

Test Laboratory: Huatongwei International Inspection Co., Ltd., SAR Lab

Date: 6/12/2019

GSM 850-Head

Communication System: UID 0, Generic GPRS(TDMA, GMSK, TN 0-1-2) (0); Frequency: 848.6 MHz; Duty Cycle: 1:2.66993

Medium parameters used (interpolated): $f = 848.6$ MHz; $\sigma = 0.939$ S/m; $\epsilon_r = 43.882$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Ambient Temperature: 22.1°C; Liquid Temperature: 21.8°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.41, 10.41, 10.41) @ 848.6 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Left Touch Cheek/CH 251/Area Scan (61x111x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.575 W/kg

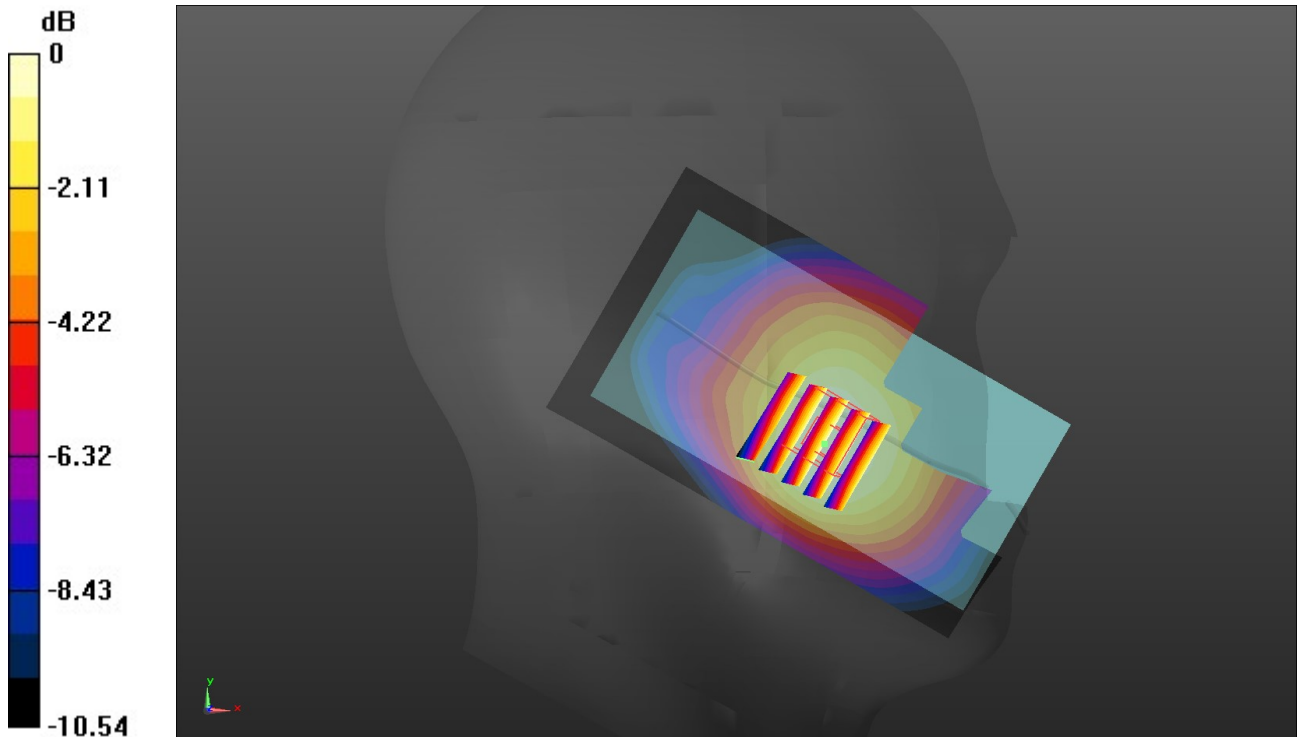
Left Touch Cheek/CH 251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 8.618 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.624 W/kg

SAR(1 g) = 0.443 W/kg; SAR(10 g) = 0.327 W/kg

Maximum value of SAR (measured) = 0.549 W/kg



0 dB = 0.549 W/kg = -2.60 dBW/kg

Test Laboratory: Huatongwei International Inspection Co., Ltd., SAR Lab

Date: 6/14/2019

GSM 1900-Head

Communication System: UID 0, Generic GPRS(TDMA, GMSK, TN 0-1-2) (0); Frequency: 1850.2 MHz; Duty Cycle: 1:2.66993

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.437$ S/m; $\epsilon_r = 41.77$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Ambient Temperature: 21.9°C; Liquid Temperature: 21.7°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.57, 8.57, 8.57) @ 1850.2 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Right Cheek Touch/CH 512/Area Scan (61x111x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.335 W/kg

