



SAR TEST REPORT

No. I20Z60959-SEM07

For

OnePlus Technology (Shenzhen) Co., Ltd.

Smart Phone

Model Name: BE2028,BE2025,BE2026

with

Hardware Version: 16

Software Version: 10.5.5.BE88CB

FCC ID: 2ABZ2-EF170

Issued Date: 2020-12-25

Note:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I20Z60959-SEM07	Rev.0	2020-10-13	Initial creation of test report
I20Z60959-SEM07	Rev.1	2020-11-12	1. Add some FCC TCBC presentations as the appropriate test guidance on section5.2. 2. Add evaluation procedures for WIFI-5G+BT and WIFI-2.4G Chain1+BT on section13.
I20Z60959-SEM07	Rev.2	2020-11-17	1. Update power level list in Table11 on section 11. 2. Add detail information for ENDC SAR on Table 13.6.
I20Z60959-SEM07	Rev.3	2020-12-25	1. Add picture of rear separation 4mm and Rear/Bottom/Top separation 0mm on the file of photos. 2. Revise the description of proximity sensor on page32. 3. Revise tables of CA power on page79 and page80. 4. Add SAR measurement plot for extremity SAR testing on page196.

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1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

1.2 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω
Ambient noise & Reflection:	< 0.012 W/kg

1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	September 22, 2020
Testing End Date:	October 3, 2020

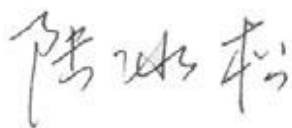
1.4 Signature



Lin Xiaojun
(Prepared this test report)



Qi Dianyuan
(Reviewed this test report)



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

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for OnePlus Technology (Shenzhen) Co., Ltd. Smart Phone BE2028,BE2025,BE2026 is as follows:

Table 2.1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg)	Equipment Class
Head (Separation Distance 0mm)	GSM850	0.33	PCE
	GSM1900	0.19	
	WCDMA1900	0.41	
	WCDMA1700	0.27	
	WCDMA 850	0.32	
	CDMA BC0	0.22	
	CDMA BC1	0.34	
	CDMA BC10	0.24	
	LTE Band2	0.36	
	LTE Band7	0.02	
	LTE Band12	0.25	
	LTE Band13	0.11	
	LTE Band25	0.36	
	LTE Band26	0.32	
	LTE Band41(PC3)	0.03	
	LTE Band41(PC2)	0.02	
	LTE Band66	0.29	
	LTE Band71	0.15	
	5G n2(NSA)	0.18	
	5G n5(NSA)	0.15	
	5G n25(SA/NSA)	0.31	
	5G n41 PC2(SA/NSA)	0.95	
	5G n66(SA/NSA)	0.19	
	5G n71(SA/NSA)	0.15	
	WLAN 2.4 GHz	0.68	DTS
	WLAN 5 GHz	0.69	NII
Hotspot (Separation Distance 10mm)	GSM850	0.87	PCE
	GSM1900	0.42	
	WCDMA1900	0.86	
	WCDMA1700	0.79	
	WCDMA 850	0.29	
	CDMA BC0	0.40	
	CDMA BC1	0.92	
	CDMA BC10	0.30	
	LTE Band2	0.51	
	LTE Band7	0.61	
	LTE Band12	0.54	
	LTE Band13	0.22	
	LTE Band25	0.73	
	LTE Band26	0.50	
	LTE Band41(PC3)	0.39	

	LTE Band41(PC2)	0.43	
	LTE Band66	0.76	
	LTE Band71	0.31	
	5G n2(NSA)	0.31	
	5G n5(NSA)	0.17	
	5G n25(SA/NSA)	0.56	
	5G n41 PC2(SA)	1.10	
	5G n41 PC2(NSA)	0.56	
	5G n66(SA/NSA)	0.62	
	5G n66(NSA)	0.38	
	5G n71(SA/NSA)	0.32	
	WLAN 2.4 GHz	0.42	DTS
	WLAN 5 GHz	0.44	NII
Body-worn (Separation Distance 15mm)	WCDMA1900	0.51	PCE
	CDMA BC1	0.56	
	LTE Band7	0.21	
	LTE Band25	0.47	
	5G n2(NSA)	0.29	
	5G n25(SA/NSA)	0.47	
	5G n41 PC2	0.49	
	5G n66	0.27	
	WLAN 2.4 GHz	0.43	DTS
	WLAN 5 GHz	0.46	NII

The SAR values found for the Mobile Phone 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 10/15 mm 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: **1.10 W/kg(1g)**.

Remark:

This device supports both LTE B4/5/38/17 and B66/26/41/12. Since the supported frequency span for LTE B4/5/38/17 falls completely within the supports frequency span for LTE B66/26/41/12, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66/26/41/12.

Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G MIMO

	Position	Main antenna	WiFi-2.4G MIMO	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	0.21	1.16
Highest SAR value for Body	Rear 10mm (ENDC N5+LTE Band66)	1.05	0.24	1.29

Table 2.3: The sum of SAR values for Main antenna + WiFi-5G MIMO

	Position	Main antenna	WiFi-5G MIMO	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	0.21	1.16
Highest SAR value for Body	Rear 10mm (ENDC N5+LTE Band66)	1.05	0.23	1.28

Table 2.4: The sum of SAR values for Main antenna +BT

	Position	Main antenna	BT	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	<0.01	0.95
Highest SAR value for Body	Rear 10mm (ENDC N5+LTE Band66)	1.05	<0.01	1.05

Table 2.5: The sum of SAR values for Wifi5G +BT

	Position	WiFi-5G MIMO	BT	Sum
Highest SAR value for Head	Left head, Tilt	0.69	<0.01	0.69
Highest SAR value for Body	Rear 10mm (ENDC N5+LTE Band66)	0.46	<0.01	0.46

Table 2.6: The sum of SAR values for Wifi2.4G Chain1 +BT

	Position	WiFi-2.4G MIMO	BT	Sum
Highest SAR value for Head	Left head, Tilt	0.68	<0.01	0.68
Highest SAR value for Body	Rear 10mm (ENDC N5+LTE Band66)	0.43	<0.01	0.43

Table 2.5: The SAR values for ENDC

	LTE	NR	Position	Reported SAR 1g(W/kg)
ENDC	LTE Band2	N5	Head	0.51
			Body	0.80
	LTE Band2	N41 PC2	Head	0.50
			Body	0.78
	LTE Band2	N71	Head	0.49
			Body	0.75
	LTE Band 12	N2	Head	0.49
			Body	0.91
	LTE Band 12	N25	Head	0.51
			Body	1.01
	LTE Band 12	N66	Head	0.39
			Body	0.83
	LTE Band 25	N41(PC2)	Head	0.44
			Body	0.95
	LTE Band 66	N5	Head	0.44
			Body	1.05
	LTE Band 66	N41	Head	0.37
			Body	1.03
	LTE Band 66	N71	Head	0.32
			Body	1.00

According to the above tables, the highest sum of reported SAR values is **1.29 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

According to the KDB648474 D04, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg

Table 2.6: 0mm Reported SAR for phablet

Exposure Configuration	Technology Band	Highest Reported SAR 10g(W/kg)	Limited SAR 10g(W/kg)
10-g extremity SAR (Separation Distance 0mm)	WCDMA1900	2.42	4.0
	CDMA BC1	3.17	
	ENDC B2-N41	1.74	
	ENDC B25-N41	2.25	
	ENDC B66-N41	2.09	
	ENDC B66-N5	2.07	
	ENDC B66-N71	1.79	

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
Contact Person:	Ariel Cheng
Contact Email:	ariel.cheng@oneplus.com
Telephone:	13823398081

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
Contact Person:	Ariel Cheng
Contact Email:	Ariel.cheng@oneplus.com
Telephone:	13823398081

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

4.1 About EUT

Description:	OnePlus Technology (Shenzhen) Co., Ltd.
Model name:	BE2028,BE2025,BE2026
Operating mode(s):	GSM850/900/1800/1900, WCDMA B1/B2/B4/B5/B8 CDMABC0/1/10 LTEBand1/2/3/4/5/7/8/12/13/17/20/25/26/28/38/39/40/41/66/71, BT, Wi-Fi(2.4G/5G) / 5G NR n2/n5/n25/n41/n66/n71 NFC
Tested Tx Frequency:	824 – 849 MHz (GSM 850)
	1850 – 1910 MHz (GSM 1900)
	824 – 849 MHz (WCDMA 850 Band V)
	1850 – 1910 MHz (WCDMA1900 Band IV)
	1710-1755 MHz (WCDMA1700 Band II)
	824.7 - 848.31 MHz (CDMA BC0)
	1851.25 - 1908.75 MHz (CDMA BC1)
	817.9 - 823.1 MHz (CDMA BC10)
	1850.7 – 1909.3 MHz (LTE Band 2)
	2500 – 2570 MHz (LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	779.5 –784.5 MHz (LTE Band 13)
	1850.7 –1914.3 MHz (LTE Band 25)
	814.7–848.3 MHz (LTE Band 26)
	2498.5 – 2687.5 MHz (LTE Band41)
	1710.7 –1779.3 MHz (LTE Band 66)
	665.5 – 695.5 MHz (LTE Band 71)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	5180 – 5240 MHz (Wi-Fi 5.2G)
	5260 – 5320 MHz (Wi-Fi 5.3G)
	5500 – 5720 MHz (Wi-Fi 5.5G)
	5745 – 5825 MHz (Wi-Fi 5.8G)
	2400 – 2483.5 MHz (Bluetooth)
	1850 – 1910 MHz(n2)
	824 – 849 MHz(n5)
	1850 – 1915 MHz(n25)
	2496 – 2690 MHz(n41)
	1710 – 1780 MHz(n66)
	663 – 698 MHz(n71)
	13.56 MHz(NFC)
GPRS/EGPRS Multislot Class:	33
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	HW Version	SW Version
EUT1	990016800147728	16	10.5.5.BE88CB
EUT2	990016800071852	16	10.5.5.BE88CB
EUT3	990016800147728	16	10.5.5.BE88CB
EUT4	990016800147728	16	10.5.5.BE88CB
EUT5	990016800126698	16	10.5.5.BE88CB
EUT6	99001680012669	16	10.5.5.BE88CB
EUT7	990016800126441	16	10.5.5.BE88CB
EUT8	990016800147728	16	10.5.5.BE88CB
EUT9	990016800126698	16	10.5.5.BE88CB

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

Note: It is performed to do SAR with the EUT1~4 and conducted power with the EUT5~9.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	BLP815	/	Dongguan NVT Technology Co.,Ltd.
AE1	Headset	MH156	/	Jiangxi Risound Electronics Co.,Ltd

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

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

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

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

5.2 Applicable Measurement Standards

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

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

KDB648474 D04 Handset SAR v01r03: SAR Evaluation Considerations for Wireless Handsets.

KDB941225 D01 SAR test for 3G devices v03r01: SAR Measurement Procedures for 3G Devices

KDB941225 D05 SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices

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 D01SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 D02RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations

TCB Workshop Nov 2017:RF Exposure Procedures (Carrier Aggregation SAR)

TCB Workshop Nov 2019:RF Exposure Policy Updates (5G NR NSA Sub 6G SAR)

6 Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

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

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

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

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

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

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

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

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

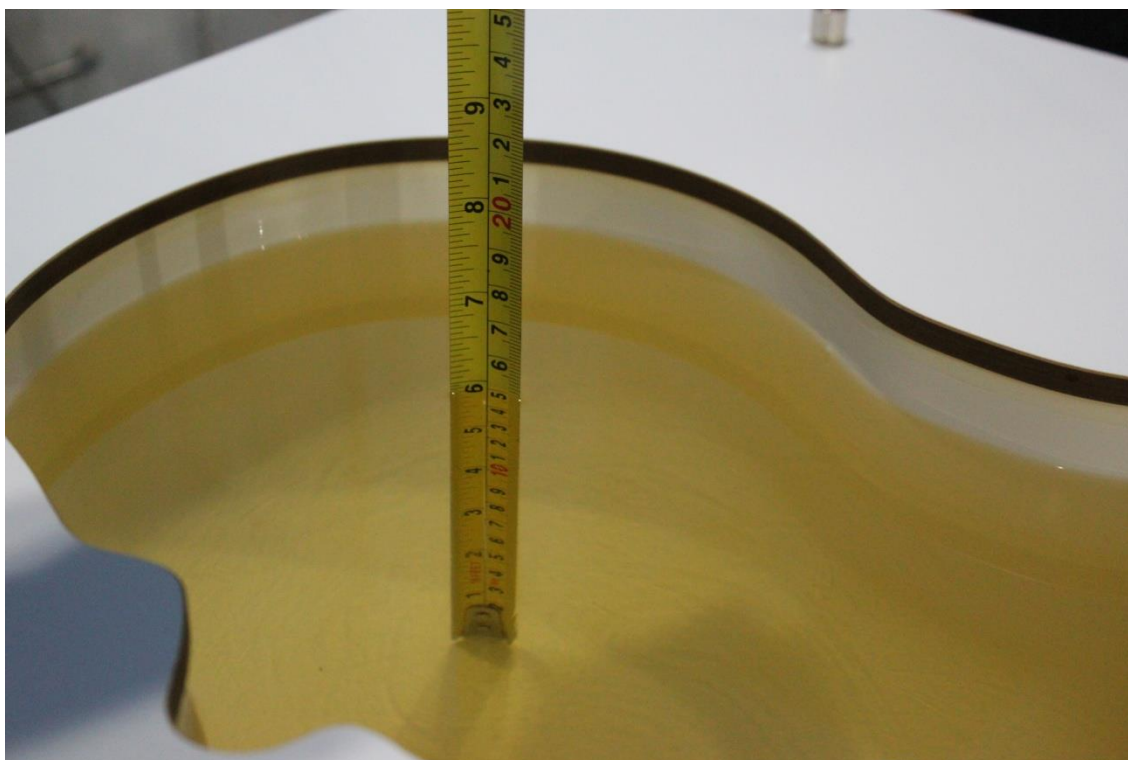
Frequency(MHz)	Liquid Type	Conductivity(σ)	$\pm 5\%$ Range	Permittivity(ϵ)	$\pm 5\%$ Range
750	Head	0.89	0.85~0.93	41.94	39.8~44.0
835	Head	0.90	0.86~0.95	41.5	39.4~43.6
1750	Head	1.37	1.30~1.44	40.08	38.1~42.1
1900	Head	1.40	1.33~1.47	40.0	38.0~42.0
2450	Head	1.67	1.59~1.75	39.47	37.5~41.4
2600	Head	1.96	1.86~2.06	39.01	37.1~41.0
5250	Head	4.66	4.43~4.89	35.99	34.19~37.79
5600	Head	5.07	4.82~5.32	35.53	33.75~37.31
5750	Head	5.27	5.01~5.53	35.3	33.5~37.1

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 (%)
2020-9-21	Head	750 MHz	42.07	0.31	0.897	0.79
2020-9-22	Head	835 MHz	41.45	-0.12	0.884	-1.78
2020-9-23	Head	835 MHz	41.27	-0.55	0.89	-1.78
2020-9-24	Head	1750 MHz	39.44	-1.60	1.374	0.29
2020-9-25	Head	1750 MHz	40.13	0.12	1.345	-1.82
2020-9-26	Head	1900 MHz	39.33	-1.68	1.382	-1.29
2020-9-27	Head	1900 MHz	39.77	-0.57	1.413	0.93
2020-9-28	Head	2450 MHz	39.22	0.05	1.813	0.72
2020-9-29	Head	2600 MHz	38.4	-1.56	1.96	0.00
2020-9-30	Head	2600 MHz	39.6	1.51	1.974	0.71
2020-10-1	Head	5250 MHz	35.43	-1.39	4.701	-0.19
2020-10-2	Head	5600 MHz	35.18	-0.99	5.024	-0.91
2020-10-3	Head	5750 MHz	36.01	1.84	5.248	0.54

Note: The liquid temperature is 22.0°C



Picture 7-1 Liquid depth in the Head Phantom (750MHz)



Picture 7-2 Liquid depth in the Flat Phantom (750MHz)



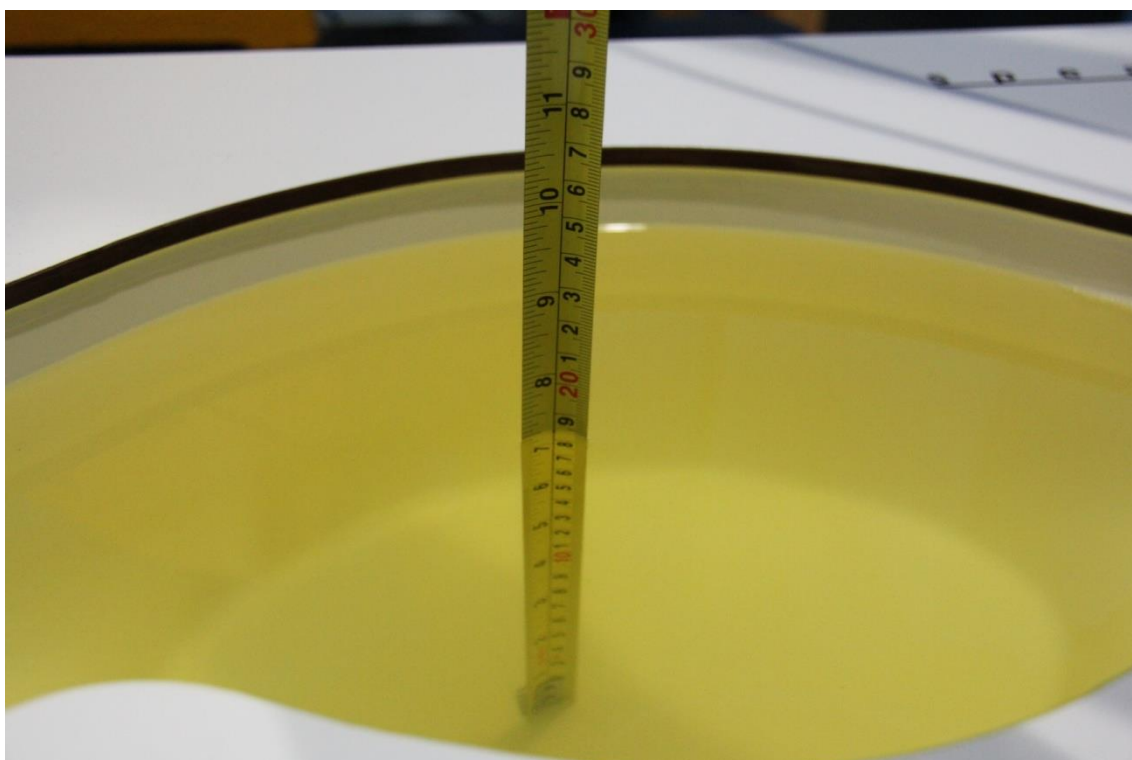
Picture 7-3 Liquid depth in the Head Phantom (835 MHz)



Picture 7-4 Liquid depth in the Flat Phantom (835 MHz)



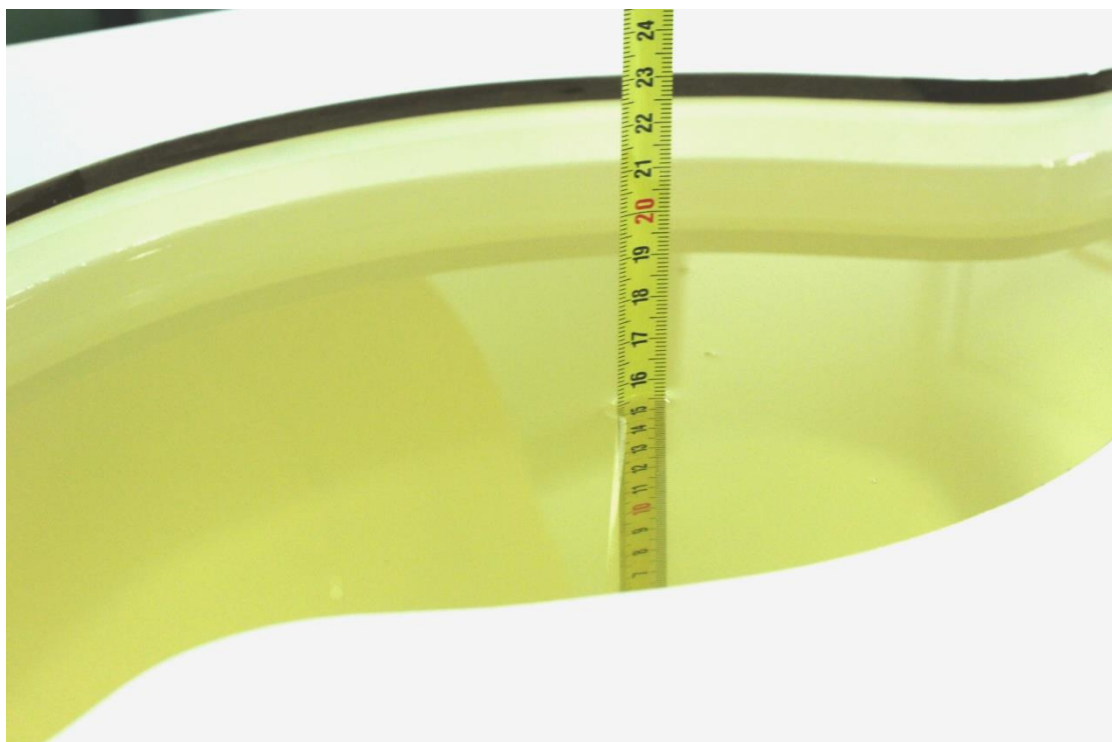
Picture 7-5 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-6 Liquid depth in the Flat Phantom (1900MHz)



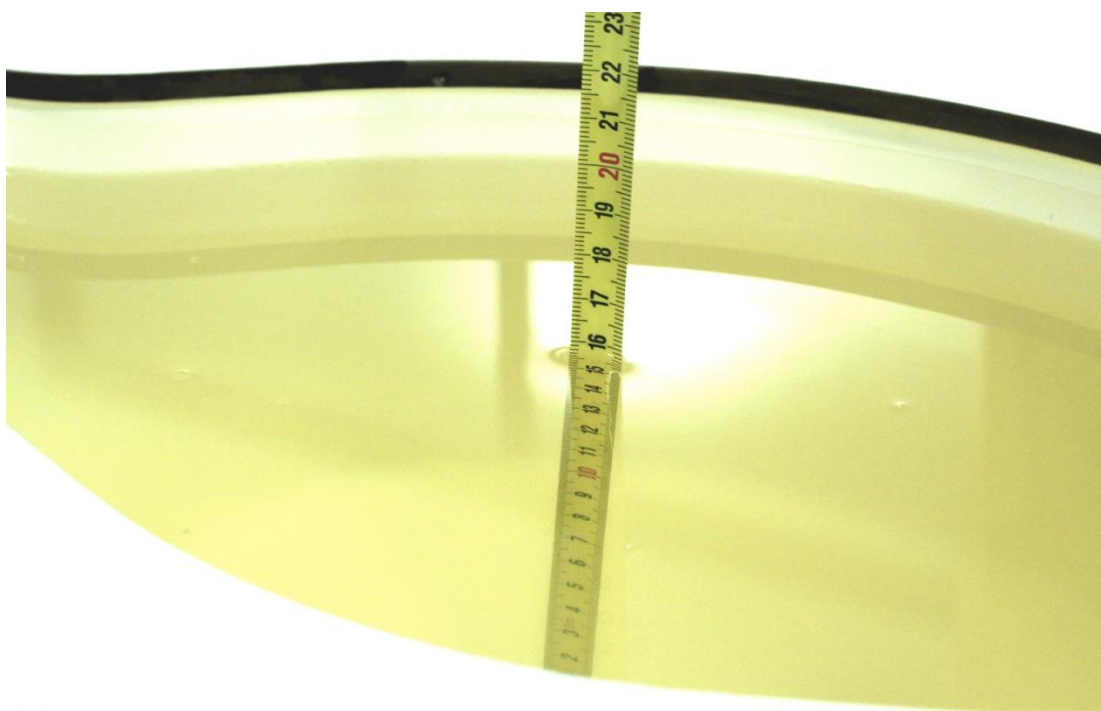
Picture 7-7 Liquid depth in the Head Phantom (2450MHz)



Picture 7-8 Liquid depth in the Flat Phantom (2450MHz)



Picture 7-9 Liquid depth in the Head Phantom (2600 MHz)



Picture 7-10 Liquid depth in the Flat Phantom (2600MHz)



Picture 7-11 Liquid depth in the Head Phantom (5GHz)

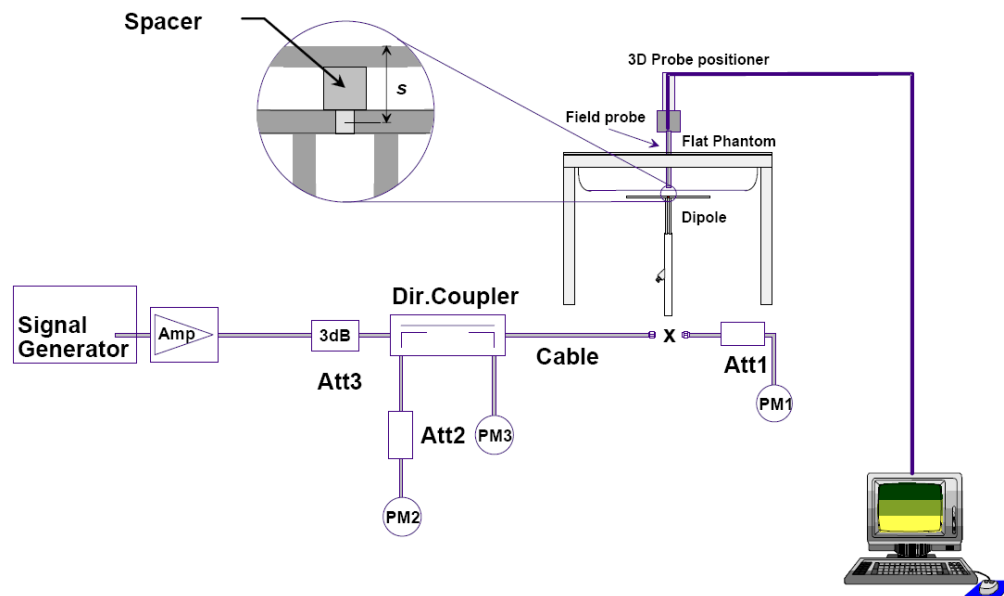


Picture 7-12 Liquid depth in the Flat Phantom (5GHz)

8 System verification

8.1 System Setup

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



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

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

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

Table 8.1: System Verification of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2020-9-21	750 MHz	5.53	8.47	5.6	8.44	1.27%	-0.35%
2020-9-22	835 MHz	6.25	9.60	6.2	9.68	-0.80%	0.83%
2020-9-23	835 MHz	6.25	9.60	6.32	9.44	1.12%	-1.67%
2020-9-24	1750 MHz	19.1	36.5	19.04	36	-0.31%	-1.37%
2020-9-25	1750 MHz	19.1	36.5	19.04	35.8	-0.31%	-1.92%
2020-9-26	1900 MHz	20.6	39.6	20.96	39.68	1.75%	0.20%
2020-9-27	1900 MHz	20.6	39.6	20.36	39.6	-1.17%	0.00%
2020-9-28	2450 MHz	24.5	52.5	24.28	51.76	-0.90%	-1.41%
2020-9-29	2600 MHz	25.3	57.0	25.44	55.88	0.55%	-1.96%
2020-9-30	2600 MHz	25.3	57.0	25.44	56.12	0.55%	-1.54%
2020-10-1	5250 MHz	22.9	80.5	23.3	80.8	1.66%	0.37%
2020-10-2	5600 MHz	23.6	83.3	23.7	82.3	0.34%	-1.18%
2020-10-3	5750 MHz	22.7	80.4	22.7	80.6	0.09%	0.20%

9 Measurement Procedures

9.1 Tests to be performed

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

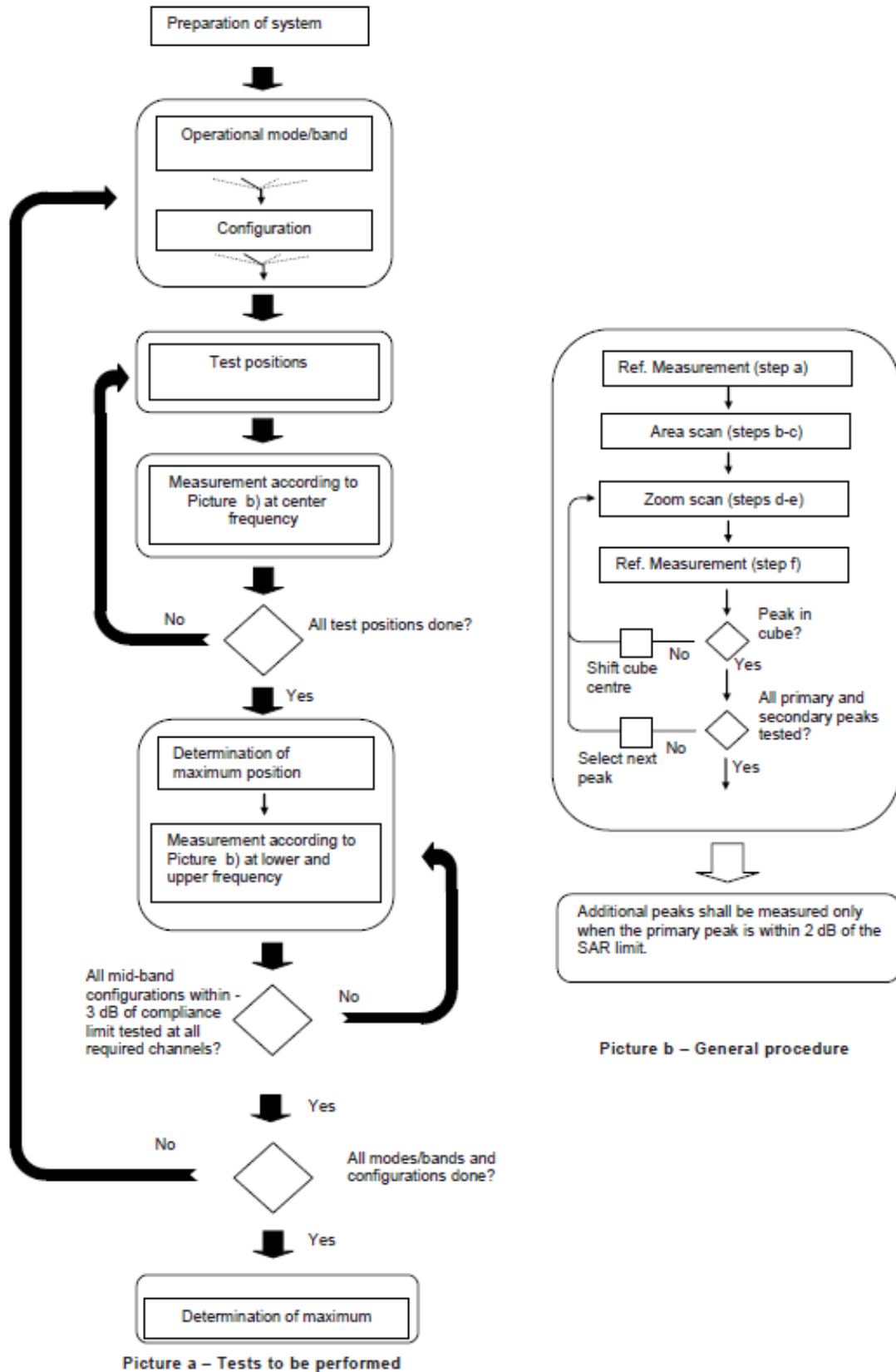
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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

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

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

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



Picture 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

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

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			$30^{\circ} \pm 1^{\circ}$	$20^{\circ} \pm 1^{\circ}$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH_n), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

For Release 5 HSDPA Data Devices:

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	CM/dB
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/25	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

For Release 6 HSPA Data Devices

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.5	1.5	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	1.5	1.5	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	1.5	1.5	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	1.5	1.5	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.5	1.5	21	81

Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

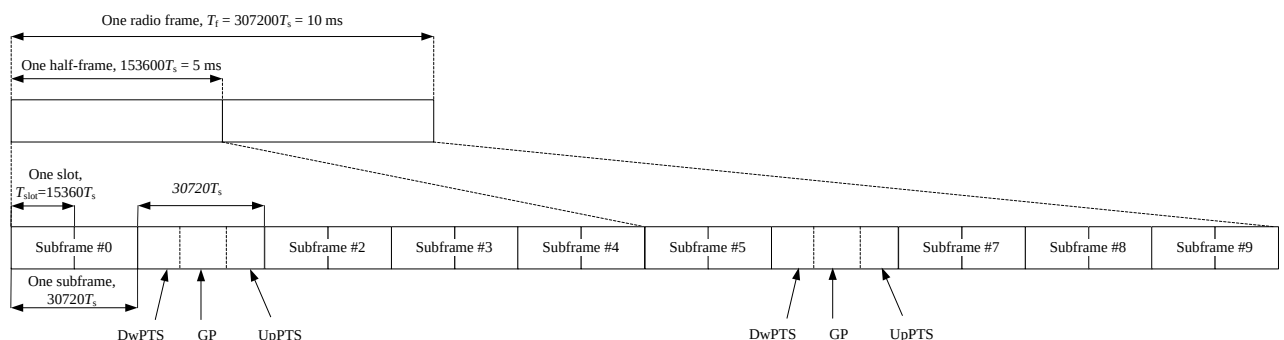


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Table 9.2: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Duty factor is calculated by:

$$\begin{aligned}
 \text{Duty factor} &= \text{uplink frame} \cdot 6 + \text{UpPTS} \cdot 2 / \text{one frame length} \\
 &= (30720 \cdot T_s \cdot 6 + 5120 \cdot T_s \cdot 2) / 307200 \cdot T_s \\
 &= 0.633
 \end{aligned}$$

9.5 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.

9.6 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

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

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

10.2 Fast SAR Algorithms

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

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

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

Both algorithms are implemented in DASY software.

11 Conducted Output Power

There are five sets of tune-up power, Normal power and Low power (Receiver on / Hotspot)

Table11: Summary of Receiver detection mechanism

Antenna	Receiver on (head scenario -Standalone)	Receiver on (head scenario -with WWAN/WIFI)	Receiver off + Hotspot on (Body/other scenario - standalone)	Receiver off + Hotspot on (Body/other scenario-with WWAN/WIFI)
Main Antenna/ Wifi Antenna	Power Level A1	Power Level B1 for SA, Power Level B2 for NSA	Power Level C1	Power Level D1

"Standalone" means Main antenna or Wifi antenna transmit alone. "With WWAN/WIFI" means main antenna and Wifi antenna transmit simultaneously. A1&C1 is for the situation of antenna transmit alone, B1(B2)&D1 is for the situation of antenna transmit simultaneously.

For WWAN/WIFI, when the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at N41/Wifi2.4G/Wifi5G. When the phone hotspot worked, then power reduction will be implemented immediately at WCDMA B2, CDMABC1 and LTEB2/B4/B7/B25/ B66, 5G NR N41/N2/N25/N66,WIFI2.4G/WIFI5G.

This device supports power reduction with the proximity sensor, when the proximity sensor is active, then power reduction will be implemented immediately at WCDMA B2, CDMA BC1, LTE B2/B4/B25/B66, 5G NR N41. Please see detail information in ANNEX I.

11.1 GSM Measurement result

During the process of testing, the EUT was controlled via Agilent Digital Radio Communication tester (E5515C) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

Table 11.1-1: The conducted power measurement results-Normal power

GSM 850 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	33.01	32.96	33.09	34.00	/	/	/	/
GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	33.01	32.92	33.03	34.00	-9.03	23.98	23.89	24.00
2 Txslots	31.55	31.46	31.49	32.50	-6.02	25.53	25.44	25.47
3Txslots	28.80	28.85	28.93	30.00	-4.26	24.54	24.59	24.67
4 Txslots	27.77	27.81	27.90	29.00	-3.01	24.76	24.80	24.89
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.98	32.89	33.01	34.00	-9.03	23.95	23.86	23.98
2 Txslots	30.89	30.89	31.00	32.50	-6.02	24.87	24.87	24.98
3Txslots	28.77	28.82	28.89	30.00	-4.26	24.51	24.56	24.63
4 Txslots	27.72	27.79	27.86	29.00	-3.01	24.71	24.78	24.85
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.23	26.39	26.31	28.00	-9.03	17.20	17.36	17.28
2 Txslots	26.09	26.03	26.14	27.00	-6.02	20.07	20.01	20.12
3Txslots	24.16	23.97	24.13	25.00	-4.26	19.90	19.71	19.87
4 Txslots	22.63	23.31	22.58	24.00	-3.01	19.62	20.30	19.57
PCS1900 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.98	29.99	30.14	31.00	/	/	/	/
PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.95	29.92	30.05	31.00	-9.03	20.92	20.89	21.02
2 Txslots	26.86	26.99	27.17	29.00	-6.02	20.84	20.97	21.15
3Txslots	25.44	25.61	25.79	27.00	-4.26	21.18	21.35	21.53
4 Txslots	24.80	24.76	25.06	26.00	-3.01	21.79	21.75	22.05
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.91	29.90	30.03	31.00	-9.03	20.88	20.87	21.00
2 Txslots	26.81	26.95	27.14	29.00	-6.02	20.79	20.93	21.12
3Txslots	25.39	25.56	25.76	27.00	-4.26	21.13	21.30	21.50
4 Txslots	24.74	24.73	25.03	26.00	-3.01	21.73	21.72	22.02

PCS1900 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.53	25.50	25.74	27.00	-9.03	16.50	16.47	16.71
2 Txslots	24.16	24.47	24.47	26.00	-6.02	18.14	18.45	18.45
3Txslots	23.39	24.06	23.70	25.00	-4.26	19.13	19.80	19.44
4 Txslots	22.68	22.93	22.71	24.00	-3.01	19.67	19.92	19.70

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 2Txslots for GSM850 and 4Txslots for GSM1900.

