

FCC SAR Test Report

Report No. : SA181024C21H
Applicant : HON HAI Precision Ind. Co., Ltd.
Address : 5F-1, 5 Hsin-An Road Hsinchu, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C
Product : LTE M.2 Module
FCC ID : MCLT77W968-D2
Brand : FOXCONN
Model No. : T77W968
Standards : FCC 47 CFR Part 2 (2.1093), IEEE C95.1:1992, IEEE Std 1528:2013
KDB 865664 D01 v01r04, KDB 865664 D02 v01r02, KDB 248227 D01 v02r02, KDB 447498 D01 v06, KDB 616217 D04 v01r02, KDB 941225 D01 v03r01, KDB 941225 D05 v02r05, KDB 941225 D05A v01r02
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CERTIFICATION: The above equipment have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch – Lin Kou Laboratories**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies.

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FCC Accredited No.: TW0003

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Release Control Record

Report No.	Reason for Change	Date Issued
SA181024C21H	Initial release	Mar. 22, 2019

1. Summary of Maximum SAR Value

Equipment Class	Mode	Highest SAR-1g Body (W/kg)
PCB	WCDMA II	0.82
	WCDMA IV	1.07
	WCDMA V	0.93
	LTE 2 & 25	1.14
	LTE 4 & 66	1.14
	LTE 5	0.88
	LTE 7	1.18
	LTE 12 & 17	1.14
	LTE 13	1.00
	LTE 14	0.92
	LTE 26	1.01
	LTE 30	0.99
	LTE 38 & 41	0.92

Highest Simultaneous Transmission SAR	Highest SAR-1g Body (W/kg)	
	9560NGW	QCNFA344A
	1.53	1.57

Note:

1. The SAR criteria (**Head & Body: SAR-1g 1.6 W/kg, and Extremity: SAR-10g 4.0 W/kg**) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992.
2. This device supports both LTE band 66 and band 4. The frequency span of LTE band 66 can completely cover LTE band 4, and they has the same tune-up power. SAR was tested for LTE band 66 only.
3. This device supports both LTE band 25 and band 2. The frequency span of LTE band 25 can completely cover LTE band 2, and they has the same tune-up power. SAR was tested for LTE band 25 only.
4. This device supports both LTE band 12 and band 17. The frequency span of LTE band 12 can completely cover LTE band 17, and they has the same tune-up power. SAR was tested for LTE band 12 only.
5. This device supports both LTE band 41 and band 38. The frequency span of LTE band 41 can completely cover LTE band 38, and they has the same tune-up power. SAR was tested for LTE band 41 only.
6. For SAR test result of WLAN / BT module QCNFA344A, please refer to BV CPS report no.: SA181024C21D.
7. For SAR test result of WLAN / BT module 9560NGW, please refer to Intel report no.: 190107-01.TR01 and 190107-01.TR02.

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2. Description of Equipment Under Test

EUT Type	LTE M.2 Module
FCC ID	MCLT77W968-D2
Brand Name	FOXCONN
Model Name	T77W968
EUT Configurations	EUT 1: Non-Security SKU EUT 2: Security SKU
Tx Frequency Bands (Unit: MHz)	WCDMA Band II : 1852.4 ~ 1907.6 WCDMA Band IV : 1712.4 ~ 1752.6 WCDMA Band V : 826.4 ~ 846.6 LTE Band 2 : 1850.7 ~ 1909.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 4 : 1710.7 ~ 1754.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 5 : 824.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 7 : 2502.5 ~ 2567.5 (BW: 5M, 10M, 15M, 20M) LTE Band 12 : 699.7 ~ 715.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 13 : 779.5 ~ 784.5 (BW: 5M, 10M) LTE Band 14 : 790.5 ~ 795.5 (BW: 5M, 10M) LTE Band 17 : 706.5 ~ 713.5 (BW: 5M, 10M) LTE Band 25 : 1850.7 ~ 1914.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 26 : 814.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M, 15M) LTE Band 30 : 2307.5 ~ 2312.5 (BW: 5M, 10M) LTE Band 38 : 2572.5 ~ 2617.5 (BW: 5M, 10M, 15M, 20M) LTE Band 41 : 2498.5 ~ 2687.5 (BW: 5M, 10M, 15M, 20M) LTE Band 66 : 1710.7 ~ 1779.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M)
Uplink Modulations	WCDMA : QPSK LTE : QPSK, 16QAM, 64QAM
Maximum Tune-up Conducted Power (Unit: dBm)	Please refer to section 4.6.1 of this report
Antenna Type	Refer to Note as below
EUT Stage	Mass product

Note:

- The EUT is authorized for use in specific End-product. Please refer to below for more details.

Product	Brand	Model
Portable Computer - Tablet	DELL	T04J

- The EUT contains two SKU which are listed as below.

SKU	Difference
Non-Security SKU	w/o NFC function
Security SKU	with NFC function

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3. The WLAN modules (Brand: Intel, Model: 9560NGW / Brand: Qualcomm Atheros, Model: QCNFA344A) were installed in the End-product. The specification is listed as below.

WLAN module	
Tx Frequency Bands (Unit: MHz)	WLAN : 2412 ~ 2472, 5180 ~ 5240, 5260 ~ 5320, 5500 ~ 5720, 5745 ~ 5825 Bluetooth : 2402 ~ 2480
Uplink Modulations	802.11b : DSSS 802.11a/g/n/ac : OFDM Bluetooth : GFSK, $\pi/4$ -DQPSK, 8-DPSK
Antenna Type	WLAN/BT: PIFA Antenna (Peak Antenna Gain : 2.18 dBi for 2.4GHz, 2.40 dBi for 5GHz)
IC	Contains FCC of 9560NGW: PD99560NG Contains FCC of QCNFA344A: PPD-QCNFA344AH

4. The antenna information is listed as below.

Antenna Type	Manuf.	Parts Number	Antenna Gain (dBi)													
			WCDMA II / LTE 2	WCDMA IV / LTE 4	WCDMA V / LTE 5	LTE 7	LTE 12	LTE 13	LTE 14	LTE 17	LTE 25	LTE 26	LTE 30	LTE 38	LTE 41	LTE 66
PIFA	Hong-Bo	Main Ant.: 260-24223 (DC33002680L) Aux. Ant.: 260-24224 (DC33002681L)	1.25	-3.32	-2.58	-6.15	0.61	-0.09	-0.69	0.43	1.25	-2.37	-3.35	-7.44	-4.86	-3.32

5. The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

List of Accessory:

Battery	Brand Name	Dell
	Model Name	1FKCC
	Power Rating	7.6V, 4750mAh, 38Wh
	Type	Li-ion

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

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

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

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

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

SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SPEAG DASY52 System

DASY52 system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY52 software defined. The DASY52 software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC.

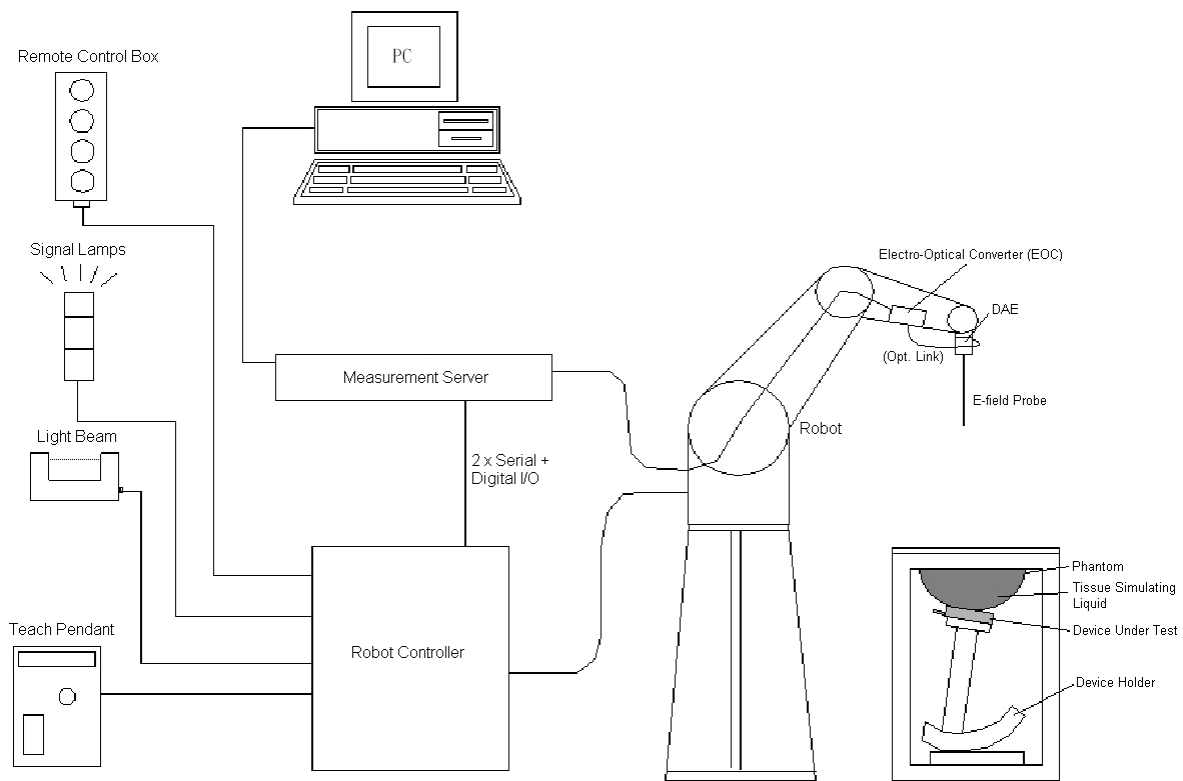


Fig-3.1 SPEAG DASY52 System Setup

3.2.1 Robot

The DASY52 systems use the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version of CS8c from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ± 0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)



Fig-3.2 SPEAG DASY52 System

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3.2.2 Probes

The SAR measurement is conducted with the dosimetric probe. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

Model	EX3DV4	
Construction	Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 μ W/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)	
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

Model	ES3DV3	
Construction	Symmetrical design with triangular core. Interleaved sensors. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).	
Frequency	10 MHz to 4 GHz Linearity: ± 0.2 dB	
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	5 μ W/g to 100 mW/g Linearity: ± 0.2 dB	
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm	

Model	ET3DV6	
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 2.3 GHz; Linearity: ± 0.2 dB	
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.4 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μ W/g to 100 mW/g; Linearity: ± 0.2 dB	
Dimensions	Overall length: 337 mm (Tip: 16 mm) Tip diameter: 6.8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.7 mm	

3.2.3 Data Acquisition Electronics (DAE)

Model	DAE3, DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)	
Input Offset Voltage	$< 5\mu$ V (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	

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3.2.4 Phantoms

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	

Model	ELI	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	

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3.2.5 Device Holder

Model	Mounting Device	
Construction	In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).	
Material	POM	

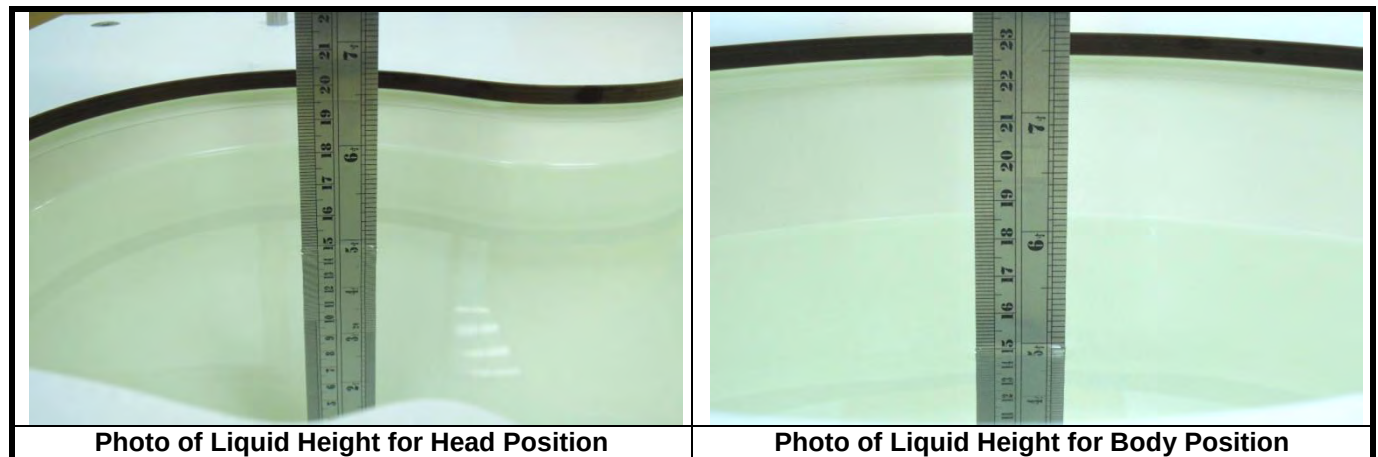
Model	Laptop Extensions Kit	
Construction	Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner.	
Material	POM, Acrylic glass, Foam	

3.2.6 System Validation Dipoles

Model	D-Serial	
Construction	Symmetrical dipole with 1/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.	
Frequency	750 MHz to 5800 MHz	
Return Loss	> 20 dB	
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)	

3.2.7 Tissue Simulating Liquids

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-3.1.



The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528, and KDB 865664 D01 Appendix A. For the body tissue simulating liquids, the dielectric properties are defined in KDB 865664 D01 Appendix A. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

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Table-3.1 Targets of Tissue Simulating Liquid

Frequency (MHz)	Target Permittivity	Range of $\pm 5\%$	Target Conductivity	Range of $\pm 5\%$
For Head				
750	41.9	39.8 ~ 44.0	0.89	0.85 ~ 0.93
835	41.5	39.4 ~ 43.6	0.90	0.86 ~ 0.95
900	41.5	39.4 ~ 43.6	0.97	0.92 ~ 1.02
1450	40.5	38.5 ~ 42.5	1.20	1.14 ~ 1.26
1640	40.3	38.3 ~ 42.3	1.29	1.23 ~ 1.35
1750	40.1	38.1 ~ 42.1	1.37	1.30 ~ 1.44
1800	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
1900	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2000	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2300	39.5	37.5 ~ 41.5	1.67	1.59 ~ 1.75
2450	39.2	37.2 ~ 41.2	1.80	1.71 ~ 1.89
2600	39.0	37.1 ~ 41.0	1.96	1.86 ~ 2.06
3500	37.9	36.0 ~ 39.8	2.91	2.76 ~ 3.06
5200	36.0	34.2 ~ 37.8	4.66	4.43 ~ 4.89
5300	35.9	34.1 ~ 37.7	4.76	4.52 ~ 5.00
5500	35.6	33.8 ~ 37.4	4.96	4.71 ~ 5.21
5600	35.5	33.7 ~ 37.3	5.07	4.82 ~ 5.32
5800	35.3	33.5 ~ 37.1	5.27	5.01 ~ 5.53
For Body				
750	55.5	52.7 ~ 58.3	0.96	0.91 ~ 1.01
835	55.2	52.4 ~ 58.0	0.97	0.92 ~ 1.02
900	55.0	52.3 ~ 57.8	1.05	1.00 ~ 1.10
1450	54.0	51.3 ~ 56.7	1.30	1.24 ~ 1.37
1640	53.8	51.1 ~ 56.5	1.40	1.33 ~ 1.47
1750	53.4	50.7 ~ 56.1	1.49	1.42 ~ 1.56
1800	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
1900	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2000	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2300	52.9	50.3 ~ 55.5	1.81	1.72 ~ 1.90
2450	52.7	50.1 ~ 55.3	1.95	1.85 ~ 2.05
2600	52.5	49.9 ~ 55.1	2.16	2.05 ~ 2.27
3500	51.3	48.7 ~ 53.9	3.31	3.14 ~ 3.48
5200	49.0	46.6 ~ 51.5	5.30	5.04 ~ 5.57
5300	48.9	46.5 ~ 51.3	5.42	5.15 ~ 5.69
5500	48.6	46.2 ~ 51.0	5.65	5.37 ~ 5.93
5600	48.5	46.1 ~ 50.9	5.77	5.48 ~ 6.06
5800	48.2	45.8 ~ 50.6	6.00	5.70 ~ 6.30

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The following table gives the recipes for tissue simulating liquids.

Table-3.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
H750	0.2	-	0.2	1.5	56.0	-	42.1	-
H835	0.2	-	0.2	1.5	57.0	-	41.1	-
H900	0.2	-	0.2	1.4	58.0	-	40.2	-
H1450	-	43.3	-	0.6	-	-	56.1	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	47.0	-	0.4	-	-	52.6	-
H1800	-	44.5	-	0.3	-	-	55.2	-
H1900	-	44.5	-	0.2	-	-	55.3	-
H2000	-	44.5	-	0.1	-	-	55.4	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-	-	-	-	-	17.2	65.5	17.3
B750	0.2	-	0.2	0.8	48.8	-	50.0	-
B835	0.2	-	0.2	0.9	48.5	-	50.2	-
B900	0.2	-	0.2	0.9	48.2	-	50.5	-
B1450	-	34.0	-	0.3	-	-	65.7	-
B1640	-	32.5	-	0.3	-	-	67.2	-
B1750	-	31.0	-	0.2	-	-	68.8	-
B1800	-	29.5	-	0.4	-	-	70.1	-
B1900	-	29.5	-	0.3	-	-	70.2	-
B2000	-	30.0	-	0.2	-	-	69.8	-
B2300	-	31.0	-	0.1	-	-	68.9	-
B2450	-	31.4	-	0.1	-	-	68.5	-
B2600	-	31.8	-	0.1	-	-	68.1	-
B3500	-	28.8	-	0.1	-	-	71.1	-
B5G	-	-	-	-	-	10.7	78.6	10.7

3.3 SAR System Verification

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.

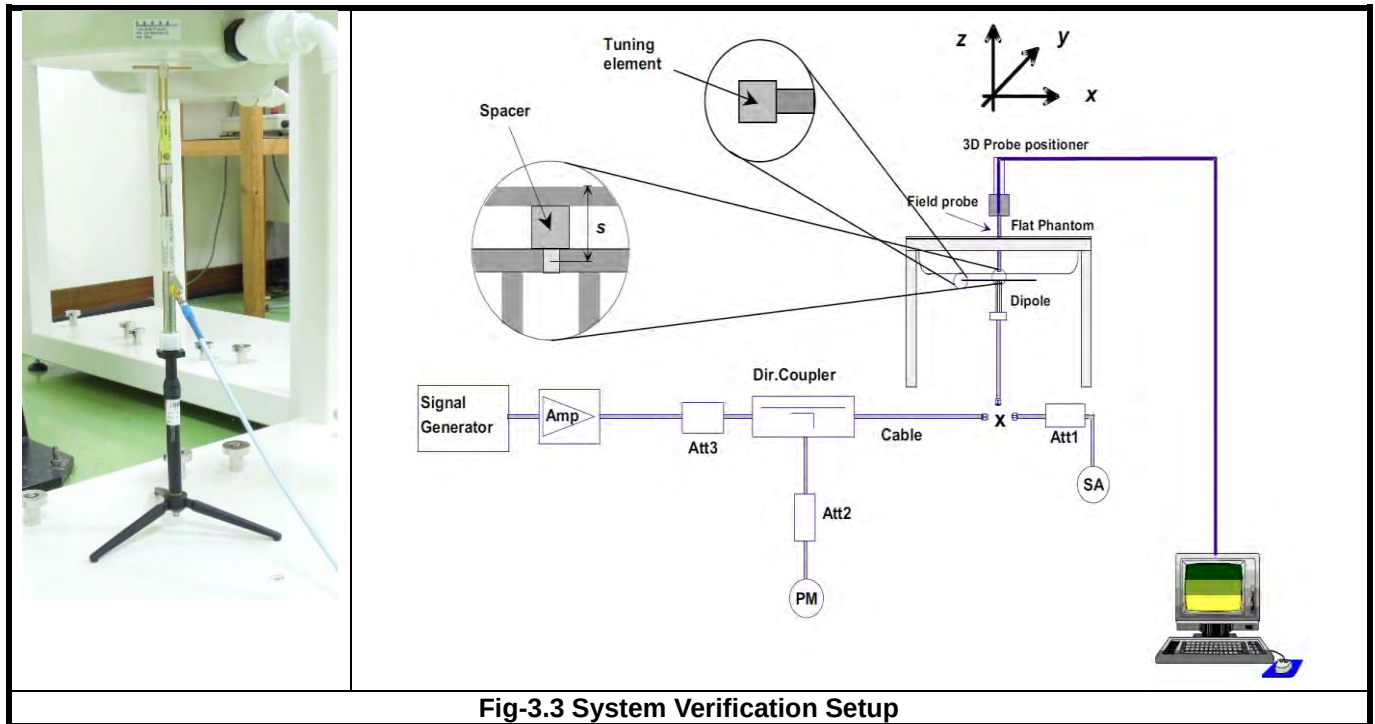


Fig-3.3 System Verification Setup

The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The spectrum analyzer measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

3.4 SAR Measurement Procedure

According to the SAR test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- Power reference measurement
- Area scan
- Zoom scan
- Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

- Make EUT to transmit maximum output power
- Measure conducted output power through RF cable
- Place the EUT in the specific position of phantom
- Perform SAR testing steps on the DASY system
- Record the SAR value

3.4.1 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. According to KDB 865664 D01, the resolution for Area and Zoom scan is specified in the table below.

Items	<= 2 GHz	2-3 GHz	3-4 GHz	4-5 GHz	5-6 GHz
Area Scan ($\Delta x, \Delta y$)	<= 15 mm	<= 12 mm	<= 12 mm	<= 10 mm	<= 10 mm
Zoom Scan ($\Delta x, \Delta y$)	<= 8 mm	<= 5 mm	<= 5 mm	<= 4 mm	<= 4 mm
Zoom Scan (Δz)	<= 5 mm	<= 5 mm	<= 4 mm	<= 3 mm	<= 2 mm
Zoom Scan Volume	>= 30 mm	>= 30 mm	>= 28 mm	>= 25 mm	>= 22 mm

Note:

When zoom scan is required and report SAR is <= 1.4 W/kg, the zoom scan resolution of $\Delta x / \Delta y$ (2-3GHz: <= 8 mm, 3-4GHz: <= 7 mm, 4-6GHz: <= 5 mm) may be applied.

3.4.2 Volume Scan Procedure

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.

3.4.3 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 drift more than 5%, the SAR will be retested.

3.4.4 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

3.4.5 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

4. SAR Measurement Evaluation

4.1 EUT Configuration and Setting

<Considerations Related to Proximity Sensor>

The device supports WWAN, WLAN, and Bluetooth capabilities. It is designed with a proximity sensor which can trigger/not trigger power reduction for WCDMA and LTE on Rear Face and Top Side of EUT for SAR compliance. Others RF capability (WLAN and Bluetooth) have no power reduction. The power levels for all wireless technologies and the power reduction please refer to section 4.6 of this report.

Proximity Sensor Triggering Distances (KDB 616217 D04 §6.2)

The proximity sensor triggering distance was determined per KDB 616217 for rear face and applicable edge. Summary for power verification per distance was tabulated in the below table.

Output Power Verification in dBm for EUT Rear Face											
Distance (mm)	12	13	14	15	16	17	18	19	20	21	22
WCDMA II	17.4	17.5	17.5	17.5	17.2	17.5	23.8	23.9	23.6	23.8	23.5
WCDMA IV	17.7	17.6	17.7	17.8	17.6	17.8	23.9	23.7	24.1	24.0	23.8
WCDMA V	17.5	17.1	17.1	17.4	17.2	17.0	23.8	23.8	23.6	23.8	23.9
LTE 2	17.1	17.1	17.1	17.2	17.0	17.2	23.4	23.7	23.6	23.6	23.2
LTE 4	17.7	17.5	17.9	18.0	17.5	17.8	23.7	23.8	23.6	23.5	23.9
LTE 5	17.1	17.4	17.1	17.4	16.9	17.2	23.6	23.1	23.6	23.2	23.4
LTE 7	17.0	16.9	16.5	16.5	17.0	16.8	23.8	23.5	23.4	23.8	23.8
LTE 12	20.0	20.1	20.0	19.9	20.3	20.3	23.3	23.5	23.4	23.5	23.3
LTE 13	18.0	17.8	18.0	18.0	17.9	17.5	23.3	23.3	23.6	23.3	23.5
LTE 14	17.6	17.6	17.7	18.0	17.9	17.9	23.6	23.4	23.6	23.5	23.5
LTE 17	19.0	19.3	19.4	19.5	19.4	19.1	23.7	23.5	23.5	23.5	23.5
LTE 25	17.6	18.0	17.8	17.8	18.0	18.0	23.1	23.2	23.4	23.3	23.3
LTE 26	17.7	17.8	17.8	17.8	17.9	17.7	23.0	23.2	23.5	23.0	23.0
LTE 30	16.8	16.8	16.8	16.8	16.7	16.9	22.1	22.1	21.8	21.8	21.7
LTE 66	18.0	18.0	17.8	17.5	17.6	17.7	23.4	23.8	23.6	23.7	23.9
LTE 38	17.5	17.2	17.4	17.3	17.5	17.5	23.3	23.4	23.3	23.4	23.8
LTE 41	17.9	17.6	17.8	17.8	18.0	17.7	23.5	24.0	23.7	23.9	24.0

Output Power Verification in dBm for EUT Top Edge											
Distance (mm)	13	14	15	16	17	18	19	20	21	22	23
WCDMA II	17.3	17.1	17.2	17.0	17.4	17.2	24.0	23.5	23.6	23.6	23.6
WCDMA IV	18.0	17.6	17.8	17.8	17.5	18.0	24.1	24.1	23.8	23.8	23.6
WCDMA V	17.4	17.3	17.2	17.5	17.3	17.5	23.9	23.9	24.0	24.0	23.8
LTE 2	17.3	17.2	17.3	17.3	17.3	17.0	23.7	23.3	23.7	23.6	23.5
LTE 4	18.0	17.7	17.5	17.6	18.0	17.8	23.4	23.8	23.6	23.4	23.4
LTE 5	17.2	17.4	17.2	17.1	17.0	17.2	23.4	23.5	23.5	23.3	23.3
LTE 7	16.9	16.7	16.6	16.8	16.5	17.0	23.5	23.5	23.5	23.5	23.7
LTE 12	20.1	20.1	20.0	20.1	20.3	20.4	23.7	23.4	23.7	23.5	23.4
LTE 13	18.0	17.7	17.6	17.5	18.0	17.6	23.6	23.3	23.3	23.6	23.5
LTE 14	17.5	17.6	17.5	17.9	17.6	17.8	23.6	23.6	23.4	23.5	23.4
LTE 17	19.0	19.4	19.1	19.4	19.2	19.3	24.0	23.9	23.7	24.0	23.6
LTE 25	17.7	17.7	17.7	17.6	17.6	17.7	23.3	23.5	23.1	23.1	23.1
LTE 26	17.8	17.5	17.5	17.6	18.0	17.8	23.0	23.3	23.0	23.5	23.3
LTE 30	16.8	16.9	16.5	17.0	16.8	16.6	22.1	22.0	21.8	22.0	21.7
LTE 66	17.8	17.9	17.6	17.9	17.9	17.8	23.8	23.8	23.9	23.9	23.8
LTE 38	17.4	17.4	17.2	17.3	17.3	17.3	23.6	23.3	23.4	23.4	23.7
LTE 41	17.5	17.8	17.9	17.8	17.6	18.0	23.6	23.8	23.5	23.7	23.8

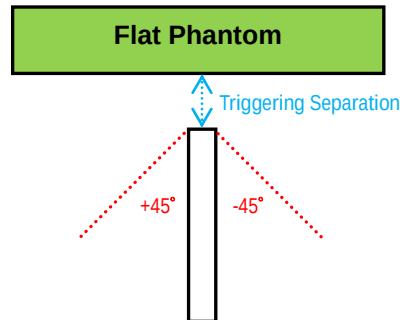
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Proximity Sensor Coverage (KDB 616217 D04 §6.3)

Since the proximity sensor is collocated with antenna in one component, the procedure for proximity sensor coverage is not required.

Proximity Sensor Tilt Angle Influences (KDB 616217 D04 §6.4)

The proximity sensor tilt angle influence was determined per KDB 616217 for applicable edge. Summary for proximity sensor tilt angle influence is shown in below.



Orientation	Separation Distance (mm)	Tilt Angle										
		-45°	-40°	-30°	-20°	-10°	0°	10°	20°	30°	40°	45°
Top Edge	17	On	On	On	On	On	On	On	On	On	On	On

Summary for Proximity Sensor Triggering Test

According to the procedures noticed in KDB 616217 D04, the proximity sensor triggering distance is 17 mm for EUT Rear Face and Top Side. The separation distance of 17 mm determined by the smallest triggering distance on Bottom Side is used to access the tilt angle influence and the sensor does not release during ± 45 degree. Therefore, the smallest separation distance for tilt angle influence is 17 mm for the Top Side. The conservation triggering distances based on the separation distance for the sensor trigger / not triggered as EUT with power reduction at 0 mm, and EUT without power reduction at 16 mm for EUT Rear Face and Top Side were used to test SAR.

The power reduction is depends on the proximity sensor input. For a steady SAR test, the power reduction was enabled or disabled manually by engineering software during SAR testing.

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<Connections between EUT and System Simulator>

For WWAN SAR testing, the EUT was linked and controlled by base station emulator. Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

<Considerations Related to WCDMA for Setup and Testing>

Release 5 HSDPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH / 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 and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (β_c , β_d), and HS-DPCCH power offset parameters (Δ_{ACK} , Δ_{NACK} , Δ_{CQI}) are set according to values indicated in below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	β_c	β_d	β_d (SF)	β_d/β_c	$\beta_{HS}^{(1)(2)}$	CM ⁽³⁾ (dB)	MPR ⁽³⁾ (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	12/15 ⁽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 $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_d/\beta_c = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_d/β_c ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the 20 signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

Release 6 HSPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode. Otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing. 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 below.

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Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	$\beta_{HS}^{(1)}$	β_{ec}	$\beta_{ed}^{(4)(5)}$	β_{ed} (SF)	β_{ed} (Codes)	CM ⁽²⁾ (dB)	MPR ⁽²⁾⁽⁶⁾ (dB)	AG ⁽⁵⁾ Index	E-TFCI
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	22/15	209/225	1309/225	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 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	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{HS} = 5/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. 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 21 signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

HSPA+ SAR Guidance

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

Sub-test	$\beta_c^{(3)}$	β_d	$\beta_{HS}^{(1)}$	β_{ec}	$\beta_{ed}^{(4)}$ (2xSF2)	$\beta_{ed}^{(4)}$ (2xSF4)	CM ⁽²⁾ (dB)	MPR ⁽²⁾ (dB)	AG ⁽⁴⁾ Index	E-TFCI ⁽⁵⁾	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is 21 signaled to use the extrapolation algorithm.

DC-HSDPA SAR Guidance

The 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Otherwise, when SAR is required for Rel. 5 HSDPA, SAR is required for Rel. 8 DC-HSDPA. 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.

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<Considerations Related to LTE for Setup and Testing>

This device contains LTE transmitter which follows 3GPP standards, is category 3, supports both QPSK and 16QAM modulations, and supported LTE band and channel bandwidth is listed in below. The output power was tested per 3GPP TS 36.521-1 maximum transmit procedures for both QPSK and 16QAM modulation. The results please refer to section 4.6 of this report.

EUT Supported LTE Band and Channel Bandwidth						
LTE Band	BW 1.4 MHz	BW 3 MHz	BW 5 MHz	BW 10 MHz	BW 15 MHz	BW 20 MHz
2	V	V	V	V	V	V
4	V	V	V	V	V	V
5	V	V	V	V		
7			V	V	V	V
12	V	V	V	V		
13			V	V		
14			V	V		
17			V	V		
25	V	V	V	V	V	V
26	V	V	V	V	V	
30			V	V		
38			V	V	V	V
41			V	V	V	V
66	V	V	V	V	V	V

The LTE maximum power reduction (MPR) in accordance with 3GPP TS 36.101 is active all times during LTE operation. The allowed MPR for the maximum output power is specified in below.

Modulation	Channel Bandwidth / RB Configurations						LTE MPR Setting (dB)
	BW 1.4 MHz	BW 3 MHz	BW 5 MHz	BW 10 MHz	BW 15 MHz	BW 20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	<= 5	<= 4	<= 8	<= 12	<= 16	<= 18	1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64QAM	<= 5	<= 4	<= 8	<= 12	<= 16	<= 18	2
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	3

Note: MPR is according to the standard and implemented in the circuit (mandatory).

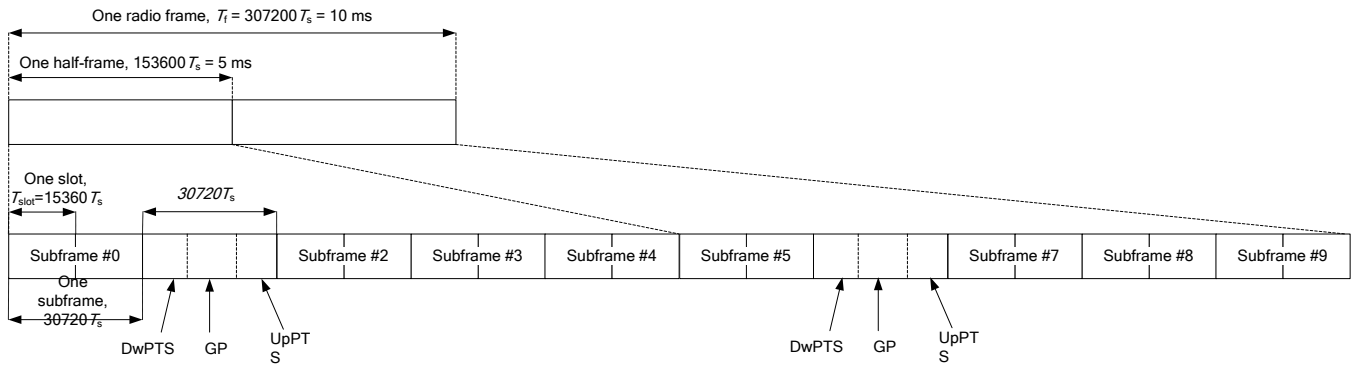
In addition, the device is compliant with additional maximum power reduction (A-MPR) requirements defined in 3GPP TS 36.101 section 6.2.4 that was disabled for all FCC compliance testing.

During LTE SAR testing, the related parameters of operating band, channel bandwidth, uplink channel number, modulation type, and RB was set in base station simulator. When the EUT has registered and communicated to base station simulator, the simulator set to make EUT transmitting the maximum radiated power.

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TDD-LTE Setup Configurations

According to KDB 941225 D05, SAR testing for TDD-LTE device 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 TDD-LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be referred to below.



3GPP TS 36.211 Figure 4.2-1: Frame Structure Type 2

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 • Ts	2192 • Ts	2560 • Ts	7680 • Ts	2192 • Ts	2560 • Ts
1	19760 • Ts			20480 • Ts		
2	21952 • Ts			23040 • Ts		
3	24144 • Ts			25600 • Ts		
4	26336 • Ts			7680 • Ts		
5	6592 • Ts	4384 • Ts	5120 • Ts	20480 • Ts	4384 • Ts	5120 • Ts
6	19760 • Ts			23040 • Ts		
7	21952 • Ts			12800 • Ts		
8	24144 • Ts			-	-	-
9	13168 • Ts			-	-	-

3GPP TS 36.211 Table 4.2-1: Configuration of Special Subframe

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

3GPP TS 36.211 Table 4.2-2: Uplink-Downlink Configurations

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The variety of different TD-LTE uplink-downlink configurations allows a network operator to allocate the network's capacity between uplink and downlink traffic to meet the needs of the network. The uplink duty cycle of these seven configurations can readily be computed and shown in below.

UL-DL Configuration	0	1	2	3	4	5	6
Highest Duty-Cycle	63.33%	43.33%	23.33%	31.67%	21.67%	11.67%	53.33%

LTE Downlink Carrier Aggregation (CA) Setup Configurations

LTE Carrier Aggregation (CA) was defined in 3GPP release 10 and higher. The LTE device in CA mode has one Primary Component Carrier (PCC) and one or more Secondary Component Carriers (SCC). PCC acts as the anchor carrier and can optionally cross-schedule data transmission on SCC. The RRC connection is only handled by one cell, the PCC for downlink and uplink communications. After making a data connection to the PCC, the LTE device adds the SCC on the downlink only. All uplink communications and acknowledgements remain identical to release 8 specifications on the PCC. The combinations of downlink carrier aggregation supported by this device are listed in below.

LTE CA Configurations and Bandwidth Combination Sets defined for Intra-Band Contiguous CA

Downlink CA Configuration	Component carriers in order of increasing carrier frequency			Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
	Channel bandwidths for carrier-1 (MHz)	Channel bandwidths for carrier-2 (MHz)	Channel bandwidths for carrier-3 (MHz)		
CA_5B	5, 10	10		20	0
	10	5			
	3	5		8	1
	5	3			
CA_41C	10	20		40	0
	15	15, 20			
	20	10, 15, 20			
	5, 10	20		40	1
	15	15, 20			
	20	5, 10, 15, 20			
	10	15, 20		40	2
	15	10, 15, 20			
	20	10, 15, 20			
	10	20		40	3
CA_66B	5	5, 10, 15		20	0
	10	5, 10			
	15	5			
CA_66C	5	20		40	0
	10	15, 20			
	15	10, 15, 20			
	20	5, 10, 15, 20			

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Downlink CA Configuration	Component carriers in order of increasing carrier frequency			Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
	Channel bandwidths for carrier-1 (MHz)	Channel bandwidths for carrier-2 (MHz)	Channel bandwidths for carrier-3 (MHz)		
CA_66D	5	20		60	0
	20	5			
	20	20			
	10	20			
	15	20			
	10, 15, 20	15, 20			
	15, 20	10			
	15	15, 20			
	20	15, 20			
	20	10			

LTE CA Configurations and Bandwidth Combination Sets defined for Intra-Band Non-Contiguous CA

Downlink CA Configuration	Component Carriers in order of Increasing Carrier Frequency			Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
	Channel Bandwidths for Carrier-1 (MHz)	Channel Bandwidths for Carrier-2 (MHz)	Channel Bandwidths for Carrier-3 (MHz)		
CA_2A-2A	5, 10, 15, 20	5, 10, 15, 20		40	0
CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20		40	0
	5, 10	5, 10		20	1
CA_25A-25A	5, 10	5, 10		20	0
	5, 10, 15, 20	5, 10, 15, 20		40	1
CA_66A-66A	5, 10, 15, 20	5, 10, 15, 20		40	0
CA_66A-66B	5, 10, 15, 20	Refer to CA_66B (BCS0)		40	0
	Refer to CA_66B (BCS0)		5, 10, 15, 20		
CA_66A-66C	5, 10, 15, 20	Refer to CA_66C (BCS0)		60	0
	Refer to CA_66C (BCS0)		5, 10, 15, 20		

LTE CA Configurations and Bandwidth Combination Sets defined for Inter-Band CA (Two Bands)

Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-4A	2	1.4, 3, 5, 10, 15, 20	40	0
	4	5, 10, 15, 20		
	2	5, 10	20	1
	4	5, 10		
	2	5, 10, 15, 20	40	2
	4	5, 10, 15, 20		
CA_2A-2A-4A	2	Refer to CA_2A-2A (BCS0)	60	0
	4	5, 10, 15, 20		
CA_2A-4A-4A	2	5, 10, 15, 20	60	0
	4	Refer to CA_4A-4A (BCS0)		
CA_2A-5A	2	5, 10, 15, 20	30	0
	5	5, 10		
	2	5, 10	20	1
	5	5, 10		
CA_2A-2A-5A	2	Refer to CA_2A-2A (BCS0)	50	0
	5	5, 10		
CA_2A-5B	2	5, 10, 15, 20	40	0
	5	Refer to CA_5B (BCS0)		

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Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-12A	2	5, 10, 15, 20	30	0
	12	5, 10		
	2	5, 10, 15, 20		
	12	3, 5, 10	30	1
	2	5, 10	20	2
	12	5, 10		
CA_2A-13A	2	5, 10, 15, 20	30	0
	13	10	20	1
	2	5, 10		
	13	10		
CA_2A-2A-13A	2	Refer to CA_2A-2A (BCS0)	50	0
	13	10		
CA_2A-14A	2	5, 10, 15, 20	30	0
	14	5, 10		
CA_2A-29A	2	5, 10	20	0
	29	3, 5, 10	20	1
	2	5, 10		
	29	5, 10		
	2	5, 10, 15, 20	30	2
	29	5, 10		
CA_2A-30A	2	5, 10, 15, 20	30	0
	30	5, 10		
CA_2A-2A-30A	2	Refer to CA_2A-2A (BCS0)	50	0
	30	5, 10		
CA_2A-46A	2	5, 10, 15, 20	40	0
	46	20		
CA_2A-46D	2	5, 10, 15, 20	80	0
	46	Refer to CA_46D (BCS0)		
CA_2A-66A	2	1.4, 3, 5, 10, 15, 20	40	0
	66	5, 10, 15, 20	20	1
	2	5, 10		
	66	5, 10		
	2	5, 10, 15, 20	40	2
	66	5, 10, 15, 20		
CA_2A-66B	2	5, 10, 15, 20	40	0
	66	Refer to CA_66B (BCS0)		
CA_2A-66C	2	5, 10, 15, 20	60	0
	66	Refer to CA_66C (BCS0)		
CA_2A-2A-66A	2	Refer to CA_2A-2A (BCS0)	60	0
	66	5, 10, 15, 20		
CA_2A-2A-66A-66A	2	Refer to CA_2A-2A (BCS0)	80	0
	66	Refer to CA_66A-66A (BCS0)		
CA_2A-66A-66A	2	5, 10, 15, 20	60	0
	66	Refer to CA_66A-66A (BCS0)		
CA_2A-2A-66B	2	Refer to CA_2A-2A (BCS0)	60	0
	66	Refer to CA_66B (BCS0)		
CA_2A-2A-66C	2	Refer to CA_2A-2A (BCS0)	80	0
	66	Refer to CA_66C (BCS0)		

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Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_4A-5A	4	5, 10	20	0
	5	5, 10		
	4	5, 10, 15, 20	30	1
	5	5, 10		
CA_4A-4A-5A	4	Refer to CA_4A-4A (BCS0)	50	0
	5	5, 10		
CA_4A-13A	4	5, 10, 15, 20	30	0
	13	10		
	4	5, 10	20	1
	13	10		
CA_4A-46A	4	5, 10, 15, 20	40	0
	46	20		
CA_5A-30A	5	5, 10	20	0
	30	5, 10		
CA_5B-30A	5	Refer to CA_5B (BCS0)	30	0
	30	5, 10		
CA_5A-66A	5	5, 10	30	0
	66	5, 10, 15, 20		
CA_5A-66A-66A	5	5, 10	50	0
	66	Refer to CA_66A-66A (BCS0)		
CA_5A-66B	5	5, 10	30	0
	66	Refer to CA_66B (BCS0)		
CA_5A-66C	5	5, 10	50	0
	66	Refer to CA_66C (BCS0)		
CA_5B-66A	5	Refer to CA_5B (BCS0)	40	0
	66	5, 10, 15, 20		
CA_5B-66A-66A	5	Refer to CA_5B (BCS0)	60	0
	66	Refer to CA_66A-66A (BCS0)		
CA_5B-66C	5	Refer to CA_5B (BCS0)	60	0
	66	Refer to CA_66C (BCS0)		
CA_12A-30A	12	5, 10	20	0
	30	5, 10		
CA_12A-66A	12	5, 10	20	0
	66	1.4, 3, 5, 10		
	12	5, 10	30	1
	66	1.4, 3, 5, 10, 15, 20		
	12	3, 5, 10	30	2
	66	5, 10, 15, 20		
	12	5, 10	20	3
	66	5, 10		
	12	5, 10	30	4
	66	5, 10, 15, 20		
CA_12A-66A-66A	12	5	20	5
	66	5, 10, 15		
	12	5, 10	50	0
	66	Refer to CA_66A-66A (BCS0)		

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Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_13A-46A	13	5, 10	30	0
	46	20		
CA_13A-66A	13	5, 10	30	0
	66	5, 10, 15, 20		
CA_13A-66A-66A	13	5, 10	50	0
	66	Refer to CA_66A-66A (BCS0)		
CA_13A-66B	13	5, 10	30	0
	66	Refer to CA_66B (BCS0)		
CA_13A-66C	13	5, 10	50	0
	66	Refer to CA_66C (BCS0)		
CA_14A-66A	14	5, 10	30	0
	66	5,10,15,20		
CA_14A-66A-66A	14	5, 10	50	0
	66	Refer to CA_66A-66A (BCS0)		
CA_14A-30A	14	5, 10	20	0
	30	5,10		
CA_25A-26A	25	3, 5, 10, 15, 20	35	0
	26	1.4, 3, 5, 10, 15		
	25	3, 5, 10	20	1
	26	3, 5, 10		
	25	5, 10	20	2
	26	5, 10		
CA_29A-30A	29	5, 10	20	0
	30	5, 10		
CA_29A-66A	29	5, 10	30	0
	66	5, 10, 15, 20		
CA_30A-66A	30	5, 10	30	0
	66	5, 10, 15, 20		
CA_30A-66A-66A	30	5, 10	50	0
	66	Refer to CA_66A-66A (BCS0)		
CA_46A-66A	46	20	40	0
	66	5, 10, 15, 20		

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LTE CA Configurations and Bandwidth Combination Sets defined for Inter-Band CA (Three Bands)

Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-4A-5A	2	5, 10, 15, 20	50	0
	4	5, 10, 15, 20		
	5	5, 10		
CA_2A-4A-13A	2	5, 10, 15, 20	50	0
	4	5, 10, 15, 20		
	13	10		
CA_2A-2A-5A-66A	2	Refer to CA_2A-2A (BCS0)	70	0
	5	5, 10		
	66	5, 10, 15, 20		
CA_2A-2A-5A-66B	2	Refer to CA_2A-2A (BCS0)	70	0
	5	5, 10		
	66	Refer to CA_66B (BCS0)		
CA_2A-2A-5A-66C	2	Refer to CA_2A-2A (BCS0)	90	0
	5	5, 10		
	66	Refer to CA_66C (BCS0)		
CA_2A-2A-13A-66A	2	Refer to CA_2A-2A (BCS0)	70	0
	13	5, 10		
	66	5, 10, 15, 20		
CA_2A-5A-30A	2	5, 10, 15, 20	40	0
	5	5, 10		
	30	5, 10		
CA_2A-2A-5A-30A	2	Refer to CA_2A-2A (BCS0)	60	0
	5	5, 10		
	30	5, 10		
CA_2A-5B-30A	2	5, 10, 15, 20	50	0
	5	Refer to CA_5B (BCS0)		
	30	5, 10		
CA_2A-5A-66A	2	5, 10, 15, 20	50	0
	5	5, 10		
	66	5, 10, 15, 20		

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Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-5A-66A-66A	2	5, 10, 15, 20	70	0
	5	5, 10		
	66	Refer to CA_66A-66A (BCS0)		
CA_2A-5B-66A-66A	2	5, 10, 15, 20	80	0
	5	Refer to CA_5B (BCS0)		
	66	Refer to CA_66A-66A (BCS0)		
CA_2A-5A-66B	2	5, 10, 15, 20	50	0
	5	5, 10		
	66	Refer to CA_66B (BCS0)		
CA_2A-5A-66C	2	5, 10, 15, 20	70	0
	5	5, 10		
	66	Refer to CA_66C (BCS0)		
CA_2A-5B-66A	2	5, 10, 15, 20	60	0
	5	Refer to CA_5B (BCS0)		
	66	5, 10, 15, 20		
CA_2A-5B-66C	2	5, 10, 15, 20	80	0
	5	Refer to CA_5B (BCS0)		
	66	Refer to CA_66C (BCS0)		
CA_2A-12A-30A	2	5, 10, 15, 20	40	0
	12	5, 10		
	30	5, 10		
CA_2A-2A-12A-30A	2	Refer to CA_2A-2A (BCS0)	60	0
	12	5, 10		
	30	5, 10		
CA_2A-12A-66A	2	5, 10, 15, 20	50	0
	12	5, 10		
	66	5, 10, 15, 20		
	2	5, 10	40	1
	12	5, 10		
	66	5, 10, 15, 20		
CA_2A-2A-12A-66A	2	5, 10, 15, 20	70	0
	12	5, 10		
	66	Refer to 66A-66A (BCS0)		
CA_2A-12A-66A-66A	2	5, 10, 15, 20	70	0
	12	5, 10		
	66	Refer to 66A-66A (BCS0)		
CA_2A-13A-46D	2	5, 10, 15, 20	90	0
	13	5, 10		
	46	Refer to 46D (BCS0)		
CA_2A-13A-66A	2	5, 10, 15, 20	50	0
	13	5, 10		
	66	5, 10, 15, 20		
CA_2A-13A-66A-66A	2	5, 10, 15, 20	70	0
	13	5, 10		
	66	Refer to CA_66A-66A		
CA_2A-13A-66B	2	5, 10, 15, 20	50	0
	13	5, 10		
	66	Refer to CA_66B (BCS0)		
CA_2A-13A-66C	2	5, 10, 15, 20	70	0
	13	5, 10		
	66	Refer to CA_66C (BCS0)		
CA_2A-14A-30A	2	5, 10, 15, 20	40	0
	14	5, 10		
	30	5, 10		

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Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-2A-30A-66A	2	Refer to CA_2A-2A (BCS0)	70	0
	30	5, 10		
	66	5, 10, 15, 20		
CA_2A-30A-66A-66A	2	5, 10, 15, 20	70	0
	30	5, 10		
	66	Refer to CA_66A-6A (BCS0)		
CA_2A-30A-66A	2	5, 10, 15, 20	50	0
	30	5, 10		
	66	5, 10, 15, 20		
CA_2A-46D-66A	2	5, 10, 15, 20	100	0
	46	Refer to CA_46D (BCS0)		
	66	5, 10, 15, 20		
CA_5A-30A-66A	5	5, 10	40	0
	30	5, 10		
	66	5, 10, 15, 20		
CA_5A-30A-66A-66A	5	5, 10	60	0
	30	5, 10		
	66	Refer to CA_66A-66A (BCS0)		
CA_5B-30A-66A	5	Refer to CA_5B (BCS0)	50	0
	30	5, 10		
	66	5, 10, 15, 20		
CA_5B-30A-66A-66A	5	Refer to CA_5B (BCS0)	70	0
	30	5, 10		
	66	Refer to CA_66A-66A (BCS0)		
CA_12A-30A-66A	12	5, 10	40	0
	30	5, 10		
	66	5, 10, 15, 20		
CA_12A-30A-66A-66A	12	5, 10	60	0
	30	5, 10		
	66	Refer to CA_66A-66A (BCS0)		
CA_13A-46D-66A	13	5, 10	90	0
	46	Refer to CA_46D (BCS0)		
	66	5, 10, 15, 20		

LTE CA Configurations and Bandwidth Combination Sets defined for Inter-Band CA (For Bands)

Downlink CA Configuration	LTE Bands	Channel Bandwidths for Carrier (MHz)	Maximum Aggregated Bandwidth (MHz)	Bandwidth Combination Set
CA_2A-5A-30A-66A	2	5, 10, 15, 20	60	0
	5	5, 10		
	30	5, 10		
	66	5, 10, 15, 20		
CA_2A-5B-30A-66A	2	5, 10, 15, 20	70	0
	5	Refer to CA_5B (BCS0)		
	30	5, 10		
CA_2A-12A-30A-66A	66	5, 10, 15, 20	60	0
	2	5, 10, 15, 20		
	12	5, 10		
	30	5, 10		

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<SAR Test Exclusion Evaluations for LTE Downlink CA>

According to Nov 2017 TCB Workshop, SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. The downlink Carrier Aggregation configurations are tabulated in separate columns. DL CA would be listed in the columns corresponding to Intra Band contiguous, Intra Band Non-contiguous, 2bands/2CCs, 2bands/3CCs, 2bands/4CCs, 3bands/3CCs, 3bands/4CCs, 3bands/5CC, 4bands/4CCs and 4bands/5CC. The CA/CC combinations in each columns are sorted so that frequency bands listed in subsequent columns on each row are ascending subsets, as following LTE Downlink CA table and LTE Downlink CA (4*4 MIMO) table ; i.e., columns to the right correspond to increasing number of frequency bands and CCs.

