TESTING
NVLAP LAB CODE 600118-0

SAR TEST REPORT

No. I22Z60846-SEM10

For

HMD Global Oy

5G Mobile Phone

Model Name: TA-1479

with

Hardware Version: V1.0

Software Version: 00WW_0_043

FCC ID: 2AJOTTA-1479

Issued Date: 2022-8-12

Note:

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Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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

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

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

REPORT HISTORY

Report Number	Revision	Issue Date	Description
I22Z60846-SEM10	Rev.0	2022-8-1	Initial creation of test report
I22Z60846-SEM10	Rev.1	2022-8-10	1. Revise the calibration interval of 3GHz dipoles from one year to three years on Section 17 and Annex J.7. 2. Remove the simultaneous transmission SAR value for LTE Band 7-Ant8 and WiFi/BT on page7.
I22Z60846-SEM10	Rev.2	2022-8-12	1. Revise the simultaneous transmission SAR value on Table2.2 and Table2.3.

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51, Xueyuan Road, Haidian District, Beijing, P. R. China 100191.

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

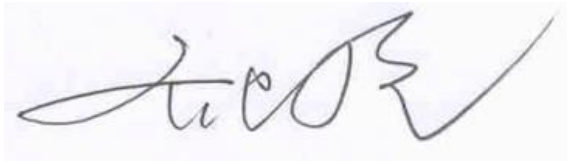
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Yao Juming
Testing Start Date:	June 15, 2022
Testing End Date:	July 28, 2022

1.4 Signature

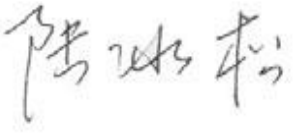
Yao Juming

(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

This EUT is a variant product and the report of original sample is No.I22Z60845-SEM09. We do full test for newly add band 5G NR n77(SA). It removes the results of original sample for WCDMA B4, LTE B2/B12/B13/B66 and 5G NR n2/n66. It shares the results of original sample for other bands. The results of newly add band and spot check are presented in the annex I.

The maximum results of Specific Absorption Rate (SAR) found during testing for HMD Global Oy Smart Phone TA-1479 is as follows:

Table 2.1: Highest Reported SAR (1g)

Technology Band	Head	Hotspot	Body-Worn	Phablet-10g	Equipment Class
GSM850	**0.97**	**0.94**	**0.83**	/	PCE
GSM1900	**0.67**	**0.54**	**0.33**	/	
WCDMA1900	**0.31**	**0.67**	**0.63**	/	
WCDMA 850	**0.26**	**0.31**	**0.31**	/	
LTE Band5	**0.18**	**0.28**	**0.28**	/	
LTE Band7 ANT8 (SA\NSA)	**1.30**	**0.78**	**0.78**	/	
LTE Band7 ANT4 (NSA)	**0.13**	**0.39**	**0.39**	/	
LTE Band41-PC3	**0.51**	**0.50**	**0.50**	/	
LTE Band41-PC2	**1.03**	**0.61**	**0.61**	/	
5G NR n5	**0.16**	**0.28**	**0.28**	/	
5G NR n7（SA）	**0.77**	**0.63**	**0.29**	/	
5G NR n7（NSA）	**0.36**	**0.35**	**0.29**	/	
5G NR n41	**0.76**	**0.36**	**0.34**	/	
5G NR n77（SA）	**0.26**	**0.41**	**0.47**	/	
5G NR n78（SA）	**0.70**	**0.79**	**0.52**	**1.32**	
5G NR n78（NSA）	**0.48**	**0.33**	**0.52**	**1.12**	
WLAN 2.4GHz	**0.18**	**0.17**	**0.06**	**0.38**	DTS
WLAN 5GHz	**0.27**	**0.29**	**0.23**	**0.50**	NII
BT	**<0.01**	**<0.01**	**<0.01**	**<0.01**	DSS

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 15/10 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**: 1.30 W/kg(1g).**

Table 2.2: The sum of SAR values for Main antenna + Wifi2.4G +BT

Cellular+WiFi 2.4G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
GSM850	1.13	1.01	0.57	0.25	0.49	1.10	0.43	0.02	0.23	0.17	0.05	0.06
GSM1900	0.59	0.56	0.77	0.67	0.65	0.70	\	0.19	0.48	0.17	0.38	0.36
WCDMA1900	0.40	0.36	0.41	0.32	0.53	0.83	\	0.29	0.42	0.17	0.05	0.06
WCDMA 850	0.42	0.30	0.27	0.16	0.31	0.47	0.21	0.02	0.11	0.17	0.05	0.06
LTE Band5	0.34	0.23	0.20	0.12	0.24	0.36	0.16	0.02	0.07	0.17	0.05	0.06
LTE Band7-ANT8	0.88	0.74	0.30	0.34	0.90	0.81	\	0.72	\	0.48	0.05	0.06
LTE Band41 PC2	1.19	0.80	0.35	0.33	0.73	0.57	\	0.60	\	0.35	0.05	0.06
LTE Band41 PC3	0.67	0.48	0.20	0.19	0.62	0.59	\	0.45	\	0.33	0.05	0.06
n5	0.32	0.27	0.24	0.15	0.32	0.44	0.24	0.02	0.11	0.17	0.05	0.06
n7	0.93	0.71	0.33	0.31	0.83	0.81	\	0.67	\	0.53	0.05	0.06
n41	0.92	0.62	0.31	0.29	0.48	0.16	\	0.28	\	0.37	0.39	0.33
n77	0.42	0.35	0.15	0.12	0.31	0.49	\	0.43	\	0.29	0.41	0.53
n78	0.86	0.71	0.18	0.14	0.37	0.57	\	0.81	\	0.33	0.37	0.58

Table 2.3: The sum of SAR values for Main antenna + Wifi5G +BT

Cellular+WiFi 5G+BT	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
GSM850	1.22	1.10	0.60	0.38	0.45	1.23	0.43	0.10	0.23	0.25	0.09	0.23
GSM1900	0.68	0.65	0.80	0.80	0.61	0.83	\	0.27	0.48	0.25	0.42	0.53
WCDMA1900	0.49	0.45	0.44	0.45	0.49	0.96	\	0.37	0.42	0.25	0.09	0.23
WCDMA 850	0.51	0.39	0.30	0.29	0.27	0.60	0.21	0.10	0.11	0.25	0.09	0.23
LTE Band5	0.43	0.32	0.23	0.25	0.20	0.49	0.16	0.10	0.07	0.25	0.09	0.23
LTE Band7-ANT8	0.97	0.83	0.33	0.47	0.86	0.94	\	0.80	\	0.56	0.09	0.23
LTE Band41 PC2	1.28	0.89	0.38	0.46	0.69	0.70	\	0.68	\	0.43	0.09	0.23
LTE Band41 PC3	0.76	0.57	0.23	0.32	0.58	0.72	\	0.53	\	0.41	0.09	0.23
n5	0.41	0.36	0.27	0.28	0.28	0.57	0.24	0.10	0.11	0.25	0.09	0.23
n7	1.02	0.80	0.36	0.44	0.79	0.94	\	0.75	\	0.61	0.09	0.23
n41	1.01	0.71	0.34	0.42	0.44	0.29	\	0.36	\	0.45	0.43	0.50
n77	0.51	0.44	0.18	0.25	0.27	0.62	\	0.51	\	0.37	0.45	0.70
n78	0.95	0.80	0.21	0.27	0.33	0.70	\	0.89	\	0.41	0.41	0.75

Table 2.4: The SAR values for ENDC

ENDC	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	0.87	0.65	0.34	0.35	0.98	0.93	0.24	0.70	0.11	0.31	0.00	0.00
DC_5A_n7A	0.54	0.33	0.21	0.18	0.48	0.52	0.16	0.33	0.07	0.18	0.29	0.25
DC_7A_n78A	0.53	0.43	0.19	0.12	0.24	0.55	0.40	0.33	0.00	0.11	0.32	0.52

Table 2.5: The SAR values for ENDC+WIFI+BT

WIFI 2.4G+ENDC	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	1.03	0.83	0.44	0.42	1.10	1.09	0.24	0.72	0.11	0.48	0.05	0.06
DC_5A_n7A	0.70	0.51	0.31	0.25	0.60	0.68	0.16	0.35	0.07	0.35	0.34	0.31
DC_7A_n78A	0.69	0.61	0.29	0.19	0.36	0.71	0.40	0.35	\	0.28	0.37	0.58
WIFI 5G+ENDC+BT	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	1.12	0.92	0.47	0.55	1.06	1.22	0.24	0.80	0.11	0.56	0.09	0.23
DC_5A_n7A	0.79	0.60	0.34	0.38	0.56	0.81	0.16	0.43	0.07	0.43	0.38	0.48
DC_7A_n78A	0.78	0.70	0.32	0.32	0.32	0.84	0.40	0.43	\	0.36	0.41	0.75

Table 2.6: The SAR values for ULCA

ULCA	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.24	0.09	0.23	0.12	0.26	0.51	0.55	0.00	0.07	0.00

Table 2.7: The SAR values for ULCA+WIFI+BT

ULCA+WiFi 2.4G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.40	0.27	0.33	0.19	0.38	0.67	0.55	0.02	0.07	0.17
ULCA+WiFi 5G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.49	0.36	0.36	0.32	0.34	0.80	0.55	0.10	0.07	0.25

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.

According to the above tables, the highest sum of reported SAR values is **1.28 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

3 Client Information

3.1 Applicant Information

Company Name:	HMD Global Oy
Address/Post:	Bertel Jungin akio 9 02600 Espoo Finland
Contact Person:	Eric Su
Contact Email:	Eric Su eric.su@hmdglobal.com
Telephone:	+88693127927

3.2 Manufacturer Information

Company Name:	HMD Global Oy
Address/Post:	Bertel Jungin akio 9 02600 Espoo Finland
Contact Person:	Eric Su
Contact Email:	Eric Su eric.su@hmdglobal.com
Telephone:	+88693127927

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

4.1 About EUT

Description:	Smart Phone
Model name:	TA-1479
Operating mode(s):	GSM 850/900/1800/1900, WCDMA B1/B2/B5/B8 LTE Band 1/3/5/7/8/20/28/38/40/41 NR n1/3/5/7/8/28/38/40/41/77/78, BT, Wi-Fi(2.4G/5G)
\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 II)
	824 – 849 MHz (LTE Band 5)
	2502.5 – 2567.5 MHz (LTE Band 7)
	2498.5 – 2687.5 MHz (LTE Band41)
	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)
	824 – 849 MHz (n5)
	2500-2570 MHz (n7)
	2496 – 2690 MHz(n41)
	3450– 3550 MHz ,3700– 3980 MHz (n77)
	3300-3800 MHz (n78)
GPRS/EGPRS Multislot Class:	33
Test device production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Hotspot mode:	Support

Note: For 5G NR test, n41/78 support both PC2 and PC3，using FTM (Factory Test Mode) to perform SAR with the same transmission level.

4.2 Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
EUT1	350967170010090/ 350967170035097	V1.0	00WW_0_043
EUT2	350967170010223/ 350967170035220	V1.0	00WW_0_043
EUT3	350967170010397/ 350967170035394	V1.0	00WW_0_043
EUT4	350967170010108/ 350967170035105	V1.0	00WW_0_043
EUT5	350967170010363/ 350967170035360	V1.0	00WW_0_043
EUT6	350967170009977/ 350967170034975	V1.0	00WW_0_043
EUT7	350967170000760/350967170025767	V1.0	00WW_0_043
EUT8	350967170000711/350967170025718	V1.0	00WW_0_043

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

Note: It is performed to test SAR with the EUT1-6 and conducted power with the EUT7-8.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	CN450	/	HUNAN GAOYUAN BATTERY 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 D01 SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

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

TCB Workshop 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 head capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

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

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

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)	±10% Range	Permittivity(ε)	± 10% Range
750	Head	0.89	0.80～0.98	41.94	37.75～46.13
835	Head	0.90	0.81～0.99	41.5	37.35～45.65
1750	Head	1.40	1.26～1.54	40.0	36～44
1900	Head	1.40	1.26～1.54	40.0	36～44
2450	Head	1.80	1.62～1.98	39.2	35.28～43.12
2600	Head	1.96	1.76～2.16	39.01	35.11～42.91

Table 7.2: Targets for tissue simulating liquid

Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5% Range	Permittivity(ε)	± 5% Range
3500	Head	2.91	2.76～3.06	37.93	36.03～39.83
3700	Head	3.12	2.96～3.28	37.70	35.82～39.59
5250	Head	4.71	4.47～4.95	35.93	34.13～37.73
5600	Head	5.07	4.82～5.32	35.53	33.8～37.3
5750	Head	5.22	4.96～5.48	35.36	33.59～37.13

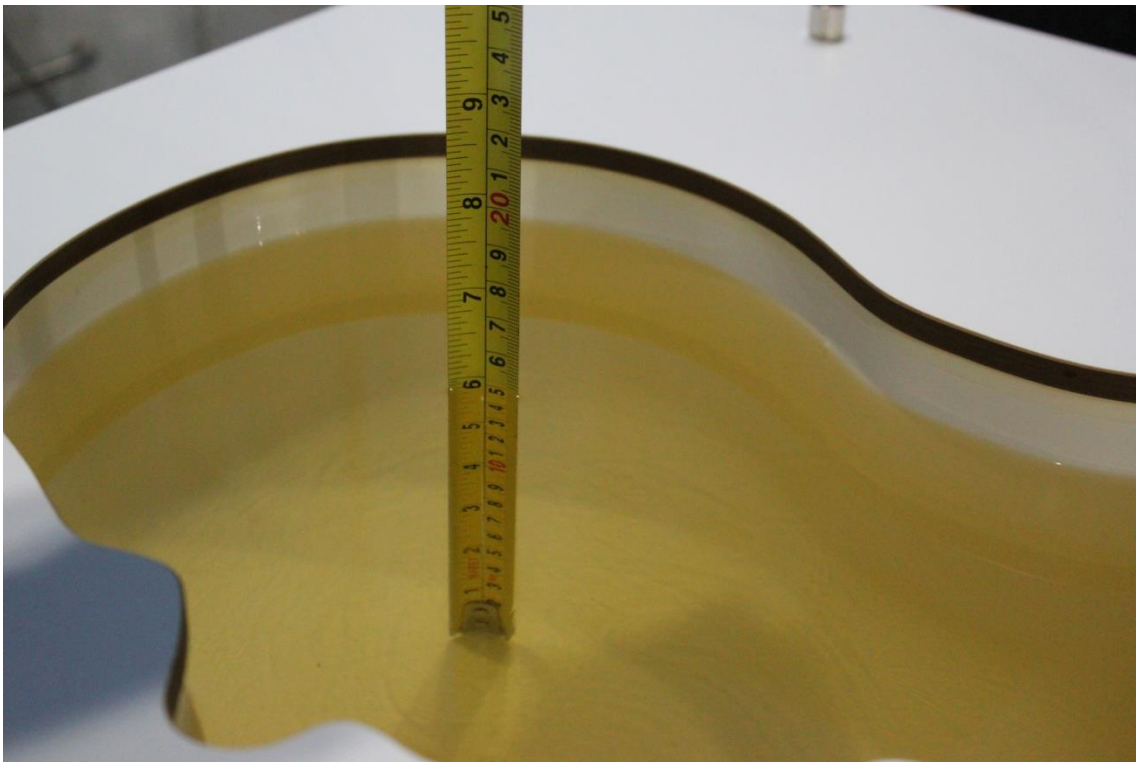
7.2 Dielectric Performance

Table 7.3: Dielectric Performance of Tissue Simulating Liquid

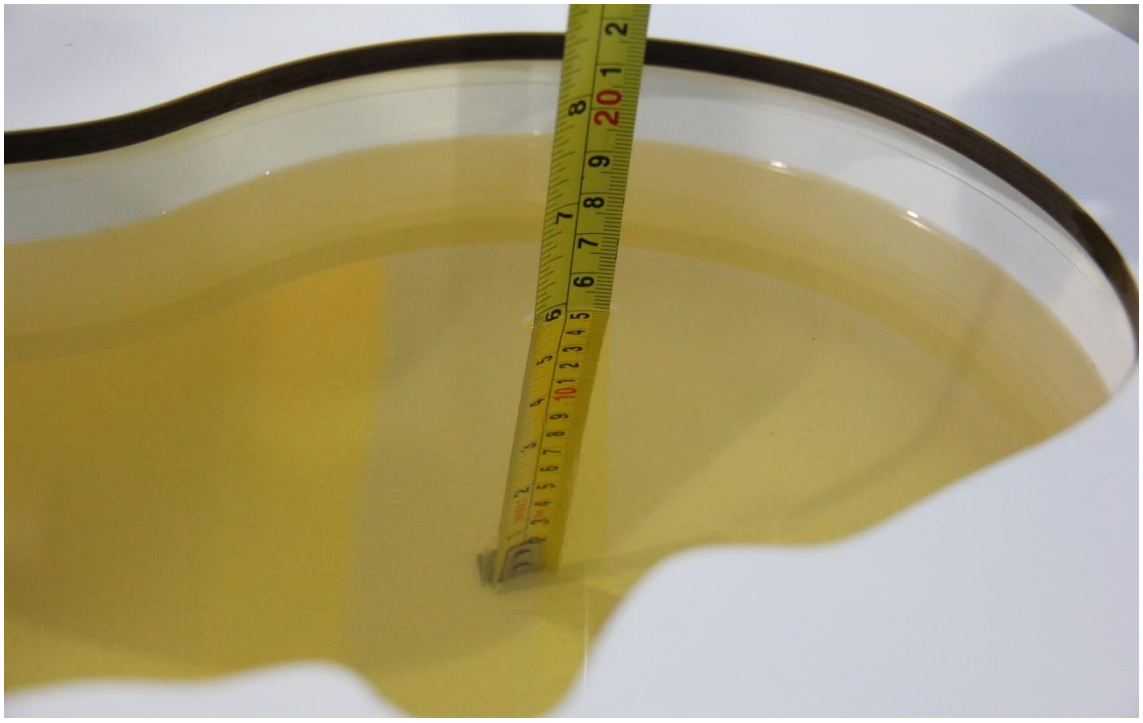
Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2022/6/15	Head	750 MHz	41.93	-0.02	0.908	2.02
2022/6/16	Head	835 MHz	41.27	-0.55	0.89	-1.11
2022/6/17	Head	835 MHz	41.55	0.12	0.884	-1.78
2022/6/18	Head	1750 MHz	39.85	-0.57	1.383	0.95
2022/6/19	Head	1750 MHz	40.17	0.22	1.371	0.07
2022/6/20	Head	1900 MHz	40.6	1.50	1.41	0.71
2022/6/21	Head	1900 MHz	39.55	-1.13	1.39	-0.71
2022/6/22	Head	2600 MHz	38.86	-0.38	1.943	-0.87
2022/6/23	Head	2600 MHz	39.57	1.44	1.966	0.31
2022/6/23	Head	2450 MHz	39.32	0.31	1.815	0.83
2022/6/24	Head	5300 MHz	35.89	-0.11	4.626	-1.78
2022/6/24	Head	5600 MHz	34.97	-1.58	5.085	0.30
2022/6/24	Head	5750 MHz	34.77	-1.67	5.154	-1.26
2022/7/1	Head	835 MHz	41.63	0.31	0.907	0.78
2022/7/2	Head	1750 MHz	40.03	-0.12	1.346	-1.75
2022/7/3	Head	1900 MHz	39.36	-1.60	1.404	0.29
2022/7/4	Head	2600MHz	38.93	-0.21	1.942	-0.92
2022/7/5	Head	2600MHz	40.08	2.74	2.007	2.40

2022/7/17	Head	3500 MHz	38.49	1.48%	2.781	-4.43%
2022/7/17	Head	3700 MHz	38.33	1.67%	2.983	-4.39%

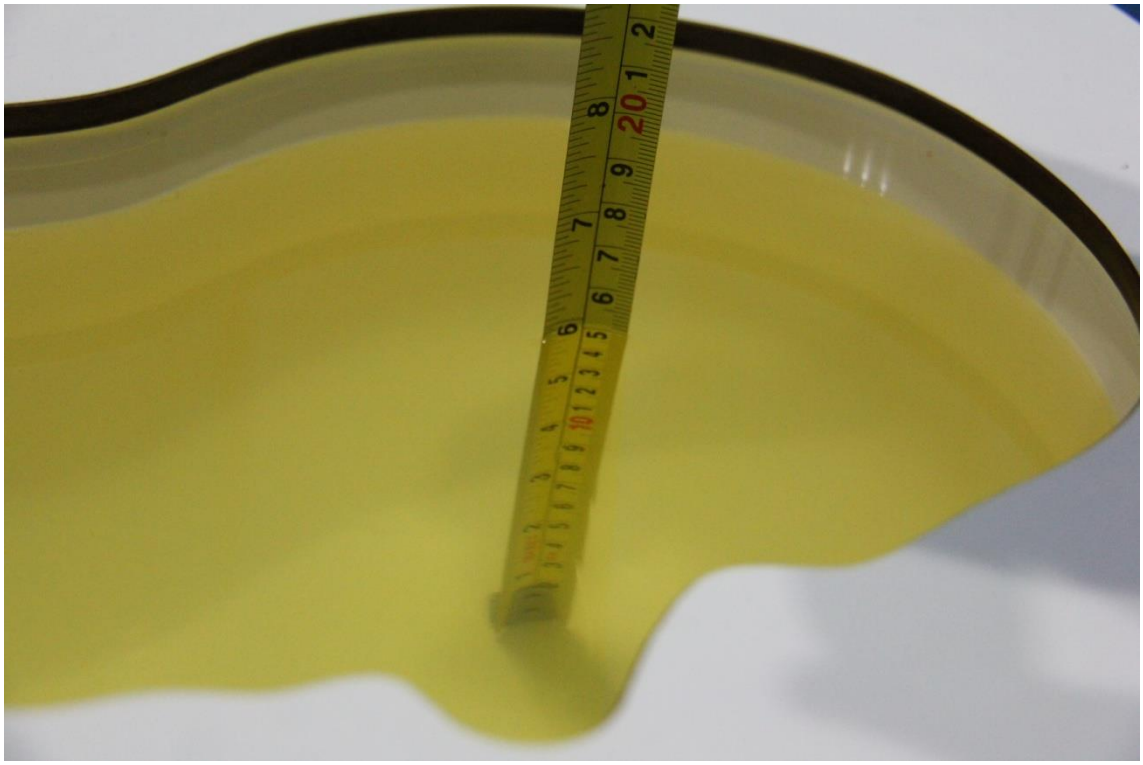
Note: The liquid temperature is 22.0℃



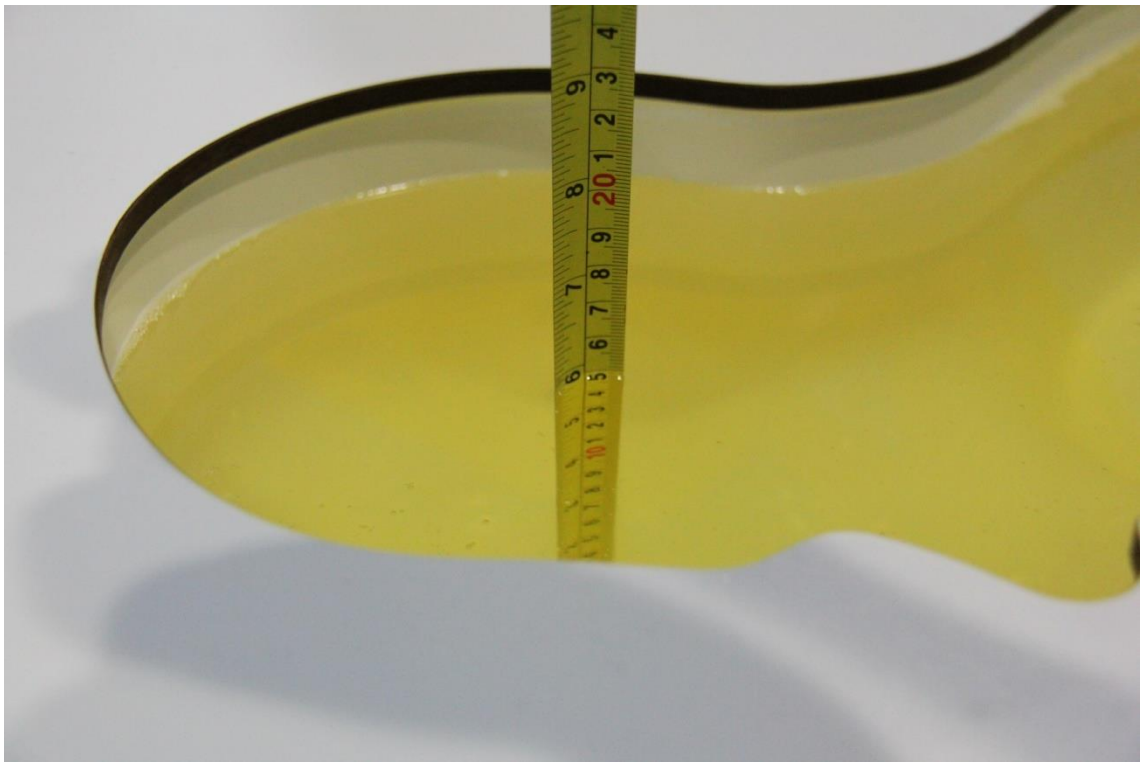
Picture 7-1 Liquid depth in the Head Phantom (750MHz)



Picture 7-2 Liquid depth in the Head Phantom (835 MHz)

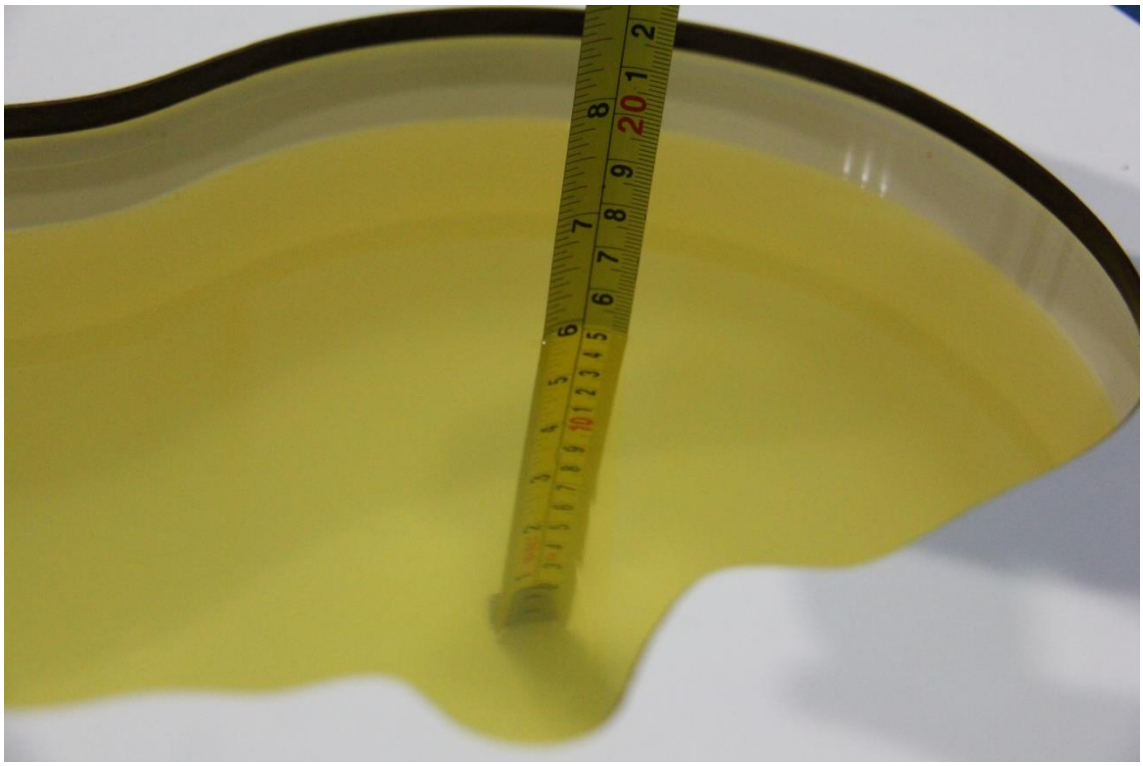


Picture 7-3 Liquid depth in the Head Phantom (1900 MHz)

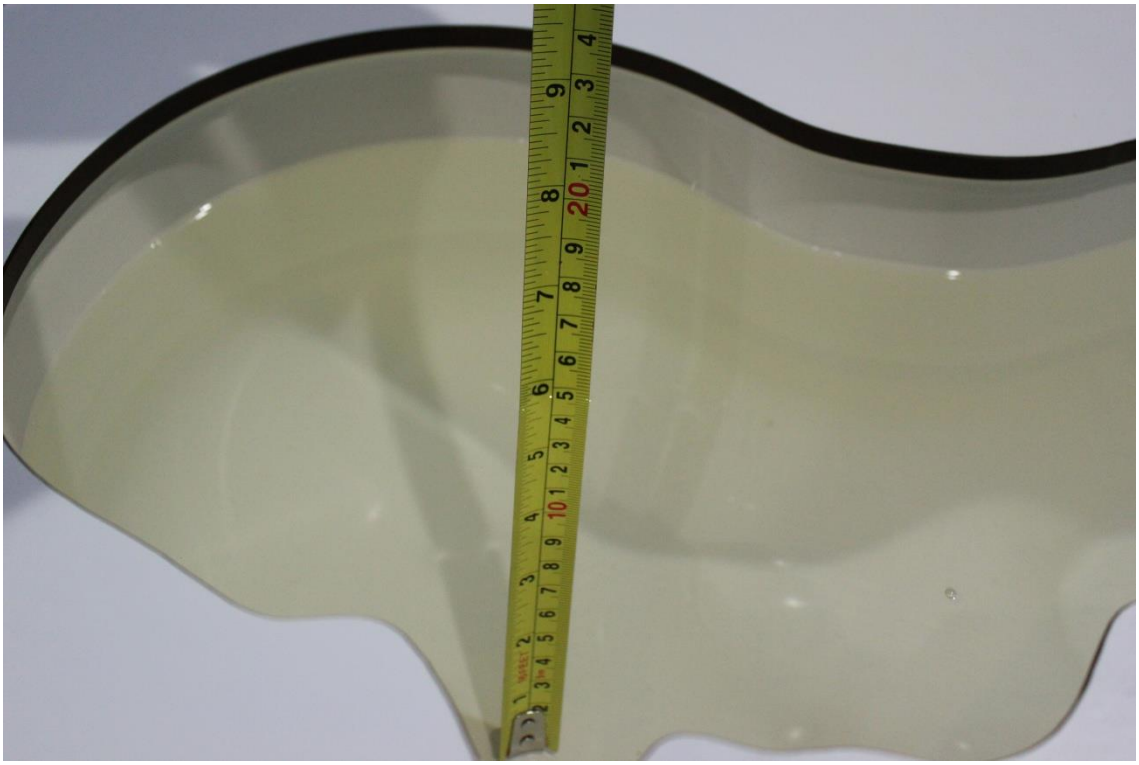


Picture 7-4 Liquid depth in the Head Phantom (2450MHz)

Picture 7-5 Liquid depth in the Head Phantom (2600 MHz)



Picture 7-6 Liquid depth in the Head Phantom (3GHz)

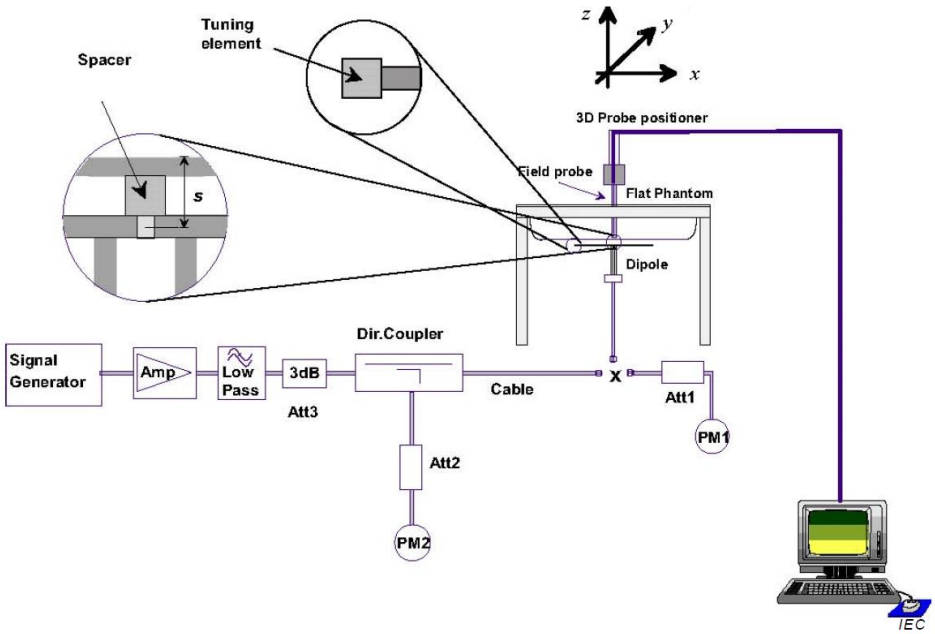


Picture 7-7 Liquid depth in the Head Phantom (5GHz)

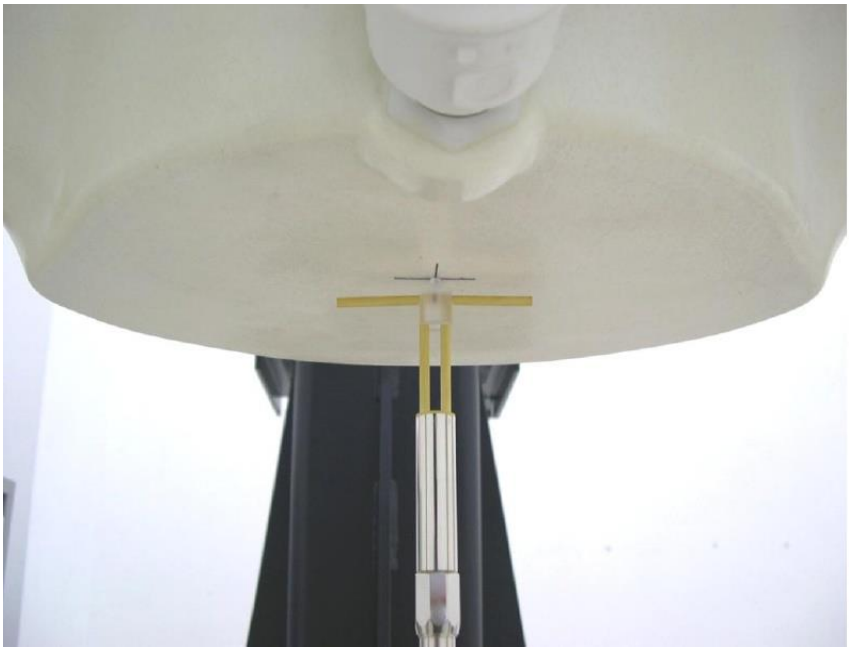
8 System verification

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)	1BFrequency	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
2022/6/15	750 MHz	5.53	8.47	5.6	8.48	1.27%	0.12%
2022/6/16	835 MHz	6.25	9.60	6.32	9.44	1.12%	-1.67%
2022/6/17	835 MHz	6.25	9.60	6.24	9.4	-0.16%	-2.08%
2022/6/18	1750 MHz	19.1	36.5	18.88	36.48	-1.15%	-0.05%
2022/6/19	1750 MHz	19.1	36.5	19.12	36.92	0.10%	1.15%
2022/6/20	1900 MHz	20.6	39.6	20.72	38.96	0.58%	-1.62%
2022/6/21	1900 MHz	20.6	39.6	20.4	40.2	-0.97%	1.52%
2022/6/22	2600 MHz	25.3	57.0	25.76	58.04	1.82%	1.82%
2022/6/23	2600 MHz	25.3	57.0	25.44	57.92	0.55%	1.61%
2022/6/23	2450 MHz	24.5	52.5	24.88	52.24	1.55%	-0.50%
2022/6/24	5300 MHz	22.9	80.5	22.7	81.1	-0.96%	0.77%
2022/6/24	5600 MHz	23.6	83.3	23.5	82.2	-0.34%	-1.37%
2022/6/24	5750 MHz	22.7	80.4	23.1	80.6	1.67%	0.25%
2022/7/1	835 MHz	6.25	9.60	6.36	9.56	1.76%	-0.42%
2022/7/2	1750 MHz	19.1	36.5	18.92	36.8	-0.94%	0.82%
2022/7/3	1900 MHz	20.6	39.6	20.52	39.08	-0.39%	-1.31%
2022/7/4	2600MHz	6.4	14.5	6.42	14.59	0.31%	0.62%
2022/7/5	2600MHz	6.4	14.5	6.35	14.73	-0.78%	1.59%
2022/7/17	3500 MHz	25.2	67.3	25.3	66.3	0.40%	-1.49%
2022/7/17	3700 MHz	24.3	67.1	24.6	66.6	1.23%	-0.75%

9 Measurement Procedures

9.1 Tests to be performed

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

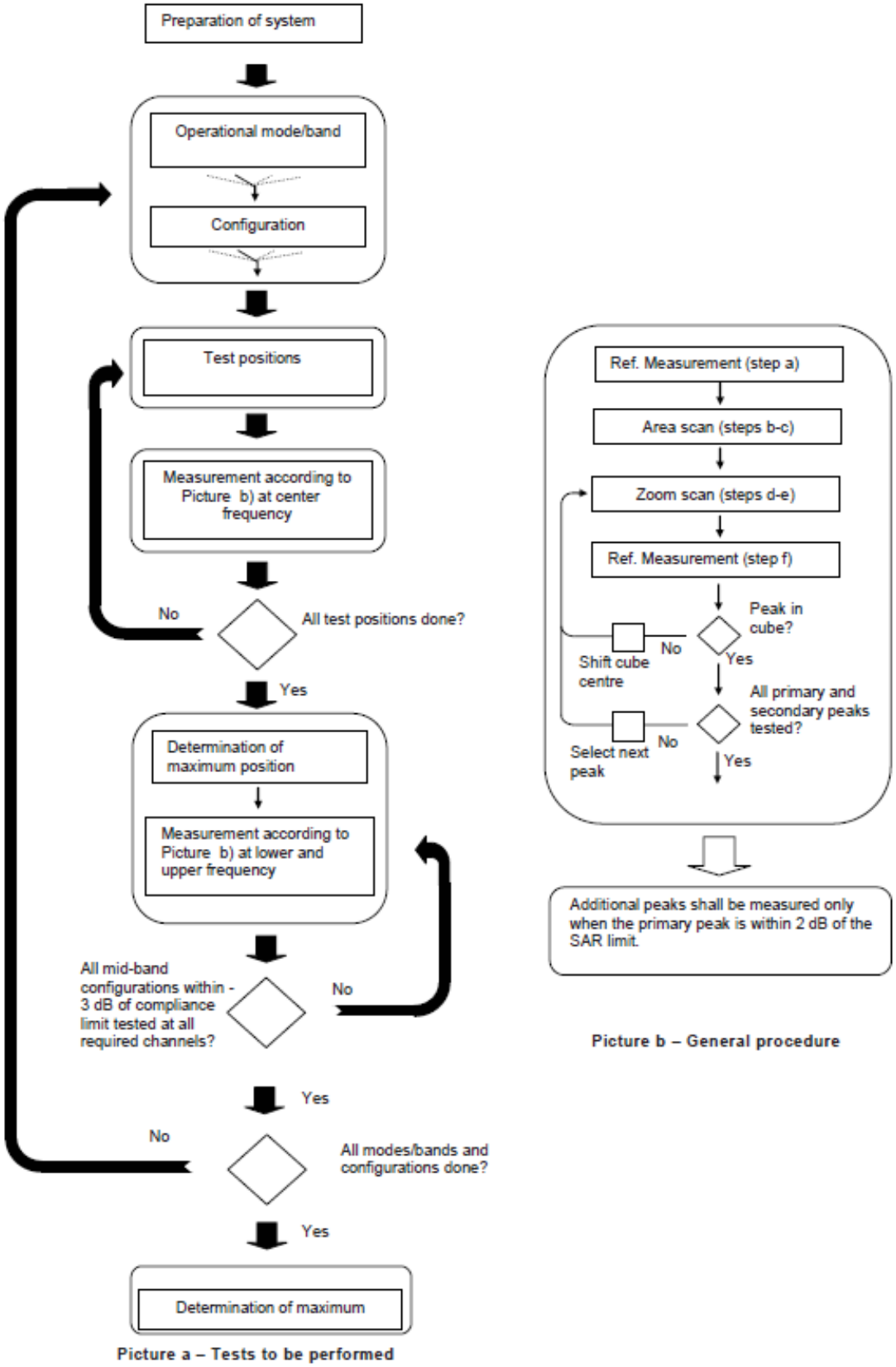
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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

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

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1,perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

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



Picture a – Tests to be performed

Picture b – General procedure

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.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

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	β_{ed1}:47/15 β_{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 & Rchwarz 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.

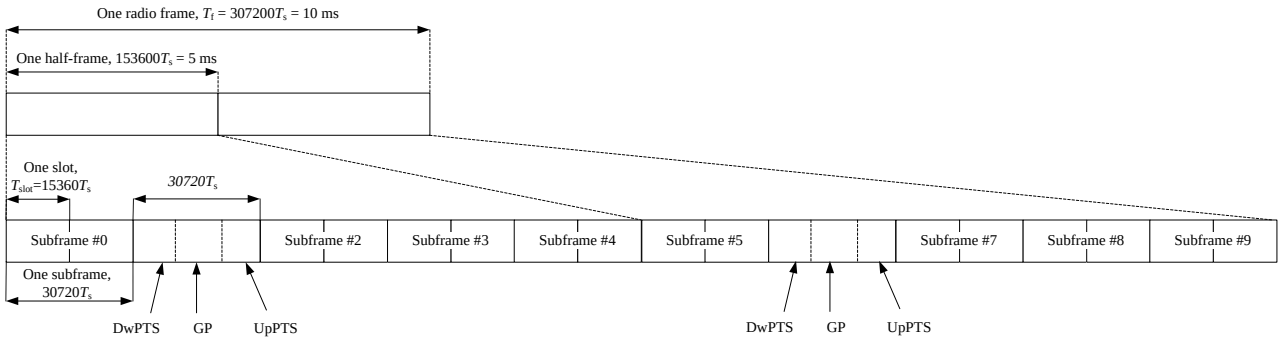


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
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:

Duty factor = uplink frame*6+UpPTS*2/one frame length

= (30720.T_s * 6+5120. T_s*2)/307200.T_s

= 0.633

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, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

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

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

10.2 Fast SAR Algorithms

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

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

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

Both algorithms are implemented in DASY software.

11 Conducted Output Power

Table11.1: Summary of Receiver detection mechanism-Main antenna

Antenna	DSI1 Sar senser off+ Hotspot off	DSI2 Sar senser on	DSI3 Receiver on	DSI4 Hotspot on	DSI5 Sar senser on+WIFI on	DSI6 Receiver on+WIFI on
Main Antenna	Power Level A1	Power Level B1	Power Level C1	Power Level D1	Power Level E1	Power Level F1

Table11.2: Summary of Receiver detection mechanism-WiFi antenna

Antenna	Receiver off+ Sensor off (DSI1)	Receiver on (DSI2)	Receiver off+ sensor on+ Hotspot on+ (DSI3)	Receiver off+ sensor on+ Hotspot off+ (DSI4)
WLAN Antenna	Power Level A1	Power Level B1	Power Level D1	Power Level E1

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 –GSM850
-Power Level A1/B1/C1/D1/E1/F1

GSM 850 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.51	31.42	31.62	33.00	/	/	/	/
GSM 850 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.39	31.29	31.45	33.00	-9.03	22.36	22.26	22.42
2 Txslots	29.90	30.07	29.97	31.00	-6.02	23.88	24.05	23.95
3 Txslots	27.83	27.99	27.98	29.00	-4.26	23.57	23.73	23.72
4 Txslots	26.92	27.10	26.99	28.00	-3.01	23.91	24.09	23.98
GSM 850 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.24	31.15	31.38	33.00	-9.03	22.21	22.12	22.35
2 Txslots	29.74	29.92	29.84	31.00	-6.02	23.72	23.90	23.82
3 Txslots	27.72	27.85	27.84	29.00	-4.26	23.46	23.59	23.58
4 Txslots	26.82	26.96	26.90	28.00	-3.01	23.81	23.95	23.89
GSM 850 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	25.53	25.72	25.79	27.00	-9.03	16.50	16.69	16.76
2 Txslots	23.93	23.80	23.75	25.00	-6.02	17.91	17.78	17.73
3Txslots	21.71	21.77	21.82	23.00	-4.26	17.45	17.51	17.56
4 Txslots	20.82	20.12	20.73	22.00	-3.01	17.81	17.11	17.72

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 4Txslots for GSM850.

Table 11.1-2: The conducted power measurement results-GSM1900

-Power Level A1/C1/F1

PCS1900 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.60	28.46	28.88	30.00	/	/	/	/
PCS1900 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.66	28.47	28.81	30.00	-9.03	19.63	19.44	19.78
2 Txslots	27.03	27.03	27.09	28.00	-6.02	21.01	21.01	21.07
3 Txslots	25.11	25.11	25.33	26.00	-4.26	20.85	20.85	21.07
4 Txslots	24.13	24.19	24.10	25.00	-3.01	21.12	21.18	21.09
PCS1900 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.44	28.34	28.73	30.00	-9.03	19.41	19.31	19.70
2 Txslots	27.05	27.06	27.12	28.00	-6.02	21.03	21.04	21.10
3 Txslots	25.06	25.11	25.26	26.00	-4.26	20.80	20.85	21.00
4 Txslots	24.08	24.09	24.15	25.00	-3.01	21.07	21.08	21.14
PCS1900 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.07	25.48	25.39	27.00	-9.03	16.04	16.45	16.36
2 Txslots	23.17	23.14	23.34	25.00	-6.02	17.15	17.12	17.32
3Txslots	21.56	20.99	21.26	22.00	-4.26	17.30	16.73	17.00
4 Txslots	19.91	19.58	20.01	21.00	-3.01	16.90	16.57	17.00

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 4Txslots for GSM1900.

