 MHz)	16.02
128(5640 MHz)	16.17
132(5660 MHz)	16.48
136(5680 MHz)	16.05
140(5700 MHz)	14.37
149(5745 MHz)	17.90
153(5765 MHz)	17.82
157(5785 MHz)	17.76
161(5805 MHz)	17.72
165(5825 MHz)	17.77
802.11ac(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	14.53
46(5230 MHz)	17.20
54(5270 MHz)	15.24
62(5310 MHz)	14.64
102(5510 MHz)	13.75
110(5550 MHz)	16.65
118(5590 MHz)	16.36
126(5630 MHz)	16.66
134(5670 MHz)	14.98
151(5755 MHz)	18.28
159(5795 MHz)	18.33
802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	16.20
58(5290 MHz)	16.46
106(5530 MHz)	14.68
122(5610 MHz)	16.35
155(5775 MHz)	17.41
802.11ac(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	15.25
114(5570 MHz)	9.42

802.11ax(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	13.12
40(5200 MHz)	15.06
44(5220 MHz)	15.09
48(5240 MHz)	15.21
52(5260 MHz)	17.30
56(5280 MHz)	17.31
60(5300 MHz)	15.27
64(5320 MHz)	13.47
100(5500 MHz)	13.62
104(5520 MHz)	15.53
108(5540 MHz)	16.29
112(5560 MHz)	16.21
116(5580 MHz)	16.00
120(5600 MHz)	15.94
124(5620 MHz)	16.01
128(5640 MHz)	16.06
132(5660 MHz)	16.35
136(5680 MHz)	16.15
140(5700 MHz)	14.49
149(5745 MHz)	17.85
153(5765 MHz)	17.81
157(5785 MHz)	17.71
161(5805 MHz)	17.69
165(5825 MHz)	17.72
802.11ax(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	13.70
46(5230 MHz)	16.75
54(5270 MHz)	15.16
62(5310 MHz)	14.11
102(5510 MHz)	13.15
110(5550 MHz)	16.17
118(5590 MHz)	15.90
126(5630 MHz)	16.21
134(5670 MHz)	14.59
151(5755 MHz)	17.85
159(5795 MHz)	17.85
802.11ax(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	16.18
58(5290 MHz)	16.37
106(5530 MHz)	14.66
122(5610 MHz)	16.30
155(5775 MHz)	17.25
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	15.64
114(5570 MHz)	9.77

802.11be(dBm)-20MHz	
Channel\data rate	MCS0
36(5180 MHz)	13.12
40(5200 MHz)	15.10
44(5220 MHz)	15.12
48(5240 MHz)	15.22
52(5260 MHz)	17.33
56(5280 MHz)	17.34
60(5300 MHz)	15.30
64(5320 MHz)	13.46
100(5500 MHz)	13.67
104(5520 MHz)	15.53
108(5540 MHz)	16.32
112(5560 MHz)	16.18
116(5580 MHz)	15.99
120(5600 MHz)	15.90
124(5620 MHz)	16.04
128(5640 MHz)	16.16
132(5660 MHz)	16.46
136(5680 MHz)	16.17
140(5700 MHz)	14.47
149(5745 MHz)	17.90
153(5765 MHz)	17.82
157(5785 MHz)	17.79
161(5805 MHz)	17.76
165(5825 MHz)	17.72
802.11be(dBm)-40MHz	
Channel\data rate	MCS0
38(5190 MHz)	13.63
46(5230 MHz)	16.70
54(5270 MHz)	15.11
62(5310 MHz)	14.80
102(5510 MHz)	13.10
110(5550 MHz)	16.05
118(5590 MHz)	16.00
126(5630 MHz)	16.02
134(5670 MHz)	14.49
151(5755 MHz)	17.70
159(5795 MHz)	17.66
802.11be(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	16.24
58(5290 MHz)	16.36
106(5530 MHz)	14.65
122(5610 MHz)	16.29
155(5775 MHz)	17.15
802.11ax(dBm)-160MHz	
Channel\data rate	MCS0
50(5250 MHz)	14.94
114(5570 MHz)	9.08

The maximum output power for WiFi 6G CHAIN 0

802.11a-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	2.84
5(5975 MHz)	4.86
9(5995 MHz)	4.89
13(6015 MHz)	4.67
17(6035 MHz)	4.60
21(6055 MHz)	4.57
25(6075 MHz)	4.49
29(6095 MHz)	4.48
33(6115 MHz)	4.56
37(6135 MHz)	4.52
41(6155 MHz)	4.43
45(6175 MHz)	4.38
49(6195 MHz)	4.35
53(6215 MHz)	4.52
57(6235 MHz)	4.46
61(6255 MHz)	4.41
65(6275 MHz)	4.38
69(6295 MHz)	4.33
73(6315 MHz)	4.30
77(6335 MHz)	4.24
81(6355 MHz)	4.19
85(6375 MHz)	4.15
89(6395 MHz)	4.12
93(6415 MHz)	4.33
97(6435 MHz)	4.56
101(6455 MHz)	4.58
105(6475 MHz)	4.56
109(6495 MHz)	4.60
113(6515 MHz)	4.86
117(6535 MHz)	4.45
121(6555 MHz)	4.53
125(6575 MHz)	4.56
129(6595 MHz)	4.60
133(6615 MHz)	4.56
137(6635 MHz)	4.66
141(6655 MHz)	4.64
145(6675 MHz)	4.35
149(6695 MHz)	4.34
153(6715 MHz)	6.35
157(6735 MHz)	6.35
161(6755 MHz)	6.38
165(6775 MHz)	6.45
169(6795 MHz)	6.41
173(6815 MHz)	6.45
177(6835 MHz)	6.26
181(6855 MHz)	4.72
185(6875 MHz)	1.69
189(6895 MHz)	1.69
193(6915 MHz)	1.70
197(6935 MHz)	1.70
201(6955 MHz)	1.76
205(6975 MHz)	1.00
209(6995 MHz)	1.02
213(7015 MHz)	3.93
217(7035 MHz)	3.96
221(7055 MHz)	3.74
225(7075 MHz)	3.80
229(7095 MHz)	3.76
233(7115 MHz)	-6.25

802.11ax-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	2.81
5(5975 MHz)	4.90
9(5995 MHz)	4.87
13(6015 MHz)	4.69
17(6035 MHz)	4.63
21(6055 MHz)	4.61
25(6075 MHz)	4.52
29(6095 MHz)	4.45
33(6115 MHz)	4.60
37(6135 MHz)	4.51
41(6155 MHz)	4.40
45(6175 MHz)	4.37
49(6195 MHz)	4.33
53(6215 MHz)	4.50
57(6235 MHz)	4.44
61(6255 MHz)	4.42
65(6275 MHz)	4.39
69(6295 MHz)	4.33
73(6315 MHz)	4.29
77(6335 MHz)	4.25
81(6355 MHz)	4.21
85(6375 MHz)	4.15
89(6395 MHz)	4.04
93(6415 MHz)	4.30
97(6435 MHz)	4.69
101(6455 MHz)	4.66
105(6475 MHz)	4.69
109(6495 MHz)	4.79
113(6515 MHz)	5.03
117(6535 MHz)	5.49
121(6555 MHz)	6.55
125(6575 MHz)	6.60
129(6595 MHz)	6.63
133(6615 MHz)	6.63
137(6635 MHz)	6.62
141(6655 MHz)	6.63
145(6675 MHz)	6.38
149(6695 MHz)	4.83
153(6715 MHz)	6.39
157(6735 MHz)	6.39
161(6755 MHz)	6.44
165(6775 MHz)	6.51
169(6795 MHz)	6.44
173(6815 MHz)	6.49
177(6835 MHz)	6.34
181(6855 MHz)	4.80
185(6875 MHz)	1.66
189(6895 MHz)	4.36
193(6915 MHz)	4.27
197(6935 MHz)	4.23
201(6955 MHz)	4.21
205(6975 MHz)	4.00
209(6995 MHz)	1.54
213(7015 MHz)	4.00
217(7035 MHz)	3.97
221(7055 MHz)	3.80
225(7075 MHz)	3.85
229(7095 MHz)	3.86
233(7115 MHz)	-17.33

802.11ax-40M(dBm)	
Channel\data rate	6Mbps
3(5965 MHz)	5.50
11(5995 MHz)	5.49
19(6035MHz)	5.26
27(6085 MHz)	5.14
35(6125 MHz)	5.26
43(6065 MHz)	5.13
51(6205 MHz)	5.15
59(6245 MHz)	5.09
67(6285 MHz)	5.20
71(6325 MHz)	5.08
83(6365 MHz)	5.00
91(6405 MHz)	4.92
99(6445 MHz)	7.33
107(6485 MHz)	7.34
115(6525 MHz)	7.41
123(6565 MHz)	7.54
131(6605 MHz)	7.59
139(6645 MHz)	7.57
147(6685 MHz)	7.43
155(6725 MHz)	7.43
163(6765 MHz)	7.47
171(6805 MHz)	7.46
179(6845 MHz)	7.37
187(6885 MHz)	5.40
195(6925 MHz)	5.30
203(6965 MHz)	4.98
211(7005 MHz)	4.92
219(7045 MHz)	4.75
227(7085 MHz)	4.93
802.11ax-80M(dBm)	
Channel\data rate	6Mbps
7(5985 MHz)	5.94
23(6065 MHz)	5.66
39(6145 MHz)	5.68
55(6225 MHz)	5.55
71(6305 MHz)	5.61
87(6385 MHz)	5.40
103(6465 MHz)	7.37
119(6545 MHz)	7.44
135(6625 MHz)	7.56
151(6705 MHz)	7.44
167(6785 MHz)	7.42
183(6865 MHz)	7.31
199(6945 MHz)	5.16
215(7025 MHz)	4.68
802.11ax-160M(dBm)	
Channel\data rate	6Mbps
15(6025 MHz)	6.10
47(6185 MHz)	5.92
79(6345 MHz)	5.91
111(6505 MHz)	7.81
143(6665 MHz)	7.92
175(6825 MHz)	7.79
207(6985 MHz)	5.23

802.11be-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	2.68
5(5975 MHz)	5.04
9(5995 MHz)	5.00
13(6015 MHz)	4.75
17(6035 MHz)	4.75
21(6055 MHz)	4.65
25(6075 MHz)	4.64
29(6095 MHz)	4.59
33(6115 MHz)	4.74
37(6135 MHz)	4.65
41(6155 MHz)	4.65
45(6175 MHz)	4.49
49(6195 MHz)	4.40
53(6215 MHz)	4.62
57(6235 MHz)	4.56
61(6255 MHz)	4.55
65(6275 MHz)	4.48
69(6295 MHz)	4.40
73(6315 MHz)	4.36
77(6335 MHz)	4.33
81(6355 MHz)	4.26
85(6375 MHz)	4.26
89(6395 MHz)	4.17
93(6415 MHz)	4.39
97(6435 MHz)	4.70
101(6455 MHz)	4.67
105(6475 MHz)	4.70
109(6495 MHz)	4.70
113(6515 MHz)	4.97
117(6535 MHz)	5.52
121(6555 MHz)	6.56
125(6575 MHz)	6.56
129(6595 MHz)	6.61
133(6615 MHz)	6.64
137(6635 MHz)	6.64
141(6655 MHz)	6.64
145(6675 MHz)	6.34
149(6695 MHz)	4.83
153(6715 MHz)	6.41
157(6735 MHz)	6.38
161(6755 MHz)	6.44
165(6775 MHz)	6.48
169(6795 MHz)	6.45
173(6815 MHz)	6.45
177(6835 MHz)	6.29
181(6855 MHz)	4.80
185(6875 MHz)	1.63
189(6895 MHz)	4.37
193(6915 MHz)	4.29
197(6935 MHz)	4.27
201(6955 MHz)	4.24
205(6975 MHz)	4.01
209(6995 MHz)	1.87
213(7015 MHz)	3.97
217(7035 MHz)	3.97
221(7055 MHz)	3.84
225(7075 MHz)	3.84
229(7095 MHz)	3.85
233(7115 MHz)	-16.96

802.11be-40M(dBm)	
Channel\data rate	6Mbps
3(5965 MHz)	5.47
11(5995 MHz)	5.39
19(6035MHz)	5.20
27(6085 MHz)	5.03
35(6125 MHz)	5.16
43(6165 MHz)	5.00
51(6205 MHz)	4.89
59(6245 MHz)	4.94
67(6285 MHz)	4.97
71(6325 MHz)	4.87
83(6365 MHz)	4.79
91(6405 MHz)	4.66
99(6445 MHz)	6.98
107(6485 MHz)	7.03
115(6525 MHz)	7.23
123(6565 MHz)	7.29
131(6605 MHz)	7.34
139(6645 MHz)	7.33
147(6585 MHz)	7.35
155(6725 MHz)	7.15
163(6765 MHz)	7.22
171(6805 MHz)	7.13
179(6845 MHz)	7.10
187(6885 MHz)	5.10
195(6925 MHz)	5.00
203(6965 MHz)	4.65
211(7005 MHz)	4.60
219(7045 MHz)	4.45
227(7085 MHz)	4.65

802.11be-80M(dBm)	
Channel\data rate	6Mbps
7(5985 MHz)	5.91
23(6065 MHz)	5.63
39(6145 MHz)	5.64
55(6225 MHz)	5.53
71(6305 MHz)	5.51
87(6385 MHz)	5.35
103(6465 MHz)	7.41
119(6545 MHz)	7.53
135(6625 MHz)	7.63
151(6705 MHz)	7.49
167(6785 MHz)	7.56
183(6865 MHz)	7.45
199(6945 MHz)	5.34
215(7025 MHz)	5.00

802.11be-160M(dBm)	
Channel\data rate	6Mbps
15(6025 MHz)	5.40
47(6185 MHz)	5.21
79(6345 MHz)	5.13
111(6505 MHz)	7.17
143(6665 MHz)	7.26
175(6825 MHz)	7.23
207(6985 MHz)	4.70

802.11be-320M(dBm)	
Channel\data rate	6Mbps
31(6105 MHz)	5.73
63(6265 MHz)	5.64
95(6425 MHz)	6.77
127(6585 MHz)	7.60
159(6745 MHz)	7.62
191(6905 MHz)	5.15

The maximum output power for WiFi 6G CHAIN 1

802.11a-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	3.64
5(5975 MHz)	5.31
9(5995 MHz)	5.31
13(6015 MHz)	5.30
17(6035 MHz)	5.20
21(6055 MHz)	5.14
25(6075 MHz)	4.98
29(6095 MHz)	4.92
33(6115 MHz)	4.61
37(6135 MHz)	4.59
41(6155 MHz)	4.72
45(6175 MHz)	4.82
49(6195 MHz)	4.81
53(6215 MHz)	5.06
57(6235 MHz)	5.01
61(6255 MHz)	4.94
65(6275 MHz)	4.86
69(6295 MHz)	4.76
73(6315 MHz)	4.67
77(6335 MHz)	4.52
81(6355 MHz)	4.39
85(6375 MHz)	4.26
89(6395 MHz)	4.14
93(6415 MHz)	4.03
97(6435 MHz)	4.53
101(6455 MHz)	4.54
105(6475 MHz)	4.69
109(6495 MHz)	4.79
113(6515 MHz)	5.00
117(6535 MHz)	4.62
121(6555 MHz)	4.73
125(6575 MHz)	4.63
129(6595 MHz)	4.65
133(6615 MHz)	4.63
137(6635 MHz)	4.58
141(6655 MHz)	4.52
145(6675 MHz)	4.48
149(6695 MHz)	4.45
153(6715 MHz)	5.11
157(6735 MHz)	6.64
161(6755 MHz)	6.73
165(6775 MHz)	6.86
169(6795 MHz)	6.77
173(6815 MHz)	6.82
177(6835 MHz)	6.80
181(6855 MHz)	5.18
185(6875 MHz)	1.38
189(6895 MHz)	1.26
193(6915 MHz)	1.12
197(6935 MHz)	1.14
201(6955 MHz)	1.19
205(6975 MHz)	1.82
209(6995 MHz)	1.95
213(7015 MHz)	4.16
217(7035 MHz)	4.22
221(7055 MHz)	4.26
225(7075 MHz)	4.37
229(7095 MHz)	4.50
233(7115 MHz)	-6.36

802.11ax-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	3.35
5(5975 MHz)	5.37
9(5995 MHz)	5.38
13(6015 MHz)	5.39
17(6035 MHz)	5.28
21(6055 MHz)	5.26
25(6075 MHz)	5.10
29(6095 MHz)	4.99
33(6115 MHz)	4.69
37(6135 MHz)	4.71
41(6155 MHz)	4.78
45(6175 MHz)	4.89
49(6195 MHz)	4.88
53(6215 MHz)	5.15
57(6235 MHz)	5.09
61(6255 MHz)	5.05
65(6275 MHz)	4.95
69(6295 MHz)	4.86
73(6315 MHz)	4.73
77(6335 MHz)	4.59
81(6355 MHz)	4.46
85(6375 MHz)	4.35
89(6395 MHz)	4.19
93(6415 MHz)	4.08
97(6435 MHz)	4.61
101(6455 MHz)	4.62
105(6475 MHz)	4.77
109(6495 MHz)	4.86
113(6515 MHz)	5.11
117(6535 MHz)	5.67
121(6555 MHz)	6.97
125(6575 MHz)	6.87
129(6595 MHz)	6.83
133(6615 MHz)	6.78
137(6635 MHz)	6.75
141(6655 MHz)	6.69
145(6675 MHz)	6.66
149(6695 MHz)	6.62
153(6715 MHz)	6.65
157(6735 MHz)	6.73
161(6755 MHz)	6.81
165(6775 MHz)	6.94
169(6795 MHz)	6.84
173(6815 MHz)	6.88
177(6835 MHz)	6.89
181(6855 MHz)	5.29
185(6875 MHz)	1.13
189(6895 MHz)	4.57
193(6915 MHz)	4.44
197(6935 MHz)	4.31
201(6955 MHz)	4.21
205(6975 MHz)	4.16
209(6995 MHz)	2.23
213(7015 MHz)	4.25
217(7035 MHz)	4.33
221(7055 MHz)	4.29
225(7075 MHz)	4.45
229(7095 MHz)	4.56
233(7115 MHz)	-17.82

