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:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

©Copyright. All rights reserved by CTTL.

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.

©Copyright. All rights reserved by CTTL.

TABLE OF CONTENT

1 TEST LABORATORY 5
1.1. INTRODUCTION & ACCREDITATION 5
1.2. TESTING LOCATION 5
1.3. TESTING ENVIRONMENT 5
1.4. PROJECT DATA 5
1.5. SIGNATURE 5
2 STATEMENT OF COMPLIANCE 6
3 CLIENT INFORMATION 7
3.1 APPLICANT INFORMATION 7
3.2 MANUFACTURER INFORMATION 7
4 EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) 8
4.1 ABOUT EUT 8
4.2 INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST 8
4.3 INTERNAL IDENTIFICATION OF AE USED DURING THE TEST 8
5 TEST METHODOLOGY 9
5.1 APPLICABLE LIMIT REGULATIONS 9
5.2 APPLICABLE MEASUREMENT STANDARDS 9
6 SPECIFIC ABSORPTION RATE (SAR) 10
6.1 INTRODUCTION 10
6.2 SAR DEFINITION 10
7 TISSUE SIMULATING LIQUIDS 11
7.1 TARGETS FOR TISSUE SIMULATING LIQUID 11
7.2 DIELECTRIC PERFORMANCE 11
8 SYSTEM VERIFICATION 12
8.1 SYSTEM SETUP 12
8.2 SYSTEM VERIFICATION 13
8.3 PD SYSTEM PERFORMANCE CHECK RESULTS 14
9 MEASUREMENT PROCEDURES 15
9.1 TESTS TO BE PERFORMED 15
9.2 GENERAL MEASUREMENT PROCEDURE 17
9.3 BLUETOOTH & WI-FI MEASUREMENT PROCEDURES FOR SAR 18
9.4 POWER DRIFT 18
10 AREA SCAN BASED 1-G SAR 19
10.1 REQUIREMENT OF KDB 19

©Copyright. All rights reserved by CTTL.

10.2 FAST SAR ALGORITHMS 19

11 CONDUCTED OUTPUT POWER 20

11.1 WI-FI AND BT MEASUREMENT RESULT 20

12 ANTENNA LOCATION 53

12.1 TRANSMIT ANTENNA SEPARATION DISTANCES 53
12.2 SAR MEASUREMENT POSITIONS 53

13 SAR TEST RESULT 54

13.3 SAR RESULTS FOR BT 56
13.2 SAR RESULTS FOR BT 58
13.3 PD RESULTS 58

14 EVALUATION OF SIMULTANEOUS 59

14.1 SIMULTANEOUS TRANSMISSION CAPABILITIES 59
14.2 EVALUATION OF SIMULTANEOUS 59

15 MEASUREMENT UNCERTAINTY 60

15.1 MEASUREMENT UNCERTAINTY FOR NORMAL SAR TESTS (300MHZ~3GHZ) 60
15.2 MEASUREMENT UNCERTAINTY FOR NORMAL SAR TESTS (3~6GHZ) 61
15.3 MEASUREMENT UNCERTAINTY FOR FAST SAR TESTS (300MHZ~3GHZ) 62
15.4 MEASUREMENT UNCERTAINTY FOR FAST SAR TESTS (3~6GHZ) 63
15.5 SAR UNCERTAINTY BUDGET (6GHZ~10GHZ) 64
15.6 PD UNCERTAINTY BUDGET 65

16 MAIN TEST INSTRUMENTS 66

ANNEX A GRAPH RESULTS 67

ANNEX B SYSTEM VERIFICATION RESULTS 79

ANNEX C SAR MEASUREMENT SETUP 88

ANNEX D POSITION OF THE WIRELESS DEVICE IN RELATION TO THE PHANTOM 94

ANNEX E EQUIVALENT MEDIA RECIPES 96

ANNEX F SYSTEM VALIDATION 97

ANNEX G PROBE CALIBRATION CERTIFICATE 100

ANNEX H DIPOLE CALIBRATION CERTIFICATE 172

ANNEX I DIPOLE CALIBRATION CERTIFICAT 204

ANNEX J ACCREDITATION CERTIFICATE 205

©Copyright. All rights reserved by CTTL.

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℃

Extreme Temperature: -10/+55℃

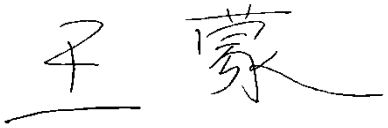
Relative Humidity: 20-75%

1.4. Project data

Testing Start Date: 2024-05-25

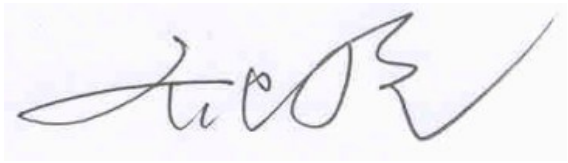
Testing End Date: 2024-06-05

1.5. Signature



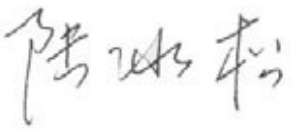
Wang Meng

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

©Copyright. All rights reserved by CTTL.

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.

©Copyright. All rights reserved by CTTL.

3 Client Information

3.1 Applicant Information

Company Name:	OnePlus Technology (Shenzhen) Co., Ltd.
Address/Post:	18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
Contact Person:	Ariel Cheng
E-mail:	ariel.cheng@oneplus.com
Telephone:	(86)75561882366
Fax:	/

3.2 Manufacturer Information

Company Name:	OnePlus Technology (Shenzhen) Co., Ltd.
Address/Post:	18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
Contact Person:	Ariel Cheng
E-mail:	ariel.cheng@oneplus.com
Telephone:	(86)75561882366
Fax:	/

©Copyright. All rights reserved by CTTL.

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.

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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 head 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.

©Copyright. All rights reserved by CTTL.

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

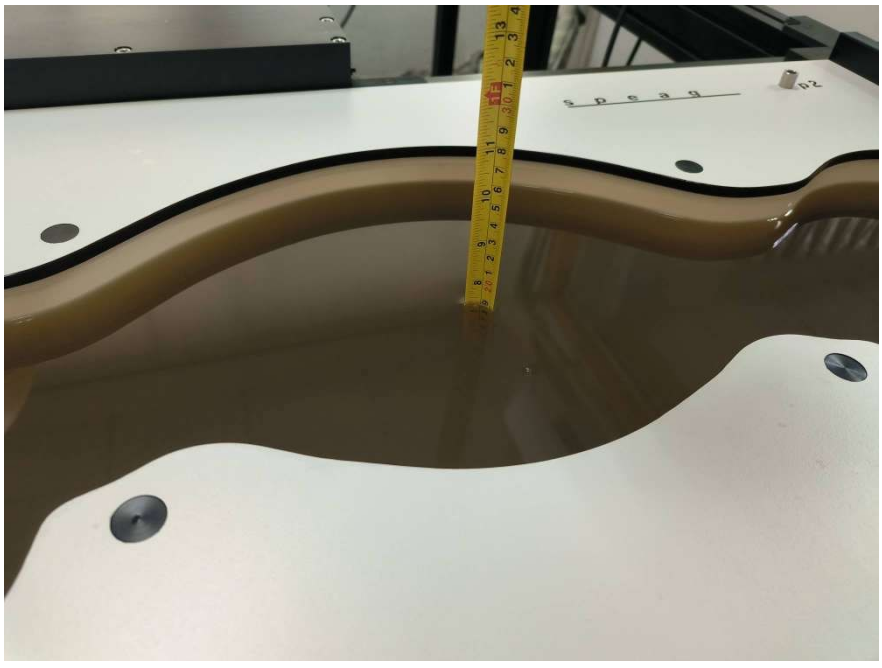
Frequency(MHz)	Liquid Type	Conductivity(σ)	±5% Range	Permittivity(ε)	± 5% Range
2450	Head	1.80	1.62～1.98	39.2	35.28～43.12
5250	Head	4.71	4.47～4.95	35.93	34.13～37.73
5600	Head	5.07	4.82～5.32	35.53	33.8～37.3
5750	Head	5.22	4.96～5.48	35.36	33.59～37.13
6500	Head	6.07	5.77～6.37	34.50	32.78～36.23

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℃



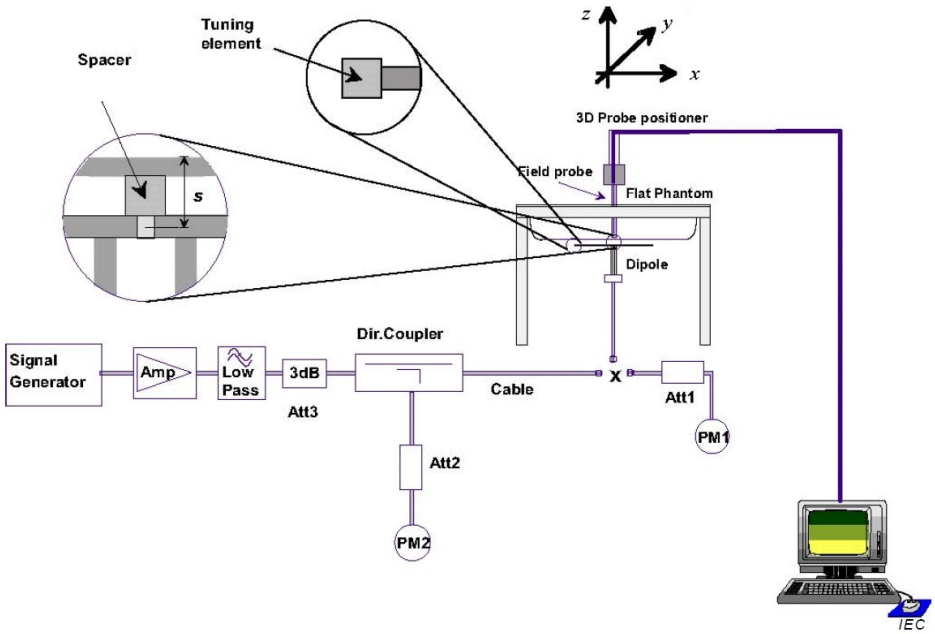
Picture 7-1 Liquid depth in the Flat Phantom

©Copyright. All rights reserved by CTTL.

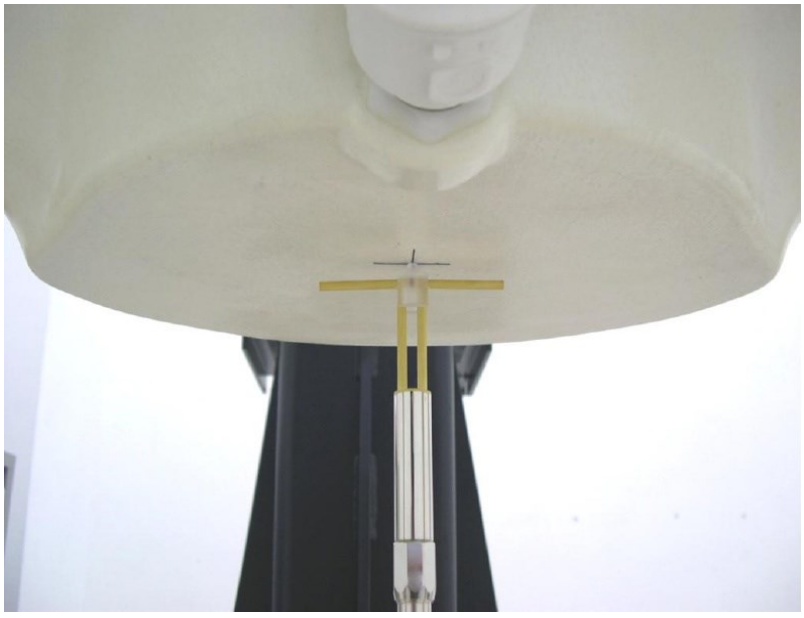
8 System verification

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

©Copyright. All rights reserved by CTTL.

