## 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 | 34.6 ± 6 % | 5.11 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 | 7.95 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **79.1 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.26 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **22.5 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 | 48.4 ± 6 % | 5.51 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 | 7.61 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **76.0 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.12 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 | 47.7 ± 6 % | 5.99 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 | 7.78 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **77.7 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.15 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.4 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 | 47.5 ± 6 % | 6.22 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 | 7.45 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **74.4 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.06 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **20.5 W/kg ± 19.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL at 5250 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 55.5 Ω - 3.6 jΩ |
| Return Loss | - 24.2 dB |

### Antenna Parameters with Head TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 57.7 Ω - 3.9 jΩ |
| Return Loss | - 21.9 dB |

### Antenna Parameters with Head TSL at 5750 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 61.1 Ω + 9.7 jΩ |
| Return Loss | - 17.6 dB |

### Antenna Parameters with Body TSL at 5250 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 55.5 Ω - 1.3 jΩ |
| Return Loss | - 25.5 dB |

### Antenna Parameters with Body TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 58.7 Ω - 2.0 jΩ |
| Return Loss | - 21.7 dB |

### Antenna Parameters with Body TSL at 5750 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 61.4 Ω + 11.4 jΩ |
| Return Loss | - 16.8 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.201 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 14, 2003 |

## DASY5 Validation Report for Head TSL

Date: 23.02.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1016**

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; $\sigma$ = 4.58 S/m; $\varepsilon_r$ = 35.3; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5600 MHz; $\sigma$ = 4.94 S/m; $\varepsilon_r$ = 34.8; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5750 MHz; $\sigma$ = 5.11 S/m; $\varepsilon_r$ = 34.6; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

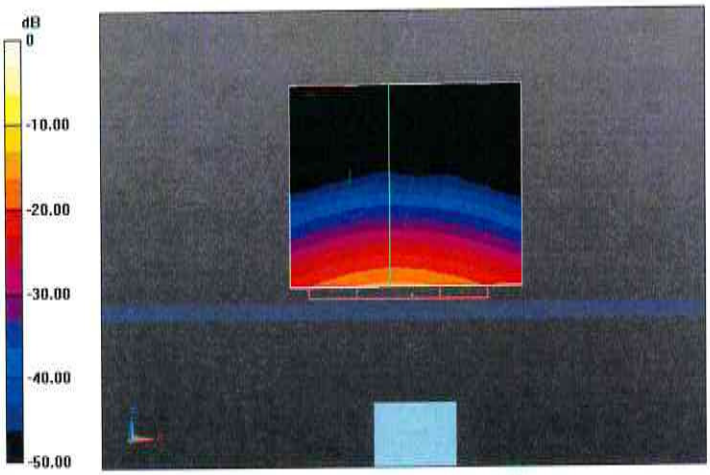
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.45, 5.45, 5.45); Calibrated: 30.12.2014, ConvF(4.92, 4.92, 4.92); Calibrated: 30.12.2014, ConvF(4.91, 4.91, 4.91); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**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 = 63.92 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 28.9 W/kg
**SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.28 W/kg**
Maximum value of SAR (measured) = 18.5 W/kg

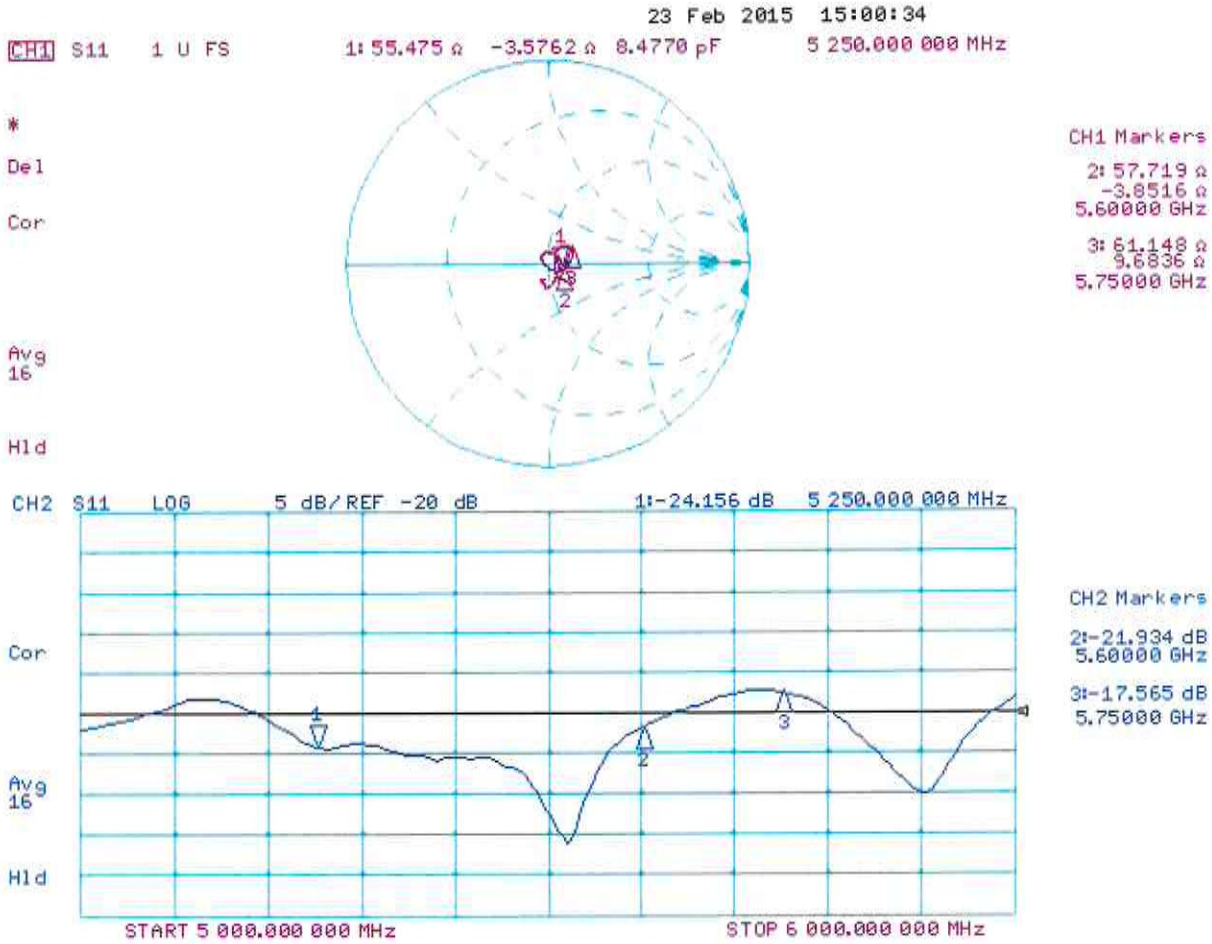
**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.70 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 31.7 W/kg
**SAR(1 g) = 8.13 W/kg; SAR(10 g) = 2.32 W/kg**
Maximum value of SAR (measured) = 19.5 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 = 61.12 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 32.6 W/kg
**SAR(1 g) = 7.95 W/kg; SAR(10 g) = 2.26 W/kg**
Maximum value of SAR (measured) = 19.4 W/kg




0 dB = 18.5 W/kg = 12.67 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 24.02.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1016**

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz
Medium parameters used: f = 5250 MHz; $\sigma$ = 5.51 S/m; $\varepsilon_r$ = 48.4; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5600 MHz; $\sigma$ = 5.99 S/m; $\varepsilon_r$ = 47.7; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5750 MHz; $\sigma$ = 6.22 S/m; $\varepsilon_r$ = 47.5; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

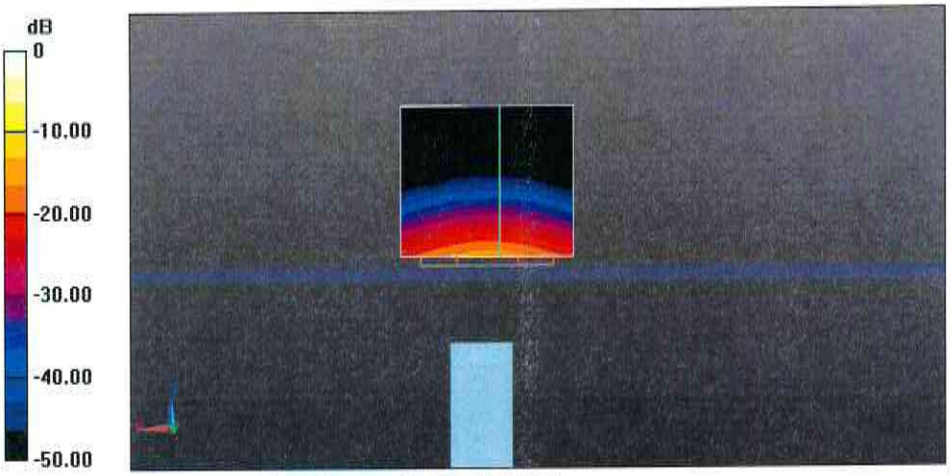
DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.9, 4.9, 4.9); Calibrated: 30.12.2014, ConvF(4.35, 4.35, 4.35); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Dipole Calibration for Body 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 = 58.41 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 30.2 W/kg
**SAR(1 g) = 7.61 W/kg; SAR(10 g) = 2.12 W/kg**
Maximum value of SAR (measured) = 17.9 W/kg

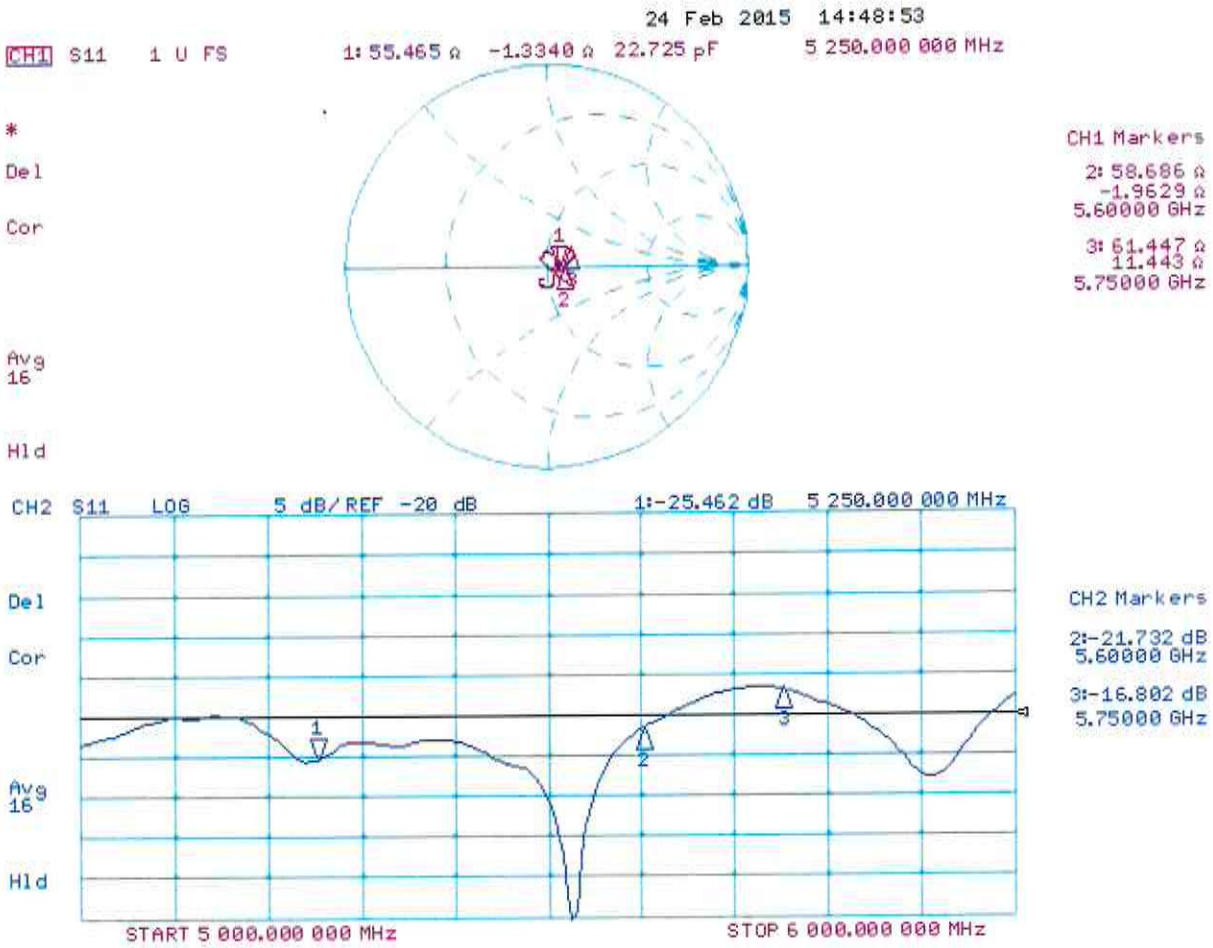
**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 57.26 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 34.3 W/kg
**SAR(1 g) = 7.78 W/kg; SAR(10 g) = 2.15 W/kg**
Maximum value of SAR (measured) = 19.1 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 = 54.77 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 34.2 W/kg
**SAR(1 g) = 7.45 W/kg; SAR(10 g) = 2.06 W/kg**
Maximum value of SAR (measured) = 18.5 W/kg




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

## Impedance Measurement Plot for Body TSL



## 12.7. Tissues-Equivalent Media Recipes

The body mixture consists of water, Polysorbate (Tween 20) and salt. Visual inspection is made to ensure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the tissue.

| **Ingredient** (% by weight) | **Frequency 750/835/850/900 MHz** | |
|---|---|---|
| | **Head** | **Body** |
| De-Ionized Water | 52.87 | 71.30 |
| Polysorbate 20 | 46.10 | 28.00 |
| Salt | 1.03 | 0.70 |

| **Ingredient** (% by weight) | **Frequency 1700/1800/1900 MHz** | |
|---|---|---|
| | **Head** | **Body** |
| De-Ionized Water | 55.40 | 71.50 |
| Polysorbate 20 | 44.22 | 28.00 |
| Salt | 0.38 | 0.50 |

| **Ingredient** (% by weight) | **Frequency 2300/2450/2600 MHz** | |
|---|---|---|
| | **Head** | **Body** |
| De-Ionized Water | 55.75[(1)] | 71.70 |
| Polysorbate 20 | 45.25[(1)] | 28.00 |
| Salt | 0.00 | 0.30 |

Stimulating Liquid for 3700 MHz to 5800 MHz are supplied and manufactured by SPEAG

| **Ingredient** (% by weight) | **Frequency** |
|---|---|
| | **3700 - 5800 MHz Head / Body** |
| De-Ionized Water | ~78.00 |
| Mineral Oil | ~11.00 |
| Emulsifiers | ~9.00 |
| Additives and Salt | ~2.00 |

