



## SAR EVALUATION REPORT

**Applicant Name:**

Samsung Electronics, Co. Ltd.  
416, Maetan 3-dong, Yeongtong-gu, Suwon-si  
Gyeonggi-do, 443-742  
Republic of Korea

**Date of Testing:**

02/20/2012-03/23/2012 & 5/8/2012 – 5/10/2012

**Test Site/Location:**

PCTEST Lab, Columbia, MD, USA

**Document Serial No.:**

OY1202220232 – R1.A3L

**FCC ID:**

**A3LSCHI535**

**APPLICANT:**

**SAMSUNG ELECTRONICS, CO. LTD.**

**DUT Type:**

Portable Handset

**Application Type:**

Certification

**FCC Rule Part(s):**

CFR §2.1093

**Model(s):**

SCH-I535

| Band & Mode                                 | Tx Frequency          | Conducted Power [dBm] | SAR              |                       |                     |
|---------------------------------------------|-----------------------|-----------------------|------------------|-----------------------|---------------------|
|                                             |                       |                       | 1 gm Head (W/kg) | 1 gm Body-Worn (W/kg) | 1 gm Hotspot (W/kg) |
| Cell. CDMA/EVDO                             | 824.70 - 848.31 MHz   | 24.73                 | 0.23             | 0.42                  | 0.42                |
| PCS CDMA/EVDO                               | 1851.25 - 1908.75 MHz | 24.87                 | 0.35             | 0.93                  | 0.93                |
| GSM/GPRS/EDGE 850                           | 824.20 - 848.80 MHz   | 33.14                 | 0.21             | 0.43                  | 0.62                |
| GSM/GPRS/EDGE 1900                          | 1850.20 - 1909.80 MHz | 29.57                 | 0.09             | 0.37                  | 0.37                |
| LTE Band 13                                 | 782 MHz               | 22.78                 | 0.10             | 0.34                  | 0.34                |
| 2.4 GHz WLAN                                | 2412 - 2462 MHz       | 15.89                 | 0.10             | 0.22                  | 0.22                |
| 5.8 GHz WLAN                                | 5745 - 5825 MHz       | 12.24                 | 0.03             | 0.17                  |                     |
| 5.2 GHz WLAN                                | 5180 - 5240 MHz       | 11.70                 | 0.03             | 0.22                  |                     |
| 5.3 GHz WLAN                                | 5260 - 5320 MHz       | 11.82                 | 0.03             | 0.19                  |                     |
| 5.5 GHz WLAN                                | 5500 - 5700 MHz       | 12.40                 | 0.07             | 0.27                  |                     |
| Bluetooth                                   | 2402 - 2480 MHz       | 9.19                  | N/A              |                       |                     |
| <b>Simultaneous SAR per KDB 690783 D01:</b> |                       |                       | 0.48             | 1.29                  | 1.29                |

Note: Powers in the above table represent output powers for the SAR test configurations and may not represent the highest output powers for all configurations for each mode.

Note: This revised test report (S/N OY1202220232-R1.A3L) supersedes and replaces the previously issued test report on the same subject DUT for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of accordingly.

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 FCC/OET Bulletin 65 Supplement C (2001), IEEE 1528-2003 and in applicable Industry Canada Radio Standards Specifications (RSS); 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.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

  
Randy Ortanez  
President



|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>OY1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 1 of 74                    |

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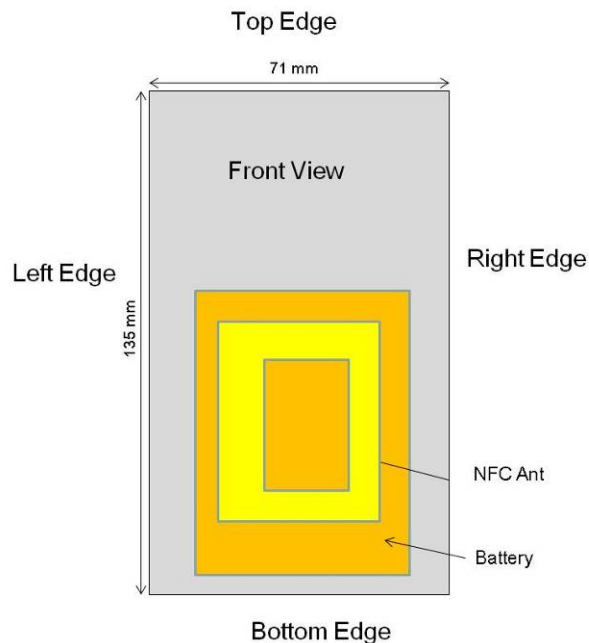
# 1 DEVICE UNDER TEST

## 1.1 Device Overview

| Band & Mode   |                    | Tx Frequency          |
|---------------|--------------------|-----------------------|
| CDMA/EVDO     | Cell. CDMA/EVDO    | 824.70 - 848.31 MHz   |
|               | PCS CDMA/EVDO      | 1851.25 - 1908.75 MHz |
| GSM/GPRS/EDGE | GSM/GPRS/EDGE 850  | 824.20 - 848.80 MHz   |
|               | GSM/GPRS/EDGE 1900 | 1850.20 - 1909.80 MHz |
| LTE           | LTE Band 13        | 782 MHz               |
| WLAN          | 2.4 GHz WLAN       | 2412 - 2462 MHz       |
|               | 5.8 GHz WLAN       | 5745 - 5825 MHz       |
|               | 5.2 GHz WLAN       | 5180 - 5240 MHz       |
|               | 5.3 GHz WLAN       | 5260 - 5320 MHz       |
|               | 5.5 GHz WLAN       | 5500 - 5700 MHz       |
| Bluetooth     | Bluetooth          | 2402 - 2480 MHz       |
| NFC           | NFC                | 13.56 MHz             |

## 1.2 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the standard battery and will be the only battery available from the manufacturer for this model. Therefore all SAR tests were performed with the standard battery which already integrates the NFC antenna. The device restricts the battery used to battery model: EB-L1G6LLZ.



**Figure 1-1**  
**NFC Antenna Location**

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
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### 1.3 DUT Antenna Locations

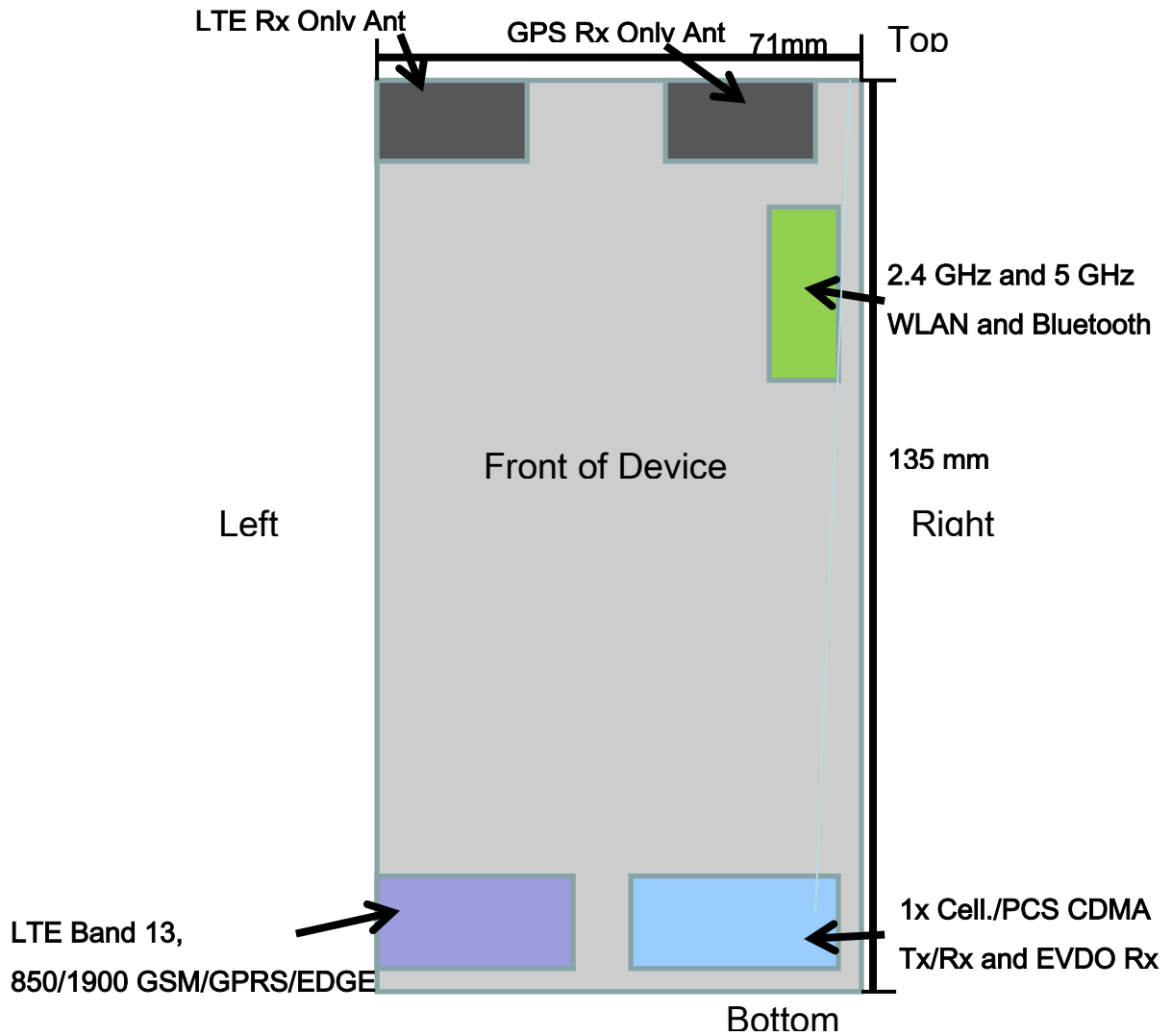


Figure 1-2  
DUT Antenna Locations

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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**Table1-1**  
**Mobile Hotspot Sides required for SAR Testing per KDB 941225 D06**

| Mobile Hotspot Sides for SAR Testing |      |       |     |        |       |      |
|--------------------------------------|------|-------|-----|--------|-------|------|
| Mode                                 | Back | Front | Top | Bottom | Right | Left |
| 1x Cell. CDMA                        | Yes  | Yes   | No  | Yes    | Yes   | No   |
| 1x PCS CDMA                          | Yes  | Yes   | No  | Yes    | Yes   | No   |
| Cell. EVDO                           | Yes  | Yes   | No  | Yes    | No    | Yes  |
| PCS EVDO                             | Yes  | Yes   | No  | Yes    | No    | Yes  |
| GPRS 850                             | Yes  | Yes   | No  | Yes    | No    | Yes  |
| GPRS 1900                            | Yes  | Yes   | No  | Yes    | No    | Yes  |
| LTE Band 13                          | Yes  | Yes   | No  | Yes    | No    | Yes  |
| 2.4 GHz WLAN                         | Yes  | Yes   | Yes | No     | Yes   | No   |

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 D06 guidance, page 2. The antenna document shows the distances between the transmit antennas and the edges of the device. When the wireless router mode is enabled, all 5 GHz bands are disabled. Therefore 5 GHz WIFI is not considered in this section.

#### 1.4 Power Reduction for SAR

This device uses power reduction mechanisms for EVDO and LTE during SVLTE (voice + LTE data) and SVDO (voice + EVDO) operations for SAR compliance. See Section 11 and Section 12 for more details.

#### 1.5 Simultaneous Transmission Capabilities

According to KDB 648474, 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.



**Figure 1-3**  
**Simultaneous Transmission Paths**

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

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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**Table 1-2**  
**Simultaneous Transmission Scenarios**

| Ref. | Simultaneous Transmit Configurations                         | Power Reduction | SAR Report Section | Head              | Body-Worn Accessory | Hot Spot                       | Note                        |
|------|--------------------------------------------------------------|-----------------|--------------------|-------------------|---------------------|--------------------------------|-----------------------------|
|      |                                                              |                 |                    | IEEE 1528, Supp C | Supplement C        | FCC KDB 941225 D06 edges/sides |                             |
| A    | 1X CDMA 850 Voice + LTE 782 MHz Data                         | LTE             | Section 15.6       | ✓                 | ✓                   | -                              | SVLTE                       |
| B    | 1X CDMA 1900 Voice + LTE 782 MHz Data                        |                 |                    | ✓                 | ✓                   | -                              | SVLTE                       |
| C    | 1X CDMA 850 Voice + EVDO 850 Data                            |                 |                    | ✓                 | ✓                   | -                              | SVDO                        |
| D    | 1X CDMA 850 Voice + EVDO 1900 Data                           | EVDO            | Section 15.7       | ✓                 | ✓                   | -                              | SVDO                        |
| E    | 1X CDMA 1900 Voice + EVDO 850 Data                           |                 |                    | ✓                 | ✓                   | -                              | SVDO                        |
| F    | 1X CDMA 1900 Voice + EVDO 1900 Data                          |                 |                    | ✓                 | ✓                   | -                              | SVDO                        |
| G    | 1X CDMA 850 Voice + 2.4 GHz WIFI                             | None            | Section 15.4       | ✓                 | ✓                   | -                              |                             |
| H    | 1X CDMA 850 Voice + 5 GHz WIFI                               |                 |                    | ✓                 | ✓                   | -                              |                             |
| I    | 1X CDMA 1900 Voice + 2.4 GHz WIFI                            |                 |                    | ✓                 | ✓                   | -                              |                             |
| J    | 1X CDMA 1900 Voice + 5 GHz WIFI                              |                 |                    | ✓                 | ✓                   | -                              |                             |
| K    | GSM850 Voice + 2.4 GHz WIFI                                  |                 |                    | ✓                 | ✓                   | -                              |                             |
| L    | GSM850 Voice + 5 GHz WIFI                                    |                 |                    | ✓                 | ✓                   | -                              |                             |
| M    | GSM1900 Voice + 2.4 GHz WIFI                                 |                 |                    | ✓                 | ✓                   | -                              |                             |
| N    | GSM1900 Voice + 5 GHz WIFI                                   |                 |                    | ✓                 | ✓                   | -                              |                             |
| O    | 1X CDMA 850 Voice + LTE 782 MHz Data + 2.4 GHz WIFI          | LTE             | Section 15.6       | ✓                 | ✓                   | ✓                              | Voice + LTE + WIFI Hotspot  |
| P    | 1X CDMA 1900 Voice + LTE 782 MHz Data + 2.4 GHz WIFI         |                 |                    | ✓                 | ✓                   | ✓                              | Voice + LTE + WIFI Hotspot  |
| Q    | 1X CDMA 850 Voice + EVDO 850 Data + 2.4 GHz WIFI             | EVDO            | Section 15.7       | ✓                 | ✓                   | ✓                              | Voice + EVDO + WIFI Hotspot |
| R    | 1X CDMA 1900 Voice + EVDO 850 Data + 2.4 GHz WIFI            |                 |                    | ✓                 | ✓                   | ✓                              | Voice + EVDO + WIFI Hotspot |
| S    | 1X CDMA 850 Voice + EVDO 1900 Data + 2.4 GHz WIFI            |                 |                    | ✓                 | ✓                   | ✓                              | Voice + EVDO + WIFI Hotspot |
| T    | 1X CDMA 1900 Voice + EVDO 1900 Data + 2.4 GHz WIFI           |                 |                    | ✓                 | ✓                   | ✓                              | Voice + EVDO + WIFI Hotspot |
| U    | 1X CDMA 850 Data + 2.4 GHz WIFI                              | None            | Section 15.5       | -                 | -                   | ✓                              | 1X CDMA Data +WIFI Hotspot  |
| V    | 1X CDMA 1900 Data + 2.4 GHz WIFI                             |                 |                    | -                 | -                   | ✓                              | 1X CDMA Data +WIFI Hotspot  |
| W    | EVDO 850 Data + 2.4 GHz WIFI                                 |                 |                    | -                 | -                   | ✓                              | EVDO+WIFI Hotspot           |
| X    | EVDO 1900 Data + 2.4 GHz WIFI                                |                 |                    | -                 | -                   | ✓                              | EVDO+WIFI Hotspot           |
| Y    | LTE 782 MHz Data + 2.4 GHz WIFI                              |                 |                    | -                 | -                   | ✓                              | LTE+WIFI Hotspot            |
| Z    | GPRS/EDGE 850 Data + 2.4 GHz WIFI                            |                 |                    | -                 | -                   | ✓                              | GPRS/EDGE + WIFI Hotspot    |
| AA   | GPRS/EDGE 1900 Data + 2.4 GHz WIFI                           |                 |                    | -                 | -                   | ✓                              | GPRS/EDGE + WIFI Hotspot    |
| AB   | GSM 850/1900 Voice + 850/1900 1X-RTT CDMA Data               |                 |                    |                   |                     |                                | Not Supported by SW         |
| AC   | GSM 850/1900 Voice + EVDO/LTE/GPRS/EDGE Data                 |                 |                    |                   |                     |                                | Not Supported by HW         |
| AD   | GSM 850/1900 Voice + 850/1900 1X-RTT CDMA + 2.4/5 GHz WIFI   |                 |                    |                   |                     |                                | Not Supported by SW         |
| AE   | GSM 850/1900 Voice + EVDO/LTE/GPRS/EDGE + 2.4/5 GHz WIFI     |                 |                    |                   |                     |                                | Not supported by HW         |
| AF   | 1X CDMA 850 Voice + LTE 782 MHz Data + 5 GHz WIFI            |                 |                    |                   |                     |                                | Not Supported by SW         |
| AG   | 1X CDMA 1900 Voice + LTE 782 MHz Data + 5 GHz WIFI           |                 |                    |                   |                     |                                | Not Supported by SW         |
| AH   | GPRS/EDGE 850/1900 Data + 5 GHz WIFI                         |                 |                    |                   |                     |                                | Not Supported by SW         |
| AI   | LTE 782MHz Data + 5 GHz WIFI                                 |                 |                    |                   |                     |                                | Not Supported by SW         |
| AJ   | 1X 850/1900 Data + 5 GHz WIFI                                |                 |                    |                   |                     |                                | Not Supported by SW         |
| AK   | EVDO 850/1900 Data + 5 GHz WIFI                              |                 |                    |                   |                     |                                | Not Supported by SW         |
| AL   | 850/1900 GPRS/EDGE Data + LTE 782 MHz Data                   |                 |                    |                   |                     |                                | Not Supported by HW         |
| AM   | 850/1900 EVDO Data + 850/1900 GPRS/EDGE Data                 |                 |                    |                   |                     |                                | Not Supported by HW         |
| AN   | 850/1900 EVDO data + LTE 782 MHz Data                        |                 |                    |                   |                     |                                | Not Supported by HW         |
| AO   | GSM 850/1900 Voice + 850/1900 1X-RTT CDMA Voice              |                 |                    |                   |                     |                                | Not Supported by SW         |
| AP   | 850/1900 1X-RTT CDMA Voice + GPRS/EDGE Data                  |                 |                    |                   |                     |                                | Not Supported by SW         |
| AQ   | 850/1900 1X-RTT CDMA Voice + GPRS/EDGE Data + 2.4/5 GHz WIFI |                 |                    |                   |                     |                                | Not Supported by SW         |

## 1.6 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 based on KDB 941225 D06.

|                                               |                                                                                                                                   |                                      |  |  |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--|--|---------------------------------------------------------------------------------------|----------------------------------------|
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The separation between the CDMA 1x-RTT Antenna and the Bluetooth/ WLAN antenna is 82.3 mm.

The separation between the EVDO/LTE/GSM/GPRS/EDGE Antenna and the Bluetooth/ WLAN antenna is 87.7 mm.

The maximum RF Conducted Power of Bluetooth Tx is 8.299 mW (See DSS Report for a full set of Bluetooth powers). The maximum RF Conducted Power of 2.4 GHz WLAN is 38.99 mW. The maximum RF Conducted Power of 5 GHz WLAN is 17.78 mW.

Per KDB Publication 648474, **Bluetooth SAR was not required** based on the maximum conducted power, the Bluetooth/WLAN to main antennas separation distance and Body-SAR of the main antennas.

This device supports 20MHz and 40MHz Bandwidths for IEEE 802.11n for 5 GHz WIFI only. 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 802.11a.

#### (B) Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported. Therefore, GSM Voice cannot transmit simultaneously with GPRS/EDGE Data.

CDMA 1x-RTT and EVDO operate on separate transmission paths. Therefore, these modes were evaluated independently to determine compliance for different simultaneous transmission scenarios.

## 1.7 Guidance Applied

- FCC OET Bulletin 65 Supplement C [June 2001]
- IEEE 1528-2003
- FCC KDB 941225 (2G/3G/4G and Hotspot)
- FCC KDB 248227 (802.11)
- FCC KDB 648474 (Simultaneous)
- FCC KDB 865664 (5 GHz)

## 1.8 Samples Used for SAR Testing

Several samples were used with identical hardware. Reduced power levels were configured by the manufacturer via software to support SAR test cases.

| Mode/Band:                  | CDMA 850 |         |         | CDMA 1900 |         |         |
|-----------------------------|----------|---------|---------|-----------|---------|---------|
| Target Maximum Power (dBm): | 24.5     | 18      | 15      | 24.5      | 18      | 15      |
| Serial Number:              | D2-0581  | D2-0585 | D2-0584 | D2-1660   | D2-0585 | D2-0584 |

| Mode/Band:                  | EVDO 850 |         | EVDO 1900 |         | LTE     |         | GSM850  | GSM1900 |
|-----------------------------|----------|---------|-----------|---------|---------|---------|---------|---------|
| Target Maximum Power (dBm): | 24.5     | 18.5    | 24.5      | 18.5    | 23      | 19      | 33      | 29.5    |
| Serial Number:              | D2-0579  | D2-0581 | D2-0579   | D2-0582 | D2-1661 | D2-1660 | D2-3064 | D2-3064 |

|                |                  |
|----------------|------------------|
| Mode/Band:     | 2.4 + 5 GHz WIFI |
| Serial Number: | D2-0445          |

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
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| KDB 941225 Pub LTE Information |                                                                                                                   |                                                                     |                            |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------|
| KDB<br>941225<br>Section       | FCC ID                                                                                                            | A3LSCHI535                                                          |                            |
|                                | Form Factor                                                                                                       | Handset                                                             |                            |
| 1)                             | Frequency Range of each LTE transmission band                                                                     | Band 13: 782 MHz                                                    |                            |
| 2)                             | Channel Bandwidths                                                                                                | Band 13: 10 MHz                                                     |                            |
| 3)                             | Channel Numbers and Frequencies (MHz)                                                                             | Low                                                                 | Mid                        |
|                                |                                                                                                                   |                                                                     | 782 MHz (23230)            |
| 4)(a)                          | UE Category                                                                                                       | UE category 3                                                       |                            |
| (b)                            | Modulations Supported in UL                                                                                       | QPSK, 16QAM                                                         |                            |
|                                | LTE Transmitter and Antenna Implementation                                                                        | CDMA 1x RTT and LTE/EVDO/GSM operate on separate transmission paths |                            |
| 5)                             | Description of LTE Tx and Ant. Implementation                                                                     | 1 TX/RX Ant, 1 RX Ant                                               |                            |
| 6)                             | LTE Voice available?                                                                                              | No                                                                  |                            |
|                                | Hotspot with LTE+WIFI                                                                                             | Yes                                                                 |                            |
|                                | Hotspot with LTE+WIFI active with 1XVoice sessions?                                                               | Yes                                                                 |                            |
| 7)                             | 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                                                                 |                            |
| 8)                             | Conducted power Table provided for 1RB (low and high offset), 50% RB (centered), 100% RB                          | Yes                                                                 |                            |
| 9-10)                          | Non-LTE US Wireless Operating Modes/Band                                                                          | RF Output Power                                                     | RF Exposure Configurations |
|                                | Cell. CDMA/EVDO                                                                                                   | See page 1                                                          |                            |
|                                | PCS CDMA/EVDO                                                                                                     |                                                                     |                            |
|                                | 850 MHz GSM/GPRS/EDGE                                                                                             |                                                                     |                            |
|                                | 1900 MHz GSM/GPRS/EDGE                                                                                            |                                                                     |                            |
|                                | Bluetooth                                                                                                         |                                                                     |                            |
|                                | 2.4 GHz WLAN                                                                                                      |                                                                     |                            |
| 5 GHz WLAN                     |                                                                                                                   |                                                                     |                            |
| 11)                            | Simultaneous Tx Conditions (Voice and Data Configurations)                                                        | See Section 1.5                                                     |                            |
| 12)                            | Power Reduction used for SAR Compliance?                                                                          | Yes                                                                 |                            |
| 13)                            | Describe Power Reduction (LTE Modes)                                                                              | See Section 12                                                      |                            |
| 14)                            | SAR Test Plan                                                                                                     | See Section 12                                                      |                            |
| 15)                            | SAR test data                                                                                                     | See Section 14                                                      |                            |

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
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### 3

## INTRODUCTION

The FCF has adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [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 [24]. 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<sup>3</sup>)
- 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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| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 9 of 74                           |

## 4 SAR MEASUREMENT SETUP

### 4.1 Automated SAR Measurement System

Measurements are performed using the DASY automated dosimetric SAR assessment system. The DASY is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland and consists of a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the SAM phantom containing the head or body equivalent material. The robot is a six-axis industrial robot, performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). See [WWW.SPEAG.COM](http://WWW.SPEAG.COM) for more information about the specification of the SAR assessment system.



**Figure 4-1**  
**SAR Measurement System**



**Figure 4-2**  
**Near-Field Probe**

**Table 4-1**  
**Composition of the Tissue Equivalent Matter**

| Frequency (MHz)                | 835   | 835   | 1900  | 1900  | 2450  | 2450 | 5200-5800 | 5200-5800 |
|--------------------------------|-------|-------|-------|-------|-------|------|-----------|-----------|
| Tissue                         | Head  | Body  | Head  | Body  | Head  | Body | Head      | Body      |
| Ingredients (% by weight)      |       |       |       |       |       |      |           |           |
| Bactericide                    | 0.1   | 0.1   |       |       |       |      |           |           |
| DGBE                           |       |       | 44.92 | 29.44 | 7.99  | 26.7 |           |           |
| HEC                            | 1     | 1     |       |       |       |      |           |           |
| NaCl                           | 1.45  | 0.94  | 0.18  | 0.39  | 0.16  | 0.1  |           |           |
| Sucrose                        | 57    | 44.9  |       |       |       |      |           |           |
| Triton X-100                   |       |       |       |       | 19.97 |      | 17.24     |           |
| Diethylenglycol monohexylether |       |       |       |       |       |      | 17.24     |           |
| Polysorbate (Tween) 80         |       |       |       |       |       |      |           | 20        |
| Water                          | 40.45 | 53.06 | 54.9  | 70.17 | 71.88 | 73.2 | 65.52     | 80        |

See next page for 750 MHz Tissue Information

|                                        |                                                                                     |                               |                                                                                       |                                 |
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**Table 4-2**  
**Composition of 750 MHz Head and Body Tissue Equivalent Matter**

| <b>2 Composition / Information on ingredients</b>                |                                                                                                                                                     |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| The Item is composed of the following ingredients:               |                                                                                                                                                     |
| H <sub>2</sub> O                                                 | Water, 35 – 58%                                                                                                                                     |
| Sucrose                                                          | Sugar, white, refined, 40 – 80%                                                                                                                     |
| NaCl                                                             | Sodium Chloride, 0 – 6%                                                                                                                             |
| Hydroxyethyl-cellulose                                           | Medium Viscosity (CAS# 9004-82-0), <0.3%                                                                                                            |
| Preventol-D7                                                     | Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyl-3(2H)-isothiazolone, 0.1 – 0.7% |
| Relevant for safety; Refer to the respective Safety Data Sheet*. |                                                                                                                                                     |

**Note:** 750MHz liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

**Measurement Certificate / Material Test**

|              |                                         |
|--------------|-----------------------------------------|
| Item Name    | Body Tissue Simulating Liquid (MSL 750) |
| Product No.  | SL AAM 075 AA (Charge: 110606-1)        |
| Manufacturer | SPEAG                                   |

**Measurement Method**

TSL dielectric parameters measured using calibrated OCP probe (type DAK).

**Target Parameters**

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

**Test Condition**

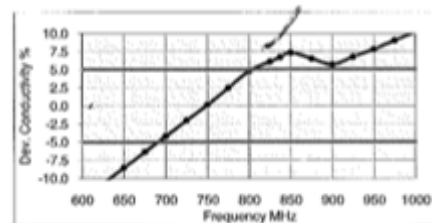
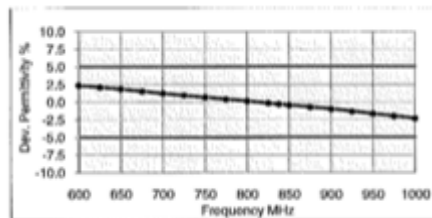
Ambient Condition 22°C ; 30% humidity  
TSL Temperature 22°C  
Test Date 8-Jun-11

**Additional information**

TSL Density 1.212 g/cm<sup>3</sup>  
TSL Heat-capacity 3.006 kJ/(kg\*K)

**Results**

| f (MHz) | Measured |        |       | Target |       | Diff. to Target (%) |         |
|---------|----------|--------|-------|--------|-------|---------------------|---------|
|         | HP-ε'    | HP-ε'' | sigma | eps    | sigma | Δ-eps               | Δ-sigma |
| 600     | 57.4     | 24.88  | 0.83  | 56.1   | 0.95  | 2.4                 | -12.7   |
| 625     | 57.2     | 24.53  | 0.85  | 56.0   | 0.95  | 2.1                 | -10.6   |
| 650     | 57.0     | 24.18  | 0.87  | 55.9   | 0.95  | 1.8                 | -8.5    |
| 675     | 56.7     | 23.90  | 0.90  | 55.8   | 0.95  | 1.5                 | -6.3    |
| 700     | 56.4     | 23.61  | 0.92  | 55.7   | 0.95  | 1.2                 | -4.2    |
| 725     | 56.2     | 23.37  | 0.94  | 55.6   | 0.95  | 0.9                 | -2.0    |
| 750     | 55.9     | 23.12  | 0.96  | 55.5   | 0.96  | 0.7                 | 0.1     |
| 775     | 55.7     | 22.95  | 0.99  | 55.4   | 0.97  | 0.4                 | 2.5     |
| 800     | 55.4     | 22.78  | 1.01  | 55.3   | 0.97  | 0.1                 | 4.8     |
| 825     | 55.2     | 22.61  | 1.04  | 55.2   | 0.98  | -0.2                | 6.1     |
| 850     | 55.0     | 22.52  | 1.05  | 55.2   | 0.98  | -0.3                | 6.7     |
| 875     | 54.9     | 22.44  | 1.06  | 55.2   | 0.99  | -0.4                | 7.3     |
| 900     | 54.7     | 22.30  | 1.09  | 55.1   | 1.02  | -0.7                | 6.5     |
| 925     | 54.5     | 22.17  | 1.11  | 55.0   | 1.05  | -1.0                | 5.7     |
| 950     | 54.2     | 22.05  | 1.13  | 55.0   | 1.06  | -1.3                | 6.8     |
| 975     | 54.0     | 21.94  | 1.16  | 54.9   | 1.08  | -1.7                | 7.8     |
| 1000    | 53.8     | 21.85  | 1.18  | 54.9   | 1.09  | -2.0                | 9.0     |
| 1000    | 53.6     | 21.75  | 1.21  | 54.8   | 1.10  | -2.3                | 10.2    |



**Figure 4-3**  
**750MHz Body Tissue Equivalent Matter**

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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## Measurement Certificate / Material Test

Item Name **Head Tissue Simulating Liquid (HSL 750)**  
 Product No. **SL AAH 075 (Charge: 110601-1)**  
 Manufacturer **SPEAG**

### Measurement Method

TSL dielectric parameters measured using calibrated OCP probe (type DAK).

### Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

### Test Condition

Ambient Condition **22°C ; 30% humidity**  
 TSL Temperature **22°C**  
 Test Date **8-Jun-11**

### Additional Information

TSL Density **1.284 g/cm<sup>3</sup>**  
 TSL Heat-capacity **2.701 kJ/(kg\*K)**

### Results

| f (MHz) | Measured |        |       | Target |       | Diff.to Target (%) |         |
|---------|----------|--------|-------|--------|-------|--------------------|---------|
|         | HP-e'    | HP-e'' | sigma | eps    | sigma | Δ-eps              | Δ-sigma |
| 600     | 43.9     | 23.01  | 0.77  | 42.7   | 0.88  | 2.7                | -12.9   |
| 625     | 43.5     | 22.75  | 0.79  | 42.6   | 0.88  | 2.1                | -10.5   |
| 650     | 43.1     | 22.49  | 0.81  | 42.5   | 0.89  | 1.5                | -8.2    |
| 675     | 42.7     | 22.26  | 0.84  | 42.3   | 0.89  | 1.0                | -5.9    |
| 700     | 42.4     | 22.03  | 0.86  | 42.2   | 0.89  | 0.4                | -3.5    |
| 725     | 42.0     | 21.84  | 0.88  | 42.1   | 0.89  | -0.1               | -1.2    |
| 750     | 41.7     | 21.65  | 0.90  | 41.9   | 0.89  | -0.6               | 1.1     |
| 775     | 41.4     | 21.50  | 0.93  | 41.8   | 0.90  | -1.1               | 3.5     |
| 800     | 41.0     | 21.34  | 0.95  | 41.7   | 0.90  | -1.6               | 5.9     |
| 825     | 40.7     | 21.19  | 0.97  | 41.6   | 0.91  | -2.1               | 7.3     |
| 850     | 40.5     | 21.12  | 0.98  | 41.5   | 0.91  | -2.4               | 8.0     |
| 875     | 40.4     | 21.05  | 1.00  | 41.5   | 0.92  | -2.7               | 8.6     |
| 900     | 40.1     | 20.91  | 1.02  | 41.5   | 0.94  | -3.3               | 7.9     |
| 925     | 39.8     | 20.77  | 1.04  | 41.5   | 0.97  | -4.0               | 7.2     |
| 950     | 39.6     | 20.66  | 1.06  | 41.5   | 0.98  | -4.6               | 8.2     |
| 975     | 39.3     | 20.55  | 1.09  | 41.4   | 0.99  | -5.2               | 9.2     |
| 1000    | 39.0     | 20.44  | 1.11  | 41.4   | 1.00  | -5.8               | 10.3    |
| 1000    | 38.7     | 20.32  | 1.13  | 41.3   | 1.01  | -6.4               | 11.4    |

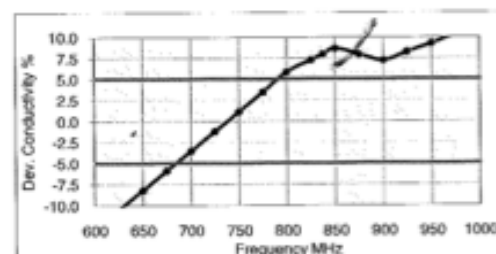
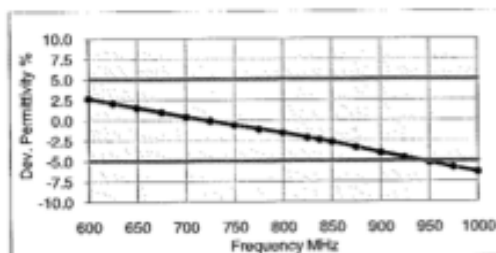


Figure 4-4  
750MHz Head Tissue Equivalent Matter

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
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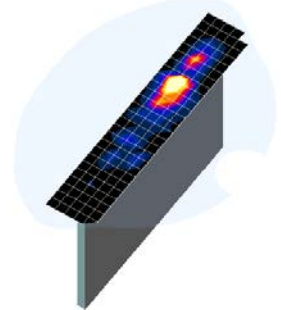
## 5

## DOSIMETRIC ASSESSMENT

### 5.1 Measurement Procedure

The evaluation was performed using the following procedure:

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 interface and the horizontal grid resolution was 15mm and 15mm for frequencies < 3 GHz in the x and y directions respectively. When applicable, for frequencies above 3 GHz, a 10 mm by 10 mm resolution was used.
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 1 gram cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak area of the maximum absorption was determined by spline interpolation. Around this point, a volume of 32mm x 32mm x 30mm (fine resolution volume scan, zoom scan) was assessed by measuring at least 5 x 5 x 7 points. On this 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. The data was extrapolated to the surface of the outer-shell of the phantom. The combined distance extrapolated was the combined distance from the center of the dipoles 2.7mm away from the tip of the probe housing plus the 1.2 mm distance between the surface and the lowest measuring point. 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.
5. For testing 5 GHz devices, finer resolution zoom scans were performed as specified by FCC SAR Measurement Requirements for 3 – 6 GHz, KDB 865664 publication. The 5 GHz zoom scan requires a minimum volume of 24mm x 24mm x 20mm and 7 x 7 x 11 points.



**Figure 5-1**  
**Sample SAR Area Scan**

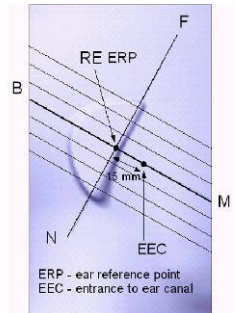
|                                        |                                                                                     |                               |                                                                                       |                                 |
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| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
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## 6

## DEFINITION OF REFERENCE POINTS

### 6.1 EAR REFERENCE POINT

Figure 8-1 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 8-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front) is perpendicular to the reference plane and passing through the RE (or LE) is called the Reference Pivoting Line (see Figure 6-2). 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].



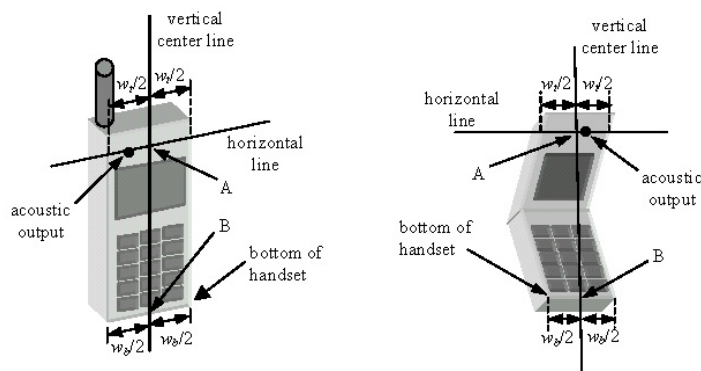
**Figure 6-1**  
Close-Up Side view  
of ERP

### 6.2 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 “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Figure 6-3). The “test device reference point” was then 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 it’s top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



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



**Figure 6-3**  
Handset Vertical Center & Horizontal Line Reference Points

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
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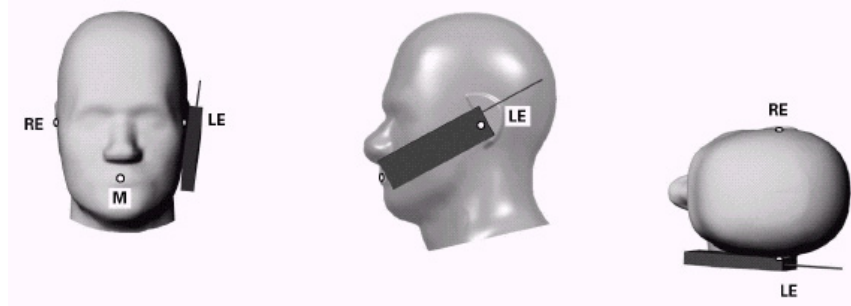
## 7 TEST CONFIGURATION POSITIONS FOR HANDSETS

### 7.1 Device Holder

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon = 3$  and loss tangent  $\delta = 0.02$ .

### 7.2 Positioning for Cheek/Touch

1. The test device was positioned with the handset 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 7-1), 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 7-1 Front, Side and Top View of Cheek/Touch Position**

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the ear.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the plane normal to MB-NF including the line MB (reference plane).
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical with 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 phone contact with the ear, the handset was rotated about the line NF until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 7-2).

### 7.3 Positioning for Ear / 15° Tilt

With the test device aligned in the “Cheek/Touch 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 15 degree.
2. The phone was then rotated around the horizontal line by 15 degree.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the phone touches 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. 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 7-2).

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
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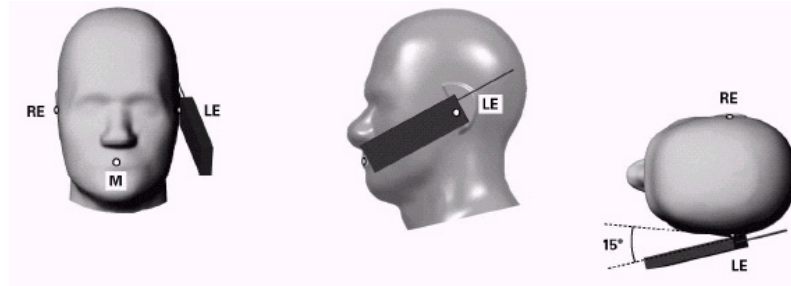


Figure 7-2 Front, Side and Top View of Ear/15° Tilt Position

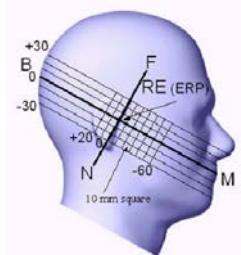


Figure 7-3  
Side view w/ relevant markings



Figure 7-4 Body SAR Sample Photo  
(Not Actual EUT)

## 7.4 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.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document publication 648474. The SAR required in these regions of SAM should be measured using a flat phantom. **Rectangular shaped phones** should be positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM. The ear reference point (ERP, as defined for SAM) of the phone should be positioned  $\frac{1}{2}$  cm from the flat phantom shell. **Clam-shell phones** should be positioned with the hinge against a smooth edge of the flat phantom where the upper half of the phone is unfolded and extended beyond the phantom side wall. The lower half of the phone is secured in the test device holder at a fixed distance below the flat phantom determined by the minimum separation along the lower edge of the phone in the cheek touching position using SAM. Any case with substantial variation in separation distance along the lower edge of a clam shell is discussed with the FCC for best-to-use methodology.

The latest IEEE 1528 committee developments propose the usage of a tilted phantom when the antenna of the phone is mounted at the bottom or in all cases the peak absorption is in the chin region. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed individually from the table for emptying and cleaning.

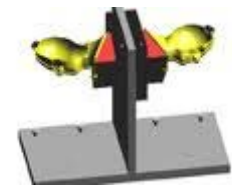


Figure 7-5 Twin SAM  
Chin20

## 7.5 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 7-4). A device with a headset output is tested with a headset connected to the device.

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

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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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.

## 7.6 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive internet connectivity through simultaneous transmission of WIFI in conjunction with a separate licensed transmitter. The FCC has provided guidance in KDB Publication 941225 D06 where SAR test considerations for handsets ( $L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$ ) are based on a composite test separation distance of 10 mm from the front, back and edges of the device with antennas 2.5 cm or closer to the edge of the device, 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. Since this device meets the minimum size requirements, procedures in KDB Publication 941225 D06 were used for SAR testing. See Figure 1-2 for device dimensions.

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. Therefore, SAR must be evaluated for each frequency transmission and mode separately and summed with the WIFI transmitter according to KDB 648474 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
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## 8

## EXPOSURE LIMITS

### 8.1 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.

### 8.2 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 8-1**  
**SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6**

| HUMAN EXPOSURE LIMITS                           |                                                                           |                                                                   |
|-------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                                 | UNCONTROLLED ENVIRONMENT<br><i>General Population</i><br>(W/kg) or (mW/g) | CONTROLLED ENVIRONMENT<br><i>Occupational</i><br>(W/kg) or (mW/g) |
| SPATIAL PEAK SAR<br>Brain                       | 1.6                                                                       | 8.0                                                               |
| SPATIAL AVERAGE SAR<br>Whole Body               | 0.08                                                                      | 0.4                                                               |
| SPATIAL PEAK SAR<br>Hands, Feet, Ankles, Wrists | 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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Power measurements were performed using a base station simulator under digital average power.

### 9.1 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.

### 9.2 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.

#### 9.2.1 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 9-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH<sub>0</sub> 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 SCH<sub>0</sub> data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 9-2 was applied.

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

**Table 9-1**  
**Parameters for Max. Power for RC1**

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

**Table 9-2**  
**Parameters for Max. Power for RC3**

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

#### 9.2.2 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.

|                                        |                                                                                     |                               |                                                                                       |                                 |
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SAR was additionally measured with EVDO Rev.0 to support simultaneous transmission scenarios operating with a CDMA voice call. 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. 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.

### 9.2.3 Body-Worn and Hotspot SAR Measurements

CDMA 1x 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<sub>n</sub>) 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<sub>n</sub>) with FCH at full rate and SCH<sub>0</sub> 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.

EVDO Rev. 0 SAR was also tested in the body-worn and hotspot configurations. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0. Otherwise, SAR is measured on the maximum output channel for Rev. A for the configuration that produced the highest SAR with Rev. 0.

## 9.3 SAR Measurement Conditions for LTE

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes following 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.

### 9.3.1 MPR

MPR is implemented for this device by the manufacturer when the transmit power is not limited by the power reduction mechanism. 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. See Section 10.3 and Section 12.3.1 for MPR targets.

### 9.3.2 A-MPR

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

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
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### 9.3.3 Required RB Size and RB Offsets for SAR Testing

Per FCC KDB 941225 D05, Page 2, footnote 1, the available channels are tested when LTE bands that do not support at least 3 channels in certain bandwidths. There is only one 10 MHz channel in LTE Band 13.

According to FCC KDB 941225 D05:

- a. Per Page 4, 3) A), QPSK with 50% RB is required.
- b. Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- c. Per Page 4, 4) A), 16QAM with 50% RB is required.
- d. Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- e. Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.

## 9.4 SAR Testing with 802.11 Transmitters

Normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g/n 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 for more details.

### 9.4.1 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.

### 9.4.2 Frequency Channel Configurations [27]

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 than 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 0.25 dB or higher than the 802.11a mode.

If the maximum extrapolated peak SAR of the zoom scan for the highest output channel was less than 1.6 W/kg or 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.

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
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## 10 STANDALONE RF CONDUCTED POWERS

### 10.1 Standalone CDMA Conducted Powers

Table 10-1  
CDMA/EVDO Average RF Power

| Band     | Channel | Frequency | SO55<br>[dBm] | SO55<br>[dBm] | TDSO<br>SO32<br>[dBm] | TDSO<br>SO32<br>[dBm] | 1x EVDO<br>Rev. 0<br>[dBm] | 1x EVDO<br>Rev. A<br>[dBm] |
|----------|---------|-----------|---------------|---------------|-----------------------|-----------------------|----------------------------|----------------------------|
|          | F-RC    | MHz       | RC1           | RC3           | FCH+SCH               | FCH                   | (RTAP)                     | (RETAP)                    |
| Cellular | 1013    | 824.7     | 24.67         | 24.65         | 24.74                 | 24.72                 | 24.59                      | 24.54                      |
|          | 384     | 836.52    | 24.60         | 24.57         | 24.71                 | 24.73                 | 24.45                      | 24.43                      |
|          | 777     | 848.31    | 24.80         | 24.79         | 24.91                 | 24.91                 | 24.36                      | 24.35                      |
| PCS      | 25      | 1851.25   | 24.55         | 24.62         | 24.61                 | 24.52                 | 24.55                      | 24.54                      |
|          | 600     | 1880      | 24.81         | 24.87         | 24.86                 | 24.84                 | 24.61                      | 24.60                      |
|          | 1175    | 1908.75   | 24.63         | 24.68         | 24.62                 | 24.64                 | 24.54                      | 24.52                      |

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

#### CDMA 1x Test Notes:

Per KDB Publication 941225 D01:

- 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.
- Body-Worn and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

#### EVDO Test Notes:

Per KDB Publication 941225 D01:

- EVDO SAR (Head, Body-worn accessory and hotspot) was tested with EVDO Rev 0 to support simultaneous transmission capabilities. SAR for Subtype 2 Physical layer configurations was not required for Rev. A since the maximum average output is less than that measured in Subtype 0/1 Physical layer configurations.

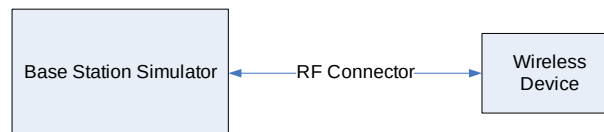


Figure 10-1  
Power Measurement Setup

|                                        |                                                           |                               |         |                                 |
|----------------------------------------|-----------------------------------------------------------|-------------------------------|---------|---------------------------------|
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## 10.2 Standalone GSM Conducted Powers

**Table 10-2**  
**GSM/GPRS/EDGE Average RF Power**

|          |         | Maximum Burst-Averaged Output Power            |                         |                         |                         |                         |
|----------|---------|------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|          |         | Voice                                          | GPRS/EDGE Data (GMSK)   |                         | EDGE Data (8-PSK)       |                         |
| Band     | Channel | GSM [dBm]<br>CS (1 Slot)                       | GPRS [dBm]<br>1 Tx Slot | GPRS [dBm]<br>2 Tx Slot | EDGE [dBm]<br>1 Tx Slot | EDGE [dBm]<br>2 Tx Slot |
| Cellular | 128     | 33.04                                          | 33.09                   | <b>31.46</b>            | 26.54                   | 26.27                   |
|          | 190     | 33.14                                          | 33.26                   | <b>31.43</b>            | 26.64                   | 26.39                   |
|          | 251     | 33.23                                          | 33.25                   | <b>31.32</b>            | 26.68                   | 26.52                   |
| PCS      | 512     | 29.61                                          | 29.69                   | <b>27.82</b>            | 25.08                   | 24.82                   |
|          | 661     | 29.57                                          | 29.71                   | <b>27.81</b>            | 25.08                   | 24.81                   |
|          | 810     | 29.58                                          | 29.63                   | <b>27.83</b>            | 25.22                   | 25.00                   |
|          |         | Calculated Maximum Frame-Averaged Output Power |                         |                         |                         |                         |
|          |         | Voice                                          | GPRS/EDGE Data (GMSK)   |                         | EDGE Data (8-PSK)       |                         |
| Band     | Channel | GSM [dBm]<br>CS (1 Slot)                       | GPRS [dBm]<br>1 Tx Slot | GPRS [dBm]<br>2 Tx Slot | EDGE [dBm]<br>1 Tx Slot | EDGE [dBm]<br>2 Tx Slot |
| Cellular | 128     | 23.31                                          | 22.96                   | <b>24.92</b>            | 17.03                   | 19.81                   |
|          | 190     | 23.52                                          | 23.28                   | <b>25.17</b>            | 17.25                   | 20.05                   |
|          | 251     | 24.07                                          | 23.74                   | <b>25.35</b>            | 17.49                   | 20.18                   |
| PCS      | 512     | 20.11                                          | 19.76                   | <b>21.20</b>            | 16.06                   | 18.83                   |
|          | 661     | 19.38                                          | 19.23                   | <b>21.25</b>            | 15.08                   | 17.82                   |
|          | 810     | 19.62                                          | 19.51                   | <b>21.09</b>            | 14.80                   | 17.49                   |

Note: 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.

The bolded GPRS modes were selected for SAR testing according to the highest frame-averaged output power table according to KDB 941225 D03.

GPRS/EDGE (GMSK) output powers were measured with CS1 on the base station simulator. CS1 coding scheme was used in GPRS output power measurements and SAR Testing, as a condition where GMSK modulation was ensured. Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels in the GPRS modes. 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 and MCS levels that produce 8-PSK modulation do not have an impact on output power levels.

**GSM Class: B**  
**GPRS Multislot class: 10** (max 2 Tx Uplink slots)  
**EDGE Multislot class: 10** (max 2 Tx Uplink slots)  
**DTM Multislot Class: N/A**



**Figure 10-2**  
**Power Measurement Setup**

|                                        |                                                                                     |                               |                                                                                       |                                 |
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## 10.3 Standalone LTE Conducted Powers

Table 10-3  
LTE Band 13 Average RF Power

| Frequency [MHz] | Channel | Bandwidth [MHz] | Modulation | RB Size | RB Offset | Conducted Power [dBm] | Target MPR [dB] | MPR Allowed per 3GPP [dB] |
|-----------------|---------|-----------------|------------|---------|-----------|-----------------------|-----------------|---------------------------|
| 782             | 23230   | 10              | QPSK       | 1       | 0         | <b>22.78</b>          | 0               | 0                         |
| 782             | 23230   | 10              | QPSK       | 1       | 49        | <b>22.76</b>          | 0               | 0                         |
| 782             | 23230   | 10              | QPSK       | 25      | 12        | <b>21.75</b>          | 1               | 0-1                       |
| 782             | 23230   | 10              | QPSK       | 50      | 0         | <b>21.50</b>          | 1               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 1       | 0         | <b>21.94</b>          | 1               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 1       | 49        | <b>22.00</b>          | 1               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 25      | 12        | <b>20.75</b>          | 2               | 0-2                       |
| 782             | 23230   | 10              | 16QAM      | 50      | 0         | <b>20.53</b>          | 2               | 0-2                       |

According to FCC KDB 941225 D05:

- 1) Per Page 4, 3) A), QPSK with 50% RB is required.
- 2) Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- 3) Per Page 4, 4) A), 16QAM with 50% RB is required.
- 4) Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- 5) Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.
- 6) The bolded configurations in the table above were tested for SAR.



## 10.4 Measured WLAN Conducted Powers

Table 10-4  
IEEE 802.11b Average RF Power

| Mode    | Freq [MHz] | Channel | 802.11b Conducted Power [dBm] |              |              |              |
|---------|------------|---------|-------------------------------|--------------|--------------|--------------|
|         |            |         | Data Rate [Mbps]              |              |              |              |
|         |            |         | 1                             | 2            | 5.5          | 11           |
| 802.11b | 2412       | 1       | <b>15.44</b>                  | <b>15.34</b> | <b>15.27</b> | <b>15.26</b> |
| 802.11b | 2437       | 6       | <b>15.56</b>                  | <b>15.66</b> | <b>15.58</b> | <b>15.59</b> |
| 802.11b | 2462       | 11      | <b>15.89</b>                  | <b>15.91</b> | <b>15.85</b> | <b>15.87</b> |

|                                        |                                                                                     |                               |                                                                                       |                                 |
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**Table 10-5**  
**IEEE 802.11g Average RF Power**

| Mode    | Freq  | Channel | 802.11g Conducted Power [dBm] |       |       |       |       |       |       |       |
|---------|-------|---------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|
|         |       |         | Data Rate [Mbps]              |       |       |       |       |       |       |       |
|         | [MHz] |         | 6                             | 9     | 12    | 18    | 24    | 36    | 48    | 54    |
| 802.11g | 2412  | 1       | 12.99                         | 12.87 | 12.93 | 12.92 | 12.95 | 12.91 | 13.01 | 13.02 |
| 802.11g | 2437  | 6       | 13.43                         | 13.45 | 13.41 | 13.38 | 13.34 | 13.38 | 13.27 | 13.39 |
| 802.11g | 2462  | 11      | 13.64                         | 13.65 | 13.64 | 13.67 | 13.61 | 13.72 | 13.66 | 13.65 |

**Table 10-6**  
**IEEE 802.11n Average RF Power**

| Mode    | Freq  | Channel | 802.11n (2.4GHz) Conducted Power [dBm] |       |       |       |       |       |       |       |
|---------|-------|---------|----------------------------------------|-------|-------|-------|-------|-------|-------|-------|
|         |       |         | Data Rate [Mbps]                       |       |       |       |       |       |       |       |
|         | [MHz] |         | 6.5                                    | 13    | 20    | 26    | 39    | 52    | 58    | 65    |
| 802.11n | 2412  | 1       | 12.41                                  | 12.42 | 12.37 | 12.45 | 12.44 | 12.48 | 12.50 | 12.43 |
| 802.11n | 2437  | 6       | 12.75                                  | 12.78 | 12.80 | 12.79 | 12.76 | 12.81 | 12.82 | 12.79 |
| 802.11n | 2462  | 11      | 12.93                                  | 12.98 | 12.99 | 12.97 | 12.92 | 12.94 | 12.95 | 13.01 |

**Table 10-7**  
**IEEE 802.11a Average RF Power**

| Mode    | Freq  | Channel | 802.11a Conducted Power [dBm] |       |       |       |       |       |       |       |
|---------|-------|---------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|
|         |       |         | Data Rate [Mbps]              |       |       |       |       |       |       |       |
|         | [MHz] |         | 6                             | 9     | 12    | 18    | 24    | 36    | 48    | 54    |
| 802.11a | 5180  | 36*     | 11.44                         | 11.41 | 11.40 | 11.43 | 11.35 | 11.37 | 11.32 | 11.41 |
| 802.11a | 5200  | 40      | 11.49                         | 11.31 | 11.40 | 11.42 | 11.44 | 11.45 | 11.49 | 11.42 |
| 802.11a | 5220  | 44      | 11.63                         | 11.59 | 11.67 | 11.61 | 11.65 | 11.58 | 11.67 | 11.62 |
| 802.11a | 5240  | 48*     | 11.70                         | 11.69 | 11.65 | 11.68 | 11.72 | 11.64 | 11.67 | 11.69 |
| 802.11a | 5260  | 52*     | 11.51                         | 11.54 | 11.49 | 11.58 | 11.53 | 11.58 | 11.61 | 11.52 |
| 802.11a | 5280  | 56      | 11.64                         | 11.62 | 11.65 | 11.69 | 11.71 | 11.61 | 11.60 | 11.65 |
| 802.11a | 5300  | 60      | 11.71                         | 11.69 | 11.75 | 11.76 | 11.72 | 11.67 | 11.73 | 11.73 |
| 802.11a | 5320  | 64*     | 11.82                         | 11.89 | 11.86 | 11.81 | 11.94 | 11.90 | 11.87 | 11.92 |
| 802.11a | 5500  | 100     | 12.40                         | 12.47 | 12.41 | 12.44 | 12.45 | 12.37 | 12.48 | 12.46 |
| 802.11a | 5520  | 104*    | 12.39                         | 12.41 | 12.42 | 12.36 | 12.39 | 12.34 | 12.49 | 12.39 |
| 802.11a | 5540  | 108     | 12.21                         | 12.30 | 12.32 | 12.35 | 12.36 | 12.38 | 12.41 | 12.38 |
| 802.11a | 5560  | 112     | 12.22                         | 12.28 | 12.36 | 12.35 | 12.27 | 12.33 | 12.27 | 12.39 |
| 802.11a | 5580  | 116*    | 12.27                         | 12.25 | 12.24 | 12.25 | 12.20 | 12.33 | 12.37 | 12.34 |
| 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     | 11.86                         | 11.93 | 11.97 | 11.94 | 11.92 | 11.95 | 11.99 | 11.98 |
| 802.11a | 5680  | 136*    | 11.84                         | 11.89 | 11.89 | 11.88 | 11.92 | 11.89 | 11.95 | 11.93 |
| 802.11a | 5700  | 140     | 11.79                         | 11.75 | 11.76 | 11.78 | 11.75 | 11.83 | 11.80 | 11.79 |
| 802.11a | 5745  | 149*    | 12.24                         | 12.18 | 12.12 | 12.22 | 12.23 | 12.25 | 12.20 | 12.19 |
| 802.11a | 5765  | 153     | 12.03                         | 11.99 | 12.01 | 12.04 | 12.01 | 12.06 | 12.05 | 12.07 |
| 802.11a | 5785  | 157*    | 11.85                         | 11.87 | 11.91 | 11.86 | 11.93 | 11.88 | 11.91 | 11.87 |
| 802.11a | 5805  | 161*    | 11.75                         | 11.76 | 11.74 | 11.75 | 11.78 | 11.81 | 11.84 | 11.82 |
| 802.11a | 5825  | 165     | 11.79                         | 11.80 | 11.80 | 11.87 | 11.87 | 11.89 | 11.93 | 11.91 |

Per FCC KDB Publication 443999, 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. When the adjacent channels are higher in power then the default channels, these “required channels” are considered instead of the default channels for SAR testing.