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

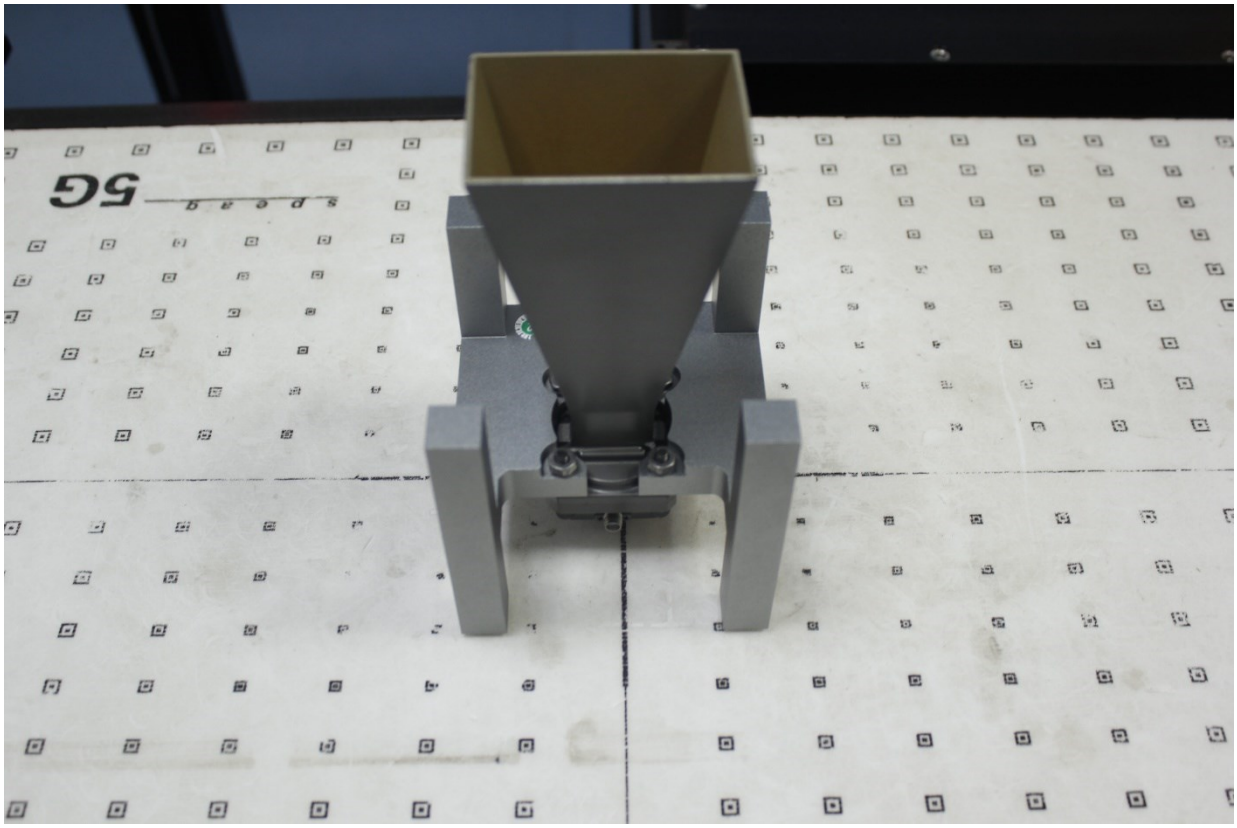
Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2024/5/25	2450 MHz	24.7	52.1	24.6	52.8	-0.24%	1.34%
2024/6/5	5250 MHz	22.8	79.6	21.9	77.6	-3.95%	-2.51%
2024/6/5	5250 MHz	22.8	79.6	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%

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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:

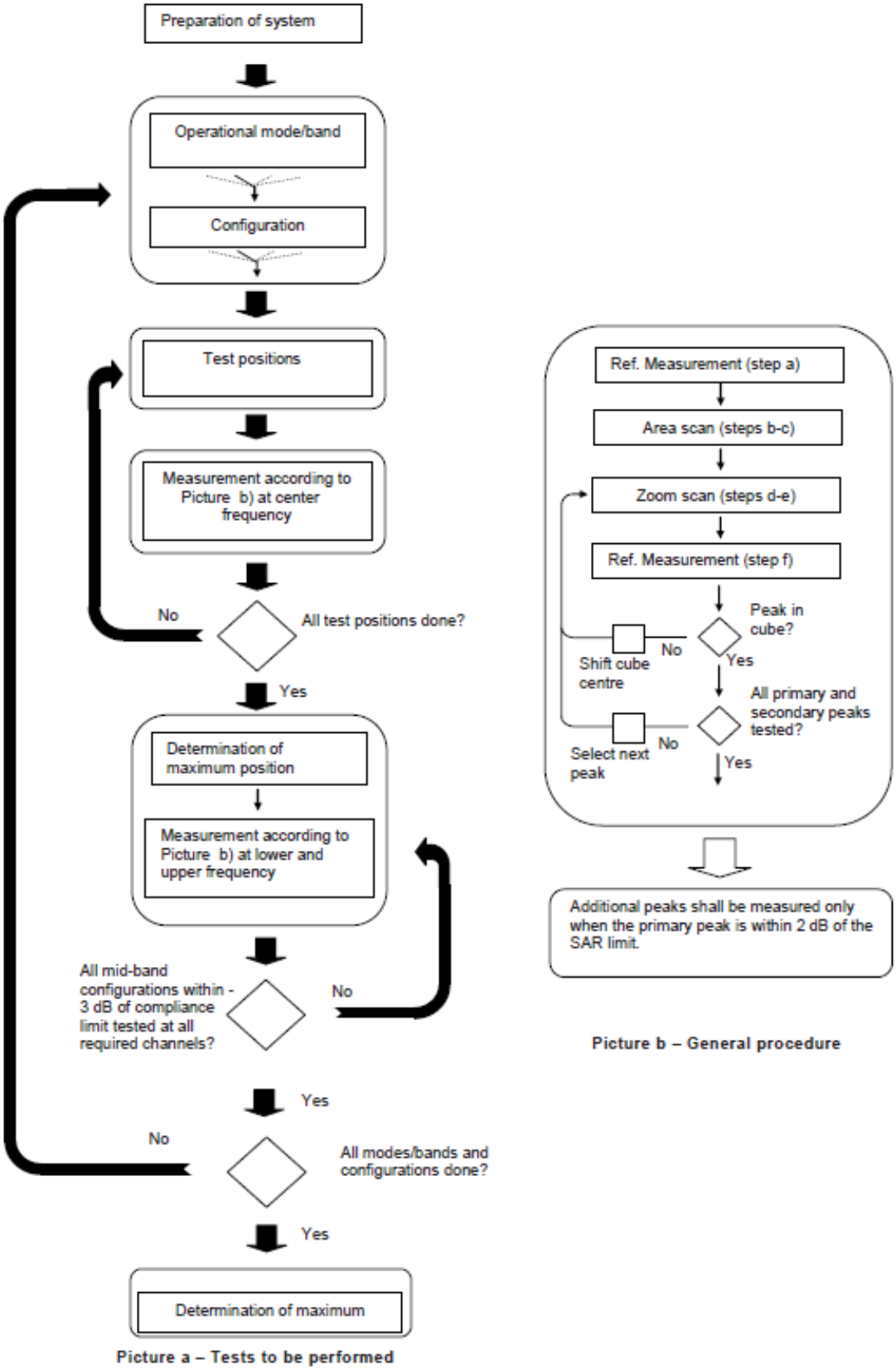
a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
b) all configurations for each device position in a), e.g., antenna extended and retracted, and
c) all operational modes, e.g., analogue and digital, for each device position in a) and 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 within3 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.

©Copyright. All rights reserved by CTTL.



Picture 9.1Block diagram of the tests to be performed

©Copyright. All rights reserved by CTTL.

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.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">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.</td></tr>
</table>

©Copyright. All rights reserved by CTTL.

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 section14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

©Copyright. All rights reserved by CTTL.

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 55wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm mare 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.

©Copyright. All rights reserved by CTTL.

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
	802.11g_2G_20M	2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH1	13	13	13	13	16	16
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH2	13	13	13	13	16	16
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH3	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH4	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH5	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH6	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH7	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH8	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH9	19	18.5	19	18	22	21.5
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH10	13	13	13	13	16	16
		2G4_TxPwr_Ofdm_20mhz_6M_FCC_CH11	13	13	13	13	16	16
	802.11n_2G_20M	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
	802.11n_2G_40M	2G4_TxPwr_ht-mm_40mhz_MCS0_FCC_CH3	12	12	12	12	14.5	14.5
		2G4_TxPwr_ht-mm_40mhz_MCS0_FCC_CH4	13	13	13	13	16	16
		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
		2G4_TxPwr_ht-mm_40mhz_MCS0_FCC_CH7	18	18	18	18	21	21
		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
	802.11ax_2G_20M	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
	802.11ax_2G_40M	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
		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
	802.11be_2G_20M	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
	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	13	13	13	13	16	16
		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

©Copyright. All rights reserved by CTTL.

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
	802.11ax_5G_20M	5G_TxPwr_he-su_20mhz_MCS0_FCC_CH36	11.50	12.00	14.5
		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
	802.11ax_5G_40M	5G_TxPwr_he-su_40mhz_MCS0_FCC_CH38	12.00	12.50	15
		5G_TxPwr_he-su_40mhz_MCS0_FCC_CH46	15.00	16.00	17.5
	802.11ax_5G_80M	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_TxPowerProfile_B2	802.11a_5G_20M	5G_TxPwr_Ofdm_20mhz_6M_FCC_CH52	16.00	16.00	18.5
		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
	802.11n_5G_20M	5G_TxPwr_ht-mm_20mhz_MCS0_FCC_CH52	16.00	16.00	18.5
		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
	802.11n_5G_40M	5G_TxPwr_ht-mm_40mhz_MCS0_FCC_CH54	13.00	14.50	16
		5G_TxPwr_ht-mm_40mhz_MCS0_FCC_CH62	13.00	13.00	16
	802.11ac_5G_20M	5G_TxPwr_vht_20mhz_MCS0_FCC_CH52	16.00	16.00	18.5
		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
	802.11ac_5G_40M	5G_TxPwr_vht_40mhz_MCS0_FCC_CH54	13.50	14.50	16.5
		5G_TxPwr_vht_40mhz_MCS0_FCC_CH62	13.50	13.00	16.5
	802.11ac_5G_80M	5G_TxPwr_vht_80mhz_MCS0_FCC_CH58	15.00	15.50	18
	802.11ac_5G_160M	5G_TxPwr_vht_160mhz_MCS0_FCC_CH50	14.00	14.00	17
	802.11ax_5G_20M	5G_TxPwr_he-su_20mhz_MCS0_FCC_CH52	16.00	16.00	18.5
		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
	802.11ax_5G_40M	5G_TxPwr_he-su_40mhz_MCS0_FCC_CH54	14.00	14.00	17
		5G_TxPwr_he-su_40mhz_MCS0_FCC_CH62	12.50	13.00	15.5
	802.11ax_5G_80M	5G_TxPwr_he-su_80mhz_MCS0_FCC_CH58	15.00	15.00	18
	802.11ax_5G_160M	5G_TxPwr_he-su_160mhz_MCS0_FCC_CH50	14.00	14.50	17
	802.11be_5G_20M	5G_TxPwr_eht-su_20mhz_MCS0_FCC_CH52	16.00	16.00	18.5
		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
	802.11ax_5G_40M	5G_TxPwr_eht-su_40mhz_MCS0_FCC_CH54	14.00	13.50	17
		5G_TxPwr_eht-su_40mhz_MCS0_FCC_CH62	14.00	13.00	16
	802.11ax_5G_80M	5G_TxPwr_eht-su_80mhz_MCS0_FCC_CH58	15.00	15.00	18
	802.11ax_5G_160M	5G_TxPwr_eht-su_160mhz_MCS0_FCC_CH50	13.50	14.00	16.5

©Copyright. All rights reserved by CTTL.

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
		5G_TxPwr_Ofdm_20mhz_6M_FCC_CH140	13.00	13.50	16
	802.11n_5G_20M	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
		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
	802.11n_5G_40M	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
	802.11ac_5G_20M	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
		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
		5G_TxPwr_he-su_20mhz_MCS0_FCC_CH140	13.00	13.50	16
	802.11ax_5G_40M	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
		5G_TxPwr_he-su_40mhz_MCS0_FCC_CH134	13.00	13.50	16
	802.11ax_5G_80M	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
	802.11ax_5G_160M	5G_TxPwr_he-su_160mhz_MCS0_FCC_CH114	8.50	8.50	11.5
	802.11be_5G_20M	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
		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
	802.11be_5G_40M	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
		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_80M	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

©Copyright. All rights reserved by CTTL.

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
	802.11ac_5G_20M	5G_TxPwr_vht_20mhz_MCS0_FCC_CH149	16.50	14.50	19.5
		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

©Copyright. All rights reserved by CTTL.