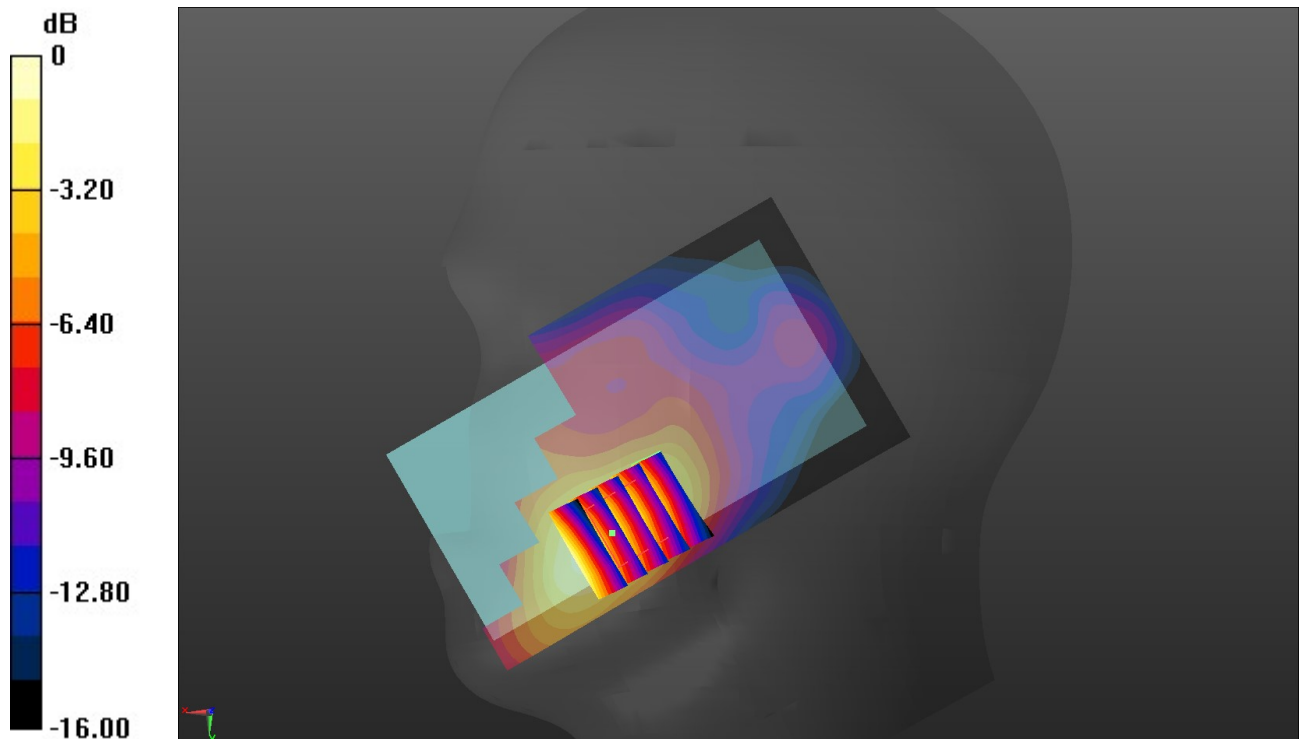
Right Cheek Touch/CH 512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.937 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.399 W/kg

SAR(1 g) = 0.247 W/kg; SAR(10 g) = 0.149 W/kg

Maximum value of SAR (measured) = 0.346 W/kg



0 dB = 0.346 W/kg = -4.61 dBW/kg

WCDMA Band II-Head

Communication System: UID 0, Generic UMTS (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.438$ S/m; $\epsilon_r = 41.767$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Ambient Temperature: 22.2°C; Liquid Temperature: 21.9°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.57, 8.57, 8.57) @ 1852.4 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Right Cheek Touch/CH 9262/Area Scan (61x111x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.297 W/kg

