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SAR EVALUATION REPORT

Applicant Name:
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Gyeonggi-do 443-742, Korea

Date of Testing:
05/27/14 - 06/09/14
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
0Y1405221056.A3L

FCC ID: A3LSMG860P

APPLICANT: SAMSUNG ELECTRONICS, CO. LTD.

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model(s): SM-G860P

Equipment Class	Band & Mode	Tx Frequency	SAR		
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.56	0.60	0.95
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.26	0.28	1.03
PCE	UMTS 850	826.40 - 846.60 MHz	0.48	0.58	0.64
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.33	0.41	0.73
PCE	CDMA/EVDO BC10 (§90S)	817.90 - 823.10 MHz	0.60	0.64	0.70
PCE	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	0.67	0.64	0.69
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.49	0.65	1.10
PCE	LTE Band 26	814.7 - 848.3 MHz	0.59	0.54	0.58
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.44	0.48	0.75
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.65	0.16	0.41
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.43	0.16	0.16
DTS	5.8 GHz WLAN	5745 - 5825 MHz	0.59	0.34	0.55
NII	5.2 GHz WLAN	5180 - 5240 MHz	0.60	0.11	
NII	5.3 GHz WLAN	5260 - 5320 MHz	0.59	0.16	
NII	5.5 GHz WLAN	5500 - 5700 MHz	0.30	0.27	
DSS/DTS	Bluetooth	2402 - 2480 MHz	N/A		
Simultaneous SAR per KDB 690783 D01v01r02:			1.25	0.99	1.30

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.

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. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

ACCREDITED
TESTING CERT#2041.01

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
LTE Band 26	Data	814.7 - 848.3 MHz
LTE Band 25 (PCS)	Data	1850.7 - 1914.3 MHz
LTE Band 41	Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Data	2412 - 2462 MHz
5.8 GHz WLAN	Data	5745 - 5825 MHz
5.2 GHz WLAN	Data	5180 - 5240 MHz
5.3 GHz WLAN	Data	5260 - 5320 MHz
5.5 GHz WLAN	Data	5500 - 5700 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz

1.2 Power Reduction for SAR

The device utilizes power reduction using an independent single fixed level of reduction through a static table look-up, triggered by a single event/operation for the following modes:

1.2.1 CDMA2000

- PCS CDMA/EVDO power is reduced when Hotspot is ON

1.2.2 UMTS

- UMTS Band 2 power is reduced when Hotspot is ON

1.2.3 LTE

- LTE Band 25 power is reduced when Hotspot is ON

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1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v05.

1.3.1 Maximum Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*
GSM/GPRS/EDGE 850	Maximum	**33.5**	**33.5**	**32.0**	**30.5**	**29.5**	**27.5**	**27.5**	**23.5**	**22.5**
	Nominal	**33.0**	**33.0**	**31.5**	**30.0**	**29.0**	**27.0**	**27.0**	**23.0**	**22.0**
GSM/GPRS/EDGE 1900	Maximum	**30.5**	**30.5**	**29.0**	**26.5**	**25.5**	**26.5**	**26.5**	**20.5**	**19.5**
	Nominal	**30.0**	**30.0**	**28.5**	**26.0**	**25.0**	**26.0**	**26.0**	**20.0**	**19.0**

Mode / Band		Modulated Average (dBm)		
		3GPP WCDMA Rel. 99	*3GPP HSDPA Rel. 5*	*3GPP HSUPA Rel. 6*
UMTS Band 5 (850 MHz)	Maximum	**23.5**	**23.0**	**22.5**
	Nominal	**23.0**	**22.5**	**22.0**
UMTS Band 2 (1900 MHz)	Maximum	**23.0**	**22.5**	**22.0**
	Nominal	**22.5**	**22.0**	**21.5**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**25.0**
	Nominal	**24.5**
CDMA/EVDO BC0 (§22H)	Maximum	**25.0**
	Nominal	**24.5**
PCS CDMA/EVDO	Maximum	**25.0**
	Nominal	**24.5**

Mode / Band		Modulated Average (dBm)
LTE Band 26	Maximum	**23.5**
	Nominal	**23.0**
LTE Band 25 (PCS)	Maximum	**23.5**
	Nominal	**23.0**
LTE Band 41	Maximum	**24.0**
	Nominal	**23.5**

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Mode / Band		Modulated Average (dBm)
IEEE 802.11b (2.4 GHz Antenna 1)	Maximum	**15.0**
	Nominal	**14.5**
IEEE 802.11b (2.4 GHz Antenna 2)	Maximum	**14.5**
	Nominal	**14.0**
IEEE 802.11g (2.4 GHz Antenna 1)	Maximum	**14.5**
	Nominal	**14.0**
IEEE 802.11g (2.4 GHz Antenna 2)	Maximum	**13.5**
	Nominal	**13.0**
IEEE 802.11n (2.4 GHz Antenna 1, MIMO)	Maximum	**13.5**
	Nominal	**13.0**
IEEE 802.11n (2.4 GHz Antenna 2)	Maximum	**11.5**
	Nominal	**11.0**
IEEE 802.11a (5 GHz Antenna 1, 2)	Maximum	**12.5**
	Nominal	**12.0**
IEEE 802.11n 20 MHz BW (5 GHz Antenna 1, 2, MIMO)	Maximum	**12.5**
	Nominal	**12.0**
IEEE 802.11n 40 MHz BW (5 GHz Antenna 1, 2, MIMO)	Maximum	**12.5**
	Nominal	**12.0**
IEEE 802.11ac 80 MHz BW (5 GHz Antenna 1, 2, MIMO)	Maximum	**11.5**
	Nominal	**11.0**
Bluetooth	Maximum	**10.0**
	Nominal	**9.5**
Bluetooth LE	Maximum	**7.5**
	Nominal	**7.0**

1.3.2 Reduced Power with Hotspot Mode Activated

Mode / Band		Modulated Average (dBm)		
		3GPP WCDMA Rel. 99	*3GPP HSDPA Rel. 5*	*3GPP HSUPA Rel. 6*
UMTS Band 2 (1900 MHz)	Maximum	**21.0**	**20.5**	**20.0**
	Nominal	**20.5**	**20.0**	**19.5**

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**22.0**
	Nominal	**21.5**

Mode / Band		Modulated Average (dBm)
LTE Band 25	Maximum	**20.5**
	Nominal	**20.0**

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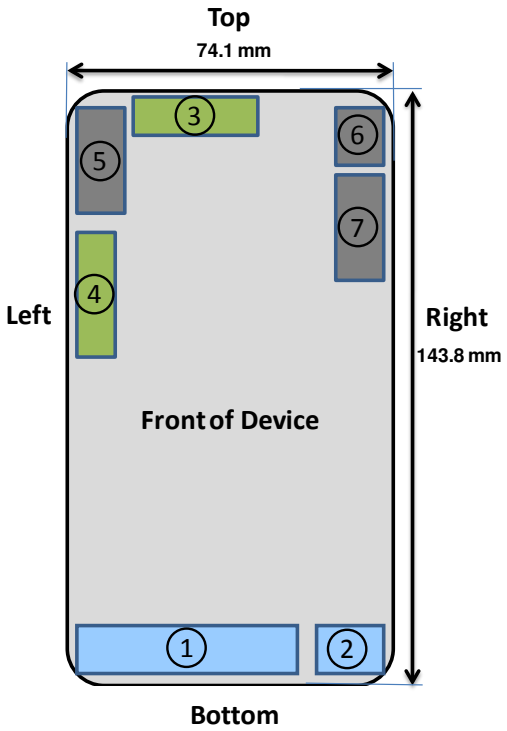
1.4 DUT Antenna Locations



1. **Main Antenna (Tx/Rx)**
   - CDMA/EVDO BC0/1/10
   - 850/1900 MHz GSM/GPRS/EDGE
   - UMTS Band 2/5
   - LTE Band 25/26
2. **LTE B41 Main Antenna (Tx/Rx)**
3. **BT/WLAN Antenna #1 (Tx/Rx)**
   - 2.4 GHz BT/WIFI
   - 5 GHz WIFI
4. **WLAN Antenna #2 (Tx/Rx)**
   - 2.4 GHz WIFI
   - 5 GHz WIFI
5. **MRD Antenna (Rx Only)**
6. **GPS Antenna (Rx Only)**
7. **LTE B41 Sub Antenna (Rx Only)**

Note: Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC Filing.

Figure 1-1
DUT Antenna Locations

Table 1-1
Mobile Hotspot Sides for SAR Testing

Mobile Hotspot Sides for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	No	Yes
GPRS 1900	Yes	Yes	No	Yes	No	Yes
UMTS 850	Yes	Yes	No	Yes	No	Yes
UMTS 1900	Yes	Yes	No	Yes	No	Yes
EVDO BC10 (§90S)	Yes	Yes	No	Yes	No	Yes
EVDO BC0 (§22H)	Yes	Yes	No	Yes	No	Yes
PCS EVDO	Yes	Yes	No	Yes	No	Yes
LTE Band 26	Yes	Yes	No	Yes	No	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	Yes	No
2.4 GHz WLAN	Yes	Yes	Yes	No	No	Yes
5.8 GHz WLAN	Yes	Yes	Yes	No	No	Yes

Note: Particular DUT edges were not required to be evaluated for Wireless Router SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v01 guidance, page 2. The antenna document shows the distances between the transmit antennas and the edges of the device. Mobile hotspot for 5.2 GHz - 5.7 GHz WIFI is not supported and therefore is not considered in this section.

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1.5 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the standard battery. The SAR tests were performed with the NFC integrated battery (model: EB-BG900BBU).

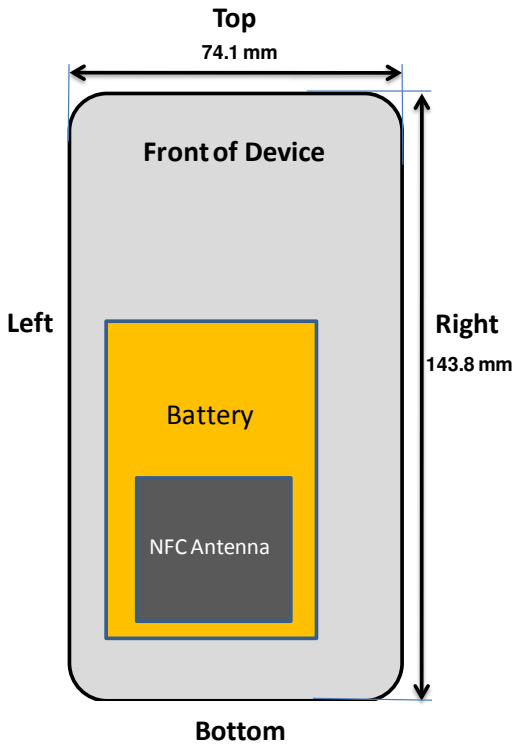

Figure 1-2
NFC Antenna Locations

1.6 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D05v01, 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 DUT are shown in Figure 1-3 and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another. This device supports MIMO Tx for WLAN 802.11n/ac. Each WLAN antenna can transmit independently or together when operating with MIMO.

Figure 1-3
Simultaneous Transmission Paths

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v05 3) procedures.

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Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Notes
1	1x CDMA voice + 2.4 GHz WI-FI	Yes	Yes	N/A	
2	1x CDMA voice + 5 GHz WI-FI	Yes	Yes	N/A	
3	1x CDMA voice + 2.4 GHz Bluetooth	N/A	Yes	N/A	
4	GSM voice + 2.4 GHz WI-FI	Yes	Yes	N/A	
5	GSM voice + 5 GHz WI-FI	Yes	Yes	N/A	
6	GSM voice + 2.4 GHz Bluetooth	N/A	Yes	N/A	
7	UMTS + 2.4 GHz WI-FI	Yes	Yes	Yes	
8	UMTS + 5 GHz WI-FI	Yes	Yes	Yes	
9	UMTS + 2.4 GHz Bluetooth	N/A	Yes	N/A	
10	LTE + 2.4 GHz WI-FI	Yes*	Yes*	Yes	*-Pre-installed VOIP applications are considered.
11	LTE + 5.8 GHz WI-FI	Yes*	Yes*	Yes	*-Pre-installed VOIP applications are considered.
12	LTE + 2.4 GHz Bluetooth	N/A	Yes*	N/A	*-Pre-installed VOIP applications are considered.
13	CDMA/EVDO data + 2.4 GHz WI-FI	Yes*	Yes*	Yes	*-Pre-installed VOIP applications are considered.
14	CDMA/EVDO data + 5.8 GHz WI-FI	Yes*	Yes*	Yes	*-Pre-installed VOIP applications are considered.
15	CDMA/EVDO data + 2.4 GHz Bluetooth	N/A	Yes*	N/A	*-Pre-installed VOIP applications are considered.
16	GPRS/EDGE + 2.4 GHz WI-FI	N/A	N/A	Yes	
17	GPRS/EDGE + 5.8 GHz WI-FI	N/A	N/A	Yes	
18	All Voice + LTE	N/A	N/A	N/A	Not supported by HW
19	All Voice + WIFI +LTE	N/A	N/A	N/A	Not supported by HW
20	All Data + 5.2 - 5.7 GHz WIFI	N/A	N/A	N/A	Not supported by SW

Note:

1. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
2. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
3. This device supports 2x2 MIMO Tx for WLAN 802.11n/ac. Each WLAN antenna can transmit independently or together when operating with MIMO.
4. 2.4 GHz WLAN, 2.4 GHz Bluetooth, and 5 GHz WLAN share the same antenna path and cannot transmit simultaneously.
5. GSM/GPRS, UMTS, CDMA, and LTE share the same antenna path and cannot transmit simultaneously.
6. 5 GHz Wireless Router is only supported for the 5.8 GHz Band by S/W, therefore all other 5 GHz NII Bands were not evaluated for wireless router conditions.

1.7 SAR Test Exclusions Applied

(A) WIFI/BT

Since Wireless Router operations are not allowed by the chipset firmware using 5 GHz WIFI, only 2.4 GHz WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v01.

Per FCC KDB 447498 D01v05, the SAR exclusion threshold for distances <50mm is defined by the following equation:

$$\frac{Max\ Power\ of\ Channel\ (mW)}{Test\ Separation\ Dist\ (mm)} * \sqrt{Frequency(GHz)} \leq 3.0$$

Based on the maximum conducted power of Bluetooth (rounded to the nearest mW) and the antenna to user separation distance, Bluetooth SAR was not required; [(10/15)* √2.441] = 1.0 < 3.0. Per KDB Publication 447498 D01v05, the maximum power of the channel was rounded to the nearest mW before calculation.

This device supports 20 MHz and 40 MHz Bandwidths for IEEE 802.11n for 5 GHz WIFI only. IEEE 802.11n was not evaluated for SAR since the average output power of 20 MHz and 40 MHz bandwidths was not more than 0.25 dB higher than the average output power of IEEE 802.11a.

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This device supports IEEE 802.11ac with the following features:

a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) No new 5 GHz channels

(B) 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 D01v02.

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 D05v02.

CDMA 1X Advanced technology was not required for SAR since the maximum output powers for 1x Advanced was not more than 0.25 dB higher than the maximum measured powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg.

1.8 Guidance Applied

- IEEE 1528-2003
- FCC KDB Publication 941225 D01-D06 (2G/3G/4G and Hotspot, 1x Advanced)
- FCC KDB Publication 248227 D01v01r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v05 (General SAR Guidance)
- FCC KDB Publication 865664 D01-D02 (SAR Measurements up to 6 GHz)
- April 2013 TCB Workshop Notes (IEEE 802.11ac)
- October 2013 TCB Workshop Notes(GPRS Testing Considerations)

1.9 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. 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.

	Head Serial Number	Head Reduced Power Serial Number	Body-Worn Serial Number	Hotspot Serial Number
GSM/GPRS/EDGE 850	27PCT8	-	27PCT8	27PCT8
GSM/GPRS/EDGE 1900	27PCT8	-	27PCT8	27PCT8
UMTS 850	27PCT8	-	27PCT8	27PCT8
UMTS 1900	27PCT8	-	27PCT8	27PCT10
CDMA/EVDO BC10 (§90S)	27PCT6	-	27PCT6	27PCT6
CDMA/EVDO BC0 (§22H)	27PCT6	-	27PCT6	27PCT6
PCS CDMA/EVDO	27PCT1	27PCT7	27PCT1	27PCT7
LTE Band 26	27PCT4	-	27PCT4	27PCT4
LTE Band 25 (PCS)	27PCT4	27PCT2	27PCT4	27PCT2
LTE Band 41	27PCT3	-	27PCT3	27PCT3
2.4 GHz WLAN (Ant 1)	27PCT11	-	27PCT11	27PCT11
2.4 GHz WLAN (Ant 2)	6PCT2	-	6PCT1	6PCT1
2.4 GHz WLAN (MIMO)	6PCT2	-	6PCT1	6PCT1
5 GHz WLAN (Ant 1)	6PCT2	-	6PCT2	6PCT2
5 GHz WLAN (Ant2)	27PCT11	-	27PCT11	27PCT11
5 GHz WLAN (MIMO)	27PCT11	-	6PCT2	6PCT2

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2 LTE INFORMATION

LTE Information					
FCC ID	**A3LSMG860P**				
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 26 (814.7 - 848.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 26: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 26: 1.4 MHz	814.7 (26697)		831.5 (26865)		848.3 (27033)
LTE Band 26: 3 MHz	815.5 (26705)		831.5 (26865)		847.5 (27025)
LTE Band 26: 5 MHz	816.5 (26715)		831.5 (26865)		846.5 (27015)
LTE Band 26: 10 MHz	819 (26740)		831.5 (26865)		844 (26990)
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)		1914.3 (26683)
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)		1913.5 (26675)
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)		1912.5 (26665)
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)		1910 (26640)
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)		1907.5 (26615)
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)		1905 (26590)
LTE Band 41: 5 MHz	2498.5 (39675)	2457.75 (40148)	2593 (40620)	2640.25 (41093)	2687.5 (41565)
LTE Band 41: 10 MHz	2501 (39700)	2547 (40160)	2593 (40620)	2639 (41080)	2685 (41540)
LTE Band 41: 15 MHz	2503.5 (39725)	2548.25 (41073)	2593 (40620)	2637.75 (41068)	2682.5 (41515)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	4				
Modulations Supported in UL	QPSK, 16QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				

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3 INTRODUCTION

The FCC and Industry Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

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 [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (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 International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. 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.

3.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
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 relation 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.[6]

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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01 and IEEE 1528-2013:

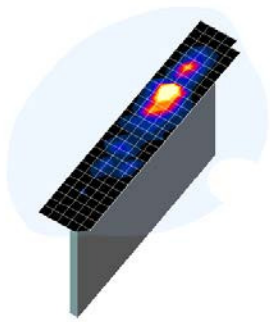

Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01 (See 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 (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 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 then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   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 was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 4-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

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5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

Figure 5-2 shows the front, back and side views of the SAM Twin Phantom. The point "M" is the reference point for the center of the mouth, "LE" is the left ear reference point (ERP), and "RE" is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 5-1. The plane passing through the two ear canals and M is defined as the Reference Plane. 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 [5].

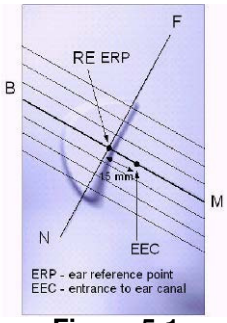

Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device 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 5-3). The acoustic output was than located at the same level as the center of the ear reference point. The test device 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.

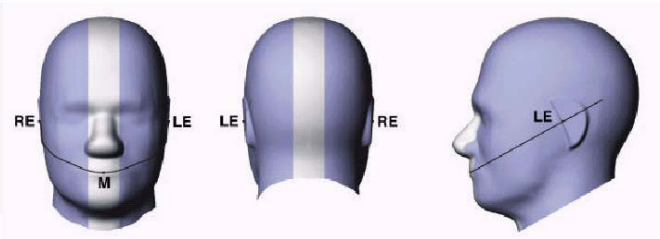

Figure 5-2
Front, back and side view of SAM Twin Phantom

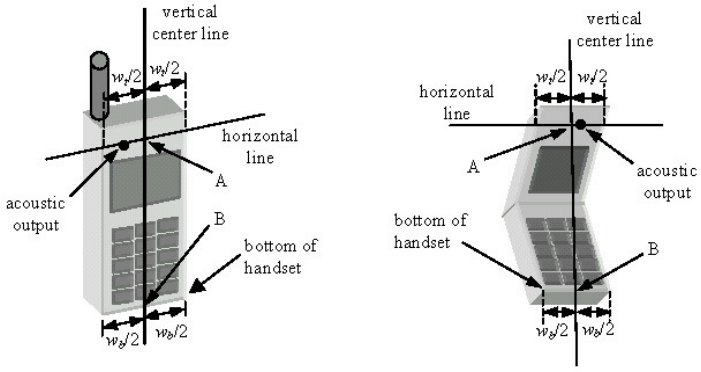

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS FOR HANDSETS

6.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

6.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

Figure 6-1 Front, Side and Top View of Cheek Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 6-2).

6.3 Positioning for Ear / 15º Tilt

With the test device aligned in the “Cheek Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 6-2).

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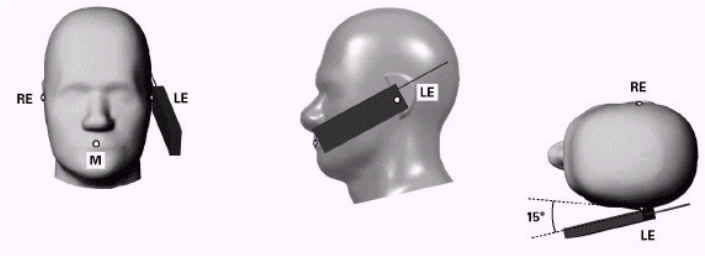

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

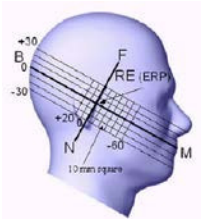

Figure 6-3
Side view w/ relevant markings

6.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. Per IEEE 1528-2013, a rotated SAM phantom is necessary to allow probe access to such regions. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed from the table for emptying and cleaning.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04_v01. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR location identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

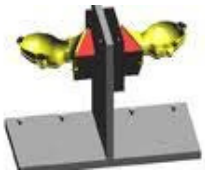

Figure 6-4 Twin SAM Chin20

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6.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-5). Per FCC KDB Publication 648474 D04v01, 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 D01v05 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.

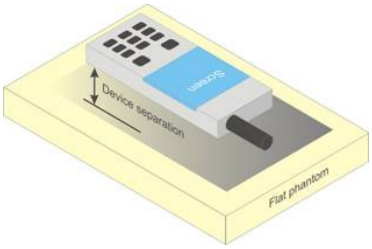

Figure 6-5
Sample Body-Worn Diagram

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-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

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

6.6 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1-g body and 10-g extremity SAR Exclusion Thresholds found in KDB Publication 44798 D01v05 should be applied to determine SAR test requirements.

Per KDB Publication 447498 D01v05, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

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6.7 Wireless 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 D06 v01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 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 D01v05 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.

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7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

Table 7-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

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

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8 FCC MEASUREMENT PROCEDURES

Power measurements were performed using a base station simulator under digital average power.

8.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v05, 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 D01v01r02.

8.2 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01 "SAR Measurement Procedures for 3G Devices" v02, October 2007.

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

8.3 SAR Measurement Conditions for CDMA2000

The following procedures were performed according to FCC KDB Publication 941225 D01 "SAR Measurement Procedures for 3G Devices" v02, October 2007.

8.3.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices" v02, October 2007. Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in the "All Up" condition.

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 8-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH_0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 8-2 was applied.

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Table 8-1
Parameters for Max. Power for RC1

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table 8-2
Parameters for Max. Power for RC3

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

5. FCHs were configured at full rate for maximum SAR with "All Up" power control bits.

8.3.2 CDMA2000 1x Advanced

This device additionally supports 1x Advanced. Conducted powers were measured using SO75 with RC8 on the uplink and RC11 on the downlink per KDB Publication 941225 D02v02. Smart blanking was disabled for all measurements. The EUT was configured with forward power control Mode 000 and reverse power control at 400 bps. Conducted powers were measured on an Agilent 8960 Series 10 Wireless Communications Test Set, Model E5515C using the CDMA2000 1x Advanced application, Option E1962B-410.

Based on the maximum output power measured for 1x Advanced, SAR is required for 1x advanced when if the maximum output for 1x Advanced is more than 0.25 dB higher than the maximum measured for 1x. Also, if the measured SAR in any 1x mode exposure conditions (head, body etc.) is larger than 1.2 W/kg, the highest of those configurations above 1.2 W/kg for each exposure condition in 1x Advanced has to be repeated. All measured SAR in 1x mode higher than 1.5 W/kg must be repeated for 1x Advanced.

8.3.3 Head SAR Measurements

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

Head SAR was additionally evaluated using EVDO Rev. A to support compliance for VoIP operations. See Section 8.3.5 for EVDO Rev. A configuration parameters.

8.3.4 Body SAR Measurements

SAR for body exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. SAR for multiple code channels (FCH + SCH_n) is not required when the maximum average output of each RF channel is less than ¼ dB higher than that measured with FCH only. Otherwise, SAR is measured on the maximum output channel (FCH + SCH_n) with FCH at full rate and SCH_0 enabled at 9600 bps using the exposure configuration that results in the highest SAR for that channel with FCH only. When multiple code channels are enabled, the DUT output may shift by more than 0.5 dB and lead to higher SAR drifts and SCH dropouts. Body SAR was measured using TDSO / SO32 with power control bits in the "All Up"

Body SAR in RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1; with Loopback Service Option SO55, at full rate, using the body exposure configuration that results in the highest SAR for that channel in RC3.

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8.3.5 Handsets with EVDO

For handsets with Ev-Do capabilities, when the maximum average output of each channel in Rev. 0 is less than ¼ dB higher than that measured in RC3 (1x RTT), body SAR for EV-DO is not required. Otherwise, SAR for Rev. 0 is measured on the maximum output channel at 153.6 kbps using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0 or less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel for Rev. A using a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots would be configured in the downlink for both Rev. 0 and Rev. A.

8.3.6 Body SAR Measurements for EVDO Hotspot

Hotspot Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 per KDB Publication 941225 D01 procedures for "1x Ev-Do data Devices". SAR for Subtype 2 Physical layer configurations is not required for Rev. A when the maximum average output of each RF channels is less than that measured in Subtype 0/1 Physical layer configurations. Otherwise, SAR is measured on the maximum output channel for Rev. A using the exposure configuration that results in the highest SAR for the RF channels in Rev. 0. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations.

SAR is not required for 1x RTT for Ev-Do devices that also support 1x RTT voice and/or data operations, when the maximum average output of each channel is less than 1⁄4 dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0. Otherwise, CDMA "Body-SAR Measurement" procedures for "CDMA 2000 1x Handsets" were applied.

8.4 SAR Measurement Conditions for UMTS

8.4.1 Output Power Verification

Maximum output power is measured on the High, Middle and Low channels for each applicable transmission band according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1s".

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121 (release 5), using the appropriate RMC with TPC (transmit power control) set to all "1s". Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.4.2 Head SAR Measurements for Handsets

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all "1s". SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than 0.25 dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a

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3.4 kbps SRB (signaling radio bearer) using the exposure configuration that resulted in the highest SAR for that RF channel in the 12.2 kbps RMC mode.

8.4.3 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s".

8.4.4 SAR Measurements for Handsets with Rel 5 HSDPA

Body SAR for HSDPA is not required for handsets with HSDPA capabilities when the maximum average output power of each RF channel with HSDPA active is less than 0.25 dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 75% of the SAR limit. Otherwise, SAR is measured for HSDPA, using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration measured in 12.2 kbps RMC without HSDPA, on the maximum output channel with the body exposure configuration that resulted in the highest SAR in 12.2 kbps RMC mode for that RF channel.

The H-set used in FRC for HSDPA should be configured according to the UE category of a test device. The number of HS-DSCH/HSPDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the applicable H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the FRC for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 2 ms to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors of βc=9 and βd=15, and power offset parameters of ΔACK= ΔNACK =5 and ΔCQI=2 is used. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the FRC.

Sub-Test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(Note1, Note 2)*	CM (dB) *(Note 3)*	MPR (dB) *(Note 3)*
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 *(Note 4)*	15/15 *(Note 4)*	64	12/15 *(Note 4)*	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

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

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 8$ ($A_{hs} = 30/15$) with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} = 7$ ($A_{hs} = 24/15$) with $\beta_{hs} = 24/15 * \beta_c$.

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

Figure 8-1
Table C.10.1.4 of TS 234.121-1

8.4.1 SAR Measurements for Handsets with Rel 6 HSUPA

Body SAR for HSUPA is not required when the maximum average output of each RF channel with HSUPA/HSDPA active is less than 0.25 dB higher than as measured without HSUPA/HSDPA using 12.2 kbps RMC and maximum SAR for 12.2 kbps RMC is ≤ 75 % of the SAR limit. Otherwise SAR is measured on the maximum output channel for the body exposure configuration produced highest SAR in 12.2 kbps RMC for that RF channel, using the additional procedures under "Release 6 HSPA data devices"

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Head SAR for VOIP operations under HSPA is not required when maximum average output of each RF channel with HSPA is less than 0.25 dB higher than as measured using 12.2 kbps RMC. Otherwise SAR is measured using same HSPA configuration as used for body SAR.

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

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

8.5 SAR Measurement Conditions for LTE

LTE modes were tested according to FCC KDB 941225 D05v02 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was 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 D05v02r01:

a. Per Section 5.2.1, 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

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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 Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.

c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation 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 Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

8.5.5 TDD

LTE TDD testing procedures were performed using guidance from FCC KDB 941225 D05v02r03 and the SAR test guidance provided in April 2013 TCB workshop notes. TDD was tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225. SAR testing was performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

8.6 SAR Testing with 802.11 Transmitters

Normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g/n /ac transmitters. 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 D01v01r02 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. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

8.6.2 Frequency Channel Configurations [24]

For 2.4 GHz, the highest average RF output power channel between the low, mid and high channel at the lowest data rate was selected for SAR evaluation in 802.11b mode. 802.11g/n modes and higher data rates for 802.11b were additionally evaluated for SAR if the output power of the respective mode was 0.25 dB or higher than the powers of the SAR configurations tested in the 802.11b mode.

For 5 GHz, the highest average RF output power channel across the default test channels at the lowest data rate was selected for SAR evaluation in 802.11a. When the adjacent channels are higher in power then the default channels, these “required channels” were considered instead of the default channels for SAR testing. 802.11n modes and higher data rates for 802.11a/n were evaluated only if the respective mode was higher than 0.25 dB or more than the 802.11a mode. 802.11ac SAR was

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evaluated for highest 802.11a configuration in each 5 GHz band and each exposure condition. 802.11ac modes were additionally evaluated for SAR if the output power for the respective mode was more than 0.25 dB higher than powers of 802.11a modes.

If the maximum extrapolated peak SAR of the zoom scan for the highest output channel was less than 1.6 W/kg and if the 1g averaged SAR was less than 0.8 W/kg, SAR testing was not required for the other test channels in the band.

8.6.1 MIMO SAR Considerations

Per KDB 248227, SAR for MIMO was measured with both transmitting simultaneously and was evaluated independently of SISO operation. For 2.4 GHz MIMO, 802.11n was evaluated. For 5 GHz MIMO, 20 MHz BW 802.11n was evaluated. Additional evaluations for 40 MHz bandwidth 802.11n and 802.11ac were not required since the maximum allowed output power was not higher than 802.11n 20 MHz Bandwidth.

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9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum CDMA Conducted Powers with Hotspot Not Active

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	564	90S	820.1	24.57	24.45	24.51	24.44	24.46	24.49	24.48
Cellular	1013	22H	824.7	24.65	24.53	24.57	24.51	24.53	24.52	24.50
	384	22H	836.52	24.69	24.56	24.59	24.55	24.57	24.57	24.56
	777	22H	848.31	24.69	24.59	24.61	24.55	24.56	24.59	24.58
PCS	25	24E	1851.25	24.51	24.42	24.41	24.45	24.46	24.49	24.41
	600	24E	1880	24.50	24.43	24.41	24.38	24.40	24.54	24.44
	1175	24E	1908.75	24.53	24.41	24.40	24.39	24.41	24.45	24.38

Table 9-2
Reduced CDMA Conducted Powers with Hotspot Active

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	21.41	21.39	21.50	21.40	21.42	21.33	21.32
	600	24E	1880	21.47	21.44	21.56	21.42	21.44	21.51	21.40
	1175	24E	1908.75	21.57	21.52	21.65	21.51	21.54	21.49	21.47

Note: RC1 is only applicable for IS-95 compatibility.

Per KDB Publication 941225 D01v02:

1. Head SAR was tested with SO55 RC3. SO55 RC1 was not required since the average output power was not more than 0.25 dB than the SO55 RC3 powers.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. Ev-Do and TDSO / SO32 FCH+SCH SAR tests were not required since the average output power was not more than 0.25 dB higher than the TDSO / SO32 FCH only powers.
3. Hotspot SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. If the average output power of Subtype 2 for Rev. A is less than the Rev. 0 power levels, then Rev. A SAR is not required. Otherwise, SAR is measured on the maximum output channel for Rev. A using the exposure configuration that results in the highest SAR for that RF channel in Rev. 0.
4. Head SAR was additionally evaluated with EVDO Rev. A to determine compliance for held-to-ear VoIP operations.

Per KDB Publication 941225 D02v02:

1. CDMA 1X Advanced technology was not required for SAR since the maximum output powers for 1x Advanced was not more than 0.25 dB higher than the maximum measured powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg. See Section 8.3.2 for 1x Advanced test set up.

Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

		Maximum Burst-Averaged Output Power								
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	32.91	32.92	31.27	30.11	**29.04**	27.31	27.26	23.17	22.22
	190	32.97	32.98	31.37	30.09	**29.05**	27.18	27.06	23.23	22.30
	251	32.98	32.99	31.34	30.07	**29.12**	27.28	27.17	23.27	22.38
GSM 1900	512	29.95	29.97	**28.34**	26.05	24.85	26.05	25.90	19.94	19.25
	661	30.02	30.04	**28.57**	26.28	25.03	26.14	25.96	20.10	19.45
	810	30.01	30.03	**28.68**	26.37	25.17	26.25	26.13	20.20	19.50
		Calculated Maximum Frame-Averaged Output Power								
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	23.88	23.89	25.25	25.85	**26.03**	18.28	21.24	18.91	19.21
	190	23.94	23.95	25.35	25.83	**26.04**	18.15	21.04	18.97	19.29
	251	23.95	23.96	25.32	25.81	**26.11**	18.25	21.15	19.01	19.37
GSM 1900	512	20.92	20.94	**22.32**	21.79	21.84	17.02	19.88	15.68	16.24
	661	20.99	21.01	**22.55**	22.02	22.02	17.11	19.94	15.84	16.44
	810	20.98	21.00	**22.66**	22.11	22.16	17.22	20.11	15.94	16.49
GSM 850	**Frame Avg.Targets:**	23.97	23.97	25.48	25.74	**25.99**	17.97	20.98	18.74	18.99
GSM 1900		20.97	20.97	**22.48**	21.74	21.99	16.97	19.98	15.74	15.99

Note:

1. Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
2. 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.
3. GPRS/EDGE (GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.
4. EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation. It has been shown that MCS levels that produce 8PSK modulation do not have an impact on output power.

GSM Class: B
GPRS Multislot class: 33 (Max 4 Tx uplink slots)
EDGE Multislot class: 33 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A

Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-3
Maximum UMTS Conducted Powers with Hotspot Not Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	22.87	23.15	22.84	22.51	22.48	22.46	-
99		12.2 kbps AMR	22.86	23.04	22.71	22.49	22.51	22.46	-
6	HSDPA	Subtest 1	22.51	22.52	22.31	22.26	22.41	22.33	0
6		Subtest 2	22.38	22.61	22.36	22.28	22.25	22.26	0
6		Subtest 3	21.94	22.11	21.83	21.73	21.66	21.69	0.5
6		Subtest 4	21.73	21.89	21.65	21.57	21.40	21.56	0.5
6	HSUPA	Subtest 1	22.11	22.37	22.11	21.92	21.94	22.00	0
6		Subtest 2	21.43	21.42	20.80	21.05	21.12	21.15	2
6		Subtest 3	20.63	21.11	20.83	20.67	20.72	20.64	1
6		Subtest 4	21.25	21.95	21.63	21.64	21.11	21.45	2
6		Subtest 5	22.28	22.14	22.07	21.29	21.99	21.80	0

Table 9-4
Reduced UMTS Conducted Powers with Hotspot Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	PCS Band [dBm]			3GPP MPR [dB]
			9262	9400	9538	
99	WCDMA	12.2 kbps RMC	20.44	20.50	20.49	-
99		12.2 kbps AMR	20.47	20.50	20.48	-
6	HSDPA	Subtest 1	20.05	20.12	20.01	0
6		Subtest 2	20.06	20.08	20.07	0
6		Subtest 3	19.64	19.72	19.61	0.5
6		Subtest 4	19.69	19.71	19.60	0.5
6	HSUPA	Subtest 1	19.99	19.91	20.00	0
6		Subtest 2	18.98	19.22	19.13	2
6		Subtest 3	19.06	18.75	18.66	1
6		Subtest 4	19.29	19.69	19.61	2
6		Subtest 5	19.76	19.64	19.88	0

UMTS SAR was tested under RMC 12.2 kbps with HSPA Not Active per KDB Publication 941225 D01v02. 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.

This device does not support DC-HSDPA.

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

Figure 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 26 Powers

Table 9-5
LTE Band 26 Conducted Powers - 10 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	819	26740	10	QPSK	1	0	23.11	0	0
	819	26740	10	QPSK	1	25	23.10	0	0
	819	26740	10	QPSK	1	49	23.18	0	0
	819	26740	10	QPSK	25	0	22.00	0-1	1
	819	26740	10	QPSK	25	12	22.04	0-1	1
	819	26740	10	QPSK	25	25	22.06	0-1	1
	819	26740	10	QPSK	50	0	22.11	0-1	1
	819	26740	10	16QAM	1	0	22.06	0-1	1
	819	26740	10	16QAM	1	25	22.05	0-1	1
	819	26740	10	16QAM	1	49	22.16	0-1	1
	819	26740	10	16QAM	25	0	21.16	0-2	2
	819	26740	10	16QAM	25	12	21.10	0-2	2
	819	26740	10	16QAM	25	25	21.13	0-2	2
	819	26740	10	16QAM	50	0	21.21	0-2	2
Mid	831.5	26865	10	QPSK	1	0	23.17	0	0
	831.5	26865	10	QPSK	1	25	23.24	0	0
	831.5	26865	10	QPSK	1	49	**23.31**	0	0
	831.5	26865	10	QPSK	25	0	22.07	0-1	1
	831.5	26865	10	QPSK	25	12	22.20	0-1	1
	831.5	26865	10	QPSK	25	25	**22.22**	0-1	1
	831.5	26865	10	QPSK	50	0	22.12	0-1	1
	831.5	26865	10	16QAM	1	0	22.11	0-1	1
	831.5	26865	10	16QAM	1	25	22.16	0-1	1
	831.5	26865	10	16QAM	1	49	22.17	0-1	1
	831.5	26865	10	16QAM	25	0	21.17	0-2	2
	831.5	26865	10	16QAM	25	12	21.23	0-2	2
	831.5	26865	10	16QAM	25	25	21.27	0-2	2
	831.5	26865	10	16QAM	50	0	21.12	0-2	2
High	844	26990	10	QPSK	1	0	23.29	0	0
	844	26990	10	QPSK	1	25	23.16	0	0
	844	26990	10	QPSK	1	49	22.88	0	0
	844	26990	10	QPSK	25	0	22.10	0-1	1
	844	26990	10	QPSK	25	12	22.07	0-1	1
	844	26990	10	QPSK	25	25	21.95	0-1	1
	844	26990	10	QPSK	50	0	22.13	0-1	1
	844	26990	10	16QAM	1	0	22.22	0-1	1
	844	26990	10	16QAM	1	25	22.17	0-1	1
	844	26990	10	16QAM	1	49	21.86	0-1	1
	844	26990	10	16QAM	25	0	21.15	0-2	2
	844	26990	10	16QAM	25	12	21.12	0-2	2
	844	26990	10	16QAM	25	25	21.07	0-2	2
	844	26990	10	16QAM	50	0	21.08	0-2	2

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Table 9-6
LTE Band 26 Conducted Powers - 5 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	816.5	26715	5	QPSK	1	0	23.13	0	0
	816.5	26715	5	QPSK	1	12	23.31	0	0
	816.5	26715	5	QPSK	1	24	23.29	0	0
	816.5	26715	5	QPSK	12	0	22.25	0-1	1
	816.5	26715	5	QPSK	12	6	22.17	0-1	1
	816.5	26715	5	QPSK	12	13	22.25	0-1	1
	816.5	26715	5	QPSK	25	0	22.27	0-1	1
	816.5	26715	5	16-QAM	1	0	22.19	0-1	1
	816.5	26715	5	16-QAM	1	12	22.16	0-1	1
	816.5	26715	5	16-QAM	1	24	22.17	0-1	1
	816.5	26715	5	16-QAM	12	0	21.22	0-2	2
	816.5	26715	5	16-QAM	12	6	21.05	0-2	2
	816.5	26715	5	16-QAM	12	13	21.26	0-2	2
	816.5	26715	5	16-QAM	25	0	21.25	0-2	2
Mid	831.5	26865	5	QPSK	1	0	23.22	0	0
	831.5	26865	5	QPSK	1	12	23.33	0	0
	831.5	26865	5	QPSK	1	24	23.32	0	0
	831.5	26865	5	QPSK	12	0	22.23	0-1	1
	831.5	26865	5	QPSK	12	6	22.14	0-1	1
	831.5	26865	5	QPSK	12	13	22.19	0-1	1
	831.5	26865	5	QPSK	25	0	22.18	0-1	1
	831.5	26865	5	16-QAM	1	0	22.09	0-1	1
	831.5	26865	5	16-QAM	1	12	22.17	0-1	1
	831.5	26865	5	16-QAM	1	24	22.18	0-1	1
	831.5	26865	5	16-QAM	12	0	21.24	0-2	2
	831.5	26865	5	16-QAM	12	6	21.15	0-2	2
	831.5	26865	5	16-QAM	12	13	21.24	0-2	2
	831.5	26865	5	16-QAM	25	0	21.25	0-2	2
High	846.5	27015	5	QPSK	1	0	23.19	0	0
	846.5	27015	5	QPSK	1	12	23.28	0	0
	846.5	27015	5	QPSK	1	24	23.38	0	0
	846.5	27015	5	QPSK	12	0	22.26	0-1	1
	846.5	27015	5	QPSK	12	6	22.08	0-1	1
	846.5	27015	5	QPSK	12	13	22.20	0-1	1
	846.5	27015	5	QPSK	25	0	22.09	0-1	1
	846.5	27015	5	16-QAM	1	0	22.08	0-1	1
	846.5	27015	5	16-QAM	1	12	22.15	0-1	1
	846.5	27015	5	16-QAM	1	24	22.25	0-1	1
	846.5	27015	5	16-QAM	12	0	21.23	0-2	2
	846.5	27015	5	16-QAM	12	6	21.16	0-2	2
	846.5	27015	5	16-QAM	12	13	21.18	0-2	2
	846.5	27015	5	16-QAM	25	0	21.29	0-2	2

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Table 9-7
LTE Band 26 Conducted Powers - 3 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	815.5	26705	3	QPSK	1	0	23.14	0	0
	815.5	26705	3	QPSK	1	7	23.34	0	0
	815.5	26705	3	QPSK	1	14	23.38	0	0
	815.5	26705	3	QPSK	8	0	22.20	0-1	1
	815.5	26705	3	QPSK	8	4	22.17	0-1	1
	815.5	26705	3	QPSK	8	7	22.13	0-1	1
	815.5	26705	3	QPSK	15	0	22.25	0-1	1
	815.5	26705	3	16-QAM	1	0	22.04	0-1	1
	815.5	26705	3	16-QAM	1	7	22.25	0-1	1
	815.5	26705	3	16-QAM	1	14	22.24	0-1	1
	815.5	26705	3	16-QAM	8	0	21.23	0-2	2
	815.5	26705	3	16-QAM	8	4	21.19	0-2	2
	815.5	26705	3	16-QAM	8	7	21.33	0-2	2
	815.5	26705	3	16-QAM	15	0	21.25	0-2	2
Mid	831.5	26865	3	QPSK	1	0	23.23	0	0
	831.5	26865	3	QPSK	1	7	23.30	0	0
	831.5	26865	3	QPSK	1	14	23.36	0	0
	831.5	26865	3	QPSK	8	0	22.21	0-1	1
	831.5	26865	3	QPSK	8	4	22.21	0-1	1
	831.5	26865	3	QPSK	8	7	22.19	0-1	1
	831.5	26865	3	QPSK	15	0	22.17	0-1	1
	831.5	26865	3	16-QAM	1	0	22.12	0-1	1
	831.5	26865	3	16-QAM	1	7	22.21	0-1	1
	831.5	26865	3	16-QAM	1	14	22.19	0-1	1
	831.5	26865	3	16-QAM	8	0	21.27	0-2	2
	831.5	26865	3	16-QAM	8	4	21.27	0-2	2
	831.5	26865	3	16-QAM	8	7	21.27	0-2	2
	831.5	26865	3	16-QAM	15	0	21.18	0-2	2
High	847.5	27025	3	QPSK	1	0	23.30	0	0
	847.5	27025	3	QPSK	1	7	23.35	0	0
	847.5	27025	3	QPSK	1	14	23.37	0	0
	847.5	27025	3	QPSK	8	0	22.30	0-1	1
	847.5	27025	3	QPSK	8	4	22.26	0-1	1
	847.5	27025	3	QPSK	8	7	22.12	0-1	1
	847.5	27025	3	QPSK	15	0	22.12	0-1	1
	847.5	27025	3	16-QAM	1	0	22.22	0-1	1
	847.5	27025	3	16-QAM	1	7	22.20	0-1	1
	847.5	27025	3	16-QAM	1	14	22.25	0-1	1
	847.5	27025	3	16-QAM	8	0	21.22	0-2	2
	847.5	27025	3	16-QAM	8	4	21.26	0-2	2
	847.5	27025	3	16-QAM	8	7	21.18	0-2	2
	847.5	27025	3	16-QAM	15	0	21.11	0-2	2

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Table 9-8
LTE Band 26 Conducted Powers -1.4 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	814.7	26697	1.4	QPSK	1	0	23.35	0	0
	814.7	26697	1.4	QPSK	1	2	23.40	0	0
	814.7	26697	1.4	QPSK	1	5	23.32	0	0
	814.7	26697	1.4	QPSK	3	0	23.25	0	0
	814.7	26697	1.4	QPSK	3	2	23.16	0	0
	814.7	26697	1.4	QPSK	3	3	23.30	0	0
	814.7	26697	1.4	QPSK	6	0	22.23	0-1	1
	814.7	26697	1.4	16-QAM	1	0	22.24	0-1	1
	814.7	26697	1.4	16-QAM	1	2	22.24	0-1	1
	814.7	26697	1.4	16-QAM	1	5	22.15	0-1	1
	814.7	26697	1.4	16-QAM	3	0	22.15	0-1	1
	814.7	26697	1.4	16-QAM	3	2	22.09	0-1	1
	814.7	26697	1.4	16-QAM	3	3	22.16	0-1	1
	814.7	26697	1.4	16-QAM	6	0	21.18	0-2	2
Mid	831.5	26865	1.4	QPSK	1	0	23.33	0	0
	831.5	26865	1.4	QPSK	1	2	23.40	0	0
	831.5	26865	1.4	QPSK	1	5	23.32	0	0
	831.5	26865	1.4	QPSK	3	0	23.16	0	0
	831.5	26865	1.4	QPSK	3	2	23.24	0	0
	831.5	26865	1.4	QPSK	3	3	23.20	0	0
	831.5	26865	1.4	QPSK	6	0	22.28	0-1	1
	831.5	26865	1.4	16-QAM	1	0	22.15	0-1	1
	831.5	26865	1.4	16-QAM	1	2	22.23	0-1	1
	831.5	26865	1.4	16-QAM	1	5	22.15	0-1	1
	831.5	26865	1.4	16-QAM	3	0	22.21	0-1	1
	831.5	26865	1.4	16-QAM	3	2	22.19	0-1	1
	831.5	26865	1.4	16-QAM	3	3	22.17	0-1	1
	831.5	26865	1.4	16-QAM	6	0	21.20	0-2	2
High	848.3	27033	1.4	QPSK	1	0	23.40	0	0
	848.3	27033	1.4	QPSK	1	2	23.43	0	0
	848.3	27033	1.4	QPSK	1	5	23.28	0	0
	848.3	27033	1.4	QPSK	3	0	23.21	0	0
	848.3	27033	1.4	QPSK	3	2	23.28	0	0
	848.3	27033	1.4	QPSK	3	3	23.21	0	0
	848.3	27033	1.4	QPSK	6	0	22.28	0-1	1
	848.3	27033	1.4	16-QAM	1	0	22.18	0-1	1
	848.3	27033	1.4	16-QAM	1	2	22.13	0-1	1
	848.3	27033	1.4	16-QAM	1	5	22.23	0-1	1
	848.3	27033	1.4	16-QAM	3	0	22.20	0-1	1
	848.3	27033	1.4	16-QAM	3	2	22.26	0-1	1
	848.3	27033	1.4	16-QAM	3	3	22.13	0-1	1
	848.3	27033	1.4	16-QAM	6	0	21.21	0-2	2

