## DASY5 Validation Report for Body TSL

Date: 22.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:1012**

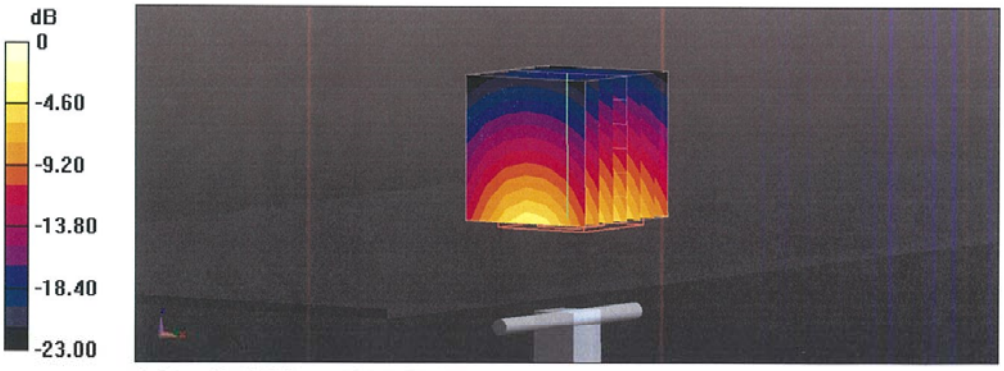
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; $\sigma$ = 2.2 S/m; $\varepsilon_r$ = 51.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.48, 7.48, 7.48); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

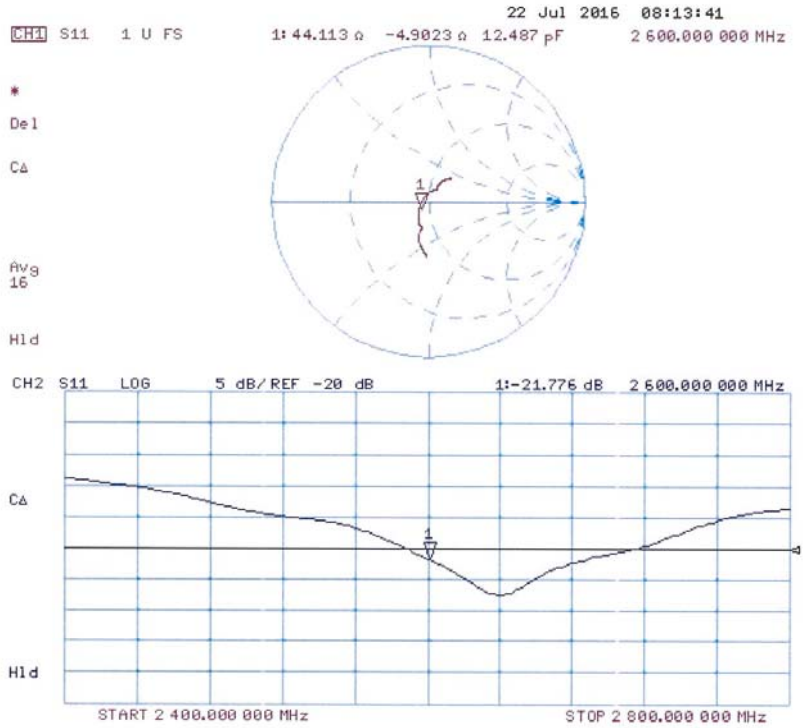
### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.8 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 28.9 W/kg
**SAR(1 g) = 14 W/kg; SAR(10 g) = 6.25 W/kg**
Maximum value of SAR (measured) = 23.5 W/kg




0 dB = 23.5 W/kg = 13.71 dBW/kg

**Impedance Measurement Plot for Body TSL**



**5 GHz Dipole Calibration Certificate**

**Calibration Laboratory of**
Schmid & Partner
Engineering AG
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

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**Accreditation No.: SCS 0108**

**Client** CTTL-BJ (Auden) **Certificate No: D5GHzV2-1060_Jul16**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D5GHzV2 - SN:1060 |
| Calibration procedure(s) | QA CAL-22.v2<br>Calibration procedure for dipole validation kits between 3-6 GHz |
| Calibration date: | July 27, 2016 |

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

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

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter NRP | SN: 104778 | 06-Apr-16 (No. 217-02288/02289) | Apr-17 |
| Power sensor NRP-Z91 | SN: 103244 | 06-Apr-16 (No. 217-02288) | Apr-17 |
| Power sensor NRP-Z91 | SN: 103245 | 06-Apr-16 (No. 217-02289) | Apr-17 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 05-Apr-16 (No. 217-02292) | Apr-17 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 05-Apr-16 (No. 217-02295) | Apr-17 |
| Reference Probe EX3DV4 | SN: 3503 | 30-Jun-16 (No. EX3-3503_Jun16) | Jun-17 |
| DAE4 | SN: 601 | 30-Dec-15 (No. DAE4-601_Dec15) | Dec-16 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| Power meter EPM-442A | SN: GB37480704 | 07-Oct-15 (No. 217-02222) | In house check: Oct-16 |
| Power sensor HP 8481A | SN: US37292783 | 07-Oct-15 (No. 217-02222) | In house check: Oct-16 |
| Power sensor HP 8481A | SN: MY41092317 | 07-Oct-15 (No. 217-02223) | In house check: Oct-16 |
| RF generator R&S SMT-06 | SN: 100972 | 15-Jun-15 (in house check Jun-15) | In house check: Oct-16 |
| Network Analyzer HP 8753E | SN: US37390585 | 18-Oct-01 (in house check Oct-15) | In house check: Oct-16 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Claudio Leubler | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: July 27, 2016

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

**Calibration Laboratory of**
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**Accreditation No.: SCS 0108**

**Glossary:**

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

**Calibration is Performed According to the Following Standards:**

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

d) DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

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

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom V5.0 | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy = 4.0 mm, dz = 1.4 mm | Graded Ratio = 1.4 (Z direction) |
| **Frequency** | 5250 MHz ± 1 MHz<br>5600 MHz ± 1 MHz<br>5750 MHz ± 1 MHz | |

## Head TSL parameters at 5250 MHz

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.9 | 4.71 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 34.4 ± 6 % | 4.52 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5250 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.94 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **78.6 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.28 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **22.5 W/kg ± 19.5 % (k=2)** |

### Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.5 | 5.07 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 33.9 ± 6 % | 4.86 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

### SAR result with Head TSL at 5600 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 8.27 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **81.8 W / kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.37 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **23.4 W/kg ± 19.5 % (k=2)** |

### Head TSL parameters at 5750 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.4 | 5.22 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 33.7 ± 6 % | 5.02 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

### SAR result with Head TSL at 5750 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 8.07 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **79.8 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.30 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **22.7 W/kg ± 19.5 % (k=2)** |

### Body TSL parameters at 5250 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.9 | 5.36 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 47.1 ± 6 % | 5.42 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

### SAR result with Body TSL at 5250 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.62 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **75.6 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.14 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.2 W/kg ± 19.5 % (k=2)** |

### Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.5 | 5.77 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 46.5 ± 6 % | 5.88 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

### SAR result with Body TSL at 5600 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.97 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **79.1 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.23 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **22.1 W/kg ± 19.5 % (k=2)** |

### Body TSL parameters at 5750 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.3 | 5.94 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 46.2 ± 6 % | 6.11 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

### SAR result with Body TSL at 5750 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.51 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **74.5 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.10 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **20.8 W/kg ± 19.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL at 5250 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 48.6 Ω - 4.9 jΩ |
| Return Loss | - 25.7 dB |

### Antenna Parameters with Head TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 54.1 Ω - 0.1 jΩ |
| Return Loss | - 28.1 dB |

### Antenna Parameters with Head TSL at 5750 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 51.9 Ω - 0.5 jΩ |
| Return Loss | - 34.4 dB |

### Antenna Parameters with Body TSL at 5250 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 49.7 Ω - 1.5 jΩ |
| Return Loss | - 36.0 dB |

### Antenna Parameters with Body TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 56.8 Ω + 2.3 jΩ |
| Return Loss | - 23.5 dB |

### Antenna Parameters with Body TSL at 5750 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 54.6 Ω + 3.4 jΩ |
| Return Loss | - 25.3 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.210 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | November 27, 2006 |

**DASY5 Validation Report for Head TSL**

Date: 27.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1060**

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; $\sigma$ = 4.52 S/m; $\varepsilon_r$ = 34.4; $\rho$ = 1000 kg/m$^3$
Medium parameters used: f = 5600 MHz; $\sigma$ = 4.86 S/m; $\varepsilon_r$ = 33.9; $\rho$ = 1000 kg/m$^3$
Medium parameters used: f = 5750 MHz; $\sigma$ = 5.02 S/m; $\varepsilon_r$ = 33.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

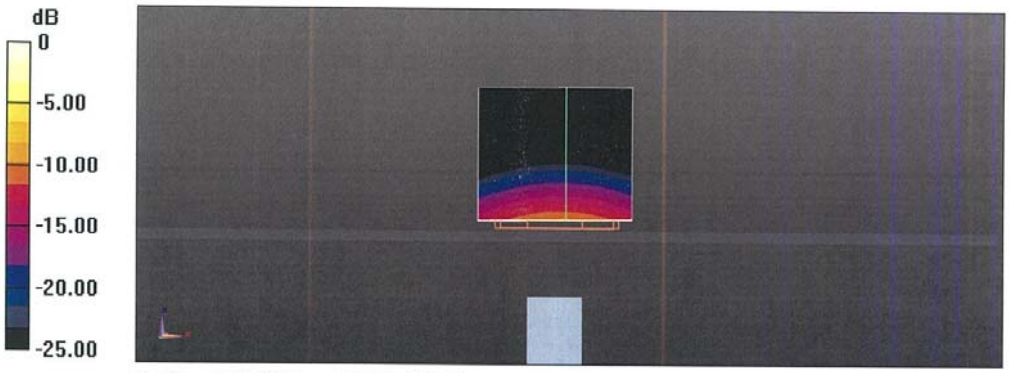
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.42, 5.42, 5.42); Calibrated: 30.06.2016, ConvF(4.89, 4.89, 4.89); Calibrated: 30.06.2016, ConvF(4.85, 4.85, 4.85); Calibrated: 30.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 72.54 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 29.0 W/kg
**SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.28 W/kg**
Maximum value of SAR (measured) = 17.9 W/kg

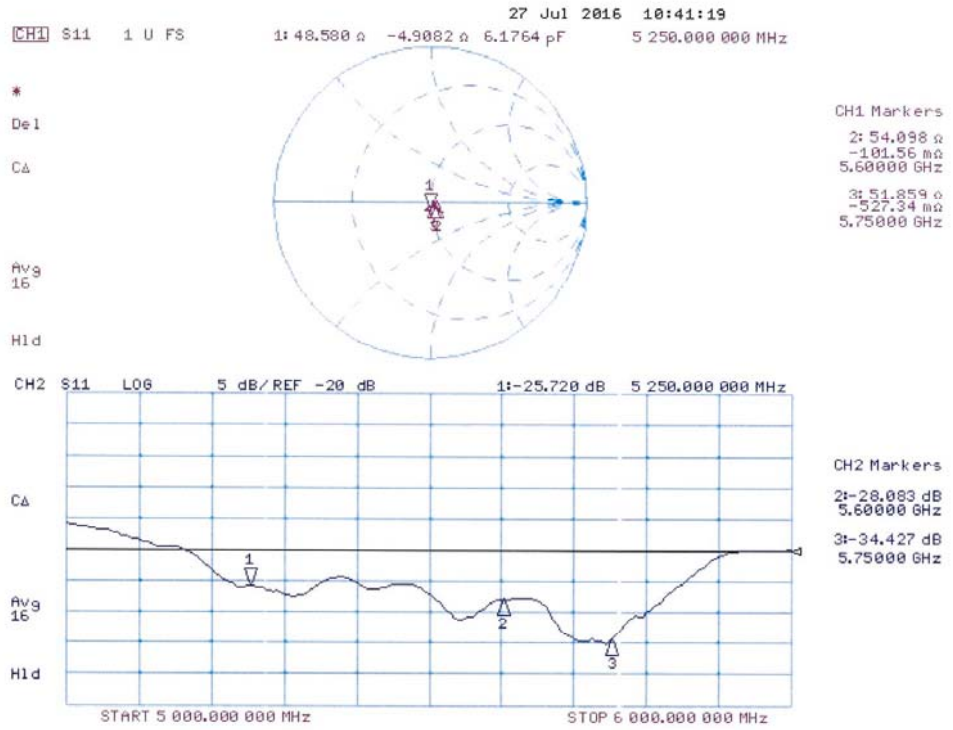
**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 72.22 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 32.4 W/kg
**SAR(1 g) = 8.27 W/kg; SAR(10 g) = 2.37 W/kg**
Maximum value of SAR (measured) = 19.3 W/kg

**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 71.12 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 32.8 W/kg
**SAR(1 g) = 8.07 W/kg; SAR(10 g) = 2.3 W/kg**
Maximum value of SAR (measured) = 19.2 W/kg




0 dB = 17.9 W/kg = 12.53 dBW/kg

**Impedance Measurement Plot for Head TSL**



**DASY5 Validation Report for Body TSL**

Date: 26.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1060**

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; $\sigma$ = 5.42 S/m; $\varepsilon_r$ = 47.1; $\rho$ = 1000 kg/m$^3$
Medium parameters used: f = 5600 MHz; $\sigma$ = 5.88 S/m; $\varepsilon_r$ = 46.5; $\rho$ = 1000 kg/m$^3$
Medium parameters used: f = 5750 MHz; $\sigma$ = 6.11 S/m; $\varepsilon_r$ = 46.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

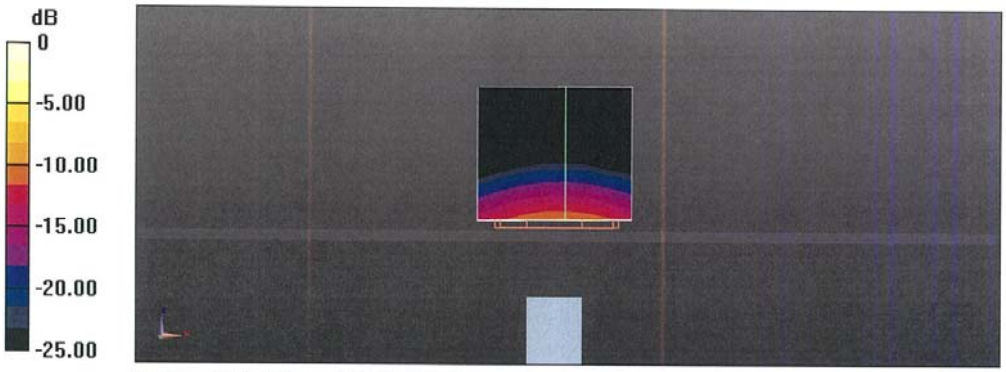
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.85, 4.85, 4.85); Calibrated: 30.06.2016, ConvF(4.35, 4.35, 4.35); Calibrated: 30.06.2016, ConvF(4.3, 4.3, 4.3); Calibrated: 30.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5250MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.69 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 28.9 W/kg
**SAR(1 g) = 7.62 W/kg; SAR(10 g) = 2.14 W/kg**
Maximum value of SAR (measured) = 18.0 W/kg

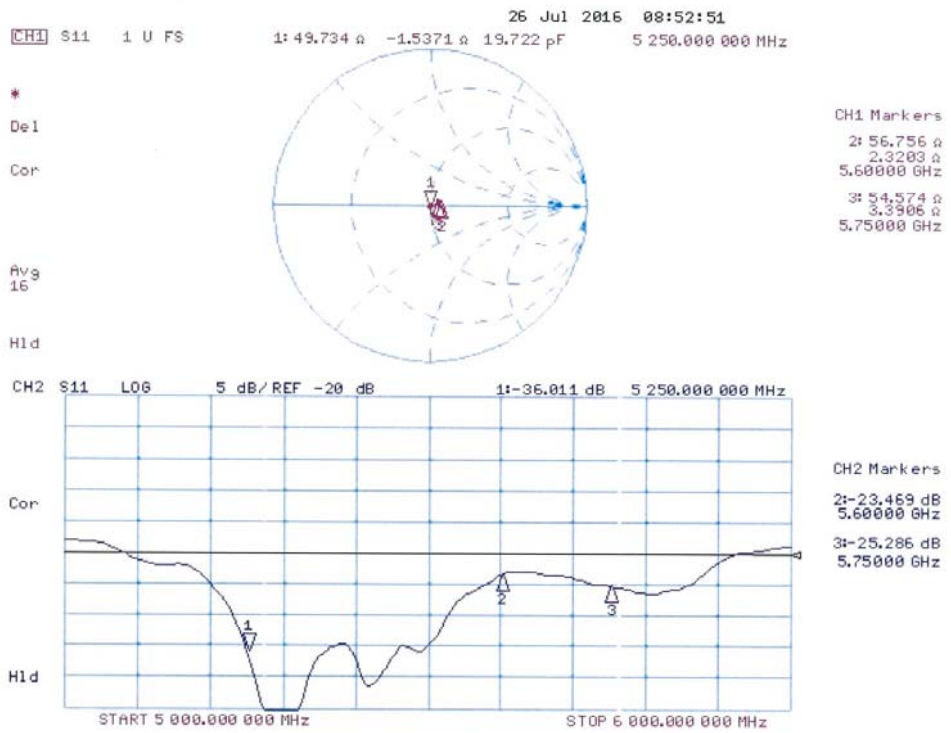
**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.99 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 33.0 W/kg
**SAR(1 g) = 7.97 W/kg; SAR(10 g) = 2.23 W/kg**
Maximum value of SAR (measured) = 19.2 W/kg

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.44 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 32.4 W/kg
**SAR(1 g) = 7.51 W/kg; SAR(10 g) = 2.1 W/kg**
Maximum value of SAR (measured) = 18.2 W/kg