	Intra Band		Inter Band									
	Contiguous	Non-Contiguous	2 Bands / 2CC	2 Bands / 3CC	2 Bands / 4CC	3 Bands / 3CC	3 Bands / 4CC	3 Bands / 5CC	4 Bands / 4CC	4 Bands / 5CC		
LTE Downlink CA-Configure	CA_5B	CA_2A-2A	CA_2A-5A	CA_2A-2A-5A		CA_2A-5A-30A	CA_2A-2A-5A-30A		CA_2A-5A-30A-66A	CA_2A-5B-30A-66A		
				CA_2A-2A-5B		CA_2A-5A-66A	CA_2A-2A-5A-66A					
			CA_2A-30A	CA_2A-2A-30A			CA_2A-2A-30A-66A					
			CA_2A-66A	CA_2A-2A-66A	CA_2A-2A-66A-66A		CA_2A-5A-66A-66A	CA_2A-5B-66A-66A				
				CA_2A-66B	CA_2A-2A-66B		CA_2A-5A-66B	CA_2A-2A-5A-66B				
				CA_2A-66C	CA_2A-2A-66C		CA_2A-5A-66C	CA_2A-2A-5A-66C				
				CA_2A-5B			CA_2A-5B-30A					
				CA_2A-66A-66A			CA_2A-5B-66A	CA_2A-5B-66C				
	CA_66B	CA_66A-66A		CA_30A-66A-66A		CA_2A-30A-66A	CA_2A-30A-66A-66					
	CA_66C	CA_66A-66B		CA_5A-66A-66A	CA_5B-66A-66A		CA_5A-30A-66A-66					
	CA_66D	CA_66A-66C		CA_5A-66B	CA_5B-66C	CA_5A-30A-66A	CA_5B-30A-66A	CA_5B-30A-66A-66A				
			CA_5A-30A	CA_5A-66C								
			CA_5A-66A	CA_5B-30A								
			CA_30A-66A	CA_5B-66A								
			CA_2A-12A	CA_12A-66A-66A		CA_2A-12A-30A	CA_2A-2A-12A-30A		CA_2A-12A-30A-66A			
			CA_12A-30A			CA_2A-12A-66A	CA_2A-2A-12A-66A					
			CA_12A-66A			CA_12A-30A-66A	CA_2A-12A-66A-66					
							CA_12A-30A-66A-6					
			CA_2A-13A	CA_2A-2A-13A	CA_2A-46D			CA_2A-13A-46D				
			CA_13A-46A					CA_2A-46D-66A				
			CA_46A-66A									
			CA_13A-66A	CA_13A-66A-66A				CA_13A-46D-66A				
				CA_13A-66B								
				CA_13A-66C								
						CA_2A-13A-66A	CA_2A-2A-13A-66A					
							CA_2A-13A-66A-66					
							CA_2A-13A-66B					
							CA_2A-13A-66C					
		CA_4A-4A	CA_2A-4A	CA_2A-2A-4A		CA_2A-4A-5A						
				CA_2A-4A-4A								
				CA_4A-4A-5A								
						CA_2A-4A-13A						
			CA_2A-14A			CA_2A-14A-30A						
			CA_14A-30A									
			CA_14A-66A	CA_14A-66A-66A								
			CA_2A-29A									
			CA_2A-46A									
			CA_4A-5A									
			CA_4A-13A									
			CA_4A-46A									
		CA_25A-25A	CA_25A-26A									
			CA_29A-30A									
			CA_29A-66A									
	CA_41C											

• Only yellow highlighted cells need power measurement.

4.2 EUT Testing Position

4.2.1 Body Exposure Conditions

For laptop PC, according to KDB 616217 D04, SAR evaluation is required for the bottom surface of the keyboard. This EUT was tested in the base of EUT directly against the flat phantom. The required minimum test separation distance for incorporating transmitters and antennas into laptop computer display is determined with the display screen opened at an angle of 90° to the keyboard compartment.

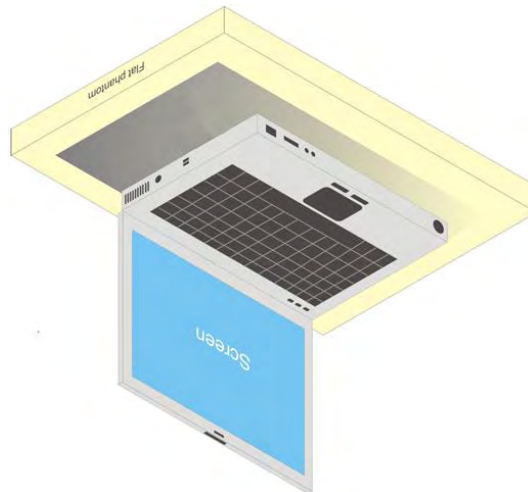


Fig-4.1 Illustration for Laptop Setup

For full-size tablet, according to KDB 616217 D04, SAR evaluation is required for back surface and edges of the devices. The back surface and edges of the tablet are tested with the tablet touching the phantom. Exposures from antennas through the front surface of the display section of a tablet are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary. When voice mode is supported on a tablet and it is limited to speaker mode or headset operations only, additional SAR testing for this type of voice use is not required.

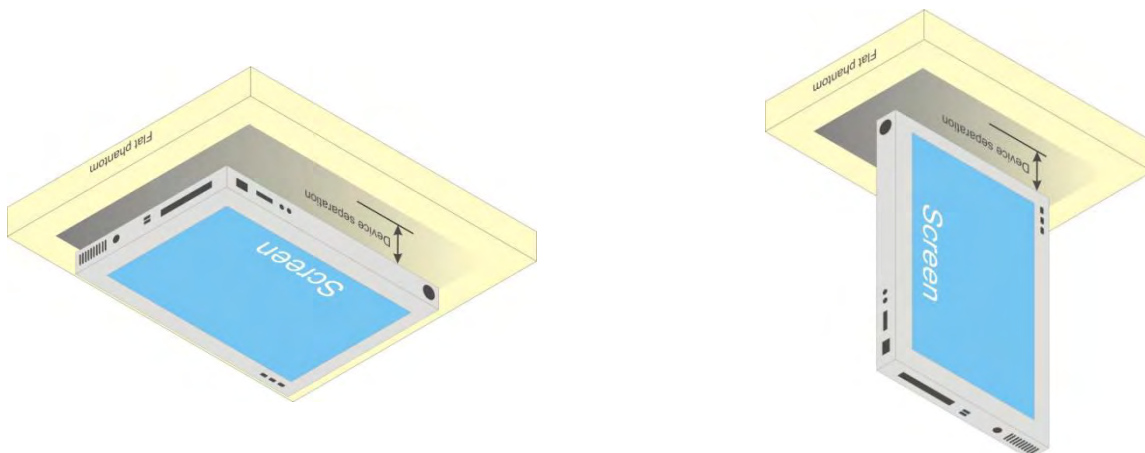
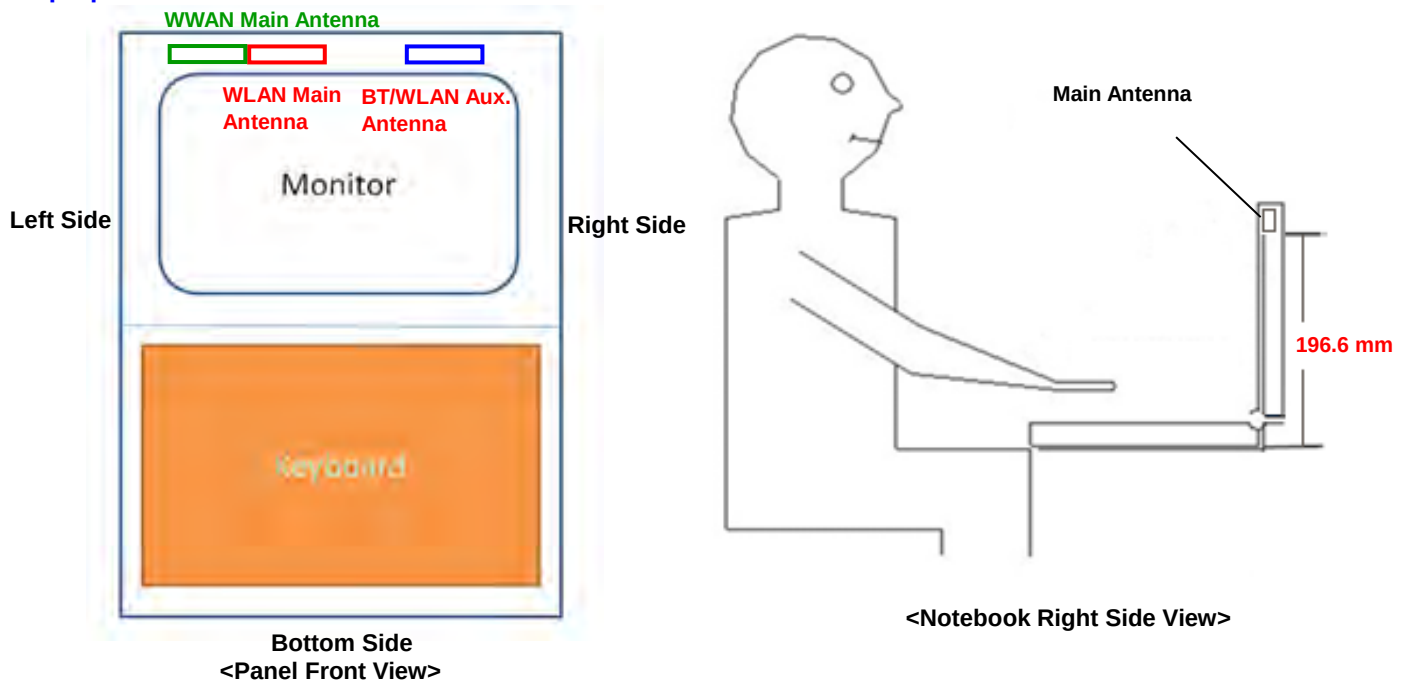


Fig-4.2 Illustration for Tablet Setup

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<Antenna Location>

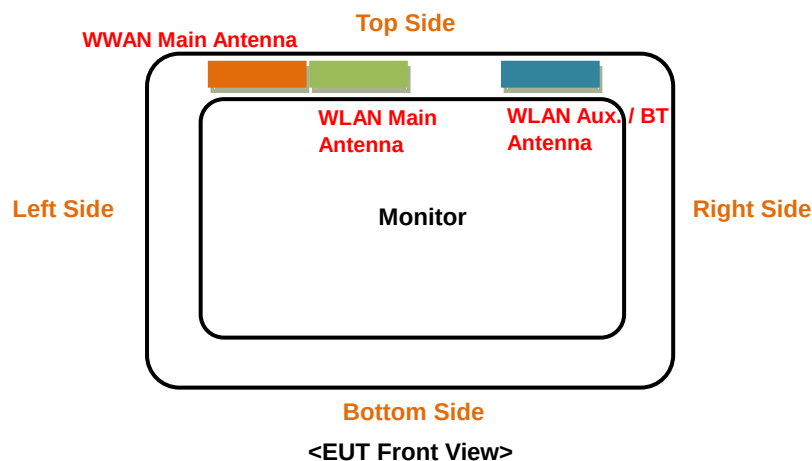
Laptop Mode



The separation distance for antenna to edge:

Antenna	To Top Side (mm)	To Bottom Side (mm)	To Left Side (mm)	To Right Side (mm)
WLAN Main	2.5	196.6	155	122.8
BT/WLAN Aux.	2.5	196.6	248	31.1
WWAN Main	2.5	196.6	29	184

Tablet Mode



The separation distance for antenna to edge:

Antenna	To Top Side (mm)	To Bottom Side (mm)	To Left Side (mm)	To Right Side (mm)
WLAN Main	2.5	196.6	155	122.8
BT/WLAN Aux.	2.5	196.6	248	31.1
WWAN Main	2.5	196.6	29	184

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4.2.2 SAR Test Exclusion Evaluations

According to KDB 447498 D01, the SAR test exclusion condition is based on source-based time-averaged maximum conducted output power, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The SAR exclusion threshold is determined by the following formula.

- For the test separation distance ≤ 50 mm

$$\frac{\text{Max. Tune up Power}_{(\text{mW})}}{\text{Min. Test Separation Distance}_{(\text{mm})}} \times \sqrt{f_{(\text{GHz})}} \leq 3.0 \text{ for SAR-1g, } \leq 7.5 \text{ for SAR-10g}$$

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

- For the test separation distance > 50 mm, and the frequency at 100 MHz to 1500 MHz

$$\left[(\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times \left(\frac{f_{(\text{MHz})}}{150} \right) \right]_{(\text{mW})}$$

- For the test separation distance > 50 mm, and the frequency at > 1500 MHz to 6 GHz

$$[(\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times 10]_{(\text{mW})}$$

Tablet PC Mode

<For WWAN>

Mode	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Rear Face			Top Side			Bottom Side			Left Side			Right Side		
			Ant. to Surface (mm)	Calculated Result	Require SAR Testing?	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?
WCDMA II	24.5	282	5	77.9	Yes	2.5	77.9	Yes	196.6	1575 mW	No	29	13.43	Yes	184	1449 mW	No
WCDMA IV	24.5	282	5	74.67	Yes	2.5	74.67	Yes	196.6	1579 mW	No	29	12.87	Yes	184	1453 mW	No
WCDMA V	24.5	282	5	51.89	Yes	2.5	51.89	Yes	196.6	990 mW	No	29	8.95	Yes	184	919 mW	No
LTE 2	24.5	282	5	77.95	Yes	2.5	77.95	Yes	196.6	1575 mW	No	29	13.44	Yes	184	1449 mW	No
LTE 4	24.5	282	5	74.72	Yes	2.5	74.72	Yes	196.6	1579 mW	No	29	12.88	Yes	184	1453 mW	No
LTE 5	24.5	282	5	51.97	Yes	2.5	51.97	Yes	196.6	993 mW	No	29	8.96	Yes	184	921 mW	No
LTE 7	24.5	282	5	90.42	Yes	2.5	90.42	Yes	196.6	1560 mW	No	29	15.59	Yes	184	1434 mW	No
LTE 12	24.5	282	5	47.72	Yes	2.5	47.72	Yes	196.6	877 mW	No	29	8.23	Yes	184	817 mW	No
LTE 13	24.5	282	5	50.03	Yes	2.5	50.03	Yes	196.6	938 mW	No	29	8.63	Yes	184	872 mW	No
LTE 14	24.5	282	5	50.38	Yes	2.5	50.38	Yes	196.6	948 mW	No	29	8.69	Yes	184	881 mW	No
LTE 17	24.5	282	5	47.72	Yes	2.5	47.72	Yes	196.6	877 mW	No	29	8.23	Yes	184	817 mW	No
LTE 25	24.5	282	5	78.05	Yes	2.5	78.05	Yes	196.6	1574 mW	No	29	13.46	Yes	184	1448 mW	No
LTE 26	24.5	282	5	51.97	Yes	2.5	51.97	Yes	196.6	993 mW	No	29	8.96	Yes	184	921 mW	No
LTE 30	23	200	5	60.86	Yes	2.5	60.86	Yes	196.6	1565 mW	No	29	10.49	Yes	184	1439 mW	No
LTE 38	24.5	282	5	91.29	Yes	2.5	91.29	Yes	196.6	1559 mW	No	29	15.74	Yes	184	1433 mW	No
LTE 41	24.5	282	5	92.5	Yes	2.5	92.5	Yes	196.6	1557 mW	No	29	15.95	Yes	184	1431 mW	No
LTE 66	24.5	282	5	75.25	Yes	2.5	75.25	Yes	196.6	1578 mW	No	29	12.97	Yes	184	1452 mW	No

FCC SAR Test Report

Laptop PC Mode

<For WWAN>

Mode	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Bottom Side		
			Ant. to Surface (mm)	Calculated Result	Require SAR Testing?
WCDMA II	24.5	282	196.6	1575 mW	No
WCDMA IV	24.5	282	196.6	1579 mW	No
WCDMA V	24.5	282	196.6	990 mW	No
LTE 2	24.5	282	196.6	1575 mW	No
LTE 4	24.5	282	196.6	1579 mW	No
LTE 5	24.5	282	196.6	993 mW	No
LTE 7	24.5	282	196.6	1560 mW	No
LTE 12	24.5	282	196.6	877 mW	No
LTE 13	24.5	282	196.6	938 mW	No
LTE 14	24.5	282	196.6	948 mW	No
LTE 17	24.5	282	196.6	877 mW	No
LTE 25	24.5	282	196.6	1574 mW	No
LTE 26	24.5	282	196.6	993 mW	No
LTE 30	23	200	196.6	1565 mW	No
LTE 38	24.5	282	196.6	1559 mW	No
LTE 41	24.5	282	196.6	1557 mW	No
LTE 66	24.5	282	196.6	1578 mW	No

4.3 Tissue Verification

The measuring results for tissue simulating liquid are shown as below.

Test Date	Tissue Type	Frequency (MHz)	Liquid Temp. (°C)	Measured Conductivity (σ)	Measured Permittivity (ϵ_r)	Target Conductivity (σ)	Target Permittivity (ϵ_r)	Conductivity Deviation (%)	Permittivity Deviation (%)
Feb. 11, 2019	Body	750	23.5	0.973	56.01	0.96	55.5	1.35	0.92
Feb. 25, 2019	Body	750	23.3	0.959	54.477	0.96	55.5	-0.10	-1.84
Feb. 11, 2019	Body	835	23.5	1.016	57.102	0.97	55.2	4.74	3.45
Feb. 25, 2019	Body	1750	23.3	1.45	51.789	1.49	53.4	-2.68	-3.02
Feb. 11, 2019	Body	1900	23.5	1.564	53.687	1.52	53.3	2.89	0.73
Feb. 11, 2019	Body	2300	23.5	1.85	51.956	1.81	52.9	2.21	-1.78
Feb. 11, 2019	Body	2600	23.5	2.192	51.168	2.16	52.5	1.48	-2.54

Note:

The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within $\pm 5\%$ of the target values. Liquid temperature during the SAR testing must be within $\pm 2^\circ\text{C}$.

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4.4 System Validation

The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.

Test Date	Probe S/N	Calibration Point		Measured Conductivity (σ)	Measured Permittivity (ϵ_r)	Validation for CW			Validation for Modulation		
						Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR
Feb. 11, 2019	7472	Body	750	0.973	56.01	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 25, 2019	3650	Body	750	0.959	54.477	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 11, 2019	7472	Body	835	1.016	57.102	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 25, 2019	3650	Body	1750	1.45	51.789	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 11, 2019	7472	Body	1900	1.564	53.687	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 11, 2019	7472	Body	2300	1.85	51.956	Pass	Pass	Pass	N/A	N/A	N/A
Feb. 11, 2019	7472	Body	2600	2.192	51.168	Pass	Pass	Pass	N/A	N/A	N/A

4.5 System Verification

The measuring result for system verification is tabulated as below.

Test Date	Mode	Frequency (MHz)	1W Target SAR-1g (W/kg)	Measured SAR-1g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
Feb. 11, 2019	Body	750	8.62	2.08	8.32	-3.48	1013	7472	1431
Feb. 25, 2019	Body	750	8.62	2.02	8.08	-6.26	1013	3650	579
Feb. 11, 2019	Body	835	9.64	2.56	10.24	6.22	4d121	7472	1431
Feb. 25, 2019	Body	1750	36.90	8.91	35.64	-3.41	1055	3650	579
Feb. 11, 2019	Body	1900	40.20	9.77	39.08	-2.79	5d018	7472	1431
Feb. 11, 2019	Body	2300	46.60	11.8	47.20	1.29	1091	7472	1431
Feb. 11, 2019	Body	2600	55.30	13.1	52.40	-5.24	1020	7472	1431

Note:

Comparing to the reference SAR value provided by SPEAG, the validation data should be within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

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4.6 Maximum Output Power

4.6.1 Maximum Target Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

Mode	WCDMA Band II (without Power Reduction)	WCDMA Band II (with Power Reduction & Laptop Mode)	Power Reduction (dB)
RMC 12.2K	24.5	17.5	7.0
HSDPA / HSUPA / DC-HSDPA	23.5	17.5	6.0

Mode	WCDMA Band IV (without Power Reduction)	WCDMA Band IV (with Power Reduction & Laptop Mode)	Power Reduction (dB)
RMC 12.2K	24.5	18.0	6.5
HSDPA / HSUPA / DC-HSDPA	23.5	18.0	5.5

Mode	WCDMA Band V (without Power Reduction)	WCDMA Band V (with Power Reduction & Laptop Mode)	Power Reduction (dB)
RMC 12.2K	24.5	17.5	7.0
HSDPA / HSUPA / DC-HSDPA	23.5	17.5	6.0

Mode	LTE 2 (without Power Reduction)	LTE 2 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	17.5	7.0

Mode	LTE 4 (without Power Reduction)	LTE 4 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 5 (without Power Reduction)	LTE 5 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	17.5	7.0

Mode	LTE 7 (without Power Reduction)	LTE 7 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	17.0	7.5

Mode	LTE 12 (without Power Reduction)	LTE 12 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	20.5	4.0

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Mode	LTE 13 (without Power Reduction)	LTE 13 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 14 (without Power Reduction)	LTE 14 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 17 (without Power Reduction)	LTE 17 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	19.5	5.0

Mode	LTE 25 (without Power Reduction)	LTE 25 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 26 (without Power Reduction)	LTE 26 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 30 (without Power Reduction)	LTE 30 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	23.0	17.0	6.0

Mode	LTE 38 (without Power Reduction)	LTE 38 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	17.5	7.0

Mode	LTE 41 (without Power Reduction)	LTE 41 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

Mode	LTE 66 (without Power Reduction)	LTE 66 (with Power Reduction & Laptop Mode)	Power Reduction (dB)
Maximum Target Power	24.5	18.0	6.5

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4.6.2 Measured Conducted Power Result

The measuring conducted average power (Unit: dBm) is shown as below.

Band	WCDMA Band II			WCDMA Band IV			WCDMA Band V			3GPP MPR (dB)
Channel	9262	9400	9538	1312	1413	1513	4132	4182	4233	
Frequency (MHz)	1852.4	1880.0	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6	
EUT without Power Reduction (P-Sensor NOT Triggered)										
RMC 12.2K	23.76	23.97	23.76	24.11	23.99	23.77	23.76	23.97	23.75	-
HSDPA Subtest-1	22.78	22.99	22.78	22.62	22.50	22.28	22.78	22.99	22.77	0
HSDPA Subtest-2	22.82	23.03	22.82	23.11	22.99	22.77	22.82	23.03	22.81	0
HSDPA Subtest-3	22.27	22.48	22.27	22.62	22.50	22.28	22.28	22.49	22.27	0.5
HSDPA Subtest-4	22.28	22.49	22.28	22.21	22.09	21.87	22.27	22.48	22.26	0.5
DC-HSDPA Subtest-1	22.69	22.90	22.69	22.57	22.45	22.23	22.72	22.93	22.71	0
DC-HSDPA Subtest-2	22.73	22.94	22.73	23.06	22.94	22.72	22.76	22.97	22.75	0
DC-HSDPA Subtest-3	22.18	22.39	22.18	22.57	22.45	22.23	22.22	22.43	22.21	0.5
DC-HSDPA Subtest-4	22.19	22.40	22.19	22.16	22.04	21.82	22.21	22.42	22.20	0.5
HSUPA Subtest-1	22.81	23.02	22.81	23.15	23.03	22.81	22.81	23.02	22.80	0
HSUPA Subtest-2	20.81	21.02	20.81	21.09	20.97	20.75	20.81	21.02	20.80	2
HSUPA Subtest-3	21.80	22.01	21.80	22.11	21.99	21.77	21.80	22.01	21.79	1
HSUPA Subtest-4	20.81	21.02	20.81	21.09	20.97	20.75	20.80	21.01	20.79	2
HSUPA Subtest-5	22.79	23.00	22.79	23.12	23.00	22.78	22.77	22.98	22.76	0
EUT with Power Reduction (P-Sensor Triggered)										
RMC 12.2K	17.39	17.46	17.45	17.98	17.81	17.65	17.20	17.49	17.19	-
HSDPA Subtest-1	16.61	16.68	16.67	16.98	16.81	16.65	16.20	16.49	16.19	0
HSDPA Subtest-2	16.58	16.65	16.64	16.96	16.79	16.63	16.18	16.47	16.17	0
HSDPA Subtest-3	16.14	16.21	16.20	16.53	16.36	16.20	15.70	15.99	15.69	0.5
HSDPA Subtest-4	16.11	16.18	16.17	16.49	16.32	16.16	15.66	15.95	15.65	0.5
DC-HSDPA Subtest-1	16.53	16.60	16.59	16.93	16.76	16.60	16.11	16.40	16.10	0
DC-HSDPA Subtest-2	16.50	16.57	16.56	16.91	16.74	16.58	16.09	16.38	16.08	0
DC-HSDPA Subtest-3	16.06	16.13	16.12	16.48	16.31	16.15	15.61	15.90	15.60	0.5
DC-HSDPA Subtest-4	16.03	16.10	16.09	16.44	16.27	16.11	15.57	15.86	15.56	0.5
HSUPA Subtest-1	16.66	16.73	16.72	16.82	16.65	16.49	16.18	16.47	16.17	0
HSUPA Subtest-2	14.64	14.71	14.70	14.63	14.46	14.30	14.20	14.49	14.19	2
HSUPA Subtest-3	15.64	15.71	15.70	15.78	15.61	15.45	15.15	15.44	15.14	1
HSUPA Subtest-4	14.60	14.67	14.66	14.61	14.44	14.28	14.18	14.47	14.17	2
HSUPA Subtest-5	16.63	16.70	16.69	16.67	16.50	16.34	16.11	16.40	16.10	0

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LTE Band 2															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		18700	18900	19100				Channel		18675	18900	19125	
		Frequency (MHz)		1860.0	1880.0	1900.0				Frequency (MHz)		1857.5	1880.0	1902.5	
20M	QPSK	1	0	23.30	23.50	23.74	0	15M	QPSK	1	0	23.30	23.42	23.72	0
		1	50	23.22	23.42	23.66	0			1	37	23.18	23.33	23.63	0
		1	99	23.02	23.22	23.46	0			1	74	22.98	23.15	23.46	0
		50	0	22.36	22.56	22.80	1			36	0	22.26	22.49	22.79	1
		50	25	22.25	22.45	22.69	1			36	19	22.16	22.43	22.68	1
		50	50	22.18	22.38	22.62	1			36	39	22.16	22.32	22.59	1
		100	0	22.26	22.46	22.70	1			75	0	22.21	22.38	22.69	1
		1	0	22.26	22.47	22.71	1		16QAM	1	0	22.13	22.39	22.68	1
	16QAM	1	50	22.17	22.36	22.57	1			1	37	22.06	22.35	22.52	1
		1	99	21.92	22.22	22.44	1			1	74	21.99	22.10	22.44	1
		50	0	21.28	21.50	21.72	2			36	0	21.19	21.49	21.70	2
		50	25	21.18	21.37	21.69	2			36	19	21.13	21.40	21.60	2
		50	50	21.08	21.30	21.57	2			36	39	21.05	21.32	21.58	2
		100	0	21.23	21.41	21.62	2			75	0	21.09	21.37	21.56	2
		1	0	21.26	21.50	21.69	2		64QAM	1	0	21.12	21.34	21.61	2
	64QAM	1	50	21.14	21.33	21.63	2			1	37	21.10	21.34	21.51	2
		1	99	21.00	21.22	21.38	2			1	74	20.93	21.13	21.46	2
		50	0	20.32	20.47	20.73	3			36	0	20.25	20.41	20.75	3
		50	25	20.18	20.36	20.68	3			36	19	20.09	20.45	20.67	3
		50	50	20.18	20.32	20.59	3			36	39	20.06	20.31	20.61	3
		100	0	20.26	20.43	20.63	3			75	0	20.12	20.28	20.61	3
		1	0	20.26	20.43	20.63	3			1	0	20.12	20.28	20.61	3
10M	QPSK	1	0	23.09	23.38	23.59	0	5M	QPSK	1	0	23.14	23.36	23.47	0
		1	24	23.04	23.23	23.59	0			1	12	23.03	23.27	23.45	0
		1	49	22.89	23.17	23.27	0			1	24	22.86	23.12	23.18	0
		25	0	22.22	22.49	22.65	1			12	0	22.21	22.36	22.59	1
		25	12	22.15	22.31	22.54	1			12	6	22.07	22.31	22.49	1
		25	25	22.06	22.30	22.56	1			12	13	22.08	22.19	22.34	1
		50	0	22.16	22.33	22.51	1			25	0	22.17	22.28	22.49	1
		1	0	22.08	22.30	22.46	1		16QAM	1	0	22.16	22.29	22.42	1
	16QAM	1	24	22.04	22.13	22.48	1			1	12	22.07	22.24	22.42	1
		1	49	21.80	22.01	22.46	1			1	24	21.87	21.93	22.27	1
		25	0	21.16	21.54	21.53	2			12	0	21.16	21.32	21.70	2
		25	12	20.97	21.26	21.44	2			12	6	21.03	21.28	21.58	2
		25	25	20.91	21.26	21.37	2			12	13	21.07	21.08	21.48	2
		50	0	20.96	21.33	21.57	2			25	0	20.96	21.31	21.47	2
		1	0	21.09	21.48	21.53	2		64QAM	1	0	21.13	21.32	21.55	2
	64QAM	1	24	21.05	21.08	21.49	2			1	12	21.04	21.15	21.49	2
		1	49	20.85	21.11	21.30	2			1	24	20.88	21.14	21.32	2
		25	0	20.14	20.38	20.60	3			12	0	20.26	20.33	20.64	3
		25	12	20.04	20.34	20.46	3			12	6	20.19	20.35	20.48	3
		25	25	19.98	20.26	20.49	3			12	13	19.99	20.07	20.41	3
		50	0	20.13	20.21	20.52	3			25	0	20.12	20.30	20.47	3
		1	0	20.13	20.21	20.52	3			1	0	20.12	20.30	20.47	3
3M	QPSK	1	0	23.17	23.38	23.59	0	1.4M	QPSK	1	0	23.26	23.34	23.67	0
		1	7	22.99	23.32	23.47	0			1	2	23.12	23.33	23.66	0
		1	14	22.96	23.14	23.38	0			1	5	22.91	23.20	23.41	0
		8	0	22.30	22.50	22.74	1			3	0	23.25	23.49	23.61	0
		8	3	22.18	22.31	22.57	1			3	1	23.10	23.29	23.50	0
		8	7	22.00	22.29	22.47	1			3	3	23.03	23.33	23.54	0
		15	0	22.11	22.34	22.55	1			6	0	22.08	22.31	22.51	1
		1	0	22.10	22.32	22.47	1		16QAM	1	0	22.19	22.29	22.71	1
	16QAM	1	7	22.00	22.25	22.43	1			1	2	21.97	22.28	22.56	1
		1	14	21.72	22.09	22.25	1			1	5	21.97	22.01	22.23	1
		8	0	21.24	21.26	21.54	2			3	0	22.18	22.39	22.64	1
		8	3	21.13	21.19	21.58	2			3	1	21.95	22.26	22.42	1
		8	7	20.87	21.27	21.40	2			3	3	21.87	22.17	22.49	1
		15	0	21.12	21.17	21.50	2			6	0	21.17	21.28	21.48	2
		1	0	21.09	21.25	21.64	2		64QAM	1	0	21.13	21.33	21.62	2
	64QAM	1	7	21.15	21.14	21.54	2			1	2	21.08	21.28	21.51	2
		1	14	20.87	20.97	21.17	2			1	5	20.76	20.96	21.35	2
		8	0	20.10	20.42	20.59	3			3	0	21.11	21.30	21.62	2
		8	3	20.09	20.23	20.54	3			3	1	21.08	21.37	21.58	2
		8	7	19.93	20.13	20.32	3			3	3	20.95	21.17	21.33	2
		15	0	20.05	20.17	20.44	3			6	0	20.06	20.32	20.62	3
		1	0	20.05	20.17	20.44	3			1	0	20.06	20.32	20.62	3

FCC SAR Test Report

LTE Band 2															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		18700	18900	19100				Channel		18675	18900	19125	
		Frequency (MHz)		1860.0	1880.0	1900.0				Frequency (MHz)		1857.5	1880.0	1902.5	
20M	QPSK	1	0	17.12	17.35	17.37	0	15M	QPSK	1	0	17.07	17.26	17.33	0
		1	50	16.98	17.21	17.23	0			1	37	16.89	17.20	17.19	0
		1	99	16.80	17.03	17.05	0			1	74	16.74	16.97	16.97	0
		50	0	17.04	17.27	17.29	0			36	0	16.98	17.26	17.19	0
		50	25	17.02	17.25	17.27	0			36	19	16.94	17.19	17.20	0
		50	50	16.94	17.17	17.19	0			36	39	16.92	17.10	17.11	0
		100	0	17.06	17.29	17.31	0			75	0	17.06	17.19	17.23	0
		1	0	17.05	17.29	17.34	0		16QAM	1	0	16.95	17.25	17.29	0
	16QAM	1	50	16.97	17.21	17.20	0			1	37	16.96	17.12	17.18	0
		1	99	16.78	17.02	17.04	0			1	74	16.65	16.91	16.97	0
		50	0	17.02	17.23	17.29	0			36	0	16.92	17.10	17.13	0
		50	25	17.00	17.23	17.17	0			36	19	16.89	17.13	17.18	0
		50	50	16.85	17.07	17.10	0			36	39	16.79	17.07	17.16	0
		100	0	16.98	17.27	17.31	0			75	0	16.95	17.20	17.20	0
		1	0	17.06	17.34	17.35	0		64QAM	1	0	17.02	17.20	17.32	0
	64QAM	1	50	16.97	17.11	17.19	0			1	37	16.93	17.11	17.08	0
		1	99	16.73	17.03	16.98	0			1	74	16.65	16.88	17.03	0
		50	0	17.04	17.18	17.29	0			36	0	16.94	17.17	17.27	0
		50	25	16.99	17.16	17.21	0			36	19	16.93	17.14	17.21	0
		50	50	16.89	17.16	17.15	0			36	39	16.79	17.03	17.13	0
		100	0	17.06	17.26	17.22	0			75	0	16.97	17.15	17.19	0
		1	0	16.93	17.02	17.34	0			1	0	17.11	17.08	17.39	0
10M	QPSK	1	24	16.90	17.13	17.36	0	5M	QPSK	1	12	16.80	17.05	17.34	0
		1	49	16.67	16.90	17.09	0			1	24	16.61	16.87	17.19	0
		25	0	16.94	17.18	17.45	0			12	0	16.93	17.16	17.31	0
		25	12	16.90	17.05	17.37	0			12	6	16.87	17.07	17.30	0
		25	25	16.88	17.00	17.29	0			12	13	16.70	17.15	17.16	0
		50	0	17.00	17.14	17.34	0			25	0	16.94	17.17	17.42	0
	16QAM	1	0	16.93	17.02	17.34	0		16QAM	1	0	17.11	17.08	17.39	0
		1	24	16.85	16.91	17.26	0			1	12	16.80	16.96	17.40	0
		1	49	16.74	16.93	17.13	0			1	24	16.73	16.91	17.13	0
		25	0	16.80	17.10	17.35	0			12	0	16.87	17.18	17.39	0
		25	12	16.76	17.04	17.33	0			12	6	16.75	17.05	17.31	0
		25	25	16.81	17.01	17.29	0			12	13	16.81	16.90	17.16	0
		50	0	16.82	17.19	17.32	0			25	0	16.81	17.11	17.54	0
		1	0	17.03	17.26	17.39	0		64QAM	1	0	16.92	17.21	17.42	0
	64QAM	1	24	16.92	17.08	17.32	0			1	12	16.76	17.10	17.30	0
		1	49	16.59	16.83	17.14	0			1	24	16.66	16.87	17.15	0
		25	0	17.01	17.11	17.30	0			12	0	16.88	17.13	17.36	0
		25	12	16.87	17.08	17.29	0			12	6	16.91	17.12	17.25	0
		25	25	16.85	16.95	17.17	0			12	13	16.68	16.96	17.24	0
		50	0	16.86	17.28	17.26	0			25	0	16.96	17.17	17.34	0
		1	0	16.91	17.28	17.55	0			1	0	16.88	17.20	17.49	0
3M	QPSK	1	7	16.76	17.20	17.38	0	1.4M	QPSK	1	2	16.92	17.11	17.31	0
		1	14	16.73	16.89	17.09	0			1	5	16.63	16.93	17.28	0
		8	0	16.80	17.09	17.37	0			3	0	16.88	17.02	17.39	0
		8	3	16.89	17.01	17.36	0			3	1	16.87	17.10	17.41	0
		8	7	16.79	17.03	17.35	0			3	3	16.84	17.01	17.30	0
		15	0	16.99	17.08	17.48	0			6	0	16.96	17.12	17.47	0
	16QAM	1	0	16.92	17.18	17.49	0		16QAM	1	0	16.81	17.28	17.38	0
		1	7	16.87	17.06	17.25	0			1	2	16.73	17.12	17.40	0
		1	14	16.69	16.88	17.13	0			1	5	16.64	16.85	17.18	0
		8	0	16.86	17.05	17.39	0			3	0	16.92	17.00	17.34	0
		8	3	16.88	17.14	17.35	0			3	1	16.94	17.17	17.31	0
		8	7	16.73	16.91	17.16	0			3	3	16.78	17.04	17.24	0
		15	0	16.84	17.07	17.36	0			6	0	16.91	17.16	17.48	0
		1	0	16.96	17.07	17.54	0		64QAM	1	0	16.95	17.08	17.49	0
	64QAM	1	7	16.70	17.01	17.30	0			1	2	16.85	17.02	17.24	0
		1	14	16.61	16.76	17.04	0			1	5	16.63	16.86	17.18	0
		8	0	16.79	17.17	17.31	0			3	0	16.85	17.16	17.39	0
		8	3	16.84	17.07	17.37	0			3	1	16.90	17.16	17.39	0
		8	7	16.72	16.95	17.17	0			3	3	16.66	17.10	17.21	0
		15	0	16.89	17.14	17.30	0			6	0	16.96	17.08	17.38	0

FCC SAR Test Report

LTE Band 4															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20050	20175	20300				Channel		20025	20175	20325	
		Frequency (MHz)		1720.0	1732.5	1745.0				Frequency (MHz)		1717.5	1732.5	1747.5	
20M	QPSK	1	0	23.86	23.91	23.74	0	15M	QPSK	1	0	23.79	23.90	23.73	0
		1	50	23.59	23.64	23.47	0			1	37	23.50	23.61	23.41	0
		1	99	23.35	23.40	23.23	0			1	74	23.34	23.31	23.22	0
		50	0	22.78	22.83	22.66	1			36	0	22.74	22.79	22.58	1
		50	25	22.65	22.70	22.53	1			36	19	22.60	22.63	22.48	1
		50	50	22.58	22.63	22.46	1			36	39	22.48	22.56	22.42	1
		100	0	22.69	22.74	22.57	1			75	0	22.62	22.67	22.49	1
		1	0	22.84	22.83	22.74	1		16QAM	1	0	22.79	22.84	22.73	1
	16QAM	1	50	22.50	22.55	22.46	1			1	37	22.46	22.53	22.39	1
		1	99	22.31	22.36	22.17	1			1	74	22.18	22.25	22.21	1
		50	0	21.73	21.76	21.58	2			36	0	21.66	21.67	21.54	2
		50	25	21.61	21.65	21.46	2			36	19	21.48	21.61	21.44	2
		50	50	21.48	21.63	21.39	2			36	39	21.43	21.48	21.38	2
		100	0	21.61	21.71	21.49	2			75	0	21.52	21.64	21.48	2
		1	0	21.80	21.91	21.69	2		64QAM	1	0	21.71	21.76	21.66	2
	64QAM	1	50	21.51	21.57	21.46	2			1	37	21.50	21.57	21.39	2
		1	99	21.31	21.35	21.20	2			1	74	21.18	21.31	21.15	2
		50	0	20.72	20.82	20.58	3			36	0	20.67	20.72	20.60	3
		50	25	20.55	20.68	20.53	3			36	19	20.54	20.64	20.35	3
		50	50	20.50	20.63	20.42	3			36	39	20.49	20.49	20.35	3
		100	0	20.62	20.68	20.56	3			75	0	20.58	20.70	20.48	3
		1	0	20.62	20.68	20.56	3			75	0	20.58	20.70	20.48	3
10M	QPSK	1	0	23.75	23.77	23.51	0	5M	QPSK	1	0	23.70	23.79	23.46	0
		1	24	23.54	23.59	23.42	0			1	12	23.42	23.55	23.27	0
		1	49	23.13	23.27	23.10	0			1	24	23.31	23.30	22.96	0
		25	0	22.69	22.75	22.49	1			12	0	22.57	22.71	22.42	1
		25	12	22.55	22.62	22.42	1			12	6	22.48	22.50	22.23	1
		25	25	22.33	22.42	22.28	1			12	13	22.40	22.58	22.29	1
		50	0	22.60	22.57	22.54	1			25	0	22.66	22.63	22.39	1
		1	0	22.67	22.58	22.53	1		16QAM	1	0	22.73	22.77	22.58	1
	16QAM	1	24	22.31	22.35	22.29	1			1	12	22.42	22.42	22.28	1
		1	49	22.26	22.10	22.04	1			1	24	22.26	22.39	22.02	1
		25	0	21.67	21.72	21.52	2			12	0	21.56	21.64	21.49	2
		25	12	21.45	21.47	21.39	2			12	6	21.50	21.65	21.34	2
		25	25	21.46	21.52	21.25	2			12	13	21.45	21.42	21.38	2
		50	0	21.57	21.57	21.32	2			25	0	21.63	21.60	21.40	2
		1	0	21.76	21.79	21.62	2		64QAM	1	0	21.59	21.70	21.58	2
	64QAM	1	24	21.51	21.32	21.28	2			1	12	21.36	21.52	21.33	2
		1	49	21.18	21.17	21.10	2			1	24	21.24	21.20	21.08	2
		25	0	20.65	20.55	20.55	3			12	0	20.70	20.62	20.37	3
		25	12	20.50	20.62	20.43	3			12	6	20.55	20.57	20.32	3
		25	25	20.45	20.57	20.37	3			12	13	20.39	20.46	20.27	3
		50	0	20.50	20.69	20.29	3			25	0	20.43	20.53	20.44	3
		1	0	20.50	20.69	20.29	3			25	0	20.43	20.53	20.44	3
3M	QPSK	1	0	23.73	23.79	23.61	0	1.4M	QPSK	1	0	23.62	23.87	23.60	0
		1	7	23.47	23.53	23.28	0			1	2	23.53	23.45	23.37	0
		1	14	23.31	23.32	23.13	0			1	5	23.23	23.37	23.19	0
		8	0	22.63	22.80	22.51	1			3	0	23.69	23.80	23.48	0
		8	3	22.47	22.56	22.42	1			3	1	23.55	23.59	23.45	0
		8	7	22.44	22.39	22.36	1			3	3	23.42	23.46	23.41	0
		15	0	22.52	22.63	22.41	1			6	0	22.49	22.61	22.35	1
		1	0	22.61	22.70	22.66	1		16QAM	1	0	22.61	22.69	22.63	1
	16QAM	1	7	22.44	22.42	22.27	1			1	2	22.42	22.42	22.44	1
		1	14	22.14	22.09	22.09	1			1	5	22.16	22.16	22.10	1
		8	0	21.60	21.70	21.59	2			3	0	22.70	22.55	22.41	1
		8	3	21.48	21.59	21.43	2			3	1	22.57	22.55	22.37	1
		8	7	21.40	21.53	21.27	2			3	3	22.45	22.44	22.28	1
		15	0	21.54	21.53	21.37	2			6	0	21.55	21.65	21.40	2
		1	0	21.65	21.77	21.58	2		64QAM	1	0	21.67	21.59	21.46	2
	64QAM	1	7	21.35	21.50	21.34	2			1	2	21.42	21.49	21.42	2
		1	14	21.29	21.29	20.97	2			1	5	21.15	21.17	21.15	2
		8	0	20.58	20.66	20.52	3			3	0	21.60	21.65	21.53	2
		8	3	20.60	20.61	20.37	3			3	1	21.50	21.46	21.48	2
		8	7	20.44	20.37	20.35	3			3	3	21.43	21.46	21.37	2
		15	0	20.48	20.49	20.39	3			6	0	20.57	20.56	20.41	3
		15	0	20.48	20.49	20.39	3			6	0	20.57	20.56	20.41	3