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 25 of 74                   |

**Table 10-8**  
**IEEE 802.11n (20 MHz) Average RF Power**

| Mode    | Freq  | Channel | 802.11n (5GHz) Conducted Power [dBm] |       |       |       |       |       |       |       |
|---------|-------|---------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|
|         | [MHz] |         | Data Rate [Mbps]                     |       |       |       |       |       |       |       |
|         |       |         | 6.5                                  | 13    | 20    | 26    | 39    | 52    | 58    | 65    |
| 802.11n | 5180  | 36*     | 11.21                                | 11.11 | 11.13 | 11.18 | 11.23 | 11.19 | 11.17 | 11.22 |
| 802.11n | 5200  | 40      | 11.26                                | 11.31 | 11.27 | 11.25 | 11.32 | 11.30 | 11.29 | 11.26 |
| 802.11n | 5220  | 44      | 11.37                                | 11.41 | 11.33 | 11.32 | 11.43 | 11.38 | 11.41 | 11.42 |
| 802.11n | 5240  | 48*     | 11.49                                | 11.45 | 11.44 | 11.47 | 11.43 | 11.48 | 11.51 | 11.47 |
| 802.11n | 5260  | 52*     | 11.56                                | 11.47 | 11.58 | 11.59 | 11.60 | 11.63 | 11.64 | 11.62 |
| 802.11n | 5280  | 56      | 11.67                                | 11.70 | 11.56 | 11.68 | 11.71 | 11.67 | 11.64 | 11.75 |
| 802.11n | 5300  | 60      | 11.76                                | 11.70 | 11.69 | 11.68 | 11.72 | 11.74 | 11.73 | 11.75 |
| 802.11n | 5320  | 64*     | 11.75                                | 11.78 | 11.84 | 11.81 | 11.80 | 11.88 | 11.89 | 11.84 |
| 802.11n | 5500  | 100     | 12.42                                | 12.37 | 12.41 | 12.41 | 12.42 | 12.44 | 12.49 | 12.44 |
| 802.11n | 5520  | 104*    | 12.33                                | 12.43 | 12.44 | 12.35 | 12.32 | 12.30 | 12.50 | 12.42 |
| 802.11n | 5540  | 108     | 12.16                                | 12.26 | 12.32 | 12.37 | 12.33 | 12.32 | 12.34 | 12.34 |
| 802.11n | 5560  | 112     | 12.22                                | 12.27 | 12.37 | 12.35 | 12.20 | 12.34 | 12.27 | 12.38 |
| 802.11n | 5580  | 116*    | 12.24                                | 12.22 | 12.26 | 12.28 | 12.16 | 12.26 | 12.40 | 12.36 |
| 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     | 11.89                                | 11.92 | 11.94 | 11.90 | 11.94 | 11.96 | 11.94 | 11.96 |
| 802.11n | 5680  | 136*    | 11.82                                | 11.89 | 11.89 | 11.85 | 11.95 | 11.88 | 11.88 | 11.91 |
| 802.11n | 5700  | 140     | 11.80                                | 11.75 | 11.79 | 11.71 | 11.74 | 11.85 | 11.80 | 11.72 |
| 802.11n | 5745  | 149*    | 12.28                                | 12.30 | 12.31 | 12.34 | 12.36 | 12.38 | 12.37 | 12.38 |
| 802.11n | 5765  | 153     | 12.24                                | 12.22 | 12.23 | 12.24 | 12.26 | 12.24 | 12.29 | 12.31 |
| 802.11n | 5785  | 157*    | 12.00                                | 12.05 | 12.08 | 12.07 | 12.11 | 12.13 | 12.12 | 12.09 |
| 802.11n | 5805  | 161*    | 11.88                                | 11.90 | 11.91 | 11.96 | 12.01 | 12.03 | 12.00 | 11.99 |
| 802.11n | 5825  | 165     | 11.86                                | 11.87 | 11.86 | 11.91 | 11.89 | 11.92 | 11.92 | 11.93 |

Per FCC KDB Publication 443999, 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 Bands.

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset | Page 26 of 74                                                                         |                                 |

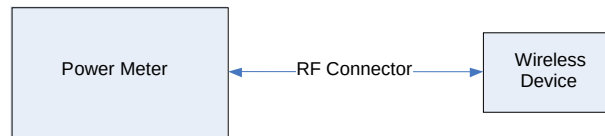
**Table 10-9**  
**IEEE 802.11n (40 MHz) Average RF Power**

| Mode    | Freq  | Channel | 802.11n (5GHz) Conducted Power [dBm] |       |         |       |       |         |           |         |
|---------|-------|---------|--------------------------------------|-------|---------|-------|-------|---------|-----------|---------|
|         |       |         | Data Rate [Mbps]                     |       |         |       |       |         |           |         |
|         | [MHz] |         | 13.5/15                              | 27/30 | 40.5/45 | 54/60 | 81/90 | 108/120 | 121.5/135 | 135/150 |
| 802.11n | 5190  | 38*     | 10.89                                | 10.94 | 10.82   | 10.93 | 10.97 | 10.93   | 10.89     | 10.98   |
| 802.11n | 5230  | 46      | 11.01                                | 11.08 | 11.09   | 11.12 | 11.14 | 11.03   | 11.19     | 11.16   |
| 802.11n | 5270  | 54      | 11.23                                | 11.31 | 11.32   | 11.28 | 11.35 | 11.34   | 11.39     | 11.41   |
| 802.11n | 5310  | 62*     | 11.46                                | 11.49 | 11.42   | 11.57 | 11.58 | 11.51   | 11.49     | 11.49   |
| 802.11n | 5510  | 102*    | 12.12                                | 12.19 | 12.18   | 12.24 | 12.23 | 12.28   | 12.25     | 12.29   |
| 802.11n | 5550  | 110     | 12.09                                | 12.16 | 12.19   | 12.17 | 12.23 | 12.21   | 12.13     | 12.25   |
| 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     | 11.87                                | 11.83 | 11.79   | 11.86 | 11.92 | 11.89   | 11.87     | 11.81   |
| 802.11n | 5755  | 151*    | 11.38                                | 11.43 | 11.52   | 11.43 | 11.36 | 11.45   | 11.53     | 11.39   |
| 802.11n | 5795  | 159     | 11.13                                | 11.12 | 11.21   | 11.18 | 11.13 | 11.25   | 11.28     | 11.25   |

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 Bands.

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 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) and data rates 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 for 20 MHz and 40 MHz bandwidths) and data rates 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.
- Because the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the 1g averaged SAR is <0.8 W/kg for all bands and configurations, SAR testing on other channels was not required.
- SAR was evaluated on the channels and data rates indicated in bold.



**Figure 10-3**  
**Power Measurement Setup**

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 27 of 74                   |

## 11 EVDO POWER REDUCTION

### 11.1 Introduction to EVDO Power Reduction

This device is capable of Simultaneous Voice and EVDO Data (SVDO) calls, with the voice call supported by a CDMA 1xRTT transmitter and the data connection supported by a separate EVDO transmitter. An EVDO power reduction scheme is applied during a EVDO connection operating simultaneously with the 1xRTT voice calls. The maximum transmit power of EVDO is limited depending on the CDMA 1x voice transmit power level. When CDMA 1x Voice is operating at a certain range of high power levels, maximum EVDO transmit power is limited. When CDMA 1x Voice transmit power is below a certain threshold transmit power level, EVDO can transmit at the maximum power. Target levels of power reduction and CDMA voice threshold levels are provided in Table 11-1.

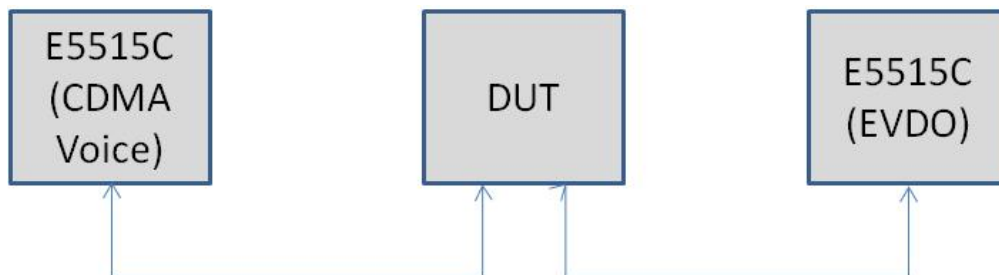
**Table 11-1**  
**SVDO Power Reduction Scheme**

| Mode | Voice Avg Power(P) 1x<br>850/1900 MHz (dBm) | Max. EVDO Data Avg<br>Power (dBm) |
|------|---------------------------------------------|-----------------------------------|
| SVDO | $P \geq 15$                                 | 18.5                              |
|      | $P < 15$                                    | 24.5                              |

### 11.2 Output Power Verification

Output powers were measured in SVDO mode to determine that the power reduction mechanism was operating reliably and consistently. The power reduction was investigated by simultaneously connecting the device to two CDMA base station simulators. EVDO output powers were measured through conducted RF connections by first connecting the device in an EVDO data call and subsequently a CDMA 1xRTT call. CDMA powers were controlled by configuring the CDMA base station simulator to active bits. The EVDO output power was monitored the output power while changing the CDMA cell output power level.

The power reduction targets and threshold level described in Table 11-1 were confirmed. Please see results in Table 11-2 - Table 11-7.



**Figure 11-1**  
**SVDO Conducted Test Setup Diagram**

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 28 of 74                   |

**Table 11-2**  
**EVDO Power Reduction Verification – Low Ch. Cell. CDMA**

Note: EVDO base station simulator was configured using “All up Bits”

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|------------------------|-------------------------------|--------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                        |                               |                                | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                        |                               |                                | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                        |                               |                                | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 835 MHz                | 1013                          | 25                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 24                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 23                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 22                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 21                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 20                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 19                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 18                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 17                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 16                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 15                             | 18.5                            | 18.4 | 18.6 | 18.4   | 18.4 | 18.3 | 18.4     | 18.5 | 18.3 | 18.6   | 18.5 | 18.4 |
|                        | 1013                          | 14                             | 24.4                            | 24.5 | 24.3 | 24.5   | 24.5 | 24.4 | 24.5     | 24.4 | 24.3 | 24.4   | 24.3 | 24.3 |
|                        | 1013                          | 13                             | 24.4                            | 24.5 | 24.3 | 24.5   | 24.5 | 24.4 | 24.5     | 24.4 | 24.3 | 24.4   | 24.3 | 24.3 |
|                        | 1013                          | 12                             | 24.4                            | 24.5 | 24.3 | 24.5   | 24.5 | 24.4 | 24.5     | 24.4 | 24.3 | 24.4   | 24.3 | 24.3 |
|                        | 1013                          | 11                             | 24.4                            | 24.5 | 24.3 | 24.5   | 24.5 | 24.4 | 24.5     | 24.4 | 24.3 | 24.4   | 24.3 | 24.3 |

**Table 11-3**  
**EVDO Power Reduction Verification – Mid. Ch. Cell. CDMA**

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|------------------------|-------------------------------|--------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                        |                               |                                | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                        |                               |                                | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                        |                               |                                | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 835 MHz                | 384                           | 25                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 24                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 23                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 22                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 21                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 20                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 19                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 18                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 17                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 16                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 15                             | 18.5                            | 18.6 | 18.3 | 18.5   | 18.6 | 18.4 | 18.5     | 18.4 | 18.3 | 18.5   | 18.6 | 18.4 |
|                        | 384                           | 14                             | 24.3                            | 24.6 | 24.5 | 24.6   | 24.3 | 24.4 | 24.3     | 24.3 | 24.4 | 24.4   | 24.3 | 24.5 |
|                        | 384                           | 13                             | 24.3                            | 24.6 | 24.5 | 24.6   | 24.3 | 24.4 | 24.3     | 24.3 | 24.4 | 24.4   | 24.3 | 24.5 |
|                        | 384                           | 12                             | 24.3                            | 24.6 | 24.5 | 24.6   | 24.3 | 24.4 | 24.3     | 24.3 | 24.4 | 24.4   | 24.3 | 24.5 |
|                        | 384                           | 11                             | 24.3                            | 24.6 | 24.5 | 24.6   | 24.3 | 24.4 | 24.3     | 24.3 | 24.4 | 24.4   | 24.3 | 24.5 |

**Table 11-4**  
**EVDO Power Reduction Verification – High Ch. Cell. CDMA**

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|------------------------|-------------------------------|--------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                        |                               |                                | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                        |                               |                                | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                        |                               |                                | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 835 MHz                | 777                           | 25                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 24                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 23                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 22                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 21                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 20                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 19                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 18                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 17                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 16                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 15                             | 18.5                            | 18.3 | 18.4 | 18.5   | 18.4 | 18.3 | 18.6     | 18.5 | 18.4 | 18.5   | 18.6 | 18.3 |
|                        | 777                           | 14                             | 24.4                            | 24.3 | 24.4 | 24.5   | 24.6 | 24.6 | 24.3     | 24.4 | 24.3 | 24.4   | 24.3 | 24.5 |
|                        | 777                           | 13                             | 24.4                            | 24.3 | 24.4 | 24.5   | 24.6 | 24.6 | 24.3     | 24.4 | 24.3 | 24.4   | 24.3 | 24.5 |
|                        | 777                           | 12                             | 24.4                            | 24.3 | 24.4 | 24.5   | 24.6 | 24.6 | 24.3     | 24.4 | 24.3 | 24.4   | 24.3 | 24.5 |
|                        | 777                           | 11                             | 24.4                            | 24.3 | 24.4 | 24.5   | 24.6 | 24.6 | 24.3     | 24.4 | 24.3 | 24.4   | 24.3 | 24.5 |

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 29 of 74                   |

**Table 11-5**  
**EVDO Power Reduction Verification – Low Ch. PCS CDMA**

| 1x-RTT CDMA<br>Voice Band | BC1 1x-RTT<br>CDMA Voice<br>Channel | BC1 1x-RTT<br>CDMA Voice Tx<br>(dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|---------------------------|-------------------------------------|--------------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                           |                                     |                                      | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                           |                                     |                                      | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                           |                                     |                                      | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 1900 MHz                  | 25                                  | 25                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 24                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 23                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 22                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 21                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 20                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 19                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 18                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 17                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 16                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 15                                   | 18.6                            | 18.4 | 18.6 | 18.5   | 18.3 | 18.4 | 18.4     | 18.5 | 18.3 | 18.5   | 18.3 | 18.4 |
|                           | 25                                  | 14                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.3 | 24.5 | 24.4     | 24.3 | 24.4 | 24.3   | 24.4 | 24.5 |
|                           | 25                                  | 13                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.3 | 24.5 | 24.4     | 24.3 | 24.4 | 24.3   | 24.4 | 24.5 |
|                           | 25                                  | 12                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.3 | 24.5 | 24.4     | 24.3 | 24.4 | 24.3   | 24.4 | 24.5 |
|                           | 25                                  | 11                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.3 | 24.5 | 24.4     | 24.3 | 24.4 | 24.3   | 24.4 | 24.5 |

**Table 11-6**  
**EVDO Power Reduction Verification – Mid. Ch. PCS CDMA**

| 1x-RTT CDMA<br>Voice Band | BC1 1x-RTT<br>CDMA Voice<br>Channel | BC1 1x-RTT<br>CDMA Voice Tx<br>(dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|---------------------------|-------------------------------------|--------------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                           |                                     |                                      | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                           |                                     |                                      | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                           |                                     |                                      | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 1900 MHz                  | 600                                 | 25                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 24                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 23                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 22                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 21                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 20                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 19                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 18                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 17                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 16                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 15                                   | 18.3                            | 18.5 | 18.3 | 18.5   | 18.4 | 18.3 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 600                                 | 14                                   | 24.3                            | 24.3 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 600                                 | 13                                   | 24.3                            | 24.3 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 600                                 | 12                                   | 24.3                            | 24.3 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 600                                 | 11                                   | 24.3                            | 24.3 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |

**Table 11-7**  
**EVDO Power Reduction Verification – High Ch. PCS CDMA**

| 1x-RTT CDMA<br>Voice Band | BC1 1x-RTT<br>CDMA Voice<br>Channel | BC1 1x-RTT<br>CDMA Voice Tx<br>(dBm) | EVDO Data Conducted Power (dBm) |      |      |        |      |      |          |      |      |        |      |      |
|---------------------------|-------------------------------------|--------------------------------------|---------------------------------|------|------|--------|------|------|----------|------|------|--------|------|------|
|                           |                                     |                                      | 850 MHz                         |      |      |        |      |      | 1900 MHz |      |      |        |      |      |
|                           |                                     |                                      | Rev. 0                          |      |      | Rev. A |      |      | Rev. 0   |      |      | Rev. A |      |      |
|                           |                                     |                                      | low                             | mid  | high | low    | mid  | high | low      | mid  | high | low    | mid  | high |
| 1900 MHz                  | 1175                                | 25                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 24                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 23                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 22                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 21                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 20                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 19                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 18                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 17                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 16                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 15                                   | 18.4                            | 18.3 | 18.5 | 18.4   | 18.5 | 18.4 | 18.5     | 18.4 | 18.5 | 18.5   | 18.4 | 18.5 |
|                           | 1175                                | 14                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 1175                                | 13                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 1175                                | 12                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |
|                           | 1175                                | 11                                   | 24.3                            | 24.4 | 24.5 | 24.5   | 24.4 | 24.5 | 24.4     | 24.3 | 24.3 | 24.3   | 24.4 | 24.5 |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 30 of 74                   |

### 11.3 SVDO SAR Testing Procedures

SAR testing was additionally performed on the devices at the standalone threshold 1x-RTT CDMA and reduced EVDO power levels with respect to the various SVDO simultaneous transmission scenarios. Additional samples were tuned to reduced power levels for the purpose of evaluating simultaneous SAR based on the sum SAR of standalone 1x-RTT CDMA and standalone EVDO combinations. While the power reduction mechanism is activated at the CDMA Voice power level of 15 dBm, simultaneous SAR summations were evaluated at maximum power EVDO. SAR was additionally evaluated at reduced power EVDO levels to perform simultaneous SAR analysis when CDMA voice is at maximum output power.

#### 11.3.1 Reduced EVDO Conducted Powers

Table 11-8  
Reduced EVDO Conducted Powers

| Band     | Channel | Frequency | 1x EvDO<br>Rev. 0<br>[dBm] | 1x EvDO<br>Rev. A<br>[dBm] |
|----------|---------|-----------|----------------------------|----------------------------|
|          | F-RC    | MHz       | (RTAP)                     | (RETAP)                    |
| Cellular | 1013    | 824.7     | 18.90                      | 18.83                      |
|          | 384     | 836.52    | 18.80                      | 18.78                      |
|          | 777     | 848.31    | 18.90                      | 18.88                      |
| PCS      | 25      | 1851.25   | 18.63                      | 18.60                      |
|          | 600     | 1880      | 18.68                      | 18.65                      |
|          | 1175    | 1908.75   | 18.60                      | 18.58                      |

Per KDB Publication 941225 D01: EVDO SAR was tested with EVDO Rev 0. When the average output power of Rev A is less than Rev.0 for each channel, SAR tests with Rev. A are not required.

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
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| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 31 of 74                          |

### 11.3.2 Fixed CDMA Conducted Powers

**Table 11-9**  
**Fixed CDMA Conducted Powers**

| Band     | Channel | Frequency | SO55 [dBm] | SO55 [dBm] | TDSO SO32 [dBm] | TDSO SO32 [dBm] |
|----------|---------|-----------|------------|------------|-----------------|-----------------|
|          | F-RC    | MHz       | RC1        | RC3        | FCH+SCH         | FCH             |
| Cellular | 1013    | 824.7     | 14.62      | 14.66      | 14.78           | 14.78           |
|          | 384     | 836.52    | 14.55      | 14.60      | 14.73           | 14.60           |
|          | 777     | 848.31    | 14.45      | 14.68      | 14.62           | 14.73           |
| PCS      | 25      | 1851.25   | 14.65      | 14.82      | 14.76           | 14.68           |
|          | 600     | 1880      | 14.73      | 14.89      | 14.85           | 14.86           |
|          | 1175    | 1908.75   | 14.63      | 14.88      | 14.82           | 14.76           |

Note: There is no power reduction applied to the CDMA Voice modes, however the device with output powers represented in the table above was tuned down (for SAR Test purposes only) to analyze simultaneous SAR scenarios in the SVDO condition where EVDO is operating at maximum output power in conjunction with a lower CDMA voice level (See Table 11-1).

Per KDB Publication 941225 D01:

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 and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
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| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 32 of 74                          |

## 12 LTE POWER REDUCTION

### 12.1 Introduction to LTE Power Reduction

This device is capable of Simultaneous Voice and LTE (SVLTE) calls, with the voice call supported by a CDMA 1xRTT transmitter and the data connection supported by separate LTE transmitter. A LTE power reduction scheme is applied during a LTE connection operating simultaneously with 1x-RTT voice calls. The maximum transmit power of LTE is limited depending on the CDMA 1x voice power level. When CDMA 1x Voice is operating at a certain range of high power levels, maximum LTE transmit power is limited. When CDMA 1x Voice power is below a certain threshold transmit power level, LTE can transmit at the maximum power. Target levels of power reduction and CDMA voice threshold levels are provided in Table 12-1.

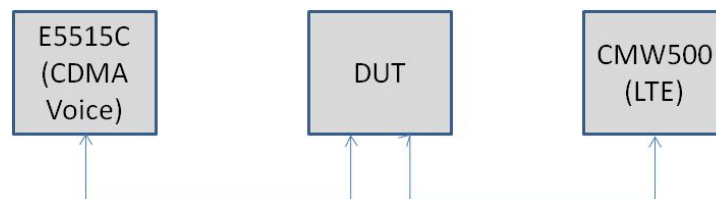
**Table 12-1**  
**SVLTE Power Reduction Scheme**

| Mode  | Voice Avg Power(P) 1x<br>850/1900 MHz (dBm) | Max. B13 LTE Data<br>Avg Power (dBm) |
|-------|---------------------------------------------|--------------------------------------|
| SVLTE | $P \geq 18$                                 | 19                                   |
|       | $P < 18$                                    | 23                                   |

### 12.2 Output Power Verification

Per page 7 of KDB Publication 941225 D05, 5 ) B), output powers were measured in SVLTE mode to determine that the power reduction mechanism was operating reliably and consistently. The power reduction was investigated by simultaneously connecting the device to both LTE and CDMA base station simulators. LTE output powers were measured through conducted RF connections by first connecting the device in a LTE data call and subsequently a CDMA 1xRTT call. CDMA powers were controlled by setting the CDMA base station simulator to active bits. The LTE output power was monitored while changing the CDMA cell output power level.

The power reduction targets and threshold level described in Table 12-1 were confirmed. Please see results in Table 12-2 - Table 12-7.



**Figure 12-1**  
**SVLTE Conducted Test Setup Diagram**

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 33 of 74                   |

**Table 12-2**  
**SVLTE Power Reduction Verification Results – Low Ch. Cell CDMA**

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                          |                           |                          |                          |                           |                            |                           |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------------|--------------------------|---------------------------|----------------------------|---------------------------|
|                        |                               |                                | QPSK 1 RB (0 RB Offset)           | QPSK 1 RB (49 RB Offset) | QPSK 25 RB (12 RB Offset) | QPSK 50 RB (0 RB Offset) | 16QAM 1 RB (0 RB Offset) | 16QAM 1 RB (49 RB Offset) | 16QAM 25 RB (12 RB Offset) | 16QAM 50 RB (0 RB Offset) |
| 835 MHz                | 1013 (Low)                    | 25                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 24                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 23                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 22                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 21                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 20                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 19                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 18                             | 19.10                             | 18.87                    | 19.18                     | 19.21                    | 18.97                    | 18.89                     | 19.23                      | 19.14                     |
|                        |                               | 17                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 16                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 15                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 14                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 13                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 12                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |
|                        |                               | 11                             | 22.80                             | 22.92                    | 22.10                     | 22.05                    | 21.93                    | 22.01                     | 21.09                      | 21.03                     |

**Table 12-3**  
**SVLTE Power Reduction Verification Results – Mid. Ch. Cell CDMA**

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                          |                           |                          |                          |                           |                            |                           |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------------|--------------------------|---------------------------|----------------------------|---------------------------|
|                        |                               |                                | QPSK 1 RB (0 RB Offset)           | QPSK 1 RB (49 RB Offset) | QPSK 25 RB (12 RB Offset) | QPSK 50 RB (0 RB Offset) | 16QAM 1 RB (0 RB Offset) | 16QAM 1 RB (49 RB Offset) | 16QAM 25 RB (12 RB Offset) | 16QAM 50 RB (0 RB Offset) |
| 835 MHz                | 384 (Mid)                     | 25                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 24                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 23                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 22                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 21                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 20                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 19                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 18                             | 19.33                             | 19.19                    | 19.20                     | 19.16                    | 18.73                    | 18.80                     | 19.18                      | 19.00                     |
|                        |                               | 17                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.90                     |
|                        |                               | 16                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.95                     |
|                        |                               | 15                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.95                     |
|                        |                               | 14                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.95                     |
|                        |                               | 13                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.95                     |
|                        |                               | 12                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.90                     |
|                        |                               | 11                             | 23.12                             | 22.97                    | 22.04                     | 21.98                    | 21.80                    | 21.90                     | 21.15                      | 20.95                     |

**Table 12-4**  
**SVLTE Power Reduction Verification Results – High Ch. Cell CDMA**

| 1x-RTT CDMA Voice Band | BC0 1x-RTT CDMA Voice Channel | BC0 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                          |                           |                          |                          |                           |                            |                           |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------------|--------------------------|---------------------------|----------------------------|---------------------------|
|                        |                               |                                | QPSK 1 RB (0 RB Offset)           | QPSK 1 RB (49 RB Offset) | QPSK 25 RB (12 RB Offset) | QPSK 50 RB (0 RB Offset) | 16QAM 1 RB (0 RB Offset) | 16QAM 1 RB (49 RB Offset) | 16QAM 25 RB (12 RB Offset) | 16QAM 50 RB (0 RB Offset) |
| 835 MHz                | 777 (High)                    | 25                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 24                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 23                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 22                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 21                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 20                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 19                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 18                             | 18.98                             | 18.91                    | 19.21                     | 19.18                    | 19.07                    | 18.86                     | 19.20                      | 19.19                     |
|                        |                               | 17                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 16                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 15                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 14                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 13                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 12                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |
|                        |                               | 11                             | 23.04                             | 22.86                    | 21.98                     | 22.07                    | 21.98                    | 22.05                     | 21.01                      | 21.03                     |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 34 of 74                   |

**Table 12-5**  
**SVLTE Power Reduction Verification Results – Low Ch. PCS CDMA**

| 1x-RTT CDMA Voice Band | BC1 1x-RTT CDMA Voice Channel | BC1 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                             |                              |                             |                             |                              |                               |                              |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|------------------------------|-------------------------------|------------------------------|
|                        |                               |                                | QPSK 1 RB<br>(0 RB Offset)        | QPSK 1 RB<br>(49 RB Offset) | QPSK 25 RB<br>(12 RB Offset) | QPSK 50 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(49 RB Offset) | 16QAM 25 RB<br>(12 RB Offset) | 16QAM 50 RB<br>(0 RB Offset) |
| 1900 MHz               | 25 (Low)                      | 25                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 24                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 23                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 22                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 21                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 20                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 19                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 18                             | 19.11                             | 18.93                       | 19.15                        | 19.19                       | 18.99                       | 18.79                        | 19.21                         | 19.20                        |
|                        |                               | 17                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 16                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 15                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 14                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 13                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 12                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |
|                        |                               | 11                             | 23.05                             | 22.88                       | 22.01                        | 21.99                       | 21.97                       | 22.03                        | 21.11                         | 21.08                        |

**Table 12-6**  
**SVLTE Power Reduction Verification Results – Mid. Ch. PCS CDMA**

| 1x-RTT CDMA Voice Band | BC1 1x-RTT CDMA Voice Channel | BC1 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                             |                              |                             |                             |                              |                               |                              |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|------------------------------|-------------------------------|------------------------------|
|                        |                               |                                | QPSK 1 RB<br>(0 RB Offset)        | QPSK 1 RB<br>(49 RB Offset) | QPSK 25 RB<br>(12 RB Offset) | QPSK 50 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(49 RB Offset) | 16QAM 25 RB<br>(12 RB Offset) | 16QAM 50 RB<br>(0 RB Offset) |
| 1900 MHz               | 600 (Mid)                     | 25                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 24                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 23                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 22                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 21                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 20                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 19                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 18                             | 19.21                             | 18.91                       | 19.17                        | 19.03                       | 18.82                       | 18.42                        | 19.18                         | 19.09                        |
|                        |                               | 17                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 16                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 15                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 14                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 13                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 12                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |
|                        |                               | 11                             | 23.07                             | 22.58                       | 22.10                        | 22.12                       | 21.43                       | 21.08                        | 20.93                         | 20.96                        |

**Table 12-7**  
**SVLTE Power Reduction Verification Results – High Ch. PCS CDMA**

| 1x-RTT CDMA Voice Band | BC1 1x-RTT CDMA Voice Channel | BC1 1x-RTT CDMA Voice Tx (dBm) | LTE Band 13 Conducted Power (dBm) |                             |                              |                             |                             |                              |                               |                              |
|------------------------|-------------------------------|--------------------------------|-----------------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|------------------------------|-------------------------------|------------------------------|
|                        |                               |                                | QPSK 1 RB<br>(0 RB Offset)        | QPSK 1 RB<br>(49 RB Offset) | QPSK 25 RB<br>(12 RB Offset) | QPSK 50 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(0 RB Offset) | 16QAM 1 RB<br>(49 RB Offset) | 16QAM 25 RB<br>(12 RB Offset) | 16QAM 50 RB<br>(0 RB Offset) |
| 1900 MHz               | 1175 (High)                   | 25                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 24                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 23                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 22                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 21                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 20                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 19                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 18                             | 19.11                             | 18.98                       | 19.26                        | 19.27                       | 19.02                       | 18.84                        | 19.21                         | 19.26                        |
|                        |                               | 17                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 16                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 15                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 14                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 13                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 12                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |
|                        |                               | 11                             | 23.05                             | 23.10                       | 21.99                        | 22.02                       | 22.03                       | 22.07                        | 21.11                         | 21.09                        |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 35 of 74                   |

## 12.3 SVLTE SAR Testing Procedures

SAR testing was additionally performed at the reduced CDMA and LTE power levels with respect to the various SVLTE simultaneous transmission scenarios. Additional samples were tuned to reduced power levels for the purpose of evaluating the simultaneous SAR based on the sum SAR of standalone 1x-RTT CDMA and standalone LTE combinations. While the power reduction mechanism is activated at the CDMA Voice power level of 18 dBm, simultaneous SAR summations were evaluated maximum power LTE. SAR was additionally evaluated at reduced power LTE levels to perform simultaneous SAR analysis when CDMA voice is at maximum output power.

### 12.3.1 Reduced LTE Conducted Powers

**Table 12-8**  
**Reduced LTE Conducted Powers**

| Frequency [MHz] | Channel | Bandwidth [MHz] | Modulation | RB Size | RB Offset | Conducted Power [dBm] | Target MPR [dB] | MPR Allowed per 3GPP [dB] |
|-----------------|---------|-----------------|------------|---------|-----------|-----------------------|-----------------|---------------------------|
| 782             | 23230   | 10              | QPSK       | 1       | 0         | <b>19.30</b>          | 0               | 0                         |
| 782             | 23230   | 10              | QPSK       | 1       | 49        | <b>19.10</b>          | 0               | 0                         |
| 782             | 23230   | 10              | QPSK       | 25      | 12        | <b>19.30</b>          | 0               | 0-1                       |
| 782             | 23230   | 10              | QPSK       | 50      | 0         | 19.30                 | 0               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 1       | 0         | <b>18.97</b>          | 0               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 1       | 49        | <b>18.92</b>          | 0               | 0-1                       |
| 782             | 23230   | 10              | 16QAM      | 25      | 12        | <b>19.43</b>          | 0               | 0-2                       |
| 782             | 23230   | 10              | 16QAM      | 50      | 0         | 19.29                 | 0               | 0-2                       |

According to FCC KDB 941225 D05:

- 1) Per Page 4, 3) A), QPSK with 50% RB is required.
- 2) Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- 3) Per Page 4, 4) A), 16QAM with 50% RB is required.
- 4) Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- 5) Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.
- 6) The bolded configurations in the table above were tested for SAR.

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 36 of 74                   |

### 12.3.2 Fixed CDMA Conducted Powers

Table 12-9  
Fixed CDMA Conducted Powers

| Band     | Channel | Frequency | SO55 [dBm] | SO55 [dBm] | TDSO SO32 [dBm] | TDSO SO32 [dBm] |
|----------|---------|-----------|------------|------------|-----------------|-----------------|
|          | F-RC    | MHz       | RC1        | RC3        | FCH+SCH         | FCH             |
| Cellular | 1013    | 824.7     | 18.18      | 18.17      | 18.15           | 18.18           |
|          | 384     | 836.52    | 18.21      | 18.15      | 18.04           | 18.06           |
|          | 777     | 848.31    | 18.31      | 18.23      | 18.24           | 18.22           |
| PCS      | 25      | 1851.25   | 18.36      | 18.42      | 18.47           | 18.41           |
|          | 600     | 1880      | 18.42      | 18.38      | 18.11           | 18.36           |
|          | 1175    | 1908.75   | 18.25      | 18.17      | 18.20           | 18.14           |

Note: There is no power reduction applied to the CDMA Voice modes, however the device with output powers represented in the table above was tuned down (for SAR Test purposes only) to analyze simultaneous SAR scenarios in the SVLTE condition where LTE is operating at maximum output power in conjunction with a lower CDMA voice level (See Table 12-1).

#### CDMA 1x Test Notes:

Per KDB Publication 941225 D01:

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 and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 37 of 74                   |

# 13 SYSTEM VERIFICATION

## 13.1 Tissue Verification

**Table 13-1**  
**Measured Tissue Properties**

| Calibrated for Tests Performed on: | Tissue Type | Tissue Temp During Calibration (C°) | Measured Frequency (MHz) | Measured Conductivity, $\sigma$ (S/m) | Measured Dielectric Constant, $\epsilon$ | TARGET Conductivity, $\sigma$ (S/m) | TARGET Dielectric Constant, $\epsilon$ | % dev $\sigma$ | % dev $\epsilon$ |
|------------------------------------|-------------|-------------------------------------|--------------------------|---------------------------------------|------------------------------------------|-------------------------------------|----------------------------------------|----------------|------------------|
| 3/23/2012                          | 750H        | 23.5                                | 740                      | 0.887                                 | 42.26                                    | 0.889                               | 41.953                                 | -0.22%         | 0.73%            |
|                                    |             |                                     | 755                      | 0.901                                 | 42.05                                    | 0.891                               | 41.876                                 | 1.12%          | 0.42%            |
|                                    |             |                                     | 770                      | 0.911                                 | 41.71                                    | 0.892                               | 41.806                                 | 2.13%          | -0.23%           |
|                                    |             |                                     | 785                      | 0.923                                 | 41.59                                    | 0.894                               | 41.735                                 | 3.24%          | -0.35%           |
| 2/24/2012                          | 835H        | 22.9                                | 820                      | 0.929                                 | 41.98                                    | 0.898                               | 41.571                                 | 3.45%          | 0.98%            |
|                                    |             |                                     | 835                      | 0.942                                 | 41.79                                    | 0.900                               | 41.500                                 | 4.67%          | 0.70%            |
|                                    |             |                                     | 850                      | 0.957                                 | 41.61                                    | 0.916                               | 41.500                                 | 4.48%          | 0.27%            |
|                                    |             |                                     | 820                      | 0.894                                 | 40.16                                    | 0.898                               | 41.571                                 | -0.45%         | -3.39%           |
| 3/1/2012                           | 835H        | 23.5                                | 835                      | 0.906                                 | 40.00                                    | 0.900                               | 41.500                                 | 0.67%          | -3.61%           |
|                                    |             |                                     | 850                      | 0.921                                 | 39.85                                    | 0.916                               | 41.500                                 | 0.55%          | -3.98%           |
|                                    |             |                                     | 820                      | 0.914                                 | 39.99                                    | 0.898                               | 41.571                                 | 1.78%          | -3.80%           |
| 5/10/2012                          | 835H        | 23.3                                | 835                      | 0.937                                 | 40.01                                    | 0.900                               | 41.500                                 | 4.11%          | -3.59%           |
|                                    |             |                                     | 850                      | 0.954                                 | 39.58                                    | 0.916                               | 41.500                                 | 4.15%          | -4.63%           |
|                                    |             |                                     | 1850                     | 1.351                                 | 40.81                                    | 1.400                               | 40.000                                 | -3.50%         | 2.03%            |
| 3/1/2012                           | 1900H       | 23.1                                | 1880                     | 1.383                                 | 40.69                                    | 1.400                               | 40.000                                 | -1.21%         | 1.72%            |
|                                    |             |                                     | 1910                     | 1.415                                 | 40.60                                    | 1.400                               | 40.000                                 | 1.07%          | 1.50%            |
|                                    |             |                                     | 1850                     | 1.360                                 | 41.28                                    | 1.400                               | 40.000                                 | -2.86%         | 3.20%            |
| 3/14/2012                          | 1900H       | 23.5                                | 1880                     | 1.391                                 | 41.16                                    | 1.400                               | 40.000                                 | -0.64%         | 2.90%            |
|                                    |             |                                     | 1910                     | 1.419                                 | 41.06                                    | 1.400                               | 40.000                                 | 1.36%          | 2.65%            |
|                                    |             |                                     | 1850                     | 1.412                                 | 39.08                                    | 1.400                               | 40.000                                 | 0.86%          | -2.30%           |
| 5/9/2012                           | 1900H       | 22.0                                | 1880                     | 1.440                                 | 38.94                                    | 1.400                               | 40.000                                 | 2.86%          | -2.65%           |
|                                    |             |                                     | 1910                     | 1.468                                 | 38.82                                    | 1.400                               | 40.000                                 | 4.86%          | -2.95%           |
|                                    |             |                                     | 2401                     | 1.816                                 | 39.45                                    | 1.758                               | 39.298                                 | 3.30%          | 0.39%            |
| 2/20/2012                          | 2450H       | 22.2                                | 2450                     | 1.883                                 | 39.33                                    | 1.800                               | 39.200                                 | 4.61%          | 0.33%            |
|                                    |             |                                     | 2499                     | 1.943                                 | 39.07                                    | 1.852                               | 39.135                                 | 4.91%          | -0.17%           |
|                                    |             |                                     | 5200                     | 4.780                                 | 35.30                                    | 4.660                               | 36.000                                 | 2.58%          | -1.94%           |
| 2/21/2012                          | 5200H-5800H | 20.7                                | 5240                     | 4.828                                 | 35.22                                    | 4.700                               | 35.960                                 | 2.72%          | -2.06%           |
|                                    |             |                                     | 5320                     | 4.901                                 | 35.10                                    | 4.780                               | 35.880                                 | 2.53%          | -2.17%           |
|                                    |             |                                     | 5500                     | 5.102                                 | 34.84                                    | 4.965                               | 35.650                                 | 2.76%          | -2.27%           |
|                                    |             |                                     | 5745                     | 5.379                                 | 34.30                                    | 5.215                               | 35.355                                 | 3.14%          | -2.98%           |
|                                    |             |                                     | 5800                     | 5.468                                 | 34.16                                    | 5.270                               | 35.300                                 | 3.76%          | -2.23%           |
|                                    |             |                                     | 740                      | 0.942                                 | 55.28                                    | 0.961                               | 55.733                                 | -1.98%         | -0.81%           |
| 3/22/2012                          | 750B        | 23.6                                | 755                      | 0.957                                 | 55.33                                    | 0.963                               | 55.649                                 | -0.62%         | -0.57%           |
|                                    |             |                                     | 770                      | 0.966                                 | 55.11                                    | 0.964                               | 55.564                                 | 0.21%          | -0.82%           |
|                                    |             |                                     | 785                      | 0.982                                 | 54.84                                    | 0.965                               | 55.480                                 | 1.76%          | -1.15%           |
| 2/23/2012                          | 835B        | 23.0                                | 820                      | 0.987                                 | 55.98                                    | 0.969                               | 55.284                                 | 1.86%          | 1.26%            |
|                                    |             |                                     | 835                      | 1.009                                 | 55.77                                    | 0.970                               | 55.200                                 | 4.02%          | 1.03%            |
|                                    |             |                                     | 850                      | 1.023                                 | 55.60                                    | 0.988                               | 55.154                                 | 3.54%          | 0.81%            |
| 3/1/2012                           | 835B        | 22.7                                | 820                      | 0.997                                 | 54.25                                    | 0.969                               | 55.284                                 | 2.89%          | -1.87%           |
|                                    |             |                                     | 835                      | 1.012                                 | 54.19                                    | 0.970                               | 55.200                                 | 4.33%          | -1.83%           |
|                                    |             |                                     | 850                      | 1.030                                 | 54.00                                    | 0.988                               | 55.154                                 | 4.25%          | -2.09%           |
| 5/9/2012                           | 835B        | 23.1                                | 820                      | 0.977                                 | 52.79                                    | 0.969                               | 55.284                                 | 0.83%          | -4.51%           |
|                                    |             |                                     | 835                      | 0.993                                 | 52.71                                    | 0.970                               | 55.200                                 | 2.37%          | -4.51%           |
|                                    |             |                                     | 850                      | 1.009                                 | 52.57                                    | 0.988                               | 55.154                                 | 2.13%          | -4.69%           |
| 2/28/2012                          | 1900B       | 23.3                                | 1850                     | 1.458                                 | 53.16                                    | 1.520                               | 53.300                                 | -4.08%         | -0.26%           |
|                                    |             |                                     | 1880                     | 1.492                                 | 53.05                                    | 1.520                               | 53.300                                 | -1.84%         | -0.47%           |
|                                    |             |                                     | 1910                     | 1.528                                 | 52.96                                    | 1.520                               | 53.300                                 | 0.53%          | -0.64%           |
| 3/13/2012                          | 1900B       | 23.9                                | 1850                     | 1.458                                 | 52.31                                    | 1.520                               | 53.300                                 | -4.08%         | -1.86%           |
|                                    |             |                                     | 1880                     | 1.494                                 | 52.20                                    | 1.520                               | 53.300                                 | -1.71%         | -2.06%           |
|                                    |             |                                     | 1910                     | 1.529                                 | 52.10                                    | 1.520                               | 53.300                                 | 0.59%          | -2.25%           |
| 5/8/2012                           | 1900B       | 22.9                                | 1850                     | 1.457                                 | 51.87                                    | 1.520                               | 53.300                                 | -4.14%         | -2.68%           |
|                                    |             |                                     | 1880                     | 1.505                                 | 51.84                                    | 1.520                               | 53.300                                 | -0.99%         | -2.74%           |
|                                    |             |                                     | 1910                     | 1.535                                 | 51.92                                    | 1.520                               | 53.300                                 | 0.59%          | -2.59%           |
| 2/20/2012                          | 2450B       | 22.0                                | 2401                     | 1.936                                 | 50.33                                    | 1.903                               | 52.765                                 | 1.73%          | -4.61%           |
|                                    |             |                                     | 2450                     | 1.999                                 | 50.14                                    | 1.950                               | 52.700                                 | 2.51%          | -4.86%           |
|                                    |             |                                     | 2499                     | 2.062                                 | 50.04                                    | 2.019                               | 52.638                                 | 2.13%          | -4.94%           |
| 2/20/2012                          | 5200B-5800B | 22.1                                | 5200                     | 5.357                                 | 47.67                                    | 5.299                               | 49.014                                 | 1.09%          | -2.74%           |
|                                    |             |                                     | 5240                     | 5.409                                 | 47.59                                    | 5.346                               | 48.933                                 | 1.18%          | -2.74%           |
|                                    |             |                                     | 5320                     | 5.537                                 | 47.40                                    | 5.439                               | 48.607                                 | 1.80%          | -2.48%           |
|                                    |             |                                     | 5500                     | 5.805                                 | 46.89                                    | 5.650                               | 48.580                                 | 2.74%          | -3.48%           |
|                                    |             |                                     | 5745                     | 6.185                                 | 46.28                                    | 5.936                               | 48.248                                 | 4.19%          | -4.08%           |
|                                    |             |                                     | 5800                     | 6.262                                 | 46.21                                    | 6.000                               | 48.200                                 | 4.37%          | -4.13%           |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 38 of 74                   |

The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies (per IEEE 1528 6.6.1.2). The SAR test plots may slightly differ from the table due to rounding.

Probe calibration used within  $\pm 100$  MHz of the test frequency in either 5.725 - 5.85 or 5.47-5.725 GHz is acceptable per KDB Publication 865664 since the design of the SAR probe supports the extended frequency, provided the DASY software version recommended is used for the tests, and the expanded calibration uncertainty (k=2) is less than or equal to 15% (See SAR probe calibration certificate for this information).

### 13.2 Measurement Procedure for Tissue verification

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the sample which was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity  $\epsilon$  can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 39 of 74                          |

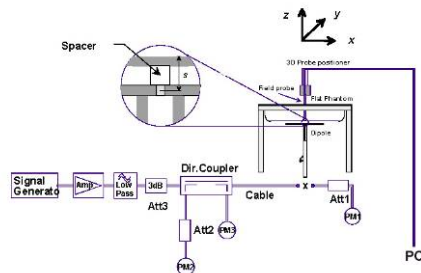
### 13.3 Test System Verification

Prior to assessment, the system is verified to  $\pm 10\%$  of the manufacturer SAR measurement on the reference dipole at the time of calibration.

**Table 13-2**  
**System Verification Results**

| Tissue Frequency (MHz) | Tissue Type | Date:      | Amb. Temp (°C) | Liquid Temp (°C) | Input Power (W) | Dipole SN | Probe SN | Measured SAR <sub>1g</sub> (W/kg) | 1 W Target SAR <sub>1g</sub> (W/kg) | 1 W Normalized SAR <sub>1g</sub> (W/kg) | Deviation (%) |
|------------------------|-------------|------------|----------------|------------------|-----------------|-----------|----------|-----------------------------------|-------------------------------------|-----------------------------------------|---------------|
| 750                    | Head        | 03/23/2012 | 23.2           | 21.6             | 0.100           | 1046      | 3561     | 0.789                             | 8.400                               | 7.890                                   | -6.07%        |
| 835                    | Head        | 02/24/2012 | 23.4           | 22.1             | 0.063           | 4d119     | 3561     | 0.637                             | 9.400                               | 10.111                                  | 7.56%         |
| 835                    | Head        | 03/01/2012 | 23.8           | 22.0             | 0.100           | 4d119     | 3561     | 1.01                              | 9.400                               | 10.100                                  | 7.45%         |
| 835                    | Head        | 05/10/2012 | 24.8           | 23.6             | 0.100           | 4d026     | 3258     | 1.02                              | 9.460                               | 10.200                                  | 7.82%         |
| 1900                   | Head        | 03/01/2012 | 21.9           | 21.2             | 0.100           | 5d080     | 3561     | 3.99                              | 39.900                              | 39.900                                  | 0.00%         |
| 1900                   | Head        | 03/14/2012 | 23.7           | 22.4             | 0.100           | 5d080     | 3561     | 4.12                              | 39.900                              | 41.200                                  | 3.26%         |
| 1900                   | Head        | 05/09/2012 | 22.8           | 21.4             | 0.100           | 502       | 3022     | 4.08                              | 39.200                              | 40.800                                  | 4.08%         |
| 2450                   | Head        | 02/20/2012 | 22.1           | 21.4             | 0.040           | 797       | 3213     | 2.18                              | 52.100                              | 54.500                                  | 4.61%         |
| 5200                   | Head        | 02/21/2012 | 23.8           | 22.4             | 0.100           | 1007      | 3589     | 7.68                              | 79.800                              | 76.800                                  | -3.76%        |
| 5500                   | Head        | 02/21/2012 | 23.2           | 21.9             | 0.025           | 1007      | 3589     | 2.08                              | 86.300                              | 83.200                                  | -3.59%        |
| 5800                   | Head        | 02/21/2012 | 21.8           | 20.9             | 0.100           | 1007      | 3589     | 7.94                              | 79.400                              | 79.400                                  | 0.00%         |
| 750                    | Body        | 03/22/2012 | 23.6           | 22.4             | 0.100           | 1046      | 3561     | 0.879                             | 8.800                               | 8.790                                   | -0.11%        |
| 835                    | Body        | 02/23/2012 | 23.4           | 22.1             | 0.100           | 4d119     | 3263     | 0.988                             | 9.540                               | 9.880                                   | 3.56%         |
| 835                    | Body        | 03/01/2012 | 22.8           | 21.1             | 0.100           | 4d119     | 3263     | 1.03                              | 9.540                               | 10.300                                  | 7.97%         |
| 835                    | Body        | 05/09/2012 | 23.2           | 23.1             | 0.100           | 4d026     | 3258     | 1.03                              | 9.660                               | 10.300                                  | 6.63%         |
| 1900                   | Body        | 02/28/2012 | 22.6           | 21.7             | 0.100           | 5d080     | 3263     | 3.97                              | 40.900                              | 39.700                                  | -2.93%        |
| 1900                   | Body        | 03/13/2012 | 24.0           | 22.9             | 0.100           | 5d080     | 3263     | 3.89                              | 40.900                              | 38.900                                  | -4.89%        |
| 1900                   | Body        | 05/08/2012 | 24.4           | 22.9             | 0.100           | 5d149     | 3561     | 4.23                              | 39.300                              | 42.300                                  | 7.63%         |
| 2450                   | Body        | 02/20/2012 | 23.2           | 21.5             | 0.040           | 797       | 3213     | 2.11                              | 50.800                              | 52.750                                  | 3.84%         |
| 5200                   | Body        | 02/20/2012 | 22.0           | 20.8             | 0.100           | 1007      | 3589     | 7.17                              | 75.500                              | 71.700                                  | -5.03%        |
| 5500                   | Body        | 02/20/2012 | 21.9           | 20.7             | 0.100           | 1007      | 3589     | 7.44                              | 81.300                              | 74.400                                  | -8.49%        |
| 5800                   | Body        | 02/20/2012 | 21.8           | 20.5             | 0.100           | 1007      | 3589     | 7.06                              | 75.300                              | 70.600                                  | -6.24%        |

Note: Per KDB Publication 865664, when a reference dipole is not defined within  $\pm 100\text{MHz}$  of the test frequency, the system verification may be conducted within  $\pm 200\text{ MHz}$  of the center frequency of the measurement frequencies if the SAR probe calibration is valid and the same tissue-equivalent matter is used for verification and test measurements.



**Figure 13-1**  
**System Verification Setup Diagram**



**Figure 13-2**  
**System Verification Setup Photo**

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 40 of 74                   |

## 14 SAR DATA SUMMARY

### 14.1 Standalone Head SAR Data

**Table 14-1**  
**Cell. CDMA Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |            |         |                    |                       |                  |                                                 |               |                      |          |
|---------------------------------------------------------------------------------------------------|-----|------------|---------|--------------------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|----------|
| FREQUENCY                                                                                         |     | Mode/Band  | Service | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | SAR (1g) |
| MHz                                                                                               | Ch. |            |         |                    |                       |                  |                                                 |               |                      | (W/kg)   |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 24.5               | 24.57                 | 0.00             | Right                                           | Touch         | D2-0581              | 0.230    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 24.5               | 24.57                 | 0.02             | Right                                           | Tilt          | D2-0581              | 0.123    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 24.5               | 24.57                 | 0.02             | Left                                            | Touch         | D2-0581              | 0.201    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 24.5               | 24.57                 | -0.02            | Left                                            | Tilt          | D2-0581              | 0.143    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 18                 | 18.15                 | 0.13             | Right                                           | Touch         | D2-0585              | 0.045    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 18                 | 18.15                 | 0.04             | Right                                           | Tilt          | D2-0585              | 0.020    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 18                 | 18.15                 | 0.02             | Left                                            | Touch         | D2-0585              | 0.038    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 18                 | 18.15                 | 0.02             | Left                                            | Tilt          | D2-0585              | 0.021    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 15                 | 14.60                 | 0.04             | Right                                           | Touch         | D2-0584              | 0.020    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 15                 | 14.60                 | 0.06             | Left                                            | Touch         | D2-0584              | 0.006    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 15                 | 14.60                 | 0.02             | Left                                            | Touch         | D2-0584              | 0.026    |
| 836.52                                                                                            | 384 | Cell. CDMA | SO55    | 15                 | 14.60                 | 0.02             | Left                                            | Tilt          | D2-0584              | 0.013    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |            |         |                    |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |          |

**Table 14-2**  
**PCS CDMA Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |           |         |                    |                       |                  |                                                 |               |                      |          |
|---------------------------------------------------------------------------------------------------|-----|-----------|---------|--------------------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|----------|
| FREQUENCY                                                                                         |     | Mode/Band | Service | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | SAR (1g) |
| MHz                                                                                               | Ch. |           |         |                    |                       |                  |                                                 |               |                      | (W/kg)   |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 24.5               | 24.87                 | 0.05             | Right                                           | Touch         | D2-1660              | 0.143    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 24.5               | 24.87                 | 0.02             | Right                                           | Tilt          | D2-1660              | 0.057    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 24.5               | 24.87                 | 0.02             | Left                                            | Touch         | D2-1660              | 0.138    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 24.5               | 24.87                 | 0.12             | Left                                            | Tilt          | D2-1660              | 0.050    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 18                 | 18.38                 | 0.03             | Right                                           | Touch         | D2-0585              | 0.040    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 18                 | 18.38                 | 0.03             | Right                                           | Tilt          | D2-0585              | 0.014    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 18                 | 18.38                 | 0.03             | Left                                            | Touch         | D2-0585              | 0.026    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 18                 | 18.38                 | 0.04             | Left                                            | Tilt          | D2-0585              | 0.011    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 15                 | 14.89                 | 0.04             | Right                                           | Touch         | D2-0584              | 0.020    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 15                 | 14.89                 | 0.06             | Right                                           | Tilt          | D2-0584              | 0.006    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 15                 | 14.89                 | 0.08             | Left                                            | Touch         | D2-0584              | 0.012    |
| 1880.00                                                                                           | 600 | PCS CDMA  | SO55    | 15                 | 14.89                 | 0.07             | Left                                            | Tilt          | D2-0584              | 0.007    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |           |         |                    |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 41 of 74                   |

**Table 14-3**  
**Cell. EVDO Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |            |             |                    |                       |                  |                                                 |               |                      |          |
|---------------------------------------------------------------------------------------------------|-----|------------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|----------|
| FREQUENCY                                                                                         |     | Mode/Band  | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | SAR (1g) |
| MHz                                                                                               | Ch. |            |             |                    |                       |                  |                                                 |               |                      | (W/kg)   |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | 0.06             | Right                                           | Touch         | D2-0579              | 0.145    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | 0.08             | Right                                           | Tilt          | D2-0579              | 0.096    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | 0.05             | Left                                            | Touch         | D2-0579              | 0.225    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | -0.07            | Left                                            | Tilt          | D2-0579              | 0.124    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.03            | Right                                           | Touch         | D2-0581              | 0.031    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.09            | Right                                           | Tilt          | D2-0581              | 0.018    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.05            | Left                                            | Touch         | D2-0581              | 0.040    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.10            | Left                                            | Tilt          | D2-0581              | 0.023    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |            |             |                    |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |          |

**Table 14-4**  
**PCS EVDO Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |           |             |                    |                       |                  |                                                 |               |                      |          |
|---------------------------------------------------------------------------------------------------|-----|-----------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|----------|
| FREQUENCY                                                                                         |     | Mode/Band | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | SAR (1g) |
| MHz                                                                                               | Ch. |           |             |                    |                       |                  |                                                 |               |                      | (W/kg)   |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 24.5               | 24.61                 | 0.03             | Right                                           | Touch         | D2-0579              | 0.179    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 24.5               | 24.61                 | -0.03            | Right                                           | Tilt          | D2-0579              | 0.152    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 24.5               | 24.61                 | 0.00             | Left                                            | Touch         | D2-0579              | 0.348    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 24.5               | 24.61                 | -0.14            | Left                                            | Tilt          | D2-0579              | 0.126    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 18.5               | 18.68                 | 0.03             | Right                                           | Touch         | D2-0582              | 0.034    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 18.5               | 18.68                 | 0.02             | Right                                           | Tilt          | D2-0582              | 0.034    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 18.5               | 18.68                 | -0.01            | Left                                            | Touch         | D2-0582              | 0.072    |
| 1880.00                                                                                           | 600 | PCS EVDO  | EVDO Rev. 0 | 18.5               | 18.68                 | 0.04             | Left                                            | Tilt          | D2-0582              | 0.027    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |           |             |                    |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |          |

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 42 of 74                   |

**Table 14-5**  
**LTE Head SAR Results – Maximum Power**

| MEASUREMENT RESULTS                                                                               |       |             |                 |                    |          |                       |                  |                                                 |               |            |         |           |                      |                 |
|---------------------------------------------------------------------------------------------------|-------|-------------|-----------------|--------------------|----------|-----------------------|------------------|-------------------------------------------------|---------------|------------|---------|-----------|----------------------|-----------------|
| FREQUENCY                                                                                         |       | Mode        | Bandwidth [MHz] | Target Power [dBm] | MPR [dB] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Modulation | # of RB | RB Offset | Device Serial Number | SAR (1g) (W/kg) |
| MHz                                                                                               | Ch.   |             |                 |                    |          |                       |                  |                                                 |               |            |         |           |                      |                 |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.20             | Right                                           | Touch         | QPSK       | 25      | 12        | D2-1661              | 0.046           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | 0.10             | Right                                           | Touch         | QPSK       | 1       | 0         | D2-1661              | 0.062           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | 0.11             | Right                                           | Touch         | QPSK       | 1       | 49        | D2-1661              | 0.062           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.03             | Right                                           | Touch         | 16 QAM     | 25      | 12        | D2-1661              | 0.037           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | 0.12             | Right                                           | Touch         | 16 QAM     | 1       | 0         | D2-1661              | 0.045           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.09             | Right                                           | Touch         | 16 QAM     | 1       | 49        | D2-1661              | 0.047           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.04             | Right                                           | Tilt          | QPSK       | 25      | 12        | D2-1661              | 0.021           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | 0.08             | Right                                           | Tilt          | QPSK       | 1       | 0         | D2-1661              | 0.020           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | 0.09             | Right                                           | Tilt          | QPSK       | 1       | 49        | D2-1661              | 0.024           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.05             | Right                                           | Tilt          | 16 QAM     | 25      | 12        | D2-1661              | 0.014           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | 0.09             | Right                                           | Tilt          | 16 QAM     | 1       | 0         | D2-1661              | 0.015           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.03             | Right                                           | Tilt          | 16 QAM     | 1       | 49        | D2-1661              | 0.018           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.05             | Left                                            | Touch         | QPSK       | 25      | 12        | D2-1661              | 0.082           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | 0.01             | Left                                            | Touch         | QPSK       | 1       | 0         | D2-1661              | 0.097           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | 0.13             | Left                                            | Touch         | QPSK       | 1       | 49        | D2-1661              | 0.093           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | -0.12            | Left                                            | Touch         | 16 QAM     | 25      | 12        | D2-1661              | 0.072           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | -0.07            | Left                                            | Touch         | 16 QAM     | 1       | 0         | D2-1661              | 0.081           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.03             | Left                                            | Touch         | 16 QAM     | 1       | 49        | D2-1661              | 0.078           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.03             | Left                                            | Tilt          | QPSK       | 25      | 12        | D2-1661              | 0.033           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | 0.07             | Left                                            | Tilt          | QPSK       | 1       | 0         | D2-1661              | 0.035           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | 0.06             | Left                                            | Tilt          | QPSK       | 1       | 49        | D2-1661              | 0.039           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.02             | Left                                            | Tilt          | 16 QAM     | 25      | 12        | D2-1661              | 0.028           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | 0.01             | Left                                            | Tilt          | 16 QAM     | 1       | 0         | D2-1661              | 0.025           |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.05             | Left                                            | Tilt          | 16 QAM     | 1       | 49        | D2-1661              | 0.028           |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |             |                 |                    |          |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |            |         |           |                      |                 |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 43 of 74                   |

