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SAR TEST REPORT

Applicant Name:	**Date of Issue: 07.15, 2016**
LG Electronics, MobileComm U.S.A., Inc.	**Test Report No.:HCT-A-1607-F002-1**
1000 Sylvan Avenue, Englewood Cliffs NJ 07632	**Test Site: HCT CO., LTD.**

FCC ID: ZNFK600

Equipment Type:	**GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC**
Model Name:	**LG-K600**
Additional Model Name:	**LGK600, K600**
Testing has been carried out in accordance with:	**47CFR §2.1093** **ANSI/ IEEE C95.1 – 1992** **IEEE 1528-2013**
Date of Test:	**05/26/2016 ~ 06/02/2016**

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in FCC KDB procedures and had been tested in accordance with the measurement procedures specified in FCC KDB procedures.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested By

parkinho

In-Ho Park
Test Engineer / SAR Team
Certification Division

Reviewed By

Yun-Jeang Heo
Technical Manager / SAR Team
Certification Division

DOCUMENT HISTORY

Version	DATE	DESCRIPTION
HCT-A-1607-F002	07. 08, 2016	First Approval Report
HCT-A-1607-F002-1	07.15, 2016	Sec.11.2 GSM1900 Body worn was revised.

Table of Contents

1. Attestation of Test Result of Device Under Test

Test Laboratory	
Company Name:	HCT Co., LTD
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of Korea
Telephone	+82 31 645 6300
Fax.	+82 31 645 6400

Attestation of SAR test result					
Trade Name:	LG Electronics, MobileComm U.S.A., Inc.				
FCC ID:	ZNFK600				
Model:	LG-K600				
Additional Model Name:	LGK600, K600				
EUT Type	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC				
Application Type:	Certification				
The Highest Reported SAR (W/Kg)					
Band	**Tx. Frequency (MHz)**	**Equipment Class**	**Reported 1g SAR (W/kg) Head**	**Body-Worn**	**Hotspot**
GSM/GPRS/EDGE 850	824.2 ~ 848.8	PCE	0.35	0.32	0.33
GSM/GPRS/EDGE 1900	1 850.2 ~ 1 909.8	PCE	0.54	0.46	0.61
UMTS 850	826.4 ~ 846.6	PCE	0.40	0.42	0.46
UMTS 1900	1 852.4 ~ 1 907.6	PCE	0.70	0.57	0.84
LTE 2 (PCS)	1 850.7 ~ 1 909.3	PCE	0.71	0.57	0.74
LTE 4 (AWS)	1 710.7~ 1 754.3	PCE	0.49	0.59	0.61
LTE 5 (Cell)	824.7 ~ 843	PCE	0.28	0.31	0.36
LTE 12	699.7 – 715.3	PCE	0.15	0.26	0.26
802.11b	2 412 ~ 2 462	DTS	0.50	0.17	0.17
U-NII-1	5 180 – 5 240	NII	N/A		
U-NII-2A	5 260 – 5 320	NII	0.79	0.22	N/A
U-NII-2C	5 500 – 5 720	NII	1.18	0.35	N/A
U-NII-3	5 745 – 5 825	NII	0.92	0.32	0.32
Bluetooth	2 402 ~ 2 480	DSS/DTS	N/A		
Simultaneous SAR per KDB 690783 D01v01r03			1.46	0.94	1.16
Date(s) of Tests:	05/26/2016 ~ 06/02/2016				

2. Device Under Test Description

2.1 DUT specification

Device Wireless specification overview		
Band & Mode	**Operating Mode**	**Tx Frequency**
GSM/GPRS/EDGE 850	Voice / Data	824.2 – 848.8 MHz
GSM/GPRS/EDGE 1900	Voice / Data	1850.2 – 1909.8 MHz
UMTS 850	Voice / Data	826.4 – 846.6 MHz
UMTS 1900	Voice / Data	1 852.4 – 1 907.6 MHz
LTE Band 2 (PCS)	Voice / Data	1 850.7 – 1 909.3 MHz
LTE Band 4 (AWS)	Voice / Data	1 710.7 – 1 754.3 MHz
LTE Band 5 (Cell)	Voice / Data	824.7 – 848.3 MHz
LTE Band 12	Voice / Data	699.7 – 715.3 MHz
LTE Band 17	Voice / Data	706.5 – 713.5 MHz
2.4 GHz WLAN	Data	2412.0– 2462.0 MHz
U-NII-1	Data	5 180 – 5 240 MHz
U-NII-2A	Data	5 260 – 5 320 MHz
U-NII-2C	Data	5 500 – 5 720 MHz
U-NII-3	Data	5 745 – 5 825 MHz
Bluetooth	Data	2402.0– 2480.0 MHz
NFC	Data	13.56 MHz
Device Description		
Device Dimension	Overall (Length x Width) : 145.8mm x 72.75 mm	
Battery Options	Standard	
Device Serial Numbers	**Mode**	**Serial Number**
	GSM850, UMTS850, GSM1900, UMTS 1900, LTE Band 2/4/5/12/17	004402-34-636484-1
	2.4 GHz WLAN, 5 GHz WLAN	004402-34-636489-0
	Several samples with identical hardware were used to SAR testing. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.	

2.2 DUT Wireless mode

Wireless Modulation	Band	Operating Mode		Duty Cycle
GSM	850 1900	Voice(GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS/ EDGE Multi-Slot Class: Class 33 – 4 Up, 5 Down Mode class B	GSM Voice: 12.5% GPRS/EDGE: 1 Slot: 12.5% 2 Slots : 25% 3 Slots : 37.5% 4 Slots : 50%
WCDMA (UMTS)	Band 5 Band 2	UMTS Rel.99 (Voice / DATA) HSDPA (Rel. 5) HSUPA (Rel. 6) HSPA+ (Rel. 7) (Uplink QPSK Only) DC-HSDPA (Rel.8)		100 %
LTE Band	2 (PCS)	Data (QPSK, 16QAM)		100 % (FDD)
	4 (AWS)	Data (QPSK, 16QAM)		100 % (FDD)
	5 (Cell)	Data (QPSK, 16QAM)		100 % (FDD)
	12	Data (QPSK, 16QAM)		100 % (FDD)
	17	Data (QPSK, 16QAM)		100 % (FDD)
2.4 GHz WLAN		Data	802.11 b, 802.11 g, 802.11 n (HT20), 802.11 ac(VHT20)	99.84 %
5 GHz WLAN		Data	802.11 a, 802.11 n (HT20/HT40) 802.11 ac (VHT20/40/80)	98.65 %
Bluetooth		Data	4.2 LE	N/A

2.3 LTE information

Item.	Description
Frequency Range:	Band 2: 1 850.7 MHz ~ 1 909.3 MHz
	Band 4: 1 710.7 MHz ~ 1 754.3 MHz
	Band 5: 824.7 MHz ~ 848.3 MHz
	Band 12:699.7 MHz~ 715.3 MHz
	Band 17:706.5 MHz~ 713.5 MHz
Channel Bandwidths	Band 2: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	Band 4: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	Band 5: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	Band 17: 5 MHz, 10 MHz

Channel Number s& Frequencies(MHz):

Band 2

1.4 MHz		3 MHz		5 MHz		10 MHz		15 MHz		20 MHz	
Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)
18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
18900	1880.0	18900	1880.0	18900	1880.0	18900	1880	18900	1880.0	18900	1880
19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

Band 4

1.4 MHz		3 MHz		5 MHz		10 MHz		15 MHz		20 MHz	
Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)
19957	1 710.7	19965	1 711.5	19975	1 712.5	20000	1 715.0	20025	1 717.5	20050	1 720.0
20175	1 732.5	20175	1 732.5	20175	1 732.5	20175	1 732.5	20175	1 732.5	20175	1 732.5
20393	1 754.3	20385	1 753.5	20375	1 752.5	20350	1 750.0	20325	1 747.5	20300	1 745.0

Band 5

1.4 MHz		3 MHz		5 MHz		10 MHz	
Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)
20407	824.7	20415	825.5	20425	826.5	20450	829.0
20525	836.5	20525	836.5	20525	836.5	20525	836.5
20643	848.3	20635	847.5	20625	846.5	20600	844.0

Band 12

1.4 MHz		3 MHz		5 MHz		10 MHz	
Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq. (MHz)
23017	699.7	23025	700.5	23035	701.5	23060	704.0
23095	707.5	23095	707.5	23095	707.5	23095	707.5
23173	715.3	23165	714.5	23155	713.5	23130	711.0

Band 17

5 MHz		10 MHz	
Ch.	Freq. (MHz)	Ch.	Freq. (MHz)
23755	706.5	23780	709
23790	710	23790	710
23825	713.5	23800	711

Item.	Description
UE Category	LTE Rel. 10, Category 6
Modulations Supported in UL	QPSK, 16QAM
LTE voice/data requirements	Voice / DATA
	This DUT support VOLTE. LTE Head SAR is also evaluated.
LTE MPR options	The EUT incorporates MPR as per 3GPP TS 36.101 sec. 6.2.3 ~ 6.2.5
	The MPR is permanently built-in by design as a mandatory.
	A-MPR is not implemented in the DUT.
Power reduction explanation	This device doesn't implements power reduction.
LTE Carrier Aggregation	This device dose not support downlink and uplink Carrier Aggregation.
LTE Release 10 Additional Information	All uplink communications are identical to the Release 8 specifications. The following LTE release 10 features are not supported: UL/DL Carrier Aggregation, Replay, HetNet, Enhanced MIMO, elCl, WIFI offloading, MDH, eMBHA, Cross-Carrier Scheduling, Enhanced SC-FDMA.
escription of the test equipment, oftware, etc.	LTE SAR Testing was performed using a CMW500. UE transmits with maximum output power during SAR testing.

2.4TEST METHODOLOGY and Procedures

The tests documented in this report were performed in accordance with IEEE Standard 1528-2013 & IEEE 1528-2005 and the following published KDB procedures.

- FCC KDB Publication 941225 D01 3G SAR Procedures v03r01
- FCC KDB Publication 941225 D06 Hot Spot SAR v02r01
- FCC KDB Publication 941225 D05 SAR for LTE Devices v02r05
- FCC KDB Publication 941225 D05A LTE Rel.10 KDB Inquiry sheet v01r02
- FCC KDB Publication 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB Publication 447498 D01 General SAR Guidance v06
- FCC KDB Publication 648474 D04 Handset SAR v01r03
- FCC KDB Publication 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- FCC KDB Publication 865664 D02 SAR Reporting v01r02
- October 2013 TCB Workshop Notes (GPRS testing criteria)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)

2.5 Nominal and Maximum Output Power Specifications

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.

Mode / Band		Voice (dBm)	Burst Average GMSK GPRS (dBm)				Burst Average 8-PSK EGPRS (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE 850	Maximum	33.2	33.2	31.2	29.2	27.2	27.2	26.2	25.2	24.2
	Nominal	32.7	32.7	30.7	28.7	26.7	26.7	25.7	24.7	23.7
GSM/GPRS/EDGE 1900	Maximum	30.2	30.2	28.7	26.7	24.7	26.7	25.7	24.7	23.7
	Nominal	29.7	29.7	28.2	26.2	24.2	26.2	25.2	24.2	23.2

Mode / Band		3GPP WCDMA	3GPP HSDPA(dBm)				3GPP HSUPA(dBm)					DC-HSDPA(dBm)			
			Sub test1	Sub test2	Sub test3	Sub test4	Sub test1	Sub test2	Sub test3	Sub test4	Sub Test5	Sub test1	Sub test2	Sub test3	Sub test4
UMTS Band 5 (850 MHz)	Maximum	23.7	22.7	22.7	22.2	22.2	22.2	21.2	21.2	21.7	21.7	22.7	22.7	22.2	22.2
	Nominal	23.2	22.2	22.2	21.7	21.7	21.7	20.7	20.7	21.2	21.2	22.2	22.2	21.7	21.7
UMTS Band 2 (1900 MHz)	Maximum	23.7	22.7	22.7	22.2	22.2	22.7	21.7	21.7	21.7	22.7	22.7	22.7	22.2	22.2
	Nominal	23.2	22.2	22.2	21.7	21.7	22.2	21.2	21.2	21.2	22.2	22.2	22.2	21.7	21.7

Mode / Band		Modulated Average (dBm)
LTE Band 2 (PCS)	Maximum	23.7
	Nominal	23.2
LTE Band 4 (AWS)	Maximum	23.7
	Nominal	23.2
LTE Band 5 (Cell)	Maximum	23.7
	Nominal	23.2
LTE Band 12	Maximum	23.7
	Nominal	23.2
LTE Band 17	Maximum	23.7
	Nominal	23.2

Mode / Band		Modulated Average (dBm)			
		Channel	1	2 ~ 10	11
2.4GHzWIFI	IEE 802.11b	Maximum	18	18	18
		Nominal	17	17	17
	IEEE 802.11g	Maximum	15.5	15.5	15.5
		Nominal	14.5	14.5	14.5
	IEEE 802.11n (HT20)	Maximum	14.5	14.5	14.5
		Nominal	13.5	13.5	13.5
	IEEE 802.11ac (HT20)	Maximum	14.5	14.5	14.5
		Nominal	13.5	13.5	13.5

Mode / Band			Modulated Average (dBm)						
5GHzWIFI (20MHzBW)	Channel		36	40~48	52~60	64	100	104~140	144~165
	IEE 802.11a	Maximum	14.0	14.0	14.0	14.0	14.0	14.0	14.5
		Nominal	13.0	13.0	13.0	13.0	13.0	13.0	13.5
	IEEE 802.11n	Maximum	13.5	13.5	13.5	13.5	13.5	13.5	14
		Nominal	12.5	12.5	12.5	12.5	12.5	12.5	13
	IEEE 802.11ac	Maximum	13.5	13.5	13.5	13.5	13.5	13.5	14
		Nominal	12.5	12.5	12.5	12.5	12.5	12.5	13
5GHzWIFI (40MHzBW)	Channel		38	46	54~62		102~134		142~159
	IEEE 802.11n	Maximum	10.5	12.5	12.5		12.5		13.0
		Nominal	9.5	11.5	11.5		11.5		12.0
	IEEE 802.11ac	Maximum	10.5	12.5	12.5		12.5		13.0
		Nominal	9.5	11.5	11.5		11.5		12.0
5GHzWIFI (80MHzBW)	Channel		42		58		106	138	155
	IEEE 802.11ac	Maximum	9.5		11.5		11.5	12.0	12.0
		Nominal	8.5		10.5		10.5	11.0	11.0
Bluetooth	1Mbps, GFSK	Maximum	9.5						
		Nominal	9.0						
	2Mbps, GFSK	Maximum	6.5						
		Nominal	5.5						
	3Mbps, GFSK	Maximum	6.5						
		Nominal	5.5						
	LE	Maximum	6.5 (Peak)						
		Nominal	5.5						

2.6 DUT Antenna Locations

Device Edges / Sides for SAR Testing						
Mode	Rear	Front	Left	Right	Bottom	Top
GSM/GPRS 850	Yes	Yes	Yes	Yes	Yes	No
GSM/GPRS 1900	Yes	Yes	Yes	No	Yes	No
UMTS 850	Yes	Yes	Yes	Yes	Yes	No
UMTS 1900	Yes	Yes	Yes	No	Yes	No
LTE Band 2	Yes	Yes	Yes	No	Yes	No
LTE Band 4	Yes	Yes	Yes	No	Yes	No
LTE Band 5	Yes	Yes	Yes	Yes	Yes	No
LTE Band 12	Yes	Yes	Yes	Yes	Yes	No
2.4 GHz WLAN	Yes	Yes	No	Yes	No	Yes
5 GHz WLAN	Yes	Yes	No	Yes	No	Yes

Particular EUT edges were not required to be evaluated for Wireless Router SAR if the edges were > 25 mm from the transmitting antenna according to FCC KDB 941225 D06v02r01 on page 2. The distance between the transmit antennas and the edges of the device are included in the filing. The overall dimensions of this device are > 9 X 5 cm. The overall diagonal dimension of the device is < 160 mm and the diagonal display is < 150 mm.

* Note: All test configurations are based on front view position.

2.7 Near Field Communications (NFC) Antenna

This EUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in SAR_setup_photos.

2.8 SAR Summation Scenario

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown below paths and are mode in same rectangle to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

Simultaneous transmission paths

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB 447498 D01v06.

Simultaneous Transmission Scenarios			
Applicable Combination	Head	Body-Worn	Hotspot
GSM Voice + 2.4 GHz WiFi	Yes	Yes	N/A
GSM Voice + 5 GHz WiFi	Yes	Yes	N/A
GSM Voice + 2.4 GHz Bluetooth	N/A	Yes	N/A
GPRS/EDGE + 2.4 GHz WiFi	Yes	Yes	Yes
GPRS/EDGE + 5 GHz WiFi	Yes	Yes	Yes
GPRS/EDGE + 2.4 GHz Bluetooth	N/A	Yes	N/A
UMTS+ 2.4 GHz WiFi	Yes	Yes	Yes
UMTS+ 5 GHz WiFi	Yes	Yes	Yes
UMTS+ 2.4 GHz Bluetooth	N/A	Yes	N/A
LTE+ 2.4 GHz WiFi	Yes	Yes	Yes
LTE+ 5 GHz WiFi	Yes	Yes	Yes
LTE+ 2.4 GHz Bluetooth	N/A	Yes	N/A

1. 2.4 GHz WLAN, 5 GHz WLAN and 2.4 GHz Bluetooth share antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. UMTS +WLAN scenario also represents the UMTS Voice/DATA + WLAN hotspot scenario.
4. Per the manufacturer, GPRS support VOIP service.
5. This device support VoLTE.
6. The highest reported SAR for each exposure condition is used for SAR summation purpose.
7. 5 GHz Wireless router is only supported for the U-NII-3 by S/W, therefore U-NII 1, U-NII 2A and U-NII 2C were not evaluated for wireless router conditions.

2.9SAR Test Exclusions Applied

(A) WiFi

Since wireless router operations are not allowed by the chipset firmware using U-NII-2A & U-NII-2C WiFi, WiFi Hotspot SAR test and combinations are considered only 2.4 GHz, U-NII-1 and U-NII-3 for SAR with respected to wireless router configurations according to FCC KDB 941225 D06v02r01.

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g SAR and is less than 3.0 W/kg for 10g SAR, SAR is not required for U-NII-1 band Head and body-worn mode according to FCC KDB 248227 D01v02r02.

This device supports IEEE 802.11 ac with the following features:

a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 1 Tx antenna output
d) 256 QAM is supported

(B) BT & LE

Per FCC KDB 447498 D01v06, The SAR exclusion threshold for distance < 50mm is defined by the following equation:

$$\frac{MaxPowerofChannel(mW)}{TestSeparationDistance(mm)} * \sqrt{Frequency(GHz)} \leq 3.0$$

Mode	Frequency	Maximum Allowed Power	Separation Distance	≤ 3.0
	[MHz]	[mW]	[mm]	
Bluetooth	2 480	9	10	1.4
Bluetooth LE	2 480	4	10	0.6

Based on the maximum conducted power of Bluetooth and antenna to use separation distance, Bluetooth SAR was not required [(9/10)*√2.480] = 1.4< 3.0.
Based on the maximum conducted power of Bluetooth LE and antenna to use separation distance, Bluetooth LE SAR was not required [(4/10)*√2.480] = 0.6< 3.0.

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v06 IV.C.1iii, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤ 1.6W/kg. When standalone SAR is not required to be measured per FCC KDB 447498 D01v06 4.3.22, the following equation must be used to estimate the standalone 1-g SAR for simultaneous transmission assessment involving that transmitter.

$$Estimated\ SAR = \frac{\sqrt{f(GHZ)}}{7.5} * \frac{(Max\ Power\ of\ channel\ mW)}{Min\ Seperation\ Distance}.$$

Mode	Frequency	Maximum Allowed Power	Separation Distance (Body)	Estimated SAR (Body)
	[MHz]	[mW]	[mm]	[W/kg]
Bluetooth	2 480	9	10	0.189
Bluetooth LE	2 480	4	10	0.084

Note :
1) Held-to ear configurations are not applicable to Bluetooth and Bluetooth LE operations and therefore were not considered for simultaneous transmission. The Estimated SAR results were determined according to FCC KDB447498 D01v06.

2) The frequency of Bluetooth and Bluetooth LE using for estimated SAR was selected highest channel of Bluetooth LE for highest estimated SAR.

(C)Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r05.

This device does not support LTE Carrier Aggregation (CA) in the downlink and Uplink. All uplink communications are identical to Release 8 specifications.

This device support both LTE Band 12 and LTE Band 17. Since the supported frequency span for LTE Band 17 involved completely within the supported frequency span for LTE Band 12, both LTE Bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE Band 12.

Per FCC KDB 941225 D01v03r01, 12.2 kbps RMC is the primary mode and HSPA (HSUPA/HSDPA with RMC) is the secondary mode.

Per FCC KDB 941225 D01v03r01, The SAR test exclusion is applied to the secondary mode by the following equation.

$$\text{Adjusted SAR} = \text{Highest Reported SAR} * \frac{Secondary\ Max\ tune - up\ (mW)}{Primary\ Max\ tune\ tune - up(mW)} \leq 1.2\ \text{W/kg}.$$

Based on the highest Reported SAR, the secondary mode is not required.

[0.836 * (186/234)] = 0.664W/kg ≤ 1.2 W/kg

And the maximum output power and tune-up tolerance in secondary mode is ≤ 0.25 dB higher than the primary mode.

3. INTRODUCTION

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., , New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivativeof the incremental electromagnetic energy(d*W*)absorbed by (dissipated in) an incremental mass (d*m*) contained in a volume element (d*V*) of a givendensity (*r*). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbingbody.

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

Figure 1. SAR Mathematical Equation

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

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

Where:

σ = conductivity of the tissue-simulant material (S/m)

ρ = mass density of the tissue-simulant material (kg/㎥)

E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

4. DESCRIPTION OF TEST EQUIPMENT

4.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 & DASY5 automated dosimetric assessment system.It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists ofhigh precision robotics system (Staubli), robot controller, Pentium III computer, near-fieldprobe, probe alignment sensor, and the generic twin phantom containing the brain equivalentmaterial. The robot is a six-axis industrial robot performing precise movements to position theprobe to the location (points) of maximum electromagnetic field (EMF) (see Figure.2).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick),and remote control, is used to drive the robot motors. The PC with Windows XPor Windows 7is working with SAR Measurement system DASY4& DASY5, A/Dinterface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cellcontroller to allow software manipulation of the robot. A data acquisition electronic (DAE)circuit performs the signal amplification, signal multiplexing, AD-conversion, offsetmeasurements, mechanical surface detection, collision detection, etc. is connected to theElectro-optical coupler (EOC). The EOC performs the conversion from the optical into digitalelectric signal of the DAE and transfers data to the PC plug-in card.

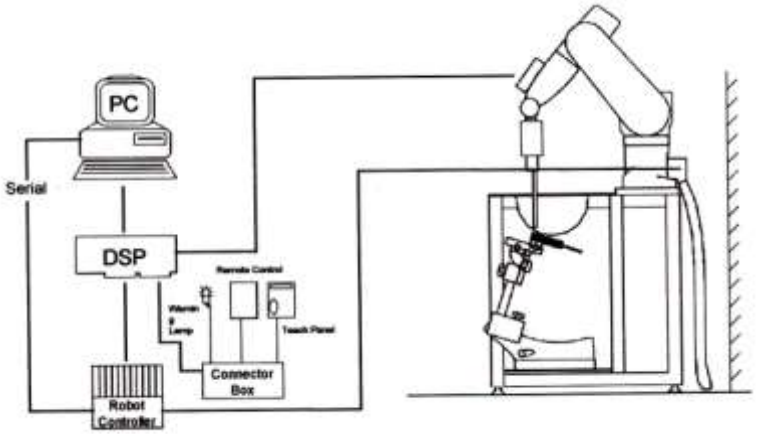


Figure 2. HCT SAR Lab. Test Measurement Set-up

The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, achannel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoderand control logic unit. Transmission to the PC-card is accomplished through an opticaldownlink for data and status information and an optical uplink for commands and clock lines.The mechanical probe mounting device includes two different sensor systems for frontal andsidewise probe contacts. They are also used for mechanical surface detection and probecollision detection. The robot uses its own controller with a built in VME-bus computer. Thesystem is described in detail in.

5. SAR MEASUREMENT PROCEDURE

The evaluation was performed with the following procedure:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0mm from the innersurface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 table 4-1 & IEEE 1528-2013.

2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.

3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)

   a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7mm away from the tipof the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2mm. Theextrapolation was based on a least square algorithm. A polynomial of the fourth order wascalculated through the points in z-axes. This polynomial was then used to evaluate the points betweenthe surface and the probe tip.

   b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x,y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by morethan 5%, the SAR evaluation and drift measurements were repeated.

Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

			≤3 GHz	>3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	$\frac{1}{2}\delta \cdot \ln(2)$±0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximumarea scanSpatial 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: ≤8mm 2-3 GHz: ≤5mm*	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 ·$\Delta z_{zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3-4 GHz: ≥28 mm 4-5 GHz: ≥25 mm 5-6 GHz: ≥22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

6. DESCRIPTION OF TEST POSITION

6.1EAR REFERENCE POINT

Figure 6-2 shows the front, back and side views of the SAM phantom. The center-of-mouth reference point is labeled “M”, the left ear reference point (ERP) is marked “LE”, and the right ERP is marked “RE.” Each ERP is on the B-M (back-mouth) line located 15 mm behind the entrance-to-ear-canal (EEC) point, as shown in Figure6-1.The Reference Plane is defined as passing through the two ear reference point and point M. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (See Figure 5-1), Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.

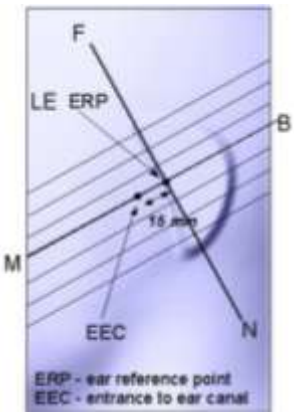


Figure 6-1
Close-up side view of ERP

6.2 HEAD POSITION

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The device under test was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point”(see Figure 6-3). The acoustic output was than located at the same level as the center of the ear reference point. The device under test was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.

Figure 6-2
Front, back and side views of SAM Twin Phantom

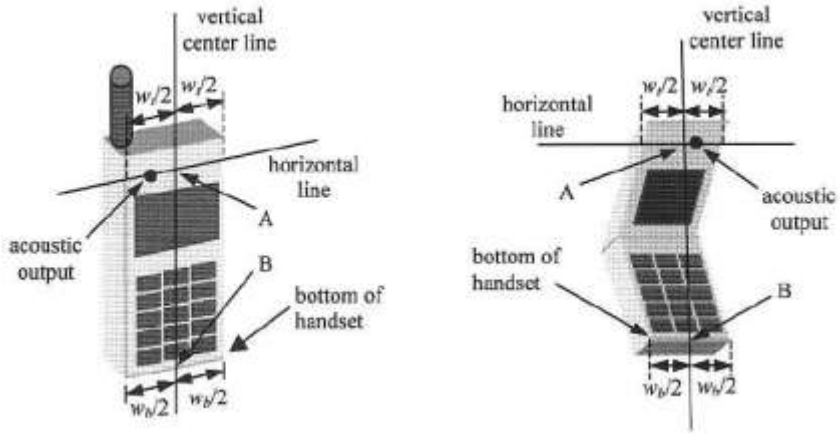


Figure 6-3. Handset vertical and horizontal reference lines

6.3Body Holster/Belt Clip Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the deviceand positioned against a flat phantom in a normal use configuration. A device witha headset output is tested with a headset connected to the device. Body dielectric parameters areused.

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

Body-worn accessories may not always be supplied or available as options for some Devicesintended to be authorized for body-worn use. In this case, a test configuration with a separationdistance between the back of the device and the flat phantom is used.

Since this EUT does not supply anybody worn accessory to the end user a distance of 1.0 cm from the EUT back surface to the liquid interface is configured for the generic test.

"See the Test SET-UP Photo"

Transmitters that are designed to operate in front of a person's face, as in push-to-talkconfigurations, are tested for SAR compliance with the front of the device positioned to face the flatphantom. For devices that are carried next to the body such as a shoulder, waist or chest-worntransmitters, SAR compliance is tested with the accessory(ies), Including headsets andmicrophones, attached to the device and positioned against a flat phantom in a normal useconfiguration.

In all cases SAR measurements are performed to investigate the worst-case positioning. Worstcasepositioning is then documented and used to perform Body SAR testing.

6.4Body-Worn Accessory Configurations

Body-Worn operating configurations are tested with the belt-dips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-4). Per FCC KDB Publication 648474 D04v01r03 Body-Worn accessory exposure is typically related to voice mode operations when handsets are carried in body-Worn accessories. The body-Worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-Worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-Worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body- Worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body- Worn accessory with a headset attached to the handset.

Figure 6-4
Sample Body-Worn Diagram

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

Body-Worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-Worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-Worn transmitters. SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.5Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (LxW≥9cmx5 cm) are based on *a* composite test separation distance of 10 mm from the front back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-Worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-Worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The "Portable Hotspot* feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

7. ANSI/ IEEE C95.1 - 1992 RF EXPOSURE LIMITS

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population	CONTROLLED ENVIRONMENT Occupational
	(W/kg) or (mW/g)	(W/kg) or (mW/g)
SPATIAL PEAK SAR * (Brain)	1.60	8.00
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.40
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.00	20.00

Table 8.1 Safety Limits for Partial Body Exposure

NOTES:

* The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

** The Spatial Average value of the SAR averaged over the whole-body.

*** The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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 mad 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 ofemployment 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.

