APPENDIX A: SAR TEST DATA

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PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

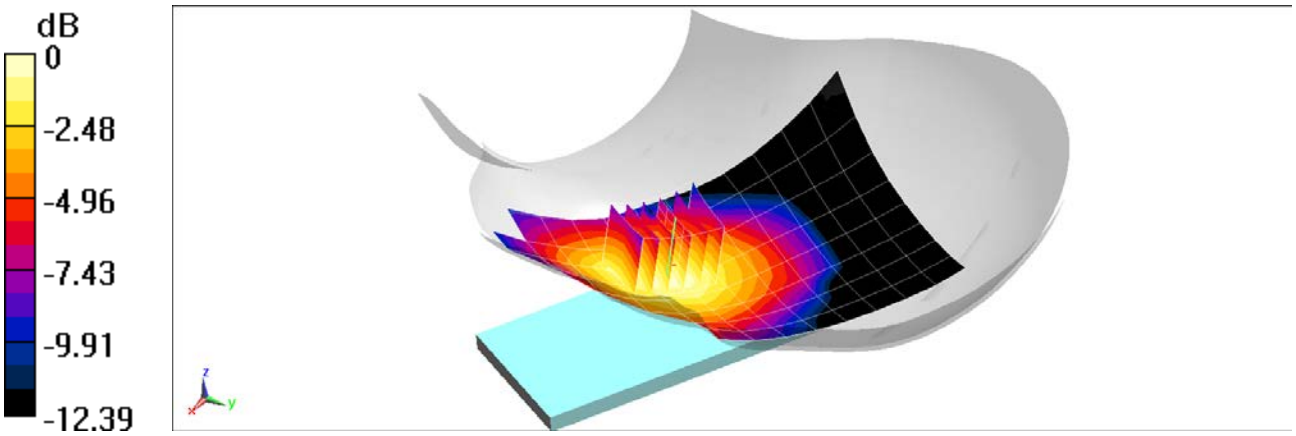
Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.076
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.907 S/m; ε_r = 41.468; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/05/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.6 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 850, Left Head, Cheek, Mid.ch, 4 Tx slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.13 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.153 W/kg
SAR(1 g) = 0.116 W/kg



0 dB = 0.140 W/kg = -8.54 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

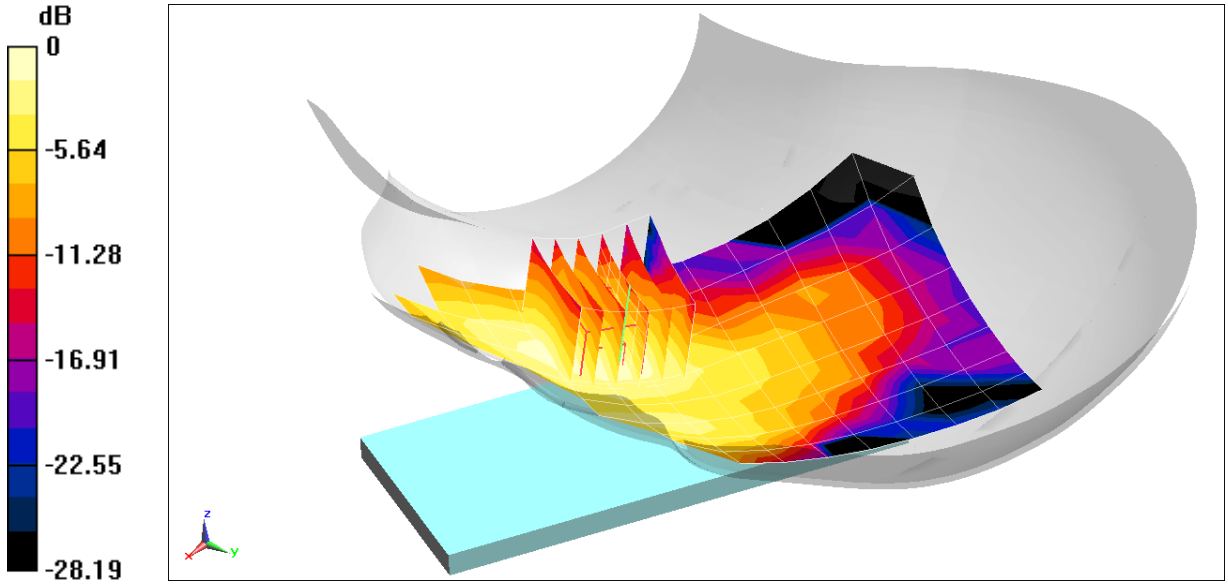
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.423 S/m; ε_r = 38.688; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/27/2020; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1880 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 1900, Left Head, Cheek, Mid.ch, 3 Tx slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.630 V/m; Power Drift = 0.21 dB
Peak SAR (extrapolated) = 0.0700 W/kg
SAR(1 g) = 0.042 W/kg



0 dB = 0.0569 W/kg = -12.45 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

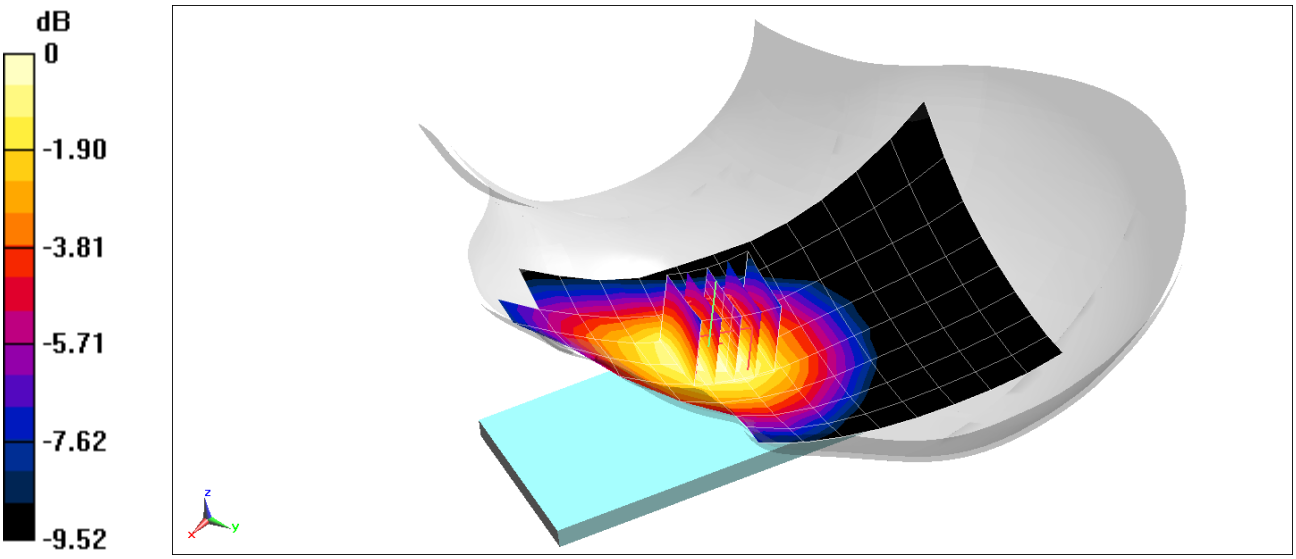
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.935 S/m; ε_r = 42.938; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/13/2020; Ambient Temp: 21.7°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.6 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 850, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.09 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.209 W/kg
SAR(1 g) = 0.158 W/kg



0 dB = 0.190 W/kg = -7.21 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

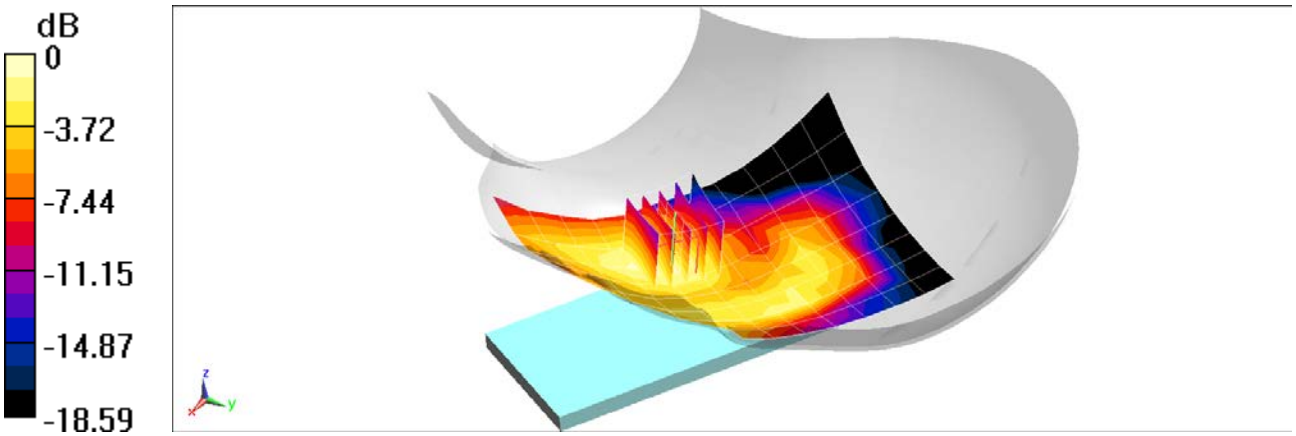
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.36 S/m; ε_r = 39.722; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 03/26/2020; Ambient Temp: 20.2°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1732.4 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.368 V/m; Power Drift = 0.21 dB
Peak SAR (extrapolated) = 0.144 W/kg
SAR(1 g) = 0.093 W/kg



0 dB = 0.120 W/kg = -9.21 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03592

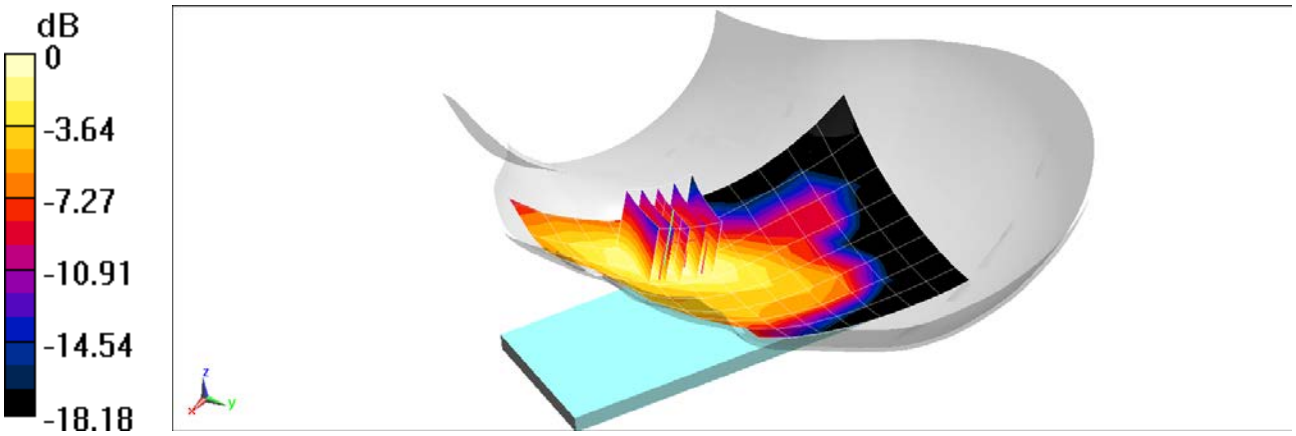
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.431 S/m; ε_r = 39.084; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 03/30/2020; Ambient Temp: 21.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1880 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1900, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.442 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.156 W/kg
SAR(1 g) = 0.097 W/kg



0 dB = 0.133 W/kg = -8.76 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

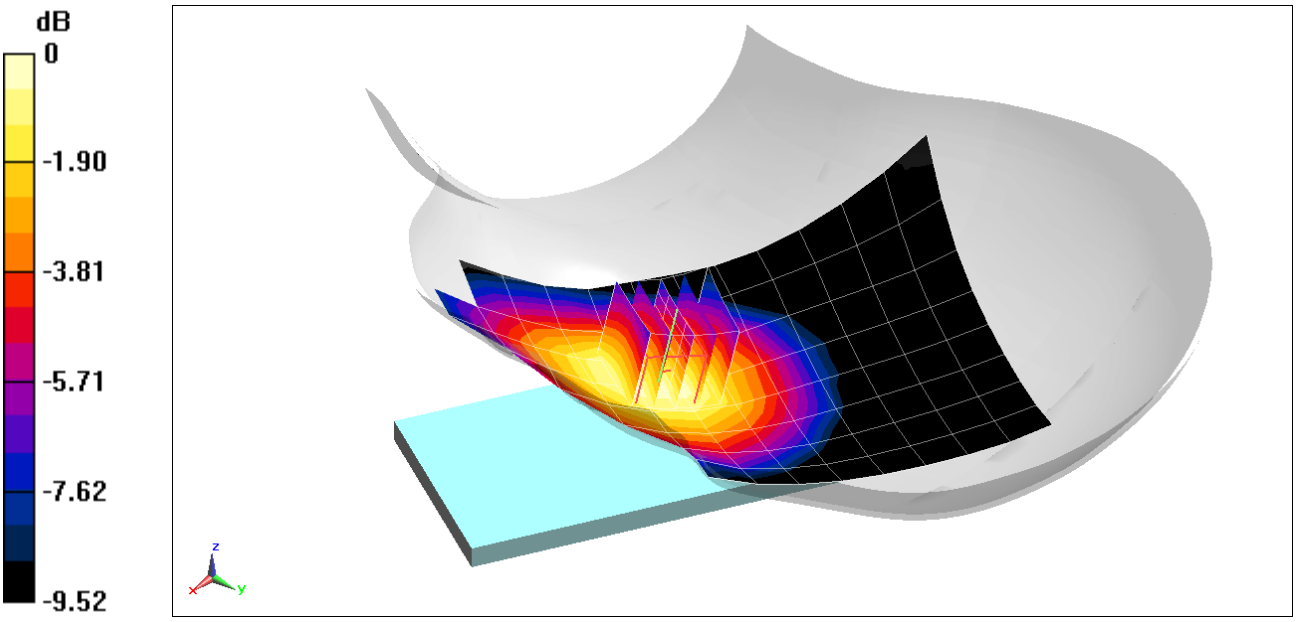
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.915 S/m; ε_r = 43.353; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/22/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.52 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. CDMA, BC. 0, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.75 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.185 W/kg
SAR(1 g) = 0.142 W/kg



0 dB = 0.170 W/kg = -7.70 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

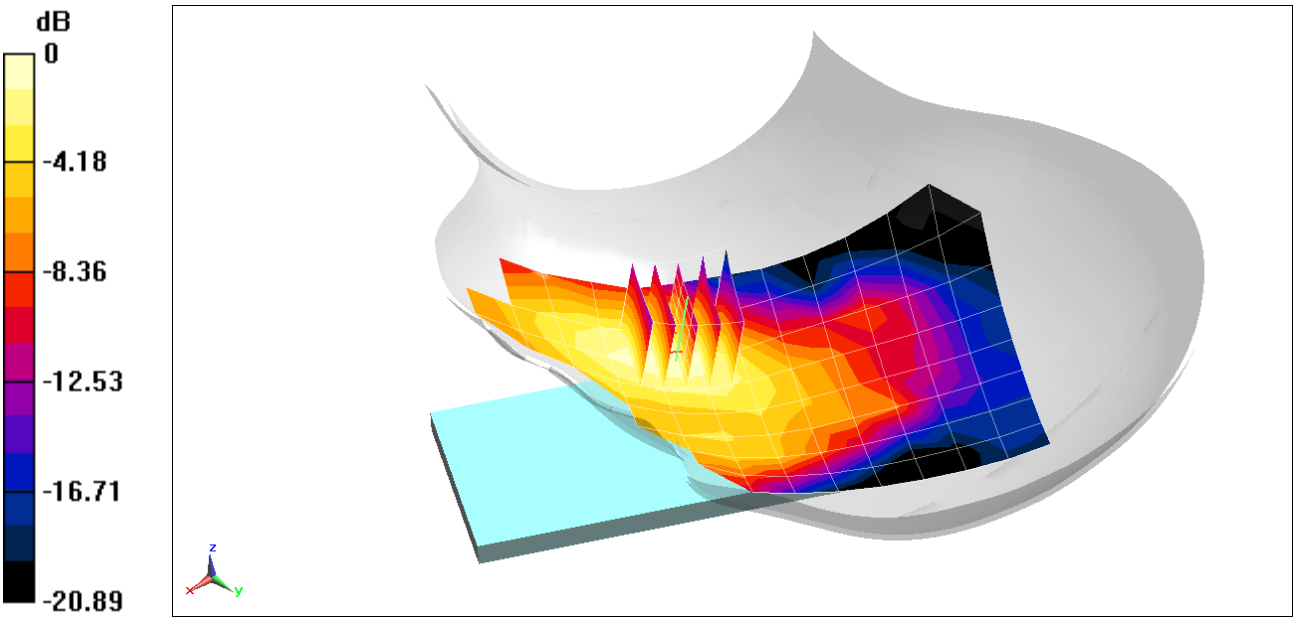
Communication System: UID 0, PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.423 S/m; ε_r = 38.688; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/27/2020; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1880 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: PCS EVDO Rev A, Left Head, Cheek, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.659 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.163 W/kg
SAR(1 g) = 0.100 W/kg



0 dB = 0.139 W/kg = -8.57 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

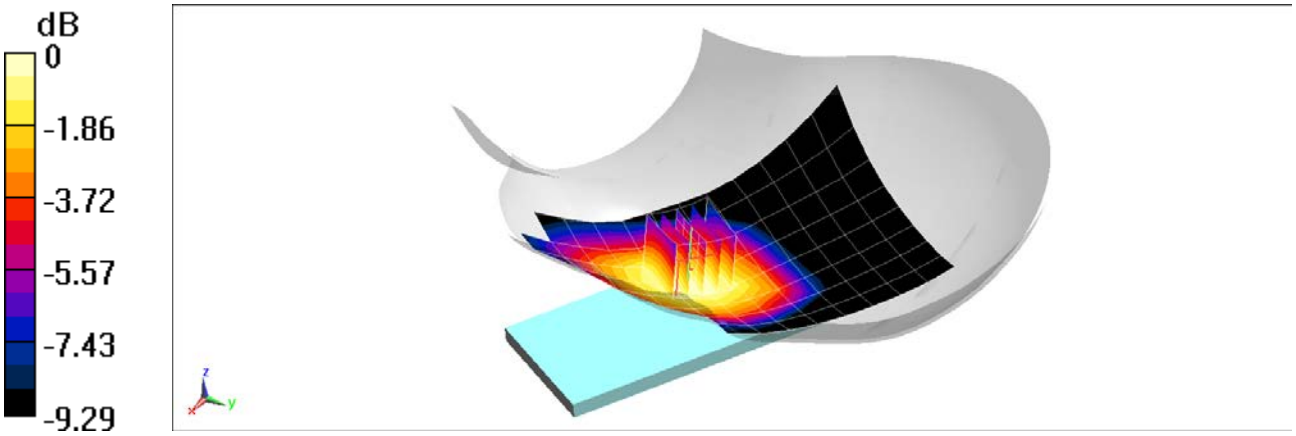
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.851 S/m; ε_r = 40.829; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/07/2020; Ambient Temp: 21.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 680.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 71, Left Head, Cheek, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.04 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.150 W/kg



0 dB = 0.175 W/kg = -7.57 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

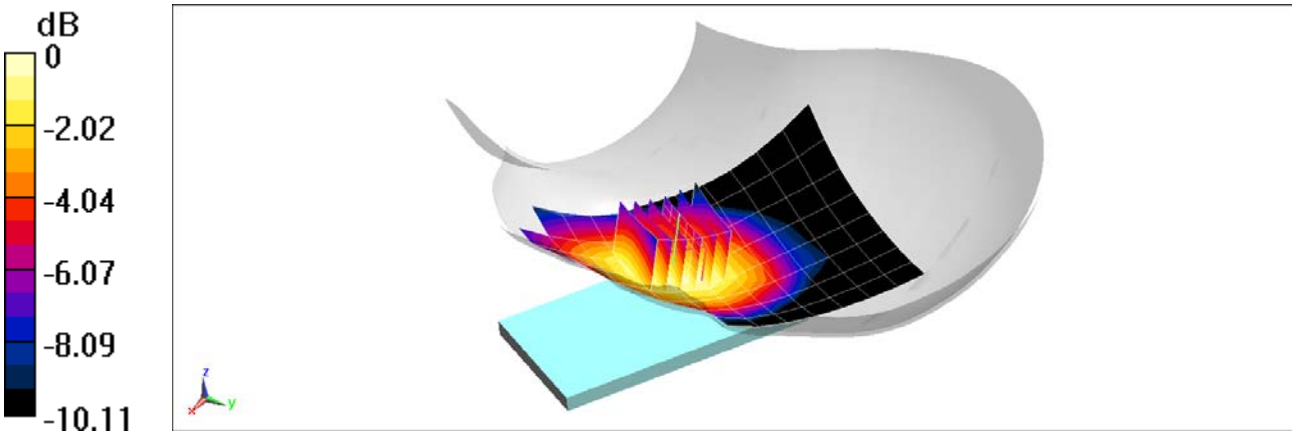
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.86 S/m; ε_r = 41.868; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/05/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 707.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 12, Left Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.10 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.127 W/kg



0 dB = 0.148 W/kg = -8.30 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

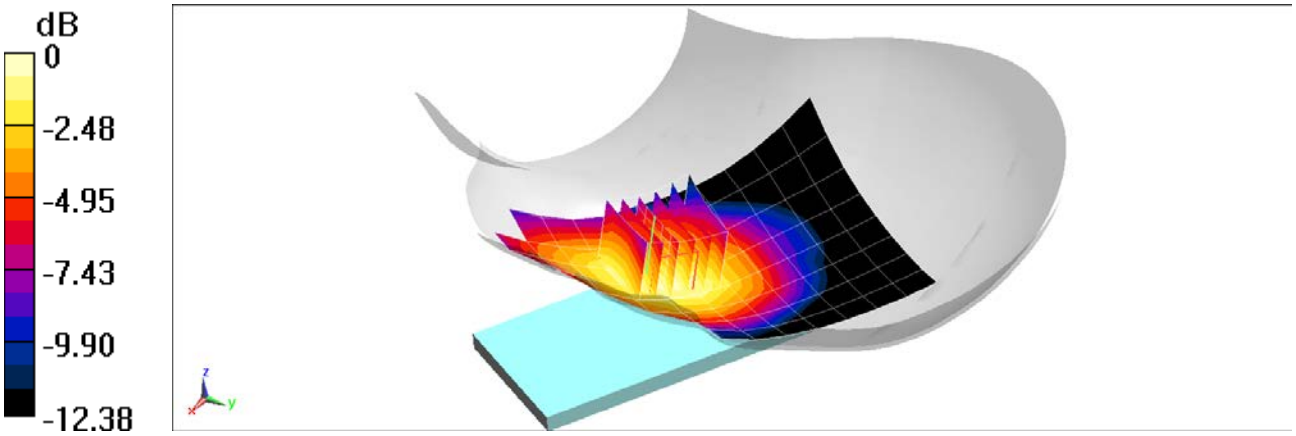
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.886 S/m; ε_r = 40.512; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/07/2020; Ambient Temp: 21.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 782 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 13, Left Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.89 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.186 W/kg
SAR(1 g) = 0.141 W/kg



0 dB = 0.170 W/kg = -7.70 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

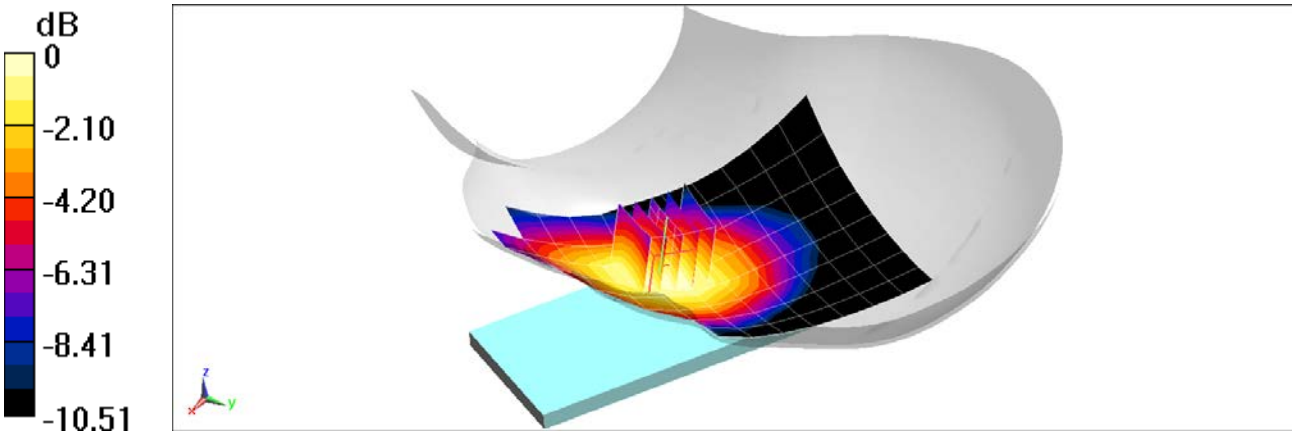
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 793 MHz; σ = 0.89 S/m; ε_r = 40.483; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/07/2020; Ambient Temp: 21.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 793 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 14, Left Head, Cheek, Mid.ch, QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.40 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.211 W/kg
SAR(1 g) = 0.165 W/kg



0 dB = 0.195 W/kg = -7.10 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

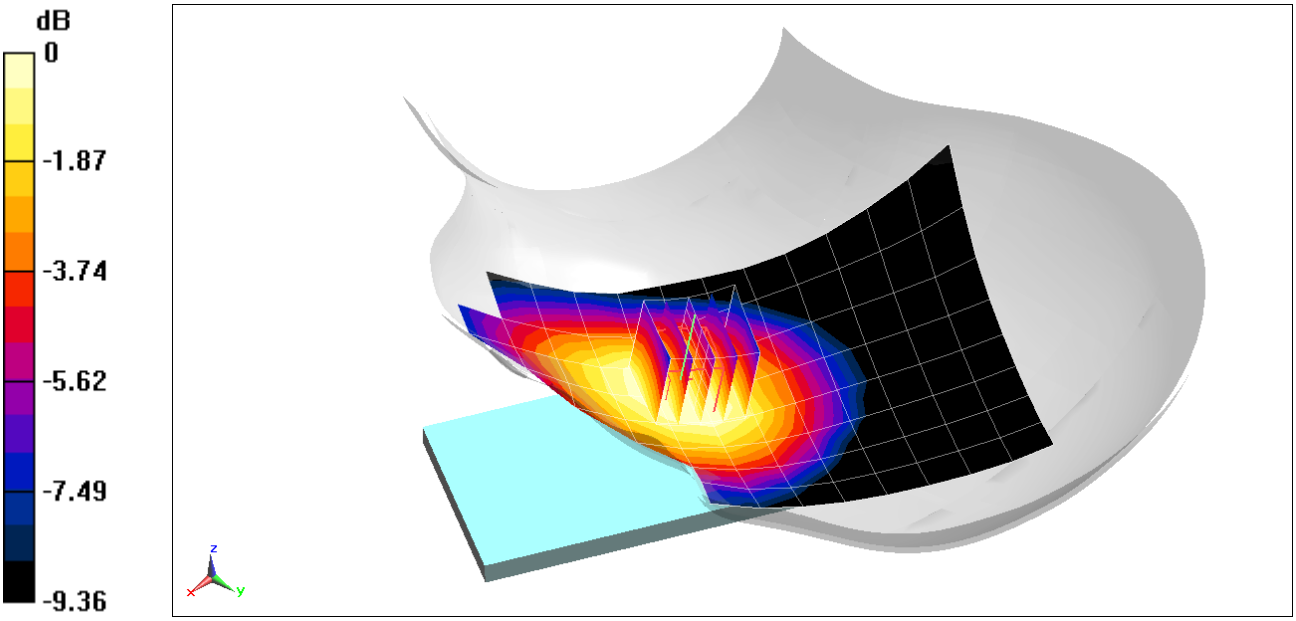
Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.874 S/m; ε_r = 41.941; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 05/06/2020; Ambient Temp: 21.3°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 5 (Cell.) ULCA, Left Head, Cheek,
PCC: Ch. 20525, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset
SCC: Ch. 20453, 5 MHz Bandwidth, QPSK, 1 RB, 24 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.72 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.128 W/kg



0 dB = 0.153 W/kg = -8.15 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

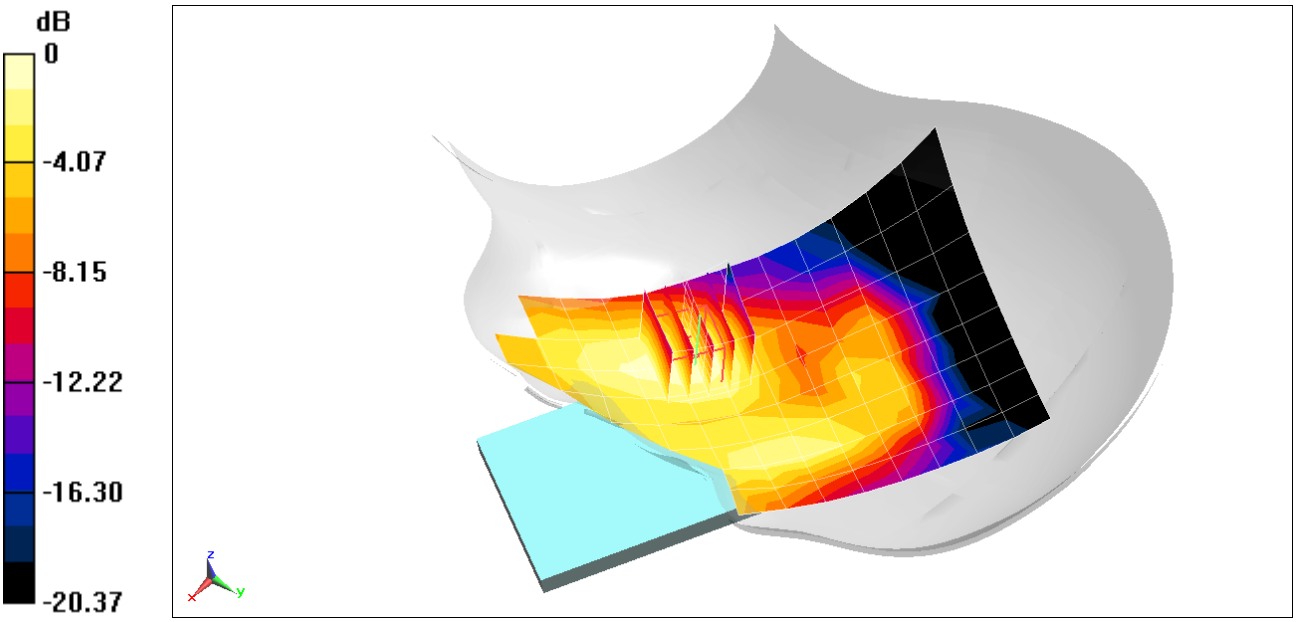
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1770 MHz; σ = 1.424 S/m; ε_r = 40.91; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/23/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7488; ConvF(8.71, 8.71, 8.71) @ 1770 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS) Ant 2, Left Head, Cheek, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.078 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.123 W/kg
SAR(1 g) = 0.080 W/kg