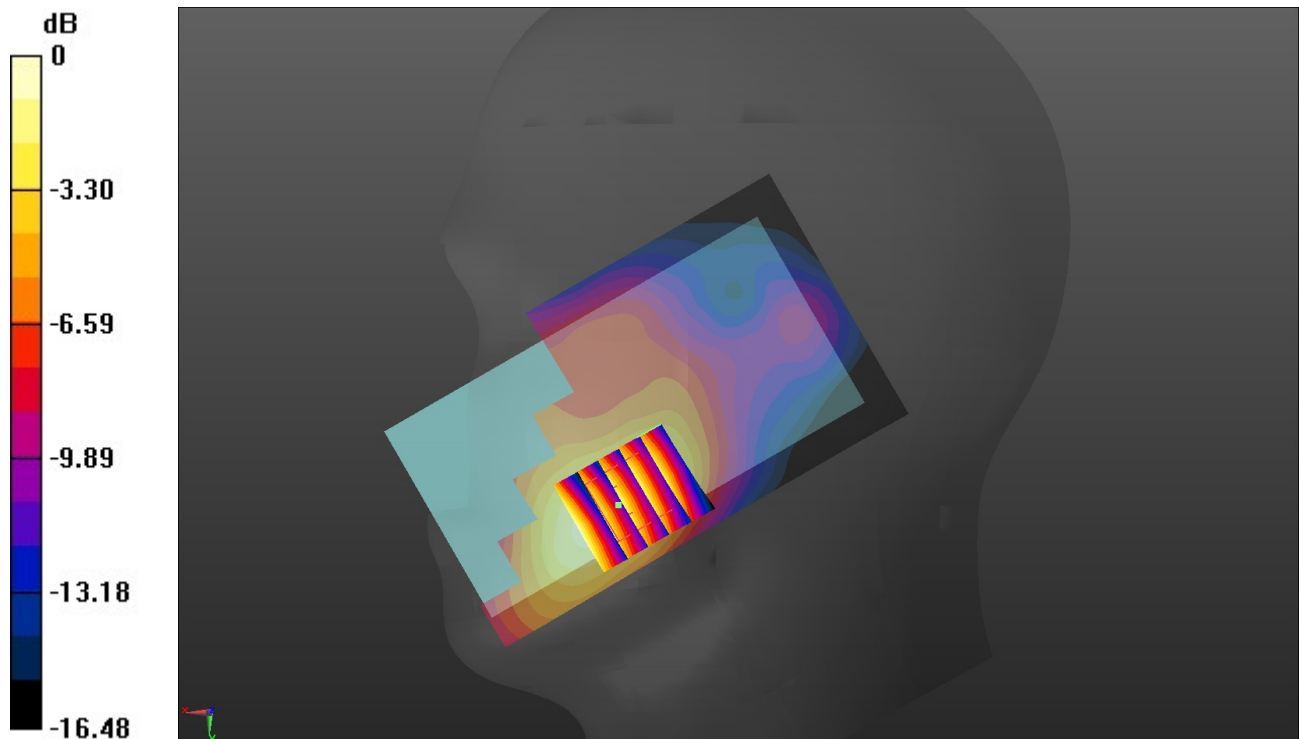
Right Cheek Touch/CH 9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 5.015 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.341 W/kg

SAR(1 g) = 0.212 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.296 W/kg



0 dB = 0.296 W/kg = -5.29 dBW/kg

WCDMA Band V-Head

Communication System: UID 0, Generic UMTS (0); Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.93$ S/m; $\epsilon_r = 43.963$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Ambient Temperature: 22.3°C; Liquid Temperature: 22.0°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.41, 10.41, 10.41) @ 826.4 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Left Touch Cheek/CH 4132/Area Scan (61x111x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.392 W/kg

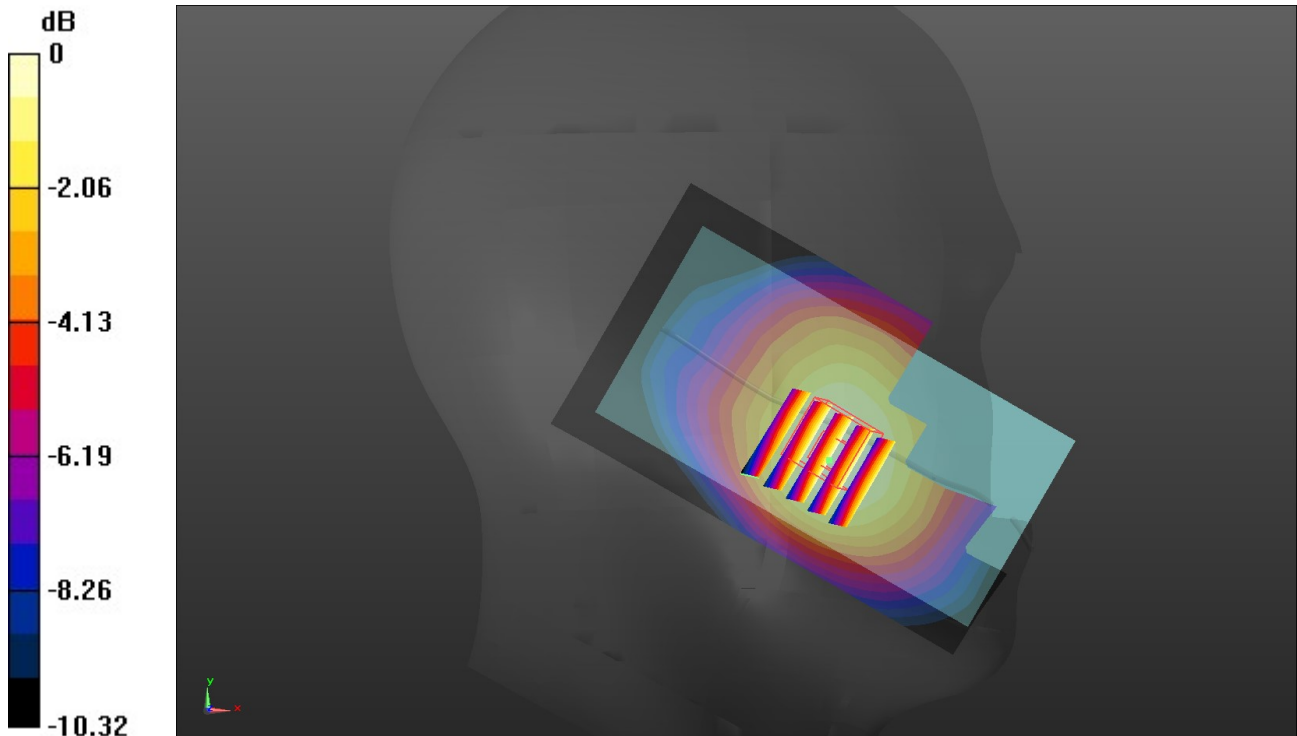
Left Touch Cheek/CH 4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 6.957 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.440 W/kg