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
		6G_TxPwr_he-su_40mhz_MCS0_FCC_CH83	6.5	7	9.5
		6G_TxPwr_he-su_40mhz_MCS0_FCC_CH91	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_CH23	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_CH55	7.5	7.5	10.5
		6G_TxPwr_he-su_80mhz_MCS0_FCC_CH71	7.5	7.5	10.5
		6G_TxPwr_he-su_80mhz_MCS0_FCC_CH87	7	7	10
	802.11ax_6G_160M	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
		6G_TxPwr_he-su_160mhz_MCS0_FCC_CH79	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
		6G_TxPwr_eht-su_40mhz_MCS0_FCC_CH83	6.5	6.5	9.5
		6G_TxPwr_eht-su_40mhz_MCS0_FCC_CH91	6.5	6.5	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
	802.11be_6G_160M	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
	802.11be_6G_320M	6G_TxPwr_eht-su_320mhz_MCS0_FCC_CH31	7.5	7.5	10.5
		6G_TxPwr_eht-su_320mhz_MCS0_FCC_CH63	7.5	7.5	10.5

©Copyright. All rights reserved by CTTL.

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
	802.11ax_6G_80M	6G_TxPwr_he-su_80mhz_MCS0_FCC_CH103	9	9	12
	802.11ax_6G_160M	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
	802.11be_6G_80M	6G_TxPwr_eht-su_80mhz_MCS0_FCC_CH103	9	9	12
	802.11be_6G_160M	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

©Copyright. All rights reserved by CTTL.

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
	802.11ax_6G_80M	6G_TxPwr_he-su_80mhz_MCS0_FCC_CH119	9	9.5	12
		6G_TxPwr_he-su_80mhz_MCS0_FCC_CH135	9	9.5	12
		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
	802.11ax_6G_160M	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
	802.11be_6G_20M	6G_TxPwr_eht-su_20mhz_MCS0_FCC_CH117	7.5	7.5	10.5
		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
	802.11be_6G_40M	6G_TxPwr_eht-su_40mhz_MCS0_FCC_CH123	9	9	12
		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
		6G_TxPwr_eht-su_40mhz_MCS0_FCC_CH179	9	9	12
	802.11be_6G_80M	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

©Copyright. All rights reserved by CTTL.

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
		6G_TxPwr_he-su_40mhz_MCS0_FCC_CH227	6.5	6.5	9.5
	802.11ax_6G_80M	6G_TxPwr_he-su_80mhz_MCS0_FCC_CH199	7	7	10
		6G_TxPwr_he-su_80mhz_MCS0_FCC_CH215	6.5	7	9.5
	802.11ax_6G_160M	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
		6G_TxPwr_eht-su_40mhz_MCS0_FCC_CH227	6.5	6.5	9.5
	802.11be_6G_80M	6G_TxPwr_eht-su_80mhz_MCS0_FCC_CH199	7	7	10
		6G_TxPwr_eht-su_80mhz_MCS0_FCC_CH215	7	7	10
	802.11be_6G_160M	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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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(2437MHz)	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(2437MHz)	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(2437MHz)	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(2437MHz)	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(2437MHz)	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(2437MHz)	19.70
	3(2422MHz)	14.47

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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.

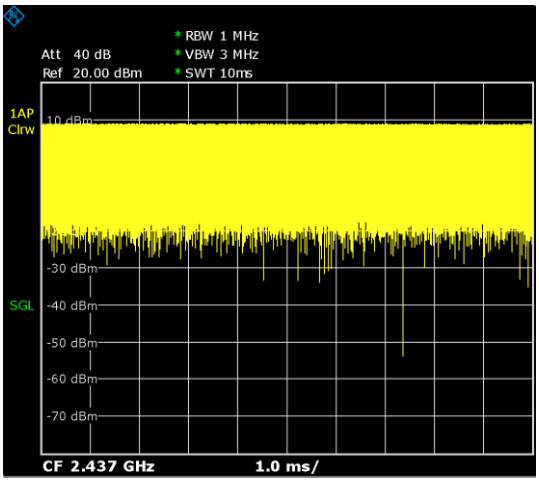
When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is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

©Copyright. All rights reserved by CTTL.

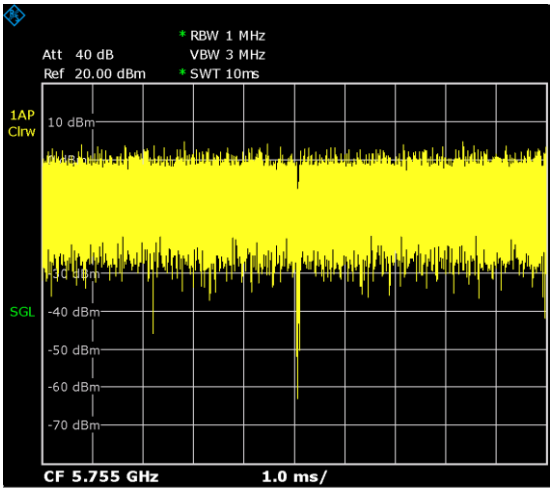
13.1 SAR results for WLAN

Duty factor plot

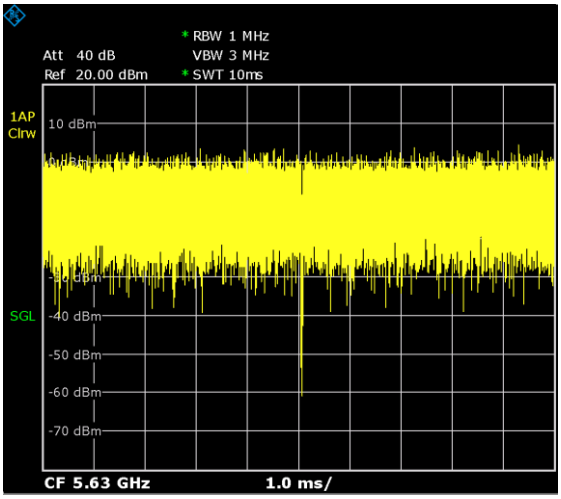
CH6



CH151



CH126



©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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 psPD (W/m^2)	Calculated Normal 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

©Copyright. All rights reserved by CTTL.

14 Evaluation of Simultaneous

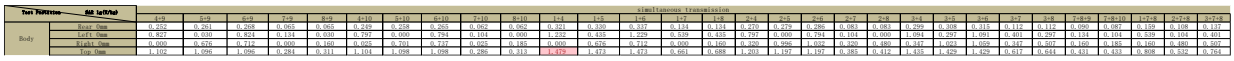
14.1 Simultaneous Transmission Capabilities

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 Postition / SAR 1g(W/kg)		1 WIFI2.4G CHAIN 0	2 WIFI2.4G CHAIN 1	3 WIFI2.4G MIMO	4 WIFI5G CHAIN 0	5 WIFI5G CHAIN 1	6 WIFI5G MIMO	7 WIFI6G CHAIN 0	8 WIFI6G CHAIN 1	9 BT CHAIN0	10 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.

©Copyright. All rights reserved by CTTL.

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	RFambient 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

©Copyright. All rights reserved by CTTL.

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	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√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	√3	0.6	0.49	1.7	1.4	∞

©Copyright. All rights reserved by CTTL.

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	RFambient 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	∞

©Copyright. All rights reserved by CTTL.

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	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	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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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 ＞λ/2π. For specific tests and configurations, the uncertainty can be considered smaller.

Error Description		Unc. Value (±dB)	Prob. Dist.	Div.	(C_i)	Std.Unc. (±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	

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

ANNEX A Graph Results

WLAN2.4G CHAIN 0

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2435 MHz; σ = 1.828 S/m; εr = 39.573; ρ = 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

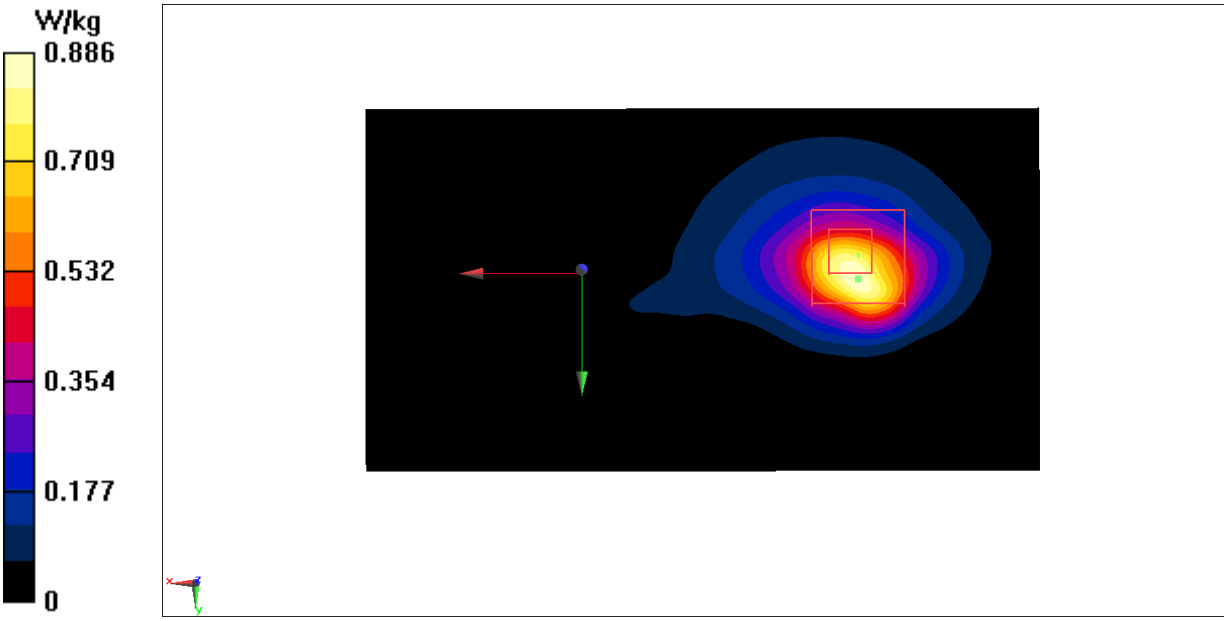
Zoom Scan (7x8x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



©Copyright. All rights reserved by CTTL.

WLAN2.4G CHAIN 1

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2435 MHz; σ = 1.828 S/m; εr = 39.573; ρ = 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

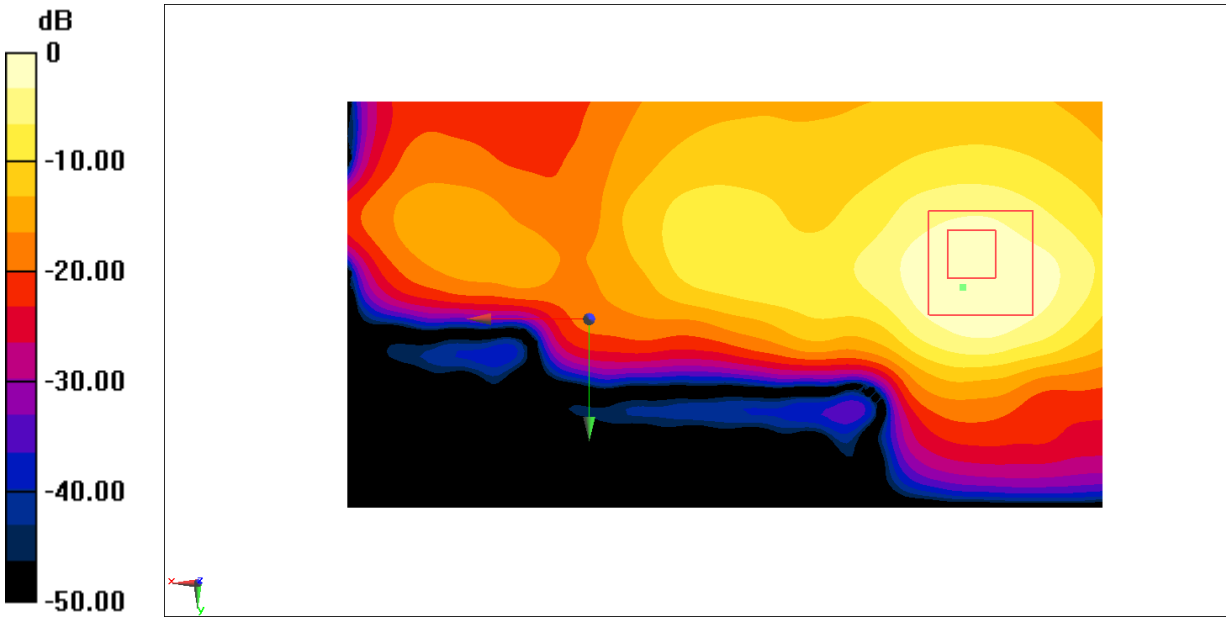
Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

©Copyright. All rights reserved by CTTL.