802.11ax-40M(dBm)	
Channel\data rate	6Mbps
3(5965 MHz)	6.17
11(5995 MHz)	6.19
19(6035MHz)	5.91
27(6085 MHz)	5.67
35(6125 MHz)	5.50
43(6065 MHz)	5.63
51(6205 MHz)	5.78
59(6245 MHz)	5.78
67(6285 MHz)	5.78
71(6325 MHz)	5.41
83(6365 MHz)	5.13
91(6405 MHz)	5.03
99(6445 MHz)	6.88
107(6485 MHz)	7.10
115(6525 MHz)	7.52
123(6565 MHz)	7.50
131(6605 MHz)	7.49
139(6645 MHz)	7.43
147(6685 MHz)	7.35
155(6725 MHz)	7.39
163(6765 MHz)	7.59
171(6805 MHz)	7.68
179(6845 MHz)	7.77
187(6885 MHz)	5.35
195(6925 MHz)	5.11
203(6965 MHz)	4.92
211(7005 MHz)	4.86
219(7045 MHz)	4.89
227(7085 MHz)	5.13
802.11ax-80M(dBm)	
Channel\data rate	6Mbps
7(5985 MHz)	6.52
23(6065 MHz)	6.06
39(6145 MHz)	5.99
55(6225 MHz)	6.18
71(6305 MHz)	5.99
87(6385 MHz)	5.39
103(6465 MHz)	7.42
119(6545 MHz)	7.99
135(6625 MHz)	7.82
151(6705 MHz)	7.71
167(6785 MHz)	7.98
183(6865 MHz)	7.82
199(6945 MHz)	5.32
215(7025 MHz)	5.29
802.11ax-160M(dBm)	
Channel\data rate	6Mbps
15(6025 MHz)	6.63
47(6185 MHz)	6.48
79(6345 MHz)	6.09
111(6505 MHz)	8.22
143(6665 MHz)	8.15
175(6825 MHz)	8.34
207(6985 MHz)	5.43

802.11be-20M(dBm)	
Channel\data rate	6Mbps
1(5955 MHz)	3.39
5(5975 MHz)	5.45
9(5995 MHz)	5.42
13(6015 MHz)	5.39
17(6035 MHz)	5.32
21(6055 MHz)	5.28
25(6075 MHz)	5.09
29(6095 MHz)	4.99
33(6115 MHz)	4.67
37(6135 MHz)	4.71
41(6155 MHz)	4.82
45(6175 MHz)	4.91
49(6195 MHz)	4.88
53(6215 MHz)	5.14
57(6235 MHz)	5.11
61(6255 MHz)	5.04
65(6275 MHz)	4.95
69(6295 MHz)	4.89
73(6315 MHz)	4.77
77(6335 MHz)	4.62
81(6355 MHz)	4.46
85(6375 MHz)	4.35
89(6395 MHz)	4.24
93(6415 MHz)	4.08
97(6435 MHz)	4.64
101(6455 MHz)	4.59
105(6475 MHz)	4.78
109(6495 MHz)	4.86
113(6515 MHz)	5.11
117(6535 MHz)	5.71
121(6555 MHz)	6.96
125(6575 MHz)	6.82
129(6595 MHz)	6.83
133(6615 MHz)	6.78
137(6635 MHz)	6.77
141(6655 MHz)	6.67
145(6675 MHz)	6.76
149(6695 MHz)	5.08
153(6715 MHz)	6.64
157(6735 MHz)	6.73
161(6755 MHz)	6.84
165(6775 MHz)	6.94
169(6795 MHz)	6.82
173(6815 MHz)	6.88
177(6835 MHz)	6.90
181(6855 MHz)	5.28
185(6875 MHz)	1.07
189(6895 MHz)	4.60
193(6915 MHz)	4.44
197(6935 MHz)	4.31
201(6955 MHz)	4.21
205(6975 MHz)	4.18
209(6995 MHz)	4.16
213(7015 MHz)	4.21
217(7035 MHz)	4.24
221(7055 MHz)	4.31
225(7075 MHz)	4.40
229(7095 MHz)	4.54
233(7115 MHz)	-17.60

802.11be-40M(dBm)	
Channel\data rate	6Mbps
3(5965 MHz)	5.97
11(5995 MHz)	6.02
19(6035MHz)	5.75
27(6085 MHz)	5.53
35(6125 MHz)	5.30
43(6165 MHz)	5.45
51(6205 MHz)	5.58
59(6245 MHz)	5.58
67(6285 MHz)	5.44
71(6325 MHz)	5.22
83(6365 MHz)	4.99
91(6405 MHz)	4.78
99(6445 MHz)	6.69
107(6485 MHz)	6.91
115(6525 MHz)	7.38
123(6565 MHz)	7.30
131(6605 MHz)	7.32
139(6645 MHz)	7.27
147(6585 MHz)	7.13
155(6725 MHz)	7.19
163(6765 MHz)	7.40
171(6805 MHz)	7.48
179(6845 MHz)	7.48
187(6885 MHz)	5.13
195(6925 MHz)	4.89
203(6965 MHz)	4.71
211(7005 MHz)	4.69
219(7045 MHz)	4.72
227(7085 MHz)	4.98

802.11be-80M(dBm)	
Channel\data rate	6Mbps
7(5985 MHz)	6.57
23(6065 MHz)	6.09
39(6145 MHz)	5.97
55(6225 MHz)	6.18
71(6305 MHz)	5.93
87(6385 MHz)	5.47
103(6465 MHz)	7.44
119(6545 MHz)	8.02
135(6625 MHz)	7.82
151(6705 MHz)	7.71
167(6785 MHz)	8.04
183(6865 MHz)	7.83
199(6945 MHz)	5.32
215(7025 MHz)	5.36

802.11be-160M(dBm)	
Channel\data rate	6Mbps
15(6025 MHz)	5.91
47(6185 MHz)	5.74
79(6345 MHz)	5.39
111(6505 MHz)	7.57
143(6665 MHz)	7.43
175(6825 MHz)	7.62
207(6985 MHz)	5.06

802.11be-320M(dBm)	
Channel\data rate	6Mbps
31(6105 MHz)	5.65
63(6265 MHz)	5.95
95(6425 MHz)	6.58
127(6585 MHz)	7.38
159(6745 MHz)	7.71
191(6905 MHz)	5.19

12 Antenna Location

12.1 Transmit Antenna Separation Distances

The detail for transmit antenna separation distance is described in the additional document:

Appendix to test report No.24T04Z100905-010

The photos of SAR test

12.2 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
CHAIN 0	No	Yes	Yes	No	Yes	No
CHAIN 1	No	Yes	No	Yes	Yes	No

13 SAR Test Result

Note:

KDB 447498 D01 General RF Exposure Guidance:

For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor

For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor

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

KDB 648474 D04 Handset SAR:

With headset attached, 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.

KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the initial test position(s) by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The initial test position(s) is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s).

When the reported SAR for 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 wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.

> 0.4 W/kg, SAR is repeated using the same wireless mode test 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 reported SAR is ≤ 0.8 W/kg or all required test positions are tested.

- For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
- When it is unclear, all equivalent conditions must be tested.

For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required test channels are considered.

• The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

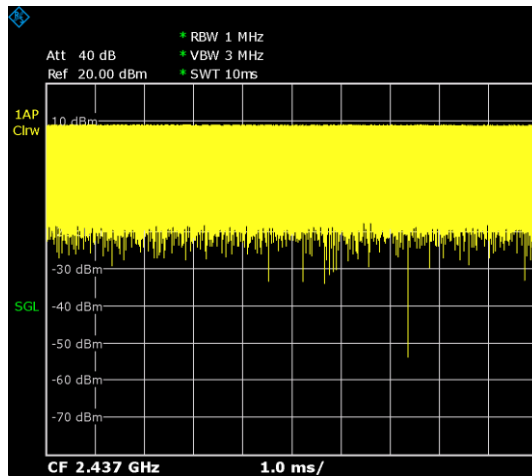
When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

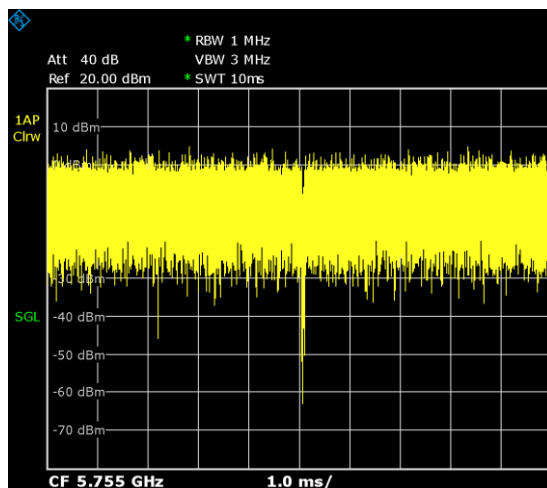
13.1 SAR results for WLAN

Duty factor plot

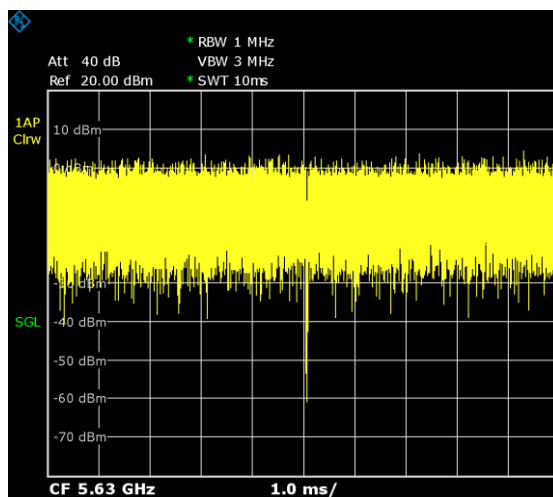
CH6



CH151



CH126



WLAN 2.4G

ANT	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	Note	Duty Cycle	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Chain 0	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note1	100.00%	18.80	20.00	0.098	0.129	0.052	0.069	-0.07
Chain 0	Body	WLAN2.4G	6	2437	11b	Left	0mm	\	Note1	100.00%	18.80	20.00	0.394	0.519	0.182	0.240	0.14
Chain 0	Body	WLAN2.4G	11	2462	11b	Top	0mm	\	Note1	100.00%	16.77	18.00	0.304	0.404	0.127	0.169	0.08
Chain 0	Body	WLAN2.4G	6	2437	11b	Top	0mm	FIG A.1	Note1	100.00%	18.80	20.00	0.490	0.646	0.220	0.290	0.04
Chain 0	Body	WLAN2.4G	1	2412	11b	Top	0mm	\	Note1	100.00%	16.51	18.00	0.228	0.321	0.100	0.141	-0.12
Chain 0	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note2	100.00%	17.00	18.50	0.077	0.109	0.040	0.057	-0.04
Chain 0	Body	WLAN2.4G	6	2437	11b	Left	0mm	\	Note2	100.00%	17.00	18.50	0.308	0.435	0.139	0.196	0.09
Chain 0	Body	WLAN2.4G	6	2437	11b	Top	0mm	\	Note2	100.00%	17.00	18.50	0.383	0.541	0.168	0.237	0.12
Chain 1	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note1	100.00%	18.43	19.50	0.075	0.096	0.045	0.058	0.02
Chain 1	Body	WLAN2.4G	11	2462	11b	Right	0mm	\	Note1	100.00%	16.45	18.00	0.202	0.289	0.103	0.147	-0.16
Chain 1	Body	WLAN2.4G	6	2437	11b	Right	0mm	FIG A.2	Note1	100.00%	18.43	19.50	0.419	0.536	0.195	0.249	0.01
Chain 1	Body	WLAN2.4G	1	2412	11b	Right	0mm	\	Note1	100.00%	16.38	18.00	0.184	0.267	0.091	0.132	-0.1
Chain 1	Body	WLAN2.4G	6	2437	11b	Top	0mm	\	Note1	100.00%	18.43	19.50	0.347	0.444	0.174	0.223	0.14
Chain 1	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note2	100.00%	17.21	18.00	0.048	0.058	0.029	0.035	-0.09
Chain 1	Body	WLAN2.4G	6	2437	11b	Right	0mm	\	Note2	100.00%	17.21	18.00	0.267	0.320	0.126	0.151	0.16
Chain 1	Body	WLAN2.4G	6	2437	11b	Top	0mm	\	Note2	100.00%	17.21	18.00	0.221	0.265	0.112	0.134	-0.14
MIMO	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note1	100.00%	21.87	22.50	0.090	0.104	0.050	0.058	-0.02
MIMO	Body	WLAN2.4G	6	2437	11b	Left	0mm	\	Note1	100.00%	21.87	22.50	0.306	0.354	0.157	0.182	0.05
MIMO	Body	WLAN2.4G	6	2437	11b	Right	0mm	\	Note1	100.00%	21.87	22.50	0.359	0.415	0.190	0.220	0.08
MIMO	Body	WLAN2.4G	11	2462	11b	Top	0mm	\	Note1	100.00%	19.62	21.00	0.190	0.261	0.092	0.126	-0.13
MIMO	Body	WLAN2.4G	6	2437	11b	Top	0mm	FIG A.3	Note1	100.00%	21.87	22.50	0.513	0.593	0.227	0.262	0.14
MIMO	Body	WLAN2.4G	1	2412	11b	Top	0mm	\	Note1	100.00%	19.46	21.00	0.209	0.298	0.098	0.140	0.1
MIMO	Body	WLAN2.4G	6	2437	11b	Rear	0mm	\	Note2	100.00%	20.28	21.50	0.066	0.087	0.036	0.048	-0.06
MIMO	Body	WLAN2.4G	6	2437	11b	Left	0mm	\	Note2	100.00%	20.28	21.50	0.224	0.297	0.113	0.150	-0.15
MIMO	Body	WLAN2.4G	6	2437	11b	Right	0mm	\	Note2	100.00%	20.28	21.50	0.262	0.347	0.137	0.181	0.06
MIMO	Body	WLAN2.4G	6	2437	11b	Top	0mm	\	Note2	100.00%	20.28	21.50	0.375	0.497	0.164	0.217	0.12

