SAR TEST REPORT

Applicant	XCHENG TECH CO.,LIMITED
FCC ID	2AZ4F-P1012-P10
Product	P10 Stylish POS Terminal
Brand	Kobile; Clip; YOCO; MPOS; Positivo
Model	P10
Report No.	R2208A0725-S1V1
Issue Date	September 5, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528-2013, ANSI C95.1: 1992, IEEE C95.1: 1991.** The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	September 1, 2022
Rev.1	Update information.	September 5, 2022
Note: This revised report (Report No. R2208A0725-S1V1) supersedes and replaces the previously issued report (Report No. R2208A0725-S1). Please discard or destroy the previously issued report and dispose of it accordingly.		

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
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Website:	http://www.ta-shanghai.com
E-mail:	fanguangchang@ta-shanghai.com

1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Table 1: Highest Reported SAR

Mode	Highest Reported SAR (W/kg)	
	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)
GSM 850	0.011	0.035
GSM 1900	0.087	0.206
WCDMA Band II	0.033	0.079
WCDMA Band IV	0.079	0.264
WCDMA Band V	0.004	0.014
LTE FDD 4	0.111	0.296
LTE FDD 7	0.000	0.000
LTE FDD 12 (LTE FDD 17)	0.014	0.039
LTE FDD 25 (LTE FDD 2)	0.034	0.051
LTE FDD 26 (LTE FDD 5)	0.009	0.016
LTE TDD 38	0.002	0.006
LTE TDD 41	0.006	0.006
Wi-Fi (2.4G)	0.035	0.274
Wi-Fi (5G)	**0.223**	**1.016**
BT	NA	NA
Date of Testing: August 10, 2022 ~ August 16, 2022 Date of Sample Received: August 5, 2022		
Note: 1. The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg) specified in ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013. 2. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.		

Note:

1) According to TCB workshop October, 2014 RF Exposure Procedures Update (Overlapping LTE Bands):
   a) Main and Second Antenna SAR for LTE Band 17 (Frequency range: 704-716 MHz) is covered by LTE Band 12 (Frequency range 699-716 MHz); LTE Band 25 (Frequency range 1850 - 1915 MHz) is covered by LTE Band 2 (Frequency range: 1850 - 1910 MHz); LTE Band 26 (Frequency range: 814 - 849 MHz) is covered by LTE Band 5 (Frequency range 824 - 849 MHz)due to similar frequency range, same maximum tune up limit and same channel bandwidth.

Table 2: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)
Highest Simultaneous Transmission SAR (W/kg)	0.301	1.035
Note: The detail for simultaneous transmission consideration is described in chapter 10.4.		

3 Description of Equipment under Test

Client Information

Applicant	XCHENG TECH CO.,LIMITED
Applicant address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China
Manufacturer	XCHENG TECH CO.,LIMITED
Manufacturer address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China

General Technologies

Application Purpose	Original Grant	
EUT Stage	Identical Prototype	
Model	P10	
IMEI	IMEI 1	866805060000986
	IMEI 2	866805060003386
Hardware Version	V1.0	
Software Version	SW1.0	
Antenna Type	Dipole Antenna	
Device Class	B	
Wi-Fi Hotspot	Wi-Fi 2.4G Wi-Fi 5G U-NII-1& U-NII-2A&U-NII-3	
Power Class	GSM 850: 4 GSM 1900: 1 UMTS Band II/IV/V: 3 LTE FDD 2/4/5/7/12/17/25/26: 3 LTE TDD 38/41: 3	
Power Level	GSM 850: level 5 GSM 1900: level 0 UMTS Band II/IV/V: all up bits LTE FDD 2/4/5/7/12/17/25/26: max power LTE TDD 38/41: max power	
EUT Accessory		
Battery	Manufacturer: Pow-Tech New Power CO., LTD. Model: 18650-2600mAh-2S1P-7.2V（P1012）	
Adapter	Manufacturer: Chongqing Lianmao Electronics Co., Ltd Model: 1110303-K022002	
Note: The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.		

Wireless Technology and Frequency Range

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	GPRS(GMSK) EGPRS(GMSK,8PSK)	☐Multi-slot Class:8-1UP ☐Multi-slot Class:10-2UP ☒Multi-slot Class:12-4UP ☐Multi-slot Class:33-4UP	824 ~ 849
	1900			1850 ~ 1910
	Does this device support DTM (Dual Transfer Mode)? ☐Yes ☒No			
UMTS	Band II	QPSK, 16QAM	HSDPA UE Category:12 HSUPA UE Category:7 DC-HSDPA UE Category:24 HSPA+ Category:7	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Category 7	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 17			704 ~ 716
	FDD 25			1850 ~ 1915
	FDD 26			814 ~ 849
	TDD 38			2570 ~ 2620
	TDD 41			2535 ~ 2655
	Does this device support Carrier Aggregation (CA) ☐Yes ☒No			
	Does this device support SV-LTE (1xRTT-LTE)? ☐Yes ☒No			
BT	2.4G	Version 5.0 BR/EDR + LE		2402 ~2480
Wi-Fi	2.4G	DSSS, OFDM	802.11b/g/n HT20	2412 ~ 2462
		OFDM	802.11n HT40	2422 ~ 2452
	5G	OFDM	802.11a/n HT20/ HT40/ ac VHT20/ VHT40/ VHT80	5150 ~ 5350 5725 ~ 5850
NFC	13.56MHz			

4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI C95.1: 1992, IEEE C95.1: 1991, the following FCC Published RF exposure KDB procedures:

Reference Standards

KDB 248227 D01 802.11Wi-Fi SAR v02r02
KDB 447498 D01 General RF Exposure Guidance v06
KDB 648474 D04 Handset SAR v01r03
KDB 690783 D01 SAR Listings on Grants v01r03
KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 941225 D01 3G SAR Procedures v03r01
KDB 941225 D05 SAR for LTE Devices v02r05
KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
KDB 941225 D06 Hotspot Mode v02r01

5 Operational Conditions during Test

5.1 Test Positions

5.1.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

5.1.2 Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person’s face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

5.1.3 Phablet SAR test considerations

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

a) The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

b) 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 product specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. The 1-g SAR at 5 mm for UMPC mini-tablets is not required. When hotspot mode applies, product specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold. The normal tablet procedures in KDB Publication 616217 are required when the overall diagonal dimension of the device is > 20.0 cm. Hotspot mode SAR is not required when normal tablet procedures are applied. Product specific 10-g SAR is also not required for the front (top) surface of larger form factor full size tablets. The more conservative normal tablet SAR results can be used to support phablet mode product specific 10-g SAR.

c) The simultaneous transmission operating configurations applicable to voice and data transmissions for both phone and mini-tablet modes must be taken into consideration separately for 1-g and 10-g SAR to determine the simultaneous transmission SAR test exclusion and measurement requirements for the relevant wireless modes and exposure conditions.

5.2 Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:
1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

5.3 Test Configuration

5.3.1 GSM Test Configuration

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

Table 3: The allowed power reduction in the multi-slot configuration

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power (dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

5.3.2 UMTS Test Configuration

5.3.2.1 3G SAR Test Reduction Procedure

The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations modes according to output power, exposure conditions and device operating capabilities. Maximum output power is verified by applying the applicable versions of 3GPP TS 34.121.

5.3.2.2 Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest SAR configuration in 12.2 kbps RMC for head exposure.

5.3.2.3 Body-worn accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the EUT with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the EUT, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC

5.3.2.4 Release 5 HSDPA Test Configuration

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest SAR body-worn accessory exposure configuration in 12.2 kbps RMC. EUT with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device. The number of HSDSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Table 4: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI}= 8$\Leftrightarrow$$A_{hs}$ = β_{hs}/β_c=30/15$\Leftrightarrow$$\beta_{hs}$=30/15*$\beta_c$

Note 2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.

Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1, TF1) to β_c=11/15 and β_d=15/15.

5.3.2.5 Release 6 HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures described in the ‘WCDMA EUT’ and ‘Release 5 HSDPA Data Devices’ sections of this document

Table 5: Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (2) (dB)	MPR (dB)	AG (4) Index	E-TFCI
1	11/15 (3)	15/15 (3)	64	11/15 (3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (4)	15/15 (4)	64	15/15 (4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, ΔNACK and Δ_{CQI} = 8 ⇔ A_{hs} = β_{hs}/β_c = 30/15 ⇔β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c =24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

Table 6: HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCHTTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592

4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	11484	5.76
	4	4	10		20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)						

5.3.2.6 HSPA, HSPA+ and DC-HSDPA Test Configuration

SAR test exclusion may apply to 3GPP Rel. 6 HSPA and Rel. 8 DC-HSDPA. When SAR measurement is required for HSPA or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements. Without prior KDB confirmation to determine the SAR results are acceptable, a PAG is required for equipment approval.

SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:

1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.

2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

3) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA:

a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121. Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.

c) The UE category, operating parameters, such as the β and Δ values used to configure the device for testing, power setback procedures described in 3GPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement

results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

Table 7: HS-DSCH UE category

<table>
<tr><th>HS-DSCH category</th><th>Maximum number of HS-DSCH codes received</th><th>Minimum inter-TTI interval</th><th>Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1</th><th>Total number of soft channel bits</th><th>Supported modulations without MIMO operation or dual cell operation</th><th>Supported modulations with MIMO operation and without dual cell operation</th><th>Supported modulations with dual cell operation</th></tr>
<tr><td>Category 1</td><td>5</td><td>3</td><td>7298</td><td>19200</td><td rowspan="10">QPSK, 16QAM</td><td rowspan="12">Not applicable (MIMO not supported)</td><td rowspan="20">Not applicable (dual cell operation not supported)</td></tr>
<tr><td>Category 2</td><td>5</td><td>3</td><td>7298</td><td>28800</td></tr>
<tr><td>Category 3</td><td>5</td><td>2</td><td>7298</td><td>28800</td></tr>
<tr><td>Category 4</td><td>5</td><td>2</td><td>7298</td><td>38400</td></tr>
<tr><td>Category 5</td><td>5</td><td>1</td><td>7298</td><td>57600</td></tr>
<tr><td>Category 6</td><td>5</td><td>1</td><td>7298</td><td>67200</td></tr>
<tr><td>Category 7</td><td>10</td><td>1</td><td>14411</td><td>115200</td></tr>
<tr><td>Category 8</td><td>10</td><td>1</td><td>14411</td><td>134400</td></tr>
<tr><td>Category 9</td><td>15</td><td>1</td><td>20251</td><td>172800</td></tr>
<tr><td>Category 10</td><td>15</td><td>1</td><td>27952</td><td>172800</td></tr>
<tr><td>Category 11</td><td>5</td><td>2</td><td>3630</td><td>14400</td><td rowspan="2">QPSK</td></tr>
<tr><td>Category 12</td><td>5</td><td>1</td><td>3630</td><td>28800</td></tr>
<tr><td>Category 13</td><td>15</td><td>1</td><td>35280</td><td>259200</td><td rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 14</td><td>15</td><td>1</td><td>42192</td><td>259200</td></tr>
<tr><td>Category 15</td><td>15</td><td>1</td><td>23370</td><td>345600</td><td colspan="2" rowspan="2">QPSK, 16QAM</td></tr>
<tr><td>Category 16</td><td>15</td><td>1</td><td>27952</td><td>345600</td></tr>
<tr><td rowspan="2">Category 17 NOTE 2</td><td rowspan="2">15</td><td rowspan="2">1</td><td>35280</td><td>259200</td><td>QPSK, 16QAM, 64QAM</td><td>–</td></tr>
<tr><td>23370</td><td>345600</td><td>–</td><td>QPSK, 16QAM</td></tr>
<tr><td rowspan="2">Category 18 NOTE 3</td><td rowspan="2">15</td><td rowspan="2">1</td><td>42192</td><td>259200</td><td>QPSK, 16QAM, 64QAM</td><td>–</td></tr>
<tr><td>27952</td><td>345600</td><td>–</td><td>QPSK, 16QAM</td></tr>
<tr><td>Category 19</td><td>15</td><td>1</td><td>35280</td><td>518400</td><td colspan="2" rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 20</td><td>15</td><td>1</td><td>42192</td><td>518400</td></tr>
<tr><td>Category 21</td><td>15</td><td>1</td><td>23370</td><td>345600</td><td rowspan="4">-</td><td rowspan="4">-</td><td>QPSK, 16QAM</td></tr>
<tr><td>Category 22</td><td>15</td><td>1</td><td>27952</td><td>345600</td></tr>
<tr><td>Category 23</td><td>15</td><td>1</td><td>35280</td><td>518400</td><td rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 24</td><td>15</td><td>1</td><td>42192</td><td>518400</td></tr>
</table>

5.3.3 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A) Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

C) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

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 for 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.

4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

E) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

5.3.4 Additional requirements for TDD LTE specification

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table: Uplink-downlink configurations for uplink-downlink configurations and Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS) for Special subframe configurations.

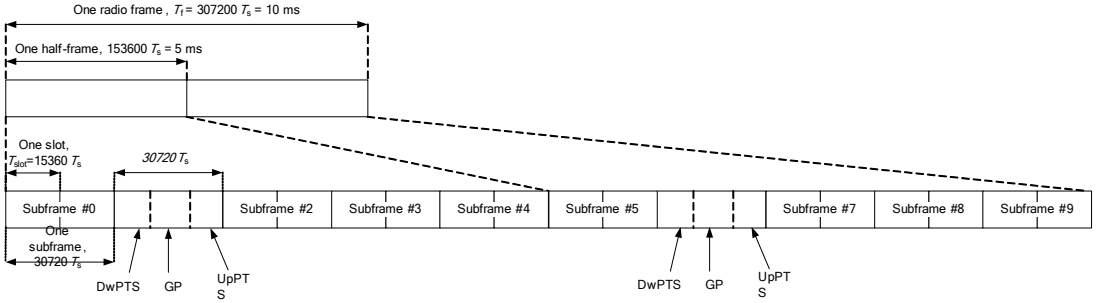


Figure 1: Frame structure type 2

Table 8: 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: 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

According to Figure 1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both

Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table: Uplink-downlink configurations:

Duty cycle = (30720Ts*Ups + Uplink Component*Specials)/(307200Ts)

About the uplink component of Special subframes, we can figure out by Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS):

Uplink Component = UpPTS

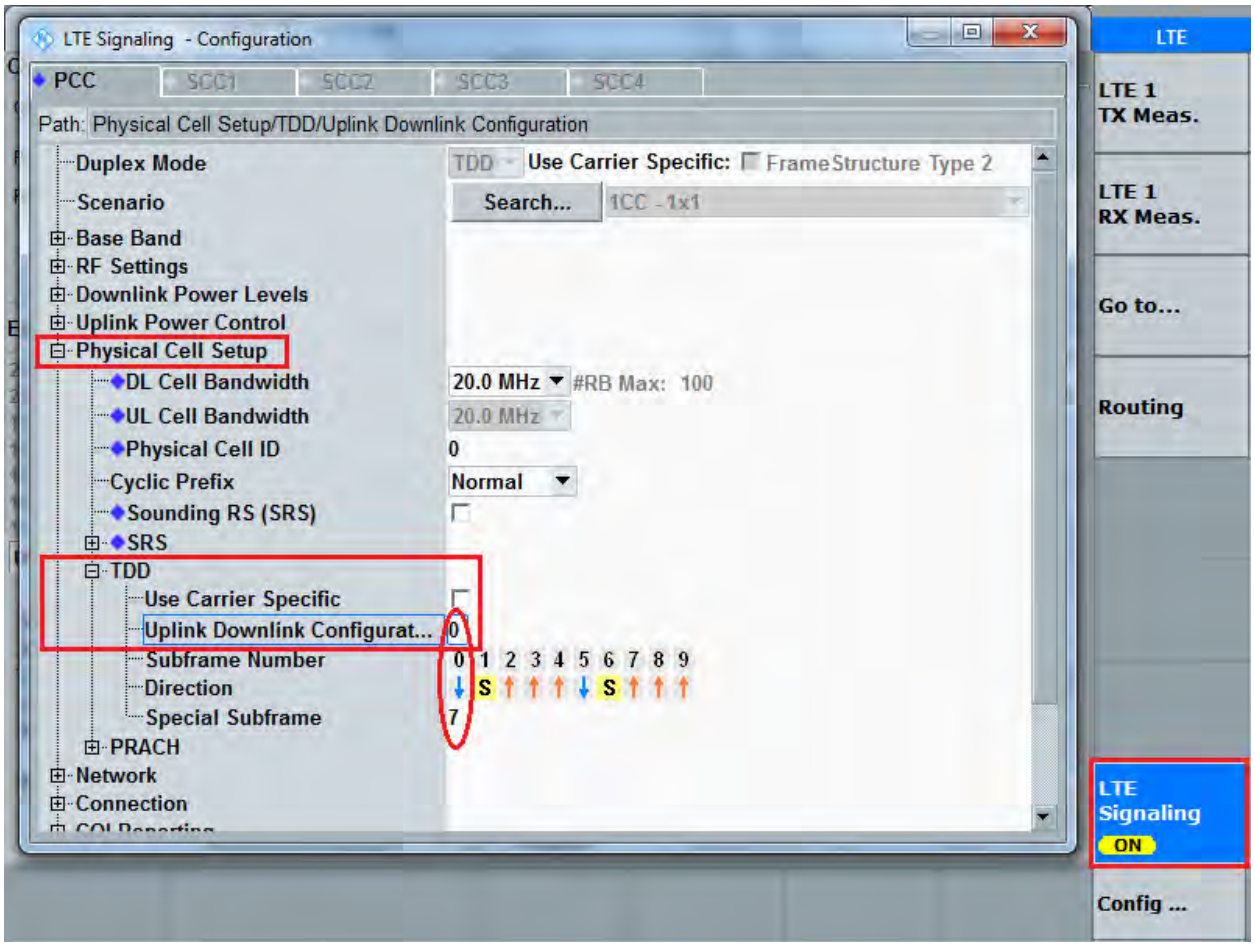
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. All these sets are ok when we test, or we can set as below.

Duty cycle = [(30720Ts*Ups) + UpPTS *Specials]/(307200Ts)

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
				Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
	D	S	U	configuration 0~4	configuration 5~9	configuration 0~4	configuration 5~9	configuration 0~3	configuration 4~7	configuration 0~3	configuration 4~7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

SAR test Plan: For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type



5.3.5 Wi-Fi Test Configuration

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

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

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions are tested.
    - ✧ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
    - ✧ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required test channels are considered.
    - ✧ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

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

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

5.3.6 BT Test Configuration

For BT SAR testing, BT engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hoping off and data rate set for DH5.

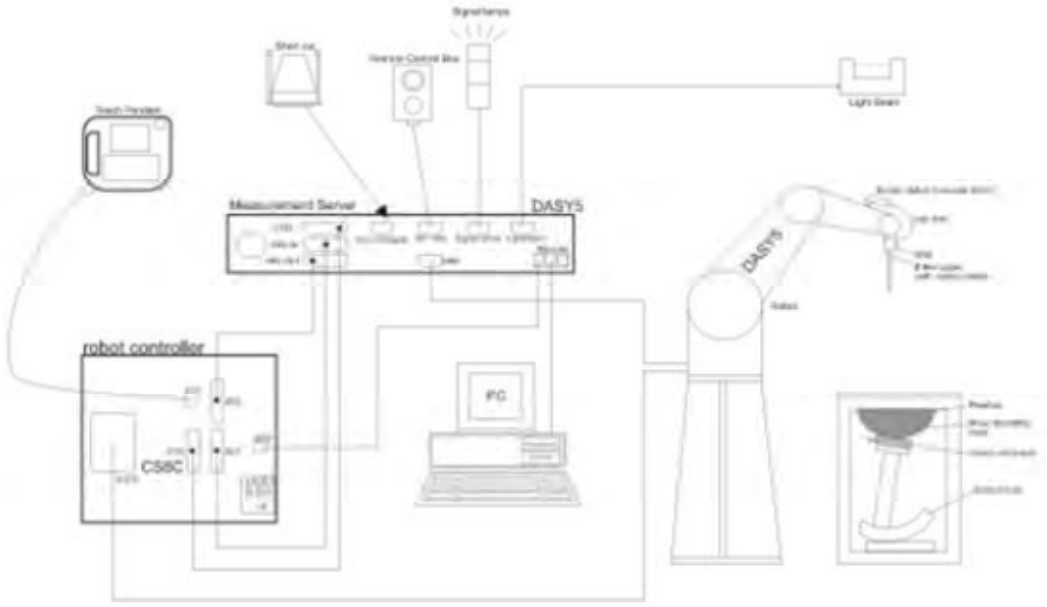
The SAR measurement takes full account of the BT duty cycle and is reflected in the report, and the duty factor of the device is as follow:

Note: Duty factor= Ton (ms)/ T(on+off) (ms)=2.880/3.780*100%=76.2%

6 SAR Measurements System Configuration

6.1 SAR Measurement Set-up

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

6.2 DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity: ± 0.2dB (noise: typically < 1 μW/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure Scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

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

$$SAR=C\Delta T/\Delta t$$

Where: Δt = Exposure time (30 seconds),

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

ΔT = Temperature increase due to RF exposure.

Or

$$SAR=|E|^2\sigma/\rho$$

Where: σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

6.3 SAR Measurement Procedure

Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.
Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

<table>
<tr><td></td><td>≤3 GHz</td><td>> 3 GHz</td></tr>
<tr><td>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>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 rowspan="2">Maximum area scan spatial resolution: ΔxArea, ΔyArea</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>
</table>

Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

<table>
<tr><td colspan="3"></td><td>≤3GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: $\triangle x_{zoom} \triangle y_{zoom}$</td><td>≤2GHz: ≤8mm
2 – 3GHz: ≤5mm*</td><td>3 – 4GHz: ≤5mm*
4 – 6GHz: ≤4mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">Uniform grid: $\triangle z_{zoom}(n)$</td><td>≤5mm</td><td>3 – 4GHz: ≤4mm
4 – 5GHz: ≤3mm
5 – 6GHz: ≤2mm</td></tr>
<tr><td rowspan="2">Graded grid</td><td>$\triangle z_{zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤4mm</td><td>3 – 4GHz: ≤3mm
4 – 5GHz: ≤2.5mm
5 – 6GHz: ≤2mm</td></tr>
<tr><td>$\triangle z_{zoom}(n>1)$: between subsequent points</td><td colspan="2">≤1.5•$\triangle z_{zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">X, y, z</td><td>≥30mm</td><td>3 – 4GHz: ≥28mm
4 – 5GHz: ≥25mm
5 – 6GHz: ≥22mm</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 ≤ 1.4W/kg, ≤8mm, ≤7mm and ≤5mm zoom scan resolution may be applied, respectively, for 2GHz to 3GHz, 3GHz to 4GHz and 4GHz to 6GHz.</td></tr>
</table>

Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

7 Main Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial Number	Last Cal.	Cal. Due Date
Network analyzer	Agilent	E5071B	MY42404014	2022-05-14	2023-05-13
Dielectric Probe Kit	Agilent	85070E	US44020115	/	/
Power meter	Agilent	E4417A	GB41291714	2022-05-14	2023-05-13
Power sensor	Agilent	N8481H	MY50350004	2022-05-14	2023-05-13
Power sensor	Agilent	E9327A	US40441622	2022-05-14	2023-05-13
Power sensor	Agilent	NRP18S	101955	2022-05-14	2023-05-13
Signal Generator	Agilent	N5181A	MY50140143	2022-05-14	2023-05-13
Dual directional coupler	UCL	UCL-DDC056G-S	20010600118	/	/
Amplifier	INDEXSAR	TPA-005060G01	13030502	2022-05-14	2023-05-13
Wireless communication tester	Anritsu	MT8820C	6201342015	2021-12-12	2022-12-11
Wireless communication tester	Key sight	E5515C	MY48360988	2021-12-12	2022-12-11
Wireless communication tester	R&S	CMW 500	146734	2022-05-14	2023-05-13
E-field Probe	SPEAG	EX3DV4	3677	2022-07-08	2023-07-07
DAE	SPEAG	DAE4	1692	2021-10-04	2022-10-03
Validation Kit 750MHz	SPEAG	D750V3	1045	2020-08-28	2023-08-27
Validation Kit 835MHz	SPEAG	D835V2	4d020	2020-08-28	2023-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2020-02-25	2023-02-24
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2020-08-27	2023-08-26
Validation Kit 2450MHz	SPEAG	D2450V2	786	2020-08-27	2023-08-26
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2021-04-23	2024-04-22
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2020-02-27	2023-02-26
Software for Tissue	Agilent	85070	/	/	/
Temperature Probe	Tianjin jinming	JM222	381	2022-05-14	2023-05-13
Twin SAM Phantom	SPEAG	SAM1	1666	/	/
Twin SAM Phantom	SPEAG	SAM2	1667	/	/

Hygrothermograph	Anymetr	HTC - 1	TY2020A003	2022-05-14	2023-05-13
TX90 XL	SPEAG	Staubli TX90 XL	/	/	/
Software for Test	SPEAG	DASY52	52.10.4.1527	/	/

8 Tissue Dielectric Parameter Measurements & System Verification

8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 24 hours of use; or earlier if the dielectric parameters can become out of tolerance.

Target values

Frequency (MHz)	ε_r	σ(s/m)
750	41.9	0.89
835	41.5	0.90
1750	40.1	1.37
1900	40.0	1.40
2450	39.2	1.80
2600	39.0	1.96
5250	35.9	4.71
5750	35.4	5.22

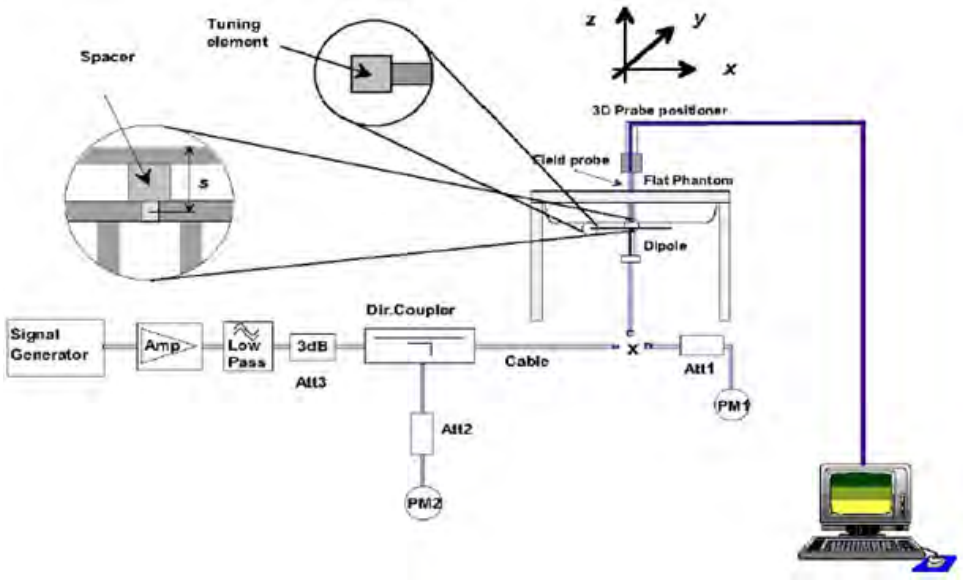
Measurements results

Frequency (MHz)	Test Date	Temp ℃	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)	
			ε_r	σ(s/m)	ε_r	σ(s/m)	Dev ε_r(%)	Dev σ(%)
750	2022/8/10	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
835	2022/8/11	21.5	41.4	0.92	41.5	0.90	-0.24	2.22
1750	2022/8/10	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
1900	2022/8/12	21.5	40.2	1.43	40.0	1.40	0.50	2.14
2450	2022/8/13	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
2600	2022/8/14	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
	2022/8/15	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
5250	2022/8/16	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
5750	2022/8/16	21.5	34.9	5.21	35.4	5.22	-1.41	-0.19
Note: The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.								

8.2 System Performance Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured using the dielectric probe kit and the network analyzer. A system check measurement for every day was made following the determination of the dielectric parameters of the Tissue simulates, using the dipole validation kit. The dipole antenna was placed under the flat section of the twin SAM phantom.

System check is performed regularly on all frequency bands where tests are performed with the DASY system.



Picture 1System Performance Check setup

Picture 2 Setup Photo

Justification for Extended SAR Dipole Calibrations

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss (< - 20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole		Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
Dipole D750V3 SN: 1045	Head Liquid	8/28/2020	-26.6	/	54.3	/
		8/27/2021	-26.2	-1.5	53.9	-0.4
Dipole D835V2 SN: 4d020	Head Liquid	8/28/2020	-26.2	/	54.8	/
		8/27/2021	-26.5	1.1	55.2	0.4
Dipole D1750V2 SN: 1033	Head Liquid	2/25/2020	-38.3	/	48.8	/
		2/24/2021	-40.0	4.4	49.9	1.1
		2/23/2022	-40.6	1.5	51.1	1.2
Dipole D1900V2 SN: 5d060	Head Liquid	8/27/2020	-23.3	/	52.5	/
		8/26/2021	-23.0	-1.3	51.9	-0.6
Dipole D2450V2 SN: 786	Head Liquid	8/27/2020	-26.9	/	54.5	/
		8/26/2021	-27.1	0.7	53.8	-0.7
Dipole D5GHzV2 SN: 1151 (5250MHz)	Head Liquid	2/27/2020	-23.4	/	52.4	/
		2/26/2021	-23.8	1.7	50.0	-2.4
		2/25/2022	-23.9	0.4	49.3	-0.7
Dipole D5GHzV2 SN: 1151 (5750MHz)	Head Liquid	2/27/2020	-25.0	/	55.9	/
		2/26/2021	-26.8	-1.8	52.5	-3.4
		2/25/2022	-27.1	1.1	52.1	-0.4

System Check results

Frequency (MHz)	Test Date	Temp ℃	250mW Measured SAR_{1g} (W/kg)	1W Normalized SAR_{1g} (W/kg)	1W Target SAR_{1g} (W/kg)	Δ % (Limit ±10%)	Plot No.
750	2022/8/10	21.5	2.10	8.40	8.37	0.36	1
835	2022/8/11	21.5	2.43	9.72	9.65	0.73	2
1750	2022/8/10	21.5	9.11	36.44	35.90	1.50	3
1900	2022/8/12	21.5	9.85	39.40	39.50	-0.25	4
2450	2022/8/13	21.5	13.70	54.80	52.30	4.78	5
2600	2022/8/14	21.5	13.88	55.52	56.10	-1.03	6
	2022/8/15	21.5	13.94	55.76	56.10	-0.61	7
Frequency (MHz)	**Test Date**	**Temp ℃**	**100mW Measured SAR_{1g} (W/kg)**	**1W Normalized SAR_{1g} (W/kg)**	**1W Target SAR_{1g} (W/kg)**	**Δ % (Limit ±10%)**	**Plot No.**
5250	2022/8/16	21.5	7.87	78.70	78.00	0.90	8
5750	2022/8/16	21.5	7.66	76.60	77.40	-1.03	9
Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.							

8.3 SAR System Validation

Per FCC KDB 865664 D02v01, SAR system verification is required to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles are used with the required tissue-equivalent media for system validation, according to the procedures outlined in FCC KDB 865664 D01 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point must be validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status, measurement frequencies, SAR probes, calibrated signal type(s) and tissue dielectric parameters has been included.

Frequency [MHz]	Date	Probe SN	Probe Type	Probe Cal Point		PERM (Er)	COND (Σ)	CW Validation		
								Sensitivity	Probe Linearity	Probe Isotropy
750	2022/7/8	3677	EX3DV4	750	Head	41.9	0.89	PASS	PASS	PASS
835	2022/7/8	3677	EX3DV4	835	Head	41.5	0.90	PASS	PASS	PASS
1750	2022/7/8	3677	EX3DV4	1750	Head	40.1	1.37	PASS	PASS	PASS
1900	2022/7/8	3677	EX3DV4	1900	Head	40.0	1.40	PASS	PASS	PASS
2450	2022/7/8	3677	EX3DV4	2450	Head	39.2	1.80	PASS	PASS	PASS
2600	2022/7/8	3677	EX3DV4	2600	Head	39.0	1.96	PASS	PASS	PASS
5250	2022/7/8	3677	EX3DV4	5250	Head	35.9	4.71	PASS	PASS	PASS
5750	2022/7/8	3677	EX3DV4	5750	Head	35.4	5.22	PASS	PASS	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664D01v01 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5dB), such as OFDM according to KDB 865664.

9 Normal and Maximum Output Power

KDB 447498 D01 at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

9.1 GSM Mode

GSM 850 Full power		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GPRS/ EGPRS (GMSK)	1 Tx Slot	33.50	32.13	32.15	32.17	9.03	24.47	23.10	23.12	23.14
	2 Tx Slots	32.00	31.74	31.71	31.78	6.02	25.98	25.72	25.69	25.76
	3 Tx Slots	30.50	30.39	30.32	30.35	4.26	26.24	26.13	26.06	26.09
	4 Tx Slots	30.00	29.26	29.24	29.26	3.01	**26.99**	26.25	26.23	26.25
EGPRS (8PSK)	1 Tx Slot	23.00	22.17	22.25	22.47	9.03	13.97	13.14	13.22	13.44
	2 Tx Slots	22.00	21.42	21.37	21.38	6.02	15.98	15.40	15.35	15.36
	3 Tx Slots	20.00	19.25	18.95	19.30	4.26	15.74	14.99	14.69	15.04
	4 Tx Slots	19.00	18.47	18.41	18.56	3.01	15.99	15.46	15.40	15.55
GSM 1900 Full power		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.00	29.11	29.33	29.33	9.03	20.97	20.08	20.30	20.30
	2 Tx Slots	29.00	28.65	28.89	28.87	6.02	22.98	22.63	22.87	22.85
	3 Tx Slots	28.00	27.17	27.40	27.45	4.26	23.74	22.91	23.14	23.19
	4 Tx Slots	27.00	26.13	26.35	25.37	3.01	**23.99**	23.12	23.34	22.36
EGPRS (8PSK)	1 Tx Slot	28.00	26.80	27.07	27.43	9.03	18.97	17.77	18.04	18.40
	2 Tx Slots	27.00	25.74	26.46	26.58	6.02	20.98	19.72	20.44	20.56
	3 Tx Slots	25.00	24.71	24.79	24.89	4.26	20.74	20.45	20.53	20.63
	4 Tx Slots	24.00	23.64	23.90	23.87	3.01	20.99	20.63	20.89	20.86
Notes: The worst-case configuration and mode for SAR testing is determined to be as follows: Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 4 time slots for Max power, based on the output power measurements above..										