FCC SAR Test Report

LTE Band 4															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20050	20175	20300				Channel		20025	20175	20325	
		Frequency (MHz)		1720.0	1732.5	1745.0				Frequency (MHz)		1717.5	1732.5	1747.5	
20M	QPSK	1	0	17.95	17.96	17.92	0	15M	QPSK	1	0	17.90	17.93	17.91	0
		1	50	17.70	17.71	17.67	0			1	37	17.68	17.66	17.57	0
		1	99	17.51	17.52	17.48	0			1	74	17.44	17.47	17.44	0
		50	0	17.90	17.91	17.87	0			36	0	17.87	17.85	17.79	0
		50	25	17.82	17.83	17.79	0			36	19	17.82	17.83	17.73	0
		50	50	17.71	17.72	17.68	0			36	39	17.70	17.65	17.68	0
		100	0	17.81	17.82	17.78	0			75	0	17.81	17.78	17.68	0
		1	0	17.93	17.91	17.90	0		16QAM	1	0	17.85	17.80	17.78	0
	16QAM	1	50	17.69	17.71	17.67	0			1	37	17.67	17.58	17.57	0
		1	99	17.48	17.47	17.40	0			1	74	17.40	17.42	17.45	0
		50	0	17.81	17.87	17.87	0			36	0	17.75	17.79	17.77	0
		50	25	17.75	17.79	17.71	0			36	19	17.81	17.81	17.68	0
		50	50	17.61	17.72	17.66	0			36	39	17.65	17.67	17.54	0
		100	0	17.72	17.78	17.76	0			75	0	17.75	17.71	17.66	0
		1	0	17.86	17.88	17.85	0		64QAM	1	0	17.77	17.80	17.85	0
	64QAM	1	50	17.69	17.64	17.58	0			1	37	17.58	17.63	17.52	0
		1	99	17.41	17.44	17.43	0			1	74	17.46	17.51	17.35	0
		50	0	17.90	17.89	17.87	0			36	0	17.83	17.81	17.75	0
		50	25	17.81	17.77	17.74	0			36	19	17.81	17.74	17.69	0
		50	50	17.66	17.69	17.63	0			36	39	17.70	17.57	17.58	0
		100	0	17.80	17.80	17.73	0			75	0	17.71	17.69	17.64	0
		1	0	17.75	17.72	17.83	0		QPSK	1	0	17.90	17.90	17.88	0
10M	QPSK	1	24	17.60	17.55	17.53	0			1	12	17.60	17.65	17.38	0
		1	49	17.45	17.28	17.37	0			1	24	17.31	17.35	17.33	0
		25	0	17.75	17.67	17.80	0			12	0	17.77	17.84	17.51	0
		25	12	17.76	17.73	17.60	0			12	6	17.69	17.77	17.55	0
		25	25	17.56	17.55	17.53	0			12	13	17.61	17.60	17.43	0
		50	0	17.73	17.75	17.67	0			25	0	17.63	17.77	17.62	0
	16QAM	1	0	17.66	17.78	17.81	0		16QAM	1	0	17.79	17.87	17.90	0
		1	24	17.52	17.46	17.45	0			1	12	17.57	17.65	17.53	0
		1	49	17.42	17.29	17.32	0			1	24	17.35	17.28	17.42	0
		25	0	17.67	17.85	17.70	0			12	0	17.71	17.65	17.74	0
		25	12	17.66	17.59	17.60	0			12	6	17.73	17.62	17.70	0
		25	25	17.56	17.60	17.42	0			12	13	17.54	17.50	17.53	0
		50	0	17.58	17.66	17.63	0			25	0	17.59	17.62	17.64	0
		1	0	17.63	17.79	17.76	0		64QAM	1	0	17.73	17.80	17.78	0
	64QAM	1	24	17.64	17.48	17.52	0			1	12	17.51	17.58	17.43	0
		1	49	17.26	17.36	17.40	0			1	24	17.27	17.26	17.29	0
		25	0	17.60	17.70	17.66	0			12	0	17.62	17.77	17.76	0
		25	12	17.68	17.62	17.61	0			12	6	17.66	17.71	17.67	0
		25	25	17.53	17.64	17.52	0			12	13	17.62	17.62	17.44	0
		50	0	17.61	17.74	17.68	0			25	0	17.72	17.59	17.53	0
		1	0	17.78	17.76	17.69	0		QPSK	1	0	17.94	17.77	17.75	0
3M	QPSK	1	7	17.52	17.64	17.63	0			1	2	17.54	17.60	17.48	0
		1	14	17.35	17.46	17.38	0			1	5	17.40	17.51	17.36	0
		8	0	17.79	17.73	17.72	0			3	0	17.66	17.80	17.82	0
		8	3	17.73	17.74	17.56	0			3	1	17.71	17.63	17.68	0
		8	7	17.51	17.58	17.59	0			3	3	17.49	17.51	17.64	0
		15	0	17.72	17.70	17.72	0			6	0	17.68	17.72	17.68	0
	16QAM	1	0	17.74	17.89	17.69	0		16QAM	1	0	17.74	17.76	17.73	0
		1	7	17.61	17.47	17.61	0			1	2	17.57	17.52	17.62	0
		1	14	17.36	17.25	17.27	0			1	5	17.35	17.33	17.24	0
		8	0	17.76	17.76	17.57	0			3	0	17.62	17.64	17.76	0
		8	3	17.65	17.77	17.57	0			3	1	17.74	17.62	17.52	0
		8	7	17.47	17.66	17.55	0			3	3	17.64	17.56	17.54	0
		15	0	17.51	17.76	17.62	0			6	0	17.61	17.62	17.54	0
		1	0	17.86	17.72	17.80	0		64QAM	1	0	17.81	17.79	17.85	0
	64QAM	1	7	17.45	17.56	17.46	0			1	2	17.66	17.59	17.61	0
		1	14	17.28	17.32	17.31	0			1	5	17.37	17.41	17.27	0
		8	0	17.69	17.79	17.72	0			3	0	17.68	17.65	17.77	0
		8	3	17.66	17.60	17.74	0			3	1	17.61	17.64	17.73	0
		8	7	17.55	17.44	17.40	0			3	3	17.50	17.51	17.53	0
		15	0	17.63	17.62	17.56	0			6	0	17.64	17.69	17.68	0

FCC SAR Test Report

LTE Band 5															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20450	20525	20600				Channel		20425	20525	20625	
		Frequency (MHz)		829.0	836.5	844.0				Frequency (MHz)		826.5	836.5	846.5	
10M	QPSK	1	0	23.39	23.51	23.62	0	5M	QPSK	1	0	23.32	23.50	23.57	0
		1	24	23.38	23.50	23.61	0			1	12	23.31	23.42	23.54	0
		1	49	23.34	23.46	23.57	0			1	24	23.24	23.43	23.55	0
		25	0	22.47	22.59	22.70	1			12	0	22.47	22.52	22.65	1
		25	12	22.46	22.58	22.69	1			12	6	22.41	22.58	22.67	1
		25	25	22.40	22.52	22.63	1			12	13	22.32	22.45	22.62	1
		50	0	22.44	22.56	22.67	1			25	0	22.38	22.55	22.57	1
	16QAM	1	0	22.35	22.42	22.56	1		16QAM	1	0	22.31	22.41	22.49	1
		1	24	22.37	22.45	22.53	1			1	12	22.19	22.38	22.45	1
		1	49	22.26	22.37	22.53	1			1	24	22.29	22.36	22.41	1
		25	0	21.46	21.57	21.60	2			12	0	21.30	21.54	21.61	2
		25	12	21.44	21.50	21.64	2			12	6	21.43	21.45	21.59	2
		25	25	21.40	21.49	21.59	2			12	13	21.31	21.48	21.59	2
	64QAM	50	0	21.35	21.51	21.66	2		25	0	21.40	21.46	21.55	2	
		1	0	21.37	21.42	21.55	2		64QAM	1	0	21.33	21.33	21.53	2
		1	24	21.33	21.47	21.57	2			1	12	21.25	21.32	21.53	2
		1	49	21.32	21.37	21.56	2			1	24	21.29	21.36	21.46	2
		25	0	20.43	20.54	20.62	3			12	0	20.36	20.45	20.68	3
		25	12	20.41	20.52	20.60	3			12	6	20.29	20.48	20.54	3
	25	25	20.31	20.48	20.56	3	12			13	20.22	20.42	20.51	3	
	50	0	20.40	20.48	20.61	3	25		0	20.31	20.39	20.53	3		
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20415	20525	20635				Channel		20407	20525	20643	
		Frequency (MHz)		825.5	836.5	847.5				Frequency (MHz)		824.7	836.5	848.3	
3M	QPSK	1	0	23.23	23.35	23.43	0	1.4M	QPSK	1	0	23.30	23.45	23.47	0
		1	7	23.16	23.40	23.47	0			1	2	23.29	23.31	23.56	0
		1	14	23.29	23.32	23.46	0			1	5	23.22	23.34	23.47	0
		8	0	22.39	22.45	22.61	1			3	0	23.36	23.48	23.51	0
		8	3	22.33	22.49	22.52	1			3	1	23.34	23.49	23.50	0
		8	7	22.17	22.45	22.58	1			3	3	23.31	23.50	23.48	0
		15	0	22.34	22.44	22.56	1			6	0	22.21	22.33	22.61	1
	16QAM	1	0	22.19	22.36	22.51	1		16QAM	1	0	22.15	22.31	22.54	1
		1	7	22.31	22.28	22.43	1			1	2	22.19	22.34	22.35	1
		1	14	22.30	22.36	22.33	1			1	5	22.16	22.33	22.36	1
		8	0	21.36	21.54	21.55	2			3	0	22.28	22.36	22.55	1
		8	3	21.34	21.34	21.54	2			3	1	22.37	22.43	22.56	1
		8	7	21.20	21.35	21.42	2			3	3	22.20	22.39	22.52	1
	64QAM	15	0	21.16	21.43	21.48	2		6	0	21.28	21.46	21.45	2	
		1	0	21.21	21.28	21.34	2		64QAM	1	0	21.26	21.33	21.34	2
		1	7	21.24	21.34	21.35	2			1	2	21.20	21.18	21.44	2
		1	14	21.15	21.25	21.33	2			1	5	21.12	21.19	21.30	2
		8	0	20.27	20.48	20.52	3			3	0	21.30	21.38	21.50	2
		8	3	20.21	20.38	20.56	3			3	1	21.24	21.37	21.52	2
	8	7	20.21	20.22	20.43	3	3			3	21.21	21.39	21.53	2	
	15	0	20.18	20.33	20.62	3	6		0	20.29	20.28	20.45	3		

FCC SAR Test Report

LTE Band 5															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20450	20525	20600				Channel		20425	20525	20625	
		Frequency (MHz)		829.0	836.5	844.0				Frequency (MHz)		826.5	836.5	846.5	
10M	QPSK	1	0	17.25	17.30	17.44	0	5M	QPSK	1	0	17.16	17.22	17.41	0
		1	24	17.14	17.19	17.33	0			1	12	17.09	17.10	17.26	0
		1	49	17.12	17.17	17.31	0			1	24	17.03	17.08	17.25	0
		25	0	17.24	17.29	17.43	0			12	0	17.17	17.20	17.35	0
		25	12	17.13	17.18	17.32	0			12	6	17.08	17.08	17.31	0
		25	25	17.11	17.16	17.30	0			12	13	17.10	17.12	17.24	0
		50	0	17.20	17.25	17.39	0			25	0	17.18	17.18	17.33	0
		1	0	17.24	17.27	17.34	0		16QAM	1	0	17.19	17.14	17.33	0
	16QAM	1	24	17.07	17.18	17.31	0			1	12	17.07	17.05	17.19	0
		1	49	17.10	17.12	17.23	0			1	24	17.12	17.01	17.21	0
		25	0	17.23	17.22	17.42	0			12	0	17.23	17.18	17.28	0
		25	12	17.12	17.11	17.22	0			12	6	17.13	17.02	17.24	0
		25	25	17.08	17.16	17.29	0			12	13	17.01	17.14	17.21	0
		50	0	17.19	17.20	17.39	0			25	0	17.11	17.14	17.22	0
		1	0	17.18	17.29	17.43	0		64QAM	1	0	17.10	17.16	17.32	0
	64QAM	1	24	17.12	17.09	17.30	0			1	12	17.11	17.11	17.27	0
		1	49	17.05	17.17	17.21	0			1	24	17.03	17.11	17.25	0
		25	0	17.19	17.29	17.39	0			12	0	17.08	17.21	17.38	0
		25	12	17.11	17.11	17.24	0			12	6	17.07	17.13	17.17	0
		25	25	17.11	17.08	17.22	0			12	13	16.97	17.02	17.18	0
		50	0	17.15	17.24	17.33	0			25	0	17.08	17.20	17.38	0
		1	0	17.01	17.23	17.32	0	3M	QPSK	1	0	17.22	17.20	17.43	0
3M	QPSK	1	7	17.07	17.09	17.25	0			1	2	17.06	17.03	17.10	0
		1	14	16.96	16.97	17.26	0			1	5	17.04	16.95	17.02	0
		8	0	17.13	17.13	17.31	0			3	0	17.07	17.21	17.28	0
		8	3	16.94	17.05	17.17	0			3	1	17.04	17.05	17.06	0
		8	7	16.93	16.97	17.10	0			3	3	16.97	16.99	17.09	0
		15	0	17.14	17.00	17.27	0			6	0	17.14	17.10	17.33	0
	16QAM	1	0	16.93	17.05	17.16	0		16QAM	1	0	17.03	17.07	17.32	0
		1	7	16.92	17.18	17.00	0			1	2	16.89	17.09	17.17	0
		1	14	16.98	16.99	17.09	0			1	5	16.97	16.92	17.09	0
		8	0	17.01	17.18	17.31	0			3	0	17.19	17.10	17.40	0
		8	3	16.84	16.99	17.09	0			3	1	16.85	17.07	17.06	0
		8	7	17.01	16.96	17.14	0			3	3	16.85	16.99	17.15	0
		15	0	17.11	16.98	17.17	0			6	0	17.03	17.09	17.23	0
		1	0	17.13	16.98	17.20	0		64QAM	1	0	17.18	17.13	17.23	0
	64QAM	1	7	16.92	16.95	17.21	0			1	2	16.87	16.96	17.19	0
		1	14	16.94	16.89	17.18	0			1	5	17.00	16.93	17.16	0
		8	0	16.91	17.12	17.25	0			3	0	16.93	17.07	17.17	0
		8	3	16.96	17.08	17.23	0			3	1	16.99	17.01	17.11	0
		8	7	16.87	17.03	17.15	0			3	3	16.91	17.02	17.03	0
		15	0	17.12	17.14	17.12	0			6	0	17.15	17.11	17.20	0

FCC SAR Test Report

LTE Band 7															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20850	21100	21350				Channel		20825	21100	21375	
		Frequency (MHz)		2510.0	2535.0	2560.0				Frequency (MHz)		2507.5	2535.0	2562.5	
20M	QPSK	1	0	23.76	23.65	23.67	0	15M	QPSK	1	0	23.73	23.61	23.66	0
		1	50	23.62	23.51	23.53	0			1	37	23.57	23.43	23.51	0
		1	99	23.70	23.59	23.61	0			1	74	23.61	23.57	23.53	0
		50	0	22.74	22.63	22.65	1			36	0	22.65	22.60	22.63	1
		50	25	22.69	22.58	22.60	1			36	19	22.65	22.56	22.57	1
		50	50	22.67	22.56	22.58	1			36	39	22.62	22.50	22.57	1
		100	0	22.68	22.57	22.59	1			75	0	22.59	22.50	22.57	1
		1	0	22.71	22.59	22.65	1		16QAM	1	0	22.66	22.48	22.61	1
	16QAM	1	50	22.54	22.46	22.51	1			1	37	22.47	22.47	22.48	1
		1	99	22.69	22.51	22.52	1			1	74	22.61	22.56	22.47	1
		50	0	21.72	21.55	21.59	2			36	0	21.68	21.48	21.57	2
		50	25	21.62	21.56	21.52	2			36	19	21.56	21.44	21.49	2
		50	50	21.58	21.54	21.50	2			36	39	21.61	21.53	21.48	2
		100	0	21.68	21.49	21.58	2			75	0	21.65	21.51	21.46	2
	64QAM	1	0	21.76	21.59	21.67	2		64QAM	1	0	21.76	21.56	21.54	2
		1	50	21.53	21.49	21.44	2			1	37	21.50	21.47	21.46	2
		1	99	21.61	21.49	21.53	2			1	74	21.52	21.50	21.54	2
		50	0	20.71	20.57	20.55	3			36	0	20.70	20.46	20.52	3
		50	25	20.62	20.48	20.53	3			36	19	20.59	20.54	20.50	3
		50	50	20.66	20.53	20.49	3			36	39	20.58	20.50	20.47	3
		100	0	20.60	20.54	20.56	3			75	0	20.62	20.54	20.56	3
		1	0	20.71	20.57	20.55	3			1	0	20.71	20.57	20.55	3
10M	QPSK	1	0	23.63	23.45	23.46	0	5M	QPSK	1	0	23.60	23.50	23.38	0
		1	24	23.43	23.34	23.43	0			1	12	23.50	23.42	23.27	0
		1	49	23.49	23.44	23.51	0			1	24	23.63	23.37	23.36	0
		25	0	22.61	22.43	22.47	1			12	0	22.60	22.49	22.46	1
		25	12	22.63	22.42	22.39	1			12	6	22.54	22.47	22.46	1
		25	25	22.53	22.49	22.44	1			12	13	22.58	22.40	22.39	1
		50	0	22.57	22.51	22.48	1			25	0	22.55	22.38	22.42	1
		1	0	22.50	22.47	22.45	1		16QAM	1	0	22.47	22.33	22.55	1
	16QAM	1	24	22.58	22.36	22.36	1			1	12	22.57	22.35	22.22	1
		1	49	22.52	22.33	22.49	1			1	24	22.49	22.37	22.52	1
		25	0	21.62	21.31	21.53	2			12	0	21.62	21.46	21.50	2
		25	12	21.61	21.46	21.50	2			12	6	21.48	21.36	21.49	2
		25	25	21.47	21.33	21.42	2			12	13	21.51	21.47	21.56	2
		50	0	21.46	21.43	21.37	2			25	0	21.48	21.45	21.44	2
	64QAM	1	0	21.49	21.45	21.42	2		64QAM	1	0	21.62	21.44	21.55	2
		1	24	21.34	21.33	21.34	2			1	12	21.45	21.23	21.37	2
		1	49	21.58	21.46	21.45	2			1	24	21.44	21.46	21.50	2
		25	0	20.61	20.48	20.51	3			12	0	20.42	20.51	20.47	3
		25	12	20.44	20.53	20.51	3			12	6	20.59	20.38	20.41	3
		25	25	20.51	20.33	20.43	3			12	13	20.58	20.45	20.41	3
		50	0	20.55	20.37	20.31	3			25	0	20.45	20.39	20.37	3
		1	0	20.71	20.57	20.55	3			1	0	20.71	20.57	20.55	3

FCC SAR Test Report

LTE Band 7															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20850	21100	21350				Channel		20825	21100	21375	
		Frequency (MHz)		2510.0	2535.0	2560.0				Frequency (MHz)		2507.5	2535.0	2562.5	
20M	QPSK	1	0	16.96	16.79	16.91	0	15M	QPSK	1	0	16.88	16.79	16.90	0
		1	50	16.78	16.61	16.73	0			1	37	16.69	16.56	16.63	0
		1	99	16.91	16.74	16.86	0			1	74	16.85	16.71	16.83	0
		50	0	16.90	16.73	16.85	0			36	0	16.82	16.69	16.80	0
		50	25	16.83	16.66	16.78	0			36	19	16.82	16.61	16.73	0
		50	50	16.82	16.65	16.77	0			36	39	16.79	16.63	16.77	0
		100	0	16.85	16.68	16.80	0			75	0	16.81	16.59	16.76	0
		1	0	16.91	16.72	16.81	0		16QAM	1	0	16.83	16.76	16.80	0
	16QAM	1	50	16.70	16.59	16.67	0			1	37	16.67	16.44	16.69	0
		1	99	16.91	16.72	16.79	0			1	74	16.75	16.65	16.78	0
		50	0	16.87	16.65	16.80	0			36	0	16.85	16.67	16.79	0
		50	25	16.76	16.61	16.68	0			36	19	16.73	16.53	16.66	0
		50	50	16.72	16.57	16.70	0			36	39	16.69	16.49	16.65	0
		100	0	16.79	16.61	16.76	0			75	0	16.67	16.48	16.77	0
	64QAM	1	0	16.91	16.69	16.86	0		64QAM	1	0	16.86	16.62	16.71	0
		1	50	16.71	16.58	16.68	0			1	37	16.68	16.52	16.68	0
		1	99	16.82	16.70	16.79	0			1	74	16.81	16.69	16.66	0
		50	0	16.90	16.71	16.75	0			36	0	16.74	16.62	16.81	0
		50	25	16.77	16.61	16.76	0			36	19	16.72	16.58	16.65	0
		50	50	16.73	16.62	16.69	0			36	39	16.73	16.47	16.68	0
		100	0	16.82	16.63	16.78	0			75	0	16.67	16.51	16.66	0
		1	0	16.88	16.75	16.79	0	10M	QPSK	1	0	16.77	16.58	16.70	0
10M	QPSK	1	24	16.72	16.55	16.58	0			1	12	16.58	16.50	16.54	0
		1	49	16.76	16.61	16.66	0			1	24	16.73	16.63	16.64	0
		25	0	16.80	16.59	16.68	0			12	0	16.68	16.62	16.60	0
		25	12	16.65	16.50	16.54	0			12	6	16.63	16.52	16.56	0
		25	25	16.69	16.48	16.71	0			12	13	16.67	16.50	16.45	0
		50	0	16.75	16.59	16.71	0			25	0	16.81	16.46	16.65	0
	16QAM	1	0	16.84	16.57	16.75	0		16QAM	1	0	16.65	16.62	16.73	0
		1	24	16.63	16.40	16.54	0			1	12	16.58	16.46	16.47	0
		1	49	16.87	16.61	16.59	0			1	24	16.68	16.55	16.72	0
		25	0	16.77	16.57	16.67	0			12	0	16.60	16.62	16.72	0
		25	12	16.71	16.44	16.56	0			12	6	16.63	16.42	16.62	0
		25	25	16.70	16.41	16.57	0			12	13	16.63	16.44	16.64	0
		50	0	16.60	16.44	16.67	0			25	0	16.81	16.53	16.63	0
	64QAM	1	0	16.82	16.74	16.75	0		64QAM	1	0	16.74	16.55	16.71	0
		1	24	16.63	16.36	16.55	0			1	12	16.71	16.47	16.55	0
		1	49	16.77	16.49	16.60	0			1	24	16.84	16.52	16.78	0
		25	0	16.70	16.54	16.52	0			12	0	16.69	16.48	16.64	0
		25	12	16.65	16.45	16.66	0			12	6	16.76	16.37	16.61	0
		25	25	16.69	16.38	16.66	0			12	13	16.55	16.33	16.47	0
		50	0	16.69	16.53	16.62	0			25	0	16.72	16.57	16.64	0

FCC SAR Test Report

LTE Band 12															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23060	23095	23130				Channel		23035	23095	23155	
		Frequency (MHz)		704.0	707.5	711.0				Frequency (MHz)		701.5	707.5	713.5	
10M	QPSK	1	0	23.58	23.66	23.61	0	5M	QPSK	1	0	23.52	23.57	23.55	0
		1	24	23.70	23.78	23.73	0			1	12	23.63	23.76	23.72	0
		1	49	23.65	23.73	23.68	0			1	24	23.62	23.71	23.64	0
		25	0	22.68	22.76	22.71	1			12	0	22.59	22.75	22.63	1
		25	12	22.72	22.80	22.75	1			12	6	22.63	22.77	22.70	1
		25	25	22.50	22.58	22.53	1			12	13	22.44	22.58	22.51	1
		50	0	22.67	22.75	22.70	1			25	0	22.58	22.68	22.64	1
	16QAM	1	0	22.58	22.65	22.56	1		16QAM	1	0	22.51	22.60	22.46	1
		1	24	22.61	22.72	22.67	1			1	12	22.58	22.68	22.63	1
		1	49	22.62	22.65	22.59	1			1	24	22.58	22.67	22.51	1
		25	0	21.63	21.73	21.61	2			12	0	21.60	21.72	21.63	2
		25	12	21.63	21.70	21.71	2			12	6	21.66	21.79	21.71	2
		25	25	21.50	21.53	21.49	2			12	13	21.40	21.56	21.45	2
		50	0	21.58	21.70	21.68	2			25	0	21.52	21.57	21.58	2
	64QAM	1	0	21.49	21.62	21.52	2		64QAM	1	0	21.50	21.58	21.47	2
		1	24	21.62	21.70	21.65	2			1	12	21.58	21.64	21.58	2
		1	49	21.62	21.72	21.68	2			1	24	21.56	21.70	21.61	2
		25	0	20.65	20.73	20.66	3			12	0	20.54	20.73	20.63	3
		25	12	20.69	20.72	20.71	3			12	6	20.66	20.65	20.61	3
		25	25	20.47	20.56	20.53	3			12	13	20.40	20.52	20.44	3
		50	0	20.63	20.65	20.60	3			25	0	20.60	20.62	20.62	3
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23025	23095	23165				Channel		23017	23095	23173	
		Frequency (MHz)		700.5	707.5	714.5				Frequency (MHz)		699.7	707.5	715.3	
3M	QPSK	1	0	23.48	23.51	23.48	0	1.4M	QPSK	1	0	23.56	23.59	23.56	0
		1	7	23.61	23.66	23.60	0			1	2	23.66	23.67	23.60	0
		1	14	23.56	23.66	23.59	0			1	5	23.53	23.59	23.61	0
		8	0	22.54	22.60	22.62	1			3	0	23.48	23.67	23.61	0
		8	3	22.53	22.65	22.69	1			3	1	23.68	23.76	23.60	0
		8	7	22.34	22.34	22.42	1			3	3	23.44	23.43	23.37	0
		15	0	22.57	22.58	22.50	1			6	0	22.66	22.55	22.57	1
	16QAM	1	0	22.38	22.48	22.53	1		16QAM	1	0	22.36	22.42	22.43	1
		1	7	22.59	22.55	22.57	1			1	2	22.54	22.55	22.45	1
		1	14	22.54	22.53	22.48	1			1	5	22.59	22.51	22.53	1
		8	0	21.48	21.63	21.63	2			3	0	22.56	22.64	22.56	1
		8	3	21.50	21.58	21.69	2			3	1	22.50	22.60	22.49	1
		8	7	21.25	21.37	21.33	2			3	3	22.32	22.45	22.36	1
		15	0	21.58	21.54	21.57	2			6	0	21.47	21.55	21.59	2
	64QAM	1	0	21.29	21.57	21.38	2		64QAM	1	0	21.37	21.42	21.37	2
		1	7	21.49	21.46	21.57	2			1	2	21.57	21.70	21.54	2
		1	14	21.56	21.61	21.55	2			1	5	21.41	21.45	21.57	2
		8	0	20.62	20.64	20.56	3			3	0	21.49	21.63	21.52	2
		8	3	20.58	20.59	20.52	3			3	1	21.52	21.70	21.53	2
		8	7	20.32	20.37	20.29	3			3	3	21.36	21.44	21.32	2
		15	0	20.57	20.59	20.61	3			6	0	20.50	20.57	20.52	3

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LTE Band 12															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23060	23095	23130				Channel		23035	23095	23155	
		Frequency (MHz)		704.0	707.5	711.0				Frequency (MHz)		701.5	707.5	713.5	
10M	QPSK	1	0	20.09	20.20	20.15	0	5M	QPSK	1	0	20.07	20.10	20.05	0
		1	24	20.25	20.36	20.31	0			1	12	20.18	20.31	20.28	0
		1	49	20.16	20.27	20.22	0			1	24	20.14	20.22	20.16	0
		25	0	20.22	20.33	20.28	0			12	0	20.12	20.27	20.26	0
		25	12	20.23	20.34	20.29	0			12	6	20.23	20.33	20.26	0
		25	25	20.20	20.31	20.26	0			12	13	20.18	20.22	20.26	0
		50	0	20.16	20.27	20.22	0			25	0	20.14	20.20	20.19	0
		1	0	19.99	20.19	20.12	0		16QAM	1	0	20.08	20.12	20.03	0
	16QAM	1	24	20.21	20.34	20.31	0			1	12	20.18	20.31	20.19	0
		1	49	20.14	20.24	20.17	0			1	24	20.10	20.11	20.11	0
		25	0	20.17	20.28	20.28	0			12	0	20.14	20.28	20.24	0
		25	12	20.15	20.34	20.19	0			12	6	20.10	20.25	20.14	0
		25	25	20.13	20.22	20.24	0			12	13	20.09	20.18	20.10	0
		50	0	20.06	20.17	20.22	0			25	0	19.99	20.15	20.15	0
		1	0	20.04	20.12	20.07	0		64QAM	1	0	20.05	20.11	20.05	0
	64QAM	1	24	20.16	20.27	20.21	0			1	12	20.09	20.28	20.21	0
		1	49	20.06	20.20	20.17	0			1	24	20.00	20.12	20.13	0
		25	0	20.17	20.33	20.26	0			12	0	20.11	20.31	20.19	0
		25	12	20.16	20.26	20.26	0			12	6	20.09	20.18	20.19	0
		25	25	20.20	20.30	20.24	0			12	13	20.09	20.16	20.20	0
		50	0	20.09	20.26	20.16	0			25	0	20.04	20.19	20.10	0
		1	0	19.97	20.15	20.09	0		QPSK	1	0	19.97	20.11	19.86	0
3M	QPSK	1	7	20.20	20.26	20.21	0			1	2	20.15	20.25	20.14	0
		1	14	20.00	20.20	20.17	0			1	5	20.11	20.07	20.17	0
		8	0	20.07	20.23	20.24	0			3	0	20.09	20.10	20.17	0
		8	3	20.00	20.23	20.15	0			3	1	20.03	20.21	20.02	0
		8	7	20.02	20.14	20.17	0			3	3	20.09	20.19	20.15	0
		15	0	20.12	20.16	20.14	0			6	0	19.97	20.13	20.05	0
	16QAM	1	0	20.03	20.03	20.13	0		16QAM	1	0	19.92	20.06	19.93	0
		1	7	20.10	20.08	20.28	0			1	2	20.05	20.18	20.23	0
		1	14	19.95	20.20	20.15	0			1	5	19.85	20.12	20.08	0
		8	0	20.00	20.18	20.19	0			3	0	20.06	20.07	20.15	0
		8	3	20.12	20.07	20.16	0			3	1	20.14	20.22	20.05	0
		8	7	20.10	20.20	20.13	0			3	3	20.02	20.10	20.21	0
		15	0	20.05	20.09	20.10	0			6	0	20.03	20.04	19.99	0
		1	0	19.85	20.06	19.98	0		64QAM	1	0	19.92	20.10	20.01	0
	64QAM	1	7	20.03	20.17	20.16	0			1	2	20.14	20.15	20.05	0
		1	14	19.95	20.15	20.09	0			1	5	19.92	20.09	20.16	0
		8	0	20.09	20.19	20.09	0			3	0	20.11	20.17	20.18	0
		8	3	20.07	20.15	20.04	0			3	1	20.05	20.16	20.14	0
		8	7	20.05	20.08	20.03	0			3	3	20.05	20.12	20.20	0
		15	0	19.88	20.21	20.00	0			6	0	19.97	20.09	19.95	0

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LTE Band 13																
EUT without Power Reduction (P-Sensor NOT Triggered)																
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	
		Channel								23205	23230					23225
		Frequency (MHz)								779.5	782.0					784.5
10M	QPSK	1	0		23.8		0	5M	QPSK	1	0	23.68	23.73	23.69	0	
		1	24		23.83		0			1	12	23.66	23.71	23.67	0	
		1	49		23.7		0			1	24	23.56	23.61	23.57	0	
		25	0		22.79		1			12	0	22.65	22.70	22.66	1	
		25	12		22.86		1			12	6	22.72	22.77	22.73	1	
		25	25		22.78		1			12	13	22.64	22.69	22.65	1	
		50	0		22.83		1			25	0	22.69	22.74	22.70	1	
	16QAM	1	0		22.71		1		16QAM	1	0	22.67	22.70	22.66	1	
		1	24		22.80		1			1	12	22.61	22.67	22.58	1	
		1	49		22.63		1			1	24	22.49	22.59	22.49	1	
		25	0		21.69		2			12	0	21.57	21.70	21.56	2	
		25	12		21.86		2			12	6	21.72	21.72	21.70	2	
		25	25		21.75		2			12	13	21.64	21.60	21.65	2	
	64QAM	1	0		21.77		2		64QAM	25	0	21.65	21.73	21.65	2	
		1	0		21.70		2			1	0	21.59	21.71	21.65	2	
		1	24		21.77		2			1	12	21.60	21.67	21.63	2	
		1	49		21.64		2			1	24	21.48	21.55	21.56	2	
		25	0		20.74		3			12	0	20.60	20.62	20.64	3	
		25	12		20.82		3			12	6	20.69	20.74	20.71	3	
		25	25		20.78		3			12	13	20.54	20.65	20.57	3	
	50	0		20.75		3	25		0	20.67	20.67	20.65	3			

LTE Band 13																
EUT with Power Reduction (P-Sensor Triggered)																
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	
		Channel								23205	23230					23225
		Frequency (MHz)								779.5	782.0					784.5
10M	QPSK	1	0		17.95		0	5M	QPSK	1	0	17.94	17.96	17.91	0	
		1	24		17.99		0			1	12	17.90	17.92	17.87	0	
		1	49		17.94		0			1	24	17.88	17.90	17.85	0	
		25	0		17.82		0			12	0	17.68	17.70	17.65	0	
		25	12		17.87		0			12	6	17.81	17.83	17.78	0	
		25	25		17.83		0			12	13	17.77	17.79	17.74	0	
		50	0		17.72		0			25	0	17.96	17.98	17.93	0	
	16QAM	1	0		17.97		0		16QAM	1	0	17.91	17.93	17.88	0	
		1	24		17.89		0			1	12	17.83	17.85	17.80	0	
		1	49		17.94		0			1	24	17.88	17.90	17.85	0	
		25	0		17.65		0			12	0	17.59	17.61	17.56	0	
		25	12		17.86		0			12	6	17.80	17.82	17.77	0	
		25	25		17.75		0			12	13	17.69	17.71	17.66	0	
	64QAM	50	0		17.99		0		64QAM	25	0	17.93	17.95	17.90	0	
		1	0		17.98		0			1	0	17.94	17.96	17.91	0	
		1	24		17.90		0			1	12	17.84	17.86	17.81	0	
		1	49		17.85		0			1	24	17.79	17.81	17.76	0	
		25	0		17.73		0			12	0	17.67	17.69	17.64	0	
		25	12		17.83		0			12	6	17.77	17.79	17.74	0	
		25	25		17.73		0			12	13	17.67	17.69	17.64	0	
	50	0		17.96		0	25		0	17.90	17.92	17.87	0			

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LTE Band 14															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			23330					Channel		23305	23330	23355	
		Frequency (MHz)			793.0					Frequency (MHz)		790.5	793.0	795.5	
10M	QPSK	1	0		23.67		0	5M	QPSK	1	0	23.65	23.62	23.59	0
		1	24		23.59		0			1	12	23.56	23.53	23.50	0
		1	49		23.51		0			1	24	23.48	23.45	23.42	0
		25	0		22.72		1			12	0	22.69	22.66	22.63	1
		25	12		22.69		1			12	6	22.66	22.63	22.60	1
		25	25		22.57		1			12	13	22.54	22.51	22.48	1
		50	0		22.62		1			25	0	22.59	22.56	22.53	1
	16QAM	1	0		22.59		1		16QAM	1	0	22.65	22.54	22.59	1
		1	24		22.59		1			1	12	22.51	22.44	22.45	1
		1	49		22.46		1			1	24	22.47	22.36	22.34	1
		25	0		21.70		2			12	0	21.59	21.64	21.62	2
		25	12		21.61		2			12	6	21.60	21.62	21.57	2
		25	25		21.56		2			12	13	21.48	21.50	21.41	2
	64QAM	50	0		21.61		2		64QAM	25	0	21.52	21.54	21.46	2
		1	0		21.63		2			1	0	21.56	21.60	21.52	2
		1	24		21.53		2			1	12	21.56	21.53	21.43	2
		1	49		21.42		2			1	24	21.40	21.41	21.37	2
		25	0		20.67		3			12	0	20.67	20.64	20.53	3
		25	12		20.66		3			12	6	20.61	20.58	20.53	3
		25	25		20.57		3			12	13	20.49	20.43	20.38	3
	50	0		20.60		3	25		0	20.57	20.55	20.51	3		

LTE Band 14															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			23330					Channel		23305	23330	23355	
		Frequency (MHz)			793.0					Frequency (MHz)		790.5	793.0	795.5	
10M	QPSK	1	0		17.95		0	5M	QPSK	1	0	17.90	17.92	17.82	0
		1	24		17.80		0			1	12	17.91	17.93	17.83	0
		1	49		17.81		0			1	24	17.88	17.90	17.80	0
		25	0		17.88		0			12	0	17.86	17.88	17.78	0
		25	12		17.86		0			12	6	17.80	17.82	17.72	0
		25	25		17.80		0			12	13	17.84	17.86	17.76	0
		50	0		17.84		0			25	0	17.87	17.89	17.79	0
	16QAM	1	0		17.92		0		16QAM	1	0	17.88	17.90	17.80	0
		1	24		17.88		0			1	12	17.89	17.91	17.81	0
		1	49		17.82		0			1	24	17.86	17.88	17.78	0
		25	0		17.86		0			12	0	17.84	17.86	17.76	0
		25	12		17.82		0			12	6	17.78	17.80	17.70	0
		25	25		17.88		0			12	13	17.82	17.84	17.74	0
		50	0		17.83		0			25	0	17.85	17.87	17.77	0
	64QAM	1	0		17.88		0		64QAM	1	0	17.85	17.87	17.77	0
		1	24		17.82		0			1	12	17.86	17.88	17.78	0
		1	49		17.85		0			1	24	17.83	17.85	17.75	0
		25	0		17.78		0			12	0	17.81	17.83	17.73	0
		25	12		17.82		0			12	6	17.75	17.77	17.67	0
		25	25		17.80		0			12	13	17.79	17.81	17.71	0
		50	0		17.81		0			25	0	17.82	17.84	17.74	0

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LTE Band 17															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23780	23790	23800				Channel		23755	23790	23825	
		Frequency (MHz)		709.0	710.0	711.0				Frequency (MHz)		706.5	710.0	713.5	
10M	QPSK	1	0	23.76	23.89	23.87	0	5M	QPSK	1	0	23.71	23.76	23.63	0
		1	24	23.91	24.04	24.02	0			1	12	23.70	23.89	23.91	0
		1	49	23.75	23.88	23.86	0			1	24	23.62	23.84	23.67	0
		25	0	22.88	23.01	22.99	1			12	0	22.82	22.87	22.81	1
		25	12	22.97	23.10	23.08	1			12	6	22.87	23.01	22.95	1
		25	25	22.92	23.05	23.03	1			12	13	22.79	22.91	22.82	1
		50	0	22.98	23.11	23.09	1			25	0	22.79	23.02	22.93	1
	16QAM	1	0	22.66	22.85	22.77	1		16QAM	1	0	22.61	22.76	22.75	1
		1	24	22.89	23.01	23.01	1			1	12	22.65	22.98	22.82	1
		1	49	22.73	22.88	22.81	1			1	24	22.55	22.68	22.72	1
		25	0	21.86	22.01	21.89	2			12	0	21.81	21.79	21.71	2
		25	12	21.87	22.09	22.04	2			12	6	21.75	21.98	21.83	2
		25	25	21.89	21.99	21.95	2			12	13	21.76	21.99	21.87	2
	64QAM	50	0	21.88	22.03	22.07	2		64QAM	25	0	21.76	21.81	21.81	2
		1	0	21.69	21.81	21.86	2			1	0	21.73	21.76	21.76	2
		1	24	21.82	22.01	21.94	2			1	12	21.73	21.90	21.82	2
		1	49	21.74	21.80	21.76	2			1	24	21.54	21.69	21.78	2
		25	0	20.87	20.93	20.96	3			12	0	20.79	20.91	20.95	3
		25	12	20.87	21.00	20.98	3			12	6	20.86	20.82	20.85	3
		25	25	20.91	20.96	20.93	3			12	13	20.74	20.84	20.93	3
		50	0	20.94	21.02	20.99	3			25	0	20.87	20.97	20.97	3

LTE Band 17															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		23780	23790	23800				Channel		23755	23790	23825	
		Frequency (MHz)		709.0	710.0	711.0				Frequency (MHz)		706.5	710.0	713.5	
10M	QPSK	1	0	19.35	19.47	19.40	0	5M	QPSK	1	0	19.32	19.44	19.37	0
		1	24	19.32	19.44	19.37	0			1	12	19.29	19.41	19.34	0
		1	49	19.23	19.35	19.28	0			1	24	19.20	19.32	19.25	0
		25	0	19.31	19.43	19.36	1			12	0	19.28	19.40	19.33	1
		25	12	19.30	19.42	19.35	1			12	6	19.27	19.39	19.32	1
		25	25	19.21	19.33	19.26	1			12	13	19.18	19.30	19.23	1
		50	0	19.28	19.40	19.33	1			25	0	19.25	19.37	19.30	1
	16QAM	1	0	19.32	19.44	19.37	1		16QAM	1	0	19.29	19.41	19.34	1
		1	24	19.29	19.41	19.34	1			1	12	19.26	19.38	19.31	1
		1	49	19.20	19.32	19.25	1			1	24	19.17	19.29	19.22	1
		25	0	19.28	19.40	19.33	2			12	0	19.25	19.37	19.30	2
		25	12	19.27	19.39	19.32	2			12	6	19.24	19.36	19.29	2
		25	25	19.18	19.30	19.23	2			12	13	19.15	19.27	19.20	2
	64QAM	50	0	19.25	19.37	19.30	2		25	0	19.22	19.34	19.27	2	
		1	0	19.30	19.42	19.35	2		64QAM	1	0	19.27	19.39	19.32	2
		1	24	19.27	19.39	19.32	2			1	12	19.24	19.36	19.29	2
		1	49	19.18	19.30	19.23	2			1	24	19.15	19.27	19.20	2
		25	0	19.26	19.38	19.31	3			12	0	19.23	19.35	19.28	3
		25	12	19.25	19.37	19.30	3			12	6	19.22	19.34	19.27	3
	25	25	19.16	19.28	19.21	3	12			13	19.13	19.25	19.18	3	
	50	0	19.23	19.35	19.28	3	25		0	19.20	19.32	19.25	3		