**Note(s):**

1. As per the recipe provided by National Physical Laboratory, the 2450 MHz Head Fluid recipe is mixed to the total percentage of weight is by 101.0 %.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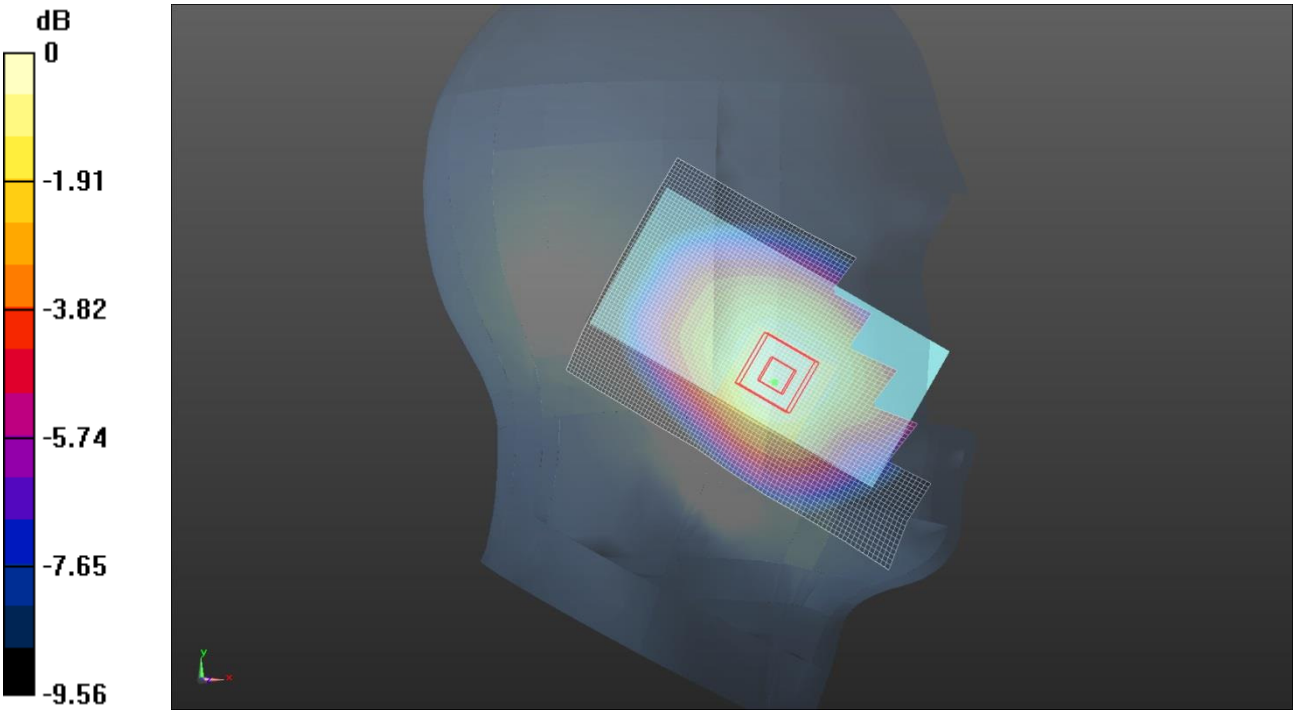
## 12.8. Baseline Plots

### 12.8.1. Baseline Plots – A1428

Touch Left of EUT GSM 850 CH190 - UL VS Ltd

Date: 14/10/2014
**DUT: A1428**




0 dB = 0.587 W/kg = -2.31 dBW/kg

Communication System: UID 0, Generic GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium: 900 MHz HSL Medium parameters used (interpolated): f = 836.6 MHz; $\sigma$ = 0.901 S/m; $\varepsilon_r$ = 41.982; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3995; ConvF(9.99, 9.99, 9.99); Calibrated: 9/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1438; Calibrated: 12/5/2014
- Phantom: SAM (20deg probe tilt) with CRP v4.0; Type: QD000P40CC; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Left - Middle/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.601 W/kg
**Configuration/Touch Left - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.535 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.676 W/kg
**SAR(1 g) = 0.562 W/kg; SAR(10 g) = 0.432 W/kg**
Maximum value of SAR (measured) = 0.587 W/kg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Touch Left of EUT GSM 850 CH190 - Extract from Original Report

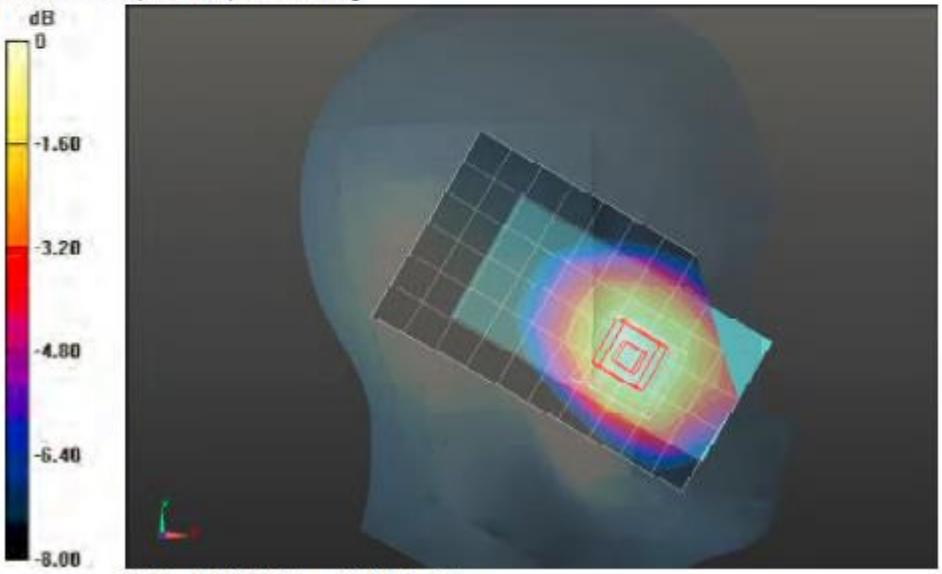
Test Laboratory: UL CCS SAR Lab C Date: 7/1/2012

## GSM850 (Primary Antenna)

Frequency: 836.6 MHz; Duty Cycle: 1:8.00018; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 836.6 MHz; $\sigma$ = 0.879 mho/m; $\varepsilon_r$ = 41.731; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Probe: EX3DV4 - SN3751; ConvF(8.35, 8.35, 8.35); Calibrated: 12/19/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: SAM; Type: QD000P40CD; Serial: 1632

**LHS/Touch_Voice_ch 190/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.758 mW/g

**LHS/Touch_Voice_ch 190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.680 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.8570
**SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.553 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.776 mW/g




0 dB = 0.780mW/g = -2.16 dB mW/g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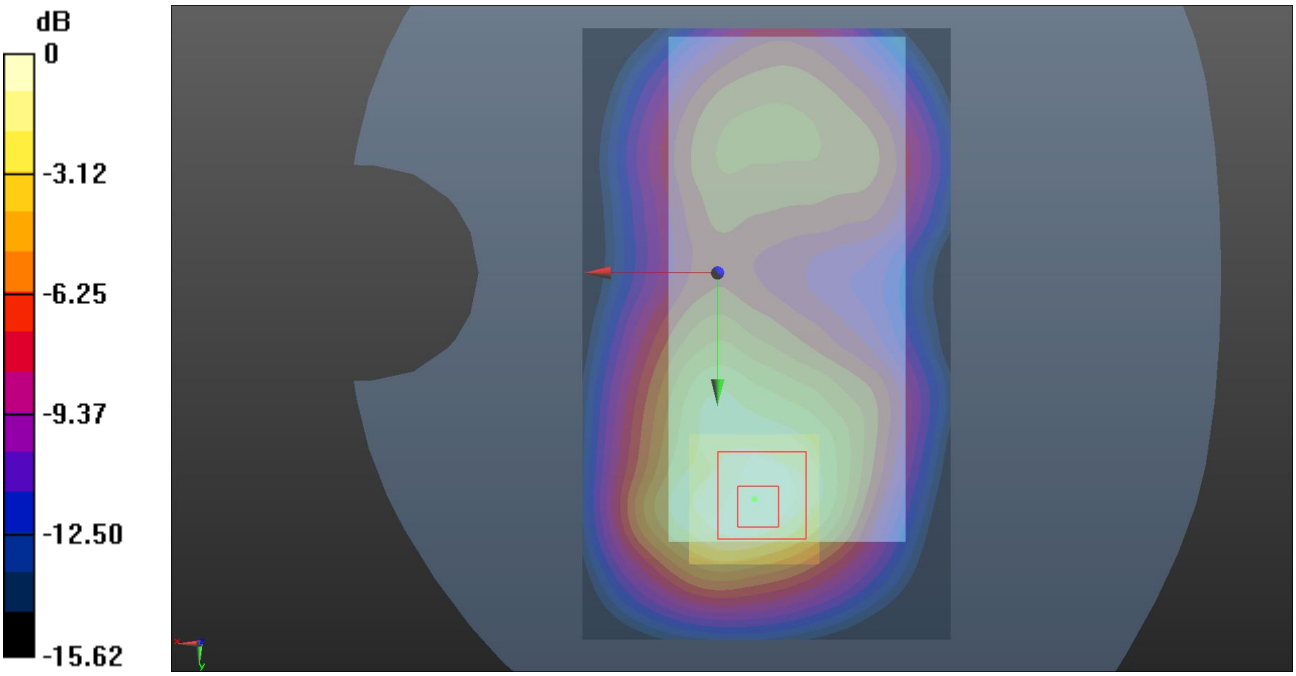
Back of EUT PCS 1900 GPRS 2Tx CH810 - UL VS Ltd

Date: 15/10/2014
**DUT: A1428**




0 dB = 0.883 W/kg = -0.54 dBW/kg

Communication System: UID 0, GPRS 1900 2Tx; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1909.8 MHz; $\sigma$ = 1.547 S/m; $\varepsilon_r$ = 52.626; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1529; ConvF(4.46, 4.46, 4.46); Calibrated: 22/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 16/5/2014
- Phantom: SAM 12b (Site 56); Type: SAM 4.0; Serial: TP:1192
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Back of the EUT Facing the Phantom - High/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.970 W/kg
**Configuration/Back of the EUT Facing the Phantom - High/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.32 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.39 W/kg
**SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.449 W/kg**
Maximum value of SAR (measured) = 0.883 W/kg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Back of EUT PCS 1900 GPRS 2Tx CH810 - Extract from Original Report

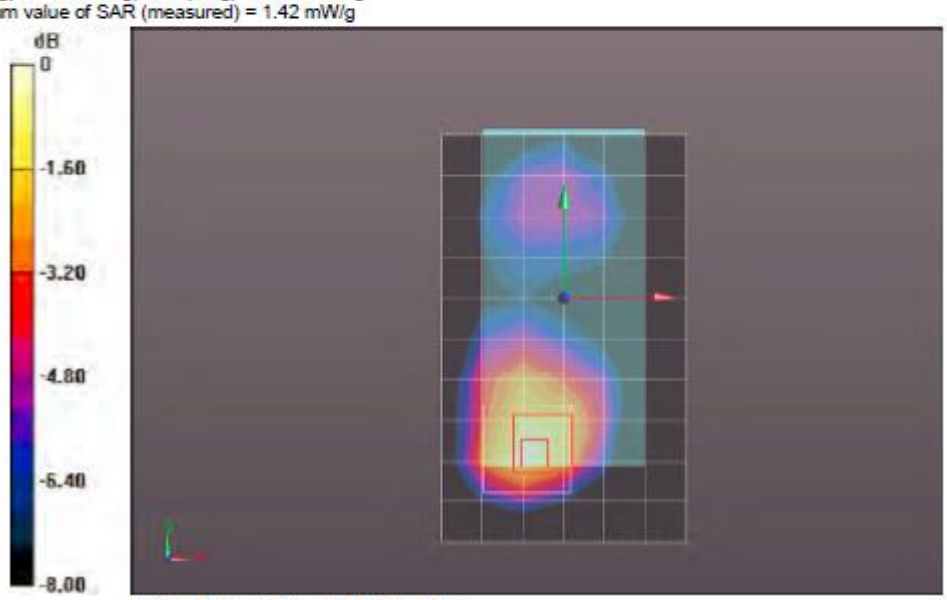
Test Laboratory: UL CCS SAR Lab B Date: 7/7/2012

## GSM1900 (Primary Antenna)

Frequency: 1909.8 MHz; Duty Cycle: 1:4.00037; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.529 mho/m; $\varepsilon_r$ = 51.599; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1259; Calibrated: 2/13/2012
- Probe: EX3DV4 - SN3686; ConvF(7.04, 7.04, 7.04); Calibrated: 2/16/2012;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1117

**Rear/GPRS 2 slots_ch 810/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.46 mW/g

**Rear/GPRS 2 slots_ch 810/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.314 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.988 mW/g
**SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.609 mW/g**
Maximum value of SAR (measured) = 1.42 mW/g




0 dB = 1.42 mW/g = 3.05 dB mW/g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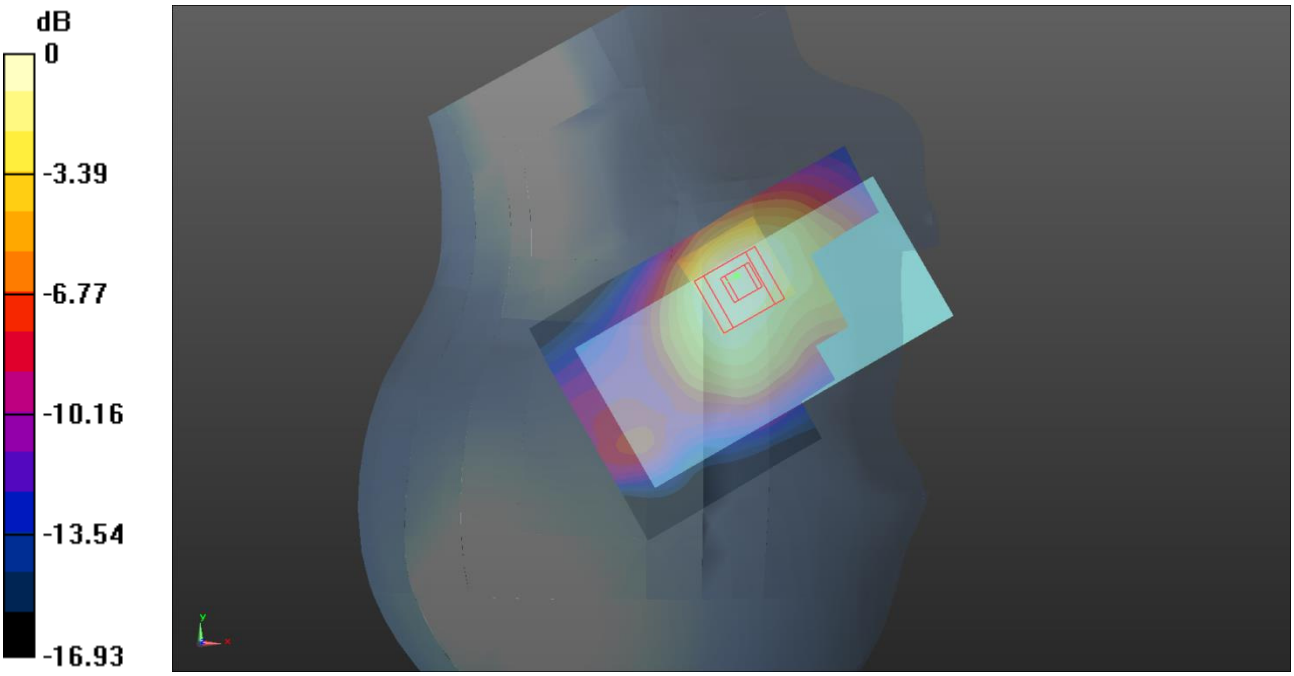
Touch Right of EUT LTE 4 1RB High CH20050 - UL VS Ltd

Date: 18/2/2015
**DUT: A1428**




0 dB = 1.48 W/kg = 1.70 dBW/kg

Communication System: UID 0, LTE - Band 4 / 20MHz Channel; Frequency: 1720 MHz;Duty Cycle: 1:1
Medium: 1800 MHz HSL Medium parameters used (interpolated): f = 1720 MHz; $\sigma$ = 1.33 S/m; $\varepsilon_r$ = 39.601; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section
DASY4 Configuration:
- Probe: ES3DV3 - SN3335; ConvF(5.21, 5.21, 5.21); Calibrated: 29/8/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn431; Calibrated: 4/11/2014
- Phantom: SAM B (Site 58); Type: Twin Phantom; Serial: TP:1020
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Right- Low/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.54 W/kg
**Configuration/Touch Right- Low/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.38 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 2.01 W/kg
**SAR(1 g) = 1.39 W/kg; SAR(10 g) = 0.896 W/kg**
Maximum value of SAR (measured) = 1.48 W/kg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Touch Right of EUT LTE 4 1RB High CH20050 - Extract from Original Report

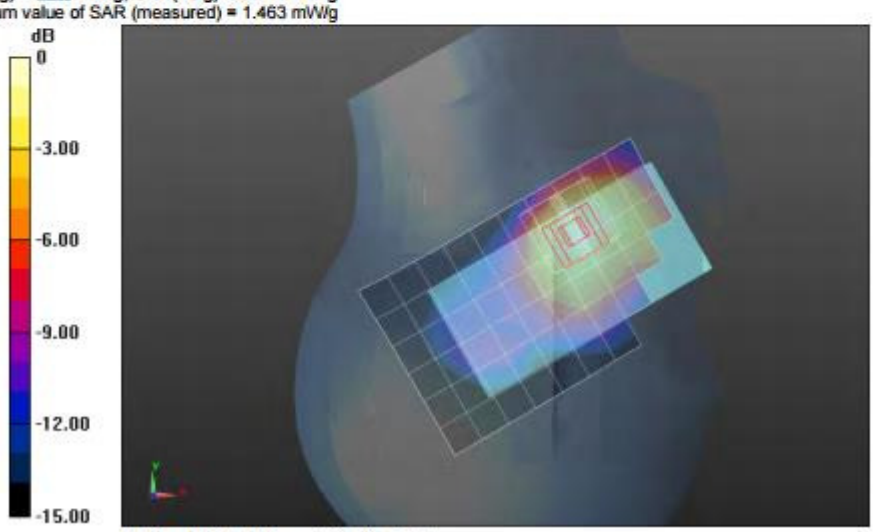
Test Laboratory: UL CCS SAR Lab A Date: 9/1/2012

**LTE Band 4 (Primary Antenna)**

Frequency: 1720 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used: f = 1720 MHz; σ = 1.317 mho/m; $\varepsilon_r$ = 39.373; ρ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(7.79, 7.79, 7.79); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (A); Type: QD000P40CC; Serial: 1602

**RHS/Touch_QPSK_RB# 1, 99_Ch 20050/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.389 mW/g

**RHS/Touch_QPSK_RB# 1, 99_Ch 20050/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.834 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.8500
**SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.777 mW/g**
Maximum value of SAR (measured) = 1.463 mW/g




0 dB = 1.460mW/g = 3.29 dB mW/g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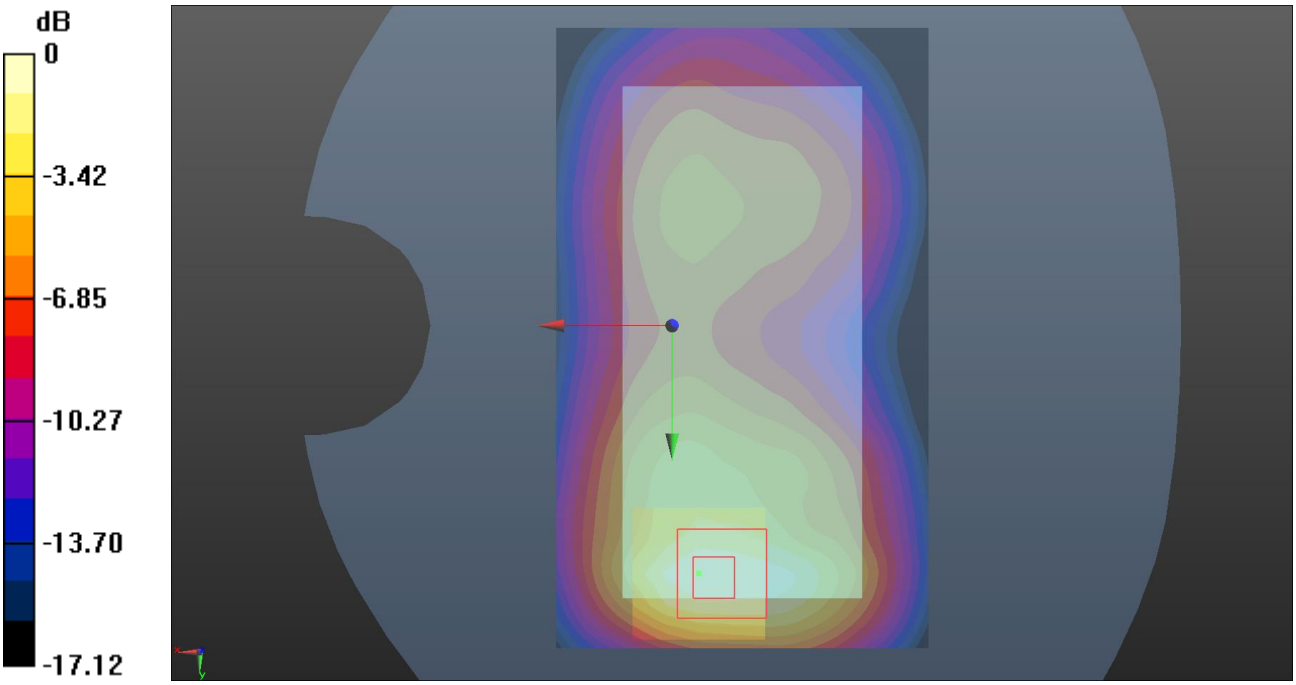
Back of EUT LTE 4 1RB Mid CH20175 - UL VS Ltd

Date: 18/2/2015
**DUT: A1428**




0 dB = 1.46 W/kg = 1.64 dBW/kg

Communication System: UID 0, LTE FDD Bands - 20MHz Channel BW ; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1800 MHz HSL Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.516 S/m; $\varepsilon_r$ = 51.831; ρ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ES3DV3 - SN3335; ConvF(4.91, 4.91, 4.91); Calibrated: 29/8/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn431; Calibrated: 4/11/2014
- Phantom: SAM A (Site 58); Type: QD000P40Ca; Serial: TP:1193
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Back of the EUT Facing the Phantom - Middle/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.47 W/kg
**Configuration/Back of the EUT Facing the Phantom - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.40 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 2.28 W/kg
**SAR(1 g) = 1.3 W/kg; SAR(10 g) = 0.738 W/kg**
Maximum value of SAR (measured) = 1.46 W/kg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Back of EUT LTE 4 1RB Mid CH20175 - Extract from Original Report

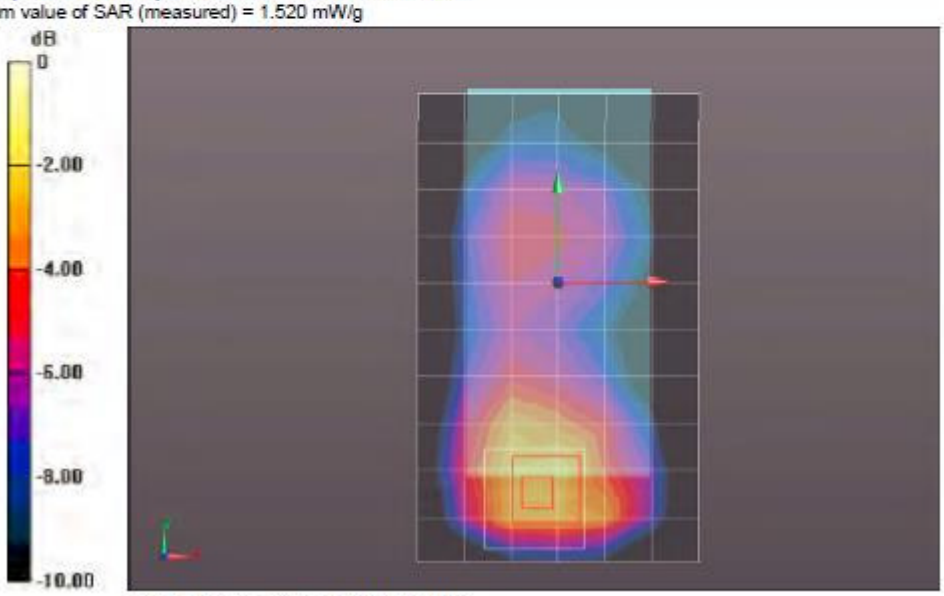
Test Laboratory: UL CCS SAR Lab C Date: 7/19/2012

## LTE Band 4 (Primary Antenna)

Frequency: 1732.5 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.439 mho/m; $\varepsilon_r$ = 52.445; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Probe: EX3DV4 - SN3751; ConvF(7.15, 7.15, 7.15); Calibrated: 12/19/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121

**Rear/QPSK_RB# 1, 49_Ch 20175/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.115 mW/g

**Rear/QPSK_RB# 1, 49_Ch 20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.221 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.0350
**SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.674 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.520 mW/g




0 dB = 1.520mW/g = 3.64 dB mW/g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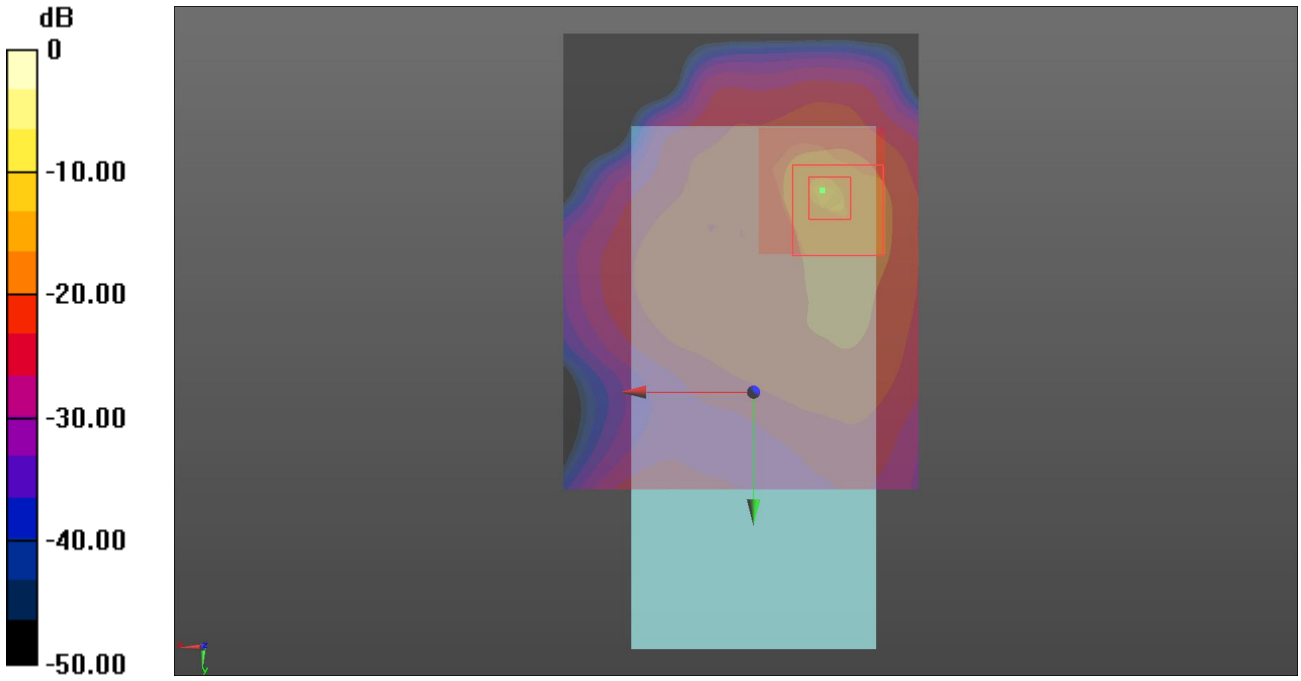
Back of EUT Wi-Fi 2.4 GHz CH6 - UL VS Ltd

Date: 29/10/2014
**DUT: A1428**




0 dB = 0.169 W/kg = -7.72 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; $\sigma$ = 1.964 S/m; $\varepsilon_r$ = 53.019; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ES3DV3 - SN3335; ConvF(4.28, 4.28, 4.28); Calibrated: 29/8/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1435; Calibrated: 15/4/2014
- Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Back (Sample A10202 Black) 2 2/Area Scan (71x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.175 W/kg
**Configuration/Back (Sample A10202 Black) 2 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.077 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.363 W/kg
**SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.066 W/kg**
Maximum value of SAR (measured) = 0.169 W/kg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Back of EUT Wi-Fi 2.4 GHz CH6 - Extract from Original Report

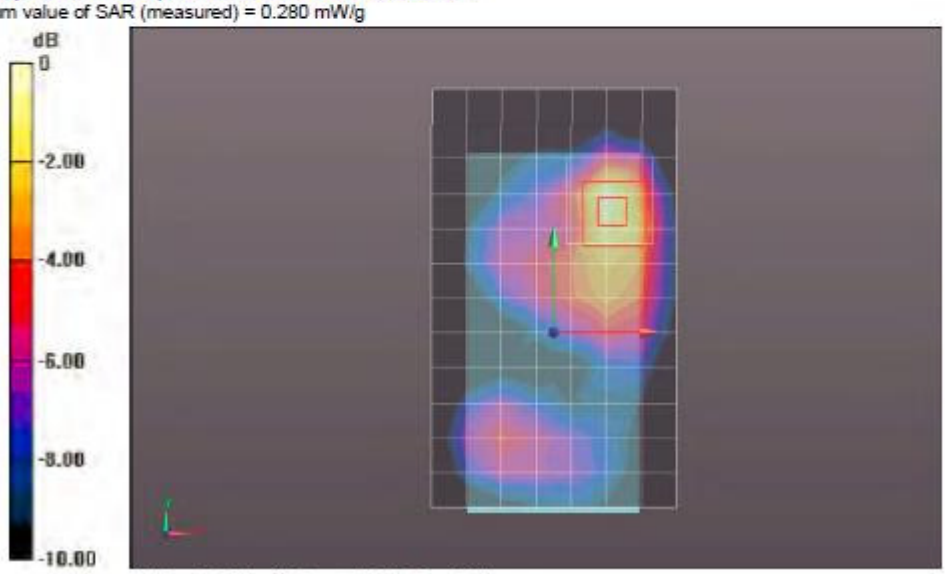
Test Laboratory: UL CCS SAR Lab A Date: 7/6/2012

## WiFi 2.4GHz

Frequency: 2437 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 2437 MHz; $\sigma$ = 1.91 mho/m; $\varepsilon_r$ = 51.374; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(6.65, 6.65, 6.65); Calibrated: 2/16/2012;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1099

**Rear/802.11b_ch 6 w/Headset/Area Scan (8x13x1):** Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.262 mW/g

**Rear/802.11b_ch 6 w/Headset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.824 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.451 mW/g
**SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.094 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.280 mW/g




0 dB = 0.280 mW/g = -11.06 dB mW/g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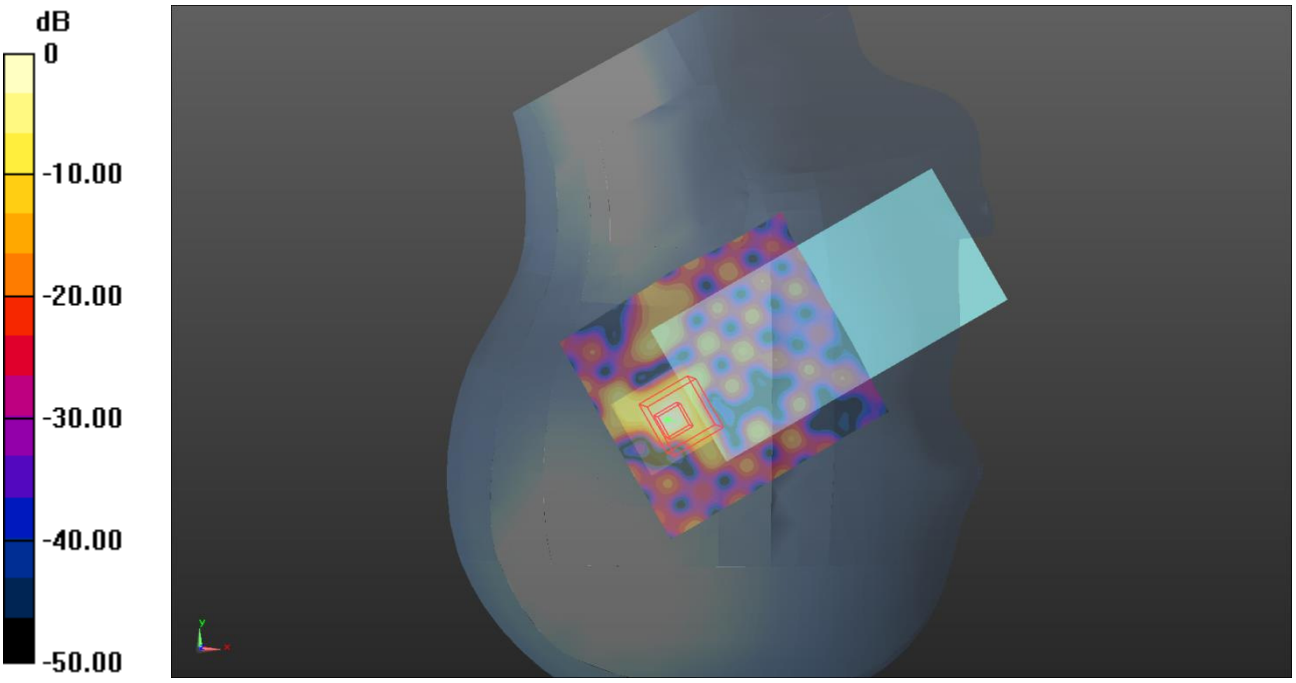
Touch Right of EUT Wi-Fi 5.3 GHz CH52 - UL VS Ltd

