

**Appendix B:SAR Measurement results Plots**

|                          |
|--------------------------|
| <b>Table of contents</b> |
| <b>GSM850</b>            |
| <b>GSM1900</b>           |
| <b>WCDMA Band V</b>      |
| <b>WCDMA Band II</b>     |
| <b>WiFi 2.4G</b>         |

Test Laboratory: CTI SAR Lab

### Smart POS Terminal GSM850 GPRS 2TS 190CH Back Side 0mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, GPRS 2TS (0); Communication System Band: GSM850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4.10015

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.962$  S/m;  $\epsilon_r = 53.654$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.19, 10.19, 10.19); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 3.55 W/kg

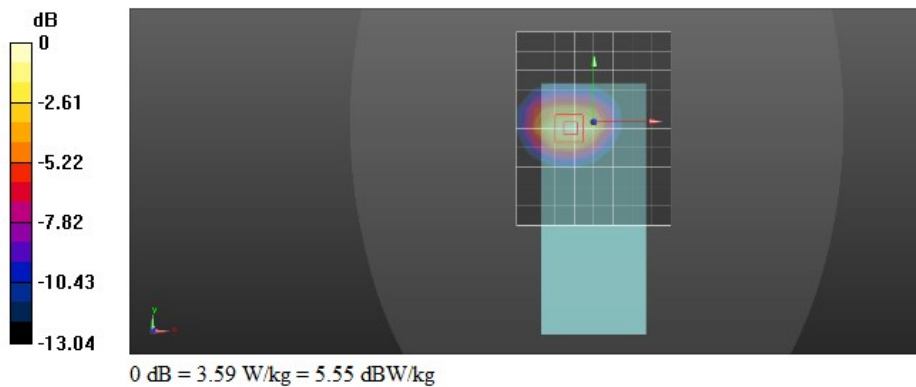
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 42.72 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 4.42 W/kg

**SAR(1 g) = 2.64 W/kg; SAR(10 g) = 1.56 W/kg**

Maximum value of SAR (measured) = 3.59 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal GSM850 GPRS 2TS 251CH Back Side 5mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, GPRS 2TS (0); Communication System Band: GSM850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4.10015

Medium parameters used:  $f = 849 \text{ MHz}$ ;  $\sigma = 0.971 \text{ S/m}$ ;  $\epsilon_r = 53.527$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.19, 10.19, 10.19); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.51 W/kg

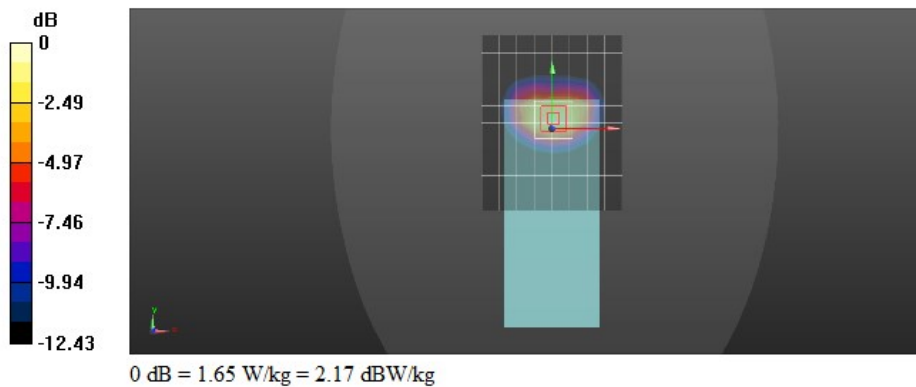
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 31.25 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 2.08 W/kg

**SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.749 W/kg**

Maximum value of SAR (measured) = 1.65 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal GSM1900 GPRS 2TS 661CH Back Side 0mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, GPRS 2TS (0); Communication System Band: GSM1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4.10015

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.503$  S/m;  $\epsilon_r = 52.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.02, 8.02, 8.02); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.994 W/kg