**Table 14-6**  
**LTE Head SAR Results – Reduced Power**

| MEASUREMENT RESULTS                                                                               |       |             |                 |                    |          |                       |                  |                                                 |               |            |         |           |                      |          |
|---------------------------------------------------------------------------------------------------|-------|-------------|-----------------|--------------------|----------|-----------------------|------------------|-------------------------------------------------|---------------|------------|---------|-----------|----------------------|----------|
| FREQUENCY                                                                                         |       | Mode        | Bandwidth [MHz] | Target Power [dBm] | MPR [dB] | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Modulation | # of RB | RB Offset | Device Serial Number | SAR (1g) |
| MHz                                                                                               | Ch.   |             |                 |                    |          |                       |                  |                                                 |               |            |         |           |                      | (W/kg)   |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.10             | Right                                           | Touch         | QPSK       | 25      | 12        | D2-1660              | 0.029    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | -0.01            | Right                                           | Touch         | QPSK       | 1       | 0         | D2-1660              | 0.025    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.10                 | 0.15             | Right                                           | Touch         | QPSK       | 1       | 49        | D2-1660              | 0.023    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.43                 | 0.20             | Right                                           | Touch         | 16 QAM     | 25      | 12        | D2-1660              | 0.030    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.97                 | 0.04             | Right                                           | Touch         | 16 QAM     | 1       | 0         | D2-1660              | 0.023    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.92                 | 0.05             | Right                                           | Touch         | 16 QAM     | 1       | 49        | D2-1660              | 0.020    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.05             | Right                                           | Tilt          | QPSK       | 25      | 12        | D2-1660              | 0.013    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.10             | Right                                           | Tilt          | QPSK       | 1       | 0         | D2-1660              | 0.008    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.10                 | 0.11             | Right                                           | Tilt          | QPSK       | 1       | 49        | D2-1660              | 0.007    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.43                 | 0.05             | Right                                           | Tilt          | 16 QAM     | 25      | 12        | D2-1660              | 0.014    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.97                 | 0.10             | Right                                           | Tilt          | 16 QAM     | 1       | 0         | D2-1660              | 0.007    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.92                 | 0.08             | Right                                           | Tilt          | 16 QAM     | 1       | 49        | D2-1660              | 0.006    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.04             | Left                                            | Touch         | QPSK       | 25      | 12        | D2-1660              | 0.044    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | -0.06            | Left                                            | Touch         | QPSK       | 1       | 0         | D2-1660              | 0.042    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.10                 | 0.06             | Left                                            | Touch         | QPSK       | 1       | 49        | D2-1660              | 0.038    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.43                 | 0.02             | Left                                            | Touch         | 16 QAM     | 25      | 12        | D2-1660              | 0.046    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.97                 | 0.10             | Left                                            | Touch         | 16 QAM     | 1       | 0         | D2-1660              | 0.039    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.92                 | 0.16             | Left                                            | Touch         | 16 QAM     | 1       | 49        | D2-1660              | 0.036    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.02             | Left                                            | Tilt          | QPSK       | 25      | 12        | D2-1660              | 0.019    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.20             | Left                                            | Tilt          | QPSK       | 1       | 0         | D2-1660              | 0.014    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.10                 | 0.15             | Left                                            | Tilt          | QPSK       | 1       | 49        | D2-1660              | 0.014    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.43                 | 0.01             | Left                                            | Tilt          | 16 QAM     | 25      | 12        | D2-1660              | 0.020    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.97                 | 0.05             | Left                                            | Tilt          | 16 QAM     | 1       | 0         | D2-1660              | 0.014    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.92                 | 0.00             | Left                                            | Tilt          | 16 QAM     | 1       | 49        | D2-1660              | 0.013    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |             |                 |                    |          |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |            |         |           |                      |          |

**Table 14-7**  
**GSM Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |          |                    |                       |                  |       |                                                 |                      |          |        |
|---------------------------------------------------------------------------------------------------|-----|----------|--------------------|-----------------------|------------------|-------|-------------------------------------------------|----------------------|----------|--------|
| FREQUENCY                                                                                         |     | Mode     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Side  | Test Position                                   | Device Serial Number | SAR (1g) |        |
| MHz                                                                                               | Ch. |          |                    |                       |                  |       |                                                 |                      | (W/kg)   | (W/kg) |
| 836.60                                                                                            | 190 | GSM 850  | 33                 | 33.14                 | 0.17             | Right | Touch                                           | D2-3064              | 0.174    | 0.174  |
| 836.60                                                                                            | 190 | GSM 850  | 33                 | 33.14                 | 0.01             | Right | Tilt                                            | D2-3064              | 0.132    | 0.132  |
| 836.60                                                                                            | 190 | GSM 850  | 33                 | 33.14                 | 0.04             | Left  | Touch                                           | D2-3064              | 0.214    | 0.214  |
| 836.60                                                                                            | 190 | GSM 850  | 33                 | 33.14                 | -0.02            | Left  | Tilt                                            | D2-3064              | 0.147    | 0.147  |
| 1880.00                                                                                           | 661 | GSM 1900 | 29.5               | 29.57                 | -0.01            | Right | Touch                                           | D2-3064              | 0.089    | 0.089  |
| 1880.00                                                                                           | 661 | GSM 1900 | 29.5               | 29.57                 | 0.17             | Right | Tilt                                            | D2-3064              | 0.033    | 0.033  |
| 1880.00                                                                                           | 661 | GSM 1900 | 29.5               | 29.57                 | -0.04            | Left  | Touch                                           | D2-3064              | 0.061    | 0.061  |
| 1880.00                                                                                           | 661 | GSM 1900 | 29.5               | 29.57                 | -0.13            | Left  | Tilt                                            | D2-3064              | 0.033    | 0.033  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |          |                    |                       |                  |       | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |          |        |

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 44 of 74                   |

**Table 14-8**  
**2.4 GHz WIFI Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |              |         |                       |                  |                                                 |               |                      |                  |          |
|---------------------------------------------------------------------------------------------------|-----|--------------|---------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|------------------|----------|
| FREQUENCY                                                                                         |     | Mode         | Service | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | Data Rate (Mbps) | SAR (1g) |
| MHz                                                                                               | Ch. |              |         |                       |                  |                                                 |               |                      |                  | (W/kg)   |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | 0.09             | Right                                           | Touch         | D2-0445              | 1                | 0.052    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | 0.08             | Right                                           | Tilt          | D2-0445              | 1                | 0.041    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | 0.10             | Left                                            | Touch         | D2-0445              | 1                | 0.101    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | 0.05             | Left                                            | Tilt          | D2-0445              | 1                | 0.050    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |              |         |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |                  |          |

**Table 14-9**  
**5 GHz WIFI Head SAR Results**

| MEASUREMENT RESULTS                                                                               |     |              |         |                       |                  |                                                 |               |                      |                  |          |
|---------------------------------------------------------------------------------------------------|-----|--------------|---------|-----------------------|------------------|-------------------------------------------------|---------------|----------------------|------------------|----------|
| FREQUENCY                                                                                         |     | Mode         | Service | Conducted Power [dBm] | Power Drift [dB] | Side                                            | Test Position | Device Serial Number | Data Rate (Mbps) | SAR (1g) |
| MHz                                                                                               | Ch. |              |         |                       |                  |                                                 |               |                      |                  | (W/kg)   |
| 5745                                                                                              | 149 | IEEE 802.11a | OFDM    | 12.24                 | 0.01             | Right                                           | Touch         | D2-0445              | 6                | 0.032    |
| 5745                                                                                              | 149 | IEEE 802.11a | OFDM    | 12.24                 | 0.03             | Right                                           | Tilt          | D2-0445              | 6                | 0.027    |
| 5745                                                                                              | 149 | IEEE 802.11a | OFDM    | 12.24                 | 0.13             | Left                                            | Touch         | D2-0445              | 6                | 0.033    |
| 5745                                                                                              | 149 | IEEE 802.11a | OFDM    | 12.24                 | 0.20             | Left                                            | Tilt          | D2-0445              | 6                | 0.016    |
| 5240                                                                                              | 48  | IEEE 802.11a | OFDM    | 11.70                 | 0.05             | Right                                           | Touch         | D2-0445              | 6                | 0.012    |
| 5240                                                                                              | 48  | IEEE 802.11a | OFDM    | 11.70                 | 0.16             | Right                                           | Tilt          | D2-0445              | 6                | 0.014    |
| 5240                                                                                              | 48  | IEEE 802.11a | OFDM    | 11.70                 | 0.03             | Left                                            | Touch         | D2-0445              | 6                | 0.027    |
| 5240                                                                                              | 48  | IEEE 802.11a | OFDM    | 11.70                 | 0.05             | Left                                            | Tilt          | D2-0445              | 6                | 0.022    |
| 5320                                                                                              | 64  | IEEE 802.11a | OFDM    | 11.82                 | 0.06             | Right                                           | Touch         | D2-0445              | 6                | 0.024    |
| 5320                                                                                              | 64  | IEEE 802.11a | OFDM    | 11.82                 | 0.12             | Right                                           | Tilt          | D2-0445              | 6                | 0.029    |
| 5320                                                                                              | 64  | IEEE 802.11a | OFDM    | 11.82                 | 0.09             | Left                                            | Touch         | D2-0445              | 6                | 0.034    |
| 5320                                                                                              | 64  | IEEE 802.11a | OFDM    | 11.82                 | 0.05             | Left                                            | Tilt          | D2-0445              | 6                | 0.022    |
| 5500                                                                                              | 100 | IEEE 802.11a | OFDM    | 12.40                 | 0.03             | Right                                           | Touch         | D2-0445              | 6                | 0.062    |
| 5500                                                                                              | 100 | IEEE 802.11a | OFDM    | 12.40                 | 0.08             | Right                                           | Tilt          | D2-0445              | 6                | 0.063    |
| 5500                                                                                              | 100 | IEEE 802.11a | OFDM    | 12.40                 | 0.01             | Left                                            | Touch         | D2-0445              | 6                | 0.062    |
| 5500                                                                                              | 100 | IEEE 802.11a | OFDM    | 12.40                 | 0.01             | Left                                            | Tilt          | D2-0445              | 6                | 0.072    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |              |         |                       |                  | Head<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |               |                      |                  |          |

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 45 of 74                   |

## 14.2 Standalone Body-Worn SAR Data

**Table 14-10**  
**CDMA Body-Worn SAR Results**

| MEASUREMENT RESULTS                                                                               |      |            |             |                    |                       |                  |                                                 |                      |      |          |
|---------------------------------------------------------------------------------------------------|------|------------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|----------------------|------|----------|
| FREQUENCY                                                                                         |      | Mode       | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Side | SAR (1g) |
| MHz                                                                                               | Ch.  |            |             |                    |                       |                  |                                                 |                      |      | (W/kg)   |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 24.5               | 24.73                 | 0.04             | 1.0 cm                                          | D2-0581              | back | 0.367    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 18                 | 18.06                 | -0.03            | 1.0 cm                                          | D2-0585              | back | 0.133    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 15                 | 14.60                 | -0.02            | 1.0 cm                                          | D2-0584              | back | 0.054    |
| 1851.25                                                                                           | 25   | PCS CDMA   | TDSO / SO32 | 24.5               | 24.52                 | 0.05             | 1.0 cm                                          | D2-1660              | back | 0.589    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 24.5               | 24.84                 | 0.02             | 1.0 cm                                          | D2-1660              | back | 0.934    |
| 1908.75                                                                                           | 1175 | PCS CDMA   | TDSO / SO32 | 24.5               | 24.64                 | 0.02             | 1.0 cm                                          | D2-1660              | back | 0.854    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 18                 | 18.36                 | -0.03            | 1.0 cm                                          | D2-0585              | back | 0.297    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 15                 | 14.86                 | -0.03            | 1.0 cm                                          | D2-0584              | back | 0.127    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |            |             |                    |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |      |          |

Note: For CDMA 1x mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

**Table 14-11**  
**EVDO Body-Worn SAR Results**

| MEASUREMENT RESULTS                                                                               |     |            |             |                    |                       |                  |                                                 |                      |      |          |
|---------------------------------------------------------------------------------------------------|-----|------------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|----------------------|------|----------|
| FREQUENCY                                                                                         |     | Mode       | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Side | SAR (1g) |
| MHz                                                                                               | Ch. |            |             |                    |                       |                  |                                                 |                      |      | (W/kg)   |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | -0.06            | 1.0 cm                                          | D2-0579              | back | 0.417    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | 0.02             | 1.0 cm                                          | D2-0581              | back | 0.092    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 24.5               | 24.61                 | -0.02            | 1.0 cm                                          | D2-0579              | back | 0.411    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 18.5               | 18.68                 | 0.00             | 1.0 cm                                          | D2-0582              | back | 0.087    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |            |             |                    |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |      |          |

Note: For EVDO mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06. EVDO SAR was required to be evaluated for body-worn exposure configurations since there are simultaneous combinations per **Table 1-2** that allow transmissions using EVDO.

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 46 of 74                   |

**Table 14-12**  
**LTE Body-Worn SAR Results**

| MEASUREMENT RESULTS                                                                               |       |             |                 |                    |          |                       |                  |                                                 |            |         |           |         |      |          |
|---------------------------------------------------------------------------------------------------|-------|-------------|-----------------|--------------------|----------|-----------------------|------------------|-------------------------------------------------|------------|---------|-----------|---------|------|----------|
| FREQUENCY                                                                                         |       | Mode        | Bandwidth [MHz] | Target Power [dBm] | MPR [dB] | Conducted Power [dBm] | Power Drift [dB] | Device Serial Number                            | Modulation | # of RB | RB Offset | Spacing | Side | SAR (1g) |
| MHz                                                                                               | Ch.   |             |                 |                    |          |                       |                  |                                                 |            |         |           |         |      | (W/kg)   |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | -0.14            | D2-1661                                         | QPSK       | 25      | 12        | 1.0 cm  | back | 0.267    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | -0.06            | D2-1661                                         | QPSK       | 1       | 0         | 1.0 cm  | back | 0.330    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | -0.02            | D2-1661                                         | QPSK       | 1       | 49        | 1.0 cm  | back | 0.342    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.12             | D2-1661                                         | 16 QAM     | 25      | 12        | 1.0 cm  | back | 0.187    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | 0.12             | D2-1661                                         | 16 QAM     | 1       | 0         | 1.0 cm  | back | 0.252    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.02             | D2-1661                                         | 16 QAM     | 1       | 49        | 1.0 cm  | back | 0.248    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.13             | D2-1660                                         | QPSK       | 25      | 12        | 1.0 cm  | back | 0.129    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.30                 | 0.19             | D2-1660                                         | QPSK       | 1       | 0         | 1.0 cm  | back | 0.141    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.10                 | 0.15             | D2-1660                                         | QPSK       | 1       | 49        | 1.0 cm  | back | 0.127    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 19.43                 | 0.02             | D2-1660                                         | 16 QAM     | 25      | 12        | 1.0 cm  | back | 0.132    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.97                 | 0.06             | D2-1660                                         | 16 QAM     | 1       | 0         | 1.0 cm  | back | 0.136    |
| 782                                                                                               | 23230 | LTE Band 13 | 10              | 19                 | 0        | 18.92                 | 0.05             | D2-1660                                         | 16 QAM     | 1       | 49        | 1.0 cm  | back | 0.126    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |             |                 |                    |          |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |            |         |           |         |      |          |

Note: For LTE mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

**Table 14-13**  
**GSM Body-Worn SAR Results**

| MEASUREMENT RESULTS                                                                               |     |          |         |                       |                  |                                                 |                      |                 |      |          |
|---------------------------------------------------------------------------------------------------|-----|----------|---------|-----------------------|------------------|-------------------------------------------------|----------------------|-----------------|------|----------|
| FREQUENCY                                                                                         |     | Mode     | Service | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | # of Time Slots | Side | SAR (1g) |
| MHz                                                                                               | Ch. |          |         |                       |                  |                                                 |                      |                 |      | (W/kg)   |
| 836.60                                                                                            | 190 | GSM 850  | GSM     | 33.14                 | 0.01             | 1.0 cm                                          | D2-3064              | 1               | back | 0.365    |
| 836.60                                                                                            | 190 | GSM 850  | GPRS    | 31.43                 | -0.06            | 1.0 cm                                          | D2-3064              | 2               | back | 0.430    |
| 1880.00                                                                                           | 661 | GSM 1900 | GSM     | 29.57                 | -0.02            | 1.0 cm                                          | D2-3064              | 1               | back | 0.307    |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 27.81                 | -0.08            | 1.0 cm                                          | D2-3064              | 2               | back | 0.374    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |          |         |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |                 |      |          |

Note: For GPRS mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 47 of 74                   |

**Table 14-14**  
**WIFI Body-Worn SAR Results**

| MEASUREMENT RESULTS                                                                               |     |              |         |                       |                  |                                                 |                      |                  |      |          |
|---------------------------------------------------------------------------------------------------|-----|--------------|---------|-----------------------|------------------|-------------------------------------------------|----------------------|------------------|------|----------|
| FREQUENCY                                                                                         |     | Mode         | Service | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Data Rate (Mbps) | Side | SAR (1g) |
| MHz                                                                                               | Ch. |              |         |                       |                  |                                                 |                      |                  |      | (W/kg)   |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | -0.04            | 1.0 cm                                          | D2-0445              | 1                | back | 0.219    |
| 5745                                                                                              | 149 | IEEE 802.11a | OFDM    | 12.24                 | -0.08            | 1.0 cm                                          | D2-0445              | 6                | back | 0.172    |
| 5240                                                                                              | 48  | IEEE 802.11a | OFDM    | 11.70                 | -0.11            | 1.0 cm                                          | D2-0445              | 6                | back | 0.216    |
| 5320                                                                                              | 64  | IEEE 802.11a | OFDM    | 11.82                 | 0.11             | 1.0 cm                                          | D2-0445              | 6                | back | 0.190    |
| 5500                                                                                              | 100 | IEEE 802.11a | OFDM    | 12.40                 | -0.17            | 1.0 cm                                          | D2-0445              | 6                | back | 0.267    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |              |         |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |                  |      |          |

Note: For IEEE 802.11b mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 48 of 74                   |

## 14.3 Standalone Wireless Router SAR Data

Table 14-15  
CDMA Hotspot SAR Results

| MEASUREMENT RESULTS                                                                               |      |            |             |                    |                       |                  |                                                 |                      |        |          |
|---------------------------------------------------------------------------------------------------|------|------------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|----------------------|--------|----------|
| FREQUENCY                                                                                         |      | Mode       | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Side   | SAR (1g) |
| MHz                                                                                               | Ch.  |            |             |                    |                       |                  |                                                 |                      |        | (W/kg)   |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 24.5               | 24.73                 | 0.04             | 1.0 cm                                          | D2-0581              | back   | 0.367    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 24.5               | 24.73                 | -0.05            | 1.0 cm                                          | D2-0581              | front  | 0.261    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 24.5               | 24.73                 | -0.08            | 1.0 cm                                          | D2-0581              | bottom | 0.171    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 24.5               | 24.73                 | -0.03            | 1.0 cm                                          | D2-0581              | right  | 0.346    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 18                 | 18.06                 | -0.03            | 1.0 cm                                          | D2-0585              | back   | 0.133    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 18                 | 18.06                 | -0.04            | 1.0 cm                                          | D2-0585              | front  | 0.062    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 18                 | 18.06                 | -0.01            | 1.0 cm                                          | D2-0585              | bottom | 0.107    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 18                 | 18.06                 | 0.09             | 1.0 cm                                          | D2-0585              | right  | 0.016    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 15                 | 14.60                 | -0.02            | 1.0 cm                                          | D2-0584              | back   | 0.054    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 15                 | 14.60                 | -0.02            | 1.0 cm                                          | D2-0584              | front  | 0.038    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 15                 | 14.60                 | -0.02            | 1.0 cm                                          | D2-0584              | bottom | 0.009    |
| 836.52                                                                                            | 384  | Cell. CDMA | TDSO / SO32 | 15                 | 14.60                 | 0.04             | 1.0 cm                                          | D2-0584              | right  | 0.034    |
| 1851.25                                                                                           | 25   | PCS CDMA   | TDSO / SO32 | 24.5               | 24.52                 | 0.05             | 1.0 cm                                          | D2-1660              | back   | 0.589    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 24.5               | 24.84                 | 0.02             | 1.0 cm                                          | D2-1660              | back   | 0.934    |
| 1908.75                                                                                           | 1175 | PCS CDMA   | TDSO / SO32 | 24.5               | 24.64                 | 0.02             | 1.0 cm                                          | D2-1660              | back   | 0.854    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 24.5               | 24.84                 | -0.03            | 1.0 cm                                          | D2-1660              | front  | 0.440    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 24.5               | 24.84                 | 0.03             | 1.0 cm                                          | D2-1660              | bottom | 0.636    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 24.5               | 24.84                 | -0.18            | 1.0 cm                                          | D2-1660              | right  | 0.102    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 18                 | 18.36                 | -0.03            | 1.0 cm                                          | D2-0585              | back   | 0.297    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 18                 | 18.36                 | -0.03            | 1.0 cm                                          | D2-0585              | front  | 0.137    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 18                 | 18.36                 | 0.00             | 1.0 cm                                          | D2-0585              | bottom | 0.226    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 18                 | 18.36                 | 0.04             | 1.0 cm                                          | D2-0585              | right  | 0.036    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 15                 | 14.86                 | -0.03            | 1.0 cm                                          | D2-0584              | back   | 0.127    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 15                 | 14.86                 | 0.12             | 1.0 cm                                          | D2-0584              | front  | 0.063    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 15                 | 14.86                 | 0.04             | 1.0 cm                                          | D2-0584              | bottom | 0.128    |
| 1880.00                                                                                           | 600  | PCS CDMA   | TDSO / SO32 | 15                 | 14.86                 | 0.03             | 1.0 cm                                          | D2-0584              | right  | 0.017    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |            |             |                    |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |        |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 49 of 74                   |

**Table 14-16**  
**EVDO Hotspot SAR Results**

| MEASUREMENT RESULTS                                                                               |     |            |             |                    |                       |                  |                                                 |                      |        |          |
|---------------------------------------------------------------------------------------------------|-----|------------|-------------|--------------------|-----------------------|------------------|-------------------------------------------------|----------------------|--------|----------|
| FREQUENCY                                                                                         |     | Mode       | Service     | Target Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Side   | SAR (1g) |
| MHz                                                                                               | Ch. |            |             |                    |                       |                  |                                                 |                      |        | (W/kg)   |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | -0.06            | 1.0 cm                                          | D2-0579              | back   | 0.417    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | -0.01            | 1.0 cm                                          | D2-0579              | front  | 0.355    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | 0.10             | 1.0 cm                                          | D2-0579              | bottom | 0.223    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 24.5               | 24.45                 | -0.03            | 1.0 cm                                          | D2-0579              | left   | 0.237    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | 0.02             | 1.0 cm                                          | D2-0581              | back   | 0.092    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.02            | 1.0 cm                                          | D2-0581              | front  | 0.084    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | -0.15            | 1.0 cm                                          | D2-0581              | bottom | 0.048    |
| 836.52                                                                                            | 384 | Cell. EVDO | EVDO Rev. 0 | 18.5               | 18.80                 | 0.00             | 1.0 cm                                          | D2-0581              | left   | 0.041    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 24.5               | 24.61                 | -0.02            | 1.0 cm                                          | D2-0579              | back   | 0.411    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 24.5               | 24.61                 | -0.01            | 1.0 cm                                          | D2-0579              | front  | 0.391    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 24.5               | 24.61                 | 0.09             | 1.0 cm                                          | D2-0579              | bottom | 0.206    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 24.5               | 24.61                 | -0.04            | 1.0 cm                                          | D2-0579              | left   | 0.257    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 18.5               | 18.68                 | 0.00             | 1.0 cm                                          | D2-0582              | back   | 0.087    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 18.5               | 18.68                 | -0.01            | 1.0 cm                                          | D2-0582              | front  | 0.085    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 18.5               | 18.68                 | -0.10            | 1.0 cm                                          | D2-0582              | bottom | 0.053    |
| 1880.00                                                                                           | 600 | PCS EVDO   | EVDO Rev. 0 | 18.5               | 18.68                 | -0.02            | 1.0 cm                                          | D2-0582              | left   | 0.057    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |            |             |                    |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |        |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 50 of 74                   |

**Table 14-17**  
**LTE Hotspot SAR Results – Maximum Power**

| MEASUREMENT RESULTS                                                                             |       |             |                 |                    |          |                       |                  |                                                 |            |         |           |         |        |          |
|-------------------------------------------------------------------------------------------------|-------|-------------|-----------------|--------------------|----------|-----------------------|------------------|-------------------------------------------------|------------|---------|-----------|---------|--------|----------|
| FREQUENCY                                                                                       |       | Mode        | Bandwidth [MHz] | Target Power [dBm] | MPR [dB] | Conducted Power [dBm] | Power Drift [dB] | Device Serial Number                            | Modulation | # of RB | RB Offset | Spacing | Side   | SAR (1g) |
| MHz                                                                                             | Ch.   |             |                 |                    |          |                       |                  |                                                 |            |         |           |         |        | (W/kg)   |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | -0.14            | D2-1661                                         | QPSK       | 25      | 12        | 1.0 cm  | back   | 0.267    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | -0.06            | D2-1661                                         | QPSK       | 1       | 0         | 1.0 cm  | back   | 0.330    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | -0.02            | D2-1661                                         | QPSK       | 1       | 49        | 1.0 cm  | back   | 0.342    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.12             | D2-1661                                         | 16 QAM     | 25      | 12        | 1.0 cm  | back   | 0.187    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | 0.12             | D2-1661                                         | 16 QAM     | 1       | 0         | 1.0 cm  | back   | 0.252    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.02             | D2-1661                                         | 16 QAM     | 1       | 49        | 1.0 cm  | back   | 0.248    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.02             | D2-1661                                         | QPSK       | 25      | 12        | 1.0 cm  | front  | 0.148    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | -0.01            | D2-1661                                         | QPSK       | 1       | 0         | 1.0 cm  | front  | 0.181    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | -0.03            | D2-1661                                         | QPSK       | 1       | 49        | 1.0 cm  | front  | 0.199    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | -0.07            | D2-1661                                         | 16 QAM     | 25      | 12        | 1.0 cm  | front  | 0.121    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | -0.15            | D2-1661                                         | 16 QAM     | 1       | 0         | 1.0 cm  | front  | 0.151    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.07             | D2-1661                                         | 16 QAM     | 1       | 49        | 1.0 cm  | front  | 0.164    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | -0.08            | D2-1661                                         | QPSK       | 25      | 12        | 1.0 cm  | bottom | 0.090    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | -0.14            | D2-1661                                         | QPSK       | 1       | 0         | 1.0 cm  | bottom | 0.113    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | -0.19            | D2-1661                                         | QPSK       | 1       | 49        | 1.0 cm  | bottom | 0.125    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | 0.09             | D2-1661                                         | 16 QAM     | 25      | 12        | 1.0 cm  | bottom | 0.061    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | -0.03            | D2-1661                                         | 16 QAM     | 1       | 0         | 1.0 cm  | bottom | 0.090    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.03             | D2-1661                                         | 16 QAM     | 1       | 49        | 1.0 cm  | bottom | 0.094    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.75                 | 0.03             | D2-1661                                         | QPSK       | 25      | 12        | 1.0 cm  | left   | 0.078    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.78                 | 0.01             | D2-1661                                         | QPSK       | 1       | 0         | 1.0 cm  | left   | 0.091    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 23                 | 0        | 22.76                 | 0.02             | D2-1661                                         | QPSK       | 1       | 49        | 1.0 cm  | left   | 0.087    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 21                 | 2        | 20.75                 | -0.03            | D2-1661                                         | 16 QAM     | 25      | 12        | 1.0 cm  | left   | 0.063    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 21.94                 | -0.11            | D2-1661                                         | 16 QAM     | 1       | 0         | 1.0 cm  | left   | 0.067    |
| 782                                                                                             | 23230 | LTE Band 13 | 10              | 22                 | 1        | 22.00                 | 0.15             | D2-1661                                         | 16 QAM     | 1       | 49        | 1.0 cm  | left   | 0.068    |
| ANSI/IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |             |                 |                    |          |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |            |         |           |         |        |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 51 of 74                   |

**Table 14-18**  
**LTE Hotspot SAR Results – Reduced Power**

| MEASUREMENT RESULTS                                                                               |       |             |                    |                       |          |                          |                     |                                                 |            |         |              |         |        |          |
|---------------------------------------------------------------------------------------------------|-------|-------------|--------------------|-----------------------|----------|--------------------------|---------------------|-------------------------------------------------|------------|---------|--------------|---------|--------|----------|
| FREQUENCY                                                                                         |       | Mode        | Bandwidth<br>[MHz] | Target<br>Power [dBm] | MPR [dB] | Conducted<br>Power [dBm] | Power<br>Drift [dB] | Device<br>Serial<br>Number                      | Modulation | # of RB | RB<br>Offset | Spacing | Side   | SAR (1g) |
| MHz                                                                                               | Ch.   |             |                    |                       |          |                          |                     |                                                 |            |         |              |         |        | (W/kg)   |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.13                | D2-1660                                         | QPSK       | 25      | 12           | 1.0 cm  | back   | 0.129    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.19                | D2-1660                                         | QPSK       | 1       | 0            | 1.0 cm  | back   | 0.141    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.10                    | 0.15                | D2-1660                                         | QPSK       | 1       | 49           | 1.0 cm  | back   | 0.127    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.43                    | 0.02                | D2-1660                                         | 16 QAM     | 25      | 12           | 1.0 cm  | back   | 0.132    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.97                    | 0.06                | D2-1660                                         | 16 QAM     | 1       | 0            | 1.0 cm  | back   | 0.136    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.92                    | 0.05                | D2-1660                                         | 16 QAM     | 1       | 49           | 1.0 cm  | back   | 0.126    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.20                | D2-1660                                         | QPSK       | 25      | 12           | 1.0 cm  | front  | 0.079    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.17                | D2-1660                                         | QPSK       | 1       | 0            | 1.0 cm  | front  | 0.085    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.10                    | 0.04                | D2-1660                                         | QPSK       | 1       | 49           | 1.0 cm  | front  | 0.082    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.43                    | 0.14                | D2-1660                                         | 16 QAM     | 25      | 12           | 1.0 cm  | front  | 0.082    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.97                    | 0.06                | D2-1660                                         | 16 QAM     | 1       | 0            | 1.0 cm  | front  | 0.081    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.92                    | 0.14                | D2-1660                                         | 16 QAM     | 1       | 49           | 1.0 cm  | front  | 0.077    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.21                | D2-1660                                         | QPSK       | 25      | 12           | 1.0 cm  | bottom | 0.040    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.05                | D2-1660                                         | QPSK       | 1       | 0            | 1.0 cm  | bottom | 0.056    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.10                    | 0.14                | D2-1660                                         | QPSK       | 1       | 49           | 1.0 cm  | bottom | 0.055    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.43                    | 0.15                | D2-1660                                         | 16 QAM     | 25      | 12           | 1.0 cm  | bottom | 0.044    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.97                    | 0.06                | D2-1660                                         | 16 QAM     | 1       | 0            | 1.0 cm  | bottom | 0.056    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.92                    | 0.08                | D2-1660                                         | 16 QAM     | 1       | 49           | 1.0 cm  | bottom | 0.053    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | -0.03               | D2-1660                                         | QPSK       | 25      | 12           | 1.0 cm  | left   | 0.043    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.30                    | 0.17                | D2-1660                                         | QPSK       | 1       | 0            | 1.0 cm  | left   | 0.039    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.10                    | 0.06                | D2-1660                                         | QPSK       | 1       | 49           | 1.0 cm  | left   | 0.031    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 19.43                    | 0.06                | D2-1660                                         | 16 QAM     | 25      | 12           | 1.0 cm  | left   | 0.045    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.97                    | 0.10                | D2-1660                                         | 16 QAM     | 1       | 0            | 1.0 cm  | left   | 0.037    |
| 782                                                                                               | 23230 | LTE Band 13 | 10                 | 19                    | 0        | 18.92                    | 0.04                | D2-1660                                         | 16 QAM     | 1       | 49           | 1.0 cm  | left   | 0.031    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |             |                    |                       |          |                          |                     | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |            |         |              |         |        |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 52 of 74                   |

**Table 14-19**  
**GPRS Hotspot SAR Results**

| MEASUREMENT RESULTS                                                                               |     |          |         |                       |                  |                                                 |                      |                 |        |          |
|---------------------------------------------------------------------------------------------------|-----|----------|---------|-----------------------|------------------|-------------------------------------------------|----------------------|-----------------|--------|----------|
| FREQUENCY                                                                                         |     | Mode     | Service | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | # of GPRS Slots | Side   | SAR (1g) |
| MHz                                                                                               | Ch. |          |         |                       |                  |                                                 |                      |                 |        | (W/kg)   |
| 836.60                                                                                            | 190 | GSM 850  | GPRS    | 31.43                 | -0.06            | 1.0 cm                                          | D2-3064              | 2               | back   | 0.430    |
| 836.60                                                                                            | 190 | GSM 850  | GPRS    | 31.43                 | -0.10            | 1.0 cm                                          | D2-3064              | 2               | front  | 0.351    |
| 836.60                                                                                            | 190 | GSM 850  | GPRS    | 31.43                 | 0.03             | 1.0 cm                                          | D2-3064              | 2               | bottom | 0.519    |
| 836.60                                                                                            | 190 | GSM 850  | GPRS    | 31.43                 | 0.01             | 1.0 cm                                          | D2-3064              | 2               | left   | 0.618    |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 27.81                 | -0.08            | 1.0 cm                                          | D2-3064              | 2               | back   | 0.374    |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 27.81                 | -0.03            | 1.0 cm                                          | D2-3064              | 2               | front  | 0.324    |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 27.81                 | 0.01             | 1.0 cm                                          | D2-3064              | 2               | bottom | 0.362    |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 27.81                 | 0.02             | 1.0 cm                                          | D2-3064              | 2               | left   | 0.078    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |          |         |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |                 |        |          |

**Table 14-20**  
**WIFI Hotspot SAR Results**

| MEASUREMENT RESULTS                                                                               |     |              |         |                       |                  |                                                 |                      |                  |       |          |
|---------------------------------------------------------------------------------------------------|-----|--------------|---------|-----------------------|------------------|-------------------------------------------------|----------------------|------------------|-------|----------|
| FREQUENCY                                                                                         |     | Mode         | Service | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Device Serial Number | Data Rate (Mbps) | Side  | SAR (1g) |
| MHz                                                                                               | Ch. |              |         |                       |                  |                                                 |                      |                  |       | (W/kg)   |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | -0.04            | 1.0 cm                                          | D2-0445              | 1                | back  | 0.219    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | -0.03            | 1.0 cm                                          | D2-0445              | 1                | front | 0.025    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | 0.14             | 1.0 cm                                          | D2-0445              | 1                | top   | 0.018    |
| 2462                                                                                              | 11  | IEEE 802.11b | DSSS    | 15.89                 | -0.03            | 1.0 cm                                          | D2-0445              | 1                | right | 0.097    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |              |         |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |                  |       |          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 53 of 74                   |

## 14.4 SAR Test Notes

### General Notes:

1. The test data reported are the worst-case SAR value with the position set in a typical configuration. Test procedures used were according to FCC/OET Bulletin 65, Supplement C [June 2001], IEEE 1528-2003.
2. Batteries are fully charged for all readings. The standard battery was used.
3. Tissue parameters and temperatures are listed on the SAR plots.
4. Liquid tissue depth was at least 15.0 cm. To confirm the proper SAR liquid depth, the z-axis plots from the system verifications were included since the system verifications were performed using the same liquid, probe and DAE as the SAR tests in the same time period.
5. Justification for reduced test configurations: Per FCC/OET Bulletin 65 Supplement C (June 2001) and Public Notice DA-02-1438, if the 2G/3G SAR measured at the middle channel for each test configuration is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.

### CDMA/EVDO Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per KDB Publication 941225 D01.
2. Body-Worn and CDMA 1x RTT wireless router SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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. EVDO SAR (head, body-worn accessory and hotspot) was tested with EVDO Rev 0 to support simultaneous transmission capabilities. SAR for Subtype 2 Physical layer configurations was not required for Rev. A when the maximum average output is less than that measured in Subtype 0/1 Physical layer configurations.
4. Head and Body-worn SAR were additionally evaluated for EVDO to support simultaneous transmission scenarios with a CDMA Voice Call.

### LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Test Considerations for LTE handsets and Data Modems KDB 941225 D05 Publication and were evaluated independently of position. General test procedures can be found in Section 9.3.3.
2. MPR is implemented for this device by the manufacturer when the transmit power is not limited by the power reduction mechanism. 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.
4. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

### WLAN Notes:

1. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 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.

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 54 of 74                   |

2. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 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 for 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. WLAN transmission was verified using an uncalibrated spectrum analyzer.
4. Because the maximum extrapolated peak SAR of the zoom scan for the maximum output channel of the lowest data rate is <1.6 W/kg and the 1g averaged SAR is <0.8 W/kg for all bands and configurations, SAR testing on other channels was not required.
5. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

#### GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR using headphones.
2. Per FCC guidance, GPRS Data Mode is additionally required for body-worn configuration. Per KDB 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configurations additionally shows body-worn compliance at the same distance.
3. Justification for reduced test configurations per KDB Publication 941225 D03: The source-based time-averaged output power was evaluated for all multi-slot operations. In addition to the worst-case reported, all source-based time-averaged powers within 10% of the worst-case were additionally included in the evaluation for data modes.

#### Hotspot Notes:

1. Top and left edges for the CDMA 1x transmitter were not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 guidance (see Section 1.3).
2. Top and right edges for the EVDO/LTE/GSM transmitter were not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 guidance (see Section 1.3).
3. Bottom and left edges for the WLAN transmitter was not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 (see Section 1.3).
4. During SAR Testing for the Wireless Router conditions per KDB 941225 D06, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 7.6.)

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 55 of 74                          |

## 15 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

### 15.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” FCC KDB Publication 648474 are applicable to handsets with built-in unlicensed transmitters such as 802.11a/b/g/n and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

### 15.2 FCC Power Tables & Conditions

|           | 2.45 | 5.15 - 5.35 | 5.47 - 5.85 | GHz |
|-----------|------|-------------|-------------|-----|
| $P_{Ref}$ | 12   | 6           | 5           | mW  |

Device output power should be rounded to the nearest mW to compare with values specified in this table.

**Figure 15-1**  
Output Power Thresholds for Unlicensed Transmitters

|                                | Individual Transmitter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Simultaneous Transmission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Licensed Transmitters</b>   | <u>Routine evaluation required</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>SAR not required:</b><br><b>Unlicensed only</b> <ul style="list-style-type: none"> <li>when stand-alone 1-g SAR is not required and antenna is <math>\geq 5</math> cm from other antennas</li> </ul> <b>Licensed &amp; Unlicensed</b> <ul style="list-style-type: none"> <li>when the sum of the 1-g SAR is <math>&lt; 1.6</math> W/kg for all simultaneous transmitting antennas</li> <li>when SAR to peak location separation ratio of simultaneous transmitting antenna pair is <math>&lt; 0.3</math></li> </ul> |
| <b>Unlicensed Transmitters</b> | <p><b>When there is no simultaneous transmission –</b></p> <ul style="list-style-type: none"> <li>output <math>\leq 60</math>/f: SAR not required</li> <li>output <math>&gt; 60</math>/f: stand-alone SAR required</li> </ul> <p><b>When there is simultaneous transmission –</b></p> <p><u>Stand-alone SAR not required when</u></p> <ul style="list-style-type: none"> <li>output <math>\leq 2 \cdot P_{Ref}</math> and antenna is <math>\geq 5.0</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>\geq 2.5</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>&lt; 2.5</math> cm from other antennas, each with either output power <math>\leq P_{Ref}</math> or 1-g SAR <math>&lt; 1.2</math> W/kg</li> </ul> <p><u>Otherwise stand-alone SAR is required</u></p> <p><b>When stand-alone SAR is required</b></p> <ul style="list-style-type: none"> <li>test SAR on highest output channel for each wireless mode and exposure condition</li> <li>if SAR for highest output channel is <math>&gt; 50\%</math> of SAR limit, evaluate all channels according to normal procedures</li> </ul> | <p><b>SAR required:</b></p> <p><b>Licensed &amp; Unlicensed</b></p> <p>antenna pairs with SAR to peak location separation ratio <math>\geq 0.3</math>; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition</p> <p><b>Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply</b></p>                    |

**Figure 15-2**  
SAR Evaluation Requirements for Multiple Transmitter Handsets

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 56 of 74                   |

## 15.3 Simultaneous Transmission Capabilities

According to Figure 15-1 and Figure 15-2, simultaneous transmission analysis of SAR may be required for this device for the two licensed and unlicensed transmitters. Possible simultaneous transmissions (between the two licensed transmitters and the unlicensed transmitter) for this device indicated in **Table 15-1** were numerically summed using stand-alone SAR data and are shown in the following tables.

Per KDB Publication 648474, standalone Bluetooth SAR tests were not required. Standalone SAR tests for 2.4 GHz and 5 GHz WLAN were required. See Section 1.6(A) for more information.

**Table 15-1**  
**Possible Simultaneous Transmission Scenarios**

| Ref. | Simultaneous Transmit Configurations                 | Power Reduction | SAR Report Section | Head              | Body-Worn Accessory | Hot Spot                       | Note                        |
|------|------------------------------------------------------|-----------------|--------------------|-------------------|---------------------|--------------------------------|-----------------------------|
|      |                                                      |                 |                    | IEEE 1528, Supp C | Supplement C        | FCC KDB 941225 D06 edges/sides |                             |
| A    | 1X CDMA 850 Voice + LTE 782 MHz Data                 | LTE             | Section 15.6       | Table 15-7        | Table 15-8          | -                              | SVLTE                       |
| B    | 1X CDMA 1900 Voice + LTE 782 MHz Data                |                 |                    | Table 15-7        | Table 15-8          | -                              | SVLTE                       |
| C    | 1X CDMA 850 Voice + EVDO 850 Data                    | EVDO            | Section 15.7       | Table 15-10       | Table 15-11         | -                              | SVDO                        |
| D    | 1X CDMA 850 Voice + EVDO 1900 Data                   |                 |                    | Table 15-10       | Table 15-11         | -                              | SVDO                        |
| E    | 1X CDMA 1900 Voice + EVDO 850 Data                   |                 |                    | Table 15-10       | Table 15-11         | -                              | SVDO                        |
| F    | 1X CDMA 1900 Voice + EVDO 1900 Data                  |                 |                    | Table 15-10       | Table 15-11         | -                              | SVDO                        |
| G    | 1X CDMA 850 Voice + 2.4 GHz WIFI                     | None            | Section 15.4       | Table 15-2        | Table 15-4          | -                              |                             |
| H    | 1X CDMA 850 Voice + 5 GHz WIFI                       |                 |                    | Table 15-3        | Table 15-5          | -                              |                             |
| I    | 1X CDMA 1900 Voice + 2.4 GHz WIFI                    |                 |                    | Table 15-2        | Table 15-4          | -                              |                             |
| J    | 1X CDMA 1900 Voice + 5 GHz WIFI                      |                 |                    | Table 15-3        | Table 15-5          | -                              |                             |
| K    | GSM850 Voice + 2.4 GHz WIFI                          |                 |                    | Table 15-2        | Table 15-4          | -                              |                             |
| L    | GSM850 Voice + 5 GHz WIFI                            |                 |                    | Table 15-3        | Table 15-5          | -                              |                             |
| M    | GSM1900 Voice + 2.4 GHz WIFI                         |                 |                    | Table 15-2        | Table 15-4          | -                              |                             |
| N    | GSM1900 Voice + 5 GHz WIFI                           |                 |                    | Table 15-3        | Table 15-5          | -                              |                             |
| O    | 1X CDMA 850 Voice + LTE 782 MHz Data + 2.4 GHz WIFI  | LTE             | Section 15.6       | Table 15-7        | Table 15-8          | Table 15-9                     | Voice + LTE + WIFI Hotspot  |
| P    | 1X CDMA 1900 Voice + LTE 782 MHz Data + 2.4 GHz WIFI |                 |                    | Table 15-7        | Table 15-8          | Table 15-9                     | Voice + LTE + WIFI Hotspot  |
| Q    | 1X CDMA 850 Voice + EVDO 850 Data + 2.4 GHz WIFI     | EVDO            | Section 15.7       | Table 15-10       | Table 15-11         | Table 15-12                    | Voice + EVDO + WIFI Hotspot |
| R    | 1X CDMA 1900 Voice + EVDO 850 Data + 2.4 GHz WIFI    |                 |                    | Table 15-10       | Table 15-11         | Table 15-12                    | Voice + EVDO + WIFI Hotspot |
| S    | 1X CDMA 850 Voice + EVDO 1900 Data + 2.4 GHz WIFI    |                 |                    | Table 15-10       | Table 15-11         | Table 15-12                    | Voice + EVDO + WIFI Hotspot |
| T    | 1X CDMA 1900 Voice + EVDO 1900 Data + 2.4 GHz WIFI   |                 |                    | Table 15-10       | Table 15-11         | Table 15-12                    | Voice + EVDO + WIFI Hotspot |
| U    | 1X CDMA 850 Data + 2.4 GHz WIFI                      | None            | Section 15.5       | -                 | -                   | Table 15-6                     | 1X CDMA Data +WIFI Hotspot  |
| V    | 1X CDMA 1900 Data + 2.4 GHz WIFI                     |                 |                    | -                 | -                   | Table 15-6                     | 1X CDMA Data +WIFI Hotspot  |
| W    | EVDO 850 Data + 2.4 GHz WIFI                         |                 |                    | -                 | -                   | Table 15-6                     | EVDO+WIFI Hotspot           |
| X    | EVDO 1900 Data + 2.4 GHz WIFI                        |                 |                    | -                 | -                   | Table 15-6                     | EVDO+WIFI Hotspot           |
| Y    | LTE 782 MHz Data + 2.4 GHz WIFI                      |                 |                    | -                 | -                   | Table 15-6                     | LTE+WIFI Hotspot            |
| Z    | GPRS/EDGE 850 Data + 2.4 GHz WIFI                    |                 |                    | -                 | -                   | Table 15-6                     | GPRS/EDGE + WIFI Hotspot    |
| AA   | GPRS/EDGE 1900 Data + 2.4 GHz WIFI                   |                 |                    | -                 | -                   | Table 15-6                     | GPRS/EDGE + WIFI Hotspot    |

Note: The specific section report number and table number of the analysis of each condition is listed. The reference letters are included in the tables below.

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 57 of 74                          |

## 15.4 Voice + WIFI Simultaneous Transmission Analysis

**Table 15-2**  
**Simultaneous Transmission Scenario (Held to Ear)**

| Table 1-2<br>Simult Tx<br>Ref. | Configuration      | Cell.<br>CDMA<br>SAR<br>(W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR<br>(W/kg) | Table 1-2<br>Simult Tx<br>Ref. | Configuration      | PCS<br>CDMA<br>SAR<br>(W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR<br>(W/kg) |
|--------------------------------|--------------------|--------------------------------|-------------------------------|-----------------|--------------------------------|--------------------|------------------------------|-------------------------------|-----------------|
| G                              | Target Power (dBm) | 24.5                           | -                             | 0.282           | I                              | Target Power (dBm) | 24.5                         | -                             | 0.195           |
|                                | Reference          | Table 14-1                     | Table 14-8                    |                 |                                | Reference          | Table 14-2                   | Table 14-8                    |                 |
|                                | Right Cheek        | 0.230                          | 0.052                         |                 |                                | Right Cheek        | 0.143                        | 0.052                         |                 |
|                                | Right Tilt         | 0.123                          | 0.041                         |                 |                                | Right Tilt         | 0.057                        | 0.041                         |                 |
|                                | Left Cheek         | 0.201                          | 0.101                         |                 |                                | Left Cheek         | 0.138                        | 0.101                         |                 |
|                                | Left Tilt          | 0.143                          | 0.050                         |                 |                                | Left Tilt          | 0.050                        | 0.050                         |                 |
| K                              | Target Power (dBm) | 33                             | -                             | 0.226           | M                              | Target Power (dBm) | 29.5                         | -                             | 0.141           |
|                                | Reference          | Table 14-7                     | Table 14-8                    |                 |                                | Reference          | Table 14-7                   | Table 14-8                    |                 |
|                                | Right Cheek        | 0.174                          | 0.052                         |                 |                                | Right Cheek        | 0.089                        | 0.052                         |                 |
|                                | Right Tilt         | 0.132                          | 0.041                         |                 |                                | Right Tilt         | 0.033                        | 0.041                         |                 |
|                                | Left Cheek         | 0.214                          | 0.101                         |                 |                                | Left Cheek         | 0.061                        | 0.101                         |                 |
|                                | Left Tilt          | 0.147                          | 0.050                         |                 |                                | Left Tilt          | 0.033                        | 0.050                         |                 |

**Table 15-3**  
**Simultaneous Transmission Scenario (Held to Ear)**

| Table 1-2<br>Simult Tx<br>Ref. | Configuration      | Cell.<br>CDMA<br>SAR<br>(W/kg) | 5 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR<br>(W/kg) | Table 1-2<br>Simult Tx<br>Ref. | Configuration      | PCS<br>CDMA<br>SAR<br>(W/kg) | 5 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR<br>(W/kg) |
|--------------------------------|--------------------|--------------------------------|-----------------------------|-----------------|--------------------------------|--------------------|------------------------------|-----------------------------|-----------------|
| H                              | Target Power (dBm) | 24.5                           | -                           | 0.292           | J                              | Target Power (dBm) | 24.5                         | -                           | 0.205           |
|                                | Reference          | Table 14-1                     | Table 14-9                  |                 |                                | Reference          | Table 14-2                   | Table 14-9                  |                 |
|                                | Right Cheek        | 0.230                          | 0.062                       |                 |                                | Right Cheek        | 0.143                        | 0.062                       |                 |
|                                | Right Tilt         | 0.123                          | 0.063                       |                 |                                | Right Tilt         | 0.057                        | 0.063                       |                 |
|                                | Left Cheek         | 0.201                          | 0.062                       |                 |                                | Left Cheek         | 0.138                        | 0.062                       |                 |
|                                | Left Tilt          | 0.143                          | 0.072                       |                 |                                | Left Tilt          | 0.050                        | 0.072                       |                 |
| L                              | Target Power (dBm) | 33                             | -                           | 0.236           | N                              | Target Power (dBm) | 29.5                         | -                           | 0.151           |
|                                | Reference          | Table 14-7                     | Table 14-9                  |                 |                                | Reference          | Table 14-7                   | Table 14-9                  |                 |
|                                | Right Cheek        | 0.174                          | 0.062                       |                 |                                | Right Cheek        | 0.089                        | 0.062                       |                 |
|                                | Right Tilt         | 0.132                          | 0.063                       |                 |                                | Right Tilt         | 0.033                        | 0.063                       |                 |
|                                | Left Cheek         | 0.214                          | 0.062                       |                 |                                | Left Cheek         | 0.061                        | 0.062                       |                 |
|                                | Left Tilt          | 0.147                          | 0.072                       |                 |                                | Left Tilt          | 0.033                        | 0.072                       |                 |

**Table 15-4**  
**Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | Mode       |                    | CDMA SAR<br>(W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR<br>(W/kg) |
|--------------------------------|------------|--------------------|--------------------|-------------------------------|------------------------|
|                                |            |                    | Table 14-10        | Table 14-14                   |                        |
|                                |            | Target Power (dBm) | Table 14-10        | Table 14-14                   |                        |
| G                              | Cell. CDMA | 24.5               | 0.367              | 0.219                         | 0.586                  |
| I                              | PCS CDMA   | 24.5               | 0.934              | 0.219                         | <b>1.153</b>           |
| Table 1-2<br>Simult Tx<br>Ref. | Mode       |                    | GSM SAR<br>(W/kg)  | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR<br>(W/kg) |
|                                |            |                    | Table 14-13        | Table 14-14                   |                        |
|                                |            | Target Power (dBm) | Table 14-13        | Table 14-14                   |                        |
| K                              | GSM 850    | 33                 | 0.365              | 0.219                         | <b>0.584</b>           |
| M                              | GSM 1900   | 29.5               | 0.307              | 0.219                         | 0.526                  |

**Table 15-5**  
**Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | Mode       |                    | CDMA SAR<br>(W/kg) | 5 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR<br>(W/kg) |
|--------------------------------|------------|--------------------|--------------------|-----------------------------|------------------------|
|                                |            |                    | Table 14-10        | Table 14-14                 |                        |
|                                |            | Target Power (dBm) | Table 14-10        | Table 14-14                 |                        |
| H                              | Cell. CDMA | 24.5               | 0.367              | 0.267                       | 0.634                  |
| J                              | PCS CDMA   | 24.5               | 0.934              | 0.267                       | <b>1.201</b>           |
| Table 1-2<br>Simult Tx<br>Ref. | Mode       |                    | GSM SAR<br>(W/kg)  | 5 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR<br>(W/kg) |
|                                |            |                    | Table 14-13        | Table 14-14                 |                        |
|                                |            | Target Power (dBm) | Table 14-13        | Table 14-14                 |                        |
| L                              | GSM 850    | 33                 | 0.365              | 0.267                       | <b>0.632</b>           |
| N                              | GSM 1900   | 29.5               | 0.307              | 0.267                       | 0.574                  |

## 15.5 Hotspot Simultaneous Transmission Analysis

**Table 15-6**  
**Simultaneous Transmission Scenario (Hotspot at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | Configuration                  | Cell. CDMA<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg)                  | Table 1-2<br>Simult Tx<br>Ref. | Configuration      | PCS CDMA<br>SAR (W/kg)  | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|--------------------------------|--------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------|-------------------------|-------------------------------|--------------|
|                                | Target Power (dBm)             | 24.5                     | -                             |                               |                                | Target Power (dBm) | 24.5                    | -                             |              |
| U                              | Reference                      | Table 14-15              | Table 14-20                   |                               | V                              | Reference          | Table 14-15             | Table 14-20                   |              |
|                                | Back                           | 0.367                    | 0.219                         | <b>0.586</b>                  |                                | Back               | 0.934                   | 0.219                         | <b>1.153</b> |
|                                | Front                          | 0.261                    | 0.025                         | 0.286                         |                                | Front              | 0.440                   | 0.025                         | 0.465        |
|                                | Top                            | -                        | 0.018                         | 0.018                         |                                | Top                | -                       | 0.018                         | 0.018        |
|                                | Bottom                         | 0.171                    | -                             | 0.171                         |                                | Bottom             | 0.636                   | -                             | 0.636        |
|                                | Right                          | 0.346                    | 0.097                         | 0.443                         |                                | Right              | 0.102                   | 0.097                         | 0.199        |
|                                | Left                           | -                        | -                             | 0.000                         |                                | Left               | -                       | -                             | 0.000        |
| Table 1-2<br>Simult Tx<br>Ref. | Configuration                  | Cell. EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg)                  | Table 1-2<br>Simult Tx<br>Ref. | Configuration      | PCS EVDO<br>SAR (W/kg)  | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|                                | Target Power (dBm)             | 24.5                     | -                             |                               |                                | Target Power (dBm) | 24.5                    | -                             |              |
| W                              | Reference                      | Table 14-16              | Table 14-20                   |                               | X                              | Reference          | Table 14-16             | Table 14-20                   |              |
|                                | Back                           | 0.417                    | 0.219                         | <b>0.636</b>                  |                                | Back               | 0.411                   | 0.219                         | <b>0.630</b> |
|                                | Front                          | 0.355                    | 0.025                         | 0.380                         |                                | Front              | 0.391                   | 0.025                         | 0.416        |
|                                | Top                            | -                        | 0.018                         | 0.018                         |                                | Top                | -                       | 0.018                         | 0.018        |
|                                | Bottom                         | 0.223                    | -                             | 0.223                         |                                | Bottom             | 0.206                   | -                             | 0.206        |
|                                | Right                          | -                        | 0.097                         | 0.097                         |                                | Right              | -                       | 0.097                         | 0.097        |
|                                | Left                           | 0.237                    | -                             | 0.237                         |                                | Left               | 0.257                   | -                             | 0.257        |
| Table 1-2<br>Simult Tx<br>Ref. | Configuration                  | GPRS 850<br>SAR (W/kg)   | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg)                  | Table 1-2<br>Simult Tx<br>Ref. | Configuration      | GPRS 1900<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|                                | Target Power (dBm)             | 31                       | -                             |                               |                                | Target Power (dBm) | 27.5                    | -                             |              |
| Z                              | Reference                      | Table 14-19              | Table 14-20                   |                               | AA                             | Reference          | Table 14-19             | Table 14-20                   |              |
|                                | Back                           | 0.430                    | 0.219                         | <b>0.649</b>                  |                                | Back               | 0.374                   | 0.219                         | <b>0.593</b> |
|                                | Front                          | 0.351                    | 0.025                         | 0.376                         |                                | Front              | 0.324                   | 0.025                         | 0.349        |
|                                | Top                            | -                        | 0.018                         | 0.018                         |                                | Top                | -                       | 0.018                         | 0.018        |
|                                | Bottom                         | 0.519                    | -                             | 0.519                         |                                | Bottom             | 0.362                   | -                             | 0.362        |
|                                | Right                          | -                        | 0.097                         | 0.097                         |                                | Right              | -                       | 0.097                         | 0.097        |
|                                | Left                           | 0.618                    | -                             | 0.618                         |                                | Left               | 0.078                   | -                             | 0.078        |
|                                | Table 1-2<br>Simult Tx<br>Ref. | Configuration            | LTE Band 13<br>SAR (W/kg)     | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg)                   |                    |                         |                               |              |
|                                | Target Power (dBm)             | 23                       | -                             |                               |                                |                    |                         |                               |              |
| Y                              | Reference                      | Table 14-17              | Table 14-20                   |                               |                                |                    |                         |                               |              |
|                                | Back                           | 0.342                    | 0.219                         | <b>0.561</b>                  |                                |                    |                         |                               |              |
|                                | Front                          | 0.199                    | 0.025                         | 0.224                         |                                |                    |                         |                               |              |
|                                | Top                            | -                        | 0.018                         | 0.018                         |                                |                    |                         |                               |              |
|                                | Bottom                         | 0.125                    | -                             | 0.125                         |                                |                    |                         |                               |              |
|                                | Right                          | -                        | 0.097                         | 0.097                         |                                |                    |                         |                               |              |
|                                | Left                           | 0.091                    | -                             | 0.091                         |                                |                    |                         |                               |              |

Note: Per FCC KDB Publication 941225 D06, the edges with antennas more than 2.5 cm are not required to be evaluated for SAR ("").

|                                        |                                                                                                                                   |                               |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |                                                                                       | Page 60 of 74                   |

## 15.6 SVLTE Simultaneous Transmission Scenario Analysis

**Table 15-7**  
**Simultaneous Transmission Scenario (Held to Ear)**

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level (dBm) | Configuration      | Cell. CDMA<br>SAR (W/kg) | LTE Band<br>13 SAR<br>(W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|--------------------------------|------------------------------|--------------------|--------------------------|------------------------------|-------------------------------|---------------------|--------------|
|                                |                              | Tx Ant             | 1                        | 2                            | 3                             | 1+2                 | 1+2+3        |
| A,O                            | P ≥ 18                       | Target Power (dBm) | 24.5                     | 19                           | -                             | 1+2                 | 1+2+3        |
|                                |                              | Reference          | Table 14-1               | Table 14-6                   | Table 14-8                    |                     |              |
|                                |                              | Right Cheek        | 0.230                    | 0.030                        | 0.052                         | 0.260               | 0.312        |
|                                |                              | Right Tilt         | 0.123                    | 0.014                        | 0.041                         | 0.137               | 0.178        |
|                                |                              | Left Cheek         | 0.201                    | 0.046                        | 0.101                         | 0.247               | <b>0.348</b> |
|                                |                              | Left Tilt          | 0.143                    | 0.020                        | 0.050                         | 0.163               | 0.213        |
|                                | P < 18                       | Target Power (dBm) | 18                       | 23                           | -                             |                     |              |
|                                |                              | Reference          | Table 14-1               | Table 14-5                   | Table 14-8                    |                     |              |
|                                |                              | Right Cheek        | 0.045                    | 0.062                        | 0.052                         | 0.107               | 0.159        |
|                                |                              | Right Tilt         | 0.020                    | 0.024                        | 0.041                         | 0.044               | 0.085        |
|                                |                              | Left Cheek         | 0.038                    | 0.097                        | 0.101                         | 0.135               | 0.236        |
|                                |                              | Left Tilt          | 0.021                    | 0.039                        | 0.050                         | 0.060               | 0.110        |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level (dBm) | Configuration      | PCS CDMA<br>SAR (W/kg) | LTE Band<br>13 SAR<br>(W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|--------------------------------|------------------------------|--------------------|------------------------|------------------------------|-------------------------------|---------------------|--------------|
|                                |                              | Tx Ant             | 1                      | 2                            | 3                             | 1+2                 | 1+2+3        |
| B,P                            | P ≥ 18                       | Target Power (dBm) | 24.5                   | 19                           | -                             | 1+2                 | 1+2+3        |
|                                |                              | Reference          | Table 14-2             | Table 14-6                   | Table 14-8                    |                     |              |
|                                |                              | Right Cheek        | 0.143                  | 0.030                        | 0.052                         | 0.173               | 0.225        |
|                                |                              | Right Tilt         | 0.057                  | 0.014                        | 0.041                         | 0.071               | 0.112        |
|                                |                              | Left Cheek         | 0.138                  | 0.046                        | 0.101                         | 0.184               | <b>0.285</b> |
|                                |                              | Left Tilt          | 0.050                  | 0.020                        | 0.050                         | 0.070               | 0.120        |
|                                | P < 18                       | Target Power (dBm) | 18                     | 23                           | -                             |                     |              |
|                                |                              | Reference          | Table 14-2             | Table 14-5                   | Table 14-8                    |                     |              |
|                                |                              | Right Cheek        | 0.040                  | 0.062                        | 0.052                         | 0.102               | 0.154        |
|                                |                              | Right Tilt         | 0.014                  | 0.024                        | 0.041                         | 0.038               | 0.079        |
|                                |                              | Left Cheek         | 0.026                  | 0.097                        | 0.101                         | 0.123               | 0.224        |
|                                |                              | Left Tilt          | 0.011                  | 0.039                        | 0.050                         | 0.050               | 0.100        |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 61 of 74                   |

**Table 15-8**  
**Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power Level<br>(dBm) | Mode               | CDMA SAR<br>(W/kg) | LTE Band 13<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|--------------------------------|------------------------------|--------------------|--------------------|---------------------------|-------------------------------|---------------------|--------------|
|                                |                              |                    | 1                  | 2                         | 3                             | 1+2                 | 1+2+3        |
|                                |                              | Reference          | Table 14-10        | Table 14-12               | Table 14-14                   |                     |              |
|                                |                              | Target Power (dBm) | 24.5               | 19                        | -                             |                     |              |
| A, O                           | P ≥ 18                       | Cell. CDMA         | 0.367              | 0.141                     | 0.219                         | 0.508               | 0.727        |
| B, P                           |                              | PCS CDMA           | 0.934              | 0.141                     | 0.219                         | 1.075               | <b>1.294</b> |
|                                |                              |                    | Table 14-10        | Table 14-12               | Table 14-14                   |                     |              |
|                                |                              |                    | 18                 | 23                        | -                             |                     |              |
| A, O                           | P < 18                       | Cell. CDMA         | 0.133              | 0.342                     | 0.219                         | 0.475               | 0.694        |
| B, P                           |                              | PCS CDMA           | 0.297              | 0.342                     | 0.219                         | 0.639               | 0.858        |

**Table 15-9**  
**Simultaneous Transmission Scenario (Hotspot at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | Cell. CDMA<br>SAR (W/kg) | LTE Band 13<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|--------------------------|---------------------------|-------------------------------|---------------------|
|                                |                           | Tx Ant             | 1                        | 2                         | 3                             | 1+2+3               |
| O                              | $P \geq 18$               | Target Power (dBm) | 24.5                     | 19                        | -                             |                     |
|                                |                           | Reference          | Table 14-15              | Table 14-18               | Table 14-20                   |                     |
|                                |                           | Back               | 0.367                    | 0.141                     | 0.219                         | <b>0.727</b>        |
|                                |                           | Front              | 0.261                    | 0.085                     | 0.025                         | 0.371               |
|                                |                           | Top                | -                        | -                         | 0.018                         | 0.018               |
|                                |                           | Bottom             | 0.171                    | 0.056                     | -                             | 0.227               |
|                                |                           | Right              | 0.346                    | -                         | 0.097                         | 0.443               |
|                                |                           | Left               | -                        | 0.045                     | -                             | 0.045               |
|                                | $P < 18$                  | Target Power (dBm) | 18                       | 23                        | -                             |                     |
|                                |                           | Reference          | Table 14-15              | Table 14-17               | Table 14-20                   |                     |
|                                |                           | Back               | 0.133                    | 0.342                     | 0.219                         | 0.694               |
|                                |                           | Front              | 0.062                    | 0.199                     | 0.025                         | 0.286               |
|                                |                           | Top                | -                        | -                         | 0.018                         | 0.018               |
|                                |                           | Bottom             | 0.107                    | 0.125                     | -                             | 0.232               |
|                                |                           | Right              | 0.016                    | -                         | 0.097                         | 0.113               |
|                                |                           | Left               | -                        | 0.091                     | -                             | 0.091               |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | PCS CDMA<br>SAR (W/kg) | LTE Band 13<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|------------------------|---------------------------|-------------------------------|--------------|
|                                |                           | Tx Ant             | 1                      | 2                         | 3                             | 1+2+3        |
| P                              | P ≥ 18                    | Target Power (dBm) | 24.5                   | 19                        | -                             | 1+2+3        |
|                                |                           | Reference          | Table 14-15            | Table 14-18               | Table 14-20                   |              |
|                                |                           | Back               | 0.934                  | 0.141                     | 0.219                         |              |
|                                |                           | Front              | 0.440                  | 0.085                     | 0.025                         |              |
|                                |                           | Top                | -                      | -                         | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.636                  | 0.056                     | -                             | 0.692        |
|                                |                           | Right              | 0.102                  | -                         | 0.097                         | 0.199        |
|                                |                           | Left               | -                      | 0.045                     | -                             | 0.045        |
|                                | P < 18                    | Target Power (dBm) | 18                     | 23                        | -                             |              |
|                                |                           | Reference          | Table 14-15            | Table 14-17               | Table 14-20                   |              |
|                                |                           | Back               | 0.297                  | 0.342                     | 0.219                         |              |
|                                |                           | Front              | 0.137                  | 0.199                     | 0.025                         |              |
|                                |                           | Top                | -                      | -                         | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.226                  | 0.125                     | -                             | 0.351        |
|                                |                           | Right              | 0.036                  | -                         | 0.097                         | 0.133        |
|                                |                           | Left               | -                      | 0.091                     | -                             | 0.091        |

Note: Per FCC KDB Publication 941225 D06, the edges with antennas more than 2.5 cm are not required to be evaluated for SAR ("").