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9.4.2 Maximum LTE Band 25 (PCS) Powers with Hotspot Not Active

Table 9-9
Maximum LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1860	26140	20	QPSK	1	0	23.28	0	0
	1860	26140	20	QPSK	1	50	23.19	0	0
	1860	26140	20	QPSK	1	99	23.10	0	0
	1860	26140	20	QPSK	50	0	22.14	0-1	1
	1860	26140	20	QPSK	50	25	22.15	0-1	1
	1860	26140	20	QPSK	50	50	22.06	0-1	1
	1860	26140	20	QPSK	100	0	22.12	0-1	1
	1860	26140	20	16QAM	1	0	22.32	0-1	1
	1860	26140	20	16QAM	1	50	22.16	0-1	1
	1860	26140	20	16QAM	1	99	22.23	0-1	1
	1860	26140	20	16QAM	50	0	21.13	0-2	2
	1860	26140	20	16QAM	50	25	21.17	0-2	2
	1860	26140	20	16QAM	50	50	21.14	0-2	2
	1860	26140	20	16QAM	100	0	21.10	0-2	2
Mid	1882.5	26365	20	QPSK	1	0	**23.29**	0	0
	1882.5	26365	20	QPSK	1	50	23.21	0	0
	1882.5	26365	20	QPSK	1	99	23.22	0	0
	1882.5	26365	20	QPSK	50	0	**22.27**	0-1	1
	1882.5	26365	20	QPSK	50	25	22.22	0-1	1
	1882.5	26365	20	QPSK	50	50	22.18	0-1	1
	1882.5	26365	20	QPSK	100	0	22.22	0-1	1
	1882.5	26365	20	16QAM	1	0	22.29	0-1	1
	1882.5	26365	20	16QAM	1	50	22.26	0-1	1
	1882.5	26365	20	16QAM	1	99	22.23	0-1	1
	1882.5	26365	20	16QAM	50	0	21.25	0-2	2
	1882.5	26365	20	16QAM	50	25	21.26	0-2	2
	1882.5	26365	20	16QAM	50	50	21.26	0-2	2
	1882.5	26365	20	16QAM	100	0	21.27	0-2	2
High	1905	26590	20	QPSK	1	0	23.17	0	0
	1905	26590	20	QPSK	1	50	23.23	0	0
	1905	26590	20	QPSK	1	99	23.07	0	0
	1905	26590	20	QPSK	50	0	22.15	0-1	1
	1905	26590	20	QPSK	50	25	22.20	0-1	1
	1905	26590	20	QPSK	50	50	22.20	0-1	1
	1905	26590	20	QPSK	100	0	22.26	0-1	1
	1905	26590	20	16QAM	1	0	22.24	0-1	1
	1905	26590	20	16QAM	1	50	22.30	0-1	1
	1905	26590	20	16QAM	1	99	22.41	0-1	1
	1905	26590	20	16QAM	50	0	21.16	0-2	2
	1905	26590	20	16QAM	50	25	21.15	0-2	2
	1905	26590	20	16QAM	50	50	21.23	0-2	2
	1905	26590	20	16QAM	100	0	21.20	0-2	2

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Table 9-10
Maximum LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1857.5	26115	15	QPSK	1	0	23.25	0	0
	1857.5	26115	15	QPSK	1	36	23.08	0	0
	1857.5	26115	15	QPSK	1	74	23.10	0	0
	1857.5	26115	15	QPSK	36	0	22.21	0-1	1
	1857.5	26115	15	QPSK	36	18	22.11	0-1	1
	1857.5	26115	15	QPSK	36	37	22.01	0-1	1
	1857.5	26115	15	QPSK	75	0	22.18	0-1	1
	1857.5	26115	15	16QAM	1	0	22.15	0-1	1
	1857.5	26115	15	16QAM	1	36	22.11	0-1	1
	1857.5	26115	15	16QAM	1	74	22.16	0-1	1
	1857.5	26115	15	16QAM	36	0	21.10	0-2	2
	1857.5	26115	15	16QAM	36	18	21.08	0-2	2
	1857.5	26115	15	16QAM	36	37	21.03	0-2	2
	1857.5	26115	15	16QAM	75	0	21.14	0-2	2
Mid	1882.5	26365	15	QPSK	1	0	23.26	0	0
	1882.5	26365	15	QPSK	1	36	23.25	0	0
	1882.5	26365	15	QPSK	1	74	23.27	0	0
	1882.5	26365	15	QPSK	36	0	22.23	0-1	1
	1882.5	26365	15	QPSK	36	18	22.23	0-1	1
	1882.5	26365	15	QPSK	36	37	22.19	0-1	1
	1882.5	26365	15	QPSK	75	0	22.26	0-1	1
	1882.5	26365	15	16QAM	1	0	22.30	0-1	1
	1882.5	26365	15	16QAM	1	36	22.30	0-1	1
	1882.5	26365	15	16QAM	1	74	22.26	0-1	1
	1882.5	26365	15	16QAM	36	0	21.24	0-2	2
	1882.5	26365	15	16QAM	36	18	21.21	0-2	2
	1882.5	26365	15	16QAM	36	37	21.19	0-2	2
	1882.5	26365	15	16QAM	75	0	21.25	0-2	2
High	1907.5	26615	15	QPSK	1	0	23.32	0	0
	1907.5	26615	15	QPSK	1	36	23.37	0	0
	1907.5	26615	15	QPSK	1	74	23.26	0	0
	1907.5	26615	15	QPSK	36	0	22.22	0-1	1
	1907.5	26615	15	QPSK	36	18	22.28	0-1	1
	1907.5	26615	15	QPSK	36	37	22.21	0-1	1
	1907.5	26615	15	QPSK	75	0	22.28	0-1	1
	1907.5	26615	15	16QAM	1	0	22.33	0-1	1
	1907.5	26615	15	16QAM	1	36	22.35	0-1	1
	1907.5	26615	15	16QAM	1	74	22.29	0-1	1
	1907.5	26615	15	16QAM	36	0	21.19	0-2	2
	1907.5	26615	15	16QAM	36	18	21.21	0-2	2
	1907.5	26615	15	16QAM	36	37	21.21	0-2	2
	1907.5	26615	15	16QAM	75	0	21.20	0-2	2

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Table 9-11
Maximum LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1855	26090	10	QPSK	1	0	23.27	0	0
	1855	26090	10	QPSK	1	25	23.15	0	0
	1855	26090	10	QPSK	1	49	23.20	0	0
	1855	26090	10	QPSK	25	0	22.19	0-1	1
	1855	26090	10	QPSK	25	12	22.13	0-1	1
	1855	26090	10	QPSK	25	25	22.07	0-1	1
	1855	26090	10	QPSK	50	0	22.11	0-1	1
	1855	26090	10	16QAM	1	0	22.05	0-1	1
	1855	26090	10	16QAM	1	25	22.13	0-1	1
	1855	26090	10	16QAM	1	49	22.17	0-1	1
	1855	26090	10	16QAM	25	0	21.23	0-2	2
	1855	26090	10	16QAM	25	12	21.07	0-2	2
	1855	26090	10	16QAM	25	25	21.08	0-2	2
	1855	26090	10	16QAM	50	0	21.05	0-2	2
Mid	1882.5	26365	10	QPSK	1	0	23.33	0	0
	1882.5	26365	10	QPSK	1	25	23.37	0	0
	1882.5	26365	10	QPSK	1	49	23.35	0	0
	1882.5	26365	10	QPSK	25	0	22.21	0-1	1
	1882.5	26365	10	QPSK	25	12	22.21	0-1	1
	1882.5	26365	10	QPSK	25	25	22.20	0-1	1
	1882.5	26365	10	QPSK	50	0	22.21	0-1	1
	1882.5	26365	10	16QAM	1	0	22.25	0-1	1
	1882.5	26365	10	16QAM	1	25	22.18	0-1	1
	1882.5	26365	10	16QAM	1	49	22.18	0-1	1
	1882.5	26365	10	16QAM	25	0	21.25	0-2	2
	1882.5	26365	10	16QAM	25	12	21.23	0-2	2
	1882.5	26365	10	16QAM	25	25	21.22	0-2	2
	1882.5	26365	10	16QAM	50	0	21.21	0-2	2
High	1910	26640	10	QPSK	1	0	23.38	0	0
	1910	26640	10	QPSK	1	25	23.40	0	0
	1910	26640	10	QPSK	1	49	23.19	0	0
	1910	26640	10	QPSK	25	0	22.29	0-1	1
	1910	26640	10	QPSK	25	12	22.25	0-1	1
	1910	26640	10	QPSK	25	25	22.16	0-1	1
	1910	26640	10	QPSK	50	0	22.21	0-1	1
	1910	26640	10	16QAM	1	0	22.24	0-1	1
	1910	26640	10	16QAM	1	25	22.33	0-1	1
	1910	26640	10	16QAM	1	49	22.18	0-1	1
	1910	26640	10	16QAM	25	0	21.34	0-2	2
	1910	26640	10	16QAM	25	12	21.34	0-2	2
	1910	26640	10	16QAM	25	25	21.29	0-2	2
	1910	26640	10	16QAM	50	0	21.23	0-2	2

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Table 9-12
Maximum LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1852.5	26065	5	QPSK	1	0	23.36	0	0
	1852.5	26065	5	QPSK	1	12	23.34	0	0
	1852.5	26065	5	QPSK	1	24	23.15	0	0
	1852.5	26065	5	QPSK	12	0	22.18	0-1	1
	1852.5	26065	5	QPSK	12	6	22.07	0-1	1
	1852.5	26065	5	QPSK	12	13	22.09	0-1	1
	1852.5	26065	5	QPSK	25	0	22.17	0-1	1
	1852.5	26065	5	16-QAM	1	0	22.32	0-1	1
	1852.5	26065	5	16-QAM	1	12	22.22	0-1	1
	1852.5	26065	5	16-QAM	1	24	22.11	0-1	1
	1852.5	26065	5	16-QAM	12	0	21.15	0-2	2
	1852.5	26065	5	16-QAM	12	6	21.03	0-2	2
	1852.5	26065	5	16-QAM	12	13	21.05	0-2	2
	1852.5	26065	5	16-QAM	25	0	21.12	0-2	2
Mid	1882.5	26365	5	QPSK	1	0	23.30	0	0
	1882.5	26365	5	QPSK	1	12	23.32	0	0
	1882.5	26365	5	QPSK	1	24	23.31	0	0
	1882.5	26365	5	QPSK	12	0	22.23	0-1	1
	1882.5	26365	5	QPSK	12	6	22.20	0-1	1
	1882.5	26365	5	QPSK	12	13	22.20	0-1	1
	1882.5	26365	5	QPSK	25	0	22.24	0-1	1
	1882.5	26365	5	16-QAM	1	0	22.17	0-1	1
	1882.5	26365	5	16-QAM	1	12	22.15	0-1	1
	1882.5	26365	5	16-QAM	1	24	22.16	0-1	1
	1882.5	26365	5	16-QAM	12	0	21.15	0-2	2
	1882.5	26365	5	16-QAM	12	6	21.17	0-2	2
	1882.5	26365	5	16-QAM	12	13	21.15	0-2	2
	1882.5	26365	5	16-QAM	25	0	21.24	0-2	2
High	1912.5	26665	5	QPSK	1	0	23.45	0	0
	1912.5	26665	5	QPSK	1	12	23.33	0	0
	1912.5	26665	5	QPSK	1	24	23.29	0	0
	1912.5	26665	5	QPSK	12	0	22.16	0-1	1
	1912.5	26665	5	QPSK	12	6	22.17	0-1	1
	1912.5	26665	5	QPSK	12	13	22.18	0-1	1
	1912.5	26665	5	QPSK	25	0	22.11	0-1	1
	1912.5	26665	5	16-QAM	1	0	22.24	0-1	1
	1912.5	26665	5	16-QAM	1	12	22.18	0-1	1
	1912.5	26665	5	16-QAM	1	24	22.23	0-1	1
	1912.5	26665	5	16-QAM	12	0	21.17	0-2	2
	1912.5	26665	5	16-QAM	12	6	21.21	0-2	2
	1912.5	26665	5	16-QAM	12	13	21.21	0-2	2
	1912.5	26665	5	16-QAM	25	0	21.24	0-2	2

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Table 9-13
Maximum LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1851.5	26055	3	QPSK	1	0	23.32	0	0
	1851.5	26055	3	QPSK	1	7	23.38	0	0
	1851.5	26055	3	QPSK	1	14	23.31	0	0
	1851.5	26055	3	QPSK	8	0	22.13	0-1	1
	1851.5	26055	3	QPSK	8	4	22.18	0-1	1
	1851.5	26055	3	QPSK	8	7	22.16	0-1	1
	1851.5	26055	3	QPSK	15	0	22.25	0-1	1
	1851.5	26055	3	16-QAM	1	0	22.12	0-1	1
	1851.5	26055	3	16-QAM	1	7	22.14	0-1	1
	1851.5	26055	3	16-QAM	1	14	22.13	0-1	1
	1851.5	26055	3	16-QAM	8	0	21.08	0-2	2
	1851.5	26055	3	16-QAM	8	4	21.10	0-2	2
	1851.5	26055	3	16-QAM	8	7	21.07	0-2	2
	1851.5	26055	3	16-QAM	15	0	21.20	0-2	2
Mid	1882.5	26365	3	QPSK	1	0	23.35	0	0
	1882.5	26365	3	QPSK	1	7	23.32	0	0
	1882.5	26365	3	QPSK	1	14	23.33	0	0
	1882.5	26365	3	QPSK	8	0	22.25	0-1	1
	1882.5	26365	3	QPSK	8	4	22.21	0-1	1
	1882.5	26365	3	QPSK	8	7	22.23	0-1	1
	1882.5	26365	3	QPSK	15	0	22.18	0-1	1
	1882.5	26365	3	16-QAM	1	0	22.33	0-1	1
	1882.5	26365	3	16-QAM	1	7	22.15	0-1	1
	1882.5	26365	3	16-QAM	1	14	22.20	0-1	1
	1882.5	26365	3	16-QAM	8	0	21.14	0-2	2
	1882.5	26365	3	16-QAM	8	4	21.15	0-2	2
	1882.5	26365	3	16-QAM	8	7	21.12	0-2	2
	1882.5	26365	3	16-QAM	15	0	21.25	0-2	2
High	1913.5	26675	3	QPSK	1	0	23.43	0	0
	1913.5	26675	3	QPSK	1	7	23.31	0	0
	1913.5	26675	3	QPSK	1	14	23.30	0	0
	1913.5	26675	3	QPSK	8	0	22.08	0-1	1
	1913.5	26675	3	QPSK	8	4	22.06	0-1	1
	1913.5	26675	3	QPSK	8	7	22.09	0-1	1
	1913.5	26675	3	QPSK	15	0	22.22	0-1	1
	1913.5	26675	3	16-QAM	1	0	22.33	0-1	1
	1913.5	26675	3	16-QAM	1	7	22.27	0-1	1
	1913.5	26675	3	16-QAM	1	14	22.09	0-1	1
	1913.5	26675	3	16-QAM	8	0	21.06	0-2	2
	1913.5	26675	3	16-QAM	8	4	21.12	0-2	2
	1913.5	26675	3	16-QAM	8	7	21.10	0-2	2
	1913.5	26675	3	16-QAM	15	0	21.36	0-2	2

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Table 9-14
Maximum LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth with Hotspot Not Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1850.7	26047	1.4	QPSK	1	0	23.43	0	0
	1850.7	26047	1.4	QPSK	1	2	23.36	0	0
	1850.7	26047	1.4	QPSK	1	5	23.00	0	0
	1850.7	26047	1.4	QPSK	3	0	23.22	0	0
	1850.7	26047	1.4	QPSK	3	2	23.17	0	0
	1850.7	26047	1.4	QPSK	3	3	22.93	0	0
	1850.7	26047	1.4	QPSK	6	0	22.07	0-1	1
	1850.7	26047	1.4	16-QAM	1	0	22.14	0-1	1
	1850.7	26047	1.4	16-QAM	1	2	22.02	0-1	1
	1850.7	26047	1.4	16-QAM	1	5	22.14	0-1	1
	1850.7	26047	1.4	16-QAM	3	0	21.96	0-1	1
	1850.7	26047	1.4	16-QAM	3	2	22.23	0-1	1
	1850.7	26047	1.4	16-QAM	3	3	22.22	0-1	1
	1850.7	26047	1.4	16-QAM	6	0	21.27	0-2	2
Mid	1882.5	26365	1.4	QPSK	1	0	23.11	0	0
	1882.5	26365	1.4	QPSK	1	2	23.22	0	0
	1882.5	26365	1.4	QPSK	1	5	23.12	0	0
	1882.5	26365	1.4	QPSK	3	0	23.47	0	0
	1882.5	26365	1.4	QPSK	3	2	23.17	0	0
	1882.5	26365	1.4	QPSK	3	3	23.19	0	0
	1882.5	26365	1.4	QPSK	6	0	22.24	0-1	1
	1882.5	26365	1.4	16-QAM	1	0	22.08	0-1	1
	1882.5	26365	1.4	16-QAM	1	2	22.01	0-1	1
	1882.5	26365	1.4	16-QAM	1	5	22.22	0-1	1
	1882.5	26365	1.4	16-QAM	3	0	22.19	0-1	1
	1882.5	26365	1.4	16-QAM	3	2	22.12	0-1	1
	1882.5	26365	1.4	16-QAM	3	3	22.15	0-1	1
	1882.5	26365	1.4	16-QAM	6	0	21.37	0-2	2
High	1914.3	26683	1.4	QPSK	1	0	23.42	0	0
	1914.3	26683	1.4	QPSK	1	2	23.25	0	0
	1914.3	26683	1.4	QPSK	1	5	23.23	0	0
	1914.3	26683	1.4	QPSK	3	0	22.96	0	0
	1914.3	26683	1.4	QPSK	3	2	23.04	0	0
	1914.3	26683	1.4	QPSK	3	3	23.27	0	0
	1914.3	26683	1.4	QPSK	6	0	22.20	0-1	1
	1914.3	26683	1.4	16-QAM	1	0	22.30	0-1	1
	1914.3	26683	1.4	16-QAM	1	2	22.29	0-1	1
	1914.3	26683	1.4	16-QAM	1	5	22.14	0-1	1
	1914.3	26683	1.4	16-QAM	3	0	22.00	0-1	1
	1914.3	26683	1.4	16-QAM	3	2	22.36	0-1	1
	1914.3	26683	1.4	16-QAM	3	3	22.31	0-1	1
	1914.3	26683	1.4	16-QAM	6	0	21.17	0-2	2

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9.4.3 Reduced LTE Band 25 (PCS) Powers with Hotspot Active

Table 9-15
Reduced LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1860	26140	20	QPSK	1	0	20.47	0	0
	1860	26140	20	QPSK	1	50	20.49	0	0
	1860	26140	20	QPSK	1	99	20.41	0	0
	1860	26140	20	QPSK	50	0	19.31	0-1	1
	1860	26140	20	QPSK	50	25	19.37	0-1	1
	1860	26140	20	QPSK	50	50	19.24	0-1	1
	1860	26140	20	QPSK	100	0	19.32	0-1	1
	1860	26140	20	16QAM	1	0	19.45	0-1	1
	1860	26140	20	16QAM	1	50	19.43	0-1	1
	1860	26140	20	16QAM	1	99	19.38	0-1	1
	1860	26140	20	16QAM	50	0	18.38	0-2	2
	1860	26140	20	16QAM	50	25	18.26	0-2	2
	1860	26140	20	16QAM	50	50	18.13	0-2	2
	1860	26140	20	16QAM	100	0	18.23	0-2	2
Mid	1882.5	26365	20	QPSK	1	0	20.46	0	0
	1882.5	26365	20	QPSK	1	50	20.41	0	0
	1882.5	26365	20	QPSK	1	99	20.20	0	0
	1882.5	26365	20	QPSK	50	0	**19.46**	0-1	1
	1882.5	26365	20	QPSK	50	25	19.31	0-1	1
	1882.5	26365	20	QPSK	50	50	19.31	0-1	1
	1882.5	26365	20	QPSK	100	0	19.38	0-1	1
	1882.5	26365	20	16QAM	1	0	19.49	0-1	1
	1882.5	26365	20	16QAM	1	50	19.48	0-1	1
	1882.5	26365	20	16QAM	1	99	19.24	0-1	1
	1882.5	26365	20	16QAM	50	0	18.44	0-2	2
	1882.5	26365	20	16QAM	50	25	18.30	0-2	2
	1882.5	26365	20	16QAM	50	50	18.26	0-2	2
	1882.5	26365	20	16QAM	100	0	18.45	0-2	2
High	1905	26590	20	QPSK	1	0	20.44	0	0
	1905	26590	20	QPSK	1	50	20.49	0	0
	1905	26590	20	QPSK	1	99	**20.50**	0	0
	1905	26590	20	QPSK	50	0	19.30	0-1	1
	1905	26590	20	QPSK	50	25	19.40	0-1	1
	1905	26590	20	QPSK	50	50	19.30	0-1	1
	1905	26590	20	QPSK	100	0	19.38	0-1	1
	1905	26590	20	16QAM	1	0	19.41	0-1	1
	1905	26590	20	16QAM	1	50	19.40	0-1	1
	1905	26590	20	16QAM	1	99	19.50	0-1	1
	1905	26590	20	16QAM	50	0	18.34	0-2	2
	1905	26590	20	16QAM	50	25	18.37	0-2	2
	1905	26590	20	16QAM	50	50	18.34	0-2	2
	1905	26590	20	16QAM	100	0	18.40	0-2	2

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Table 9-16
Reduced LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1857.5	26115	15	QPSK	1	0	20.40	0	0
	1857.5	26115	15	QPSK	1	36	20.13	0	0
	1857.5	26115	15	QPSK	1	74	20.07	0	0
	1857.5	26115	15	QPSK	36	0	19.27	0-1	1
	1857.5	26115	15	QPSK	36	18	18.97	0-1	1
	1857.5	26115	15	QPSK	36	37	19.14	0-1	1
	1857.5	26115	15	QPSK	75	0	19.07	0-1	1
	1857.5	26115	15	16QAM	1	0	19.10	0-1	1
	1857.5	26115	15	16QAM	1	36	19.01	0-1	1
	1857.5	26115	15	16QAM	1	74	18.90	0-1	1
	1857.5	26115	15	16QAM	36	0	17.88	0-2	2
	1857.5	26115	15	16QAM	36	18	18.05	0-2	2
	1857.5	26115	15	16QAM	36	37	17.95	0-2	2
	1857.5	26115	15	16QAM	75	0	17.85	0-2	2
Mid	1882.5	26365	15	QPSK	1	0	20.31	0	0
	1882.5	26365	15	QPSK	1	36	20.22	0	0
	1882.5	26365	15	QPSK	1	74	20.06	0	0
	1882.5	26365	15	QPSK	36	0	19.20	0-1	1
	1882.5	26365	15	QPSK	36	18	19.07	0-1	1
	1882.5	26365	15	QPSK	36	37	19.10	0-1	1
	1882.5	26365	15	QPSK	75	0	19.13	0-1	1
	1882.5	26365	15	16QAM	1	0	19.13	0-1	1
	1882.5	26365	15	16QAM	1	36	18.99	0-1	1
	1882.5	26365	15	16QAM	1	74	18.96	0-1	1
	1882.5	26365	15	16QAM	36	0	17.94	0-2	2
	1882.5	26365	15	16QAM	36	18	17.96	0-2	2
	1882.5	26365	15	16QAM	36	37	17.94	0-2	2
	1882.5	26365	15	16QAM	75	0	17.95	0-2	2
High	1907.5	26615	15	QPSK	1	0	20.37	0	0
	1907.5	26615	15	QPSK	1	36	20.23	0	0
	1907.5	26615	15	QPSK	1	74	19.98	0	0
	1907.5	26615	15	QPSK	36	0	19.17	0-1	1
	1907.5	26615	15	QPSK	36	18	18.97	0-1	1
	1907.5	26615	15	QPSK	36	37	19.14	0-1	1
	1907.5	26615	15	QPSK	75	0	19.16	0-1	1
	1907.5	26615	15	16QAM	1	0	19.08	0-1	1
	1907.5	26615	15	16QAM	1	36	19.04	0-1	1
	1907.5	26615	15	16QAM	1	74	18.98	0-1	1
	1907.5	26615	15	16QAM	36	0	18.04	0-2	2
	1907.5	26615	15	16QAM	36	18	18.05	0-2	2
	1907.5	26615	15	16QAM	36	37	17.95	0-2	2
	1907.5	26615	15	16QAM	75	0	17.93	0-2	2

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Table 9-17
Reduced LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1855	26090	10	QPSK	1	0	20.31	0	0
	1855	26090	10	QPSK	1	25	20.28	0	0
	1855	26090	10	QPSK	1	49	20.29	0	0
	1855	26090	10	QPSK	25	0	19.21	0-1	1
	1855	26090	10	QPSK	25	12	19.09	0-1	1
	1855	26090	10	QPSK	25	25	19.01	0-1	1
	1855	26090	10	QPSK	50	0	19.15	0-1	1
	1855	26090	10	16QAM	1	0	19.05	0-1	1
	1855	26090	10	16QAM	1	25	18.99	0-1	1
	1855	26090	10	16QAM	1	49	19.12	0-1	1
	1855	26090	10	16QAM	25	0	18.11	0-2	2
	1855	26090	10	16QAM	25	12	17.92	0-2	2
	1855	26090	10	16QAM	25	25	17.95	0-2	2
	1855	26090	10	16QAM	50	0	17.90	0-2	2
Mid	1882.5	26365	10	QPSK	1	0	20.27	0	0
	1882.5	26365	10	QPSK	1	25	20.20	0	0
	1882.5	26365	10	QPSK	1	49	20.25	0	0
	1882.5	26365	10	QPSK	25	0	19.18	0-1	1
	1882.5	26365	10	QPSK	25	12	19.07	0-1	1
	1882.5	26365	10	QPSK	25	25	19.11	0-1	1
	1882.5	26365	10	QPSK	50	0	19.09	0-1	1
	1882.5	26365	10	16QAM	1	0	19.09	0-1	1
	1882.5	26365	10	16QAM	1	25	19.07	0-1	1
	1882.5	26365	10	16QAM	1	49	19.04	0-1	1
	1882.5	26365	10	16QAM	25	0	18.07	0-2	2
	1882.5	26365	10	16QAM	25	12	17.97	0-2	2
	1882.5	26365	10	16QAM	25	25	18.01	0-2	2
	1882.5	26365	10	16QAM	50	0	17.99	0-2	2
High	1910	26640	10	QPSK	1	0	20.17	0	0
	1910	26640	10	QPSK	1	25	20.17	0	0
	1910	26640	10	QPSK	1	49	20.24	0	0
	1910	26640	10	QPSK	25	0	19.27	0-1	1
	1910	26640	10	QPSK	25	12	18.97	0-1	1
	1910	26640	10	QPSK	25	25	19.14	0-1	1
	1910	26640	10	QPSK	50	0	19.08	0-1	1
	1910	26640	10	16QAM	1	0	19.01	0-1	1
	1910	26640	10	16QAM	1	25	19.11	0-1	1
	1910	26640	10	16QAM	1	49	19.12	0-1	1
	1910	26640	10	16QAM	25	0	18.10	0-2	2
	1910	26640	10	16QAM	25	12	17.88	0-2	2
	1910	26640	10	16QAM	25	25	18.11	0-2	2
	1910	26640	10	16QAM	50	0	18.05	0-2	2

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Table 9-18
Reduced LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1852.5	26065	5	QPSK	1	0	20.26	0	0
	1852.5	26065	5	QPSK	1	12	20.18	0	0
	1852.5	26065	5	QPSK	1	24	20.17	0	0
	1852.5	26065	5	QPSK	12	0	19.15	0-1	1
	1852.5	26065	5	QPSK	12	6	19.02	0-1	1
	1852.5	26065	5	QPSK	12	13	19.06	0-1	1
	1852.5	26065	5	QPSK	25	0	19.08	0-1	1
	1852.5	26065	5	16-QAM	1	0	19.06	0-1	1
	1852.5	26065	5	16-QAM	1	12	18.99	0-1	1
	1852.5	26065	5	16-QAM	1	24	19.01	0-1	1
	1852.5	26065	5	16-QAM	12	0	17.89	0-2	2
	1852.5	26065	5	16-QAM	12	6	18.01	0-2	2
	1852.5	26065	5	16-QAM	12	13	18.08	0-2	2
	1852.5	26065	5	16-QAM	25	0	18.06	0-2	2
Mid	1882.5	26365	5	QPSK	1	0	20.31	0	0
	1882.5	26365	5	QPSK	1	12	20.26	0	0
	1882.5	26365	5	QPSK	1	24	20.27	0	0
	1882.5	26365	5	QPSK	12	0	19.15	0-1	1
	1882.5	26365	5	QPSK	12	6	19.09	0-1	1
	1882.5	26365	5	QPSK	12	13	19.05	0-1	1
	1882.5	26365	5	QPSK	25	0	19.08	0-1	1
	1882.5	26365	5	16-QAM	1	0	19.09	0-1	1
	1882.5	26365	5	16-QAM	1	12	19.01	0-1	1
	1882.5	26365	5	16-QAM	1	24	19.06	0-1	1
	1882.5	26365	5	16-QAM	12	0	17.93	0-2	2
	1882.5	26365	5	16-QAM	12	6	18.00	0-2	2
	1882.5	26365	5	16-QAM	12	13	17.99	0-2	2
	1882.5	26365	5	16-QAM	25	0	17.98	0-2	2
High	1912.5	26665	5	QPSK	1	0	20.41	0	0
	1912.5	26665	5	QPSK	1	12	20.23	0	0
	1912.5	26665	5	QPSK	1	24	20.23	0	0
	1912.5	26665	5	QPSK	12	0	19.21	0-1	1
	1912.5	26665	5	QPSK	12	6	19.01	0-1	1
	1912.5	26665	5	QPSK	12	13	18.98	0-1	1
	1912.5	26665	5	QPSK	25	0	19.03	0-1	1
	1912.5	26665	5	16-QAM	1	0	19.04	0-1	1
	1912.5	26665	5	16-QAM	1	12	19.07	0-1	1
	1912.5	26665	5	16-QAM	1	24	19.03	0-1	1
	1912.5	26665	5	16-QAM	12	0	17.90	0-2	2
	1912.5	26665	5	16-QAM	12	6	17.95	0-2	2
	1912.5	26665	5	16-QAM	12	13	17.96	0-2	2
	1912.5	26665	5	16-QAM	25	0	17.91	0-2	2

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Table 9-19
Reduced LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1851.5	26055	3	QPSK	1	0	20.30	0	0
	1851.5	26055	3	QPSK	1	7	20.13	0	0
	1851.5	26055	3	QPSK	1	14	20.26	0	0
	1851.5	26055	3	QPSK	8	0	19.23	0-1	1
	1851.5	26055	3	QPSK	8	4	18.92	0-1	1
	1851.5	26055	3	QPSK	8	7	18.97	0-1	1
	1851.5	26055	3	QPSK	15	0	19.02	0-1	1
	1851.5	26055	3	16-QAM	1	0	19.01	0-1	1
	1851.5	26055	3	16-QAM	1	7	19.04	0-1	1
	1851.5	26055	3	16-QAM	1	14	19.05	0-1	1
	1851.5	26055	3	16-QAM	8	0	17.96	0-2	2
	1851.5	26055	3	16-QAM	8	4	18.05	0-2	2
	1851.5	26055	3	16-QAM	8	7	18.09	0-2	2
	1851.5	26055	3	16-QAM	15	0	18.15	0-2	2
Mid	1882.5	26365	3	QPSK	1	0	20.40	0	0
	1882.5	26365	3	QPSK	1	7	20.27	0	0
	1882.5	26365	3	QPSK	1	14	20.37	0	0
	1882.5	26365	3	QPSK	8	0	19.12	0-1	1
	1882.5	26365	3	QPSK	8	4	19.08	0-1	1
	1882.5	26365	3	QPSK	8	7	19.15	0-1	1
	1882.5	26365	3	QPSK	15	0	19.12	0-1	1
	1882.5	26365	3	16-QAM	1	0	19.00	0-1	1
	1882.5	26365	3	16-QAM	1	7	19.08	0-1	1
	1882.5	26365	3	16-QAM	1	14	19.15	0-1	1
	1882.5	26365	3	16-QAM	8	0	17.84	0-2	2
	1882.5	26365	3	16-QAM	8	4	18.08	0-2	2
	1882.5	26365	3	16-QAM	8	7	17.95	0-2	2
	1882.5	26365	3	16-QAM	15	0	18.07	0-2	2
High	1913.5	26675	3	QPSK	1	0	20.44	0	0
	1913.5	26675	3	QPSK	1	7	20.13	0	0
	1913.5	26675	3	QPSK	1	14	20.21	0	0
	1913.5	26675	3	QPSK	8	0	19.24	0-1	1
	1913.5	26675	3	QPSK	8	4	19.11	0-1	1
	1913.5	26675	3	QPSK	8	7	18.91	0-1	1
	1913.5	26675	3	QPSK	15	0	19.13	0-1	1
	1913.5	26675	3	16-QAM	1	0	19.06	0-1	1
	1913.5	26675	3	16-QAM	1	7	19.00	0-1	1
	1913.5	26675	3	16-QAM	1	14	19.05	0-1	1
	1913.5	26675	3	16-QAM	8	0	17.80	0-2	2
	1913.5	26675	3	16-QAM	8	4	17.99	0-2	2
	1913.5	26675	3	16-QAM	8	7	17.92	0-2	2
	1913.5	26675	3	16-QAM	15	0	17.89	0-2	2

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Table 9-20
Reduced LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth with Hotspot Active

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	1850.7	26047	1.4	QPSK	1	0	20.24	0	0
	1850.7	26047	1.4	QPSK	1	2	20.27	0	0
	1850.7	26047	1.4	QPSK	1	5	20.08	0	0
	1850.7	26047	1.4	QPSK	3	0	20.15	0	0
	1850.7	26047	1.4	QPSK	3	2	20.06	0	0
	1850.7	26047	1.4	QPSK	3	3	20.06	0	0
	1850.7	26047	1.4	QPSK	6	0	19.10	0-1	1
	1850.7	26047	1.4	16-QAM	1	0	18.97	0-1	1
	1850.7	26047	1.4	16-QAM	1	2	19.06	0-1	1
	1850.7	26047	1.4	16-QAM	1	5	19.14	0-1	1
	1850.7	26047	1.4	16-QAM	3	0	19.15	0-1	1
	1850.7	26047	1.4	16-QAM	3	2	19.09	0-1	1
	1850.7	26047	1.4	16-QAM	3	3	19.16	0-1	1
	1850.7	26047	1.4	16-QAM	6	0	18.00	0-2	2
Mid	1882.5	26365	1.4	QPSK	1	0	20.27	0	0
	1882.5	26365	1.4	QPSK	1	2	20.23	0	0
	1882.5	26365	1.4	QPSK	1	5	20.18	0	0
	1882.5	26365	1.4	QPSK	3	0	20.23	0	0
	1882.5	26365	1.4	QPSK	3	2	20.13	0	0
	1882.5	26365	1.4	QPSK	3	3	20.15	0	0
	1882.5	26365	1.4	QPSK	6	0	19.12	0-1	1
	1882.5	26365	1.4	16-QAM	1	0	19.07	0-1	1
	1882.5	26365	1.4	16-QAM	1	2	19.10	0-1	1
	1882.5	26365	1.4	16-QAM	1	5	19.05	0-1	1
	1882.5	26365	1.4	16-QAM	3	0	19.16	0-1	1
	1882.5	26365	1.4	16-QAM	3	2	19.10	0-1	1
	1882.5	26365	1.4	16-QAM	3	3	19.12	0-1	1
	1882.5	26365	1.4	16-QAM	6	0	18.05	0-2	2
High	1914.3	26683	1.4	QPSK	1	0	20.29	0	0
	1914.3	26683	1.4	QPSK	1	2	20.21	0	0
	1914.3	26683	1.4	QPSK	1	5	20.20	0	0
	1914.3	26683	1.4	QPSK	3	0	20.32	0	0
	1914.3	26683	1.4	QPSK	3	2	20.05	0	0
	1914.3	26683	1.4	QPSK	3	3	20.13	0	0
	1914.3	26683	1.4	QPSK	6	0	19.03	0-1	1
	1914.3	26683	1.4	16-QAM	1	0	19.14	0-1	1
	1914.3	26683	1.4	16-QAM	1	2	19.13	0-1	1
	1914.3	26683	1.4	16-QAM	1	5	18.96	0-1	1
	1914.3	26683	1.4	16-QAM	3	0	19.11	0-1	1
	1914.3	26683	1.4	16-QAM	3	2	19.03	0-1	1
	1914.3	26683	1.4	16-QAM	3	3	19.09	0-1	1
	1914.3	26683	1.4	16-QAM	6	0	18.05	0-2	2

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9.4.4 LTE Band 41

Table 9-21
LTE Band 41 Conducted Powers - 20 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	2506	39750	20	QPSK	1	0	23.68	0	0
	2506	39750	20	QPSK	1	50	23.52	0	0
	2506	39750	20	QPSK	1	99	23.51	0	0
	2506	39750	20	QPSK	50	0	22.80	0-1	1
	2506	39750	20	QPSK	50	25	22.74	0-1	1
	2506	39750	20	QPSK	50	50	22.70	0-1	1
	2506	39750	20	QPSK	100	0	22.80	0-1	1
	2506	39750	20	16QAM	1	0	22.93	0-1	1
	2506	39750	20	16QAM	1	50	22.77	0-1	1
	2506	39750	20	16QAM	1	99	22.80	0-1	1
	2506	39750	20	16QAM	50	0	21.87	0-2	2
	2506	39750	20	16QAM	50	25	21.73	0-2	2
	2506	39750	20	16QAM	50	50	21.73	0-2	2
	2506	39750	20	16QAM	100	0	21.74	0-2	2
Low Mid	2549.5	40185	20	QPSK	1	0	23.37	0	0
	2549.5	40185	20	QPSK	1	50	23.38	0	0
	2549.5	40185	20	QPSK	1	99	23.38	0	0
	2549.5	40185	20	QPSK	50	0	22.63	0-1	1
	2549.5	40185	20	QPSK	50	25	22.62	0-1	1
	2549.5	40185	20	QPSK	50	50	22.60	0-1	1
	2549.5	40185	20	QPSK	100	0	22.57	0-1	1
	2549.5	40185	20	16-QAM	1	0	22.69	0-1	1
	2549.5	40185	20	16-QAM	1	50	22.65	0-1	1
	2549.5	40185	20	16-QAM	1	99	22.67	0-1	1
	2549.5	40185	20	16-QAM	50	0	21.62	0-2	2
	2549.5	40185	20	16-QAM	50	25	21.61	0-2	2
	2549.5	40185	20	16-QAM	50	50	21.64	0-2	2
	2549.5	40185	20	16-QAM	100	0	21.53	0-2	2
Mid	2593	40620	20	QPSK	1	0	23.48	0	0
	2593	40620	20	QPSK	1	50	23.44	0	0
	2593	40620	20	QPSK	1	99	23.38	0	0
	2593	40620	20	QPSK	50	0	22.76	0-1	1
	2593	40620	20	QPSK	50	25	22.75	0-1	1
	2593	40620	20	QPSK	50	50	22.70	0-1	1
	2593	40620	20	QPSK	100	0	22.69	0-1	1
	2593	40620	20	16-QAM	1	0	22.88	0-1	1
	2593	40620	20	16-QAM	1	50	22.81	0-1	1
	2593	40620	20	16-QAM	1	99	22.73	0-1	1
	2593	40620	20	16-QAM	50	0	21.77	0-2	2
	2593	40620	20	16-QAM	50	25	21.73	0-2	2
	2593	40620	20	16-QAM	50	50	21.75	0-2	2
	2593	40620	20	16-QAM	100	0	21.65	0-2	2
Mid High	2636.5	41055	20	QPSK	1	0	23.56	0	0
	2636.5	41055	20	QPSK	1	50	23.53	0	0
	2636.5	41055	20	QPSK	1	99	23.51	0	0
	2636.5	41055	20	QPSK	50	0	22.73	0-1	1
	2636.5	41055	20	QPSK	50	25	22.79	0-1	1
	2636.5	41055	20	QPSK	50	50	22.80	0-1	1
	2636.5	41055	20	QPSK	100	0	22.73	0-1	1
	2636.5	41055	20	16-QAM	1	0	22.83	0-1	1
	2636.5	41055	20	16-QAM	1	50	22.90	0-1	1
	2636.5	41055	20	16-QAM	1	99	22.84	0-1	1
	2636.5	41055	20	16-QAM	50	0	21.82	0-2	2
	2636.5	41055	20	16-QAM	50	25	21.76	0-2	2
	2636.5	41055	20	16-QAM	50	50	21.83	0-2	2
	2636.5	41055	20	16-QAM	100	0	21.77	0-2	2
High	2680	41490	20	QPSK	1	0	23.82	0	0
	2680	41490	20	QPSK	1	50	**23.89**	0	0
	2680	41490	20	QPSK	1	99	23.73	0	0
	2680	41490	20	QPSK	50	0	22.69	0-1	1
	2680	41490	20	QPSK	50	25	**22.81**	0-1	1
	2680	41490	20	QPSK	50	50	22.70	0-1	1
	2680	41490	20	QPSK	100	0	22.74	0-1	1
	2680	41490	20	16-QAM	1	0	22.81	0-1	1
	2680	41490	20	16-QAM	1	50	22.88	0-1	1
	2680	41490	20	16-QAM	1	99	22.77	0-1	1
	2680	41490	20	16-QAM	50	0	21.85	0-2	2
	2680	41490	20	16-QAM	50	25	21.82	0-2	2
	2680	41490	20	16-QAM	50	50	21.74	0-2	2
	2680	41490	20	16-QAM	100	0	21.77	0-2	2

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Table 9-22
LTE Band 41 Conducted Powers - 15 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	2503.5	39725	15	QPSK	1	0	23.65	0	0
	2503.5	39725	15	QPSK	1	36	23.60	0	0
	2503.5	39725	15	QPSK	1	74	23.57	0	0
	2503.5	39725	15	QPSK	36	0	22.77	0-1	1
	2503.5	39725	15	QPSK	36	18	22.71	0-1	1
	2503.5	39725	15	QPSK	36	37	22.66	0-1	1
	2503.5	39725	15	QPSK	75	0	22.84	0-1	1
	2503.5	39725	15	16QAM	1	0	22.93	0-1	1
	2503.5	39725	15	16QAM	1	36	22.74	0-1	1
	2503.5	39725	15	16QAM	1	74	22.77	0-1	1
	2503.5	39725	15	16QAM	36	0	21.84	0-2	2
	2503.5	39725	15	16QAM	36	18	21.70	0-2	2
	2503.5	39725	15	16QAM	36	37	21.70	0-2	2
	2503.5	39725	15	16QAM	75	0	21.71	0-2	2
Low Mid	2548.25	40173	15	QPSK	1	0	23.55	0	0
	2548.25	40173	15	QPSK	1	36	23.57	0	0
	2548.25	40173	15	QPSK	1	74	23.54	0	0
	2548.25	40173	15	QPSK	36	0	22.60	0-1	1
	2548.25	40173	15	QPSK	36	18	22.59	0-1	1
	2548.25	40173	15	QPSK	36	37	22.57	0-1	1
	2548.25	40173	15	QPSK	75	0	22.54	0-1	1
	2548.25	40173	15	16-QAM	1	0	22.66	0-1	1
	2548.25	40173	15	16-QAM	1	36	22.63	0-1	1
	2548.25	40173	15	16-QAM	1	74	22.64	0-1	1
	2548.25	40173	15	16-QAM	36	0	21.59	0-2	2
	2548.25	40173	15	16-QAM	36	18	21.58	0-2	2
	2548.25	40173	15	16-QAM	36	37	21.50	0-2	2
	2548.25	40173	15	16-QAM	75	0	21.55	0-2	2
Mid	2593	40620	15	QPSK	1	0	23.43	0	0
	2593	40620	15	QPSK	1	36	23.41	0	0
	2593	40620	15	QPSK	1	74	23.39	0	0
	2593	40620	15	QPSK	36	0	22.73	0-1	1
	2593	40620	15	QPSK	36	18	22.81	0-1	1
	2593	40620	15	QPSK	36	37	22.67	0-1	1
	2593	40620	15	QPSK	75	0	22.66	0-1	1
	2593	40620	15	16-QAM	1	0	22.90	0-1	1
	2593	40620	15	16-QAM	1	36	22.78	0-1	1
	2593	40620	15	16-QAM	1	74	22.70	0-1	1
	2593	40620	15	16-QAM	36	0	21.74	0-2	2
	2593	40620	15	16-QAM	36	18	21.70	0-2	2
	2593	40620	15	16-QAM	36	37	21.75	0-2	2
	2593	40620	15	16-QAM	75	0	21.62	0-2	2
Mid High	2637.75	41068	15	QPSK	1	0	23.53	0	0
	2637.75	41068	15	QPSK	1	36	23.51	0	0
	2637.75	41068	15	QPSK	1	74	23.52	0	0
	2637.75	41068	15	QPSK	36	0	22.70	0-1	1
	2637.75	41068	15	QPSK	36	18	22.76	0-1	1
	2637.75	41068	15	QPSK	36	37	22.70	0-1	1
	2637.75	41068	15	QPSK	75	0	22.75	0-1	1
	2637.75	41068	15	16-QAM	1	0	22.80	0-1	1
	2637.75	41068	15	16-QAM	1	36	22.87	0-1	1
	2637.75	41068	15	16-QAM	1	74	22.79	0-1	1
	2637.75	41068	15	16-QAM	36	0	21.95	0-2	2
	2637.75	41068	15	16-QAM	36	18	21.73	0-2	2
	2637.75	41068	15	16-QAM	36	37	21.80	0-2	2
	2637.75	41068	15	16-QAM	75	0	21.73	0-2	2
High	2682.5	41515	15	QPSK	1	0	23.71	0	0
	2682.5	41515	15	QPSK	1	36	23.86	0	0
	2682.5	41515	15	QPSK	1	74	23.70	0	0
	2682.5	41515	15	QPSK	36	0	22.66	0-1	1
	2682.5	41515	15	QPSK	36	18	22.78	0-1	1
	2682.5	41515	15	QPSK	36	37	22.81	0-1	1
	2682.5	41515	15	QPSK	75	0	22.71	0-1	1
	2682.5	41515	15	16-QAM	1	0	22.73	0-1	1
	2682.5	41515	15	16-QAM	1	36	22.85	0-1	1
	2682.5	41515	15	16-QAM	1	74	22.68	0-1	1
	2682.5	41515	15	16-QAM	36	0	21.82	0-2	2
	2682.5	41515	15	16-QAM	36	18	21.81	0-2	2
	2682.5	41515	15	16-QAM	36	37	21.78	0-2	2
	2682.5	41515	15	16-QAM	75	0	21.90	0-2	2