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LTE Band 25															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		26140	26365	26590				Channel		26115	26365	26615	
		Frequency (MHz)		1860.0	1882.5	1905.0				Frequency (MHz)		1857.5	1882.5	1907.5	
20M	QPSK	1	0	23.11	23.39	23.46	0	15M	QPSK	1	0	23.07	23.33	23.42	0
		1	50	22.93	23.21	23.28	0			1	37	22.88	23.19	23.26	0
		1	99	22.76	23.04	23.11	0			1	74	22.71	23.03	23.11	0
		50	0	22.09	22.37	22.44	1			36	0	22.01	22.29	22.34	1
		50	25	22.01	22.29	22.36	1			36	19	21.96	22.29	22.32	1
		50	50	21.89	22.17	22.24	1			36	39	21.82	22.08	22.14	1
		100	0	21.99	22.27	22.34	1			75	0	21.98	22.27	22.32	1
		1	0	22.07	22.37	22.43	1		16QAM	1	0	21.93	22.22	22.41	1
	16QAM	1	50	21.91	22.15	22.21	1			1	37	21.93	22.11	22.25	1
		1	99	21.74	21.98	22.04	1			1	74	21.70	21.85	21.98	1
		50	0	21.04	21.33	21.40	2			36	0	20.89	21.22	21.34	2
		50	25	20.93	21.26	21.32	2			36	19	20.96	21.27	21.18	2
		50	50	20.84	21.15	21.19	2			36	39	20.81	21.05	21.12	2
		100	0	20.93	21.20	21.25	2			75	0	20.93	21.13	21.28	2
		1	0	21.09	21.39	21.46	2		64QAM	1	0	21.03	21.33	21.39	2
	64QAM	1	50	20.90	21.21	21.26	2			1	37	20.84	21.13	21.18	2
		1	99	20.75	20.95	21.03	2			1	74	20.65	20.89	21.02	2
		50	0	20.00	20.31	20.34	3			36	0	19.90	20.31	20.32	3
		50	25	19.95	20.29	20.26	3			36	19	19.89	20.14	20.22	3
		50	50	19.79	20.16	20.14	3			36	39	19.79	20.04	20.13	3
		100	0	19.98	20.21	20.32	3			75	0	19.92	20.18	20.28	3
10M	QPSK	1	0	23.06	23.19	23.33	0	5M	QPSK	1	0	23.02	23.34	23.31	0
		1	24	22.77	23.15	23.08	0			1	12	22.73	23.19	22.98	0
		1	49	22.62	23.00	22.94	0			1	24	22.74	22.87	22.84	0
		25	0	21.94	22.20	22.23	1			12	0	22.00	22.20	22.29	1
		25	12	21.83	22.08	22.21	1			12	6	21.98	22.09	22.18	1
		25	25	21.82	22.04	22.19	1			12	13	21.74	22.00	22.00	1
		50	0	21.89	22.10	22.28	1			25	0	21.77	22.14	22.17	1
		1	0	21.97	22.21	22.27	1		16QAM	1	0	21.96	22.33	22.29	1
	16QAM	1	24	21.75	22.06	22.16	1			1	12	21.72	22.00	22.03	1
		1	49	21.62	21.86	21.97	1			1	24	21.55	21.89	21.98	1
		25	0	21.06	21.16	21.30	2			12	0	20.96	21.27	21.27	2
		25	12	20.78	21.10	21.23	2			12	6	20.83	21.05	21.25	2
		25	25	20.77	20.97	21.09	2			12	13	20.65	21.04	20.99	2
		50	0	20.80	21.04	21.14	2			25	0	20.92	21.12	21.18	2
		1	0	20.89	21.13	21.39	2		64QAM	1	0	20.84	21.21	21.23	2
	64QAM	1	24	20.63	20.99	21.06	2			1	12	20.84	20.96	21.15	2
		1	49	20.58	20.79	20.94	2			1	24	20.60	20.98	21.04	2
		25	0	19.96	20.32	20.38	3			12	0	19.89	20.24	20.17	3
		25	12	19.87	20.07	20.18	3			12	6	19.75	20.21	20.13	3
		25	25	19.63	19.96	20.10	3			12	13	19.80	20.05	20.04	3
		50	0	19.69	20.00	20.04	3			25	0	19.80	20.19	20.15	3
3M	QPSK	1	0	23.03	23.27	23.44	0	1.4M	QPSK	1	0	22.97	23.32	23.32	0
		1	7	22.76	23.02	23.15	0			1	2	22.80	23.16	23.14	0
		1	14	22.66	22.89	23.10	0			1	5	22.60	22.95	23.07	0
		8	0	21.92	22.28	22.31	1			3	0	22.99	23.27	23.35	0
		8	3	21.84	22.17	22.13	1			3	1	22.93	23.21	23.20	0
		8	7	21.80	22.00	22.18	1			3	3	22.73	23.05	23.01	0
		15	0	21.78	22.10	22.22	1			6	0	21.80	22.15	22.15	1
		1	0	21.96	22.11	22.26	1		16QAM	1	0	21.94	22.20	22.22	1
	16QAM	1	7	21.78	22.10	22.08	1			1	2	21.70	22.04	22.06	1
		1	14	21.57	21.86	21.99	1			1	5	21.52	21.83	21.85	1
		8	0	20.81	21.26	21.23	2			3	0	21.81	22.21	22.22	1
		8	3	20.83	21.12	21.18	2			3	1	21.91	22.21	22.09	1
		8	7	20.79	21.01	21.00	2			3	3	21.72	22.03	22.07	1
		15	0	20.72	21.22	21.17	2			6	0	20.84	21.11	21.09	2
		1	0	21.06	21.18	21.40	2		64QAM	1	0	20.87	21.14	21.31	2
	64QAM	1	7	20.89	21.02	21.04	2			1	2	20.81	21.02	21.02	2
		1	14	20.51	20.84	20.94	2			1	5	20.66	20.96	21.07	2
		8	0	19.98	20.23	20.20	3			3	0	20.90	21.14	21.27	2
		8	3	19.84	20.22	20.27	3			3	1	20.88	21.11	21.24	2
		8	7	19.67	20.11	20.06	3			3	3	20.80	20.92	21.08	2
		15	0	19.90	20.10	20.22	3			6	0	19.72	20.03	20.24	3

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LTE Band 25															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		26140	26365	26590				Channel		26115	26365	26615	
		Frequency (MHz)		1860.0	1882.5	1905.0				Frequency (MHz)		1857.5	1882.5	1907.5	
20M	QPSK	1	0	17.82	17.99	17.95	0	15M	QPSK	1	0	17.78	17.95	17.91	0
		1	50	17.71	17.88	17.84	0			1	37	17.67	17.84	17.80	0
		1	99	17.45	17.62	17.58	0			1	74	17.41	17.58	17.54	0
		50	0	17.79	17.96	17.92	0			36	0	17.75	17.92	17.88	0
		50	25	17.74	17.91	17.87	0			36	19	17.70	17.87	17.83	0
		50	50	17.68	17.85	17.81	0			36	39	17.64	17.81	17.77	0
		100	0	17.75	17.92	17.88	0			75	0	17.71	17.88	17.84	0
		1	0	17.80	17.97	17.93	0		16QAM	1	0	17.76	17.93	17.89	0
	16QAM	1	50	17.69	17.86	17.82	0			1	37	17.65	17.82	17.78	0
		1	99	17.43	17.60	17.56	0			1	74	17.39	17.56	17.52	0
		50	0	17.77	17.94	17.90	0			36	0	17.73	17.90	17.86	0
		50	25	17.72	17.89	17.85	0			36	19	17.68	17.85	17.81	0
		50	50	17.66	17.83	17.79	0			36	39	17.62	17.79	17.75	0
		100	0	17.73	17.90	17.86	0			75	0	17.69	17.86	17.82	0
		1	0	17.77	17.94	17.90	0		64QAM	1	0	17.73	17.90	17.86	0
	64QAM	1	50	17.66	17.83	17.79	0			1	37	17.62	17.79	17.75	0
		1	99	17.40	17.57	17.53	0			1	74	17.36	17.53	17.49	0
		50	0	17.74	17.91	17.87	0			36	0	17.70	17.87	17.83	0
		50	25	17.69	17.86	17.82	0			36	19	17.65	17.82	17.78	0
		50	50	17.63	17.80	17.76	0			36	39	17.59	17.76	17.72	0
		100	0	17.70	17.87	17.83	0			75	0	17.66	17.83	17.79	0
		1	0	17.76	17.93	17.89	0			1	0	17.73	17.90	17.86	0
10M	QPSK	1	0	17.76	17.93	17.89	0	5M	QPSK	1	0	17.73	17.90	17.86	0
		1	24	17.65	17.82	17.78	0			1	12	17.62	17.79	17.75	0
		1	49	17.39	17.56	17.52	0			1	24	17.36	17.53	17.49	0
		25	0	17.73	17.90	17.86	0			12	0	17.70	17.87	17.83	0
		25	12	17.68	17.85	17.81	0			12	6	17.65	17.82	17.78	0
		25	25	17.62	17.79	17.75	0			12	13	17.59	17.76	17.72	0
		50	0	17.69	17.86	17.82	0			25	0	17.66	17.83	17.79	0
		1	0	17.74	17.91	17.87	0		16QAM	1	0	17.71	17.88	17.84	0
	16QAM	1	24	17.63	17.80	17.76	0			1	12	17.60	17.77	17.73	0
		1	49	17.37	17.54	17.50	0			1	24	17.34	17.51	17.47	0
		25	0	17.71	17.88	17.84	0			12	0	17.68	17.85	17.81	0
		25	12	17.66	17.83	17.79	0			12	6	17.63	17.80	17.76	0
		25	25	17.60	17.77	17.73	0			12	13	17.57	17.74	17.70	0
		50	0	17.67	17.84	17.80	0			25	0	17.64	17.81	17.77	0
		1	0	17.71	17.88	17.84	0		64QAM	1	0	17.68	17.85	17.81	0
	64QAM	1	24	17.60	17.77	17.73	0			1	12	17.57	17.74	17.70	0
		1	49	17.34	17.51	17.47	0			1	24	17.31	17.48	17.44	0
		25	0	17.68	17.85	17.81	0			12	0	17.65	17.82	17.78	0
		25	12	17.63	17.80	17.76	0			12	6	17.60	17.77	17.73	0
		25	25	17.57	17.74	17.70	0			12	13	17.54	17.71	17.67	0
		50	0	17.64	17.81	17.77	0			25	0	17.61	17.78	17.74	0
		1	0	17.72	17.89	17.85	0		QPSK	v	0	17.70	17.87	17.83	0
3M	QPSK	1	7	17.61	17.78	17.74	0			1	2	17.59	17.76	17.72	0
		1	14	17.35	17.52	17.48	0			1	5	17.33	17.50	17.46	0
		8	0	17.69	17.86	17.82	0			3	0	17.67	17.84	17.80	0
		8	3	17.64	17.81	17.77	0			3	1	17.62	17.79	17.75	0
		8	7	17.58	17.75	17.71	0			3	3	17.56	17.73	17.69	0
		15	0	17.65	17.82	17.78	0			6	0	17.63	17.80	17.76	0
	16QAM	1	0	17.70	17.87	17.83	0		16QAM	1	0	17.68	17.85	17.81	0
		1	7	17.59	17.76	17.72	0			1	2	17.57	17.74	17.70	0
		1	14	17.33	17.50	17.46	0			1	5	17.31	17.48	17.44	0
		8	0	17.67	17.84	17.80	0			3	0	17.65	17.82	17.78	0
		8	3	17.62	17.79	17.75	0			3	1	17.60	17.77	17.73	0
		8	7	17.56	17.73	17.69	0			3	3	17.54	17.71	17.67	0
		15	0	17.63	17.80	17.76	0			6	0	17.61	17.78	17.74	0
		1	0	17.67	17.84	17.80	0		64QAM	1	0	17.65	17.82	17.78	0
	64QAM	1	7	17.56	17.73	17.69	0			1	2	17.54	17.71	17.67	0
		1	14	17.30	17.47	17.43	0			1	5	17.28	17.45	17.41	0
		8	0	17.64	17.81	17.77	0			3	0	17.62	17.79	17.75	0
		8	3	17.59	17.76	17.72	0			3	1	17.57	17.74	17.70	0
		8	7	17.53	17.70	17.66	0			3	3	17.51	17.68	17.64	0
		15	0	17.60	17.77	17.73	0			6	0	17.58	17.75	17.71	0

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LTE Band 26																							
EUT without Power Reduction (P-Sensor NOT Triggered)																							
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)								
		Channel		26765	26865	26965				Channel		26740	26865	26990									
		Frequency (MHz)		821.5	831.5	841.5				Frequency (MHz)		819.0	831.5	844.0									
15M	QPSK	1	0	23.45	23.47	23.52	0	10M	QPSK	1	0	23.43	23.44	23.43	0								
		1	37	23.49	23.51	23.48	0			1	24	23.44	23.46	23.50	0								
		1	74	23.42	23.44	23.45	0			1	49	23.36	23.44	23.35	0								
		36	0	22.47	22.49	22.50	1			25	0	22.41	22.47	22.48	1								
		36	19	22.42	22.44	22.45	1			25	12	22.33	22.38	22.40	1								
		36	39	22.44	22.46	22.47	1			25	25	22.36	22.37	22.45	1								
		75	0	22.37	22.39	22.40	1			50	0	22.34	22.38	22.37	1								
	16QAM	1	0	22.39	22.47	22.45	1		16QAM	1	0	22.32	22.40	22.37	1								
		1	37	22.48	22.41	22.50	1			1	24	22.33	22.42	22.47	1								
		1	74	22.37	22.37	22.38	1			1	49	22.26	22.31	22.32	1								
		36	0	21.40	21.40	21.40	2			25	0	21.32	21.44	21.42	2								
		36	19	21.41	21.39	21.40	2			25	12	21.27	21.33	21.34	2								
		36	39	21.42	21.37	21.37	2			25	25	21.31	21.46	21.36	2								
		75	0	21.34	21.37	21.34	2			50	0	21.22	21.34	21.38	2								
	64QAM	1	0	21.39	21.44	21.39	2		64QAM	1	0	21.33	21.40	21.42	2								
		1	37	21.47	21.48	21.45	2			1	24	21.37	21.50	21.39	2								
		1	74	21.35	21.40	21.37	2			1	49	21.38	21.32	21.33	2								
		36	0	20.45	20.42	20.41	3			25	0	20.31	20.39	20.41	3								
		36	19	20.36	20.36	20.38	3			25	12	20.24	20.38	20.32	3								
		36	39	20.41	20.46	20.45	3			25	25	20.33	20.32	20.45	3								
		75	0	20.36	20.35	20.36	3			50	0	20.26	20.35	20.27	3								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)								
		Channel		26715	26865	27015				Channel		26705	26865	27025									
		Frequency (MHz)		816.5	831.5	846.5				Frequency (MHz)		815.5	831.5	847.5									
5M	QPSK	1	0	23.40	23.41	23.44	0	3M	QPSK	1	0	23.37	23.25	23.36	0								
		1	12	23.36	23.38	23.44	0			1	7	23.44	23.29	23.27	0								
		1	24	23.32	23.37	23.31	0			1	14	23.41	23.31	23.19	0								
		12	0	22.38	22.32	22.45	1			8	0	22.25	22.36	22.48	1								
		12	6	22.31	22.33	22.28	1			8	3	22.35	22.31	22.23	1								
		12	13	22.25	22.28	22.38	1			8	7	22.32	22.40	22.26	1								
		25	0	22.33	22.23	22.22	1			15	0	22.33	22.28	22.27	1								
	16QAM	1	0	22.25	22.31	22.29	1		16QAM	1	0	22.35	22.26	22.35	1								
		1	12	22.38	22.24	22.25	1			1	7	22.29	22.32	22.39	1								
		1	24	22.19	22.31	22.19	1			1	14	22.24	22.27	22.25	1								
		12	0	21.19	21.24	21.23	2			8	0	21.31	21.37	21.27	2								
		12	6	21.25	21.33	21.39	2			8	3	21.19	21.28	21.34	2								
		12	13	21.32	21.28	21.27	2			8	7	21.24	21.25	21.31	2								
		25	0	21.26	21.31	21.11	2			15	0	21.26	21.26	21.26	2								
	64QAM	1	0	21.19	21.31	21.19	2		64QAM	1	0	21.25	21.27	21.28	2								
		1	12	21.20	21.38	21.34	2			1	7	21.20	21.24	21.32	2								
		1	24	21.15	21.29	21.22	2			1	14	21.22	21.30	21.31	2								
		12	0	20.33	20.37	20.32	3			8	0	20.34	20.24	20.30	3								
		12	6	20.21	20.23	20.27	3			8	3	20.23	20.22	20.25	3								
		12	13	20.34	20.20	20.27	3			8	7	20.30	20.25	20.18	3								
		25	0	20.31	20.26	20.23	3			15	0	20.15	20.22	20.14	3								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)																
		Channel		26697	26865	27033																	
		Frequency (MHz)		814.7	831.5	848.3																	
1.4M	QPSK	1	0	23.38	23.38	23.35	0																
		1	2	23.40	23.36	23.30	0																
		1	5	23.35	23.41	23.37	0																
		3	0	23.46	23.34	23.45	0																
		3	1	23.33	23.25	23.44	0																
		3	3	23.34	23.40	23.25	0																
		6	0	22.14	22.23	22.34	1																
	16QAM	1	0	22.34	22.32	22.28	1																
		1	2	22.38	22.41	22.31	1																
		1	5	22.18	22.14	22.26	1																
		3	0	22.25	22.32	22.34	1																
		3	1	22.24	22.26	22.31	1																
		3	3	22.32	22.31	22.39	1																
		6	0	21.21	21.25	21.29	2																
	64QAM	1	0	21.23	21.17	21.29	2																
		1	2	21.22	21.42	21.34	2																
		1	5	21.27	21.29	21.33	2																
		3	0	21.16	21.27	21.28	2																
		3	1	21.23	21.23	21.23	2																
		3	3	21.19	21.19	21.40	2																
		6	0	20.20	20.08	20.15	3																

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LTE Band 26															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		26765	26865	26965				Channel		26740	26865	26990	
		Frequency (MHz)		821.5	831.5	841.5				Frequency (MHz)		819.0	831.5	844.0	
15M	QPSK	1	0	17.90	17.98	17.95	0	10M	QPSK	1	0	17.87	17.95	17.92	0
		1	37	17.87	17.95	17.92	0			1	24	17.84	17.92	17.89	0
		1	74	17.84	17.92	17.89	0			1	49	17.81	17.89	17.86	0
		36	0	17.80	17.89	17.85	0			25	0	17.77	17.85	17.82	0
		36	19	17.78	17.86	17.83	0			25	12	17.75	17.83	17.80	0
		36	39	17.74	17.82	17.79	0			25	25	17.71	17.79	17.76	0
		75	0	17.81	17.88	17.86	0			50	0	17.78	17.86	17.83	0
		1	0	17.88	17.96	17.93	0		16QAM	1	0	17.85	17.93	17.90	0
	16QAM	1	37	17.85	17.93	17.90	0			1	24	17.82	17.90	17.87	0
		1	74	17.82	17.90	17.87	0			1	49	17.79	17.87	17.84	0
		36	0	17.78	17.86	17.83	0			25	0	17.75	17.83	17.80	0
		36	19	17.76	17.84	17.81	0			25	12	17.73	17.81	17.78	0
		36	39	17.72	17.80	17.77	0			25	25	17.69	17.77	17.74	0
		75	0	17.79	17.87	17.84	0			50	0	17.76	17.84	17.81	0
		1	0	17.87	17.95	17.92	0		64QAM	1	0	17.84	17.92	17.89	0
	64QAM	1	37	17.84	17.92	17.89	0			1	24	17.81	17.89	17.86	0
		1	74	17.81	17.89	17.86	0			1	49	17.78	17.86	17.83	0
		36	0	17.77	17.85	17.82	0			25	0	17.74	17.82	17.79	0
		36	19	17.75	17.83	17.80	0			25	12	17.72	17.80	17.77	0
		36	39	17.71	17.79	17.76	0			25	25	17.68	17.76	17.73	0
		75	0	17.78	17.86	17.83	0			50	0	17.75	17.83	17.80	0
		1	0	17.87	17.95	17.92	0			1	0	17.84	17.92	17.89	0
5M	QPSK	1	0	17.85	17.93	17.90	0	3M	QPSK	1	0	17.83	17.91	17.88	0
		1	12	17.82	17.90	17.87	0			1	7	17.80	17.88	17.85	0
		1	24	17.79	17.87	17.84	0			1	14	17.77	17.85	17.82	0
		12	0	17.75	17.83	17.80	0			8	0	17.73	17.81	17.78	0
		12	6	17.73	17.81	17.78	0			8	3	17.71	17.79	17.76	0
		12	13	17.69	17.77	17.74	0			8	7	17.67	17.75	17.72	0
		25	0	17.76	17.84	17.81	0			15	0	17.74	17.82	17.79	0
		1	0	17.83	17.91	17.88	0		16QAM	1	0	17.81	17.89	17.86	0
	16QAM	1	12	17.80	17.88	17.85	0			1	7	17.78	17.86	17.83	0
		1	24	17.77	17.85	17.82	0			1	14	17.75	17.83	17.80	0
		12	0	17.73	17.81	17.78	0			8	0	17.71	17.79	17.76	0
		12	6	17.71	17.79	17.76	0			8	3	17.69	17.77	17.74	0
		12	13	17.67	17.75	17.72	0			8	7	17.65	17.73	17.70	0
		25	0	17.74	17.82	17.79	0			15	0	17.72	17.80	17.77	0
		1	0	17.82	17.90	17.87	0		64QAM	1	0	17.80	17.88	17.85	0
	64QAM	1	12	17.79	17.87	17.84	0			1	7	17.77	17.85	17.82	0
		1	24	17.76	17.84	17.81	0			1	14	17.74	17.82	17.79	0
		12	0	17.72	17.80	17.77	0			8	0	17.70	17.78	17.75	0
		12	6	17.70	17.78	17.75	0			8	3	17.68	17.76	17.73	0
		12	13	17.66	17.74	17.71	0			8	7	17.64	17.72	17.69	0
		25	0	17.73	17.81	17.78	0			15	0	17.71	17.79	17.76	0
		1	0	17.82	17.90	17.87	0			1	0	17.82	17.90	17.87	0
1.4M	QPSK	1	2	17.79	17.87	17.84	0		QPSK	1	5	17.76	17.84	17.81	0
		1	5	17.76	17.84	17.81	0			3	0	17.72	17.80	17.77	0
		3	0	17.70	17.78	17.75	0			3	1	17.70	17.78	17.75	0
		3	3	17.66	17.74	17.71	0			3	3	17.66	17.74	17.71	0
		6	0	17.73	17.81	17.78	0			6	0	17.73	17.81	17.78	0
	16QAM	1	0	17.80	17.88	17.85	0			1	2	17.77	17.85	17.82	0
		1	2	17.77	17.85	17.82	0			1	5	17.74	17.82	17.79	0
		3	0	17.70	17.78	17.75	0			3	0	17.70	17.78	17.75	0
		3	1	17.68	17.76	17.73	0			3	1	17.68	17.76	17.73	0
		3	3	17.64	17.72	17.69	0			3	3	17.64	17.72	17.69	0
		6	0	17.71	17.79	17.76	0			6	0	17.71	17.79	17.76	0
	64QAM	1	0	17.79	17.87	17.84	0			1	0	17.79	17.87	17.84	0
		1	2	17.76	17.84	17.81	0			1	2	17.76	17.84	17.81	0
		1	5	17.73	17.81	17.78	0			1	5	17.73	17.81	17.78	0
		3	0	17.69	17.77	17.74	0			3	0	17.69	17.77	17.74	0
		3	1	17.67	17.75	17.72	0			3	1	17.67	17.75	17.72	0
		3	3	17.63	17.71	17.68	0			3	3	17.63	17.71	17.68	0
		6	0	17.70	17.78	17.75	0			6	0	17.70	17.78	17.75	0

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LTE Band 30															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset		Mid		3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			27710					Channel		27685	27710	27735	
		Frequency (MHz)			2310.0					Frequency (MHz)		2307.5	2310.0	2312.5	
10M	QPSK	1	0		22.12		0	5M	QPSK	1	0	22.11	22.01	22.03	0
		1	24		21.97		0			1	12	21.96	21.86	21.88	0
		1	49		21.98		0			1	24	21.97	21.87	21.89	0
		25	0		21.07		1			12	0	21.06	20.96	20.98	1
		25	12		21.05		1			12	6	21.04	20.94	20.96	1
		25	25		21.03		1			12	13	21.02	20.92	20.94	1
		50	0		21.02		1			25	0	21.01	20.91	20.93	1
	16QAM	1	0		21.09		1		16QAM	1	0	21.08	20.92	21.01	1
		1	24		20.87		1			1	12	20.95	20.86	20.87	1
		1	49		20.90		1			1	24	20.94	20.80	20.81	1
		25	0		20.00		2			12	0	20.04	19.94	19.93	2
		25	12		20.02		2			12	6	20.02	19.89	19.95	2
		25	25		19.94		2			12	13	19.93	19.92	19.94	2
	64QAM	50	0		20.01		2		64QAM	25	0	20.00	19.83	19.88	2
		1	0		20.03		2			1	0	20.07	20.00	19.94	2
		1	24		19.97		2			1	12	19.88	19.78	19.79	2
		1	49		19.97		2			1	24	19.88	19.80	19.80	2
		25	0		18.98		3			12	0	18.99	18.92	18.96	3
		25	12		18.95		3			12	6	18.96	18.89	18.86	3
		25	25		18.95		3			12	13	19.02	18.85	18.88	3
	50	0		19.02		3	25		0	18.93	18.87	18.90	3		

LTE Band 30															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset		Mid		3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel			27710					Channel		27685	27710	27735	
		Frequency (MHz)			2310.0					Frequency (MHz)		2307.5	2310.0	2312.5	
10M	QPSK	1	0		16.97		0	5M	QPSK	1	0	16.93	16.81	16.86	0
		1	24		16.88		0			1	12	16.90	16.78	16.83	0
		1	49		16.72		0			1	24	16.82	16.70	16.75	0
		25	0		16.88		0			12	0	16.81	16.69	16.74	0
		25	12		16.87		0			12	6	16.77	16.65	16.70	0
		25	25		16.85		0			12	13	16.75	16.63	16.68	0
		50	0		16.90		0			25	0	16.94	16.82	16.87	0
	16QAM	1	0		16.93		0		16QAM	1	0	16.90	16.78	16.83	0
		1	24		16.84		0			1	12	16.87	16.75	16.80	0
		1	49		16.68		0			1	24	16.79	16.67	16.72	0
		25	0		16.84		0			12	0	16.78	16.66	16.71	0
		25	12		16.83		0			12	6	16.74	16.62	16.67	0
		25	25		16.81		0			12	13	16.72	16.60	16.65	0
		50	0		16.86		0			25	0	16.91	16.79	16.84	0
	64QAM	1	0		16.91		0		64QAM	1	0	16.88	16.76	16.81	0
		1	24		16.82		0			1	12	16.85	16.73	16.78	0
		1	49		16.66		0			1	24	16.77	16.65	16.70	0
		25	0		16.82		0			12	0	16.76	16.64	16.69	0
		25	12		16.81		0			12	6	16.72	16.60	16.65	0
		25	25		16.79		0			12	13	16.70	16.58	16.63	0
		50	0		16.84		0			25	0	16.89	16.77	16.82	0

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LTE Band 38															
EUT without Power Reduction (P-Sensor NOT Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		37850	38000	38150				Channel		37825	38000	38175	
		Frequency (MHz)		2580	2595	2610				Frequency (MHz)		2577.5	2595	2612.5	
20M	QPSK	1	0	23.81	23.84	23.69	0	15M	QPSK	1	0	23.79	23.76	23.62	0
		1	50	23.69	23.72	23.57	0			1	37	23.59	23.67	23.55	0
		1	99	23.53	23.56	23.41	0			1	74	23.53	23.52	23.39	0
		50	0	22.84	22.87	22.72	1			36	0	22.76	22.82	22.66	1
		50	25	22.76	22.79	22.64	1			36	19	22.70	22.78	22.63	1
		50	50	22.72	22.75	22.60	1			36	39	22.63	22.69	22.53	1
		100	0	22.78	22.81	22.66	1			75	0	22.74	22.81	22.63	1
		1	0	22.73	22.84	22.59	1		16QAM	1	0	22.72	22.77	22.56	1
	16QAM	1	50	22.59	22.66	22.47	1			1	37	22.59	22.63	22.43	1
		1	99	22.51	22.54	22.34	1			1	74	22.44	22.46	22.35	1
		50	0	21.77	21.85	21.67	2			36	0	21.68	21.80	21.64	2
		50	25	21.70	21.75	21.60	2			36	19	21.60	21.66	21.55	2
		50	50	21.69	21.75	21.56	2			36	39	21.64	21.67	21.41	2
		100	0	21.69	21.75	21.60	2			75	0	21.68	21.71	21.49	2
		1	0	21.76	21.75	21.67	2		64QAM	1	0	21.61	21.69	21.53	2
	64QAM	1	50	21.63	21.70	21.57	2			1	37	21.57	21.62	21.48	2
		1	99	21.43	21.47	21.39	2			1	74	21.52	21.45	21.28	2
		50	0	20.75	20.86	20.64	3			36	0	20.73	20.74	20.54	3
		50	25	20.76	20.70	20.64	3			36	19	20.60	20.65	20.53	3
		50	50	20.64	20.68	20.51	3			36	39	20.57	20.65	20.50	3
		100	0	20.70	20.74	20.56	3			75	0	20.63	20.74	20.63	3
10M	QPSK	1	0	23.65	23.66	23.53	0	5M	QPSK	1	0	23.61	23.62	23.31	0
		1	24	23.63	23.57	23.49	0			1	12	23.60	23.62	23.44	0
		1	49	23.41	23.33	23.38	0			1	24	23.35	23.35	23.16	0
		25	0	22.65	22.69	22.57	1			12	0	22.75	22.77	22.46	1
		25	12	22.59	22.70	22.54	1			12	6	22.59	22.67	22.40	1
		25	25	22.71	22.72	22.51	1			12	13	22.66	22.63	22.51	1
		50	0	22.62	22.76	22.52	1			25	0	22.68	22.68	22.53	1
		1	0	22.76	22.67	22.39	1		16QAM	1	0	22.68	22.67	22.55	1
	16QAM	1	24	22.42	22.66	22.38	1			1	12	22.52	22.57	22.32	1
		1	49	22.37	22.41	22.26	1			1	24	22.36	22.25	22.22	1
		25	0	21.73	21.69	21.60	2			12	0	21.69	21.69	21.51	2
		25	12	21.54	21.64	21.42	2			12	6	21.45	21.68	21.56	2
		25	25	21.54	21.61	21.52	2			12	13	21.58	21.58	21.51	2
		50	0	21.74	21.56	21.57	2			25	0	21.62	21.52	21.48	2
		1	0	21.59	21.62	21.38	2		64QAM	1	0	21.67	21.71	21.59	2
	64QAM	1	24	21.54	21.64	21.33	2			1	12	21.39	21.58	21.39	2
		1	49	21.27	21.43	21.32	2			1	24	21.21	21.41	21.40	2
		25	0	20.68	20.65	20.44	3			12	0	20.67	20.68	20.39	3
		25	12	20.60	20.57	20.58	3			12	6	20.47	20.55	20.52	3
		25	25	20.45	20.58	20.35	3			12	13	20.65	20.58	20.29	3
		50	0	20.60	20.60	20.43	3			25	0	20.64	20.66	20.36	3

FCC SAR Test Report

LTE Band 38															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		37850	38000	38150				Channel		37825	38000	38175	
		Frequency (MHz)		2580	2595	2610				Frequency (MHz)		2577.5	2595	2612.5	
20M	QPSK	1	0	17.44	17.49	17.46	0	15M	QPSK	1	0	17.42	17.47	17.44	0
		1	50	17.33	17.38	17.35	0			1	37	17.31	17.36	17.33	0
		1	99	17.29	17.34	17.31	0			1	74	17.27	17.32	17.29	0
		50	0	17.31	17.36	17.33	0			36	0	17.29	17.34	17.31	0
		50	25	17.30	17.35	17.32	0			36	19	17.28	17.33	17.30	0
		50	50	17.19	17.24	17.21	0			36	39	17.17	17.22	17.19	0
		100	0	17.39	17.44	17.41	0			75	0	17.37	17.42	17.39	0
		1	0	17.42	17.47	17.44	0		16QAM	1	0	17.40	17.45	17.42	0
	16QAM	1	50	17.31	17.36	17.33	0			1	37	17.29	17.34	17.31	0
		1	99	17.27	17.32	17.29	0			1	74	17.25	17.30	17.27	0
		50	0	17.29	17.34	17.31	0			36	0	17.27	17.32	17.29	0
		50	25	17.28	17.33	17.30	0			36	19	17.26	17.31	17.28	0
		50	50	17.17	17.22	17.19	0			36	39	17.15	17.20	17.17	0
		100	0	17.37	17.42	17.39	0			75	0	17.35	17.40	17.37	0
	64QAM	1	0	17.40	17.45	17.42	0		64QAM	1	0	17.38	17.43	17.40	0
		1	50	17.29	17.34	17.31	0			1	37	17.27	17.32	17.29	0
		1	99	17.25	17.30	17.27	0			1	74	17.23	17.28	17.25	0
		50	0	17.27	17.32	17.29	0			36	0	17.25	17.30	17.27	0
		50	25	17.26	17.31	17.28	0			36	19	17.24	17.29	17.26	0
		50	50	17.15	17.20	17.17	0			36	39	17.13	17.18	17.15	0
		100	0	17.35	17.40	17.37	0			75	0	17.33	17.38	17.35	0
		1	0	17.35	17.40	17.37	0			75	0	17.33	17.38	17.35	0
10M	QPSK	1	0	17.41	17.46	17.43	0	5M	QPSK	1	0	17.39	17.44	17.41	0
		1	24	17.30	17.35	17.32	0			1	12	17.28	17.33	17.30	0
		1	49	17.26	17.31	17.28	0			1	24	17.24	17.29	17.26	0
		25	0	17.28	17.33	17.30	0			12	0	17.26	17.31	17.28	0
		25	12	17.27	17.32	17.29	0			12	6	17.25	17.30	17.27	0
		25	25	17.16	17.21	17.18	0			12	13	17.14	17.19	17.16	0
		50	0	17.36	17.41	17.38	0			25	0	17.34	17.39	17.36	0
		1	0	17.39	17.44	17.41	0		16QAM	1	0	17.37	17.42	17.39	0
	16QAM	1	24	17.28	17.33	17.30	0			1	12	17.26	17.31	17.28	0
		1	49	17.24	17.29	17.26	0			1	24	17.22	17.27	17.24	0
		25	0	17.26	17.31	17.28	0			12	0	17.24	17.29	17.26	0
		25	12	17.25	17.30	17.27	0			12	6	17.23	17.28	17.25	0
		25	25	17.14	17.19	17.16	0			12	13	17.12	17.17	17.14	0
		50	0	17.34	17.39	17.36	0			25	0	17.32	17.37	17.34	0
	64QAM	1	0	17.37	17.42	17.39	0		64QAM	1	0	17.35	17.40	17.37	0
		1	24	17.26	17.31	17.28	0			1	12	17.24	17.29	17.26	0
		1	49	17.22	17.27	17.24	0			1	24	17.20	17.25	17.22	0
		25	0	17.24	17.29	17.26	0			12	0	17.22	17.27	17.24	0
		25	12	17.23	17.28	17.25	0			12	6	17.21	17.26	17.23	0
		25	25	17.12	17.17	17.14	0			12	13	17.10	17.15	17.12	0
		50	0	17.32	17.37	17.34	0			25	0	17.30	17.35	17.32	0
		50	0	17.32	17.37	17.34	0			25	0	17.30	17.35	17.32	0

FCC SAR Test Report

LTE Band 41																			
EUT without Power Reduction (P-Sensor NOT Triggered)																			
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39750	40185	40620	41055	41490				Channel		39725	40173	40620	41068	41515	
		Frequency (MHz)		2506.0	2549.5	2593.0	2636.5	2680.0				Frequency (MHz)		2503.5	2548.3	2593.0	2637.8	2682.5	
20M	QPSK	1	0	23.96	23.99	23.89	23.67	23.45	0	15M	QPSK	1	0	23.96	23.94	23.82	23.66	23.43	0
		1	50	23.84	23.87	23.77	23.55	23.33	0			1	37	23.77	23.86	23.69	23.51	23.32	0
		1	99	23.87	23.90	23.80	23.58	23.58	0			1	74	23.82	23.85	23.70	23.50	23.50	0
		50	0	22.98	23.01	22.91	22.69	22.69	1			36	0	22.88	23.01	22.81	22.60	22.68	1
		50	25	22.95	22.98	22.88	22.66	22.66	1			36	19	22.93	22.93	22.83	22.65	22.63	1
		50	50	22.93	22.96	22.86	22.64	22.64	1			36	39	22.91	22.92	22.76	22.61	22.61	1
		100	0	22.31	22.34	22.24	22.02	22.02	1			75	0	22.24	22.28	22.24	22.02	22.01	1
		1	0	22.89	22.89	22.84	22.58	22.43	1		16QAM	1	0	22.94	22.92	22.89	22.62	22.40	1
	16QAM	1	50	22.79	22.84	22.77	22.49	22.33	1			1	37	22.82	22.80	22.72	22.45	22.28	1
		1	99	22.78	22.89	22.75	22.53	22.53	1			1	74	22.78	22.86	22.80	22.58	22.52	1
		50	0	21.92	21.99	21.88	21.65	21.68	2			36	0	21.96	21.91	21.81	21.61	21.68	2
		50	25	21.86	21.89	21.86	21.61	21.58	2			36	19	21.87	21.88	21.79	21.59	21.61	2
		50	50	21.89	21.91	21.79	21.57	21.62	2			36	39	21.91	21.96	21.78	21.59	21.60	2
		100	0	21.22	21.28	21.17	20.98	21.00	2			75	0	21.30	21.24	21.14	20.94	20.92	2
		1	0	21.94	21.90	21.82	21.60	21.45	2		64QAM	1	0	21.89	21.89	21.81	21.57	21.39	2
	64QAM	1	50	21.75	21.82	21.71	21.45	21.28	2			1	37	21.83	21.77	21.69	21.51	21.32	2
		1	99	21.78	21.88	21.77	21.52	21.54	2			1	74	21.85	21.87	21.78	21.51	21.51	2
		50	0	20.93	20.95	20.82	20.59	20.66	3			36	0	20.94	21.00	20.90	20.60	20.66	3
		50	25	20.91	20.95	20.86	20.56	20.64	3			36	19	20.94	20.98	20.83	20.61	20.56	3
		50	50	20.86	20.92	20.83	20.59	20.58	3			36	39	20.93	20.95	20.84	20.60	20.62	3
		100	0	20.29	20.25	20.20	19.99	19.92	3			75	0	20.26	20.27	20.19	19.98	20.00	3
10M	QPSK	1	0	23.85	23.93	23.72	23.62	23.30	0	5M	QPSK	1	0	23.83	23.90	23.80	23.63	23.41	0
		1	24	23.70	23.73	23.64	23.42	23.22	0			1	12	23.78	23.77	23.64	23.42	23.26	0
		1	49	23.76	23.77	23.73	23.44	23.53	0			1	24	23.85	23.84	23.68	23.52	23.46	0
		25	0	22.88	22.89	22.86	22.52	22.57	1			12	0	22.90	22.90	22.86	22.53	22.56	1
		25	12	22.90	22.89	22.71	22.61	22.61	1			12	6	22.92	22.84	22.77	22.59	22.62	1
		25	25	22.83	22.90	22.77	22.62	22.55	1			12	13	22.81	22.87	22.77	22.53	22.54	1
		50	0	22.18	22.27	22.24	21.92	21.92	1			25	0	22.24	22.15	22.14	21.92	21.93	1
		1	0	22.80	22.94	22.78	22.59	22.27	1		16QAM	1	0	22.80	22.85	22.74	22.58	22.42	1
	16QAM	1	24	22.70	22.74	22.70	22.47	22.21	1			1	12	22.78	22.78	22.64	22.36	22.24	1
		1	49	22.69	22.73	22.73	22.50	22.43	1			1	24	22.86	22.88	22.62	22.58	22.55	1
		25	0	21.92	21.89	21.86	21.50	21.57	2			12	0	21.86	21.87	21.80	21.59	21.55	2
		25	12	21.92	21.93	21.76	21.53	21.64	2			12	6	21.87	21.79	21.85	21.61	21.61	2
		25	25	21.83	21.86	21.76	21.56	21.51	2			12	13	21.81	21.84	21.74	21.49	21.51	2
		50	0	21.21	21.23	21.21	20.93	20.92	2			25	0	21.22	21.14	21.15	20.89	20.92	2
		1	0	21.79	21.91	21.73	21.62	21.35	2		64QAM	1	0	21.81	21.87	21.73	21.57	21.36	2
	64QAM	1	24	21.68	21.81	21.63	21.47	21.16	2			1	12	21.78	21.80	21.69	21.37	21.28	2
		1	49	21.69	21.81	21.73	21.47	21.44	2			1	24	21.77	21.83	21.69	21.53	21.47	2
		25	0	20.86	20.91	20.81	20.50	20.61	3			12	0	20.89	20.87	20.86	20.49	20.56	3
		25	12	20.90	20.88	20.76	20.58	20.55	3			12	6	20.87	20.82	20.83	20.66	20.56	3
		25	25	20.76	20.83	20.79	20.63	20.47	3			12	13	20.80	20.81	20.71	20.49	20.58	3
		50	0	20.18	20.21	20.24	19.93	19.87	3			25	0	20.23	20.14	20.10	19.89	19.91	3

FCC SAR Test Report

LTE Band 41																			
EUT with Power Reduction (P-Sensor Triggered)																			
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	Mid	High	3GPP MPR (dB)
		Channel		39750	40185	40620	41055	41490				Channel		39725	40173	40620	41068	41515	
		Frequency (MHz)		2506.0	2549.5	2593.0	2636.5	2680.0				Frequency (MHz)		2503.5	2548.3	2593.0	2637.8	2682.5	
20M	QPSK	1	0	17.92	17.95	17.85	17.88	17.77	0	15M	QPSK	1	0	17.88	17.91	17.81	17.84	17.73	0
		1	50	17.82	17.85	17.75	17.78	17.67	0			1	37	17.78	17.81	17.71	17.74	17.63	0
		1	99	17.80	17.83	17.73	17.76	17.65	0			1	74	17.76	17.79	17.69	17.72	17.61	0
		50	0	17.75	17.78	17.68	17.71	17.60	0			36	0	17.71	17.74	17.64	17.67	17.56	0
		50	25	17.72	17.75	17.65	17.68	17.57	0			36	19	17.68	17.71	17.61	17.64	17.53	0
		50	50	17.80	17.83	17.73	17.76	17.65	0			36	39	17.76	17.79	17.69	17.72	17.61	0
		100	0	17.79	17.82	17.72	17.75	17.64	0			75	0	17.75	17.78	17.68	17.71	17.60	0
		1	0	17.90	17.93	17.83	17.86	17.75	0		16QAM	1	0	17.86	17.89	17.79	17.82	17.71	0
	16QAM	1	50	17.80	17.83	17.73	17.76	17.65	0			1	37	17.76	17.79	17.69	17.72	17.61	0
		1	99	17.78	17.81	17.71	17.74	17.63	0			1	74	17.74	17.77	17.67	17.70	17.59	0
		50	0	17.73	17.76	17.66	17.69	17.58	0			36	0	17.69	17.72	17.62	17.65	17.54	0
		50	25	17.70	17.73	17.63	17.66	17.55	0			36	19	17.66	17.69	17.59	17.62	17.51	0
		50	50	17.78	17.81	17.71	17.74	17.63	0			36	39	17.74	17.77	17.67	17.70	17.59	0
		100	0	17.77	17.80	17.70	17.73	17.62	0			75	0	17.73	17.76	17.66	17.69	17.58	0
		1	0	17.86	17.89	17.79	17.82	17.71	0		64QAM	1	0	17.82	17.85	17.75	17.78	17.67	0
	64QAM	1	50	17.76	17.79	17.69	17.72	17.61	0			1	37	17.72	17.75	17.65	17.68	17.57	0
		1	99	17.74	17.77	17.67	17.70	17.59	0			1	74	17.70	17.73	17.63	17.66	17.55	0
		50	0	17.69	17.72	17.62	17.65	17.54	0			36	0	17.65	17.68	17.58	17.61	17.50	0
		50	25	17.66	17.69	17.59	17.62	17.51	0			36	19	17.62	17.65	17.55	17.58	17.47	0
		50	50	17.74	17.77	17.67	17.70	17.59	0			36	39	17.70	17.73	17.63	17.66	17.55	0
		100	0	17.73	17.76	17.66	17.69	17.58	0			75	0	17.69	17.72	17.62	17.65	17.54	0
10M	QPSK	1	0	17.84	17.87	17.77	17.80	17.69	0	5M	QPSK	1	0	17.82	17.85	17.75	17.78	17.67	0
		1	24	17.74	17.77	17.67	17.70	17.59	0			1	12	17.72	17.75	17.65	17.68	17.57	0
		1	49	17.72	17.75	17.65	17.68	17.57	0			1	24	17.70	17.73	17.63	17.66	17.55	0
		25	0	17.67	17.70	17.60	17.63	17.52	0			12	0	17.65	17.68	17.58	17.61	17.50	0
		25	12	17.64	17.67	17.57	17.60	17.49	0			12	6	17.62	17.65	17.55	17.58	17.47	0
		25	25	17.72	17.75	17.65	17.68	17.57	0			12	13	17.70	17.73	17.63	17.66	17.55	0
		50	0	17.71	17.74	17.64	17.67	17.56	0			25	0	17.69	17.72	17.62	17.65	17.54	0
		1	0	17.82	17.85	17.75	17.78	17.67	0		16QAM	1	0	17.80	17.83	17.73	17.76	17.65	0
	16QAM	1	24	17.72	17.75	17.65	17.68	17.57	0			1	12	17.70	17.73	17.63	17.66	17.55	0
		1	49	17.70	17.73	17.63	17.66	17.55	0			1	24	17.68	17.71	17.61	17.64	17.53	0
		25	0	17.65	17.68	17.58	17.61	17.50	0			12	0	17.63	17.66	17.56	17.59	17.48	0
		25	12	17.62	17.65	17.55	17.58	17.47	0			12	6	17.60	17.63	17.53	17.56	17.45	0
		25	25	17.70	17.73	17.63	17.66	17.55	0			12	13	17.68	17.71	17.61	17.64	17.53	0
		50	0	17.69	17.72	17.62	17.65	17.54	0			25	0	17.67	17.70	17.60	17.63	17.52	0
		1	0	17.78	17.81	17.71	17.74	17.63	0		64QAM	1	0	17.76	17.79	17.69	17.72	17.61	0
	64QAM	1	24	17.68	17.71	17.61	17.64	17.53	0			1	12	17.66	17.69	17.59	17.62	17.51	0
		1	49	17.66	17.69	17.59	17.62	17.51	0			1	24	17.64	17.67	17.57	17.60	17.49	0
		25	0	17.61	17.64	17.54	17.57	17.46	0			12	0	17.59	17.62	17.52	17.55	17.44	0
		25	12	17.58	17.61	17.51	17.54	17.43	0			12	6	17.56	17.59	17.49	17.52	17.41	0
		25	25	17.66	17.69	17.59	17.62	17.51	0			12	13	17.64	17.67	17.57	17.60	17.49	0
		50	0	17.65	17.68	17.58	17.61	17.50	0			25	0	17.63	17.66	17.56	17.59	17.48	0