Date: 17/10/2014
**DUT: A1428**




0 dB = 0.645 W/kg = -1.90 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz HSL Medium parameters used (interpolated): f = 5260 MHz; $\sigma$ = 4.756 S/m; $\varepsilon_r$ = 35.944; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(5.08, 5.08, 5.08); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn431; Calibrated: 18/11/2013
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Right (Sample A10202 Black)/Area Scan (91x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.08 W/kg
**Configuration/Touch Right (Sample A10202 Black)/Zoom Scan (7x7x12) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.33 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.51 W/kg
**SAR(1 g) = 0.457 W/kg; SAR(10 g) = 0.187 W/kg**
Maximum value of SAR (measured) = 0.645 W/kg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Touch Right of EUT Wi-Fi 5.3 GHz CH52 - Extract from Original Report

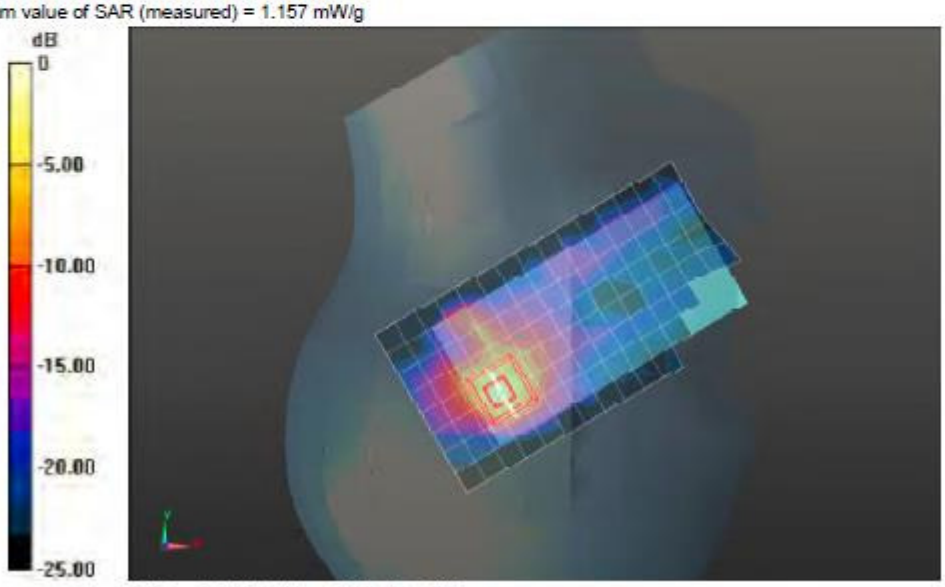
Test Laboratory: UL CCS SAR Lab A Date: 7/6/2012

## WiFi 5.3GHz

Frequency: 5260 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5260 MHz; $\sigma$ = 4.661 mho/m; $\varepsilon_r$ = 34.543; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(4.62, 4.62, 4.62); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (B); Type: QD000P40CD; Serial: 1628

**RHS/Touch_802.11a_ch 52/Area Scan (9x16x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.729 mW/g

**RHS/Touch_802.11a_ch 52/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 2.2610
**SAR(1 g) = 0.538 mW/g; SAR(10 g) = 0.143 mW/g**
Maximum value of SAR (measured) = 1.157 mW/g




0 dB = 1.160mW/g = 1.29 dB mW/g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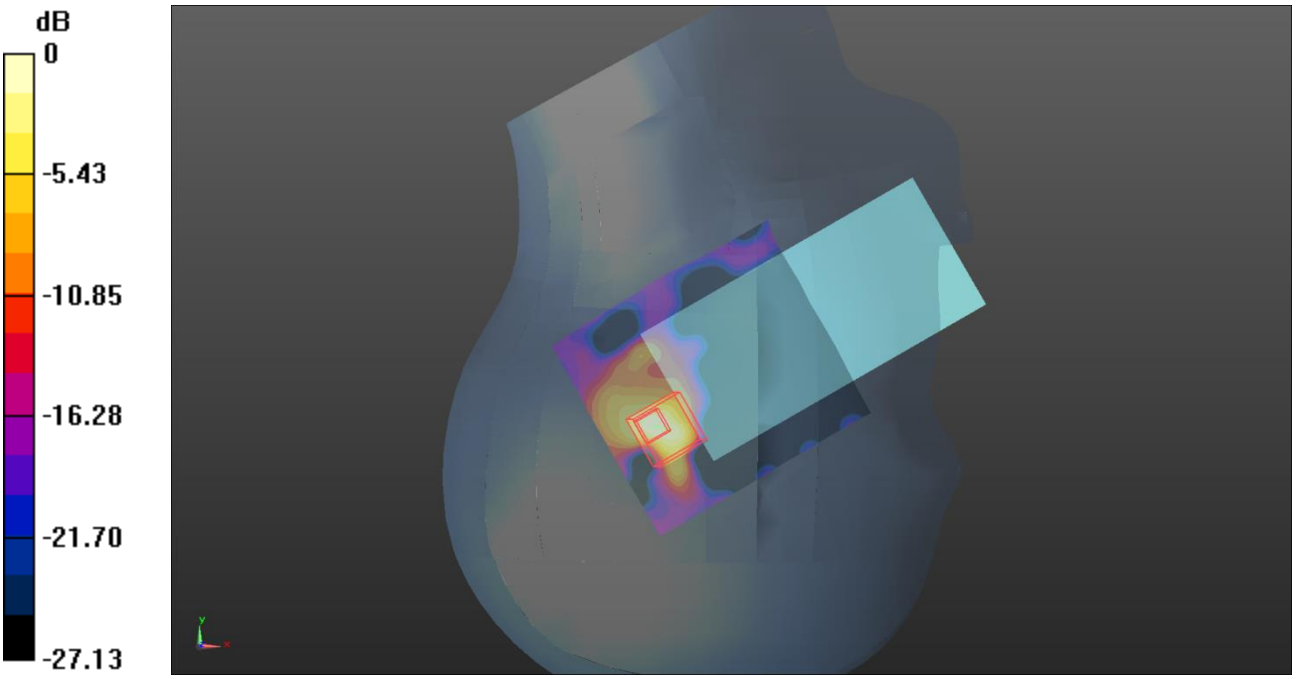
Touch Right of EUT Wi-Fi 5.5 GHz CH136 - UL VS Ltd

Date: 29/10/2014
**DUT: A1428**




0 dB = 0.371 W/kg = -4.31 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5680 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz HSL Medium parameters used (interpolated): f = 5680 MHz; $\sigma$ = 5.119 S/m; $\varepsilon_r$ = 34.636; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(4.85, 4.85, 4.85); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/DNU Touch Right (Sample A10468 White) 2/Area Scan (91x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.401 W/kg
**Configuration/DNU Touch Right (Sample A10468 White) 2/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.114 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 6.22 W/kg
**SAR(1 g) = 0.450 W/kg; SAR(10 g) = 0.118 W/kg**
Maximum value of SAR (measured) = 0.371 W/kg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Touch Right of EUT Wi-Fi 5.5 GHz CH136 - Extract from Original Report

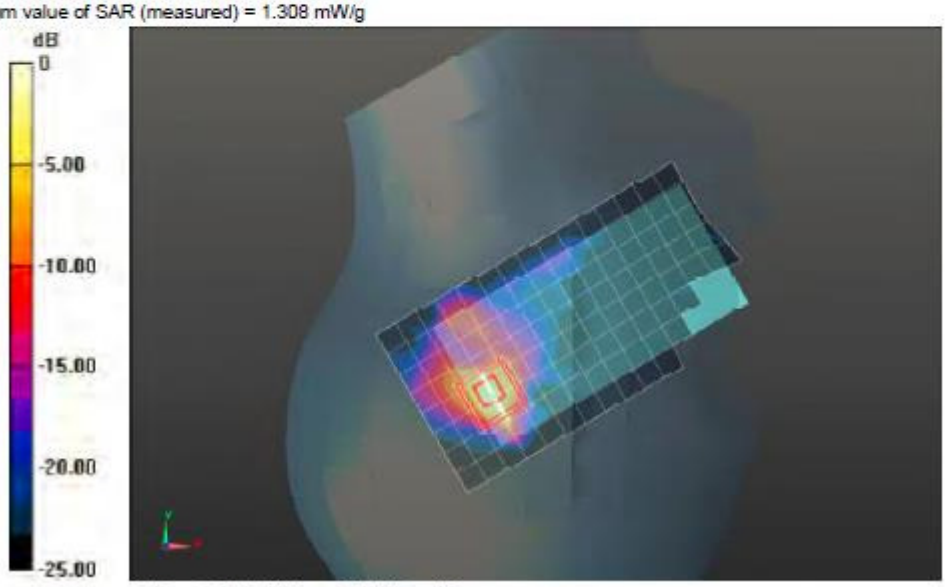
Test Laboratory: UL CCS SAR Lab A Date: 7/3/2012

## WiFi 5.5GHz

Frequency: 5680 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5680 MHz; $\sigma$ = 5.27 mho/m; $\varepsilon_r$ = 35.565; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(4.25, 4.25, 4.25); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (B); Type: QD000P40CD; Serial: 1628

**RHS/Touch_802.11a_ch 136/Area Scan (9x16x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.029 mW/g

**RHS/Touch_802.11a_ch 136/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.370 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.6580
**SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.151 mW/g**
Maximum value of SAR (measured) = 1.308 mW/g




0 dB = 1.310mW/g = 2.35 dB mW/g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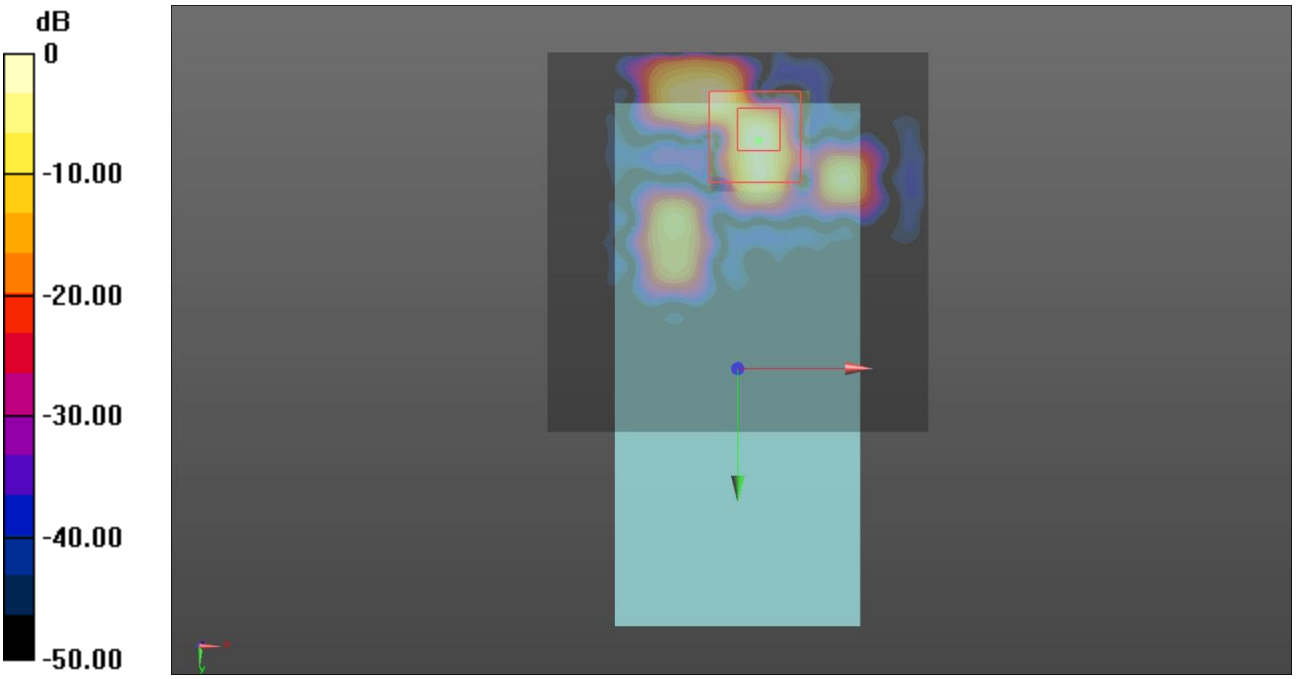
Front of EUT Wi-Fi 5.5 GHz CH124 - UL VS Ltd

Date: 16/2/2015
**DUT: A1428**




0 dB = 0.0314 W/kg = -15.03 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5620 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5620 MHz; $\sigma$ = 5.841 S/m; $\varepsilon_r$ = 47.606; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3995; ConvF(4.1, 4.1, 4.1); Calibrated: 9/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn417; Calibrated: 10/4/2014
- Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Front (Sample A10202 Black)/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0389 W/kg
**Configuration/Front (Sample A10202 Black)/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.933 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.200 W/kg
**SAR(1 g) = 0.041 W/kg; SAR(10 g) = 0.011 W/kg**
Maximum value of SAR (measured) = 0.0314 W/kg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Front of EUT Wi-Fi 5.5 GHz CH124 - Extract from Original Report

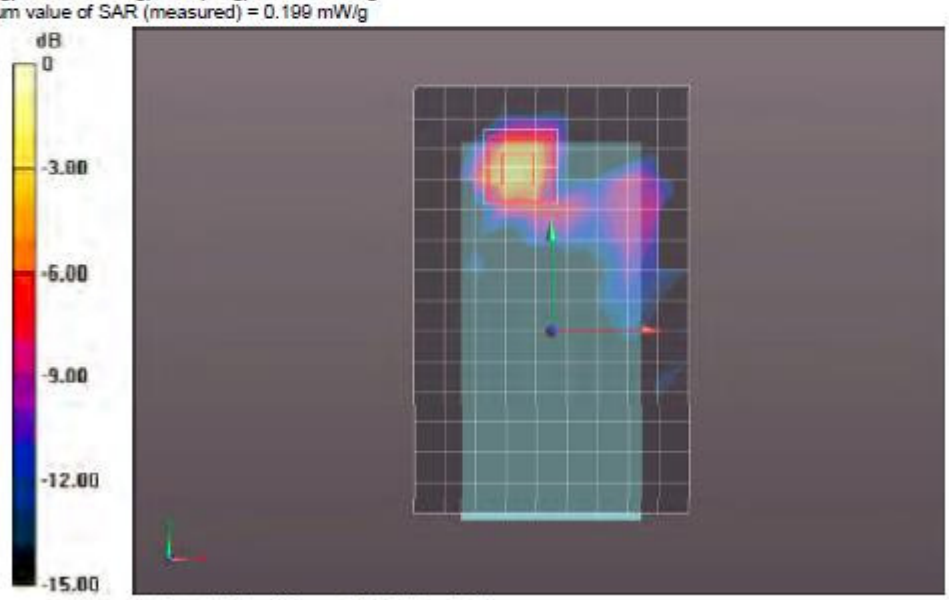
Test Laboratory: UL CCS SAR Lab A Date: 7/12/2012