0 dB = 0.106 W/kg = -9.75 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

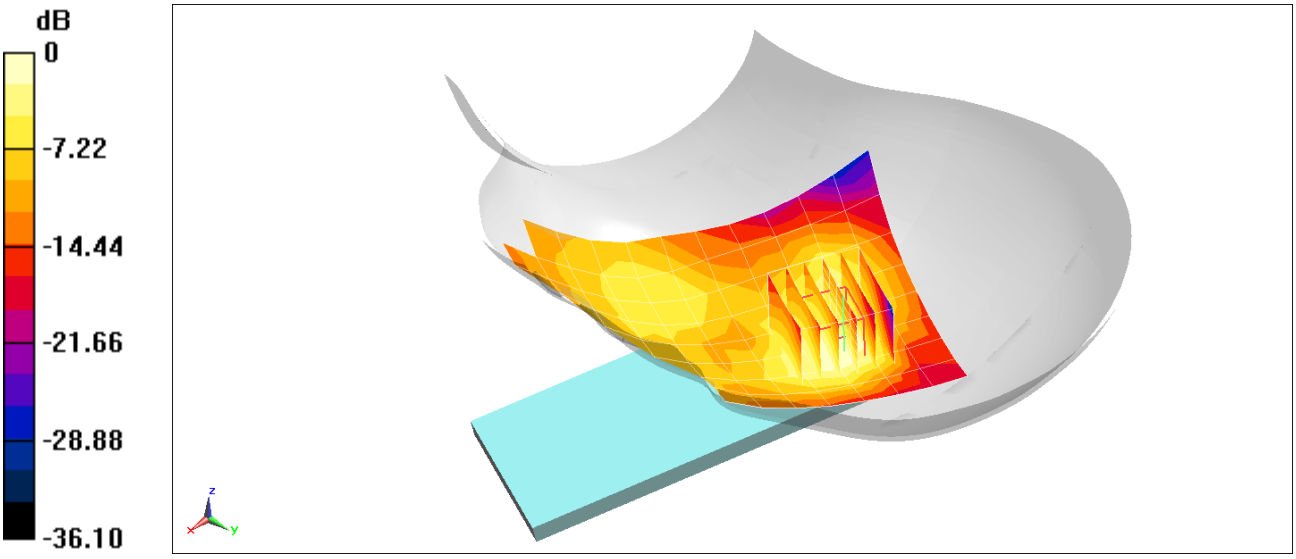
Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.423 S/m; ε_r = 38.88; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/20/2020; Ambient Temp: 20.3°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 2 (PCS) Ant 2, Left Head, Tilt, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.04 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.205 W/kg
SAR(1 g) = 0.124 W/kg



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

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

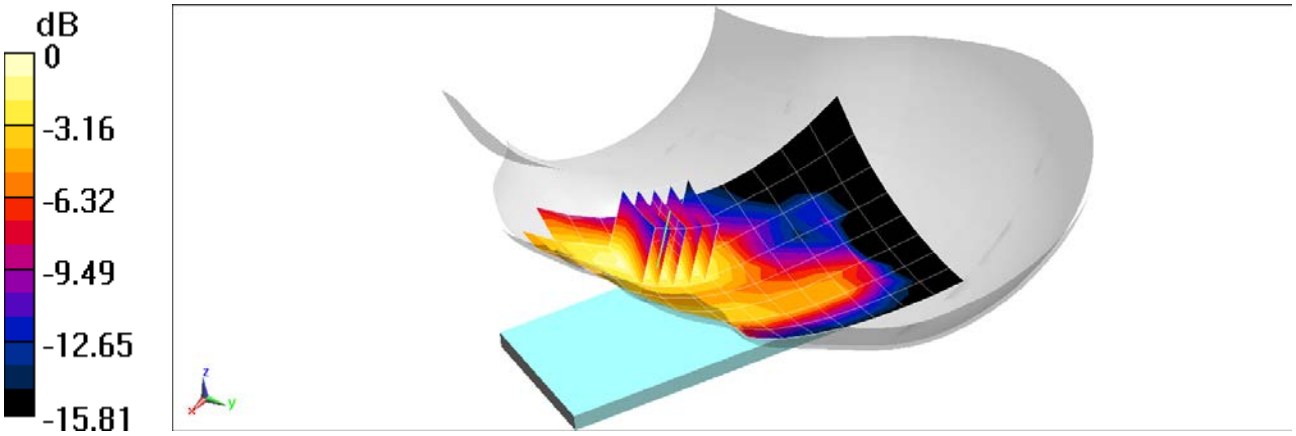
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1860 MHz; σ = 1.433 S/m; ε_r = 39.673; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/10/2020; Ambient Temp: 20.2°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1860 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Left Head, Cheek, Low.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.927 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.099 W/kg



0 dB = 0.130 W/kg = -8.86 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

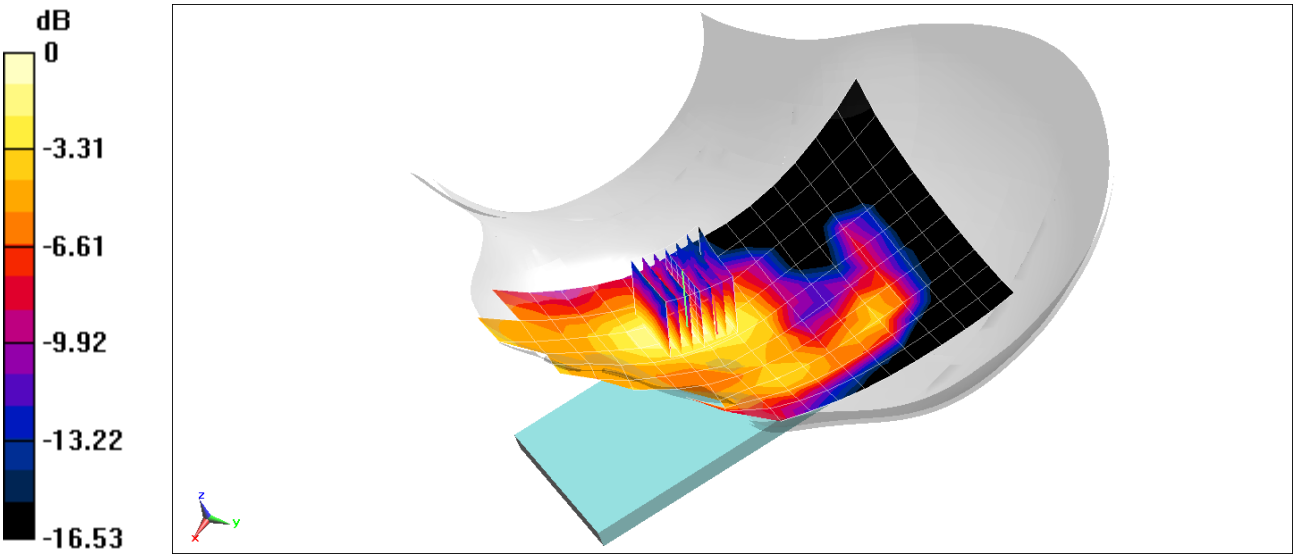
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2310 MHz; σ = 1.682 S/m; ε_r = 38.507; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/19/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3589; ConvF(7.11, 7.11, 7.11) @ 2310 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 30, Left Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.559 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.0760 W/kg
SAR(1 g) = 0.042 W/kg



0 dB = 0.0617 W/kg = -12.10 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03592

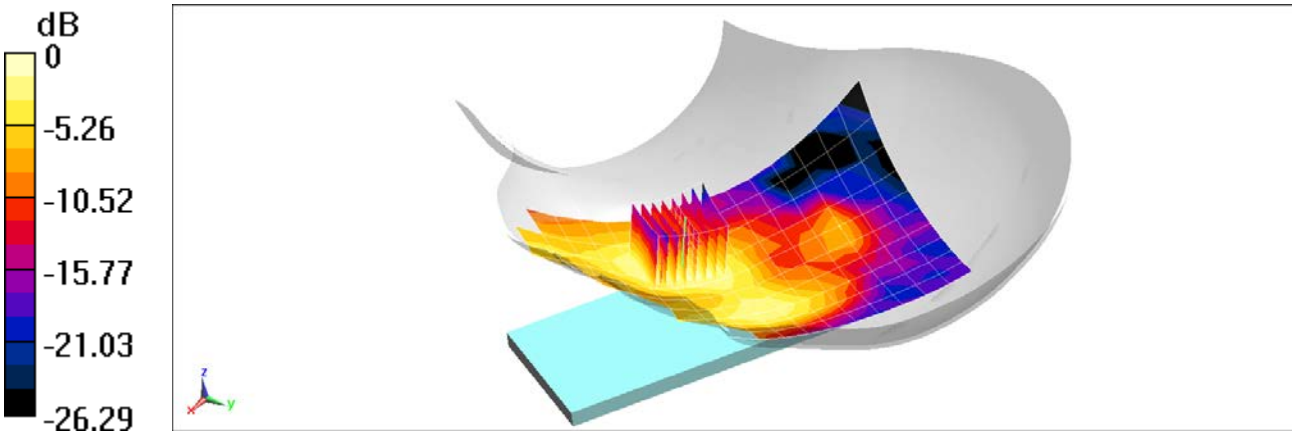
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2560 MHz; σ = 1.876 S/m; ε_r = 37.413; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/12/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2560 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 7, Left Head, Cheek, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.783 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.086 W/kg



0 dB = 0.128 W/kg = -8.93 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

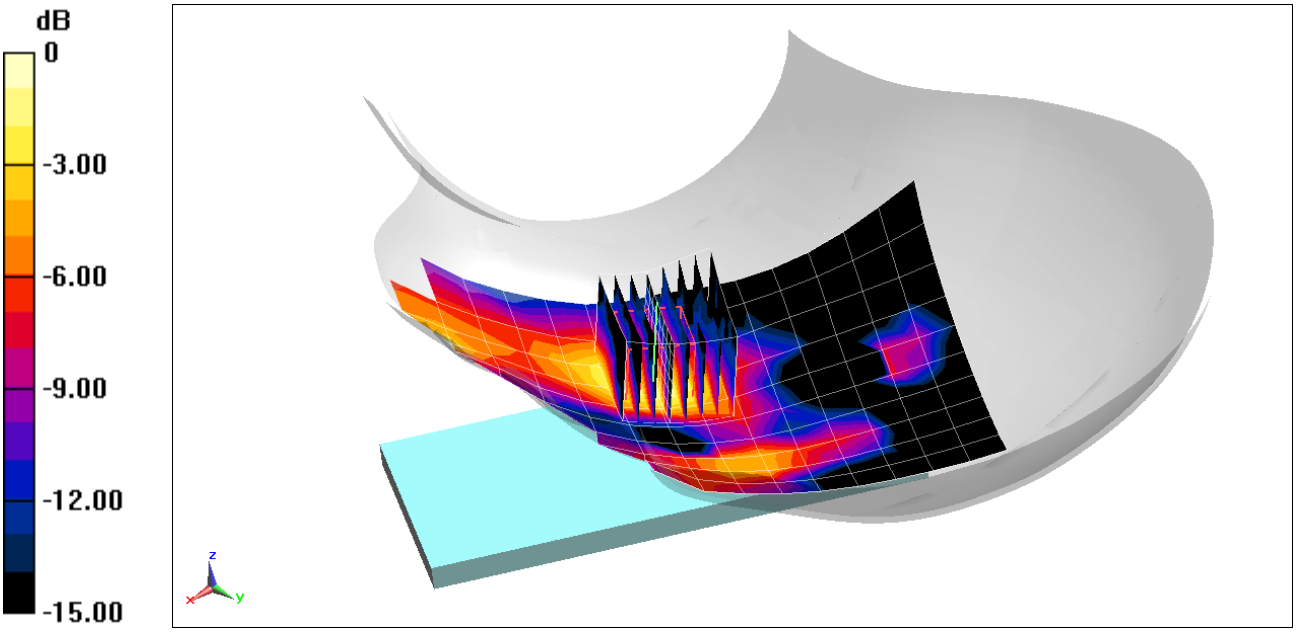
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2680 MHz; Duty Cycle: 1:1.58
Medium: 2450 Head Medium parameters used:
f = 2680 MHz; σ = 1.963 S/m; ε_r = 37.23; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/12/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2680 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41, Left Head, Cheek, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (9x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.551 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.0760 W/kg
SAR(1 g) = 0.038 W/kg



0 dB = 0.0599 W/kg = -12.23 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

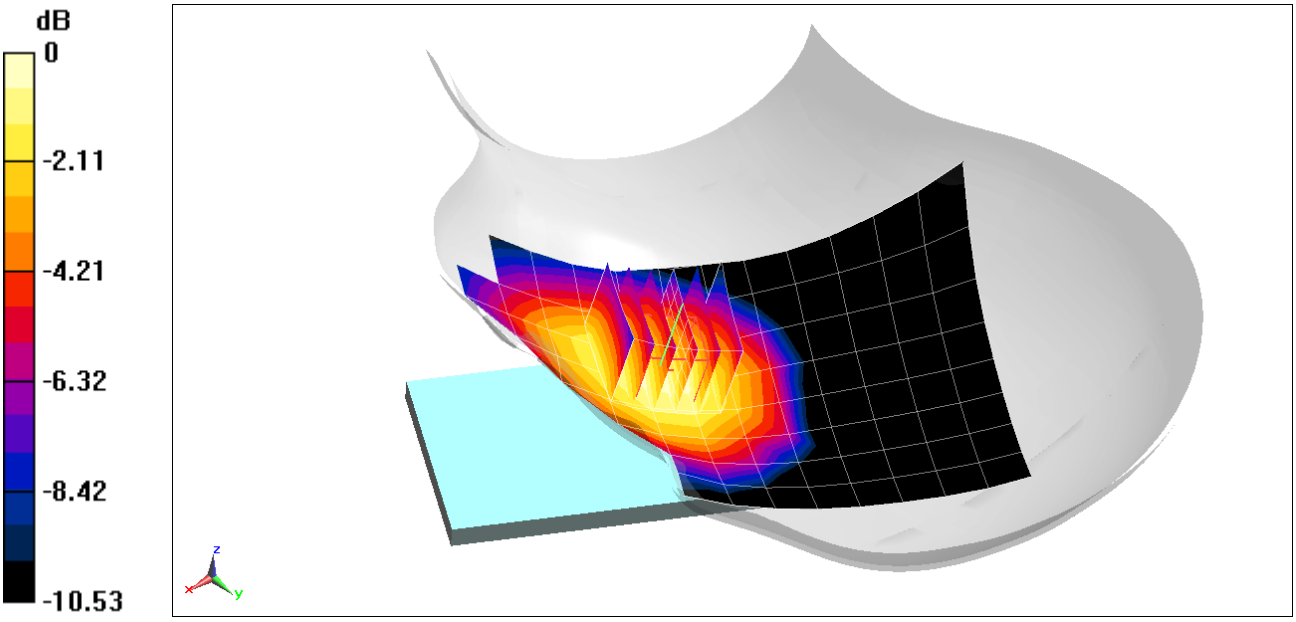
Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.851 S/m; ε_r = 41.945; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/05/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 680.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n71, Left Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 53 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.229 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.0390 W/kg
SAR(1 g) = 0.030 W/kg



0 dB = 0.0351 W/kg = -14.55 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

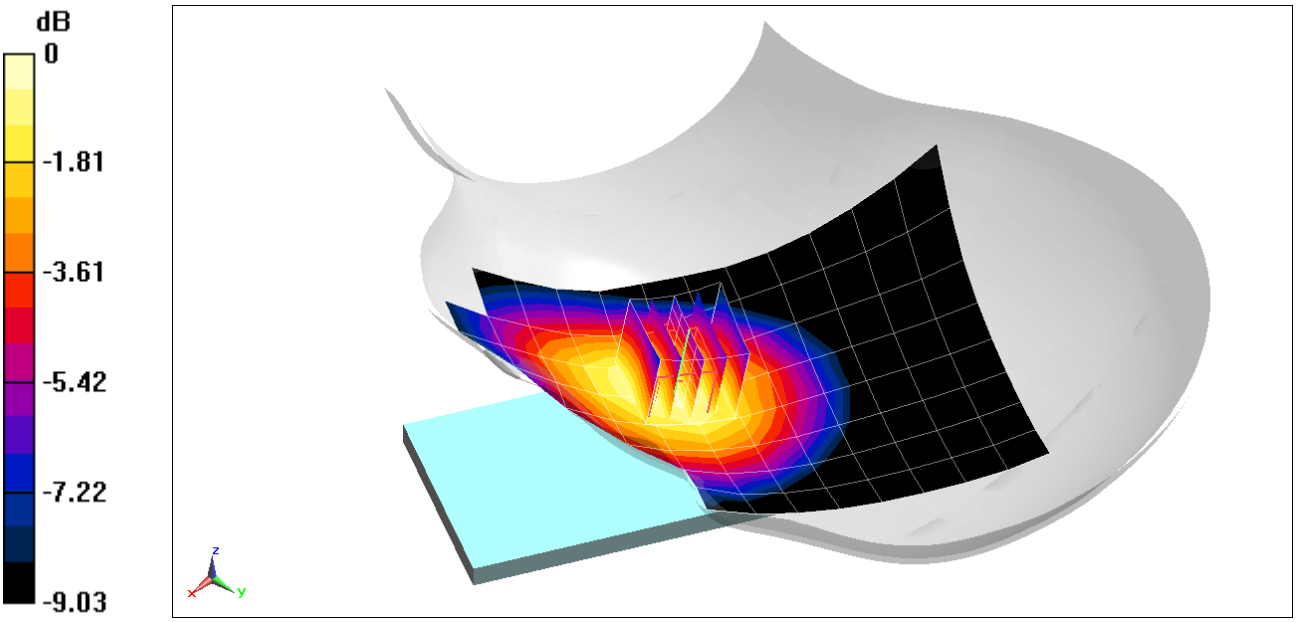
Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.935 S/m; ε_r = 42.938; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 04/13/2020; Ambient Temp: 21.7°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n5, Left Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 167300, 1 RB, 1 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.37 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.150 W/kg



0 dB = 0.177 W/kg = -7.52 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

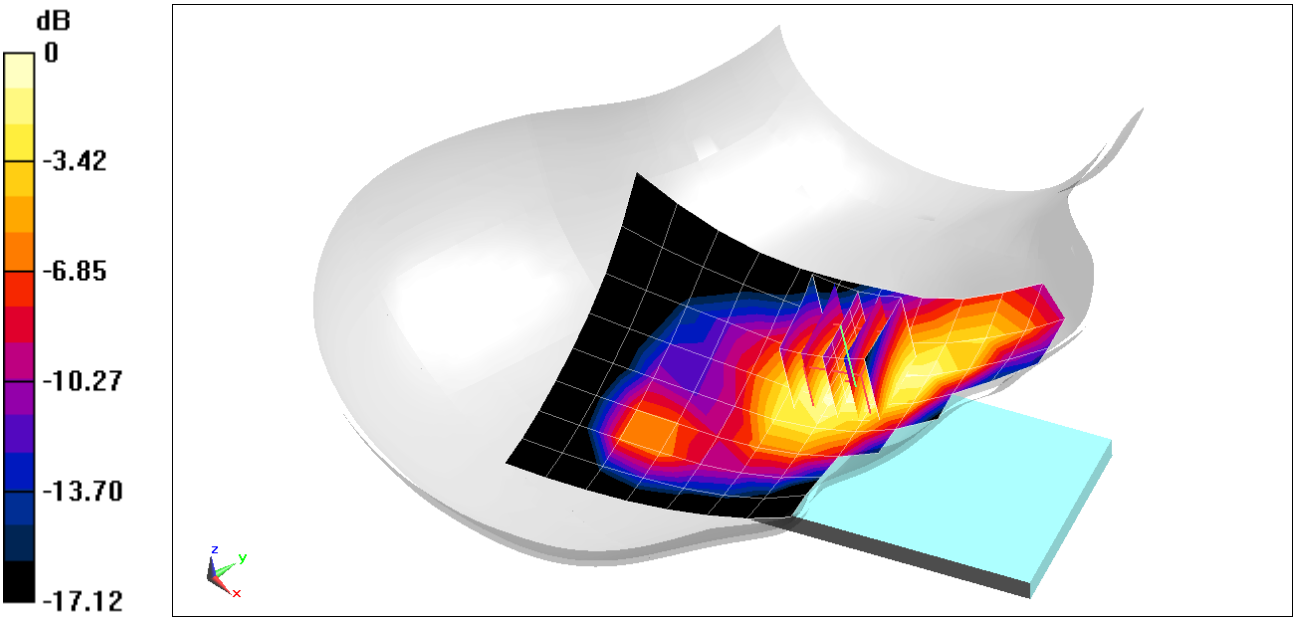
Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1770 MHz; σ = 1.387 S/m; ε_r = 39.127; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 03/30/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1770 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n66, Right Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.62 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.344 W/kg
SAR(1 g) = 0.218 W/kg



0 dB = 0.299 W/kg = -5.24 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

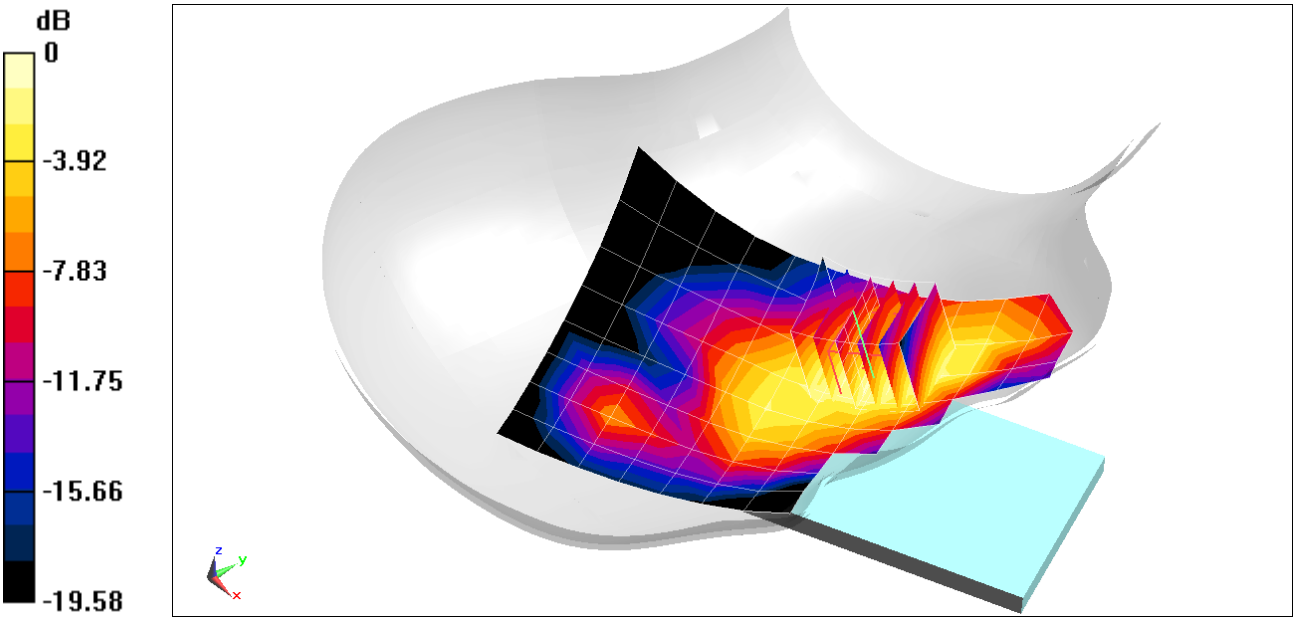
Communication System: UID 0, NR Band n25; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1860 MHz; σ = 1.433 S/m; ε_r = 39.673; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 04/10/2020; Ambient Temp: 20.2°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1860 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n25, Right Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 372000, 1 RB, 1 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.45 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.344 W/kg
SAR(1 g) = 0.217 W/kg



0 dB = 0.297 W/kg = -5.27 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

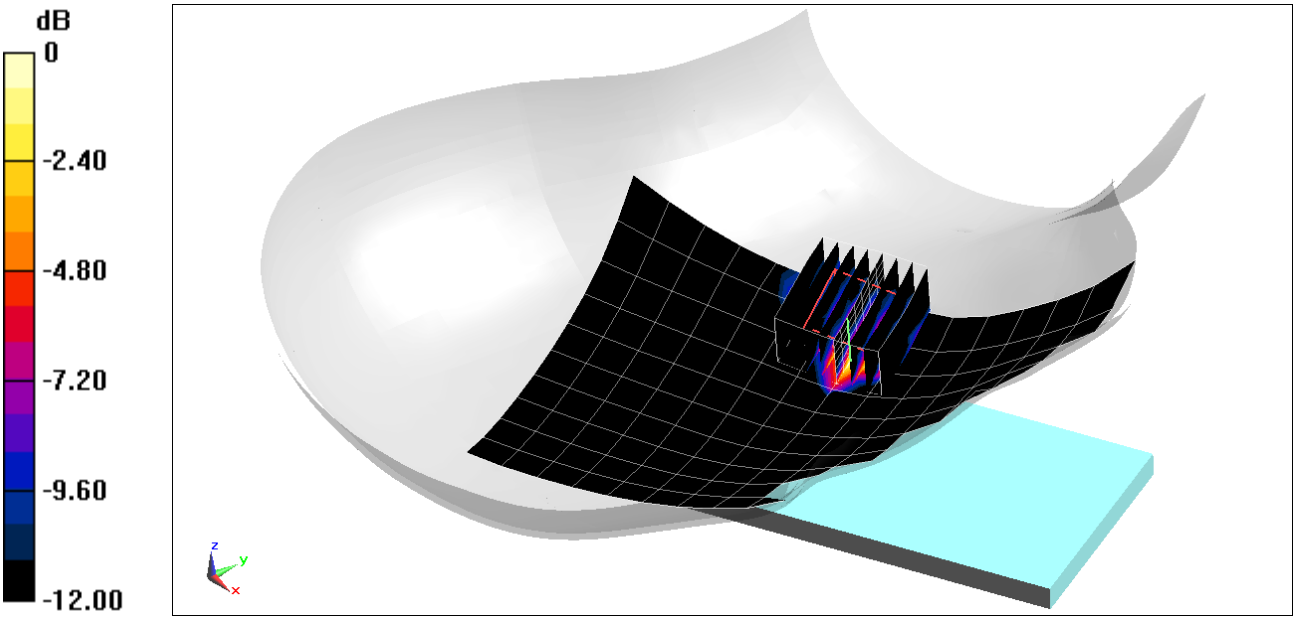
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Head Medium parameters used (interpolated):
f = 2592.99 MHz; σ = 1.909 S/m; ε_r = 38.199; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 05/03/2020; Ambient Temp: 22.9°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2592.99 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n41, Right Head, Cheek, 100 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 518598, 135 RB, 138 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.917 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.027 W/kg



0 dB = 0.0445 W/kg = -13.52 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03519

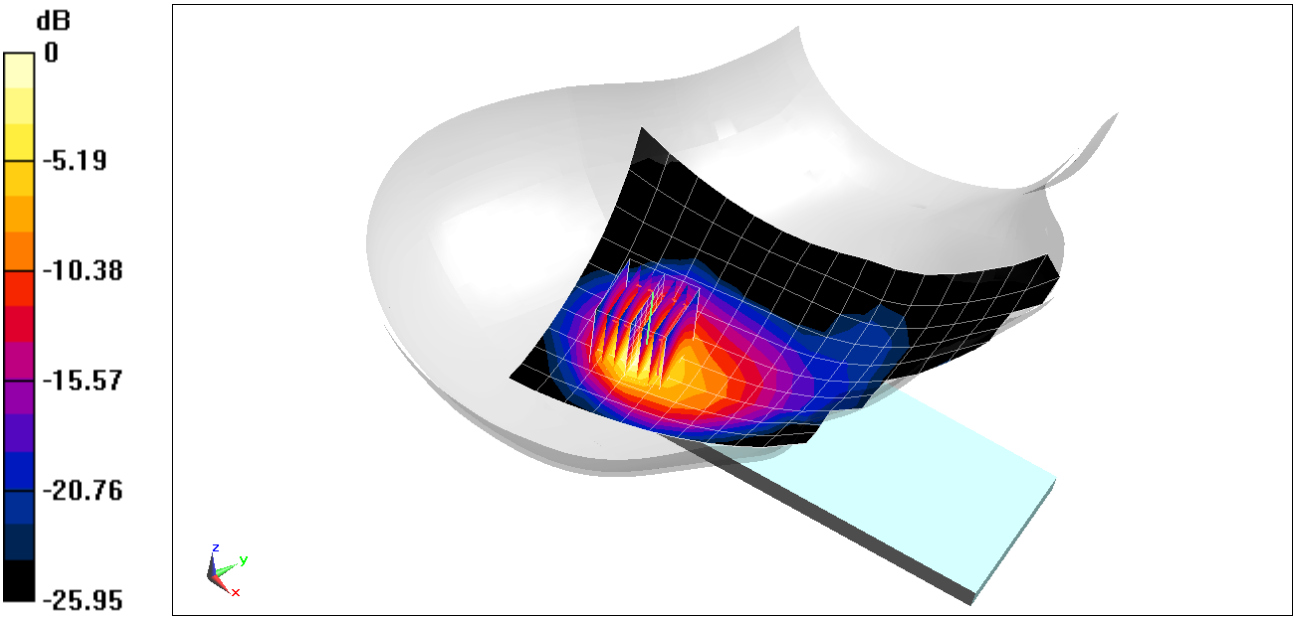
Communication System: UID 0, IEEE 802.11n; Frequency: 2452 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2452 MHz; σ = 1.805 S/m; ε_r = 39.071; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 04/26/2020; Ambient Temp: 22.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2452 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11n, MIMO, 20 MHz Bandwidth, Right Head, Tilt, Ch. 9, 13 Mbps