FCC SAR Test Report

LTE Band 66																	
EUT without Power Reduction (P-Sensor NOT Triggered)																	
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)		
		Channel		132072	132322	132572				Channel		132047	132322	132597			
		Frequency (MHz)		1720.0	1745.0	1770.0				Frequency (MHz)		1717.5	1745.0	1772.5			
20M	QPSK	1	0	23.71	23.89	23.67	0	15M	QPSK	1	0	23.66	23.79	23.60	0		
		1	50	23.30	23.48	23.26	0			1	37	23.22	23.42	23.20	0		
		1	99	23.21	23.39	23.17	0			1	74	23.14	23.39	23.17	0		
		50	0	22.48	22.66	22.44	1			36	0	22.47	22.65	22.34	1		
		50	25	22.39	22.57	22.35	1			36	19	22.33	22.57	22.35	1		
		50	50	22.31	22.49	22.27	1			36	39	22.29	22.44	22.26	1		
		100	0	22.40	22.58	22.36	1			75	0	22.32	22.48	22.36	1		
		1	0	22.67	22.88	22.65	1			16QAM	1	0	22.64	22.89	22.58	1	
	1	50	22.25	22.41	22.18	1	1		37		22.22	22.31	22.17	1			
	1	99	22.15	22.37	22.09	1	1		74		22.16	22.31	22.02	1			
	50	0	21.42	21.58	21.35	2	36		0		21.44	21.58	21.39	2			
	50	25	21.32	21.56	21.29	2	36		19		21.23	21.45	21.27	2			
	50	50	21.31	21.44	21.18	2	36		39		21.16	21.40	21.18	2			
	100	0	21.30	21.51	21.26	2	75		0		21.33	21.54	21.22	2			
	1	0	21.64	21.82	21.62	2	64QAM		1		0	21.58	21.84	21.51	2		
	1	50	21.20	21.42	21.19	2			1	37	21.20	21.36	21.11	2			
	1	99	21.20	21.34	21.15	2			1	74	21.17	21.35	21.11	2			
	50	0	20.46	20.62	20.39	3			36	0	20.44	20.62	20.33	3			
	50	25	20.34	20.49	20.34	3			36	19	20.26	20.45	20.23	3			
	50	50	20.27	20.49	20.25	3			36	39	20.19	20.40	20.16	3			
	100	0	20.40	20.49	20.31	3			75	0	20.37	20.54	20.33	3			
	BW	MCS Index	RB Size	RB Offset	Low	Mid			High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High
			Channel		132022	132322	132622		Channel				131997	132322	132647		
			Frequency (MHz)		1715.0	1745.0	1775.0		Frequency (MHz)				1712.5	1745.0	1777.5		
10M	QPSK	1	0	23.66	23.76	23.64	0	5M	QPSK	1	0	23.63	23.74	23.44	0		
		1	24	23.26	23.31	23.13	0			1	12	23.12	23.41	22.99	0		
		1	49	23.09	23.38	23.04	0			1	24	23.11	23.24	22.92	0		
		25	0	22.37	22.47	22.31	1			12	0	22.36	22.46	22.22	1		
		25	12	22.17	22.43	22.29	1			12	6	22.28	22.40	22.21	1		
		25	25	22.14	22.46	22.17	1			12	13	22.14	22.28	21.96	1		
		50	0	22.31	22.34	22.30	1			25	0	22.39	22.51	22.07	1		
		1	0	22.48	22.67	22.47	1			16QAM	1	0	22.53	22.64	22.55	1	
	1	24	22.03	22.38	22.03	1	1		12		22.09	22.21	22.20	1			
	1	49	22.08	22.13	22.04	1	1		24		22.01	22.27	21.93	1			
	25	0	21.25	21.53	21.38	2	12		0		21.23	21.39	21.26	2			
	25	12	21.16	21.34	21.17	2	12		6		21.24	21.33	21.29	2			
	25	25	21.06	21.25	21.08	2	12		13		21.09	21.31	21.11	2			
	50	0	21.28	21.32	21.20	2	25		0		21.30	21.49	21.14	2			
	1	0	21.55	21.79	21.45	2	64QAM		1		0	21.56	21.70	21.56	2		
	1	24	21.11	21.35	21.06	2			1	12	21.09	21.38	21.06	2			
	1	49	21.06	21.28	21.03	2			1	24	21.07	21.32	21.00	2			
	25	0	20.32	20.41	20.36	3			12	0	20.32	20.50	20.34	3			
	25	12	20.27	20.43	20.19	3			12	6	20.16	20.39	20.16	3			
	25	25	19.99	20.29	20.17	3			12	13	20.15	20.41	20.07	3			
	50	0	20.26	20.38	20.20	3			25	0	20.29	20.43	20.20	3			
	BW	MCS Index	RB Size	RB Offset	Low	Mid			High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High
			Channel		131987	132322	132657		Channel				131979	132322	132665		
			Frequency (MHz)		1711.5	1745.5	1778.5		Frequency (MHz)				1710.7	1745.0	1779.3		
3M	QPSK	1	0	23.63	23.73	23.58	0	1.4M	QPSK	1	0	23.70	23.80	23.52	0		
		1	7	23.26	23.40	23.11	0			1	2	23.25	23.39	23.14	0		
		1	14	23.16	23.38	23.06	0			1	5	23.08	23.30	22.99	0		
		8	0	22.30	22.48	22.37	1			3	0	23.33	23.61	23.31	0		
		8	3	22.36	22.49	22.14	1			3	1	23.32	23.50	23.31	0		
		8	7	22.16	22.45	22.16	1			3	3	23.19	23.36	23.09	0		
		15	0	22.19	22.50	22.27	1			6	0	22.27	22.48	22.22	1		
		1	0	22.59	22.69	22.51	1			16QAM	1	0	22.52	22.71	22.50	1	
	1	7	22.29	22.23	22.09	1	1		2		22.14	22.25	22.04	1			
	1	14	22.08	22.21	22.07	1	1		5		22.05	22.17	21.99	1			
	8	0	21.30	21.54	21.38	2	3		0		22.29	22.54	22.31	1			
	8	3	21.12	21.37	21.14	2	3		1		22.14	22.38	22.25	1			
	8	7	21.09	21.36	21.12	2	3		3		22.08	22.25	22.13	1			
	15	0	21.14	21.36	21.09	2	6		0		21.12	21.34	21.15	2			
	1	0	21.53	21.68	21.43	2	64QAM		1		0	21.57	21.73	21.49	2		
	1	7	21.21	21.34	21.18	2			1	2	21.25	21.33	21.02	2			
	1	14	21.06	21.26	21.01	2			1	5	21.05	21.18	21.03	2			
	8	0	20.25	20.43	20.23	3			3	0	21.36	21.45	21.28	2			
	8	3	20.23	20.40	20.15	3			3	1	21.35	21.51	21.13	2			
	8	7	20.04	20.19	20.11	3			3	3	21.04	21.33	21.22	2			
	15	0	20.25	20.46	20.23	3			6	0	20.28	20.49	20.19	3			

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LTE Band 66															
EUT with Power Reduction (P-Sensor Triggered)															
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		132072	132322	132572				Channel		132047	132322	132597	
		Frequency (MHz)		1720.0	1745.0	1770.0				Frequency (MHz)		1717.5	1745.0	1772.5	
20M	QPSK	1	0	17.95	17.99	17.93	0	15M	QPSK	1	0	17.93	17.97	17.91	0
		1	50	17.88	17.92	17.86	0			1	37	17.86	17.90	17.84	0
		1	99	17.86	17.90	17.84	0			1	74	17.84	17.88	17.82	0
		50	0	17.84	17.88	17.82	0			36	0	17.82	17.86	17.80	0
		50	25	17.81	17.85	17.79	0			36	19	17.79	17.83	17.77	0
		50	50	17.76	17.80	17.74	0			36	39	17.74	17.78	17.72	0
		100	0	17.87	17.91	17.85	0			75	0	17.85	17.89	17.83	0
	16QAM	1	0	17.93	17.97	17.91	0		16QAM	1	0	17.91	17.95	17.89	0
		1	50	17.86	17.90	17.84	0			1	37	17.84	17.88	17.82	0
		1	99	17.84	17.88	17.82	0			1	74	17.82	17.86	17.80	0
		50	0	17.82	17.86	17.80	0			36	0	17.80	17.84	17.78	0
		50	25	17.79	17.83	17.77	0			36	19	17.77	17.81	17.75	0
		50	50	17.74	17.78	17.72	0			36	39	17.72	17.76	17.70	0
	64QAM	100	0	17.85	17.89	17.83	0		75	0	17.83	17.87	17.81	0	
		1	0	17.89	17.93	17.87	0		64QAM	1	0	17.87	17.91	17.85	0
		1	50	17.82	17.86	17.80	0			1	37	17.80	17.84	17.78	0
		1	99	17.80	17.84	17.78	0			1	74	17.78	17.82	17.76	0
		50	0	17.78	17.82	17.76	0			36	0	17.76	17.80	17.74	0
		50	25	17.75	17.79	17.73	0			36	19	17.73	17.77	17.71	0
	50	50	17.70	17.74	17.68	0	36			39	17.68	17.72	17.66	0	
	100	0	17.81	17.85	17.79	0	75		0	17.79	17.83	17.77	0		
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		132022	132322	132622				Channel		131997	132322	132647	
		Frequency (MHz)		1715.0	1745.0	1775.0				Frequency (MHz)		1712.5	1745.0	1777.5	
10M	QPSK	1	0	17.89	17.93	17.87	0	5M	QPSK	1	0	17.85	17.89	17.83	0
		1	24	17.82	17.86	17.80	0			1	12	17.78	17.82	17.76	0
		1	49	17.80	17.84	17.78	0			1	24	17.76	17.80	17.74	0
		25	0	17.78	17.82	17.76	0			12	0	17.74	17.78	17.72	0
		25	12	17.75	17.79	17.73	0			12	6	17.71	17.75	17.69	0
		25	25	17.70	17.74	17.68	0			12	13	17.66	17.70	17.64	0
		50	0	17.81	17.85	17.79	0			25	0	17.77	17.81	17.75	0
	16QAM	1	0	17.87	17.91	17.85	0		16QAM	1	0	17.83	17.87	17.81	0
		1	24	17.80	17.84	17.78	0			1	12	17.76	17.80	17.74	0
		1	49	17.78	17.82	17.76	0			1	24	17.74	17.78	17.72	0
		25	0	17.76	17.80	17.74	0			12	0	17.72	17.76	17.70	0
		25	12	17.73	17.77	17.71	0			12	6	17.69	17.73	17.67	0
		25	25	17.68	17.72	17.66	0			12	13	17.64	17.68	17.62	0
	64QAM	50	0	17.79	17.83	17.77	0		25	0	17.75	17.79	17.73	0	
		1	0	17.83	17.87	17.81	0		64QAM	1	0	17.79	17.83	17.77	0
		1	24	17.76	17.80	17.74	0			1	12	17.72	17.76	17.70	0
		1	49	17.74	17.78	17.72	0			1	24	17.70	17.74	17.68	0
		25	0	17.72	17.76	17.70	0			12	0	17.68	17.72	17.66	0
		25	12	17.69	17.73	17.67	0			12	6	17.65	17.69	17.63	0
	25	25	17.64	17.68	17.62	0	12			13	17.60	17.64	17.58	0	
	50	0	17.75	17.79	17.73	0	25		0	17.71	17.75	17.69	0		
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		131987	132322	132657				Channel		131979	132322	132665	
		Frequency (MHz)		1711.5	1745.5	1778.5				Frequency (MHz)		1710.7	1745.0	1779.3	
3M	QPSK	1	0	17.81	17.85	17.79	0	1.4M	QPSK	1	0	19.26	19.30	19.29	0
		1	7	17.74	17.78	17.72	0			1	2	19.14	18.87	19.12	0
		1	14	17.72	17.76	17.70	0			1	5	19.08	19.06	19.16	0
		8	0	17.70	17.74	17.68	0			3	0	19.23	19.15	19.28	0
		8	3	17.67	17.71	17.65	0			3	1	19.18	19.06	19.22	0
		8	7	17.62	17.66	17.60	0			3	3	19.17	19.08	19.12	0
		15	0	17.73	17.77	17.71	0			6	0	19.26	19.13	19.15	0
	16QAM	1	0	17.79	17.83	17.77	0		16QAM	1	0	19.18	19.17	19.39	0
		1	7	17.72	17.76	17.70	0			1	2	19.08	18.94	19.05	0
		1	14	17.70	17.74	17.68	0			1	5	18.87	19.07	19.25	0
		8	0	17.68	17.72	17.66	0			3	0	19.11	19.15	19.18	0
		8	3	17.65	17.69	17.63	0			3	1	19.20	19.15	19.05	0
		8	7	17.60	17.64	17.58	0			3	3	19.08	19.13	18.99	0
	64QAM	15	0	17.71	17.75	17.69	0		6	0	19.17	18.92	19.16	0	
		1	0	17.75	17.79	17.73	0		64QAM	1	0	19.15	19.29	19.33	0
		1	7	17.68	17.72	17.66	0			1	2	19.12	18.86	19.08	0
		1	14	17.66	17.70	17.64	0			1	5	19.00	19.11	19.15	0
		8	0	17.64	17.68	17.62	0			3	0	19.09	19.12	19.11	0
		8	3	17.61	17.65	17.59	0			3	1	19.25	19.00	19.11	0
	8	7	17.56	17.60	17.54	0	3			3	19.13	18.96	19.07	0	
	15	0	17.67	17.71	17.65	0	6		0	19.27	18.96	19.17	0		

4.7 SAR Testing Results

4.7.1 SAR Test Reduction Considerations

<KDB 447498 D01, General RF Exposure Guidance>

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

- (1) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- (2) ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- (3) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

When SAR is not measured at the maximum power level allowed for production units, the measured SAR will be scaled to the maximum tune-up tolerance limit to determine compliance. The scaling factor for the tune-up power is defined as maximum tune-up limit (mW) / measured conducted power (mW). The reported SAR would be calculated by measured SAR x tune-up power scaling factor.

The SAR has been measured with highest transmission duty factor supported by the test mode tools for WLAN and/or Bluetooth. When the transmission duty factor could not achieve 100%, the reported SAR will be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up power. The scaling factor for the duty factor is defined as 100% / transmission duty cycle (%). The reported SAR would be calculated by measured SAR x tune-up power scaling factor x duty cycle scaling factor.

<KDB 941225 D01, 3G SAR Measurement Procedures>

The mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ 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.

<KDB 941225 D05, SAR Evaluation Considerations for LTE Devices>

(1) QPSK with 1 RB and 50% RB allocation

Start with the largest channel bandwidth and measure SAR, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required; 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 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 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.

(3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> 1/2$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

(4) Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is $> 1/2$ 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.

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<Power Confirmation for SAR Test Exclusion for LTE Downlink CA>

According to KDB 941225 D05A, the uplink maximum output power below was measured with downlink CA active on the channel with highest measured maximum output power when downlink CA is inactive. The downlink SCC channel was paired with the uplink channel as normal operation. For intra-band contiguous CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing per section 5.4.1A of 3GPP TS36.521. For intra-band non-contiguous CA, the downlink channel spacing between the component carriers was set to maximum separation from PCC and remain fully within the downlink transmission band. For Inter-band CA, the SCC downlink channel was set to near the middle of its transmission band.

Power Measurements for Intra-Band Contiguous Downlink CA

CA Combination	PCC								SCC1				Power	
	LTE Band	BW (MHz)	UL Channel	UL Freq. (MHz)	RB Size	RB Offset	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	Tx Power with DL-CA Active (dBm)	Single Carrier Tx Power (dBm)
EUT without Power Reduction (P-Sensor NOT Triggered)														
CA_41C	41	20	40185	2549.5	1	0	40185	2549.5	41	20	40383	2569.3	23.52	23.80

CA Combination	PCC								SCC1				Power	
	LTE Band	BW (MHz)	UL Channel	UL Freq. (MHz)	RB Size	RB Offset	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	Tx Power with DL-CA Active (dBm)	Single Carrier Tx Power (dBm)
EUT with Power Reduction (P-Sensor Triggered)														
CA_41C	41	20	40185	2549.5	1	0	40185	2549.5	41	20	40383	2569.3	16.94	16.98

Power Measurements for Inter-Band Downlink CA

CA Combination	PCC								SCC1				SCC2				SCC3				SCC4				SCC2	
	LTE Band	BW (MHz)	LTE Band	LTE Band	LTE Band	LTE Band	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	Tx Power with DL-CA Active (dBm)	Single Carrier Tx Power (dBm)
EUT without Power Reduction (P-Sensor NOT Triggered)																										
CA_2A-29A	2	20	19100	1900	1	0	1100	1980	29	10	9715	722.5													23.66	23.99
CA_2A-46A	2	20	19100	1900	1	0	1100	1980	46	20	50665	5537.5													23.71	23.99
CA_4A-5A	4	20	20175	1732.5	1	0	2175	2132.5	5	10	2525	881.5													23.44	23.78
CA_4A-13A	4	20	20175	1732.5	1	0	2175	2132.5	13	10	5230	751													23.51	23.78
CA_4A-46A	4	20	20175	1732.5	1	0	2175	2132.5	46	20	50665	5537.5													23.25	23.78
CA_25A-26A	25	20	26140	1860	1	0	8140	1940	26	15	8865	876.5													23.68	23.72
CA_29A-30A	30	10	27710	2310	1	0	9820	2355	29	10	9715	722.5													21.86	22.13
CA_29A-66A	66	20	132322	1745	1	0	66786	2145	29	10	9715	722.5													23.57	23.75
CA_14A-66A-66A	14	10	23330	793	1	0	5330	763	66	20	66786	2145	66	20	67036	2170									23.62	23.81
CA_2A-4A-5A	2	20	19100	1900	1	0	1100	1980	4	20	2175	2132.5	5	10	2525	881.5									23.57	23.99
CA_2A-4A-13A	2	20	19100	1900	1	0	1100	1980	4	20	2175	2132.5	13	10	5230	751									23.65	23.99
CA_2A-14A-30A	2	20	19100	1900	1	0	1100	1980	14	10	5330	763	30	10	9820	2355									23.47	23.99
CA_2A-2A-13A-66A	2	20	19100	1900	1	0	1100	1980	2	20	900	1960	13	10	5230	751	66	20	66786	2145					23.72	23.99
CA_2A-13A-66A-66A	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	20	66786	2145	66	20	67036	2170					23.53	23.99
CA_2A-13A-66B	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	15	66786	2145	66	5	66879	2154.3					23.60	23.99
CA_2A-13A-66C	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	20	66786	2145	66	20	66984	2164.8					23.63	23.99
CA_2A-13A-46D	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	23.69	23.99
CA_2A-46D-66A	2	20	19100	1900	1	0	1100	1980	66	20	66786	2145	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	23.58	23.99
CA_13A-46D-66A	13	10	23230	782	1	24	5230	751	66	20	66786	2145	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	23.71	23.83
CA_2A-12A-30A-66A	2	20	19100	1900	1	0	1100	1980	12	10	5095	737.5	30	10	9820	2355	66	20	66786	2145					23.68	23.99
CA_2A-5B-30A-66A	2	20	19100	1900	1	0	1100	1980	66	20	66786	2145	30	10	9820	2355	5	10	2450	874	5	10	2549	883.9	23.49	23.99

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CA Combination	PCC								SCC1				SCC2				SCC3				SCC4				SCC2		
	LTE Band	BW (MHz)	LTE Band	LTE Band	LTE Band	LTE Band	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	LTE Band	BW (MHz)	DL Channel	DL Freq. (MHz)	Tx Power with DL-CA Active (dBm)	Single Carrier Tx Power (dBm)	
EUT with Power Reduction (P-Sensor Triggered)																											
CA_2A-29A	2	20	19100	1900	1	0	1100	1980	29	10	9715	722.5														18.81	18.95
CA_2A-46A	2	20	19100	1900	1	0	1100	1980	46	20	50665	5537.5														18.87	18.95
CA_4A-5A	4	20	20175	1732.5	1	0	2175	2132.5	5	10	2525	881.5														18.38	18.48
CA_4A-13A	4	20	20175	1732.5	1	0	2175	2132.5	13	10	5230	751														18.34	18.48
CA_4A-46A	4	20	20175	1732.5	1	0	2175	2132.5	46	20	50665	5537.5														18.43	18.48
CA_25A-26A	25	20	26140	1860	1	0	8140	1940	26	15	8865	876.5														19.81	19.99
CA_29A-30A	30	10	27710	2310	1	0	9820	2355	29	10	9715	722.5														16.72	16.95
CA_29A-66A	66	20	132572	1770	1	0	67036	2170	29	10	9715	722.5														19.33	19.48
CA_14A-66A-66A	14	10	23330	793	1	0	5330	763	66	20	66786	2145	66	20	67036	2170										19.29	19.47
CA_2A-4A-5A	2	20	19100	1900	1	0	1100	1980	4	20	2175	2132.5	5	10	2525	881.5										18.81	18.95
CA_2A-4A-13A	2	20	19100	1900	1	0	1100	1980	4	20	2175	2132.5	13	10	5230	751										18.79	18.95
CA_2A-14A-30A	2	20	19100	1900	1	0	1100	1980	14	10	5330	763	30	10	9820	2355										18.84	18.95
CA_2A-2A-13A-66A	2	20	19100	1900	1	0	1100	1980	2	20	900	1960	13	10	5230	751	66	20	66786	2145						18.82	18.95
CA_2A-13A-66A-66A	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	20	66786	2145	66	20	67036	2170						18.91	18.95
CA_2A-13A-66B	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	15	66786	2145	66	5	66879	2154.3						18.83	18.95
CA_2A-13A-66C	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	66	20	66786	2145	66	20	66984	2164.8						18.79	18.95
CA_2A-13A-46D	2	20	19100	1900	1	0	1100	1980	13	10	5230	751	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	18.92	18.95	
CA_2A-46D-66A	2	20	19100	1900	1	0	1100	1980	66	20	66786	2145	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	18.83	18.95	
CA_13A-46D-66A	13	10	23230	782	1	0	5230	751	66	20	66786	2145	46	20	50665	5537.5	46	20	50863	5557.3	46	20	51061	5577.1	19.42	19.46	
CA_2A-12A-30A-66A	2	20	19100	1900	1	0	1100	1980	12	10	5095	737.5	30	10	9820	2355	66	20	66786	2145						18.78	18.95
CA_2A-5B-30A-66A	2	20	19100	1900	1	0	1100	1980	66	20	66786	2145	30	10	9820	2355	5	10	2450	874	5	10	2549	883.9	18.87	18.95	

Summary for SAR Test Exclusion for LTE Downlink CA

Per power confirmation results in above, the uplink maximum output power with downlink CA active remains within the specified tune-up tolerance and not more than 0.25 dB higher than the maximum output power with downlink CA inactive. According to KDB 941225 D05A, the SAR test exclusion applies to LTE downlink CA operation.

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4.7.2 SAR Results for Body Exposure Condition

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	SKU	Keyboard	Power Reduction	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WCDMA II	RMC12.2K	Rear Face	0	9400	1	-	w/	17.5	17.46	1.01	-0.02	0.548	0.55
	WCDMA II	RMC12.2K	Rear Face	16	9400	1	-	w/o	24.5	23.97	1.13	0.13	0.145	0.16
	WCDMA II	RMC12.2K	Left Side	0	9400	1	-	w/o	24.5	23.97	1.13	0.12	0.064	0.07
	WCDMA II	RMC12.2K	Right Side	0	9400	1	-	w/o	24.5	23.97	1.13	0.00	<0.001	0.00
	WCDMA II	RMC12.2K	Top Side	0	9400	1	-	w/	17.5	17.46	1.01	-0.12	0.461	0.47
	WCDMA II	RMC12.2K	Top Side	16	9400	1	-	w/o	24.5	23.97	1.13	0.18	0.233	0.26
	WCDMA II	RMC12.2K	Bottom Side	0	9400	1	-	w/o	24.5	23.97	1.13	0.00	<0.001	0.00
	WCDMA II	RMC12.2K	Rear Face	0	9262	1	-	w/	17.5	17.39	1.03	0.04	0.667	0.69
01	WCDMA II	RMC12.2K	Rear Face	0	9538	1	-	w/	17.5	17.45	1.01	0.09	0.814	0.82
	WCDMA II	RMC12.2K	Rear Face	0	9538	2	-	w/	17.5	17.45	1.01	-0.05	0.744	0.75
	WCDMA II	RMC12.2K	Rear Face	0	9538	1	w/	w/	17.5	17.45	1.01	0.13	0.278	0.28
	WCDMA II	RMC12.2K	Rear Face	0	9538	1	-	w/	17.5	17.45	1.01	-0.15	0.802	0.81
02	WCDMA IV	RMC12.2K	Rear Face	0	1312	1	-	w/	18.0	17.98	1.00	-0.02	1.07	1.07
	WCDMA IV	RMC12.2K	Rear Face	16	1312	1	-	w/o	24.5	24.11	1.09	-0.15	0.243	0.26
	WCDMA IV	RMC12.2K	Left Side	0	1312	1	-	w/o	24.5	24.11	1.09	-0.12	0.071	0.08
	WCDMA IV	RMC12.2K	Right Side	0	1312	1	-	w/o	24.5	24.11	1.09	0.00	<0.001	0.00
	WCDMA IV	RMC12.2K	Top Side	0	1312	1	-	w/	18.0	17.98	1.00	-0.09	0.877	0.88
	WCDMA IV	RMC12.2K	Top Side	16	1312	1	-	w/o	24.5	24.11	1.09	-0.09	0.433	0.47
	WCDMA IV	RMC12.2K	Bottom Side	0	1312	1	-	w/o	24.5	24.11	1.09	0.00	<0.001	0.00
	WCDMA IV	RMC12.2K	Rear Face	0	1413	1	-	w/	18.0	17.81	1.04	-0.04	1.02	1.06
	WCDMA IV	RMC12.2K	Rear Face	0	1513	1	-	w/	18.0	17.65	1.08	0.19	0.927	1.00
	WCDMA IV	RMC12.2K	Top Side	0	1413	1	-	w/	18.0	17.81	1.04	-0.09	0.848	0.88
	WCDMA IV	RMC12.2K	Top Side	0	1513	1	-	w/	18.0	17.65	1.08	-0.09	0.801	0.87
	WCDMA IV	RMC12.2K	Rear Face	0	1312	2	-	w/	18.0	17.98	1.00	-0.02	0.682	0.68
	WCDMA IV	RMC12.2K	Rear Face	0	1312	1	w/	w/	18.0	17.98	1.00	0.02	0.225	0.23
	WCDMA IV	RMC12.2K	Rear Face	0	1312	1	-	w/	18.0	17.98	1.00	0.06	1.01	1.01
	WCDMA V	RMC12.2K	Rear Face	0	4182	1	-	w/	17.5	17.49	1.00	0.13	0.820	0.82
	WCDMA V	RMC12.2K	Rear Face	16	4182	1	-	w/o	24.5	23.97	1.13	0.18	0.546	0.62
	WCDMA V	RMC12.2K	Left Side	0	4182	1	-	w/o	24.5	23.97	1.13	-0.12	0.295	0.33
	WCDMA V	RMC12.2K	Right Side	0	4182	1	-	w/o	24.5	23.97	1.13	-0.18	0.080	0.09
	WCDMA V	RMC12.2K	Top Side	0	4182	1	-	w/	17.5	17.49	1.00	-0.01	0.461	0.46
	WCDMA V	RMC12.2K	Top Side	16	4182	1	-	w/o	24.5	23.97	1.13	-0.11	0.342	0.39
	WCDMA V	RMC12.2K	Bottom Side	0	4182	1	-	w/o	24.5	23.97	1.13	0.00	<0.001	0.00
03	WCDMA V	RMC12.2K	Rear Face	0	4132	1	-	w/	17.5	17.20	1.07	-0.12	0.868	0.93
	WCDMA V	RMC12.2K	Rear Face	0	4233	1	-	w/	17.5	17.19	1.07	0.03	0.831	0.89
	WCDMA V	RMC12.2K	Rear Face	0	4132	2	-	w/	17.5	17.20	1.07	-0.12	0.687	0.74
	WCDMA V	RMC12.2K	Rear Face	0	4132	1	w/	w/	17.5	17.20	1.07	0.08	0.268	0.29
	WCDMA V	RMC12.2K	Rear Face	0	4132	1	-	w/	17.5	17.20	1.07	-0.14	0.846	0.91

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB#	RB Offset	SKU	Keyboard	Power Reduction	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
04	LTE 5	QPSK10M	Rear Face	0	20600	1	0	1	-	w/	17.5	17.44	1.01	-0.15	0.874	0.88
	LTE 5	QPSK10M	Rear Face	16	20600	1	0	1	-	w/o	24.5	23.62	1.22	-0.05	0.432	0.53
	LTE 5	QPSK10M	Left Side	0	20600	1	0	1	-	w/o	24.5	23.62	1.22	0.17	0.236	0.29
	LTE 5	QPSK10M	Right Side	0	20600	1	0	1	-	w/o	24.5	23.62	1.22	-0.02	0.078	0.10
	LTE 5	QPSK10M	Top Side	0	20600	1	0	1	-	w/	17.5	17.44	1.01	-0.06	0.467	0.47
	LTE 5	QPSK10M	Top Side	16	20600	1	0	1	-	w/o	24.5	23.62	1.22	0.03	0.368	0.45
	LTE 5	QPSK10M	Bottom Side	0	20600	1	0	1	-	w/o	24.5	23.62	1.22	0.00	<0.001	0.00
	LTE 5	QPSK10M	Rear Face	0	20600	25	0	1	-	w/	17.5	17.43	1.02	-0.09	0.704	0.72
	LTE 5	QPSK10M	Rear Face	16	20600	25	0	1	-	w/o	23.5	22.70	1.20	0.13	0.256	0.31
	LTE 5	QPSK10M	Left Side	0	20600	25	0	1	-	w/o	23.5	22.70	1.20	-0.06	0.116	0.14
	LTE 5	QPSK10M	Right Side	0	20600	25	0	1	-	w/o	23.5	22.70	1.20	0.17	0.057	0.07
	LTE 5	QPSK10M	Top Side	0	20600	25	0	1	-	w/	17.5	17.43	1.02	-0.18	0.377	0.38
	LTE 5	QPSK10M	Top Side	16	20600	25	0	1	-	w/o	23.5	22.70	1.20	0.18	0.155	0.19
	LTE 5	QPSK10M	Bottom Side	0	20600	25	0	1	-	w/o	23.5	22.70	1.20	0.00	<0.001	0.00
	LTE 5	QPSK10M	Rear Face	0	20450	1	0	1	-	w/	17.5	17.25	1.06	0.06	0.794	0.84
	LTE 5	QPSK10M	Rear Face	0	20525	1	0	1	-	w/	17.5	17.30	1.05	0.13	0.835	0.88
	LTE 5	QPSK10M	Rear Face	0	20600	50	0	1	-	w/	17.5	17.39	1.03	-0.04	0.697	0.72
	LTE 5	QPSK10M	Rear Face	0	20600	1	0	2	-	w/	17.5	17.44	1.01	-0.02	0.552	0.56
	LTE 5	QPSK10M	Rear Face	0	20600	1	0	1	w/	w/	17.5	17.44	1.01	-0.13	0.288	0.29
	LTE 5	QPSK10M	Rear Face	0	20600	1	0	1	-	w/	17.5	17.44	1.01	0.06	0.858	0.87
05	LTE 7	QPSK20M	Rear Face	0	20850	1	0	1	-	w/	17.0	16.96	1.01	0.04	1.17	1.18
	LTE 7	QPSK20M	Rear Face	16	20850	1	0	1	-	w/o	24.5	23.76	1.19	0.15	0.437	0.52
	LTE 7	QPSK20M	Left Side	0	20850	1	0	1	-	w/o	24.5	23.76	1.19	0.07	0.258	0.31
	LTE 7	QPSK20M	Right Side	0	20850	1	0	1	-	w/o	24.5	23.76	1.19	0.00	<0.001	0.00
	LTE 7	QPSK20M	Top Side	0	20850	1	0	1	-	w/	17.0	16.96	1.01	0.00	0.265	0.27
	LTE 7	QPSK20M	Top Side	16	20850	1	0	1	-	w/o	24.5	23.76	1.19	0.14	0.238	0.28
	LTE 7	QPSK20M	Bottom Side	0	20850	1	0	1	-	w/o	24.5	23.76	1.19	0.00	<0.001	0.00
	LTE 7	QPSK20M	Rear Face	0	20850	50	0	1	-	w/	17.0	16.90	1.02	0.14	0.772	0.79
	LTE 7	QPSK20M	Rear Face	16	20850	50	0	1	-	w/o	23.5	22.74	1.19	0.04	0.330	0.39
	LTE 7	QPSK20M	Left Side	0	20850	50	0	1	-	w/o	23.5	22.74	1.19	0.19	0.253	0.30
	LTE 7	QPSK20M	Right Side	0	20850	50	0	1	-	w/o	23.5	22.74	1.19	0.00	<0.001	0.00
	LTE 7	QPSK20M	Top Side	0	20850	50	0	1	-	w/	17.0	16.90	1.02	0.14	0.271	0.28
	LTE 7	QPSK20M	Top Side	16	20850	50	0	1	-	w/o	23.5	22.74	1.19	0.19	0.231	0.27
	LTE 7	QPSK20M	Bottom Side	0	20850	50	0	1	-	w/o	23.5	22.74	1.19	0.00	<0.001	0.00
	LTE 7	QPSK20M	Rear Face	0	21100	1	0	1	-	w/	17.0	16.79	1.05	0.10	1.09	1.14
	LTE 7	QPSK20M	Rear Face	0	21350	1	0	1	-	w/	17.0	16.91	1.02	-0.07	1.05	1.07
	LTE 7	QPSK20M	Rear Face	0	20850	100	0	1	-	w/	17.0	16.85	1.04	-0.02	0.756	0.79
	LTE 7	QPSK20M	Rear Face	0	20850	1	0	2	-	w/	17.0	16.96	1.01	-0.12	1.03	1.04
	LTE 7	QPSK20M	Rear Face	0	20850	1	0	1	w/	w/	17.0	16.96	1.01	-0.16	0.275	0.28
	LTE 7	QPSK20M	Rear Face	0	20850	1	0	1	-	w/	17.0	16.96	1.01	-0.16	1.08	1.09
06	LTE 12	QPSK10M	Rear Face	0	23095	1	24	1	-	w/	20.5	20.36	1.03	-0.05	1.11	1.14
	LTE 12	QPSK10M	Rear Face	16	23095	1	24	1	-	w/o	24.5	23.78	1.18	0.16	0.192	0.23
	LTE 12	QPSK10M	Left Side	0	23095	1	24	1	-	w/o	24.5	23.78	1.18	-0.08	0.134	0.16
	LTE 12	QPSK10M	Right Side	0	23095	1	24	1	-	w/o	24.5	23.78	1.18	-0.12	0.068	0.08
	LTE 12	QPSK10M	Top Side	0	23095	1	24	1	-	w/	20.5	20.36	1.03	-0.15	0.819	0.84
	LTE 12	QPSK10M	Top Side	16	23095	1	24	1	-	w/o	24.5	23.78	1.18	0.02	0.147	0.17
	LTE 12	QPSK10M	Bottom Side	0	23095	1	24	1	-	w/o	24.5	23.78	1.18	0.00	<0.001	0.00
	LTE 12	QPSK10M	Rear Face	0	23095	25	12	1	-	w/	20.5	20.34	1.04	0.05	1.02	1.06
	LTE 12	QPSK10M	Rear Face	16	23095	25	12	1	-	w/o	23.5	22.80	1.17	-0.16	0.153	0.18
	LTE 12	QPSK10M	Left Side	0	23095	25	12	1	-	w/o	23.5	22.80	1.17	-0.14	0.075	0.09
	LTE 12	QPSK10M	Right Side	0	23095	25	12	1	-	w/o	23.5	22.80	1.17	0.12	0.044	0.05
	LTE 12	QPSK10M	Top Side	0	23095	25	12	1	-	w/	20.5	20.34	1.04	-0.01	0.728	0.76
	LTE 12	QPSK10M	Top Side	16	23095	25	12	1	-	w/o	23.5	22.80	1.17	-0.09	0.145	0.17
	LTE 12	QPSK10M	Bottom Side	0	23095	25	12	1	-	w/o	23.5	22.80	1.17	0.00	<0.001	0.00
	LTE 12	QPSK10M	Rear Face	0	23060	1	24	1	-	w/	20.5	20.25	1.06	-0.12	0.919	0.97
	LTE 12	QPSK10M	Rear Face	0	23130	1	24	1	-	w/	20.5	20.31	1.04	-0.02	0.937	0.97
	LTE 12	QPSK10M	Top Side	0	23060	1	24	1	-	w/	20.5	20.25	1.06	-0.15	0.751	0.80
	LTE 12	QPSK10M	Top Side	0	23130	1	24	1	-	w/	20.5	20.31	1.04	-0.15	0.722	0.75
	LTE 12	QPSK10M	Rear Face	0	23060	25	12	1	-	w/	20.5	20.23	1.06	0.03	0.897	0.95
	LTE 12	QPSK10M	Rear Face	0	23130	25	12	1	-	w/	20.5	20.29	1.05	0.02	0.902	0.95
	LTE 12	QPSK10M	Rear Face	0	23095	50	0	1	-	w/	20.5	20.27	1.05	0.09	0.792	0.83
	LTE 12	QPSK10M	Rear Face	0	23095	1	24	2	-	w/	20.5	20.36	1.03	-0.03	0.599	0.62
	LTE 12	QPSK10M	Rear Face	0	23095	1	24	1	w/	w/	20.5	20.36	1.03	0.16	0.257	0.26
	LTE 12	QPSK10M	Rear Face	0	23095	1	24	1	-	w/	20.5	20.36	1.03	-0.05	1.03	1.06

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB#	RB Offset	SKU	Keyboard	Power Reduction	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
07	LTE 13	QPSK10M	Rear Face	0	23230	1	24	1	-	w/	18.0	17.99	1.00	0.03	1	1.00
	LTE 13	QPSK10M	Rear Face	16	23230	1	24	1	-	w/o	24.5	23.83	1.17	0.03	0.388	0.45
	LTE 13	QPSK10M	Left Side	0	23230	1	24	1	-	w/o	24.5	23.83	1.17	0.15	0.195	0.23
	LTE 13	QPSK10M	Right Side	0	23230	1	24	1	-	w/o	24.5	23.83	1.17	0.07	0.116	0.14
	LTE 13	QPSK10M	Top Side	0	23230	1	24	1	-	w/	18.0	17.99	1.00	-0.06	0.585	0.59
	LTE 13	QPSK10M	Top Side	16	23230	1	24	1	-	w/o	24.5	23.83	1.17	0.13	0.326	0.38
	LTE 13	QPSK10M	Bottom Side	0	23230	1	24	1	-	w/o	24.5	23.83	1.17	0.00	<0.001	0.00
	LTE 13	QPSK10M	Rear Face	0	23230	25	12	1	-	w/	18.0	17.87	1.03	-0.06	0.901	0.93
	LTE 13	QPSK10M	Rear Face	16	23230	25	12	1	-	w/o	23.5	22.86	1.16	-0.08	0.305	0.35
	LTE 13	QPSK10M	Left Side	0	23230	25	12	1	-	w/o	23.5	22.86	1.16	0.19	0.095	0.11
	LTE 13	QPSK10M	Right Side	0	23230	25	12	1	-	w/o	23.5	22.86	1.16	0.07	0.058	0.07
	LTE 13	QPSK10M	Top Side	0	23230	25	12	1	-	w/	18.0	17.87	1.03	-0.07	0.576	0.59
	LTE 13	QPSK10M	Top Side	16	23230	25	12	1	-	w/o	23.5	22.86	1.16	0.03	0.255	0.30
	LTE 13	QPSK10M	Bottom Side	0	23230	25	12	1	-	w/o	23.5	22.86	1.16	0.00	<0.001	0.00
	LTE 13	QPSK10M	Rear Face	0	23230	50	0	1	-	w/	18.0	17.72	1.07	0.07	0.777	0.83
	LTE 13	QPSK10M	Rear Face	0	23230	1	24	2	-	w/	18.0	17.99	1.00	0.09	0.647	0.65
	LTE 13	QPSK10M	Rear Face	0	23230	1	24	1	w/	w/	18.0	17.99	1.00	-0.01	0.237	0.24
	LTE 13	QPSK10M	Rear Face	0	23230	1	24	1	-	w/	18.0	17.99	1.00	-0.04	0.931	0.93
08	LTE 14	QPSK10M	Rear Face	0	23330	1	0	1	-	w/	18.0	17.95	1.01	0.06	0.911	0.92
	LTE 14	QPSK10M	Rear Face	16	23330	1	0	1	-	w/o	24.5	23.67	1.21	0.14	0.370	0.45
	LTE 14	QPSK10M	Left Side	0	23330	1	0	1	-	w/o	24.5	23.67	1.21	-0.03	0.130	0.16
	LTE 14	QPSK10M	Right Side	0	23330	1	0	1	-	w/o	24.5	23.67	1.21	-0.15	0.098	0.12
	LTE 14	QPSK10M	Top Side	0	23330	1	0	1	-	w/	18.0	17.95	1.01	0.02	0.541	0.55
	LTE 14	QPSK10M	Top Side	16	23330	1	0	1	-	w/o	24.5	23.67	1.21	-0.07	0.334	0.40
	LTE 14	QPSK10M	Bottom Side	0	23330	1	0	1	-	w/o	24.5	23.67	1.21	0.00	<0.001	0.00
	LTE 14	QPSK10M	Rear Face	0	23330	25	0	1	-	w/	18.0	17.88	1.03	0.09	0.793	0.82
	LTE 14	QPSK10M	Rear Face	16	23330	25	0	1	-	w/o	23.5	22.72	1.20	-0.05	0.312	0.37
	LTE 14	QPSK10M	Left Side	0	23330	25	0	1	-	w/o	23.5	22.72	1.20	-0.10	0.122	0.15
	LTE 14	QPSK10M	Right Side	0	23330	25	0	1	-	w/o	23.5	22.72	1.20	-0.14	0.088	0.11
	LTE 14	QPSK10M	Top Side	0	23330	25	0	1	-	w/	18.0	17.88	1.03	-0.06	0.502	0.52
	LTE 14	QPSK10M	Top Side	16	23330	25	0	1	-	w/o	23.5	22.72	1.20	0.17	0.290	0.35
	LTE 14	QPSK10M	Bottom Side	0	23330	25	0	1	-	w/o	23.5	22.72	1.20	0.00	<0.001	0.00
	LTE 14	QPSK10M	Rear Face	0	23330	1	0	2	-	w/	18.0	17.88	1.03	0.06	0.616	0.63
	LTE 14	QPSK10M	Rear Face	0	23330	1	0	1	w/	w/	18.0	17.88	1.03	-0.02	0.242	0.25
	LTE 14	QPSK10M	Rear Face	0	23330	1	0	1	-	w/	18.0	17.95	1.01	-0.13	0.852	0.86
09	LTE 25	QPSK20M	Rear Face	0	26365	1	0	1	-	w/	18.0	17.99	1.00	-0.13	0.804	0.80
	LTE 25	QPSK20M	Rear Face	16	26590	1	0	1	-	w/o	24.5	23.46	1.27	0.13	0.132	0.17
	LTE 25	QPSK20M	Left Side	0	26590	1	0	1	-	w/o	24.5	23.46	1.27	0.08	0.041	0.05
	LTE 25	QPSK20M	Right Side	0	26590	1	0	1	-	w/o	24.5	23.46	1.27	0.00	<0.001	0.00
	LTE 25	QPSK20M	Top Side	0	26365	1	0	1	-	w/	18.0	17.99	1.00	0.13	0.748	0.75
	LTE 25	QPSK20M	Top Side	16	26590	1	0	1	-	w/o	24.5	23.46	1.27	-0.14	0.198	0.25
	LTE 25	QPSK20M	Bottom Side	0	26590	1	0	1	-	w/o	24.5	23.46	1.27	0.00	<0.001	0.00
	LTE 25	QPSK20M	Rear Face	0	26365	50	0	1	-	w/	18.0	17.96	1.01	-0.14	0.510	0.52
	LTE 25	QPSK20M	Rear Face	16	26590	50	0	1	-	w/o	23.5	22.44	1.28	0.11	0.073	0.09
	LTE 25	QPSK20M	Left Side	0	26590	50	0	1	-	w/o	23.5	22.44	1.28	0.00	<0.001	0.00
	LTE 25	QPSK20M	Right Side	0	26590	50	0	1	-	w/o	23.5	22.44	1.28	0.00	<0.001	0.00
	LTE 25	QPSK20M	Top Side	0	26365	50	0	1	-	w/	18.0	17.96	1.01	0.09	0.678	0.68
	LTE 25	QPSK20M	Top Side	16	26590	50	0	1	-	w/o	23.5	22.44	1.28	0.13	0.148	0.19
	LTE 25	QPSK20M	Bottom Side	0	26590	50	0	1	-	w/o	23.5	22.44	1.28	0.00	<0.001	0.00
	LTE 25	QPSK20M	Top Side	0	26140	1	0	1	-	w/	18.0	17.82	1.04	0.14	1.1	1.14
	LTE 25	QPSK20M	Top Side	0	26590	1	0	1	-	w/	18.0	17.95	1.01	0.06	0.855	0.86
	LTE 25	QPSK20M	Top Side	0	26590	100	0	1	-	w/	18.0	17.92	1.02	-0.05	0.637	0.65
	LTE 25	QPSK20M	Top Side	0	26140	1	0	2	-	w/	18.0	17.82	1.04	0.13	0.699	0.73
	LTE 25	QPSK20M	Top Side	0	26140	1	0	1	w/	w/	18.0	17.82	1.04	-0.05	1.02	1.06
	LTE 25	QPSK20M	Top Side	0	26140	1	0	1	-	w/	18.0	17.82	1.04	-0.07	1.02	1.06