SAR(1 g) = 0.320 W/kg; SAR(10 g) = 0.237 W/kg

Maximum value of SAR (measured) = 0.396 W/kg



0 dB = 0.396 W/kg = -4.02 dBW/kg

WiFi 2.4G-Head

Communication System: UID 0, Generic WIFI (0); Frequency: 2462 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.852$ S/m; $\epsilon_r = 40.886$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Ambient Temperature: 22.2°C; Liquid Temperature: 22.0°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(7.9, 7.9, 7.9) @ 2462 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Right Cheek Touch/CH 11/Area Scan (71x131x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.449 W/kg

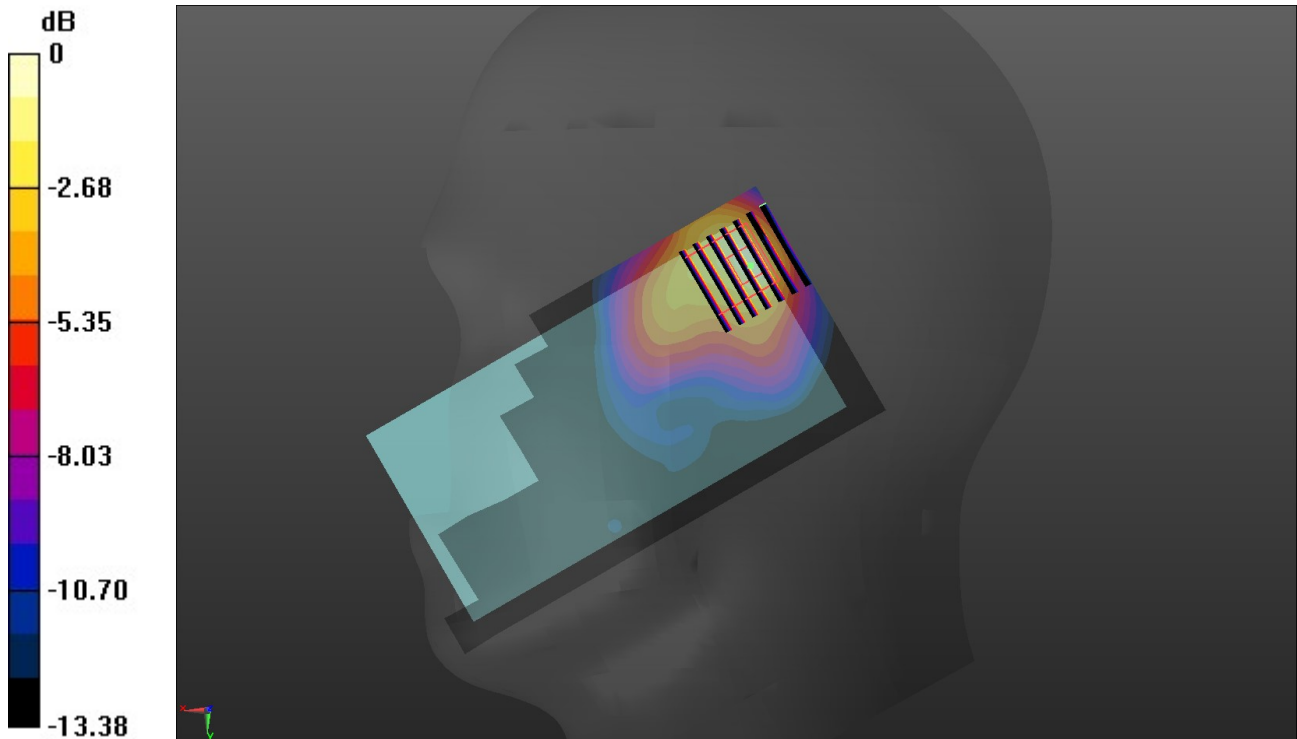
Right Cheek Touch/CH 11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 8.733 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.640 W/kg