Note1: The data is used for WIFI2.4G stand-alone

Note2: The data is used for WIFI2.4G +5G/6G simultaneous transmission

WLAN 5G

ANT	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	Duty Cycle	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Chain 0	Body	WLAN5G	46	5230	11ac_40M	Rear	0mm	\	98.00%	13.95	15.50	0.041	0.060	0.012	0.017	-0.17
Chain 0	Body	WLAN5G	46	5230	11ac_40M	Left	0mm	\	98.00%	13.95	15.50	0.258	0.376	0.101	0.144	-0.13
Chain 0	Body	WLAN5G	46	5230	11ac_40M	Top	0mm	\	98.00%	13.95	15.50	0.271	0.395	0.094	0.134	-0.18
Chain 0	Body	WLAN5G	56	5280	11a	Rear	0mm	\	98.00%	14.10	16.00	0.092	0.145	0.025	0.039	-0.11
Chain 0	Body	WLAN5G	56	5280	11a	Left	0mm	\	98.00%	14.10	16.00	0.311	0.492	0.123	0.191	0.15
Chain 0	Body	WLAN5G	56	5280	11a	Top	0mm	\	98.00%	14.10	16.00	0.363	0.574	0.118	0.183	0.19
Chain 0	Body	WLAN5G	110	5550	11n-40M	Rear	0mm	\	98.00%	13.80	15.50	0.107	0.161	0.021	0.031	-0.13
Chain 0	Body	WLAN5G	110	5550	11n-40M	Left	0mm	\	98.00%	13.80	15.50	0.409	0.617	0.120	0.177	-0.18
Chain 0	Body	WLAN5G	110	5550	11n-40M	Top	0mm	\	98.00%	13.80	15.50	0.447	0.675	0.128	0.189	0.16
Chain 0	Body	WLAN5G	159	5795	11n-40M	Rear	0mm	\	98.00%	15.70	17.00	0.154	0.212	0.022	0.030	0.07
Chain 0	Body	WLAN5G	159	5795	11n-40M	Left	0mm	\	98.00%	15.70	17.00	0.579	0.797	0.164	0.159	0.14
Chain 0	Body	WLAN5G	151	5755	11n-40M	Top	0mm	FIG A.4	98.00%	15.62	17.00	0.669	0.938	0.191	0.140	0.16
Chain 0	Body	WLAN5G	159	5795	11n-40M	Top	0mm	\	98.00%	15.70	17.00	0.627	0.863	0.174	0.140	0.03
Chain 1	Body	WLAN5G	46	5230	11n_40M	Rear	0mm	\	98.00%	14.44	16.00	0.048	0.070	0.020	0.029	0.13
Chain 1	Body	WLAN5G	46	5230	11n_40M	Right	0mm	\	98.00%	14.44	16.00	0.394	0.576	0.150	0.215	0.15
Chain 1	Body	WLAN5G	46	5230	11n_40M	Top	0mm	\	98.00%	14.44	16.00	0.526	0.769	0.175	0.251	0.12
Chain 1	Body	WLAN5G	52	5260	11a	Rear	0mm	\	98.00%	14.49	16.00	0.153	0.221	0.046	0.065	-0.05
Chain 1	Body	WLAN5G	52	5260	11a	Right	0mm	\	98.00%	14.49	16.00	0.468	0.676	0.168	0.238	-0.11
Chain 1	Body	WLAN5G	52	5260	11a	Top	0mm	\	98.00%	14.49	16.00	0.521	0.753	0.174	0.246	-0.07
Chain 1	Body	WLAN5G	126	5630	11n-40M	Rear	0mm	\	98.00%	13.42	14.50	0.146	0.191	0.058	0.059	0.16
Chain 1	Body	WLAN5G	126	5630	11n-40M	Right	0mm	\	98.00%	13.42	14.50	0.516	0.675	0.170	0.172	-0.11
Chain 1	Body	WLAN5G	110	5550	11n-40M	Top	0mm	\	98.00%	13.07	14.50	0.496	0.703	0.211	0.151	0.17
Chain 1	Body	WLAN5G	126	5630	11n-40M	Top	0mm	FIG A.5	98.00%	13.42	14.50	0.712	0.932	0.211	0.213	0.09
Chain 1	Body	WLAN5G	155	5775	11ac-80M	Rear	0mm	\	98.00%	13.04	15.00	0.080	0.128	0.022	0.035	-0.02
Chain 1	Body	WLAN5G	155	5775	11ac-80M	Right	0mm	\	98.00%	13.04	15.00	0.205	0.328	0.066	0.104	-0.11
Chain 1	Body	WLAN5G	155	5775	11ac-80M	Top	0mm	\	98.00%	13.04	15.00	0.357	0.572	0.107	0.168	0.01
MIMO	Body	WLAN5G	46	5230	11ac_40M	Rear	0mm	\	98.00%	17.20	18.50	0.169	0.228	0.039	0.053	0.05
MIMO	Body	WLAN5G	46	5230	11ac_40M	Left	0mm	\	98.00%	17.20	18.50	0.356	0.480	0.105	0.142	-0.11
MIMO	Body	WLAN5G	46	5230	11ac_40M	Right	0mm	\	98.00%	17.20	18.50	0.434	0.585	0.136	0.183	0.03
MIMO	Body	WLAN5G	46	5230	11ac_40M	Top	0mm	\	98.00%	17.20	18.50	0.493	0.665	0.151	0.204	-0.16
MIMO	Body	WLAN5G	52	5260	11a	Rear	0mm	\	98.00%	17.29	19.00	0.089	0.132	0.020	0.030	0.04
MIMO	Body	WLAN5G	52	5260	11a	Left	0mm	\	98.00%	17.29	19.00	0.355	0.526	0.113	0.168	0.05
MIMO	Body	WLAN5G	52	5260	11a	Right	0mm	\	98.00%	17.29	19.00	0.440	0.652	0.150	0.222	-0.09
MIMO	Body	WLAN5G	52	5260	11a	Top	0mm	\	98.00%	17.29	19.00	0.507	0.752	0.157	0.233	0.07
MIMO	Body	WLAN5G	126	5630	11n-40M	Rear	0mm	\	98.00%	16.68	18.50	0.064	0.097	0.017	0.026	-0.18
MIMO	Body	WLAN5G	126	5630	11n-40M	Left	0mm	\	98.00%	16.68	18.50	0.522	0.794	0.152	0.231	0.16
MIMO	Body	WLAN5G	126	5630	11n-40M	Right	0mm	\	98.00%	16.68	18.50	0.328	0.499	0.118	0.179	0.18
MIMO	Body	WLAN5G	110	5550	11n-40M	Top	0mm	\	98.00%	16.63	18.50	0.384	0.591	0.121	0.186	0.14
MIMO	Body	WLAN5G	126	5630	11n-40M	Top	0mm	FIG A.6	98.00%	16.68	18.50	0.611	0.929	0.171	0.260	-0.15
MIMO	Body	WLAN5G	151	5755	11n-40M	Rear	0mm	\	98.00%	18.35	20.00	0.063	0.092	0.023	0.034	-0.08
MIMO	Body	WLAN5G	151	5755	11n-40M	Left	0mm	\	98.00%	18.35	20.00	0.348	0.509	0.133	0.194	0.18
MIMO	Body	WLAN5G	151	5755	11n-40M	Right	0mm	\	98.00%	18.35	20.00	0.487	0.712	0.149	0.218	0.14
MIMO	Body	WLAN5G	151	5755	11n-40M	Top	0mm	\	98.00%	18.35	20.00	0.590	0.863	0.183	0.268	0.11
MIMO	Body	WLAN5G	159	5795	11n-40M	Top	0mm	\	98.00%	18.31	20.00	0.550	0.812	0.153	0.226	0.06

WLAN 6G

ANT	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	Duty Cycle	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift	APD
Chain 0	Body	WLAN6E	31	6105	11be_320M	Rear	0mm	\	99.00%	5.73	7.50	0.012	0.018	0.005	0.008	0.14	0.106
Chain 0	Body	WLAN6E	31	6105	11be_320M	Left	0mm	\	99.00%	5.73	7.50	0.056	0.085	0.018	0.027	-0.09	0.409
Chain 0	Body	WLAN6E	31	6105	11be_320M	Top	0mm	\	99.00%	5.73	7.50	0.042	0.064	0.012	0.018	-0.18	0.284
Chain 0	Body	WLAN6E	63	6265	11be_320M	Rear	0mm	\	99.00%	5.64	7.50	0.010	0.016	0.003	0.005	-0.18	0.08
Chain 0	Body	WLAN6E	63	6265	11be_320M	Left	0mm	\	99.00%	5.64	7.50	0.059	0.091	0.019	0.029	0.05	0.439
Chain 0	Body	WLAN6E	63	6265	11be_320M	Top	0mm	\	99.00%	5.64	7.50	0.014	0.022	0.004	0.006	-0.16	0.09
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Rear	0mm	\	99.00%	7.81	9.50	0.014	0.021	0.004	0.006	-0.1	0.104
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Left	0mm	\	99.00%	7.81	9.50	0.070	0.104	0.023	0.034	0.09	0.53
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Top	0mm	\	99.00%	7.81	9.50	0.030	0.045	0.009	0.013	0.08	0.215
Chain 0	Body	WLAN6E	159	6745	11be_320M	Rear	0mm	\	99.00%	7.62	9.50	0.016	0.025	0.007	0.011	0.08	0.154
Chain 0	Body	WLAN6E	159	6745	11be_320M	Left	0mm	\	99.00%	7.62	9.50	0.005	0.008	0.002	0.003	0.06	0.04
Chain 0	Body	WLAN6E	159	6745	11be_320M	Top	0mm	FIG A.7	99.00%	7.62	9.50	0.077	0.120	0.022	0.034	-0.12	0.504
Chain 0	Body	WLAN6E	191	6905	11be_320M	Rear	0mm	\	99.00%	5.15	7.00	0.011	0.017	0.004	0.006	0.03	0.086
Chain 0	Body	WLAN6E	191	6905	11be_320M	Left	0mm	\	99.00%	5.15	7.00	0.048	0.074	0.017	0.026	0.08	0.387
Chain 0	Body	WLAN6E	191	6905	11be_320M	Top	0mm	\	99.00%	5.15	7.00	0.072	0.111	0.020	0.031	0.17	0.475
Chain 1	Body	WLAN6E	31	6105	11be_320M	Rear	0mm	\	99.00%	5.65	7.50	0.010	0.015	0.003	0.005	0.08	0.073
Chain 1	Body	WLAN6E	31	6105	11be_320M	Right	0mm	\	99.00%	5.65	7.50	0.057	0.088	0.018	0.028	0.16	0.412
Chain 1	Body	WLAN6E	31	6105	11be_320M	Top	0mm	\	99.00%	5.65	7.50	0.014	0.022	0.004	0.006	0.19	0.09
Chain 1	Body	WLAN6E	63	6265	11be_320M	Rear	0mm	\	99.00%	5.95	7.50	0.017	0.025	0.005	0.007	0.07	0.123
Chain 1	Body	WLAN6E	63	6265	11be_320M	Right	0mm	\	99.00%	5.95	7.50	0.086	0.124	0.028	0.040	0.08	0.643
Chain 1	Body	WLAN6E	63	6265	11be_320M	Top	0mm	\	99.00%	5.95	7.50	0.033	0.048	0.011	0.016	0.259	0.05
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Rear	0mm	\	99.00%	8.22	9.50	0.011	0.015	0.004	0.005	-0.17	0.086
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Right	0mm	\	99.00%	8.22	9.50	0.100	0.136	0.034	0.046	0.09	0.763
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Top	0mm	\	99.00%	8.22	9.50	0.041	0.056	0.011	0.015	-0.14	0.253
Chain 1	Body	WLAN6E	159	6745	11be_320M	Rear	0mm	\	99.00%	7.71	9.50	0.013	0.020	0.004	0.006	0.15	0.1
Chain 1	Body	WLAN6E	159	6745	11be_320M	Right	0mm	FIG A.8	99.00%	7.71	9.50	0.105	0.160	0.035	0.053	-0.16	0.79
Chain 1	Body	WLAN6E	159	6745	11be_320M	Top	0mm	\	99.00%	7.71	9.50	0.076	0.116	0.022	0.033	-0.08	0.502
Chain 1	Body	WLAN6E	191	6905	11be_320M	Rear	0mm	\	99.00%	5.19	7.00	0.011	0.017	0.004	0.006	0.09	0.088
Chain 1	Body	WLAN6E	191	6905	11be_320M	Right	0mm	\	99.00%	5.19	7.00	0.085	0.130	0.028	0.042	0.17	0.63
Chain 1	Body	WLAN6E	191	6905	11be_320M	Top	0mm	\	99.00%	5.19	7.00	0.096	0.147	0.026	0.039	0.15	0.607

13.2 SAR results for BT

ANT	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Chain 0	Body	BT	39	2441	GFSK	Rear	0mm	\	11.60	13.00	0.029	0.040	0.009	0.012	-0.19
Chain 0	Body	BT	39	2441	GFSK	Left	0mm	\	11.60	13.00	0.022	0.030	0.006	0.008	-0.08
Chain 0	Body	BT	39	2441	GFSK	Top	0mm	FIG A.9	11.60	13.00	0.119	0.164	0.052	0.072	0.04
Chain 1	Body	BT	78	2480	GFSK	Rear	0mm	\	11.96	13.00	0.029	0.037	0.009	0.011	-0.05
Chain 1	Body	BT	78	2480	GFSK	Right	0mm	\	11.96	13.00	0.020	0.025	0.006	0.008	0.03
Chain 1	Body	BT	78	2480	GFSK	Top	0mm	FIG A.10	11.96	13.00	0.131	0.166	0.057	0.072	0.02

13.3 PD results

ANT	RF Exposure Conditions	Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Test setup	Distance	Figure No.	Duty Cycle	EUT Measured Power (dBm)	Tune up (dBm)	Measured Normal Total psPD (W/m ²)	Calculated Normal Total psPD (W/m ²)	Measured Total psPD (W/m ²)	Calculated Total psPD (W/m ²)	Power Drift
Chain 0	Body	WLAN6E	31	6105	11be_320M	Rear	0mm	\	99.00%	5.73	7.50	0.099	0.149	0.101	0.153	0.11
Chain 0	Body	WLAN6E	31	6105	11be_320M	Left	0mm	\	99.00%	5.73	7.50	0.022	0.033	0.022	0.033	-0.06
Chain 0	Body	WLAN6E	31	6105	11be_320M	Top	0mm	\	99.00%	5.73	7.50	0.284	0.427	0.291	0.442	-0.08
Chain 0	Body	WLAN6E	63	6265	11be_320M	Rear	0mm	\	99.00%	5.64	7.50	0.042	0.064	0.043	0.067	-0.18
Chain 0	Body	WLAN6E	63	6265	11be_320M	Left	0mm	\	99.00%	5.64	7.50	0.043	0.066	0.043	0.067	-0.07
Chain 0	Body	WLAN6E	63	6265	11be_320M	Top	0mm	\	99.00%	5.64	7.50	0.189	0.290	0.196	0.304	0.16
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Rear	0mm	\	99.00%	7.81	9.50	0.056	0.083	0.063	0.094	-0.12
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Left	0mm	\	99.00%	7.81	9.50	0.124	0.183	0.125	0.186	-0.15
Chain 0	Body	WLAN6E	111	6505	11ax-160M	Top	0mm	\	99.00%	7.81	9.50	0.027	0.040	0.030	0.045	0.16
Chain 0	Body	WLAN6E	159	6745	11be_320M	Rear	0mm	\	99.00%	7.62	9.50	0.001	0.002	0.001	0.002	0.12
Chain 0	Body	WLAN6E	159	6745	11be_320M	Left	0mm	\	99.00%	7.62	9.50	0.008	0.012	0.009	0.014	0.05
Chain 0	Body	WLAN6E	159	6745	11be_320M	Top	0mm	FIG A.11	99.00%	7.62	9.50	0.305	0.470	0.313	0.487	-0.11
Chain 0	Body	WLAN6E	191	6905	11be_320M	Rear	0mm	\	99.00%	5.15	7.00	0.002	0.003	0.002	0.003	0.12
Chain 0	Body	WLAN6E	191	6905	11be_320M	Left	0mm	\	99.00%	5.15	7.00	0.020	0.031	0.020	0.031	0.14
Chain 0	Body	WLAN6E	191	6905	11be_320M	Top	0mm	\	99.00%	5.15	7.00	0.188	0.288	0.193	0.298	0.03
Chain 1	Body	WLAN6E	31	6105	1be-320M	Rear	0mm	\	99.00%	5.65	7.50	0.017	0.026	0.017	0.026	0.19
Chain 1	Body	WLAN6E	31	6105	1be-320M	Right	0mm	\	99.00%	5.65	7.50	0.263	0.403	0.315	0.487	-0.05
Chain 1	Body	WLAN6E	31	6105	1be-320M	Top	0mm	\	99.00%	5.65	7.50	0.111	0.170	0.112	0.173	-0.06
Chain 1	Body	WLAN6E	63	6265	1be-320M	Rear	0mm	\	99.00%	5.95	7.50	0.120	0.171	0.122	0.176	-0.07
Chain 1	Body	WLAN6E	63	6265	1be-320M	Right	0mm	\	99.00%	5.95	7.50	0.015	0.021	0.017	0.025	0.19
Chain 1	Body	WLAN6E	63	6265	1be-320M	Top	0mm	\	99.00%	5.95	7.50	0.177	0.253	0.181	0.261	-0.14
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Rear	0mm	\	99.00%	8.22	9.50	0.011	0.015	0.011	0.015	0.04
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Right	0mm	\	99.00%	8.22	9.50	0.155	0.208	0.158	0.214	0.06
Chain 1	Body	WLAN6E	111	6505	11ax-160M	Top	0mm	\	99.00%	8.22	9.50	0.143	0.192	0.145	0.197	0.11
Chain 1	Body	WLAN6E	159	6745	11be-320M	Rear	0mm	\	99.00%	7.71	9.50	0.051	0.077	0.053	0.081	0.15
Chain 1	Body	WLAN6E	159	6745	11be-320M	Right	0mm	FIG A.12	99.00%	7.71	9.50	0.567	0.856	0.686	1.046	0.12
Chain 1	Body	WLAN6E	159	6745	11be-320M	Top	0mm	\	99.00%	7.71	9.50	0.163	0.246	0.169	0.258	-0.02
Chain 1	Body	WLAN6E	191	6905	11be-320M	Rear	0mm	\	99.00%	5.19	7.00	0.004	0.006	0.004	0.006	0.04
Chain 1	Body	WLAN6E	191	6905	11be-320M	Right	0mm	\	99.00%	5.19	7.00	0.168	0.255	0.169	0.259	-0.08
Chain 1	Body	WLAN6E	191	6905	11be-320M	Top	0mm	\	99.00%	5.19	7.00	0.050	0.076	0.070	0.107	-0.09

14 Evaluation of Simultaneous

14.1 Simultaneous Transmission Capabilities

The simultaneous transmission possibilities for this device are listed as below:

NO	If support: WWAN*1TX and WLAN*1TX	Y or N
1	WLAN 5GHz/6GHz(chain 0) + BT(chain 0)	Y
2	WLAN 5GHz/6GHz(chain 1) + BT(chain 0)	Y
3	WLAN 5GHz/6GHz MIMO + BT(chain 0)	Y
4	WLAN 5GHz/6GHz(chain 0) + BT(chain 1)	Y
5	WLAN 5GHz/6GHz(chain 1) + BT(chain 1)	Y
6	WLAN 5GHz/6GHz MIMO + BT(chain 1)	Y
7	WLAN 2.4GHz (chain 0) + WLAN 5GHz/6GHz (chain 0)	Y
8	WLAN 2.4GHz (chain 0) + WLAN 5GHz/6GHz (chain 1)	Y
9	WLAN 2.4GHz (chain 0) + WLAN 5GHz/6GHz MIMO	Y
10	WLAN 2.4GHz (chain 1) + WLAN 5GHz/6GHz (chain 0)	Y
11	WLAN 2.4GHz (chain 1) + WLAN 5GHz/6GHz (chain 1)	Y
12	WLAN 2.4GHz (chain 1) + WLAN 5GHz/6GHz MIMO	Y
13	WLAN 2.4GHz MIMO + WLAN 5GHz/6GHz (chain 0)	Y
14	WLAN 2.4GHz MIMO + WLAN 5GHz/6GHz (chain 1)	Y
15	WLAN 2.4GHz MIMO + WLAN 5GHz/6GHz MIMO	Y