9.2 WCDMA Mode

The following tests were completed according to the test requirements outlined in the 3GPP TS34.121 specification.

WCDMA		Band II(dBm) Full power				Band IV(dBm) Full power				Band V(dBm) Full power			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-up Limit	4132	4183	4233	Tune-up Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.6	846.6	
RMC	12.2kbps	**22.55**	22.49	22.54	23.00	22.35	22.32	**22.37**	23.00	22.16	22.16	**22.17**	23.00
HSDPA	Sub 1	21.57	21.55	21.70	22.00	21.23	21.26	21.39	22.00	21.08	21.12	21.31	22.00
	Sub 2	21.71	21.47	21.44	22.00	21.27	21.32	21.31	22.00	21.24	21.08	21.15	22.00
	Sub 3	21.01	21.07	21.08	21.50	20.93	20.78	21.03	21.50	20.66	20.62	20.59	21.50
	Sub 4	20.95	21.11	21.04	21.50	20.73	20.70	20.93	21.50	20.70	20.64	20.77	21.50
HSUPA	Sub 1	19.81	19.69	19.74	21.00	19.55	19.68	19.57	21.00	19.44	19.48	19.41	21.00
	Sub 2	19.53	19.57	19.42	20.00	19.47	19.40	19.29	20.00	19.22	19.02	19.09	20.00
	Sub 3	20.59	20.57	20.66	21.00	20.33	20.38	20.49	21.00	20.30	20.20	20.13	21.00
	Sub 4	18.99	19.13	19.04	19.50	18.69	18.68	18.93	19.50	18.60	18.56	18.51	19.50
	Sub 5	19.95	20.05	19.94	21.00	19.81	19.76	19.79	21.00	19.90	20.00	19.85	21.00
DC-HSDPA	Sub 1	21.51	21.35	21.58	22.00	21.45	21.44	21.23	22.00	21.14	21.14	21.29	22.00
	Sub 2	21.47	21.55	21.58	22.00	21.45	21.24	21.29	22.00	21.12	21.04	21.23	22.00
	Sub 3	21.15	21.11	21.12	21.50	20.93	20.96	20.79	21.50	20.50	20.58	20.61	21.50
	Sub 4	20.89	20.95	20.92	21.50	20.89	20.78	20.75	21.50	20.74	20.60	20.63	21.50
HSPA+	16QAM	19.89	19.97	20.04	20.50	19.97	19.98	19.87	20.50	19.60	19.68	19.51	20.50
Note: Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".													

9.3 LTE Mode

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 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

LTE Band2							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.48	22.46	22.36	23.50
		1	2	22.77	22.69	22.65	23.50
		1	5	22.33	22.24	22.36	23.50
		3	0	22.68	22.67	22.61	23.50
		3	2	22.67	22.67	22.62	23.50
		3	3	22.62	22.62	22.50	23.50
		6	0	21.69	21.69	21.68	22.50
	16QAM	1	0	21.69	21.78	21.66	22.50
		1	2	21.89	22.03	21.95	22.50
		1	5	21.59	21.57	21.58	22.50
		3	0	21.65	21.59	21.62	22.50
		3	2	21.72	21.66	21.64	22.50
		3	3	21.62	21.61	21.46	22.50
		6	0	20.67	20.70	20.67	21.50
	64QAM	1	0	20.73	20.66	20.49	21.50
		1	2	20.92	20.90	20.76	21.50
		1	5	20.56	20.52	20.46	21.50
		3	0	20.67	20.63	20.62	21.50
		3	2	20.69	20.64	20.64	21.50
		3	3	20.64	20.58	20.49	21.50
		6	0	19.73	19.73	19.71	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.50	22.50	22.39	23.50

		1	7	22.75	22.72	22.69	23.50
		1	14	22.36	22.29	22.40	23.50
		8	0	21.78	21.79	21.74	22.50
		8	4	21.79	21.77	21.74	22.50
		8	7	21.72	21.73	21.60	22.50
		15	0	21.69	21.73	21.71	22.50
	16QAM	1	0	21.69	21.80	21.69	22.50
		1	7	21.89	22.03	21.99	22.50
		1	14	21.61	21.61	21.61	22.50
		8	0	20.76	20.72	20.74	21.50
		8	4	20.83	20.79	20.76	21.50
		8	7	20.72	20.73	20.59	21.50
		15	0	20.70	20.74	20.70	21.50
	64QAM	1	0	20.76	20.68	20.52	21.50
		1	7	20.95	20.90	20.78	21.50
		1	14	20.58	20.51	20.49	21.50
		8	0	19.78	19.76	19.74	20.50
		8	4	19.80	19.77	19.76	20.50
		8	7	19.74	19.70	19.62	20.50
		15	0	19.76	19.77	19.74	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	22.47	22.48	22.35	23.50
		1	13	22.73	22.68	22.66	23.50
		1	24	22.33	22.24	22.36	23.50
		12	0	21.75	21.74	21.70	22.50
		12	6	21.77	21.73	21.69	22.50
		12	13	21.70	21.71	21.56	22.50
		25	0	21.69	21.72	21.69	22.50
	16QAM	1	0	21.69	21.76	21.66	22.50
		1	13	21.89	22.01	21.96	22.50
		1	24	21.58	21.59	21.57	22.50
		12	0	20.74	20.68	20.71	21.50
		12	6	20.80	20.74	20.72	21.50
		12	13	20.69	20.68	20.55	21.50
		25	0	20.68	20.70	20.65	21.50
	64QAM	1	0	20.73	20.68	20.49	21.50
		1	13	20.92	20.92	20.75	21.50
		1	24	20.59	20.49	20.45	21.50
		12	0	19.76	19.72	19.75	20.50
		12	6	19.77	19.72	19.72	20.50
		12	13	19.71	19.65	19.58	20.50
		25	0	19.74	19.73	19.69	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.49	22.49	22.38	23.50
		1	25	22.76	22.73	22.70	23.50
		1	49	22.35	22.28	22.39	23.50
		25	0	21.78	21.79	21.74	22.50
		25	13	21.80	21.78	21.73	22.50
		25	25	21.72	21.75	21.61	22.50
		50	0	21.73	21.74	21.73	22.50
	16QAM	1	0	21.73	21.79	21.68	22.50
		1	25	21.93	22.05	21.99	22.50
		1	49	21.61	21.61	21.60	22.50
		25	0	20.77	20.73	20.75	21.50
		25	13	20.82	20.78	20.75	21.50
		25	25	20.72	20.73	20.59	21.50
		50	0	20.71	20.75	20.69	21.50
	64QAM	1	0	20.75	20.67	20.51	21.50
		1	25	20.95	20.92	20.78	21.50
		1	49	20.58	20.51	20.48	21.50
		25	0	19.79	19.77	19.75	20.50
		25	13	19.79	19.76	19.75	20.50
		25	25	19.74	19.70	19.62	20.50
		50	0	19.77	19.78	19.73	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22.48	22.45	22.36	23.50
		1	38	22.74	22.72	22.67	23.50
		1	74	22.32	22.23	22.35	23.50
		36	0	21.76	21.75	21.71	22.50
		36	18	21.77	21.73	21.69	22.50
		36	39	21.69	21.72	21.57	22.50
		75	0	21.71	21.70	21.68	22.50
	16QAM	1	0	21.71	21.77	21.66	22.50
		1	38	21.91	22.02	21.97	22.50
		1	74	21.59	21.57	21.57	22.50
		36	0	20.74	20.71	20.72	21.50
		36	18	20.79	20.73	20.71	21.50
		36	39	20.70	20.69	20.56	21.50
		75	0	20.68	20.70	20.65	21.50
	64QAM	1	0	20.70	20.65	20.49	21.50
		1	38	20.93	20.89	20.76	21.50
		1	74	20.59	20.50	20.49	21.50
		36	0	19.78	19.79	19.76	20.50

		36	18	19.77	19.73	19.74	20.50
		36	39	19.72	19.66	19.59	20.50
		75	0	19.74	19.73	19.69	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	22.45	22.41	22.33	23.50
		1	50	**22.73**	**22.68**	**22.65**	23.50
		1	99	22.30	22.22	22.32	23.50
		50	0	21.73	**21.70**	**21.67**	22.50
		50	25	**21.75**	21.69	21.66	22.50
		50	50	21.66	21.67	21.53	22.50
		100	0	**21.68**	21.65	21.64	22.50
	16QAM	1	0	21.68	21.73	21.61	22.50
		1	50	21.88	22.00	21.93	22.50
		1	99	21.56	21.54	21.55	22.50
		50	0	20.71	20.67	20.69	21.50
		50	25	20.76	20.71	20.68	21.50
		50	50	20.67	20.64	20.52	21.50
		100	0	20.66	20.66	20.62	21.50
	64QAM	1	0	20.68	20.61	20.44	21.50
		1	50	20.89	20.87	20.72	21.50
		1	99	20.53	20.44	20.43	21.50
		50	0	19.73	19.71	19.69	20.50
		50	25	19.73	19.69	19.68	20.50
		50	50	19.69	19.61	19.55	20.50
		100	0	19.72	19.69	19.66	20.50

LTE Band4							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	22.63	22.64	22.59	23.50
		1	2	22.88	22.86	22.85	23.50
		1	5	22.44	22.44	22.37	23.50
		3	0	22.68	22.75	22.89	23.50
		3	2	22.79	22.80	22.81	23.50
		3	3	22.81	22.60	22.74	23.50
		6	0	21.78	21.76	21.90	22.50
	16QAM	1	0	21.77	21.78	21.85	22.50
		1	2	21.97	21.97	21.97	22.50
		1	5	21.62	21.63	21.53	22.50
		3	0	21.56	21.64	21.79	22.50
		3	2	21.72	21.72	21.74	22.50

		3	3	21.70	21.54	21.67	22.50
		6	0	20.68	20.68	20.80	21.50
	64QAM	1	0	20.62	20.71	20.69	21.50
		1	2	20.96	20.98	20.98	21.50
		1	5	20.51	20.59	20.50	21.50
		3	0	20.55	20.63	20.78	21.50
		3	2	20.69	20.72	20.71	21.50
		3	3	20.68	20.52	20.63	21.50
		6	0	19.65	19.68	19.78	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	22.65	22.68	22.62	23.50
		1	7	22.86	22.89	22.89	23.50
		1	14	22.47	22.49	22.41	23.50
		8	0	21.78	21.87	22.02	22.50
		8	4	21.91	21.90	21.93	22.50
		8	7	21.91	21.71	21.84	22.50
		15	0	21.78	21.80	21.93	22.50
	16QAM	1	0	21.77	21.80	21.88	22.50
		1	7	21.97	21.97	22.01	22.50
		1	14	21.64	21.67	21.56	22.50
		8	0	20.67	20.77	20.91	21.50
		8	4	20.83	20.85	20.86	21.50
		8	7	20.80	20.66	20.80	21.50
		15	0	20.71	20.72	20.83	21.50
	64QAM	1	0	20.65	20.73	20.72	21.50
		1	7	20.99	20.98	21.00	21.50
		1	14	20.53	20.58	20.53	21.50
		8	0	19.66	19.76	19.90	20.50
		8	4	19.80	19.85	19.83	20.50
		8	7	19.78	19.64	19.76	20.50
		15	0	19.68	19.72	19.81	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	22.62	22.66	22.58	23.50
		1	13	22.84	22.85	22.86	23.50
		1	24	22.44	22.44	22.37	23.50
		12	0	21.75	21.82	21.98	22.50
		12	6	21.89	21.86	21.88	22.50
		12	13	21.89	21.69	21.80	22.50
		25	0	21.78	21.79	21.91	22.50
	16QAM	1	0	21.77	21.76	21.85	22.50
		1	13	21.97	21.95	21.98	22.50

		1	24	21.61	21.65	21.52	22.50
		12	0	20.65	20.73	20.88	21.50
		12	6	20.80	20.80	20.82	21.50
		12	13	20.77	20.61	20.76	21.50
		25	0	20.69	20.68	20.78	21.50
	64QAM	1	0	20.62	20.73	20.69	21.50
		1	13	20.96	21.00	20.97	21.50
		1	24	20.54	20.56	20.49	21.50
		12	0	19.64	19.72	19.91	20.50
		12	6	19.77	19.80	19.79	20.50
		12	13	19.75	19.59	19.72	20.50
		25	0	19.66	19.68	19.76	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	22.64	22.67	22.61	23.50
		1	25	22.87	22.90	22.90	23.50
		1	49	22.46	22.48	22.40	23.50
		25	0	21.78	21.87	22.02	22.50
		25	13	21.92	21.91	21.92	22.50
		25	25	21.91	21.73	21.85	22.50
		50	0	21.82	21.81	21.95	22.50
	16QAM	1	0	21.81	21.79	21.87	22.50
		1	25	22.01	21.99	22.01	22.50
		1	49	21.64	21.67	21.55	22.50
		25	0	20.68	20.78	20.92	21.50
		25	13	20.82	20.84	20.85	21.50
		25	25	20.80	20.66	20.80	21.50
		50	0	20.72	20.73	20.82	21.50
	64QAM	1	0	20.64	20.72	20.71	21.50
		1	25	20.99	21.00	21.00	21.50
		1	49	20.53	20.58	20.52	21.50
		25	0	19.67	19.77	19.91	20.50
		25	13	19.79	19.84	19.82	20.50
		25	25	19.78	19.64	19.76	20.50
		50	0	19.69	19.73	19.80	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	22.63	22.63	22.59	23.50
		1	38	22.85	22.89	22.87	23.50
		1	74	22.43	22.43	22.36	23.50
		36	0	21.76	21.83	21.99	22.50
		36	18	21.89	21.86	21.88	22.50
		36	39	21.88	21.70	21.81	22.50

		75	0	21.80	21.77	21.90	22.50
	16QAM	1	0	21.79	21.77	21.85	22.50
		1	38	21.99	21.96	21.99	22.50
		1	74	21.62	21.63	21.52	22.50
		36	0	20.65	20.76	20.89	21.50
		36	18	20.79	20.79	20.81	21.50
		36	39	20.78	20.62	20.77	21.50
		75	0	20.69	20.68	20.78	21.50
	64QAM	1	0	20.59	20.70	20.69	21.50
		1	38	20.97	20.97	20.98	21.50
		1	74	20.54	20.57	20.53	21.50
		36	0	19.66	19.79	19.92	20.50
		36	18	19.77	19.81	19.81	20.50
		36	39	19.76	19.60	19.73	20.50
		75	0	19.66	19.68	19.76	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	22.60	22.59	22.56	23.50
		1	50	**22.84**	**22.85**	**22.85**	23.50
		1	99	22.41	22.42	22.33	23.50
		50	0	21.73	21.78	**21.95**	22.50
		50	25	**21.87**	**21.82**	21.85	22.50
		50	50	21.85	21.65	21.77	22.50
		100	0	21.77	21.72	**21.86**	22.50
	16QAM	1	0	21.76	21.73	21.80	22.50
		1	50	21.96	21.94	21.95	22.50
		1	99	21.59	21.60	21.50	22.50
		50	0	20.62	20.72	20.86	21.50
		50	25	20.76	20.77	20.78	21.50
		50	50	20.75	20.57	20.73	21.50
		100	0	20.67	20.64	20.75	21.50
	64QAM	1	0	20.57	20.66	20.64	21.50
		1	50	20.93	20.95	20.94	21.50
		1	99	20.48	20.51	20.47	21.50
		50	0	19.61	19.71	19.85	20.50
		50	25	19.73	19.77	19.75	20.50
		50	50	19.73	19.55	19.69	20.50
		100	0	19.64	19.64	19.73	20.50

LTE Band5							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.86	22.81	22.74	23.50
		1	2	23.00	22.93	22.97	23.50
		1	5	22.83	22.80	22.87	23.50
		3	0	22.69	22.69	22.74	23.50
		3	2	22.69	22.75	22.76	23.50
		3	3	22.73	22.65	22.62	23.50
		6	0	21.74	21.76	21.74	22.50
	16QAM	1	0	22.17	22.09	22.10	22.50
		1	2	22.28	22.25	22.32	22.50
		1	5	22.10	22.13	22.30	22.50
		3	0	21.70	21.67	21.77	22.50
		3	2	21.76	21.72	21.78	22.50
		3	3	21.72	21.68	21.67	22.50
		6	0	20.77	20.78	20.82	21.50
	64QAM	1	0	21.01	20.89	20.85	21.50
		1	2	21.09	20.97	21.02	21.50
		1	5	20.95	20.97	21.04	21.50
		3	0	20.67	20.65	20.77	21.50
		3	2	20.79	20.75	20.74	21.50
		3	3	20.73	20.68	20.61	21.50
		6	0	19.77	19.76	19.83	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.85	22.83	22.73	23.50
		1	7	22.96	22.92	22.98	23.50
		1	14	22.83	22.80	22.87	23.50
		8	0	21.76	21.76	21.83	22.50
		8	4	21.79	21.81	21.83	22.50
		8	7	21.81	21.74	21.68	22.50
		15	0	21.74	21.79	21.75	22.50
	16QAM	1	0	22.17	22.07	22.10	22.50
		1	7	22.28	22.23	22.33	22.50
		1	14	22.09	22.15	22.29	22.50
		8	0	20.79	20.76	20.86	21.50
		8	4	20.84	20.80	20.86	21.50
		8	7	20.79	20.75	20.76	21.50
		15	0	20.78	20.78	20.80	21.50
	64QAM	1	0	21.01	20.91	20.85	21.50

		1	7	21.09	20.99	21.01	21.50
		1	14	20.98	20.94	21.03	21.50
		8	0	19.76	19.74	19.90	20.50
		8	4	19.87	19.83	19.82	20.50
		8	7	19.80	19.75	19.70	20.50
		15	0	19.78	19.76	19.81	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.86	22.80	22.74	23.50
		1	13	22.97	22.96	22.99	23.50
		1	24	22.82	22.79	22.86	23.50
		12	0	21.77	21.77	21.84	22.50
		12	6	21.79	21.81	21.83	22.50
		12	13	21.80	21.75	21.69	22.50
		25	0	21.76	21.77	21.74	22.50
	16QAM	1	0	22.19	22.08	22.10	22.50
		1	13	22.30	22.24	22.34	22.50
		1	24	22.10	22.13	22.29	22.50
		12	0	20.79	20.79	20.87	21.50
		12	6	20.83	20.79	20.85	21.50
		12	13	20.80	20.76	20.77	21.50
		25	0	20.78	20.78	20.80	21.50
	64QAM	1	0	20.98	20.88	20.85	21.50
		1	13	21.10	20.96	21.02	21.50
		1	24	20.98	20.95	21.07	21.50
		12	0	19.78	19.81	19.91	20.50
		12	6	19.87	19.84	19.84	20.50
		12	13	19.81	19.76	19.71	20.50
		25	0	19.78	19.76	19.81	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	22.83	22.76	22.71	23.50
		1	25	**22.96**	**22.92**	**22.97**	23.50
		1	49	22.80	22.78	22.83	23.50
		25	0	21.74	21.72	**21.80**	22.50
		25	13	**21.77**	**21.77**	**21.80**	22.50
		25	25	**21.77**	21.70	21.65	22.50
		50	0	**21.73**	21.72	21.70	22.50
	16QAM	1	0	22.16	22.04	22.05	22.50
		1	25	22.27	22.22	22.30	22.50
		1	49	22.07	22.10	22.27	22.50
		25	0	20.76	20.75	20.84	21.50
		25	13	20.80	20.77	20.82	21.50

		25	25	20.77	20.71	20.73	21.50
		50	0	20.76	20.74	20.77	21.50
	64QAM	1	0	20.96	20.84	20.80	21.50
		1	25	21.06	20.94	20.98	21.50
		1	49	20.92	20.89	21.01	21.50
		25	0	19.73	19.73	19.84	20.50
		25	13	19.83	19.80	19.78	20.50
		25	25	19.78	19.71	19.67	20.50
		50	0	19.76	19.72	19.78	20.50

LTE Band7							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.25	22.44	22.57	23.50
		1	13	22.78	22.85	23.05	23.50
		1	24	22.49	22.58	22.76	23.50
		12	0	21.69	21.86	21.83	22.50
		12	6	21.77	21.92	22.01	22.50
		12	13	21.90	21.83	21.91	22.50
		25	0	21.77	21.89	21.90	22.50
	16QAM	1	0	21.51	21.74	21.86	22.50
		1	13	22.07	22.21	22.34	22.50
		1	24	21.75	21.99	22.04	22.50
		12	0	20.73	20.84	20.85	21.50
		12	6	20.81	20.92	21.04	21.50
		12	13	20.93	20.91	20.96	21.50
		25	0	20.79	20.86	20.90	21.50
	64QAM	1	0	20.61	20.66	20.73	21.50
		1	13	21.16	21.12	21.27	21.50
		1	24	20.80	20.88	20.91	21.50
		12	0	19.73	19.82	19.92	20.50
		12	6	19.78	19.93	20.06	20.50
		12	13	19.89	19.92	19.98	20.50
		25	0	19.83	19.88	19.93	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.27	22.45	22.60	23.50
		1	25	22.81	22.90	23.09	23.50
		1	49	22.51	22.62	22.79	23.50
		25	0	21.72	21.91	21.87	22.50
		25	13	21.80	21.97	22.05	22.50
		25	25	21.92	21.87	21.96	22.50

		50	0	21.81	21.91	21.94	22.50
	16QAM	1	0	21.55	21.77	21.88	22.50
		1	25	22.11	22.25	22.37	22.50
		1	49	21.78	22.01	22.07	22.50
		25	0	20.76	20.89	20.89	21.50
		25	13	20.83	20.96	21.07	21.50
		25	25	20.96	20.96	21.00	21.50
		50	0	20.82	20.91	20.94	21.50
	64QAM	1	0	20.63	20.65	20.75	21.50
		1	25	21.19	21.12	21.30	21.50
		1	49	20.79	20.90	20.94	21.50
		25	0	19.76	19.87	19.92	20.50
		25	13	19.80	19.97	20.09	20.50
		25	25	19.92	19.97	20.02	20.50
		50	0	19.86	19.93	19.97	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	22.26	22.41	22.58	23.50
		1	38	22.79	22.89	23.06	23.50
		1	74	22.48	22.57	22.75	23.50
		36	0	21.70	21.87	21.84	22.50
		36	18	21.77	21.92	22.01	22.50
		36	39	21.89	21.84	21.92	22.50
		75	0	21.79	21.87	21.89	22.50
	16QAM	1	0	21.53	21.75	21.86	22.50
		1	38	22.09	22.22	22.35	22.50
		1	74	21.76	21.97	22.04	22.50
		36	0	20.73	20.87	20.86	21.50
		36	18	20.80	20.91	21.03	21.50
		36	39	20.94	20.92	20.97	21.50
		75	0	20.79	20.86	20.90	21.50
	64QAM	1	0	20.58	20.63	20.73	21.50
		1	38	21.17	21.09	21.28	21.50
		1	74	20.80	20.89	20.95	21.50
		36	0	19.75	19.89	19.93	20.50
		36	18	19.78	19.94	20.08	20.50
		36	39	19.90	19.93	19.99	20.50
		75	0	19.83	19.88	19.93	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	22.23	22.37	22.55	23.50
		1	50	**22.78**	**22.85**	**23.04**	23.50
		1	99	22.46	22.56	22.72	23.50

		50	0	21.67	21.82	21.80	22.50
		50	25	21.75	**21.88**	**21.98**	22.50
		50	50	**21.86**	21.79	21.88	22.50
		100	0	21.76	21.82	**21.85**	22.50
	16QAM	1	0	21.50	21.71	21.81	22.50
		1	50	22.06	22.20	22.31	22.50
		1	99	21.73	21.94	22.02	22.50
		50	0	20.70	20.83	20.83	21.50
		50	25	20.77	20.89	21.00	21.50
		50	50	20.91	20.87	20.93	21.50
		100	0	20.77	20.82	20.87	21.50
	64QAM	1	0	20.56	20.59	20.68	21.50
		1	50	21.13	21.07	21.24	21.50
		1	99	20.74	20.83	20.89	21.50
		50	0	19.70	19.81	19.86	20.50
		50	25	19.74	19.90	20.02	20.50
		50	50	19.87	19.88	19.95	20.50
		100	0	19.81	19.84	19.90	20.50

LTE Band12							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.67	22.79	22.77	23.50
		1	2	22.88	22.87	22.81	23.50
		1	5	22.77	22.74	22.80	23.50
		3	0	22.75	22.61	22.72	23.50
		3	2	22.69	22.76	22.74	23.50
		3	3	22.88	22.67	22.69	23.50
		6	0	21.87	21.70	21.78	22.50
	16QAM	1	0	21.93	22.08	22.11	22.50
		1	2	22.18	22.23	22.14	22.50
		1	5	22.10	22.10	22.14	22.50
		3	0	21.78	21.60	21.71	22.50
		3	2	21.78	21.75	21.74	22.50
		3	3	21.87	21.70	21.67	22.50
		6	0	20.88	20.76	20.80	21.50
	64QAM	1	0	20.87	20.99	20.92	21.50
		1	2	21.05	21.06	21.05	21.50
		1	5	20.94	21.02	20.99	21.50
		3	0	20.78	20.54	20.71	21.50
		3	2	20.74	20.73	20.74	21.50
		3	3	20.82	20.68	20.67	21.50

		6	0	19.90	19.72	19.80	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.68	22.82	22.79	23.50
		1	7	22.87	22.91	22.86	23.50
		1	14	22.79	22.78	22.83	23.50
		8	0	21.85	21.73	21.85	22.50
		8	4	21.82	21.87	21.85	22.50
		8	7	21.98	21.80	21.80	22.50
		15	0	21.91	21.75	21.83	22.50
	16QAM	1	0	21.97	22.09	22.13	22.50
		1	7	22.22	22.25	22.18	22.50
		1	14	22.12	22.14	22.16	22.50
		8	0	20.90	20.74	20.84	21.50
		8	4	20.88	20.87	20.85	21.50
		8	7	20.97	20.82	20.80	21.50
		15	0	20.92	20.81	20.82	21.50
	64QAM	1	0	20.89	21.00	20.94	21.50
		1	7	21.08	21.08	21.07	21.50
		1	14	20.96	21.01	21.01	21.50
		8	0	19.90	19.68	19.84	20.50
		8	4	19.84	19.85	19.85	20.50
		8	7	19.92	19.80	19.80	20.50
		15	0	19.94	19.77	19.82	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.67	22.78	22.77	23.50
		1	13	22.85	22.90	22.83	23.50
		1	24	22.76	22.73	22.79	23.50
		12	0	21.83	21.69	21.82	22.50
		12	6	21.79	21.82	21.81	22.50
		12	13	21.95	21.77	21.76	22.50
		25	0	21.89	21.71	21.78	22.50
	16QAM	1	0	21.95	22.07	22.11	22.50
		1	13	22.20	22.22	22.16	22.50
		1	24	22.10	22.10	22.13	22.50
		12	0	20.87	20.72	20.81	21.50
		12	6	20.85	20.82	20.81	21.50
		12	13	20.95	20.78	20.77	21.50
		25	0	20.89	20.76	20.78	21.50
	64QAM	1	0	20.84	20.98	20.92	21.50
		1	13	21.06	21.05	21.05	21.50
		1	24	20.97	21.00	21.02	21.50

		12	0	19.89	19.70	19.85	20.50
		12	6	19.82	19.82	19.84	20.50
		12	13	19.90	19.76	19.77	20.50
		25	0	19.91	19.72	19.78	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	22.64	22.74	22.74	23.50
		1	25	**22.84**	**22.86**	**22.81**	23.50
		1	49	22.74	22.72	22.76	23.50
		25	0	21.80	21.64	**21.78**	22.50
		25	13	21.77	**21.78**	**21.78**	22.50
		25	25	**21.92**	21.72	21.72	22.50
		50	0	**21.86**	21.66	21.74	22.50
	16QAM	1	0	21.92	22.03	22.06	22.50
		1	25	22.17	22.20	22.12	22.50
		1	49	22.07	22.07	22.11	22.50
		25	0	20.84	20.68	20.78	21.50
		25	13	20.82	20.80	20.78	21.50
		25	25	20.92	20.73	20.73	21.50
		50	0	20.87	20.72	20.75	21.50
	64QAM	1	0	20.82	20.94	20.87	21.50
		1	25	21.02	21.03	21.01	21.50
		1	49	20.91	20.94	20.96	21.50
		25	0	19.84	19.62	19.78	20.50
		25	13	19.78	19.78	19.78	20.50
		25	25	19.87	19.71	19.73	20.50
		50	0	19.89	19.68	19.75	20.50

LTE Band17							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.76	22.87	22.75	23.50
		1	13	22.89	22.88	22.90	23.50
		1	24	22.79	22.81	22.81	23.50
		12	0	21.70	21.74	21.82	22.50
		12	6	21.82	21.85	21.87	22.50
		12	13	21.70	21.68	21.76	22.50
		25	0	21.66	21.78	21.84	22.50
	16QAM	1	0	22.13	22.15	22.09	22.50
		1	13	22.17	22.22	22.17	22.50
		1	24	22.12	22.22	22.14	22.50
		12	0	20.71	20.73	20.83	21.50

		12	6	20.89	20.86	20.88	21.50
		12	13	20.66	20.68	20.79	21.50
		25	0	20.70	20.73	20.84	21.50
	64QAM	1	0	20.90	20.96	20.92	21.50
		1	13	21.02	21.06	21.09	21.50
		1	24	20.95	21.03	20.98	21.50
		12	0	19.65	19.70	19.86	20.50
		12	6	19.85	19.83	19.86	20.50
		12	13	19.66	19.71	19.77	20.50
		25	0	19.68	19.73	19.81	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	22.74	22.80	22.73	23.50
		1	25	**22.89**	**22.88**	**22.89**	23.50
		1	49	22.76	22.79	22.77	23.50
		25	0	21.68	21.70	21.79	22.50
		25	13	**21.80**	**21.81**	**21.84**	22.50
		25	25	21.66	21.64	21.73	22.50
		50	0	21.65	21.71	**21.79**	22.50
	16QAM	1	0	22.12	22.12	22.04	22.50
		1	25	22.16	22.21	22.14	22.50
		1	49	22.10	22.17	22.12	22.50
		25	0	20.68	20.72	20.81	21.50
		25	13	20.85	20.83	20.84	21.50
		25	25	20.64	20.64	20.76	21.50
		50	0	20.68	20.69	20.81	21.50
	64QAM	1	0	20.85	20.89	20.87	21.50
		1	25	20.99	21.01	21.06	21.50
		1	49	20.89	20.98	20.96	21.50
		25	0	19.62	19.69	19.80	20.50
		25	13	19.81	19.80	19.82	20.50
		25	25	19.64	19.67	19.74	20.50
		50	0	19.66	19.69	19.78	20.50

LTE Band25							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				26047/1850.7	26365/1882,5	26683/1914.3	
1.4MHz	QPSK	1	0	22.69	22.67	22.64	23.50
		1	2	22.70	22.76	22.73	23.50
		1	5	22.55	22.55	22.61	23.50
		3	0	22.64	22.76	22.69	23.50
		3	2	22.59	22.74	22.67	23.50

		3	3	22.59	22.61	22.62	23.50
		6	0	21.69	21.73	21.77	22.50
	16QAM	1	0	21.88	21.97	21.92	22.50
		1	2	21.94	22.02	21.99	22.50
		1	5	21.86	21.85	21.87	22.50
		3	0	21.60	21.61	21.65	22.50
		3	2	21.67	21.64	21.64	22.50
		3	3	21.59	21.61	21.57	22.50
		6	0	20.65	20.73	20.72	21.50
	64QAM	1	0	20.85	20.78	20.81	21.50
		1	2	20.88	20.82	20.86	21.50
		1	5	20.78	20.77	20.72	21.50
		3	0	20.61	20.60	20.66	21.50
		3	2	20.69	20.59	20.66	21.50
		3	3	20.64	20.66	20.56	21.50
		6	0	19.68	19.72	19.73	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26055/1851.5	26365/1882,5	26675/1913.5	
3MHz	QPSK	1	0	22.71	22.71	22.67	23.50
		1	7	22.68	22.79	22.77	23.50
		1	14	22.58	22.60	22.65	23.50
		8	0	21.74	21.88	21.82	22.50
		8	4	21.71	21.84	21.79	22.50
		8	7	21.69	21.72	21.72	22.50
		15	0	21.69	21.77	21.80	22.50
	16QAM	1	0	21.88	21.99	21.95	22.50
		1	7	21.94	22.02	22.03	22.50
		1	14	21.88	21.89	21.90	22.50
		8	0	20.71	20.74	20.77	21.50
		8	4	20.78	20.77	20.76	21.50
		8	7	20.69	20.73	20.70	21.50
		15	0	20.68	20.77	20.75	21.50
	64QAM	1	0	20.88	20.80	20.84	21.50
		1	7	20.91	20.82	20.88	21.50
		1	14	20.80	20.76	20.75	21.50
		8	0	19.72	19.73	19.78	20.50
		8	4	19.80	19.72	19.78	20.50
		8	7	19.74	19.78	19.69	20.50
		15	0	19.71	19.76	19.76	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26065/1852.5	26365/1882,5	26665/1912.5	
5MHz	QPSK	1	0	22.68	22.69	22.63	23.50
		1	13	22.66	22.75	22.74	23.50