0 dB = 18.2 W/kg = 12.60 dBW/kg

**Impedance Measurement Plot for Body TSL**



# ANNEX I SPOT CHECK TEST

**As the test lab for BBB100-3 from TCL Communication Ltd, we, CTTL (Shouxiang), declare on our sole responsibility that, according to "Declaration of changes" provided by applicant, only the Spot check test should be performed. The test results are as below.**

## I.1 Conducted power of selected case

**Table I.1-1: The conducted Power for GSM**

| GSM850 | | | | |
|---|---|---|---|---|
| | | Measured Power (dBm) | | |
| Config | Tune-up | CH251 848.8 MHz | CH128 836.6 MHz | CH191 824.4 MHz |
| GSM Speech | 33.00 | 31.83 | 32.14 | 32.09 |
| GPRS 3 Txslot | 30.00 | 29.16 | 29.21 | 29.13 |

| PCS1900 Normal power | | | | |
|---|---|---|---|---|
| | | Measured Power (dBm) | | |
| Config | Tune-up | CH251 848.8 MHz | CH128 836.6 MHz | CH191 824.4 MHz |
| GSM Speech | 30.00 | 29.33 | 29.18 | 29.19 |
| GPRS 2 Txslots | 29.00 | 28.13 | 28.00 | 27.99 |

| PCS1900 Lower power | | | | |
|---|---|---|---|---|
| | | Measured Power (dBm) | | |
| Config | Tune-up | CH251 848.8 MHz | CH128 836.6 MHz | CH191 824.4 MHz |
| GSM Speech | 30.50 | 29.28 | 29.14 | 29.09 |
| GPRS 1 Txslots | 30.50 | 28.62 | 28.51 | 28.50 |

**Table I.1-2: The conducted Power for WCDMA**

| WCDMA850-BV | | | | | |
|---|---|---|---|---|---|
| | | | Measured Power (dBm) | | |
| Item | | Tune-up | 4233 | 4182 | 4132 |
| | | | 846.6MHz | 836.4MHz | 826.4MHz |
| WCDMA | RMC | 24 | 23.46 | 23.25 | 23.27 |

| WCDMA1900-BII Normal power | | | | | |
|---|---|---|---|---|---|
| | | | Measured Power (dBm) | | |
| Item | | Tune-up | 9538 | 9400 | 9262 |
| | | | 1907.6MHz | 1880MHz | 1852.4MHz |
| WCDMA | RMC | 24 | 23.40 | 23.48 | 23.62 |

| WCDMA1900-BII Lower power | | | | | |
|---|---|---|---|---|---|
| | | | Measured Power (dBm) | | |
| Item | | Tune-up | 9538 | 9400 | 9262 |
| | | | 1907.6MHz | 1880MHz | 1852.4MHz |
| WCDMA | RMC | 20 | 18.60 | 18.75 | 18.85 |

| WCDMA1700-BIV Normal power | | | | | |
|---|---|---|---|---|---|
| | | | Measured Power (dBm) | | |
| Item | | Tune-up | 1513 | 1412 | 1312 |
| | | | 1752.6MHz | 1732.4MHz | 1712.4MHz |
| WCDMA | RMC | 24 | 23.03 | 23.15 | 23.02 |

| WCDMA1700-BIV Lower power | | | | | |
|---|---|---|---|---|---|
| | | | Measured Power (dBm) | | |
| Item | | Tune-up | 1513 | 1412 | 1312 |
| | | | 1752.6MHz | 1732.4MHz | 1712.4MHz |
| WCDMA | RMC | 21 | 19.06 | 19.12 | 19.04 |

**Table I.1-3: The conducted Power for LTE**

| LTE band 2 Normal power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 1L | 1900 (19100) | 25 | 23.35 |
| | | 1880 (18900) | 25 | 23.29 |
| | | 1860 (18700) | 25 | 23.42 |

| LTE band 2 Lower power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 1L | 1900 (19100) | 21 | 19.15 |
| | | 1880 (18900) | 21 | 19.10 |
| | | 1860 (18700) | 21 | 19.10 |

| LTE band 4 Normal power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 1L | 1745 (20300) | 24 | 23.22 |
| | | 1732.5 (20175) | 24 | 23.31 |
| | | 1720 (20050) | 24 | 23.12 |

| LTE band 4 Lower power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 100RB | 1745 (20300) | 22 | 20.23 |
| | | 1732.5 (20175) | 22 | 20.26 |
| | | 1720 (20050) | 22 | 20.13 |

| LTE band 5 | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 25H | 844 (20600) | 24 | 22.54 |
| | | 836.5 (20525) | 24 | 23.00 |
| | | 829 (20450) | 24 | 22.66 |

| LTE band 7 Normal power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 1H | 2560 (21350) | 24 | 22.22 |
| | | 2535 (21100) | 24 | / |
| | | 2510 (20850) | 24 | 22.31 |
| 20 MHz | 1L | 2560 (21350) | 24 | / |
| | | 2535 (21100) | 24 | 22.55 |
| | | 2510 (20850) | 24 | / |

| LTE band 7 Lower power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 20 MHz | 1H | 2560 (21350) | 20 | 18.83 |
| | | 2535 (21100) | 20 | / |
| | | 2510 (20850) | 20 | 18.99 |
| 20 MHz | 1L | 2560 (21350) | 20 | / |
| | | 2535 (21100) | 20 | 19.30 |
| | | 2510 (20850) | 20 | / |

| LTE band 12 | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 1M | 711(23130) | 24 | 23.44 |
| | | 707.5(23095) | 24 | 23.36 |
| | | 704(23060) | 24 | 23.27 |

| LTE band 13 | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 1M | 782 (23230) | 24 | 23.82 |

| LTE band 30 Normal power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 1H | 2310 (27710) | 24 | 23.45 |

| LTE band 30 Lower power | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 1H | 2310 (27710) | 22 | 20.90 |

| LTE band 41 | | | | |
|---|---|---|---|---|
| BandWidth | RB Number | Channel | Tune-up | Measured Power |
| 10 MHz | 1L | 2680 (41490) | 24 | / |
| | | 2636.5(41055) | 24 | 22.38 |
| | | 2593 (40620) | 24 | 23.02 |
| | | 2549.5(40185) | 24 | 23.59 |
| | | 2506 (39750) | 24 | / |
| 10 MHz | 1L | 2680 (41490) | 24 | 22.31 |
| | | 2636.5(41055) | 24 | / |
| | | 2593 (40620) | 24 | / |
| | | 2549.5(40185) | 24 | / |
| | | 2506 (39750) | 24 | 23.27 |

**Table I.1-4: The conducted Power for WLAN**

| 802.11b(dBm) | | |
|---|---|---|
| Channel\data rate | Tune up | 1Mbps |
| 1(2412MHz) | 21.00 | 19.82 |
| 6(2437MHz) | 21.00 | 19.46 |
| 11(2462MHz) | 21.00 | 19.39 |

| 802.11a(dBm) | | |
|---|---|---|
| Channel\data rate | Tune up | 6Mbps |
| 64(5320 MHz) | 20.00 | 19.22 |
| 100(5500 MHz) | 19.00 | 18.46 |
| 157(5785 MHz) | 15.00 | 14.57 |

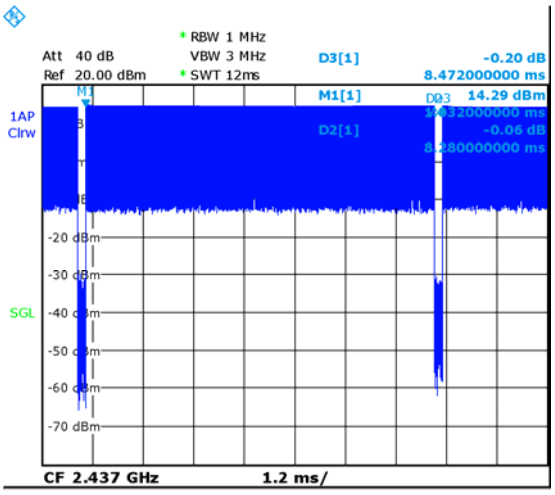
## I.2 Measurement results

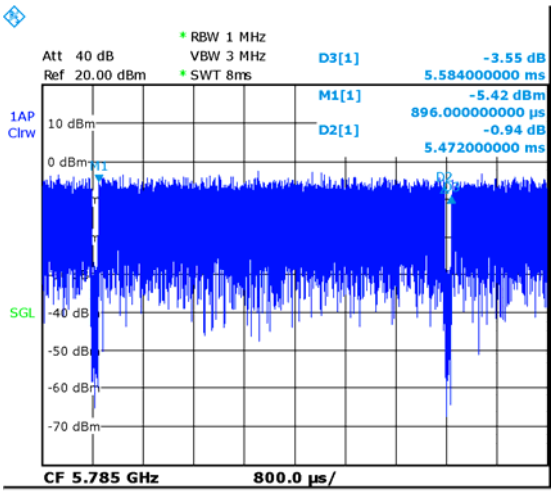
| Test Position | Phantom position L/R/F | Frequency Band | Channel Number | Frequency (MHz) | Test setup | EUT Measured Power (dBm) | Tune up (dBm) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Power Drift | Figure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cheek | L | GSM850 | 251 | 848.8 | Antenna 1 | 29.16 | 30 | 0.0941 | 0.11 | 0.225 | **0.27** | -0.01 | Fig.I.1 |
| Body | F | GSM850 | 251 | 848.8 | Left Antenna 1 | 29.16 | 30 | 0.257 | 0.31 | 0.371 | **0.45** | -0.02 | Fig.I.2 |
| Cheek | R | GSM850 | 251 | 848.8 | Antenna 2 | 29.16 | 30 | 0.206 | 0.25 | 0.271 | **0.33** | 0.03 | Fig.I.3 |
| Body | F | GSM850 | 251 | 848.8 | Rear Antenna 2 | 29.16 | 30 | 0.161 | 0.20 | 0.239 | **0.29** | -0.08 | Fig.I.4 |
| Cheek | R | GSM1900 | 512 | 1850.2 | | 27.99 | 29 | 0.116 | 0.15 | 0.173 | **0.22** | 0.06 | Fig.I.5 |
| Body | F | GSM1900 | 661 | 1880 | Bottom | 28.51 | 30.5 | 0.369 | 0.58 | 0.768 | **1.21** | 0.12 | Fig.I.6 |
| Cheek | L | WCDMA 850 | 4132 | 826.4 | Antenna 1 | 23.27 | 24 | 0.041 | 0.05 | 0.055 | **0.07** | 0.08 | Fig.I.7 |
| Body | F | WCDMA 850 | 4233 | 846.6 | Left Antenna 1 | 23.46 | 24 | 0.135 | 0.15 | 0.197 | **0.22** | -0.12 | Fig.I.8 |
| Cheek | R | WCDMA 850 | 4182 | 836.4 | Antenna 2 | 23.27 | 24 | 0.154 | 0.18 | 0.204 | **0.24** | 0.02 | Fig.I.9 |
| Body | F | WCDMA 850 | 4233 | 846.6 | Right Antenna 2 | 23.46 | 24 | 0.155 | 0.18 | 0.227 | **0.26** | 0.01 | Fig.I.10 |
| Cheek | R | WCDMA1700 | 1537 | 1712.4 | | 23.02 | 24 | 0.139 | 0.17 | 0.203 | **0.25** | 0.11 | Fig.I.11 |
| Body | F | WCDMA1700 | 1738 | 1752.6 | Bottom | 19.06 | 21 | 0.193 | 0.30 | 0.374 | **0.58** | 0.19 | Fig.I.12 |
| Cheek | R | WCDMA1900 | 9662 | 1852.4 | | 23.62 | 24 | 0.226 | 0.25 | 0.339 | **0.37** | 0.05 | Fig.I.13 |
| Body | F | WCDMA1900 | 9938 | 1907.6 | Bottom | 18.60 | 20 | 0.451 | 0.62 | 0.881 | **1.22** | -0.04 | Fig.I.14 |
| Cheek | R | LTE Band2 | 19100 | 1900 | | 23.35 | 25 | 0.2 | 0.29 | 0.306 | **0.45** | 0.11 | Fig.I.15 |
| Body | F | LTE Band2 | 19100 | 1900 | 50RB-low Bottom | 19.15 | 21 | 0.433 | 0.66 | 0.837 | **1.28** | 0.01 | Fig.I.16 |
| Cheek | R | LTE Band4 | 20300 | 1745 | 1RB-Low | 23.22 | 24 | 0.198 | 0.24 | 0.296 | **0.35** | 0.04 | Fig.I.17 |
| Body | F | LTE Band4 | 20300 | 1745 | 100RB Bottom | 20.23 | 22 | 0.206 | 0.31 | 0.401 | **0.60** | -0.10 | Fig.I.18 |
| Cheek | L | LTE Band5 | 20600 | 844 | 25RB-High Antenna1 | 22.54 | 23 | 0.127 | 0.14 | 0.167 | **0.19** | 0.03 | Fig.I.19 |
| Body | F | LTE Band5 | 20600 | 844 | 25RB-High Left Antenna1 | 22.54 | 23 | 0.171 | 0.19 | 0.251 | **0.28** | 0.06 | Fig.I.20 |
| Cheek | L | LTE Band5 | 20450 | 829 | 1RB-High Antenna2 | 22.66 | 24 | 0.123 | 0.17 | 0.158 | **0.22** | 0.02 | Fig.I.21 |
| Body | F | LTE Band5 | 20450 | 829 | 1RB-High Bottom Antenna2 | 22.66 | 24 | 0.136 | 0.19 | 0.225 | **0.31** | -0.01 | Fig.I.22 |
| Cheek | R | LTE Band7 | 21100 | 2535 | 1RB-Low | 22.55 | 24 | 0.068 | 0.09 | 0.131 | **0.18** | -0.12 | Fig.I.23 |
| Body | F | LTE Band7 | 21100 | 2535 | 1RB-Low Rear | 19.30 | 20 | 0.441 | 0.52 | 0.953 | **1.12** | -0.02 | Fig.I.24 |
| Cheek | L | LTE Band12 | 23095 | 707.5 | 1RB-Middle Antenna1 | 23.36 | 24 | 0.086 | 0.10 | 0.107 | **0.12** | -0.11 | Fig.I.25 |
| Body | F | LTE Band12 | 23095 | 707.5 | 1RB-Middle Left Antenna1 | 23.36 | 24 | 0.086 | 0.10 | 0.119 | **0.14** | -0.02 | Fig.I.26 |
| Cheek | L | LTE Band12 | 23095 | 707.5 | 1RB-Middle Antenna2 | 23.36 | 24 | 0.113 | 0.13 | 0.143 | **0.17** | 0.01 | Fig.I.27 |
| Body | F | LTE Band12 | 23095 | 707.5 | 1RB-Middle Right Antenna2 | 23.36 | 24 | 0.124 | 0.14 | 0.177 | **0.21** | 0.17 | Fig.I.28 |
| Cheek | L | LTE Band13 | 23230 | 782 | 1RB-Middle Antenna1 | 23.82 | 24 | 0.181 | 0.19 | 0.235 | **0.24** | 0.01 | Fig.I.29 |
| Body | F | LTE Band13 | 23230 | 782 | 1RB-Middle Left Antenna1 | 23.82 | 24 | 0.257 | 0.27 | 0.365 | **0.38** | 0.05 | Fig.I.30 |
| Cheek | L | LTE Band13 | 23230 | 782 | 1RB-Middle Antenna2 | 23.82 | 24 | 0.135 | 0.14 | 0.174 | **0.18** | 0.07 | Fig.I.31 |
| Body | F | LTE Band13 | 23230 | 782 | 1RB-Middle Right Antenna2 | 23.82 | 24 | 0.164 | 0.17 | 0.234 | **0.24** | -0.11 | Fig.I.32 |
| Cheek | R | LTE Band30 | 27710 | 2310 | 1RB-High | 23.45 | 24 | 0.099 | 0.11 | 0.195 | **0.22** | 0.12 | Fig.I.33 |
| Body | F | LTE Band30 | 27710 | 2310 | 1RB-Low Bottom | 20.90 | 22 | 0.438 | 0.56 | 0.909 | **1.17** | -0.15 | Fig.I.34 |
| Cheek | R | LTE Band41 | 39750 | 2506 | 1RB-Middle | 23.27 | 24 | 0.029 | 0.03 | 0.057 | **0.07** | 0.05 | Fig.I.35 |
| Body | F | LTE Band41 | 39750 | 2506 | 1RB-Middle Bottom | 23.27 | 24 | 0.472 | 0.56 | 0.982 | **1.16** | -0.01 | Fig.I.36 |

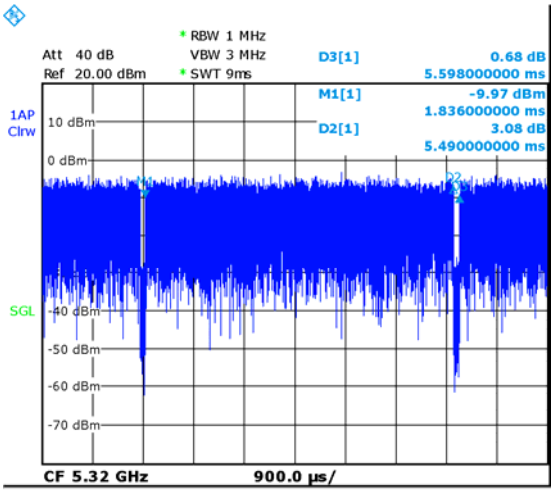
| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cheek | L | WLAN | 6 | 2437 | | 19.46 | 21 | 0.055 | 0.08 | 0.116 | **0.17** | 0.02 | Fig.I.37 |
| Body | F | WLAN | 6 | 2437 | Rear | 19.46 | 21 | 0.134 | 0.19 | 0.293 | **0.42** | 0.16 | Fig.I.38 |
| Cheek | L | WLAN | 157 | 5785 | 11a-6M | 14.57 | 15 | 0.010 | 0.01 | 0.017 | **0.02** | 0.08 | Fig.I.39 |
| Body | F | WLAN | 64 | 5320 | 11a-6M Rear | 19.22 | 20 | 0.148 | 0.18 | 0.360 | **0.43** | 0.04 | Fig.I.40 |

| | Frequency | | Side | Test Position | maximum duty factor(%) | Reported SAR (1g) (W/kg) | Scaled reported SAR (1g) (W/kg) |
|---|---|---|---|---|---|---|---|
| Wlan | MHz | Ch. | | | | | |
| | 2437 | 6 | Left | Touch | 97.73% | 0.17 | 0.17 |
| | Frequency | | Test Position | | maximum duty factor(%) | Reported SAR (1g) (W/kg) | Scaled reported SAR (1g) (W/kg) |
| Wlan | MHz | Ch. | | | | | |
| | 2437 | 6 | Rear | | 97.73% | 0.42 | 0.43 |

| | Frequency | | Side | Test Position | maximum duty factor(%) | Reported SAR (1g) (W/kg) | Scaled reported SAR (1g) (W/kg) |
|---|---|---|---|---|---|---|---|
| Wlan | MHz | Ch. | | | | | |
| | 5785 | 157 | Left | Touch | 97.99% | 0.02 | 0.02 |
| | Frequency | | Test Position | | maximum duty factor(%) | Reported SAR (1g) (W/kg) | Scaled reported SAR (1g) (W/kg) |
| Wlan | MHz | Ch. | | | | | |
| | 5320 | 64 | Rear | | 98.07% | 0.43 | 0.44 |



