TEST REPORT

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1. Client

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2021-12-08

2. Use of Report : Class II Permissive Change

3. Name of Product and Model : LTE module
- Model Number : L850-GL
- Manufacturer and Country of Origin : Samsung Electronics Co., Ltd. / Vietnam

4. Host Product Name : Notebook PC
- Host Model Name : XE525QEA
- Manufacturer : Samsung Electronics Co., Ltd.

5. FCC ID : A3LL850GL525QEA

6. Date of Test : 2022-01-03 ~ 2022-01-07

7. Location of Test : ■ Permanent Testing Lab □ On Site Testing
(Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

8. Test Standards : IEEE 1528-2013, ANSI/IEEE C95.1, KDB Publication

9. Test Results : Refer to the test result in the test report

Affirmation	Tested by	Technical Manager
	Name : Choongki Lee (Signature)	Name : Hosik Sim (Signature)

2022-01-26

KCTL Inc.

REPORT REVISION HISTORY

Date	Revision	Page No
2022-01-21	Originally issued	-
2022-01-24	Updated Position of Notebook Mode: Section 12.3 Changed from WCDMA Band 4 to WCDMA Band 5: Appendix C.2	- 56 136~137
2022-01-26	Changed notation	8,32

Note: The Report No. KR22-SPF0006-A is superseded by the report No. KR22-SPF0006-B

General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ **Statement not required by the standard or client used for type testing**

1. Identification when information is provided by the customer: Information marked " # " is provided by the customer. - Disclaimer: This information is provided by the customer and can affect the validity of results.

CONTENTS

1. General information

Client	:	Samsung Electronics Co., Ltd.
Address	:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Manufacturer	:	Samsung Electronics Co., Ltd.
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Factory		SAMSUNG ELECTRONICS VIETNAM CO.,LTD.
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Laboratory	:	KCTL Inc.
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Accreditations	:	FCC Site Designation No: KR0040, FCC Site Registration No: 687132 VCCI Registration No. : R-3327, G-198, C-3706, T-1849 CAB Identifier: KR0040, ISED Number: 8035A KOLAS No.: KT231

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of KCTL Inc. Wireless lab or testing done by KCTL Inc. Wireless lab made in connection with the distribution or use of the tested product must be approved in writing by KCTL Inc. Wireless lab.

2. Device information

2.1 Basic description

Product Name		LTE module
Product Model Number		L850-GL
Product Manufacturer		Samsung Electronics Co., Ltd.
Host Product Name		Notebook PC
Host Model Number		XE525QEA
Host Manufacturer		Samsung Electronics Co., Ltd.
Host Product Serial Number	Radiation	1KLK91ZRB00095P
		1KLL91ZRB00069L
		1KLL91ZRB00078K
	Conduction	1KLL91ZRB00015A
Mode of Operation		WCDMA II/V, LTE 2/4/5/12/13/66
Device Overview		WCDMA Band II: 1 852.4 ㎒ ~ 1 907.6 ㎒ WCDMA Band V: 826.4 ㎒ ~ 846.6 ㎒ LTE Band 2: 1 850.7 ㎒ ~ 1 909.3 ㎒ LTE Band 4: 1 710.7 ㎒ ~ 1 754.3 ㎒ LTE Band 5: 824.7 ㎒ ~ 848.3 ㎒ LTE Band 12: 699.7 ㎒ ~ 715.3 ㎒ LTE Band 13: 779.5 ㎒ ~ 784.5 ㎒ LTE Band 66: 1 710.7 ㎒ ~ 1 779.3 ㎒

2.2 Summary of SAR Test Results

Band	Equipment Class	Highest Reported 1g SAR (W/kg)
WCDMA Band II	PCB	1.36
WCDMA Band V	PCB	1.19
LTE Band 2	PCB	**1.37**
LTE Band 5	PCB	0.92
LTE Band 12	PCB	0.96
LTE Band 13	PCB	1.03
LTE Band 66	PCB	1.04
Simultaneous SAR per KDB 690783 D01v01r03		1.59

2.3 Power Reduction for SAR

This device utilizes a power reduction mechanism for wireless modes and bands for SAR compliance under Notebook mode Grip Sensor and Tablet mode switching conditions.

The grip sensor works only in notebook mode and the grip sensor does not work in tablet mode, only power reduction in tablet mode work.

2.4 #Maximum Tune-up power

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

2.4.1 Maximum 3G/4G Output Power

Band	Mode		Notebook Mode Output Power (dBm)		SAR Test	Tablet Mode or Notebook Grip Sensor Output Power (dBm)		SAR Test
			Target	Max. Allowed		Target	Max. Allowed	
WCDMA Band II	RMC		23.00	**24.00**	Yes	15.00	**16.00**	Yes
	HSDPA	Subtest 1	23.00	**24.00**	No	15.00	**16.00**	Yes
		Subtest 2	23.00	**24.00**		15.00	**16.00**	
		Subtest 3	22.50	**23.50**		15.00	**16.00**	
		Subtest 4	22.50	**23.50**		15.00	**16.00**	
	HSUPA	Subtest 1	23.00	**24.00**	No	15.00	**16.00**	Yes
		Subtest 2	21.00	**22.00**		15.00	**16.00**	
		Subtest 3	22.00	**23.00**		15.00	**16.00**	
		Subtest 4	21.00	**22.00**		15.00	**16.00**	
		Subtest 5	23.00	**24.00**		15.00	**16.00**	
WCDMA Band V	RMC		23.50	**24.50**	Yes	18.50	**19.50**	Yes
	HSDPA	Subtest 1	23.50	**24.50**	No	18.50	**19.50**	No
		Subtest 2	23.50	**24.50**		18.50	**19.50**	
		Subtest 3	23.00	**24.00**		18.50	**19.50**	
		Subtest 4	23.00	**24.00**		18.50	**19.50**	
	HSUPA	Subtest 1	23.50	**24.50**	No	18.50	**19.50**	No
		Subtest 2	21.50	**22.50**		18.50	**19.50**	
		Subtest 3	22.50	**23.50**		18.50	**19.50**	
		Subtest 4	21.50	**22.50**		18.50	**19.50**	
		Subtest 5	23.50	**24.50**		18.50	**19.50**	
LTE Band 2			23.00	**24.00**	Yes	15.00	**16.00**	Yes
LTE Band 4			23.00	**24.00**	*No	16.00	**17.00**	*No
LTE Band 5			23.00	**24.00**	Yes	18.00	**19.00**	Yes
LTE Band 12			23.00	**24.00**	Yes	18.00	**19.00**	Yes
LTE Band 13			23.00	**24.00**	Yes	18.00	**19.00**	Yes
LTE Band 66			23.00	**24.00**	Yes	16.00	**17.00**	Yes

Notes:

LTE Band 4 Measured Results

SAR for LTE Band 4 (Frequency range: 1 710.7 ~ 1 754.3 ㎒) is covered by LTE Band 66 (Frequency range: 1 710.7 ~ 1 779.3 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

2.5 SAR Test Configurations

2.5.1 #DUT Antenna Locations

The device is a 2-in-1 model that operations as a laptop when folded 90 degrees and as a tablet when folded 360 degrees.
When in tablet mode the overall dimensions of this device are > 20 cm.
A diagram showing the location of the device antennas can be found in Appendix D.

2.5.2 SAR Test Exclusion Considerations (Tablet Mode)

Band	Freq. [MHz]	Output Power		Separation distances [mm]					SAR Exemption				
		dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bottom
WCDMA Band II	1 907.6	16.00	40	5	227	5	5	150	11.05 Measure	1879mW EXEMPT	11.05 Measure	11.05 Measure	1109mW EXEMPT
WCDMA Band V	846.6	19.50	89	5	227	5	5	150	16.38 Measure	1162mW EXEMPT	16.38 Measure	16.38 Measure	727mW EXEMPT
LTE Band 2	1 909.3	16.00	40	5	227	5	5	150	11.05 Measure	1879mW EXEMPT	11.05 Measure	11.05 Measure	1109mW EXEMPT
LTE Band 5	848.3	19.00	79	5	227	5	5	150	14.55 Measure	1164mW EXEMPT	14.55 Measure	14.55 Measure	728mW EXEMPT
LTE Band 12	715.3	19.00	79	5	227	5	5	150	13.36 Measure	1021mW EXEMPT	13.36 Measure	13.36 Measure	654mW EXEMPT
LTE Band 13	784.5	19.00	79	5	227	5	5	150	13.99 Measure	1095mW EXEMPT	13.99 Measure	13.99 Measure	692mW EXEMPT
LTE Band 66	1 779.3	17.00	50	5	227	5	5	150	13.34 Measure	1882mW EXEMPT	13.34 Measure	13.34 Measure	1112mW EXEMPT

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.
Note 2: Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
Note 3: If the antenna separation distance is > 50mm then the value listed is the output power threshold, above which SAR measurement is required. For separation <= 50mm the value is the KDB 447498 calculated value and must be less than 3.0 for SAR exemption.
Note 4: Formulas round separation distance to nearest mm and power to nearest mW before calculating thresholds or exemption values.

Device Type	Ant. / Band	Device Edge for SAR Testing (Rear View)					
		Front	Rear	Left Edge	Right Edge	Top	Bottom
Notebook	WCDMA, LTE	No	Yes	No	No	No	No
Tablet	WCDMA, LTE	No	Yes	No	Yes	Yes	No

2.6 SAR Test Methods and Procedures

The tests documented in this report were performed in accordance with IEEE 1528-2013 and the following published KDB procedures:

- IEEE 1528-2013
- 447498 D01 General RF Exposure Guidance v06
- 865664 D01 SAR measurement 100 ㎒ to 6 ㎓ v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 616217 D04 SAR for laptop and tablets v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- April 2019 TCB Workshop Notes (Tissue Simulating Liquids)
- November 2019 TCB Workshop Notes (Hall Effect and Gravity Sensor Guidance)

3. #LTE Information

LTE Information			
Form Factor	Notebook PC		
Frequency Range of each LTE transmission band	LTE Band 2 (1 850.7 ㎒ ~ 1 909.3 ㎒) LTE Band 4 (1 710.7 ㎒ ~ 1 754.3 ㎒) LTE Band 5 (824.7 ㎒ ~ 848.3 ㎒) LTE Band 12 (699.7 ㎒ ~ 715.3 ㎒) LTE Band 13 (779.5 ㎒ ~ 784.5 ㎒) LTE Band 66 (1 710.7 ㎒ ~ 1 779.3 ㎒)		
Channel Bandwidths	LTE Band 2: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 4: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 5: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒ LTE Band 12: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒ LTE Band 13: 5 ㎒, 10 ㎒ LTE Band 66: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒		
Channel Numbers and Frequencies (㎒)	Low	Mid	High
LTE Band 2: 1.4 ㎒	1 850.7 (18 607)	1 880.0 (18 900)	1 909.3 (19 193)
LTE Band 2: 3 ㎒	1 851.5 (18 615)	1 880.0 (18 900)	1 908.5 (19 185)
LTE Band 2: 5 ㎒	1 852.5 (18 625)	1 880.0 (18 900)	1 907.5 (19 175)
LTE Band 2: 10 ㎒	1 855.0 (18 650)	1 880.0 (18 900)	1 905.0 (19 150)
LTE Band 2: 15 ㎒	1 857.5 (18 675)	1 880.0 (18 900)	1 902.5 (19 125)
LTE Band 2: 20 ㎒	1 860.0 (18 700)	1 880.0 (18 900)	1 900.0 (19 100)
LTE Band 4: 1.4 ㎒	1 710.7 (19 957)	1 732.5 (20 175)	1 754.3 (20 393)
LTE Band 4: 3 ㎒	1 711.5 (19 965)	1 732.5 (20 175)	1 753.5 (20 385)
LTE Band 4: 5 ㎒	1 712.5 (19 975)	1 732.5 (20 175)	1 752.5 (20 375)
LTE Band 4: 10 ㎒	1 715.0 (20 000)	1 732.5 (20 175)	1 750.0 (20 350)
LTE Band 4: 15 ㎒	1 717.5 (20 025)	1 732.5 (20 175)	1 747.5 (20 325)
LTE Band 4: 20 ㎒	1 720.0 (20 050)	1 732.5 (20 175)	1 745.0 (20 300)
LTE Band 5: 1.4 ㎒	824.7 (20 407)	836.5 (20 525)	848.3 (20 643)
LTE Band 5: 3 ㎒	825.5 (20 415)	836.5 (20 525)	847.5 (20 635)
LTE Band 5: 5 ㎒	826.5 (20 425)	836.5 (20 525)	846.5 (20 625)
LTE Band 5: 10 ㎒	829.0 (20 450)	836.5 (20 525)	844.0 (20 600)
LTE Band 12: 1.4 ㎒	699.7 (23 017)	707.5 (23 095)	715.3 (23 173)
LTE Band 12: 3 ㎒	700.5 (23 025)	707.5 (23 095)	714.5 (23 655)
LTE Band 12: 5 ㎒	701.5 (23 035)	707.5 (23 095)	713.5 (23 155)
LTE Band 12: 10 ㎒	704.0 (23 060)	707.5 (23 095)	711.0 (23 130)

Channel Numbers and Frequencies (㎒)	Low	Mid	High
LTE Band 13: 5 ㎒	779.5 (23 205)	782.0 (23 230)	784.5 (23 255)
LTE Band 13: 10 ㎒	-	782.0 (23 230)	-
LTE Band 66: 1.4 ㎒	1 710.7 (131 979)	1 745.0 (132 322)	1 779.3 (132 665)
LTE Band 66: 3 ㎒	1 711.5 (131 987)	1 745.0 (132 322)	1 778.5 (132 657)
LTE Band 66: 5 ㎒	1 712.5 (131 997)	1 745.0 (132 322)	1 777.5 (132 647)
LTE Band 66: 10 ㎒	1 715.0 (132 022)	1 745.0 (132 322)	1 775.0 (132 622)
LTE Band 66: 15 ㎒	1 717.5 (132 047)	1 745.0 (132 322)	1 772.5 (132 597)
LTE Band 66: 20 ㎒	1 720.0 (132 072)	1 745.0 (132 322)	1 770.0 (132 572)
UE Category	DL Cat 9 / UL Cat 4		
Modulations Supported in UL	QPSK, 16QAM		
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3 ~ 6.2.5?(manufacturer attestation to be provided)	YES		
A-MPR(Additional MPR) disabled for SAR Testing?	YES		
LTE Carrier Aggregation Possible Combinations	This device not supports LTE CA aggregation.		
LTE Additional Information	The following LTE Release 10 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.		

4. Specific Absorption Rate

4.1 Introduction

The 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.

4.2 SAR Definition

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

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

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

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

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

5. SAR Measurement Procedures

5.1 SAR Scan Procedures

Step 1: Power Reference Measurement
The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.
Step 2: Area Scan & Zoom Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot and Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing1 g and 10 g of simulated tissue. If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly. Area Scan & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details. * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

Step 3: Power drift measurement
The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

6. SAR Measurement Configurations

6.1 Body-supported device

A typical example of a body supported device is a wireless enabled laptop device that among other orientations may be supported on the thighs of a sitting user. To represent this orientation, the device shall be positioned with its base against the flat phantom. Other orientations may be specified by the manufacturer in the user instructions. If the intended use is not specified, the device shall be tested directly against the flat phantom in all usable orientations.

The screen portion of the device shall be in an open position at a 90° angle as seen in Figure 1 (left side), or at an operating angle specified for intended use by the m anufacturer in the operating instructions. Where a body supported device has an integral screen required for normal operation, then the screen-side will not need to be tested if the antenna(s) integrated in it ordinarily remain(s) 200 mm from the body. Where a screen mounted antenna is present, the measurement shall be performed with the screen against the flat phantom as shown in Figure 1 (right side), if operating the screen against the body is consistent with the intended use.

Other devices that fall into this category include table type portable computers and credit card transaction authorisation terminals, point-of sale and/or inventory terminals. Where these devices may be torso or limb-supported, the same principles for body-sopported devices are applied.

The example in Figure 2) shows a tablet form factor portable computer for which SAR should be separately assessed with
d) each surface and
e) the separation distances
positional against the flat phantom that correspond to the intended use as specified by the manufacturer. If the intended use is not specified in the user instructions, the device shall be tested directly the flat phantom in all usable orientations.

Figure 1. Notebook

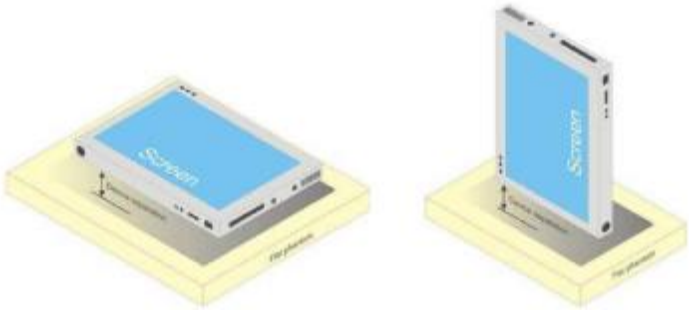


Figure 2. Tablet form factor portable computer

7. RF Exposure Limits

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Partial Peak SAR [1] (Partial)	1.60 mW/g	8.00 mW/g
Partial Average SAR [2] (Whole Body)	0.08 mW/g	0.40 mW/g
Partial Peak SAR [3] (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2) The spatial Average value of the SAR averaged over the whole body.
3) The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

8. FCC SAR General Measurement Procedures

8.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as reported SAR. Test highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

8.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”
The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

8.4 SAR Measurement Conditions for UMTS

8.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.4.2 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

8.4.3 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations 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 12.2kbps 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.