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. The highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.23G SAR Test Reduction Procedure

8.2.1 GSM, GPRS AND EDGE

The following procedures may be considered for each frequency band to determine SAR test reduction for devices operating in GSM/GPRS/EDGE modes to demonstrate RF exposure compliance. GSM voice mode transmits with 1 time slot. GPRS and EDGE may transmit up to 4 time slots in the 8 time-slot frame according to the multi-slot class implemented in a device.

8.2.2 SAR Test Reduction

In FCC KDB 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.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested

8.3Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB 941225 D01v03r01 - 3G SAR Measurement Procedures The handset was placed into a simulated call using a base station simulator in a shielded chamber.Such test signals offer a consistent means for testing SAR and are recommended for evaluation SARmeasurements were taken with a fully charged battery. In order to verify that the device was testedand maintained at full power, this was configured with the base station simulator. The SAR measurementSoftware calculates a reference point at the start and end of the test to check for power drifts. If conductedPower deviations of more than 5 % occurred, the tests were repeated.

8.4 SAR Measurement Conditions for UMTS

8.4.1Output 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 speading 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 Head SAR Measurements

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

8.4.3 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.

8.4.4 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 HSUPAThe 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.

8.4.5SAR 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.

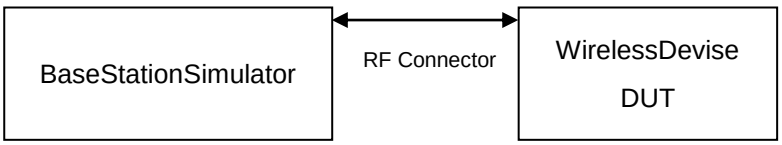
8.4.6 DC-HSDPA

UMTS SAR was tested under RMC 12.2 kbps with HSPA inactive per KDB publication 941225 D01v03r01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

DC-HSDPA Considerations:

- 3GPP Specification 34.121-1 Release 8 Ver 8.10.0 was used for DC-HSDPA guidance
- H-Set 12(QPSK) was confirmed to be used during DC-HSDPA measurements
- Measured maximum output powers for DC-HSDPA were not greater than 1/4 dB higher than the WCDMA 12.2 kbps RMC maximum output and as a result, SAR is not required for DC-HSDPA
- The DUT supports UE category 24 for HSDPA.

It is expected by the manufacturer that MPR for some HSUPA subtests may be up to 1 dB more than specified by 3GPP, but also as low as 0 dB according to the chipset implementation in this model.



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

a. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
   i. The required channel and offset combination with the highest maximum output power is required for SAR.
   ii. 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.
   iii. 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.
b. 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.

c. 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.
d. 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.

8.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

8.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR system to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92-96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

8.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR.

8.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 -5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification.
Unless band gap channels are permanently disabled, SAR must be considered for these channels.

8.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating nest to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10g SAR or all test positions are measured.

8.6.5 2.4 GHz SAR test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS is that exposure configuration.
2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

8.6.6 OFDM Transmission Mode and SAR Test channel Selection

For the 2.4 GHz and 5 GHz bands, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate and lowest order 802.11 a/g/n/ac mode. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11 ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.2., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

8.6.7 Initial Test configuration Procedure

For OFDM, in both 2.4 GHZ and 5 GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

8.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg for 1g SAR and ≤ 3.0 W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

9. Output Power Specifications

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.

9.1 GSM

GSM Conducted output powers (Burst-Average)

Band	Channel	Voice	GPRS(GMSK) Data – CS1				EDGE Data			
		GSM (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	GPRS 3 TX Slot (dBm)	GPRS 4 TX Slot (dBm)	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)	EDGE 3 TX Slot (dBm)	EDGE 4 TX Slot (dBm)
Maximum Tune-up		**33.2**	**33.2**	**31.2**	**29.2**	**27.2**	**27.2**	**26.2**	**25.2**	**24.2**
GSM 850	128	33.15	33.16	30.97	28.96	26.96	26.88	26.00	25.07	23.95
	190	33.13	33.13	30.91	28.95	26.93	26.84	25.99	25.07	23.93
	251	32.94	32.96	30.60	28.73	26.58	26.73	25.83	24.90	23.74
Maximum Tune-up		**30.2**	**30.2**	**28.7**	**26.7**	**24.7**	**26.7**	**25.7**	**24.7**	**23.7**
GSM 1900	512	30.19	30.19	28.55	26.41	24.33	26.43	25.24	24.39	23.50
	661	29.73	29.70	28.28	26.15	24.02	26.11	24.75	23.89	23.05
	810	30.10	30.13	27.94	26.68	23.53	26.06	24.75	23.86	23.00

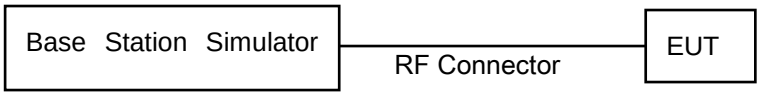
GSM Conducted output powers (Frame-Average)

Band	Channel	Voice	GPRS(GMSK) Data – CS1				EDGE Data			
		GSM (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	GPRS 3 TX Slot (dBm)	GPRS 4 TX Slot (dBm)	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)	EDGE 3 TX Slot (dBm)	EDGE 4 TX Slot (dBm)
Maximum Tune-up		**24.17**	**24.17**	**25.18**	**24.94**	**24.19**	**18.17**	**20.18**	**20.94**	**21.19**
GSM 850	128	24.12	24.13	24.95	24.70	23.95	17.85	19.98	20.81	20.94
	190	24.10	24.10	24.89	24.69	23.92	17.81	19.97	20.81	20.92
	251	23.91	23.93	24.58	24.47	23.57	17.70	19.81	20.64	20.73
Maximum Tune-up		**21.17**	**21.17**	**22.68**	**22.44**	**21.69**	**17.67**	**19.68**	**20.44**	**20.69**
GSM 1900	512	21.16	21.16	22.53	22.15	21.32	17.40	19.22	20.13	20.49
	661	20.70	20.67	22.26	21.89	21.01	17.08	18.73	19.63	20.04
	810	21.07	21.10	21.92	22.42	20.52	17.03	18.73	19.60	19.99

Note:

Time slot average factor is as follows:
1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B
GSM voice/GPRS VOIP: Head SAR , Body worn SAR
GPRS/EDGE Multi-slots 33 : Hotspot SAR with GPRS/EDGE
Multi-slot Class 33 with CS 1 (GMSK)



9.2UMTS

HSPA+

This DUT is only capable of QPSK HSPA+ in uplink. Therefore, the RF conducted power is not measured according to 941225 D01 3G SAR.

WCDMA850

3GPP Release Version	Mode	3GPP 34.121	WCDMA Band 5[dBm]		
		Subtest	UL 4132 DL 4357	UL 4183 DL 4408	UL 4233 DL 4458
99	WCDMA	12.2 kbps RMC	23.41	23.31	23.50
99	WCDMA	12.2 kbps AMR	23.40	23.30	23.51
5	HSDPA	Subtest 1	22.24	22.14	22.33
5		Subtest 2	22.26	22.13	22.36
5		Subtest 3	21.74	21.63	21.83
5		Subtest 4	21.74	21.63	21.83
6	HSUPA	Subtest 1	21.56	21.44	21.66
6		Subtest 2	21.16	20.97	21.14
6		Subtest 3	20.77	20.66	20.85
6		Subtest 4	21.32	21.23	21.43
6		Subtest 5	21.33	21.23	21.44
8	DC-HSDPA	Subtest 1	22.64	22.39	22.40
8		Subtest 2	22.65	22.40	22.39
8		Subtest 3	22.12	21.87	21.88
8		Subtest 4	22.12	21.86	21.85

WCDMA Average Conducted output powers

WCDMA1900

3GPP Release Version	Mode	3GPP 34.121	WCDMA Band 2[dBm]		
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938
99	WCDMA	12.2 kbps RMC	23.56	23.43	23.40
99	WCDMA	12.2 kbps AMR	23.55	23.43	23.40
5	HSDPA	Subtest 1	22.51	22.52	22.52
5		Subtest 2	22.53	22.55	22.55
5		Subtest 3	22.02	22.02	22.01
5		Subtest 4	22.02	22.02	22.01
6	HSUPA	Subtest 1	22.52	22.56	22.54
6		Subtest 2	21.34	21.53	21.32
6		Subtest 3	21.52	21.53	21.51
6		Subtest 4	21.52	21.49	21.50
6		Subtest 5	21.72	21.70	21.72
8	DC-HSDPA	Subtest 1	22.46	22.24	22.40
8		Subtest 2	22.50	22.26	22.39
8		Subtest 3	21.97	21.71	21.88
8		Subtest 4	21.96	21.71	21.85

WCDMA Average Conducted output powers

9.3 LTE

- LTE Band 2 Maximum Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18607	18900	19193	[dB]	[dB]
				1850.7 MHz	1880 MHz	1909.3 MHz		
1.4 MHz	QPSK	1	0	23.12	22.88	23.02	0	0
		1	3	23.15	23.01	23.13	0	0
		1	5	23.19	22.87	23.02	0	0
		3	0	23.10	22.97	23.04	0	0
		3	1	23.14	23.04	23.05	0	0
		3	3	22.98	22.96	23.01	0	0
		6	0	22.08	21.91	22.00	0-1	1
	16QAM	1	0	22.09	22.19	22.36	0-1	1
		1	3	22.20	22.26	22.46	0-1	1
		1	5	22.16	22.16	22.45	0-1	1
		3	0	22.28	22.23	22.24	0-1	1
		3	1	22.29	22.29	22.24	0-1	1
		3	3	22.31	22.26	22.24	0-1	1
		6	0	21.18	21.07	21.20	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18615	18900	19185	[dB]	[dB]
				1851.5 MHz	1880 MHz	1908.5 MHz		
3 MHz	QPSK	1	0	23.13	23.13	23.03	0	0
		1	7	23.09	23.21	22.98	0	0
		1	14	23.06	23.15	22.96	0	0
		8	0	22.10	22.00	22.01	0-1	1
		8	3	22.19	22.04	22.04	0-1	1
		8	7	22.13	21.94	22.01	0-1	1
		15	0	22.01	22.00	21.95	0-1	1
	16QAM	1	0	22.32	22.05	22.14	0-1	1
		1	7	22.36	22.02	22.18	0-1	1
		1	14	22.35	21.93	22.15	0-1	1
		8	0	21.12	21.00	20.97	0-2	2
		8	3	21.22	21.03	21.05	0-2	2
		8	7	21.14	20.96	21.01	0-2	2
		15	0	21.07	21.07	20.94	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18625	18900	19175	[dB]	[dB]
				1852.5 MHz	1880 MHz	1907.5 MHz		
5 MHz	QPSK	1	0	23.27	23.07	23.18	0	0
		1	12	23.13	23.06	22.93	0	0
		1	24	23.21	23.08	23.05	0	0
		12	0	22.20	21.97	22.02	0-1	1
		12	6	22.21	21.97	22.06	0-1	1
		12	11	22.06	21.83	22.04	0-1	1
		25	0	22.13	21.93	21.95	0-1	1
	16QAM	1	0	22.41	22.26	22.45	0-1	1
		1	12	22.46	22.22	22.36	0-1	1
		1	24	22.45	22.32	22.42	0-1	1
		12	0	21.18	21.00	20.92	0-2	2
		12	6	21.17	20.96	20.99	0-2	2
		12	11	21.04	20.88	21.00	0-2	2
		25	0	21.07	20.95	20.98	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18650	18900	19150	[dB]	[dB]
				1855 MHz	1880 MHz	1905 MHz		
10 MHz	QPSK	1	0	23.14	23.18	22.97	0	0
		1	24	23.09	23.07	22.89	0	0
		1	49	23.09	23.12	22.95	0	0
		25	0	22.15	21.93	22.07	0-1	1
		25	12	22.13	22.00	22.06	0-1	1
		25	24	22.17	22.00	22.07	0-1	1
		50	0	22.15	21.99	22.05	0-1	1
	16QAM	1	0	22.23	22.03	22.27	0-1	1
		1	24	22.26	21.88	22.22	0-1	1
		1	49	22.22	22.00	22.21	0-1	1
		25	0	21.14	20.92	21.00	0-2	2
		25	12	21.13	20.9	21.04	0-2	2
		25	24	21.15	21.02	21.00	0-2	2
		50	0	21.11	20.99	21.04	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18675	18900	19125	[dB]	[dB]
				1857.5 MHz	1880 MHz	1902.5 MHz		
15 MHz	QPSK	1	0	23.11	23.13	23.12	0	0
		1	36	23.07	22.99	23.04	0	0
		1	74	23.05	22.96	23.04	0	0
		36	0	22.17	21.97	22.08	0-1	1
		36	18	22.12	21.96	22.05	0-1	1
		36	38	21.98	22.03	22.00	0-1	1
		75	0	22.11	21.97	22.07	0-1	1
	16QAM	1	0	22.37	22.03	22.37	0-1	1
		1	36	22.39	22.03	22.12	0-1	1
		1	74	22.39	22.06	22.24	0-1	1
		36	0	21.16	20.97	21.10	0-2	2
		36	18	21.08	20.96	21.16	0-2	2
		36	38	21.03	20.96	21.08	0-2	2
		75	0	21.02	20.96	21.02	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				18700	18900	19100	[dB]	[dB]
				1860 MHz	1880 MHz	1900 MHz		
20 MHz	QPSK	1	0	23.23	23.21	23.27	0	0
		1	49	23.20	23.06	23.11	0	0
		1	99	23.05	23.11	23.13	0	0
		50	0	22.17	22.07	22.06	0-1	1
		50	25	22.26	22.15	22.06	0-1	1
		50	49	22.16	22.13	22.04	0-1	1
		100	0	22.24	22.16	22.01	0-1	1
	16QAM	1	0	22.29	22.46	22.24	0-1	1
		1	49	22.22	22.31	22.03	0-1	1
		1	99	22.07	22.43	22.10	0-1	1
		50	0	21.18	21.11	20.98	0-2	2
		50	25	21.27	21.15	20.96	0-2	2
		50	49	21.17	21.11	21.00	0-2	2
		100	0	21.19	21.12	20.95	0-2	2

- LTE Band 4 Maximum Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				19957	20175	20393	[dB]	[dB]
				1710.7 MHz	1732.5 MHz	1754.3 MHz		
1.4 MHz	QPSK	1	0	22.95	22.84	22.84	0	0
		1	3	23.10	22.94	23.01	0	0
		1	5	23.08	22.86	22.78	0	0
		3	0	22.94	22.91	22.94	0	0
		3	1	22.95	22.97	22.89	0	0
		3	3	22.90	22.96	22.87	0	0
		6	0	21.98	21.86	21.77	0-1	1
	16QAM	1	0	21.85	22.09	22.01	0-1	1
		1	3	22.06	22.24	22.06	0-1	1
		1	5	21.92	22.12	22.06	0-1	1
		3	0	22.14	22.12	22.21	0-1	1
		3	1	22.09	22.21	22.08	0-1	1
		3	3	22.07	22.22	22.08	0-1	1
		6	0	21.07	21.02	21.00	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				19965	20175	20385	[dB]	[dB]
				1711.5 MHz	1732.5 MHz	1753.5 MHz		
3 MHz	QPSK	1	0	23.07	23.01	22.85	0	0
		1	7	23.08	22.92	22.94	0	0
		1	14	23.16	22.81	22.89	0	0
		8	0	21.99	21.85	21.91	0-1	1
		8	3	21.96	21.90	21.99	0-1	1
		8	7	21.88	21.90	21.93	0-1	1
		15	0	21.97	21.87	21.94	0-1	1
	16QAM	1	0	21.84	22.11	22.29	0-1	1
		1	7	21.90	22.09	22.45	0-1	1
		1	14	21.82	22.04	22.25	0-1	1
		8	0	21.07	20.85	21.06	0-2	2
		8	3	21.00	20.93	21.12	0-2	2
		8	7	20.99	20.91	21.17	0-2	2
		15	0	21.07	20.83	21.06	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				19975	20175	20375	[dB]	[dB]
				1712.5 MHz	1732.5 MHz	1752.5 MHz		
5 MHz	QPSK	1	0	23.13	23.29	23.22	0	0
		1	12	23.17	23.14	23.29	0	0
		1	24	23.30	23.13	23.22	0	0
		12	0	22.12	21.96	21.89	0-1	1
		12	6	21.95	21.90	22.06	0-1	1
		12	11	22.05	21.82	22.01	0-1	1
		25	0	22.03	21.89	22.02	0-1	1
	16QAM	1	0	22.44	22.37	22.41	0-1	1
		1	12	22.41	22.19	22.39	0-1	1
		1	24	22.41	22.24	22.46	0-1	1
		12	0	21.09	20.98	20.97	0-2	2
		12	6	21.00	20.93	21.06	0-2	2
		12	11	21.02	20.85	20.97	0-2	2
		25	0	21.04	20.82	21.08	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				20000	20175	20350	[dB]	[dB]
				1715 MHz	1732.5 MHz	1750 MHz		
10 MHz	QPSK	1	0	22.98	23.20	22.99	0	0
		1	24	22.86	23.12	22.88	0	0
		1	49	22.80	23.02	22.90	0	0
		25	0	22.00	22.00	21.92	0-1	1
		25	12	21.93	21.91	22.00	0-1	1
		25	24	21.97	21.90	22.01	0-1	1
		50	0	21.98	21.95	22.01	0-1	1
	16QAM	1	0	22.36	21.95	22.17	0-1	1
		1	24	22.39	21.91	22.05	0-1	1
		1	49	22.46	21.85	21.95	0-1	1
		25	0	21.05	20.99	20.99	0-2	2
		25	12	21.00	20.86	21.05	0-2	2
		25	24	21.04	20.88	21.00	0-2	2
		50	0	21.00	20.93	21.03	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				20025	20175	20325	[dB]	[dB]
				1717.5 MHz	1732.5 MHz	1747.5 MHz		
15 MHz	QPSK	1	0	23.15	23.21	23.14	0	0
		1	36	23.09	23.17	23.12	0	0
		1	74	23.11	23.18	23.13	0	0
		36	0	22.02	22.04	22.06	0-1	1
		36	18	21.98	22.01	22.06	0-1	1
		36	38	21.88	22.00	22.20	0-1	1
		75	0	22.01	21.98	21.99	0-1	1
	16QAM	1	0	22.46	22.07	22.29	0-1	1
		1	36	22.29	21.85	22.08	0-1	1
		1	74	22.33	21.97	22.00	0-1	1
		36	0	20.88	20.98	21.11	0-2	2
		36	18	21.07	20.95	21.17	0-2	2
		36	38	20.93	20.97	21.08	0-2	2
		75	0	20.95	21.01	21.05	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)	MPR Allowed Per 3GPP	MPR
				20175	[dB]	[dB]
				1732.5 MHz		
20 MHz	QPSK	1	0	23.28	0	0
		1	49	23.17	0	0
		1	99	23.11	0	0
		50	0	22.05	0-1	1
		50	25	22.05	0-1	1
		50	49	21.97	0-1	1
		100	0	21.99	0-1	1
	16QAM	1	0	22.32	0-1	1
		1	49	22.35	0-1	1
		1	99	22.40	0-1	1
		50	0	21.08	0-2	2
		50	25	21.04	0-2	2
		50	49	21.03	0-2	2
		100	0	20.98	0-2	2

Note: LTE Band 4 (AWS) at 20 MHz Bandwidth does not support three non-overlapping channels. Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the mid channel of the group of overlapping channels should be selected for testing.

- LTE Band 5 Maximum Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				20407	20525	20643	[dB]	[dB]
				824.7 MHz	836.5 MHz	848.3 MHz		
1.4 MHz	QPSK	1	0	23.25	22.89	23.17	0	0
		1	3	23.34	23.00	23.25	0	0
		1	5	23.26	23.01	23.13	0	0
		3	0	23.08	23.02	23.13	0	0
		3	1	23.19	23.08	23.17	0	0
		3	3	23.10	22.96	23.09	0	0
		6	0	22.12	21.97	22.06	0-1	1
	16QAM	1	0	22.25	22.32	22.18	0-1	1
		1	3	22.30	22.31	22.33	0-1	1
		1	5	22.22	22.32	22.21	0-1	1
		3	0	22.21	22.29	22.31	0-1	1
		3	1	22.27	22.43	22.34	0-1	1
		3	3	22.25	22.29	22.33	0-1	1
		6	0	21.27	21.20	21.25	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				20415	20525	20635	[dB]	[dB]
				825.5 MHz	836.5 MHz	847.5 MHz		
3 MHz	QPSK	1	0	23.36	23.36	23.19	0	0
		1	7	23.21	23.29	23.24	0	0
		1	14	23.26	23.31	23.20	0	0
		8	0	22.15	22.14	22.15	0-1	1
		8	3	22.16	22.15	22.17	0-1	1
		8	7	22.16	22.14	22.09	0-1	1
		15	0	22.14	22.08	22.19	0-1	1
	16QAM	1	0	22.40	22.48	22.20	0-1	1
		1	7	22.37	22.53	22.34	0-1	1
		1	14	22.32	22.57	22.17	0-1	1
		8	0	21.26	21.21	21.23	0-2	2
		8	3	21.21	21.26	21.31	0-2	2
		8	7	21.24	21.22	21.31	0-2	2
		15	0	21.12	21.14	21.18	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20425	20525	20625	[dB]	[dB]
				826.5 MHz	836.5 MHz	846.5 MHz		
5 MHz	QPSK	1	0	23.30	23.20	23.16	0	0
		1	12	23.07	23.17	23.12	0	0
		1	24	23.14	23.29	23.18	0	0
		12	0	22.15	22.17	22.13	0-1	1
		12	6	22.16	22.13	22.19	0-1	1
		12	11	22.14	22.12	22.17	0-1	1
		25	0	22.12	22.16	22.15	0-1	1
	16QAM	1	0	22.49	22.22	22.52	0-1	1
		1	12	22.25	22.12	22.59	0-1	1
		1	24	22.35	22.31	22.53	0-1	1
		12	0	21.19	21.22	21.22	0-2	2
		12	6	21.24	21.21	21.32	0-2	2
		12	11	21.23	21.18	21.30	0-2	2
		25	0	21.15	21.15	21.25	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)	MPR Allowed Per 3GPP	MPR
				20525	[dB]	[dB]
				836.5 MHz		
10 MHz	QPSK	1	0	23.27	0	0
		1	24	23.22	0	0
		1	49	23.44	0	0
		25	0	22.13	0-1	1
		25	12	22.20	0-1	1
		25	24	22.15	0-1	1
		50	0	22.16	0-1	1
	16QAM	1	0	22.21	0-1	1
		1	24	22.09	0-1	1
		1	49	22.32	0-1	1
		25	0	21.13	0-2	2
		25	12	21.20	0-2	2
		25	24	21.15	0-2	2
		50	0	21.12	0-2	2

Note: LTE Band 5 at 10 MHz Bandwidth does not support three non-overlapping channels. Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the mid channel of the group of overlapping channels should be selected for testing.

- LTE Band 12 Maximum Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				23017	23095	23173	[dB]	[dB]
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	23.25	23.01	23.13	0	0
		1	3	23.26	23.13	23.30	0	0
		1	5	23.22	22.87	23.11	0	0
		3	0	23.12	22.97	23.07	0	0
		3	1	23.16	23.05	23.10	0	0
		3	3	23.08	22.95	23.10	0	0
		6	0	22.10	22.07	21.97	0-1	1
	16QAM	1	0	22.15	22.38	22.48	0-1	1
		1	3	22.28	22.37	22.38	0-1	1
		1	5	22.15	22.29	22.48	0-1	1
		3	0	22.27	22.38	22.31	0-1	1
		3	1	22.32	22.49	22.31	0-1	1
		3	3	22.28	22.41	22.35	0-1	1
		6	0	21.32	21.26	21.20	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				23025	23095	23165	[dB]	[dB]
				700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	23.23	23.30	23.03	0	0
		1	7	23.23	23.22	23.19	0	0
		1	14	23.39	23.20	23.12	0	0
		8	0	22.12	22.06	22.08	0-1	1
		8	3	22.17	22.20	22.19	0-1	1
		8	7	22.12	22.14	22.05	0-1	1
		15	0	22.09	22.13	22.14	0-1	1
	16QAM	1	0	22.29	22.54	22.02	0-1	1
		1	7	22.33	22.49	22.36	0-1	1
		1	14	22.31	22.44	22.07	0-1	1
		8	0	21.22	21.22	21.22	0-2	2
		8	3	21.25	21.30	21.36	0-2	2
		8	7	21.26	21.24	21.28	0-2	2
		15	0	21.08	21.20	21.22	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)			MPR Allowed Per 3GPP	MPR
				23035	23095	23155	[dB]	[dB]
				701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	23.15	23.27	23.21	0	0
		1	12	23.16	23.09	23.10	0	0
		1	24	23.03	23.10	23.20	0	0
		12	0	22.04	22.10	22.17	0-1	1
		12	6	22.15	22.15	22.15	0-1	1
		12	11	22.17	22.06	22.19	0-1	1
		25	0	22.15	22.08	22.17	0-1	1
	16QAM	1	0	22.38	22.16	22.51	0-1	1
		1	12	22.24	22.20	22.51	0-1	1
		1	24	22.22	22.10	22.56	0-1	1
		12	0	21.18	21.15	21.31	0-2	2
		12	6	21.24	21.25	21.26	0-2	2
		12	11	21.25	21.21	21.31	0-2	2
		25	0	21.18	21.13	21.23	0-2	2

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power (dBm)	MPR Allowed Per 3GPP	MPR
				23095	[dB]	[dB]
				707.5 MHz		
10 MHz	QPSK	1	0	23.36	0	0
		1	24	23.31	0	0
		1	49	23.29	0	0
		25	0	22.22	0-1	1
		25	12	22.22	0-1	1
		25	24	22.13	0-1	1
		50	0	22.25	0-1	1
	16QAM	1	0	22.48	0-1	1
		1	24	22.40	0-1	1
		1	49	22.43	0-1	1
		25	0	21.22	0-2	2
		25	12	21.23	0-2	2
		25	24	21.15	0-2	2
		50	0	21.23	0-2	2

Note: LTE Band 12 at 10 MHz Bandwidth does not support three non-overlapping channels. Per KDB 941225 D05v02r03, when a device supports overlapping channel assignment in a channel bandwidth configuration, the mid channel of the group of overlapping channels should be selected for testing.

9.4 WiFi

IEEE 802.11 Average RF Power

Mode	Freq. [MHz]	Channel	IEEE 802.11 (2.4 GHz) Conducted Power [dBm]
802.11b	2412	1	16.61
	2437	6	16.95
	2462	11	16.41
802.11g	2412	1	15.12
	2437	6	15.45
	2462	11	14.88
802.11n (HT20)	2412	1	14.26
	2437	6	14.49
	2462	11	14.06
802.11ac (HT20)	2412	1	14.26
	2437	6	14.48
	2462	11	13.98

IEEE 802.11a Average RF Power– 20 MHz Bandwidth

Mode	Freq. [MHz]	Channel	IEEE 802.11 (5 GHz) Conducted Power [dBm]
802.11a	5180	36	13.03
	5200	40	13.47
	5220	44	13.20
	5240	48	13.53
	5260	52	13.62
	5280	56	13.41
	5300	60	13.53
	5320	64	13.54
	5500	100	13.55
	5580	116	13.67
	5660	132	13.51
	5720	144	13.83
	5745	149	14.03
	5785	157	14.07
	5825	165	14.28

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

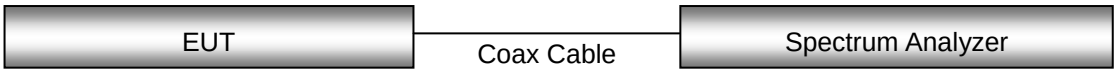
▪ Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.

▪ For transmission mode with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.

▪ For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.

▪ For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

Test Configuration



10. SYSTEM VERIFICATION

10.1 Tissue Verification

The Head /body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity.