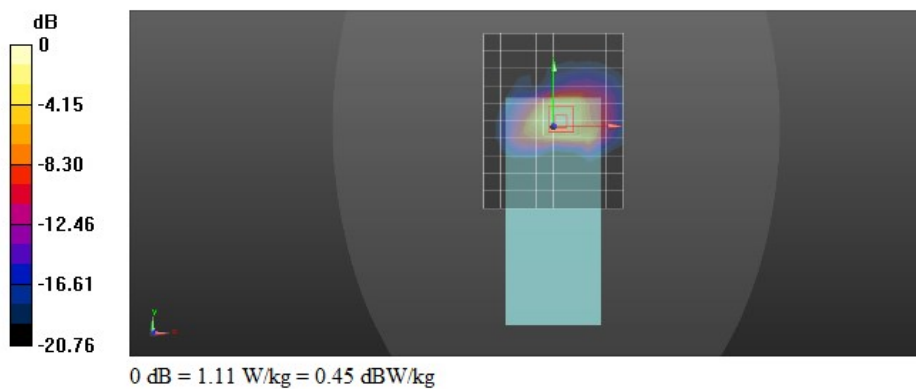
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 23.60 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.39 W/kg

**SAR(1 g) = 0.895 W/kg; SAR(10 g) = 0.517 W/kg**

Maximum value of SAR (measured) = 1.11 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal GSM1900 GPRS 2TS 810CH Back Side 5mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, GPRS 2TS (0); Communication System Band: GSM1900 GPRS 2TS; Frequency: 1909.8 MHz; Duty Cycle: 1:4.10015

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.537$  S/m;  $\epsilon_r = 52.342$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.02, 8.02, 8.02); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.36 W/kg

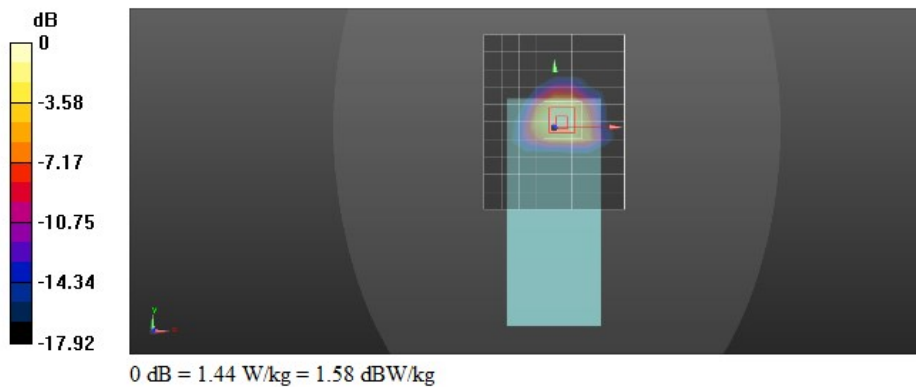
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 26.39 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.74 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.681 W/kg**

Maximum value of SAR (measured) = 1.44 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal UMTS Band V 4182CH Back Side 0mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, UMTS-FDD(WCDMA) (0); Communication System Band: Band V; Frequency: 836.4 MHz; Duty Cycle: 1:2.18776

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.962$  S/m;  $\epsilon_r = 53.642$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.19, 10.19, 10.19); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.281 W/kg

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

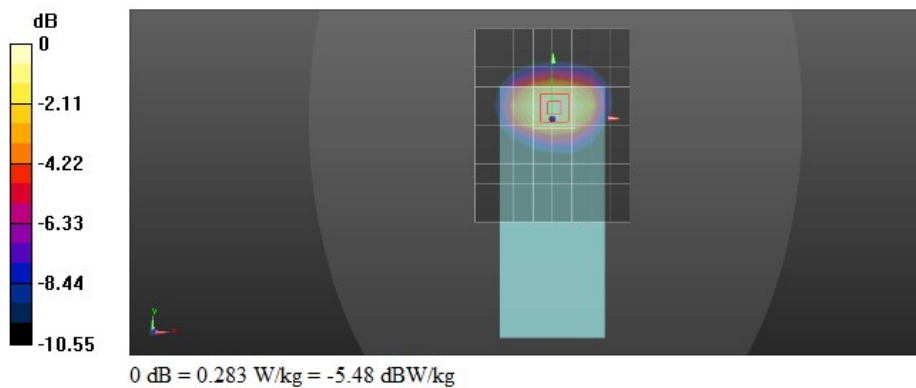
Reference Value = 15.03 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.236 W/kg; SAR(10 g) = 0.163 W/kg