## 15.7 SVDO Simultaneous Transmission Scenario Analysis

**Table 15-10**  
**Simultaneous Transmission Scenario (Held to Ear)**

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level<br>(dBm) | Configuration      | Cell.<br>CDMA<br>SAR<br>(W/kg) | Cell. EVDO<br>SAR<br>(W/kg) | 2.4 GHz<br>WLAN<br>SAR<br>(W/kg) | Σ SAR (W/kg) |              |
|--------------------------------|---------------------------------|--------------------|--------------------------------|-----------------------------|----------------------------------|--------------|--------------|
|                                |                                 | Tx Ant             | 1                              | 2                           | 3                                | 1+2          | 1+2+3        |
| C,Q                            | P ≥ 15                          | Target Power (dBm) | 24.5                           | 18.5                        | -                                | 1+2          | 1+2+3        |
|                                |                                 | Reference          | Table 14-1                     | Table 14-3                  | Table 14-8                       |              |              |
|                                |                                 | Right Cheek        | 0.230                          | 0.031                       | 0.052                            |              |              |
|                                |                                 | Right Tilt         | 0.123                          | 0.018                       | 0.041                            | 0.141        | 0.182        |
|                                |                                 | Left Cheek         | 0.201                          | 0.040                       | 0.101                            | 0.241        | 0.342        |
|                                |                                 | Left Tilt          | 0.143                          | 0.023                       | 0.050                            | 0.166        | 0.216        |
|                                | P < 15                          | Target Power (dBm) | 15                             | 24.5                        | -                                |              |              |
|                                |                                 | Reference          | Table 14-1                     | Table 14-3                  | Table 14-8                       |              |              |
|                                |                                 | Right Cheek        | 0.020                          | 0.145                       | 0.052                            | 0.165        | 0.217        |
|                                |                                 | Right Tilt         | 0.006                          | 0.096                       | 0.041                            | 0.102        | 0.143        |
|                                |                                 | Left Cheek         | 0.026                          | 0.225                       | 0.101                            | 0.251        | <b>0.352</b> |
|                                |                                 | Left Tilt          | 0.013                          | 0.124                       | 0.050                            | 0.137        | 0.187        |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 63 of 74                   |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level<br>(dBm) | Configuration      | Cell.<br>CDMA<br>SAR<br>(W/kg) | PCS<br>EVDO<br>SAR<br>(W/kg) | 2.4 GHz<br>WLAN<br>SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|--------------------------------|---------------------------------|--------------------|--------------------------------|------------------------------|----------------------------------|---------------------|--------------|
|                                |                                 | Tx Ant             | 1                              | 2                            | 3                                | 1+2                 | 1+2+3        |
| D,S                            | $P \geq 15$                     | Target Power (dBm) | 24.5                           | 18.5                         | -                                | 1+2                 | 1+2+3        |
|                                |                                 | Reference          | Table 14-1                     | Table 14-4                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.230                          | 0.034                        | 0.052                            | 0.264               | 0.316        |
|                                |                                 | Right Tilt         | 0.123                          | 0.034                        | 0.041                            | 0.157               | 0.198        |
|                                |                                 | Left Cheek         | 0.201                          | 0.072                        | 0.101                            | 0.273               | 0.374        |
|                                |                                 | Left Tilt          | 0.143                          | 0.027                        | 0.050                            | 0.170               | 0.220        |
|                                | $P < 15$                        | Target Power (dBm) | 15                             | 24.5                         | -                                |                     |              |
|                                |                                 | Reference          | Table 14-1                     | Table 14-4                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.020                          | 0.179                        | 0.052                            | 0.199               | 0.251        |
|                                |                                 | Right Tilt         | 0.006                          | 0.152                        | 0.041                            | 0.158               | 0.199        |
|                                |                                 | Left Cheek         | 0.026                          | 0.348                        | 0.101                            | 0.374               | <b>0.475</b> |
|                                |                                 | Left Tilt          | 0.013                          | 0.126                        | 0.050                            | 0.139               | 0.189        |
| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level<br>(dBm) | Configuration      | PCS<br>CDMA<br>SAR<br>(W/kg)   | Cell. EVDO<br>SAR<br>(W/kg)  | 2.4 GHz<br>WLAN<br>SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|                                |                                 | Tx Ant             | 1                              | 2                            | 3                                | 1+2                 | 1+2+3        |
| E,R                            | $P \geq 15$                     | Target Power (dBm) | 24.5                           | 18.5                         | -                                | 1+2                 | 1+2+3        |
|                                |                                 | Reference          | Table 14-2                     | Table 14-3                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.143                          | 0.031                        | 0.052                            | 0.174               | 0.226        |
|                                |                                 | Right Tilt         | 0.057                          | 0.018                        | 0.041                            | 0.075               | 0.116        |
|                                |                                 | Left Cheek         | 0.138                          | 0.040                        | 0.101                            | 0.178               | 0.279        |
|                                |                                 | Left Tilt          | 0.050                          | 0.023                        | 0.050                            | 0.073               | 0.123        |
|                                | $P < 15$                        | Target Power (dBm) | 15                             | 24.5                         | -                                |                     |              |
|                                |                                 | Reference          | Table 14-2                     | Table 14-3                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.020                          | 0.145                        | 0.052                            | 0.165               | 0.217        |
|                                |                                 | Right Tilt         | 0.006                          | 0.096                        | 0.041                            | 0.102               | 0.143        |
|                                |                                 | Left Cheek         | 0.012                          | 0.225                        | 0.101                            | 0.237               | <b>0.338</b> |
|                                |                                 | Left Tilt          | 0.007                          | 0.124                        | 0.050                            | 0.131               | 0.181        |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA<br>Power<br>Level<br>(dBm) | Configuration      | PCS<br>CDMA<br>SAR<br>(W/kg) | PCS<br>EVDO<br>SAR<br>(W/kg) | 2.4 GHz<br>WLAN<br>SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|--------------------------------|---------------------------------|--------------------|------------------------------|------------------------------|----------------------------------|---------------------|--------------|
|                                |                                 |                    | 1                            | 2                            | 3                                | 1+2                 | 1+2+3        |
| F,T                            | $P \geq 15$                     | Target Power (dBm) | 24.5                         | 18.5                         | -                                | 1+2                 | 1+2+3        |
|                                |                                 | Reference          | Table 14-2                   | Table 14-4                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.143                        | 0.034                        | 0.052                            |                     |              |
|                                |                                 | Right Tilt         | 0.057                        | 0.034                        | 0.041                            | 0.177               | 0.229        |
|                                |                                 | Left Cheek         | 0.138                        | 0.072                        | 0.101                            | 0.091               | 0.132        |
|                                |                                 | Left Tilt          | 0.050                        | 0.027                        | 0.050                            | 0.210               | 0.311        |
|                                | $P < 15$                        | Target Power (dBm) | 15                           | 24.5                         | -                                |                     |              |
|                                |                                 | Reference          | Table 14-2                   | Table 14-4                   | Table 14-8                       |                     |              |
|                                |                                 | Right Cheek        | 0.020                        | 0.179                        | 0.052                            |                     |              |
|                                |                                 | Right Tilt         | 0.006                        | 0.152                        | 0.041                            | 0.199               | 0.251        |
|                                |                                 | Left Cheek         | 0.012                        | 0.348                        | 0.101                            | 0.158               | 0.199        |
|                                |                                 | Left Tilt          | 0.007                        | 0.126                        | 0.050                            | 0.360               | <b>0.461</b> |
|                                |                                 |                    |                              |                              |                                  | 0.133               | 0.183        |

**Table 15-11**  
**Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)**

| Table 1-2<br>Simult Tx Ref. | CDMA Power<br>Level (dBm) | Mode               | CDMA SAR<br>(W/kg) | Cell. EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|-----------------------------|---------------------------|--------------------|--------------------|--------------------------|-------------------------------|---------------------|--------------|
|                             |                           |                    | 1                  | 2                        | 3                             | 1+2                 | 1+2+3        |
| C,Q<br>E,R                  | $P \geq 15$               | Reference          | Table 14-10        | Table 14-11              | Table 14-14                   | 1+2                 | 1+2+3        |
|                             |                           | Target Power (dBm) | 24.5               | 18.5                     | -                             |                     |              |
|                             |                           | Cell. CDMA         | 0.367              | 0.092                    | 0.219                         |                     |              |
|                             |                           | PCS CDMA           | 0.934              | 0.092                    | 0.219                         | 0.459               | 0.678        |
|                             |                           | Reference          | Table 14-10        | Table 14-11              | Table 14-14                   | 1.026               | <b>1.245</b> |
|                             |                           | Target Power (dBm) | 15                 | 24.5                     | -                             |                     |              |
| C,Q<br>E,R                  | $P < 15$                  | Cell. CDMA         | 0.054              | 0.417                    | 0.219                         | 0.471               | 0.690        |
|                             |                           | PCS CDMA           | 0.127              | 0.417                    | 0.219                         |                     |              |
|                             |                           | Reference          | Table 14-10        | Table 14-11              | Table 14-14                   |                     |              |
|                             |                           | Target Power (dBm) | 15                 | 24.5                     | -                             | 0.544               | 0.763        |
|                             |                           | Cell. CDMA         | 0.054              | 0.411                    | 0.219                         |                     |              |
|                             |                           | PCS CDMA           | 0.127              | 0.411                    | 0.219                         |                     |              |

| Table 1-2<br>Simult Tx Ref. | CDMA Power<br>Level (dBm) | Mode               | CDMA SAR<br>(W/kg) | PCS EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | $\Sigma$ SAR (W/kg) |              |
|-----------------------------|---------------------------|--------------------|--------------------|------------------------|-------------------------------|---------------------|--------------|
|                             |                           |                    | 1                  | 2                      | 3                             | 1+2                 | 1+2+3        |
| D,S<br>F,T                  | $P \geq 15$               | Reference          | Table 14-10        | Table 14-11            | Table 14-14                   | 1+2                 | 1+2+3        |
|                             |                           | Target Power (dBm) | 24.5               | 18.5                   | -                             |                     |              |
|                             |                           | Cell. CDMA         | 0.367              | 0.087                  | 0.219                         |                     |              |
|                             |                           | PCS CDMA           | 0.934              | 0.087                  | 0.219                         | 0.454               | 0.673        |
|                             |                           | Reference          | Table 14-10        | Table 14-11            | Table 14-14                   | 1.021               | <b>1.240</b> |
|                             |                           | Target Power (dBm) | 15                 | 24.5                   | -                             |                     |              |
| D,S<br>F,T                  | $P < 15$                  | Cell. CDMA         | 0.054              | 0.411                  | 0.219                         | 0.465               | 0.684        |
|                             |                           | PCS CDMA           | 0.127              | 0.411                  | 0.219                         |                     |              |
|                             |                           | Reference          | Table 14-10        | Table 14-11            | Table 14-14                   |                     |              |
|                             |                           | Target Power (dBm) | 15                 | 24.5                   | -                             | 0.538               | 0.757        |
|                             |                           | Cell. CDMA         | 0.054              | 0.411                  | 0.219                         |                     |              |
|                             |                           | PCS CDMA           | 0.127              | 0.411                  | 0.219                         |                     |              |

**Table 15-12**  
**Simultaneous Transmission Scenario (Hotspot at 1.0 cm)**

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | Cell. CDMA<br>SAR (W/kg) | Cell. EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|--------------------------|--------------------------|-------------------------------|--------------|
|                                |                           | Tx Ant             | 1                        | 2                        | 3                             |              |
| Q                              | P ≥ 15                    | Target Power (dBm) | 24.5                     | 18.5                     | -                             | 1+2+3        |
|                                |                           | Reference          | Table 14-15              | Table 14-16              | Table 14-20                   |              |
|                                |                           | Back               | 0.367                    | 0.092                    | 0.219                         | 0.678        |
|                                |                           | Front              | 0.261                    | 0.084                    | 0.025                         | 0.370        |
|                                |                           | Top                | -                        | -                        | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.171                    | 0.048                    | -                             | 0.219        |
|                                |                           | Right              | 0.346                    | -                        | 0.097                         | 0.443        |
|                                |                           | Left               | -                        | 0.041                    | -                             | 0.041        |
|                                | P < 15                    | Target Power (dBm) | 15                       | 24.5                     | -                             |              |
|                                |                           | Reference          | Table 14-15              | Table 14-16              | Table 14-20                   |              |
|                                |                           | Back               | 0.054                    | 0.417                    | 0.219                         | <b>0.690</b> |
|                                |                           | Front              | 0.038                    | 0.355                    | 0.025                         | 0.418        |
|                                |                           | Top                | -                        | -                        | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.009                    | 0.223                    | -                             | 0.232        |
|                                |                           | Right              | 0.034                    | -                        | 0.097                         | 0.131        |
|                                |                           | Left               | -                        | 0.237                    | -                             | 0.237        |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | Cell. CDMA<br>SAR (W/kg) | PCS EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|--------------------------|------------------------|-------------------------------|--------------|
|                                |                           | Tx Ant             | 1                        | 2                      | 3                             |              |
| S                              | P ≥ 15                    | Target Power (dBm) | 24.5                     | 18.5                   | -                             | 1+2+3        |
|                                |                           | Reference          | Table 14-15              | Table 14-16            | Table 14-20                   |              |
|                                |                           | Back               | 0.367                    | 0.087                  | 0.219                         | 0.673        |
|                                |                           | Front              | 0.261                    | 0.085                  | 0.025                         | 0.371        |
|                                |                           | Top                | -                        | -                      | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.171                    | 0.053                  | -                             | 0.224        |
|                                |                           | Right              | 0.346                    | -                      | 0.097                         | 0.443        |
|                                |                           | Left               | -                        | 0.057                  | -                             | 0.057        |
|                                | P < 15                    | Target Power (dBm) | 15                       | 24.5                   | -                             |              |
|                                |                           | Reference          | Table 14-15              | Table 14-16            | Table 14-20                   |              |
|                                |                           | Back               | 0.054                    | 0.411                  | 0.219                         | <b>0.684</b> |
|                                |                           | Front              | 0.038                    | 0.391                  | 0.025                         | 0.454        |
|                                |                           | Top                | -                        | -                      | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.009                    | 0.206                  | -                             | 0.215        |
|                                |                           | Right              | 0.034                    | -                      | 0.097                         | 0.131        |
|                                |                           | Left               | -                        | 0.257                  | -                             | 0.257        |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | PCS CDMA<br>SAR (W/kg) | Cell. EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|------------------------|--------------------------|-------------------------------|--------------|
|                                |                           | Tx Ant             | 1                      | 2                        | 3                             | 1+2+3        |
| R                              | P ≥ 15                    | Target Power (dBm) | 24.5                   | 18.5                     | -                             |              |
|                                |                           | Reference          | Table 14-15            | Table 14-16              | Table 14-20                   |              |
|                                |                           | Back               | 0.934                  | 0.092                    | 0.219                         | <b>1.245</b> |
|                                |                           | Front              | 0.440                  | 0.084                    | 0.025                         | 0.549        |
|                                |                           | Top                | -                      | -                        | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.636                  | 0.048                    | -                             | 0.684        |
|                                |                           | Right              | 0.102                  | -                        | 0.097                         | 0.199        |
|                                |                           | Left               | -                      | 0.041                    | -                             | 0.041        |
|                                | P < 15                    | Target Power (dBm) | 15                     | 24.5                     | -                             |              |
|                                |                           | Reference          | Table 14-15            | Table 14-16              | Table 14-20                   |              |
|                                |                           | Back               | 0.127                  | 0.417                    | 0.219                         | 0.763        |
|                                |                           | Front              | 0.063                  | 0.355                    | 0.025                         | 0.443        |
|                                |                           | Top                | -                      | -                        | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.128                  | 0.223                    | -                             | 0.351        |
|                                |                           | Right              | 0.017                  | -                        | 0.097                         | 0.114        |
|                                |                           | Left               | -                      | 0.237                    | -                             | 0.237        |

| Table 1-2<br>Simult Tx<br>Ref. | CDMA Power<br>Level (dBm) | Configuration      | PCS CDMA<br>SAR (W/kg) | PCS EVDO<br>SAR (W/kg) | 2.4 GHz<br>WLAN SAR<br>(W/kg) | Σ SAR (W/kg) |
|--------------------------------|---------------------------|--------------------|------------------------|------------------------|-------------------------------|--------------|
|                                |                           | Tx Ant             | 1                      | 2                      | 3                             | 1+2+3        |
| T                              | P ≥ 15                    | Target Power (dBm) | 24.5                   | 18.5                   | -                             |              |
|                                |                           | Reference          | Table 14-15            | Table 14-16            | Table 14-20                   |              |
|                                |                           | Back               | 0.934                  | 0.087                  | 0.219                         | <b>1.240</b> |
|                                |                           | Front              | 0.440                  | 0.085                  | 0.025                         | 0.550        |
|                                |                           | Top                | -                      | -                      | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.636                  | 0.053                  | -                             | 0.689        |
|                                |                           | Right              | 0.102                  | -                      | 0.097                         | 0.199        |
|                                |                           | Left               | -                      | 0.057                  | -                             | 0.057        |
|                                | P < 15                    | Target Power (dBm) | 15                     | 24.5                   | -                             |              |
|                                |                           | Reference          | Table 14-15            | Table 14-16            | Table 14-20                   |              |
|                                |                           | Back               | 0.127                  | 0.411                  | 0.219                         | 0.757        |
|                                |                           | Front              | 0.063                  | 0.391                  | 0.025                         | 0.479        |
|                                |                           | Top                | -                      | -                      | 0.018                         | 0.018        |
|                                |                           | Bottom             | 0.128                  | 0.206                  | -                             | 0.334        |
|                                |                           | Right              | 0.017                  | -                      | 0.097                         | 0.114        |
|                                |                           | Left               | -                      | 0.257                  | -                             | 0.257        |

Note: Per FCC KDB Publication 941225 D06, the edges with antennas more than 2.5 cm are not required to be evaluated for SAR ("").

## 15.8 Simultaneous Transmission Conclusion

The above numerical summed SAR was below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit. No volumetric SAR summation is required per FCC KDB Publication 648474.

|                                        |                                                                                                                                   |                               |  |                                                                                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>  |  |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                         | DUT Type:<br>Portable Handset |  |                                                                                       | Page 67 of 74                   |

# 16 EQUIPMENT LIST

Equipment List from 2/20/2012 to 3/23/2012

| Manufacturer       | Model     | Description                                   | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|--------------------|-----------|-----------------------------------------------|------------|--------------|------------|---------------|
| SPEAG              | ES3DV3    | SAR Probe                                     | 3/24/2011  | Annual       | 3/24/2012  | 3213          |
| Agilent            | 8648D     | Signal Generator                              | 4/5/2011   | Annual       | 4/5/2012   | 3629U00687    |
| Rohde & Schwarz    | SMIQ03B   | Signal Generator                              | 4/6/2011   | Annual       | 4/6/2012   | DE27259       |
| Agilent            | E8257D    | (250kHz-20GHz) Signal Generator               | 4/8/2011   | Annual       | 4/8/2012   | MY45470194    |
| Rohde & Schwarz    | CMU200    | Base Station Simulator                        | 4/19/2011  | Annual       | 4/19/2012  | 107826        |
| Agilent            | 8753E     | (30kHz-6GHz) Network Analyzer                 | 4/21/2011  | Annual       | 4/21/2012  | JP38020182    |
| Agilent            | E5515C    | Wireless Communications Tester                | 4/21/2011  | Annual       | 4/21/2012  | US41140256    |
| VWR                | 36934-158 | Wall-Mounted Thermometer                      | 5/26/2010  | Biennial     | 5/26/2012  | 101718589     |
| Rohde & Schwarz    | CMU200    | Base Station Simulator                        | 6/1/2011   | Annual       | 6/1/2012   | 833855/0010   |
| Pasternack         | PE2208-6  | Bidirectional Coupler                         | 6/3/2011   | Annual       | 6/3/2012   | N/A           |
| Pasternack         | PE2209-10 | Bidirectional Coupler                         | 6/3/2011   | Annual       | 6/3/2012   | N/A           |
| SPEAG              | D1900V2   | 1900 MHz SAR Dipole                           | 7/22/2011  | Annual       | 7/22/2012  | 5d080         |
| SPEAG              | D5GHZV2   | 5 GHz SAR Dipole                              | 7/26/2011  | Annual       | 7/26/2012  | 1007          |
| SPEAG              | EX3DV4    | SAR Probe                                     | 7/27/2011  | Annual       | 7/27/2012  | 3561          |
| Rohde & Schwarz    | CMW500    | LTE Radio Communication Tester                | 8/5/2011   | Annual       | 8/5/2012   | 112347        |
| Rohde & Schwarz    | CMW500    | LTE Radio Communication Tester                | 8/25/2011  | Annual       | 8/25/2012  | 100976        |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 9/16/2011  | Annual       | 9/16/2012  | 704           |
| Rohde & Schwarz    | CMW500    | LTE Radio Communication Tester                | 10/7/2011  | Annual       | 10/7/2012  | 103962        |
| Agilent            | 8648D     | (9kHz-4GHz) Signal Generator                  | 10/10/2011 | Annual       | 10/10/2012 | 3613A00315    |
| Agilent            | E5515C    | Wireless Communications Test Set              | 10/10/2011 | Annual       | 10/10/2012 | GB46110872    |
| Gigatronics        | 80701A    | (0.05-18GHz) Power Sensor                     | 10/12/2011 | Annual       | 10/12/2012 | 1833460       |
| Gigatronics        | 8651A     | Universal Power Meter                         | 10/12/2011 | Annual       | 10/12/2012 | 8650319       |
| Anritsu            | ML2438A   | Power Meter                                   | 10/13/2011 | Annual       | 10/13/2012 | 1070030       |
| Anritsu            | MA2411B   | Pulse Sensor                                  | 10/13/2011 | Annual       | 10/13/2012 | 1027293       |
| Anritsu            | ML2495A   | Power Meter                                   | 10/13/2011 | Annual       | 10/13/2012 | 1039008       |
| Agilent            | E5515C    | Wireless Communications Test Set              | 10/14/2011 | Annual       | 10/14/2012 | GB41450275    |
| Agilent            | E5515C    | Wireless Communications Test Set              | 10/20/2011 | Annual       | 10/20/2012 | GB46310798    |
| SPEAG              | D750V3    | 750 MHz Dipole                                | 10/27/2011 | Annual       | 10/27/2012 | 1046          |
| SPEAG              | DAE3      | Dasy Data Acquisition Electronics             | 11/9/2011  | Annual       | 11/9/2012  | 455           |
| Anritsu            | MT8820C   | Radio Communication Tester                    | 11/11/2011 | Annual       | 11/11/2012 | 6200901190    |
| SPEAG              | ES3DV3    | SAR Probe                                     | 11/18/2011 | Annual       | 11/18/2012 | 3263          |
| Rohde & Schwarz    | CMW500    | LTE Radio Communication Tester                | 11/30/2011 | Annual       | 11/30/2012 | 101699        |
| Speag              | DAK-3.5   | Dielectric Assessment Kit                     | 12/1/2011  | Annual       | 12/1/2012  | 1031          |
| SPEAG              | D835V2    | 835 MHz SAR Dipole                            | 12/21/2011 | Annual       | 12/21/2012 | 4d119         |
| VWR                | 36934-158 | Wall-Mounted Thermometer                      | 1/21/2011  | Biennial     | 1/21/2013  | 111286445     |
| SPEAG              | D2450V2   | 2450 MHz SAR Dipole                           | 1/24/2012  | Annual       | 1/24/2013  | 797           |
| Agilent            | E5515C    | Wireless Communications Test Set              | 2/9/2012   | Annual       | 2/9/2013   | GB43460554    |
| Agilent            | E5515C    | Wireless Communications Test Set              | 2/12/2012  | Annual       | 2/12/2013  | GB45360985    |
| Anritsu            | MA2481A   | Power Sensor                                  | 2/14/2012  | Annual       | 2/14/2013  | 5318          |
| Anritsu            | MA2481A   | Power Sensor                                  | 2/14/2012  | Annual       | 2/14/2013  | 5442          |
| Agilent            | E5515C    | Wireless Communications Test Set              | 2/14/2012  | Annual       | 2/14/2013  | GB43304447    |
| Agilent            | E5515C    | Wireless Communications Test Set              | 2/14/2012  | Annual       | 2/14/2013  | GB43163447    |
| Control Company    | 61220-416 | Long-Stem Thermometer                         | 2/15/2011  | Biennial     | 2/15/2013  | 111331322     |
| Control Company    | 61220-416 | Long-Stem Thermometer                         | 2/15/2011  | Biennial     | 2/15/2013  | 111331323     |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 2/20/2012  | Annual       | 2/20/2013  | 649           |
| Control Company    | 61220-416 | Long-Stem Thermometer                         | 3/16/2011  | Biennial     | 3/16/2013  | 111391601     |
| Rohde & Schwarz    | NRVD      | Dual Channel Power Meter                      | 4/8/2011   | Biennial     | 4/8/2013   | 101695        |
| VWR                | 61220-416 | Long stem thermometer                         | 7/1/2011   | Biennial     | 7/1/2013   | 111642916     |
| VWR                | 61220-416 | Long Stem Thermometer                         | 7/1/2011   | Biennial     | 7/1/2013   | 111642941     |
| VWR                | 36934-158 | Wall Thermometer                              | 9/30/2011  | Biennial     | 9/30/2013  | 111859323     |
| VWR                | 36934-158 | Wall Thermometer                              | 9/30/2011  | Biennial     | 9/30/2013  | 111859332     |
| MiniCircuits       | VLF-6000+ | Low Pass Filter                               | CBT        |              | CBT        | N/A           |
| MiniCircuits       | VLF-6000+ | Low Pass Filter                               | CBT        |              | CBT        | N/A           |
| Narda              | 4014C-6   | 4 - 8 GHz SMA 6 dB Directional Coupler        | CBT        |              | CBT        | N/A           |
| Index SAR          | IXTL-010  | Dielectric Measurement Kit                    | N/A        |              | N/A        | N/A           |
| Index SAR          | IXTL-030  | 30MM TEM line for 6 GHz                       | N/A        |              | N/A        | N/A           |
| Amplifier Research | 5S1G4     | 5W, 800MHz-4.2GHz                             | CBT        |              | CBT        | 21910         |
| Mini-Circuits      | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator | CBT        |              | CBT        | N/A           |
| MiniCircuits       | SLP-2400+ | Low Pass Filter                               | CBT        |              | CBT        | R897950903    |
| Narda              | 4772-3    | Attenuator (3dB)                              | CBT        |              | CBT        | 9406          |
| Narda              | BW-S3W2   | Attenuator (3dB)                              | CBT        |              | CBT        | 120           |
| Mini-Circuits      | NLP-2950+ | Low Pass Filter DC to 2700 MHz                | CBT        |              | CBT        | N/A           |
| Mini-Circuits      | NLP-1200+ | Low Pass Filter DC to 1000 MHz                | CBT        |              | CBT        | N/A           |
| SPEAG              | EX3DV4    | SAR Probe                                     | 1/27/2012  | Annual       | 1/27/2013  | 3589          |

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>OY1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 68 of 74                   |

# Equipment List from 5/8/2012 to 5/10/2012

| Manufacturer       | Model           | Description                                   | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|--------------------|-----------------|-----------------------------------------------|------------|--------------|------------|---------------|
| Agilent            | 85070E          | Dielectric Probe Kit                          | 3/8/2012   | Annual       | 3/8/2013   | MY44300633    |
| Agilent            | 8648D           | (9kHz-4GHz) Signal Generator                  | 10/10/2011 | Annual       | 10/10/2012 | 3613A00315    |
| Agilent            | 8753E           | (30kHz-6GHz) Network Analyzer                 | 4/4/2012   | Annual       | 4/4/2013   | JP38020182    |
| Agilent            | E5515C          | Wireless Communications Test Set              | 2/14/2012  | Annual       | 2/14/2013  | GB43304447    |
| Agilent            | E5515C          | Wireless Communications Test Set              | 2/14/2012  | Annual       | 2/14/2013  | GB43163447    |
| Amplifier Research | 5S1G4           | 5W, 800MHz-4.2GHz                             | CBT        |              | CBT        | 21910         |
| Anritsu            | MA2411B         | Pulse Sensor                                  | 10/13/2011 | Annual       | 10/13/2012 | 1027293       |
| Anritsu            | MA2481A         | Power Sensor                                  | 2/14/2012  | Annual       | 2/14/2013  | 5821          |
| Anritsu            | MA2481A         | Power Sensor                                  | 2/14/2012  | Annual       | 2/14/2013  | 8013          |
| Anritsu            | ML2438A         | Power Meter                                   | 10/13/2011 | Annual       | 10/13/2012 | 1070030       |
| Anritsu            | ML2438A         | Power Meter                                   | 2/14/2012  | Annual       | 2/14/2013  | 98150041      |
| Anritsu            | ML2495A         | Power Meter                                   | 10/13/2011 | Annual       | 10/13/2012 | 1039008       |
| Anritsu            | MT8820C         | Radio Communication Tester                    | 11/11/2011 | Annual       | 11/11/2012 | 6200901190    |
| COMTECH            | AR85729-5/5759B | Solid State Amplifier                         | CBT        |              | CBT        | M3W1A00-1002  |
| Control Company    | 36934-158       | Wall-Mounted Thermometer                      | 1/4/2012   | Biennial     | 1/4/2014   | 122014497     |
| Control Company    | 36934-158       | Wall-Mounted Thermometer                      | 1/4/2012   | Biennial     | 1/4/2014   | 122014488     |
| Control Company    | 61220-416       | Long-Stem Thermometer                         | 10/12/2011 | Biennial     | 10/12/2013 | 111860775     |
| Control Company    | 61220-416       | Long-Stem Thermometer                         | 10/12/2011 | Biennial     | 10/12/2013 | 111860844     |
| Gigatronics        | 80701A          | (0.05-18GHz) Power Sensor                     | 10/12/2011 | Annual       | 10/12/2012 | 1833460       |
| Gigatronics        | 8651A           | Universal Power Meter                         | 10/12/2011 | Annual       | 10/12/2012 | 8650319       |
| Intelligent Weigh  | PD-3000         | Electronic Balance                            | 3/27/2012  | Annual       | 3/27/2013  | 11081534      |
| MCL                | BW-N6W5+        | 6dB Attenuator                                | CBT        |              | CBT        | 1139          |
| MiniCircuits       | SLP-2400+       | Low Pass Filter                               | CBT        |              | CBT        | R8979500903   |
| MiniCircuits       | VLF-6000+       | Low Pass Filter                               | CBT        |              | CBT        | N/A           |
| MiniCircuits       | VLF-6000+       | Low Pass Filter                               | CBT        |              | CBT        | N/A           |
| Mini-Circuits      | BW-N20W5+       | DC to 18 GHz Precision Fixed 20 dB Attenuator | CBT        |              | CBT        | N/A           |
| Mini-Circuits      | NLP-1200+       | Low Pass Filter DC to 1000 MHz                | CBT        |              | CBT        | N/A           |
| Mini-Circuits      | NLP-2950+       | Low Pass Filter DC to 2700 MHz                | CBT        |              | CBT        | N/A           |
| Narda              | 4014C-6         | 4 - 8 GHz SMA 6 dB Directional Coupler        | CBT        |              | CBT        | N/A           |
| Narda              | 4772-3          | Attenuator (3dB)                              | CBT        |              | CBT        | 9406          |
| Narda              | BW-S3W2         | Attenuator (3dB)                              | CBT        |              | CBT        | 120           |
| Pasternack         | PE2208-6        | Bidirectional Coupler                         | 6/3/2011   | Annual       | 6/3/2012   | N/A           |
| Pasternack         | PE2209-10       | Bidirectional Coupler                         | 6/3/2011   | Annual       | 6/3/2012   | N/A           |
| Rohde & Schwarz    | CMU200          | Base Station Simulator                        | 6/1/2011   | Annual       | 6/1/2012   | 833855/0010   |
| Rohde & Schwarz    | NRVD            | Dual Channel Power Meter                      | 4/8/2011   | Biennial     | 4/8/2013   | 101695        |
| Seekonk            | NC-100          | Torque Wrench (8" lb)                         | 11/29/2011 | Triennial    | 11/29/2014 | 21053         |
| Seekonk            | NC-100          | Torque Wrench (8" lb)                         | 3/5/2012   | Triennial    | 3/5/2015   | N/A           |
| Seekonk            | NC-100          | Torque Wrench (8" lb)                         | 3/5/2012   | Triennial    | 3/5/2015   | N/A           |
| SPEAG              | D1900V2         | 1900 MHz SAR Dipole                           | 2/22/2012  | Annual       | 2/22/2013  | 502           |
| SPEAG              | D1900V2         | 1900 MHz SAR Dipole                           | 2/22/2012  | Annual       | 2/22/2013  | 5d149         |
| SPEAG              | D835V2          | 835 MHz SAR Dipole                            | 8/15/2011  | Annual       | 8/15/2012  | 4d026         |
| SPEAG              | DAE3            | Dasy Data Acquisition Electronics             | 11/9/2011  | Annual       | 11/9/2012  | 455           |
| SPEAG              | DAE4            | Dasy Data Acquisition Electronics             | 5/19/2011  | Annual       | 5/19/2012  | 859           |
| SPEAG              | DAE4            | Dasy Data Acquisition Electronics             | 1/18/2012  | Annual       | 1/18/2013  | 1272          |
| Speag              | DAK-3.5         | Dielectric Assessment Kit                     | 12/1/2011  | Annual       | 12/1/2012  | 1031          |
| SPEAG              | ES3DV2          | SAR Probe                                     | 8/25/2011  | Annual       | 8/25/2012  | 3022          |
| SPEAG              | ES3DV3          | SAR Probe                                     | 2/21/2012  | Annual       | 2/21/2013  | 3258          |
| SPEAG              | EX3DV4          | SAR Probe                                     | 7/27/2011  | Annual       | 7/27/2012  | 3561          |
| VWR                | 36934-158       | Wall-Mounted Thermometer                      | 5/26/2010  | Biennial     | 5/26/2012  | 101718589     |
| VWR                | 36934-158       | Wall-Mounted Thermometer                      | 1/21/2011  | Biennial     | 1/21/2013  | 111286445     |

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, 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.

|                                               |                                                                                     |                                      |                                                                                       |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                    | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 69 of 74                          |

## 17 MEASUREMENT UNCERTAINTIES

Applicable for frequencies less than 3000 MHz.

| a                                                                             | b                    | c             | d              | e=<br>f(d,k) | f                     | g                        | h =<br>c x f/e                 | i =<br>c x g/e                   | k              |
|-------------------------------------------------------------------------------|----------------------|---------------|----------------|--------------|-----------------------|--------------------------|--------------------------------|----------------------------------|----------------|
| Uncertainty<br>Component                                                      | IEEE<br>1528<br>Sec. | Tol.<br>(± %) | Prob.<br>Dist. | Div.         | c <sub>i</sub><br>1gm | c <sub>i</sub><br>10 gms | 1gm<br>u <sub>i</sub><br>(± %) | 10gms<br>u <sub>i</sub><br>(± %) | v <sub>i</sub> |
| <b>Measurement System</b>                                                     |                      |               |                |              |                       |                          |                                |                                  |                |
| 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                              | ∞              |
| <b>Test Sample Related</b>                                                    |                      |               |                |              |                       |                          |                                |                                  |                |
| 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                              | ∞              |
| <b>Phantom &amp; Tissue Parameters</b>                                        |                      |               |                |              |                       |                          |                                |                                  |                |
| 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              |
| <b>Combined Standard Uncertainty (k=1)</b>                                    |                      |               |                |              |                       |                          | RSS                            | 12.1                             | 11.7           |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL)                         |                      |               |                |              |                       |                          | k=2                            | 24.2                             | 23.5           |

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

|                                               |                                                                                                                                   |                                      |                                                                                       |                                        |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                                                                  | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 70 of 74                          |

Applicable for frequencies up to 6 GHz.

| a                                                                                | b                    | c             | d              | e=<br>f(d,k) | f                     | g                        | h =<br>c x f/e                 | i =<br>c x g/e                   | k              |
|----------------------------------------------------------------------------------|----------------------|---------------|----------------|--------------|-----------------------|--------------------------|--------------------------------|----------------------------------|----------------|
| Uncertainty<br>Component                                                         | IEEE<br>1528<br>Sec. | Tol.<br>(± %) | Prob.<br>Dist. | Div.         | c <sub>i</sub><br>1gm | c <sub>i</sub><br>10 gms | 1gm<br>u <sub>i</sub><br>(± %) | 10gms<br>u <sub>i</sub><br>(± %) | v <sub>i</sub> |
| <b>Measurement System</b>                                                        |                      |               |                |              |                       |                          |                                |                                  |                |
| 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<br>Max. SAR Evaluation | E.5                  | 1.0           | R              | 1.73         | 1.0                   | 1.0                      | 0.6                            | 0.6                              | ∞              |
| <b>Test Sample Related</b>                                                       |                      |               |                |              |                       |                          |                                |                                  |                |
| 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                              | ∞              |
| <b>Phantom &amp; Tissue Parameters</b>                                           |                      |               |                |              |                       |                          |                                |                                  |                |
| 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              |
| <b>Combined Standard Uncertainty (k=1)</b>                                       |                      |               |                |              |                       |                          | RSS                            | 12.4                             | 12.0           |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL)                            |                      |               |                |              |                       |                          | k=2                            | 24.7                             | 24.0           |

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

|                                               |                                                                                     |                                      |                                                                                       |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: A3LSCHI535                            |  | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                    | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 71 of 74                          |

## 18 CONCLUSION

### 18.1 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]

|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 72 of 74                   |

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|                                        |                                                                                     |                               |                                                                                       |                                 |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSCHI535                     |  | SAR EVALUATION REPORT         |  | Reviewed by:<br>Quality Manager |
| Document S/N:<br>0Y1202220232 – R1.A3L | Test Dates:<br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                           | DUT Type:<br>Portable Handset |                                                                                       | Page 73 of 74                   |

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|                                               |                                                                                     |                                      |                                                                                       |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|
| <b>FCC ID:</b> A3LSCHI535                     |  | <b>SAR EVALUATION REPORT</b>         |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>0Y1202220232 – R1.A3L | <b>Test Dates:</b><br>02/20/2012-03/23/2012 & 5/8/2012-5/10/2012                    | <b>DUT Type:</b><br>Portable Handset |                                                                                       | Page 74 of 74                          |

## APPENDIX A: SAR TEST DATA

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.921 \text{ mho/m}$ ;  $\epsilon_r = 41.614$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Right Head, Touch, Mid.ch**

**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49**

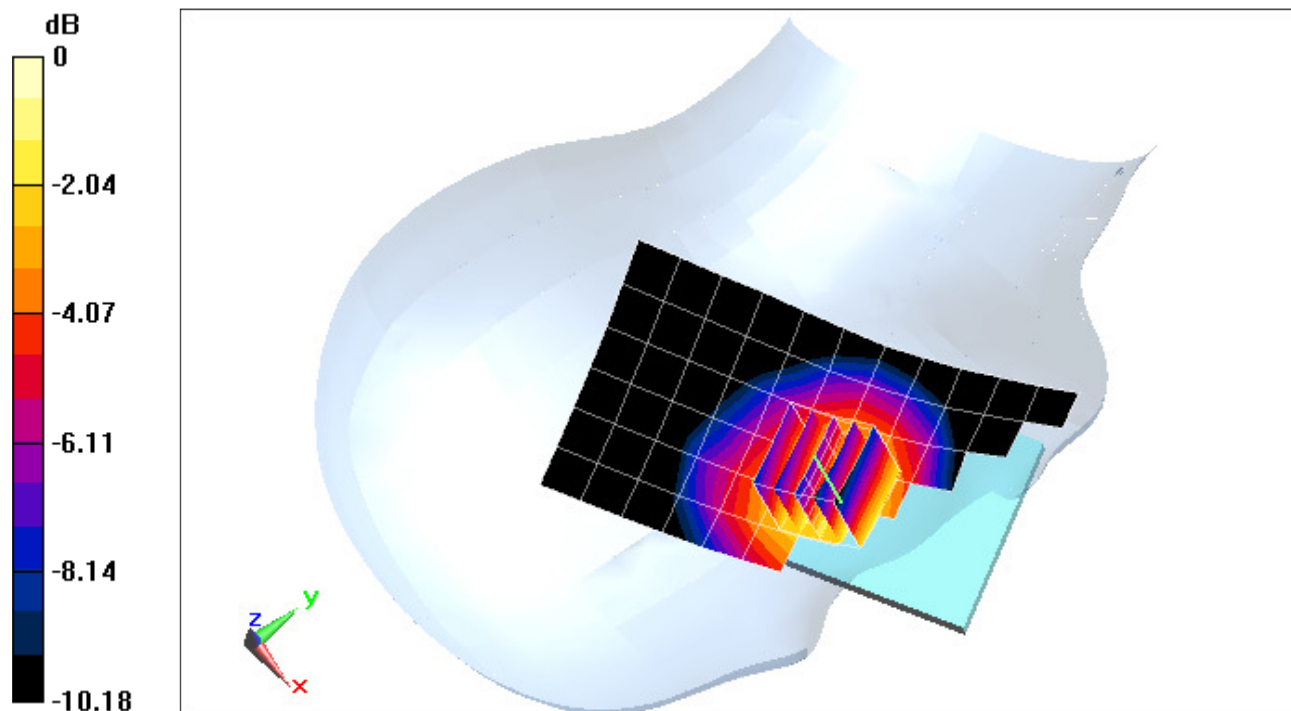
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 8.399 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.0810 W/kg

**SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.047 mW/g**



0 dB = 0.070mW/g = -23.10 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.921 \text{ mho/m}$ ;  $\epsilon_r = 41.614$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Right Head, Tilt, Mid. ch**

**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49**

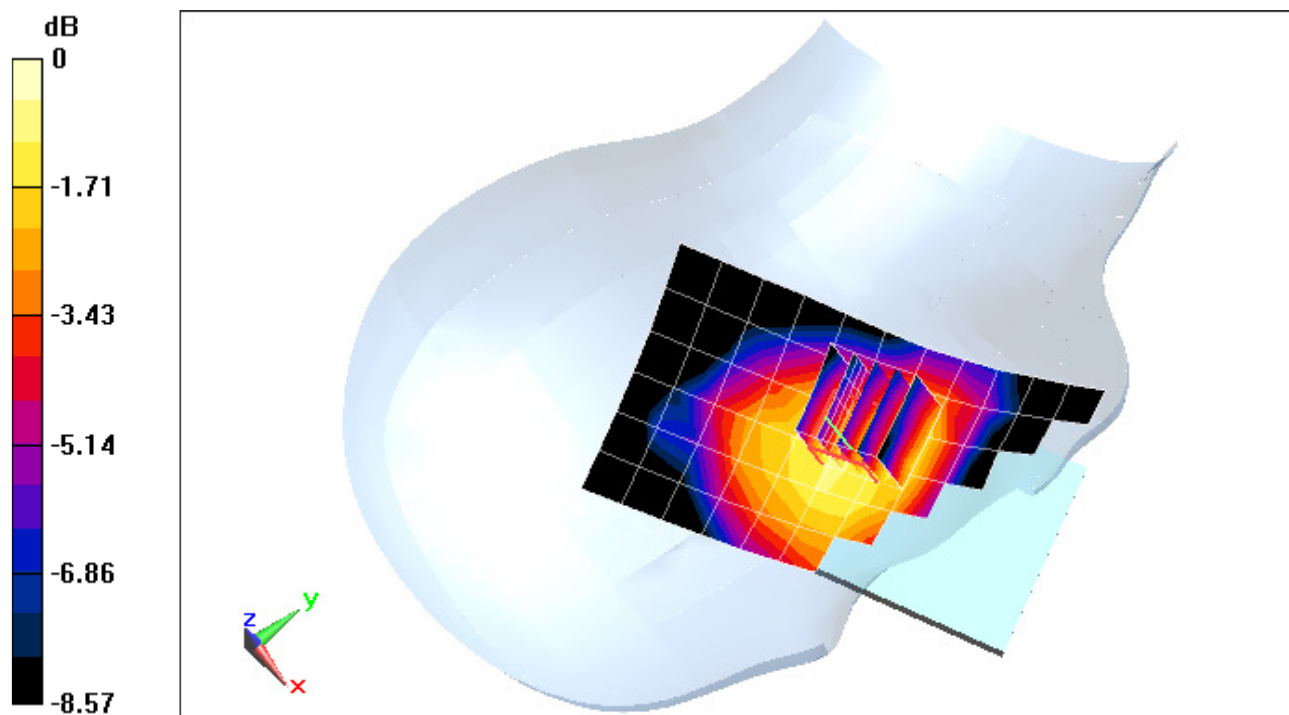
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 4.727 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 0.0290 W/kg

**SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.019 mW/g**



0 dB = 0.030mW/g = -30.46 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.921 \text{ mho/m}$ ;  $\epsilon_r = 41.614$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Left Head, Touch, Mid.ch**  
**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 0**

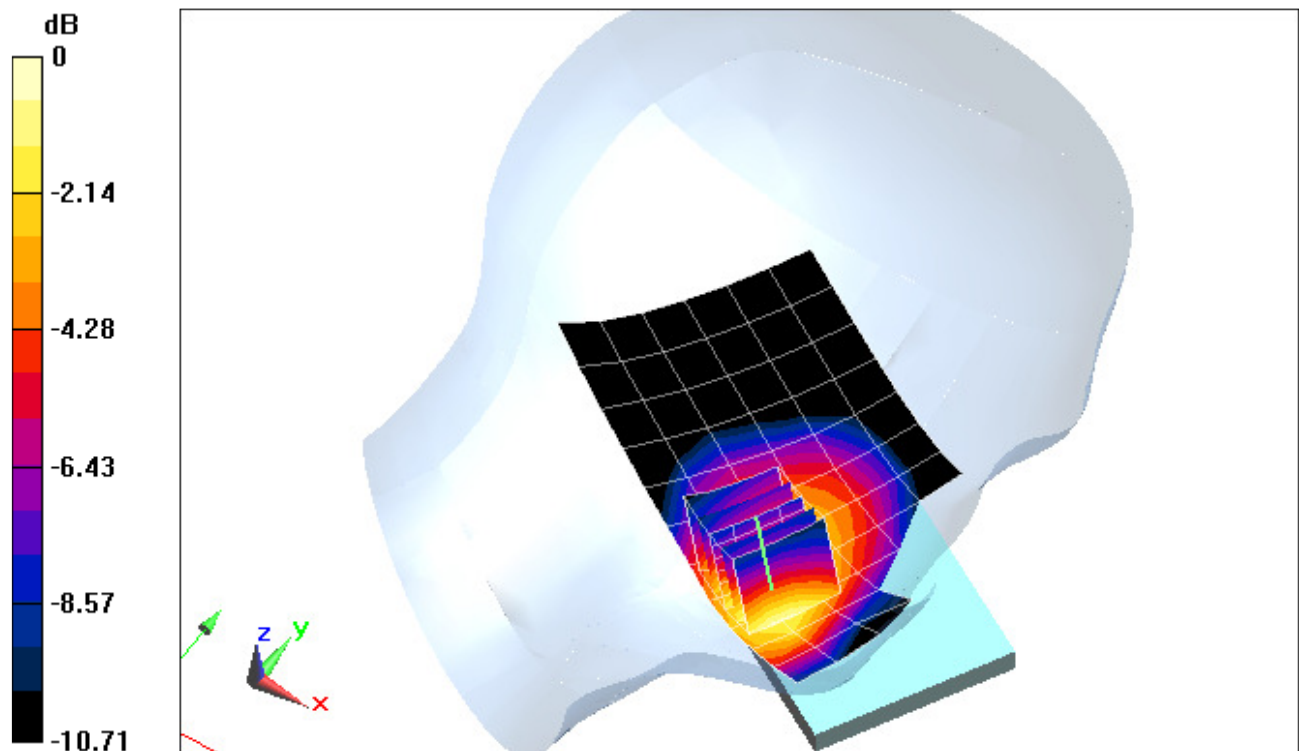
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.524 V/m; Power Drift = 0.0075 dB

Peak SAR (extrapolated) = 0.1360 W/kg

**SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.067 mW/g**



0 dB = 0.100mW/g = -20.00 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.921 \text{ mho/m}$ ;  $\epsilon_r = 41.614$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Left Head, Tilt, Mid. ch**

**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49**

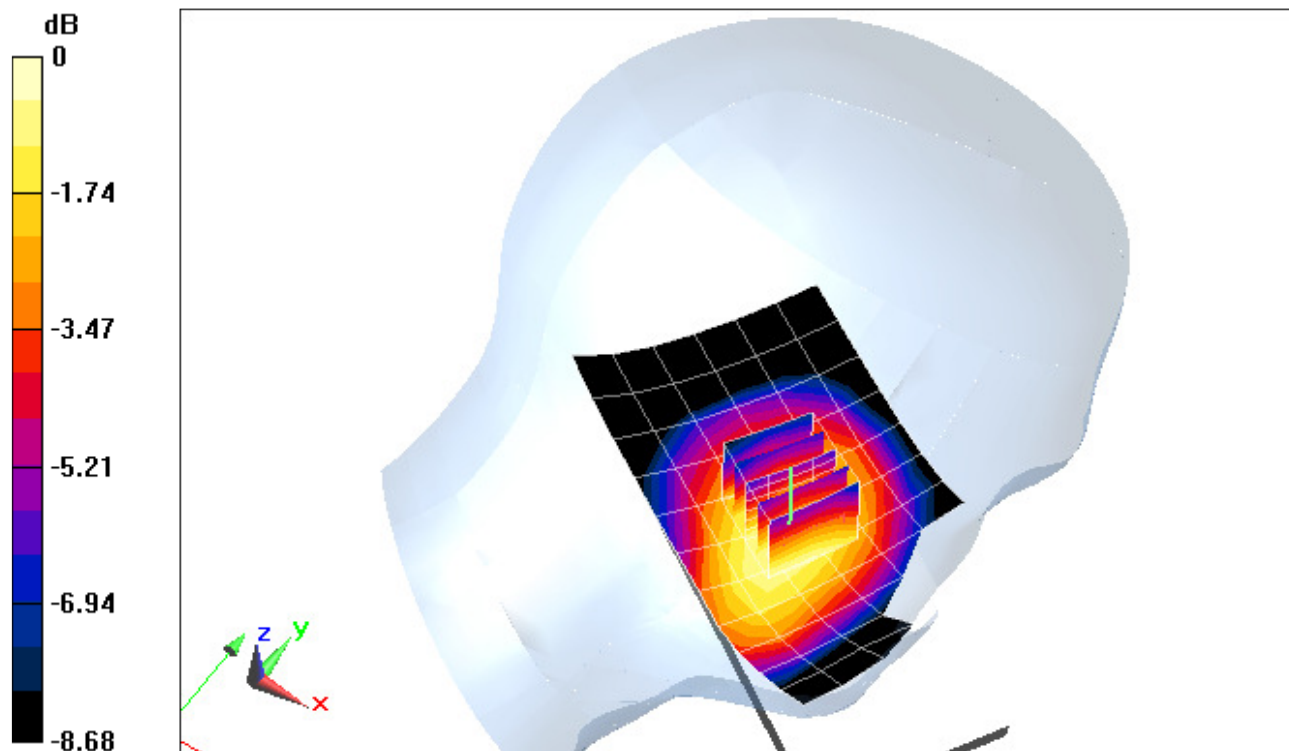
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.505 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.0480 W/kg

**SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.031 mW/g**



0 dB = 0.040mW/g = -27.96 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.944$  mho/m;  $\epsilon_r = 41.772$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Right Head, Touch, Mid.ch**