## I.3 Reported SAR Comparison

| Exposure Configuration | Technology Band | Reported SAR 1g (W/Kg): spot check | Reported SAR 1g (W/Kg): original |
|---|---|---|---|
| Head | GSM 850 antenna1 | 0.27 | 0.47 |
| | GSM 850 antenna2 | 0.33 | 0.40 |
| | PCS 1900 | 0.22 | 0.24 |
| | UMTS FDD 5 antenna1 | 0.07 | 0.37 |
| | UMTS FDD 5 antenna2 | 0.24 | 0.36 |
| | UMTS FDD 4 | 0.25 | 0.52 |
| | UMTS FDD 2 | 0.37 | 0.28 |
| | LTE Band 2 | 0.45 | 0.22 |
| | LTE Band 4 | 0.35 | 0.35 |
| | LTE Band 5 antenna1 | 0.19 | 0.24 |
| | LTE Band 5 antenna2 | 0.22 | 0.22 |
| | LTE Band 7 | 0.18 | 0.18 |
| | LTE Band 12 antenna1 | 0.12 | 0.16 |
| | LTE Band 12 antenna2 | 0.17 | 0.20 |
| | LTE Band 13 antenna1 | 0.24 | 0.24 |
| | LTE Band 13 antenna2 | 0.18 | 0.23 |
| | LTE Band 30 | 0.22 | 0.13 |
| | LTE Band 41 | 0.07 | 0.08 |
| | WLAN 2.4 GHz | 0.17 | 0.29 |
| | WLAN 5 GHz | 0.02 | 0.05 |
| Body | GSM 850 antenna1 | 0.45 | 0.58 |
| | GSM 850 antenna2 | 0.29 | 0.54 |
| | PCS 1900 | 1.21 | 1.21 |
| | UMTS FDD 5 antenna1 | 0.22 | 0.44 |
| | UMTS FDD 5 antenna2 | 0.26 | 0.34 |
| | UMTS FDD 4 | 0.58 | 1.07 |
| | UMTS FDD 2 | 1.22 | 1.27 |
| | LTE Band 2 | 1.28 | 1.31 |
| | LTE Band 4 | 0.60 | 1.14 |
| | LTE Band 5 antenna1 | 0.28 | 0.30 |
| | LTE Band 5 antenna2 | 0.31 | 0.32 |
| | LTE Band 7 | 1.12 | 1.12 |
| | LTE Band 12 antenna1 | 0.14 | 0.31 |
| | LTE Band 12 antenna2 | 0.21 | 0.31 |
| | LTE Band 13 antenna1 | 0.38 | 0.43 |
| | LTE Band 13 antenna2 | 0.24 | 0.29 |
| | LTE Band 30 | 1.17 | 1.21 |
| | LTE Band 41 | 1.16 | 1.17 |
| | WLAN 2.4 GHz | 0.43 | 0.56 |
| | WLAN 5 GHz | 0.44 | 0.59 |

**Note: The spot check results of head for UMTS FDD 2，LTE Band 2, LTE Band 30 are larger than the original result. So they replace the original results and others are shared.**

**GSM850_CH251 Left Cheek Antenna 1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8 MHz; $\sigma$ = 0.917 mho/m; $\varepsilon r$ = 41.52; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1：2.67
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.312 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.947 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.366 W/kg
**SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.094 W/kg**
Maximum value of SAR (measured) = 0.239 W/kg

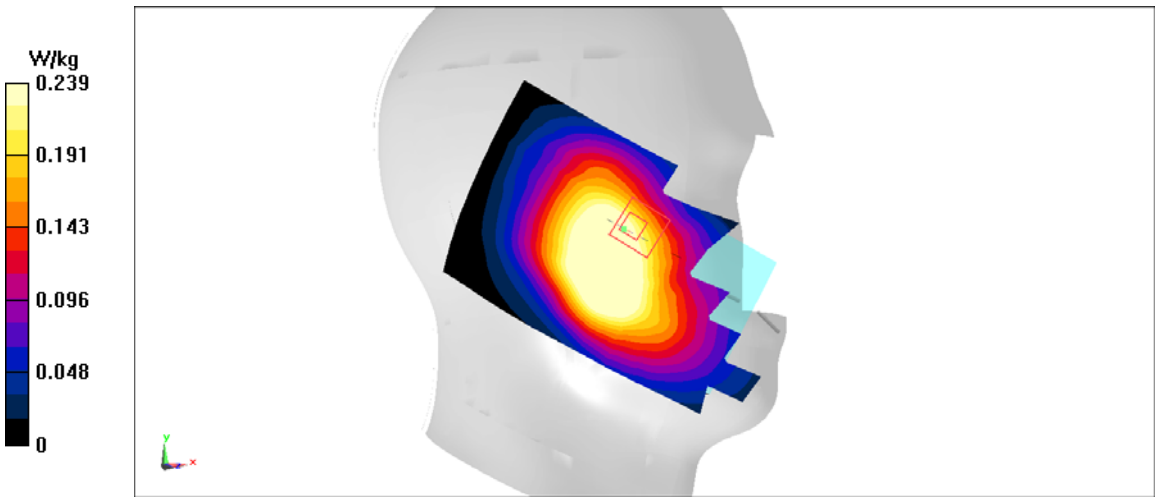



**Figure I.1**

**GSM850_CH251 Left Antenna 1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8 MHz; $\sigma$ = 0.976 mho/m; $\varepsilon r$ = 56.07; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1：2.67
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.43 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.25 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.525 W/kg
**SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.257 W/kg**
Maximum value of SAR (measured) = 0.421 W/kg

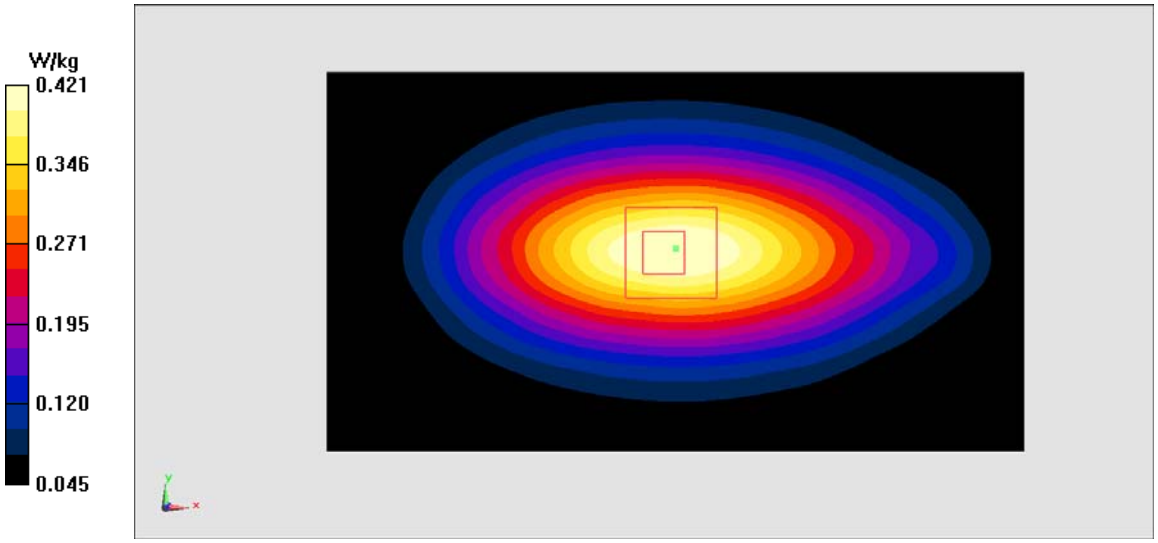



**Figure I.2**

**GSM850_CH251 Right Cheek Antenna2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8 MHz; $\sigma$ = 0.917 mho/m; $\varepsilon r$ = 41.52; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1：2.67
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.336 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.04 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.342 W/kg
**SAR(1 g) = 0.271 W/kg; SAR(10 g) = 0.206 W/kg**
Maximum value of SAR (measured) = 0.297 W/kg

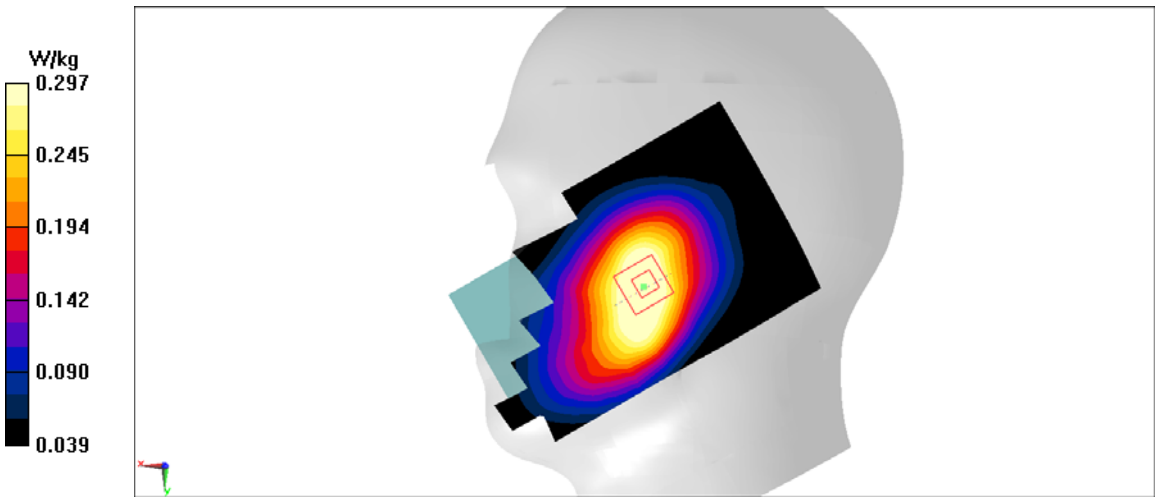



**Figure I.3**

**GSM850_CH251 Rear Antenna 2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8 MHz; $\sigma$ = 0.976 mho/m; $\varepsilon r$ = 56.07; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: GSM850 848.8 MHz Duty Cycle: 1：2.67
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.303 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.88 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.474 W/kg
**SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.161 W/kg**
Maximum value of SAR (measured) = 0.259 W/kg

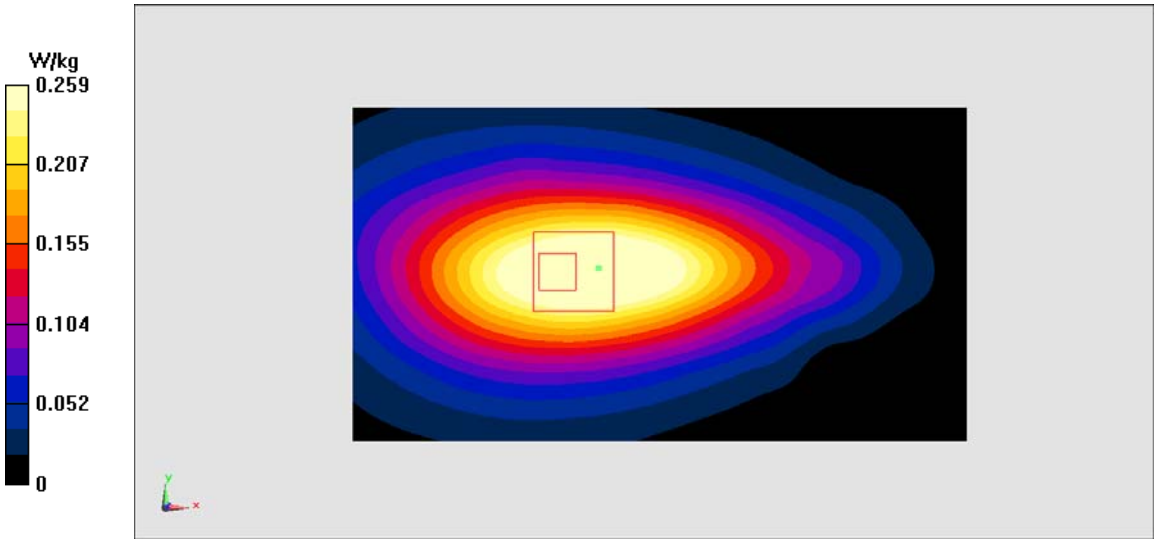



**Figure I.4**

**PCS1900 _CH512 Right Cheek**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1850.2 MHz; $\sigma$ = 1.409 mho/m; $\varepsilon r$ = 40.86; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: PCS1900 1850.2 MHz Duty Cycle: 1：8.3
Probe: EX3DV4 – SN7307 ConvF(8.1,8.1,8.1)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.214 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.381 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.246 W/kg
**SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.116 W/kg**
Maximum value of SAR (measured) = 0.199 W/kg

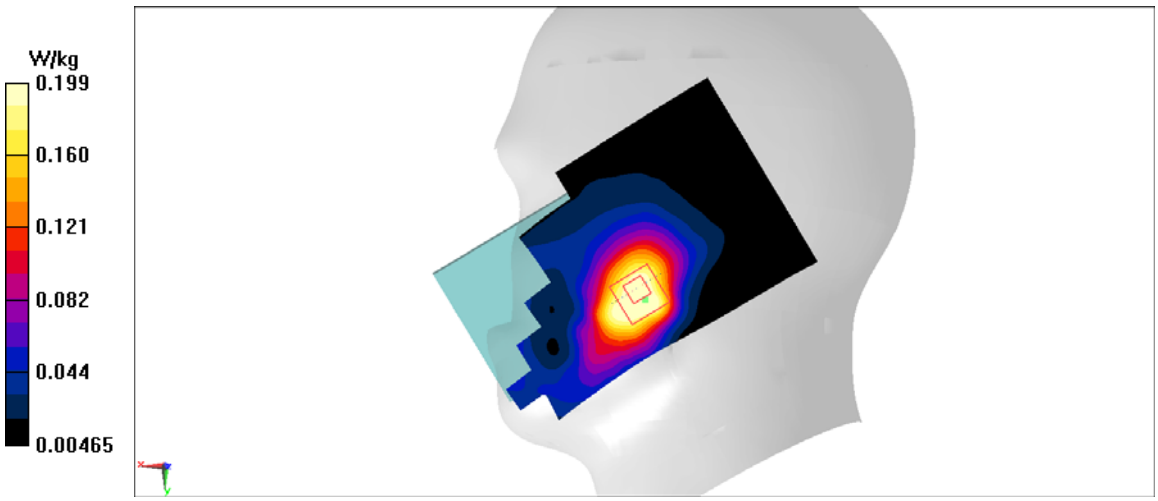



**Figure I.5**

**PCS1900 _CH661 Bottom**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.535 mho/m; $\varepsilon r$ = 52.23; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: PCS1900 1880 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.67,7.67,7.67)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.1 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.13 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.4 W/kg
**SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.369 W/kg**
Maximum value of SAR (measured) = 1.01 W/kg

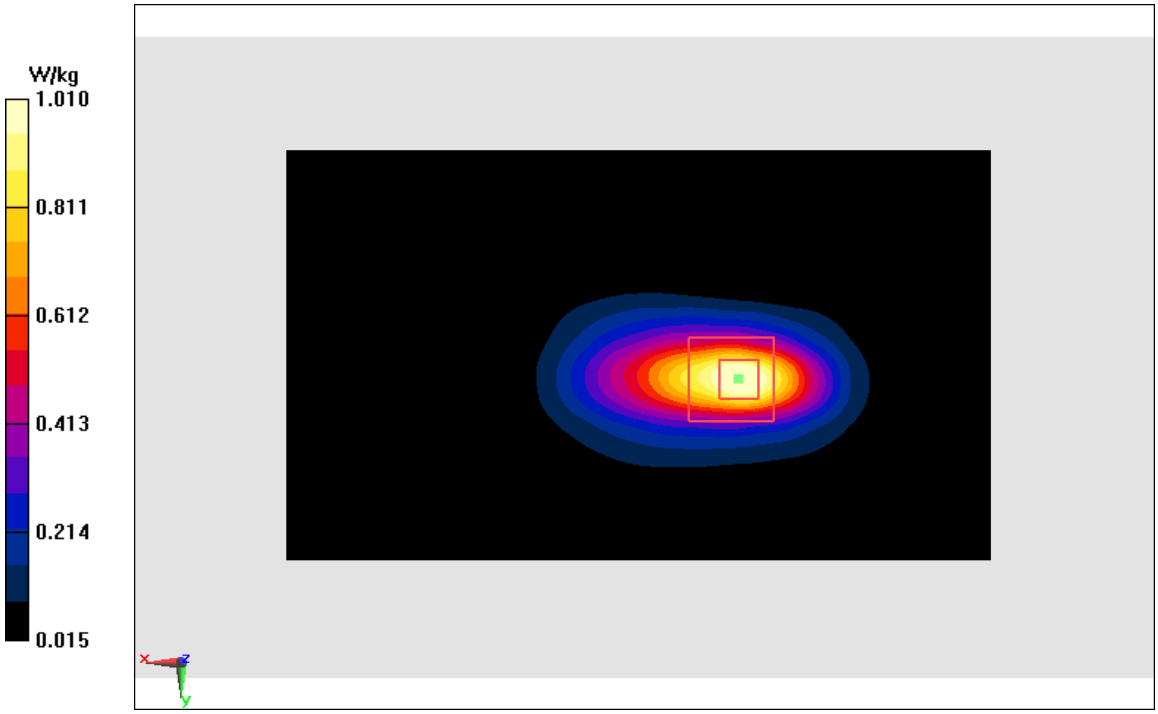



**Figure I.6**

**WCDMA850-BV_CH4132 Left Cheek Antenna1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 826.4 MHz; $\sigma$ = 0.896 mho/m; $\varepsilon r$ = 41.765; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 826.4 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.149 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.748 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.071 W/kg
**SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.041 W/kg**
Maximum value of SAR (measured) = 0.0604 W/kg