14.2 Evaluation of Simultaneous

Test Position		SAR 1g(W/kg)	1	2	3	4	5	6	7	8	9	10
			WIFI2.4G CHAIN 0	WIFI2.4G CHAIN 1	WIFI2.4G MIMO	WIFI5G CHAIN 0	WIFI5G CHAIN 1	WIFI5G MIMO	WIFI6G CHAIN 0	WIFI6G CHAIN 1	BT CHAIN0	BT CHAIN1
Body	Rear 0mm		0.109	0.058	0.087	0.212	0.221	0.228	0.025	0.025	0.040	0.037
	Left 0mm		0.435		0.297	0.797		0.794	0.104		0.030	
	Right 0mm			0.320	0.347		0.676	0.712		0.160		0.025
	Top 0mm		0.541	0.265	0.497	0.938	0.932	0.932	0.120	0.147	0.164	0.166

Test Position		SAR 1g(W/kg)	1	2	3	4	5	6	7	8	9	10
			WIFI2.4G CHAIN 0	WIFI2.4G CHAIN 1	WIFI2.4G MIMO	WIFI5G CHAIN 0	WIFI5G CHAIN 1	WIFI5G MIMO	WIFI6G CHAIN 0	WIFI6G CHAIN 1	BT CHAIN0	BT CHAIN1
Body	Rear 0mm		0.109	0.058	0.087	0.212	0.221	0.228	0.025	0.025	0.040	0.037
	Left 0mm		0.435		0.297	0.797		0.794	0.104		0.030	
	Right 0mm			0.320	0.347		0.676	0.712		0.160		0.025
	Top 0mm		0.541	0.265	0.497	0.938	0.932	0.932	0.120	0.147	0.164	0.166

Conclusion:

According to the above tables, the sum of reported SAR values is<1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

15 Measurement Uncertainty

15.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u'_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					19.1	18.9	

15.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞

21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u'_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

15.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞

20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u'_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

15.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5

17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u'_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

15.5 SAR Uncertainty Budget (6GHz~10GHz)

No.	Error Description	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)
Measurement System Errors								
1	Probe calibration	18.6	N	2	1	1	9.3	9.3
2	Probe Calibration Drift	1.0	R	$\sqrt{3}$	1	1	1.0	1.0
3	Probe Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
4	Broadband Signal	3.0	N	2	1	1	1.5	1.5
5	Probe Isotropy	7.6	R	$\sqrt{3}$	1	1	4.4	4.4
6	Data Acquisition	0.3	N	1	1	1	0.3	0.3
7	RF Ambient	1.8	N	1	1	1	1.8	1.8
8	Probe Positioning	0.2	N	1	0.67	0.67	0.1	0.1
9	Data Processing	3.5	N	1	1	1	3.5	3.5
Phantom and Device Errors								
10	Conductivity (meas.) ^{DAK}	2.5	N	1	0.78	0.71	2.0	1.8
11	Conductivity (temp.) ^{BB}	2.4	R	$\sqrt{3}$	0.78	0.71	1.1	1.0
12	Phantom Permittivity	14.0	R	$\sqrt{3}$	0.5	0.5	4.0	4.0
13	Distance DUT - TSL	2.0	N	1	2	2	4.0	4.0

14	Device Holder	3.6	N	1	1	1	3.6	3.6
15	DUT Modulation ^m	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
16	Time-average SAR	2.6	R	$\sqrt{3}$	1	1	1.5	1.5
17	DUT drift	5.0	N	1	1	1	2.9	2.9
Correction to the SAR results								
18	Deviation to Target	1.9	N	1	1	0.84	1.9	1.6
19	SAR scaling ^p	0	R	$\sqrt{3}$	1	1	0	0
Combined standard uncertainty							14.1	14.0
Expanded uncertainty (confidence interval of 95 %)							28.1	28.0

15.6 PD Uncertainty Budget

The budget is valid for evaluation distance $> \lambda/2\pi$. For specific tests and configurations, the uncertainty can be considered smaller.

Error Description		Unc. Value ($\pm$ dB)	Prob. Dist.	Div.	(C _i)	Std.Unc. ($\pm$ dB)	(V _i) V _{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration	0.49	N	1	1	0.49	∞
FRS	Frequency response	0.20	R	$\sqrt{3}$	1	0.12	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	1	0.29	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	1	0.12	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	1	0.17	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	1	0.02	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	1	0.02	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
REC	Field reconstruction	0.60	R	$\sqrt{3}$	1	0.35	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	1	0.06	∞
SDL	System detection limit	0.04	R	$\sqrt{3}$	1	0.02	∞
Uncertainty terms dependent on the DUT and environmental factors							
MOD	Modulation response	0.40	R	$\sqrt{3}$	1	0.23	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	1	0.06	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	1	0.02	∞
AR	Ambient reflections	0.04	R	$\sqrt{3}$	1	0.02	∞
DRI	Drift of the DUT	0.02	R	$\sqrt{3}$	1	0.01	∞
Combined Standard Uncertainty						0.76	∞
Expanded Standard Uncertainty (95%)						1.52	

16 MAIN TEST INSTRUMENTS

Table 16.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	December 25, 2023	One year
02	Power sensor	NRP50S	101488	June 14, 2023	One year
03	Power sensor	NRP50S	101489		
04	Signal Generator	E4438C	MY49071430	December 25, 2023	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	DAE	SPEAG DAE4	1588	September 15,2022	One year
07	DAE	SPEAG DAE4	1331	September 14,2023	One year
08	E-field Probe	SPEAG EX3DV4	7673	July 14,2023	One year
09	DAE	SPEAG DAE4	1525	September 14,2023	One year
10	E-field Probe	SPEAG EX3DV4	7464	January 18, 2024	One year
11	DAE	SPEAG DAE4	1556	January 3, 2024	One year
12	E-field Probe	SPEAG EX3DV4	7517	February 21, 2024	One year
13	EummWV Probe	EummWV4	9492	June 19, 2023	One year
14	Dipole Validation Kit	SPEAG D2450V2	853	July 11,2023	One year
15	Dipole Validation Kit	SPEAG D5GHzV2	1060	June 19,2023	One year
16	Dipole Validation Kit	SPEAG D6.5GHzV2	1059	December 01,2021	Three year
17	5G Verification Source	10 GHz	1005	January 8,2024	One year

END OF REPORT BODY

ANNEX A Graph Results

WLAN2.4G CHAIN 0

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2435$ MHz; $\sigma = 1.828$ S/m; $\epsilon_r = 39.573$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, 1WIFI 2450 (0) Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (131x71x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.886 W/kg

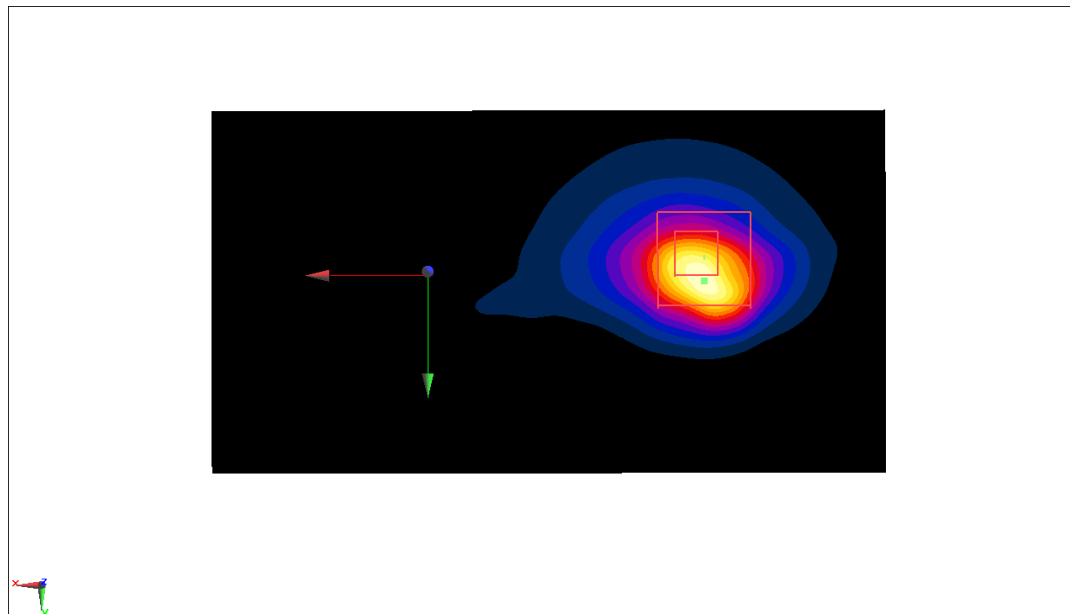
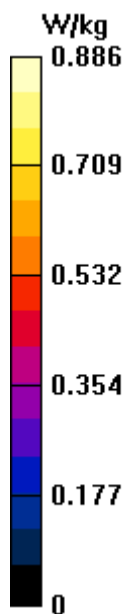
Zoom Scan (7x8x5)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 3.941 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.220 W/kg

Maximum value of SAR (measured) = 0.854 W/kg



WLAN2.4G CHAIN 1

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2435$ MHz; $\sigma = 1.828$ S/m; $\epsilon_r = 39.573$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, 1WIFI 2450 (0) Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (131x71x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.670 W/kg

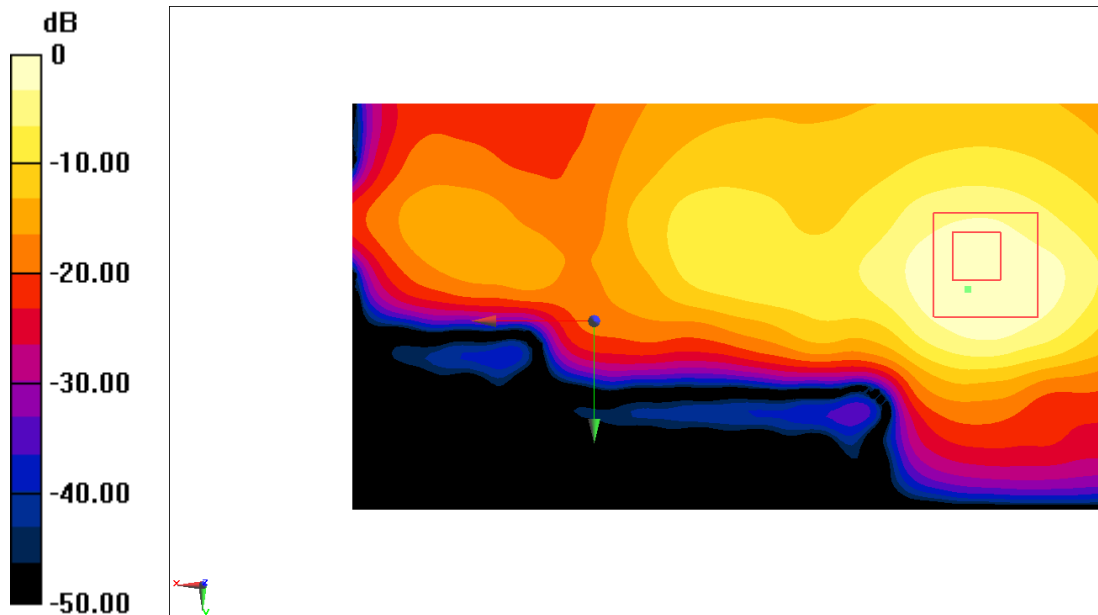
Zoom Scan (7x7x5)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 1.912 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.419 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.716 W/kg



0 dB = 0.670 W/kg = -1.74 dBW/kg

WLAN2.4G MIMO

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2435$ MHz; $\sigma = 1.93$ S/m; $\epsilon_r = 40.769$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, 1WIFI 2450 (0) Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (221x91x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.993 W/kg

Zoom Scan (8x8x5)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 1.949 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.513 W/kg; SAR(10 g) = 0.227 W/kg

Maximum value of SAR (measured) = 0.911 W/kg

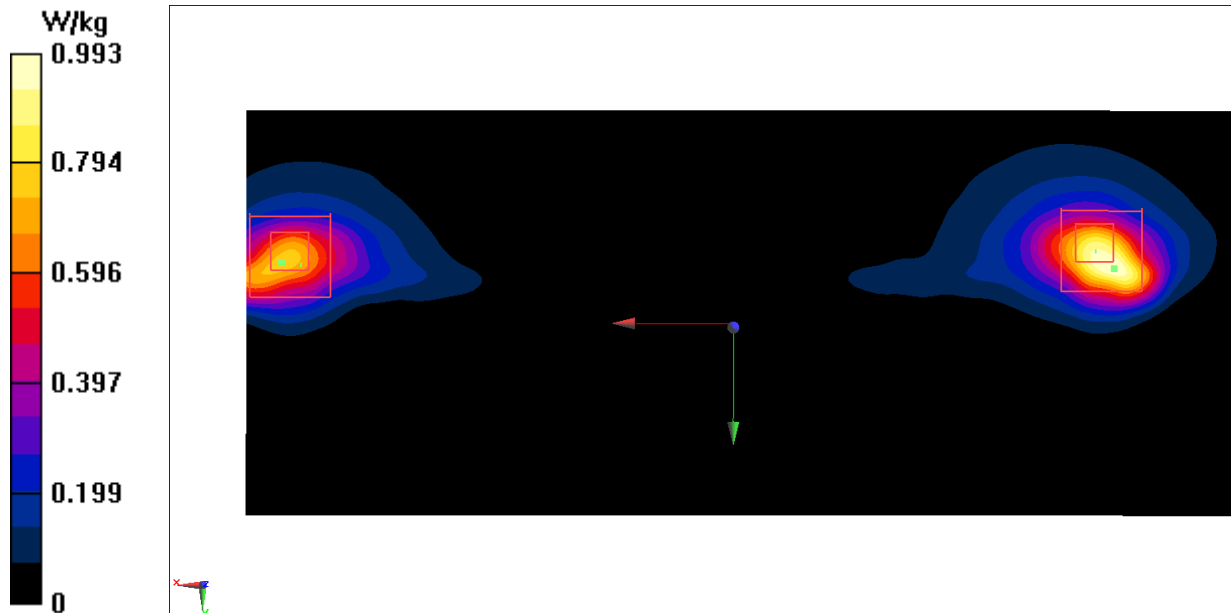
Zoom Scan (8x8x5)/Cube 1: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 1.949 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.967 W/kg

SAR(1 g) = 0.434 W/kg; SAR(10 g) = 0.193 W/kg

Maximum value of SAR (measured) = 0.722 W/kg



WLAN5G CHAIN 0

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 5755$ MHz; $\sigma = 5.312$ S/m; $\epsilon_r = 34.432$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, 1WLAN 11a (0) Frequency: 5755 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(4.79, 4.79, 4.79)

Area Scan (81x211x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.46 W/kg

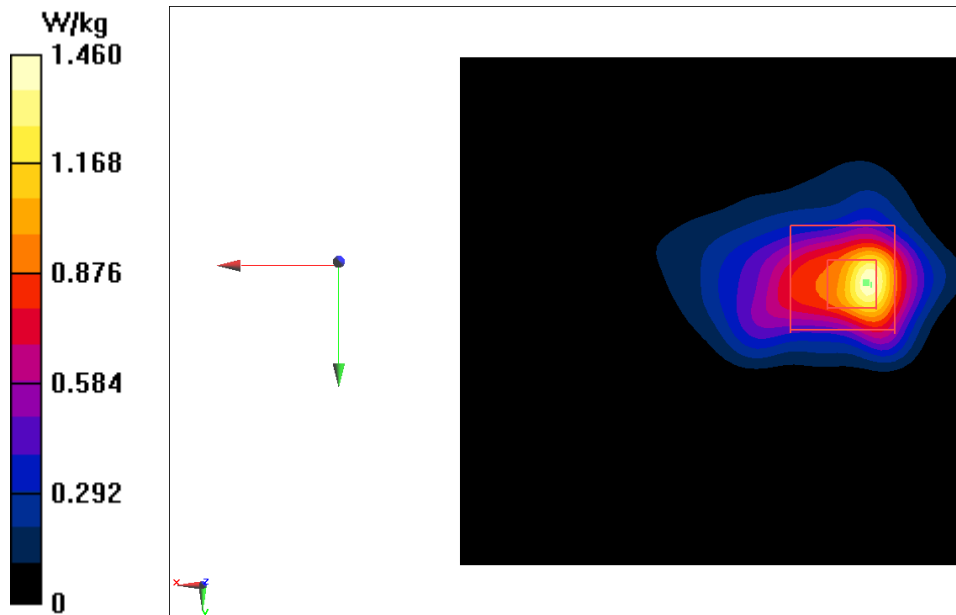
Zoom Scan (9x9x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 1.852 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 3.95 W/kg

SAR(1 g) = 0.669 W/kg; SAR(10 g) = 0.191 W/kg

Maximum value of SAR (measured) = 1.86 W/kg



WLAN5G CHAIN 1

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: $f = 5630$ MHz; $\sigma = 5.05$ S/m; $\epsilon_r = 33.982$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, WLAN 11a (0) Frequency: 5630 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7517 ConvF(4.83, 4.83, 4.83)