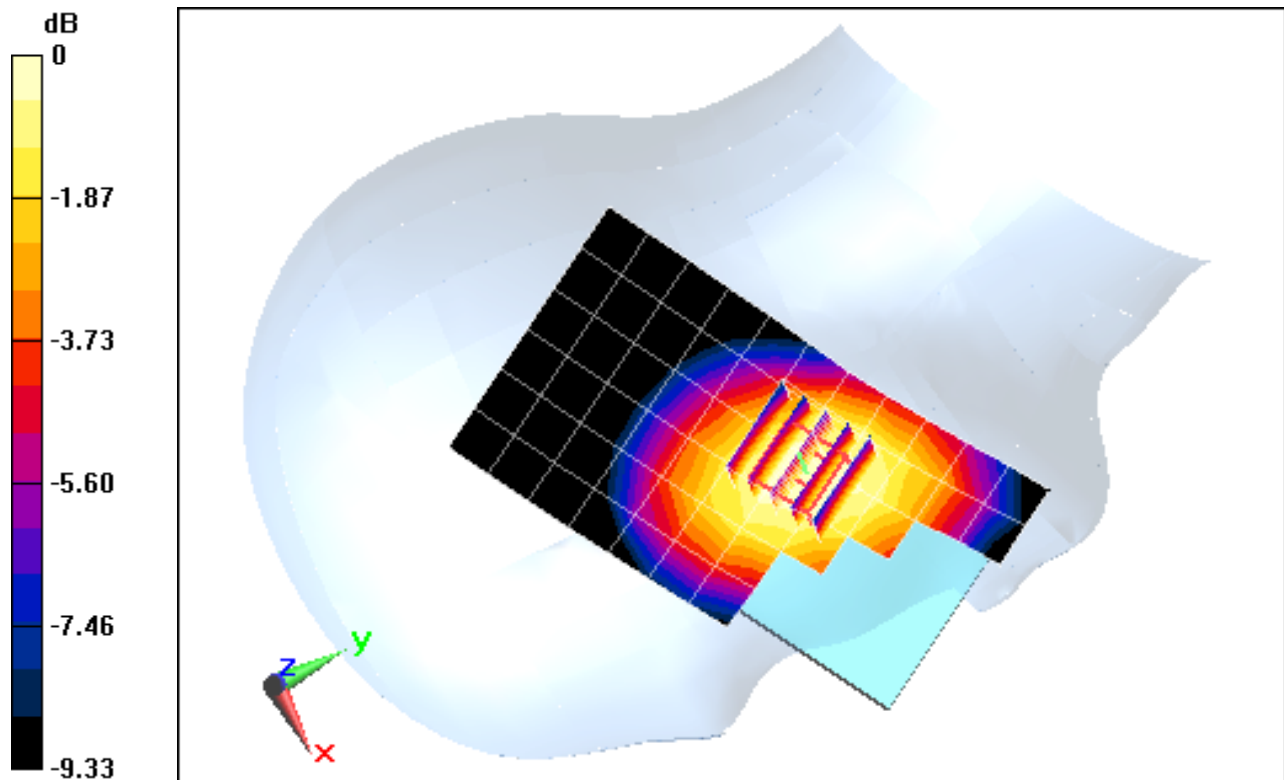
**Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 15.896 V/m; Power Drift = 0.0018 dB

Peak SAR (extrapolated) = 0.2920 W/kg

**SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.176 mW/g**



0 dB = 0.240mW/g = -12.40 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 0.944 \text{ mho/m}$ ;  $\epsilon_r = 41.772$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Right Head, Tilt, Mid.ch**

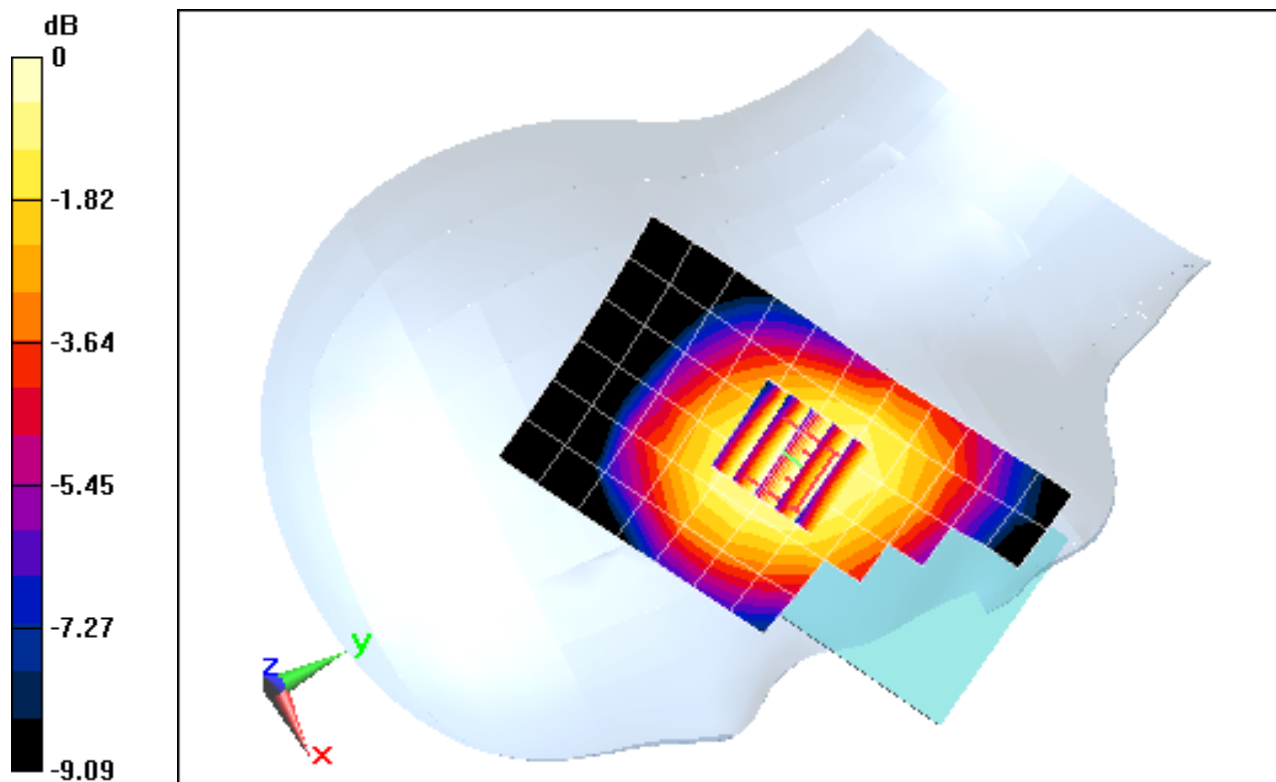
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.650 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.1510 W/kg

**SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.097 mW/g**



0 dB = 0.130mW/g = -17.72 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head: Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.944$  mho/m;  $\epsilon_r = 41.772$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Left Head, Touch, Mid.ch**

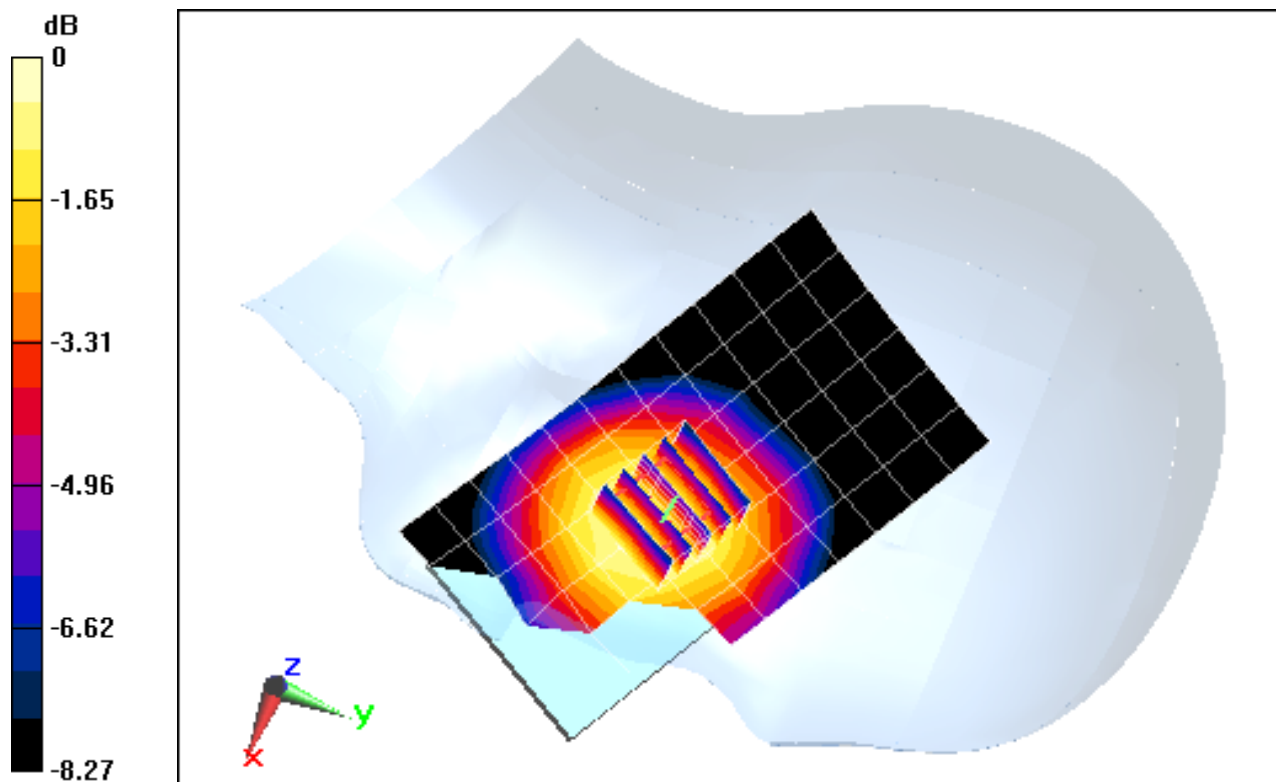
**Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.782 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.2510 W/kg

**SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.153 mW/g**



0 dB = 0.210mW/g = -13.56 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 0.944 \text{ mho/m}$ ;  $\epsilon_r = 41.772$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Left Head, Tilt, Mid.ch**

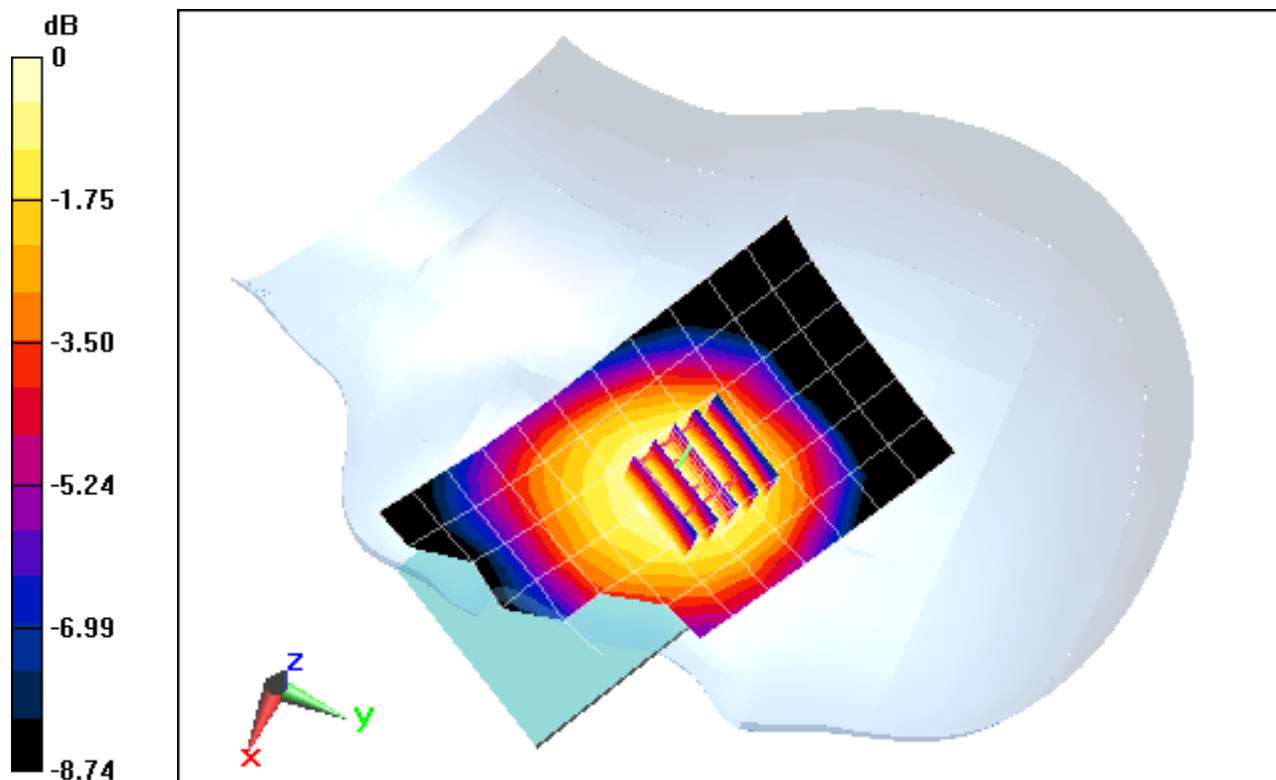
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.503 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.180 W/kg

**SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.111 mW/g**



0 dB = 0.150mW/g = -16.48 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 0.908 \text{ mho/m}$ ;  $\epsilon_r = 39.985$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Right Head, Touch, Mid.ch**

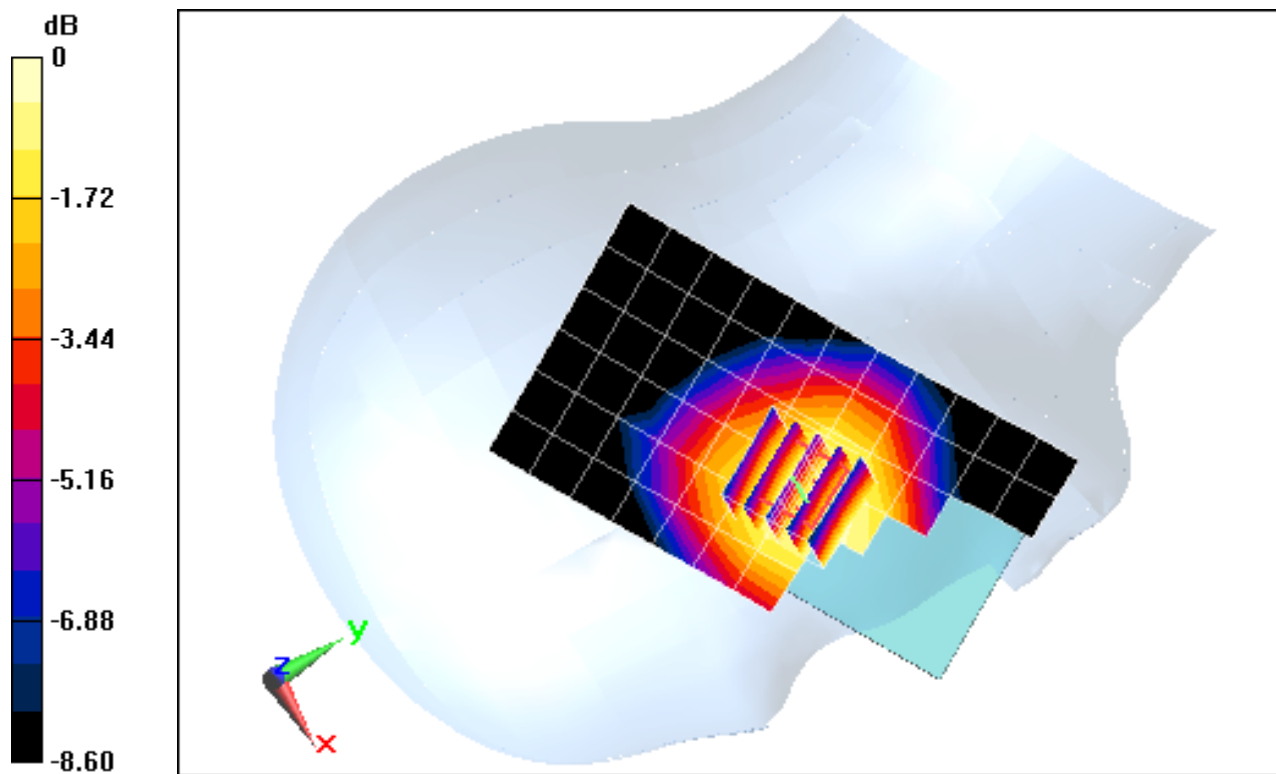
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.690 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.1780 W/kg

**SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.112 mW/g**



0 dB = 0.150mW/g = -16.48 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 0.908 \text{ mho/m}$ ;  $\epsilon_r = 39.985$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Right Head, Tilt, Mid.ch**

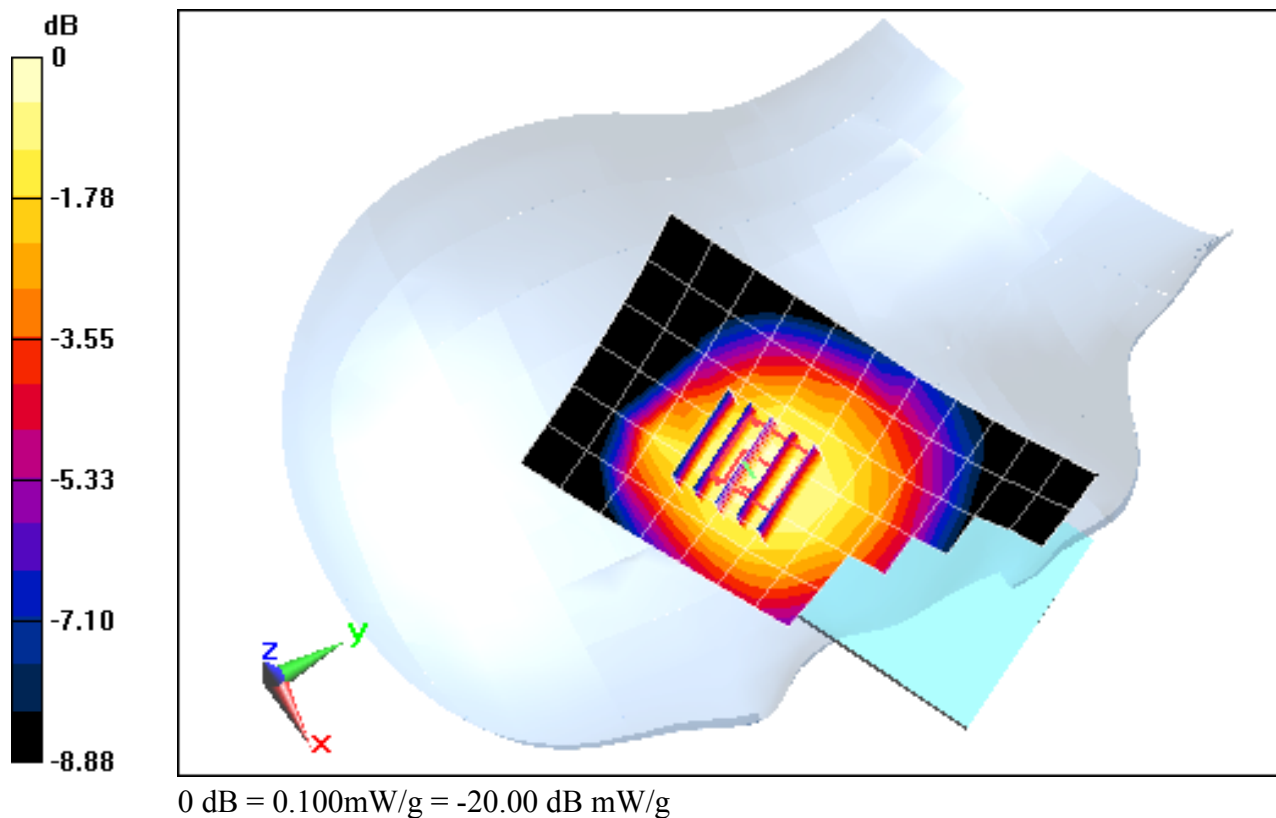
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.293 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.1250 W/kg

**SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.072 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 0.908 \text{ mho/m}$ ;  $\epsilon_r = 39.985$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Left Head, Touch, Mid.ch**

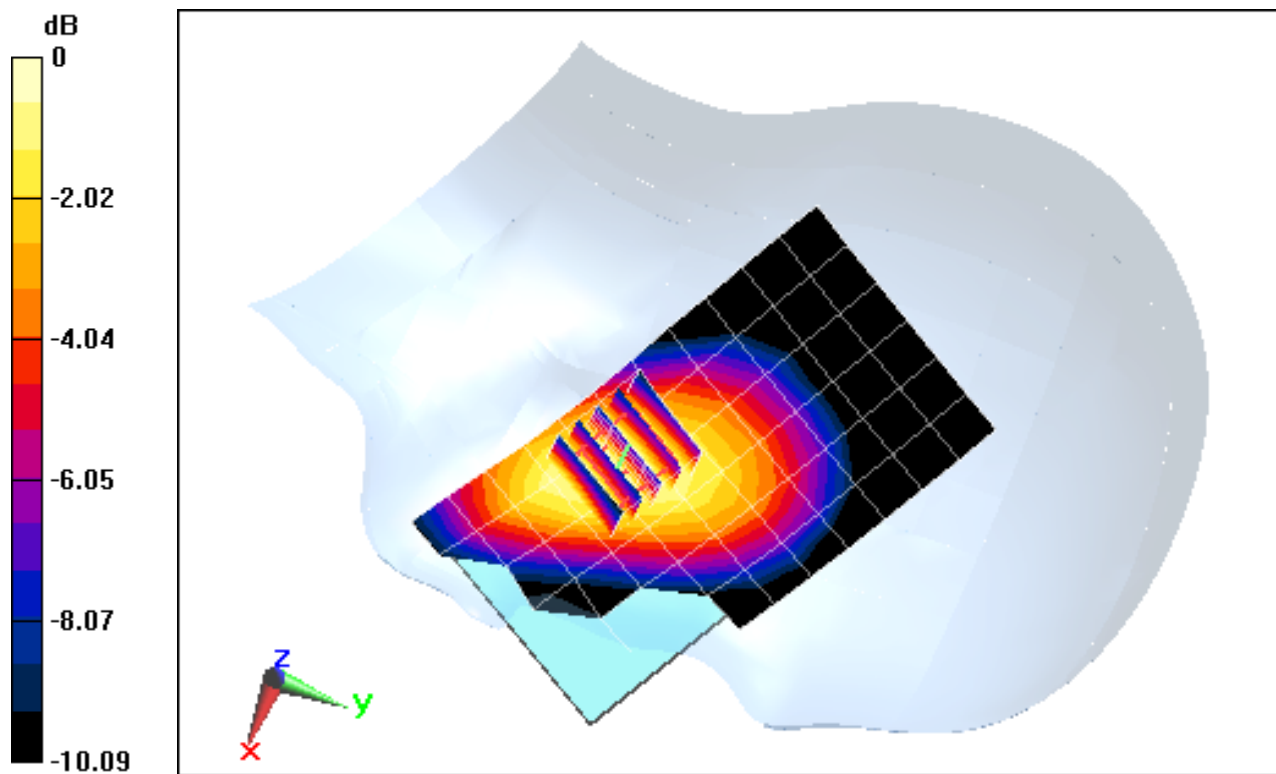
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.629 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.3060 W/kg

**SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.159 mW/g**



0 dB = 0.240mW/g = -12.40 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.908$  mho/m;  $\epsilon_r = 39.985$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Left Head, Tilt, Mid.ch**

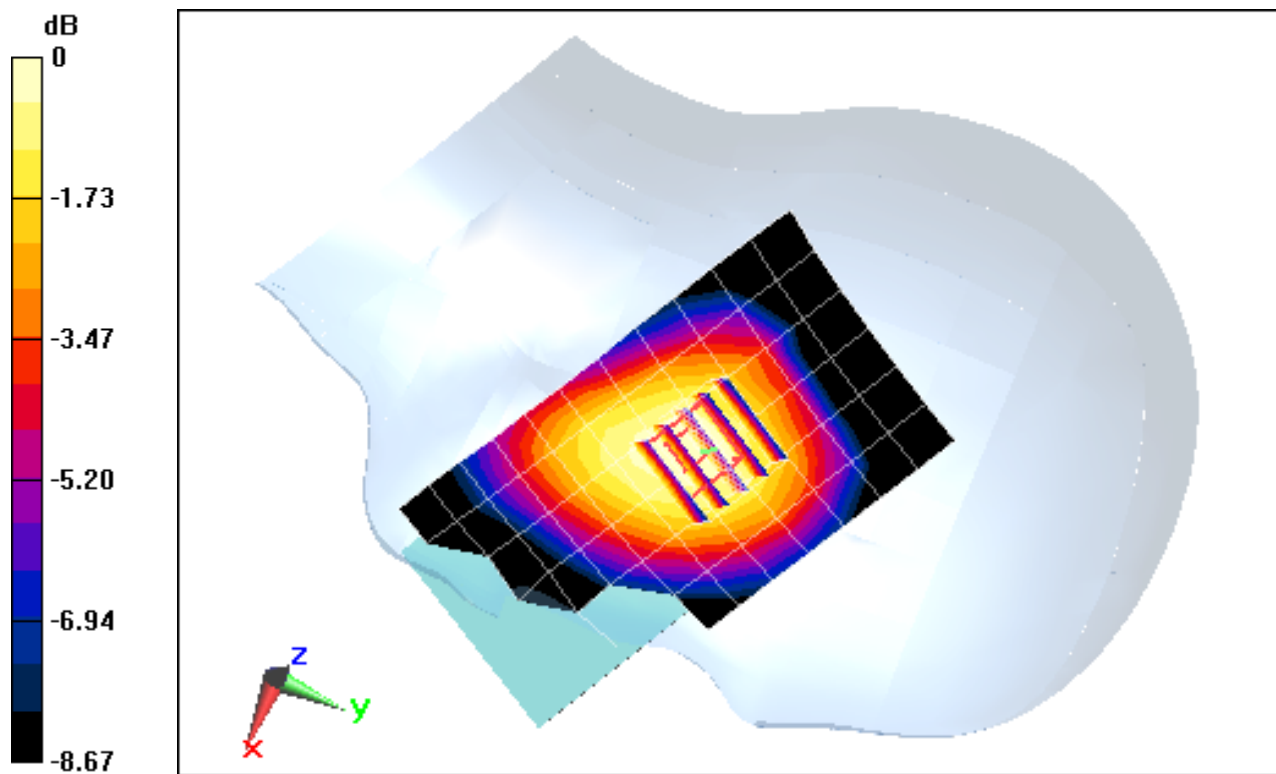
**Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 11.779 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.1560 W/kg

**SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.095 mW/g**



0 dB = 0.130mW/g = -17.72 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.939 \text{ mho/m}$ ;  $\epsilon_r = 39.964$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 850, Right Head, Touch, Mid.ch**

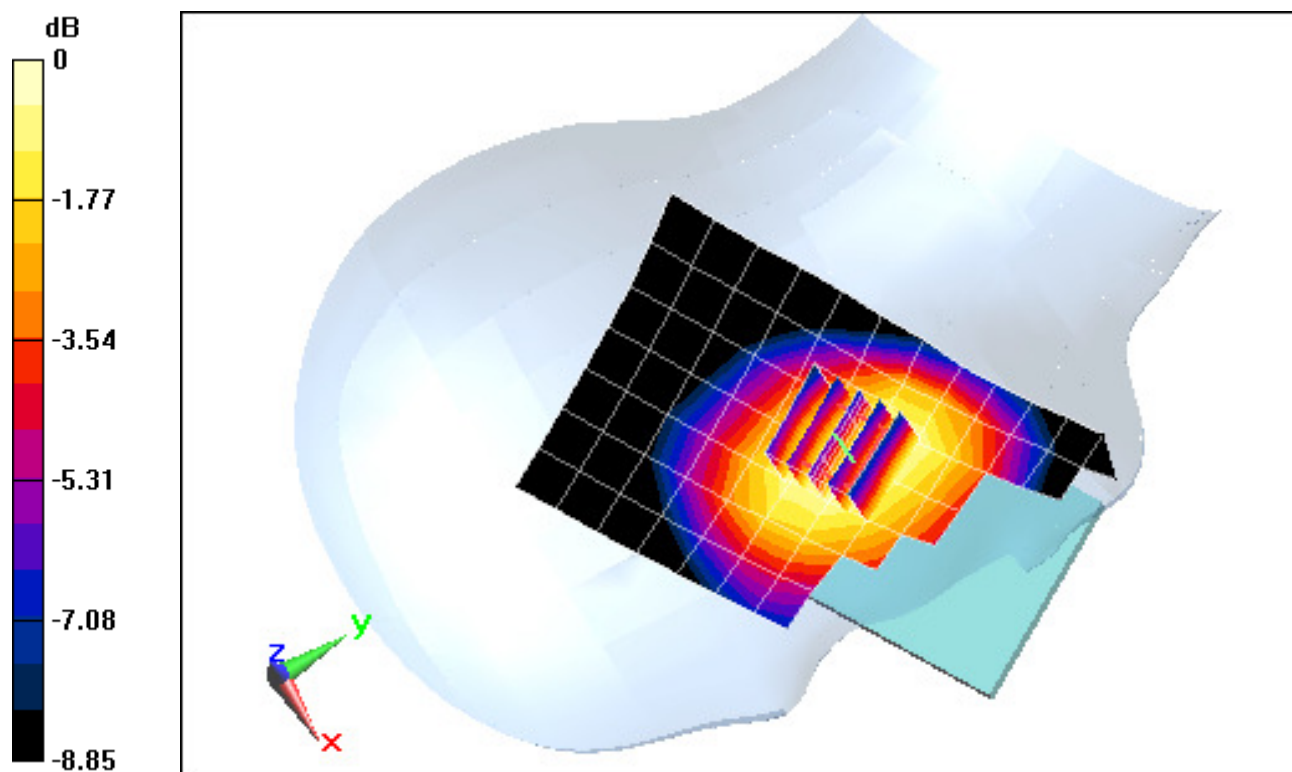
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 13.988 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.2140 W/kg

**SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.131 mW/g**



0 dB = 0.180mW/g = -14.89 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.939 \text{ mho/m}$ ;  $\epsilon_r = 39.964$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 850, Right Head, Tilt, Mid.ch**

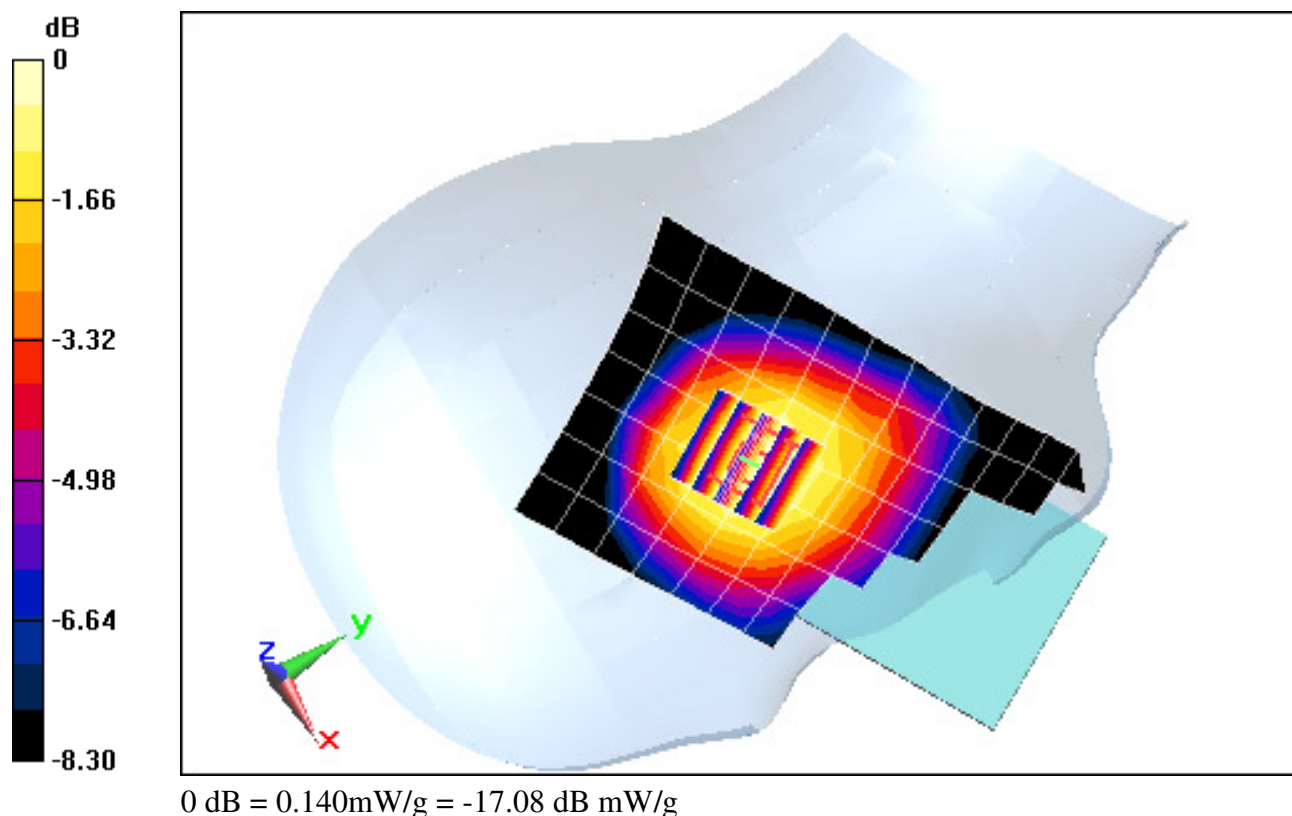
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.202 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.1610 W/kg

**SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.101 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.939 \text{ mho/m}$ ;  $\epsilon_r = 39.964$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 850, Left Head, Touch, Mid.ch**

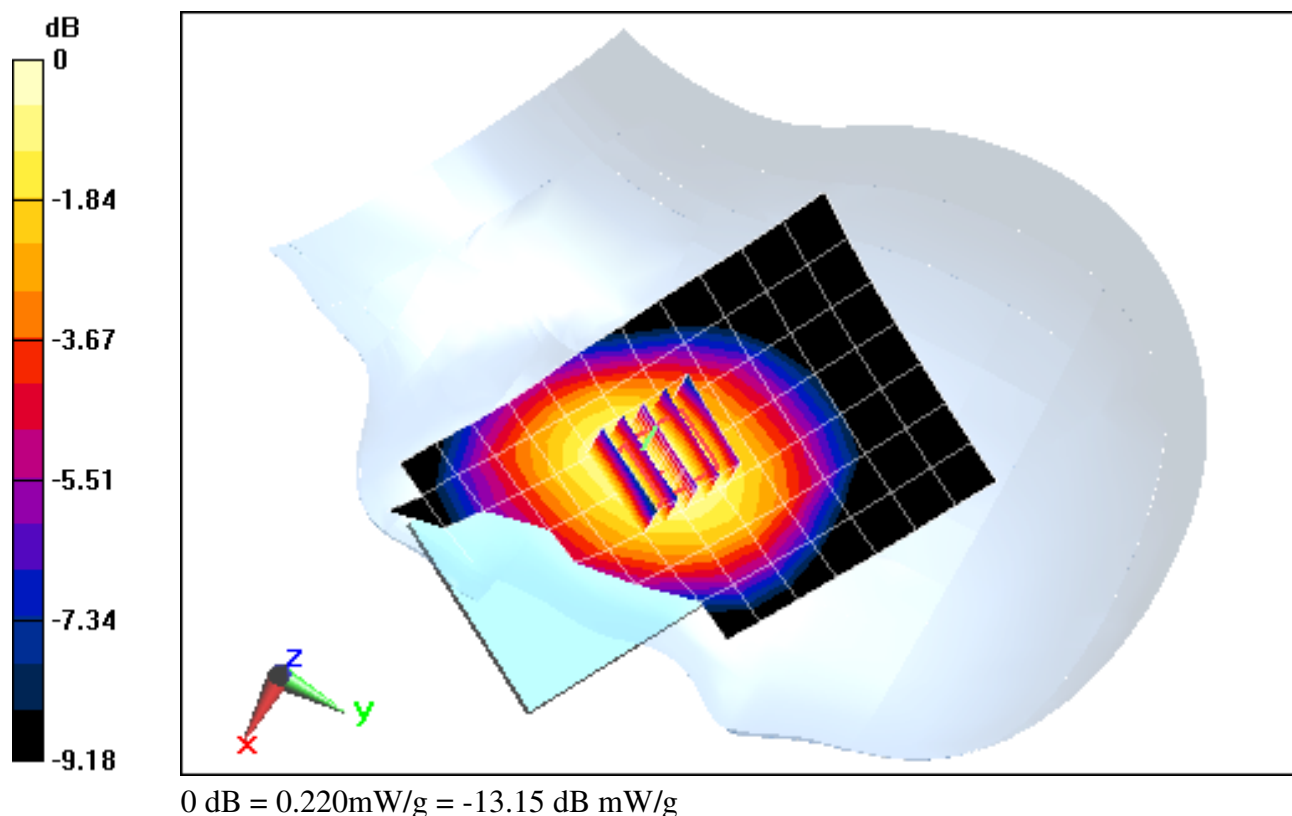
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.583 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.2640 W/kg

**SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.165 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.939 \text{ mho/m}$ ;  $\epsilon_r = 39.964$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 850, Left Head, Tilt, Mid.ch**

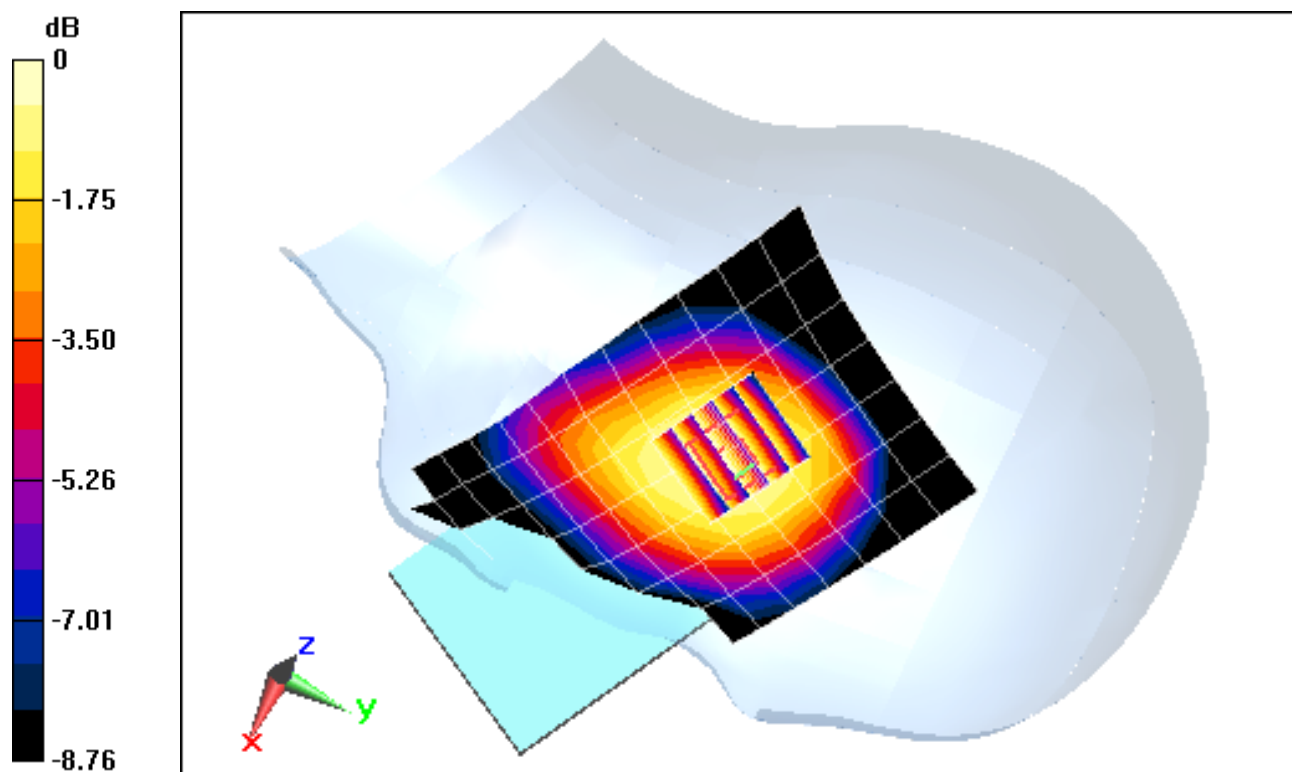
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.761 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.1790 W/kg

**SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.113 mW/g**



0 dB = 0.150mW/g = -16.48 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.391 \text{ mho/m}$ ;  $\epsilon_r = 41.16$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Right Head, Touch, Mid.ch**

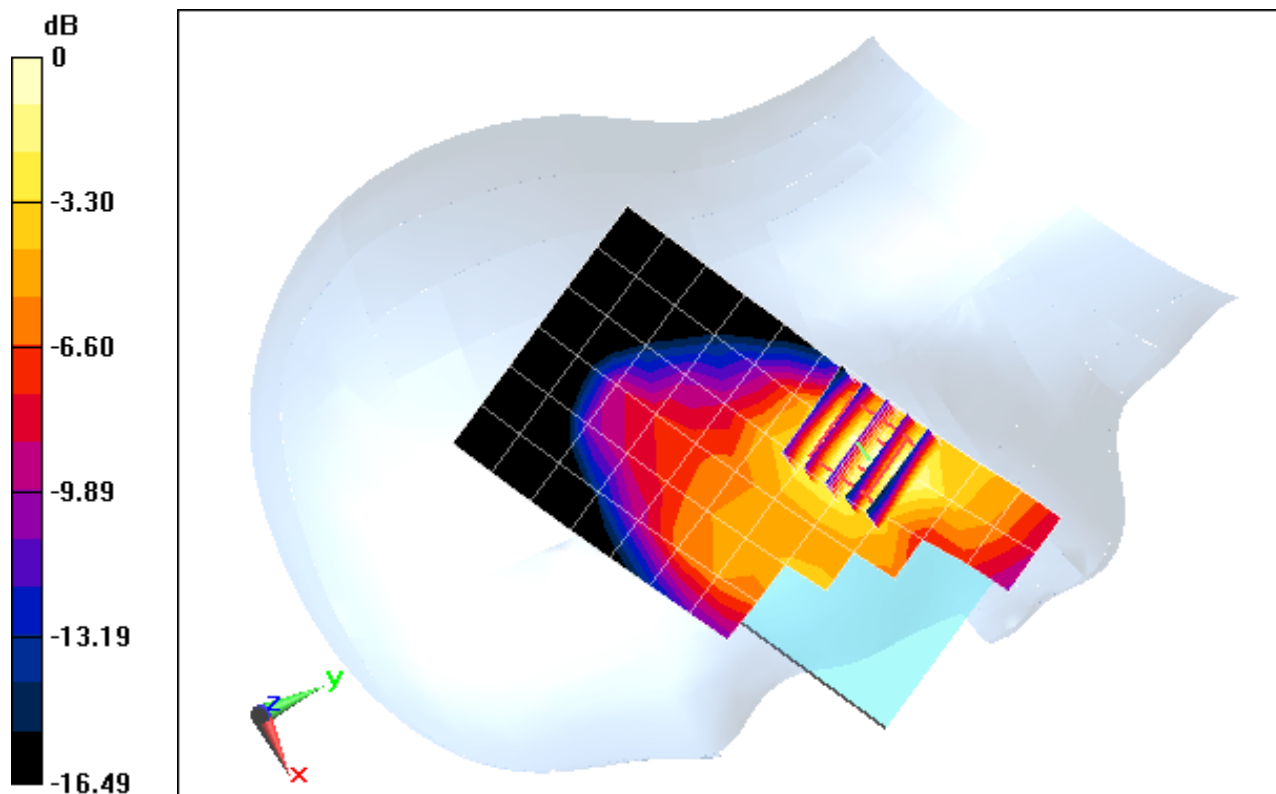
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.582 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.2120 W/kg

**SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.088 mW/g**



0 dB = 0.160mW/g = -15.92 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.391 \text{ mho/m}$ ;  $\epsilon_r = 41.16$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Right Head, Tilt, Mid.ch**

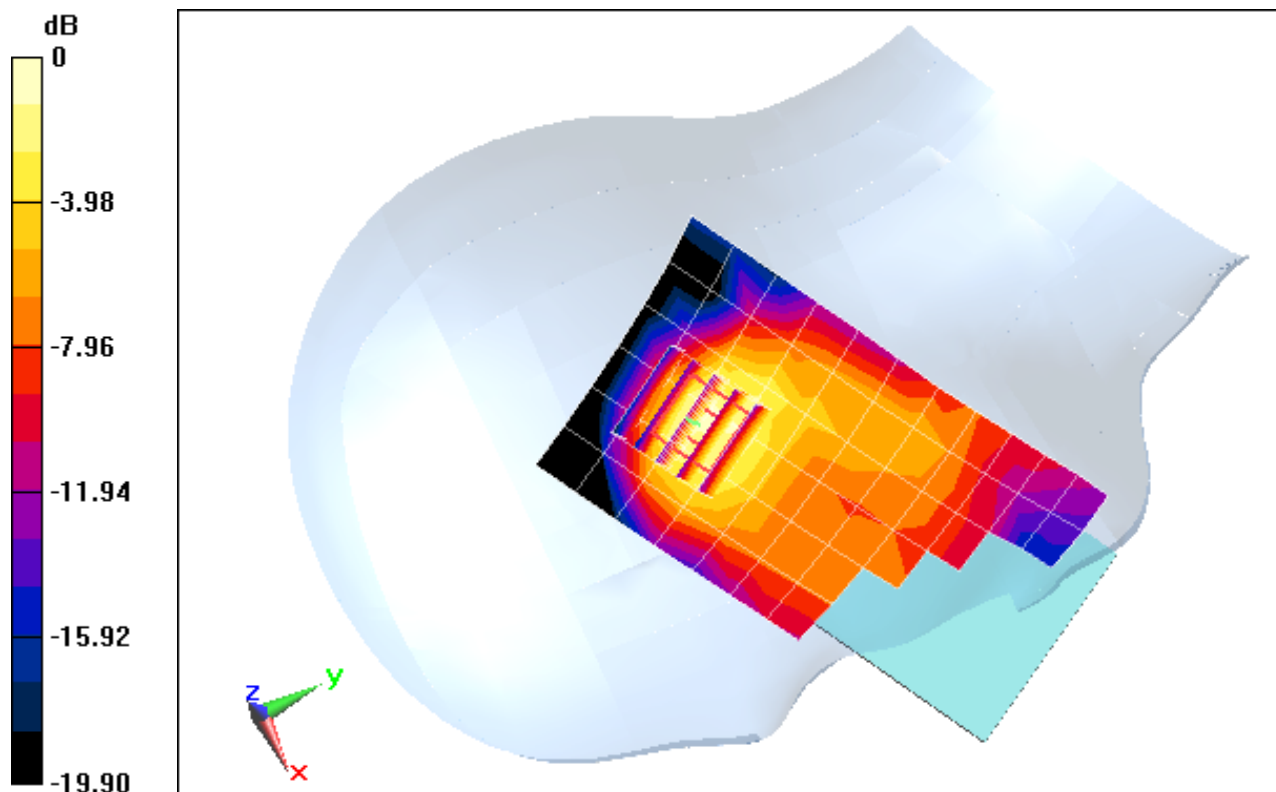
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.168 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0910 W/kg

**SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.032 mW/g**



0 dB = 0.060mW/g = -24.44 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.391 \text{ mho/m}$ ;  $\epsilon_r = 41.16$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Left Head, Touch, Mid.ch**

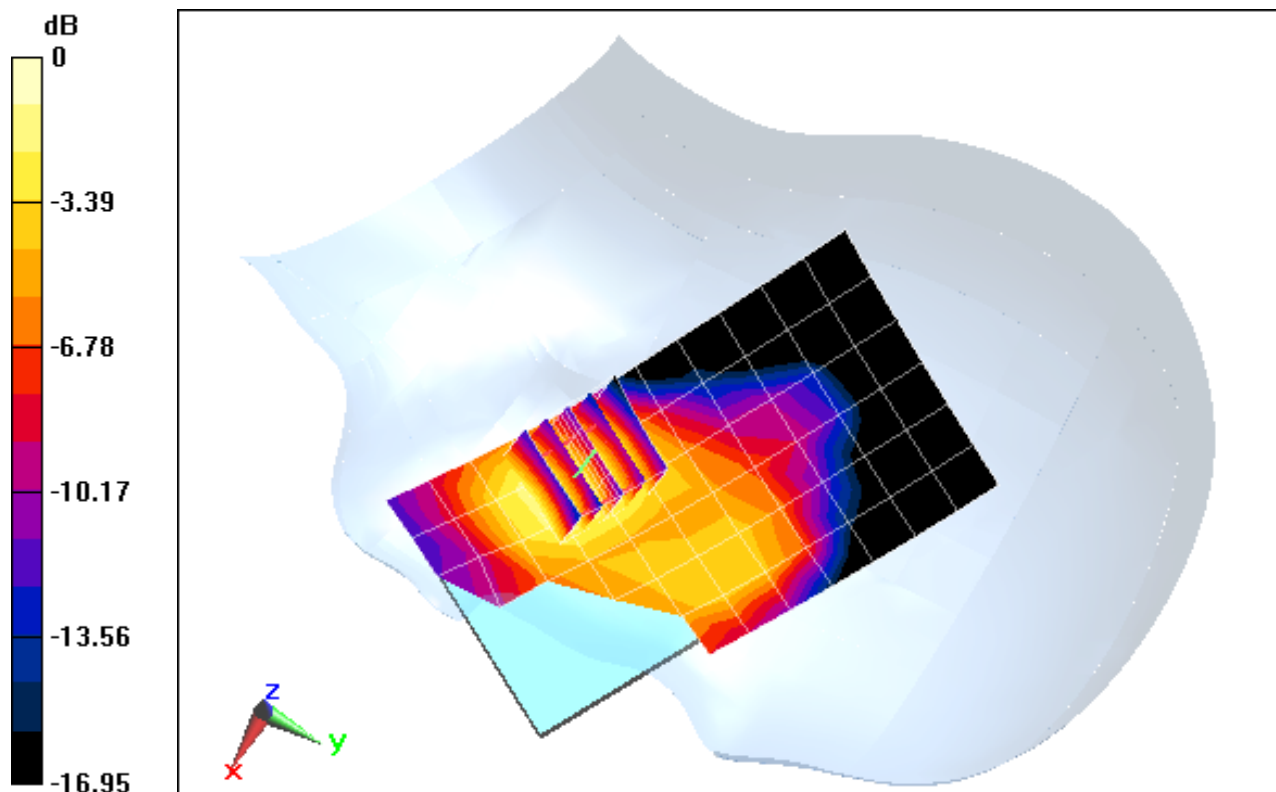
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.687 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.2160 W/kg

**SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.085 mW/g**



0 dB = 0.150mW/g = -16.48 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.391 \text{ mho/m}$ ;  $\epsilon_r = 41.16$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Left Head, Tilt, Mid.ch**

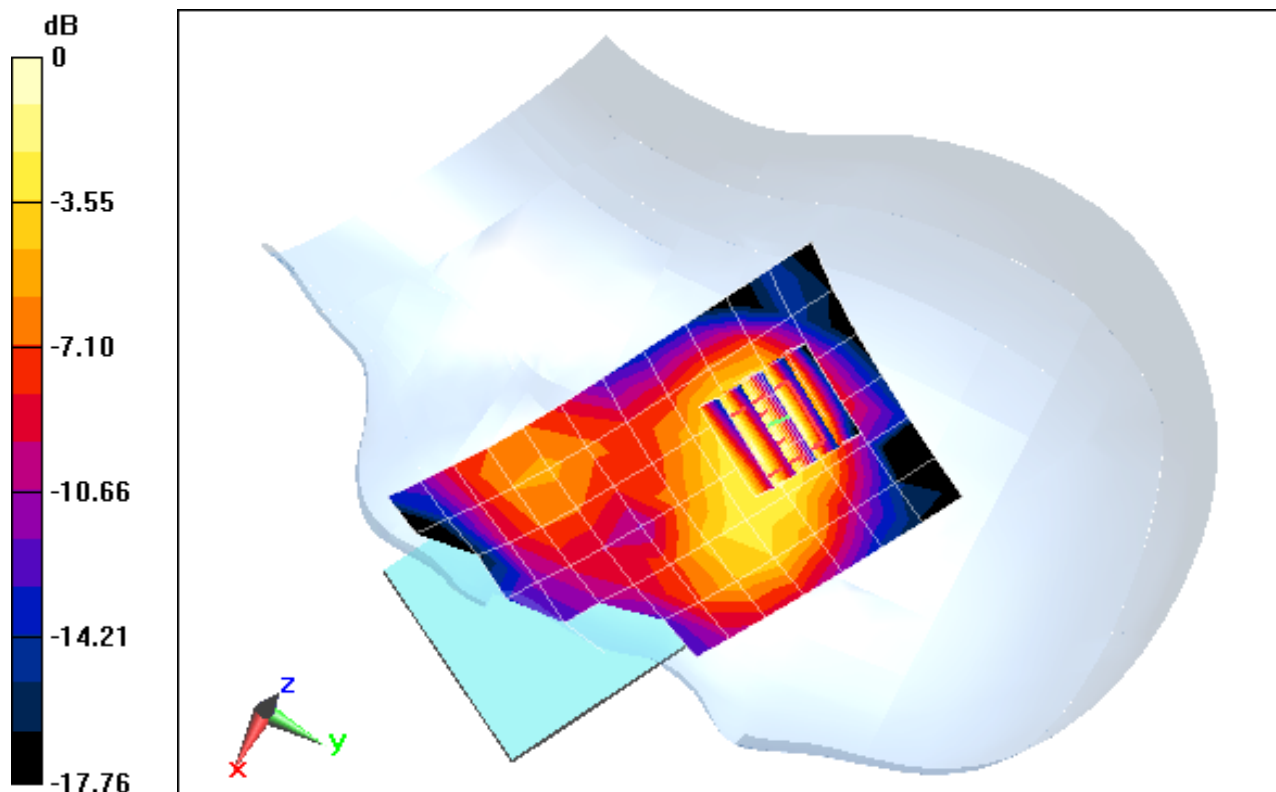
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 5.962 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0800 W/kg

**SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.029 mW/g**



0 dB = 0.060mW/g = -24.44 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.383 \text{ mho/m}$ ;  $\epsilon_r = 40.69$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Right Head, Touch, Mid.ch**

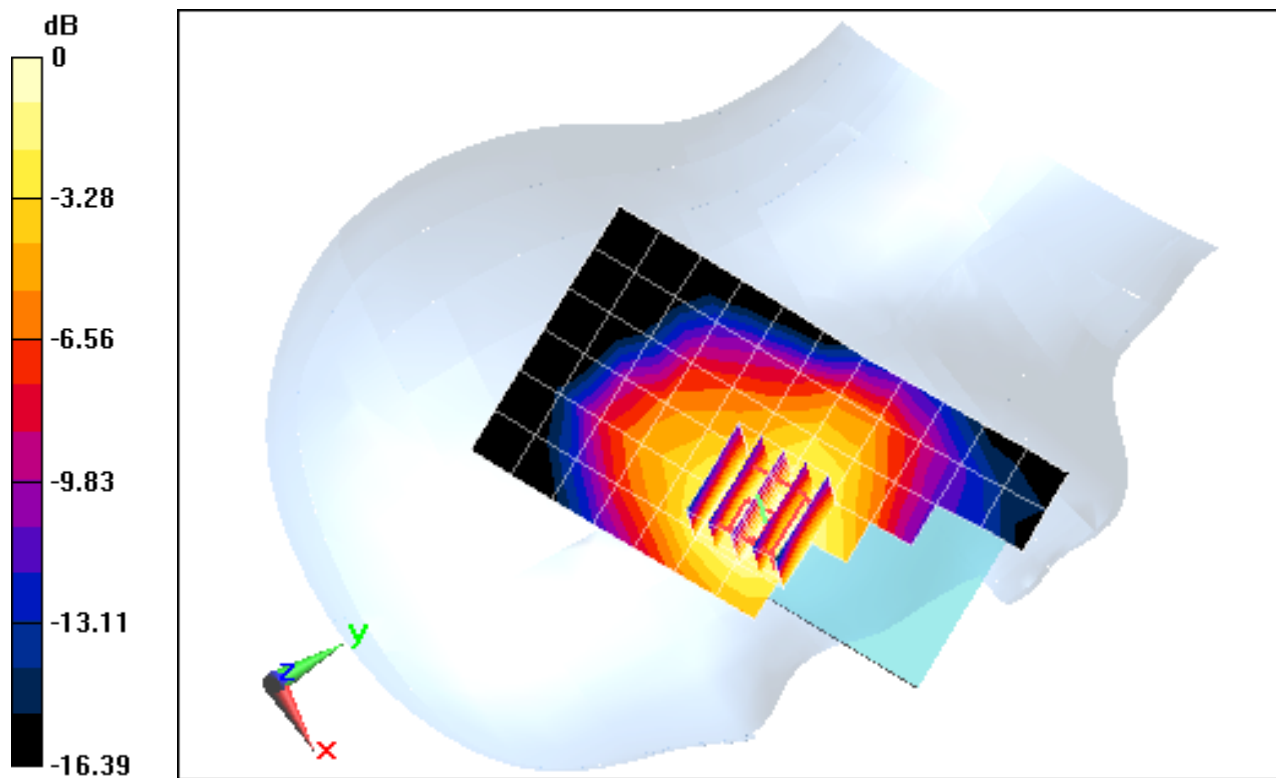
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.674 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.2670 W/kg

**SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.114 mW/g**



0 dB = 0.190mW/g = -14.42 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.383 \text{ mho/m}$ ;  $\epsilon_r = 40.69$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Right Head, Tilt, Mid.ch**

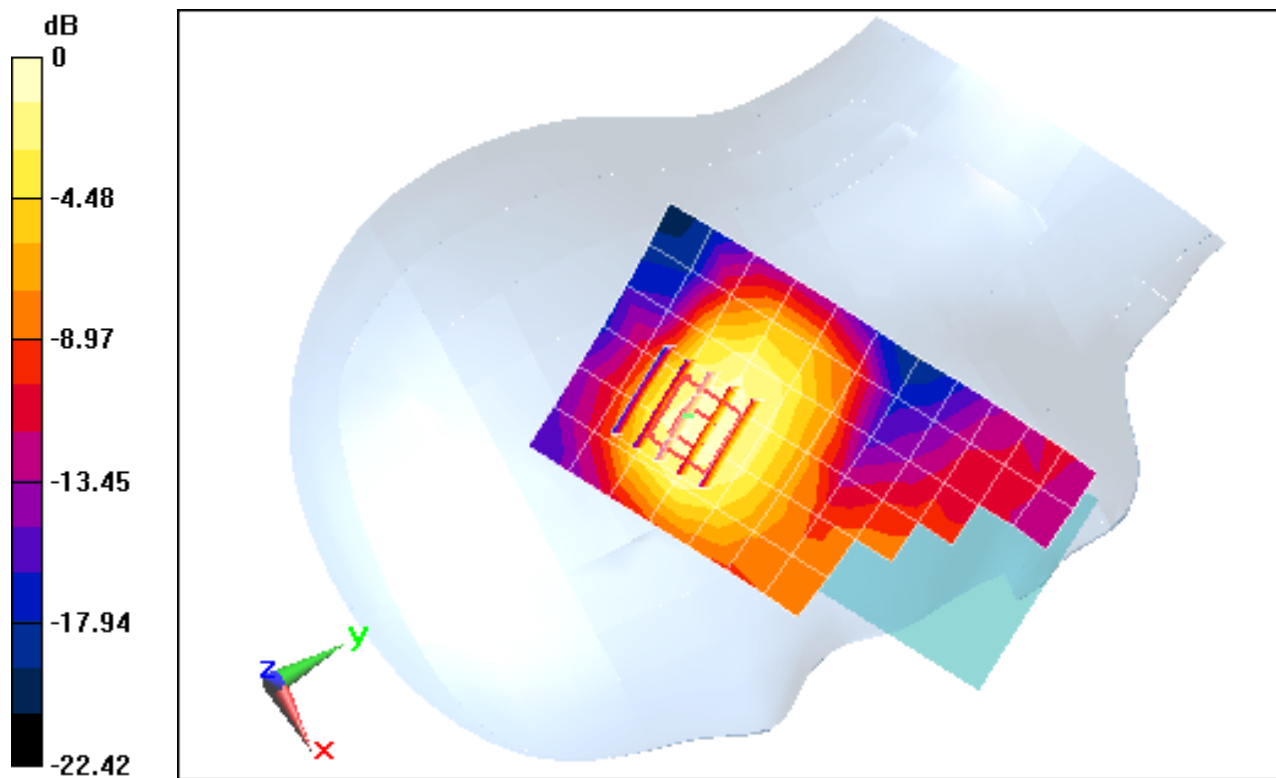
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.661 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.2350 W/kg

**SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.095 mW/g**



0 dB = 0.160mW/g = -15.92 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.383 \text{ mho/m}$ ;  $\epsilon_r = 40.69$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Left Head, Touch, Mid.ch**

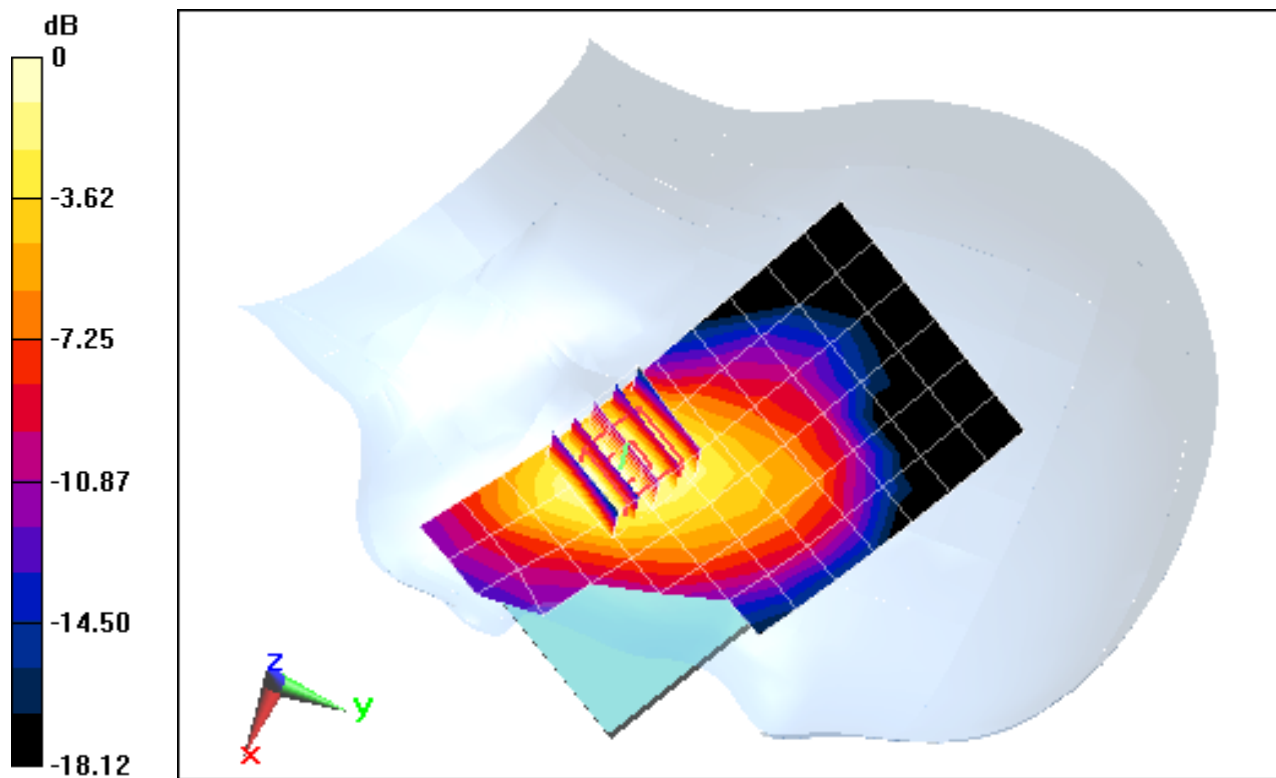
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.082 V/m; Power Drift = 0.0012 dB

Peak SAR (extrapolated) = 0.5420 W/kg

**SAR(1 g) = 0.348 mW/g; SAR(10 g) = 0.216 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.383 \text{ mho/m}$ ;  $\epsilon_r = 40.69$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Left Head, Tilt, Mid.ch**

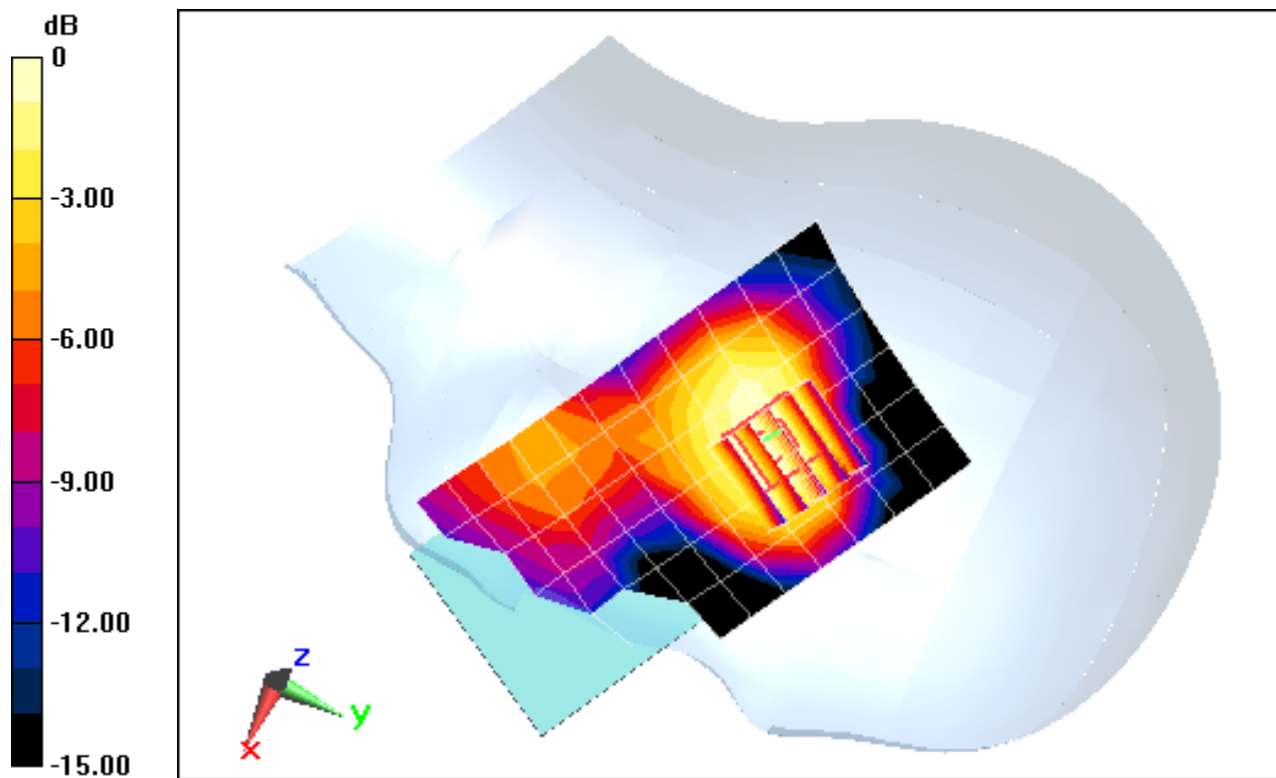
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.839 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.1830 W/kg

**SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.082 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.94$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 1900, Right Head, Touch, Mid.ch**

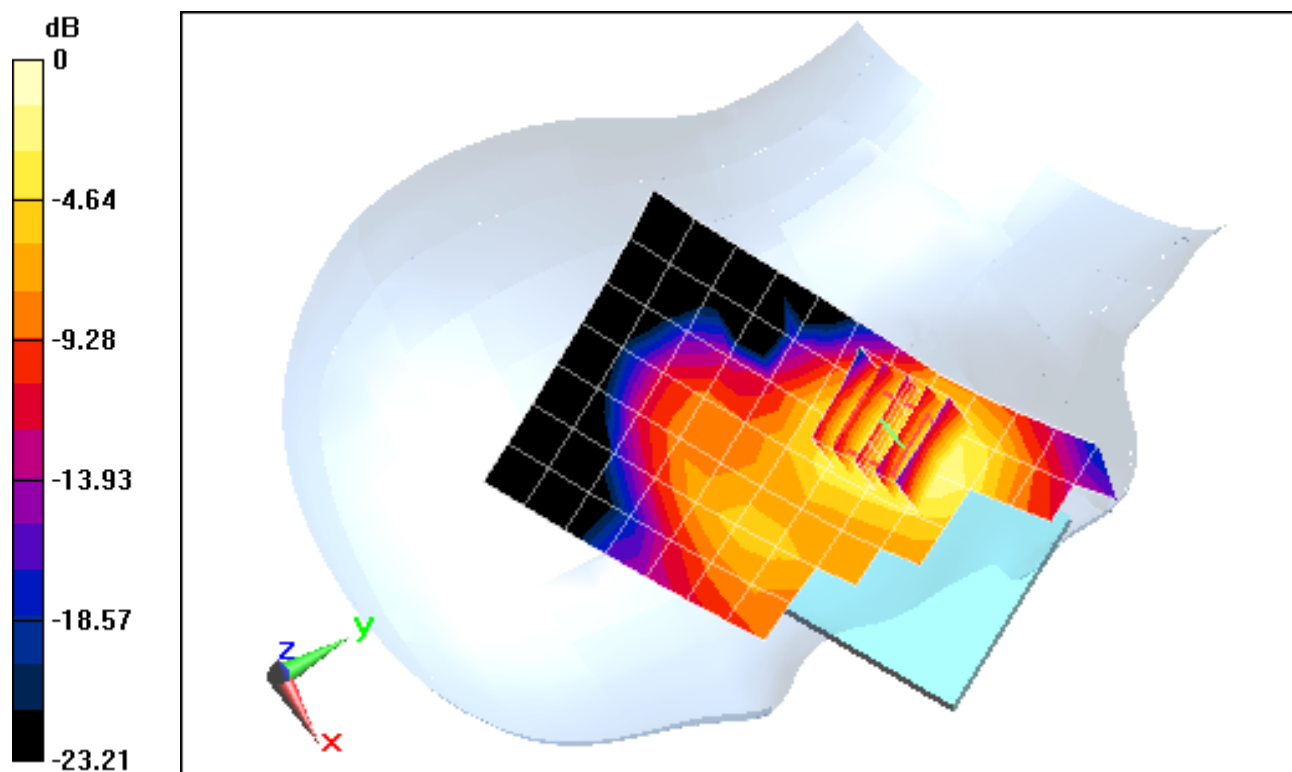
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 8.198 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.1370 W/kg

**SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.055 mW/g**



0 dB = 0.100mW/g = -20.00 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.94$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 1900, Right Head, Tilt, Mid.ch**

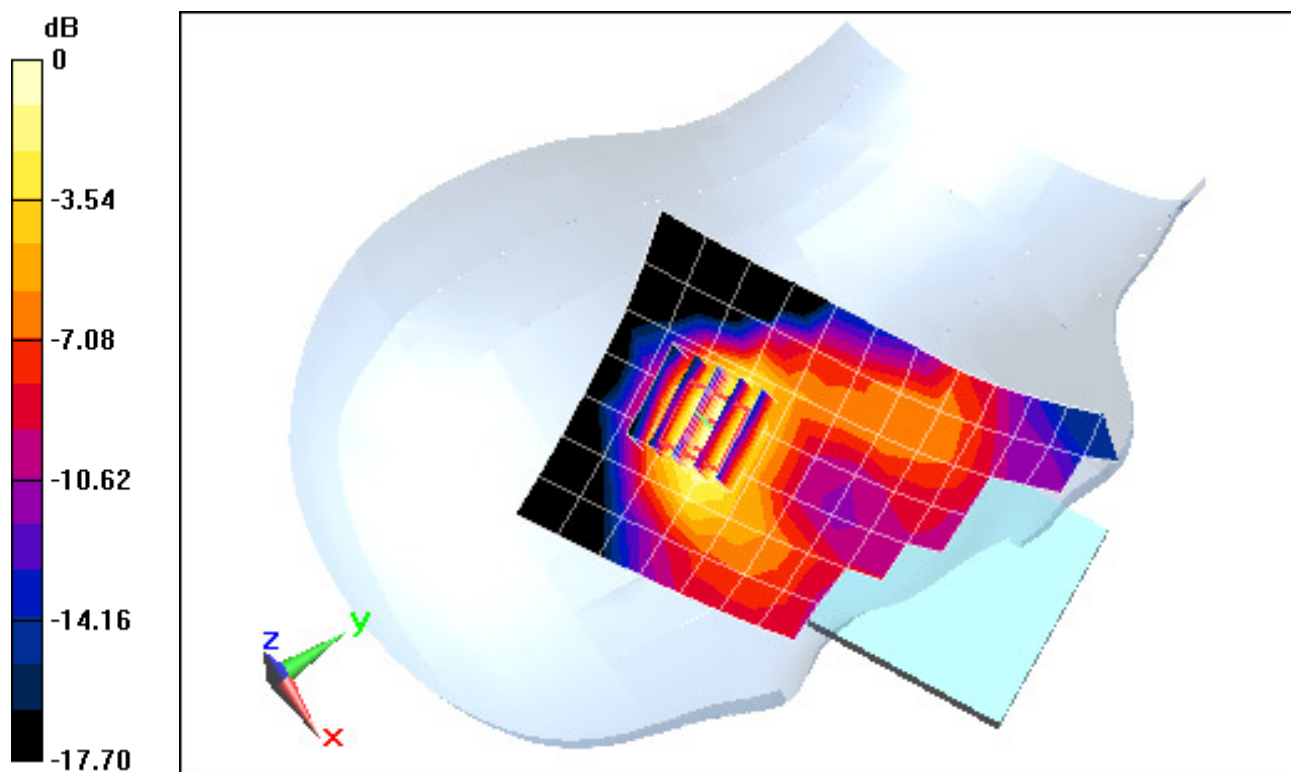
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 4.855 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0520 W/kg

**SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.019 mW/g**



0 dB = 0.040mW/g = -27.96 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.94$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 1900, Left Head, Touch, Mid.ch**

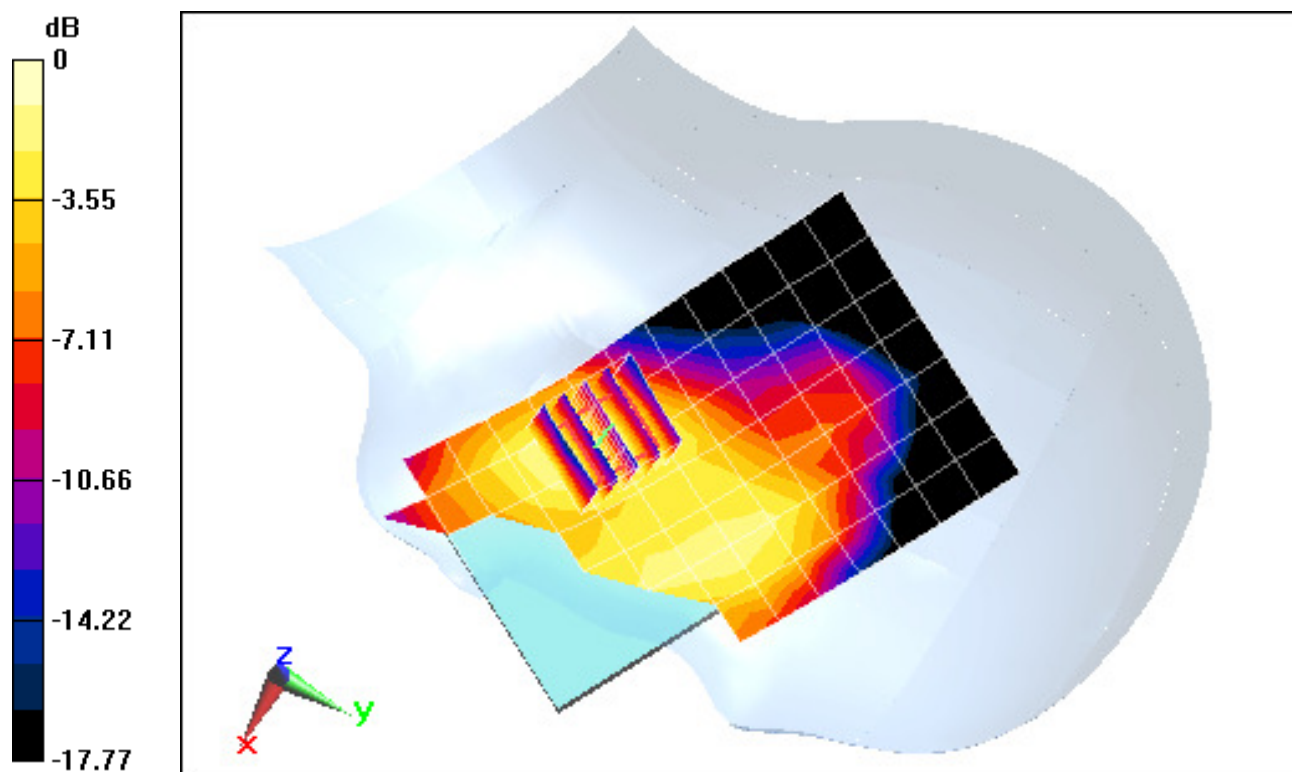
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.757 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.0990 W/kg

**SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.037 mW/g**



0 dB = 0.070mW/g = -23.10 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 38.94$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GSM 1900, Left Head, Tilt, Mid.ch**

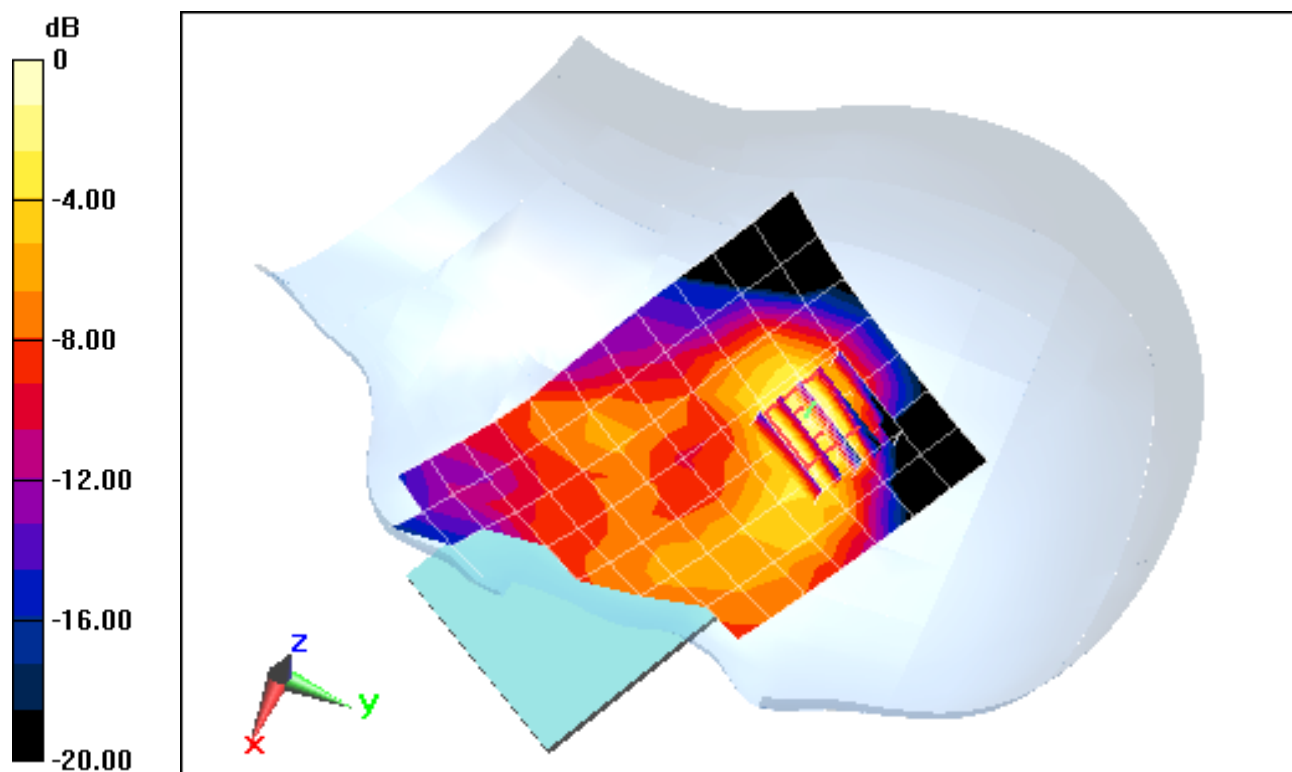
**Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 4.641 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.0540 W/kg

**SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.019 mW/g**



0 dB = 0.040mW/g = -27.96 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 1.898 \text{ mho/m}$ ;  $\epsilon_r = 39.266$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-20-2012; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Right Head, Touch, Ch 11, 1 Mbps**

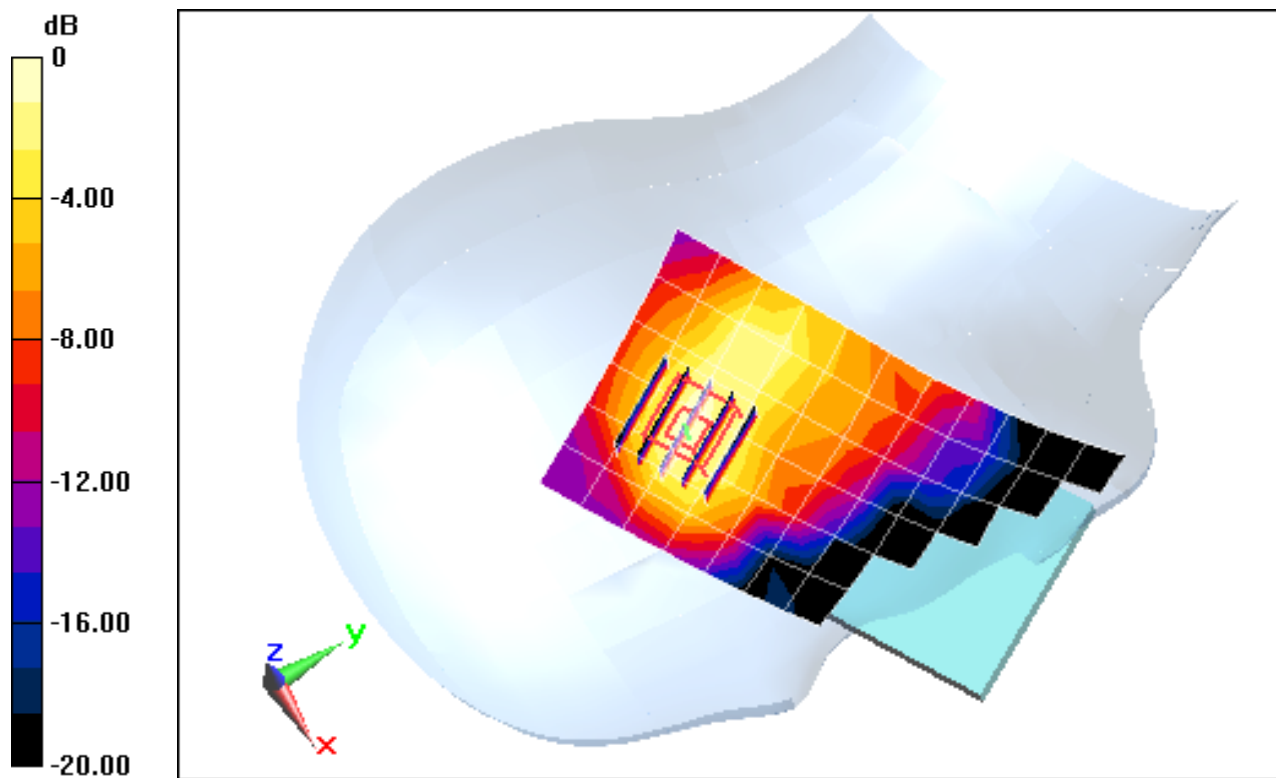
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 5.492 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.1000 W/kg

**SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.028 mW/g**



0 dB = 0.070mW/g = -23.10 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 1.898 \text{ mho/m}$ ;  $\epsilon_r = 39.266$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-20-2012; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Right Head, Tilt, Ch 11, 1 Mbps**

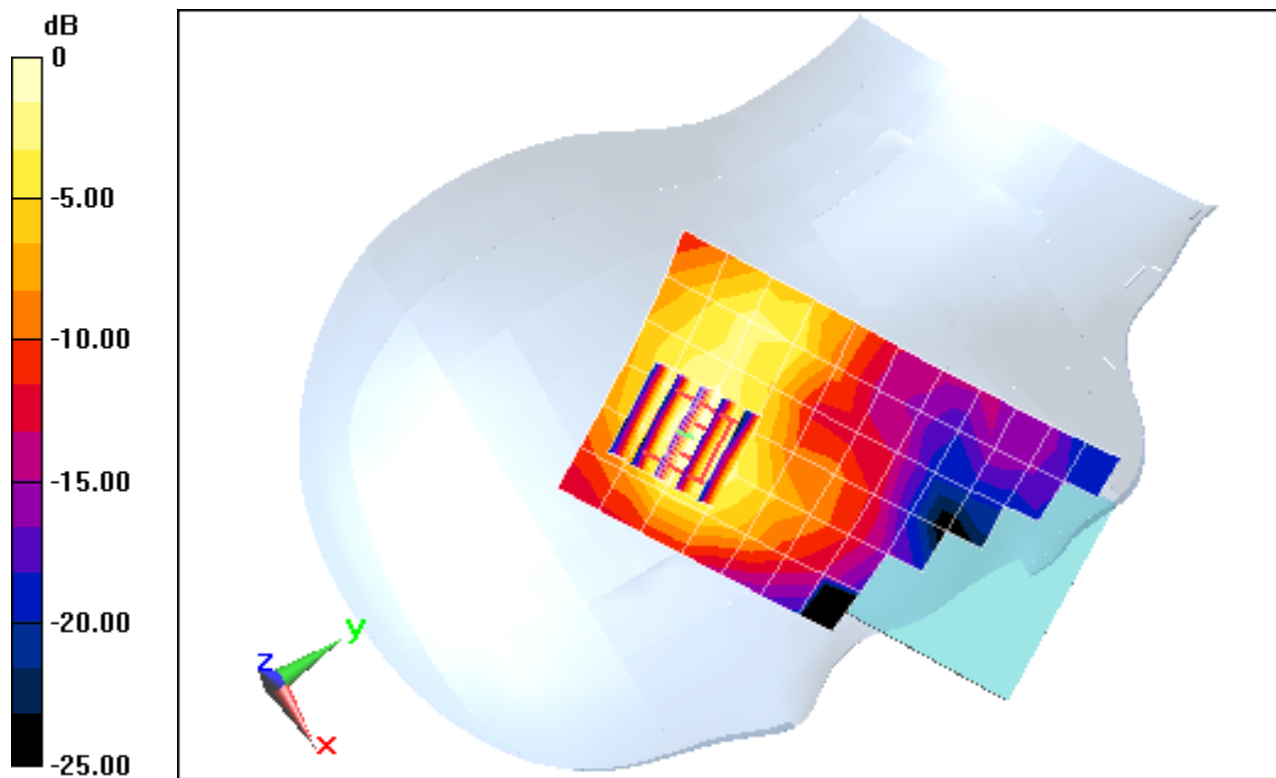
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 4.919 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.0800 W/kg

**SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.021 mW/g**



0 dB = 0.050mW/g = -26.02 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 1.898 \text{ mho/m}$ ;  $\epsilon_r = 39.266$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-20-2012; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Left Head, Touch, Ch 11, 1 Mbps**

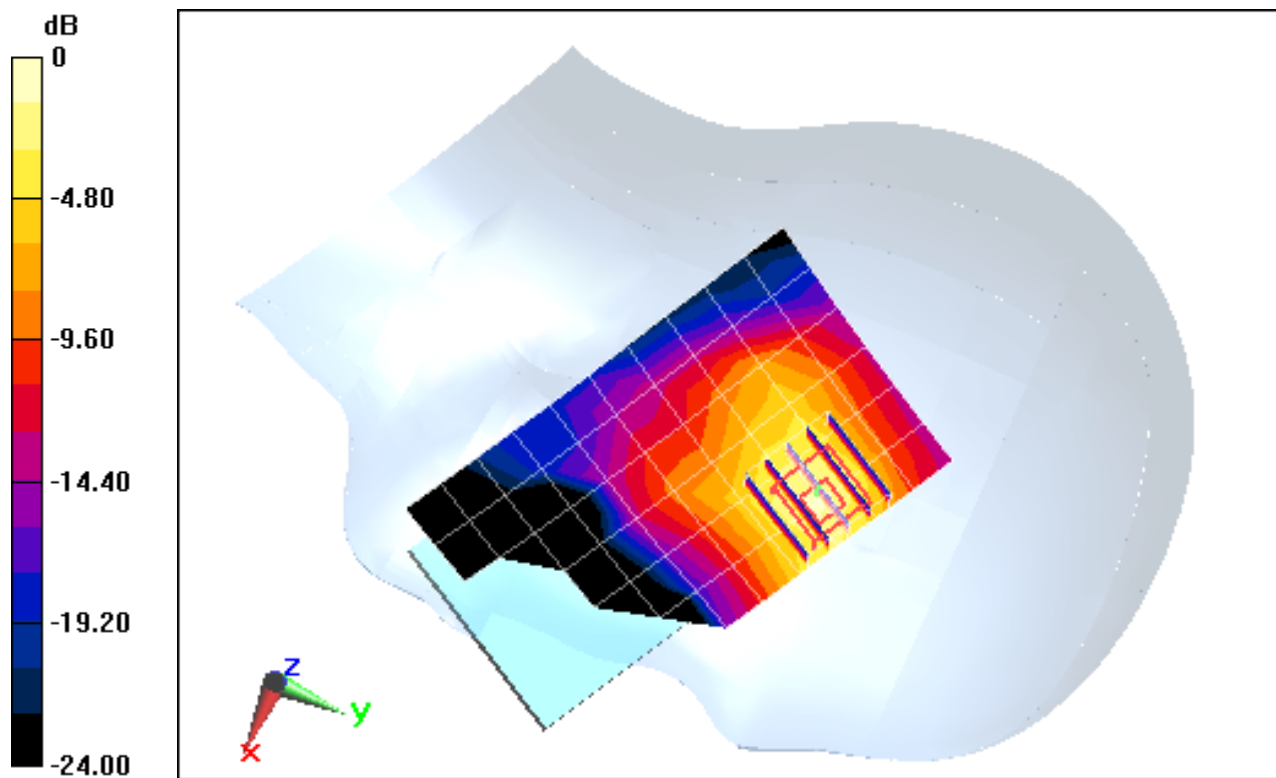
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 7.298 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.2280 W/kg

**SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.046 mW/g**



0 dB = 0.130mW/g = -17.72 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 1.898 \text{ mho/m}$ ;  $\epsilon_r = 39.266$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-20-2012; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Left Head, Tilt, Ch 11, 1 Mbps**

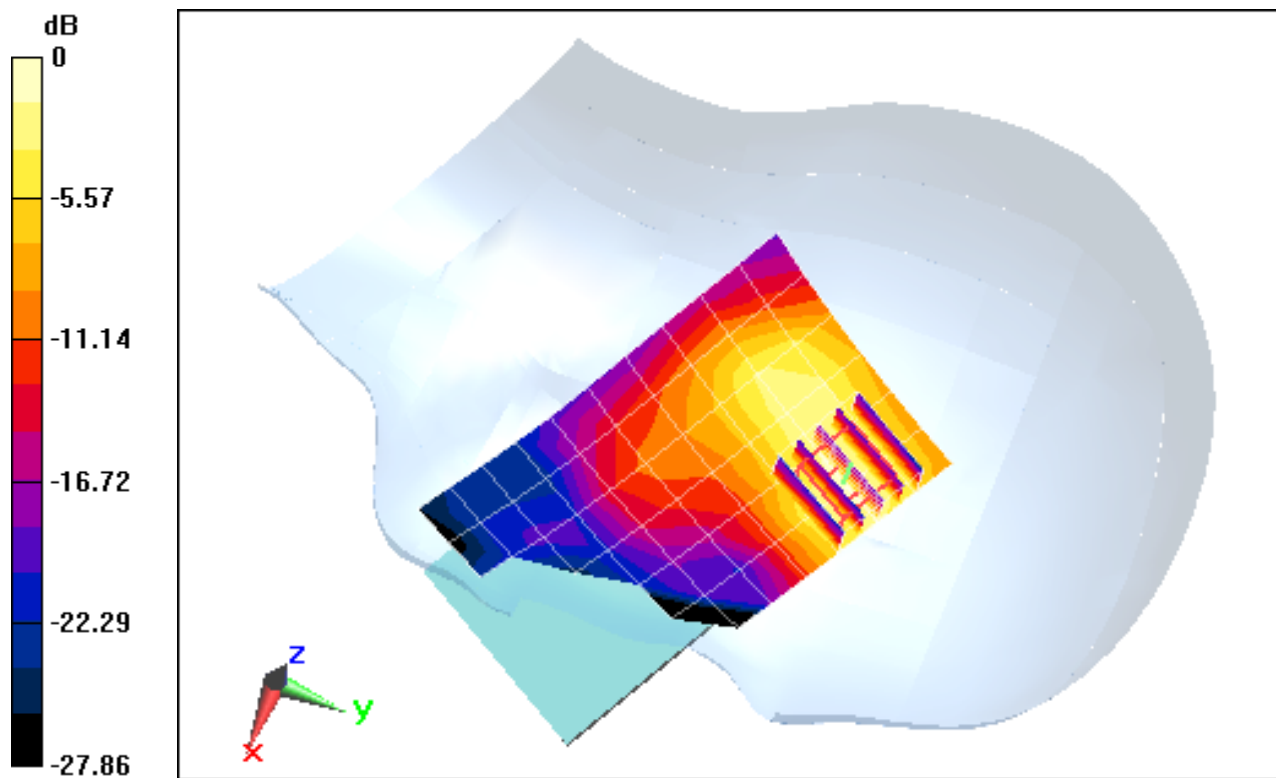
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 5.559 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.1050 W/kg

**SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.024 mW/g**



0 dB = 0.070mW/g = -23.10 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$ ;  $\sigma = 5.102 \text{ mho/m}$ ;  $\epsilon_r = 34.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11a, 5.5 GHz, Right Head, Touch, Ch 100, 6 Mbps**

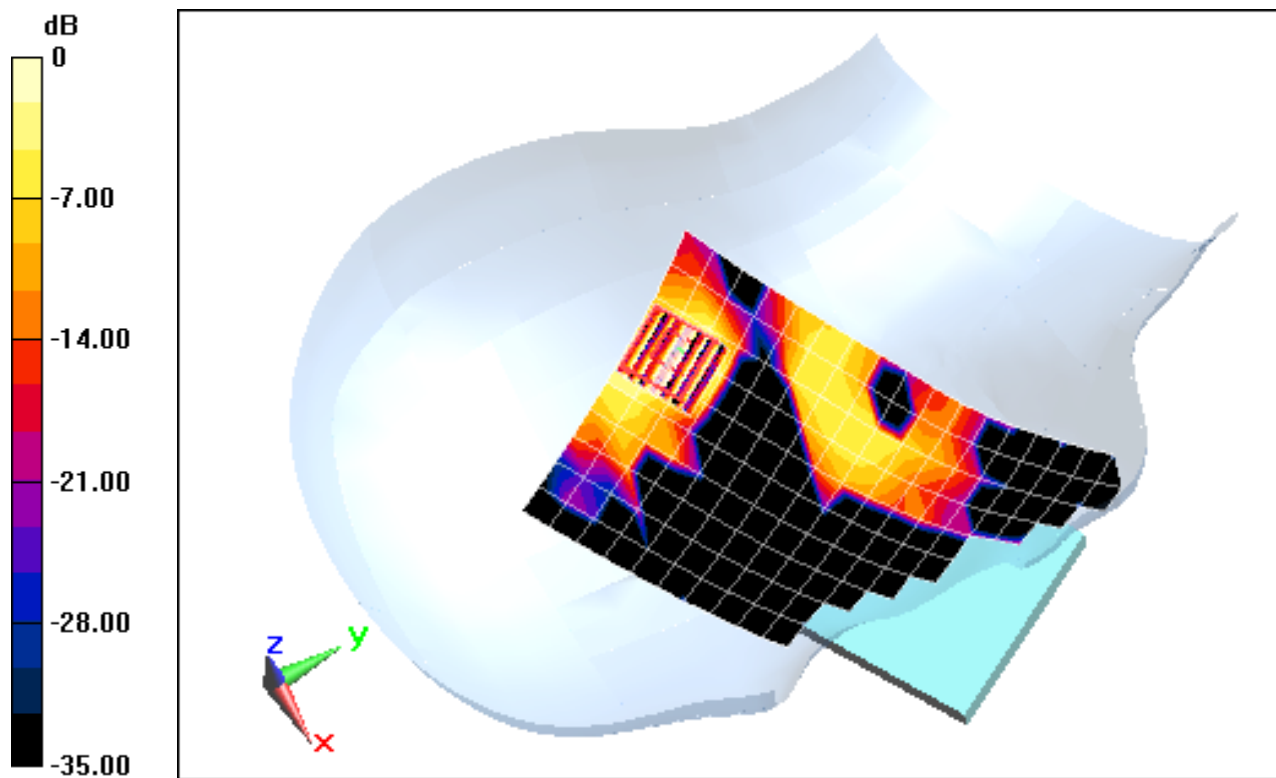
**Area Scan (11x21x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.508 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.2310 W/kg

**SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.023 mW/g**



0 dB = 0.130mW/g = -17.72 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$ ;  $\sigma = 5.102 \text{ mho/m}$ ;  $\epsilon_r = 34.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11a, 5.5 GHz, Right Head, Tilt, Ch 100, 6 Mbps**

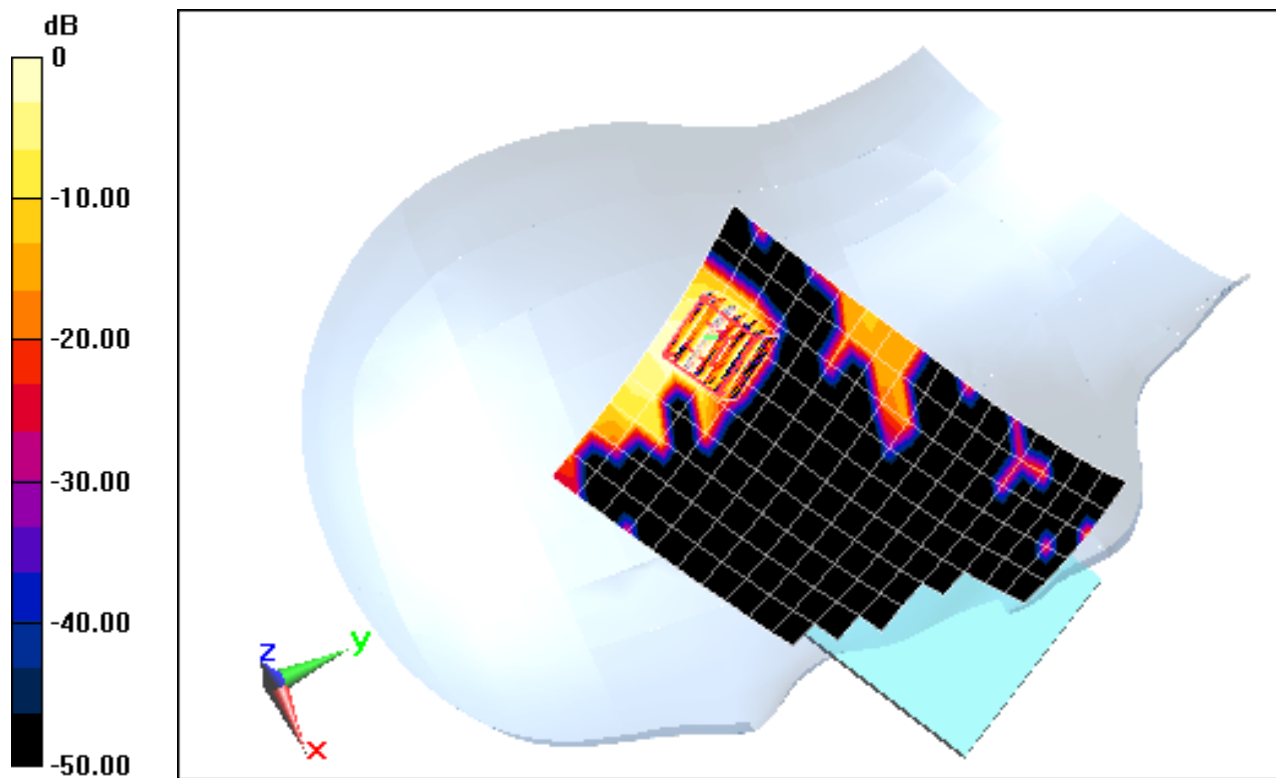
**Area Scan (11x21x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.348 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 0.2800 W/kg

**SAR(1 g) = 0.063 mW/g; SAR(10 g) = 0.021 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$ ;  $\sigma = 5.102 \text{ mho/m}$ ;  $\epsilon_r = 34.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11a, 5.5 GHz, Left Head, Touch, Ch 100, 6 Mbps**

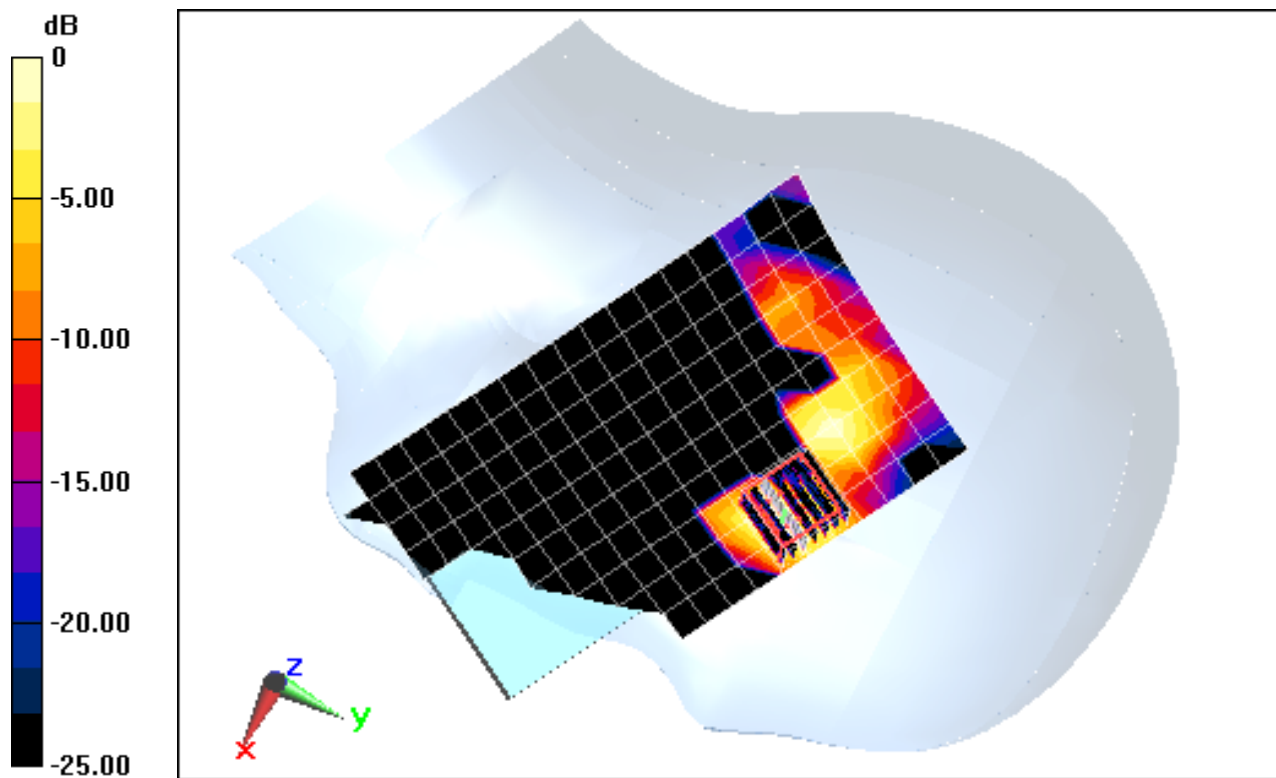
**Area Scan (11x21x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.368 V/m; Power Drift = 0.01161 dB

Peak SAR (extrapolated) = 0.2840 W/kg

**SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.019 mW/g**



0 dB = 0.140mW/g = -17.08 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$ ;  $\sigma = 5.102 \text{ mho/m}$ ;  $\epsilon_r = 34.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11a, 5.5 GHz, Left Head, Tilt, Ch 100, 6 Mbps**

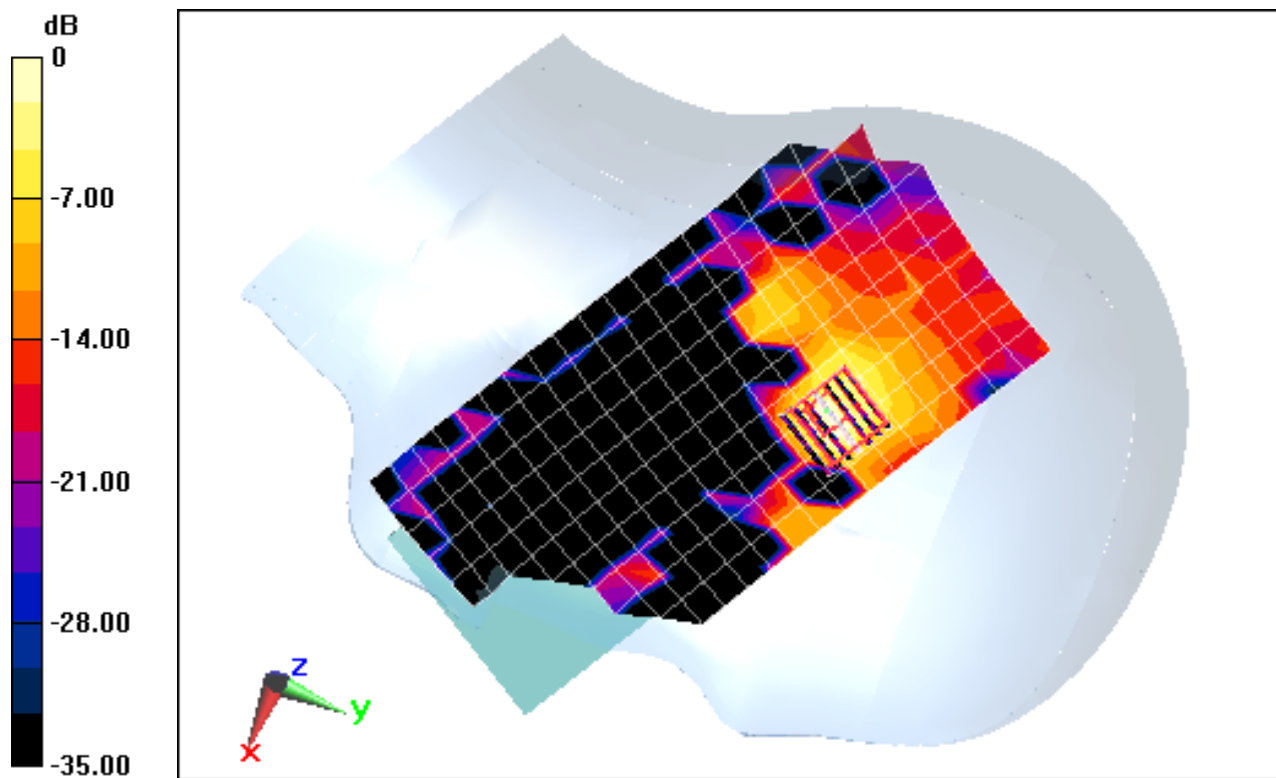
**Area Scan (11x21x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 0.2980 W/kg

**SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.020 mW/g**



0 dB = 0.160mW/g = -15.92 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.979 \text{ mho/m}$ ;  $\epsilon_r = 54.894$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Body SAR, Back side, Mid.ch**

**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49**

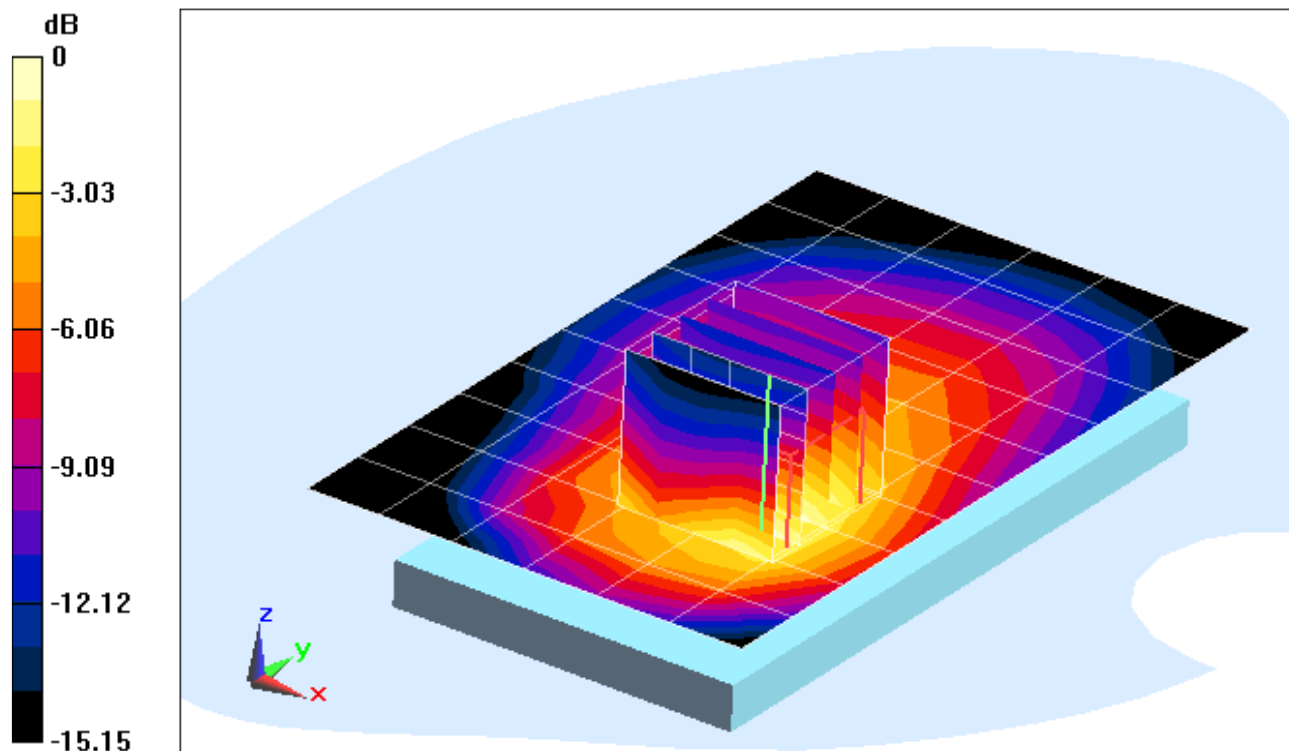
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 19.167 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.6060 W/kg

**SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.202 mW/g**



0 dB = 0.360mW/g = -8.87 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.979 \text{ mho/m}$ ;  $\epsilon_r = 54.894$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Body SAR, Front side, Mid.ch**

**QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset**

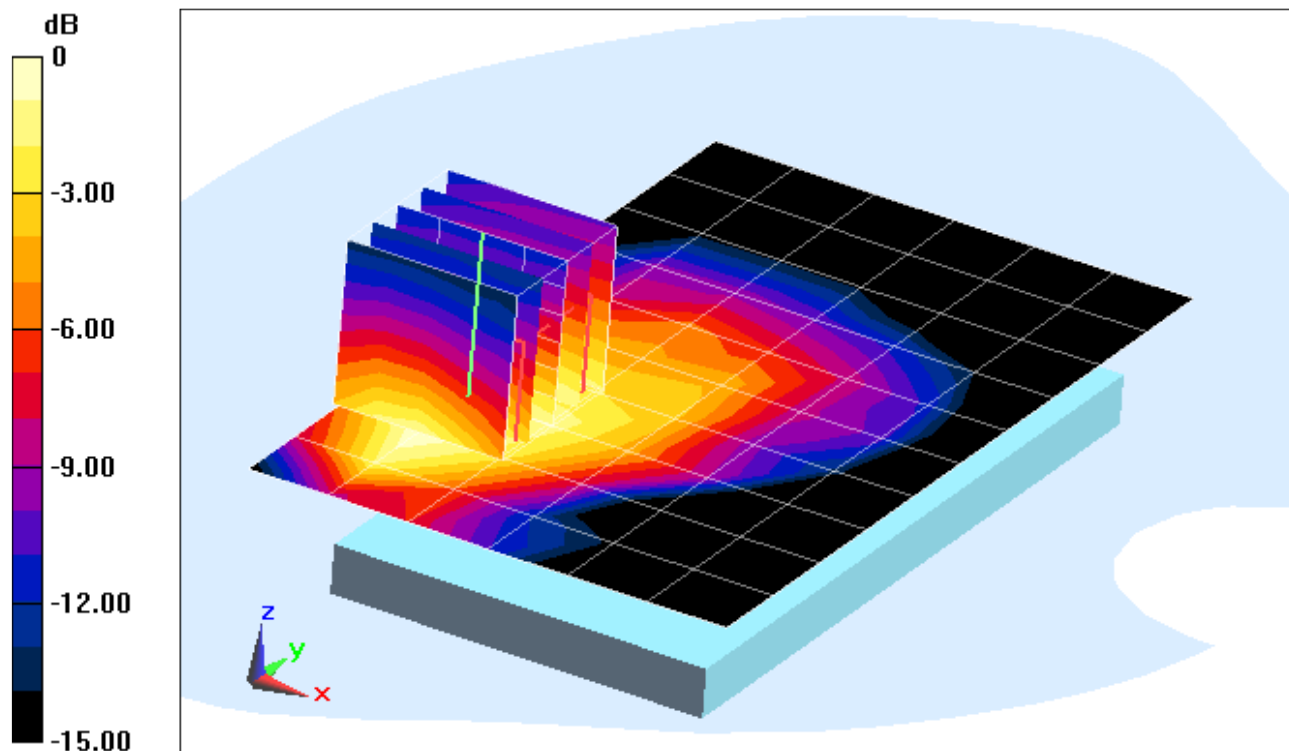
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.447 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.3310 W/kg

**SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.123 mW/g**



0 dB = 0.190mW/g = -14.42 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.979 \text{ mho/m}$ ;  $\epsilon_r = 54.894$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Body SAR, Bottom Edge, Mid.ch**

**QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49**

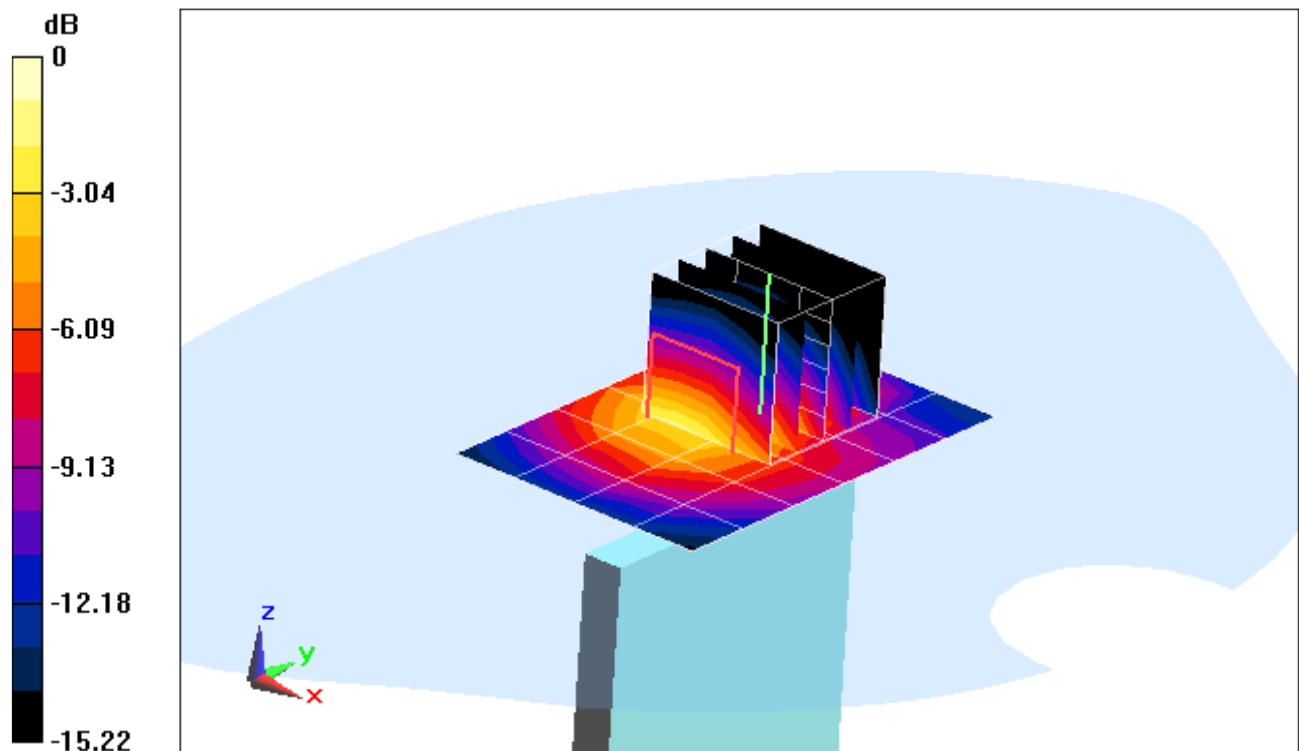
**Area Scan (5x7x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.910 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.2010 W/kg

**SAR(1 g) = 0.125 mW/g; SAR(10 g) = 0.076 mW/g**



0 dB = 0.140mW/g = -17.08 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661**

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.979 \text{ mho/m}$ ;  $\epsilon_r = 54.894$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: LTE Band 13, Body SAR, Left Edge, Mid.ch**