Table 11.1-3: The conducted power measurement results-GSM1900

-Power Level B1

PCS1900 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.85	26.17	26.22	27	/	/	/	/
PCS1900 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.45	25.79	25.83	27	-9.03	16.42	16.76	16.80
2 Txslots	25.30	25.63	25.66	27	-6.02	19.28	19.61	19.64
3 Txslots	24.65	24.99	25.03	26	-4.26	20.39	20.73	20.77
4 Txslots	24.26	24.22	24.36	25	-3.01	21.25	21.21	21.35
PCS1900 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.67	26.06	26.11	27	-9.03	16.64	17.03	17.08
2 Txslots	25.53	25.91	25.95	27	-6.02	19.51	19.89	19.93
3 Txslots	24.88	25.26	25.31	26	-4.26	20.62	21.00	21.05
4 Txslots	24.50	24.50	24.63	25	-3.01	21.49	21.49	21.62
PCS1900 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.59	25.78	25.78	27	-9.03	16.56	16.75	16.75
2 Txslots	23.25	23.37	23.59	25	-6.02	17.23	17.35	17.57
3Txslots	20.78	21.05	21.12	22	-4.26	16.52	16.79	16.86
4 Txslots	19.88	20.44	20.39	21	-3.01	16.87	17.43	17.38

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 4Txslots for GSM1900.

Table 11.1-4: The conducted power measurement results-GSM1900

-Power Level D1

PCS1900 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	26.51	26.75	26.54	28	/	/	/	/
PCS1900 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	26.22	26.48	26.27	28	-9.03	17.19	17.45	17.24
2 Txslots	26.08	26.31	26.11	28	-6.02	20.06	20.29	20.09
3 Txslots	24.85	25.00	24.82	26	-4.26	20.59	20.74	20.56
4 Txslots	24.36	24.51	23.76	25	-3.01	21.35	21.50	20.75
PCS1900 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	26.20	26.46	26.27	28	-9.03	17.17	17.43	17.24
2 Txslots	26.05	26.30	26.11	28	-6.02	20.03	20.28	20.09
3 Txslots	24.83	24.99	24.82	26	-4.26	20.57	20.73	20.56
4 Txslots	24.33	24.50	23.77	25	-3.01	21.32	21.49	20.76
PCS1900 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.58	25.82	25.72	27	-9.03	16.55	16.79	16.69
2 Txslots	23.17	23.21	23.46	25	-6.02	17.15	17.19	17.44
3Txslots	21.16	21.07	21.05	22	-4.26	16.90	16.81	16.79
4 Txslots	19.95	20.35	19.76	21	-3.01	16.94	17.34	16.75

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 4Txslots for GSM1900.

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA B2/B5 -Power Level A1/B1/C1/D1/E1/F1

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	22.53	22.61	22.68	24
HSUPA	21.37	21.44	21.39	23
	21.36	21.44	21.36	23
	21.36	21.43	21.40	23
	21.38	21.46	21.39	23
	21.41	21.46	21.40	23
DC-HSDPA	21.7	21.65	21.63	23
	21.66	21.54	21.60	22
	21.54	21.61	21.60	22
	21.61	21.59	21.61	22

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	23.21	23.24	23.38	24.5
HSUPA	22.27	22.29	22.22	24
	22.08	22.31	22.33	24
	22.25	22.32	22.34	24
	22.27	22.31	22.34	24
	22.24	22.28	22.31	24
DC-HSDPA	22.27	22.23	22.26	23.5
	21.6	21.65	21.65	23.5
	21.53	21.59	21.60	22
	21.56	21.58	21.60	22

11.3 LTE Measurement result

Maximum Target Power for Production Unit

Band	Tune up (dBm)					
	DSI1 Sar senser off+ Hotspot off	DSI2 Sar senser on	DSI3 Receiver on	DSI4 Hotspot on	DSI5 Sar senser on+WIFI on	DSI6 Receiver on+WIFI on
	Power Level A1	Power Level B1	Power Level C1	Power Level D1	Power Level E1	Power Level F1
LTE Band5	24	24	24	24	24	24
LTE Band7 ANT8	24	24	18	24	24	16
LTE Band7 ANT4	24	24	14.5	22.5	24	14.5
LTE Band41-PC3	24	24	17.5	24	24	17.5
LTE Band41-PC2	27	27	20.5	27	27	20.5

Band5 A1/B1/C1/D1/E1/F1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
1.4MHz	1RB-High (5)	848.3 (20643)	23.32	22.83	21.53
		836.5 (20525)	23.33	22.67	21.69
		824.7 (20407)	23.45	22.90	21.59
	1RB-Middle (3)	848.3 (20643)	23.41	22.80	21.59
		836.5 (20525)	23.43	22.68	21.71
		824.7 (20407)	23.39	22.67	21.61
	1RB-Low (0)	848.3 (20643)	23.57	22.97	21.35
		836.5 (20525)	23.43	22.56	21.46
		824.7 (20407)	23.54	22.99	21.76
	3RB-High (3)	848.3 (20643)	22.47	21.59	20.65
		836.5 (20525)	22.48	21.52	20.59
		824.7 (20407)	22.54	21.65	20.60
	3RB-Middle (1)	848.3 (20643)	22.58	21.53	20.51
		836.5 (20525)	22.57	21.56	20.56
		824.7 (20407)	22.59	21.67	20.65
	3RB-Low (0)	848.3 (20643)	22.44	21.42	20.59
		836.5 (20525)	22.54	21.63	20.65
		824.7 (20407)	22.60	21.60	20.71
	6RB (0)	848.3 (20643)	22.39	21.53	20.44
		836.5 (20525)	22.42	21.51	20.54
		824.7 (20407)	22.63	21.66	20.60
3MHz	1RB-High (14)	847.5 (20635)	23.39	22.80	21.46
		836.5 (20525)	23.41	22.72	21.62
		825.5 (20415)	23.39	22.92	21.66
	1RB-Middle (7)	847.5 (20635)	23.42	22.73	21.64
		836.5 (20525)	23.38	22.70	21.70
		825.5 (20415)	23.31	22.65	21.68
	1RB-Low (0)	847.5 (20635)	23.58	22.94	21.38
		836.5 (20525)	23.36	22.59	21.48
		825.5 (20415)	23.60	22.99	21.72
	8RB-High (7)	847.5 (20635)	22.49	21.53	20.63
		836.5 (20525)	22.55	21.57	20.58
		825.5 (20415)	22.57	21.58	20.58
	8RB-Middle (4)	847.5 (20635)	22.50	21.52	20.53
		836.5 (20525)	22.57	21.48	20.52
		825.5 (20415)	22.63	21.62	20.63
	8RB-Low (0)	847.5 (20635)	22.41	21.49	20.60
		836.5 (20525)	22.55	21.63	20.62
		825.5 (20415)	22.51	21.62	20.63
	15RB (0)	847.5 (20635)	22.42	21.48	20.47
		836.5 (20525)	22.47	21.54	20.58
		825.5 (20415)	22.62	21.63	20.68
5MHz	1RB-High (24)	846.5 (20625)	23.32	22.83	21.44
		836.5 (20525)	23.36	22.67	21.67
		826.5 (20425)	23.45	22.94	21.69
	1RB-Middle (12)	846.5 (20625)	23.34	22.75	21.63
		836.5 (20525)	23.39	22.68	21.71
		826.5 (20425)	23.31	22.61	21.67
	1RB-Low (0)	846.5 (20625)	23.49	22.94	21.36
		836.5 (20525)	23.38	22.56	21.44
		826.5 (20425)	23.56	22.97	21.77
	12RB-High (13)	846.5 (20625)	22.44	21.60	20.65
		836.5 (20525)	22.47	21.56	20.58
		826.5 (20425)	22.49	21.60	20.63
	12RB-Middle (6)	846.5 (20625)	22.57	21.56	20.57
		836.5 (20525)	22.49	21.48	20.48
		826.5 (20425)	22.62	21.71	20.73
	12RB-Low (0)	846.5 (20625)	22.50	21.50	20.61
		836.5 (20525)	22.49	21.55	20.55
		826.5 (20425)	22.54	21.66	20.66
	25RB (0)	846.5 (20625)	22.43	21.47	20.41
		836.5 (20525)	22.39	21.55	20.53
		826.5 (20425)	22.61	21.63	20.58
10MHz	1RB-High (49)	844 (20600)	23.50	22.94	21.64
		836.5 (20525)	23.51	22.85	21.79
		829 (20450)	23.56	23.06	21.79
	1RB-Middle (24)	844 (20600)	23.53	22.92	21.75
		836.5 (20525)	23.55	22.88	21.90
		829 (20450)	23.51	22.77	21.79
	1RB-Low (0)	844 (20600)	23.69	23.10	21.54
		836.5 (20525)	23.53	22.72	21.60
		829 (20450)	23.73	23.17	21.87
	25RB-High (25)	844 (20600)	22.63	21.70	20.75
		836.5 (20525)	22.66	21.72	20.74
		829 (20450)	22.68	21.76	20.78
	25RB-Middle (12)	844 (20600)	22.70	21.66	20.68
		836.5 (20525)	22.69	21.66	20.68
		829 (20450)	22.73	21.82	20.83
	25RB-Low (0)	844 (20600)	22.61	21.62	20.71
		836.5 (20525)	22.66	21.74	20.75
		829 (20450)	22.71	21.79	20.82
	50RB (0)	844 (20600)	22.57	21.63	20.58
		836.5 (20525)	22.59	21.67	20.69
		829 (20450)	22.73	21.77	20.78

	Band7 ANT4 A1/B1/D1/E1				
	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	23.07	22.62	22.58
		2535 (21100)	23.26	22.65	22.46
		2502.5 (20775)	23.09	22.54	22.59
	1RB-Middle (12)	2567.5 (21425)	23.10	22.41	22.42
		2535 (21100)	23.07	22.53	22.49
		2502.5 (20775)	22.99	22.56	22.58
	1RB-Low (0)	2567.5 (21425)	23.08	22.52	22.53
		2535 (21100)	23.16	22.48	22.44
		2502.5 (20775)	23.01	22.38	22.45
	12RB-High (13)	2567.5 (21425)	22.33	21.25	21.28
		2535 (21100)	22.35	21.35	21.27
		2502.5 (20775)	22.17	21.24	21.28
	12RB-Middle (6)	2567.5 (21425)	22.30	21.43	21.35
		2535 (21100)	22.26	21.20	21.33
		2502.5 (20775)	22.32	21.22	21.24
	12RB-Low (0)	2567.5 (21425)	22.34	21.21	21.31
		2535 (21100)	22.43	21.40	21.36
		2502.5 (20775)	22.29	21.26	21.24
	25RB (0)	2567.5 (21425)	22.36	21.39	21.45
		2535 (21100)	22.31	21.30	21.36
		2502.5 (20775)	22.22	21.29	21.23
10MHz	1RB-High (49)	2565 (21400)	23.10	22.61	22.49
		2535 (21100)	23.19	22.59	22.48
		2505 (20800)	23.01	22.48	22.55
	1RB-Middle (24)	2565 (21400)	23.02	22.48	22.42
		2535 (21100)	23.06	22.54	22.55
		2505 (20800)	22.93	22.46	22.50
	1RB-Low (0)	2565 (21400)	23.09	22.57	22.56
		2535 (21100)	23.15	22.44	22.44
		2505 (20800)	23.05	22.37	22.42
	25RB-High (25)	2565 (21400)	22.28	21.18	21.19
		2535 (21100)	22.26	21.31	21.22
		2505 (20800)	22.22	21.21	21.21
	25RB-Middle (12)	2565 (21400)	22.25	21.40	21.35
		2535 (21100)	22.25	21.25	21.33
		2505 (20800)	22.27	21.29	21.17
	25RB-Low (0)	2565 (21400)	22.38	21.25	21.30
		2535 (21100)	22.36	21.44	21.36
		2505 (20800)	22.26	21.27	21.24
	50RB (0)	2565 (21400)	22.35	21.39	21.46
		2535 (21100)	22.32	21.31	21.34
		2505 (20800)	22.23	21.32	21.27
15MHz	1RB-High (74)	2562.5 (21375)	23.09	22.58	22.53
		2535 (21100)	23.24	22.58	22.51
		2507.5 (20825)	23.02	22.44	22.57
	1RB-Middle (37)	2562.5 (21375)	23.03	22.46	22.41
		2535 (21100)	23.03	22.55	22.52
		2507.5 (20825)	22.97	22.49	22.52
	1RB-Low (0)	2562.5 (21375)	23.08	22.52	22.49
		2535 (21100)	23.07	22.41	22.46
		2507.5 (20825)	23.04	22.38	22.38
	36RB-High (38)	2562.5 (21375)	22.34	21.21	21.28
		2535 (21100)	22.27	21.31	21.28
		2507.5 (20825)	22.21	21.21	21.24
	36RB-Middle (19)	2562.5 (21375)	22.30	21.35	21.33
		2535 (21100)	22.27	21.24	21.31
		2507.5 (20825)	22.30	21.25	21.22
	36RB-Low (0)	2562.5 (21375)	22.38	21.30	21.35
		2535 (21100)	22.44	21.44	21.32
		2507.5 (20825)	22.24	21.29	21.26
	75RB (0)	2562.5 (21375)	22.38	21.38	21.38
		2535 (21100)	22.31	21.38	21.36
		2507.5 (20825)	22.19	21.33	21.21
20MHz	1RB-High (99)	2560 (21350)	23.26	22.72	22.69
		2535 (21100)	23.36	22.77	22.66
		2510 (20850)	23.20	22.64	22.69
	1RB-Middle (50)	2560 (21350)	23.22	22.61	22.55
		2535 (21100)	23.20	22.72	22.68
		2510 (20850)	23.13	22.66	22.68
	1RB-Low (0)	2560 (21350)	23.23	22.69	22.67
		2535 (21100)	23.26	22.61	22.59
		2510 (20850)	23.15	22.56	22.58
	50RB-High (50)	2560 (21350)	22.46	21.36	21.38
		2535 (21100)	22.45	21.46	21.39
		2510 (20850)	22.34	21.38	21.41
	50RB-Middle (25)	2560 (21350)	22.45	21.53	21.50
		2535 (21100)	22.38	21.40	21.44
		2510 (20850)	22.43	21.41	21.35
	50RB-Low (0)	2560 (21350)	22.54	21.41	21.48
		2535 (21100)	22.56	21.56	21.48
		2510 (20850)	22.40	21.45	21.40
	100RB (0)	2560 (21350)	22.55	21.49	21.57
		2535 (21100)	22.45	21.49	21.50
		2510 (20850)	22.36	21.44	21.40

Band7 ANT8 C1					
	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	16.98	17.34	17.46
		2535 (21100)	16.69	16.94	16.99
		2502.5 (20775)	16.63	17.00	16.96
	1RB-Middle (12)	2567.5 (21425)	16.96	17.66	17.24
		2535 (21100)	16.46	16.80	16.64
		2502.5 (20775)	16.50	16.76	17.28
	1RB-Low (0)	2567.5 (21425)	17.18	17.25	17.30
		2535 (21100)	16.55	16.99	16.84
		2502.5 (20775)	16.70	16.76	16.95
	12RB-High (13)	2567.5 (21425)	17.19	17.27	17.18
		2535 (21100)	16.76	16.77	16.69
		2502.5 (20775)	16.78	16.80	16.79
	12RB-Middle (6)	2567.5 (21425)	17.17	17.17	17.12
		2535 (21100)	16.73	16.77	16.73
		2502.5 (20775)	16.76	16.70	16.79
	12RB-Low (0)	2567.5 (21425)	17.04	17.13	17.10
		2535 (21100)	16.62	16.65	16.53
		2502.5 (20775)	16.69	16.74	16.59
	25RB (0)	2567.5 (21425)	17.15	17.17	17.14
		2535 (21100)	16.65	16.66	16.74
		2502.5 (20775)	16.67	16.72	16.71
10MHz	1RB-High (49)	2565 (21400)	17.09	17.27	17.18
		2535 (21100)	16.75	16.95	16.93
		2505 (20800)	16.79	16.99	16.91
	1RB-Middle (24)	2565 (21400)	17.14	17.32	17.38
		2535 (21100)	16.57	16.75	16.86
		2505 (20800)	16.71	16.87	16.89
	1RB-Low (0)	2565 (21400)	17.05	17.33	17.08
		2535 (21100)	16.61	16.94	16.85
		2505 (20800)	16.65	16.97	16.81
	25RB-High (25)	2565 (21400)	17.12	17.16	17.18
		2535 (21100)	16.68	16.79	16.78
		2505 (20800)	16.76	16.78	16.73
	25RB-Middle (12)	2565 (21400)	17.13	17.14	17.11
		2535 (21100)	16.71	16.72	16.70
		2505 (20800)	16.73	16.74	16.72
	25RB-Low (0)	2565 (21400)	17.10	17.10	17.07
		2535 (21100)	16.76	16.77	16.74
		2505 (20800)	16.78	16.81	16.79
	50RB (0)	2565 (21400)	17.05	17.16	17.13
		2535 (21100)	16.65	16.77	16.75
		2505 (20800)	16.76	16.68	16.65
15MHz	1RB-High (74)	2562.5 (21375)	16.87	17.19	16.99
		2535 (21100)	16.52	16.54	16.57
		2507.5 (20825)	16.45	16.75	16.62
	1RB-Middle (37)	2562.5 (21375)	16.75	17.02	16.80
		2535 (21100)	16.31	16.71	16.47
		2507.5 (20825)	16.37	16.72	16.61
	1RB-Low (0)	2562.5 (21375)	16.74	17.05	16.98
		2535 (21100)	16.38	16.46	16.45
		2507.5 (20825)	16.37	16.59	16.51
	36RB-High (38)	2562.5 (21375)	16.93	16.99	17.05
		2535 (21100)	16.65	16.56	16.53
		2507.5 (20825)	16.58	16.60	16.57
	36RB-Middle (19)	2562.5 (21375)	16.92	16.98	17.03
		2535 (21100)	16.60	16.56	16.55
		2507.5 (20825)	16.56	16.62	16.60
	36RB-Low (0)	2562.5 (21375)	16.85	16.91	16.86
		2535 (21100)	16.51	16.59	16.53
		2507.5 (20825)	16.54	16.64	16.61
	75RB (0)	2562.5 (21375)	16.85	16.91	16.86
		2535 (21100)	16.55	16.53	16.60
		2507.5 (20825)	16.50	16.51	16.59
20MHz	1RB-High (99)	2560 (21350)	16.52	16.52	16.65
		2535 (21100)	16.11	16.43	16.28
		2510 (20850)	15.98	16.30	16.21
	1RB-Middle (50)	2560 (21350)	16.26	16.58	16.48
		2535 (21100)	15.98	16.24	16.09
		2510 (20850)	15.92	16.24	16.05
	1RB-Low (0)	2560 (21350)	16.25	16.65	16.44
		2535 (21100)	15.97	16.28	15.92
		2510 (20850)	15.92	16.22	16.08
	50RB-High (50)	2560 (21350)	16.59	16.59	16.68
		2535 (21100)	16.22	16.25	16.16
		2510 (20850)	16.05	16.15	16.09
	50RB-Middle (25)	2560 (21350)	16.54	16.51	16.53
		2535 (21100)	16.18	16.19	16.11
		2510 (20850)	16.12	16.15	16.18
	50RB-Low (0)	2560 (21350)	16.38	16.44	16.45
		2535 (21100)	16.06	16.19	16.21
		2510 (20850)	16.20	16.18	16.18
	100RB (0)	2560 (21350)	16.46	16.49	16.56
		2535 (21100)	16.13	16.17	16.16
		2510 (20850)	16.09	16.12	16.09

Band7 ANT8 F1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	15.28	15.64	15.76
		2535 (21100)	14.99	15.24	15.29
		2502.5 (20775)	14.93	15.30	15.26
	1RB-Middle (12)	2567.5 (21425)	15.26	15.96	15.54
		2535 (21100)	14.76	15.10	14.94
		2502.5 (20775)	14.80	15.06	15.58
	1RB-Low (0)	2567.5 (21425)	15.48	15.55	15.60
		2535 (21100)	14.85	15.29	15.14
		2502.5 (20775)	15.00	15.06	15.25
	12RB-High (13)	2567.5 (21425)	15.49	15.57	15.48
		2535 (21100)	15.06	15.07	14.99
		2502.5 (20775)	15.08	15.10	15.09
	12RB-Middle (6)	2567.5 (21425)	15.47	15.47	15.42
		2535 (21100)	15.03	15.07	15.03
		2502.5 (20775)	15.06	15.00	15.09
	12RB-Low (0)	2567.5 (21425)	15.34	15.43	15.40
		2535 (21100)	14.92	14.95	14.83
		2502.5 (20775)	14.99	15.04	14.89
	25RB (0)	2567.5 (21425)	15.45	15.47	15.44
		2535 (21100)	14.95	14.96	15.04
		2502.5 (20775)	14.97	15.02	15.01
10MHz	1RB-High (49)	2565 (21400)	15.39	15.57	15.48
		2535 (21100)	15.05	15.25	15.23
		2505 (20800)	15.09	15.29	15.21
	1RB-Middle (24)	2565 (21400)	15.44	15.62	15.68
		2535 (21100)	14.87	15.05	15.16
		2505 (20800)	15.01	15.17	15.19
	1RB-Low (0)	2565 (21400)	15.35	15.63	15.38
		2535 (21100)	14.91	15.24	15.15
		2505 (20800)	14.95	15.27	15.11
	25RB-High (25)	2565 (21400)	15.42	15.46	15.48
		2535 (21100)	14.98	15.09	15.08
		2505 (20800)	15.06	15.08	15.03
	25RB-Middle (12)	2565 (21400)	15.43	15.44	15.41
		2535 (21100)	15.01	15.02	15.00
		2505 (20800)	15.03	15.04	15.02
	25RB-Low (0)	2565 (21400)	15.40	15.40	15.37
		2535 (21100)	15.06	15.07	15.04
		2505 (20800)	15.08	15.11	15.09
	50RB (0)	2565 (21400)	15.35	15.46	15.43
		2535 (21100)	14.95	15.07	15.05
		2505 (20800)	15.06	14.98	14.95
15MHz	1RB-High (74)	2562.5 (21375)	15.17	15.49	15.29
		2535 (21100)	14.82	14.84	14.87
		2507.5 (20825)	14.75	15.05	14.92
	1RB-Middle (37)	2562.5 (21375)	15.05	15.32	15.10
		2535 (21100)	14.61	15.01	14.77
		2507.5 (20825)	14.67	15.02	14.91
	1RB-Low (0)	2562.5 (21375)	15.04	15.35	15.28
		2535 (21100)	14.68	14.76	14.75
		2507.5 (20825)	14.67	14.89	14.81
	36RB-High (38)	2562.5 (21375)	15.23	15.29	15.35
		2535 (21100)	14.95	14.86	14.83
		2507.5 (20825)	14.88	14.90	14.87
	36RB-Middle (19)	2562.5 (21375)	15.22	15.28	15.33
		2535 (21100)	14.90	14.86	14.85
		2507.5 (20825)	14.86	14.92	14.90
	36RB-Low (0)	2562.5 (21375)	15.15	15.21	15.16
		2535 (21100)	14.81	14.89	14.83
		2507.5 (20825)	14.84	14.94	14.91
	75RB (0)	2562.5 (21375)	15.15	15.21	15.16
		2535 (21100)	14.85	14.83	14.90
		2507.5 (20825)	14.80	14.81	14.89
20MHz	1RB-High (99)	2560 (21350)	15.14	15.62	15.53
		2535 (21100)	15.34	15.31	15.40
		2510 (20850)	14.88	15.18	15.24
	1RB-Middle (50)	2560 (21350)	15.29	15.61	15.69
		2535 (21100)	14.80	15.21	15.30
		2510 (20850)	14.81	15.20	15.10
	1RB-Low (0)	2560 (21350)	15.08	15.50	15.33
		2535 (21100)	14.75	15.06	15.50
		2510 (20850)	14.85	14.96	15.14
	50RB-High (50)	2560 (21350)	14.66	14.83	14.84
		2535 (21100)	14.35	14.41	14.42
		2510 (20850)	14.18	14.25	14.36
	50RB-Middle (25)	2560 (21350)	14.61	14.69	14.68
		2535 (21100)	14.29	14.38	14.48
		2510 (20850)	14.26	14.36	14.45
	50RB-Low (0)	2560 (21350)	14.55	14.64	14.61
		2535 (21100)	14.25	14.36	14.41
		2510 (20850)	14.23	14.36	14.46
	100RB (0)	2560 (21350)	14.63	14.73	14.68
		2535 (21100)	14.29	14.38	14.42
		2510 (20850)	14.21	14.27	14.27

	Band7 ANT4 A1/B1/E1				
	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	23.07	22.62	22.58
		2535 (21100)	23.26	22.65	22.46
		2502.5 (20775)	23.09	22.54	22.59
	1RB-Middle (12)	2567.5 (21425)	23.10	22.41	22.42
		2535 (21100)	23.07	22.53	22.49
		2502.5 (20775)	22.99	22.56	22.58
	1RB-Low (0)	2567.5 (21425)	23.08	22.52	22.53
		2535 (21100)	23.16	22.48	22.44
		2502.5 (20775)	23.01	22.38	22.45
	12RB-High (13)	2567.5 (21425)	22.33	21.25	21.28
		2535 (21100)	22.35	21.35	21.27
		2502.5 (20775)	22.17	21.24	21.28
	12RB-Middle (6)	2567.5 (21425)	22.30	21.43	21.35
		2535 (21100)	22.26	21.20	21.33
		2502.5 (20775)	22.32	21.22	21.24
	12RB-Low (0)	2567.5 (21425)	22.34	21.21	21.31
		2535 (21100)	22.43	21.40	21.36
		2502.5 (20775)	22.29	21.26	21.24
	25RB (0)	2567.5 (21425)	22.36	21.39	21.45
		2535 (21100)	22.31	21.30	21.36
		2502.5 (20775)	22.22	21.29	21.23
10MHz	1RB-High (49)	2565 (21400)	23.10	22.61	22.49
		2535 (21100)	23.19	22.59	22.48
		2505 (20800)	23.01	22.48	22.55
	1RB-Middle (24)	2565 (21400)	23.02	22.48	22.42
		2535 (21100)	23.06	22.54	22.55
		2505 (20800)	22.93	22.46	22.50
	1RB-Low (0)	2565 (21400)	23.09	22.57	22.56
		2535 (21100)	23.15	22.44	22.44
		2505 (20800)	23.05	22.37	22.42
	25RB-High (25)	2565 (21400)	22.28	21.18	21.19
		2535 (21100)	22.26	21.31	21.22
		2505 (20800)	22.22	21.21	21.21
	25RB-Middle (12)	2565 (21400)	22.25	21.40	21.35
		2535 (21100)	22.25	21.25	21.33
		2505 (20800)	22.27	21.29	21.17
	25RB-Low (0)	2565 (21400)	22.38	21.25	21.30
		2535 (21100)	22.36	21.44	21.36
		2505 (20800)	22.26	21.27	21.24
	50RB (0)	2565 (21400)	22.35	21.39	21.46
		2535 (21100)	22.32	21.31	21.34
		2505 (20800)	22.23	21.32	21.27
15MHz	1RB-High (74)	2562.5 (21375)	23.09	22.58	22.53
		2535 (21100)	23.24	22.58	22.51
		2507.5 (20825)	23.02	22.44	22.57
	1RB-Middle (37)	2562.5 (21375)	23.03	22.46	22.41
		2535 (21100)	23.03	22.55	22.52
		2507.5 (20825)	22.97	22.49	22.52
	1RB-Low (0)	2562.5 (21375)	23.08	22.52	22.49
		2535 (21100)	23.07	22.41	22.46
		2507.5 (20825)	23.04	22.38	22.38
	36RB-High (38)	2562.5 (21375)	22.34	21.21	21.28
		2535 (21100)	22.27	21.31	21.28
		2507.5 (20825)	22.21	21.21	21.24
	36RB-Middle (19)	2562.5 (21375)	22.30	21.35	21.33
		2535 (21100)	22.27	21.24	21.31
		2507.5 (20825)	22.30	21.25	21.22
	36RB-Low (0)	2562.5 (21375)	22.38	21.30	21.35
		2535 (21100)	22.44	21.44	21.32
		2507.5 (20825)	22.24	21.29	21.26
	75RB (0)	2562.5 (21375)	22.38	21.38	21.38
		2535 (21100)	22.31	21.38	21.36
		2507.5 (20825)	22.19	21.33	21.21
20MHz	1RB-High (99)	2560 (21350)	23.26	22.72	22.69
		2535 (21100)	23.36	22.77	22.66
		2510 (20850)	23.20	22.64	22.69
	1RB-Middle (50)	2560 (21350)	23.22	22.61	22.55
		2535 (21100)	23.20	22.72	22.68
		2510 (20850)	23.13	22.66	22.68
	1RB-Low (0)	2560 (21350)	23.23	22.69	22.67
		2535 (21100)	23.26	22.61	22.59
		2510 (20850)	23.15	22.56	22.58
	50RB-High (50)	2560 (21350)	22.46	21.36	21.38
		2535 (21100)	22.45	21.46	21.39
		2510 (20850)	22.34	21.38	21.41
	50RB-Middle (25)	2560 (21350)	22.45	21.53	21.50
		2535 (21100)	22.38	21.40	21.44
		2510 (20850)	22.43	21.41	21.35
	50RB-Low (0)	2560 (21350)	22.54	21.41	21.48
		2535 (21100)	22.56	21.56	21.48
		2510 (20850)	22.40	21.45	21.40
	100RB (0)	2560 (21350)	22.55	21.49	21.57
		2535 (21100)	22.45	21.49	21.50
		2510 (20850)	22.36	21.44	21.40

	Band7 ANT4 D1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	22.31	22.05	20.46
		2535 (21100)	22.04	21.41	19.97
		2502.5 (20775)	21.88	21.62	19.92
	1RB-Middle (12)	2567.5 (21425)	22.23	21.87	20.40
		2535 (21100)	21.87	21.35	19.97
		2502.5 (20775)	21.79	21.41	19.84
	1RB-Low (0)	2567.5 (21425)	22.17	21.76	20.30
		2535 (21100)	21.74	21.29	19.94
		2502.5 (20775)	21.69	21.38	19.94
	12RB-High (13)	2567.5 (21425)	21.44	20.57	20.47
		2535 (21100)	21.10	20.13	19.39
		2502.5 (20775)	21.04	20.05	19.27
	12RB-Middle (6)	2567.5 (21425)	21.48	20.58	19.81
		2535 (21100)	21.03	20.05	19.45
		2502.5 (20775)	20.96	20.05	19.33
	12RB-Low (0)	2567.5 (21425)	21.31	20.37	19.69
		2535 (21100)	21.06	19.99	19.21
		2502.5 (20775)	20.99	20.00	19.36
	25RB (0)	2567.5 (21425)	21.44	20.50	19.87
		2535 (21100)	21.15	20.09	19.49
		2502.5 (20775)	21.03	20.03	19.33
10MHz	1RB-High (49)	2565 (21400)	22.32	22.07	20.48
		2535 (21100)	22.02	21.44	20.01
		2505 (20800)	21.87	21.60	19.93
	1RB-Middle (24)	2565 (21400)	22.22	21.83	20.40
		2535 (21100)	21.81	21.35	19.95
		2505 (20800)	21.83	21.50	19.84
	1RB-Low (0)	2565 (21400)	22.09	21.66	20.21
		2535 (21100)	21.83	21.29	19.94
		2505 (20800)	21.78	21.41	19.90
	25RB-High (25)	2565 (21400)	21.22	20.59	20.48
		2535 (21100)	21.15	20.13	19.30
		2505 (20800)	20.98	20.00	19.31
	25RB-Middle (12)	2565 (21400)	21.47	20.55	19.89
		2535 (21100)	21.06	20.13	19.40
		2505 (20800)	20.98	19.98	19.38
	25RB-Low (0)	2565 (21400)	21.34	20.30	19.65
		2535 (21100)	21.00	20.02	19.29
		2505 (20800)	20.97	20.06	19.35
	50RB (0)	2565 (21400)	21.37	20.53	19.92
		2535 (21100)	21.15	20.15	19.49
		2505 (20800)	21.01	19.94	19.41
15MHz	1RB-High (74)	2562.5 (21375)	22.33	21.99	20.42
		2535 (21100)	21.99	21.50	20.02
		2507.5 (20825)	21.92	21.63	19.92
	1RB-Middle (37)	2562.5 (21375)	22.24	21.84	20.46
		2535 (21100)	21.78	21.37	19.99
		2507.5 (20825)	21.83	21.44	19.90
	1RB-Low (0)	2562.5 (21375)	22.17	21.71	20.24
		2535 (21100)	21.74	21.28	19.86
		2507.5 (20825)	21.69	21.37	19.92
	36RB-High (38)	2562.5 (21375)	21.34	20.55	20.39
		2535 (21100)	21.11	20.11	19.29
		2507.5 (20825)	20.97	20.07	19.28
	36RB-Middle (19)	2562.5 (21375)	21.44	20.48	19.83
		2535 (21100)	21.05	20.13	19.43
		2507.5 (20825)	20.99	19.98	19.37
	36RB-Low (0)	2562.5 (21375)	21.29	20.35	19.65
		2535 (21100)	21.06	20.00	19.21
		2507.5 (20825)	21.04	19.98	19.44
	75RB (0)	2562.5 (21375)	21.40	20.46	19.91
		2535 (21100)	21.07	20.09	19.52
		2507.5 (20825)	20.93	20.02	19.41
20MHz	1RB-High (99)	2560 (21350)	22.47	22.18	20.60
		2535 (21100)	22.18	21.61	20.15
		2510 (20850)	22.03	21.74	20.05
	1RB-Middle (50)	2560 (21350)	22.39	21.97	20.56
		2535 (21100)	21.98	21.49	20.13
		2510 (20850)	21.97	21.61	20.03
	1RB-Low (0)	2560 (21350)	22.27	21.86	20.40
		2535 (21100)	21.93	21.47	20.04
		2510 (20850)	21.88	21.52	20.07
	50RB-High (50)	2560 (21350)	21.46	20.72	20.58
		2535 (21100)	21.27	20.25	19.49
		2510 (20850)	21.16	20.17	19.43
	50RB-Middle (25)	2560 (21350)	21.30	20.68	20.01
		2535 (21100)	21.23	20.23	19.60
		2510 (20850)	21.11	20.18	19.51
	50RB-Low (0)	2560 (21350)	21.31	20.50	19.83
		2535 (21100)	21.18	20.17	19.41
		2510 (20850)	21.15	20.17	19.54
	100RB (0)	2560 (21350)	21.56	20.66	20.06
		2535 (21100)	21.25	20.27	19.67
		2510 (20850)	21.13	20.14	19.53

Band7 ANT4 C1/F1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2567.5 (21425)	13.30	13.76	13.26
		2535 (21100)	12.98	13.42	12.97
		2502.5 (20775)	12.90	13.29	12.85
	1RB-Middle (12)	2567.5 (21425)	13.15	13.61	13.19
		2535 (21100)	12.89	13.27	12.90
		2502.5 (20775)	12.81	13.17	12.76
	1RB-Low (0)	2567.5 (21425)	13.02	13.50	13.10
		2535 (21100)	12.81	13.19	12.86
		2502.5 (20775)	12.78	13.17	12.86
	12RB-High (13)	2567.5 (21425)	13.37	13.40	12.87
		2535 (21100)	13.03	13.11	12.53
		2502.5 (20775)	12.98	12.94	12.38
	12RB-Middle (6)	2567.5 (21425)	13.34	13.35	12.74
		2535 (21100)	13.04	13.03	12.49
		2502.5 (20775)	12.96	12.90	12.25
	12RB-Low (0)	2567.5 (21425)	13.19	13.19	12.61
		2535 (21100)	12.99	13.02	12.32
		2502.5 (20775)	13.00	12.97	12.31
	25RB (0)	2567.5 (21425)	13.23	13.26	12.60
		2535 (21100)	13.04	13.03	12.42
		2502.5 (20775)	12.98	12.96	12.47
10MHz	1RB-High (49)	2565 (21400)	13.26	13.72	13.26
		2535 (21100)	12.95	13.43	13.02
		2505 (20800)	12.94	13.34	12.79
	1RB-Middle (24)	2565 (21400)	13.11	13.62	13.18
		2535 (21100)	12.89	13.27	12.89
		2505 (20800)	12.86	13.15	12.80
	1RB-Low (0)	2565 (21400)	13.08	13.45	13.12
		2535 (21100)	12.81	13.20	12.85
		2505 (20800)	12.82	13.11	12.85
	25RB-High (25)	2565 (21400)	13.38	13.38	12.89
		2535 (21100)	13.10	13.09	12.53
		2505 (20800)	12.98	12.96	12.35
	25RB-Middle (12)	2565 (21400)	13.27	13.36	12.67
		2535 (21100)	13.05	12.99	12.44
		2505 (20800)	12.98	12.89	12.28
	25RB-Low (0)	2565 (21400)	13.22	13.23	12.57
		2535 (21100)	13.02	13.02	12.33
		2505 (20800)	13.01	12.97	12.38
	50RB (0)	2565 (21400)	13.25	13.24	12.57
		2535 (21100)	13.03	13.07	12.46
		2505 (20800)	13.01	13.00	12.43
15MHz	1RB-High (74)	2562.5 (21375)	13.30	13.72	13.26
		2535 (21100)	13.00	13.40	12.97
		2507.5 (20825)	12.97	13.29	12.79
	1RB-Middle (37)	2562.5 (21375)	13.14	13.63	13.20
		2535 (21100)	12.87	13.25	12.92
		2507.5 (20825)	12.86	13.16	12.78
	1RB-Low (0)	2562.5 (21375)	13.02	13.45	13.12
		2535 (21100)	12.84	13.19	12.85
		2507.5 (20825)	12.82	13.17	12.88
	36RB-High (38)	2562.5 (21375)	13.37	13.34	12.87
		2535 (21100)	13.10	13.12	12.48
		2507.5 (20825)	13.04	12.99	12.34
	36RB-Middle (19)	2562.5 (21375)	13.30	13.33	12.72
		2535 (21100)	13.07	13.04	12.48
		2507.5 (20825)	12.93	12.90	12.28
	36RB-Low (0)	2562.5 (21375)	13.22	13.19	12.62
		2535 (21100)	12.99	13.03	12.34
		2507.5 (20825)	13.06	12.97	12.36
	75RB (0)	2562.5 (21375)	13.29	13.24	12.59
		2535 (21100)	12.98	13.07	12.44
		2507.5 (20825)	13.00	13.03	12.43
20MHz	1RB-High (99)	2560 (21350)	13.52	13.86	13.36
		2535 (21100)	13.11	13.52	13.11
		2510 (20850)	13.06	13.43	12.95
	1RB-Middle (50)	2560 (21350)	13.25	13.76	13.33
		2535 (21100)	12.98	13.37	13.03
		2510 (20850)	12.95	13.29	12.92
	1RB-Low (0)	2560 (21350)	13.16	13.60	13.21
		2535 (21100)	12.96	13.33	12.98
		2510 (20850)	12.91	13.26	13.00
	50RB-High (50)	2560 (21350)	13.47	13.48	12.98
		2535 (21100)	13.18	13.22	12.63
		2510 (20850)	13.12	13.08	12.49
	50RB-Middle (25)	2560 (21350)	13.43	13.46	12.82
		2535 (21100)	13.16	13.15	12.60
		2510 (20850)	13.09	13.05	12.41
	50RB-Low (0)	2560 (21350)	13.32	13.33	12.70
		2535 (21100)	13.14	13.12	12.46
		2510 (20850)	13.14	13.09	12.46
	100RB (0)	2560 (21350)	13.38	13.38	12.72
		2535 (21100)	13.14	13.17	12.56
		2510 (20850)	13.11	13.11	12.55

Band41 PC3 A1/B1/D1/E1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	22.93	21.98	21.86
		2640.3(41093)	23.15	22.30	21.97
		2593 (40620)	23.52	22.62	22.54
		2545.8(40148)	23.30	22.43	22.19
		2498.5 (39675)	23.31	22.41	22.10
	1RB-Middle (12)	2687.5 (41565)	22.97	22.07	21.89
		2640.3(41093)	23.37	22.25	22.09
		2593 (40620)	23.70	22.60	22.47
		2545.8(40148)	23.26	22.35	22.19
		2498.5 (39675)	23.50	22.47	21.98
	1RB-Low (0)	2687.5 (41565)	22.89	22.00	21.81
		2640.3(41093)	23.16	22.25	22.20
		2593 (40620)	23.50	22.52	22.53
		2545.8(40148)	23.26	22.34	22.20
		2498.5 (39675)	23.28	22.42	22.24
	12RB-High (13)	2687.5 (41565)	22.03	20.98	21.00
		2640.3(41093)	22.11	21.05	21.11
		2593 (40620)	22.48	21.44	21.46
		2545.8(40148)	22.24	21.17	21.24
		2498.5 (39675)	22.39	21.31	21.36
	12RB-Middle (6)	2687.5 (41565)	22.02	20.98	21.03
		2640.3(41093)	22.23	21.21	21.27
		2593 (40620)	22.45	21.47	21.47
		2545.8(40148)	22.25	21.26	21.28
		2498.5 (39675)	22.38	21.39	21.38
	12RB-Low (0)	2687.5 (41565)	22.01	20.98	21.01
		2640.3(41093)	22.22	21.17	21.23
		2593 (40620)	22.58	21.46	21.53
		2545.8(40148)	22.32	21.24	21.30
		2498.5 (39675)	22.35	21.32	21.33
	25RB (0)	2687.5 (41565)	22.00	21.07	21.00
		2640.3(41093)	22.24	21.26	21.18
		2593 (40620)	22.49	21.48	21.44
		2545.8(40148)	22.28	21.25	21.23
		2498.5 (39675)	22.37	21.39	21.35
10MHz	1RB-High (49)	2685 (41540)	22.83	21.99	21.78
		2639(41080)	23.09	22.16	21.97
		2593 (40620)	23.42	22.48	22.37
		2547(40160)	23.18	22.34	22.11
		2501 (39700)	23.26	22.38	22.24
	1RB-Middle (24)	2685 (41540)	22.87	22.04	21.80
		2639(41080)	23.16	22.14	22.12
		2593 (40620)	23.41	22.53	22.42
		2547(40160)	23.22	22.34	22.06
		2501 (39700)	23.19	22.25	22.18
	1RB-Low (0)	2685 (41540)	22.95	22.10	21.92
		2639(41080)	23.26	22.36	22.18
		2593 (40620)	23.49	22.61	22.44
		2547(40160)	23.20	22.38	22.10
		2501 (39700)	23.22	22.41	22.13
	25RB-High (25)	2685 (41540)	22.01	21.04	20.98
		2639(41080)	22.10	21.17	21.11
		2593 (40620)	22.45	21.54	21.39
		2547(40160)	22.27	21.33	21.27
		2501 (39700)	22.29	21.29	21.25
	25RB-Middle (12)	2685 (41540)	22.05	21.10	21.05
		2639(41080)	22.27	21.30	21.20
		2593 (40620)	22.50	21.53	21.47
		2547(40160)	22.29	21.33	21.25
		2501 (39700)	22.28	21.33	21.27
	25RB-Low (0)	2685 (41540)	21.98	21.00	20.99
		2639(41080)	22.21	21.28	21.21
		2593 (40620)	22.53	21.54	21.49
		2547(40160)	22.31	21.32	21.26
		2501 (39700)	22.34	21.37	21.30
	50RB (0)	2685 (41540)	22.02	21.06	20.98
		2639(41080)	22.22	21.27	21.21
		2593 (40620)	22.45	21.51	21.44
		2547(40160)	22.27	21.29	21.24
		2501 (39700)	22.27	21.32	21.24

15MHz	1RB-High (74)	2682.5 (41515)	22.80	21.93	21.50
		2637.8(41068)	22.95	22.06	21.83
		2593 (40620)	23.25	22.41	22.26
		2548.3(40173)	23.07	22.22	21.92
		2503.5 (39725)	23.02	22.20	21.92
	1RB-Middle (37)	2682.5 (41515)	22.75	21.89	21.57
		2637.8(41068)	22.92	22.05	21.95
		2593 (40620)	23.25	22.38	22.25
		2548.3(40173)	23.02	22.22	21.91
		2503.5 (39725)	23.03	22.19	22.01
	1RB-Low (0)	2682.5 (41515)	22.86	22.01	21.68
		2637.8(41068)	23.11	22.27	22.14
		2593 (40620)	23.32	22.48	22.30
		2548.3(40173)	23.07	22.24	21.97
		2503.5 (39725)	23.03	22.17	21.88
	36RB-High (38)	2682.5 (41515)	21.81	20.77	20.78
		2637.8(41068)	21.96	21.00	21.00
		2593 (40620)	22.31	21.30	21.33
		2548.3(40173)	22.15	21.15	21.16
		2503.5 (39725)	22.10	21.10	21.14
	36RB-Middle (19)	2682.5 (41515)	21.86	20.89	20.93
		2637.8(41068)	22.09	21.08	21.13
		2593 (40620)	22.33	21.32	21.36
		2548.3(40173)	22.10	21.17	21.12
		2503.5 (39725)	22.23	21.20	21.21
	36RB-Low (0)	2682.5 (41515)	21.91	20.88	20.87
		2637.8(41068)	22.13	21.12	21.15
		2593 (40620)	22.36	21.39	21.44
		2548.3(40173)	22.17	21.16	21.20
		2503.5 (39725)	22.11	21.15	21.18
	75RB (0)	2682.5 (41515)	21.91	20.94	20.97
		2637.8(41068)	22.06	21.18	21.15
		2593 (40620)	22.31	21.38	21.35
		2548.3(40173)	22.13	21.20	21.22
		2503.5 (39725)	22.12	21.21	21.16
20MHz	1RB-High (99)	2680 (41490)	22.97	22.09	21.80
		2636.5(41055)	23.12	22.28	22.01
		2593 (40620)	23.44	22.52	22.40
		2549.5(40185)	23.17	22.29	21.92
		2506 (39750)	23.07	22.26	22.01
	1RB-Middle (50)	2680 (41490)	22.95	22.08	21.79
		2636.5(41055)	23.18	22.28	22.10
		2593 (40620)	23.26	22.44	22.33
		2549.5(40185)	23.15	22.23	21.92
		2506 (39750)	23.13	22.18	22.04
	1RB-Low (0)	2680 (41490)	23.12	22.26	21.95
		2636.5(41055)	23.38	22.46	22.32
		2593 (40620)	23.42	22.53	22.44
		2549.5(40185)	23.12	22.27	21.91
		2506 (39750)	23.03	22.18	21.91
	50RB-High (50)	2680 (41490)	22.07	21.07	20.99
		2636.5(41055)	22.19	21.19	21.17
		2593 (40620)	22.43	21.49	21.38
		2549.5(40185)	22.22	21.26	21.24
		2506 (39750)	22.17	21.22	21.18
	50RB-Middle (25)	2680 (41490)	22.17	21.18	21.10
		2636.5(41055)	22.30	21.36	21.29
		2593 (40620)	22.46	21.47	21.41
		2549.5(40185)	22.22	21.26	21.22
		2506 (39750)	22.26	21.27	21.23
	50RB-Low (0)	2680 (41490)	22.15	21.18	21.13
		2636.5(41055)	22.34	21.39	21.36
		2593 (40620)	22.48	21.54	21.47
		2549.5(40185)	22.27	21.30	21.26
		2506 (39750)	22.21	21.24	21.20
	100RB (0)	2680 (41490)	22.13	21.20	21.19
		2636.5(41055)	22.34	21.35	21.40
		2593 (40620)	22.43	21.44	21.49
		2549.5(40185)	22.22	21.26	21.27
		2506 (39750)	22.20	21.19	21.24