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB#	RB Offset	SKU	Keyboard	Power Reduction	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
10	LTE 26	QPSK15M	Rear Face	0	26865	1	0	1	-	w/	18.0	17.98	1.00	-0.16	1.01	1.01
	LTE 26	QPSK15M	Rear Face	16	26965	1	0	1	-	w/o	24.5	23.52	1.25	0.01	0.387	0.48
	LTE 26	QPSK15M	Left Side	0	26965	1	0	1	-	w/o	24.5	23.52	1.25	0.08	0.108	0.14
	LTE 26	QPSK15M	Right Side	0	26965	1	0	1	-	w/o	24.5	23.52	1.25	0.00	<0.001	0.00
	LTE 26	QPSK15M	Top Side	0	26865	1	0	1	-	w/	18.0	17.98	1.00	-0.15	0.585	0.59
	LTE 26	QPSK15M	Top Side	16	26965	1	0	1	-	w/o	24.5	23.52	1.25	0.03	0.282	0.35
	LTE 26	QPSK15M	Bottom Side	0	26965	1	0	1	-	w/o	24.5	23.52	1.25	0.00	<0.001	0.00
	LTE 26	QPSK15M	Rear Face	0	26865	36	0	1	-	w/	18.0	17.89	1.03	0.11	0.927	0.95
	LTE 26	QPSK15M	Rear Face	16	26965	36	0	1	-	w/o	23.5	22.50	1.26	0.04	0.326	0.41
	LTE 26	QPSK15M	Left Side	0	26965	36	0	1	-	w/o	23.5	22.50	1.26	0.06	0.101	0.13
	LTE 26	QPSK15M	Right Side	0	26965	36	0	1	-	w/o	23.5	22.50	1.26	0.00	<0.001	0.00
	LTE 26	QPSK15M	Top Side	0	26965	36	0	1	-	w/	18.0	17.89	1.03	-0.05	0.576	0.59
	LTE 26	QPSK15M	Top Side	16	26965	36	0	1	-	w/o	23.5	22.50	1.26	-0.07	0.235	0.30
	LTE 26	QPSK15M	Bottom Side	0	26965	36	0	1	-	w/o	23.5	22.50	1.26	0.00	<0.001	0.00
	LTE 26	QPSK15M	Rear Face	0	26765	1	0	1	-	w/	18.0	17.90	1.02	0.15	0.901	0.92
	LTE 26	QPSK15M	Rear Face	0	26965	1	0	1	-	w/	18.0	17.95	1.01	-0.17	0.928	0.94
	LTE 26	QPSK15M	Rear Face	0	26765	36	0	1	-	w/	18.0	17.80	1.05	0.02	0.815	0.86
	LTE 26	QPSK15M	Rear Face	0	26965	36	0	1	-	w/	18.0	17.85	1.04	0.06	0.831	0.86
	LTE 26	QPSK15M	Rear Face	0	26865	75	0	1	-	w/	18.0	17.88	1.03	-0.16	0.823	0.85
	LTE 26	QPSK15M	Rear Face	0	26865	1	0	2	-	w/	18.0	17.98	1.00	-0.14	0.607	0.61
	LTE 26	QPSK15M	Rear Face	0	26865	1	0	1	w/	w/	18.0	17.98	1.00	0.17	0.305	0.31
	LTE 26	QPSK15M	Rear Face	0	26865	1	0	1	-	w/	18.0	17.98	1.00	0.05	0.98	0.98
11	LTE 30	QPSK10M	Rear Face	0	27710	1	0	1	-	w/	17.0	16.97	1.01	0.07	0.977	0.99
	LTE 30	QPSK10M	Rear Face	16	27710	1	0	1	-	w/o	23.0	22.12	1.22	0.13	0.224	0.27
	LTE 30	QPSK10M	Left Side	0	27710	1	0	1	-	w/o	23.0	22.12	1.22	-0.12	0.207	0.25
	LTE 30	QPSK10M	Right Side	0	27710	1	0	1	-	w/o	23.0	22.12	1.22	0.00	<0.001	0.00
	LTE 30	QPSK10M	Top Side	0	27710	1	0	1	-	w/	17.0	16.97	1.01	-0.02	0.275	0.28
	LTE 30	QPSK10M	Top Side	16	27710	1	0	1	-	w/o	23.0	22.12	1.22	0.16	0.177	0.22
	LTE 30	QPSK10M	Bottom Side	0	27710	1	0	1	-	w/o	23.0	22.12	1.22	0.00	<0.001	0.00
	LTE 30	QPSK10M	Rear Face	0	27710	25	0	1	-	w/	17.0	16.88	1.03	-0.06	0.925	0.95
	LTE 30	QPSK10M	Rear Face	16	27710	25	0	1	-	w/o	22.0	21.07	1.24	-0.10	0.199	0.25
	LTE 30	QPSK10M	Left Side	0	27710	25	0	1	-	w/o	22.0	21.07	1.24	-0.13	0.151	0.19
	LTE 30	QPSK10M	Right Side	0	27710	25	0	1	-	w/o	22.0	21.07	1.24	0.00	<0.001	0.00
	LTE 30	QPSK10M	Top Side	0	27710	25	0	1	-	w/	17.0	16.88	1.03	-0.12	0.273	0.28
	LTE 30	QPSK10M	Top Side	16	27710	25	0	1	-	w/o	22.0	21.07	1.24	-0.01	0.149	0.18
	LTE 30	QPSK10M	Bottom Side	0	27710	25	0	1	-	w/o	22.0	21.07	1.24	0.00	<0.001	0.00
	LTE 30	QPSK10M	Rear Face	0	27710	1	0	2	-	w/	17.0	16.97	1.01	-0.03	0.944	0.95
	LTE 30	QPSK10M	Rear Face	0	27710	1	0	1	w/	w/	17.0	16.97	1.01	0.10	0.250	0.25
	LTE 30	QPSK10M	Rear Face	0	27710	1	0	1	-	w/	17.0	16.97	1.01	-0.15	0.946	0.96
12	LTE 41	QPSK20M	Rear Face	0	40185	1	0	1	-	w/	18.0	17.95	1.01	0.05	0.907	0.92
	LTE 41	QPSK20M	Rear Face	16	40185	1	0	1	-	w/o	24.5	23.99	1.12	0.08	0.251	0.28
	LTE 41	QPSK20M	Left Side	0	40185	1	0	1	-	w/o	24.5	23.99	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Right Side	0	40185	1	0	1	-	w/o	24.5	23.99	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Top Side	0	40185	1	0	1	-	w/	18.0	17.95	1.01	-0.08	0.257	0.26
	LTE 41	QPSK20M	Top Side	16	40185	1	0	1	-	w/o	24.5	23.99	1.12	0.06	0.128	0.14
	LTE 41	QPSK20M	Bottom Side	0	40185	1	0	1	-	w/o	24.5	23.99	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Rear Face	0	40185	50	50	1	-	w/	18.0	17.83	1.04	-0.13	0.863	0.90
	LTE 41	QPSK20M	Rear Face	16	40185	50	0	1	-	w/o	23.5	23.01	1.12	-0.16	0.179	0.20
	LTE 41	QPSK20M	Left Side	0	40185	50	0	1	-	w/o	23.5	23.01	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Right Side	0	40185	50	0	1	-	w/o	23.5	23.01	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Top Side	0	40185	50	50	1	-	w/	18.0	17.83	1.04	0.17	0.234	0.24
	LTE 41	QPSK20M	Top Side	16	40185	50	0	1	-	w/o	23.5	23.01	1.12	0.09	0.144	0.16
	LTE 41	QPSK20M	Bottom Side	0	40185	50	0	1	-	w/o	23.5	23.01	1.12	0.00	<0.001	0.00
	LTE 41	QPSK20M	Rear Face	0	39750	1	0	1	-	w/	18.0	17.92	1.02	-0.14	0.885	0.90
	LTE 41	QPSK20M	Rear Face	0	40620	1	0	1	-	w/	18.0	17.85	1.04	0.13	0.810	0.84
	LTE 41	QPSK20M	Rear Face	0	41055	1	0	1	-	w/	18.0	17.88	1.03	0.11	0.769	0.79
	LTE 41	QPSK20M	Rear Face	0	41490	1	0	1	-	w/	18.0	17.77	1.05	0.15	0.844	0.89
	LTE 41	QPSK20M	Rear Face	0	39750	50	50	1	-	w/	18.0	17.80	1.05	0.02	0.834	0.88
	LTE 41	QPSK20M	Rear Face	0	40620	50	50	1	-	w/	18.0	17.73	1.06	0.05	0.765	0.81
	LTE 41	QPSK20M	Rear Face	0	41055	50	50	1	-	w/	18.0	17.76	1.06	0.09	0.715	0.76
	LTE 41	QPSK20M	Rear Face	0	41490	50	50	1	-	w/	18.0	17.65	1.08	-0.02	0.796	0.86
	LTE 41	QPSK20M	Rear Face	0	40185	100	0	1	-	w/	18.0	17.82	1.04	0.07	0.777	0.81
	LTE 41	QPSK20M	Rear Face	0	40185	1	0	2	-	w/	18.0	17.95	1.01	0.10	0.801	0.81
	LTE 41	QPSK20M	Rear Face	0	40185	1	0	1	w/	w/	18.0	17.95	1.01	0.12	0.268	0.27
	LTE 41	QPSK20M	Rear Face	0	40185	1	0	1	-	w/	18.0	17.95	1.01	-0.16	0.873	0.88

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

FCC SAR Test Report

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB#	RB Offset	SKU	Keyboard	Power Reduction	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 66	QPSK20M	Rear Face	0	132322	1	0	1	-	w/	18.0	17.99	1.00	-0.05	1.09	1.09
	LTE 66	QPSK20M	Rear Face	16	132322	1	0	1	-	w/o	24.5	23.89	1.15	0.03	0.270	0.31
	LTE 66	QPSK20M	Left Side	0	132322	1	0	1	-	w/o	24.5	23.89	1.15	-0.01	0.06	0.07
	LTE 66	QPSK20M	Right Side	0	132322	1	0	1	-	w/o	24.5	23.89	1.15	0.00	<0.001	0.00
	LTE 66	QPSK20M	Top Side	0	132322	1	0	1	-	w/	18.0	17.99	1.00	0.02	0.989	0.99
	LTE 66	QPSK20M	Top Side	16	132322	1	0	1	-	w/o	24.5	23.89	1.15	-0.11	0.459	0.53
	LTE 66	QPSK20M	Bottom Side	0	132322	1	0	1	-	w/o	24.5	23.89	1.15	0.00	<0.001	0.00
	LTE 66	QPSK20M	Rear Face	0	132322	50	0	1	-	w/	18.0	17.88	1.03	0.03	1.03	1.06
	LTE 66	QPSK20M	Rear Face	16	132322	50	0	1	-	w/o	23.5	22.66	1.21	-0.05	0.216	0.26
	LTE 66	QPSK20M	Left Side	0	132322	50	0	1	-	w/o	23.5	22.66	1.21	0.11	0.058	0.07
	LTE 66	QPSK20M	Right Side	0	132322	50	0	1	-	w/o	23.5	22.66	1.21	0.00	<0.001	0.00
	LTE 66	QPSK20M	Top Side	0	132322	50	0	1	-	w/	18.0	17.88	1.03	0.09	0.955	0.98
	LTE 66	QPSK20M	Top Side	16	132322	50	0	1	-	w/o	23.5	22.66	1.21	-0.01	0.377	0.46
	LTE 66	QPSK20M	Bottom Side	0	132322	50	0	1	-	w/o	23.5	22.66	1.21	0.00	<0.001	0.00
	LTE 66	QPSK20M	Rear Face	0	132072	1	0	1	-	w/	18.0	17.95	1.01	0.02	1.03	1.04
13	LTE 66	QPSK20M	Rear Face	0	132572	1	0	1	-	w/	18.0	17.93	1.02	-0.03	1.12	1.14
	LTE 66	QPSK20M	Rear Face	0	132072	50	0	1	-	w/	18.0	17.84	1.04	0.02	0.995	1.03
	LTE 66	QPSK20M	Rear Face	0	132572	50	0	1	-	w/	18.0	17.82	1.04	0.06	1.05	1.09
	LTE 66	QPSK20M	Rear Face	0	132322	100	0	1	-	w/	18.0	17.91	1.02	-0.07	0.884	0.90
	LTE 66	QPSK20M	Rear Face	0	132572	1	0	2	-	w/	18.0	17.93	1.02	0.03	1.01	1.03
	LTE 66	QPSK20M	Rear Face	0	132572	1	0	1	w/	w/	18.0	17.93	1.02	-0.10	0.22	0.22
	LTE 66	QPSK20M	Rear Face	0	132572	1	0	1	-	w/	18.0	17.93	1.02	0.02	1.08	1.10

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

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4.7.3 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

Band	Mode	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1 st Repeated SAR-1g (W/kg)	L/S Ratio	2 nd Repeated SAR-1g (W/kg)	L/S Ratio	3 rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMA II	RMC12.2K	Rear Face	9538	0.814	0.802	1.01	N/A	N/A	N/A	N/A
WCDMA IV	RMC12.2K	Rear Face	1312	1.07	1.01	1.06	N/A	N/A	N/A	N/A
WCDMA V	RMC12.2K	Rear Face	4132	0.868	0.846	1.03	N/A	N/A	N/A	N/A
LTE 5	QPSK10M	Rear Face	20600	0.874	0.858	1.02	N/A	N/A	N/A	N/A
LTE 7	QPSK20M	Rear Face	20850	1.17	1.08	1.08	N/A	N/A	N/A	N/A
LTE 12	QPSK10M	Rear Face	23095	1.11	1.03	1.08	N/A	N/A	N/A	N/A
LTE 13	QPSK10M	Rear Face	23230	1	0.931	1.07	N/A	N/A	N/A	N/A
LTE 14	QPSK10M	Rear Face	23330	0.911	0.852	1.07	N/A	N/A	N/A	N/A
LTE 25	QPSK20M	Top Side	26140	1.1	1.02	1.08	N/A	N/A	N/A	N/A
LTE 26	QPSK15M	Rear Face	26865	1.01	0.98	1.03	N/A	N/A	N/A	N/A
LTE 30	QPSK10M	Rear Face	27710	0.977	0.946	1.03	N/A	N/A	N/A	N/A
LTE 41	QPSK20M	Rear Face	40185	0.907	0.873	1.04	N/A	N/A	N/A	N/A
LTE 66	QPSK20M	Rear Face	132572	1.12	1.08	1.04	N/A	N/A	N/A	N/A

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4.7.4 Simultaneous Multi-band Transmission Evaluation

<Possibilities of Simultaneous Transmission>

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

<T77W968 + 9560NGW>

Simultaneous TX Combination	Capable Transmit Configurations	Body Exposure Condition
1	WWAN + WLAN 2.4G	Yes
2	WWAN + WLAN 5G	Yes
3	WWAN + BT	Yes
4	WWAN + WLAN 2.4G Main + WLAN 2.4G Aux.	Yes
5	WWAN + WLAN 5G Main + WLAN 5G Aux.	Yes
6	WWAN + WLAN 2.4G Main + BT Aux.	Yes
7	WWAN + WLAN 5G Main + BT Aux.	Yes
8	WWAN + WLAN 5G Main + WLAN 5G Aux. + BT Aux.	Yes

Note:

1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.
2. Condition 1 is covered by condition 4.
3. Condition 2, 5, and 7 are covered by condition 8.
4. Condition 3 is covered by condition 6.

<T77W968 + QCNFA344A>

Simultaneous TX Combination	Capable Transmit Configurations	Body Exposure Condition
1	WWAN + WLAN 2.4G	Yes
2	WWAN + WLAN 5G	Yes
3	WWAN + BT	Yes
4	WWAN + WLAN 2.4G Main + BT Aux.	Yes
5	WWAN + WLAN 5G Main + BT Aux.	Yes

Note:

1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.
2. Condition 3 is covered by condition 4.

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<Estimated SAR Calculation>

According to KDB 447498 D01, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR was estimated according to following formula to result in substantially conservative SAR values of ≤ 0.4 W/kg to determine simultaneous transmission SAR test exclusion.

$$\text{Estimated SAR} = \frac{\text{Max. Tune up Power}_{(\text{mW})}}{\text{Min. Test Separation Distance}_{(\text{mm})}} \times \frac{\sqrt{f_{(\text{GHz})}}}{7.5}$$

If the minimum test separation distance is < 5 mm, a distance of 5 mm is used for estimated SAR calculation. When the test separation distance is > 50 mm, the 0.4 W/kg is used for SAR-1g.

Tablet PC Mode

<9560NGW>

Mode / Band	Frequency (GHz)	Max. Tune-up Power (dBm)	Test Position	Separation Distance (mm)	Estimated SAR (W/kg)
WLAN (DTS)	2.462	13.0	Body	5	0.40
WLAN (NII)	5.24	11.5	Body	5	0.40
WLAN (NII)	5.32	11.0	Body	5	0.40
WLAN (NII)	5.72	10.0	Body	5	0.40
WLAN (NII)	5.825	10.0	Body	5	0.40
BT (DTS)	2.48	11.0	Body	5	0.40

<QCNFA344A>

Mode / Band	Frequency (GHz)	Max. Tune-up Power (dBm)	Test Position	Separation Distance (mm)	Estimated SAR (W/kg)
WLAN (DTS)	2.462	16.0	Body	5	0.40
WLAN (NII)	5.2	14.5	Body	5	0.40
WLAN (NII)	5.3	14.0	Body	5	0.40
WLAN (NII)	5.6	13.0	Body	5	0.40
WLAN (NII)	5.8	13.0	Body	5	0.40
BT (DTS)	2.48	7.0	Body	5	0.21

Note:

1. The separation distance is determined from the outer housing of the EUT to the user.
2. When standalone SAR testing is not required, an estimated SAR can be applied to determine simultaneous transmission SAR test exclusion.

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<SAR Summation Analysis>

This evaluation is combined other operating band data of the End-product from BVCPS report (Report No.: SA180914C21B, Issue Date: Dec. 28, 2018, for WLAN / BT module QCNFA344A) and Intel report (Report No.: 181119-01.TR01, Issue Date: Feb. 12, 2019, for WLAN / BT module 9560NGW). The SAR summation of maximum SAR of WWAN and WLAN for each position is under the SAR limitation (2.0 W/kg). Therefore, the simultaneous transmission condition complies with the SAR criterion.

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR_{1g} of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR_{1g} 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR_{1g} is greater than the SAR limit (SAR_{1g} 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

<T77W968 + 9560NGW>

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
1	WCDMA II + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.82	0.86	0.79	-	2.47	Analyzed as below
			Left Side	0.07	0.40	0.40	-	0.87	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.47	0.26	0.25	-	0.98	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
2	WCDMA II + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.82	0.86	0.29	-	1.97	Analyzed as below
			Left Side	0.07	0.40	0.40	-	0.87	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.47	0.26	0.09	-	0.82	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
3	WCDMA II + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.82	0.62	0.48	0.29	2.21	Analyzed as below
			Left Side	0.07	0.40	0.40	0.40	1.27	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.47	1.18	0.99	0.09	2.73	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
4	WCDMA IV + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.07	0.86	0.79	-	2.72	Analyzed as below
			Left Side	0.08	0.40	0.40	-	0.88	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.88	0.26	0.25	-	1.39	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
5	WCDMA IV + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.07	0.86	0.29	-	2.22	Analyzed as below
			Left Side	0.08	0.40	0.40	-	0.88	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.88	0.26	0.09	-	1.23	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
6	WCDMA IV + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.07	0.62	0.48	0.29	2.46	Analyzed as below
			Left Side	0.08	0.40	0.40	0.40	1.28	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.88	1.18	0.99	0.09	3.14	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
7	WCDMA V + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.93	0.86	0.79	-	2.58	Analyzed as below
			Left Side	0.33	0.40	0.40	-	1.13	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	0.40	-	0.89	Σ SAR < 1.6, Not required
			Top Side	0.46	0.26	0.25	-	0.97	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
8	WCDMA V + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.93	0.86	0.29	-	2.08	Analyzed as below
			Left Side	0.33	0.40	0.40	-	1.13	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	0.40	-	0.89	Σ SAR < 1.6, Not required
			Top Side	0.46	0.26	0.09	-	0.81	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
9	WCDMA V + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.93	0.62	0.48	0.29	2.32	Analyzed as below
			Left Side	0.33	0.40	0.40	0.40	1.53	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	0.40	0.40	1.29	Σ SAR < 1.6, Not required
			Top Side	0.46	1.18	0.99	0.09	2.72	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
10	LTE 5 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.88	0.86	0.79	-	2.53	Analyzed as below
			Left Side	0.29	0.40	0.40	-	1.09	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	0.40	-	0.90	Σ SAR < 1.6, Not required
			Top Side	0.47	0.26	0.25	-	0.98	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
11	LTE 5 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.88	0.86	0.29	-	2.03	Analyzed as below
			Left Side	0.29	0.40	0.40	-	1.09	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	0.40	-	0.90	Σ SAR < 1.6, Not required
			Top Side	0.47	0.26	0.09	-	0.82	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
12	LTE 5 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.88	0.62	0.48	0.29	2.27	Analyzed as below
			Left Side	0.29	0.40	0.40	0.40	1.49	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	0.40	0.40	1.30	Σ SAR < 1.6, Not required
			Top Side	0.47	1.18	0.99	0.09	2.73	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
13	LTE 7 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.18	0.86	0.79	-	2.83	Analyzed as below
			Left Side	0.31	0.40	0.40	-	1.11	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.28	0.26	0.25	-	0.79	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
14	LTE 7 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.18	0.86	0.29	-	2.33	Analyzed as below
			Left Side	0.31	0.40	0.40	-	1.11	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.28	0.26	0.09	-	0.63	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
15	LTE 7 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.18	0.62	0.48	0.29	2.57	Analyzed as below
			Left Side	0.31	0.40	0.40	0.40	1.51	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.28	1.18	0.99	0.09	2.54	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
16	LTE 12 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.14	0.86	0.79	-	2.79	Analyzed as below
			Left Side	0.16	0.40	0.40	-	0.96	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	0.40	-	0.88	Σ SAR < 1.6, Not required
			Top Side	0.84	0.26	0.25	-	1.35	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
17	LTE 12 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.86	0.29	-	2.29	Analyzed as below
			Left Side	0.16	0.40	0.40	-	0.96	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	0.40	-	0.88	Σ SAR < 1.6, Not required
			Top Side	0.84	0.26	0.09	-	1.19	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
18	LTE 12 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.62	0.48	0.29	2.53	Analyzed as below
			Left Side	0.16	0.40	0.40	0.40	1.36	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	0.40	0.40	1.28	Σ SAR < 1.6, Not required
			Top Side	0.84	1.18	0.99	0.09	3.10	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
19	LTE 13 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.00	0.86	0.79	-	2.65	Analyzed as below
			Left Side	0.23	0.40	0.40	-	1.03	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	0.40	-	0.94	Σ SAR < 1.6, Not required
			Top Side	0.59	0.26	0.25	-	1.10	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
20	LTE 13 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.00	0.86	0.29	-	2.15	Analyzed as below
			Left Side	0.23	0.40	0.40	-	1.03	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	0.40	-	0.94	Σ SAR < 1.6, Not required
			Top Side	0.59	0.26	0.09	-	0.94	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
21	LTE 13 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.00	0.62	0.48	0.29	2.39	Analyzed as below
			Left Side	0.23	0.40	0.40	0.40	1.43	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	0.40	0.40	1.34	Σ SAR < 1.6, Not required
			Top Side	0.59	1.18	0.99	0.09	2.85	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
22	LTE 14 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.92	0.86	0.79	-	2.57	Analyzed as below
			Left Side	0.16	0.40	0.40	-	0.96	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	0.40	-	0.92	Σ SAR < 1.6, Not required
			Top Side	0.55	0.26	0.25	-	1.06	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
23	LTE 14 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.86	0.29	-	2.07	Analyzed as below
			Left Side	0.16	0.40	0.40	-	0.96	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	0.40	-	0.92	Σ SAR < 1.6, Not required
			Top Side	0.55	0.26	0.09	-	0.90	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
24	LTE 14 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.62	0.48	0.29	2.31	Analyzed as below
			Left Side	0.16	0.40	0.40	0.40	1.36	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	0.40	0.40	1.32	Σ SAR < 1.6, Not required
			Top Side	0.55	1.18	0.99	0.09	2.81	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

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No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
25	LTE 25 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.80	0.86	0.79	-	2.45	Analyzed as below
			Left Side	0.05	0.40	0.40	-	0.85	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	1.14	0.26	0.25	-	1.65	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
26	LTE 25 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.80	0.86	0.29	-	1.95	Analyzed as below
			Left Side	0.05	0.40	0.40	-	0.85	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	1.14	0.26	0.09	-	1.49	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
27	LTE 25 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.80	0.62	0.48	0.29	2.19	Analyzed as below
			Left Side	0.05	0.40	0.40	0.40	1.25	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	1.14	1.18	0.99	0.09	3.40	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
28	LTE 26 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.01	0.86	0.79	-	2.66	Analyzed as below
			Left Side	0.14	0.40	0.40	-	0.94	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.59	0.26	0.25	-	1.10	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
29	LTE 26 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.01	0.86	0.29	-	2.16	Analyzed as below
			Left Side	0.14	0.40	0.40	-	0.94	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.59	0.26	0.09	-	0.94	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
30	LTE 26 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.01	0.62	0.48	0.29	2.40	Analyzed as below
			Left Side	0.14	0.40	0.40	0.40	1.34	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.59	1.18	0.99	0.09	2.85	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
31	LTE 30 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.99	0.86	0.79	-	2.64	Analyzed as below
			Left Side	0.25	0.40	0.40	-	1.05	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.28	0.26	0.25	-	0.79	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
32	LTE 30 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.99	0.86	0.29	-	2.14	Analyzed as below
			Left Side	0.25	0.40	0.40	-	1.05	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.28	0.26	0.09	-	0.63	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
33	LTE 30 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.99	0.62	0.48	0.29	2.38	Analyzed as below
			Left Side	0.25	0.40	0.40	0.40	1.45	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.28	1.18	0.99	0.09	2.54	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
37	LTE 41 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	0.92	0.86	0.79	-	2.57	Analyzed as below
			Left Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.26	0.26	0.25	-	0.77	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
38	LTE 41 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.86	0.29	-	2.07	Analyzed as below
			Left Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.26	0.26	0.09	-	0.61	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
39	LTE 41 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.62	0.48	0.29	2.31	Analyzed as below
			Left Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.26	1.18	0.99	0.09	2.52	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	Max. SAR4	SAR Summation	SPLSR Analysis
40	LTE 66 + WLAN Ant-0 (DTS) + WLAN Ant-1 (DTS)	Body (Tablet PC Mode)	Rear Face	1.14	0.86	0.79	-	2.79	Analyzed as below
			Left Side	0.07	0.40	0.40	-	0.87	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.99	0.26	0.25	-	1.50	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
41	LTE 66 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.86	0.29	-	2.29	Analyzed as below
			Left Side	0.07	0.40	0.40	-	0.87	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
			Top Side	0.99	0.26	0.09	-	1.34	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.40	-	0.80	Σ SAR < 1.6, Not required
42	LTE 66 + WLAN Ant-0 (NII) + WLAN Ant-1 (NII) + BT (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.62	0.48	0.29	2.53	Analyzed as below
			Left Side	0.07	0.40	0.40	0.40	1.27	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required
			Top Side	0.99	1.18	0.99	0.09	3.25	Analyzed as below
			Bottom Side	0.00	0.40	0.40	0.40	1.20	Σ SAR < 1.6, Not required

FCC SAR Test Report

<T77W968 + QCNFA344A>

No.	Conditions (SAR1+ SAR2) & (SAR1+ SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
1	WCDMA II + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.82	0.96	-	1.78	Analyzed as below
			Left Side	0.07	0.40	-	0.47	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.47	0.36	-	0.83	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
2	WCDMA II + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.82	0.73	-	1.55	Σ SAR < 1.6, Not required
			Left Side	0.07	0.40	-	0.47	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.47	1.18	-	1.65	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
3	WCDMA II + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.82	0.21	0.00	1.03	Σ SAR < 1.6, Not required
			Left Side	0.07	0.40	0.21	0.68	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.47	0.13	0.00	0.60	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
4	WCDMA II + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.82	0.73	0.00	1.55	Σ SAR < 1.6, Not required
			Left Side	0.07	0.40	0.21	0.68	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.47	0.98	0.00	1.45	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2) & (SAR1+ SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
5	WCDMA IV + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.07	0.96	-	2.03	Analyzed as below
			Left Side	0.08	0.40	-	0.48	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.88	0.36	-	1.24	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
6	WCDMA IV + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.07	0.73	-	1.80	Analyzed as below
			Left Side	0.08	0.40	-	0.48	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.88	1.18	-	2.06	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
7	WCDMA IV + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.07	0.21	0.00	1.28	Σ SAR < 1.6, Not required
			Left Side	0.08	0.40	0.21	0.69	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.88	0.13	0.00	1.01	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
8	WCDMA IV + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.07	0.73	0.00	1.80	Analyzed as below
			Left Side	0.08	0.40	0.21	0.69	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.88	0.98	0.00	1.86	Analyzed as below
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2) & (SAR1+ SAR2 + SAR3)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
9	WCDMA V + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.93	0.96	-	1.89	Analyzed as below
			Left Side	0.33	0.40	-	0.73	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	-	0.49	Σ SAR < 1.6, Not required
			Top Side	0.46	0.36	-	0.82	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
10	WCDMA V + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.93	0.73	-	1.66	Analyzed as below
			Left Side	0.33	0.40	-	0.73	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	-	0.49	Σ SAR < 1.6, Not required
			Top Side	0.46	1.18	-	1.64	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
11	WCDMA V + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.93	0.21	0.00	1.14	Σ SAR < 1.6, Not required
			Left Side	0.33	0.40	0.21	0.94	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	0.21	0.70	Σ SAR < 1.6, Not required
			Top Side	0.46	0.13	0.00	0.59	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
12	WCDMA V + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.93	0.73	0.00	1.66	Analyzed as below
			Left Side	0.33	0.40	0.21	0.94	Σ SAR < 1.6, Not required
			Right Side	0.09	0.40	0.21	0.70	Σ SAR < 1.6, Not required
			Top Side	0.46	0.98	0.00	1.44	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
13	LTE 5 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.88	0.96	-	1.84	Analyzed as below
			Left Side	0.29	0.40	-	0.69	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	-	0.50	Σ SAR < 1.6, Not required
			Top Side	0.47	0.36	-	0.83	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
14	LTE 5 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.88	0.73	-	1.61	Analyzed as below
			Left Side	0.29	0.40	-	0.69	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	-	0.50	Σ SAR < 1.6, Not required
			Top Side	0.47	1.18	-	1.65	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
15	LTE 5 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.88	0.21	0.00	1.09	Σ SAR < 1.6, Not required
			Left Side	0.29	0.40	0.21	0.90	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	0.21	0.71	Σ SAR < 1.6, Not required
			Top Side	0.47	0.13	0.00	0.60	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
16	LTE 5 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.88	0.73	0.00	1.61	Analyzed as below
			Left Side	0.29	0.40	0.21	0.90	Σ SAR < 1.6, Not required
			Right Side	0.10	0.40	0.21	0.71	Σ SAR < 1.6, Not required
			Top Side	0.47	0.98	0.00	1.45	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
17	LTE 7 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.18	0.96	-	2.14	Analyzed as below
			Left Side	0.31	0.40	-	0.71	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.28	0.36	-	0.64	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
18	LTE 7 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.18	0.73	-	1.91	Analyzed as below
			Left Side	0.31	0.40	-	0.71	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.28	1.18	-	1.46	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
19	LTE 7 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.18	0.21	0.00	1.39	Σ SAR < 1.6, Not required
			Left Side	0.31	0.40	0.21	0.92	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.28	0.13	0.00	0.41	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
20	LTE 7 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.18	0.73	0.00	1.91	Analyzed as below
			Left Side	0.31	0.40	0.21	0.92	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.28	0.98	0.00	1.26	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
21	LTE 12 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.14	0.96	-	2.10	Analyzed as below
			Left Side	0.16	0.40	-	0.56	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	-	0.48	Σ SAR < 1.6, Not required
			Top Side	0.84	0.36	-	1.20	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
22	LTE 12 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.14	0.73	-	1.87	Analyzed as below
			Left Side	0.16	0.40	-	0.56	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	-	0.48	Σ SAR < 1.6, Not required
			Top Side	0.84	1.18	-	2.02	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
23	LTE 12 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.21	0.00	1.35	Σ SAR < 1.6, Not required
			Left Side	0.16	0.40	0.21	0.77	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	0.21	0.69	Σ SAR < 1.6, Not required
			Top Side	0.84	0.13	0.00	0.97	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
24	LTE 12 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.73	0.00	1.87	Analyzed as below
			Left Side	0.16	0.40	0.21	0.77	Σ SAR < 1.6, Not required
			Right Side	0.08	0.40	0.21	0.69	Σ SAR < 1.6, Not required
			Top Side	0.84	0.98	0.00	1.82	Analyzed as below
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
25	LTE 13 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.00	0.96	-	1.96	Analyzed as below
			Left Side	0.23	0.40	-	0.63	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	-	0.54	Σ SAR < 1.6, Not required
			Top Side	0.59	0.36	-	0.95	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
26	LTE 13 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.00	0.73	-	1.73	Analyzed as below
			Left Side	0.23	0.40	-	0.63	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	-	0.54	Σ SAR < 1.6, Not required
			Top Side	0.59	1.18	-	1.77	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
27	LTE 13 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.00	0.21	0.00	1.21	Σ SAR < 1.6, Not required
			Left Side	0.23	0.40	0.21	0.84	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	0.21	0.75	Σ SAR < 1.6, Not required
			Top Side	0.59	0.13	0.00	0.72	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
28	LTE 13 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.00	0.73	0.00	1.73	Analyzed as below
			Left Side	0.23	0.40	0.21	0.84	Σ SAR < 1.6, Not required
			Right Side	0.14	0.40	0.21	0.75	Σ SAR < 1.6, Not required
			Top Side	0.59	0.98	0.00	1.57	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
29	LTE 14 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.92	0.96	-	1.88	Analyzed as below
			Left Side	0.16	0.40	-	0.56	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	-	0.52	Σ SAR < 1.6, Not required
			Top Side	0.55	0.36	-	0.91	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
30	LTE 14 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.92	0.73	-	1.65	Analyzed as below
			Left Side	0.16	0.40	-	0.56	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	-	0.52	Σ SAR < 1.6, Not required
			Top Side	0.55	1.18	-	1.73	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
31	LTE 14 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.21	0.00	1.13	Σ SAR < 1.6, Not required
			Left Side	0.16	0.40	0.21	0.77	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	0.21	0.73	Σ SAR < 1.6, Not required
			Top Side	0.55	0.13	0.00	0.68	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
32	LTE 14 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.73	0.00	1.65	Analyzed as below
			Left Side	0.16	0.40	0.21	0.77	Σ SAR < 1.6, Not required
			Right Side	0.12	0.40	0.21	0.73	Σ SAR < 1.6, Not required
			Top Side	0.55	0.98	0.00	1.53	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
33	LTE 25 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.80	0.96	-	1.76	Analyzed as below
			Left Side	0.05	0.40	-	0.45	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	1.14	0.36	-	1.50	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
34	LTE 25 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.80	0.73	-	1.53	Σ SAR < 1.6, Not required
			Left Side	0.05	0.40	-	0.45	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	1.14	1.18	-	2.32	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
35	LTE 25 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.80	0.21	0.00	1.01	Σ SAR < 1.6, Not required
			Left Side	0.05	0.40	0.21	0.66	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	1.14	0.13	0.00	1.27	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
36	LTE 25 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.80	0.73	0.00	1.53	Σ SAR < 1.6, Not required
			Left Side	0.05	0.40	0.21	0.66	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	1.14	0.98	0.00	2.12	Analyzed as below
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
37	LTE 26 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.01	0.96	-	1.97	Analyzed as below
			Left Side	0.14	0.40	-	0.54	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.59	0.36	-	0.95	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
38	LTE 26 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.01	0.73	-	1.74	Analyzed as below
			Left Side	0.14	0.40	-	0.54	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.59	1.18	-	1.77	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
39	LTE 26 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.01	0.21	0.00	1.22	Σ SAR < 1.6, Not required
			Left Side	0.14	0.40	0.21	0.75	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.59	0.13	0.00	0.72	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
40	LTE 26 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.01	0.73	0.00	1.74	Analyzed as below
			Left Side	0.14	0.40	0.21	0.75	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.59	0.98	0.00	1.57	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
41	LTE 30 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.99	0.96	-	1.95	Analyzed as below
			Left Side	0.25	0.40	-	0.65	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.28	0.36	-	0.64	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
42	LTE 30 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.99	0.73	-	1.72	Analyzed as below
			Left Side	0.25	0.40	-	0.65	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.28	1.18	-	1.46	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
43	LTE 30 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.99	0.21	0.00	1.20	Σ SAR < 1.6, Not required
			Left Side	0.25	0.40	0.21	0.86	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.28	0.13	0.00	0.41	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
44	LTE30 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.99	0.73	0.00	1.72	Analyzed as below
			Left Side	0.25	0.40	0.21	0.86	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.28	0.98	0.00	1.26	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
45	LTE 41 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	0.92	0.96	-	1.88	Analyzed as below
			Left Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.26	0.36	-	0.62	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
46	LTE 41 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	0.92	0.73	-	1.65	Analyzed as below
			Left Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.26	1.18	-	1.44	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
47	LTE 41 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.21	0.00	1.13	Σ SAR < 1.6, Not required
			Left Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.26	0.13	0.00	0.39	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
48	LTE 41 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	0.92	0.73	0.00	1.65	Analyzed as below
			Left Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.26	0.98	0.00	1.24	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

FCC SAR Test Report

No.	Conditions (SAR1+ SAR2 + SAR3) & (SAR1+ SAR2 + SAR3 + SAR4)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	Max. SAR3	SAR Summation	SPLSR Analysis
49	LTE 66 + WLAN (DTS)	Body (Tablet PC Mode)	Rear Face	1.14	0.96	-	2.10	Analyzed as below
			Left Side	0.07	0.40	-	0.47	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.99	0.36	-	1.35	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
50	LTE 66 + WLAN (NII)	Body (Tablet PC Mode)	Rear Face	1.14	0.73	-	1.87	Analyzed as below
			Left Side	0.07	0.40	-	0.47	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
			Top Side	0.99	1.18	-	2.17	Analyzed as below
			Bottom Side	0.00	0.40	-	0.40	Σ SAR < 1.6, Not required
51	LTE 66 + WLAN Ant-0 (DTS) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.21	0.00	1.35	Σ SAR < 1.6, Not required
			Left Side	0.07	0.40	0.21	0.68	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.99	0.13	0.00	1.12	Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
52	LTE 66 + WLAN Ant-0 (NII) + BT Ant-1 (DSS)	Body (Tablet PC Mode)	Rear Face	1.14	0.73	0.00	1.87	Analyzed as below
			Left Side	0.07	0.40	0.21	0.68	Σ SAR < 1.6, Not required
			Right Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required
			Top Side	0.99	0.98	0.00	1.97	Analyzed as below
			Bottom Side	0.00	0.40	0.21	0.61	Σ SAR < 1.6, Not required

<SAR to Peak Location Separation Ratio Analysis>

The simultaneous transmitting antennas in each operating mode and exposure condition combination are considered one pair at a time to determine the SPLSR. When SAR is measured for both antennas in the pair, the peak location separation distance is computed by the following formula.

$$\text{Peak Location Separation Distance} = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2}$$

Where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the area or zoom scans.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna. Due to curvatures on the SAM phantom, when SAR is estimated for one of the antennas in an antenna pair, the measured peak SAR location will be translated onto the test device to determine the peak location separation for the antenna pair.

The SPLSR is determined by the following formula.

$$\text{SPLSR} = \frac{(\text{SAR}_1 + \text{SAR}_2)^{1.5}}{R_i}$$

Where SAR_1 and SAR_2 are the highest reported or estimated SAR for each antenna in the pair, and R_i is the separation distance between the peak SAR locations for the antenna pair in mm.

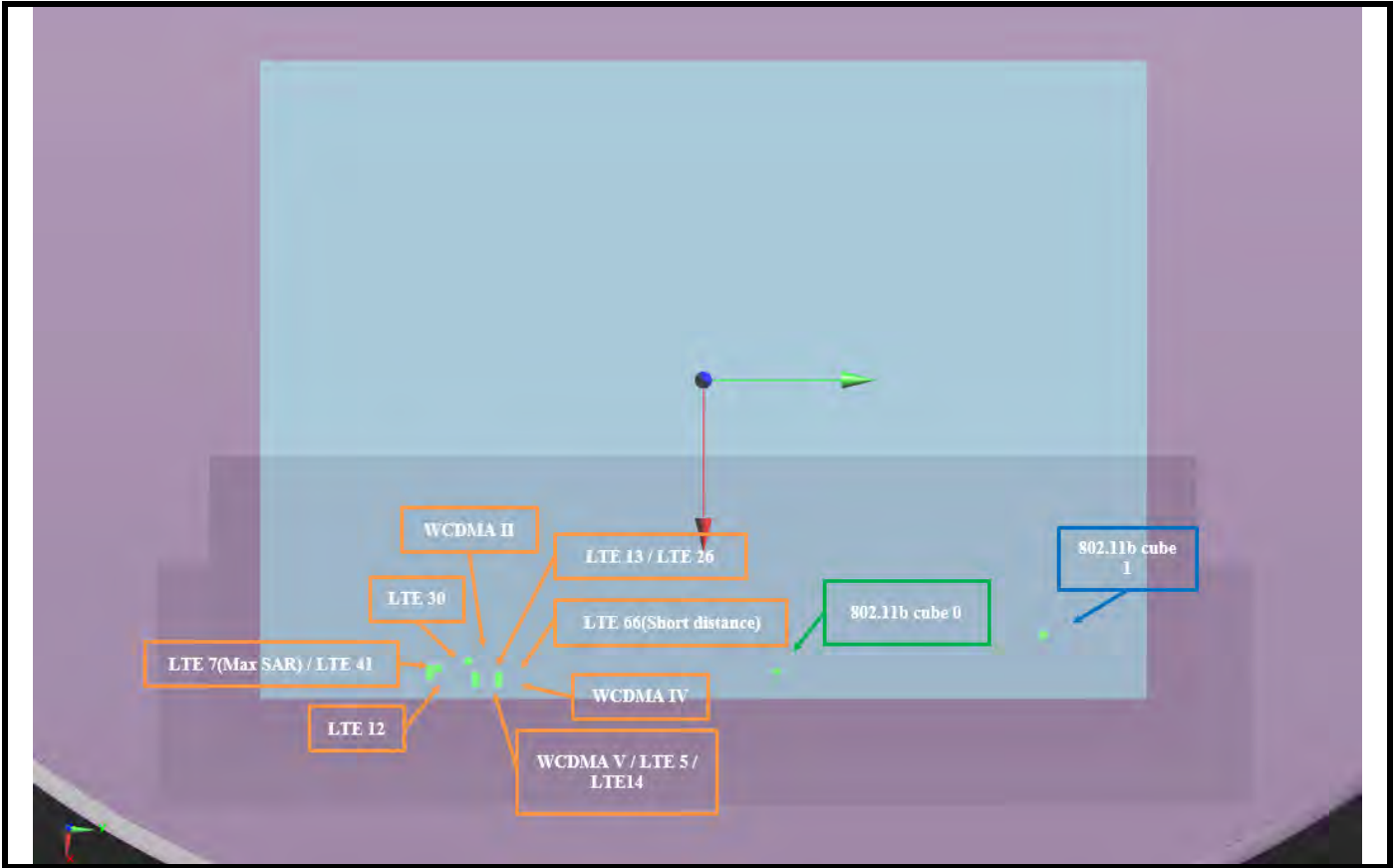
When the SPLSR is ≤ 0.04 , the simultaneous transmission SAR is not required. Otherwise, the enlarged zoom scan and volume scan post-processing procedures will be performed.

For the evaluation of SPLSR, only the worst case of Simultaneous transmission SAR and the shortest distance between the peak point of WWAN and WLAN have been evaluated and recorded in the report. Based on the above factors, other SPLSR conditions all meets the limit.

FCC SAR Test Report

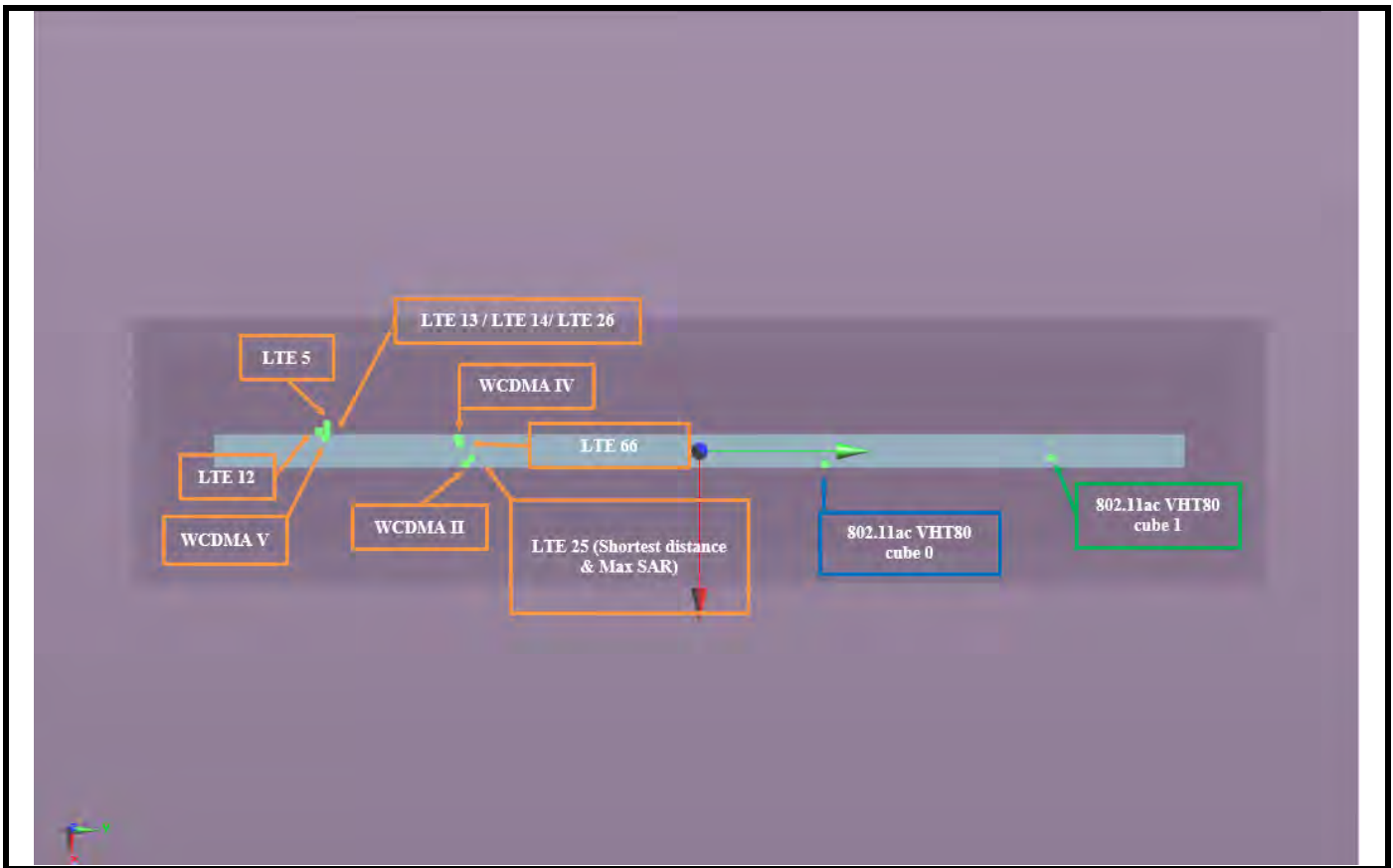
<T77W968 + 9560NGW>

Tablet PC Mode



Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R _i , mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
LTE 7 QPSK20M Ch20850	Body	Rear Face	1.18	93.4	-88.4	5.71	210.8	0.01	SPLSR ≤ 0.04, Not required
802.11b Ch6_Cube0			0.86	93.6	22	-173.9			
LTE 7 QPSK20M Ch20850	Body	Rear Face	1.18	93.4	-88.4	5.71	262.2	0.01	SPLSR ≤ 0.04, Not required
802.11b Ch6_Cube1			0.79	91.2	102.8	-173.7			
802.11b Ch6_Cube0	Body	Rear Face	0.86	93.6	22	-173.9	80.8	0.03	SPLSR ≤ 0.04, Not required
802.11b Ch6_Cube1			0.79	91.2	102.8	-173.7			
LTE 66 QPSK20M Ch132572	Body	Rear Face	1.14	99.1	-67.5	-2.25	193.7	0.01	SPLSR ≤ 0.04, Not required
802.11b Ch6_Cube0			0.86	93.6	22	-173.9			

FCC SAR Test Report



Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R _i , mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
LTE 25 QPSK20M Ch26140	Body	Top Side	1.14	0.4	-60.5	2.52	194.3	0.02	SPLSR ≤ 0.04, Not required
802.11ac VHT80 Ch155_Cube0			1.18	0	20	-174.3			
LTE 25 QPSK20M Ch26140	Body	Top Side	1.14	0.4	-60.5	2.52	238.5	0.01	SPLSR ≤ 0.04, Not required
802.11ac VHT80 Ch155_Cube1			0.99	0	100	-173.9			
LTE 25 QPSK20M Ch26140	Body	Top Side	1.14	0.4	-60.5	2.52	258.0	0.01	SPLSR ≤ 0.04, Not required
BT			0.09	0	127.9	-173.7			

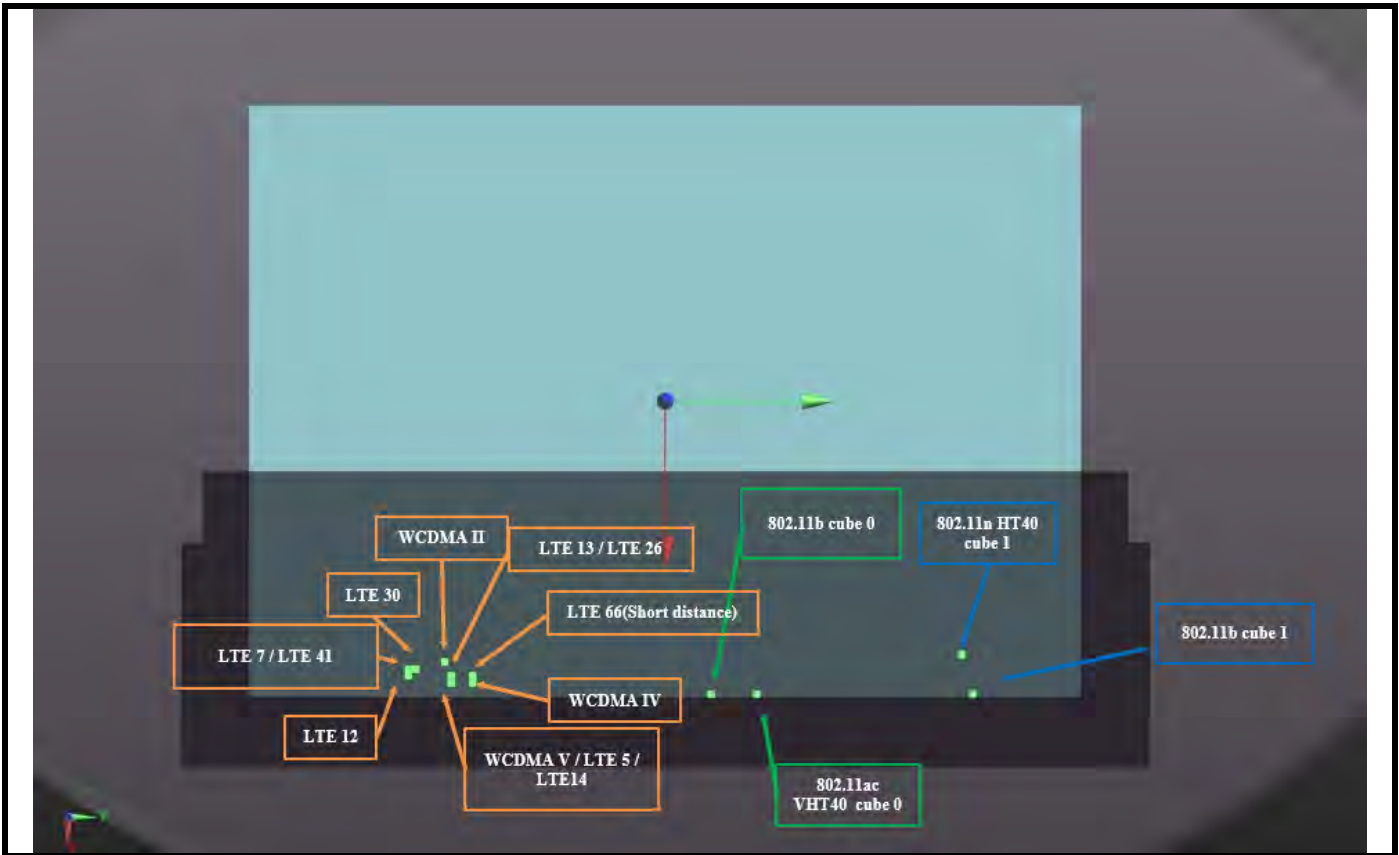
FCC SAR Test Report

Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R _i , mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
802.11ac VHT80 Ch155_Cube0	Body	Top Side	1.18	0	20	-174.3	80.0	0.04	SPLSR ≤ 0.04, Not required
802.11ac VHT80 Ch155_Cube1			0.99	0	100	-173.9			
802.11ac VHT80 Ch155_Cube0	Body	Top Side	1.18	0	20	-174.3	107.9	0.01	SPLSR ≤ 0.04, Not required
BT			0.09	0	127.9	-173.7			
802.11ac VHT80 Ch155_Cube1	Body	Top Side	0.99	0	100	-173.9	27.9	0.04	SPLSR ≤ 0.04, Not required
BT			0.09	0	127.9	-173.7			