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.00 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 2.05 W/kg
SAR(1 g) = 0.930 W/kg



0 dB = 1.57 W/kg = 1.96 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03519

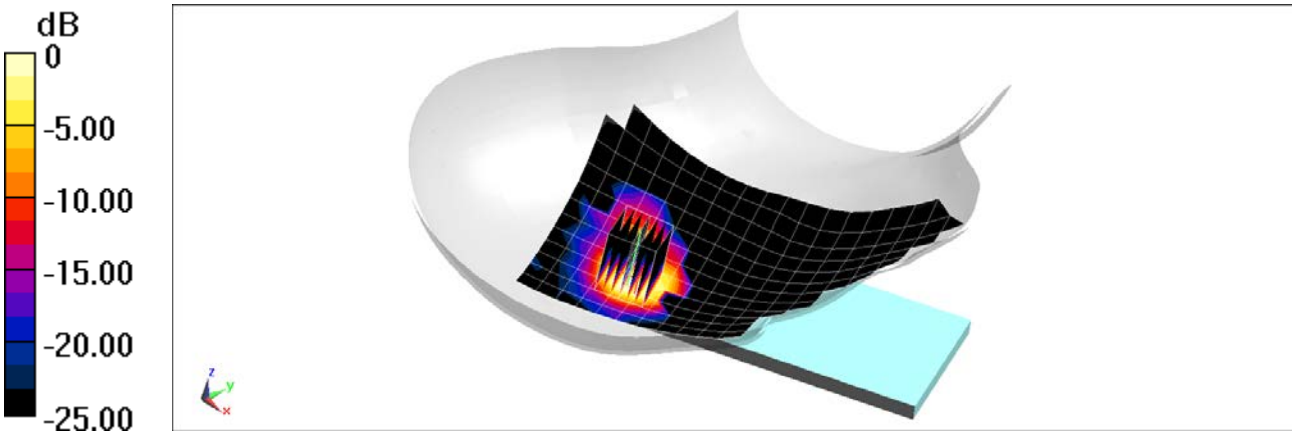
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head Medium parameters used:
f = 5270 MHz; σ = 4.617 S/m; ε_r = 34.609; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 04/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7406; ConvF(5.54, 5.54, 5.54) @ 5270 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11n, Antenna 2, U-NII-2A, 40 MHz Bandwidth, Right Head, Cheek, Ch 54, 13.5 Mbps

Area Scan (13x21x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 2.889 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.819 W/kg
SAR(1 g) = 0.218 W/kg



0 dB = 0.503 W/kg = -2.98 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03519

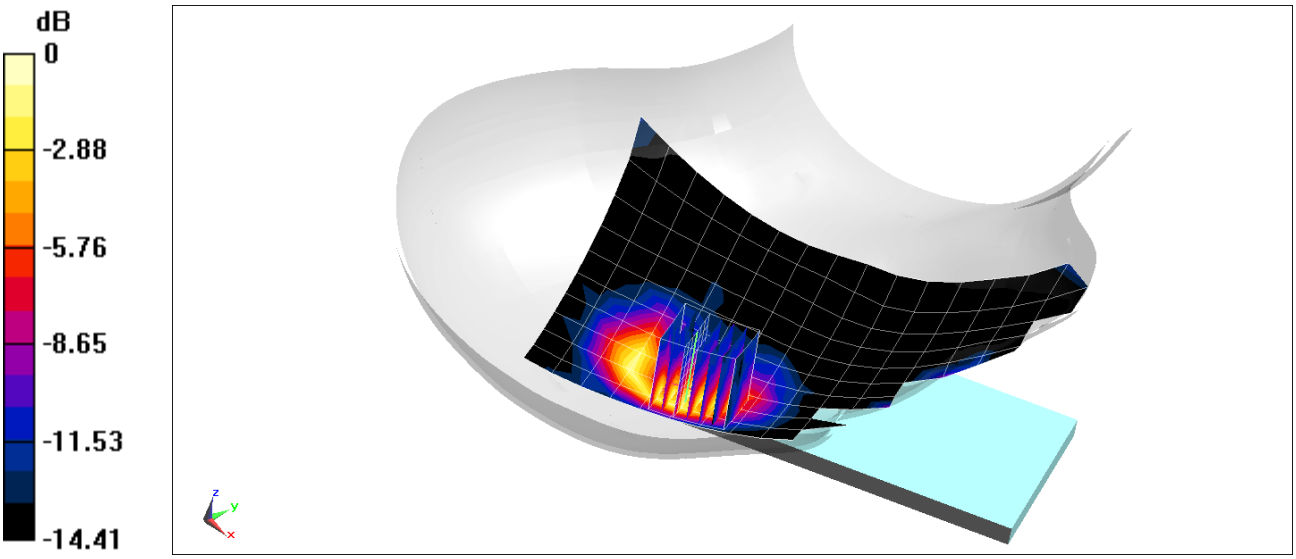
Communication System: UID 0, Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1.294
Medium: 2450 Head Medium parameters used (interpolated):
f = 2402 MHz; σ = 1.763 S/m; ε_r = 37.638; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 04/12/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2402 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth, Right Head, Cheek, Ch 0, 1 Mbps

Area Scan (11x19x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.310 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.102 W/kg
SAR(1 g) = 0.046 W/kg



0 dB = 0.0804 W/kg = -10.95 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03592

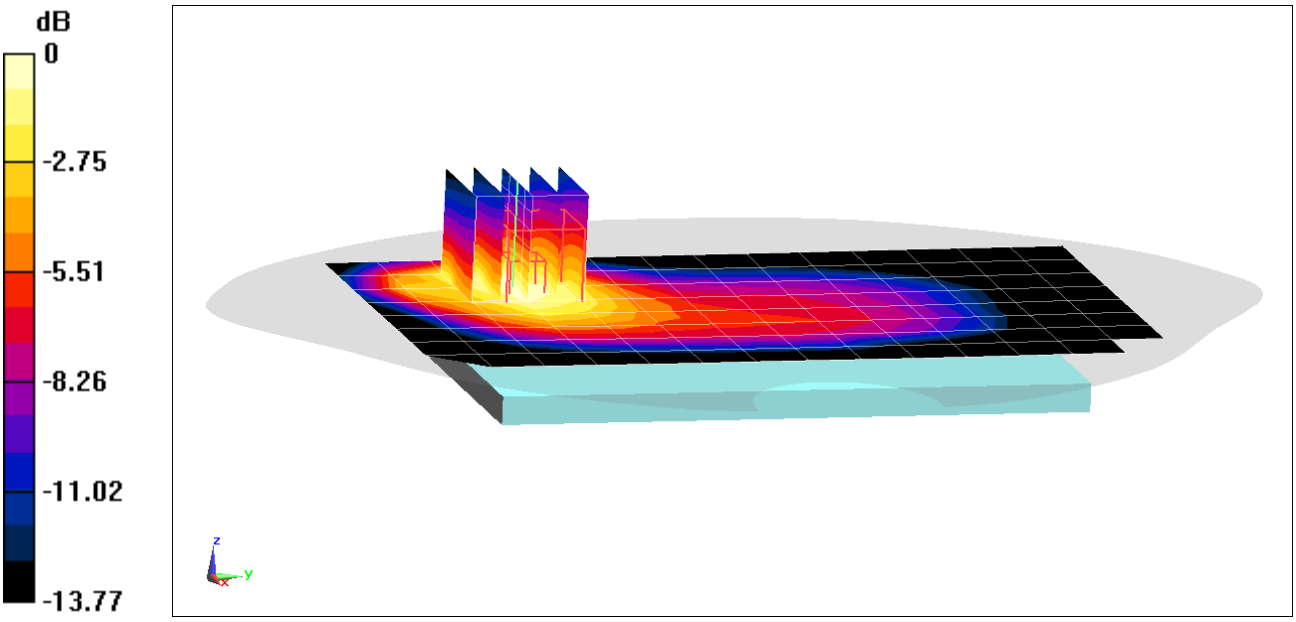
Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.076
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.975 S/m; ε_r = 54.595; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 4 Tx Slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.87 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.846 W/kg
SAR(1 g) = 0.499 W/kg



0 dB = 0.708 W/kg = -1.50 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

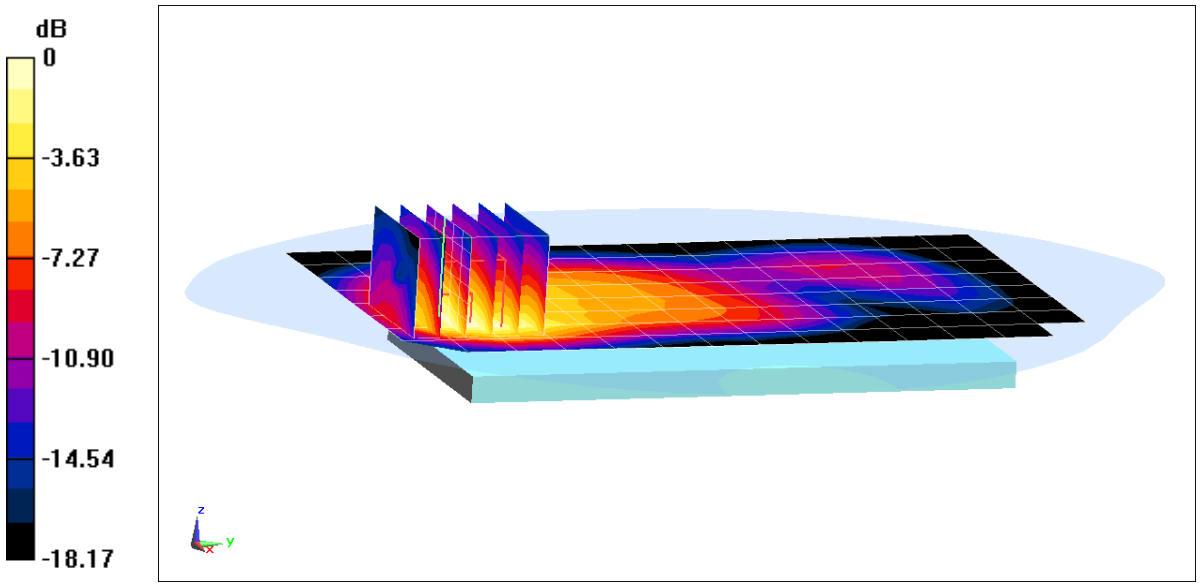
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.511 S/m; ε_r = 53.155; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/25/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 3 Tx Slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.35 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.587 W/kg
SAR(1 g) = 0.334 W/kg



0 dB = 0.475 W/kg = -3.23 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

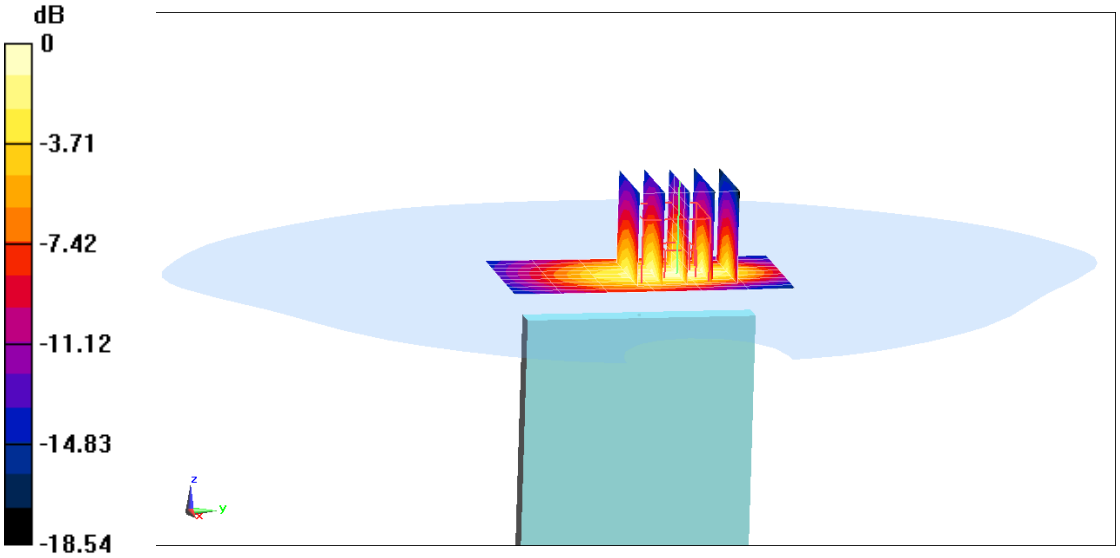
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body Medium parameters used:
f = 1910 MHz; σ = 1.544 S/m; ε_r = 53.064; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/25/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1909.8 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 1900, Body SAR, Bottom Edge, High.ch, 3 Tx Slots

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.97 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.655 W/kg



0 dB = 0.988 W/kg = -0.05 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

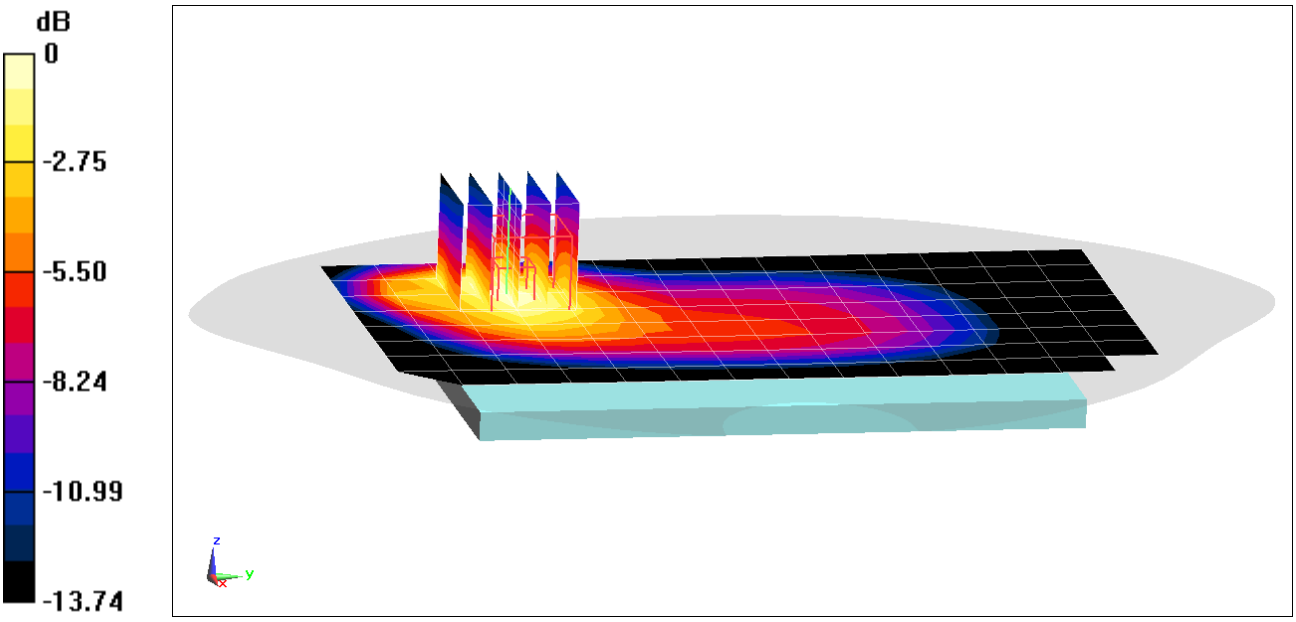
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.961 S/m; ε_r = 54.392; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/29/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 850, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.75 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.638 W/kg



0 dB = 0.901 W/kg = -0.45 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

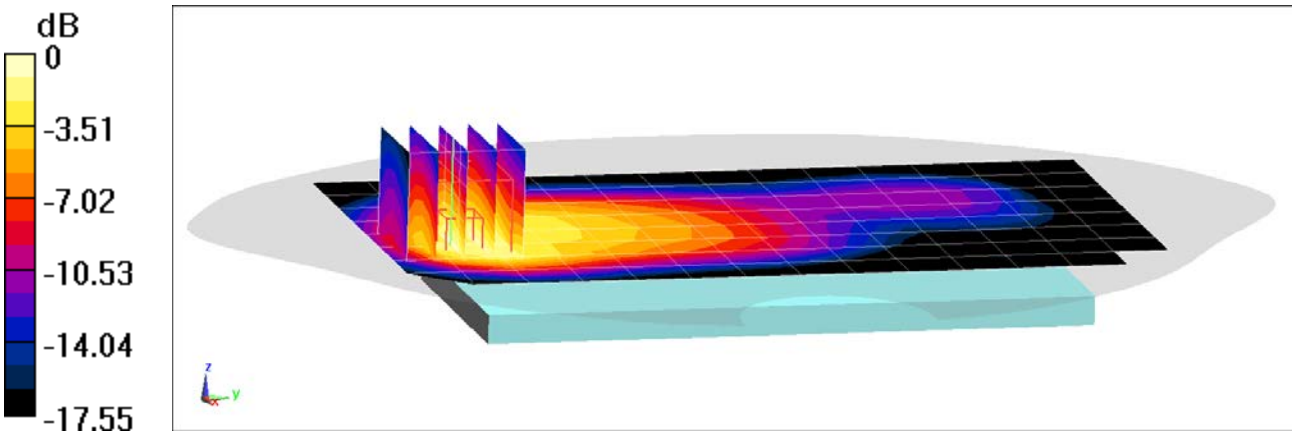
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.494 S/m; ε_r = 55.339; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/30/2020; Ambient Temp: 21.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1752.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Body SAR, Back side, High.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.81 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.981 W/kg



0 dB = 1.39 W/kg = 1.43 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

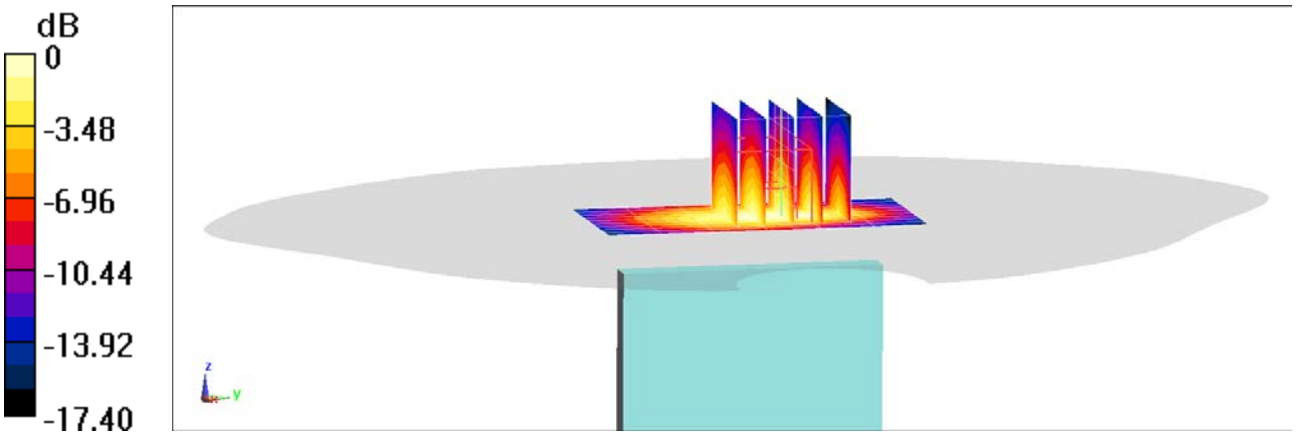
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.476 S/m; ε_r = 55.055; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1732.4 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Body SAR, Bottom Edge, Mid.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.32 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.597 W/kg



0 dB = 0.873 W/kg = -0.59 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

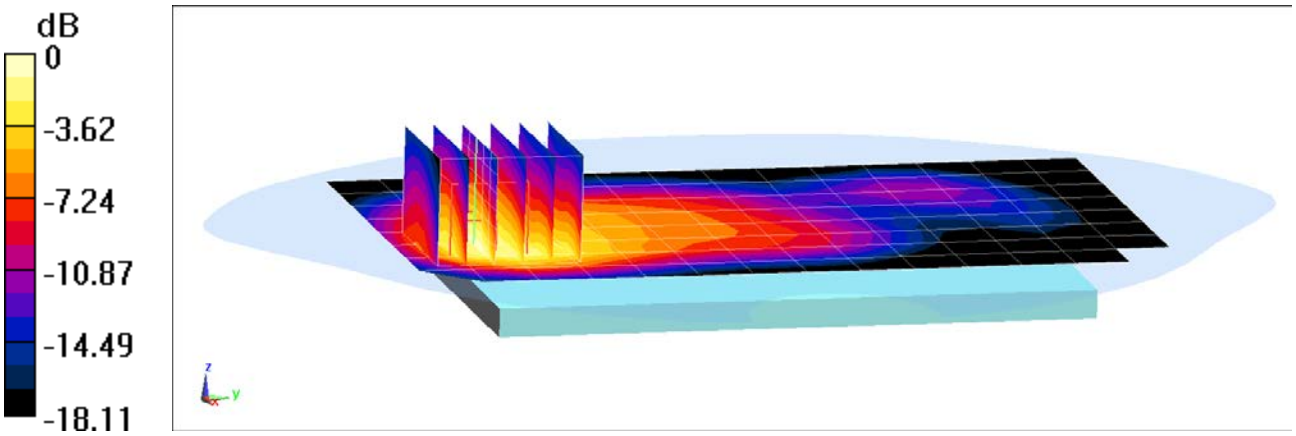
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.582 S/m; ε_r = 54.813; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/25/2020; Ambient Temp: 21.1°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1900, Body SAR, Back side, High.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.36 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 0.942 W/kg



0 dB = 1.40 W/kg = 1.46 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

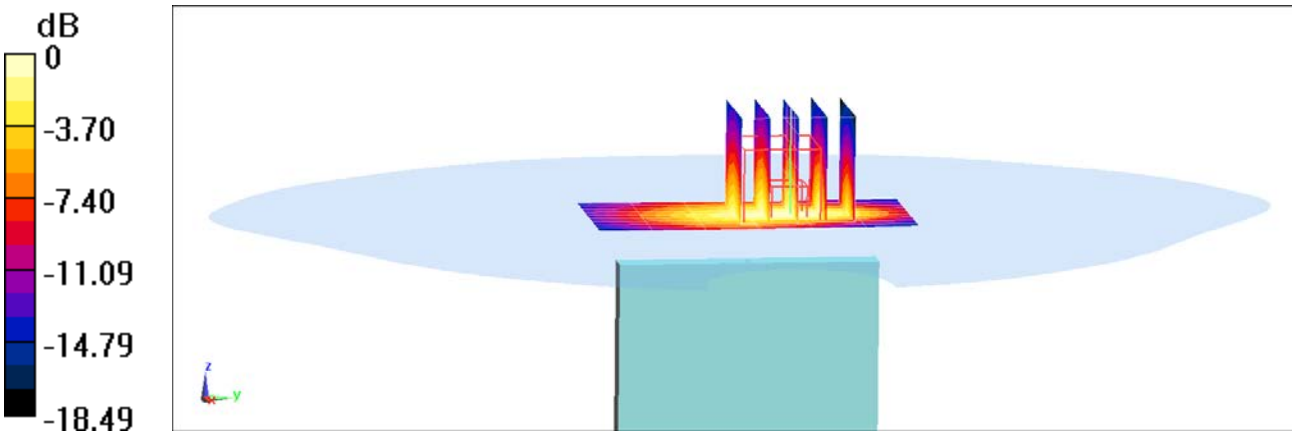
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.59 S/m; ε_r = 54.145; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/14/2020; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1900, Body SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.03 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.753 W/kg



0 dB = 1.14 W/kg = 0.57 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

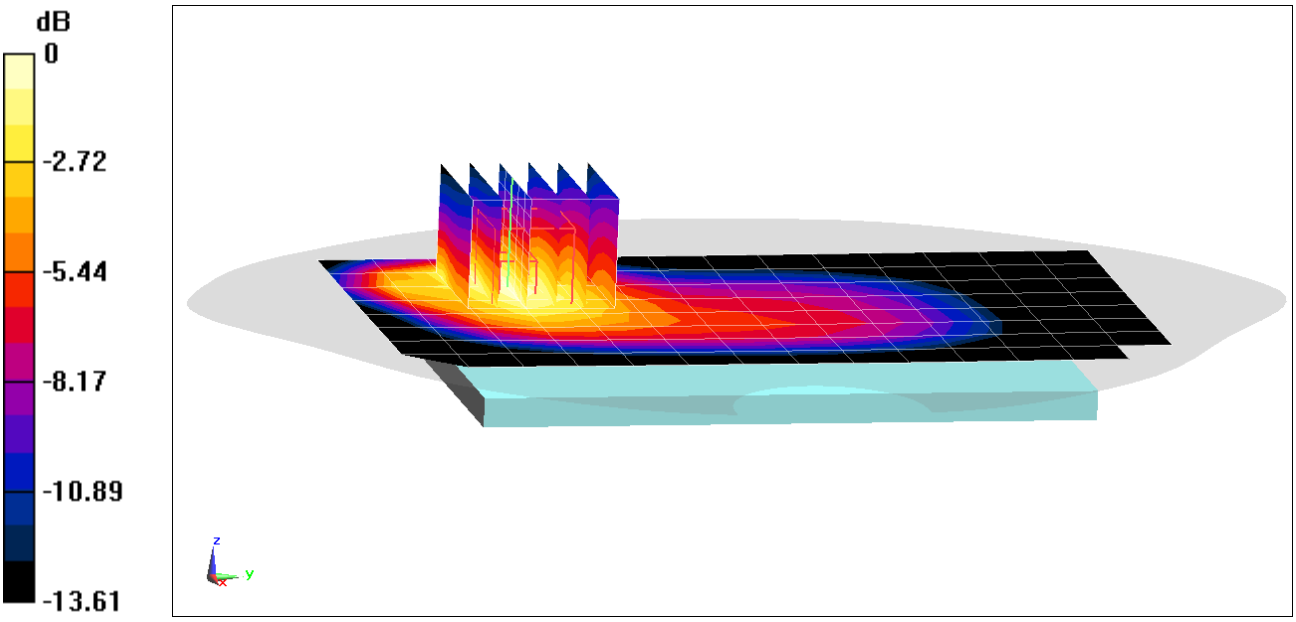
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.967 S/m; ε_r = 54.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.52 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. CDMA, BC 0, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.96 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.600 W/kg



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

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

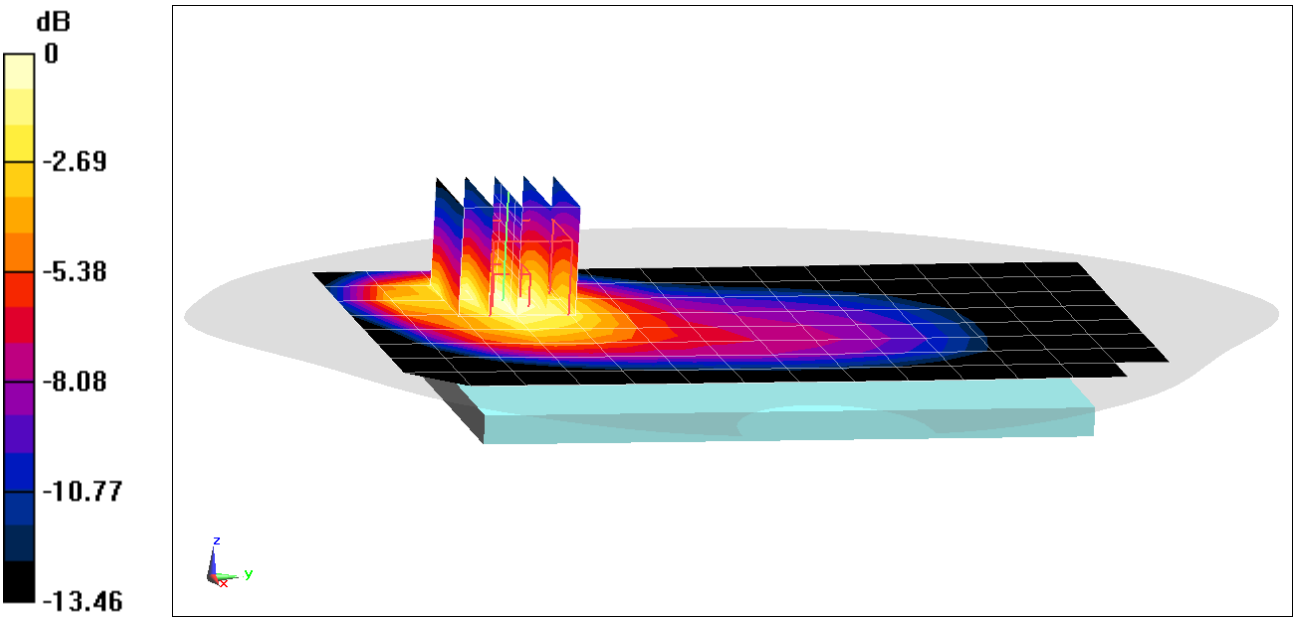
Communication System: UID 0, CDMA; Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 824.7 MHz; σ = 0.954 S/m; ε_r = 54.257; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 824.7 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. EVDO, BC 0, Body SAR, Back side, Low.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.13 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.695 W/kg