		1	24	22.55	22.55	22.61	23.50
		12	0	21.71	21.83	21.78	22.50
		12	6	21.69	21.80	21.74	22.50
		12	13	21.67	21.70	21.68	22.50
		25	0	21.69	21.76	21.78	22.50
	16QAM	1	0	21.88	21.95	21.92	22.50
		1	13	21.94	22.00	22.00	22.50
		1	24	21.85	21.87	21.86	22.50
		12	0	20.69	20.70	20.74	21.50
		12	6	20.75	20.72	20.72	21.50
		12	13	20.66	20.68	20.66	21.50
		25	0	20.66	20.73	20.70	21.50
	64QAM	1	0	20.85	20.80	20.81	21.50
		1	13	20.88	20.84	20.85	21.50
		1	24	20.81	20.74	20.71	21.50
		12	0	19.70	19.69	19.79	20.50
		12	6	19.77	19.67	19.74	20.50
		12	13	19.71	19.73	19.65	20.50
		25	0	19.69	19.72	19.71	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26090/1855	26365/1882,5	26640/1910	
10MHz	QPSK	1	0	22.70	22.70	22.66	23.50
		1	25	22.69	22.80	22.78	23.50
		1	49	22.57	22.59	22.64	23.50
		25	0	21.74	21.88	21.82	22.50
		25	13	21.72	21.85	21.78	22.50
		25	25	21.69	21.74	21.73	22.50
		50	0	21.73	21.78	21.82	22.50
	16QAM	1	0	21.92	21.98	21.94	22.50
		1	25	21.98	22.04	22.03	22.50
		1	49	21.88	21.89	21.89	22.50
		25	0	20.72	20.75	20.78	21.50
		25	13	20.77	20.76	20.75	21.50
		25	25	20.69	20.73	20.70	21.50
		50	0	20.69	20.78	20.74	21.50
	64QAM	1	0	20.87	20.79	20.83	21.50
		1	25	20.91	20.84	20.88	21.50
		1	49	20.80	20.76	20.74	21.50
		25	0	19.73	19.74	19.79	20.50
		25	13	19.79	19.71	19.77	20.50
		25	25	19.74	19.78	19.69	20.50
		50	0	19.72	19.77	19.75	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26115/1857.5	26365/1882,5	26615/1907.5	
15MHz	QPSK	1	0	22.69	22.66	22.64	23.50
		1	38	22.67	22.79	22.75	23.50
		1	74	22.54	22.54	22.60	23.50
		36	0	21.72	21.84	21.79	22.50
		36	18	21.69	21.80	21.74	22.50
		36	39	21.66	21.71	21.69	22.50
		75	0	21.71	21.74	21.77	22.50
	16QAM	1	0	21.90	21.96	21.92	22.50
		1	38	21.96	22.01	22.01	22.50
		1	74	21.86	21.85	21.86	22.50
		36	0	20.69	20.73	20.75	21.50
		36	18	20.74	20.71	20.71	21.50
		36	39	20.67	20.69	20.67	21.50
		75	0	20.66	20.73	20.70	21.50
	64QAM	1	0	20.82	20.77	20.81	21.50
		1	38	20.89	20.81	20.86	21.50
		1	74	20.81	20.75	20.75	21.50
		36	0	19.72	19.76	19.80	20.50
		36	18	19.77	19.68	19.76	20.50
		36	39	19.72	19.74	19.66	20.50
		75	0	19.69	19.72	19.71	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26140/1860	26365/1882.5	26590/1905	
20MHz	QPSK	1	0	**22.66**	22.62	22.61	23.50
		1	50	**22.66**	**22.75**	**22.73**	23.50
		1	99	22.52	22.53	22.57	23.50
		50	0	**21.69**	**21.79**	**21.75**	22.50
		50	25	21.67	21.76	21.71	22.50
		50	50	21.63	21.66	21.65	22.50
		100	0	21.68	21.69	**21.73**	22.50
	16QAM	1	0	21.87	21.92	21.87	22.50
		1	50	21.93	21.99	21.97	22.50
		1	99	21.83	21.82	21.84	22.50
		50	0	20.66	20.69	20.72	21.50
		50	25	20.71	20.69	20.68	21.50
		50	50	20.64	20.64	20.63	21.50
		100	0	20.64	20.69	20.67	21.50
	64QAM	1	0	20.80	20.73	20.76	21.50
		1	50	20.85	20.79	20.82	21.50
		1	99	20.75	20.69	20.69	21.50
		50	0	19.67	19.68	19.73	20.50

		50	25	19.73	19.64	19.70	20.50
		50	50	19.69	19.69	19.62	20.50
		100	0	19.67	19.68	19.68	20.50

LTE Band26							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	22.65	22.65	22.56	23.50
		1	2	22.79	22.82	22.67	23.50
		1	5	22.71	22.61	22.71	23.50
		3	0	22.59	22.75	22.68	23.50
		3	2	22.69	22.72	22.70	23.50
		3	3	22.71	22.69	22.62	23.50
		6	0	21.74	21.74	21.75	22.50
	16QAM	1	0	21.88	21.91	21.88	22.50
		1	2	22.01	21.97	21.98	22.50
		1	5	21.93	21.86	21.97	22.50
		3	0	21.54	21.54	21.62	22.50
		3	2	21.68	21.63	21.67	22.50
		3	3	21.68	21.68	21.56	22.50
		6	0	20.70	20.75	20.73	21.50
	64QAM	1	0	20.82	20.79	20.67	21.50
		1	2	21.00	20.90	20.88	21.50
		1	5	20.87	20.85	20.81	21.50
		3	0	20.56	20.57	20.67	21.50
		3	2	20.72	20.69	20.72	21.50
		3	3	20.71	20.70	20.59	21.50
		6	0	19.73	19.75	19.74	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	22.64	22.67	22.55	23.50
		1	7	22.75	22.81	22.68	23.50
		1	14	22.71	22.61	22.71	23.50
		8	0	21.66	21.82	21.77	22.50
		8	4	21.79	21.78	21.77	22.50
		8	7	21.79	21.78	21.68	22.50
		15	0	21.74	21.77	21.76	22.50
	16QAM	1	0	21.88	21.89	21.88	22.50
		1	7	22.01	21.95	21.99	22.50
		1	14	21.92	21.88	21.96	22.50
		8	0	20.63	20.63	20.71	21.50
		8	4	20.76	20.71	20.75	21.50

		8	7	20.75	20.75	20.65	21.50
		15	0	20.71	20.75	20.71	21.50
	64QAM	1	0	20.82	20.81	20.67	21.50
		1	7	21.00	20.92	20.87	21.50
		1	14	20.90	20.82	20.80	21.50
		8	0	19.65	19.66	19.80	20.50
		8	4	19.80	19.77	19.80	20.50
		8	7	19.78	19.77	19.68	20.50
		15	0	19.74	19.75	19.72	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	22.66	22.68	22.58	23.50
		1	13	22.78	22.86	22.72	23.50
		1	24	22.73	22.65	22.74	23.50
		12	0	21.69	21.87	21.81	22.50
		12	6	21.82	21.83	21.81	22.50
		12	13	21.81	21.82	21.73	22.50
		25	0	21.78	21.79	21.80	22.50
	16QAM	1	0	21.92	21.92	21.90	22.50
		1	13	22.05	21.99	22.02	22.50
		1	24	21.95	21.90	21.99	22.50
		12	0	20.66	20.68	20.75	21.50
		12	6	20.78	20.75	20.78	21.50
		12	13	20.78	20.80	20.69	21.50
		25	0	20.74	20.80	20.75	21.50
	64QAM	1	0	20.84	20.80	20.69	21.50
		1	13	21.03	20.92	20.90	21.50
		1	24	20.89	20.84	20.83	21.50
		12	0	19.68	19.71	19.80	20.50
		12	6	19.82	19.81	19.83	20.50
		12	13	19.81	19.82	19.72	20.50
		25	0	19.77	19.80	19.76	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26740/819	26865/831.5	26990/844	
10MHz	QPSK	1	0	22.65	22.64	22.56	23.50
		1	25	22.76	22.85	22.69	23.50
		1	49	22.70	22.60	22.70	23.50
		25	0	21.67	21.83	21.78	22.50
		25	13	21.79	21.78	21.77	22.50
		25	25	21.78	21.79	21.69	22.50
		50	0	21.76	21.75	21.75	22.50
	16QAM	1	0	21.90	21.90	21.88	22.50
		1	25	22.03	21.96	22.00	22.50

		1	49	21.93	21.86	21.96	22.50
		25	0	20.63	20.66	20.72	21.50
		25	13	20.75	20.70	20.74	21.50
		25	25	20.76	20.76	20.66	21.50
		50	0	20.71	20.75	20.71	21.50
	64QAM	1	0	20.79	20.78	20.67	21.50
		1	25	21.01	20.89	20.88	21.50
		1	49	20.90	20.83	20.84	21.50
		25	0	19.67	19.73	19.81	20.50
		25	13	19.80	19.78	19.82	20.50
		25	25	19.79	19.78	19.69	20.50
		50	0	19.74	19.75	19.72	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26765/821.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	22.62	22.60	22.53	23.50
		1	38	**22.75**	**22.81**	**22.67**	23.50
		1	74	22.68	22.59	**22.67**	23.50
		36	0	21.64	**21.78**	**21.74**	22.50
		36	18	**21.77**	21.74	**21.74**	22.50
		36	39	21.75	21.74	21.65	22.50
		75	0	**21.73**	21.70	21.71	22.50
	16QAM	1	0	21.87	21.86	21.83	22.50
		1	38	22.00	21.94	21.96	22.50
		1	74	21.90	21.83	21.94	22.50
		36	0	20.60	20.62	20.69	21.50
		36	18	20.72	20.68	20.71	21.50
		36	39	20.73	20.71	20.62	21.50
		75	0	20.69	20.71	20.68	21.50
	64QAM	1	0	20.77	20.74	20.62	21.50
		1	38	20.97	20.87	20.84	21.50
		1	74	20.84	20.77	20.78	21.50
		36	0	19.62	19.65	19.74	20.50
		36	18	19.76	19.74	19.76	20.50
		36	39	19.76	19.73	19.65	20.50
		75	0	19.72	19.71	19.69	20.50

LTE Band38							
Full Power				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.83	22.86	22.83	23.50
		1	13	23.15	23.20	23.21	23.50
		1	24	22.88	22.87	22.90	23.50

		12	0	22.04	22.09	22.18	22.50
		12	6	22.07	22.18	22.22	22.50
		12	13	22.21	22.24	22.14	22.50
		25	0	22.12	22.23	22.17	22.50
	16QAM	1	0	21.97	21.97	22.02	22.50
		1	13	22.35	22.37	22.39	22.50
		1	24	22.04	22.07	22.07	22.50
		12	0	21.07	21.09	21.16	21.50
		12	6	21.10	21.18	21.22	21.50
		12	13	21.20	21.28	21.16	21.50
		25	0	21.11	21.19	21.18	21.50
	64QAM	1	0	20.86	20.88	20.91	21.50
		1	13	21.16	21.23	21.27	21.50
		1	24	20.96	20.95	20.94	21.50
		12	0	20.02	20.03	20.18	20.50
		12	6	20.13	20.16	20.22	20.50
		12	13	20.23	20.22	20.14	20.50
		25	0	20.15	20.20	20.17	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.85	22.87	22.86	23.50
		1	25	23.18	23.25	23.25	23.50
		1	49	22.90	22.91	22.93	23.50
		25	0	22.07	22.14	22.22	22.50
		25	13	22.10	22.23	22.26	22.50
		25	25	22.23	22.28	22.19	22.50
		50	0	22.16	22.25	22.21	22.50
	16QAM	1	0	22.01	22.00	22.04	22.50
		1	25	22.39	22.41	22.42	22.50
		1	49	22.07	22.09	22.10	22.50
		25	0	21.10	21.14	21.20	21.50
		25	13	21.12	21.22	21.25	21.50
		25	25	21.23	21.33	21.20	21.50
		50	0	21.14	21.24	21.22	21.50
	64QAM	1	0	20.88	20.87	20.93	21.50
		1	25	21.19	21.23	21.30	21.50
		1	49	20.95	20.97	20.97	21.50
		25	0	20.05	20.08	20.18	20.50
		25	13	20.15	20.20	20.25	20.50
		25	25	20.26	20.27	20.18	20.50
		50	0	20.18	20.25	20.21	20.50

Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	22.84	22.83	22.84	23.50
		1	38	23.16	23.24	23.22	23.50
		1	74	22.87	22.86	22.89	23.50
		36	0	22.05	22.10	22.19	22.50
		36	18	22.07	22.18	22.22	22.50
		36	39	22.20	22.25	22.15	22.50
		75	0	22.14	22.21	22.16	22.50
	16QAM	1	0	21.99	21.98	22.02	22.50
		1	38	22.37	22.38	22.40	22.50
		1	74	22.05	22.05	22.07	22.50
		36	0	21.07	21.12	21.17	21.50
		36	18	21.09	21.17	21.21	21.50
		36	39	21.21	21.29	21.17	21.50
		75	0	21.11	21.19	21.18	21.50
	64QAM	1	0	20.83	20.85	20.91	21.50
		1	38	21.17	21.20	21.28	21.50
		1	74	20.96	20.96	20.98	21.50
		36	0	20.04	20.10	20.19	20.50
		36	18	20.13	20.17	20.24	20.50
		36	39	20.24	20.23	20.15	20.50
		75	0	20.15	20.20	20.17	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	22.81	22.79	22.81	23.50
		1	50	**23.15**	**23.20**	**23.20**	23.50
		1	99	22.85	22.85	22.86	23.50
		50	0	22.02	22.05	22.15	22.50
		50	25	22.05	22.14	**22.19**	22.50
		50	50	**22.17**	**22.20**	22.11	22.50
		100	0	22.11	**22.16**	22.12	22.50
	16QAM	1	0	21.96	21.94	21.97	22.50
		1	50	22.34	22.36	22.36	22.50
		1	99	22.02	22.02	22.05	22.50
		50	0	21.04	21.08	21.14	21.50
		50	25	21.06	21.15	21.18	21.50
		50	50	21.18	21.24	21.13	21.50
		100	0	21.09	21.15	21.15	21.50
	64QAM	1	0	20.81	20.81	20.86	21.50
		1	50	21.13	21.18	21.24	21.50
		1	99	20.90	20.90	20.92	21.50
		50	0	19.99	20.02	20.12	20.50

		50	25	20.09	20.13	20.18	20.50
		50	50	20.21	20.18	20.11	20.50
		100	0	20.13	20.16	20.14	20.50

LTE Band41								
Full Power				Maximum Output Power (dBm)				Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				
				40065/2537.5	40385/2569.5	40705/2601.5	41215/2652.5	
5MHz	QPSK	1	0	22.69	22.87	22.81	22.82	23.50
		1	13	23.16	23.22	23.21	23.22	23.50
		1	24	22.83	22.87	22.84	22.84	23.50
		12	0	21.91	22.03	22.10	22.14	22.50
		12	6	22.08	22.22	22.19	22.16	22.50
		12	13	22.20	22.28	22.21	22.12	22.50
		25	0	22.02	22.23	22.20	22.16	22.50
	16QAM	1	0	21.83	21.98	21.97	22.01	22.50
		1	13	22.35	22.37	22.38	22.46	22.50
		1	24	21.96	22.03	21.99	22.01	22.50
		12	0	20.92	21.01	21.10	21.18	21.50
		12	6	21.10	21.19	21.22	21.22	21.50
		12	13	21.18	21.29	21.20	21.14	21.50
		25	0	21.07	21.20	21.19	21.17	21.50
	64QAM	1	0	20.75	20.89	20.87	20.88	21.50
		1	13	21.20	21.26	21.23	21.30	21.50
		1	24	20.86	20.89	20.90	20.85	21.50
		12	0	19.96	20.00	20.11	20.19	20.50
		12	6	20.09	20.18	20.15	20.22	20.50
		12	13	20.15	20.26	20.18	20.15	20.50
		25	0	20.10	20.18	20.19	20.14	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				Tune-up
				40090/2540	40390/2570	40690/2600	41190/2650	
10MHz	QPSK	1	0	22.71	22.88	22.84	22.85	23.50
		1	25	23.19	23.27	23.25	23.26	23.50
		1	49	22.85	22.91	22.87	22.87	23.50
		25	0	21.94	22.08	22.14	22.18	22.50
		25	13	22.11	22.27	22.23	22.20	22.50
		25	25	22.22	22.32	22.26	22.17	22.50
		50	0	22.06	22.25	22.24	22.20	22.50
	16QAM	1	0	21.87	22.01	21.99	22.03	22.50
		1	25	22.39	22.41	22.41	22.49	22.50
		1	49	21.99	22.05	22.02	22.04	22.50
		25	0	20.95	21.06	21.14	21.22	21.50
		25	13	21.12	21.23	21.25	21.25	21.50

		25	25	21.21	21.34	21.24	21.18	21.50
		50	0	21.10	21.25	21.23	21.21	21.50
	64QAM	1	0	20.77	20.88	20.89	20.90	21.50
		1	25	21.23	21.26	21.26	21.33	21.50
		1	49	20.85	20.91	20.93	20.88	21.50
		25	0	19.99	20.05	20.11	20.19	20.50
		25	13	20.11	20.22	20.18	20.25	20.50
		25	25	20.18	20.31	20.22	20.19	20.50
		50	0	20.13	20.23	20.23	20.18	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				Tune-up
				40115/2542.5	40395/2570.5	40685/2599.5	2647.5/41140	
15MHz	QPSK	1	0	22.70	22.84	22.82	22.83	23.50
		1	38	23.17	23.26	23.22	23.23	23.50
		1	74	22.82	22.86	22.83	22.83	23.50
		36	0	21.92	22.04	22.11	22.15	22.50
		36	18	22.08	22.22	22.19	22.16	22.50
		36	39	22.19	22.29	22.22	22.13	22.50
		75	0	22.04	22.21	22.19	22.15	22.50
	16QAM	1	0	21.85	21.99	21.97	22.01	22.50
		1	38	22.37	22.38	22.39	22.47	22.50
		1	74	21.97	22.01	21.99	22.01	22.50
		36	0	20.92	21.04	21.11	21.19	21.50
		36	18	21.09	21.18	21.21	21.21	21.50
		36	39	21.19	21.30	21.21	21.15	21.50
		75	0	21.07	21.20	21.19	21.17	21.50
	64QAM	1	0	20.72	20.86	20.87	20.88	21.50
		1	38	21.21	21.23	21.24	21.31	21.50
		1	74	20.86	20.90	20.94	20.89	21.50
		36	0	19.98	20.07	20.12	20.20	20.50
		36	18	20.09	20.19	20.17	20.24	20.50
		36	39	20.16	20.27	20.19	20.16	20.50
		75	0	20.10	20.18	20.19	20.14	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				Tune-up
				40140/2545	40400/2571	40670/2598	41140/2645	
20MHz	QPSK	1	0	22.67	22.80	22.79	22.80	23.50
		1	50	**23.16**	**23.22**	**23.20**	**23.21**	23.50
		1	99	22.80	22.85	22.80	22.80	23.50
		50	0	21.89	21.99	22.07	22.11	22.50
		50	25	22.06	22.18	22.16	**22.13**	22.50
		50	50	**22.16**	**22.24**	**22.18**	22.09	22.50
		100	0	22.01	**22.16**	22.15	22.11	22.50
	16QAM	1	0	21.82	21.95	21.92	21.96	22.50
		1	50	22.34	22.36	22.35	22.43	22.50

		1	99	21.94	21.98	21.97	21.99	22.50
		50	0	20.89	21.00	21.08	21.16	21.50
		50	25	21.06	21.16	21.18	21.18	21.50
		50	50	21.16	21.25	21.17	21.11	21.50
		100	0	21.05	21.16	21.16	21.14	21.50
	64QAM	1	0	20.70	20.82	20.82	20.83	21.50
		1	50	21.17	21.21	21.20	21.27	21.50
		1	99	20.80	20.84	20.88	20.83	21.50
		50	0	19.93	19.99	20.05	20.13	20.50
		50	25	20.05	20.15	20.11	20.18	20.50
		50	50	20.13	20.22	20.15	20.12	20.50
		100	0	20.08	20.14	20.16	20.11	20.50

9.4 WLAN Mode

Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	16.00	**15.77**
	6/2437	16.00	15.51
	11/2462	16.00	15.35
802.11g (6M)	1/2412	16.00	15.32
	6/2437	16.00	14.91
	11/2462	16.00	15.28
802.11n-HT20 (MCS0)	1/2412	13.50	13.37
	6/2437	13.50	13.10
	11/2462	13.50	12.91
802.11n-HT40 (MCS0)	3/2422	11.50	11.43
	6/2437	11.50	11.17
	9/2452	11.50	11.23
Note: Initial test configuration is 802.11b mode.			

Wi-Fi 5G (U-NII-1) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	15.50	15.02
	40/5200	15.50	**15.08**
	44/5220	15.50	14.92
	48/5240	15.50	14.90
802.11n-HT20 (MCS0)	36/5180	15.50	14.23
	40/5200	15.50	14.20
	44/5220	15.50	14.31
	48/5240	15.50	14.22
802.11n-HT40 (MCS0)	38/5190	14.00	12.56
	46/5230	15.50	14.26
802.11ac-VHT20 (MCS0)	36/5180	15.50	14.30
	40/5200	15.50	14.24
	44/5220	15.50	14.22
	48/5240	15.50	14.23
802.11ac-VHT40 (MCS0)	38/5190	14.00	12.62
	46/5230	15.50	14.25
802.11ac-VHT80 (MCS0)	42/5210	13.00	11.93
Note. Initial test configuration is 802.11a mode, since the highest maximum output power.			

Wi-Fi 5G (U-NII-2A) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	15.50	**15.15**
	56/5280	15.50	14.66
	60/5300	15.50	14.63
	64/5320	15.50	14.63
802.11n-HT20 (MCS0)	52/5260	15.50	14.38
	56/5280	15.50	14.33
	60/5300	15.50	14.40
	64/5320	15.50	14.45
802.11n-HT40 (MCS0)	54/5270	15.50	14.12
	62/5310	14.00	13.86
802.11ac-VHT20 (MCS0)	52/5260	15.50	14.38
	56/5280	15.50	14.23
	60/5300	15.50	14.34
	64/5320	15.50	14.40
802.11ac-VHT40 (MCS0)	54/5270	15.50	14.27
	62/5310	14.00	12.73
802.11ac-VHT80 (MCS0)	58/5290	13.00	12.00
Note. Initial test configuration is 802.11a mode, since the highest maximum output power.			

Wi-Fi 5G (U-NII-3) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	15.50	14.66
	157/5785	15.50	14.68
	165/5825	15.50	**14.71**
802.11n-HT20 (MCS0)	149/5745	15.50	14.63
	157/5785	15.50	14.59
	165/5825	15.50	14.58
802.11n-HT40 (MCS0)	151/5755	15.50	14.26
	159/5795	15.50	14.34
802.11ac-VHT20 (MCS0)	149/5745	15.50	14.60
	157/5785	15.50	14.59
	165/5825	15.50	14.60
802.11ac-VHT40 (MCS0)	151/5755	15.50	14.27
	159/5795	15.50	14.41
802.11ac-VHT80 (MCS0)	155/5775	15.50	14.06
Note. Initial test configuration is 802.11a mode, since the highest maximum output power.			

9.5 Bluetooth Mode

BT	Conducted Power(dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	2.14	2.17	2.42	3.00
π/4DQPSK	1.57	1.54	1.76	2.00
8DPSK	1.49	1.50	1.82	2.00
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK	-1.24	-1.20	-0.98	0.00

10 Measured and Reported (Scaled) SAR Results

10.1 EUT Antenna Locations

The Detailed Antenna Locations refer to *Antenna Locations.*

Overall (Length x Width): 180 mm x 75 mm Overall Diagonal: 190 mm/Display Diagonal: 173mm						
Distance of the Antenna to the EUT surface/edge						
Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main-Antenna	＜25mm	＜25mm	＜25mm	＜25mm	＞25mm	＜25mm
Wi-Fi Antenna	＜25mm	＜25mm	＞25mm	＜25mm	＜25mm	＞25mm
Hotspot mode, Positions for SAR tests						
Mode	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main-Antenna	Yes	Yes	Yes	Yes	N/A	Yes
Wi-Fi Antenna	Yes	Yes	N/A	Yes	Yes	N/A

Note: 1. Per KDB 941225 D06, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

2.For smart phones with an overall diagonal dimension is 190mm. Per KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, product specific 10-g SAR must be tested as a phablet to determine SAR compliance. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, product specific 10-g SAR is no required.

3. Per FCC KDB 447498 D01, for each exposure position, testing of other requised channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

a) ≤0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100MHz

b) ≤0.6 W/kg or 1.5 W/kg, for1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

c) ≤ 0.4 W/kg or 1.0 Wkg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

4. When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

10.2 Standalone SAR test exclusion considerations

Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for product specific 10-g SAR

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

Per KDB 447498 D01, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Bluetooth	Distance (mm)	MAXPower (dBm)	Frequency (MHz)	Ratio	Evaluation
Body-worn	15	3.00	2480	0.21	No
Hotspot	10	3.00	2480	0.31	No

10.3 Measured SAR Results

Note:

1. The value with blue color is the maximum SAR Value of each test band.
2. For GSM, when multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
3. For WCDMA, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.
4. For LTE, QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit (1g).

Body-worn SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
GSM 850	Main (Bottom)	Back Side	15	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.009	0.020	1.19	0.011	10
		Front Side	15	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.008	-0.039	1.19	0.010	/
GSM 1900	Main (Bottom)	Back Side	15	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.063	0.055	1.16	0.073	/
		Front Side	15	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.075	0.018	1.16	0.087	11
WCDMA II	Main (Bottom)	Back Side	15	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.023	-0.010	1.12	0.026	/
		Front Side	15	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.029	-0.150	1.12	0.033	12
WCDMA IV	Main (Bottom)	Back Side	15	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.059	-0.030	1.17	0.069	/
		Front Side	15	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.068	0.120	1.17	0.079	13
WCDMA V	Main (Bottom)	Back Side	15	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.003	0.030	1.21	0.004	14
		Front Side	15	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.003	-0.045	1.21	0.004	/
LTE 4	Main (Bottom)	Back Side	15	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.067	-0.070	1.16	0.078	/
			15	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.062	-0.010	1.14	0.070	/
		Front Side	15	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.096	-0.180	1.16	0.111	15
		Front Side SIM 2	15	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.086	0.052	1.16	0.100	/
		Front Side	15	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.089	0.030	1.14	0.101	/
LTE 7	Main (Bottom)	Back Side	15	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	/
			15	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
		Front Side	15	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	16
			15	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
LTE 12	Main (Bottom)	Back Side	15	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.012	0.190	1.16	0.014	17
			15	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.010	0.027	1.14	0.011	/
		Front Side	15	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.012	0.090	1.16	0.014	/
			15	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.008	-0.018	1.14	0.009	/
LTE 25	Main (Bottom)	Back Side	15	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.018	-0.190	1.19	0.021	/
			15	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.012	-0.035	1.18	0.014	/
		Front Side	15	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.029	0.045	1.19	0.034	18

			15	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.020	0.040	1.18	0.024	/
LTE 26	Main (Bottom)	Back Side	15	QPSK	Full Power	1	38	26865/831.5	23.50	22.81	0.004	0.022	1.17	0.005	19
			15	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.008	-0.027	1.18	0.009	/
		Front Side	15	0.130	Full Power	1	38	26865/831.5	23.50	22.81	0.004	-0.082	1.17	0.005	/
			15	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.003	-0.052	1.18	0.004	/
LTE 38 TDD	Main (Bottom)	Back Side	15	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.002	0.011	1.07	0.002	20
			15	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.001	0.009	1.07	0.001	/
		Front Side	15	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.001	0.021	1.07	0.001	/
			15	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.002	0.051	1.07	0.002	/
LTE 41 TDD	Main (Bottom)	Back Side	15	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.005	-0.020	1.07	0.005	/
			15	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.006	0.023	1.06	0.006	21
		Front Side	15	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.002	0.011	1.07	0.002	/
			15	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.002	0.015	1.06	0.002	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
2.4G	Wi-Fi	Back Side	15	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.021	0.050	1.06	0.022	/
		Front Side	15	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.034	0.018	1.06	0.035	22
U-NII-1	Wi-Fi	Back Side	15	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.092	-0.100	1.14	0.022	/
		Front Side	15	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.004	0.100	1.14	0.035	/
U-NII-2A	Wi-Fi	Back Side	15	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.084	0.040	1.12	0.094	/
		Front Side	15	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.021	0.078	1.12	0.024	/
U-NII-3	Wi-Fi	Back Side	15	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.180	0.047	1.24	0.223	23
		Front Side	15	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.066	0.099	1.24	0.081	/

Hotspot SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
GSM850	Main (Bottom)	Back Side	10	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.020	-0.193	1.19	0.023	/
		Front Side	10	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.015	0.071	1.19	0.018	/
		Left Edge	10	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.002	0.085	1.19	0.002	/
		Right Edge	10	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.029	0.040	1.19	0.034	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	4TX Slots	Full Power	-	-	190/836.6	30.00	29.24	0.030	0.028	1.19	0.035	24
GSM1900	Main (Bottom)	Back Side	10	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.132	0.040	1.16	0.153	/
		Front Side	10	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.121	0.090	1.16	0.141	/
		Left Edge	10	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.006	0.031	1.16	0.007	/
		Right Edge	10	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.177	0.120	1.16	0.206	25
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	4TX Slots	Full Power	-	-	661/1880	27.00	26.35	0.066	-0.120	1.16	0.076	/
WCDMA II	Main	Back Side	10	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.041	0.050	1.12	0.046	/

	(Bottom)	Front Side	10	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.050	-0.020	1.12	0.056	/
		Left Edge	10	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.004	0.094	1.12	0.004	/
		Right Edge	10	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.070	0.070	1.12	0.079	26
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	RMC	Full Power	-	-	9400/1880	23.00	22.49	0.015	0.012	1.12	0.017	/
WCDMA IV	Main (Bottom)	Back Side	10	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.103	-0.070	1.17	0.120	/
		Front Side	10	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.106	-0.150	1.17	0.124	/
		Left Edge	10	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.008	0.130	1.17	0.009	/
		Right Edge	10	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.226	-0.110	1.17	0.264	27
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	RMC	Full Power	-	-	1413/1732.6	23.00	22.32	0.052	0.021	1.17	0.061	/
WCDMA V	Main (Bottom)	Back Side	10	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.007	-0.020	1.21	0.008	/
		Front Side	10	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.005	-0.090	1.21	0.006	/
		Left Edge	10	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.003	-0.060	1.21	0.004	/
		Right Edge	10	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.012	0.022	1.21	0.014	28
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	RMC	Full Power	-	-	4183/836.6	23.00	22.16	0.010	0.011	1.21	0.012	/
LTE 4	Main (Bottom)	Back Side	10	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.074	0.120	1.16	0.086	/
			10	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.069	0.027	1.14	0.078	/
		Front Side	10	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.163	0.180	1.16	0.189	/
			10	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.205	0.021	1.14	0.233	/
		Left Edge	10	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.016	0.109	1.16	0.019	/
			10	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.014	0.025	1.14	0.016	/
		Right Edge	10	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.255	0.073	1.16	0.296	29
		Right Edge SIM 2	10	QPSK	Full Power	1	50	20175/1732.5	23.50	0.122	0.248	0.036	1.16	0.288	/
		Right Edge	10	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.253	0.049	1.14	0.287	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	50	20175/1732.5	23.50	22.85	0.060	-0.160	1.16	0.070	/
			10	QPSK	Full Power	50%	0	20300/1745	22.50	21.95	0.054	-0.020	1.14	0.061	/
LTE 7	Main (Bottom)	Back Side	10	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	/
			10	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
		Front Side	10	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	/
			10	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
		Left Edge	10	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	/
			10	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
		Right Edge	10	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	/
			10	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	50	21350/2560	23.50	23.04	0.000	0.000	1.11	0.000	30
			10	QPSK	Full Power	50%	25	21350/2560	22.50	21.98	0.000	0.000	1.13	0.000	/