Area Scan (81x211x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.81 W/kg

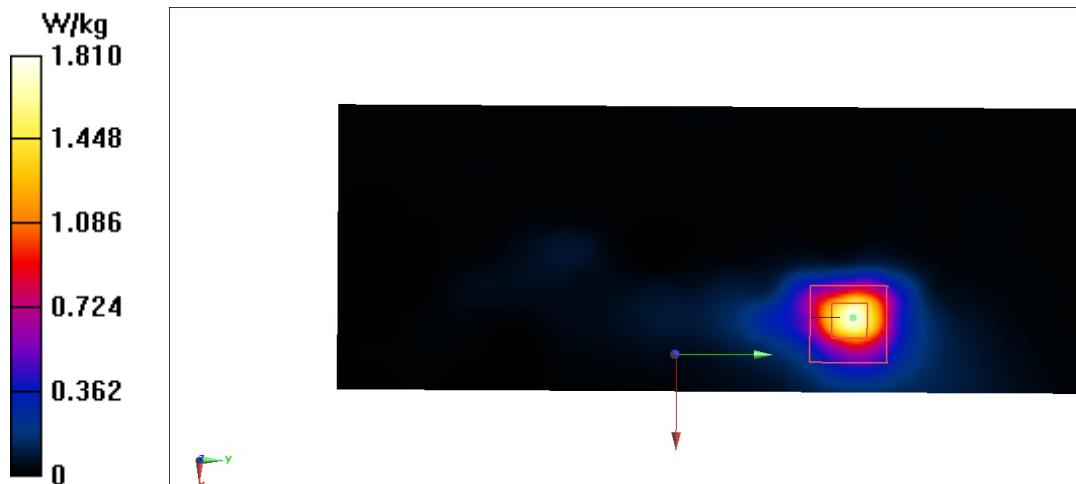
Zoom Scan (9x9x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 1.822 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 3.23 W/kg

SAR(1 g) = 0.712 W/kg; SAR(10 g) = 0.213 W/kg

Maximum value of SAR (measured) = 1.90 W/kg



WLAN5G MIMO

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 5630$ MHz; $\sigma = 5.168$ S/m; $\epsilon_r = 34.674$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, 1WLAN 11a (0) Frequency: 5630 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(4.69, 4.69, 4.69)

Area Scan (81x211x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.91 W/kg

Zoom Scan (9x9x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 1.751 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 2.47 W/kg

SAR(1 g) = 0.569 W/kg; SAR(10 g) = 0.168 W/kg

Maximum value of SAR (measured) = 1.47 W/kg

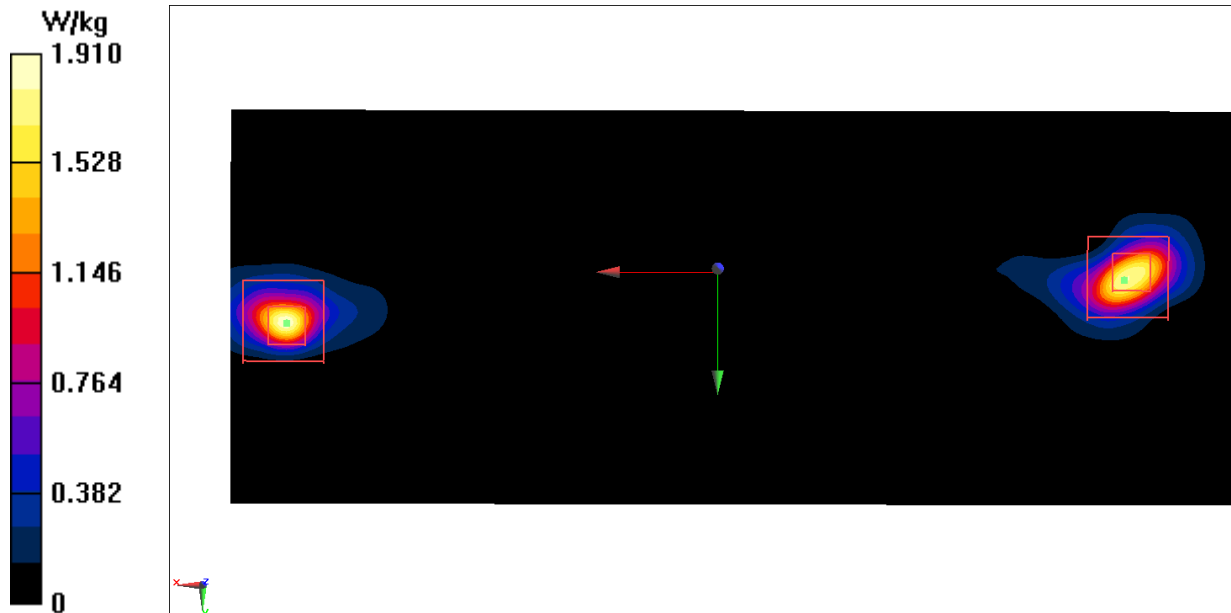
Zoom Scan (9x9x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 1.751 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 3.50 W/kg

SAR(1 g) = 0.611 W/kg; SAR(10 g) = 0.171 W/kg

Maximum value of SAR (measured) = 1.72 W/kg



WLAN6G CHAIN 0_SAR

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	120.0 × 80.0 × 8.0		Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	BACK, 5.00	U-NII-7	WLAN, 11026-AAB	6745.000, 159	5.18	6.39	33.6

Hardware Setup

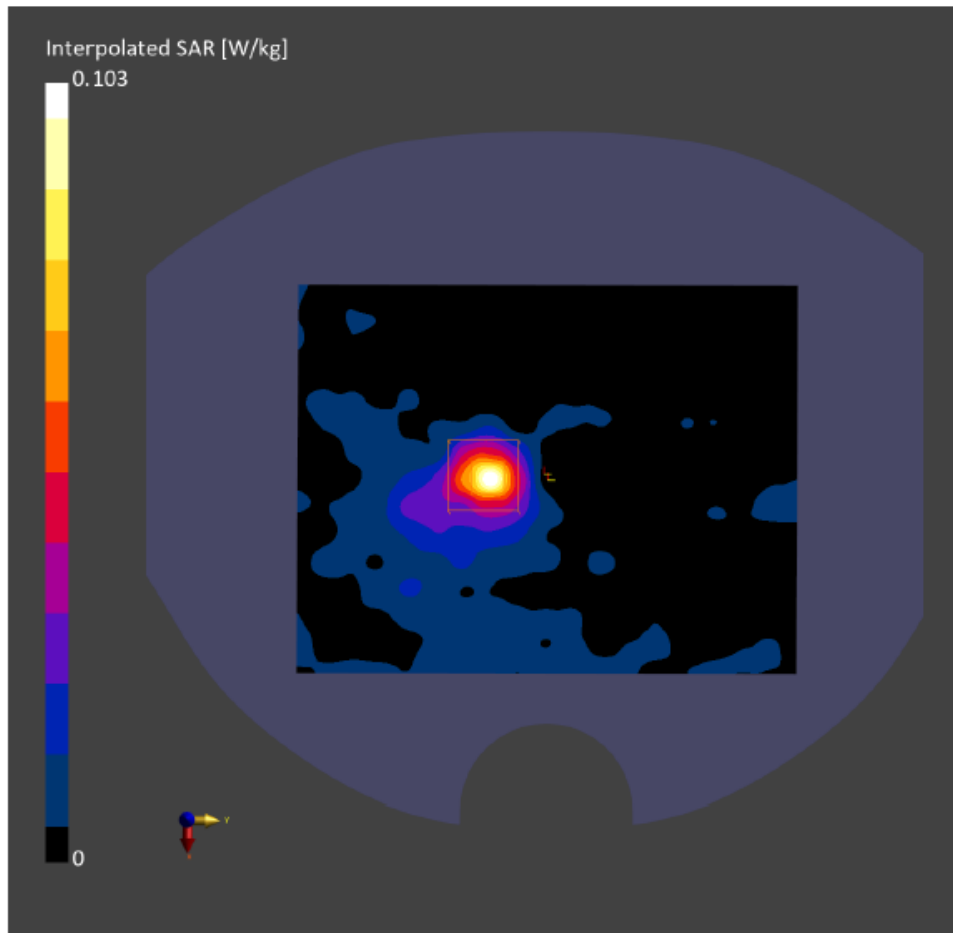
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	119.0 × 153.0	22.0 × 22.0 × 22.0
Grid Steps [mm]	8.5 × 8.5	3.4 × 3.4 × 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26, 09:26	2024-05-26, 09:42
psSAR1g [W/Kg]	0.071	0.077
psSAR10g [W/Kg]	0.022	0.022
Power Drift [dB]	-0.15	-0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		47.1
Dist 3dB Peak [mm]		5.5



WLAN6G CHAIN 1_SAR

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	120.0 × 80.0 × 8.0		Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	BACK, 5.00	U-NII-7	WLAN, 11026-AAB	6745.000, 159	5.18	6.39	33.6

Hardware Setup

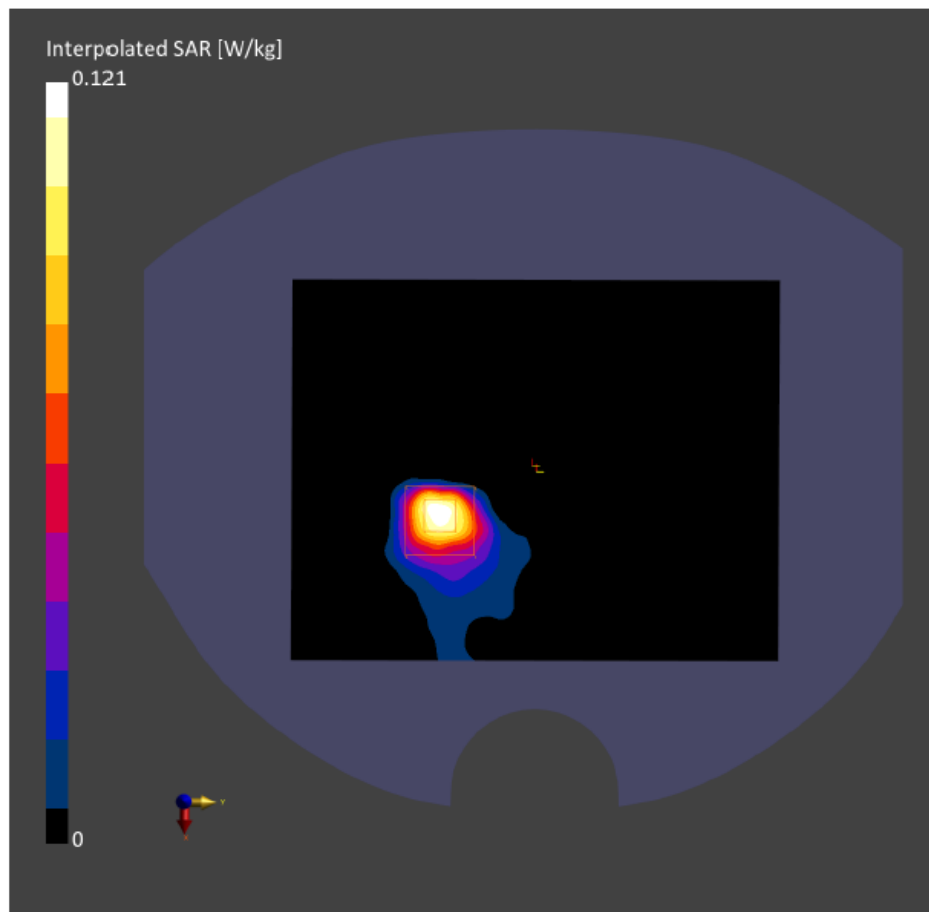
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	119.0 × 153.0	22.0 × 22.0 × 22.0
Grid Steps [mm]	8.5 × 8.5	3.4 × 3.4 × 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26, 15:54	2024-05-26, 16:07
psSAR1g [W/Kg]	0.096	0.105
psSAR10g [W/Kg]	0.031	0.035
Power Drift [dB]	-0.13	-0.16
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.5
Dist 3dB Peak [mm]		5.5



BT CHAIN 0

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2440$ MHz; $\sigma = 1.832$ S/m; $\epsilon_r = 39.566$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, Bluetooth (0) Frequency: 2441 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (221x91x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.202 W/kg

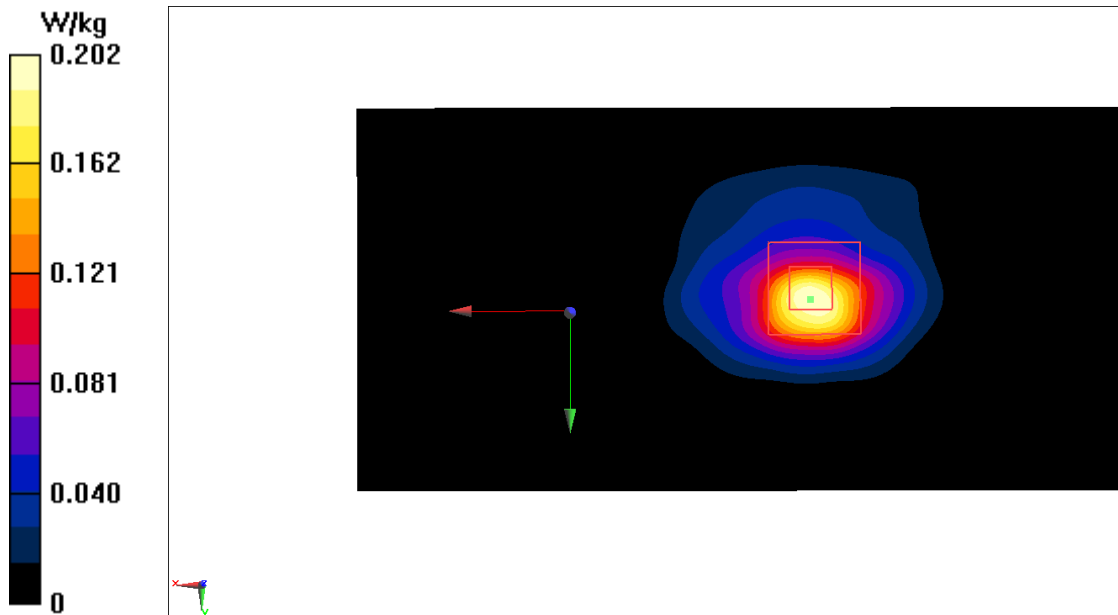
Zoom Scan (7x7x5)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 0.9100 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.265 W/kg

SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.052 W/kg

Maximum value of SAR (measured) = 0.205 W/kg



BT CHAIN 1

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2480$ MHz; $\sigma = 1.865$ S/m; $\epsilon_r = 39.501$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, Bluetooth (0) Frequency: 2480 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (221x91x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.249 W/kg

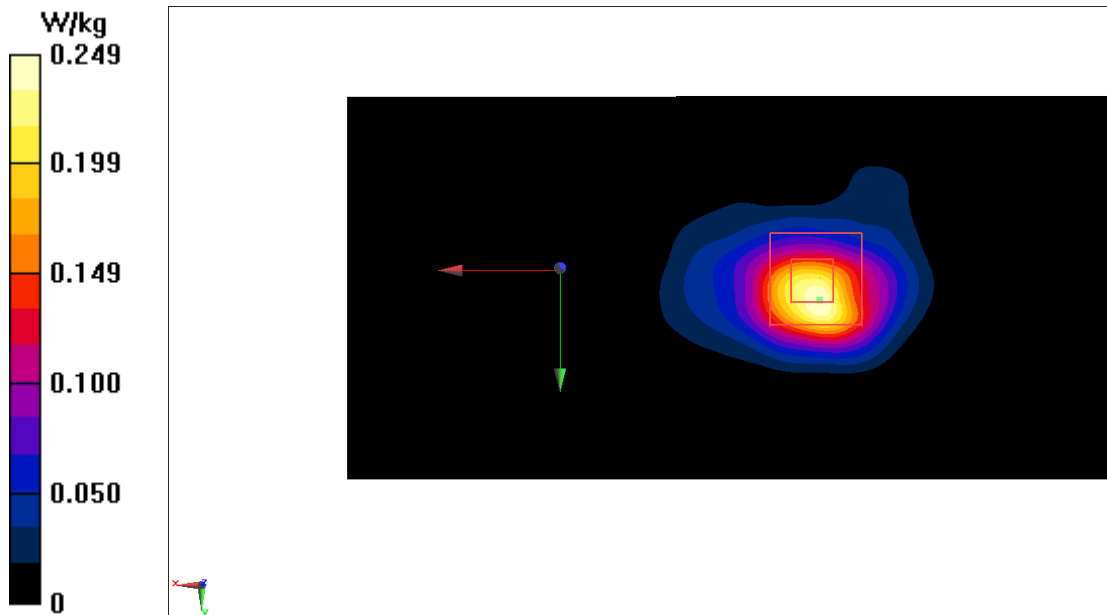
Zoom Scan (7x7x5)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 1.706 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.285 W/kg

SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.057 W/kg

Maximum value of SAR (measured) = 0.225 W/kg



WLAN6G CHAIN 0_PD

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	200.0 x 280.0 x 15.0		Phone

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G	EDGE TOP, 2.00	Custom Band	CW, 0--	6745.0, 6745000	1.0