Table for Head Tissue Verification

Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ε	Target Conductivity σ (S/m)	Target Dielectric Constant, ε	% dev σ	% dev ε
05/27/2016	21.9	750H	700	0.866	43.533	0.889	42.200	-2.59%	3.16%
			725	0.886	43.115	0.891	42.071	-0.56%	2.48%
			750	0.910	42.800	0.893	41.940	1.90%	2.05%
05/26/2016	21.1	835H	820	0.903	41.377	0.899	41.578	0.44%	-0.48%
			835	0.915	41.100	0.900	41.500	1.67%	-0.96%
			850	0.932	40.933	0.916	41.500	1.75%	-1.37%
05/27/2016	19.9	1800H	1710	1.304	40.109	1.348	40.142	-3.26%	-0.08%
			1750	1.344	39.933	1.371	40.079	-1.97%	-0.36%
			1800	1.390	39.700	1.400	40.000	-0.71%	-0.75%
05/27/2016	19.9	1900H	1850	1.357	39.694	1.400	40.000	-3.07%	-0.76%
			1900	1.420	39.600	1.400	40.000	1.43%	-1.00%
			1910	1.435	39.566	1.400	40.000	2.50%	-1.08%
06/01/2016	20.1	2450H	2400	1.758	40.433	1.756	39.290	0.11%	2.91%
			2450	1.820	40.300	1.800	39.200	1.11%	2.81%
			2500	1.874	40.071	1.855	39.140	1.02%	2.38%
06/02/2016	23.0	5200H-5800H	5250	4.650	35.400	4.706	35.930	-1.19%	-1.48%
			5280	4.690	35.900	4.744	35.894	-1.14%	0.02%
			5300	4.718	36.293	4.758	35.870	-0.84%	1.18%
			5500	4.965	36.332	4.963	35.640	0.04%	1.94%
			5600	5.110	36.400	5.065	35.530	0.89%	2.45%
			5720	5.250	36.500	5.133	35.458	2.28%	2.94%
			5750	5.310	36.700	5.221	35.365	1.70%	3.77%
			5800	5.359	35.871	5.270	35.300	1.69%	1.62%
			5825	5.390	35.700	5.303	35.270	1.64%	1.22%

Table for Body Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ε	Target Conductivity σ (S/m)	Target Dielectric Constant, ε	% dev σ	% dev ε
05/31/2016	20.4	750B	700	0.942	55.117	0.959	55.730	-1.77%	-1.10%
			725	0.965	54.792	0.961	55.629	0.42%	-1.50%
			750	0.988	54.500	0.963	55.530	2.60%	-1.85%
05/31/2016	20.4	835B	820	0.939	56.576	0.969	55.258	-3.10%	2.39%
			835	0.954	56.400	0.970	55.200	-1.65%	2.17%
			850	0.970	56.255	0.988	55.154	-1.82%	2.00%
05/30/2016	20.6	1800B	1710	1.452	52.842	1.463	53.537	-0.75%	-1.30%
			1750	1.491	52.748	1.488	53.432	0.20%	-1.28%
			1800	1.540	52.500	1.520	53.300	1.32%	-1.50%
05/30/2016	20.6	1900B	1850	1.521	50.835	1.520	53.300	0.07%	-4.62%
			1900	1.570	50.700	1.520	53.300	3.29%	-4.88%
			1910	1.582	50.707	1.520	53.300	4.08%	-4.86%
06/01/2016	19.2	2450B	2400	1.881	51.772	1.902	52.770	-1.10%	-1.89%
			2450	1.930	51.700	1.950	52.700	-1.03%	-1.90%
			2500	2.008	51.627	2.021	52.640	-0.64%	-1.92%
06/01/2016	20.1	5200B-5800B	5250	5.270	48.700	5.358	48.950	-1.64%	-0.51%
			5280	5.320	48.600	5.400	48.908	-1.48%	-0.63%
			5300	5.350	48.567	5.416	48.880	-1.22%	-0.64%
			5500	5.680	47.980	5.650	48.610	0.53%	-1.30%
			5600	5.840	47.700	5.766	48.470	1.28%	-1.59%
			5720	6.050	47.400	5.845	48.388	3.51%	-2.04%
			5750	6.100	47.400	5.944	48.277	2.62%	-1.82%
			5800	6.173	47.239	6.000	48.200	2.88%	-1.99%
			5825	6.210	47.200	6.037	48.165	2.87%	-2.00%

10.2 System Verification

Prior to assessment, the system is verified to the ± 10 % of the specifications at 750 MHz/835 MHz / 1800 MHz/ 1 900 MHz / 2 450 MHz/ 5 250 MHz /5 600 MHz /5 750 MHzby using the system Verification kit. (Graphic Plots Attached)

System Verification Results

Freq.	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp.	Liquid Temp.	1 W Target SAR_{1g} (SPEAG)	Measured SAR_{1g}	1 W Normalized SAR_{1g}	Deviation	Limit [%]
[MHz]					[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]	[%]
750	05/27/2016	3863	1014	Head	20.2	21.9	8.15	0.790	7.9	- 3.07	± 10
750	05/31/2016	3863		Body	20.7	20.4	8.49	0.846	8.46	- 0.35	± 10
835	05/26/2016	3863	4d165	Head	21.4	21.1	9.06	0.905	9.05	- 0.11	± 10
835	05/31/2016	3863		Body	20.7	20.4	9.47	0.932	9.32	- 1.58	± 10
1 800	05/27/2016	3863	2d006	Head	20.2	19.9	38.5	3.62	36.2	- 5.97	± 10
1 800	05/30/2016	3863		Body	20.8	20.6	38.3	4	40	+ 4.44	± 10
1 900	05/27/2016	3863	5d061	Head	20.2	19.9	38.6	3.8	38	- 1.55	± 10
1 900	05/30/2016	3863		Body	20.8	20.6	39.7	4.16	41.6	+ 4.79	± 10
2 450	06/01/2016	3863	965	Head	20.3	20.1	50.6	4.92	49.2	- 2.77	± 10
2 450	06/01/2016	3797		Body	19.4	19.2	49.2	4.96	49.6	+ 0.81	± 10
5 250	06/02/2016	3797	1107	Head	23.2	23.0	77.8	7.73	77.3	- 0.64	± 10
5 250	06/01/2016	3863		Body	20.3	20.1	74.0	8.06	80.6	+ 8.92	± 10
5 600	06/02/2016	3797		Head	23.2	23.0	80.5	8.28	82.8	+ 2.86	± 10
5 600	06/01/2016	3863		Body	20.3	20.1	78.9	7.78	77.8	- 1.39	± 10
5 750	06/02/2016	3797		Head	23.2	23.0	76.8	7.29	72.9	- 5.08	± 10
5 750	06/01/2016	3863		Body	20.3	20.1	74.9	7.5	75	+ 0.13	± 10

10.3 System Verification Procedure

SAR measurement was prior to assessment, the system is verified to the ± 10 % of the specifications at each frequencyband by using the system Verification kit. (Graphic Plots Attached)

- Cabling the system, using the Verification kit equipments.
- Generate about 100 mW Input Level from the Signal generator to the Dipole Antenna.
- Dipole Antenna was placed below the Flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.
- The results are normalized to 1 W input power.

NOTE;
SAR Verification was performed according to the FCC KDB 865664 D01v01r04.

11. SAR TEST DATA SUMMARY

11.1 HEAD SAR Measurement Results

GSM 850 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
836.6	190	GSM	33.2	33.13	0.089	Left Cheek	1:8.3	0.227	1.016	0.231	-
836.6	190	GSM	33.2	33.13	-0.060	Left Tilt	1:8.3	0.146	1.016	0.148	-
836.6	190	GSM	33.2	33.13	0.090	Right Cheek	1:8.3	0.283	1.016	0.288	-
836.6	190	GSM	33.2	33.13	0.011	Right Tilt	1:8.3	0.151	1.016	0.153	-
836.6	190	GPRS 3Tx	29.2	28.95	-0.151	Left Cheek	1:2.77	0.247	1.059	0.262	-
836.6	190	GPRS 3Tx	29.2	28.95	0.085	Left Tilt	1:2.77	0.156	1.059	0.165	-
836.6	190	GPRS 3Tx	29.2	28.95	0.029	Right Cheek	1:2.77	0.326	1.059	**0.345**	1
836.6	190	GPRS 3Tx	29.2	28.95	0.072	Right Tilt	1:2.77	0.183	1.059	0.194	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

GSM 1900 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
1880.0	661	GSM	30.2	29.73	-0.138	Left Cheek	1:8.3	0.356	1.114	0.397	-
1880.0	661	GSM	30.2	29.73	-0.185	Left Tilt	1:8.3	0.135	1.114	0.150	-
1880.0	661	GSM	30.2	29.73	-0.071	Right Cheek	1:8.3	0.159	1.114	0.177	-
1880.0	661	GSM	30.2	29.73	0.035	Right Tilt	1:8.3	0.149	1.114	0.166	-
1909.8	810	GPRS 3Tx	26.7	26.68	0.044	Left Cheek	1:2.77	0.537	1.005	**0.540**	2
1909.8	810	GPRS 3Tx	26.7	26.68	0.189	Left Tilt	1:2.77	0.245	1.005	0.246	-
1909.8	810	GPRS 3Tx	26.7	26.68	0.121	Right Cheek	1:2.77	0.254	1.005	0.255	-
1909.8	810	GPRS 3Tx	26.7	26.68	0.095	Right Tilt	1:2.77	0.248	1.005	0.249	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

UMTS 850 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
836.6	4183	RMC	23.7	23.31	-0.106	Left Cheek	1:1	0.254	1.094	0.278	-
836.6	4183	RMC	23.7	23.31	0.049	Left Tilt	1:1	0.164	1.094	0.179	-
836.6	4183	RMC	23.7	23.31	-0.129	Right Cheek	1:1	0.365	1.094	**0.399**	3
836.6	4183	RMC	23.7	23.31	0.052	Right Tilt	1:1	0.213	1.094	0.233	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

UMTS 1900 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
1 880.0	9400	RMC	23.7	23.43	-0.053	Left Cheek	1:1	0.656	1.064	**0.698**	4
1 880.0	9400	RMC	23.7	23.43	0.145	Left Tilt	1:1	0.307	1.064	0.327	-
1 880.0	9400	RMC	23.7	23.43	-0.134	Right Cheek	1:1	0.330	1.064	0.351	-
1 880.0	9400	RMC	23.7	23.43	0.010	Right Tilt	1:1	0.265	1.064	0.282	-
ANSI/ IEEE C95.1 - 1992 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg (mW/g) Averaged over 1 gram					

LTE Band 2 (PCS) Head SAR															
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 900	19100	QPSK	20	23.7	23.27	-0.010	Left Cheek	0	1	0	1:1	0.640	1.104	**0.707**	5
1 860	18700	QPSK	20	22.7	22.26	0.136	Left Cheek	1	50	25	1:1	0.495	1.107	0.548	-
1 900	19100	QPSK	20	23.7	23.27	-0.074	Left Tilt	0	1	0	1:1	0.211	1.104	0.233	-
1 860	18700	QPSK	20	22.7	22.26	0.086	Left Tilt	1	50	25	1:1	0.189	1.107	0.209	-
1 900	19100	QPSK	20	23.7	23.27	-0.054	Right Cheek	0	1	0	1:1	0.318	1.104	0.351	-
1 860	18700	QPSK	20	22.7	22.26	-0.030	Right Cheek	1	50	25	1:1	0.257	1.107	0.284	-
1 900	19100	QPSK	20	23.7	23.27	0.172	Right Tilt	0	1	0	1:1	0.249	1.104	0.275	-
1 860	18700	QPSK	20	22.7	22.26	-0.002	Right Tilt	1	50	25	1:1	0.212	1.107	0.235	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

LTE Band 4 (AWS) Head SAR															
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 732.5	20175	QPSK	20	23.7	23.28	-0.032	Left Cheek	0	1	0	1:1	0.445	1.102	**0.490**	6
1 732.5	20175	QPSK	20	22.7	22.05	0.014	Left Cheek	1	50	0	1:1	0.356	1.161	0.413	-
1 732.5	20175	QPSK	20	23.7	23.28	0.004	Left Tilt	0	1	0	1:1	0.187	1.102	0.206	-
1 732.5	20175	QPSK	20	22.7	22.05	-0.017	Left Tilt	1	50	0	1:1	0.151	1.161	0.175	-
1 732.5	20175	QPSK	20	23.7	23.28	-0.061	Right Cheek	0	1	0	1:1	0.208	1.102	0.229	-
1 732.5	20175	QPSK	20	22.7	22.05	0.159	Right Cheek	1	50	0	1:1	0.160	1.161	0.186	-
1 732.5	20175	QPSK	20	23.7	23.28	-0.153	Right Tilt	0	1	0	1:1	0.199	1.102	0.219	-
1 732.5	20175	QPSK	20	22.7	22.05	0.155	Right Tilt	1	50	0	1:1	0.167	1.161	0.194	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

LTE Band 5 (Cell) Head SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
836.5	20525	QPSK	10	23.7	23.44	0.072	Left Cheek	0	1	49	1:1	0.204	1.062	0.217	-
836.5	20525	QPSK	10	22.7	22.20	-0.009	Left Cheek	1	25	12	1:1	0.155	1.122	0.174	-
836.5	20525	QPSK	10	23.7	23.44	0.161	Left Tilt	0	1	49	1:1	0.136	1.062	0.144	-
836.5	20525	QPSK	10	22.7	22.20	-0.042	Left Tilt	1	25	12	1:1	0.103	1.122	0.116	-
836.5	20525	QPSK	10	23.7	23.44	-0.175	Right Cheek	0	1	49	1:1	0.260	1.062	**0.276**	7
836.5	20525	QPSK	10	22.7	22.20	0.024	Right Cheek	1	25	12	1:1	0.207	1.122	0.232	-
836.5	20525	QPSK	10	23.7	23.44	0.110	Right Tilt	0	1	49	1:1	0.123	1.062	0.131	-
836.5	20525	QPSK	10	22.7	22.20	0.090	Right Tilt	1	25	12	1:1	0.099	1.122	0.111	-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg Averaged over 1 gram

LTE Band 12 Head SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
707.5	23095	QPSK	10	23.7	23.36	-0.048	Left Cheek	0	1	0	1:1	0.114	1.081	0.123	-
707.5	23095	QPSK	10	22.7	22.22	0.053	Left Cheek	1	25	0	1:1	0.093	1.117	0.104	-
707.5	23095	QPSK	10	23.7	23.36	0.049	Left Tilt	0	1	0	1:1	0.077	1.081	0.083	-
707.5	23095	QPSK	10	22.7	22.22	-0.074	Left Tilt	1	25	0	1:1	0.061	1.117	0.068	-
707.5	23095	QPSK	10	23.7	23.36	-0.158	Right Cheek	0	1	0	1:1	0.136	1.081	**0.147**	8
707.5	23095	QPSK	10	22.7	22.22	0.060	Right Cheek	1	25	0	1:1	0.114	1.117	0.127	-
707.5	23095	QPSK	10	23.7	23.36	0.133	Right Tilt	0	1	0	1:1	0.075	1.081	0.081	-
707.5	23095	QPSK	10	22.7	22.22	0.008	Right Tilt	1	25	0	1:1	0.060	1.117	0.067	-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg Averaged over 1 gram

DTS Head SAR

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(W/kg)	(W/kg)		(Duty)	(W/kg)	
2437	6	802.11b	22	1	18.0	16.95	0.109	Left Cheek	99.84	0.49	0.381	1.274	1.002	0.486	-
2437	6	802.11b	22	1	18.0	16.95	-0.155	Left Tilt	99.84	0.454	0.389	1.274	1.002	**0.497**	9
2437	6	802.11b	22	1	18.0	16.95		Right Cheek	99.84	0.246		1.274	1.002		-
2437	6	802.11b	22	1	18.0	16.95	0.046	Right Tilt	99.84	0.268	0.244	1.274	1.002	0.311	-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg Averaged over 1 gram

NII Head SAR

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 260	52	802.11a	20	6Mbps	14.0	13.62	0.002	Left Cheek	98.65	0	1.62	0.627	1.091	1.014	0.694	-
5 260	52	802.11a	20	6Mbps	14.0	13.62	-0.10	Left Tilt	98.65	0	1.81	0.716	1.091	1.014	**0.792**	10
5 260	52	802.11a	20	6Mbps	14.0	13.62	0.188	Right Cheek	98.65	0	1.19	0.524	1.091	1.014	0.580	-
5 260	52	802.11a	20	6Mbps	14.0	13.62	0.104	Right Tilt	98.65	0	1.45	0.583	1.091	1.014	0.645	-
5 720	144	802.11a	20	6Mbps	14.5	13.83	-0.146	Left Cheek	98.65	0	1.58	0.603	1.167	1.014	0.714	-
5 580	116	802.11a	20	6Mbps	14.0	13.67	-0.190	Left Tilt	98.65	0	2.4	1.01	1.079	1.014	1.105	-
5 720	144	802.11a	20	6Mbps	14.5	13.83	0.062	Left Tilt	98.65	0	2.09	0.833	1.167	1.014	0.986	-
5 720	144	802.11a	20	6Mbps	14.5	13.83	0.115	Right Cheek	98.65	0	1.16	0.543	1.167	1.014	0.643	-
5 580	116	802.11a	20	6Mbps	14.0	13.67	0.048	Right Tilt	98.65	0	2.23	1.08	1.079	1.014	**1.182**	11
5 720	144	802.11a	20	6Mbps	14.5	13.83	0.174	Right Tilt	98.65	0	1.55	0.807	1.167	1.014	0.955	-
5 825	165	802.11a	20	6Mbps	14.5	14.28	0.157	Left Cheek	98.65	0	1.78	0.673	1.052	1.014	0.718	-
5785	157	802.11a	20	6Mbps	14.5	14.07	0.086	Left Tilt	98.65	0	2.18	0.813	1.104	1.014	0.910	-
5 825	165	802.11a	20	6Mbps	14.5	14.28	0.181	Left Tilt	98.65	0	2.18	0.859	1.052	1.014	**0.916**	12
5 825	165	802.11a	20	6Mbps	14.5	14.28	0.111	Right Cheek	98.65	0	1.45	0.668	1.052	1.014	0.713	-
5785	157	802.11a	20	6Mbps	14.5	14.07	0.014	Right Tilt	98.65	0	1.81	0.767	1.104	1.014	0.859	-
5 825	165	802.11a	20	6Mbps	14.5	14.28	-0.119	Right Tilt	98.65	0	2.06	0.854	1.052	1.014	0.911	-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg Averaged over 1 gram

11.2 Body-worn SAR Measurement Results

GSM/UMTS Body-Worn SAR

Frequency		Mode		Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.			(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
836.6	190	GSM 850	GSM	33.2	33.13	-0.079	Rear	1:8.3	10	0.274	1.016	0.278	13
836.6	190	GSM 850	GPRS 3Tx	29.2	28.95	-0.160	Rear	1:2.77	10	0.300	1.059	**0.318**	14
1880.0	661	GSM 1900	GSM	30.2	29.73	-0.086	Rear	1:8.3	10	0.320	1.114	0.356	15
1909.8	810	GSM 1900	GPRS 3Tx	26.7	26.68	0.136	Rear	1:2.77	10	0.454	1.005	**0.456**	16
836.6	4183	UMTS 850	RMC	23.7	23.31	-0.008	Rear	1:1	10	0.382	1.094	**0.418**	17
1 880.0	9400	UMTS 1900	RMC	23.7	23.43	-0.078	Rear	1:1	10	0.538	1.064	**0.572**	18
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram						

LTE Body-Worn SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
1 900	19100	LTE 2 QPSK	20	23.7	23.27	-0.006	Rear	0	1	0	1:1	10	0.513	1.104	**0.566**	19
1 860	18700		20	22.7	22.26	-0.077	Rear	1	50	25	1:1	10	0.450	1.107	0.498	-
1 732.5	20175	LTE 4 QPSK	20	23.7	23.28	0.032	Rear	0	1	0	1:1	10	0.534	1.102	**0.588**	20
1 732.5	20175		20	22.7	22.05	0.048	Rear	1	50	0	1:1	10	0.488	1.161	0.567	-
836.5	20525	LTE 5 QPSK	10	23.7	23.44	-0.048	Rear	0	1	49	1:1	10	0.288	1.062	**0.306**	21
836.5	20525		10	22.7	22.20	-0.049	Rear	1	25	12	1:1	10	0.235	1.122	0.264	-
707.5	23095	LTE 12 QPSK	10	23.7	23.36	-0.034	Rear	0	1	0	1:1	10	0.240	1.081	**0.259**	22
707.5	23095		10	22.7	22.22	0.096	Rear	1	25	0	1:1	10	0.193	1.117	0.216	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

DTS Body-Worn SAR																
Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
2 437	6	802.11b	22	1	18.0	16.95	-0.104	Rear	99.84	10	0.203	0.135	1.274	1.002	**0.172**	23
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

NII Body-Worn SAR																
Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 260	52	802.11a	20	6Mbps	14.0	13.62	0.062	Rear	98.65	10	0.423	0.200	1.091	1.014	**0.221**	24
5 720	144	802.11a	20	6Mbps	14.5	13.83	0.000	Rear	98.65	10	0.71	0.298	1.167	1.014	**0.353**	25
5 825	165	802.11a	20	6Mbps	14.5	14.28	0.000	Rear	98.65	10	0.697	0.299	1.052	1.014	**0.319**	26
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

11.3 Hotspot SAR Measurement Results

GSM 850 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
836.6	190	GPRS 3Tx	29.2	28.95	-0.160	Rear	1:2.77	10	0.300	1.059	0.318	14
836.6	190	GPRS 3Tx	29.2	28.95	-0.110	Front	1:2.77	10	0.313	1.059	**0.331**	27
836.6	190	GPRS 3Tx	29.2	28.95	0.025	Left	1:2.77	10	0.151	1.059	0.160	-
836.6	190	GPRS 3Tx	29.2	28.95	0.063	Right	1:2.77	10	0.238	1.059	0.252	-
836.6	190	GPRS 3Tx	29.2	28.95	-0.025	Bottom	1:2.77	10	0.238	1.059	0.252	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

GSM 1900 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
1909.8	810	GPRS 3Tx	26.7	26.68	0.136	Rear	1:2.77	10	0.454	1.005	0.456	16
1909.8	810	GPRS 3Tx	26.7	26.68	-0.10	Front	1:2.77	10	0.512	1.005	0.515	-
1909.8	810	GPRS 3Tx	26.7	26.68	-0.106	Left	1:2.77	10	0.605	1.005	**0.608**	28
1909.8	810	GPRS 3Tx	26.7	26.68	0.194	Right	1:2.77	10	0.073	1.005	0.073	-
1909.8	810	GPRS 3Tx	26.7	26.68	-0.121	Bottom	1:2.77	10	0.243	1.005	0.244	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

UMTS 850 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
836.6	4183	RMC	23.7	23.31	-0.008	Rear	1:1	10	0.382	1.094	0.418	17
836.6	4183	RMC	23.7	23.31	-0.003	Front	1:1	10	0.418	1.094	**0.457**	29
836.6	4183	RMC	23.7	23.31	0.189	Left	1:1	10	0.193	1.094	0.211	-
836.6	4183	RMC	23.7	23.31	0.055	Right	1:1	10	0.290	1.094	0.317	-
836.6	4183	RMC	23.7	23.31	0.015	Bottom	1:1	10	0.278	1.094	0.304	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

UMTS 1900 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
1 880.0	9400	RMC	23.7	23.43	-0.078	Rear	1:1	10	0.538	1.064	0.572	18
1 880.0	9400	RMC	23.7	23.43	0.009	Front	1:1	10	0.541	1.064	0.576	-
1852.4	9262	RMC	23.7	23.56	0.060	Left	1:1	10	0.750	1.033	0.775	-
1 880.0	9400	RMC	23.7	23.43	-0.048	Left	1:1	10	0.786	1.064	**0.836**	30
1907.6	9538	RMC	23.7	23.40	0.004	Left	1:1	10	0.731	1.072	0.784	-
1 880.0	9400	RMC	23.7	23.43	0.088	Right	1:1	10	0.130	1.064	0.138	-
1 880.0	9400	RMC	23.7	23.43	0.015	Bottom	1:1	10	0.305	1.064	0.325	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

LTE Band 2 (PCS) Hotspot SAR															
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
1 900	19100	QPSK	20	23.7	23.27	-0.006	Rear	0	1	0	1:1	10	0.513	1.104	0.566	19
1 860	18700	QPSK	20	22.7	22.26	-0.077	Rear	1	50	25	1:1	10	0.450	1.107	0.498	-
1 900	19100	QPSK	20	23.7	23.27	0.025	Front	0	1	0	1:1	10	0.583	1.104	0.644	-
1 860	18700	QPSK	20	22.7	22.26	0.009	Front	1	50	25	1:1	10	0.472	1.107	0.523	-
1 900	19100	QPSK	20	23.7	23.27	-0.073	Left	0	1	0	1:1	10	0.671	1.104	**0.741**	31
1 860	18700	QPSK	20	22.7	22.26	-0.035	Left	1	50	25	1:1	10	0.520	1.107	0.576	-
1 900	19100	QPSK	20	23.7	23.27	-0.049	Right	0	1	0	1:1	10	0.113	1.104	0.125	-
1 860	18700	QPSK	20	22.7	22.26	0.142	Right	1	50	25	1:1	10	0.114	1.107	0.126	-
1 900	19100	QPSK	20	23.7	23.27	0.098	Bottom	0	1	0	1:1	10	0.385	1.104	0.425	-
1 860	18700	QPSK	20	22.7	22.26	-0.024	Bottom	1	50	25	1:1	10	0.338	1.107	0.374	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

LTE Band 4 (AWS) Hotspot SAR																
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
1 732.5	20175	QPSK	20	23.7	23.28	0.032	Rear	0	1	0	1:1	10	0.534	1.102	0.588	20
1 732.5	20175	QPSK	20	22.7	22.05	0.048	Rear	1	50	0	1:1	10	0.488	1.161	0.567	-
1 732.5	20175	QPSK	20	23.7	23.28	0.038	Front	0	1	0	1:1	10	0.554	1.102	**0.611**	32
1 732.5	20175	QPSK	20	22.7	22.05	0.077	Front	1	50	0	1:1	10	0.419	1.161	0.486	-
1 732.5	20175	QPSK	20	23.7	23.28	-0.033	Left	0	1	0	1:1	10	0.453	1.102	0.499	-
1 732.5	20175	QPSK	20	22.7	22.05	-0.052	Left	1	50	0	1:1	10	0.345	1.161	0.401	-
1 732.5	20175	QPSK	20	23.7	23.28	0.049	Right	0	1	0	1:1	10	0.048	1.102	0.053	-
1 732.5	20175	QPSK	20	22.7	22.05	0.019	Right	1	50	0	1:1	10	0.039	1.161	0.045	-
1 732.5	20175	QPSK	20	23.7	23.28	-0.001	Bottom	0	1	0	1:1	10	0.323	1.102	0.356	-
1 732.5	20175	QPSK	20	22.7	22.05	-0.004	Bottom	1	50	0	1:1	10	0.252	1.161	0.293	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

LTE Band 5 Hotspot SAR																
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
836.5	20525	QPSK	10	23.7	23.44	-0.048	Rear	0	1	49	1:1	10	0.288	1.062	0.306	21
836.5	20525	QPSK	10	22.7	22.20	-0.049	Rear	1	25	12	1:1	10	0.235	1.122	0.264	-
836.5	20525	QPSK	10	23.7	23.44	0.017	Front	0	1	49	1:1	10	0.340	1.062	**0.361**	33
836.5	20525	QPSK	10	22.7	22.20	0.009	Front	1	25	12	1:1	10	0.266	1.122	0.298	-
836.5	20525	QPSK	10	23.7	23.44	0.029	Left	0	1	49	1:1	10	0.138	1.062	0.147	-
836.5	20525	QPSK	10	22.7	22.20	-0.030	Left	1	25	12	1:1	10	0.115	1.122	0.129	-
836.5	20525	QPSK	10	23.7	23.44	0.015	Right	0	1	49	1:1	10	0.235	1.062	0.250	-
836.5	20525	QPSK	10	22.7	22.20	0.001	Right	1	25	12	1:1	10	0.186	1.122	0.209	-
836.5	20525	QPSK	10	23.7	23.44	0.093	Bottom	0	1	49	1:1	10	0.243	1.062	0.258	-
836.5	20525	QPSK	10	22.7	22.20	0.019	Bottom	1	25	12	1:1	10	0.203	1.122	0.228	-
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

LTE Band 12 Hotspot SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
707.5	23095	QPSK	10	23.7	23.36	-0.034	Rear	0	1	0	1:1	10	0.240	1.081	**0.259**	22
707.5	23095	QPSK	10	22.7	22.22	0.096	Rear	1	25	0	1:1	10	0.193	1.117	0.216	-
707.5	23095	QPSK	10	23.7	23.36	-0.118	Front	0	1	0	1:1	10	0.238	1.081	0.257	-
707.5	23095	QPSK	10	22.7	22.22	-0.003	Front	1	25	0	1:1	10	0.196	1.117	0.219	-
707.5	23095	QPSK	10	23.7	23.36	0.118	Left	0	1	0	1:1	10	0.112	1.081	0.121	-
707.5	23095	QPSK	10	22.7	22.22	0.082	Left	1	25	0	1:1	10	0.086	1.117	0.096	-
707.5	23095	QPSK	10	23.7	23.36	-0.130	Right	0	1	0	1:1	10	0.137	1.081	0.148	-
707.5	23095	QPSK	10	22.7	22.22	0.014	Right	1	25	0	1:1	10	0.112	1.117	0.125	-
707.5	23095	QPSK	10	23.7	23.36	0.113	Bottom	0	1	0	1:1	10	0.109	1.081	0.118	-
707.5	23095	QPSK	10	22.7	22.22	0.021	Bottom	1	25	0	1:1	10	0.090	1.117	0.101	-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg Averaged over 1 gram

DTS Hotspot SAR

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
2 437	6	802.11b	22	1	18.0	16.95	-0.104	Rear	99.84	10	0.203	0.135	1.274	1.002	**0.172**	23
2 437	6	802.11b	22	1	18.0	16.95		Front	99.84	10	0.077		1.274	1.002		-
2 437	6	802.11b	22	1	18.0	16.95		Right	99.84	10	0.050		1.274	1.002		-
2 437	6	802.11b	22	1	18.0	16.95		Top	99.84	10	0.169		1.274	1.002		-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg Averaged over 1 gram

5GHz WLAN Hotspot SAR

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(Mbps)	(dBm)	(dBm)	(dB)			(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 825	165	802.11a	20	6Mbps	14.5	14.28	0.000	Rear	98.65	10	0.697	0.299	1.052	1.014	**0.319**	26
5 825	165	802.11a	20	6Mbps	14.5	14.28		Front	98.65	10	0.18		1.052	1.014		-
5 825	165	802.11a	20	6Mbps	14.5	14.28		Right	98.65	10	0.0963		1.052	1.014		-
5 825	165	802.11a	20	6Mbps	14.5	14.28		Top	98.65	10	0.623		1.052	1.014		-

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg Averaged over 1 gram

11.4 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Procedure.
2. Batteries are fully charged at the beginning of the SAR measurements. A standard battery was used for all SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. 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.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB 648474 D04v01r03, SAR was evaluated without a headset connected to the device. Since the standalone reported SAR was ≤ 1.2 W/kg, no additional SAR evaluation using a headset cable were required.

GSM/GPRS Test Notes:

1. This EUT'S GSM and GPRS device class is B.
2. This device supports GPRS VOIP in the head and the body-worn configurations therefore GPRS was additionally evaluated for head and body-worn compliance.
3. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
4. Justification for reduced test configurations per KDB 941225 D01v03r01: The source-based time-averaged output power was evaluated for all multi-slot operations. The multi-slot configuration with the highest frame averaged output power including tolerance was evaluated for SAR.
5. Per FCC KDB 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 then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is 1/2 dB, instead of the middle channel, the highest output power channel must be used.
6. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
7. When the maximum output power variation across the required test channels are over than 1/2 dB, instead of the middle channel, the highest output power channel was selected for SAR test according to Per FCC KDB 447498 D01v06.