8.4.4 SAR Measurements with Rel. 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 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.

8.4.5 SAR Measurements with Rel. 8 DC-HSDPA

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

8.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.5.1 Spectrum Plots for RB Configurations

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

8.5.2 MPR

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

8.5.3 A-MPR

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

8.5.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

1. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
   a. The required channel and offset combination with the highest maximum output power is required for SAR.
   b. 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 using the RB offset configuration with highest output power for that channel.
   c. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel
2. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Sec 4.2.1.
3. Per Sec. 4.2.3, QPSK SAR is not required for the 100% all0cation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
4. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/Kg.

9. RF Average Conducted Output Power

9.1 Average Conducted Output Power(Notebook Mode)

9.1.1 WCDMA Average Conducted Output Power

Band	Mode	Average Conducted Power (dBm)			MPR [dB]
		Channel			
		9 262	9 400	9 538	
		1 852.4 MHz	1 880.0 MHz	1 907.6 MHz	
WCDMA II	RMC	**22.75**	**23.11**	**23.06**	-
	HSDPA-Subtest 1	22.69	22.66	23.05	0
	HSDPA-Subtest 2	21.66	21.70	21.99	0
	HSDPA-Subtest 3	21.17	21.20	21.45	0.5
	HSDPA-Subtest 4	21.16	21.13	21.23	0.5
	HSUPA-Subtest 1	21.73	21.73	22.07	0
	HSUPA-Subtest 2	19.52	19.50	19.91	2
	HSUPA-Subtest 3	20.51	20.49	20.59	1
	HSUPA-Subtest 4	19.78	19.81	20.16	2
	HSUPA-Subtest 5	21.78	21.78	22.10	0

Band	Mode	Average Conducted Power (dBm)			MPR [dB]
		Channel			
		4 132	4 183	4 233	
		826.4 MHz	836.6 MHz	846.6 MHz	
WCDMA V	RMC	**23.68**	**23.83**	**23.71**	-
	HSDPA-Subtest 1	22.53	22.60	23.68	0
	HSDPA-Subtest 2	22.73	22.74	22.92	0
	HSDPA-Subtest 3	22.08	22.31	22.25	0.5
	HSDPA-Subtest 4	22.01	22.01	22.01	0.5
	HSUPA-Subtest 1	22.80	22.80	22.86	0
	HSUPA-Subtest 2	20.58	20.57	20.54	2
	HSUPA-Subtest 3	21.52	21.59	21.54	1
	HSUPA-Subtest 4	20.88	20.87	20.84	2
	HSUPA-Subtest 5	22.79	22.82	22.82	0

9.1.2 LTE Average Conducted Output Powe

9.1.2.1 LTE Band 2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 700	18 900	19 100	
				1 860.0 ㎒	1 880.0 ㎒	1 900.0 ㎒	
20 ㎒	QPSK	1	0	**22.76**	22.59	22.65	0
		1	49	22.44	**22.91**	22.92	0
		1	99	22.51	22.86	**23.06**	0
		50	0	**21.51**	21.60	21.65	1
		50	24	21.40	21.68	21.78	1
		50	50	21.36	**21.72**	**21.92**	1
		100	0	21.52	21.82	**21.88**	1
	16QAM	1	0	21.68	21.74	22.03	1
		1	49	21.37	21.49	21.72	1
		1	99	21.45	22.02	22.05	1
		50	0	20.55	20.61	20.69	2
		50	24	20.44	20.69	20.78	2
		50	50	20.40	20.78	20.91	2
		100	0	20.55	20.85	21.15	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 675	18 900	19 125	
				1 857.5 ㎒	1 880.0 ㎒	1 902.5 ㎒	
15 ㎒	QPSK	1	0	22.60	22.71	22.55	0
		1	49	22.74	22.94	22.80	0
		1	99	22.55	22.93	22.92	0
		50	0	21.53	21.62	21.78	1
		50	24	21.48	21.72	21.87	1
		50	50	21.37	21.74	21.85	1
		100	0	21.49	21.75	21.99	1
	16QAM	1	0	21.70	21.60	21.64	1
		1	49	22.13	21.79	21.86	1
		1	99	21.95	22.05	21.88	1
		50	0	20.59	20.61	20.71	2
		50	24	20.55	20.72	20.90	2
		50	50	20.39	20.83	20.82	2
		100	0	20.54	20.84	21.05	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 650	18 900	19 150	
				1 855.0 MHz	1 880.0 MHz	1 905.0 MHz	
10 MHz	QPSK	1	0	22.69	22.83	22.91	0
		1	25	22.60	22.92	22.96	0
		1	49	22.53	22.98	22.90	0
		25	0	21.66	21.65	21.96	1
		25	12	21.56	21.69	21.98	1
		25	25	21.53	21.72	21.81	1
		50	0	21.50	21.70	22.02	1
	16QAM	1	0	22.03	21.91	21.70	1
		1	25	21.87	21.94	22.02	1
		1	49	21.81	21.89	21.86	1
		25	0	20.72	20.78	20.85	2
		25	12	20.61	20.82	20.87	2
		25	25	20.57	20.81	20.81	2
		50	0	20.67	20.76	20.90	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 625	18 900	19 175	
				1 852.5 MHz	1 880.0 MHz	1 907.5 MHz	
5 MHz	QPSK	1	0	22.77	22.79	22.96	0
		1	12	22.68	22.82	22.90	0
		1	24	22.65	22.86	22.82	0
		12	0	21.54	21.59	21.96	1
		12	7	21.55	21.63	21.77	1
		12	13	21.48	21.71	21.71	1
		25	0	21.57	21.69	21.98	1
	16QAM	1	0	21.86	21.92	21.85	1
		1	12	21.73	21.93	21.88	1
		1	24	21.71	21.89	21.85	1
		12	0	20.61	20.64	20.93	2
		12	7	20.55	20.64	20.76	2
		12	13	20.54	20.73	20.66	2
		25	0	20.53	20.73	20.91	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 615	18 900	19 185	
				1 851.5 MHz	1 880.0 MHz	1 908.5 MHz	
3 MHz	QPSK	1	0	22.55	22.63	22.71	0
		1	8	22.53	22.68	22.75	0
		1	14	22.49	22.71	22.68	0
		8	0	21.52	21.63	21.70	1
		8	4	21.51	21.64	21.71	1
		8	7	21.52	21.67	21.65	1
		15	0	21.56	21.71	21.71	1
	16QAM	1	0	21.69	21.82	21.75	1
		1	8	21.67	21.89	21.72	1
		1	14	21.70	21.89	21.74	1
		8	0	20.52	20.73	20.64	2
		8	4	20.52	20.73	20.63	2
		8	7	20.54	20.65	20.58	2
		15	0	20.65	20.67	20.63	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 607	18 900	19 193	
				1 850.7 ㎒	1 880.0 ㎒	1 909.3 ㎒	
1.4 ㎒	QPSK	1	0	22.76	22.71	23.04	0
		1	3	22.63	22.65	22.92	0
		1	5	22.64	22.71	22.65	0
		3	0	22.55	22.59	22.88	0
		3	1	22.48	22.59	22.66	0
		3	3	22.43	22.61	22.65	0
		6	0	21.56	21.68	21.96	1
	16QAM	1	0	21.86	22.03	22.01	1
		1	3	21.79	22.00	22.01	1
		1	5	21.83	21.80	21.72	1
		3	0	21.69	21.78	21.94	1
		3	1	21.55	21.80	21.66	1
		3	3	21.50	21.61	21.65	1
		6	0	20.56	20.74	20.65	2

9.1.2.2 LTE Band 5

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				20 525	
				836.5 ㎒	
10 ㎒	QPSK	1	0	**23.15**	0
		1	25	23.02	0
		1	49	23.08	0
		25	0	22.10	1
		25	12	22.10	1
		25	25	**22.12**	1
		50	0	22.08	1
	16QAM	1	0	22.17	1
		1	25	22.12	1
		1	49	22.06	1
		25	0	21.11	2
		25	12	21.11	2
		25	25	21.01	2
		50	0	21.12	2

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 425	20 525	20 625	
				826.5 ㎒	836.5 ㎒	846.5 ㎒	
5 ㎒	QPSK	1	0	22.92	23.06	22.95	0
		1	12	22.96	23.05	22.91	0
		1	24	23.00	23.10	22.96	0
		12	0	21.88	22.03	21.96	1
		12	7	21.91	22.03	21.88	1
		12	13	21.86	22.04	21.83	1
		25	0	21.93	22.05	22.04	1
	16QAM	1	0	21.96	22.07	22.09	1
		1	12	21.91	21.99	22.06	1
		1	24	21.98	22.07	22.12	1
		12	0	20.89	20.94	20.97	2
		12	7	20.98	21.01	20.94	2
		12	13	20.96	20.95	20.90	2
		25	0	20.92	21.05	20.89	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 MHz	836.5 MHz	848.3 MHz	
3 MHz	QPSK	1	0	22.85	22.94	22.87	0
		1	8	22.87	23.00	22.86	0
		1	14	22.88	22.97	22.87	0
		8	0	21.83	21.99	21.89	1
		8	4	21.84	22.00	21.81	1
		8	7	21.84	21.92	21.85	1
		15	0	21.86	22.03	21.88	1
	16QAM	1	0	21.91	22.07	22.09	1
		1	8	22.01	22.09	22.09	1
		1	14	21.92	21.96	22.09	1
		8	0	20.89	21.02	20.91	2
		8	4	20.90	21.05	20.86	2
		8	7	20.88	20.93	20.90	2
		15	0	20.84	21.05	20.93	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 MHz	836.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	23.01	22.93	22.91	0
		1	3	22.91	22.89	22.89	0
		1	5	22.96	22.94	22.93	0
		3	0	22.97	22.94	22.84	0
		3	1	22.97	22.95	22.84	0
		3	3	22.89	22.95	22.85	0
		6	0	22.00	21.95	21.84	1
	16QAM	1	0	22.20	22.18	22.06	1
		1	3	22.13	22.07	22.05	1
		1	5	21.91	21.94	22.11	1
		3	0	21.92	21.94	21.92	1
		3	1	21.81	21.88	21.90	1
		3	3	21.88	21.90	21.91	1
		6	0	20.99	21.01	20.84	2

9.1.2.3 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 095 707.5 ㎒	MPR
10 ㎒	QPSK	1	0	**22.89**	0
		1	25	22.83	0
		1	49	22.74	0
		25	0	**21.91**	1
		25	12	21.76	1
		25	25	21.71	1
		50	0	21.86	1
	16QAM	1	0	21.85	1
		1	25	21.74	1
		1	49	21.76	1
		25	0	20.73	2
		25	12	20.77	2
		25	25	20.81	2
		50	0	20.78	2

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 035 701.5 ㎒	23 095 707.5 ㎒	23 155 713.5 ㎒	MPR
5 ㎒	QPSK	1	0	22.79	22.76	22.80	0
		1	12	22.80	22.69	22.65	0
		1	24	22.85	22.74	22.62	0
		12	0	21.70	21.72	21.52	1
		12	7	21.70	21.71	21.55	1
		12	13	21.59	21.71	21.61	1
		25	0	21.77	21.74	21.58	1
	16QAM	1	0	21.77	21.86	21.89	1
		1	12	21.83	21.75	21.76	1
		1	24	21.86	21.78	21.77	1
		12	0	20.81	20.69	20.66	2
		12	7	20.80	20.65	20.49	2
		12	13	20.65	20.78	20.51	2
		25	0	20.91	20.88	20.63	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	22.67	22.74	22.63	0
		1	8	22.74	22.71	22.61	0
		1	14	22.79	22.67	22.55	0
		8	0	21.69	21.72	21.59	1
		8	4	21.72	21.70	21.60	1
		8	7	21.53	21.71	21.59	1
		15	0	21.88	21.75	21.65	1
	16QAM	1	0	21.80	21.94	21.94	1
		1	8	21.88	21.95	21.85	1
		1	14	21.71	21.92	21.76	1
		8	0	20.52	20.82	20.54	2
		8	4	20.64	20.81	20.54	2
		8	7	20.66	20.78	20.58	2
		15	0	20.74	20.88	20.50	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	22.81	22.81	22.57	0
		1	3	22.76	22.75	22.46	0
		1	5	22.61	22.75	22.52	0
		3	0	22.70	22.75	22.55	0
		3	1	22.73	22.73	22.52	0
		3	3	22.62	22.72	22.56	0
		6	0	21.79	21.76	21.42	1
	16QAM	1	0	21.67	21.88	21.81	1
		1	3	21.65	21.81	21.75	1
		1	5	21.70	21.83	21.59	1
		3	0	21.76	21.79	21.64	1
		3	1	21.66	21.77	21.61	1
		3	3	21.60	21.75	21.64	1
		6	0	20.80	20.76	20.42	2

9.1.2.4 LTE Band 13

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
10 ㎒	QPSK	1	0	23.17	0
		1	25	23.03	0
		1	49	**23.21**	0
		25	0	22.15	1
		25	12	22.08	1
		25	25	**22.19**	1
		50	0	22.16	1
	16QAM	1	0	22.34	1
		1	25	22.25	1
		1	49	22.28	1
		25	0	21.26	2
		25	12	21.09	2
		25	25	21.20	2
		50	0	21.39	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
5 ㎒	QPSK	1	0	23.11	0
		1	12	23.01	0
		1	24	23.08	0
		12	0	21.97	1
		12	7	22.02	1
		12	13	22.00	1
		25	0	22.04	1
	16QAM	1	0	22.16	1
		1	12	22.08	1
		1	24	22.22	1
		12	0	21.10	2
		12	7	21.02	2
		12	13	21.03	2
		25	0	21.12	2

9.1.2.5 LTE Band 66

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 ㎒	1 745.0 ㎒	1 770.0 ㎒	
20 ㎒	QPSK	1	0	23.27	**23.35**	**23.20**	0
		1	49	23.24	23.08	22.63	0
		1	99	**23.28**	23.08	23.03	0
		50	0	22.26	22.26	21.97	1
		50	24	22.24	22.17	21.74	1
		50	50	21.99	**22.30**	21.76	1
		100	0	22.22	**22.26**	22.02	1
	16QAM	1	0	21.92	22.27	22.54	1
		1	49	21.96	22.20	22.16	1
		1	99	22.26	22.17	22.42	1
		50	0	21.10	21.26	20.91	2
		50	24	21.03	21.11	20.67	2
		50	50	21.13	20.87	20.72	2
		100	0	21.29	21.24	21.02	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 ㎒	1 745.0 ㎒	1 772.5 ㎒	
15 ㎒	QPSK	1	0	23.26	23.24	22.87	0
		1	36	23.24	23.20	22.66	0
		1	74	23.31	23.07	22.89	0
		36	0	22.21	22.15	21.77	1
		36	18	22.19	22.10	21.67	1
		36	37	22.21	21.92	21.73	1
		75	0	22.32	22.18	21.85	1
	16QAM	1	0	22.53	22.45	22.09	1
		1	36	22.50	22.30	21.73	1
		1	74	22.33	22.14	22.11	1
		36	0	21.12	21.10	20.70	2
		36	18	21.13	21.09	20.68	2
		36	37	21.14	20.91	20.62	2
		75	0	21.25	21.18	20.86	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 ㎒	1 745.0 ㎒	1 775.0 ㎒	
10 ㎒	QPSK	1	0	23.12	23.28	22.75	0
		1	25	23.22	23.07	22.72	0
		1	49	23.19	23.12	23.09	0
		25	0	22.15	22.20	21.60	1
		25	12	22.10	22.08	21.66	1
		25	25	22.13	21.98	21.90	1
		50	0	22.28	22.11	21.88	1
	16QAM	1	0	22.35	22.52	21.94	1
		1	25	22.36	22.51	21.90	1
		1	49	22.29	22.45	22.26	1
		25	0	21.07	21.05	20.53	2
		25	12	21.04	20.94	20.55	2
		25	25	21.06	20.81	20.79	2
		50	0	21.18	21.05	20.87	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 ㎒	1 745.0 ㎒	1 777.5 ㎒	
5 ㎒	QPSK	1	0	22.99	23.31	22.76	0
		1	12	23.07	23.10	22.89	0
		1	24	23.09	23.10	23.06	0
		12	0	21.89	21.98	21.64	1
		12	7	22.05	21.97	21.75	1
		12	13	22.07	21.89	21.87	1
		25	0	22.12	21.99	21.94	1
	16QAM	1	0	22.12	22.07	21.91	1
		1	12	22.14	21.86	22.06	1
		1	24	22.04	21.87	22.14	1
		12	0	20.77	20.78	20.61	2
		12	7	20.80	20.70	20.57	2
		12	13	20.82	20.70	20.79	2
		25	0	20.96	20.85	20.84	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 ㎒	1 745.0 ㎒	1 778.5 ㎒	
3 ㎒	QPSK	1	0	23.16	23.16	22.86	0
		1	8	23.16	23.07	22.89	0
		1	14	23.13	23.04	23.04	0
		8	0	21.87	21.98	21.74	1
		8	4	21.95	21.88	21.85	1
		8	7	22.04	21.88	21.89	1
		15	0	22.02	22.02	21.99	1
	16QAM	1	0	22.25	22.25	21.87	1
		1	8	22.17	22.16	22.05	1
		1	14	22.10	22.14	22.11	1
		8	0	20.74	20.87	20.67	2
		8	4	20.71	20.80	20.78	2
		8	7	20.78	20.78	20.80	2
		15	0	20.72	20.70	20.83	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 ㎒	1 745.0 ㎒	1 779.3 ㎒	
1.4 ㎒	QPSK	1	0	23.31	23.13	23.26	0
		1	3	23.32	23.02	23.23	0
		1	5	23.05	23.04	23.07	0
		3	0	22.94	22.80	22.86	0
		3	1	22.93	22.79	22.91	0
		3	3	22.93	22.75	22.86	0
		6	0	21.93	21.75	21.77	1
	16QAM	1	0	21.98	22.26	22.24	1
		1	3	21.93	22.17	22.22	1
		1	5	21.98	22.22	22.02	1
		3	0	21.62	22.07	22.14	1
		3	1	21.61	22.12	22.12	1
		3	3	21.75	21.99	21.93	1
		6	0	20.66	20.72	20.65	2