LTE 12	Main (Bottom)	Back Side	10	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.019	-0.020	1.16	0.022	/
			10	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.015	-0.040	1.14	0.017	/
		Front Side	10	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.016	0.070	1.16	0.019	/
			10	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.013	0.020	1.14	0.015	/
		Left Edge	10	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.002	-0.096	1.16	0.002	/
			10	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.002	0.011	1.14	0.002	/
		Right Edge	10	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.034	0.010	1.16	0.039	31
			10	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.027	0.010	1.14	0.031	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	25	23095/707.5	23.50	22.86	0.033	-0.020	1.16	0.038	/
			10	QPSK	Full Power	50%	25	23060/704	22.50	21.92	0.027	0.000	1.14	0.031	/
LTE 25	Main (Bottom)	Back Side	10	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.037	0.030	1.19	0.044	/
			10	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.033	0.080	1.18	0.039	/
		Front Side	10	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.043	-0.060	1.19	0.051	32
			10	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.039	-0.140	1.18	0.046	/
		Left Edge	10	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.004	0.041	1.19	0.005	/
			10	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.004	0.104	1.18	0.005	/
		Right Edge	10	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.042	0.080	1.19	0.050	/
			10	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.034	-0.090	1.18	0.040	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	50	26365/1882.5	23.50	22.75	0.023	-0.037	1.19	0.027	/
			10	QPSK	Full Power	50%	0	26365/1882.5	22.50	21.79	0.019	-0.120	1.18	0.022	/
LTE 26	Main (Bottom)	Back Side	10	QPSK	Full Power	1	38	26865/831.5	23.50	22.81	0.008	0.110	1.17	0.009	/
			10	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.006	0.130	1.18	0.007	/
		Front Side	10	0.130	Full Power	1	38	26865/831.5	23.50	22.81	0.007	-0.060	1.17	0.008	/
			10	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.006	-0.024	1.18	0.007	/
		Left Edge	10	QPSK	Full Power	1	38	26865/831.5	23.50	22.81	0.000	0.000	1.17	0.000	/
			10	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.000	0.000	1.18	0.000	/
		Right Edge	10	QPSK	Full Power	1	38	26865/831.5	23.50	22.81	0.014	0.060	1.17	0.016	33
			10	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.013	0.060	1.18	0.015	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	38	26865/831.5	23.50	22.81	0.008	0.029	1.17	0.009	/
			10	QPSK	Full Power	50%	0	26865/831.5	22.50	21.78	0.007	0.190	1.18	0.008	/
LTE 38 TDD	Main (Bottom)	Back Side	10	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.000	0.000	1.07	0.000	/
			10	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.005	0.000	1.07	0.005	/
		Front Side	10	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.006	-0.010	1.07	0.006	34
			10	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.005	0.046	1.07	0.005	/
		Left Edge	10	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.001	0.043	1.07	0.001	/
			10	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.000	0.000	1.07	0.000	/
		Right Edge	10	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.000	0.000	1.07	0.000	/

			10	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.002	0.061	1.07	0.002	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	50	38000/2595	23.50	23.20	0.004	0.023	1.07	0.004	/
			10	QPSK	Full Power	50%	50	38000/2595	22.50	22.20	0.000	0.000	1.07	0.000	/
LTE 41 TDD	Main (Bottom)	Back Side	10	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.000	0.000	1.07	0.000	/
			10	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.000	0.000	1.06	0.000	/
		Front Side	10	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.006	0.046	1.07	0.006	35
			10	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.002	0.072	1.06	0.002	/
		Left Edge	10	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.000	0.000	1.07	0.000	/
			10	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.000	0.000	1.06	0.000	/
		Right Edge	10	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.006	0.032	1.07	0.006	/
			10	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.000	0.010	1.06	0.000	/
		Top Edge	10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
			10	N/A	Full Power	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	/
		Bottom Edge	10	QPSK	Full Power	1	50	40400/2571	23.50	23.22	0.002	0.120	1.07	0.002	/
			10	QPSK	Full Power	50%	50	40400/2571	22.50	22.24	0.000	0.087	1.06	0.000	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
2.4G	Wi-Fi	Back Side	10	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.023	0.042	1.06	0.024	/
		Front Side	10	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.033	-0.080	1.06	0.035	/
		Left Edge	10	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.260	-0.031	1.06	0.274	36
		Right Edge	10	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.033	-0.107	1.06	0.035	/
		Top Edge	10	802.11b	100.0%	Full Power	1/2412	16.00	15.77	0.032	0.024	1.06	0.033	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
U-NII-1	Wi-Fi	Back Side	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.091	0.010	1.14	0.104	/
		Front Side	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.039	0.034	1.14	0.044	/
		Left Edge	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.848	0.010	1.14	0.963	37
			10	802.11a	97.0%	Full Power	36/5180	15.50	15.02	0.763	-0.099	1.15	0.879	/
			10	802.11a	97.0%	Full Power	44/5220	15.50	14.92	0.790	0.194	1.18	0.931	/
		Right Edge	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.023	-0.023	1.14	0.026	/
		Top Edge	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.038	0.090	1.14	0.043	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Left Edge Repeat	10	802.11a	97.0%	Full Power	40/5200	15.50	15.08	0.835	0.036	1.14	0.948	/
U-NII-2A	Wi-Fi	Back Side	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.087	0.036	1.12	0.097	/
		Front Side	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.046	0.044	1.12	0.051	/
		Left Edge	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.899	0.086	1.12	1.005	38
			10	802.11a	97.0%	Full Power	56/5280	15.50	14.66	0.780	0.049	1.25	0.976	/
			10	802.11a	97.0%	Full Power	60/5300	15.50	14.63	0.807	0.032	1.26	1.016	/
		Right Edge	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.025	0.050	1.12	0.028	/

		Top Edge	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.027	0.030	1.12	0.031	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Left Edge Repeat	10	802.11a	97.0%	Full Power	52/5260	15.50	15.15	0.886	0.058	1.12	0.990	/
U-NII-3	Wi-Fi	Back Side	10	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.090	0.029	1.24	0.111	/
		Front Side	10	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.047	0.191	1.24	0.058	/
		Left Edge	10	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.632	0.170	1.24	0.782	/
			10	802.11a	97.0%	Full Power	149/5745	15.50	14.66	0.726	0.080	1.25	0.908	/
			10	802.11a	97.0%	Full Power	157/5785	15.50	14.68	0.805	0.010	1.25	1.002	/
		Right Edge	10	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.029	0.037	1.24	0.036	/
		Top Edge	10	802.11a	97.0%	Full Power	165/5825	15.50	14.71	0.019	0.090	1.24	0.023	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Left Edge Repeat	10	802.11a	97.0%	Full Power	157/5785	15.50	14.68	0.795	0.036	1.25	0.990	/

Estimated SAR

Band	Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR (W/kg)
Bluetooth	Body-worn	2480	3.00	15	0.028
	Hotspot	2480	3.00	10	0.042

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below.

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

for test separation distances ≤ 50 mm; where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

10.4 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Body-worn	Hotspot
Main-Antenna + Bluetooth	Yes	Yes
Main-Antenna + Wi-Fi 2.4GHz	Yes	Yes
Main-Antenna + Wi-Fi 5GHz	Yes	Yes
Wi-Fi 2.4GHz + Wi-Fi 5GHz	N/A	N/A
Wi-Fi 2.4GHz + Bluetooth	N/A	N/A
Wi-Fi 5GHz + Bluetooth	N/A	N/A

General Note:

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01, simultaneous transmission SAR is compliant if,

i) Scalar SAR summation < 1.6W/kg, simultaneously transmission SAR measurement is not necessary.

ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.

iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.

The maximum SAR_{1g} Value for Main-Antenna

SAR_{1g}(W/kg) / Test Position		GSM 850	GSM 1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE FDD 4	LTE FDD 7	LTE FDD 12	LTE FDD 25	LTE FDD 26	LTE FDD 38	LTE FDD 41	MAX. SAR_{1g}
Body worn	Back Side	0.011	0.073	0.026	0.069	0.004	0.078	0.000	0.014	0.021	0.009	0.002	0.006	0.078
	Front Side	0.010	0.087	0.033	0.079	0.004	0.111	0.000	0.014	0.034	0.005	0.002	0.002	0.111
Hotspot	Back Side	0.023	0.153	0.046	0.120	0.008	0.086	0.000	0.022	0.044	0.009	0.005	0.000	0.153
	Front Side	0.018	0.141	0.056	0.124	0.006	0.233	0.000	0.019	0.051	0.008	0.006	0.006	0.233
	Left Edge	0.002	0.007	0.004	0.009	0.004	0.019	0.000	0.002	0.005	0.000	0.001	0.000	0.019
	Right Edge	0.034	0.206	0.079	0.264	0.014	0.296	0.000	0.039	0.050	0.016	0.002	0.006	0.296
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bottom Edge	0.035	0.076	0.017	0.061	0.012	0.070	0.000	0.038	0.027	0.009	0.004	0.002	0.076

About Wi-Fi / BT and Main-Antenna

SAR_{1g}(W/kg) / Test Position		Main-antenna	Wi-Fi 2.4G	Wi-Fi (U-NII-1)	Wi-Fi (U-NII-2A)	Wi-Fi (U-NII-3)	BT	MAX. ΣSAR_{1g}
Body worn	Back Side	0.078	0.022	0.022	0.094	**0.223**	0.028	0.301
	Front Side	0.111	0.035	0.035	0.024	**0.081**	0.028	0.192
Hotspot	Back Side	0.153	0.024	0.104	0.097	**0.111**	0.042	0.264
	Front Side	0.233	0.035	0.044	0.051	**0.058**	0.042	0.291
	Left Edge	0.019	0.274	0.963	**1.016**	1.002	0.042	1.035
	Right Edge	0.296	0.035	0.026	0.028	0.036	**0.042**	0.338
	Top Edge	N/A	0.033	**0.043**	0.031	0.023	0.042	0.043
	Bottom Edge	0.076	N/A	N/A	N/A	N/A	N/A	0.076

Note:

1. The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} =Unlicensed SAR_{MAX} +Licensed SAR_{MAX}

MAX. ΣSAR_{1g} = 1.035 W/kg<1.6W/kg, so the Simultaneous transimition SAR with volum scan are not required for Wi-Fi/ BT and Main-Antenna.

11 Measurement Uncertainty

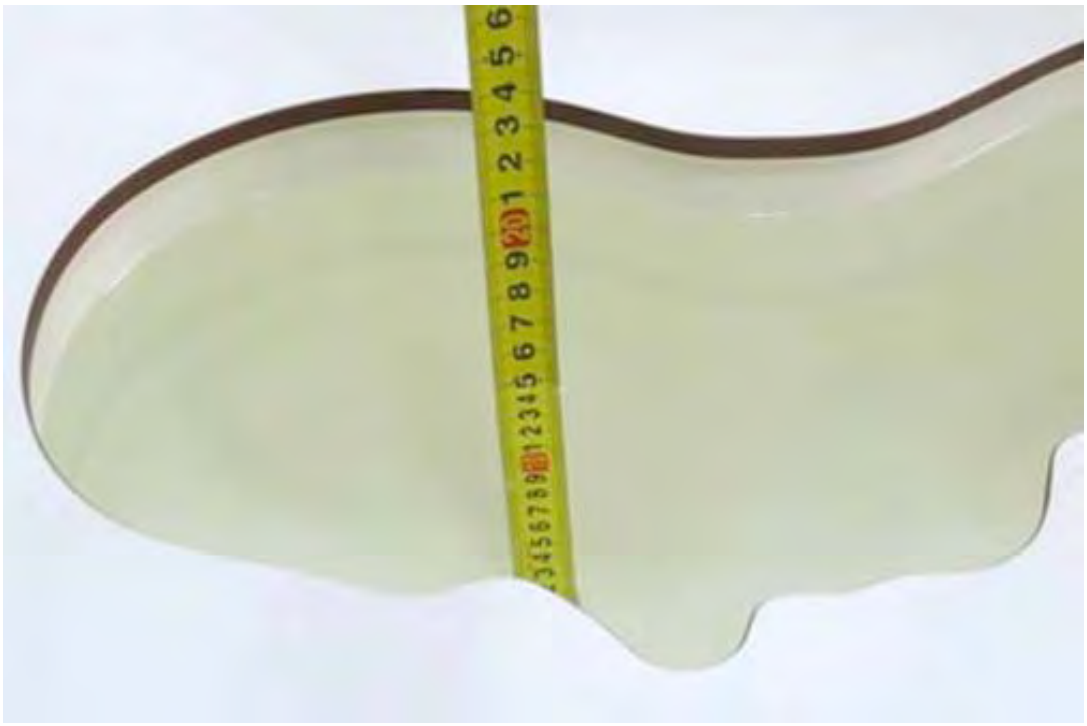
Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval.

********END OF REPORT ********

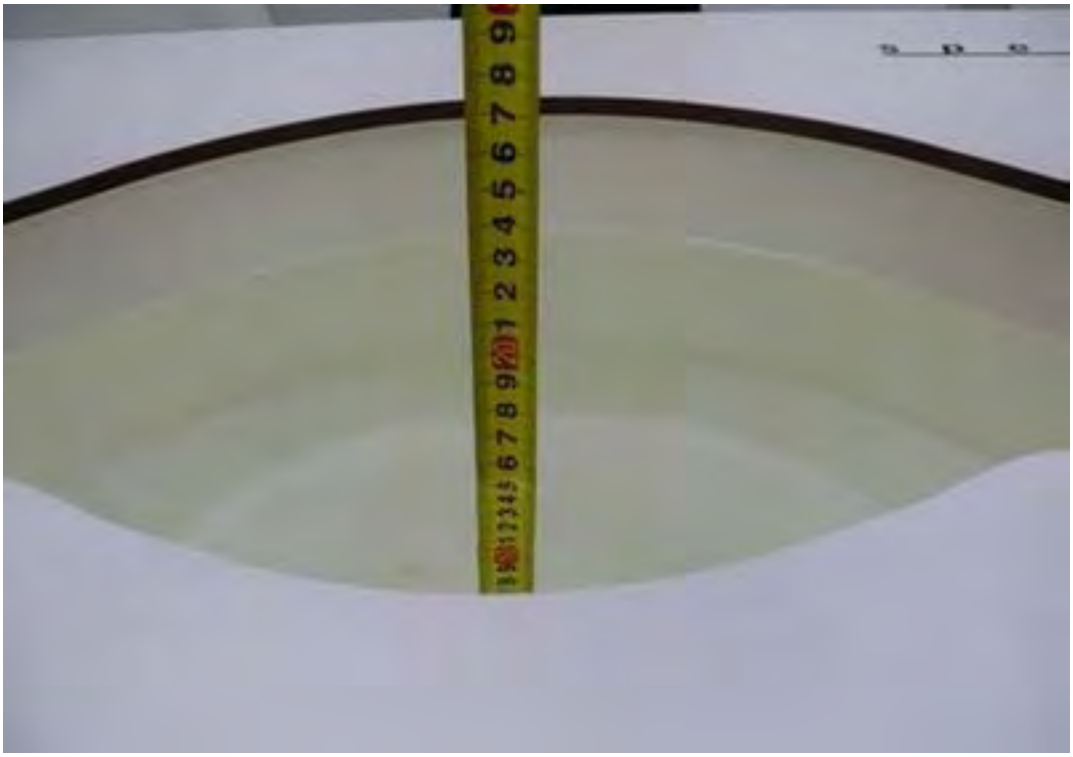
ANNEX A: Test Layout

Tissue Simulating Liquids

For the measurement of the field distribution inside the flat phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For Head and Body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Picture 3 and Picture 4.



Picture 3: liquid depth in the head Phantom



Picture 4: Liquid depth in the flat Phantom

ANNEX B: System Check Results

Plot 1 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1045

Date: 2022/8/10

Communication System:CW (0); Frequency: 750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.87 S/m; ε_r = 42.0; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm,Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.31 W/kg

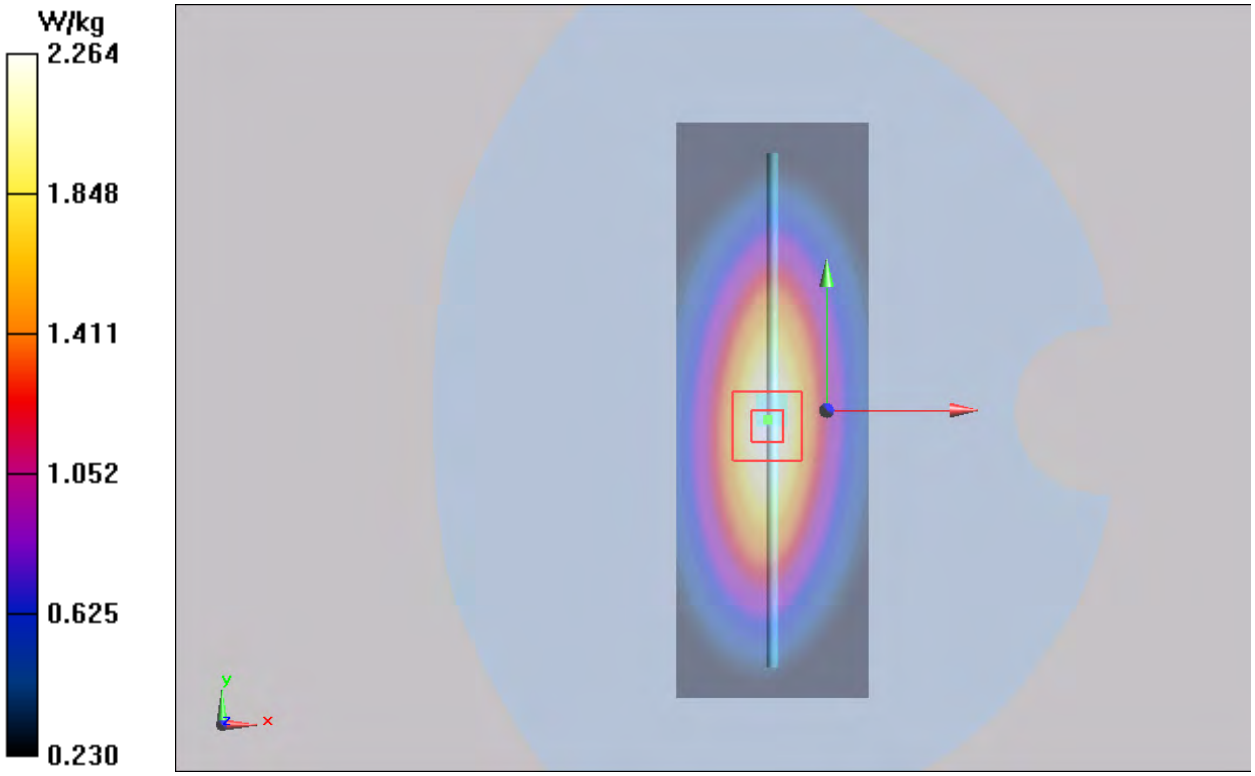
d=15mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.557 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.10 W/kg; SAR(10 g) = 1.37 W/kg

Maximum value of SAR (measured) = 2.264 W/kg



Plot 2 System Performance Check at 835 MHz TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d020

Date: 2022/8/11

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.92 S/m; ε_r = 41.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.64 mW/g

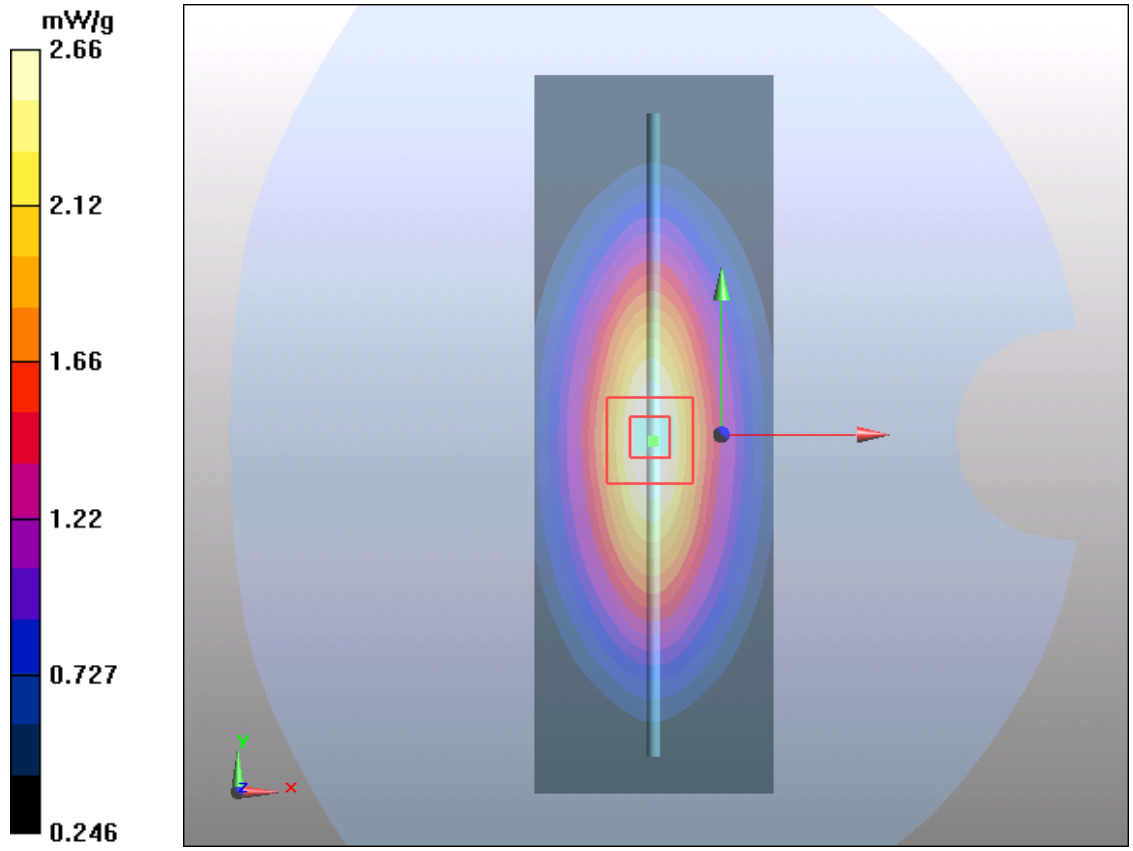
d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.61 mW/g

Maximum value of SAR (measured) = 2.66 mW/g



Plot 3 System Performance Check at 1750 MHz TSL

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1033

Date: 2022/8/10

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1750 MHz; σ = 1.34 S/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=250mW/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.77 mW/g

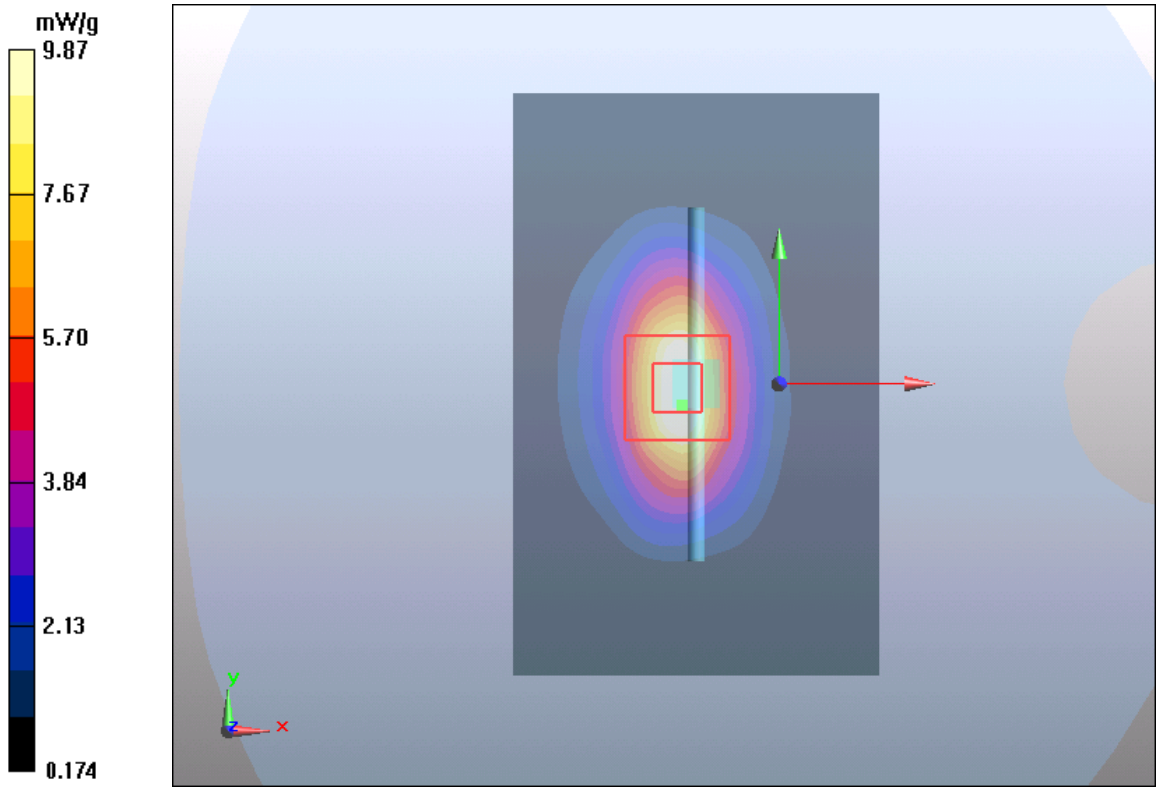
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 15.51 W/kg

SAR(1 g) = 9.11 mW/g; SAR(10 g) = 4.77 mW/g

Maximum value of SAR (measured) = 9.87 mW/g



Plot 4 System Performance Check at 1900 MHz TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d060

Date: 2022/8/12

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.43 S/m; ε_r = 40.2; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=250mW/Area Scan (4x7x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.23 mW/g

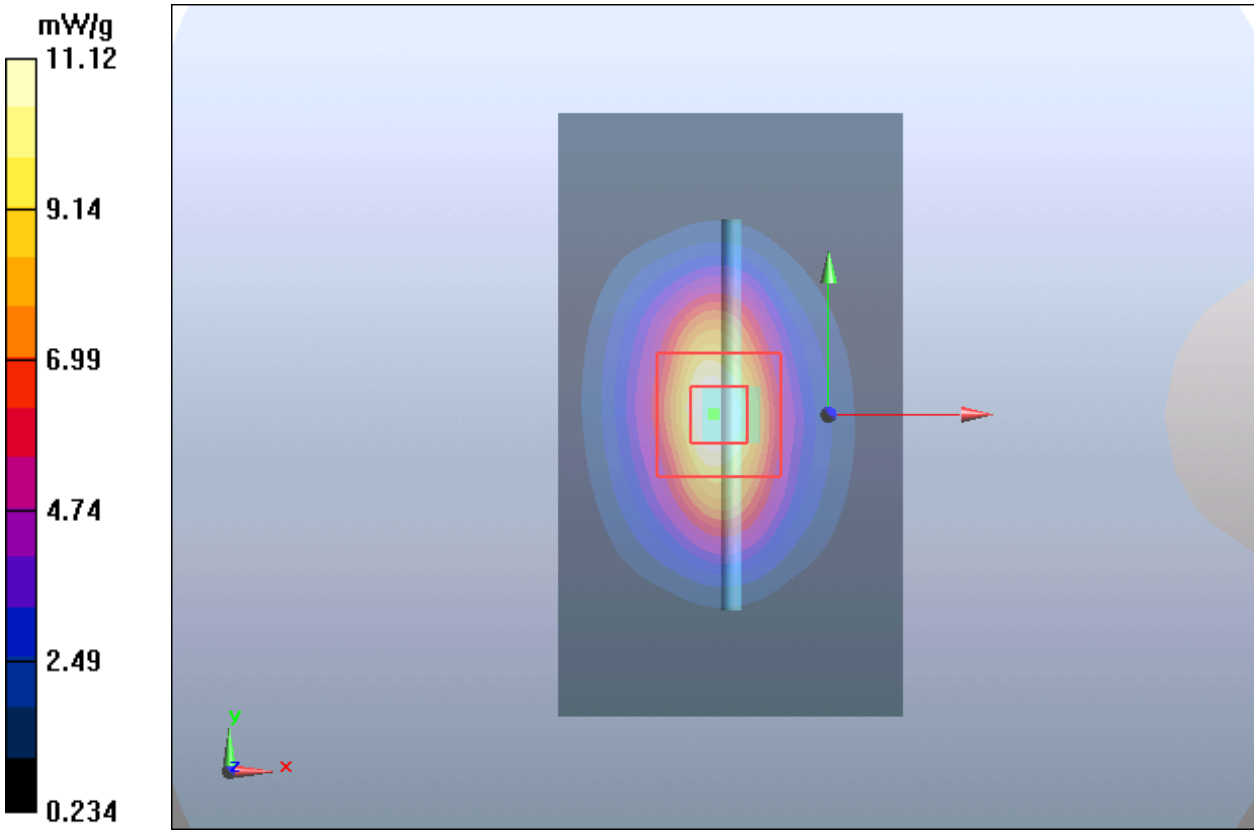
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.0 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 9.85 mW/g; SAR(10 g) = 4.93 mW/g

Maximum value of SAR (measured) = 11.12 mW/g



Plot 5 System Performance Check at 2450 MHz TSL

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 786

Date: 2022/8/13

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.81 S/m; ε_r = 38.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=250mW/Area Scan (4x7x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 18.2 mW/g

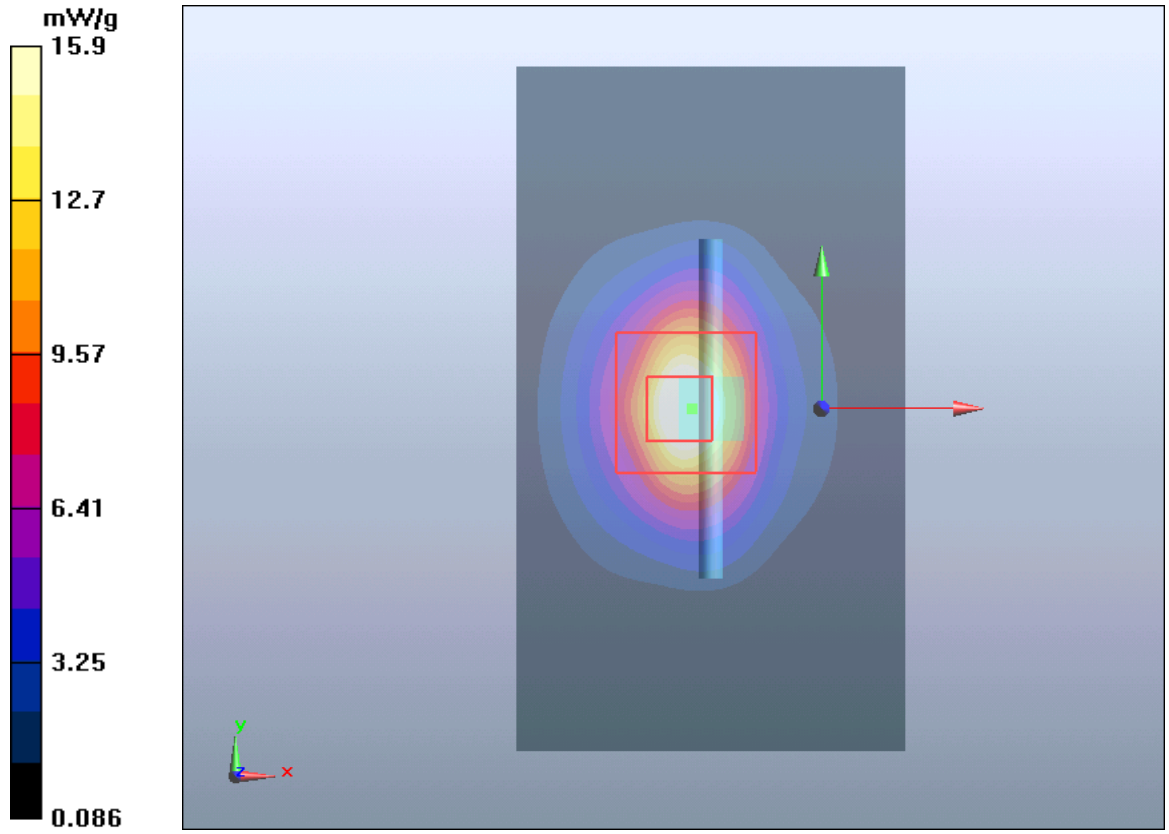
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

SAR(1 g) = 13.70 mW/g; SAR(10 g) = 6.22 mW/g

Maximum value of SAR (measured) = 15.9 mW/g



Plot 6 System Performance Check at 2600 MHz TSL

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1025

Date: 2022/8/14

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: f = 2600 MHz; σ =1.94S/m; ε_r =; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=250mW/Area Scan (4x7x1): Measurement grid:dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.59 mW/g

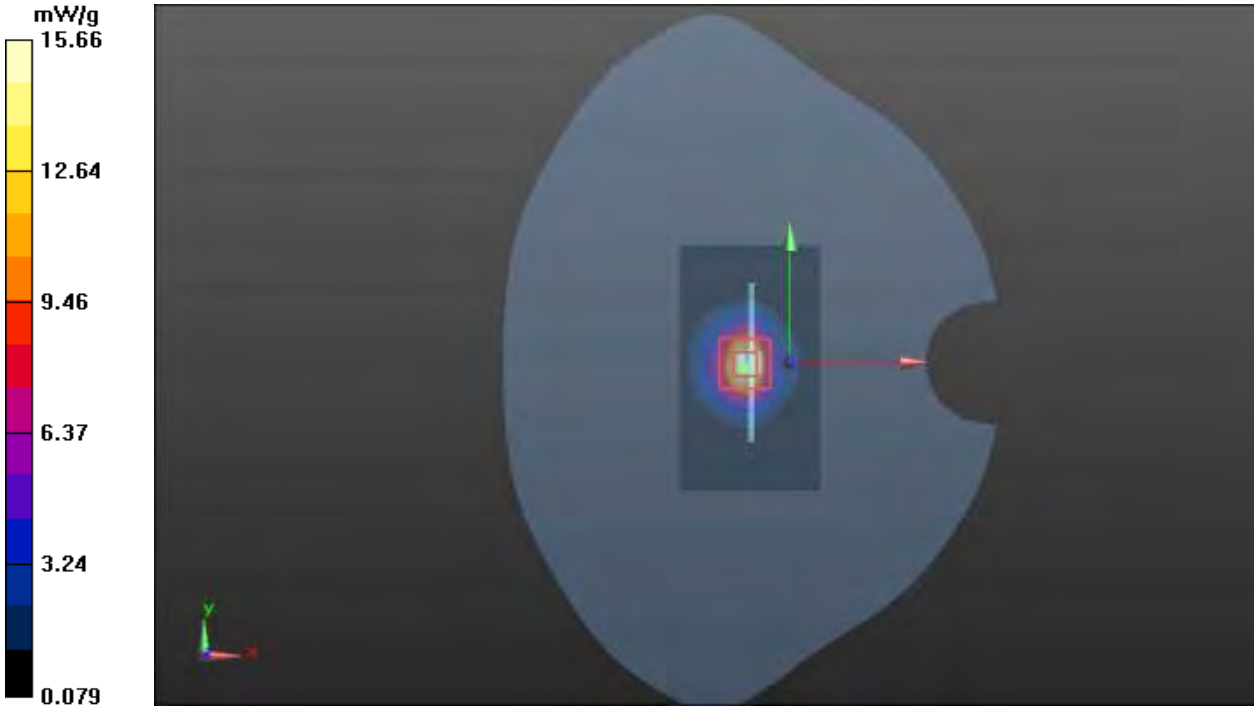
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