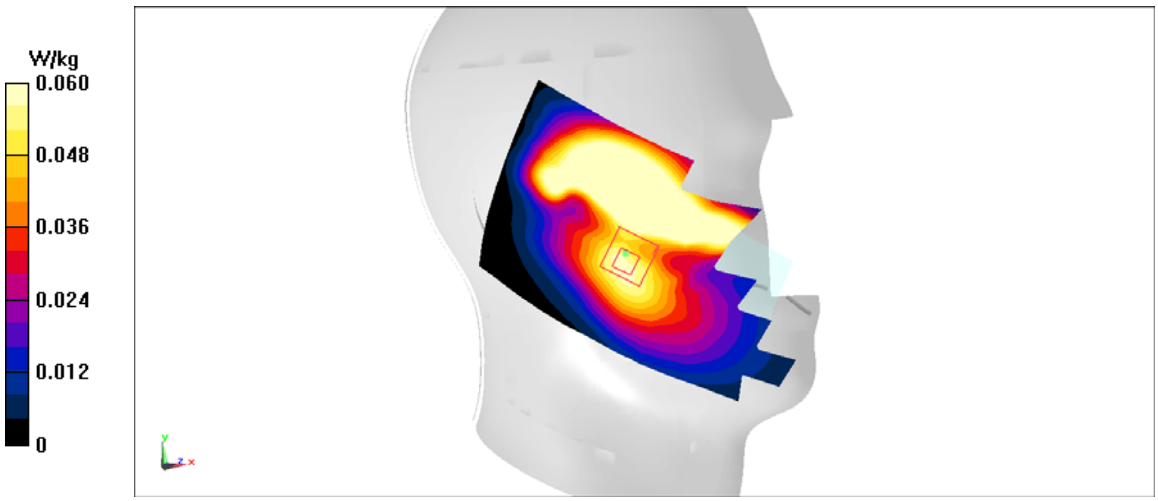



**Figure I.7**

**WCDMA850-BV_CH4233 Left Antenna 1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 846.6 MHz; $\sigma$ = 0.973 mho/m; $\varepsilon r$ = 56.076; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.226 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.38 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.28 W/kg
**SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.135 W/kg**
Maximum value of SAR (measured) = 0.225 W/kg

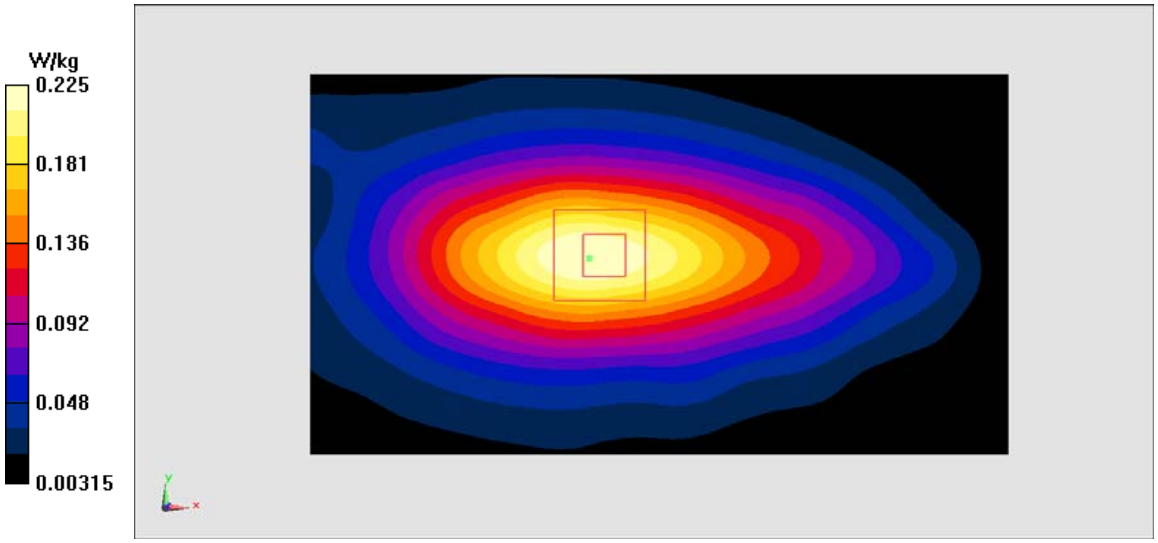



**Figure I.8**

**WCDMA850-BV_CH4182 Right Cheek Antenna2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.926 mho/m; $\varepsilon r$ = 41.115; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 836.4 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.222 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.557 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.26 W/kg
**SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.154 W/kg**
Maximum value of SAR (measured) = 0.226 W/kg

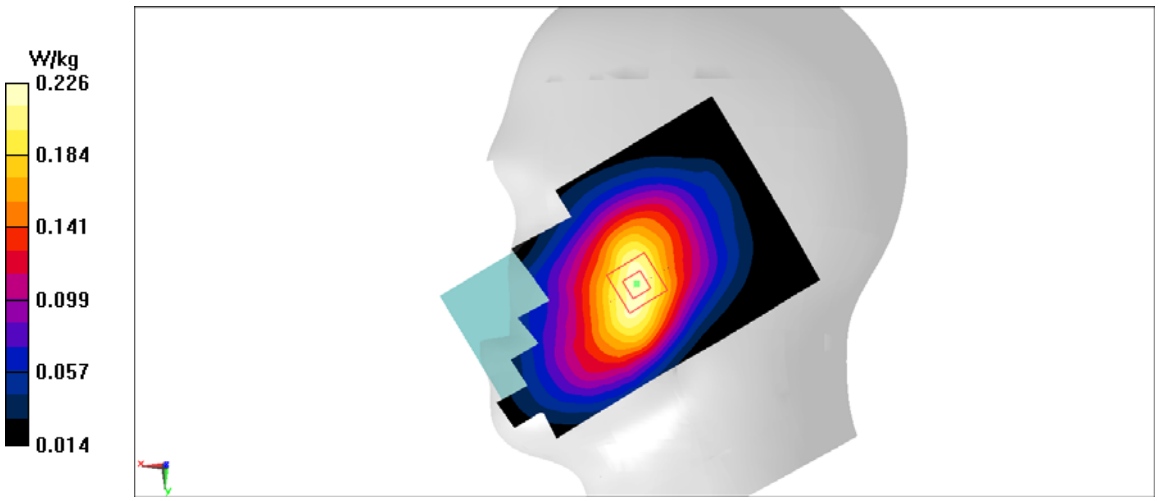



**Figure I.9**

**WCDMA850-BV_CH4233 Right Antenna 2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 846.6 MHz; $\sigma$ = 0.973 mho/m; $\varepsilon r$ = 56.076; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.256 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.92 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.324 W/kg
**SAR(1 g) = 0.227 W/kg; SAR(10 g) = 0.155 W/kg**
Maximum value of SAR (measured) = 0.261 W/kg

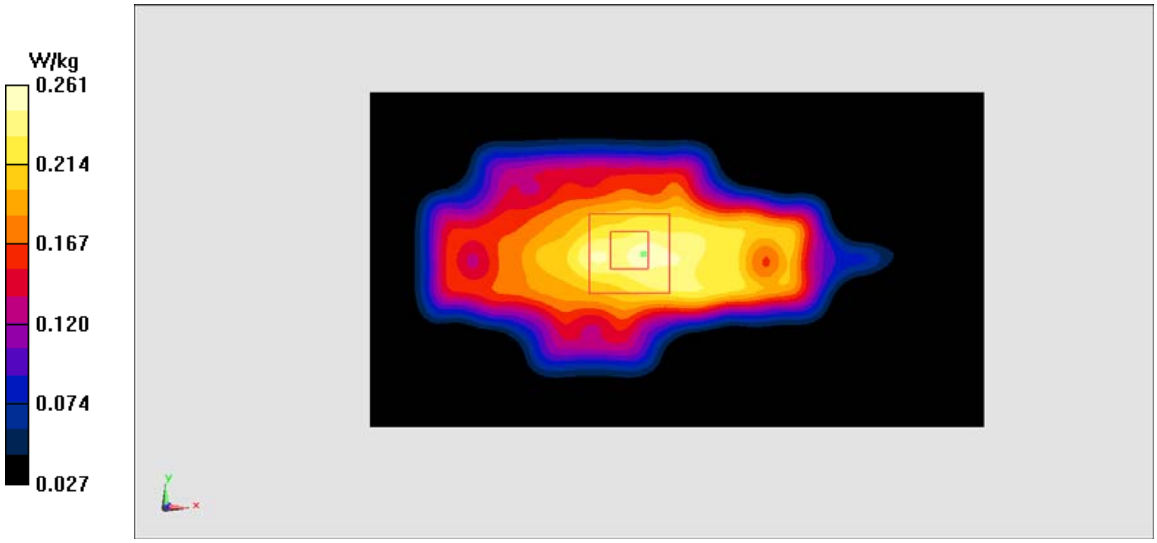



**Figure I.10**

**WCDMA1700-BIV_CH1537 Right Cheek**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used: f = 1712.4 MHz; $\sigma$ = 1.3 mho/m; $\varepsilon r$ = 40.577; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA1700-BIV 1712.4 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.37,8.37,8.37)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.274 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.738 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.289 W/kg
**SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.139 W/kg**
Maximum value of SAR (measured) = 0.229 W/kg

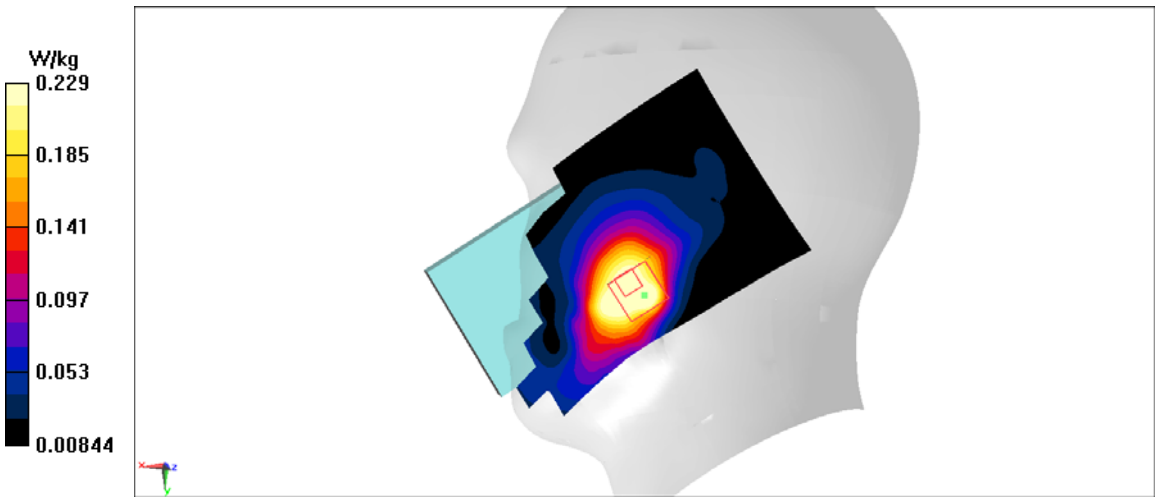



**Figure I.11**

**WCDMA1700-BIV_CH1738 Bottom**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used: f = 1752.6 MHz; $\sigma$ = 1.514 mho/m; $\varepsilon r$ = 53.418; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA1700-BIV 1752.6 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.18,8.18,8.18)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.499 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.02 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.652 W/kg
**SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.193 W/kg**
Maximum value of SAR (measured) = 0.47 W/kg

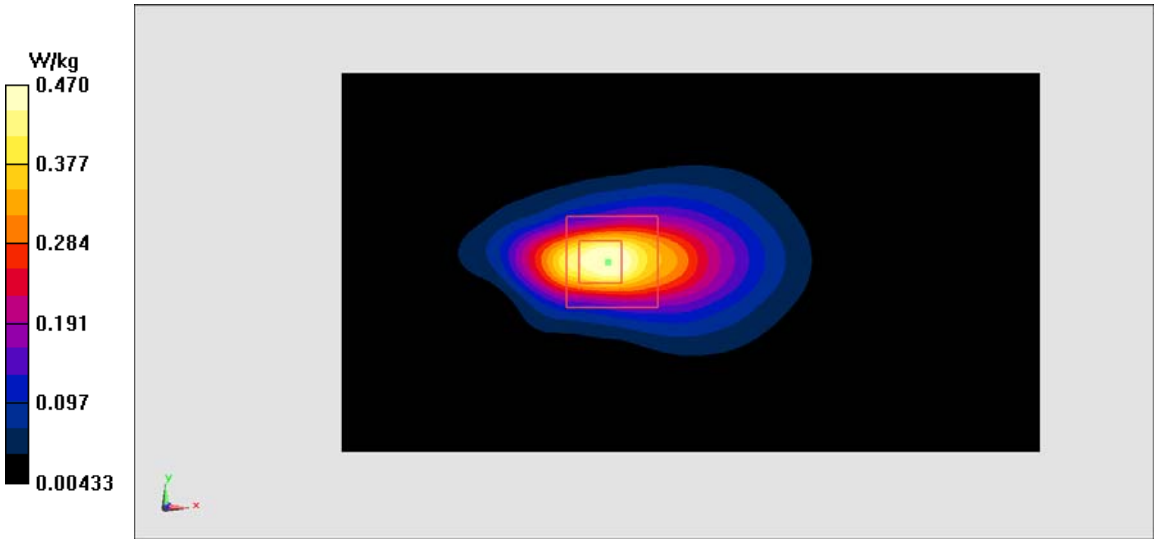



**Figure I.12**

**WCDMA1900-BII_CH9662 Right Cheek**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1852.4 MHz; $\sigma$ = 1.432 mho/m; $\varepsilon r$ = 41.276; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.1,8.1,8.1)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.433 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.574 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.485 W/kg
**SAR(1 g) = 0.339 W/kg; SAR(10 g) = 0.226 W/kg**
Maximum value of SAR (measured) = 0.39 W/kg

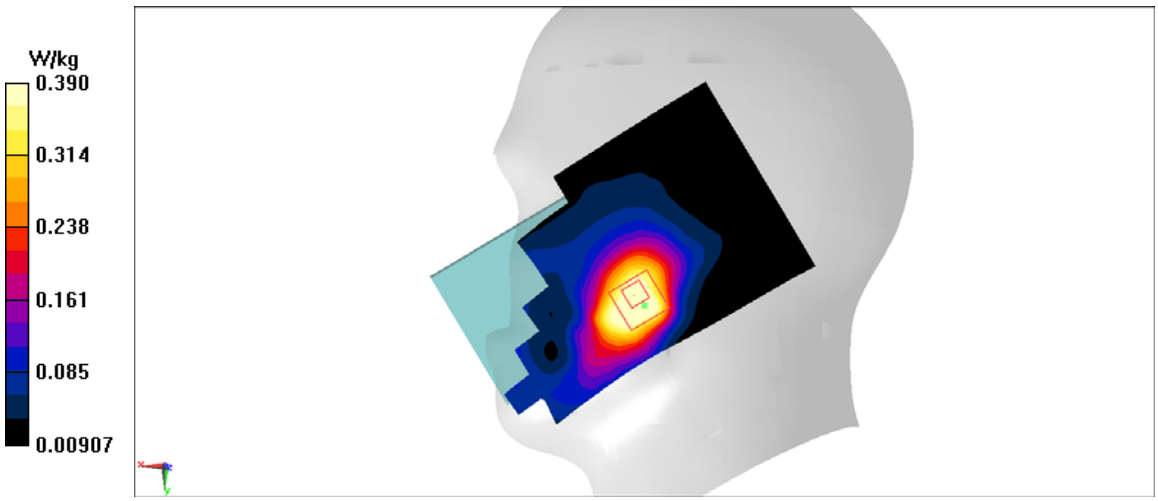



**Figure I.13**

**WCDMA1900-BII_CH9938 Bottom**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1907.6 MHz; $\sigma$ = 1.551 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.67,7.67,7.67)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.15 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.41 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.59 W/kg
**SAR(1 g) = 0.881 W/kg; SAR(10 g) = 0.451 W/kg**
Maximum value of SAR (measured) = 1.09 W/kg