9.2 Average Conducted Output Power (Tablet Mode or Notebook Grip Sensor)

9.2.1 WCDMA Average Conducted Output Power

Band	Mode	Average Conducted Power (dBm)			MPR [dB]
		Channel			
		9 262	9 400	9 538	
		1 852.4 ㎒	1 880.0 ㎒	1 907.6 ㎒	
WCDMA II	RMC	**15.34**	**15.81**	**15.85**	-
	HSDPA-Subtest 1	15.19	15.26	**15.61**	0
	HSDPA-Subtest 2	14.48	14.45	14.89	0
	HSDPA-Subtest 3	14.22	14.21	14.58	0
	HSDPA-Subtest 4	14.15	14.90	14.51	0
	HSUPA-Subtest 1	15.24	15.32	15.71	0
	HSUPA-Subtest 2	15.32	15.29	15.65	0
	HSUPA-Subtest 3	15.30	15.26	15.71	0
	HSUPA-Subtest 4	15.32	15.37	15.54	0
	HSUPA-Subtest 5	15.29	15.34	**15.72**	0

Band	Mode	Average Conducted Power (dBm)			MPR [dB]
		Channel			
		4 132	4 183	4 233	
		826.4 ㎒	836.6 ㎒	846.6 ㎒	
WCDMA V	RMC	**18.65**	**18.84**	**18.79**	-
	HSDPA-Subtest 1	18.55	18.56	18.54	0
	HSDPA-Subtest 2	18.30	18.14	18.29	0
	HSDPA-Subtest 3	17.90	18.13	17.86	0
	HSDPA-Subtest 4	17.91	17.91	18.06	0
	HSUPA-Subtest 1	18.44	18.45	18.49	0
	HSUPA-Subtest 2	18.01	18.03	17.98	0
	HSUPA-Subtest 3	17.76	18.50	18.49	0
	HSUPA-Subtest 4	18.32	18.36	18.38	0
	HSUPA-Subtest 5	18.43	18.47	18.45	0

9.2.2 LTE Average Conducted Output Powe

9.2.2.1 LTE Band 2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 700	18 900	19 100	
				1 860.0 ㎒	1 880.0 ㎒	1 900.0 ㎒	
20 ㎒	QPSK	1	0	**15.44**	15.16	15.51	0
		1	49	15.27	15.31	15.52	0
		1	99	15.12	**15.41**	**15.74**	0
		50	0	**14.21**	14.20	14.36	1
		50	24	14.14	14.25	14.46	1
		50	50	14.00	**14.33**	**14.60**	1
		100	0	14.26	14.35	**14.58**	1
	16QAM	1	0	14.26	14.10	14.31	1
		1	49	14.11	14.25	14.60	1
		1	99	14.16	14.38	14.58	1
		50	0	13.21	13.18	13.36	2
		50	24	13.14	13.25	13.50	2
		50	50	13.05	13.33	13.64	2
		100	0	13.18	13.42	13.84	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 675	18 900	19 125	
				1 857.5 ㎒	1 880.0 ㎒	1 902.5 ㎒	
15 ㎒	QPSK	1	0	15.26	15.15	15.45	0
		1	36	15.30	15.63	15.59	0
		1	74	15.10	15.37	15.61	0
		36	0	14.22	14.16	14.40	1
		36	18	14.25	14.27	14.53	1
		36	37	14.16	14.30	14.60	1
		75	0	14.16	14.27	14.68	1
	16QAM	1	0	14.53	14.43	14.51	1
		1	36	14.53	14.42	14.68	1
		1	74	14.36	14.53	14.78	1
		36	0	13.23	13.24	13.38	2
		36	18	13.26	13.34	13.58	2
		36	37	13.12	13.39	13.58	2
		75	0	13.23	13.36	13.75	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 650	18 900	19 150	
				1 855.0 MHz	1 880.0 MHz	1 905.0 MHz	
10 MHz	QPSK	1	0	15.30	15.29	15.68	0
		1	25	15.26	15.37	15.70	0
		1	49	15.25	15.46	15.83	0
		25	0	14.28	14.27	14.55	1
		25	12	14.23	14.32	14.53	1
		25	25	14.23	14.31	14.57	1
		50	0	14.18	14.26	14.56	1
	16QAM	1	0	14.67	14.37	14.56	1
		1	25	14.64	14.48	14.57	1
		1	49	14.59	14.52	14.68	1
		25	0	13.31	13.32	13.62	2
		25	12	13.25	13.37	13.61	2
		25	25	13.26	13.35	13.66	2
		50	0	13.25	13.39	13.59	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 625	18 900	19 175	
				1 852.5 MHz	1 880.0 MHz	1 907.5 MHz	
5 MHz	QPSK	1	0	15.37	15.29	15.51	0
		1	12	15.34	15.24	15.57	0
		1	24	15.34	15.28	15.59	0
		12	0	14.16	14.24	14.58	1
		12	7	14.18	14.22	14.56	1
		12	13	14.13	14.25	14.57	1
		25	0	14.19	14.26	14.53	1
	16QAM	1	0	14.57	14.57	14.69	1
		1	12	14.52	14.58	14.76	1
		1	24	14.52	14.51	14.73	1
		12	0	13.09	13.26	13.51	2
		12	7	13.11	13.25	13.65	2
		12	13	13.15	13.28	13.59	2
		25	0	13.22	13.36	13.51	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 615	18 900	19 185	
				1 851.5 MHz	1 880.0 MHz	1 908.5 MHz	
3 MHz	QPSK	1	0	15.24	15.35	15.68	0
		1	8	15.25	15.39	15.74	0
		1	14	15.22	15.37	15.66	0
		8	0	14.15	14.27	14.56	1
		8	4	14.16	14.26	14.56	1
		8	7	14.16	14.28	14.52	1
		15	0	14.13	14.26	14.60	1
	16QAM	1	0	14.25	14.45	14.85	1
		1	8	14.29	14.48	14.97	1
		1	14	14.31	14.47	14.97	1
		8	0	13.18	13.33	13.56	2
		8	4	13.17	13.31	13.56	2
		8	7	13.23	13.34	13.50	2
		15	0	13.22	13.40	13.60	2

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				18 607	18 900	19 193	
				1 850.7 ㎒	1 880.0 ㎒	1 909.3 ㎒	
1.4 ㎒	QPSK	1	0	15.38	15.35	15.64	0
		1	3	15.33	15.32	15.59	0
		1	5	15.33	15.29	15.64	0
		3	0	15.29	15.30	15.59	0
		3	1	15.24	15.30	15.58	0
		3	3	15.26	15.30	15.60	0
		6	0	14.15	14.19	14.52	1
	16QAM	1	0	14.33	14.57	14.88	1
		1	3	14.31	14.63	14.84	1
		1	5	14.31	14.56	14.87	1
		3	0	14.23	14.26	14.66	1
		3	1	14.15	14.27	14.58	1
		3	3	14.17	14.26	14.59	1
		6	0	13.09	13.17	13.43	2

9.2.2.2 LTE Band 5

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				20 525	
				836.5 ㎒	
10 ㎒	QPSK	1	0	**18.68**	0
		1	25	18.50	0
		1	49	18.48	0
		25	0	18.47	0
		25	12	18.45	0
		25	25	**18.56**	0
		50	0	**18.46**	0
	16QAM	1	0	18.35	0
		1	25	18.43	0
		1	49	18.47	0
		25	0	18.34	0
		25	12	18.35	0
		25	25	18.37	0
		50	0	18.35	0

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 425	20 525	20 625	
				826.5 ㎒	836.5 ㎒	846.5 ㎒	
5 ㎒	QPSK	1	0	18.31	18.43	18.42	0
		1	12	18.30	18.42	18.36	0
		1	24	18.37	18.50	18.38	0
		12	0	18.24	18.38	18.35	0
		12	7	18.26	18.38	18.31	0
		12	13	18.25	18.42	18.27	0
		25	0	18.30	18.42	18.40	0
	16QAM	1	0	18.29	18.61	18.51	0
		1	12	18.30	18.58	18.43	0
		1	24	18.34	18.64	18.51	0
		12	0	18.26	18.42	18.26	0
		12	7	18.26	18.42	18.18	0
		12	13	18.24	18.44	18.13	0
		25	0	18.34	18.49	18.34	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 ㎒	836.5 ㎒	848.3 ㎒	
3 ㎒	QPSK	1	0	18.19	18.37	18.36	0
		1	8	18.24	18.41	18.35	0
		1	14	18.25	18.39	18.36	0
		8	0	18.20	18.37	18.30	0
		8	4	18.22	18.38	18.22	0
		8	7	18.21	18.40	18.24	0
		15	0	18.25	18.38	18.36	0
	16QAM	1	0	18.39	18.51	18.47	0
		1	8	18.43	18.51	18.45	0
		1	14	18.42	18.51	18.51	0
		8	0	18.31	18.37	18.37	0
		8	4	18.26	18.37	18.29	0
		8	7	18.25	18.50	18.36	0
		15	0	18.26	18.45	18.34	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 407	20 525	20 643	
				824.7 ㎒	836.5 ㎒	848.3 ㎒	
1.4 ㎒	QPSK	1	0	18.26	18.29	18.35	0
		1	3	18.13	18.22	18.32	0
		1	5	18.21	18.36	18.39	0
		3	0	18.22	18.36	18.30	0
		3	1	18.22	18.37	18.31	0
		3	3	18.19	18.42	18.32	0
		6	0	18.21	18.41	18.33	0
	16QAM	1	0	18.34	18.53	18.33	0
		1	3	18.28	18.50	18.33	0
		1	5	18.40	18.55	18.40	0
		3	0	18.34	18.48	18.33	0
		3	1	18.32	18.47	18.32	0
		3	3	18.30	18.49	18.34	0
		6	0	18.21	18.46	18.15	0

9.2.2.3 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 095 707.5 ㎒	MPR
10 ㎒	QPSK	1	0	**18.39**	0
		1	25	18.37	0
		1	49	18.31	0
		25	0	**18.38**	0
		25	12	18.33	0
		25	25	18.36	0
		50	0	**18.35**	0
	16QAM	1	0	18.22	0
		1	25	18.23	0
		1	49	18.14	0
		25	0	17.97	0
		25	12	17.92	0
		25	25	17.85	0
		50	0	18.01	0

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 035 701.5 ㎒	23 095 707.5 ㎒	23 155 713.5 ㎒	MPR
5 ㎒	QPSK	1	0	18.06	18.07	17.97	0
		1	12	18.08	18.02	17.84	0
		1	24	18.14	18.00	17.89	0
		12	0	17.93	17.99	17.72	0
		12	7	17.98	17.96	17.77	0
		12	13	18.04	17.98	17.84	0
		25	0	18.03	18.01	17.77	0
	16QAM	1	0	18.19	18.25	18.29	0
		1	12	18.14	18.16	18.04	0
		1	24	18.18	18.20	18.26	0
		12	0	18.04	17.98	17.87	0
		12	7	17.99	17.96	17.88	0
		12	13	18.08	17.99	17.88	0
		25	0	17.96	18.04	17.83	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	18.10	18.26	17.99	0
		1	8	18.14	18.22	18.02	0
		1	14	18.14	18.17	18.05	0
		8	0	18.04	18.10	17.88	0
		8	4	18.00	18.08	17.83	0
		8	7	18.05	18.07	17.85	0
		15	0	18.05	18.13	17.98	0
	16QAM	1	0	18.24	18.08	18.17	0
		1	8	18.24	18.11	18.22	0
		1	14	18.25	18.05	18.15	0
		8	0	18.19	18.21	17.96	0
		8	4	18.17	18.18	17.86	0
		8	7	18.21	18.14	17.85	0
		15	0	18.23	18.16	17.90	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	17.85	17.87	17.63	0
		1	3	17.79	17.81	17.57	0
		1	5	17.87	17.86	17.68	0
		3	0	17.72	17.80	17.63	0
		3	1	17.71	17.78	17.64	0
		3	3	17.69	17.77	17.69	0
		6	0	17.74	17.79	17.68	0
	16QAM	1	0	18.10	18.24	17.61	0
		1	3	18.04	18.24	17.60	0
		1	5	18.08	18.27	17.70	0
		3	0	17.81	17.87	17.74	0
		3	1	17.87	17.90	17.73	0
		3	3	17.88	17.91	17.80	0
		6	0	17.77	17.85	17.67	0

9.2.2.4 LTE Band 13

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
10 ㎒	QPSK	1	0	18.44	0
		1	25	18.33	0
		1	49	**18.55**	0
		25	0	18.41	0
		25	12	18.41	0
		25	25	**18.50**	0
		50	0	**18.49**	0
	16QAM	1	0	18.28	0
		1	25	18.14	0
		1	49	18.30	0
		25	0	18.28	0
		25	12	18.14	0
		25	25	18.31	0
		50	0	18.42	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
5 ㎒	QPSK	1	0	18.13	0
		1	12	18.08	0
		1	24	18.25	0
		12	0	18.06	0
		12	7	18.08	0
		12	13	18.10	0
		25	0	18.12	0
	16QAM	1	0	18.23	0
		1	12	18.05	0
		1	24	18.21	0
		12	0	18.09	0
		12	7	18.10	0
		12	13	18.10	0
		25	0	18.18	0