**QPSK, 10 MHz Bandwith, 1 RB, RB Offset 0**

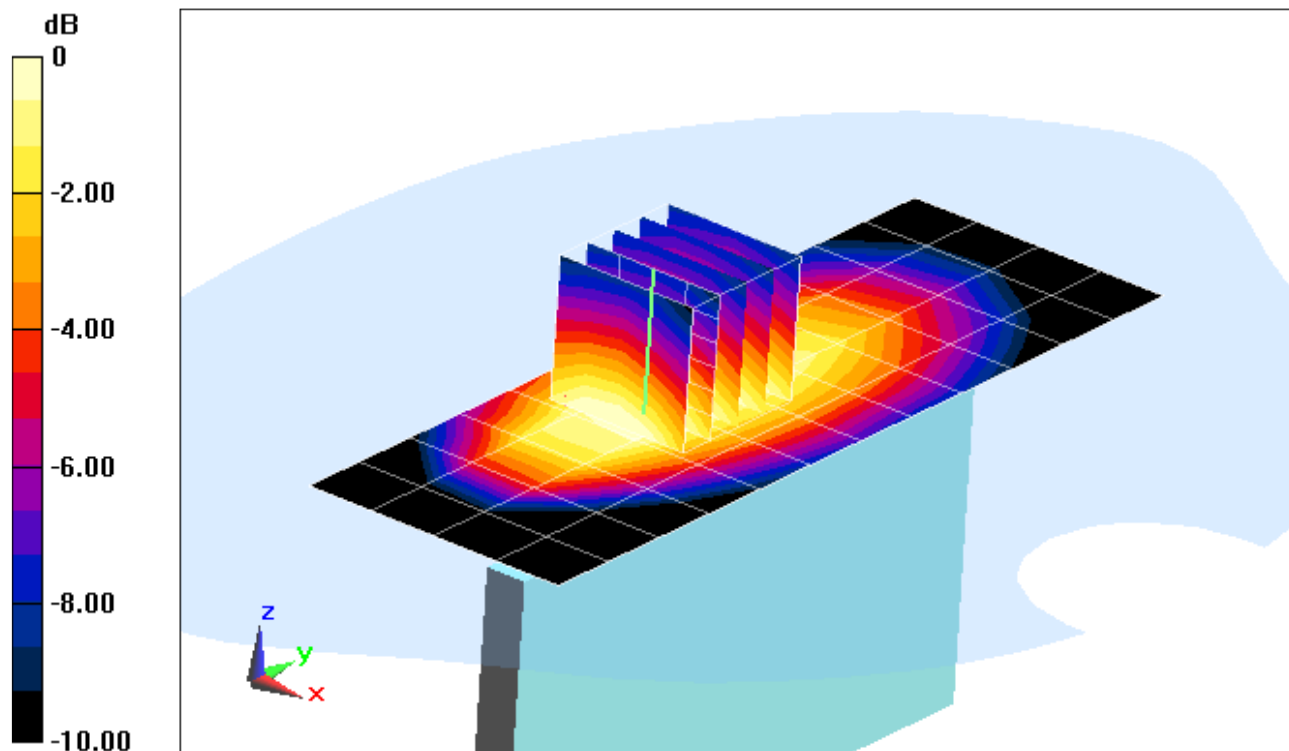
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.914 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.1300 W/kg

**SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.062 mW/g**



0 dB = 0.080mW/g = -21.94 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55.753$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Body SAR, Back side, Mid.ch**

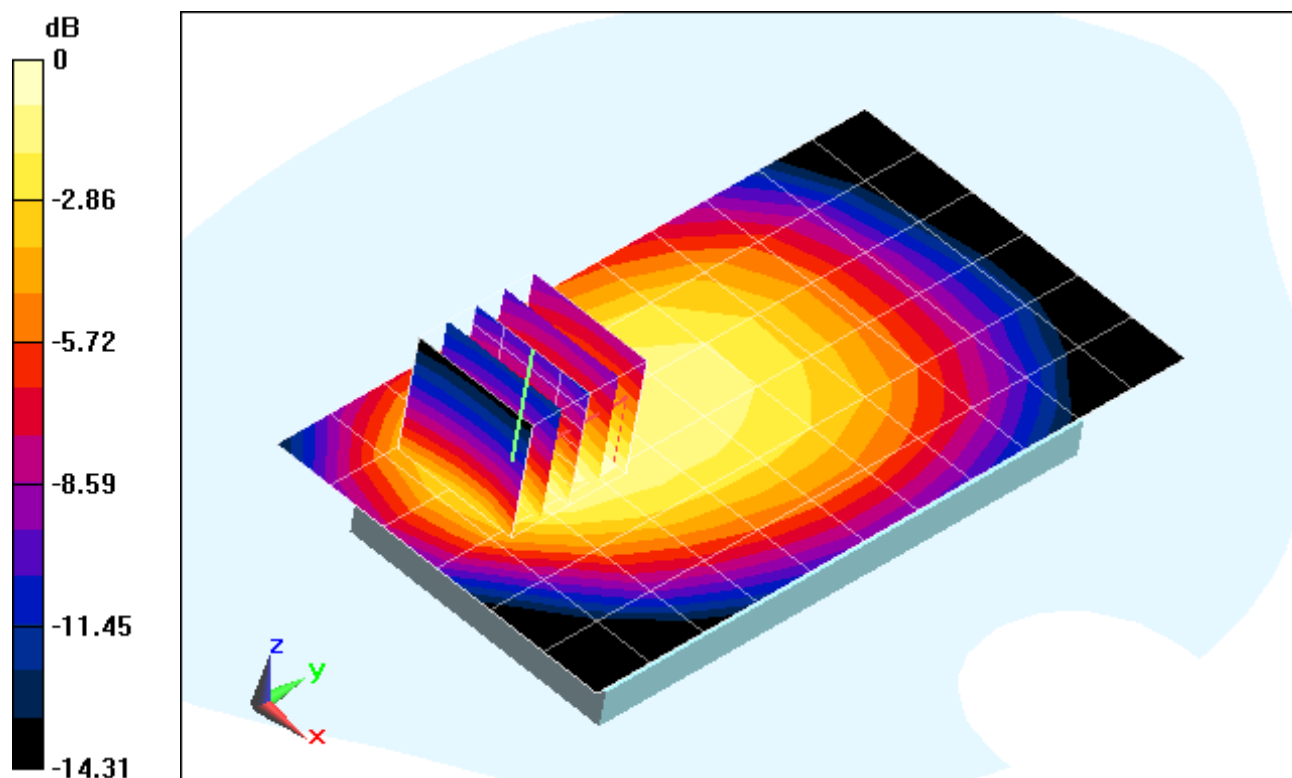
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 19.183 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.5640 W/kg

**SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.242 mW/g**



0 dB = 0.400mW/g = -7.96 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55.753$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Body SAR, Front side, Mid.ch**

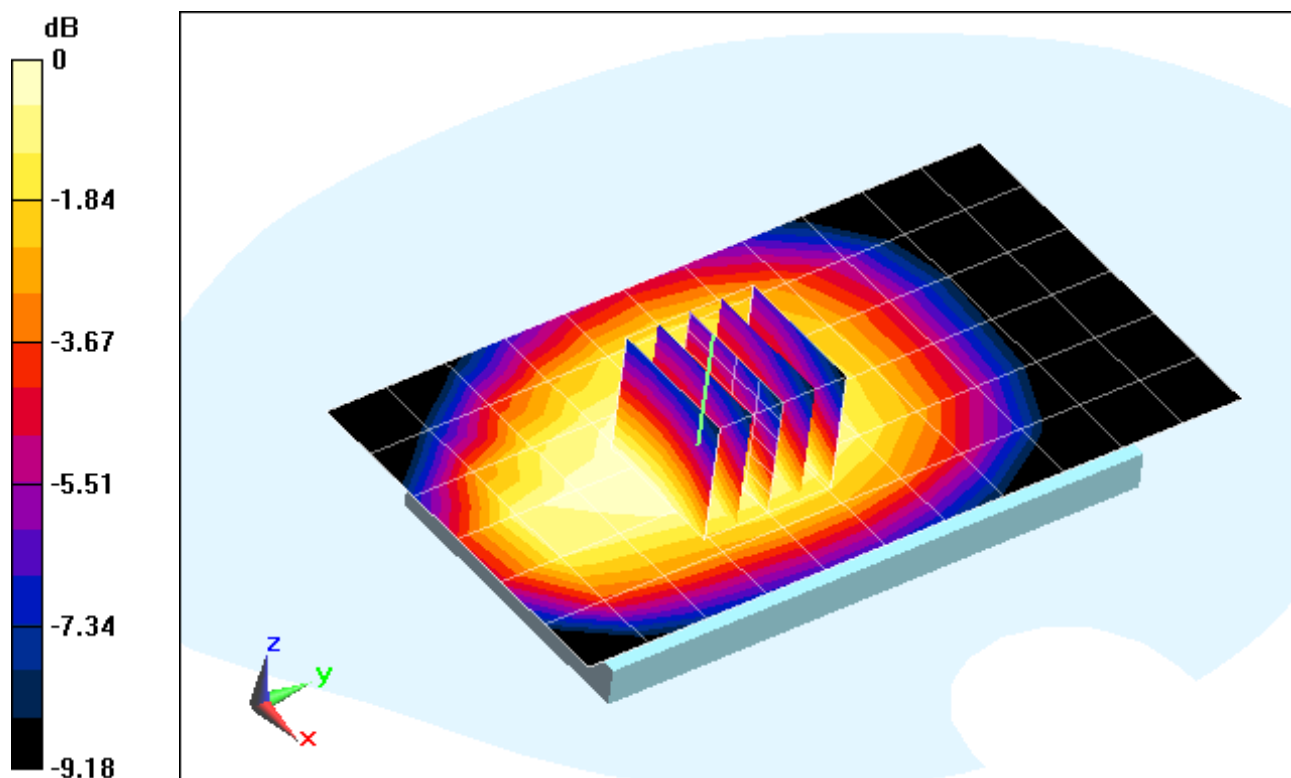
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.591 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.3340 W/kg

**SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.199 mW/g**



0 dB = 0.270mW/g = -11.37 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55.753$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Body SAR, Bottom Edge, Mid.ch**

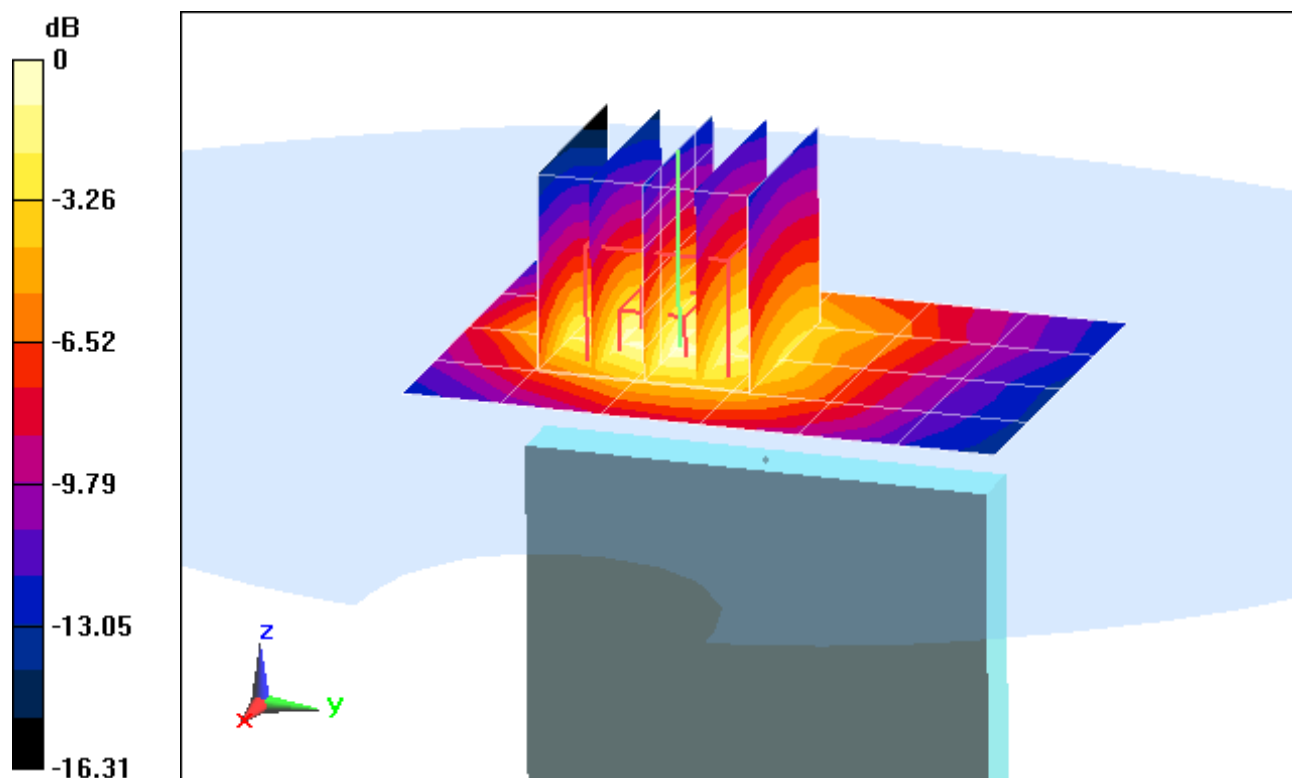
**Area Scan (5x7x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 13.817 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.3330 W/kg

**SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.093 mW/g**



0 dB = 0.190mW/g = -14.42 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55.753$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular CDMA, Body SAR, Right Edge, Mid.ch**

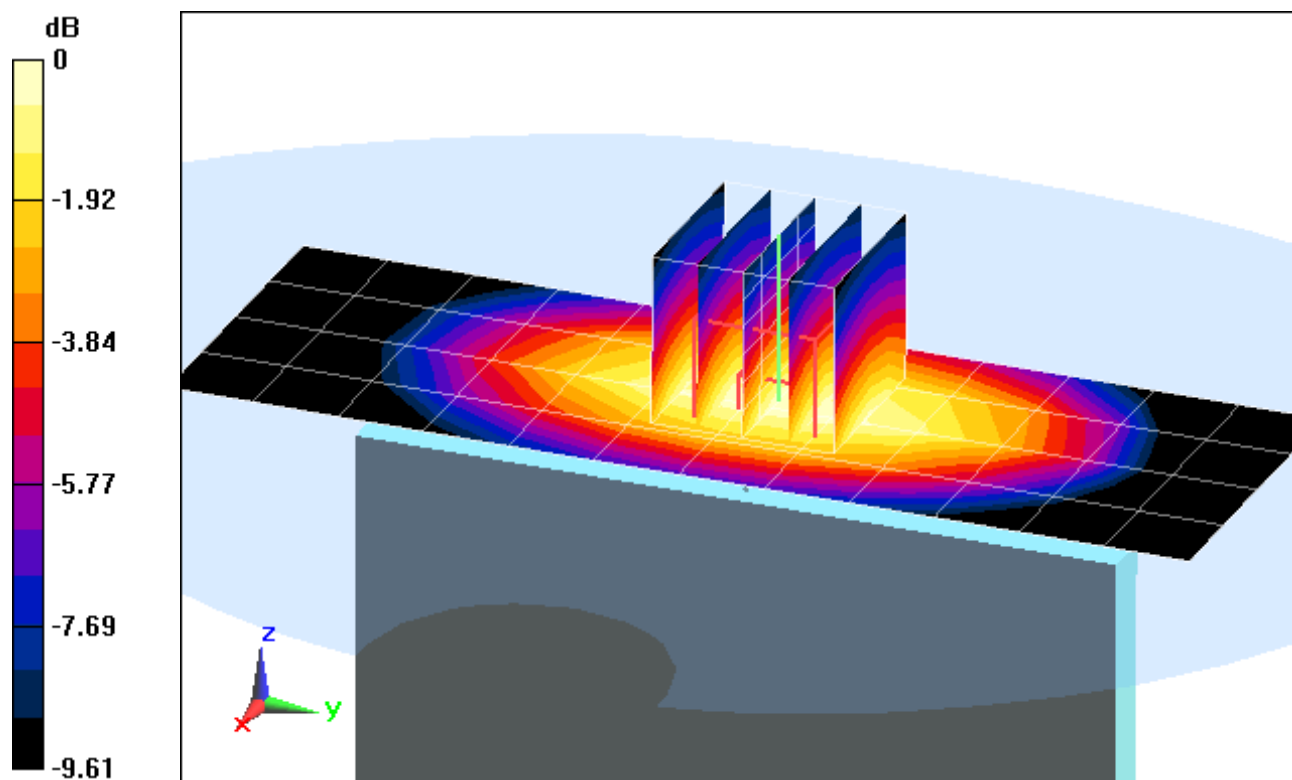
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 18.939 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.5010 W/kg

**SAR(1 g) = 0.346 mW/g; SAR(10 g) = 0.236 mW/g**



0 dB = 0.370mW/g = -8.64 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.014 \text{ mho/m}$ ;  $\epsilon_r = 54.171$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Body SAR, Back side, Mid.ch**

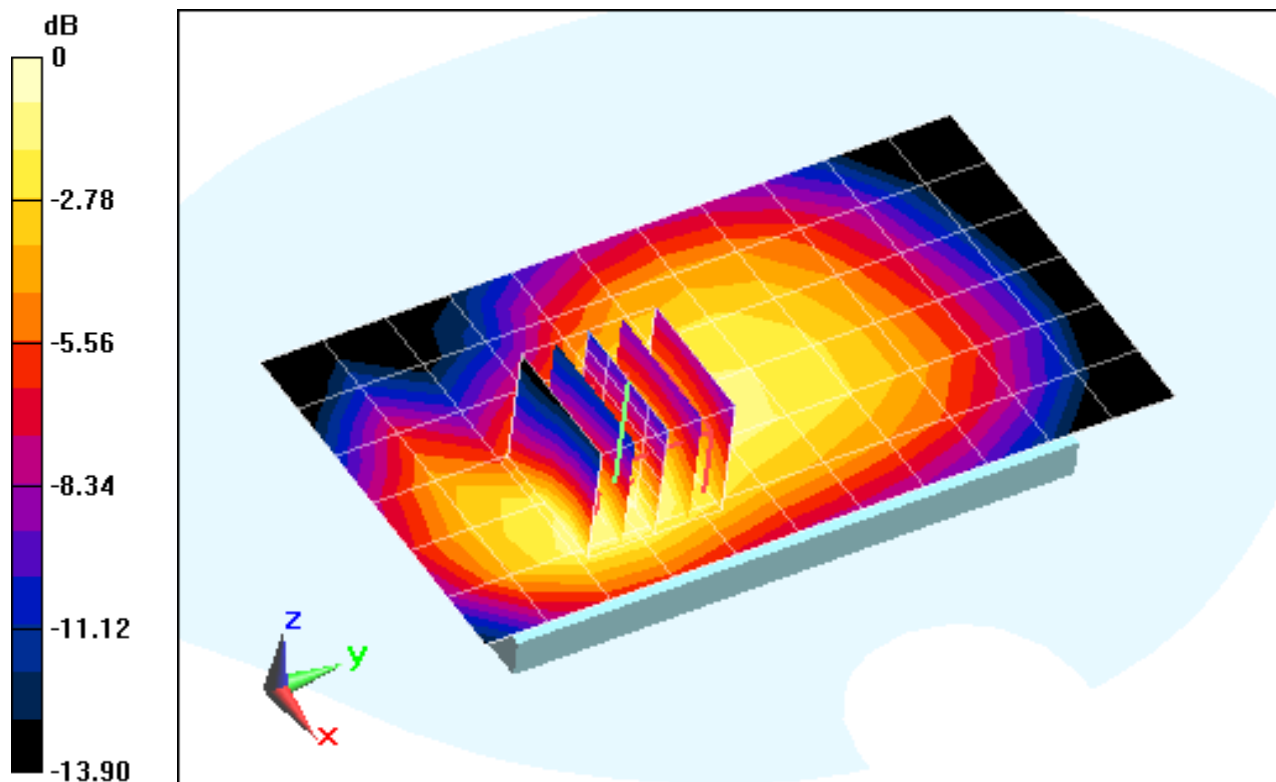
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 21.070 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.6740 W/kg

**SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.272 mW/g**



0 dB = 0.450mW/g = -6.94 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.014 \text{ mho/m}$ ;  $\epsilon_r = 54.171$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Body SAR, Front side, Mid.ch**

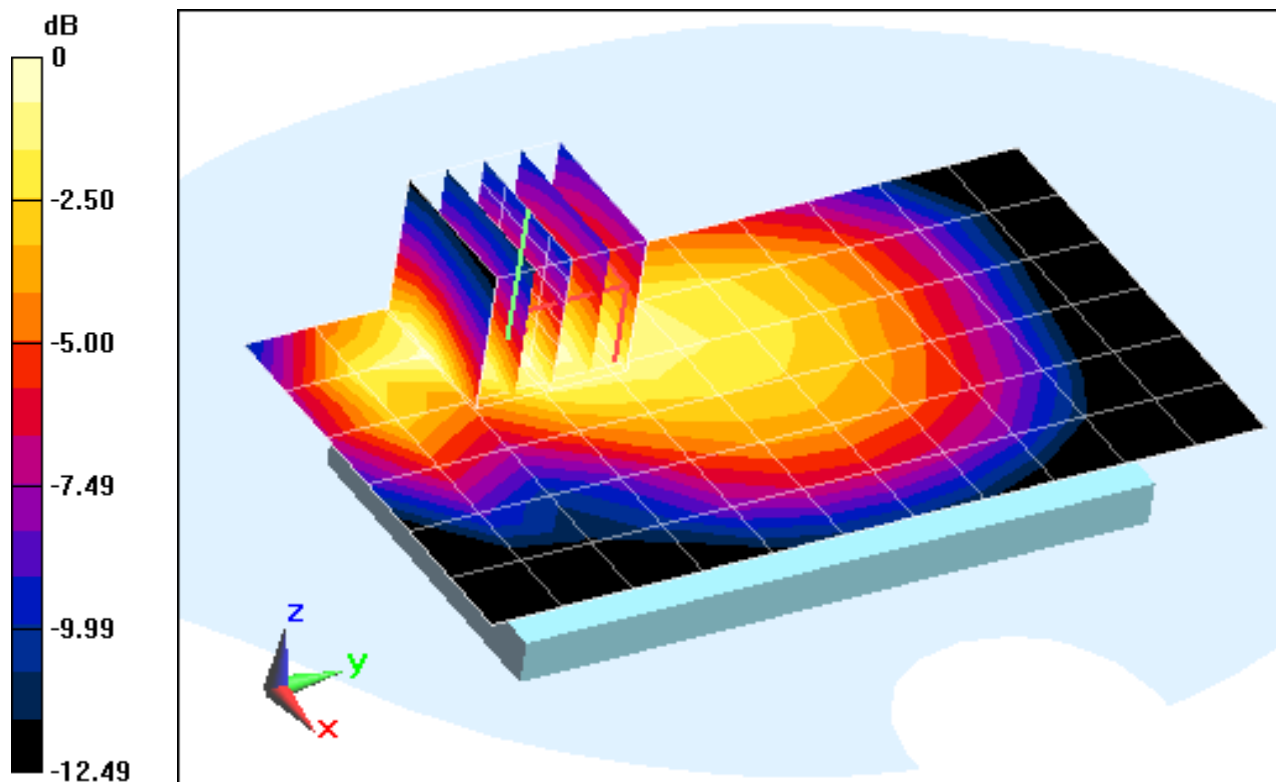
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 19.429 V/m; Power Drift = -0.0086 dB

Peak SAR (extrapolated) = 0.5530 W/kg

**SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.234 mW/g**



0 dB = 0.380mW/g = -8.40 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 1.014$  mho/m;  $\epsilon_r = 54.171$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Body SAR, Bottom Edge, Mid.ch**

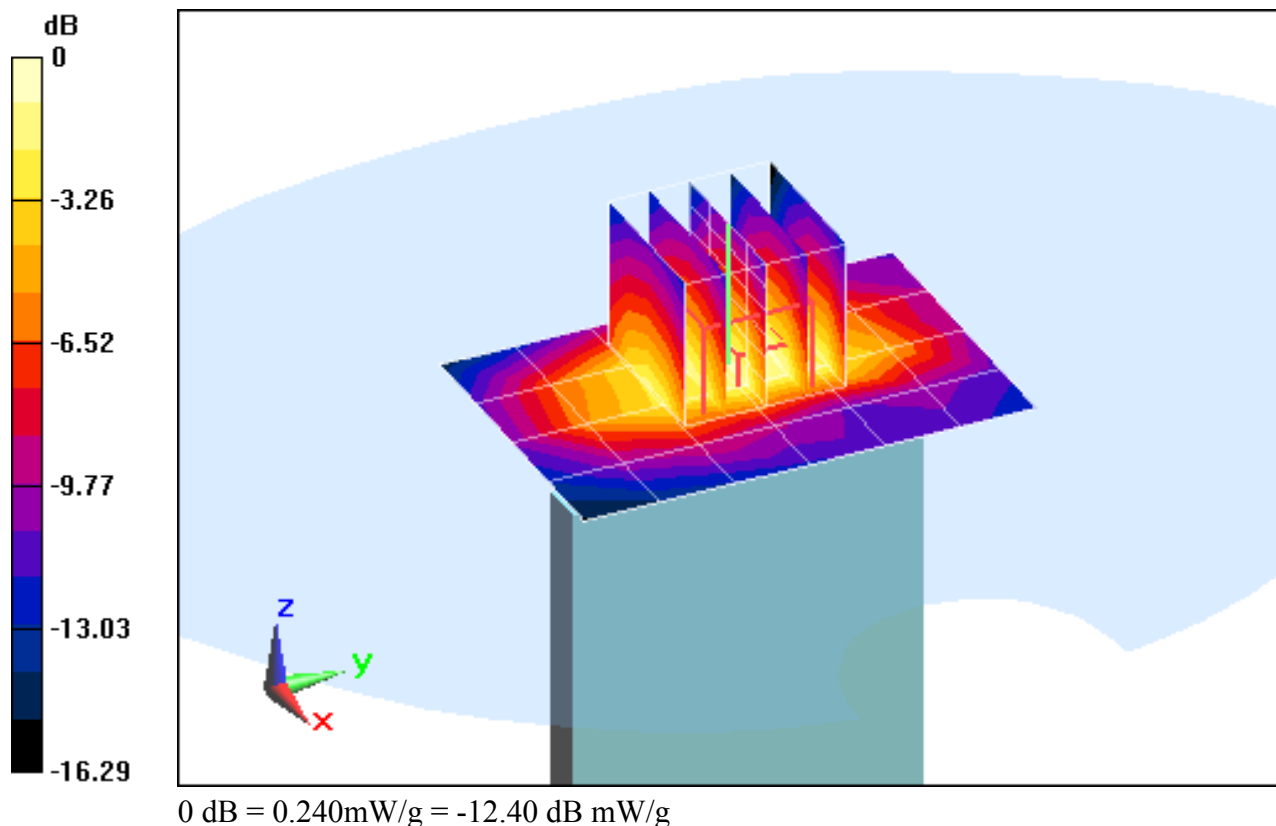
**Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 15.368 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.4020 W/kg

**SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.123 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$ ;  $\sigma = 1.014 \text{ mho/m}$ ;  $\epsilon_r = 54.171$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: Cellular EVDO, Body SAR, Left Edge, Mid.ch**

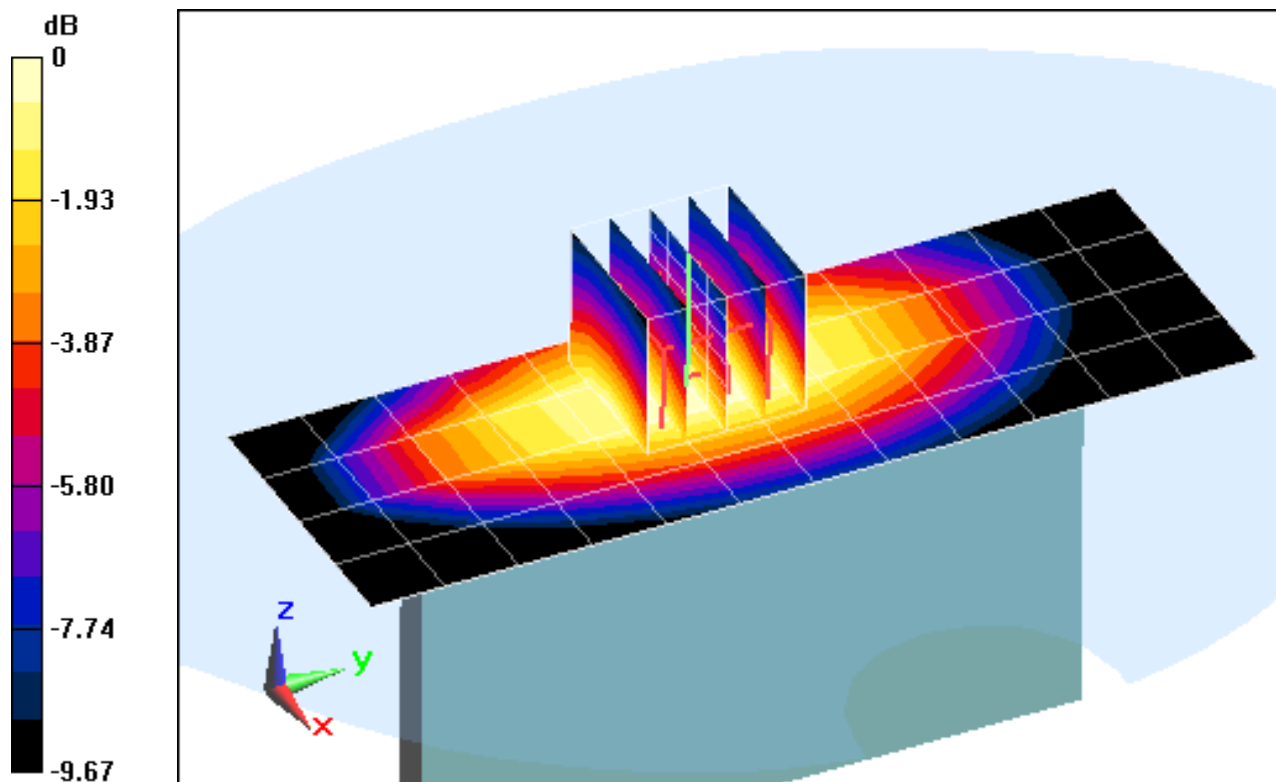
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.050 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.3420 W/kg

**SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.163 mW/g**



0 dB = 0.250mW/g = -12.04 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.995 \text{ mho/m}$ ;  $\epsilon_r = 52.695$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 850, Body SAR, Back side, Mid.ch, 2 Tx Slots**

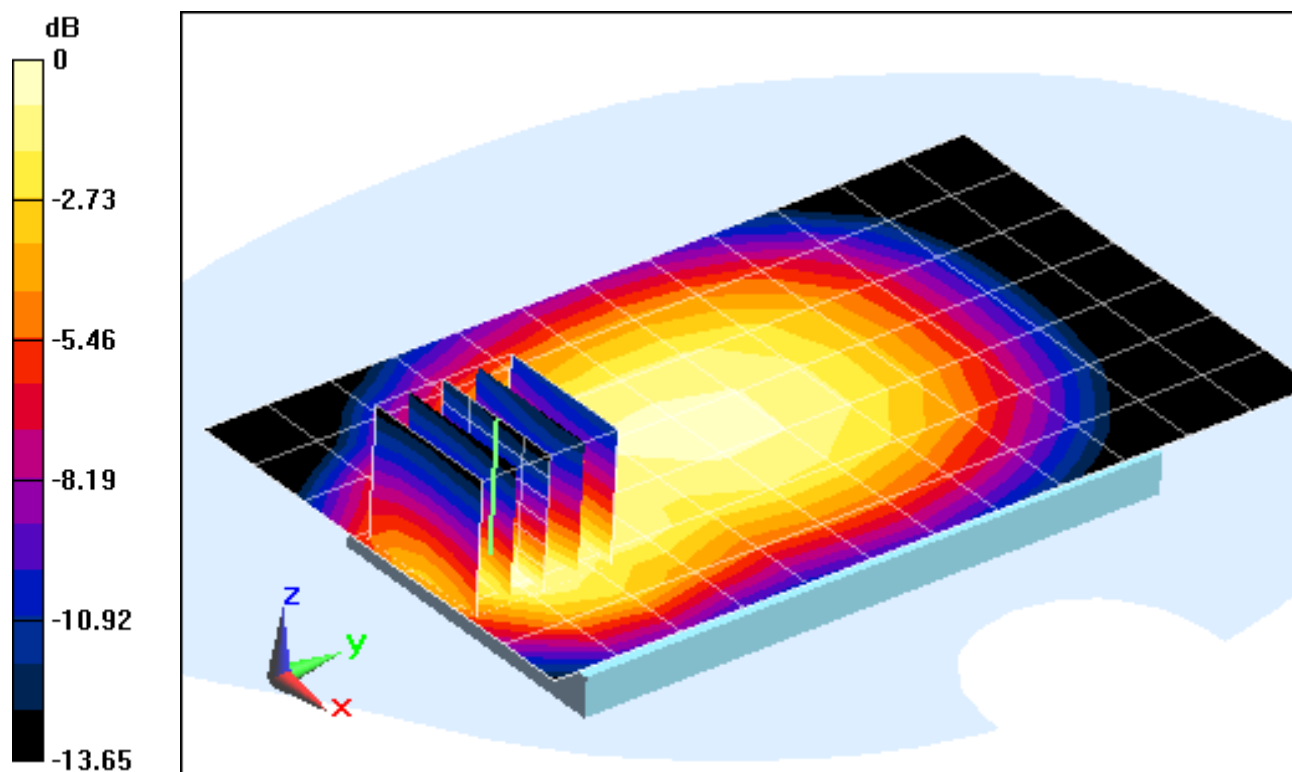
**Area Scan (8x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 21.789 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.8480 W/kg

**SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.246 mW/g**



0 dB = 0.470mW/g = -6.56 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.995 \text{ mho/m}$ ;  $\epsilon_r = 52.695$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 850, Body SAR, Front side, Mid.ch, 2 Tx Slots**

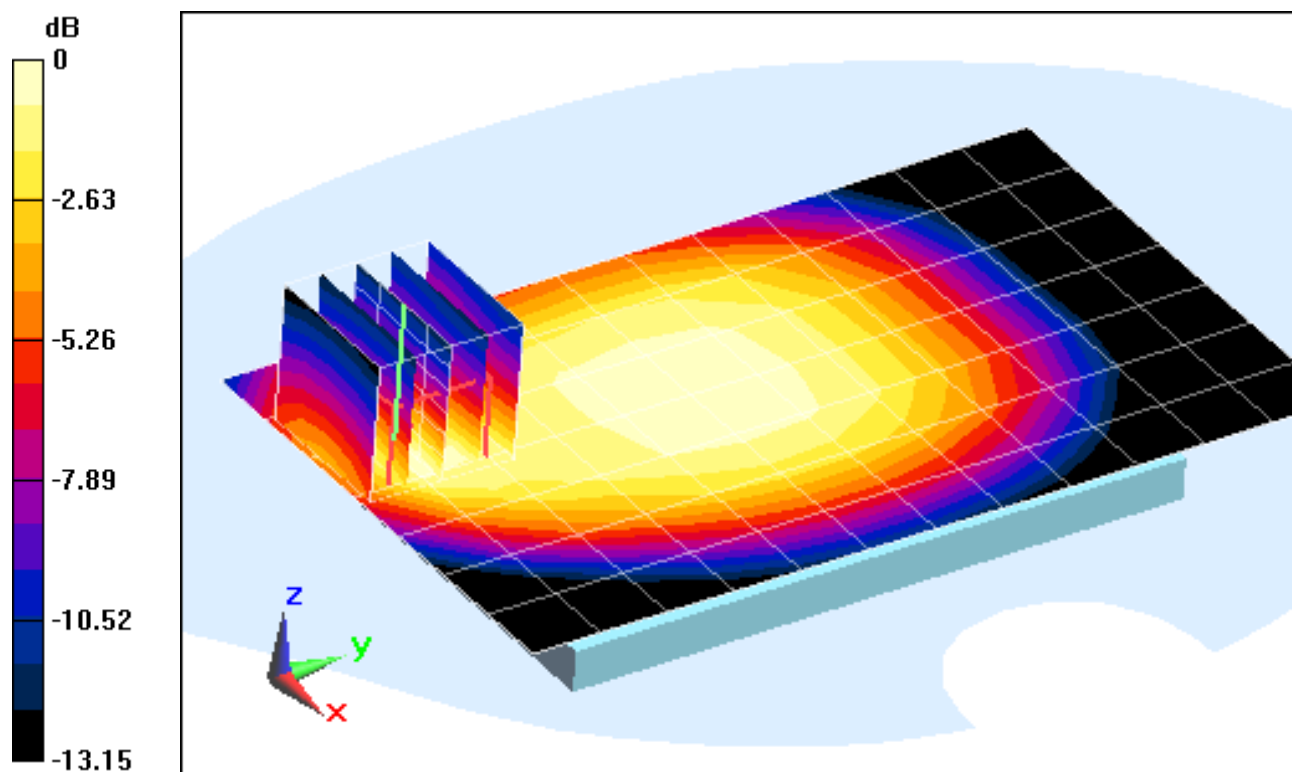
**Area Scan (8x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 20.085 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.6190 W/kg

**SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.205 mW/g**



0 dB = 0.390mW/g = -8.18 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.995 \text{ mho/m}$ ;  $\epsilon_r = 52.695$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 850, Body SAR, Bottom Edge, Mid.ch, 2 Tx Slots**

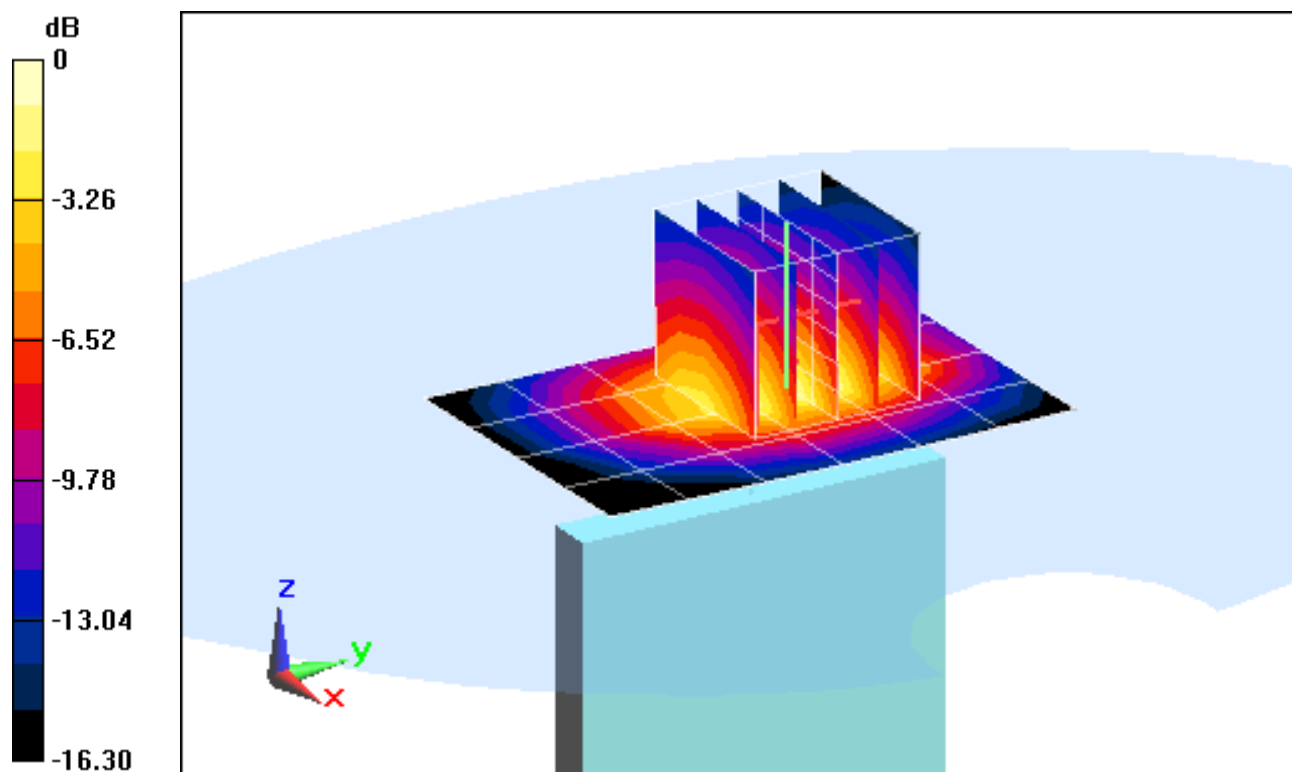
**Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 22.429 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.9930 W/kg

**SAR(1 g) = 0.519 mW/g; SAR(10 g) = 0.271 mW/g**



0 dB = 0.590mW/g = -4.58 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$ ;  $\sigma = 0.995 \text{ mho/m}$ ;  $\epsilon_r = 52.695$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 1/18/2012

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 850, Body SAR, Left Edge, Mid.ch, 2 Tx Slots**

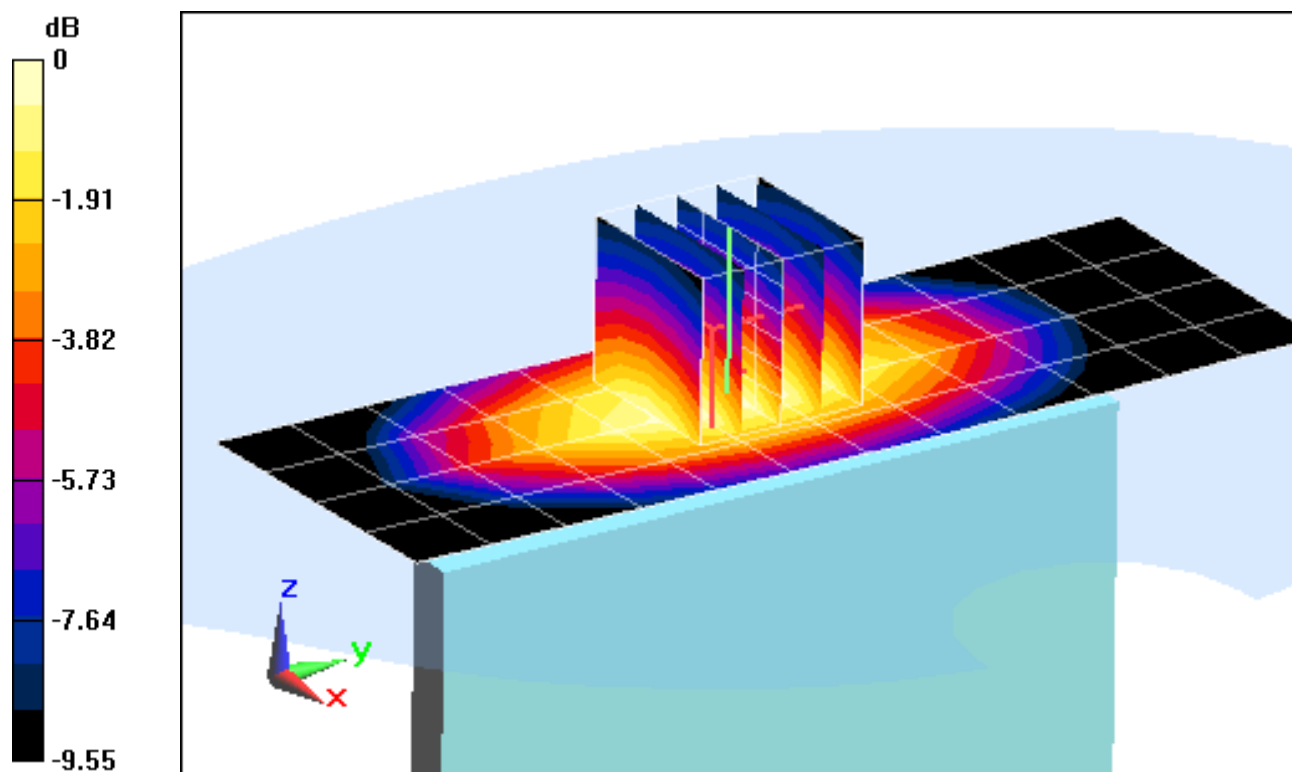
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 25.772 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.8680 W/kg

**SAR(1 g) = 0.618 mW/g; SAR(10 g) = 0.424 mW/g**



0 dB = 0.660mW/g = -3.61 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.494 \text{ mho/m}$ ;  $\epsilon_r = 52.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

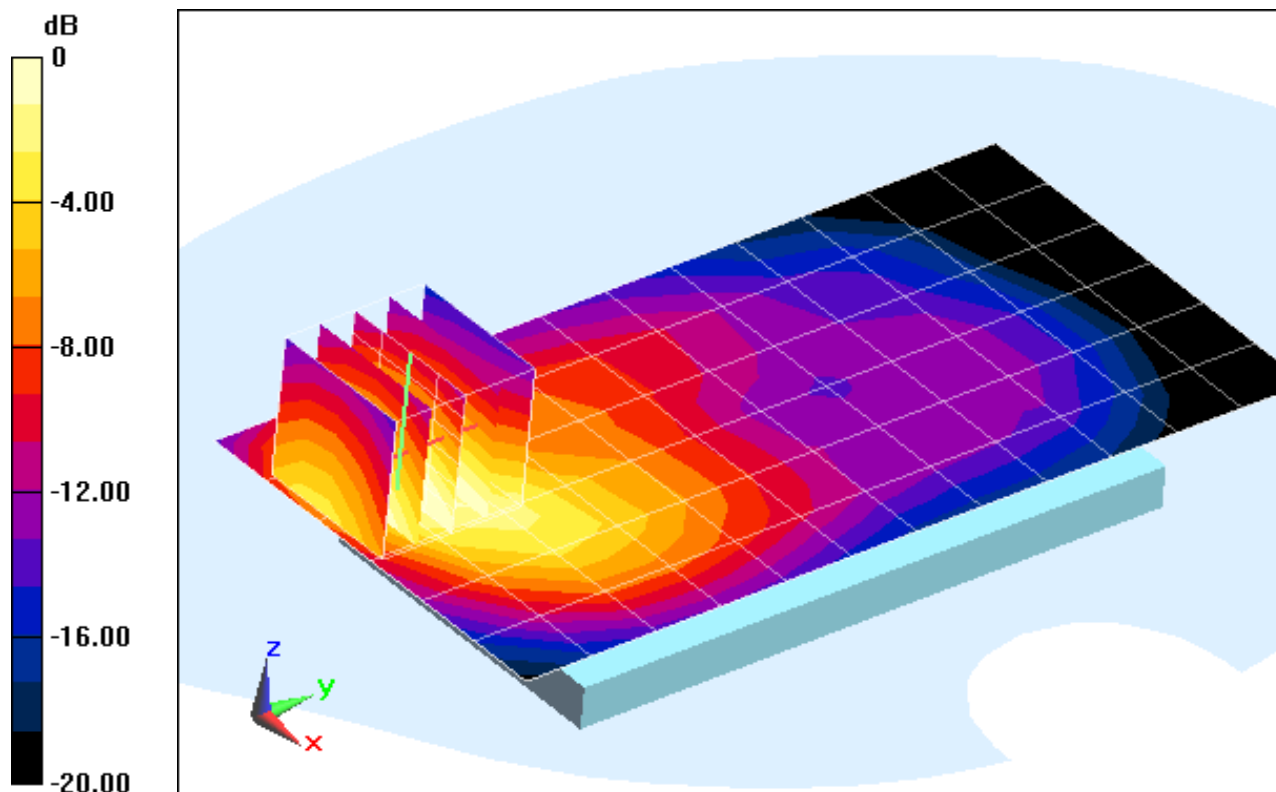
**Area Scan (7x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 24.908 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.6200 W/kg

**SAR(1 g) = 0.934 mW/g; SAR(10 g) = 0.486 mW/g**



0 dB = 0.590mW/g = -4.58 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.494 \text{ mho/m}$ ;  $\epsilon_r = 52.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Body SAR, Front side, Mid.ch**

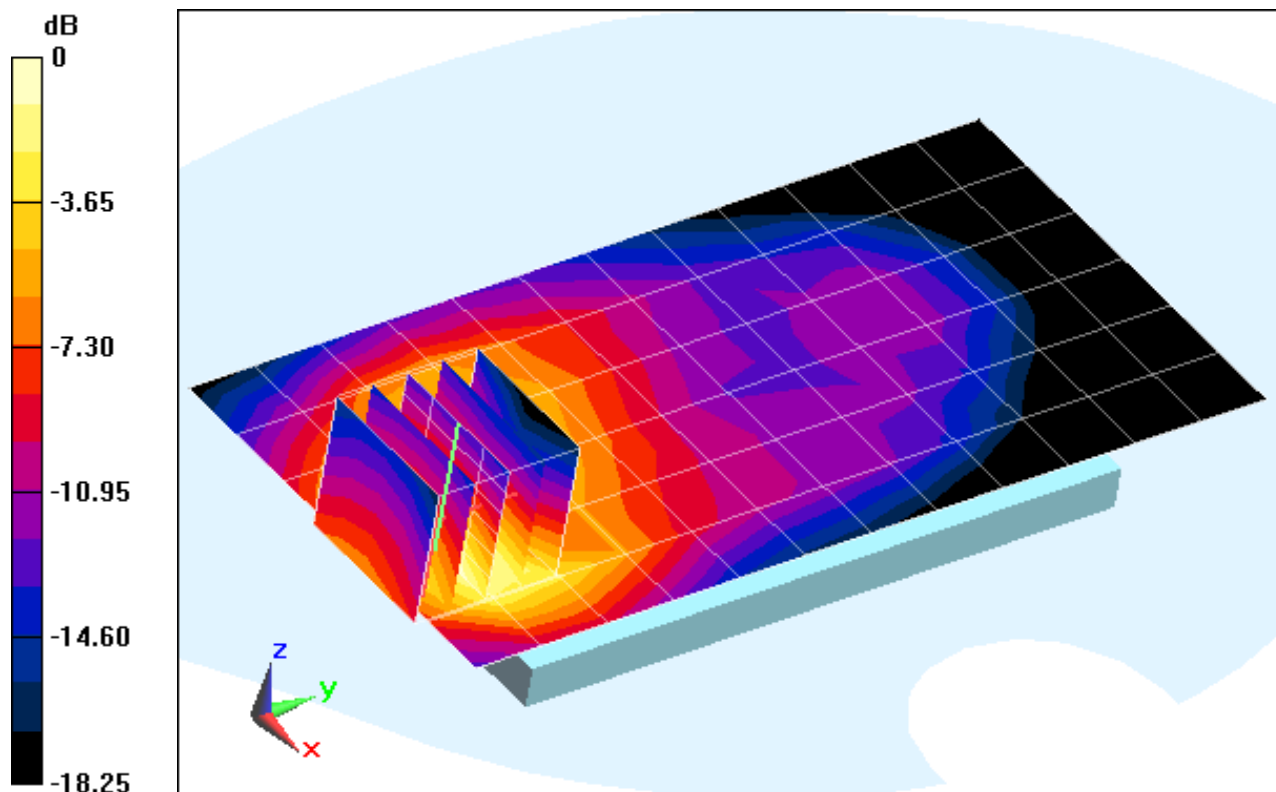
**Area Scan (7x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.998 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.7560 W/kg

**SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.235 mW/g**



0 dB = 0.490mW/g = -6.20 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.494 \text{ mho/m}$ ;  $\epsilon_r = 52.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Body SAR, Bottom Edge, Mid.ch**

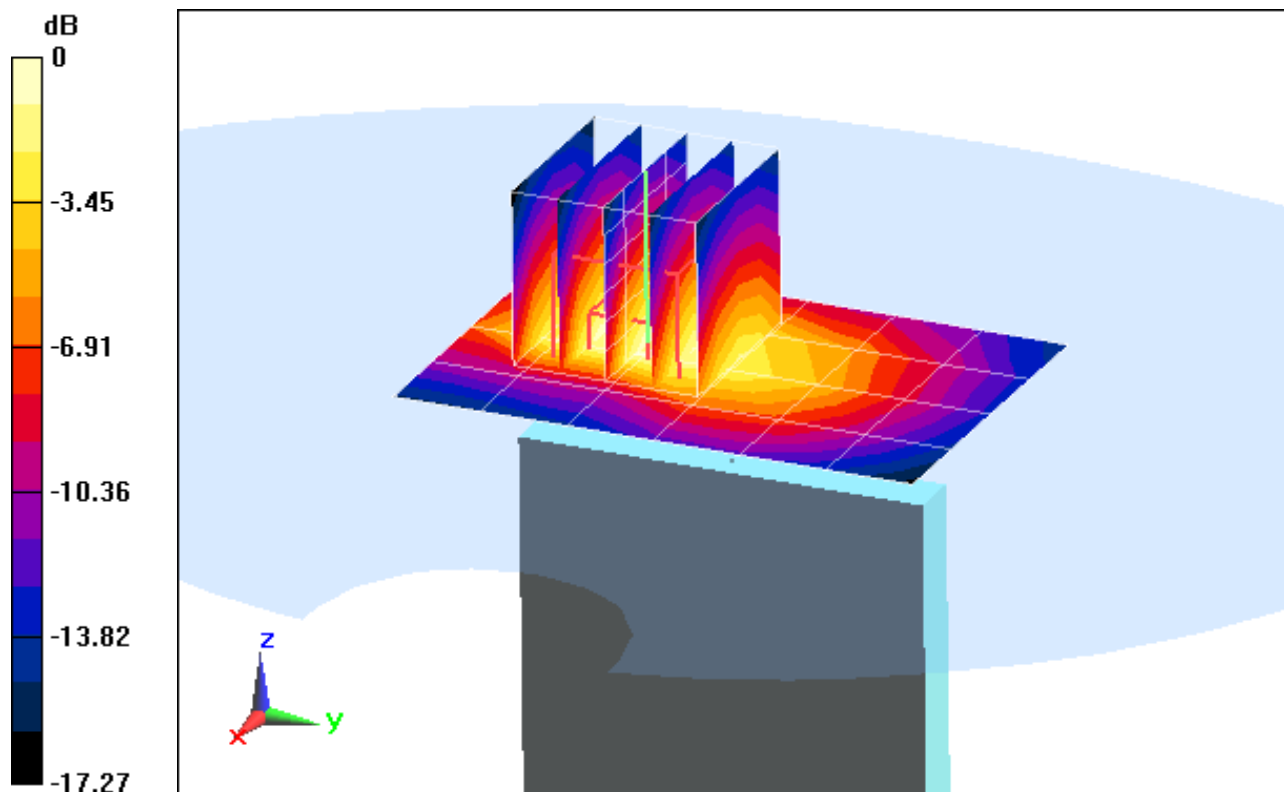
**Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 20.300 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.1110 W/kg

**SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.335 mW/g**



0 dB = 0.710mW/g = -2.97 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660**

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.494 \text{ mho/m}$ ;  $\epsilon_r = 52.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS CDMA, Body SAR, Right Edge, Mid.ch**

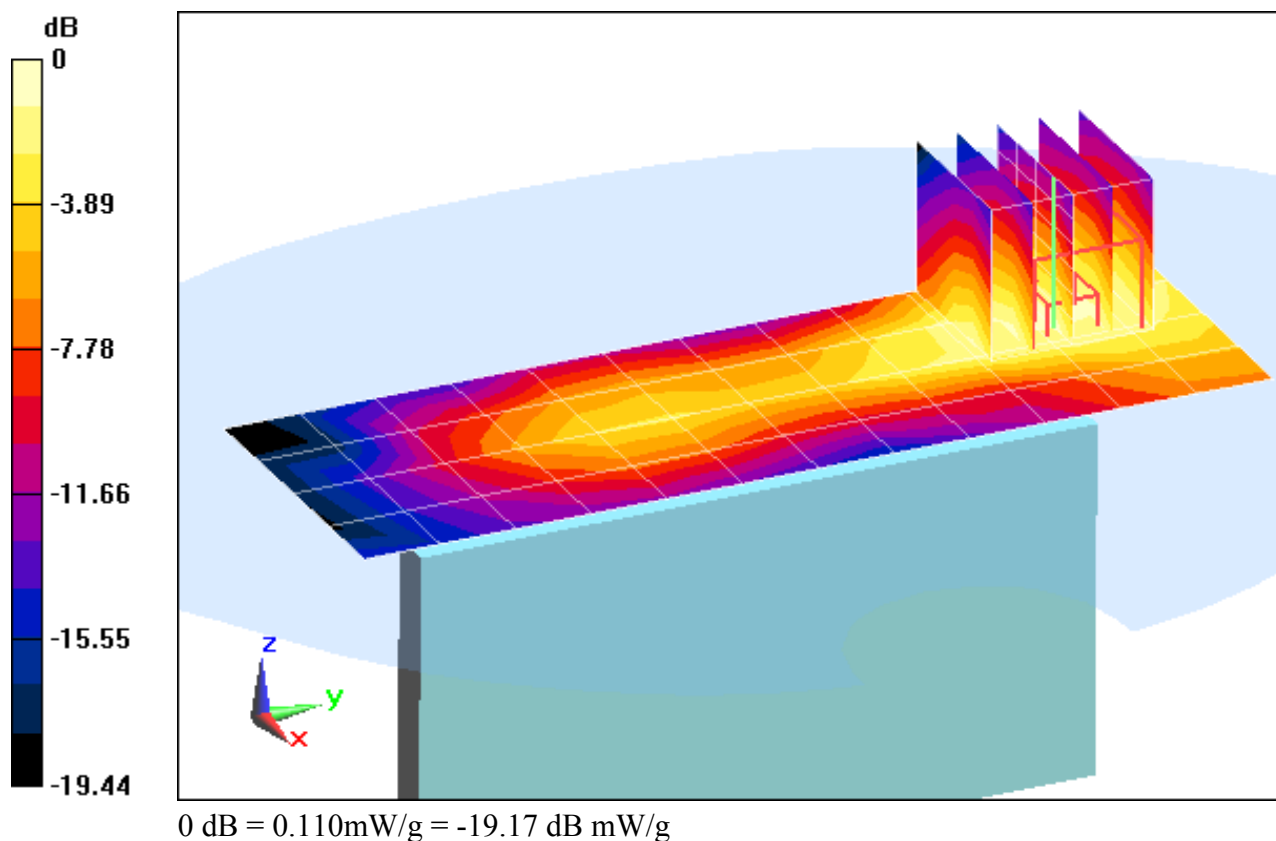
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 8.479 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.1670 W/kg

**SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.059 mW/g**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.492 \text{ mho/m}$ ;  $\epsilon_r = 53.05$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Body SAR, Back side, Mid.ch**

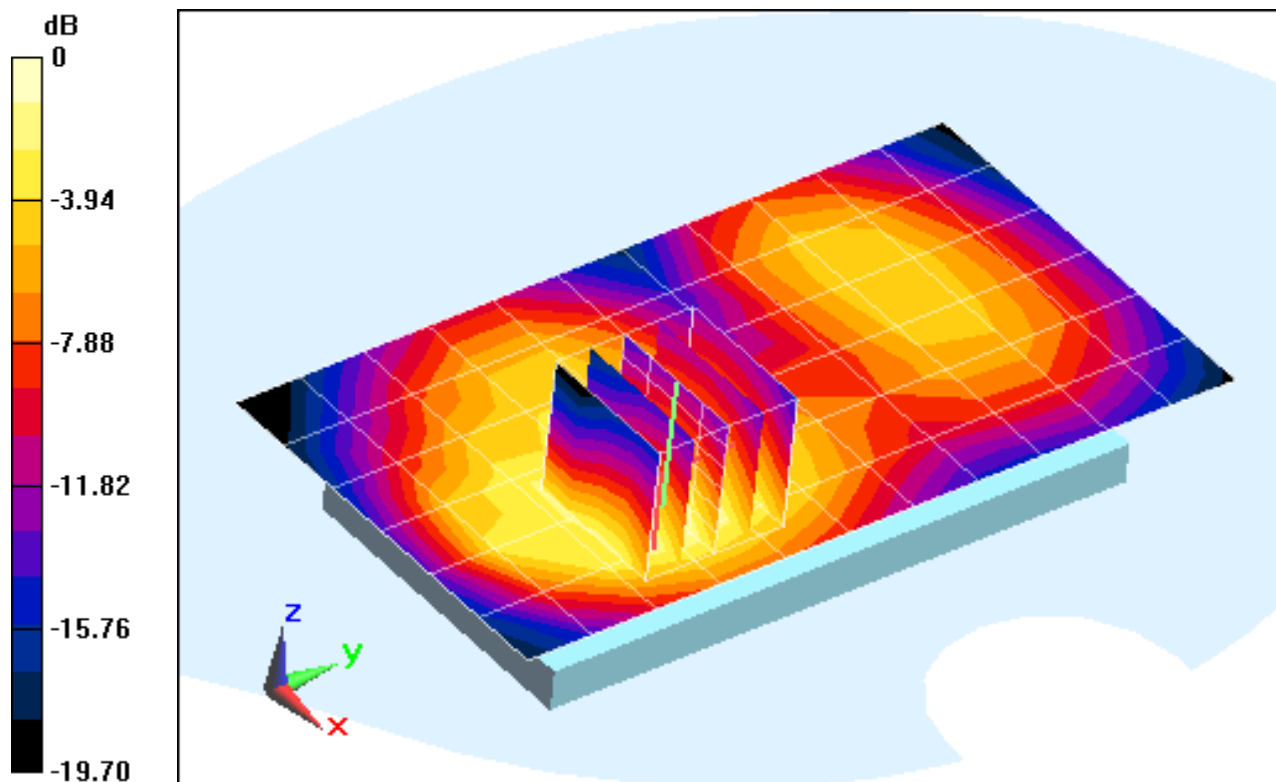
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.826 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.6710 W/kg

**SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.241 mW/g**



0 dB = 0.450mW/g = -6.94 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.492 \text{ mho/m}$ ;  $\epsilon_r = 53.05$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

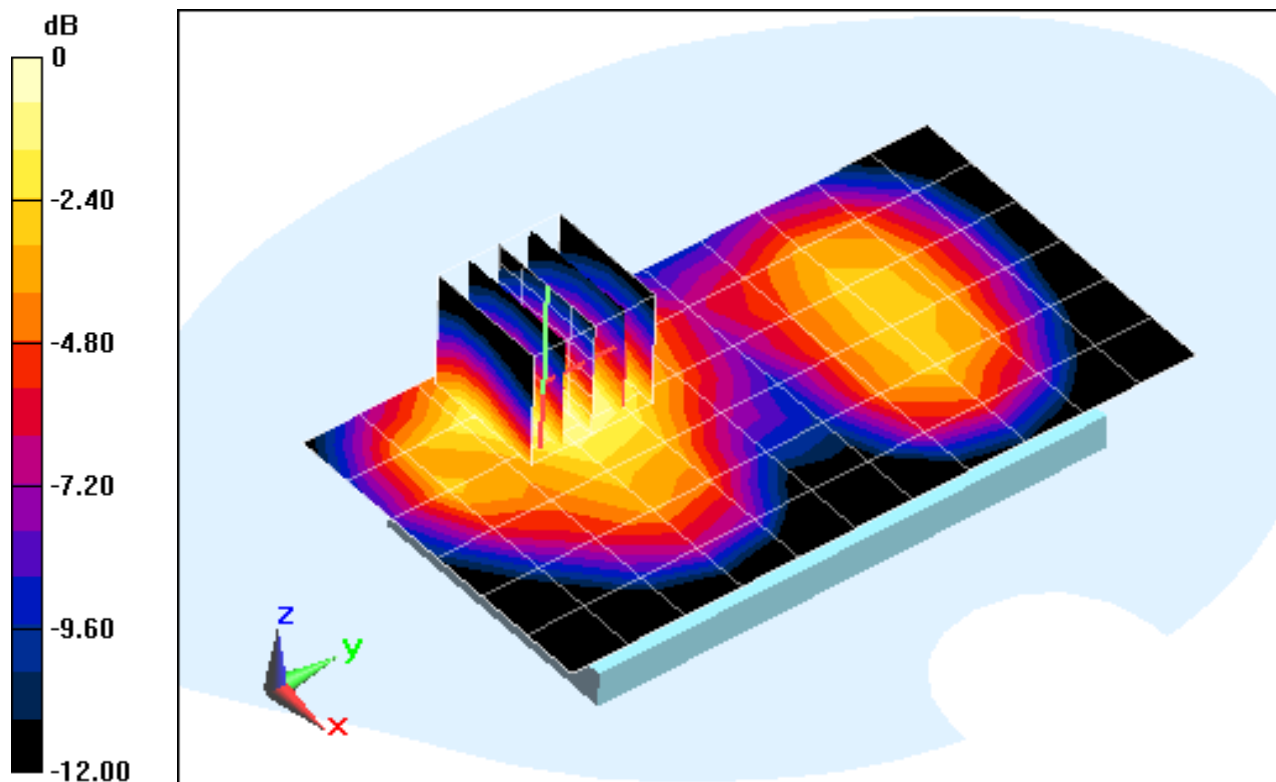
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.919 V/m; Power Drift = -0.0063 dB

Peak SAR (extrapolated) = 0.5950 W/kg

**SAR(1 g) = 0.391 mW/g; SAR(10 g) = 0.244 mW/g**



0 dB = 0.420mW/g = -7.54 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.492 \text{ mho/m}$ ;  $\epsilon_r = 53.05$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Body SAR, Bottom Edge, Mid.ch**

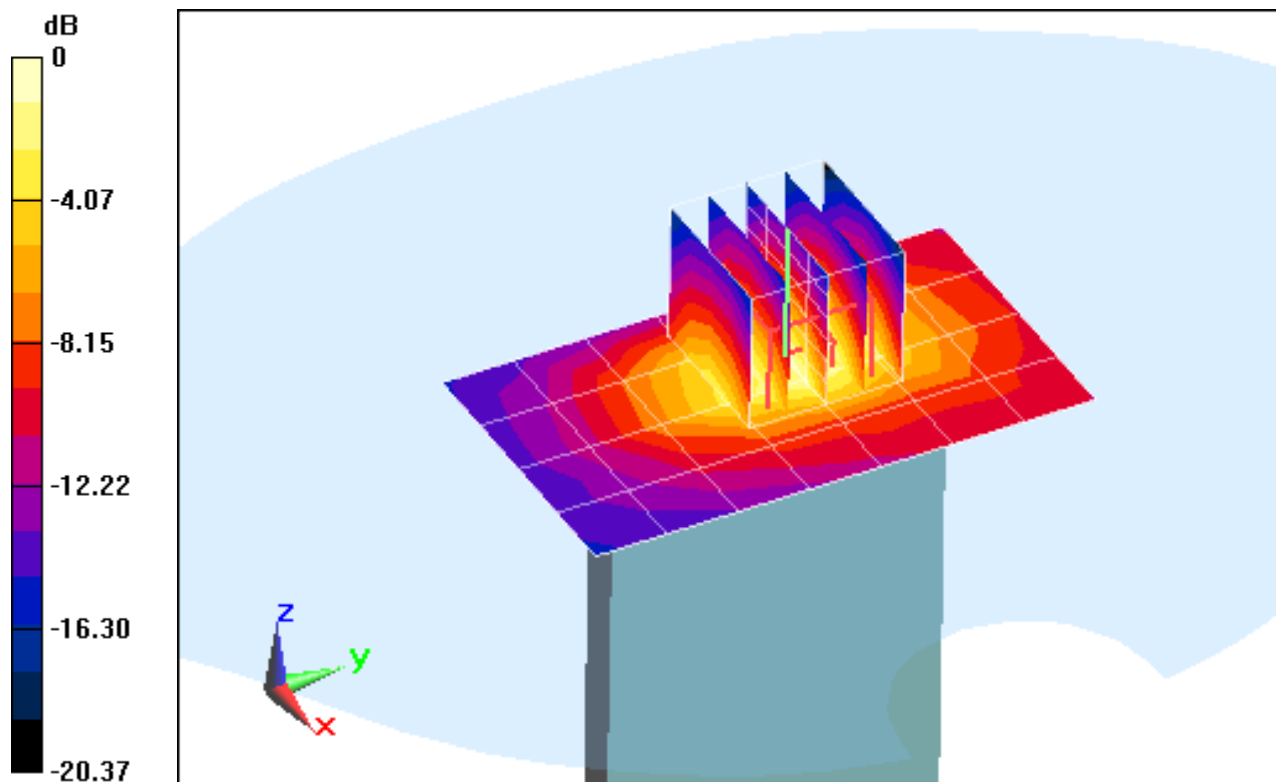
**Area Scan (5x8x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.763 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.3900 W/kg

**SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.102 mW/g**



0 dB = 0.230mW/g = -12.77 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579**

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.492 \text{ mho/m}$ ;  $\epsilon_r = 53.05$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: PCS EVDO, Body SAR, Left Edge, Mid.ch**

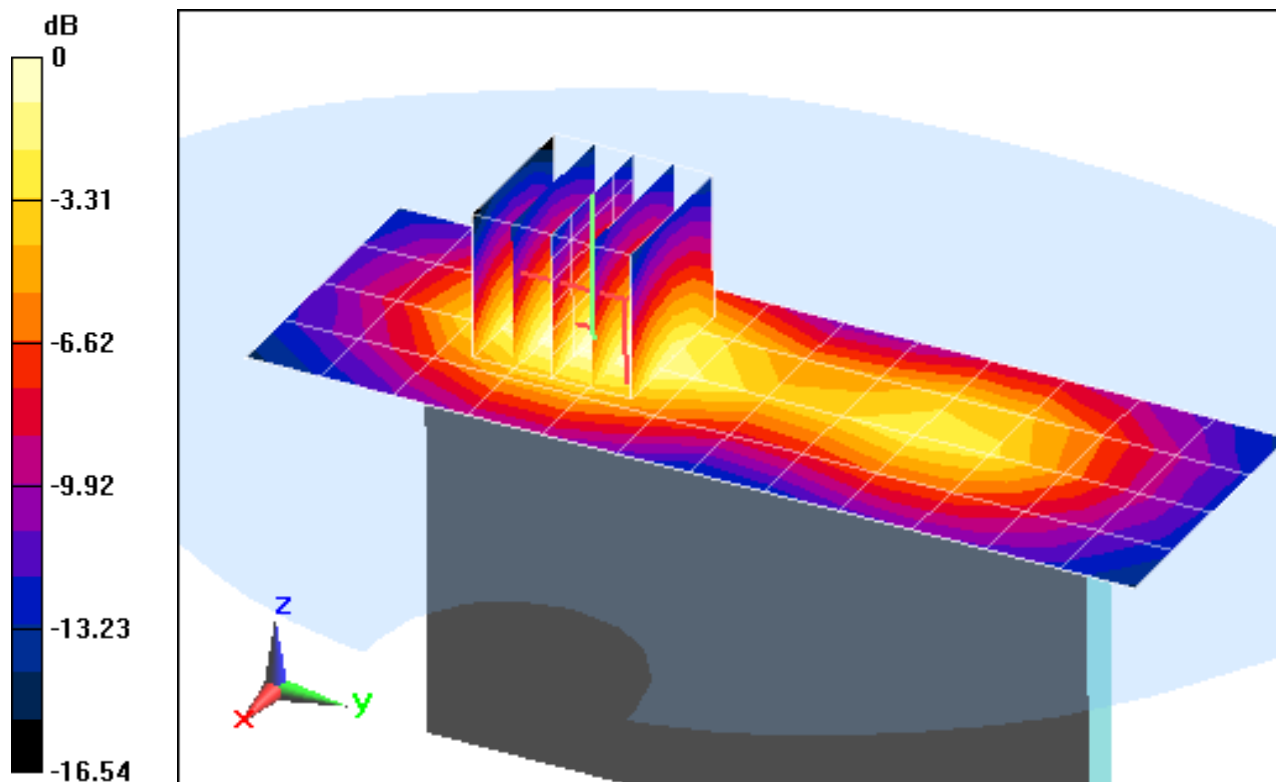
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 13.392 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.4150 W/kg

**SAR(1 g) = 0.257 mW/g; SAR(10 g) = 0.152 mW/g**



0 dB = 0.280mW/g = -11.06 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.505 \text{ mho/m}$ ;  $\epsilon_r = 51.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 2 Tx slots**

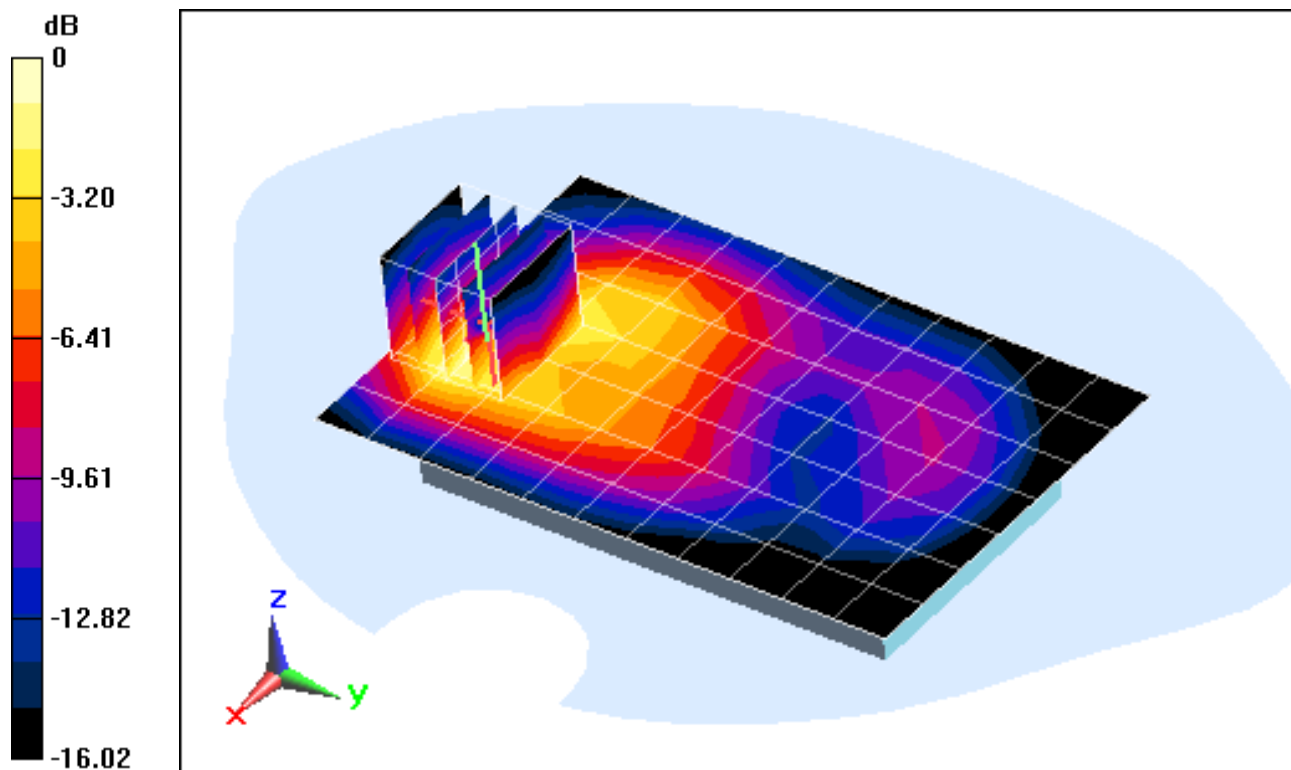
**Area Scan (8x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.977 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.6260 W/kg

**SAR(1 g) = 0.374 mW/g; SAR(10 g) = 0.202 mW/g**



0 dB = 0.420mW/g = -7.54 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.505 \text{ mho/m}$ ;  $\epsilon_r = 51.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

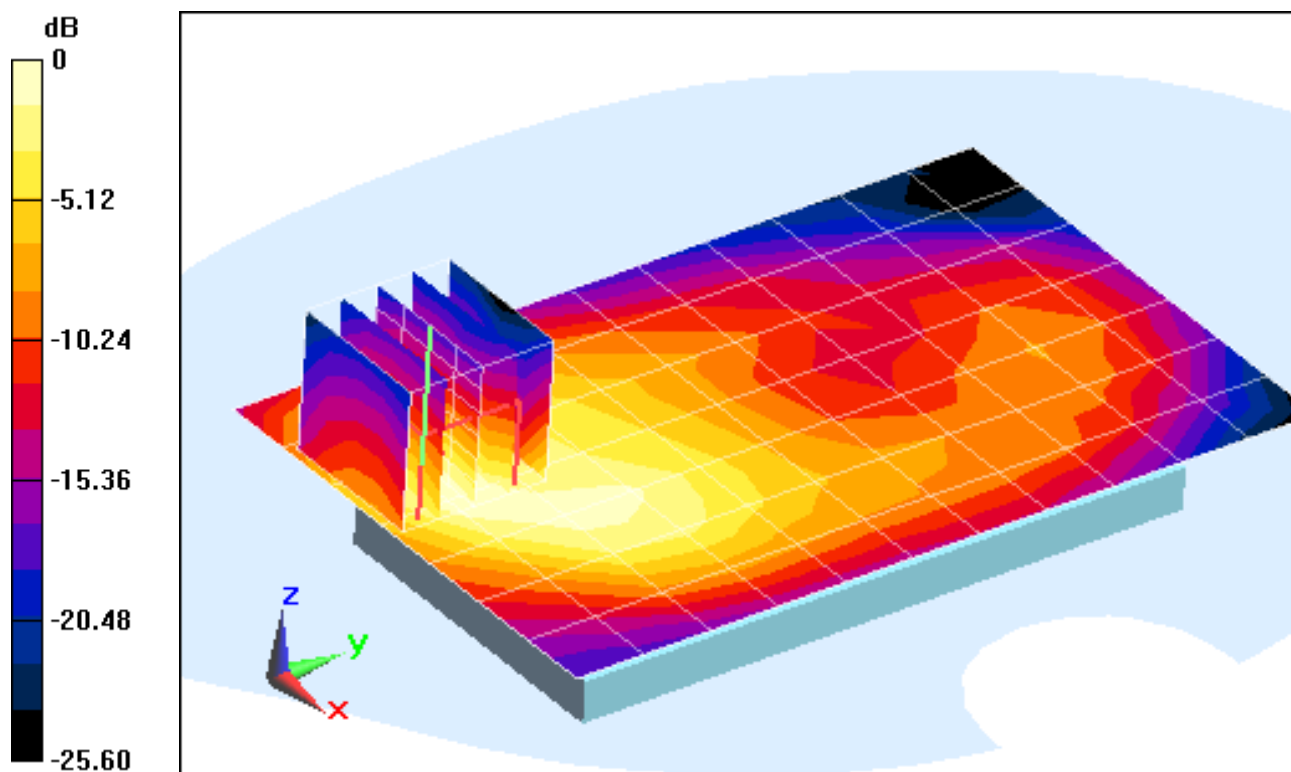
**Area Scan (8x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 14.515 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.5480 W/kg

**SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.176 mW/g**



0 dB = 0.320mW/g = -9.90 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.505 \text{ mho/m}$ ;  $\epsilon_r = 51.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 2 Tx Slots**

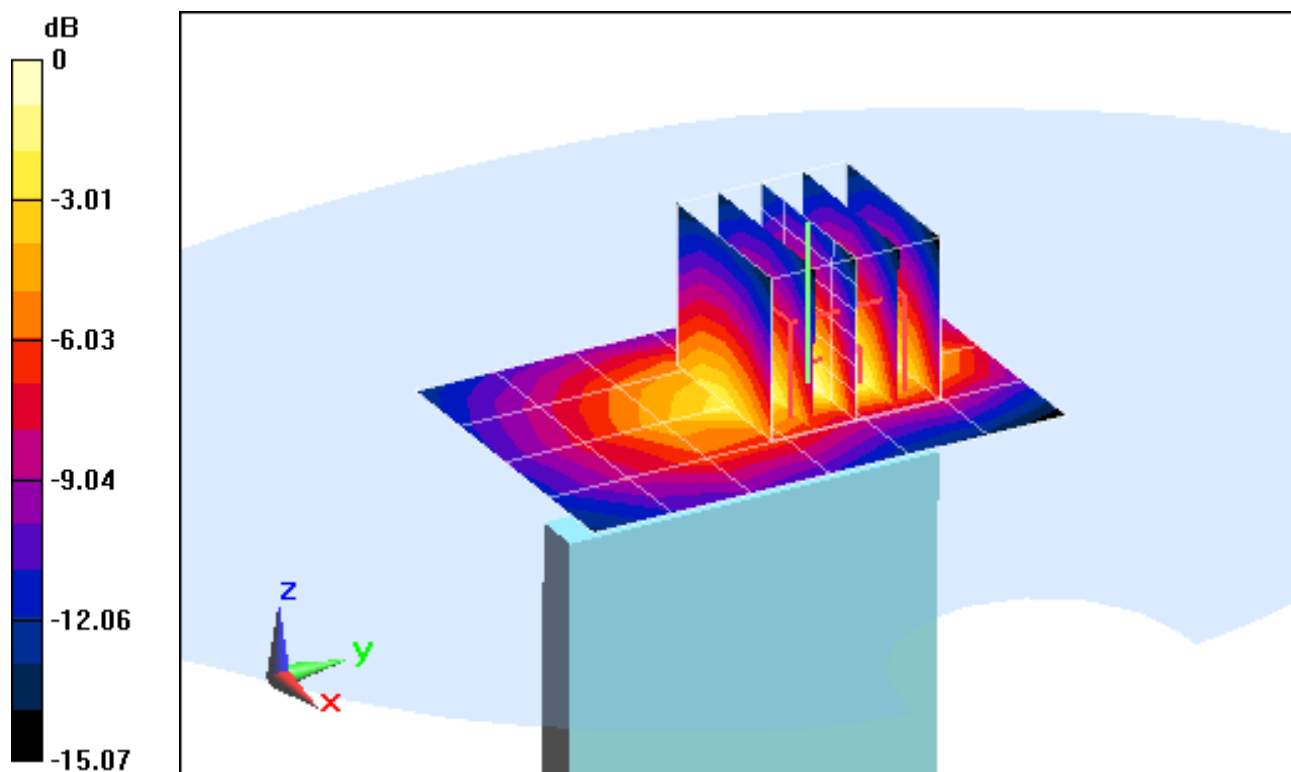
**Area Scan (5x7x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.247 V/m; Power Drift = 0.0097 dB

Peak SAR (extrapolated) = 0.6280 W/kg

**SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.186 mW/g**



0 dB = 0.400mW/g = -7.96 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064**

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.505 \text{ mho/m}$ ;  $\epsilon_r = 51.84$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: GPRS 1900, Body SAR, Left Edge, Mid.ch, 2 Tx Slots**

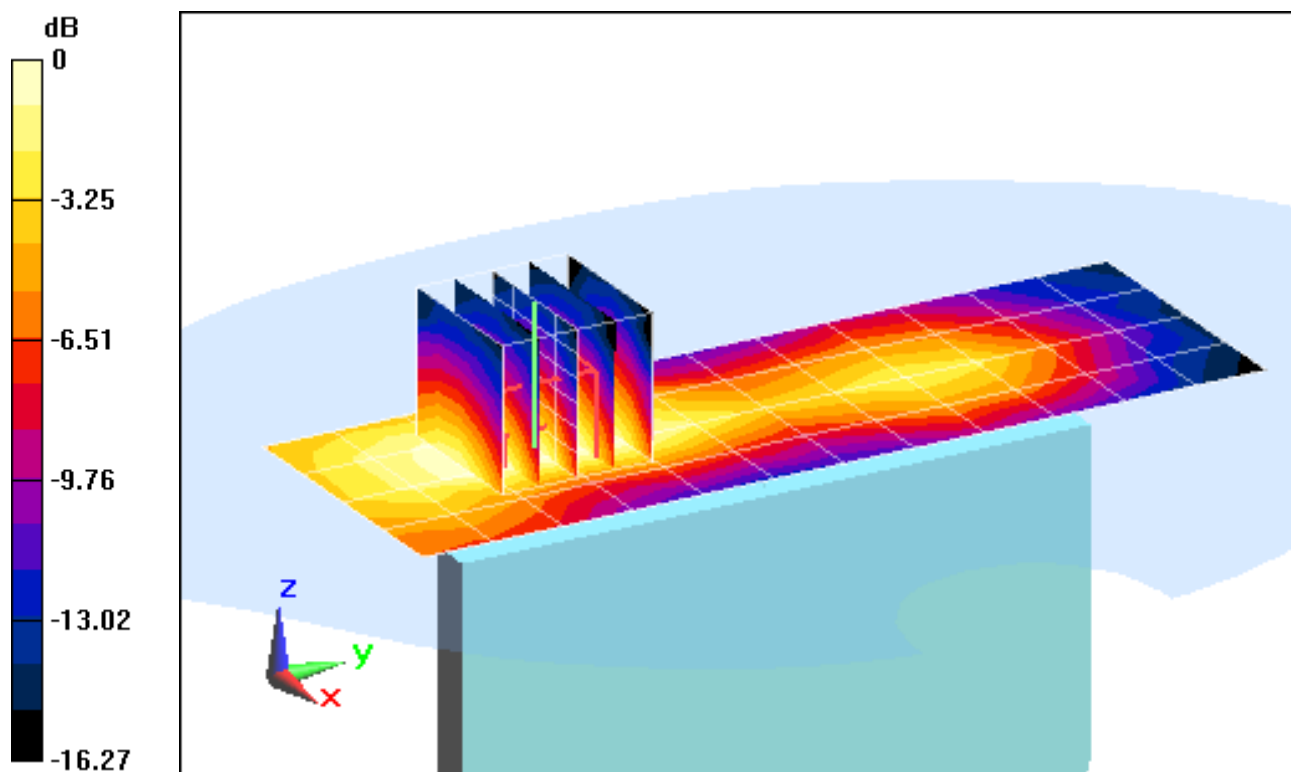
**Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.991 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.1290 W/kg

**SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.045 mW/g**



0 dB = 0.070mW/g = -23.10 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 2.014 \text{ mho/m}$ ;  $\epsilon_r = 50.116$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0 ; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Back Side**

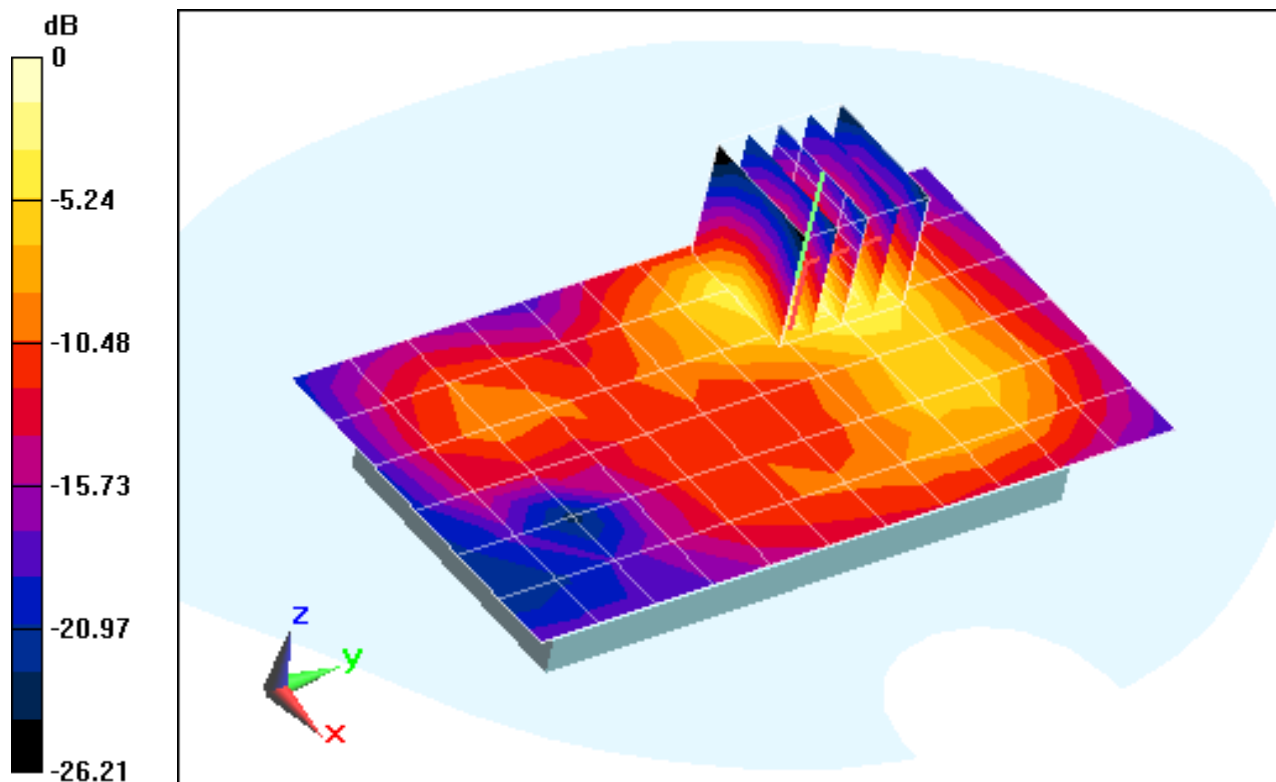
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.500 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.5070 W/kg

**SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.096 mW/g**



0 dB = 0.290mW/g = -10.75 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 2.014 \text{ mho/m}$ ;  $\epsilon_r = 50.116$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Front Side**

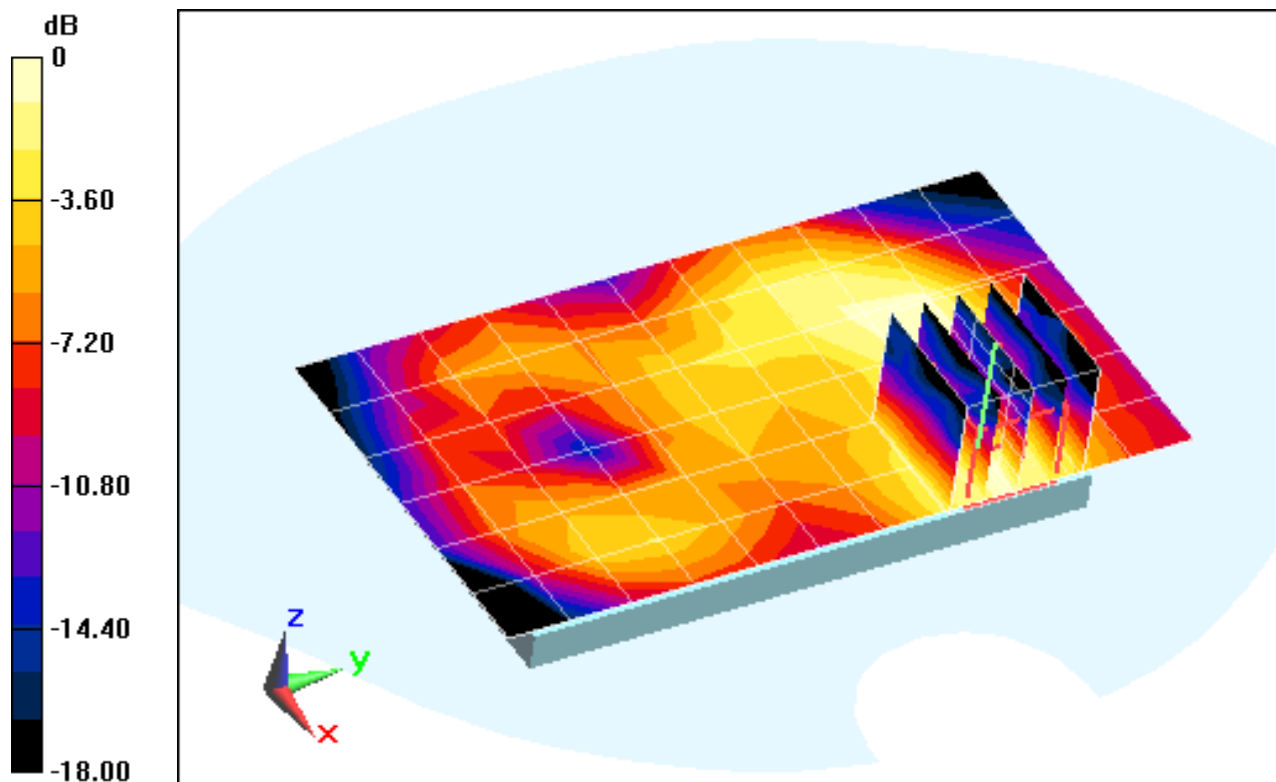
**Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.673 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.0530 W/kg

**SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.012 mW/g**



0 dB = 0.030mW/g = -30.46 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 2.014 \text{ mho/m}$ ;  $\epsilon_r = 50.116$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Top Edge**

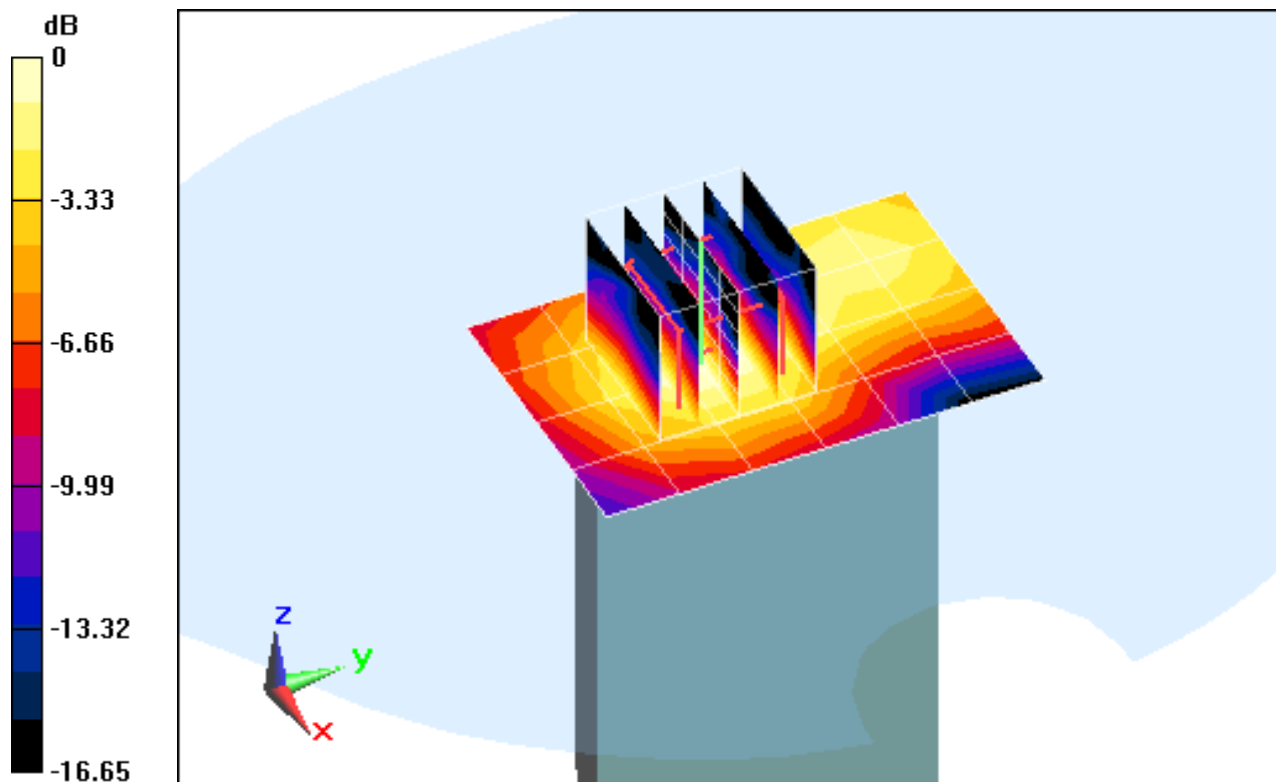
**Area Scan (5x7x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.985 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.0350 W/kg

**SAR(1 g) = 0.018 mW/g; SAR(10 g) = 0.00905 mW/g**



0 dB = 0.020mW/g = -33.98 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 2.014 \text{ mho/m}$ ;  $\epsilon_r = 50.116$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Right Edge**

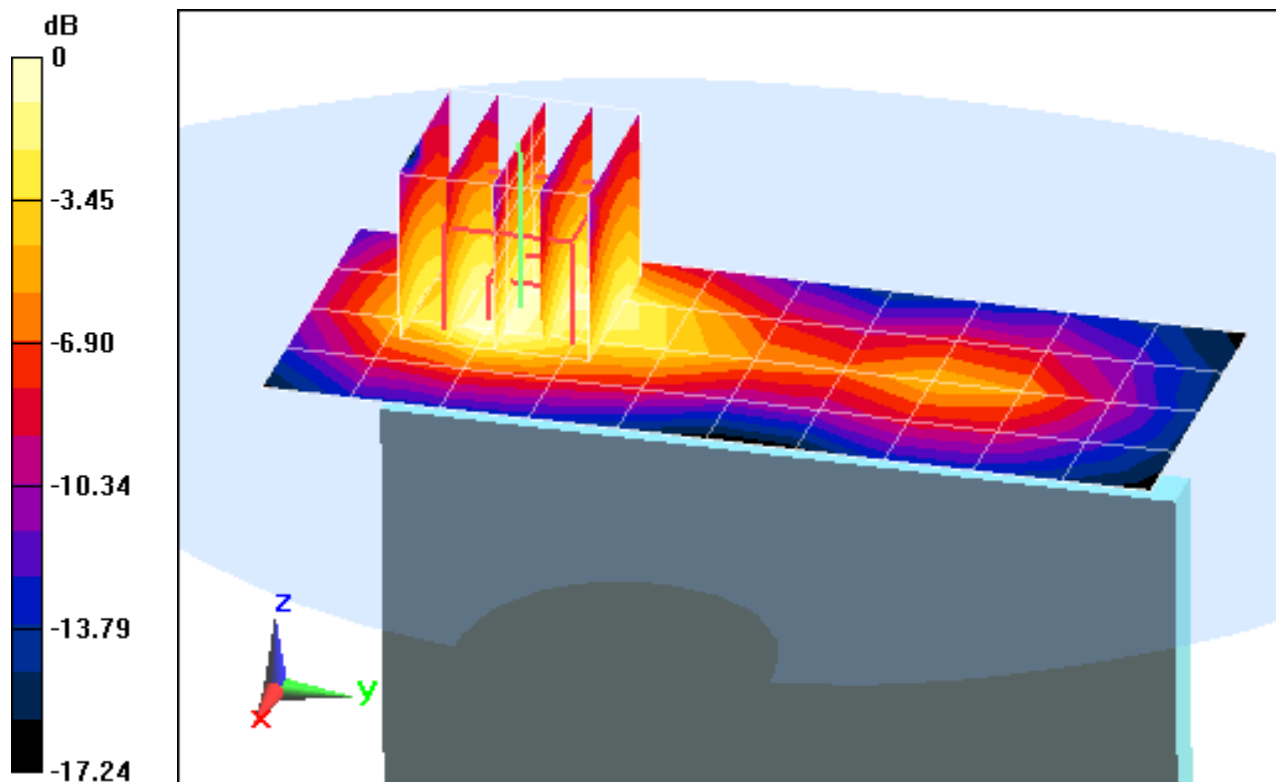
**Area Scan (5x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.413 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.2210 W/kg

**SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.044 mW/g**



0 dB = 0.090mW/g = -20.92 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445**

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5500 \text{ MHz}$ ;  $\sigma = 5.805 \text{ mho/m}$ ;  $\epsilon_r = 46.89$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(3.4, 3.4, 3.4); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

**Mode: IEEE 802.11a, 5.5 GHz, Body SAR, Ch 100, 6 Mbps, Back Side**

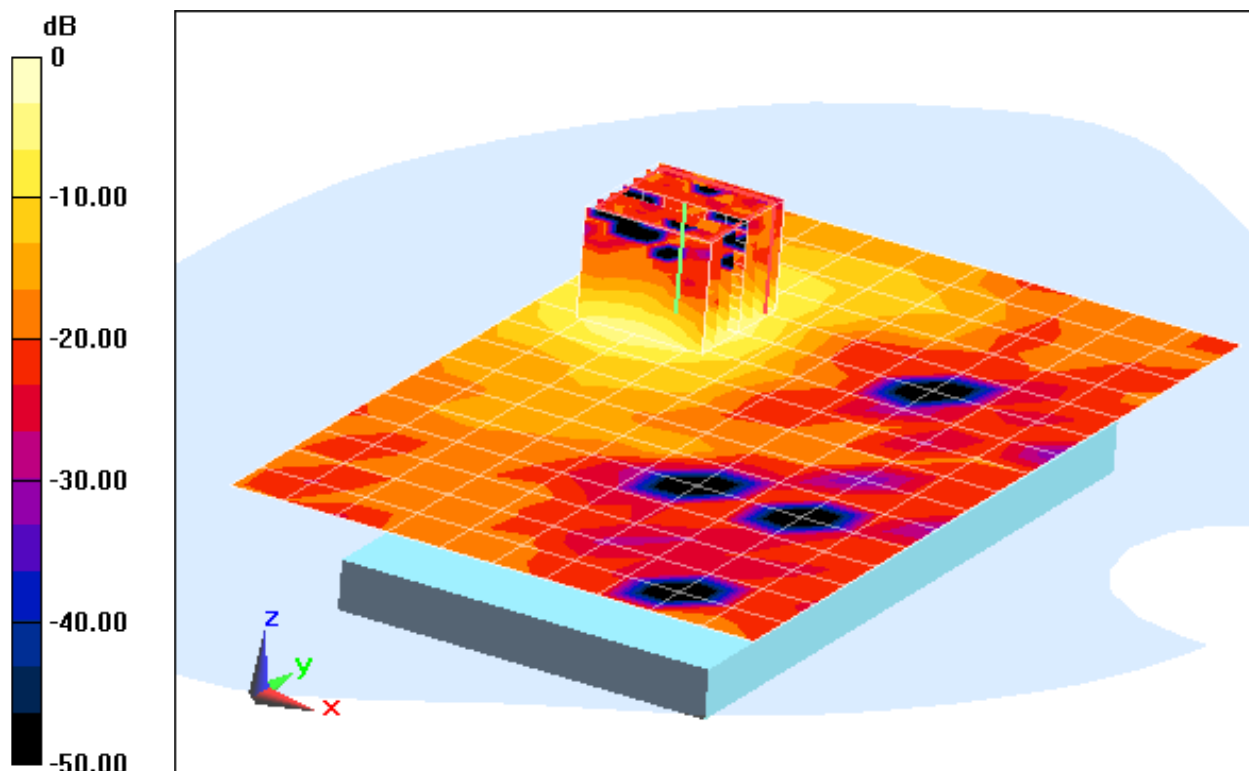
**Area Scan (11x17x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 7.472 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.9960

**SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.089 mW/g**



0 dB = 0.520mW/g = -5.68 dB mW/g

## APPENDIX B: SYSTEM VERIFICATION

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1046**

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

Medium: 740 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.896 \text{ mho/m}$ ;  $\epsilon_r = 42.12$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

## 750 MHz System Verification

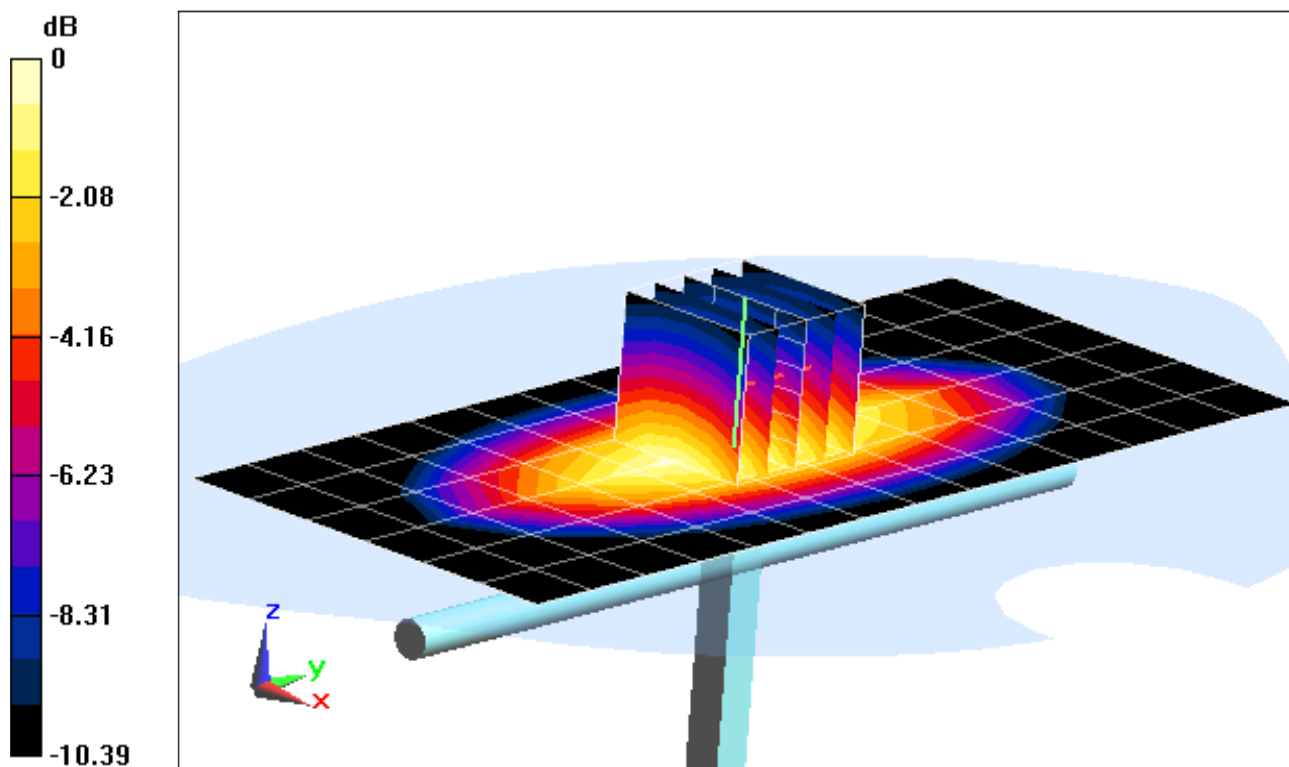
**Area Scan (7x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Input Power = 20.0 dBm (100 mW)

**SAR(1 g) = 0.789 mW/g; SAR(10 g) = 0.518 mW/g**

Deviation = - 6.07%



0 dB = 0.850mW/g = -1.41 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1046**

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

Medium: 740 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.896 \text{ mho/m}$ ;  $\epsilon_r = 42.12$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

## 750 MHz System Verification

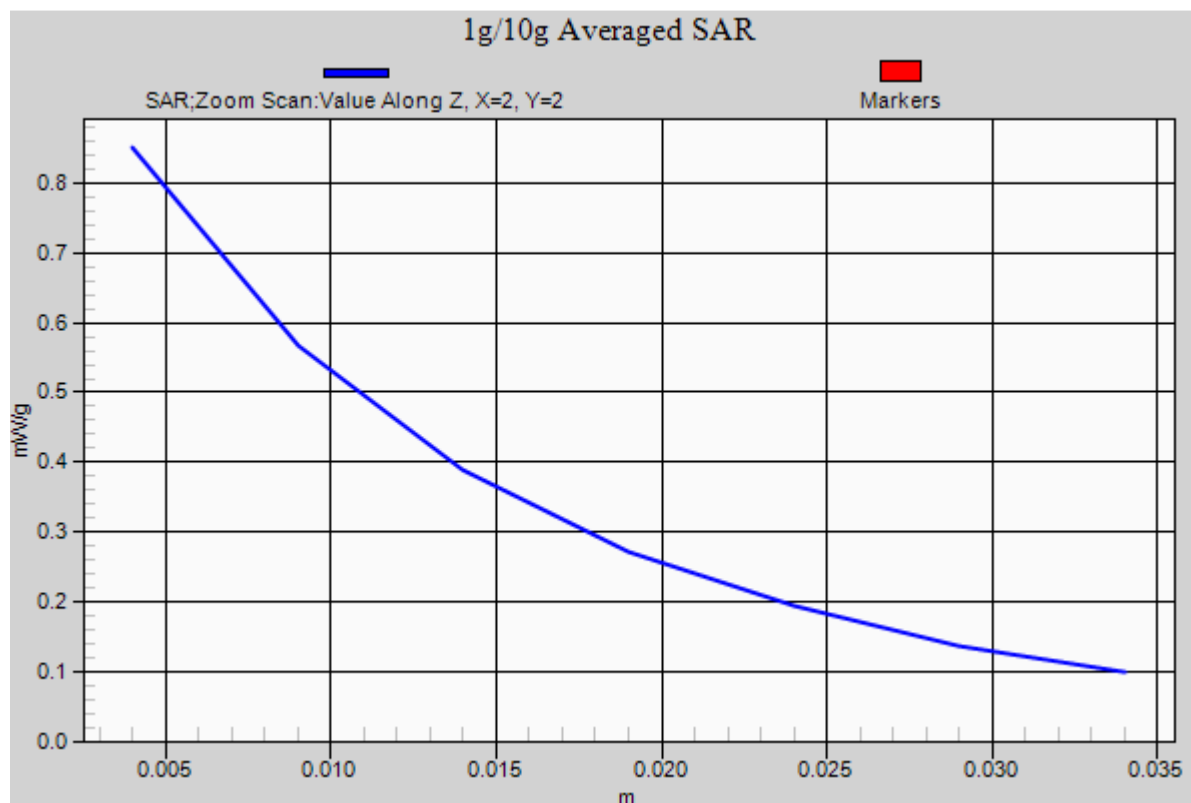
**Area Scan (7x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Input Power = 20.0 dBm (100 mW)

**SAR(1 g) = 0.789 mW/g; SAR(10 g) = 0.518 mW/g**

Deviation = - 6.07%



# PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.942 \text{ mho/m}$ ;  $\epsilon_r = 41.79$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.4 (4989)

## 835 MHz System Verification

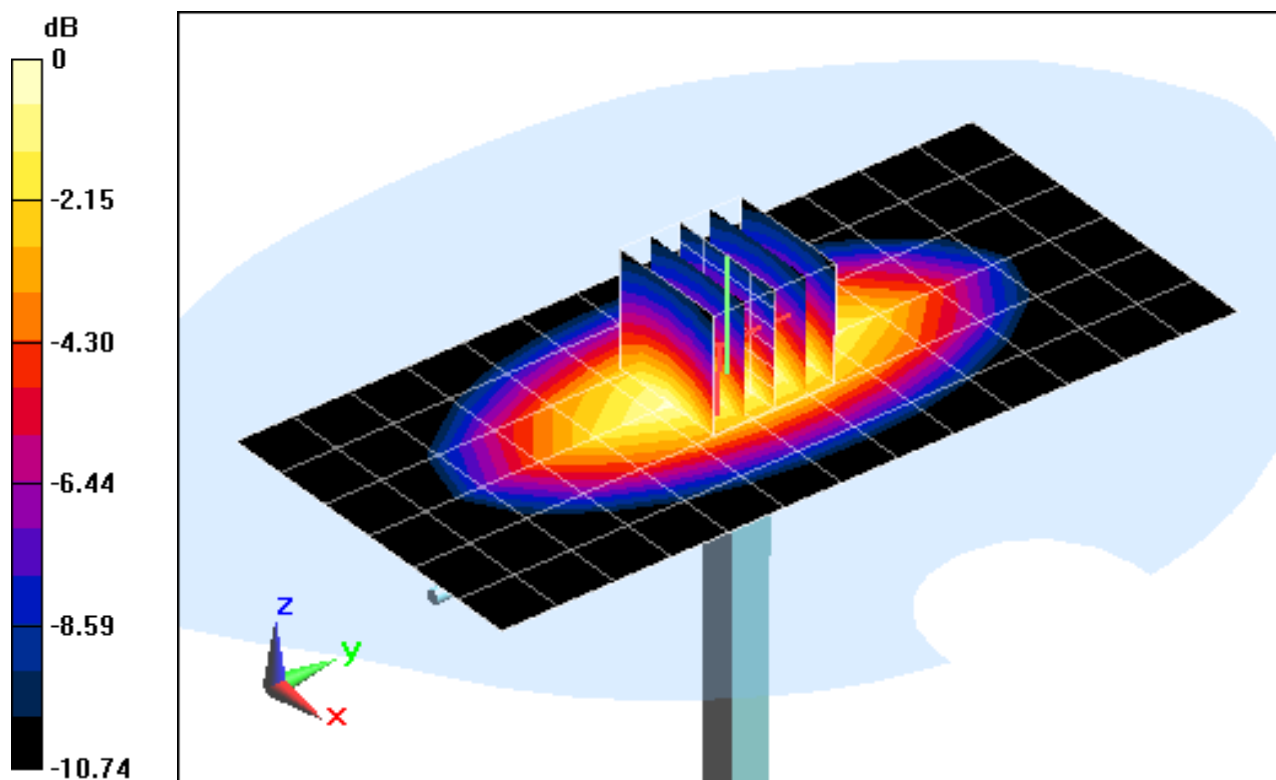
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Input Power = 18.0 dBm (63 mW)

**SAR(1 g) = 0.637 mW/g; SAR(10 g) = 0.414 mW/g**

Deviation = 7.56%



0 dB = 0.690mW/g = -3.22 dB mW/g

# PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.942 \text{ mho/m}$ ;  $\epsilon_r = 41.79$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.4 (4989)

## 835 MHz System Verification

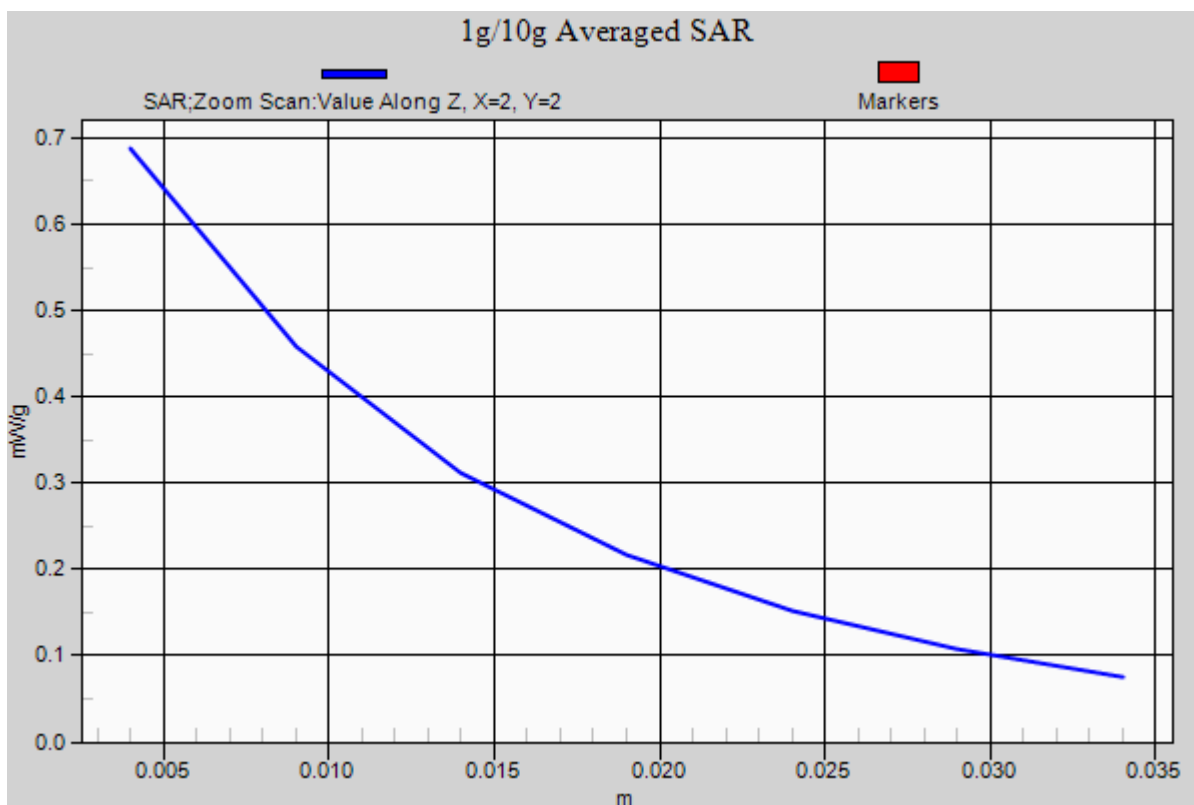
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

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

Input Power = 18.0 dBm (63 mW)

**SAR(1 g) = 0.637 mW/g; SAR(10 g) = 0.414 mW/g**

Deviation = 7.56%



# PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.906 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

## 835 MHz System Verification

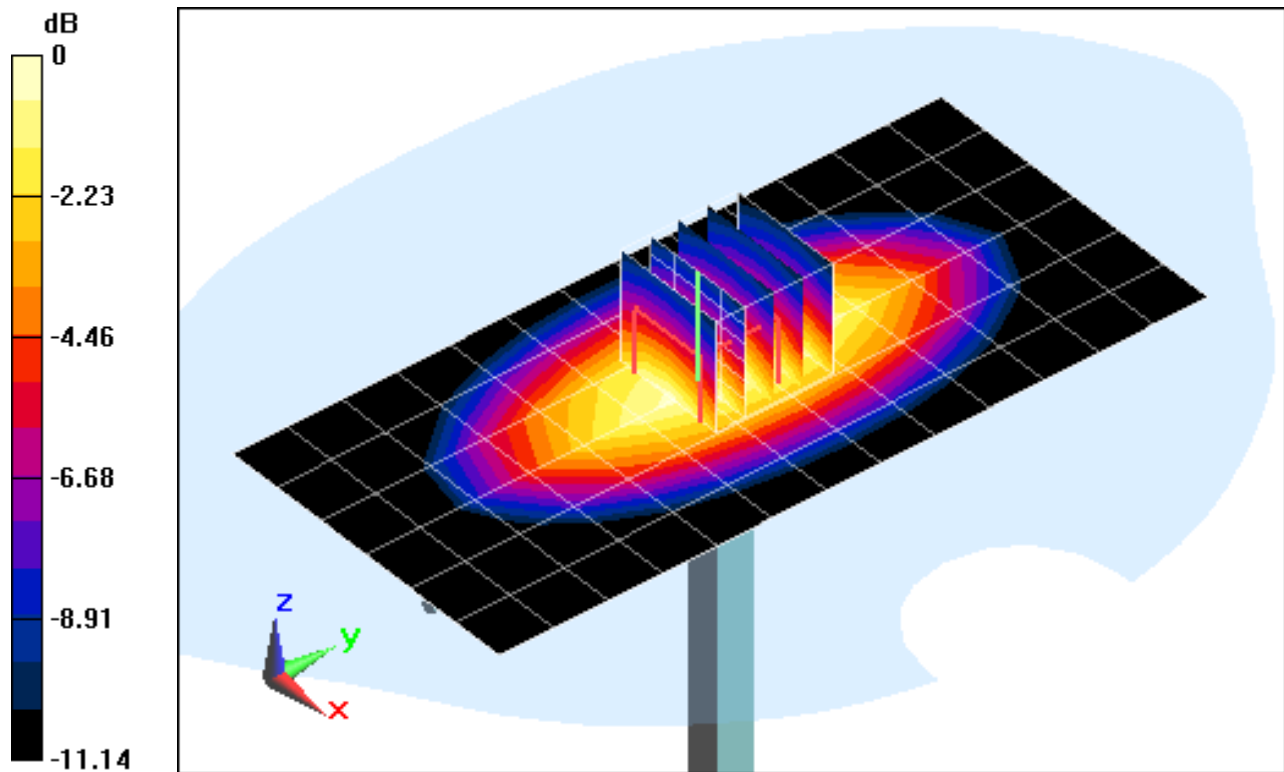
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Input Power = 20.0 dBm (100 mW)

**SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.658 mW/g**

Deviation = 7.45%



0 dB = 1.090mW/g = 0.75 dB mW/g