## WiFi 5.5GHz

Frequency: 5620 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5620 MHz; $\sigma$ = 5.939 mho/m; $\varepsilon_r$ = 46.31; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(3.26, 3.26, 3.26); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1120

**Front/802.11a_Ch 124/Area Scan (10x15x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.127 mW/g

**Front/802.11a_Ch 124/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.238 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.3910
**SAR(1 g) = 0.085 mW/g; SAR(10 g) = 0.026 mW/g**
Maximum value of SAR (measured) = 0.199 mW/g




0 dB = 0.200mW/g = -13.98 dB mW/g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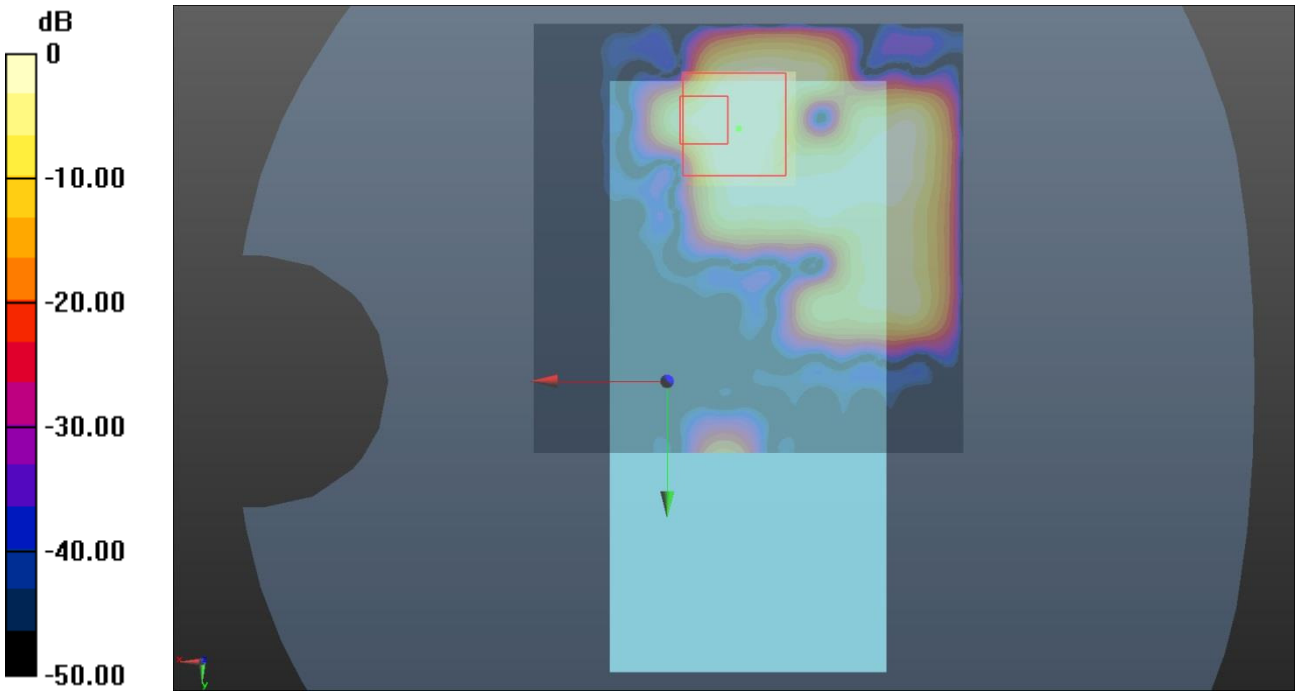
Front of EUT Wi-Fi 5.8 GHz CH149 - UL VS Ltd

Date: 17/3/2015
**DUT: A1428**




0 dB = 0.0750 W/kg = -11.25 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: 5GHz MSL Medium parameters used (interpolated): f = 5745 MHz; $\sigma$ = 6.107 S/m; $\varepsilon_r$ = 47.607; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3814; ConvF(4.06, 4.06, 4.06); Calibrated: 18/9/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1435; Calibrated: 15/4/2014
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Sample 9 Front/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.111 W/kg

**Configuration/Sample 9 Front/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.403 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.895 W/kg
**SAR(1 g) = 0.096 W/kg; SAR(10 g) = 0.031 W/kg**
Maximum value of SAR (measured) = 0.0750 W/kg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Front of EUT Wi-Fi 5.8 GHz CH149 - Extract from Original Report

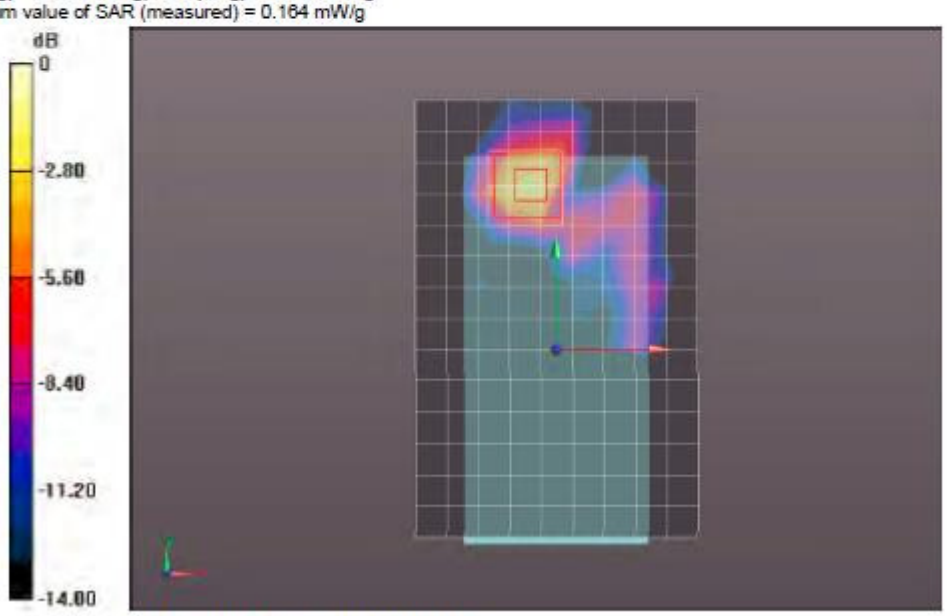
Test Laboratory: UL CCS SAR Lab A Date: 7/17/2012

## WiFi 5.8GHz

Frequency: 5745 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5745 MHz; $\sigma$ = 6.05 mho/m; $\varepsilon_r$ = 46.711; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(3.58, 3.58, 3.58); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1120

**Front/802.11a_Ch 149/Area Scan (10x15x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.105 mW/g

**Front/802.11a_Ch 149/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.737 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.3700
**SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.021 mW/g**
Maximum value of SAR (measured) = 0.164 mW/g




0 dB = 0.160mW/g = -15.92 dB mW/g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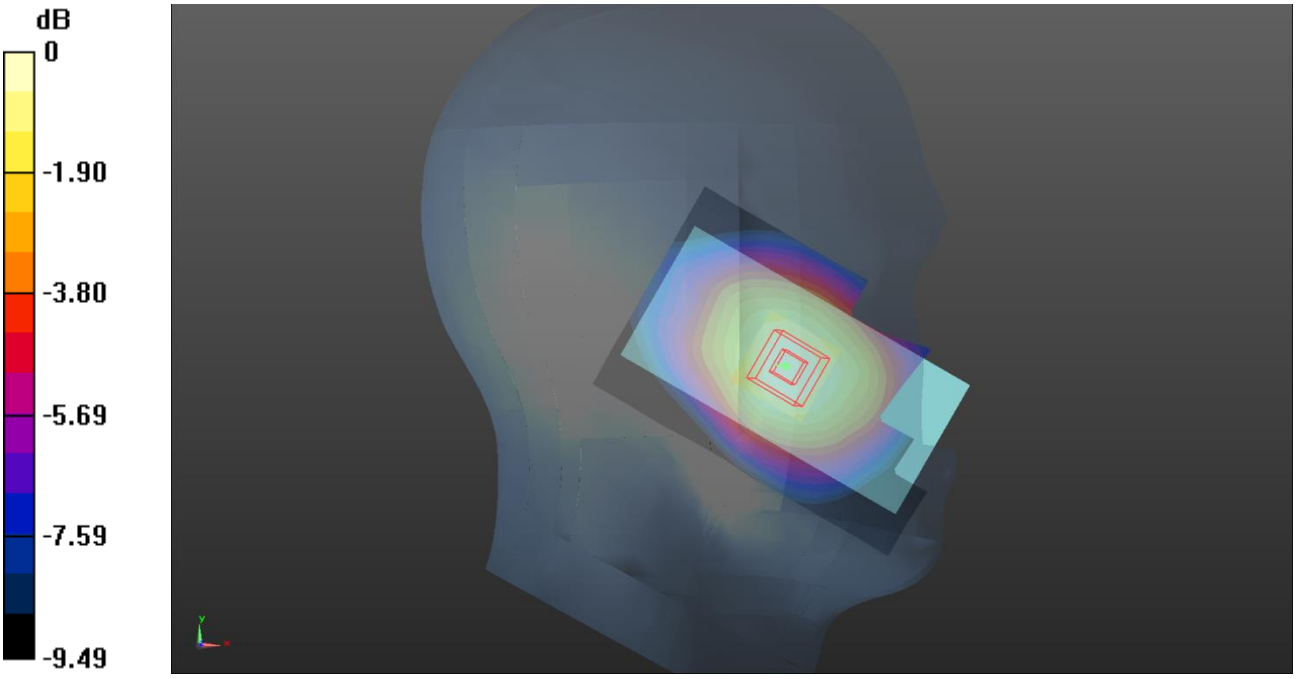
### 12.8.2. Baseline Plots – A1429

Touch Left of EUT GSM 850 CH190 - UL VS Ltd

Date: 30/1/2015
**DUT: A1429**




0 dB = 0.515 W/kg = -2.88 dBW/kg

Communication System: UID 0, GSM 850 MHz; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 900 MHz HSL Medium parameters used (interpolated): f = 836.6 MHz; $\sigma$ = 0.896 S/m; $\varepsilon_r$ = 41.541; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1529; ConvF(6.28, 6.28, 6.28); Calibrated: 22/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 16/5/2014
- Phantom: SAM 12b (Site 56); Type: SAM 4.0; Serial: TP:1192
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Left of the EUT Facing the Phantom - Middle 2 2/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.520 W/kg
**Configuration/Touch Left of the EUT Facing the Phantom - Middle 2 2/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:**
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.536 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.596 W/kg
**SAR(1 g) = 0.484 W/kg; SAR(10 g) = 0.366 W/kg**
Maximum value of SAR (measured) = 0.515 W/kg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Touch Left of EUT GSM 850 CH190 - Extract from Original Report

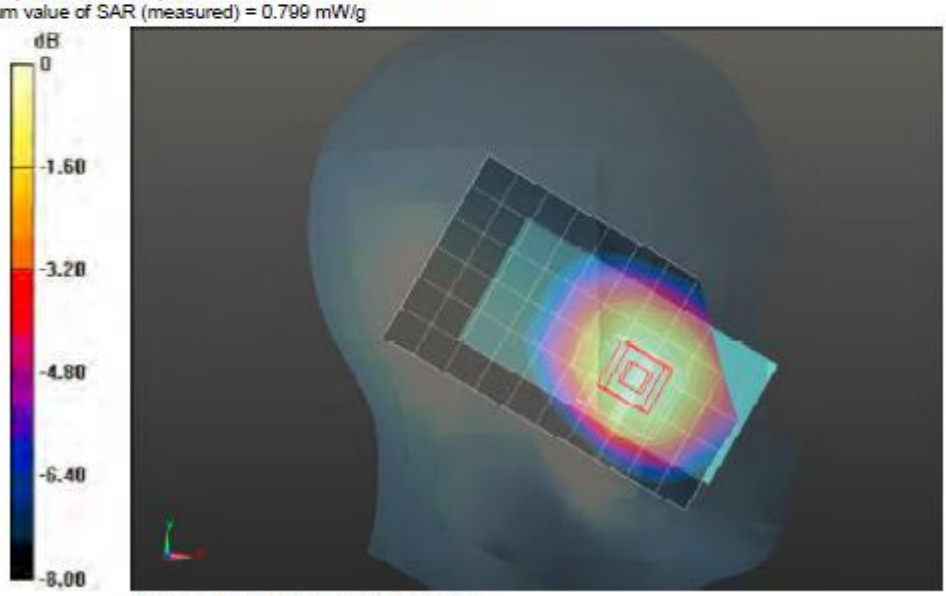
Test Laboratory: UL CCS SAR Lab B Date: 7/30/2012

## GSM850 (Primary Antenna)

Frequency: 836.6 MHz; Duty Cycle: 1:8.00018; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 836.6 MHz; $\sigma$ = 0.903 mho/m; $\varepsilon_r$ = 43.059; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1259; Calibrated: 2/13/2012
- Probe: EX3DV4 - SN3686; ConvF(8.61, 8.61, 8.61); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: SAM; Type: QD000P40CD; Serial: 1629

**LHS/Touch_Voice_ch 190/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.798 mW/g

**LHS/Touch_Voice_ch 190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.968 V/m; Power Drift = 0.0042 dB
Peak SAR (extrapolated) = 0.8830
**SAR(1 g) = 0.737 mW/g; SAR(10 g) = 0.566 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.799 mW/g




0 dB = 0.800mW/g = -1.94 dB mW/g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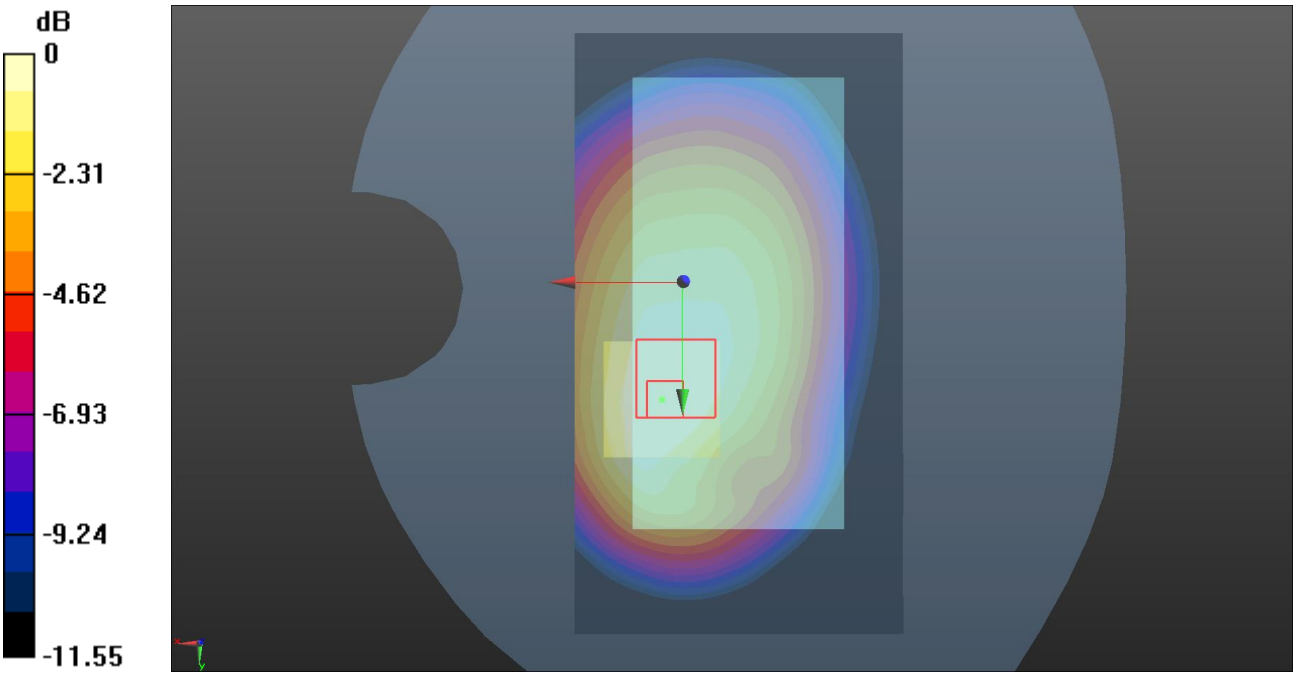
Back of EUT GSM 850 GPRS 2Tx CH251 - UL VS Ltd