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Table 9-23
LTE Band 41 Conducted Powers - 10 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	2501	39700	10	QPSK	1	0	23.28	0	0
	2501	39700	10	QPSK	1	25	23.29	0	0
	2501	39700	10	QPSK	1	49	23.29	0	0
	2501	39700	10	QPSK	25	0	22.54	0-1	1
	2501	39700	10	QPSK	25	12	22.53	0-1	1
	2501	39700	10	QPSK	25	25	22.51	0-1	1
	2501	39700	10	QPSK	50	0	22.48	0-1	1
	2501	39700	10	16QAM	1	0	22.60	0-1	1
	2501	39700	10	16QAM	1	25	22.56	0-1	1
	2501	39700	10	16QAM	1	49	22.58	0-1	1
	2501	39700	10	16QAM	25	0	21.53	0-2	2
	2501	39700	10	16QAM	25	12	21.52	0-2	2
	2501	39700	10	16QAM	25	25	21.55	0-2	2
	2501	39700	10	16QAM	50	0	21.44	0-2	2
Low Mid	2547	40160	10	QPSK	1	0	23.39	0	0
	2547	40160	10	QPSK	1	25	23.35	0	0
	2547	40160	10	QPSK	1	49	23.29	0	0
	2547	40160	10	QPSK	25	0	22.67	0-1	1
	2547	40160	10	QPSK	25	12	22.66	0-1	1
	2547	40160	10	QPSK	25	25	22.61	0-1	1
	2547	40160	10	QPSK	50	0	22.60	0-1	1
	2547	40160	10	16-QAM	1	0	22.79	0-1	1
	2547	40160	10	16-QAM	1	25	22.72	0-1	1
	2547	40160	10	16-QAM	1	49	22.64	0-1	1
	2547	40160	10	16-QAM	25	0	21.68	0-2	2
	2547	40160	10	16-QAM	25	12	21.64	0-2	2
	2547	40160	10	16-QAM	25	25	21.66	0-2	2
	2547	40160	10	16-QAM	50	0	21.56	0-2	2
Mid	2593	40620	10	QPSK	1	0	23.47	0	0
	2593	40620	10	QPSK	1	25	23.44	0	0
	2593	40620	10	QPSK	1	49	23.42	0	0
	2593	40620	10	QPSK	25	0	22.64	0-1	1
	2593	40620	10	QPSK	25	12	22.70	0-1	1
	2593	40620	10	QPSK	25	25	22.71	0-1	1
	2593	40620	10	QPSK	50	0	22.64	0-1	1
	2593	40620	10	16-QAM	1	0	22.74	0-1	1
	2593	40620	10	16-QAM	1	25	22.81	0-1	1
	2593	40620	10	16-QAM	1	49	22.74	0-1	1
	2593	40620	10	16-QAM	25	0	21.73	0-2	2
	2593	40620	10	16-QAM	25	12	21.67	0-2	2
	2593	40620	10	16-QAM	25	25	21.74	0-2	2
	2593	40620	10	16-QAM	50	0	21.68	0-2	2
Mid High	2639	41080	10	QPSK	1	0	23.73	0	0
	2639	41080	10	QPSK	1	25	23.80	0	0
	2639	41080	10	QPSK	1	49	23.64	0	0
	2639	41080	10	QPSK	25	0	22.60	0-1	1
	2639	41080	10	QPSK	25	12	22.72	0-1	1
	2639	41080	10	QPSK	25	25	22.61	0-1	1
	2639	41080	10	QPSK	50	0	22.65	0-1	1
	2639	41080	10	16-QAM	1	0	22.72	0-1	1
	2639	41080	10	16-QAM	1	25	22.79	0-1	1
	2639	41080	10	16-QAM	1	49	22.68	0-1	1
	2639	41080	10	16-QAM	25	0	21.76	0-2	2
	2639	41080	10	16-QAM	25	12	21.73	0-2	2
	2639	41080	10	16-QAM	25	25	21.65	0-2	2
	2639	41080	10	16-QAM	50	0	21.68	0-2	2
High	2685	41540	10	QPSK	1	0	23.62	0	0
	2685	41540	10	QPSK	1	25	23.44	0	0
	2685	41540	10	QPSK	1	49	23.45	0	0
	2685	41540	10	QPSK	25	0	22.72	0-1	1
	2685	41540	10	QPSK	25	12	22.66	0-1	1
	2685	41540	10	QPSK	25	25	22.62	0-1	1
	2685	41540	10	QPSK	50	0	22.84	0-1	1
	2685	41540	10	16-QAM	1	0	22.92	0-1	1
	2685	41540	10	16-QAM	1	25	22.69	0-1	1
	2685	41540	10	16-QAM	1	49	22.72	0-1	1
	2685	41540	10	16-QAM	25	0	21.81	0-2	2
	2685	41540	10	16-QAM	25	12	21.65	0-2	2
	2685	41540	10	16-QAM	25	25	21.63	0-2	2
	2685	41540	10	16-QAM	50	0	21.66	0-2	2

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Table 9-24
LTE Band 41 Conducted Powers - 5 MHz Bandwidth

	Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
Low	2498.5	39675	5	QPSK	1	0	23.59	0	0
	2498.5	39675	5	QPSK	1	12	23.54	0	0
	2498.5	39675	5	QPSK	1	24	23.51	0	0
	2498.5	39675	5	QPSK	12	0	22.71	0-1	1
	2498.5	39675	5	QPSK	12	6	22.65	0-1	1
	2498.5	39675	5	QPSK	12	13	22.60	0-1	1
	2498.5	39675	5	QPSK	25	0	22.78	0-1	1
	2498.5	39675	5	16-QAM	1	0	22.84	0-1	1
	2498.5	39675	5	16-QAM	1	12	22.68	0-1	1
	2498.5	39675	5	16-QAM	1	24	22.71	0-1	1
	2498.5	39675	5	16-QAM	12	0	21.78	0-2	2
	2498.5	39675	5	16-QAM	12	6	21.64	0-2	2
	2498.5	39675	5	16-QAM	12	13	21.64	0-2	2
	2498.5	39675	5	16-QAM	25	0	21.65	0-2	2
Low Mid	2545.75	40148	5	QPSK	1	0	23.49	0	0
	2545.75	40148	5	QPSK	1	12	23.44	0	0
	2545.75	40148	5	QPSK	1	24	23.48	0	0
	2545.75	40148	5	QPSK	12	0	22.54	0-1	1
	2545.75	40148	5	QPSK	12	6	22.53	0-1	1
	2545.75	40148	5	QPSK	12	13	22.51	0-1	1
	2545.75	40148	5	QPSK	25	0	22.48	0-1	1
	2545.75	40148	5	16-QAM	1	0	22.60	0-1	1
	2545.75	40148	5	16-QAM	1	12	22.56	0-1	1
	2545.75	40148	5	16-QAM	1	24	22.58	0-1	1
	2545.75	40148	5	16-QAM	12	0	21.53	0-2	2
	2545.75	40148	5	16-QAM	12	6	21.52	0-2	2
	2545.75	40148	5	16-QAM	12	13	21.37	0-2	2
	2545.75	40148	5	16-QAM	25	0	21.44	0-2	2
Mid	2593	40620	5	QPSK	1	0	23.39	0	0
	2593	40620	5	QPSK	1	12	23.35	0	0
	2593	40620	5	QPSK	1	24	23.29	0	0
	2593	40620	5	QPSK	12	0	22.67	0-1	1
	2593	40620	5	QPSK	12	6	22.66	0-1	1
	2593	40620	5	QPSK	12	13	22.61	0-1	1
	2593	40620	5	QPSK	25	0	22.60	0-1	1
	2593	40620	5	16-QAM	1	0	22.79	0-1	1
	2593	40620	5	16-QAM	1	12	22.72	0-1	1
	2593	40620	5	16-QAM	1	24	22.64	0-1	1
	2593	40620	5	16-QAM	12	0	21.68	0-2	2
	2593	40620	5	16-QAM	12	6	21.64	0-2	2
	2593	40620	5	16-QAM	12	13	21.66	0-2	2
	2593	40620	5	16-QAM	25	0	21.56	0-2	2
Mid High	2640.25	41093	5	QPSK	1	0	23.47	0	0
	2640.25	41093	5	QPSK	1	12	23.44	0	0
	2640.25	41093	5	QPSK	1	24	23.46	0	0
	2640.25	41093	5	QPSK	12	0	22.64	0-1	1
	2640.25	41093	5	QPSK	12	6	22.70	0-1	1
	2640.25	41093	5	QPSK	12	13	22.71	0-1	1
	2640.25	41093	5	QPSK	25	0	22.64	0-1	1
	2640.25	41093	5	16-QAM	1	0	22.74	0-1	1
	2640.25	41093	5	16-QAM	1	12	22.81	0-1	1
	2640.25	41093	5	16-QAM	1	24	22.73	0-1	1
	2640.25	41093	5	16-QAM	12	0	21.91	0-2	2
	2640.25	41093	5	16-QAM	12	6	21.67	0-2	2
	2640.25	41093	5	16-QAM	12	13	21.74	0-2	2
	2640.25	41093	5	16-QAM	25	0	21.68	0-2	2
High	2687.5	41565	5	QPSK	1	0	23.73	0	0
	2687.5	41565	5	QPSK	1	12	23.80	0	0
	2687.5	41565	5	QPSK	1	24	23.64	0	0
	2687.5	41565	5	QPSK	12	0	22.60	0-1	1
	2687.5	41565	5	QPSK	12	6	22.72	0-1	1
	2687.5	41565	5	QPSK	12	13	22.75	0-1	1
	2687.5	41565	5	QPSK	25	0	22.65	0-1	1
	2687.5	41565	5	16-QAM	1	0	22.72	0-1	1
	2687.5	41565	5	16-QAM	1	12	22.79	0-1	1
	2687.5	41565	5	16-QAM	1	24	22.62	0-1	1
	2687.5	41565	5	16-QAM	12	0	21.76	0-2	2
	2687.5	41565	5	16-QAM	12	6	21.73	0-2	2
	2687.5	41565	5	16-QAM	12	13	21.72	0-2	2
	2687.5	41565	5	16-QAM	25	0	21.68	0-2	2

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9.5 WLAN Conducted Powers

Table 9-25
IEEE 802.11b Average RF Power Antenna 1

Mode	Freq [MHz]	Channel	802.11b Conducted Power [dBm]			
			Data Rate [Mbps]			
			1	2	5.5	11
802.11b	2412	1*	**14.80**	14.99	14.90	14.95
802.11b	2437	6*	14.17	14.37	14.41	14.42
802.11b	2462	11*	13.96	14.21	14.23	14.24

Table 9-26
IEEE 802.11g Average RF Power Antenna 1

Mode	Freq [MHz]	Channel	802.11g Conducted Power [dBm]							
			Data Rate [Mbps]							
			6	9	12	18	24	36	48	54
802.11g	2412	1	13.53	13.50	13.70	13.56	13.75	13.84	13.72	13.74
802.11g	2437	6	14.12	14.09	14.33	14.16	14.38	14.44	14.35	14.35
802.11g	2462	11	13.82	13.76	14.00	13.90	14.07	14.06	14.01	13.97

Table 9-27
IEEE 802.11n Average RF Power Antenna 1

Mode	Freq [MHz]	Channel	802.11n (2.4GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			6.5	13	19.5	26	39	52	58.5	65
802.11n	2412	1	12.54	12.51	12.60	12.80	12.88	12.78	12.88	12.88
802.11n	2437	6	13.10	13.03	13.12	13.39	13.43	13.30	13.45	13.44
802.11n	2462	11	12.76	12.74	12.75	13.01	13.14	12.99	13.07	13.02

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Table 9-28
IEEE 802.11a Average RF Power Antenna 1

Mode	Freq [MHz]	Channel	802.11a Conducted Power [dBm]							
			Data Rate [Mbps]							
			6	9	12	18	24	36	48	54
802.11a	5180	36*	12.19	12.00	11.94	11.97	12.15	12.04	12.32	12.11
802.11a	5200	40	**12.23**	12.08	12.01	12.00	12.21	12.11	12.36	12.17
802.11a	5220	44	12.17	12.00	11.87	11.95	12.13	12.01	12.35	12.11
802.11a	5240	48*	12.22	12.00	11.95	12.01	12.15	12.10	12.31	12.16
802.11a	5260	52*	12.32	11.75	11.73	11.71	11.85	11.79	12.06	11.70
802.11a	5280	56	12.25	11.68	11.71	11.70	11.86	11.70	11.99	11.71
802.11a	5300	60	12.33	11.77	11.68	11.69	11.91	11.84	12.11	11.77
802.11a	5320	64*	**12.40**	11.76	11.77	11.71	11.91	11.93	12.15	11.86
802.11a	5500	100	11.64	11.60	11.76	11.68	11.89	11.80	12.05	11.77
802.11a	5520	104*	11.68	11.60	11.83	11.76	11.97	11.87	12.00	11.83
802.11a	5540	108	**11.81**	11.83	11.94	11.81	11.99	11.99	11.98	11.95
802.11a	5560	112	11.70	11.66	11.89	11.73	11.92	11.81	11.97	11.81
802.11a	5580	116*	11.80	11.77	11.97	11.83	12.04	11.90	11.95	11.97
802.11a	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5660	132	11.80	11.72	11.93	11.75	12.04	11.91	11.95	11.90
802.11a	5680	136*	11.56	11.54	11.60	11.63	11.88	11.73	12.01	11.66
802.11a	5700	140	11.50	11.46	11.69	11.49	11.74	11.61	11.90	11.64
802.11a	5745	149*	11.83	12.03	11.97	11.96	12.09	12.08	12.08	12.07
802.11a	5765	153	11.84	12.03	11.99	11.95	12.02	12.04	12.09	12.05
802.11a	5785	157*	11.80	12.02	11.98	11.94	12.06	11.98	12.05	12.00
802.11a	5805	161	11.64	11.79	11.86	11.85	11.82	11.92	11.82	11.82
802.11a	5825	165*	**11.85**	12.06	11.95	11.96	12.06	12.08	11.99	12.06

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

(*) – indicates default channels per KDB Publication 248227 D01v01r02. When the adjacent channels are higher in power then the default channels, these “required channels” are considered for SAR testing instead of the default channels.

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Table 9-29
IEEE 802.11n Average RF Power – 20 MHz Bandwidth Antenna 1

Mode	Freq [MHz]	Channel	20MHz BW 802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			6.5	13	19.5	26	39	52	58.5	65
802.11n	5180	36	11.71	12.03	11.92	12.19	12.22	12.18	12.24	12.20
802.11n	5200	40	11.61	11.97	11.83	12.07	12.16	12.13	12.11	12.17
802.11n	5220	44	11.67	11.91	11.89	12.08	12.17	12.13	12.18	12.17
802.11n	5240	48	11.52	11.79	11.77	11.99	12.04	12.01	12.02	12.06
802.11n	5260	52	11.51	11.39	11.39	11.85	11.75	11.70	11.76	11.80
802.11n	5280	56	12.19	12.01	12.09	12.49	12.42	12.38	12.43	12.48
802.11n	5300	60	12.10	11.90	11.98	12.45	12.34	12.38	12.37	12.35
802.11n	5320	64	12.11	11.97	12.01	12.48	12.43	12.40	12.38	12.38
802.11n	5500	100	11.32	11.31	11.29	11.59	11.60	11.60	11.57	11.58
802.11n	5520	104	11.35	11.32	11.32	11.65	11.62	11.72	11.60	11.56
802.11n	5540	108	11.31	11.34	11.28	11.60	11.59	11.58	11.62	11.57
802.11n	5560	112	11.37	11.35	11.36	11.64	11.59	11.64	11.62	11.63
802.11n	5580	116	11.42	11.50	11.46	11.67	11.65	11.72	11.75	11.70
802.11n	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5660	132	11.34	11.34	11.31	11.61	11.67	11.61	11.60	11.57
802.11n	5680	136	11.15	11.10	11.10	11.40	11.45	11.44	11.45	11.43
802.11n	5700	140	11.08	11.01	11.13	11.28	11.36	11.37	11.26	11.41
802.11n	5745	149	11.59	11.68	11.65	11.91	11.85	11.92	11.95	12.00
802.11n	5765	153	11.58	11.67	11.56	11.90	11.79	11.90	11.91	12.04
802.11n	5785	157	11.44	11.57	11.50	11.74	11.61	11.69	11.80	11.78
802.11n	5805	161	11.28	11.33	11.38	11.55	11.56	11.62	11.53	11.71
802.11n	5825	165	11.17	11.23	11.24	11.42	11.41	11.53	11.47	11.58

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

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Table 9-30
IEEE 802.11n Average RF Power – 40 MHz Bandwidth Antenna 1

Mode	Freq [MHz]	Channel	40MHz BW 802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			13.5	27	40.5	54	81	108	121.5	135
802.11n	5190	38	11.70	11.76	11.64	11.75	11.80	12.06	12.00	11.90
802.11n	5230	46	11.52	11.52	11.51	11.62	11.70	11.83	11.88	11.77
802.11n	5270	54	12.14	12.20	12.00	12.35	12.29	12.17	12.28	12.29
802.11n	5310	62	12.01	12.08	11.87	12.27	12.22	12.05	12.14	12.19
802.11n	5510	102	11.59	11.55	11.43	11.70	11.81	11.66	11.75	11.69
802.11n	5550	110	11.60	11.56	11.44	11.68	11.78	11.67	11.79	11.73
802.11n	5590	118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5630	126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5670	134	11.70	11.63	11.55	11.74	11.99	11.78	11.86	11.76
802.11n	5755	151	11.37	11.32	11.35	11.57	11.62	11.57	11.58	11.60
802.11n	5795	159	11.15	11.10	11.16	11.25	11.29	11.30	11.28	11.30

Table 9-31
IEEE 802.11ac Average RF Power – 80 MHz Bandwidth Antenna 1

Mode	Freq [MHz]	Channel	80MHz BW 802.11ac (5GHz) Conducted Power [dBm]									
			Data Rate [Mbps]									
			29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
802.11ac	5210	42	**10.95**	11.10	11.14	10.80	10.67	10.80	10.50	10.55	10.62	10.52
802.11ac	5290	58	**11.20**	11.07	11.11	11.43	11.44	11.42	11.38	11.23	11.23	11.44
802.11ac	5530	106	**11.30**	11.20	11.33	11.35	11.39	11.25	11.28	11.25	11.11	11.14
802.11ac	5775	155	**10.82**	10.58	10.65	10.90	11.00	10.83	10.88	10.77	10.35	10.87

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 D01v01r02 and October 2012/April 2013 FCC/TCB Meeting Notes:

- For 2.4 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11b were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.
- For 5 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11a were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11n, 20 and 40 MHz bandwidth) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11a mode.
- Full SAR tests for all IEEE 802.11ac configurations were not required because the average output power was not more than 0.25 dB higher than IEEE 802.11a mode. IEEE 802.11ac was evaluated for the highest IEEE 802.11a position in each 5 GHz band and exposure condition.
- When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the reported 1g averaged SAR is <0.8 W/kg, SAR testing on other channels is not required. Otherwise, the other default (or corresponding required) test channels were additionally tested using the lowest data rate.
- The bolded data rate and channel above were tested for SAR.

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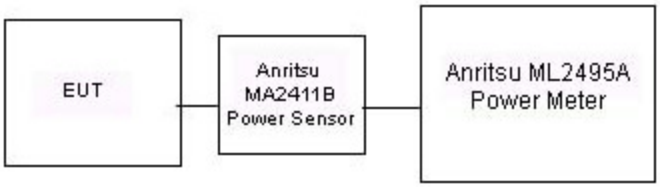

Figure 9-4
Power Measurement Setup for Bandwidths < 50 MHz

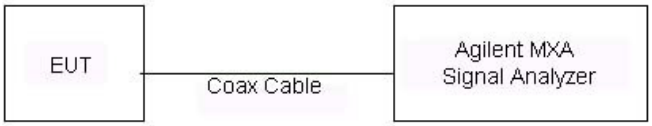

Figure 9-5
Power Measurement Setup for Bandwidths > 50 MHz

9.6 Antenna 2 WLAN Conducted Powers

Table 9-32
IEEE 802.11b Average RF Power Antenna 2

Mode	Freq [MHz]	Channel	802.11b Conducted Power [dBm]			
			Data Rate [Mbps]			
			1	2	5.5	11
802.11b	2412	1*	14.05	14.35	14.48	14.49
802.11b	2437	6*	**14.49**	14.40	14.30	14.46
802.11b	2462	11*	14.01	13.78	13.81	14.06

Table 9-33
IEEE 802.11g Average RF Power Antenna 2

Mode	Freq [MHz]	Channel	802.11g Conducted Power [dBm]							
			Data Rate [Mbps]							
			6	9	12	18	24	36	48	54
802.11g	2412	1	12.51	12.50	12.42	12.30	12.73	12.52	12.88	12.61
802.11g	2437	6	12.60	12.56	12.47	12.40	12.81	12.60	12.96	12.65
802.11g	2462	11	13.30	13.27	13.20	13.08	13.49	13.33	13.48	13.38

Table 9-34
IEEE 802.11n Average RF Power Antenna 2

Mode	Freq [MHz]	Channel	802.11n (2.4GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			6.5	13	19.5	26	39	52	58.5	65
802.11n	2412	1	11.35	11.27	11.33	11.49	11.48	11.48	11.49	11.49
802.11n	2437	6	11.31	11.29	11.32	11.39	11.44	11.42	11.49	11.40
802.11n	2462	11	11.39	11.37	11.37	11.49	11.48	11.48	11.47	11.49

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Table 9-35
IEEE 802.11a Average RF Power Antenna 2

Mode	Freq [MHz]	Channel	802.11a Conducted Power [dBm]							
			Data Rate [Mbps]							
			6	9	12	18	24	36	48	54
802.11a	5180	36*	12.11	11.88	11.77	11.81	12.23	12.13	12.42	12.18
802.11a	5200	40	12.23	12.02	11.85	11.94	12.35	12.19	12.47	12.24
802.11a	5220	44	12.38	12.11	12.09	12.02	12.49	12.41	12.48	12.47
802.11a	5240	48*	**12.48**	12.25	12.11	12.20	12.49	12.48	12.48	12.49
802.11a	5260	52*	**11.98**	11.86	11.93	11.85	12.15	12.10	12.22	11.95
802.11a	5280	56	11.86	11.79	11.82	11.72	12.05	11.89	11.99	11.76
802.11a	5300	60	11.91	11.86	11.84	11.74	12.09	12.00	12.12	11.88
802.11a	5320	64*	11.88	11.77	11.82	11.77	12.04	11.98	12.08	11.85
802.11a	5500	100	11.70	11.80	11.76	11.79	11.91	11.80	11.96	11.79
802.11a	5520	104*	11.62	11.67	11.64	11.65	11.87	11.78	11.92	11.65
802.11a	5540	108	11.70	11.79	11.76	11.81	11.89	11.87	11.95	11.80
802.11a	5560	112	11.60	11.76	11.70	11.66	11.80	11.67	11.78	11.72
802.11a	5580	116*	**11.89**	12.02	12.00	11.94	12.07	12.02	12.00	12.07
802.11a	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5660	132	11.62	11.67	11.67	11.64	11.90	11.73	11.89	11.69
802.11a	5680	136*	11.70	11.75	11.71	11.71	11.95	11.77	12.03	11.81
802.11a	5700	140	11.51	11.62	11.53	11.60	11.77	11.58	11.81	11.64
802.11a	5745	149*	**11.69**	11.65	11.55	11.56	11.93	11.78	11.80	11.70
802.11a	5765	153	11.66	11.59	11.51	11.54	11.87	11.80	11.76	11.73
802.11a	5785	157*	11.60	11.56	11.54	11.55	11.84	11.65	11.75	11.55
802.11a	5805	161	11.57	11.51	11.43	11.48	11.81	11.65	11.73	11.60
802.11a	5825	165*	11.61	11.50	11.46	11.49	11.84	11.69	11.66	11.59

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

(*) – indicates default channels per KDB Publication 248227 D01v01r02. When the adjacent channels are higher in power then the default channels, these “required channels” are considered for SAR testing instead of the default channels.

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Table 9-36
IEEE 802.11n Average RF Power – 20 MHz Bandwidth Antenna 2

Mode	Freq [MHz]	Channel	20MHz BW 802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			6.5	13	19.5	26	39	52	58.5	65
802.11n	5180	36	11.75	11.80	11.79	12.13	12.14	12.17	12.29	12.33
802.11n	5200	40	12.11	12.13	12.14	12.48	12.48	12.47	12.46	12.47
802.11n	5220	44	12.14	12.17	12.16	12.48	12.47	12.47	12.48	12.47
802.11n	5240	48	12.22	12.30	12.27	12.45	12.48	12.48	12.46	12.48
802.11n	5260	52	11.61	11.67	11.50	12.00	12.02	12.00	12.12	12.09
802.11n	5280	56	11.75	11.83	11.72	12.11	12.10	12.17	12.20	12.20
802.11n	5300	60	11.71	11.78	11.60	12.06	12.09	12.07	12.10	12.14
802.11n	5320	64	11.70	11.76	11.57	12.10	12.08	12.07	12.20	12.16
802.11n	5500	100	11.57	11.64	11.53	12.02	11.81	11.81	11.82	11.89
802.11n	5520	104	11.59	11.61	11.53	12.03	11.82	11.85	11.83	11.90
802.11n	5540	108	11.56	11.65	11.54	12.03	11.81	11.81	11.82	11.90
802.11n	5560	112	11.51	11.58	11.49	11.95	11.75	11.76	11.69	11.78
802.11n	5580	116	11.54	11.67	11.41	11.98	11.80	11.74	11.78	11.86
802.11n	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5660	132	11.51	11.61	11.47	11.92	11.77	11.81	11.73	11.84
802.11n	5680	136	11.52	11.59	11.44	12.02	11.80	11.72	11.83	11.89
802.11n	5700	140	11.51	11.58	11.42	11.95	11.76	11.78	11.74	11.83
802.11n	5745	149	11.51	11.46	11.51	11.85	11.79	11.80	11.82	11.84
802.11n	5765	153	11.51	11.51	11.46	11.81	11.76	11.79	11.77	11.86
802.11n	5785	157	11.51	11.40	11.53	11.85	11.81	11.77	11.82	11.82
802.11n	5805	161	11.52	11.39	11.54	11.80	11.73	11.80	11.88	11.86
802.11n	5825	165	11.52	11.51	11.51	11.90	11.76	11.85	11.84	11.88

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

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Table 9-37
IEEE 802.11n Average RF Power – 40 MHz Bandwidth Antenna 2

Mode	Freq [MHz]	Channel	40MHz BW 802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
			13.5	27	40.5	54	81	108	121.5	135
802.11n	5190	38	11.60	11.55	11.67	11.67	11.78	11.79	11.81	11.78
802.11n	5230	46	11.77	11.99	11.93	12.04	12.12	12.21	12.19	12.15
802.11n	5270	54	12.16	12.02	12.03	12.20	12.20	12.22	12.21	12.20
802.11n	5310	62	12.08	11.87	11.78	12.14	12.15	12.20	12.09	12.19
802.11n	5510	102	11.72	11.72	11.64	11.97	12.02	12.05	11.97	12.02
802.11n	5550	110	11.88	11.87	11.85	11.69	11.67	11.78	11.79	11.56
802.11n	5590	118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5630	126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5670	134	11.57	11.56	11.78	11.59	11.90	11.79	11.59	11.80
802.11n	5755	151	11.90	11.90	11.88	11.90	11.89	11.87	11.89	11.88
802.11n	5795	159	11.93	11.87	11.89	11.87	11.88	11.89	11.87	11.88

Table 9-38
IEEE 802.11ac Average RF Power – 80 MHz Bandwidth Antenna 2

Mode	Freq [MHz]	Channel	80MHz BW 802.11ac (5GHz) Conducted Power [dBm]									
			Data Rate [Mbps]									
			29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
802.11ac	5210	42	**11.30**	11.01	11.00	11.35	11.45	11.45	11.47	11.44	11.44	11.49
802.11ac	5290	58	**10.76**	10.60	10.78	10.92	10.99	11.00	10.78	10.91	10.91	10.96
802.11ac	5530	106	**10.75**	10.50	10.62	10.79	10.92	10.90	10.85	10.75	10.87	10.97
802.11ac	5775	155	**10.62**	10.62	10.66	10.75	10.82	10.73	10.26	10.37	10.38	10.43

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 D01v01r02 and October 2012/April 2013 FCC/TCB Meeting Notes:

- For 2.4 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11b were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.
- For 5 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11a were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11n, 20 and 40 MHz bandwidth) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11a mode.
- Full SAR tests for all IEEE 802.11ac configurations were not required because the average output power was not more than 0.25 dB higher than IEEE 802.11a mode. IEEE 802.11ac was evaluated for the highest IEEE 802.11a position in each 5 GHz band and exposure condition.
- When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the reported 1g averaged SAR is <0.8 W/kg, SAR testing on other channels is not required. Otherwise, the other default (or corresponding required) test channels were additionally tested using the lowest data rate.
- The bolded data rate and channel above were tested for SAR.

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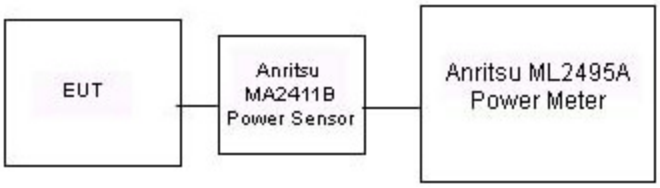

Figure 9-6
Power Measurement Setup for Bandwidths < 50 MHz

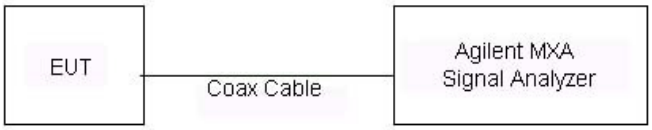

Figure 9-7
Power Measurement Setup for Bandwidths > 50 MHz

9.7 MIMO WLAN Conducted Powers

Table 9-39
IEEE 802.11n Average RF Power MIMO

Mode	Freq [MHz]	Channel	Data Rate
			13
802.11n	2412	1*	13.18
802.11n	2437	6*	**13.28**
802.11n	2462	11*	12.60

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Table 9-40
IEEE 802.11n Average RF Power – 20 MHz Bandwidth MIMO

Mode	Freq [MHz]	Channel	Data Rate
			13
802.11n	5180	36*	12.39
802.11n	5200	40	**12.46**
802.11n	5220	44	12.43
802.11n	5240	48*	12.44
802.11n	5260	52*	12.47
802.11n	5280	56	12.43
802.11n	5300	60	12.45
802.11n	5320	64*	**12.49**
802.11n	5500	100	12.02
802.11n	5520	104*	12.11
802.11n	5540	108	**12.12**
802.11n	5560	112	12.03
802.11n	5580	116*	12.05
802.11n	5600	120	N/A
802.11n	5620	124	N/A
802.11n	5640	128	N/A
802.11n	5660	132	11.91
802.11n	5680	136*	11.85
802.11n	5700	140	11.89
802.11n	5745	149*	**11.53**
802.11n	5765	153	11.52
802.11n	5785	157*	11.46
802.11n	5805	161	11.43
802.11n	5825	165*	11.18

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

(*) – indicates default channels per KDB Publication 248227 D01v01r02. When the adjacent channels are higher in power then the default channels, these “required channels” are considered for SAR testing instead of the default channels.

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Table 9-41
IEEE 802.11n Average RF Power – 40 MHz Bandwidth MIMO

Mode	Freq [MHz]	Channel	Data Rate
			27
802.11n	5190	38	12.49
802.11n	5230	46	12.47
802.11n	5270	54	12.49
802.11n	5310	62	12.48
802.11n	5510	102	11.52
802.11n	5550	110	12.36
802.11n	5590	118	N/A
802.11n	5630	126	N/A
802.11n	5670	134	12.35
802.11n	5755	151	11.62
802.11n	5795	159	11.51

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band.

Table 9-42
IEEE 802.11ac Average RF Power – 80 MHz Bandwidth MIMO

Mode	Freq [MHz]	Channel	Data Rate
			58.5
802.11ac	5210	42	10.82
802.11ac	5290	58	10.93
802.11ac	5530	106	10.90
802.11ac	5775	155	10.70

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 D01v01r02 and October 2012 FCC/TCB Meeting Notes:

- For 2.4 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11n were selected for SAR evaluation.
- For 5 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11n were selected for SAR evaluation.
- When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the reported 1g averaged SAR is <0.8 W/kg, SAR testing on other channels is not required. Otherwise, the other default (or corresponding required) test channels were additionally tested using the lowest data rate.
- The bolded data rate and channel above were tested for SAR.
- Per KDB 662911 D01v02r01, the individual spectra for each 2x2 MIMO WIFI Antenna were summed mathematically in linear power units for the MIMO output power measurements

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (C˚)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
05/30/2014	835H	23.3	820	0.927	42.883	0.899	41.578	3.11%	3.14%
			835	0.942	42.698	0.900	41.500	4.67%	2.89%
			850	0.957	42.506	0.916	41.500	4.48%	2.42%
05/27/2014	1900H	23.4	1850	1.368	39.876	1.400	40.000	-2.29%	-0.31%
			1880	1.400	39.752	1.400	40.000	0.00%	-0.62%
			1910	1.429	39.628	1.400	40.000	2.07%	-0.93%
06/02/2014	2450H-2700H	22.9	2401	1.684	39.881	1.756	39.287	-4.10%	1.51%
			2450	1.737	39.708	1.800	39.200	-3.50%	1.30%
			2499	1.789	39.537	1.853	39.138	-3.45%	1.02%
			2500	1.791	39.522	1.855	39.136	-3.45%	0.99%
			2550	1.849	39.342	1.909	39.073	-3.14%	0.69%
			2600	1.902	39.182	1.964	39.009	-3.16%	0.44%
			2650	1.954	38.990	2.018	38.945	-3.17%	0.12%
			2700	2.014	38.838	2.073	38.882	-2.85%	-0.11%
06/05/2014	2450H	23.1	2401	1.727	39.920	1.756	39.287	-1.65%	1.61%
			2450	1.783	39.777	1.800	39.200	-0.94%	1.47%
			2499	1.834	39.576	1.853	39.138	-1.03%	1.12%
06/05/2014	5200H-5800H	24.6	5200	4.549	36.206	4.655	35.986	-2.28%	0.61%
			5220	4.571	36.187	4.676	35.963	-2.25%	0.62%
			5240	4.604	36.153	4.696	35.940	-1.96%	0.59%
			5260	4.623	36.188	4.717	35.917	-1.99%	0.75%
			5280	4.632	36.167	4.737	35.894	-2.22%	0.76%
			5300	4.647	36.130	4.758	35.871	-2.33%	0.72%
			5320	4.653	36.097	4.778	35.849	-2.62%	0.69%
			5500	4.842	35.864	4.963	35.643	-2.44%	0.62%
			5520	4.870	35.855	4.983	35.620	-2.27%	0.66%
			5540	4.880	35.848	5.004	35.597	-2.48%	0.71%
			5580	4.914	35.737	5.045	35.551	-2.60%	0.52%
			5600	4.945	35.718	5.065	35.529	-2.37%	0.53%
			5660	5.001	35.714	5.127	35.460	-2.46%	0.72%
			5745	5.103	35.570	5.214	35.363	-2.13%	0.59%
			5765	5.116	35.565	5.234	35.340	-2.25%	0.64%
			5785	5.127	35.559	5.255	35.317	-2.44%	0.69%
			5800	5.131	35.487	5.270	35.300	-2.64%	0.53%
			5825	5.159	35.423	5.296	35.271	-2.59%	0.43%
06/02/2014	5800H	22.0	5745	5.055	34.508	5.214	35.363	-3.05%	-2.42%
			5765	5.065	34.495	5.234	35.340	-3.23%	-2.39%
			5785	5.079	34.507	5.255	35.317	-3.35%	-2.29%
			5800	5.089	34.463	5.270	35.300	-3.43%	-2.37%
			5825	5.112	34.428	5.296	35.271	-3.47%	-2.39%
06/02/2014	835B	21.9	820	0.992	54.172	0.969	55.258	2.37%	-1.97%
			835	1.006	54.021	0.970	55.200	3.71%	-2.14%
			850	1.020	53.858	0.988	55.154	3.24%	-2.35%
05/29/2014	1900B	22.6	1850	1.448	52.949	1.520	53.300	-4.74%	-0.66%
			1880	1.483	52.709	1.520	53.300	-2.43%	-1.11%
			1910	1.527	52.596	1.520	53.300	0.46%	-1.32%
06/09/2014	2450B	23.0	2401	1.899	51.622	1.903	52.765	-0.21%	-2.17%
			2450	1.968	51.446	1.950	52.700	0.92%	-2.38%
			2499	2.031	51.287	2.019	52.638	0.59%	-2.57%
06/02/2014	2600B	22.4	2600	2.155	50.469	2.163	52.509	-0.37%	-3.89%
			2650	2.224	50.240	2.234	52.445	-0.45%	-4.20%
			2700	2.295	50.081	2.305	52.382	-0.43%	-4.39%
05/27/2014	5200B-5800B	22.7	5200	5.455	47.002	5.299	49.014	2.94%	-4.10%
			5220	5.501	47.141	5.323	48.987	3.34%	-3.77%
			5240	5.520	47.339	5.346	48.960	3.25%	-3.31%
			5260	5.507	47.327	5.369	48.933	2.57%	-3.28%
			5280	5.490	47.091	5.393	48.906	1.80%	-3.71%
			5300	5.530	46.810	5.416	48.879	2.10%	-4.23%
			5320	5.598	46.737	5.439	48.851	2.92%	-4.33%
			5500	5.844	46.929	5.650	48.607	3.43%	-3.45%
			5520	5.818	46.799	5.673	48.580	2.56%	-3.67%
			5540	5.814	46.486	5.696	48.553	2.07%	-4.26%
			5580	5.951	46.317	5.743	48.499	3.62%	-4.50%
			5600	6.007	46.524	5.766	48.471	4.18%	-4.02%
			5745	6.190	46.539	5.936	48.275	4.28%	-3.60%
			5765	6.166	46.502	5.959	48.248	3.47%	-3.62%
			5785	6.144	46.257	5.982	48.220	2.71%	-4.07%
			5800	6.164	45.988	6.000	48.200	2.73%	-4.59%
			5825	6.258	45.851	6.029	48.166	3.80%	-4.81%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

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10.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

Table 10-2
System Verification Results

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Dipole SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
E	835	HEAD	05/30/2014	24.5	23.3	0.100	4d119	3914	0.940	9.220	9.400	1.95%
D	1900	HEAD	05/27/2014	24.1	23.4	0.100	5d149	3022	3.890	40.400	38.900	-3.71%
K	2450	HEAD	06/02/2014	23.9	22.9	0.100	719	3333	5.510	53.200	55.100	3.57%
K	2450	HEAD	06/05/2014	23.9	23.1	0.100	719	3333	5.680	53.200	56.800	6.77%
K	2600	HEAD	06/02/2014	23.9	22.9	0.100	1004	3333	5.710	57.300	57.100	-0.35%
E	5200	HEAD	06/05/2014	24.5	23.7	0.100	1057	3914	7.590	78.000	75.900	-2.69%
E	5300	HEAD	06/05/2014	24.4	23.7	0.100	1057	3914	7.600	83.000	76.000	-8.43%
E	5500	HEAD	06/05/2014	24.3	23.7	0.100	1057	3914	8.350	84.300	83.500	-0.95%
E	5600	HEAD	06/05/2014	24.3	23.8	0.100	1057	3914	8.550	83.500	85.500	2.40%
E	5800	HEAD	06/05/2014	24.3	23.7	0.100	1057	3914	7.310	79.300	73.100	-7.82%
E	5800	HEAD	06/02/2014	23.0	22.0	0.100	1057	3914	7.370	79.300	73.700	-7.06%
D	835	BODY	06/02/2014	23.3	21.9	0.100	4d119	3022	0.965	9.340	9.650	3.32%
G	1900	BODY	05/29/2014	23.5	23.1	0.100	5d149	3258	3.870	40.500	38.700	-4.44%
G	2450	BODY	06/09/2014	24.4	23.3	0.100	797	3258	4.930	49.400	49.300	-0.20%
G	2600	BODY	06/02/2014	24.5	23.0	0.100	1004	3258	5.780	56.700	57.800	1.94%
A	5200	BODY	05/27/2014	23.8	22.6	0.100	1007	3920	7.530	72.600	75.300	3.72%
A	5300	BODY	05/27/2014	23.8	22.6	0.100	1007	3920	7.630	74.700	76.300	2.14%
A	5500	BODY	05/27/2014	23.8	22.6	0.100	1007	3920	7.970	75.900	79.700	5.01%
A	5600	BODY	05/27/2014	23.8	22.6	0.100	1007	3920	7.850	77.300	78.500	1.55%
A	5800	BODY	05/27/2014	23.8	22.6	0.100	1007	3920	7.260	72.900	72.600	-0.41%

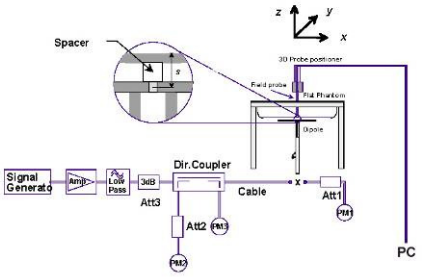

Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	32.97	0.15	Right	Cheek	27PCT8	1:8.3	0.382	1.130	0.432	
836.60	190	GSM 850	GSM	33.5	32.97	-0.18	Right	Tilt	27PCT8	1:8.3	0.251	1.130	0.284	
836.60	190	GSM 850	GSM	33.5	32.97	0.14	Left	Cheek	27PCT8	1:8.3	0.492	1.130	0.556	A1
836.60	190	GSM 850	GSM	33.5	32.97	-0.10	Left	Tilt	27PCT8	1:8.3	0.293	1.130	0.331	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
GSM 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.5	30.02	-0.04	Right	Cheek	27PCT8	1:8.3	0.131	1.117	0.146	
1880.00	661	GSM 1900	GSM	30.5	30.02	-0.03	Right	Tilt	27PCT8	1:8.3	0.106	1.117	0.118	
1880.00	661	GSM 1900	GSM	30.5	30.02	-0.12	Left	Cheek	27PCT8	1:8.3	0.228	1.117	0.255	A2
1880.00	661	GSM 1900	GSM	30.5	30.02	0.13	Left	Tilt	27PCT8	1:8.3	0.072	1.117	0.080	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
UMTS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	23.5	23.15	0.06	Right	Cheek	27PCT8	1:1	0.335	1.084	0.363	
836.60	4183	UMTS 850	RMC	23.5	23.15	0.06	Right	Tilt	27PCT8	1:1	0.253	1.084	0.274	
836.60	4183	UMTS 850	RMC	23.5	23.15	-0.07	Left	Cheek	27PCT8	1:1	0.444	1.084	0.481	A3
836.60	4183	UMTS 850	RMC	23.5	23.15	0.00	Left	Tilt	27PCT8	1:1	0.276	1.084	0.299	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-4
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	23.0	22.48	0.07	Right	Cheek	27PCT8	1:1	0.167	1.127	0.188	
1880.00	9400	UMTS 1900	RMC	23.0	22.48	0.01	Right	Tilt	27PCT8	1:1	0.127	1.127	0.143	
1880.00	9400	UMTS 1900	RMC	23.0	22.48	0.12	Left	Cheek	27PCT8	1:1	0.291	1.127	0.328	A4
1880.00	9400	UMTS 1900	RMC	23.0	22.48	0.11	Left	Tilt	27PCT8	1:1	0.089	1.127	0.100	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
CDMA BC10 (§90S) Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.0	24.45	-0.02	Right	Cheek	27PCT6	1:1	0.397	1.135	0.451	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.0	24.45	0.01	Right	Tilt	27PCT6	1:1	0.296	1.135	0.336	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.0	24.45	0.06	Left	Cheek	27PCT6	1:1	0.497	1.135	0.564	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.0	24.45	0.05	Left	Tilt	27PCT6	1:1	0.325	1.135	0.369	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.0	24.48	0.14	Right	Cheek	27PCT6	1:1	0.409	1.127	0.461	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.0	24.48	0.03	Right	Tilt	27PCT6	1:1	0.311	1.127	0.350	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.0	24.48	0.00	Left	Cheek	27PCT6	1:1	0.529	1.127	0.596	A5
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.0	24.48	-0.03	Left	Tilt	27PCT6	1:1	0.341	1.127	0.384	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
CDMA BC0 (§22H) Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.0	24.56	-0.15	Right	Cheek	27PCT6	1:1	0.258	1.107	0.286	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.0	24.56	-0.15	Right	Tilt	27PCT6	1:1	0.208	1.107	0.230	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.0	24.56	0.05	Left	Cheek	27PCT6	1:1	0.601	1.107	**0.665**	A6
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.0	24.56	-0.04	Left	Tilt	27PCT6	1:1	0.394	1.107	0.436	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.0	24.56	0.09	Right	Cheek	27PCT6	1:1	0.469	1.107	0.519	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.0	24.56	-0.05	Right	Tilt	27PCT6	1:1	0.358	1.107	0.396	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.0	24.56	0.05	Left	Cheek	27PCT6	1:1	0.592	1.107	0.655	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.0	24.56	0.08	Left	Tilt	27PCT6	1:1	0.385	1.107	0.426	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-7
PCS CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.43	-0.08	Right	Cheek	27PCT1	1:1	0.247	1.140	0.282	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.43	-0.08	Right	Tilt	27PCT1	1:1	0.210	1.140	0.239	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.43	0.12	Left	Cheek	27PCT1	1:1	0.428	1.140	0.488	A7
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.43	-0.02	Left	Tilt	27PCT1	1:1	0.146	1.140	0.166	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.44	0.03	Right	Cheek	27PCT1	1:1	0.224	1.138	0.255	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.44	0.08	Right	Tilt	27PCT1	1:1	0.191	1.138	0.217	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.44	0.13	Left	Cheek	27PCT1	1:1	0.406	1.138	0.462	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.44	0.09	Left	Tilt	27PCT1	1:1	0.135	1.138	0.154	
1880.00	600	PCS CDMA	EVDO Rev. A	22.0	21.40	0.06	Right	Cheek	27PCT7	1:1	0.156	1.148	0.179	
1880.00	600	PCS CDMA	EVDO Rev. A	22.0	21.40	-0.05	Right	Tilt	27PCT7	1:1	0.130	1.148	0.149	
1880.00	600	PCS CDMA	EVDO Rev. A	22.0	21.40	0.09	Left	Cheek	27PCT7	1:1	0.252	1.148	0.289	
1880.00	600	PCS CDMA	EVDO Rev. A	22.0	21.40	0.06	Left	Tilt	27PCT7	1:1	0.084	1.148	0.096	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
LTE Band 26 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	0.05	0	Right	Cheek	QPSK	1	49	27PCT4	1:1	0.434	1.045	0.454	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.05	1	Right	Cheek	QPSK	25	25	27PCT4	1:1	0.333	1.067	0.355	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	-0.12	0	Right	Tilt	QPSK	1	49	27PCT4	1:1	0.298	1.045	0.311	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.02	1	Right	Tilt	QPSK	25	25	27PCT4	1:1	0.238	1.067	0.254	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	0.14	0	Left	Cheek	QPSK	1	49	27PCT4	1:1	0.566	1.045	0.591	A8
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	-0.06	1	Left	Cheek	QPSK	25	25	27PCT4	1:1	0.422	1.067	0.450	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	-0.17	0	Left	Tilt	QPSK	1	49	27PCT4	1:1	0.346	1.045	0.362	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.01	1	Left	Tilt	QPSK	25	25	27PCT4	1:1	0.258	1.067	0.275	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-9
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.5	23.29	0.08	0	Right	Cheek	QPSK	1	0	27PCT4	1:1	0.226	1.050	0.237	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.27	0.07	1	Right	Cheek	QPSK	50	0	27PCT4	1:1	0.183	1.054	0.193	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.5	23.29	0.04	0	Right	Tilt	QPSK	1	0	27PCT4	1:1	0.194	1.050	0.204	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.27	-0.02	1	Right	Tilt	QPSK	50	0	27PCT4	1:1	0.165	1.054	0.174	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.5	23.29	0.10	0	Left	Cheek	QPSK	1	0	27PCT4	1:1	0.415	1.050	0.436	A9
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.27	0.14	1	Left	Cheek	QPSK	50	0	27PCT4	1:1	0.334	1.054	0.352	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.5	23.29	0.15	0	Left	Tilt	QPSK	1	0	27PCT4	1:1	0.129	1.050	0.135	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.27	0.08	1	Left	Tilt	QPSK	50	0	27PCT4	1:1	0.111	1.054	0.117	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	-0.05	0	Right	Cheek	QPSK	1	99	27PCT2	1:1	0.103	1.000	0.103	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	-0.01	1	Right	Cheek	QPSK	50	0	27PCT2	1:1	0.091	1.009	0.092	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.00	0	Right	Tilt	QPSK	1	99	27PCT2	1:1	0.093	1.000	0.093	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	0.00	1	Right	Tilt	QPSK	50	0	27PCT2	1:1	0.074	1.009	0.075	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.00	0	Left	Cheek	QPSK	1	99	27PCT2	1:1	0.163	1.000	0.163	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	0.19	1	Left	Cheek	QPSK	50	0	27PCT2	1:1	0.163	1.009	0.164	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.02	0	Left	Tilt	QPSK	1	99	27PCT2	1:1	0.067	1.000	0.067	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	0.11	1	Left	Tilt	QPSK	50	0	27PCT2	1:1	0.056	1.009	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-10
LTE Band 41 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2506.00	39750	Low	LTE Band 41	20	24.0	23.68	0.00	0	Right	Cheek	QPSK	1	0	27PCT3	1:1.58	0.600	1.076	0.646	A10
2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.38	-0.10	0	Right	Cheek	QPSK	1	50	27PCT3	1:1.58	0.560	1.153	0.646	
2593.00	40620	Mid	LTE Band 41	20	24.0	23.48	-0.03	0	Right	Cheek	QPSK	1	0	27PCT3	1:1.58	0.557	1.127	0.628	
2636.50	41055	Mid-High	LTE Band 41	20	24.0	23.56	-0.13	0	Right	Cheek	QPSK	1	0	27PCT3	1:1.58	0.584	1.107	0.646	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	-0.18	0	Right	Cheek	QPSK	1	50	27PCT3	1:1.58	0.592	1.026	0.607	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.10	1	Right	Cheek	QPSK	50	25	27PCT3	1:1.58	0.457	1.045	0.478	
2506.00	39750	Low	LTE Band 41	20	23.0	22.80	-0.05	1	Right	Cheek	QPSK	100	0	27PCT3	1:1.58	0.469	1.047	0.491	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	-0.07	0	Right	Tilt	QPSK	1	50	27PCT3	1:1.58	0.165	1.026	0.169	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.01	1	Right	Tilt	QPSK	50	25	27PCT3	1:1.58	0.127	1.045	0.133	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	0.15	0	Left	Cheek	QPSK	1	50	27PCT3	1:1.58	0.245	1.026	0.251	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.10	1	Left	Cheek	QPSK	50	25	27PCT3	1:1.58	0.198	1.045	0.207	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	0.02	0	Left	Tilt	QPSK	1	50	27PCT3	1:1.58	0.217	1.026	0.223	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.06	1	Left	Tilt	QPSK	50	25	27PCT3	1:1.58	0.174	1.045	0.182	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-11
DTS Head SAR Antenna 1