9.2.2.5 LTE Band 66

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 MHz	1 745.0 MHz	1 770.0 MHz	
20 MHz	QPSK	1	0	16.40	**16.59**	**16.24**	0
		1	49	16.39	16.34	16.06	0
		1	99	**16.51**	16.24	16.11	0
		50	0	16.47	16.53	**16.31**	0
		50	24	16.44	16.38	16.15	0
		50	50	**16.54**	**16.57**	16.12	0
		100	0	16.51	**16.55**	16.32	0
	16QAM	1	0	16.21	16.58	16.40	0
		1	49	16.25	16.25	16.11	0
		1	99	16.40	16.19	16.17	0
		50	0	16.15	16.28	16.09	0
		50	24	16.09	16.13	15.90	0
		50	50	16.19	15.94	15.85	0
		100	0	16.37	16.32	16.14	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 MHz	1 745.0 MHz	1 772.5 MHz	
15 MHz	QPSK	1	0	16.00	16.13	15.94	0
		1	36	16.00	15.92	15.68	0
		1	74	16.10	15.63	15.84	0
		36	0	16.02	16.06	15.69	0
		36	18	15.99	15.96	15.61	0
		36	37	16.01	15.73	15.59	0
		75	0	16.17	15.99	15.72	0
	16QAM	1	0	16.18	16.42	15.79	0
		1	36	16.20	16.22	15.55	0
		1	74	16.28	15.84	15.85	0
		36	0	15.91	15.94	15.64	0
		36	18	15.85	15.84	15.54	0
		36	37	15.87	15.67	15.52	0
		75	0	16.09	15.93	15.74	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 MHz	1 745.0 MHz	1 775.0 MHz	
10 MHz	QPSK	1	0	16.18	16.33	15.97	0
		1	25	16.11	16.05	15.76	0
		1	49	16.19	15.96	16.08	0
		25	0	16.13	16.17	15.73	0
		25	12	16.05	16.02	15.71	0
		25	25	16.04	15.92	15.89	0
		50	0	16.22	16.09	15.94	0
	16QAM	1	0	16.51	16.57	15.96	0
		1	25	16.45	16.27	15.80	0
		1	49	16.57	16.18	16.11	0
		25	0	15.98	16.13	15.58	0
		25	12	15.91	15.98	15.52	0
		25	25	15.92	15.88	15.69	0
		50	0	16.15	15.96	15.91	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 MHz	1 745.0 MHz	1 777.5 MHz	
5 MHz	QPSK	1	0	16.06	16.26	15.84	0
		1	12	16.04	16.03	15.86	0
		1	24	16.10	16.10	16.12	0
		12	0	16.01	16.04	15.79	0
		12	7	16.05	15.92	15.82	0
		12	13	16.07	15.90	15.93	0
		25	0	16.20	16.04	15.95	0
	16QAM	1	0	16.22	16.32	16.05	0
		1	12	16.33	16.07	16.15	0
		1	24	16.17	16.01	16.43	0
		12	0	15.85	15.92	15.69	0
		12	7	15.89	15.79	15.71	0
		12	13	15.91	15.77	15.80	0
		25	0	16.07	15.96	15.92	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 MHz	1 745.0 MHz	1 778.5 MHz	
3 MHz	QPSK	1	0	16.31	16.41	16.30	0
		1	8	16.35	16.34	16.38	0
		1	14	16.36	16.27	16.49	0
		8	0	16.23	16.18	16.04	0
		8	4	16.21	16.04	16.06	0
		8	7	16.28	16.05	16.15	0
		15	0	16.24	16.12	16.21	0
	16QAM	1	0	16.41	16.47	16.39	0
		1	8	16.39	16.41	16.47	0
		1	14	16.42	16.34	16.56	0
		8	0	16.20	16.13	15.76	0
		8	4	16.09	16.06	15.81	0
		8	7	16.17	16.05	15.85	0
		15	0	16.16	16.05	15.93	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 ㎒	1 745.0 ㎒	1 779.3 ㎒	
1.4 ㎒	QPSK	1	0	15.68	16.19	16.03	0
		1	3	15.92	16.10	16.11	0
		1	5	15.90	16.12	16.18	0
		3	0	15.59	15.88	15.75	0
		3	1	15.59	15.86	15.76	0
		3	3	15.67	15.81	15.77	0
		6	0	15.71	15.90	16.12	0
	16QAM	1	0	16.19	16.25	16.40	0
		1	3	16.20	16.15	16.46	0
		1	5	16.19	16.20	16.55	0
		3	0	15.46	16.03	15.94	0
		3	1	15.43	15.95	15.88	0
		3	3	15.51	15.96	16.04	0
		6	0	15.74	15.89	15.88	0

10. System Verification

10.1 Tissue Verification

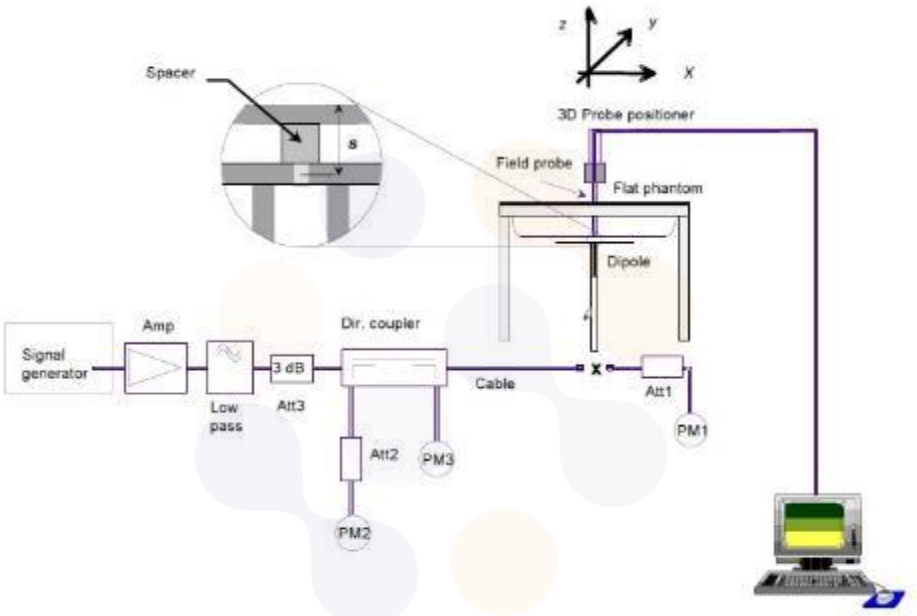
The dielectric properties for this Tissue Simulant Liquids were measured by using the SPEAG Model DAK3.5 Dielectric Probe in conjunction with Agilent E5071B Network Analyzer (300 kHz – 8 500 ㎒). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1.For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was (22 ± 2) ℃.

Freq. (MHz)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. (°C)
750.0	Recommended Limit		41.90 ± 5 % (39.81~44.00)	0.89 ± 5 % (0.85~0.93)	22 ± 2
	Measured	2022-01-03	42.63	0.92	20.64
750.0	Recommended Limit		41.90 ± 5 % (39.81~44.00)	0.89 ± 5 % (0.85~0.93)	22 ± 2
	Measured	2022-01-04	42.18	0.88	20.71
850.0	Recommended Limit		41.50 ± 5 % (39.43~43.58)	0.92 ± 5 % (0.87~0.97)	22 ± 2
	Measured	2022-01-05	40.98	0.93	20.78
1 750.0	Recommended Limit		40.07 ± 5 % (38.07~42.07)	1.37 ± 5 % (1.30~1.44)	22 ± 2
	Measured	2022-01-06	40.61	1.41	20.97
1 900.0	Recommended Limit		40.00 ± 5 % (38.00~42.00)	1.40 ± 5 % (1.33~1.47)	22 ± 2
	Measured	2022-01-07	40.33	1.41	20.78

<Table 1. Measurement result of Tissue electric parameters>

10.2 Test System Verification

The microwave circuit arrangement for system verification is sketched below picture.
The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within ± 10% from the t arget SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the Table 2. During the tests, the ambient temperature of the laboratory was in the range (22 ± 2) ℃, th e relative humidity was in the range(50 ± 20)% and the liquid depth Above the ear/grid refer ence points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Verification Kit	Probe S/N	Frequency (MHz)	Tissue Type	Limit/Measured (Normalized to 1 W)		
D750V3 SN: 1183	EX3DV4 SN: 3928	750.0	HSL	Recommended Limit 1g (Normalized)		8.36 ± 10 % (7.52~9.20)
				Measured	2022-01-03	8.40
D750V3 SN: 1183	EX3DV4 SN: 3928	750.0	HSL	Recommended Limit 1g (Normalized)		8.36 ± 10 % (7.52~9.20)
				Measured	2022-01-04	8.24
D850V2 SN: 1006	EX3DV4 SN: 3928	850.0	HSL	Recommended Limit 1g (Normalized)		9.95 ± 10 % (8.96~10.95)
				Measured	2022-01-05	9.80
D1750V2 SN:1072	EX3DV4 SN: 3928	1 750.0	HSL	Recommended Limit 1g (Normalized)		36.50 ± 10 % (32.85~40.15)
				Measured	2022-01-06	35.32
D1900V2 SN: 5d160	EX3DV4 SN: 3928	1 900.0	HSL	Recommended Limit 1g (Normalized)		41.20 ± 10 % (37.08~45.32)
				Measured	2022-01-07	39.24

<Table 2. System Verification Result>

11. SAR Test Results

11.1 Standalone Body SAR Test Results (Notebook Mode)

WCDMA Band II									
Mode	EUT Position	Distance (㎜)	Frequency (㎒)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Rear	10	1 880.0	23.11	24.00	1.227	0.900	1.104	
	Rear	10	1 852.4	22.75	24.00	1.334	0.857	**1.143**	1
	Rear	10	1 907.6	23.06	24.00	1.242	0.903	1.122	
	Grip Sensor On								
	Rear	0	1 907.6	15.85	16.00	1.035	0.631	0.653	
	Repeated SAR Test								
	Rear	10	1 907.6	23.06	24.00	1.242	0.909	1.129	

WCDMA Band V									
Mode	EUT Position	Distance (㎜)	Frequency (㎒)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Rear	10	836.6	23.83	24.50	1.167	0.710	0.829	
	Rear	10	826.4	23.68	24.50	1.208	0.757	0.914	
	Rear	10	846.6	23.71	24.50	1.199	0.671	0.805	
	Grip Sensor On								
	Rear	0	836.6	18.84	19.50	1.164	0.895	1.042	
	Rear	0	826.4	18.65	19.50	1.216	0.906	1.102	
	Rear	0	846.6	18.79	19.50	1.178	0.941	**1.108**	2
	Repeated SAR Test								
	Rear	0	846.6	18.79	19.50	1.178	0.938	1.105	

LTE Band 2									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 20M 1RB 99Offset	Rear	10	1 900.0	23.06	24.00	1.242	1.090	**1.354**	3
QPSK 20M 1RB 0Offset	Rear	10	1 860.0	22.76	24.00	1.330	0.681	0.906	
QPSK 20M 1RB 49Offset	Rear	10	1 880.0	22.91	24.00	1.285	0.716	0.920	
QPSK 20M 50RB 50Offset	Rear	10	1 900.0	21.92	23.00	1.282	0.780	1.000	
QPSK 20M 50RB 0Offset	Rear	10	1 860.0	21.51	23.00	1.409	0.558	0.786	
QPSK 20M 50RB 50Offset	Rear	10	1 880.0	21.72	23.00	1.343	0.708	0.951	
QPSK 20M 100RB 0Offset	Rear	10	1 900.0	21.88	24.00	1.629	0.825	1.344	
Grip Sensor On									
QPSK 20M 1RB 99Offset	Rear	0	1 900.0	15.74	16.00	1.062	0.690	0.733	
QPSK 20M 50RB 50Offset	Rear	0	1 900.0	14.60	15.00	1.096	0.538	0.590	
Repeated SAR Test									
QPSK 20M 1RB 99Offset	Rear	10	1 900.0	23.06	24.00	1.242	1.020	1.267	

LTE Band 5									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 0Offset	Rear	10	836.5	23.15	24.00	1.216	0.629	0.765	
QPSK 10M 25RB 25Offset	Rear	10	836.5	22.12	23.00	1.225	0.501	0.614	
Grip Sensor On									
QPSK 10M 1RB 0Offset	Rear	0	836.5	18.68	19.00	1.076	0.726	0.781	
QPSK 10M 25RB 25Offset	Rear	0	836.5	18.56	19.00	1.107	0.749	**0.829**	4
QPSK 10M 50RB 0Offset	Rear	0	836.5	18.46	19.00	1.132	0.715	0.809	

LTE Band 12									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 0Offset	Rear	10	707.5	22.89	24.00	1.291	0.416	0.537	
QPSK 10M 25RB 0Offset	Rear	10	707.5	21.91	23.00	1.285	0.330	0.424	
Grip Sensor On									
QPSK 10M 1RB 0Offset	Rear	0	707.5	18.39	19.00	1.151	0.786	0.905	
QPSK 10M 25RB 0Offset	Rear	0	707.5	18.38	19.00	1.153	0.809	0.933	
QPSK 10M 50RB 0Offset	Rear	0	707.5	18.35	19.00	1.161	0.824	**0.957**	5
Repeated SAR Test									
QPSK 10M 50RB 0Offset	Rear	0	707.5	18.35	19.00	1.161	0.794	0.922	

LTE Band 13									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 49Offset	Rear	10	782.0	23.21	24.00	1.199	0.656	0.787	
QPSK 10M 25RB 25Offset	Rear	10	782.0	22.19	23.00	1.205	0.544	0.656	
Grip Sensor On									
QPSK 10M 1RB 49Offset	Rear	0	782.0	18.55	19.00	1.109	0.887	0.984	
QPSK 10M 25RB 25Offset	Rear	0	782.0	18.50	19.00	1.122	0.904	1.014	
QPSK 10M 50RB 0Offset	Rear	0	782.0	18.49	19.00	1.125	0.917	**1.032**	6
Repeated SAR Test									
QPSK 10M 50RB 0Offset	Rear	0	782.0	18.49	19.00	1.125	0.897	1.009	

LTE Band 66									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 20M 1RB 0Offset	Rear	10	1 745.0	23.35	24.00	1.161	0.745	0.865	
QPSK 20M 1RB 99Offset	Rear	10	1 720.0	23.28	24.00	1.180	0.792	**0.935**	7
QPSK 20M 1RB 0Offset	Rear	10	1 770.0	23.20	24.00	1.202	0.773	0.929	
QPSK 20M 50RB 50Offset	Rear	10	1 745.0	22.30	23.00	1.175	0.640	0.752	
QPSK 20M 100RB 0Offset	Rear	10	1 745.0	22.26	23.00	1.186	0.678	0.804	
Grip Sensor On									
QPSK 20M 1RB 0Offset	Rear	0	1 745.0	16.59	17.00	1.099	0.351	0.386	
QPSK 20M 50RB 50Offset	Rear	0	1 745.0	16.57	17.00	1.104	0.356	0.393	

11.2 Standalone Body SAR Test Results (Tablet Mode)

WCDMA Band II									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Rear	0	1 907.6	15.85	16.00	1.035	1.310	**1.356**	8
	Rear	0	1 880.0	15.81	16.00	1.045	1.190	1.244	
	Rear	0	1 852.4	15.34	16.00	1.164	1.060	1.234	
	Right	0	1 907.6	15.85	16.00	1.035	0.136	0.141	
	Top	0	1 907.6	15.85	16.00	1.035	0.152	0.157	
	Repeated SAR Test								
	Rear	0	1 907.6	15.85	16.00	1.035	1.270	1.314	
Additional SAR Test									
HSDPA Sub-test 1	Rear	0	1 907.6	15.61	16.00	1.094	1.190	1.302	
HSUPA Sub-test 5	Rear	0	1 907.6	15.72	16.00	1.067	1.020	1.088	

WCDMA Band V									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Rear	0	836.6	18.84	19.50	1.164	0.952	1.108	
	Rear	0	826.4	18.65	19.50	1.216	0.942	1.145	
	Rear	0	846.6	18.79	19.50	1.178	1.010	**1.190**	9
	Right	0	836.6	18.84	19.50	1.164	0.089	0.104	
	Top	0	836.6	18.84	19.50	1.164	0.056	0.065	
	Repeated SAR Test								
	Rear	0	846.6	18.79	19.50	1.178	0.971	1.144	

LTE Band 2									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 20M 1RB 99Offset	Rear	0	1 900.0	15.74	16.00	1.062	1.290	**1.370**	10
QPSK 20M 1RB 0Offset	Rear	0	1 860.0	15.44	16.00	1.138	0.842	0.958	
QPSK 20M 1RB 99Offset	Rear	0	1 880.0	15.41	16.00	1.146	1.080	1.238	
QPSK 20M 50RB 50Offset	Rear	0	1 900.0	14.60	15.00	1.096	1.070	1.173	
QPSK 20M 50RB 0Offset	Rear	0	1 860.0	14.21	15.00	1.199	0.815	0.977	
QPSK 20M 50RB 50Offset	Rear	0	1 880.0	14.33	15.00	1.167	0.952	1.111	
QPSK 20M 100RB 0Offset	Rear	0	1 900.0	14.58	15.00	1.102	1.140	1.256	
QPSK 20M 1RB 99Offset	Right	0	1 900.0	15.74	16.00	1.062	0.208	0.221	
QPSK 20M 50RB 50Offset	Right	0	1 900.0	14.60	15.00	1.096	0.160	0.175	
QPSK 20M 1RB 99Offset	Top	0	1 900.0	15.74	16.00	1.062	0.162	0.172	
QPSK 20M 50RB 50Offset	Top	0	1 900.0	14.60	15.00	1.096	0.124	0.136	
Repeated SAR Test									
QPSK 20M 1RB 99Offset	Rear	0	1 900.0	15.74	16.00	1.062	1.220	1.296	

LTE Band 5									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 0Offset	Rear	0	836.5	18.68	19.00	1.076	0.781	0.840	
QPSK 10M 25RB 25Offset	Rear	0	836.5	18.56	19.00	1.107	0.834	**0.923**	11
QPSK 10M 50RB 0Offset	Rear	0	836.5	18.46	19.00	1.132	0.733	0.830	
QPSK 10M 1RB 0Offset	Right	0	836.5	18.68	19.00	1.076	0.056	0.060	
QPSK 10M 25RB 25Offset	Right	0	836.5	18.56	19.00	1.107	0.064	0.071	
QPSK 10M 1RB 0Offset	Top	0	836.5	18.68	19.00	1.076	0.051	0.055	
QPSK 10M 25RB 25Offset	Top	0	836.5	18.56	19.00	1.107	0.051	0.056	
Repeated SAR Test									
QPSK 10M 25RB 25Offset	Rear	0	836.5	18.56	19.00	1.107	0.810	0.897	