Hardware Setup

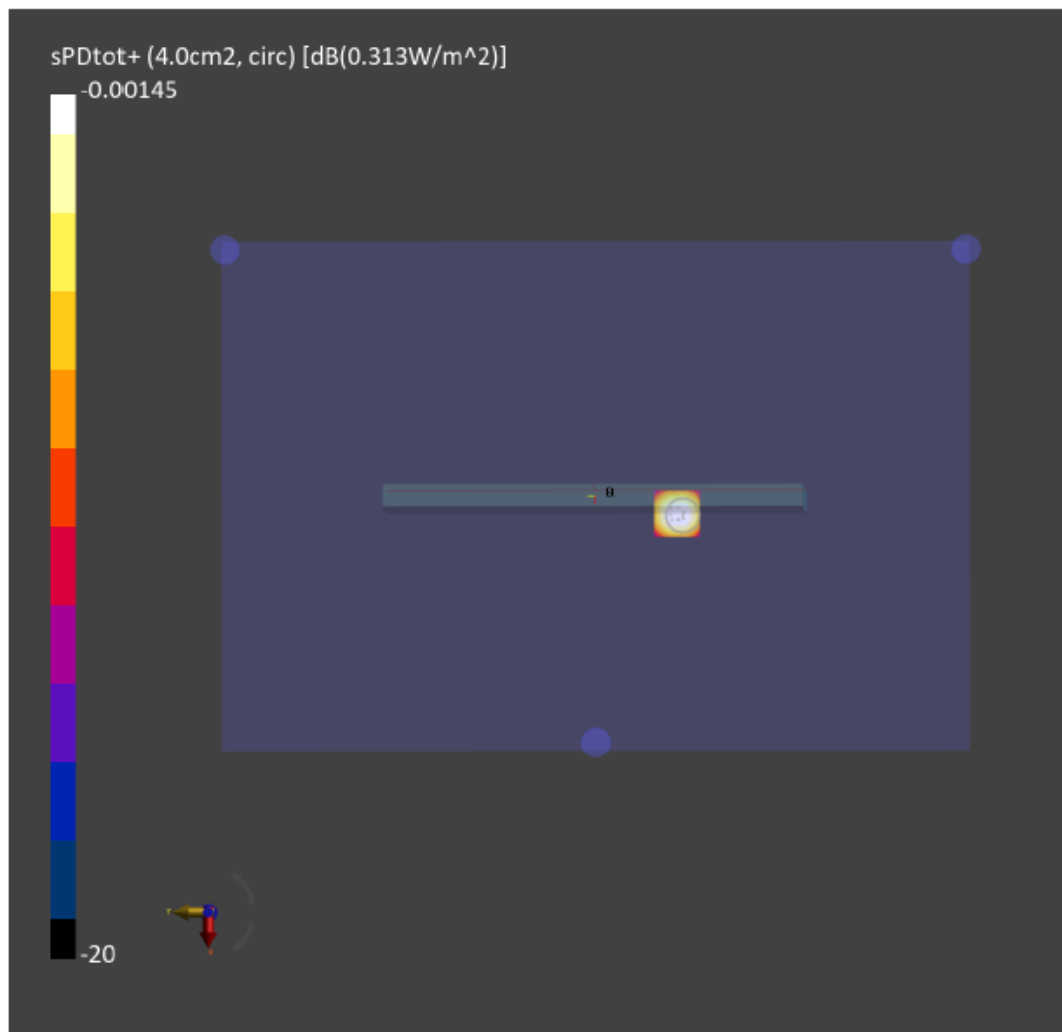
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.0448362679074558 x 0.0448362679074558
Sensor Surface [mm]	2.0
MAIA	Y

Measurement Results

Scan Type	5G Scan
Date	2024-05-30, 03:00
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	0.305
psPDtot+ [W/m ²]	0.313
psPDmod+ [W/m ²]	0.320
E _{max} [V/m]	12.5
Power Drift [dB]	-0.11



WLAN6G CHAIN 1_PD

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	194.0 x 267.0 x 8.0		Phone

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G	EDGE LEFT, 2.00	Custom Band	CW, 0--	6745.0, 6745000	1.0

Hardware Setup

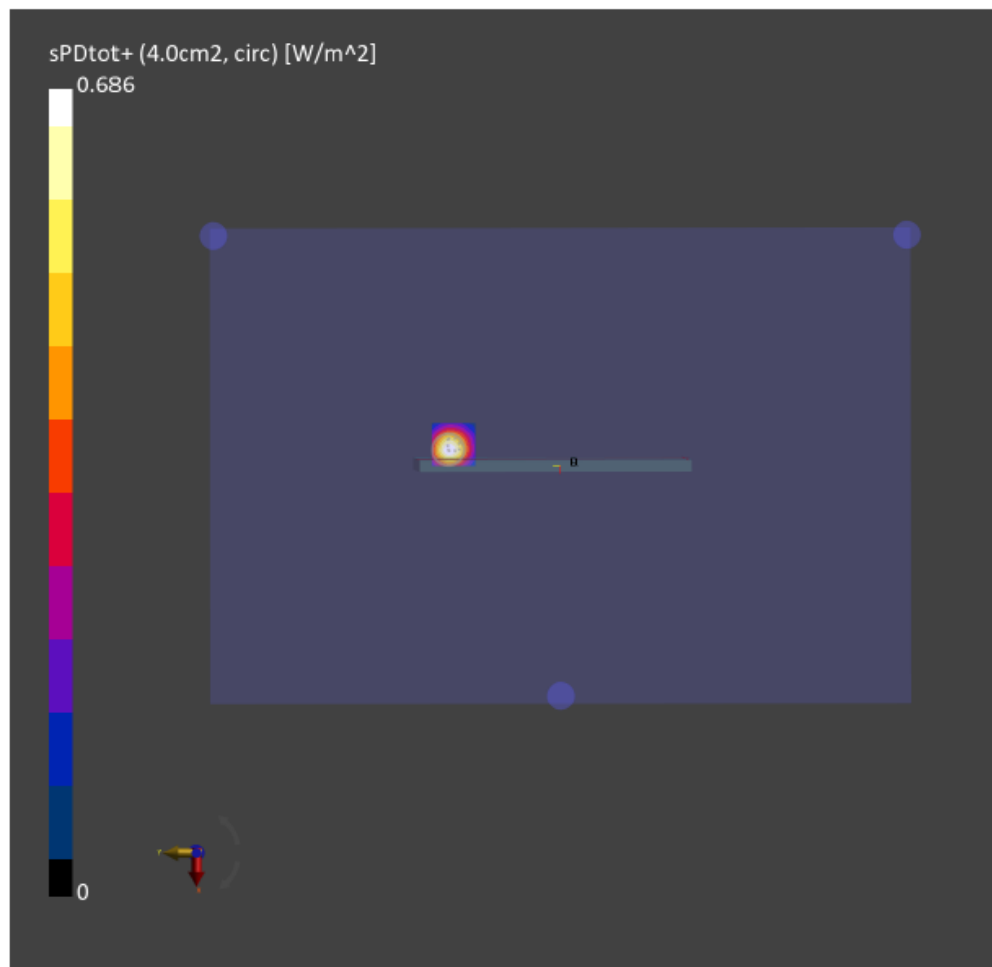
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.045925683680453966 x 0.045925683680453966
Sensor Surface [mm]	2.0
MAIA	Y

Measurement Results

Scan Type	5G Scan
Date	2024-05-31, 02:57
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	0.567
psPDtot+ [W/m ²]	0.686
psPDmod+ [W/m ²]	0.782
E _{max} [V/m]	26.2
Power Drift [dB]	0.12



ANNEX B System Verification Results

2450 MHz

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.841$ S/m; $\epsilon_r = 39.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(7.65, 7.65, 7.65)

Area Scan (61x61x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 21.1 W/kg

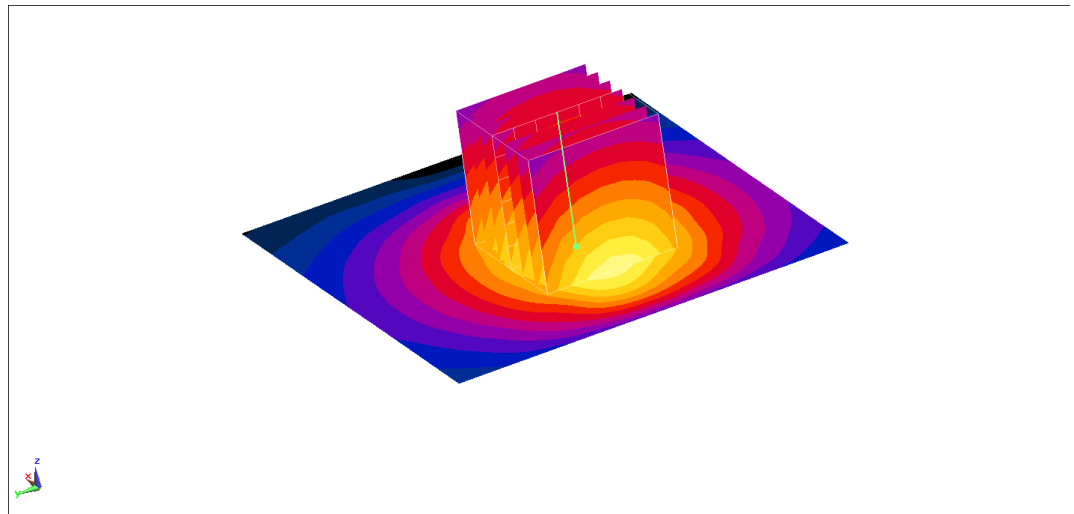
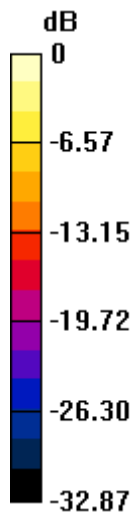
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 98.71 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 26.1 W/kg

SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.16 W/kg

Maximum value of SAR (measured) = 21.4 W/kg



$$0 \text{ dB} = 21.4 \text{ W/kg} = 13.30 \text{ dBW/kg}$$

5250 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.75$ S/m; $\epsilon_r = 35.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5250 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(5.19, 5.19, 5.19)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 18.6 W/kg

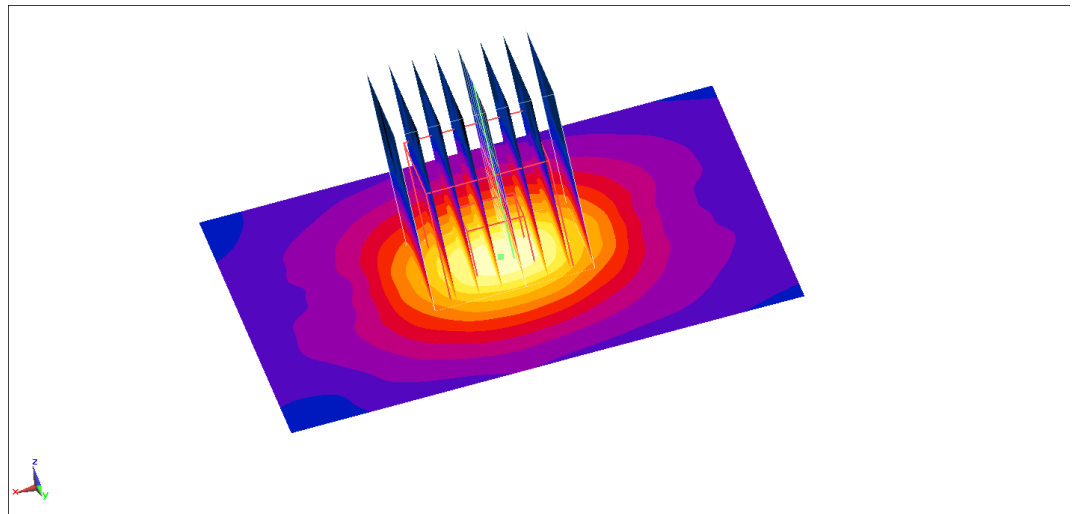
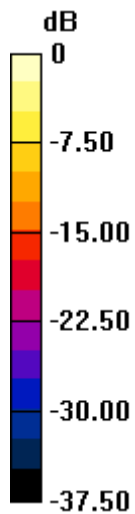
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 70.26 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 32.2 W/kg

SAR(1 g) = 7.76 W/kg; SAR(10 g) = 2.19 W/kg

Maximum value of SAR (measured) = 18.6 W/kg



$$0 \text{ dB} = 18.6 \text{ W/kg} = 12.70 \text{ dBW/kg}$$

5600 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.133$ S/m; $\epsilon_r = 34.74$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(4.69, 4.69, 4.69)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 20.3 W/kg

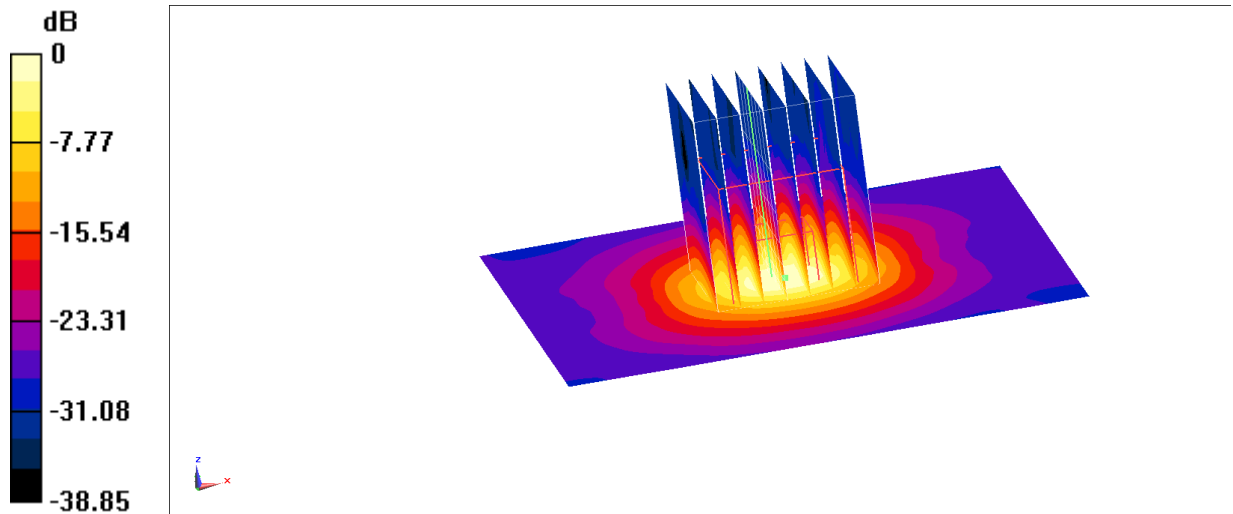
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 70.83 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 36.9 W/kg

SAR(1 g) = 8.18 W/kg; SAR(10 g) = 2.3 W/kg

Maximum value of SAR (measured) = 20.2 W/kg



0 dB = 20.2 W/kg = 13.05 dBW/kg

5750 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.305$ S/m; $\epsilon_r = 34.44$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7673 ConvF(4.79, 4.79, 4.79)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 19.9 W/kg

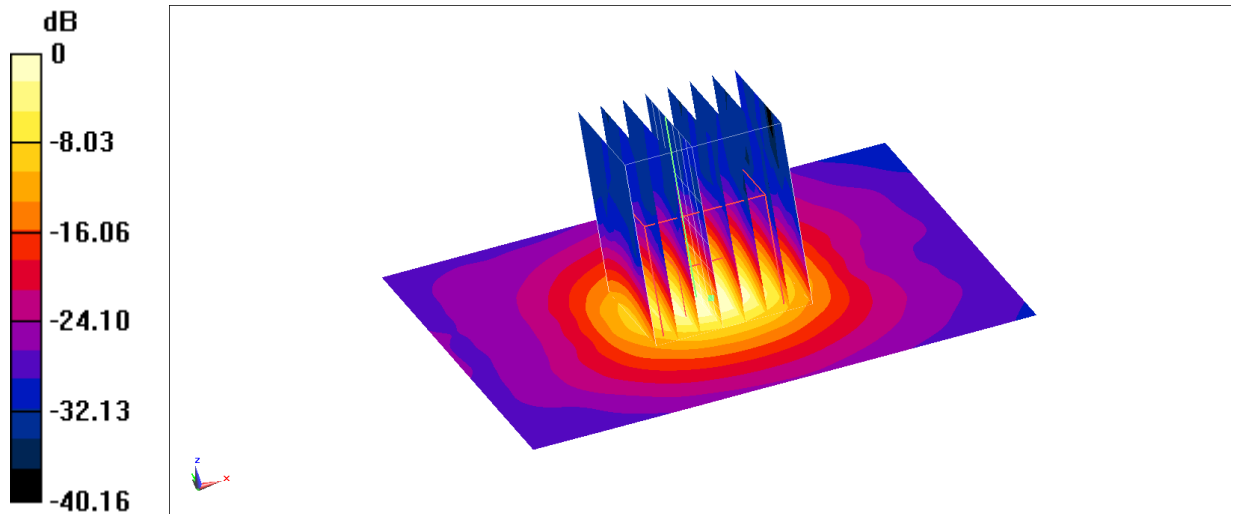
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 68.34 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 36.1 W/kg

SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.17 W/kg

Maximum value of SAR (measured) = 19.4 W/kg



$$0 \text{ dB} = 19.4 \text{ W/kg} = 12.88 \text{ dBW/kg}$$

5250 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.619$ S/m; $\epsilon_r = 35$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5250 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7517 ConvF(5.43, 5.43, 5.43)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 19.4 W/kg