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.13	Right	Cheek	27PCT11	1	1:1	0.414	1.047	0.433	A11
2412	1	IEEE 802.11b	DSSS	15.0	14.80	-0.21	Right	Tilt	27PCT11	1	1:1	0.329	1.047	0.344	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.13	Left	Cheek	27PCT11	1	1:1	0.245	1.047	0.257	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.18	Left	Tilt	27PCT11	1	1:1	0.233	1.047	0.244	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.16	Right	Cheek	6PCT2	6	1:1	0.097	1.161	0.113	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.16	Right	Tilt	6PCT2	6	1:1	0.055	1.161	0.064	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	-0.01	Left	Cheek	6PCT2	6	1:1	0.101	1.161	0.117	
5775	155	IEEE 802.11ac	OFDM	11.5	10.82	-0.19	Left	Cheek	6PCT2	29.3	1:1	0.072	1.169	0.084	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.15	Left	Tilt	6PCT2	6	1:1	0.074	1.161	0.086	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-12
NII Head SAR Antenna 1

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5200	40	IEEE 802.11a	OFDM	12.5	12.23	0.01	Right	Cheek	6PCT2	6	1:1	0.543	1.064	0.578	
5240	48	IEEE 802.11a	OFDM	12.5	12.22	0.01	Right	Cheek	6PCT2	6	1:1	0.564	1.067	**0.602**	
5210	42	IEEE 802.11ac	OFDM	11.5	10.95	-0.06	Right	Cheek	6PCT2	29.3	1:1	0.375	1.135	0.426	
5200	40	IEEE 802.11a	OFDM	12.5	12.23	0.02	Right	Tilt	6PCT2	6	1:1	0.525	1.064	0.559	
5240	48	IEEE 802.11a	OFDM	12.5	12.22	0.13	Right	Tilt	6PCT2	6	1:1	0.520	1.067	0.555	
5200	40	IEEE 802.11a	OFDM	12.5	12.23	0.18	Left	Cheek	6PCT2	6	1:1	0.540	1.064	0.575	
5240	48	IEEE 802.11a	OFDM	12.5	12.22	-0.18	Left	Cheek	6PCT2	6	1:1	0.547	1.067	0.584	
5200	40	IEEE 802.11a	OFDM	12.5	12.23	0.10	Left	Tilt	6PCT2	6	1:1	0.530	1.064	0.564	
5240	48	IEEE 802.11a	OFDM	12.5	12.22	0.06	Left	Tilt	6PCT2	6	1:1	0.523	1.067	0.558	
5260	52	IEEE 802.11a	OFDM	12.5	12.32	0.07	Right	Cheek	6PCT2	6	1:1	0.564	1.042	0.588	
5320	64	IEEE 802.11a	OFDM	12.5	12.40	0.08	Right	Cheek	6PCT2	6	1:1	0.577	1.023	0.590	A13
5290	58	IEEE 802.11ac	OFDM	11.5	11.20	-0.04	Right	Cheek	6PCT2	29.3	1:1	0.370	1.072	0.397	
5260	52	IEEE 802.11a	OFDM	12.5	12.32	-0.06	Right	Tilt	6PCT2	6	1:1	0.510	1.042	0.531	
5320	64	IEEE 802.11a	OFDM	12.5	12.40	-0.05	Right	Tilt	6PCT2	6	1:1	0.545	1.023	0.558	
5260	52	IEEE 802.11a	OFDM	12.5	12.32	0.07	Left	Cheek	6PCT2	6	1:1	0.499	1.042	0.520	
5320	64	IEEE 802.11a	OFDM	12.5	12.40	0.02	Left	Cheek	6PCT2	6	1:1	0.571	1.023	0.584	
5260	52	IEEE 802.11a	OFDM	12.5	12.32	0.03	Left	Tilt	6PCT2	6	1:1	0.525	1.042	0.547	
5320	64	IEEE 802.11a	OFDM	12.5	12.40	-0.03	Left	Tilt	6PCT2	6	1:1	0.564	1.023	0.577	
5540	108	IEEE 802.11a	OFDM	12.5	11.81	-0.02	Right	Cheek	6PCT2	6	1:1	0.197	1.172	0.231	
5540	108	IEEE 802.11a	OFDM	12.5	11.81	-0.03	Right	Tilt	6PCT2	6	1:1	0.042	1.172	0.049	
5530	106	IEEE 802.11ac	OFDM	11.5	11.30	0.01	Left	Cheek	6PCT2	29.3	1:1	0.191	1.047	0.200	
5540	108	IEEE 802.11a	OFDM	12.5	11.81	0.08	Left	Cheek	6PCT2	6	1:1	0.224	1.172	0.263	
5540	108	IEEE 802.11a	OFDM	12.5	11.81	0.08	Left	Tilt	6PCT2	6	1:1	0.190	1.172	0.223	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-13
DTS Head SAR Antenna 2

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	-0.04	Right	Cheek	6PCT2	1	1:1	0.368	1.002	0.369	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	-0.05	Right	Tilt	6PCT2	1	1:1	0.283	1.002	0.284	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	0.07	Left	Cheek	6PCT2	1	1:1	0.319	1.002	0.320	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	-0.01	Left	Tilt	6PCT2	1	1:1	0.255	1.002	0.256	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	0.09	Right	Cheek	27PCT11	6	1:1	0.412	1.205	0.496	
5765	153	IEEE 802.11a	OFDM	12.5	11.66	0.06	Right	Cheek	27PCT11	6	1:1	0.456	1.213	0.553	
5825	165	IEEE 802.11a	OFDM	12.5	11.61	0.08	Right	Cheek	27PCT11	6	1:1	0.480	1.227	0.589	A12
5775	155	IEEE 802.11ac	OFDM	11.5	10.62	0.15	Right	Cheek	27PCT11	29.3	1:1	0.380	1.225	0.466	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.15	Right	Tilt	27PCT11	6	1:1	0.145	1.205	0.175	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.01	Left	Cheek	27PCT11	6	1:1	0.093	1.205	0.112	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.14	Left	Tilt	27PCT11	6	1:1	0.040	1.205	0.048	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-14
NII Head SAR Antenna 2

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5240	48	IEEE 802.11a	OFDM	12.5	12.48	-0.16	Right	Cheek	27PCT11	6	1:1	0.194	1.005	0.195	
5210	42	IEEE 802.11ac	OFDM	11.5	11.30	0.17	Right	Cheek	27PCT11	29.3	1:1	0.177	1.047	0.185	
5240	48	IEEE 802.11a	OFDM	12.5	12.48	-0.17	Right	Tilt	27PCT11	6	1:1	0.046	1.005	0.046	
5240	48	IEEE 802.11a	OFDM	12.5	12.48	-0.05	Left	Cheek	27PCT11	6	1:1	0.045	1.005	0.045	
5240	48	IEEE 802.11a	OFDM	12.5	12.48	0.05	Left	Tilt	27PCT11	6	1:1	0.014	1.005	0.014	
5260	52	IEEE 802.11a	OFDM	12.5	11.98	0.05	Right	Cheek	27PCT11	6	1:1	0.217	1.127	0.245	
5290	58	IEEE 802.11ac	OFDM	11.5	10.76	0.11	Right	Cheek	27PCT11	29.3	1:1	0.198	1.186	0.235	
5260	52	IEEE 802.11a	OFDM	12.5	11.98	-0.06	Right	Tilt	27PCT11	6	1:1	0.065	1.127	0.073	
5260	52	IEEE 802.11a	OFDM	12.5	11.98	-0.04	Left	Cheek	27PCT11	6	1:1	0.059	1.127	0.066	
5260	52	IEEE 802.11a	OFDM	12.5	11.98	-0.03	Left	Tilt	27PCT11	6	1:1	0.018	1.127	0.020	
5580	116	IEEE 802.11a	OFDM	12.5	11.89	0.12	Right	Cheek	27PCT11	6	1:1	0.261	1.151	0.300	
5530	106	IEEE 802.11ac	OFDM	11.5	10.75	0.12	Right	Cheek	27PCT11	29.3	1:1	0.218	1.189	0.259	
5580	116	IEEE 802.11a	OFDM	12.5	11.89	0.09	Right	Tilt	27PCT11	6	1:1	0.080	1.151	0.092	
5580	116	IEEE 802.11a	OFDM	12.5	11.89	0.14	Left	Cheek	27PCT11	6	1:1	0.075	1.151	0.086	
5580	116	IEEE 802.11a	OFDM	12.5	11.89	-0.06	Left	Tilt	27PCT11	6	1:1	0.021	1.151	0.024	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-15
DTS Head SAR MIMO

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.05	Right	Cheek	6PCT2	13	1:1	0.199	1.052	0.209	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.04	Right	Tilt	6PCT2	13	1:1	0.111	1.052	0.117	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.03	Left	Cheek	6PCT2	13	1:1	0.109	1.052	0.115	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.19	Left	Tilt	6PCT2	13	1:1	0.081	1.052	0.085	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	0.05	Right	Cheek	27PCT11	13	1:1	0.281	1.250	0.351	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	0.09	Right	Tilt	27PCT11	13	1:1	0.043	1.250	0.054	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	0.19	Left	Cheek	27PCT11	13	1:1	0.097	1.250	0.121	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	0.05	Left	Tilt	27PCT11	13	1:1	0.069	1.250	0.086	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-16
NII Head SAR Antenna MIMO

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5200	40	IEEE 802.11n	OFDM	12.5	12.46	0.14	Right	Cheek	27PCT11	13	1:1	0.173	1.009	0.175	
5200	40	IEEE 802.11n	OFDM	12.5	12.46	0.05	Right	Tilt	27PCT11	13	1:1	0.510	1.009	0.515	
5240	48	IEEE 802.11n	OFDM	12.5	12.44	0.10	Right	Tilt	27PCT11	13	1:1	0.492	1.014	0.499	
5200	40	IEEE 802.11n	OFDM	12.5	12.46	-0.02	Left	Cheek	27PCT11	13	1:1	0.516	1.009	0.521	
5240	48	IEEE 802.11n	OFDM	12.5	12.44	0.14	Left	Cheek	27PCT11	13	1:1	0.508	1.014	0.515	
5200	40	IEEE 802.11n	OFDM	12.5	12.46	0.15	Left	Tilt	27PCT11	13	1:1	0.437	1.009	0.441	
5240	48	IEEE 802.11n	OFDM	12.5	12.44	0.09	Left	Tilt	27PCT11	13	1:1	0.451	1.014	0.457	
5320	64	IEEE 802.11n	OFDM	12.5	12.49	0.15	Right	Cheek	27PCT11	13	1:1	0.244	1.002	0.244	
5320	64	IEEE 802.11n	OFDM	12.5	12.49	0.14	Right	Tilt	27PCT11	13	1:1	0.374	1.002	0.375	
5320	64	IEEE 802.11n	OFDM	12.5	12.49	0.15	Left	Cheek	27PCT11	13	1:1	0.340	1.002	0.341	
5320	64	IEEE 802.11n	OFDM	12.5	12.49	0.04	Left	Tilt	27PCT11	13	1:1	0.344	1.002	0.345	
5540	108	IEEE 802.11n	OFDM	12.5	12.12	0.18	Right	Cheek	27PCT11	13	1:1	0.191	1.091	0.208	
5580	116	IEEE 802.11n	OFDM	12.5	12.05	0.10	Right	Cheek	27PCT11	13	1:1	0.201	1.109	0.223	
5660	132	IEEE 802.11n	OFDM	12.5	11.91	0.03	Right	Cheek	27PCT11	13	1:1	0.272	1.146	0.312	
5540	108	IEEE 802.11n	OFDM	12.5	12.12	0.15	Right	Tilt	27PCT11	13	1:1	0.127	1.091	0.139	
5540	108	IEEE 802.11n	OFDM	12.5	12.12	0.09	Left	Cheek	27PCT11	13	1:1	0.179	1.091	0.195	
5540	108	IEEE 802.11n	OFDM	12.5	12.12	0.17	Left	Tilt	27PCT11	13	1:1	0.172	1.091	0.188	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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11.2 Standalone Body-Worn SAR Data

Table 11-17
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	32.97	0.02	15 mm	27PCT8	1	1:8.3	back	0.532	1.130	0.601	A14
1880.00	661	GSM 1900	GSM	30.5	30.02	-0.02	15 mm	27PCT8	1	1:8.3	back	0.251	1.117	0.280	A16
836.60	4183	UMTS 850	RMC	23.5	23.15	-0.05	15 mm	27PCT8	N/A	1:1	back	0.534	1.084	0.579	A18
1880.00	9400	UMTS 1900	RMC	23.0	22.48	0.02	15 mm	27PCT8	N/A	1:1	back	0.365	1.127	0.411	A20
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	25.0	24.46	0.04	15 mm	27PCT6	N/A	1:1	back	0.561	1.132	0.635	A22
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.0	24.57	-0.06	15 mm	27PCT6	N/A	1:1	back	0.576	1.104	0.636	A24
1880.00	600	PCS CDMA	TDSO / SO32	25.0	24.40	-0.07	15 mm	27PCT1	N/A	1:1	back	0.567	1.148	**0.651**	A26
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-18
LTE Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	0.15	0	27PCT4	QPSK	1	49	15 mm	back	1:1	0.513	1.045	0.536	A28
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.03	1	27PCT4	QPSK	25	25	15 mm	back	1:1	0.398	1.067	0.425	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.5	23.29	-0.02	0	27PCT4	QPSK	1	0	15 mm	back	1:1	0.455	1.050	0.478	A30
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.27	-0.01	1	27PCT4	QPSK	50	0	15 mm	back	1:1	0.376	1.054	0.396	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	-0.06	0	27PCT3	QPSK	1	50	15 mm	back	1:1.58	0.151	1.026	0.155	A32
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.04	1	27PCT3	QPSK	50	25	15 mm	back	1:1.58	0.120	1.045	0.125	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-19
DTS Body-Worn SAR Antenna 1

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.08	10 mm	27PCT11	1	back	1:1	0.084	1.047	0.088	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.07	10 mm	6PCT2	6	back	1:1	0.078	1.161	0.091	
5775	155	IEEE 802.11ac	OFDM	11.5	10.82	0.06	10 mm	6PCT2	29.3	back	1:1	0.063	1.169	0.074	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-20
NII Body-Worn SAR Antenna 1

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5200	40	IEEE 802.11a	OFDM	12.5	12.23	-0.04	10 mm	6PCT2	6	back	1:1	0.077	1.064	0.082	
5210	42	IEEE 802.11ac	OFDM	11.5	10.95	-0.05	10 mm	6PCT2	29.3	back	1:1	0.046	1.135	0.052	
5320	64	IEEE 802.11a	OFDM	12.5	12.40	-0.10	10 mm	6PCT2	6	back	1:1	0.075	1.023	0.077	
5290	58	IEEE 802.11ac	OFDM	11.5	11.20	0.16	10 mm	6PCT2	29.3	back	1:1	0.056	1.072	0.060	
5540	108	IEEE 802.11a	OFDM	12.5	11.81	0.13	10 mm	6PCT2	6	back	1:1	0.040	1.172	0.047	
5530	106	IEEE 802.11ac	OFDM	11.5	11.30	0.17	10 mm	6PCT2	29.3	back	1:1	0.053	1.047	0.055	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-21
DTS Body-Worn SAR Antenna 2

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	-0.14	10 mm	6PCT1	1	back	1:1	0.162	1.002	0.162	A34
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.11	10 mm	27PCT11	6	back	1:1	0.281	1.205	**0.339**	A35
5775	155	IEEE 802.11ac	OFDM	11.5	10.62	0.12	10 mm	27PCT11	29.3	back	1:1	0.100	1.225	0.123	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-22
NII Body-Worn SAR Antenna 2

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5240	48	IEEE 802.11a	OFDM	12.5	12.48	0.14	10 mm	27PCT11	6	back	1:1	0.109	1.005	0.110	
5210	42	IEEE 802.11ac	OFDM	11.5	11.30	-0.16	10 mm	27PCT11	29.3	back	1:1	0.068	1.047	0.071	
5260	52	IEEE 802.11a	OFDM	12.5	11.98	-0.09	10 mm	27PCT11	6	back	1:1	0.145	1.127	0.163	
5290	58	IEEE 802.11ac	OFDM	11.5	10.76	0.12	10 mm	27PCT11	29.3	back	1:1	0.071	1.186	0.084	
5580	116	IEEE 802.11a	OFDM	12.5	11.89	0.06	10 mm	27PCT11	6	back	1:1	0.234	1.151	0.269	A36
5530	106	IEEE 802.11ac	OFDM	11.5	10.75	0.15	10 mm	27PCT11	29.3	back	1:1	0.083	1.189	0.099	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-23
DTS Body-Worn SAR MIMO

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.02	10 mm	6PCT1	13	back	1:1	0.065	1.052	0.068	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	-0.17	10 mm	6PCT2	13	back	1:1	0.045	1.250	0.056	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-24
NII Body-Worn SAR MIMO

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
5200	40	IEEE 802.11n	OFDM	12.5	12.46	0.07	10 mm	6PCT2	13	back	1:1	0.049	1.009	0.049	
5320	64	IEEE 802.11n	OFDM	12.5	12.49	0.07	10 mm	6PCT2	13	back	1:1	0.069	1.002	0.069	
5540	108	IEEE 802.11n	OFDM	12.5	12.12	0.04	10 mm	6PCT2	13	back	1:1	0.080	1.091	0.087	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

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11.3 Standalone Wireless Router SAR Data

Table 11-25
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
824.20	128	GSM 850	GPRS	29.5	29.04	-0.04	10 mm	27PCT8	4	1:2.076	back	0.852	1.112	0.947	A15
836.60	190	GSM 850	GPRS	29.5	29.05	0.05	10 mm	27PCT8	4	1:2.076	back	0.835	1.109	0.926	
848.80	251	GSM 850	GPRS	29.5	29.12	-0.06	10 mm	27PCT8	4	1:2.076	back	0.739	1.091	0.806	
824.20	128	GSM 850	GPRS	29.5	29.04	-0.03	10 mm	27PCT8	4	1:2.076	front	0.705	1.112	0.784	
836.60	190	GSM 850	GPRS	29.5	29.05	-0.04	10 mm	27PCT8	4	1:2.076	front	0.730	1.109	0.810	
848.80	251	GSM 850	GPRS	29.5	29.12	0.02	10 mm	27PCT8	4	1:2.076	front	0.697	1.091	0.760	
836.60	190	GSM 850	GPRS	29.5	29.05	0.01	10 mm	27PCT8	4	1:2.076	bottom	0.312	1.109	0.346	
836.60	190	GSM 850	GPRS	29.5	29.05	0.00	10 mm	27PCT8	4	1:2.076	left	0.621	1.109	0.689	
824.20	128	GSM 850	GPRS	29.5	29.04	0.05	10 mm	27PCT8	4	1:2.076	back	0.796	1.112	0.885	
1880.00	661	GSM 1900	GPRS	29.0	28.57	0.06	10 mm	27PCT8	2	1:4.15	back	0.612	1.104	0.676	
1850.20	512	GSM 1900	GPRS	29.0	28.34	0.04	10 mm	27PCT8	2	1:4.15	front	0.748	1.164	0.871	
1880.00	661	GSM 1900	GPRS	29.0	28.57	0.04	10 mm	27PCT8	2	1:4.15	front	0.928	1.104	1.025	
1909.80	810	GSM 1900	GPRS	29.0	28.68	0.04	10 mm	27PCT8	2	1:4.15	front	0.953	1.076	1.025	A17
1880.00	661	GSM 1900	GPRS	29.0	28.57	0.06	10 mm	27PCT8	2	1:4.15	bottom	0.705	1.104	0.778	
1880.00	661	GSM 1900	GPRS	29.0	28.57	-0.04	10 mm	27PCT8	2	1:4.15	left	0.211	1.104	0.233	
836.60	4183	UMTS 850	RMC	23.5	23.15	0.00	10 mm	27PCT8	N/A	1:1	back	0.587	1.084	0.636	A19
836.60	4183	UMTS 850	RMC	23.5	23.15	-0.01	10 mm	27PCT8	N/A	1:1	front	0.547	1.084	0.593	
836.60	4183	UMTS 850	RMC	23.5	23.15	0.02	10 mm	27PCT8	N/A	1:1	bottom	0.249	1.084	0.270	
836.60	4183	UMTS 850	RMC	23.5	23.15	0.09	10 mm	27PCT8	N/A	1:1	left	0.464	1.084	0.503	
1880.00	9400	UMTS 1900	RMC	21.0	20.50	0.08	10 mm	27PCT10	N/A	1:1	back	0.437	1.122	0.490	
1880.00	9400	UMTS 1900	RMC	21.0	20.50	0.01	10 mm	27PCT10	N/A	1:1	front	0.652	1.122	0.732	A21
1880.00	9400	UMTS 1900	RMC	21.0	20.50	0.01	10 mm	27PCT10	N/A	1:1	bottom	0.475	1.122	0.533	
1880.00	9400	UMTS 1900	RMC	21.0	20.50	0.12	10 mm	27PCT10	N/A	1:1	left	0.142	1.122	0.159	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.0	24.49	0.01	10 mm	27PCT6	N/A	1:1	back	0.622	1.125	0.700	A23
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.0	24.49	-0.01	10 mm	27PCT6	N/A	1:1	front	0.555	1.125	0.624	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.0	24.49	0.01	10 mm	27PCT6	N/A	1:1	bottom	0.195	1.125	0.219	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.0	24.49	-0.01	10 mm	27PCT6	N/A	1:1	left	0.440	1.125	0.495	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.57	-0.01	10 mm	27PCT6	N/A	1:1	back	0.629	1.104	0.694	A25
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.57	0.02	10 mm	27PCT6	N/A	1:1	front	0.571	1.104	0.630	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.57	0.03	10 mm	27PCT6	N/A	1:1	bottom	0.285	1.104	0.315	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.57	-0.03	10 mm	27PCT6	N/A	1:1	left	0.516	1.104	0.570	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.0	21.51	0.00	10 mm	27PCT7	N/A	1:1	back	0.582	1.119	0.651	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.0	21.33	-0.06	10 mm	27PCT7	N/A	1:1	front	0.845	1.167	0.986	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.0	21.51	-0.02	10 mm	27PCT7	N/A	1:1	front	0.981	1.119	**1.098**	A27
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.0	21.49	-0.05	10 mm	27PCT7	N/A	1:1	front	0.965	1.125	1.086	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.0	21.51	0.04	10 mm	27PCT7	N/A	1:1	bottom	0.625	1.119	0.699	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.0	21.51	0.03	10 mm	27PCT7	N/A	1:1	left	0.221	1.119	0.247	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.0	21.51	-0.03	10 mm	27PCT7	N/A	1:1	front	0.917	1.119	1.026	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**Body 1.6 W/kg (mW/g) averaged over 1 gram**								

Blue entries represent variability data.

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Table 11-26
LTE Band 26 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	-0.12	0	27PCT4	QPSK	1	49	10 mm	back	1:1	0.552	1.045	0.577	A29
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.05	1	27PCT4	QPSK	25	25	10 mm	back	1:1	0.442	1.067	0.472	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	0.01	0	27PCT4	QPSK	1	49	10 mm	front	1:1	0.547	1.045	0.572	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.01	1	27PCT4	QPSK	25	25	10 mm	front	1:1	0.423	1.067	0.451	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	-0.03	0	27PCT4	QPSK	1	49	10 mm	bottom	1:1	0.260	1.045	0.272	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.00	1	27PCT4	QPSK	25	25	10 mm	bottom	1:1	0.190	1.067	0.203	
831.50	26865	Mid	LTE Band 26	10	23.5	23.31	0.00	0	27PCT4	QPSK	1	49	10 mm	left	1:1	0.465	1.045	0.486	
831.50	26865	Mid	LTE Band 26	10	22.5	22.22	0.04	1	27PCT4	QPSK	25	25	10 mm	left	1:1	0.375	1.067	0.400	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram													

Table 11-27
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	-0.09	0	27PCT2	QPSK	1	99	10 mm	back	1:1	0.394	1.000	0.394	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	-0.04	1	27PCT2	QPSK	50	0	10 mm	back	1:1	0.341	1.009	0.344	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.06	0	27PCT2	QPSK	1	99	10 mm	front	1:1	0.754	1.000	0.754	A31
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	-0.01	1	27PCT2	QPSK	50	0	10 mm	front	1:1	0.624	1.009	0.630	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.03	0	27PCT2	QPSK	1	99	10 mm	bottom	1:1	0.477	1.000	0.477	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	0.02	1	27PCT2	QPSK	50	0	10 mm	bottom	1:1	0.379	1.009	0.382	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.50	0.10	0	27PCT2	QPSK	1	99	10 mm	left	1:1	0.187	1.000	0.187	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	19.46	0.02	1	27PCT2	QPSK	50	0	10 mm	left	1:1	0.142	1.009	0.143	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram													

Table 11-28
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	0.15	0	27PCT3	QPSK	1	50	10 mm	back	1:1.58	0.260	1.026	0.267	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.03	1	27PCT3	QPSK	50	25	10 mm	back	1:1.58	0.207	1.045	0.216	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	0.04	0	27PCT3	QPSK	1	50	10 mm	front	1:1.58	0.403	1.026	0.413	A33
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.03	1	27PCT3	QPSK	50	25	10 mm	front	1:1.58	0.321	1.045	0.335	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	0.05	0	27PCT3	QPSK	1	50	10 mm	bottom	1:1.58	0.165	1.026	0.169	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.05	1	27PCT3	QPSK	50	25	10 mm	bottom	1:1.58	0.130	1.045	0.136	
2680.00	41490	High	LTE Band 41	20	24.0	23.89	-0.04	0	27PCT3	QPSK	1	50	10 mm	right	1:1.58	0.314	1.026	0.322	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.02	1	27PCT3	QPSK	50	25	10 mm	right	1:1.58	0.244	1.045	0.255	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram													

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Table 11-29
WLAN Hotspot SAR Antenna 1

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.08	10 mm	27PCT11	1	back	1:1	0.084	1.047	0.088	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.14	10 mm	27PCT11	1	front	1:1	0.096	1.047	0.101	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.09	10 mm	27PCT11	1	top	1:1	0.072	1.047	0.075	
2412	1	IEEE 802.11b	DSSS	15.0	14.80	0.13	10 mm	27PCT11	1	left	1:1	0.061	1.047	0.064	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.07	10 mm	6PCT2	6	back	1:1	0.078	1.161	0.091	
5775	155	IEEE 802.11ac	OFDM	11.5	10.82	0.06	10 mm	6PCT2	29.3	back	1:1	0.063	1.169	0.074	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.13	10 mm	6PCT2	6	front	1:1	0.023	1.161	0.027	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.17	10 mm	6PCT2	6	top	1:1	0.033	1.161	0.038	
5825	165	IEEE 802.11a	OFDM	12.5	11.85	0.16	10 mm	6PCT2	6	left	1:1	0.039	1.161	0.045	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-30
WLAN Hotspot SAR Antenna 2

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	-0.14	10 mm	6PCT1	1	back	1:1	0.162	1.002	0.162	A34
2437	6	IEEE 802.11b	DSSS	14.5	14.49	0.01	10 mm	6PCT1	1	front	1:1	0.132	1.002	0.132	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	0.08	10 mm	6PCT1	1	top	1:1	0.066	1.002	0.066	
2437	6	IEEE 802.11b	DSSS	14.5	14.49	0.10	10 mm	6PCT1	1	left	1:1	0.063	1.002	0.063	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.11	10 mm	27PCT11	6	back	1:1	0.281	1.205	0.339	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.06	10 mm	27PCT11	6	front	1:1	0.168	1.205	0.202	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	0.19	10 mm	27PCT11	6	top	1:1	0.037	1.205	0.045	
5745	149	IEEE 802.11a	OFDM	12.5	11.69	-0.09	10 mm	27PCT11	6	left	1:1	0.458	1.205	**0.552**	A37
5765	153	IEEE 802.11a	OFDM	12.5	11.66	0.14	10 mm	27PCT11	6	left	1:1	0.442	1.213	0.536	
5825	165	IEEE 802.11a	OFDM	12.5	11.61	-0.18	10 mm	27PCT11	6	left	1:1	0.412	1.227	0.506	
5775	155	IEEE 802.11ac	OFDM	11.5	10.62	0.02	10 mm	27PCT11	29.3	left	1:1	0.243	1.225	0.298	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-31
WLAN Hotspot SAR MIMO

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor	Scaled SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.02	10 mm	6PCT1	13	back	1:1	0.065	1.052	0.068	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	-0.14	10 mm	6PCT1	13	front	1:1	0.034	1.052	0.036	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.10	10 mm	6PCT1	13	top	1:1	0.028	1.052	0.029	
2437	6	IEEE 802.11n	OFDM	13.5	13.28	0.17	10 mm	6PCT1	13	left	1:1	0.035	1.052	0.037	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	-0.17	10 mm	6PCT2	13	back	1:1	0.045	1.250	0.056	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	-0.08	10 mm	6PCT2	13	front	1:1	0.027	1.250	0.034	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	0.03	10 mm	6PCT2	13	top	1:1	0.023	1.250	0.029	
5745	149	IEEE 802.11n	OFDM	12.5	11.53	-0.06	10 mm	6PCT2	13	left	1:1	0.092	1.250	0.115	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) 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 1528-2003, and FCC KDB Publication 447498 D01v05.
2. Batteries are fully charged at the beginning of the SAR measurements. A NFC integrated 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 Publication 447498 D01v05.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 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. A test separation distance of 10 mm for body-worn SAR was also used for 2.4 GHz and 5 GHz WLAN as it is more conservative.
7. Per FCC KDB Publication 648474 D04v01, SAR was evaluated without a headset connected to the device. Since the standalone reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.
8. Per FCC KDB 865664 D01 v01, variability SAR tests were performed when the measured SAR results for a frequency band were greater than 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. This device utilizes power reduction for PCS EVDO, UMTS Band 2, and LTE Band 25 under some portable hotspot conditions for SAR compliance. Therefore, hotspot was tested for PCS EVDO, UMTS Band 2, and LTE Band 25 at reduced power levels.

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GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D03v01 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.
3. Per FCC KDB Publication 447498 D01v05, 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 > ½ dB, instead of the middle channel, the highest output power channel was used.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v02.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO and TDSO / SO32 FCH+SCH SAR tests were not required since the average output power was not more than 0.25 dB higher than the TDSO / SO32 FCH only powers, per FCC KDB Publication 941225 D01v02.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01 procedures for data devices. Since the average output power of Subtype 2 for Rev. A is less than the Rev. 0 power levels, EVDO Rev. A SAR is not required. SAR is not required for 1x RTT for Ev-Do hotspot devices when the maximum average output of each channel is less than ¼ dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v05, 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 > ½ dB, instead of the middle channel, the highest output power channel was used.
6. This device applies power reduction for PCS CDMA modes when Hotspot is ON. Therefore PCS EVDO modes were evaluated at hotspot reduced power levels. There is no power reduction applied to the Cellular 850 MHz band

UMTS Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Not Active per KDB Publication 941225 D01v02. 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.
2. Per FCC KDB Publication 447498 D01v05, 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 > ½ dB, instead of the middle channel, the highest output power channel was used.
3. This device applies power reduction for UMTS Band 2 modes when Hotspot is ON. Therefore UMTS Band 2 modes were evaluated at hotspot reduced power levels. There is no power reduction applied to the UMTS Band 5 band.

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LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r01. The general test procedures used for testing can be found in Section 8.5.4.
2. 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.
3. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v05r01, since the reported (scaled) LTE Band 41 SAR measured at the highest output power channel for some test configurations is greater than 0.6 W/kg, testing at the other channels is required for such test configuration(s).
5. TDD LTE was tested using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.

WLAN Notes:

1. Justification for reduced test configurations for SISO WIFI channels per KDB Publication 248227 D01v01r02 and October 2012 FCC/TCB Meeting Notes for 2.4 GHz WIFI: Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11b. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.
2. Justification for reduced test configurations for SISO WIFI channels per KDB Publication 248227 D01v01r02 and October 2012 FCC/TCB Meeting Notes for 5 GHz WIFI: Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11a. Other IEEE 802.11 modes (including 802.11n 20 MHz and 40 MHz bandwidths) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11a mode.
3. Per April 2013 TCB Workshop notes, full SISO SAR tests for all IEEE 802.11ac configurations were not required because the average output power was not more than 0.25 dB higher than IEEE 802.11a mode. SISO IEEE 802.11ac was evaluated for the highest SISO IEEE 802.11a position in each 5 GHz band and exposure condition.
4. This device only supports Hotspot for 2.4 GHz and 5.8 GHz bands. Therefore all other bands were not evaluated for Hotspot SAR conditions.
5. WIFI transmission was verified using an uncalibrated spectrum analyzer.
6. Since the maximum extrapolated peak SAR of the zoom scan for the some output channel is >1.6 W/kg or the reported 1g averaged SAR is >0.8 W/kg, SAR testing on other default channels was required.
7. Per KDB 248227, SAR for MIMO was measured with both transmitting simultaneously and was evaluated independently of SISO operation. For 2.4 GHz MIMO, 802.11n was evaluated. For 5 GHz MIMO, 20 MHz Bandwidth 802.11n was evaluated. Additional evaluations for 40 MHz bandwidth 802.11n and 802.11ac were not required since the maximum allowed output power was not higher than 802.11n 20 MHz Bandwidth.
8. WLAN Body-Worn tests were performed at distance of 10 mm to represent a more conservative test configuration.

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

The following procedures adopted from FCC KDB Publication 447498 D01v05 are applicable to handsets with built-in unlicensed transmitters such as 802.11a/b/g/n/ac and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

12.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v05 IV.C.1.iii and IEEE 1528-2013 Section 6.3.4.1.2, 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 ≤1.6 W/kg. When standalone SAR is not required to be measured, per FCC KDB 447498 D01v05 4.3.2 2), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

$$\text{Estimated SAR} = \frac{\sqrt{f(GHz)}}{7.5} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

Table 12-1
Estimated SAR

Mode	Frequency	Maximum Allowed Power	Separation Distance (Body)	Estimated SAR (Body)
	[MHz]	[dBm]	[mm]	[W/kg]
Bluetooth	2441	10.00	15	**0.139**

Note: Held-to ear configurations are not applicable to Bluetooth operations and therefore were not considered for simultaneous transmission. Per KDB Publication 447498 D01v05, the maximum power of the channel was rounded to the nearest mW before calculation.

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12.3 Head SAR Simultaneous Transmission Analysis

Table 12-2
Simultaneous Transmission Scenario with Antenna 1, 2.4 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.433	**0.865**
	Right Tilt	0.284	0.344	0.628
	Left Cheek	0.556	0.257	0.813
	Left Tilt	0.331	0.244	0.575

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.433	**0.579**
	Right Tilt	0.118	0.344	0.462
	Left Cheek	0.255	0.257	0.512
	Left Tilt	0.080	0.244	0.324

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.433	**0.796**
	Right Tilt	0.274	0.344	0.618
	Left Cheek	0.481	0.257	0.738
	Left Tilt	0.299	0.244	0.543

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.433	**0.621**
	Right Tilt	0.143	0.344	0.487
	Left Cheek	0.328	0.257	0.585
	Left Tilt	0.100	0.244	0.344

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.433	**0.884**
	Right Tilt	0.336	0.344	0.680
	Left Cheek	0.564	0.257	0.821
	Left Tilt	0.369	0.244	0.613

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.433	**0.894**
	Right Tilt	0.350	0.344	0.694
	Left Cheek	0.596	0.257	0.853
	Left Tilt	0.384	0.244	0.628

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.433	0.719
	Right Tilt	0.230	0.344	0.574
	Left Cheek	0.665	0.257	**0.922**
	Left Tilt	0.436	0.244	0.680

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.433	**0.952**
	Right Tilt	0.396	0.344	0.740
	Left Cheek	0.655	0.257	0.912
	Left Tilt	0.426	0.244	0.670

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.433	0.715
	Right Tilt	0.239	0.344	0.583
	Left Cheek	0.488	0.257	**0.745**
	Left Tilt	0.166	0.244	0.410

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.433	**0.612**
	Right Tilt	0.149	0.344	0.493
	Left Cheek	0.289	0.257	0.546
	Left Tilt	0.096	0.244	0.340

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.433	**0.887**
	Right Tilt	0.311	0.344	0.655
	Left Cheek	0.591	0.257	0.848
	Left Tilt	0.362	0.244	0.606

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.433	**0.536**
	Right Tilt	0.093	0.344	0.437
	Left Cheek	0.164	0.257	0.421
	Left Tilt	0.067	0.244	0.311

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.433	**1.079**
	Right Tilt	0.169	0.344	0.513
	Left Cheek	0.251	0.257	0.508
	Left Tilt	0.223	0.244	0.467

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Table 12-3
Simultaneous Transmission Scenario with Antenna 2, 2.4 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.369	0.801
	Right Tilt	0.284	0.284	0.568
	Left Cheek	0.556	0.320	**0.876**
	Left Tilt	0.331	0.256	0.587

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.369	0.515
	Right Tilt	0.118	0.284	0.402
	Left Cheek	0.255	0.320	**0.575**
	Left Tilt	0.080	0.256	0.336

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.369	0.732
	Right Tilt	0.274	0.284	0.558
	Left Cheek	0.481	0.320	**0.801**
	Left Tilt	0.299	0.256	0.555

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.369	0.557
	Right Tilt	0.143	0.284	0.427
	Left Cheek	0.328	0.320	**0.648**
	Left Tilt	0.100	0.256	0.356

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.369	0.820
	Right Tilt	0.336	0.284	0.620
	Left Cheek	0.564	0.320	**0.884**
	Left Tilt	0.369	0.256	0.625

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.369	0.830
	Right Tilt	0.350	0.284	0.634
	Left Cheek	0.596	0.320	**0.916**
	Left Tilt	0.384	0.256	0.640

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.369	0.655
	Right Tilt	0.230	0.284	0.514
	Left Cheek	0.665	0.320	**0.985**
	Left Tilt	0.436	0.256	0.692

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.369	0.888
	Right Tilt	0.396	0.284	0.680
	Left Cheek	0.655	0.320	**0.975**
	Left Tilt	0.426	0.256	0.682

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.369	0.651
	Right Tilt	0.239	0.284	0.523
	Left Cheek	0.488	0.320	**0.808**
	Left Tilt	0.166	0.256	0.422

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.369	0.548
	Right Tilt	0.149	0.284	0.433
	Left Cheek	0.289	0.320	**0.609**
	Left Tilt	0.096	0.256	0.352

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.369	0.823
	Right Tilt	0.311	0.284	0.595
	Left Cheek	0.591	0.320	**0.911**
	Left Tilt	0.362	0.256	0.618

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.369	0.472
	Right Tilt	0.093	0.284	0.377
	Left Cheek	0.164	0.320	**0.484**
	Left Tilt	0.067	0.256	0.323

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.369	**1.015**
	Right Tilt	0.169	0.284	0.453
	Left Cheek	0.251	0.320	0.571
	Left Tilt	0.223	0.256	0.479

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Table 12-4
Simultaneous Transmission Scenario with MIMO 2.4 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.209	0.641
	Right Tilt	0.284	0.117	0.401
	Left Cheek	0.556	0.115	**0.671**
	Left Tilt	0.331	0.085	0.416

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.209	0.355
	Right Tilt	0.118	0.117	0.235
	Left Cheek	0.255	0.115	**0.370**
	Left Tilt	0.080	0.085	0.165

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.209	0.572
	Right Tilt	0.274	0.117	0.391
	Left Cheek	0.481	0.115	**0.596**
	Left Tilt	0.299	0.085	0.384

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.209	0.397
	Right Tilt	0.143	0.117	0.260
	Left Cheek	0.328	0.115	**0.443**
	Left Tilt	0.100	0.085	0.185

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.209	0.660
	Right Tilt	0.336	0.117	0.453
	Left Cheek	0.564	0.115	**0.679**
	Left Tilt	0.369	0.085	0.454

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.209	0.670
	Right Tilt	0.350	0.117	0.467
	Left Cheek	0.596	0.115	**0.711**
	Left Tilt	0.384	0.085	0.469

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.209	0.495
	Right Tilt	0.230	0.117	0.347
	Left Cheek	0.665	0.115	**0.780**
	Left Tilt	0.436	0.085	0.521

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.209	0.728
	Right Tilt	0.396	0.117	0.513
	Left Cheek	0.655	0.115	**0.770**
	Left Tilt	0.426	0.085	0.511

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.209	0.491
	Right Tilt	0.239	0.117	0.356
	Left Cheek	0.488	0.115	**0.603**
	Left Tilt	0.166	0.085	0.251

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.209	0.388
	Right Tilt	0.149	0.117	0.266
	Left Cheek	0.289	0.115	**0.404**
	Left Tilt	0.096	0.085	0.181

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.209	0.663
	Right Tilt	0.311	0.117	0.428
	Left Cheek	0.591	0.115	**0.706**
	Left Tilt	0.362	0.085	0.447

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.209	**0.312**
	Right Tilt	0.093	0.117	0.210
	Left Cheek	0.164	0.115	0.279
	Left Tilt	0.067	0.085	0.152

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.209	**0.855**
	Right Tilt	0.169	0.117	0.286
	Left Cheek	0.251	0.115	0.366
	Left Tilt	0.223	0.085	0.308

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Table 12-5
Simultaneous Transmission Scenario with Antenna 1, 5 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.602	1.034
	Right Tilt	0.284	0.559	0.843
	Left Cheek	0.556	0.584	**1.140**
	Left Tilt	0.331	0.577	0.908

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.602	0.748
	Right Tilt	0.118	0.559	0.677
	Left Cheek	0.255	0.584	**0.839**
	Left Tilt	0.080	0.577	0.657

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.602	0.965
	Right Tilt	0.274	0.559	0.833
	Left Cheek	0.481	0.584	**1.065**
	Left Tilt	0.299	0.577	0.876

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.602	0.790
	Right Tilt	0.143	0.559	0.702
	Left Cheek	0.328	0.584	**0.912**
	Left Tilt	0.100	0.577	0.677

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.602	1.053
	Right Tilt	0.336	0.559	0.895
	Left Cheek	0.564	0.584	**1.148**
	Left Tilt	0.369	0.577	0.946

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.602	1.063
	Right Tilt	0.350	0.559	0.909
	Left Cheek	0.596	0.584	**1.180**
	Left Tilt	0.384	0.577	0.961

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.602	0.888
	Right Tilt	0.230	0.559	0.789
	Left Cheek	0.665	0.584	**1.249**
	Left Tilt	0.436	0.577	1.013

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.602	1.121
	Right Tilt	0.396	0.559	0.955
	Left Cheek	0.655	0.584	**1.239**
	Left Tilt	0.426	0.577	1.003

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.602	0.884
	Right Tilt	0.239	0.559	0.798
	Left Cheek	0.488	0.584	**1.072**
	Left Tilt	0.166	0.577	0.743

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.602	0.781
	Right Tilt	0.149	0.559	0.708
	Left Cheek	0.289	0.584	**0.873**
	Left Tilt	0.096	0.577	0.673

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.602	1.056
	Right Tilt	0.311	0.559	0.870
	Left Cheek	0.591	0.584	**1.175**
	Left Tilt	0.362	0.577	0.939

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.602	0.705
	Right Tilt	0.093	0.559	0.652
	Left Cheek	0.164	0.584	**0.748**
	Left Tilt	0.067	0.577	0.644

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.602	**1.248**
	Right Tilt	0.169	0.559	0.728
	Left Cheek	0.251	0.584	0.835
	Left Tilt	0.223	0.577	0.800

Note: The worst case 5 GHz WIFI reported SAR for each head configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

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Table 12-6
Simultaneous Transmission Scenario with Antenna 2, 5 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.589	**1.021**
	Right Tilt	0.284	0.175	0.459
	Left Cheek	0.556	0.112	0.668
	Left Tilt	0.331	0.048	0.379

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.589	**0.735**
	Right Tilt	0.118	0.175	0.293
	Left Cheek	0.255	0.112	0.367
	Left Tilt	0.080	0.048	0.128

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.589	**0.952**
	Right Tilt	0.274	0.175	0.449
	Left Cheek	0.481	0.112	0.593
	Left Tilt	0.299	0.048	0.347

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.589	**0.777**
	Right Tilt	0.143	0.175	0.318
	Left Cheek	0.328	0.112	0.440
	Left Tilt	0.100	0.048	0.148

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.589	**1.040**
	Right Tilt	0.336	0.175	0.511
	Left Cheek	0.564	0.112	0.676
	Left Tilt	0.369	0.048	0.417

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.589	**1.050**
	Right Tilt	0.350	0.175	0.525
	Left Cheek	0.596	0.112	0.708
	Left Tilt	0.384	0.048	0.432

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.589	**0.875**
	Right Tilt	0.230	0.175	0.405
	Left Cheek	0.665	0.112	0.777
	Left Tilt	0.436	0.048	0.484

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.589	**1.108**
	Right Tilt	0.396	0.175	0.571
	Left Cheek	0.655	0.112	0.767
	Left Tilt	0.426	0.048	0.474

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.589	**0.871**
	Right Tilt	0.239	0.175	0.414
	Left Cheek	0.488	0.112	0.600
	Left Tilt	0.166	0.048	0.214

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.589	**0.768**
	Right Tilt	0.149	0.175	0.324
	Left Cheek	0.289	0.112	0.401
	Left Tilt	0.096	0.048	0.144

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.589	**1.043**
	Right Tilt	0.311	0.175	0.486
	Left Cheek	0.591	0.112	0.703
	Left Tilt	0.362	0.048	0.410

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.589	**0.692**
	Right Tilt	0.093	0.175	0.268
	Left Cheek	0.164	0.112	0.276
	Left Tilt	0.067	0.048	0.115

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.589	**1.235**
	Right Tilt	0.169	0.175	0.344
	Left Cheek	0.251	0.112	0.363
	Left Tilt	0.223	0.048	0.271

Note: The worst case 5 GHz WIFI reported SAR for each head configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

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Table 12-7
Simultaneous Transmission Scenario with MIMO 5 GHz WLAN (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.432	0.351	0.783
	Right Tilt	0.284	0.515	0.799
	Left Cheek	0.556	0.521	**1.077**
	Left Tilt	0.331	0.457	0.788

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.146	0.351	0.497
	Right Tilt	0.118	0.515	0.633
	Left Cheek	0.255	0.521	**0.776**
	Left Tilt	0.080	0.457	0.537

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.363	0.351	0.714
	Right Tilt	0.274	0.515	0.789
	Left Cheek	0.481	0.521	**1.002**
	Left Tilt	0.299	0.457	0.756

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.188	0.351	0.539
	Right Tilt	0.143	0.515	0.658
	Left Cheek	0.328	0.521	**0.849**
	Left Tilt	0.100	0.457	0.557

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.451	0.351	0.802
	Right Tilt	0.336	0.515	0.851
	Left Cheek	0.564	0.521	**1.085**
	Left Tilt	0.369	0.457	0.826

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.461	0.351	0.812
	Right Tilt	0.350	0.515	0.865
	Left Cheek	0.596	0.521	**1.117**
	Left Tilt	0.384	0.457	0.841

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.286	0.351	0.637
	Right Tilt	0.230	0.515	0.745
	Left Cheek	0.665	0.521	**1.186**
	Left Tilt	0.436	0.457	0.893

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.519	0.351	0.870
	Right Tilt	0.396	0.515	0.911
	Left Cheek	0.655	0.521	**1.176**
	Left Tilt	0.426	0.457	0.883

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.282	0.351	0.633
	Right Tilt	0.239	0.515	0.754
	Left Cheek	0.488	0.521	**1.009**
	Left Tilt	0.166	0.457	0.623

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.351	0.530
	Right Tilt	0.149	0.515	0.664
	Left Cheek	0.289	0.521	**0.810**
	Left Tilt	0.096	0.457	0.553

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.454	0.351	0.805
	Right Tilt	0.311	0.515	0.826
	Left Cheek	0.591	0.521	**1.112**
	Left Tilt	0.362	0.457	0.819

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.103	0.351	0.454
	Right Tilt	0.093	0.515	0.608
	Left Cheek	0.164	0.521	**0.685**
	Left Tilt	0.067	0.457	0.524

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.646	0.351	**0.997**
	Right Tilt	0.169	0.515	0.684
	Left Cheek	0.251	0.521	0.772
	Left Tilt	0.223	0.457	0.680

Note: The worst case 5 GHz WIFI reported SAR for each head configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

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12.4 Body-Worn Simultaneous Transmission Analysis

For SAR summations for body back at 15 mm, WLAN SAR values for 1.0 cm were used since the 1.0 cm test distance for WLAN was more conservative. "<" denotes that the 1.0 cm WLAN SAR values were used for summation purposes.