UMTS Notes:

1. The 12.2 kbps RMC mode is the primary mode per KDB 941225 D01v03r01.
2. UMTS mode in Body SAR was tested under RMC 12.2 kbps with HSPA inactive per KDB 941225 D01v03r01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and Adjusted SAR value was less than 1.2 W/kg.
3. Per FCC KDB 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 then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the channel highest output power channel was used.
4. UMTS SAR was tested under RMC 12.2 kbps with HSPA inactive per KDB publication 941225 D01v03r01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Consideration for LTE Devices in FCC KDB 941225 D05v02r05.
2. According to FCC KDB 941225 D05v02r05.
   When the reported SAR is ≤ 0.8 W/kg, testing of the 100%RB allocation and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the 1RB, 50%RB and 100%RB allocation with highest output power for that channel.
   Only one channel, and as reported SAR values for 1RB allocation and 50%RB allocation were less than 1.45W/Kg only the highest power RB offset for each allocation was required.
3. 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 target MPR is indicated alongside the SAR results.
4. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator.
5. Pre-installed VOIP applications are considered.
6. SAR test reduction is applied using the following criteria:
   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. 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. 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. 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 a QPSK. 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.

WLAN Notes:

1. For held-to-ear and hotspot operations, the initial test position procedures were applied. For initial test position, the highest extrapolated peak SAR will be used. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR results is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10g SAR or all test position are measured.
2. Per KDB 248227 D01v02r02 justification for test configurations of 2.4 GHz WiFi Single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11 g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.
3. Per KDB 248227 D01v02r02 justification for test configurations of 5 GHz WiFi Single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission mode were not investigated since the highest reported SAR for initial test configuration adjusted by the ration of maximum output powers is less than 1.2 W/kg for 1g SAR and less than 3.0 W/kg for 10 g SAR.
4. When the maximum reported 1g averaged SAR is ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rated, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated WLAN test reports.

12. Simultaneous SAR Analysis

12.1 Simultaneous Transmission Summation for Head

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN				
Exposure condition	Band	WWAN SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Head SAR	GSM 850	0.288	0.497	0.785
	GPRS 850	0.345	0.497	0.842
	GSM 1900	0.397	0.497	0.894
	GPRS 1900	0.540	0.497	1.037
	UMTS 850	0.399	0.497	0.896
	UMTS 1900	0.698	0.497	1.195
	LTE Band 2	0.707	0.497	**1.204**
	LTE Band 4	0.490	0.497	0.987
	LTE Band 5	0.276	0.497	0.773
	LTE Band 12	0.147	0.497	0.644

Simultaneous Transmission Summation Scenario with 5 GHz WLAN					
Exposure condition	Band		WWAN SAR (W/kg)	5 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Head SAR	GSM 850	Left Cheek	0.231	0.718	0.949
		Left Tilt	0.148	1.105	1.253
		Right Cheek	0.288	0.713	1.001
		Right Tilt	0.153	1.182	1.335
	GPRS 850	Left Cheek	0.262	0.718	0.980
		Left Tilt	0.165	1.105	1.270
		Right Cheek	0.345	0.713	1.058
		Right Tilt	0.194	1.182	1.376
	GSM 1900	Left Cheek	0.397	0.718	1.115
		Left Tilt	0.150	1.105	1.255
		Right Cheek	0.177	0.713	0.890
		Right Tilt	0.166	1.182	1.348
	GPRS 1900	Left Cheek	0.540	0.718	1.258
		Left Tilt	0.246	1.105	1.351
		Right Cheek	0.255	0.713	0.968
		Right Tilt	0.249	1.182	1.431
	UMTS 850	Left Cheek	0.278	0.718	0.996
		Left Tilt	0.179	1.105	1.284
		Right Cheek	0.399	0.713	1.112
		Right Tilt	0.233	1.182	1.415
	UMTS 1900	Left Cheek	0.698	0.718	1.416
		Left Tilt	0.327	1.105	1.432
		Right Cheek	0.351	0.713	1.064
		Right Tilt	0.282	1.182	**1.464**
	LTE Band 2	Left Cheek	0.707	0.718	1.425
		Left Tilt	0.233	1.105	1.338
		Right Cheek	0.351	0.713	1.064
		Right Tilt	0.275	1.182	1.457
	LTE Band 4	Left Cheek	0.490	0.718	1.208
		Left Tilt	0.206	1.105	1.311
		Right Cheek	0.229	0.713	0.942
		Right Tilt	0.219	1.182	1.401
	LTE Band 5	Left Cheek	0.217	0.718	0.935
		Left Tilt	0.144	1.105	1.249
		Right Cheek	0.276	0.713	0.989
		Right Tilt	0.131	1.182	1.313
	LTE Band 12	Left Cheek	0.123	0.718	0.841
		Left Tilt	0.083	1.105	1.188
		Right Cheek	0.147	0.713	0.860
		Right Tilt	0.081	1.182	1.263

12.2 Simultaneous Transmission Summation for Body-Worn

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN					
Exposure condition	Distance (mm)	Band	WWAN SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Body-worn	10	GSM 850	0.278	0.172	0.450
		GPRS 850	0.318	0.172	0.490
		GSM 1900	0.340	0.172	0.512
		GPRS 1900	0.456	0.172	0.628
		UMTS 850	0.418	0.172	0.590
		UMTS 1900	0.572	0.172	0.744
		LTE Band 2	0.566	0.172	0.738
		LTE Band 4	0.588	0.172	0.760
		LTE Band 5	0.306	0.172	0.478
		LTE Band 12	0.259	0.172	0.431

Simultaneous Transmission Summation Scenario with 5 GHz WLAN					
Exposure condition	Distance (mm)	Band	WWAN SAR (W/kg)	5 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Body-worn	10	GSM 850	0.278	0.353	0.631
		GPRS 850	0.318	0.353	0.671
		GSM 1900	0.356	0.353	0.709
		GPRS 1900	0.456	0.353	0.809
		UMTS 850	0.418	0.353	0.771
		UMTS 1900	0.572	0.353	0.925
		LTE Band 2	0.566	0.353	0.919
		LTE Band 4	0.588	0.353	**0.941**
		LTE Band 5	0.306	0.353	0.659
		LTE Band 12	0.259	0.353	0.612

Simultaneous Transmission Summation Scenario with Bluetooth					
Exposure condition	Distance (mm)	Band	WWAN SAR (W/kg)	Bluetooth SAR (W/kg)	∑ 1-g SAR (W/kg)
Body-worn	10	GSM 850	0.278	0.189	0.467
		GPRS 850	0.318	0.189	0.507
		GSM 1900	0.356	0.189	0.545
		GPRS 1900	0.456	0.189	0.645
		UMTS 850	0.418	0.189	0.607
		UMTS 1900	0.572	0.189	0.761
		LTE Band 2	0.566	0.189	0.755
		LTE Band 4	0.588	0.189	0.777
		LTE Band 5	0.306	0.189	0.495
		LTE Band 12	0.259	0.189	0.448

Note: Bluetooth SAR was not required to be measured per FCC KDB 447498 D01v06.Estimated SAR results were used for SAR summation for body-worn back side at 10 mm to determine simultaneous transmission SAR test exclusion.

12.3 Simultaneous Transmission Summation for Hotspot

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN					
Exposure condition	Distance (mm)	Band	WWAN SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Hotspot	10	GSM 850	0.331	0.172	0.503
		GSM 1900	0.608	0.172	0.780
		UMTS 850	0.457	0.172	0.629
		UMTS 1900	0.836	0.172	1.008
		LTE Band 2	0.741	0.172	0.913
		LTE Band 4	0.611	0.172	0.783
		LTE Band 5	0.361	0.172	0.533
		LTE Band 12	0.259	0.172	0.431

Simultaneous Transmission Summation Scenario with 5 GHz WLAN					
Exposure condition	Distance (mm)	Band	WWAN SAR (W/kg)	5 GHz WLAN SAR (W/kg)	∑ 1-g SAR (W/kg)
Hotspot	10	GSM 850	0.331	0.319	0.650
		GSM 1900	0.608	0.319	0.927
		UMTS 850	0.457	0.319	0.776
		UMTS 1900	0.836	0.319	**1.155**
		LTE Band 2	0.741	0.319	1.060
		LTE Band 4	0.611	0.319	0.930
		LTE Band 5	0.361	0.319	0.680
		LTE Band 12	0.259	0.319	0.578

12.4 Simultaneous Transmission Conclusion

The above numerical summed SAR results for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit. And therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013.

13. SAR Measurement Variability and Uncertainty

In accordance with KDB procedure 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz,SAR additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

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

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg for 1g SAR or < 2.0 W/kg for 10g SAR ; steps 2) through 4) do not apply.

2) When the original highest measured 1g SAR is ≥ 0.80 W/kg or 10g SAR ≥ 2.0W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg for 1g SAR or ≥ 3.625 W/kg for 10g SAR (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurementis ≥1.5 W/kg for 1g SAR or ≥3.75 W/kg for 10g SAR and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Frequency		Modulation	Battery	Configuration	Original SAR	Repeated SAR	Largest to Smallest SAR Ratio	Plot No.
MHz	Channel				(W/kg)	(W/kg)		
5 580	116	802.11a	Standard	Right Tilt	1.08	0.998	1.08	34
5 825	165	802.11a	Standard	Left Tilt	0.859	0.723	1.19	35

14. MEASUREMENT UNCERTAINTY

Uncertainty (700 MHz ~ 5000 MHz)						
Error Description	Tol (± %)	Prob. dist.	Div.	c_i	Standard Uncertainty (± %)	v_{eff}
1. Measurement System						
Probe Calibration	6.55	N	1	1	6.55	∞
Axial Isotropy	4.70	R	1.73	0.7	1.90	∞
Hemispherical Isotropy	9.60	R	1.73	0.7	3.88	∞
Boundary Effects	1.00	R	1.73	1	0.58	∞
Linearity	4.70	R	1.73	1	2.71	∞
System Detection Limits	1.00	R	1.73	1	0.58	∞
Readout Electronics	0.30	N	1.00	1	0.30	∞
Response Time	0.8	R	1.73	1	0.46	∞
Integration Time	2.6	R	1.73	1	1.50	∞
RF Ambient Conditions	3.00	R	1.73	1	1.73	∞
Probe Positioner	0.40	R	1.73	1	0.23	∞
Probe Positioning	2.90	R	1.73	1	1.67	∞
Max SAR Eval	1.00	R	1.73	1	0.58	∞
2.Test Sample Related						
Device Positioning	2.25	N	1.00	1	2.25	9
Device Holder	3.60	N	1.00	1	3.60	∞
Power Drift	5.00	R	1.73	1	2.89	∞
3.Phantom and Setup						
Phantom Uncertainty	4.00	R	1.73	1	2.31	∞
Liquid Conductivity(target)	5.00	R	1.73	0.64	1.85	∞
Liquid Conductivity(meas.)	3.00	N	1	0.64	1.73	∞
Liquid Permitivity(target)	5.00	R	1.73	0.6	1.73	∞
Liquid Permitivity(meas.)	2.30	N	1	0.6	1.14	∞
Combind Standard Uncertainty					10.99	
Coverage Factor for 95 %					*k*=2	
Expanded STD Uncertainty					21.98	

15. SAR TEST EQUIPMENT

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	N/A	N/A	N/A
SPEAG	Triple Modular Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	Robot RX90B L	F01/ 5L76A1/ A/ 01	N/A	N/A	N/A
Staubli	Robot RX90B L	F01/ 5K08A1/ A/ 01	N/A	N/A	N/A
Staubli	Robot ControllerCS7MB	F01/ 5L76A1/ C/ 01	N/A	N/A	N/A
Staubli	Robot ControllerCS7MB	F01/ 5K08A1/ C/ 01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D22134006 A	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D22134001 1	N/A	N/A	N/A
SPEAG	DAE3	466	02/17/2016	Annual	02/17/2017
SPEAG	DAE4	1225	03/17/2016	Annual	03/17/2017
SPEAG	E-Field Probe EX3DV4	3863	08/27/2015	Annual	08/27/2016
SPEAG	E-Field Probe EX3DV4	3797	11/24/2015	Annual	11/24/2016
SPEAG	Dipole D750V3	1014	07/23/2015	Annual	07/23/2016
SPEAG	Dipole D835V2	4d165	11/24/2015	Annual	11/24/2016
SPEAG	Dipole D1800V2	2d006	01/22/2016	Annual	01/22/2017
SPEAG	Dipole D1900V2	5d061	04/25/2016	Annual	04/25/2017
SPEAG	Dipole D2450V2	965	04/19/2016	Annual	04/19/2017
SPEAG	Dipole D5GHzV2	1107	01/29/2016	Annual	01/29/2017
Agilent	Power Meter N1991A	MY45101406	10/03/2015	Annual	10/03/2016
Agilent	Power Sensor N1921A	MY55220026	08/19/2015	Annual	08/19/2016
SPEAG	DAKS 3.5	1038	05/31/2016	Annual	05/31/2017
HP	Directional Bridge	86205A	05/18/2016	Annual	05/18/2017
Agilent	Base Station E5515C	GB44400269	02/05/2016	Annual	02/05/2017
HP	Signal Generator N5182A	MY47070230	05/13/2016	Annual	05/13/2017
Hewlett Packard	11636B/Power Divider	58698	02/27/2016	Annual	02/27/2017
TESTO	175-H1/Thermometer	40332651310	02/12/2016	Annual	02/12/2017
TESTO	175-H1/Thermometer	40331939309	02/12/2016	Annual	02/12/2017
EMPOWER	RF Power amplifier	1011	10/20/2015	Annual	10/20/2016
Agilent	Attenuator(3dB)	52744	10/20/2015	Annual	10/20/2016
Agilent	Attenuator(20dB)	52664	10/20/2015	Annual	10/20/2016
HP	Notebook(DAKS)	-	N/A	N/A	N/A
HP	Dual Directional Coupler	16072	10/20/2015	Annual	10/20/2016
R&S	Wideband Radio Communication Tester CMW500	115733	09/18/2015	Annual	09/18/2016

NOTE:
1. The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity(dielectric constant) of the brain/body-equivalent material.

16. CONCLUSION

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the ANSI/ IEEE C95.1 1992.

These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests.

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC and Industry Canada. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

17.REFERENCES

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Attachment 1.– SAR Test Plots

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.4℃
Test Date:	05/26/2016
Plot No.:	1

DUT: LG-K600; Type: Bar

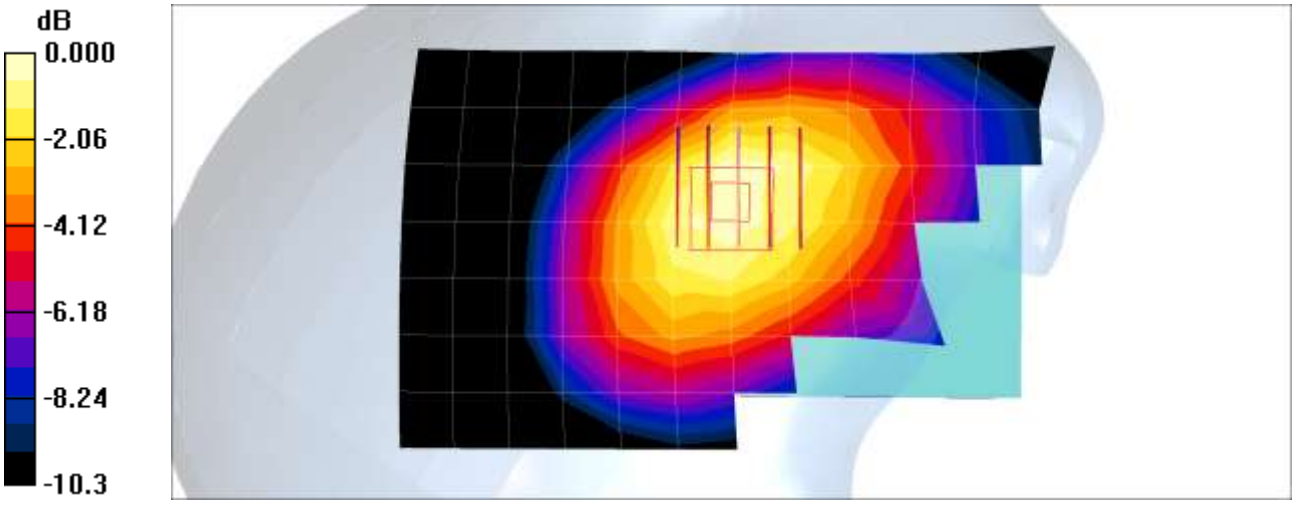
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:2.77
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.916 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.46, 9.46, 9.46); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM850 Head Right Touch 3Tx 190ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.361 mW/g

GSM850 Head Right Touch 3Tx 190ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.86 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.326 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.376 mW/g



0 dB = 0.376mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.9℃
Ambient Temperature:	20.2℃
Test Date:	05/27/2016
Plot No.:	2

DUT: LG-K600; Type: Bar

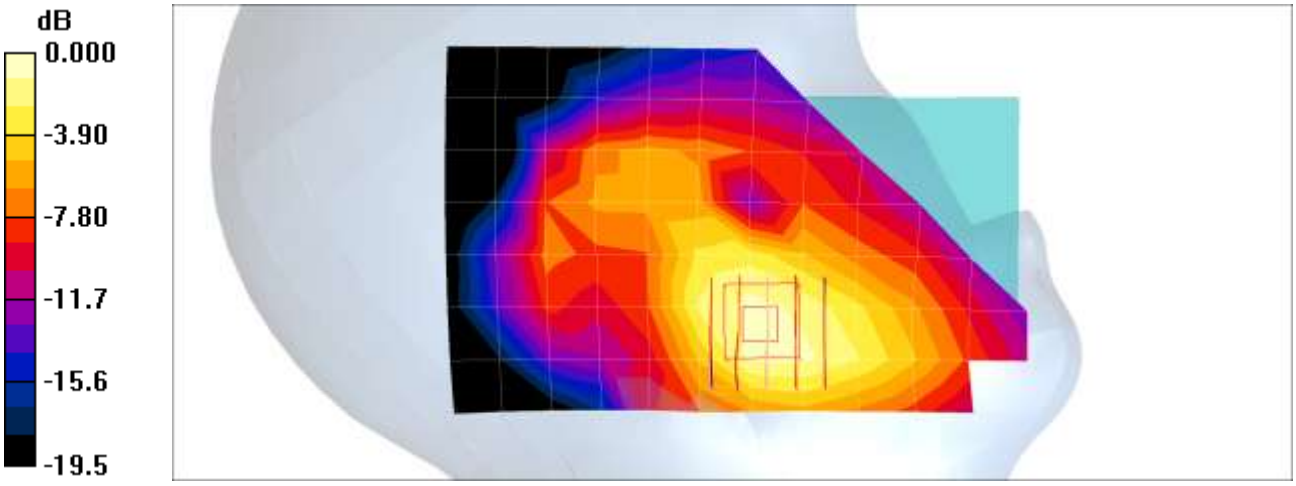
Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2.77
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.84, 7.84, 7.84); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM Phamtom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM1900 Head Left Touch 3Tx 810ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.565 mW/g

GSM1900 Head Left Touch 3Tx 810ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.03 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.747 W/kg
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.347 mW/g
Maximum value of SAR (measured) = 0.669 mW/g



0 dB = 0.669mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.4℃
Test Date:	05/26/2016
Plot No.:	3

DUT: LG-K600; Type: Bar

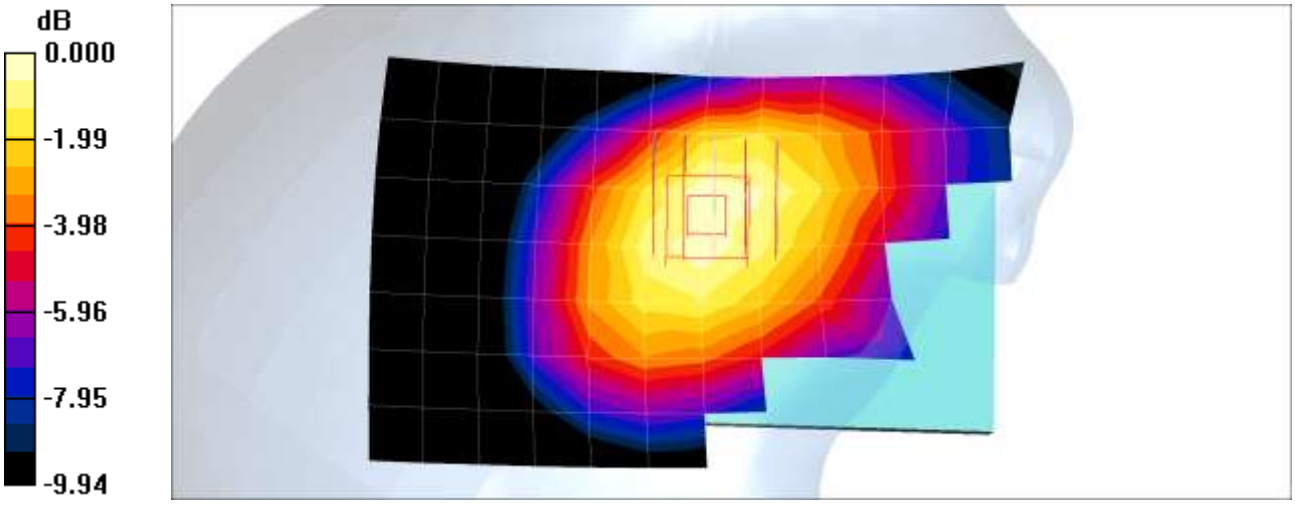
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.916 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.46, 9.46, 9.46); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA850 Head Right Tilt 4183ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.401 mW/g

WCDMA850 Head Right Tilt 4183ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.98 V/m; Power Drift = -0.129 dB
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.280 mW/g
Maximum value of SAR (measured) = 0.415 mW/g



0 dB = 0.415mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.9℃
Ambient Temperature:	20.2℃
Test Date:	05/27/2016
Plot No.:	4

DUT: LG-K600; Type: Bar

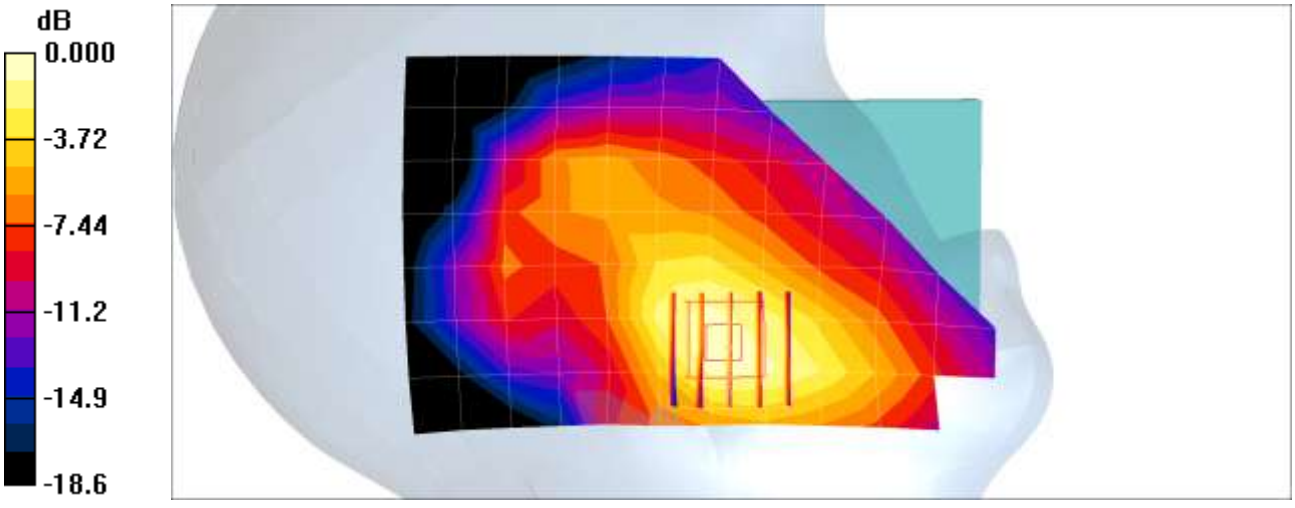
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.84, 7.84, 7.84); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA1900 Head Left Touch 9400ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.693 mW/g

WCDMA1900 Head Left Touch 9400ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.61 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 0.933 W/kg
SAR(1 g) = 0.656 mW/g; SAR(10 g) = 0.426 mW/g
Maximum value of SAR (measured) = 0.815 mW/g



0 dB = 0.815mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.9℃
Ambient Temperature:	20.2℃
Test Date:	05/27/2016
Plot No.:	5

DUT: LG-K600; Type: Bar

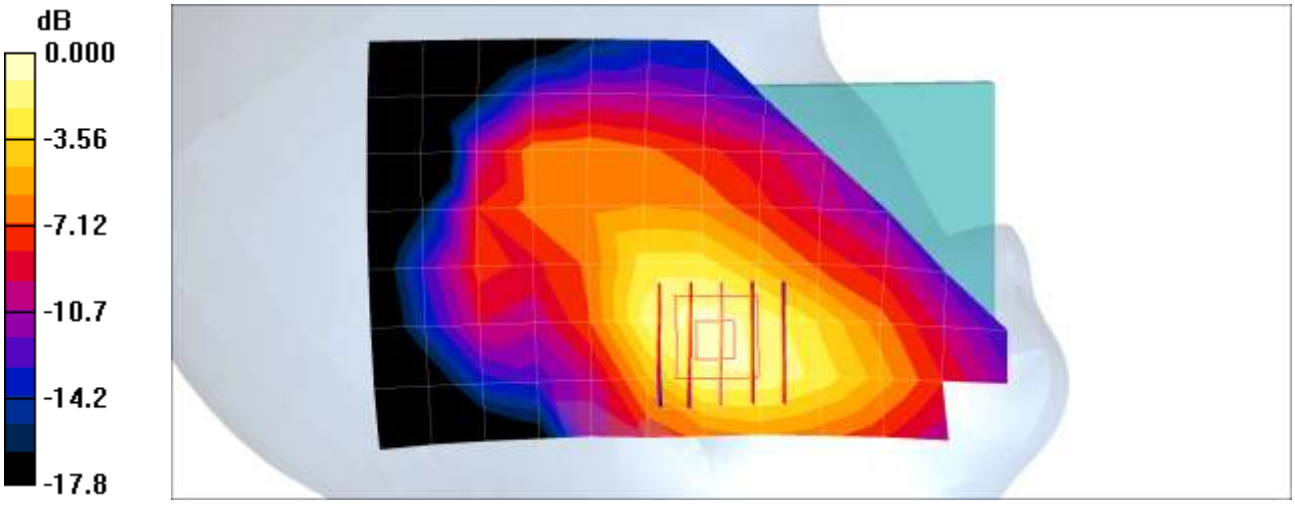
Communication System: LTE Band 2; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.84, 7.84, 7.84); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band2 Head Left Touch QPSK 20MHz 1RB 0offset 19100ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.718 mW/g

LTE Band2 Head Left Touch QPSK 20MHz 1RB 0offset 19100ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.25 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.942 W/kg
SAR(1 g) = 0.640 mW/g; SAR(10 g) = 0.408 mW/g
Maximum value of SAR (measured) = 0.801 mW/g



0 dB = 0.801mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.9℃
Ambient Temperature:	20.2℃
Test Date:	05/27/2016
Plot No.:	6

DUT: LG-K600; Type: Bar

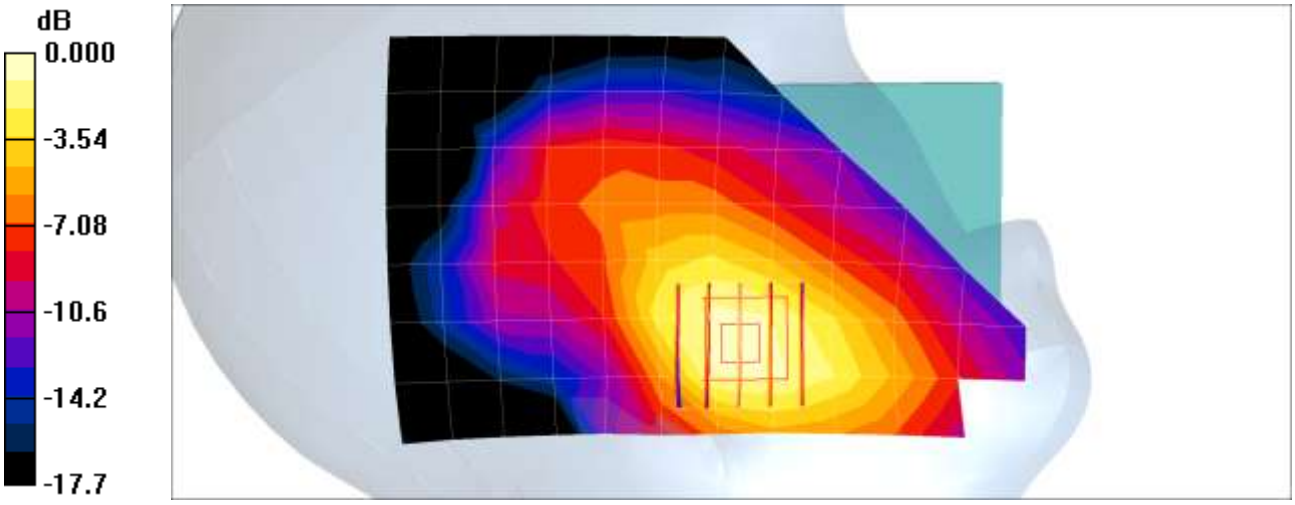
Communication System: LTE Band 4; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.33 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(8.18, 8.18, 8.18); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band4 Head Left Touch QPSK 20MHz 1RB 0offset 20175ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.470 mW/g