LTE Band 12									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 0Offset	Rear	0	707.5	18.39	19.00	1.151	0.656	**0.755**	12
QPSK 10M 25RB 0Offset	Rear	0	707.5	18.38	19.00	1.153	0.653	0.753	
QPSK 10M 1RB 0Offset	Right	0	707.5	18.39	19.00	1.151	0.123	0.142	
QPSK 10M 25RB 0Offset	Right	0	707.5	18.38	19.00	1.153	0.119	0.137	
QPSK 10M 1RB 0Offset	Top	0	707.5	18.39	19.00	1.151	0.081	0.093	
QPSK 10M 25RB 0Offset	Top	0	707.5	18.38	19.00	1.153	0.080	0.092	

LTE Band 13									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 10M 1RB 49Offset	Rear	0	782.0	18.55	19.00	1.109	0.577	0.640	
QPSK 10M 25RB 25Offset	Rear	0	782.0	18.50	19.00	1.122	0.571	**0.641**	13
QPSK 10M 1RB 49Offset	Right	0	782.0	18.55	19.00	1.109	0.077	0.085	
QPSK 10M 25RB 25Offset	Right	0	782.0	18.50	19.00	1.122	0.071	0.080	
QPSK 10M 1RB 49Offset	Top	0	782.0	18.55	19.00	1.109	0.026	0.029	
QPSK 10M 25RB 25Offset	Top	0	782.0	18.50	19.00	1.122	0.023	0.026	

LTE Band 66									
Mode	**EUT Position**	**Distance (㎜)**	**Frequency (㎒)**	**Measured Conducted Power (dB m)**	**Max. Tune-up Power (dB m)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
QPSK 20M 1RB 0Offset	Rear	0	1 745.0	16.59	17.00	1.099	0.728	0.800	
QPSK 20M 1RB 99Offset	Rear	0	1 720.0	16.51	17.00	1.119	0.665	0.744	
QPSK 20M 1RB 0Offset	Rear	0	1 770.0	16.24	17.00	1.191	0.673	0.802	
QPSK 20M 50RB 50Offset	Rear	0	1 745.0	16.57	17.00	1.104	0.740	0.817	
QPSK 20M 50RB 50Offset	Rear	0	1 720.0	16.54	17.00	1.112	0.619	0.688	
QPSK 20M 50RB 00Offset	Rear	0	1 770.0	16.31	17.00	1.172	0.890	**1.043**	14
QPSK 20M 100RB 0Offset	Rear	0	1 745.0	16.55	17.00	1.109	0.798	0.885	
QPSK 20M 1RB 0Offset	Right	0	1 745.0	16.59	17.00	1.099	0.024	0.026	
QPSK 20M 50RB 50Offset	Right	0	1 745.0	16.57	17.00	1.104	0.037	0.041	
QPSK 20M 1RB 0Offset	Top	0	1 745.0	16.59	17.00	1.099	0.032	0.035	
QPSK 20M 50RB 50Offset	Top	0	1 745.0	16.57	17.00	1.104	0.026	0.029	
Repeated SAR Test									
QPSK 20M 50RB 0Offset	Rear	0	1 770.0	16.31	17.00	1.172	0.884	1.036	

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. All modes of operation were investigated, and worst-case results are reported.
3. Battery is fully charged for all readings and the standard batteries are the only options.
4. Liquid tissue depth was at least 15 cm.
5. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.

WCDMA Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01.
2. 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. Otherwise, SAR measurement is required for the secondary mode(HSUPA, HSDPA).
3. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

LTE Notes:

1. Justification Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
6. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator.
7. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
8. For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

12. Simultaneous Transmission

12.1 #Simultaneous Transmission Configurations

No.	Scenario	Operation
1	WCDMA/LTE + Bluetooth Aux	Yes
2	WCDMA/LTE + WLAN 2.4 ㎓ Aux + Bluetooth Aux	No
3	WCDMA/LTE + WLAN 2.4 ㎓ Main + WLAN 2.4 ㎓ Aux + Bluetooth Aux	No
4	WCDMA/LTE + WLAN 5 ㎓ Main + Bluetooth Aux	No
5	WCDMA/LTE + WLAN 5 ㎓ Aux + Bluetooth Aux	No
6	WCDMA/LTE + WLAN 5 ㎓ Main + WLAN 5 ㎓ Aux + Bluetooth Aux	No
7	WCDMA/LTE + WLAN 2.4 ㎓ Main + WLAN 5 ㎓ Aux + Bluetooth Aux	No
8	WCDMA/LTE + WLAN 5 ㎓ Main + WLAN 2.4 ㎓ Aux + Bluetooth Aux	No

Notes:

- It does not to transmit simultaneously the Bluetooth and WLAN 2.4 ㎓ Aux.
- It is to use the Bluetooth and WLAN same antenna path.

12.2 Estimated SAR

When standalone SAR is not required to be measured, SAR must also be estimated to determine simultaneous transmission SAR test exclusion.
[Tablet Mode]

Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					Estimated 1g SAR Value (W/kg)				
		dBm	mW	Rear	Left	Right	Top	Bottom	Rear	Left	Right	Top	Bottom
WCDMA Band II	1 907.6	16.00	40	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
WCDMA Band V	846.6	19.50	89	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
LTE Band 2	1 909.3	16.00	40	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
LTE Band 5	848.3	19.00	79	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
LTE Band 12	715.3	19.00	79	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
LTE Band 13	784.5	19.00	79	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
LTE Band 66	1 779.3	17.00	50	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
WCDMA Band II	1 907.6	19.50	89	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400
WCDMA Band V	846.6	16.00	40	5	227	7	5	150	Measure	0.400	Measure	Measure	0.400

Notes:

- For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.
- Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
- If the antenna separation distance is > 50mm then the estimated SAR value is 0.4 W/Kg.
- Formulas round separation distance to nearest mm and power to nearest mW before calculating estimated SAR or determining if SAR is excluded.
- Refer to the WLAN and Bluetooth report for the Bluetooth value. (FCC ID: PD9AX201D2W, Report No: KR22-SPF0005)

12.3 Simultaneous Transmission Analysis

Exposure Condition (Body) /Position		licensed [①]	Bluetooth [②]	Summation [①+②]
WCDMA Band II				
Notebook	Rear	1.143	0.308	1.451
Tablet	Rear	1.356	0.218	1.574
	Left	0.400	0.400	0.800
	Right	0.141	0.400	0.541
	Top	0.157	0.047	0.204
	Bottom	0.400	0.400	0.800
WCDMA Band V				
Notebook	Rear	1.108	0.308	1.416
Tablet	Rear	1.190	0.218	1.408
	Left	0.400	0.400	0.800
	Right	0.104	0.400	0.504
	Top	0.065	0.047	0.112
	Bottom	0.400	0.400	0.800
LTE Band 2				
Notebook	Rear	1.354	0.308	1.662
Tablet	Rear	1.370	0.218	**1.588**
	Left	0.400	0.400	0.800
	Right	0.221	0.400	0.621
	Top	0.172	0.047	0.219
	Bottom	0.400	0.400	0.800
LTE Band 5				
Notebook	Rear	0.829	0.308	1.137
Tablet	Rear	0.923	0.218	1.141
	Left	0.400	0.400	0.800
	Right	0.071	0.400	0.471
	Top	0.056	0.047	0.103
	Bottom	0.400	0.400	0.800
LTE Band 12				
Notebook	Rear	0.957	0.308	1.265
Tablet	Rear	0.755	0.218	0.973
	Left	0.400	0.400	0.800
	Right	0.142	0.400	0.542
	Top	0.093	0.047	0.140
	Bottom	0.400	0.400	0.800
LTE Band 13				
Notebook	Rear	1.032	0.308	1.340
Tablet	Rear	0.641	0.219	0.860
	Left	0.400	0.400	0.800
	Right	0.085	0.400	0.485
	Top	0.029	0.047	0.076
	Bottom	0.400	0.400	0.800
LTE Band 66				
Notebook	Rear	0.935	0.308	1.243
Tablet	Rear	1.043	0.218	1.261
	Left	0.400	0.400	0.800
	Right	0.041	0.400	0.441
	Top	0.035	0.047	0.082
	Bottom	0.400	0.400	0.800

Notes:

- Simultaneous transmission SAR test exclusion considerations
  Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Per KDB Publication 447498 D01v06.
- When the sum of SAR1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the SPLSR procedures is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.
- Yellow entries was verified in section 12.4 by the SPLSR.

12.4 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 (x1, y1, z1) and (x2, y2, z2) 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.

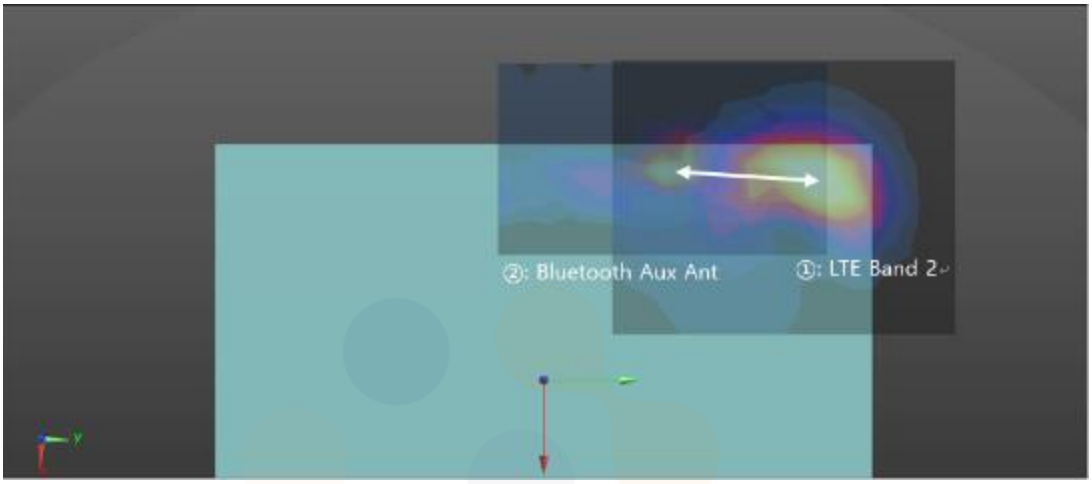
When the SPLSR is <= 0.04, <= 0.10 (10g) the simultaneous transmission SAR is not required. Otherwise, the enlarged zoom scan and volume scan post-processing procedures will be performed.

12.4.1 Maximum Simultaneous Transmission Analysis

12.4.1.1 Maximum Worst case Analysis

Exposure Condition /Position		Licensed	Bluetooth	Worst Summation		SPLSR Result
		[①]	[②]	Sum No.	[W/kg]	
Body (Notebook)	Rear	1.354	0.308	[①+②]	1.662	0.03

12.4.1.2 SPLSR Analysis

RF Exposure Condition	Mode / Ant.	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (mm)	SPLSR Result	Simultaneous Transmission SAR Test
			X	Y	Z			
Body (Notebook)	LTE Band 2	1.354	-0.08590	0.12300	-0.18100	65.65	0.03	Not Required (SPLSR < 0.04)
	Bluetooth	0.308	-0.09460	0.05800	-0.17800			
								

13. SAR Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

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

RF Exposure Conditions (Mode)	Band	Mode	EUT Position	Separation Distance (㎜)	Frequency (㎒)	Measured 1 g SAR (W/kg)	Repeated 1 g SAR (W/kg)	Ratio
Notebook	WCDMA Band II	RMC	Rear	10	1 907.6	0.903	0.909	1.01
	WCDMA Band V	RMC	Rear	0	846.6	0.941	0.938	1.00
	LTE Band 2	QPSK 20M 1RB 99Offset	Rear	10	1 900.0	1.090	1.020	0.94
	LTE Band 12	QPSK 10M 50RB 0Offset	Rear	0	707.5	0.824	0.794	1.04
	LTE Band 13	QPSK 10M 50RB 0Offset	Rear	0	782.0	0.917	0.897	1.02
Tablet	WCDMA Band II	RMC	Rear	0	1 907.6	1.310	1.270	1.03
	WCDMA Band V	RMC	Rear	0	846.6	1.010	0.971	1.04
	LTE Band 2	QPSK 20M 1RB 99Offset	Rear	0	1 900.0	1.290	1.220	1.06
	LTE Band 5	QPSK 10M 25RB 25Offset	Rear	0	836.5	0.834	0.810	1.03
	LTE Band 66	QPSK 20M 50RB 0Offset	Rear	0	1 770.0	0.890	0.884	1.01

14. Measurement Uncertainty

Per KDB 865664 D01 SAR measurement 100㎒ to 6㎓, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of *k* = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Standard 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

15. Test Equipment Information

Test Platform	SPEAG DASY5 System			
Version	DASY52: 52.10.4.1535 / SEMCAD: 14.6.14 (7501)			
Location	KCTL Inc, 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea			
Manufacture	SPEAG			
Hardware Reference				
Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
Shield Room	-	8F - 1	-	-
DASY5 Robot	TX90XL speag	F07/554JA1/A/01	-	-
Phantom	2mm Oval Phantom ELI5	1220	-	-
Phantom	2mm Oval Phantom ELI5	1173	-	-
Mounting Device	Mounting Device	-	-	-
DAE	DAE4	666	2021-01-22	2022-01-22
Probe	EX3DV4	3928	2021-02-23	2022-02-23
ESG Vector Signal Generator	E4438C	MY42080486	2021-05-10	2022-05-10
Dual Power Meter	E4419B	GB43312301	2021-05-11	2022-05-11
Power Sensor	8481H	3318A 19379	2021-05-11	2022-05-11
Power Sensor	8481H	3318A 19377	2021-05-11	2022-05-11
Attenuator	8491B 3dB	17387	2021-05-10	2022-05-10
Attenuator	8491B-6dB	MY39270294	2021-05-10	2022-05-10
Attenuator	8491B 10dB	29425	2021-05-10	2022-05-10
Power Amplifier	GRF5039	1062	2021-05-10	2022-05-10
Power Amplifier	2055-BBS3Q7E9I	1005D/C0521	2021-02-25	2022-02-25
Dual Directional Coupler	778D	16059	2021-05-10	2022-05-10
Low Pass Filter	NLP-1000+	VUU86701432	2021-05-10	2022-05-10
Low Pass Filter	LA-15N	36543	2021-05-10	2022-05-10
Low Pass Filter	LA-30N	40058	2021-05-10	2022-05-10
Dipole Validation Kits	D750V3	1183	2020-09-15	2022-09-15
Dipole Validation Kits	D850V2	1006	2020-04-21	2022-04-21
Dipole Validation Kits	D1750V2	1072	2020-04-20	2022-04-20
Dipole Validation Kits	D1900V2	5d160	2020-04-22	2022-04-22
Network Analyzer	E5071B	MY42403524	2021-02-15	2022-02-15
Wideband Radio Communication Tester	CMW500	132120	2021-05-10	2022-05-10
Dielectric Assessment Kit	DAK-3.5	1078	2021-05-26	2022-05-26
Humidity/Temp	MHB-382SD	73871	2021-05-13	2022-05-13

16. Test System Verification Results

Date: 2022-01-03

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2022-01-03.da53:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1183

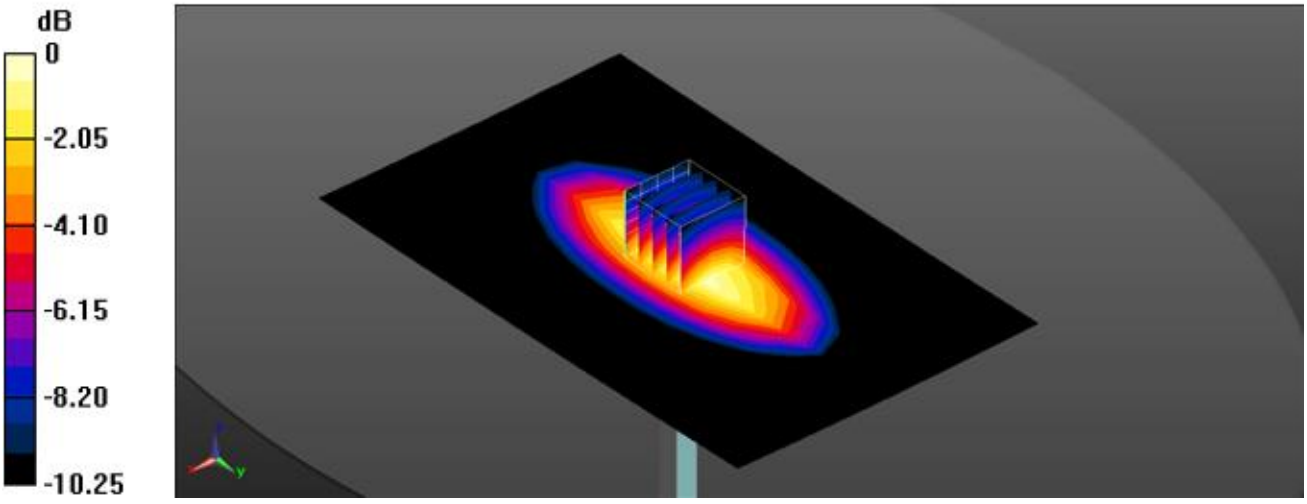
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.915 S/m; ε_r = 42.633; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 750 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/750 MHz Verification Input Power 250 mW 2022-01-03/Area Scan (11x17x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.75 W/kg