SAR(1 g) = 13.88 mW/g; SAR(10 g) = 6.09 mW/g

Maximum value of SAR (measured) = 15.66 mW/g



Plot 7 System Performance Check at 2600 MHz TSL

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1025

Date: 2022/8/15

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: f = 2600 MHz; σ = 1.99 S/m; ε_r = 38.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=250mW/Area Scan (4x7x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.32 mW/g

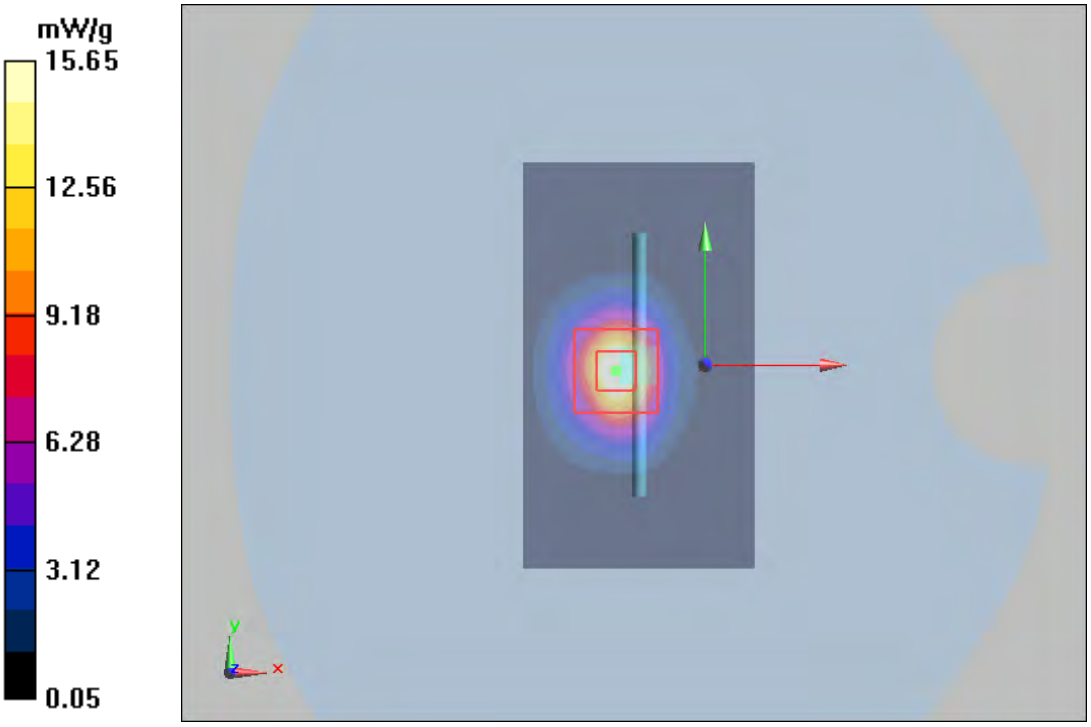
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.465 V/m; Power Drift = 0.146 dB

Peak SAR (extrapolated) = 31.85 W/kg

SAR(1 g) = 13.94 mW/g; SAR(10 g) = 6.11 mW/g

Maximum value of SAR (measured) = 15.65 mW/g



Plot 8 System Performance Check at 5250 MHz TSL

DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: 1151

Date: 2022/8/16

Communication System: CW; Frequency: 5250 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5250 MHz; σ = 4.80 S/m; ε_r = 35.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=100mW/Area Scan (6x10x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 9.14 mW/g

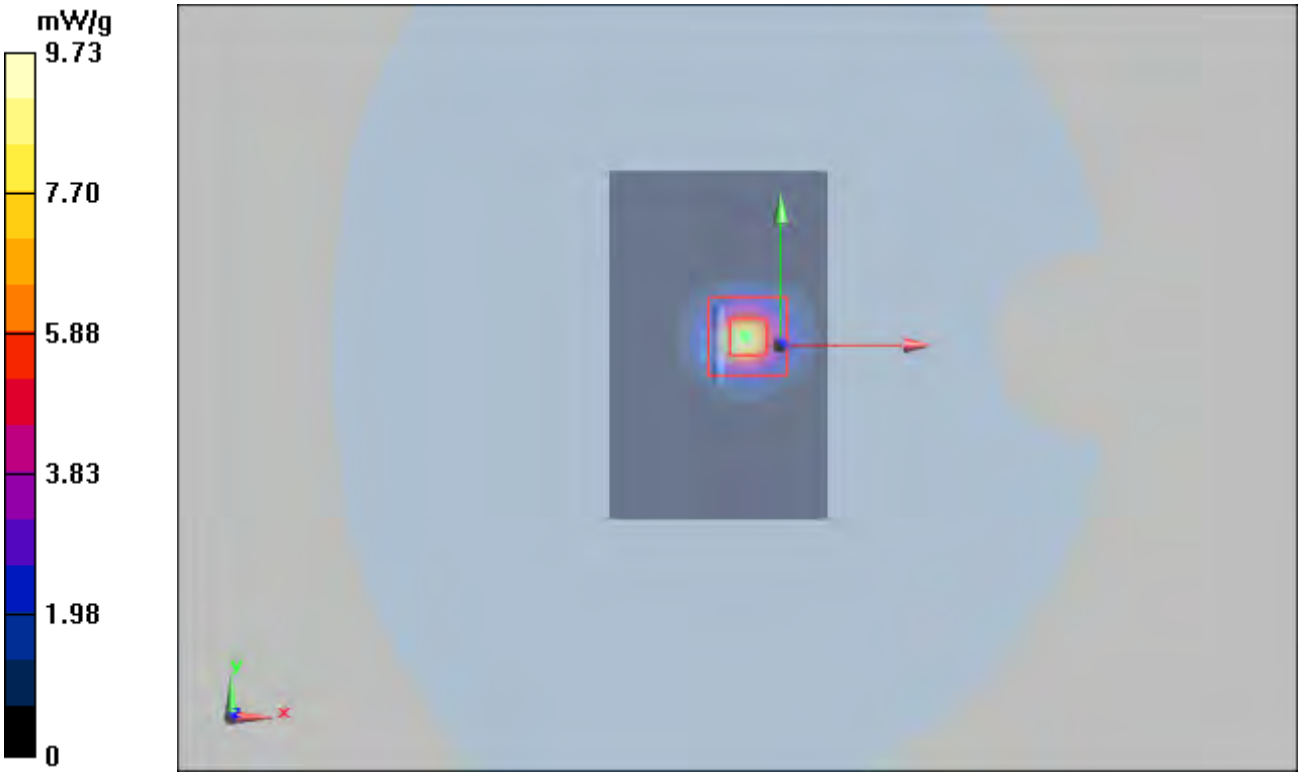
d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 33.6 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 52.2 W/kg

SAR(1 g) = 7.87 mW/g; SAR(10 g) = 2.25 mW/g

Maximum value of SAR (measured) = 9.73 mW/g



Plot 9 System Performance Check at 5750 MHz TSL

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: 1151

Date: 2022/8/16

Communication System: CW; Frequency: 5750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5750 MHz; σ = 5.21 S/m; ε_r = 34.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=10mm, Pin=100mW/Area Scan (6x10x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.31 mW/g

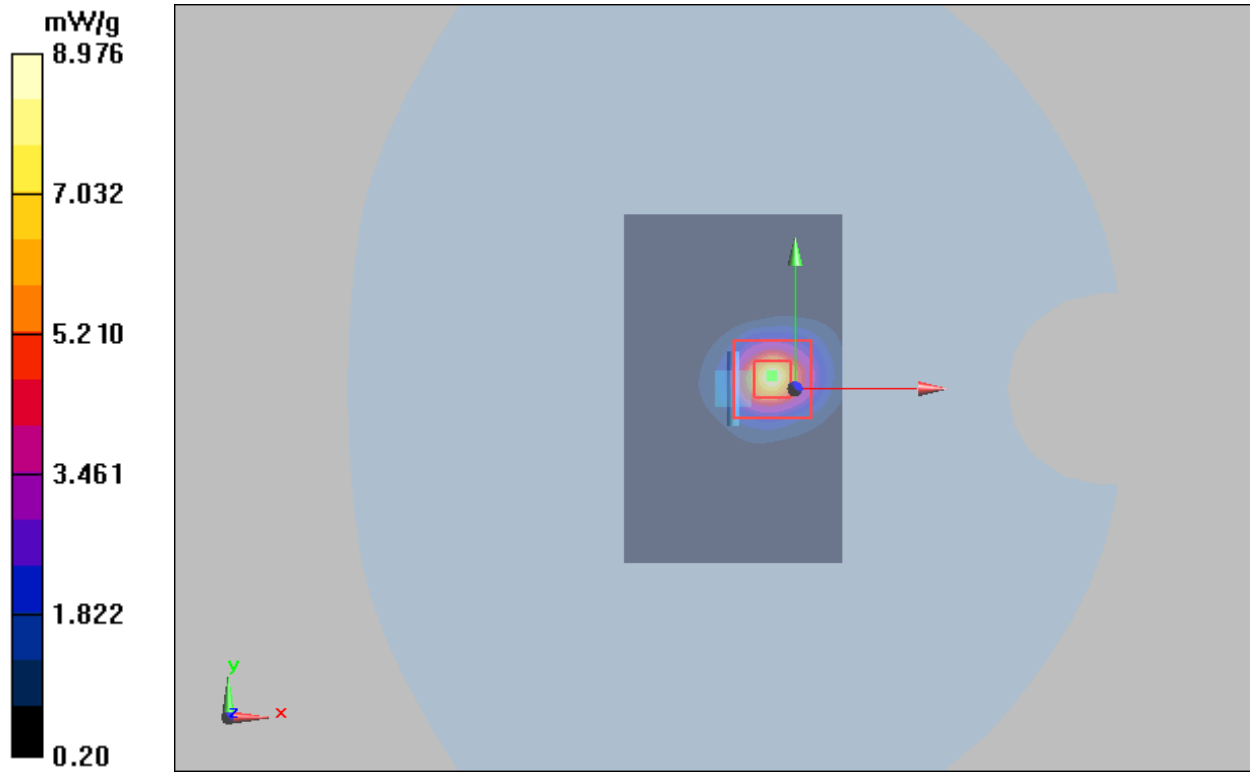
d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 23.4 W/kg

SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.27 mW/g

Maximum value of SAR (measured) = 8.976 mW/g



ANNEX C: Highest Graph Results

Plot 10 GSM 850 Back Side Middle (Distance 15mm)

Date: 2022/8/11

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.07

Medium parameters used: f = 836.6 MHz; σ = 0.953 S/m; ε_r = 39.762; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.00923 W/kg

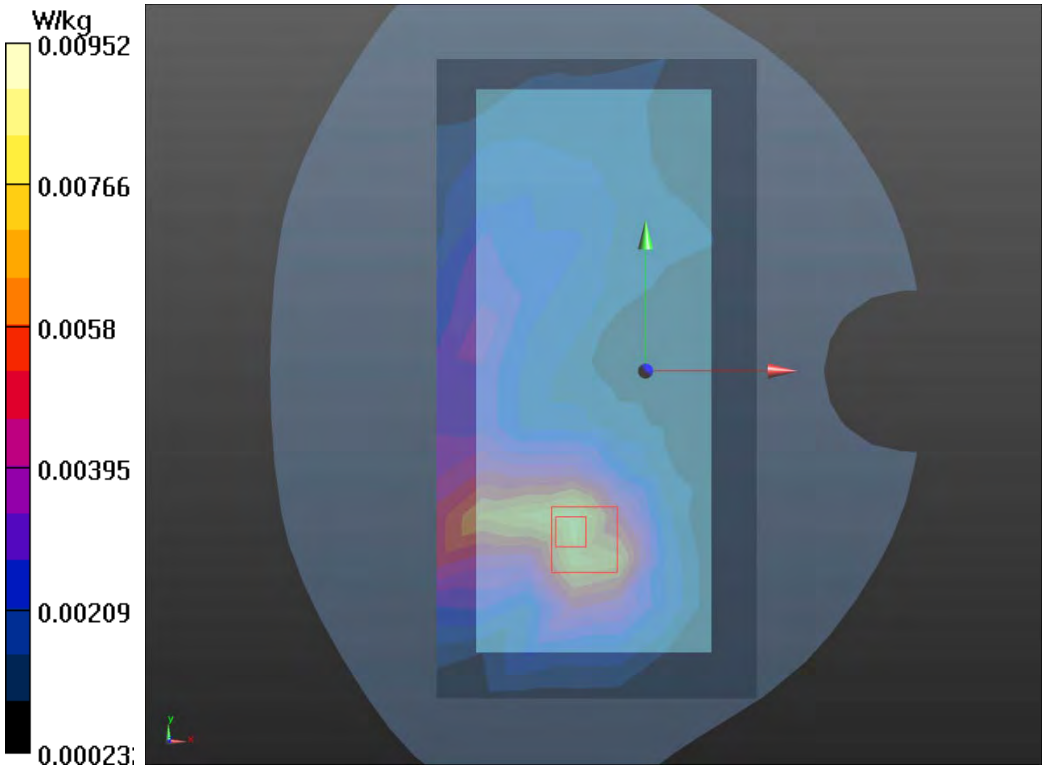
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.256 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0140 W/kg

SAR(1 g) = 0.009 W/kg; SAR(10 g) = 0.005 W/kg

Maximum value of SAR (measured) = 0.00952 W/kg



Plot 11 GSM 1900 Front Side Middle (Distance 15mm)

Date: 2022/8/12

Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07

Medium parameters used: f = 1880 MHz; σ = 1.42 S/m; ε_r = 38.948; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.080 W/kg

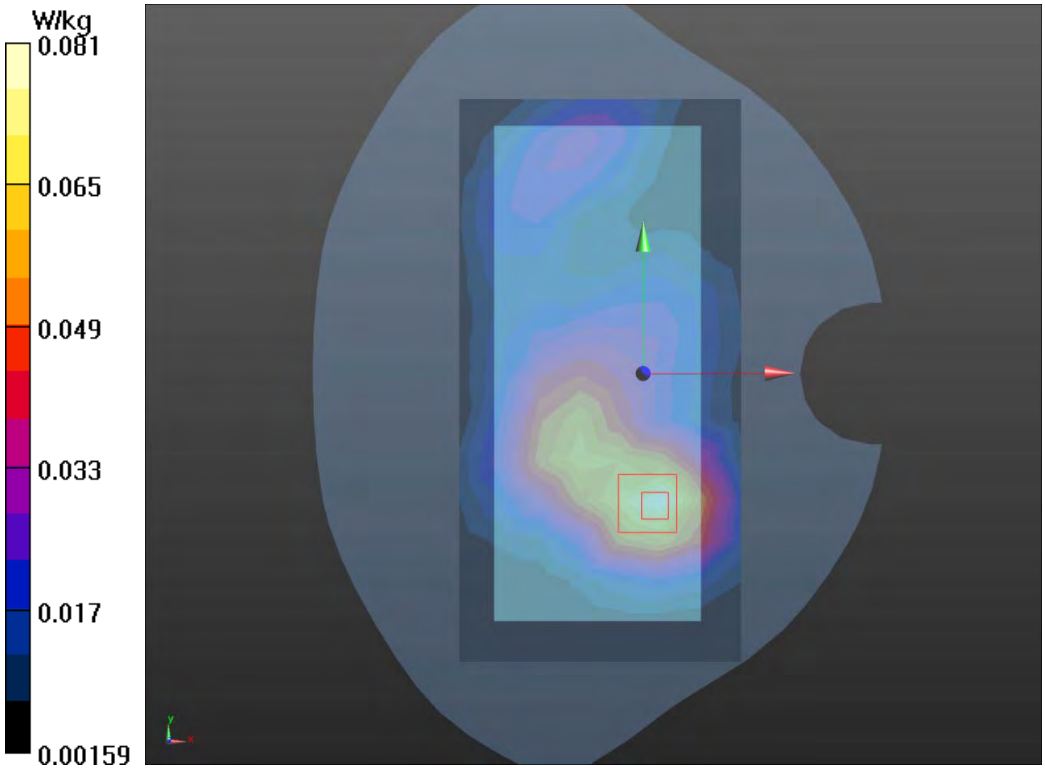
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.525 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.123 W/kg

SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.045 W/kg

Maximum value of SAR (measured) = 0.081 W/kg



Plot 12 UMTS Band II Front Side Middle (Distance 15mm)

Date: 2022/8/12

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.42 S/m; ε_r = 38.948; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.031 W/kg

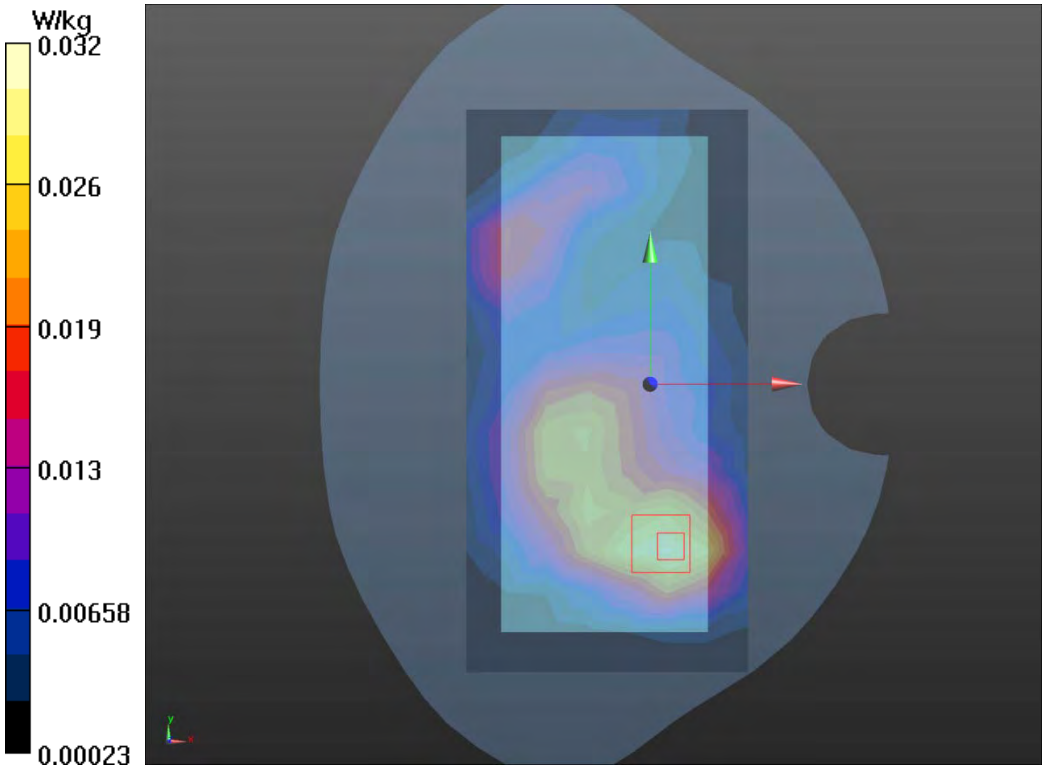
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.352 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.0460 W/kg

SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.017 W/kg

Maximum value of SAR (measured) = 0.032 W/kg



Plot 13 UMTS Band IV Front Side Middle (Distance 15mm)

Date: 2022/8/10

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1732.6 MHz; σ = 1.312 S/m; ε_r = 39.365; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.070 W/kg

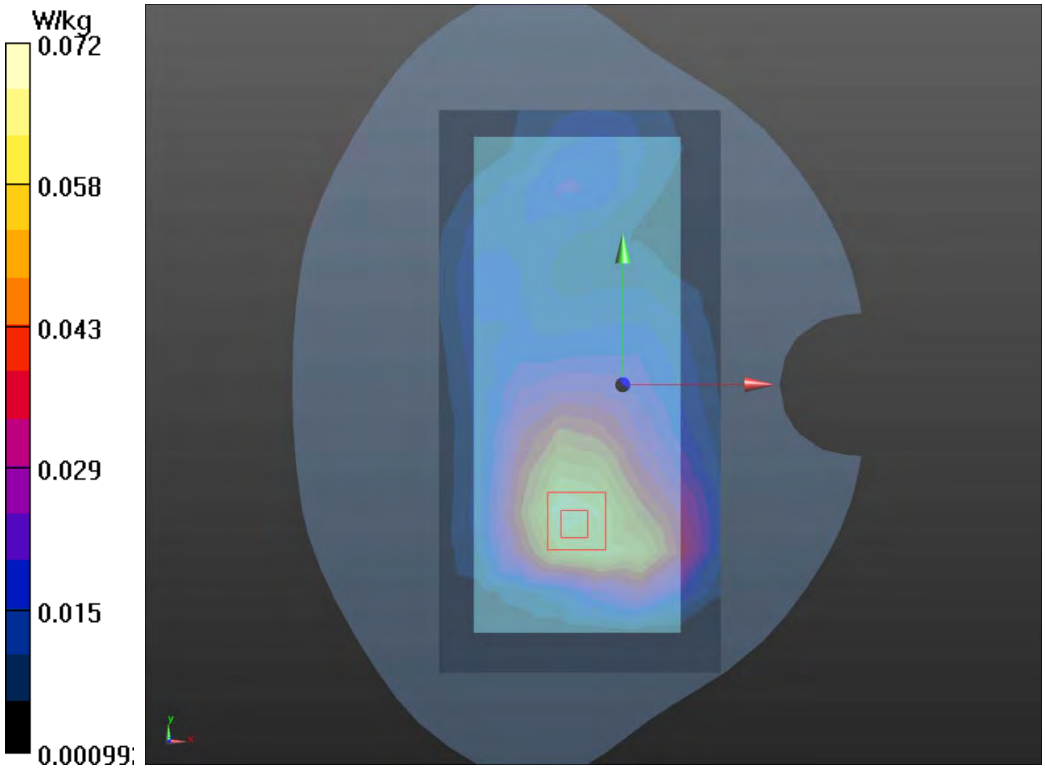
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.838 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.068 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.072 W/kg



Plot 14 UMTS Band V Back Side Middle (Distance 15mm)

Date: 2022/8/11

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 836.6 MHz; σ = 0.953 S/m; ε_r = 39.762; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0032 W/kg

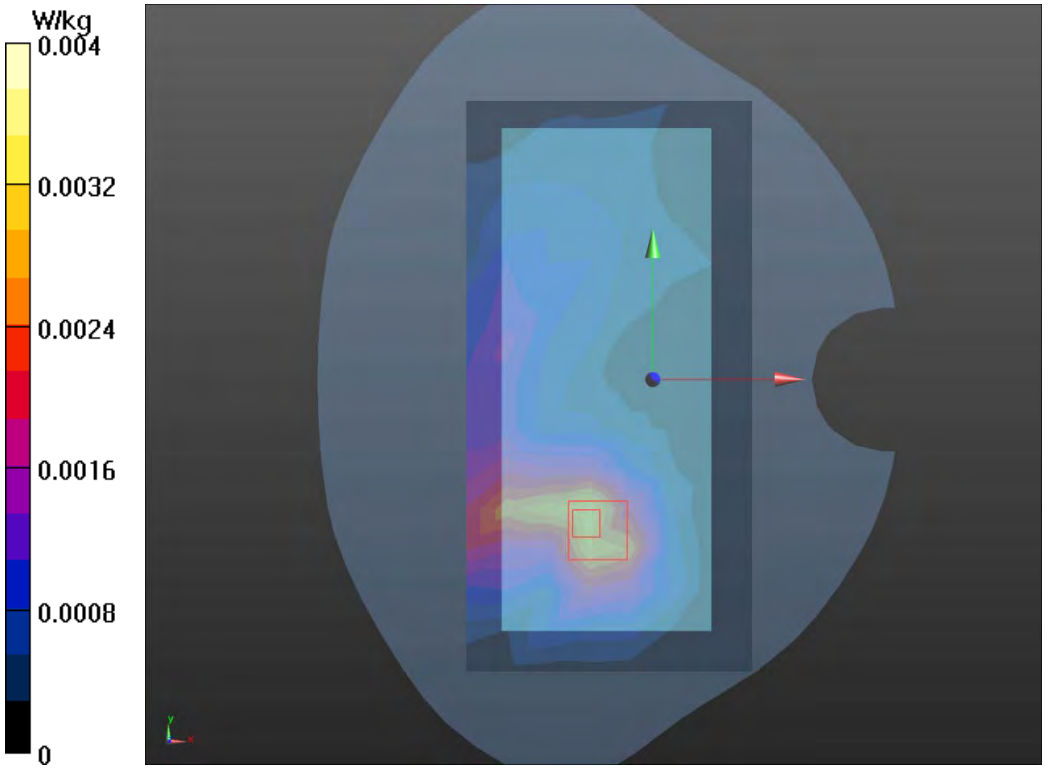
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.7910 V/m; Power Drift =0.03 dB

Peak SAR (extrapolated) = 0.0056 W/kg

SAR(1 g) = 0.003 W/kg; SAR(10 g) = 0.002 W/kg

Maximum value of SAR (measured) = 0.004 W/kg



Plot 15 LTE Band 4 1RB Front Side Middle (Distance 15mm)

Date: 2022/8/10

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.313 S/m; ε_r = 39.384; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.099 W/kg

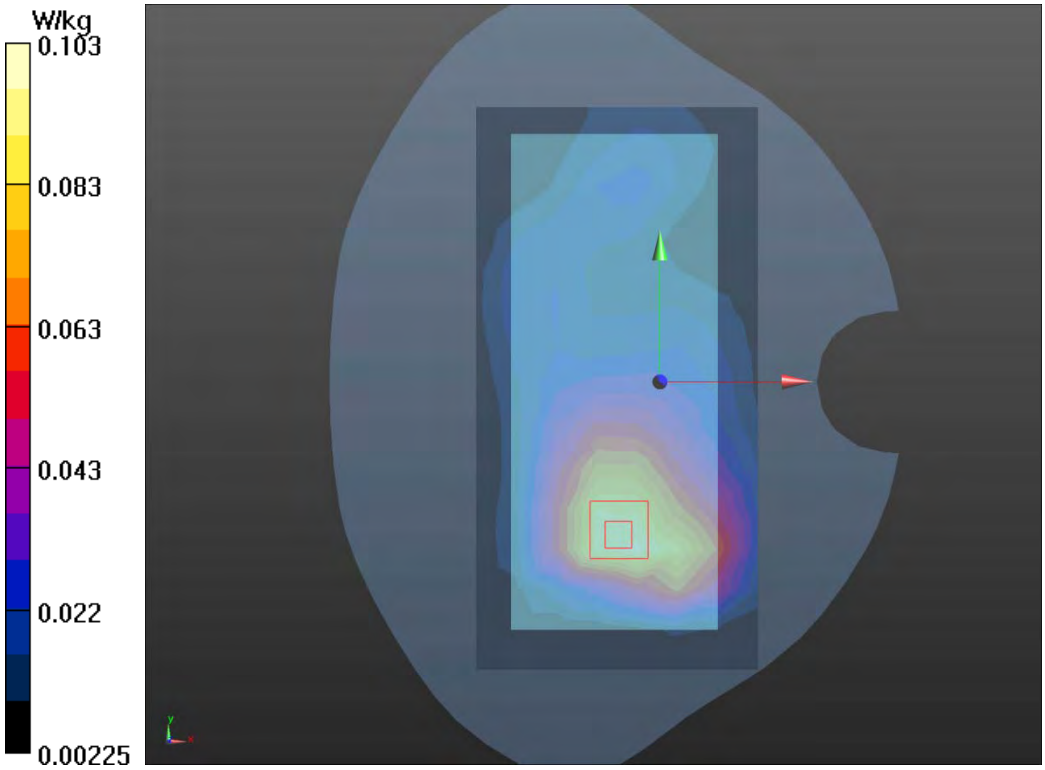
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.178 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.142 W/kg

SAR(1 g) = 0.096 W/kg; SAR(10 g) = 0.063 W/kg

Maximum value of SAR (measured) = 0.103 W/kg



Plot 16 LTE Band 7 1RB Front Side High (Distance 15mm)

Date: 2022/8/14

Communication System: UID 0, LTE (0); Frequency: 2560 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2560 MHz; σ = 1.923 S/m; ε_r = 40.218; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side High/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.002 W/kg

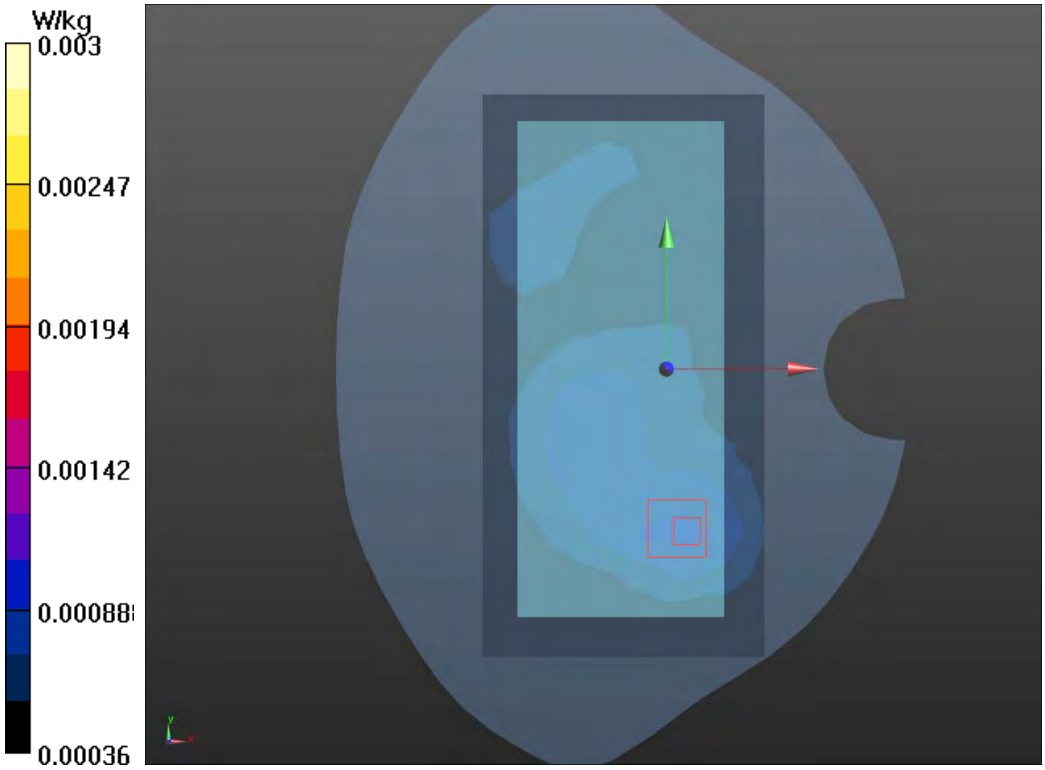
Front Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.590 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.004 W/kg

SAR(1 g) = 0.000 W/kg; SAR(10 g) = 0.000 W/kg

Maximum value of SAR (measured) = 0.003 W/kg



Plot 17 LTE Band 12 1RB Back Side Middle (Distance 15mm)

Date: 2022/8/10

Communication System: UID 0, LTE (0); Frequency: 707.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.869 S/m; ε_r = 40.725; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.014 W/kg

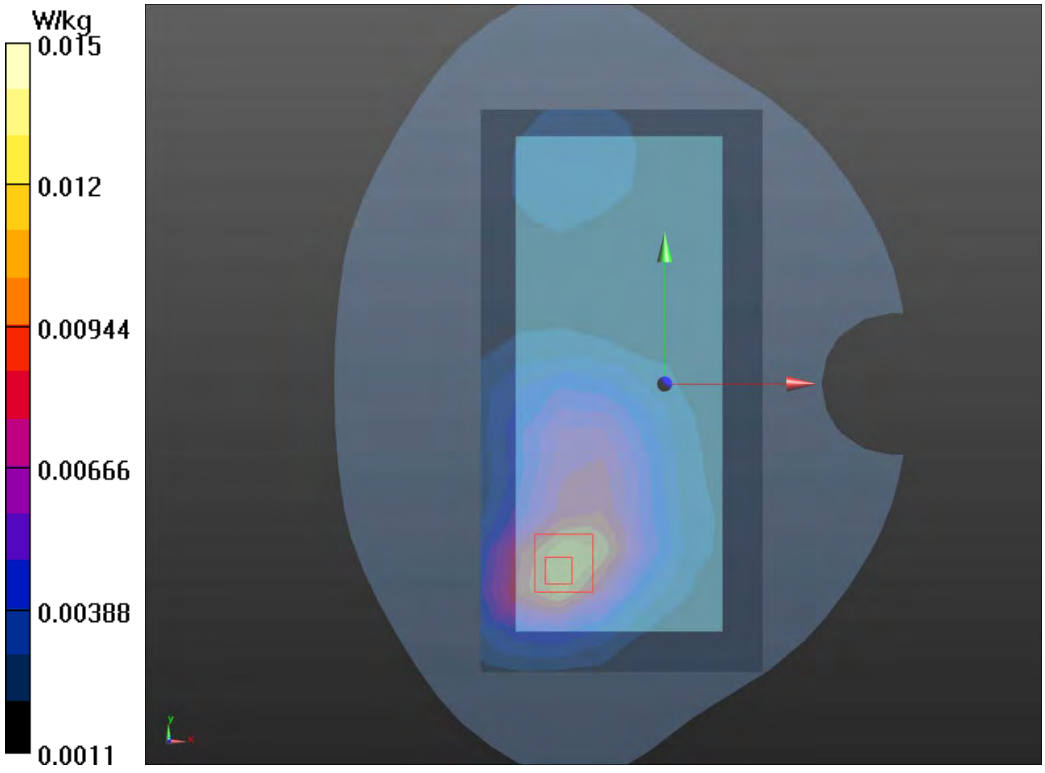
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.742 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.021 W/kg

SAR(1 g) = 0.012 W/kg; SAR(10 g) = 0.008 W/kg

Maximum value of SAR (measured) = 0.015 W/kg



Plot 18 LTE Band 25 1RB Front Side Middle (Distance 15mm)

Date: 2022/8/12

Communication System: UID 0, LTE (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.422 S/m; ε_r = 38.962; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.030 W/kg

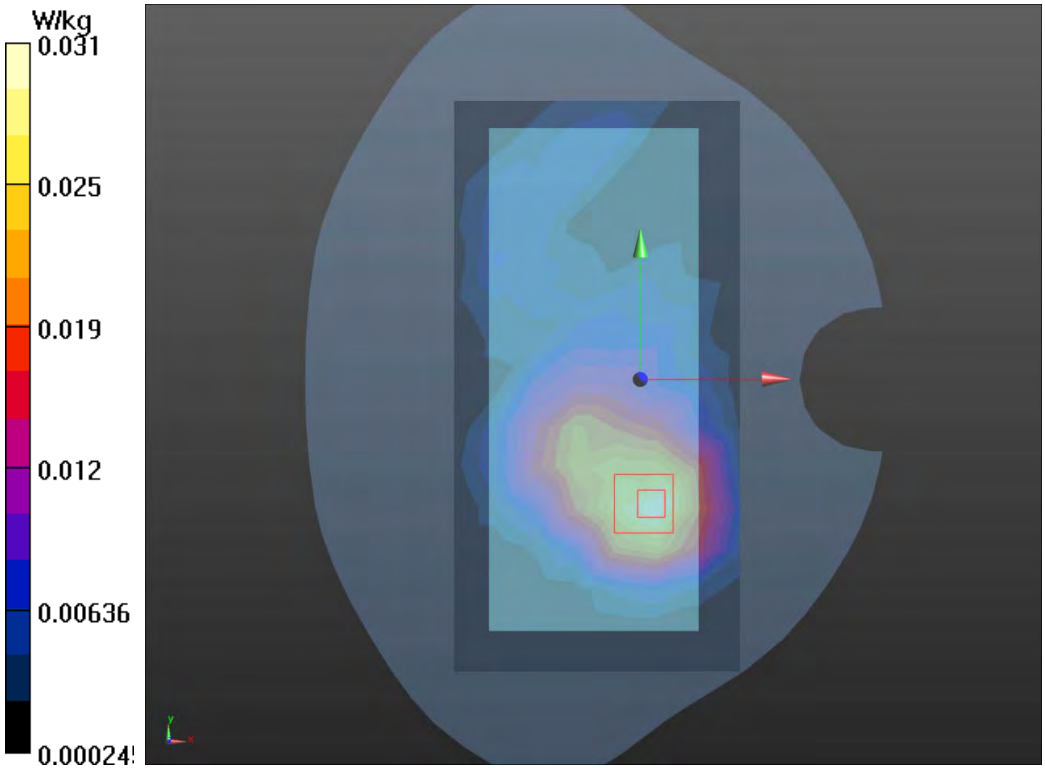
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.271 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.0470 W/kg

SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.018 W/kg

Maximum value of SAR (measured) = 0.031 W/kg



Plot 19 LTE Band 26 50%RB Back Side Middle (Distance 15mm)

Date: 2022/8/11

Communication System: UID 0, LTE (0); Frequency: 831.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.95 S/m; ε_r = 39.79; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.010 W/kg

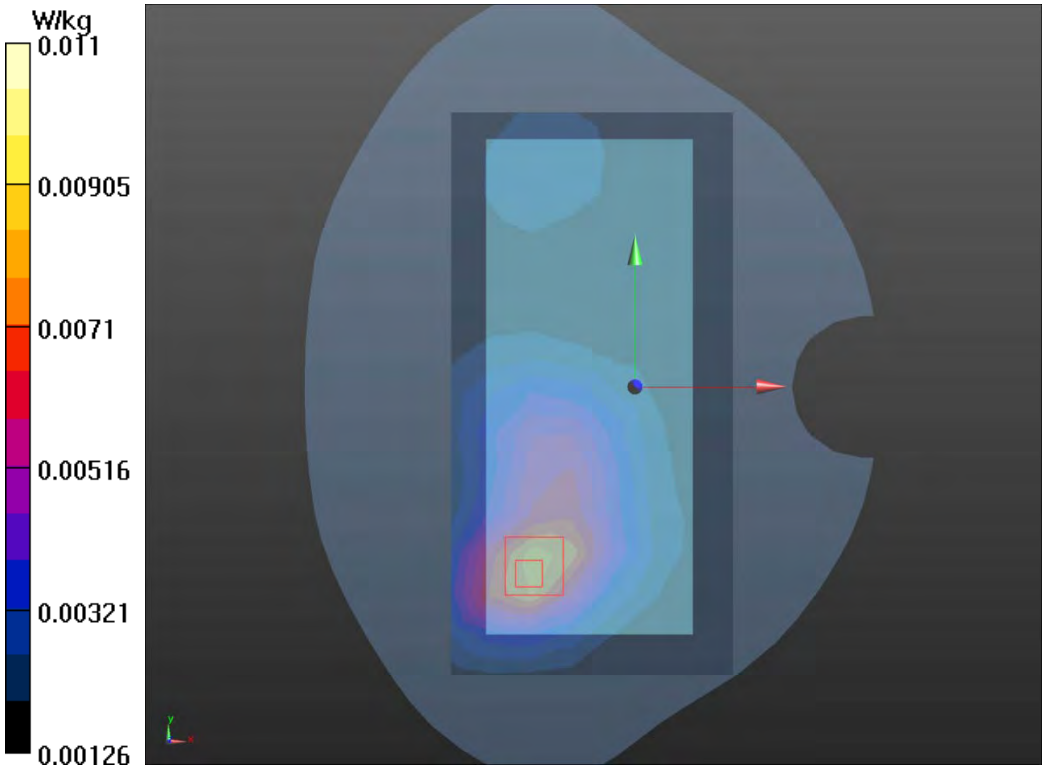
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.825 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.015 W/kg

SAR(1 g) = 0.008 W/kg; SAR(10 g) = 0.005 W/kg

Maximum value of SAR (measured) = 0.011 W/kg



Plot 20 LTE Band 38 1RB Back Side Middle (Distance 15mm)

Date: 2022/8/14

Communication System: UID 0, LTE (0); Frequency: 2595 MHz;Duty Cycle: 1:1.58

Medium parameters used: f = 2595 MHz; σ = 1.963 S/m; ε_r = 40.087; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.003 W/kg

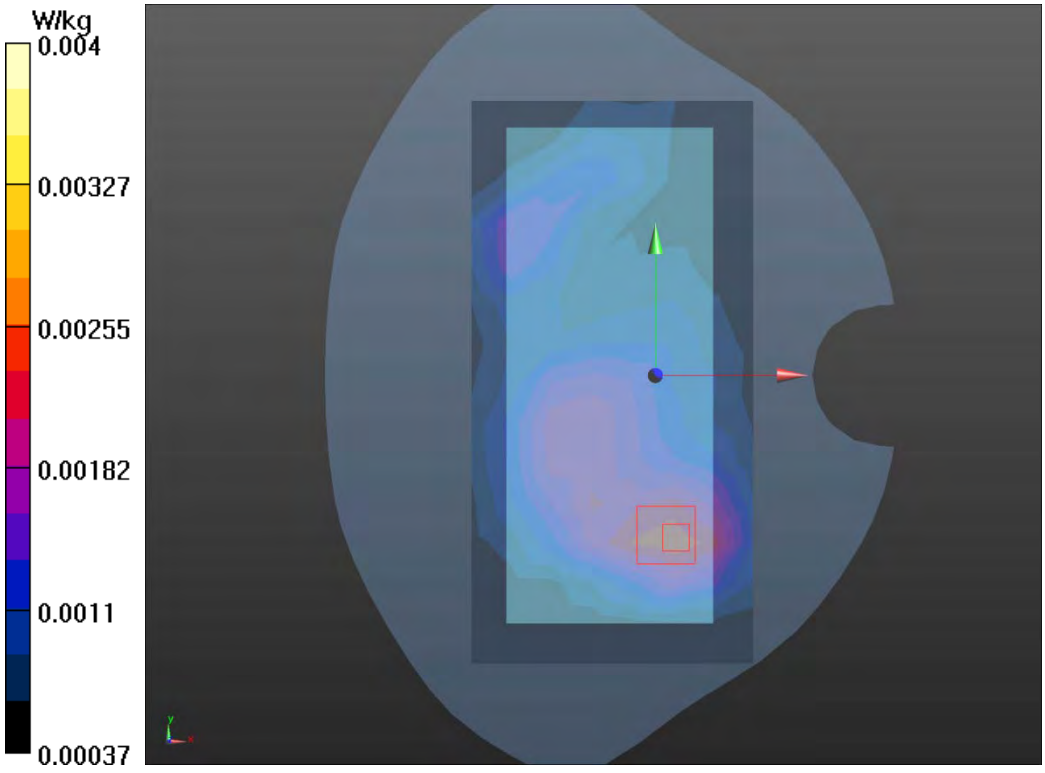
Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.611 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.005 W/kg

SAR(1 g) = 0.002 W/kg; SAR(10 g) = 0.000 W/kg

Maximum value of SAR (measured) = 0.004 W/kg



Plot 21 LTE Band 41 50%RB Back Side Middle (Distance 15mm)

Date: 2022/8/14

Communication System: UID 0, LTE (0); Frequency: 2571 MHz;Duty Cycle: 1:1.58

Medium parameters used: f = 2571 MHz; σ = 1.935 S/m; ε_r = 40.177; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side Middle/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.007 W/kg

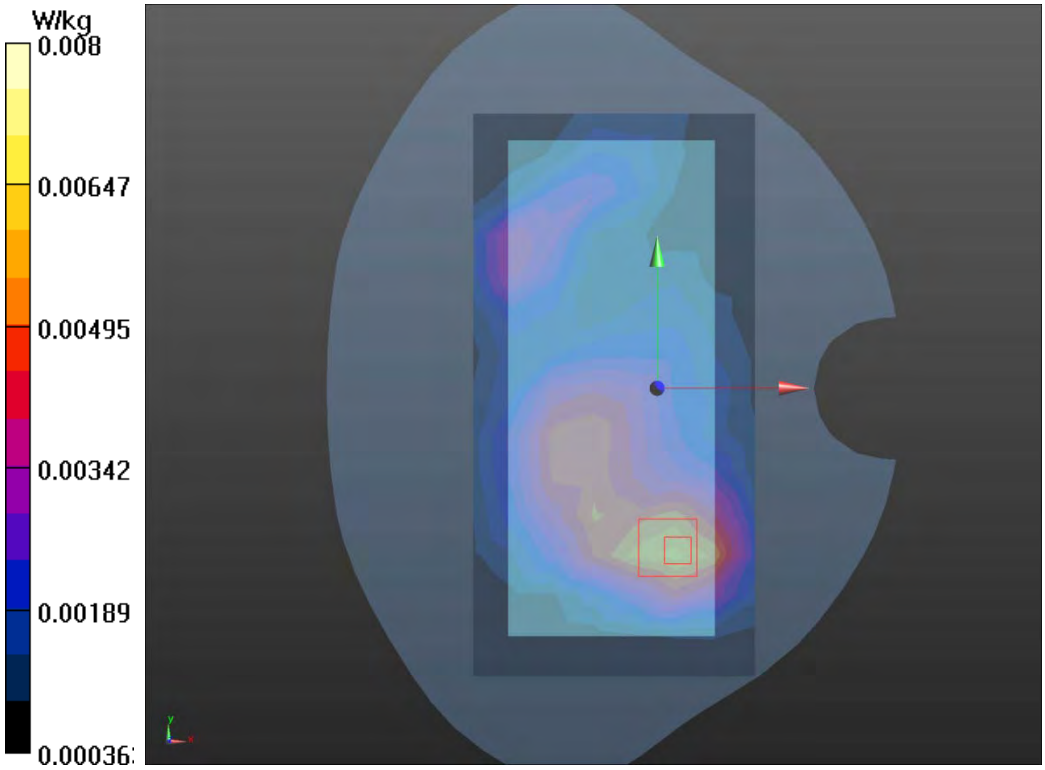
Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.596 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 0.011 W/kg

SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.003 W/kg

Maximum value of SAR (measured) = 0.008 W/kg



Plot 22 802.11b Front Side Low (Distance 15mm)

Date: 2022/8/13

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2412 MHz; σ = 1.801 S/m; ε_r = 37.737; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Low/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.048 W/kg

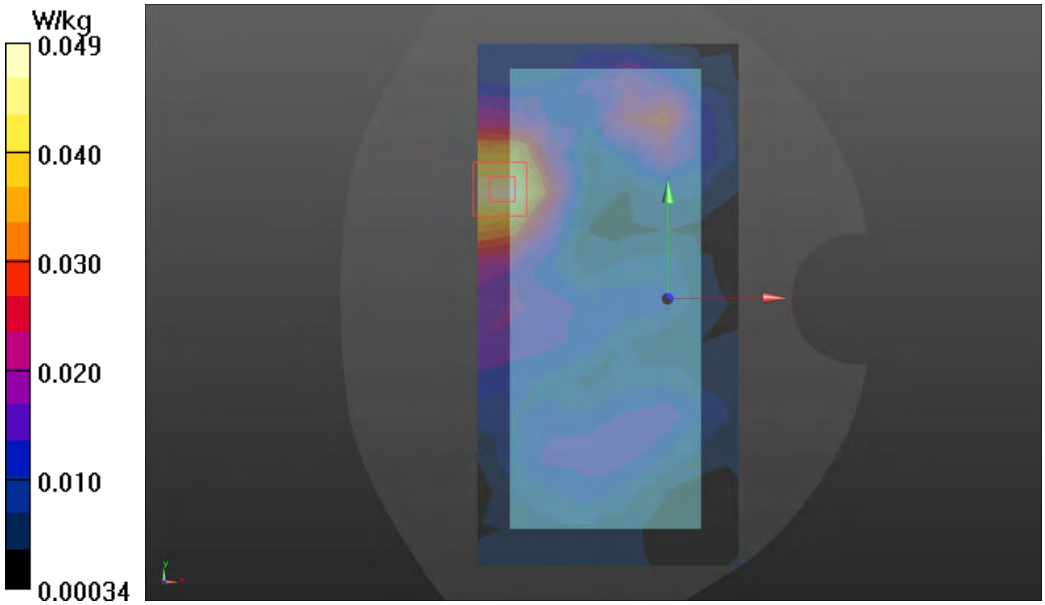
Front Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.857 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.059 W/kg

SAR(1 g) = 0.034 W/kg; SAR(10 g) = 0.020 W/kg

Maximum value of SAR (measured) = 0.049 W/kg



Plot 23 802.11a U-NII-3 Back Side High (Distance 15mm)

Date: 2022/8/16

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz;Duty Cycle: 1:1.03

Medium parameters used: f = 5825 MHz; σ = 5.4 S/m; ε_r = 36; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Back Side High/Area Scan (12x23x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.190 W/kg

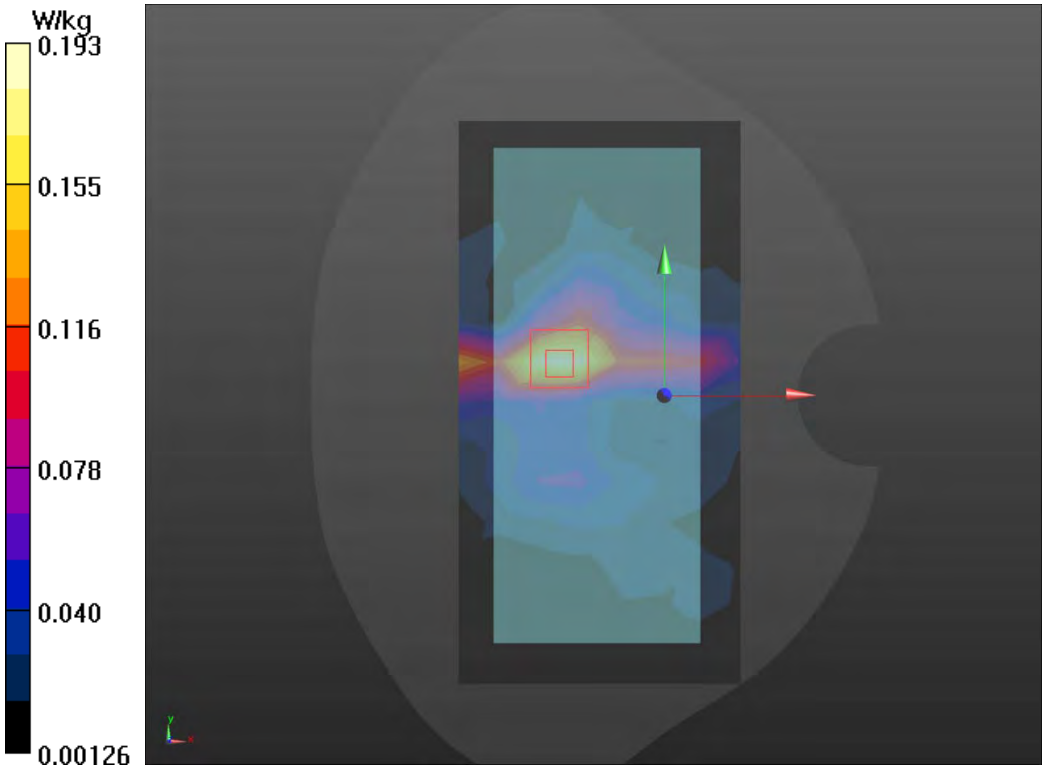
Back Side High/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.786 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.306 W/kg

SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.072 W/kg

Maximum value of SAR (measured) = 0.193 W/kg



Plot 24 GSM 850 Bottom Edge Middle (Distance 10mm)

Date: 2022/8/11

Communication System: UID 0, GPRS 4TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.07

Medium parameters used: f = 837 MHz; σ = 0.953 S/m; ε_r = 39.762; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom Edge Middle/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.032 W/kg

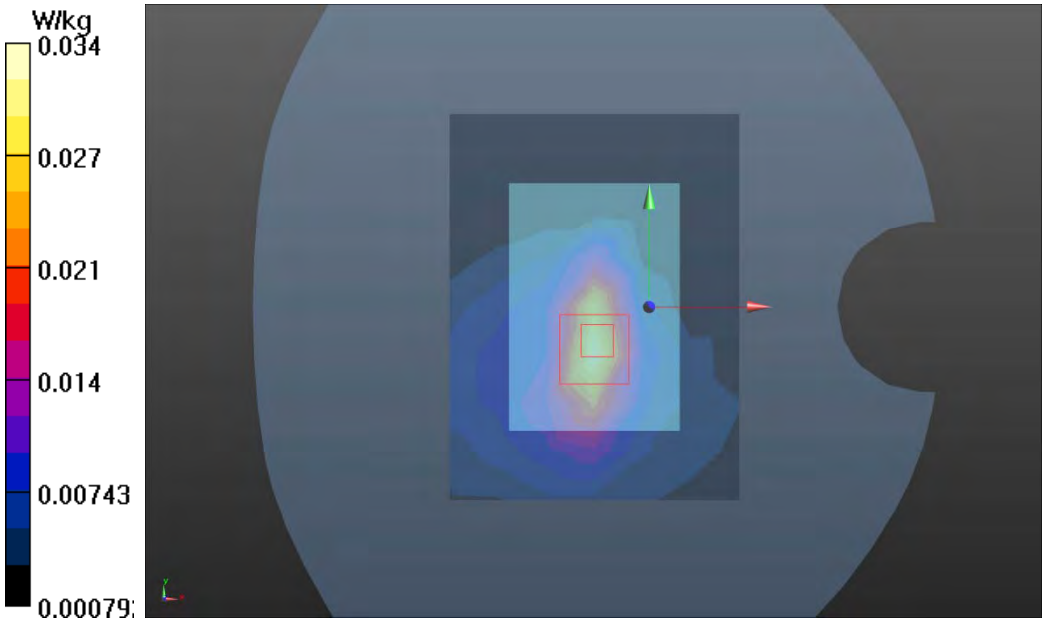
Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.710 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.041 W/kg

SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.015 W/kg

Maximum value of SAR (measured) = 0.034 W/kg



Plot 25 GSM 1900 Right Edge Middle (Distance 10mm)

Date: 2022/8/12

Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07

Medium parameters used: f = 1880 MHz; σ = 1.42 S/m; ε_r = 38.948; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.195 W/kg

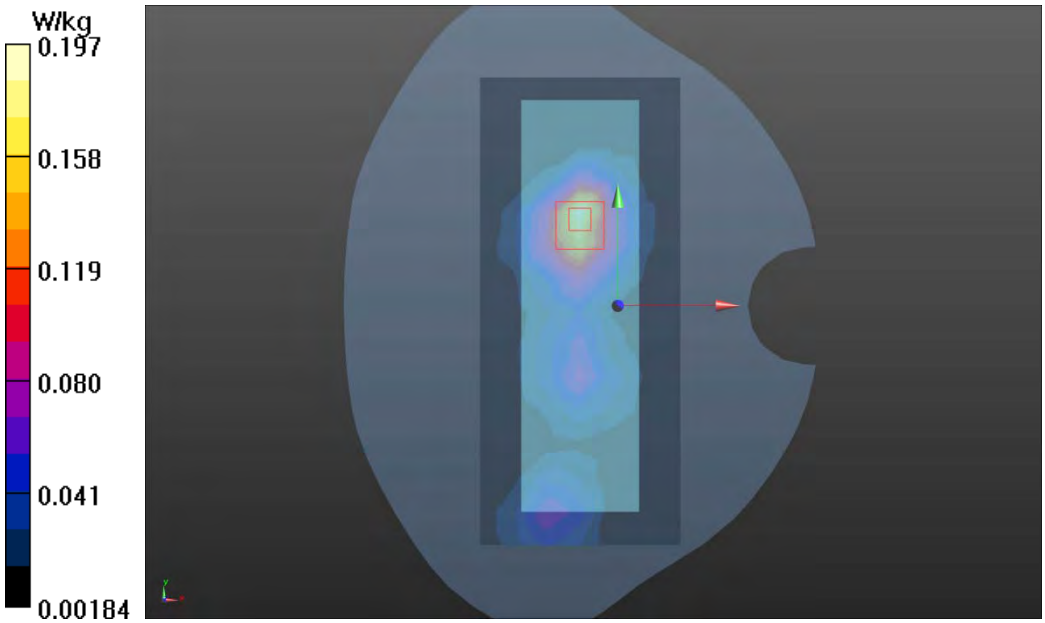
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.661 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.359 W/kg

SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.090 W/kg

Maximum value of SAR (measured) = 0.197 W/kg



Plot 26 UMTS Band II Right Edge Middle (Distance 10mm)

Date: 2022/8/12

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.42 S/m; ε_r = 38.948; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.071 W/kg

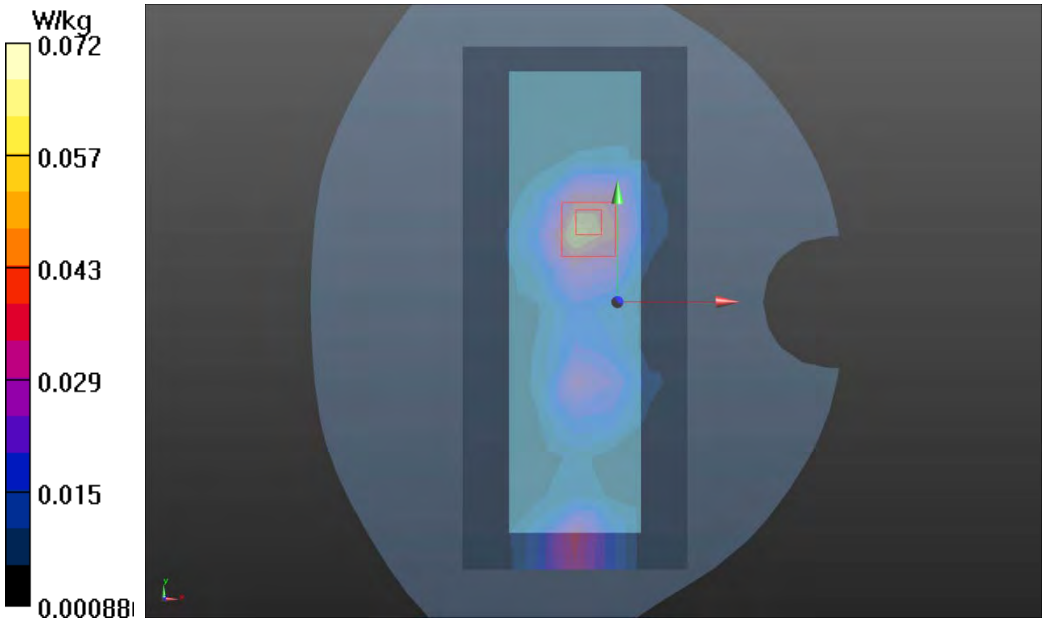
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.810 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.127 W/kg

SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.035 W/kg

Maximum value of SAR (measured) = 0.072 W/kg



Plot 27 UMTS Band IV Right Edge Middle (Distance 10mm)

Date: 2022/8/10

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1732.6 MHz; σ = 1.312 S/m; ε_r = 39.365; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.227 W/kg

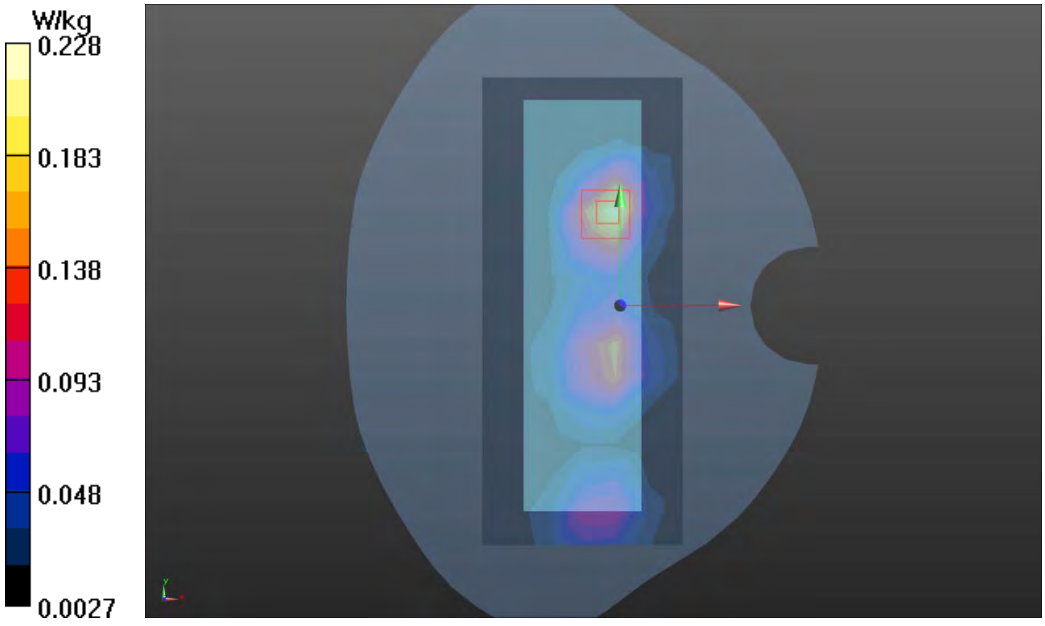
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.554 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.389 W/kg

SAR(1 g) = 0.226 W/kg; SAR(10 g) = 0.116 W/kg

Maximum value of SAR (measured) = 0.228 W/kg



Plot 28 UMTS Band V Right Edge Middle (Distance 10mm)

Date: 2022/8/11

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 836.6 MHz; σ = 0.953 S/m; ε_r = 39.762; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.012 W/kg

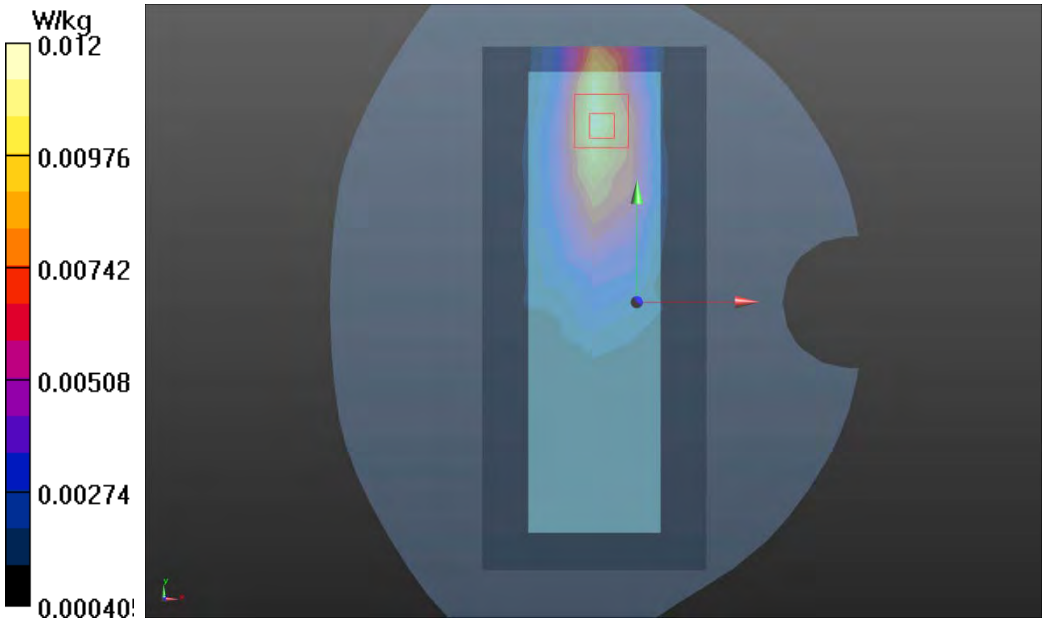
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.916 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.019 W/kg

SAR(1 g) = 0.012 W/kg; SAR(10 g) = 0.007 W/kg

Maximum value of SAR (measured) = 0.012 W/kg



Plot 29 LTE Band 4 1RB Right Edge Middle (Distance 10mm)

Date: 2022/8/10

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.313 S/m; ε_r = 39.384; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.263 W/kg

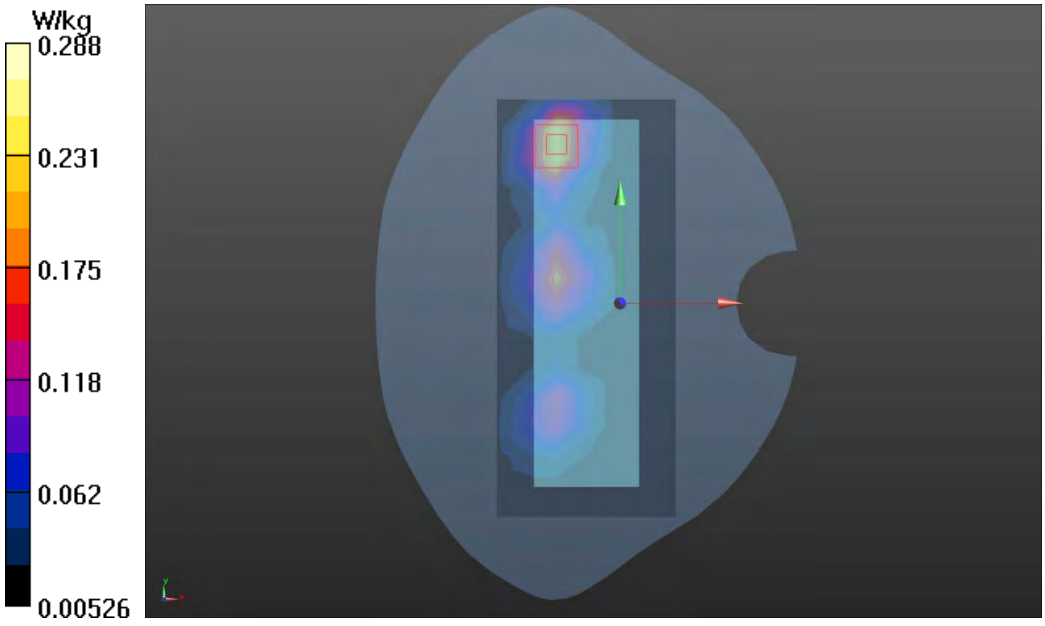
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.889 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.486 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.132 W/kg

Maximum value of SAR (measured) = 0.288 W/kg



Plot 30 LTE Band 7 1RB Bottom Side High (Distance 10mm)