Band41 PC3 C1/F1					
	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	16.43	15.48	15.36
		2640.3(41093)	16.65	15.80	15.47
		2593 (40620)	16.91	16.12	16.04
		2545.8(40148)	16.80	15.93	15.69
		2498.5 (39675)	16.81	15.91	15.60
	1RB-Middle (12)	2687.5 (41565)	16.47	15.57	15.39
		2640.3(41093)	16.87	15.75	15.59
		2593 (40620)	16.66	16.10	15.97
		2545.8(40148)	16.76	15.85	15.69
		2498.5 (39675)	17.00	15.97	15.48
	1RB-Low (0)	2687.5 (41565)	16.39	15.50	15.31
		2640.3(41093)	16.66	15.75	15.70
		2593 (40620)	17.00	16.02	16.03
		2545.8(40148)	16.76	15.84	15.70
		2498.5 (39675)	16.78	15.92	15.74
	12RB-High (13)	2687.5 (41565)	15.53	14.48	14.50
		2640.3(41093)	15.61	14.55	14.61
		2593 (40620)	15.98	14.94	14.96
		2545.8(40148)	15.74	14.67	14.74
		2498.5 (39675)	15.89	14.81	14.86
	12RB-Middle (6)	2687.5 (41565)	15.52	14.48	14.53
		2640.3(41093)	15.73	14.71	14.77
		2593 (40620)	15.95	14.97	14.97
		2545.8(40148)	15.75	14.76	14.78
		2498.5 (39675)	15.88	14.89	14.88
	12RB-Low (0)	2687.5 (41565)	15.51	14.48	14.51
		2640.3(41093)	15.72	14.67	14.73
		2593 (40620)	15.93	14.96	15.03
		2545.8(40148)	15.82	14.74	14.80
		2498.5 (39675)	15.85	14.82	14.83
	25RB (0)	2687.5 (41565)	15.50	14.57	14.50
		2640.3(41093)	15.74	14.76	14.68
		2593 (40620)	15.99	14.98	14.94
		2545.8(40148)	15.78	14.75	14.73
		2498.5 (39675)	15.87	14.89	14.85
10MHz	1RB-High (49)	2685 (41540)	16.33	15.49	15.28
		2639(41080)	16.59	15.66	15.47
		2593 (40620)	16.92	15.98	15.87
		2547(40160)	16.68	15.84	15.61
		2501 (39700)	16.76	15.88	15.74
	1RB-Middle (24)	2685 (41540)	16.37	15.54	15.30
		2639(41080)	16.66	15.64	15.62
		2593 (40620)	16.91	16.03	15.92
		2547(40160)	16.72	15.84	15.56
		2501 (39700)	16.69	15.75	15.68
	1RB-Low (0)	2685 (41540)	16.45	15.60	15.42
		2639(41080)	16.76	15.86	15.68
		2593 (40620)	16.99	16.11	15.94
		2547(40160)	16.70	15.88	15.60
		2501 (39700)	16.72	15.91	15.63
	25RB-High (25)	2685 (41540)	15.51	14.54	14.48
		2639(41080)	15.60	14.67	14.61
		2593 (40620)	15.95	15.04	14.89
		2547(40160)	15.77	14.83	14.77
		2501 (39700)	15.79	14.79	14.75
	25RB-Middle (12)	2685 (41540)	15.55	14.60	14.55
		2639(41080)	15.77	14.80	14.70
		2593 (40620)	16.00	15.03	14.97
		2547(40160)	15.79	14.83	14.75
		2501 (39700)	15.78	14.83	14.77
	25RB-Low (0)	2685 (41540)	15.48	14.50	14.49
		2639(41080)	15.71	14.78	14.71
		2593 (40620)	16.03	15.04	14.99
		2547(40160)	15.81	14.82	14.76
		2501 (39700)	15.84	14.87	14.80
	50RB (0)	2685 (41540)	15.52	14.56	14.48
		2639(41080)	15.72	14.77	14.71
		2593 (40620)	15.95	15.01	14.94
		2547(40160)	15.77	14.79	14.74
		2501 (39700)	15.77	14.82	14.74

15MHz	1RB-High (74)	2682.5 (41515)	16.30	15.43	15.00
		2637.8(41068)	16.45	15.56	15.33
		2593 (40620)	16.75	15.91	15.76
		2548.3(40173)	16.57	15.72	15.42
		2503.5 (39725)	16.52	15.70	15.42
	1RB-Middle (37)	2682.5 (41515)	16.25	15.39	15.07
		2637.8(41068)	16.42	15.55	15.45
		2593 (40620)	16.75	15.88	15.75
		2548.3(40173)	16.52	15.72	15.41
		2503.5 (39725)	16.53	15.69	15.51
	1RB-Low (0)	2682.5 (41515)	16.36	15.51	15.18
		2637.8(41068)	16.61	15.77	15.64
		2593 (40620)	16.82	15.98	15.80
		2548.3(40173)	16.57	15.74	15.47
		2503.5 (39725)	16.53	15.67	15.38
	36RB-High (38)	2682.5 (41515)	15.31	14.27	14.28
		2637.8(41068)	15.46	14.50	14.50
		2593 (40620)	15.81	14.80	14.83
		2548.3(40173)	15.65	14.65	14.66
		2503.5 (39725)	15.60	14.60	14.64
	36RB-Middle (19)	2682.5 (41515)	15.36	14.39	14.43
		2637.8(41068)	15.59	14.58	14.63
		2593 (40620)	15.83	14.82	14.86
		2548.3(40173)	15.60	14.67	14.62
		2503.5 (39725)	15.73	14.70	14.71
	36RB-Low (0)	2682.5 (41515)	15.41	14.38	14.37
		2637.8(41068)	15.63	14.62	14.65
		2593 (40620)	15.86	14.89	14.94
		2548.3(40173)	15.67	14.66	14.70
		2503.5 (39725)	15.61	14.65	14.68
	75RB (0)	2682.5 (41515)	15.41	14.44	14.47
		2637.8(41068)	15.56	14.68	14.65
		2593 (40620)	15.81	14.88	14.85
		2548.3(40173)	15.63	14.70	14.72
		2503.5 (39725)	15.62	14.71	14.66
20MHz	1RB-High (99)	2680 (41490)	16.45	16.58	16.18
		2636.5(41055)	16.64	16.74	16.41
		2593 (40620)	16.94	17.03	16.74
		2549.5(40185)	16.85	17.02	16.59
		2506 (39750)	16.86	17.02	16.62
	1RB-Middle (50)	2680 (41490)	16.45	16.61	16.19
		2636.5(41055)	16.68	16.82	16.44
		2593 (40620)	16.86	16.97	16.67
		2549.5(40185)	16.81	16.97	16.66
		2506 (39750)	16.88	17.01	16.63
	1RB-Low (0)	2680 (41490)	16.63	16.78	16.37
		2636.5(41055)	16.90	17.00	16.76
		2593 (40620)	17.08	17.17	16.85
		2549.5(40185)	16.89	17.03	16.61
		2506 (39750)	16.87	17.00	16.62
	50RB-High (50)	2680 (41490)	15.78	15.80	15.71
		2636.5(41055)	15.92	15.96	15.89
		2593 (40620)	16.20	16.21	16.16
		2549.5(40185)	16.14	16.21	16.12
		2506 (39750)	16.24	16.28	16.23
	50RB-Middle (25)	2680 (41490)	15.85	15.88	15.84
		2636.5(41055)	16.08	16.10	16.04
		2593 (40620)	16.32	16.29	16.26
		2549.5(40185)	16.29	16.29	16.27
		2506 (39750)	16.20	16.23	16.22
	50RB-Low (0)	2680 (41490)	15.92	15.91	15.88
		2636.5(41055)	16.11	16.15	16.09
		2593 (40620)	16.28	16.32	16.25
		2549.5(40185)	16.25	16.32	16.25
		2506 (39750)	16.29	16.30	16.31
	100RB (0)	2680 (41490)	15.85	15.88	15.91
		2636.5(41055)	16.06	16.12	16.12
		2593 (40620)	16.30	16.28	16.34
		2549.5(40185)	16.26	16.29	16.32
		2506 (39750)	16.19	16.26	16.29

Band41 PC2 A1/B1/D1/E1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	25.83	24.99	25.24
		2640.3(41093)	26.25	25.04	25.72
		2593 (40620)	26.65	25.43	26.03
		2545.8(40148)	26.23	25.44	25.54
		2498.5 (39675)	26.37	25.41	25.80
	1RB-Middle (12)	2687.5 (41565)	25.98	24.98	25.10
		2640.3(41093)	26.38	25.22	25.54
		2593 (40620)	26.65	25.44	25.82
		2545.8(40148)	26.33	25.29	25.45
		2498.5 (39675)	26.48	25.23	25.62
	1RB-Low (0)	2687.5 (41565)	25.78	25.04	25.15
		2640.3(41093)	26.30	25.13	25.73
		2593 (40620)	26.59	25.38	25.99
		2545.8(40148)	26.18	25.40	25.48
		2498.5 (39675)	26.34	25.39	25.80
	12RB-High (13)	2687.5 (41565)	24.92	23.88	23.96
		2640.3(41093)	25.13	24.10	24.22
		2593 (40620)	25.43	24.37	24.51
		2545.8(40148)	25.17	24.14	24.42
		2498.5 (39675)	25.35	24.30	24.37
	12RB-Middle (6)	2687.5 (41565)	24.94	24.00	23.98
		2640.3(41093)	25.25	24.32	24.35
		2593 (40620)	25.45	24.50	24.55
		2545.8(40148)	25.32	24.21	24.30
		2498.5 (39675)	25.37	24.33	24.39
	12RB-Low (0)	2687.5 (41565)	24.93	23.88	24.00
		2640.3(41093)	25.19	24.29	24.31
		2593 (40620)	25.52	24.45	24.78
		2545.8(40148)	25.27	24.23	24.32
		2498.5 (39675)	25.31	24.27	24.34
	25RB (0)	2687.5 (41565)	24.90	23.94	23.91
		2640.3(41093)	25.18	24.24	24.22
		2593 (40620)	25.40	24.49	24.45
		2545.8(40148)	25.25	24.22	24.17
		2498.5 (39675)	25.31	24.34	24.30
10MHz	1RB-High (49)	2685 (41540)	25.92	25.11	24.99
		2639(41080)	25.99	25.37	25.38
		2593 (40620)	26.34	25.61	25.75
		2547(40160)	26.10	25.48	25.37
		2501 (39700)	26.27	25.58	25.59
	1RB-Middle (24)	2685 (41540)	25.92	25.10	25.05
		2639(41080)	25.96	25.40	25.48
		2593 (40620)	26.46	25.72	25.81
		2547(40160)	26.25	25.43	25.40
		2501 (39700)	26.22	25.43	25.60
	1RB-Low (0)	2685 (41540)	25.91	25.21	25.08
		2639(41080)	26.17	25.58	25.64
		2593 (40620)	26.35	25.78	25.80
		2547(40160)	26.20	25.52	25.43
		2501 (39700)	26.20	25.55	25.54
	25RB-High (25)	2685 (41540)	24.95	23.97	23.94
		2639(41080)	25.10	24.23	24.16
		2593 (40620)	25.43	24.52	24.49
		2547(40160)	25.21	24.24	24.19
		2501 (39700)	25.27	24.32	24.26
	25RB-Middle (12)	2685 (41540)	24.95	24.02	24.00
		2639(41080)	25.21	24.36	24.31
		2593 (40620)	25.45	24.57	24.51
		2547(40160)	25.21	24.29	24.21
		2501 (39700)	25.27	24.36	24.28
	25RB-Low (0)	2685 (41540)	24.92	24.00	23.96
		2639(41080)	25.23	24.33	24.25
		2593 (40620)	25.46	24.57	24.52
		2547(40160)	25.20	24.33	24.25
		2501 (39700)	25.28	24.40	24.29
	50RB (0)	2685 (41540)	24.92	24.03	23.94
		2639(41080)	25.26	24.34	24.26
		2593 (40620)	25.45	24.54	24.42
		2547(40160)	25.20	24.30	24.17
		2501 (39700)	25.30	24.30	24.25

15MHz	1RB-High (74)	2682.5 (41515)	25.62	24.99	24.98
		2637.8(41068)	25.85	25.42	25.61
		2593 (40620)	26.20	25.77	26.12
		2548.3(40173)	26.04	25.43	25.39
		2503.5 (39725)	25.98	25.50	25.57
	1RB-Middle (37)	2682.5 (41515)	25.61	25.04	24.96
		2637.8(41068)	25.83	25.48	25.74
		2593 (40620)	26.13	25.75	25.95
		2548.3(40173)	25.95	25.35	25.31
		2503.5 (39725)	25.94	25.50	25.62
	1RB-Low (0)	2682.5 (41515)	25.73	25.17	25.13
		2637.8(41068)	25.99	25.65	26.02
		2593 (40620)	26.22	25.82	26.02
		2548.3(40173)	26.02	25.42	25.37
		2503.5 (39725)	25.94	25.46	25.54
	36RB-High (38)	2682.5 (41515)	24.76	23.80	23.85
		2637.8(41068)	25.04	24.05	24.07
		2593 (40620)	25.34	24.36	24.36
		2548.3(40173)	25.15	24.12	24.13
		2503.5 (39725)	25.07	24.15	24.16
	36RB-Middle (19)	2682.5 (41515)	24.86	23.91	23.92
		2637.8(41068)	25.16	24.20	24.20
		2593 (40620)	25.38	24.39	24.37
		2548.3(40173)	25.10	24.10	24.08
		2503.5 (39725)	25.23	24.24	24.22
	36RB-Low (0)	2682.5 (41515)	24.88	23.88	23.94
		2637.8(41068)	25.21	24.23	24.23
		2593 (40620)	25.42	24.43	24.47
		2548.3(40173)	25.17	24.18	24.16
		2503.5 (39725)	25.21	24.17	24.20
	75RB (0)	2682.5 (41515)	24.82	23.94	23.95
		2637.8(41068)	25.10	24.21	24.20
		2593 (40620)	25.31	24.39	24.40
		2548.3(40173)	25.08	24.13	24.16
		2503.5 (39725)	25.12	24.16	24.18
20MHz	1RB-High (99)	2680 (41490)	25.96	25.20	25.14
		2636.5(41055)	26.07	25.50	25.73
		2593 (40620)	26.24	25.86	26.10
		2549.5(40185)	26.09	25.45	25.42
		2506 (39750)	26.06	25.50	25.52
	1RB-Middle (50)	2680 (41490)	25.85	25.15	25.08
		2636.5(41055)	26.04	25.49	25.79
		2593 (40620)	26.22	25.73	25.82
		2549.5(40185)	26.01	25.39	25.31
		2506 (39750)	26.03	25.47	25.46
	1RB-Low (0)	2680 (41490)	26.04	25.38	25.33
		2636.5(41055)	26.22	25.83	26.13
		2593 (40620)	26.34	25.90	25.95
		2549.5(40185)	26.06	25.43	25.37
		2506 (39750)	25.97	25.42	25.44
	50RB-High (50)	2680 (41490)	24.99	24.05	23.91
		2636.5(41055)	25.22	24.31	24.17
		2593 (40620)	25.45	24.48	24.42
		2549.5(40185)	25.21	24.25	24.20
		2506 (39750)	25.21	24.23	24.15
	50RB-Middle (25)	2680 (41490)	25.12	24.11	24.06
		2636.5(41055)	25.37	24.41	24.31
		2593 (40620)	25.45	24.45	24.40
		2549.5(40185)	25.19	24.23	24.18
		2506 (39750)	25.31	24.35	24.21
	50RB-Low (0)	2680 (41490)	25.10	24.15	24.06
		2636.5(41055)	25.43	24.48	24.37
		2593 (40620)	25.50	24.50	24.50
		2549.5(40185)	25.21	24.28	24.21
		2506 (39750)	25.27	24.29	24.18
	100RB (0)	2680 (41490)	25.10	24.15	24.14
		2636.5(41055)	25.34	24.43	24.45
		2593 (40620)	25.44	24.48	24.51
		2549.5(40185)	25.20	24.21	24.29
		2506 (39750)	25.19	24.20	24.27

Band41 PC2 C1/F1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	2687.5 (41565)	19.19	19.54	19.33
		2640.3(41093)	19.34	19.70	19.58
		2593 (40620)	19.63	19.86	19.84
		2545.8(40148)	19.55	19.96	19.77
		2498.5 (39675)	19.64	20.00	19.88
	1RB-Middle (12)	2687.5 (41565)	19.13	19.62	19.29
		2640.3(41093)	19.49	19.60	19.56
		2593 (40620)	19.80	19.87	19.78
		2545.8(40148)	19.50	19.83	19.74
		2498.5 (39675)	19.60	19.92	19.79
	1RB-Low (0)	2687.5 (41565)	19.14	19.46	19.26
		2640.3(41093)	19.34	19.62	19.57
		2593 (40620)	19.58	19.94	19.80
		2545.8(40148)	19.52	19.90	19.69
		2498.5 (39675)	19.63	19.98	19.79
	12RB-High (13)	2687.5 (41565)	19.21	19.19	19.26
		2640.3(41093)	19.45	19.52	19.49
		2593 (40620)	19.59	19.73	19.68
		2545.8(40148)	19.60	19.57	19.60
		2498.5 (39675)	19.77	19.76	19.73
	12RB-Middle (6)	2687.5 (41565)	19.25	19.26	19.32
		2640.3(41093)	19.48	19.48	19.55
		2593 (40620)	19.68	19.86	19.72
		2545.8(40148)	19.69	19.77	19.68
		2498.5 (39675)	19.77	19.92	19.75
	12RB-Low (0)	2687.5 (41565)	19.23	19.18	19.27
		2640.3(41093)	19.50	19.54	19.56
		2593 (40620)	19.73	19.64	19.76
		2545.8(40148)	19.64	19.79	19.68
		2498.5 (39675)	19.71	19.80	19.75
	25RB (0)	2687.5 (41565)	19.24	19.31	19.21
		2640.3(41093)	19.44	19.49	19.45
		2593 (40620)	19.67	19.73	19.71
		2545.8(40148)	19.68	19.70	19.61
		2498.5 (39675)	19.73	19.75	19.68
10MHz	1RB-High (49)	2685 (41540)	19.17	19.46	19.30
		2639(41080)	19.34	19.62	19.49
		2593 (40620)	19.63	19.90	19.82
		2547(40160)	19.60	19.91	19.75
		2501 (39700)	19.74	20.01	19.84
	1RB-Middle (24)	2685 (41540)	19.22	19.39	19.36
		2639(41080)	19.43	19.63	19.54
		2593 (40620)	19.65	19.89	19.76
		2547(40160)	19.59	19.84	19.80
		2501 (39700)	19.73	19.92	19.91
	1RB-Low (0)	2685 (41540)	19.29	19.52	19.43
		2639(41080)	19.49	19.79	19.72
		2593 (40620)	19.65	19.98	19.83
		2547(40160)	19.56	19.96	19.82
		2501 (39700)	19.69	19.99	19.84
	25RB-High (25)	2685 (41540)	19.27	19.26	19.22
		2639(41080)	19.38	19.42	19.40
		2593 (40620)	19.67	19.66	19.66
		2547(40160)	19.63	19.64	19.59
		2501 (39700)	19.71	19.73	19.68
	25RB-Middle (12)	2685 (41540)	19.29	19.30	19.23
		2639(41080)	19.48	19.51	19.48
		2593 (40620)	19.74	19.82	19.70
		2547(40160)	19.71	19.76	19.68
		2501 (39700)	19.71	19.74	19.71
	25RB-Low (0)	2685 (41540)	19.28	19.27	19.26
		2639(41080)	19.51	19.50	19.46
		2593 (40620)	19.75	19.76	19.69
		2547(40160)	19.66	19.69	19.61
		2501 (39700)	19.74	19.78	19.69
	50RB (0)	2685 (41540)	19.24	19.34	19.17
		2639(41080)	19.47	19.52	19.46
		2593 (40620)	19.76	19.78	19.70
		2547(40160)	19.70	19.74	19.67
		2501 (39700)	19.67	19.74	19.64

15MHz	1RB-High (74)	2682.5 (41515)	19.01	19.27	19.05
		2637.8(41068)	19.19	19.54	19.35
		2593 (40620)	19.42	19.79	19.62
		2548.3(40173)	19.50	19.77	19.54
		2503.5 (39725)	19.43	19.75	19.58
	1RB-Middle (37)	2682.5 (41515)	19.02	19.30	19.08
		2637.8(41068)	19.19	19.52	19.37
		2593 (40620)	19.40	19.74	19.62
		2548.3(40173)	19.39	19.66	19.49
		2503.5 (39725)	19.44	19.75	19.56
	1RB-Low (0)	2682.5 (41515)	19.12	19.43	19.23
		2637.8(41068)	19.36	19.68	19.58
		2593 (40620)	19.56	19.85	19.64
		2548.3(40173)	19.46	19.82	19.62
		2503.5 (39725)	19.42	19.76	19.55
	36RB-High (38)	2682.5 (41515)	19.05	19.07	19.10
		2637.8(41068)	19.28	19.23	19.25
		2593 (40620)	19.51	19.55	19.50
		2548.3(40173)	19.51	19.51	19.55
		2503.5 (39725)	19.52	19.52	19.55
	36RB-Middle (19)	2682.5 (41515)	19.16	19.13	19.14
		2637.8(41068)	19.39	19.39	19.38
		2593 (40620)	19.64	19.57	19.62
		2548.3(40173)	19.49	19.44	19.48
		2503.5 (39725)	19.60	19.62	19.65
	36RB-Low (0)	2682.5 (41515)	19.16	19.15	19.21
		2637.8(41068)	19.43	19.42	19.40
		2593 (40620)	19.64	19.64	19.62
		2548.3(40173)	19.58	19.56	19.55
		2503.5 (39725)	19.58	19.60	19.57
	75RB (0)	2682.5 (41515)	19.14	19.19	19.18
		2637.8(41068)	19.41	19.40	19.42
		2593 (40620)	19.66	19.63	19.63
		2548.3(40173)	19.46	19.53	19.53
		2503.5 (39725)	19.54	19.60	19.58
20MHz	1RB-High (99)	2680 (41490)	19.09	19.39	19.18
		2636.5(41055)	19.17	19.49	19.28
		2593 (40620)	19.41	19.78	19.60
		2549.5(40185)	19.34	19.69	19.45
		2506 (39750)	19.31	19.68	19.52
	1RB-Middle (50)	2680 (41490)	19.08	19.33	19.14
		2636.5(41055)	19.20	19.52	19.35
		2593 (40620)	19.36	19.65	19.53
		2549.5(40185)	19.32	19.65	19.45
		2506 (39750)	19.35	19.64	19.51
	1RB-Low (0)	2680 (41490)	19.22	19.53	19.34
		2636.5(41055)	19.40	19.76	19.63
		2593 (40620)	19.56	19.89	19.69
		2549.5(40185)	19.37	19.69	19.45
		2506 (39750)	19.30	19.64	19.47
	50RB-High (50)	2680 (41490)	19.11	19.16	19.13
		2636.5(41055)	19.25	19.30	19.23
		2593 (40620)	19.45	19.53	19.46
		2549.5(40185)	19.44	19.51	19.44
		2506 (39750)	19.48	19.55	19.50
	50RB-Middle (25)	2680 (41490)	19.23	19.26	19.25
		2636.5(41055)	19.37	19.40	19.38
		2593 (40620)	19.58	19.59	19.53
		2549.5(40185)	19.53	19.60	19.52
		2506 (39750)	19.44	19.48	19.48
	50RB-Low (0)	2680 (41490)	19.27	19.28	19.24
		2636.5(41055)	19.44	19.51	19.42
		2593 (40620)	19.56	19.61	19.61
		2549.5(40185)	19.49	19.53	19.48
		2506 (39750)	19.45	19.58	19.54
	100RB (0)	2680 (41490)	19.25	19.25	19.30
		2636.5(41055)	19.40	19.44	19.45
		2593 (40620)	19.56	19.60	19.69
		2549.5(40185)	19.52	19.54	19.60
		2506 (39750)	19.45	19.54	19.58

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification. UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

LTE Carrier Aggregation Conducted Power (Uplink)

This device supports uplink carrier aggregation for LTE CA_7C, CA_41C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. For the non-contiguously allocated resource blocks which the MPR level is determined by various RB separation and RB sizes requirement, and the allowed MPR levels, settings and the conducted powers are permanently implemented in this device per the 3GPP requirements.

According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.

In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs

Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.

Normal Power										
UL LTE CA Class	PCC					SCC				
	PCC Bandwidth	UL channel	DL channel	UL RB	UL RB OFFSET	SCC Bandwidth	DL channel	UL RB	UL RB OFFSET	conducted power (dBm)
CA_7C	20M	21350	3350	1	99	20M	3152	1	0	23.12
CA_7C	20M	21350	3350	1	99	15M	3179	1	0	23.21
CA_7C	20M	21350	3350	1	99	10M	3206	1	0	23.04
CA_7C	20M	20850	2850	1	99	20M	3048	1	0	23.06
CA_7C	20M	20850	2850	1	99	15M	3021	1	0	23.07
CA_7C	20M	20850	2850	1	99	10M	2994	1	0	22.90
CA_7C	15M	21375	3375	1	74	15M	3225	1	0	23.06
CA_7C	15M	20825	2825	1	74	15M	2975	1	0	22.90
CA_7C	15M	20825	2825	1	74	10M	2945	1	0	22.92
CA_7C	20M	21350	3350	1	0	20M	3152	1	99	22.92
CA_7C	20M	21350	3350	1	0	15M	3179	1	74	22.86
CA_7C	20M	21350	3350	1	0	10M	3206	1	49	23.05
CA_7C	20M	20850	2850	1	0	20M	3048	1	99	23.15
CA_7C	20M	20850	2850	1	0	15M	3021	1	74	23.03
CA_7C	20M	20850	2850	1	0	10M	2994	1	49	22.35
CA_7C	15M	21375	3375	1	0	15M	3225	1	74	23.00
CA_7C	15M	20825	2825	1	0	15M	2975	1	74	22.41
CA_7C	15M	20825	2825	1	0	10M	2945	1	49	22.38

Normal Power									
UL LTE CA Class	PCC				SCC				
	PCC Bandwidth	channel	RB	RB OFFSET	SCC Bandwidth	channel	RB	RB OFFSET	conducted power (dBm)
CA_41C	20M	41490	1	99	20M	41292	1	0	22.81
CA_41C	20M	41490	1	99	15M	41319	1	0	23
CA_41C	20M	41490	1	99	10M	41346	1	0	23.25
CA_41C	20M	41490	1	99	5M	41373	1	0	23.02
CA_41C	20M	39750	1	99	5M	39867	1	0	22.96
CA_41C	20M	39750	1	99	20M	39948	1	0	22.83
CA_41C	20M	39750	1	99	15M	39921	1	0	23.04
CA_41C	20M	39750	1	99	10M	39894	1	0	23.15
CA_41C	15M	41515	1	74	15M	41365	1	0	23.04
CA_41C	15M	41515	1	74	10M	41395	1	0	23.02
CA_41C	15M	39725	1	74	10M	39845	1	0	22.99
CA_41C	20M	41490	1	0	20M	41292	1	99	23.24
CA_41C	20M	41490	1	0	15M	41319	1	74	23.24
CA_41C	20M	41490	1	0	10M	41346	1	49	22.98
CA_41C	20M	39750	1	0	5M	39867	1	24	22.88
CA_41C	20M	41490	1	0	5M	41373	1	24	22.77
CA_41C	20M	39750	1	0	20M	39948	1	99	22.99
CA_41C	20M	39750	1	0	15M	39921	1	74	23.39
CA_41C	20M	39750	1	0	10M	39894	1	49	23.19
CA_41C	15M	41515	1	0	15M	41365	1	74	23.13
CA_41C	15M	41515	1	0	10M	41395	1	49	22.78
CA_41C	15M	39725	1	0	10M	39845	1	49	22.86

LTE Carrier Aggregation Conducted Power (Downlink)

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 in 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.

Maximum Output Powers

normal power											
DL LTE CA Class	PCC					SCC				Power	
	PCC Bandwidth	UL channel	DL channel	UL RB	UL RB OFFSET	SCC Bandwidth	DL channel	RB	RB OFFSET	tune up	conducted power（dBm）
CA_5A-7A	5	20450	2450	1	0	7	3350	1	99	25	23.53
CA_7A-5A	7	21350	3350	1	99	5	2450	1	99	24.5	23.11
CA_5A_41A	5	20450	2450	1	0	41	39948	1	0	25	23.62
CA_41A_5A	41	39750	2506	1	50	5	2450	1	99	24.5	23.02
CA_41C	41	39750	2506	1	0	41	39867	1	0	24.5	22.91
CA_41A-41A	41	39750	2506	1	50	41	41490	1	50	24.5	23.01
CA_38C	38	39750	2506	1	0	38	39948	1	0	24.5	22.88

normal power															
DL LTE CA Class	PCC					SCC				SCC				Power	
	PCC Bandwidth	UL channel	DL channel	UL RB	UL RB OFFSET	SCC Bandwidth	DL channel	RB	RB OFFSET	SCC Bandwidth	DL channel	RB	RB OFFSET	tune up	conducted power（dBm）
CA_5A-7C	5	20450	2450	1	0	7	3350	1	99	7	3350	1	99	25	23.53
CA_7C-5A	7	21350	3350	1	99	7	3350	1	99	5	2450	1	99	24.5	23.16

Note: Testing is not required in bands or modes not intended/allowed for US operation.

11.4 5G NR Measurement result

Maximum Target Power for Production Unit

Band	Tune up (dBm)					
	DSI1 Sar senser off+ Hotspot off	**DSI2 Sar senser on**	**DSI3 Receiver on**	**DSI4 Hotspot on**	**DSI5 Sar senser on+WIFI on**	**DSI6 Receiver on+WIFI on**
	Power Level A1	**Power Level B1**	**Power Level C1**	**Power Level D1**	**Power Level E1**	**Power Level F1**
n5	24	24	24	24	24	24
n7 (SA)	23	23	17	23	23	17
n7 (NSA)	23	23	13	20	23	13
n41	27	24.5	18.5	23.5	24.5	18.5
n78 (SA)	27	22.5	19	23.5	22.5	19
n78 (NSA)	25	20.5	16.5	20	20.5	16.5

No.	Test Freq Description	5G-n5 A1/B1/C1/D1/E1/F1							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n5
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12_6	846.5	169300	24.00	22.70
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12_6	836.5	167300	24.00	23.06
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12_6	826.5	165300	24.00	22.99
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50_25	839	167800	24.00	23.00
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50_25	836.5	167300	24.00	23.00
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50_25	834	166800	24.00	22.90
7	Middle	15	5	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12_6	836.5	167300	24.00	22.94
8	Middle	15	5	DFT-s-OFDM 16QAM	Inner_Full	12_6	836.5	167300	23.00	21.99
9	Middle	15	5	DFT-s-OFDM 64QAM	Inner_Full	12_6	836.5	167300	21.50	20.43
10	Middle	15	5	DFT-s-OFDM 256QAM	Inner_Full	12_6	836.5	167300	19.50	18.44
11	Middle	15	5	CP-OFDM QPSK	Inner_Full	12_6	836.5	167300	22.50	21.51
12	Middle	15	5	CP-OFDM 16QAM	Inner_Full	12_6	836.5	167300	22.00	20.93
13	Middle	15	5	CP-OFDM 64QAM	Inner_Full	12_6	836.5	167300	20.50	19.43
14	Middle	15	5	CP-OFDM 256QAM	Inner_Full	12_6	836.5	167300	19.50	18.12
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	836.5	167300	23.00	21.90
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	836.5	167300	23.00	22.00
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	836.5	167300	23.00	22.00
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	836.5	167300	23.00	22.10
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	836.5	167300	24.00	23.01
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	836.5	167300	24.00	23.12
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	836.5	167300	23.00	21.95
22	Middle	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	836.5	167300	24.00	22.99
23	Middle	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	836.5	167300	24.00	23.00

No.	Test Freq Description	5G-n7 (SA) A1/B1/D1/E1/F1							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n7
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2567.5	513500	23.00	22.47
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	23.00	22.07
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2502.5	500500	23.00	22.16
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2560	512000	23.00	22.22
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	23.00	21.97
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2510	502000	23.00	22.05
7	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	2567.5	513500	23.00	22
8	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	22.00	20.55
9	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	22.00	20
10	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	20.00	18
11	Middle	15	20	CP-OFDM QPSK	Inner_Full	12@6	2567.5	513500	20.00	19.61
12	Middle	15	20	CP-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	20.00	19.60
13	Middle	15	20	CP-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	20.00	19
14	Middle	15	20	CP-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	18.50	16.88
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	2567.5	513500	23.00	22
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	2567.5	513500	23.00	21.88
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	2567.5	513500	23.00	21.97
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	2567.5	513500	23.00	21.92
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	2567.5	513500	23.00	22.43
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	2567.5	513500	23.00	22.44
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	2567.5	513500	23.00	21.91
22	High	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	2565	513000	23.00	22.41
23	High	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	2562.5	512500	23.00	22.21

No.	Test Freq Description	5G-n7 (SA) C1							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n7
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2567.5	513500	17.00	16.59
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	17.00	16.29
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2502.5	500500	17.00	16.36
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2560	512000	17.00	16.41
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	17.00	16.22
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2510	502000	17.00	16.28
7	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	2567.5	513500	17.00	16.24
8	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	17.00	15.17
9	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	17.00	15.10
10	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	17.00	15.29
11	Middle	15	20	CP-OFDM QPSK	Inner_Full	12@6	2567.5	513500	17.00	15.32
12	Middle	15	20	CP-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	17.00	15.01
13	Middle	15	20	CP-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	17.00	15.04
14	Middle	15	20	CP-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	17.00	15.01
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	2567.5	513500	17.00	16.24
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	2567.5	513500	17.00	16.15
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	2567.5	513500	17.00	16.22
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	2567.5	513500	17.00	16.18
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	2567.5	513500	17.00	16.56
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	2567.5	513500	17.00	16.57
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	2567.5	513500	17.00	16.18
22	High	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	2565	513000	17.00	16.55
23	High	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	2562.5	512500	17.00	16.40

No.	Test Freq Description	5G-n7 (NSA) A1/B1/E1/F1							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n7
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2567.5	513500	23.00	22.47
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	23.00	22.07
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2502.5	500500	23.00	22.16
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2560	512000	23.00	22.22
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	23.00	21.97
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2510	502000	23.00	22.05
7	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	2567.5	513500	23.00	22
8	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	22.00	20.55
9	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	22.00	20
10	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	20.00	18
11	Middle	15	20	CP-OFDM QPSK	Inner_Full	12@6	2567.5	513500	20.00	19.61
12	Middle	15	20	CP-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	20.00	19.60
13	Middle	15	20	CP-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	20.00	19
14	Middle	15	20	CP-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	18.50	16.88
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	2567.5	513500	23.00	22
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	2567.5	513500	23.00	21.88
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	2567.5	513500	23.00	21.97
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	2567.5	513500	23.00	21.92
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	2567.5	513500	23.00	22.43
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	2567.5	513500	23.00	22.44
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	2567.5	513500	23.00	21.91
22	High	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	2565	513000	23.00	22.41
23	High	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	2562.5	512500	23.00	22.21

No.	Test Freq Description	5G-n7 (NSA) C1							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n7
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2567.5	513500	13.00	12.89
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	13.00	12.59
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2502.5	500500	13.00	12.66
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2560	512000	13.00	12.71
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	13.00	12.52
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2510	502000	13.00	12.58
7	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	2567.5	513500	13.00	12.54
8	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	13.00	11.47
9	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	13.00	11.07
10	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	13.00	11.21
11	Middle	15	20	CP-OFDM QPSK	Inner_Full	12@6	2567.5	513500	13.00	11.05
12	Middle	15	20	CP-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	13.00	11.01
13	Middle	15	20	CP-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	13.00	11.04
14	Middle	15	20	CP-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	13.00	11.09
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	2567.5	513500	13.00	12.54
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	2567.5	513500	13.00	12.45
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	2567.5	513500	13.00	12.52
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	2567.5	513500	13.00	12.48
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	2567.5	513500	13.00	12.86
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	2567.5	513500	13.00	12.87
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	2567.5	513500	13.00	12.48
22	High	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	2565	513000	13.00	12.85
23	High	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	2562.5	512500	13.00	12.70

No.	Test Freq Description	5G-n7 DSI4							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		n7
1	High	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2567.5	513500	20.00	19.67
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	20.00	19.27
3	Low	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2502.5	500500	20.00	19.36
4	High	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2560	512000	20.00	19.42
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	20.00	19.17
6	Low	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2510	502000	20.00	19.25
7	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	12@6	2567.5	513500	20.00	19.2
8	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	20.00	18.12
9	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	20.00	18.02
10	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	20.00	18.04
11	Middle	15	20	CP-OFDM QPSK	Inner_Full	12@6	2567.5	513500	20.00	18.09
12	Middle	15	20	CP-OFDM 16QAM	Inner_Full	12@6	2567.5	513500	20.00	18.11
13	Middle	15	20	CP-OFDM 64QAM	Inner_Full	12@6	2567.5	513500	20.00	18.03
14	Middle	15	20	CP-OFDM 256QAM	Inner_Full	12@6	2567.5	513500	20.00	18.04
15	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Right	2_23	2567.5	513500	20.00	19.2
16	Middle	15	5	DFT-s-OFDM QPSK	Edge_Full_Left	2_0	2567.5	513500	20.00	19.08
17	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1_24	2567.5	513500	20.00	19.17
18	Middle	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1_0	2567.5	513500	20.00	19.12
19	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Right	1_23	2567.5	513500	20.00	19.63
20	Middle	15	5	DFT-s-OFDM QPSK	Inner_1RB_Left	1_1	2567.5	513500	20.00	19.64
21	Middle	15	5	DFT-s-OFDM QPSK	Outer_Full	25_0	2567.5	513500	20.00	19.11
22	High	15	10	DFT-s-OFDM QPSK	Inner_Full	25_12	2565	513000	20.00	19.61
23	High	15	15	DFT-s-OFDM QPSK	Inner_Full	36_18	2562.5	512500	20.00	19.41

No.	Test Freq Description	5G-n41 PC2 A1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2679.99	535998	27	26.36
2	Middle-1	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	27	25.86
3	Middle-2	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	27	26.12
4	Middle-3	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	27	25.83
5	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2506.02	501204	27	25.81
6	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2640	528000	27	25.97
7	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	27	26.06
8	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	27	25.85
9	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	27	25.76
10	Low	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2546.01	509202	27	25.66
11	default	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	2679.99	535998	27	26.24
12	default	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	27	25.3
13	default	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	25	23.69
14	default	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	23.5	21.77
15	default	30	20	CP-OFDM QPSK	Inner_Full	25@12	2679.99	535998	25	24.82
16	default	30	20	CP-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	25	24.34
17	default	30	20	CP-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	23.5	22.82
18	default	30	20	CP-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	22.5	21.91
19	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	2679.99	535998	23.5	22.75
20	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2679.99	535998	23.5	22.85
21	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	2679.99	535998	27	26.25
22	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2679.99	535998	27	26.21
23	default	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	2679.99	535998	27	25.24
24	default	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2670	534000	27	26.25
25	default	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2659.98	531996	27	26.19

No.	Test Freq Description	5G-n41 PC2 C1/F1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2679.99	535998	18.5	18.15
2	Middle-1	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	18.5	18.02
3	Middle-2	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	18.5	17.78
4	Middle-3	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	18.5	17.44
5	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2506.02	501204	18.5	17.26
6	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2640	528000	18.5	17.85
7	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	18.5	17.71
8	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	18.5	17.55
9	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	18.5	17.26
10	Low	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2546.01	509202	18.5	17.15
11	default	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	2679.99	535998	18.5	18.12
12	default	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	18.5	18.11
13	default	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	18.5	18.03
14	default	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	18.5	18.09
15	default	30	20	CP-OFDM QPSK	Inner_Full	25@12	2679.99	535998	18.5	18.08
16	default	30	20	CP-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	18.5	17.97
17	default	30	20	CP-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	18.5	18.08
18	default	30	20	CP-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	18.5	18.08
19	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	2679.99	535998	18.5	18.11
20	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2679.99	535998	18.5	18.02
21	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	2679.99	535998	18.5	17.95
22	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2679.99	535998	18.5	18.06
23	default	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	2679.99	535998	18.5	18.08
24	default	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2670	534000	18.5	18.06
25	default	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2659.98	531996	18.5	17.98

No.	Test Freq Description	5G-n41 PC2 D1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2679.99	535998	23.5	23.42
2	Middle-1	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	23.5	23.32
3	Middle-2	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	23.5	23.04
4	Middle-3	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	23.5	22.72
5	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2506.02	501204	23.5	22.53
6	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2640	528000	23.5	22.36
7	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	23.5	22.90
8	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	23.5	22.83
9	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	23.5	22.63
10	Low	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2546.01	509202	23.5	22.56
11	default	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	2679.99	535998	23.5	23.32
12	default	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	23.5	23.26
13	default	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	23.5	22.53
14	default	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	23.5	22.31
15	default	30	20	CP-OFDM QPSK	Inner_Full	25@12	2679.99	535998	23.5	23.18
16	default	30	20	CP-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	23.5	22.68
17	default	30	20	CP-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	23.5	22.81
18	default	30	20	CP-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	23.5	22.91
19	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	2679.99	535998	23.5	22.84
20	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2679.99	535998	23.5	22.92
21	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	2679.99	535998	23.5	22.81
22	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2679.99	535998	23.5	22.99
23	default	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	2679.99	535998	23.5	22.94
24	default	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2670	534000	23.5	22.81
25	default	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2659.98	531996	23.5	22.7

No.	Test Freq Description	5G-n41 PC2 DSI2/5								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2679.99	535998	24.5	24.27
2	Middle-1	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2636.49	527298	24.5	24.17
3	Middle-2	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2592.99	518598	24.5	23.89
4	Middle-3	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2549.51	509902	24.5	23.57
5	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	2506.02	501204	24.5	23.38
6	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2640	528000	24.5	22.88
7	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2616.51	523302	24.5	23.75
8	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2592.99	518598	24.5	23.68
9	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2569.5	513900	24.5	23.48
10	Low	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	2546.01	509202	24.5	23.41
11	default	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	2679.99	535998	24.5	24.17
12	default	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	24.5	24.11
13	default	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	24.5	23.38
14	default	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	24.5	22.84
15	default	30	20	CP-OFDM QPSK	Inner_Full	25@12	2679.99	535998	24.5	24.03
16	default	30	20	CP-OFDM 16QAM	Inner_Full	25@12	2679.99	535998	24.5	23.53
17	default	30	20	CP-OFDM 64QAM	Inner_Full	25@12	2679.99	535998	24.5	23.66
18	default	30	20	CP-OFDM 256QAM	Inner_Full	25@12	2679.99	535998	24.5	23.76
19	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	2679.99	535998	24.5	23.69
20	default	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2679.99	535998	24.5	23.77
21	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	2679.99	535998	24.5	23.66
22	default	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2679.99	535998	24.5	23.84
23	default	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	2679.99	535998	24.5	23.79
24	default	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	2670	534000	24.5	23.66
25	default	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	2659.98	531996	24.5	23.55

No.	Test Freq Description	5G-n78 (SA) A1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	27.00	25.98
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	27.00	25.93
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	27.00	25.95
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	27.00	25.67
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	27.00	25.66
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	26.00	25.93
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	26.00	24.92
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	23.47
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	23.50	21.55
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	25.00	24.47
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	24.50	23.95
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	22.46
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	22.50	20.51
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	23.50	22.56
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	23.50	22.57
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	27.00	25.20
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	27.00	25.22
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	25.00	24.20
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	27.00	25.22
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	27.00	25.02
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	27.00	25.00
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	25.00	24.86
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	25.00	24.87

No.	Test Freq Description	5G-n78 (SA) B1/E1							Power Results (dBm)	
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	22.50	22.22
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	22.50	22.21
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	22.50	22.21
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	22.50	22.14
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	22.50	22.14
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	22.50	22.21
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	22.50	21.96
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	22.50	21.61
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	22.50	21.12
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	22.50	21.85
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	22.50	21.73
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	22.50	21.36
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	22.50	21.16
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	22.50	21.39
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	22.50	21.39
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	22.50	22.11
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	22.50	22.11
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	22.50	21.98
19	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	22.50	21.54
20	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	22.50	21.84
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	22.50	22.13
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	22.50	22.18
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	22.50	22.18
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	22.50	22.14
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	22.50	22.14

No.	Test Freq Description	5G-n78 (SA) C1							Power Results (dBm)	
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	19.00	18.78
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	19.00	18.73
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	19.00	18.75
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	19.00	18.47
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	19.00	18.46
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	19.00	18.73
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	19.00	17.72
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	19.00	17.27
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	19.00	17.86
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	19.00	17.27
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	19.00	17.90
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	19.00	18.01
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	19.00	18.01
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	19.00	18.03
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	19.00	18.31
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	19.00	18.00
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	19.00	18.02
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	19.00	17.00
19	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	19.00	18.12
20	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	19.00	18.33
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	19.00	18.02
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	19.00	17.82
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	19.00	17.80
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	19.00	17.66
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	19.00	17.67

No.	Test Freq Description	5G-n78 (SA) D1							Power Results (dBm)	
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	23.50	22.92
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	23.50	22.91
6	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	23.50	22.91
7	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	23.50	22.84
8	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	23.50	22.84
1	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	23.50	22.91
2	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	23.50	22.66
3	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	22.31
4	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	23.50	21.82
5	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	23.50	22.55
6	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	23.50	22.43
7	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	22.06
8	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	23.50	22.33
1	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	23.50	22.09
6	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	23.50	22.09
9	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	23.50	22.81
10	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	23.50	22.81
11	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	23.50	22.68
16	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	23.50	22.24
17	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	23.50	22.54
18	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	23.50	22.83
19	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	23.50	22.88
20	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	23.50	22.88
22	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	23.50	22.84
23	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	23.50	22.84

No.	Test Freq Description	5G-n78 (NSA) A1							Power Results (dBm)	
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	27.00	25.98
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	27.00	25.93
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	27.00	25.95
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	27.00	25.67
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	27.00	25.66
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	26.00	25.93
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	26.00	24.92
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	23.47
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	23.50	21.55
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	25.00	24.47
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	24.50	23.95
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	23.50	22.46
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	22.50	20.51
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	23.50	22.56
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	23.50	22.57
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	27.00	25.20
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	27.00	25.22
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	25.00	24.20
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	27.00	25.22
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	27.00	25.02
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	27.00	25.00
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	25.00	24.86
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	25.00	24.87

No.	Test Freq Description	5G-n78 (NSA) C1/F1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	16.50	16.25
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	16.50	16.22
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	16.50	16.23
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	16.50	16.07
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	16.50	16.06
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	16.50	16.22
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	16.50	15.63
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	16.50	15.55
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	16.50	15.59
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	16.50	15.50
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	16.50	15.60
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	16.50	15.61
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	16.50	15.64
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	16.50	15.61
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	16.50	15.65
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	16.50	16.26
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	16.50	16.17
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	16.50	15.67
19	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	16.50	15.84
20	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	16.50	15.83
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	16.50	16.17
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	16.50	16.16
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	16.50	16.14
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	16.50	16.06
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	16.50	16.07

No.	Test Freq Description	5G-n78 (NSA) D1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	20.00	19.85
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	20.00	19.81
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	20.00	19.83
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	20.00	19.61
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	20.00	19.61
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	20.00	19.81
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	20.00	19.04
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	20.00	18.01
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	20.00	18.31
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	20.00	18.70
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	20.00	18.30
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	20.00	18.14
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	20.00	18.14
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	20.00	18.02
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	20.00	18.02
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	20.00	19.77
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.00	19.75
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	20.00	19.10
19	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.00	19.32
20	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.00	19.30
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	20.00	19.75
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	20.00	19.73
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	20.00	19.71
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	20.00	19.61
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	20.00	19.61

No.	Test Freq Description	5G-n78 (NSA) B1/E1								Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	n78
1	High	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3795	653000	20.50	20.40
2	Middle	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3549.99	636666	20.50	20.36
3	Low	30	20	DFT-s-OFDM QPSK	Inner_Full	25@12	3305.01	620334	20.50	20.38
4	High	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3750	650000	20.50	20.15
5	Middle	30	100	DFT-s-OFDM QPSK	Inner_Full	135@67	3549.99	636666	20.50	20.14
6	Middle	30	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	25@12	3795	653000	20.50	20.36
7	Middle	30	20	DFT-s-OFDM 16QAM	Inner_Full	25@12	3795	653000	20.50	19.54
8	Middle	30	20	DFT-s-OFDM 64QAM	Inner_Full	25@12	3795	653000	20.50	19.21
9	Middle	30	20	DFT-s-OFDM 256QAM	Inner_Full	25@12	3795	653000	20.50	19.21
10	Middle	30	20	CP-OFDM QPSK	Inner_Full	25@12	3795	653000	20.50	19.21
11	Middle	30	20	CP-OFDM 16QAM	Inner_Full	25@12	3795	653000	20.50	19.25
12	Middle	30	20	CP-OFDM 64QAM	Inner_Full	25@12	3795	653000	20.50	19.53
13	Middle	30	20	CP-OFDM 256QAM	Inner_Full	25@12	3795	653000	20.50	19.34
14	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@49	3795	653000	20.50	19.24
15	Middle	30	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	3795	653000	20.50	19.23
16	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@49	3795	653000	20.50	20.42
17	Middle	30	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.50	19.21
18	Middle	30	20	DFT-s-OFDM QPSK	Outer_Full	50@0	3795	653000	20.50	19.60
19	Middle-5	30	10	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.50	19.29
20	Middle-5	30	15	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	3795	653000	20.50	19.34
21	Middle-5	30	40	DFT-s-OFDM QPSK	Inner_Full	50@25	3795	653000	20.50	19.31
22	Middle-5	30	50	DFT-s-OFDM QPSK	Inner_Full	64@32	3795	653000	20.50	20.27
23	Middle-5	30	60	DFT-s-OFDM QPSK	Inner_Full	81@40	3795	653000	20.50	20.25
24	Middle-5	30	80	DFT-s-OFDM QPSK	Inner_Full	108@54	3795	653000	20.50	20.14
25	Middle-5	30	90	DFT-s-OFDM QPSK	Inner_Full	120@60	3795	653000	20.50	20.15

11.5 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 11.27dBm.
The maximum tune up of BT antenna is 13dBm.