LTE Band4 Head Left Touch QPSK 20MHz 1RB 0offset 20175ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.82 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 0.622 W/kg
SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.546 mW/g



0 dB = 0.546mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.4℃
Test Date:	05/26/2016
Plot No.:	7

DUT: LG-K600; Type: Bar

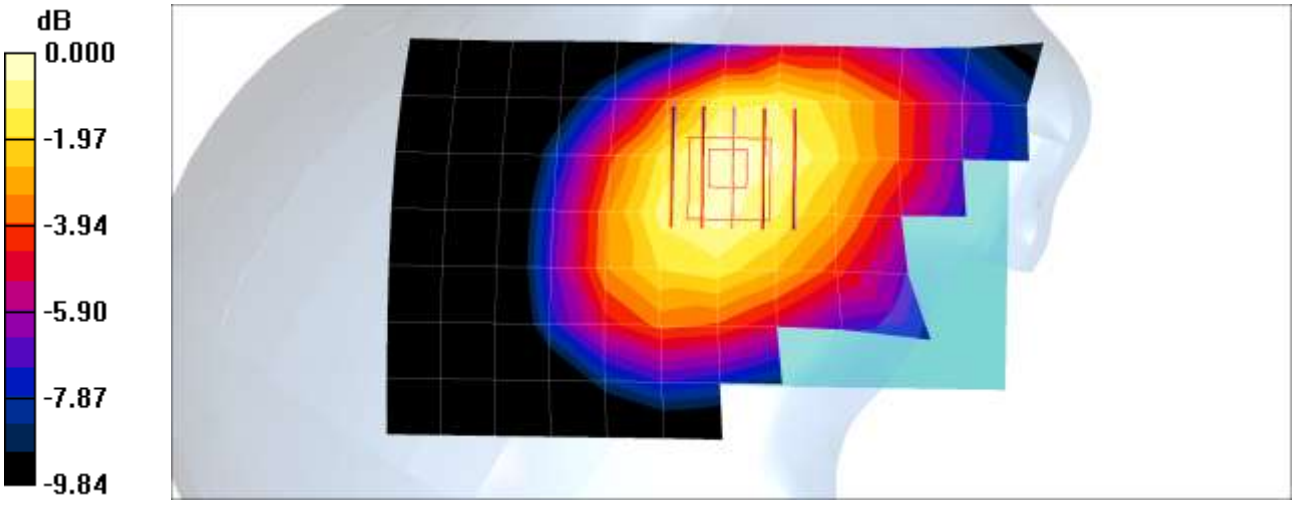
Communication System: LTE Band 5; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.916 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.46, 9.46, 9.46); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band5 Head Right Touch QPSK 10MHz 1RB 49offset 20525ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.298 mW/g

LTE Band5 Head Right Touch QPSK 10MHz 1RB 49offset 20525ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.88 V/m; Power Drift = -0.175 dB
Peak SAR (extrapolated) = 0.323 W/kg
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.296 mW/g



0 dB = 0.296mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.9℃
Ambient Temperature:	20.2℃
Test Date:	05/27/2016
Plot No.:	8

DUT: LG-K600; Type: Bar

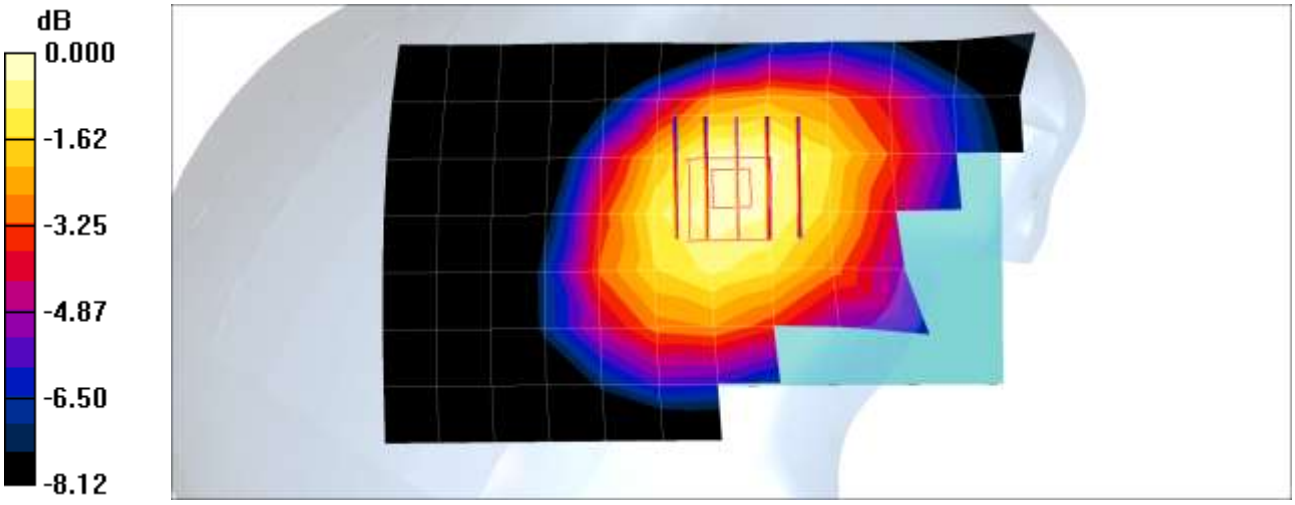
Communication System: LTE band 12; Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.871 mho/m; ε_r = 43.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.83, 9.83, 9.83); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band12 Head Right Touch QPSK 10MHz 1RB 0offset 23095ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.146 mW/g

LTE Band12 Head Right Touch QPSK 10MHz 1RB 0offset 23095ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.12 V/m; Power Drift = -0.158 dB
Peak SAR (extrapolated) = 0.162 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.110 mW/g
Maximum value of SAR (measured) = 0.151 mW/g



0 dB = 0.151mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.1℃
Ambient Temperature:	20.3℃
Test Date:	06/01/2016
Plot No.:	9

DUT: LG-K600; Type: Bar

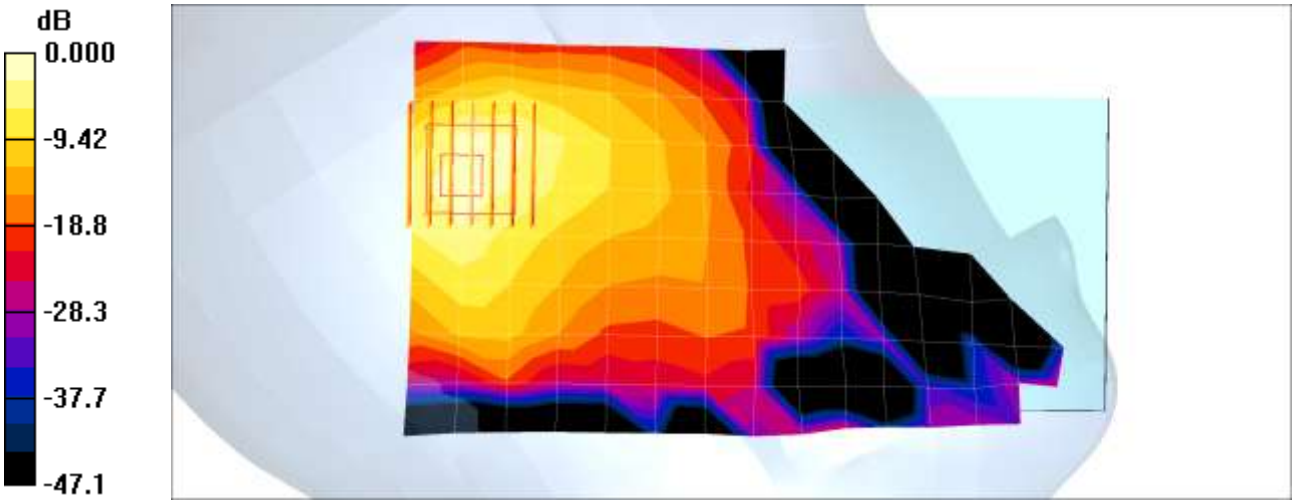
Communication System: 2450MHz FCC; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.8 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.04, 7.04, 7.04); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11b Left Tilt 1Mbps 6ch/Area Scan (9x15x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.425 mW/g

802.11b Left Tilt 1Mbps 6ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.93 V/m; Power Drift = -0.155 dB
Peak SAR (extrapolated) = 0.933 W/kg
SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.440 mW/g



0 dB = 0.440mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	23.0℃
Ambient Temperature:	23.2℃
Test Date:	06/02/2016
Plot No.:	10

DUT: LG-K600; Type: Bar

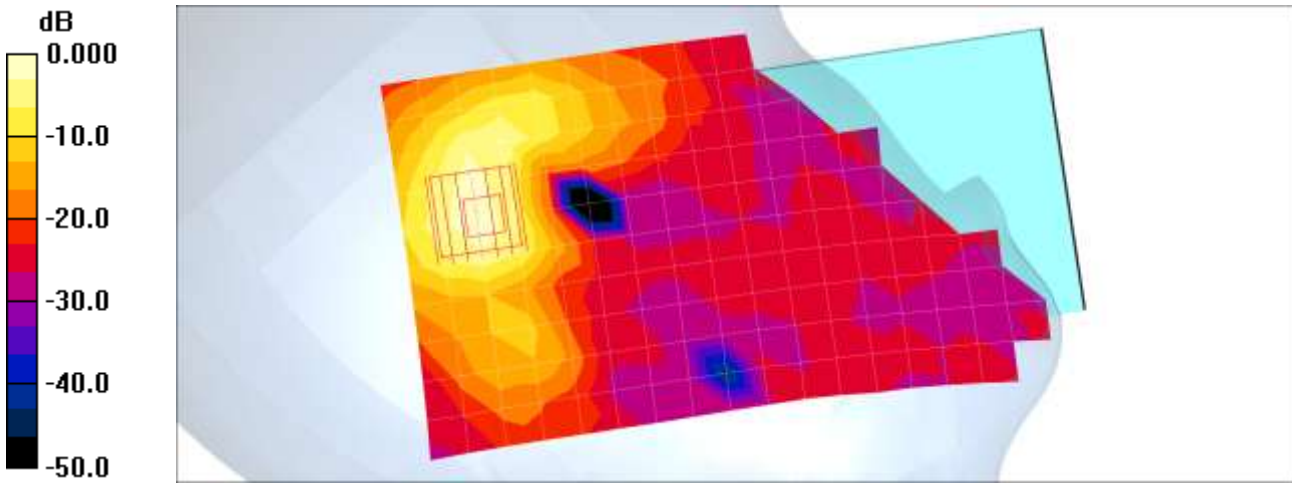
Communication System: WIFI 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5260 MHz; σ = 4.66 mho/m; ε_r = 35.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.59, 4.59, 4.59); Calibrated: 2015-11-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Head Left Tilt 52ch 6Mbps/Area Scan (11x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.74 mW/g

802.11a Head Left Tilt 52ch 6Mbps/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 15.3 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.94 W/kg
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 1.71 mW/g



0 dB = 1.71mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	23.0℃
Ambient Temperature:	23.2℃
Test Date:	06/02/2016
Plot No.:	11

DUT: LG-K600; Type: Bar

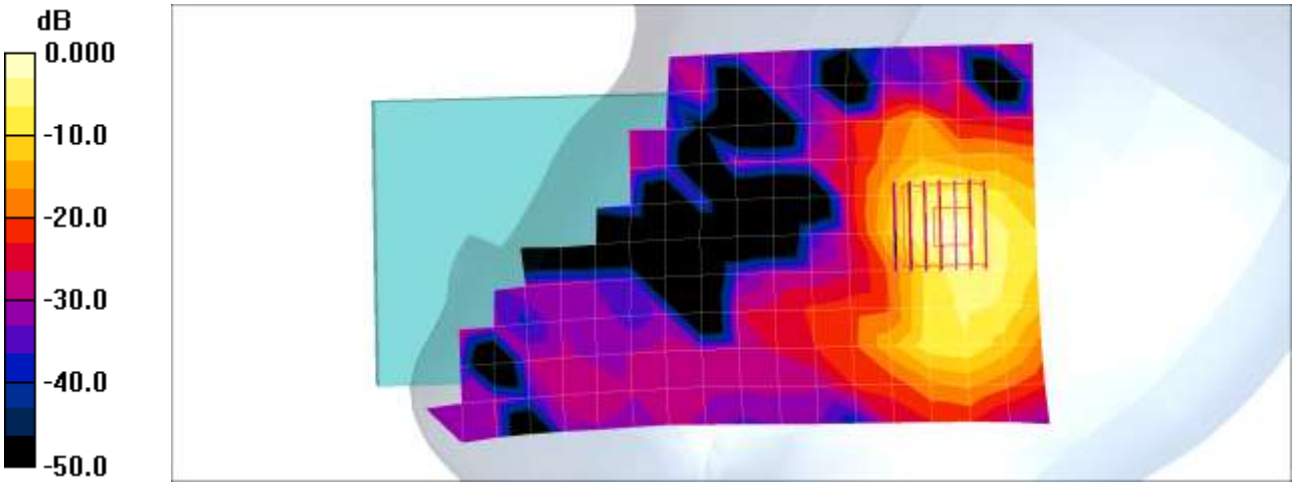
Communication System: WIFI 5GHz; Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5580 MHz; σ = 5.08 mho/m; ε_r = 36.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.21, 4.21, 4.21); Calibrated: 2015-11-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Head Right Tilt 116ch 6Mbps/Area Scan (11x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.94 mW/g

802.11a Head Right Tilt 116ch 6Mbps/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 27.2 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 4.68 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 2.70 mW/g



0 dB = 2.70mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	23.0℃
Ambient Temperature:	23.2℃
Test Date:	06/02/2016
Plot No.:	12

DUT: LG-K600; Type: Bar

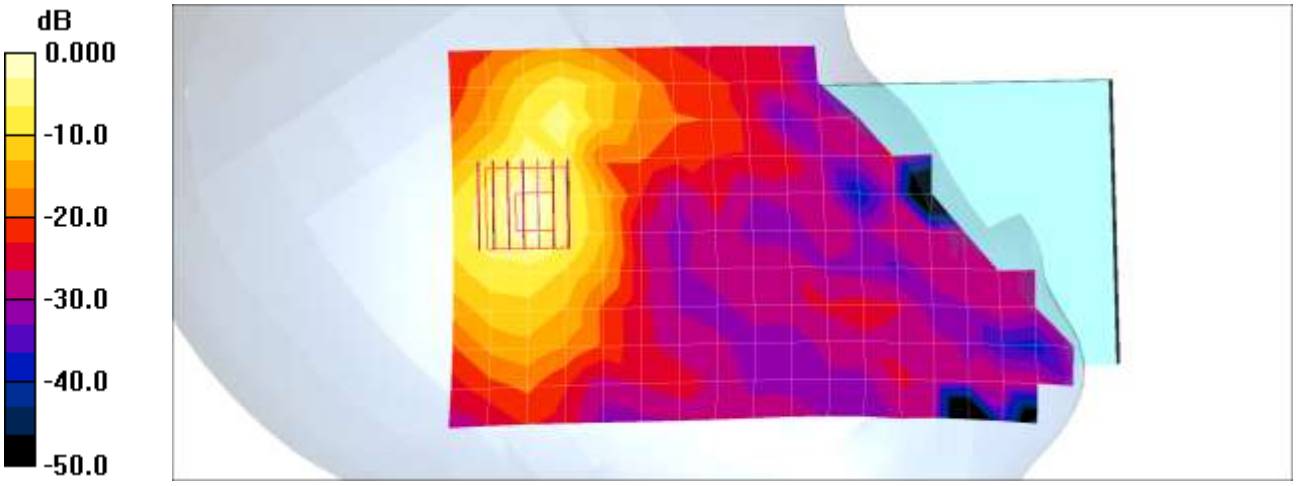
Communication System: WIFI 5GHz; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5825 MHz; σ = 5.39 mho/m; ε_r = 35.7; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.2, 4.2, 4.2); Calibrated: 2015-11-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Head Left Tilt 165ch 6Mbps/Area Scan (11x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.08 mW/g

802.11a Head Left Tilt 165ch 6Mbps/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 17.3 V/m; Power Drift = 0.181 dB
Peak SAR (extrapolated) = 3.82 W/kg
SAR(1 g) = 0.859 mW/g; SAR(10 g) = 0.266 mW/g
Maximum value of SAR (measured) = 2.16 mW/g



0 dB = 2.16mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	13

DUT: LG-K600; Type: Bar

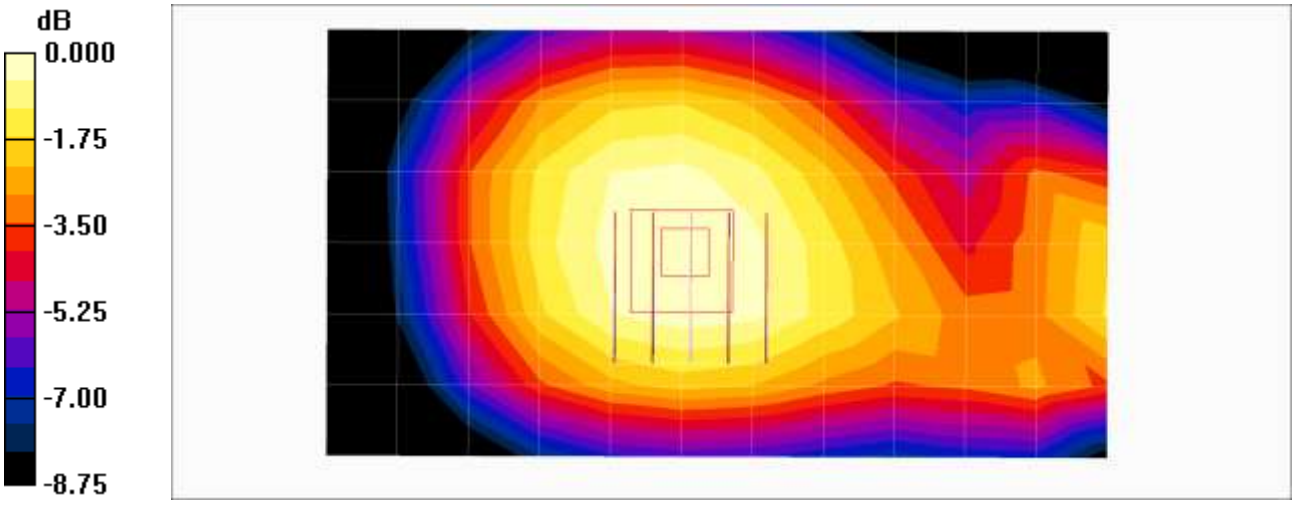
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM850 Body Rear Body Worn 190ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.312 mW/g

GSM850 Body Rear Body Worn 190ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 0.340 W/kg
SAR(1 g) = 0.274 mW/g; SAR(10 g) = 0.208 mW/g
Maximum value of SAR (measured) = 0.313 mW/g



0 dB = 0.313mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	14

DUT: LG-K600; Type: Bar

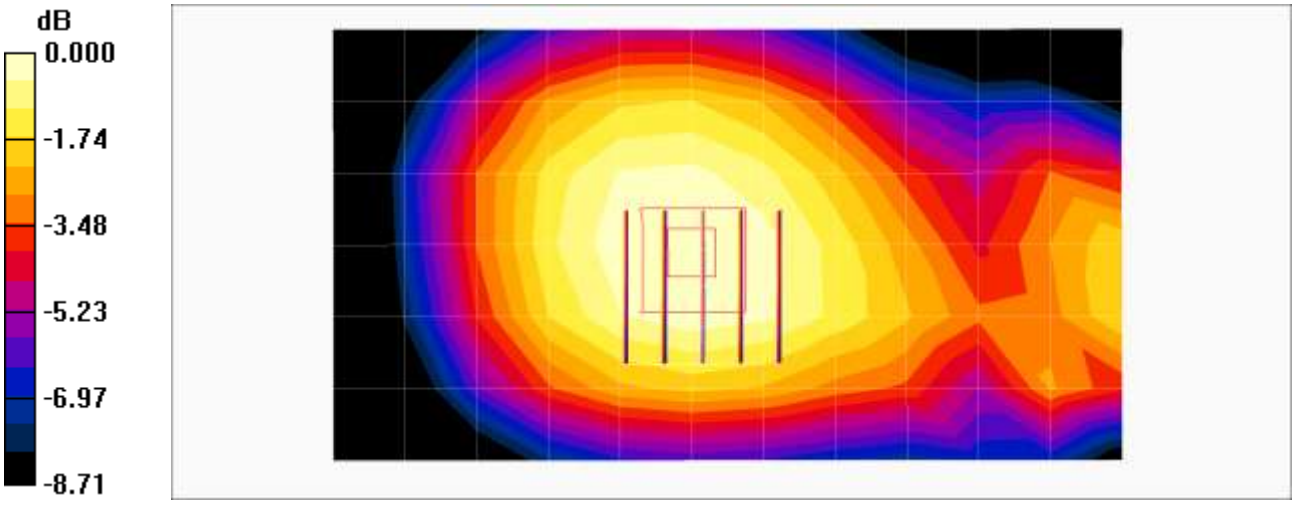
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:2.77
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM850 Body Rear 3Tx 190ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.345 mW/g

GSM850 Body Rear 3Tx 190ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.7 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 0.370 W/kg
SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.228 mW/g
Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.342mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	15

DUT: LG-K600; Type: Bar

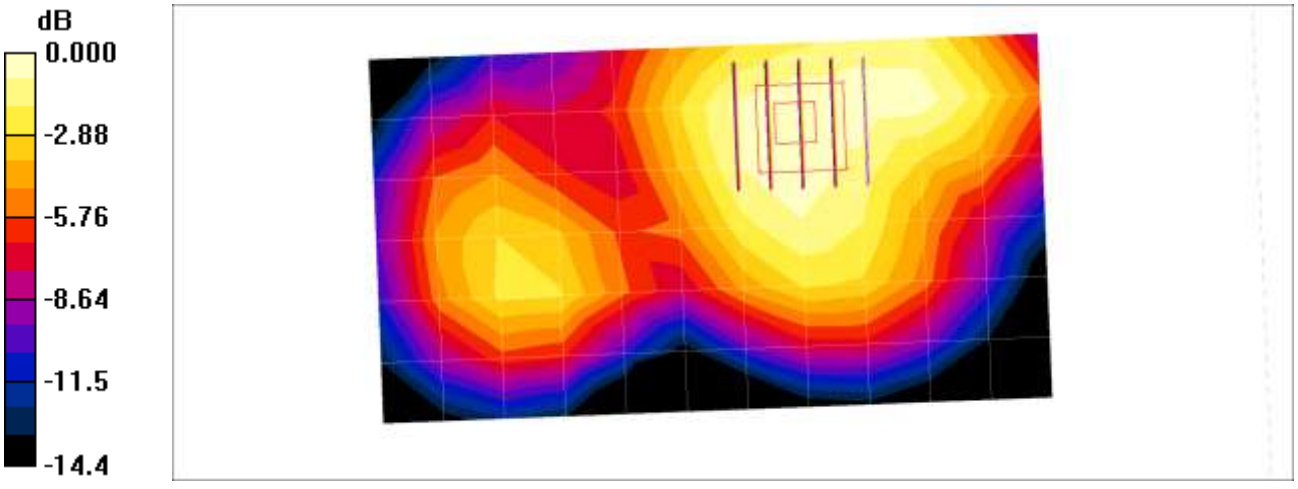
Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM1900 Body Rear Body Worn 661ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.405 mW/g

GSM1900 Body Rear Body Worn 661ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.63 V/m; Power Drift = -0.086 dB
Peak SAR (extrapolated) = 0.492 W/kg
SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.210 mW/g
Maximum value of SAR (measured) = 0.408 mW/g



0 dB = 0.408mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	16

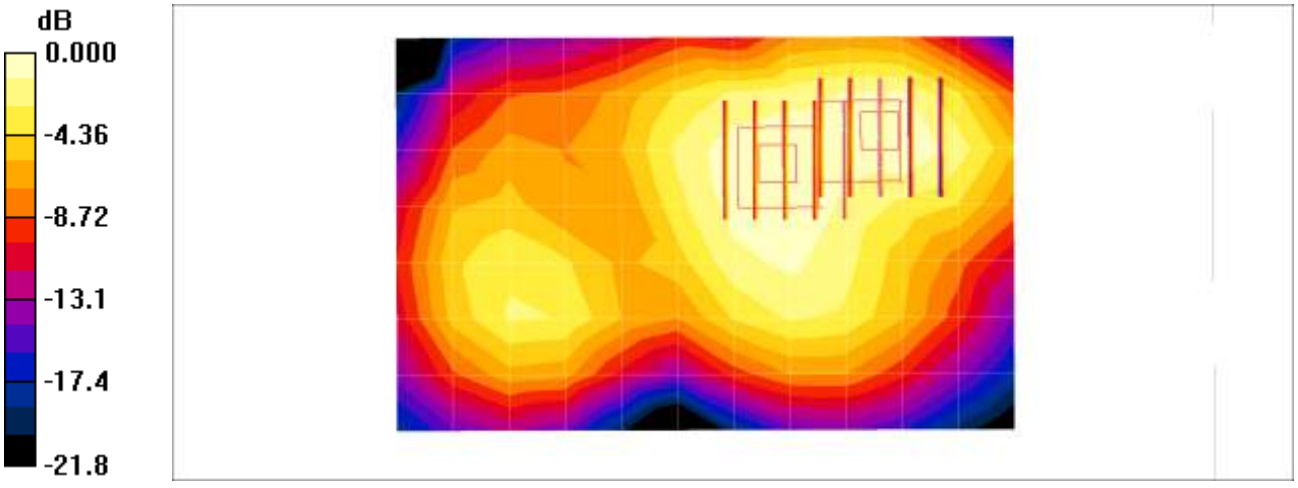
DUT: LG-K600; Type: Bar

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2.77
Medium parameters used: f = 1910 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM1900 Body Rear 3Tx 810ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.559 mW/g
GSM1900 Body Rear 3Tx 810ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 0.745 W/kg
SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.267 mW/g
Maximum value of SAR (measured) = 0.598 mW/g
GSM1900 Body Rear 3Tx 810ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 0.676 W/kg
SAR(1 g) = 0.433 mW/g; SAR(10 g) = 0.282 mW/g
Maximum value of SAR (measured) = 0.560 mW/g



0 dB = 0.560mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	17

DUT: LG-K600; Type: Bar

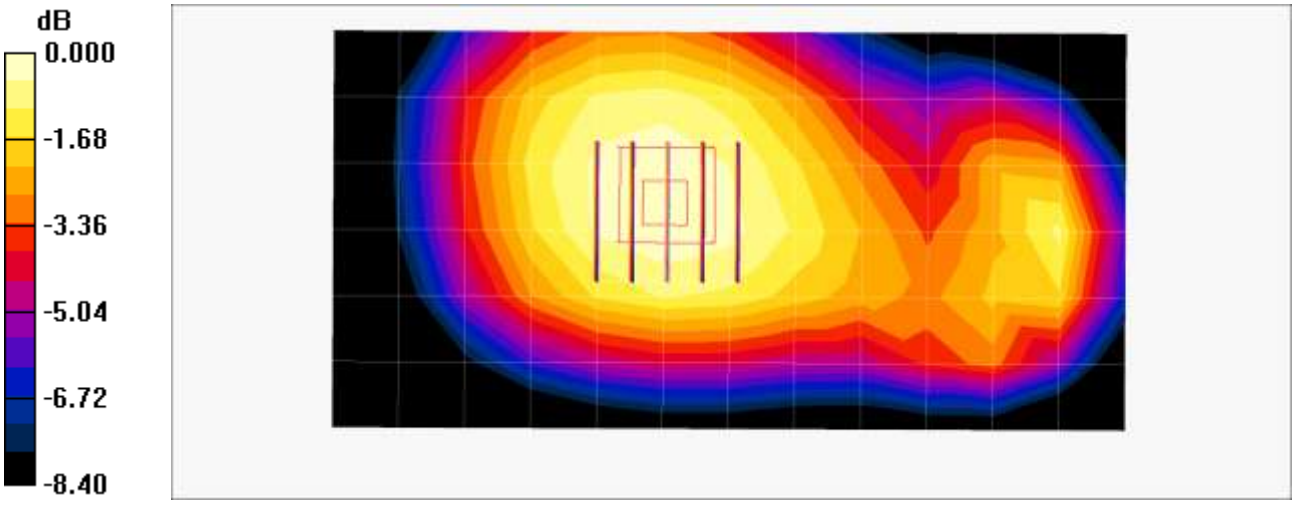
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA850 Body Rear 4183ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.432 mW/g

WCDMA850 Body Rear 4183ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.473 W/kg
SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.292 mW/g
Maximum value of SAR (measured) = 0.437 mW/g