Date: 2022/8/15

Communication System: UID 0, LTE (0); Frequency: 2560 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2560 MHz; σ = 1.971 S/m; ε_r = 37.231; ρ = 1000 kg/m^3

Ambient Temperature: 22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Bottom Side High/Area Scan (9x12x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.001 W/kg

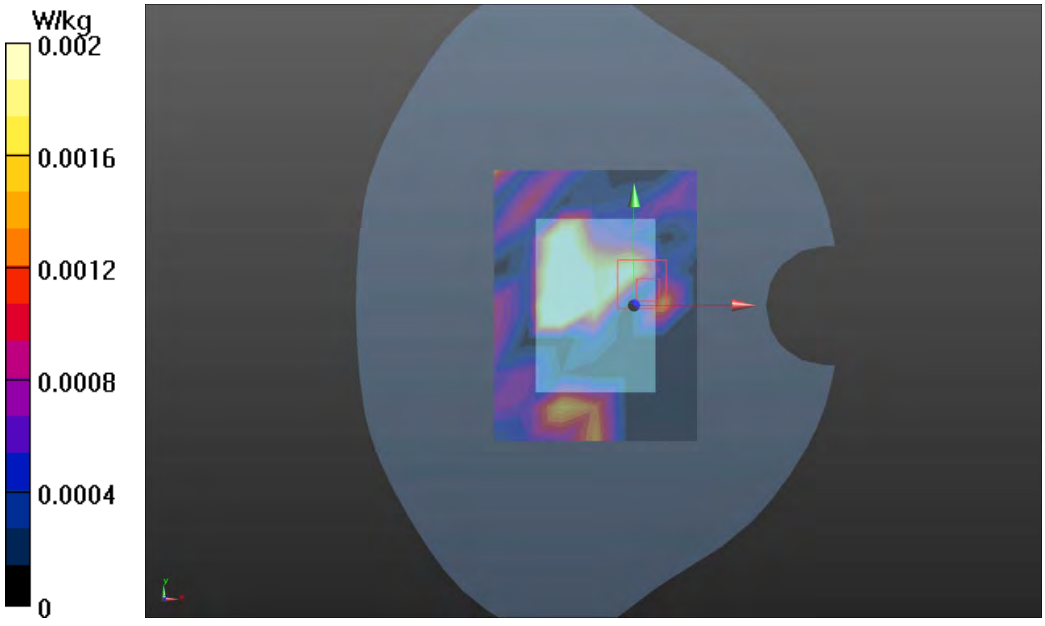
Bottom Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.328 V/m; Power Drift = 0 dB

Peak SAR (extrapolated) = 0.005 W/kg

SAR(1 g) = 0 W/kg; SAR(10 g) = 0 W/kg

Maximum value of SAR (measured) = 0.002 W/kg



Plot 31 LTE Band 12 1RB Right Edge Middle (Distance 10mm)

Date: 2022/8/10

Communication System: UID 0, LTE (0); Frequency: 707.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.869 S/m; ε_r = 40.725; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.034 W/kg

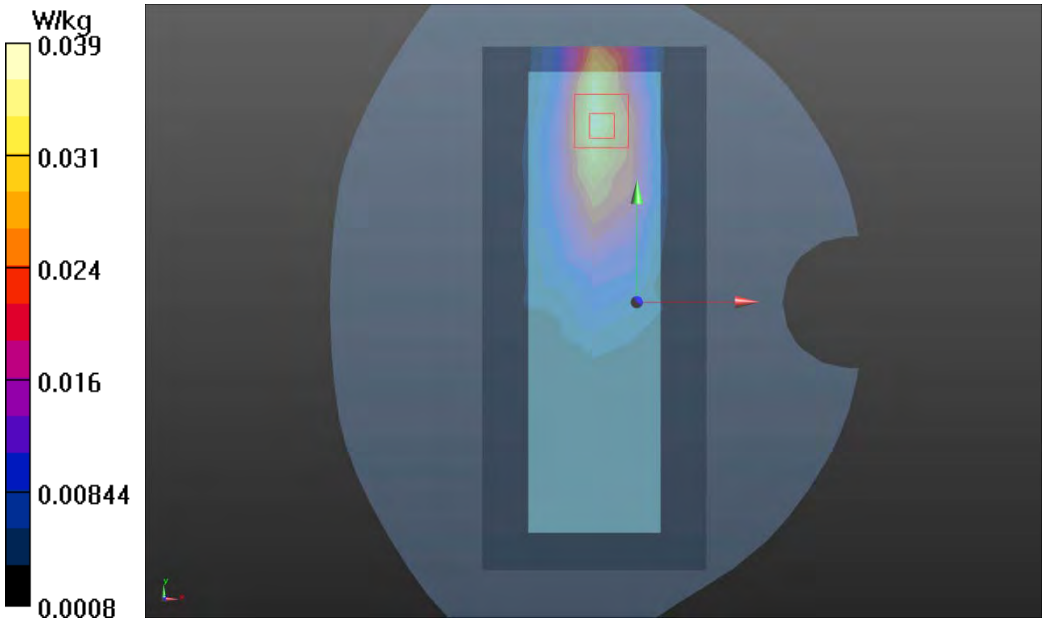
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.6500 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.048 W/kg

SAR(1 g) = 0.034 W/kg; SAR(10 g) = 0.017 W/kg

Maximum value of SAR (measured) = 0.039 W/kg



Plot 32 LTE Band 25 1RB Front Side Middle (Distance 10mm)

Date: 2022/8/12

Communication System: UID 0, LTE (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.422 S/m; ε_r = 38.962; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.045 W/kg

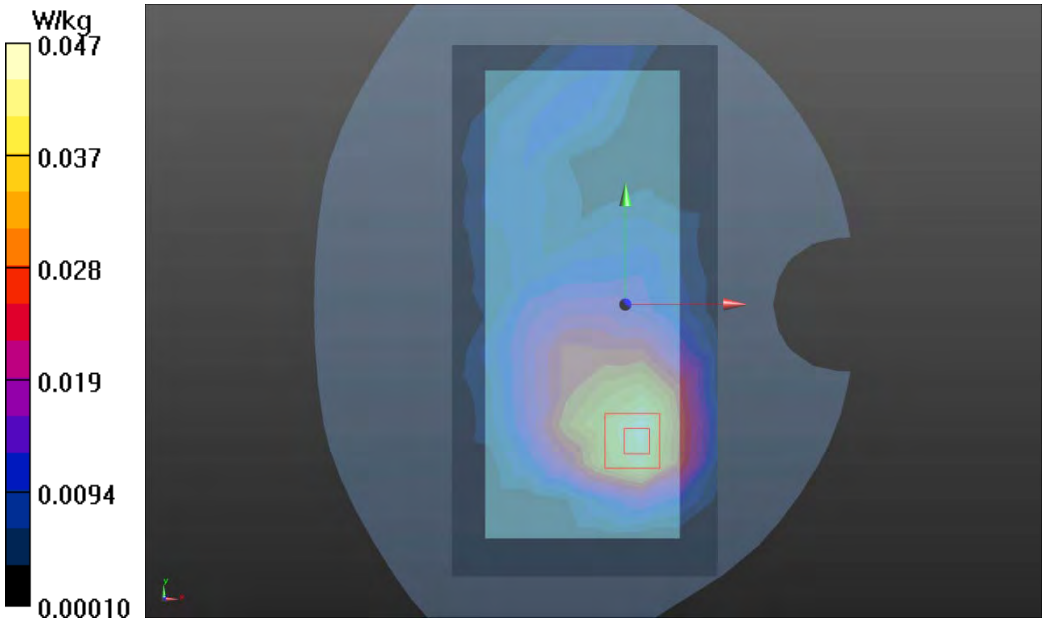
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.735 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.070 W/kg

SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.027 W/kg

Maximum value of SAR (measured) = 0.047 W/kg



Plot 33 LTE Band 26 1RB Right Edge Middle (Distance 10mm)

Date: 2022/8/11

Communication System: UID 0, LTE (0); Frequency: 831.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.95 S/m; ε_r = 39.79; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Right Edge Middle/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.015 W/kg

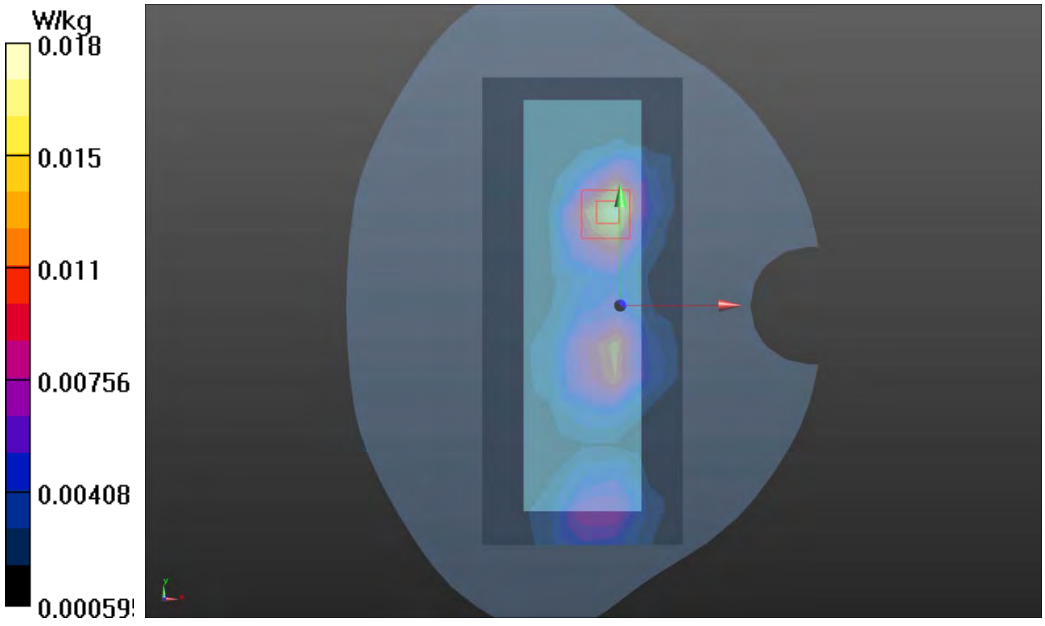
Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.442 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.022 W/kg

SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.009 W/kg

Maximum value of SAR (measured) = 0.018 W/kg



Plot 34 LTE Band 38 1RB Front Side Middle (Distance 10mm)

Date: 2022/8/15

Communication System: UID 0, LTE (0); Frequency: 2595 MHz;Duty Cycle: 1:1.58

Medium parameters used: f = 2595 MHz; σ = 2.011 S/m; ε_r = 37.134; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.008 W/kg

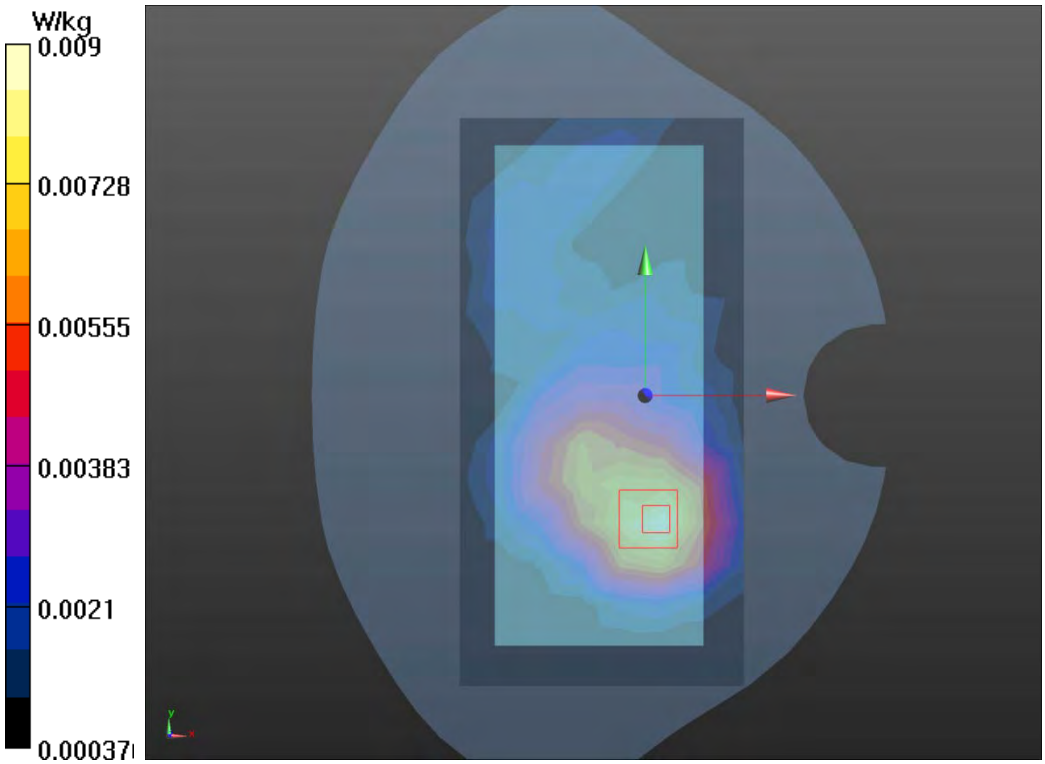
Front Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.404 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.010 W/kg

SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.003 W/kg

Maximum value of SAR (measured) = 0.009 W/kg



Plot 35 LTE Band 41 1RB Front Side Middle (Distance 10mm)

Date: 2022/8/15

Communication System: UID 0, LTE (0); Frequency: 2571 MHz;Duty Cycle: 1:1.58

Medium parameters used: f = 2571 MHz; σ = 1.984 S/m; ε_r = 37.196; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Front Side Middle/Area Scan (10x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.008 W/kg

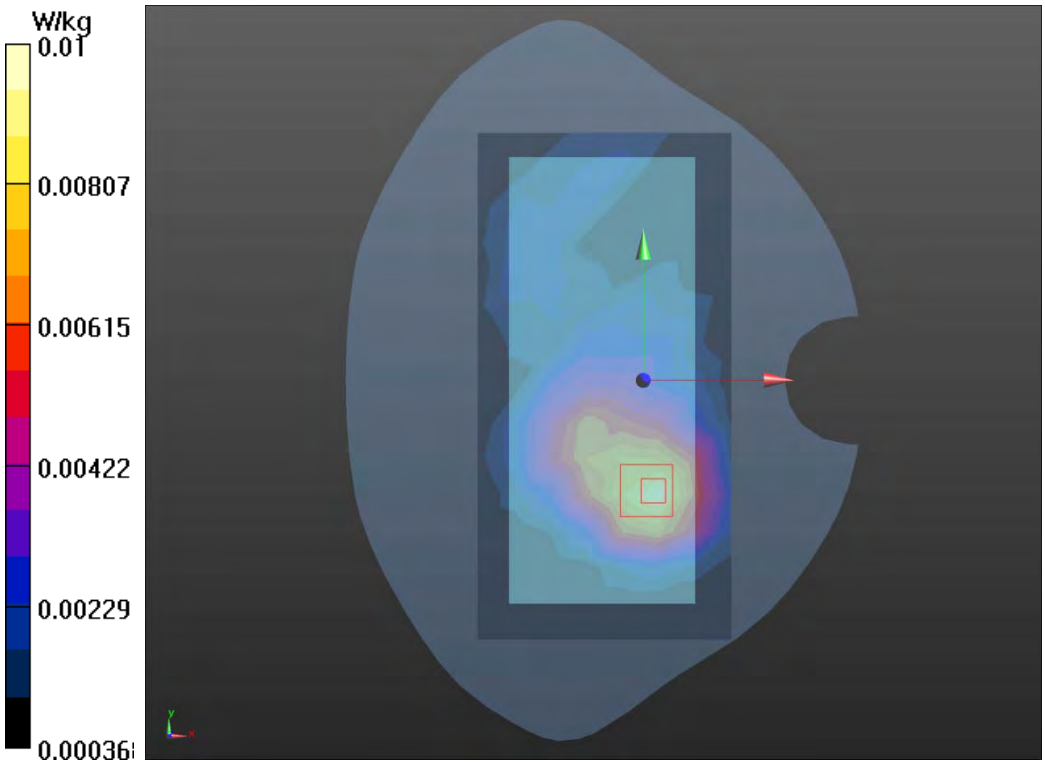
Front Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.391 V/m; Power Drift = 0.046 dB

Peak SAR (extrapolated) = 0.011 W/kg

SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.003 W/kg

Maximum value of SAR (measured) = 0.01 W/kg



Plot 36 802.11b Left Edge Low (Distance 10mm)

Date: 2022/8/13

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2412 MHz; σ = 1.801 S/m; ε_r = 37.737; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Left Edge Low/Area Scan (7x19x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.389 W/kg

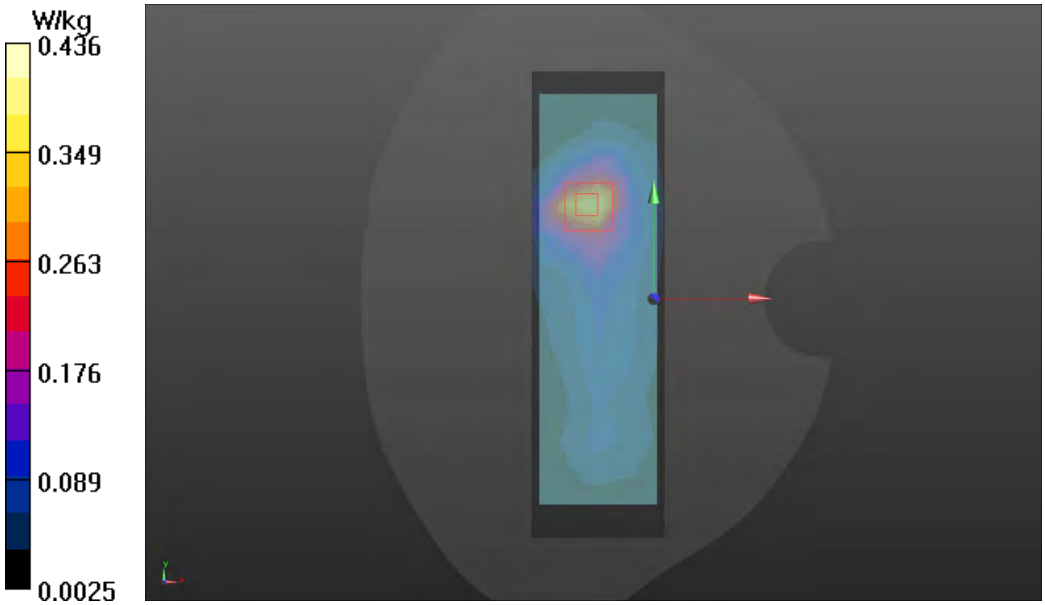
Left Edge Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.388 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.260 W/kg; SAR(10 g) = 0.127 W/kg

Maximum value of SAR (measured) = 0.436 W/kg



Plot 37 802.11a U-NII-1 Left Edge Low (Distance 10mm)

Date: 2022/8/16

Communication System: UID 0, 802.11a (0); Frequency: 5260 MHz;Duty Cycle: 1:1.03

Medium parameters used: f = 5260 MHz; σ = 4.765 S/m; ε_r = 35.934; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1692; Calibrated: 2021/10/4

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Left Edge Low/Area Scan (11x23x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.900 W/kg

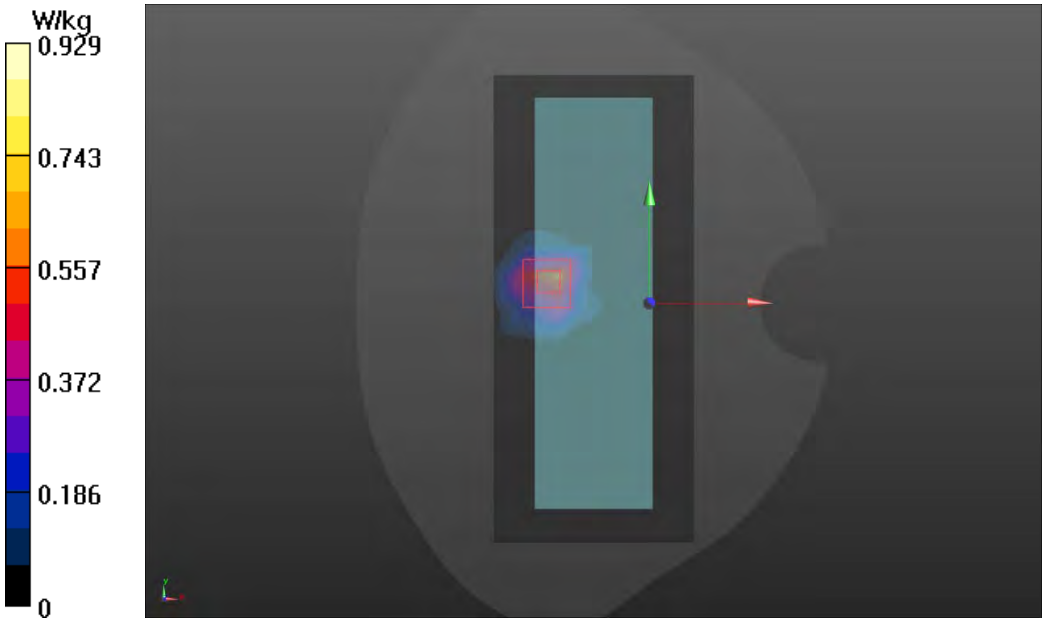
P10 802.11a Left Edge Low/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.571 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 4.52 W/kg

SAR(1 g) = 0.899 W/kg; SAR(10 g) = 0.313 W/kg

Maximum value of SAR (measured) = 0.929 W/kg



ANNEX D: Probe Calibration Certificate

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CNAS CALIBRATION CNAS L0570

Client TA(Shanghai) Certificate No: Z22-60223

CALIBRATION CERTIFICATE

Object EX3DV4 - SN : 3677

Calibration Procedure(s) FF-Z11-004-02
Calibration Procedures for Dosimetric E-field Probes

Calibration date: July 08, 2022

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Power sensor NRP-Z91	101547	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Power sensor NRP-Z91	101548	14-Jun-22(CTTL, No.J22X04181)	Jun-23
Reference 10dBAttenuator	18N50W-10dB	20-Jan-21(CTTL, No.J21X00486)	Jan-23
Reference 20dBAttenuator	18N50W-20dB	20-Jan-21(CTTL, No.J21X00485)	Jan-23
Reference Probe EX3DV4	SN 7464	26-Jan-22(SPEAG, No.EX3-7464_Jan22)	Jan-23
DAE4	SN 1555	20-Aug-21(SPEAG, No.DAE4-1555_Aug21/2)	Aug-22

Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGenerator MG3700A	6201052605	14-Jun-22(CTTL, No.J22X04182)	Jun-23
Network Analyzer E5071C	MY46110673	14-Jan-22(CTTL, No.J22X00406)	Jan-23

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: July 20, 2022

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z22-60223 Page 1 of 22

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Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A,B,C,D	modulation dependent linearization parameters
Polarization Φ	Φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i θ=0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016

c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010

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

Methods Applied and Interpretation of Parameters:

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

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3677

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (*k*=2)
Norm(μV/(V/m)²)[A]	0.42	0.46	0.41	±10.0%
DCP(mV)[B]	100.5	102.7	102.8	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Dev.	Max Unc[E] (*k*=2)
0	CW	X	0.0	0.0	1.0	0.00	150.8	±2.2%	±4.7%
		Y	0.0	0.0	1.0		161.2		
		Z	0.0	0.0	1.0		150.4		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	1.64	60.07	6.04	10.00	60	±4.8%	±9.6%
		Y	1.81	60.93	6.48		60		
		Z	1.71	60.22	6.24		60		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	1.21	60.00	5.26	6.99	80	±2.9%	±9.6%
		Y	1.14	60.00	5.34		80		
		Z	1.24	60.00	5.39		80		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	0.78	60.00	4.62	3.98	95	±1.6%	±9.6%
		Y	0.74	60.00	4.64		95		
		Z	0.80	60.00	4.79		95		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	0.51	60.00	3.94	2.22	120	±1.4%	±9.6%
		Y	0.47	60.00	4.02		120		
		Z	0.51	60.00	4.20		120		
10387-AAA	QPSK Waveform, 1 MHz	X	1.24	63.61	12.00	1.00	150	±3.1%	±9.6%
		Y	1.42	66.07	13.87		150		
		Z	1.27	65.09	12.91		150		
10388-AAA	QPSK Waveform, 10 MHz	X	1.77	65.04	13.47	0.00	150	±1.5%	±9.6%
		Y	1.97	67.16	15.01		150		
		Z	1.81	66.06	14.28		150		
10396-AAA	64-QAM Waveform, 100 kHz	X	2.27	67.24	17.73	3.01	150	±0.9%	±9.6%
		Y	2.50	69.43	19.12		150		
		Z	2.22	67.67	18.11		150		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.59	65.39	15.13	0.00	150	±3.7%	±9.6%
		Y	4.67	65.83	15.53		150		
		Z	4.55	65.64	15.34		150		

Note: For details on UID parameters see Appendix

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

[A] The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 5).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3677

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	31.29	236.58	35.88	18.80	0.00	4.90	0.00	0.26	1.02
Y	31.84	237.52	35.33	17.20	0.00	4.90	0.23	0.24	1.02
Z	27.77	207.22	35.23	19.61	0.00	4.90	0.18	0.18	1.02

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	117.3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm

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DASY/EASY – Parameters of Probe: EX3DV4 – SN:3677

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz][C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unct. (k=2)
750	41.9	0.89	9.63	9.63	9.63	0.16	1.35	±12.1%
835	41.5	0.90	9.34	9.34	9.34	0.14	1.46	±12.1%
1750	40.1	1.37	8.25	8.25	8.25	0.26	1.06	±12.1%
1900	40.0	1.40	7.84	7.84	7.84	0.27	1.05	±12.1%
2000	40.0	1.40	7.92	7.92	7.92	0.21	1.27	±12.1%
2300	39.5	1.67	7.76	7.76	7.76	0.65	0.67	±12.1%
2450	39.2	1.80	7.46	7.46	7.46	0.64	0.70	±12.1%
2600	39.0	1.96	7.27	7.27	7.27	0.65	0.68	±12.1%
3300	38.2	2.71	7.02	7.02	7.02	0.45	0.92	±13.3%
3500	37.9	2.91	6.90	6.90	6.90	0.44	0.96	±13.3%
3700	37.7	3.12	6.64	6.64	6.64	0.44	1.01	±13.3%
3900	37.5	3.32	6.58	6.58	6.58	0.40	1.25	±13.3%
4100	37.2	3.53	6.60	6.60	6.60	0.40	1.15	±13.3%
4400	36.9	3.84	6.40	6.40	6.40	0.40	1.25	±13.3%
4600	36.7	4.04	6.31	6.31	6.31	0.45	1.25	±13.3%
4800	36.4	4.25	6.26	6.26	6.26	0.50	1.20	±13.3%
4950	36.3	4.40	6.03	6.03	6.03	0.45	1.30	±13.3%
5250	35.9	4.71	5.48	5.48	5.48	0.50	1.20	±13.3%
5600	35.5	5.07	4.97	4.97	4.97	0.50	1.30	±13.3%
5750	35.4	5.22	5.00	5.00	5.00	0.50	1.32	±13.3%

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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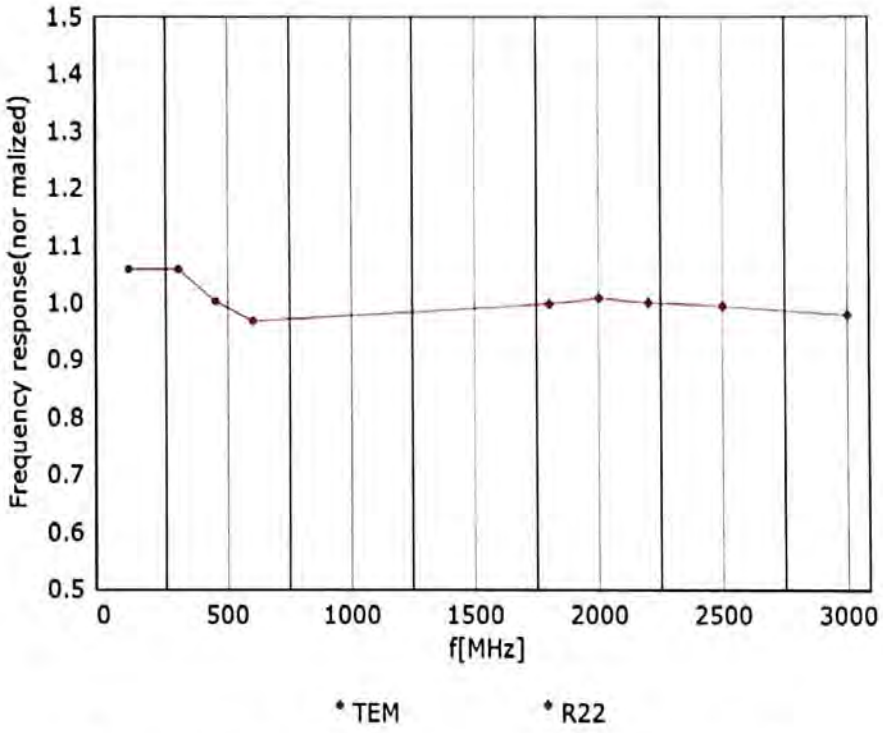
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.4% (*k*=2)

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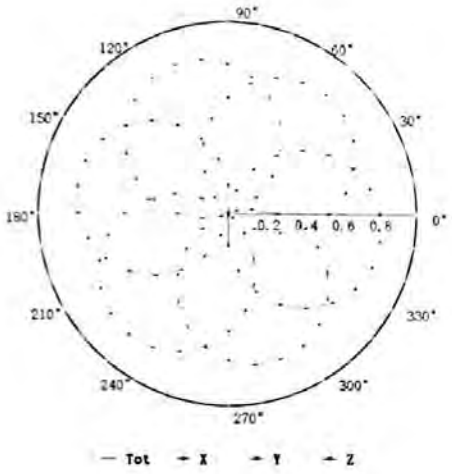
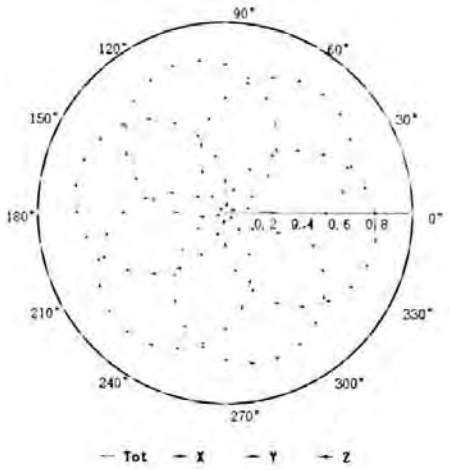
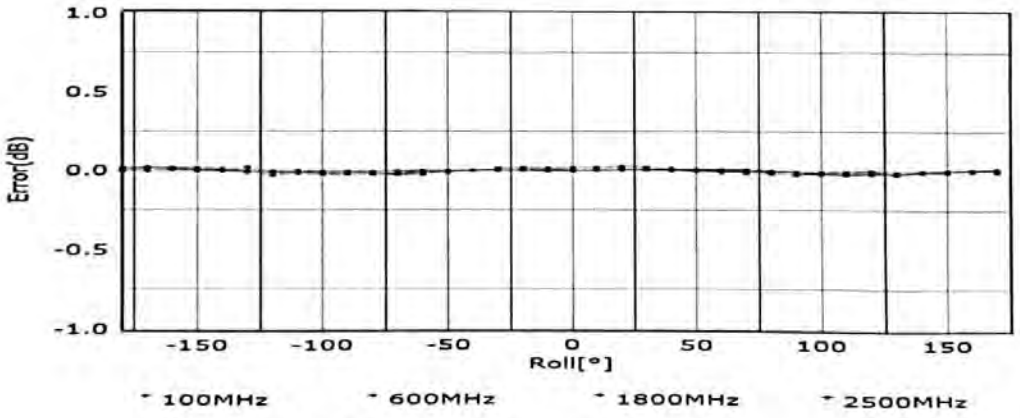
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±1.2% (*k*=2)