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA-Normal power

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	24.50	24.45	24.39	25
HSUPA	23.23	23.20	23.20	23.5
	23.13	23.23	23.16	23.5
	23.21	23.26	23.20	24.5
	22.89	22.87	22.88	23
	23.16	23.22	23.20	24.5
DC-HSDPA	23.18	23.21	23.15	24.5
	23.18	23.25	23.19	24.5
	22.74	22.73	22.72	24.5
	22.73	22.72	22.74	24.5
WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	24.63	24.65	24.59	25
HSUPA	23	22.99	22.99	23.5
	22.91	23.05	22.92	23.5
	22.95	23.00	22.98	24.5
	22.85	22.87	22.85	23
	23.01	23.01	23.02	24.5
DC-HSDPA	22.94	23.07	23.00	24.5
	22.97	23.00	22.99	24.5
	22.76	22.75	22.75	24.5
	22.77	22.75	22.74	24.5

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	24.64	24.62	24.72	25
HSUPA	23.02	23.09	23.05	23.5
	22.98	23.02	23.00	23.5
	23.02	23.06	23.02	24.5
	22.88	22.89	22.75	23
	23.05	22.99	23.00	24.5
DC-HSDPA	22.93	22.99	23.02	24.5
	22.96	22.97	23.02	24.5
	22.63	22.67	22.68	24.5
	22.66	22.65	22.63	24.5

Table 11.2-2: The conducted Power for WCDMA Level C1/D1

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	22.79	22.79	22.87	23
HSUPA	20.95	20.94	20.94	21.5
	20.86	21.12	20.92	21.5
	20.9	20.95	20.93	22.5
	20.81	20.82	20.80	21
	20.93	20.96	20.97	22.5
DC-HSDPA	20.89	21.05	20.92	22.5
	20.92	20.95	20.94	22.5
	20.71	20.72	20.70	22.5
	20.73	20.65	20.75	22.5

11.3 CDMA Measurement result

Table 11.3-1: The conducted Power for CDMA-Normal power

CDMA BC0	Conducted Power (dBm)			Tune up
	777 (848.31MHz)	384 (836.52MHz)	1013 (824.7MHz)	
SO55/RC3	24.48	24.49	24.46	25
SO55/RC1	24.45	24.48	24.48	
SO32/RC3(FCH only)	24.48	24.50	24.48	
SO32/RC3(FCH+SCH _n)	24.48	24.50	24.49	
EVDO Rev.0	24.93	24.96	24.86	
EVDO Rev.A	24.94	24.95	24.97	
CDMA BC1	Conducted Power (dBm)			Tune up
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	
SO55/RC3	23.90	23.98	23.47	25
SO55/RC1	23.89	23.99	23.46	
SO32/RC3(FCH only)	23.86	23.97	23.45	
SO32/RC3(FCH+SCH _n)	23.89	23.99	23.46	
EVDO Rev.0	23.89	23.80	23.76	
EVDO Rev.A	24.27	23.90	24.11	
CDMA BC10	Conducted Power (dBm)			Tune up
	684 (823.1MHz)	580 (820.5MHz)	476(817.9MHz)	
SO55/RC3	24.42	24.53	24.21	25
SO55/RC1	24.48	24.56	24.25	
SO32/RC3(FCH only)	24.48	24.53	24.26	
SO32/RC3(FCH+SCH _n)	24.47	24.55	24.28	
EVDO Rev.0	24.84	24.88	24.87	
EVDO Rev.A	24.95	24.99	24.95	

Table 11.3-2: The conducted Power for CDMA Level C1/D1

CDMA BC1	Conducted Power (dBm)			Tune up
	1175 (1908.75MHz)	600 (1880MHz)	25 (1851.25MHz)	
SO55/RC3	21.44	21.63	21.57	22
SO55/RC1	21.46	21.58	21.60	
SO32/RC3(FCH only)	21.26	21.94	21.98	
SO32/RC3(FCH+SCH _n)	21.79	21.92	21.93	
EVDO Rev.0	20.79	20.77	20.78	
EVDO Rev.A	20.85	20.93	20.85	

11.4 LTE Measurement result

Maximum Target Power for Production Unit – Normal power & Power Level A1/B1/C1/D1

Band	Tune up (dBm)				
	Normal	Level A1	Level B1	Level C1	Level D1
Band 2	25	/	/	22	22
Band 7	24.5	/	/	23.5	23.5
Band 12	25.5	/	/	/	/
Band 13	25	/	/	/	/
Band 25	25	/	/	22	22
Band 26	25.5	/	/	/	/
Band 41(PC3)	25	/	/	/	/
Band 41(PC2)	27	/	/	/	/
Band 66	25	/	/	22	22
Band 71	25.5	/	/	/	/

Normal power

Band2-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1909.3 (19193)	24.32	23.85	21.46
		1880 (18900)	24.37	23.97	21.89
		1850.7 (18607)	24.22	23.75	21.80
	1RB-Middle (3)	1909.3 (19193)	24.33	23.91	21.59
		1880 (18900)	24.45	23.95	21.89
		1850.7 (18607)	24.26	23.84	21.87
	1RB-Low (0)	1909.3 (19193)	24.36	23.85	21.60
		1880 (18900)	24.37	23.96	21.92
		1850.7 (18607)	24.28	23.77	21.98
	3RB-High (3)	1909.3 (19193)	24.22	23.97	21.49
		1880 (18900)	24.21	23.92	21.83
		1850.7 (18607)	24.20	23.93	22.64
	3RB-Middle (1)	1909.3 (19193)	24.31	23.95	21.51
		1880 (18900)	24.28	23.94	21.90
		1850.7 (18607)	24.26	23.99	21.72
	3RB-Low (0)	1909.3 (19193)	24.16	23.98	21.42
		1880 (18900)	24.28	23.98	21.95
		1850.7 (18607)	24.25	23.95	21.76
	6RB (0)	1909.3 (19193)	23.88	22.99	20.38
		1880 (18900)	23.87	22.94	20.77
		1850.7 (18607)	23.78	22.95	20.59
3MHz	1RB-High (14)	1908.5 (19185)	24.31	23.96	21.59
		1880 (18900)	24.36	23.95	21.62
		1851.5 (18615)	24.24	23.71	21.53
	1RB-Middle (7)	1908.5 (19185)	24.34	23.95	21.58
		1880 (18900)	24.33	23.96	21.54
		1851.5 (18615)	24.25	23.79	21.53
	1RB-Low (0)	1908.5 (19185)	24.42	23.87	21.63
		1880 (18900)	24.32	23.86	22.98
		1851.5 (18615)	24.34	23.82	21.85
	8RB-High (7)	1908.5 (19185)	23.83	22.93	20.45
		1880 (18900)	23.92	22.96	21.82
		1851.5 (18615)	23.80	22.93	20.47
	8RB-Middle (4)	1908.5 (19185)	23.91	22.97	20.53
		1880 (18900)	23.99	23.00	20.68
		1851.5 (18615)	23.85	22.98	20.58
	8RB-Low (0)	1908.5 (19185)	23.88	22.99	20.42
		1880 (18900)	23.98	22.95	21.87
		1851.5 (18615)	23.87	22.99	20.64
	15RB (0)	1908.5 (19185)	23.90	22.95	20.51
		1880 (18900)	23.92	22.89	20.52
		1851.5 (18615)	23.88	22.90	20.55

5MHz	1RB-High (24)	1907.5 (19175)	24.21	23.99	21.47
		1880 (18900)	24.13	23.92	21.82
		1852.5 (18625)	24.12	23.86	21.71
	1RB-Middle (12)	1907.5 (19175)	24.29	23.95	21.69
		1880 (18900)	24.31	23.85	21.91
		1852.5 (18625)	24.21	23.91	21.67
	1RB-Low (0)	1907.5 (19175)	24.25	23.96	21.55
		1880 (18900)	24.21	23.99	22.01
		1852.5 (18625)	24.15	23.86	21.99
	12RB-High (13)	1907.5 (19175)	23.82	22.93	20.40
		1880 (18900)	23.79	22.82	20.39
		1852.5 (18625)	23.70	22.80	20.37
	12RB-Middle (6)	1907.5 (19175)	23.92	22.96	20.51
		1880 (18900)	23.89	22.98	20.91
		1852.5 (18625)	23.82	22.86	20.49
	12RB-Low (0)	1907.5 (19175)	23.86	22.98	20.48
		1880 (18900)	23.82	22.93	20.96
		1852.5 (18625)	23.78	22.85	20.59
	25RB (0)	1907.5 (19175)	23.84	22.86	20.47
		1880 (18900)	23.80	22.85	20.76
		1852.5 (18625)	23.75	22.71	20.45
10MHz	1RB-High (49)	1905 (19150)	24.34	23.91	21.53
		1880 (18900)	24.03	23.63	21.72
		1855 (18650)	24.03	23.45	21.84
	1RB-Middle (24)	1905 (19150)	24.18	23.96	21.69
		1880 (18900)	24.30	23.85	22.00
		1855 (18650)	24.20	23.82	21.46
	1RB-Low (0)	1905 (19150)	24.40	23.95	21.80
		1880 (18900)	24.36	23.47	21.80
		1855 (18650)	24.38	23.42	21.77
	25RB-High (25)	1905 (19150)	23.74	22.82	20.43
		1880 (18900)	23.74	22.86	20.72
		1855 (18650)	23.71	22.75	20.54
	25RB-Middle (12)	1905 (19150)	23.85	22.92	20.49
		1880 (18900)	23.85	22.93	20.91
		1855 (18650)	23.78	22.84	20.46
	25RB-Low (0)	1905 (19150)	23.73	22.78	20.50
		1880 (18900)	23.64	22.78	20.81
		1855 (18650)	23.67	22.68	20.52
	50RB (0)	1905 (19150)	23.75	22.82	20.44
		1880 (18900)	23.68	22.77	20.75
		1855 (18650)	23.68	22.63	20.51

15MHz	1RB-High (74)	1902.5 (19125)	24.07	23.94	21.36
		1880 (18900)	24.07	23.57	21.76
		1857.5 (18675)	24.06	23.93	21.90
	1RB-Middle (37)	1902.5 (19125)	24.10	23.98	21.42
		1880 (18900)	24.08	23.57	21.80
		1857.5 (18675)	24.04	23.95	21.71
	1RB-Low (0)	1902.5 (19125)	24.13	23.94	21.52
		1880 (18900)	24.08	23.57	21.92
		1857.5 (18675)	23.87	23.72	21.94
	36RB-High (38)	1902.5 (19125)	23.68	22.67	20.37
		1880 (18900)	23.65	22.64	20.64
		1857.5 (18675)	23.66	22.73	20.82
	36RB-Middle (19)	1902.5 (19125)	23.70	22.66	20.43
		1880 (18900)	23.63	22.65	20.69
		1857.5 (18675)	23.61	22.66	20.68
	36RB-Low (0)	1902.5 (19125)	23.57	22.56	20.41
		1880 (18900)	23.53	22.52	20.71
		1857.5 (18675)	23.54	22.61	20.59
	75RB (0)	1902.5 (19125)	23.65	22.64	20.37
		1880 (18900)	23.57	22.61	20.58
		1857.5 (18675)	23.55	22.58	20.73
20MHz	1RB-High (99)	1900 (19100)	24.05	24.10	22.34
		1880 (18900)	24.16	24.08	21.57
		1860 (18700)	24.19	24.12	21.84
	1RB-Middle (50)	1900 (19100)	24.00	24.13	22.42
		1880 (18900)	24.15	24.07	21.87
		1860 (18700)	23.99	24.08	21.85
	1RB-Low (0)	1900 (19100)	24.02	24.05	22.45
		1880 (18900)	24.03	23.97	21.89
		1860 (18700)	23.92	24.06	21.80
	50RB-High (50)	1900 (19100)	23.71	22.72	21.22
		1880 (18900)	23.66	22.62	20.65
		1860 (18700)	23.65	22.69	20.86
	50RB-Middle (25)	1900 (19100)	23.71	22.76	21.35
		1880 (18900)	23.65	22.60	20.66
		1860 (18700)	23.77	22.67	20.97
	50RB-Low (0)	1900 (19100)	23.57	22.60	21.37
		1880 (18900)	23.51	22.47	20.65
		1860 (18700)	23.43	22.45	20.65
	100RB (0)	1900 (19100)	23.63	22.65	21.31
		1880 (18900)	23.58	22.59	20.53
		1860 (18700)	23.57	22.62	20.92

Band7-Normal Power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	23.70	22.83	21.31
		2535 (21100)	23.74	22.84	21.36
		2502.5 (20775)	23.56	22.75	21.22
	1RB-Middle (12)	2567.5 (21425)	23.53	22.81	21.13
		2535 (21100)	23.67	22.84	21.29
		2502.5 (20775)	23.58	22.79	21.25
	1RB-Low (0)	2567.5 (21425)	23.65	22.74	21.19
		2535 (21100)	23.75	22.77	21.12
		2502.5 (20775)	23.52	22.77	21.20
	12RB-High (13)	2567.5 (21425)	22.65	21.71	20.07
		2535 (21100)	22.63	22.49	20.07
		2502.5 (20775)	22.63	21.67	20.00
	12RB-Middle (6)	2567.5 (21425)	22.68	21.68	20.07
		2535 (21100)	22.66	22.48	20.14
		2502.5 (20775)	22.64	21.65	20.06
	12RB-Low (0)	2567.5 (21425)	22.65	21.65	20.00
		2535 (21100)	22.64	22.38	20.03
		2502.5 (20775)	22.63	21.63	19.99
	25RB (0)	2567.5 (21425)	22.64	21.54	20.05
		2535 (21100)	22.60	21.36	19.99
		2502.5 (20775)	22.60	21.53	19.93
10MHz	1RB-High (49)	2565 (21400)	23.66	23.00	21.10
		2535 (21100)	23.67	22.63	21.00
		2505 (20800)	23.68	22.57	21.08
	1RB-Middle (24)	2565 (21400)	23.62	22.95	21.22
		2535 (21100)	23.60	22.67	21.28
		2505 (20800)	23.65	22.53	21.11
	1RB-Low (0)	2565 (21400)	23.67	23.04	21.16
		2535 (21100)	23.63	22.67	21.22
		2505 (20800)	23.59	22.55	21.10
	25RB-High (25)	2565 (21400)	22.53	21.63	20.08
		2535 (21100)	22.61	21.64	20.05
		2505 (20800)	22.58	21.56	19.96
	25RB-Middle (12)	2565 (21400)	22.56	21.54	19.99
		2535 (21100)	22.58	21.70	20.10
		2505 (20800)	22.55	21.53	19.95
	25RB-Low (0)	2565 (21400)	22.57	21.63	20.06
		2535 (21100)	22.62	21.67	20.15
		2505 (20800)	22.61	21.62	20.03
	50RB (0)	2565 (21400)	22.63	21.57	20.00
		2535 (21100)	22.49	21.51	19.89
		2505 (20800)	22.47	21.45	19.82

15MHz	1RB-High (74)	2562.5 (21375)	23.54	22.48	20.99
		2535 (21100)	23.55	22.92	21.08
		2507.5 (20825)	23.62	22.99	20.89
	1RB-Middle (37)	2562.5 (21375)	23.49	22.49	21.03
		2535 (21100)	23.55	22.88	21.00
		2507.5 (20825)	23.47	23.04	21.02
	1RB-Low (0)	2562.5 (21375)	23.45	22.54	21.11
		2535 (21100)	23.52	22.90	21.04
		2507.5 (20825)	23.48	22.89	21.09
	36RB-High (38)	2562.5 (21375)	22.51	21.51	19.75
		2535 (21100)	22.51	21.56	19.92
		2507.5 (20825)	22.46	21.51	19.75
	36RB-Middle (19)	2562.5 (21375)	22.63	21.53	20.03
		2535 (21100)	22.48	21.47	19.92
		2507.5 (20825)	22.58	21.54	19.88
	36RB-Low (0)	2562.5 (21375)	22.57	21.51	19.99
		2535 (21100)	22.60	21.56	20.07
		2507.5 (20825)	22.60	21.50	19.81
	75RB (0)	2562.5 (21375)	22.55	21.54	19.94
		2535 (21100)	22.47	21.46	19.90
		2507.5 (20825)	22.52	21.58	19.76
20MHz	1RB-High (99)	2560 (21350)	23.38	22.88	20.89
		2535 (21100)	23.47	22.80	20.97
		2510 (20850)	23.42	22.97	20.98
	1RB-Middle (50)	2560 (21350)	23.38	22.83	21.01
		2535 (21100)	23.35	22.71	20.98
		2510 (20850)	23.37	22.92	21.07
	1RB-Low (0)	2560 (21350)	23.42	22.86	21.17
		2535 (21100)	23.39	22.82	20.97
		2510 (20850)	23.37	22.89	20.95
	50RB-High (50)	2560 (21350)	22.38	21.39	19.85
		2535 (21100)	22.40	21.30	19.91
		2510 (20850)	22.35	21.35	19.78
	50RB-Middle (25)	2560 (21350)	22.49	21.53	19.93
		2535 (21100)	22.42	21.41	19.86
		2510 (20850)	22.39	21.42	19.81
	50RB-Low (0)	2560 (21350)	22.39	21.41	19.91
		2535 (21100)	22.45	21.40	19.99
		2510 (20850)	22.37	21.45	19.89
	100RB (0)	2560 (21350)	22.42	21.40	19.86
		2535 (21100)	22.36	21.35	19.82
		2510 (20850)	22.31	21.37	19.83

Band12-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	715.3	24.13	24.34	23.15
		707.5	24.19	24.63	23.26
		699.7	24.12	24.32	23.16
	1RB-Middle (3)	715.3	24.19	24.39	23.17
		707.5	24.28	24.65	23.06
		699.7	24.17	24.35	23.17
	1RB-Low (0)	715.3	24.13	24.35	23.20
		707.5	24.11	24.62	23.06
		699.7	24.17	24.33	23.09
	3RB-High (3)	715.3	24.14	24.28	23.08
		707.5	24.19	24.43	23.16
		699.7	24.16	24.46	23.11
	3RB-Middle (1)	715.3	24.25	24.32	23.12
		707.5	24.18	24.45	23.18
		699.7	24.17	24.51	23.14
	3RB-Low (0)	715.3	24.14	24.28	23.17
		707.5	24.16	24.40	23.09
		699.7	24.12	24.47	23.14
	6RB (0)	715.3	24.26	23.39	21.99
		707.5	24.18	23.14	22.01
		699.7	24.26	23.45	22.00
3MHz	1RB-High (14)	714.5	24.28	24.26	23.15
		707.5	24.30	24.75	23.47
		700.5	24.27	24.39	23.45
	1RB-Middle (7)	714.5	24.27	24.24	23.10
		707.5	24.34	24.70	23.45
		700.5	24.26	24.36	23.22
	1RB-Low (0)	714.5	24.25	24.22	23.19
		707.5	24.31	24.72	23.46
		700.5	24.30	24.48	23.30
	8RB-High (7)	714.5	24.32	23.40	22.33
		707.5	24.37	23.42	22.33
		700.5	24.34	23.43	22.31
	8RB-Middle (4)	714.5	24.40	23.43	22.33
		707.5	24.41	23.50	22.31
		700.5	24.37	23.41	22.35
	8RB-Low (0)	714.5	24.31	23.38	22.29
		707.5	24.35	23.39	22.35
		700.5	24.39	23.40	22.39
	15RB (0)	714.5	24.33	23.31	22.20
		707.5	24.32	23.39	22.25
		700.5	24.39	23.36	22.33

5MHz	1RB-High (24)	713.5	24.31	24.84	23.28
		707.5	24.32	24.48	23.01
		701.5	24.24	24.56	23.32
	1RB-Middle (12)	713.5	24.25	24.85	22.97
		707.5	24.31	24.52	23.40
		701.5	24.22	24.54	23.05
	1RB-Low (0)	713.5	24.26	24.83	23.02
		707.5	24.22	24.48	23.33
		701.5	24.22	24.52	23.03
	12RB-High (13)	713.5	24.34	23.47	22.09
		707.5	24.37	23.40	22.18
		701.5	24.37	23.47	22.21
	12RB-Middle (6)	713.5	24.39	23.47	22.10
		707.5	24.37	23.40	22.17
		701.5	24.37	23.46	22.20
	12RB-Low (0)	713.5	24.31	23.46	21.91
		707.5	24.32	23.41	22.12
		701.5	24.38	23.47	22.22
	25RB (0)	713.5	24.33	23.36	21.99
		707.5	24.31	23.30	22.06
		701.5	24.37	23.37	22.19
10MHz	1RB-High (49)	711	24.32	24.31	23.16
		707.5	24.32	24.35	23.11
		704	24.26	24.66	23.21
	1RB-Middle (24)	711	24.10	24.40	23.08
		707.5	24.27	24.40	23.35
		704	24.27	24.68	23.19
	1RB-Low (0)	711	24.38	24.36	23.29
		707.5	24.35	24.33	23.19
		704	24.42	24.73	23.23
	25RB-High (25)	711	24.33	23.34	21.96
		707.5	24.33	23.32	21.99
		704	24.29	23.37	22.09
	25RB-Middle (12)	711	24.38	23.37	21.93
		707.5	24.31	23.34	22.13
		704	24.40	23.42	22.22
	25RB-Low (0)	711	24.21	23.21	22.02
		707.5	24.22	23.25	22.12
		704	24.19	23.35	22.10
	50RB (0)	711	24.29	23.30	21.96
		707.5	24.23	23.26	21.93
		704	24.31	23.28	22.20

Band13-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	784.5 (23255)	24.22	23.42	22.61
		782 (23230)	24.25	23.44	22.71
		779.5 (23205)	24.24	23.44	22.50
	1RB-Middle (12)	784.5 (23255)	24.21	23.41	22.70
		782 (23230)	24.18	23.39	22.67
		779.5 (23205)	24.17	23.40	22.64
	1RB-Low (0)	784.5 (23255)	24.13	23.36	22.68
		782 (23230)	24.16	23.33	22.71
		779.5 (23205)	24.15	23.31	21.79
	12RB-High (13)	784.5 (23255)	23.28	22.29	21.63
		782 (23230)	23.26	22.31	21.58
		779.5 (23205)	23.24	22.32	21.58
	12RB-Middle (6)	784.5 (23255)	23.25	22.31	21.56
		782 (23230)	23.22	22.27	21.60
		779.5 (23205)	23.25	22.30	21.60
	12RB-Low (0)	784.5 (23255)	23.14	22.19	21.51
		782 (23230)	23.17	22.19	21.56
		779.5 (23205)	23.12	22.21	21.55
	25RB (0)	784.5 (23255)	23.23	22.19	21.60
		782 (23230)	23.17	22.21	21.55
		779.5 (23205)	23.22	22.25	21.60
10MHz	1RB-High (49)	782 (23230)	24.12	23.22	22.73
	1RB-Middle (24)	782 (23230)	24.04	23.12	22.70
	1RB-Low (0)	782 (23230)	24.03	23.11	22.31
	25RB-High (25)	782 (23230)	23.20	22.22	21.50
	25RB-Middle (12)	782 (23230)	23.12	22.19	21.62
	25RB-Low (0)	782 (23230)	23.13	22.21	21.57
	50RB (0)	782 (23230)	23.15	22.08	21.43

Band25-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	24.10	23.73	21.31
		1882.5 (26365)	24.25	23.90	21.76
		1850.7 (26047)	24.06	23.81	21.65
	1RB-Middle (3)	1914.3 (26683)	24.16	23.76	21.46
		1882.5 (26365)	24.30	23.85	21.67
		1850.7 (26047)	24.13	23.82	21.71
	1RB-Low (0)	1914.3 (26683)	24.04	23.70	21.38
		1882.5 (26365)	24.23	23.77	21.67
		1850.7 (26047)	24.05	23.75	21.79
	3RB-High (3)	1914.3 (26683)	24.11	23.91	21.30
		1882.5 (26365)	24.18	23.96	21.67
		1850.7 (26047)	24.07	23.70	21.46
	3RB-Middle (1)	1914.3 (26683)	24.14	23.94	21.30
		1882.5 (26365)	24.22	23.97	21.69
		1850.7 (26047)	24.12	23.68	21.61
	3RB-Low (0)	1914.3 (26683)	24.11	23.82	21.28
		1882.5 (26365)	24.13	23.92	21.63
		1850.7 (26047)	24.05	23.70	21.60
	6RB (0)	1914.3 (26683)	23.72	22.86	20.17
		1882.5 (26365)	23.77	22.96	20.48
		1850.7 (26047)	23.65	22.77	20.40
3MHz	1RB-High (14)	1913.5 (26675)	24.32	23.95	21.54
		1882.5 (26365)	24.25	23.88	21.96
		1851.5 (26055)	24.22	23.68	21.45
	1RB-Middle (7)	1913.5 (26675)	24.33	23.96	21.46
		1882.5 (26365)	24.22	23.92	21.83
		1851.5 (26055)	24.09	23.66	21.49
	1RB-Low (0)	1913.5 (26675)	24.24	23.98	21.51
		1882.5 (26365)	24.21	23.88	21.99
		1851.5 (26055)	24.15	23.64	21.71
	8RB-High (7)	1913.5 (26675)	23.81	22.91	20.36
		1882.5 (26365)	23.81	22.88	20.72
		1851.5 (26055)	23.72	22.87	20.65
	8RB-Middle (4)	1913.5 (26675)	23.83	22.91	20.38
		1882.5 (26365)	23.92	22.95	20.72
		1851.5 (26055)	23.79	22.90	20.47
	8RB-Low (0)	1913.5 (26675)	23.81	22.89	20.29
		1882.5 (26365)	23.80	22.83	20.69
		1851.5 (26055)	23.75	22.82	20.47
	15RB (0)	1913.5 (26675)	23.82	22.90	20.78
		1882.5 (26365)	23.81	22.81	20.63
		1851.5 (26055)	23.73	22.81	20.39

5MHz	1RB-High (24)	1912.5 (26665)	24.32	24.00	21.48
		1882.5 (26365)	24.25	24.44	21.85
		1852.5 (26065)	24.26	23.93	21.27
	1RB-Middle (12)	1912.5 (26665)	24.27	23.96	21.59
		1882.5 (26365)	24.38	24.44	21.60
		1852.5 (26065)	24.12	23.92	21.29
	1RB-Low (0)	1912.5 (26665)	24.33	23.97	21.50
		1882.5 (26365)	24.13	24.32	21.90
		1852.5 (26065)	24.18	23.88	21.68
	12RB-High (13)	1912.5 (26665)	23.83	22.95	20.41
		1882.5 (26365)	23.83	22.97	20.73
		1852.5 (26065)	23.78	22.86	20.23
	12RB-Middle (6)	1912.5 (26665)	23.82	22.91	20.35
		1882.5 (26365)	23.89	22.95	20.68
		1852.5 (26065)	23.74	22.85	20.32
	12RB-Low (0)	1912.5 (26665)	23.74	22.87	20.33
		1882.5 (26365)	23.76	22.97	20.77
		1852.5 (26065)	23.70	22.82	20.38
	25RB (0)	1912.5 (26665)	23.79	22.83	20.29
		1882.5 (26365)	23.80	22.91	20.67
		1852.5 (26065)	23.69	22.82	20.23
10MHz	1RB-High (49)	1910 (26640)	24.33	23.88	22.73
		1882.5 (26365)	24.16	23.62	22.73
		1855 (26090)	24.01	23.43	22.86
	1RB-Middle (24)	1910 (26640)	24.24	23.85	22.91
		1882.5 (26365)	24.37	23.78	22.89
		1855 (26090)	24.22	23.81	22.85
	1RB-Low (0)	1910 (26640)	24.38	23.96	22.67
		1882.5 (26365)	24.25	23.62	22.81
		1855 (26090)	24.38	23.41	22.95
	25RB-High (25)	1910 (26640)	23.79	22.80	21.31
		1882.5 (26365)	23.82	22.89	21.70
		1855 (26090)	23.71	22.78	21.85
	25RB-Middle (12)	1910 (26640)	23.83	22.86	21.41
		1882.5 (26365)	23.84	22.88	21.75
		1855 (26090)	23.74	22.81	21.74
	25RB-Low (0)	1910 (26640)	23.72	22.72	21.33
		1882.5 (26365)	23.70	22.79	21.76
		1855 (26090)	23.62	22.70	21.79
	50RB (0)	1910 (26640)	23.80	22.79	21.39
		1882.5 (26365)	23.78	22.78	21.63
		1855 (26090)	23.66	22.70	21.99

15MHz	1RB-High (74)	1907.5 (26615)	24.24	23.73	21.35
		1882.5 (26365)	24.21	24.15	21.60
		1857.5 (26115)	24.04	24.02	21.84
	1RB-Middle (37)	1907.5 (26615)	24.24	23.71	21.57
		1882.5 (26365)	24.23	24.17	21.72
		1857.5 (26115)	24.15	24.11	21.65
	1RB-Low (0)	1907.5 (26615)	24.27	23.69	21.56
		1882.5 (26365)	24.21	24.18	21.95
		1857.5 (26115)	23.87	23.80	21.84
	36RB-High (38)	1907.5 (26615)	23.76	22.79	20.26
		1882.5 (26365)	23.75	22.85	20.51
		1857.5 (26115)	23.72	22.75	20.86
	36RB-Middle (19)	1907.5 (26615)	23.77	22.79	20.40
		1882.5 (26365)	23.79	22.82	20.74
		1857.5 (26115)	23.74	22.71	20.50
	36RB-Low (0)	1907.5 (26615)	23.68	22.69	20.28
		1882.5 (26365)	23.66	22.72	20.77
		1857.5 (26115)	23.59	22.59	20.40
	75RB (0)	1907.5 (26615)	23.73	22.76	20.32
		1882.5 (26365)	23.68	22.73	20.54
		1857.5 (26115)	23.67	22.66	20.57
20MHz	1RB-High (99)	1905 (26590)	24.25	24.42	21.24
		1882.5 (26365)	24.24	24.33	21.62
		1860 (26140)	24.35	24.16	21.91
	1RB-Middle (50)	1905 (26590)	24.24	24.27	21.33
		1882.5 (26365)	24.29	24.30	21.85
		1860 (26140)	24.12	24.08	21.76
	1RB-Low (0)	1905 (26590)	24.25	24.30	21.64
		1882.5 (26365)	24.24	24.25	22.11
		1860 (26140)	24.10	24.06	21.63
	50RB-High (50)	1905 (26590)	23.68	22.76	20.22
		1882.5 (26365)	23.73	22.73	20.55
		1860 (26140)	23.73	22.70	20.94
	50RB-Middle (25)	1905 (26590)	23.81	22.82	20.47
		1882.5 (26365)	23.79	22.81	20.67
		1860 (26140)	23.83	22.73	20.87
	50RB-Low (0)	1905 (26590)	23.75	22.79	20.43
		1882.5 (26365)	23.77	22.76	20.80
		1860 (26140)	23.58	22.64	20.41
	100RB (0)	1905 (26590)	23.72	22.79	20.26
		1882.5 (26365)	23.71	22.71	20.53
		1860 (26140)	23.65	22.63	20.82

Band26-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	848.3 (27033)	24.48	24.59	22.81
		831.5 (26865)	24.53	24.73	22.78
		814.7 (26697)	24.41	24.86	22.95
	1RB-Middle (3)	848.3 (27033)	24.58	24.57	23.01
		831.5 (26865)	24.60	24.74	22.88
		814.7 (26697)	24.43	25.00	23.28
	1RB-Low (0)	848.3 (27033)	24.53	24.48	22.96
		831.5 (26865)	24.45	24.65	22.74
		814.7 (26697)	24.39	24.92	23.18
	3RB-High (3)	848.3 (27033)	24.52	24.63	22.99
		831.5 (26865)	24.54	24.66	22.94
		814.7 (26697)	24.39	24.76	22.86
	3RB-Middle (1)	848.3 (27033)	24.56	24.66	22.91
		831.5 (26865)	24.51	24.60	22.97
		814.7 (26697)	24.44	24.78	23.41
	3RB-Low (0)	848.3 (27033)	24.51	24.58	23.01
		831.5 (26865)	24.47	24.58	22.90
		814.7 (26697)	24.37	24.74	23.15
	6RB (0)	848.3 (27033)	24.60	23.73	21.89
		831.5 (26865)	24.60	23.67	21.77
		814.7 (26697)	24.50	23.45	21.65
3MHz	1RB-High (14)	847.5 (27025)	24.53	24.34	22.90
		831.5 (26865)	24.66	24.56	22.84
		815.5 (26705)	24.67	24.55	22.89
	1RB-Middle (7)	847.5 (27025)	24.48	24.23	22.94
		831.5 (26865)	24.64	24.56	22.91
		815.5 (26705)	24.60	24.53	22.87
	1RB-Low (0)	847.5 (27025)	24.60	24.45	22.97
		831.5 (26865)	24.60	24.51	22.95
		815.5 (26705)	24.57	24.53	22.86
	8RB-High (7)	847.5 (27025)	24.62	23.71	21.93
		831.5 (26865)	24.70	23.79	22.32
		815.5 (26705)	24.67	23.80	22.45
	8RB-Middle (4)	847.5 (27025)	24.57	23.76	22.08
		831.5 (26865)	24.69	23.75	21.98
		815.5 (26705)	24.68	23.75	22.49
	8RB-Low (0)	847.5 (27025)	24.61	23.71	22.06
		831.5 (26865)	24.60	23.74	21.98
		815.5 (26705)	24.63	23.72	22.49
	15RB (0)	847.5 (27025)	24.43	23.64	21.98
		831.5 (26865)	24.59	23.68	21.93
		815.5 (26705)	24.64	23.68	22.35

5MHz	1RB-High (24)	846.5 (27015)	24.69	24.17	22.84
		831.5 (26865)	24.66	25.07	22.72
		816.5 (26715)	24.51	24.77	22.96
	1RB-Middle (12)	846.5 (27015)	24.70	24.24	22.84
		831.5 (26865)	24.58	25.11	22.81
		816.5 (26715)	24.54	24.65	22.68
	1RB-Low (0)	846.5 (27015)	24.72	24.56	23.14
		831.5 (26865)	24.59	25.15	23.13
		816.5 (26715)	24.51	24.62	23.16
	12RB-High (13)	846.5 (27015)	24.56	23.73	21.94
		831.5 (26865)	24.70	23.86	21.92
		816.5 (26715)	24.57	23.63	21.83
	12RB-Middle (6)	846.5 (27015)	24.61	23.77	22.10
		831.5 (26865)	24.69	23.84	22.02
		816.5 (26715)	24.64	23.65	22.06
	12RB-Low (0)	846.5 (27015)	24.61	23.74	22.19
		831.5 (26865)	24.60	23.77	22.05
		816.5 (26715)	24.56	23.61	22.09
	25RB (0)	846.5 (27015)	24.23	23.72	21.94
		831.5 (26865)	24.50	23.70	21.88
		816.5 (26715)	24.20	23.51	21.98
10MHz	1RB-High (49)	844 (26990)	24.62	24.14	22.90
		831.5 (26865)	24.59	24.99	23.09
		820 (26750)	24.59	24.64	23.34
	1RB-Middle (24)	844 (26990)	24.60	24.52	23.44
		831.5 (26865)	24.68	24.86	22.99
		820 (26750)	24.47	24.52	23.45
	1RB-Low (0)	844 (26990)	24.66	24.60	23.45
		831.5 (26865)	24.60	25.06	23.42
		820 (26750)	24.56	24.58	22.97
	25RB-High (25)	844 (26990)	24.60	23.73	22.09
		831.5 (26865)	24.63	23.74	22.05
		820 (26750)	24.51	23.63	22.36
	25RB-Middle (12)	844 (26990)	24.62	23.70	22.41
		831.5 (26865)	24.61	23.70	22.08
		820 (26750)	24.60	23.69	22.46
	25RB-Low (0)	844 (26990)	24.54	23.56	22.36
		831.5 (26865)	24.49	23.54	22.29
		820 (26750)	24.38	23.48	22.46
	50RB (0)	844 (26990)	24.53	23.61	22.23
		831.5 (26865)	24.44	23.62	22.00
		820 (26750)	24.47	23.55	22.35

15MHz	1RB-High (74)	841.5 (26965)	24.31	24.73	22.96
		831.5 (26865)	24.41	24.75	22.53
		822.5 (26775)	24.38	24.84	23.30
	1RB-Middle (37)	841.5 (26965)	24.43	24.76	22.59
		831.5 (26865)	24.36	24.68	23.08
		822.5 (26775)	24.26	24.74	23.45
	1RB-Low (0)	841.5 (26965)	24.42	24.78	23.02
		831.5 (26865)	24.32	24.72	23.47
		822.5 (26775)	24.46	24.69	23.08
	36RB-High (38)	841.5 (26965)	24.42	23.46	22.37
		831.5 (26865)	24.40	23.39	22.23
		822.5 (26775)	24.38	23.50	22.46
	36RB-Middle (19)	841.5 (26965)	24.40	23.44	22.42
		831.5 (26865)	24.35	23.35	22.13
		822.5 (26775)	24.43	23.47	22.46
	36RB-Low (0)	841.5 (26965)	24.33	23.37	22.46
		831.5 (26865)	24.27	23.25	22.42
		822.5 (26775)	24.15	23.31	22.43
	75RB (0)	841.5 (26965)	24.31	23.38	22.35
		831.5 (26865)	24.28	23.29	22.30
		822.5 (26775)	24.25	23.38	22.43

Band41(PC3)-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	24.80	23.80	22.42
		2640.3(41093)	24.84	23.76	22.40
		2593 (40620)	24.82	23.86	22.50
		2545.8(40148)	24.81	23.84	22.40
		2498.5 (39675)	24.83	23.85	22.48
	1RB-Middle (12)	2687.5 (41565)	24.82	23.81	22.43
		2640.3(41093)	24.87	23.74	22.35
		2593 (40620)	24.85	23.86	22.53
		2545.8(40148)	24.77	23.86	22.37
		2498.5 (39675)	24.77	23.98	22.49
	1RB-Low (0)	2687.5 (41565)	24.83	23.82	22.48
		2640.3(41093)	24.87	23.96	22.45
		2593 (40620)	24.87	23.80	22.52
		2545.8(40148)	24.79	23.82	22.39
		2498.5 (39675)	24.81	23.92	22.47
	12RB-High (13)	2687.5 (41565)	23.87	22.86	21.85
		2640.3(41093)	23.87	22.96	21.72
		2593 (40620)	23.85	22.91	21.84
		2545.8(40148)	23.88	22.92	21.76
		2498.5 (39675)	23.83	22.92	21.80
	12RB-Middle (6)	2687.5 (41565)	23.90	22.89	21.83
		2640.3(41093)	23.92	22.98	21.73
		2593 (40620)	23.92	22.94	21.85
		2545.8(40148)	23.92	22.90	21.76
		2498.5 (39675)	23.82	22.86	21.83
	12RB-Low (0)	2687.5 (41565)	23.89	22.86	21.81
		2640.3(41093)	23.88	22.94	21.73
		2593 (40620)	23.88	22.90	21.84
		2545.8(40148)	23.88	22.91	21.76
		2498.5 (39675)	23.77	22.84	21.80
	25RB (0)	2687.5 (41565)	23.88	22.91	21.83
		2640.3(41093)	23.88	22.91	21.74
		2593 (40620)	23.86	22.90	21.86
		2545.8(40148)	23.91	22.93	21.76
		2498.5 (39675)	23.79	22.85	21.80

10MHz	1RB-High (49)	2685 (41540)	24.63	23.72	22.23
		2639(41080)	24.65	23.62	22.20
		2593 (40620)	24.62	23.59	22.26
		2547(40160)	24.63	23.76	22.26
		2501 (39700)	24.86	23.79	22.51
	1RB-Middle (24)	2685 (41540)	24.83	23.88	22.45
		2639(41080)	24.80	23.90	22.41
		2593 (40620)	24.79	23.79	22.50
		2547(40160)	24.74	23.95	22.44
		2501 (39700)	24.63	23.70	22.45
	1RB-Low (0)	2685 (41540)	24.61	23.68	22.30
		2639(41080)	24.62	23.57	22.24
		2593 (40620)	24.66	23.57	22.20
		2547(40160)	24.53	23.66	22.20
		2501 (39700)	24.67	23.74	22.53
	25RB-High (25)	2685 (41540)	23.93	22.82	21.80
		2639(41080)	23.89	22.83	21.66
		2593 (40620)	23.83	22.79	21.77
		2547(40160)	23.86	22.84	21.69
		2501 (39700)	23.81	22.85	21.79
	25RB-Middle (12)	2685 (41540)	23.98	22.88	21.83
		2639(41080)	23.97	22.92	21.76
		2593 (40620)	23.92	22.89	21.82
		2547(40160)	23.93	22.93	21.81
		2501 (39700)	23.85	22.81	21.80
	25RB-Low (0)	2685 (41540)	23.89	22.77	21.78
		2639(41080)	23.80	22.79	21.60
		2593 (40620)	23.78	22.72	21.73
		2547(40160)	23.83	22.82	21.72
		2501 (39700)	23.79	22.82	21.79
	50RB (0)	2685 (41540)	23.88	22.86	21.79
		2639(41080)	23.88	22.84	21.63
		2593 (40620)	23.83	22.85	21.78
		2547(40160)	23.93	22.87	21.72
		2501 (39700)	23.77	22.77	21.68

15MHz	1RB-High (74)	2682.5 (41515)	24.74	23.65	22.21
		2637.8(41068)	24.41	23.59	22.02
		2593 (40620)	24.46	23.70	22.21
		2548.3(40173)	24.49	23.38	22.09
		2503.5 (39725)	24.61	23.65	22.29
	1RB-Middle (37)	2682.5 (41515)	24.71	23.70	22.23
		2637.8(41068)	24.64	23.80	22.28
		2593 (40620)	24.55	23.80	22.32
		2548.3(40173)	24.65	23.65	22.21
		2503.5 (39725)	24.57	23.64	22.24
	1RB-Low (0)	2682.5 (41515)	24.43	23.36	22.05
		2637.8(41068)	24.51	23.61	22.19
		2593 (40620)	24.38	23.58	22.08
		2548.3(40173)	24.43	23.40	22.00
		2503.5 (39725)	24.58	23.62	22.29
	36RB-High (38)	2682.5 (41515)	23.79	22.82	21.63
		2637.8(41068)	23.70	22.72	21.43
		2593 (40620)	23.76	22.75	21.59
		2548.3(40173)	23.65	22.63	21.46
		2503.5 (39725)	23.69	22.69	21.62
	36RB-Middle (19)	2682.5 (41515)	23.76	22.78	21.65
		2637.8(41068)	23.71	22.69	21.48
		2593 (40620)	23.78	22.78	21.70
		2548.3(40173)	23.69	22.67	21.53
		2503.5 (39725)	23.71	22.73	21.62
	36RB-Low (0)	2682.5 (41515)	23.64	22.66	21.54
		2637.8(41068)	23.65	22.67	21.50
		2593 (40620)	23.59	22.59	21.49
		2548.3(40173)	23.60	22.62	21.48
		2503.5 (39725)	23.68	22.68	21.53
	75RB (0)	2682.5 (41515)	23.71	22.73	21.65
		2637.8(41068)	23.62	22.64	21.47
		2593 (40620)	23.70	22.70	21.65
		2548.3(40173)	23.63	22.62	21.53
		2503.5 (39725)	23.62	22.63	21.52

20MHz	1RB-High (99)	2680 (41490)	24.80	23.81	23.51
		2636.5(41055)	24.52	23.41	23.23
		2593 (40620)	24.53	23.72	23.36
		2549.5(40185)	24.93	23.85	23.53
		2506 (39750)	24.84	23.73	23.60
	1RB-Middle (50)	2680 (41490)	24.85	23.81	23.52
		2636.5(41055)	24.89	23.78	23.66
		2593 (40620)	24.77	23.99	23.61
		2549.5(40185)	24.77	23.76	23.50
		2506 (39750)	24.79	23.65	23.57
	1RB-Low (0)	2680 (41490)	24.42	23.38	23.20
		2636.5(41055)	24.62	23.50	23.41
		2593 (40620)	24.38	23.61	23.33
		2549.5(40185)	24.75	23.73	23.57
		2506 (39750)	24.78	23.63	23.62
	50RB-High (50)	2680 (41490)	23.91	22.92	22.82
		2636.5(41055)	23.75	22.77	22.57
		2593 (40620)	23.79	22.87	22.78
		2549.5(40185)	23.95	22.77	22.66
		2506 (39750)	23.79	22.82	22.78
	50RB-Middle (25)	2680 (41490)	23.89	22.88	22.79
		2636.5(41055)	23.84	22.86	22.63
		2593 (40620)	23.87	22.94	22.83
		2549.5(40185)	23.77	22.81	22.68
		2506 (39750)	23.79	22.82	22.77
	50RB-Low (0)	2680 (41490)	23.70	22.71	22.69
		2636.5(41055)	23.74	22.80	22.63
		2593 (40620)	23.70	22.73	22.63
		2549.5(40185)	23.79	22.77	22.72
		2506 (39750)	23.79	22.79	22.76
	100RB (0)	2680 (41490)	23.80	22.84	22.83
		2636.5(41055)	23.73	22.72	22.64
		2593 (40620)	23.77	22.79	22.84
		2549.5(40185)	23.70	22.70	22.67
		2506 (39750)	23.73	22.75	22.79