WLAN2.4G MIMO

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2435 MHz; σ = 1.93 S/m; εr = 40.769; ρ = 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=5mm, dy=5mm, dz=5mm

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

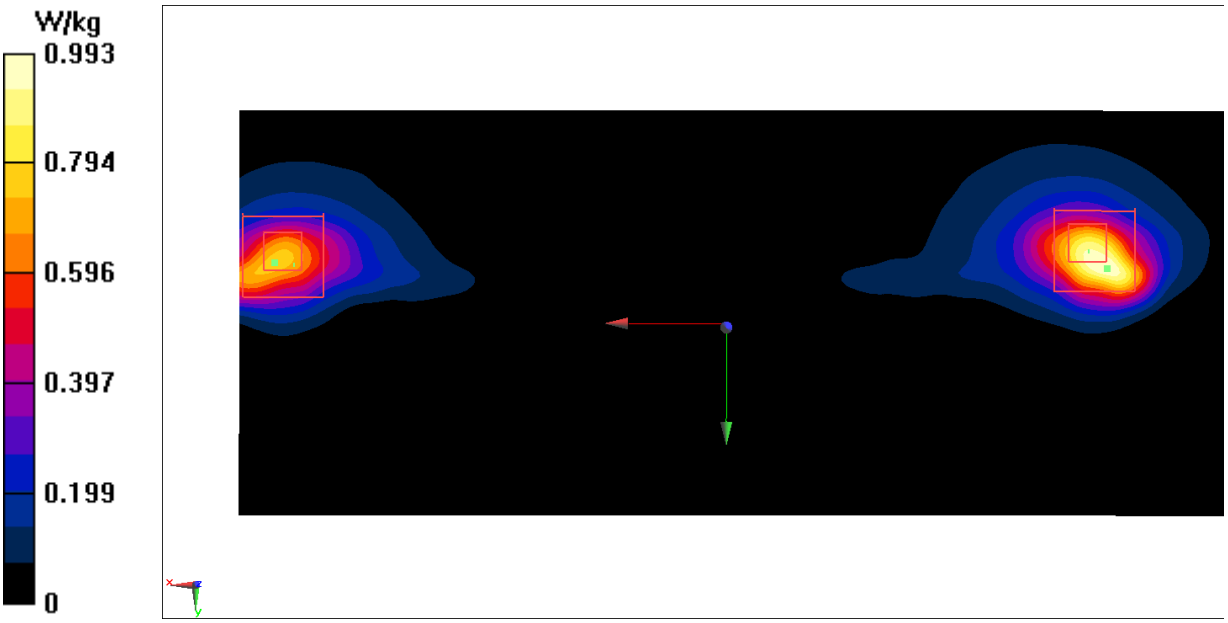
Zoom Scan (8x8x5)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



©Copyright. All rights reserved by CTTL.

WLAN5G CHAIN 0

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 5755 MHz; σ = 5.312 S/m; εr = 34.432; ρ = 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

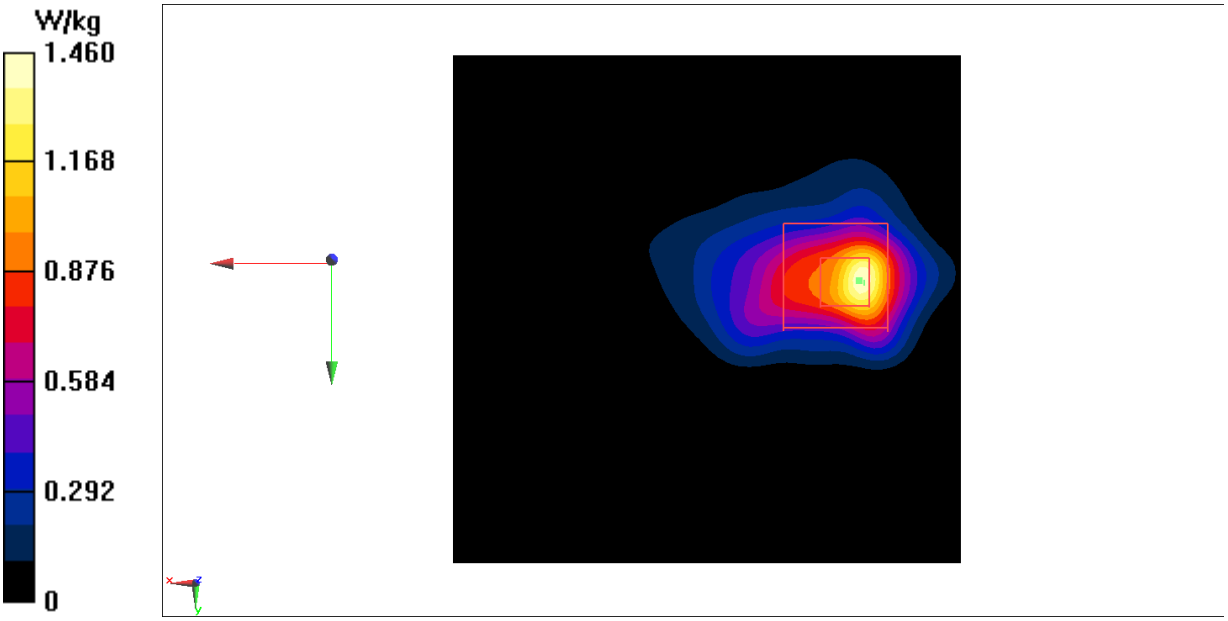
Zoom Scan (9x9x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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



©Copyright. All rights reserved by CTTL.

WLAN5G CHAIN 1

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: f = 5630 MHz; σ = 5.05 S/m; εr = 33.982; ρ = 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

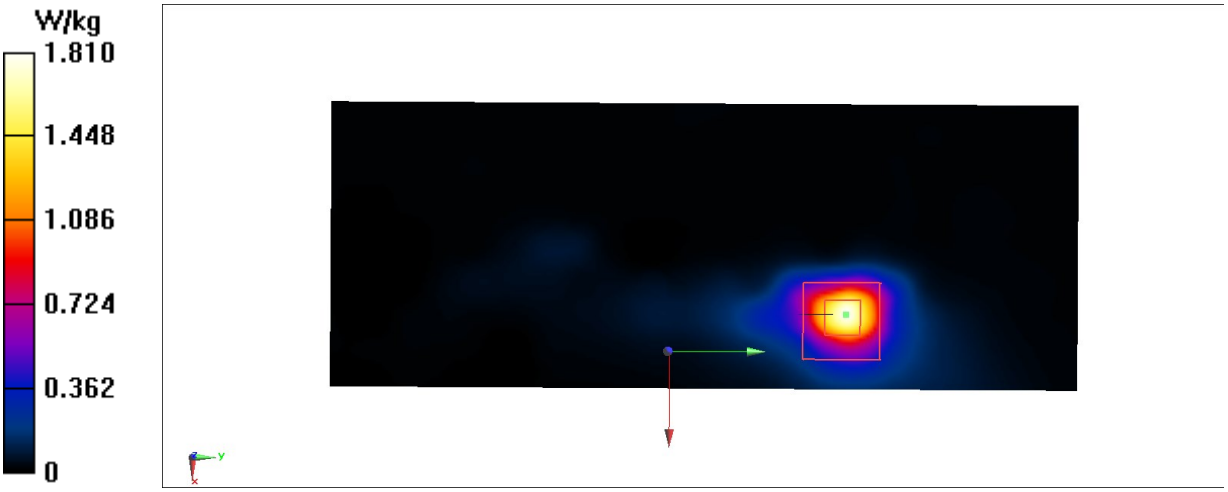
Zoom Scan (9x9x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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



©Copyright. All rights reserved by CTTL.

WLAN5G MIMO

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 5630 MHz; σ = 5.168 S/m; εr = 34.674; ρ = 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=4mm, dy=4mm, dz=1.4mm

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

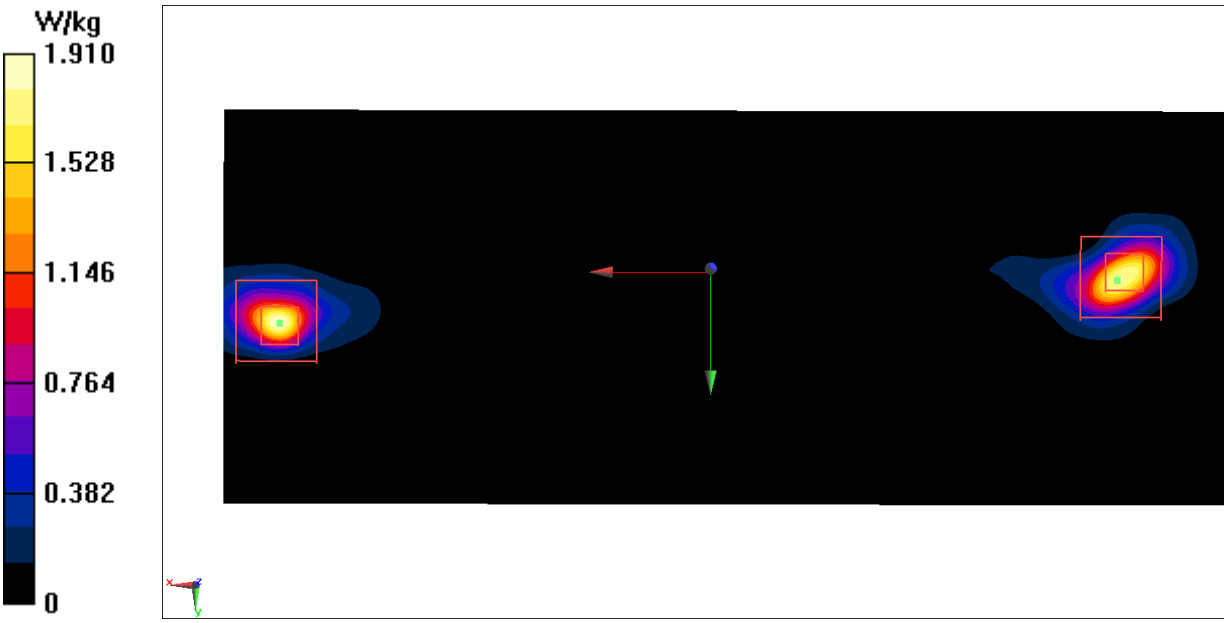
Zoom Scan (9x9x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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



©Copyright. All rights reserved by CTTL.

WLAN6G CHAIN 0_SAR

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	120.0 x 80.0 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	BACK, 5.00	U-NII-7	WLAN, 11026-AAB	6745.000, 159	5.18	6.39	33.6

Hardware Setup

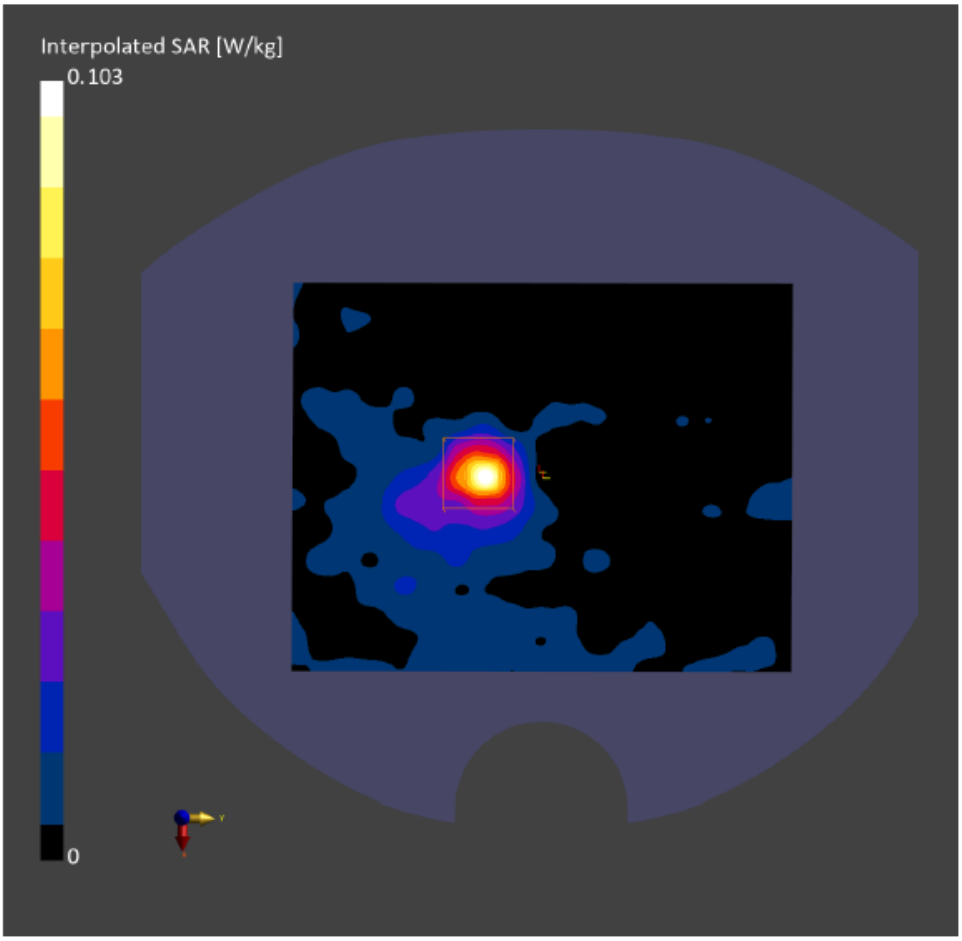
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	119.0 x 153.0	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	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



©Copyright. All rights reserved by CTTL.

WLAN6G CHAIN 1_SAR

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type
Device,	120.0 x 80.0 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	BACK, 5.00	U-NII-7	WLAN, 11026-AAB	6745.000, 159	5.18	6.39	33.6

Hardware Setup

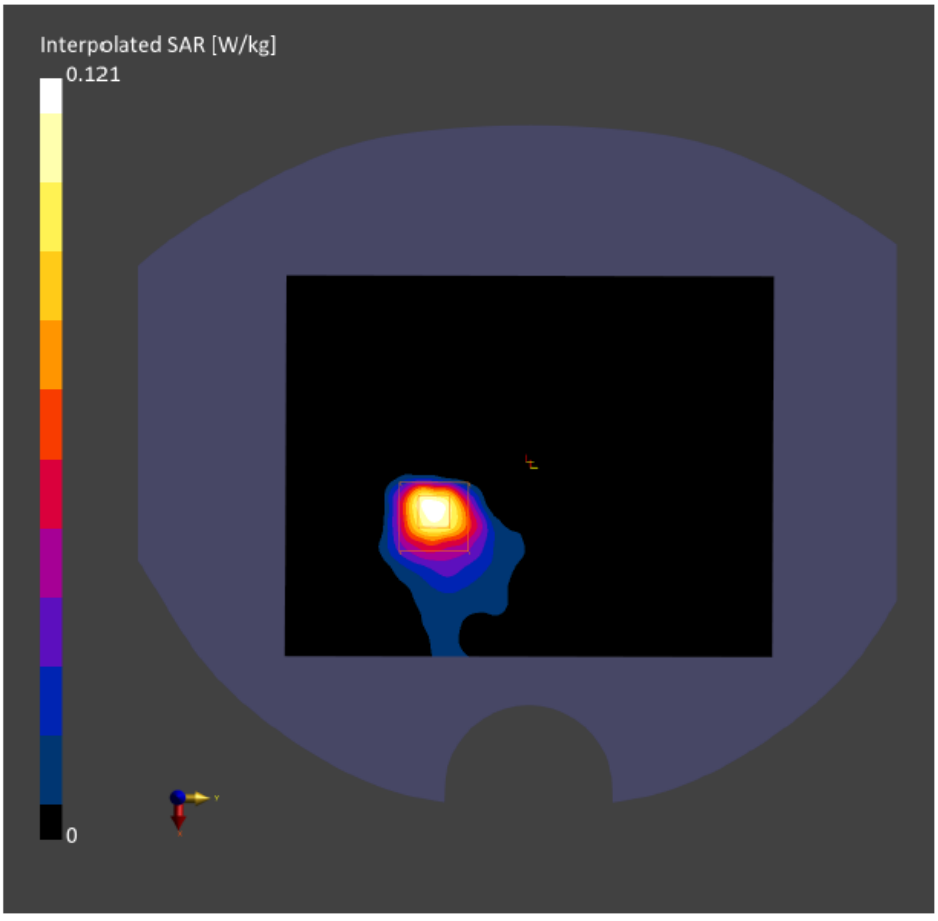
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	119.0 x 153.0	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	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



©Copyright. All rights reserved by CTTL.

BT CHAIN 0

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2440 MHz; σ = 1.832 S/m; εr = 39.566; ρ = 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

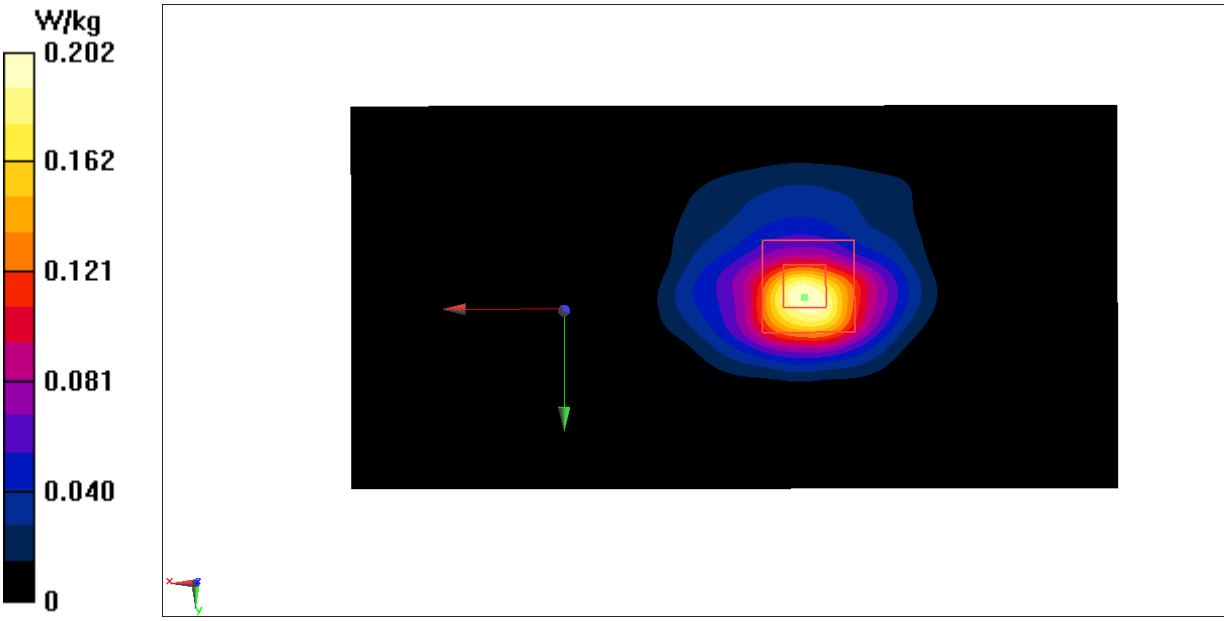
Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



©Copyright. All rights reserved by CTTL.

BT CHAIN 1

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2480 MHz; σ = 1.865 S/m; εr = 39.501; ρ = 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

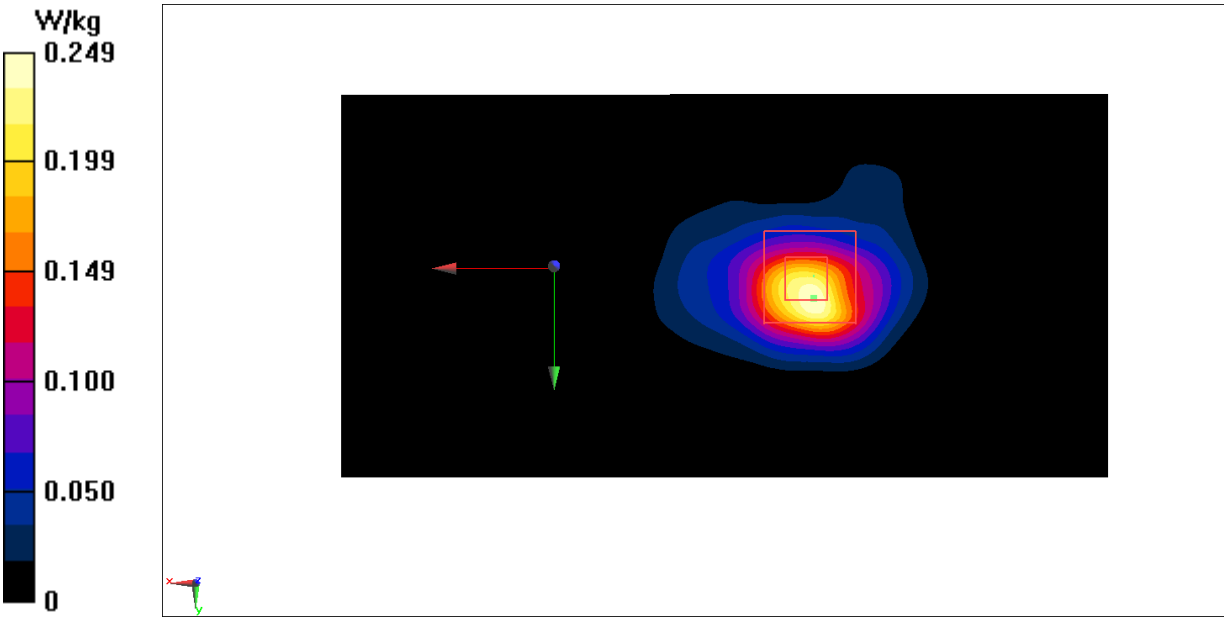
Zoom Scan (7x7x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



©Copyright. All rights reserved by CTTL.

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

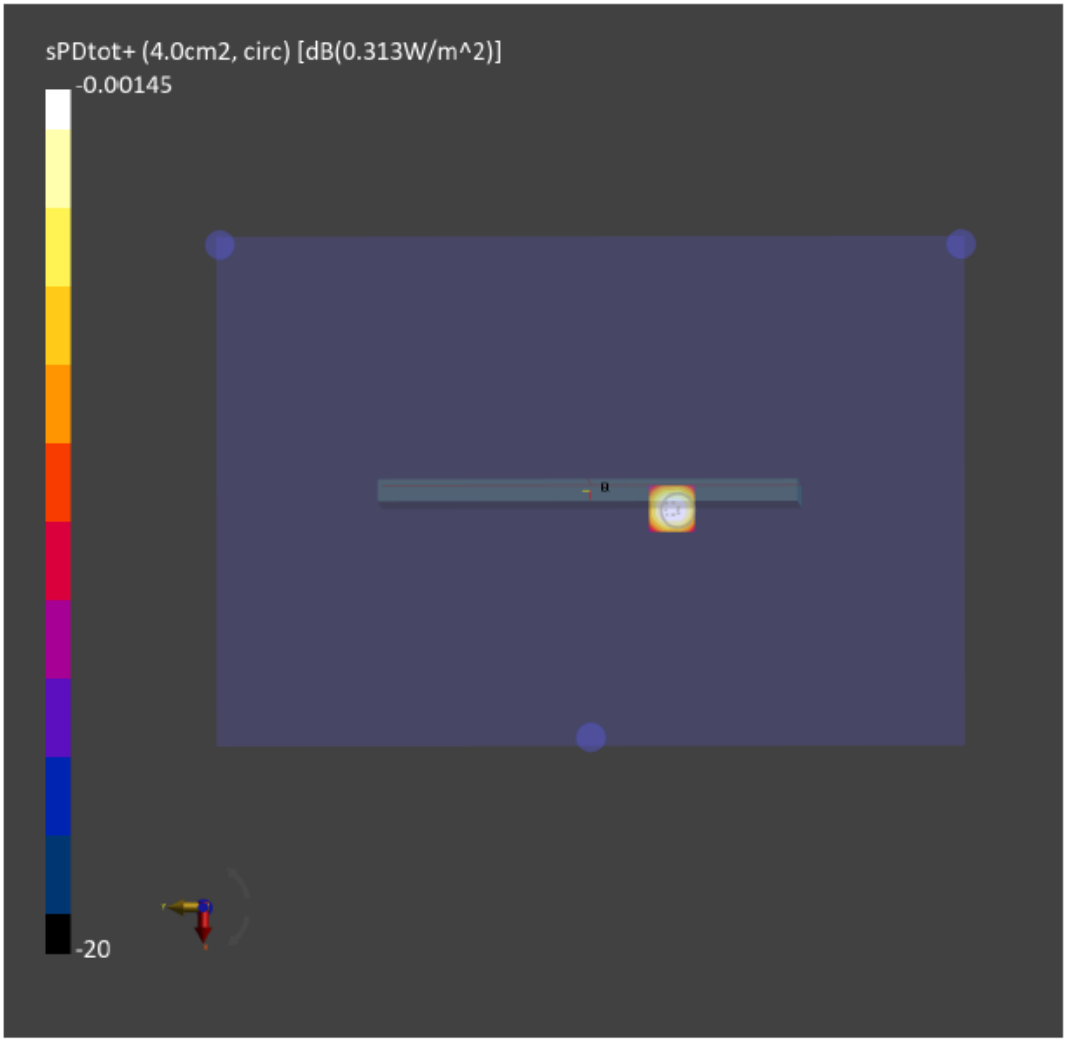
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

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 [cm²]	4.00
psPDn+ [W/m²]	0.305
psPDtot+ [W/m²]	0.313
psPDmod+ [W/m²]	0.320
E_{max} [V/m]	12.5
Power Drift [dB]	-0.11



©Copyright. All rights reserved by CTTL.

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

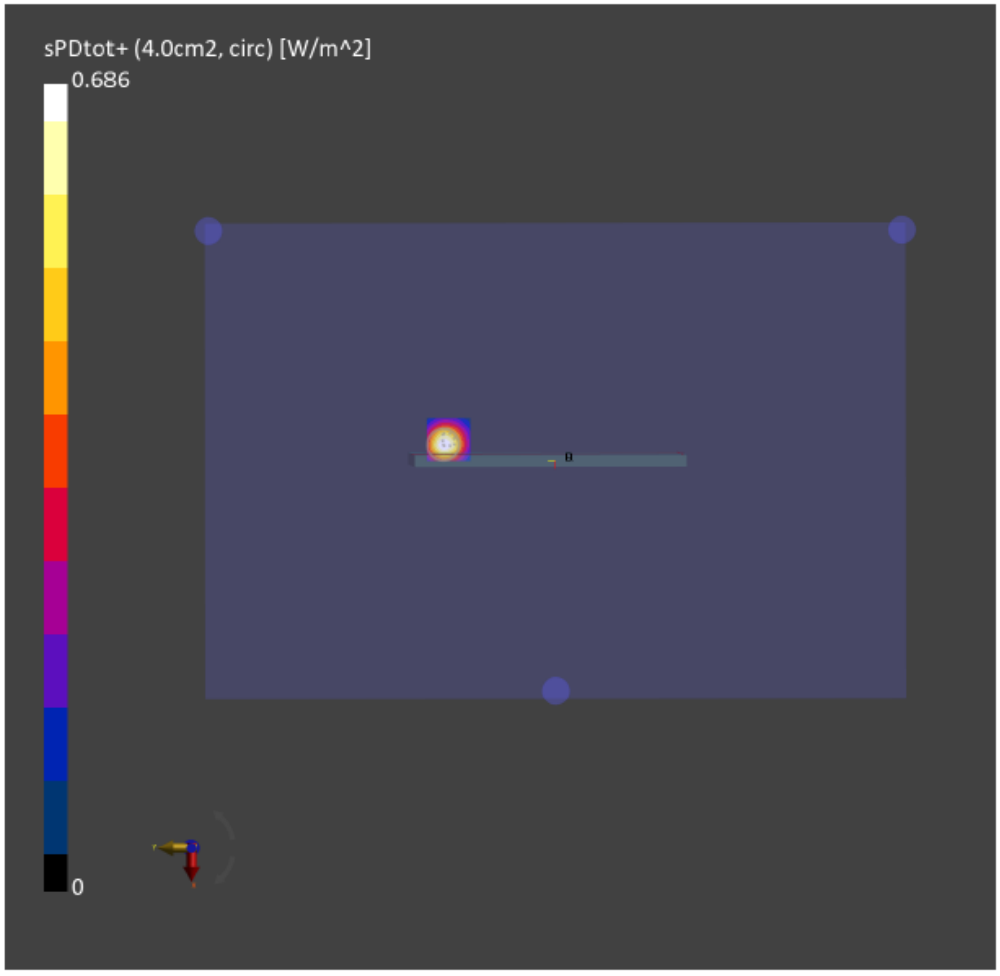
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

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 [cm²]	4.00
psPDn+ [W/m²]	0.567
psPDtot+ [W/m²]	0.686
psPDmod+ [W/m2]	0.782
E_{max} [V/m]	26.2
Power Drift [dB]	0.12



©Copyright. All rights reserved by CTTL.

ANNEX B System Verification Results

2450 MHz

Date: 2024-05-25

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 2450 MHz; σ = 1.841 S/m; εr = 39.55; ρ = 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

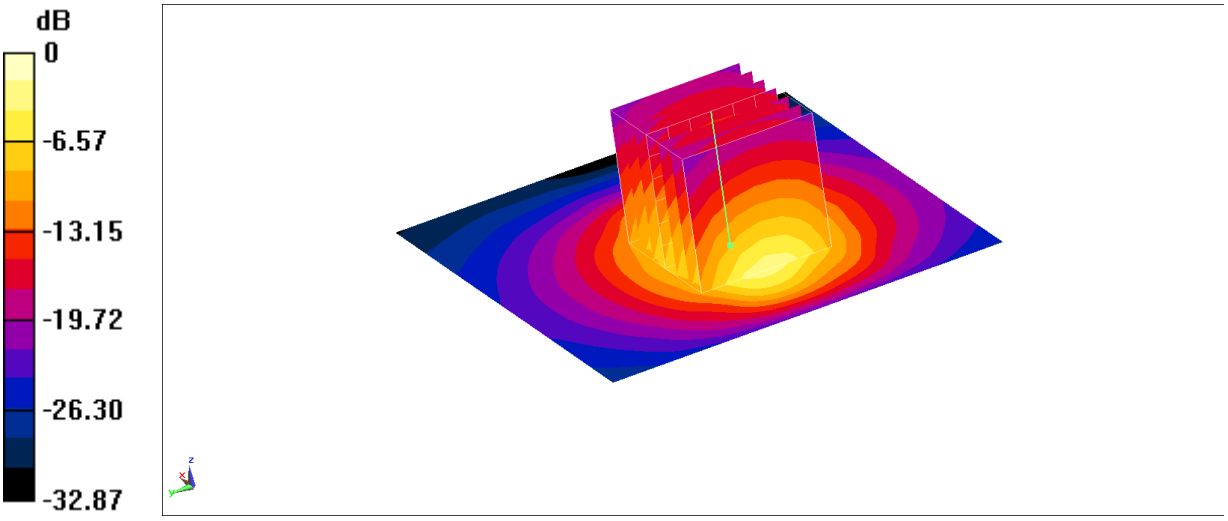
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 dB = 21.4 W/kg = 13.30 dBW/kg

©Copyright. All rights reserved by CTTL.

5250 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 5250 MHz; σ = 4.75 S/m; εr = 35.4; ρ = 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

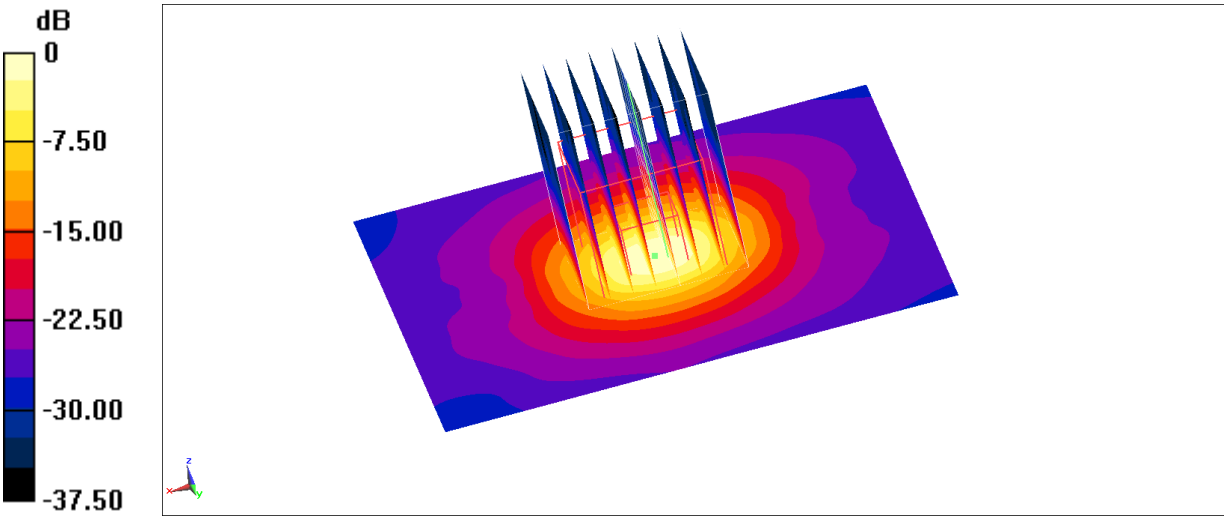
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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 dB = 18.6 W/kg = 12.70 dBW/kg

©Copyright. All rights reserved by CTTL.

5600 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 5600 MHz; σ = 5.133 S/m; εr = 34.74; ρ = 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

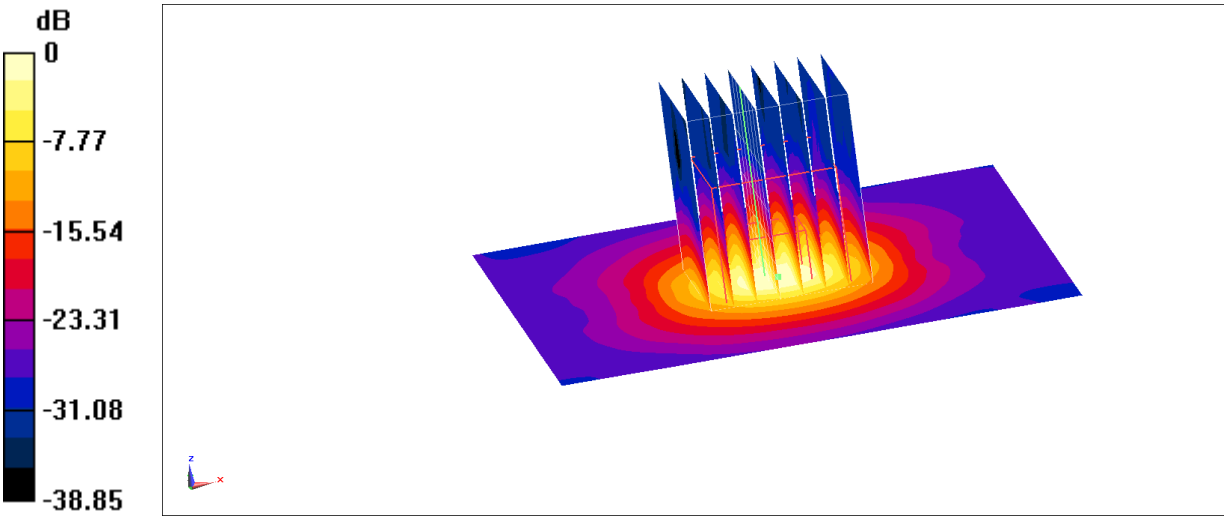
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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

©Copyright. All rights reserved by CTTL.

5750 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used: f = 5750 MHz; σ = 5.305 S/m; εr = 34.44; ρ = 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

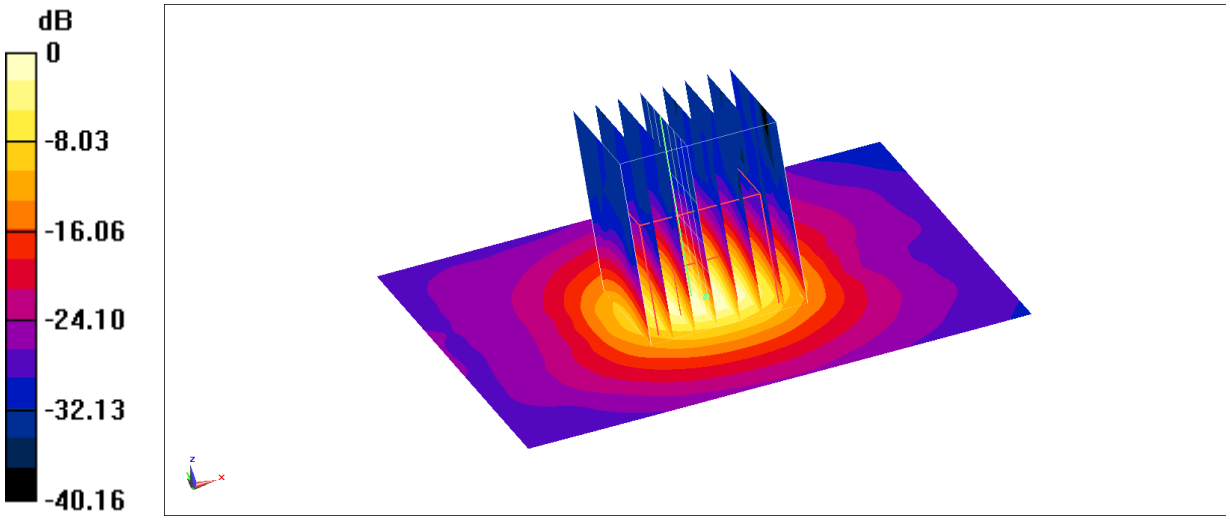
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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 dB = 19.4 W/kg = 12.88 dBW/kg

©Copyright. All rights reserved by CTTL.