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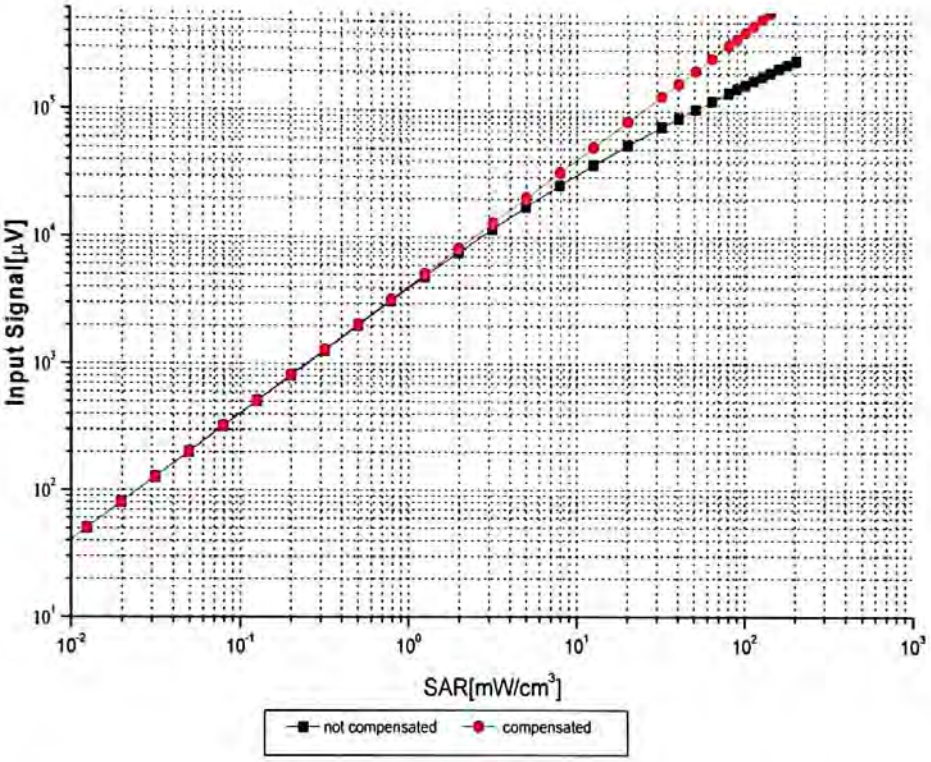
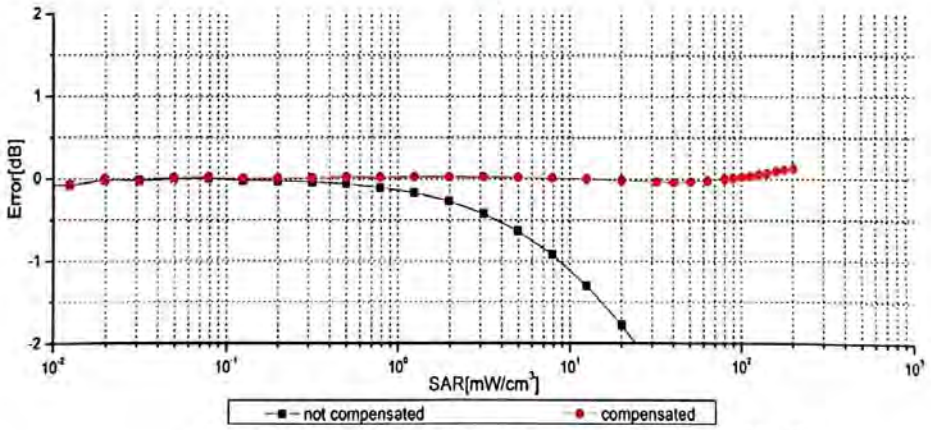
Dynamic Range f(SAR$_{head}$)
(TEM cell, f = 900 MHz)





Uncertainty of Linearity Assessment: ±0.9% (*k*=2)

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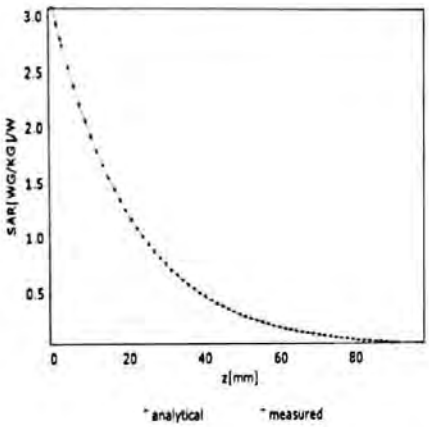
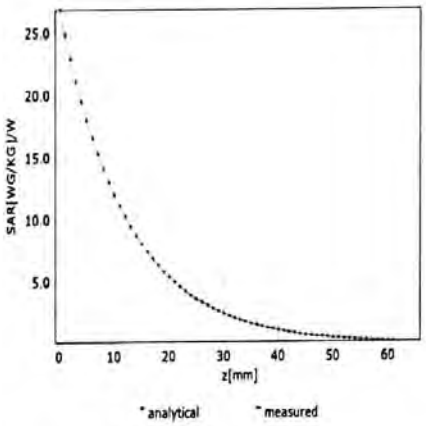
Conversion Factor Assessment

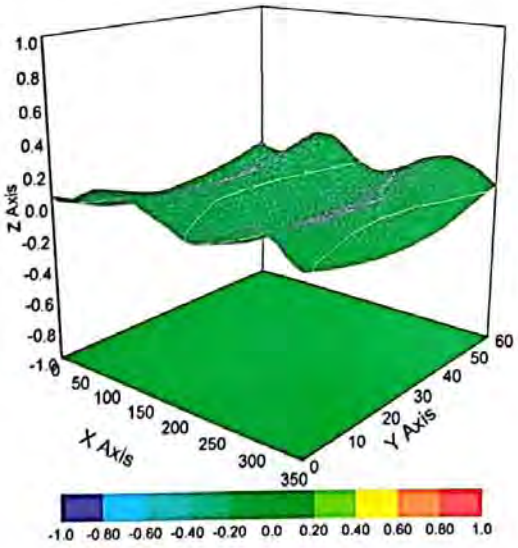
f=750 MHz,WGLS R9(H_convF)



f=1750 MHz,WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: ±3.2% (*k*=2)

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Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	UncE (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	DAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %

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10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	DAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %
10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAG	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAG	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAG	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAG	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	AAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAI	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %

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10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	AAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	AAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAF	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAF	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	AAF	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAD	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	DAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %

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10269	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAD	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAD	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAD	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAG	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	CAG	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	CAG	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	CAG	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	CAG	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	CAG	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %
10300	CAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	CAC	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	CAB	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	CAB	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	CAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	CAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	CAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM,AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3	WiMAX	14.57	± 9.6 %
10311	AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAD	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAD	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAD	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAD	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAA	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAA	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAD	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10417	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short)	WLAN	8.19	± 9.6 %
10422	AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAE	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAE	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAE	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %

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10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAG	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10447	AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %
10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10453	AAC	Validation (Square, 10ms, 1ms)	Test	10.00	± 9.6 %
10456	AAC	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)	WLAN	8.63	± 9.6 %
10457	AAC	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAC	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAC	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAC	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.30	± 9.6 %
10463	AAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10467	AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10469	AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10470	AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10471	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10472	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10473	AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10474	AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10475	AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10477	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10478	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10482	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.71	± 9.6 %
10483	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.47	± 9.6 %
10485	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.59	± 9.6 %
10486	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.38	± 9.6 %
10487	AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.60	± 9.6 %
10488	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.70	± 9.6 %
10489	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.41	± 9.6 %
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.37	± 9.6 %
10496	AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10497	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10498	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.40	± 9.6 %
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.68	± 9.6 %
10500	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10501	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.52	± 9.6 %

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10503	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.72	± 9.6 %
10504	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10505	AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10506	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10507	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.36	± 9.6 %
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.99	± 9.6 %
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.49	± 9.6 %
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.42	± 9.6 %
10514	AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10515	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10516	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)	WLAN	1.57	± 9.6 %
10517	AAF	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10518	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10519	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10523	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)	WLAN	8.08	± 9.6 %
10524	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)	WLAN	8.27	± 9.6 %
10525	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)	WLAN	8.36	± 9.6 %
10526	AAF	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)	WLAN	8.42	± 9.6 %
10527	AAF	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)	WLAN	8.21	± 9.6 %
10528	AAF	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)	WLAN	8.36	± 9.6 %
10529	AAF	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)	WLAN	8.36	± 9.6 %
10531	AAF	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)	WLAN	8.43	± 9.6 %
10532	AAF	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10533	AAE	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)	WLAN	8.38	± 9.6 %
10534	AAE	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)	WLAN	8.45	± 9.6 %
10535	AAE	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)	WLAN	8.45	± 9.6 %
10536	AAF	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)	WLAN	8.32	± 9.6 %
10537	AAF	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)	WLAN	8.44	± 9.6 %
10538	AAF	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)	WLAN	8.54	± 9.6 %
10540	AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10541	AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)	WLAN	8.46	± 9.6 %
10542	AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)	WLAN	8.65	± 9.6 %
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)	WLAN	8.65	± 9.6 %
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)	WLAN	8.47	± 9.6 %
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)	WLAN	8.35	± 9.6 %
10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)	WLAN	8.49	± 9.6 %
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)	WLAN	8.37	± 9.6 %
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)	WLAN	8.38	± 9.6 %
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)	WLAN	8.50	± 9.6 %
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)	WLAN	8.42	± 9.6 %
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)	WLAN	8.77	± 9.6 %
10564	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)	WLAN	8.25	± 9.6 %
10565	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %

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10566	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc)	WLAN	8.13	± 9.6 %
10567	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc)	WLAN	8.00	± 9.6 %
10568	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc)	WLAN	8.37	± 9.6 %
10569	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc)	WLAN	8.10	± 9.6 %
10570	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc)	WLAN	8.30	± 9.6 %
10571	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10572	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10573	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10574	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10575	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10576	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10577	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10578	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10579	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10580	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10581	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10582	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10585	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10586	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10587	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10588	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10589	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10590	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10591	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)	WLAN	8.63	± 9.6 %
10592	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10593	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)	WLAN	8.64	± 9.6 %
10594	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10595	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)	WLAN	8.74	± 9.6 %
10596	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)	WLAN	8.71	± 9.6 %
10597	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)	WLAN	8.72	± 9.6 %
10598	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)	WLAN	8.50	± 9.6 %
10599	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)	WLAN	8.79	± 9.6 %
10600	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10601	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)	WLAN	8.82	± 9.6 %
10602	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)	WLAN	8.94	± 9.6 %
10603	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)	WLAN	9.03	± 9.6 %
10604	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)	WLAN	8.76	± 9.6 %
10605	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)	WLAN	8.97	± 9.6 %
10606	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10607	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)	WLAN	8.64	± 9.6 %
10608	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)	WLAN	8.77	± 9.6 %
10609	AAC	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)	WLAN	8.57	± 9.6 %
10610	AAC	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)	WLAN	8.78	± 9.6 %
10611	AAC	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10612	AAC	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10613	AAC	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)	WLAN	8.94	± 9.6 %
10614	AAC	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)	WLAN	8.59	± 9.6 %
10615	AAC	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10616	AAC	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)	WLAN	8.82	± 9.6 %
10617	AAC	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)	WLAN	8.81	± 9.6 %
10618	AAC	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)	WLAN	8.58	± 9.6 %
10619	AAC	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)	WLAN	8.86	± 9.6 %
10620	AAC	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)	WLAN	8.87	± 9.6 %
10621	AAC	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10622	AAC	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)	WLAN	8.68	± 9.6 %
10623	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10624	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)	WLAN	8.96	± 9.6 %

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10625	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)	WLAN	8.96	± 9.6 %
10626	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10627	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10628	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)	WLAN	8.71	± 9.6 %
10629	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10630	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)	WLAN	8.72	± 9.6 %
10631	AAC	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)	WLAN	8.81	± 9.6 %
10632	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10633	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)	WLAN	8.83	± 9.6 %
10634	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)	WLAN	8.80	± 9.6 %
10635	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)	WLAN	9.11	± 9.6 %
10646	AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAC	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAC	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAC	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAC	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10655	AAC	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAC	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAC	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAC	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAC	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAC	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAC	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAD	IEEE 802.11ax (20MHz, MCS0, 90pc dc)	WLAN	9.09	± 9.6 %
10672	AAD	IEEE 802.11ax (20MHz, MCS1, 90pc dc)	WLAN	8.57	± 9.6 %
10673	AAD	IEEE 802.11ax (20MHz, MCS2, 90pc dc)	WLAN	8.78	± 9.6 %
10674	AAD	IEEE 802.11ax (20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10675	AAD	IEEE 802.11ax (20MHz, MCS4, 90pc dc)	WLAN	8.90	± 9.6 %
10676	AAD	IEEE 802.11ax (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10677	AAD	IEEE 802.11ax (20MHz, MCS6, 90pc dc)	WLAN	8.73	± 9.6 %
10678	AAD	IEEE 802.11ax (20MHz, MCS7, 90pc dc)	WLAN	8.78	± 9.6 %
10679	AAD	IEEE 802.11ax (20MHz, MCS8, 90pc dc)	WLAN	8.89	± 9.6 %
10680	AAD	IEEE 802.11ax (20MHz, MCS9, 90pc dc)	WLAN	8.80	± 9.6 %
10681	AAG	IEEE 802.11ax (20MHz, MCS10, 90pc dc)	WLAN	8.62	± 9.6 %
10682	AAF	IEEE 802.11ax (20MHz, MCS11, 90pc dc)	WLAN	8.83	± 9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10684	AAC	IEEE 802.11ax (20MHz, MCS1, 99pc dc)	WLAN	8.26	± 9.6 %
10685	AAC	IEEE 802.11ax (20MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10686	AAC	IEEE 802.11ax (20MHz, MCS3, 99pc dc)	WLAN	8.28	± 9.6 %
10687	AAE	IEEE 802.11ax (20MHz, MCS4, 99pc dc)	WLAN	8.45	± 9.6 %
10688	AAE	IEEE 802.11ax (20MHz, MCS5, 99pc dc)	WLAN	8.29	± 9.6 %
10689	AAD	IEEE 802.11ax (20MHz, MCS6, 99pc dc)	WLAN	8.55	± 9.6 %
10690	AAE	IEEE 802.11ax (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10691	AAB	IEEE 802.11ax (20MHz, MCS8, 99pc dc)	WLAN	8.25	± 9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc dc)	WLAN	8.29	± 9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc dc)	WLAN	8.25	± 9.6 %
10694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc dc)	WLAN	8.57	± 9.6 %
10695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc dc)	WLAN	8.78	± 9.6 %

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10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc dc)	WLAN	8.91	± 9.6 %
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc dc)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc dc)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc dc)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc dc)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc dc)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc dc)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc dc)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc dc)	WLAN	8.69	± 9.6 %
10706	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc dc)	WLAN	8.66	± 9.6 %
10707	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc dc)	WLAN	8.32	± 9.6 %
10708	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10709	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10710	AAA	IEEE 802.11ax (40MHz, MCS3, 99pc dc)	WLAN	8.29	± 9.6 %
10711	AAA	IEEE 802.11ax (40MHz, MCS4, 99pc dc)	WLAN	8.39	± 9.6 %
10712	AAA	IEEE 802.11ax (40MHz, MCS5, 99pc dc)	WLAN	8.67	± 9.6 %
10713	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc dc)	WLAN	8.33	± 9.6 %
10714	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc dc)	WLAN	8.26	± 9.6 %
10715	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc dc)	WLAN	8.45	± 9.6 %
10716	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc dc)	WLAN	8.30	± 9.6 %
10717	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc dc)	WLAN	8.48	± 9.6 %
10718	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc dc)	WLAN	8.24	± 9.6 %
10719	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc dc)	WLAN	8.81	± 9.6 %
10720	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc dc)	WLAN	8.87	± 9.6 %
10721	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc dc)	WLAN	8.76	± 9.6 %
10722	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc dc)	WLAN	8.55	± 9.6 %
10723	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10724	AAA	IEEE 802.11ax (80MHz, MCS5, 90pc dc)	WLAN	8.90	± 9.6 %
10725	AAA	IEEE 802.11ax (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10726	AAA	IEEE 802.11ax (80MHz, MCS7, 90pc dc)	WLAN	8.72	± 9.6 %
10727	AAA	IEEE 802.11ax (80MHz, MCS8, 90pc dc)	WLAN	8.66	± 9.6 %
10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc dc)	WLAN	8.65	± 9.6 %
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc dc)	WLAN	8.64	± 9.6 %
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc dc)	WLAN	8.67	± 9.6 %
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc dc)	WLAN	8.46	± 9.6 %
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc dc)	WLAN	8.40	± 9.6 %
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc dc)	WLAN	8.25	± 9.6 %
10735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc dc)	WLAN	8.33	± 9.6 %
10736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc dc)	WLAN	8.27	± 9.6 %
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc dc)	WLAN	8.36	± 9.6 %
10738	AAA	IEEE 802.11ax (80MHz, MCS7, 99pc dc)	WLAN	8.42	± 9.6 %
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc dc)	WLAN	8.29	± 9.6 %
10740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc dc)	WLAN	8.48	± 9.6 %
10741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc dc)	WLAN	8.40	± 9.6 %
10742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc dc)	WLAN	8.43	± 9.6 %
10743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc dc)	WLAN	8.94	± 9.6 %
10744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc dc)	WLAN	9.16	± 9.6 %
10745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc dc)	WLAN	8.93	± 9.6 %
10746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc dc)	WLAN	9.11	± 9.6 %
10747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc dc)	WLAN	9.04	± 9.6 %
10748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc dc)	WLAN	8.93	± 9.6 %
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc dc)	WLAN	8.90	± 9.6 %
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc dc)	WLAN	8.79	± 9.6 %
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc dc)	WLAN	9.00	± 9.6 %
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc dc)	WLAN	8.94	± 9.6 %

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10755	AAC	IEEE 802.11ax (160MHz, MCS0, 99pc dc)	WLAN	8.64	± 9.6 %
10756	AAC	IEEE 802.11ax (160MHz, MCS1, 99pc dc)	WLAN	8.77	± 9.6 %
10757	AAC	IEEE 802.11ax (160MHz, MCS2, 99pc dc)	WLAN	8.77	± 9.6 %
10758	AAC	IEEE 802.11ax (160MHz, MCS3, 99pc dc)	WLAN	8.69	± 9.6 %
10759	AAC	IEEE 802.11ax (160MHz, MCS4, 99pc dc)	WLAN	8.58	± 9.6 %
10760	AAC	IEEE 802.11ax (160MHz, MCS5, 99pc dc)	WLAN	8.49	± 9.6 %
10761	AAC	IEEE 802.11ax (160MHz, MCS6, 99pc dc)	WLAN	8.58	± 9.6 %
10762	AAC	IEEE 802.11ax (160MHz, MCS7, 99pc dc)	WLAN	8.49	± 9.6 %
10763	AAC	IEEE 802.11ax (160MHz, MCS8, 99pc dc)	WLAN	8.53	± 9.6 %
10764	AAC	IEEE 802.11ax (160MHz, MCS9, 99pc dc)	WLAN	8.54	± 9.6 %
10765	AAC	IEEE 802.11ax (160MHz, MCS10, 99pc dc)	WLAN	8.54	± 9.6 %
10766	AAC	IEEE 802.11ax (160MHz, MCS11, 99pc dc)	WLAN	8.51	± 9.6 %
10767	AAC	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	± 9.6 %
10768	AAC	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10769	AAC	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10770	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10771	AAC	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10772	AAC	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	± 9.6 %
10773	AAC	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	± 9.6 %
10774	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10775	AAC	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10776	AAC	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10778	AAC	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10780	AAC	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10781	AAC	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10782	AAC	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10783	AAC	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10784	AAC	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	± 9.6 %
10785	AAC	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10786	AAC	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10787	AAC	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	± 9.6 %
10788	AAC	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10789	AAC	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10790	AAC	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10791	AAC	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	± 9.6 %
10792	AAC	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	± 9.6 %
10793	AAC	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	± 9.6 %
10794	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10795	AAC	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	± 9.6 %
10796	AAC	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10797	AAC	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10798	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10799	AAC	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10801	AAC	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10802	AAC	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	± 9.6 %
10803	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10805	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10809	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10810	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10812	AAD	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10817	AAD	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10818	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	± 9.6 %
10820	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10821	AAC	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10822	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %

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10823	AAC	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10824	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10825	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10827	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10828	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10829	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10830	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	± 9.6 %
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	± 9.6 %
10832	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	± 9.6 %
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10834	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	± 9.6 %
10835	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10836	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	± 9.6 %
10837	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	± 9.6 %
10839	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10840	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	± 9.6 %
10841	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	± 9.6 %
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	± 9.6 %
10844	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10846	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10854	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10856	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10858	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10859	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10860	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10861	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10863	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10864	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10865	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10866	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10868	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	± 9.6 %
10869	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10870	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	± 9.6 %
10871	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10872	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	± 9.6 %
10873	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10874	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10875	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10876	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	± 9.6 %
10877	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	± 9.6 %
10878	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10879	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	± 9.6 %
10880	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	± 9.6 %
10881	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10882	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	± 9.6 %
10883	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	± 9.6 %
10884	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	± 9.6 %
10885	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10886	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10887	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10888	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	± 9.6 %
10889	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	± 9.6 %
10890	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	± 9.6 %
10891	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	± 9.6 %
10892	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10897	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	± 9.6 %
10898	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %

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10899	AAD	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %
10900	AAD	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10901	AAD	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10902	AAD	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10903	AAD	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10904	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10905	AAD	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10906	AAD	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10907	AAD	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	± 9.6 %
10908	AAD	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10909	AAD	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	± 9.6 %
10910	AAD	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10911	AAD	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10912	AAD	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10913	AAD	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10914	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	± 9.6 %
10915	AAD	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10916	AAD	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10917	AAD	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10918	AAD	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10919	AAD	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10920	AAD	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10921	AAD	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10922	AAD	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	± 9.6 %
10923	AAD	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10924	AAD	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10925	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	± 9.6 %
10926	AAD	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10927	AAD	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10928	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10929	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10930	AAD	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10931	AAD	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10932	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10933	AAA	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10934	AAA	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10935	AAA	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10936	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10937	AAB	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	± 9.6 %
10938	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10939	AAB	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	± 9.6 %
10940	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	± 9.6 %
10941	AAB	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10942	AAB	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10943	AAB	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	± 9.6 %
10944	AAB	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	± 9.6 %
10945	AAB	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10947	AAB	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10948	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10949	AAB	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10950	AAB	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10951	AAB	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	± 9.6 %
10952	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	± 9.6 %
10953	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	± 9.6 %
10954	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	± 9.6 %
10955	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	± 9.6 %
10956	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	± 9.6 %
10957	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	± 9.6 %

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10958	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	± 9.6 %
10959	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	± 9.6 %
10960	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	± 9.6 %
10961	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	± 9.6 %
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	± 9.6 %
10963	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10964	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	± 9.6 %
10965	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	± 9.6 %
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10967	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	± 9.6 %
10968	AAB	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	± 9.6 %
10972	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	± 9.6 %
10973	AAB	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	± 9.6 %
10974	AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	± 9.6 %
10978	AAA	ULLA BDR	ULLA	1.16	± 9.6 %
10979	AAA	ULLA HDR4	ULLA	8.58	± 9.6 %
10980	AAA	ULLA HDR8	ULLA	10.32	± 9.6 %
10981	AAA	ULLA HDRp4	ULLA	3.19	± 9.6 %
10982	AAA	ULLA HDRp8	ULLA	3.43	± 9.6 %
10983	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.31	± 9.6 %
10984	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.42	± 9.6 %
10985	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.54	± 9.6 %
10986	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.50	± 9.6 %
10987	AAA	5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.53	± 9.6 %
10988	AAA	5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.38	± 9.6 %
10989	AAA	5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.33	± 9.6 %
10990	AAA	5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.52	± 9.6 %

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

ANNEX E: D750V3 Dipole Calibration Certificate

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Client TA(Shanghai) Certificate No: Z20-60299

CALIBRATION CERTIFICATE

Object	D750V3 - SN: 1045
Calibration Procedure(s)	FF-Z11-003-01 Calibration Procedures for dipole validation kits
Calibration date:	August 28, 2020

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	12-May-20 (CTTL, No.J20X02965)	May-21
Power sensor NRP6A	101369	12-May-20 (CTTL, No.J20X02965)	May-21
Reference Probe EX3DV4	SN 3617	30-Jan-20(SPEAG,No.EX3-3617_Jan20)	Jan-21
DAE4	SN 771	10-Feb-20(CTTL-SPEAG,No.Z20-60017)	Feb-21
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	25-Feb-20 (CTTL, No.J20X00516)	Feb-21
NetworkAnalyzer E5071C	MY46110673	10-Feb-20 (CTTL, No.J20X00515)	Feb-21

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: September 3, 2020

Certificate No: Z20-60299 Page 1 of 8

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.3 ± 6 %	0.87 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.07 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.37 W/kg ± 18.8 % (*k*=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.57 W/kg ± 18.7 % (*k*=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.4 ± 6 %	0.94 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.12 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.58 W/kg ± 18.8 % (*k*=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.41 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.70 W/kg ±18.7 % (*k*=2)**

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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.3Ω- 2.29jΩ
Return Loss	- 26.6dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.7Ω- 4.58jΩ
Return Loss	- 25.6dB

General Antenna Parameters and Design

Electrical Delay (one direction)	0.900 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG

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DASY5 Validation Report for Head TSL Date: 08.28.2020

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.873 S/m; ε_r = 41.28; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(10.07, 10.07, 10.07) @ 750 MHz; Calibrated: 2020-01-30
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2020-02-10
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

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

Reference Value = 54.97 V/m; Power Drift = -0.02 dB

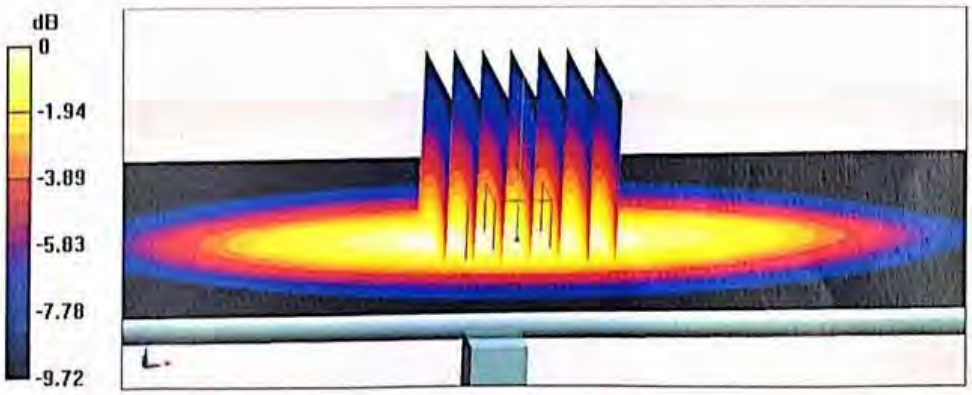
Peak SAR (extrapolated) = 3.00 W/kg

SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.38 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 68.7%

Maximum value of SAR (measured) = 2.71 W/kg



0 dB = 2.71 W/kg = 4.33 dBW/kg

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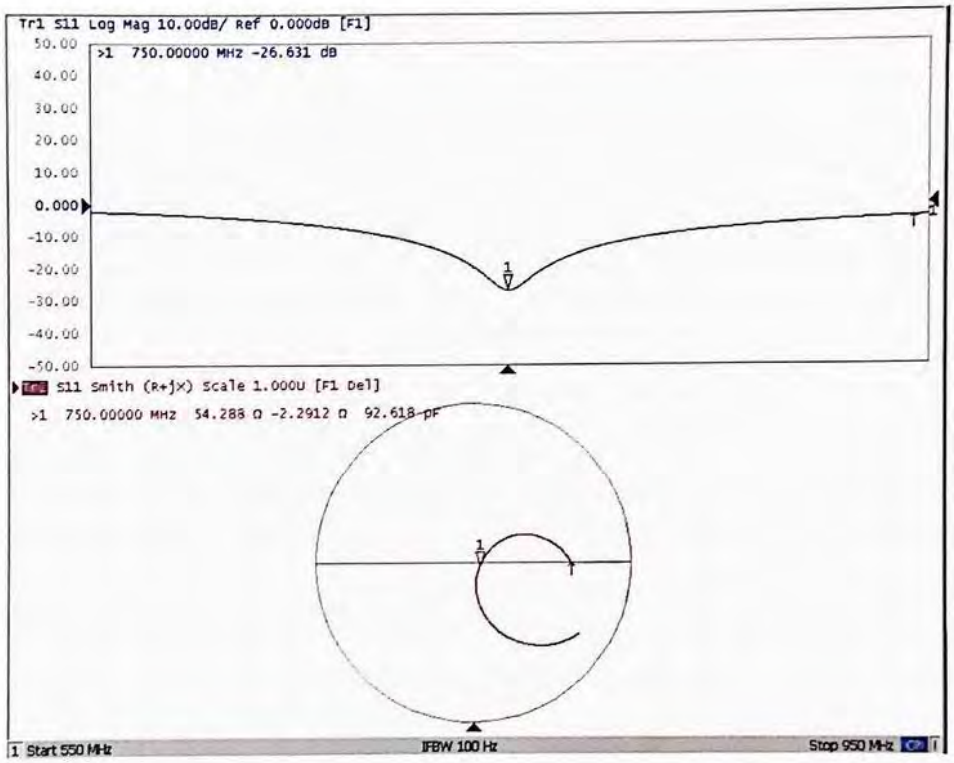
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL Date: 08.28.2020

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.94 S/m; ε_r = 54.36; ρ = 1000 kg/m^3

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(9.8, 9.8, 9.8) @ 750 MHz; Calibrated: 2020-01-30
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2020-02-10
- Phantom: MFP_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

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

Reference Value = 53.84 V/m; Power Drift = -0.02 dB

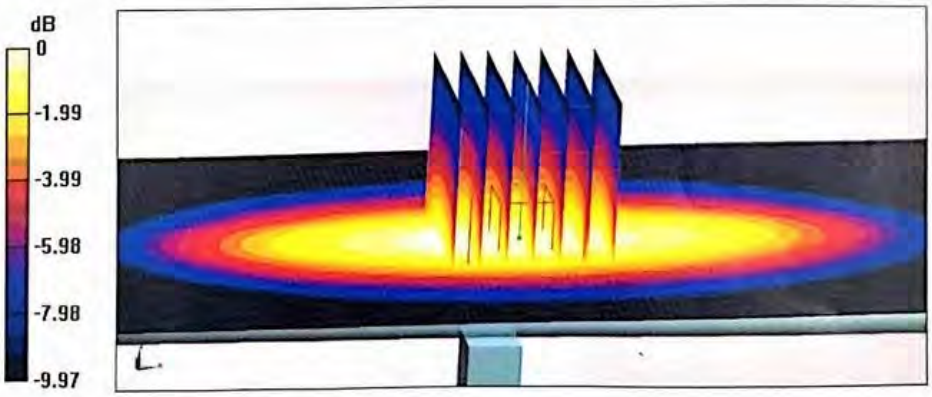
Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.41 W/kg

Smallest distance from peaks to all points 3 dB below = 18.4 mm

Ratio of SAR at M2 to SAR at M1 = 67.9%

Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

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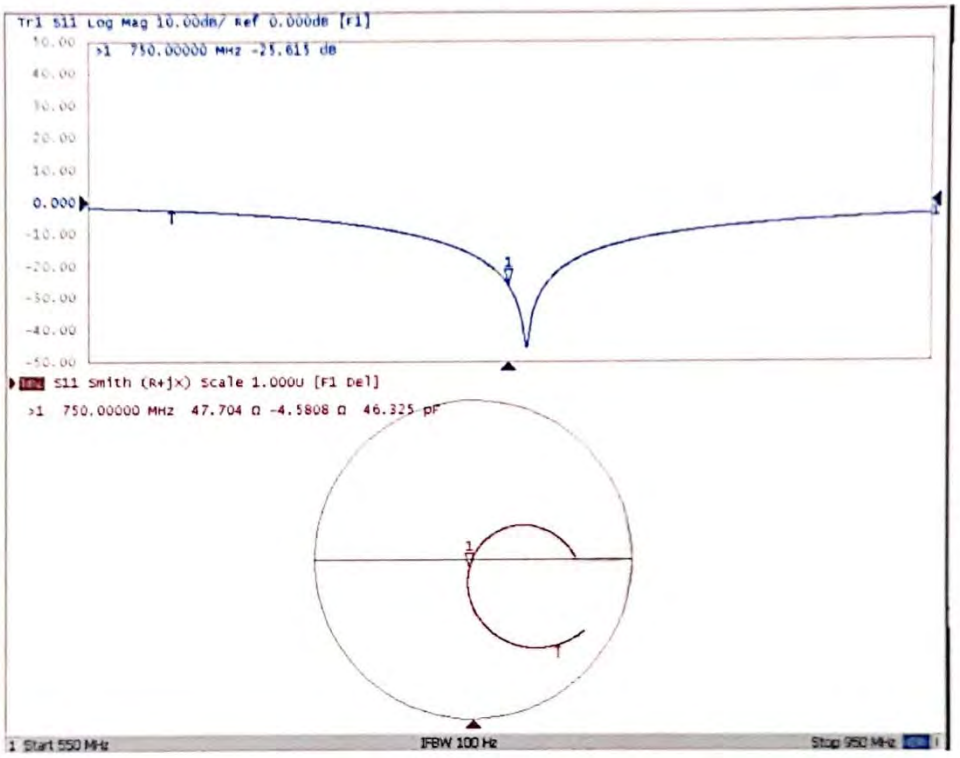
Impedance Measurement Plot for Body TSL



Certificate No: Z20-60299 Page 8 of 8

ANNEX F: D835V2 Dipole Calibration Certificate

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CNAS L0570

Client TA(Shanghai) Certificate No: Z20-60296

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d020
Calibration Procedure(s)	FF-Z11-003-01 Calibration Procedures for dipole validation kits
Calibration date:	August 28, 2020

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106276	12-May-20 (CTTL, No.J20X02965)	May-21
Power sensor NRP6A	101369	12-May-20 (CTTL, No.J20X02965)	May-21
Reference Probe EX3DV4	SN 3617	30-Jan-20(SPEAG,No.EX3-3617_Jan20)	Jan-21
DAE4	SN 771	10-Feb-20(CTTL-SPEAG,No.Z20-60017)	Feb-21
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	25-Feb-20 (CTTL, No.J20X00516)	Feb-21
NetworkAnalyzer E5071C	MY46110673	10-Feb-20 (CTTL, No.J20X00515)	Feb-21

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: September 3, 2020

Certificate No: Z20-60296 Page 1 of 8

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.2 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.65 W/kg ± 18.8 % (*k*=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.57 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.37 W/kg ± 18.7 % (*k*=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.0 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.42 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.76 W /kg ± 18.8 % (*k*=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.59 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.40 W/kg ± 18.7 % (*k*=2)**