Band41(PC2)-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	26.39	25.97	23.92
		2640.3(41093)	26.41	25.88	24.49
		2593 (40620)	26.32	25.96	24.48
		2545.8(40148)	26.39	25.86	24.52
		2498.5 (39675)	26.45	25.99	24.67
	1RB-Middle (12)	2687.5 (41565)	26.45	25.95	23.83
		2640.3(41093)	26.37	25.88	24.51
		2593 (40620)	26.39	25.99	24.67
		2545.8(40148)	26.45	25.93	24.56
		2498.5 (39675)	26.31	25.89	24.60
	1RB-Low (0)	2687.5 (41565)	26.32	25.93	24.14
		2640.3(41093)	26.34	26.00	24.53
		2593 (40620)	26.35	25.93	24.64
		2545.8(40148)	26.36	25.87	24.54
		2498.5 (39675)	26.43	25.96	24.52
	12RB-High (13)	2687.5 (41565)	26.00	24.92	23.54
		2640.3(41093)	25.99	24.87	23.61
		2593 (40620)	25.97	24.83	23.80
		2545.8(40148)	25.96	24.89	23.66
		2498.5 (39675)	25.94	24.94	23.74
	12RB-Middle (6)	2687.5 (41565)	25.96	24.95	23.57
		2640.3(41093)	25.86	24.90	23.65
		2593 (40620)	25.87	24.87	23.79
		2545.8(40148)	25.88	24.95	23.73
		2498.5 (39675)	25.91	24.84	23.74
	12RB-Low (0)	2687.5 (41565)	25.95	24.91	23.51
		2640.3(41093)	26.00	24.86	23.69
		2593 (40620)	26.00	24.84	23.79
		2545.8(40148)	26.00	24.92	23.67
		2498.5 (39675)	25.89	24.85	23.73
	25RB (0)	2687.5 (41565)	25.97	24.82	23.27
		2640.3(41093)	25.99	24.81	23.67
		2593 (40620)	25.98	24.82	23.78
		2545.8(40148)	25.87	24.81	23.71
		2498.5 (39675)	25.91	24.81	23.68

10MHz	1RB-High (49)	2685 (41540)	26.15	25.92	23.94
		2639(41080)	26.14	25.81	24.33
		2593 (40620)	26.19	25.92	24.40
		2547(40160)	26.06	25.94	24.28
		2501 (39700)	26.38	25.94	24.63
	1RB-Middle (24)	2685 (41540)	26.39	25.86	23.86
		2639(41080)	26.32	25.99	24.59
		2593 (40620)	26.41	25.96	24.64
		2547(40160)	26.32	25.96	24.56
		2501 (39700)	26.38	25.90	24.55
	1RB-Low (0)	2685 (41540)	26.12	25.84	23.95
		2639(41080)	26.09	25.85	24.31
		2593 (40620)	26.21	25.91	24.39
		2547(40160)	26.18	25.85	24.27
		2501 (39700)	26.23	25.91	24.49
	25RB-High (25)	2685 (41540)	25.91	24.77	23.41
		2639(41080)	25.93	24.76	23.60
		2593 (40620)	25.92	24.75	23.69
		2547(40160)	25.92	24.78	23.63
		2501 (39700)	25.93	24.77	23.77
	25RB-Middle (12)	2685 (41540)	25.98	24.83	23.40
		2639(41080)	25.96	24.86	23.68
		2593 (40620)	25.96	24.82	23.81
		2547(40160)	25.93	24.87	23.76
		2501 (39700)	25.97	24.77	23.79
	25RB-Low (0)	2685 (41540)	25.95	24.74	23.35
		2639(41080)	25.85	24.67	23.56
		2593 (40620)	25.85	24.65	23.66
		2547(40160)	25.92	24.76	23.63
		2501 (39700)	25.90	24.77	23.73
	50RB (0)	2685 (41540)	25.77	24.75	23.14
		2639(41080)	25.95	24.76	23.60
		2593 (40620)	25.93	24.77	23.69
		2547(40160)	25.93	24.79	23.61
		2501 (39700)	25.85	24.68	23.65

15MHz	1RB-High (74)	2682.5 (41515)	26.17	25.79	24.62
		2637.8(41068)	26.05	25.78	24.20
		2593 (40620)	26.14	25.76	24.43
		2548.3(40173)	25.98	25.81	24.19
		2503.5 (39725)	26.22	25.81	24.46
	1RB-Middle (37)	2682.5 (41515)	26.21	25.79	24.86
		2637.8(41068)	26.31	25.86	24.49
		2593 (40620)	26.28	25.95	24.55
		2548.3(40173)	26.18	25.89	24.36
		2503.5 (39725)	26.20	25.76	24.41
	1RB-Low (0)	2682.5 (41515)	25.96	25.62	24.77
		2637.8(41068)	26.21	25.87	24.37
		2593 (40620)	26.08	25.72	24.32
		2548.3(40173)	25.98	25.82	24.18
		2503.5 (39725)	26.20	25.81	24.48
	36RB-High (38)	2682.5 (41515)	25.89	24.69	23.32
		2637.8(41068)	25.80	24.62	23.42
		2593 (40620)	25.83	24.70	23.57
		2548.3(40173)	25.79	24.60	23.39
		2503.5 (39725)	25.82	24.63	23.50
	36RB-Middle (19)	2682.5 (41515)	25.83	24.69	23.27
		2637.8(41068)	25.80	24.62	23.45
		2593 (40620)	25.89	24.72	23.60
		2548.3(40173)	25.81	24.67	23.45
		2503.5 (39725)	25.79	24.63	23.52
	36RB-Low (0)	2682.5 (41515)	25.74	24.53	23.20
		2637.8(41068)	25.74	24.61	23.41
		2593 (40620)	25.73	24.56	23.45
		2548.3(40173)	25.76	24.61	23.45
		2503.5 (39725)	25.80	24.60	23.50
	75RB (0)	2682.5 (41515)	25.77	24.64	23.12
		2637.8(41068)	25.72	24.54	23.39
		2593 (40620)	25.79	24.62	23.55
		2548.3(40173)	25.75	24.56	23.43
		2503.5 (39725)	25.74	24.58	23.49

20MHz	1RB-High (99)	2680 (41490)	26.36	25.62	25.26
		2636.5(41055)	25.87	25.68	25.07
		2593 (40620)	25.99	25.98	25.32
		2549.5(40185)	26.34	25.87	25.43
		2506 (39750)	26.31	25.98	25.55
	1RB-Middle (50)	2680 (41490)	26.36	25.58	25.23
		2636.5(41055)	26.31	25.96	25.55
		2593 (40620)	26.25	25.97	25.56
		2549.5(40185)	26.31	25.96	25.40
		2506 (39750)	26.23	25.91	25.46
	1RB-Low (0)	2680 (41490)	25.93	25.63	25.20
		2636.5(41055)	25.93	25.83	25.38
		2593 (40620)	25.87	25.83	25.25
		2549.5(40185)	26.38	25.98	25.51
		2506 (39750)	26.21	25.93	25.54
	50RB-High (50)	2680 (41490)	25.85	24.88	24.52
		2636.5(41055)	25.76	24.81	24.26
		2593 (40620)	25.82	24.87	24.44
		2549.5(40185)	25.80	24.80	24.37
		2506 (39750)	25.81	24.84	24.46
	50RB-Middle (25)	2680 (41490)	25.90	24.91	24.52
		2636.5(41055)	25.84	24.81	24.38
		2593 (40620)	25.87	24.93	24.54
		2549.5(40185)	25.94	24.82	24.38
		2506 (39750)	25.81	24.86	24.48
	50RB-Low (0)	2680 (41490)	25.68	24.74	24.36
		2636.5(41055)	25.74	24.74	24.33
		2593 (40620)	25.70	24.76	24.30
		2549.5(40185)	25.77	24.81	24.38
		2506 (39750)	25.78	24.86	24.44
	100RB (0)	2680 (41490)	25.52	24.81	24.55
		2636.5(41055)	25.71	24.72	24.32
		2593 (40620)	25.78	24.78	24.54
		2549.5(40185)	25.71	24.71	24.42
		2506 (39750)	25.75	24.76	24.50

Band66-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	24.00	23.60	22.95
		1745 (132322)	24.03	24.19	22.85
		1710.7 (131979)	23.96	24.46	22.60
	1RB-Middle (3)	1779.3 (132665)	24.07	23.65	22.89
		1745 (132322)	24.16	24.24	22.93
		1710.7 (131979)	24.09	24.52	22.78
	1RB-Low (0)	1779.3 (132665)	24.07	23.68	22.87
		1745 (132322)	24.07	24.24	22.96
		1710.7 (131979)	24.01	24.47	22.74
	3RB-High (3)	1779.3 (132665)	23.97	23.75	21.58
		1745 (132322)	24.05	24.13	22.86
		1710.7 (131979)	23.98	24.23	22.64
	3RB-Middle (1)	1779.3 (132665)	24.03	23.86	21.70
		1745 (132322)	24.12	24.24	22.91
		1710.7 (131979)	24.06	24.34	22.68
	3RB-Low (0)	1779.3 (132665)	23.98	23.91	21.82
		1745 (132322)	24.11	24.11	22.83
		1710.7 (131979)	24.00	24.25	22.64
	6RB (0)	1779.3 (132665)	23.78	22.92	20.55
		1745 (132322)	24.11	23.23	21.74
		1710.7 (131979)	24.09	23.00	21.55
3MHz	1RB-High (14)	1778.5 (132657)	24.03	23.64	22.11
		1745 (132322)	24.17	24.57	22.86
		1711.5 (131987)	24.05	24.15	22.76
	1RB-Middle (7)	1778.5 (132657)	24.06	23.75	22.34
		1745 (132322)	24.27	24.60	22.98
		1711.5 (131987)	24.06	24.12	22.80
	1RB-Low (0)	1778.5 (132657)	24.11	23.98	22.29
		1745 (132322)	24.16	24.67	22.85
		1711.5 (131987)	24.14	24.28	22.80
	8RB-High (7)	1778.5 (132657)	23.96	22.99	20.69
		1745 (132322)	24.24	23.24	21.82
		1711.5 (131987)	24.17	23.17	21.60
	8RB-Middle (4)	1778.5 (132657)	24.00	23.11	20.79
		1745 (132322)	24.21	23.29	21.88
		1711.5 (131987)	24.22	23.24	21.67
	8RB-Low (0)	1778.5 (132657)	24.18	23.27	21.03
		1745 (132322)	24.25	23.30	21.82
		1711.5 (131987)	24.23	23.27	21.73
	15RB (0)	1778.5 (132657)	24.09	23.04	21.74
		1745 (132322)	24.22	23.29	21.89
		1711.5 (131987)	24.18	23.17	21.61

15MHz	1RB-High (74)	1772.5 (132597)	24.01	24.32	22.91
		1745 (132322)	23.89	24.29	22.52
		1717.5 (132047)	23.91	24.18	21.84
	1RB-Middle (37)	1772.5 (132597)	23.99	24.42	22.94
		1745 (132322)	24.05	24.44	22.98
		1717.5 (132047)	24.01	24.41	22.16
	1RB-Low (0)	1772.5 (132597)	24.09	24.46	22.86
		1745 (132322)	23.89	24.28	22.61
		1717.5 (132047)	23.94	24.34	22.44
	36RB-High (38)	1772.5 (132597)	24.05	23.08	21.82
		1745 (132322)	24.12	23.13	21.68
		1717.5 (132047)	24.10	23.06	20.85
	36RB-Middle (19)	1772.5 (132597)	24.12	23.19	21.75
		1745 (132322)	24.08	23.10	21.71
		1717.5 (132047)	24.15	23.08	21.31
	36RB-Low (0)	1772.5 (132597)	24.09	23.14	21.81
		1745 (132322)	24.05	23.09	21.71
		1717.5 (132047)	24.10	23.07	21.57
	75RB (0)	1772.5 (132597)	24.07	23.11	21.73
		1745 (132322)	24.03	23.01	21.64
		1717.5 (132047)	24.09	23.09	21.31
20MHz	1RB-High (99)	1770 (132572)	24.22	24.43	22.02
		1745 (132322)	24.12	24.30	22.34
		1720 (132072)	24.12	24.00	22.08
	1RB-Middle (50)	1770 (132572)	24.22	24.31	22.88
		1745 (132322)	24.29	24.31	22.81
		1720 (132072)	24.21	24.14	22.01
	1RB-Low (0)	1770 (132572)	24.27	24.47	21.94
		1745 (132322)	23.99	23.97	22.52
		1720 (132072)	23.96	23.87	22.31
	50RB-High (50)	1770 (132572)	24.26	23.28	21.15
		1745 (132322)	24.32	23.33	21.61
		1720 (132072)	24.12	23.07	20.71
	50RB-Middle (25)	1770 (132572)	24.33	23.36	21.80
		1745 (132322)	24.34	23.36	21.67
		1720 (132072)	24.35	23.37	20.99
	50RB-Low (0)	1770 (132572)	24.26	23.28	21.62
		1745 (132322)	24.26	23.25	21.67
		1720 (132072)	24.30	23.29	21.39
	100RB (0)	1770 (132572)	24.27	23.30	21.32
		1745 (132322)	24.26	23.22	21.62
		1720 (132072)	24.32	23.32	21.18

5MHz	1RB-High (24)	1777.5 (132647)	24.04	24.08	22.25
		1745 (132322)	24.21	24.35	22.85
		1712.5 (131997)	24.03	24.70	22.78
	1RB-Middle (12)	1777.5 (132647)	24.05	24.25	22.55
		1745 (132322)	24.22	24.38	22.50
		1712.5 (131997)	24.18	24.77	22.83
	1RB-Low (0)	1777.5 (132647)	24.12	24.32	22.86
		1745 (132322)	24.27	24.39	22.97
		1712.5 (131997)	24.08	24.74	22.81
	12RB-High (13)	1777.5 (132647)	24.12	23.11	20.91
		1745 (132322)	24.16	23.27	21.82
		1712.5 (131997)	24.12	23.36	21.57
	12RB-Middle (6)	1777.5 (132647)	24.22	23.28	21.18
		1745 (132322)	24.22	23.36	21.94
		1712.5 (131997)	24.23	23.39	21.75
	12RB-Low (0)	1777.5 (132647)	24.18	23.23	21.67
		1745 (132322)	24.23	23.33	21.88
		1712.5 (131997)	24.20	23.37	21.71
	25RB (0)	1777.5 (132647)	24.16	23.12	21.22
		1745 (132322)	24.21	23.26	21.83
		1712.5 (131997)	24.21	23.31	21.63
10MHz	1RB-High (49)	1775 (132622)	23.92	24.43	22.31
		1745 (132322)	23.99	23.95	22.92
		1715 (132022)	23.94	24.02	22.14
	1RB-Middle (24)	1775 (132622)	24.05	24.56	22.96
		1745 (132322)	24.18	24.14	22.98
		1715 (132022)	24.09	24.14	22.62
	1RB-Low (0)	1775 (132622)	23.85	24.36	22.84
		1745 (132322)	23.77	23.89	22.63
		1715 (132022)	23.84	23.80	22.44
	25RB-High (25)	1775 (132622)	24.12	23.14	21.40
		1745 (132322)	24.18	23.24	21.83
		1715 (132022)	24.14	23.16	21.30
	25RB-Middle (12)	1775 (132622)	24.19	23.19	21.96
		1745 (132322)	24.25	23.31	21.96
		1715 (132022)	24.20	23.24	21.66
	25RB-Low (0)	1775 (132622)	24.10	23.11	21.84
		1745 (132322)	24.09	23.14	21.71
		1715 (132022)	24.14	23.14	21.58
	50RB (0)	1775 (132622)	24.12	23.11	21.77
		1745 (132322)	24.08	23.04	21.76
		1715 (132022)	24.13	23.11	21.51

Band71-Normal power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	695.5 (133447)	24.29	23.88	22.81
		680.5 (133297)	24.45	23.58	22.74
		665.5 (133147)	24.48	23.60	22.95
	1RB-Middle (12)	695.5 (133447)	24.37	23.91	22.77
		680.5 (133297)	24.42	23.54	22.88
		665.5 (133147)	24.47	23.65	22.85
	1RB-Low (0)	695.5 (133447)	24.18	23.75	22.62
		680.5 (133297)	24.29	23.44	22.77
		665.5 (133147)	24.45	23.68	22.34
	12RB-High (13)	695.5 (133447)	23.39	22.52	21.68
		680.5 (133297)	23.48	22.50	21.76
		665.5 (133147)	23.45	22.54	21.66
	12RB-Middle (6)	695.5 (133447)	23.40	22.55	21.72
		680.5 (133297)	23.41	22.45	21.62
		665.5 (133147)	23.48	22.56	21.78
	12RB-Low (0)	695.5 (133447)	23.26	22.40	21.60
		680.5 (133297)	23.34	22.38	21.65
		665.5 (133147)	23.50	22.58	21.85
	25RB (0)	695.5 (133447)	23.28	22.38	21.57
		680.5 (133297)	23.35	22.34	21.62
		665.5 (133147)	23.48	22.49	21.55
10MHz	1RB-High (49)	693 (133422)	24.16	23.76	22.77
		680.5 (133297)	24.34	23.80	22.76
		668 (133172)	24.44	23.35	22.81
	1RB-Middle (24)	693 (133422)	24.33	23.74	22.80
		680.5 (133297)	24.33	23.75	22.68
		668 (133172)	24.57	23.34	22.81
	1RB-Low (0)	693 (133422)	24.44	23.72	22.79
		680.5 (133297)	24.34	23.73	22.74
		668 (133172)	24.36	23.44	22.28
	25RB-High (25)	693 (133422)	23.27	22.39	21.56
		680.5 (133297)	23.30	22.34	21.64
		668 (133172)	23.34	22.34	21.60
	25RB-Middle (12)	693 (133422)	23.27	22.31	21.53
		680.5 (133297)	23.31	22.37	21.67
		668 (133172)	23.39	22.45	21.69
	25RB-Low (0)	693 (133422)	23.24	22.41	21.65
		680.5 (133297)	23.30	22.34	21.66
		668 (133172)	23.32	22.44	21.62
	50RB (0)	693 (133422)	23.29	22.36	21.53
		680.5 (133297)	23.27	22.28	21.52
		668 (133172)	23.39	22.42	21.56

15MHz	1RB-High (74)	690.5 (133397)	24.15	23.09	22.64
		680.5 (133297)	24.17	23.67	22.64
		670.5 (133197)	24.23	23.26	22.70
	1RB-Middle (37)	690.5 (133397)	24.24	23.20	22.60
		680.5 (133297)	24.20	23.64	22.65
		670.5 (133197)	24.22	23.18	22.68
	1RB-Low (0)	690.5 (133397)	24.22	23.20	22.68
		680.5 (133297)	24.26	23.64	22.54
		670.5 (133197)	24.35	23.37	22.50
	36RB-High (38)	690.5 (133397)	23.14	22.15	21.52
		680.5 (133297)	23.15	22.16	21.50
		670.5 (133197)	23.20	22.16	21.43
	36RB-Middle (19)	690.5 (133397)	23.09	22.17	21.56
		680.5 (133297)	23.12	22.09	21.43
		670.5 (133197)	23.23	22.21	21.57
	36RB-Low (0)	690.5 (133397)	23.15	22.16	21.50
		680.5 (133297)	23.18	22.13	21.57
		670.5 (133197)	23.23	22.20	21.57
	75RB (0)	690.5 (133397)	23.16	22.18	21.46
		680.5 (133297)	23.14	22.18	21.48
		670.5 (133197)	23.25	22.26	21.48
20MHz	1RB-High (99)	688 (133372)	24.18	23.76	22.56
		683 (133322)	24.20	23.75	22.60
		673 (133222)	24.24	23.67	22.65
	1RB-Middle (50)	688 (133372)	24.17	23.68	22.67
		683 (133322)	24.19	23.71	22.71
		673 (133222)	24.14	23.62	22.49
	1RB-Low (0)	688 (133372)	24.17	23.79	22.73
		683 (133322)	24.18	23.62	22.62
		673 (133222)	24.26	23.65	22.52
	50RB-High (50)	688 (133372)	23.08	22.08	21.52
		683 (133322)	23.14	22.18	21.47
		673 (133222)	23.16	22.23	21.58
	50RB-Middle (25)	688 (133372)	23.26	22.32	21.47
		683 (133322)	23.21	22.24	21.49
		673 (133222)	23.29	22.29	21.57
	50RB-Low (0)	688 (133372)	23.18	22.18	21.56
		683 (133322)	23.15	22.14	21.53
		673 (133222)	23.17	22.14	21.53
	100RB (0)	688 (133372)	23.21	22.24	21.39
		683 (133322)	23.14	22.17	21.43
		673 (133222)	23.27	22.30	21.50

Power level C1/D1

Band2-Low power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1909.3 (19193)	20.89	21.26	21.17
		1880 (18900)	21.02	21.17	21.42
		1850.7 (18607)	21.01	21.47	21.40
	1RB-Middle (3)	1909.3 (19193)	20.97	21.33	21.27
		1880 (18900)	21.13	21.20	21.50
		1850.7 (18607)	21.14	21.62	21.59
	1RB-Low (0)	1909.3 (19193)	20.91	21.28	21.19
		1880 (18900)	21.01	21.16	21.44
		1850.7 (18607)	21.13	21.57	21.47
	3RB-High (3)	1909.3 (19193)	20.82	21.12	21.11
		1880 (18900)	21.06	21.36	21.33
		1850.7 (18607)	21.03	21.28	21.32
	3RB-Middle (1)	1909.3 (19193)	20.91	21.22	21.31
		1880 (18900)	21.15	21.43	21.39
		1850.7 (18607)	21.17	21.38	21.40
	3RB-Low (0)	1909.3 (19193)	20.91	21.23	21.17
		1880 (18900)	21.15	21.32	21.37
		1850.7 (18607)	21.04	21.38	21.38
	6RB (0)	1909.3 (19193)	20.94	21.01	21.05
		1880 (18900)	21.04	21.37	21.25
		1850.7 (18607)	21.17	21.12	21.19
3MHz	1RB-High (14)	1908.5 (19185)	21.34	21.29	21.47
		1880 (18900)	21.36	21.82	21.66
		1851.5 (18615)	21.48	21.62	21.44
	1RB-Middle (7)	1908.5 (19185)	21.39	21.32	21.55
		1880 (18900)	21.43	21.86	21.59
		1851.5 (18615)	21.47	21.66	21.50
	1RB-Low (0)	1908.5 (19185)	21.36	21.36	21.60
		1880 (18900)	21.51	21.84	21.70
		1851.5 (18615)	21.55	21.69	21.55
	8RB-High (7)	1908.5 (19185)	21.42	21.55	21.40
		1880 (18900)	21.43	21.16	21.46
		1851.5 (18615)	21.59	21.32	21.31
	8RB-Middle (4)	1908.5 (19185)	21.45	21.57	21.44
		1880 (18900)	21.58	21.28	21.33
		1851.5 (18615)	21.60	21.36	21.29
	8RB-Low (0)	1908.5 (19185)	21.45	21.60	21.37
		1880 (18900)	21.54	21.29	21.38
		1851.5 (18615)	21.62	21.39	21.27
	15RB (0)	1908.5 (19185)	21.45	21.50	21.46
		1880 (18900)	21.49	21.16	21.33
		1851.5 (18615)	21.59	21.30	21.20

5MHz	1RB-High (24)	1907.5 (19175)	21.07	21.53	21.41
		1880 (18900)	21.45	21.59	21.61
		1852.5 (18625)	21.47	21.91	21.69
	1RB-Middle (12)	1907.5 (19175)	21.08	21.58	21.51
		1880 (18900)	21.56	21.72	21.66
		1852.5 (18625)	21.59	21.93	21.67
	1RB-Low (0)	1907.5 (19175)	21.09	21.53	21.23
		1880 (18900)	21.53	21.69	21.52
		1852.5 (18625)	21.49	21.92	21.59
	12RB-High (13)	1907.5 (19175)	21.13	21.51	21.36
		1880 (18900)	21.47	21.54	21.42
		1852.5 (18625)	21.54	21.71	21.34
	12RB-Middle (6)	1907.5 (19175)	21.19	21.54	21.44
		1880 (18900)	21.60	21.69	21.49
		1852.5 (18625)	21.65	21.81	21.39
	12RB-Low (0)	1907.5 (19175)	21.18	21.54	21.43
		1880 (18900)	21.56	21.69	21.48
		1852.5 (18625)	21.65	21.78	21.39
	25RB (0)	1907.5 (19175)	21.13	21.46	21.23
		1880 (18900)	21.53	21.56	21.12
		1852.5 (18625)	21.61	21.71	21.30
10MHz	1RB-High (49)	1905 (19150)	21.48	21.46	21.58
		1880 (18900)	21.34	21.24	21.28
		1855 (18650)	21.35	21.80	21.51
	1RB-Middle (24)	1905 (19150)	21.39	21.41	21.52
		1880 (18900)	21.53	21.50	21.68
		1855 (18650)	21.66	21.92	21.64
	1RB-Low (0)	1905 (19150)	21.44	21.48	21.62
		1880 (18900)	21.13	21.19	21.38
		1855 (18650)	21.35	21.66	21.39
	25RB-High (25)	1905 (19150)	21.43	21.47	21.34
		1880 (18900)	21.48	21.48	21.35
		1855 (18650)	21.52	21.51	21.33
	25RB-Middle (12)	1905 (19150)	21.50	21.62	21.45
		1880 (18900)	21.56	21.57	21.41
		1855 (18650)	21.67	21.69	21.30
	25RB-Low (0)	1905 (19150)	21.40	21.49	21.31
		1880 (18900)	21.53	21.53	21.44
		1855 (18650)	21.57	21.55	21.35
	50RB (0)	1905 (19150)	21.38	21.48	21.30
		1880 (18900)	21.47	21.38	21.49
		1855 (18650)	21.53	21.50	21.27

15MHz	1RB-High (74)	1902.5 (19125)	21.19	21.56	21.39
		1880 (18900)	21.26	21.74	21.37
		1857.5 (18675)	21.19	21.25	21.19
	1RB-Middle (37)	1902.5 (19125)	21.21	21.50	21.28
		1880 (18900)	21.28	21.65	21.51
		1857.5 (18675)	21.32	21.38	21.46
	1RB-Low (0)	1902.5 (19125)	21.25	21.56	21.39
		1880 (18900)	21.32	21.58	21.41
		1857.5 (18675)	21.15	21.18	21.30
	36RB-High (38)	1902.5 (19125)	21.29	21.30	21.27
		1880 (18900)	21.30	21.32	21.26
		1857.5 (18675)	21.33	21.36	21.37
	36RB-Middle (19)	1902.5 (19125)	21.27	21.31	21.63
		1880 (18900)	21.27	21.28	21.30
		1857.5 (18675)	21.33	21.32	21.36
	36RB-Low (0)	1902.5 (19125)	21.19	21.24	21.15
		1880 (18900)	21.28	21.29	21.29
		1857.5 (18675)	21.29	21.35	21.29
	75RB (0)	1902.5 (19125)	21.22	21.25	21.20
		1880 (18900)	21.21	21.26	21.27
		1857.5 (18675)	21.28	21.27	21.25
20MHz	1RB-High (99)	1900 (19100)	21.41	21.95	21.10
		1880 (18900)	21.58	21.95	21.09
		1860 (18700)	21.54	21.96	21.55
	1RB-Middle (50)	1900 (19100)	21.44	21.96	21.24
		1880 (18900)	21.53	21.96	21.41
		1860 (18700)	21.50	21.92	21.61
	1RB-Low (0)	1900 (19100)	21.47	21.98	21.21
		1880 (18900)	21.52	21.91	21.45
		1860 (18700)	21.52	21.96	21.59
	50RB-High (50)	1900 (19100)	21.43	21.42	21.42
		1880 (18900)	21.52	21.54	21.22
		1860 (18700)	21.54	21.56	21.13
	50RB-Middle (25)	1900 (19100)	21.53	21.49	21.47
		1880 (18900)	21.52	21.59	21.27
		1860 (18700)	21.65	21.65	21.34
	50RB-Low (0)	1900 (19100)	21.38	21.38	21.19
		1880 (18900)	21.46	21.51	21.25
		1860 (18700)	21.52	21.49	21.28
	100RB (0)	1900 (19100)	21.47	21.48	21.21
		1880 (18900)	21.49	21.45	21.52
		1860 (18700)	21.56	21.61	21.29

Band7-Low power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	22.93	23.14	21.58
		2535 (21100)	22.91	23.01	21.54
		2502.5 (20775)	22.96	23.04	21.43
	1RB-Middle (12)	2567.5 (21425)	22.90	23.19	21.59
		2535 (21100)	22.85	23.09	21.29
		2502.5 (20775)	22.87	23.11	21.77
	1RB-Low (0)	2567.5 (21425)	22.86	23.16	21.68
		2535 (21100)	22.97	23.01	22.14
		2502.5 (20775)	22.88	23.03	21.77
	12RB-High (13)	2567.5 (21425)	22.93	22.11	20.62
		2535 (21100)	22.86	21.89	20.92
		2502.5 (20775)	22.81	21.96	20.76
	12RB-Middle (6)	2567.5 (21425)	22.98	22.10	20.65
		2535 (21100)	23.00	21.97	20.93
		2502.5 (20775)	22.88	22.01	20.71
	12RB-Low (0)	2567.5 (21425)	22.91	22.06	20.64
		2535 (21100)	22.94	21.92	20.91
		2502.5 (20775)	22.80	21.93	20.70
	25RB (0)	2567.5 (21425)	22.96	22.01	20.56
		2535 (21100)	22.85	21.81	20.81
		2502.5 (20775)	22.85	21.87	20.68
10MHz	1RB-High (49)	2565 (21400)	22.90	23.02	21.60
		2535 (21100)	22.92	22.87	21.95
		2505 (20800)	22.88	23.19	21.81
	1RB-Middle (24)	2565 (21400)	22.85	23.00	21.58
		2535 (21100)	22.89	22.89	22.12
		2505 (20800)	22.91	23.19	21.83
	1RB-Low (0)	2565 (21400)	22.84	22.91	21.61
		2535 (21100)	22.89	22.96	21.95
		2505 (20800)	22.89	23.14	21.73
	25RB-High (25)	2565 (21400)	22.99	22.11	20.60
		2535 (21100)	22.84	21.97	20.83
		2505 (20800)	22.86	21.95	20.59
	25RB-Middle (12)	2565 (21400)	22.93	22.10	20.65
		2535 (21100)	22.85	21.95	20.86
		2505 (20800)	22.85	21.90	20.62
	25RB-Low (0)	2565 (21400)	22.91	22.08	20.63
		2535 (21100)	22.92	22.03	20.84
		2505 (20800)	22.90	21.99	20.66
	50RB (0)	2565 (21400)	22.85	22.04	20.58
		2535 (21100)	22.82	21.83	20.79
		2505 (20800)	22.75	21.83	20.53

15MHz	1RB-High (74)	2562.5 (21375)	22.81	23.14	21.50
		2535 (21100)	22.82	23.18	21.78
		2507.5 (20825)	22.74	22.73	21.61
	1RB-Middle (37)	2562.5 (21375)	22.84	23.11	21.54
		2535 (21100)	22.76	23.07	21.84
		2507.5 (20825)	22.77	22.77	21.77
	1RB-Low (0)	2562.5 (21375)	22.81	23.07	21.72
		2535 (21100)	22.77	23.11	21.92
		2507.5 (20825)	22.78	22.74	21.83
	36RB-High (38)	2562.5 (21375)	22.82	21.86	20.61
		2535 (21100)	22.78	21.78	20.68
		2507.5 (20825)	22.74	21.79	20.49
	36RB-Middle (19)	2562.5 (21375)	22.85	21.94	20.63
		2535 (21100)	22.78	21.73	20.71
		2507.5 (20825)	22.80	21.87	20.58
	36RB-Low (0)	2562.5 (21375)	22.84	21.87	20.82
		2535 (21100)	22.79	21.79	20.75
		2507.5 (20825)	22.77	21.81	20.54
	75RB (0)	2562.5 (21375)	22.82	21.82	20.65
		2535 (21100)	22.70	21.71	20.70
		2507.5 (20825)	22.66	21.71	20.47
20MHz	1RB-High (99)	2560 (21350)	22.79	23.23	21.62
		2535 (21100)	22.76	22.97	21.75
		2510 (20850)	22.78	23.18	21.71
	1RB-Middle (50)	2560 (21350)	22.66	23.14	21.69
		2535 (21100)	22.65	22.94	21.78
		2510 (20850)	22.64	23.05	21.52
	1RB-Low (0)	2560 (21350)	22.65	22.95	21.86
		2535 (21100)	22.65	22.90	21.73
		2510 (20850)	22.69	23.01	21.61
	50RB-High (50)	2560 (21350)	22.77	21.62	20.62
		2535 (21100)	22.79	21.56	20.67
		2510 (20850)	22.81	21.58	20.56
	50RB-Middle (25)	2560 (21350)	22.78	21.72	20.72
		2535 (21100)	22.77	21.54	20.78
		2510 (20850)	22.83	21.59	20.53
	50RB-Low (0)	2560 (21350)	22.79	21.65	20.73
		2535 (21100)	22.79	21.59	20.65
		2510 (20850)	22.85	21.64	20.56
	100RB (0)	2560 (21350)	22.67	21.62	20.62
		2535 (21100)	22.69	21.57	20.63
		2510 (20850)	22.72	21.55	20.43

Band25-Low power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	21.33	21.75	21.45
		1882.5 (26365)	21.47	21.56	21.62
		1850.7 (26047)	21.56	21.42	21.83
	1RB-Middle (3)	1914.3 (26683)	21.38	21.86	21.45
		1882.5 (26365)	21.51	21.59	21.74
		1850.7 (26047)	21.61	21.46	21.82
	1RB-Low (0)	1914.3 (26683)	21.26	21.73	21.46
		1882.5 (26365)	21.47	21.50	21.68
		1850.7 (26047)	21.54	21.35	21.78
	3RB-High (3)	1914.3 (26683)	21.36	21.61	21.46
		1882.5 (26365)	21.44	21.72	21.51
		1850.7 (26047)	21.51	21.36	21.74
	3RB-Middle (1)	1914.3 (26683)	21.34	21.61	21.45
		1882.5 (26365)	21.44	21.71	21.72
		1850.7 (26047)	21.55	21.35	21.79
	3RB-Low (0)	1914.3 (26683)	21.30	21.56	21.39
		1882.5 (26365)	21.36	21.68	21.62
		1850.7 (26047)	21.43	21.34	21.68
	6RB (0)	1914.3 (26683)	21.42	21.35	21.63
		1882.5 (26365)	21.50	21.40	21.50
		1850.7 (26047)	21.55	21.45	21.35
3MHz	1RB-High (14)	1913.5 (26675)	21.45	21.41	21.60
		1882.5 (26365)	21.50	21.98	21.74
		1851.5 (26055)	21.58	21.72	21.80
	1RB-Middle (7)	1913.5 (26675)	21.32	21.38	21.51
		1882.5 (26365)	21.45	21.91	21.77
		1851.5 (26055)	21.50	21.69	21.70
	1RB-Low (0)	1913.5 (26675)	21.35	21.35	21.57
		1882.5 (26365)	21.45	21.95	21.69
		1851.5 (26055)	21.55	21.67	21.80
	8RB-High (7)	1913.5 (26675)	21.51	21.64	21.01
		1882.5 (26365)	21.59	21.62	21.65
		1851.5 (26055)	21.65	21.74	21.54
	8RB-Middle (4)	1913.5 (26675)	21.51	21.60	21.16
		1882.5 (26365)	21.62	21.67	21.64
		1851.5 (26055)	21.66	21.75	21.52
	8RB-Low (0)	1913.5 (26675)	21.44	21.54	21.28
		1882.5 (26365)	21.57	21.63	21.61
		1851.5 (26055)	21.62	21.71	21.48
	15RB (0)	1913.5 (26675)	21.51	21.54	21.12
		1882.5 (26365)	21.54	21.56	21.50
		1851.5 (26055)	21.65	21.65	21.44

5MHz	1RB-High (24)	1912.5 (26665)	21.06	21.17	21.49
		1882.5 (26365)	21.17	21.66	21.66
		1852.5 (26065)	21.18	21.97	21.81
	1RB-Middle (12)	1912.5 (26665)	21.01	21.18	21.42
		1882.5 (26365)	21.22	21.70	21.76
		1852.5 (26065)	21.11	21.98	21.82
	1RB-Low (0)	1912.5 (26665)	21.03	21.07	21.53
		1882.5 (26365)	21.01	21.61	21.68
		1852.5 (26065)	21.10	21.96	21.72
	12RB-High (13)	1912.5 (26665)	21.07	21.09	21.01
		1882.5 (26365)	21.06	21.58	21.63
		1852.5 (26065)	21.23	21.76	21.78
	12RB-Middle (6)	1912.5 (26665)	21.15	21.03	21.28
		1882.5 (26365)	21.28	21.63	21.61
		1852.5 (26065)	21.22	21.73	21.52
	12RB-Low (0)	1912.5 (26665)	21.11	21.15	21.43
		1882.5 (26365)	21.22	21.59	21.64
		1852.5 (26065)	21.16	21.68	21.48
	25RB (0)	1912.5 (26665)	21.06	21.10	21.20
		1882.5 (26365)	21.11	21.54	21.45
		1852.5 (26065)	21.26	21.64	21.39
10MHz	1RB-High (49)	1910 (26640)	21.50	21.31	21.51
		1882.5 (26365)	21.21	21.31	21.27
		1855 (26090)	21.32	21.41	21.46
	1RB-Middle (24)	1910 (26640)	21.39	21.30	21.37
		1882.5 (26365)	21.45	21.39	21.67
		1855 (26090)	21.48	21.70	21.71
	1RB-Low (0)	1910 (26640)	21.46	21.33	21.57
		1882.5 (26365)	21.22	21.26	21.41
		1855 (26090)	21.33	21.79	21.52
	25RB-High (25)	1910 (26640)	21.49	21.47	21.23
		1882.5 (26365)	21.45	21.47	21.46
		1855 (26090)	21.32	21.57	21.47
	25RB-Middle (12)	1910 (26640)	21.54	21.49	21.48
		1882.5 (26365)	21.51	21.49	21.62
		1855 (26090)	21.63	21.70	21.39
	25RB-Low (0)	1910 (26640)	21.41	21.36	21.29
		1882.5 (26365)	21.45	21.47	21.46
		1855 (26090)	21.54	21.49	21.38
	50RB (0)	1910 (26640)	21.51	21.35	21.32
		1882.5 (26365)	21.45	21.37	21.48
		1855 (26090)	21.42	21.46	21.36

15MHz	1RB-High (74)	1907.5 (26615)	21.36	21.75	21.60
		1882.5 (26365)	21.42	21.79	21.54
		1857.5 (26115)	21.32	21.47	21.51
	1RB-Middle (37)	1907.5 (26615)	21.39	21.78	21.65
		1882.5 (26365)	21.47	21.87	21.64
		1857.5 (26115)	21.56	21.53	21.60
	1RB-Low (0)	1907.5 (26615)	21.39	21.83	21.64
		1882.5 (26365)	21.56	21.90	21.68
		1857.5 (26115)	21.30	21.23	21.42
	36RB-High (38)	1907.5 (26615)	21.46	21.55	21.52
		1882.5 (26365)	21.47	21.46	21.38
		1857.5 (26115)	21.54	21.54	21.47
	36RB-Middle (19)	1907.5 (26615)	21.44	21.47	21.52
		1882.5 (26365)	21.50	21.46	21.47
		1857.5 (26115)	21.56	21.55	21.42
	36RB-Low (0)	1907.5 (26615)	21.35	21.40	21.46
		1882.5 (26365)	21.44	21.45	21.32
		1857.5 (26115)	21.52	21.50	21.38
	75RB (0)	1907.5 (26615)	21.43	21.39	21.18
		1882.5 (26365)	21.38	21.45	21.35
		1857.5 (26115)	21.47	21.46	21.38
20MHz	1RB-High (99)	1905 (26590)	21.39	21.76	21.62
		1882.5 (26365)	21.52	21.74	21.82
		1860 (26140)	21.50	21.99	21.72
	1RB-Middle (50)	1905 (26590)	21.39	21.96	21.68
		1882.5 (26365)	21.48	21.76	21.78
		1860 (26140)	21.53	21.96	21.81
	1RB-Low (0)	1905 (26590)	21.43	21.75	21.61
		1882.5 (26365)	21.48	21.80	21.83
		1860 (26140)	21.56	21.95	21.76
	50RB-High (50)	1905 (26590)	21.36	21.22	21.43
		1882.5 (26365)	21.47	21.33	21.62
		1860 (26140)	21.53	21.41	21.62
	50RB-Middle (25)	1905 (26590)	21.48	21.36	21.53
		1882.5 (26365)	21.52	21.34	21.62
		1860 (26140)	21.61	21.52	21.46
	50RB-Low (0)	1905 (26590)	21.48	21.37	21.50
		1882.5 (26365)	21.56	21.45	21.67
		1860 (26140)	21.61	21.52	21.41
	100RB (0)	1905 (26590)	21.39	21.32	21.46
		1882.5 (26365)	21.44	21.26	21.53
		1860 (26140)	21.52	21.41	21.48