0 dB = 0.987 W/kg = -0.06 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

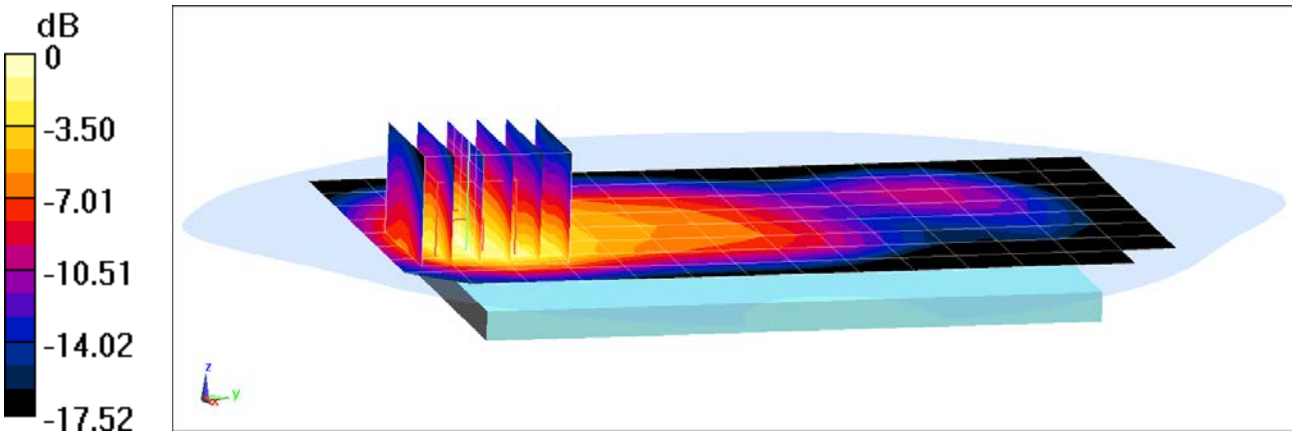
Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.505 S/m; ε_r = 53.877; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/31/2020; Ambient Temp: 22.3°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1851.25 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: PCS CDMA, Body SAR, Back side, Low.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.50 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.813 W/kg



0 dB = 1.20 W/kg = 0.79 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

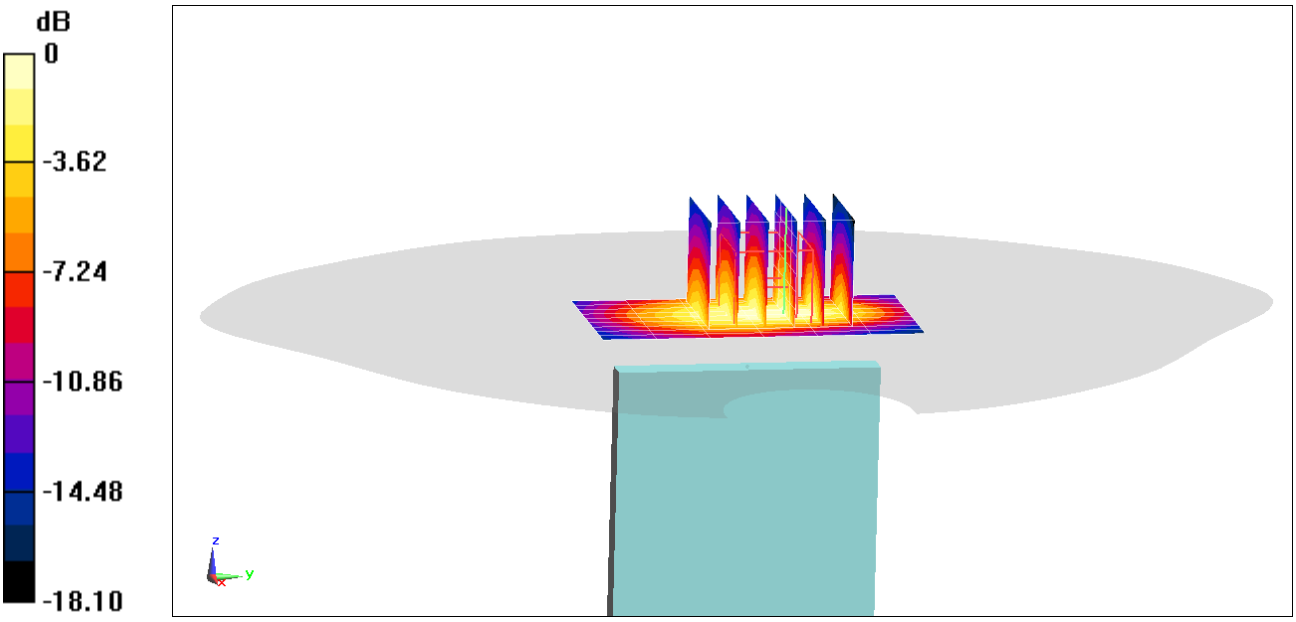
Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.552 S/m; ε_r = 52.734; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/28/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: PCS EVDO Rev. 0, Body SAR, Bottom Edge, Mid.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.01 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.816 W/kg



0 dB = 1.23 W/kg = 0.90 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

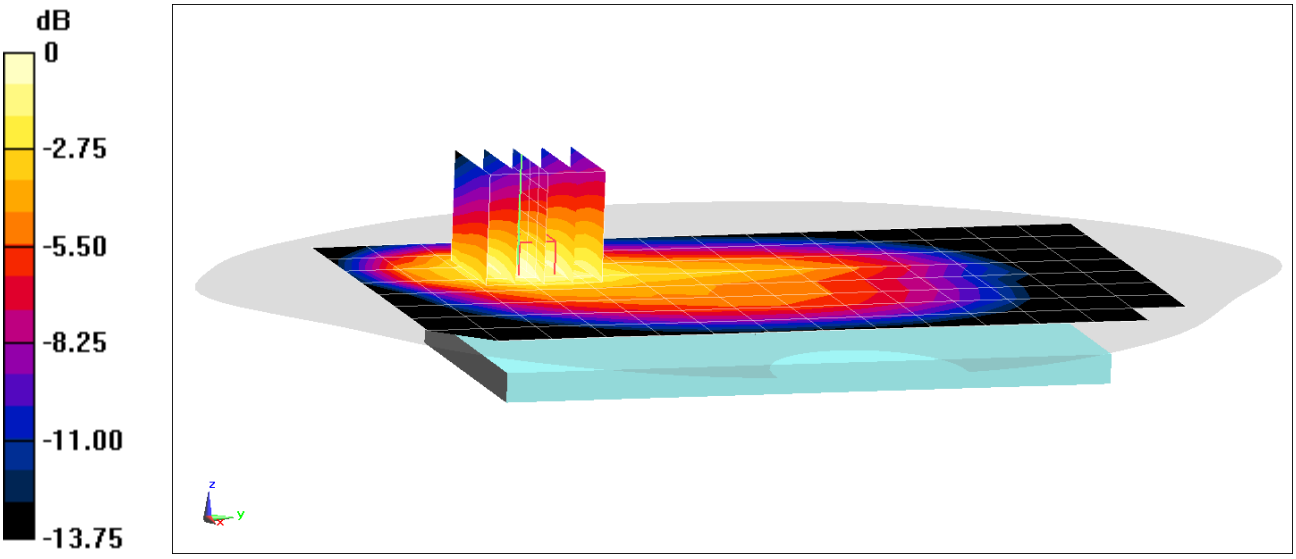
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.923 S/m; ε_r = 53.891; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 71, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.56 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.555 W/kg
SAR(1 g) = 0.364 W/kg



0 dB = 0.481 W/kg = -3.18 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

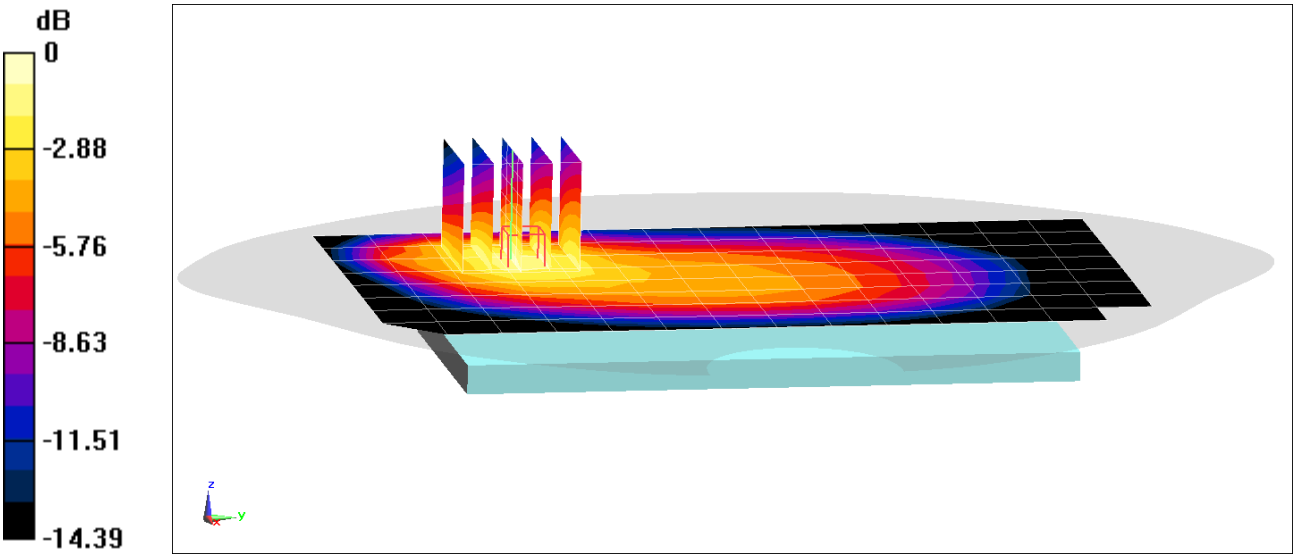
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.932 S/m; ε_r = 53.852; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 707.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.19 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.325 W/kg



0 dB = 0.438 W/kg = -3.59 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

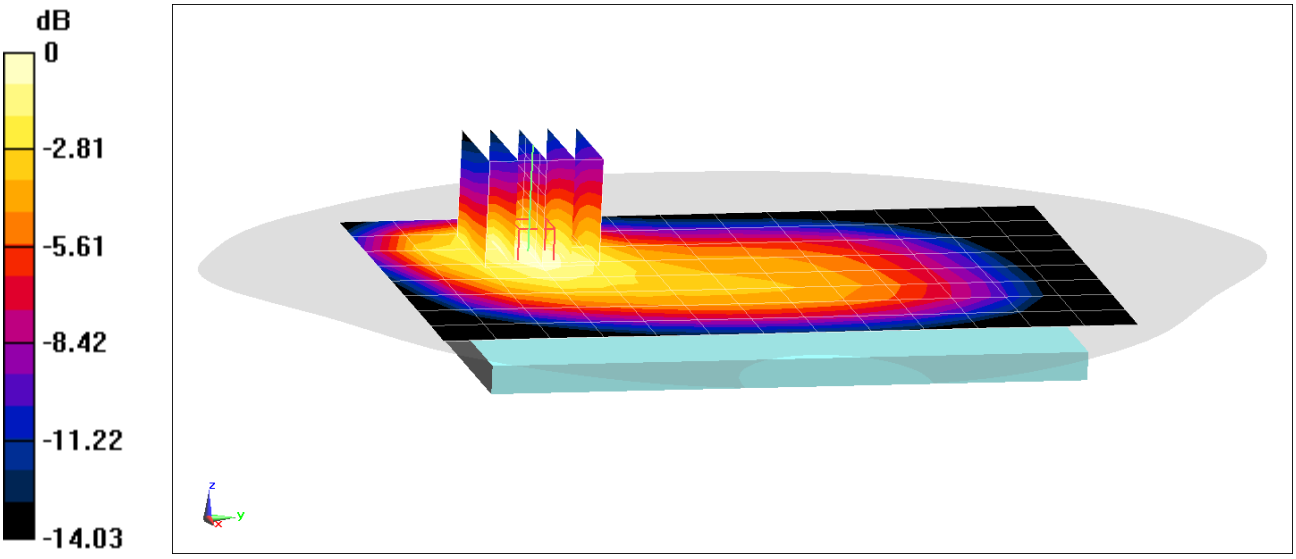
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 782 MHz; σ = 0.962 S/m; ε_r = 53.684; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 782 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.68 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.609 W/kg
SAR(1 g) = 0.386 W/kg



0 dB = 0.529 W/kg = -2.77 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

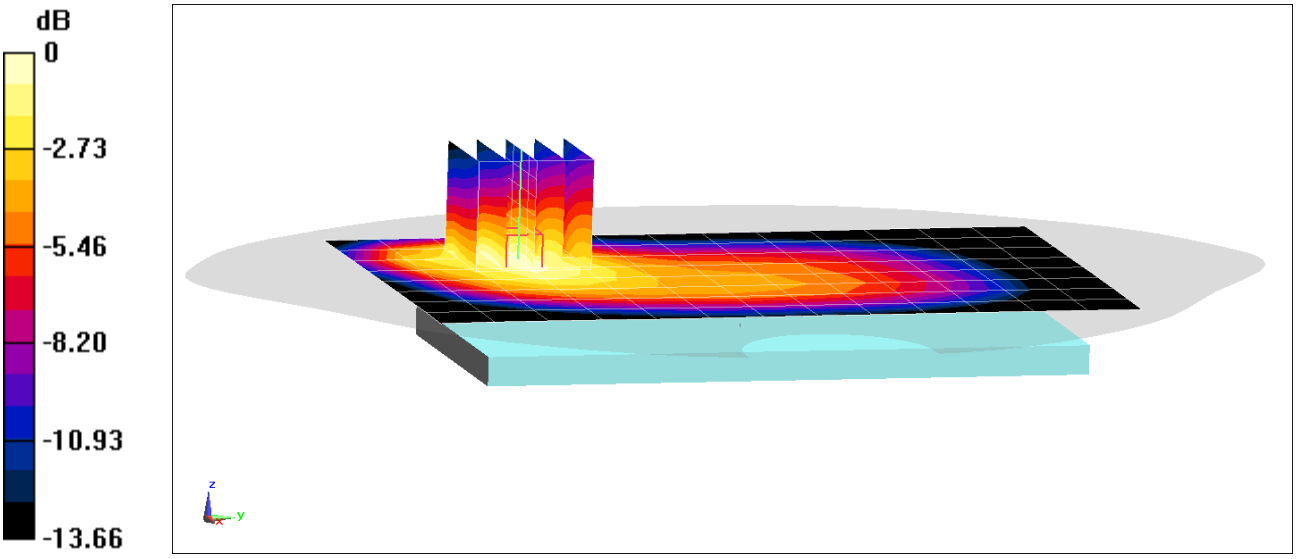
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 793 MHz; σ = 0.966 S/m; ε_r = 53.661; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 793 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 14, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.41 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.743 W/kg
SAR(1 g) = 0.470 W/kg



0 dB = 0.631 W/kg = -2.00 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

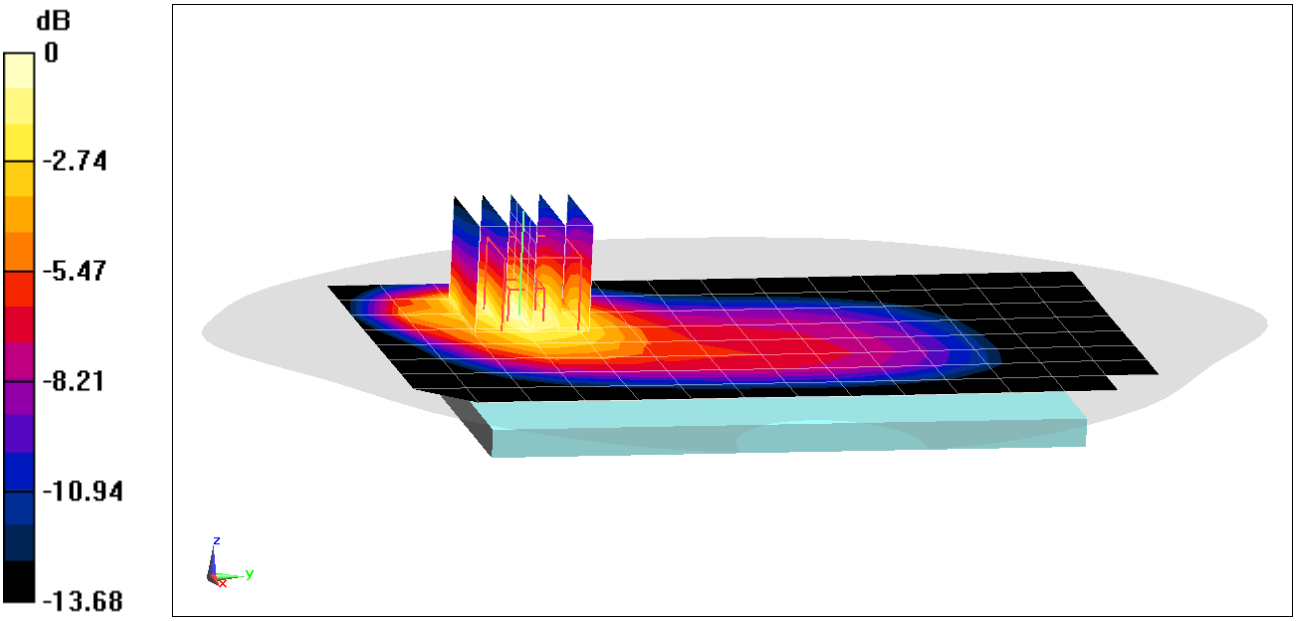
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.961 S/m; ε_r = 54.393; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/29/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 5 (Cell.) ULCA, Body SAR, Back side,
PCC: Ch. 20525, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset
SCC: Ch. 20453, 5 MHz Bandwidth, QPSK, 1 RB, 24 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.86 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.689 W/kg



0 dB = 0.972 W/kg = -0.12 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

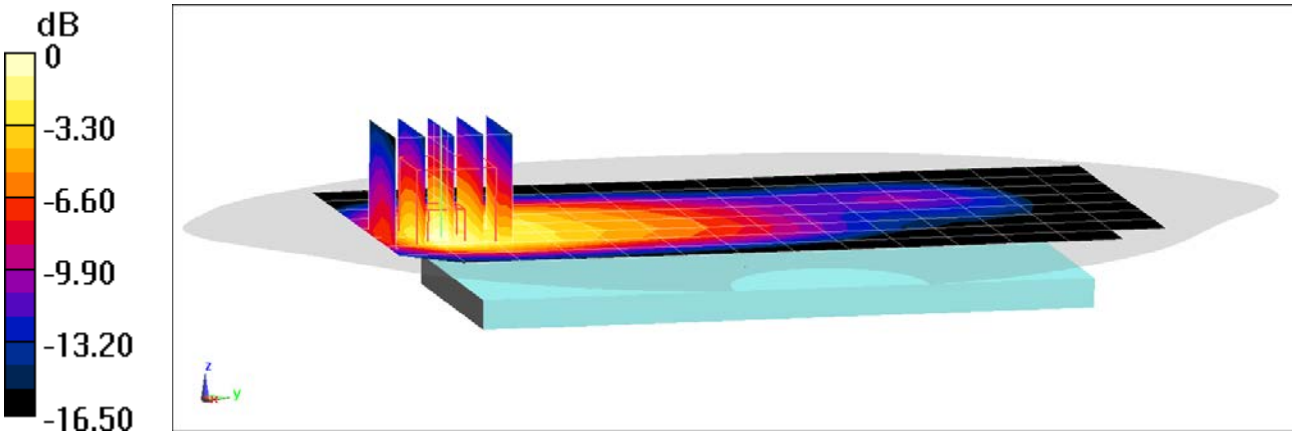
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1770 MHz; σ = 1.534 S/m; ε_r = 53.611; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/11/2020; Ambient Temp: 21.8°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1770 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS) Ant 2, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.61 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.806 W/kg



0 dB = 1.18 W/kg = 0.72 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

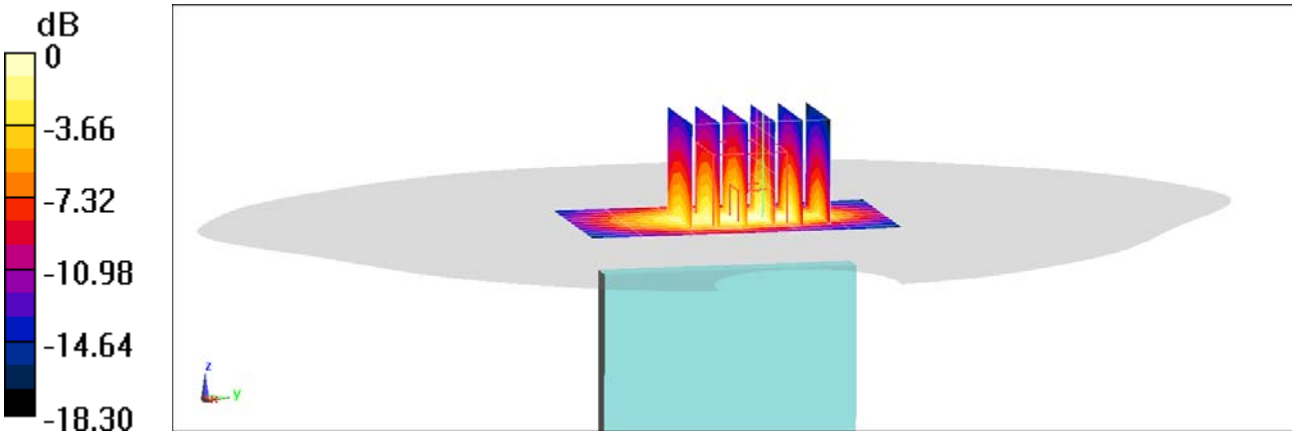
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1770 MHz; σ = 1.518 S/m; ε_r = 54.914; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1770 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS) Ant 2, Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.36 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.620 W/kg



0 dB = 0.909 W/kg = -0.41 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

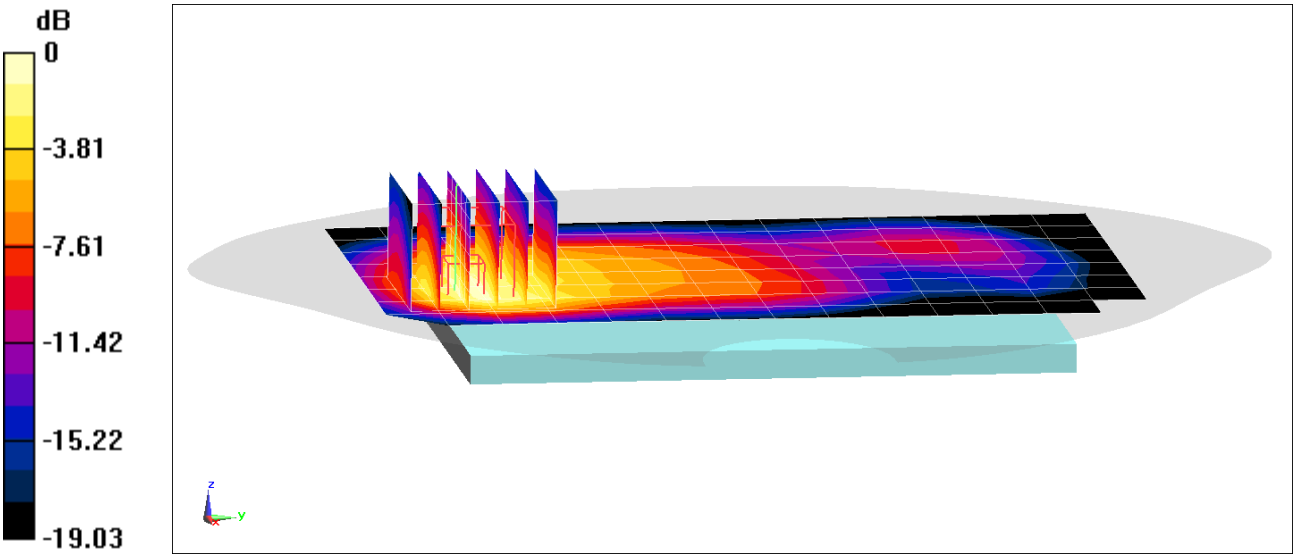
Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.581 S/m; ε_r = 51.679; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/21/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 2 (PCS) Ant 2, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.45 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.816 W/kg



0 dB = 1.20 W/kg = 0.79 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

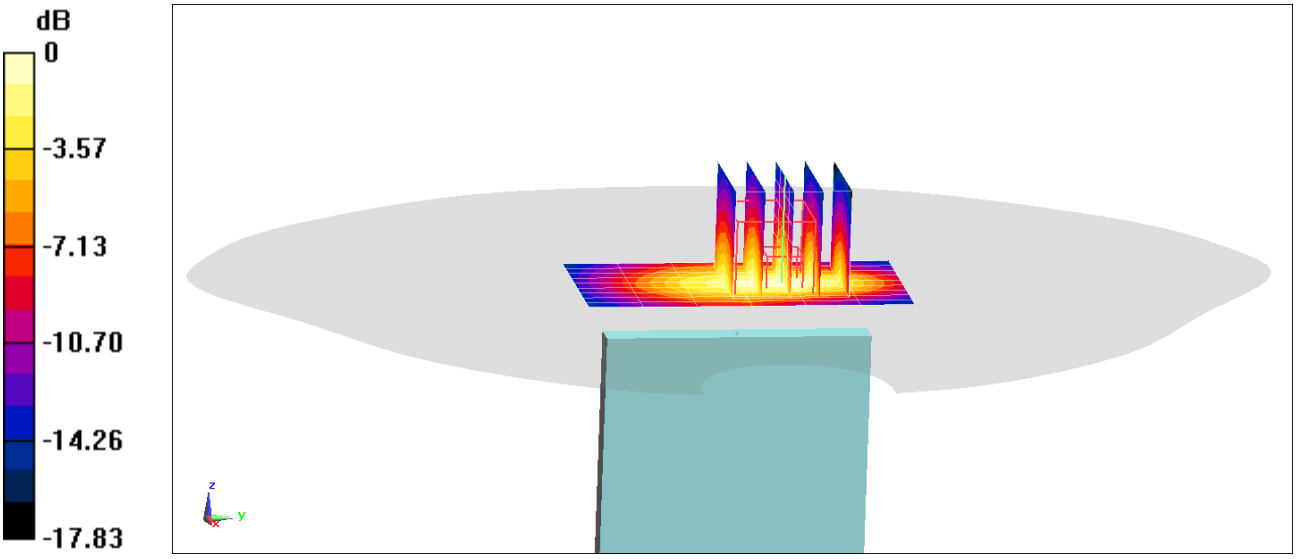
Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.559 S/m; ε_r = 51.743; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/21/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 2 (PCS) Ant 2, Body SAR, Bottom Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.78 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.802 W/kg



0 dB = 1.21 W/kg = 0.83 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

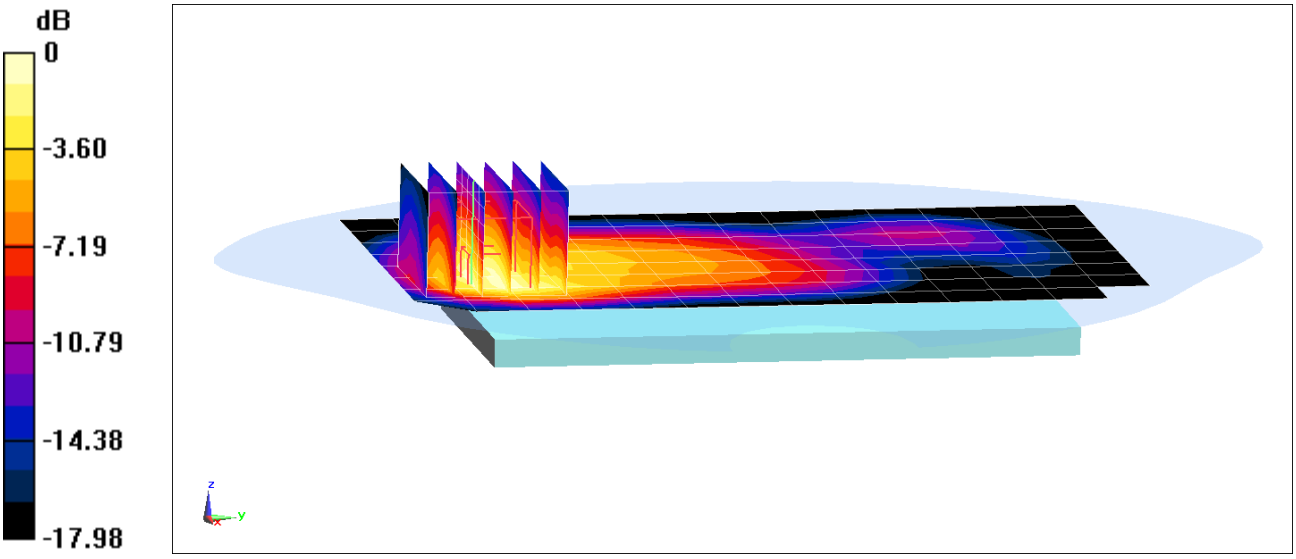
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.543 S/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/16/2020; Ambient Temp: 21.7°C; Tissue Temp: 24.0°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1882.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.61 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.969 W/kg



0 dB = 1.29 W/kg = 1.11 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

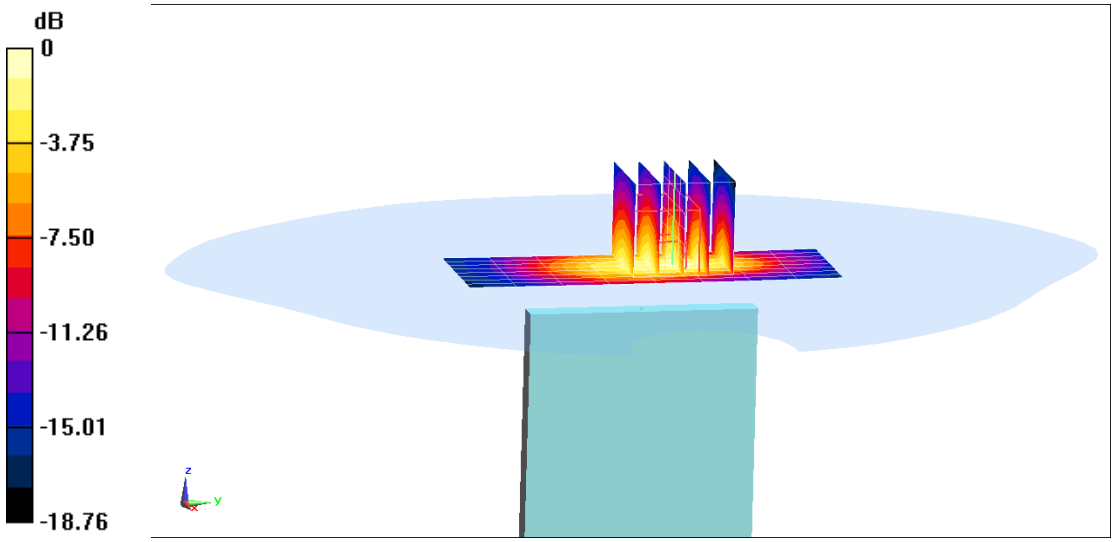
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1905 MHz; σ = 1.587 S/m; ε_r = 54.154; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/14/2020; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1905 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.65 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.733 W/kg



0 dB = 1.12 W/kg = 0.49 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

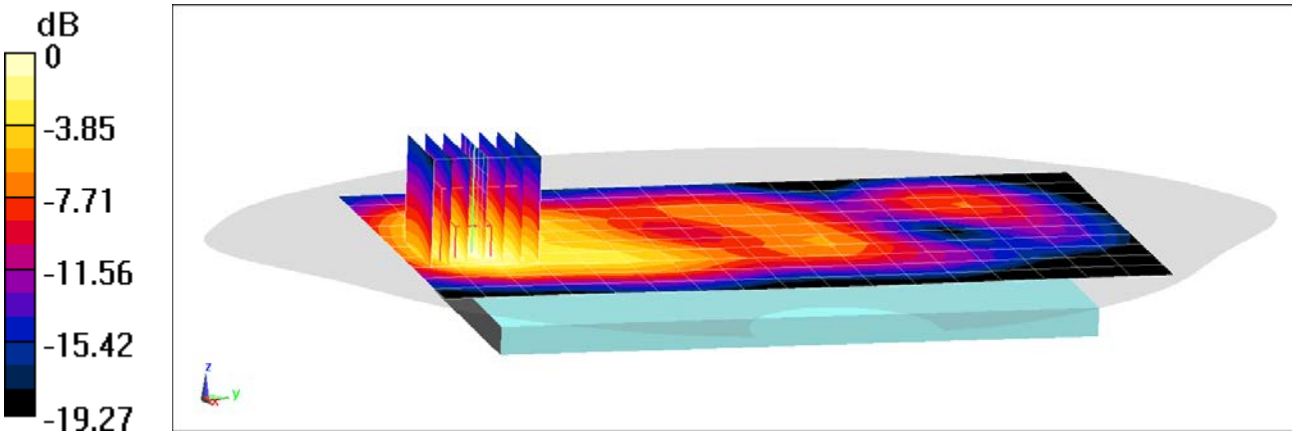
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.84 S/m; ε_r = 51.004; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 30, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.12 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.514 W/kg
SAR(1 g) = 0.278 W/kg



0 dB = 0.428 W/kg = -3.69 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

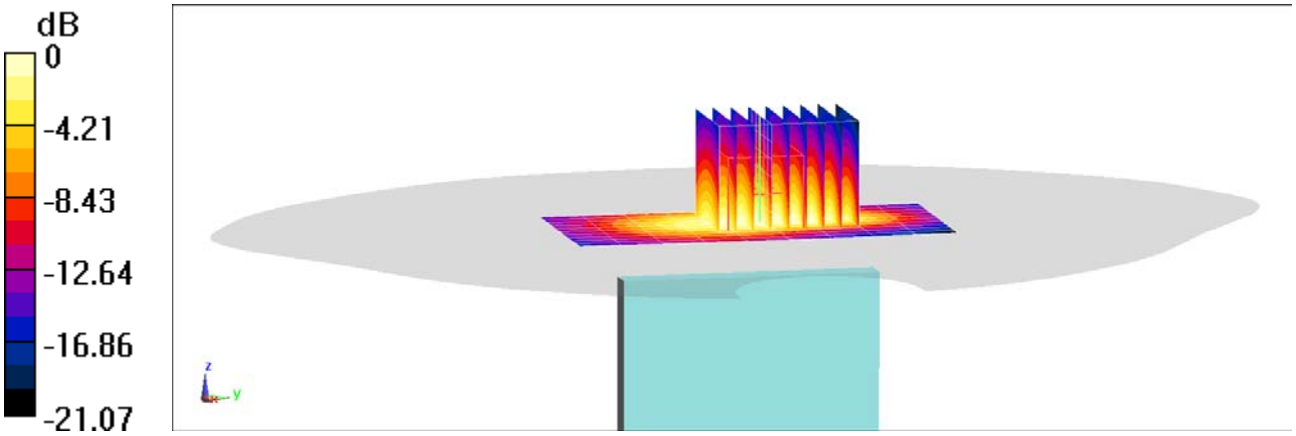
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.84 S/m; ε_r = 51.004; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 30, Body SAR, Bottom Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.23 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.625 W/kg



0 dB = 0.970 W/kg = -0.13 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

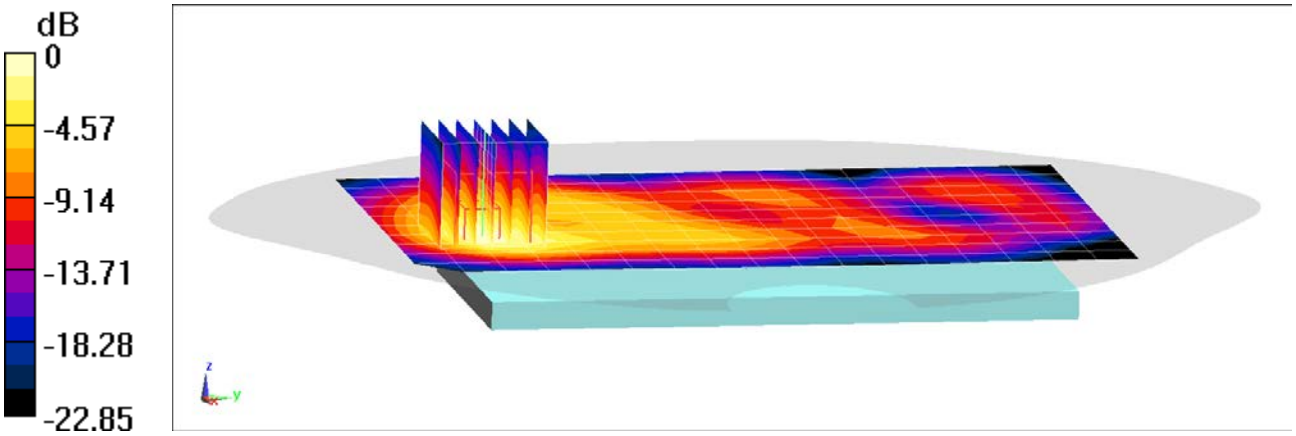
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2560 MHz; σ = 2.124 S/m; ε_r = 50.273; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2560 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 7, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.49 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.817 W/kg
SAR(1 g) = 0.397 W/kg



0 dB = 0.655 W/kg = -1.84 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

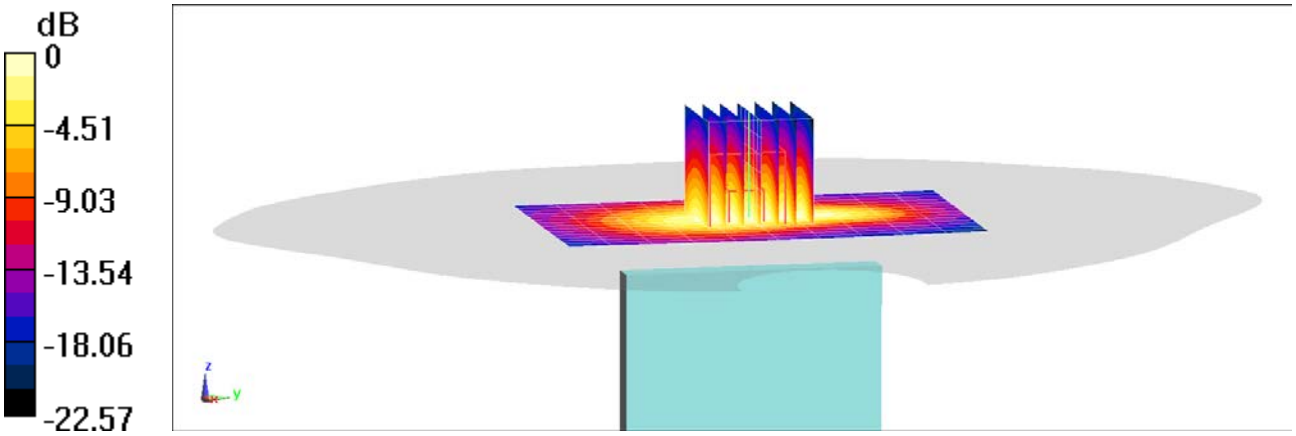
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2560 MHz; σ = 2.124 S/m; ε_r = 50.273; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2560 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 7, Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.02 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.990 W/kg
SAR(1 g) = 0.490 W/kg



0 dB = 0.795 W/kg = -1.00 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

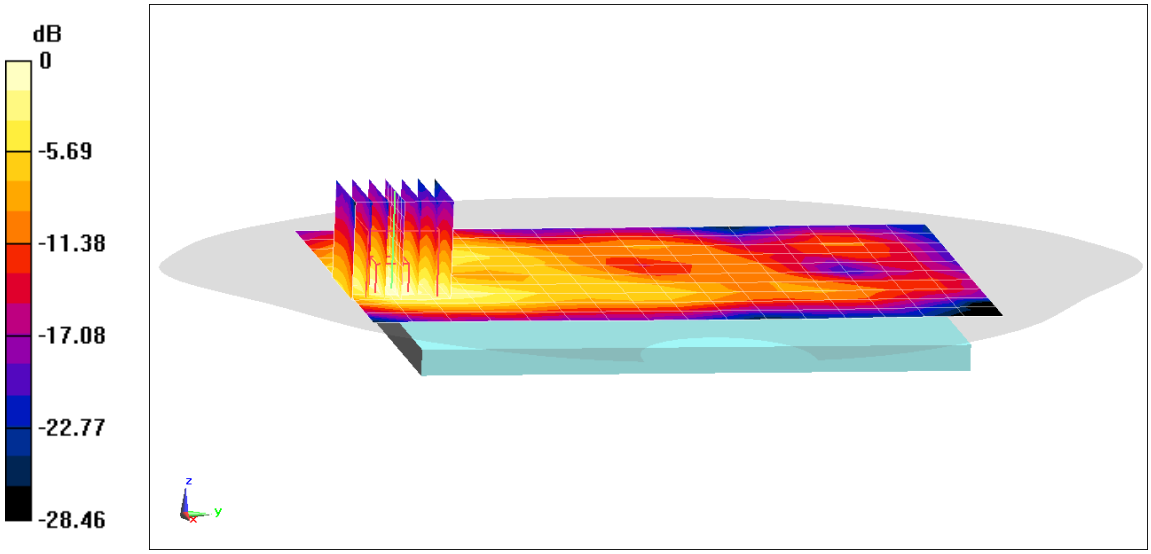
Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body Medium parameters used:
f = 2680 MHz; σ = 2.285 S/m; ε_r = 50.628; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 23.2°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2680 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.02 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.531 W/kg
SAR(1 g) = 0.252 W/kg



0 dB = 0.423 W/kg = -3.74 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

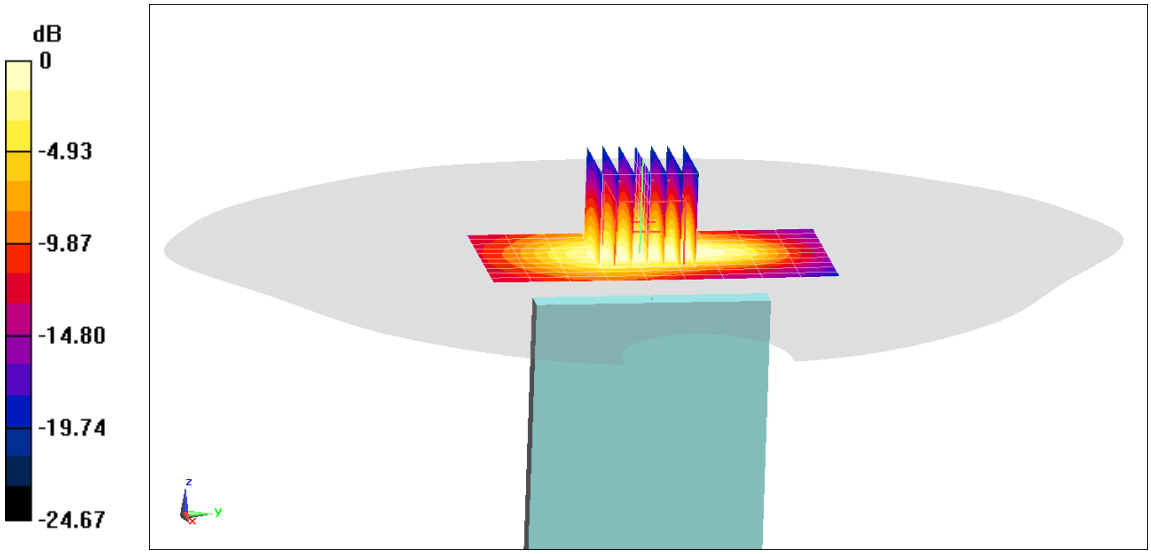
Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body Medium parameters used:
f = 2680 MHz; σ = 2.285 S/m; ε_r = 50.628; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 23.2°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2680 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41, Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.12 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.705 W/kg
SAR(1 g) = 0.342 W/kg



0 dB = 0.560 W/kg = -2.52 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

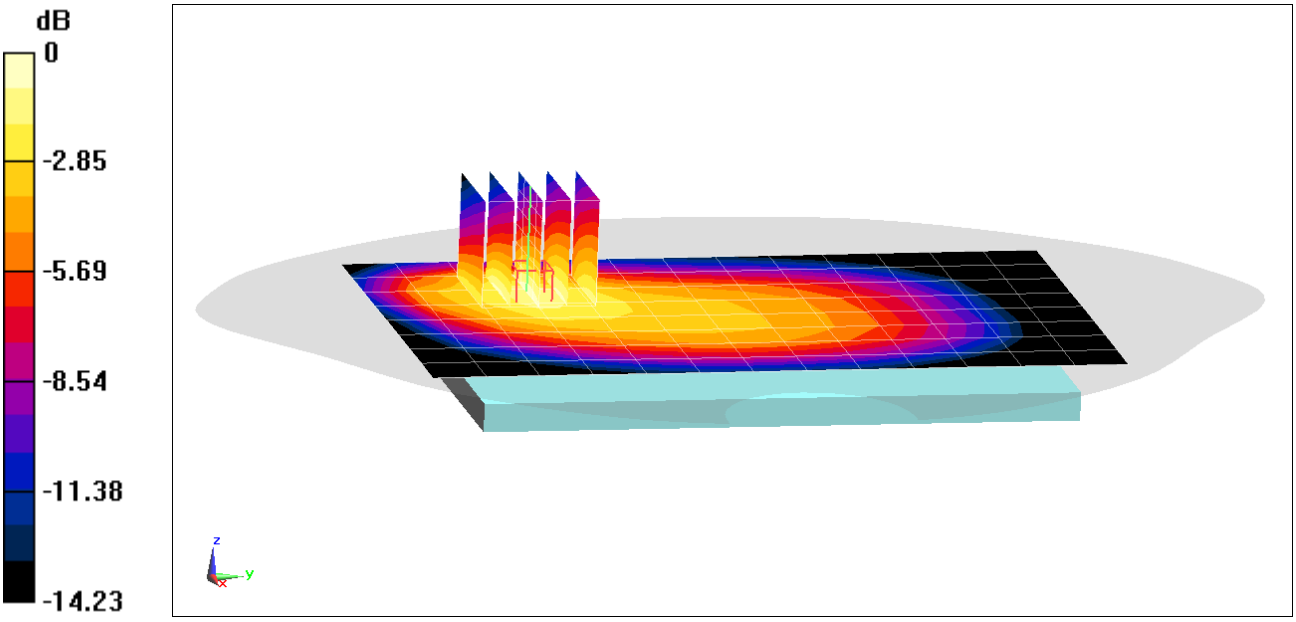
Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.923 S/m; ε_r = 53.891; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 53 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.02 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.297 W/kg
SAR(1 g) = 0.196 W/kg



0 dB = 0.261 W/kg = -5.83 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

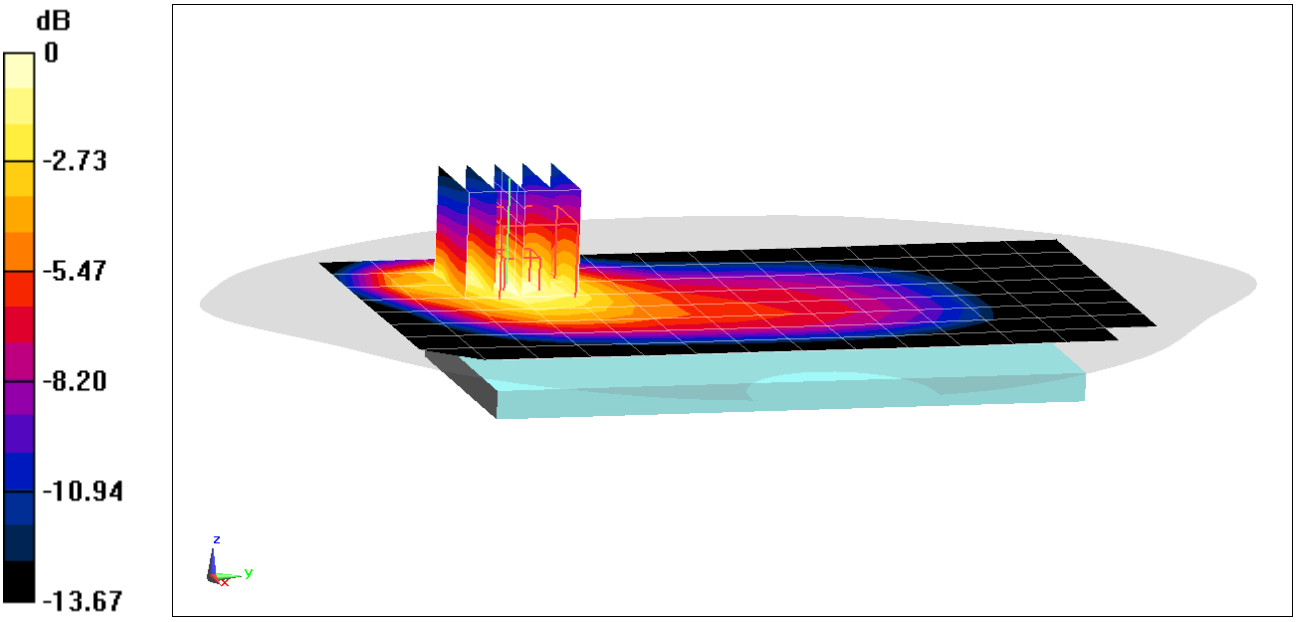
Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.967 S/m; ε_r = 54.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n5, Body SAR, Back Side, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 167300, 1 RB, 1 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.86 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.924 W/kg
SAR(1 g) = 0.557 W/kg



0 dB = 0.784 W/kg = -1.06 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

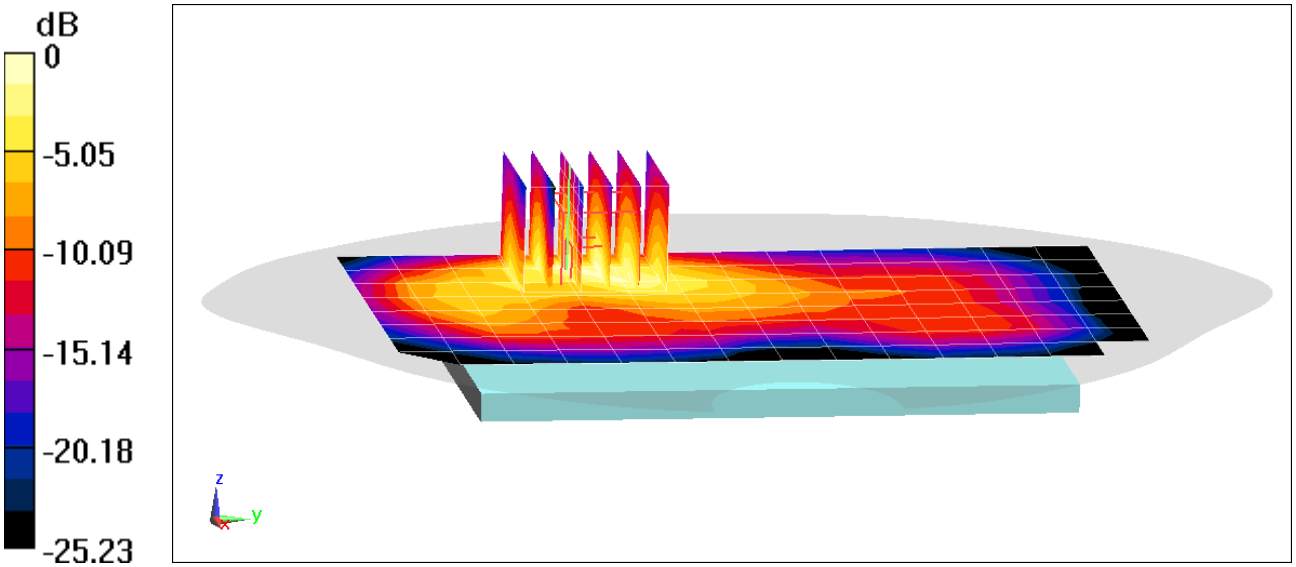
Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1770 MHz; σ = 1.544 S/m; ε_r = 52.014; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/03/2020; Ambient Temp: 21.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1770 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n66, Body SAR, Back Side, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.75 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.553 W/kg



0 dB = 0.806 W/kg = -0.94 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

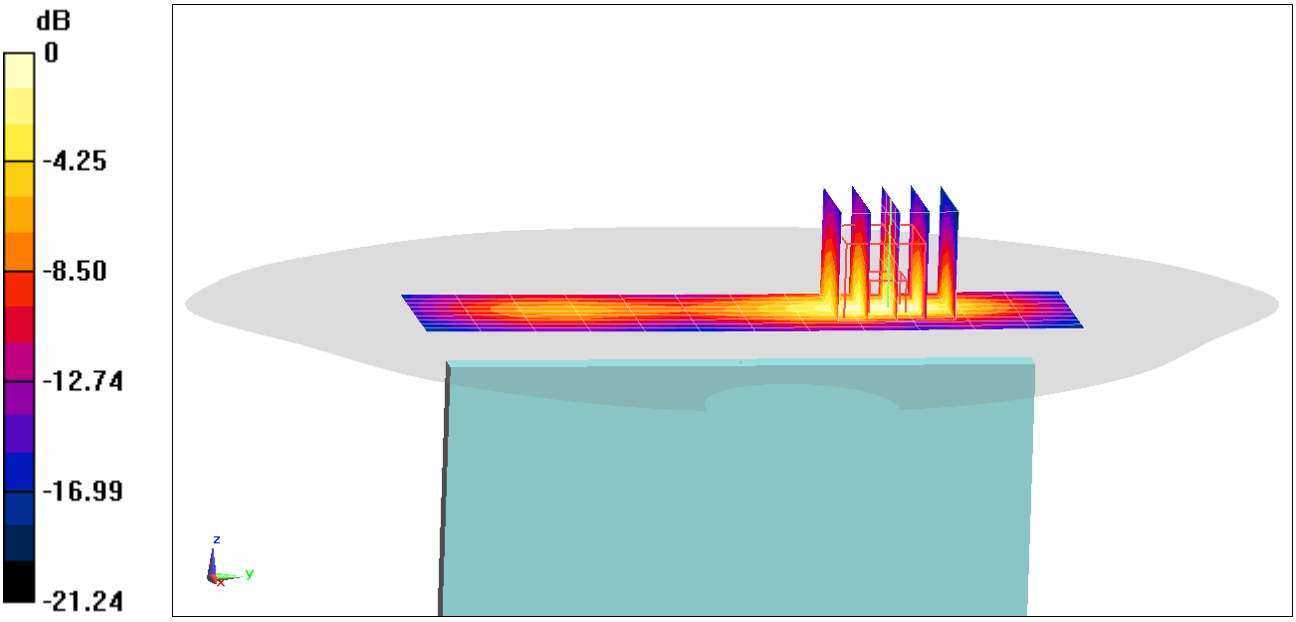
Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1770 MHz; σ = 1.544 S/m; ε_r = 52.014; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 CM

Test Date: 05/03/2020; Ambient Temp: 21.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1770 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n66, Body SAR, Right Edge, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 354000, 1 RB, 104 RB Offset

Area Scan (10x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.95 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.93 W/kg
SAR(1 g) = 1.03 W/kg



0 dB = 1.65 W/kg = 2.17 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

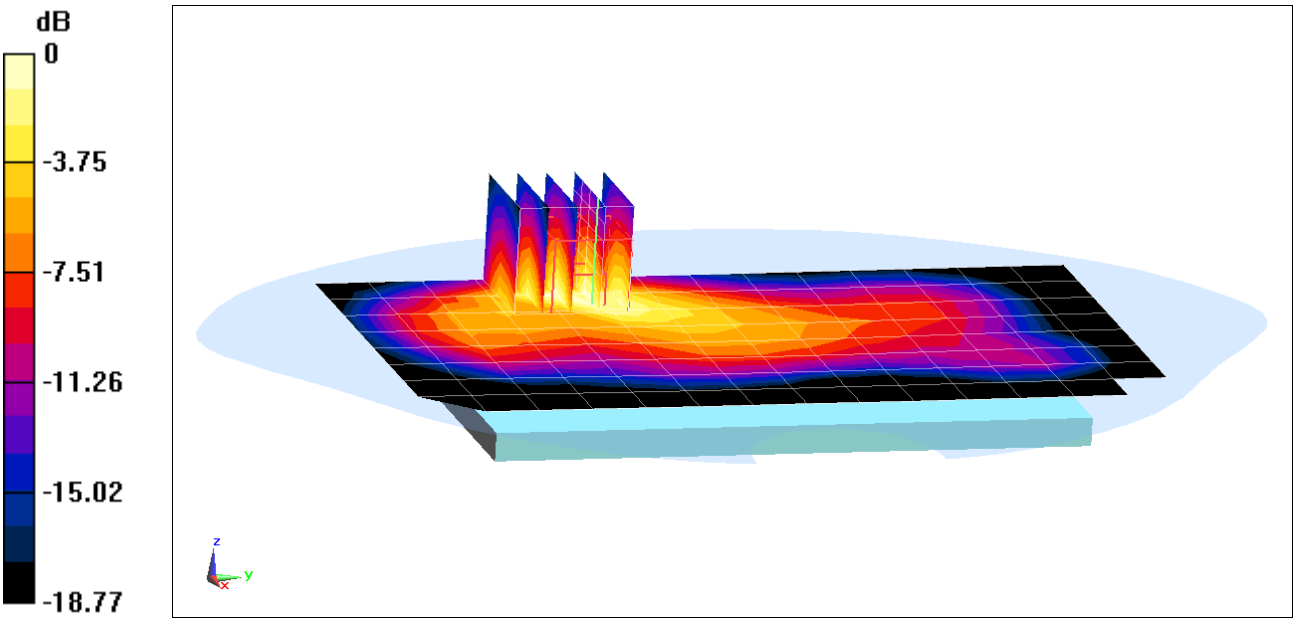
Communication System: UID 0, NR Band n25; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1860 MHz; σ = 1.538 S/m; ε_r = 55.809; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/05/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1860 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n25, Body SAR, Back Side, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 372000, 50 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.67 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.621 W/kg



0 dB = 0.872 W/kg = -0.59 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

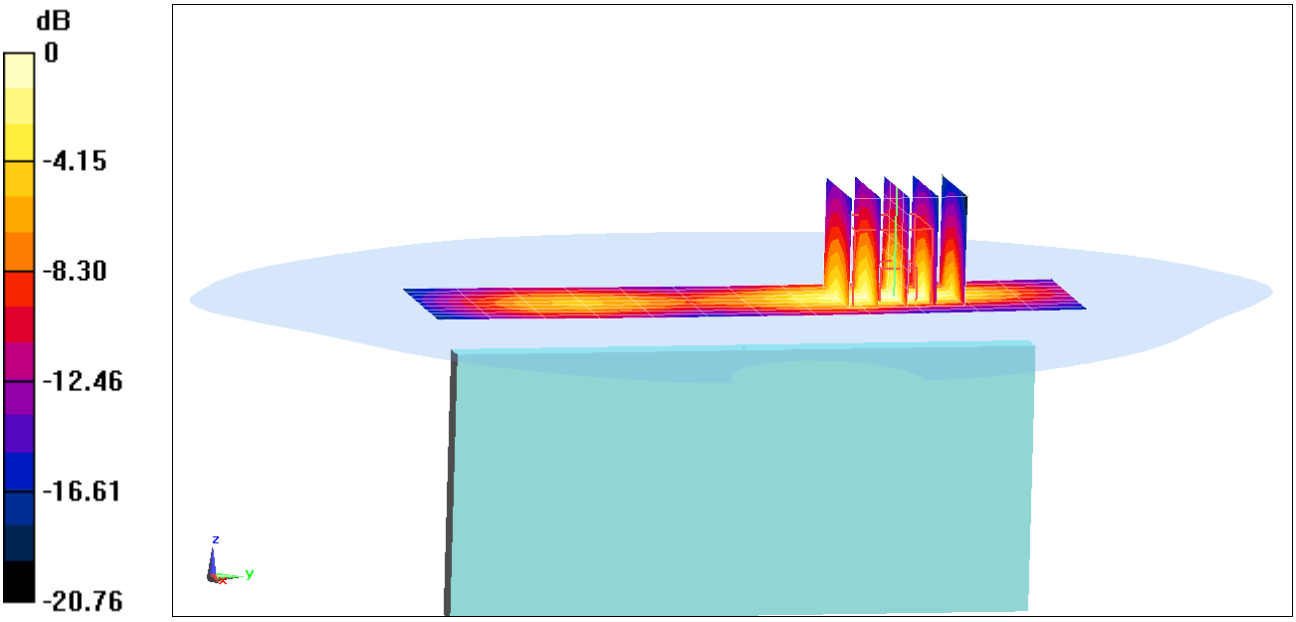
Communication System: UID 0, NR Band n25; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1860 MHz; σ = 1.538 S/m; ε_r = 55.809; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/05/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1860 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n25, Body SAR, Right Edge, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 372000, 1 RB, 1 RB Offset

Area Scan (10x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.52 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.11 W/kg



0 dB = 1.75 W/kg = 2.43 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

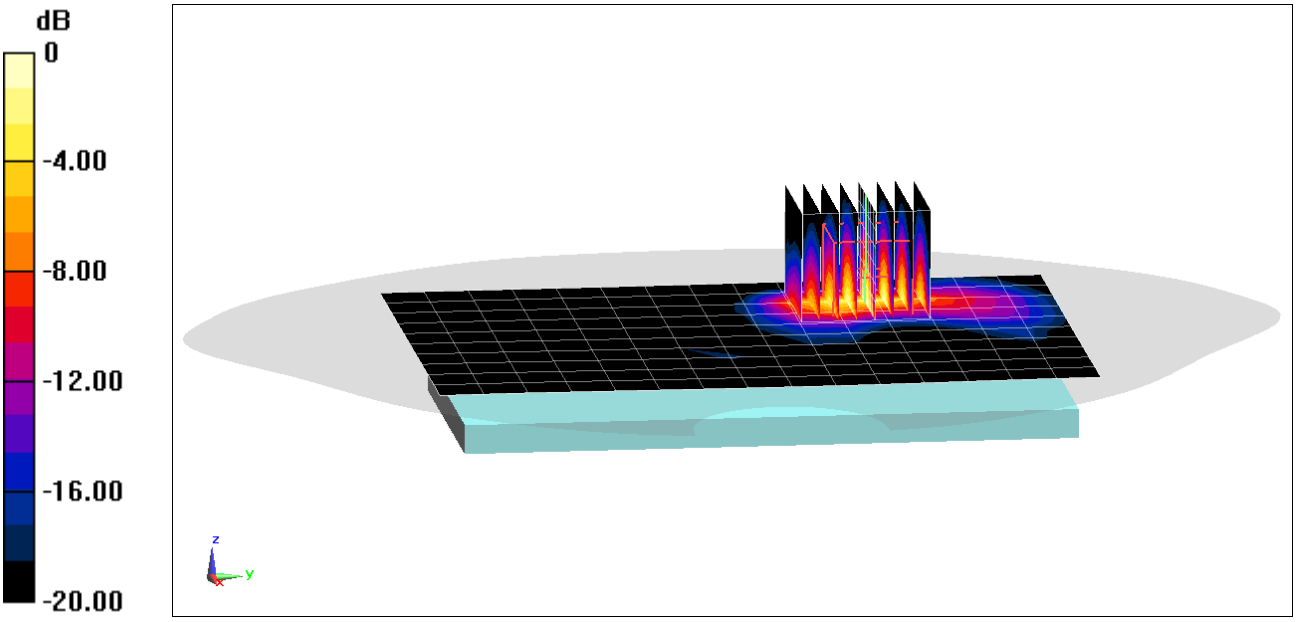
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Body Medium parameters used (interpolated):
f = 2592.99 MHz; σ = 2.159 S/m; ε_r = 52.001; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2592.99 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n41, Body SAR, Back Side, 100 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 518598, 135 RB, 138 RB Offset

Area Scan (11x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.602 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.480 W/kg
SAR(1 g) = 0.206 W/kg



0 dB = 0.358 W/kg = -4.46 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

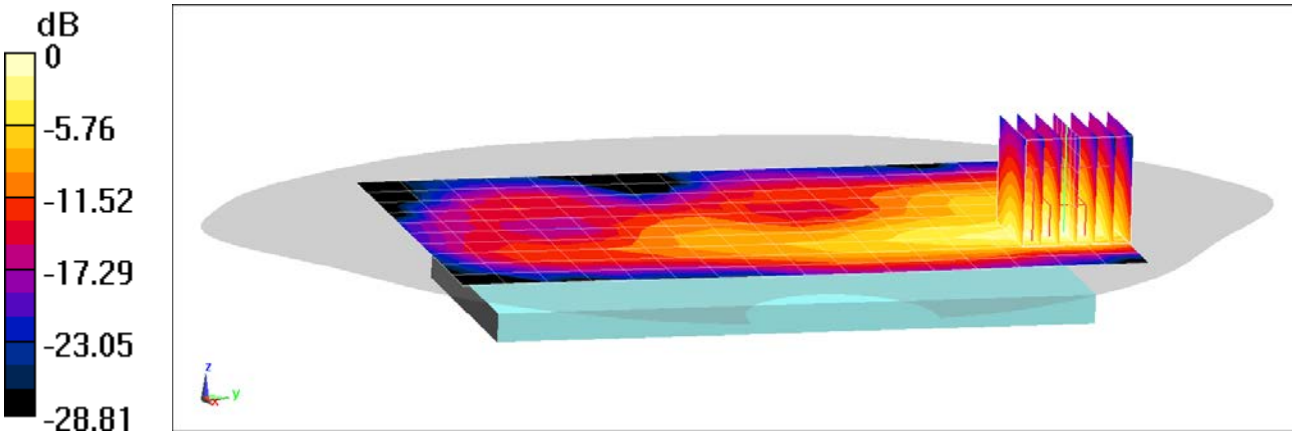
Communication System: UID 0, 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.051 S/m; ε_r = 50.854; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2462 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b, Antenna 2, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Back Side

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.921 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.184 W/kg



0 dB = 0.298 W/kg = -5.26 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

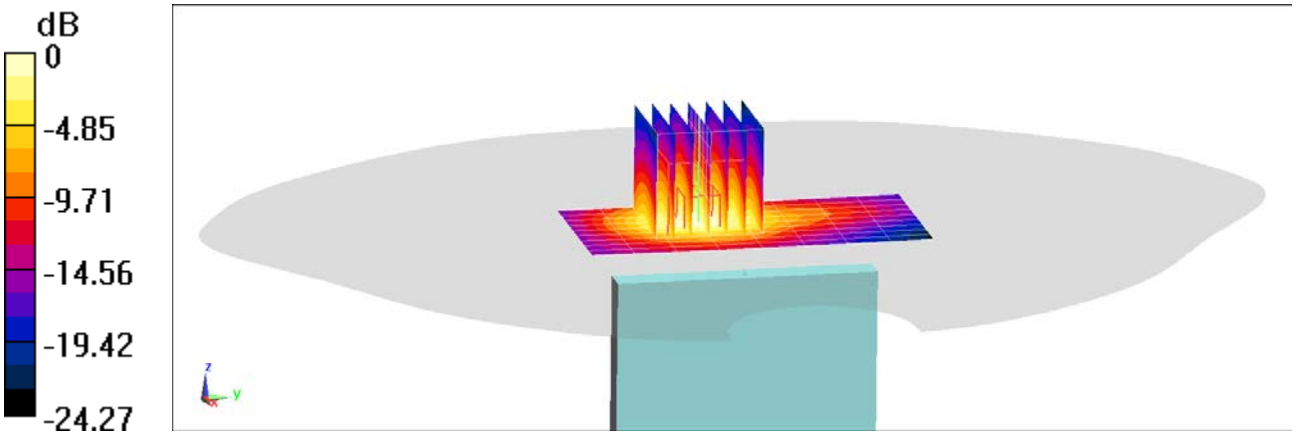
Communication System: UID 0, 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.051 S/m; ε_r = 50.854; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2462 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b, Antenna 2, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Top Edge

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.38 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.820 W/kg
SAR(1 g) = 0.398 W/kg



0 dB = 0.661 W/kg = -1.80 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

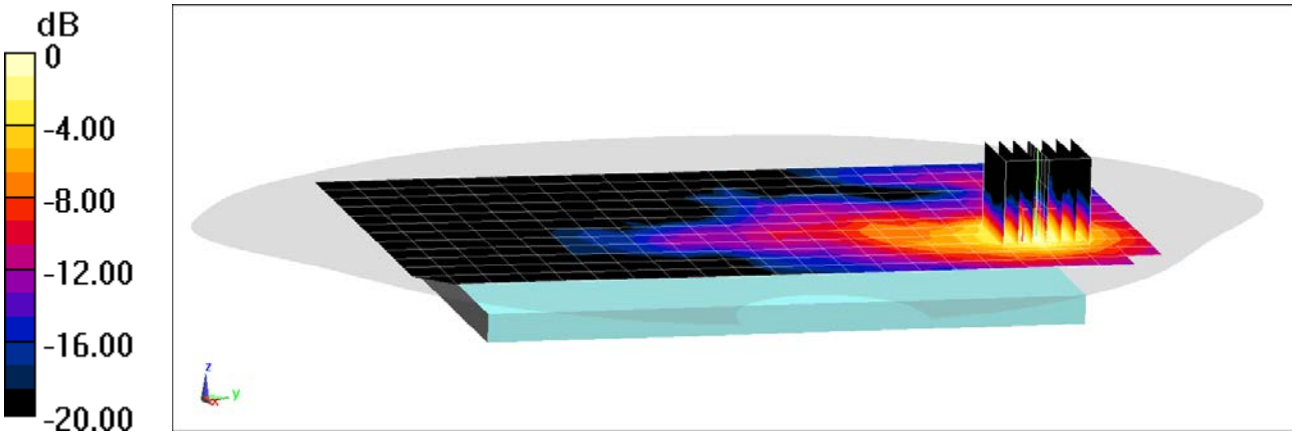
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5280 MHz; σ = 5.569 S/m; ε_r = 47.432; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5280 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11a, Antenna 1, UNII-2A, 20 MHz Bandwidth, Body SAR, Ch 56, 6 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 8.762 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.375 W/kg



0 dB = 0.847 W/kg = -0.72 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

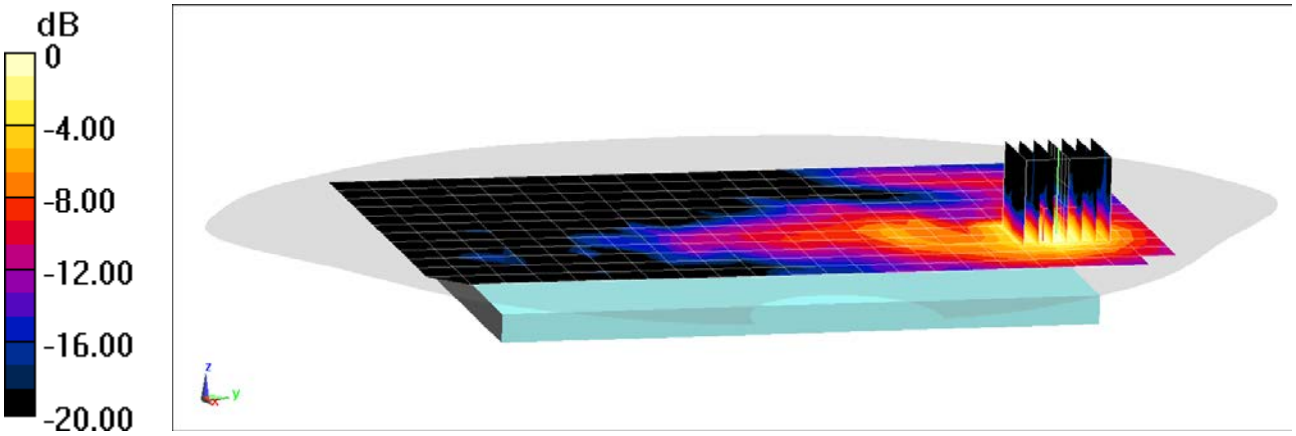
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5200 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5200 MHz; σ = 5.46 S/m; ε_r = 47.595; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5200 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11a, Antenna 1, UNII-1, 20 MHz Bandwidth, Body SAR, Ch 40, 6 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 6.397 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.676 W/kg
SAR(1 g) = 0.190 W/kg



0 dB = 0.434 W/kg = -3.63 dBW/kg

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

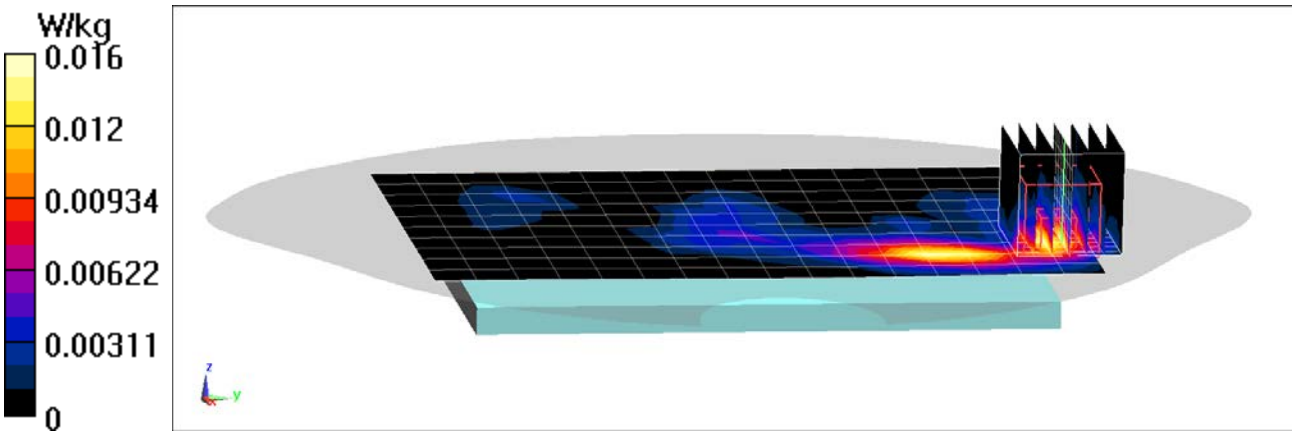
Communication System: UID 0, Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1.294
Medium: 2450 Body Medium parameters used (interpolated):
f = 2402 MHz; σ = 1.98 S/m; ε_r = 51.029; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2402 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth, Body SAR, Ch 0, 1 Mbps, Back Side

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.267 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.0200 W/kg
SAR(1 g) = 0.00998 W/kg



PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

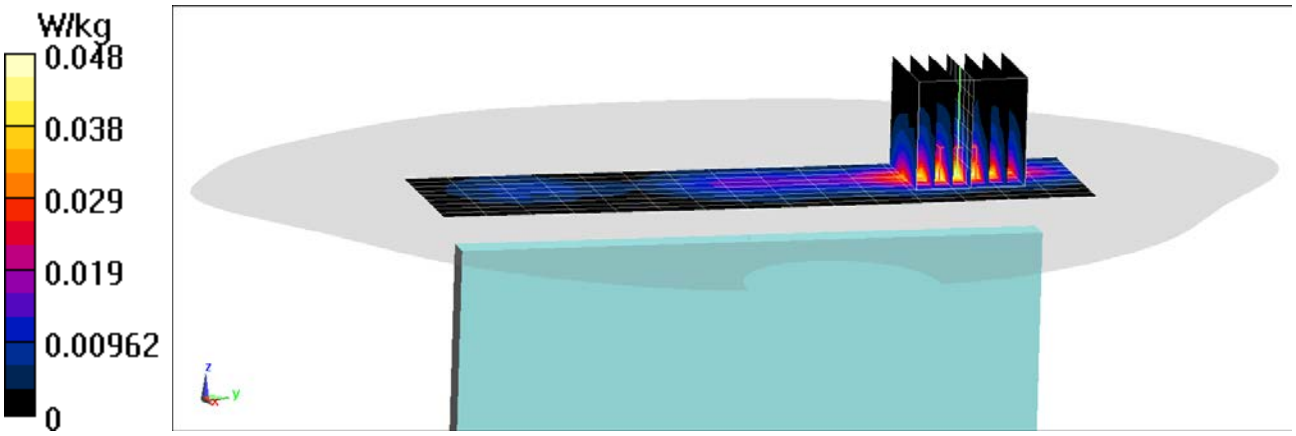
Communication System: UID 0, Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1.294
Medium: 2450 Body Medium parameters used (interpolated):
f = 2402 MHz; σ = 1.98 S/m; ε_r = 51.029; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2402 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth, Body SAR, Ch 0, 1 Mbps, Left Edge

Area Scan (10x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.116 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.0590 W/kg
SAR(1 g) = 0.029 W/kg



PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

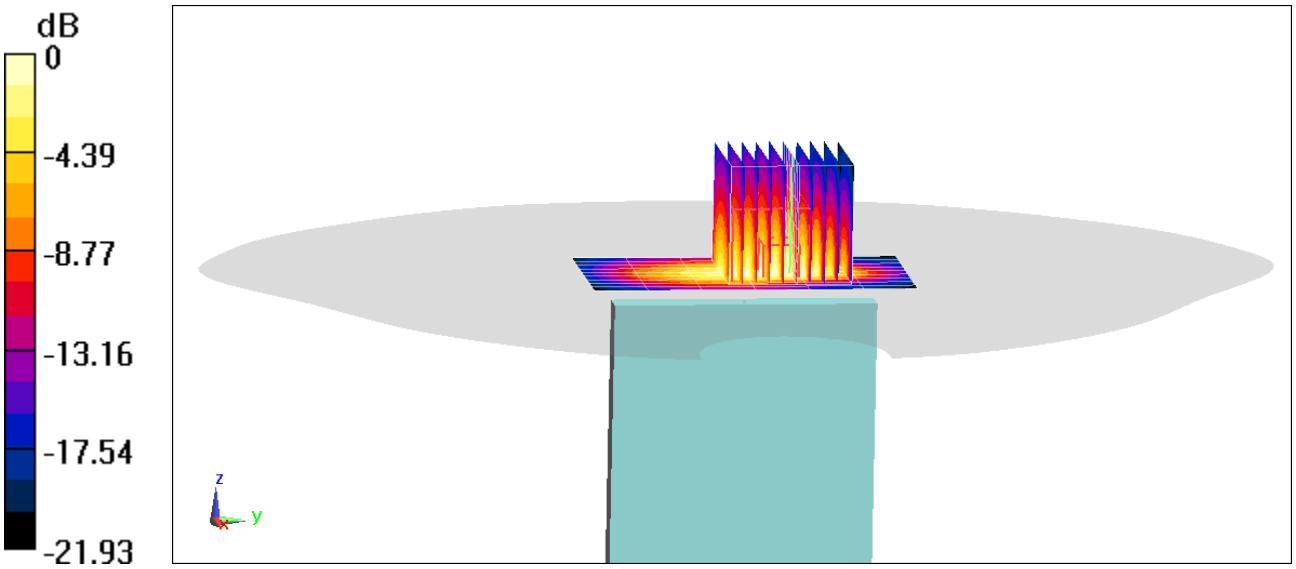
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.484 S/m; ε_r = 53.92; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.4 cm

Test Date: 04/15/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1752.6 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 60.27 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 9.81 W/kg
SAR(10 g) = 2.22 W/kg



0 dB = 7.32 W/kg = 8.65 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

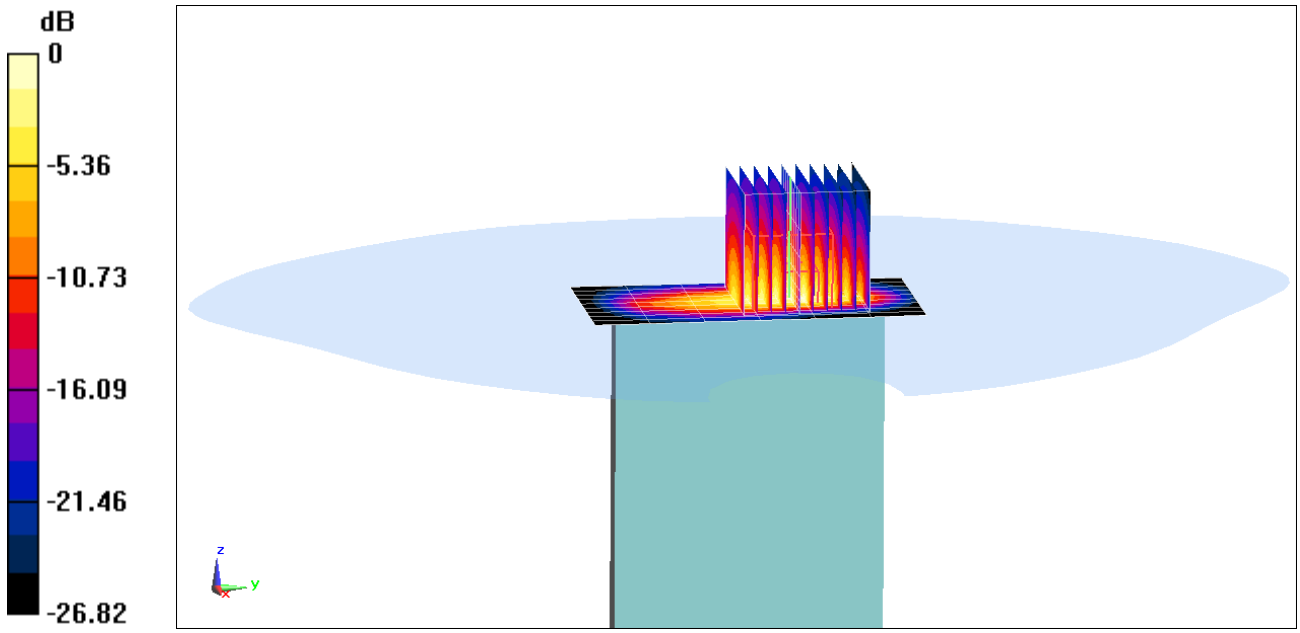
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.59 S/m; ε_r = 54.145; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/14/2020; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1900, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 72.07 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 25.3 W/kg
SAR(10 g) = 2.69 W/kg



0 dB = 14.7 W/kg = 11.67 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03618

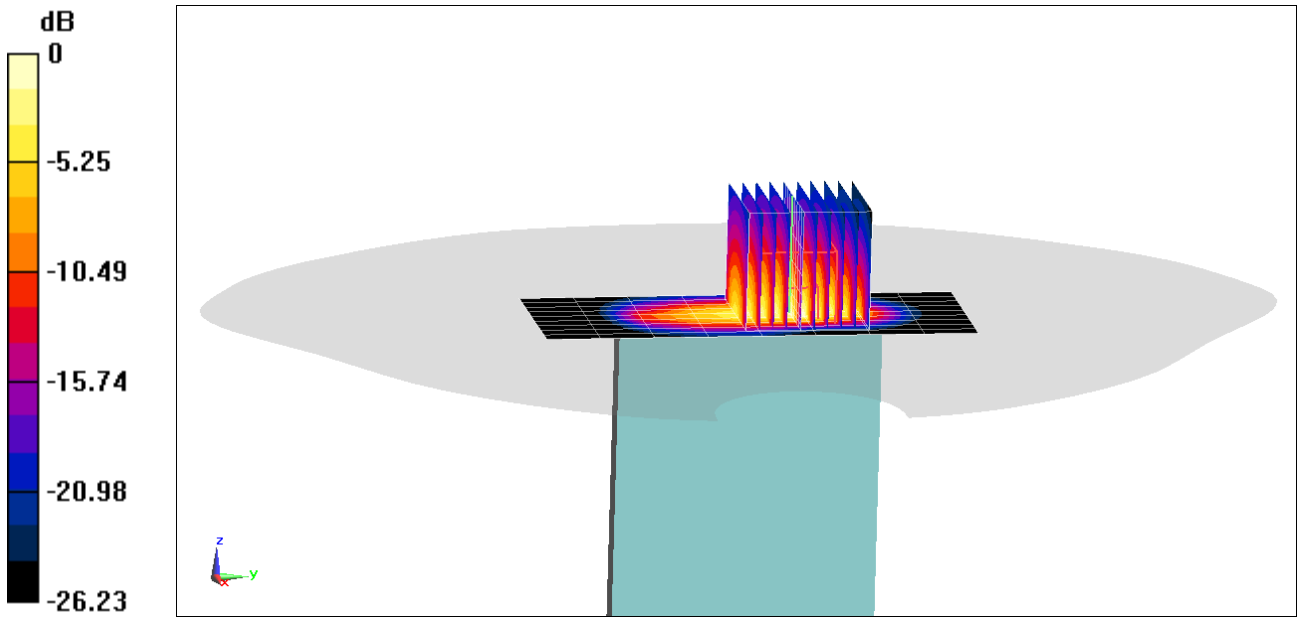
Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.552 S/m; ε_r = 52.734; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/28/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: PCS EVDO Rev. 0, Phablet SAR, Bottom Edge, Mid.ch

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 73.48 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 24.4 W/kg
SAR(10 g) = 2.82 W/kg



0 dB = 15.3 W/kg = 11.85 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

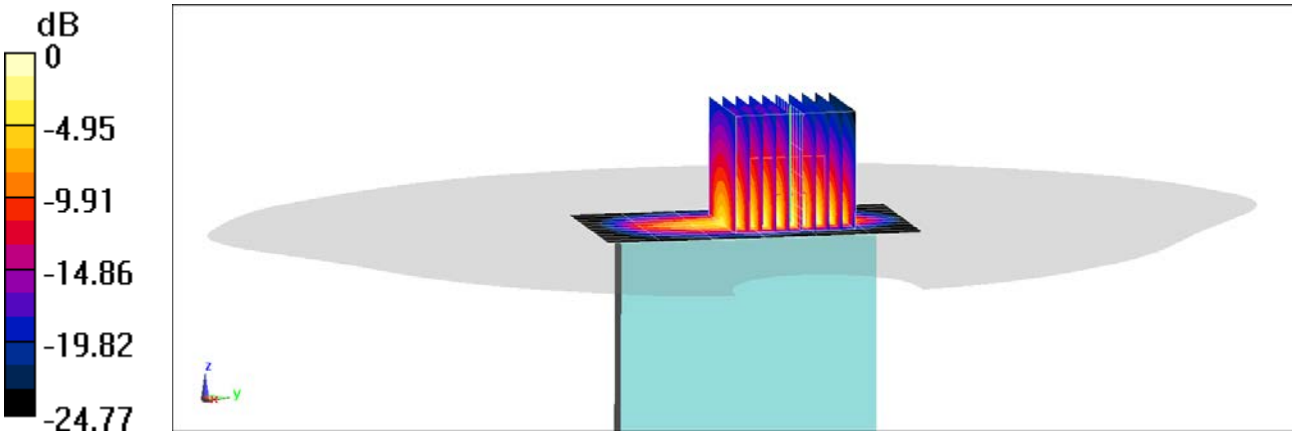
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1770 MHz; σ = 1.518 S/m; ε_r = 54.914; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1770 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS) Ant 2, Phablet SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 62.85 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 15.1 W/kg
SAR(10 g) = 1.94 W/kg



0 dB = 9.40 W/kg = 9.73 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

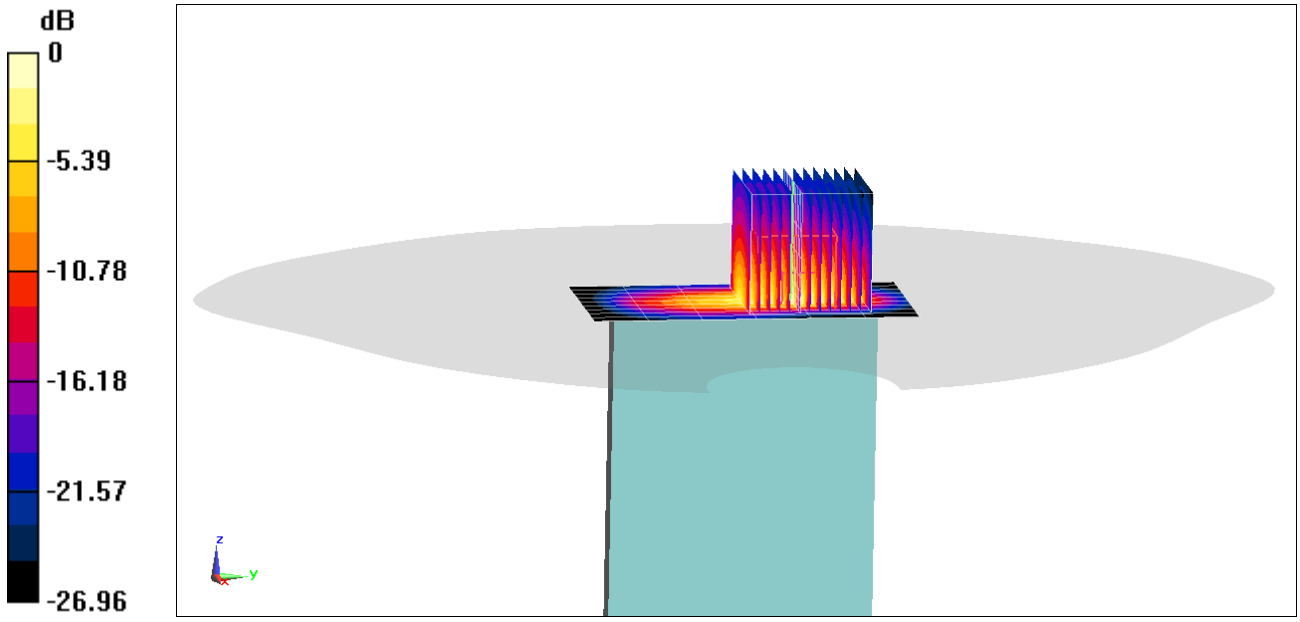
Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.559 S/m; ε_r = 51.743; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/21/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 2 (PCS) Ant 2, Phablet SAR, Bottom Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (13x13x8)/Cube 0: Measurement grid: dx=2.8mm, dy=2.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 75.43 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(10 g) = 2.88 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03600

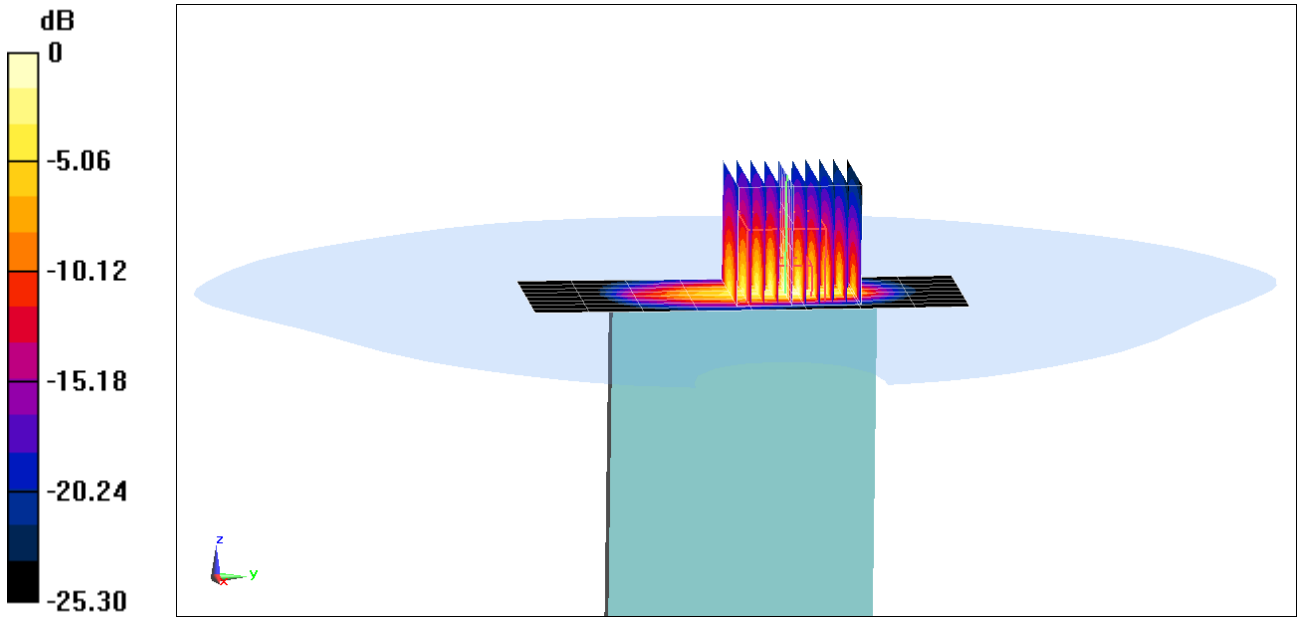
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1905 MHz; σ = 1.57 S/m; ε_r = 54.326; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/16/2020; Ambient Temp: 21.7°C; Tissue Temp: 24.0°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1905 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 71.90 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 23.9 W/kg
SAR(10 g) = 2.7 W/kg



0 dB = 13.7 W/kg = 11.37 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03584

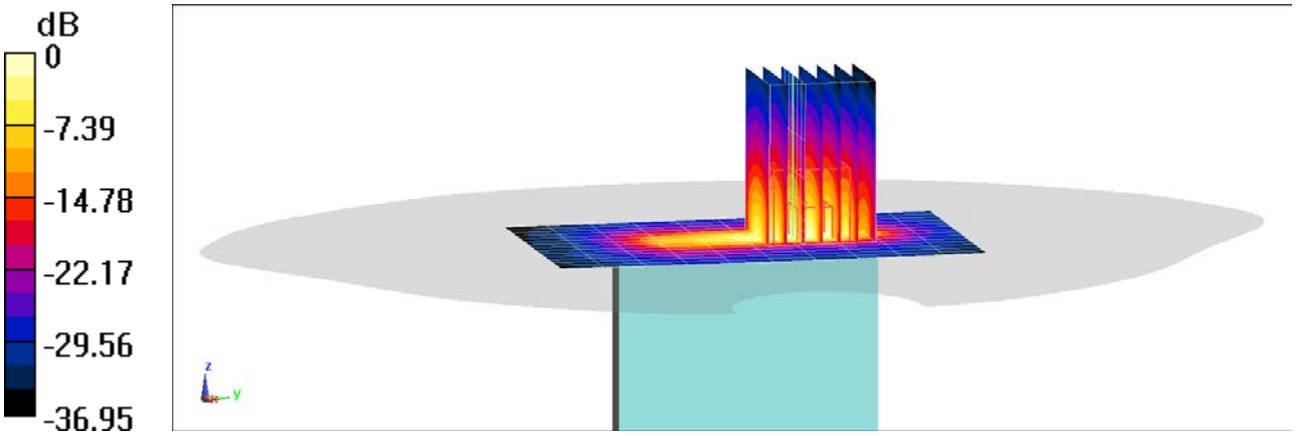
Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2510 MHz; σ = 2.065 S/m; ε_r = 50.407; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2510 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 7, Phablet SAR, Bottom Edge, Low.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.5
Reference Value = 73.23 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 32.2 W/kg
SAR(10 g) = 2.75 W/kg



0 dB = 19.0 W/kg = 12.79 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 05654

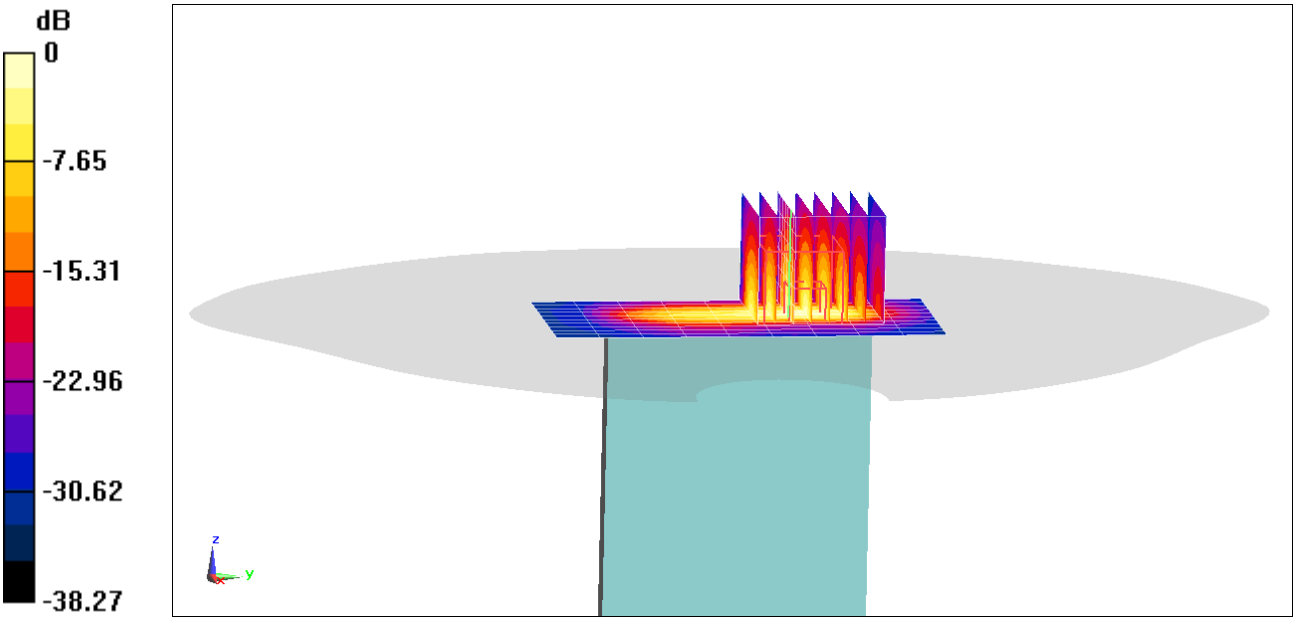
Communication System: UID 0, LTE Band 41; Frequency: 2506 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body Medium parameters used (interpolated):
f = 2506 MHz; σ = 2.093 S/m; εr = 51.344; ρ = 1000 kg/m3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 04/23/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2506 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41, Phablet SAR, Bottom Edge, Low.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.05 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 21.5 W/kg
SAR(10 g) = 2.39 W/kg



0 dB = 14.8 W/kg = 11.70 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03642

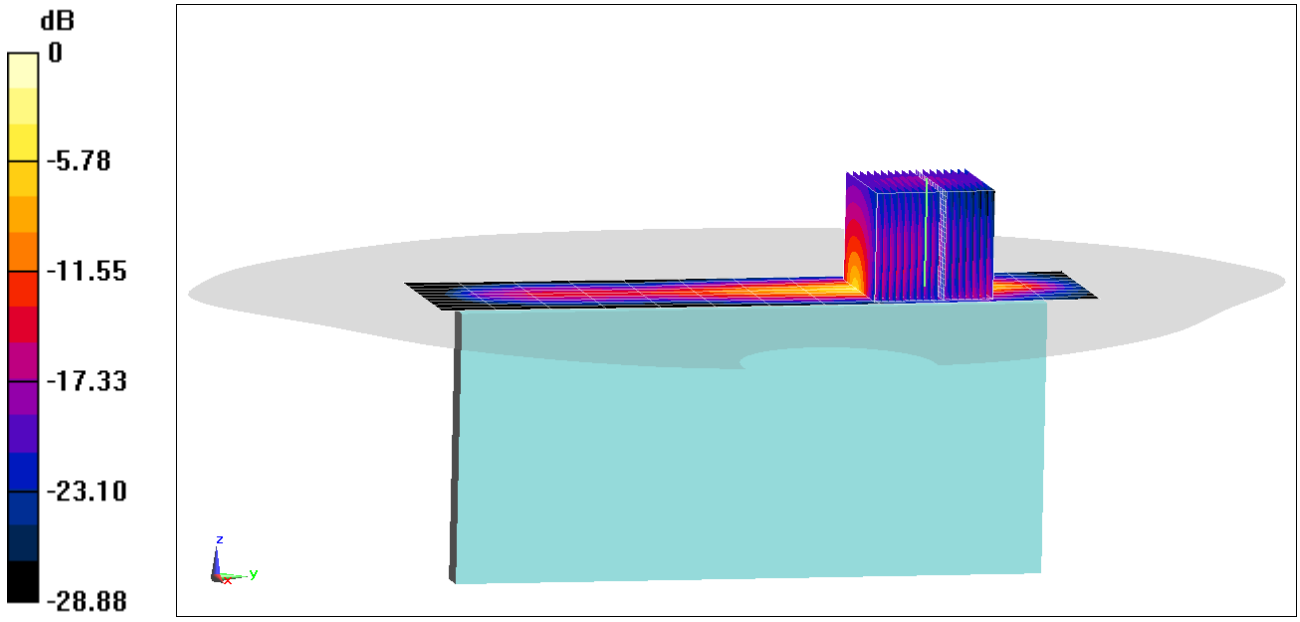
Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1745 MHz; σ = 1.492 S/m; ε_r = 52.646; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 05/06/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1745 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n66, Phablet SAR, Right Edge, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 349000, 1 RB, 1 RB Offset

Area Scan (10x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (20x18x22)/Cube 0: Measurement grid: dx=1.9mm, dy=1.9mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 79.47 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 35.1 W/kg
SAR(10 g) = 2.61 W/kg



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

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03634

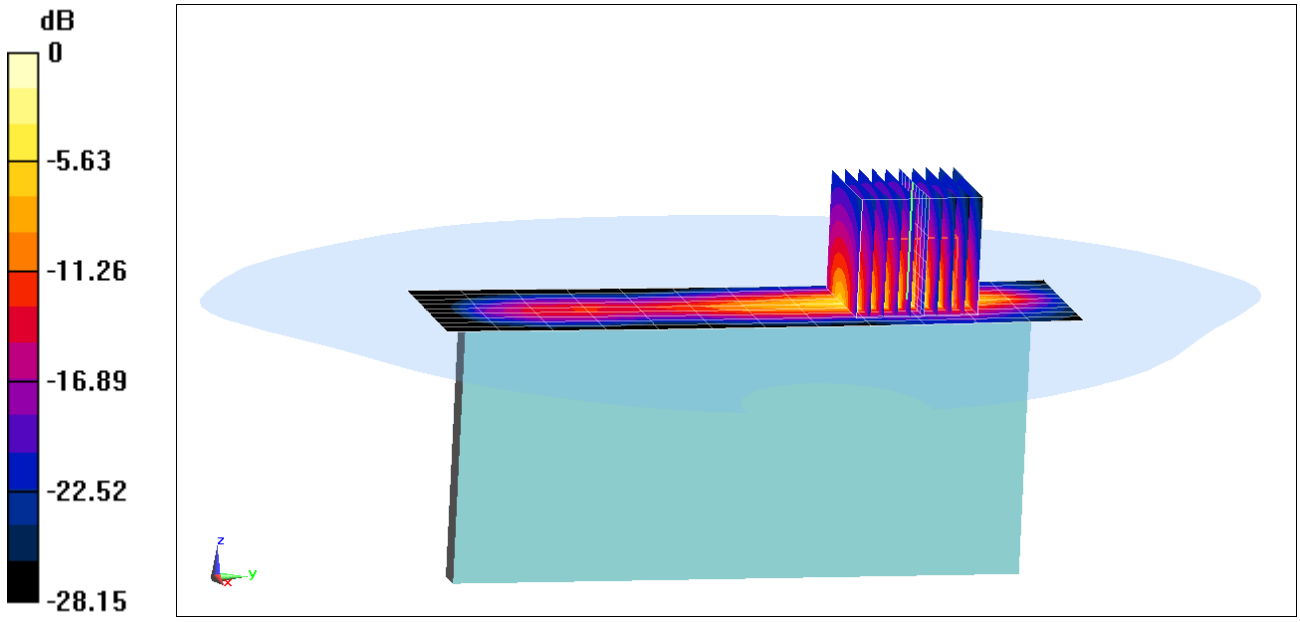
Communication System: UID 0, NR Band n2; Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1860 MHz; σ = 1.538 S/m; ε_r = 55.809; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 05/05/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1860 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n25, Phablet SAR, Right Edge, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 372000, 50 RB, 0 RB Offset

Area Scan (10x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 78.58 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 39.4 W/kg
SAR(10 g) = 2.99 W/kg



0 dB = 21.9 W/kg = 13.40 dBW/kg

PCTEST

DUT: ZNFG900UM; Type: Portable Handset; Serial: 03527

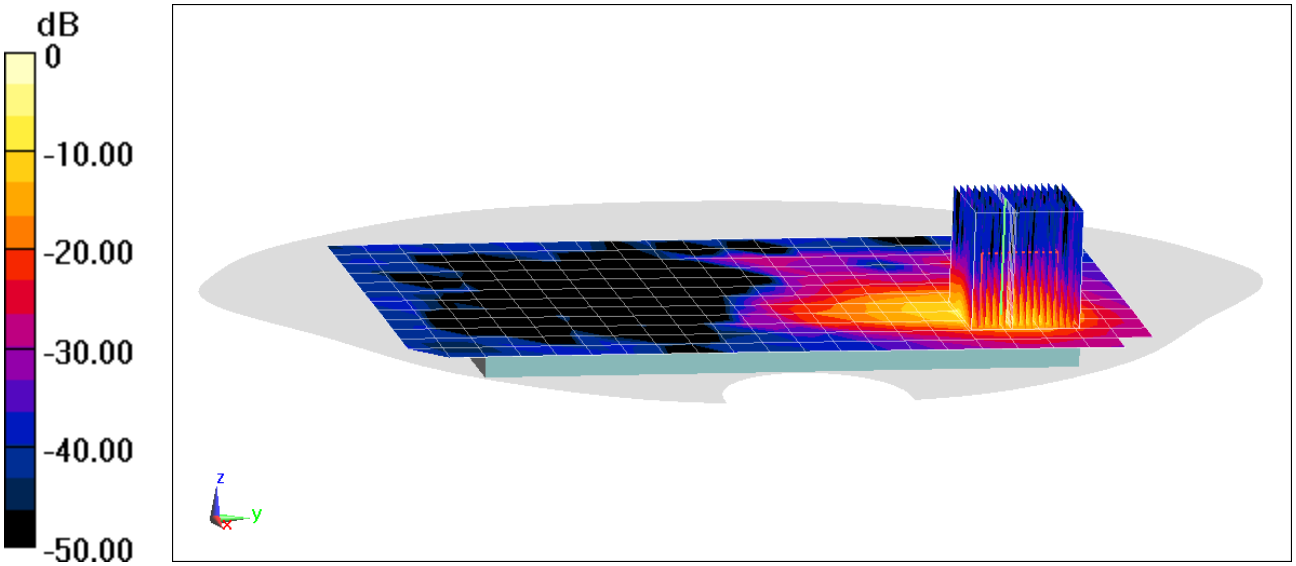
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5280 MHz; σ = 5.476 S/m; ε_r = 46.686; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 05/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5280 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11n, MIMO, U-NII-2A, 20 MHz Bandwidth, Phablet SAR, Ch 56, 13 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (17x17x8)/Cube 0: Measurement grid: dx=1.9mm, dy=1.9mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 1.498 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 98.6 W/kg
SAR(10 g) = 2.32 W/kg



0 dB = 36.9 W/kg = 15.67 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

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PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

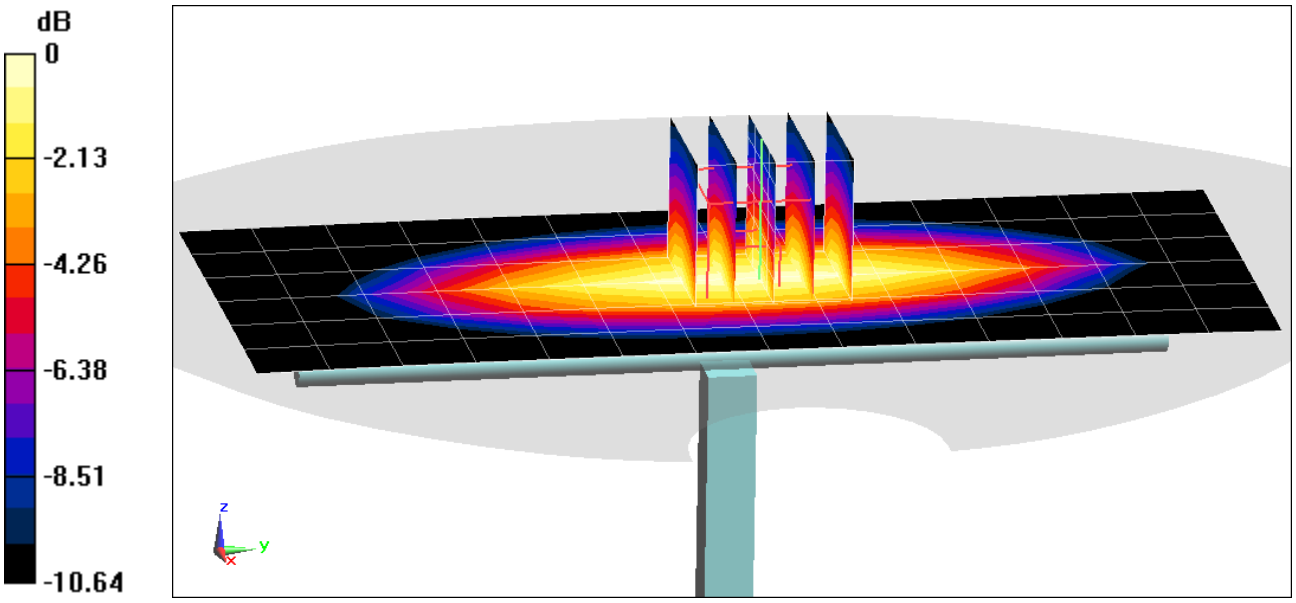
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used:
f = 750 MHz; σ = 0.875 S/m; ε_r = 41.72; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/05/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 750 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.48 W/kg
SAR(1 g) = 1.59 W/kg
Deviation(1 g) = -1.00%



0 dB = 2.17 W/kg = 3.36 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

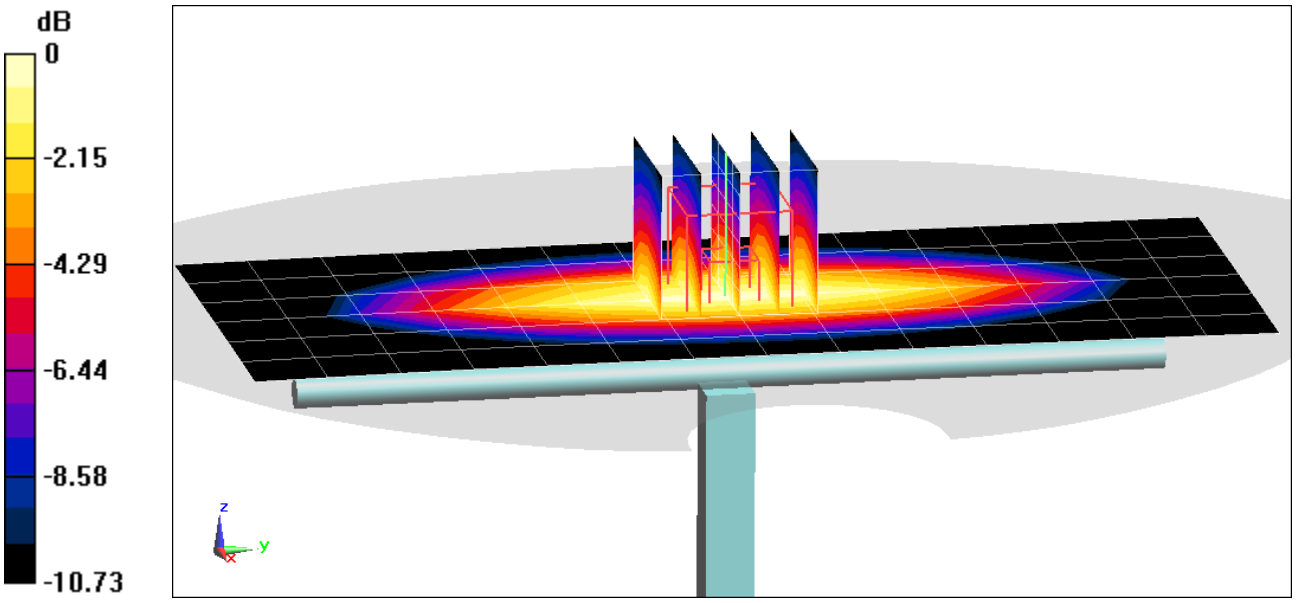
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 750 MHz; σ = 0.876 S/m; ε_r = 40.612; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/07/2020; Ambient Temp: 21.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7551; ConvF(10.11, 10.11, 10.11) @ 750 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.55 W/kg
SAR(1 g) = 1.63 W/kg
Deviation(1 g) = 1.49%



0 dB = 2.22 W/kg = 3.46 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

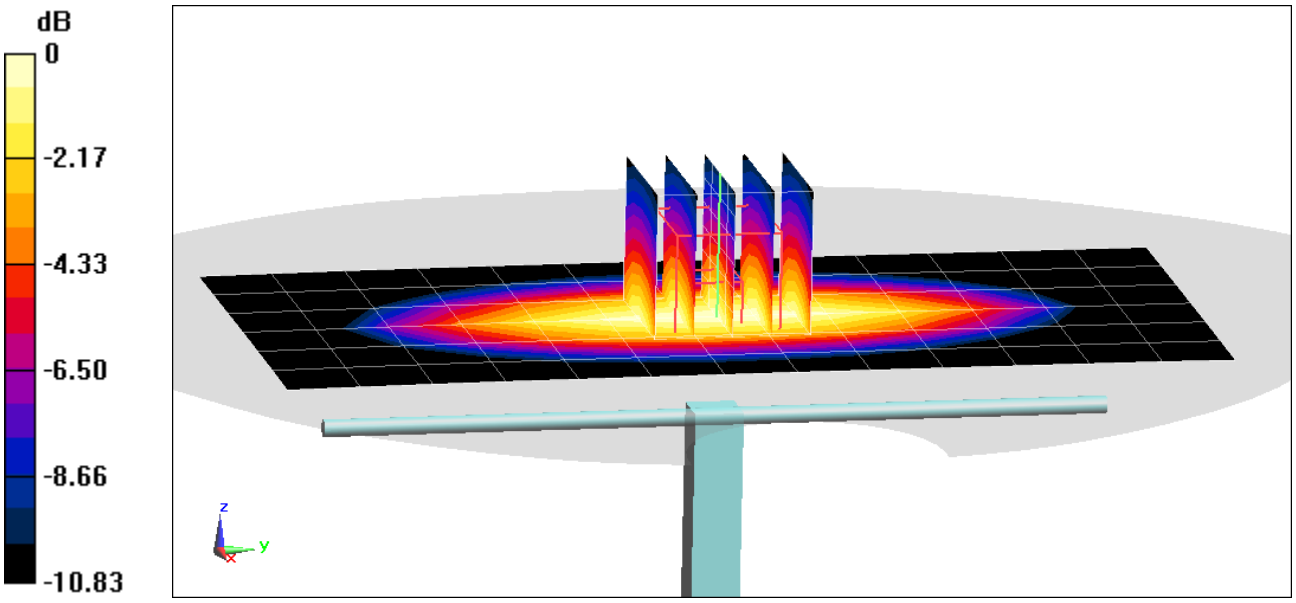
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.906 S/m; ε_r = 41.473; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/05/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.87 W/kg
SAR(1 g) = 1.88 W/kg
Deviation(1 g) = -2.59%



0 dB = 2.53 W/kg = 4.03 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

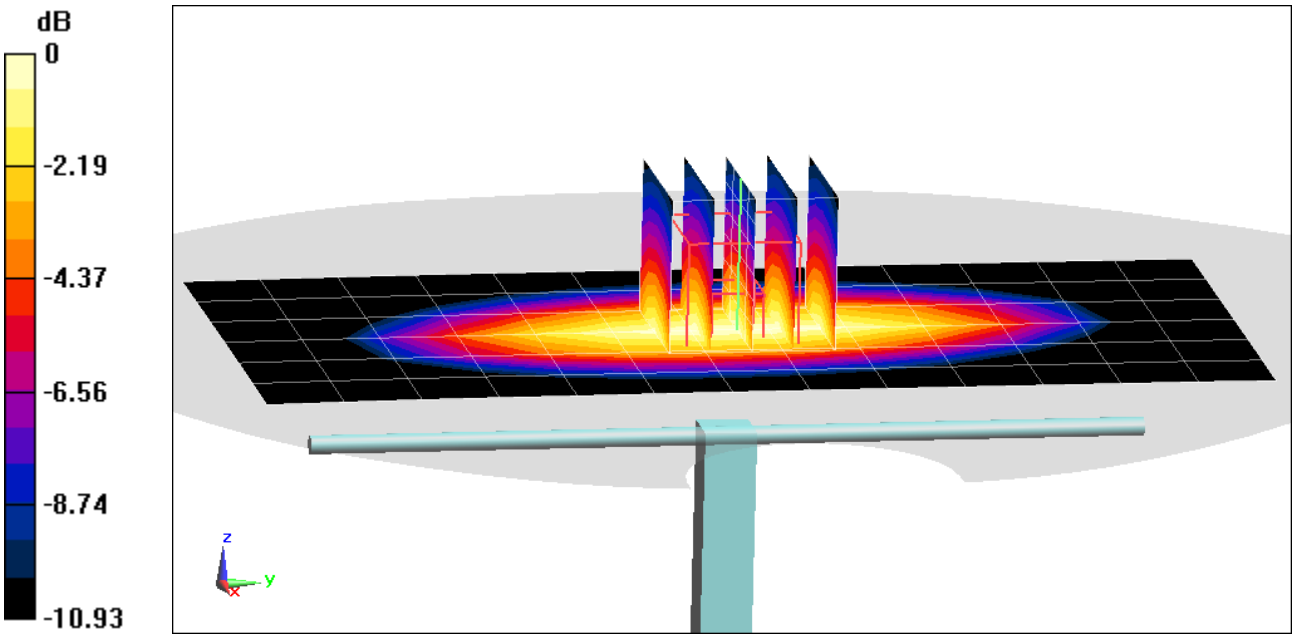
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.934 S/m; ε_r = 42.943; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/13/2020; Ambient Temp: 21.7°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 3.07 W/kg
SAR(1 g) = 1.96 W/kg
Deviation(1 g) = 1.55%



0 dB = 2.68 W/kg = 4.28 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

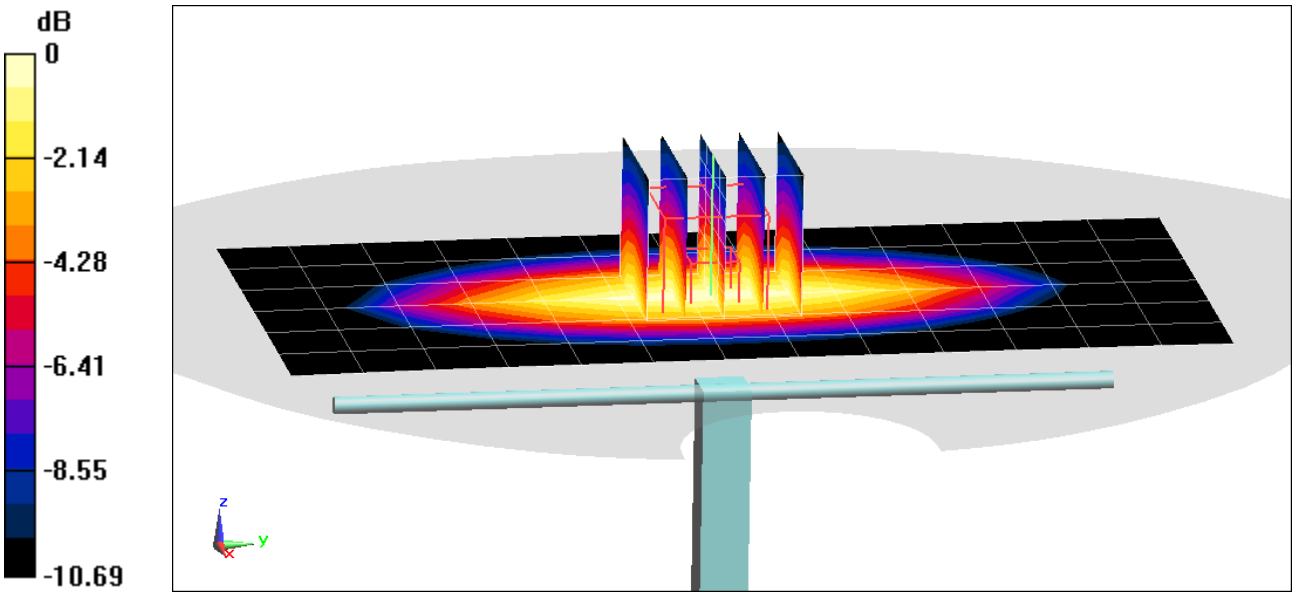
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.914 S/m; ε_r = 43.357; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/22/2020; Ambient Temp: 21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.98 W/kg
SAR(1 g) = 1.93 W/kg
Deviation(1 g) = 2.33%



