

## Appendix B: SAR Measurement results Plots

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Test Laboratory: CTI SAR Lab

**BT GFSK 79CH Back Side 0mm****DUT: Intelligent Automotive Detection Tool ; Type: NA; Serial: NA**

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth 3.0; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2480$  MHz;  $\sigma = 1.793$  S/m;  $\epsilon_r = 40.651$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.67, 7.67, 7.67); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (11x10x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.0433 W/kg

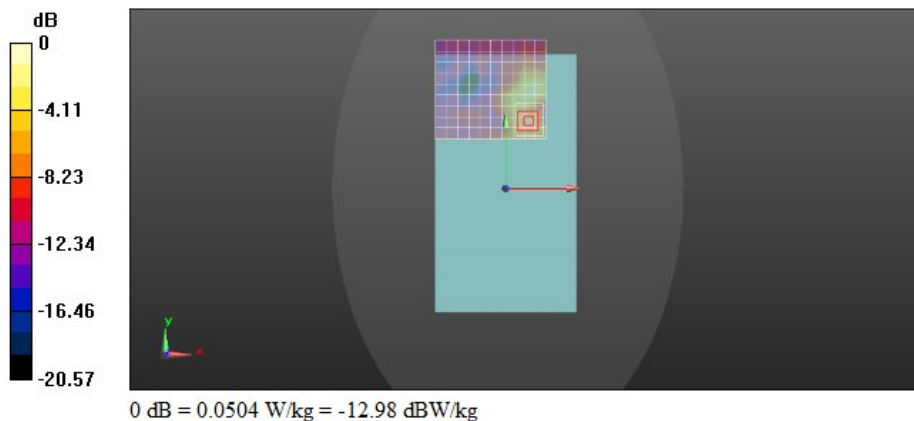
**Configuration/Body/Zoom Scan (7x8x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 1.099 V/m; Power Drift = 0.00dB

Peak SAR (extrapolated) = 0.0620 W/kg

**SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.0504 W/kg



Test Laboratory: CTI SAR Lab

**BT 4DQPSK(2DH5) 79CH Back Side 0mm****DUT: Intelligent Automotive Detection Tool; Type: NA; Serial: NA**

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth 3.0; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2480$  MHz;  $\sigma = 1.793$  S/m;  $\epsilon_r = 40.651$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.67, 7.67, 7.67); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (13x10x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.0176 W/kg

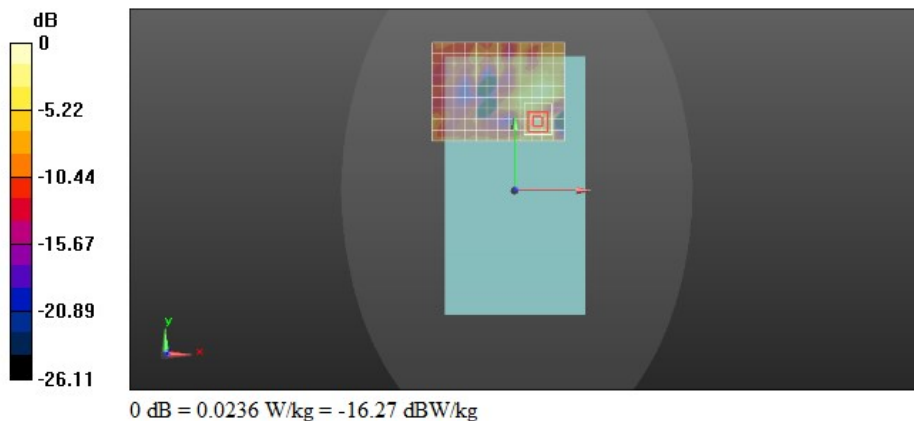
**Configuration/Body/Zoom Scan (7x8x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 0.6230 V/m; Power Drift = -0.55 dB

Peak SAR (extrapolated) = 0.0280 W/kg

**SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.00655 W/kg**

Maximum value of SAR (measured) = 0.0236 W/kg



Test Laboratory: CTI SAR Lab

**BT 8DPSK 79CH Back Side 0mm****DUT: Intelligent Automotive Detection Tool; Type: NA; Serial: NA**

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth 3.0; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2480$  MHz;  $\sigma = 1.793$  S/m;  $\epsilon_r = 40.651$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.67, 7.67, 7.67); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (13x10x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.0249 W/kg

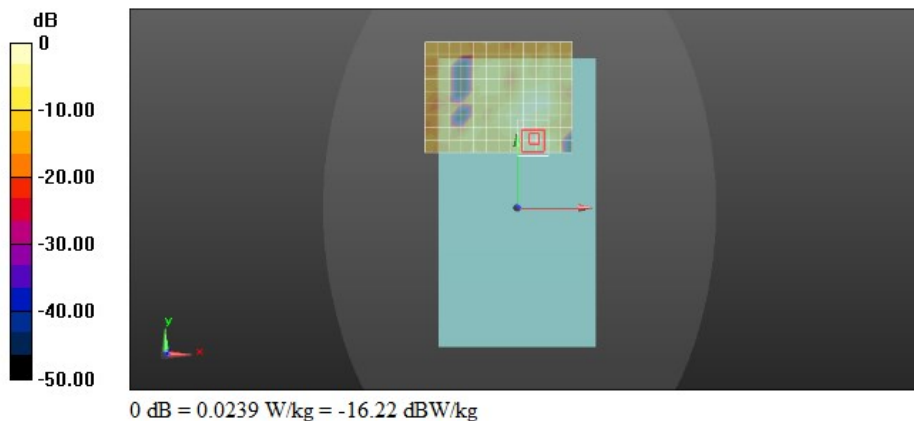
**Configuration/Body/Zoom Scan (7x8x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.0300 W/kg

**SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.00669 W/kg**

Maximum value of SAR (measured) = 0.0239 W/kg



Test Laboratory: CTI SAR Lab

**WiFi 802.11b 11CH Back Side 0mm****DUT: Intelligent Automotive Detection Tool; Type: NA; Serial: NA**

Communication System: UID 0, WiFi 802.11 a/b/g/n/ac (0); Communication System Band: WiFi; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2462$  MHz;  $\sigma = 1.761$  S/m;  $\epsilon_r = 40.733$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.67, 7.67, 7.67); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

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

Maximum value of SAR (measured) = 0.135 W/kg

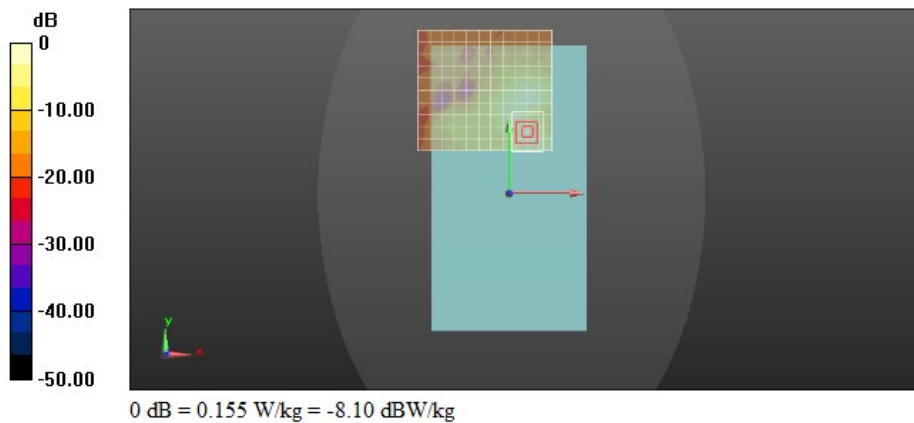
**Configuration/Body/Zoom Scan (7x9x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 1.479 V/m; Power Drift = 1.30 dB

Peak SAR (extrapolated) = 0.189 W/kg

**SAR(1 g) = 0.095 W/kg; SAR(10 g) = 0.045 W/kg**

Maximum value of SAR (measured) = 0.155 W/kg



Test Laboratory: CTI SAR Lab

**802.11a 40CH Back Side 0mm****DUT: Intelligent Automotive Detection Tool ; Type: NA; Serial: NA**

Communication System: UID 0, WiFi 802.11 a/b/g/n/ac (0); Communication System Band: WiFi 5.2G; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.618$  S/m;  $\epsilon_r = 35.101$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(5.44, 5.44, 5.44); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (11x10x1):** Measurement grid:  $dx=10$ mm,  $dy=10$ mm

Maximum value of SAR (measured) = 0.806 W/kg

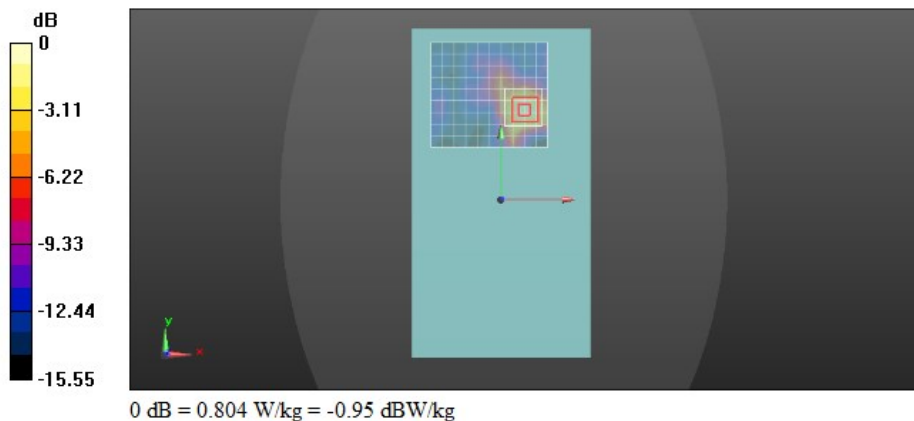
**Configuration/Body/Zoom Scan (9x9x16)/Cube 0:** Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm

Reference Value = 1.729 V/m; Power Drift = 1.52 dB

Peak SAR (extrapolated) = 1.19 W/kg

**SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.178 W/kg**

Maximum value of SAR (measured) = 0.804 W/kg



Test Laboratory: CTI SAR Lab

**802.11a 165CH Back Side 0mm****DUT: Immobilizer Programmer ; Type: NA; Serial: NA**

Communication System: UID 0, WiFi 802.11 a/b/g/n/ac (0); Communication System Band: WiFi 5.8G; Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5825$  MHz;  $\sigma = 5.417$  S/m;  $\epsilon_r = 35.217$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(4.85, 4.85, 4.85); Calibrated: 2/3/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2021
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Configuration/Body/Area Scan (12x11x1):** Measurement grid:  $dx=10$ mm,  $dy=10$ mm

Maximum value of SAR (measured) = 1.09 W/kg

**Configuration/Body/Zoom Scan (9x9x16)/Cube 0:** Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm

Reference Value = 2.654 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.73 W/kg

**SAR(1 g) = 0.478 W/kg; SAR(10 g) = 0.208 W/kg**

Maximum value of SAR (measured) = 1.06 W/kg