Body-worn maximum power LTE B25 SAR values at 1.5 cm were used since the maximum power SAR values at 1.5 cm are more conservative than reduced SAR values at 1.5 cm.

Table 12-8
Simultaneous Transmission Scenario with Antenna 1, 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.088	<0.689
Back Side	GSM 1900	0.280	<0.088	<0.368
Back Side	UMTS 850	0.579	<0.088	<0.667
Back Side	UMTS 1900	0.411	<0.088	<0.499
Back Side	CDMA BC10 (§90S)	0.635	<0.088	<0.723
Back Side	CDMA BC0 (§22H)	0.636	<0.088	<0.724
Back Side	PCS CDMA	0.651	<0.088	**<0.739**
Back Side	LTE Band 26	0.536	<0.088	<0.624
Back Side	LTE Band 25 (PCS)	0.478	<0.088	<0.566
Back Side	LTE Band 41	0.155	<0.088	<0.243

Table 12-9
Simultaneous Transmission Scenario with Antenna 2, 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.162	<0.763
Back Side	GSM 1900	0.280	<0.162	<0.442
Back Side	UMTS 850	0.579	<0.162	<0.741
Back Side	UMTS 1900	0.411	<0.162	<0.573
Back Side	CDMA BC10 (§90S)	0.635	<0.162	<0.797
Back Side	CDMA BC0 (§22H)	0.636	<0.162	<0.798
Back Side	PCS CDMA	0.651	<0.162	**<0.813**
Back Side	LTE Band 26	0.536	<0.162	<0.698
Back Side	LTE Band 25 (PCS)	0.478	<0.162	<0.640
Back Side	LTE Band 41	0.155	<0.162	<0.317

Table 12-10
Simultaneous Transmission Scenario with MIMO 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.068	<0.669
Back Side	GSM 1900	0.280	<0.068	<0.348
Back Side	UMTS 850	0.579	<0.068	<0.647
Back Side	UMTS 1900	0.411	<0.068	<0.479
Back Side	CDMA BC10 (§90S)	0.635	<0.068	<0.703
Back Side	CDMA BC0 (§22H)	0.636	<0.068	<0.704
Back Side	PCS CDMA	0.651	<0.068	**<0.719**
Back Side	LTE Band 26	0.536	<0.068	<0.604
Back Side	LTE Band 25 (PCS)	0.478	<0.068	<0.546
Back Side	LTE Band 41	0.155	<0.068	<0.223

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Table 12-11
Simultaneous Transmission Scenario with Antenna 1, 5 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.091	<0.692
Back Side	GSM 1900	0.280	<0.091	<0.371
Back Side	UMTS 850	0.579	<0.091	<0.670
Back Side	UMTS 1900	0.411	<0.091	<0.502
Back Side	CDMA BC10 (§90S)	0.635	<0.091	<0.726
Back Side	CDMA BC0 (§22H)	0.636	<0.091	<0.727
Back Side	PCS CDMA	0.651	<0.091	**<0.742**
Back Side	LTE Band 26	0.536	<0.091	<0.627
Back Side	LTE Band 25 (PCS)	0.478	<0.091	<0.569
Back Side	LTE Band 41	0.155	<0.091	<0.246

Note: The worst case 5 GHz WIFI reported SAR for each body-worn configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

Table 12-12
Simultaneous Transmission Scenario with Antenna 2, 5 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.339	<0.940
Back Side	GSM 1900	0.280	<0.339	<0.619
Back Side	UMTS 850	0.579	<0.339	<0.918
Back Side	UMTS 1900	0.411	<0.339	<0.750
Back Side	CDMA BC10 (§90S)	0.635	<0.339	<0.974
Back Side	CDMA BC0 (§22H)	0.636	<0.339	<0.975
Back Side	PCS CDMA	0.651	<0.339	**<0.990**
Back Side	LTE Band 26	0.536	<0.339	<0.875
Back Side	LTE Band 25 (PCS)	0.478	<0.339	<0.817
Back Side	LTE Band 41	0.155	<0.339	<0.494

Note: The worst case 5 GHz WIFI reported SAR for each body-worn configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

Table 12-13
Simultaneous Transmission Scenario with MIMO 5 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	<0.087	<0.688
Back Side	GSM 1900	0.280	<0.087	<0.367
Back Side	UMTS 850	0.579	<0.087	<0.666
Back Side	UMTS 1900	0.411	<0.087	<0.498
Back Side	CDMA BC10 (§90S)	0.635	<0.087	<0.722
Back Side	CDMA BC0 (§22H)	0.636	<0.087	<0.723
Back Side	PCS CDMA	0.651	<0.087	**<0.738**
Back Side	LTE Band 26	0.536	<0.087	<0.623
Back Side	LTE Band 25 (PCS)	0.478	<0.087	<0.565
Back Side	LTE Band 41	0.155	<0.087	<0.242

Note: The worst case 5 GHz WIFI reported SAR for each body-worn configuration was considered for simultaneous SAR exclusion via summation of standalone SAR, regardless of whether the WIFI channel has WIFI Hotspot capability, for simplicity to determine compliance. Please note that the actual simultaneous transmission SAR will not exceed the summed levels indicated.

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Table 12-14
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.601	0.139	0.740
Back Side	GSM 1900	0.280	0.139	0.419
Back Side	UMTS 850	0.579	0.139	0.718
Back Side	UMTS 1900	0.411	0.139	0.550
Back Side	CDMA BC10 (§90S)	0.635	0.139	0.774
Back Side	CDMA BC0 (§22H)	0.636	0.139	0.775
Back Side	PCS CDMA	0.651	0.139	**0.790**
Back Side	LTE Band 26	0.536	0.139	0.675
Back Side	LTE Band 25 (PCS)	0.478	0.139	0.617
Back Side	LTE Band 41	0.155	0.139	0.294

Note: Bluetooth SAR was not required to be measured per FCC KDB 447498. Estimated SAR results were used in the above table to determine simultaneous transmission SAR test exclusion.

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12.5 Hotspot SAR Simultaneous Transmission Analysis

Per FCC KDB Publication 941225 D06v01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR ("-").

Table 12-15
Antenna 1 Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.088	**1.035**
	Front	0.810	0.101	0.911
	Top	-	0.075	0.075
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.064	0.753

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.088	0.764
	Front	1.025	0.101	**1.126**
	Top	-	0.075	0.075
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.064	0.297

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.088	**0.724**
	Front	0.593	0.101	0.694
	Top	-	0.075	0.075
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.064	0.567

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.088	0.578
	Front	0.732	0.101	**0.833**
	Top	-	0.075	0.075
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.064	0.223

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.088	**0.788**
	Front	0.624	0.101	0.725
	Top	-	0.075	0.075
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.064	0.559

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.088	**0.782**
	Front	0.630	0.101	0.731
	Top	-	0.075	0.075
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.064	0.634

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.088	0.739
	Front	1.098	0.101	**1.199**
	Top	-	0.075	0.075
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.064	0.311

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.088	0.665
	Front	0.572	0.101	**0.673**
	Top	-	0.075	0.075
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.064	0.550

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.088	0.482
	Front	0.754	0.101	**0.855**
	Top	-	0.075	0.075
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.064	0.251

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.088	0.355
	Front	0.413	0.101	**0.514**
	Top	-	0.075	0.075
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.064	0.064

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Table 12-16
Antenna 2 Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.162	**1.109**
	Front	0.810	0.132	0.942
	Top	-	0.066	0.066
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.063	0.752

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.162	0.838
	Front	1.025	0.132	**1.157**
	Top	-	0.066	0.066
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.063	0.296

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.162	**0.798**
	Front	0.593	0.132	0.725
	Top	-	0.066	0.066
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.063	0.566

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.162	0.652
	Front	0.732	0.132	**0.864**
	Top	-	0.066	0.066
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.063	0.222

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.162	**0.862**
	Front	0.624	0.132	0.756
	Top	-	0.066	0.066
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.063	0.558

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.162	**0.856**
	Front	0.630	0.132	0.762
	Top	-	0.066	0.066
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.063	0.633

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.162	0.813
	Front	1.098	0.132	**1.230**
	Top	-	0.066	0.066
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.063	0.310

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.162	**0.739**
	Front	0.572	0.132	0.704
	Top	-	0.066	0.066
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.063	0.549

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.162	0.556
	Front	0.754	0.132	**0.886**
	Top	-	0.066	0.066
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.063	0.250

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.162	0.429
	Front	0.413	0.132	**0.545**
	Top	-	0.066	0.066
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.063	0.063

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Table 12-17
MIMO Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.068	**1.015**
	Front	0.810	0.036	0.846
	Top	-	0.029	0.029
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.037	0.726

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.068	0.744
	Front	1.025	0.036	**1.061**
	Top	-	0.029	0.029
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.037	0.270

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.068	**0.704**
	Front	0.593	0.036	0.629
	Top	-	0.029	0.029
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.037	0.540

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.068	0.558
	Front	0.732	0.036	**0.768**
	Top	-	0.029	0.029
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.037	0.196

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.068	**0.768**
	Front	0.624	0.036	0.660
	Top	-	0.029	0.029
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.037	0.532

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.068	**0.762**
	Front	0.630	0.036	0.666
	Top	-	0.029	0.029
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.037	0.607

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.068	0.719
	Front	1.098	0.036	**1.134**
	Top	-	0.029	0.029
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.037	0.284

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.068	**0.645**
	Front	0.572	0.036	0.608
	Top	-	0.029	0.029
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.037	0.523

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.068	0.462
	Front	0.754	0.036	**0.790**
	Top	-	0.029	0.029
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.037	0.224

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.068	0.335
	Front	0.413	0.036	**0.449**
	Top	-	0.029	0.029
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.037	0.037

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Table 12-18
Antenna 1 Simultaneous Transmission Scenario (5.8 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.091	**1.038**
	Front	0.810	0.027	0.837
	Top	-	0.038	0.038
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.045	0.734

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.091	0.767
	Front	1.025	0.027	**1.052**
	Top	-	0.038	0.038
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.045	0.278

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.091	**0.727**
	Front	0.593	0.027	0.620
	Top	-	0.038	0.038
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.045	0.548

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.091	0.581
	Front	0.732	0.027	**0.759**
	Top	-	0.038	0.038
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.045	0.204

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.091	**0.791**
	Front	0.624	0.027	0.651
	Top	-	0.038	0.038
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.045	0.540

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.091	**0.785**
	Front	0.630	0.027	0.657
	Top	-	0.038	0.038
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.045	0.615

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.091	0.742
	Front	1.098	0.027	**1.125**
	Top	-	0.038	0.038
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.045	0.292

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.091	**0.668**
	Front	0.572	0.027	0.599
	Top	-	0.038	0.038
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.045	0.531

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.091	0.485
	Front	0.754	0.027	**0.781**
	Top	-	0.038	0.038
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.045	0.232

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.091	0.358
	Front	0.413	0.027	**0.440**
	Top	-	0.038	0.038
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.045	0.045

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Table 12-19
Antenna 2 Simultaneous Transmission Scenario (5.8 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.339	**1.286**
	Front	0.810	0.202	1.012
	Top	-	0.045	0.045
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.552	1.241

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.339	1.015
	Front	1.025	0.202	**1.227**
	Top	-	0.045	0.045
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.552	0.785

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.339	0.975
	Front	0.593	0.202	0.795
	Top	-	0.045	0.045
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.552	**1.055**

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.339	0.829
	Front	0.732	0.202	**0.934**
	Top	-	0.045	0.045
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.552	0.711

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.339	1.039
	Front	0.624	0.202	0.826
	Top	-	0.045	0.045
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.552	**1.047**

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.339	1.033
	Front	0.630	0.202	0.832
	Top	-	0.045	0.045
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.552	**1.122**

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.339	0.990
	Front	1.098	0.202	**1.300**
	Top	-	0.045	0.045
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.552	0.799

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.339	0.916
	Front	0.572	0.202	0.774
	Top	-	0.045	0.045
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.552	**1.038**

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.339	0.733
	Front	0.754	0.202	**0.956**
	Top	-	0.045	0.045
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.552	0.739

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.339	0.606
	Front	0.413	0.202	**0.615**
	Top	-	0.045	0.045
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.552	0.552

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Table 12-20
MIMO Simultaneous Transmission Scenario (5.8 GHz Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.947	0.056	**1.003**
	Front	0.810	0.034	0.844
	Top	-	0.029	0.029
	Bottom	0.346	-	0.346
	Right	-	-	0.000
	Left	0.689	0.115	0.804

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.676	0.056	0.732
	Front	1.025	0.034	**1.059**
	Top	-	0.029	0.029
	Bottom	0.778	-	0.778
	Right	-	-	0.000
	Left	0.233	0.115	0.348

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.636	0.056	**0.692**
	Front	0.593	0.034	0.627
	Top	-	0.029	0.029
	Bottom	0.270	-	0.270
	Right	-	-	0.000
	Left	0.503	0.115	0.618

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.490	0.056	0.546
	Front	0.732	0.034	**0.766**
	Top	-	0.029	0.029
	Bottom	0.533	-	0.533
	Right	-	-	0.000
	Left	0.159	0.115	0.274

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.700	0.056	**0.756**
	Front	0.624	0.034	0.658
	Top	-	0.029	0.029
	Bottom	0.219	-	0.219
	Right	-	-	0.000
	Left	0.495	0.115	0.610

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.694	0.056	**0.750**
	Front	0.630	0.034	0.664
	Top	-	0.029	0.029
	Bottom	0.315	-	0.315
	Right	-	-	0.000
	Left	0.570	0.115	0.685

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.651	0.056	0.707
	Front	1.098	0.034	**1.132**
	Top	-	0.029	0.029
	Bottom	0.699	-	0.699
	Right	-	-	0.000
	Left	0.247	0.115	0.362

Simult Tx	Configuration	LTE Band 26 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.577	0.056	**0.633**
	Front	0.572	0.034	0.606
	Top	-	0.029	0.029
	Bottom	0.272	-	0.272
	Right	-	-	0.000
	Left	0.486	0.115	0.601

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.394	0.056	0.450
	Front	0.754	0.034	**0.788**
	Top	-	0.029	0.029
	Bottom	0.477	-	0.477
	Right	-	-	0.000
	Left	0.187	0.115	0.302

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.267	0.056	0.323
	Front	0.413	0.034	**0.447**
	Top	-	0.029	0.029
	Bottom	0.169	-	0.169
	Right	0.322	-	0.322
	Left	-	0.115	0.115

12.6 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 D01v05 and IEEE 1528-2013 Section 6.3.4.1.2.

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

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

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

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	# of Time Slots	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
835	824.20	128	GSM 850	GPRS	4	back	10 mm	0.852	0.796	1.07	N/A	N/A	N/A	N/A
1900	1880.00	600	PCS CDMA	EVDO Rev. 0	N/A	front	10 mm	0.981	0.917	1.07	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram							

13.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for all frequency bands. Therefore, per KDB Publication 865664 D01v01, the extended measurement uncertainty analysis per IEEE 1528-2003 was not required.

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14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	CBT	N/A	CBT	3051A00187
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/15/2014	Annual	4/15/2015	MY45470194
Agilent	8753E	(30kHz-6GHz) Network Analyzer	7/23/2013	Annual	7/23/2014	US37390350
Agilent	8648D	(9kHz-4GHz) Signal Generator	4/15/2014	Annual	4/15/2015	3629U00687
Agilent	E4438C	ESG Vector Signal Generator	3/31/2014	Annual	3/31/2015	MY42082659
Agilent	E4438C	ESG Vector Signal Generator	4/1/2014	Annual	4/1/2015	MY47270002
Agilent	N9020A	MXA Signal Analyzer	10/29/2013	Annual	10/29/2014	US46470561
Agilent	N5182A	MXG Vector Signal Generator	4/15/2014	Annual	4/15/2015	MY47420800
Agilent	8753ES	S-Parameter Network Analyzer	10/29/2013	Annual	10/29/2014	US39170122
Agilent	E5515C	Wireless Communications Test Set	10/18/2012	Biennial	10/18/2014	GB43193563
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433977
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433978
Anritsu	ML2495A	Power Meter	10/31/2013	Annual	10/31/2014	1039008
Anritsu	ML2469A	Power Meter	3/14/2014	Annual	3/14/2015	1306009
Anritsu	MA2411B	Pulse Power Sensor	11/14/2013	Annual	11/14/2014	1126066
Anritsu	MA2411B	Pulse Power Sensor	2/3/2014	Annual	2/3/2015	1339018
Anritsu	MT8820C	Radio Communication Analyzer	6/28/2013	Annual	6/28/2014	6201240328
Anritsu	MA24106A	USB Power Sensor	12/18/2013	Annual	12/18/2014	1344555
Anritsu	MA24106A	USB Power Sensor	12/18/2013	Annual	12/18/2014	1344556
COMTECH	AR85729-5/5759B	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M1S5A00-009
Fisher Scientific	15-077-960	Digital Thermometer	11/6/2012	Biennial	11/6/2014	122640025
Fisher Scientific	S407993	Long Stem Thermometer	11/4/2013	Biennial	11/4/2015	130671821
Fisher Scientific	S97611	Thermometer	4/12/2013	Biennial	4/12/2015	130219303
Gigatronics	80701A	(0.05-18GHz) Power Sensor	10/30/2013	Annual	10/30/2014	1833460
Gigatronics	8651A	Universal Power Meter	10/30/2013	Annual	10/30/2014	8650319
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mitutoyo	CD-6"CSX	Digital Caliper	5/8/2014	Biennial	5/8/2016	13264162
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	6/6/2014	Annual	6/6/2015	109892
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	10/4/2013	Annual	10/4/2014	108798
Seekonk	NC-100	Torque Wrench	3/18/2014	Biennial	3/18/2016	N/A
Seekonk	NC-100	Torque Wrench 5/16", 8" lbs	3/18/2014	Biennial	3/18/2016	N/A
SPEAG	D1900V2	1900 MHz SAR Dipole	7/22/2013	Annual	7/22/2014	5d149
SPEAG	D2450V2	2450 MHz SAR Dipole	8/23/2013	Annual	8/23/2014	719
SPEAG	D2450V2	2450 MHz SAR Dipole	1/21/2014	Annual	1/21/2015	797
SPEAG	D2600V2	2600 MHz SAR Dipole	4/8/2014	Annual	4/8/2015	1004
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/23/2013	Annual	9/23/2014	1007
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/27/2014	Annual	1/27/2015	1057
SPEAG	D835V2	835 MHz SAR Dipole	4/7/2014	Annual	4/7/2015	4d119
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/21/2013	Annual	8/21/2014	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/19/2013	Annual	11/19/2014	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/19/2013	Annual	11/19/2014	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/12/2013	Annual	12/12/2014	649
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/26/2014	Annual	2/26/2015	665
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/13/2013	Annual	11/13/2014	1091
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	8/18/2013	Annual	8/18/2014	1008
SPEAG	ES3DV2	SAR Probe	8/22/2013	Annual	8/22/2014	3022
SPEAG	EX3DV4	SAR Probe	10/23/2013	Annual	10/23/2014	3914
SPEAG	ES3DV3	SAR Probe	11/22/2013	Annual	11/22/2014	3333
SPEAG	EX3DV4	SAR Probe	12/18/2013	Annual	12/18/2014	3920
SPEAG	ES3DV3	SAR Probe	2/25/2014	Annual	2/25/2015	3258
Tektronix	RSA6114A	Real Time Spectrum Analyzer	4/16/2014	Annual	4/16/2015	B010177
VWR	36934-158	Wall-Mounted Thermometer	8/8/2013	Biennial	8/8/2015	130477877

Note:

1. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. All calibrated equipments are used within their calibration period.

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15 MEASUREMENT UNCERTAINTIES

Applicable for frequencies less than 3000 MHz.

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**IEEE 1528 Sec.**	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System									
Probe Calibration	E.2.1	6.0	N	1	1.0	1.0	6.0	6.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	1.0	1.0	1.3	1.3	∞
Boundary Effect	E.2.3	0.4	N	1	1.0	1.0	0.4	0.4	∞
Linearity	E.2.4	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	E.2.5	5.1	N	1	1.0	1.0	5.1	5.1	∞
Readout Electronics	E.2.6	1.0	N	1	1.0	1.0	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	E.6.3	2.9	R	1.73	1.0	1.0	1.7	1.7	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1.0	1.0	0.6	0.6	∞
Test Sample Related									
Test Sample Positioning	E.4.2	6.0	N	1	1.0	1.0	6.0	6.0	287
Device Holder Uncertainty	E.4.1	3.32	R	1.73	1.0	1.0	1.9	1.9	∞
Output Power Variation - SAR drift measurement	6.6.2	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	E.3.3	3.8	N	1	0.64	0.43	2.4	1.6	6
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Liquid Permittivity - measurement uncertainty	E.3.3	4.5	N	1	0.60	0.49	2.7	2.2	6
Combined Standard Uncertainty (k=1)			RSS				12.1	11.7	299
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.2	23.5	

The above measurement uncertainties are according to IEEE Std. 1528-2003

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Applicable for frequencies up to 6 GHz.

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**IEEE 1528 Sec.**	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System									
Probe Calibration	E.2.1	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	1.0	1.0	1.3	1.3	∞
Boundary Effect	E.2.3	0.4	N	1	1.0	1.0	0.4	0.4	∞
Linearity	E.2.4	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	E.2.5	5.1	N	1	1.0	1.0	5.1	5.1	∞
Readout Electronics	E.2.6	1.0	N	1	1.0	1.0	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	E.6.3	2.9	R	1.73	1.0	1.0	1.7	1.7	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1.0	1.0	0.6	0.6	∞
Test Sample Related									
Test Sample Positioning	E.4.2	6.0	N	1	1.0	1.0	6.0	6.0	287
Device Holder Uncertainty	E.4.1	3.32	R	1.73	1.0	1.0	1.9	1.9	∞
Output Power Variation - SAR drift measurement	6.6.2	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	E.3.3	3.8	N	1	0.64	0.43	2.4	1.6	6
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Liquid Permittivity - measurement uncertainty	E.3.3	4.5	N	1	0.60	0.49	2.7	2.2	6
Combined Standard Uncertainty (k=1)			RSS				12.4	12.0	299
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.7	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2003

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16 CONCLUSION

16.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Industry Canada, with respect to all parameters subject to this test. 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.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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APPENDIX A: SAR TEST DATA

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PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

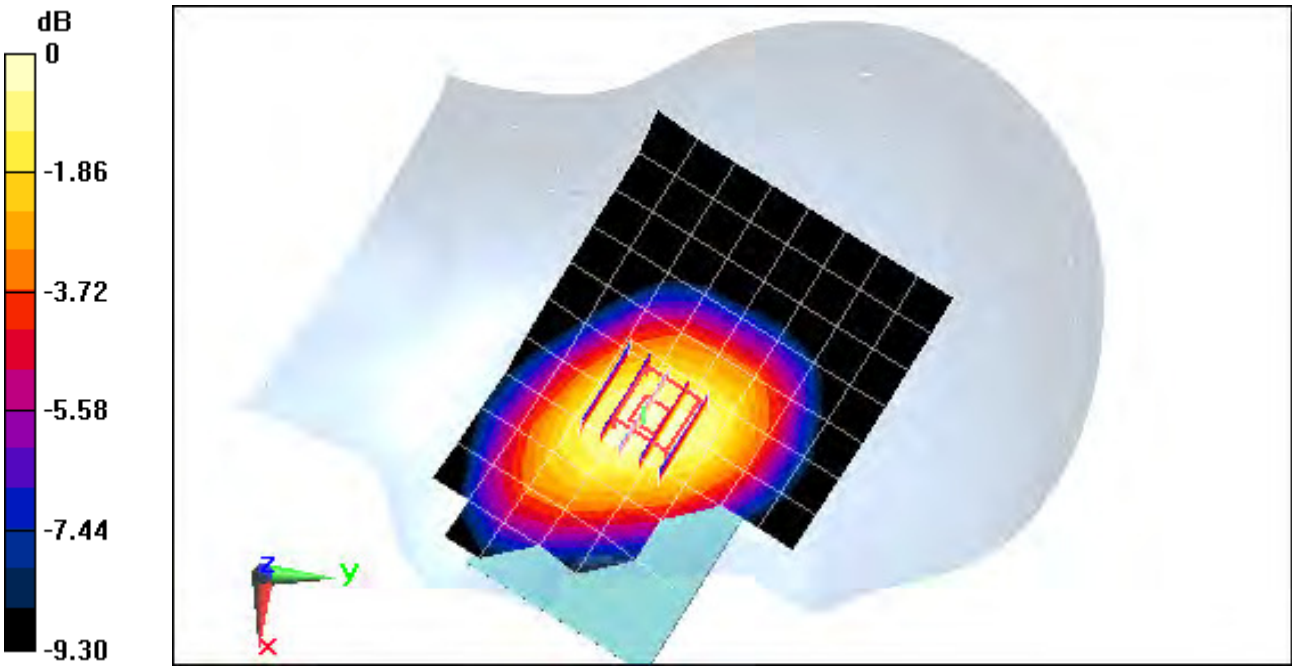
Communication System: UID 0, GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.944 S/m; ε_r = 42.678; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GSM 850, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.821 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.622 W/kg
SAR(1 g) = 0.492 W/kg



0 dB = 0.513 W/kg = -2.90 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

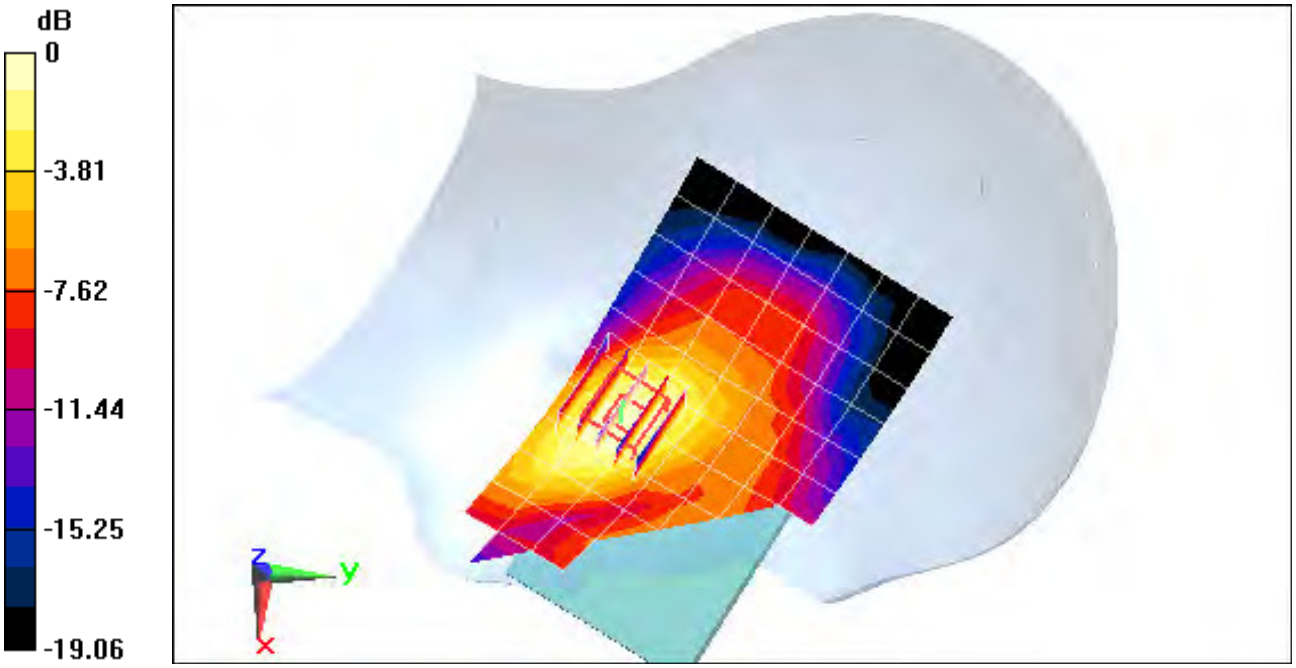
Communication System: UID 0, GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.4 S/m; ε_r = 39.752; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-27-2014; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV2 - SN3022; ConvF(5.03, 5.03, 5.03); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GSM 1900, Left Head, Cheek, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.869 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.346 W/kg
SAR(1 g) = 0.228 W/kg



0 dB = 0.249 W/kg = -6.04 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

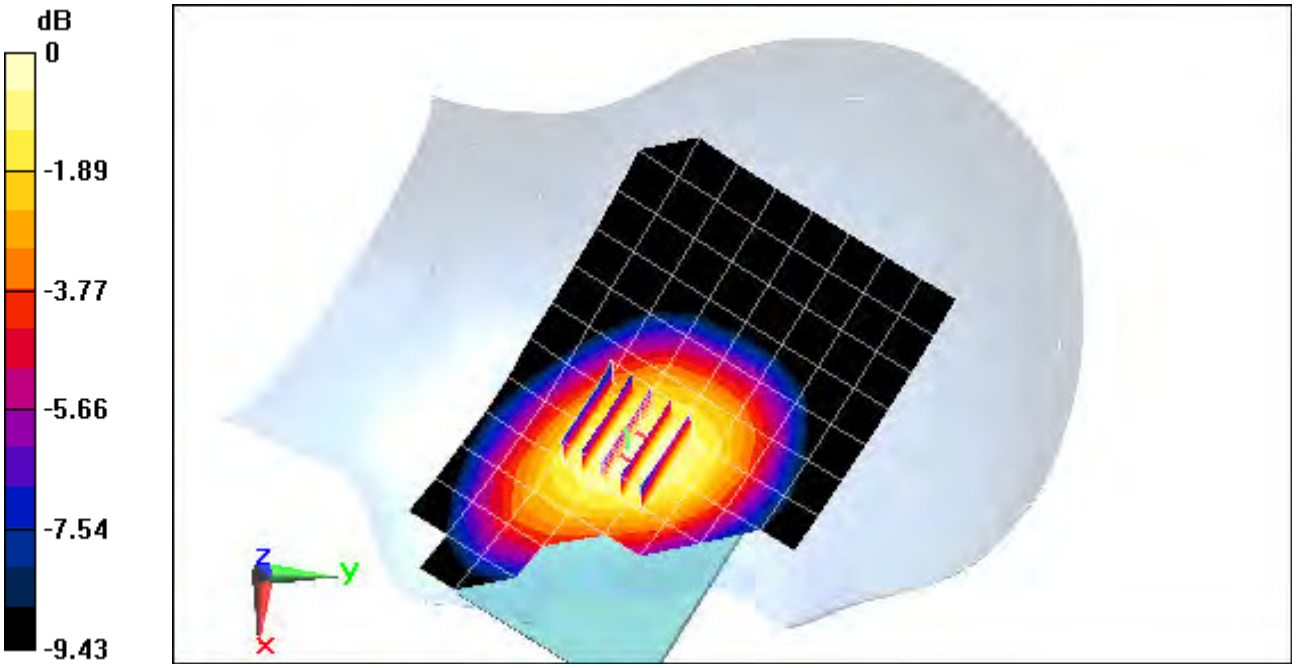
Communication System: UID 0, UMTS; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.944 S/m; ε_r = 42.678; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 850, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.995 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.566 W/kg
SAR(1 g) = 0.444 W/kg



0 dB = 0.467 W/kg = -3.31 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

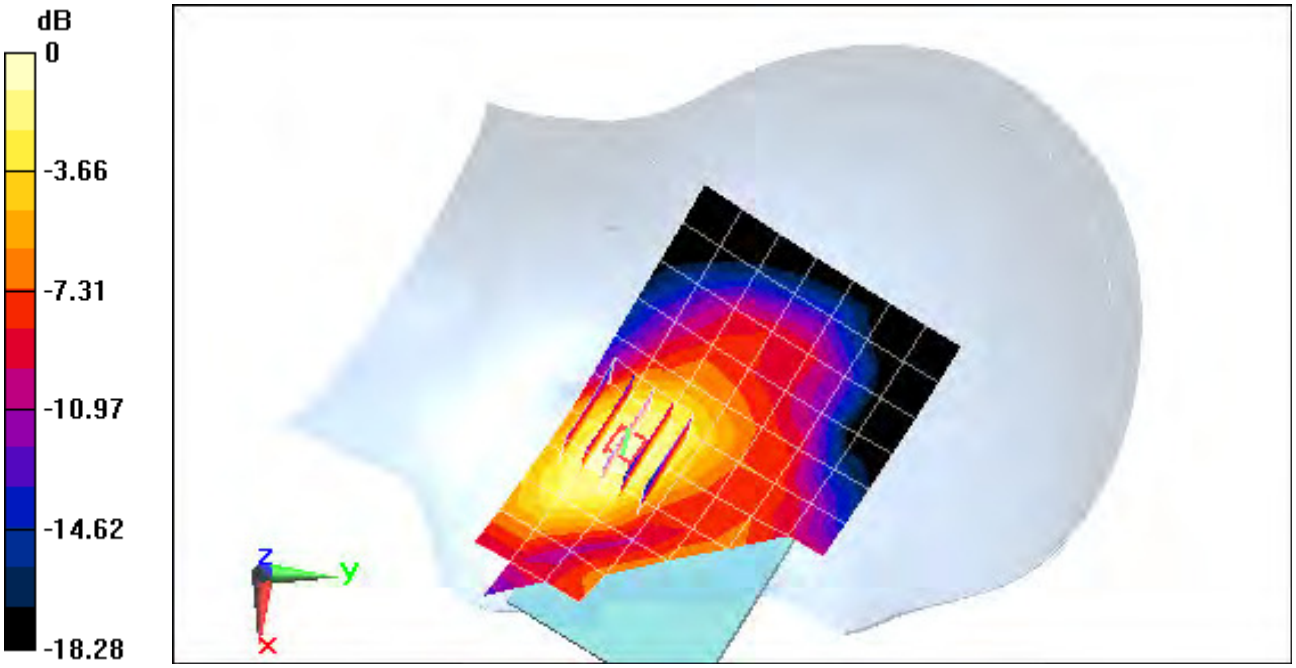
Communication System: UID 0, UMTS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.4 S/m; ε_r = 39.752; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-27-2014; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV2 - SN3022; ConvF(5.03, 5.03, 5.03); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 1900, Left Head, Cheek, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.158 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.291 W/kg



0 dB = 0.319 W/kg = -4.96 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

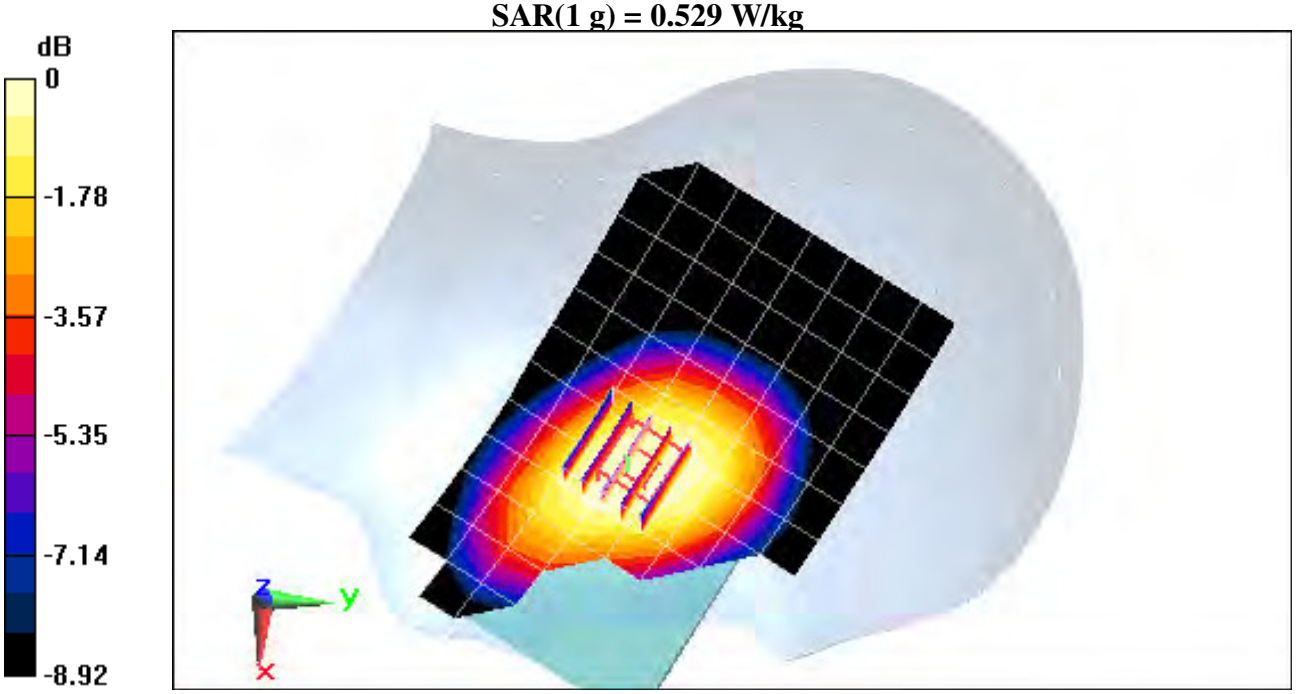
Communication System: UID 0, CDMA; Frequency: 820.1 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.927 S/m; ε_r = 42.882; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell EVDO Rev.A (§90S), Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.014 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.659 W/kg
SAR(1 g) = 0.529 W/kg



0 dB = 0.552 W/kg = -2.58 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

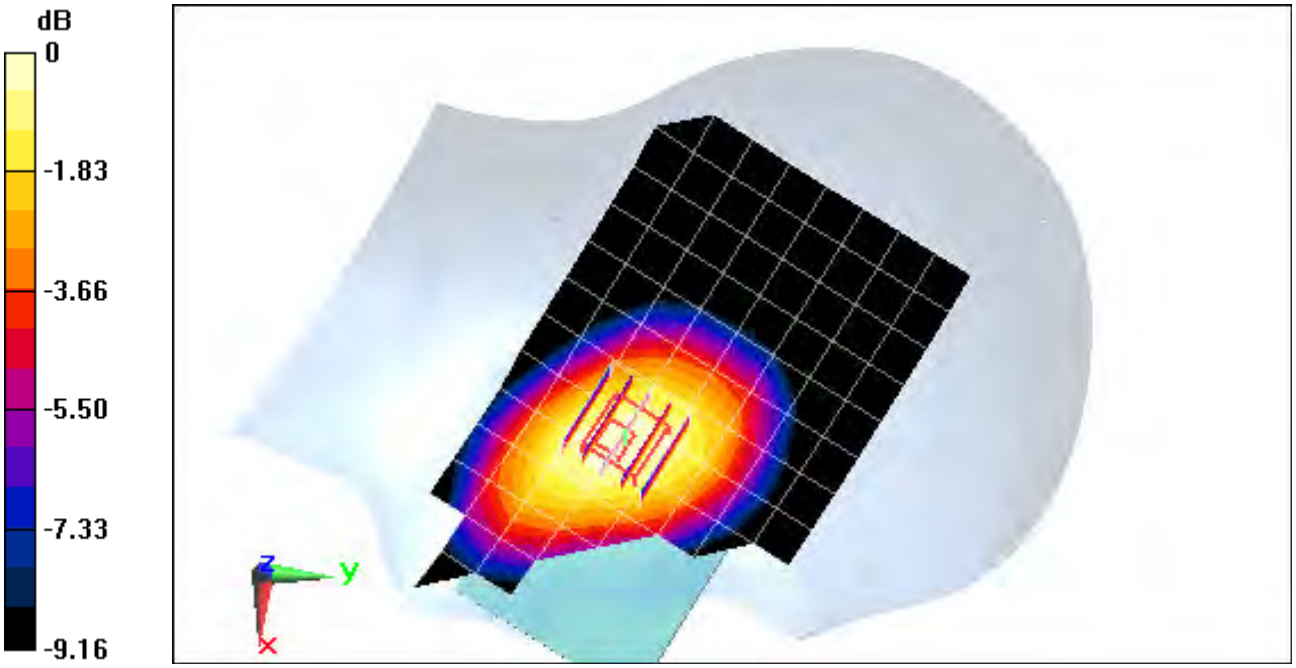
Communication System: UID 0, CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f= 836.52 MHz; σ = 0.944 S/m; ε_r = 42.679; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell. CDMA, (§22H), Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.469 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.770 W/kg
SAR(1 g) = 0.601 W/kg



0 dB = 0.628 W/kg = -2.02 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT1

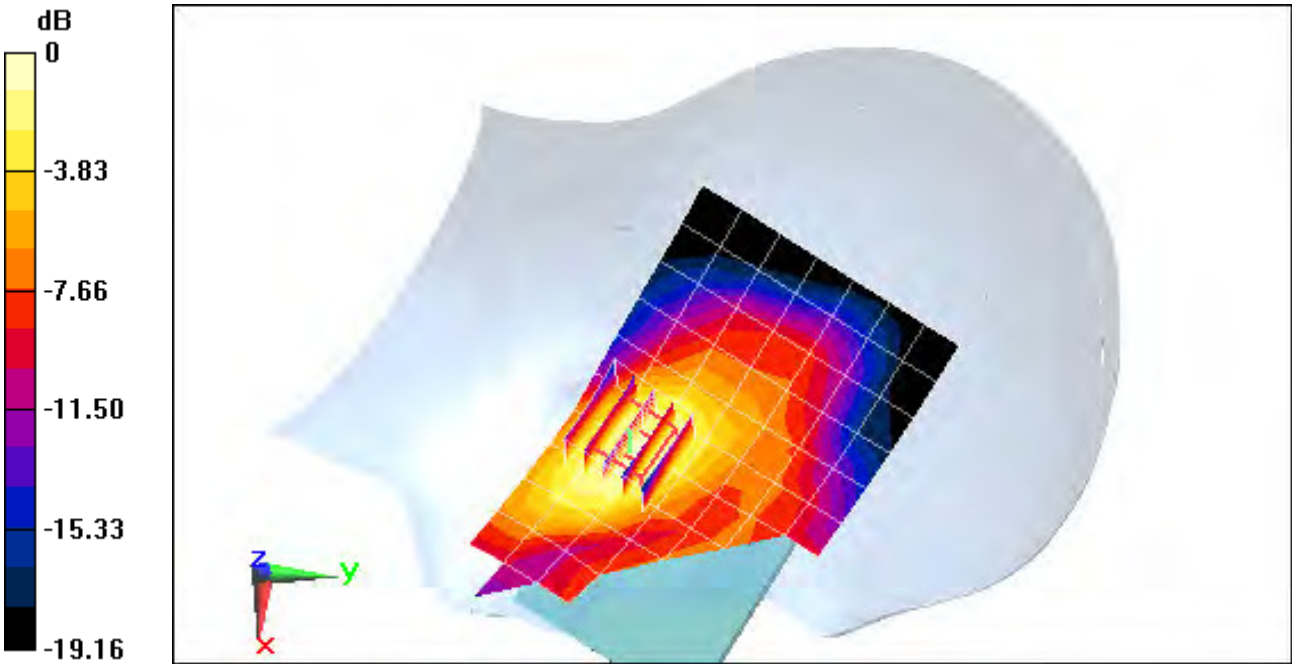
Communication System: UID 0, CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.4 S/m; ε_r = 39.752; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-27-2014; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV2 - SN3022; ConvF(5.03, 5.03, 5.03); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: PCS CDMA, Left Head, Cheek, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.025 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.428 W/kg



0 dB = 0.467 W/kg = -3.31 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT4

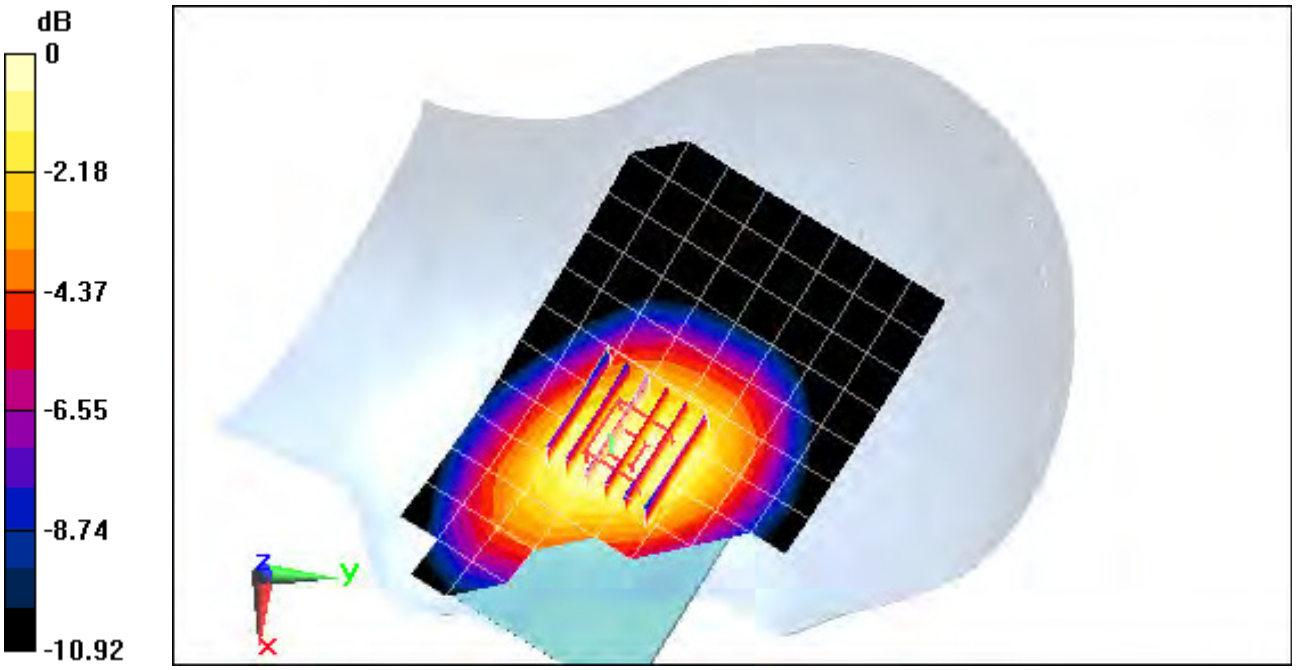
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.939 S/m; ε_r = 42.741; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 26, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.636 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.724 W/kg
SAR(1 g) = 0.566 W/kg



0 dB = 0.590 W/kg = -2.29 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT4