Configuration/750 MHz Verification Input Power 250 mW 2022-01-03/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 58.01 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 2.1 W/kg; SAR(10 g) = 1.4 W/kg
Smallest distance from peaks to all points 3 dB below = 17.9 mm
Ratio of SAR at M2 to SAR at M1 = 67.5%
Maximum value of SAR (measured) = 2.78 W/kg



0 dB = 2.78 W/kg = 4.44 dBW/kg

Date: 2022-01-04

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2022-01-04.da53:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1183

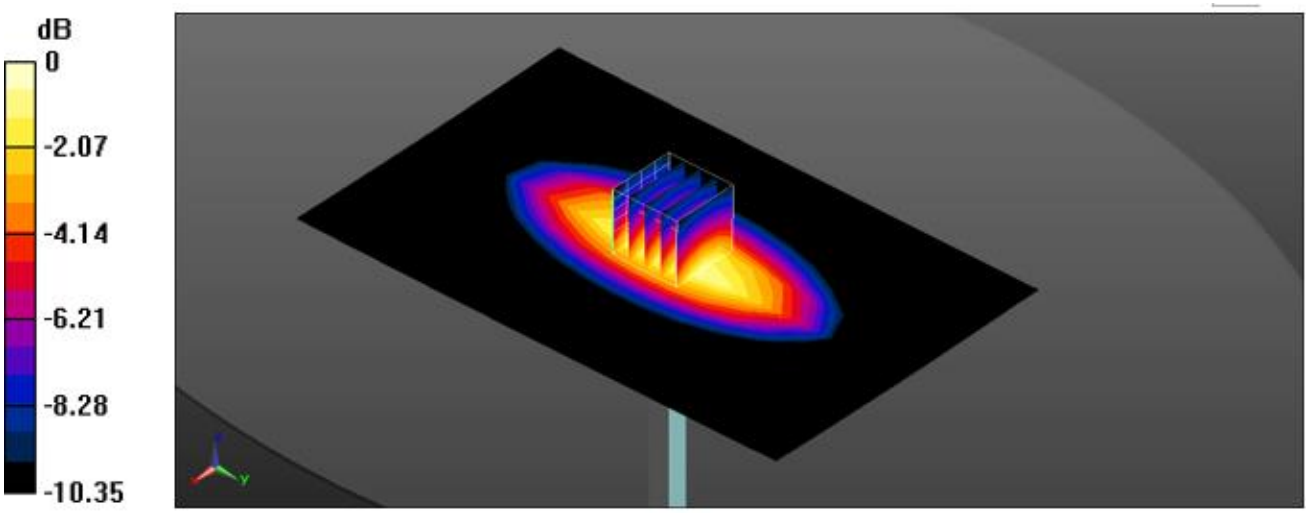
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.883 S/m; ε_r = 42.176; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 750 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/750 MHz Verification Input Power 250 mW 2022-01-04/Area Scan (11x17x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.57 W/kg

Configuration/750 MHz Verification Input Power 250 mW 2022-01-04/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.81 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.04 W/kg
SAR(1 g) = 2.06 W/kg; SAR(10 g) = 1.37 W/kg
Smallest distance from peaks to all points 3 dB below = 16.7 mm
Ratio of SAR at M2 to SAR at M1 = 67.7%
Maximum value of SAR (measured) = 2.72 W/kg



0 dB = 2.72 W/kg = 4.35 dBW/kg

Date: 2022-01-05

Test Laboratory: KCTL Inc.
File Name: 850 MHz Verification Input Power 250 mW 2022-01-05.da53:0

DUT: Dipole 850 MHz D850V2, Type: D850V2, Serial: D850V2 - SN:1006

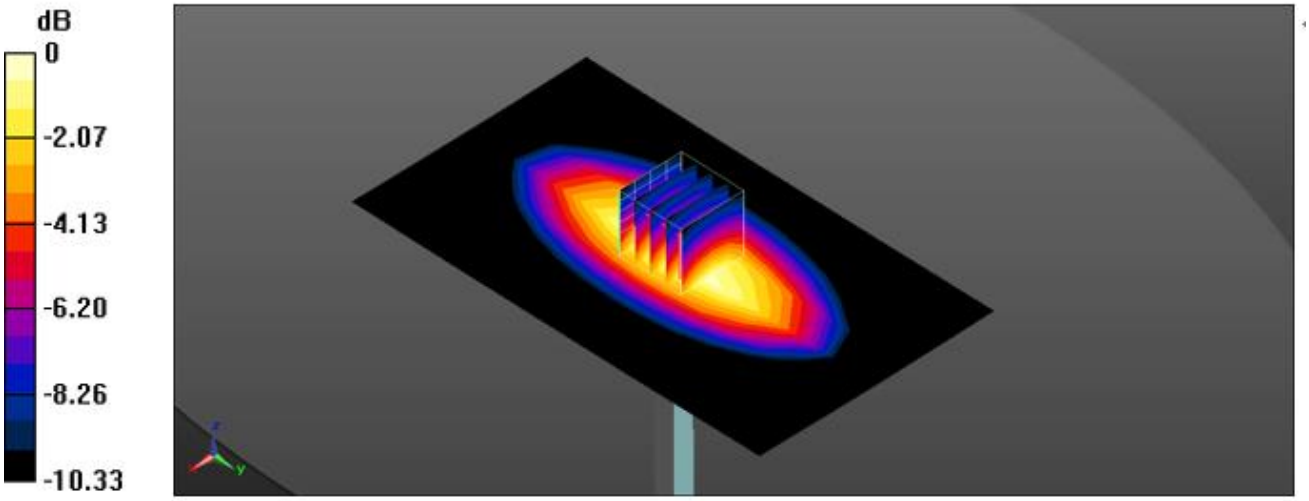
Communication System: UID 0, CW (0); Frequency: 850 MHz; Duty Cycle: 1:1
Medium parameters used: f = 850 MHz; σ = 0.927 S/m; ε_r = 40.98; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.33, 9.33, 9.33) @ 850 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/850 MHz Verification Input Power 250 mW 2022-01-05/Area Scan (9x15x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.30 W/kg

Configuration/850 MHz Verification Input Power 250 mW 2022-01-05/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 62.19 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 3.70 W/kg
SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.63 W/kg
Smallest distance from peaks to all points 3 dB below = 17.9 mm
Ratio of SAR at M2 to SAR at M1 = 66.4%
Maximum value of SAR (measured) = 3.27 W/kg



0 dB = 3.27 W/kg = 5.15 dBW/kg

Date: 2022-01-06

Test Laboratory: KCTL Inc.
File Name: 1750 MHz Verification Input Power 250 mW 2022-01-06.da5:0

DUT: Dipole 1750 MHz D1750V2, Type: D1750V2, Serial: D1750V2 - SN:1072

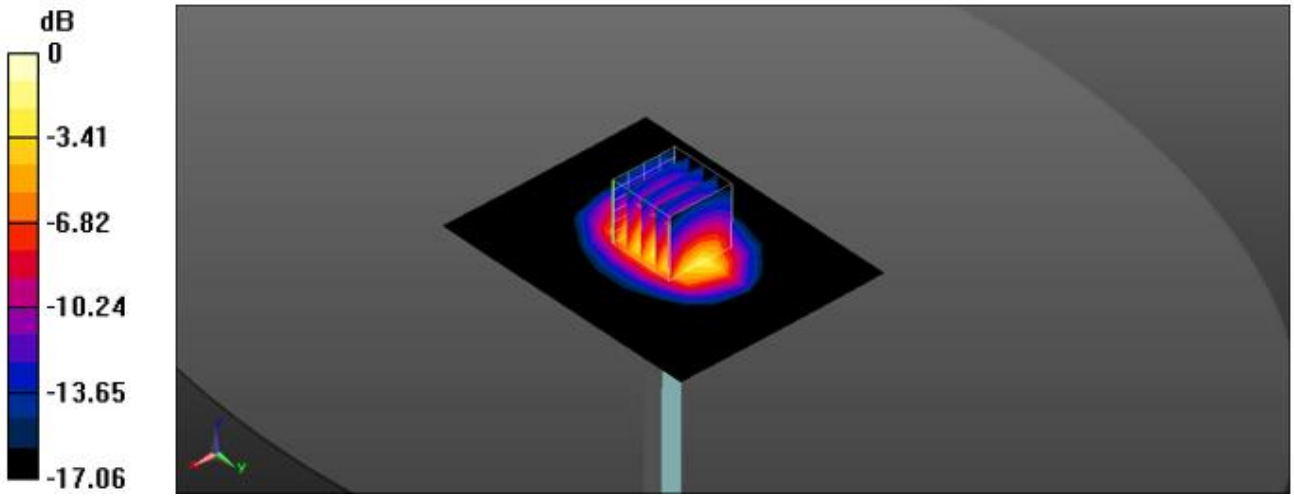
Communication System: UID 0, CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.406 S/m; ε_r = 40.608; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(8.18, 8.18, 8.18) @ 1750 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/1750 MHz Verification Input Power 250 mW 2022-01-06/Area Scan (8x10x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 12.2 W/kg

Configuration/1750 MHz Verification Input Power 250 mW 2022-01-06/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 99.97 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 16.0 W/kg
SAR(1 g) = 8.83 W/kg; SAR(10 g) = 4.73 W/kg
Smallest distance from peaks to all points 3 dB below = 9.6 mm
Ratio of SAR at M2 to SAR at M1 = 55%
Maximum value of SAR (measured) = 13.5 W/kg



0 dB = 13.5 W/kg = 11.30 dBW/kg

Date: 2022-01-07

Test Laboratory: KCTL Inc.
File Name: 1900 MHz Verification Input Power 250 mW 2022-01-07.da5:0

DUT: Dipole 1900 MHz D1900V2, Type: D1900V2, Serial: D1900V2 - SN:5d160

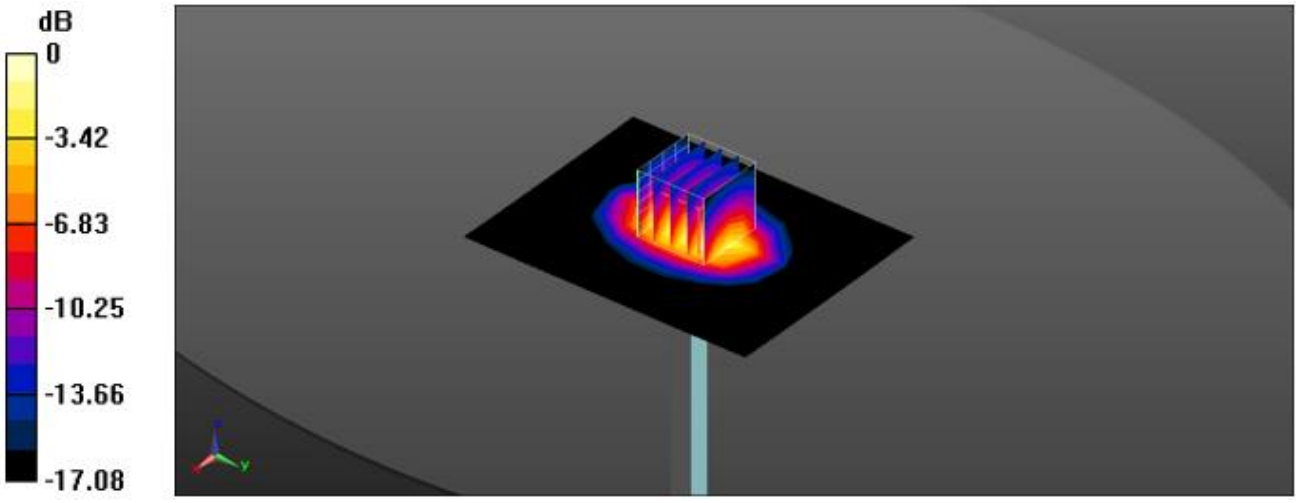
Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.412 S/m; ε_r = 40.328; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(7.87, 7.87, 7.87) @ 1900 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/1900 MHz Verification Input Power 250 mW 2022-01-07/Area Scan (8x10x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 13.4 W/kg

Configuration/1900 MHz Verification Input Power 250 mW 2022-01-07/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 102.7 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.81 W/kg; SAR(10 g) = 5.23 W/kg
Smallest distance from peaks to all points 3 dB below = 9.7 mm
Ratio of SAR at M2 to SAR at M1 = 54.1%
Maximum value of SAR (measured) = 15.2 W/kg



0 dB = 15.2 W/kg = 11.82 dBW/kg

17. Test Results

1)

Date: 2022-01-07

Test Laboratory: KCTL Inc.
File Name: 4. WCDMA_FDD_II_Notebook.da53:0

DUT: XE525QEA, Type: Notebook, Serial: 1KLK91ZRB00095P

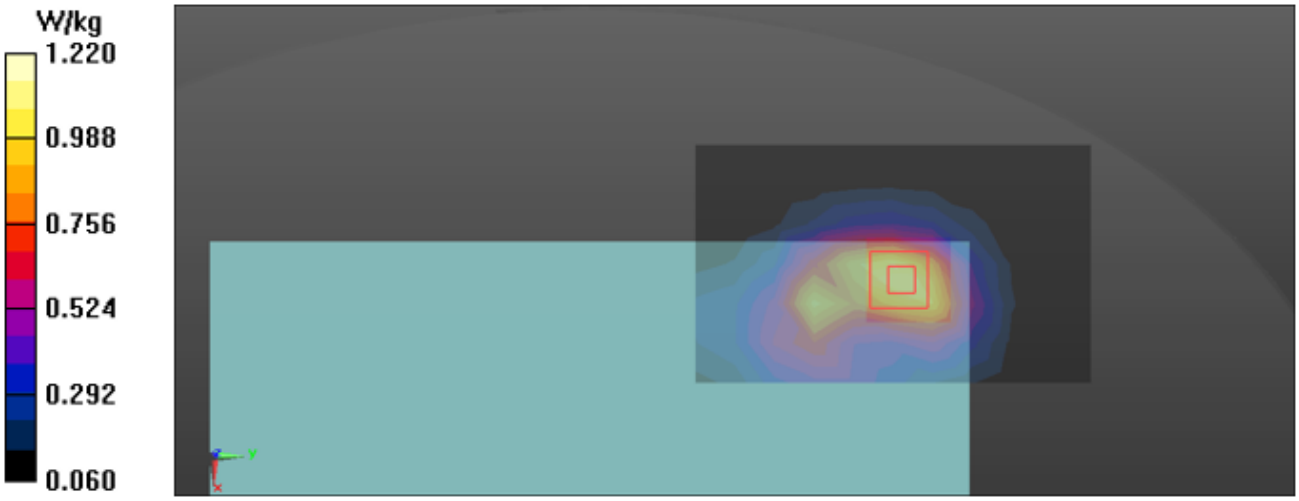
Communication System: UID 0, W-CDMA 1900 (Band 2) (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1852.4 MHz; σ = 1.36 S/m; ε_r = 40.519; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(7.87, 7.87, 7.87) @ 1852.4 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA_FDD_II_CH9262_Rear 10 mm_Grip Sensor Off/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.08 W/kg

Configuration/WCDMA_FDD_II_CH9262_Rear 10 mm_Grip Sensor Off/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.926 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.857 W/kg; SAR(10 g) = 0.514 W/kg
Smallest distance from peaks to all points 3 dB below = 15.2 mm
Ratio of SAR at M2 to SAR at M1 = 59.4%
Maximum value of SAR (measured) = 1.22 W/kg



2)

Date: 2022-01-05

Test Laboratory: KCTL Inc.
File Name: 4. WCDMA_FDD_V_Notebook.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLK91ZRB00095P

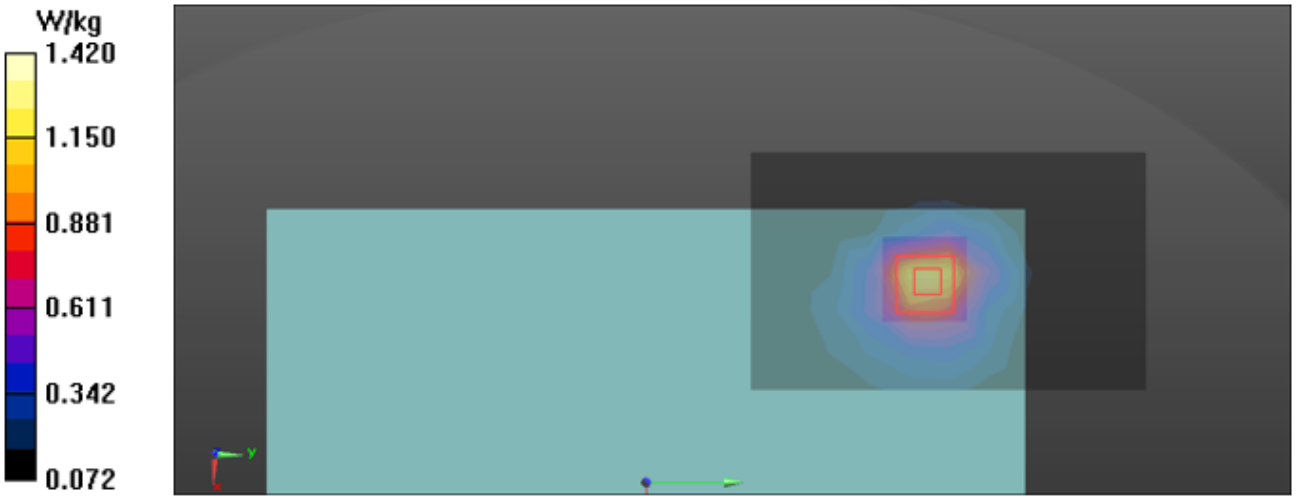
Communication System: UID 0, W-CDMA 850 (Band 5) (0); Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 846.6 MHz; σ = 0.923 S/m; ε_r = 41.001; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.33, 9.33, 9.33) @ 846.6 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA_FDD_V_CH4233_Rear 0 mm _Grip Sensor On/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.12 W/kg