Date: 29/1/2015
**DUT: A1429**




0 dB = 0.854 W/kg = -0.69 dBW/kg

Communication System: UID 0, GPRS 850 MHz 2TX; Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium: 750/900 MHz MSL Medium parameters used (interpolated): f = 848.8 MHz; σ = 1.008 S/m; $\varepsilon_r$ = 53.677; ρ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1529; ConvF(6, 6, 6); Calibrated: 22/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 16/5/2014
- Phantom: SAM 12a (Site 56); Type: SAM 4.0; Serial: TP:1020
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Back of the EUT Facing the Phantom - High 2/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.859 W/kg
**Configuration/Back of the EUT Facing the Phantom - High 2/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.32 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.05 W/kg
**SAR(1 g) = 0.802 W/kg; SAR(10 g) = 0.591 W/kg**
Maximum value of SAR (measured) = 0.854 W/kg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Back of EUT GSM 850 GPRS 2Tx CH251 - Extract from Original Report

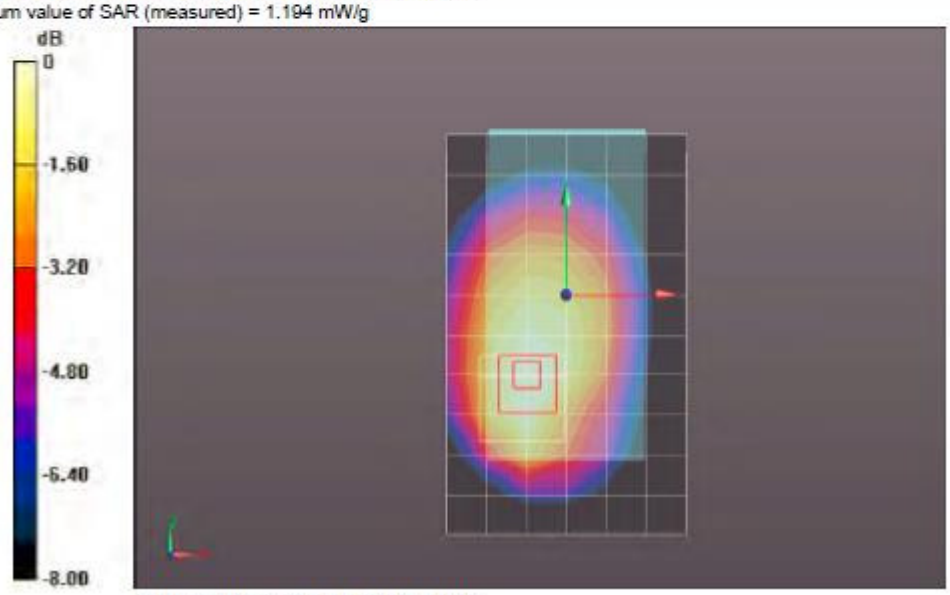
Test Laboratory: UL CCS SAR Lab B Date: 7/31/2012

## GSM850 (Primary Antenna)

Frequency: 848.8 MHz; Duty Cycle: 1:4.00037; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 848.8 MHz; $\sigma$ = 0.987 mho/m; $\varepsilon_r$ = 52.573; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1259; Calibrated: 2/13/2012
- Probe: EX3DV4 - SN3686; ConvF(8.73, 8.73, 8.73); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1118

**Rear/GPRS 2 Slots_ch 251/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.206 mW/g

**Rear/GPRS 2 Slots_ch 251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.385 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.3850
**SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.738 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.194 mW/g




0 dB = 1.190mW/g = 1.51 dB mW/g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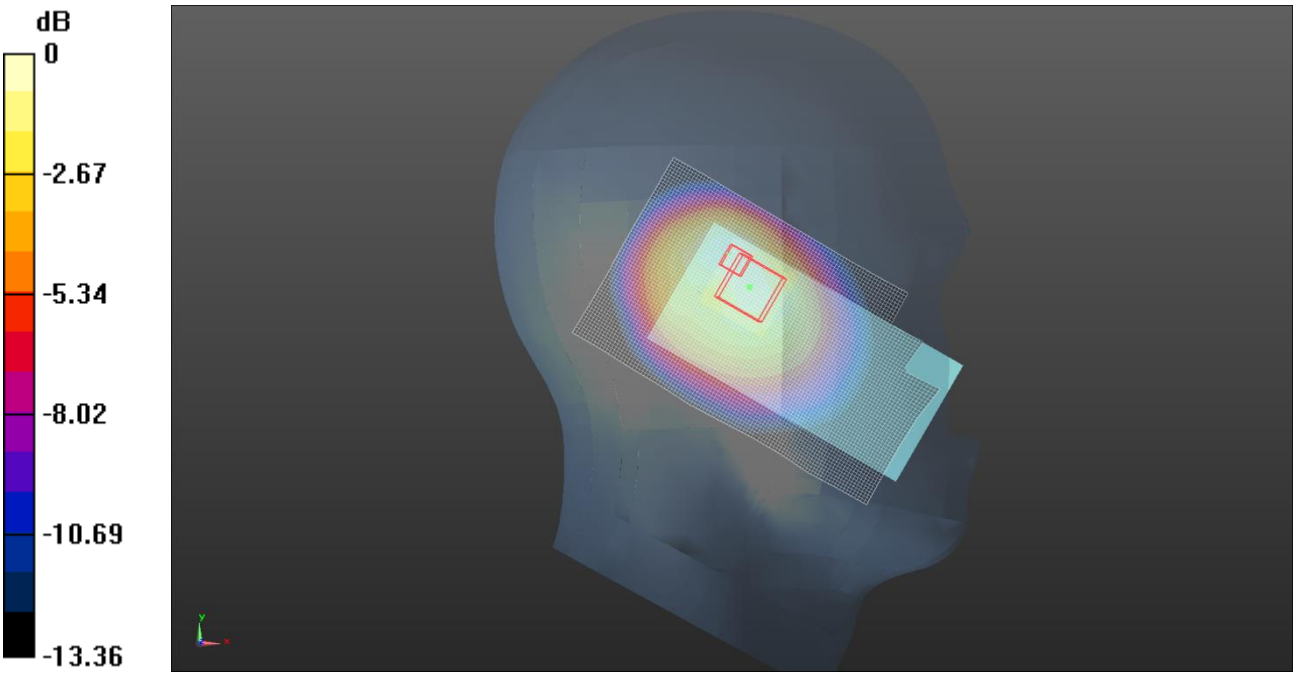
Touch Left of EUT CDMA BC10 CH684 - UL VS Ltd

Date: 18/11/2014
**DUT: A1429**




0 dB = 0.618 W/kg = -2.09 dBW/kg

Communication System: UID 0, CDMA2000 (0); Frequency: 823.1 MHz;Duty Cycle: 1:1
Medium: 900 MHz HSL Medium parameters used (interpolated): f = 823.1 MHz; $\sigma$ = 0.879 S/m; $\varepsilon_r$ = 41.484; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section
DASY4 Configuration:
- Probe: ES3DV3 - SN3335; ConvF(6.46, 6.46, 6.46); Calibrated: 29/8/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1438; Calibrated: 12/5/2014
- Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1836
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Left- High/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.586 W/kg
**Configuration/Touch Left- High/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.23 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.956 W/kg
**SAR(1 g) = 0.555 W/kg; SAR(10 g) = 0.384 W/kg**
Maximum value of SAR (measured) = 0.618 W/kg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Touch Left of EUT CDMA BC10 CH684 - Extract from Original Report

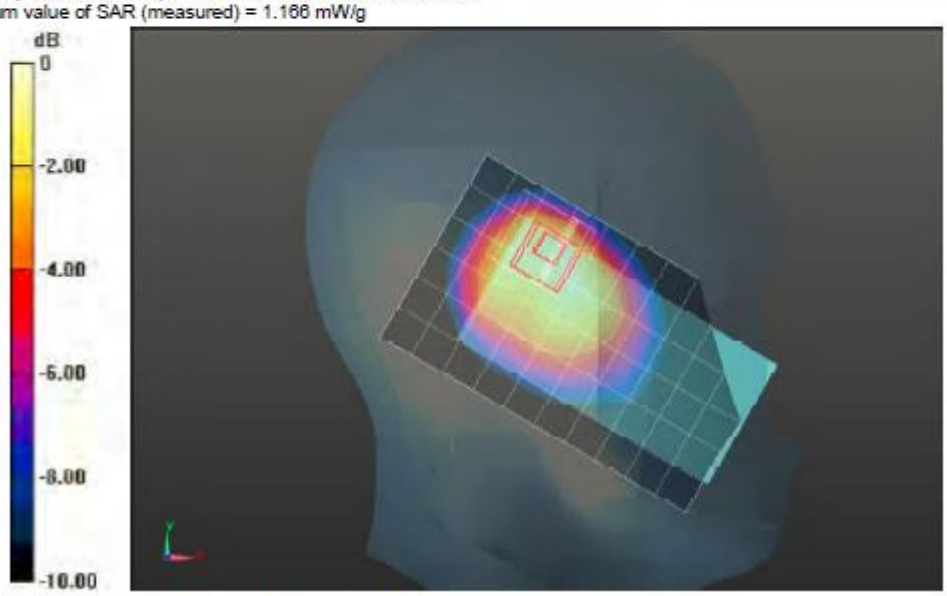
Test Laboratory: UL CCS SAR Lab C Date: 7/13/2012

## CDMA BC10 (Secondary Antenna)

Frequency: 823.1 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 823.1 MHz; $\sigma$ = 0.883 mho/m; $\varepsilon_r$ = 41.86; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1239; Calibrated: 6/6/2012
- Probe: EX3DV4 - SN3751; ConvF(8.35, 8.35, 8.35); Calibrated: 12/19/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: SAM; Type: QD000P40CD; Serial: 1632

**LHS/Touch_RC3 SO55_ch 684/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.046 mW/g

**LHS/Touch_RC3 SO55_ch 684/Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.649 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.6440
**SAR(1 g) = 0.925 mW/g; SAR(10 g) = 0.646 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.166 mW/g




0 dB = 1.170mW/g = 1.36 dB mW/g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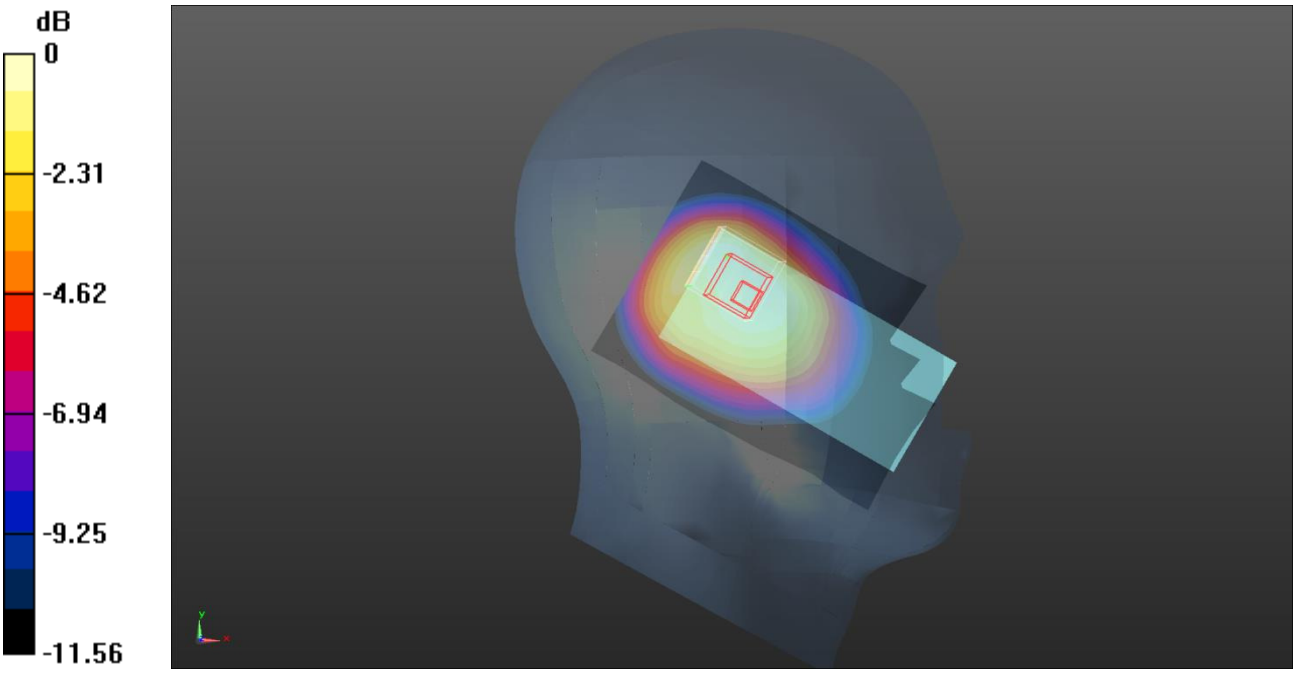
Touch Left of EUT LTE 13 CH23230 - UL VS Ltd

Date: 2/2/2015
**DUT: A1429**




0 dB = 0.385 W/kg = -4.15 dBW/kg

Communication System: UID 0, LTE - Band 13 / 10MHz Channel; Frequency: 782 MHz;Duty Cycle: 1:1
Medium: 900 MHz HSL Medium parameters used (interpolated): f = 782 MHz; σ = 0.855 S/m; $\varepsilon_r$ = 41.971; ρ = 1000 kg/$m^3$
Phantom section: Right Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1529; ConvF(6.6, 6.6, 6.6); Calibrated: 22/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 16/5/2014
- Phantom: SAM 12b (Site 56); Type: SAM 4.0; Serial: TP:1192
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Left of the EUT Facing the Phantom - High/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.394 W/kg
**Configuration/Touch Left of the EUT Facing the Phantom - High/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.30 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.696 W/kg
**SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.216 W/kg**
Maximum value of SAR (measured) = 0.385 W/kg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Touch Left of EUT LTE 13 CH23230 - Extract from Original Report

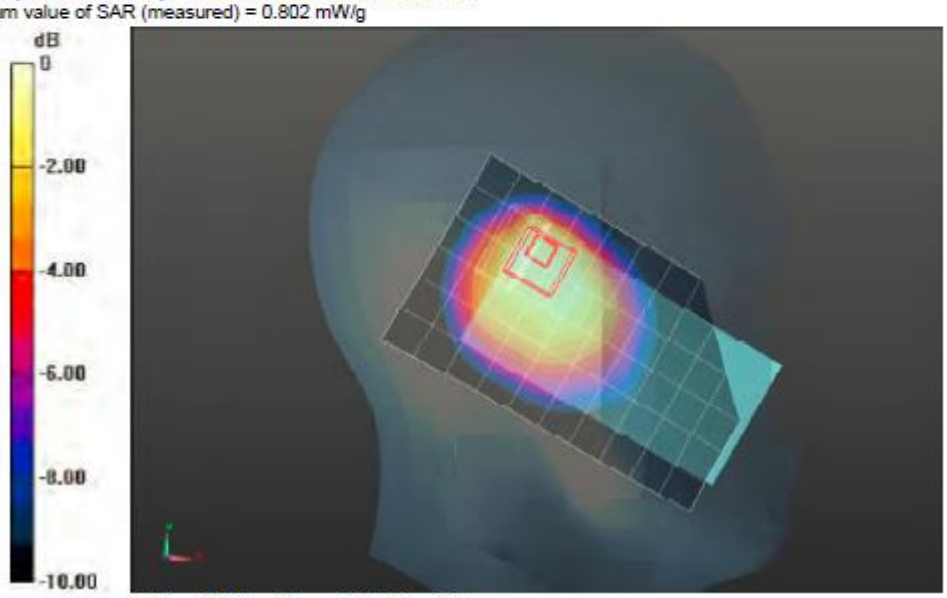
Test Laboratory: UL CCS SAR Lab A Date: 9/5/2012