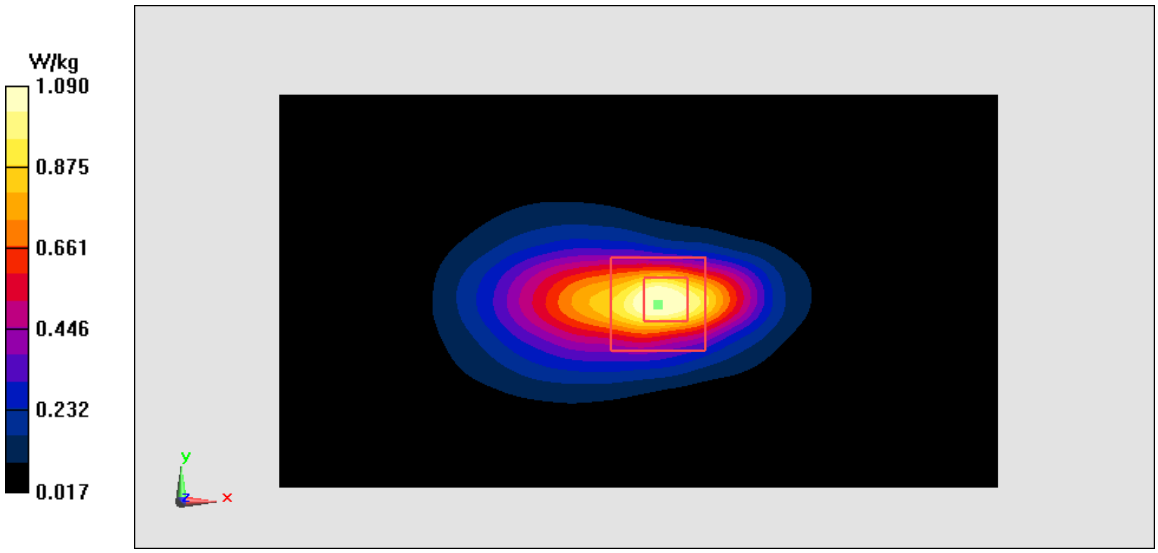



**Figure I.14**

**LTE1900-FDD2_CH19100 Right Cheek**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.421 mho/m; $\varepsilon r$ = 40.81; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.1,8.1,8.1)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.395 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.859 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.469 W/kg
**SAR(1 g) = 0.306 W/kg; SAR(10 g) = 0.2 W/kg**
Maximum value of SAR (measured) = 0.364 W/kg

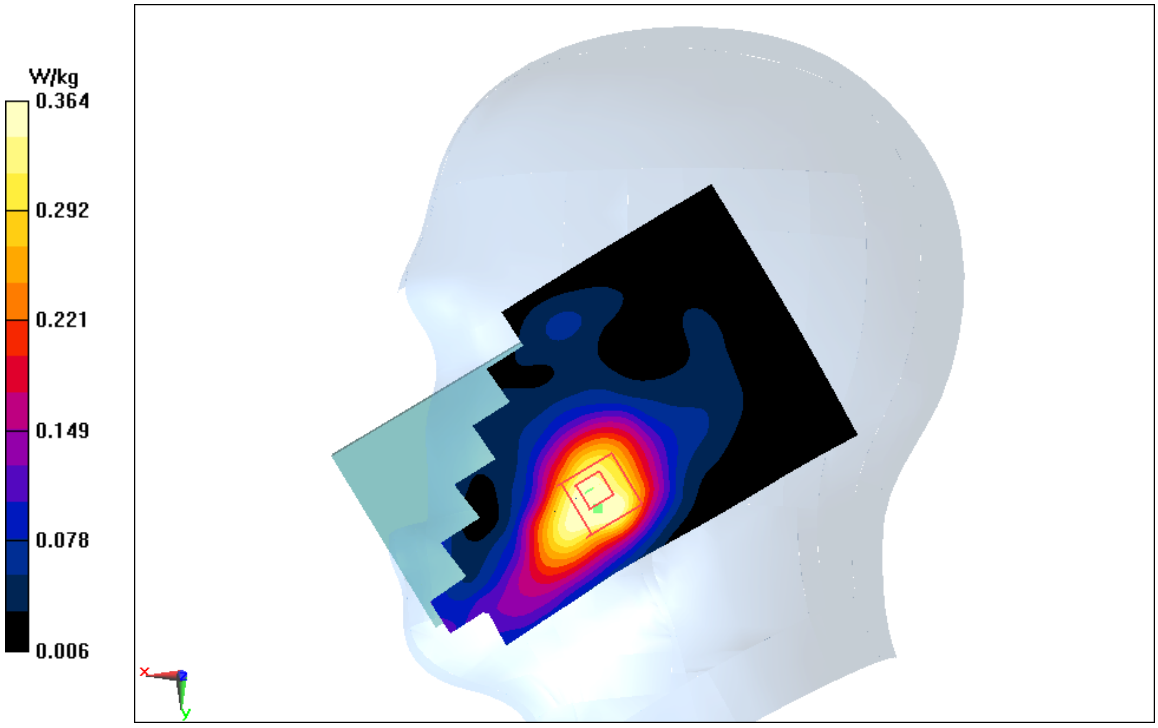



**Figure I.15**

**LTE1900-FDD2_CH19100 Bottom**
Date: 1/15/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.517 mho/m; $\varepsilon r$ = 52.21; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.67,7.67,7.67)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.16 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.48 W/kg
**SAR(1 g) = 0.837 W/kg; SAR(10 g) = 0.433 W/kg**
Maximum value of SAR (measured) = 1.05 W/kg

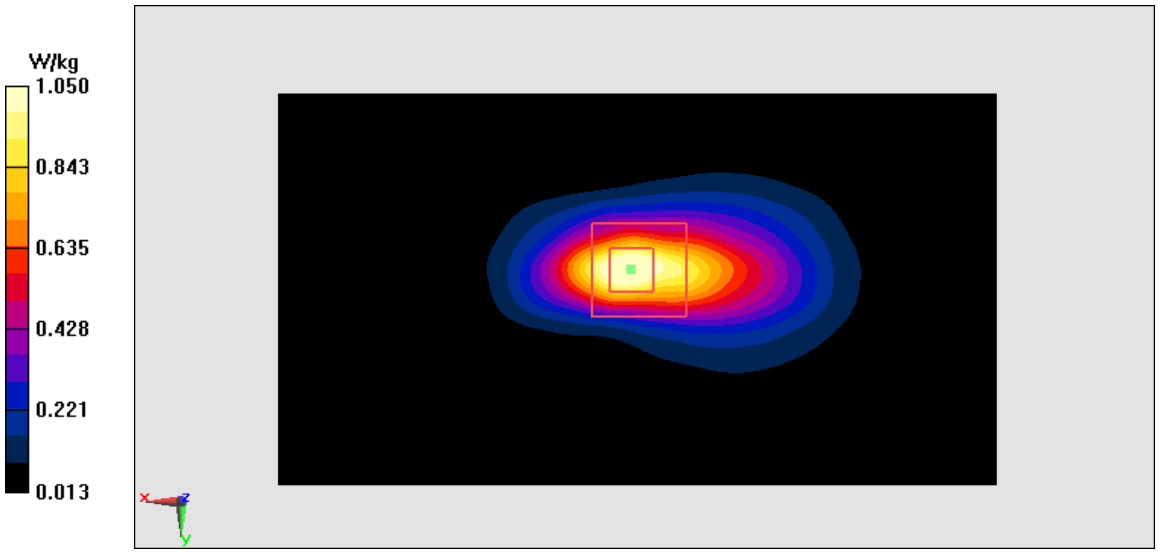



**Figure I.16**

**LTE1700-FDD4_CH20300 Left Cheek**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used: f = 1745 MHz; $\sigma$ = 1.329 mho/m; $\varepsilon r$ = 40.287; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE1700-FDD4 1745 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.37,8.37,8.37)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.403 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.348 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.411 W/kg
**SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.198 W/kg**
Maximum value of SAR (measured) = 0.334 W/kg

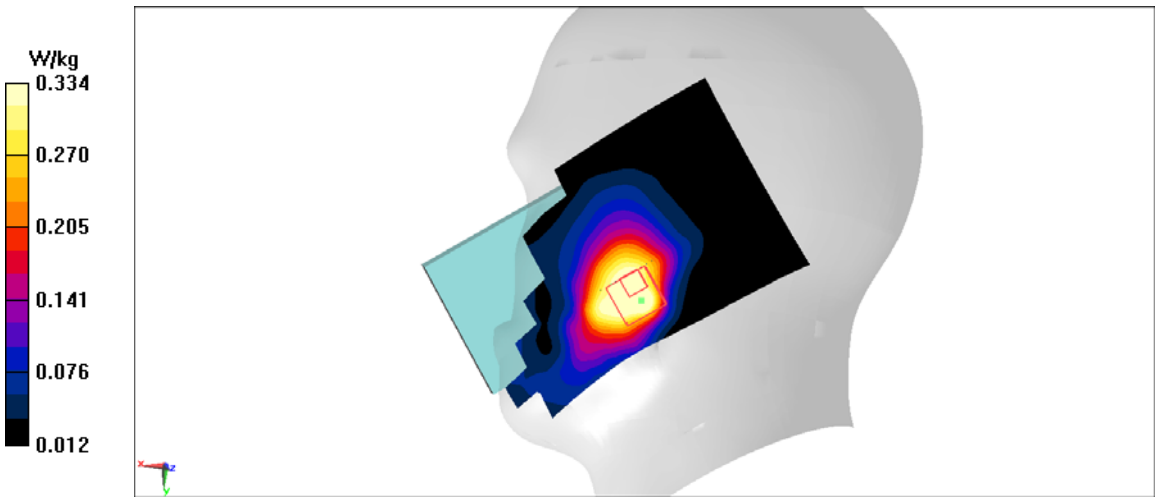



**Figure I.17**

**LTE1700-FDD4_CH20300 Left**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 1750 MHz
Medium parameters used: f = 1745 MHz; $\sigma$ = 1.526 mho/m; $\varepsilon r$ = 53.329; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE1700-FDD4 1745 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(8.18,8.18,8.18)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.529 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.69 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.703 W/kg
**SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.206 W/kg**
Maximum value of SAR (measured) = 0.5 W/kg

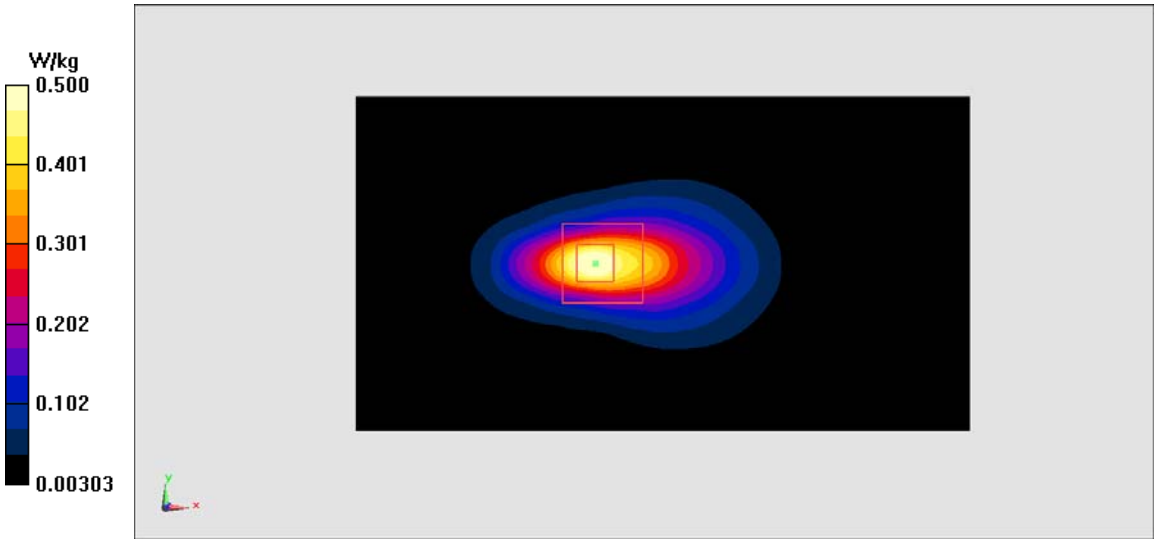



**Figure I.18**

**LTE850-FDD5_CH20600 Left Cheek Antenna1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 844 MHz; $\sigma$ = 0.923 mho/m; $\varepsilon r$ = 41.431; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.179 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.483 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.215 W/kg
**SAR(1 g) = 0.167 W/kg; SAR(10 g) = 0.127 W/kg**
Maximum value of SAR (measured) = 0.184 W/kg

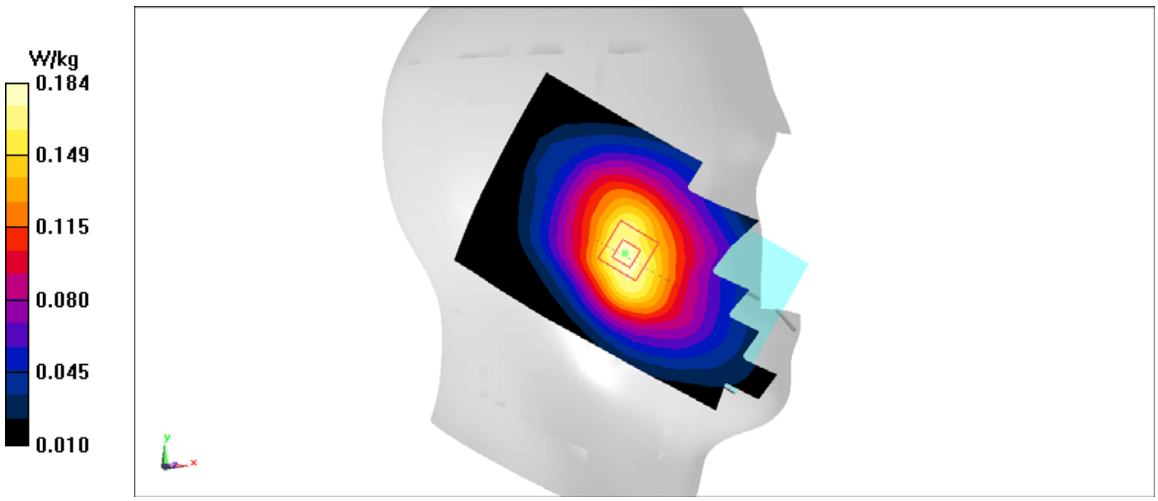



**Figure I.19**

**LTE850-FDD5_CH20600 Left Antenna1**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 844 MHz; $\sigma$ = 1.028 mho/m; $\varepsilon r$ = 55.734; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.279 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.21 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.355 W/kg
**SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.171 W/kg**
Maximum value of SAR (measured) = 0.286 W/kg

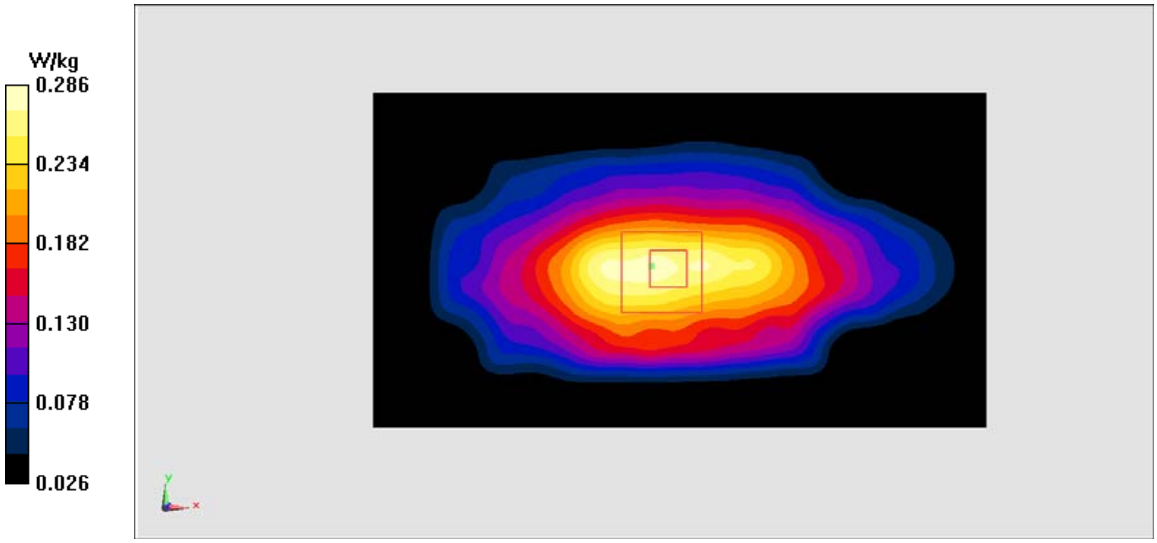



**Figure I.20**

**LTE850-FDD5_CH20450 Left Cheek Antenna2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 829 MHz; $\sigma$ = 0.909 mho/m; $\varepsilon r$ = 41.651; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.174 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.308 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.195 W/kg
**SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.123 W/kg**
Maximum value of SAR (measured) = 0.172 W/kg

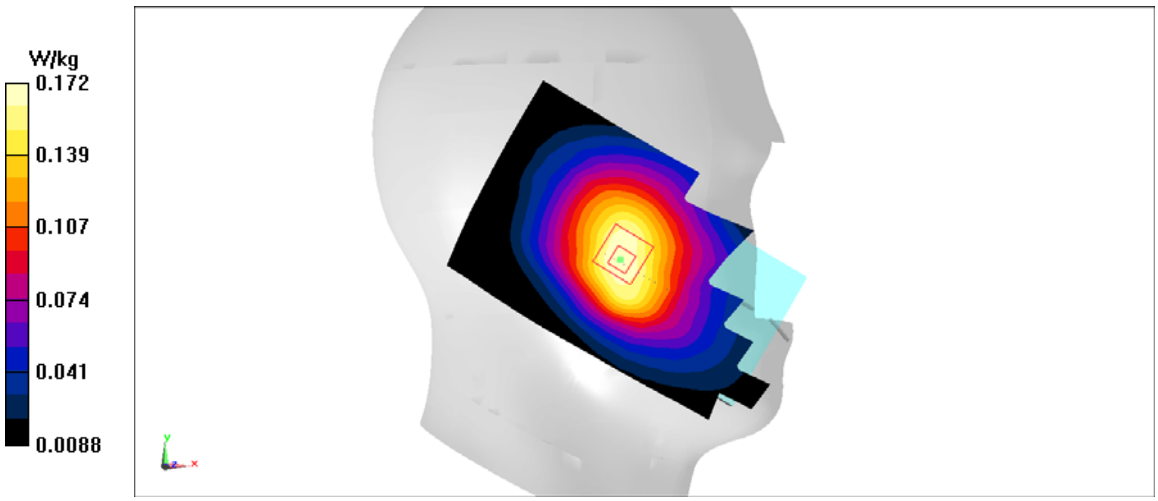



**Figure I.21**

**LTE850-FDD5_CH20450 Bottom Antenna2**
Date: 2/15/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 829 MHz; $\sigma$ = 1.015 mho/m; $\varepsilon r$ = 55.894; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.279 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.362 W/kg
**SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.136 W/kg**
Maximum value of SAR (measured) = 0.272 W/kg