SAR(1 g) = 0.254 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.468 W/kg



0 dB = 0.468 W/kg = -3.30 dBW/kg

GSM 850-Body

Communication System: UID 0, Generic GPRS(TDMA, GMSK, TN 0-1-2) (0); Frequency: 848.6 MHz; Duty Cycle: 1:2.66993

Medium parameters used (interpolated): $f = 848.6$ MHz; $\sigma = 0.972$ S/m; $\epsilon_r = 55.361$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0°C; Liquid Temperature: 21.8°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.46, 10.46, 10.46) @ 848.6 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Rear/CH 251/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.874 W/kg

Rear/CH 251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

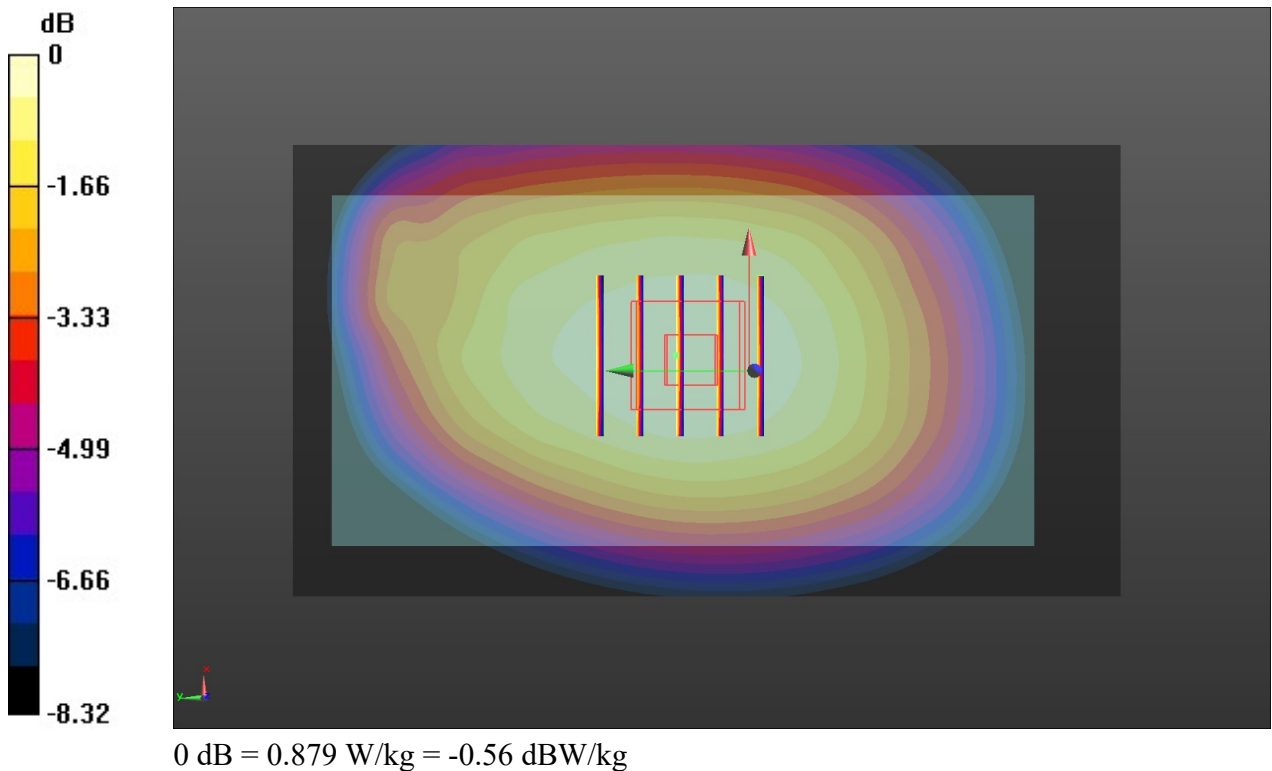
Reference Value = 31.09 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.00 W/kg

SAR(1 g) = 0.698 W/kg; SAR(10 g) = 0.526 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.879 W/kg



Appendix A: SAR Test Data Plots

Test Laboratory: Huatongwei International Inspection Co., Ltd., SAR Lab

Date: 6/15/2019

GSM 1900-Body

Communication System: UID 0, Generic GPRS(TDMA, GMSK, TN 0-1-2) (0); Frequency: 1850.2 MHz; Duty Cycle: 1:2.66993

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.517$ S/m; $\epsilon_r = 53.775$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0°C; Liquid Temperature: 21.7°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.38, 8.38, 8.38) @ 1850.2 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Rear/CH 512/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.533 W/kg

Rear/CH 512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

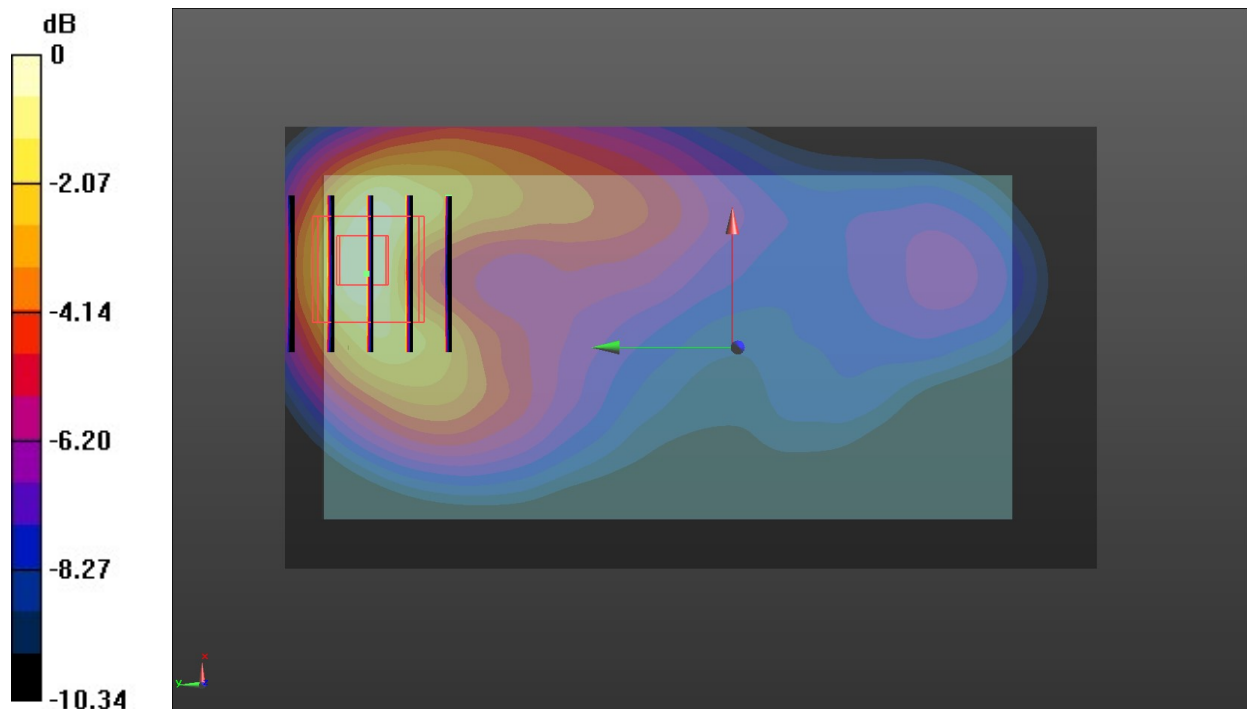
Reference Value = 9.540 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.345 W/kg; SAR(10 g) = 0.189 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.523 W/kg



WCDMA Band II-Body

Communication System: UID 0, Generic UMTS (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.518$ S/m; $\epsilon_r = 53.77$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.1°C; Liquid Temperature: 21.8°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.38, 8.38, 8.38) @ 1852.4 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Rear/CH 9262/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.448 W/kg

Rear/CH 9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

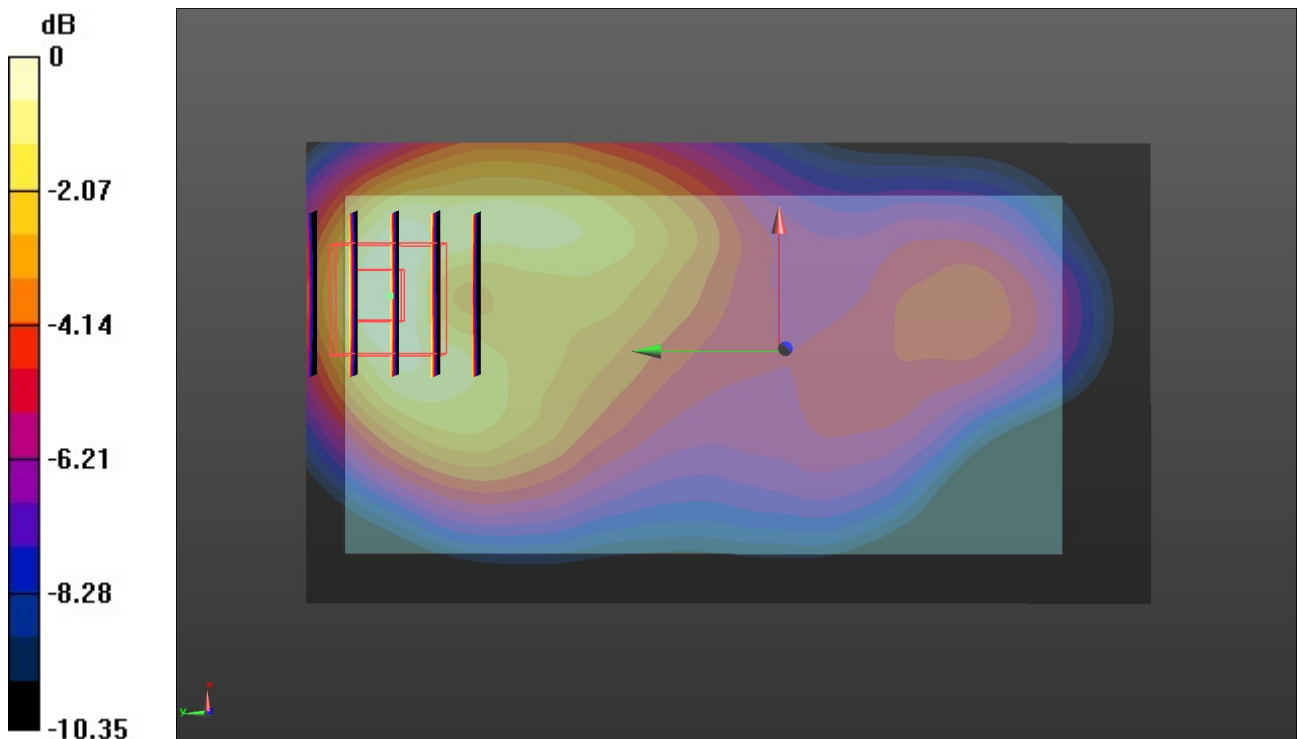
Reference Value = 10.08 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.524 W/kg

SAR(1 g) = 0.289 W/kg; SAR(10 g) = 0.164 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.418 W/kg



0 dB = 0.418 W/kg = -3.79 dBW/kg

WCDMA Band V-Body

Communication System: UID 0, Generic UMTS (0); Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.964$ S/m; $\epsilon_r = 55.439$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.1°C; Liquid Temperature: 21.9°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.46, 10.46, 10.46) @ 826.4 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Rear/CH 4132/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.551 W/kg

Rear/CH 4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

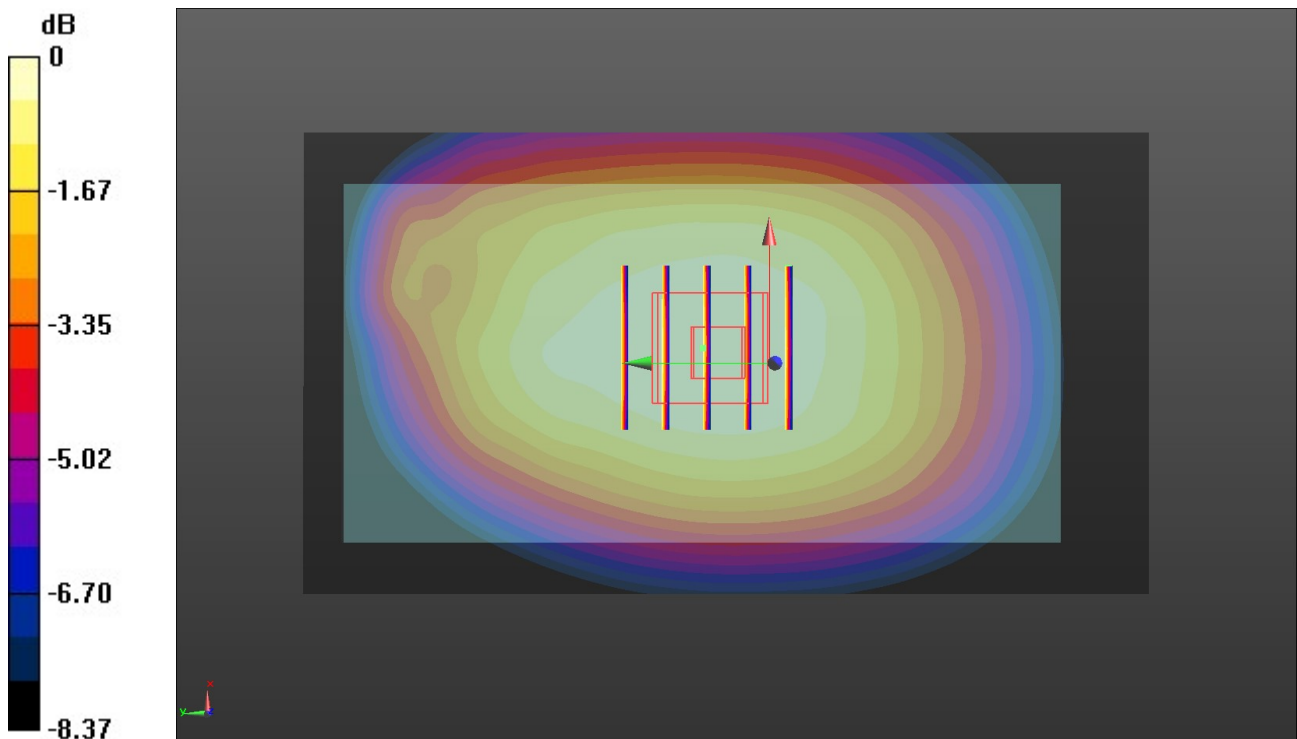
Reference Value = 24.66 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.625 W/kg