## LTE Band 13 (Secondary Antenna)

Frequency: 782 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C
Medium parameters used (interpolated): f = 782 MHz; $\sigma$ = 0.893 mho/m; $\varepsilon_r$ = 40.156; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(9.01, 9.01, 9.01); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (B); Type: QD000P40CD; Serial: 1628

**LHS/Touch_QPSK_RB# 1, 24_Ch 23230/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.720 mW/g

**LHS/Touch_QPSK_RB# 1, 24_Ch 23230/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.812 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.1640
**SAR(1 g) = 0.616 mW/g; SAR(10 g) = 0.384 mW/g**
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.802 mW/g




0 dB = 0.800mW/g = -1.94 dB mW/g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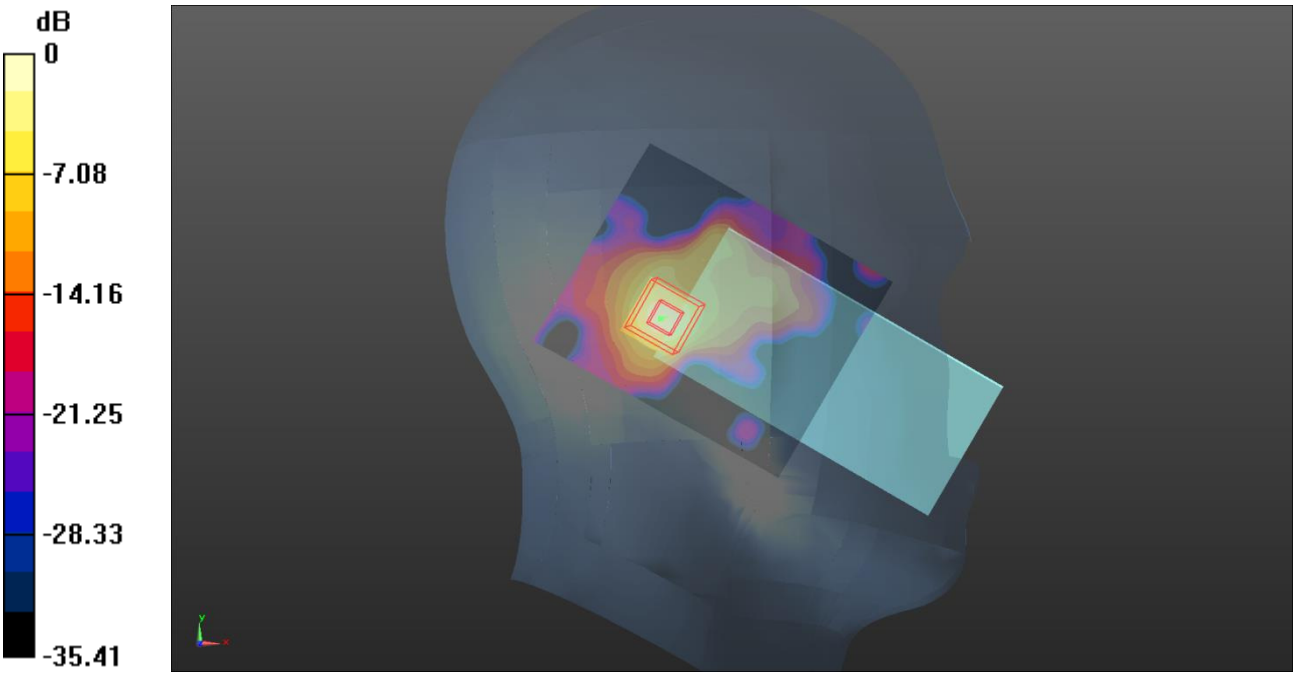
Touch Left of EUT Wi-Fi 5.2 GHz CH48 - UL VS Ltd

Date: 27/11/2014
**DUT: A1429**




0 dB = 0.820 W/kg = -0.86 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5240 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5240 MHz; $\sigma$ = 4.702 S/m; $\varepsilon_r$ = 36.525; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(5.35, 5.35, 5.35); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: SAM (20deg probe tilt) with CRP v4.0; Type: QD000P40CC; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Left/Area Scan (111x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.832 W/kg
**Configuration/Touch Left/Zoom Scan (7x7x12) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.11 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.21 W/kg
**SAR(1 g) = 0.680 W/kg; SAR(10 g) = 0.205 W/kg**
Maximum value of SAR (measured) = 0.820 W/kg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Touch Left of EUT Wi-Fi 5.2 GHz CH48 - Extract from Original Report

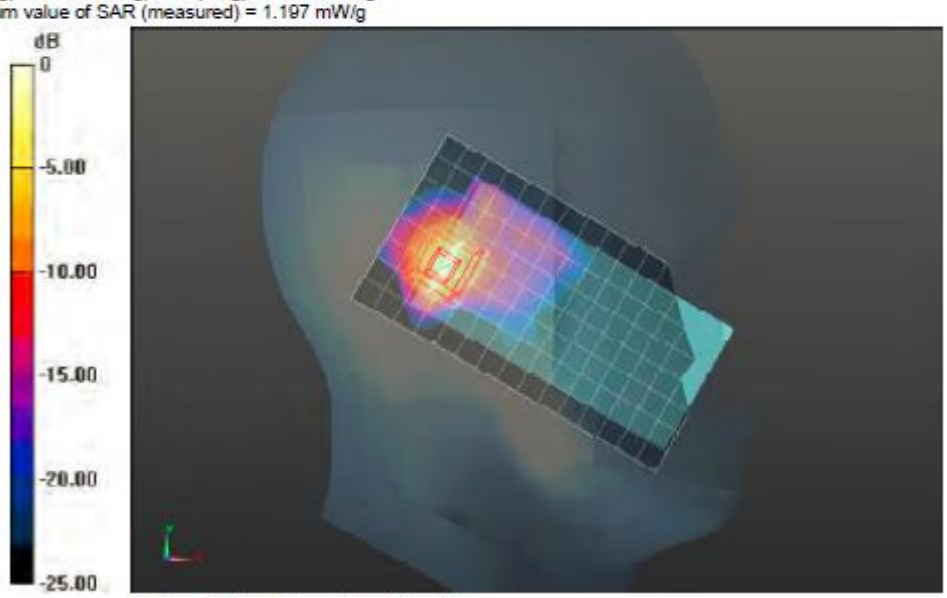
Test Laboratory: UL CCS SAR Lab A Date: 7/24/2012

## WiFi 5.2GHz

Frequency: 5240 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5240 MHz; $\sigma$ = 4.788 mho/m; $\varepsilon_r$ = 36.021; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(4.88, 4.88, 4.88); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (B); Type: QD000P40CD; Serial: 1628

**LHS/Touch_802.11a_ch 48/Area Scan (9x16x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.879 mW/g

**LHS/Touch_802.11a_ch 48/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.921 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.4050
**SAR(1 g) = 0.587 mW/g; SAR(10 g) = 0.165 mW/g**
Maximum value of SAR (measured) = 1.197 mW/g




0 dB = 1.200mW/g = 1.58 dB mW/g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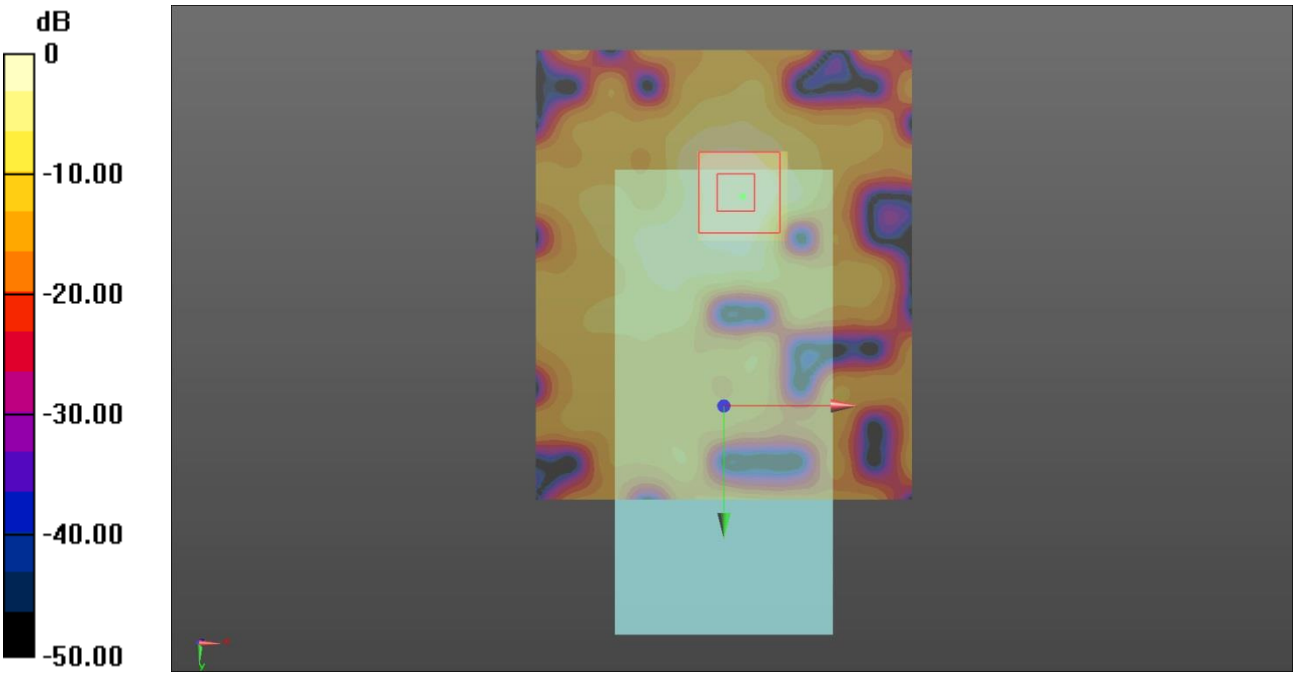
Front of EUT Wi-Fi 5.2 GHz CH48 - UL VS Ltd

Date: 28/11/2014
**DUT: A1429**




0 dB = 0.122 W/kg = -9.14 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5240 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5240 MHz; $\sigma$ = 5.15 S/m; $\varepsilon_r$ = 49.256; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(4.95, 4.95, 4.95); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Front/Area Scan (101x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.138 W/kg
**Configuration/Front/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.051 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.336 W/kg
**SAR(1 g) = 0.106 W/kg; SAR(10 g) = 0.037 W/kg**
Maximum value of SAR (measured) = 0.122 W/kg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Front of EUT Wi-Fi 5.2 GHz CH48 - Extract from Original Report

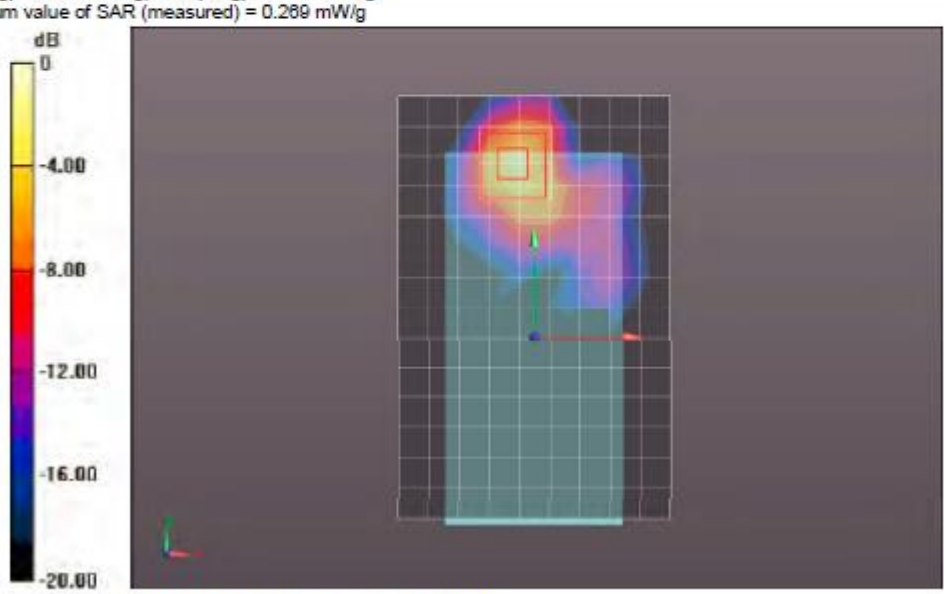
Test Laboratory: UL CCS SAR Lab A Date: 7/25/2012

## WiFi 5.2GHz

Frequency: 5240 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5240 MHz; $\sigma$ = 5.254 mho/m; $\varepsilon_r$ = 47.689; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(4.17, 4.17, 4.17); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1120

**Front/802.11a_Ch 48/Area Scan (10x15x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.215 mW/g

**Front/802.11a_Ch 48/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 6.639 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.5570
**SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.041 mW/g**
Maximum value of SAR (measured) = 0.269 mW/g




0 dB = 0.270mW/g = -11.37 dB mW/g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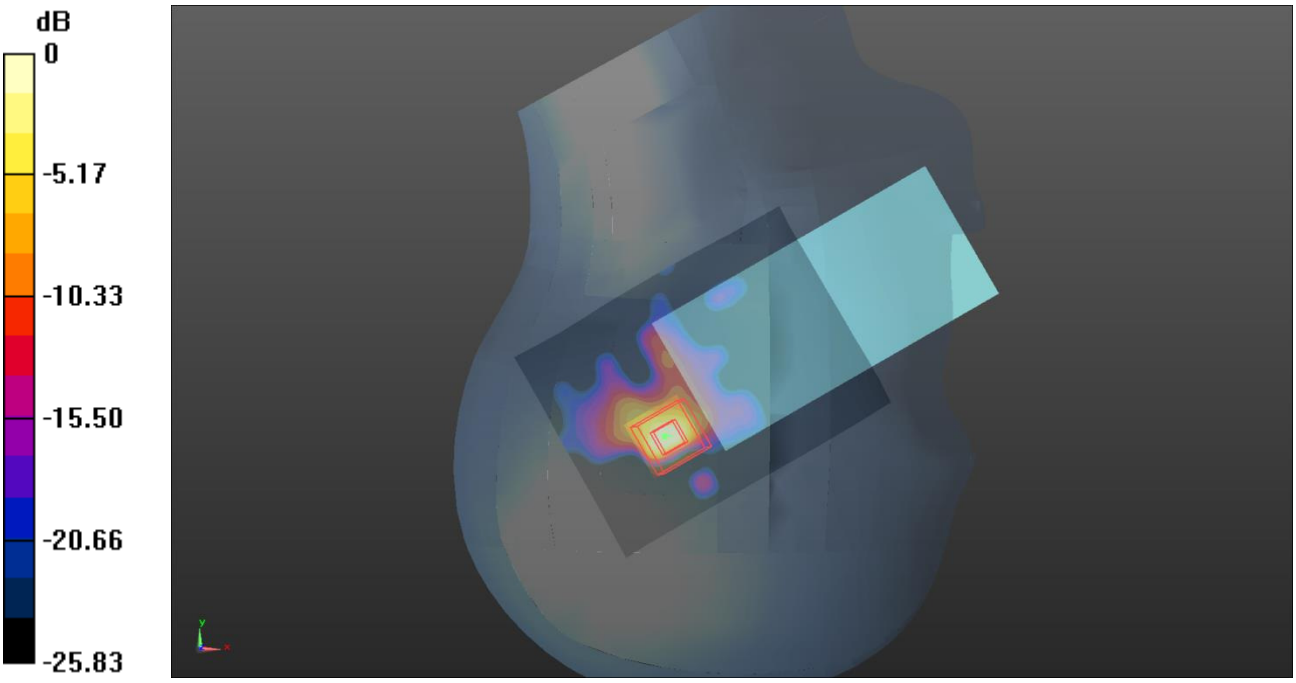
Touch Right of EUT Wi-Fi 5.3 GHz CH52 - UL VS Ltd