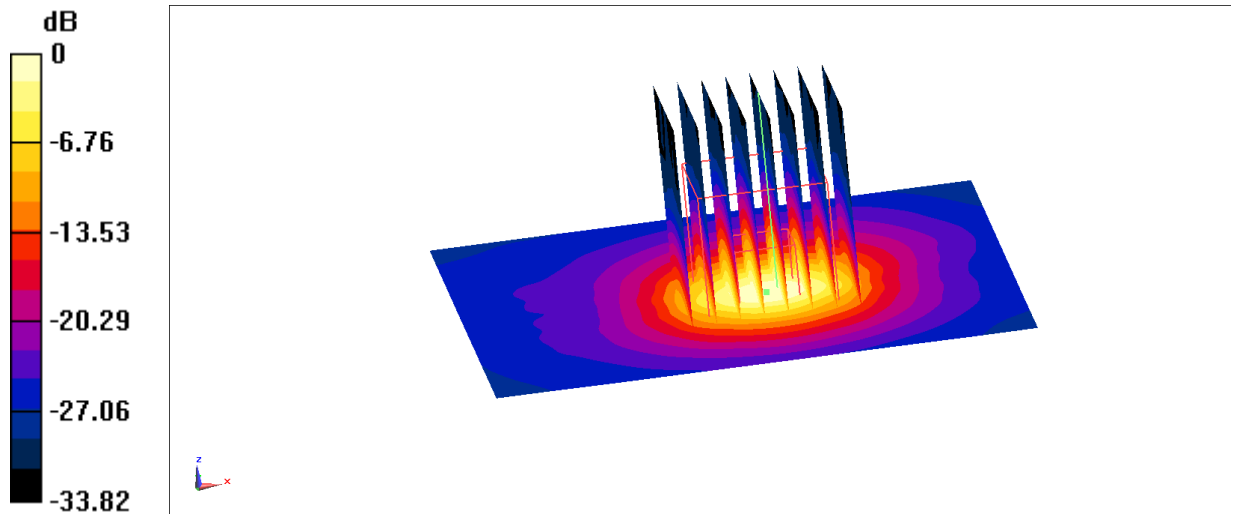
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 56.74 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 31.3 W/kg

SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.2 W/kg

Maximum value of SAR (measured) = 18.6 W/kg



0 dB = 18.6 W/kg = 12.70 dBW/kg

5600 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.009$ S/m; $\epsilon_r = 34.03$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7517 ConvF(4.83, 4.83, 4.83)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 21.1 W/kg

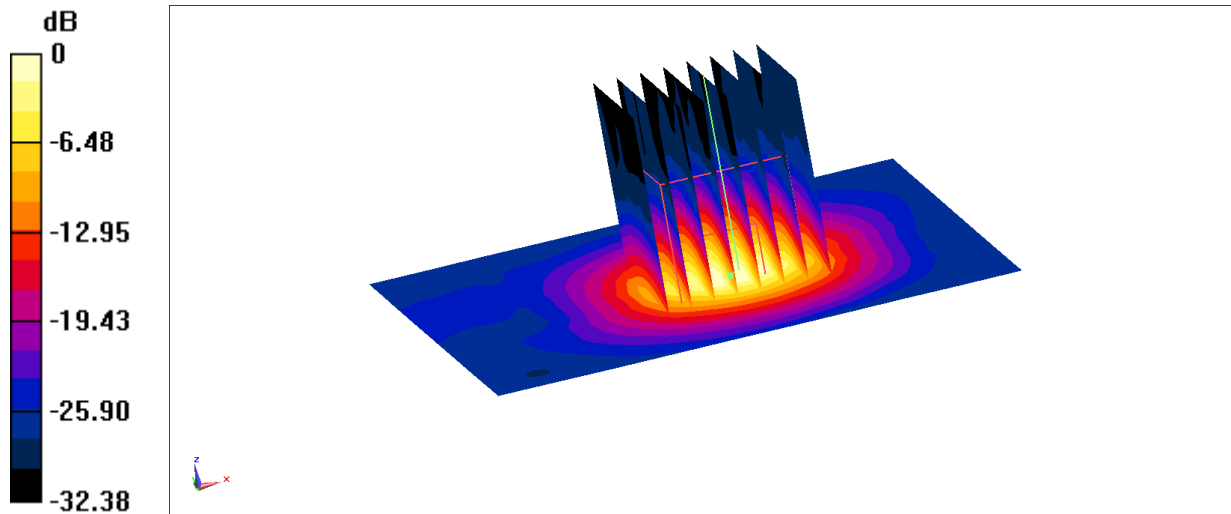
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 56.54 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 36.0 W/kg

SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.31 W/kg

Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg = 12.99 dBW/kg

5750 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.207$ S/m; $\epsilon_r = 33.75$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: UID 0, CW (0) Frequency: 5750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7517 ConvF(4.95, 4.95, 4.95)

Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 20.1 W/kg

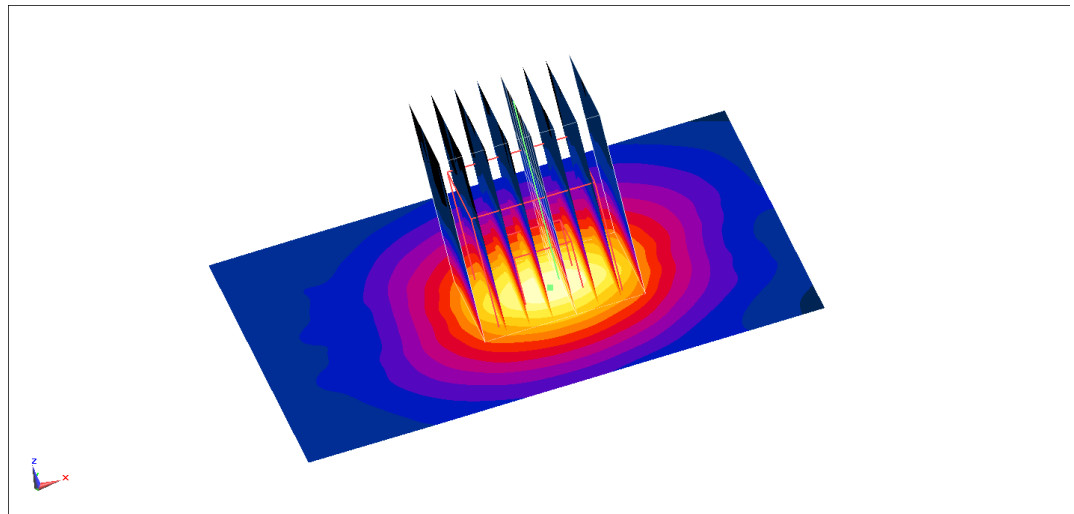
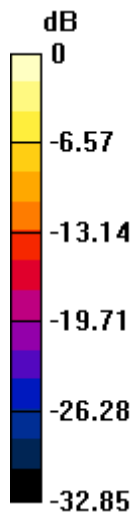
Zoom Scan (4x4x1.4mm, graded), $dist=1.4$ mm (8x8x8)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 54.93 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 35.2 W/kg

SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.19 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



$$0 \text{ dB} = 19.3 \text{ W/kg} = 12.86 \text{ dBW/kg}$$

6500 MHz

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	50.0 x 50.0 x 8.0		Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 5.00	D6.5GHz	CW, 0--	6500.000, 50	5.18	6.08	34.0

Hardware Setup

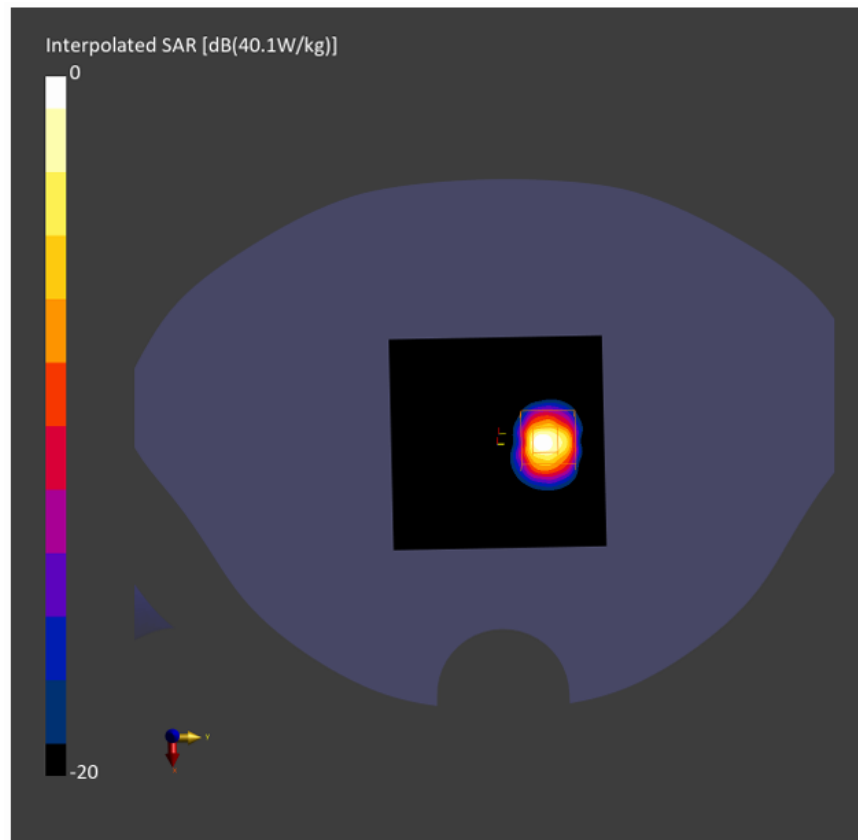
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	85.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-05-26, 08:04	2024-05-26, 08:15
psSAR1g [W/Kg]	22.7	27.9
psSAR10g [W/Kg]	4.68	5.21
Power Drift [dB]	-0.06	-0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.5
Dist 3dB Peak [mm]		4.8



10 GHz

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	100.0 x 100.0 x 180.0		Phone

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G	FRONT, 2.00	Validation band	CW, 0--	10000.0, 10000	1.0

Hardware Setup

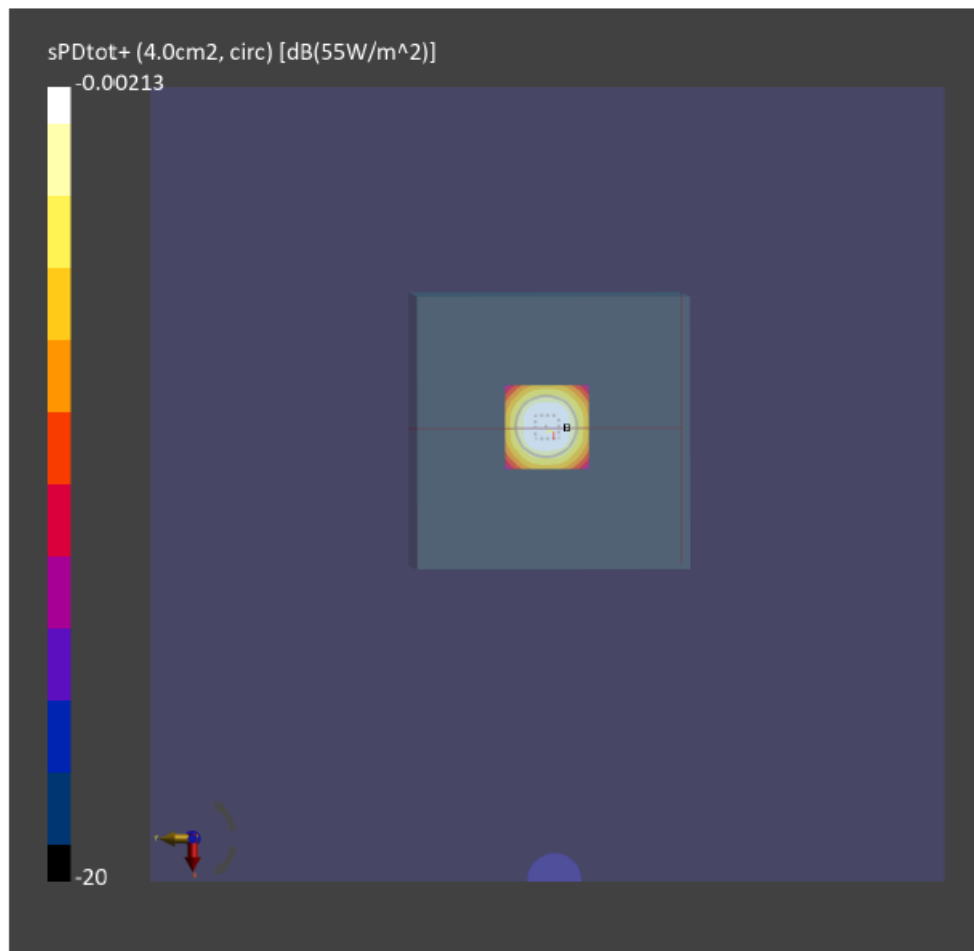
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.06808848581238543 x 0.06808848581238543
Sensor Surface [mm]	2.0
MAIA	N/A

Measurement Results

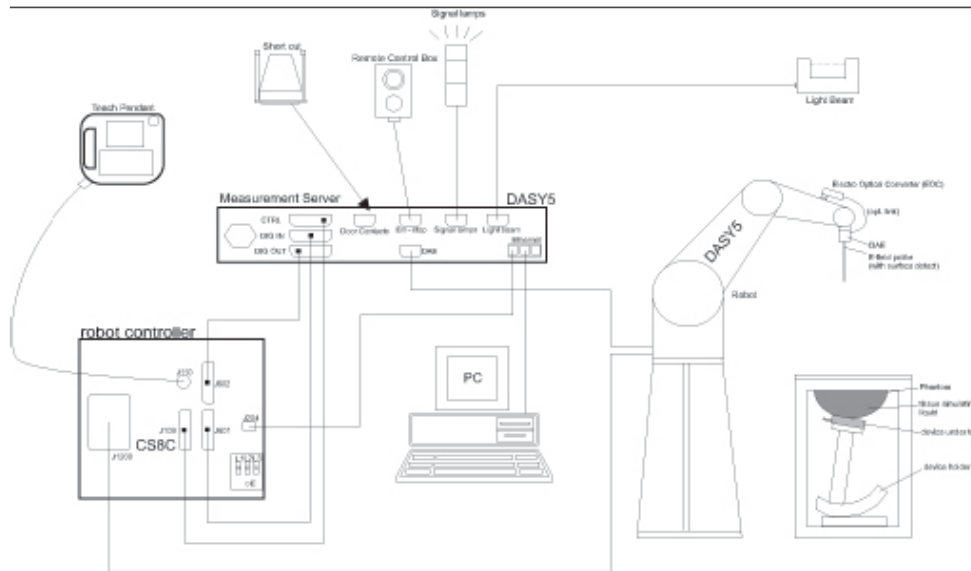
Scan Type	5G Scan
Date	2024-05-30, 01:24
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	55.0
psPDtot+ [W/m ²]	55.0
psPDmod+ [W/m ²]	55.2
E _{max} [V/m]	151
Power Drift [dB]	0.01



ANNEX C SAR Measurement Setup

C.1 Measurement Set-up

The Dasy5 or DASY6 system for performing compliance tests is illustrated above graphically. This system consists of the following items:



Picture C.1 SAR Lab Test Measurement Set-up

- A standard high precision 6-axis robot (StäubliTX=RX family) 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 WinXP and the DASY5 or DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

C.2 Dasy5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY5 or DASY6 software reads the reflection during a software approach and looks for the maximum using 2nd order curve fitting. The approach is stopped at reaching the maximum.

Probe Specifications:

Model:	ES3DV3, EX3DV4
Frequency	10MHz — 6.0GHz(EX3DV4)
Range:	10MHz — 4GHz(ES3DV3)
Calibration:	In head and body simulating tissue at Frequencies from 835 up to 5800MHz
Linearity:	± 0.2 dB(30 MHz to 6 GHz) for EX3DV4 ± 0.2 dB(30 MHz to 4 GHz) for ES3DV3
DynamicRange:	10 mW/kg — 100W/kg
Probe Length:	330 mm
Probe Tip	
Length:	20 mm
Body Diameter:	12 mm
Tip Diameter:	2.5 mm (3.9 mm for ES3DV3)
Tip-Center:	1 mm (2.0mm for ES3DV3)
Application:	SAR Dosimetry Testing Compliance tests of mobile phones Dosimetry in strong gradient fields

Picture C.3E-field Probe



Picture C.2Near-field Probe



C.3 E-field Probe Calibration

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm²) using an RF Signal generator, TEM cell, and RF Power Meter.

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or

other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm².

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C \frac{\Delta T}{\Delta t}$$

Where:

Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m³).

C.4 Other Test Equipment

C.4.1 Data Acquisition Electronics(DAE)

The data acquisition electronics consist 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 with a 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 mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

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



PictureC.4: DAE

C.4.2 Robot

The SPEAG DASY system uses the high precision robots (DASY5: RX160L) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchron motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)



Picture C.5 DASY 5

C.4.3 Measurement Server

The Measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chipdisk (DASY5: 128MB), RAM DASY5: 128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.



Picture C.6 Server for DASY 5

C.4.4 Device Holder for Phantom

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of $\pm 0.5\text{mm}$ would produce a SAR uncertainty of $\pm 20\%$. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

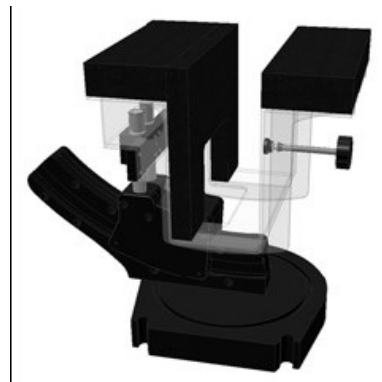
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles. The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon = 3$ and loss tangent $\delta = 0.02$. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

<Laptop Extension Kit>

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 positioner. The extension is fully compatible with the Twin-SAM and ELI phantoms.



Picture C7-1: Device Holder



Picture C.7-2: Laptop Extension Kit

C.4.5 Phantom

The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a table. The shape of the shell is based on data from an anatomical study designed to

Represent the 90th percentile of the population. The phantom enables the dissymmetric evaluation of SAR for both left and right handed handset usage, as well as body-worn usage using the flat phantom region. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. The shell phantom has a 2mm shell thickness (except the ear region where shell thickness increases to 6 mm).