SAR(1 g) = 0.438 W/kg; SAR(10 g) = 0.331 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.548 W/kg



0 dB = 0.548 W/kg = -2.61 dBW/kg

WiFi 2.4G-Body

Communication System: UID 0, Generic WIFI (0); Frequency: 2462 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 2.012$ S/m; $\epsilon_r = 52.998$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.2°C; Liquid Temperature: 21.9°C;

DASY Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8, 8, 8) @ 2462 MHz; Calibrated: 3/25/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1549; Calibrated: 3/19/2019
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Rear/CH 11/Area Scan (81x141x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.104 W/kg

Rear/CH 11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

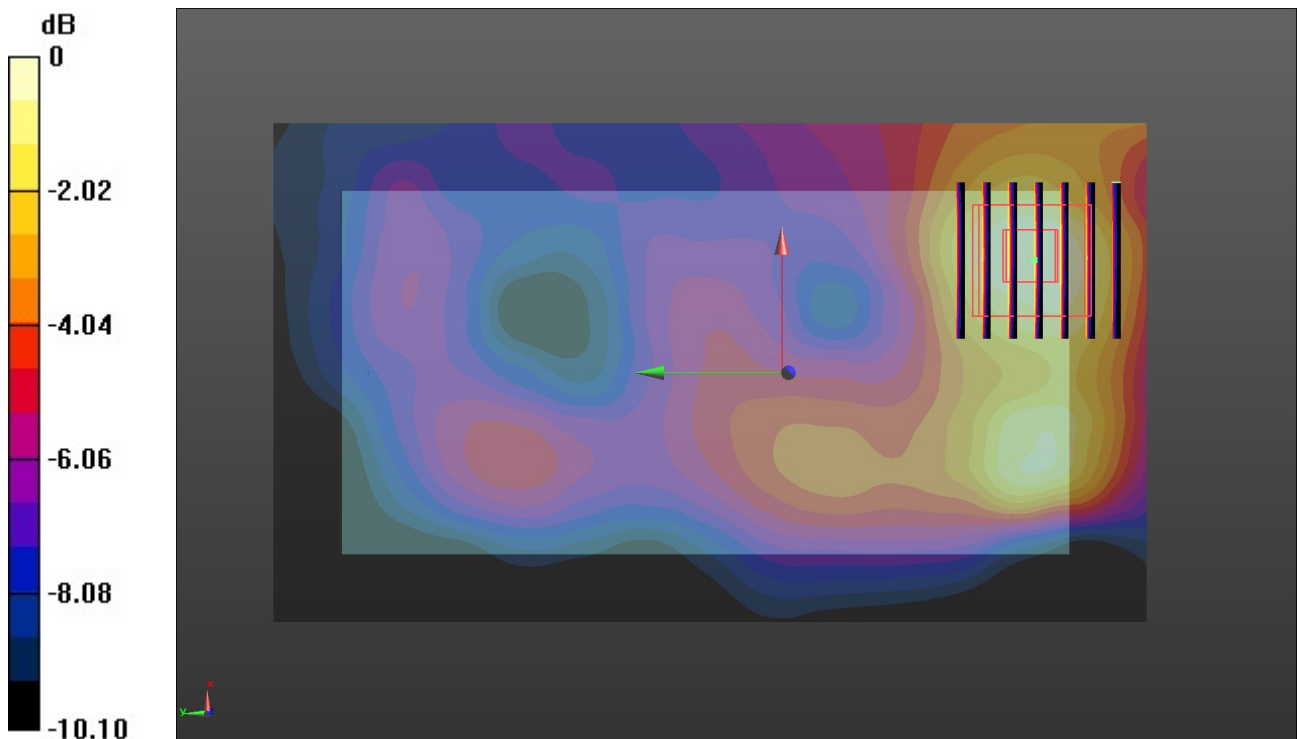
Reference Value = 7.293 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.121 W/kg

SAR(1 g) = 0.063 W/kg; SAR(10 g) = 0.036 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.0963 W/kg



0 dB = 0.0963 W/kg = -10.16 dBW/kg