Date: 2/12/2014
**DUT: A1429**




0 dB = 0.876 W/kg = -0.57 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5260 MHz; $\sigma$ = 4.759 S/m; $\varepsilon_r$ = 36.067; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(5.08, 5.08, 5.08); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: SAM (20deg probe tilt) with CRP v4.0; Type: QD000P40CC; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Touch Right/Area Scan (121x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.25 W/kg

**Configuration/Touch Right/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.93 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.23 W/kg
**SAR(1 g) = 0.663 W/kg; SAR(10 g) = 0.184 W/kg**
Maximum value of SAR (measured) = 0.876 W/kg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Touch Right of EUT Wi-Fi 5.3 GHz CH52 - Extract from Original Report

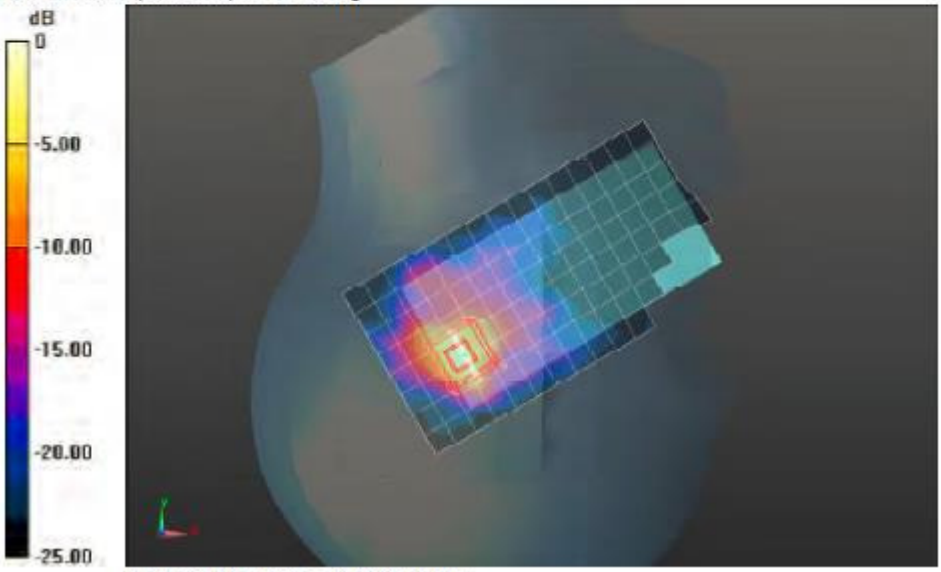
Test Laboratory: UL CCS SAR Lab A Date: 7/23/2012

## WiFi 5.3GHz

Frequency: 5260 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5260 MHz; $\sigma$ = 4.749 mho/m; $\varepsilon_r$ = 34.553; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(4.62, 4.62, 4.62); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: SAM v5.0 (B); Type: QD000P40CD; Serial: 1628

**RHS/Touch_802.11a_ch 52/Area Scan (9x16x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.015 mW/g

**RHS/Touch_802.11a_ch 52/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.780 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.3660
**SAR(1 g) = 0.575 mW/g; SAR(10 g) = 0.156 mW/g**
Maximum value of SAR (measured) = 1.214 mW/g




0 dB = 1.210mW/g = 1.66 dB mW/g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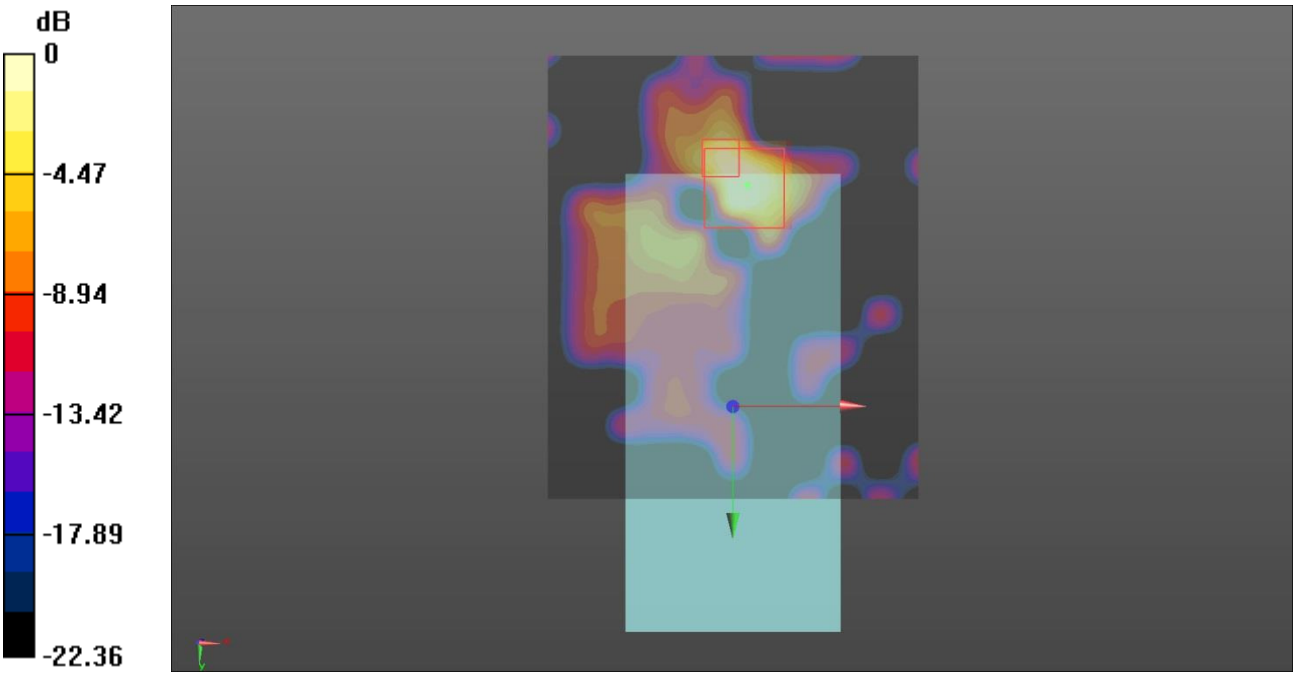
Front of EUT Wi-Fi 5.3 GHz CH64 - UL VS Ltd

Date: 1/12/2014
**DUT: A1429**




0 dB = 0.101 W/kg = -9.96 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5320 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5320 MHz; $\sigma$ = 5.325 S/m; $\varepsilon_r$ = 48.288; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(4.73, 4.73, 4.73); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Front 2/Area Scan (101x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.202 W/kg
**Configuration/Front 2/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.068 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.592 W/kg
**SAR(1 g) = 0.084 W/kg; SAR(10 g) = 0.031 W/kg**
Maximum value of SAR (measured) = 0.101 W/kg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Front of EUT Wi-Fi 5.3 GHz CH64 - Extract from Original Report

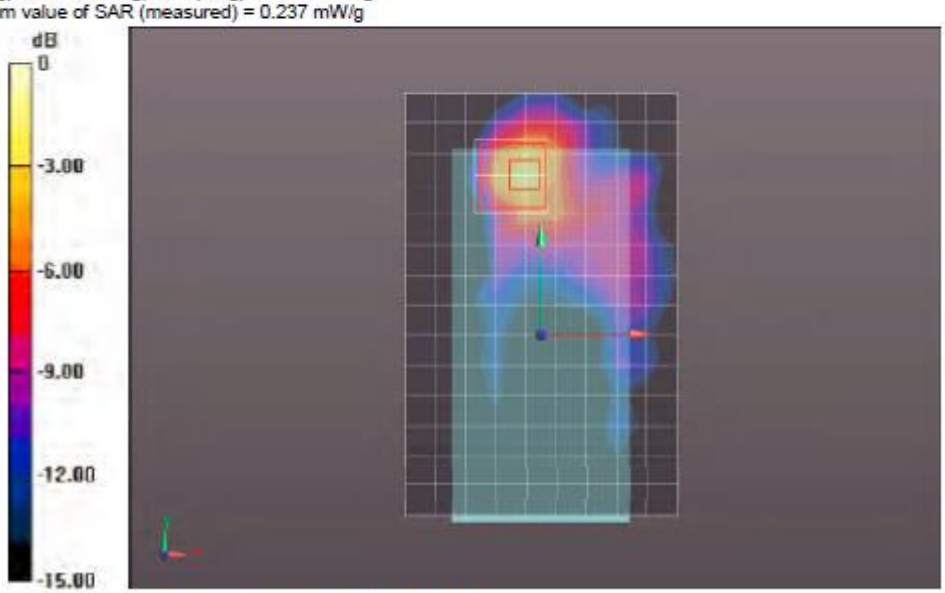
Test Laboratory: UL CCS SAR Lab A Date: 7/25/2012

## WiFi 5.3GHz

Frequency: 5320 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5320 MHz; $\sigma$ = 5.356 mho/m; $\varepsilon_r$ = 47.551; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(3.99, 3.99, 3.99); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1120

**Front/802.11a_Ch 64/Area Scan (10x15x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.169 mW/g

**Front/802.11a_Ch 64/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 6.166 V/m; Power Drift = -0.0039 dB
Peak SAR (extrapolated) = 0.4110
**SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.033 mW/g**
Maximum value of SAR (measured) = 0.237 mW/g




0 dB = 0.240mW/g = -12.40 dB mW/g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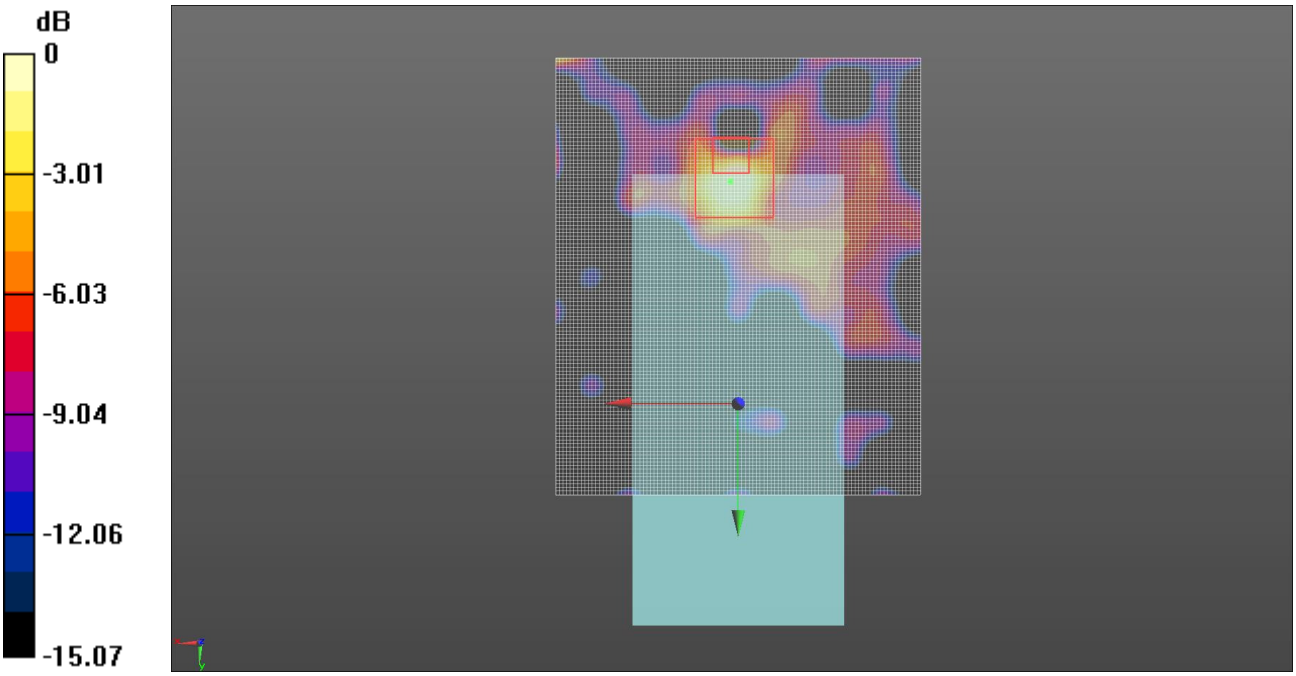
Front of EUT Wi-Fi 5.5 GHz CH116 - UL VS Ltd

Date: 1/12/2014
**DUT: A1429**




0 dB = 0.0741 W/kg = -11.30 dBW/kg

Communication System: UID 0, WLAN 802.11 (0); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium: 5200/5500/5800 MHz MSL Medium parameters used (interpolated): f = 5580 MHz; $\sigma$ = 5.701 S/m; $\varepsilon_r$ = 47.681; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV4 - SN3994; ConvF(3.98, 3.98, 3.98); Calibrated: 7/5/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 16/9/2014
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- ; SEMCAD X Version 14.6.10 (7331)

**Configuration/Front/Area Scan (101x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0950 W/kg
**Configuration/Front/Zoom Scan (7x7x12) 2 (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.129 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 1.08 W/kg
**SAR(1 g) = 0.103 W/kg; SAR(10 g) = 0.032 W/kg**
Maximum value of SAR (measured) = 0.0741 W/kg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Front of EUT Wi-Fi 5.5 GHz CH116 - Extract from Original Report

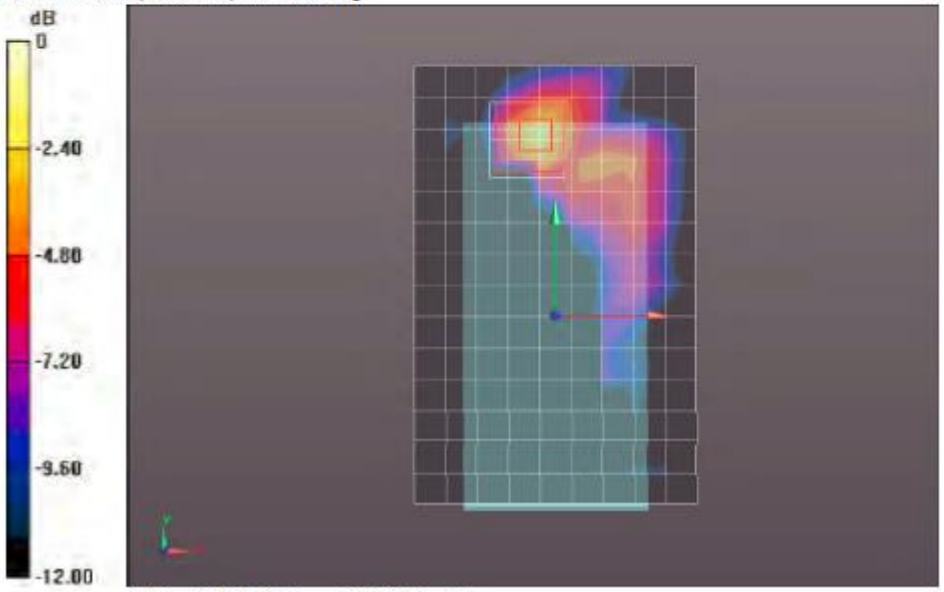
Test Laboratory: UL CCS SAR Lab A Date: 7/17/2012

## WiFi 5.5GHz

Frequency: 5580 MHz; Duty Cycle: 1:1; Room Ambient Temperature: 25.0°C; Liquid Temperature: 24.0°C
Medium parameters used: f = 5580 MHz; $\sigma$ = 5.837 mho/m; $\varepsilon_r$ = 46.8; $\rho$ = 1000 kg/m$^3$
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Electronics: DAE4 Sn1258; Calibrated: 3/8/2012
- Probe: EX3DV4 - SN3772; ConvF(3.26, 3.26, 3.26); Calibrated: 2/16/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Phantom: ELI v5.0 (A); Type: QDOVA001BB; Serial: 1120

**Front/802.11a_Ch 116 w/Headset/Area Scan (10x15x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.158 mW/g

**Front/802.11a_Ch 116 w/Headset/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.685 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.3850
**SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.027 mW/g**
Maximum value of SAR (measured) = 0.205 mW/g




0 dB = 0.200mW/g = -13.98 dB mW/g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