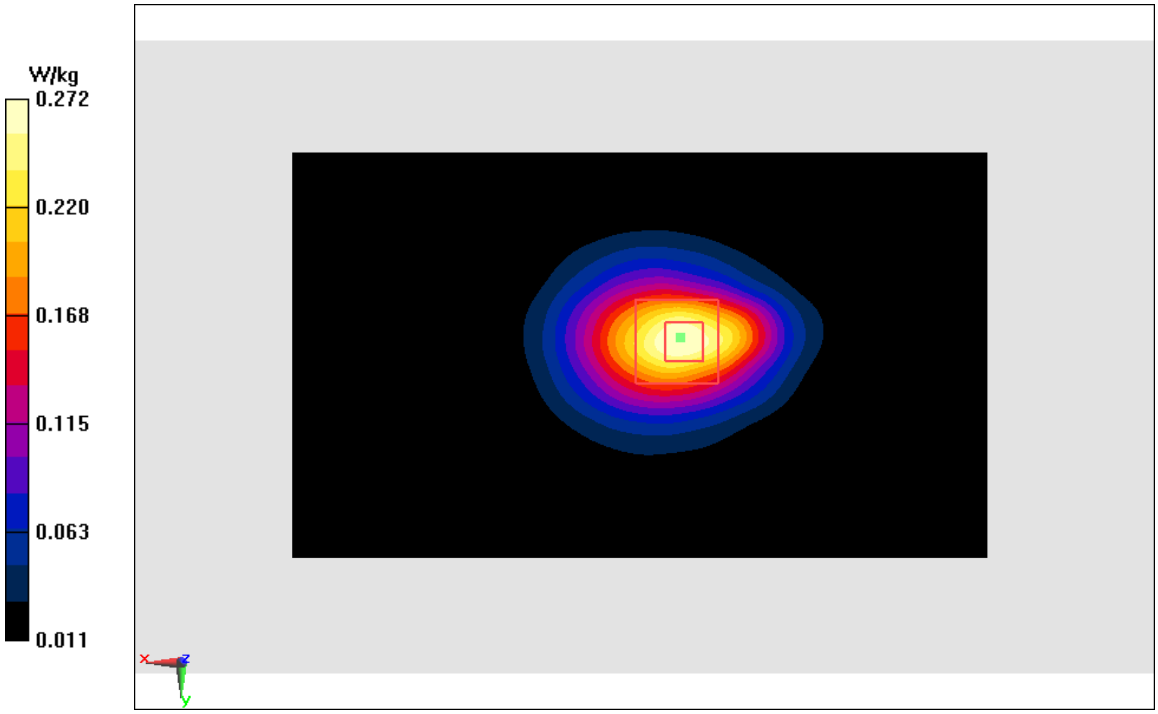



**Figure I.22**

**LTE2500-FDD7_CH21100 Right Cheek**
Date: 1/17/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2535 MHz; $\sigma$ = 1.956 mho/m; $\varepsilon r$ = 37.92; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.21,7.21,7.21)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.157 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.846 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.244 W/kg
**SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.068 W/kg**
Maximum value of SAR (measured) = 0.164 W/kg

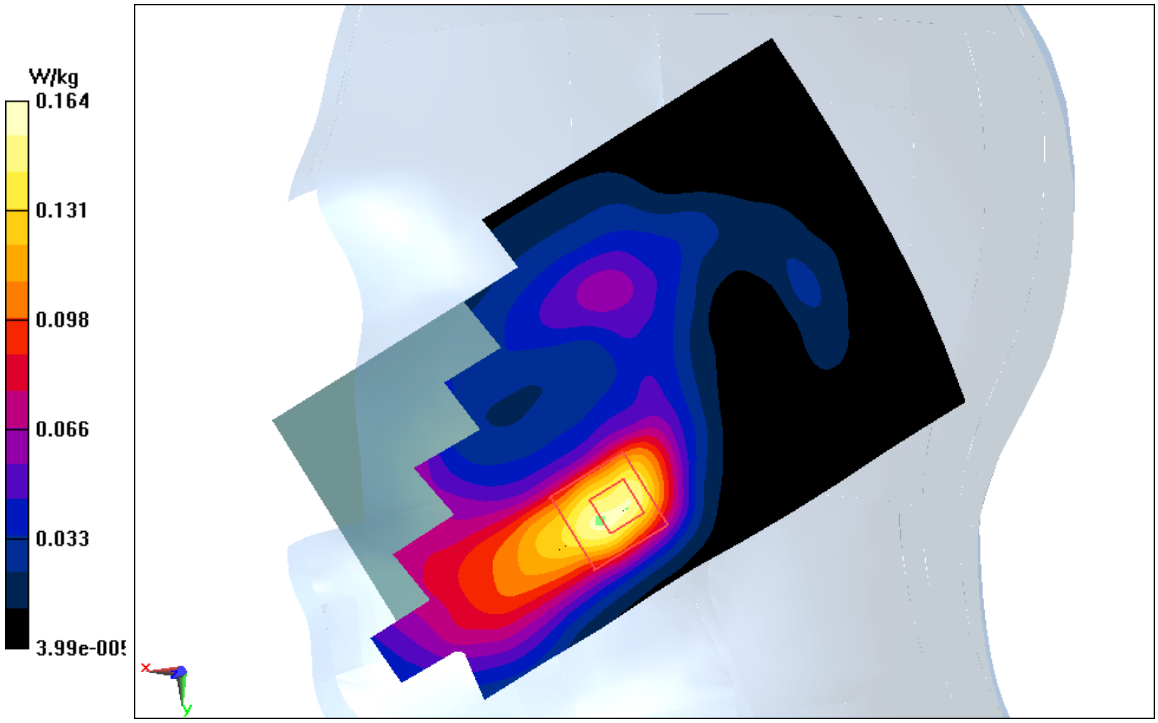



**Figure I.23**

**LTE2500-FDD7_CH21100 Rear**
Date: 1/17/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2535 MHz; $\sigma$ = 2.129 mho/m; $\varepsilon r$ = 52.31; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.03,7.03,7.03)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.18 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.52 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.94 W/kg
**SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.441 W/kg**
Maximum value of SAR (measured) = 1.24 W/kg

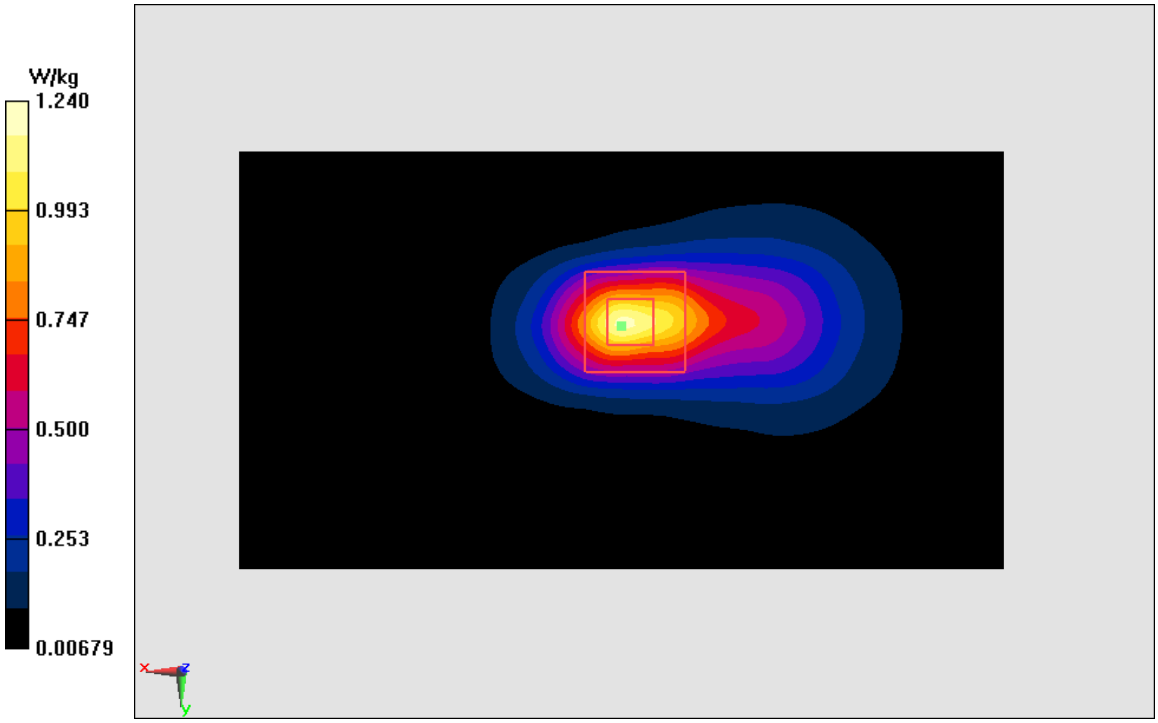



**Figure I.24**

**LTE700-FDD12_CH23095 Left Cheek Antenna1**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 707.5 MHz; $\sigma$ = 0.866 mho/m; $\varepsilon r$ = 42.15; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.47,10.47,10.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.122 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.403 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.133 W/kg
**SAR(1 g) = 0.107 W/kg; SAR(10 g) = 0.086 W/kg**
Maximum value of SAR (measured) = 0.118 W/kg

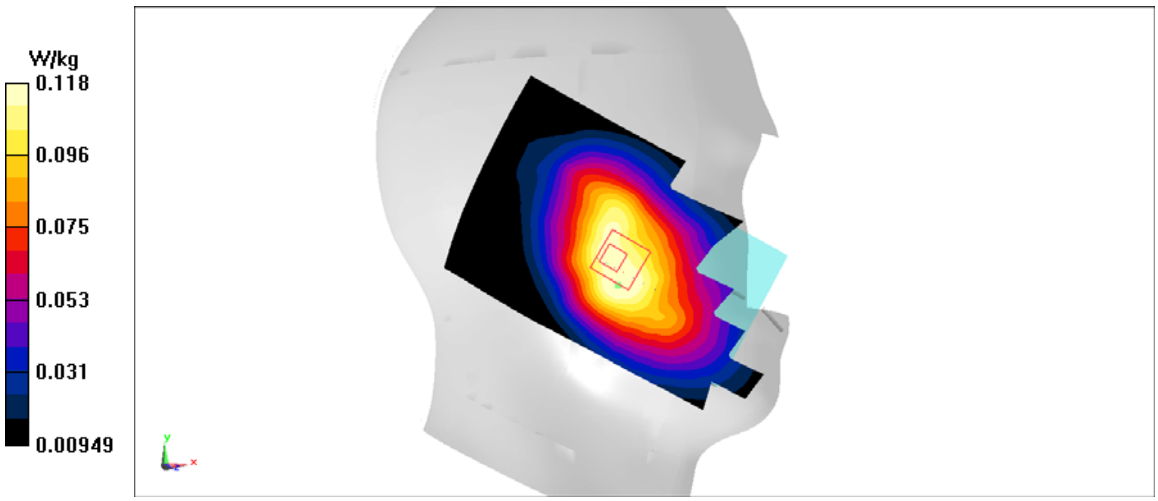



**Figure I.25**

**LTE700-FDD12_CH23095 Left Antenna1**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 707.5 MHz; $\sigma$ = 0.942 mho/m; $\varepsilon r$ = 56.57; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.93,9.93,9.93)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.132 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.167 W/kg
**SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.086 W/kg**
Maximum value of SAR (measured) = 0.134 W/kg

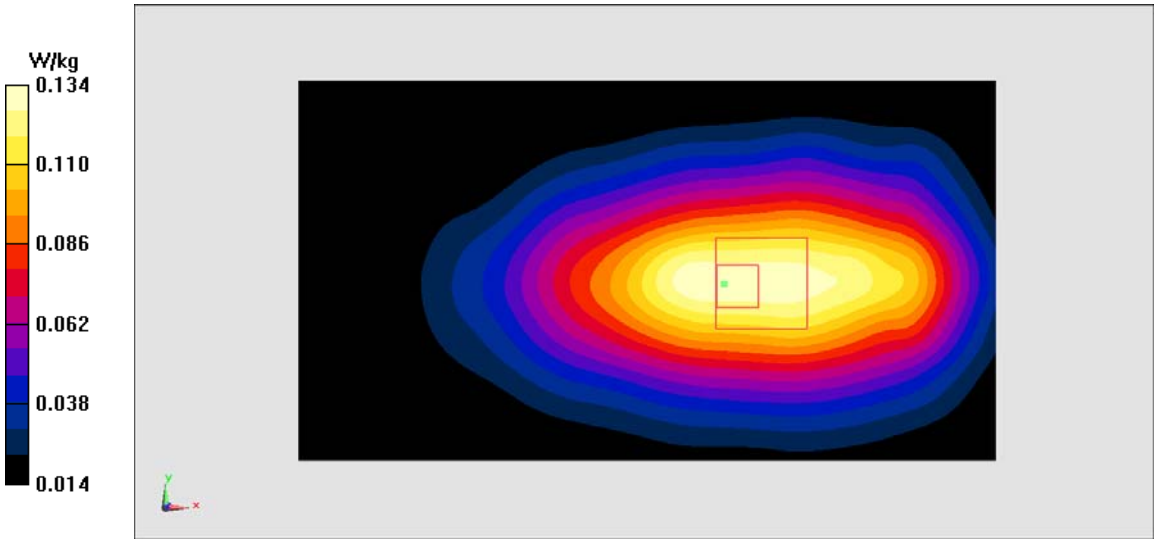



**Figure I.26**

**LTE700-FDD12_CH23095 Left Cheek Antenna2**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 707.5 MHz; $\sigma$ = 0.866 mho/m; $\varepsilon r$ = 42.15; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.47,10.47,10.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.146 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.282 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.176 W/kg
**SAR(1 g) = 0.143 W/kg; SAR(10 g) = 0.113 W/kg**
Maximum value of SAR (measured) = 0.156 W/kg

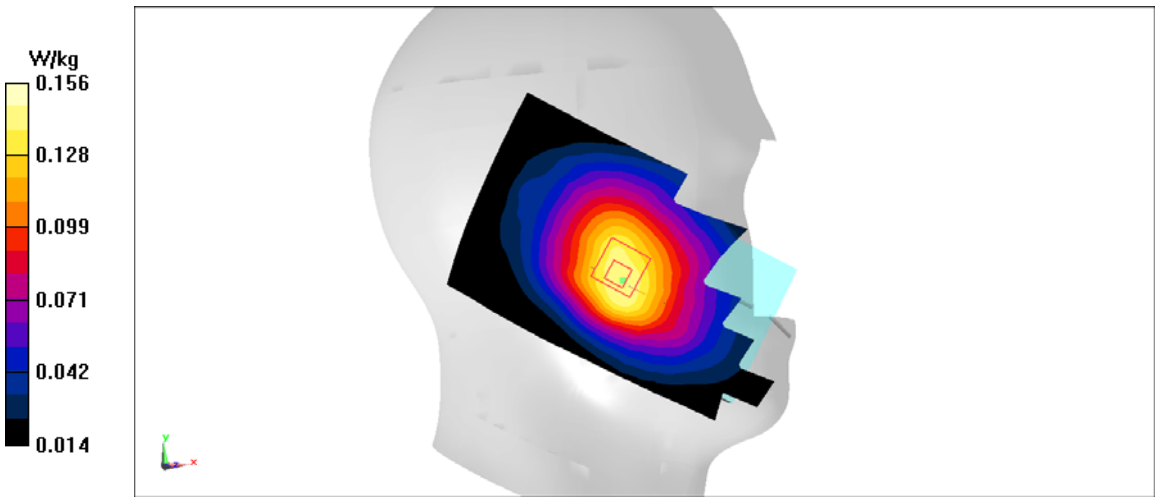



**Figure I.27**

**LTE700-FDD12_CH23095 Right Antenna2**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 707.5 MHz; $\sigma$ = 0.942 mho/m; $\varepsilon r$ = 56.57; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE700-FDD12 707.5 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.93,9.93,9.93)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.201 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.63 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.249 W/kg
**SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.124 W/kg**
Maximum value of SAR (measured) = 0.204 W/kg

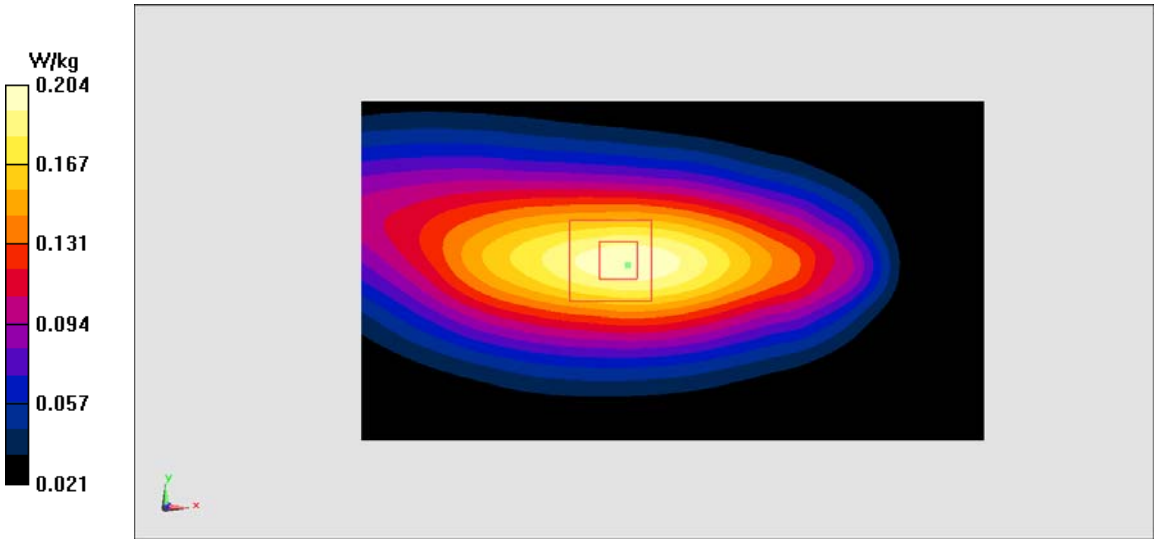



**Figure I.28**

**LTE750-FDD13_CH23230 Left Cheek Antenna1**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 0.904 mho/m; $\varepsilon r$ = 42.18; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC, Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.47,10.47,10.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.244 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.504 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.302 W/kg
**SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.181 W/kg**
Maximum value of SAR (measured) = 0.262 W/kg