5250 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: f = 5250 MHz; σ = 4.619 S/m; εr = 35; ρ = 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

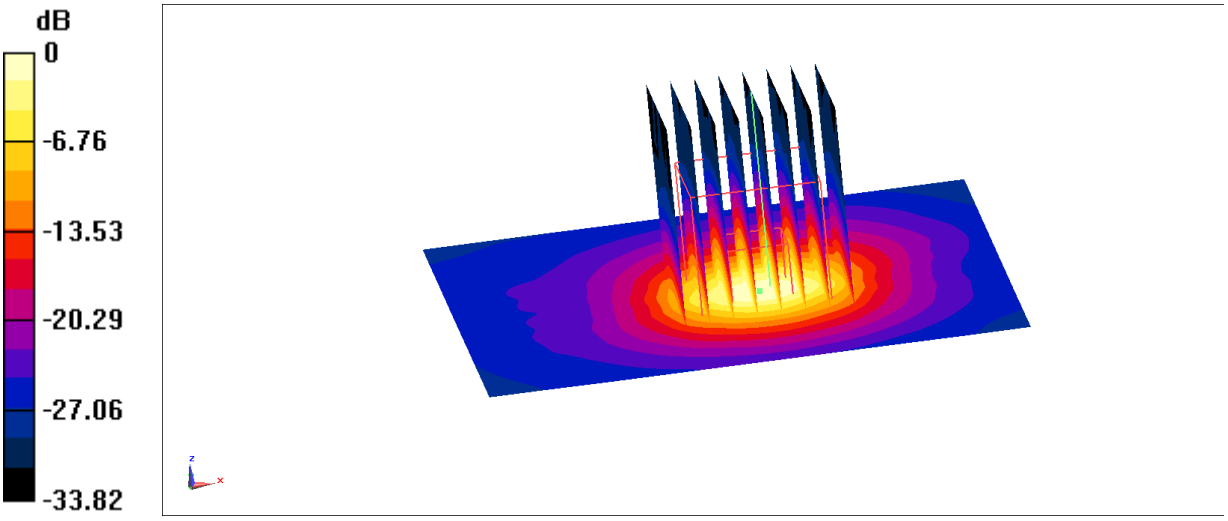
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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

©Copyright. All rights reserved by CTTL.

5600 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: f = 5600 MHz; σ = 5.009 S/m; εr = 34.03; ρ = 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

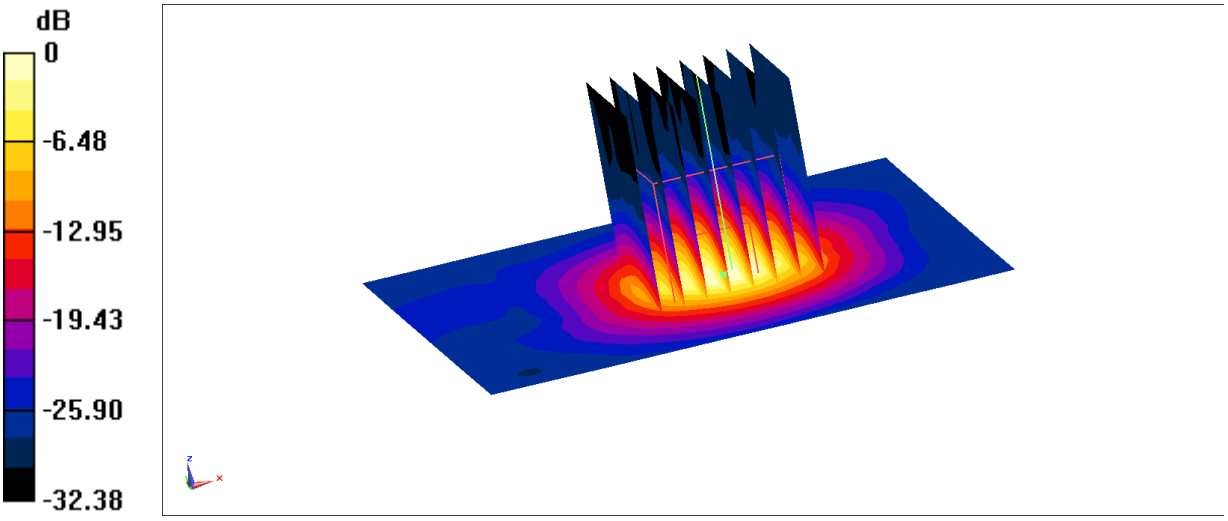
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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

©Copyright. All rights reserved by CTTL.

5750 MHz

Date: 2024-06-05

Electronics: DAE4 Sn1556

Medium: H700-6000M

Medium parameters used: f = 5750 MHz; σ = 5.207 S/m; εr = 33.75; ρ = 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

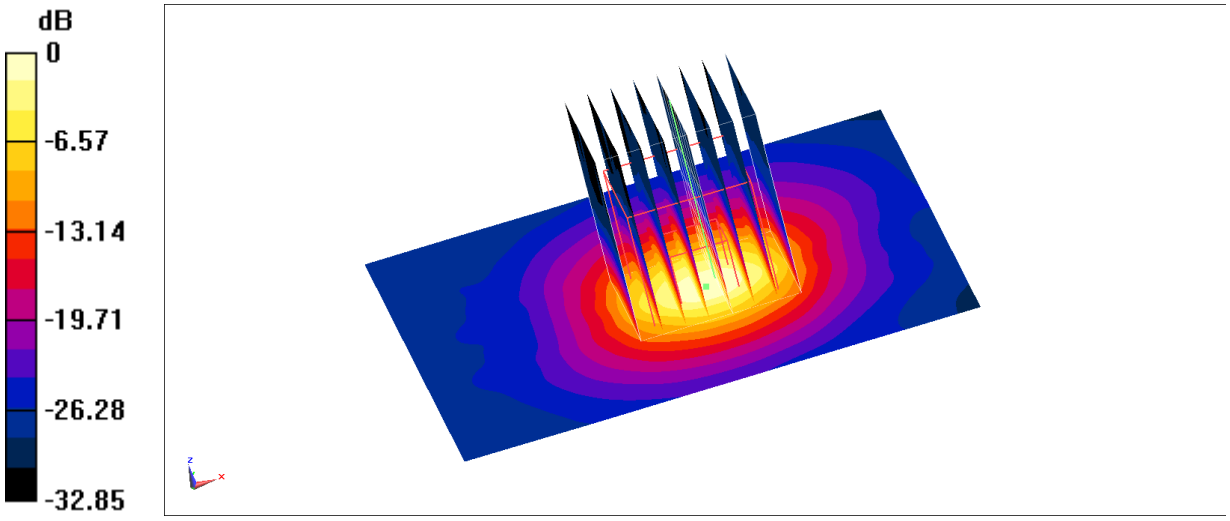
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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 dB = 19.3 W/kg = 12.86 dBW/kg

©Copyright. All rights reserved by CTTL.

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

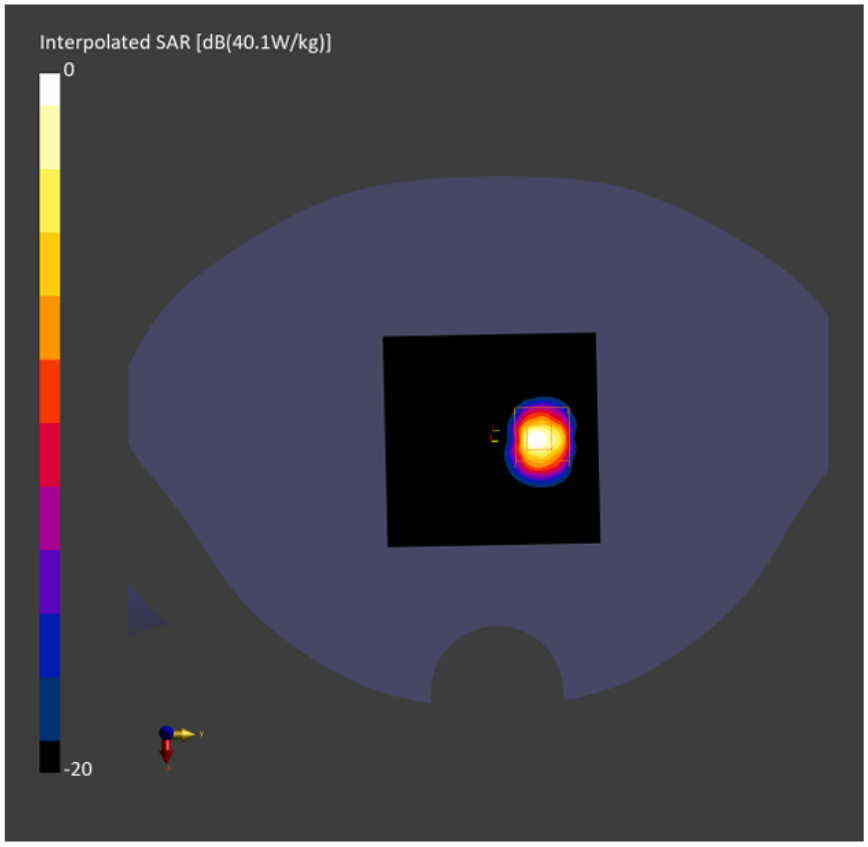
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V4.0 (30deg probe tilt) - 1456	HBBL-600-10000 Charge:xxxx, --	EX3DV4 - SN7464, 2024-01-22	DAE4 Sn1525, 2023-09-14

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



©Copyright. All rights reserved by CTTL.

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

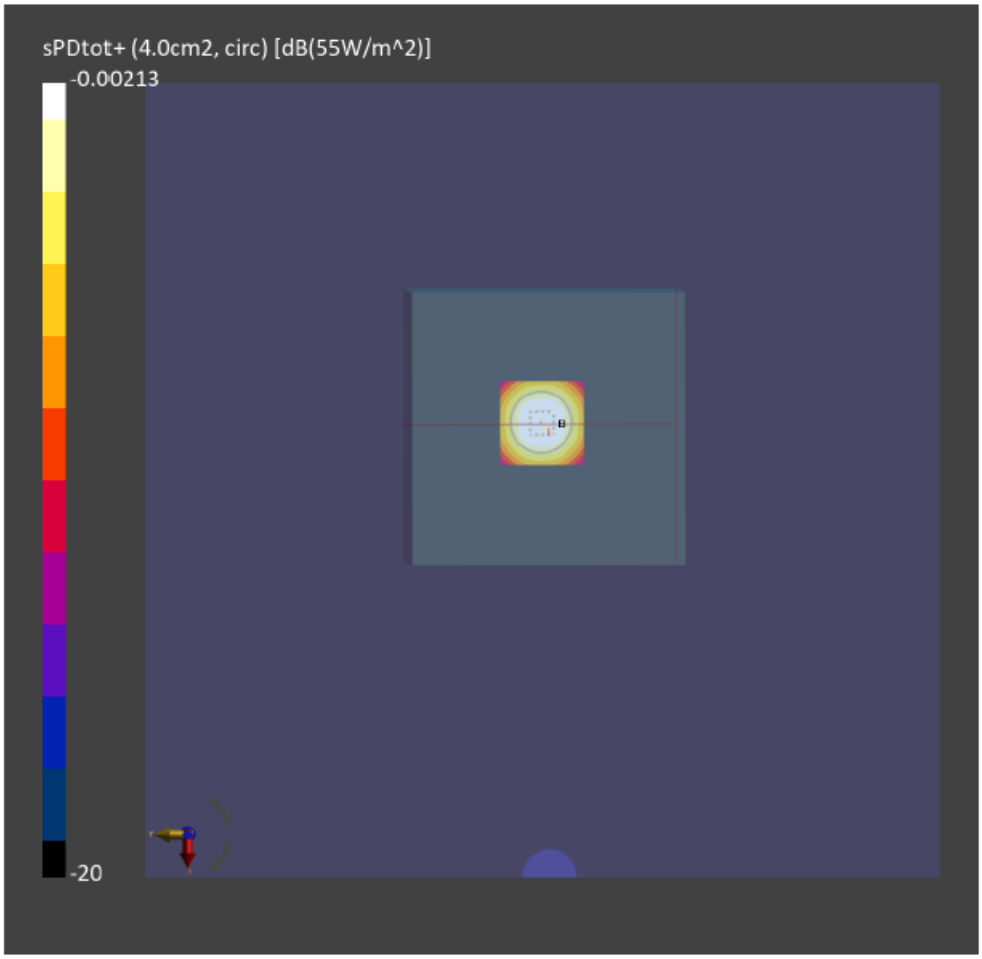
Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - xxxx	Air -	EUmmWV4 - SN9492_F1-55GHz, 2023-06-19	DAE4 Sn1525, 2023-09-14

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 [cm²]	4.00
psPDn+ [W/m2]	55.0
psPDtot+ [W/m2]	55.0
psPDmod+ [W/m2]	55.2
E_{max} [V/m]	151
Power Drift [dB]	0.01

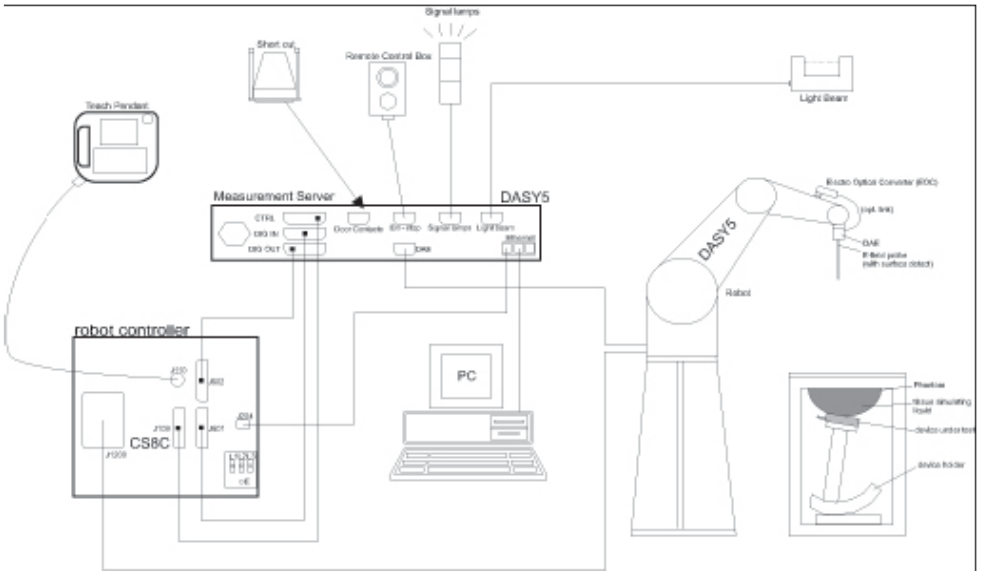


©Copyright. All rights reserved by CTTL.

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.1SAR 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.

©Copyright. All rights reserved by CTTL.

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 durning a software approach and looks for the maximum using 2nd ord 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 ofmobile phones
Dosimetry in strong gradient fields

Picture C.2Near-field Probe

Picture C.3E-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/cm^2) 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 inn a waveguide or

©Copyright. All rights reserved by CTTL.

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/cm^2.

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/m^3).

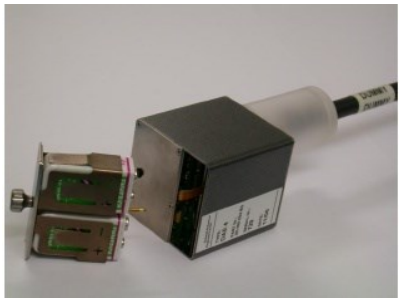
C.4 Other Test Equipment

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

©Copyright. All rights reserved by CTTL.

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 broad 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 broad, which is directly connected to the PC/104 bus of the CPU broad.

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

©Copyright. All rights reserved by CTTL.

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 ±0.5mm would produce a SAR uncertainty of ±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.

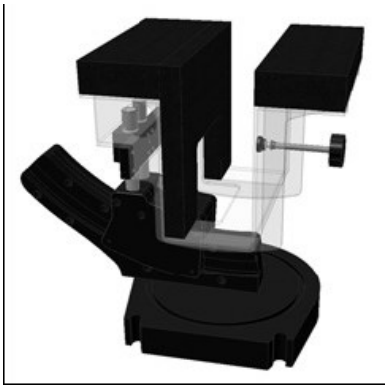
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference 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 ε=3 and loss tangent δ=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 l000 x 500 mm (H x L x W)
Available: Special

©Copyright. All rights reserved by CTTL.

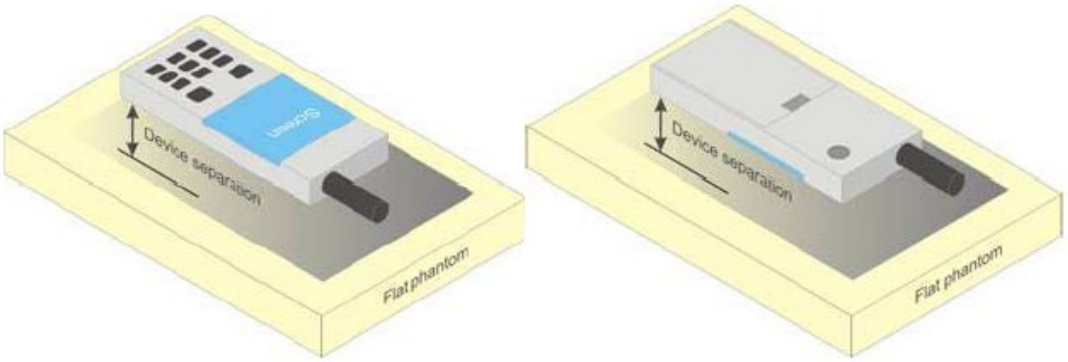
Picture C.8: SAM Twin Phantom

©Copyright. All rights reserved by CTTL.

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.



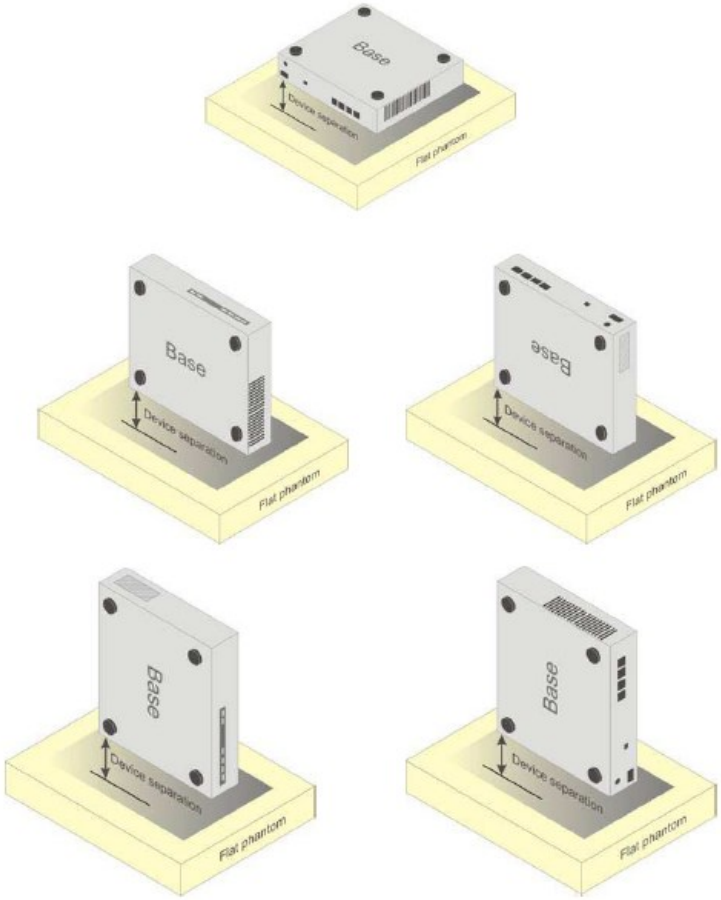
Picture D.1 Test positions for body-worn devices

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.

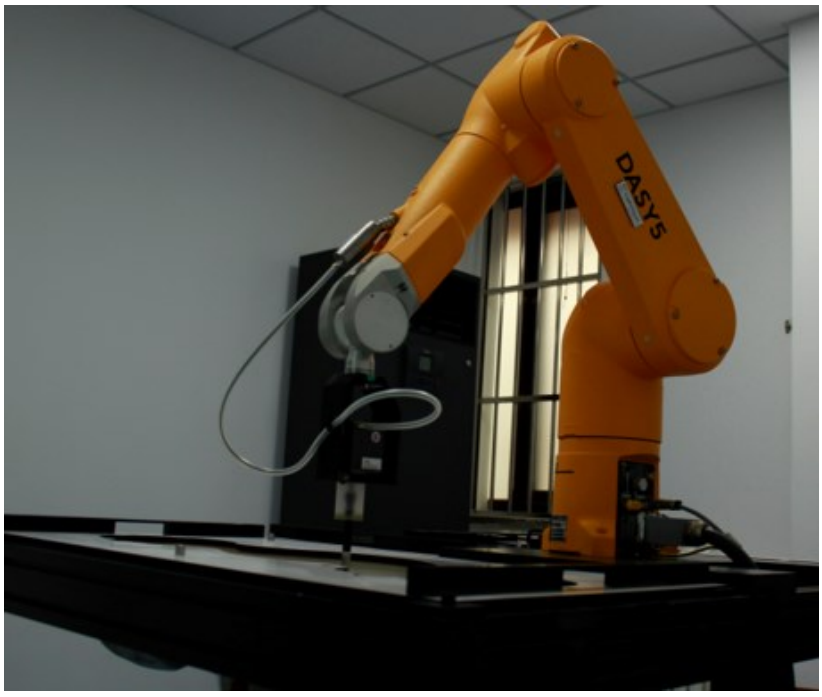
The DUT shall be positioned at the distance and in the orientation to the phantom that corresponds to the intended use as specified by the manufacturer in the user instructions. For devices that employ an external antenna with variable positions, tests shall be performed for all antenna positions specified. Picture8.5 show positions for desktop device SAR tests. If the intended use is not specified, the device shall be tested directly against the flat phantom.

©Copyright. All rights reserved by CTTL.



Picture D.2 Test positions for desktop devices

D.3 DUT Setup Photos



Picture D.3

©Copyright. All rights reserved by CTTL.

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	\	\
Diethylenglycol monohexylether	\	\	\	\	\	\	17.24	17.24
Triton X-100	\	\	\	\	\	\	17.24	17.24
Dielectric Parameters Target Value	ε=41.5 σ=0.90	ε=55.2 σ=0.97	ε=40.0 σ=1.40	ε=53.3 σ=1.52	ε=39.2 σ=1.80	ε=52.7 σ=1.95	ε=35.3 σ=5.27	ε=48.2 σ=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.

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

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

©Copyright. All rights reserved by CTTL.

ANNEX G Probe Calibration Certificate

Probe 7673 Calibration Certificate

In Collaboration with
CALIBRATION LABORATORY
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)℃ 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

	Name	Function	Signature
Calibrated by:	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 Page 1 of 9

©Copyright. All rights reserved by CTTL.

In Collaboration with
s p e a g
CALIBRATION LABORATORY

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,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 θ=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:

a) 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

b) 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

c) 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

d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization θ=0 (f≤900MHz in TEM-cell; f>1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below ConvF).
- *NORM(f)x,y,z = NORMx,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.
- *Ax,y,z; Bx,y,z; Cx,y,z;VRx,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≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. 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 NORMx,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±50MHz to±100MHz.
- *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 *NORMx* (no uncertainty required).

©Copyright. All rights reserved by CTTL.

In Collaboration with
s p e a g
CALIBRATION LABORATORY

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

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

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (*k*=2)
Norm(μV/(V/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] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

©Copyright. All rights reserved by CTTL.