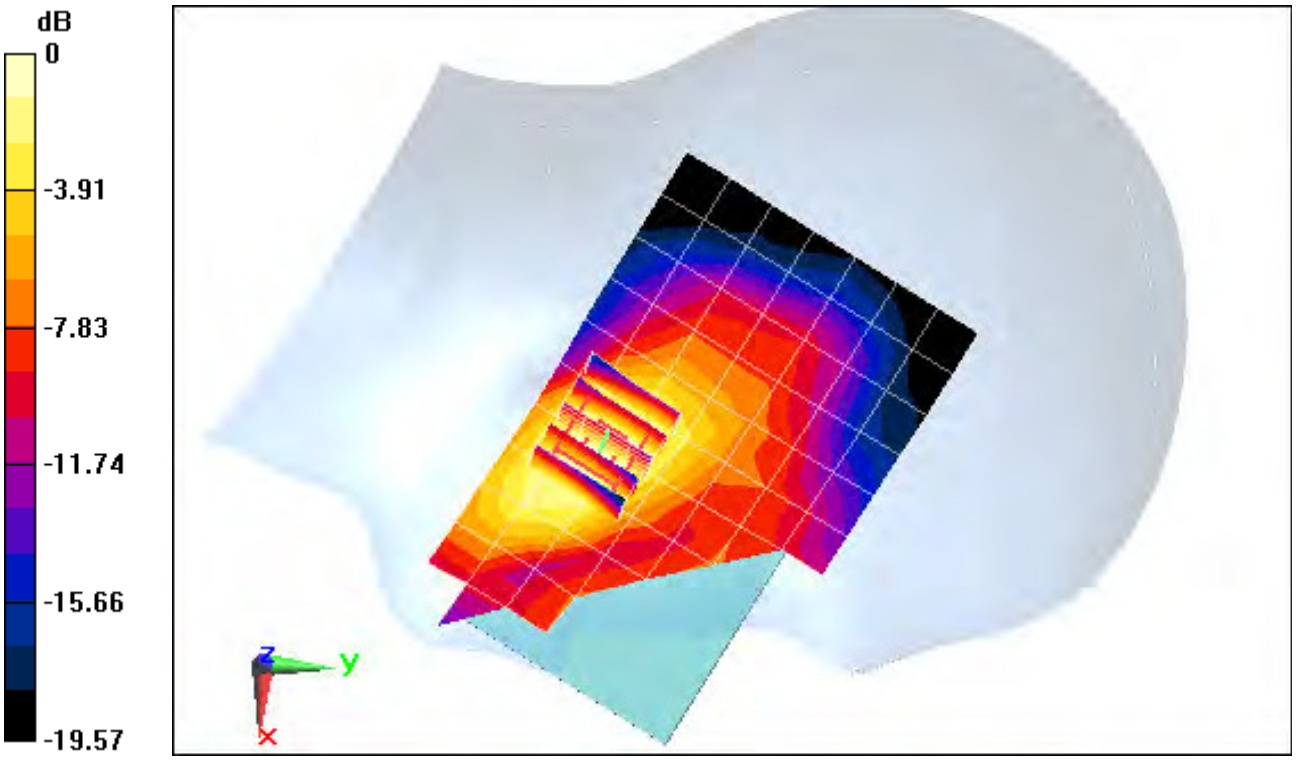
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.402 S/m; ε_r = 39.742; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05-27-2014; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV2 - SN3022; ConvF(5.03, 5.03, 5.03); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 25 (PCS), Left Head, Cheek, Mid.ch,
20MHz Bandwidth QPSK, 1 RB, 0 RB Offset

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.257 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.643 W/kg
SAR(1 g) = 0.415 W/kg



0 dB = 0.450 W/kg = -3.47 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT3

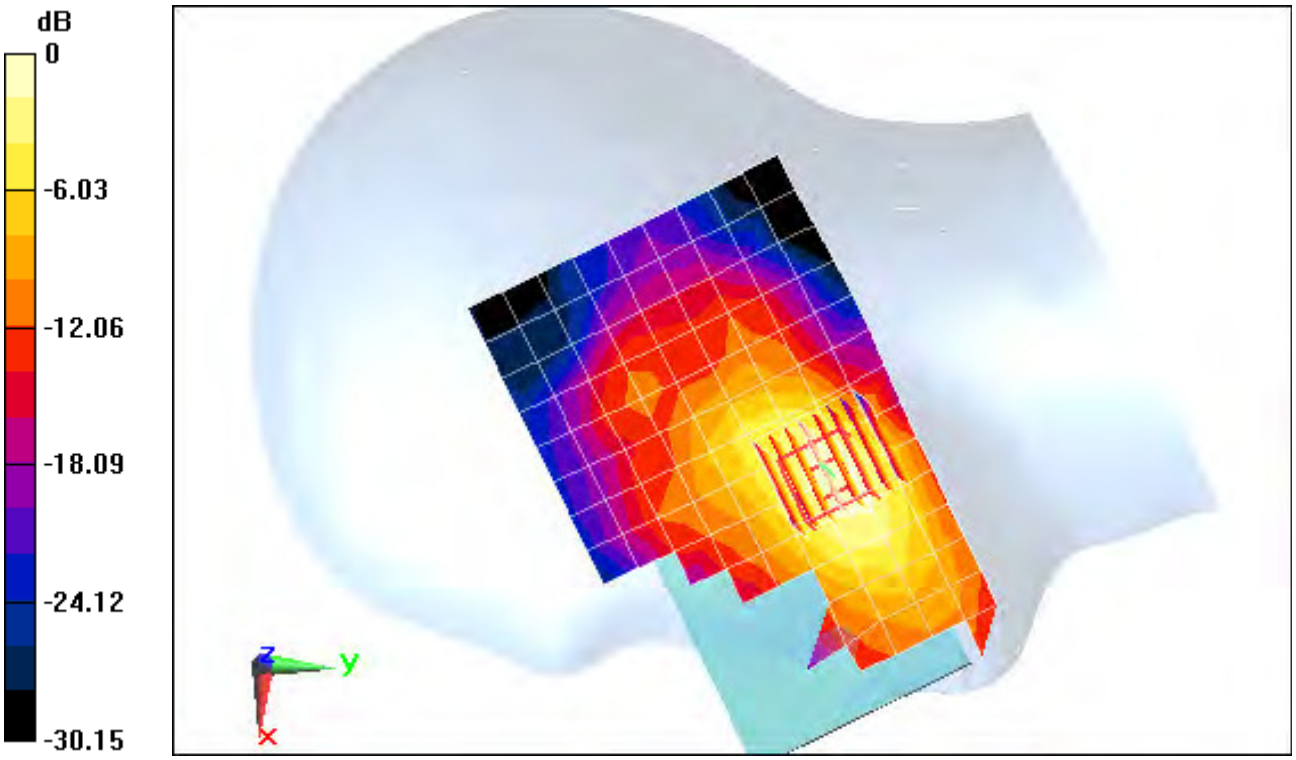
Communication System: UID 0, LTE Band 41; Frequency: 2506 MHz;Duty Cycle: 1:1.58
Medium: 2450 Head Medium parameters used (interpolated):
f = 2506 MHz; σ = 1.798 S/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 06-02-2014; Ambient Temp: 23.9°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3333; ConvF(4.42, 4.42, 4.42); Calibrated: 11/22/2013;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 11/19/2013
Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1797
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 41, Right Head, Cheek, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.50 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.600 W/kg



0 dB = 0.742 W/kg = -1.30 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT11

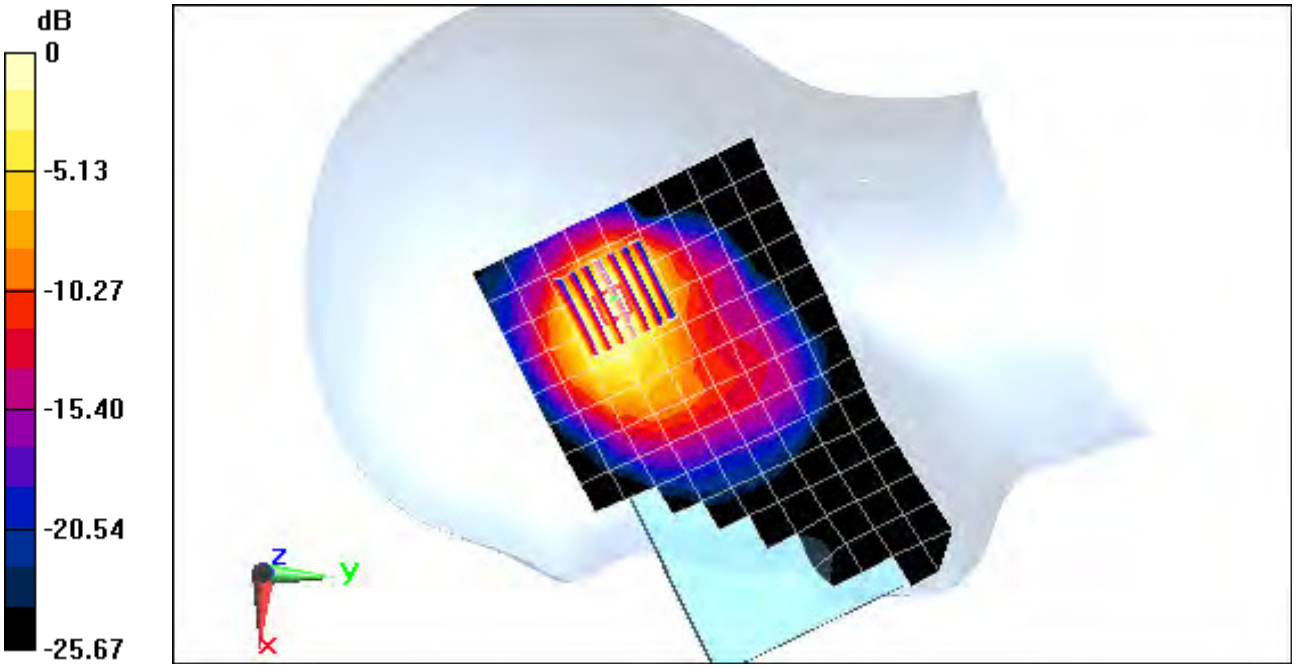
Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.74 S/m; ε_r = 39.888; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 06-05-2014; Ambient Temp: 23.9°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3333; ConvF(4.42, 4.42, 4.42); Calibrated: 11/22/2013;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 11/19/2013
Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1797
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11b, Right Head, Cheek, Ch 01, 1 Mbps, Antenna 1

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.896 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.803 W/kg
SAR(1 g) = 0.414 W/kg



0 dB = 0.532 W/kg = -2.74 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT11

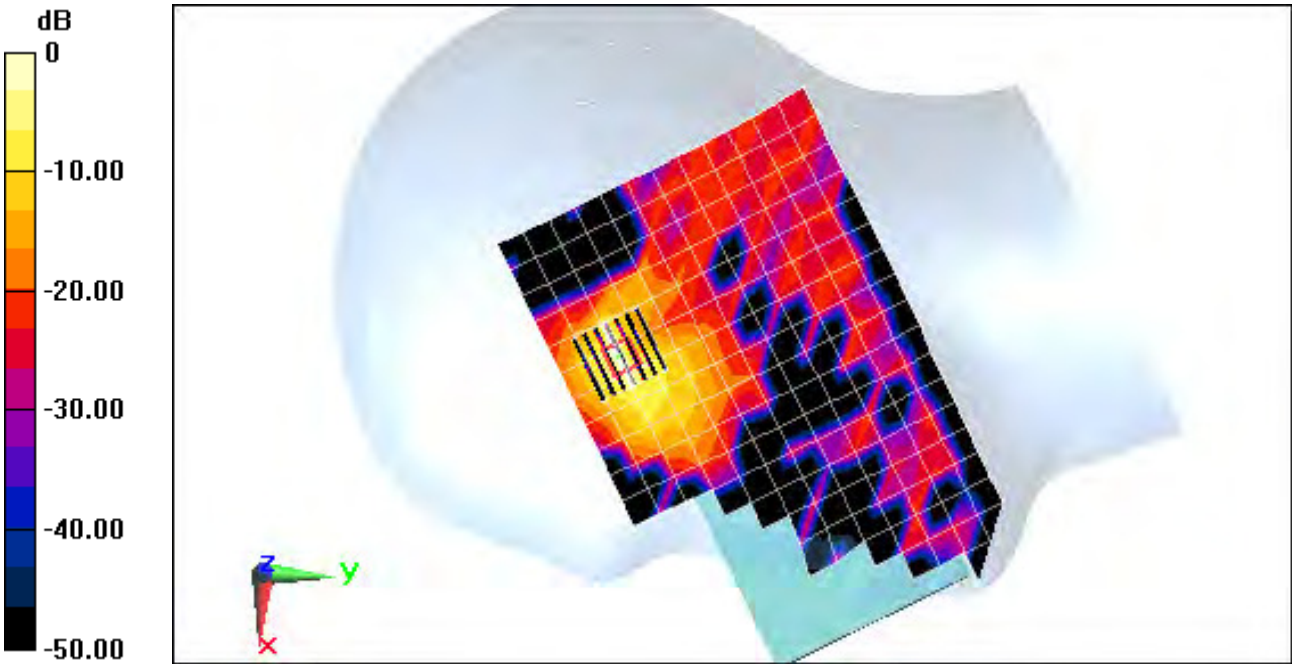
Communication System: UID 0, IEEE 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5825 MHz; σ = 5.112 S/m; ε_r = 34.428; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 06-02-2014; Ambient Temp: 23.0°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3914; ConvF(4.52, 4.52, 4.52); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11a, 5.8 GHz, Right Head, Cheek, Ch 165, 6 Mbps, Antenna 2

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 10.648 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.64 W/kg
SAR(1 g) = 0.480 W/kg



0 dB = 1.38 W/kg = 1.40 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 6PCT2

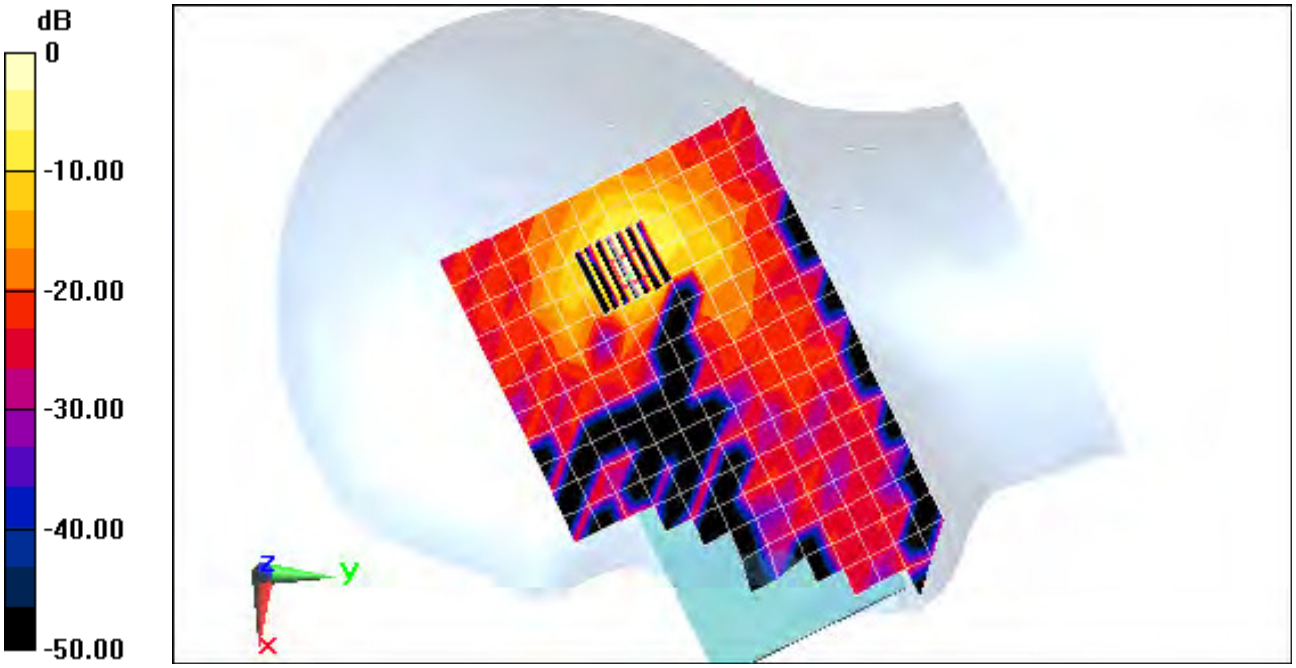
Communication System: UID 0, IEEE 802.11a; Frequency: 5320 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5320 MHz; σ = 4.653 S/m; ε_r = 36.097; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 06-05-2014; Ambient Temp: 24.4°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN3914; ConvF(4.82, 4.82, 4.82); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11a, 5.3 GHz, Right Head, Cheek, Ch 64, 6 Mbps, Antenna 1

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 12.244 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.51 W/kg
SAR(1 g) = 0.577 W/kg



0 dB = 1.49 W/kg = 1.73 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

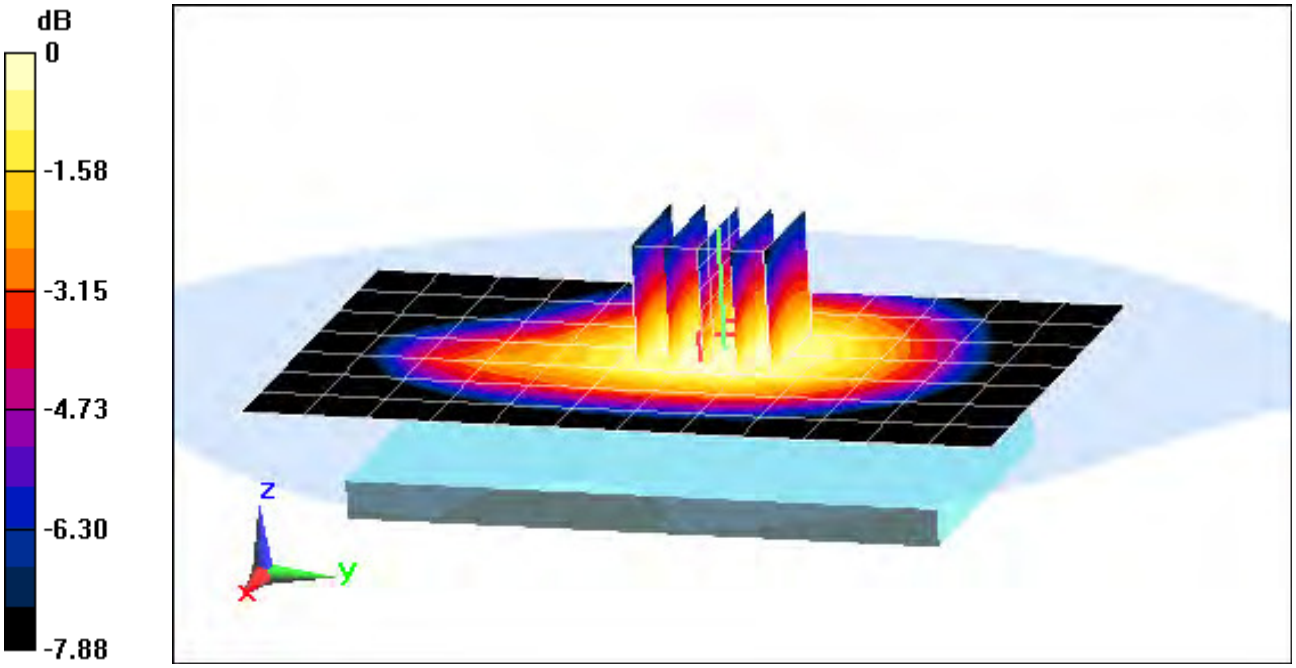
Communication System: UID 0, GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 1.007 S/m; ε_r = 54.004; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GSM 850, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.795 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.658 W/kg
SAR(1 g) = 0.532 W/kg



0 dB = 0.559 W/kg = -2.53 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

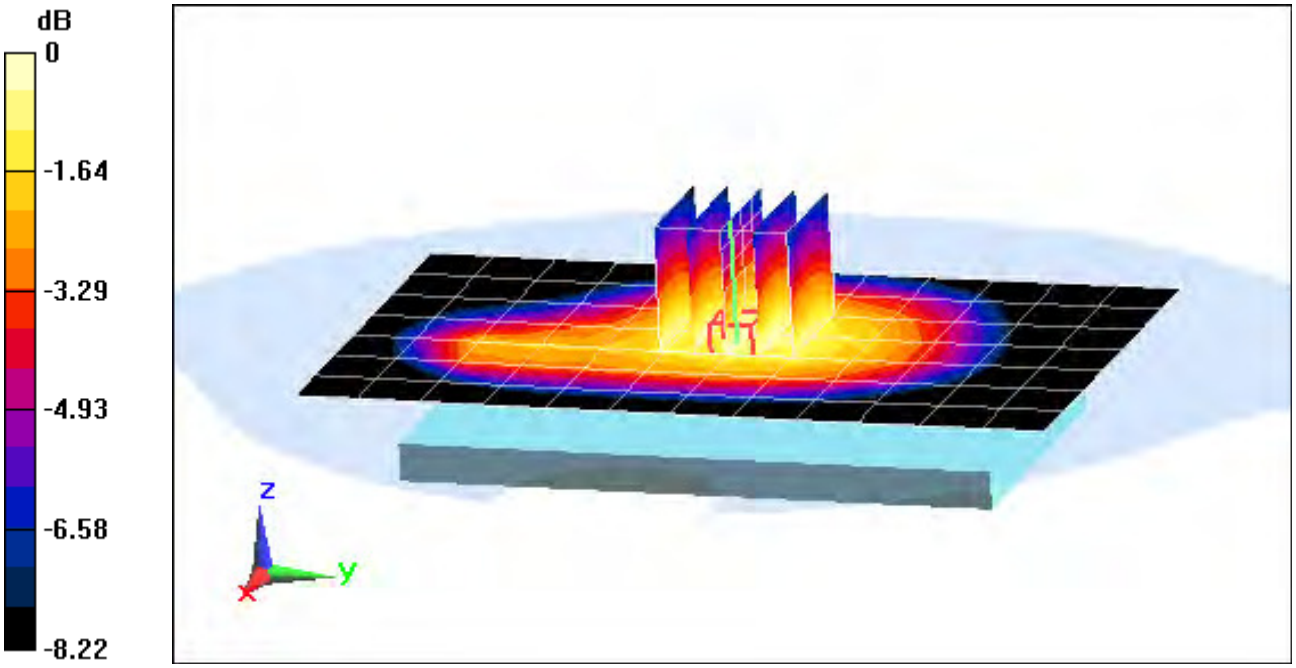
Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 824.2 MHz;Duty Cycle: 1:2.076
Medium: 835 Body Medium parameters used (interpolated):
f = 824.2 MHz; σ = 0.996 S/m; ε_r = 54.13; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GPRS 850, Body SAR, Back side, Low.ch, 4 Tx Slots

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.121 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.852 W/kg



0 dB = 0.895 W/kg = -0.48 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

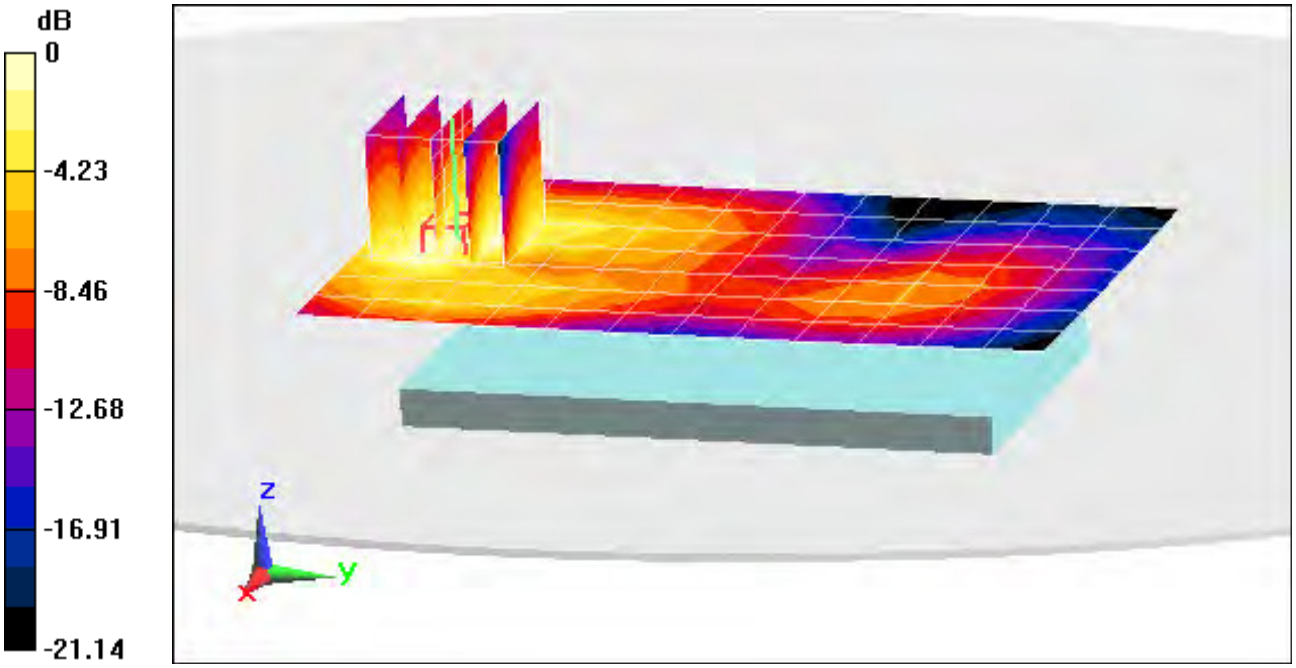
Communication System: UID 0, GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.483 S/m; ε_r = 52.709; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GSM 1900, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.835 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.405 W/kg
SAR(1 g) = 0.251 W/kg



0 dB = 0.272 W/kg = -5.65 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

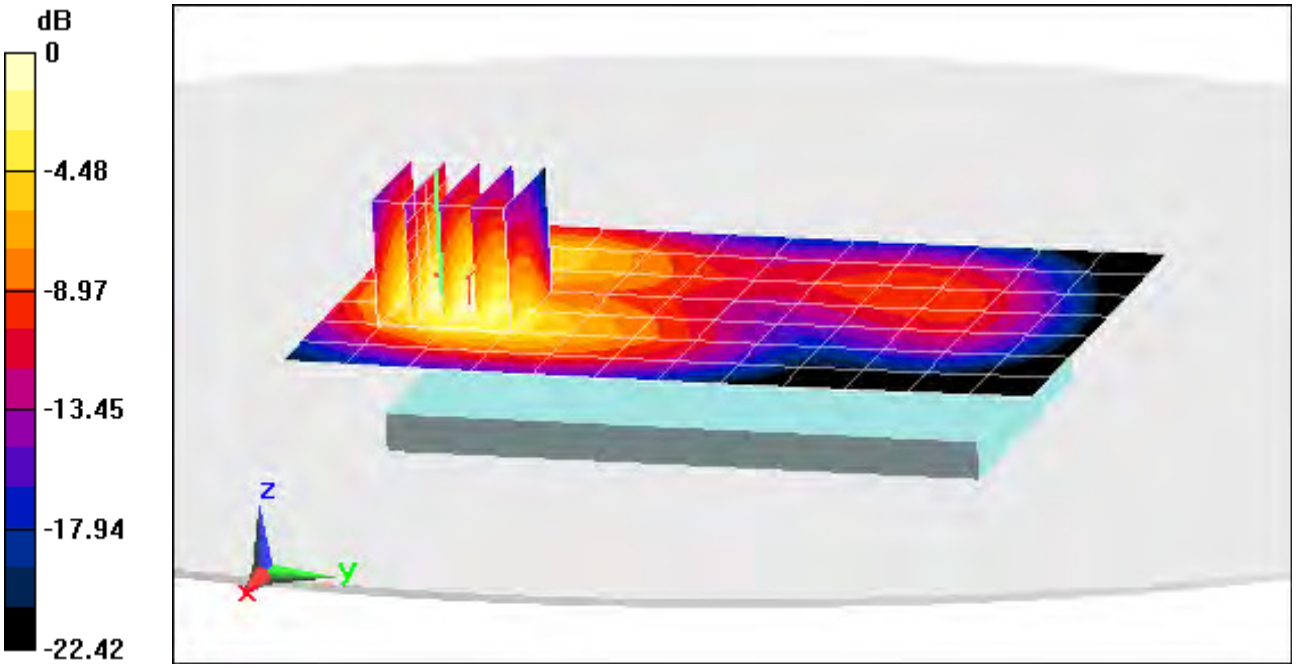
Communication System: UID 0, GSM GPRS; 2 Tx slots, Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium: 1900 Body Medium parameters used:
f = 1910 MHz; σ = 1.527 S/m; ε_r = 52.596; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: GPRS 1900, Body SAR, Front side, High.ch, 2 Tx Slots

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.599 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.953 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

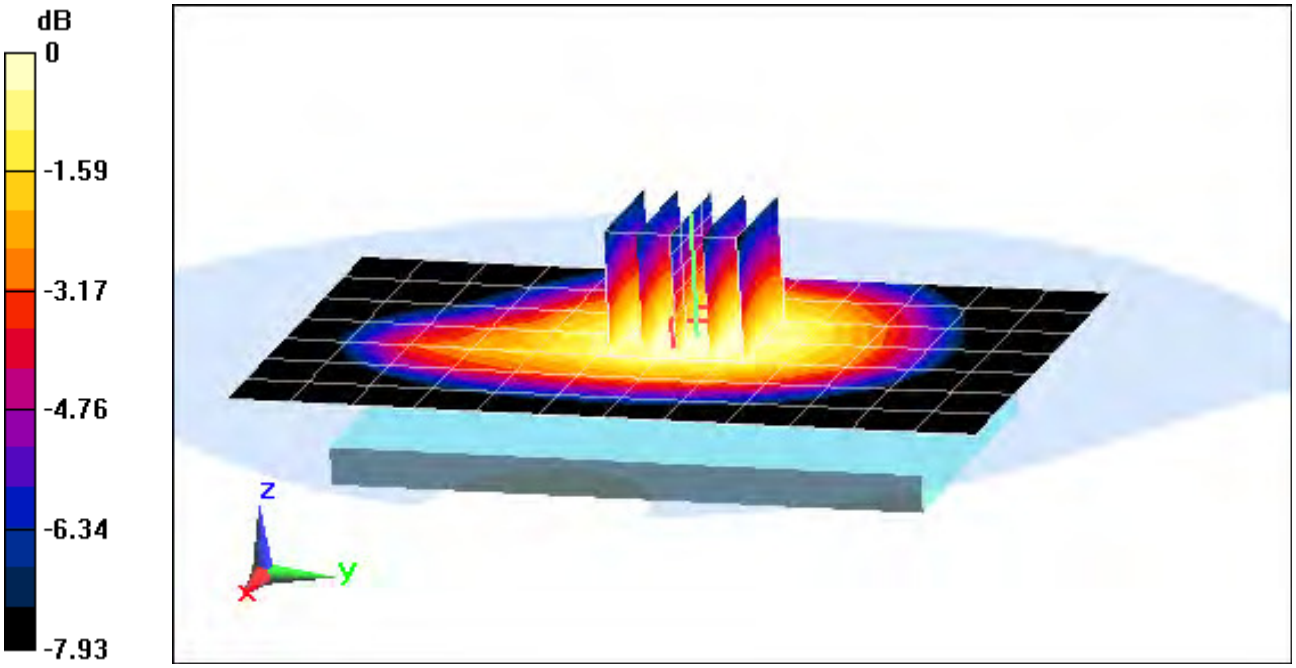
Communication System: UID 0, UMTS; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 1.007 S/m; ε_r = 54.004; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 850, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.999 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.534 W/kg



0 dB = 0.561 W/kg = -2.51 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

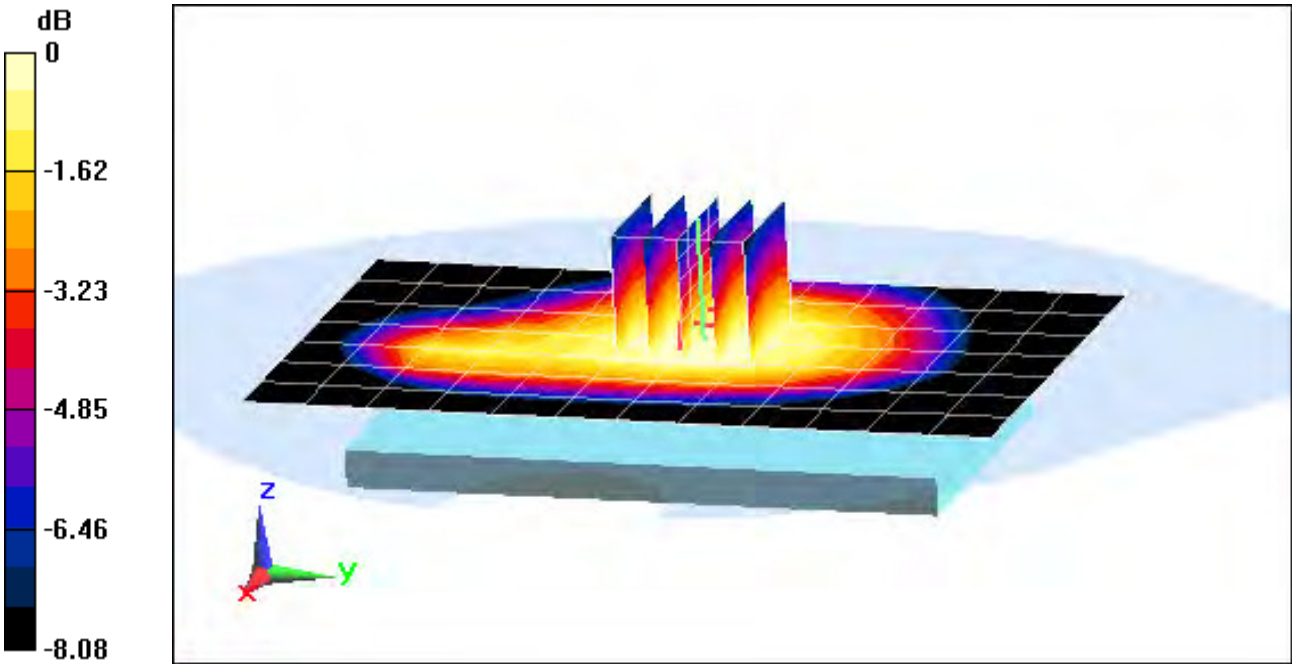
Communication System: UID 0, UMTS; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 1.007 S/m; ε_r = 54.004; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 850, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.049 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.723 W/kg
SAR(1 g) = 0.587 W/kg



0 dB = 0.617 W/kg = -2.10 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT8

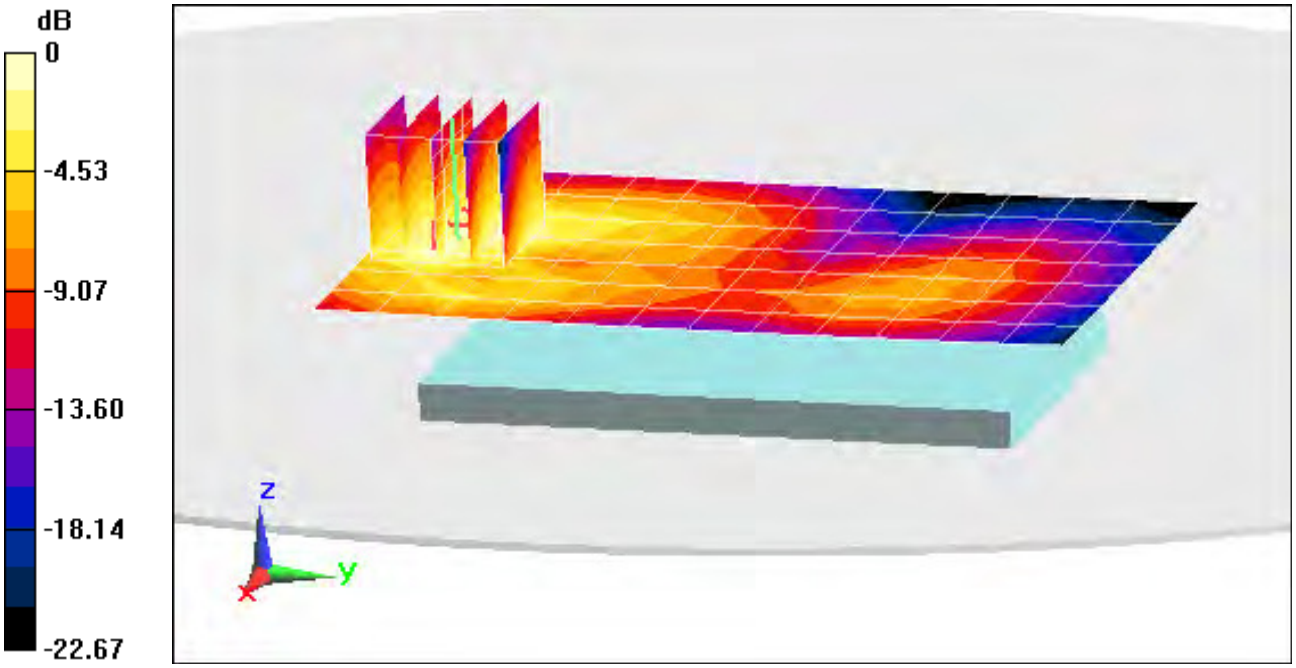
Communication System: UID 0, UMTS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.483 S/m; ε_r = 52.709; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 1900, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.472 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.590 W/kg
SAR(1 g) = 0.365 W/kg



0 dB = 0.405 W/kg = -3.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT10

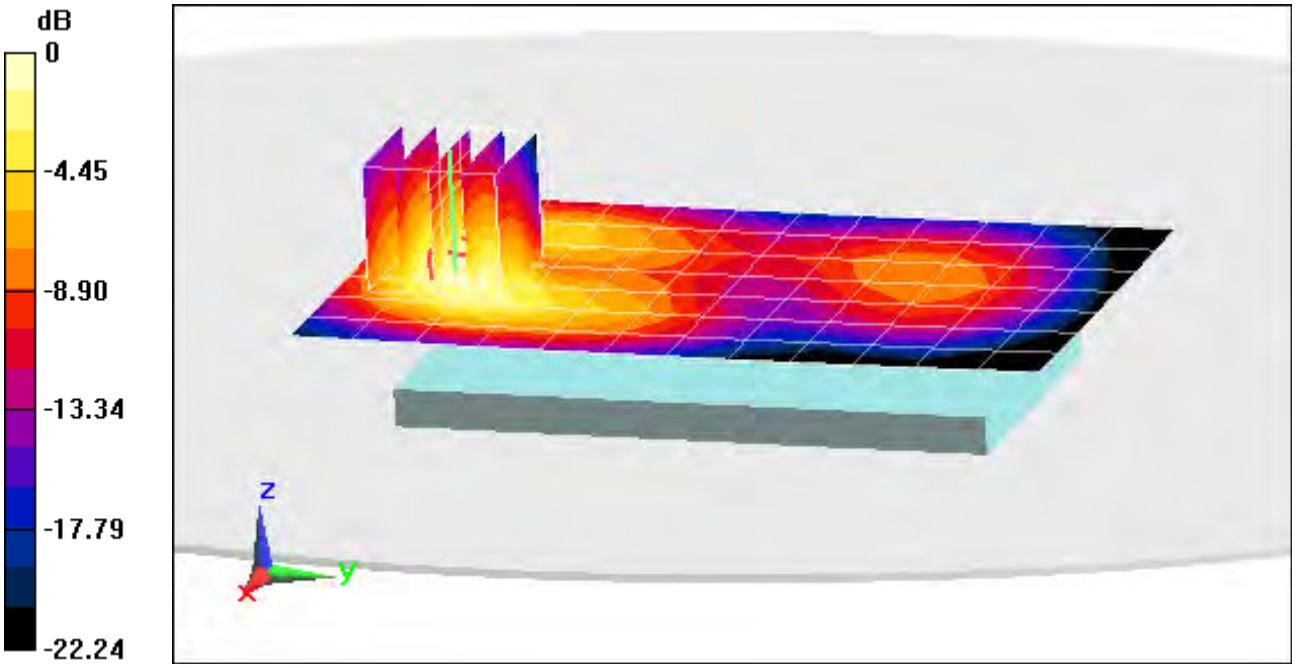
Communication System: UID 0, UMTS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.483 S/m; ε_r = 52.709; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: UMTS 1900, Body SAR, Front side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.865 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.652 W/kg



0 dB = 0.725 W/kg = -1.40 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

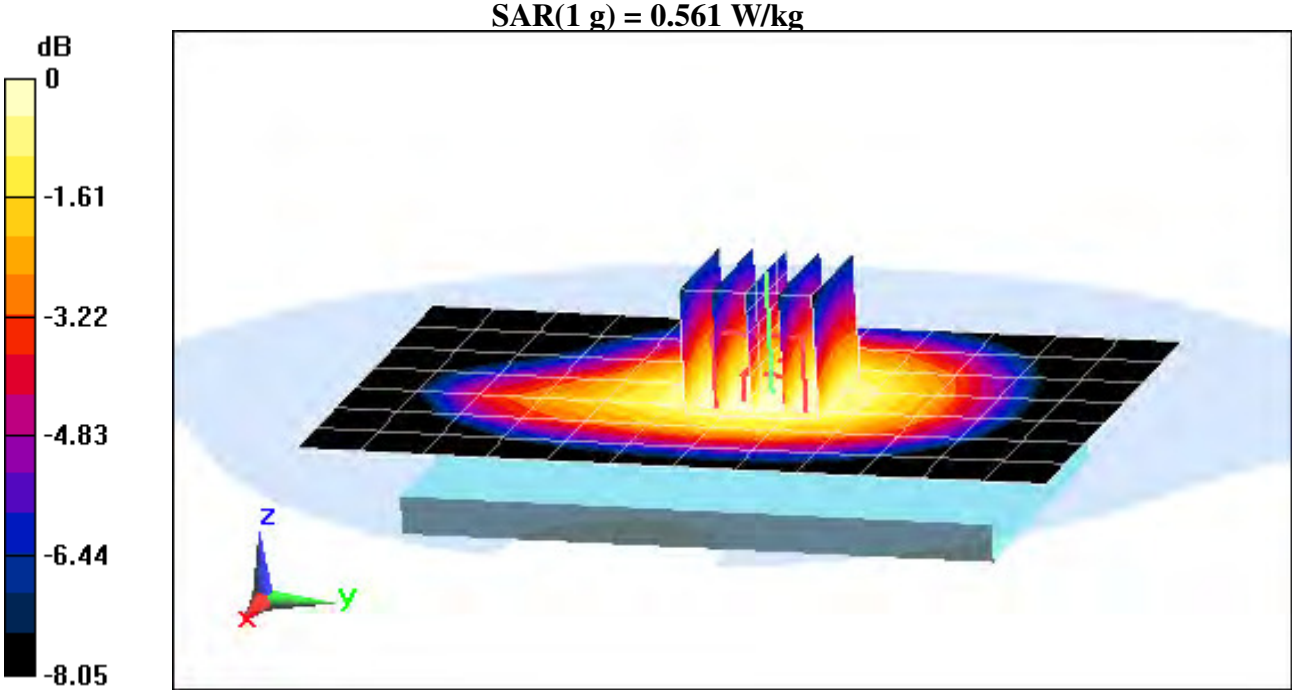
Communication System: UID 0, CDMA; Frequency: 820.1 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.992 S/m; ε_r = 54.171; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell. CDMA (§90S), Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.375 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.690 W/kg
SAR(1 g) = 0.561 W/kg



0 dB = 0.588 W/kg = -2.31 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

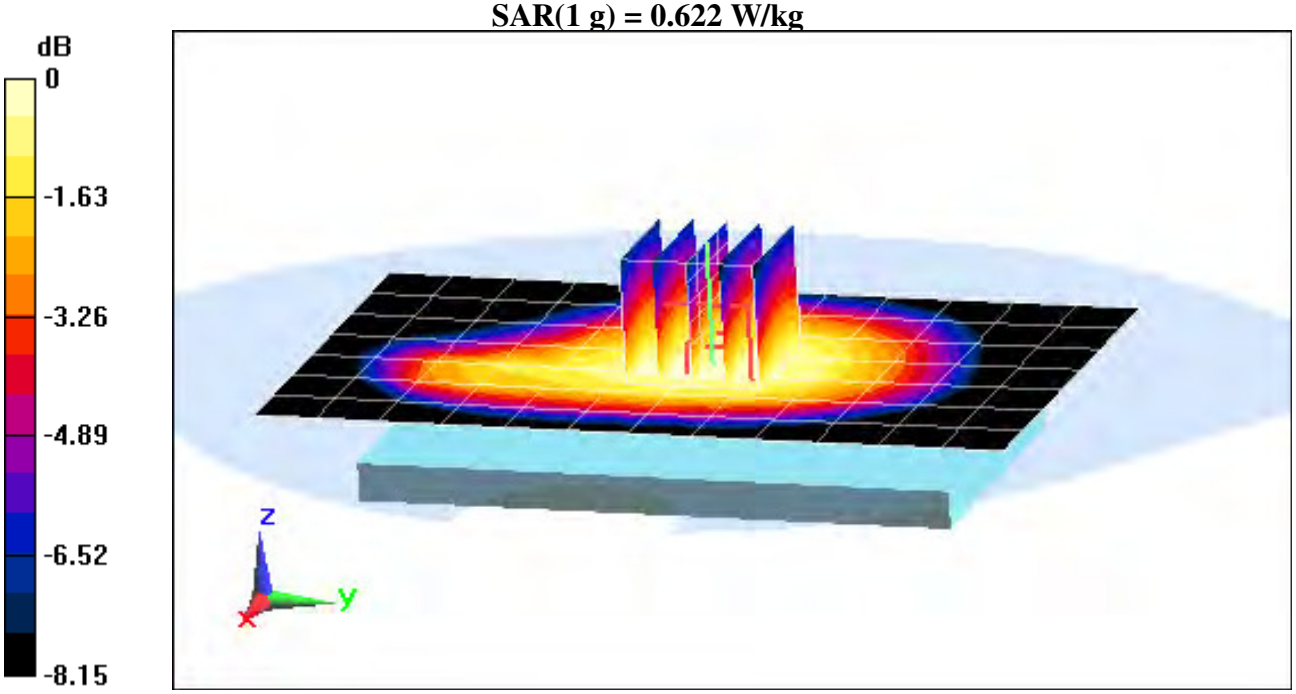
Communication System: UID 0, CDMA; Frequency: 820.1 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.992 S/m; ε_r = 54.171; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell. EVDO Rev.0 (§90S), Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.765 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.759 W/kg
SAR(1 g) = 0.622 W/kg



0 dB = 0.651 W/kg = -1.86 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

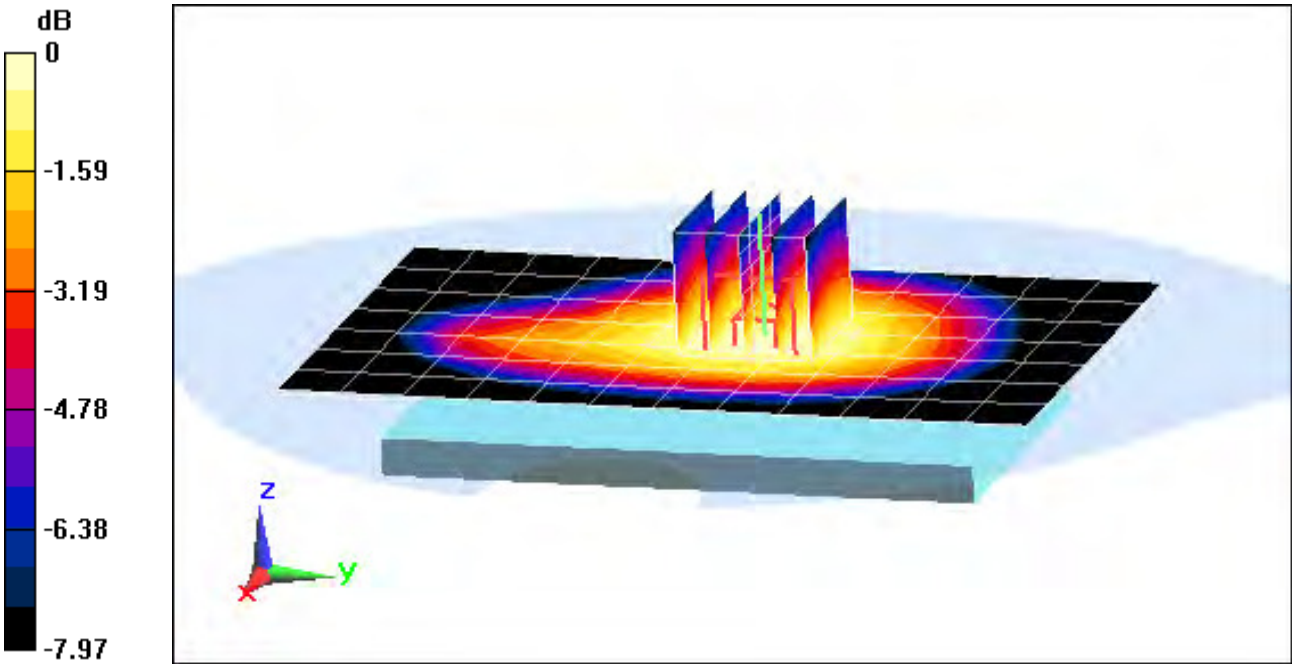
Communication System: UID 0, CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 1.007 S/m; ε_r = 54.004; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell. CDMA (§22H), Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.763 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.576 W/kg