Table11.5: Summary of Receiver detection mechanism-WiFi antenna

Antenna	Receiver off+ Sensor off (DSI1)	Receiver on (DSI2)	Receiver off+ sensor on+ Hotspot on+ (DSI3)	Receiver off+ sensor on+ Hotspot off+ (DSI4)
WLAN Antenna	Power Level A1	Power Level B1	Power Level D1	Power Level E1

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

Power Level A1/C1/D1

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	18.18
	6(2437(MHz)	18.59
	1(2412MHz)	18.40
	Tune up	19.00
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	17.12
	6(2437(MHz)	16.71
	1(2412MHz)	16.89
	Tune up	18.00
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	16.41
	6(2437(MHz)	16.01
	1(2412MHz)	16.22
	Tune up	17.50
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	16.25
	6(2437MHz)	16.11
	3(2422MHz)	16.12
	Tune up	16.50

Power Level B1

802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	13.17
	6(2437(MHz)	13.52
	1(2412MHz)	12.96
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	12.91
	6(2437(MHz)	12.81
	1(2412MHz)	12.57
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	12.73
	6(2437(MHz)	12.64
	1(2412MHz)	12.43
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	13.66
	6(2437MHz)	13.53
	3(2422MHz)	13.46
	Tune up	14.00

Power Level A1

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	16.16
40(5200 MHz)	16.36
44(5220 MHz)	16.17
48(5240 MHz)	15.93
52(5260 MHz)	15.69
56(5280 MHz)	15.64
60(5300 MHz)	15.94
64(5320 MHz)	16.10
100(5500 MHz)	16.13
104(5520 MHz)	16.03
108(5540 MHz)	16.06
112(5560 MHz)	16.24
116(5580 MHz)	16.36
120(5600 MHz)	16.35
124(5620 MHz)	16.18

128(5640 MHz)	15.83
132(5660 MHz)	15.47
136(5680 MHz)	15.32
140(5700 MHz)	15.49
144(5720 MHz)	15.64
149(5745 MHz)	16.18
153(5765 MHz)	16.73
157(5785 MHz)	16.74
161(5805 MHz)	16.53
165(5825 MHz)	16.05
Tune up	17.50

Power Level B1/C1/D1

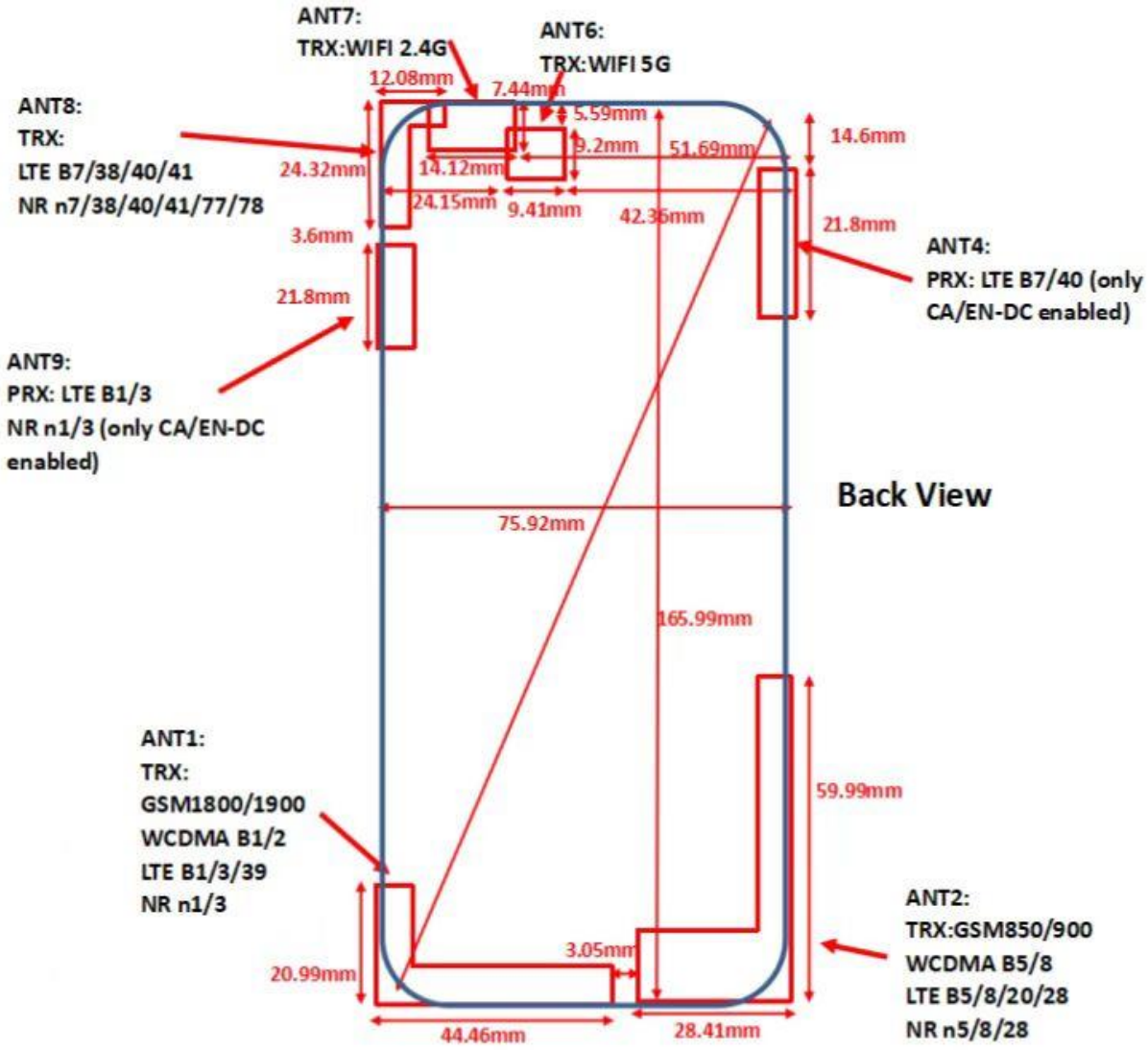
802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	13.84
40(5200 MHz)	14.01
44(5220 MHz)	13.84
48(5240 MHz)	13.49
52(5260 MHz)	13.41
56(5280 MHz)	13.41
60(5300 MHz)	13.72
64(5320 MHz)	14.02
100(5500 MHz)	13.87
104(5520 MHz)	13.74
108(5540 MHz)	13.75
112(5560 MHz)	14.00
116(5580 MHz)	14.07
120(5600 MHz)	14.05
124(5620 MHz)	13.92
128(5640 MHz)	13.47
132(5660 MHz)	13.06
136(5680 MHz)	13.04
140(5700 MHz)	13.30
144(5720 MHz)	13.58
149(5745 MHz)	14.02
153(5765 MHz)	14.31
157(5785 MHz)	14.36
161(5805 MHz)	13.44
165(5825 MHz)	12.82
Tune up	14.50

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
ANT1	Yes	Yes	No	Yes	No	Yes
ANT2	Yes	Yes	Yes	No	No	Yes
ANT4	Yes	Yes	Yes	No	Yes	No
ANT6	Yes	Yes	No	Yes	Yes	No
ANT7	Yes	Yes	No	Yes	Yes	No
ANT8	Yes	Yes	No	Yes	Yes	No
ANT9	Yes	Yes	No	Yes	Yes	No

13 Evaluation of Simultaneous

Table 13.1: The sum of SAR values for Main antenna + Wifi2.4G +BT

Cellular+WiFi 2.4G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
GSM850	1.13	1.01	0.57	0.25	0.49	1.10	0.43	0.02	0.23	0.17	0.05	0.06
GSM1900	0.59	0.56	0.77	0.67	0.65	0.70	\	0.19	0.48	0.17	0.38	0.36
WCDMA1900	0.40	0.36	0.41	0.32	0.53	0.83	\	0.29	0.42	0.17	0.05	0.06
WCDMA 850	0.42	0.30	0.27	0.16	0.31	0.47	0.21	0.02	0.11	0.17	0.05	0.06
LTE Band5	0.34	0.23	0.20	0.12	0.24	0.36	0.16	0.02	0.07	0.17	0.05	0.06
LTE Band7 ANT8	0.88	0.74	0.30	0.34	0.90	0.81	\	0.72	\	0.48	0.05	0.06
LTE Band41 PC2	1.19	0.80	0.35	0.33	0.73	0.57	\	0.60	\	0.35	0.05	0.06
LTE Band41 PC3	0.67	0.48	0.20	0.19	0.62	0.59	\	0.45	\	0.33	0.05	0.06
n5	0.30	0.26	0.22	0.19	0.29	0.41	0.21	0.02	0.09	0.17	0.05	0.06
n7	0.93	0.71	0.33	0.31	0.83	0.81	\	0.67	\	0.53	0.05	0.06
n41	0.92	0.62	0.31	0.29	0.48	0.16	\	0.28	\	0.37	0.39	0.33
n77	0.42	0.35	0.15	0.12	0.36	0.58	\	0.54	\	0.33	0.05	0.06
n78	0.86	0.71	0.18	0.14	0.37	0.57	\	0.81	\	0.33	0.37	0.58

Table 13.2: The sum of SAR values for Main antenna + Wifi5G +BT

Cellular+WiFi 5G+BT	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
GSM850	1.22	1.10	0.60	0.38	0.45	1.23	0.43	0.10	0.23	0.25	0.09	0.23
GSM1900	0.68	0.65	0.80	0.80	0.61	0.83	\	0.27	0.48	0.25	0.42	0.53
WCDMA1900	0.49	0.45	0.44	0.45	0.49	0.96	\	0.37	0.42	0.25	0.09	0.23
WCDMA 850	0.51	0.39	0.30	0.29	0.27	0.60	0.21	0.10	0.11	0.25	0.09	0.23
LTE Band5	0.43	0.32	0.23	0.25	0.20	0.49	0.16	0.10	0.07	0.25	0.09	0.23
LTE Band7 ANT8	0.97	0.83	0.33	0.47	0.86	0.94	\	0.80	0.00	0.56	0.09	0.23
LTE Band41 PC2	1.28	0.89	0.38	0.46	0.69	0.70	\	0.68	\	0.43	0.09	0.23
LTE Band41 PC3	0.76	0.57	0.23	0.32	0.58	0.72	\	0.53	\	0.41	0.09	0.23
n5	0.39	0.35	0.25	0.32	0.25	0.54	0.21	0.10	0.09	0.25	0.09	0.23
n7	1.02	0.80	0.36	0.44	0.79	0.94	\	0.75	\	0.61	0.09	0.23
n41	1.01	0.71	0.34	0.42	0.44	0.29	\	0.36	\	0.45	0.43	0.50
n77	0.51	0.44	0.18	0.25	0.32	0.71	\	0.62	\	0.41	0.09	0.23
n78	0.95	0.80	0.21	0.27	0.33	0.70	\	0.89	\	0.41	0.41	0.75

Table 13.3: The SAR values for ENDC

ENDC	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	0.87	0.65	0.34	0.35	0.98	0.93	0.24	0.70	0.11	0.31	0.00	0.00
DC_5A_n7A	0.54	0.33	0.21	0.18	0.48	0.52	0.16	0.33	0.07	0.18	0.29	0.25
DC_7A_n78A	0.53	0.43	0.19	0.12	0.24	0.55	0.40	0.33	0.00	0.11	0.32	0.52

Table 13.4: The SAR values for ENDC+WIFI+BT

WIFI 2.4G+ENDC	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	1.03	0.83	0.44	0.42	1.10	1.09	0.24	0.72	0.11	0.48	0.05	0.06
DC_5A_n7A	0.70	0.51	0.31	0.25	0.60	0.68	0.16	0.35	0.07	0.35	0.34	0.31
DC_7A_n78A	0.69	0.61	0.29	0.19	0.36	0.71	0.40	0.35	\	0.28	0.37	0.58
WIFI 5G+ENDC+BT	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)	Front 15mm 1g (W/kg)	Rear 15mm 1g (W/kg)
DC_7A_n5A	1.12	0.92	0.47	0.55	1.06	1.22	0.24	0.80	0.11	0.56	0.09	0.23
DC_5A_n7A	0.79	0.60	0.34	0.38	0.56	0.81	0.16	0.43	0.07	0.43	0.38	0.48
DC_7A_n78A	0.78	0.70	0.32	0.32	0.32	0.84	0.40	0.43	\	0.36	0.41	0.75

Table 13.5: The SAR values for ULCA

ULCA	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.24	0.09	0.23	0.12	0.26	0.51	0.55	0.00	0.07	0.00

Table 13.6: The SAR values for ULCA+WIFI+BT

ULCA+WiFi 2.4G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.40	0.27	0.33	0.19	0.38	0.67	0.55	0.02	0.07	0.17
ULCA+WiFi 5G	Left Cheek 1g (W/kg)	Left Tilt 1g (W/kg)	Right Cheek 1g (W/kg)	Right Tilt 1g (W/kg)	Front 10mm 1g (W/kg)	Rear 10mm 1g (W/kg)	Left Edge 10mm 1g (W/kg)	Right Edge 10mm 1g (W/kg)	Bottom Edge 10mm 1g (W/kg)	Top Edge 10mm 1g (W/kg)
CA_5A-7A	0.49	0.36	0.36	0.32	0.34	0.80	0.55	0.10	0.07	0.25

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:

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

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
GSM850/1900	1:2
WCDMA&LTE FDD&5G NR	1:1
LTE TDD	1:1.58 or 1:2.37

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

Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Distance	Figure No./Note	Test Position	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
GSM850	251	848.8	GPRS(4TX)	0mm	Fig.A1	Left Cheek	26.92	28.00	0.760	**0.97**	0.560	**0.72**	**-0.19**
GSM850	190	836.6	GPRS(4TX)	0mm	\	Left Cheek	27.10	28.00	0.678	**0.83**	0.501	**0.62**	**0.05**
GSM850	128	824.2	GPRS(4TX)	0mm	\	Left Cheek	26.99	28.00	0.511	**0.65**	0.384	**0.49**	**0.12**
GSM850	190	836.6	GPRS(4TX)	0mm	\	Left Tilt	27.10	28.00	0.335	**0.41**	0.255	**0.31**	**0.18**
GSM850	190	836.6	GPRS(4TX)	0mm	\	Right Cheek	27.10	28.00	0.386	**0.47**	0.281	**0.35**	**-0.05**
GSM850	190	836.6	GPRS(4TX)	0mm	\	Right Tilt	27.10	28.00	0.143	**0.18**	0.108	**0.13**	**-0.01**
GSM850	251	848.8	EGPRS(4TX)	0mm		Left Cheek	26.92	28.00	0.745	**0.95**	0.540	**0.69**	**0.19**
GSM850	251	848.8	GPRS(4TX)	0mm	SIM2	Left Cheek	26.92	28.00	0.744	**0.95**	0.530	**0.68**	**-0.05**
GSM850	190	836.6	GPRS(4TX)	10mm		Front GPRS (4TX)	27.10	28.00	0.299	**0.37**	0.212	**0.26**	**-0.13**
GSM850	251	848.8	GPRS(4TX)	10mm	Fig.A2	Rear GPRS (4TX)	26.92	28.00	0.646	**0.83**	0.438	**0.56**	**-0.13**
GSM850	190	836.6	GPRS(4TX)	10mm		Rear GPRS (4TX)	27.10	28.00	0.503	**0.62**	0.328	**0.40**	**-0.04**
GSM850	128	824.2	GPRS(4TX)	10mm		Rear GPRS (4TX)	26.99	28.00	0.423	**0.53**	0.286	**0.36**	**0.13**
GSM850	190	836.6	GPRS(4TX)	10mm		Left Edge GPRS (4TX)	27.10	28.00	0.347	**0.43**	0.201	**0.25**	**-0.19**
GSM850	190	836.6	GPRS(4TX)	10mm		Bottom Edge GPRS (4TX)	27.10	28.00	0.184	**0.23**	0.123	**0.15**	**-0.01**
GSM850	251	848.8	EGPRS(4TX)	10mm		Rear GPRS (4TX)	26.82	28.00	0.615	**0.81**	0.409	**0.54**	**0.13**
GSM850	251	848.8	GPRS(4TX)	10mm	SIM2	Rear GPRS (4TX)	26.92	28.00	0.613	**0.79**	0.420	**0.54**	**0.17**
GSM1900	661	1880	GPRS(4TX)	0mm		Left Cheek	24.19	25	0.357	**0.43**	0.217	**0.26**	**0.02**
GSM1900	661	1880	GPRS(4TX)	0mm		Left Tilt	24.19	25	0.314	**0.38**	0.182	**0.22**	**-0.13**
GSM1900	810	1909.8	GPRS(4TX)	0mm	Fig.A3	Right Cheek	24.13	25	0.549	**0.67**	0.330	**0.40**	**0.06**
GSM1900	661	1880	GPRS(4TX)	0mm		Right Cheek	24.19	25	0.523	**0.63**	0.320	**0.39**	**0.04**
GSM1900	512	1850.2	GPRS(4TX)	0mm		Right Cheek	24.10	25	0.524	**0.65**	0.324	**0.40**	**0.14**
GSM1900	661	1880	GPRS(4TX)	0mm		Right Tilt	24.19	25	0.493	**0.60**	0.272	**0.33**	**0.15**
GSM1900	810	1909.8	EGPRS(4TX)	0mm		Right Cheek	24.08	25	0.522	**0.65**	0.301	**0.37**	**-0.02**
GSM1900	810	1909.8	GPRS(4TX)	0mm	SIM2	Right Cheek	24.13	25	0.532	**0.65**	0.319	**0.39**	**-0.05**
GSM1900	810	1909.8	GPRS(4TX)	10mm		Front GPRS (4TX)	24.36	25	0.462	**0.53**	0.286	**0.33**	**-0.08**
GSM1900	661	1880	GPRS(4TX)	10mm		Front GPRS (4TX)	24.51	25	0.361	**0.40**	0.214	**0.24**	**0.17**
GSM1900	512	1850.2	GPRS(4TX)	10mm		Front GPRS (4TX)	23.76	25	0.338	**0.45**	0.210	**0.28**	**-0.16**
GSM1900	661	1880	GPRS(4TX)	10mm	Fig.A4	Rear GPRS (4TX)	24.51	25	0.485	**0.54**	0.295	**0.33**	**0.03**
GSM1900	661	1880	GPRS(4TX)	10mm		Right Edge GPRS (4TX)	24.51	25	0.154	**0.17**	0.092	**0.10**	**0.19**
GSM1900	661	1880	GPRS(4TX)	10mm		Bottom Edge GPRS (4TX)	24.51	25	0.428	**0.48**	0.233	**0.26**	**-0.03**
GSM1900	661	1880	EGPRS(4TX)	10mm		Rear GPRS (4TX)	24.50	25	0.475	**0.53**	0.274	**0.31**	**0.00**
GSM1900	661	1880	GPRS(4TX)	10mm	SIM2	Rear GPRS (4TX)	24.51	25	0.455	**0.51**	0.276	**0.31**	**-0.06**
GSM1900	810	1909.8	GPRS(4TX)	15mm	Fig.A5	Front GPRS (4TX)	24.13	25.00	0.271	**0.33**	0.166	**0.20**	**-0.01**
GSM1900	661	1880	GPRS(4TX)	15mm		Front GPRS (4TX)	24.19	25.00	0.251	**0.30**	0.152	**0.18**	**0.19**
GSM1900	512	1850.2	GPRS(4TX)	15mm		Front GPRS (4TX)	24.10	25.00	0.247	**0.30**	0.144	**0.18**	**0.00**
GSM1900	661	1880	GPRS(4TX)	15mm		Rear GPRS (4TX)	24.19	25.00	0.218	**0.26**	0.133	**0.16**	**0.06**
GSM1900	810	1909.8	EGPRS(4TX)	15mm		Front GPRS (4TX)	24.13	25.00	0.250	**0.31**	0.153	**0.19**	**0.18**
GSM1900	810	1909.8	GPRS(4TX)	15mm	SIM2	Front GPRS (4TX)	24.13	25.00	0.265	**0.32**	0.154	**0.19**	**-0.15**

Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Distance	Figure No./Note	Test Position	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
WCDMA1900	9400	1880	/	0mm		Left Cheek	22.61	**24**	0.176	**0.24**	0.108	**0.15**	**-0.01**
WCDMA1900	9400	1880	/	0mm		Left Tilt	22.61	**24**	0.127	**0.18**	0.075	**0.10**	**0.05**
WCDMA1900	9538	1907.6	/	0mm		Right Cheek	22.53	**24**	0.214	**0.30**	0.132	**0.18**	**0.06**
WCDMA1900	9400	1880	/	0mm		Right Cheek	22.61	**24**	0.210	**0.29**	0.132	**0.18**	**0.15**
WCDMA1900	9262	1852.4	/	0mm	Fig.A6	Right Cheek	22.68	**24**	0.227	**0.31**	0.141	**0.19**	**-0.16**
WCDMA1900	9400	1880	/	0mm		Right Tilt	22.61	**24**	0.182	**0.25**	0.103	**0.14**	**-0.19**
WCDMA1900	9262	1852.4	/	0mm	SIM2	Right Cheek	22.68	**24**	0.209	**0.28**	0.133	**0.18**	**0.16**
WCDMA1900	9400	1880	/	10mm		Front	22.61	**24**	0.296	**0.41**	0.179	**0.25**	**-0.06**
WCDMA1900	9538	1907.6	/	10mm		Rear	22.53	**24**	0.417	**0.58**	0.245	**0.34**	**-0.17**
WCDMA1900	9400	1880	/	10mm		Rear	22.61	**24**	0.422	**0.58**	0.252	**0.35**	**0.08**
WCDMA1900	9262	1852.4	/	10mm	Fig.A7	Rear	22.68	**24**	0.463	**0.63**	0.271	**0.37**	**0.04**
WCDMA1900	9400	1880	/	10mm		Right Edge	22.61	**24**	0.194	**0.27**	0.109	**0.15**	**-0.19**
WCDMA1900	9400	1880	/	10mm		Bottom Edge	22.61	**24**	0.304	**0.42**	0.173	**0.24**	**0.14**
WCDMA1900	9262	1852.4	/	10mm	SIM2	Rear	22.68	**24**	0.449	**0.61**	0.250	**0.34**	**0.07**
WCDMA 850	4233	846.6	/	0mm	Fig.A10	Left Cheek	23.21	24.5	0.181	**0.24**	0.136	**0.18**	**-0.07**
WCDMA 850	4183	836.6	/	0mm		Left Cheek	23.24	24.5	0.166	**0.22**	0.134	**0.18**	**-0.12**
WCDMA 850	4132	826.4	/	0mm		Left Cheek	23.38	24.5	0.144	**0.19**	0.108	**0.14**	**-0.18**
WCDMA 850	4183	836.6	/	0mm		Left Tilt	23.24	24.5	0.087	**0.12**	0.664	**0.89**	**0.09**
WCDMA 850	4183	836.6	/	0mm		Right Cheek	23.24	24.5	0.129	**0.17**	0.094	**0.13**	**0.14**
WCDMA 850	4183	836.6	/	0mm		Right Tilt	23.24	24.5	0.065	**0.09**	0.050	**0.07**	**-0.02**
WCDMA 850	4233	846.6	/	0mm	SIM2	Left Cheek	23.21	24.5	0.174	**0.23**	0.123	**0.17**	**-0.15**
WCDMA 850	4183	836.6	/	10mm		Front	23.24	24.5	0.145	**0.19**	0.091	**0.12**	**0.00**
WCDMA 850	4233	846.6	/	10mm	Fig.A11	Rear	23.21	24.5	0.233	**0.31**	0.146	**0.20**	**0.19**
WCDMA 850	4183	836.6	/	10mm		Rear	23.24	24.5	0.215	**0.29**	0.136	**0.18**	**0.12**
WCDMA 850	4132	826.4	/	10mm		Rear	23.38	24.5	0.194	**0.25**	0.124	**0.16**	**0.18**
WCDMA 850	4183	836.6	/	10mm		Left Edge	23.24	24.5	0.161	**0.21**	0.088	**0.12**	**0.09**
WCDMA 850	4183	836.6	/	10mm		Bottom Edge	23.24	24.5	0.080	**0.11**	0.048	**0.06**	**0.04**
WCDMA 850	4233	846.6	/	10mm	SIM2	Rear	23.21	24.5	0.219	**0.29**	0.124	**0.17**	**0.02**

Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Distance	Figure No./Note	Test Position	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
LTE Band5	20450	829	1RB-Low	0mm	Fig.A14	Left Cheek	23.73	24	0.136	**0.14**	0.105	**0.11**	**0.03**
LTE Band5	20450	829	1RB-Low	0mm		Left Tilt	23.73	24	0.049	**0.05**	0.051	**0.05**	**-0.04**
LTE Band5	20450	829	1RB-Low	0mm		Right Cheek	23.73	24	0.090	**0.10**	0.085	**0.09**	**0.04**
LTE Band5	20450	829	1RB-Low	0mm		Right Tilt	23.73	24	0.051	**0.05**	0.049	**0.05**	**0.05**
LTE Band5	20450	829	25RB-Mid	0mm		Left Cheek	22.73	23	0.102	**0.11**	0.100	**0.11**	**-0.04**
LTE Band5	20450	829	25RB-Mid	0mm		Left Tilt	22.73	23	0.044	**0.05**	0.043	**0.05**	**0.20**
LTE Band5	20450	829	25RB-Mid	0mm		Right Cheek	22.73	23	0.078	**0.08**	0.073	**0.08**	**0.00**
LTE Band5	20450	829	25RB-Mid	0mm		Right Tilt	22.73	23	0.043	**0.05**	0.042	**0.04**	**-0.02**
LTE Band5	20450	829	1RB-Low	0mm	SIM2	Left Cheek	23.73	24	0.121	**0.13**	0.094	**0.10**	**0.04**
LTE Band5	20450	829	1RB-Low	10mm		Front	23.73	24	0.116	**0.12**	0.075	**0.08**	**-0.12**
LTE Band5	20450	829	1RB-Low	10mm	Fig.A15	Rear	23.73	24	0.184	**0.20**	0.116	**0.12**	**0.13**
LTE Band5	20450	829	1RB-Low	10mm		Left Edge	23.73	24	0.154	**0.16**	0.086	**0.09**	**0.15**
LTE Band5	20450	829	1RB-Low	10mm		Bottom Edge	23.73	24	0.064	**0.07**	0.039	**0.04**	**0.00**
LTE Band5	20450	829	25RB-Mid	10mm		Front	22.73	23	0.103	**0.11**	0.066	**0.07**	**-0.15**
LTE Band5	20450	829	25RB-Mid	10mm		Rear	22.73	23	0.160	**0.17**	0.100	**0.11**	**-0.12**
LTE Band5	20450	829	25RB-Mid	10mm		Left Edge	22.73	23	0.128	**0.14**	0.072	**0.08**	**0.16**
LTE Band5	20450	829	25RB-Mid	10mm		Bottom Edge	22.73	23	0.056	**0.06**	0.035	**0.04**	**-0.10**
LTE Band5	20450	829	1RB-Low	10mm	SIM2	Rear	23.73	24	0.169	**0.18**	0.105	**0.11**	**0.09**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Left Cheek	16.52	18	0.685	**0.96**	0.335	**0.47**	**0.03**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	Fig.A16	Left Cheek	16.11	18	0.839	**1.30**	0.410	**0.63**	**0.20**
LTE Band7 ANT8	20850	2510	1RB-High	0mm		Left Cheek	16.52	18	0.709	**1.00**	0.349	**0.49**	**-0.03**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Left Tilt	16.52	18	0.629	**0.88**	0.297	**0.42**	**-0.03**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Right Cheek	16.52	18	0.229	**0.32**	0.123	**0.17**	**0.16**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Right Tilt	16.52	18	0.302	**0.43**	0.144	**0.20**	**0.03**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Left Cheek	16.59	18	0.706	**0.98**	0.344	**0.48**	**0.17**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Left Tilt	16.59	18	0.528	**0.73**	0.248	**0.34**	**0.00**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Right Cheek	16.59	18	0.190	**0.26**	0.102	**0.14**	**-0.03**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Right Tilt	16.59	18	0.244	**0.34**	0.116	**0.16**	**0.16**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	ULCA	Left Cheek	16.11	18	0.811	**1.25**	0.387	**0.60**	**0.19**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	SIM2	Left Cheek	16.11	18	0.755	**1.17**	0.394	**0.61**	**-0.14**
LTE Band7 ANT8	21100	2535	1RB-High	10mm	Fig.A17	Front	23.36	24	0.674	**0.78**	0.342	**0.40**	**0.10**
LTE Band7 ANT8	21100	2535	1RB-High	10mm		Rear	23.36	24	0.565	**0.65**	0.275	**0.32**	**0.07**
LTE Band7 ANT8	21100	2535	1RB-High	10mm		Right Edge	23.36	24	0.602	**0.70**	0.291	**0.34**	**0.00**
LTE Band7 ANT8	21100	2535	1RB-High	10mm		Top Edge	23.36	24	0.265	**0.31**	0.135	**0.16**	**-0.08**
LTE Band7 ANT8	21100	2535	50RB-Low	10mm		Front	22.56	23	0.554	**0.61**	0.281	**0.31**	**0.19**
LTE Band7 ANT8	21100	2535	50RB-Low	10mm		Rear	22.56	23	0.450	**0.50**	0.219	**0.24**	**-0.14**
LTE Band7 ANT8	21100	2535	50RB-Low	10mm		Right Edge	22.56	23	0.488	**0.54**	0.235	**0.26**	**0.01**
LTE Band7 ANT8	21100	2535	50RB-Low	10mm		Top Edge	22.56	23	0.216	**0.24**	0.110	**0.12**	**0.02**
LTE Band7 ANT8	21100	2535	1RB-High	10mm	ULCA	Front	23.31	24	0.656	**0.77**	0.330	**0.39**	**-0.11**
LTE Band7 ANT8	21100	2535	1RB-High	10mm	SIM2	Front	23.36	24	0.654	**0.76**	0.329	**0.38**	**0.03**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Left Cheek	15.14	16	0.502	**0.61**	0.275	**0.34**	**0.06**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	Fig.A18	Left Cheek	15.34	16	0.615	**0.72**	0.337	**0.39**	**-0.02**
LTE Band7 ANT8	20850	2510	1RB-High	0mm		Left Cheek	14.88	16	0.519	**0.67**	0.287	**0.37**	**-0.10**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Left Tilt	15.14	16	0.461	**0.56**	0.244	**0.30**	**-0.11**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Right Cheek	15.14	16	0.168	**0.20**	0.101	**0.12**	**0.11**
LTE Band7 ANT8	21350	2560	1RB-High	0mm		Right Tilt	15.14	16	0.222	**0.27**	0.118	**0.14**	**0.10**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Left Cheek	14.66	15	0.517	**0.56**	0.282	**0.31**	**-0.03**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Left Tilt	14.66	15	0.387	**0.42**	0.204	**0.22**	**-0.16**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Right Cheek	14.66	15	0.139	**0.15**	0.084	**0.09**	**0.20**
LTE Band7 ANT8	21350	2560	50RB-High	0mm		Right Tilt	14.66	15	0.179	**0.19**	0.096	**0.10**	**0.15**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	ULCA	Left Cheek	15.30	16	0.590	**0.69**	0.311	**0.37**	**0.17**
LTE Band7 ANT8	21100	2535	1RB-High	0mm	SIM2	Left Cheek	15.41	15	0.553	**0.50**	0.324	**0.29**	**-0.10**

Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Distance	Figure No./Note	Test Position	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
ENDC LTE Band7 ANT4	21350	2560	1RB-High	0mm		Left Cheek	13.52	14.5	0.045	**0.06**	0.024	**0.03**	**0.06**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	0mm		Left Tilt	13.52	14.5	0.027	**0.03**	0.013	**0.02**	**-0.17**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	0mm	Fig.A19	Right Cheek	13.52	14.5	0.105	**0.13**	0.051	**0.06**	**-0.18**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	0mm		Right Tilt	13.52	14.5	0.055	**0.07**	0.026	**0.03**	**-0.01**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	0mm		Left Cheek	13.47	14.5	0.039	**0.05**	0.020	**0.03**	**-0.11**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	0mm		Left Tilt	13.47	14.5	0.021	**0.03**	0.011	**0.01**	**-0.18**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	0mm		Right Cheek	13.47	14.5	0.086	**0.11**	0.043	**0.05**	**-0.16**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	0mm		Right Tilt	13.47	14.5	0.042	**0.05**	0.020	**0.03**	**-0.16**
ENDC LTE Band7 ANT4	21100	2535	1RB-Mid	0mm	SIM2	Right Cheek	13.52	14.5	0.098	**0.12**	0.047	**0.06**	**-0.02**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	10mm		Front	22.47	22.5	0.138	**0.14**	0.091	**0.09**	**-0.18**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	10mm		Rear	22.47	22.5	0.313	**0.31**	0.196	**0.20**	**-0.09**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	10mm	Fig.A20	Left Edge	22.47	22.5	0.386	**0.39**	0.203	**0.20**	**-0.03**
ENDC LTE Band7 ANT4	21350	2560	1RB-High	10mm		Top Edge	22.47	22.5	0.042	**0.04**	0.027	**0.03**	**0.03**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	10mm		Front	21.46	22.5	0.114	**0.14**	0.075	**0.10**	**0.17**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	10mm		Rear	21.46	22.5	0.300	**0.38**	0.194	**0.25**	**0.18**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	10mm		Left Edge	21.46	22.5	0.313	**0.40**	0.173	**0.22**	**-0.08**
ENDC LTE Band7 ANT4	21350	2560	50RB-High	10mm		Top Edge	21.46	22.5	0.030	**0.04**	0.019	**0.02**	**-0.14**
ENDC LTE Band7 ANT4	21350	2560	1RB-Mid	10mm	SIM2	Left Edge	22.47	22.5	0.369	**0.37**	0.185	**0.19**	**-0.09**

Frequency Band	Channel Number	Frequency (MHz)	Mode/RB	Distance	Figure No./Note	Test Position	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
LTE Band41 PC2	41490	2680	1RB-Low	0mm	Fig.A25	Left Cheek	19.22	20.5	0.770	**1.03**	0.374	**0.50**	**0.15**
LTE Band41 PC2	40620	2593	1RB-Low	0mm		Left Cheek	19.56	20.5	0.714	**0.89**	0.354	**0.44**	**0.18**
LTE Band41 PC2	39750	2506	1RB-Low	0mm		Left Cheek	19.30	20.5	0.682	**0.90**	0.337	**0.44**	**0.02**
LTE Band41 PC2	40620	2593	1RB-Low	0mm		Left Tilt	19.56	20.5	0.503	**0.62**	0.243	**0.30**	**0.10**
LTE Band41 PC2	40620	2593	1RB-Low	0mm		Right Cheek	19.56	20.5	0.204	**0.25**	0.107	**0.13**	**0.09**
LTE Band41 PC2	40620	2593	1RB-Low	0mm		Right Tilt	19.56	20.5	0.212	**0.26**	0.102	**0.13**	**0.02**
LTE Band41 PC2	40620	2593	50RB-Middle	0mm		Left Cheek	19.58	19.5	0.561	**0.55**	0.278	**0.27**	**-0.09**
LTE Band41 PC2	40620	2593	50RB-Middle	0mm		Left Tilt	19.58	19.5	0.403	**0.40**	0.193	**0.19**	**0.09**
LTE Band41 PC2	40620	2593	50RB-Middle	0mm		Right Cheek	19.58	19.5	0.162	**0.16**	0.084	**0.08**	**-0.18**
LTE Band41 PC2	40620	2593	50RB-Middle	0mm		Right Tilt	19.58	19.5	0.158	**0.15**	0.076	**0.07**	**-0.06**
LTE Band41 PC2	41490	2680	1RB-Low	0mm	ULCA	Left Cheek	19.29	20.5	0.743	**0.98**	0.340	**0.45**	**0.19**
LTE Band41 PC2	41490	2680	1RB-Low	0mm	SIM2	Left Cheek	19.22	20.5	0.643	**0.86**	0.366	**0.49**	**-0.04**
LTE Band41 PC2	40620	2593	1RB-High	10mm	Fig.A26	Front	26.34	27	0.521	**0.61**	0.277	**0.32**	**-0.12**
LTE Band41 PC2	40620	2593	1RB-High	10mm		Rear	26.34	27	0.352	**0.41**	0.180	**0.21**	**-0.18**
LTE Band41 PC2	40620	2593	1RB-High	10mm		Right Edge	26.34	27	0.501	**0.58**	0.254	**0.30**	**-0.14**
LTE Band41 PC2	40620	2593	1RB-High	10mm		Top Edge	26.34	27	0.158	**0.18**	0.077	**0.09**	**0.11**
LTE Band41 PC2	40620	2593	50RB-Low	10mm		Front	25.50	26	0.411	**0.46**	0.217	**0.24**	**-0.17**
LTE Band41 PC2	40620	2593	50RB-Low	10mm		Rear	25.50	26	0.349	**0.39**	0.178	**0.20**	**-0.16**
LTE Band41 PC2	40620	2593	50RB-Low	10mm		Right Edge	25.50	26	0.385	**0.43**	0.194	**0.22**	**-0.17**
LTE Band41 PC2	40620	2593	50RB-Low	10mm		Top Edge	25.50	26	0.116	**0.13**	0.059	**0.07**	**0.19**
LTE Band41 PC2	40620	2593	1RB-High	10mm	ULCA	Front	26.35	27	0.500	**0.58**	0.250	**0.29**	**0.13**
LTE Band41 PC2	40620	2593	1RB-High	10mm	SIM2	Front	26.34	27	0.473	**0.55**	0.254	**0.30**	**0.02**
LTE Band41 PC3	40620	2593	1RB-Low	0mm	Fig.A27	Left Cheek	17.08	17.5	0.467	**0.51**	0.209	**0.23**	**-0.04**
LTE Band41 PC3	40620	2593	1RB-Low	0mm		Left Tilt	17.08	17.5	0.308	**0.34**	0.142	**0.16**	**-0.09**
LTE Band41 PC3	40620	2593	1RB-Low	0mm		Right Cheek	17.08	17.5	0.104	**0.11**	0.052	**0.06**	**0.04**
LTE Band41 PC3	40620	2593	1RB-Low	0mm		Right Tilt	17.08	17.5	0.120	**0.13**	0.055	**0.06**	**0.16**
LTE Band41 PC3	40620	2593	50RB-Middle	0mm		Left Cheek	16.32	17.5	0.343	**0.45**	0.159	**0.21**	**-0.17**
LTE Band41 PC3	40620	2593	50RB-Middle	0mm		Left Tilt	16.32	17.5	0.244	**0.32**	0.113	**0.15**	**-0.04**
LTE Band41 PC3	40620	2593	50RB-Middle	0mm		Right Cheek	16.32	17.5	0.081	**0.11**	0.041	**0.05**	**-0.15**
LTE Band41 PC3	40620	2593	50RB-Middle	0mm		Right Tilt	16.32	17.5	0.094	**0.12**	0.044	**0.06**	**0.13**
LTE Band41 PC3	40620	2593	1RB-Low	0mm	ULCA	Left Cheek	17.11	17.5	0.440	**0.48**	0.140	**0.15**	**0.11**
LTE Band41 PC3	41490	2680	1RB-Low	0mm	SIM2	Left Cheek	17.08	17.5	0.441	**0.49**	0.185	**0.20**	**0.20**
LTE Band41 PC3	40620	2593	1RB-High	10mm	Fig.A28	Front	23.44	24	0.436	**0.50**	0.222	**0.25**	**-0.18**
LTE Band41 PC3	40620	2593	1RB-High	10mm		Rear	23.44	24	0.381	**0.43**	0.180	**0.20**	**-0.07**
LTE Band41 PC3	40620	2593	1RB-High	10mm		Right Edge	23.44	24	0.380	**0.43**	0.185	**0.21**	**-0.06**
LTE Band41 PC3	40620	2593	1RB-High	10mm		Top Edge	23.44	24	0.139	**0.16**	0.064	**0.07**	**0.13**
LTE Band41 PC3	40620	2593	50RB-Low	10mm		Front	22.48	23	0.345	**0.39**	0.174	**0.20**	**0.02**
LTE Band41 PC3	40620	2593	50RB-Low	10mm		Rear	22.48	23	0.295	**0.33**	0.140	**0.16**	**0.13**
LTE Band41 PC3	40620	2593	50RB-Low	10mm		Right Edge	22.48	23	0.313	**0.35**	0.152	**0.17**	**0.10**
LTE Band41 PC3	40620	2593	50RB-Low	10mm		Top Edge	22.48	23	0.142	**0.16**	0.065	**0.07**	**0.07**
LTE Band41 PC3	40620	2593	1RB-High	10mm	ULCA	Front	23.42	24	0.401	**0.46**	0.181	**0.21**	**0.20**
LTE Band41 PC3	40620	2593	1RB-High	10mm	SIM2	Front	23.44	24	0.420	**0.48**	0.211	**0.24**	**-0.10**