0 dB = 0.437mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	18

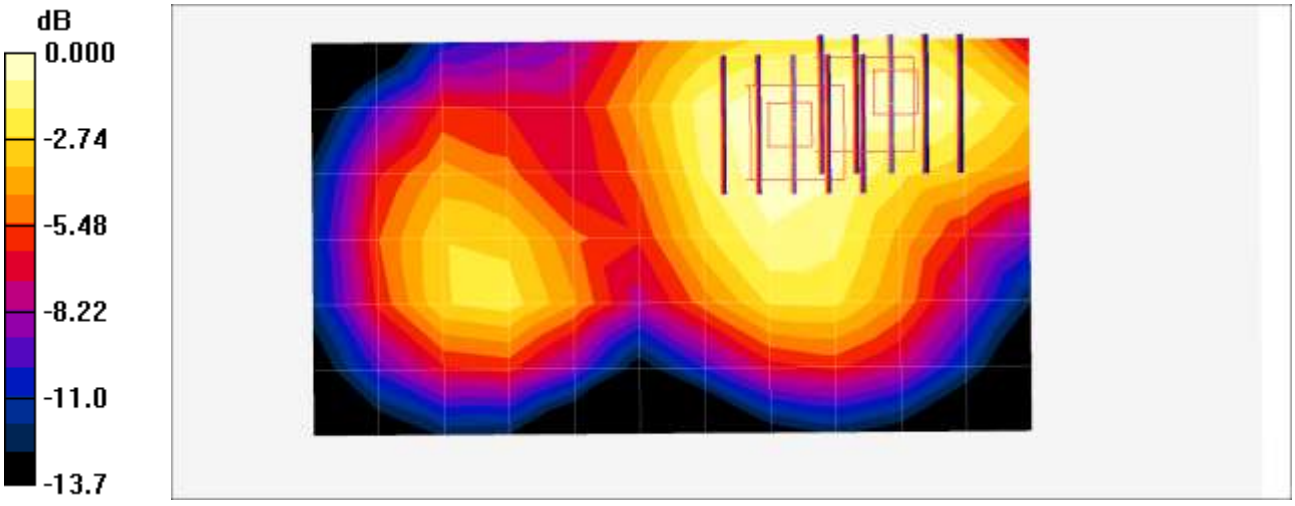
DUT: LG-K600; Type: Bar

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA1900 Body Rear 9400ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.696 mW/g
WCDMA1900 Body Rear 9400ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.867 W/kg
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.686 mW/g
WCDMA1900 Body Rear 9400ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.812 W/kg
SAR(1 g) = 0.538 mW/g; SAR(10 g) = 0.352 mW/g
Maximum value of SAR (measured) = 0.682 mW/g



0 dB = 0.682mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	19

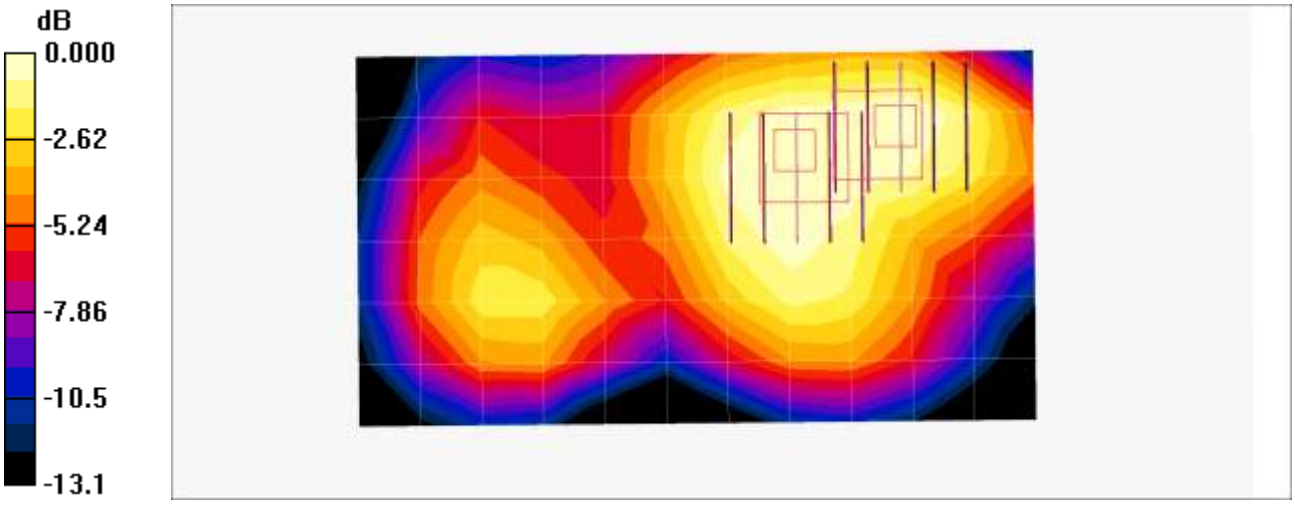
DUT: LG-K600; Type: Bar

Communication System: LTE band 2; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band 2 Body Rear QPSK 20MHz 1RB 0offset 19100ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.687 mW/g
LTE Band 2 Body Rear QPSK 20MHz 1RB 0offset 19100ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.513 mW/g; SAR(10 g) = 0.316 mW/g
Maximum value of SAR (measured) = 0.681 mW/g
LTE Band 2 Body Rear QPSK 20MHz 1RB 0offset 19100ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.755 W/kg
SAR(1 g) = 0.505 mW/g; SAR(10 g) = 0.331 mW/g
Maximum value of SAR (measured) = 0.637 mW/g



0 dB = 0.637mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	20

DUT: LG-K600; Type: Bar

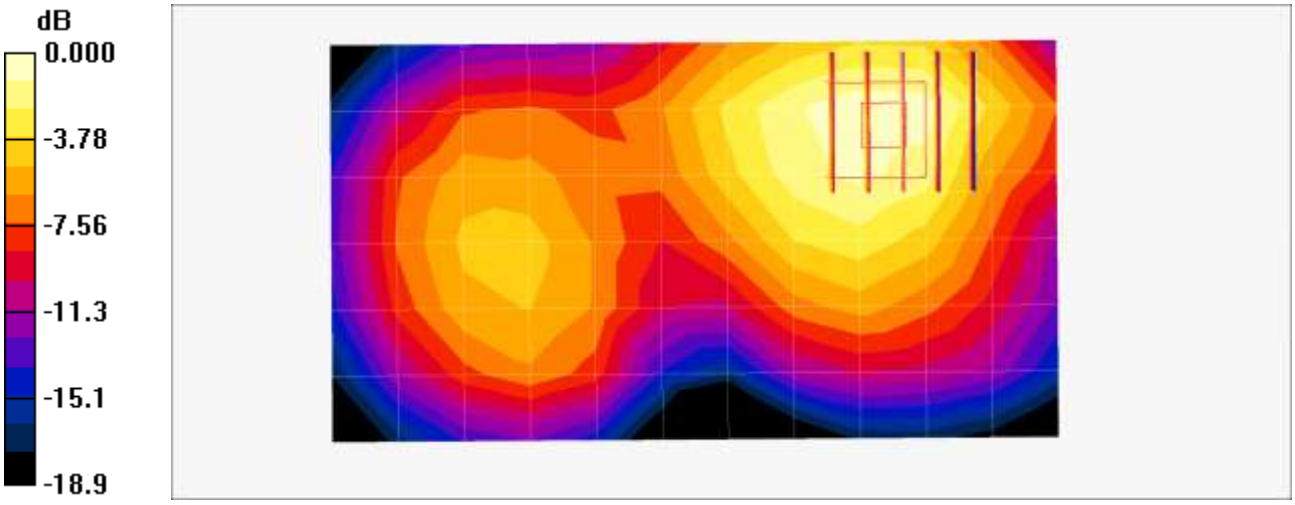
Communication System: LTE Band 4; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.47 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.73, 7.73, 7.73); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band 4 Body Rear QPSK 20MHz 1RB 0offset 20175ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.627 mW/g

LTE Band 4 Body Rear QPSK 20MHz 1RB 0offset 20175ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.91 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.802 W/kg
SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.340 mW/g
Maximum value of SAR (measured) = 0.676 mW/g



0 dB = 0.676mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	21

DUT: LG-K600; Type: Bar

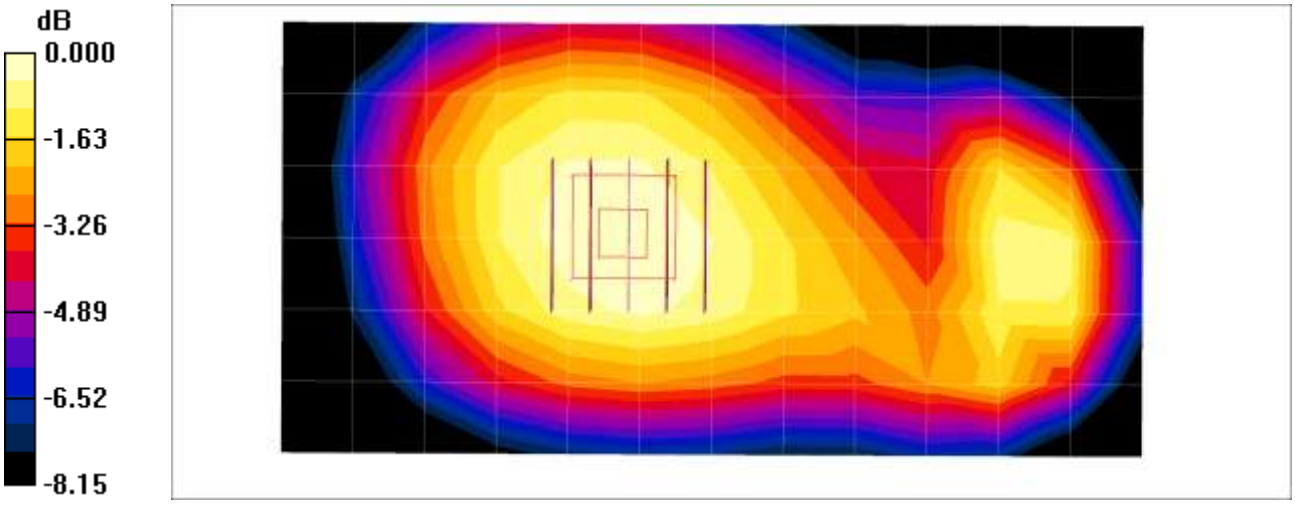
Communication System: LTE Band 5; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band5 Body Rear QPSK 10MHz 1RB 49offset 20525ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.324 mW/g

LTE Band5 Body Rear QPSK 10MHz 1RB 49offset 20525ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.1 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.356 W/kg
SAR(1 g) = 0.288 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.328 mW/g



0 dB = 0.328mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	22

DUT: LG-K600; Type: Bar

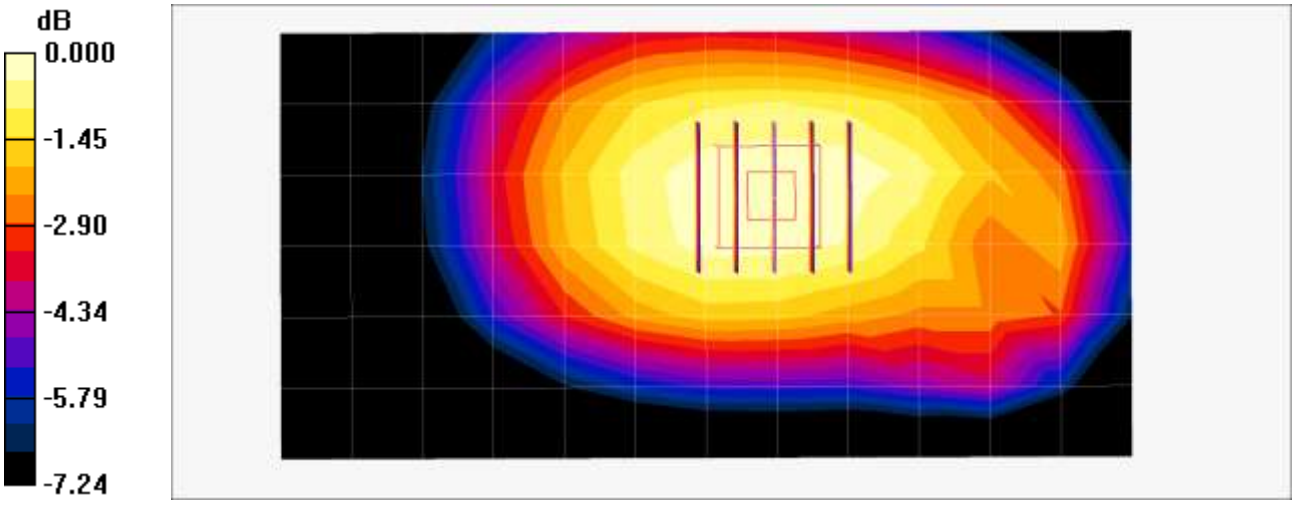
Communication System: LTE band 12; Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.948 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.76, 9.76, 9.76); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.266 mW/g

LTE Band12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.287 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.188 mW/g
Maximum value of SAR (measured) = 0.268 mW/g



0 dB = 0.268mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	19.2℃
Ambient Temperature:	19.4℃
Test Date:	06/01/2016
Plot No.:	23

DUT: LG-K600; Type: Bar

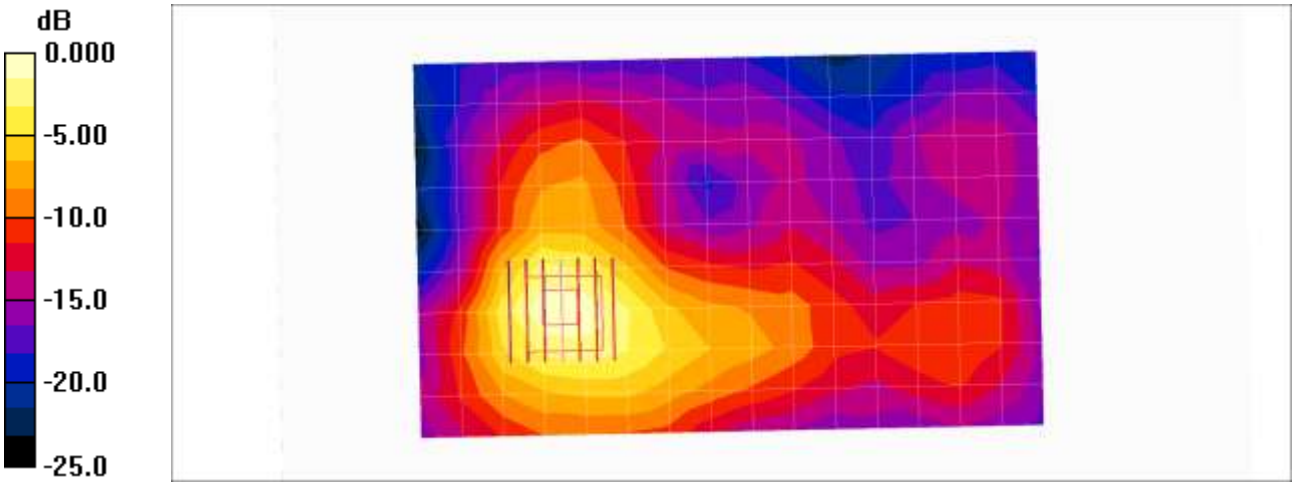
Communication System: 2450MHz FCC; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.92 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.91, 6.91, 6.91); Calibrated: 2015-11-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11b Body Rear 1Mbps 6ch/Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.184 mW/g

802.11b Body Rear 1Mbps 6ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.31 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.278 W/kg
SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.1℃
Ambient Temperature:	20.3℃
Test Date:	06/01/2016
Plot No.:	24

DUT: LG-K600; Type: Bar

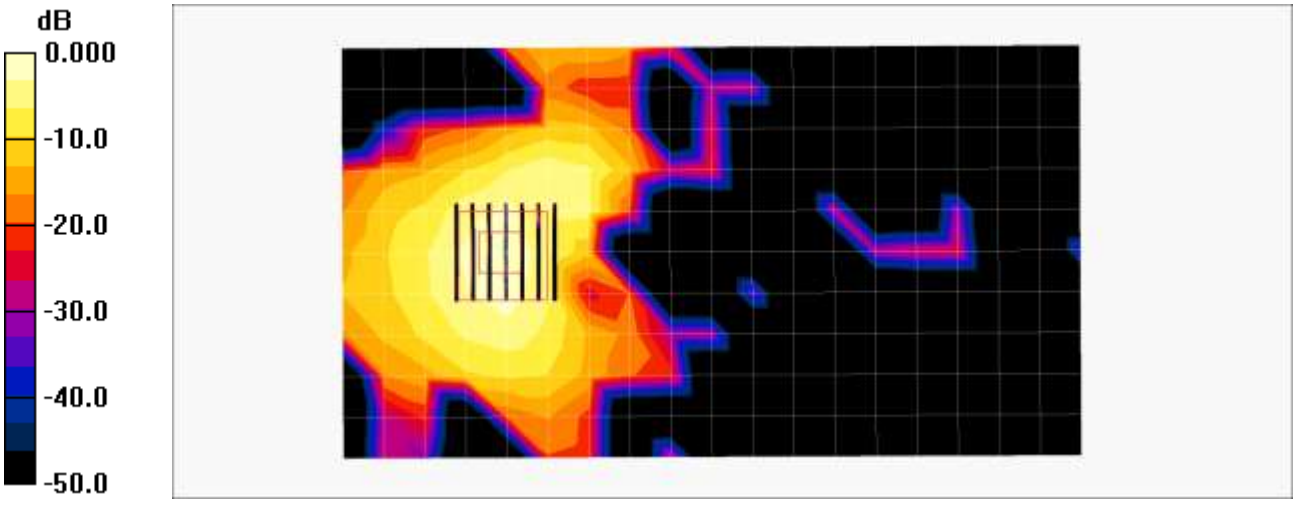
Communication System: WIFI 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5260 MHz; σ = 5.29 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.44, 4.44, 4.44); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Body Rear 6Mbps 52ch/Area Scan (11x19x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.413 mW/g

802.11a Body Rear 6Mbps 52ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 0.707 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.801 W/kg
SAR(1 g) = 0.200 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.420 mW/g



0 dB = 0.420mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.1℃
Ambient Temperature:	20.3℃
Test Date:	06/01/2016
Plot No.:	25

DUT: LG-K600; Type: Bar

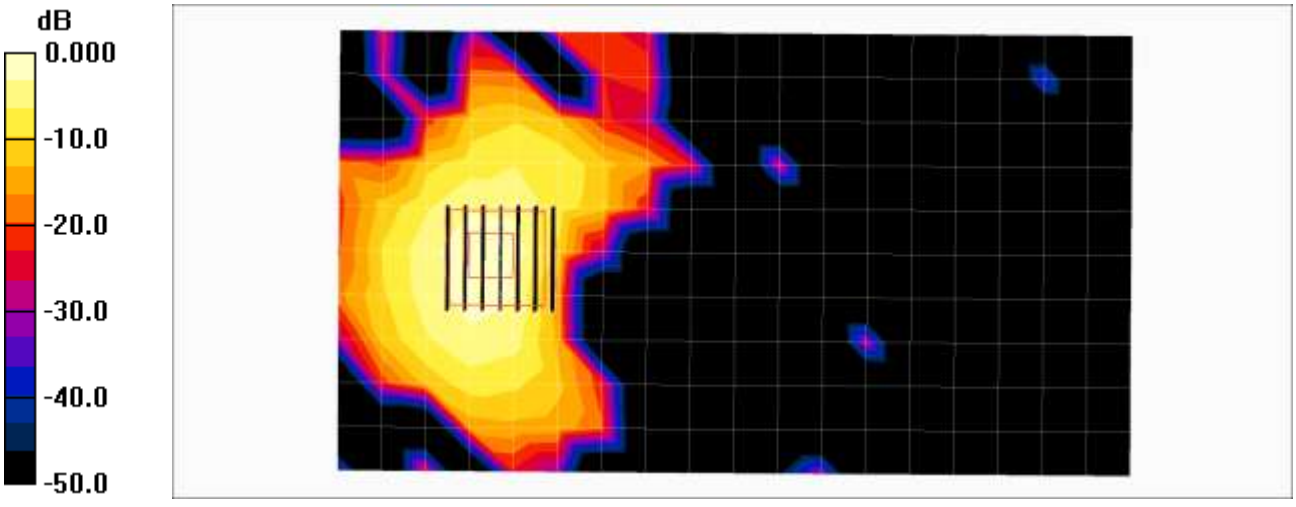
Communication System: WIFI 5GHz; Frequency: 5720 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5720 MHz; σ = 6.05 mho/m; ε_r = 47.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.77, 3.77, 3.77); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Body Rear 6Mbps 144ch/Area Scan (11x19x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.508 mW/g

802.11a Body Rear 6Mbps 144ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 0.000 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.608 mW/g



0 dB = 0.608mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.1℃
Ambient Temperature:	20.3℃
Test Date:	06/01/2016
Plot No.:	26

DUT: LG-K600; Type: Bar

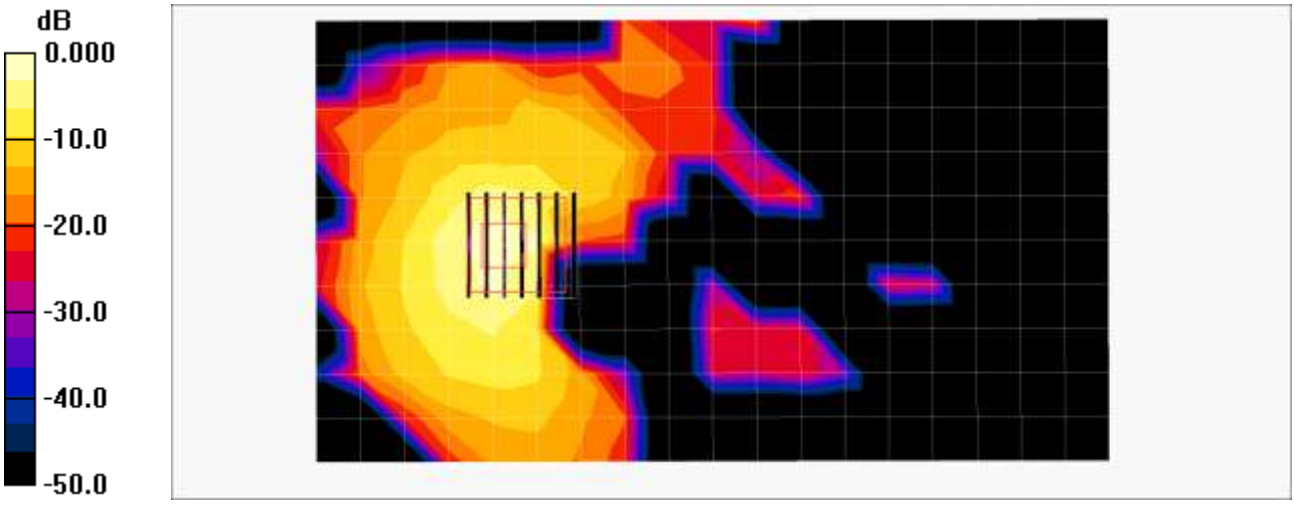
Communication System: WIFI 5GHz; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5825 MHz; σ = 6.21 mho/m; ε_r = 47.2; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.08, 4.08, 4.08); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Body Rear 6Mbps 165ch/Area Scan (11x19x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.577 mW/g

802.11a Body Rear 6Mbps 165ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 0.000 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.299 mW/g; SAR(10 g) = 0.082 mW/g
Maximum value of SAR (measured) = 0.634 mW/g



0 dB = 0.634mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	27

DUT: LG-K600; Type: Bar

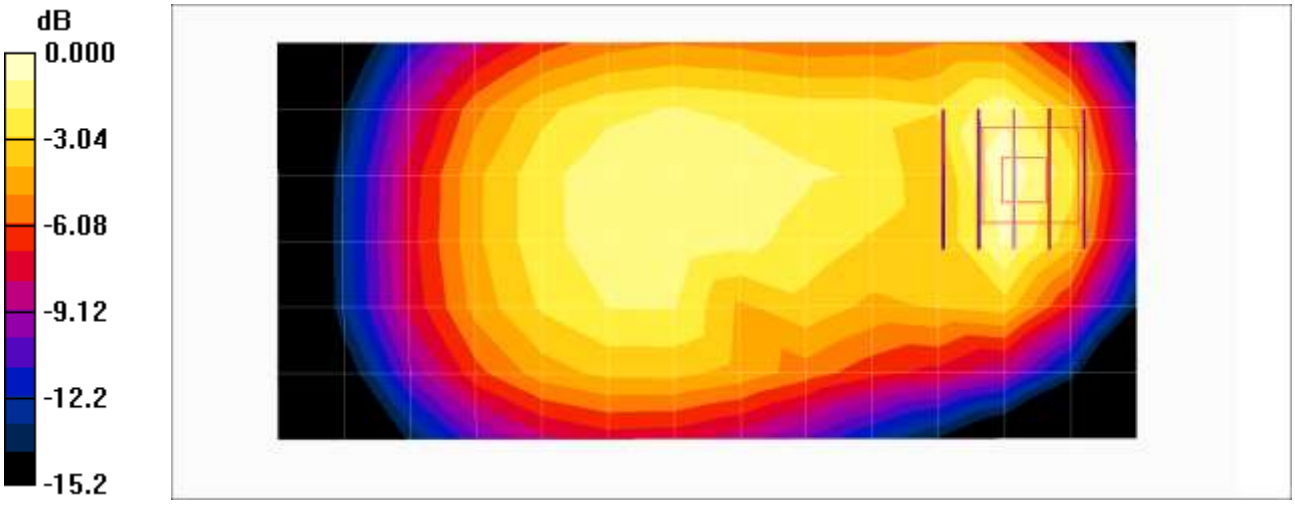
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:2.77
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM850 Body Front 3Tx 190ch/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.409 mW/g

GSM850 Body Front 3Tx 190ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.8 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 0.539 W/kg
SAR(1 g) = 0.313 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 0.428 mW/g



0 dB = 0.428mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	28

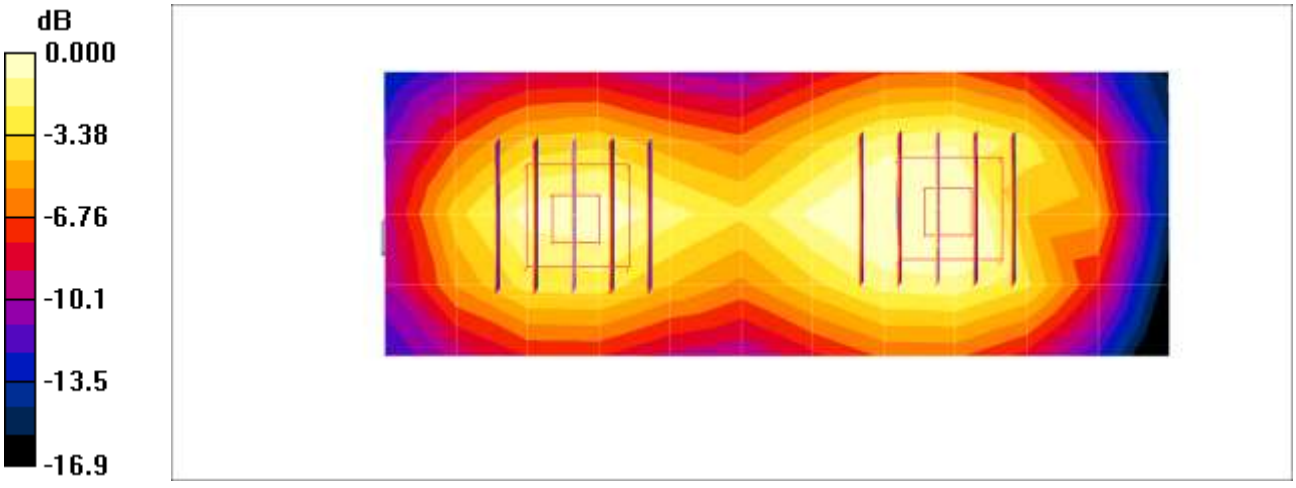
DUT: LG-K600; Type: Bar

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2.77
Medium parameters used: f = 1910 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

GSM1900 Body Left 3Tx 810ch/Area Scan (5x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.824 mW/g
GSM1900 Body Left 3Tx 810ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.945 W/kg
SAR(1 g) = 0.605 mW/g; SAR(10 g) = 0.340 mW/g
Maximum value of SAR (measured) = 0.823 mW/g
GSM1900 Body Left 3Tx 810ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.690 W/kg
SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.244 mW/g
Maximum value of SAR (measured) = 0.564 mW/g



0 dB = 0.564mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	29

DUT: LG-K600; Type: Bar

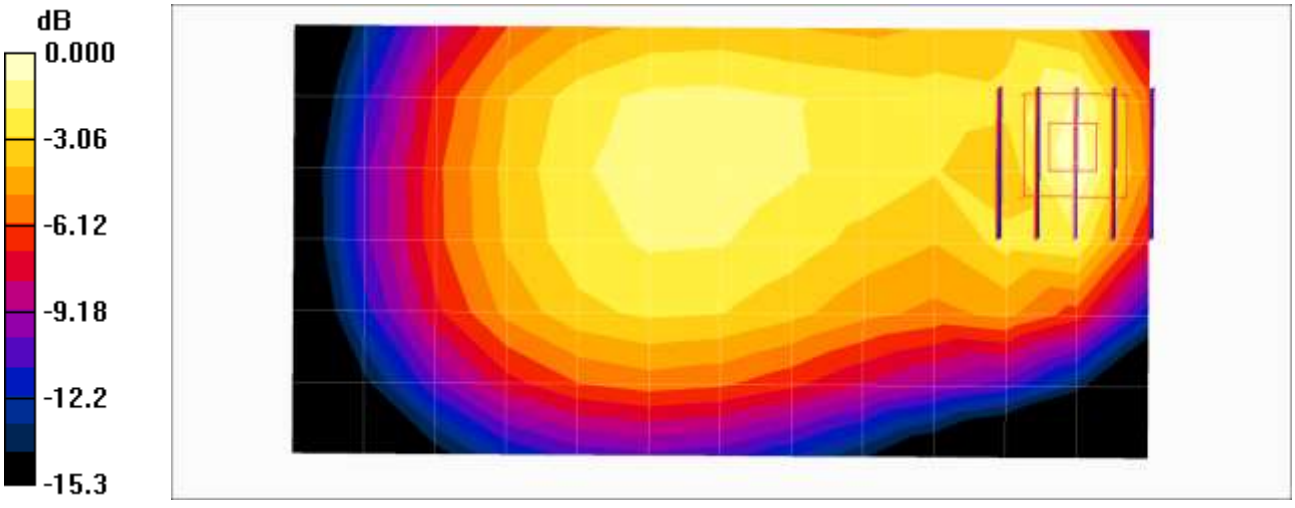
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA850 Body Front 4183ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.539 mW/g