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.283 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal UMTS Band V 4233CH Back Side 5mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, UMTS-FDD(WCDMA) (0); Communication System Band: Band V; Frequency: 846.6 MHz; Duty Cycle: 1:2.18776

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 53.606$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.19, 10.19, 10.19); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.31 W/kg

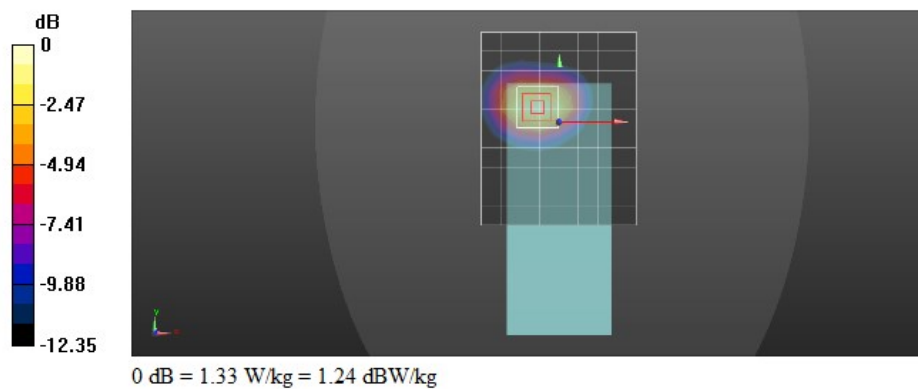
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 22.26 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.62 W/kg

**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.618 W/kg**

Maximum value of SAR (measured) = 1.33 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal UMTS Band II 9400CH Back Side 0mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, UMTS-FDD(WCDMA) (0); Communication System Band: Band II; Frequency: 1880 MHz; Duty Cycle: 1:2.18776

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.503$  S/m;  $\epsilon_r = 52.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.02, 8.02, 8.02); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.595 W/kg

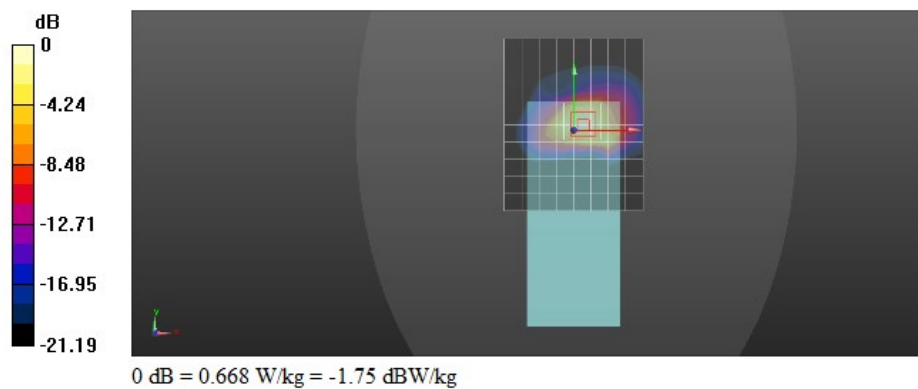
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 17.64 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.833 W/kg

**SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.305 W/kg**

Maximum value of SAR (measured) = 0.668 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal UMTS Band II 9400CH Back Side 5mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, UMTS-FDD(WCDMA) (0); Communication System Band: Band II; Frequency: 1880 MHz; Duty Cycle: 1:2.18776

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.503$  S/m;  $\epsilon_r = 52.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.02, 8.02, 8.02); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (9x11x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.703 W/kg