14.2 SAR results for 5G NR

Frequency Band	Channel Number	Frequency (MHz)	Mode	Test setup	Figure No./Note	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
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Left Cheek	Fig.A45	23.15	24.00	0.130	**0.16**	0.093	**0.11**	-0.02
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Left Tilt		23.15	24.00	0.077	**0.09**	0.061	**0.07**	0.06
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Right Cheek		23.15	24.00	0.112	**0.14**	0.085	**0.10**	-0.16
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Right Tilt		23.15	24.00	0.064	**0.08**	0.048	**0.06**	0.15
SA/NSA N5	167300	836.5	SIM2	Left Cheek		23.15	24.00	0.123	**0.15**	0.102	**0.12**	-0.02
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Front 10mm		23.15	24.00	0.161	**0.20**	0.102	**0.12**	0.03
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Rear 10mm	Fig.A46	23.15	24.00	0.229	**0.28**	0.146	**0.18**	-0.08
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Left Edge 10mm		23.15	24.00	0.195	**0.24**	0.102	**0.12**	0.00
SA/NSA N5	167300	836.5	DFT-s-OFDM QPSK 15k 5M	Bottom Edge 10mm		23.15	24.00	0.087	**0.11**	0.053	**0.06**	0.04
SA/NSA N5	167300	836.5	SIM2	Rear 10mm		23.15	24.00	0.210	**0.26**	0.130	**0.16**	0.12
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Left Cheek	Fig.A47	16.59	17.00	0.632	**0.69**	0.320	**0.35**	0.16
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Left Tilt		16.59	17.00	0.484	**0.53**	0.241	**0.26**	-0.09
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Cheek		16.59	17.00	0.209	**0.23**	0.113	**0.12**	-0.01
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Tilt		16.59	17.00	0.216	**0.24**	0.106	**0.12**	0.07
SA N7	513500	2567.5	SIM2	Left Cheek		16.59	17.00	0.612	**0.67**	0.310	**0.34**	-0.10
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Front 10mm	Fig.A48	22.47	23.50	0.557	**0.71**	0.287	**0.36**	0.18
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Rear 10mm		22.47	23.50	0.512	**0.65**	0.249	**0.32**	-0.12
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Edge 10mm		22.47	23.50	0.516	**0.65**	0.252	**0.32**	0.03
SA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Top Edge 10mm		22.47	23.50	0.282	**0.36**	0.142	**0.18**	0.18
SA N7	513500	2567.5	SIM2	Front 10mm		22.47	23.50	0.520	**0.66**	0.265	**0.34**	0.04
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Left Cheek	Fig.A49	12.89	13.00	0.350	**0.36**	0.178	**0.18**	-0.12
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Left Tilt		12.89	13.00	0.268	**0.27**	0.134	**0.14**	-0.12
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Cheek		12.89	13.00	0.116	**0.12**	0.063	**0.06**	0.06
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Tilt		12.89	13.00	0.119	**0.12**	0.059	**0.06**	-0.14
NSA N7	513500	2567.5	SIM2	Left Cheek		12.89	13.00	0.329	**0.34**	0.160	**0.16**	-0.11
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Front 10mm	Fig.A50	19.67	20.00	0.328	**0.35**	0.173	**0.19**	0.08
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Rear 10mm		19.67	20.00	0.302	**0.33**	0.150	**0.16**	-0.11
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Right Edge 10mm		19.67	20.00	0.304	**0.33**	0.152	**0.16**	0.16
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Top Edge 10mm		19.67	20.00	0.166	**0.18**	0.085	**0.09**	-0.05
NSA N7	513500	2567.5	SIM2	Front 10mm		19.67	20.00	0.302	**0.33**	0.154	**0.17**	0.11
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Front 15mm	Fig.A51	22.47	23.50	0.254	**0.32**	0.135	**0.17**	-0.07
NSA N7	513500	2567.5	DFT-s-OFDM QPSK 15k 5M	Rear 15mm		22.47	23.50	0.219	**0.28**	0.113	**0.14**	0.16
NSA N7	513500	2567.5	SIM2	Front 15mm		22.47	23.50	0.239	**0.30**	0.112	**0.14**	0.12

Frequency Band	Channel Number	Frequency (MHz)	Mode	Test setup	Figure No./Note	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
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Left Cheek		18.15	18.50	0.514	**0.56**	0.248	**0.27**	0.08
N41	527298	2636.49	DFT-s-OFDM QPSK 30k 20M	Left Cheek	Fig.A56	18.02	18.50	0.684	**0.76**	0.331	**0.37**	0.11
N41	518598	2592.99	DFT-s-OFDM QPSK 30k 20M	Left Cheek		17.78	18.50	0.588	**0.69**	0.289	**0.34**	-0.09
N41	509902	2549.51	DFT-s-OFDM QPSK 30k 20M	Left Cheek		17.44	18.50	0.548	**0.70**	0.267	**0.34**	0.02
N41	501204	2506.02	DFT-s-OFDM QPSK 30k 20M	Left Cheek		17.26	18.50	0.554	**0.74**	0.295	**0.39**	-0.16
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Left Tilt		18.15	18.50	0.409	**0.44**	0.194	**0.21**	0.06
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Right Cheek		18.15	18.50	0.190	**0.21**	0.100	**0.11**	0.19
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Right Tilt		18.15	18.50	0.202	**0.22**	0.096	**0.10**	0.16
N41	527298	2636.49	SIM2	SIM2		18.15	18.50	0.653	**0.71**	0.320	**0.35**	0.15
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Front 10mm		23.42	23.50	0.337	**0.34**	0.166	**0.17**	-0.07
N41	527298	2636.49	DFT-s-OFDM QPSK 30k 20M	Front 10mm		23.32	23.50	0.324	**0.34**	0.164	**0.17**	-0.19
N41	518598	2592.99	DFT-s-OFDM QPSK 30k 20M	Front 10mm		23.04	23.50	0.289	**0.32**	0.162	**0.18**	-0.18
N41	509902	2549.51	DFT-s-OFDM QPSK 30k 20M	Front 10mm	Fig.A57	22.72	23.50	0.298	**0.36**	0.157	**0.19**	-0.18
N41	501204	2506.02	DFT-s-OFDM QPSK 30k 20M	Front 10mm		22.53	23.50	0.253	**0.32**	0.156	**0.19**	-0.10
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Rear 10mm		23.42	23.50	0.292	**0.30**	0.136	**0.14**	0.16
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Right Edge 10mm		23.42	23.50	0.254	**0.26**	0.120	**0.12**	0.04
N41	535998	2679.99	DFT-s-OFDM QPSK 30k 20M	Top Edge 10mm		23.42	23.50	0.197	**0.20**	0.095	**0.10**	-0.11
N41	535998	2679.99	SIM2	Front 10mm		23.42	23.50	0.324	**0.33**	0.156	**0.16**	0.11
N41	535998	2679.99		Front 15mm	Fig.A58	26.36	27.00	0.292	**0.34**	0.155	**0.18**	-0.07
N41	535998	2679.99		Rear 15mm		26.36	27.00	0.237	**0.27**	0.117	**0.14**	-0.12
N41	535998	2679.99		SIM2		26.36	27.00	0.290	**0.34**	0.142	**0.16**	-0.12
SA N78	653000	3795	N78 DFT-s-OFDM QPSK 30k 20M	Left Cheek	Fig.A59	18.78	19.00	0.664	**0.70**	0.258	**0.27**	-0.05
SA N78	653000	3795	N78 DFT-s-OFDM QPSK 30k 20M	Left Tilt		18.78	19.00	0.499	**0.53**	0.208	**0.22**	-0.19
SA N78	653000	3795	N78 DFT-s-OFDM QPSK 30k 20M	Right Cheek		18.78	19.00	0.080	**0.08**	0.037	**0.04**	-0.01
SA N78	653000	3795	N78 DFT-s-OFDM QPSK 30k 20M	Right Tilt		18.78	19.00	0.071	**0.07**	0.032	**0.03**	-0.07
SA N78	653000	3795	SIM2	Left Cheek		18.78	19.00	0.627	**0.66**	0.237	**0.25**	-0.19
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Front 10mm		22.92	23.50	0.218	**0.25**	0.107	**0.12**	0.05
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 10mm		22.92	23.50	0.356	**0.41**	0.173	**0.20**	0.09
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Right Edge 10mm	Fig.A60	22.92	23.50	0.687	**0.79**	0.288	**0.33**	-0.03
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Top Edge 10mm		22.92	23.50	0.138	**0.16**	0.076	**0.09**	0.11
SA N78	653000	3795	SIM2	Right Edge 10mm		22.92	23.50	0.654	**0.75**	0.266	**0.30**	0.20
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Front 15mm		25.98	27.00	0.252	**0.32**	0.112	**0.14**	-0.04
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 15mm	Fig.A61	25.98	27.00	0.409	**0.52**	0.185	**0.23**	-0.10
SA N78	653000	3795	SIM2	Rear 15mm		25.98	27.00	0.384	**0.49**	0.161	**0.20**	-0.16
SA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 0mm		22.22	22.50	3.94	**4.20**	1.24	**1.32**	0.08
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Left Cheek	Fig.A62	16.25	16.50	0.451	**0.48**	0.175	**0.19**	0.20
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Left Tilt		16.25	16.50	0.378	**0.40**	0.141	**0.15**	-0.06
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Right Cheek		16.25	16.50	0.056	**0.06**	0.025	**0.03**	-0.04
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Right Tilt		16.25	16.50	0.049	**0.05**	0.022	**0.02**	-0.17
NSA N78	653000	3795	SIM2	Left Cheek		16.25	16.50	0.438	**0.46**	0.152	**0.16**	0.20
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Front 10mm		19.85	20.00	0.102	**0.11**	0.049	**0.05**	-0.09
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 10mm		19.85	20.00	0.167	**0.17**	0.080	**0.08**	0.04
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Right Edge 10mm	Fig.A63	19.85	20.00	0.322	**0.33**	0.133	**0.14**	-0.10
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Top Edge 10mm		19.85	20.00	0.065	**0.07**	0.035	**0.04**	0.19
NSA N78	653000	3795	SIM2	Right Edge 10mm		19.85	20.00	0.309	**0.32**	0.126	**0.13**	0.14
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Front 15mm		25.98	27.00	0.252	**0.32**	0.112	**0.14**	-0.04
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 15mm	Fig.A64	25.98	27.00	0.409	**0.52**	0.185	**0.23**	-0.10
NSA N78	653000	3795	SIM2	Rear 15mm		25.98	27.00	0.384	**0.49**	0.161	**0.20**	-0.16
NSA N78	653000	3795	DFT-s-OFDM QPSK 30k 20M	Rear 0mm		20.40	20.50	3.75	**3.84**	1.09	**1.12**	-0.18

14.3 SAR Evaluation for WIFI 2.4G

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.

SAR Test reduction was applied from KDB 248227 guidance, when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

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

Frequency Band	Channel Number	Frequency (MHz)	Test setup	Figure No./Note	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
WIFI 2.4G	6	2437	Left Cheek	\	13.52	14.00	0.146	0.16	0.067	0.07	0.01
WIFI 2.4G	6	2437	Left Tilt	Fig.A35	13.52	14.00	0.157	0.18	0.070	0.08	0.18
WIFI 2.4G	6	2437	Right Cheek	\	13.52	14.00	0.086	0.10	0.043	0.05	-0.15
WIFI 2.4G	6	2437	Right Tilt	\	13.52	14.00	0.066	0.07	0.020	0.02	-0.09
WIFI 2.4G	6	2437	Left Tilt	SIM2	13.52	14.00	0.139	0.16	0.059	0.07	0.09
WIFI 2.4G	6	2437	Front 10mm	\	18.59	19.00	0.113	0.12	0.062	0.07	0.16
WIFI 2.4G	6	2437	Rear 10mm	\	18.59	19.00	0.150	0.16	0.076	0.08	0.18
WIFI 2.4G	6	2437	Right Edge 10mm	\	18.59	19.00	0.015	0.02	0.011	0.01	0.19
WIFI 2.4G	6	2437	Top Edge 10mm	Fig.A36	18.59	19.00	0.152	0.17	0.080	0.09	0.16
WIFI 2.4G	6	2437	Top Edge 10mm	SIM2	18.59	19.00	0.148	0.16	0.066	0.07	0.16
WIFI 2.4G	6	2437	Top Edge 0mm	\	18.59	19.00	0.992	1.09	0.348	0.38	-0.11
WIFI 2.4G	6	2437	Front 15mm	\	18.59	19.00	0.049	0.05	0.028	0.03	-0.17
WIFI 2.4G	6	2437	Rear 15mm	Fig.A37	18.59	19.00	0.057	0.06	0.031	0.03	-0.14
WIFI 2.4G	6	2437	Rear 15mm	SIM2	18.59	19.00	0.049	0.05	0.024	0.03	0.15

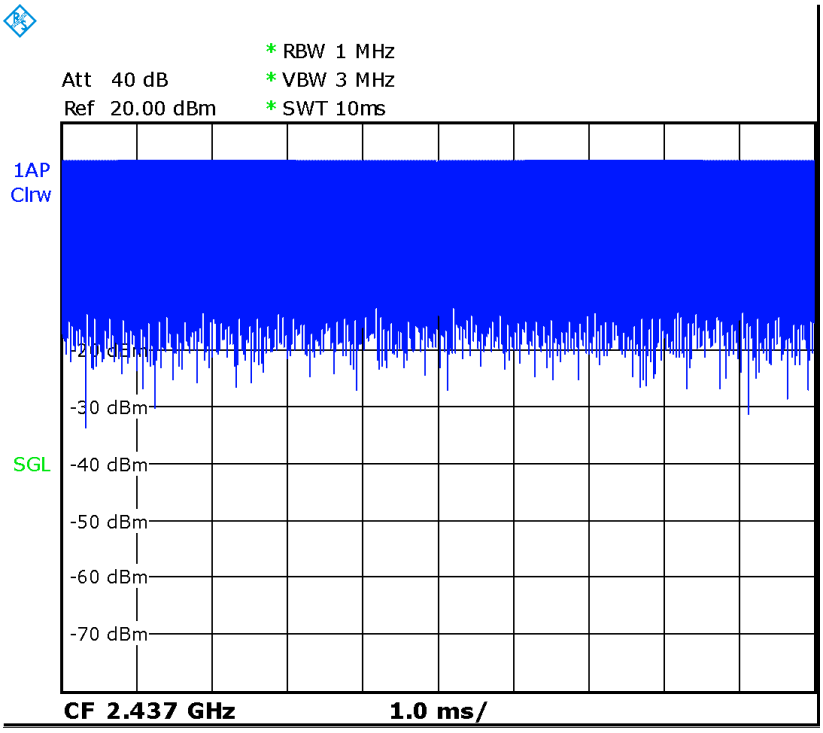
Table 14.3-2: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

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.						
2437	6	Left	Tilt	100%	100%	**0.18**	**0.18**

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

Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C				
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz					
2437	6	Top 10mm	100%	100%	**0.17**	**0.17**

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



Picture 14.3-1 Duty factor plot

14.4 SAR Evaluation For WIFI 5G

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.

SAR Test reduction was applied from KDB 248227 guidance, when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

Table 14.4-1: SAR Values (WLAN 5G)

Frequency Band	Channel Number	Frequency (MHz)	Test setup	Figure No./Note	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
			802.11a								
WIFI 5G	64	5320	Right Cheek	\	14.02	14.50	0.121	0.13	0.041	0.05	0.03
WIFI 5G	64	5320	Right Tilt	\	14.02	14.50	0.167	0.19	0.059	0.07	0.04
WIFI 5G	64	5320	Left Cheek	\	14.02	14.50	0.145	0.16	0.048	0.05	-0.05
WIFI 5G	64	5320	Left Tilt	\	14.02	14.50	0.186	0.21	0.062	0.07	0.02
WIFI 5G	116	5580	Right Cheek	\	14.07	14.50	0.114	0.13	0.039	0.04	-0.17
WIFI 5G	116	5580	Right Tilt	\	14.07	14.50	0.184	0.20	0.065	0.07	-0.07
WIFI 5G	116	5580	Left Cheek	\	14.07	14.50	0.230	0.25	0.066	0.07	-0.19
WIFI 5G	116	5580	Left Tilt	Fig.A38	14.07	14.50	0.245	0.27	0.078	0.09	0.03
WIFI 5G	157	5785	Right Cheek	\	14.36	14.50	0.119	0.12	0.041	0.04	-0.09
WIFI 5G	157	5785	Right Tilt	\	14.36	14.50	0.157	0.16	0.049	0.05	0.12
WIFI 5G	157	5785	Left Cheek	\	14.36	14.50	0.217	0.22	0.067	0.07	0.01
WIFI 5G	157	5785	Left Tilt	\	14.36	14.50	0.233	0.24	0.074	0.08	-0.10
WIFI 5G	116	5580	Left Tilt	SIM2	14.07	14.50	0.221	0.24	0.072	0.08	-0.11
			802.11a								
WIFI 5G	64	5320	Front 10mm	\	14.02	14.50	0.051	0.06	0.019	0.02	-0.19
WIFI 5G	64	5320	Rear 10mm	Fig.A39	14.02	14.50	0.262	0.29	0.102	0.11	0.01
WIFI 5G	64	5320	Right Edge 10mm	\	14.02	14.50	0.092	0.10	0.037	0.04	0.03
WIFI 5G	64	5320	Top Edge 10mm	\	14.02	14.50	0.221	0.25	0.080	0.09	-0.02
WIFI 5G	116	5580	Front 10mm	\	14.07	14.50	0.070	0.08	0.024	0.03	-0.13
WIFI 5G	116	5580	Rear 10mm	\	14.07	14.50	0.179	0.20	0.066	0.07	0.18
WIFI 5G	116	5580	Right Edge 10mm	\	14.07	14.50	0.068	0.07	0.015	0.02	0.01
WIFI 5G	116	5580	Top Edge 10mm	\	14.07	14.50	0.183	0.20	0.073	0.08	-0.09
WIFI 5G	157	5785	Front 10mm	\	14.36	14.50	0.072	0.07	0.027	0.03	0.18
WIFI 5G	157	5785	Rear 10mm	\	14.36	14.50	0.210	0.22	0.077	0.08	0.10
WIFI 5G	157	5785	Right Edge 10mm	\	14.36	14.50	0.056	0.06	0.013	0.01	-0.10
WIFI 5G	157	5785	Top Edge 10mm	\	14.36	14.50	0.196	0.20	0.071	0.07	-0.08
WIFI 5G	64	5320	Rear 10mm	SIM2	14.02	14.50	0.241	0.27	0.092	0.10	0.14
			802.11a								
WIFI 5G	64	5320	Front 15mm	\	16.10	17.50	0.027	0.04	0.010	0.01	0.07
WIFI 5G	64	5320	Rear 15mm	Fig.A40	16.10	17.50	0.164	0.23	0.066	0.09	-0.03
WIFI 5G	116	5580	Front 15mm	\	16.36	17.50	0.068	0.09	0.016	0.02	-0.04
WIFI 5G	116	5580	Rear 15mm	\	16.36	17.50	0.105	0.14	0.043	0.06	0.20
WIFI 5G	157	5785	Front 15mm	\	16.74	17.50	0.029	0.03	0.007	0.01	-0.05
WIFI 5G	157	5785	Rear 15mm	\	16.74	17.50	0.137	0.16	0.055	0.07	0.17
WIFI 5G	64	5320	Rear 15mm	SIM2	16.10	17.50	0.147	0.20	0.060	0.08	0.14
WIFI 5G	64	5320	Rear 0mm	\	16.10	17.50	1.13	1.56	0.361	0.50	0.06

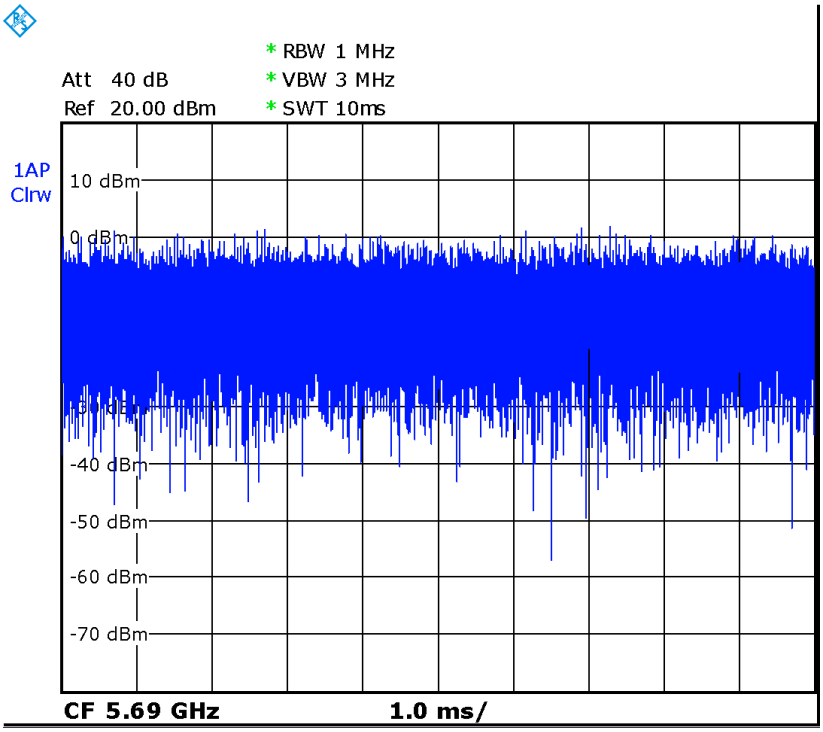
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.4-2: SAR Values (WLAN 5G - Head) (Scaled Reported SAR)

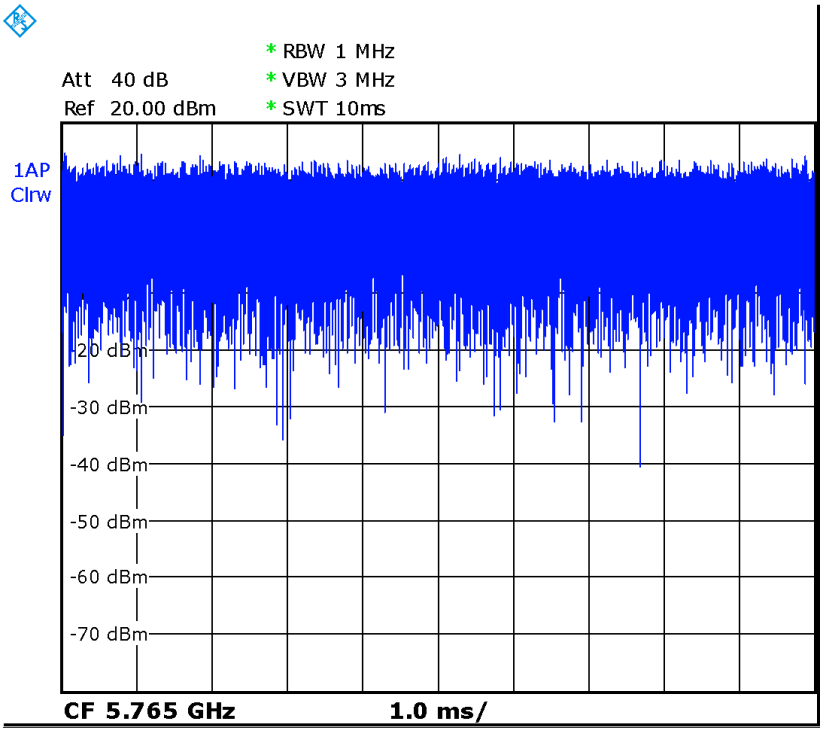
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
116	5580	Left	Tilt	100%	100%	**0.27**	**0.27**

Table 14.4-3: 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						
64	5320	Rear	10	100%	100%	**0.29**	**0.29**
64	5320	Rear	15	100%	100%	**0.23**	**0.23**



Picture 14.4-1 The plot of duty factor



Picture 14.4-2 The plot of duty factor

14.5 SAR Evaluation For BT

RF Exposure Conditions	Frequency Band	Channel Number	Mode/RB	Test Position	Distance	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
Head	BT	39	EDR GFSK	Left Cheek	0mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Head	BT	39	EDR GFSK	Left Tilt	0mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Head	BT	39	EDR GFSK	Right Cheek	0mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Head	BT	39	EDR GFSK	Right Cheek	0mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	EDR GFSK	Front	10mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	EDR GFSK	Rear	10mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	EDR GFSK	Right Edge	10mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\
Body	BT	39	EDR GFSK	Top Edge	10mm	11.27	12.50	<0.01	<0.01	<0.01	<0.01	\

14.6 SAR results for 10-g extremity SAR

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.

For this device, SAR is not required for 10-g extremity SAR because the scaled SAR is ≤ 1.2 W/kg.

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; steps2) 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 ≥ 1.45W/kg (~ 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

Mode	CH	Freq	Test Position	Original SAR(W/kg)	First Repeated SAR(W/kg)	The Ratio
LTE Band7 ANT8	21100	2535	Left Cheek	0.839	0.812	1.03

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	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

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	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√3	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	√3	0.6	0.49	1.7	1.4	∞

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	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞

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	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5

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	E5071C	MY46110673	January 14, 2022	One year
02	Power sensor	NRP110T	101139	January 13, 2022	One year
03	Power sensor	NRP110T	101159	January 13, 2022	One year
04	Signal Generator	E4438C	MY49071430	January 13, 2022	One year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	159850	January 24, 2022	One year
07	E-field Probe	SPEAG EX3DV4	7464	January 26,2022	One year
08	DAE	SPEAG DAE4	549	January 07, 2022	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 12,,2021	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 21,,2021	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 12,,2021	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 15,2021	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 26,2021	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 26,2021	One year
15	Dipole Validation Kit	SPEAG D3500V2	1016	June 21,2021	Three years
16	Dipole Validation Kit	SPEAG D3700V2	1004	June 21,2021	Three years
17	Dipole Validation Kit	SPEAG D3900V2	1024	June 21,2021	Three years
18	Dipole Validation Kit	SPEAG D5GHzV2	1060	June 21,2021	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH251 Left Cheek GPRS(4TX)

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 848.8 MHz; σ = 0.903 mho/m; εr = 41.25; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: GSM850 848.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.046 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.76 W/kg; SAR(10 g) = 0.56 W/kg
Maximum value of SAR (measured) = 0.946 W/kg

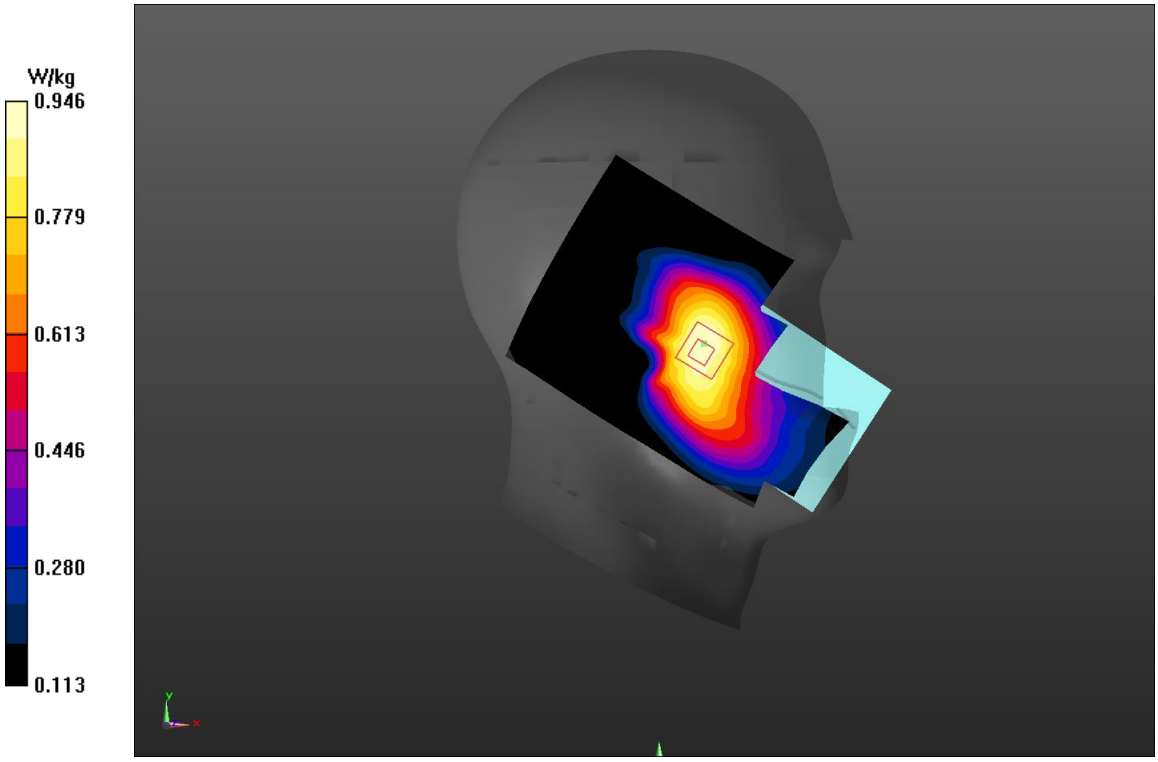
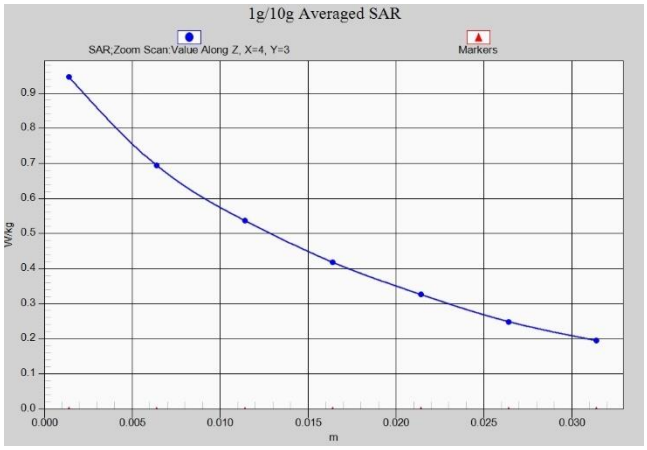


Fig A.1



GSM850_CH251 Rear GPRS（4TX）10mm

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 848.8 MHz; σ = 0.916 mho/m; εr = 42.1; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: GSM850 848.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.665 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.35 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.817 W/kg
SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.438 W/kg
Maximum value of SAR (measured) = 0.696 W/kg

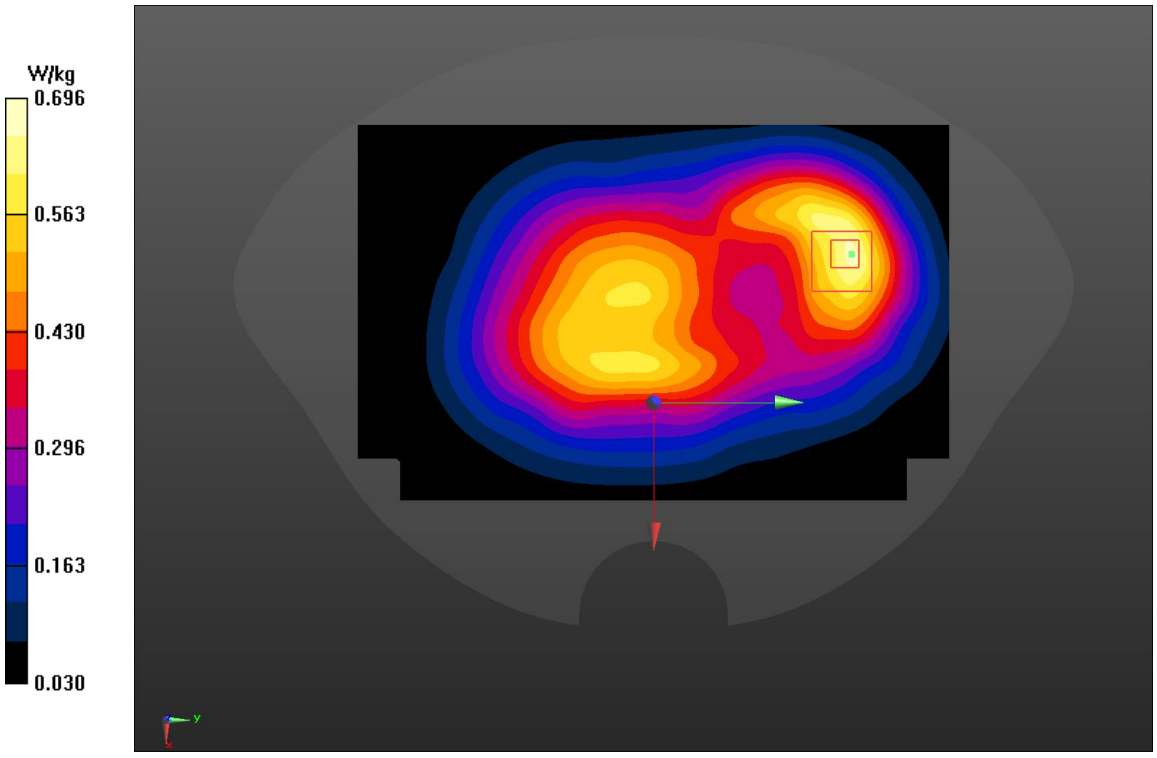
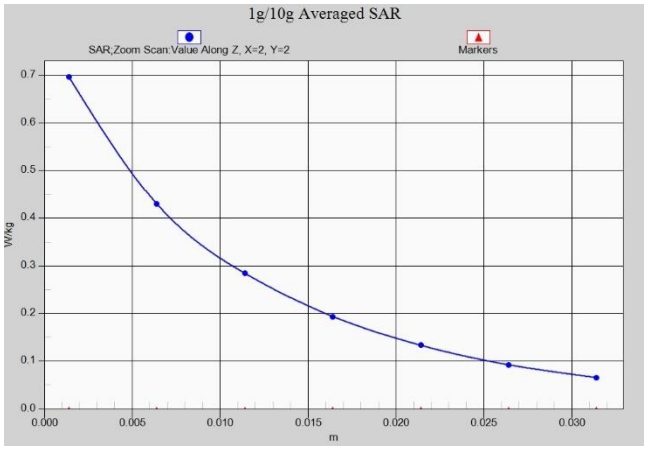


Fig A.2



PCS1900_CH810 Right Cheek GPRS(4TX)

Date: 6/20/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1909.8 MHz; σ = 1.42 mho/m; εr = 40.59; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1909.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.066 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.549 W/kg; SAR(10 g) = 0.33 W/kg
Maximum value of SAR (measured) = 0.573 W/kg

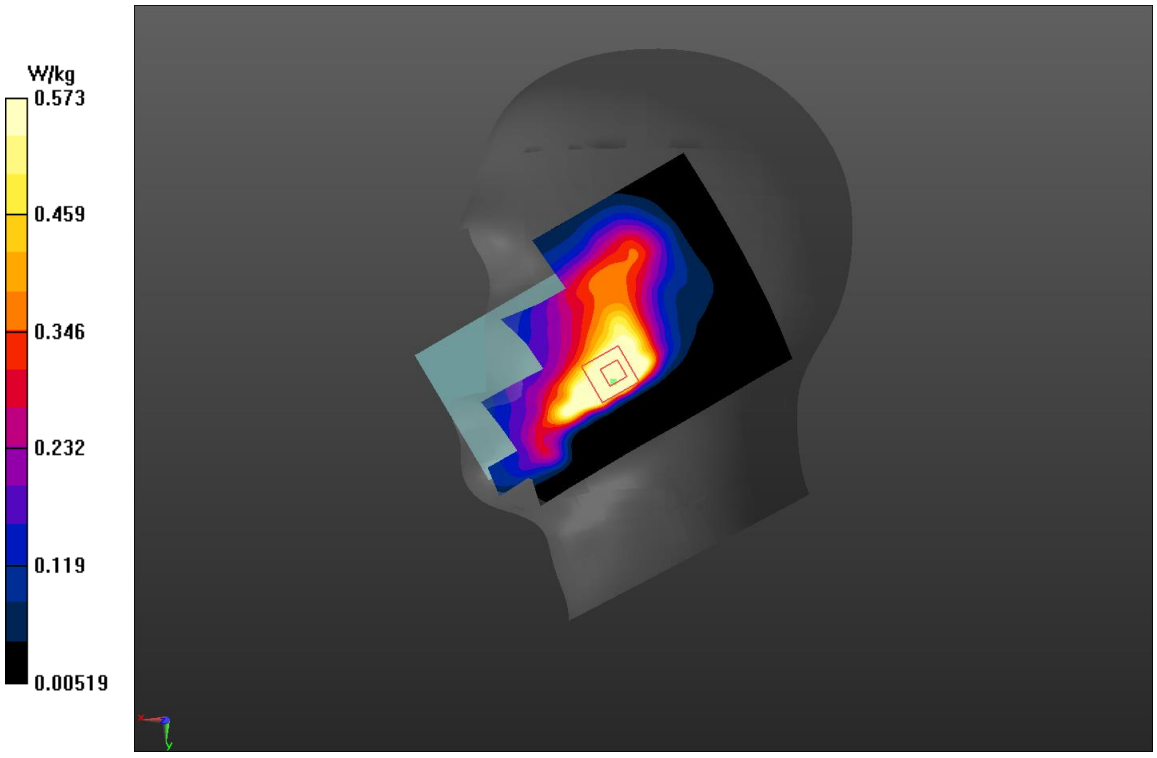
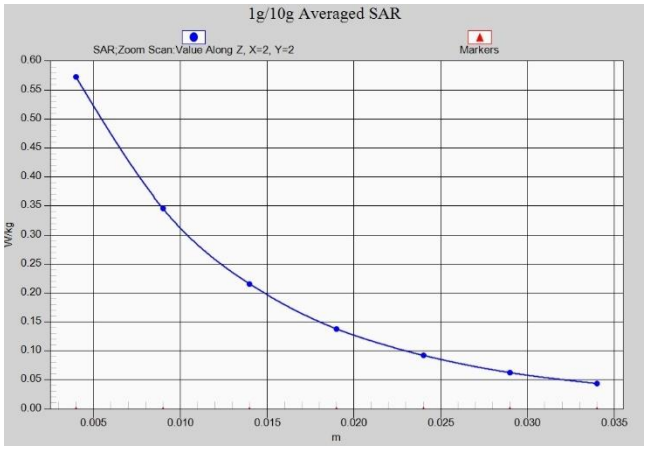


Fig A.3



PCS1900_CH661 Rear GPRS（4TX）10mm

Date: 6/20/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.404 mho/m; εr = 39.89; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: PCS1900 1880 Duty Cycle: 1:2
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.723 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.89 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.798 W/kg
SAR(1 g) = 0.485 W/kg; SAR(10 g) = 0.295 W/kg
Maximum value of SAR (measured) = 0.679 W/kg

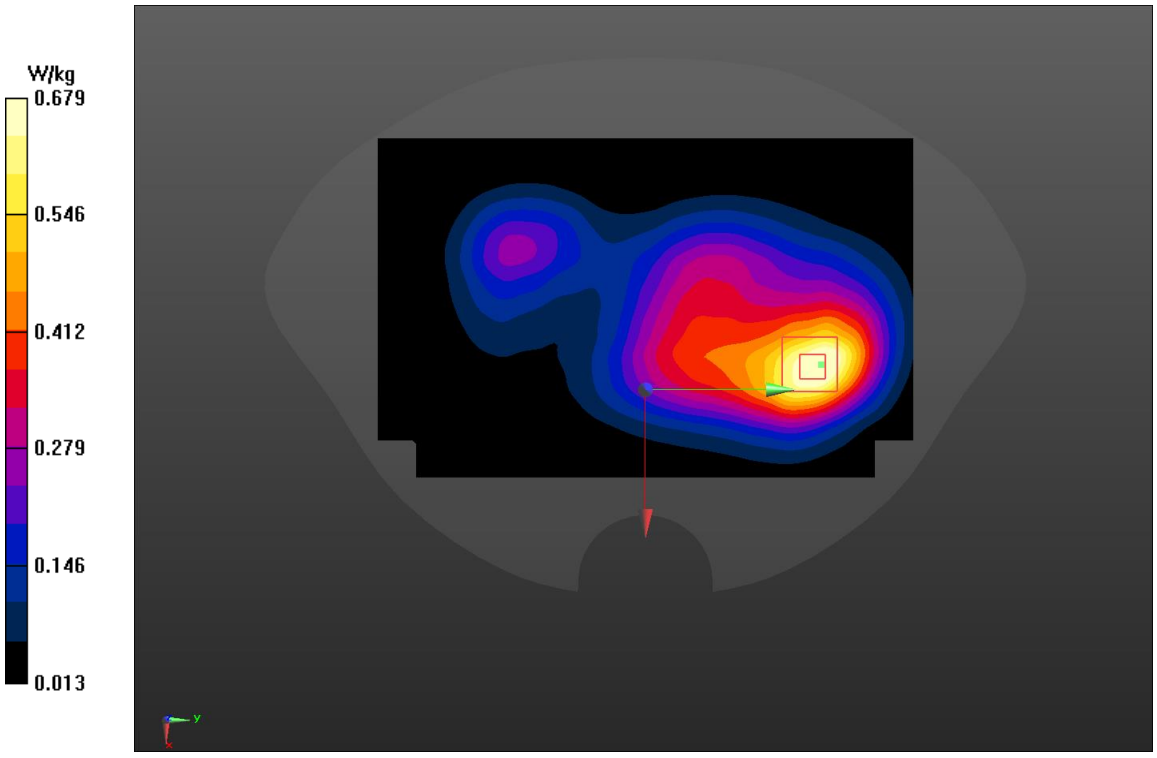
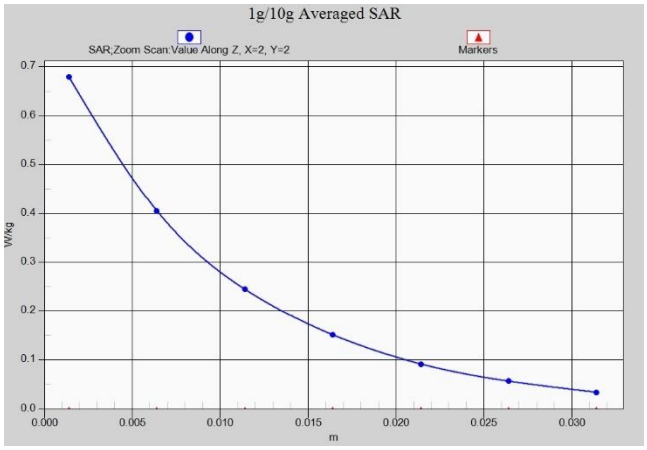


Fig A.4



PCS1900_CH810 Front GPRS（4TX）15mm

Date: 6/20/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1909.8 MHz; σ = 1.432 mho/m; εr = 39.86; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: PCS1900 1909.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.387 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.442 W/kg
SAR(1 g) = 0.271 W/kg; SAR(10 g) = 0.166 W/kg
Maximum value of SAR (measured) = 0.376 W/kg

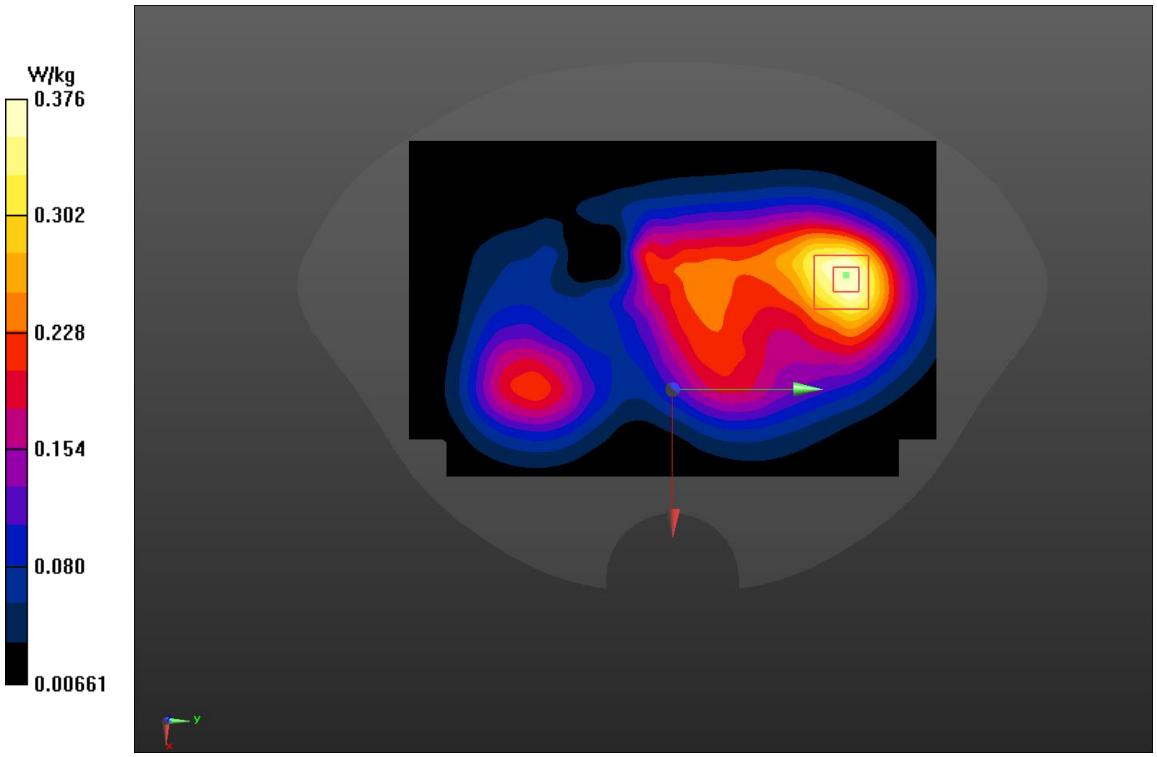
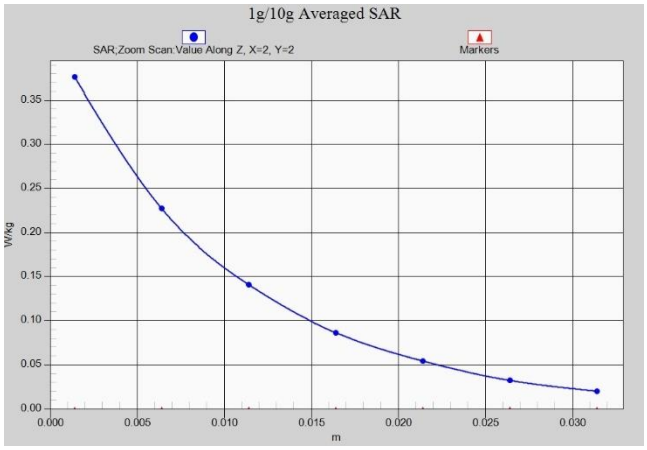