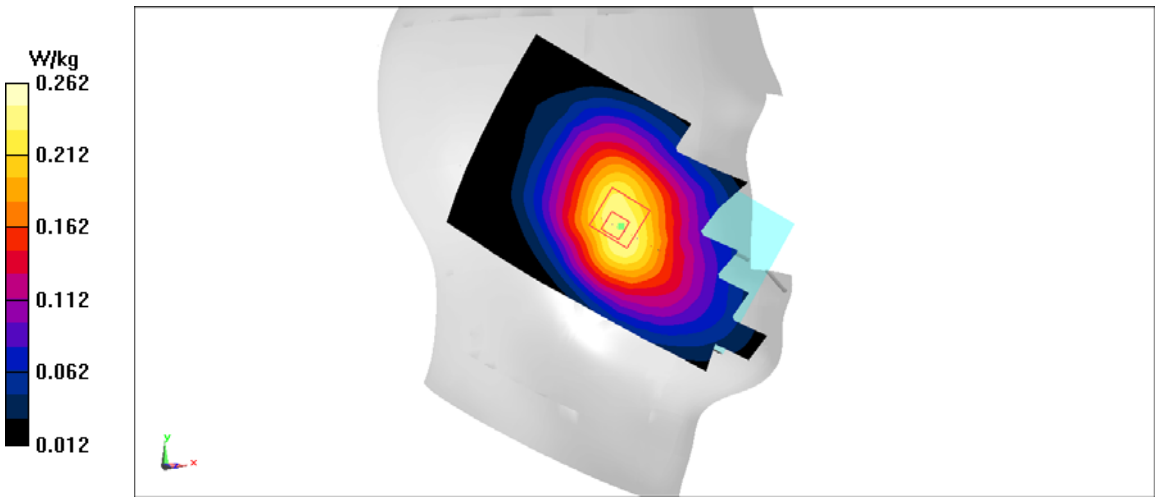



**Figure I.29**

**LTE750-FDD13_CH23230 Left Antenna1**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 0.97 mho/m; $\varepsilon r$ = 56.46; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.93,9.93,9.93)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.416 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.71 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.495 W/kg
**SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.257 W/kg**
Maximum value of SAR (measured) = 0.419 W/kg

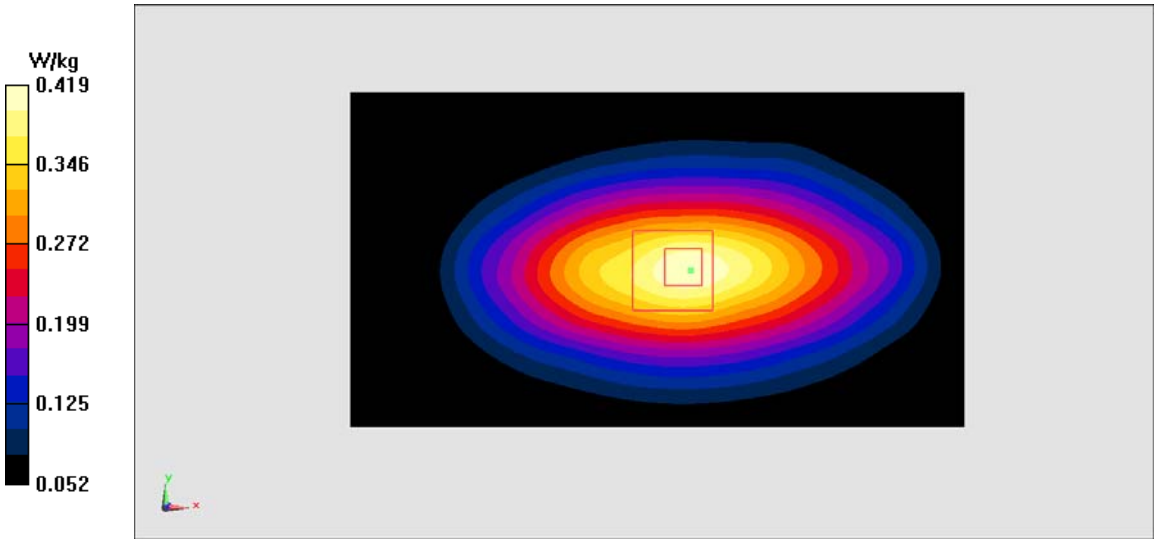



**Figure I.30**

**LTE750-FDD13_CH23230 Left Cheek Antenna2**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 0.904 mho/m; $\varepsilon r$ = 42.18; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(10.47,10.47,10.47)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.179 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.422 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.215 W/kg
**SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.135 W/kg**
Maximum value of SAR (measured) = 0.191 W/kg

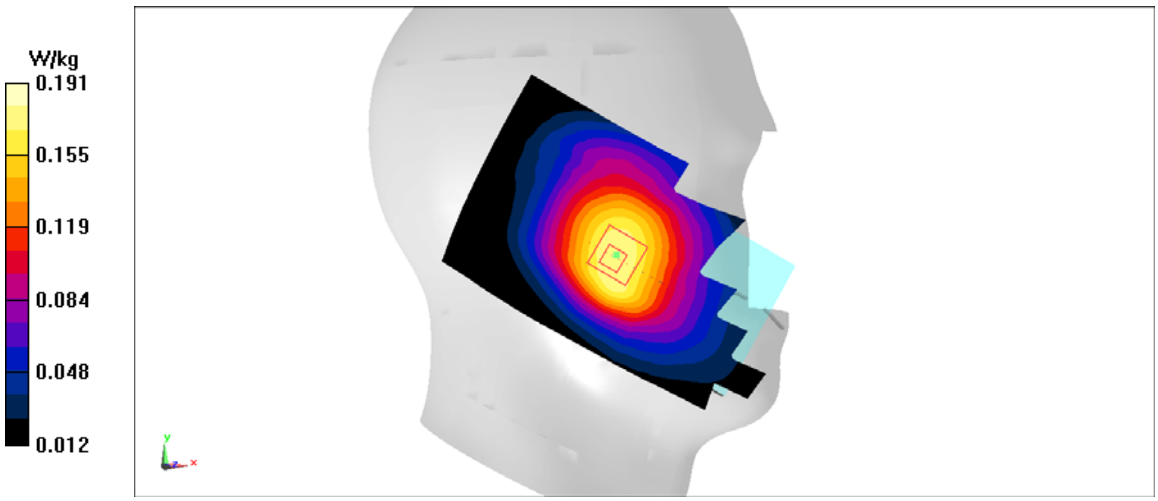



**Figure I.31**

**LTE750-FDD13_CH23230 Right Antenna2**
Date: 1/14/2017
Electronics: DAE4 Sn1331
Medium: Head 750 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 0.97 mho/m; $\varepsilon r$ = 56.46; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(9.93,9.93,9.93)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.269 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.44 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.325 W/kg
**SAR(1 g) = 0.234 W/kg; SAR(10 g) = 0.164 W/kg**
Maximum value of SAR (measured) = 0.267 W/kg

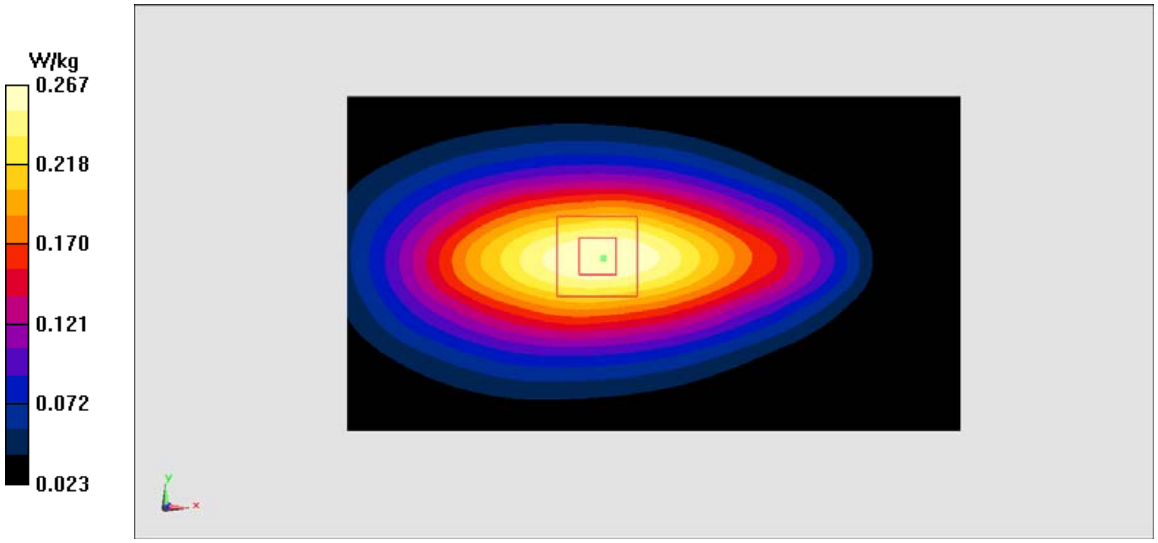



**Figure I.32**

**LTE2300-FDD30_CH27710 Right Cheek**
Date: 1/18/2017
Electronics: DAE4 Sn1331
Medium: Head 2300 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 1.64 mho/m; $\varepsilon r$ = 38.994; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE2300-FDD30 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.65,7.65,7.65)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.234 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.541 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.367 W/kg
**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.099 W/kg**
Maximum value of SAR (measured) = 0.249 W/kg

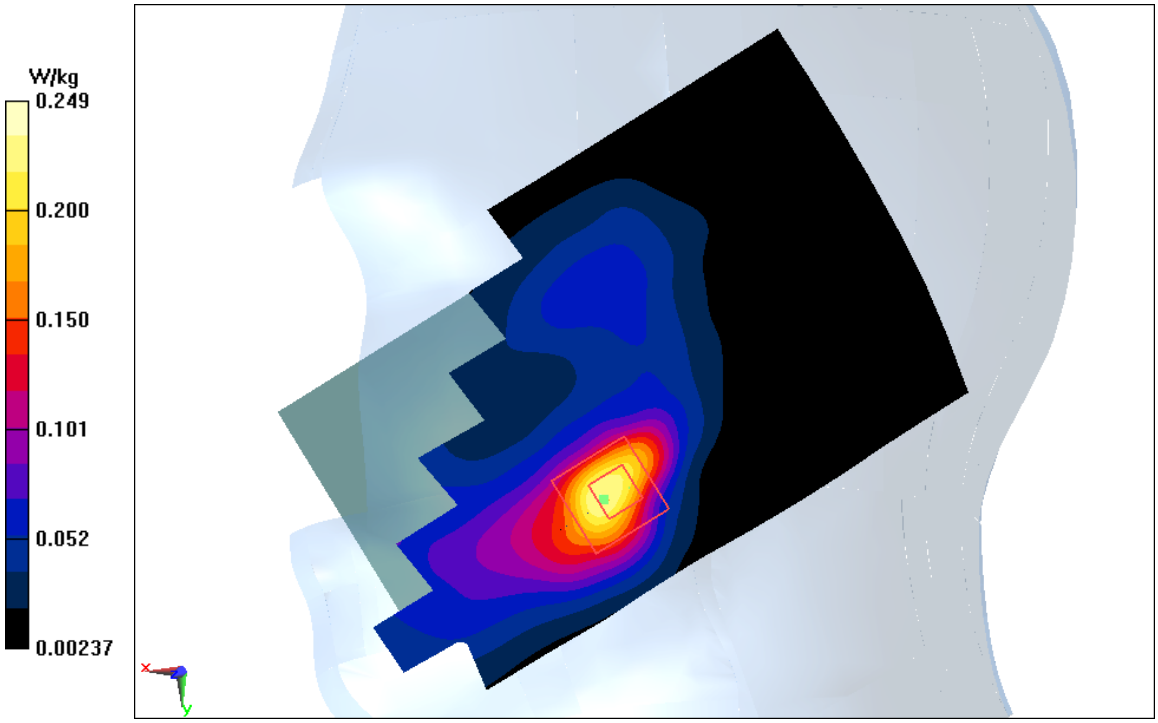



**Figure I.33**

**LTE2300-FDD30_CH27710 Bottom**
Date: 1/18/2017
Electronics: DAE4 Sn1331
Medium: Head 2300 MHz
Medium parameters used: f = 782 MHz; $\sigma$ = 1.807 mho/m; $\varepsilon r$ = 52.425; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE2300-FDD30 782 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.41,7.41,7.41)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.17 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.74 W/kg
**SAR(1 g) = 0.909 W/kg; SAR(10 g) = 0.438 W/kg**
Maximum value of SAR (measured) = 1.14 W/kg

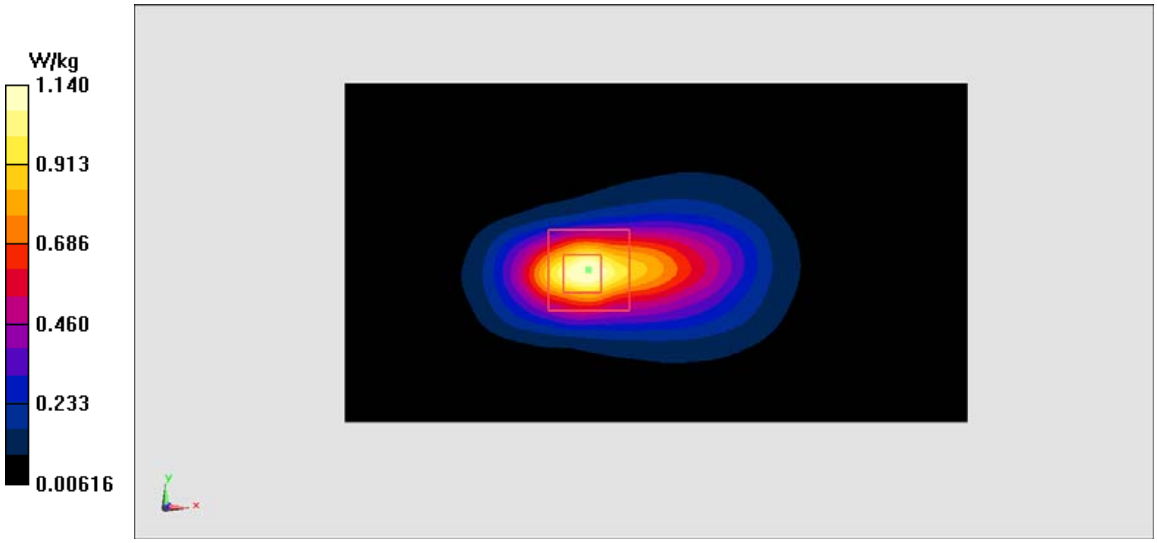



**Figure I.34**

**LTE2500-TDD41_CH39750 Right Cheek**
Date: 1/17/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2506 MHz; $\sigma$ = 1.865 mho/m; $\varepsilon r$ = 38.41; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2506 MHz Duty Cycle: 1：1.58
Probe: EX3DV4 – SN7307 ConvF(7.21,7.21,7.21)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.073 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.582 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.11 W/kg
**SAR(1 g) = 0.057 W/kg; SAR(10 g) = 0.029 W/kg**
Maximum value of SAR (measured) = 0.0704 W/kg

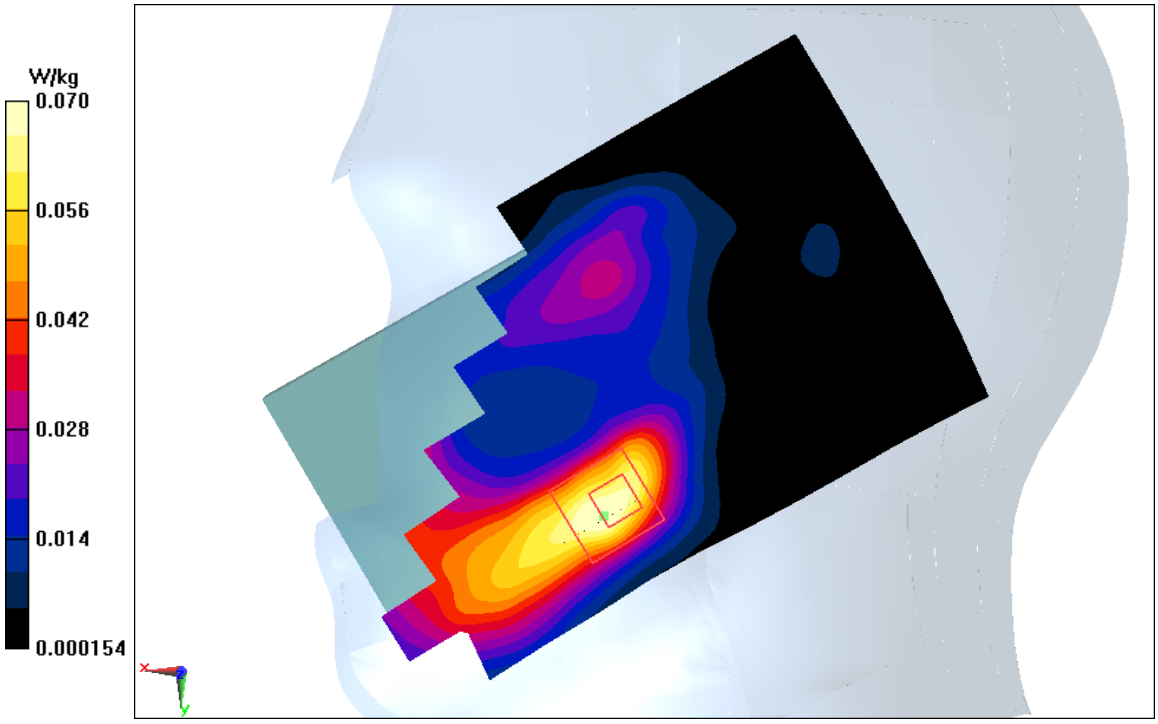



**Figure I.35**

**LTE2500-TDD41_CH39750 Bottom**
Date: 1/17/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2506 MHz; $\sigma$ = 2.024 mho/m; $\varepsilon r$ = 52.639; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: LTE2500-TDD41 2506 MHz Duty Cycle: 1：1.58
Probe: EX3DV4 – SN7307 ConvF(7.03,7.03,7.03)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.23 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.53 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.91 W/kg
**SAR(1 g) = 0.982 W/kg; SAR(10 g) = 0.472 W/kg**
Maximum value of SAR (measured) = 1.25 W/kg