Band66-Low power					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	21.72	21.74	21.52
		1745 (132322)	21.71	21.79	21.82
		1710.7 (131979)	20.09	21.88	21.66
	1RB-Middle (3)	1779.3 (132665)	21.85	21.81	21.54
		1745 (132322)	21.85	21.86	21.80
		1710.7 (131979)	21.65	22.04	21.76
	1RB-Low (0)	1779.3 (132665)	21.58	21.79	21.57
		1745 (132322)	21.56	21.84	21.84
		1710.7 (131979)	21.54	21.96	21.65
	3RB-High (3)	1779.3 (132665)	21.68	21.92	21.59
		1745 (132322)	21.60	21.72	21.82
		1710.7 (131979)	21.47	21.71	21.67
	3RB-Middle (1)	1779.3 (132665)	21.75	22.01	21.56
		1745 (132322)	21.68	21.75	21.81
		1710.7 (131979)	21.55	21.81	21.69
	3RB-Low (0)	1779.3 (132665)	21.73	21.93	21.64
		1745 (132322)	21.69	21.73	21.77
		1710.7 (131979)	21.54	21.80	21.70
	6RB (0)	1779.3 (132665)	21.76	21.93	21.04
		1745 (132322)	21.74	21.83	21.62
		1710.7 (131979)	21.56	21.46	21.43
3MHz	1RB-High (14)	1778.5 (132657)	21.84	22.19	21.80
		1745 (132322)	21.71	21.71	21.84
		1711.5 (131987)	21.59	21.46	21.62
	1RB-Middle (7)	1778.5 (132657)	21.60	21.99	21.78
		1745 (132322)	21.47	21.74	21.79
		1711.5 (131987)	21.69	21.54	21.72
	1RB-Low (0)	1778.5 (132657)	21.32	22.28	21.77
		1745 (132322)	21.74	21.79	21.81
		1711.5 (131987)	21.14	21.59	21.77
	8RB-High (7)	1778.5 (132657)	21.54	21.91	21.82
		1745 (132322)	21.55	21.81	21.79
		1711.5 (131987)	21.73	21.70	21.56
	8RB-Middle (4)	1778.5 (132657)	21.85	21.97	21.04
		1745 (132322)	21.85	21.86	21.83
		1711.5 (131987)	21.65	21.81	21.63
	8RB-Low (0)	1778.5 (132657)	21.86	21.98	21.18
		1745 (132322)	21.75	21.78	21.70
		1711.5 (131987)	21.65	21.77	21.63
	15RB (0)	1778.5 (132657)	21.87	21.92	21.53
		1745 (132322)	21.86	21.73	21.77
		1711.5 (131987)	21.68	21.70	21.69

5MHz	1RB-High (24)	1777.5 (132647)	21.72	21.68	21.70
		1745 (132322)	21.69	21.99	21.68
		1712.5 (131997)	21.56	21.57	21.61
	1RB-Middle (12)	1777.5 (132647)	21.85	21.70	21.68
		1745 (132322)	21.75	22.04	21.72
		1712.5 (131997)	21.59	21.61	21.67
	1RB-Low (0)	1777.5 (132647)	21.81	21.72	21.81
		1745 (132322)	21.71	21.99	21.78
		1712.5 (131997)	21.59	21.65	21.70
	12RB-High (13)	1777.5 (132647)	21.84	21.64	21.71
		1745 (132322)	21.79	21.68	21.75
		1712.5 (131997)	21.60	21.54	21.56
	12RB-Middle (6)	1777.5 (132647)	21.92	21.69	21.23
		1745 (132322)	21.84	21.72	21.74
		1712.5 (131997)	21.72	21.77	21.68
	12RB-Low (0)	1777.5 (132647)	21.93	21.70	21.17
		1745 (132322)	21.76	21.69	21.73
		1712.5 (131997)	21.66	21.81	21.65
	25RB (0)	1777.5 (132647)	21.86	21.62	21.17
		1745 (132322)	21.83	21.61	21.72
		1712.5 (131997)	21.66	21.72	21.58
10MHz	1RB-High (49)	1775 (132622)	21.52	21.99	21.71
		1745 (132322)	21.50	21.51	21.70
		1715 (132022)	21.30	21.42	21.57
	1RB-Middle (24)	1775 (132622)	21.70	21.98	21.82
		1745 (132322)	21.74	21.78	21.81
		1715 (132022)	21.45	21.51	21.78
	1RB-Low (0)	1775 (132622)	21.49	21.87	21.48
		1745 (132322)	21.99	21.43	21.55
		1715 (132022)	21.37	21.39	21.44
	25RB-High (25)	1775 (132622)	21.84	21.83	21.36
		1745 (132322)	21.58	21.80	21.70
		1715 (132022)	21.56	21.63	21.69
	25RB-Middle (12)	1775 (132622)	21.82	21.87	21.82
		1745 (132322)	21.61	21.79	21.68
		1715 (132022)	21.64	21.74	21.59
	25RB-Low (0)	1775 (132622)	21.75	21.77	21.82
		1745 (132322)	21.52	21.73	21.61
		1715 (132022)	21.53	21.60	21.59
	50RB (0)	1775 (132622)	21.78	21.72	21.56
		1745 (132322)	21.58	21.69	21.57
		1715 (132022)	21.58	21.61	21.54

15MHz	1RB-High (74)	1772.5 (132597)	21.63	21.99	21.84
		1745 (132322)	21.45	21.38	21.74
		1717.5 (132047)	21.44	21.73	21.40
	1RB-Middle (37)	1772.5 (132597)	21.63	21.99	21.82
		1745 (132322)	21.56	21.70	21.70
		1717.5 (132047)	21.49	21.90	21.53
	1RB-Low (0)	1772.5 (132597)	21.69	21.94	21.72
		1745 (132322)	21.39	21.38	21.44
		1717.5 (132047)	21.34	21.72	21.34
	36RB-High (38)	1772.5 (132597)	21.69	21.72	21.47
		1745 (132322)	21.64	21.67	21.32
		1717.5 (132047)	21.53	21.61	21.53
	36RB-Middle (19)	1772.5 (132597)	21.68	21.66	21.65
		1745 (132322)	21.62	21.61	21.58
		1717.5 (132047)	21.59	21.66	21.25
	36RB-Low (0)	1772.5 (132597)	21.63	21.60	21.63
		1745 (132322)	21.57	21.58	21.51
		1717.5 (132047)	21.54	21.59	21.51
	75RB (0)	1772.5 (132597)	21.62	21.66	21.58
		1745 (132322)	21.54	21.58	21.46
		1717.5 (132047)	21.54	21.52	21.23
20MHz	1RB-High (99)	1770 (132572)	21.74	21.99	21.80
		1745 (132322)	21.37	21.68	21.65
		1720 (132072)	21.27	21.76	21.49
	1RB-Middle (50)	1770 (132572)	21.61	21.85	21.73
		1745 (132322)	21.50	21.81	21.72
		1720 (132072)	21.41	21.88	21.67
	1RB-Low (0)	1770 (132572)	21.58	21.95	21.81
		1745 (132322)	21.17	21.53	21.49
		1720 (132072)	21.12	21.65	21.35
	50RB-High (50)	1770 (132572)	21.65	21.55	21.73
		1745 (132322)	21.57	21.46	21.46
		1720 (132072)	21.48	21.44	21.61
	50RB-Middle (25)	1770 (132572)	21.73	21.65	21.85
		1745 (132322)	21.60	21.49	21.69
		1720 (132072)	21.57	21.51	21.08
	50RB-Low (0)	1770 (132572)	21.57	21.50	21.65
		1745 (132322)	21.49	21.41	21.66
		1720 (132072)	21.37	21.35	21.45
	100RB (0)	1770 (132572)	21.53	21.47	21.73
		1745 (132322)	21.51	21.47	21.60
		1720 (132072)	21.44	21.42	21.10

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive. SAR test is not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

The device supports Intra-band uplink LTE Carrier Aggregation (CA) CA_B41C. The conducted power measurement results of LTE CA are provided as follow.

All other uplink communications are identical to the release 8 specifications. Other LTE Rel.10 or higher features are not supported, including Enhanced SC-FDMA or Uplink MIMO etc.

The conducted power measurement results of LTE downlink 3CA are as below :

DL LTE CA Class	PCC								SCC1			SCC2			Power		
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC DL Channel	Rel 8 LTE Tx Power(dBm)	Rel 10 DL LTE CA Tx Power(dBm)	Tune-up
2A-4A-12A	2	20	1	99	1	99	18700	1860	4	20	2050	12	10	5060	24.19	24.18	25
2A-4A-12A	12	10	1	0	1	0	23060	5060	2	20	1860	4	20	2300	24.42	24.37	25.5
4A-4A-12A	12	10	1	0	1	0	23060	5060	4	20	2050	4	20	2300	24.42	24.3	25.5
2A-2A-4A	2	20	1	99	1	99	18700	1860	2	5	1175	4	20	2050	24.19	23.94	25
2A-4A-4A	2	20	1	99	1	99	18700	1860	4	20	2050	4	20	2300	24.19	24.24	25
2A-4A-5A	2	20	1	99	1	99	18700	1860	4	20	2050	5	10	2525	24.19	23.97	25
2A-2A-12A	2	20	1	99	1	99	18700	700	2	5	1175	12	10	5060	24.19	24.01	25
2A-2A-12A	12	10	1	0	1	0	23060	5060	2	20	700	2	5	1175	24.42	24.47	25.5
2A-5A-66A	2	20	1	99	1	99	18700	700	5	10	2525	66	20	2145	24.19	24.21	25
2A-5A-66A	66	20	1	49	1	49	132322	2145	2	20	700	5	10	2525	24.21	24	25
2A-12A-66A	2	20	1	99	1	99	18700	700	12	10	5060	66	20	2145	24.19	24.25	25
2A-12A-66A	12	10	1	0	1	0	23060	5060	2	20	700	66	20	2145	24.42	24.24	25.5
2A-12A-66A	66	20	1	49	1	49	132322	2145	12	10	5060	2	20	700	24.21	24.05	25
12A-66A-66A	12	10	1	0	1	0	23060	5060	66	5	66416	66	20	67036	24.42	24.31	25.5
12A-66A-66A	66	5	1	49	1	49	132572	66416	66	20	67036	12	10	5060	24.42	24.22	25.5
12A-66C	12	10	1	0	1	0	23060	5060	66	20	66787	66	20	66985	24.42	24.34	25.5
12A-66C	66	20	1	49	1	49	132323	66787	66	20	66985	12	10	5060	24.21	24.1	25
2A-66A-66A	2	20	1	99	1	99	18700	700	66	5	66416	66	20	67036	24.19	24.16	25
2A-66A-66A	66	5	1	49	1	49	132572	66416	66	20	67036	2	20	700	24.21	24.27	25
2A-66C	2	20	1	99	1	99	18700	700	66	20	66787	66	20	66985	24.19	23.93	25
2A-66C	66	20	1	49	1	49	132323	66787	66	20	66985	2	20	1860	24.21	23.97	25
2A-2A-66A	2	20	1	99	1	99	18700	700	2	5	1175	66	20	2145	24.19	24.03	25
2A-2A-66A	66	20	1	49	1	49	132322	2145	2	20	700	2	5	1175	24.21	24.08	25
2C-66A	2	20	1	99	1	99	18700	700	2	5	817	66	20	2145	24.19	23.9	25
2C-66A	66	20	1	49	1	49	132322	2145	2	20	700	2	5	817	24.21	24.05	25
2A-4A-71A	2	20	1	99	1	99	18700	700	4	20	2050	71	20	68686	24.19	24.15	25
2A-4A-71A	71	20	1	0	1	0	133222	68686	2	20	700	4	20	2050	24.26	24.28	25.5
4A-4A-71A	71	20	1	0	1	0	133222	68686	4	20	2050	4	20	2300	24.26	24.15	25.5
66C-71A	66	20	1	49	1	49	132323	66787	66	20	66985	71	20	68686	24.21	24.12	25
66C-71A	71	20	1	0	1	0	133222	68686	66	20	66787	66	20	66985	24.26	24.09	25.5
2A-2A-71A	2	20	1	99	1	99	18700	700	2	5	1175	71	20	68686	24.19	23.99	25
2A-2A-71A	71	20	1	0	1	0	133222	68686	2	20	700	2	5	1175	24.26	24.34	25.5
2A-66A-71A	2	20	1	99	1	99	18700	700	66	20	2145	71	20	68686	24.19	24.23	25
2A-66A-71A	66	20	1	49	1	49	132323	66787	2	20	700	71	20	68686	24.21	23.95	25
2A-66A-71A	71	20	1	0	1	0	133222	68686	2	20	700	66	20	2145	24.26	24	25.5
66A-66A-71A	66	5	1	49	1	49	132572	66416	66	20	67036	71	20	68686	24.21	24.15	25
66A-66A-71A	71	20	1	0	1	0	133222	68686	66	5	66416	66	20	67036	24.26	24.12	25.5
41D	41	20	1	99	1	99	39750	39750	41	10	39894	41	15	40014	24.84	24.74	25
25A-25A-26A	25	20	1	99	1	99	26140	8140	25	5	8665	26	15	8965	24.35	24.42	25
25A-25A-26A	26	15	1	37	1	37	26965	8965	25	20	8140	25	5	8665	24.43	24.35	25.5
25A-41C	25	20	1	99	1	99	26140	8140	41	20	39750	41	5	39867	24.35	24.4	25
25A-41C	41	20	1	99	1	99	39750	39750	41	5	39867	25	20	8140	24.84	24.62	25
2A-13A-66A	2	20	1	99	1	99	18700	700	13	10	5230	66	20	66787	24.19	23.97	25
2A-13A-66A	13	10	1	49	1	49	23230	5230	2	20	700	66	20	66787	24.12	24.13	25
2A-13A-66A	66	20	1	50	1	50	132332	66786	13	10	23230	2	20	700	24.21	24.16	25
2A-2A-13A	2	20	1	99	1	99	18700	700	2	5	1175	13	10	5230	24.19	24.19	25
2A-2A-13A	13	10	1	49	1	49	23230	5230	2	20	700	2	5	1175	24.12	23.98	25
2A-2A-5A	2	20	1	99	1	99	18700	700	2	5	1175	5	10	2525	24.19	24.11	25
2A-4A-13A	2	20	1	99	1	99	18700	700	4	20	2050	13	10	5230	24.19	24.19	25
2A-4A-13A	13	10	1	49	1	49	23230	5230	2	20	700	4	20	2050	24.12	23.92	25
2A-4A-13A	13	10	1	49	1	49	23230	5230	4	20	2050	2	20	700	24.12	24.03	25
2A-5A-66A	2	20	1	99	1	99	18700	700	5	10	2525	66	20	66786	24.19	24.28	25
2A-5A-66A	66	20	1	50	1	50	132332	66786	2	20	700	5	10	2525	24.21	24.02	25
4A-4A-13A	13	10	1	49	1	49	23230	5230	4	20	2050	4	20	2300	24.12	24.14	25
5A-66C	66	20	1	49	1	49	132323	66787	66	20	66985	5	10	2525	24.21	24.16	25
13A-66C	13	10	1	49	1	49	23230	5230	66	20	66787	66	20	66985	24.12	24.13	25
13A-66C	66	20	1	49	1	49	132323	66787	66	20	66985	13	10	5230	24.21	24.1	25

The conducted power measurement results of LTE downlink 2CA are as below :

DL LTE CA Class	PCC								SCC1			Power		
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC DL Channel	Rel 8 LTETx Power(dBm)	Rel 10 DL LTE CA Tx Power(dBm)	Tune-up
66B	66	5	1	0	1	0	132000	66464	66	10	66536	24.21	23.95	25
41A-41A	41	20	1	99	1	99	39750	39750	41	5	41565	24.84	24.87	25
25A-25A	25	20	1	99	1	99	26140	8140	25	5	8665	24.35	24.2	25
25A-26A	25	20	1	99	1	99	26140	8140	26	15	8965	24.35	24.31	25
25A-26A	26	15	1	37	1	37	26965	8965	25	20	8140	24.43	24.27	25.5
25A-41A	25	20	1	99	1	99	26140	8140	41	20	39750	24.35	24.38	25
25A-41A	41	20	1	99	1	99	39750	39750	25	20	8140	24.84	24.73	25
26A-41A	26	15	1	37	1	37	26965	8965	41	20	39750	24.43	24.38	25.5
26A-41A	41	20	1	99	1	99	39750	39750	26	15	8965	24.84	24.81	25
2A-7A	2	20	1	99	1	99	18700	700	7	20	2850	24.19	24	25
2A-7A	7	20	1	99	1	99	20850	2850	2	20	700	23.42	23.43	24.5
7A-12A	7	20	1	99	1	99	20850	2850	12	10	5060	23.42	23.18	24.5
7A-12A	12	10	1	0	1	0	23060	5060	7	20	2850	24.42	24.22	25.5
7A-7A	7	20	1	99	1	99	20850	2850	7	5	3425	23.42	23.52	24.5

The conducted power measurement results of LTE uplink 2CA are as below :

CA 41C(PC3)								
PCC				SCC				conducted power (dBm)
PCC Bandwidth	channel	RB	RB OFFSET	SCC Bandwidth	channel	RB	RB OFFSET	
20M	39750	1	99	5M	39867	1	0	24.59
15M	39725	1	99	10M	39845	1	0	24.58
20M	39750	1	99	10M	39894	1	0	24.51
20M	39750	1	99	15M	39921	1	0	24.43
20M	39750	1	99	20M	39948	1	0	24.89
20M	41490	1	0	5M	41373	1	99	19.41
15M	41515	1	0	10M	41395	1	99	19.52
20M	41490	1	0	10M	41346	1	99	20.39
15M	41515	1	0	15M	41365	1	99	19.46
20M	41490	1	0	15M	41319	1	99	19.91
20M	41490	1	0	20M	41292	1	99	21.68

CA 41C(PC2)								
PCC				SCC				conducted power (dBm)
PCC Bandwidth	channel	RB	RB OFFSET	SCC Bandwidth	channel	RB	RB OFFSET	
20M	39750	1	99	5M	39867	1	0	25.17
15M	39725	1	99	10M	39845	1	0	25.13
20M	39750	1	99	10M	39894	1	0	25.08
20M	39750	1	99	15M	39921	1	0	25.12
20M	39750	1	99	20M	39948	1	0	25.14
20M	41490	1	0	5M	41373	1	99	18.85
15M	41515	1	0	10M	41395	1	99	20.1
20M	41490	1	0	10M	41346	1	99	18.9
15M	41515	1	0	15M	41365	1	99	20.41
20M	41490	1	0	15M	41319	1	99	20.31
20M	41490	1	0	20M	41292	1	99	20.2

11.5 5G NR Measurement result

Normal power

5G-n25-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1912.5	382500	24.5	23.01
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1882.5	376500	25.5	24.21
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1852.5	370500	24.5	22.98
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1905	381000	24.5	23.30
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1882.5	376500	25.5	24.35
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1860	372000	24.5	23.28
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	1882.5	376500	25.5	24.37
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1882.5	376500	24.5	23.41
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1882.5	376500	23	21.88
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1882.5	376500	21	19.89
15	20	CP-OFDM QPSK	Inner_Full	53@26	1882.5	376500	24	22.89
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1882.5	376500	23.5	22.43
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1882.5	376500	22	20.98
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1882.5	376500	19	17.95
15	20	DFT-s-OFDM PI/2 BPSK1	Edge_Full_Right	2@104	1882.5	376500	24.5	23.88
15	20	DFT-s-OFDM PI/2 BPSK1	Edge_Full_Left	2@0	1882.5	376500	24.5	23.85
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_1RB_Right	1@104	1882.5	376500	25.5	24.32
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_1RB_Left	1@1	1882.5	376500	25.5	24.31
15	20	DFT-s-OFDM PI/2 BPSK1	Outer_Full	100@0	1882.5	376500	24.5	23.95
15	10	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	1882.5	376500	25.5	24.45
15	15	DFT-s-OFDM PI/2 BPSK1	Inner_Full	36@19	1882.5	376500	25.5	24.38

5G-n66-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1777.5	355500	24	22.98
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1745	349000	25	23.99
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1712.5	342500	24	23.07
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1770	354000	24	23.41
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1745	349000	25	24.55
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1720	344000	24	23.46
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	1745	349000	25	24.41
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1745	349000	24	23.34
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1745	349000	22.5	21.93
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1745	349000	20.5	19.92
15	20	CP-OFDM QPSK	Inner_Full	53@26	1745	349000	23.5	22.88
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1745	349000	23	22.34
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1745	349000	21.5	20.93
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1745	349000	18.5	17.92
15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	1745	349000	24	23.54
15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	1745	349000	24	23.53
15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	1745	349000	25	24.43
15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	1745	349000	25	24.47
15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	1745	349000	24	23.46
15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	1745	349000	25	24.04
15	15	DFT-s-OFDM QPSK	Inner_Full	36@19	1745	349000	25	24.34

5G-n71-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	695.5	139100	24.5	23.51
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	680.5	136100	25.5	24.73
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	665.5	133100	24.5	23.43
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	688	137600	24.5	23.82
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	680.5	136100	25.5	25.02
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	673	134600	24.5	23.53
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	680.5	136100	25.5	24.90
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	680.5	136100	24.5	24.20
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	680.5	136100	23	22.63
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	680.5	136100	21	20.58
15	20	CP-OFDM QPSK	Inner_Full	53@26	680.5	136100	24	23.70
15	20	CP-OFDM 16QAM	Inner_Full	53@26	680.5	136100	23.5	23.15
15	20	CP-OFDM 64QAM	Inner_Full	53@26	680.5	136100	22	21.74
15	20	CP-OFDM 256QAM	Inner_Full	53@26	680.5	136100	19	18.47
15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	680.5	136100	24.5	23.94
15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	680.5	136100	24.5	24.10
15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	680.5	136100	25.5	24.95
15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	680.5	136100	25.5	24.92
15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	680.5	136100	24.5	24.08
15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	680.5	136100	25.5	24.68
15	15	DFT-s-OFDM QPSK	Inner_Full	36@19	680.5	136100	25.5	24.71

5G-n2-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1907.5	381500	24	23.01
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1880	376000	25	24.38
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1852.5	370500	24	22.86
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1900	380000	24	23.23
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1880	376000	25	24.37
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1860	372000	24	23.18
15	5	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	1880	370500	25	23.95
15	5	DFT-s-OFDM 16QAM	Inner_Full	12@6	1880	370500	24	22.99
15	5	DFT-s-OFDM 64QAM	Inner_Full	12@6	1880	370500	22.5	21.43
15	5	DFT-s-OFDM 256QAM	Inner_Full	12@6	1880	370500	20.5	19.51
15	5	CP-OFDM QPSK	Inner_Full	13@6	1880	370500	23.5	22.48
15	5	CP-OFDM 16QAM	Inner_Full	13@6	1880	370500	23.5	22.15
15	5	CP-OFDM 64QAM	Inner_Full	13@6	1880	370500	21.5	20.55
15	5	CP-OFDM 256QAM	Inner_Full	13@6	1880	370500	18.5	17.48
15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2@23	1880	370500	24	22.97
15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	1880	370500	24	22.93
15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1@23	1880	370500	25	24.2
15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	1880	370500	25	24.18
15	5	DFT-s-OFDM QPSK	Outer_Full	25@0	1880	370500	24	23.00
15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	1880	376000	25	24.66
15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	1880	376000	25	24.29

5G-n5-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	846.5	169300	24	22.85
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	836.5	167300	25	24.12
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	826.5	165300	24	23.15
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	839	167800	24	23.23
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	836.5	167300	25	24.52
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	834	166800	24	23.55
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	836.5	167300	25	24.48
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	836.5	167300	24	23.54
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	836.5	167300	22.5	22.01
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	836.5	167300	20.5	20.44
15	20	CP-OFDM QPSK	Inner_Full	53@26	836.5	167300	23.5	23.11
15	20	CP-OFDM 16QAM	Inner_Full	53@26	836.5	167300	23	22.62
15	20	CP-OFDM 64QAM	Inner_Full	53@26	836.5	167300	21.5	21.48
15	20	CP-OFDM 256QAM	Inner_Full	53@26	836.5	167300	18.5	18.49
15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	836.5	165300	24	23.33
15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	836.5	165300	24	23.96
15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	836.5	165300	25	24.28
15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	836.5	165300	25	24.66
15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	836.5	165300	24	23.48
15	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	836.5	167300	25	24.15
15	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	836.5	167300	25	24.48

5G-n25-Normal power								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1912.5	382500	24	23.07
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1882.5	376500	25	23.93
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1852.5	370500	24	23.06
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1905	381000	24	23.30
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1882.5	376500	25	24.40
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1860	372000	24	23.34
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	1882.5	376500	25	24.39
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1882.5	376500	24	23.35
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1882.5	376500	22.5	21.92
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1882.5	376500	20.5	19.90
15	20	CP-OFDM QPSK	Inner_Full	53@26	1882.5	376500	23.5	22.90
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1882.5	376500	23	22.39
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1882.5	376500	21.5	21.02
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1882.5	376500	18.5	18.40
15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	1882.5	370500	24	23.41
15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	1882.5	370500	24	23.38
15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	1882.5	370500	25	24.36
15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	1882.5	370500	25	24.36
15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	1882.5	370500	24	23.45
15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	1882.5	376500	25	24.01
15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	1882.5	376500	25	24.29

Power level A1-Receiver on standalone/B1- Receiver on with Wifi for SA

5G-n41								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
30	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@50	2679.99	535998	21	20.8
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	21	20.3
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	21	20.83
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	21	20.5
30	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2506.02	501204	21	20.5
30	100	DFT-s-OFDM QPSK	Edge_1RB_Right	1@272	2640	528000	21	20.8
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	21	20.9
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	21	20.87
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	21	20.98
30	100	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2546.01	509202	21	20.9
30	100	DFT-s-OFDM PI/2 BPSK1	Inner_Full	135@67	2569.5	513900	21	20.80
30	100	DFT-s-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	21	20.50
30	100	DFT-s-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	21	20.94
30	100	DFT-s-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	21	20.92
30	100	CP-OFDM QPSK	Inner_Full	135@67	2569.5	513900	21	20.90
30	100	CP-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	21	20.92
30	100	CP-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	21	20.88
30	100	CP-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	21	19.50
30	100	DFT-s-OFDM QPSK	Edge_Full_Right	2@271	2569.5	513900	21	20.80
30	100	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2569.5	513900	21	20.96
30	100	DFT-s-OFDM QPSK	Inner_1RB_Right	1@271	2569.5	513900	21	20.90
30	100	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2569.5	513900	21	20.95
30	100	DFT-s-OFDM QPSK	Outer_Full	270@0	2569.5	513900	21	20.97
30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2554.5	510900	21	20.90
30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	2557.005	511401	21	20.60
30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2559.495	511899	21	20.60
30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	2564.505	512901	21	20.90
30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	2566.995	513399	21	20.90

Power level B2- Receiver on with Wifi for ENDC

5G-n41								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
30	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@50	2679.99	535998	20	18.58
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	20	18.54
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	20	18.7
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	20	18.86
30	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2506.02	501204	20	18.65
30	100	DFT-s-OFDM QPSK	Edge_1RB_Right	1@272	2640	528000	20	18.86
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	20	18.9
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	20	19
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	20	19.17
30	100	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2546.01	509202	20	18.83
30	100	DFT-s-OFDM Pi/2 BPSK1	Inner_Full	135@67	2569.5	513900	20	19.11
30	100	DFT-s-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	20	19.13
30	100	DFT-s-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	20	19.11
30	100	DFT-s-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	20	19.16
30	100	CP-OFDM QPSK	Inner_Full	135@67	2569.5	513900	20	19.15
30	100	CP-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	20	19.16
30	100	CP-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	20	19.14
30	100	CP-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	20	19.30
30	100	CP-OFDM 256QAM	Edge_Full_Right	2@271	2640	528000	20	19.08
30	100	CP-OFDM 256QAM	Edge_Full_Left	2@0	2640	528000	20	19.24
30	100	CP-OFDM 256QAM	Inner_1RB_Right	1@271	2640	528000	20	19.13
30	100	CP-OFDM 256QAM	Inner_1RB_Left	1@1	2640	528000	20	19.24
30	100	CP-OFDM 256QAM	Outer_Full	273@0	2640	528000	20	19.18
30	40	CP-OFDM 256QAM	Inner_Full	53@26	2670	534000	20	19.66
30	50	CP-OFDM 256QAM	Inner_Full	67@33	2664.99	532998	20	19.30
30	60	CP-OFDM 256QAM	Inner_Full	81@40	2659.98	531996	20	18.70
30	80	CP-OFDM 256QAM	Inner_Full	109@54	2649.99	529998	20	18.98
30	90	CP-OFDM 256QAM	Inner_Full	123@61	2644.98	528996	20	19.04

Power level C1/D1-Hotspot on

5G-n2								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1907.5	381500	22	21.05
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1880	376000	22	21.40
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1852.5	370500	22	21.12
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1900	380000	22	21.45
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1880	376000	22	21.87
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1860	372000	22	21.60
15	20	DFT-s-OFDM Pi/2 BPSK1	Inner_Full	50@25	1880	376000	22	21.56
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1880	376000	22	21.73
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1880	376000	22	21.75
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1880	376000	20	19.86
15	20	CP-OFDM QPSK	Inner_Full	53@26	1880	376000	22	21.56
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1880	376000	22	21.7
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1880	376000	22	20.75
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1880	376000	18	17.66
15	20	CP-OFDM QPSK	Edge_Full_Right	2@104	1880	376000	22	21
15	20	CP-OFDM QPSK	Edge_Full_Left	2@0	1880	376000	22	21.1
15	20	CP-OFDM QPSK	Inner_1RB_Right	1@104	1880	376000	22	21.2
15	20	CP-OFDM QPSK	Inner_1RB_Left	1@1	1880	376000	22	21.56
15	20	CP-OFDM QPSK	Outer_Full	106@0	1880	376000	22	21.2
15	10	CP-OFDM QPSK	Inner_Full	26@13	1880	376000	22	21.62
15	15	CP-OFDM QPSK	Inner_Full	39@19	1880	376000	22	21.75

5G-n25								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1912.5	382500	22.5	21.70
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1882.5	376500	22.5	21.83
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1852.5	370500	22.5	21.74
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1905	381000	22.5	21.93
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1882.5	376500	22.5	22.30
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1860	372000	22.5	21.95
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	1882.5	376500	22.5	22.17
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1882.5	376500	22.5	22.23
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1882.5	376500	22.5	21.59
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1882.5	376500	20.5	19.49
15	20	CP-OFDM QPSK	Inner_Full	53@26	1882.5	376500	22.5	22.38
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1882.5	376500	22.5	22.08
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1882.5	376500	22.5	20.64
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1882.5	376500	18.5	17.41
15	20	CP-OFDM QPSK	Edge_Full_Right	2@104	1882.5	376500	22.5	21.06
15	20	CP-OFDM QPSK	Edge_Full_Left	2@0	1882.5	376500	22.5	21.35
15	20	CP-OFDM QPSK	Inner_1RB_Right	1@104	1882.5	376500	22.5	21.93
15	20	CP-OFDM QPSK	Inner_1RB_Left	1@1	1882.5	376500	22.5	21.97
15	20	CP-OFDM QPSK	Outer_Full	106@0	1882.5	376500	22.5	20.94
15	10	CP-OFDM QPSK	Inner_Full	26@13	1882.5	376500	22.5	21.85
15	15	CP-OFDM QPSK	Inner_Full	39@19	1882.5	376500	22.5	22.20

5G-n66								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	1777.5	355500	23	21.89
15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	1745	349000	23	22.39
15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1712.5	342500	23	22.21
15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	1770	354000	23	22.36
15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	1745	349000	23	22.63
15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	1720	344000	23	22.61
15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	1745	349000	23	22.8
15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	1745	349000	23	22.87
15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	1745	349000	23	21.62
15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	1745	349000	21	19.6
15	20	CP-OFDM QPSK	Inner_Full	53@26	1745	349000	23	22.45
15	20	CP-OFDM 16QAM	Inner_Full	53@26	1745	349000	23	22.33
15	20	CP-OFDM 64QAM	Inner_Full	53@26	1745	349000	23	20.5
15	20	CP-OFDM 256QAM	Inner_Full	53@26	1745	349000	19	17.5
15	20	DFT-s-OFDM 16QAM	Edge_Full_Right	2@104	1745	349000	23	21.79
15	20	DFT-s-OFDM 16QAM	Edge_Full_Left	2@0	1745	349000	23	22.03
15	20	DFT-s-OFDM 16QAM	Inner_1RB_Right	1@104	1745	349000	23	22.83
15	20	DFT-s-OFDM 16QAM	Inner_1RB_Left	1@1	1745	349000	23	22.73
15	20	DFT-s-OFDM 16QAM	Outer_Full	106@0	1745	349000	23	21.2
15	10	DFT-s-OFDM 16QAM	Inner_Full	25@12	1745	349000	23	21.84
15	15	DFT-s-OFDM 16QAM	Inner_Full	36@18	1745	349000	23	22.5

5G-n41 for SA								
SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
30	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@50	2679.99	535998	24	23.4
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	24	23.55
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	24	23.5
30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	24	23.03
30	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2506.02	501204	24	23.5
30	100	DFT-s-OFDM QPSK	Edge_1RB_Right	1@272	2640	528000	24	23.5
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	24	23.74
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	24	23.8
30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	24	23.94
30	100	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2546.01	509202	24	23.7
30	100	DFT-s-OFDM PI/2 BPSK1	Inner_Full	135@67	2569.5	513900	24	23.90
30	100	DFT-s-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	24	23.90
30	100	DFT-s-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	24	23.80
30	100	DFT-s-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	24	22.50
30	100	CP-OFDM QPSK	Inner_Full	135@67	2569.5	513900	24	23.00
30	100	CP-OFDM 16QAM	Inner_Full	135@67	2569.5	513900	24	23.93
30	100	CP-OFDM 64QAM	Inner_Full	135@67	2569.5	513900	24	23.50
30	100	CP-OFDM 256QAM	Inner_Full	135@67	2569.5	513900	24	20.70
30	100	DFT-s-OFDM QPSK	Edge_Full_Right	2@271	2569.5	513900	24	23.00
30	100	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2569.5	513900	24	23.60
30	100	DFT-s-OFDM QPSK	Inner_1RB_Right	1@271	2569.5	513900	24	23.50
30	100	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2569.5	513900	24	23.91
30	100	DFT-s-OFDM QPSK	Outer_Full	270@0	2569.5	513900	24	23.90
30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2554.5	510900	24	23.50
30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	2557.005	511401	24	23.50
30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2559.495	511899	24	23.64
30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	2564.505	512901	24	23.93
30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	2566.995	513399	24	23.90

11.6 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 8.46dBm.

The maximum tune up of BT antenna is 9.5dBm.

The average conducted power for Wi-Fi 2.4G is as following:

Normal power

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	24.31
	6(2437(MHz)	24.16
	1(2412MHz)	24.26
Tune up		25.5
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	19.50
	6(2437(MHz)	19.51
	1(2412MHz)	19.37
Tune up		20.5
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	20.55
	6(2437(MHz)	20.59
	1(2412MHz)	20.54
Tune up		21.5
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	18.23
	6(2437MHz)	18.13
	3(2422MHz)	18.07
Tune up		19.5

Power level A1-Receiver on standalone

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	20.06
	6(2437(MHz)	19.83
	1(2412MHz)	20.46
Tune up		21.5
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	19.83
	6(2437(MHz)	19.77
	1(2412MHz)	19.58
Tune up		20.5

Power level B1-Receiver on with WWAN

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	18.18
	6(2437(MHz)	18.05
	1(2412MHz)	18.21
Tune up		19.5
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	18.61
	6(2437(MHz)	18.67
	1(2412MHz)	18.57
Tune up		19.5
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	18.40
	6(2437(MHz)	18.41
	1(2412MHz)	18.63
Tune up		19.5

Power level C1-Hotspot on standalone

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	20.47
	6(2437(MHz)	20.60
	1(2412MHz)	20.66
Tune up		22.5

Power level D1-Hotspot on with WWAN

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	17.87
	6(2437(MHz)	17.79
	1(2412MHz)	18.52
Tune up		19.5
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	18.67
	6(2437(MHz)	18.69
	1(2412MHz)	18.66
Tune up		19.5
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	18.40
	6(2437(MHz)	18.44
	1(2412MHz)	18.69
802.11n-40MHz	Channel\data rate	MCS0
Tune up		19.5
WLAN2450	9(2452MHz)	18.79
	6(2437MHz)	18.89
	3(2422MHz)	18.66
Tune up		19

The average conducted power for Wi-Fi 5G is as following:

Normal power

802.11a(dBm)		
Channel\data rate	6Mbps	Tune up
36(5180 MHz)	18.57	20.00
40(5200 MHz)	18.82	20.00
44(5220 MHz)	18.73	20.00
48(5240 MHz)	18.50	20.00
52(5260 MHz)	18.41	20.00
56(5280 MHz)	18.85	20.00
60(5300 MHz)	18.54	20.00
64(5320 MHz)	18.63	20.00

802.11n(dBm)-20MHz		
Channel\data rate	MCS0	Tune up
100(5500 MHz)	19.48	20.00
104(5520 MHz)	19.45	20.00
108(5540 MHz)	19.46	20.00
112(5560 MHz)	19.50	20.00
116(5580 MHz)	18.48	20.00
120(5600 MHz)	18.45	20.00
124(5620 MHz)	18.48	20.00
128(5640 MHz)	18.63	20.00
132(5660 MHz)	18.72	20.00
136(5680 MHz)	18.98	20.00
140(5700 MHz)	19.47	20.00
144(5720 MHz)	20.97	21.50
149(5745 MHz)	20.96	21.50
153(5765 MHz)	20.78	21.50
157(5785 MHz)	20.66	21.50
161(5805 MHz)	20.57	21.50
165(5825 MHz)	20.73	21.50

Power level B1-Receiver on with WWAN, C1-Hotspot on standalone

802.11a(dBm)		
Channel\data rate	6Mbps	Tune up
36(5180 MHz)	16.41	17.50
40(5200 MHz)	16.32	17.50
44(5220 MHz)	16.13	17.50
48(5240 MHz)	16.00	17.50
52(5260 MHz)	15.92	17.50
56(5280 MHz)	16.08	17.50
60(5300 MHz)	16.16	17.50
64(5320 MHz)	16.18	17.50

802.11ac(dBm)-20MHz		
Channel\data rate	MCS0	Tune up
100(5500 MHz)	16.16	17.00
104(5520 MHz)	16.22	17.00
108(5540 MHz)	16.22	17.00
112(5560 MHz)	15.70	17.00
116(5580 MHz)	15.67	17.00
120(5600 MHz)	15.65	17.00
124(5620 MHz)	15.66	17.00
128(5640 MHz)	15.76	17.00
132(5660 MHz)	15.93	17.00
136(5680 MHz)	16.28	17.00
140(5700 MHz)	16.57	17.00
144(5720 MHz)	17.75	18.50

802.11n(dBm)-20MHz		
Channel\data rate	MCS0	Tune up
149(5745 MHz)	17.61	18.50
153(5765 MHz)	17.57	18.50
157(5785 MHz)	17.42	18.50
161(5805 MHz)	17.38	18.50
165(5825 MHz)	17.46	18.50

Power level D1-Hotspot on with WWAN

802.11a(dBm)		
Channel\data rate	6Mbps	Tune up
36(5180 MHz)	14.43	15.50
40(5200 MHz)	14.35	15.50
44(5220 MHz)	14.18	15.50
48(5240 MHz)	14.07	15.50

802.11n(dBm)-20MHz		
Channel\data rate	MCS0	Tune up
149(5745 MHz)	15.81	16.50
153(5765 MHz)	15.50	16.50
157(5785 MHz)	15.37	16.50
161(5805 MHz)	15.33	16.50
165(5825 MHz)	15.41	16.50

Note: Only U-NII-1 and U-NII-3 Band support hotspot mode.

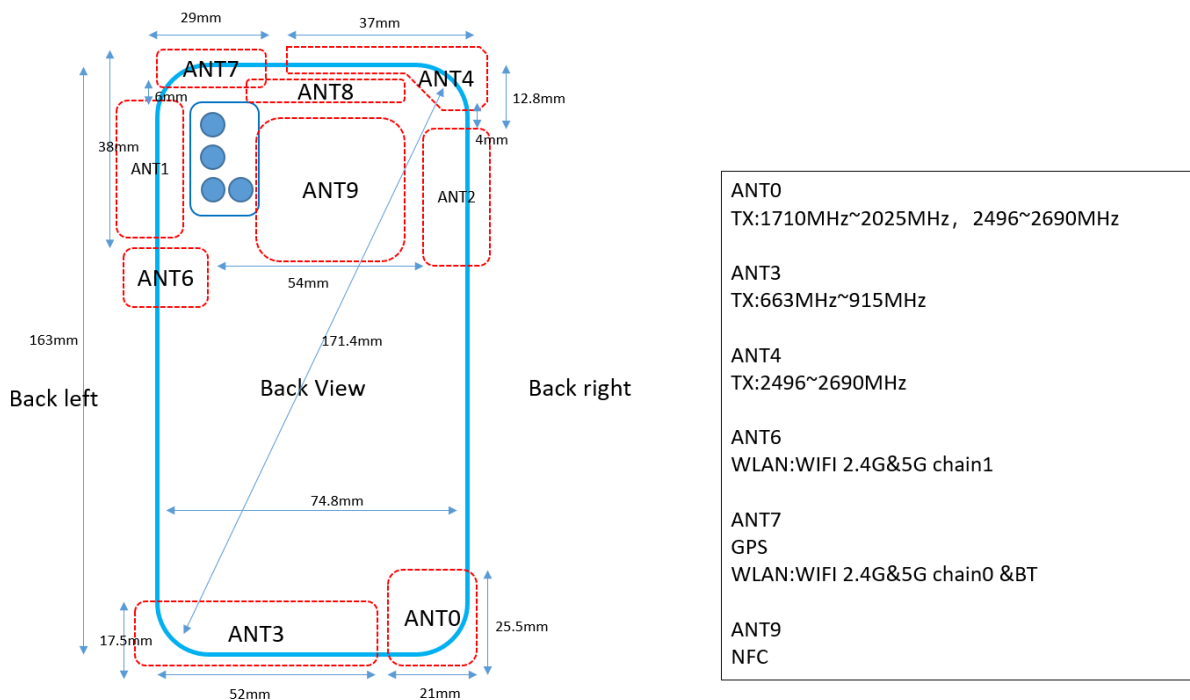
12 Simultaneous TX SAR Considerations

12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

12.2 Transmit Antenna Separation Distances



Picture 12.1 Antenna Locations

12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR, 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
ANT0	Yes	Yes	Yes	Yes	No	Yes
ANT3	Yes	Yes	Yes	Yes	No	Yes
ANT4	Yes	Yes	Yes	No	No	Yes
WLAN2.4G	Yes	Yes	No	Yes	No	Yes
WLAN5G	Yes	Yes	No	Yes	No	Yes

12.4 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Table 12.1: Standalone SAR test exclusion considerations

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	9.5	8.91	Yes
		Body	19.20	9.5	8.91	Yes
2.4GHz WLAN	2.45	Head	9.58	19	79.4	No
		Body	19.17	24	251.2	No
5GHz WLAN	5.2	Head	6.58	20	100	No
		Body	13.16	20	100	No
	5.3	Head	6.52	20	100	No
		Body	13.03	20	100	No
	5.6	Head	6.34	21.5	141.25	No
		Body	12.68	21.5	141.25	No
	5.8	Head	6.23	21.5	141.25	No
		Body	12.46	21.5	141.25	No

13 Evaluation of Simultaneous

Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G MIMO

	Position	Main antenna	WiFi-2.4G MIMO	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	0.21	1.16
Highest SAR value for Body	Rear 5mm (ENDC N5+LTE Band66)	1.05	0.24	1.29

Table 13.2: The sum of SAR values for Main antenna + WiFi-5G MIMO

	Position	Main antenna	WiFi-5G MIMO	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	0.21	1.16
Highest SAR value for Body	Rear 5mm (ENDC N5+LTE Band66)	1.05	0.23	1.28

Table 13.3: The sum of SAR values for Main antenna +BT

	Position	Main antenna	BT	Sum
Highest SAR value for Head	Right head, Tilt (5G NR SA N41)	0.95	<0.01	0.95
Highest SAR value for Body	Rear 5mm (ENDC N5+LTE Band66)	1.05	<0.01	1.05

Table 13.4: The sum of SAR values for Wifi5G +BT

	Position	WiFi-5G MIMO	BT	Sum
Highest SAR value for Head	Left head, Tilt	0.69	<0.01	0.69
Highest SAR value for Body	Rear 5mm (ENDC N5+LTE Band66)	0.46	<0.01	0.46

Table 13.5: The sum of SAR values for Wifi2.4G Chain1 +BT

	Position	WiFi-2.4G MIMO	BT	Sum
Highest SAR value for Head	Left head, Tilt	0.68	<0.01	0.68
Highest SAR value for Body	Rear 5mm (ENDC N5+LTE Band66)	0.43	<0.01	0.43

Table 13.6: The SAR values for ENDC

	LTE	NR	Mode	Position	Reported SAR 1g(W/kg)
ENDC	LTE Band2	N5	Head	Left Cheek	0.51 (0.36+0.15)
			Body	Rear 10mm	0.80 (0.51+0.29)
	LTE Band2	N41 PC2	Head	Right Tilt	0.50 (0.25+0.25)
			Body	Rear 10mm	0.78 (0.51+0.27)
	LTE Band2	N71	Head	Left Cheek	0.49 (0.36+0.13)
			Body	Rear 10mm	0.75 (0.51+0.24)
	LTE Band 12	N2	Head	Left Cheek	0.49 (0.20+0.29)
			Body	Rear 10mm	0.91 (0.45+0.46)
	LTE Band 12	N25	Head	Left Cheek	0.51 (0.20+0.31)
			Body	Rear 10mm	1.01 (0.45+0.56)
	LTE Band 12	N66	Head	Left Cheek	0.39 (0.20+0.19)
			Body	Rear 10mm	0.83 (0.45+0.38)
	LTE Band 25	N41(PC2)	Head	Left Cheek	0.44 (0.36+0.08)
			Body	Rear 10mm	0.95 (0.68+0.27)
	LTE Band 66	N5	Head	Left Cheek	0.44 (0.29+0.15)
			Body	Rear 10mm	1.05 (0.76+0.29)
	LTE Band 66	N41	Head	Left Cheek	0.37 (0.29+0.08)
			Body	Rear 10mm	1.03 (0.76+0.27)
	LTE Band 66	N71	Head	Left Cheek	0.32 (0.29+0.13)
			Body	Rear 10mm	1.00 (0.76+0.24)

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;

where x = 7.5 for 1-g SAR.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

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.

14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom.
The distance is 10 mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{\text{Target}} - P_{\text{Measured}})/10}$$

Where P_{Target} is the power of manufacturing upper limit;

P_{Measured} is the measured power in chapter 11.

Table 14.1: Duty Cycle

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS&EGPRS for GSM 850	1:4
GPRS&EGPRS for GSM 1900	1:2
WCDMA<E FDD	1:1
LTE TDD	1:1.58
5G NR n2/n5/n25/n66/n71	1:1
5G NR n41(PC3,PC2)	1:2

14.1 SAR results for 2G/3G/4G

Table 14.1-1: SAR Values (GSM 850 MHz Band - Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	GSM850	190	836.6	Speech	32.96	34	0.221	0.28	0.182	0.23	0.04
Tilt	L	GSM850	190	836.6	Speech	32.96	34	0.149	0.19	0.115	0.15	-0.12
Cheek	R	GSM850	251	848.8	Speech	33.01	34	0.232	0.29	0.19	0.24	0.07
Cheek	R	GSM850	190	836.6	Speech/Fig.1	32.96	34	0.259	0.33	0.202	0.26	-0.05
Cheek	R	GSM850	128	824.2	Speech	33.09	34	0.128	0.16	0.103	0.13	-0.08
Tilt	R	GSM850	190	836.6	Speech	32.96	34	0.152	0.19	0.115	0.15	0.12

Table 14.1-2: SAR Values (GSM 850 MHz Band - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	GSM850	190	836.6	Front GPRS 2TX	31.46	32.5	0.286	0.36	0.146	0.19	0.05
Body	F	GSM850	251	848.8	Rear GPRS 2TX/Fig.2	31.55	32.5	0.699	0.87	0.34	0.42	-0.06
Body	F	GSM850	190	836.6	Rear GPRS 2TX	31.46	32.5	0.479	0.61	0.223	0.28	-0.14
Body	F	GSM850	128	824.2	Rear GPRS 2TX	31.49	32.5	0.371	0.47	0.182	0.23	0.14
Body	F	GSM850	190	836.6	Left GPRS 2TX	31.46	32.5	0.177	0.22	0.099	0.13	-0.18
Body	F	GSM850	190	836.6	Right GPRS 2TX	31.46	32.5	0.386	0.49	0.214	0.27	0.01
Body	F	GSM850	190	836.6	Bottom GPRS 2TX	31.46	32.5	0.346	0.44	0.151	0.19	-0.19
Body	F	GSM850	251	848.8	Rear EGPRS 2TX	30.89	32.5	0.597	0.86	0.298	0.43	0.08

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-3: SAR Values (GSM 1900 MHz Band - Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	GSM1900	810	1909.8	Speech	29.98	31	0.134	0.17	0.086	0.11	-0.14
Cheek	L	GSM1900	661	1880	Speech/ Fig.3	29.99	31	0.154	0.19	0.1	0.13	0.08
Cheek	L	GSM1900	512	1850.2	Speech	30.14	31	0.132	0.16	0.085	0.10	0.05
Tilt	L	GSM1900	661	1880	Speech	29.99	31	0.112	0.14	0.063	0.08	-0.03
Cheek	R	GSM1900	661	1880	Speech	29.99	31	0.118	0.15	0.074	0.09	-0.01
Tilt	R	GSM1900	661	1880	Speech	29.99	31	0.078	0.10	0.052	0.07	0.08

Table 14.1-4: SAR Values (GSM 1900 MHz Band - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	GSM1900	661	1880	Front GPRS 4TX	24.76	26	0.227	0.30	0.113	0.15	0.10
Body	F	GSM1900	810	1909.8	Rear GPRS 4TX	24.8	26	0.309	0.41	0.149	0.20	-0.12
Body	F	GSM1900	661	1880	Rear GPRS 4TX	24.76	26	0.307	0.41	0.144	0.19	-0.16
Body	F	GSM1900	512	1850.2	Rear GPRS 4TX/ Fig.4	25.06	26	0.34	0.42	0.17	0.21	-0.11
Body	F	GSM1900	661	1880	Left GPRS 4TX	24.76	26	0.163	0.22	0.081	0.11	-0.02
Body	F	GSM1900	661	1880	Right GPRS 4TX	24.76	26	0.063	0.08	0.031	0.04	0.04
Body	F	GSM1900	661	1880	Bottom GPRS 4TX	24.76	26	0.303	0.40	0.142	0.19	-0.07
Body	F	GSM1900	512	1850.2	Rear EGPRS 4TX	25.03	26	0.307	0.38	0.152	0.19	-0.09

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-5: SAR Values (WCDMA 1900 MHz Band - Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	WCDMA1900	9538	1907.6	RMC / Fig.5	24.63	25	0.376	0.41	0.248	0.27	0.12
Cheek	L	WCDMA1900	9400	1880	RMC	24.65	25	0.354	0.38	0.231	0.25	0.03
Cheek	L	WCDMA1900	9262	1852.4	RMC	24.59	25	0.343	0.38	0.229	0.25	-0.03
Tilt	L	WCDMA1900	9400	1880	RMC	24.65	25	0.283	0.31	0.163	0.18	0.14
Cheek	R	WCDMA1900	9400	1880	RMC	24.65	25	0.13	0.14	0.084	0.09	0.08
Tilt	R	WCDMA1900	9400	1880	RMC	24.65	25	0.211	0.23	0.128	0.14	0.06

Table 14.1-6: SAR Values (WCDMA 1900 MHz Band - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	WCDMA1900	9400	1880	Front 15mm	24.65	25	0.268	0.29	0.162	0.18	0.08
Body	F	WCDMA1900	9538	1907.6	Rear 15mm / Fig.6	24.63	25	0.467	0.51	0.277	0.30	-0.08
Body	F	WCDMA1900	9400	1880	Rear 15mm	24.65	25	0.447	0.48	0.263	0.29	0.12
Body	F	WCDMA1900	9262	1852.4	Rear 15mm	24.59	25	0.394	0.43	0.23	0.25	0.01

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-7: SAR Values (WCDMA 1900 MHz Band - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	WCDMA1900	9400	1880	Front	22.79	23	0.463	0.49	0.278	0.29	0.06
Body	F	WCDMA1900	9538	1907.6	Rear / Fig.7	22.79	23	0.82	0.86	0.484	0.51	-0.19
Body	F	WCDMA1900	9400	1880	Rear	22.79	23	0.761	0.80	0.451	0.47	0.03
Body	F	WCDMA1900	9262	1852.4	Rear	22.87	23	0.739	0.76	0.434	0.45	0.07
Body	F	WCDMA1900	9400	1880	Left Edge	22.79	23	0.398	0.42	0.231	0.24	-0.11
Body	F	WCDMA1900	9400	1880	Right Edge	22.79	23	0.135	0.14	0.084	0.09	0.16
Body	F	WCDMA1900	9400	1880	Bottom Edge	22.79	23	0.612	0.64	0.356	0.37	0.09
Body	F	WCDMA1900	9538	1907.6	Rear 4mm	24.63	25	2.84	3.09	1.51	1.64	0
Body	F	WCDMA1900	9538	1907.6	Rear 0mm	22.79	23	4.95	5.20	2.31	2.42	0.03

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-8: SAR Values (WCDMA 1700 MHz Band -Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	WCDMA1700	1513	1752.6	RMC	23.94	25	0.185	0.24	0.137	0.17	-0.05
Cheek	L	WCDMA1700	1412	1732.4	RMC / Fig.8	23.98	25	0.213	0.27	0.142	0.18	0.03
Cheek	L	WCDMA1700	1312	1712.4	RMC	23.93	25	0.164	0.21	0.103	0.13	0.14
Tilt	L	WCDMA1700	1412	1732.4	RMC	23.98	25	0.113	0.14	0.067	0.08	0.09
Cheek	R	WCDMA1700	1412	1732.4	RMC	23.98	25	0.189	0.24	0.13	0.16	0.02
Tilt	R	WCDMA1700	1412	1732.4	RMC	23.98	25	0.107	0.14	0.0702	0.09	-0.07

Table 14.1-9: SAR Values (WCDMA 1700 MHz Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	WCDMA1700	1412	1732.5	Front	24.62	25	0.437	0.48	0.299	0.33	0.17
Body	F	WCDMA1700	1513	1752.6	Rear	24.64	25	0.696	0.76	0.457	0.50	0.17
Body	F	WCDMA1700	1412	1732.5	Rear / Fig.9	24.62	25	0.722	0.79	0.476	0.52	-0.01
Body	F	WCDMA1700	1312	1712.4	Rear	24.72	25	0.673	0.72	0.456	0.49	-0.12
Body	F	WCDMA1700	1412	1732.5	Left	24.62	25	0.311	0.34	0.201	0.22	-0.13
Body	F	WCDMA1700	1412	1732.5	Right	24.62	25	0.106	0.12	0.07	0.08	0.07
Body	F	WCDMA1700	1412	1732.5	Bottom	24.62	25	0.556	0.61	0.345	0.38	0.03

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-10: SAR Values (WCDMA 850 MHz Band -Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	WCDMA 850	4183	836.6	RMC	24.45	25	0.223	0.25	0.162	0.18	0.08
Tilt	L	WCDMA 850	4183	836.6	RMC	24.45	25	0.011	0.01	0.006	0.01	0.02
Cheek	R	WCDMA 850	4233	846.6	RMC	24.5	25	0.251	0.28	0.198	0.22	-0.07
Cheek	R	WCDMA 850	4183	836.6	RMC / Fig.10	24.45	25	0.286	0.32	0.221	0.25	-0.05
Cheek	R	WCDMA 850	4132	826.4	RMC	24.39	25	0.252	0.29	0.202	0.23	0.07
Tilt	R	WCDMA 850	4183	836.6	RMC	24.45	25	0.135	0.15	0.098	0.11	-0.12

Table 14.1-11: SAR Values (WCDMA 850 MHz Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	WCDMA 850	4183	836.6	Front	24.45	25	0.174	0.20	0.109	0.12	0.07
Body	F	WCDMA 850	4233	846.6	Rear / Fig.11	24.5	25	0.26	0.29	0.156	0.18	-0.02
Body	F	WCDMA 850	4183	836.6	Rear	24.45	25	0.246	0.28	0.149	0.17	-0.04
Body	F	WCDMA 850	4132	826.4	Rear	24.39	25	0.251	0.29	0.152	0.17	-0.09
Body	F	WCDMA 850	4183	836.6	Left Edge	24.45	25	0.081	0.09	0.055	0.06	-0.13
Body	F	WCDMA 850	4183	836.6	Right	24.45	25	0.221	0.25	0.151	0.17	0.01
Body	F	WCDMA 850	4183	836.6	Bottom	24.45	25	0.181	0.21	0.1	0.11	-0.17

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-12: SAR Values (CDMA BC0 Band -Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	BC0	384	836.52	SO55 RC3	24.49	25	0.169	0.19	0.134	0.15	-0.11
Tilt	L	BC0	384	836.52	SO55 RC3	24.49	25	0.093	0.10	0.077	0.09	0.13
Cheek	R	BC0	777	848.31	SO55 RC3 / Fig.12	24.48	25	0.195	0.22	0.153	0.17	0.07
Cheek	R	BC0	384	836.52	SO55 RC3	24.49	25	0.177	0.20	0.135	0.15	0.07
Cheek	R	BC0	1013	824.7	SO55 RC3	24.46	25	0.169	0.19	0.115	0.13	-0.03
Tilt	R	BC0	384	836.52	SO55 RC3	24.49	25	0.093	0.10	0.077	0.09	-0.07

Table 14.1-13: SAR Values (CDMA BC0 Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	BC0	384	836.52	Front	24.5	25	0.214	0.24	0.127	0.14	0.18
Body	F	BC0	777	848.31	Rear	24.48	25	0.356	0.40	0.201	0.23	0.01
Body	F	BC0	384	836.52	Rear / Fig.13	24.5	25	0.36	0.40	0.206	0.23	-0.04
Body	F	BC0	1013	824.7	Rear	24.48	25	0.317	0.36	0.184	0.21	0.16
Body	F	BC0	384	836.52	Left	24.5	25	0.123	0.14	0.08	0.09	0.1
Body	F	BC0	384	836.52	Right	24.5	25	0.242	0.27	0.157	0.18	-0.09
Body	F	BC0	384	836.52	Bottom	24.5	25	0.272	0.31	0.136	0.15	0.02

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-14: SAR Values (CDMA BC1 Band -Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	BC1	1175	1908.75	SO55 RC3	23.9	25	0.229	0.30	0.131	0.17	0.17
Cheek	L	BC1	600	1880	SO55 RC3 / Fig.14	23.98	25	0.27	0.34	0.174	0.22	0.03
Cheek	L	BC1	25	1851.25	SO55 RC3	23.47	25	0.204	0.29	0.128	0.18	0.07
Tilt	L	BC1	600	1880	SO55 RC3	23.98	25	0.16	0.20	0.111	0.14	-0.03
Cheek	R	BC1	600	1880	SO55 RC3	23.98	25	0.194	0.25	0.114	0.14	-0.08
Tilt	R	BC1	600	1880	SO55 RC3	23.98	25	0.158	0.20	0.097	0.12	-0.06

Table 14.15: SAR Values (CDMA BC1 Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	BC1	600	1880	Front	23.97	25	0.271	0.34	0.165	0.21	0.03
Body	F	BC1	1175	1908.75	Rear	23.86	25	0.402	0.52	0.237	0.31	-0.01
Body	F	BC1	600	1880	Rear / Fig.15	23.97	25	0.439	0.56	0.261	0.33	-0.03
Body	F	BC1	25	1851.25	Rear	23.45	25	0.34	0.49	0.202	0.29	-0.12

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-16: SAR Values (CDMA BC1 Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	BC1	600	1880	Front	21.94	22	0.557	0.56	0.325	0.33	0.08
Body	F	BC1	1175	1908.75	Rear	21.26	22	0.752	0.89	0.457	0.54	0.18
Body	F	BC1	25	1851.25	Rear	21.98	22	0.755	0.76	0.422	0.42	0.16
Body	F	BC1	600	1880	Rear / Fig.16	21.94	22	0.904	0.92	0.519	0.53	-0.18
Body	F	BC1	600	1880	Bottom Edge	21.94	22	0.673	0.68	0.38	0.39	0.03
Body	F	BC1	600	1880	Left	21.94	22	0.367	0.37	0.208	0.21	0.07
Body	F	BC1	600	1880	Right	21.94	22	0.147	0.15	0.088	0.09	-0.04
Body	F	BC1	600	1880	Rear 4mm	23.97	25	2.55	3.23	1.34	1.70	-0.02
Body	F	BC1	600	1880	Bottom 0mm	23.97	25	5.41	6.86	2.5	3.17	-0.01
Body	F	BC1	600	1880	Rear 0mm / Fig.66	21.94	22	5.27	5.34	2.79	2.83	0.05

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-22: SAR Values (CDMA BC10 Band -Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	BC10	580	820.5	SO55 RC3	24.53	25	0.186	0.21	0.141	0.16	-0.07
Tilt	L	BC10	580	820.5	SO55 RC3	24.53	25	0.11	0.12	0.104	0.12	0.03
Cheek	R	BC10	684	823.1	SO55 RC3 / Fig.17	24.42	25	0.214	0.24	0.169	0.19	0.11
Cheek	R	BC10	580	820.5	SO55 RC3	24.53	25	0.201	0.22	0.152	0.17	0.02
Cheek	R	BC10	476	817.9	SO55 RC3	24.21	25	0.182	0.22	0.141	0.17	-0.06
Tilt	R	BC10	580	820.5	SO55 RC3	24.53	25	0.132	0.15	0.112	0.12	0.08

Table 14.1-23: SAR Values (CDMA BC10 Band -Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	BC10	580	820.5	Front SO32 RC3	24.53	25	0.136	0.15	0.087	0.10	-0.06
Body	F	BC10	684	823.1	Rear / Fig.18	24.48	25	0.27	0.30	0.161	0.18	-0.05
Body	F	BC10	580	820.5	Rear	24.53	25	0.257	0.29	0.154	0.17	0.12
Body	F	BC10	476	817.9	Rear	24.26	25	0.254	0.30	0.151	0.18	-0.19
Body	F	BC10	580	820.5	Left Edge	24.53	25	0.083	0.09	0.055	0.06	-0.06
Body	F	BC10	580	820.5	Right Edge	24.53	25	0.179	0.20	0.121	0.13	-0.03
Body	F	BC10	580	820.5	Bottom Edge	24.53	25	0.156	0.17	0.083	0.09	-0.02

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-19: SAR Values (LTE Band7 - Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band7	21100	2535	1RB-High / Fig.19	23.47	24.5	<0.01	<0.01	<0.01	<0.01	/
Tilt	L	LTE Band7	21100	2535	1RB-High	23.47	24.5	<0.01	<0.01	<0.01	<0.01	/
Cheek	R	LTE Band7	21100	2535	1RB-High	23.47	24.5	0.017	0.02	0.007	0.01	-0.14
Tilt	R	LTE Band7	21100	2535	1RB-High	23.47	24.5	<0.01	<0.01	<0.01	<0.01	/
Cheek	L	LTE Band7	21350	2560	50RB-Mid	22.49	23.5	<0.01	<0.01	<0.01	<0.01	/
Tilt	L	LTE Band7	21350	2560	50RB-Mid	22.49	23.5	<0.01	<0.01	<0.01	<0.01	/
Cheek	R	LTE Band7	21350	2560	50RB-Mid	22.49	23.5	0.012	0.02	0.004	0.01	0.11
Tilt	R	LTE Band7	21350	2560	50RB-Mid	22.49	23.5	<0.01	<0.01	<0.01	<0.01	/

Note: The LTE mode is QPSK_20MHz.

Table 14.1-20: SAR Values (LTE Band7 - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band7	21100	2535	1RB-High Front	23.47	24.5	0.084	0.11	0.043	0.05	0.17
Body	F	LTE Band7	21100	2535	1RB-High Rear / Fig.20	23.47	24.5	0.164	0.21	0.079	0.10	-0.06
Body	F	LTE Band7	21350	2560	50RB-Mid Front	22.49	23.5	0.06	0.08	0.031	0.04	0.17
Body	F	LTE Band7	21350	2560	50RB-Mid Rear	22.49	23.5	0.122	0.15	0.058	0.07	0.11

Note1: The LTE mode is QPSK_20MHz.

Note2: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-21: SAR Values (LTE Band7 - Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band7	21350	2560	1RB-High Front	22.79	23.5	0.252	0.30	0.113	0.13	-0.10
Body	F	LTE Band7	21350	2560	1RB-High Rear	22.79	23.5	0.444	0.52	0.212	0.25	0.11
Body	F	LTE Band7	21350	2560	1RB-High Left	22.79	23.5	0.213	0.25	0.092	0.11	0.04
Body	F	LTE Band7	21350	2560	1RB-High Right	22.79	23.5	0.09	0.11	0.047	0.06	0.03
Body	F	LTE Band7	21350	2560	1RB-High Bottom / Fig.21	22.79	23.5	0.52	0.61	0.241	0.28	-0.19
Body	F	LTE Band7	20850	2510	50RB-Low Front	22.85	23.5	0.173	0.20	0.077	0.09	0.16
Body	F	LTE Band7	20850	2510	50RB-Low Rear	22.85	23.5	0.337	0.39	0.138	0.16	0.09
Body	F	LTE Band7	20850	2510	50RB-Low Left	22.85	23.5	0.139	0.16	0.062	0.07	0.19
Body	F	LTE Band7	20850	2510	50RB-Low Right	22.85	23.5	0.041	0.05	0.021	0.02	-0.15
Body	F	LTE Band7	20850	2510	50RB-Low Bottom	22.85	23.5	0.303	0.35	0.122	0.14	-0.06

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-22: SAR Values (LTE Band12 – Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band12	23060	704	1RB-Low	24.42	25.5	0.157	0.20	0.121	0.16	0.14
Tilt	L	LTE Band12	23060	704	1RB-Low	24.42	25.5	0.112	0.14	0.075	0.10	0.01
Cheek	R	LTE Band12	23060	704	1RB-Low / Fig.22	24.42	25.5	0.194	0.25	0.156	0.20	0.12
Tilt	R	LTE Band12	23060	704	1RB-Low	24.42	25.5	0.134	0.17	0.112	0.14	-0.07
Cheek	L	LTE Band12	23060	704	25RB-Mid	24.4	24.5	0.136	0.14	0.103	0.11	-0.07
Tilt	L	LTE Band12	23060	704	25RB-Mid	24.4	24.5	0.08	0.08	0.053	0.05	0.06
Cheek	R	LTE Band12	23060	704	25RB-Mid	24.4	24.5	0.131	0.13	0.085	0.09	-0.05
Tilt	R	LTE Band12	23060	704	25RB-Mid	24.4	24.5	0.057	0.06	0.036	0.04	0.08

Note: The LTE mode is QPSK_10MHz.

Table 14.1-23: SAR Values (LTE Band12 – Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band12	23060	704	1RB-Low Front	24.42	25.5	0.233	0.30	0.18	0.23	-0.14
Body	F	LTE Band12	23060	704	1RB-Low Rear	24.42	25.5	0.35	0.45	0.269	0.34	-0.10
Body	F	LTE Band12	23060	704	1RB-Low Left	24.42	25.5	0.211	0.27	0.15	0.19	0.14
Body	F	LTE Band12	23060	704	1RB-Low Right / Fig.23	24.42	25.5	0.424	0.54	0.301	0.39	0.04
Body	F	LTE Band12	23060	704	1RB-Low Bottom	24.42	25.5	0.187	0.24	0.103	0.13	-0.18
Body	F	LTE Band12	23060	704	25RB-Mid Front	24.4	24.5	0.184	0.19	0.141	0.14	0.07
Body	F	LTE Band12	23060	704	25RB-Mid Rear	24.4	24.5	0.279	0.29	0.215	0.22	0.00
Body	F	LTE Band12	23060	704	25RB-Mid Left	24.4	24.5	0.178	0.18	0.126	0.13	-0.03
Body	F	LTE Band12	23060	704	25RB-Mid Right	24.4	24.5	0.355	0.36	0.252	0.26	-0.04
Body	F	LTE Band12	23060	704	25RB-Mid Bottom	24.4	24.5	0.149	0.15	0.087	0.09	-0.01

Note: The LTE mode is QPSK_10MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-24: SAR Values (LTE Band13 – Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band13	23230	782	1RB-High	24.12	25	0.078	0.10	0.048	0.06	-0.03
Tilt	L	LTE Band13	23230	782	1RB-High	24.12	25	0.048	0.06	0.047	0.06	0.07
Cheek	R	LTE Band13	23230	782	1RB-High / Fig.24	24.12	25	0.093	0.11	0.074	0.09	-0.08
Tilt	R	LTE Band13	23230	782	1RB-High	24.12	25	0.049	0.06	0.029	0.04	0.06
Cheek	L	LTE Band13	23230	782	25RB-High	23.2	24	0.05	0.06	0.036	0.04	0.01
Tilt	L	LTE Band13	23230	782	25RB-High	23.2	24	<0.01	<0.01	<0.01	<0.01	\
Cheek	R	LTE Band13	23230	782	25RB-High	23.2	24	0.057	0.07	0.049	0.06	0.12
Tilt	R	LTE Band13	23230	782	25RB-High	23.2	24	<0.01	<0.01	<0.01	<0.01	\

Note: The LTE mode is QPSK_10MHz.

Table 14.1-25: SAR Values (LTE Band13 – Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band13	23230	782	1RB-High Front	24.12	25	0.112	0.14	0.068	0.08	-0.15
Body	F	LTE Band13	23230	782	1RB-High Rear / Fig.25	24.12	25	0.183	0.22	0.105	0.13	-0.05
Body	F	LTE Band13	23230	782	1RB-High Left	24.12	25	0.057	0.07	0.038	0.05	0.06
Body	F	LTE Band13	23230	782	1RB-High Right	24.12	25	0.163	0.20	0.108	0.13	0.15
Body	F	LTE Band13	23230	782	1RB-High Bottom	24.12	25	0.154	0.19	0.078	0.10	0.00
Body	F	LTE Band13	23230	782	25RB-High Front	23.2	24	0.071	0.09	0.041	0.05	0.07
Body	F	LTE Band13	23230	782	25RB-High Rear	23.2	24	0.118	0.14	0.068	0.08	-0.13
Body	F	LTE Band13	23230	782	25RB-High Left	23.2	24	0	0.00	0	0.00	-0.01
Body	F	LTE Band13	23230	782	25RB-High Right	23.2	24	0.116	0.14	0.064	0.08	-0.18
Body	F	LTE Band13	23230	782	25RB-High Bottom	23.2	24	0.106	0.13	0.054	0.06	-0.10

Note: The LTE mode is QPSK_10MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-26: SAR Values (LTE Band25 –Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band25	26140	1860	1RB-high / Fig.26	24.35	25	0.308	0.36	0.203	0.24	-0.13
Tilt	L	LTE Band25	26140	1860	1RB-high	24.35	25	0.273	0.32	0.178	0.21	0.08
Cheek	R	LTE Band25	26140	1860	1RB-high	24.35	25	0.196	0.23	0.129	0.15	-0.09
Tilt	R	LTE Band25	26140	1860	1RB-high	24.35	25	0.148	0.17	0.091	0.11	-0.12
Cheek	L	LTE Band25	26140	1860	50RB-Mid	23.83	24	0.276	0.29	0.182	0.19	0.02
Tilt	L	LTE Band25	26140	1860	50RB-Mid	23.83	24	0.177	0.18	0.096	0.10	-0.03
Cheek	R	LTE Band25	26140	1860	50RB-Mid	23.83	24	0.217	0.23	0.137	0.14	0.07
Tilt	R	LTE Band25	26140	1860	50RB-Mid	23.83	24	0.144	0.15	0.078	0.08	-0.03

Note: The LTE mode is QPSK_20MHz.

Table 14.1-27: SAR Values (LTE Band25 –Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band25	26140	1860	1RB-High Front	24.35	25	0.254	0.30	0.171	0.20	-0.01
Body	F	LTE Band25	26140	1860	1RB-High Rear / Fig.27	24.35	25	0.405	0.47	0.248	0.29	0.00
Body	F	LTE Band25	26140	1860	50RB-Mid Front	23.83	24	0.22	0.23	0.149	0.15	0.02
Body	F	LTE Band25	26140	1860	50RB-Mid Rear	23.83	24	0.353	0.37	0.217	0.23	-0.06

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-28: SAR Values (LTE Band25 –Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band25	26140	1860	1RB-Low Front	21.56	22	0.392	0.43	0.229	0.25	-0.05
Body	F	LTE Band25	26140	1860	1RB-Low Rear	21.56	22	0.61	0.68	0.355	0.39	0.08
Body	F	LTE Band25	26140	1860	1RB-Low Left	21.56	22	0.305	0.34	0.182	0.20	0.02
Body	F	LTE Band25	26140	1860	1RB-Low Right	21.56	22	0.107	0.12	0.065	0.07	-0.03
Body	F	LTE Band25	26140	1860	1RB-Low Bottom	21.56	22	0.496	0.55	0.28	0.31	0.09
Body	F	LTE Band25	26140	1860	50RB-Mid Front	21.61	22	0.379	0.41	0.226	0.25	-0.16
Body	F	LTE Band25	26140	1860	50RB-Mid Rear / Fig.28	21.61	22	0.663	0.73	0.385	0.42	-0.12
Body	F	LTE Band25	26140	1860	50RB-Mid Left Edge	21.61	22	0.308	0.34	0.177	0.19	-0.11
Body	F	LTE Band25	26140	1860	50RB-Mid Right Edge	21.61	22	0.124	0.14	0.074	0.08	-0.03
Body	F	LTE Band25	26140	1860	50RB-Mid Bottom Edge	21.61	22	0.508	0.56	0.288	0.32	0.09
Body	F	LTE Band25	26140	1860	1RB-High Rear 4mm	24.35	25	2	2.32	1.11	1.29	0.07
Body	F	LTE Band25	26140	1860	1RB-High Top 0mm	24.35	25	0.308	0.36	0.159	0.18	0.09
Body	F	LTE Band25	26140	1860	50RB-Mid Rear 0mm	21.61	22	2.34	2.56	1.17	1.28	0.05

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-29: SAR Values (LTE Band26–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band26	26775	822.5	1RB-Low	24.46	25.5	0.219	0.28	0.18	0.23	-0.07
Tilt	L	LTE Band26	26775	822.5	1RB-Low	24.46	25.5	0.144	0.18	0.122	0.16	0.06
Cheek	R	LTE Band26	26775	822.5	1RB-Low / Fig.29	24.46	25.5	0.252	0.32	0.198	0.25	-0.07
Tilt	R	LTE Band26	26775	822.5	1RB-Low	24.46	25.5	0.153	0.19	0.125	0.16	0.02
Cheek	L	LTE Band26	26775	822.5	36RB-Mid	24.43	24.5	0.168	0.17	0.149	0.15	-0.04
Tilt	L	LTE Band26	26775	822.5	36RB-Mid	24.43	24.5	0.099	0.10	0.082	0.08	-0.02
Cheek	R	LTE Band26	26775	822.5	36RB-Mid	24.43	24.5	0.211	0.21	0.167	0.17	0.12
Tilt	R	LTE Band26	26775	822.5	36RB-Mid	24.43	24.5	0.117	0.12	0.107	0.11	0.16

Note: The LTE mode is QPSK_10MHz.

Table 14.1-30: SAR Values (LTE Band26–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band26	26775	822.5	1RB-Low Front	24.46	25.5	0.227	0.29	0.093	0.12	0.11
Body	F	LTE Band26	26775	822.5	1RB-Low Rear / Fig.30	24.46	25.5	0.392	0.50	0.231	0.29	-0.04
Body	F	LTE Band26	26775	822.5	1RB-Low Left Edge	24.46	25.5	0.159	0.20	0.105	0.13	-0.10
Body	F	LTE Band26	26775	822.5	1RB-Low Right Edge	24.46	25.5	0.317	0.40	0.208	0.26	-0.11
Body	F	LTE Band26	26775	822.5	1RB-Low Bottom Edge	24.46	25.5	0.271	0.34	0.139	0.18	0.02
Body	F	LTE Band26	26775	822.5	36RB-Mid Front	24.43	24.5	0.212	0.22	0.128	0.13	0.00
Body	F	LTE Band26	26775	822.5	36RB-Mid Rear	24.43	24.5	0.368	0.37	0.213	0.22	0.10
Body	F	LTE Band26	26775	822.5	36RB-Mid Left	24.43	24.5	0.129	0.13	0.084	0.09	-0.16
Body	F	LTE Band26	26775	822.5	36RB-Mid Right	24.43	24.5	0.263	0.27	0.171	0.17	-0.19
Body	F	LTE Band26	26775	822.5	36RB-Mid Bottom	24.43	24.5	0.214	0.22	0.116	0.12	0.04

Note: The LTE mode is QPSK_15MHz.

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-31: SAR Values (LTE Band41 (PC3)–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band41	40185	2549.5	1RB-high / Fig.31	24.93	25	0.027	0.03	0.012	0.01	0.09
Tilt	L	LTE Band41	40185	2549.5	1RB-high	24.93	25	<0.01	<0.01	<0.01	<0.01	\
Cheek	R	LTE Band41	40185	2549.5	1RB-high	24.93	25	0.017	0.02	0.009	0.01	0.01
Tilt	R	LTE Band41	40185	2549.5	1RB-high	24.93	25	<0.01	<0.01	<0.01	<0.01	\
Cheek	L	LTE Band41	40185	2549.5	50RB-High	23.95	24	<0.01	<0.01	<0.01	<0.01	\
Tilt	L	LTE Band41	40185	2549.5	50RB-High	23.95	24	<0.01	<0.01	<0.01	<0.01	\
Cheek	R	LTE Band41	40185	2549.5	50RB-High	23.95	24	<0.01	<0.01	<0.01	<0.01	\
Tilt	R	LTE Band41	40185	2549.5	50RB-High	23.95	24	<0.01	<0.01	<0.01	<0.01	\
Cheek	L	LTE Band41	39750	2506	CAUL	24.89	25	0.024	0.02	0.01	0.01	0.03

Note: The LTE mode is QPSK_20MHz.

Table 14.1-32: SAR Values (LTE Band41 (PC3)–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band41	40185	2549.5	1RB-High Front	24.93	25	0.2	0.20	0.095	0.10	0.11
Body	F	LTE Band41	40185	2549.5	1RB-High Rear / Fig.32	24.93	25	0.379	0.39	0.172	0.17	-0.06
Body	F	LTE Band41	40185	2549.5	1RB-High Left	24.93	25	0.168	0.17	0.077	0.08	0.12
Body	F	LTE Band41	40185	2549.5	1RB-High Right	24.93	25	0.044	0.04	0.025	0.03	-0.13
Body	F	LTE Band41	40185	2549.5	1RB-High Bottom	24.93	25	0.328	0.33	0.145	0.15	0.16
Body	F	LTE Band41	40185	2549.5	50RB-High Front	23.95	24	0.166	0.17	0.077	0.08	-0.13
Body	F	LTE Band41	40185	2549.5	50RB-High Rear	23.95	24	0.288	0.29	0.131	0.13	0.17
Body	F	LTE Band41	40185	2549.5	50RB-High Left	23.95	24	0.129	0.13	0.062	0.06	-0.04
Body	F	LTE Band41	40185	2549.5	50RB-High Right	23.95	24	0.035	0.04	0.019	0.02	0.06
Body	F	LTE Band41	40185	2549.5	50RB-High Bottom	23.95	24	0.255	0.26	0.1	0.10	-0.12
Body	F	LTE Band41	39750	2506	CAUL Rear	24.89	25	0.211	0.22	0.071	0.07	0.01

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-33: SAR Values (LTE Band41 (PC2)–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band41	40185	2549.5	1RB-low / Fig.33	26.38	27	0.016	0.02	0.006	0.01	0.09
Tilt	L	LTE Band41	40185	2549.5	1RB-low	26.38	27	<0.01	<0.01	<0.01	<0.01	\
Cheek	R	LTE Band41	40185	2549.5	1RB-low	26.38	27	<0.01	<0.01	<0.01	<0.01	\
Tilt	R	LTE Band41	40185	2549.5	1RB-low	26.38	27	<0.01	<0.01	<0.01	<0.01	\
Cheek	L	LTE Band41	40185	2549.5	50RB-middle	25.94	26	<0.01	<0.01	<0.01	<0.01	\
Tilt	L	LTE Band41	40185	2549.5	50RB-middle	25.94	26	<0.01	<0.01	<0.01	<0.01	\
Cheek	R	LTE Band41	40185	2549.5	50RB-middle	25.94	26	<0.01	<0.01	<0.01	<0.01	\
Tilt	R	LTE Band41	40185	2549.5	50RB-middle	25.94	26	<0.01	<0.01	<0.01	<0.01	\
Cheek	L	LTE Band41	39750	2506	CAUL	25.17	27	0.011	0.02	0.004	0.01	-0.09

Note: The LTE mode is QPSK_20MHz.

Table 14.1-34: SAR Values (LTE Band41 (PC2)–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band41	40185	2549.5	1RB-Low Front	26.38	27	0.213	0.25	0.097	0.11	0.05
Body	F	LTE Band41	40185	2549.5	1RB-Low Rear / Fig.34	26.38	27	0.376	0.43	0.167	0.19	0.05
Body	F	LTE Band41	40185	2549.5	1RB-Low Left	26.38	27	0.183	0.21	0.091	0.10	0.15
Body	F	LTE Band41	40185	2549.5	1RB-Low Right	26.38	27	0.038	0.04	0.022	0.03	-0.02
Body	F	LTE Band41	40185	2549.5	1RB-Low Bottom	26.38	27	0.317	0.37	0.146	0.17	0.14
Body	F	LTE Band41	40185	2549.5	50RB-Middle Front	25.94	26	0.174	0.18	0.086	0.09	-0.07
Body	F	LTE Band41	40185	2549.5	50RB-Middle Rear	25.94	26	0.332	0.34	0.15	0.15	0.00
Body	F	LTE Band41	40185	2549.5	50RB-Middle Left	25.94	26	0.152	0.15	0.078	0.08	-0.13
Body	F	LTE Band41	40185	2549.5	50RB-Middle Right	25.94	26	0.038	0.04	0.021	0.02	0.19
Body	F	LTE Band41	40185	2549.5	50RB-Middle Bottom	25.94	26	0.276	0.28	0.128	0.13	0.15
Body	F	LTE Band41	39750	2506	CAUL Rear	25.17	27	0.155	0.24	0.044	0.07	-0.07

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-35: SAR Values (LTE Band66–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band66	132322	1745	1RB-Mid / Fig.35	24.29	25	0.246	0.29	0.158	0.19	-0.11
Tilt	L	LTE Band66	132322	1745	1RB-Mid	24.29	25	0.162	0.19	0.096	0.11	0.05
Cheek	R	LTE Band66	132322	1745	1RB-Mid	24.29	25	0.129	0.15	0.081	0.10	-0.07
Tilt	R	LTE Band66	132322	1745	1RB-Mid	24.29	25	0.102	0.12	0.062	0.07	-0.08
Cheek	L	LTE Band66	132072	1720	50RB-Mid	24.35	24	0.154	0.14	0.09	0.08	0.05
Tilt	L	LTE Band66	132072	1720	50RB-Mid	24.35	24	0.078	0.07	0.051	0.05	-0.06
Cheek	R	LTE Band66	132072	1720	50RB-Mid	24.35	24	0.125	0.12	0.076	0.07	-0.14
Tilt	R	LTE Band66	132072	1720	50RB-Mid	24.35	24	0.081	0.07	0.039	0.04	0.12

Note: The LTE mode is QPSK_20MHz.

Table 14.1-36: SAR Values (LTE Band66–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band66	132322	1745	1RB-Mid Front	24.29	25	0.269	0.32	0.175	0.21	0.00
Body	F	LTE Band66	132322	1745	1RB-Mid Rear / Fig.36	24.29	25	0.388	0.46	0.254	0.30	-0.08
Body	F	LTE Band66	132072	1720	50RB-Mid Front	24.35	24	0.186	0.17	0.123	0.11	0.09
Body	F	LTE Band66	132072	1720	50RB-Mid Rear	24.35	24	0.288	0.27	0.188	0.17	0.14

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-37: SAR Values (LTE Band66–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band66	132572	1770	1RB-High Front	21.74	22	0.419	0.44	0.258	0.27	-0.01
Body	F	LTE Band66	132572	1770	1RB-High Rear / Fig. 37	21.74	22	0.713	0.76	0.438	0.47	0.10
Body	F	LTE Band66	132572	1770	1RB-High Left	21.74	22	0.363	0.39	0.218	0.23	0.12
Body	F	LTE Band66	132572	1770	1RB-High Right	21.74	22	0.128	0.14	0.077	0.08	-0.12
Body	F	LTE Band66	132572	1770	1RB-High Bottom	21.74	22	0.531	0.56	0.305	0.32	0.02
Body	F	LTE Band66	132572	1770	50RB-Mid Front	21.73	22	0.421	0.45	0.26	0.28	-0.09
Body	F	LTE Band66	132572	1770	50RB-Mid Rear	21.73	22	0.644	0.69	0.386	0.41	-0.13
Body	F	LTE Band66	132572	1770	50RB-Mid Left	21.73	22	0.357	0.38	0.216	0.23	-0.19
Body	F	LTE Band66	132572	1770	50RB-Mid Right	21.73	22	0.122	0.13	0.075	0.08	-0.06
Body	F	LTE Band66	132572	1770	50RB-Mid Bottom	21.73	22	0.541	0.58	0.311	0.33	-0.14
Body	F	LTE Band66	132322	1745	1RB-Mid Rear 4mm	24.29	25	1.58	1.86	0.923	1.09	0.01
Body	F	LTE Band66	132322	1745	1RB-Mid Top 0mm	24.29	25	0.188	0.22	0.0918	0.11	0.04
Body	F	LTE Band66	132322	1745	1RB-Mid Rear 0mm	24.29	25	1.88	2.21	0.955	1.12	0.06

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-38: SAR Values (LTE Band71–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band71	133222	673	1RB-Low	24.63	25.5	0.087	0.11	0.078	0.10	-0.03
Tilt	L	LTE Band71	133222	673	1RB-Low	24.63	25.5	0.043	0.05	0.063	0.08	0.08
Cheek	R	LTE Band71	133222	673	1RB-Low	24.63	25.5	0.105	0.13	0.081	0.10	-0.06
Tilt	R	LTE Band71	133222	673	1RB-Low	24.63	25.5	0.075	0.09	0.061	0.07	0.07
Cheek	L	LTE Band71	133222	673	50RB-Mid	23.73	24.5	0.066	0.08	0.085	0.10	0.08
Tilt	L	LTE Band71	133222	673	50RB-Mid	23.73	24.5	0.046	0.05	0.063	0.08	-0.14
Cheek	R	LTE Band71	133222	673	50RB-Mid / Fig.38	23.73	24.5	0.122	0.15	0.098	0.12	0.07
Tilt	R	LTE Band71	133222	673	50RB-Mid	23.73	24.5	0.031	0.04	0.059	0.07	0.06

Note: The LTE mode is QPSK_20MHz.

Table 14.1-39: SAR Values (LTE Band71–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band71	133222	673	1RB-Low Front	24.26	25.5	0.126	0.17	0.097	0.13	0.11
Body	F	LTE Band71	133222	673	1RB-Low Rear	24.26	25.5	0.206	0.27	0.156	0.21	0.14
Body	F	LTE Band71	133222	673	1RB-Low Left	24.26	25.5	0.141	0.19	0.097	0.13	0.10
Body	F	LTE Band71	133272	688	1RB-high Right	24.18	25.5	0.221	0.30	0.153	0.21	-0.18
Body	F	LTE Band71	133322	683	1RB-high Right / Fig.39	24.2	25.5	0.233	0.31	0.165	0.22	-0.04
Body	F	LTE Band71	133222	673	1RB-Low Right	24.26	25.5	0.232	0.31	0.164	0.22	0.08
Body	F	LTE Band71	133222	673	1RB-Low Bottom	24.26	25.5	0.104	0.14	0.057	0.08	0.12
Body	F	LTE Band71	133222	673	50RB-Mid Front	23.29	24.5	0.101	0.13	0.077	0.10	-0.15
Body	F	LTE Band71	133222	673	50RB-Mid Rear	23.29	24.5	0.151	0.20	0.114	0.15	0.01
Body	F	LTE Band71	133222	673	50RB-Mid Left	23.29	24.5	0.096	0.13	0.068	0.09	-0.16
Body	F	LTE Band71	133222	673	50RB-Mid Right	23.29	24.5	0.191	0.25	0.134	0.18	0.15
Body	F	LTE Band71	133222	673	50RB-Mid Bottom	23.29	24.5	0.087	0.11	0.047	0.06	0.03

Note1: The LTE mode is QPSK_20MHz.

Note2: The distance between the EUT and the phantom bottom is 10mm.

Table 14.1-40: SAR Values (LTE Band2–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	LTE Band2	18700	1860	1RB-High / Fig.63	24.19	25	0.3	0.36	0.197	0.24	-0.05
Tilt	L	LTE Band2	18700	1860	1RB-High	24.19	25	0.223	0.27	0.154	0.19	-0.07
Cheek	R	LTE Band2	18700	1860	1RB-High	24.19	25	0.22	0.27	0.155	0.19	0.02
Tilt	R	LTE Band2	18700	1860	1RB-High	24.19	25	0.204	0.25	0.118	0.14	-0.03
Cheek	L	LTE Band2	18700	1860	50RB-Mid	23.77	24	0.266	0.28	0.183	0.19	-0.01
Tilt	L	LTE Band2	18700	1860	50RB-Mid	23.77	24	0.193	0.20	0.133	0.14	0.17
Cheek	R	LTE Band2	18700	1860	50RB-Mid	23.77	24	0.205	0.22	0.138	0.15	0.12
Tilt	R	LTE Band2	18700	1860	50RB-Mid	23.77	24	0.174	0.18	0.127	0.13	-0.06

Note: The LTE mode is QPSK_20MHz.

Table 14.1-41: SAR Values (LTE Band2–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band2	18700	1860	1RB-High Front	24.19	25	0.259	0.31	0.161	0.19	0.19
Body	F	LTE Band2	18700	1860	1RB-High Rear / Fig.64	24.19	25	0.396	0.48	0.242	0.29	0.03
Body	F	LTE Band2	18700	1860	50RB-Mid Front	23.77	24	0.219	0.23	0.201	0.21	-0.13
Body	F	LTE Band2	18700	1860	50RB-Mid Rear	23.77	24	0.323	0.34	0.197	0.21	0.02

Note: The LTE mode is QPSK_20MHz.

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.1-42: SAR Values (LTE Band2–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	LTE Band2	18900	1880	1RB-High Front	21.58	22	0.271	0.30	0.159	0.18	-0.16
Body	F	LTE Band2	18900	1880	1RB-High Rear / Fig.65	21.58	22	0.467	0.51	0.266	0.29	0.14
Body	F	LTE Band2	18900	1880	1RB-High Left	21.58	22	0.234	0.26	0.132	0.15	0.08
Body	F	LTE Band2	18900	1880	1RB-High Right	21.58	22	0.083	0.09	0.049	0.05	-0.16
Body	F	LTE Band2	18900	1880	1RB-High Bottom	21.58	22	0.373	0.41	0.208	0.23	-0.16
Body	F	LTE Band2	18700	1860	50RB-Mid Front	21.65	22	0.258	0.28	0.15	0.16	-0.19
Body	F	LTE Band2	18700	1860	50RB-Mid Rear	21.65	22	0.441	0.48	0.25	0.27	-0.08
Body	F	LTE Band2	18700	1860	50RB-Mid Left	21.65	22	0.211	0.23	0.119	0.13	-0.18
Body	F	LTE Band2	18700	1860	50RB-Mid Right	21.65	22	0.078	0.08	0.046	0.05	0.06
Body	F	LTE Band2	18700	1860	50RB-Mid Bottom	21.65	22	0.34	0.37	0.19	0.21	-0.01
Body	F	LTE Band2	18700	1860	1RB-High Top 0mm	24.19	25	0.282	0.34	0.137	0.17	0.03

Note1: The LTE mode is QPSK_20MHz.

Note2: The distance between the EUT and the phantom bottom is 10mm.

14.2 SAR results for 5G NR

Table 14.2-1: SAR Values (n2-Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Cheek	L	N2	375064	1880	Fig.40	24.66	25	0.264	0.29	0.171	0.18	0.11
Tilt	L	N2	375064	1880	/	24.66	25	0.215	0.23	0.132	0.14	-0.13
Cheek	R	N2	375064	1880	/	24.66	25	0.205	0.22	0.134	0.14	0.05
Tilt	R	N2	375064	1880	/	24.66	25	0.154	0.17	0.094	0.10	0.07

Note: The results are only for ENDC.

Table 14.2-2: SAR Values (n2-Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N2	375064	1880	Front	24.66	25	0.289	0.31	0.179	0.19	0.16
Body	F	N2	375064	1880	Rear / Fig. 41	24.66	25	0.48	0.52	0.284	0.31	-0.03

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The results are only for ENDC.

Table 14.2-3: SAR Values (n2-Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N2	374092	1880	Front	21.87	22	0.272	0.28	0.156	0.16	0.06
Body	F	N2	374092	1880	Rear / Fig. 42	21.87	22	0.45	0.46	0.255	0.26	-0.14
Body	F	N2	374092	1880	Left	21.87	22	0.192	0.20	0.109	0.11	-0.12
Body	F	N2	374092	1880	Right	21.87	22	0.069	0.07	0.042	0.04	-0.15
Body	F	N2	374092	1880	Bottom	21.87	22	0.333	0.34	0.184	0.19	0.07

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for ENDC.

Table 14.2-4: SAR Values (n5-Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Cheek	L	N5	165392	836.5	/	24.66	25	0.137	0.15	0.11	0.12	-0.06
Tilt	L	N5	165392	836.5	/	24.66	25	0.088	0.10	0.077	0.08	0.07
Cheek	R	N5	165392	836.5	Fig.43	24.66	25	0.18	0.19	0.141	0.15	-0.09
Tilt	R	N5	165392	836.5	/	24.66	25	0.11	0.12	0.09	0.10	0.12

Note: The results are only for ENDC.

Table 14.2-5: SAR Values (n5-Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N5	165392	836.5	Front	24.66	25	0.161	0.17	0.099	0.11	0.09
Body	F	N5	165392	836.5	Rear / Fig.44	24.66	25	0.27	0.29	0.157	0.17	0.00
Body	F	N5	165392	836.5	Left	24.66	25	0.109	0.12	0.071	0.08	-0.08
Body	F	N5	165392	836.5	Right	24.66	25	0.209	0.23	0.136	0.15	0.15
Body	F	N5	165392	836.5	Bottom	24.66	25	0.172	0.19	0.091	0.10	-0.16
Body	F	N5	165392	836.5	Rear	24.66	25	1.52	1.64	0.879	0.95	0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for ENDC.

Table 14.2-6: SAR Values (n25–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	N25	375578	1882.5	Fig. 45	24.45	25.5	0.244	0.31	0.158	0.20	-0.09
Tilt	L	N25	375578	1882.5	/	24.45	25.5	0.185	0.24	0.109	0.14	0.06
Cheek	R	N25	375578	1882.5	/	24.45	25.5	0.173	0.22	0.101	0.13	-0.07
Tilt	R	N25	375578	1882.5	/	24.45	25.5	0.126	0.16	0.084	0.11	0.12

Table 14.2-7: SAR Values (n25–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	N25	375578	1882.5	Front	24.45	25.5	0.224	0.29	0.139	0.18	0.18
Body	F	N25	375578	1882.5	Rear / Fig.46	24.45	25.5	0.368	0.47	0.221	0.28	-0.09

Note: The distance between the EUT and the phantom bottom is 15mm.

Table 14.2-8: SAR Values (n25–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	N25	374592	1882.5	Front	22.38	22.5	0.316	0.32	0.184	0.19	-0.14
Body	F	N25	374592	1882.5	Rear / Fig.47	22.38	22.5	0.541	0.56	0.305	0.31	-0.20
Body	F	N25	374592	1882.5	Left	22.38	22.5	0.223	0.23	0.129	0.13	0.09
Body	F	N25	374592	1882.5	Right	22.38	22.5	0.086	0.09	0.052	0.05	0.03
Body	F	N25	374592	1882.5	Bottom	22.38	22.5	0.393	0.40	0.221	0.23	0.09

Note: The distance between the EUT and the phantom bottom is 10mm.

Table 14.2-9: SAR Values (n41–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	N41(PC2)	504072	2569.5	/	20.98	21	0.291	0.29	0.125	0.13	0.13
Tilt	L	N41(PC2)	504072	2569.5	/	20.98	21	0.399	0.40	0.168	0.17	-0.05
Cheek	R	N41(PC2)	504072	2569.5	/	20.98	21	0.643	0.65	0.262	0.26	-0.02
Tilt	R	N41(PC2)	504072	2569.5	Fig. 48	20.98	21	0.95	0.95	0.379	0.38	0.06

Table 14.2-10: SAR Values (n41–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	N41(PC2)	530184	2670	/	19.66	20	0.071	0.08	0.031	0.03	0.17
Tilt	L	N41(PC2)	530184	2670	/	19.66	20	0.1	0.11	0.046	0.05	0.09
Cheek	R	N41(PC2)	530184	2670	/	19.66	20	0.164	0.18	0.069	0.07	0.04
Tilt	R	N41(PC2)	530184	2670	Fig. 49	19.66	20	0.234	0.25	0.095	0.10	0.05

Note: The results are only for ENDC with Wifi.

Table 14.2-11: SAR Values (n41–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	N41(PC2)	504072	2569.5	Front	26.2	27	0.222	0.27	0.116	0.14	-0.04
Body	F	N41(PC2)	504072	2569.5	Rear / Fig.50	26.2	27	0.41	0.49	0.2	0.24	-0.02

Note1: The distance between the EUT and the phantom bottom is 15mm.

Table 14.2-11: SAR Values (n41–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N41(PC2)	504072	2569.5	Front	23.94	24	0.326	0.33	0.164	0.17	0.08
Body	F	N41(PC2)	504072	2569.5	Rear	23.94	24	0.585	0.59	0.275	0.28	0.02
Body	F	N41(PC2)	504072	2569.5	Left	23.94	24	0.273	0.28	0.148	0.15	-0.18
Body	F	N41(PC2)	504072	2569.5	Right	23.94	24	0.049	0.05	0.013	0.01	-0.02
Body	F	N41(PC2)	504072	2569.5	Top / Fig.51	23.94	24	1.08	1.10	0.455	0.46	-0.06
Body	F	N41(PC2)	504072	2569.5	Bottom	23.94	24	0.061	0.06	0.022	0.02	-0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for Hotspot mode of SA.

Table 14.2-12: SAR Values (n41–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N41(PC2)	504072	2569.5	Front	20.98	21	0.178	0.18	0.082	0.08	0.16
Body	F	N41(PC2)	504072	2569.5	Rear	20.98	21	0.265	0.27	0.116	0.12	-0.16
Body	F	N41(PC2)	504072	2569.5	Left	20.98	21	0.144	0.14	0.072	0.07	0.10
Body	F	N41(PC2)	504072	2569.5	Right	20.98	21	0.007	0.01	0.002	0.00	-0.15
Body	F	N41(PC2)	504072	2569.5	Top / Fig.52	20.98	21	0.56	0.56	0.23	0.23	0.04
Body	F	N41(PC2)	504072	2569.5	Bottom	20.98	21	<0.01	<0.01	<0.01	<0.01	\
Body	F	N41(PC2)	504072	2569.5	Rear 4mm	26.2	27	2.83	3.40	1.08	1.30	0.01
Body	F	N41(PC2)	504072	2569.5	Top 0mm	26.2	27	3.22	3.87	1.31	1.57	0.02
Body	F	N41(PC2)	504072	2569.5	Rear 0mm	23.94	24	2.31	2.34	0.955	0.97	0.10

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for Hotspot mode of ENDC.

Table 14.2-13: SAR Values (n66–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Cheek	L	N66	347092	1745	Fig.53	24.55	25	0.168	0.19	0.108	0.12	-0.06
Tilt	L	N66	347092	1745	/	24.55	25	0.076	0.08	0.046	0.05	0.09
Cheek	R	N66	347092	1745	/	24.55	25	0.127	0.14	0.073	0.08	-0.01
Tilt	R	N66	347092	1745	/	24.55	25	0.081	0.09	0.048	0.05	0.06

Table 14.2-14: SAR Values (n66–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N66	347092	1745	Front	24.55	25	0.16	0.18	0.106	0.12	0.06
Body	F	N66	347092	1745	Rear / Fig.54	24.55	25	0.243	0.27	0.159	0.18	-0.04

Note1: The distance between the EUT and the phantom bottom is 15mm.

Table 14.2-14: SAR Values (n66–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N66	347092	1745	Front	24.55	25	0.304	0.34	0.197	0.22	-0.01
Body	F	N66	347092	1745	Rear / Fig.55	24.55	25	0.56	0.62	0.342	0.38	-0.01
Body	F	N66	347092	1745	Left	24.55	25	0.269	0.30	0.163	0.18	-0.03
Body	F	N66	347092	1745	Right	24.55	25	0.095	0.11	0.057	0.06	-0.19
Body	F	N66	347092	1745	Bottom	24.55	25	0.471	0.52	0.268	0.30	-0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for Hotspot mode of SA.

Table 14.2-15: SAR Values (n66–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Model/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
Body	F	N66	347092	1745	Front	22.87	23	0.2	0.21	0.124	0.13	0.16
Body	F	N66	347092	1745	Rear / Fig.56	22.87	23	0.365	0.38	0.221	0.23	-0.12
Body	F	N66	347092	1745	Left	22.87	23	0.169	0.17	0.1	0.10	-0.05
Body	F	N66	347092	1745	Right	22.87	23	0.058	0.06	0.034	0.04	-0.13
Body	F	N66	347092	1745	Bottom	22.87	23	0.313	0.32	0.176	0.18	0.12

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The results are only for Hotspot mode of ENDC.

Table 14.2-16: SAR Values (n71–Head)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Cheek	L	N71	134192	680.5	/	25.02	25.5	0.114	0.13	0.075	0.08	0.08
Tilt	L	N71	134192	680.5	/	25.02	25.5	0.092	0.10	0.069	0.08	-0.06
Cheek	R	N71	134192	680.5	Fig. 57	25.02	25.5	0.133	0.15	0.106	0.12	0.07
Tilt	R	N71	134192	680.5	/	25.02	25.5	0.068	0.08	0.056	0.06	0.09

Table 14.2-17: SAR Values (n71–Body)

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Mode/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
Body	F	N71	134192	680.5	Front	25.02	25.5	0.152	0.17	0.112	0.13	0.09
Body	F	N71	134192	680.5	Rear	25.02	25.5	0.212	0.24	0.156	0.17	-0.04
Body	F	N71	134192	680.5	Left Edge	25.02	25.5	0.14	0.16	0.096	0.11	0.19
Body	F	N71	134192	680.5	Right / Fig.58	25.02	25.5	0.29	0.32	0.2	0.22	-0.13
Body	F	N71	134192	680.5	Bottom	25.02	25.5	0.136	0.15	0.074	0.08	0.18
Body	F	N71	134192	680.5	Rear 0mm	25.02	25.5	0.954	1.07	0.599	0.67	0.16

Note1: The distance between the EUT and the phantom bottom is 10mm.

14.3 WLAN Evaluation for 2.4G

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WIFI 2.4G.

Head Evaluation

Table 14.3-1: SAR Values (WLAN - Head)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5 °C											
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2412	1	Left	Cheek	Note1	20.48	21.5	0.457	0.58	0.225	0.28	-0.16
2462	11	Left	Tilt	Note1	20.06	21.5	0.454	0.63	0.213	0.30	-0.11
2437	6	Left	Tilt	Note1	19.83	21.5	0.412	0.61	0.176	0.26	-0.13
2412	1	Left	Tilt	Note1	20.46	21.5	0.525	0.67	0.218	0.28	-0.02
2412	1	Right	Cheek	Note1	20.46	21.5	0.117	0.15	0.066	0.08	0.10
2412	1	Right	Tilt	Note1	20.46	21.5	0.119	0.15	0.06	0.08	-0.02
2412	1	Left	Cheek	Note2	18.21	19.5	0.245	0.33	0.125	0.17	0.04
2412	1	Left	Tilt	Note2	18.21	19.5	0.34	0.46	0.138	0.19	-0.11
2462	11	Left	Tilt	Note2	18.18	19.5	0.357	0.48	0.159	0.22	0.13
2437	6	Left	Tilt	Note2	18.05	19.5	0.402	0.56	0.167	0.23	-0.01
2412	1	Right	Cheek	Note2	18.21	19.5	0.095	0.13	0.041	0.06	0.07
2412	1	Right	Tilt	Note2	18.21	19.5	0.096	0.13	0.041	0.06	0.11

Note1:The results are for Wifi transmit alone.

Note2:The results are for Wifi transmit with WWAN.

As shown above table, the initial test position for head is “Left Tilt”. So the head SAR of WLAN is presented as below:

Table 14.3-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5 °C											
Frequency		Side	Test Position	Figure No./ Note	Conducte d Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2412	1	Left	Tilt	Fig.59	20.46	21.5	0.525	0.67	0.218	0.28	-0.02
2412	1	Left	Cheek	/	20.48	21.5	0.457	0.58	0.225	0.28	-0.16

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg.

Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

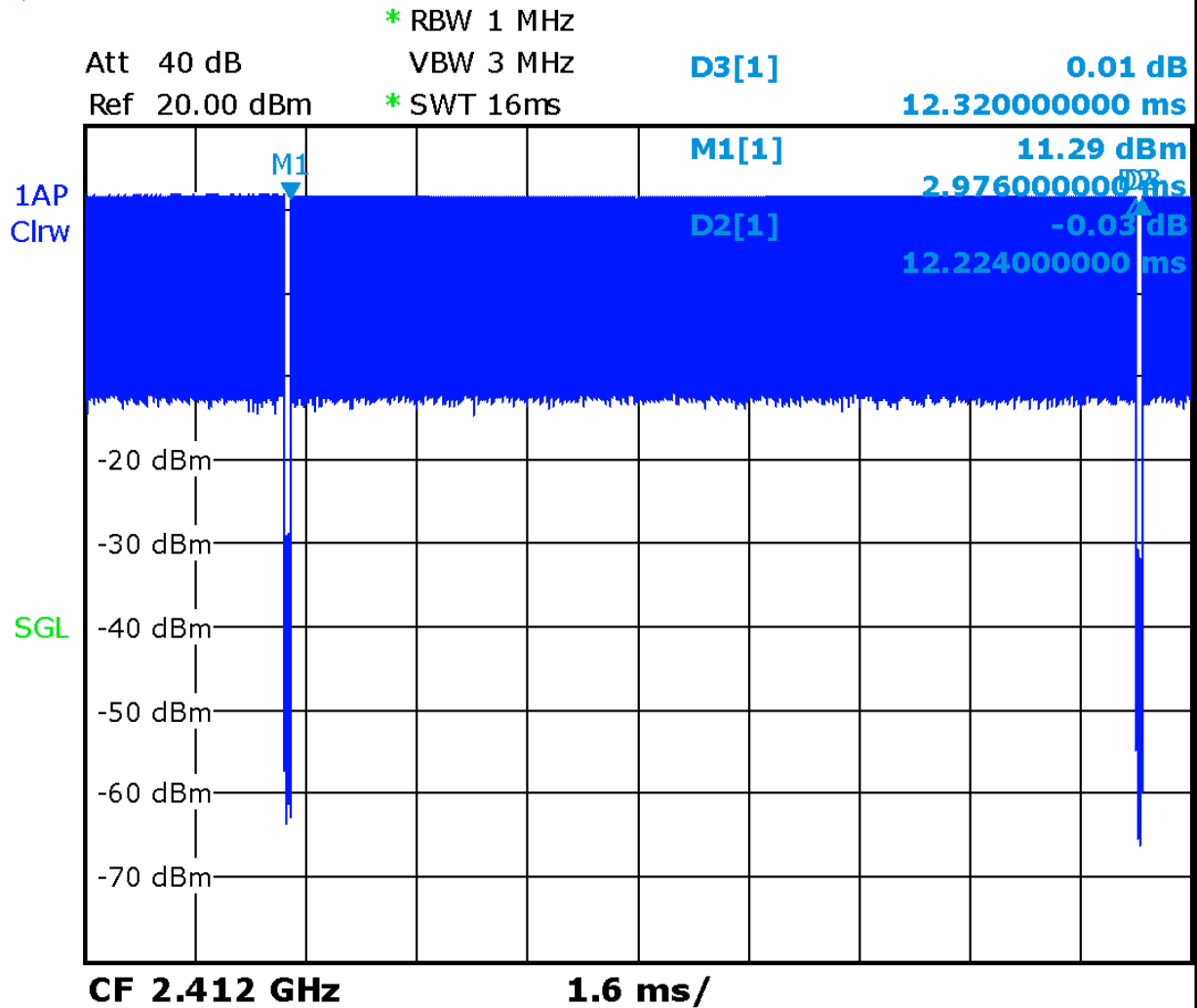


Table 14.3-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C			
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.						
2412	1	Left	Cheek	99.2%	100%	0.67	0.68

SAR is not required for OFDM because the 802.11b adjusted SAR $\leq$ 1.2 W/kg.

Body Evaluation

Table 14.3-4: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
6	2437	Front	15mm	24.16	25.5	0.079	0.11	0.126	0.17	-0.18
11	2462	Rear	15mm	24.31	25.5	0.164	0.22	0.325	0.43	0.13
6	2437	Rear	15mm	24.16	25.5	0.129	0.18	0.232	0.32	0.08
1	2412	Rear	15mm	24.26	25.5	0.14	0.19	0.253	0.34	-0.09
1	2412	Front	Note1	20.66	22.5	0.051	0.08	0.092	0.14	0.04
11	2462	Rear	Note1	20.47	22.5	0.124	0.20	0.262	0.42	-0.15
6	2437	Rear	Note1	20.6	22.5	0.099	0.15	0.209	0.32	-0.11
1	2412	Rear	Note1	20.66	22.5	0.096	0.15	0.207	0.32	0.13
1	2412	Right	Note1	20.66	22.5	0.094	0.14	0.201	0.31	0.00
1	2412	Top	Note1	20.66	22.5	0.042	0.06	0.121	0.18	0.10
1	2412	Front	Note2	18.52	19.5	0.033	0.04	0.061	0.08	0.10
11	2462	Rear	Note2	17.87	19.5	0.075	0.11	0.165	0.24	0.06
6	2437	Rear	Note2	17.79	19.5	0.053	0.08	0.118	0.17	0.07
1	2412	Rear	Note2	17.87	19.5	0.058	0.08	0.128	0.19	-0.07
1	2412	Right	Note2	17.87	19.5	<0.01	<0.01	<0.01	<0.01	/
1	2412	Top	Note2	17.87	19.5	0.052	0.08	0.111	0.16	0.08

Note1:The results are for Wifi transmit alone.

Note2:The results are for Wifi transmit with WWAN.

Note3: The distance between the EUT and the phantom bottom is 10mm.

As shown above table, the initial test position for body is “Rear”. So the body SAR of WLAN is presented as below:

Table 14.3-5: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
11	2462	Rear	15mm/ Fig.60	24.31	25.5	0.164	0.22	0.325	0.43	0.13
6	2437	Front	15mm	24.16	25.5	0.079	0.11	0.126	0.17	-0.18

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg.

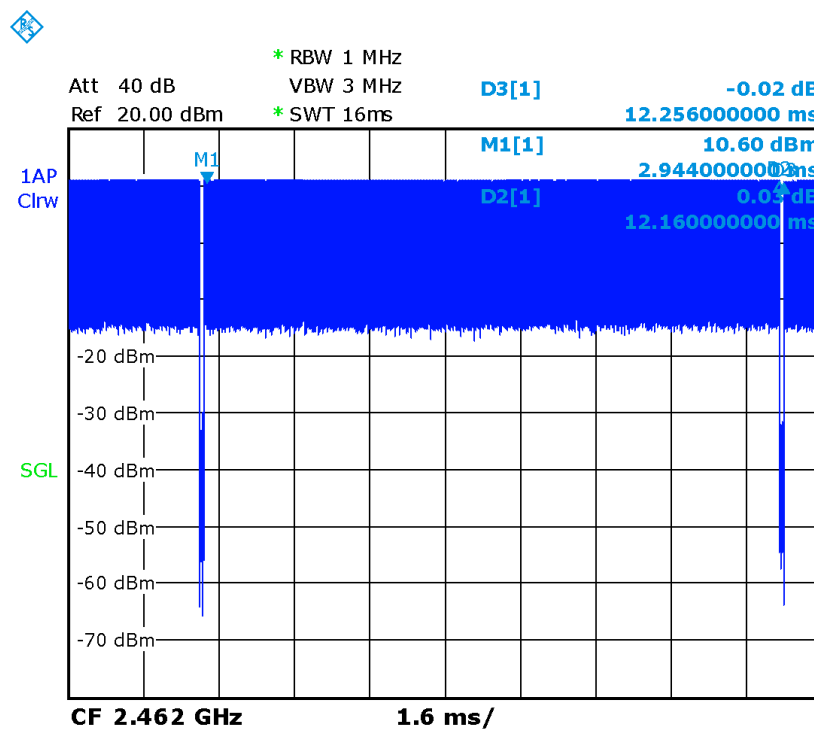
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.3-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
11	2462	Rear	99.2%	100%	0.43	0.43

SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.



Picture 14.1 Duty factor plot

14.4 SAR results for BT

Table 14.4-1: SAR Values (BT - Head)

Frequency	Side	Test Position	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.									
39	Left	Cheek	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Left	Tilt	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Right	Cheek	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Right	Tilt	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/

Table 14.4-2: SAR Values (BT - Body)

Frequency	Test Position	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
Ch.								
39	Front	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Rear	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Right	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/
39	Top	8.46	9.5	<0.01	<0.01	<0.01	<0.01	/

Note1: The distance between the EUT and the phantom bottom is 10mm.

14.5 WLAN Evaluation For 5G

When the phone hotspot worked, then power reduction will be implemented immediately at WIFI 5G U-NII-1/ U-NII-3. Hotspot is not supported for U-NII-2A/ U-NII-2C

Table 14.5-1: OFDM mode specified maximum output power of WLAN antenna-Normal power

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	X	X	X	X	X	X	X	
U-NII-2A	X	X	X	X	X	X	X	
U-NII-2C	X	X	X	X	X	X	X	
U-NII-3	X	X	X	X	X	X	X	
§ 15.247 (5.8 GHz)								

X: maximum(conducted) output power(mW), including tolerance, specified for production units

Table 14.5-2: Maximum output power specified of WLAN antenna – Head/Body 15mm

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	100		100	89	79	79	25	
U-NII-2A	100		100	89	79	79	40	
U-NII-2C	100		141	100	112	79	40	
U-NII-3	100		141	100	112	79	25	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.5-3: Maximum output power specified of WLAN antenna –Body 10mm-Wifi Antenna transmit standalone

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	56		50	63	50	32	25	
U-NII-2A								
U-NII-2C								
U-NII-3	56		71	32	71	32	25	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.5-4: Maximum output power specified of WLAN antenna –Body 10mm--Wifi
Antenna transmit with WWAN

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	35		31	28	31	31	25	
U-NII-2A								
U-NII-2C								
U-NII-3	35		45	31	45	31	25	
§ 15.247 (5.8 GHz)								
- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes. - The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.								

Table 14.5-4: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Head/Body 15mm

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 72/76/75/71	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 69/77/71/73	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 116/120/124/128 Lower power	100/104/108/112 116/132/136/140 89/88/88/89/70/7 0/70/73/74/79/89 /125	102/110/118/ 126/134/142 Lower power	100/104/108/11 2 116/132/136/14 0 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 Lower power	149/153/157/161 /165 125/120/116/114 /118	151/159 Lower power	149/153/157/16 1/165 Lower power	151/159 Lower power	155 Lower power
- The bold numbers is the maximum output measured power (mW). - Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.						

Table 14.5-5: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Body 10mm-Wifi Antenna transmit standalone

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36 /40/44/48 44 /43/41/40	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 53 Lower power
U-NII-3	149/153/157/161 /165 Lower power	149 /153/157/16 1/165 58 /57/55/55/56	151/159 Lower power	149/153/157/16 1/165 Lower power	151/159 Lower power	155 58 Lower power
- The bold numbers is the maximum output measured power (mW). - Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.						

Table 14.5-6: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Body 10mm-Wifi Antenna transmit with WWAN

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36 /40/44/48 28/27/26/26	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 53 Lower power
U-NII-3	149/153/157/161 /165 Lower power	149 /153/157/16 1/165 38 /35/34/34/35	151/159 Lower power	149/153/157/16 1/165 Lower power	151/159 Lower power	155 58 Lower power
- The bold numbers is the maximum output measured power (mW). - Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.						

Table 14.5-7: Reported SAR of initial test configuration for Head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.36	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.33	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144	100/104/108/112/116/120/124/128/132/136/140/144 0.67	102/110/118/126/134/142	100/104/108/112/116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165	149/153/157/161/165 0.69	151/159	149/153/157/161/165	151/159	155

Initial test configuration SAR for U-NII-2A band is > 0.8 W/kg, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is ≤ 1.2 W/kg, SAR is not required for subsequent next highest output channel. Similar circumstances apply to U-NII-1, U-NII-2C band and U-NII-3 band. The green highlighted channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in yellow highlight.

Table 14.5-8: Reported SAR of initial test configuration for Body 10mm-Wifi Antenna transmit standalone

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.13	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-3	149/153/157/161/165	149/153/157/161/165 0.44	151/159	149/153/157/161/165	151/159	155

Highest measured output power channel tested initially are in yellow highlight.

Table 14.5-9: Reported SAR of initial test configuration for Body 10mm-Wifi Antenna transmit with WWAN

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.08	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-3	149/153/157/161/165	149/153/157/161/165 0.23	151/159	149/153/157/161/165	151/159	155

Highest measured output power channel tested initially are in yellow highlight.

Table 14.5-10: Reported SAR of initial test configuration for Body 15mm

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.17	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.26	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144	100/104/108/112/116/120/124/128/132/136/140/144	118/126/134/142	100/104/108/112/116/120/124/128/132/136/140/144	102/110/134	106
U-NII-3	149/153/157/161/165	149/153/157/161/165	151/159	149/153/157/161	151/159	155

Highest measured output power channel tested initially are in yellow highlight.

Table 14.5-11: SAR Values (WLAN 5G - Head)

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
40	5200	Left	Cheek	/	18.82	20	0.243	0.32	0.072	0.09	-0.14
40	5200	Left	Tilt	/	18.82	20	0.278	0.36	0.074	0.10	0.09
40	5200	Right	Cheek	/	18.82	20	0.137	0.18	0.039	0.05	-0.02
40	5200	Right	Tilt	/	18.82	20	0.158	0.21	0.043	0.06	-0.01
56	5280	Left	Cheek	/	18.85	20	0.247	0.32	0.063	0.08	-0.14
56	5280	Left	Tilt	/	18.85	20	0.25	0.33	0.064	0.08	0.03
56	5280	Right	Cheek	/	18.85	20	0.149	0.19	0.037	0.05	0.00
56	5280	Right	Tilt	/	18.85	20	0.151	0.20	0.036	0.05	-0.10
144	5720	Left	Cheek	/	20.97	21.5	0.384	0.43	0.093	0.11	0.14
144	5720	Left	Tilt	/	20.97	21.5	0.591	0.67	0.145	0.16	0.14
144	5720	Right	Cheek	/	20.97	21.5	0.34	0.38	0.077	0.09	0.06
144	5720	Right	Tilt	/	20.97	21.5	0.444	0.50	0.097	0.11	-0.01
149	5745	Left	Cheek	/	20.96	21.5	0.319	0.36	0.088	0.10	-0.17
149	5745	Left	Tilt	Fig.61	20.96	21.5	0.605	0.69	0.156	0.18	0.04
149	5745	Right	Cheek	/	20.96	21.5	0.196	0.22	0.055	0.06	0.05
149	5745	Right	Tilt	/	20.96	21.5	0.253	0.29	0.081	0.09	0.10
36	5180	Left	Cheek	Note1	16.41	17.5	0.128	0.16	0.031	0.04	0.17
36	5180	Left	Tilt	Note1	16.41	17.5	0.111	0.14	0.029	0.04	0.07
36	5180	Right	Cheek	Note1	16.41	17.5	0.086	0.11	0.021	0.03	-0.09
36	5180	Right	Tilt	Note1	16.41	17.5	0.108	0.14	0.028	0.04	0.18
60	5300	Left	Cheek	Note1	16.16	17.5	0.127	0.17	0.031	0.04	-0.17

60	5300	Left	Tilt	Note1	16.16	17.5	0.121	0.16	0.029	0.04	-0.10
60	5300	Right	Cheek	Note1	16.16	17.5	0.079	0.11	0.018	0.02	0.19
60	5300	Right	Tilt	Note1	16.16	17.5	0.099	0.13	0.022	0.03	-0.12
144	5720	Left	Cheek	Note1	17.75	18.5	0.215	0.26	0.037	0.04	-0.16
144	5720	Left	Tilt	Note1	17.75	18.5	0.265	0.31	0.053	0.06	0.02
144	5720	Right	Cheek	Note1	17.75	18.5	0.119	0.14	0.028	0.03	0.01
144	5720	Right	Tilt	Note1	17.75	18.5	0.177	0.21	0.0489	0.06	0.06
149	5745	Left	Cheek	Note1	17.61	18.5	0.225	0.28	0.049	0.06	0.19
149	5745	Left	Tilt	Note1	17.61	18.5	0.186	0.23	0.041	0.05	0.04
149	5745	Right	Cheek	Note1	17.61	18.5	0.112	0.14	0.025	0.03	0.07
149	5745	Right	Tilt	Note1	17.61	18.5	0.161	0.20	0.036	0.04	-0.07

Note1:The results are for Wifi5G transmit with WWAN

Table 14.5-12: SAR Values (WLAN 5G - Body)

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
40	5200	Front	15mm	18.82	20	0.026	0.03	0.01	0.01	0.06
40	5200	Rear	15mm	18.82	20	0.132	0.17	0.049	0.06	0.08
56	5280	Front	15mm	18.85	20	0.034	0.04	0.01	0.01	0.03
56	5280	Rear	15mm	18.85	20	0.202	0.26	0.074	0.10	0.09
144	5720	Front	15mm	20.97	21.5	0.062	0.07	0.023	0.03	0.09
144	5720	Rear	15mm/ Fig.62	20.97	21.5	0.41	0.46	0.15	0.17	0.19
149	5745	Front	15mm	20.96	21.5	0.062	0.07	0.023	0.03	-0.11
149	5745	Rear	15mm	20.96	21.5	0.397	0.45	0.145	0.16	0.02
36	5180	Front	Note1	16.41	17.5	0.032	0.04	0.01	0.01	-0.15
36	5180	Rear	Note1	16.41	17.5	0.104	0.13	0.031	0.04	-0.08
36	5180	Right	Note1	16.41	17.5	0.095	0.12	0.032	0.04	0.12
36	5180	Top	Note1	16.41	17.5	0.059	0.08	0.019	0.02	0.10
149	5745	Front	Note1	17.61	18.5	0.034	0.04	0.012	0.01	-0.07
149	5745	Rear	Note1	17.61	18.5	0.356	0.44	0.103	0.13	-0.12
149	5745	Right	Note1	17.61	18.5	0.209	0.26	0.07	0.09	-0.09
149	5745	Top	Note1	17.61	18.5	0.14	0.17	0.046	0.06	0.13
36	5180	Front	Note2	14.43	15.5	0.023	0.03	0.006	0.01	-0.14
36	5180	Rear	Note2	14.43	15.5	0.059	0.08	0.018	0.02	-0.08
36	5180	Right	Note2	14.43	15.5	0.055	0.07	0.018	0.02	-0.06
36	5180	Top	Note2	14.43	15.5	0.027	0.03	0.009	0.01	0.13
149	5745	Front	Note2	15.81	16.5	0.042	0.05	0.008	0.01	-0.04
149	5745	Rear	Note2	15.81	16.5	0.192	0.23	0.053	0.06	0.09
149	5745	Right	Note2	15.81	16.5	0.112	0.13	0.035	0.04	0.06
149	5745	Top	Note2	15.81	16.5	0.137	0.16	0.036	0.04	-0.13

Note1: The results are for Hotspot mode of Wifi5G standalone.

Note2: The results are for Hotspot mode of Wifi5G transmit with WWAN.

Note3: The distance between the EUT and the phantom bottom is 10mm.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

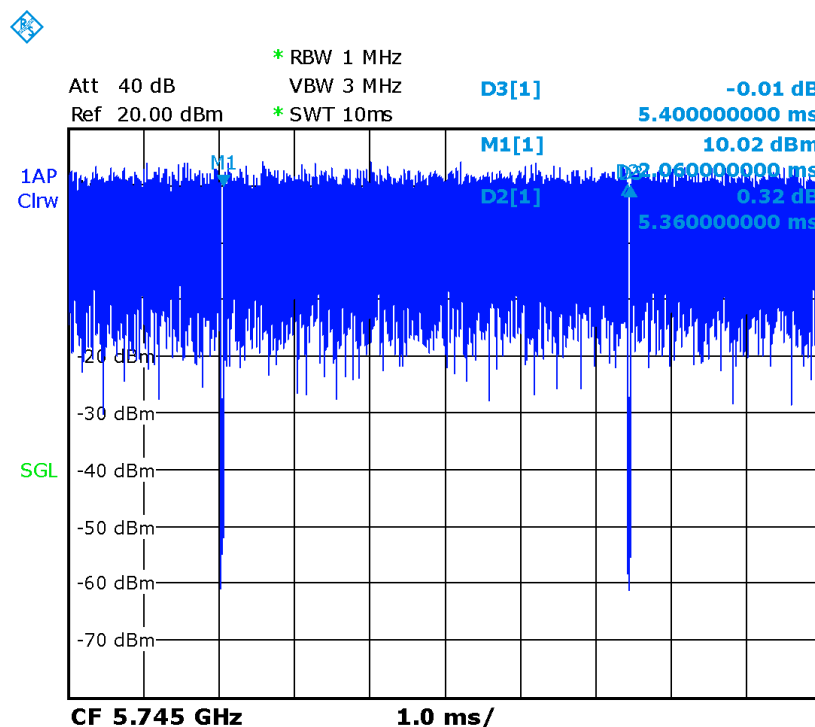
Table 14.5-13: SAR Values (WLAN 5G - Head) (Scaled Reported SAR)

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
149	5745	Left	Tilt	99.3%	100%	0.69	0.69

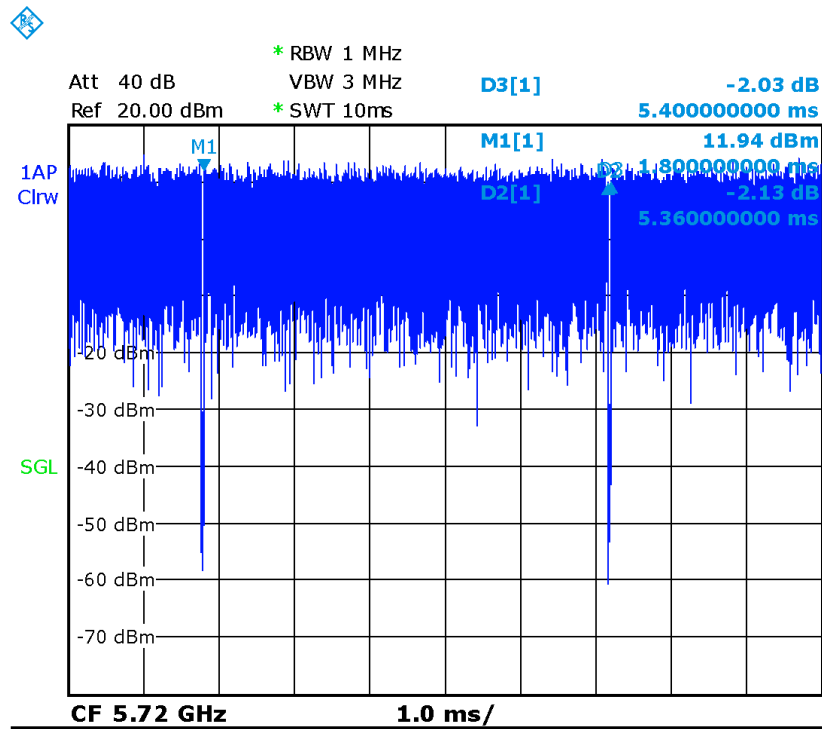
Table 14.5-14 SAR Values (WLAN 5G - Body) (Scaled Reported SAR)

Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
144	5720	Rear	15	99.3%	100%	0.46	0.46

Note1: The distance between the EUT and the phantom bottom is 15mm.



Picture 14.5-1 The plot of duty factor for Head



Picture 14.5-2 The plot of duty factor for Body 15mm

15 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

Table 15.1: SAR Measurement Variability for Body WCDMA1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9538	1907.6	Rear	10	0.82	0.815	1.01	/

Table 15.2: SAR Measurement Variability for Head 5G SA N41 PC2 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
504072	2569.5	Right Tilt	0	0.95	0.943	1.01	/

Table 15.3: SAR Measurement Variability for Body WCDMA1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
504072	2569.5	Top	10	1.08	1.02	1.06	/

16 Measurement Uncertainty

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

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

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

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

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

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

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

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

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

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

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

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

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY46110673	January 24, 2020	One year
02	Power meter	NRP2	101919	May 12, 2020	One year
03	Power sensor	NRP-Z91	101547		
04	Signal Generator	E4438C	MY49070393	January 4, 2020	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	129942	February 10, 2020	One year
07	E-field Probe	SPEAG EX3DV4	3617	Jan 30, 2020	One year
08	DAE	SPEAG DAE4	777	January 8, 2020	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 24,2020	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 24,,2020	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 24, 2020	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2020	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 21,2020	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 21,2020	One year
15	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 27,2020	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH190 Right Cheek

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.886$ mho/m; $\epsilon_r = 41.45$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 836.6 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.313 W/kg

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

Reference Value = 3.929 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.339 W/kg

SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.202 W/kg

Maximum value of SAR (measured) = 0.311 W/kg

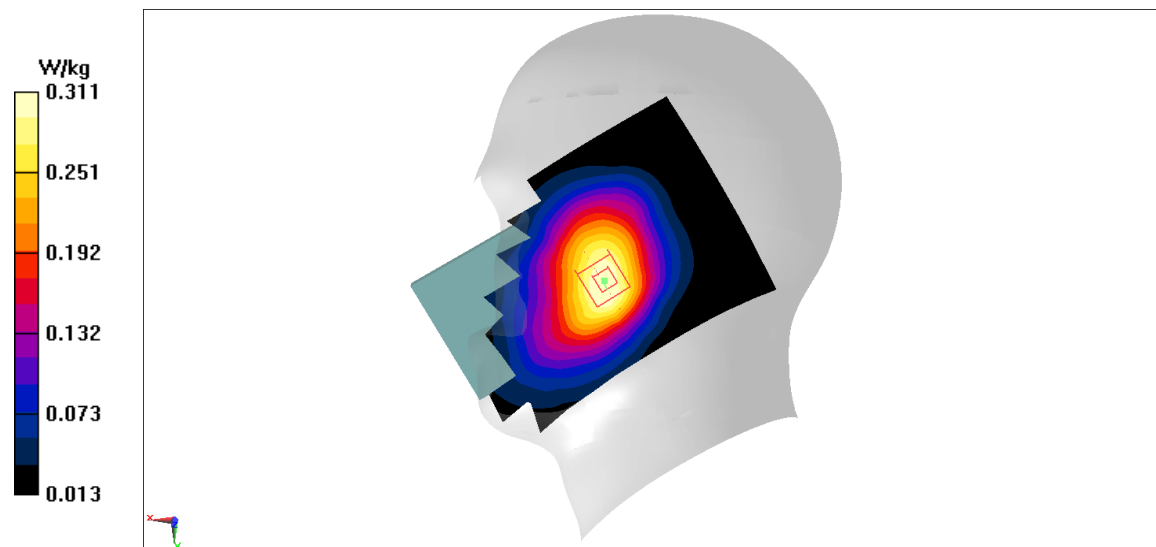


Fig A.1

GSM850_CH251 Rear 10mm

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 848.8$ MHz; $\sigma = 0.897$ mho/m; $\epsilon_r = 41.43$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 848.8 MHz Duty Cycle: 1:4

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.839 W/kg

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

Reference Value = 19.38 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.699 W/kg; SAR(10 g) = 0.34 W/kg

Maximum value of SAR (measured) = 0.856 W/kg

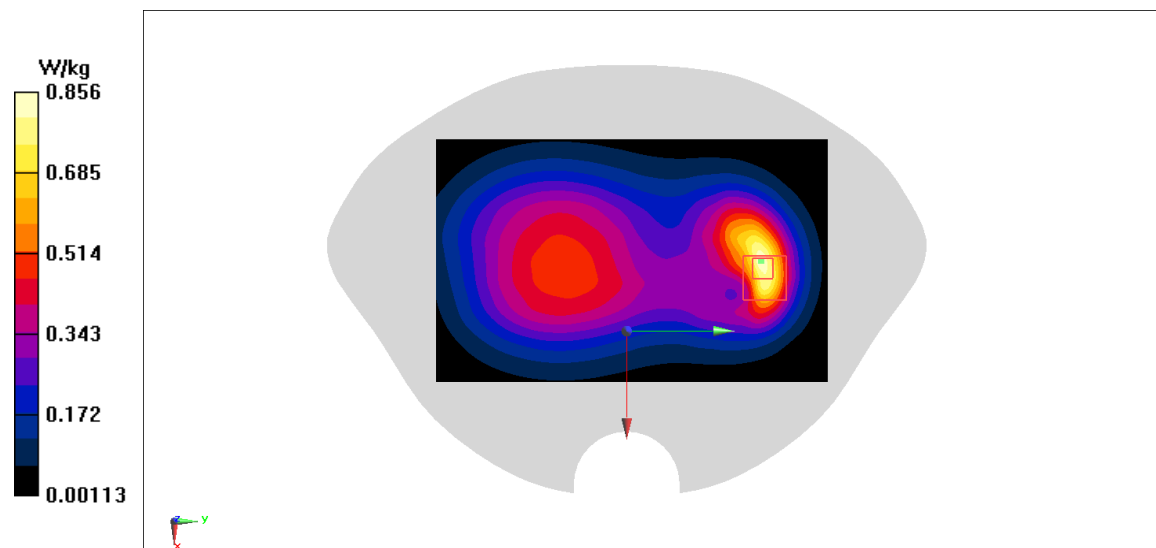


Fig A.2

PCS1900_CH661 Left Cheek

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.363$ mho/m; $\epsilon_r = 39.35$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.207 W/kg

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

Reference Value = 4.176 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.239 W/kg

SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.1 W/kg

Maximum value of SAR (measured) = 0.206 W/kg

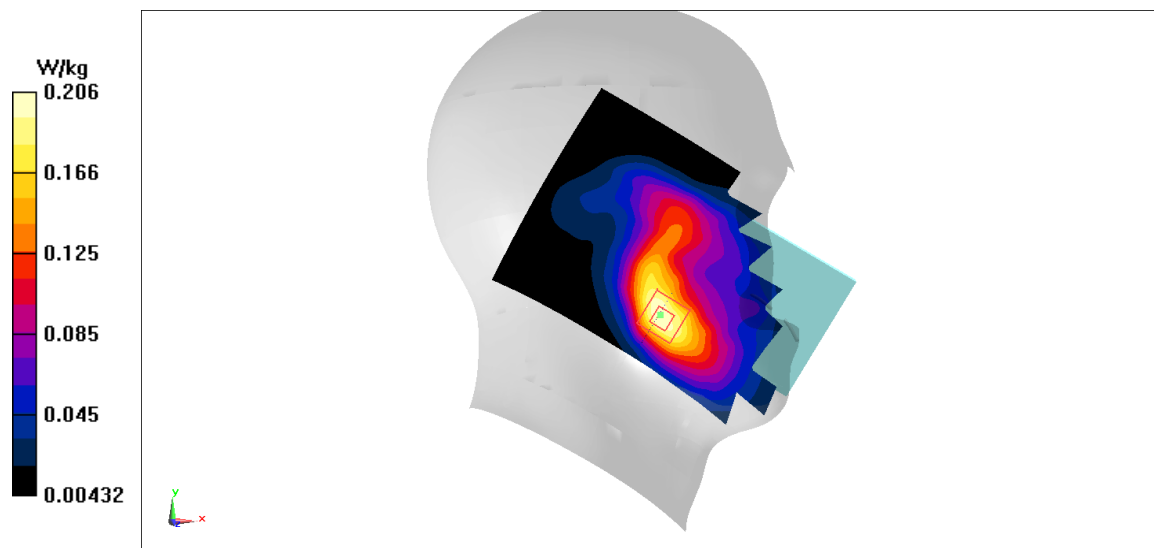


Fig A.3

PCS1900_CH512 Rear 10mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.334$ mho/m; $\epsilon_r = 39.39$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.508 W/kg

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

Reference Value = 6.612 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.867 W/kg

SAR(1 g) = 0.34 W/kg; SAR(10 g) = 0.17 W/kg

Maximum value of SAR (measured) = 0.301 W/kg

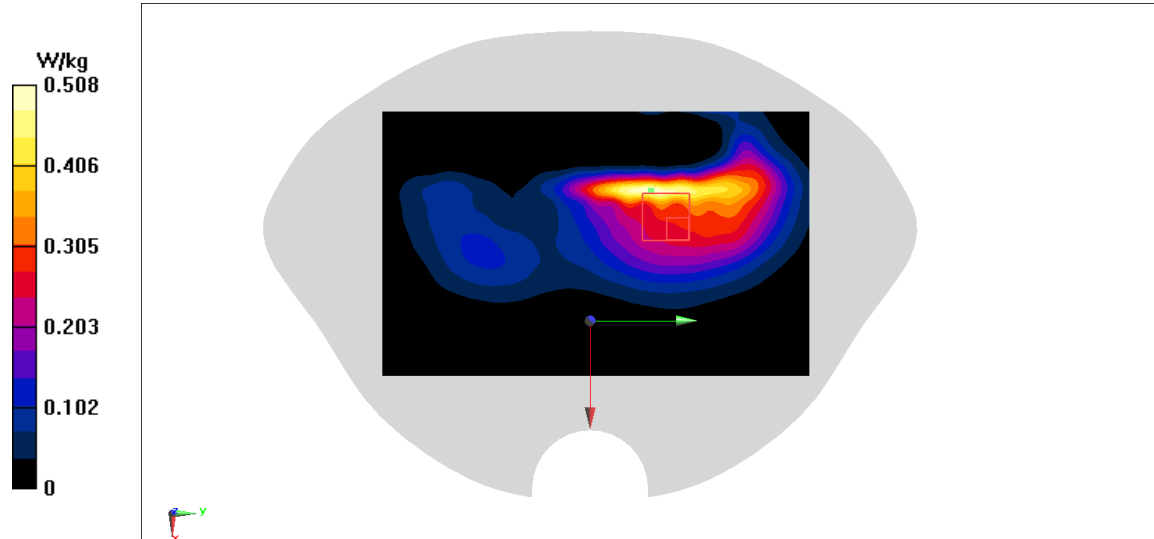


Fig A.4

WCDMA1900-BII_CH9538 Left Cheek

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1907.6$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.32$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.507 W/kg

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

Reference Value = 6.823 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.573 W/kg

SAR(1 g) = 0.376 W/kg; SAR(10 g) = 0.248 W/kg

Maximum value of SAR (measured) = 0.499 W/kg

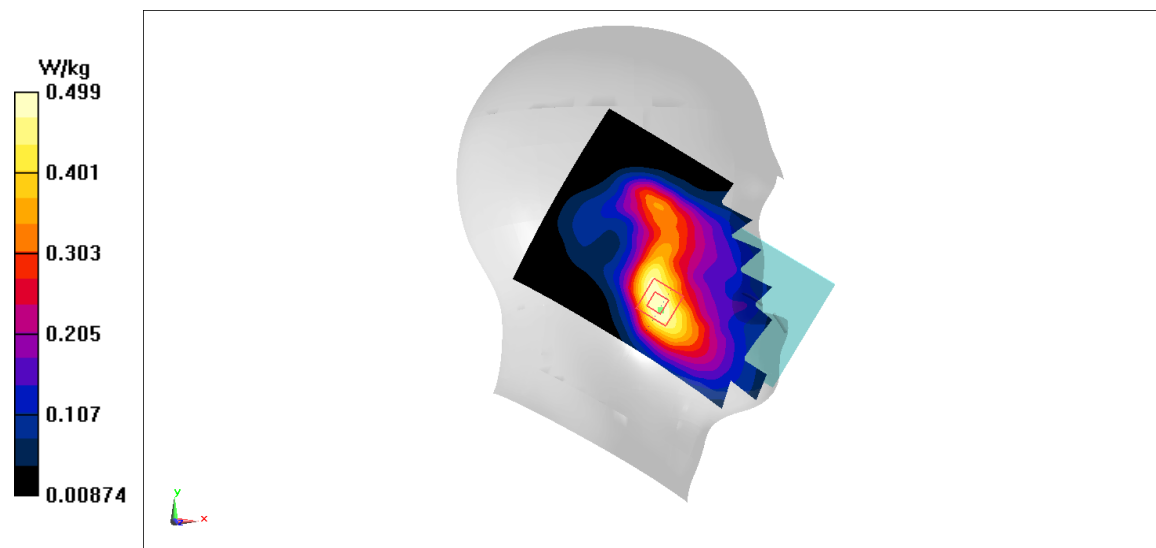


Fig A.5

WCDMA1900-BII_CH9538 Rear 15mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1907.6$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.32$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.719 W/kg

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

Reference Value = 13.71 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.812 W/kg

SAR(1 g) = 0.467 W/kg; SAR(10 g) = 0.277 W/kg

Maximum value of SAR (measured) = 0.678 W/kg

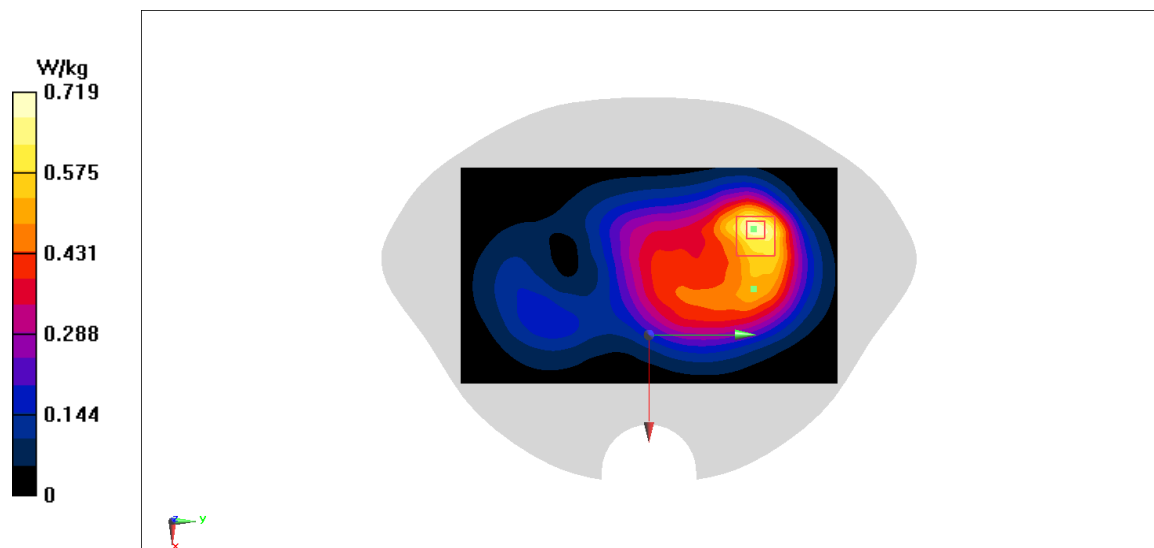


Fig A.6

WCDMA1900-BII_CH9538 Rear 10mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1907.6$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.32$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.28 W/kg

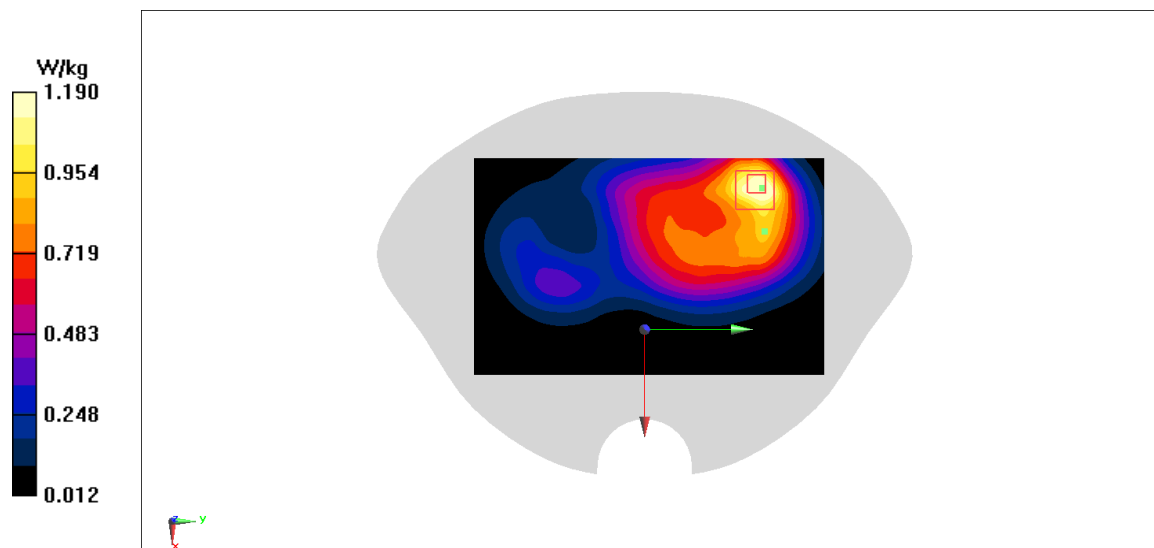
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.14 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.82 W/kg; SAR(10 g) = 0.484 W/kg

Maximum value of SAR (measured) = 1.19 W/kg


Fig A.7

WCDMA1700-BIV_CH1412 Left Cheek

Date: 9/24/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: $f = 1732.4$ MHz; $\sigma = 1.357$ mho/m; $\epsilon_r = 39.46$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1700-BIV 1732.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.286 W/kg

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

Reference Value = 4.854 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.142 W/kg

Maximum value of SAR (measured) = 0.28 W/kg

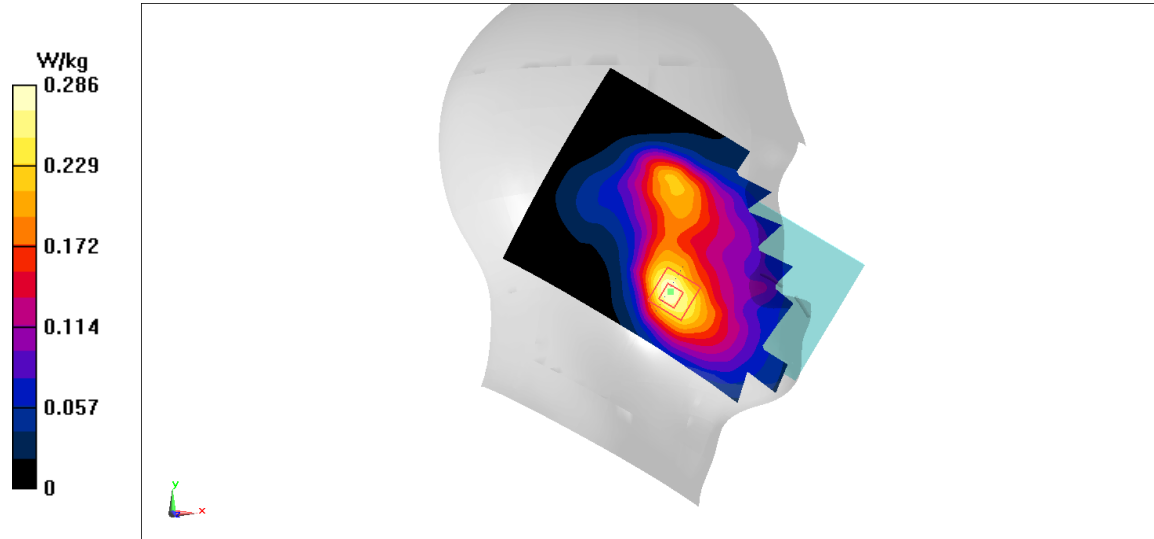


Fig A.8

WCDMA1700-BIV_CH1412 Rear 10mm

Date: 9/24/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.357$ mho/m; $\epsilon_r = 39.46$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1700-BIV 1732.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.12 W/kg

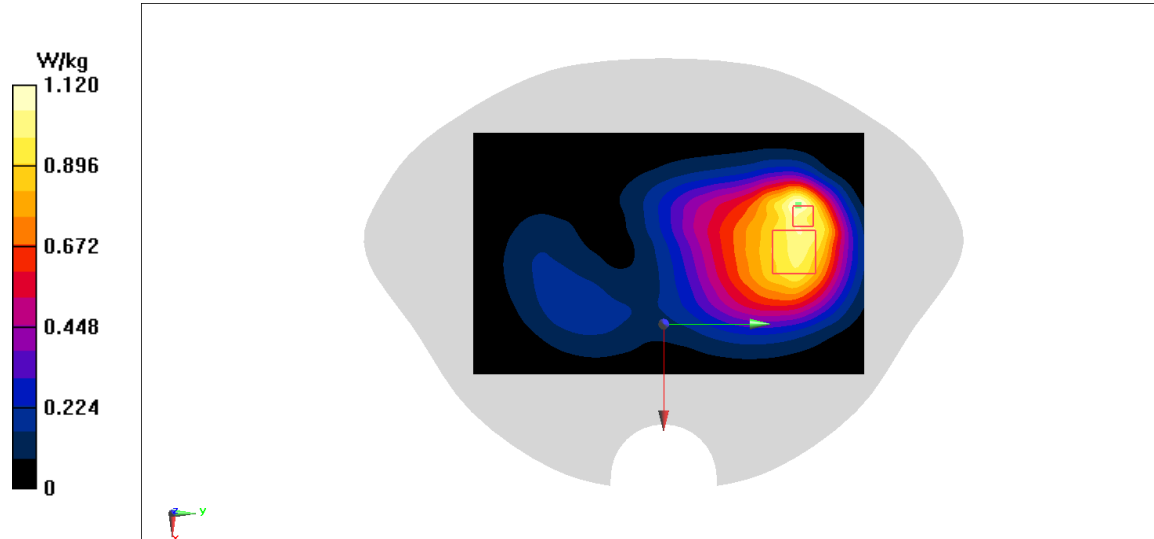
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.813 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.722 W/kg; SAR(10 g) = 0.476 W/kg

Maximum value of SAR (measured) = 1.01 W/kg


Fig A.9

WCDMA850-BV_CH4183 Right Cheek

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.886$ mho/m; $\epsilon_r = 41.45$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.343 W/kg

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

Reference Value = 4.383 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.221 W/kg

Maximum value of SAR (measured) = 0.341 W/kg

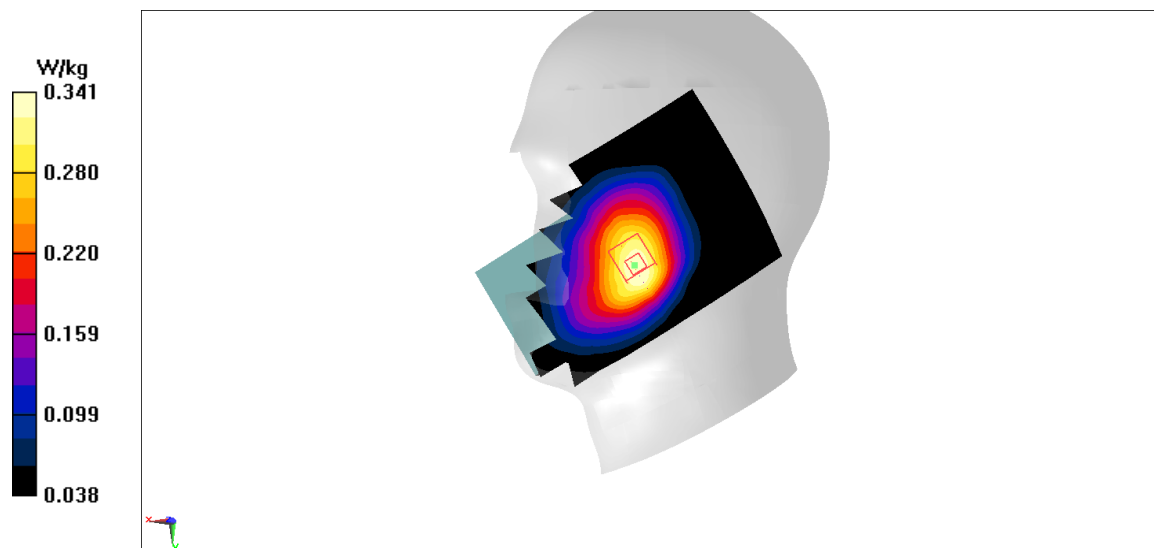


Fig A.10

WCDMA850-BV_CH4233 Rear 10mm

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 846.6$ MHz; $\sigma = 0.895$ mho/m; $\epsilon_r = 41.44$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.372 W/kg

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

Reference Value = 15.74 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.458 W/kg

SAR(1 g) = 0.26 W/kg; SAR(10 g) = 0.156 W/kg

Maximum value of SAR (measured) = 0.378 W/kg

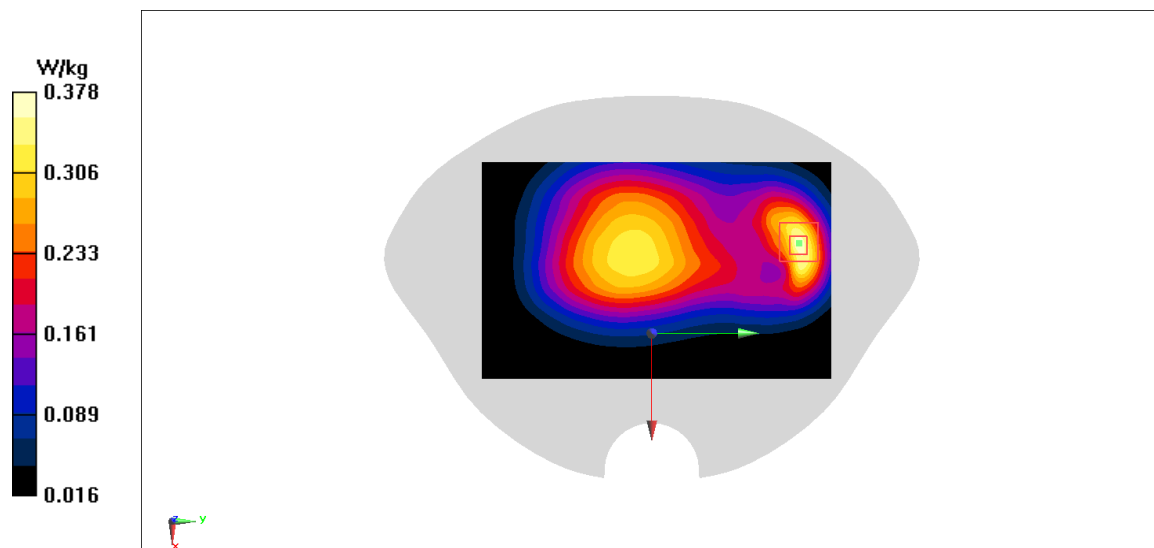


Fig A.11

CDMA800-BC0_CH777 Right Cheek

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 848.31$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.43$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA800-BC0 848.31 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.234 W/kg

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

Reference Value = 2.845 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.248 W/kg

SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.153 W/kg

Maximum value of SAR (measured) = 0.229 W/kg

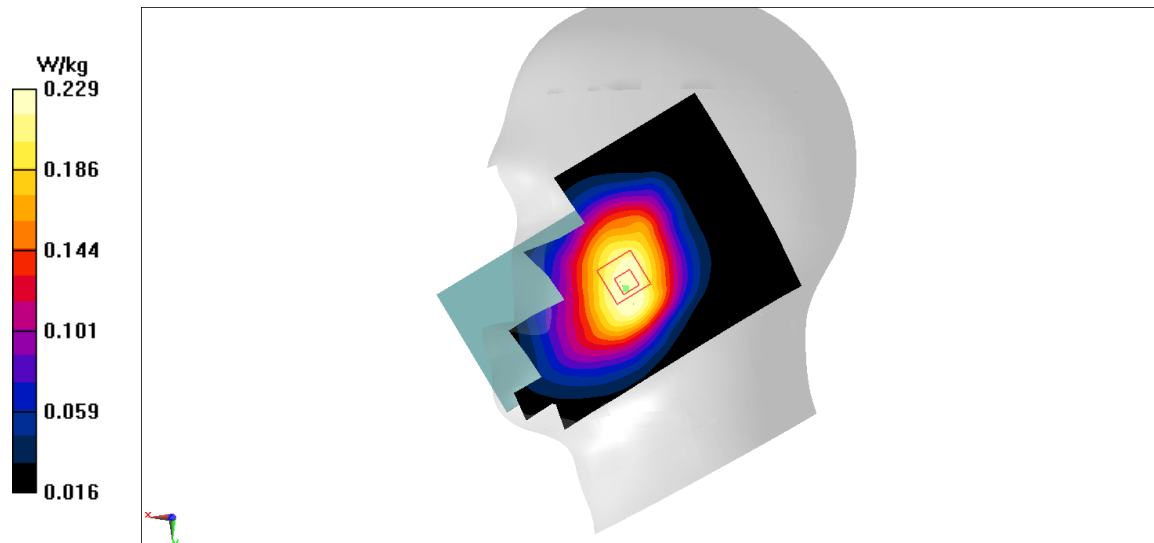


Fig A.12

CDMA800-BC0_CH384 Rear 10mm

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 836.52$ MHz; $\sigma = 0.886$ mho/m; $\epsilon_r = 41.45$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA800-BC0 836.52 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.523 W/kg

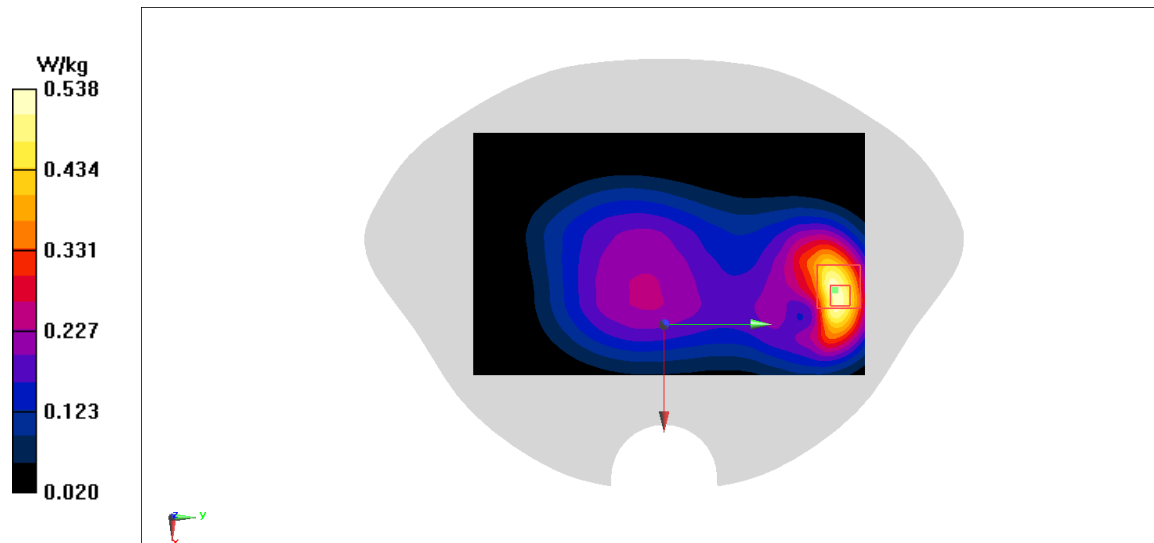
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 14.6 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.687 W/kg

SAR(1 g) = 0.36 W/kg; SAR(10 g) = 0.206 W/kg

Maximum value of SAR (measured) = 0.538 W/kg


Fig A.13

CDMA1900-BC1_CH600 Left Cheek

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.363$ mho/m; $\epsilon_r = 39.35$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA1900-BC1 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.393 W/kg

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

Reference Value = 5.857 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.422 W/kg

SAR(1 g) = 0.27 W/kg; SAR(10 g) = 0.174 W/kg

Maximum value of SAR (measured) = 0.366 W/kg

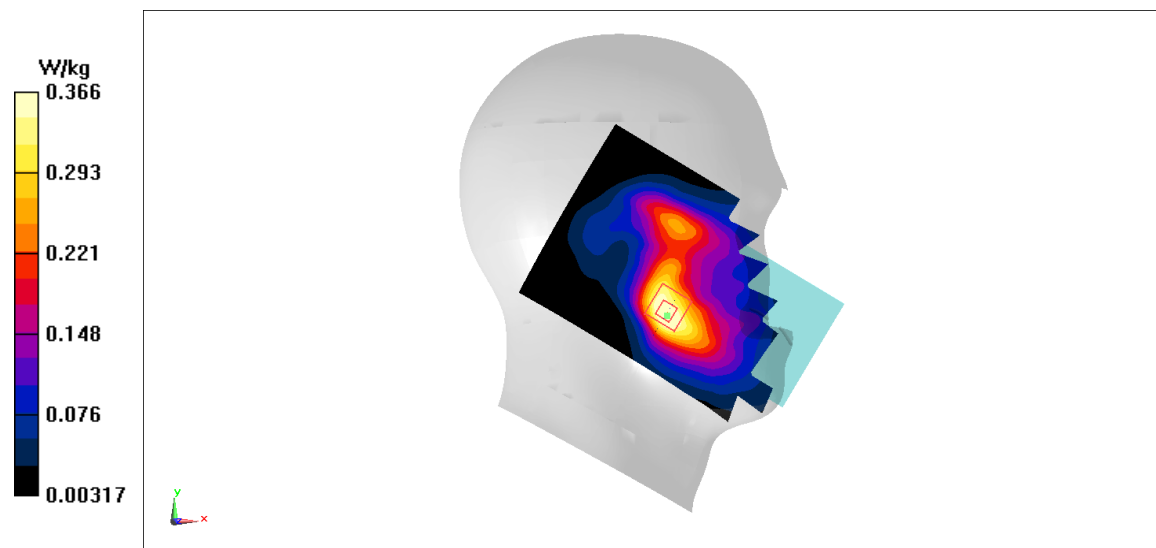


Fig A.14

CDMA1900-BC1_CH600 Rear 15mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.363$ mho/m; $\epsilon_r = 39.35$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA1900-BC1 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.622 W/kg

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

Reference Value = 9.054 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.759 W/kg

SAR(1 g) = 0.439 W/kg; SAR(10 g) = 0.261 W/kg

Maximum value of SAR (measured) = 0.637 W/kg

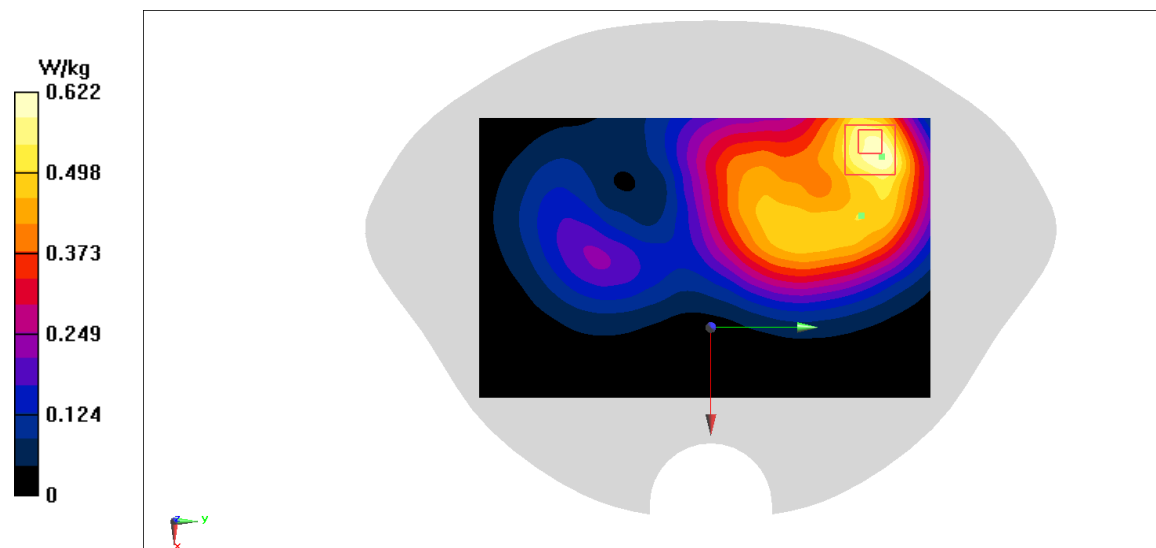


Fig A.15

CDMA1900-BC1_CH600 Rear 10mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.363$ mho/m; $\epsilon_r = 39.35$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA1900-BC1 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