Fig A.5



WCDMA1900-BII_CH9262 Right Cheek

Date: 6/20/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.364 mho/m; εr = 40.66; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1900-BII 1852.4 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.336 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.068 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.359 W/kg
SAR(1 g) = 0.227 W/kg; SAR(10 g) = 0.141 W/kg
Maximum value of SAR (measured) = 0.244 W/kg

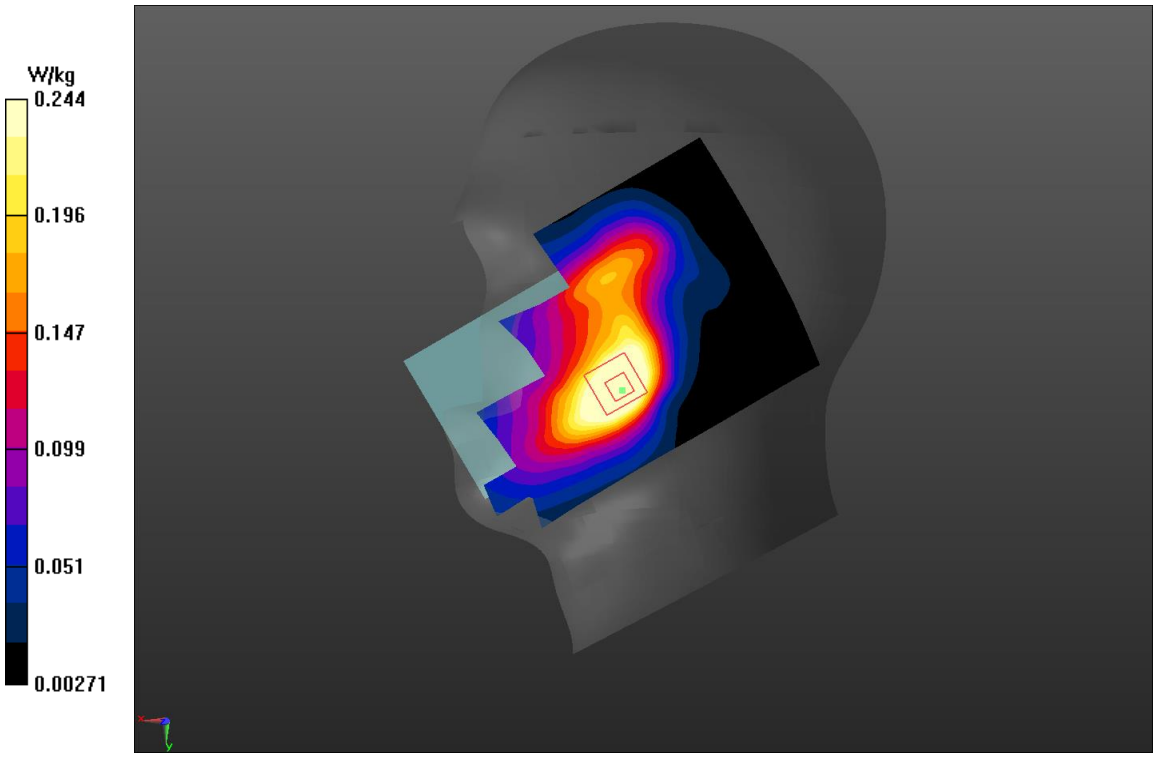
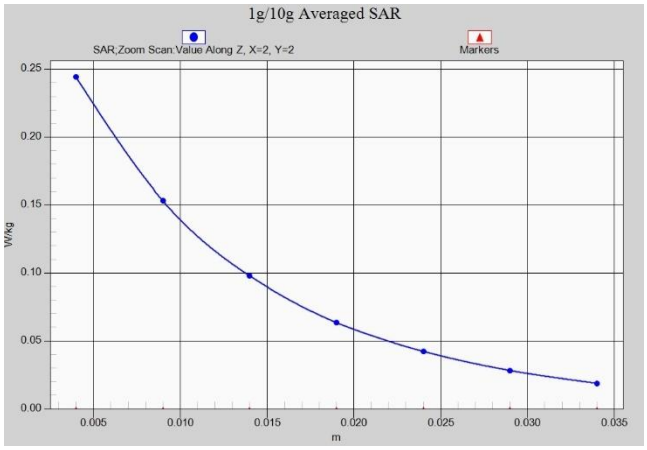


Fig A.6



WCDMA1900-BII_CH9262 Rear 10mm

Date: 6/20/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.377 mho/m; εr = 39.93; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1900-BII 1852.4 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.677 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.17 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.801 W/kg
SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.271 W/kg
Maximum value of SAR (measured) = 0.660 W/kg

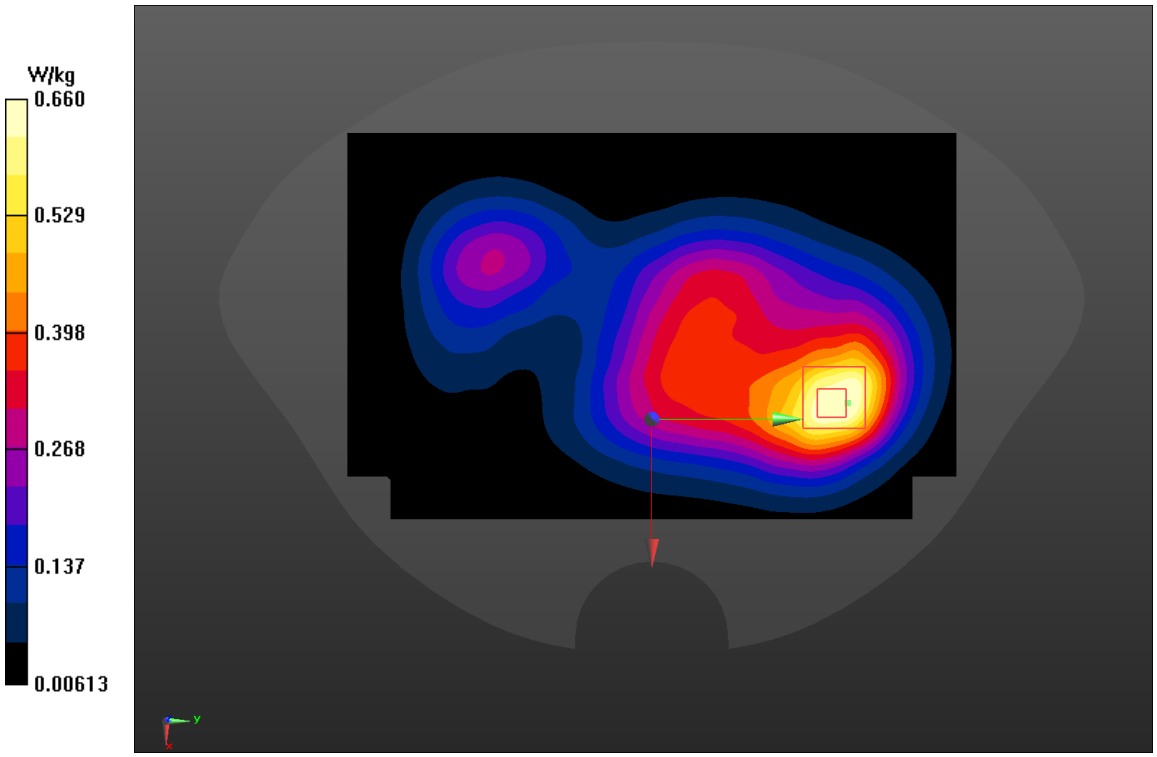
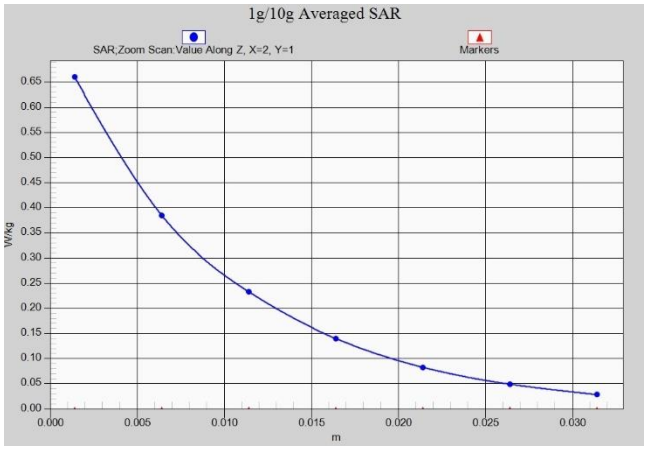


Fig A.7



WCDMA1700-BIV_CH1513 Right Cheek

Date: 6/18/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1752.6 MHz; σ = 1.386 mho/m; εr = 39.85; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA1700-BIV 1752.6 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.302 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.51 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.134 W/kg
Maximum value of SAR (measured) = 0.232 W/kg

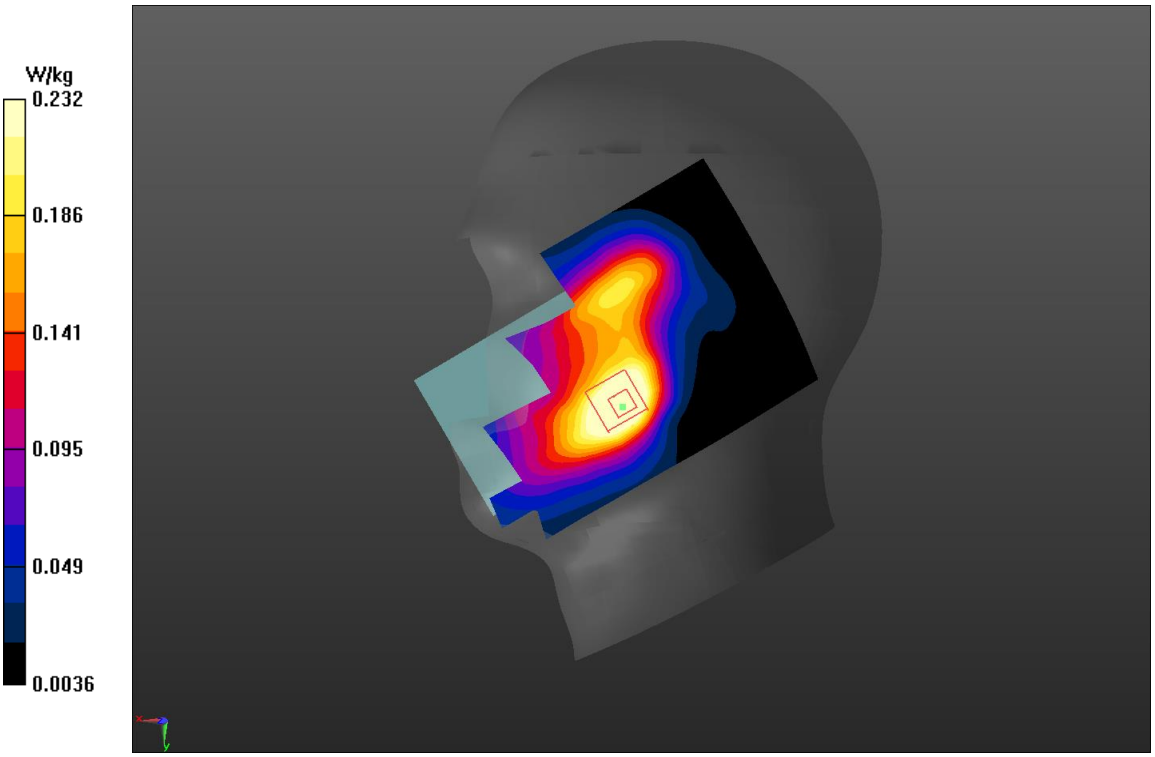
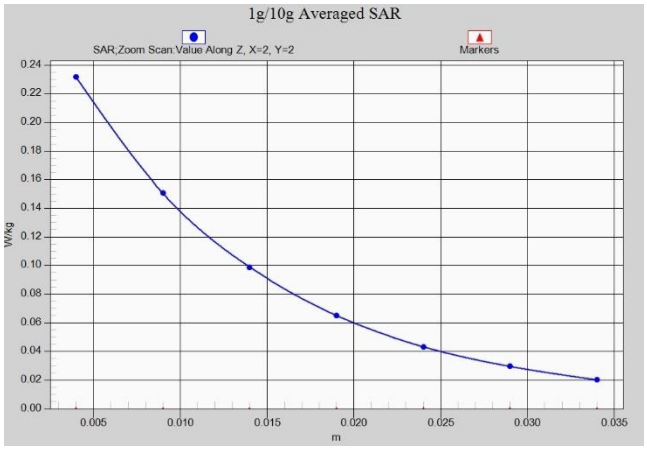


Fig A.8



WCDMA1700-BIV_CH1412 Rear 10mm

Date: 6/18/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1732.4 MHz; σ = 1.341 mho/m; εr = 39.99; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA1700-BIV 1732.4 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.677 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.17 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.801 W/kg
SAR(1 g) = 0.424 W/kg; SAR(10 g) = 0.258 W/kg
Maximum value of SAR (measured) = 0.595 W/kg

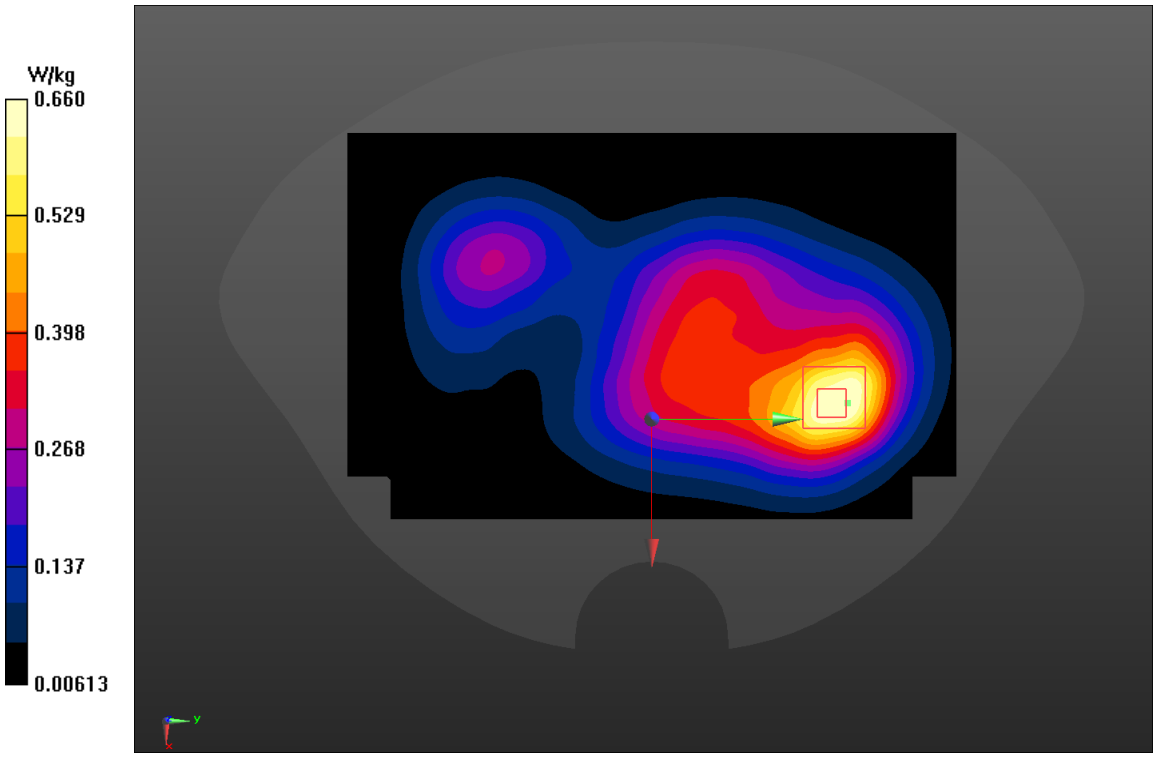
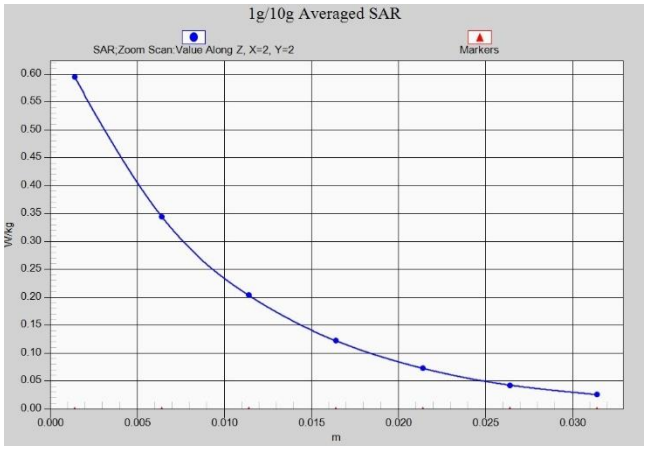


Fig A.9



WCDMA850-BV_CH4233 Left Cheek

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.26; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WCDMA850-BV 846.6 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.224 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.476 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.243 W/kg
SAR(1 g) = 0.181 W/kg; SAR(10 g) = 0.136 W/kg
Maximum value of SAR (measured) = 0.222 W/kg

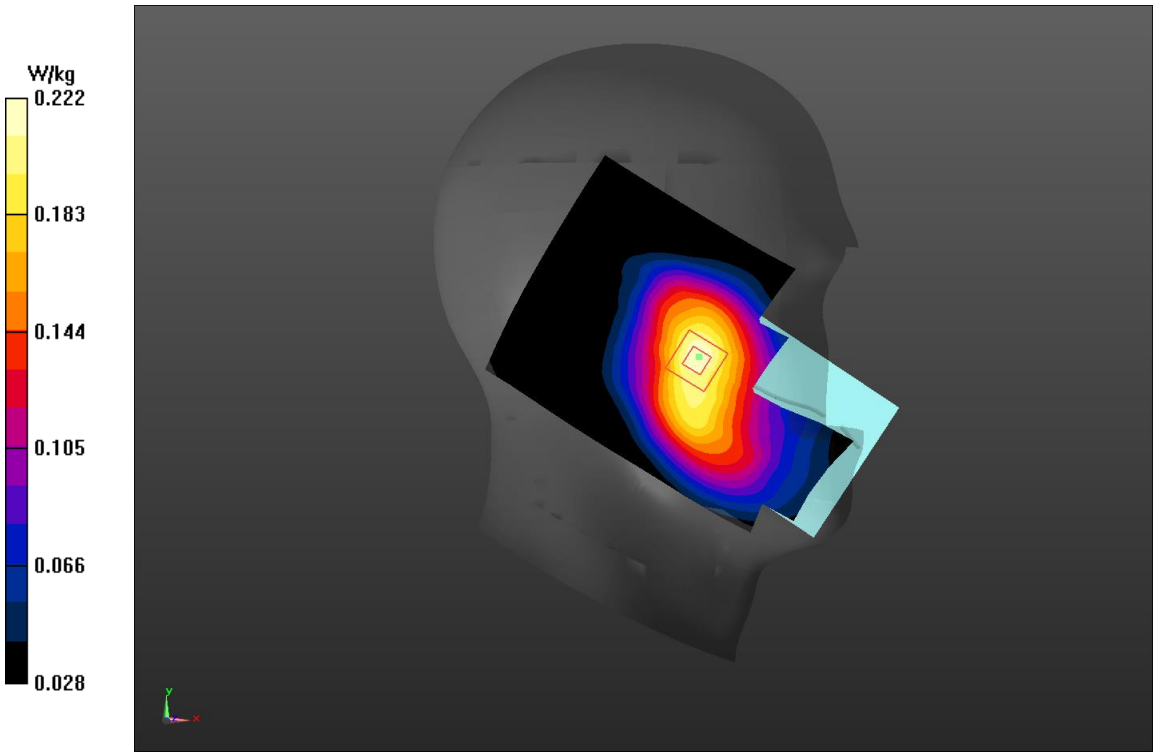
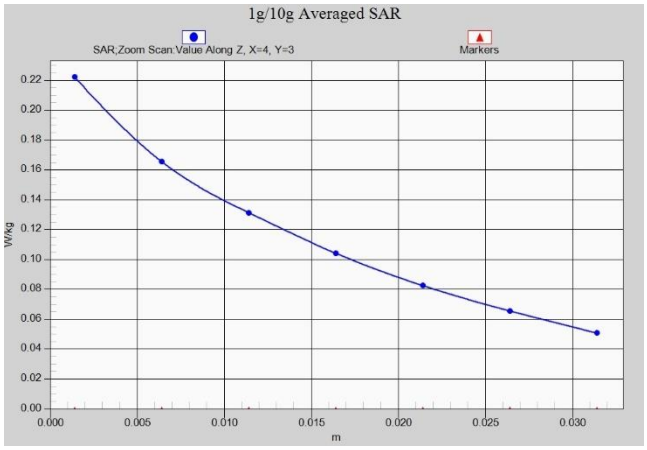


Fig A.10



WCDMA850-BV_CH4233 Rear 10mm

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 846.6 MHz; σ = 0.914 mho/m; εr = 42.11; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA850-BV 846.6 Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.337 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.39 W/kg
SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.146 W/kg
Maximum value of SAR (measured) = 0.331 W/kg

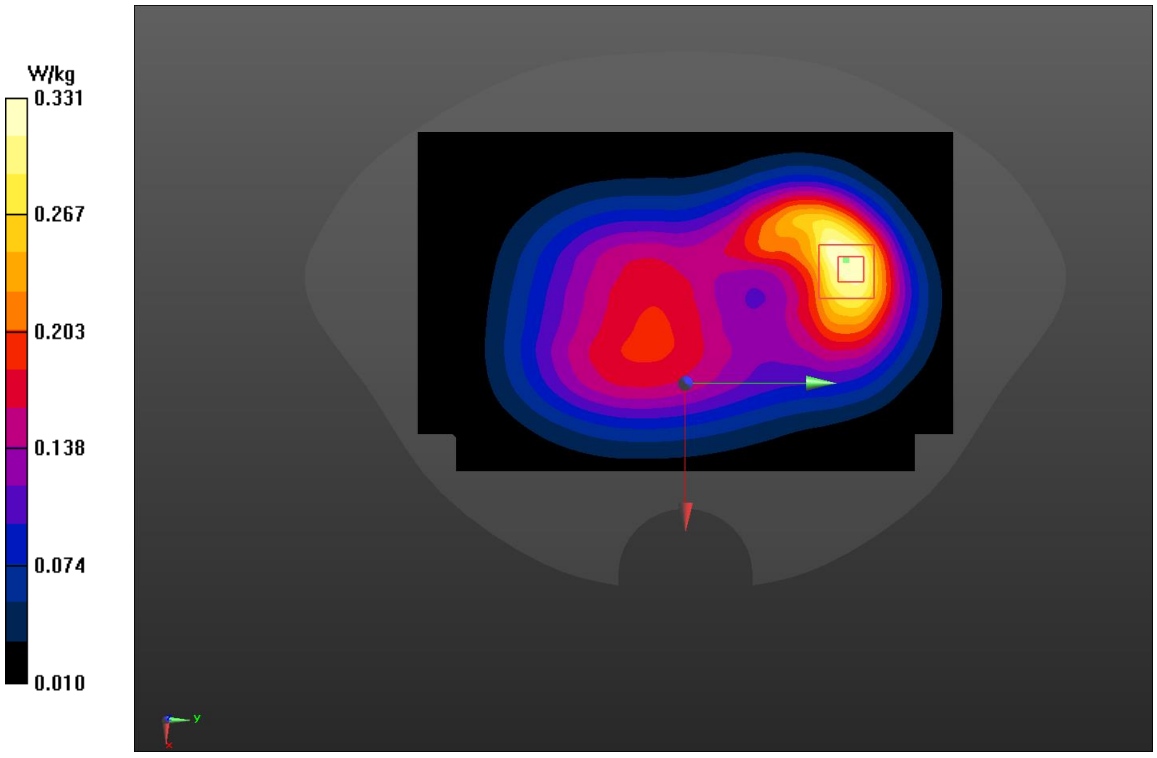
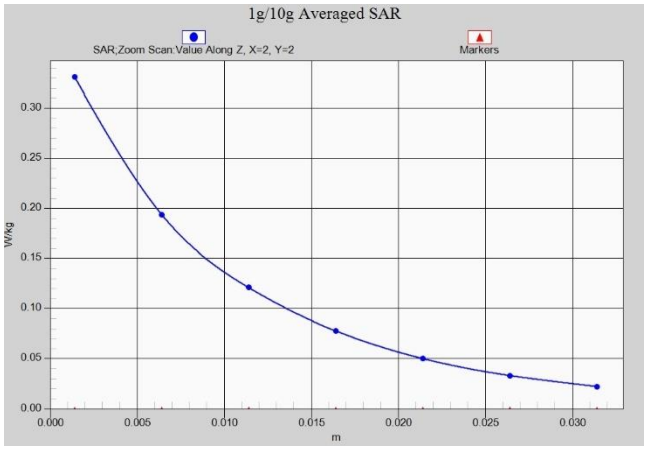


Fig A.11



LTE1900-FDD2_CH18700 Right Cheek 1RB-Low

Date: 6/21/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.372 mho/m; εr = 40.65; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.948 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.328 W/kg
SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.126 W/kg
Maximum value of SAR (measured) = 0.221 W/kg

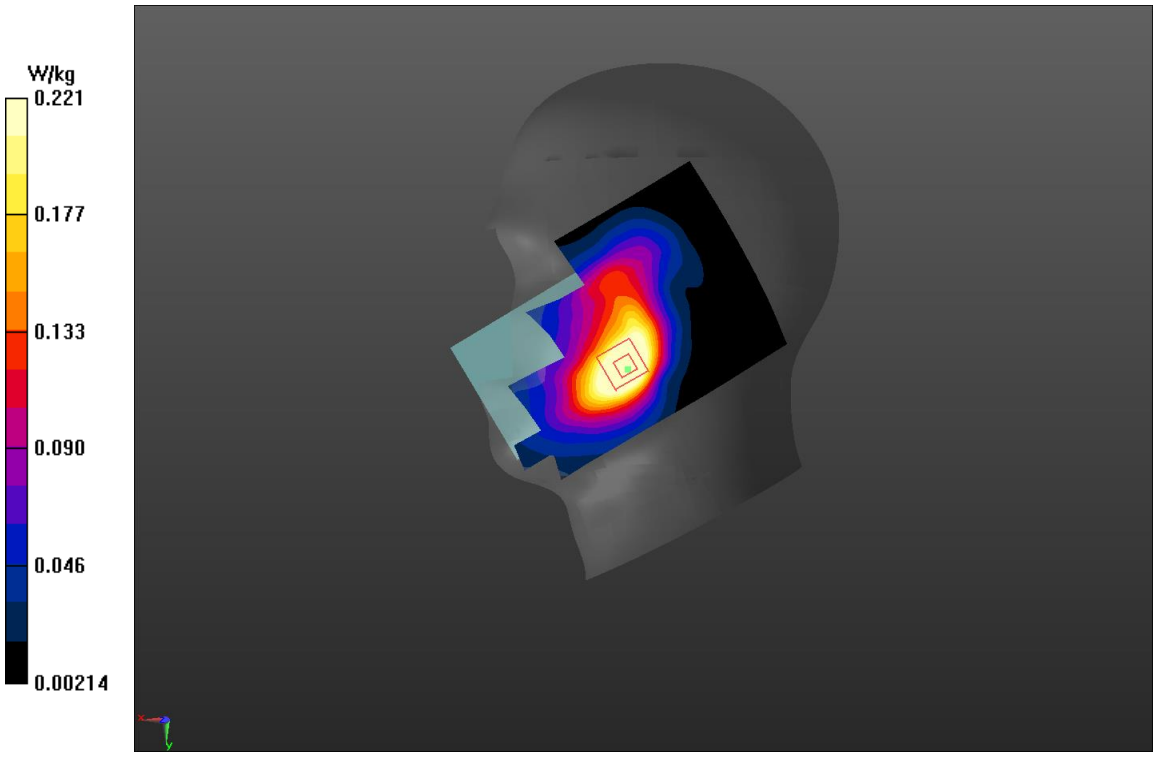
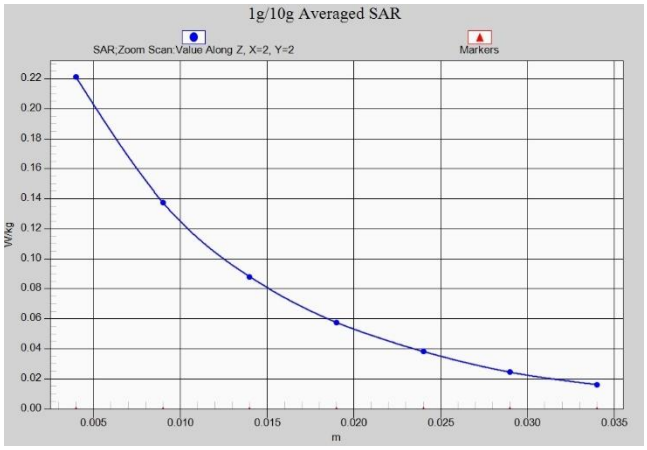


Fig A.12



LTE1900-FDD2_CH18700 Rear 10mm 1RB-Low

Date: 6/21/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.385 mho/m; εr = 39.92; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.605 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.65 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.655 W/kg
SAR(1 g) = 0.39 W/kg; SAR(10 g) = 0.234 W/kg
Maximum value of SAR (measured) = 0.547 W/kg

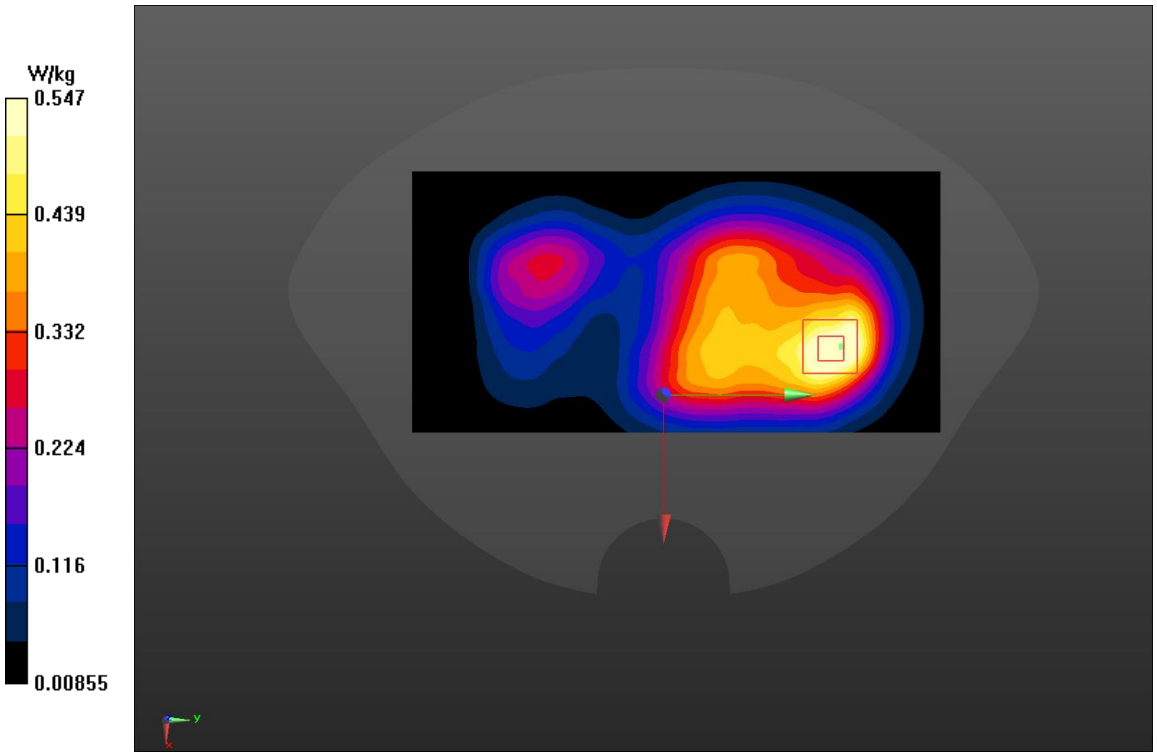
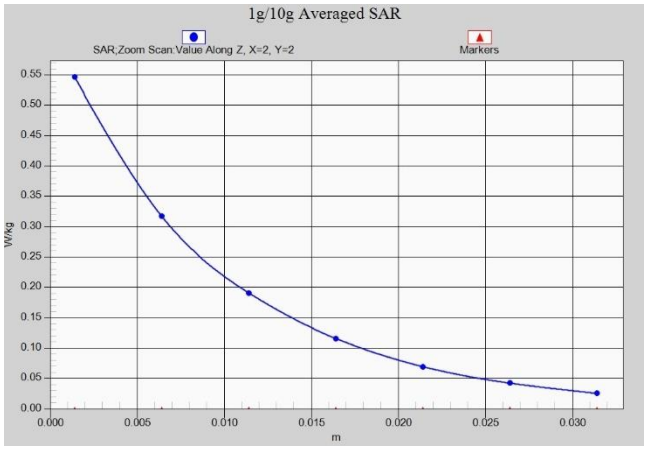


Fig A.13



LTE850-FDD5_CH20450 Left Cheek 1RB-Low

Date: 6/17/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 829 MHz; σ = 0.884 mho/m; εr = 41.28; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.159 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.929 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.182 W/kg
SAR(1 g) = 0.136 W/kg; SAR(10 g) = 0.105 W/kg
Maximum value of SAR (measured) = 0.166 W/kg

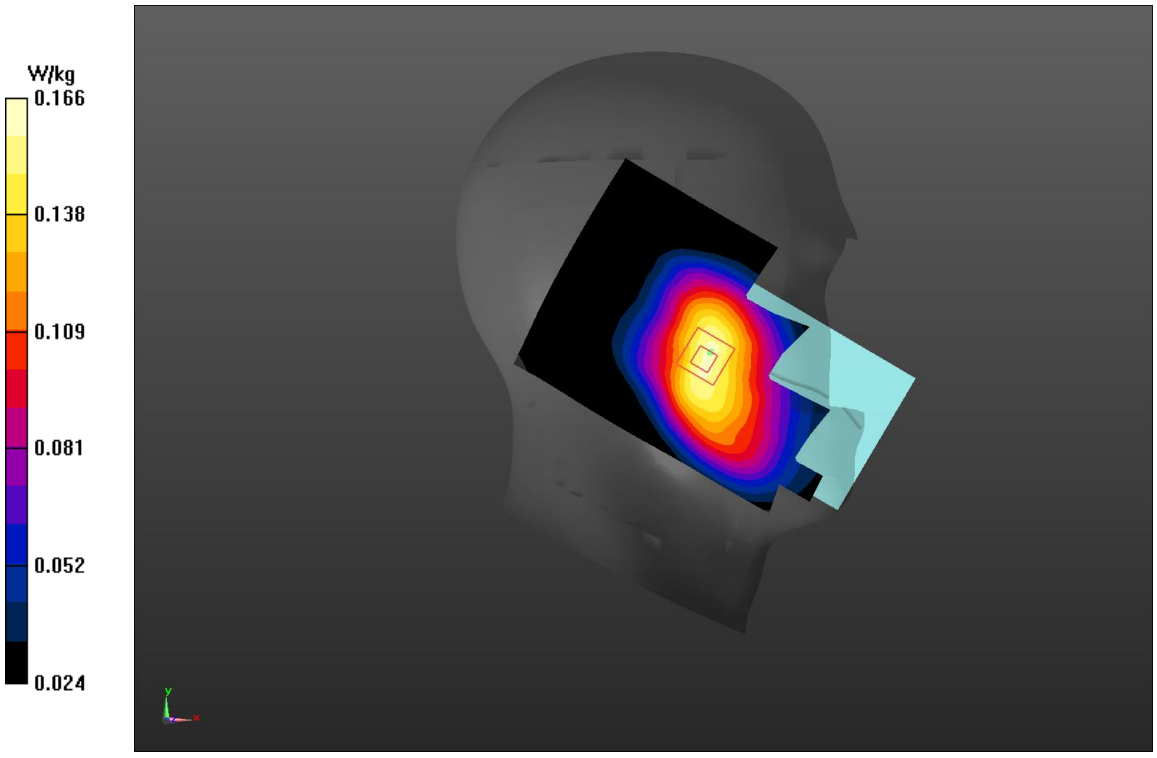
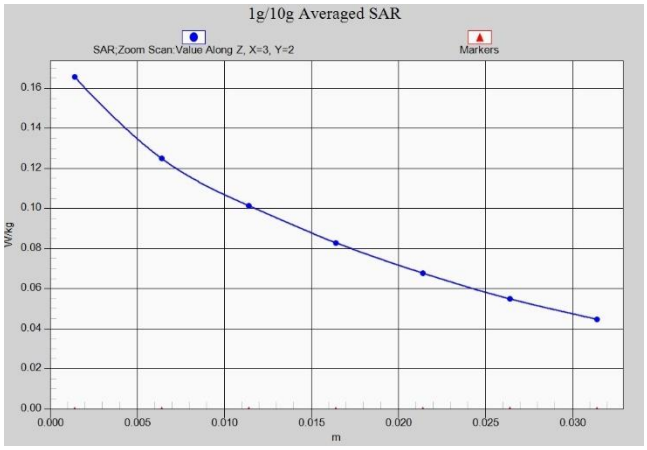


Fig A.14



LTE850-FDD5_CH20450 Rear 10mm 1RB-Low

Date: 6/17/2022
Electronics: DAE4 Sn549
Medium: head 835 MHz
Medium parameters used: f = 829 MHz; σ = 0.897 mho/m; εr = 42.13; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.2,10.2,10.2)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.272 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.25 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.267 W/kg

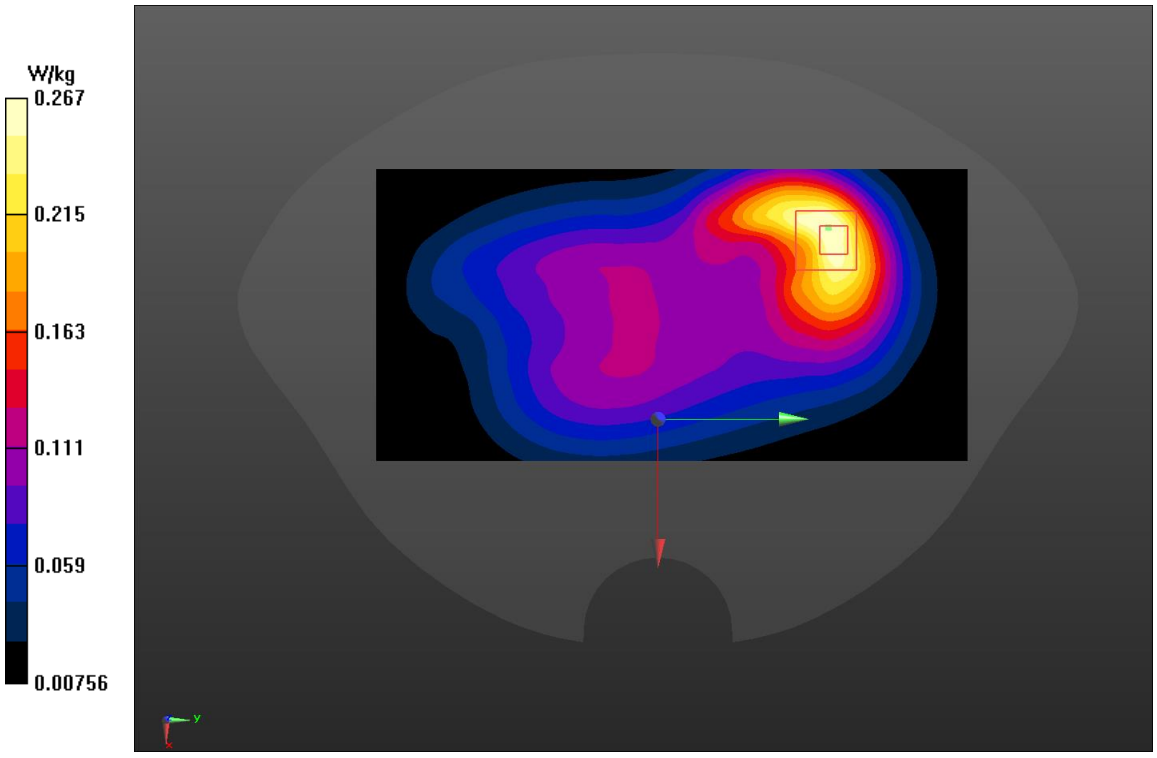
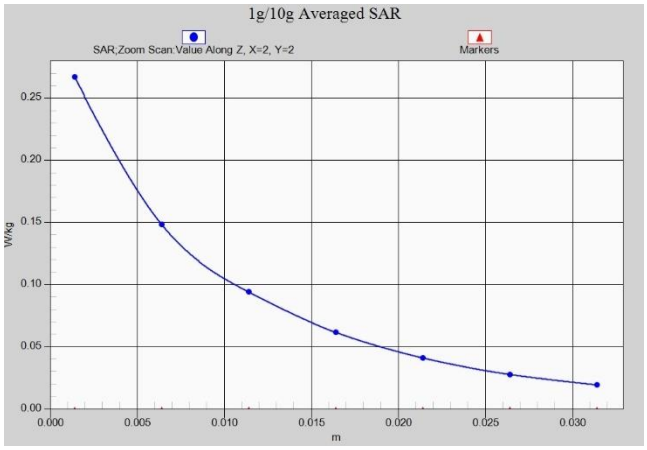


Fig A.15



LTE2500-FDD7_CH21100 Left Cheek 1RB-High

Date: 6/22/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2535 MHz; σ = 1.881 mho/m; εr = 38.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.63 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.892 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.839 W/kg; SAR(10 g) = 0.41 W/kg
Maximum value of SAR (measured) = 1.31 W/kg

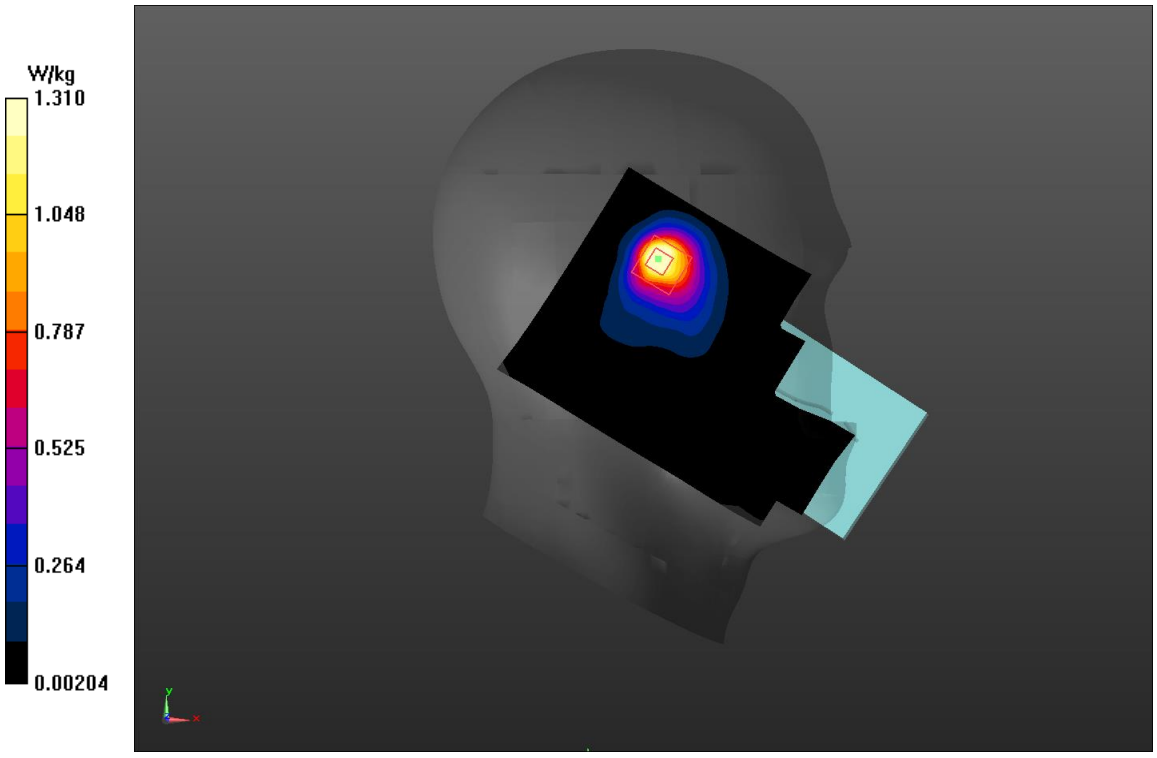
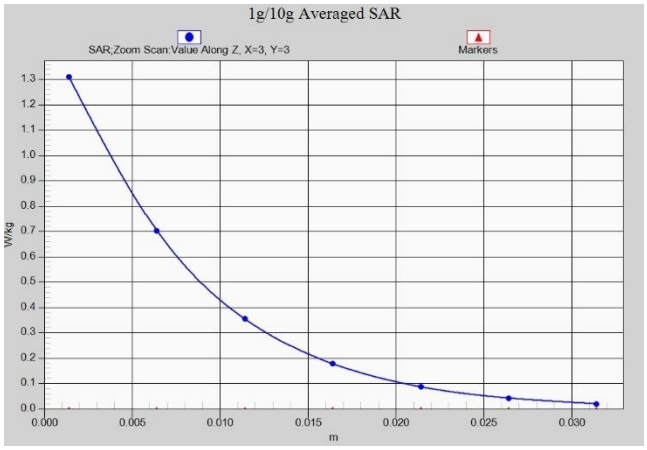


Fig A.16



LTE2500-FDD7_CH21100 Front 10mm 1RB-High

Date: 6/22/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2535 MHz; σ = 1.914 mho/m; εr = 39.58; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.11 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.659 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.674 W/kg; SAR(10 g) = 0.342 W/kg
Maximum value of SAR (measured) = 1.05 W/kg

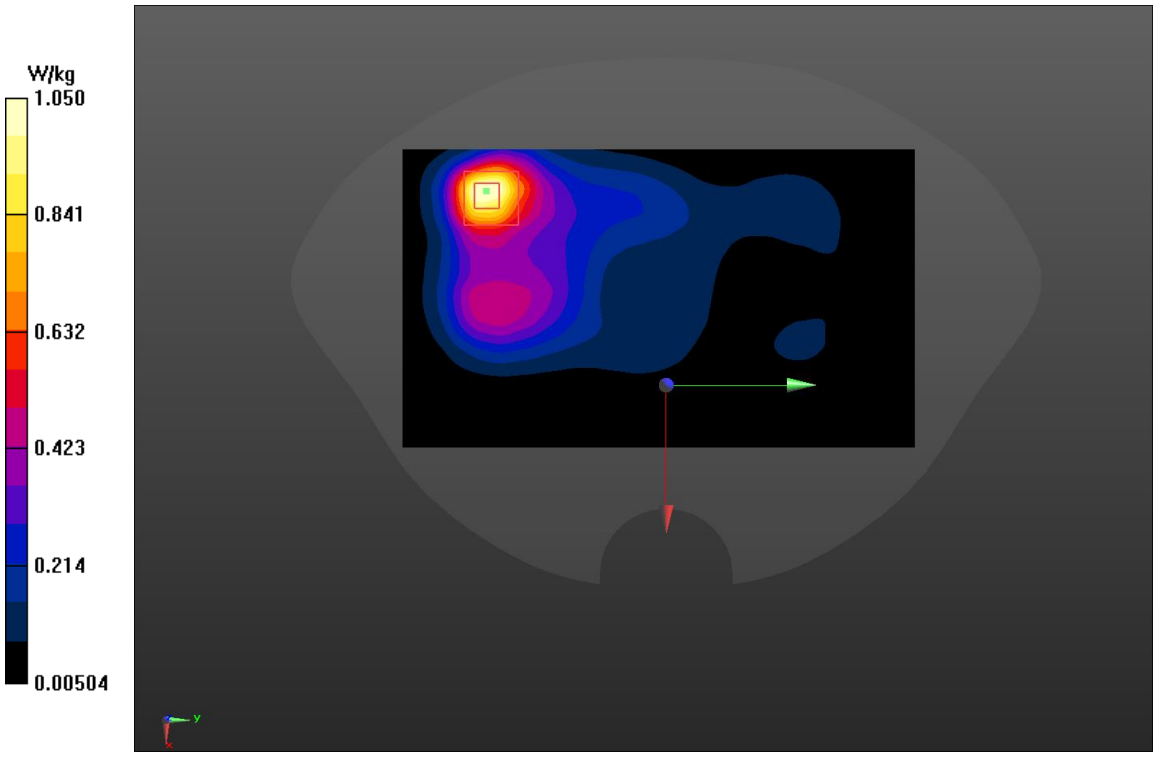
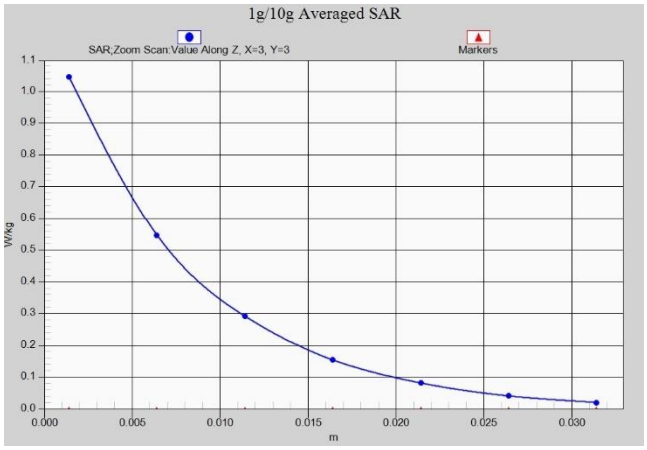


Fig A.17



LTE2500-FDD7_CH21100 Left Cheek 1RB-High

Date: 6/22/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2535 MHz; σ = 1.881 mho/m; εr = 38.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.728 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.191 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.69 W/kg
SAR(1 g) = 0.615 W/kg; SAR(10 g) = 0.337 W/kg
Maximum value of SAR (measured) = 0.871 W/kg

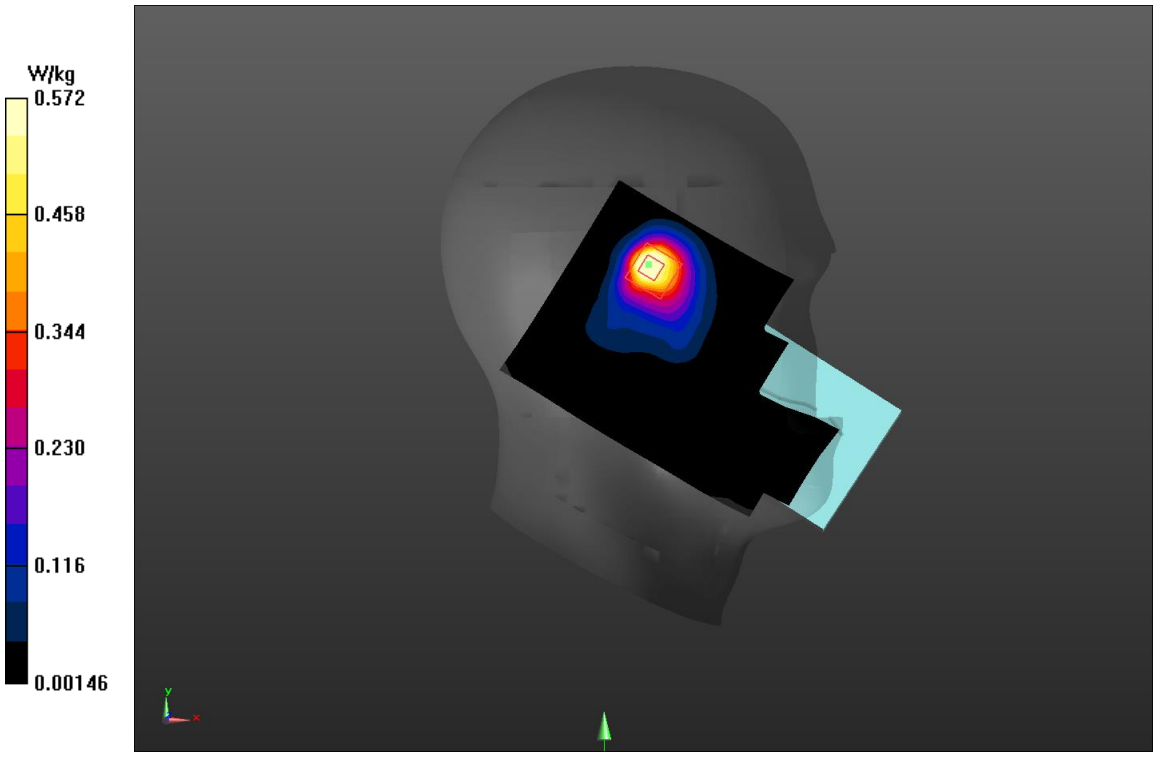
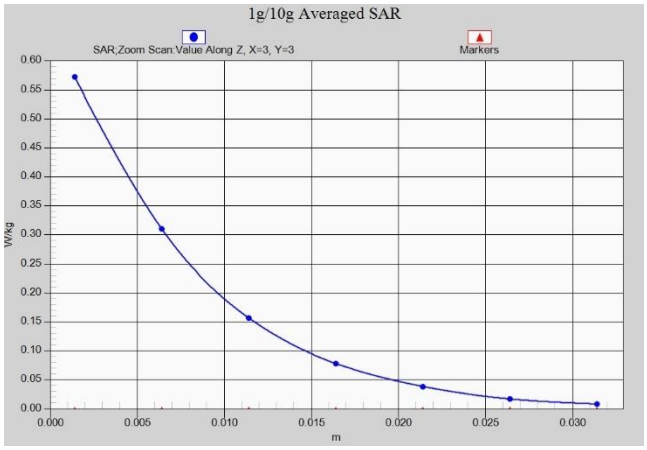


Fig A.18



LTE2500-FDD7_CH21350 Left Cheek 1RB-High

Date: 6/22/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f =2560 MHz; σ = 1.881 mho/m; εr = 38.94; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.728 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.978 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.69 W/kg
SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.051 W/kg
Maximum value of SAR (measured) = 0.172 W/kg

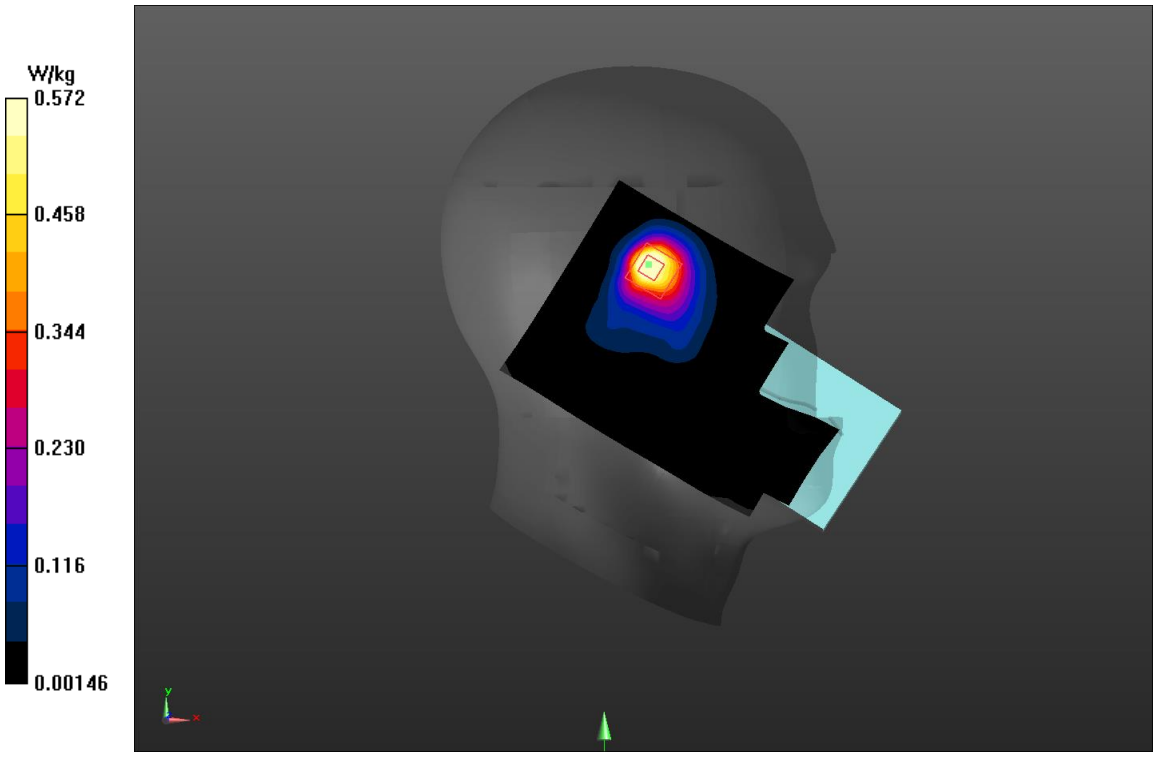
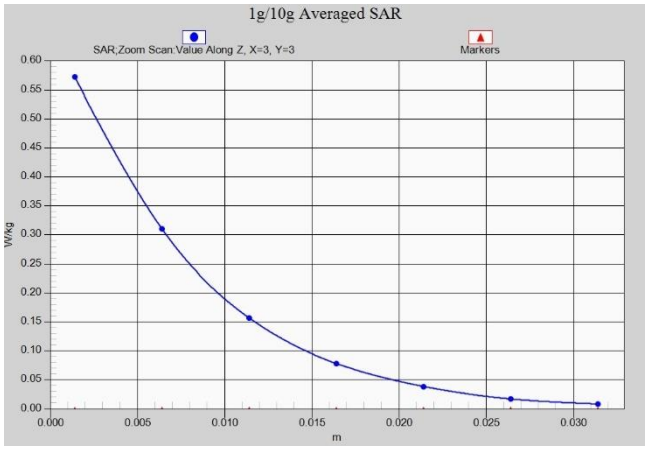


Fig A.19



LTE2500-FDD7_CH21350 Front 10mm 1RB-High

Date: 6/22/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 1.914 mho/m; εr = 39.58; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.601 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.731 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.739 W/kg
SAR(1 g) = 0.386 W/kg; SAR(10 g) = 0.203 W/kg
Maximum value of SAR (measured) = 0.609 W/kg

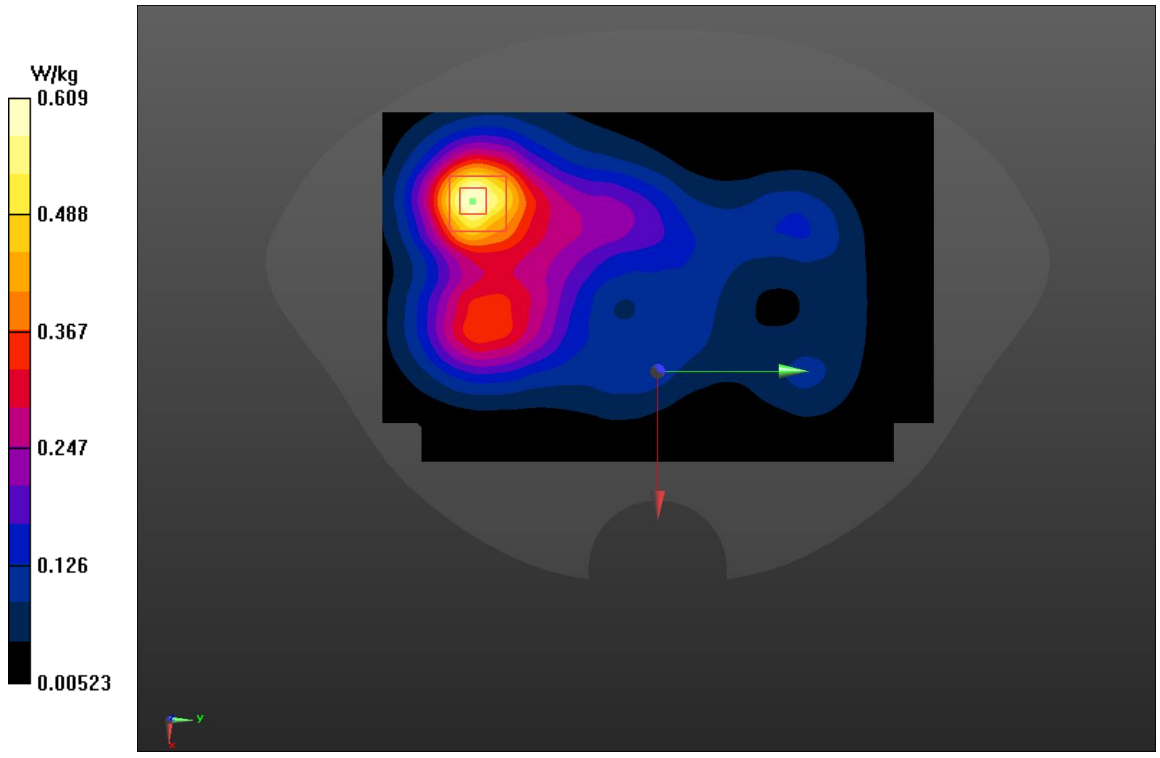
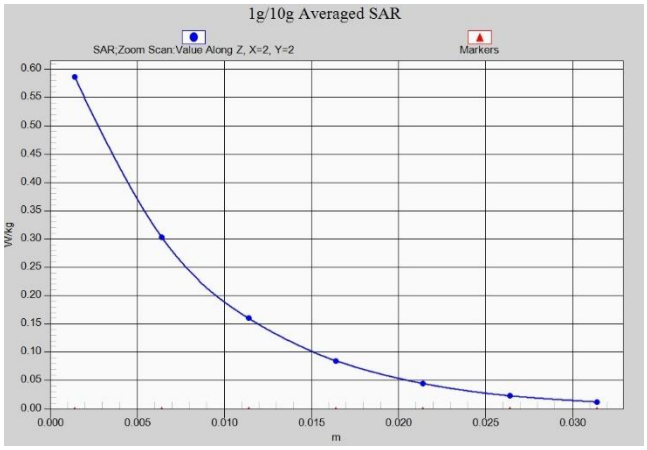


Fig A.20



LTE700-FDD12_CH23060 Left Cheek 1RB-Low

Date: 6/15/2022
Electronics: DAE4 Sn549
Medium: head 750 MHz
Medium parameters used: f = 704 MHz; σ = 0.864 mho/m; εr = 41.99; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE700-FDD12 704 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0626 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.021 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.07 W/kg
SAR(1 g) = 0.0541 W/kg; SAR(10 g) = 0.0432 W/kg
Maximum value of SAR (measured) = 0.064 W/kg

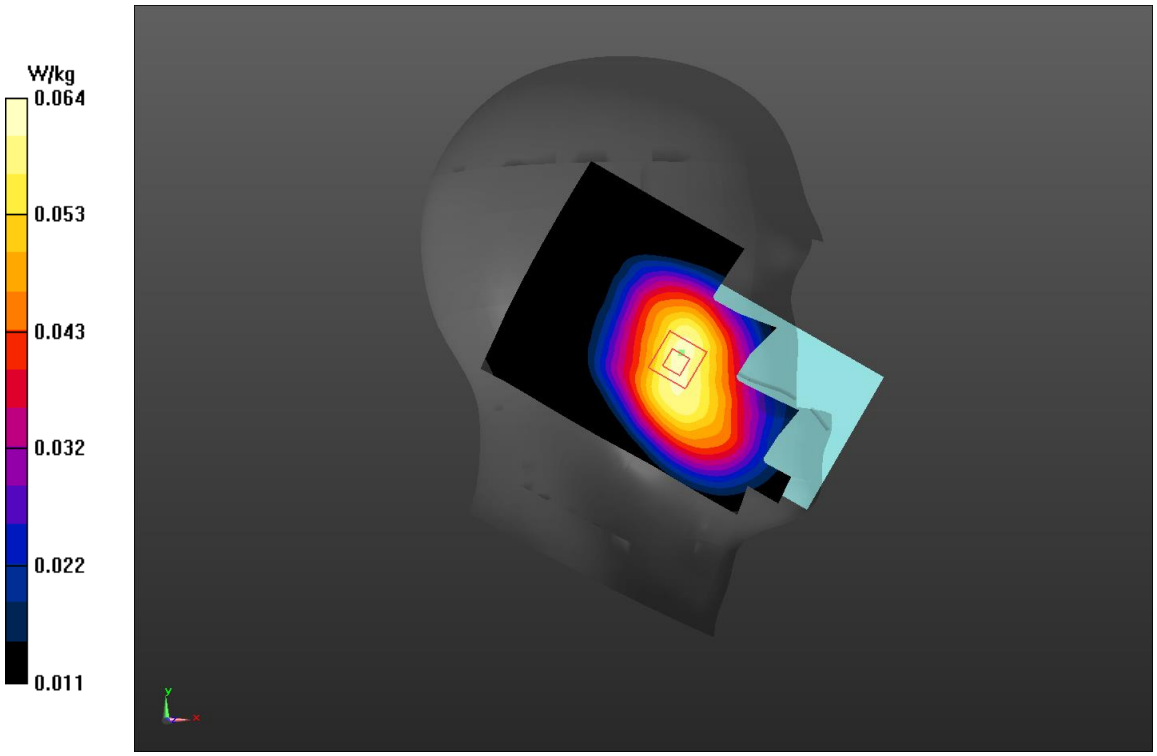
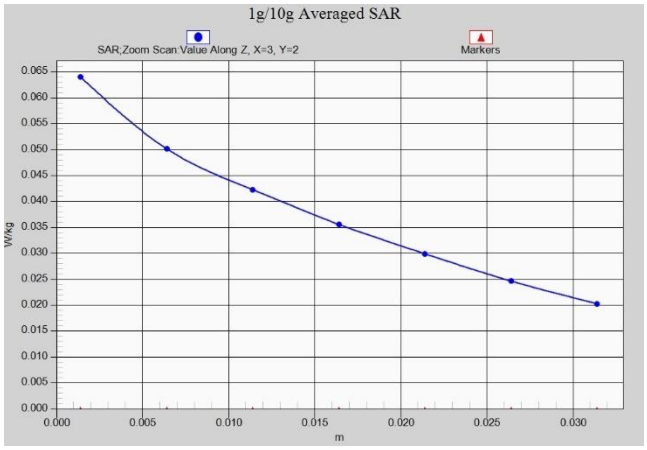


Fig A.21



LTE700-FDD12_CH23060 Rear 10mm 1RB-Low

Date: 6/15/2022
Electronics: DAE4 Sn549
Medium: head 750 MHz
Medium parameters used: f = 704 MHz; σ = 0.84 mho/m; εr = 41.85; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE700-FDD12 704 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.125 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.921 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.161 W/kg
SAR(1 g) = 0.0905 W/kg; SAR(10 g) = 0.0569 W/kg
Maximum value of SAR (measured) = 0.132 W/kg

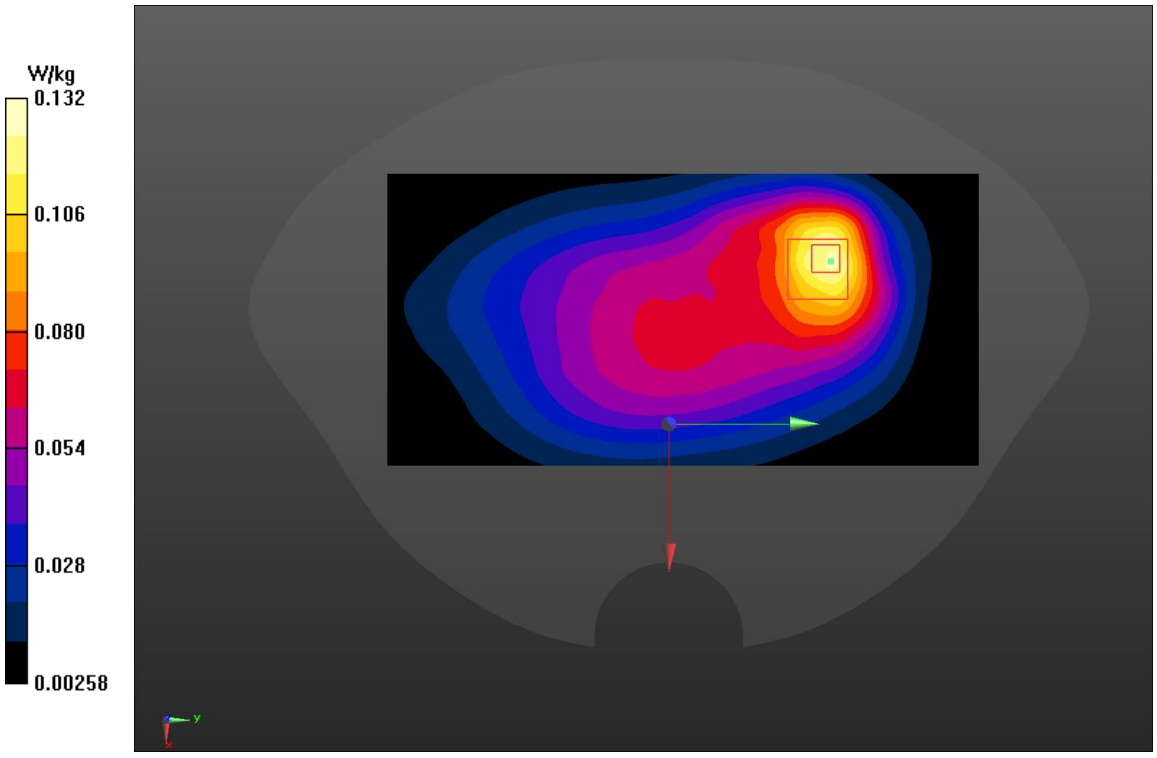
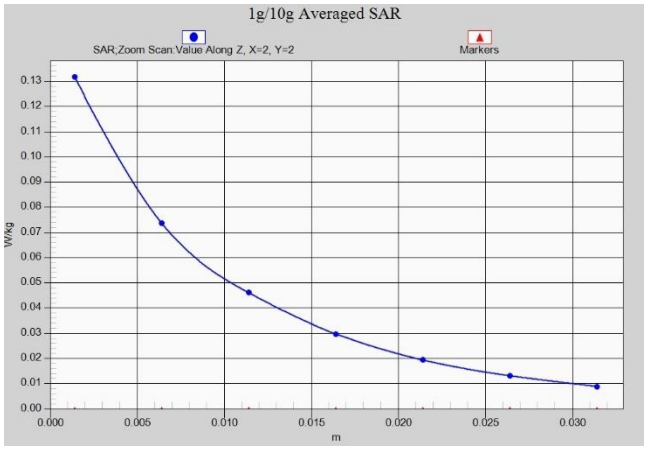


Fig A.22



LTE750-FDD13_CH23230 Left Cheek 1RB-Mid

Date: 6/15/2022
Electronics: DAE4 Sn549
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.938 mho/m; εr = 41.89; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.144 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.805 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.161 W/kg
SAR(1 g) = 0.121 W/kg; SAR(10 g) = 0.0945 W/kg
Maximum value of SAR (measured) = 0.146 W/kg

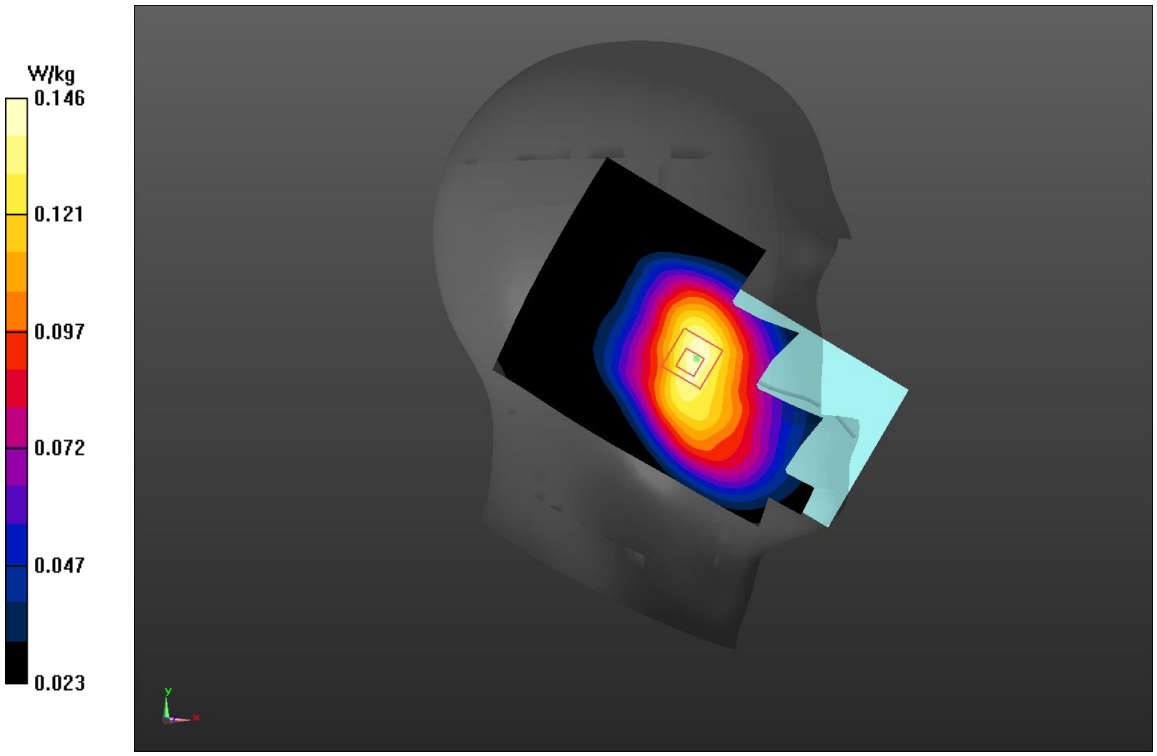
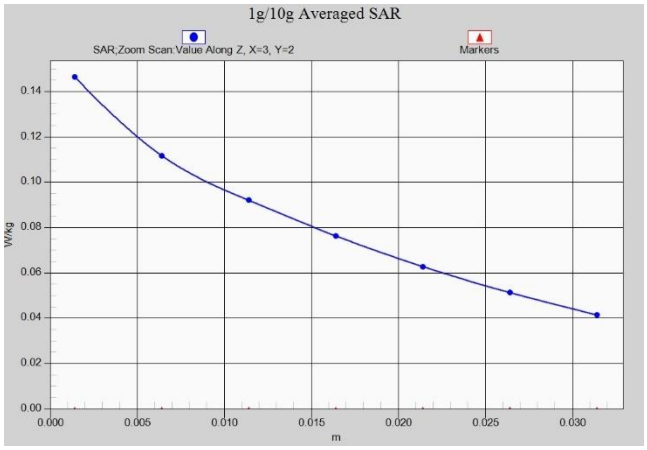


Fig A.23



LTE750-FDD13_CH23230 Rear 10mm 1RB-Mid

Date: 6/15/2022
Electronics: DAE4 Sn549
Medium: head 750 MHz
Medium parameters used: f = 782 MHz; σ = 0.914 mho/m; εr = 41.75; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(10.41,10.41,10.41)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.239 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.01 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.282 W/kg
SAR(1 g) = 0.165 W/kg; SAR(10 g) = 0.103 W/kg
Maximum value of SAR (measured) = 0.239 W/kg

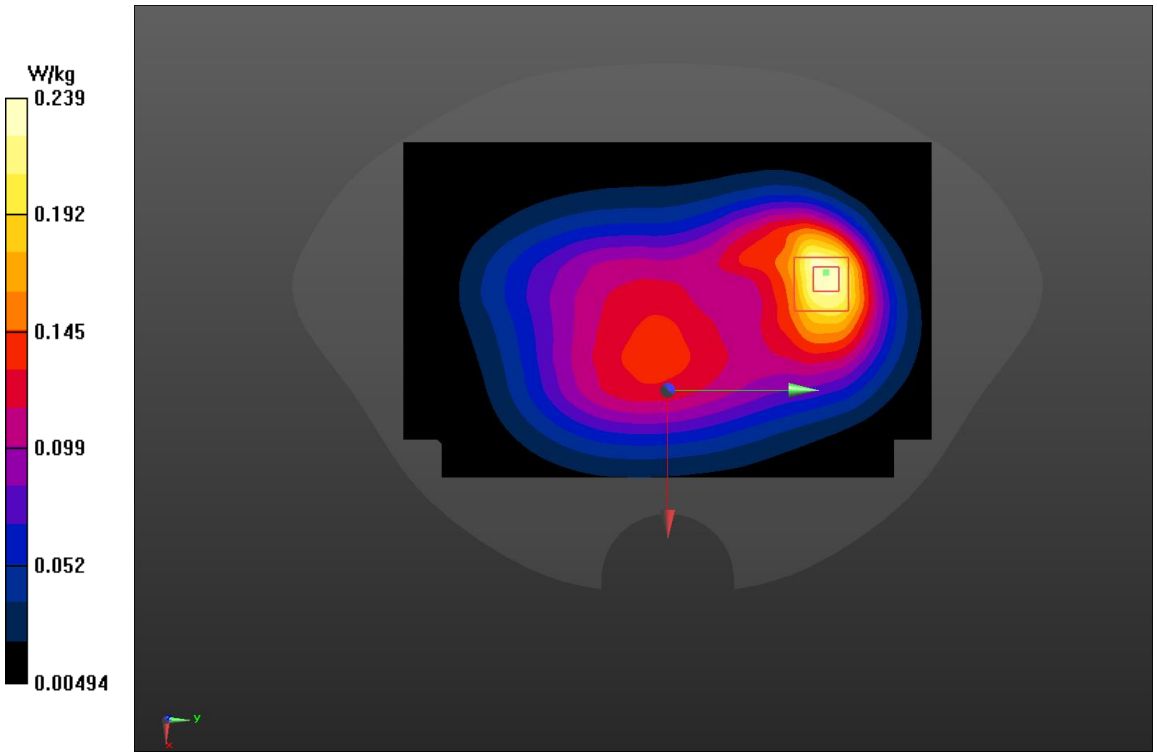
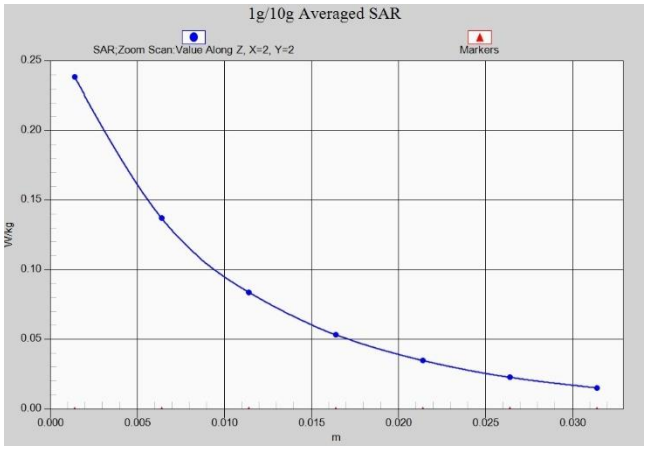


Fig A.24



LTE2600-TDD41 PC2_CH41490 Left Cheek 1RB-Low

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2680 MHz; σ = 2.034 mho/m; εr = 37.789; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2600-TDD41PC2 2680 MHz Duty Cycle: 1:2.309
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.54 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.2 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.77 W/kg; SAR(10 g) = 0.374 W/kg
Maximum value of SAR (measured) = 1.18 W/kg

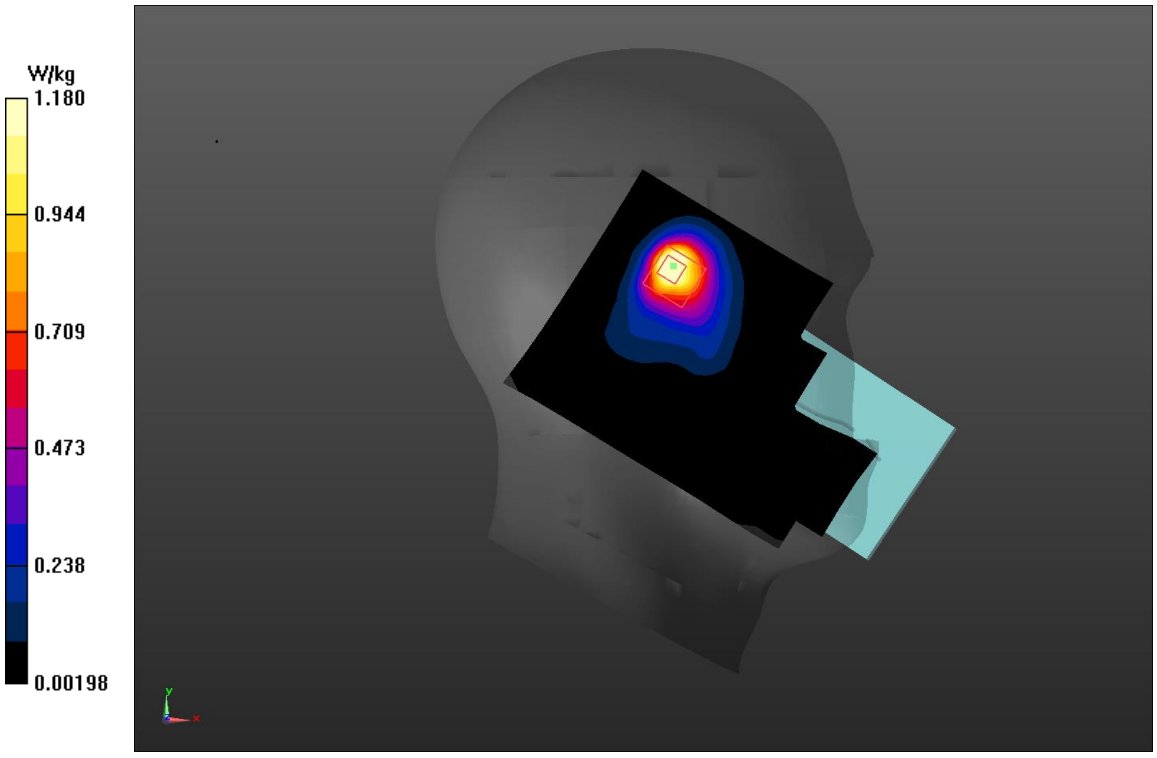
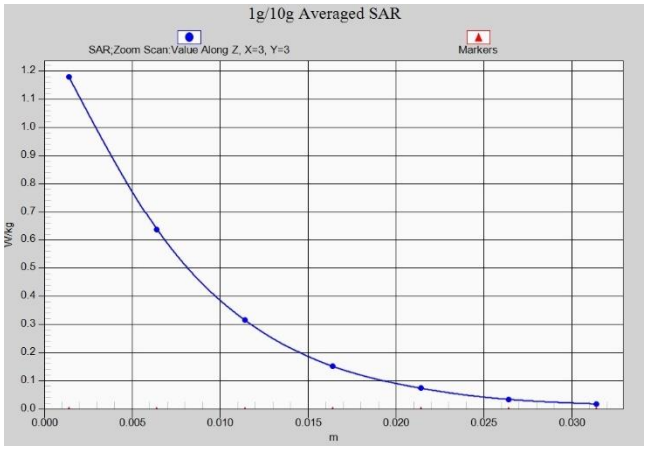


Fig A.25



LTE2600-TDD41 PC2_CH40620 Front 10mm 1RB-High

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.958 mho/m; εr = 37.873; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2600-TDD41PC2 2593 MHz Duty Cycle: 1:2.309
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.835 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.165 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.994 W/kg
SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.277 W/kg
Maximum value of SAR (measured) = 0.808 W/kg

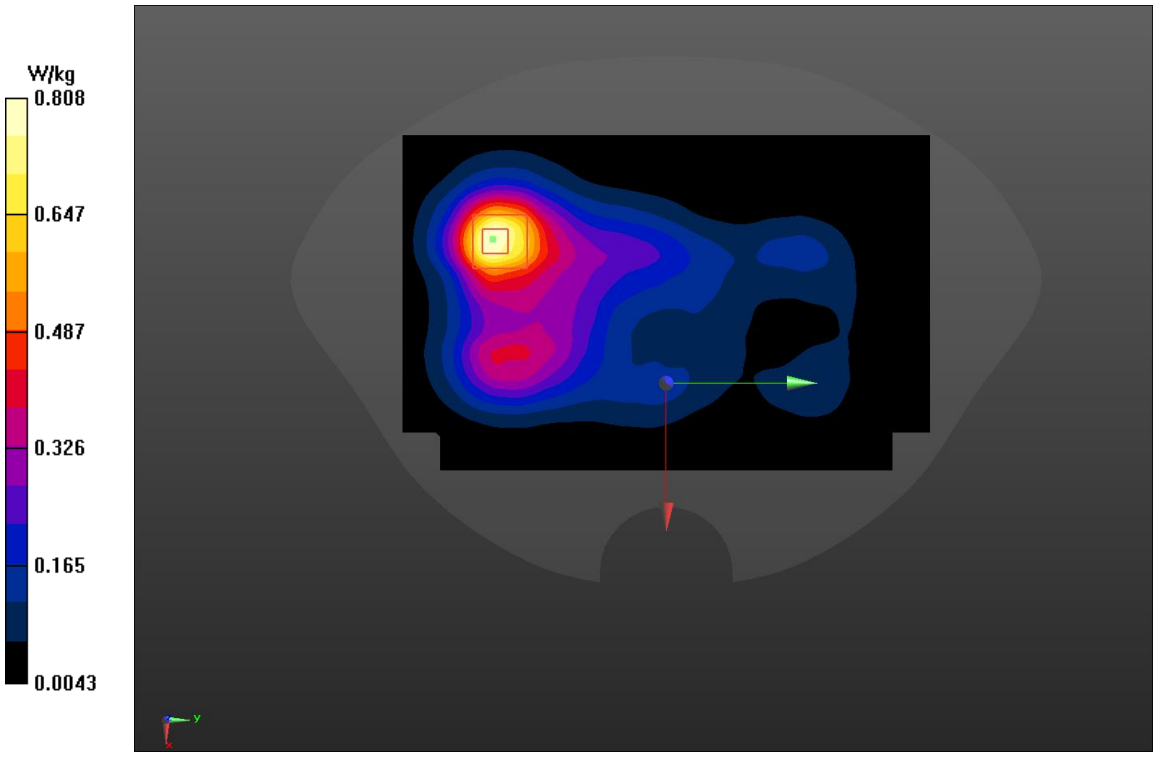
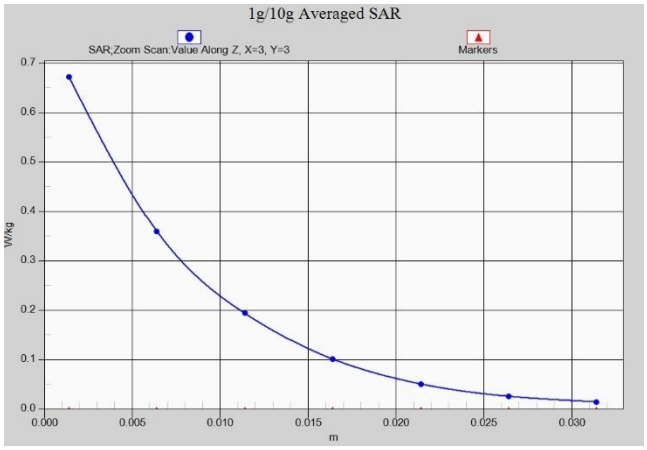


Fig A.26



LTE2600-TDD41 PC3_CH40620 Left Cheek 1RB-Low

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 2.034 mho/m; εr = 37.789; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2600-TDD41PC3 2593 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.263 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.929 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.32 W/kg
SAR(1 g) = 0.467 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 0.652 W/kg

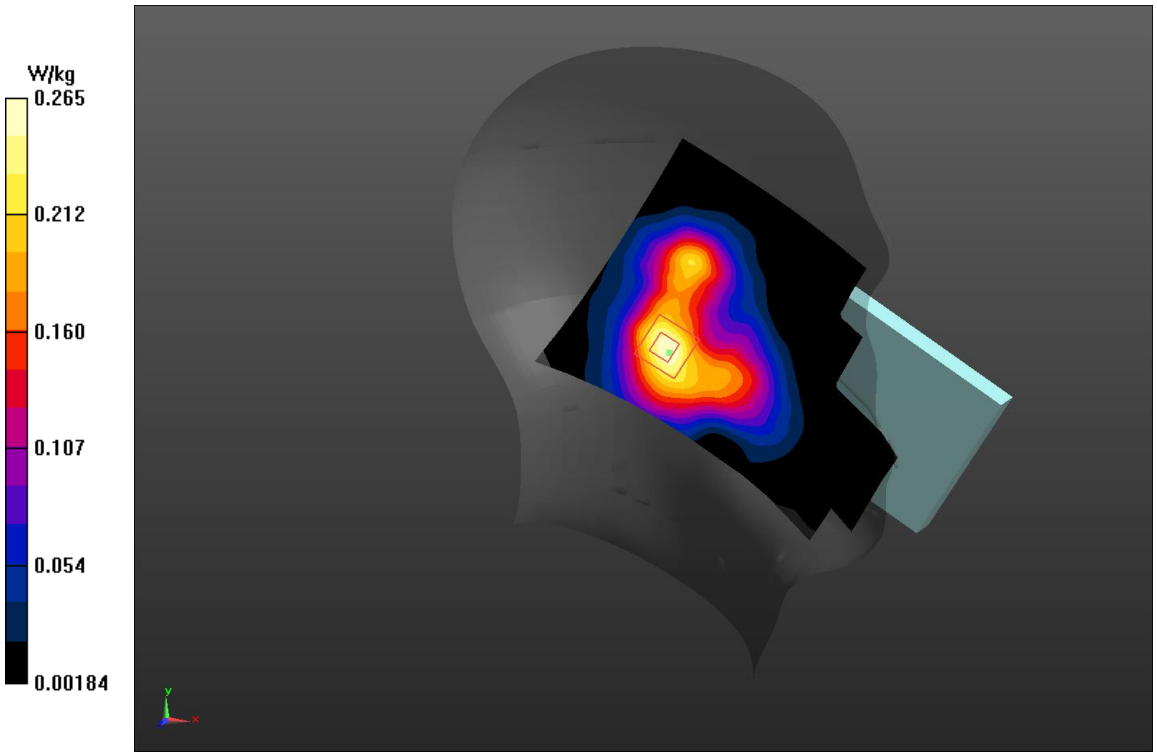
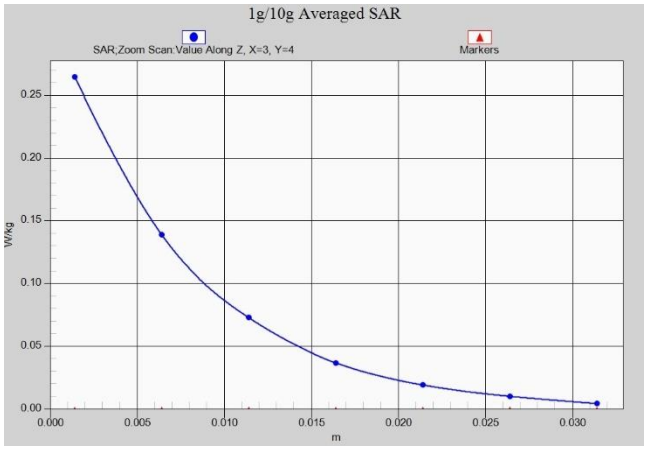


Fig A.27



LTE2600-TDD41 PC3_CH40620 Front 10mm 1RB-High

Date: 6/16/2022
Electronics: DAE4 Sn549
Medium: head 2600 MHz
Medium parameters used: f = 2593 MHz; σ = 1.907 mho/m; εr = 41.261; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE2600-TDD41PC3 2593 MHz Duty Cycle: 1:1.58
Probe: EX3DV4 – SN7464 ConvF(7.61,7.61,7.61)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.702 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.65 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.82 W/kg
SAR(1 g) = 0.436 W/kg; SAR(10 g) = 0.222 W/kg
Maximum value of SAR (measured) = 0.672 W/kg

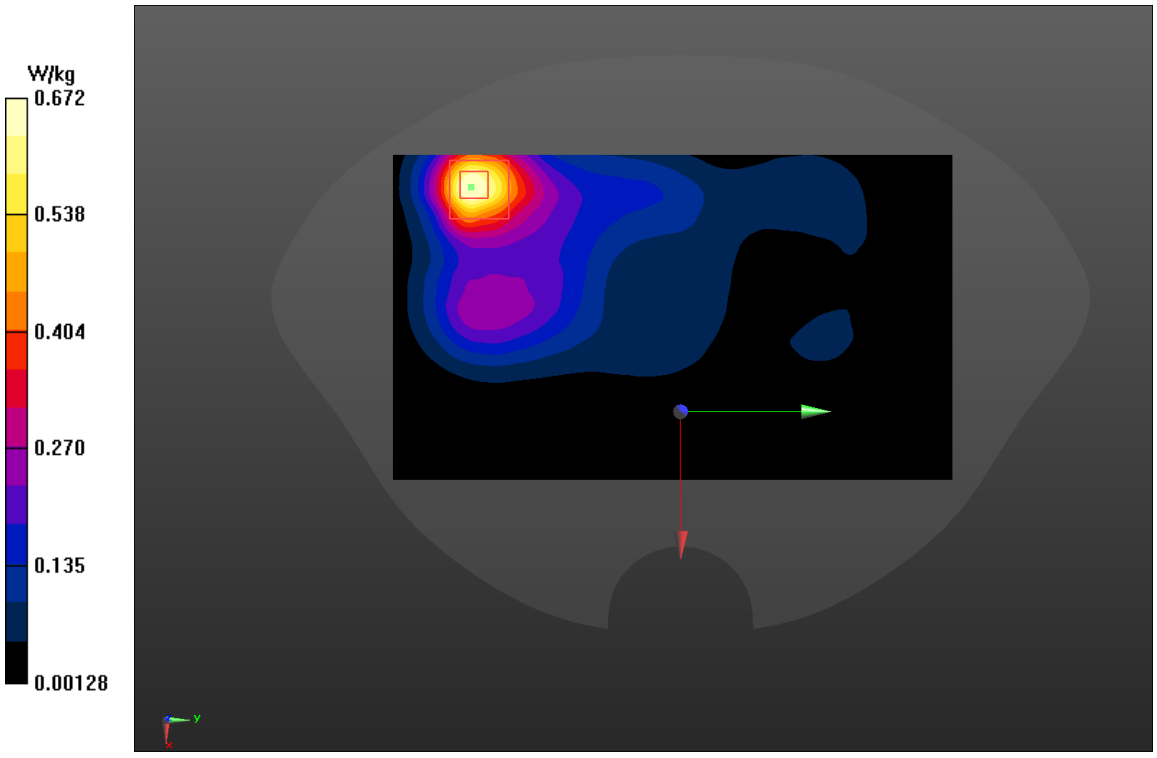
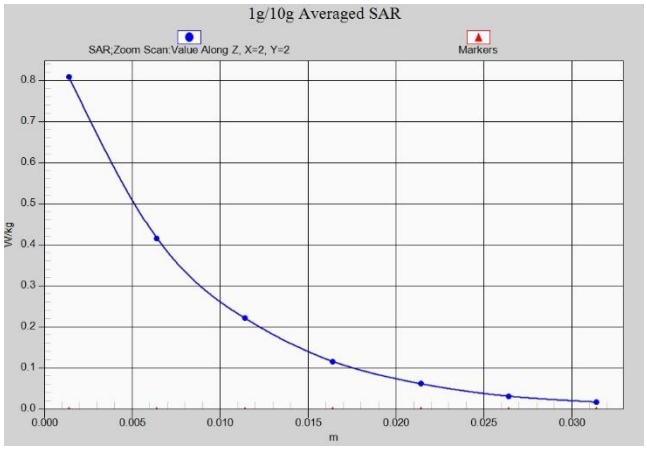


Fig A.28



LTE1700-FDD66_CH132072 Left Cheek 1RB-Low

Date: 6/19/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 0.463 mho/m; εr = 41.01; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.215 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.8 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.239 W/kg
SAR(1 g) = 0.161 W/kg; SAR(10 g) = 0.104 W/kg
Maximum value of SAR (measured) = 0.209 W/kg

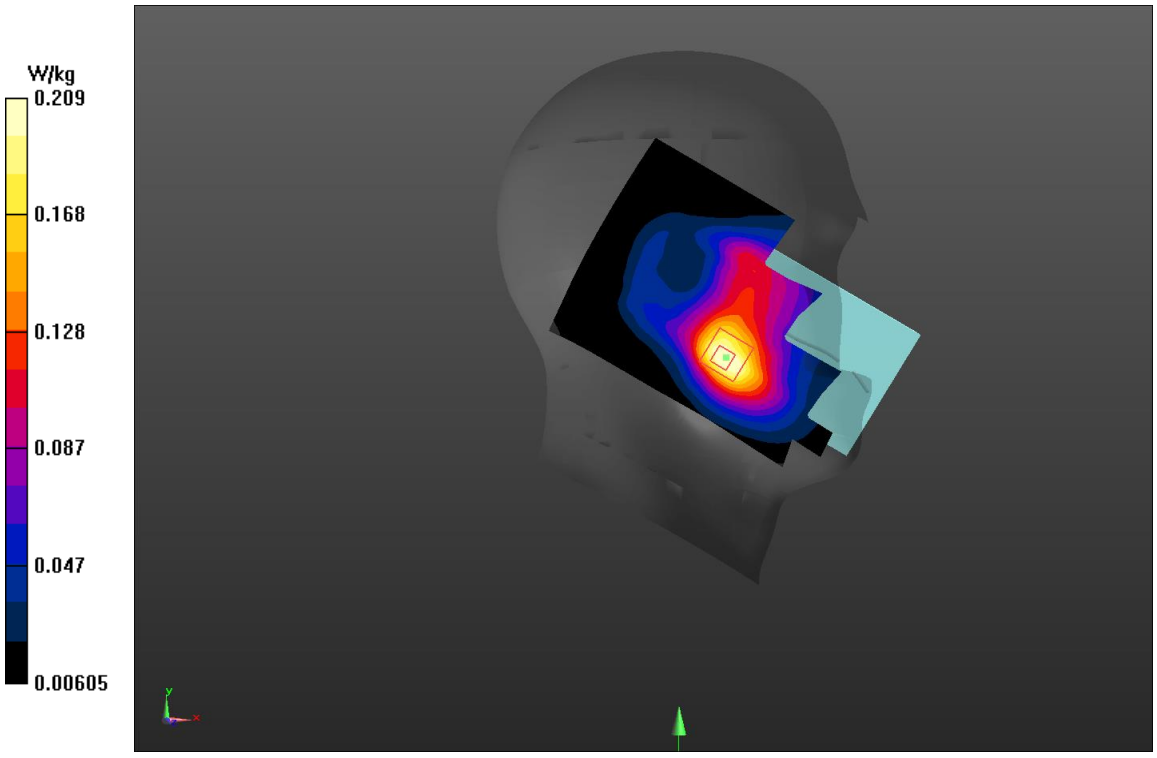
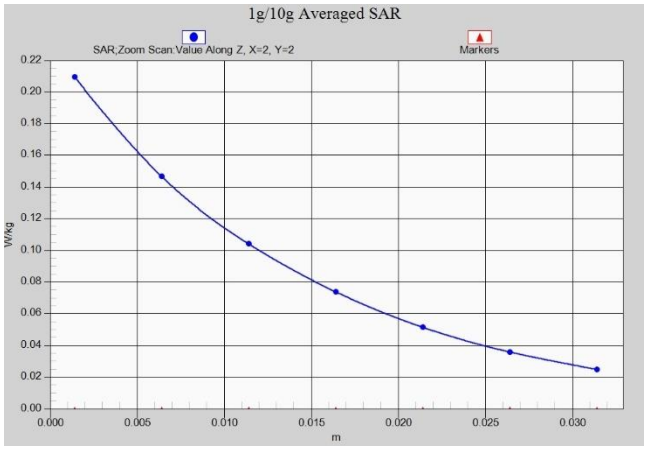


Fig A.29



LTE1700-FDD66_CH132072 Rear 10mm 1RB-Low

Date: 6/19/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 0.438 mho/m; εr = 41.13; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.602 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.918 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.665 W/kg
SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.246 W/kg
Maximum value of SAR (measured) = 0.550 W/kg

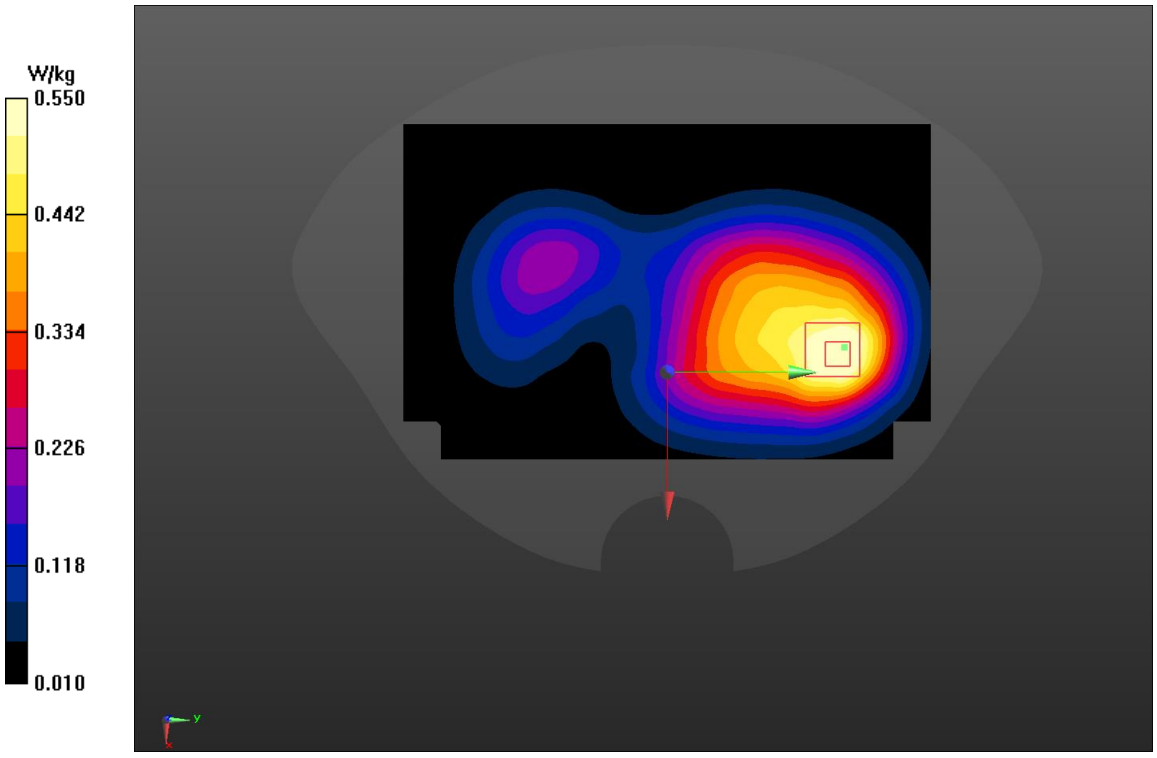
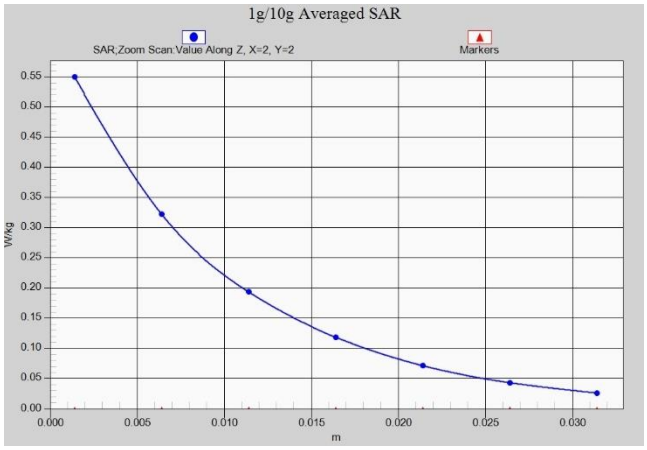


Fig A.30



LTE1900-FDD2_CH18700 Right Cheek 1RB-Low

Date: 6/21/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.372 mho/m; εr = 40.65; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.948 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.328 W/kg
SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.162 W/kg
Maximum value of SAR (measured) =0.401 W/kg

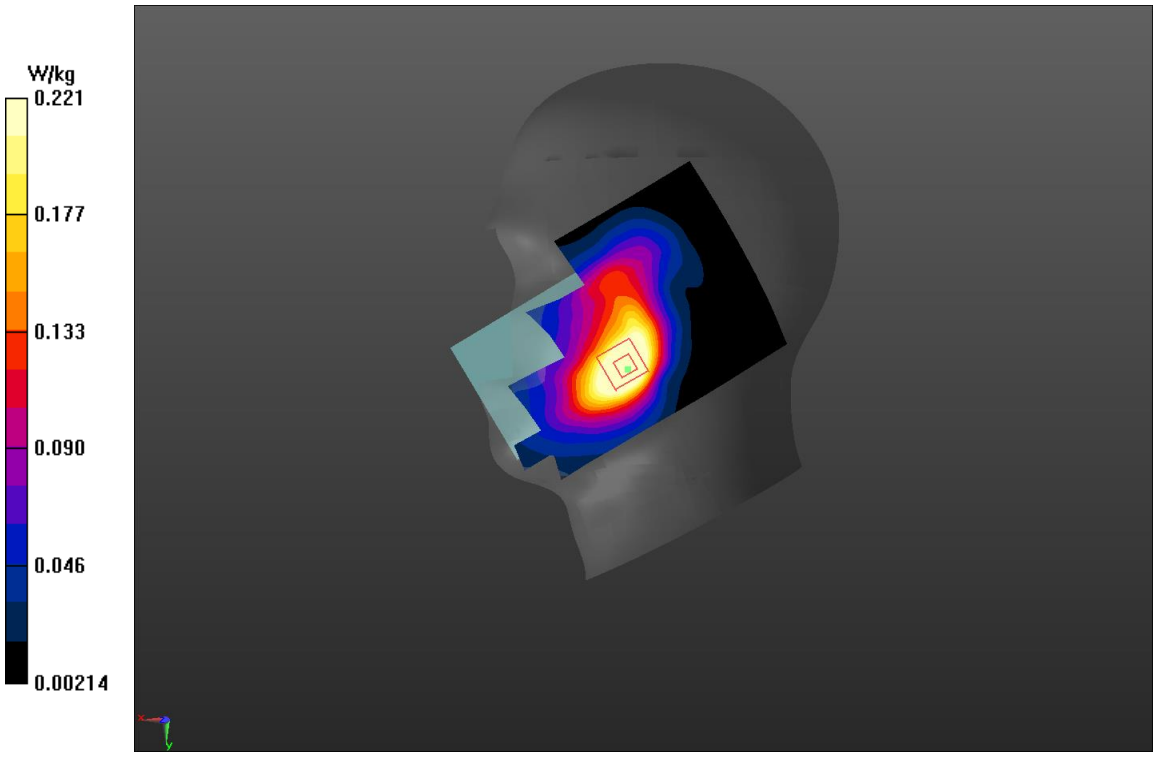
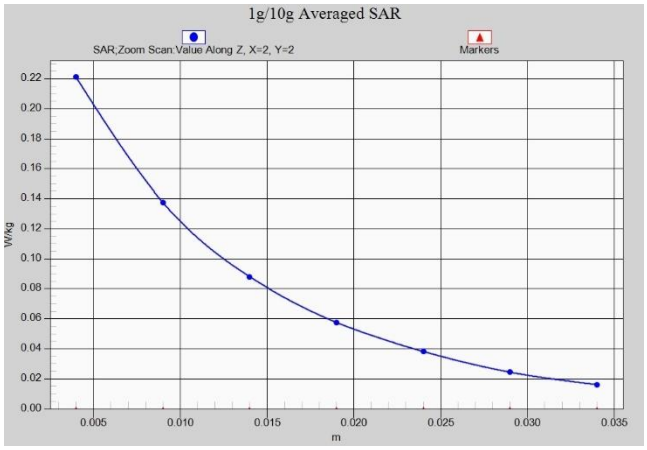


Fig A.31



LTE1900-FDD2_CH18700 Rear 10mm 1RB-Low

Date: 6/21/2022
Electronics: DAE4 Sn549
Medium: head 1900 MHz
Medium parameters used: f = 1860 MHz; σ = 1.385 mho/m; εr = 39.92; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1900-FDD2 1860 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.33,8.33,8.33)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.605 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.65 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.655 W/kg
SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.125 W/kg
Maximum value of SAR (measured) = 0.411 W/kg

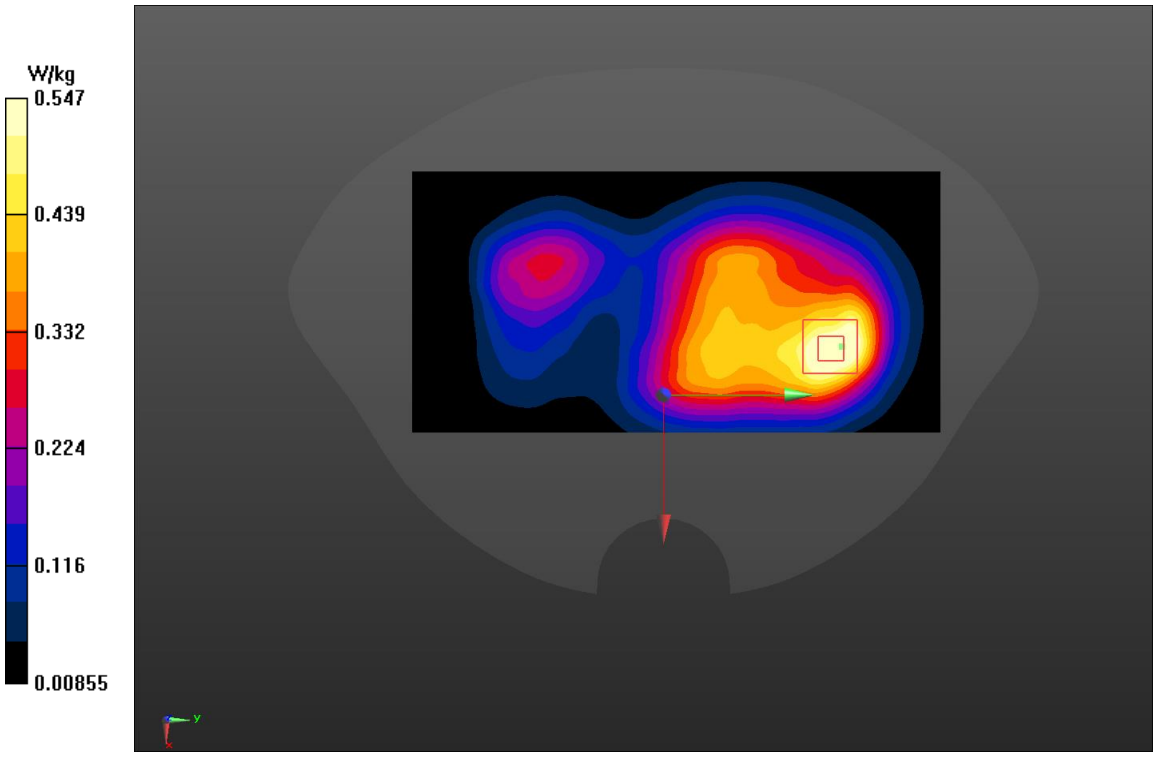
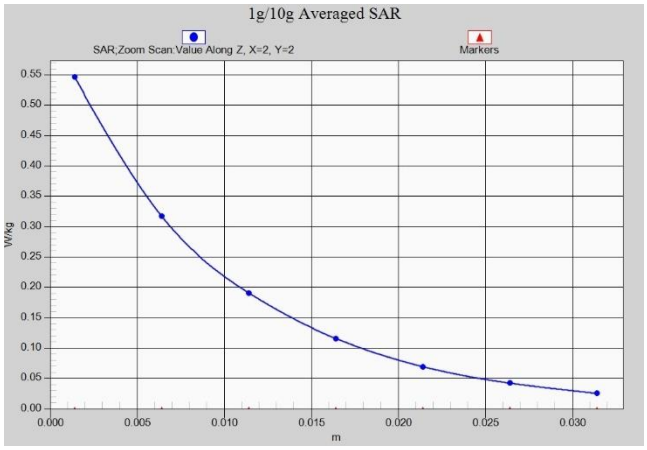


Fig A.32



LTE1700-FDD66_CH132072 Left Cheek 1RB-Low

Date: 6/19/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 0.463 mho/m; εr = 41.01; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.215 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.8 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.239 W/kg
SAR(1 g) = 0.143 W/kg; SAR(10 g) = 0.072 W/kg
Maximum value of SAR (measured) = 0.211 W/kg

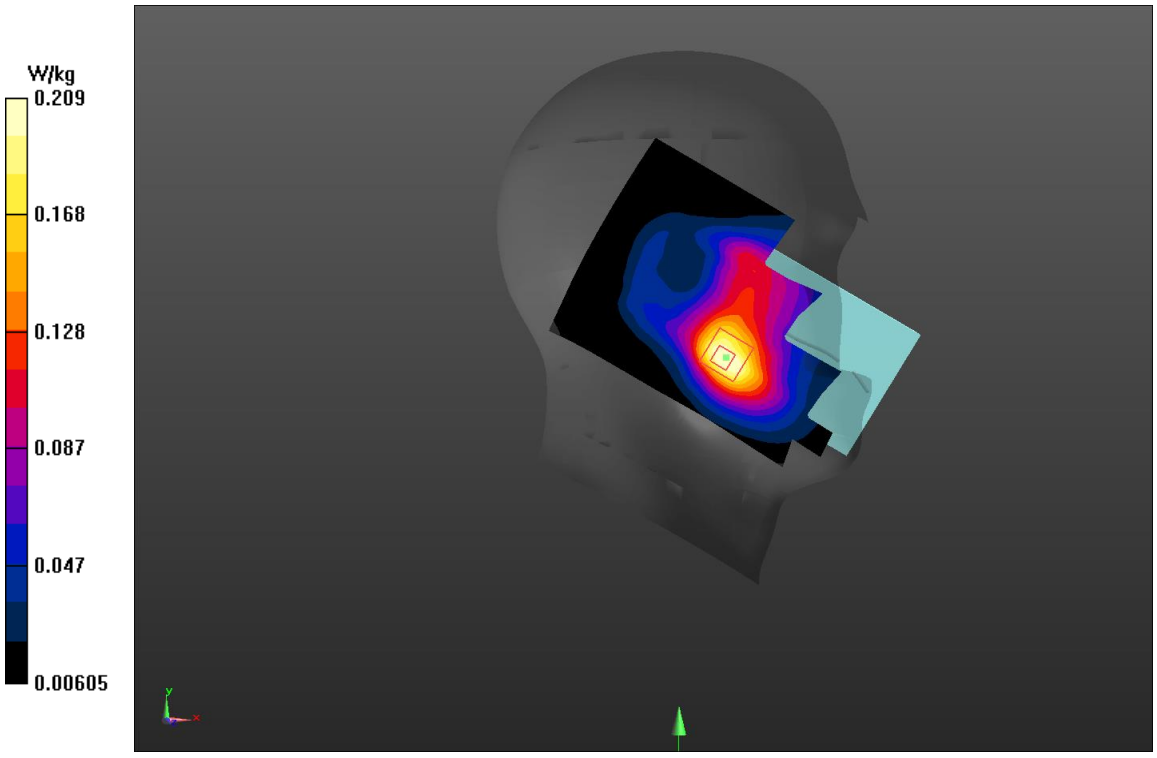
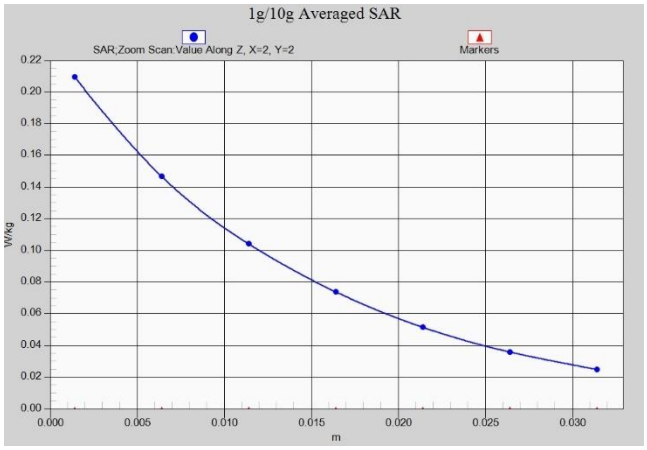


Fig A.33



LTE1700-FDD66_CH132072 Rear 10mm 1RB-Low

Date: 6/19/2022
Electronics: DAE4 Sn549
Medium: head 1750 MHz
Medium parameters used: f = 1720 MHz; σ = 0.438 mho/m; εr = 41.13; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: LTE1700-FDD66 1720 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN7464 ConvF(8.64,8.64,8.64)

Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.602 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.918 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.665 W/kg
SAR(1 g) = 0.115 W/kg; SAR(10 g) = 0.058 W/kg
Maximum value of SAR (measured) = 0.301 W/kg

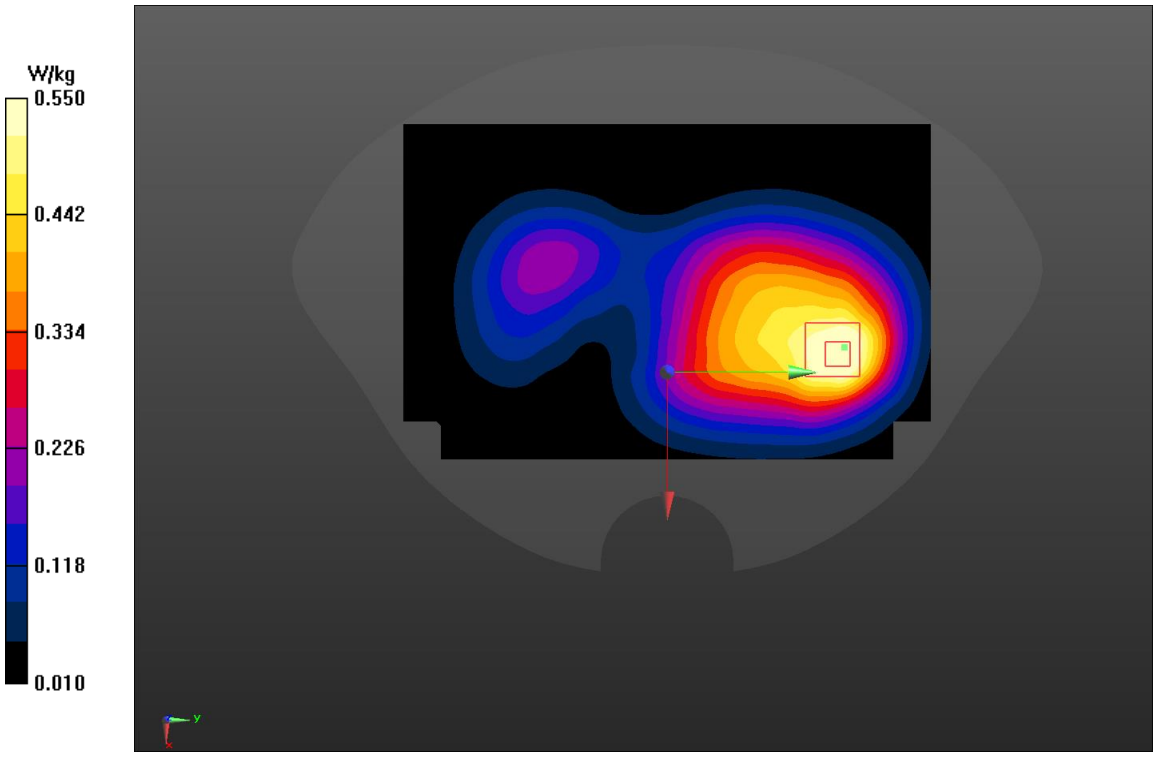
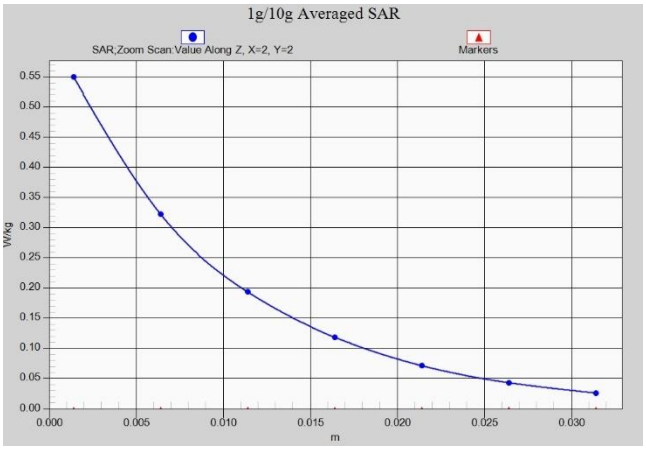


Fig A.34



WLAN2450_CH6 Left Tilt

Date: 6/23/2022
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2437; σ = 1.818mho/m; εr = 38.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2437 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.77,7.77,7.77)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.256W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.323 V/m; Power Drift = 0.179 dB
Peak SAR (extrapolated) = 0.415 W/kg
SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.070 W/kg
Maximum value of SAR (measured) = 0.18 W/kg

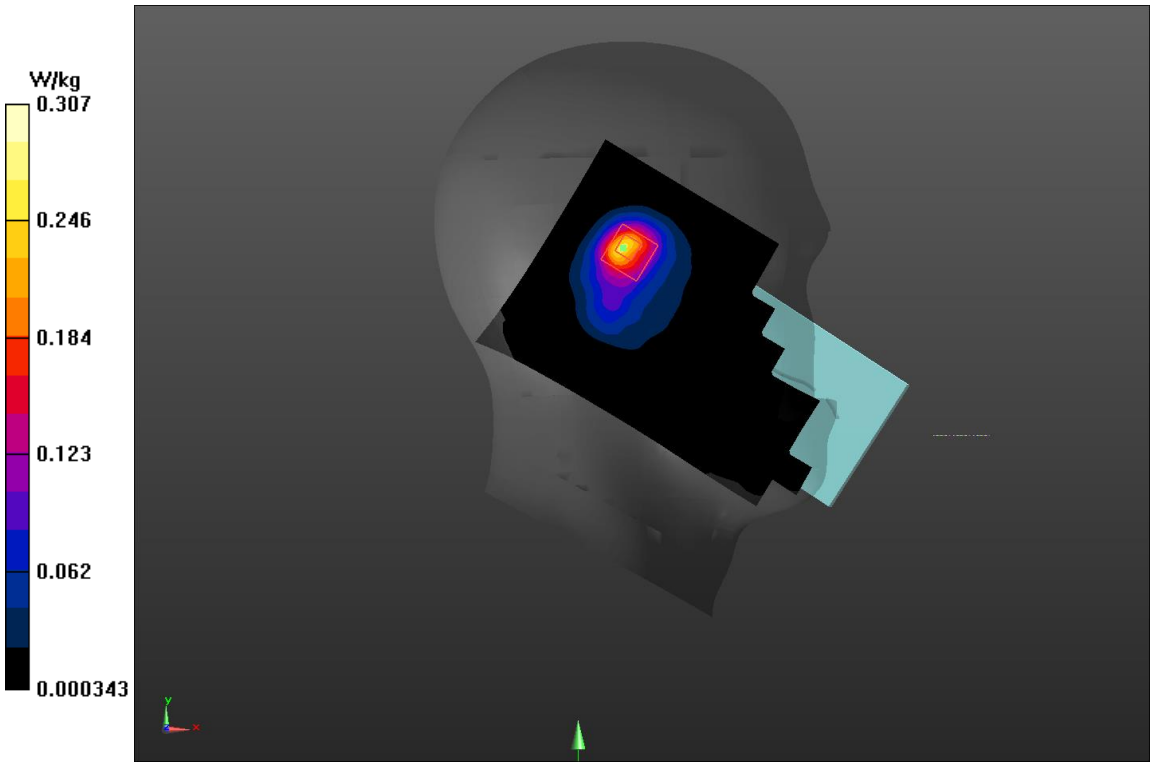
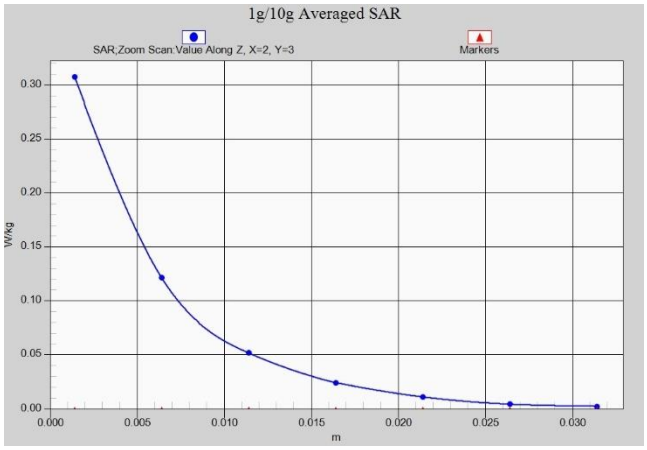


Fig A.35



WLAN2450_CH6 Top Edge 10mm

Date: 6/23/2022
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2437; σ = 1.818 mho/m; εr = 38.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2437 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.77,7.77,7.77)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.242W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.099 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.281 W/kg
SAR(1 g) = 0.152 W/kg; SAR(10 g) =0.08 W/kg
Maximum value of SAR (measured) = 0.16 W/kg

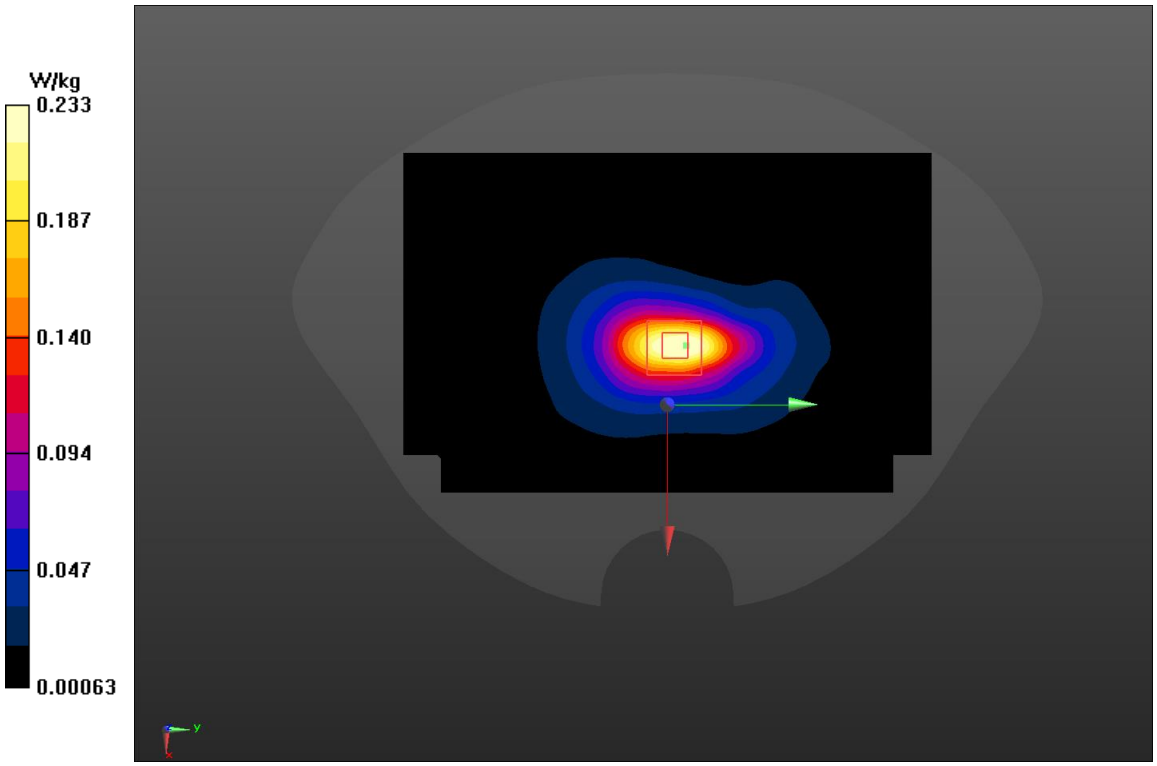
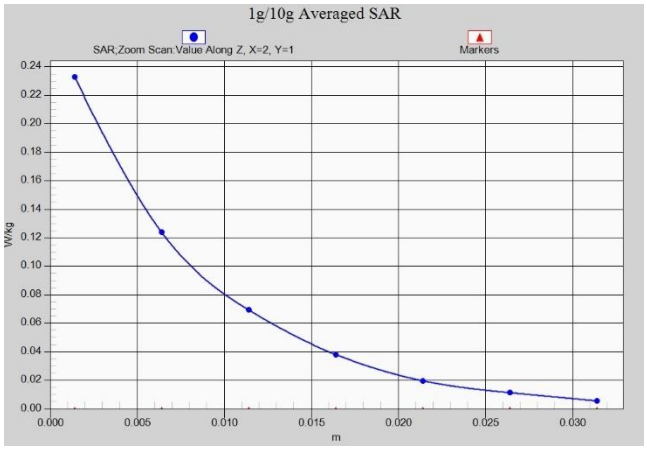


Fig A.36



WLAN2450_CH6 Rear 15mm

Date: 6/23/2022
Electronics: DAE4 Sn536
Medium: head 2450 MHz
Medium parameters used: f = 2437; σ = 1.818 mho/m; εr = 38.6; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WLAN2450 2437 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.77,7.77,7.77)

Area Scan (71x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 9.89 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.18V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.113 W/kg
SAR(1 g) = 0.057 W/kg; SAR(10 g) = 0.031 W/kg
Maximum value of SAR (measured) = -0.14 W/kg

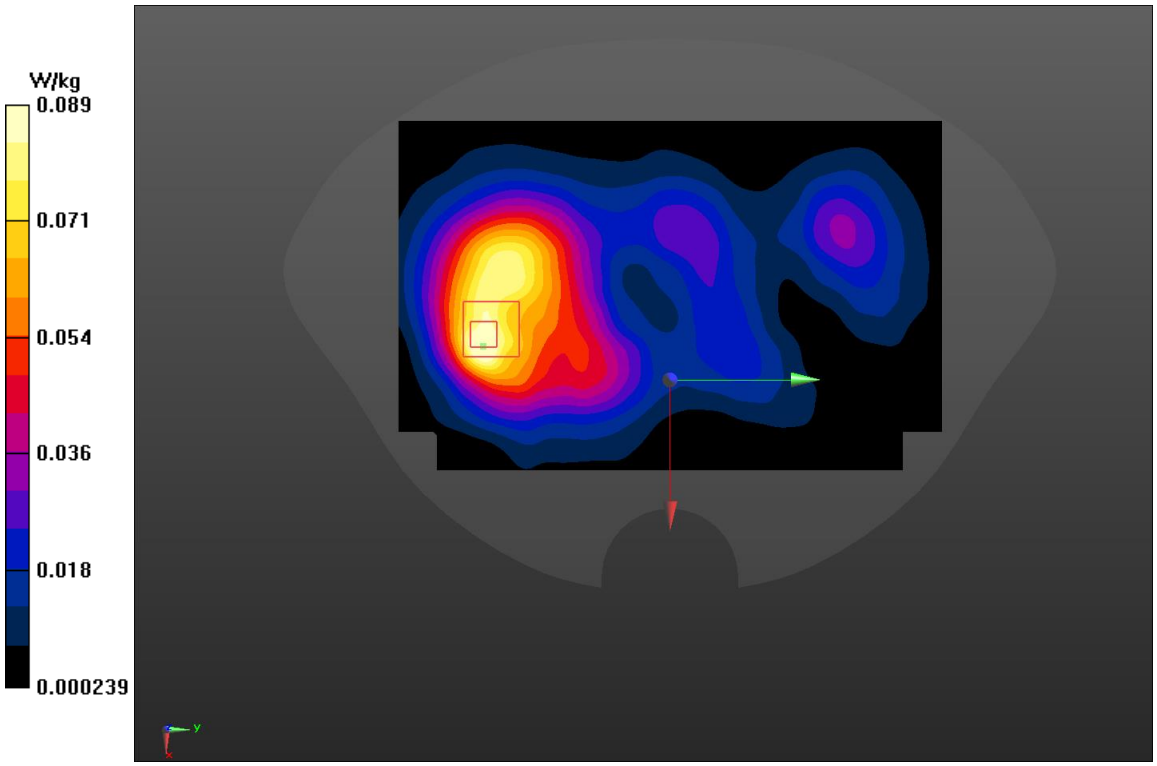
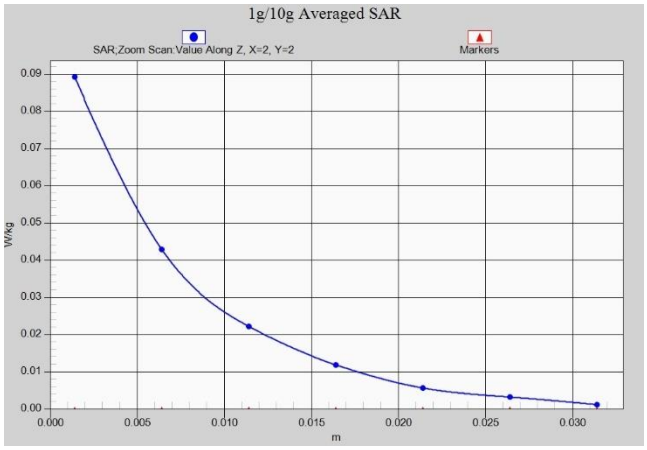


Fig A.37



WIFI 5G_CH116 Left Tilt

Date: 6/24/2022
Electronics: DAE4 Sn536
Medium: head 5600 MHz
Medium parameters used: f = 5580; σ = 4.787 mho/m; εr = 33.033; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: WIFI5G 5580 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(4.91,4.91,4.91)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.528 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 4.022 V/m; Power Drift = 2.99 dB
Peak SAR (extrapolated) = 0.857 W/kg
SAR(1 g) = 0.245 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.03 W/kg

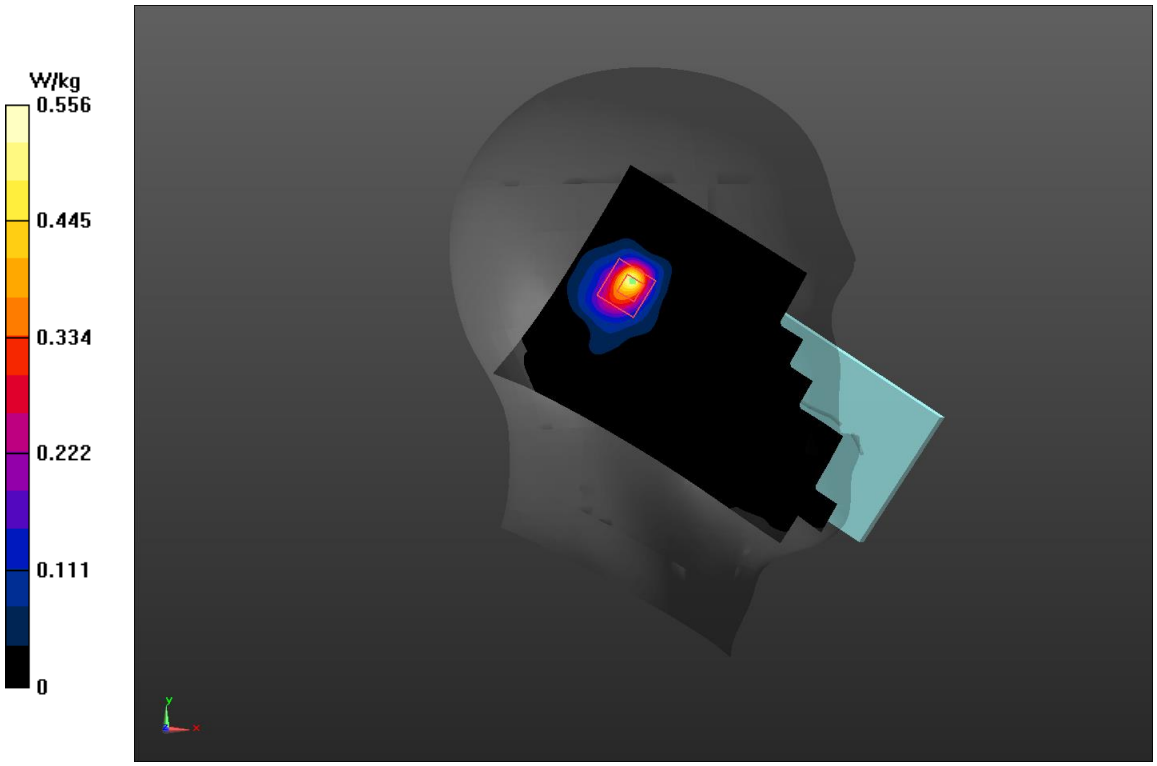


Fig A.38