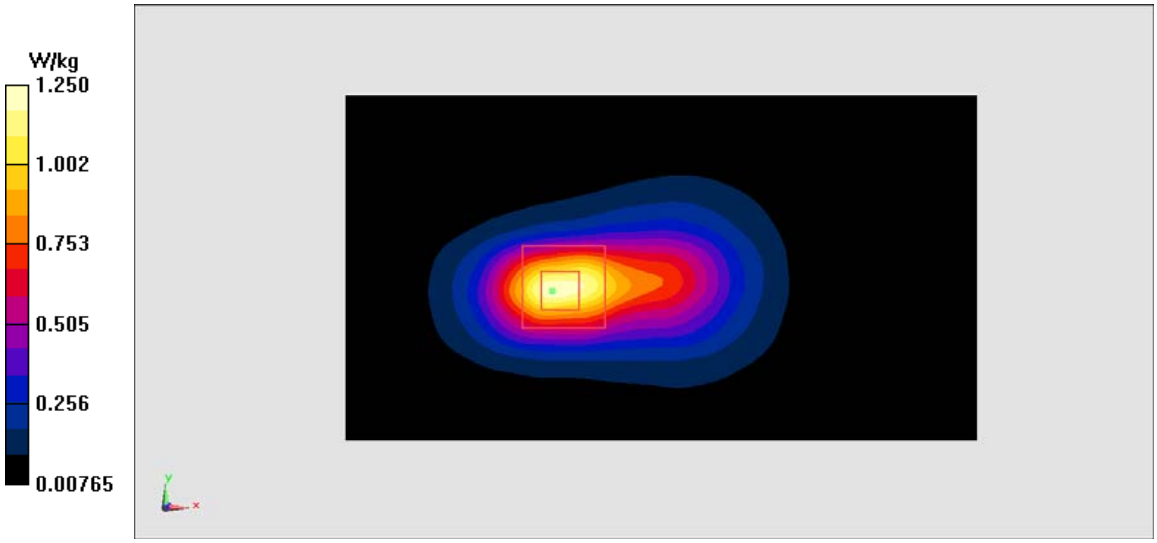



**Figure I.36**

**WLAN2450_CH6 Left Cheek**
Date: 1/16/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2437 MHz; $\sigma$ = 1.804 mho/m; $\varepsilon r$ = 38.47; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.36,7.36,7.36)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.137 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.022 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.258 W/kg
**SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.055 W/kg**
Maximum value of SAR (measured) = 0.151 W/kg

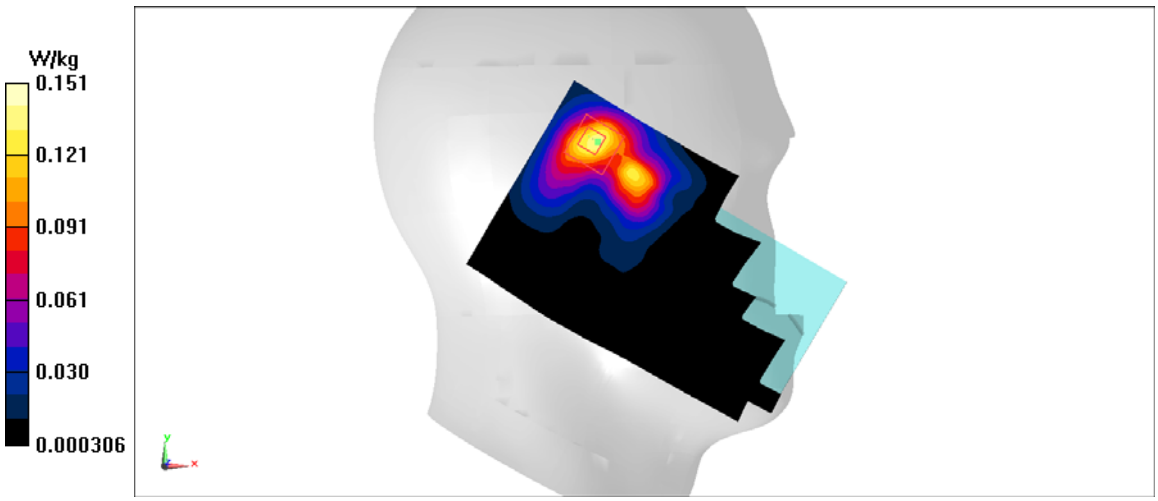



**Figure I.37**

**WLAN2450_CH6 Rear**
Date: 1/16/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2437 MHz; $\sigma$ = 1.961 mho/m; $\varepsilon r$ = 51.92; $\rho$ = 1000 kg/m$^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(7.22,7.22,7.22)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.394 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.86 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.621 W/kg
**SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.134 W/kg**
Maximum value of SAR (measured) = 0.359 W/kg

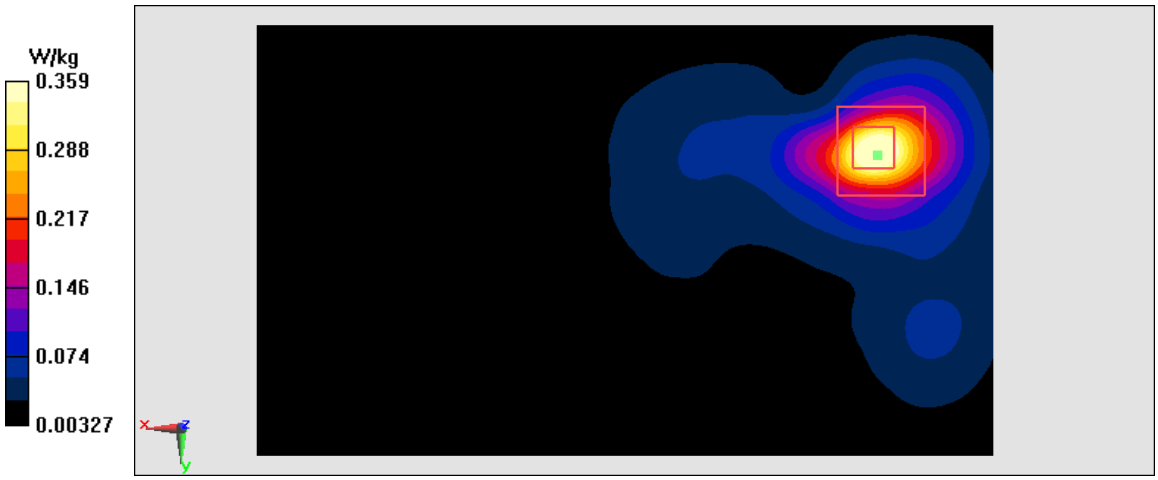



**Figure I.38**

**WLAN5000_CH157 Left Cheek**
Date: 1/16/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 5785 MHz; $\sigma$ = 5.426 mho/m; $\varepsilon r$ = 35.168; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WLAN5000 5785 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(4.45,4.45,4.45)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0124 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.721 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 8.1 W/kg
**SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.01 W/kg**
Maximum value of SAR (measured) = 0.0228 W/kg

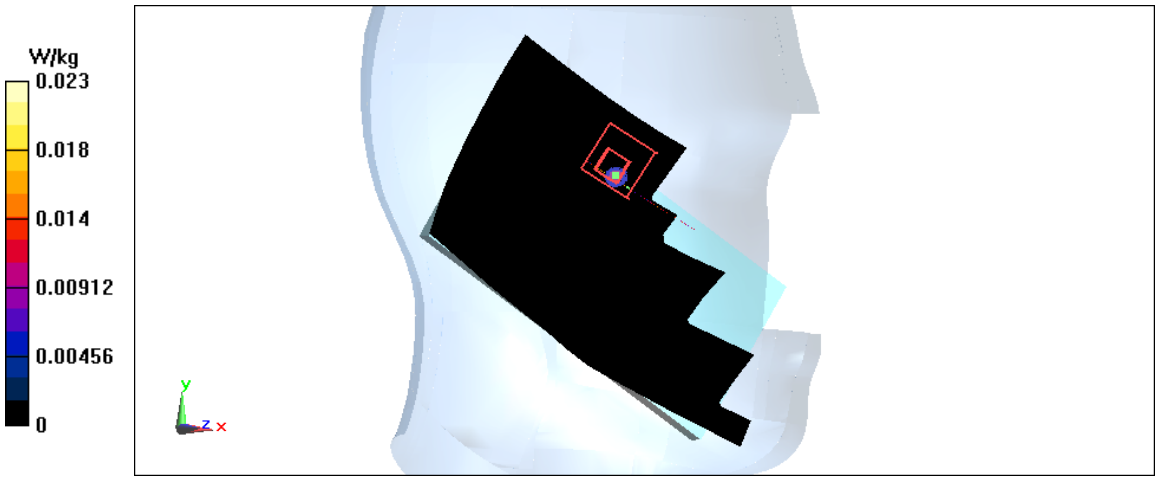



**Figure I.39**

**WLAN5000_CH64 Rear**
Date: 1/16/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 5320 MHz; $\sigma$ = 5.356 mho/m; $\varepsilon r$ = 47.608; $\rho$ = 1000 kg/$m^3$
Ambient Temperature: 22.9ºC,  Liquid Temperature: 22.5ºC
Communication System: WLAN5000 5320 MHz Duty Cycle: 1：1
Probe: EX3DV4 – SN7307 ConvF(4.48,4.48,4.48)

**Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.482 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.281 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.38 W/kg
**SAR(1 g) = 0.36 W/kg; SAR(10 g) = 0.148 W/kg**
Maximum value of SAR (measured) = 0.838 W/kg

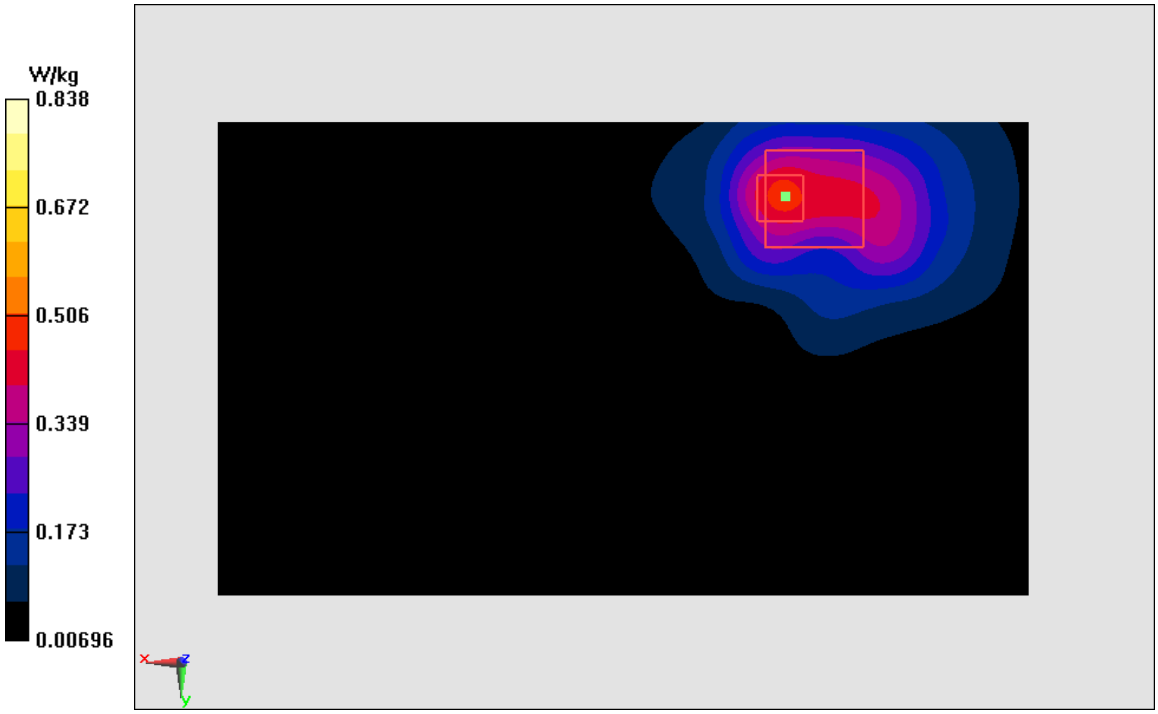
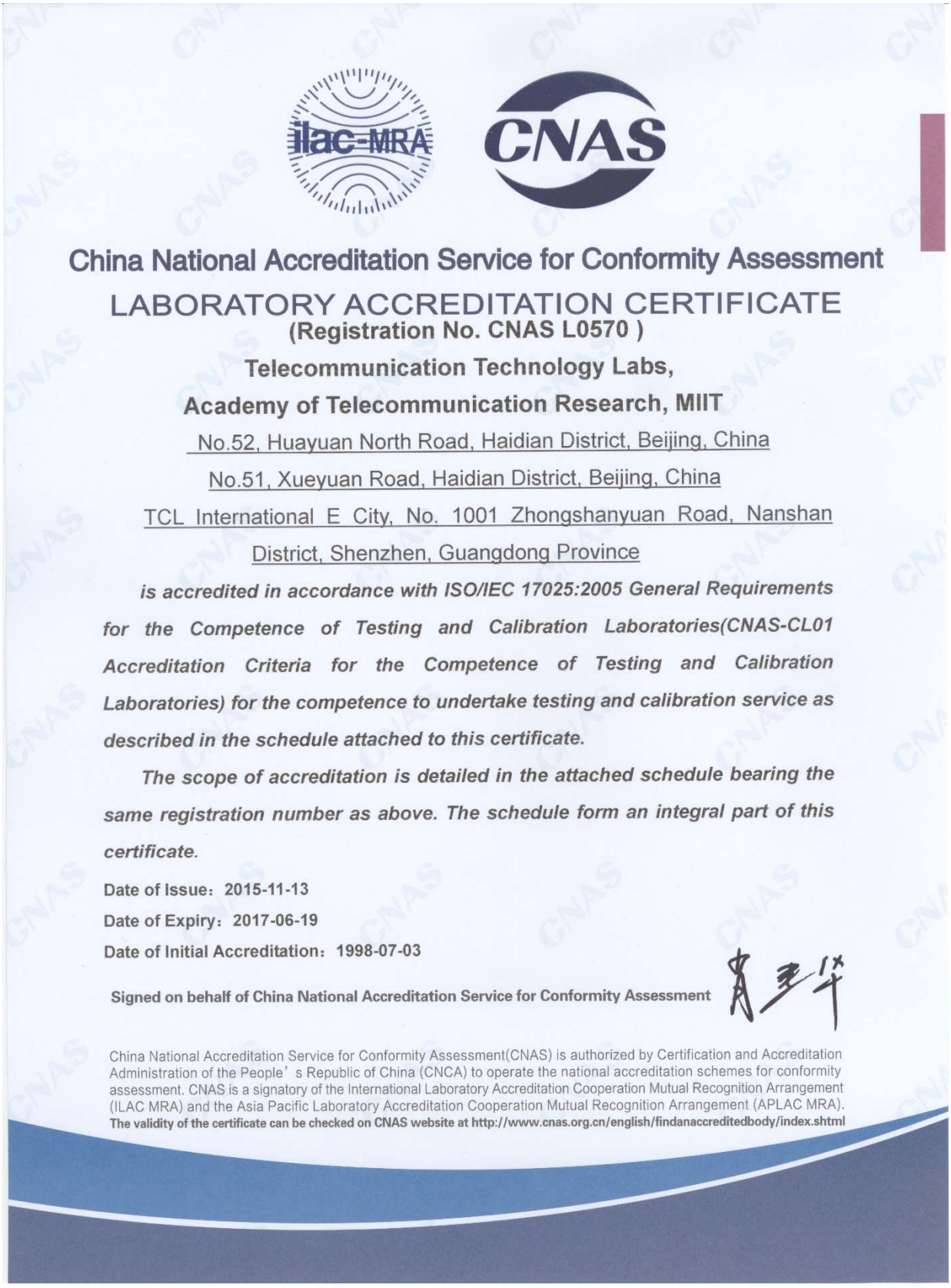



**Figure I.40**

## ANNEX J Accreditation Certificate



China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L0570 )

Telecommunication Technology Labs,

Academy of Telecommunication Research, MIIT

No.52, Huayuan North Road, Haidian District, Beijing, China

No.51, Xueyuan Road, Haidian District, Beijing, China

TCL International E City, No. 1001 Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province

*is accredited in accordance with ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake testing and calibration service as described in the schedule attached to this certificate.*

*The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule form an integral part of this certificate.*

Date of Issue: 2015-11-13

Date of Expiry: 2017-06-19

Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Laboratory Accreditation Cooperation Mutual Recognition Arrangement (APLAC MRA).
The validity of the certificate can be checked on CNAS website at http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml