

Appendix B:SAR Measurement results Plots

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Test Laboratory: CTI SAR Lab

KC-N901 GSM850 190CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.0 - 849.0 MHz); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 837$ MHz; $\sigma = 0.922$ S/m; $\epsilon_r = 40.038$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.16, 10.16, 10.16); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.0141 W/kg

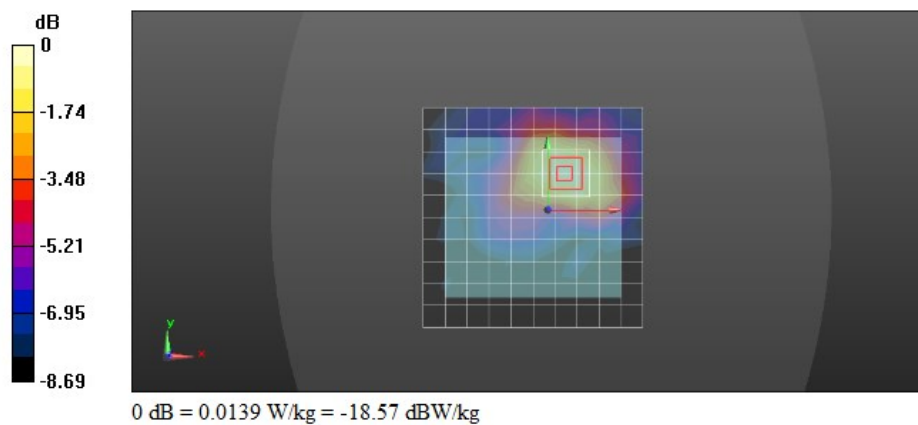
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 2.272 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.0160 W/kg

SAR(1 g) = 0.011 W/kg; SAR(10 g) = 0.00753 W/kg

Maximum value of SAR (measured) = 0.0139 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 GSM850 GPRS 4TS 190CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, GPRS 4TS (0); Communication System Band: GSM850 GPRS 4TS; Frequency: 836.6 MHz; Duty Cycle: 1:2.0797

Medium parameters used: $f = 837$ MHz; $\sigma = 0.922$ S/m; $\epsilon_r = 40.038$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.16, 10.16, 10.16); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.0293 W/kg

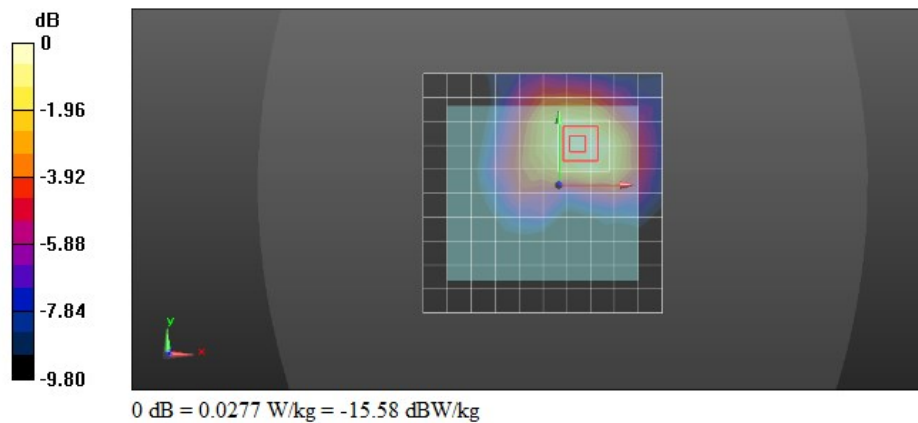
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 2.973 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.0330 W/kg

SAR(1 g) = 0.021 W/kg; SAR(10 g) = 0.015 W/kg

Maximum value of SAR (measured) = 0.0277 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 GSM1900 512CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.338$ S/m; $\epsilon_r = 40.304$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.3, 8.3, 8.3); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.248 W/kg

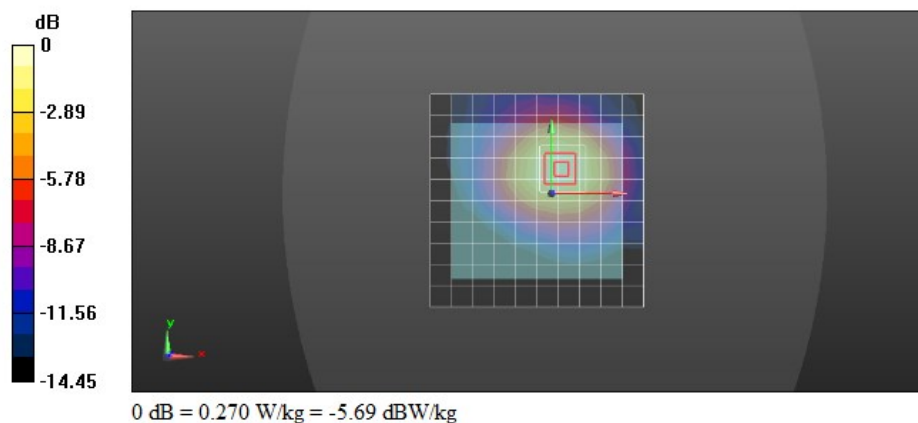
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 11.49 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.196 W/kg; SAR(10 g) = 0.123 W/kg