FCC SAR Test Report

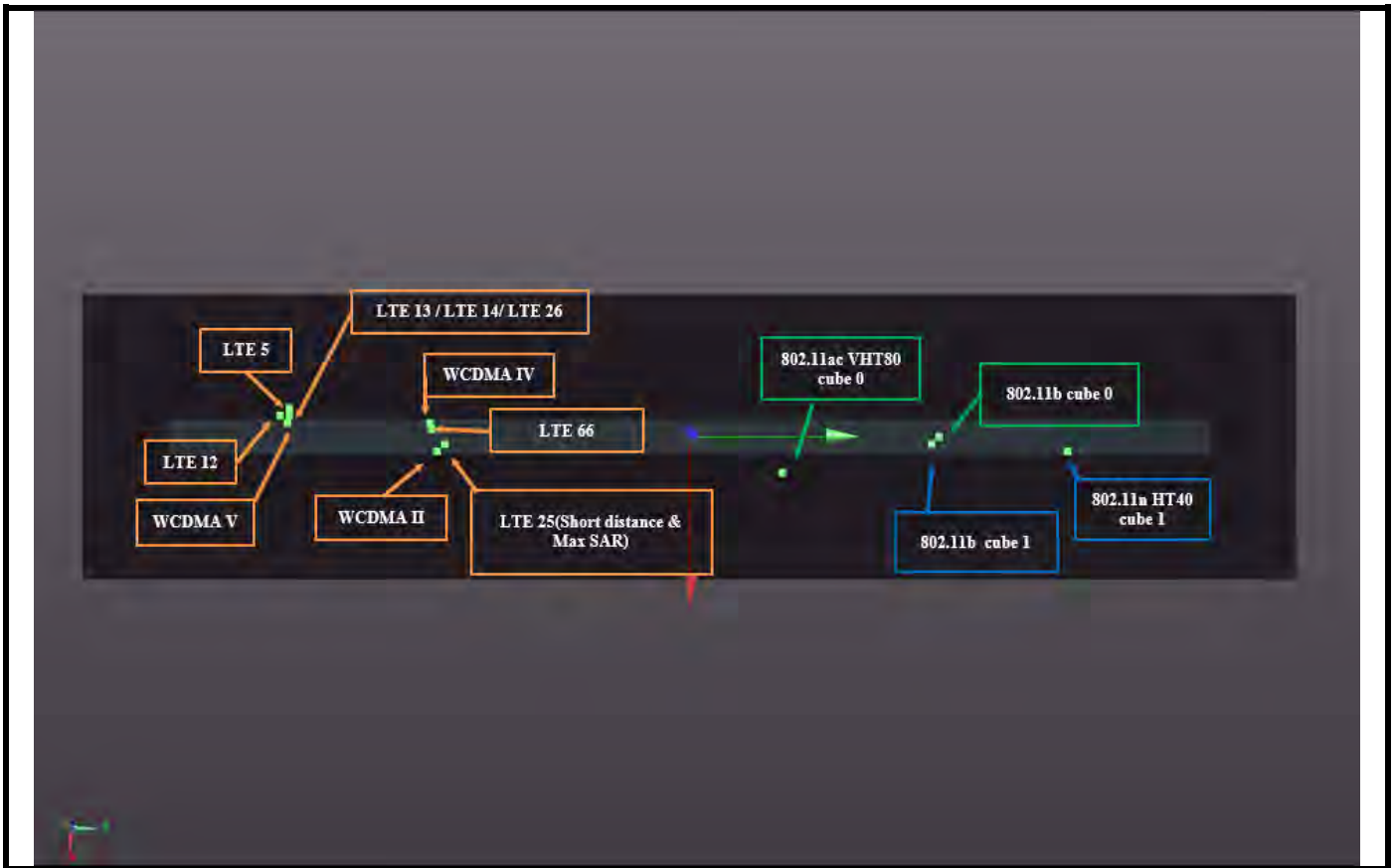
<T77W968 + QCNFA344A>

Tablet PC Mode



Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R _i , mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
LTE 7 QPSK20M Ch20850	Body	Rear Face	1.18	93.4	-88.4	5.71	199.8	0.02	SPLSR ≤ 0.04, Not required
802.11b Ch1_Cube1			0.96	100	111.2	-1.24			
LTE 66 QPSK20M Ch132572	Body	Rear Face	0.93	1.14	99.1	-67.5	94.3	0.02	SPLSR ≤ 0.04, Not required
802.11b Ch1_Cube0			0.72	0.2	99.6	26.8			

FCC SAR Test Report



Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R _i , mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
LTE 25 QPSK20M Ch26140	Body	Top Side	1.14	0.4	-60.5	2.52	168.1	0.02	SPLSR ≤ 0.04, Not required
802.11n HT40 Ch38_Cube1			1.18	5.5	107.5	-2.13			
LTE 25 QPSK20M Ch26140	Body	Top Side	1.14	0.4	-60.5	2.52	86.8	0.04	SPLSR ≤ 0.04, Not required
802.11ac VHT80 Ch155_Cube0			0.98	10.5	25.5	-3.02			

Test Engineer : Sam Onn, and Kevin Yao

5. Calibration of Test Equipment

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D750V3	1013	Aug. 23, 2018	1 Year
System Validation Dipole	SPEAG	D835V2	4d121	Aug. 23, 2018	1 Year
System Validation Dipole	SPEAG	D1750V2	1055	Aug. 27, 2018	1 Year
System Validation Dipole	SPEAG	D1900V2	5d018	Jun. 21, 2018	1 Year
System Validation Dipole	SPEAG	D2300V2	1091	Dec. 04, 2018	1 Year
System Validation Dipole	SPEAG	D2600V2	1020	Aug. 24, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7472	Aug. 29, 2018	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3650	Jul. 27, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE3	579	Aug. 27, 2018	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1431	Mar. 16, 2018	1 Year
Radio Communication Analyzer	Anritsu	MT8820C	6201381727	May. 09, 2018	1 Year
Universal Radio Communication Tester	Anritsu	MT8821C	6201502978	Jul. 20, 2018	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Mar. 23, 2018	1 Year
ENA Series Network Analyzer	Agilent	E5071C	MY46214281	Jun. 08, 2018	1 Year
MXG Analog Signal Generator	Agilent	N5181A	MY50143868	Jul. 03, 2018	1 Year
Vector Signal Generator	Anritsu	MG3710A	6201599977	Mar. 16, 2018	1 Year
Power Meter	Anritsu	ML2495A	1218009	Jul. 03, 2018	1 Year
Power Sensor	Anritsu	MA2411B	1207252	Jul. 03, 2018	1 Year
Thermometer	YFE	YF-160A	130504591	Mar. 23, 2018	1 Year

6. Measurement Uncertainty

According to KDB 865664 D01, SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR, and ≥ 3.75 W/kg for 10-g SAR. The procedures described in IEEE Std 1528-2013 should be applied. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. When the highest measured SAR within a frequency band is < 1.5 W/kg for 1-g and < 3.75 W/kg for 10-g, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. Hence, the measurement uncertainty analysis is not required in this SAR report because the test result met the condition.

7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The road map of all our labs can be found in our web site also.

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Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

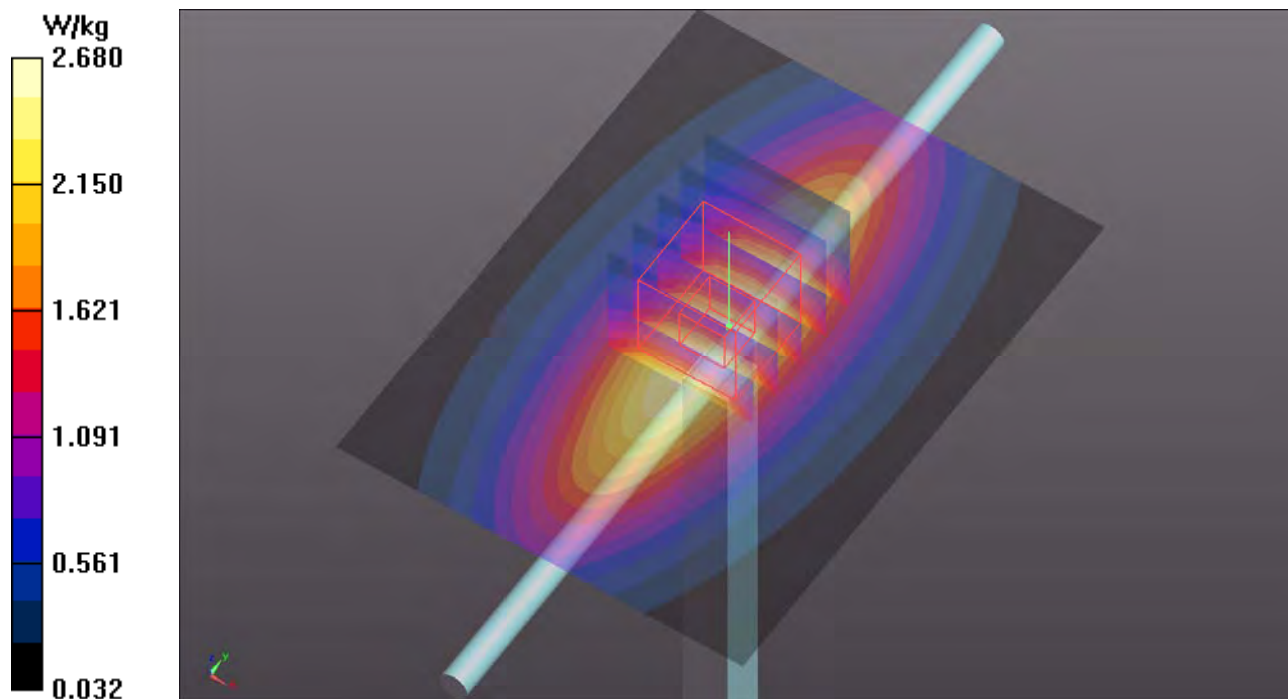
System Check_B750_190225**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: B06T09N1_0225 Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.959 \text{ S/m}$; $\epsilon_r = 54.477$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : $23.5 \text{ }^\circ\text{C}$; Liquid Temperature : $23.3 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.91, 9.91, 9.91); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 2.68 W/kg **Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 55.33 V/m ; Power Drift = 0.00 dB Peak SAR (extrapolated) = 3.03 W/kg **SAR(1 g) = 2.02 W/kg ; SAR(10 g) = 1.34 W/kg** Maximum value of SAR (measured) = 2.69 W/kg 

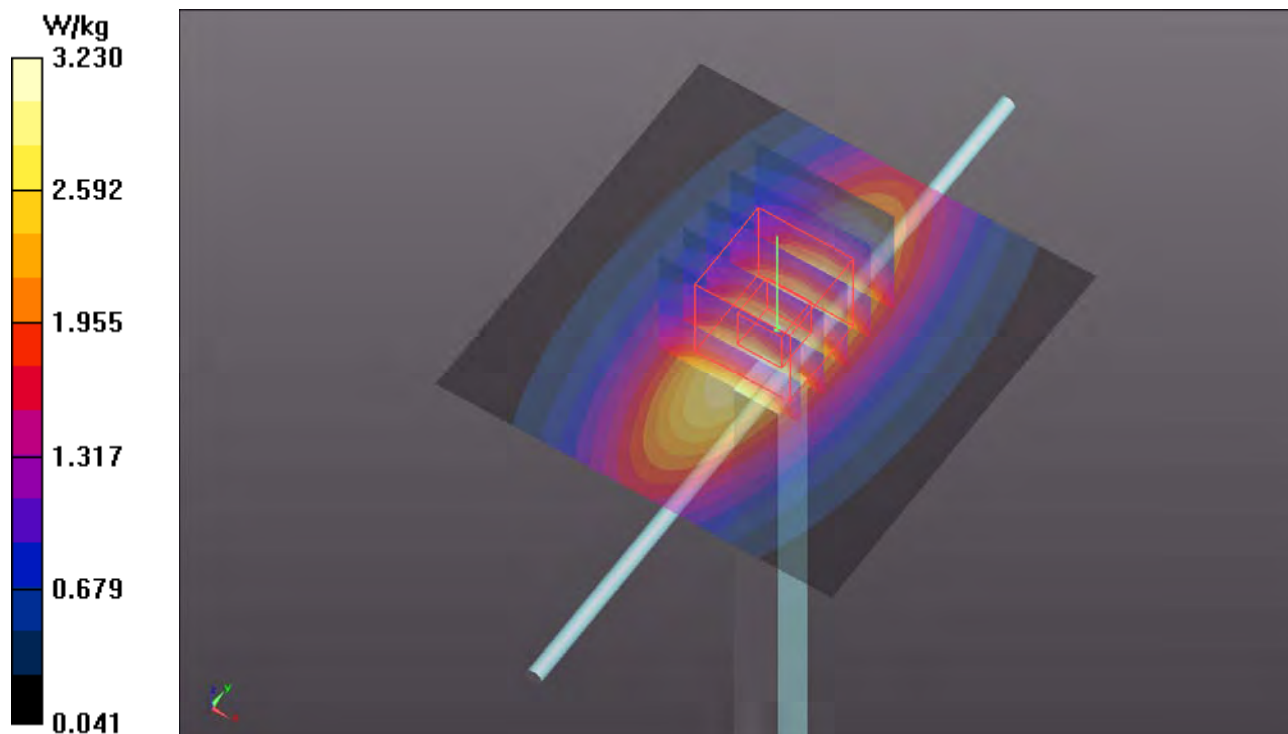
System Check_B835_190215**DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121**

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

Medium: B07T10N2_0215 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.016 \text{ S/m}$; $\epsilon_r = 57.102$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 23.8°C ; Liquid Temperature : 23.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 3.23 W/kg **Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.38 V/m ; Power Drift = -0.07 dB Peak SAR (extrapolated) = 3.85 W/kg **SAR(1 g) = 2.56 W/kg ; SAR(10 g) = 1.69 W/kg** Maximum value of SAR (measured) = 3.26 W/kg 

System Check_B1750_190225**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

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

Medium: B16T20N1_0225 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.45$ S/m; $\epsilon_r = 51.789$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.2, 8.2, 8.2); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.6 W/kg

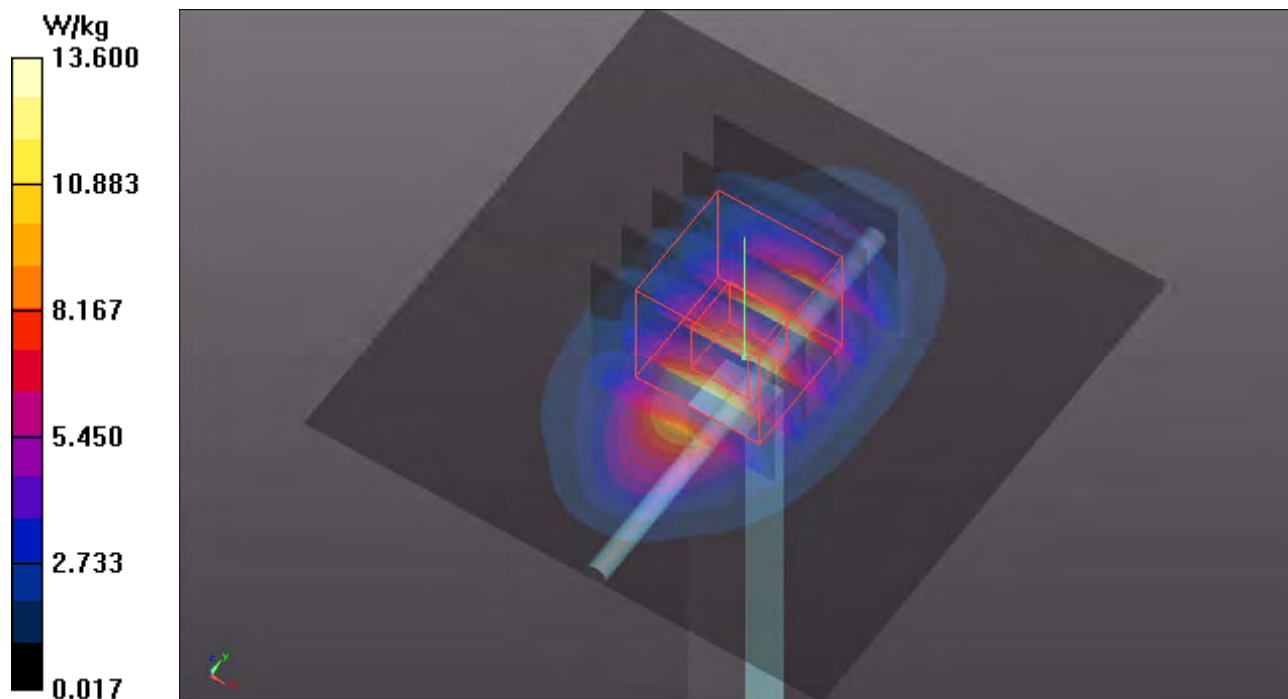
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 100.6 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 8.91 W/kg; SAR(10 g) = 4.76 W/kg

Maximum value of SAR (measured) = 13.5 W/kg



System Check_B1900_190213**DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d018**

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

Medium: B16T20N2_0213 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.564$ S/m; $\epsilon_r = 53.687$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 14.0 W/kg

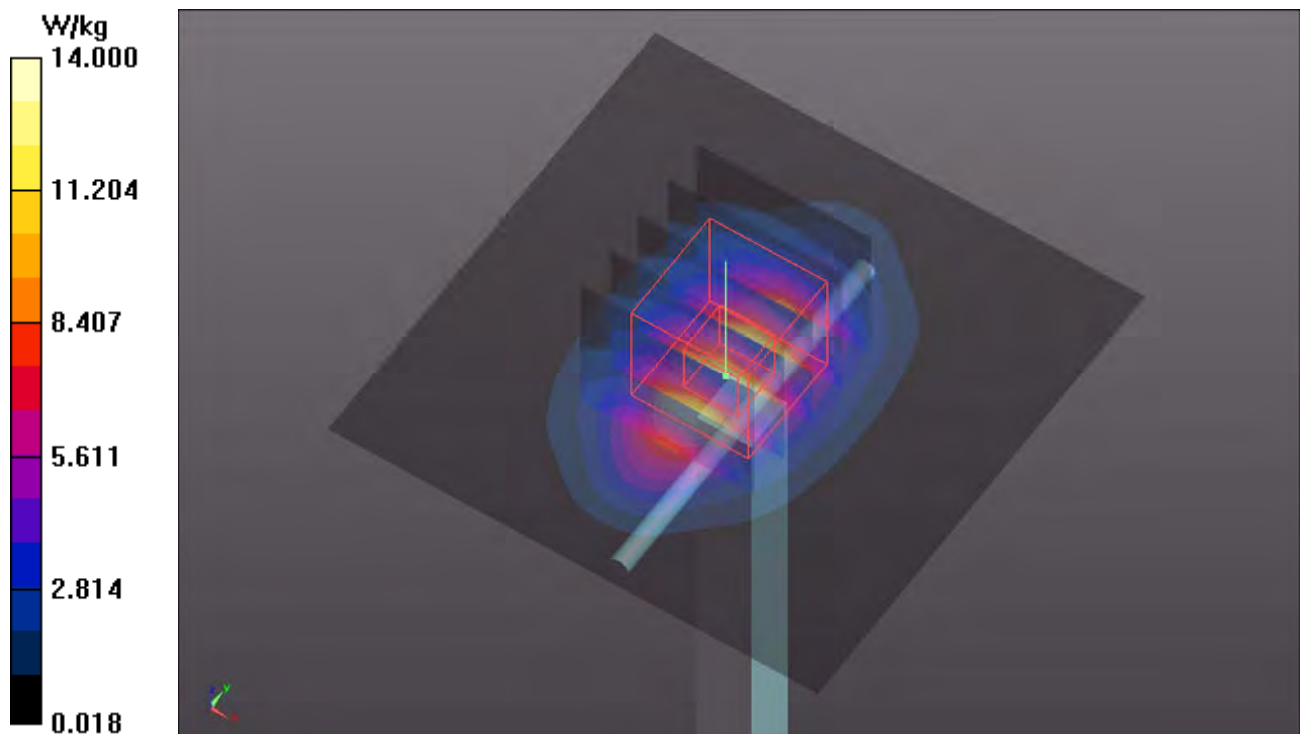
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 95.74 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.77 W/kg; SAR(10 g) = 5.15 W/kg

Maximum value of SAR (measured) = 13.9 W/kg



System Check_B2300_190211**DUT: Dipole 2300 MHz; Type: D2300V2; SN:1091**

Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: B19T27N2_0211 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.85$ S/m; $\epsilon_r = 51.956$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.11, 8.11, 8.11); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 18.9 W/kg

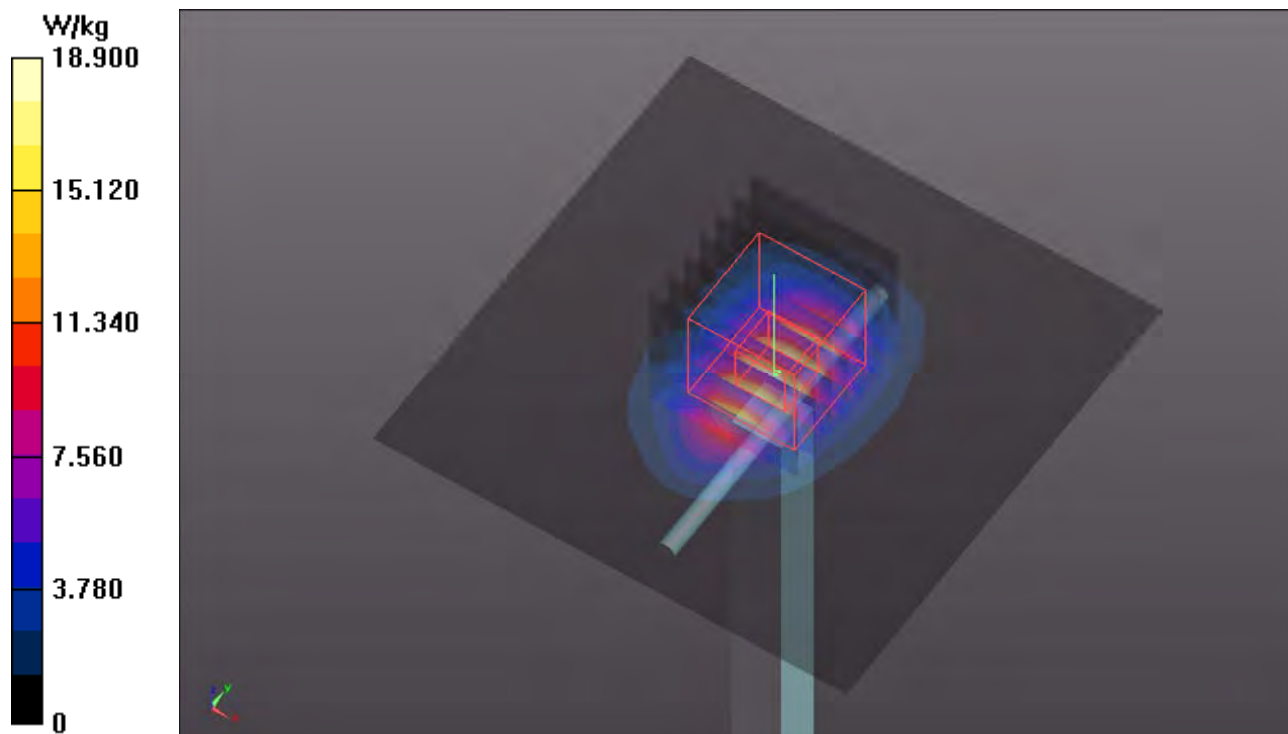
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.8 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 22.8 W/kg

SAR(1 g) = 11.8 W/kg; SAR(10 g) = 5.68 W/kg

Maximum value of SAR (measured) = 19.0 W/kg



System Check_B2600_190220**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: B19T27N2_0220 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.192$ S/m; $\epsilon_r = 51.168$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 22.4 W/kg

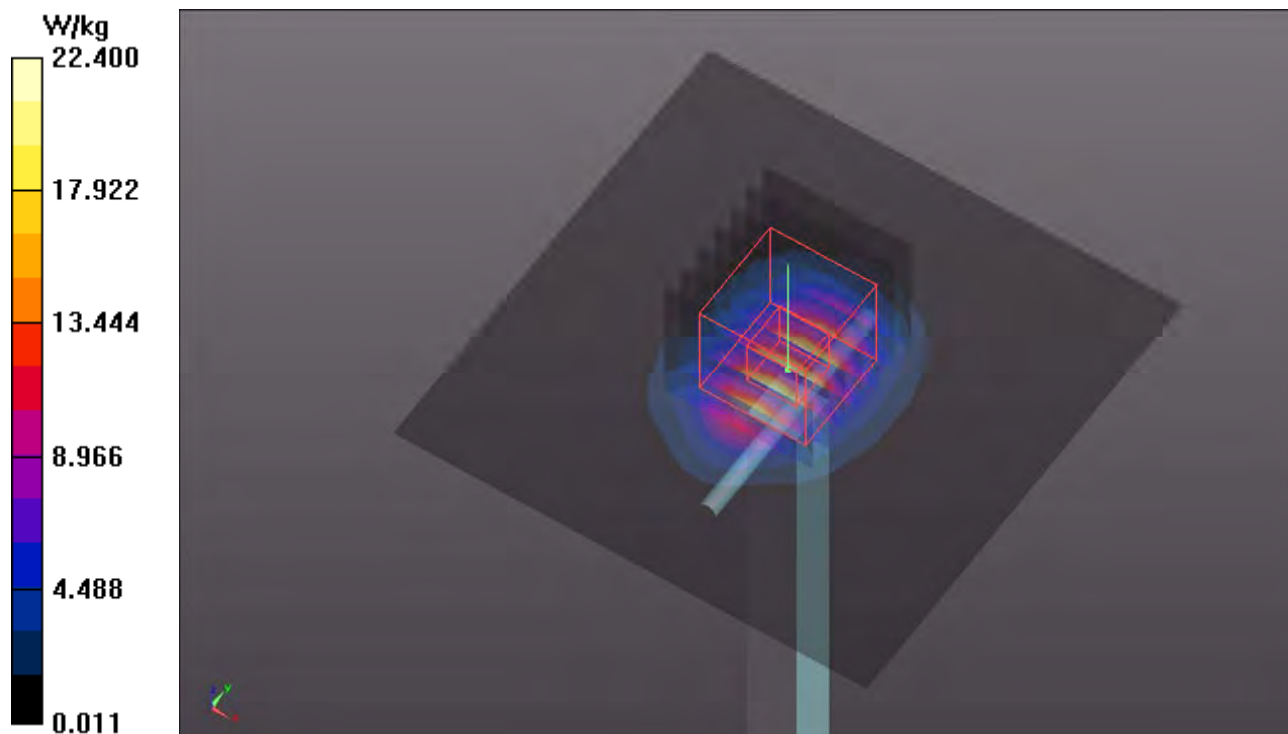
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.4 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 28.2 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.81 W/kg

Maximum value of SAR (measured) = 22.6 W/kg



Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

P01 WCDMA II_RMC12.2K_Rear Face_0mm_Ch9538_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: WCDMA; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: B16T20N2_0213 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.572$ S/m; $\epsilon_r = 53.657$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

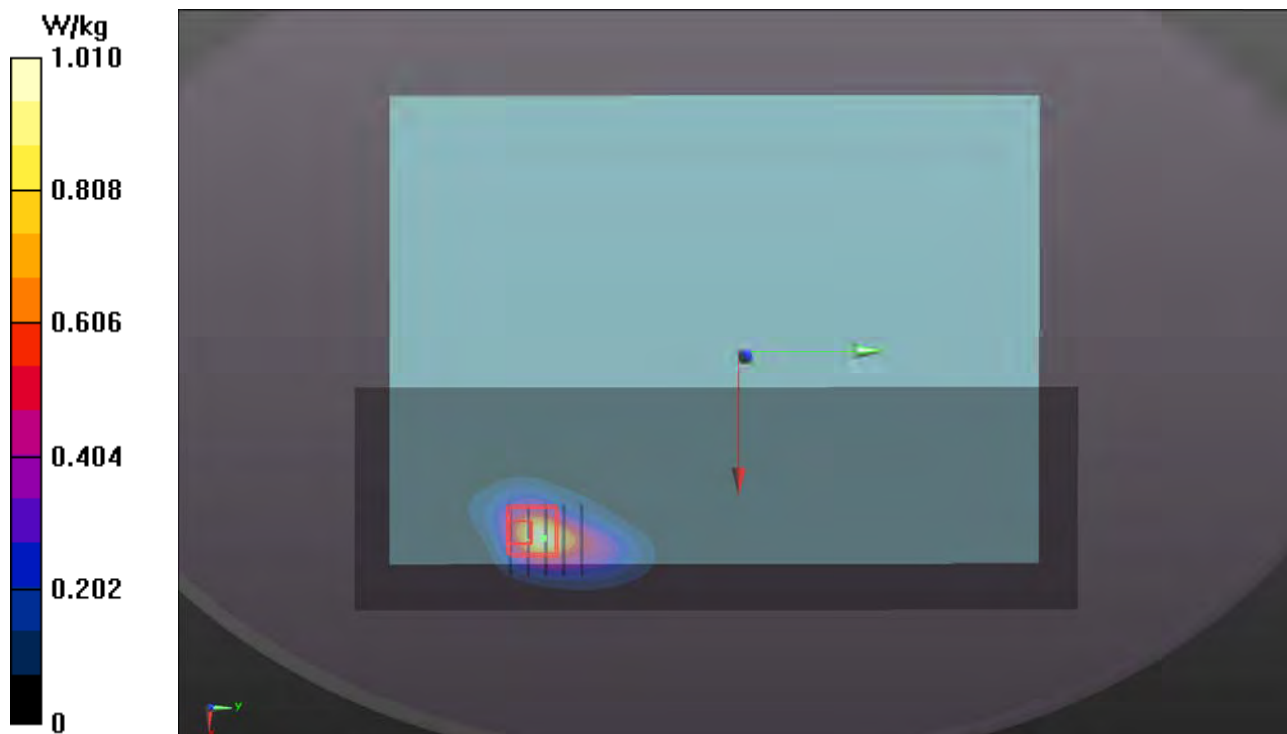
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.67 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.14 W/kg

SAR(1 g) = 0.814 W/kg; SAR(10 g) = 0.277 W/kg

Maximum value of SAR (measured) = 1.50 W/kg



P02 WCDMA IV_RMC12.2K_Rear Face_0mm_Ch1312_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: WCDMA; Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0225 Medium parameters used: $f = 1712.4$ MHz; $\sigma = 1.424$ S/m; $\epsilon_r = 51.839$; ρ $= 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.2, 8.2, 8.2); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

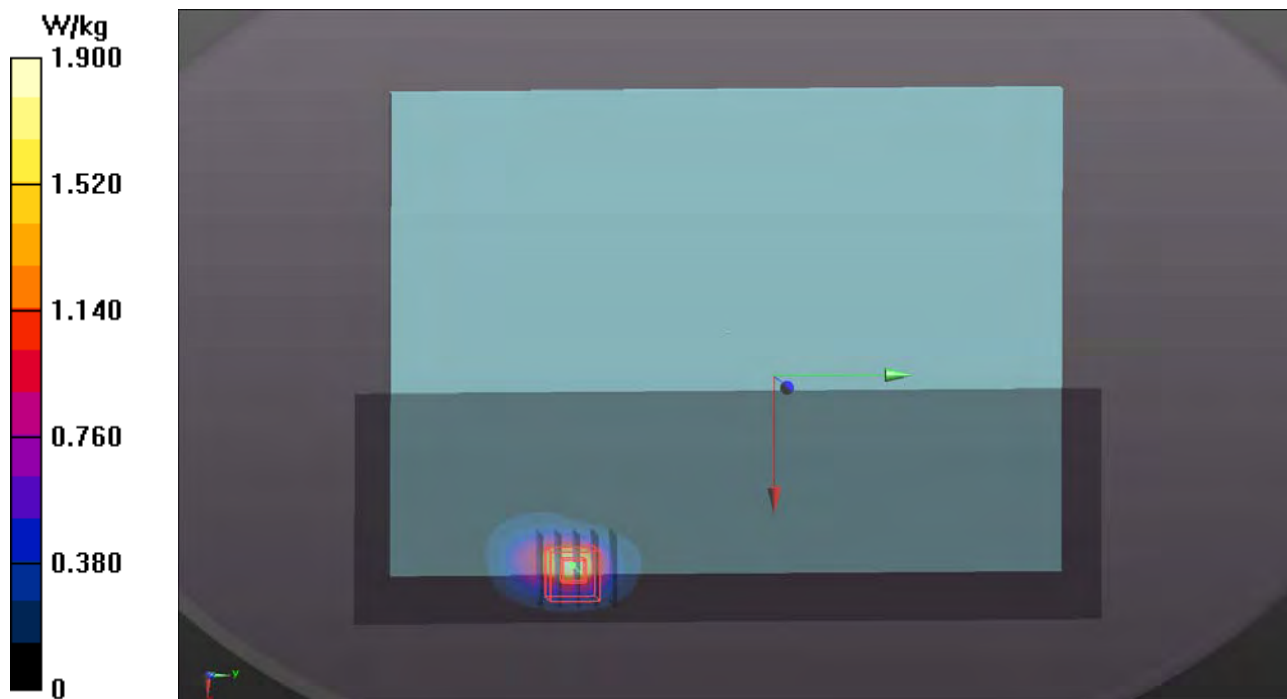
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 33.52 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.17 W/kg

SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.493 W/kg

Maximum value of SAR (measured) = 1.80 W/kg



P03 WCDMA V_RMC12.2K_Rear Face_0mm_Ch4132_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium: B07T10N2_0215 Medium parameters used: $f = 826.4$ MHz; $\sigma = 1.008$ S/m; $\epsilon_r = 57.169$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.48 W/kg

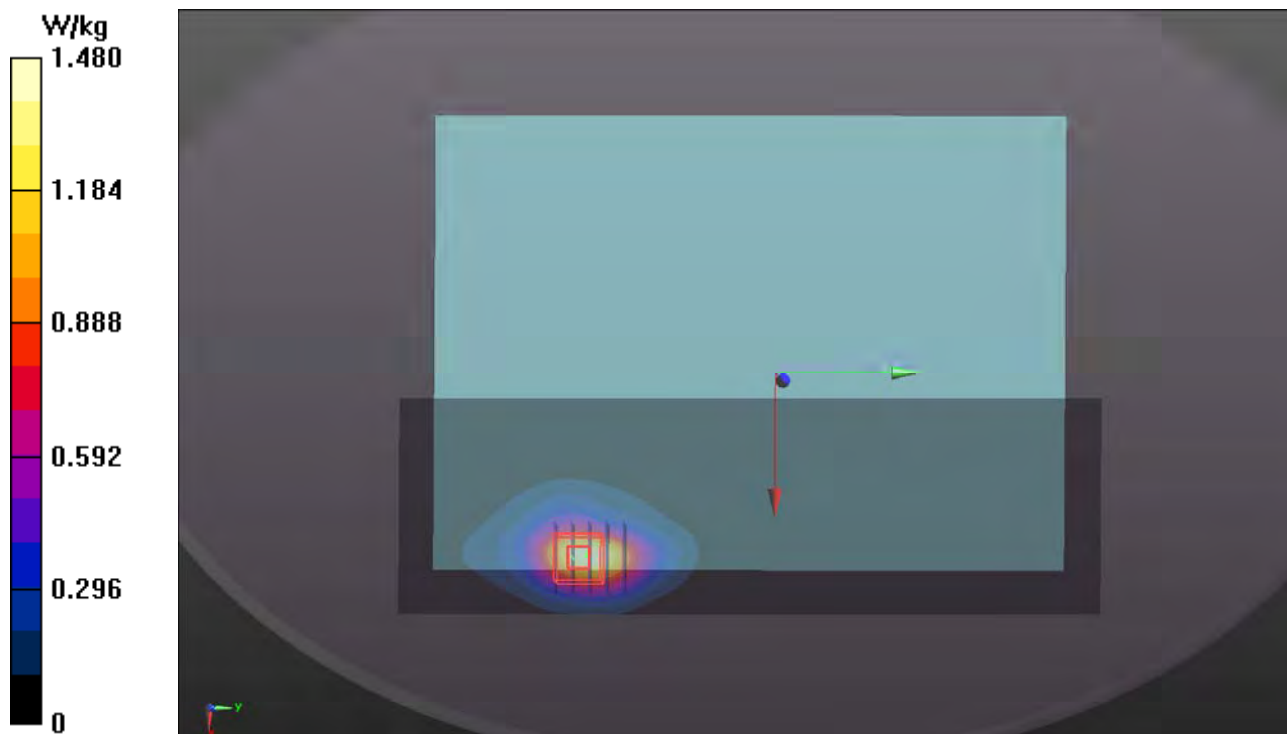
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.61 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.868 W/kg; SAR(10 g) = 0.470 W/kg

Maximum value of SAR (measured) = 1.39 W/kg



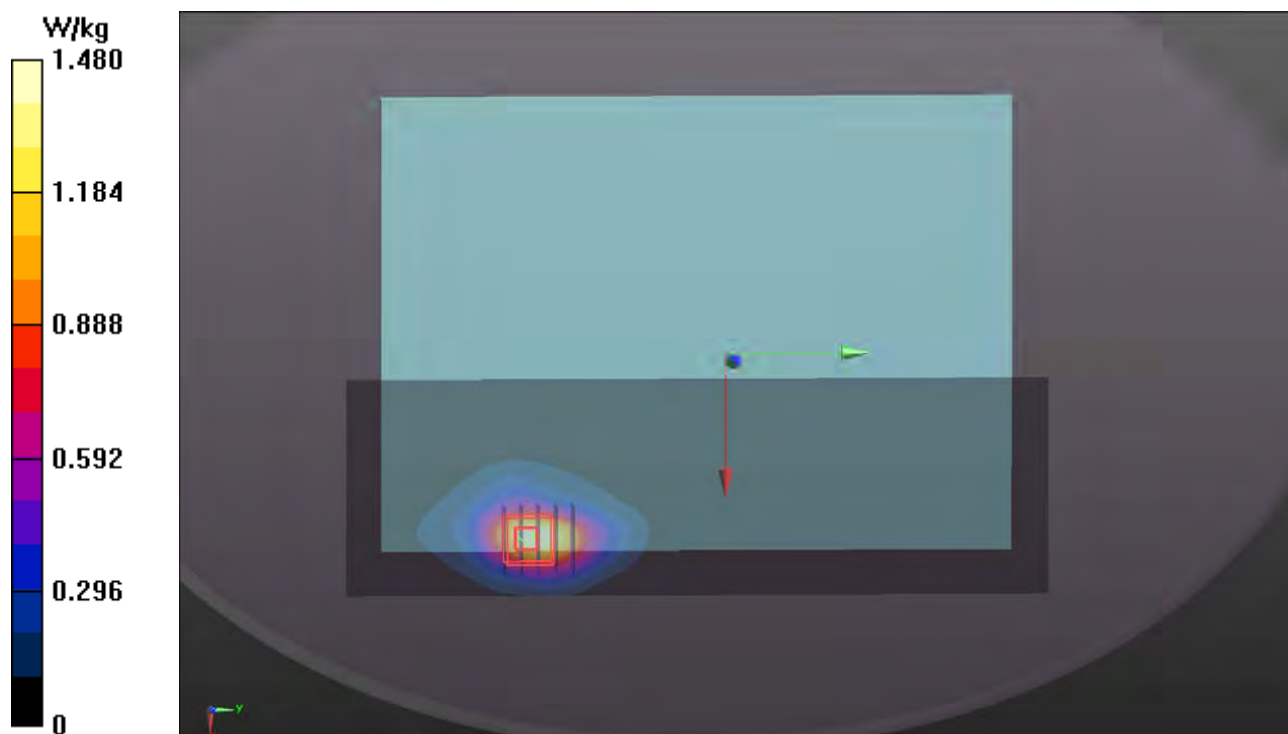
P04 LTE 5_QPSK10M_Rear Face_0mm_Ch20600_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 844 MHz; Duty Cycle: 1:1

Medium: B07T10N2_0215 Medium parameters used: $f = 844 \text{ MHz}$; $\sigma = 1.024 \text{ S/m}$; $\epsilon_r = 57.011$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 23.8°C ; Liquid Temperature : 23.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 1.48 W/kg **- Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 32.76 V/m ; Power Drift = -0.15 dB Peak SAR (extrapolated) = 1.77 W/kg **SAR(1 g) = 0.874 W/kg ; SAR(10 g) = 0.473 W/kg** Maximum value of SAR (measured) = 1.39 W/kg 

P05 LTE 7_QPSK20M_Rear Face_0mm_Ch20850_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium: B19T27N2_0220 Medium parameters used: $f = 2510$ MHz; $\sigma = 2.083$ S/m; $\epsilon_r = 51.416$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x281x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.12 W/kg

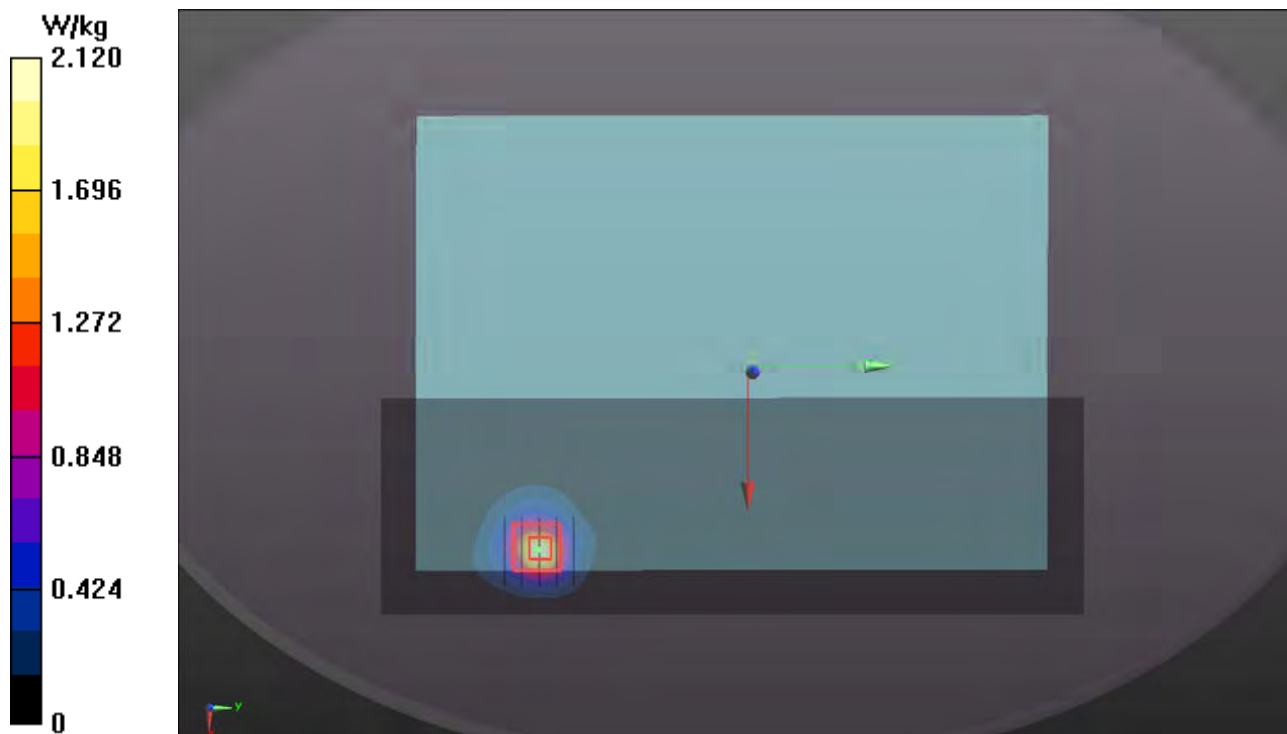
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.62 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.62 W/kg

SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.534 W/kg

Maximum value of SAR (measured) = 2.04 W/kg



P06 LTE 12_QPSK10M_Rear Face_0mm_Ch23095_1RB_OS24_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: B06T09N1_0225 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.92$ S/m; $\epsilon_r = 54.919$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.91, 9.91, 9.91); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.15 W/kg