0 dB = 0.605 W/kg = -2.18 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT6

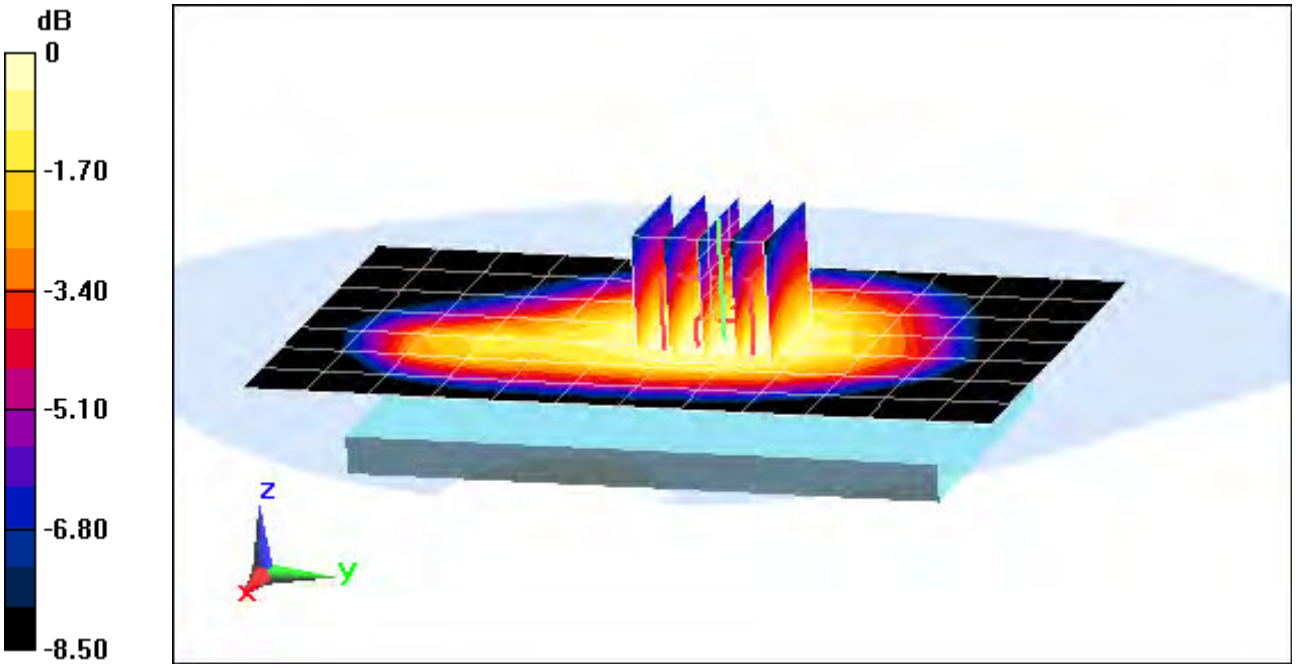
Communication System: UID 0, CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 1.007 S/m; ε_r = 54.004; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: Cell. EVDO Rev.0 (§22H), Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.529 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.783 W/kg
SAR(1 g) = 0.629 W/kg



0 dB = 0.662 W/kg = -1.79 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT1

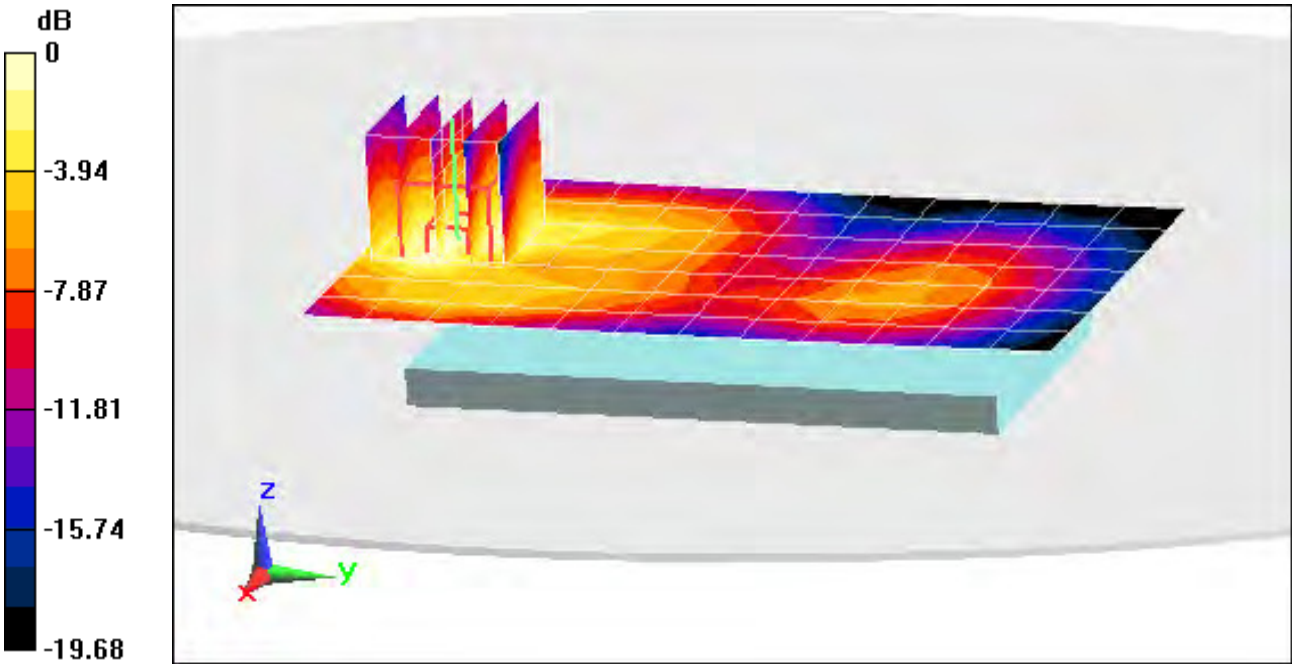
Communication System: UID 0, CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.483 S/m; ε_r = 52.709; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: PCS CDMA, Body SAR, Back side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.524 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.908 W/kg
SAR(1 g) = 0.567 W/kg



0 dB = 0.608 W/kg = -2.16 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT7

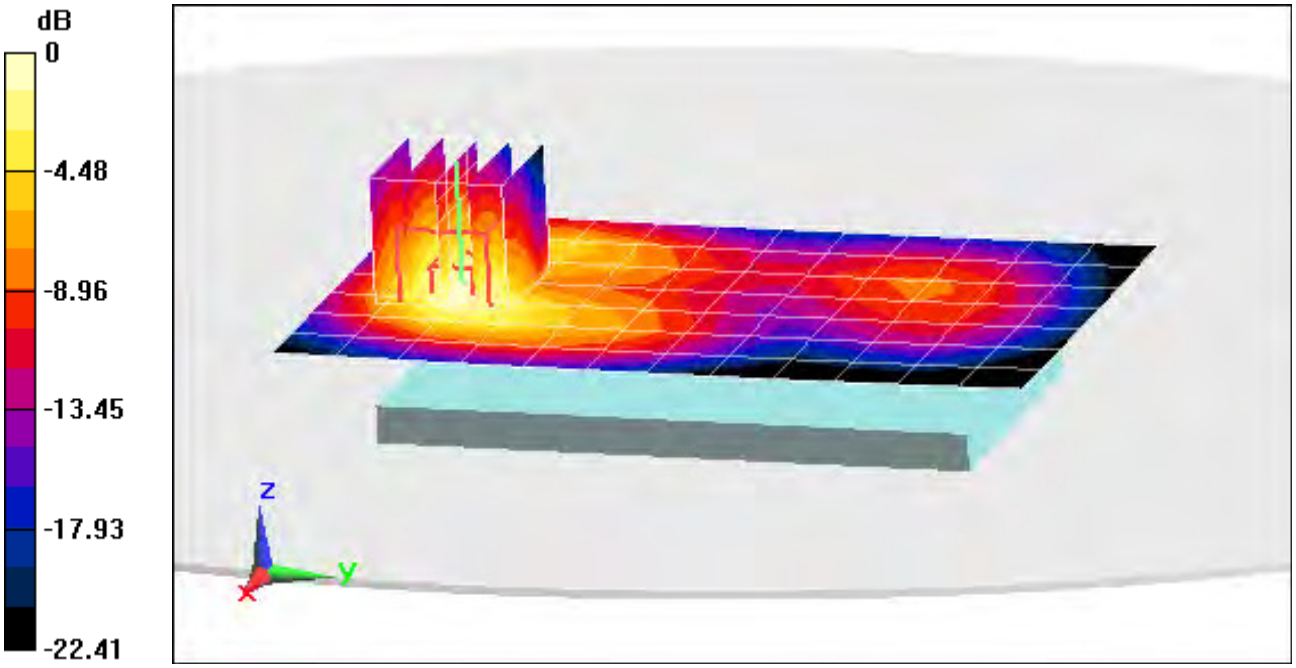
Communication System: UID 0, CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.483 S/m; ε_r = 52.709; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: PCS EVDO Rev.0, Body SAR, Front side, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.621 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 0.981 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT4

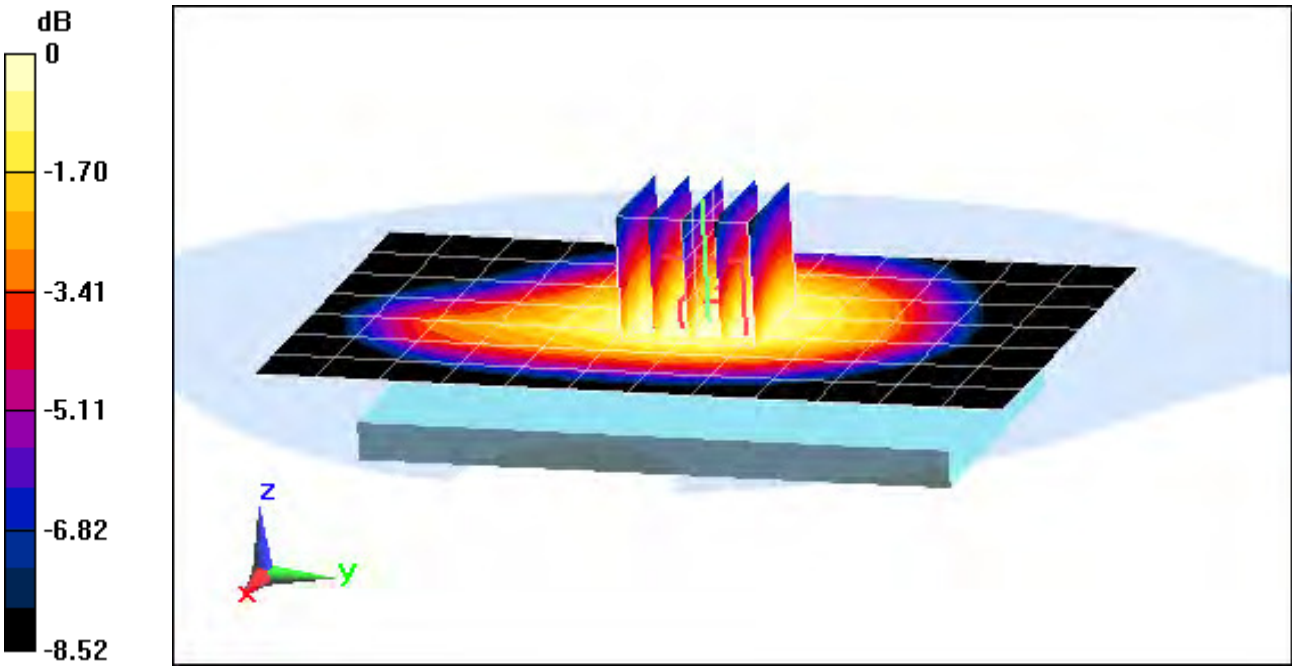
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 831.5 MHz; σ = 1.003 S/m; ε_r = 54.056; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 26, Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.931 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.642 W/kg
SAR(1 g) = 0.513 W/kg



0 dB = 0.539 W/kg = -2.68 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT4

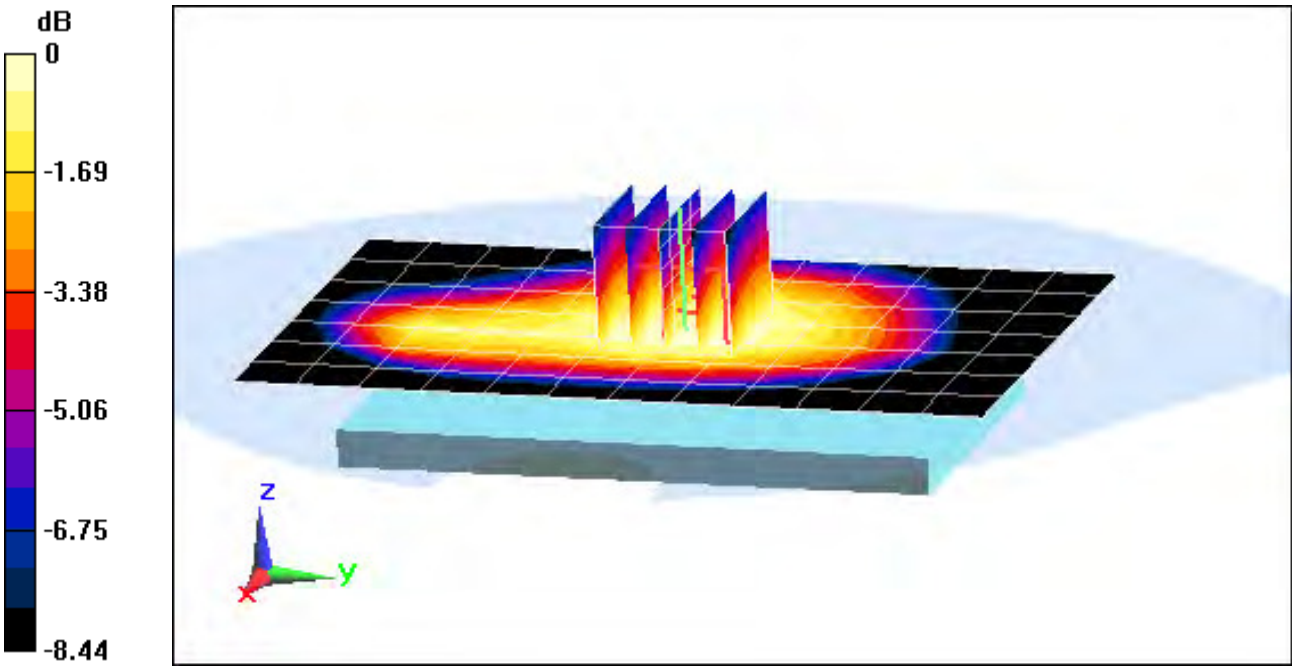
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 831.5 MHz; σ = 1.003 S/m; ε_r = 54.056; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 26, Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB,49 RB Offset

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.809 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.691 W/kg
SAR(1 g) = 0.552 W/kg



0 dB = 0.581 W/kg = -2.36 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT4

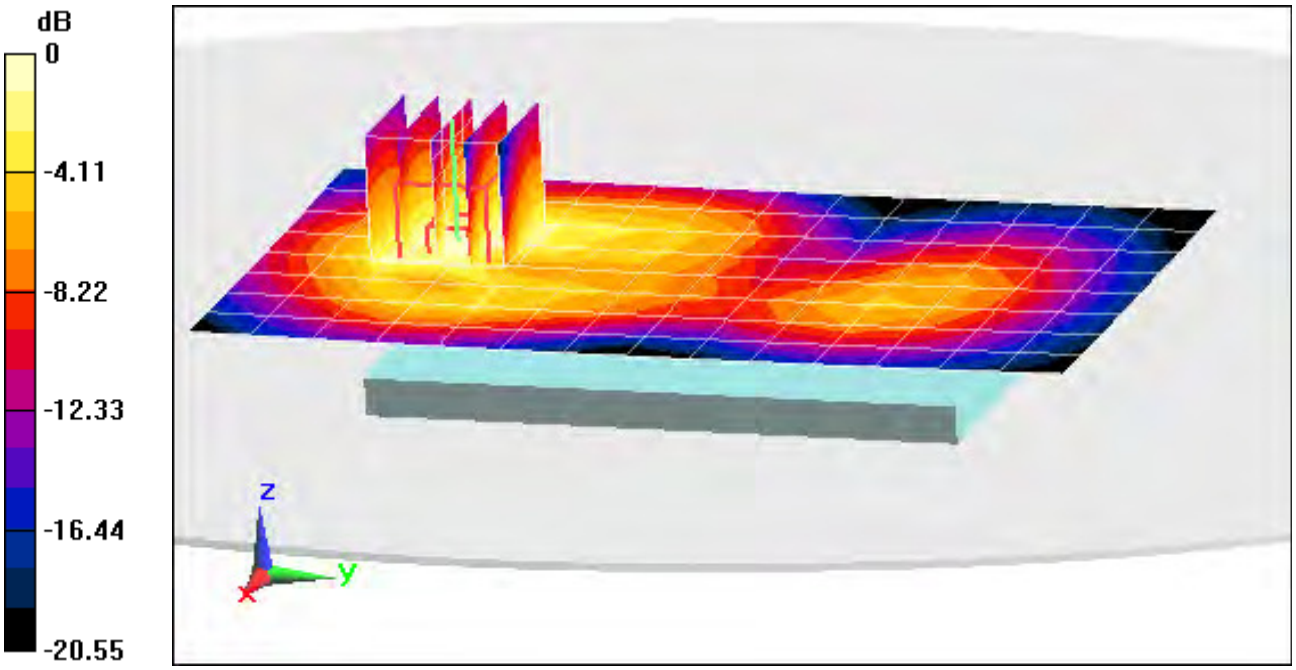
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.487 S/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 25 (PCS), Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.532 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.720 W/kg
SAR(1 g) = 0.455 W/kg



0 dB = 0.495 W/kg = -3.05 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT2

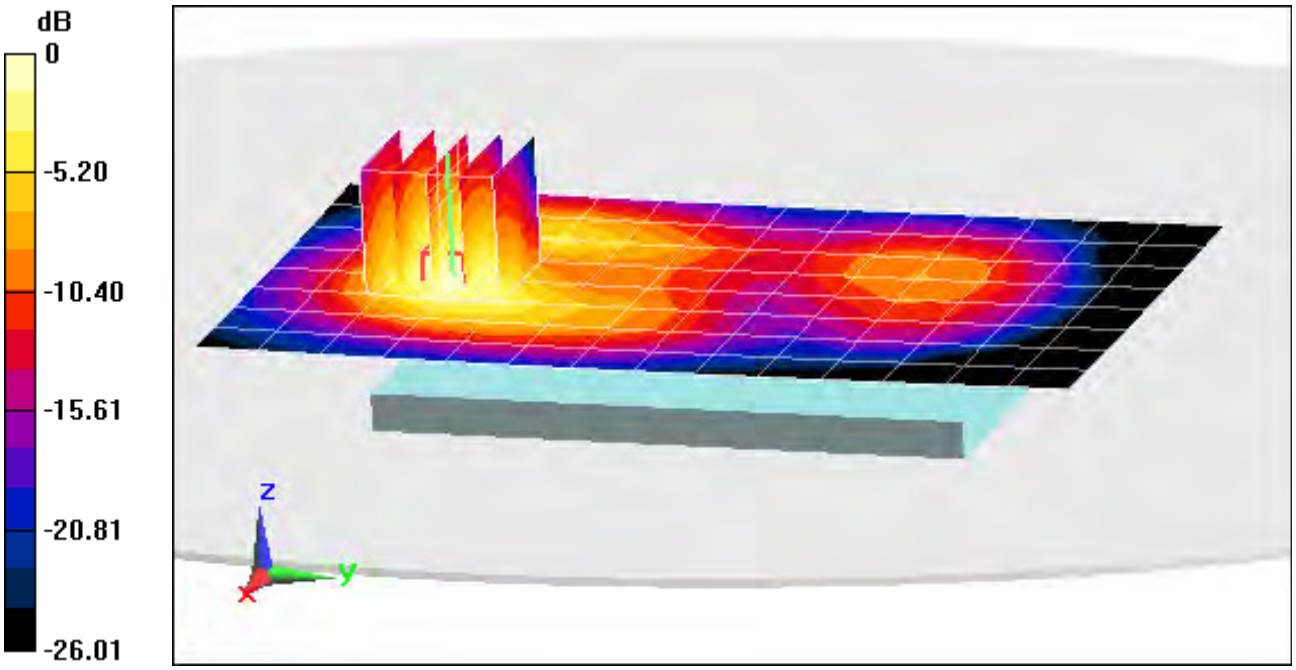
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1905 MHz; σ = 1.52 S/m; ε_r = 52.615; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

**Mode: LTE Band 25 (PCS), Body SAR, Front side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.339 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.754 W/kg



0 dB = 0.815 W/kg = -0.89 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT3

Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

f = 2680 MHz; σ = 2.267 S/m; ε_r = 50.145; ρ = 1000 kg/m^3

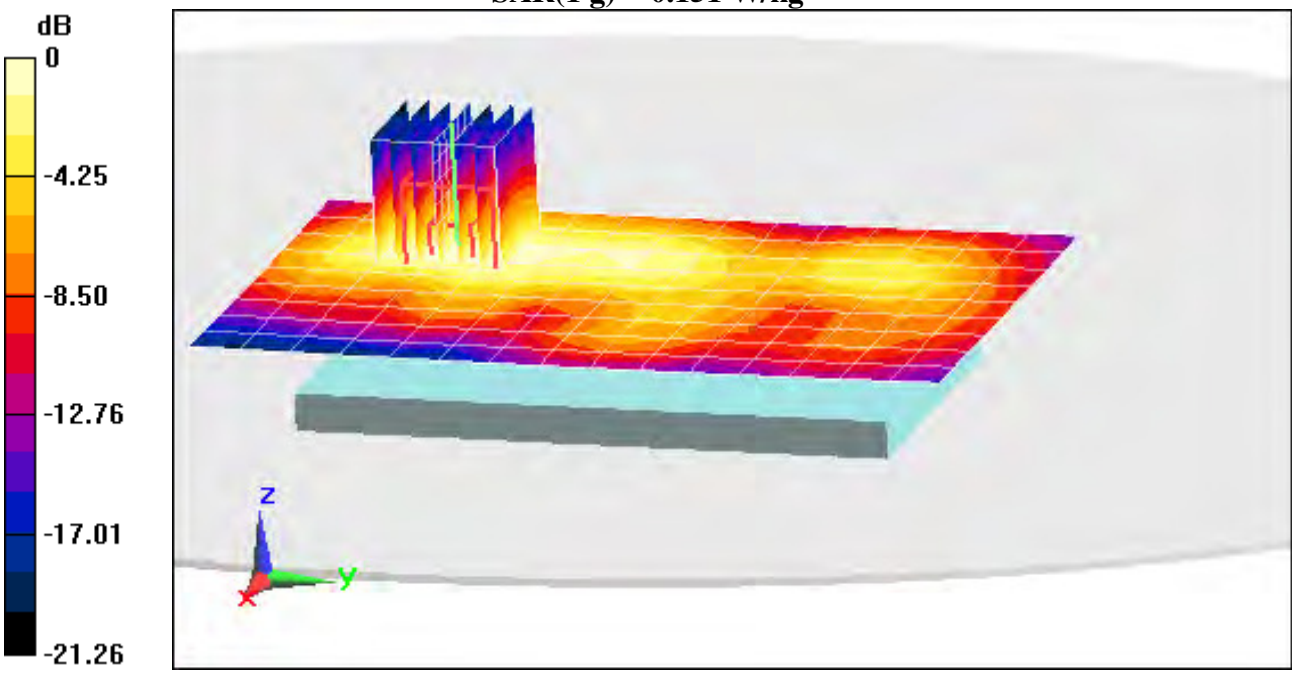
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3258; ConvF(3.91, 3.91, 3.91); Calibrated: 2/25/2014;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 41, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.571 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.303 W/kg
SAR(1 g) = 0.151 W/kg



0 dB = 0.187 W/kg = -7.28 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT3

Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

f = 2680 MHz; σ = 2.267 S/m; ε_r = 50.145; ρ = 1000 kg/m^3

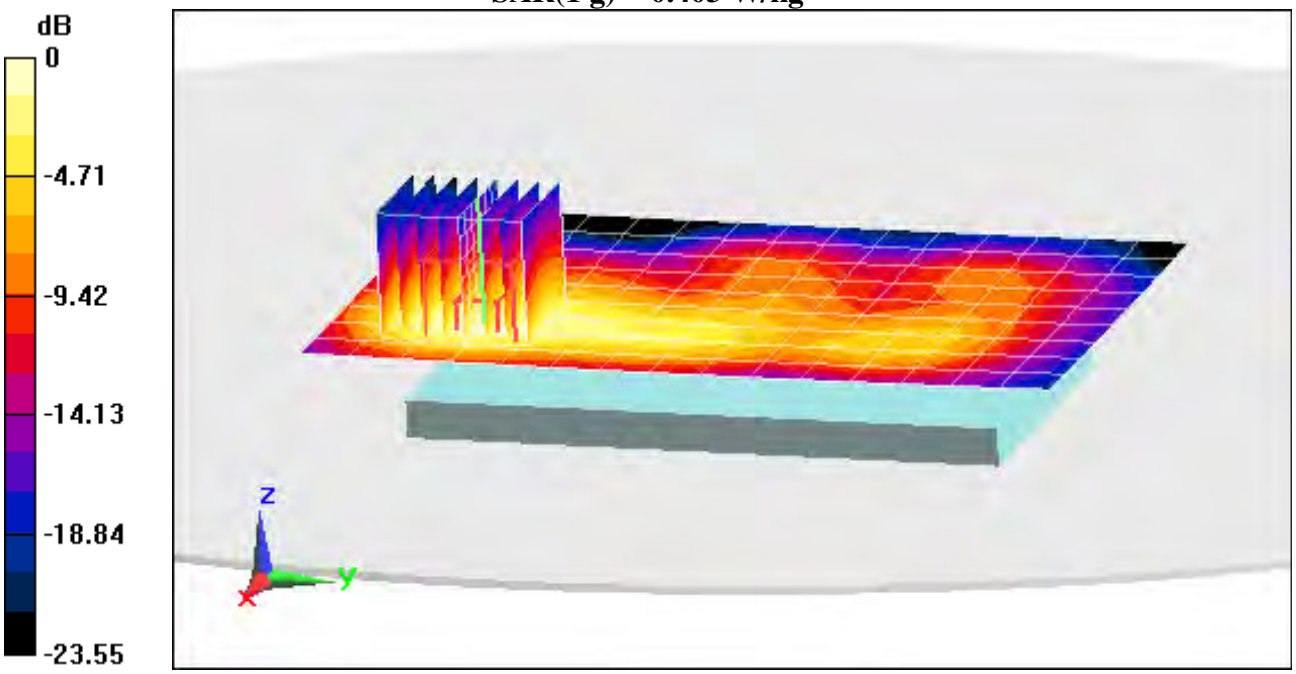
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(3.91, 3.91, 3.91); Calibrated: 2/25/2014;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: LTE Band 41, Body SAR, Front side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.656 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.813 W/kg
SAR(1 g) = 0.403 W/kg



0 dB = 0.504 W/kg = -2.98 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 6PCT1

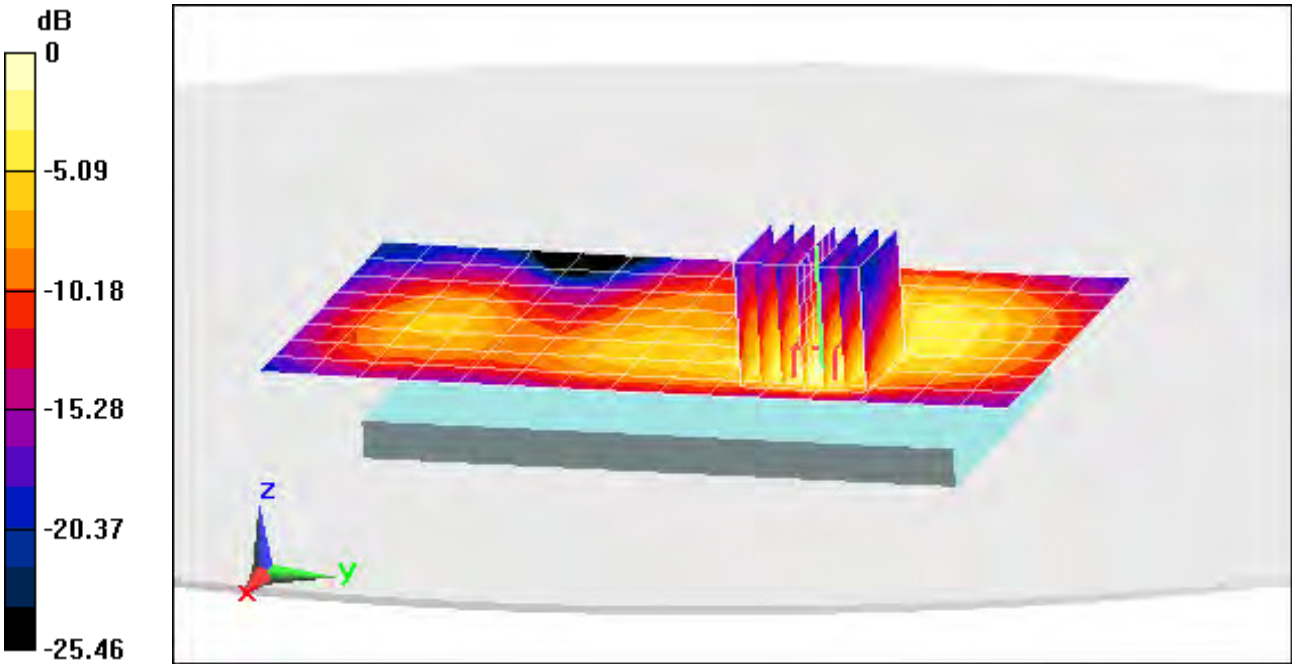
Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2437 MHz; σ = 1.95 S/m; ε_r = 51.493; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-09-2014; Ambient Temp: 24.4°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(4.14, 4.14, 4.14); Calibrated: 2/25/2014;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11b, Body SAR, Ch 06, 1 Mbps, Back Side Antenna 2

Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.359 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.361 W/kg
SAR(1 g) = 0.162 W/kg



0 dB = 0.217 W/kg = -6.64 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT11

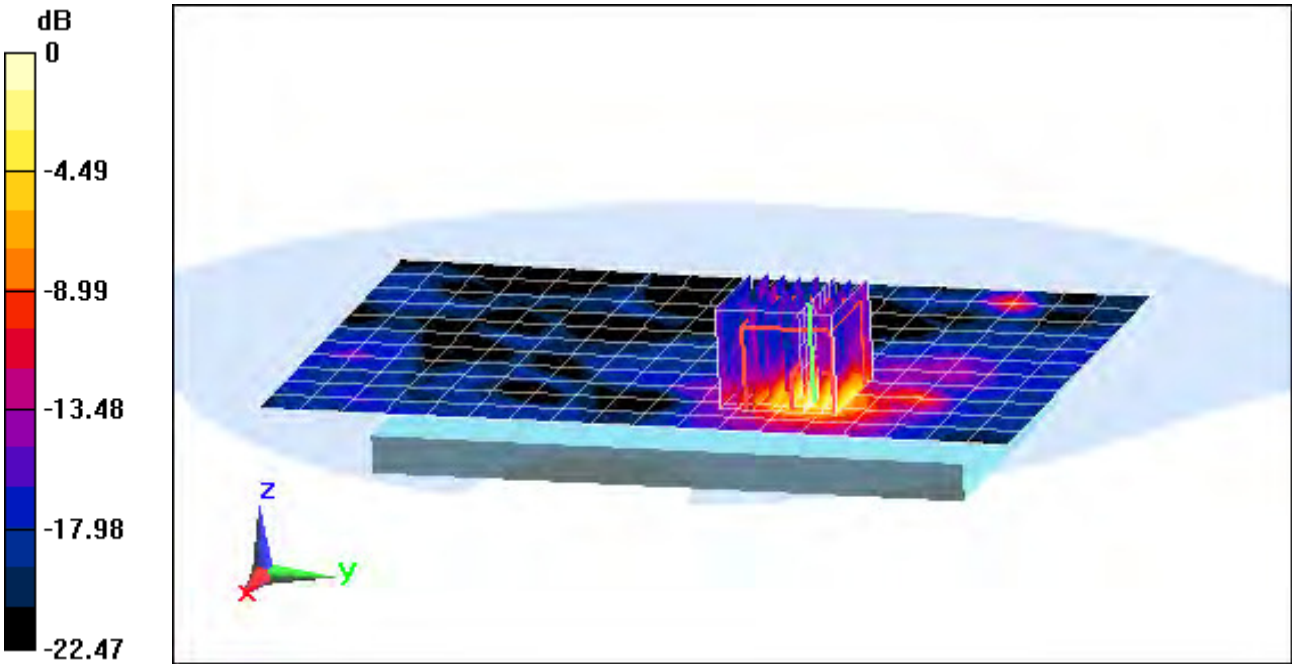
Communication System: UID 0, IEEE 802.11a ; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5745 MHz; σ = 6.19 S/m; ε_r = 46.539; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(4, 4, 4); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11a, 5.8 GHz, Body SAR, Ch 149, 6 Mbps, Back Side, Antenna 2

Area Scan (12x19x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 5.078 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.281 W/kg



0 dB = 0.671 W/kg = -1.73 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT11

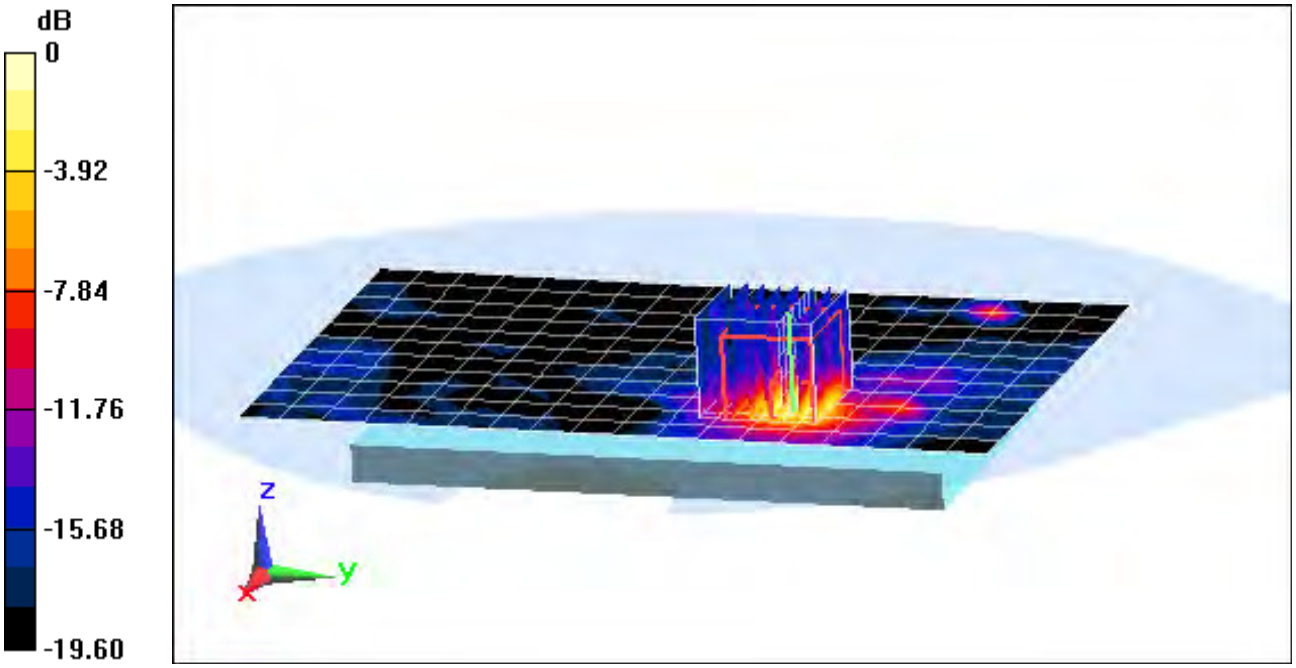
Communication System: UID 0, IEEE 802.11a ; Frequency: 5580 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5580 MHz; σ = 5.951 S/m; ε_r = 46.317; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(3.62, 3.62, 3.62); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11a, 5.5 -5.7 GHz, Body SAR, Ch 116, 6 Mbps, Back Side, Antenna 2,

Area Scan (12x19x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 4.966 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.234 W/kg



0 dB = 0.536 W/kg = -2.71 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG860P; Type: Portable Handset; Serial: 27PCT11

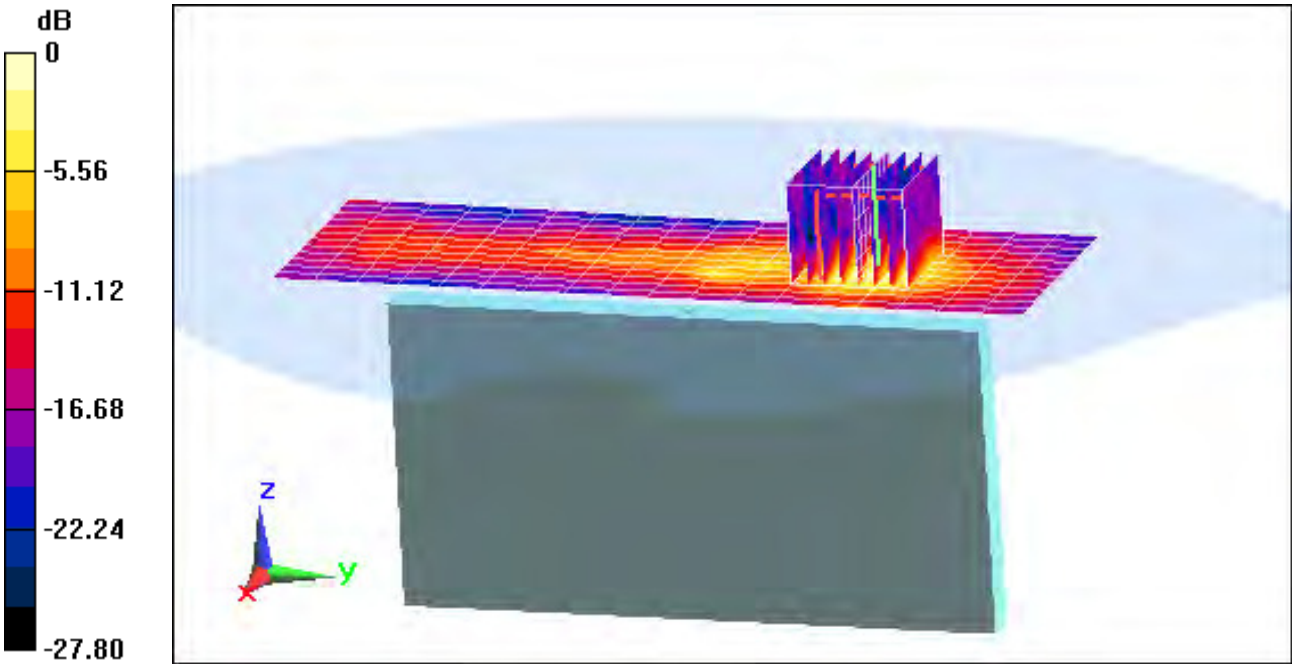
Communication System: UID 0, IEEE 802.11a; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5745 MHz; σ = 6.19 S/m; ε_r = 46.539; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(4, 4, 4); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

Mode: IEEE 802.11a, 5.8 GHz, Body SAR, Ch 149, 6 Mbps, Left Edge, Antenna 2

Area Scan (13x19x1): Measurement grid: dx=5mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 1.454 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 0.458 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

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PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 835 MHz; Type: D835V2; Serial: 4d119

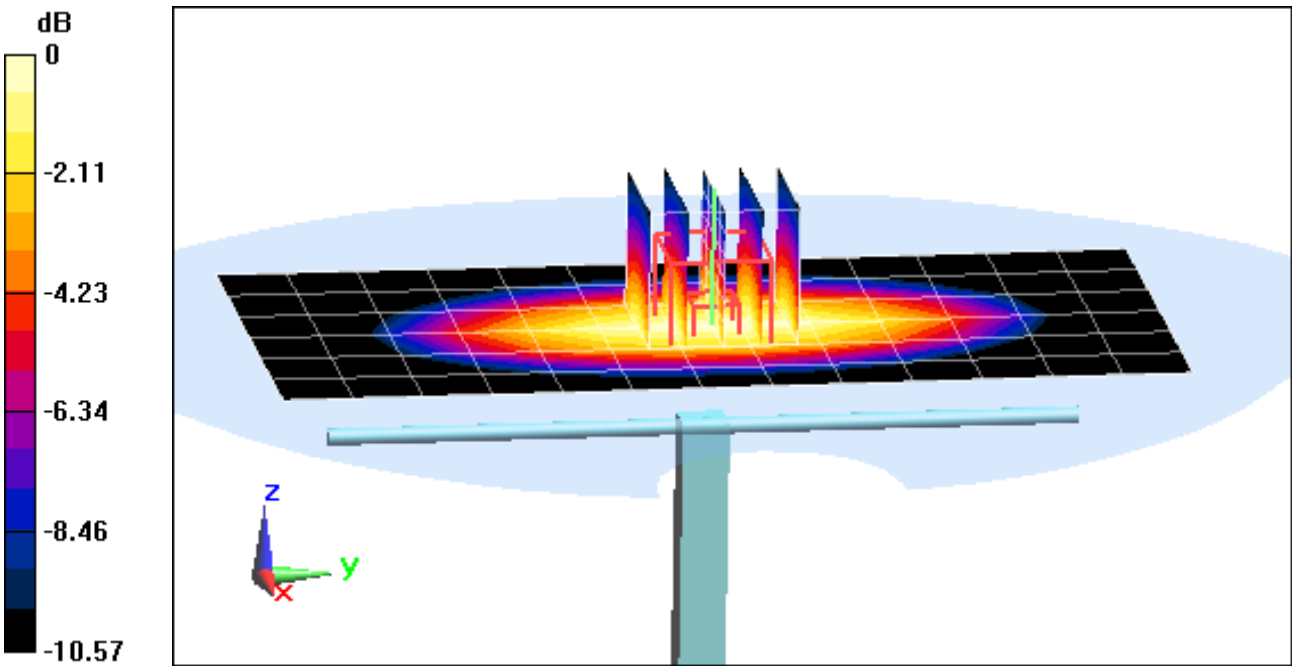
Communication System: UID 0, CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.942 S/m; ε_r = 42.698; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 05-30-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3914; ConvF(9.34, 9.34, 9.34); Calibrated: 10/23/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

835 MHz System Verification

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.940 W/kg
Deviation: 1.95%



0 dB = 1.01 W/kg = 0.04 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

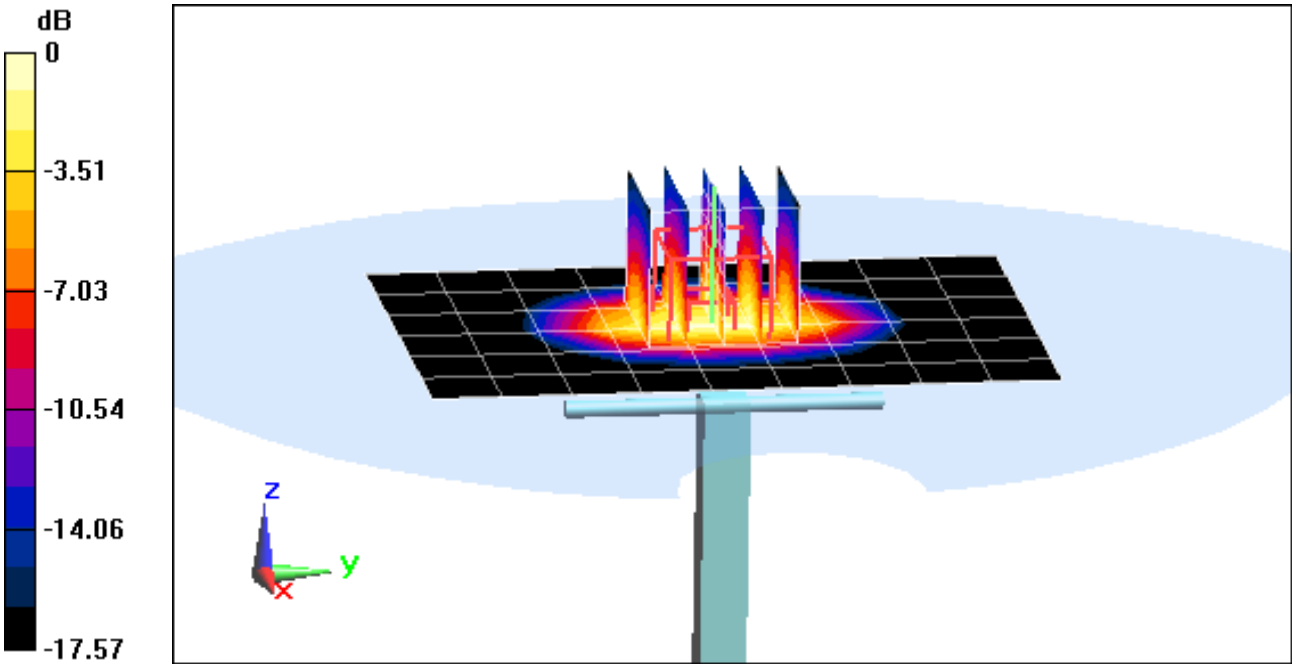
Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.419 S/m; ε_r = 39.669; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV2 - SN3022; ConvF(5.03, 5.03, 5.03); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

1900 MHz System Verification

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 7.16 W/kg
SAR(1 g) = 3.89 W/kg
Deviation: -3.71%



0 dB = 4.38 W/kg = 6.41 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 2450 MHz; Type: D2450V2; Serial: 719

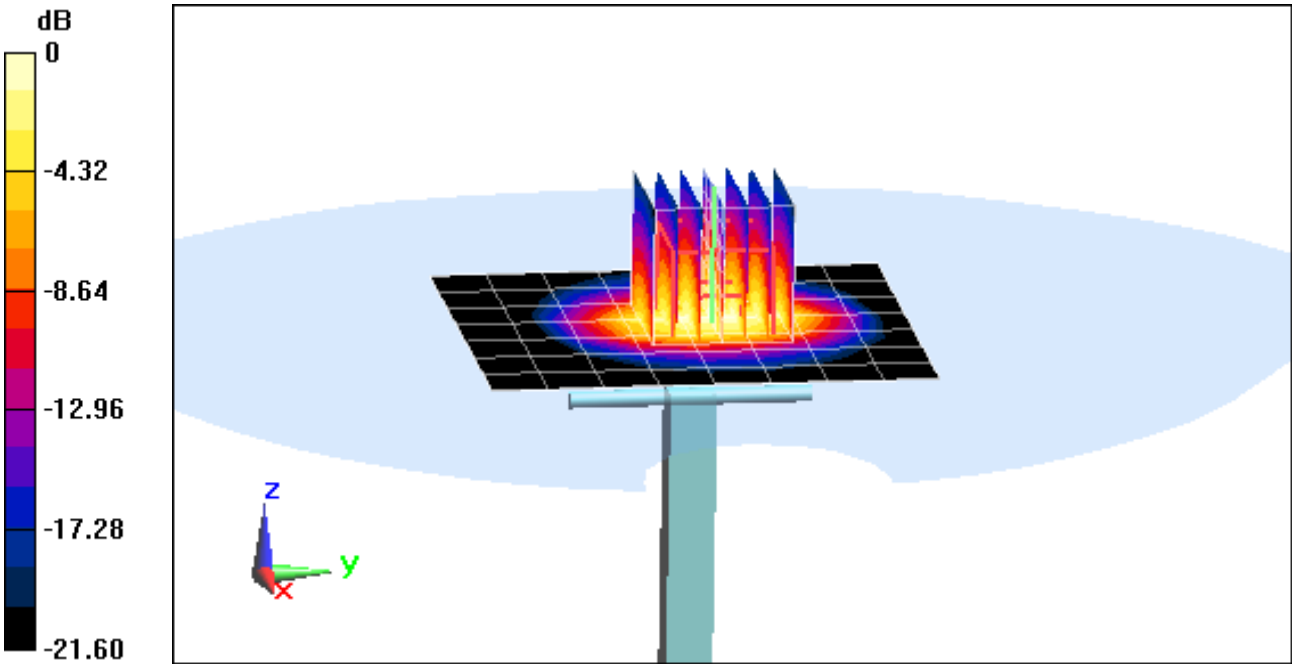
Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.783 S/m; ε_r = 39.777; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 23.9°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3333; ConvF(4.42, 4.42, 4.42); Calibrated: 11/22/2013;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 11/19/2013
Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1797
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 11.5 W/kg
SAR(1 g) = 5.68 W/kg
Deviation: 6.77%