WCDMA850 Body Front 4183ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.710 W/kg
SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.239 mW/g
Maximum value of SAR (measured) = 0.567 mW/g



0 dB = 0.567mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	30

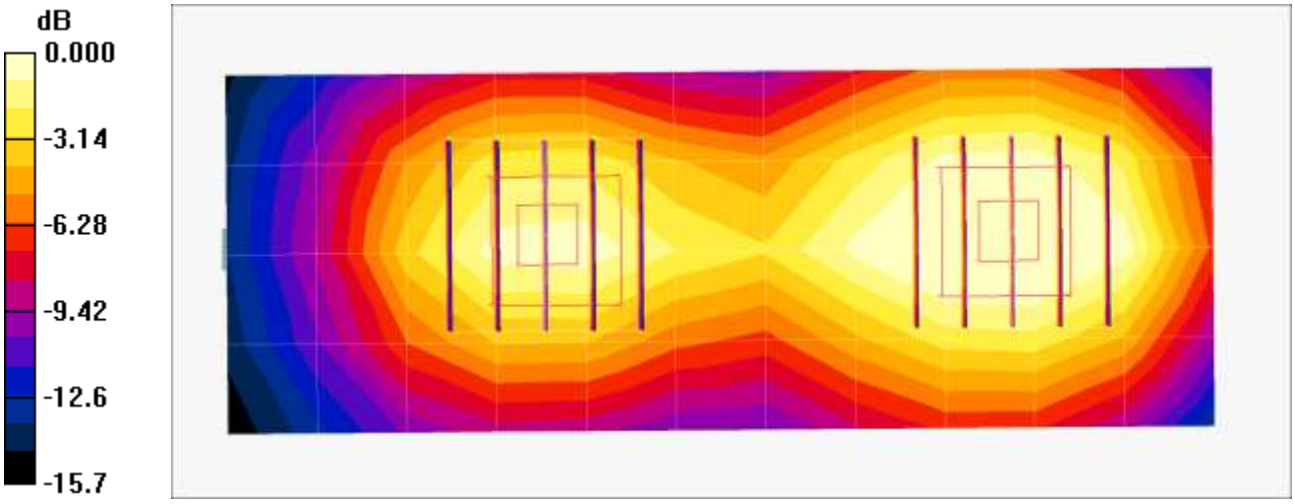
DUT: LG-K600; Type: Bar

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

WCDMA1900 Body Left 9400ch/Area Scan (5x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.988 mW/g
WCDMA1900 Body Left 9400ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.786 mW/g; SAR(10 g) = 0.462 mW/g
Maximum value of SAR (measured) = 1.06 mW/g
WCDMA1900 Body Left 9400ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.877 W/kg
SAR(1 g) = 0.544 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.721 mW/g



0 dB = 0.721mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	31

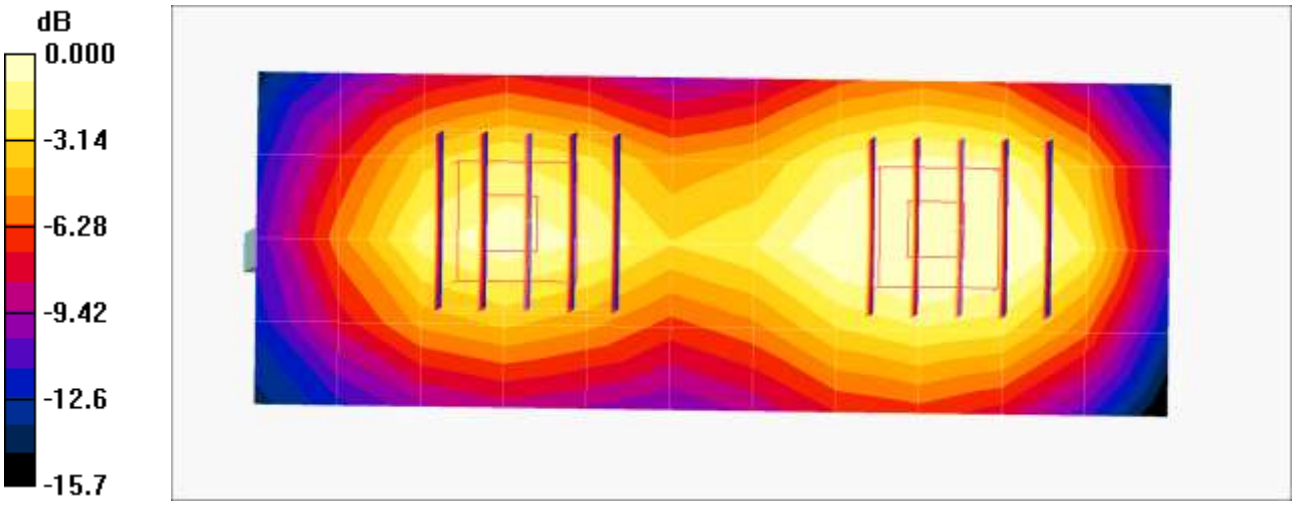
DUT: LG-K600; Type: Bar

Communication System: LTE band 2; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band 2 Body Left QPSK 20MHz 1RB 0offset 19100ch/Area Scan (5x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.861 mW/g
LTE Band 2 Body Left QPSK 20MHz 1RB 0offset 19100ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.671 mW/g; SAR(10 g) = 0.398 mW/g
Maximum value of SAR (measured) = 0.887 mW/g
LTE Band 2 Body Left QPSK 20MHz 1RB 0offset 19100ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 0.750 W/kg
SAR(1 g) = 0.464 mW/g; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.613 mW/g



0 dB = 0.613mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.6℃
Ambient Temperature:	20.8℃
Test Date:	05/30/2016
Plot No.:	32

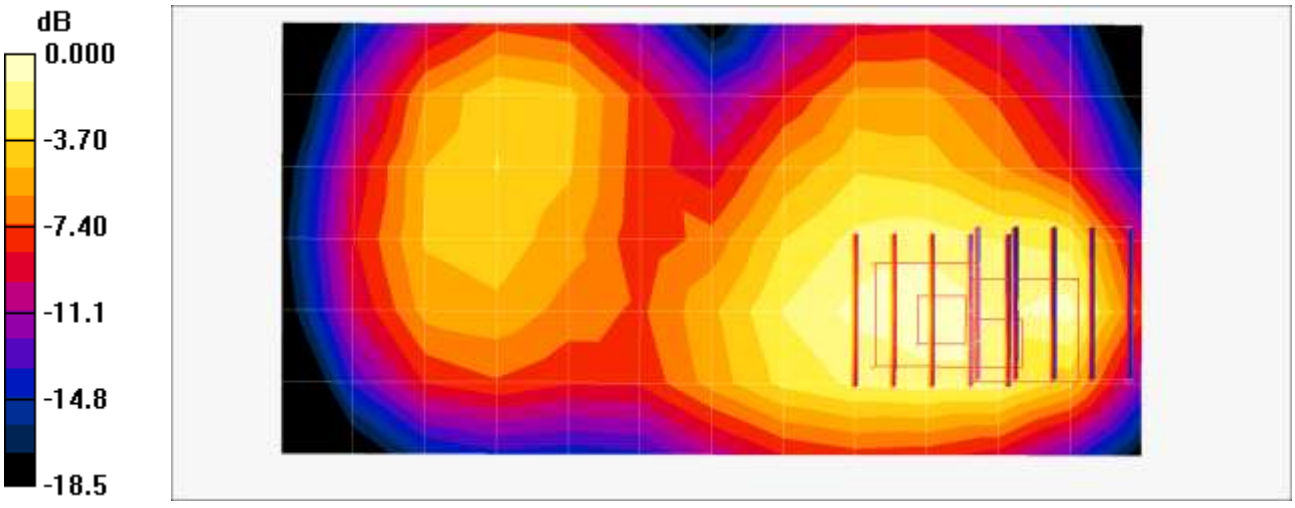
DUT: LG-K600; Type: Bar

Communication System: LTE Band 4; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.47 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.73, 7.73, 7.73); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band 4 Body Front QPSK 20MHz 1RB 0offset 20175ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.683 mW/g
LTE Band 4 Body Front QPSK 20MHz 1RB 0offset 20175ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.16 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.828 W/kg
SAR(1 g) = 0.554 mW/g; SAR(10 g) = 0.346 mW/g
Maximum value of SAR (measured) = 0.677 mW/g
LTE Band 4 Body Front QPSK 20MHz 1RB 0offset 20175ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.16 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.793 W/kg
SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.658 mW/g



0 dB = 0.658mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	20.4℃
Ambient Temperature:	20.7℃
Test Date:	05/31/2016
Plot No.:	33

DUT: LG-K600; Type: Bar

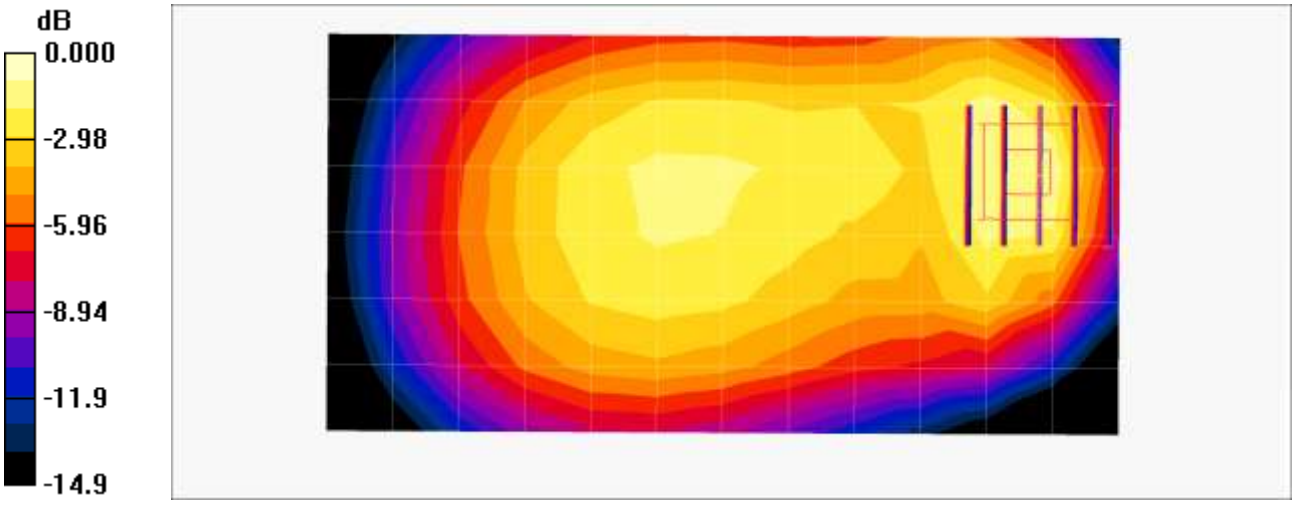
Communication System: LTE Band 5; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.955 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

LTE Band5 Body Front QPSK 10MHz 1RB 49offset 20525ch/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.348 mW/g

LTE Band5 Body Front QPSK 10MHz 1RB 49offset 20525ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.1 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.448 mW/g



0 dB = 0.448mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	23.0℃
Ambient Temperature:	23.2℃
Test Date:	06/02/2016
Plot No.:	34

DUT: LG-K600; Type: Bar

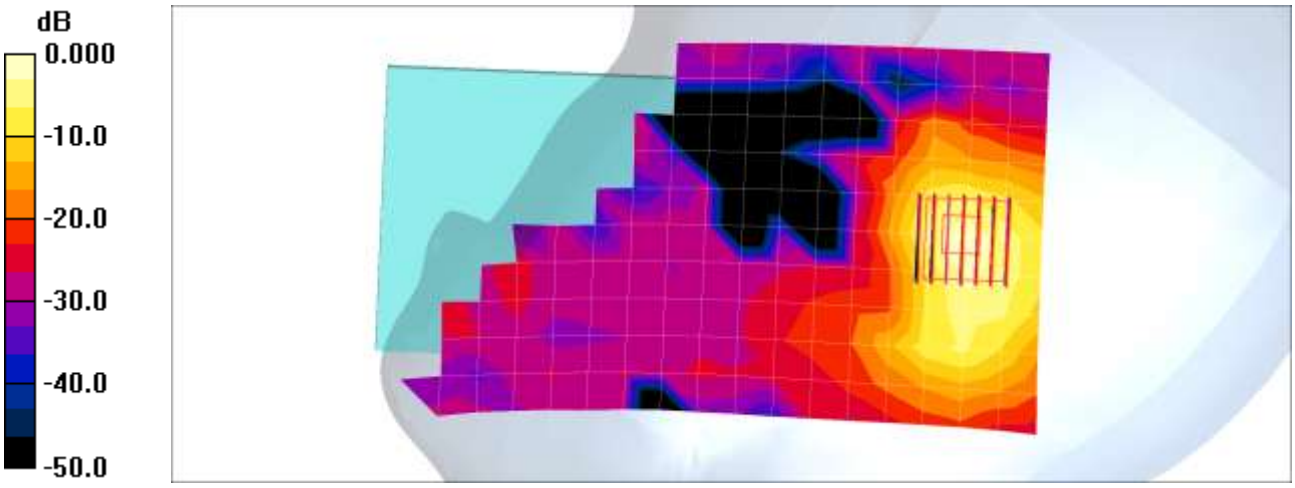
Communication System: WIFI 5GHz; Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5580 MHz; σ = 5.08 mho/m; ε_r = 36.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.21, 4.21, 4.21); Calibrated: 2015-11-24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Head Right Tilt 116ch 6Mbps/Area Scan (11x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.92 mW/g

802.11a Head Right Tilt 116ch 6Mbps/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 22.4 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 3.88 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 2.38 mW/g



0 dB = 2.38mW/g

0

Test Laboratory:	HCT CO., LTD
EUT Type:	GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC
Liquid Temperature:	23.0℃
Ambient Temperature:	23.2℃
Test Date:	06/02/2016
Plot No.:	35

DUT: LG-K600; Type: Bar

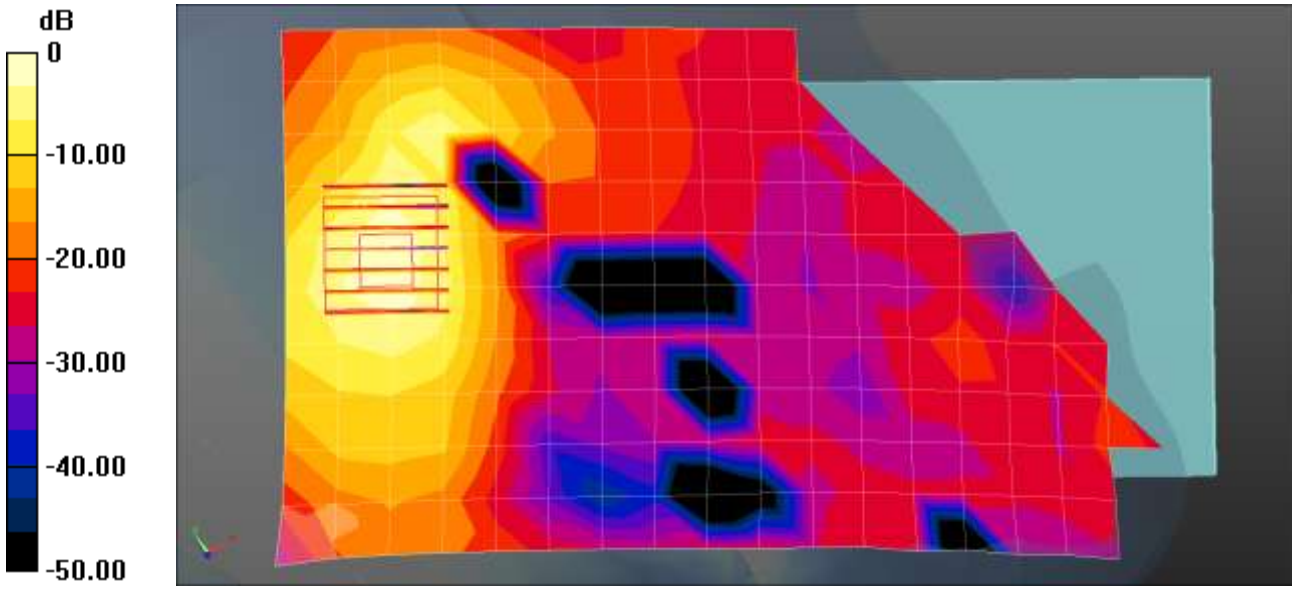
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5825 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5825 MHz; σ = 5.392 S/m; ε_r = 35.706; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.2, 4.2, 4.2); Calibrated: 2015-11-24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a Head Left Tilt 6Mbps 165ch/Area Scan (11x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.69 W/kg

802.11a Head Left Tilt 6Mbps 165ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 16.52 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.31 W/kg
SAR(1 g) = 0.723 W/kg; SAR(10 g) = 0.219 W/kg
Maximum value of SAR (measured) = 1.86 W/kg



0 dB = 1.69 W/kg = 2.28 dBW/kg

Attachment 2. – Dipole Verification Plots

■ Verification Data (750 MHz Head)

Test Laboratory: HCT CO., LTD
Input Power 100 mW (20 dBm)
Liquid Temp: 21.9 ℃
Test Date: 05/27/2016

DUT: Dipole 750 MHz; Type: D750V3

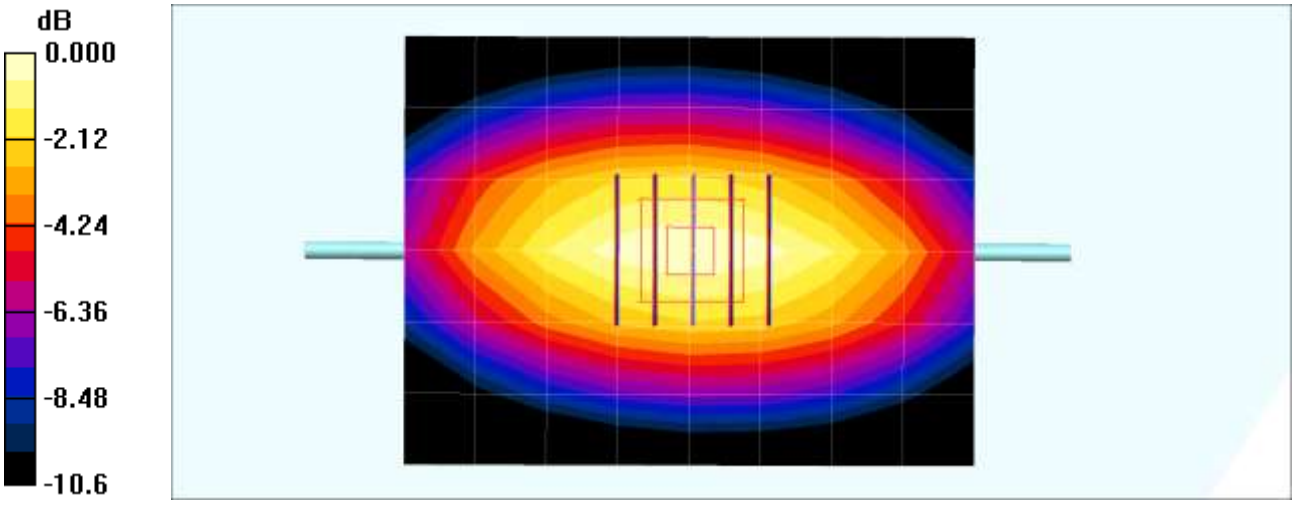
Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.91 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.83, 9.83, 9.83); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

750MHz Head Verification/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.871 mW/g

750MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.4 V/m; Power Drift = -0.185 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.790 mW/g; SAR(10 g) = 0.520 mW/g
Maximum value of SAR (measured) = 0.852 mW/g



0 dB = 0.852mW/g

■ Verification Data (750 MHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.4 ℃
Test Date:	05/31/2016

DUT: Dipole 750 MHz; Type: D750V3

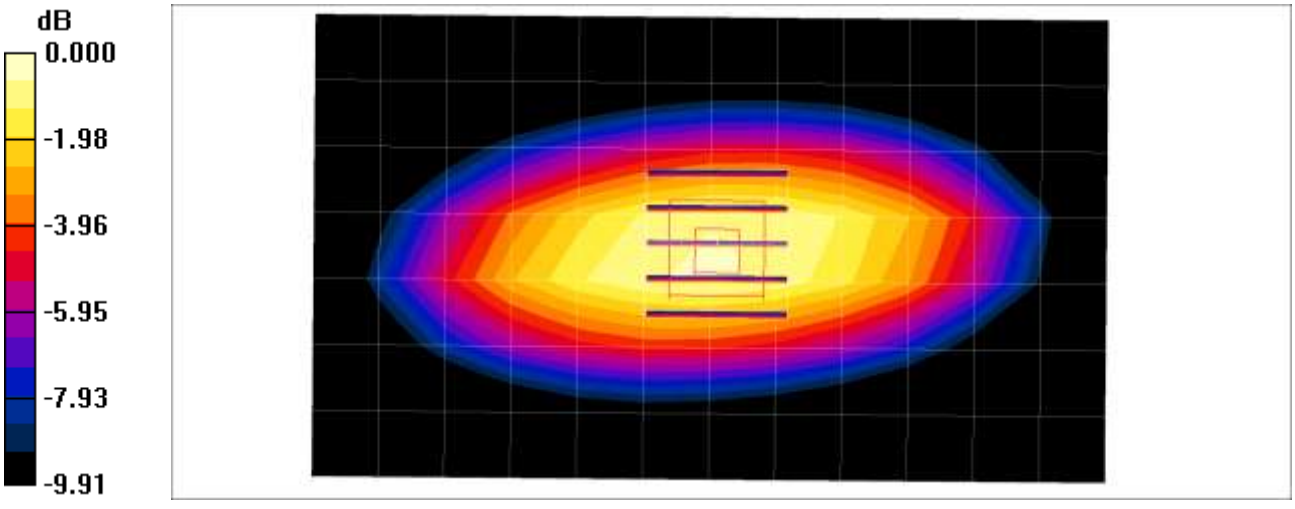
Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.988 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.76, 9.76, 9.76); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

750 MHz Body Verification/Area Scan (13x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.811 mW/g

750 MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.6 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.846 mW/g; SAR(10 g) = 0.564 mW/g
Maximum value of SAR (measured) = 0.913 mW/g



0 dB = 0.913mW/g

■ Verification Data (835 MHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	21.1 ℃
Test Date:	05/26/2016

DUT: Dipole 835 MHz; Type: D835V2

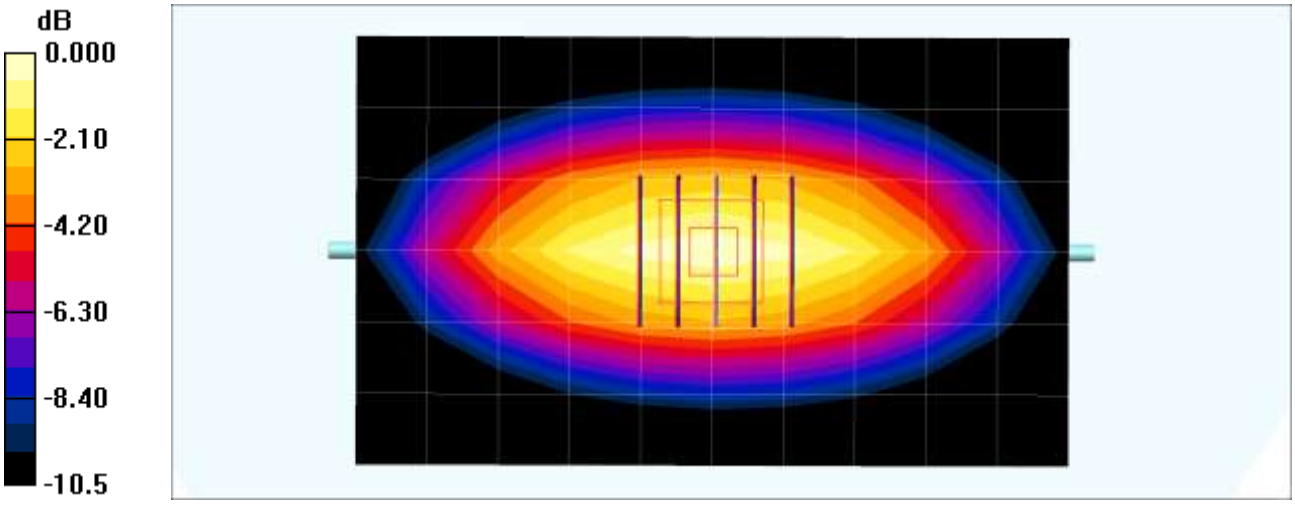
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.915 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.46, 9.46, 9.46); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

835 MHz Head Verification/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.13 mW/g

835 MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.9 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.596 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

■ Verification Data (835 MHz Body)

Test Laboratory: HCT CO., LTD
Input Power 100 mW (20 dBm)
Liquid Temp: 20.4 ℃
Test Date: 05/31/2016

DUT: Dipole 835 MHz; Type: D835V2

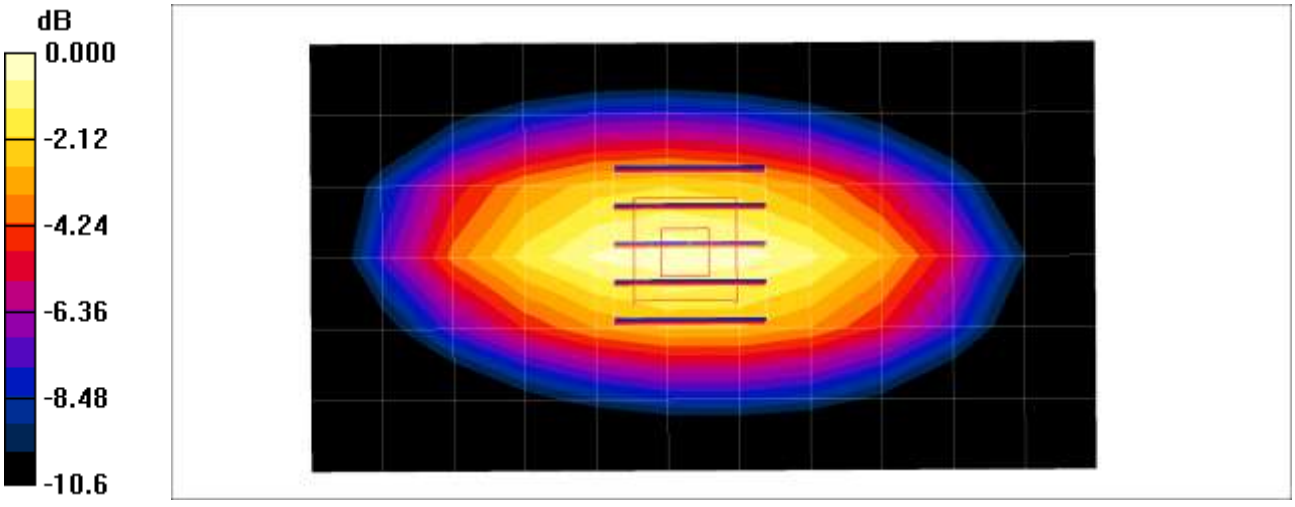
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.954 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(9.4, 9.4, 9.4); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

835 MHz Body Verification/Area Scan (12x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.00 mW/g

835 MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.6 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.608 mW/g
Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01mW/g

■ Verification Data (1800 MHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	19.9 ℃
Test Date:	05/27/2016

DUT: Dipole 1800 MHz; Type: D1800V2

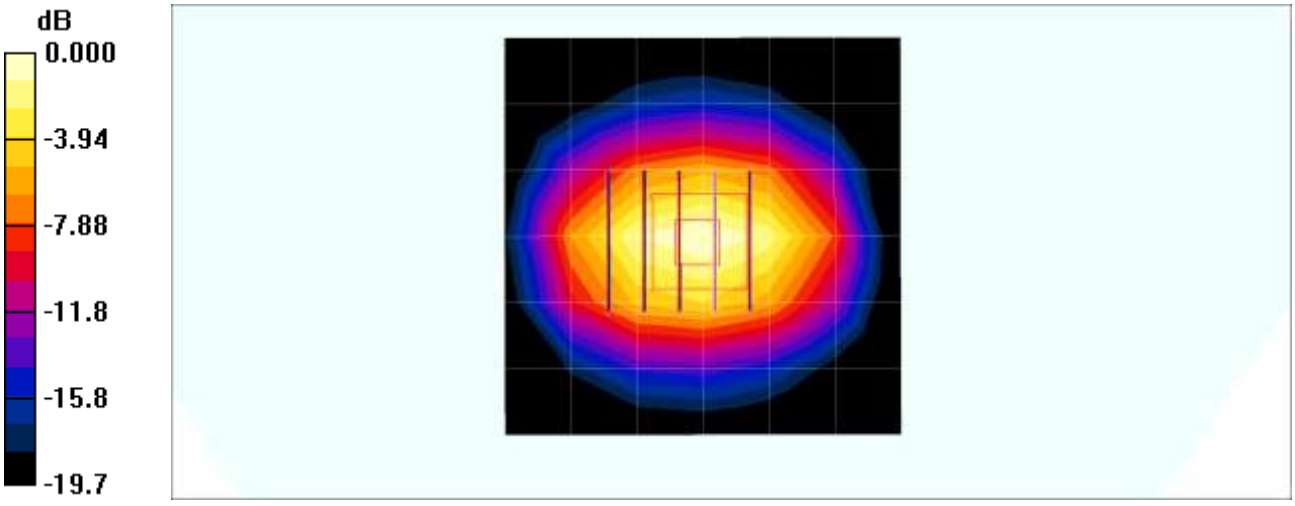
Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.39 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(8.18, 8.18, 8.18); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

1800MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 4.07 mW/g

1800MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 6.88 W/kg
SAR(1 g) = 3.62 mW/g; SAR(10 g) = 1.85 mW/g
Maximum value of SAR (measured) = 3.97 mW/g