Configuration/WCDMA_FDD_V_CH4233_Rear 0 mm _Grip Sensor On/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.390 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.941 W/kg; SAR(10 g) = 0.534 W/kg
Smallest distance from peaks to all points 3 dB below = 12.9 mm
Ratio of SAR at M2 to SAR at M1 = 55.2%
Maximum value of SAR (measured) = 1.42 W/kg



3)

Date: 2022-01-07

Test Laboratory: KCTL Inc.
File Name: 2. LTE Band2_QPSK_20MHz_Notebook.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLL91ZRB00078K

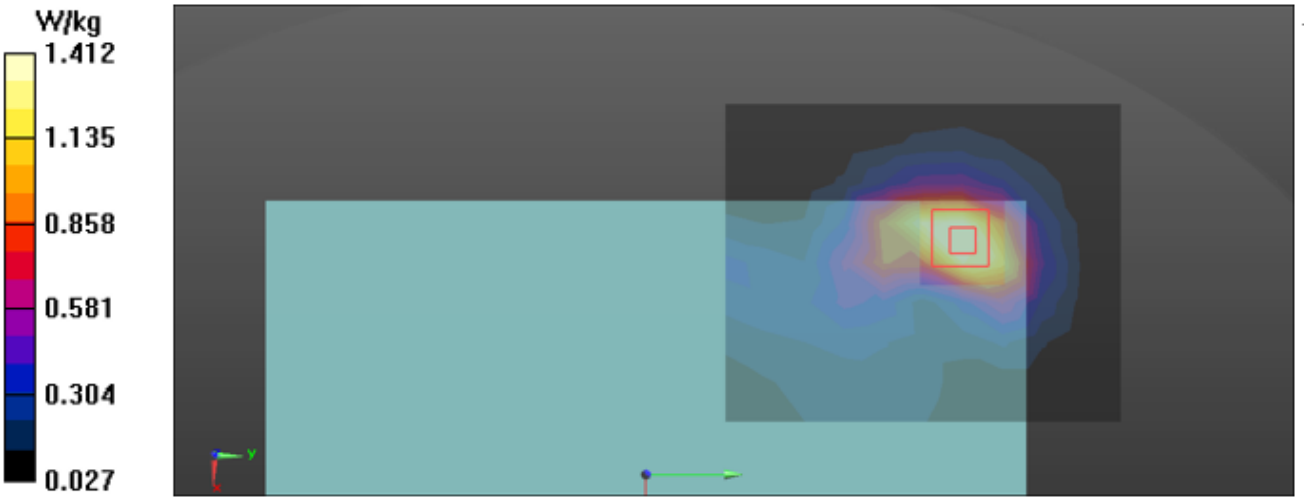
Communication System: UID 0, LTE Band 2 (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.412 S/m; ε_r = 40.328; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(7.87, 7.87, 7.87) @ 1900 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band2_QPSK_20MHz_1RB_99Offset_CH19100_Rear 10mm_Grip Sensor Off/Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.41 W/kg

Configuration/LTE Band2_QPSK_20MHz_1RB_99Offset_CH19100_Rear 10mm_Grip Sensor Off/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.33 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.88 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.645 W/kg
Smallest distance from peaks to all points 3 dB below = 13.7 mm
Ratio of SAR at M2 to SAR at M1 = 58.7%
Maximum value of SAR (measured) = 1.57 W/kg



4)

Date: 2022-01-05

Test Laboratory: KCTL Inc.
File Name: 2. LTE Band5_QPSK_10MHz_Notebook.da53:0

DUT: XE525QEA, Type: Notebook, Serial: 1KLK91ZRB00095P

Communication System: UID 0, LTE Band 5 (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.912 S/m; ε_r = 41.078; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.33, 9.33, 9.33) @ 836.5 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band5_QPSK_10MHz_25RB_25Offset_CH20525_Rear 0mm Grip Sensor On/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.17 W/kg

Configuration/LTE Band5_QPSK_10MHz_25RB_25Offset_CH20525_Rear 0mm Grip Sensor On/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.406 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.749 W/kg; SAR(10 g) = 0.424 W/kg
Smallest distance from peaks to all points 3 dB below = 12.9 mm
Ratio of SAR at M2 to SAR at M1 = 52.2%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.17 W/kg

5)

Date: 2022-01-03

Test Laboratory: KCTL Inc.
File Name: 2. LTE Band12_QPSK_10MHz_Notebook.da53:0

DUT: XE525QEA, Type: Notebook, Serial: 1KLL91ZRB00069L

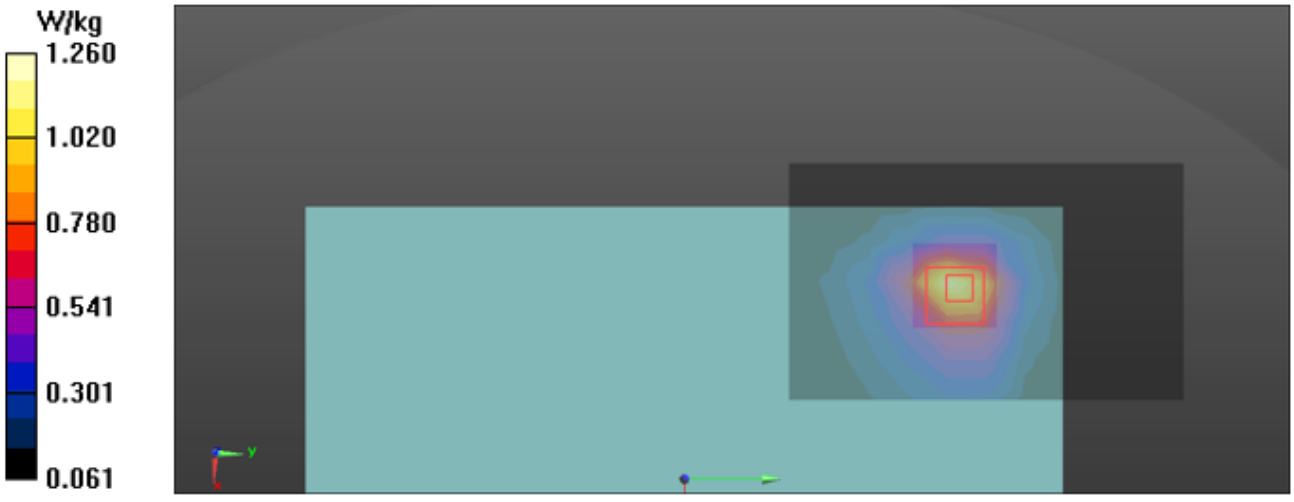
Communication System: UID 0, LTE Band 12 (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 707.5 MHz; σ = 0.875 S/m; ε_r = 43.305; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 707.5 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band12_QPSK_10MHz_50RB_0Offset_CH23095_Rear 0 mm_Grip Sensor On/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.17 W/kg

Configuration/LTE Band12_QPSK_10MHz_50RB_0Offset_CH23095_Rear 0 mm_Grip Sensor On/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.61 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.824 W/kg; SAR(10 g) = 0.488 W/kg
Smallest distance from peaks to all points 3 dB below = 12.9 mm
Ratio of SAR at M2 to SAR at M1 = 54.6%
Maximum value of SAR (measured) = 1.26 W/kg



6)

Date: 2022-01-04

Test Laboratory: KCTL Inc.
File Name: 2. LTE Band13_QPSK_10MHz_Notebook.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLL91ZRB00069L

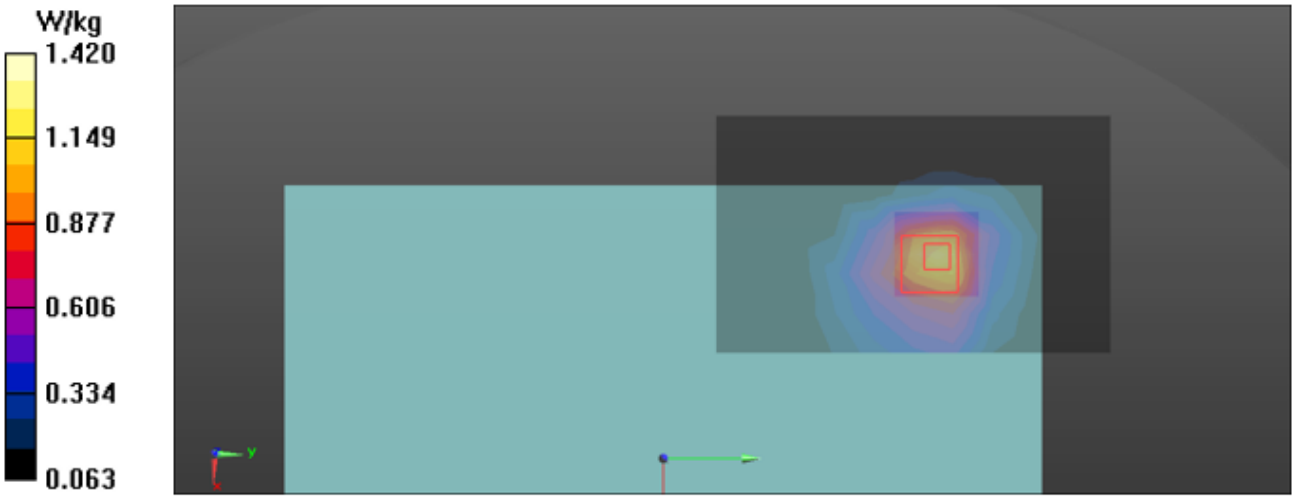
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.914 S/m; ε_r = 41.775; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 782 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band13_QPSK_10MHz_50RB_0Offset_CH23230_Rear 0 mm_Grip Sensor On/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 W/kg

Configuration/LTE Band13_QPSK_10MHz_50RB_0Offset_CH23230_Rear 0 mm_Grip Sensor On/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.168 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.917 W/kg; SAR(10 g) = 0.547 W/kg
Smallest distance from peaks to all points 3 dB below = 12.8 mm
Ratio of SAR at M2 to SAR at M1 = 53.6%
Maximum value of SAR (measured) = 1.42 W/kg



7)

Date: 2022-01-06

Test Laboratory: KCTL Inc.
File Name: 2. LTE Band66_QPSK_20MHz_Notebook.da53:0

DUT: XE525QEA, Type: Notebook, Serial: 1KLK91ZRB00095P

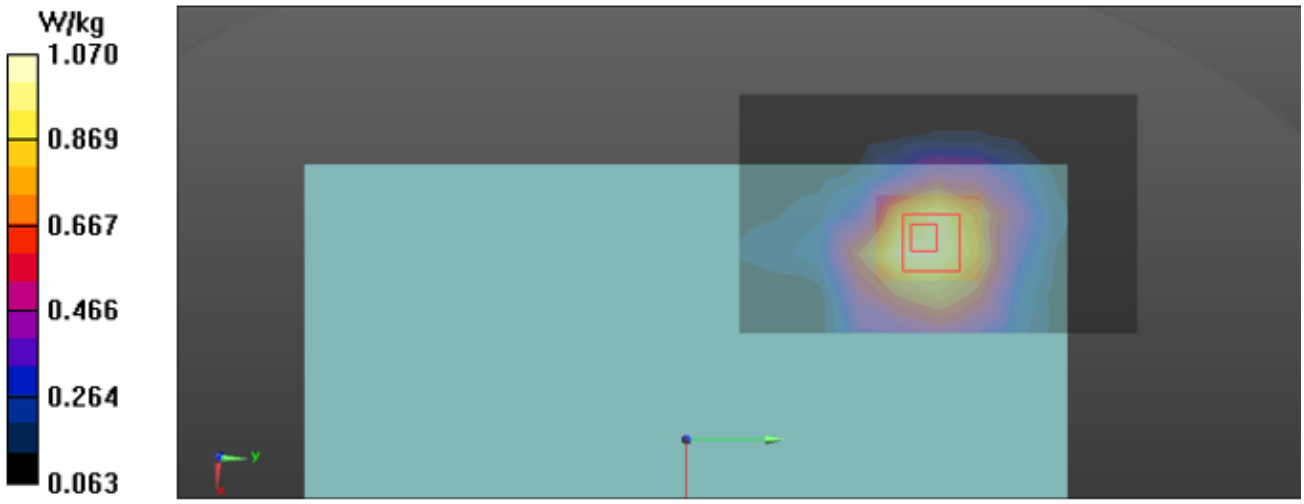
Communication System: UID 0, LTE Band 66 (0); Frequency: 1720 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1720 MHz; σ = 1.39 S/m; ε_r = 40.666; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(8.18, 8.18, 8.18) @ 1720 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band66_QPSK_20MHz_1RB_99Offset_CH132072_Rear 10 mm_Grip Sensor Off/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.02 W/kg

Configuration/LTE Band66_QPSK_20MHz_1RB_99Offset_CH132072_Rear 10 mm_Grip Sensor Off/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.461 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.521 W/kg
Smallest distance from peaks to all points 3 dB below = 20 mm
Ratio of SAR at M2 to SAR at M1 = 63.3%
Maximum value of SAR (measured) = 1.07 W/kg



8)

Date: 2022-01-07

Test Laboratory: KCTL Inc.
File Name: 3. WCDMA_FDD_II_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLK91ZRB00095P

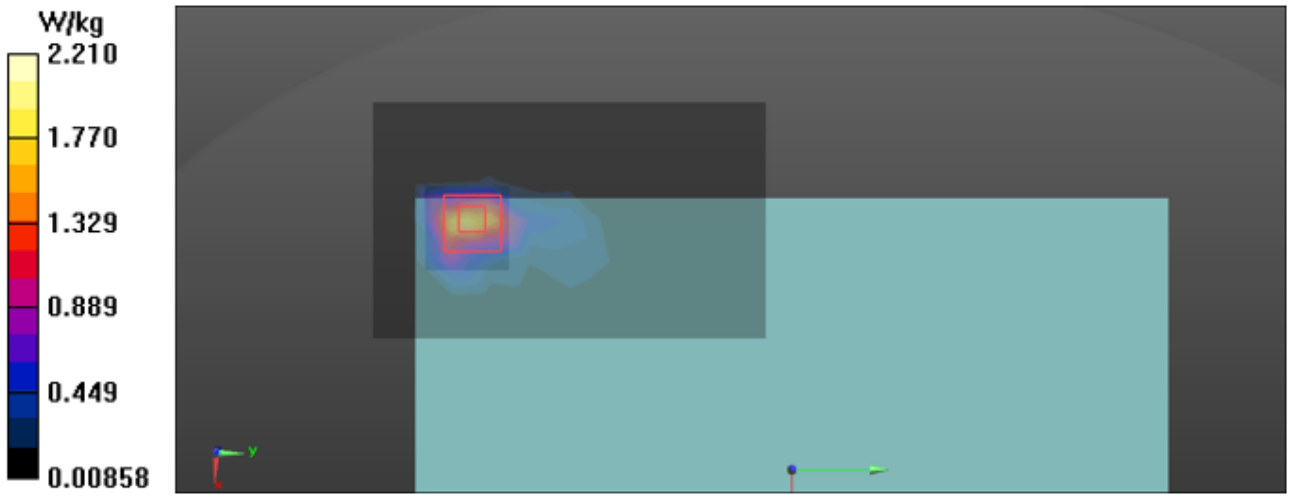
Communication System: UID 0, W-CDMA 1900 (Band 2) (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1907.6 MHz; σ = 1.416 S/m; ε_r = 40.309; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(7.87, 7.87, 7.87) @ 1907.6 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA_FDD_II_CH9538_Rear 0mm/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.73 W/kg

Configuration/WCDMA_FDD_II_CH9538_Rear 0mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 40.31 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.00 W/kg
SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.562 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 44.8%
Maximum value of SAR (measured) = 2.21 W/kg



9)

Date: 2022-01-05

Test Laboratory: KCTL Inc.
File Name: 3. WCDMA_FDD_V_Tablet .da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLK91ZRB00095P