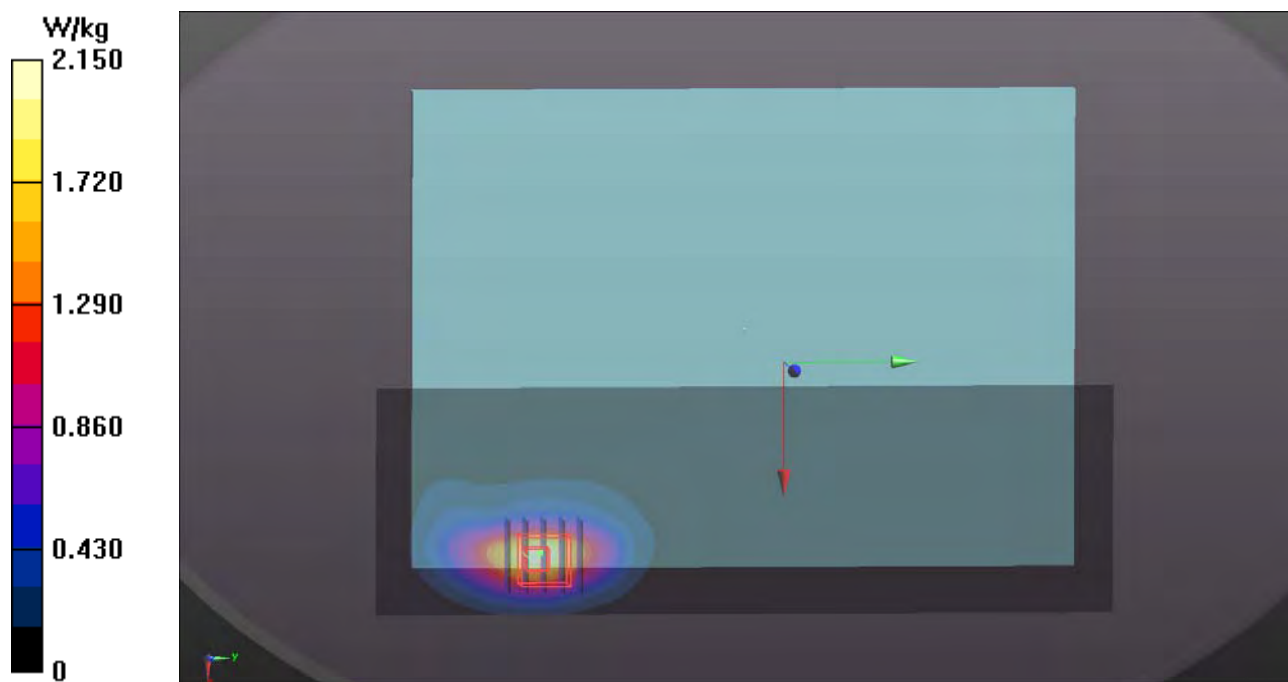
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.61 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.34 W/kg

SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.603 W/kg

Maximum value of SAR (measured) = 1.82 W/kg



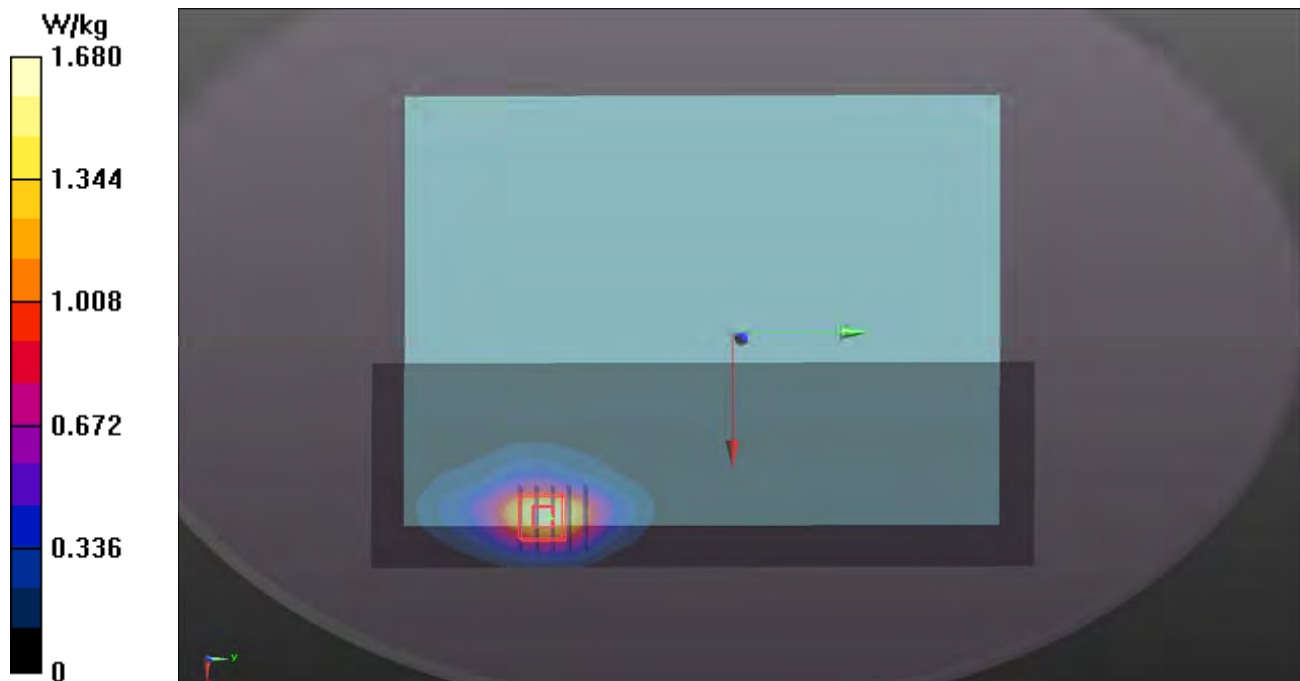
P07 LTE 13_QPSK10M_Rear Face_0mm_Ch23230_1RB_OS24_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: B06T09N2_0211 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 1.004 \text{ S/m}$; $\epsilon_r = 55.71$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 23.8°C ; Liquid Temperature : 23.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.66, 10.66, 10.66); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 1.68 W/kg **- Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 36.75 V/m ; Power Drift = 0.03 dB Peak SAR (extrapolated) = 2.05 W/kg **SAR(1 g) = 1 W/kg ; SAR(10 g) = 0.539 W/kg** Maximum value of SAR (measured) = 1.66 W/kg 

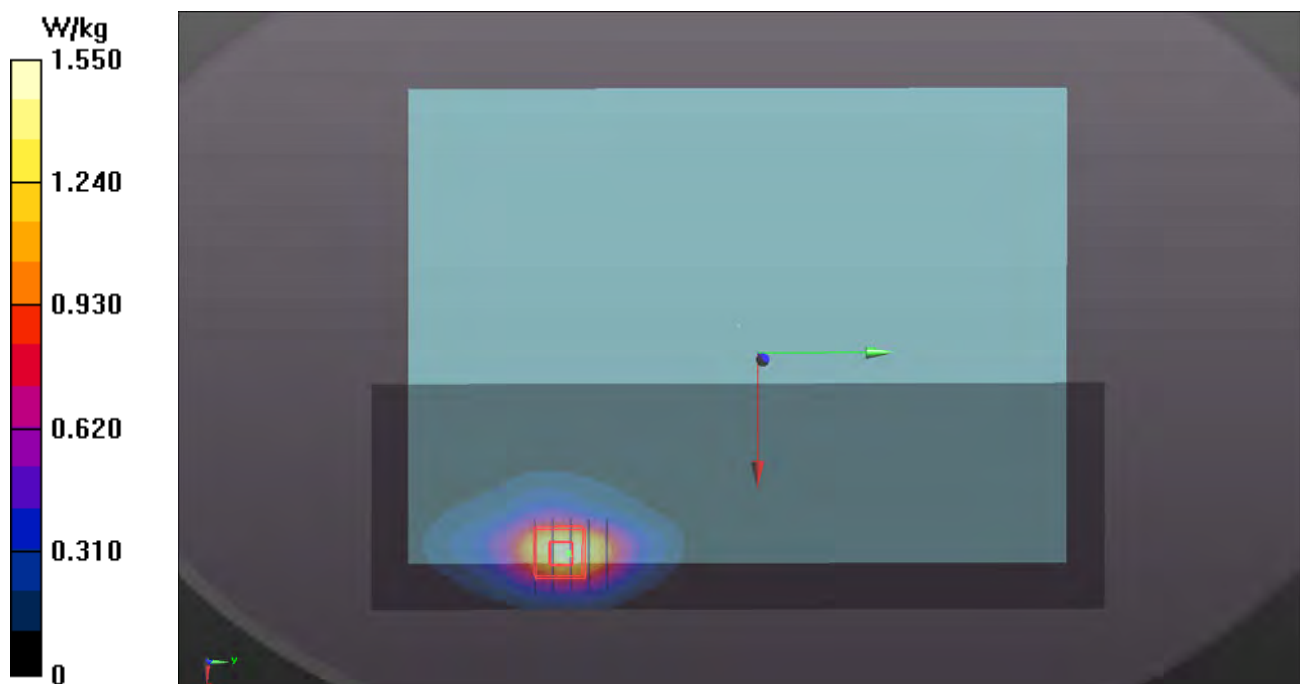
P08 LTE 14_QPSK10M_Rear Face_0mm_Ch23330_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: B06T09N2_0211 Medium parameters used: $f = 793 \text{ MHz}$; $\sigma = 1.015 \text{ S/m}$; $\epsilon_r = 55.616$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 23.8°C ; Liquid Temperature : 23.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.66, 10.66, 10.66); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 1.55 W/kg **- Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 34.65 V/m ; Power Drift = 0.06 dB Peak SAR (extrapolated) = 1.87 W/kg **SAR(1 g) = 0.911 W/kg ; SAR(10 g) = 0.490 W/kg** Maximum value of SAR (measured) = 1.50 W/kg 

P09 LTE 25_QPSK20M_Top Side_0mm_Ch26140_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: B16T20N2_0213 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.548$ S/m; $\epsilon_r = 53.581$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.07, 8.07, 8.07); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.18 W/kg

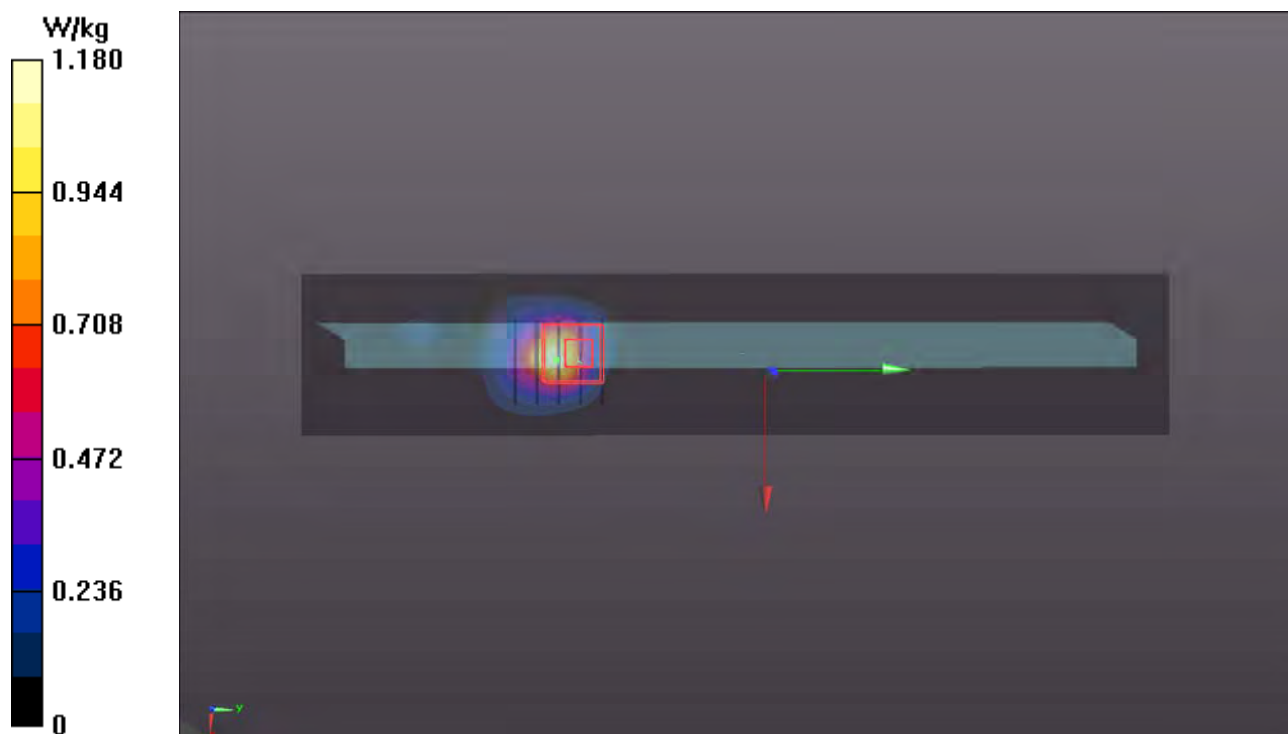
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.20 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 2.49 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.458 W/kg

Maximum value of SAR (measured) = 1.88 W/kg



P10 LTE 26_QPSK15M_Rear Face_0mm_Ch26865_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: B07T10N2_0215 Medium parameters used: $f = 831.5$ MHz; $\sigma = 1.013$ S/m; $\epsilon_r = 57.131$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(10.35, 10.35, 10.35); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

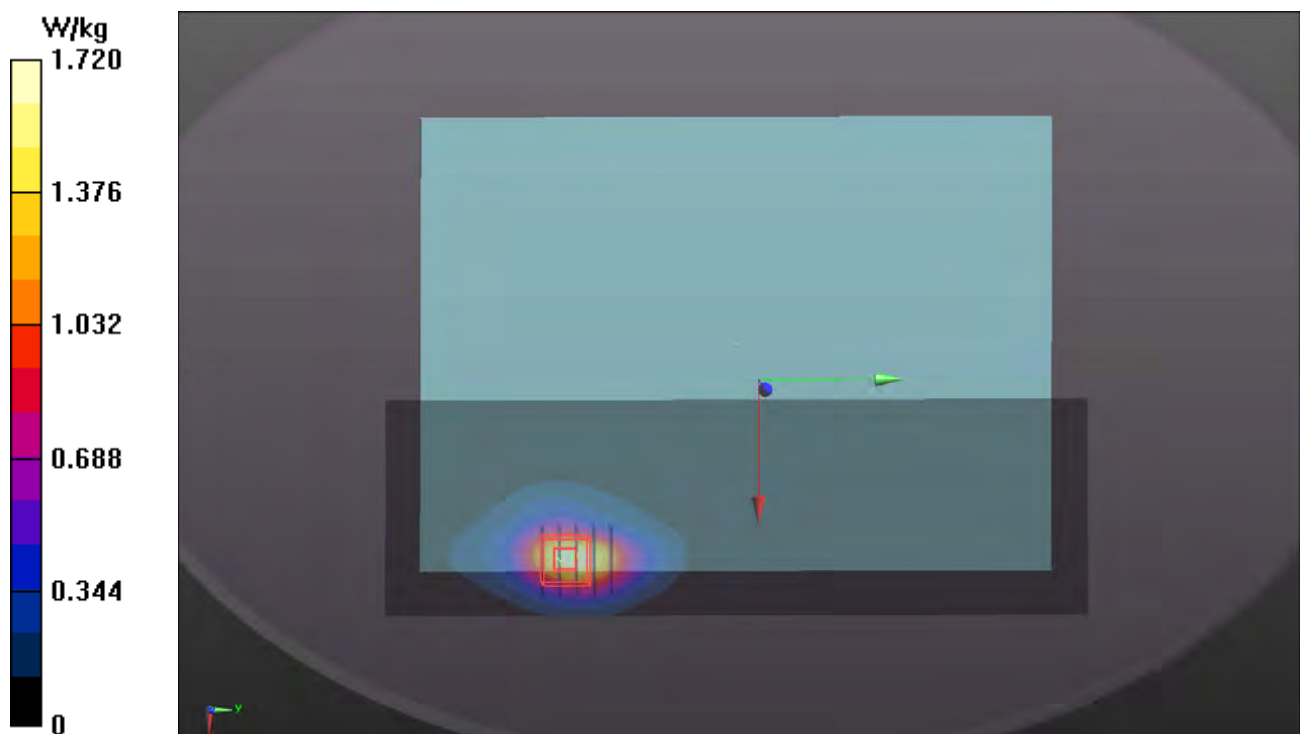
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.32 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.549 W/kg

Maximum value of SAR (measured) = 1.62 W/kg



P11 LTE 30_QPSK10M_Rear Face_0mm_Ch27710_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: B19T27N2_0211 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 51.923$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(8.11, 8.11, 8.11); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x281x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.61 W/kg

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

Reference Value = 26.88 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 0.977 W/kg; SAR(10 g) = 0.431 W/kg

Maximum value of SAR (measured) = 1.77 W/kg



P12 LTE 41_QPSK20M_Rear Face_0mm_Ch40185_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE TDD CF0; Frequency: 2549.5 MHz; Duty Cycle: 1:1.58

Medium: B19T27N2_0220 Medium parameters used: $f = 2550$ MHz; $\sigma = 2.131$ S/m; $\epsilon_r = 51.297$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7472; ConvF(7.7, 7.7, 7.7); Calibrated: 2018/08/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2018/03/16
- Phantom: ELI Phantom_1204; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (91x281x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.62 W/kg

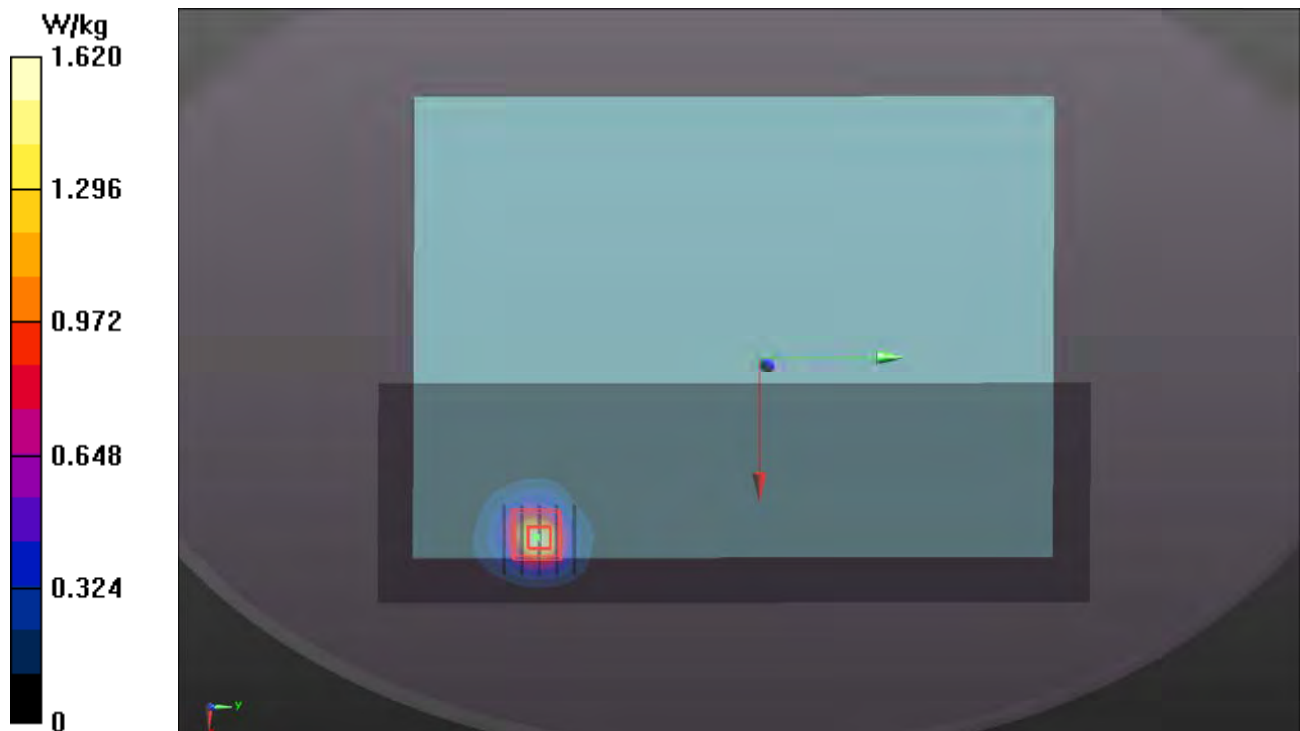
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.08 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.10 W/kg

SAR(1 g) = 0.907 W/kg; SAR(10 g) = 0.389 W/kg

Maximum value of SAR (measured) = 1.64 W/kg



P13 LTE 66_QPSK20M_Rear Face_0mm_Ch132572_1RB_OS0_Sample1_P-Sensor_w**DUT: 181024C32**

Communication System: LTE; Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: B16T20N1_0225 Medium parameters used: $f = 1770$ MHz; $\sigma = 1.455$ S/m; $\epsilon_r = 51.66$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.2, 8.2, 8.2); Calibrated: 2018/07/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2018/08/27
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.12 W/kg

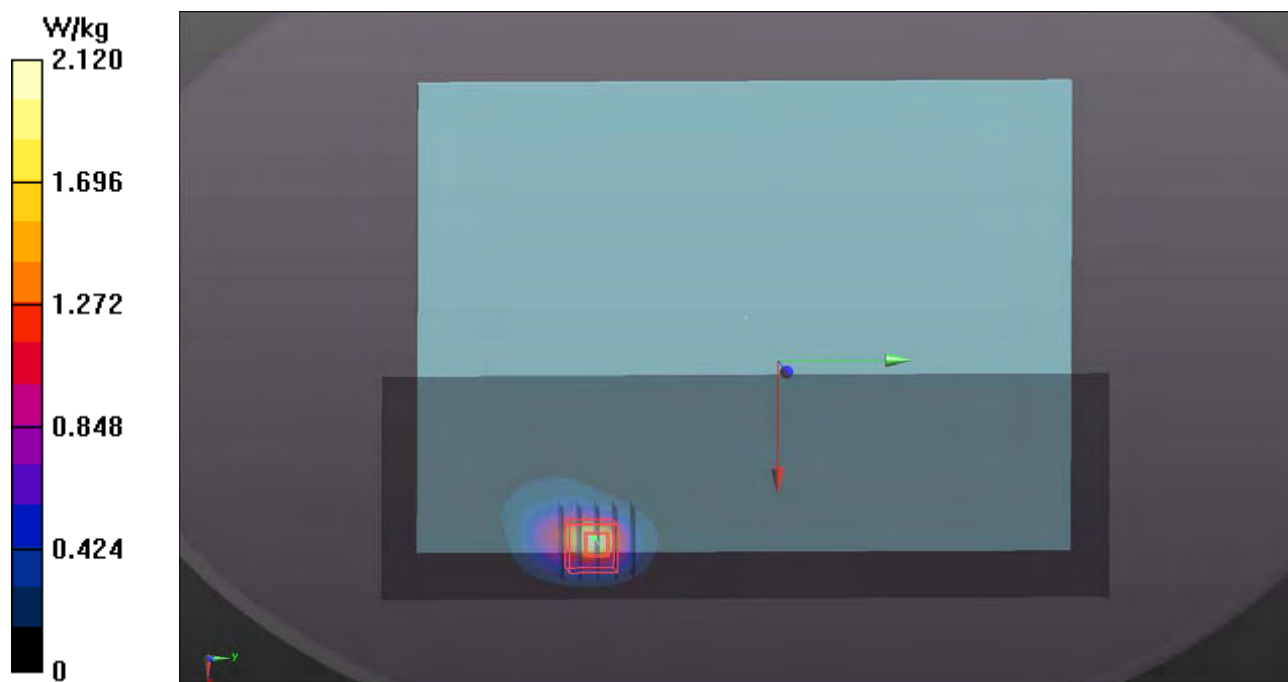
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.63 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.29 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.521 W/kg

Maximum value of SAR (measured) = 1.85 W/kg



Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



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Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **B.V.ADT (Auden)**

Certificate No: **D750V3-1013_Aug18**

CALIBRATION CERTIFICATE

Object **D750V3 - SN:1013**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 23, 2018**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 24, 2018

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 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 $\pm$ 0.2) °C	40.9 $\pm$ 6 %	0.89 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.05 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.15 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.30 W/kg $\pm$ 16.5 % (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 $\pm$ 0.2) °C	55.0 $\pm$ 6 %	0.96 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.16 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.62 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.43 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.71 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$53.9\ \Omega + 0.1\ j\Omega$
Return Loss	- 28.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$48.6\ \Omega - 3.1\ j\Omega$
Return Loss	- 29.2 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.035 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
Manufactured on	March 22, 2010

DASY5 Validation Report for Head TSL

Date: 22.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1013

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 40.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

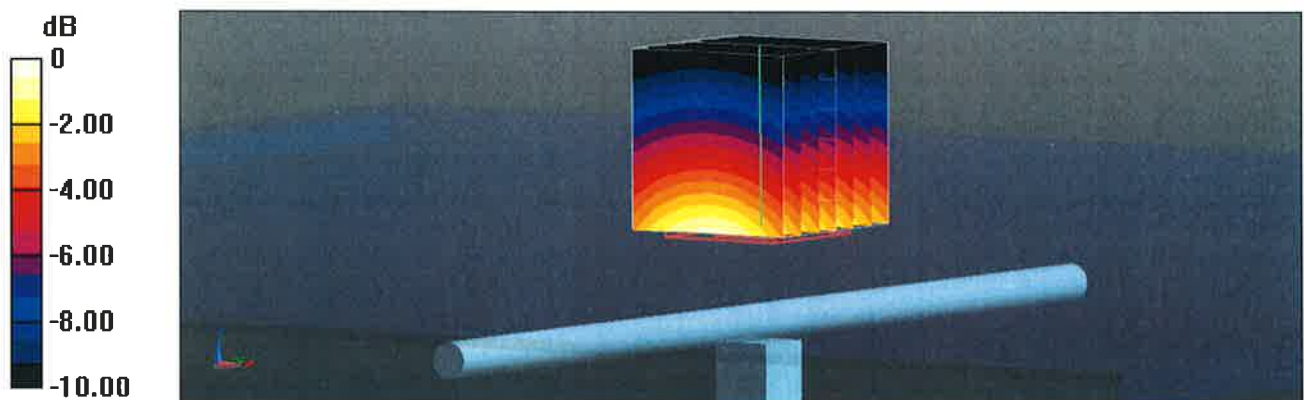
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 59.09 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.09 W/kg

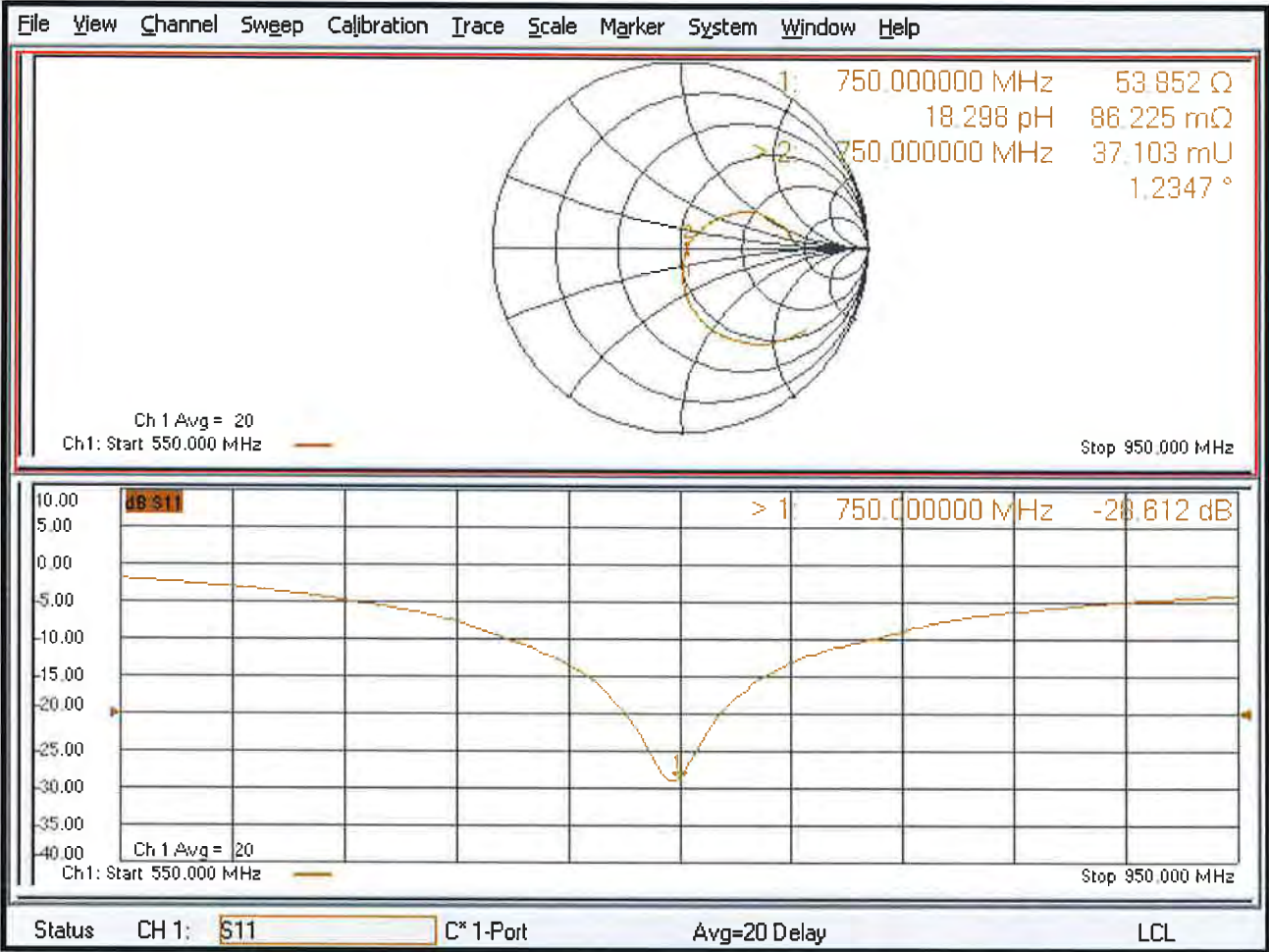
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.33 W/kg

Maximum value of SAR (measured) = 2.75 W/kg



0 dB = 2.75 W/kg = 4.39 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 23.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1013

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.96 \text{ S/m}$; $\epsilon_r = 55$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.19, 10.19, 10.19) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

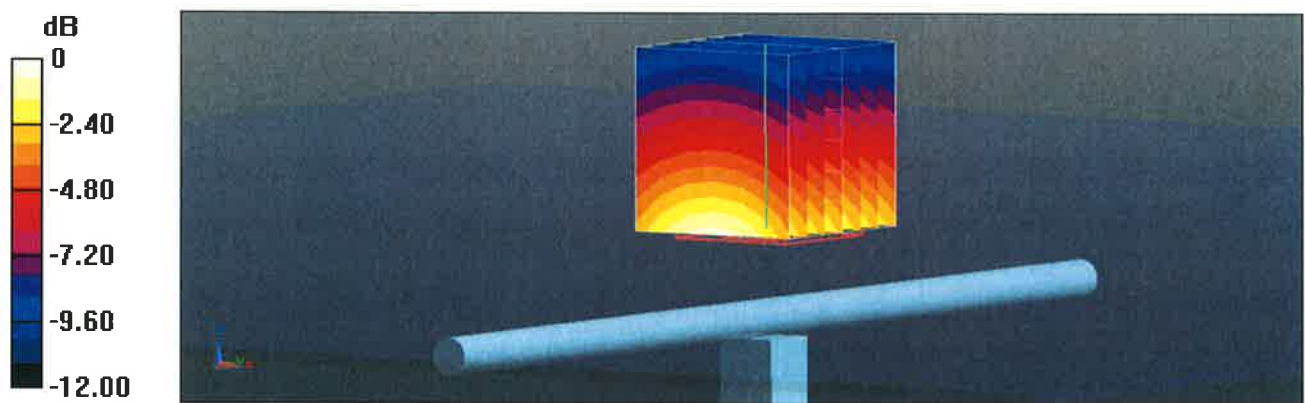
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 57.93 V/m; Power Drift = -0.04 dB

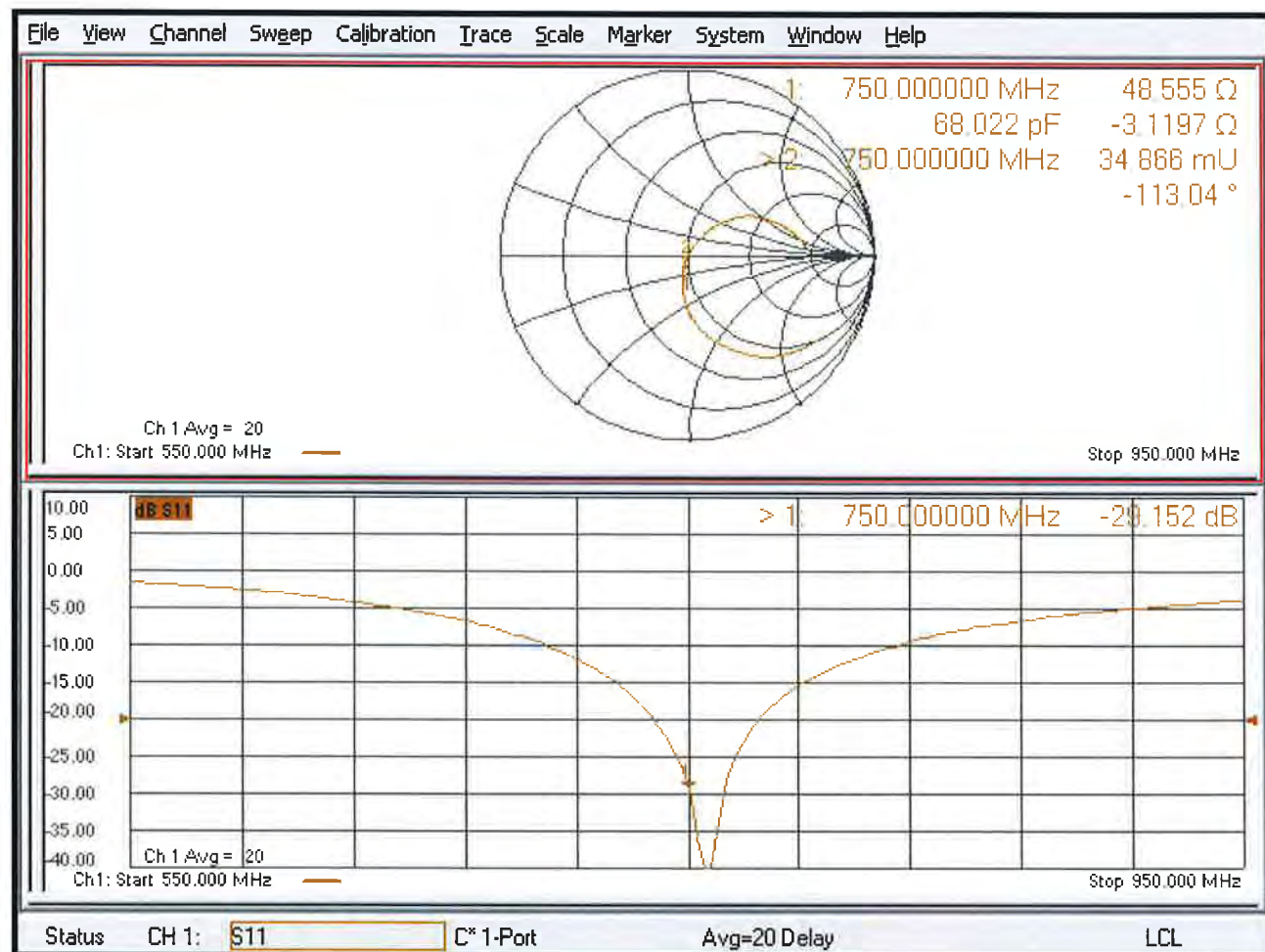
Peak SAR (extrapolated) = 3.18 W/kg

SAR(1 g) = 2.16 W/kg; SAR(10 g) = 1.43 W/kg

Maximum value of SAR (measured) = 2.85 W/kg



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 0108**

Client **B.V.ADT (Auden)**

Certificate No: **D835V2-4d121_Aug18**

CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d121**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 23, 2018**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by:	Name Michael Weber	Function Laboratory Technician	Signature 
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 24, 2018

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.10.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 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 $\pm$ 0.2) °C	40.7 $\pm$ 6 %	0.92 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.41 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.44 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.10 W/kg $\pm$ 16.5 % (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 $\pm$ 0.2) °C	54.9 $\pm$ 6 %	0.99 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.45 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.64 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.60 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.32 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.3 Ω - 2.3 j Ω
Return Loss	- 31.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.2 Ω - 5.4 j Ω
Return Loss	- 24.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.395 ns
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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
Manufactured on	June 29, 2010

DASY5 Validation Report for Head TSL

Date: 22.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d121

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 40.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.9, 9.9, 9.9) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

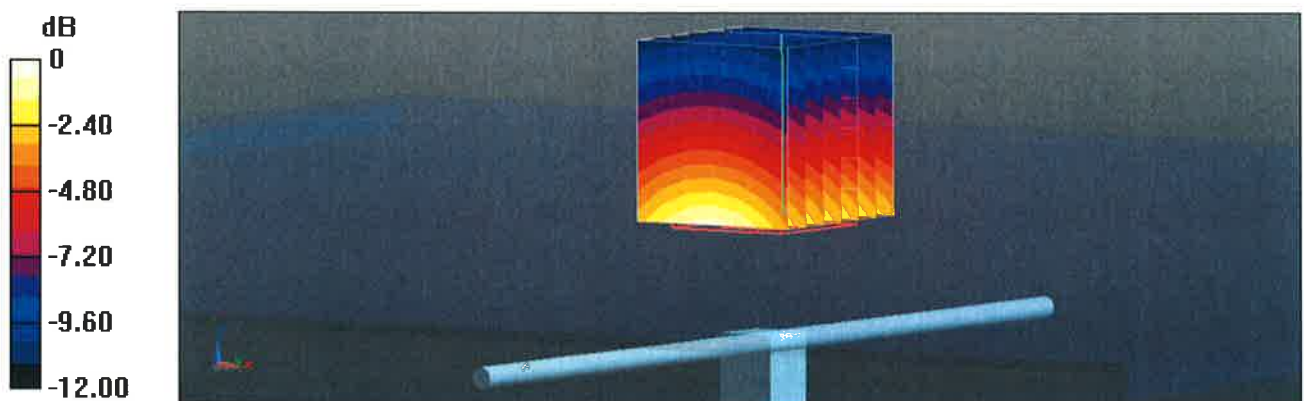
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 63.11 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.70 W/kg

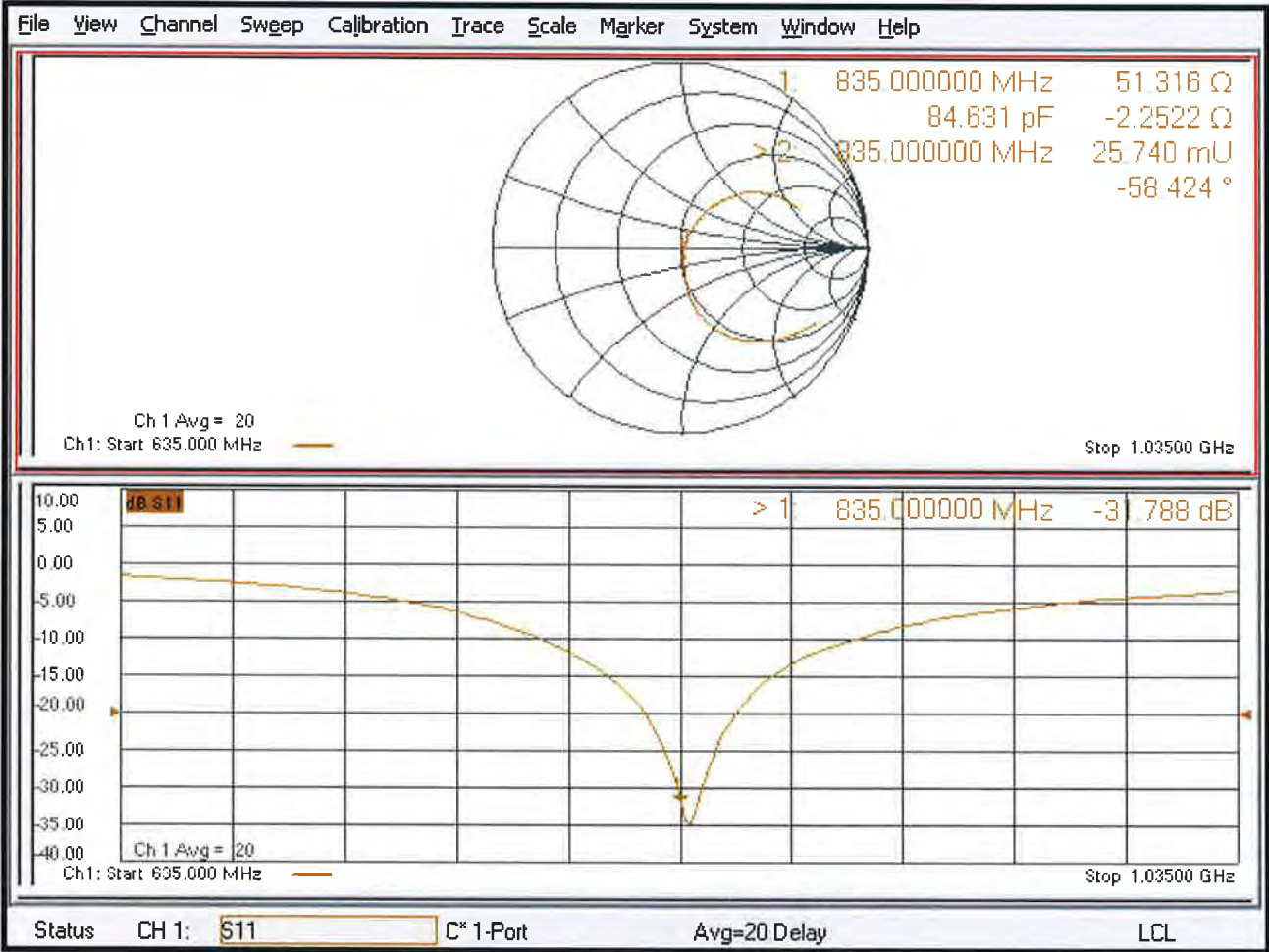
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.55 W/kg

Maximum value of SAR (measured) = 3.26 W/kg



0 dB = 3.26 W/kg = 5.13 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 23.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d121

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

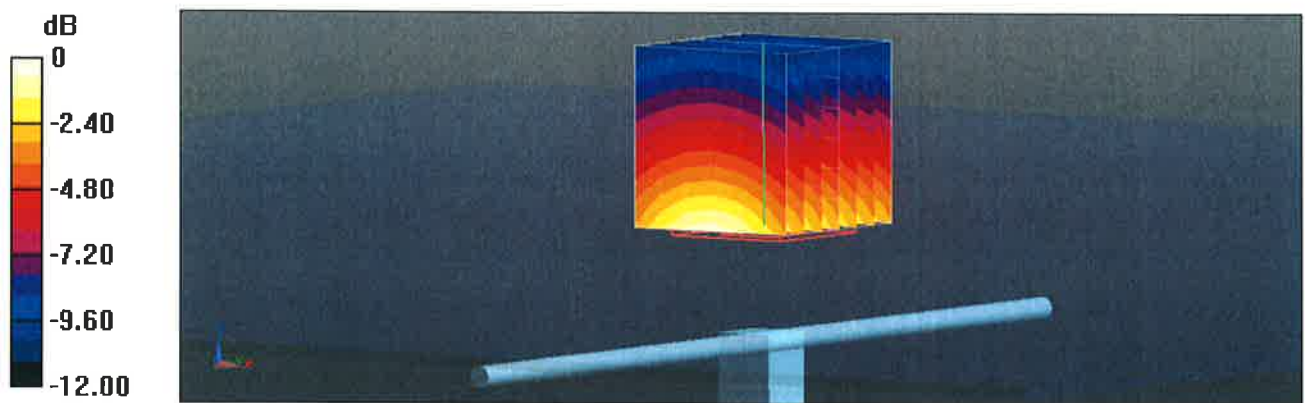
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 61.20 V/m; Power Drift = -0.01 dB

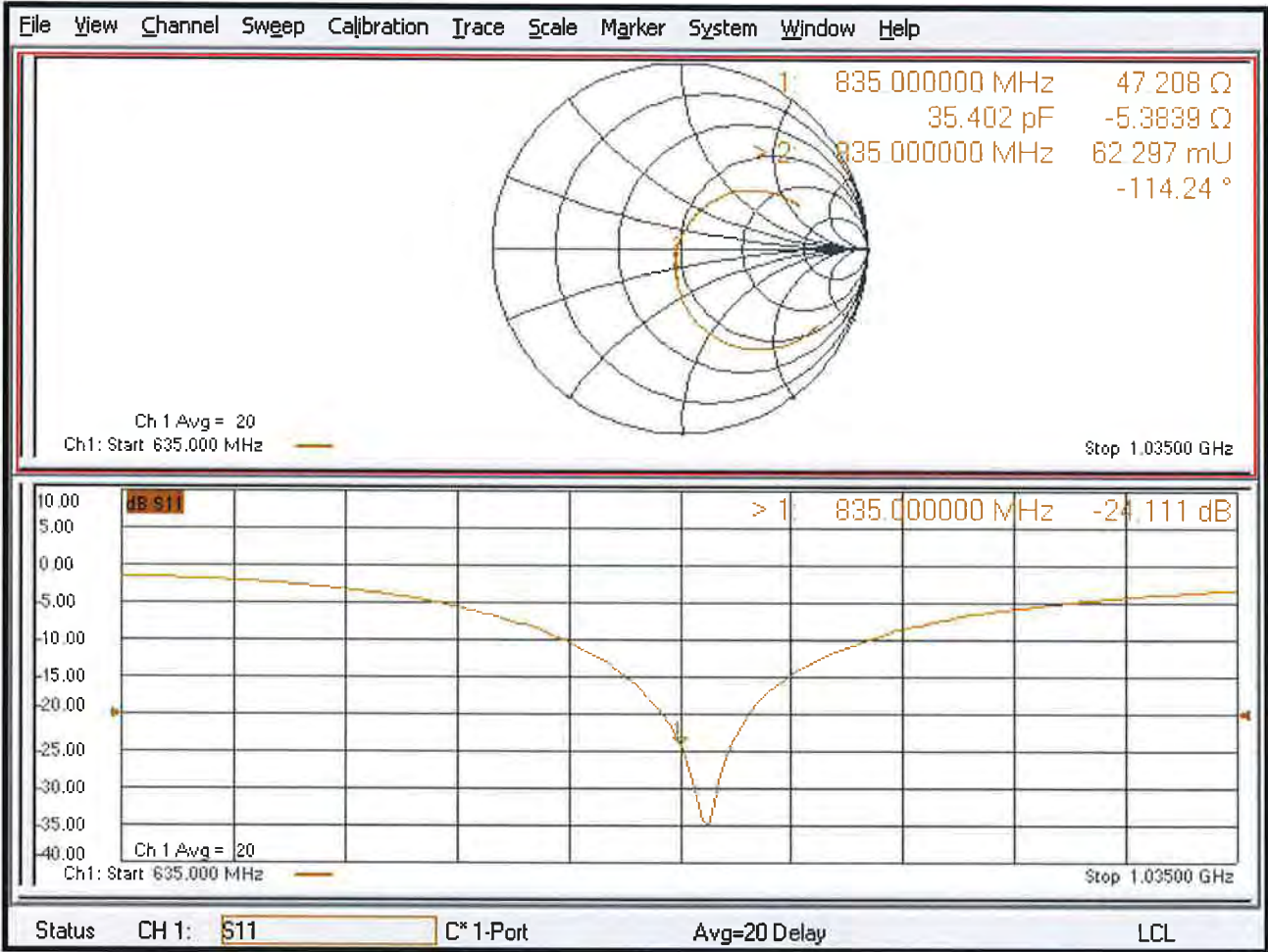
Peak SAR (extrapolated) = 3.64 W/kg

SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.6 W/kg

Maximum value of SAR (measured) = 3.26 W/kg



Impedance Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **D1750V2-1055_Aug18**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN:1055**

Calibration procedure(s) **QA CAL-05.v10**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **August 27, 2018**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Calibrated by: **Manu Seitz** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: August 28, 2018

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