0 dB = 3.97mW/g

■ Verification Data (1 800 MHz Body)

Test Laboratory: HCT CO., LTD
Input Power 100 mW (20 dBm)
Liquid Temp: 20.6 ℃
Test Date: 05/30/2016

DUT: Dipole 1800 MHz; Type: D1800V2

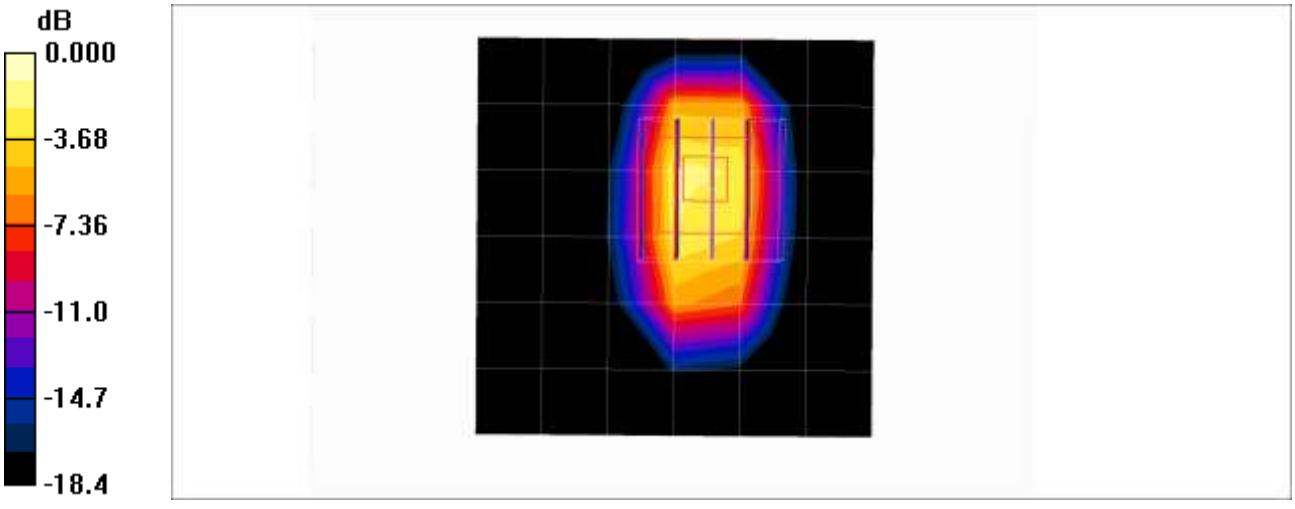
Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.54 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.73, 7.73, 7.73); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

1800MHz Body Verification/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.91 mW/g

1800MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 40.6 V/m; Power Drift = -0.063 dB
Peak SAR (extrapolated) = 8.24 W/kg
SAR(1 g) = 4 mW/g; SAR(10 g) = 1.89 mW/g
Maximum value of SAR (measured) = 4.51 mW/g



0 dB = 4.51mW/g

■ Verification Data (1900 MHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	19.9 ℃
Test Date:	05/27/2016

DUT: Dipole 1900 MHz; Type: D1900V2

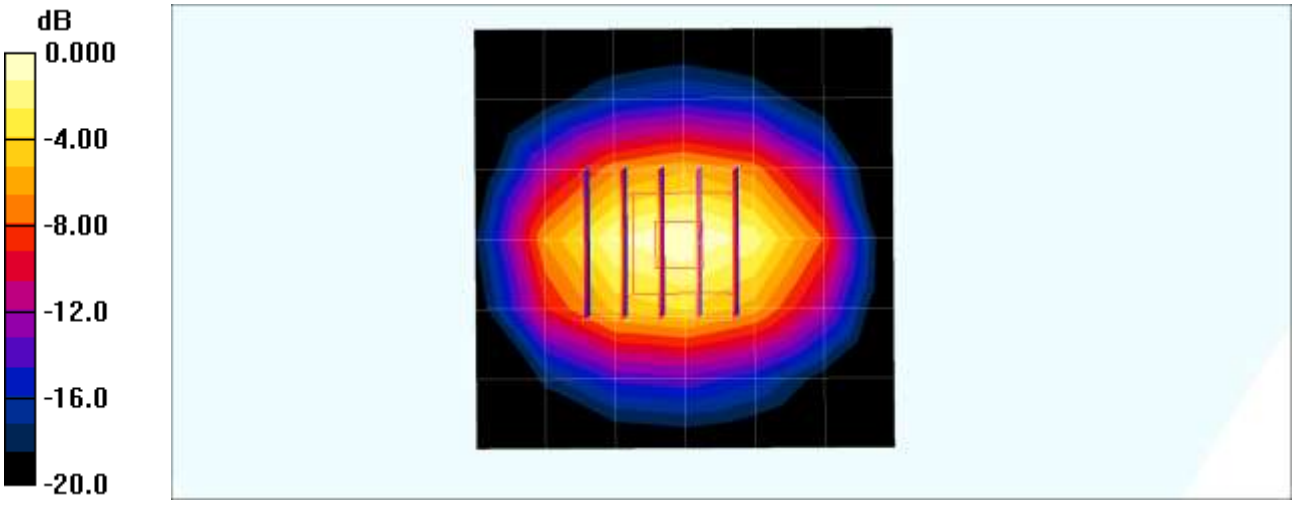
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.84, 7.84, 7.84); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 4.27 mW/g

1900MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.9 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 7.25 W/kg
SAR(1 g) = 3.8 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (measured) = 4.17 mW/g



0 dB = 4.17mW/g

■ Verification Data (1900 MHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.6 ℃
Test Date:	05/30/2016

DUT: Dipole 1900 MHz; Type: D1900V2

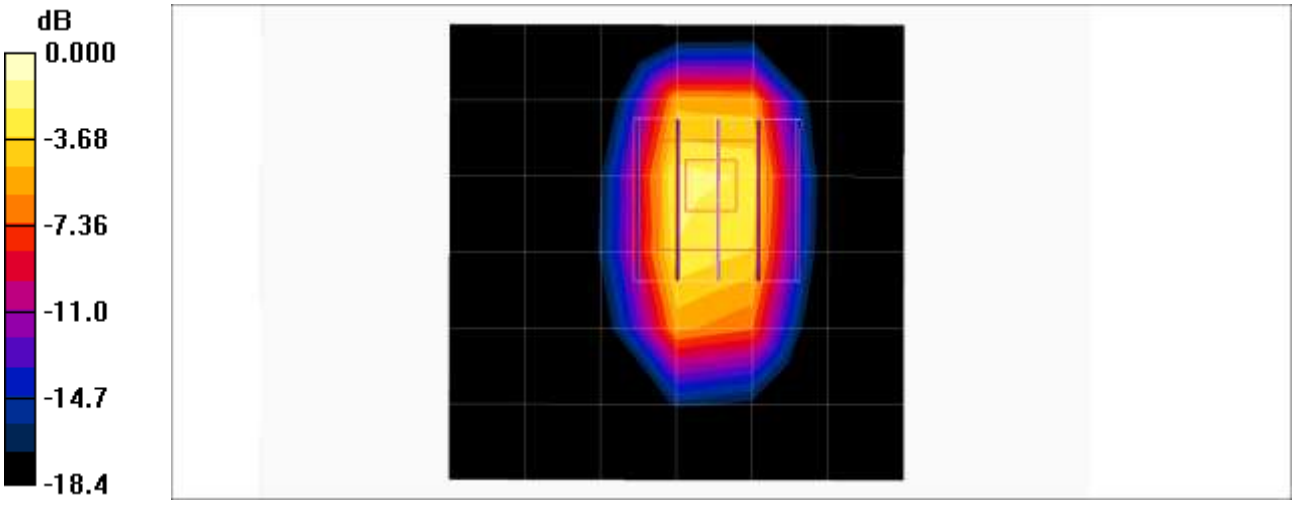
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.48, 7.48, 7.48); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

1900 MHz Body Verification/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.03 mW/g

1900 MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 40.9 V/m; Power Drift = -0.063 dB
Peak SAR (extrapolated) = 8.61 W/kg
SAR(1 g) = 4.16 mW/g; SAR(10 g) = 1.96 mW/g
Maximum value of SAR (measured) = 4.69 mW/g



0 dB = 4.69mW/g

■ Verification Data (2 450 MHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.1 ℃
Test Date:	06/01/2016

DUT: Dipole 2450 MHz; Type: D2450V2

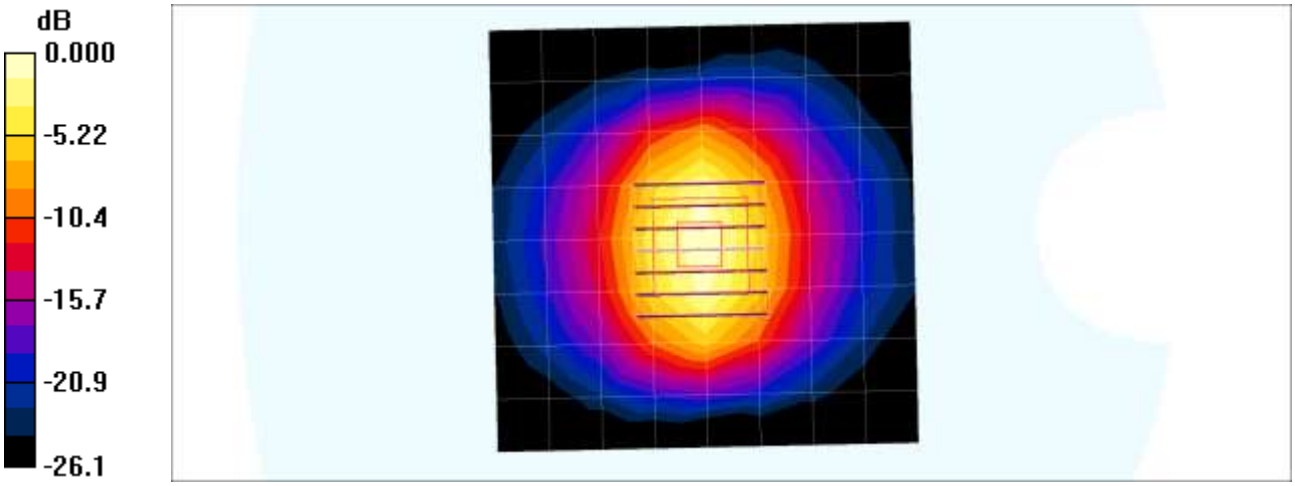
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.82 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.04, 7.04, 7.04); Calibrated: 2015-08-27
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phamtom ; Type: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

2450MHz Head Verification/Area Scan (9x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 7.96 mW/g

2450MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.3 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 11.4 W/kg
SAR(1 g) = 4.92 mW/g; SAR(10 g) = 2.15 mW/g
Maximum value of SAR (measured) = 7.84 mW/g



0 dB = 7.84mW/g

Verification Data (2 450 MHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	19.2 ℃
Test Date:	06/01/2016

DUT: Dipole 2450 MHz; Type: D2450V2

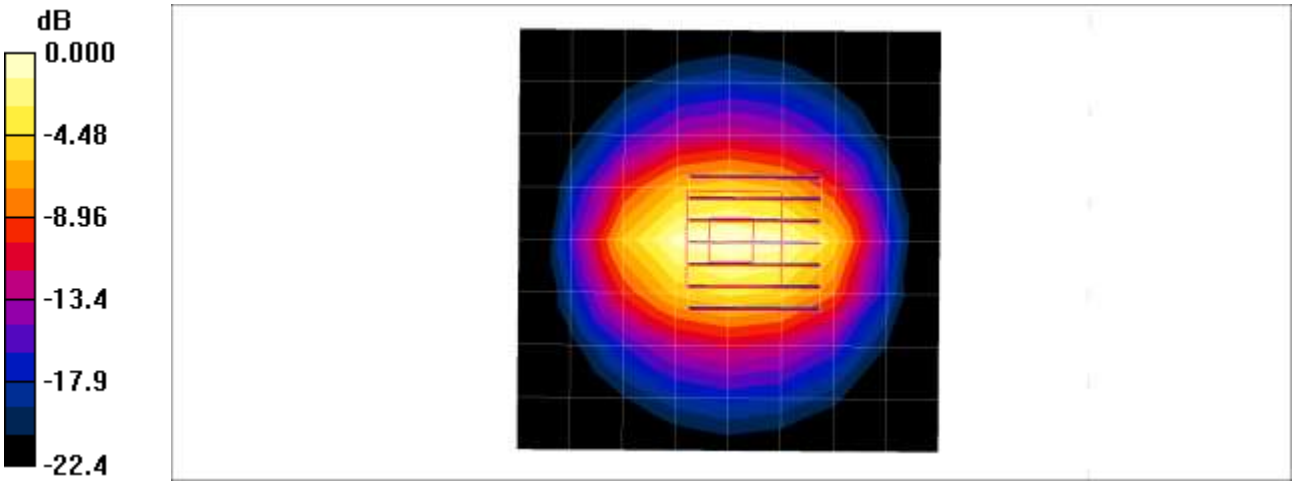
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.93 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.91, 6.91, 6.91); Calibrated: 2015-11-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

2450MHz Body Verification/Area Scan (9x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 7.30 mW/g

2450MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 62.8 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 9.98 W/kg
SAR(1 g) = 4.96 mW/g; SAR(10 g) = 2.41 mW/g
Maximum value of SAR (measured) = 7.40 mW/g



0 dB = 7.40mW/g

■ Verification Data (5.25 GHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	23.0 ℃
Test Date:	06/02/2016

DUT: Dipole 5GHz; Type: D5000V2

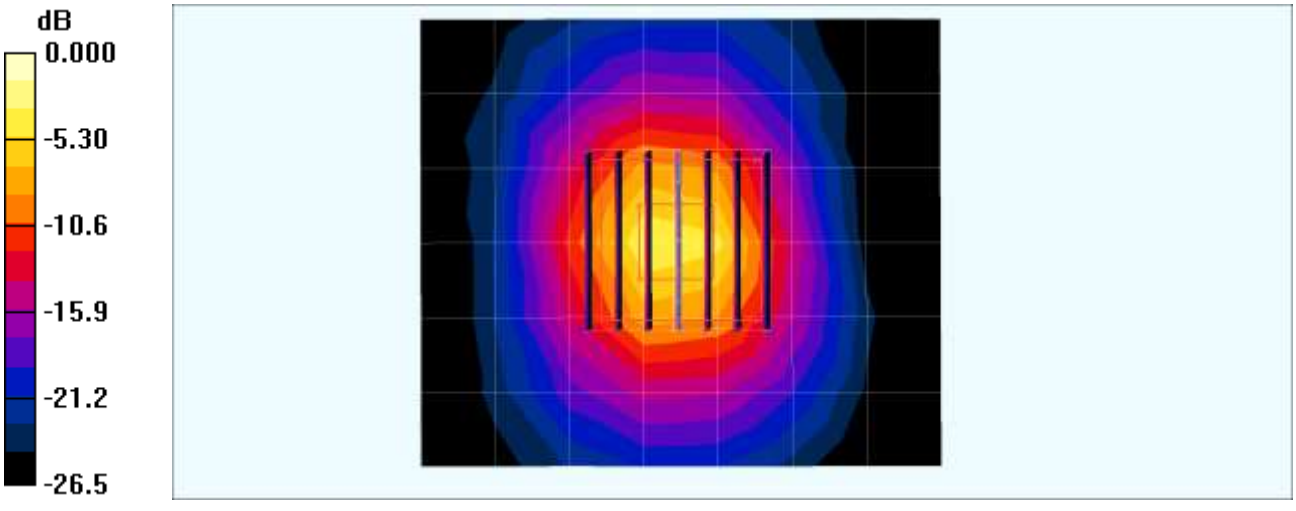
Communication System: CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.65 mho/m; ε_r = 35.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.8, 4.8, 4.8); Calibrated: 2015-11-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

Verification Head 5250MHz/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.16 mW/g

Verification Head 5250MHz/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 43.4 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 33.8 W/kg
SAR(1 g) = 7.73 mW/g; SAR(10 g) = 2.16 mW/g
Maximum value of SAR (measured) = 16.2 mW/g



0 dB = 16.2mW/g

■ Verification Data (5.25 GHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.1 ℃
Test Date:	06/01/2016

DUT: Dipole 5GHz; Type: D5000V2

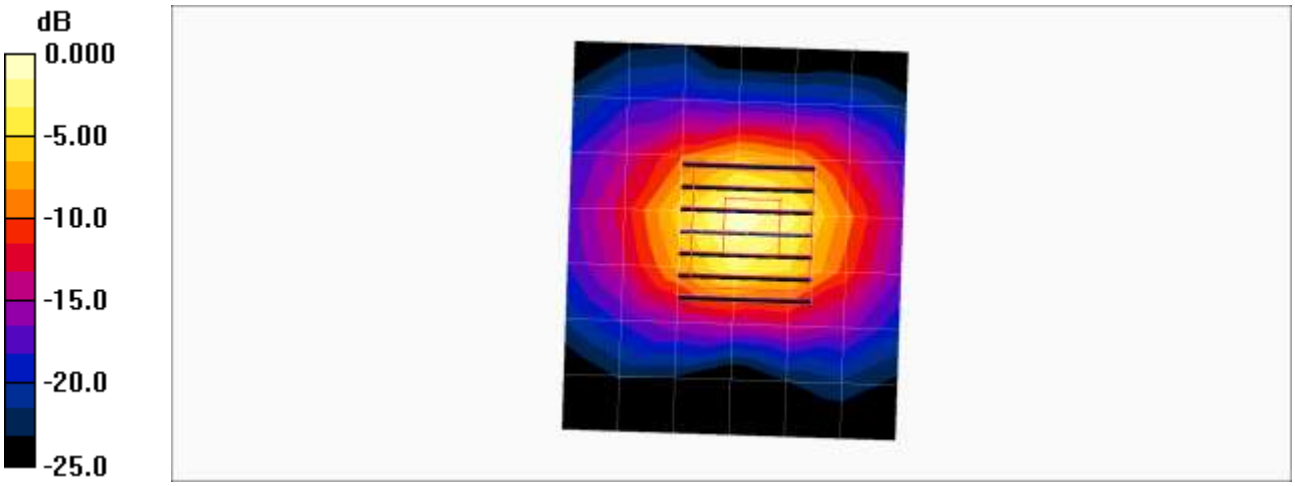
Communication System: CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 5.27 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.44, 4.44, 4.44); Calibrated: 2015-08-27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

5250MHz Body Verification/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 18.8 mW/g

5250MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 64.5 V/m; Power Drift = 0.171 dB
Peak SAR (extrapolated) = 30.8 W/kg
SAR(1 g) = 8.06 mW/g; SAR(10 g) = 2.46 mW/g
Maximum value of SAR (measured) = 19.9 mW/g



0 dB = 19.9mW/g

■ Verification Data (5.6 GHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	23.0 ℃
Test Date:	06/02/2016

DUT: Dipole 5GHz; Type: D5000V2

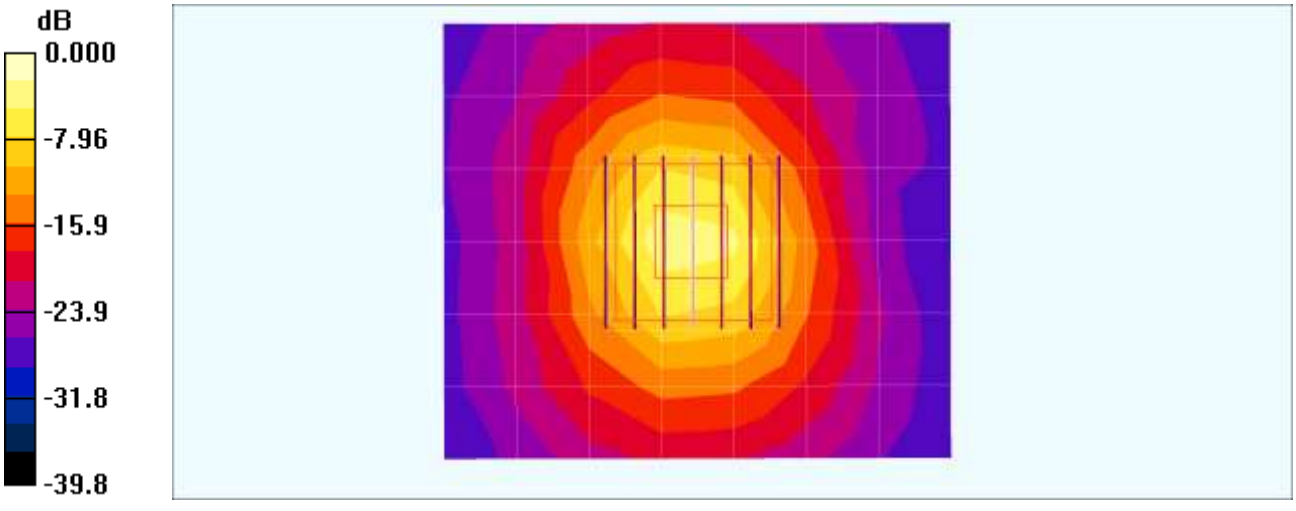
Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.11 mho/m; ε_r = 36.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.21, 4.21, 4.21); Calibrated: 2015-11-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

Verification Head 5600MHz/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.97 mW/g

Verification Head 5600MHz/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 43.4 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 33.4 W/kg
SAR(1 g) = 8.28 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (measured) = 17.2 mW/g



0 dB = 17.2mW/g

■ Verification Data (5.6 GHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.1 ℃
Test Date:	06/01/2016

DUT: Dipole 5GHz; Type: D5000V2

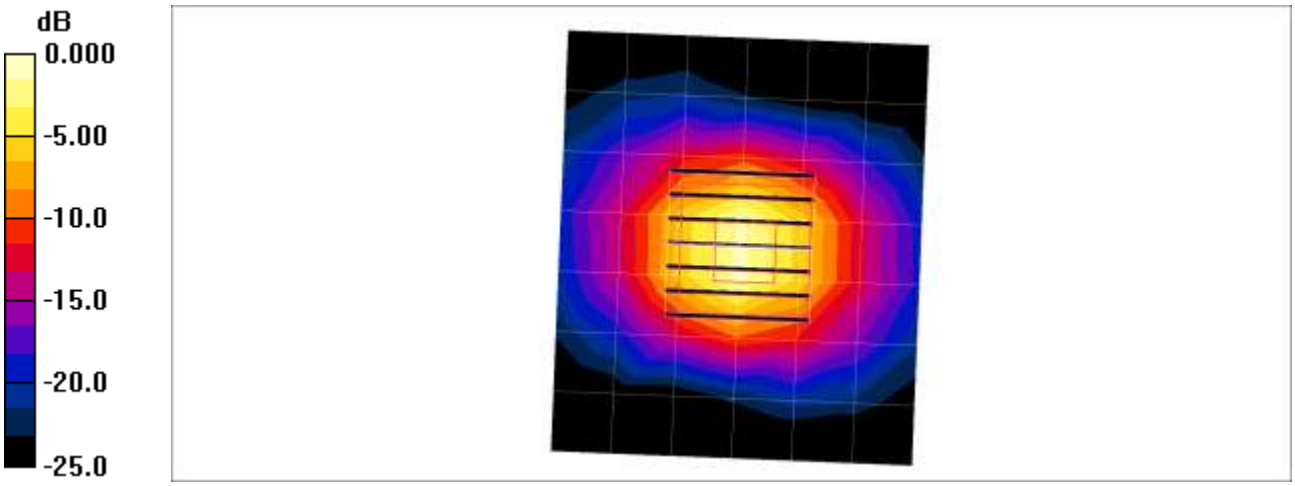
Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.84 mho/m; ε_r = 47.7; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.77, 3.77, 3.77); Calibrated: 2015-08-27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

5600MHz Body Verification/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.2 mW/g

5600MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 68.3 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 34.7 W/kg
SAR(1 g) = 7.78 mW/g; SAR(10 g) = 2.19 mW/g
Maximum value of SAR (measured) = 20.4 mW/g



0 dB = 20.4mW/g

Verification Data (5.75 GHz Head)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	23.0 ℃
Test Date:	06/02/2016

DUT: Dipole 5GHz; Type: D5000V2

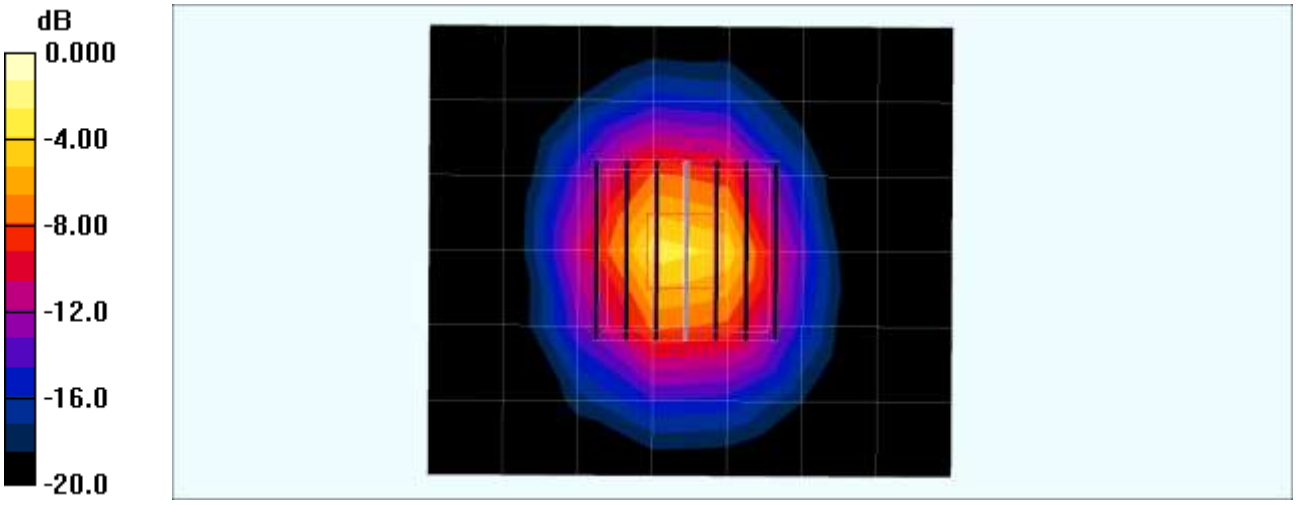
Communication System: CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.31 mho/m; ε_r = 36.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(4.2, 4.2, 4.2); Calibrated: 2015-11-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1225; Calibrated: 2016-03-17
- Phantom: SAM
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

Verification Head 5750MHz/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.14 mW/g

Verification Head 5750MHz/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 40.3 V/m; Power Drift = 0.074 dB
Peak SAR (extrapolated) = 27.8 W/kg
SAR(1 g) = 7.29 mW/g; SAR(10 g) = 2.1 mW/g
Maximum value of SAR (measured) = 14.8 mW/g



0 dB = 14.8mW/g

■ Verification Data (5.75 GHz Body)

Test Laboratory:	HCT CO., LTD
Input Power	100 mW (20 dBm)
Liquid Temp:	20.1 ℃
Test Date:	06/01/2016

DUT: Dipole 5GHz; Type: D5000V2

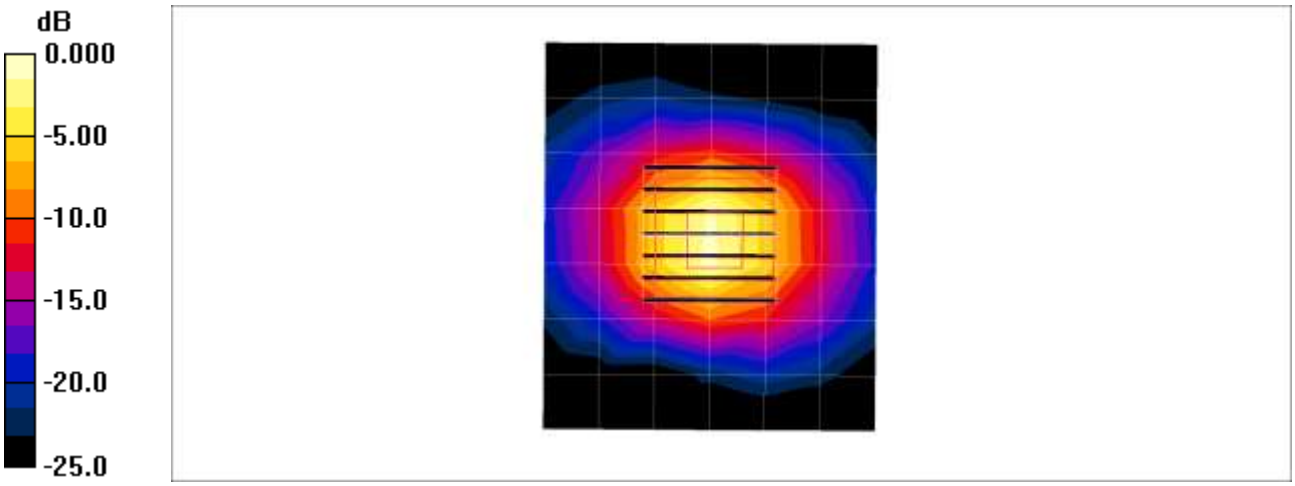
Communication System: CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 6.1 mho/m; ε_r = 47.4; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.08, 4.08, 4.08); Calibrated: 2015-08-27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2016-02-17
- Phantom: Triple Flat Phantom
- Measurement SW: DASY4, V4.7 Build 80
- Postprocessing SW: SEMCAD, V1.8 Build 186

5750MHz Body Verification/Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.7 mW/g

5750MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 65.6 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 32.9 W/kg
SAR(1 g) = 7.5 mW/g; SAR(10 g) = 2.11 mW/g
Maximum value of SAR (measured) = 19.4 mW/g



0 dB = 19.4mW/g