Maximum value of SAR (measured) = 0.270 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 GSM1900 GPRS 4TS 512CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, GPRS 4TS (0); Communication System Band: GSM1900 GPRS 4TS; Frequency: 1850.2 MHz; Duty Cycle: 1:2.0797

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.338$ S/m; $\epsilon_r = 40.304$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.3, 8.3, 8.3); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.581 W/kg

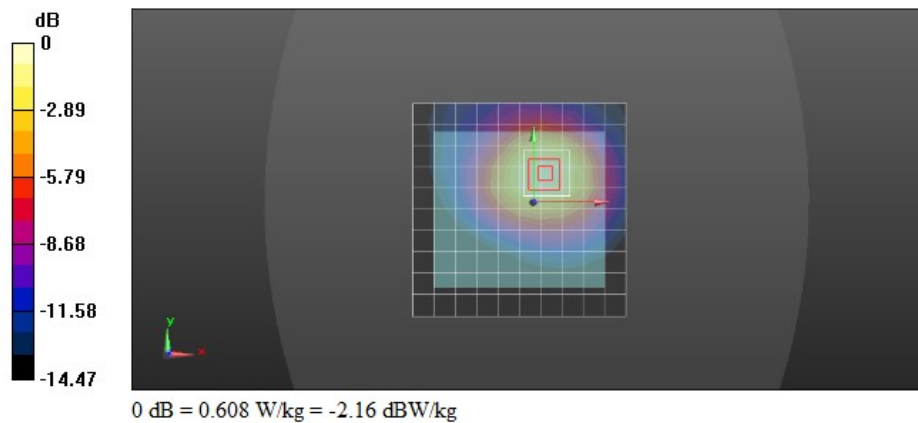
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 16.26 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.714 W/kg

SAR(1 g) = 0.435 W/kg; SAR(10 g) = 0.272 W/kg

Maximum value of SAR (measured) = 0.608 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 WCDMA Band II 9538CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, UMTS-FDD(WCDMA) (0); Communication System Band: Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.406$ S/m; $\epsilon_r = 40.068$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(8.3, 8.3, 8.3); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.851 W/kg

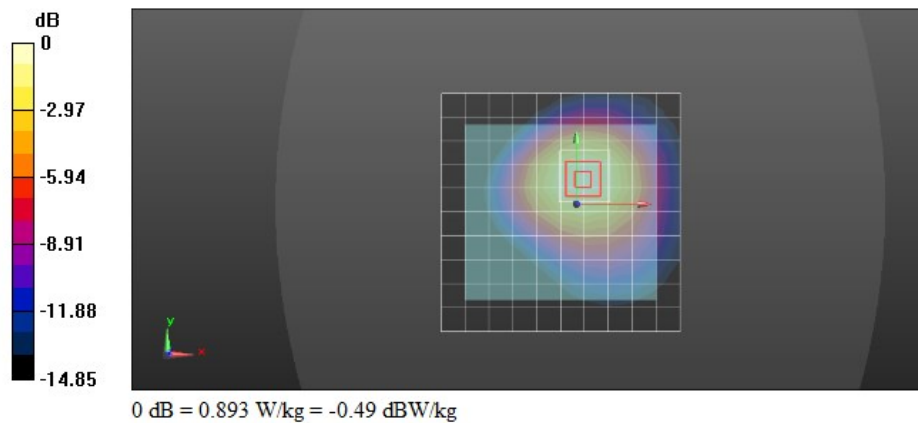
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 21.81 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.641 W/kg; SAR(10 g) = 0.400 W/kg

Maximum value of SAR (measured) = 0.893 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 WCDMA Band V 4182CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

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

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 40.017$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.16, 10.16, 10.16); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.0191 W/kg

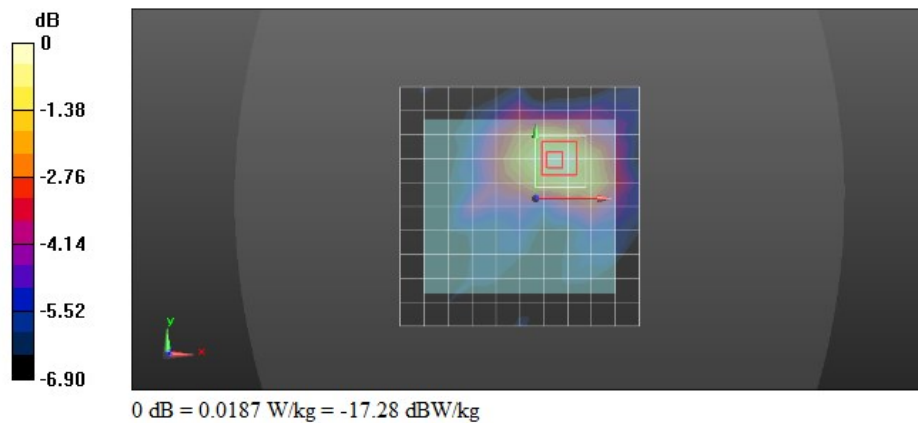
Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.002 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.0220 W/kg

SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0187 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 LTE Band 5 10M QPSK 1RB25 20600CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 844 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 844$ MHz; $\sigma = 0.928$ S/m; $\epsilon_r = 39.964$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.16, 10.16, 10.16); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.00705 W/kg

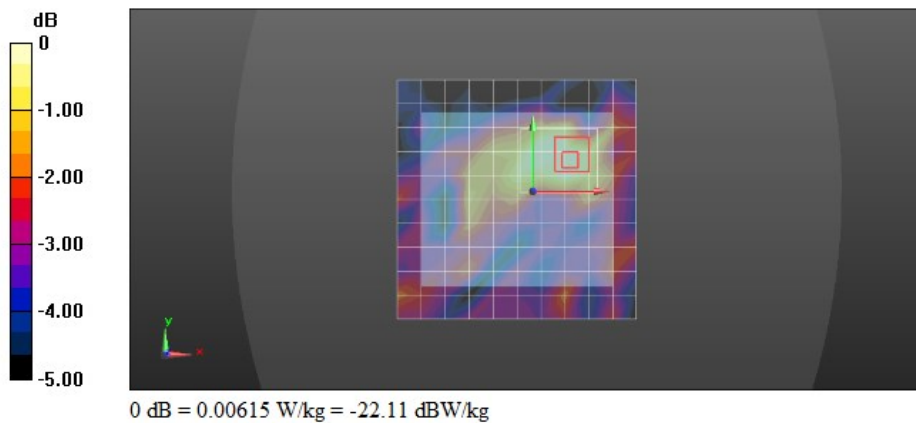
Configuration/Body/Zoom Scan (7x6x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.774 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.00643 W/kg

SAR(1 g) = 0.00503 W/kg; SAR(10 g) = 0.0044 W/kg

Maximum value of SAR (measured) = 0.00615 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 LTE Band 5 10M QPSK 50%RB0 20600CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; Serial: NA

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 844 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 844$ MHz; $\sigma = 0.928$ S/m; $\epsilon_r = 39.964$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(10.16, 10.16, 10.16); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- 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: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.00510 W/kg

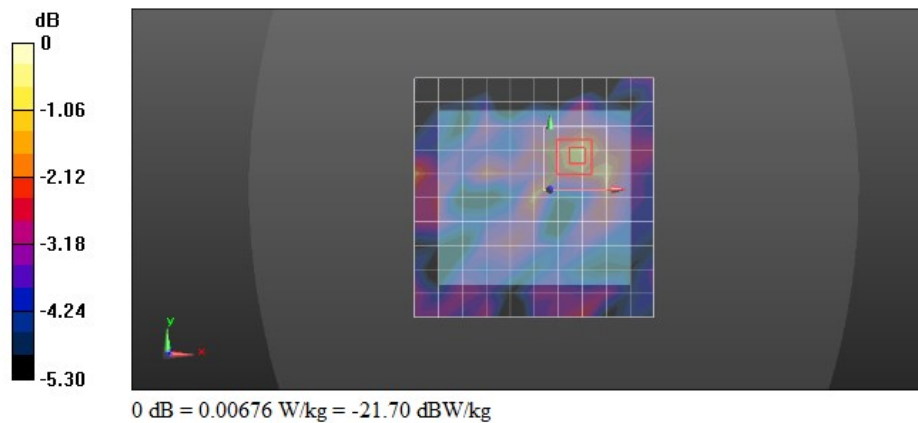
Configuration/Body/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.847 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.00791 W/kg

SAR(1 g) = 0.0054 W/kg; SAR(10 g) = 0.00465 W/kg

Maximum value of SAR (measured) = 0.00676 W/kg



Test Laboratory: CTI SAR Lab

KC-N901 WiFi 802.11b 6CH Top Side 35mm

DUT: Smart Helmet; Type: KC-N901; 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; $\sigma = 1.8$ S/m; $\epsilon_r = 38.997$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7328; ConvF(7.68, 7.68, 7.68); Calibrated: 2/8/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1458; Calibrated: 1/8/2020
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: 2024
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (13x13x1): Measurement grid: $dx=12$ mm, $dy=12$ mm

Maximum value of SAR (measured) = 0.257 W/kg

Configuration/Body/Zoom Scan (9x8x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 7.153 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.284 W/kg

SAR(1 g) = 0.123 W/kg; SAR(10 g) = 0.072 W/kg

Maximum value of SAR (measured) = 0.198 W/kg