Shell Thickness: 2 ± 0.2 mm

Filling Volume: Approx. 25 liters

Dimensions: 810 x 1000 x 500 mm (H x L x W)

Available: Special

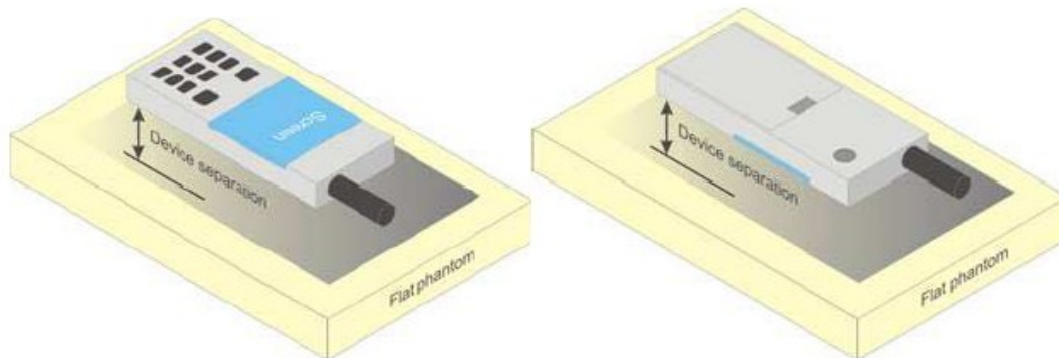


Picture C.8: SAM Twin Phantom

ANNEX D Position of the wireless device in relation to the phantom

D.1 Body-worn device

A typical example of a body-worn device is a mobile phone, wireless enabled PDA or other battery operated wireless device with the ability to transmit while mounted on a person's body using a carry accessory approved by the wireless device manufacturer.

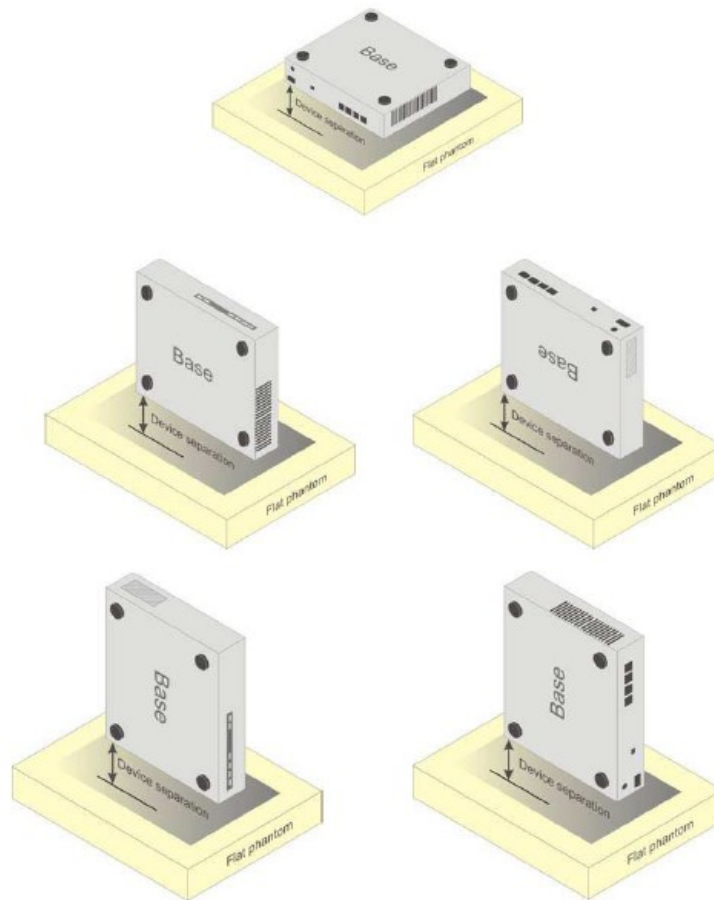


Picture D.1 Test positions for body-worn devices

D.2 Desktop device

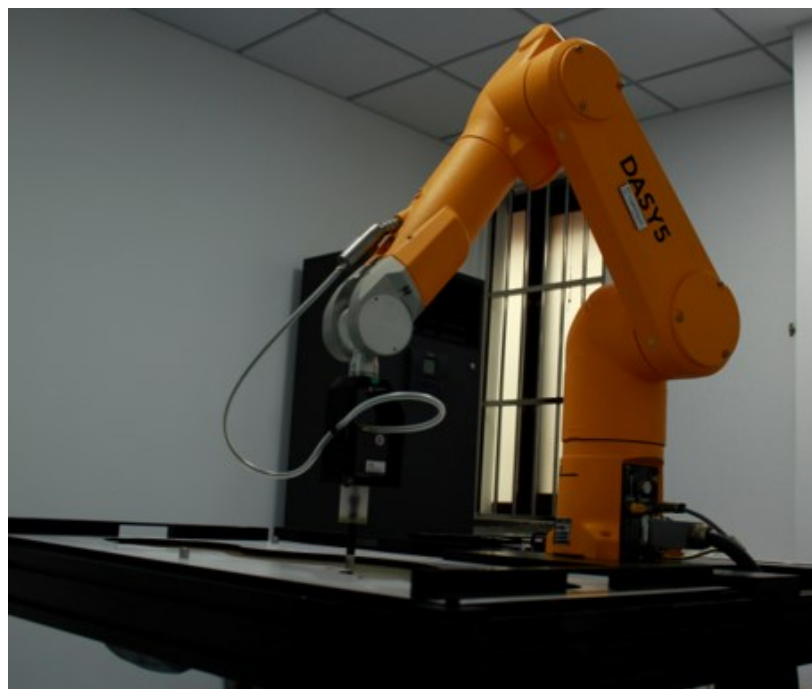
A typical example of a desktop device is a wireless enabled desktop computer placed on a table or desk when used.

The DUT shall be positioned at the distance and in the orientation to the phantom that corresponds to the intended use as specified by the manufacturer in the user instructions. For devices that employ an external antenna with variable positions, tests shall be performed for all antenna positions specified. Picture 8.5 show positions for desktop device SAR tests. If the intended use is not specified, the device shall be tested directly against the flat phantom.



Picture D.2 Test positions for desktop devices

D.3 DUT Setup Photos



Picture D.3

ANNEX E Equivalent Media Recipes

The liquid used for the frequency range of 800-3000 MHz consisted of water, sugar, salt, preventol, glycol monobutyl and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table E.1 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528 and IEC 62209.

TableE.1: Composition of the Tissue Equivalent Matter

Frequency (MHz)	835Head	835Body	1900 Head	1900 Body	2450 Head	2450 Body	5800 Head	5800 Body
Ingredients (% by weight)								
Water	41.45	52.5	55.242	69.91	58.79	72.60	65.53	65.53
Sugar	56.0	45.0	\	\	\	\	\	\
Salt	1.45	1.4	0.306	0.13	0.06	0.18	\	\
Preventol	0.1	0.1	\	\	\	\	\	\
Cellulose	1.0	1.0	\	\	\	\	\	\
Glycol Monobutyl	\	\	44.452	29.96	41.15	27.22	\	\
Diethyleneglycol monohexylether	\	\	\	\	\	\	17.24	17.24
Triton X-100	\	\	\	\	\	\	17.24	17.24
Dielectric Parameters Target Value	$\epsilon=41.5$ $\sigma=0.90$	$\epsilon=55.2$ $\sigma=0.97$	$\epsilon=40.0$ $\sigma=1.40$	$\epsilon=53.3$ $\sigma=1.52$	$\epsilon=39.2$ $\sigma=1.80$	$\epsilon=52.7$ $\sigma=1.95$	$\epsilon=35.3$ $\sigma=5.27$	$\epsilon=48.2$ $\sigma=6.00$

Note: There are a little adjustment respectively for 750, 1750, 2600, 5200, 5300 and 5600 based on the recipe of closest frequency in table E.1.

ANNEX F System Validation

The SAR system must be validated against its performance specifications before it is deployed.

When SAR probes, system components or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such components.

Table F.2: System Validation for 7673

Probe SN.	Liquid name	Validation date	Frequency point	Status (OK or Not)
7673	Head 750MHz	July.27,2023	750 MHz	OK
7673	Head 900MHz	July.27,2023	900 MHz	OK
7673	Head 1750MHz	July.27,2023	1750 MHz	OK
7673	Head 1900MHz	July.27,2023	1900 MHz	OK
7673	Head 2000MHz	July.27,2023	2000 MHz	OK
7673	Head 2300MHz	July.27,2023	2300 MHz	OK
7673	Head 2450MHz	July.27,2023	2450 MHz	OK
7673	Head 2600MHz	July.27,2023	2600 MHz	OK
7673	Head 3300MHz	July.27,2023	3300 MHz	OK
7673	Head 3500MHz	July.27,2023	3500 MHz	OK
7673	Head 3700MHz	July.27,2023	3700 MHz	OK
7673	Head 3900MHz	July.27,2023	3900 MHz	OK
7673	Head 4100MHz	July.27,2023	4100 MHz	OK
7673	Head 4200MHz	July.27,2023	4200 MHz	OK
7673	Head 4400MHz	July.27,2023	4400 MHz	OK
7673	Head 4600MHz	July.27,2023	4600 MHz	OK
7673	Head 4800MHz	July.27,2023	4800 MHz	OK
7673	Head 4950MHz	July.27,2023	4950 MHz	OK
7673	Head 5250MHz	July.27,2023	5250 MHz	OK
7673	Head 5600MHz	July.27,2023	5600 MHz	OK
7673	Head 5750MHz	July.27,2023	5750 MHz	OK

Table F.3: System Validation for 7464

Probe SN.	Liquid name	Validation date	Frequency point	Status (OK or Not)
7464	Head 13MHz	March 05,2024	13MHz	OK
7464	Head 64MHz	March 05,2024	64MHz	OK
7464	Head 150MHz	March 05,2024	150MHz	OK
7464	Head 300MHz	March 05,2024	300MHz	OK
7464	Head 450MHz	March 05,2024	450MHz	OK
7464	Head 750MHz	March 05,2024	750MHz	OK
7464	Head 835MHz	March 05,2024	835MHz	OK
7464	Head 900MHz	March 05,2024	900MHz	OK
7464	Head 1450MHz	March 05,2024	1450MHz	OK
7464	Head 1640MHz	March 06,2024	1640MHz	OK
7464	Head 1750MHz	March 06,2024	1750MHz	OK
7464	Head 1810MHz	March 06,2024	1810MHz	OK
7464	Head 1900MHz	March 06,2024	1900MHz	OK
7464	Head 2000MHz	March 06,2024	2000MHz	OK
7464	Head 2100MHz	March 06,2024	2100MHz	OK
7464	Head 2300MHz	March 06,2024	2300MHz	OK
7464	Head 2450MHz	March 06,2024	2450MHz	OK
7464	Head 2600MHz	March 06,2024	2600MHz	OK
7464	Head 3300MHz	March 07,2024	3300MHz	OK
7464	Head 3500MHz	March 07,2024	3500MHz	OK
7464	Head 3700MHz	March 07,2024	3700MHz	OK
7464	Head 3900MHz	March 07,2024	3900MHz	OK
7464	Head 4100MHz	March 07,2024	4100MHz	OK
7464	Head 4200MHz	March 07,2024	4200MHz	OK
7464	Head 4400MHz	March 07,2024	4400MHz	OK
7464	Head 4600MHz	March 07,2024	4600MHz	OK
7464	Head 4800MHz	March 07,2024	4800MHz	OK
7464	Head 4950MHz	March 07,2024	4950MHz	OK
7464	Head 5200MHz	March 08,2024	5200MHz	OK
7464	Head 5250MHz	March 08,2024	5250MHz	OK
7464	Head 5300MHz	March 08,2024	5300MHz	OK
7464	Head 5500MHz	March 08,2024	5500MHz	OK
7464	Head 5600MHz	March 08,2024	5600MHz	OK
7464	Head 5750MHz	March 08,2024	5750MHz	OK
7464	Head 5800MHz	March 08,2024	5800MHz	OK

Table F.3: System Validation for 7517

Probe SN.	Liquid name	Validation date	Frequency point	Status (OK or Not)
7517	Head 750MHz	March 09,2024	750 MHz	OK
7517	Head 900MHz	March 09,2024	900 MHz	OK
7517	Head 1450MHz	March 09,2024	1450 MHz	OK
7517	Head 1750MHz	March 09,2024	1750 MHz	OK
7517	Head 1900MHz	March 09,2024	1900 MHz	OK
7517	Head 2100MHz	March 09,2024	2100 MHz	OK
7517	Head 2300MHz	March 09,2024	2300 MHz	OK
7517	Head 2450MHz	March 09,2024	2450 MHz	OK
7517	Head 2600MHz	March 09,2024	2600 MHz	OK
7517	Head 3300MHz	March 10,2024	3300 MHz	OK
7517	Head 3500MHz	March 10,2024	3500 MHz	OK
7517	Head 3700MHz	March 10,2024	3700 MHz	OK
7517	Head 3900MHz	March 10,2024	3900 MHz	OK
7517	Head 4100MHz	March 10,2024	4100 MHz	OK
7517	Head 4200MHz	March 10,2024	4200 MHz	OK
7517	Head 4400MHz	March 10,2024	4400 MHz	OK
7517	Head 4600MHz	March 11,2024	4600 MHz	OK
7517	Head 4800MHz	March 11,2024	4800 MHz	OK
7517	Head 4950MHz	March 11,2024	4950 MHz	OK
7517	Head 5250MHz	March 11,2024	5250 MHz	OK
7517	Head 5600MHz	March 11,2024	5600 MHz	OK
7517	Head 5750MHz	March 11,2024	5750 MHz	OK



No. 24T04Z100905-010

ANNEX G Probe Calibration Certificate**Probe 7673 Calibration Certificate**

 In Collaboration with TTL s p e a g CALIBRATION LABORATORY		  中国认可 国际互认 校准 CALIBRATION CNAS L0570
Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China Tel: +86-10-62304633-2117 E-mail: emf@caict.ac.cn http://www.caict.ac.cn		
Client	CTTL	Certificate No: J23Z60316
CALIBRATION CERTIFICATE		
Object	EX3DV4 - SN : 7673	
Calibration Procedure(s)	FF-Z11-004-02 Calibration Procedures for Dosimetric E-field Probes	
Calibration date:	July 24, 2023	
This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.		
All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.		
Calibration Equipment used (M&TE critical for calibration)		
Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.) Scheduled Calibration
Power Meter NRP2	101919	12-Jun-23(CTTL, No.J23X05435) Jun-24
Power sensor NRP-Z91	101547	12-Jun-23(CTTL, No.J23X05435) Jun-24
Power sensor NRP-Z91	101548	12-Jun-23(CTTL, No.J23X05435) Jun-24
Reference 10dBAttenuator	18N50W-10dB	19-Jan-23(CTTL, No.J23X00212) Jan-25
Reference 20dBAttenuator	18N50W-20dB	19-Jan-23(CTTL, No.J23X00211) Jan-25
Reference Probe EX3DV4	SN 3846	31-May-23(SPEAG, No.EX-3846_May23) May-24
Reference Probe EX3DV4	SN 7517	27-Jan-23(SPEAG, No.EX-7517_Jan23) Jan-24
DAE4	SN 1555	25-Aug-22(SPEAG, No.DAE4-1555_Aug22) Aug-23
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.) Scheduled Calibration
SignalGenerator MG3700A	6201052605	12-Jun-23(CTTL, No.J23X05434) Jun-24
Network Analyzer E5071C	MY46110673	10-Jan-23(CTTL, No.J23X00104) Jan-24
Reference 10dBAttenuator	BT0520	11-May-23(CTTL, No.J23X04061) May-25
Reference 20dBAttenuator	BT0267	11-May-23(CTTL, No.J23X04062) May-25
OCP DAK-3.5	SN 1040	18-Jan-23(SPEAG, No.OCP-DAK3.5-1040_Jan23) Jan-24
Calibrated by:	Name	Function Signature
	Yu Zongying	SAR Test Engineer
Reviewed by:	Lin Hao	SAR Test Engineer
Approved by:	Qi Dianyuan	SAR Project Leader
		
Issued: July 31, 2023		
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.		

Certificate No: J23Z60316

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s p e a g
CALIBRATION LABORATORY



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Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A,B,C,D	modulation dependent linearization parameters
Polarization Φ	Φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i $\theta=0$ is normal to probe axis

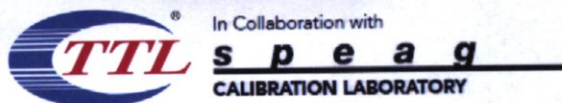
Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}:** Assessed for E-field polarization $\theta=0$ ($f \leq 900\text{MHz}$ in TEM-cell; $f > 1800\text{MHz}$: waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E^2 -field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}; A,B,C** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800\text{MHz}$) and inside waveguide using analytical field distributions based on power measurements for $f > 800\text{MHz}$. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from $\pm 50\text{MHz}$ to $\pm 100\text{MHz}$.
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle:** The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).



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DASY/EASY – Parameters of Probe: EX3DV4 – SN:7673

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.62	0.63	0.60	±10.0%
DCP(mV) ^B	111.4	112.4	110.2	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB/μV	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	214.3	±2.2%
		Y	0.0	0.0	1.0		219.2	
		Z	0.0	0.0	1.0		207.3	

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor $k=2$, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 4).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.