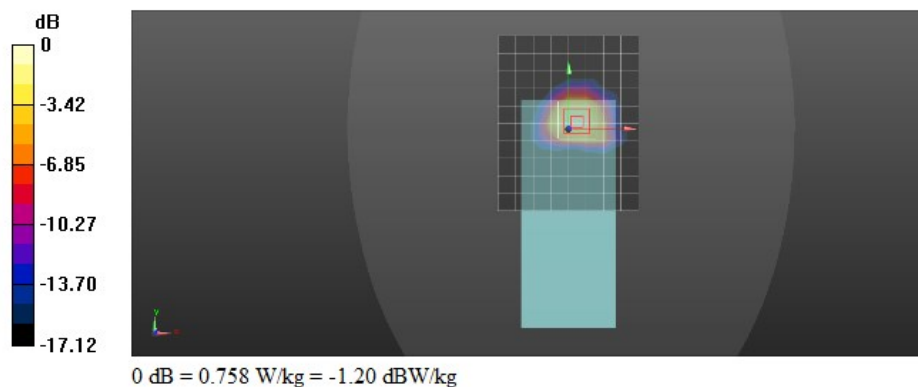
**Configuration/Body/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 18.72 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.934 W/kg

**SAR(1 g) = 0.610 W/kg; SAR(10 g) = 0.362 W/kg**

Maximum value of SAR (measured) = 0.758 W/kg



Test Laboratory: CTI SAR Lab

### Smart POS Terminal WiFi 802.11b 6CH Right Side 0mm

**DUT: Smart POS Terminal; Type: AP02; Serial: NA**

Communication System: UID 0, WiFi 802.11 a/b/g/n/ac (0); Communication System Band: WiFi; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.913$  S/m;  $\epsilon_r = 52.123$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.61, 7.61, 7.61); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (11x11x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.558 W/kg

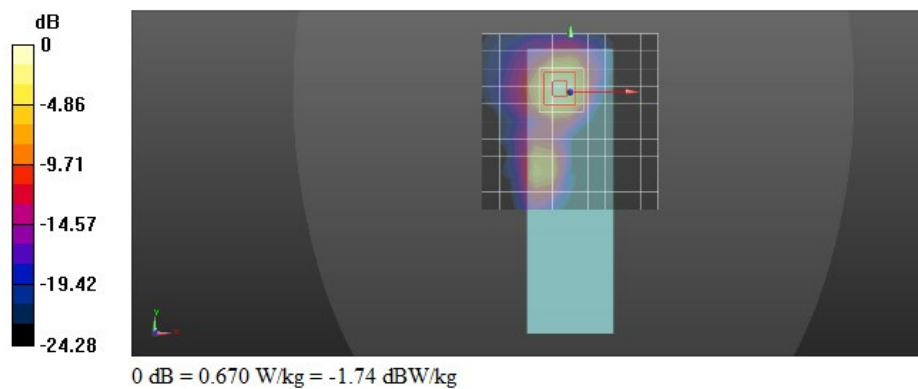
**Configuration/Body/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 14.26 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.865 W/kg

**SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.220 W/kg**

Maximum value of SAR (measured) = 0.670 W/kg



Test Laboratory: CTI SAR Lab

Smart POS Terminal WiFi 802.11b 6CH Front Side 5mm

DUT: Smart POS Terminal; Type: AP02; Serial: NA

Communication System: UID 0, WiFi 802.11 a/b/g/n/ac (0); Communication System Band: WiFi; Frequency: 2437 MHz;Duty Cycle: 1:1  
Medium parameters used:  $f = 2437\text{ MHz}$ ;  $\sigma = 1.913\text{ S/m}$ ;  $\epsilon_r = 52.123$ ;  $\rho = 1000\text{ kg/m}^3$   
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.61, 7.61, 7.61); Calibrated: 2/28/2017;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 2/22/2017
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (11x11x1): Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$   
Maximum value of SAR (measured) = 0.0615 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 2.677 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 0.0820 W/kg  
SAR(1 g) = 0.050 W/kg; SAR(10 g) = 0.029 W/kg  
Maximum value of SAR (measured) = 0.0664 W/kg