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

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

Reference Value = 16.74 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.904 W/kg; SAR(10 g) = 0.519 W/kg

Maximum value of SAR (measured) = 1.32 W/kg

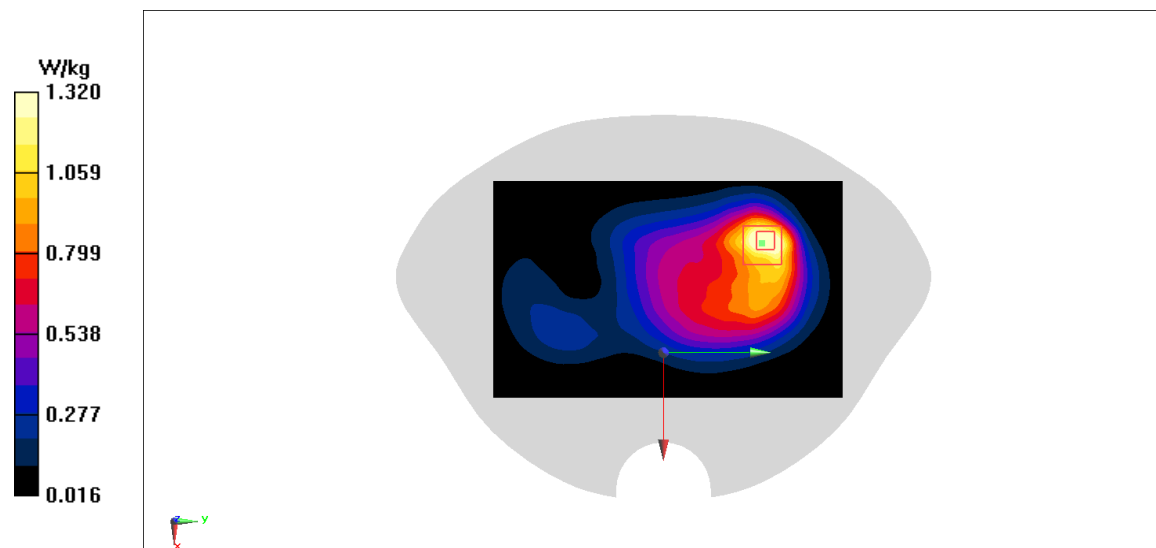


Fig A.16

CDMA800-BC10_CH684 Right Cheek

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 823.1$ MHz; $\sigma = 0.873$ mho/m; $\epsilon_r = 41.46$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA800-BC10 823.1 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.25 W/kg

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

Reference Value = 3.489 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.274 W/kg

SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.169 W/kg

Maximum value of SAR (measured) = 0.252 W/kg

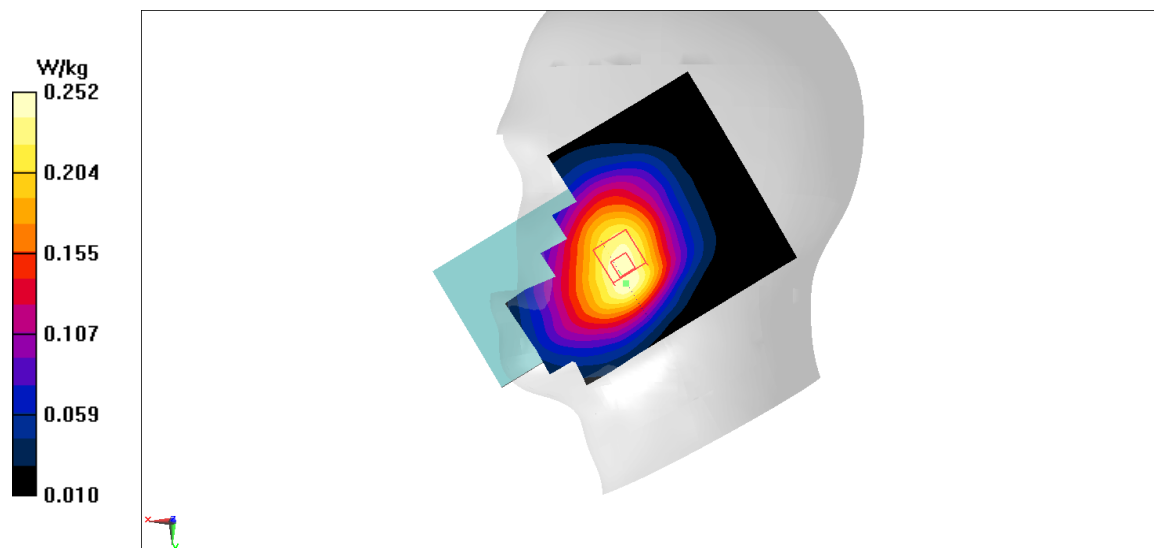


Fig A.17

CDMA800-BC10_CH684 Rear 10mm

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 823.1$ MHz; $\sigma = 0.873$ mho/m; $\epsilon_r = 41.46$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: CDMA800-BC10 823.1 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.392 W/kg

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

Reference Value = 14.31 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.486 W/kg

SAR(1 g) = 0.27 W/kg; SAR(10 g) = 0.161 W/kg

Maximum value of SAR (measured) = 0.395 W/kg

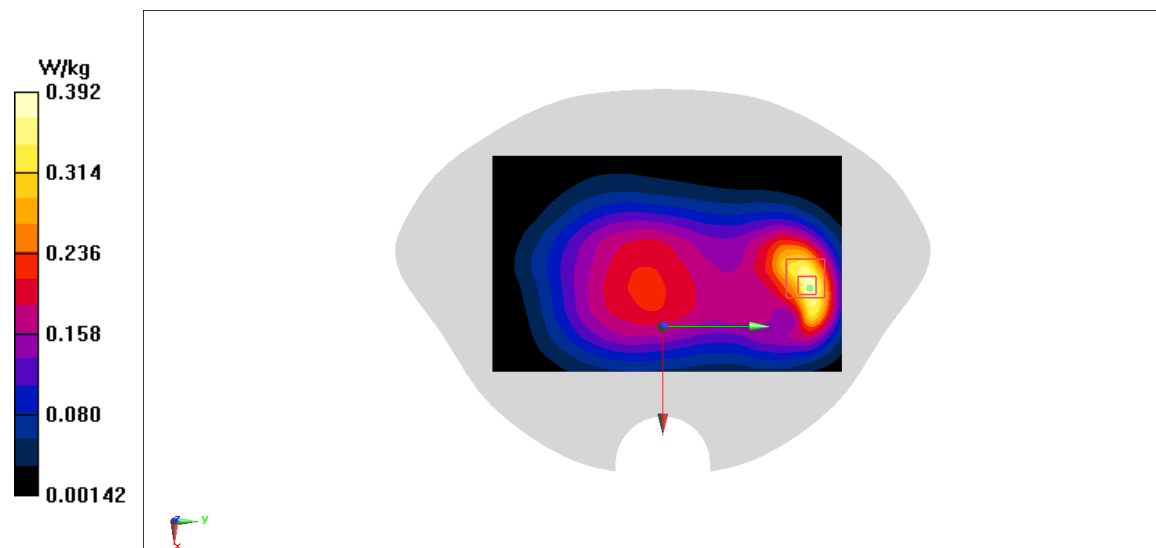


Fig A.18

LTE2500-FDD7_CH21100 Right Cheek

Date: 9/29/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.898$ mho/m; $\epsilon_r = 38.48$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.041 W/kg

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

Reference Value = 0 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.039 W/kg

SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.007 W/kg

Maximum value of SAR (measured) = 0.0291 W/kg

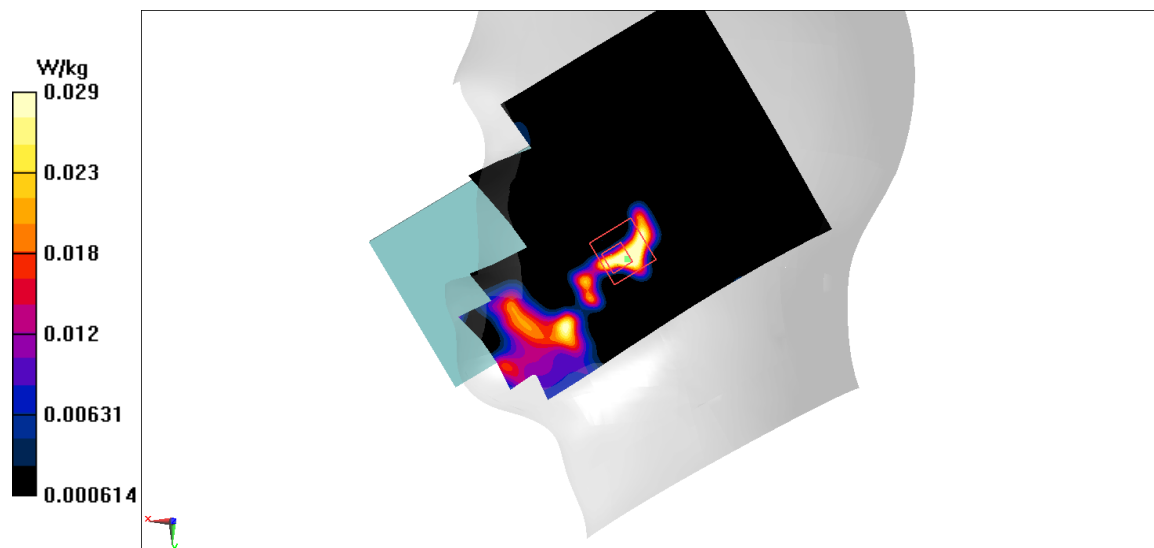


Fig A.19

LTE2500-FDD7_CH21100 Rear 15mm

Date: 9/29/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.898$ mho/m; $\epsilon_r = 38.48$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.257 W/kg

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

Reference Value = 1.663 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.327 W/kg

SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.079 W/kg

Maximum value of SAR (measured) = 0.256 W/kg

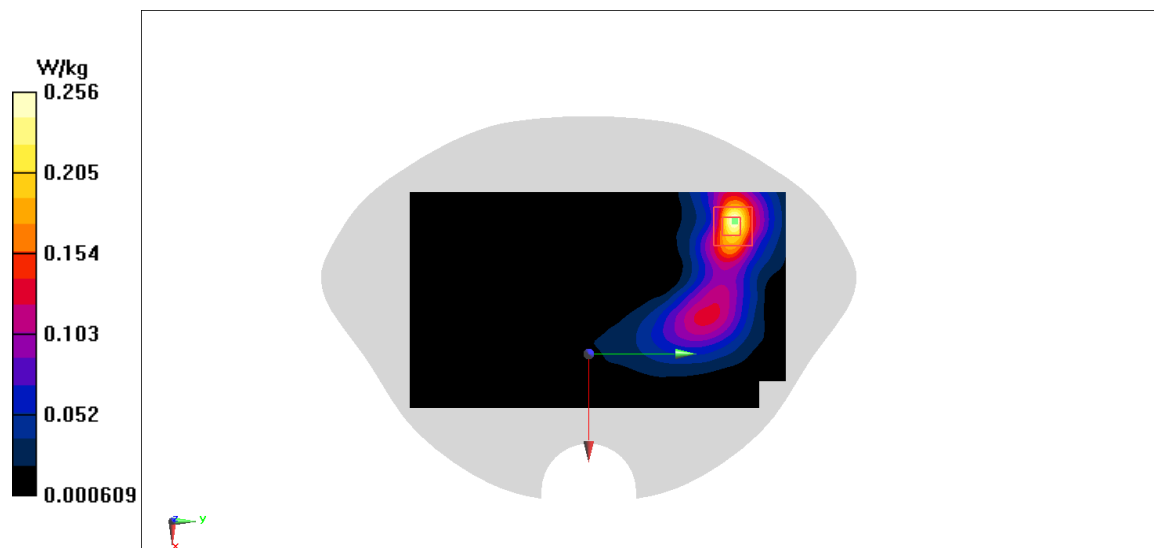


Fig A.20

LTE2500-FDD7_CH21350 Bottom 10mm

Date: 9/29/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.922$ mho/m; $\epsilon_r = 38.45$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.876 W/kg

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

Reference Value = 21.25 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.52 W/kg; SAR(10 g) = 0.241 W/kg

Maximum value of SAR (measured) = 0.872 W/kg

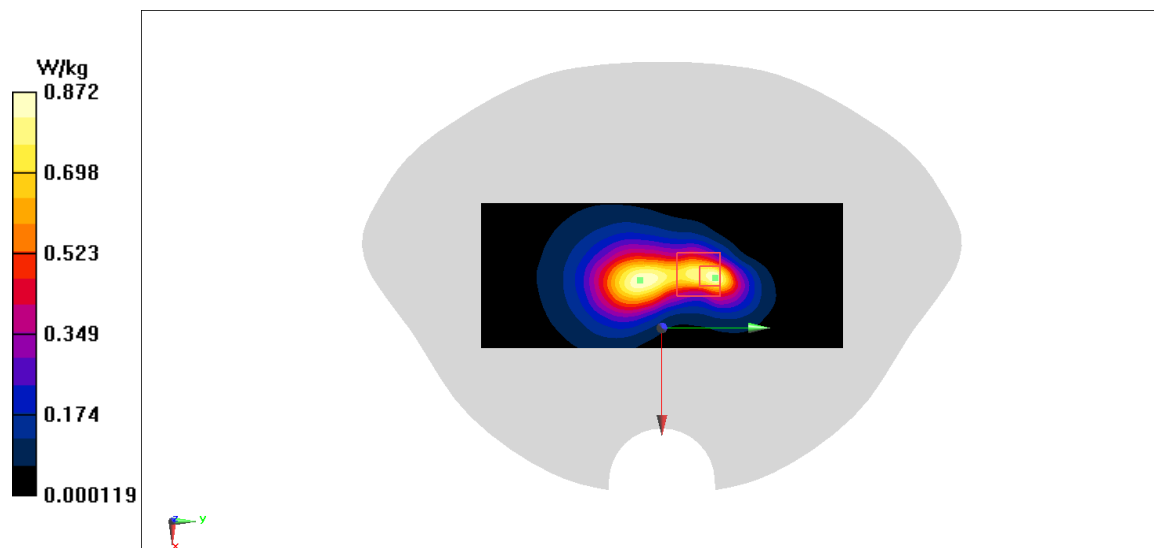


Fig A.21

LTE700-FDD12_CH23060 Right Cheek

Date: 9/21/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used: $f = 704 \text{ MHz}$; $\sigma = 0.853 \text{ mho/m}$; $\epsilon_r = 42.13$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 704 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.229 W/kg

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

Reference Value = 5.073 V/m ; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.244 W/kg

SAR(1 g) = 0.194 W/kg ; SAR(10 g) = 0.156 W/kg

Maximum value of SAR (measured) = 0.226 W/kg

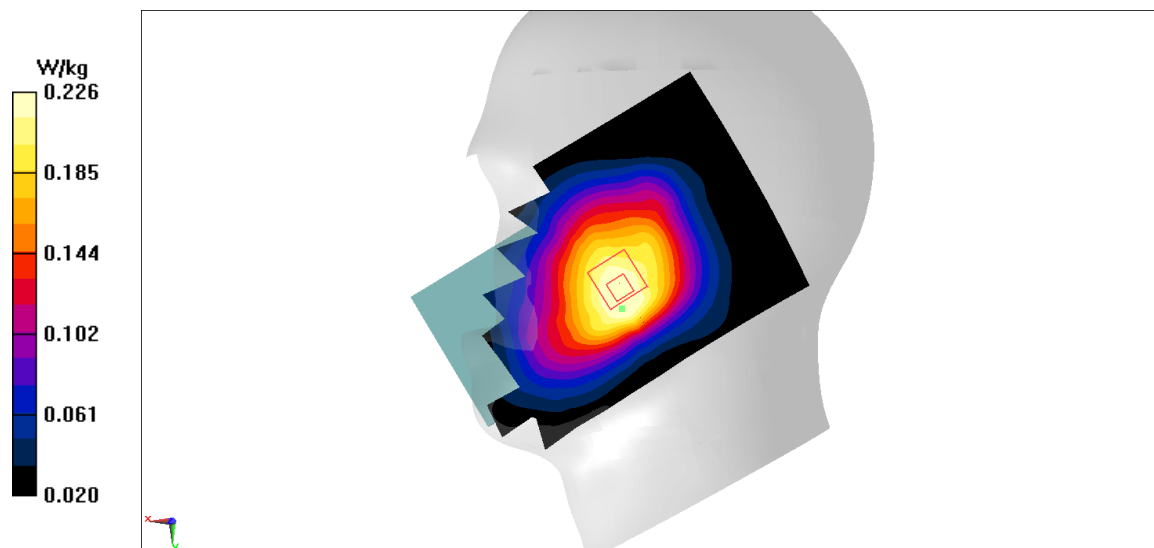


Fig A.22

LTE700-FDD12_CH23060 Right 10mm

Date: 9/21/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used: $f = 704 \text{ MHz}$; $\sigma = 0.853 \text{ mho/m}$; $\epsilon_r = 42.13$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE700-FDD12 704 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.542 W/kg

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

Reference Value = 17.76 V/m ; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.627 W/kg

SAR(1 g) = 0.424 W/kg ; SAR(10 g) = 0.301 W/kg

Maximum value of SAR (measured) = 0.554 W/kg

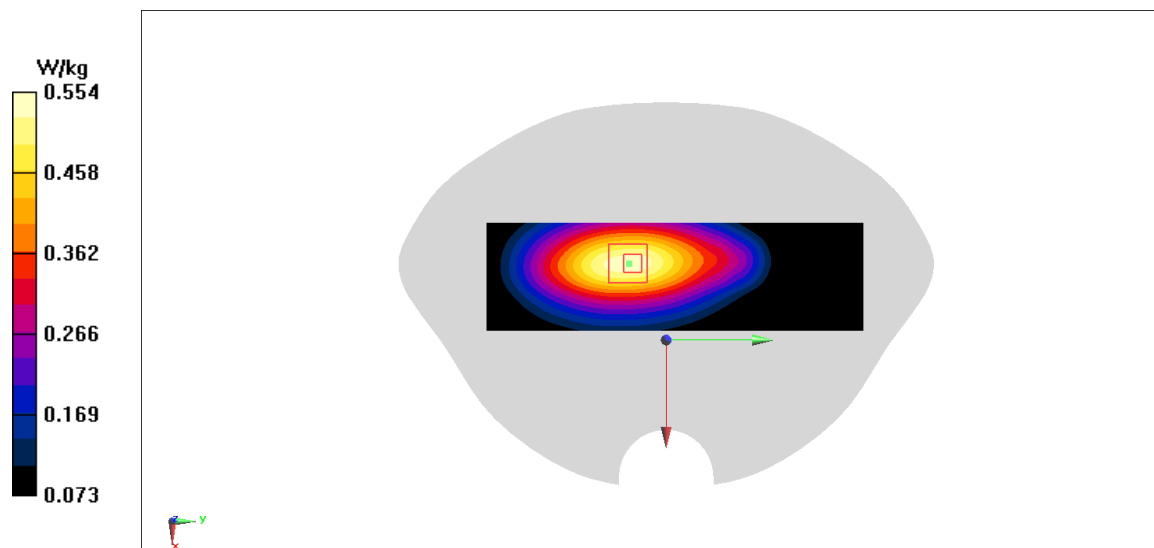


Fig A.23

LTE750-FDD13_CH23230 Right Cheek

Date: 9/21/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.927 \text{ mho/m}$; $\epsilon_r = 42.03$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.113 W/kg

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

Reference Value = 2.825 V/m ; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.121 W/kg

SAR(1 g) = 0.093 W/kg ; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.111 W/kg

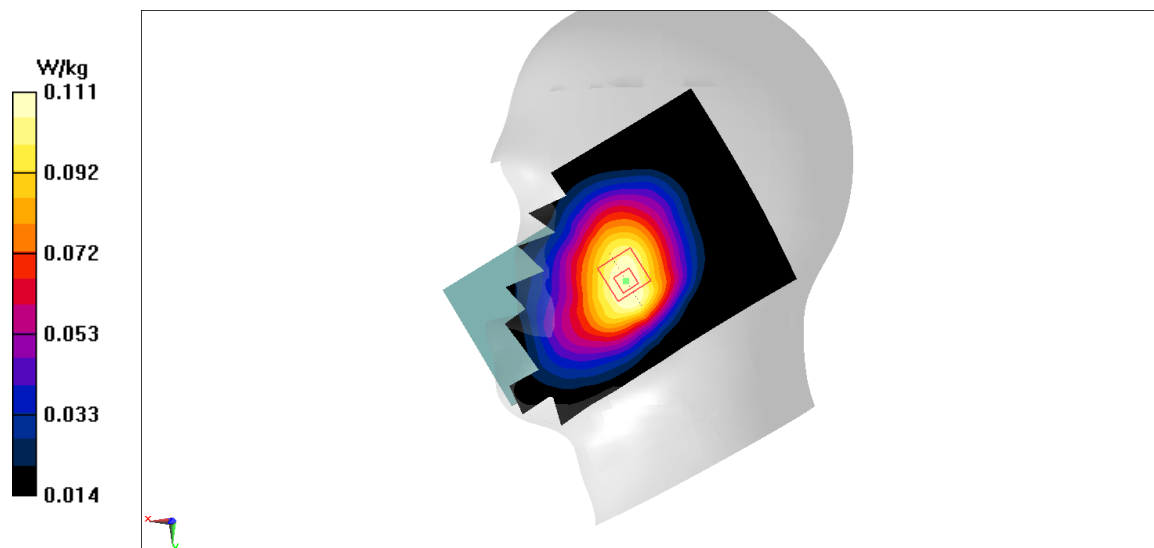


Fig A.24

LTE750-FDD13_CH23230 Rear 10mm

Date: 9/21/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.927 \text{ mho/m}$; $\epsilon_r = 42.03$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(10.07,10.07,10.07)

Area Scan (71x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.272 W/kg

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

Reference Value = 10.82 V/m ; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.336 W/kg

SAR(1 g) = 0.183 W/kg ; SAR(10 g) = 0.105 W/kg

Maximum value of SAR (measured) = 0.271 W/kg

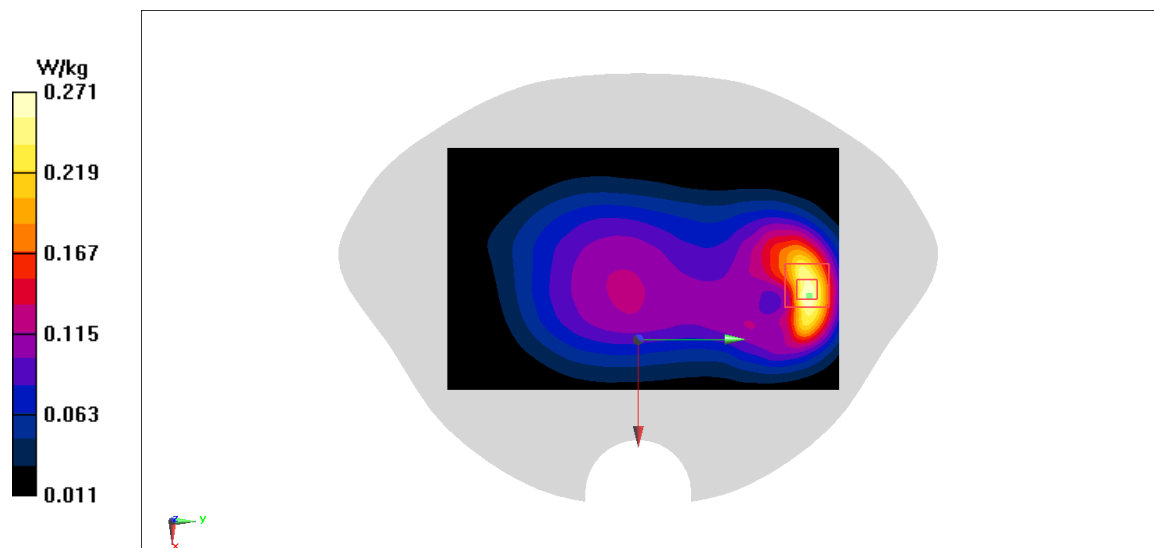


Fig A.25

LTE1900-FDD25_CH26140 Left Cheek

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.344$ mho/m; $\epsilon_r = 39.38$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD25 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.416 W/kg

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

Reference Value = 6.531 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.465 W/kg

SAR(1 g) = 0.308 W/kg; SAR(10 g) = 0.203 W/kg

Maximum value of SAR (measured) = 0.407 W/kg

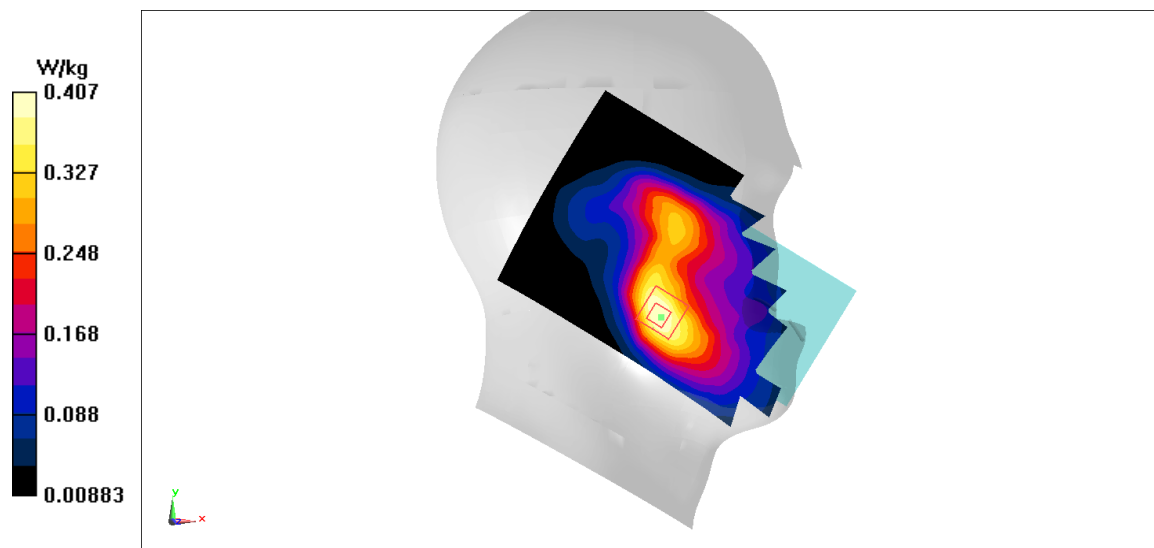


Fig A.26

LTE1900-FDD25_CH26140 Rear 15mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.344$ mho/m; $\epsilon_r = 39.38$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD25 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.575 W/kg

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

Reference Value = 9.229 V/m; Power Drift = 0 dB

Peak SAR (extrapolated) = 0.704 W/kg

SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.248 W/kg

Maximum value of SAR (measured) = 0.589 W/kg

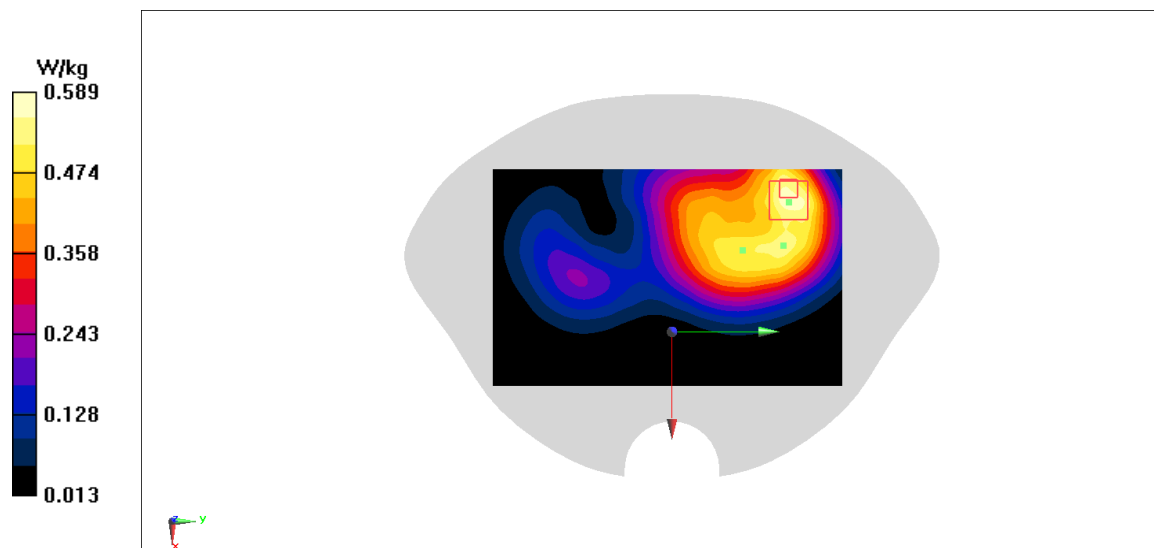


Fig A.27

LTE1900-FDD25_CH26140 Rear 10mm

Date: 9/26/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.344$ mho/m; $\epsilon_r = 39.38$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD25 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.14 W/kg

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

Reference Value = 15.26 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.663 W/kg; SAR(10 g) = 0.385 W/kg

Maximum value of SAR (measured) = 0.983 W/kg

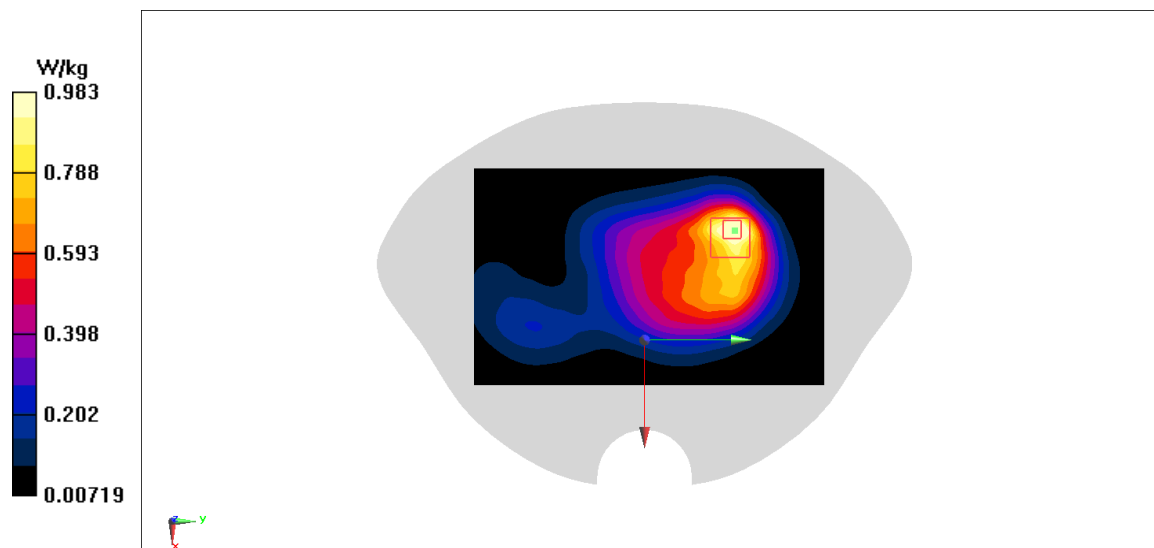


Fig A.28

LTE850-FDD26_CH26775 Right Cheek

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 822.5$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 41.47$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD26 822.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.297 W/kg

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

Reference Value = 4.794 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.323 W/kg

SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.198 W/kg

Maximum value of SAR (measured) = 0.299 W/kg

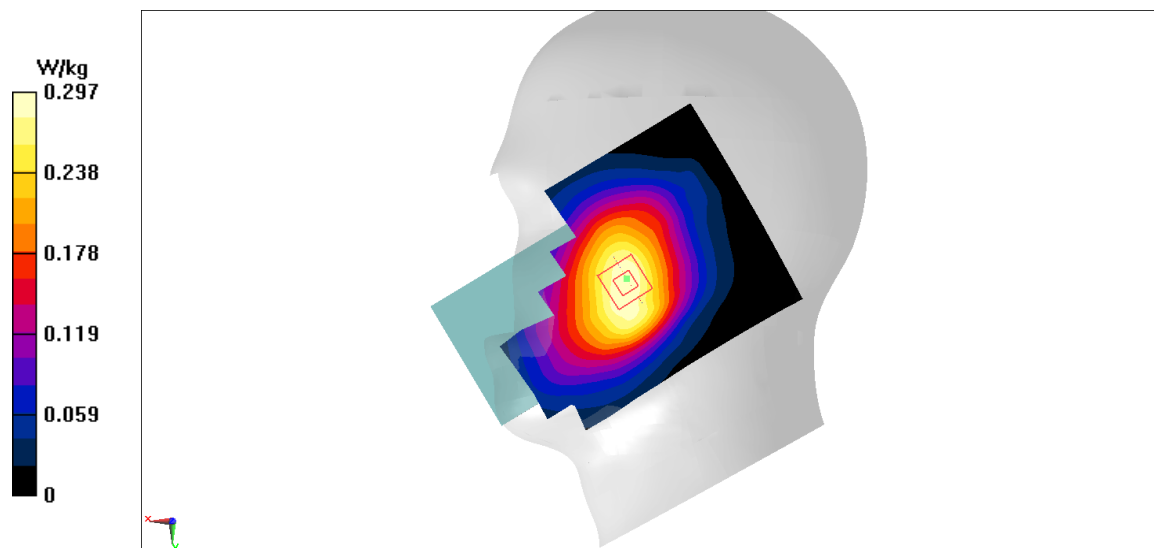


Fig A.29

LTE850-FDD26_CH26775 Rear 10mm

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 822.5$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 41.47$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD26 822.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.566 W/kg

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

Reference Value = 17.33 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.714 W/kg

SAR(1 g) = 0.392 W/kg; SAR(10 g) = 0.231 W/kg

Maximum value of SAR (measured) = 0.581 W/kg

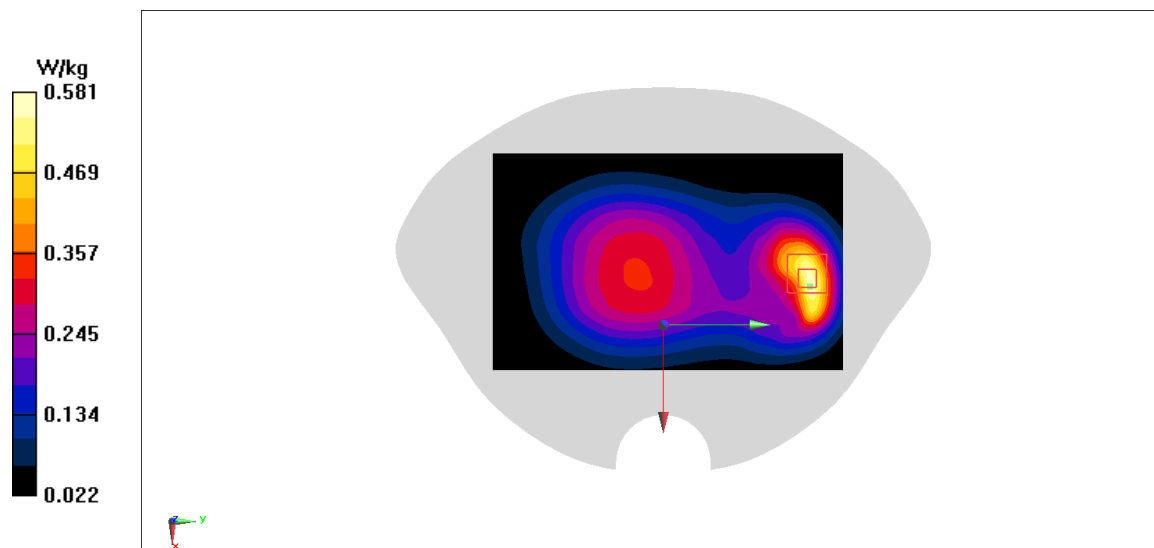


Fig A.30

LTE2500-TDD41_CH40185 Left Cheek_PC3

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2549.5$ MHz; $\sigma = 1.935$ mho/m; $\epsilon_r = 41.002$; $\rho = 1000$ kg/m³

Communication System: LTE2500-TDD41 2549.5 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) =0.0601W/kg

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

Reference Value = 1.08V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.0460W/kg

SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) =0.0395W/kg

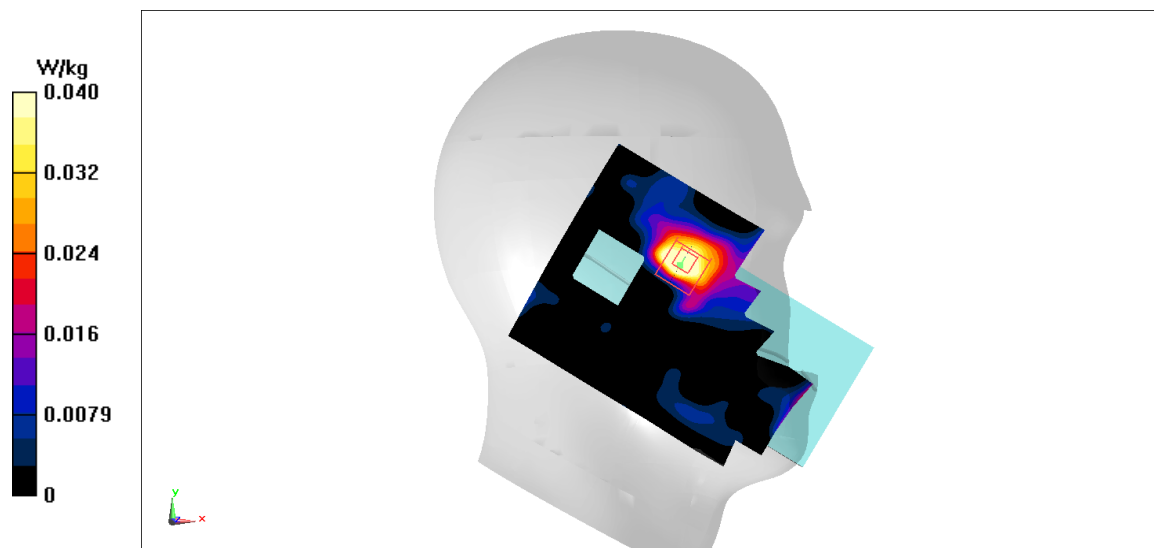


Fig A.31

LTE2500-TDD41_CH40185 Rear 10mm_PC3

Date: 9/22/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2549.5$ MHz; $\sigma = 1.935$ mho/m; $\epsilon_r = 41.002$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-TDD41 2549.5 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.569 W/kg

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

Reference Value = 2.585 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.781 W/kg

SAR(1 g) = 0.379 W/kg; SAR(10 g) = 0.172 W/kg

Maximum value of SAR (measured) = 0.628 W/kg

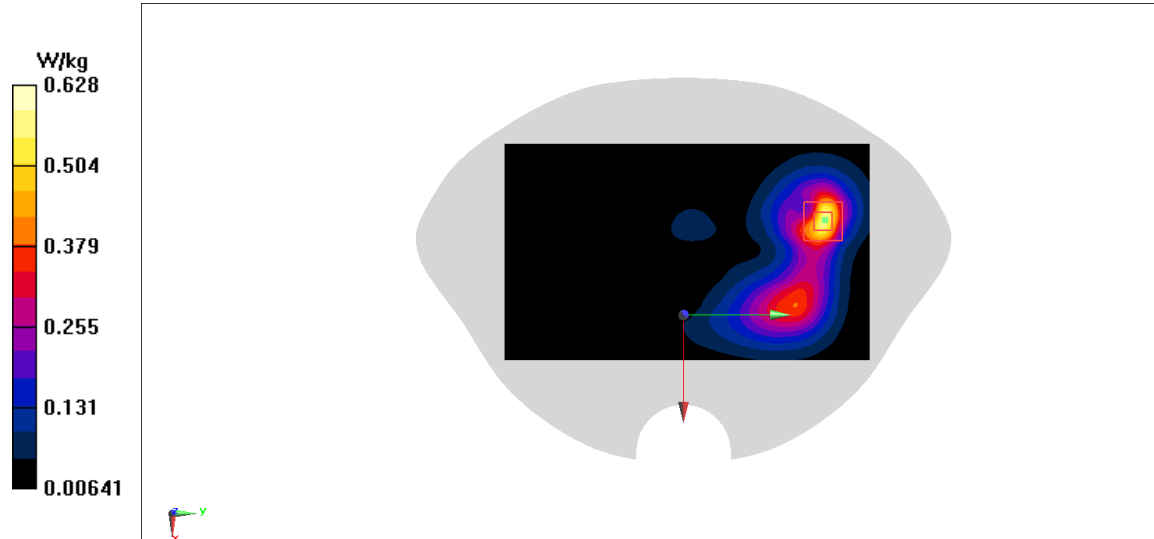


Fig A.32