0 dB = 7.40 W/kg = 8.69 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 2600 MHz; Type: D2600V2; Serial: 1004

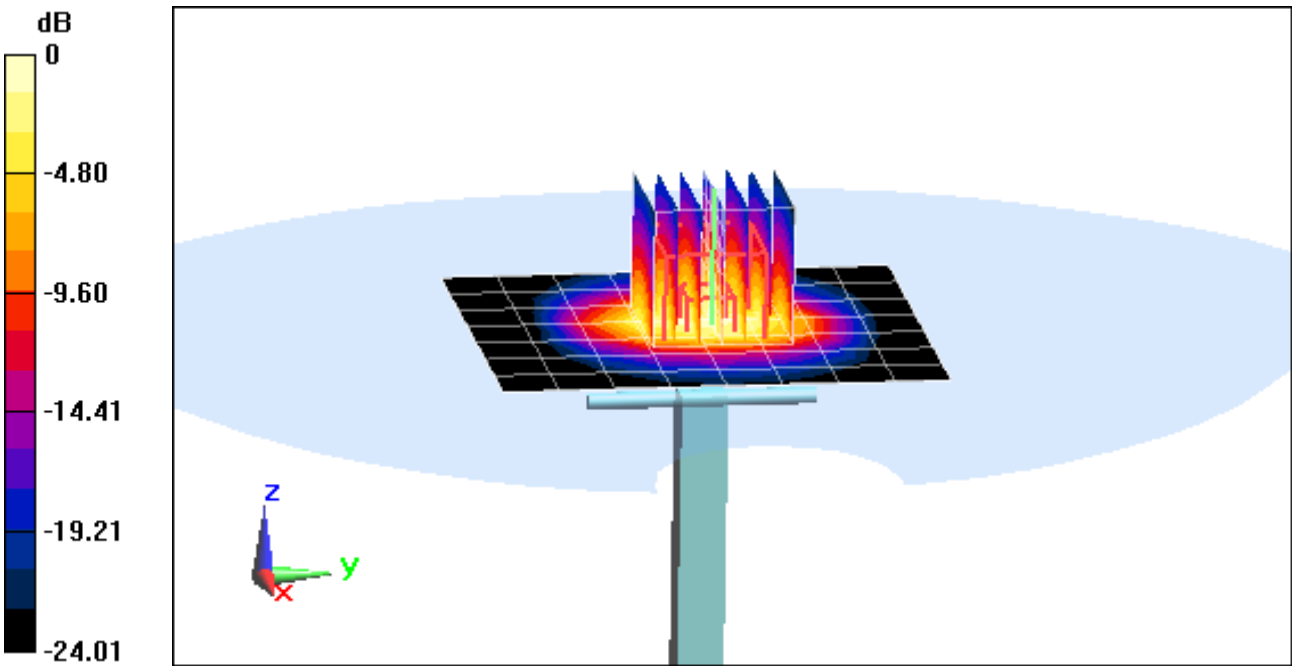
Communication System: UID 0, CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.902 S/m; ε_r = 39.182; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 23.9°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3333; ConvF(4.28, 4.28, 4.28); Calibrated: 11/22/2013;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 11/19/2013
Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1797
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

2600 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 12.2 W/kg
SAR(1 g) = 5.71 W/kg
Deviation: -0.35%



0 dB = 7.55 W/kg = 8.78 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5200 MHz; Type: D5GHzV2; Serial: 1057

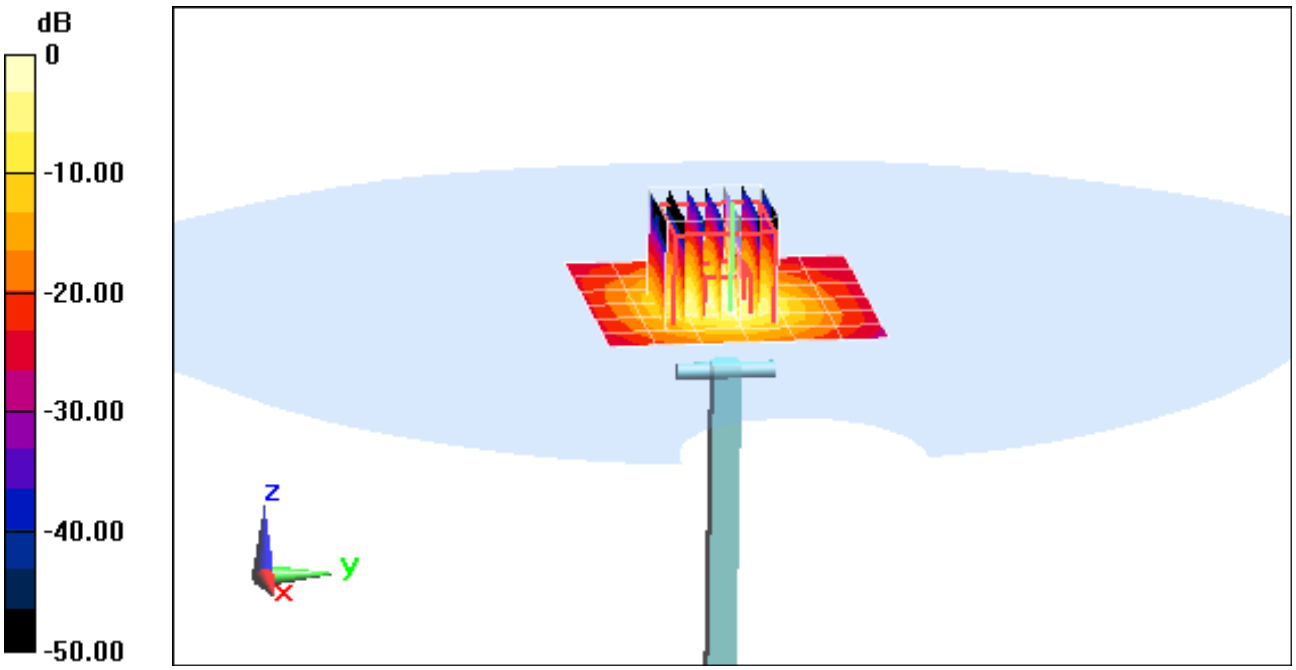
Communication System: UID 0, CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5200 MHz; σ = 4.549 S/m; ε_r = 36.206; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN3914; ConvF(4.99, 4.99, 4.99); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

5200 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 31.8 W/kg
SAR(1 g) = 7.59 W/kg
Deviation: -2.69%



0 dB = 17.8 W/kg = 12.50 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5300 MHz; Type: D5GHzV2; Serial: 1057

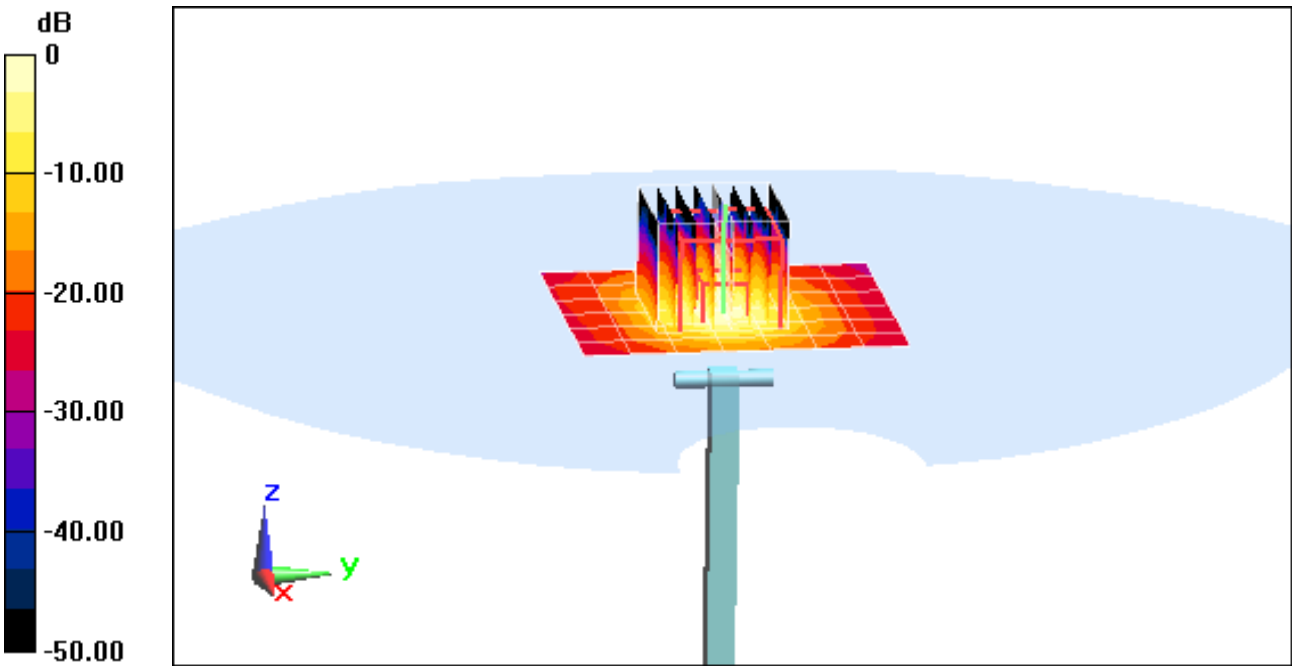
Communication System: UID 0, CW; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5300 MHz; σ = 4.647 S/m; ε_r = 36.13; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 24.4°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN3914; ConvF(4.82, 4.82, 4.82); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

5300 MHz System Verification

Area Scan (7x8x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 7.60 W/kg
Deviation: -8.43%



0 dB = 15.9 W/kg = 12.01 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5500 MHz; Type: D5GHzV2; Serial: 1057

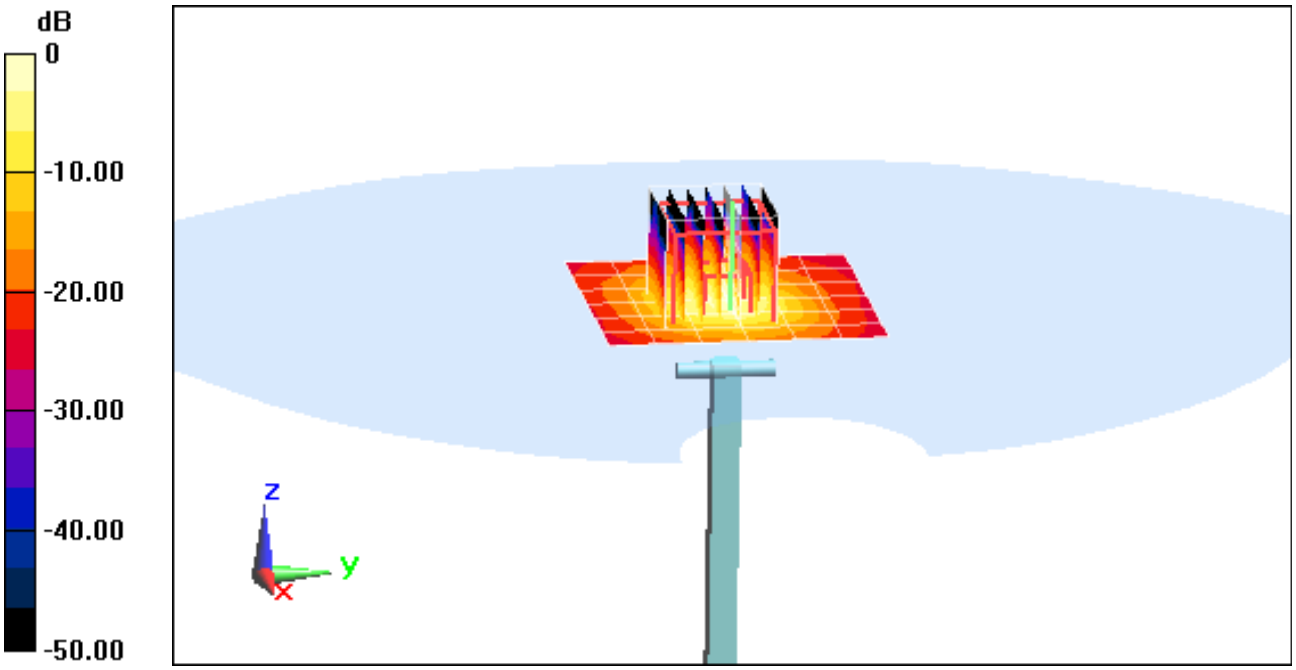
Communication System: UID 0, CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5500 MHz; σ = 4.842 S/m; ε_r = 35.864; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 24.3°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN3914; ConvF(4.55, 4.55, 4.55); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

5500 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 36.4 W/kg
SAR(1 g) = 8.35 W/kg
Deviation: -0.95%



0 dB = 19.9 W/kg = 12.99 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5600 MHz; Type: D5GHzV2; Serial: 1057

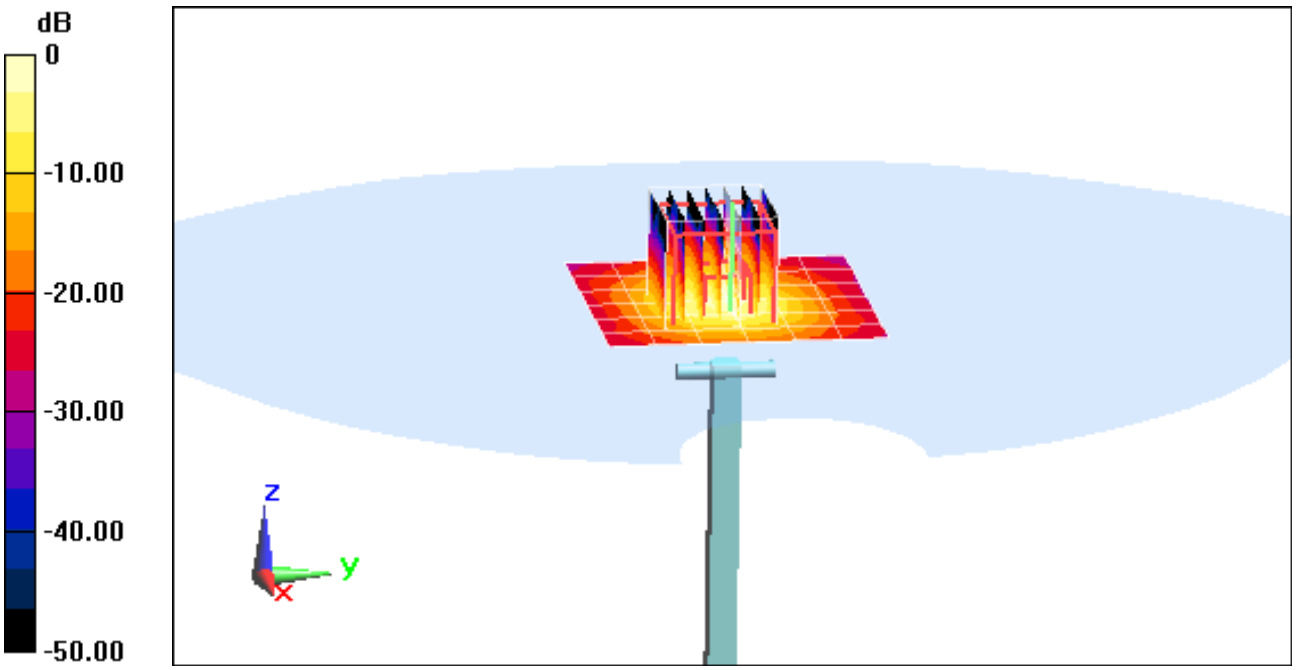
Communication System: UID 0, CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5600 MHz; σ = 4.945 S/m; ε_r = 35.718; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 24.3°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN3914; ConvF(4.37, 4.37, 4.37); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

5600 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 37.6 W/kg
SAR(1 g) = 8.55 W/kg
Deviation: 2.40%



0 dB = 20.4 W/kg = 13.10 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5800 MHz; Type: D5GHzV2; Serial: 1057

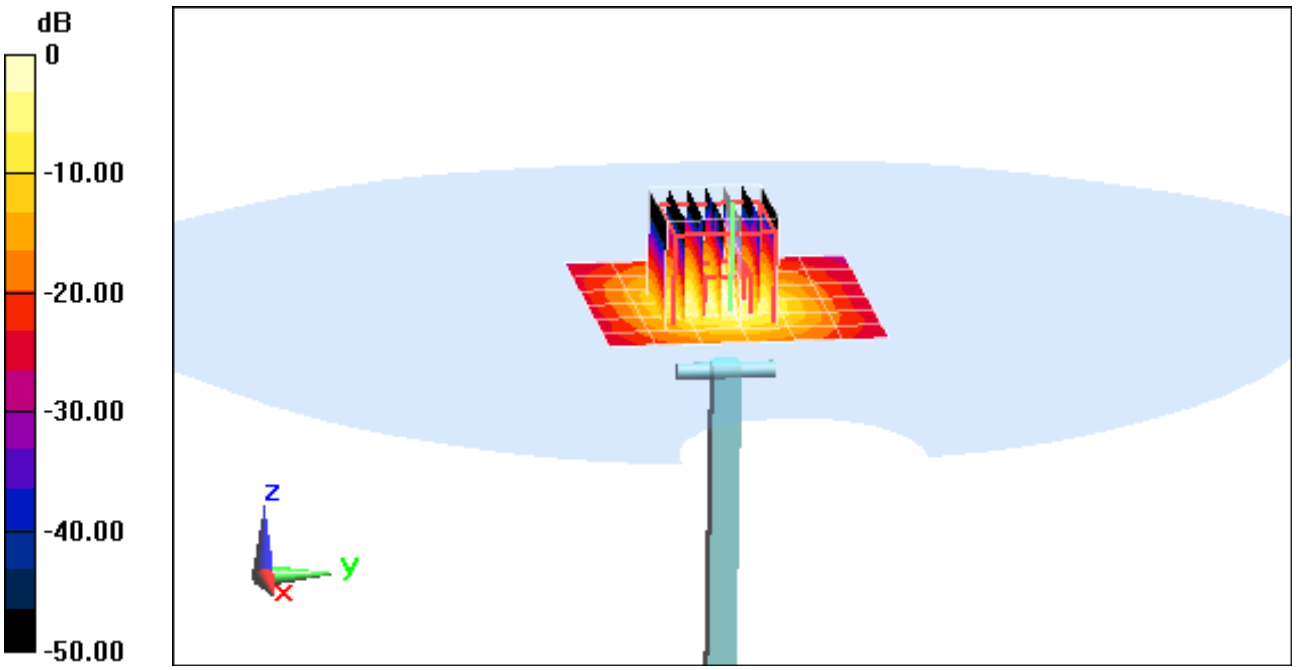
Communication System: UID 0, CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5800 MHz; σ = 5.131 S/m; ε_r = 35.487; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-05-2014; Ambient Temp: 24.3°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN3914; ConvF(4.52, 4.52, 4.52); Calibrated: 10/23/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 11/19/2013
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

5800 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 33.8 W/kg
SAR(1 g) = 7.31 W/kg
Deviation: -7.82%



0 dB = 17.8 W/kg = 12.50 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 835 MHz; Type: D835V2; Serial: 4d119

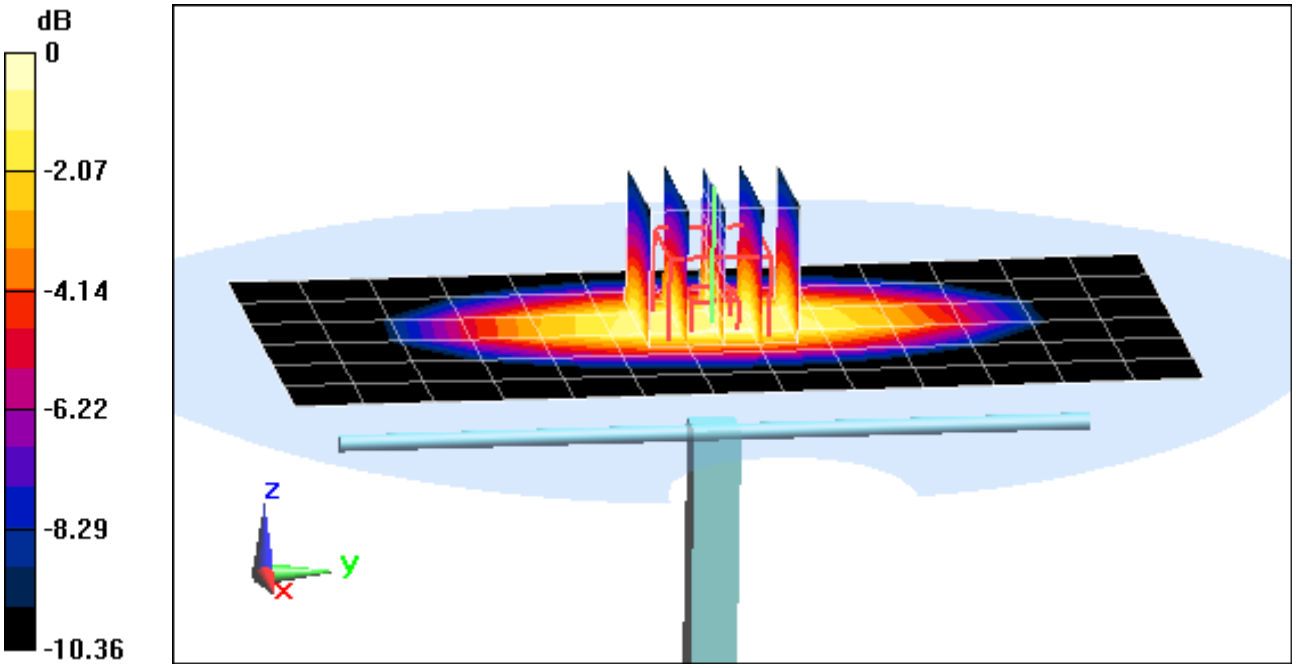
Communication System: UID 0, CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 1.006 S/m; ε_r = 54.021; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.5 cm

Test Date: 06-02-2014; Ambient Temp: 23.3°C; Tissue Temp: 21.9°C

Probe: ES3DV2 - SN3022; ConvF(5.91, 5.91, 5.91); Calibrated: 8/22/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 8/21/2013
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

835 MHz System Verification

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.965 W/kg
Deviation: 3.32%



0 dB = 1.04 W/kg = 0.17 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

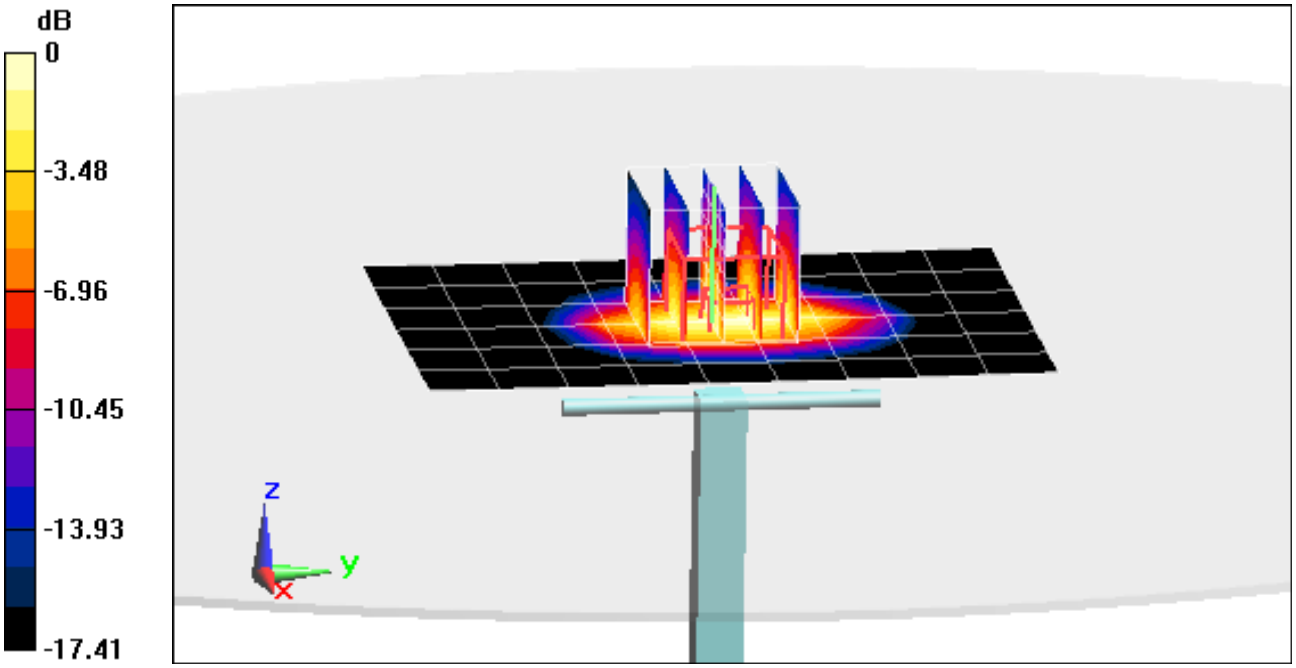
Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.512 S/m; ε_r = 52.634; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-29-2014; Ambient Temp: 23.5°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(4.61, 4.61, 4.61); Calibrated: 2/25/2014;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

1900 MHz System Verification

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 6.80 W/kg
SAR(1 g) = 3.87 W/kg
Deviation: -4.44%



0 dB = 4.29 W/kg = 6.32 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 2450 MHz; Type: D2450V2; Serial: 797

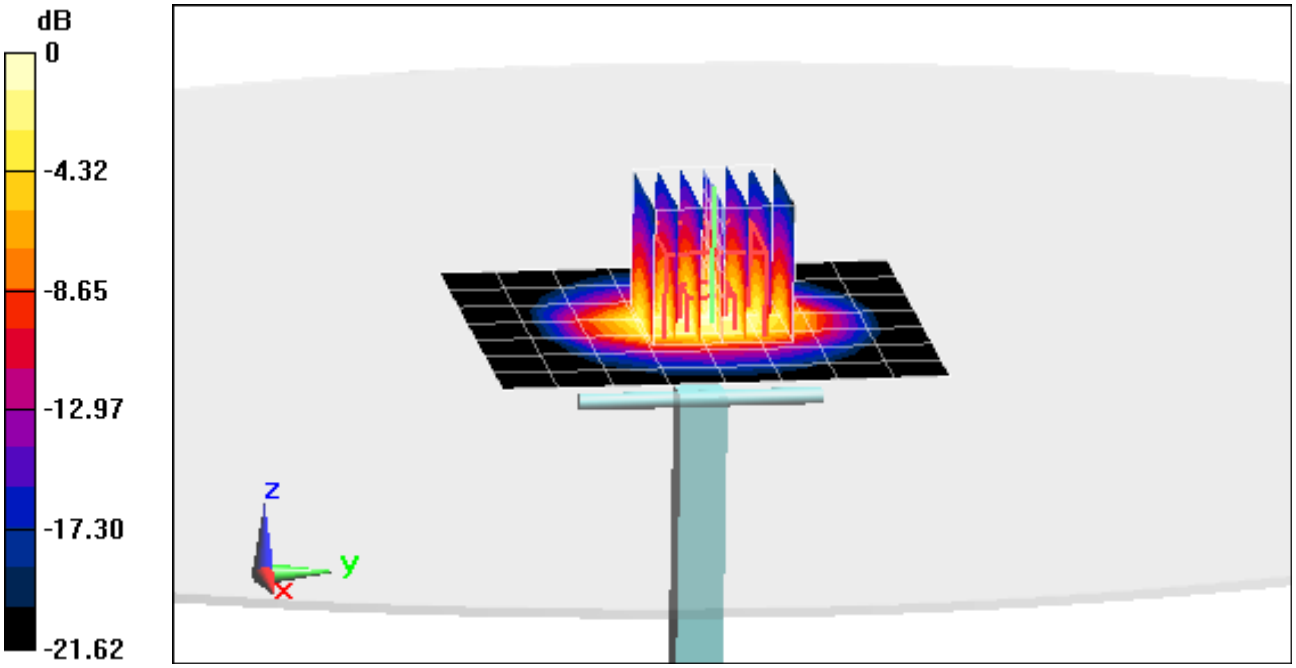
Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.968 S/m; ε_r = 51.446; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-09-2014; Ambient Temp: 24.4°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(4.14, 4.14, 4.14); Calibrated: 2/25/2014;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 10.3 W/kg
SAR(1 g) = 4.93 W/kg
Deviation: -0.20%



0 dB = 6.47 W/kg = 8.11 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 2600 MHz; Type: D2600V2; Serial: 1004

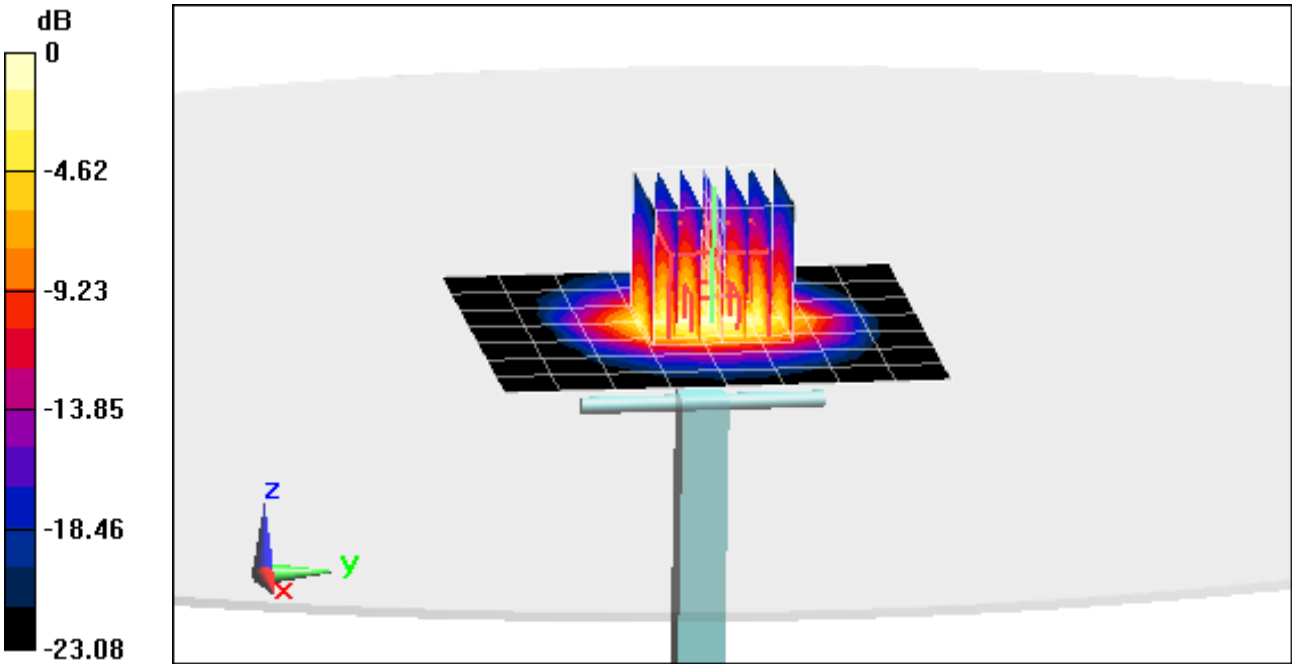
Communication System: UID 0, CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.155 S/m; ε_r = 50.469; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 06-02-2014; Ambient Temp: 24.5°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3258; ConvF(3.91, 3.91, 3.91); Calibrated: 2/25/2014;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/26/2014
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP-1158
Measurement SW: DASY52, Version 52.8 (7);SEMCAD X Version 14.6.10 (7164)

2600 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) = 5.78 W/kg
Deviation: 1.94%



0 dB = 7.73 W/kg = 8.88 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5200 MHz; Type: D5GHzV2; Serial: 1007

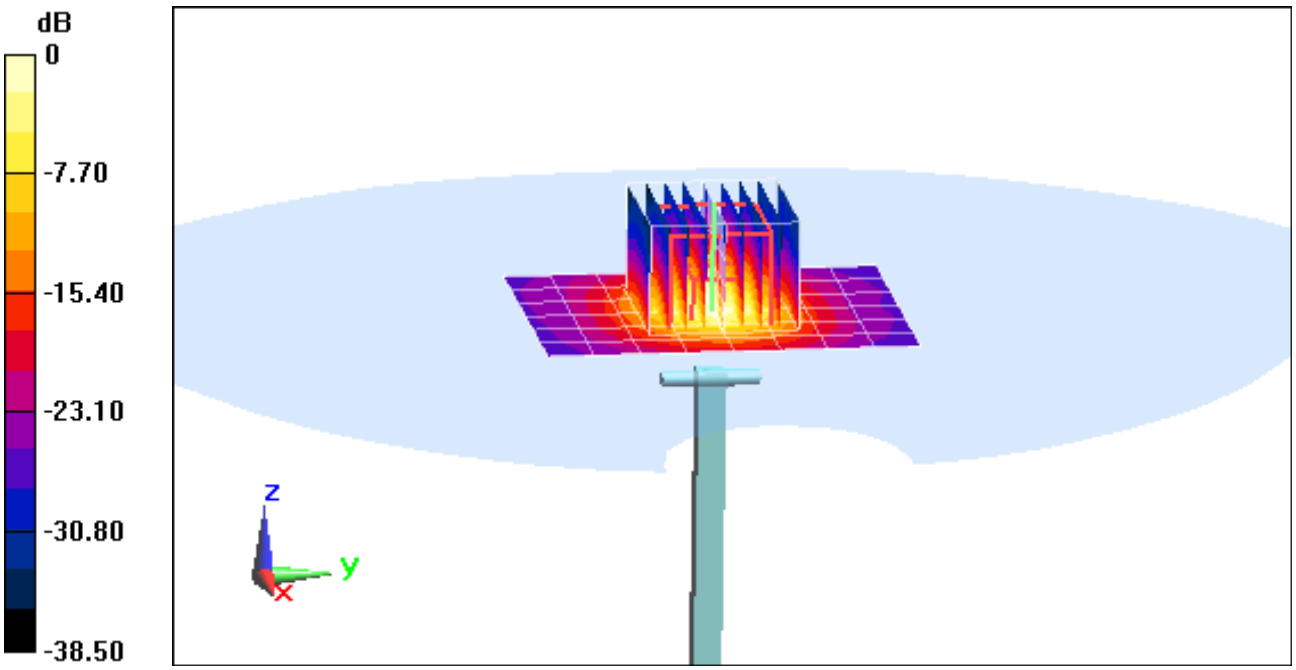
Communication System: UID 0, CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5200 MHz; σ = 5.455 S/m; ε_r = 47.002; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(4.23, 4.23, 4.23); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

5200MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 7.53 W/kg
Deviation: 3.72%



0 dB = 18.4 W/kg = 12.65 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5300 MHz; Type: D5GHzV2; Serial: 1007

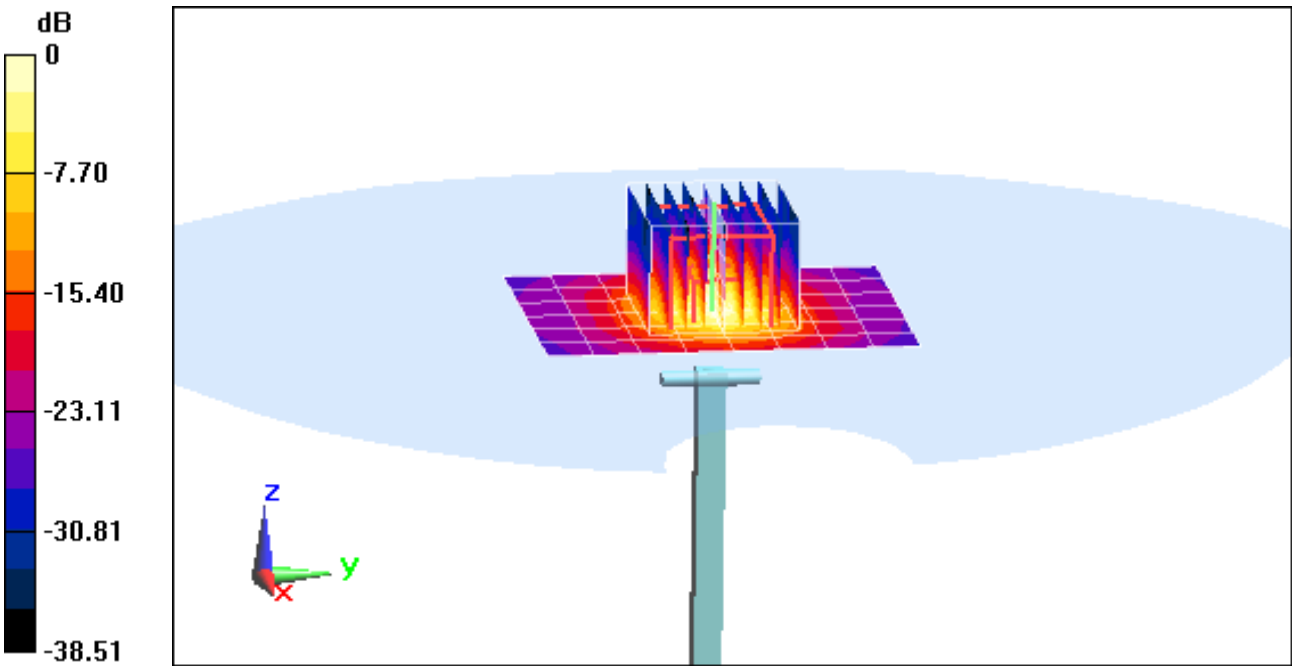
Communication System: UID 0, CW; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5300 MHz; σ = 5.53 S/m; ε_r = 46.81; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(4.11, 4.11, 4.11); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

5300MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.6 W/kg
SAR(1 g) = 7.63 W/kg
Deviation: 2.14%



0 dB = 17.6 W/kg = 12.46 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5500 MHz; Type: D5GHzV2; Serial: 1007

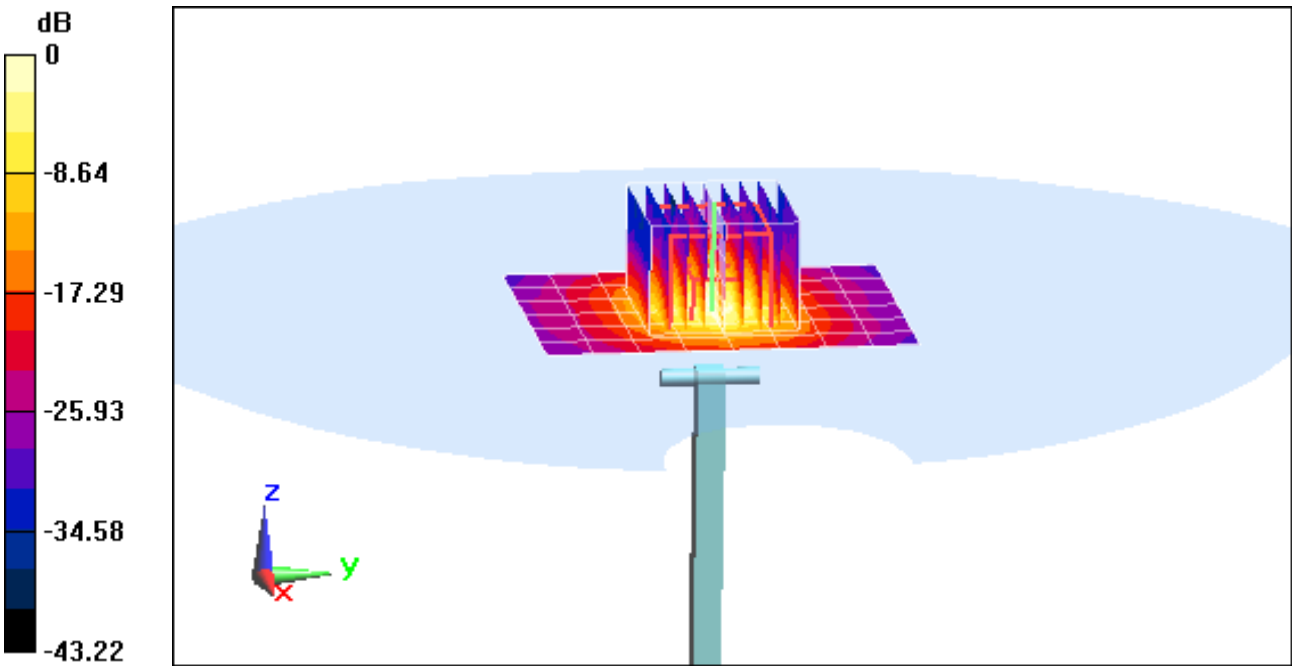
Communication System: UID 0, CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5500 MHz; σ = 5.844 S/m; ε_r = 46.929; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(3.8, 3.8, 3.8); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

5500MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 31.4 W/kg
SAR(1 g) = 7.97 W/kg
Deviation: 5.01%



0 dB = 20.2 W/kg = 13.05 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5600 MHz; Type: D5GHzV2; Serial: 1007

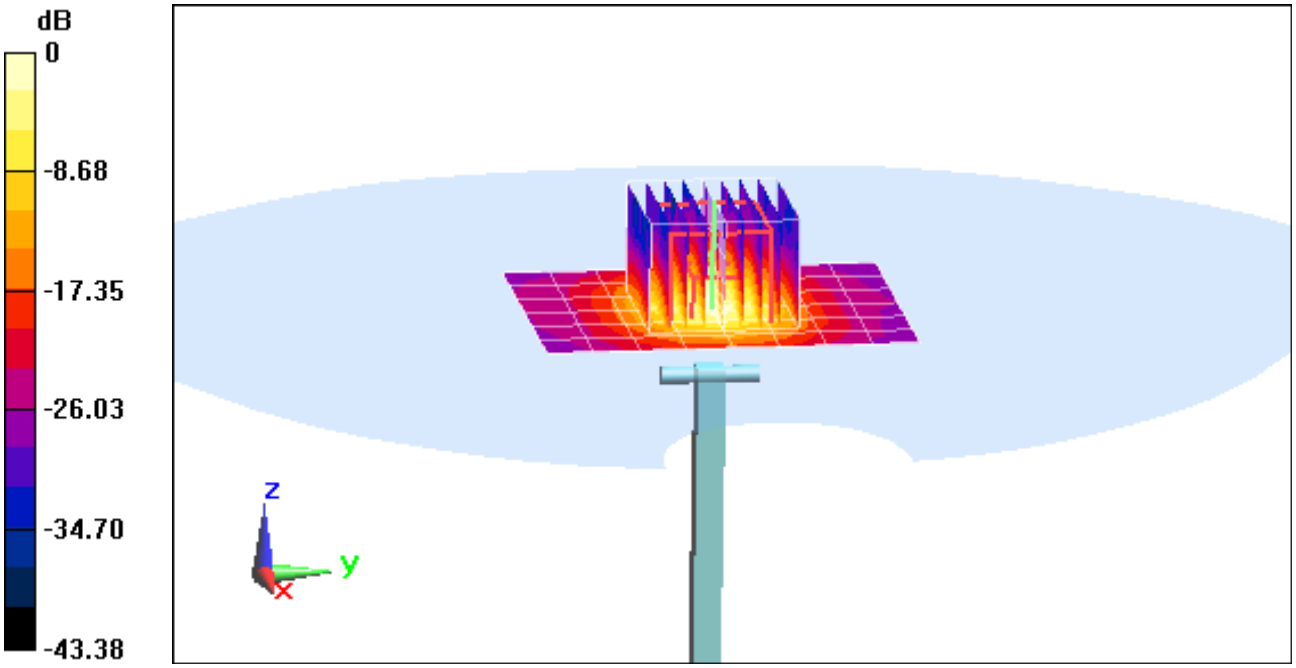
Communication System: UID 0, CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5600 MHz; σ = 6.007 S/m; ε_r = 46.524; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(3.62, 3.62, 3.62); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

5600MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.9 W/kg
SAR(1 g) = 7.85 W/kg
Deviation: 1.55%



0 dB = 20.1 W/kg = 13.03 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 5800 MHz; Type: D5GHzV2; Serial: 1007

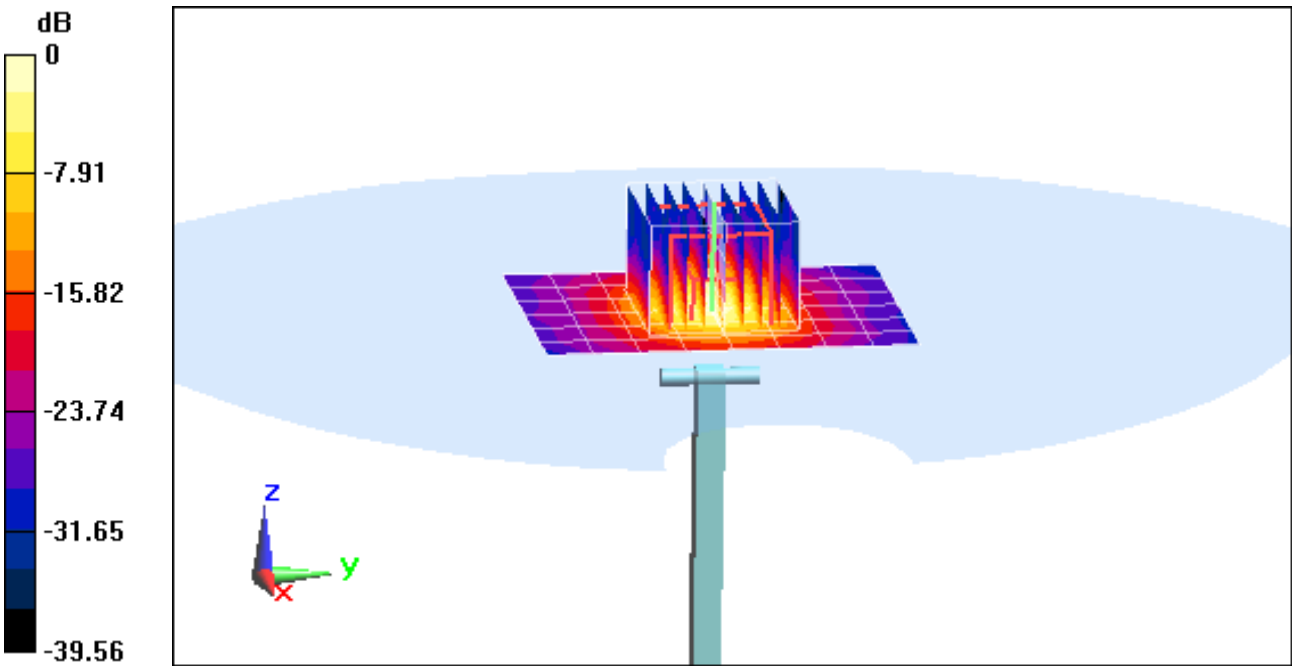
Communication System: UID 0, CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5800 MHz; σ = 6.164 S/m; ε_r = 45.988; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 05-27-2014; Ambient Temp: 23.8°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3920; ConvF(4, 4, 4); Calibrated: 12/18/2013;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 12/12/2013
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.10 (7164)

5800MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Input Power: 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.4 W/kg
SAR(1 g) = 7.26 W/kg
Deviation: -0.41%



0 dB = 18.8 W/kg = 12.74 dBW/kg