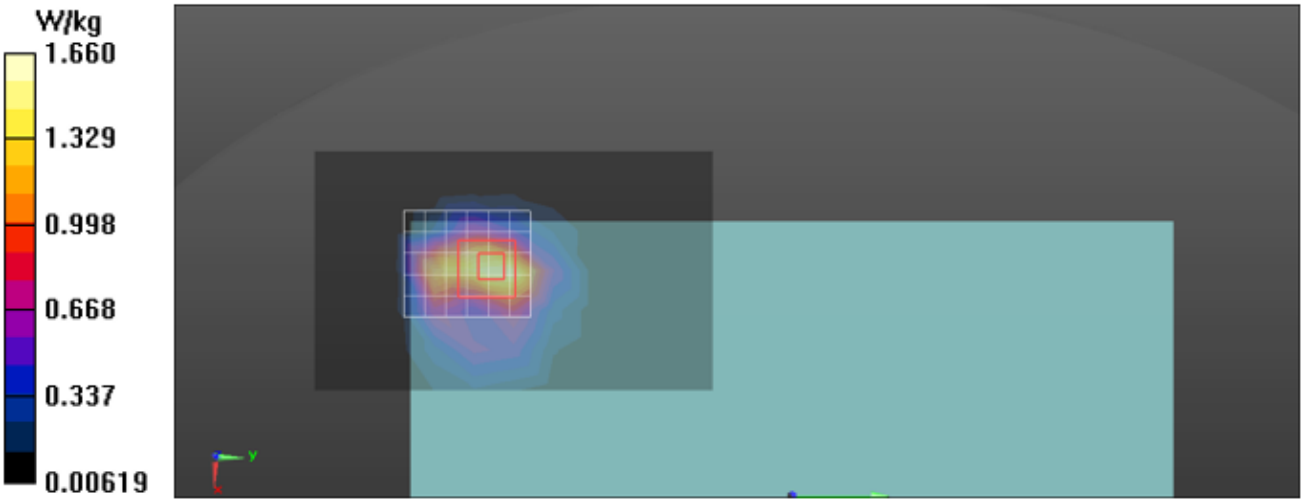
Communication System: UID 0, W-CDMA 850 (Band 5) (0); Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 846.6 MHz; σ = 0.923 S/m; ε_r = 41.001; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.33, 9.33, 9.33) @ 846.6 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA_FDD_V_CH4233_Rear 0mm/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.57 W/kg

Configuration/WCDMA_FDD_V_CH4233_Rear 0mm/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.82 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.21 W/kg
SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.531 W/kg
Smallest distance from peaks to all points 3 dB below = 8.2 mm
Ratio of SAR at M2 to SAR at M1 = 42.5%
Maximum value of SAR (measured) = 1.66 W/kg



10)

Date: 2022-01-07

Test Laboratory: KCTL Inc.
File Name: 1. LTE Band2_QPSK_20MHz_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLL91ZRB00069L

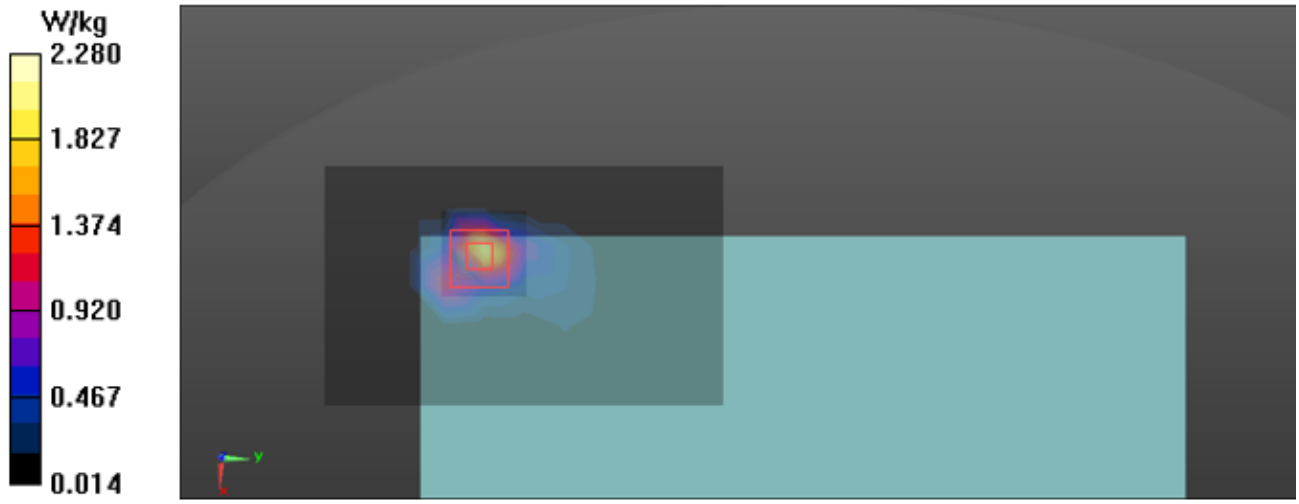
Communication System: UID 0, LTE Band 2 (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.412 S/m; ε_r = 40.328; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(7.87, 7.87, 7.87) @ 1900 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band2_QPSK_20MHz_1RB_99Offset_CH19100_Rear 0mm/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.12 W/kg

Configuration/LTE Band2_QPSK_20MHz_1RB_99Offset_CH19100_Rear 0mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 42.00 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 2.94 W/kg
SAR(1 g) = 1.29 W/kg; SAR(10 g) = 0.547 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 47.3%
Maximum value of SAR (measured) = 2.28 W/kg



11)

Date: 2022-01-05

Test Laboratory: KCTL Inc.
File Name: 1. LTE Band5_QPSK_10MHz_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLK91ZRB00095P

Communication System: UID 0, LTE Band 5 (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.912 S/m; ε_r = 41.078; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

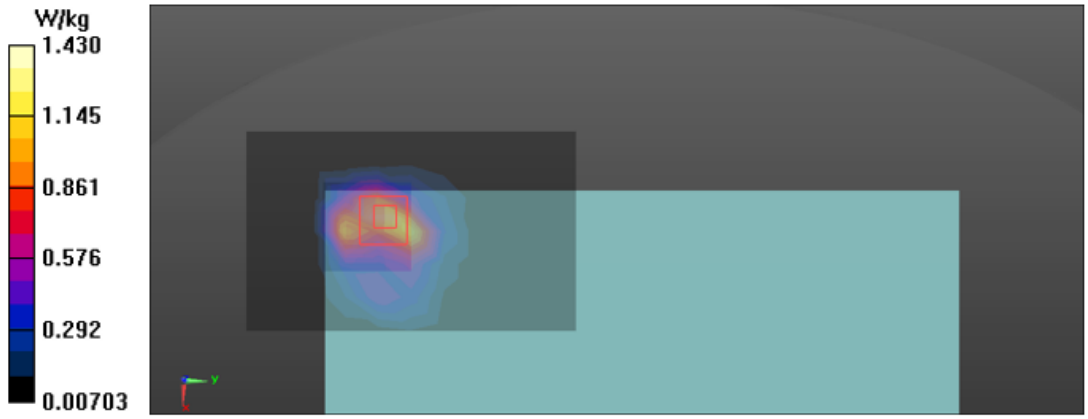
- Probe: EX3DV4 - SN3928;ConvF(9.33, 9.33, 9.33) @ 836.5 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band5_QPSK_10MHz_25RB_25Offset_CH20525_Rear 0mm/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.15 W/kg

Configuration/LTE Band5_QPSK_10MHz_25RB_25Offset_CH20525_Rear 0mm/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.32 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 0.834 W/kg; SAR(10 g) = 0.423 W/kg
Smallest distance from peaks to all points 3 dB below = 8.6 mm
Ratio of SAR at M2 to SAR at M1 = 45.7%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.43 W/kg



12)

Date: 2022-01-03

Test Laboratory: KCTL Inc.
File Name: 1. LTE Band12_QPSK_10MHz_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLL91ZRB00069L

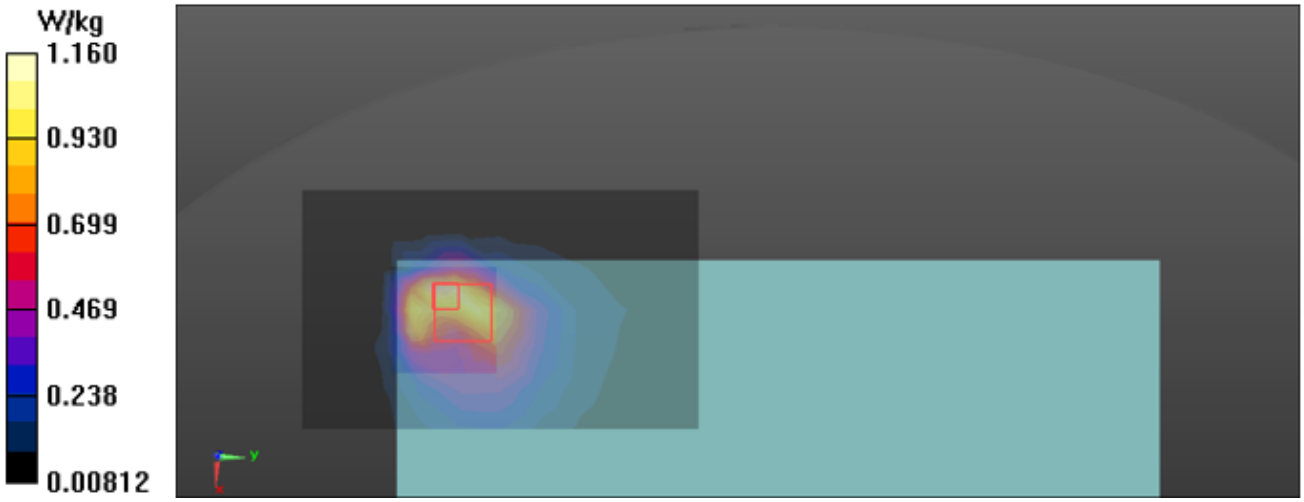
Communication System: UID 0, LTE Band 12 (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 707.5 MHz; σ = 0.875 S/m; ε_r = 43.305; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 707.5 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band12_QPSK_10MHz_1RB_0Offset_CH23095_Rear 0mm/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 W/kg

Configuration/LTE Band12_QPSK_10MHz_1RB_0Offset_CH23095_Rear 0mm/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.03 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.656 W/kg; SAR(10 g) = 0.371 W/kg
Smallest distance from peaks to all points 3 dB below = 6.6 mm
Ratio of SAR at M2 to SAR at M1 = 35.9%
Maximum value of SAR (measured) = 1.16 W/kg



13)

Date: 2022-01-04

Test Laboratory: KCTL Inc.
File Name: 1. LTE Band13_QPSK_10MHz_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLL91ZRB00069L

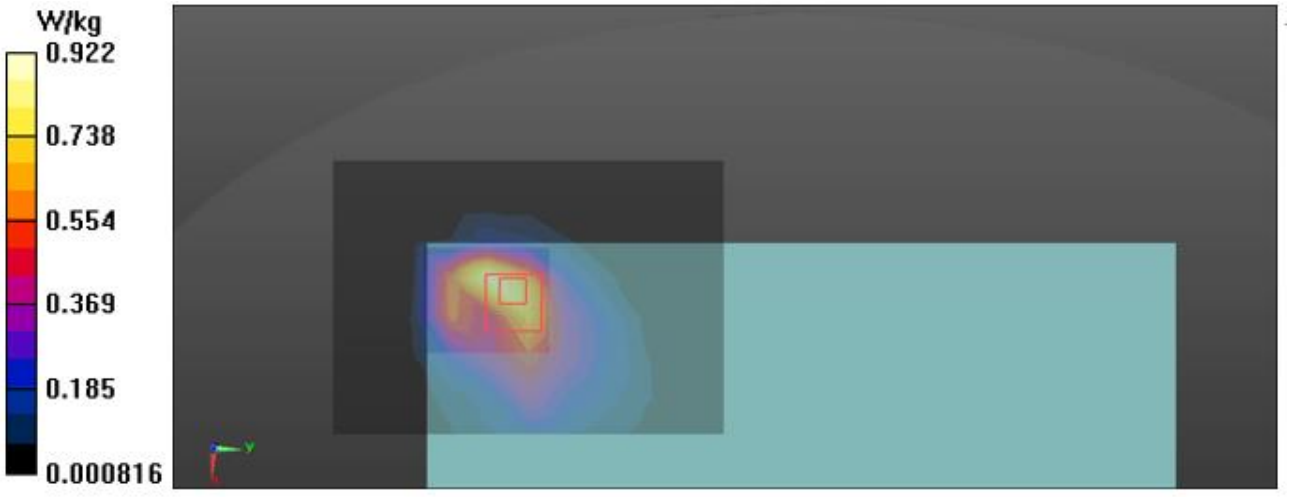
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.914 S/m; ε_r = 41.775; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(9.64, 9.64, 9.64) @ 782 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band13_QPSK_10MHz_25RB_25Offset_CH23230_Rear 0mm/Area Scan (8x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.922 W/kg

Configuration/LTE Band13_QPSK_10MHz_25RB_25Offset_CH23230_Rear 0mm/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.69 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.571 W/kg; SAR(10 g) = 0.320 W/kg
Smallest distance from peaks to all points 3 dB below = 10.2 mm
Ratio of SAR at M2 to SAR at M1 = 46.9%
Maximum value of SAR (measured) = 0.957 W/kg



14)

Date: 2022-01-06

Test Laboratory: KCTL Inc.
File Name: 1. LTE Band66_QPSK_20MHz_Tablet.da53:0

DUT: XE525QEA, Type: Tablet, Serial: 1KLK91ZRB00095P

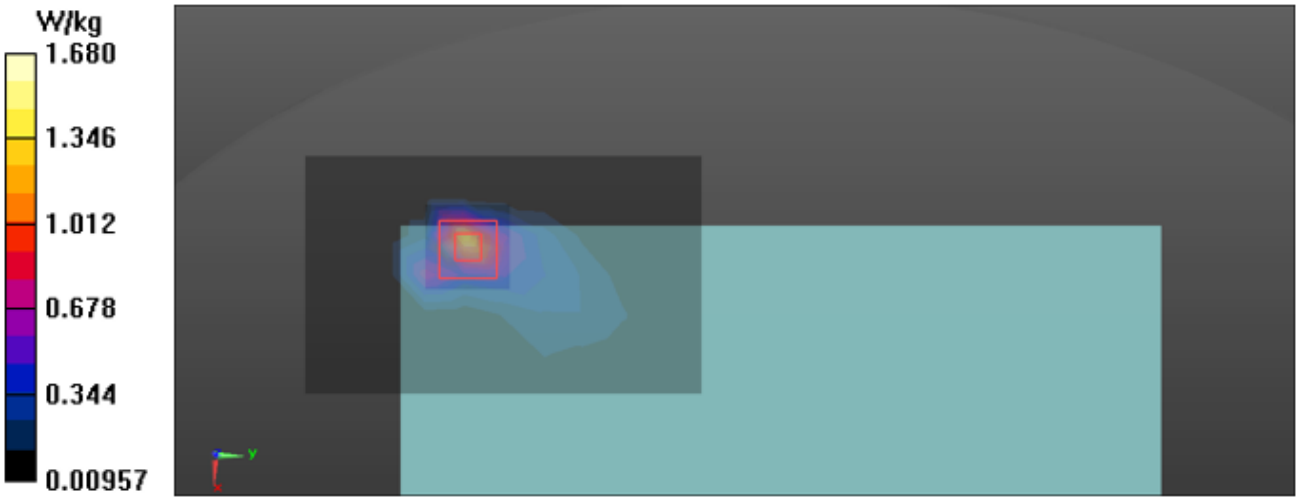
Communication System: UID 0, LTE Band 66 (0); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1770 MHz; σ = 1.417 S/m; ε_r = 40.574; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(8.18, 8.18, 8.18) @ 1770 MHz; Calibrated: 2021-02-23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 2021-01-22
- Phantom: ELI V5.0 -2; Type: QD OVA 002 BB; Serial: 1220
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band66_QPSK_20MHz_50RB_0Offset_CH132572_Rear 0 mm/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.24 W/kg

Configuration/LTE Band66_QPSK_20MHz_50RB_0Offset_CH132572_Rear 0 mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.63 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 0.890 W/kg; SAR(10 g) = 0.385 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 44.2%
Maximum value of SAR (measured) = 1.68 W/kg



Appendixes List

Appendix A	A.1 Probe Calibration certificate (EX3DV4_3928) A.2 Dipole Calibration certificate (D750V3_1183) A.3 Dipole Calibration certificate (D850V2_1006) A.4 Dipole Calibration certificate (D1750V2_1072) A.5 Dipole Calibration certificate (D1900V2_5d160) A.6 Justification for Extended SAR Dipole Calibrations
Appendix B	SAR Tissue Specification
Appendix C	Power Reduction Verification
Appendix D	#Antenna Location & Distance
Appendix E	EUT Photo
Appendix F	Test Setup Photo