0 dB = 2.61 W/kg = 4.17 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

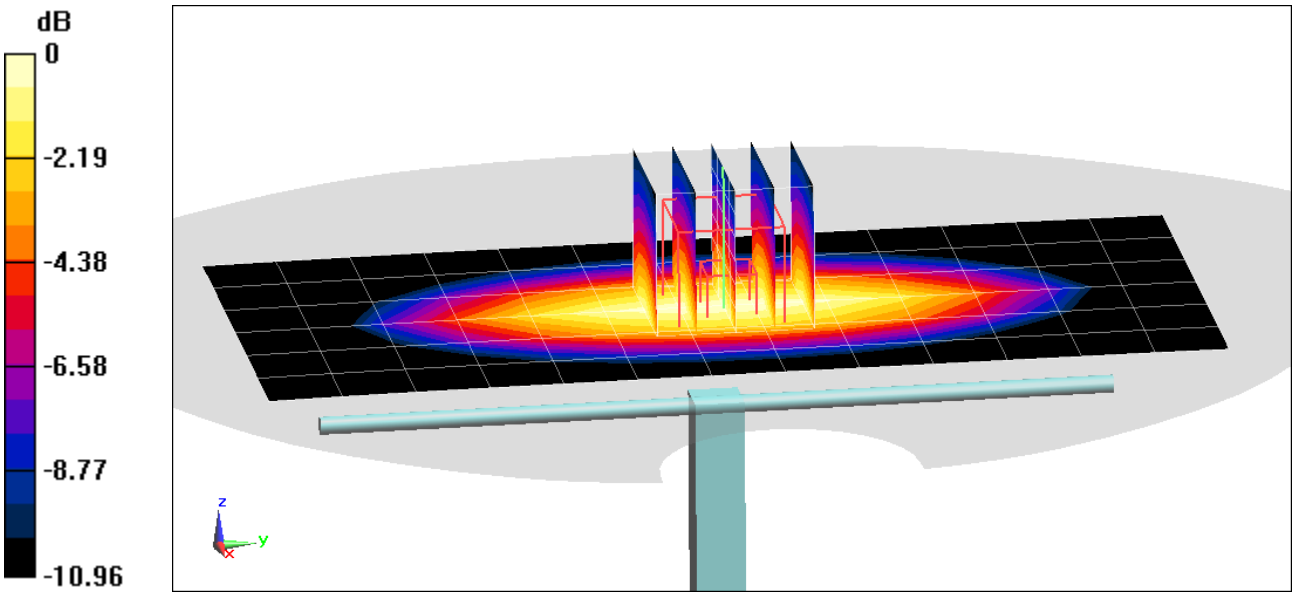
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.873 S/m; ε_r = 41.945; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/06/2020; Ambient Temp: 21.3°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.92 W/kg
SAR(1 g) = 1.89 W/kg
Deviation(1 g) = 0.21%



0 dB = 2.56 W/kg = 4.08 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

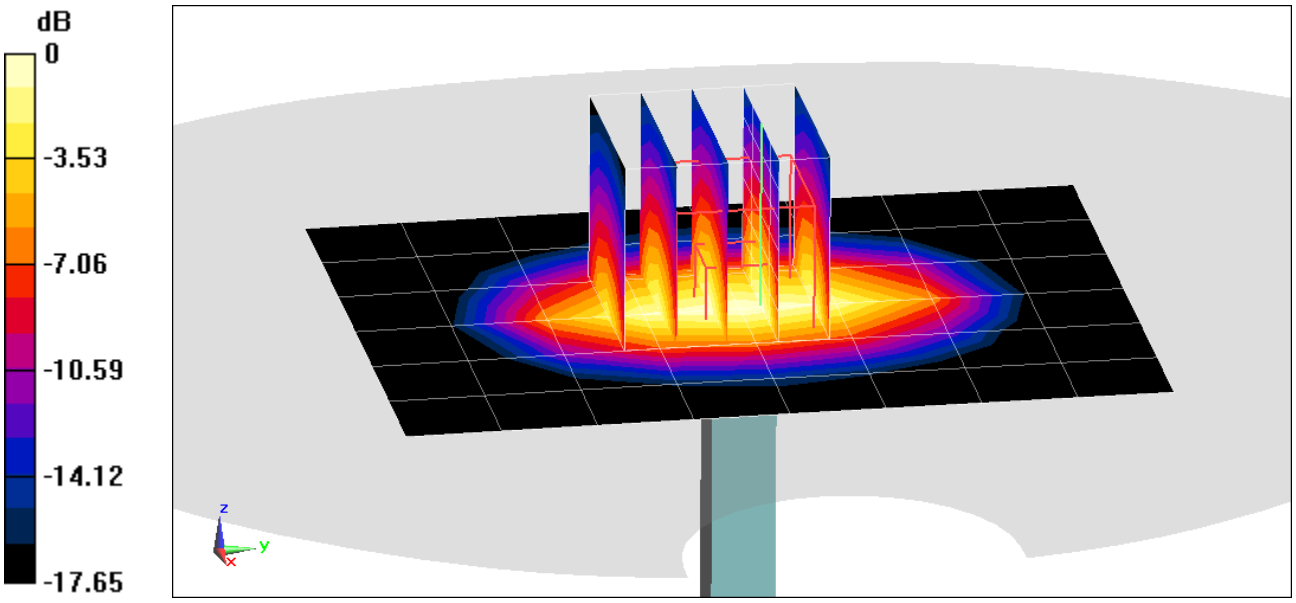
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.371 S/m; ε_r = 39.692; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/26/2020; Ambient Temp: 20.2°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.36 W/kg
SAR(1 g) = 3.44 W/kg
Deviation(1 g) = -7.03%



0 dB = 5.21 W/kg = 7.17 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

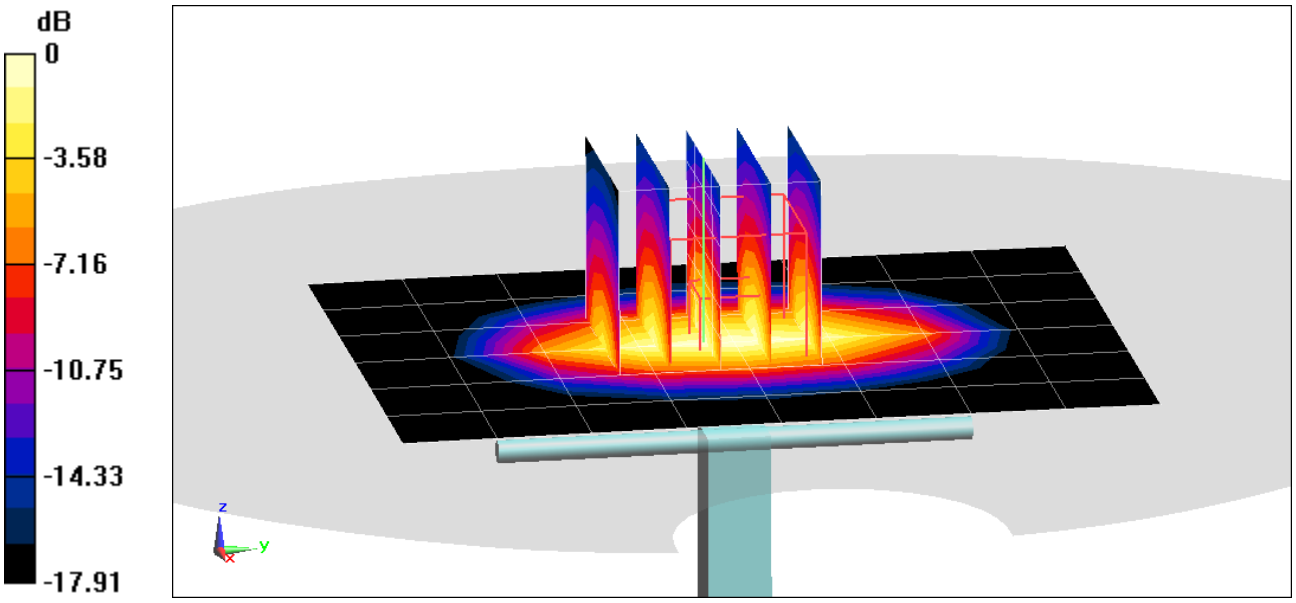
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.373 S/m; ε_r = 39.166; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/30/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.10 W/kg
SAR(1 g) = 3.78 W/kg
Deviation(1 g) = 2.16%



0 dB = 5.81 W/kg = 7.64 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

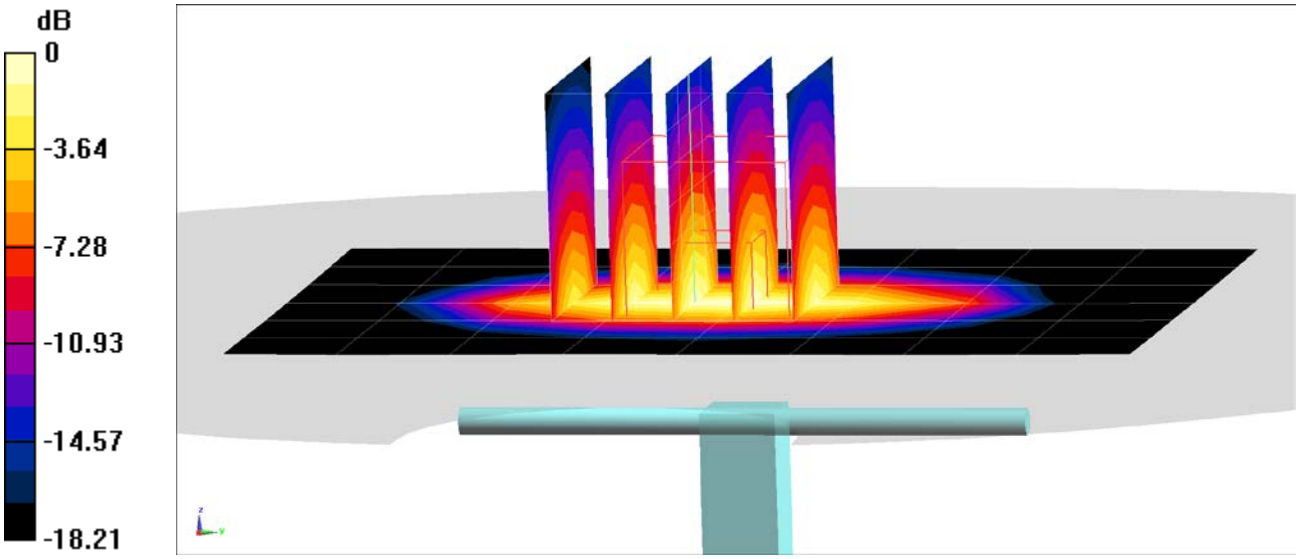
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.403 S/m; ε_r = 41.005; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/23/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7488; ConvF(8.71, 8.71, 8.71) @ 1750 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.21 W/kg
SAR(1 g) = 3.87 W/kg
Deviation(1 g) = 6.03%



0 dB = 5.92 W/kg = 7.72 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

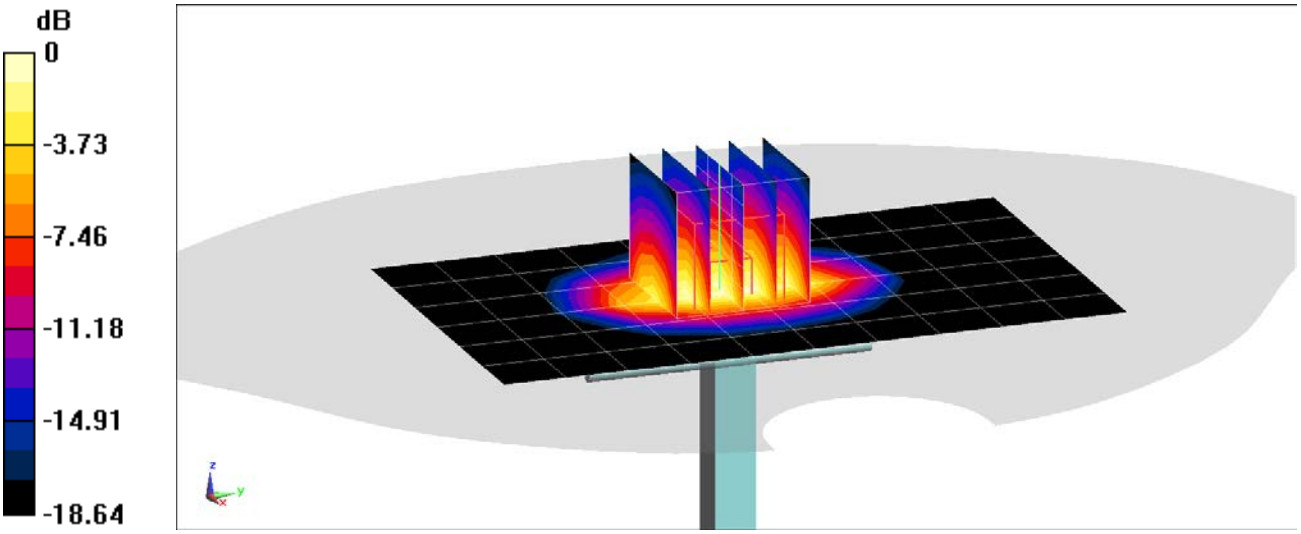
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1900 MHz; σ = 1.452 S/m; ε_r = 38.988; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/30/2020; Ambient Temp: 21.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 8.02 W/kg
SAR(1 g) = 4.21 W/kg
Deviation(1 g) = 7.67%



0 dB = 6.66 W/kg = 8.23 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

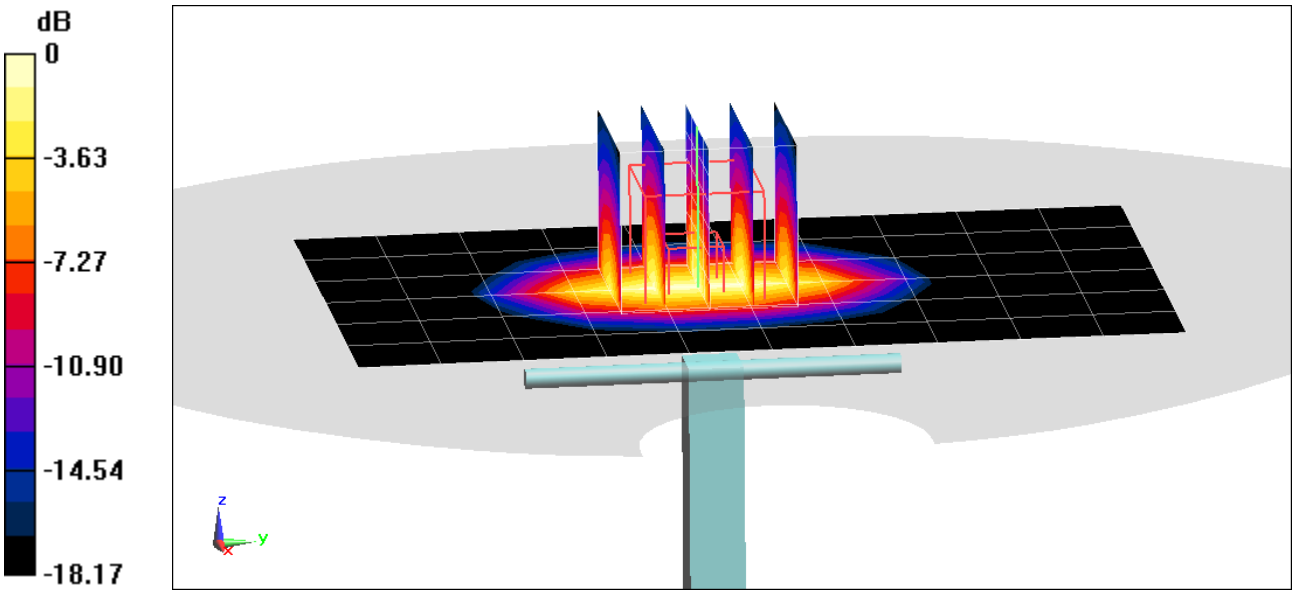
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1900 MHz; σ = 1.458 S/m; ε_r = 39.602; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/10/2020; Ambient Temp: 20.2°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.99 W/kg
SAR(1 g) = 4.17 W/kg
Deviation(1 g) = 6.11%



0 dB = 6.61 W/kg = 8.20 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

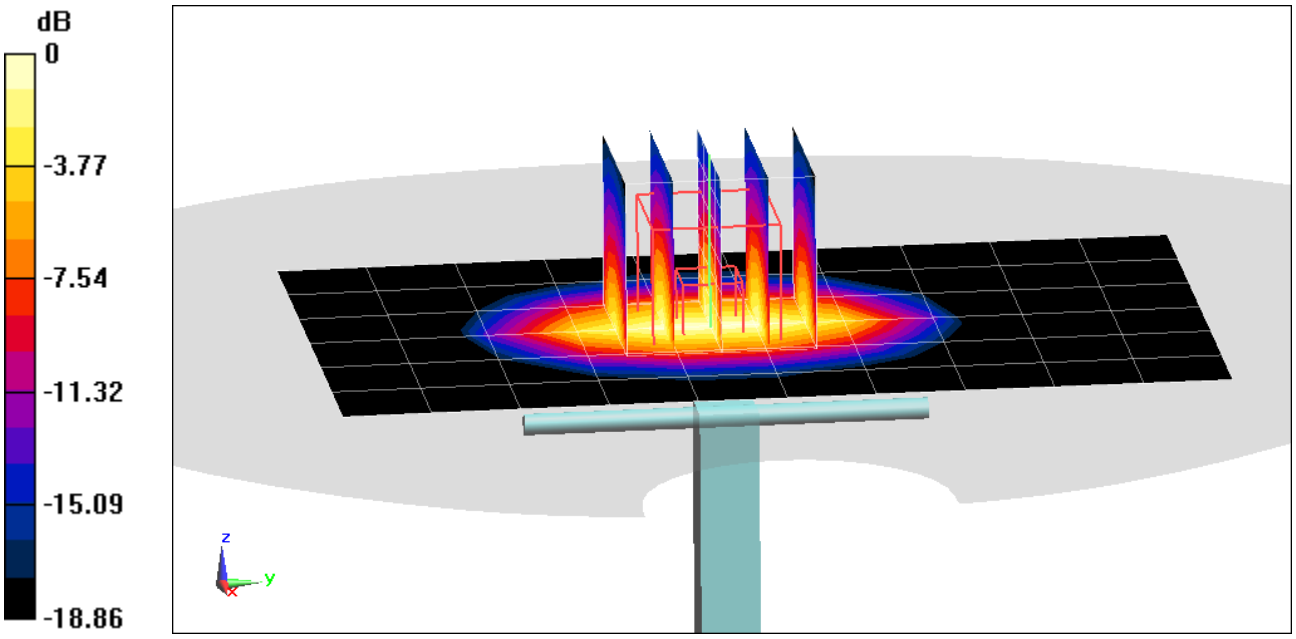
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1900 MHz; σ = 1.444 S/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/20/2020; Ambient Temp: 20.3°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 8.28 W/kg
SAR(1 g) = 4.25 W/kg
Deviation(1 g) = 8.14%



0 dB = 6.82 W/kg = 8.34 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

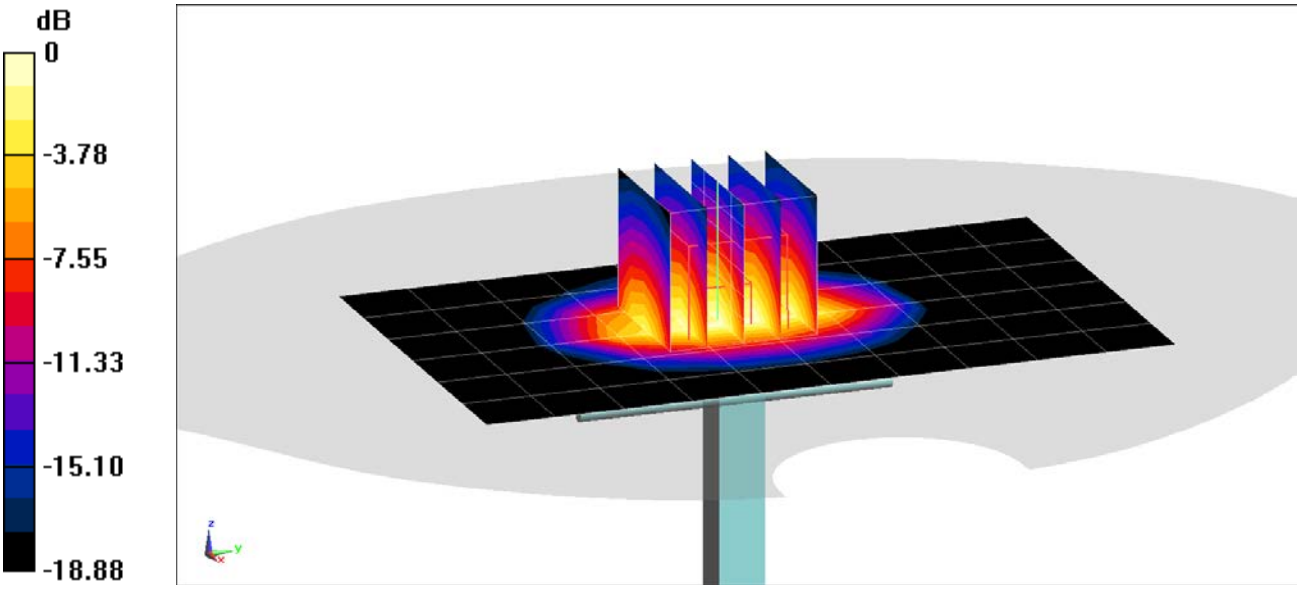
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1900 MHz; σ = 1.444 S/m; ε_r = 38.615; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.75 W/kg
SAR(1 g) = 4.06 W/kg
Deviation(1 g) = 3.31%



0 dB = 6.43 W/kg = 8.08 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

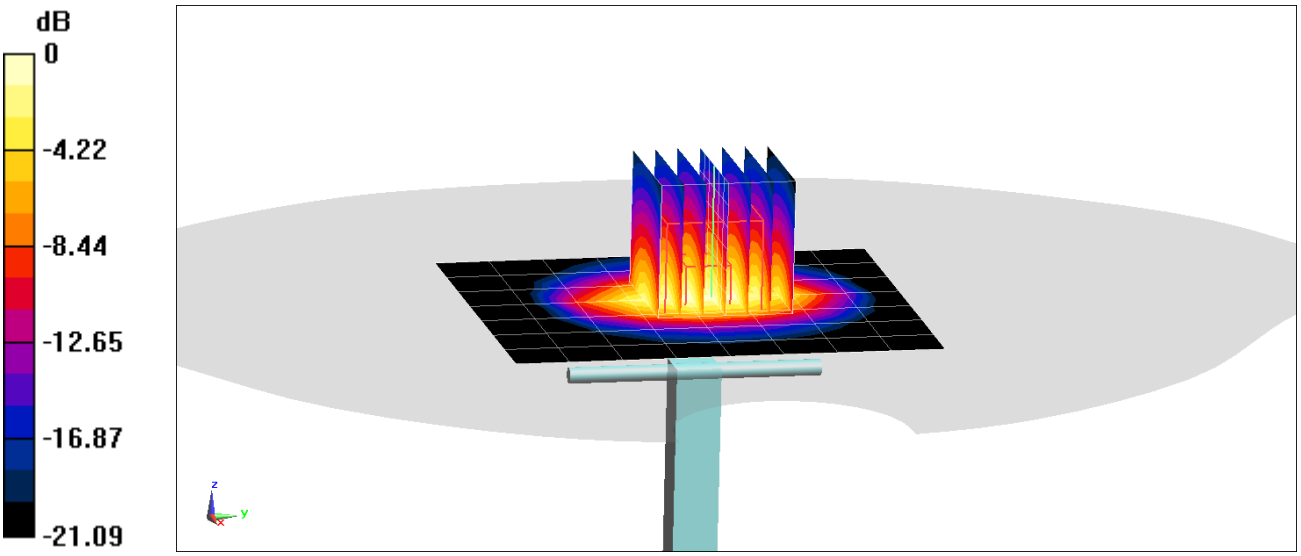
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2300 MHz; σ = 1.675 S/m; ε_r = 38.517; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/19/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3589; ConvF(7.11, 7.11, 7.11) @ 2300 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.0 W/kg
SAR(1 g) = 5.31 W/kg
Deviation(1 g) = 7.93%



0 dB = 8.82 W/kg = 9.45 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

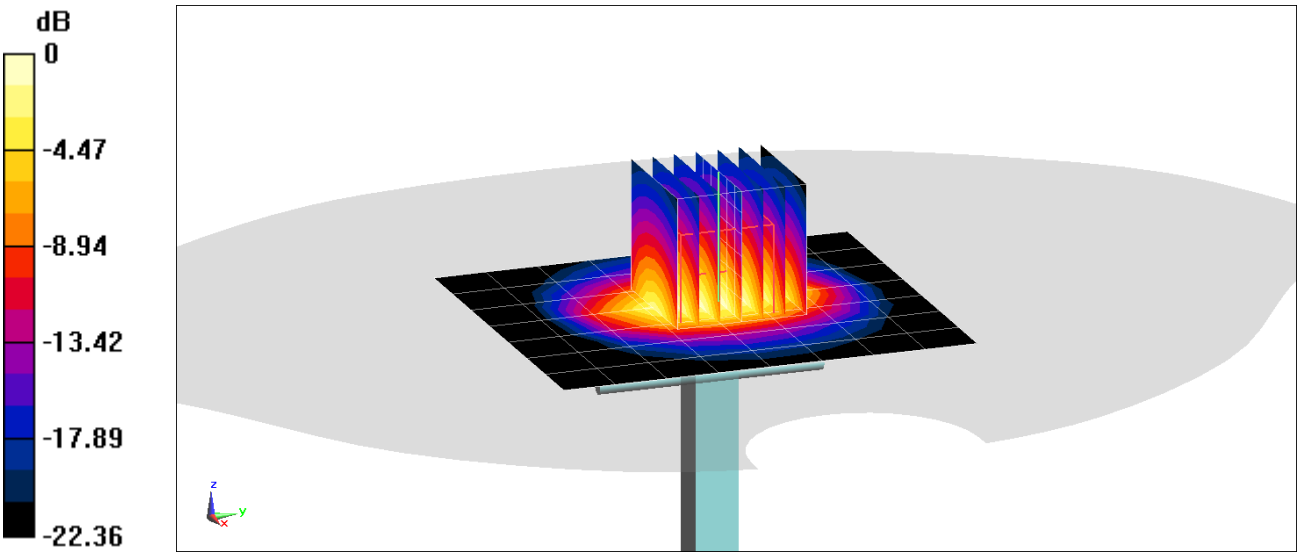
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.798 S/m; ε_r = 37.577; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/12/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2450 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 5.18 W/kg
Deviation(1 g) = -2.45%



0 dB = 8.79 W/kg = 9.44 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

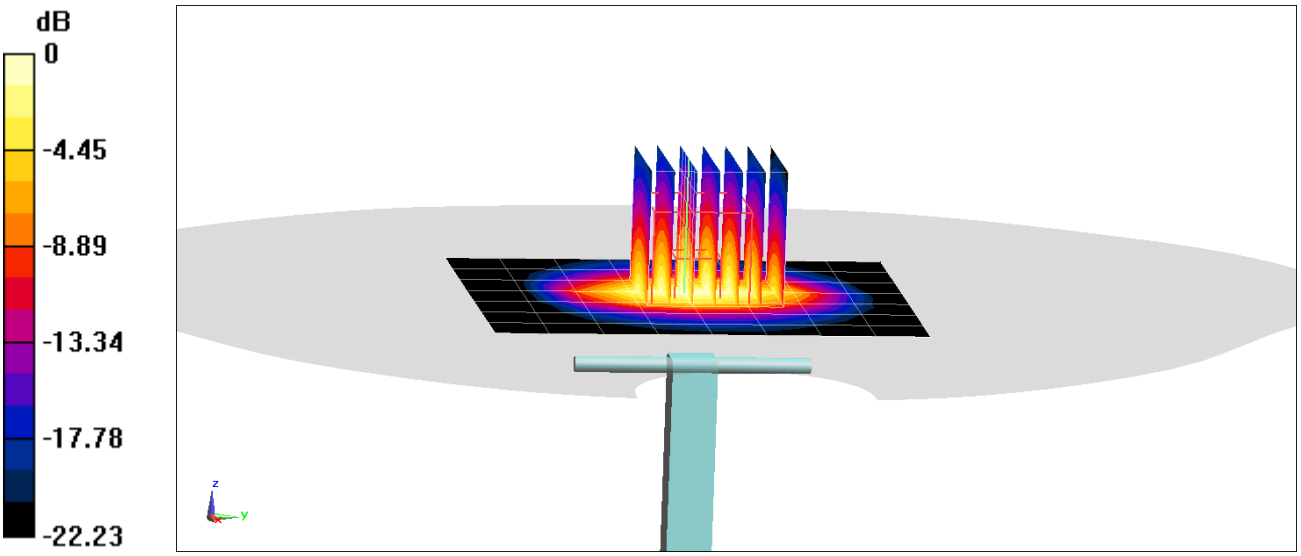
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.804 S/m; ε_r = 39.074; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/26/2020; Ambient Temp: 22.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2450 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.4 W/kg
SAR(1 g) = 5.36 W/kg
Deviation(1 g) = 1.71%



0 dB = 8.98 W/kg = 9.53 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

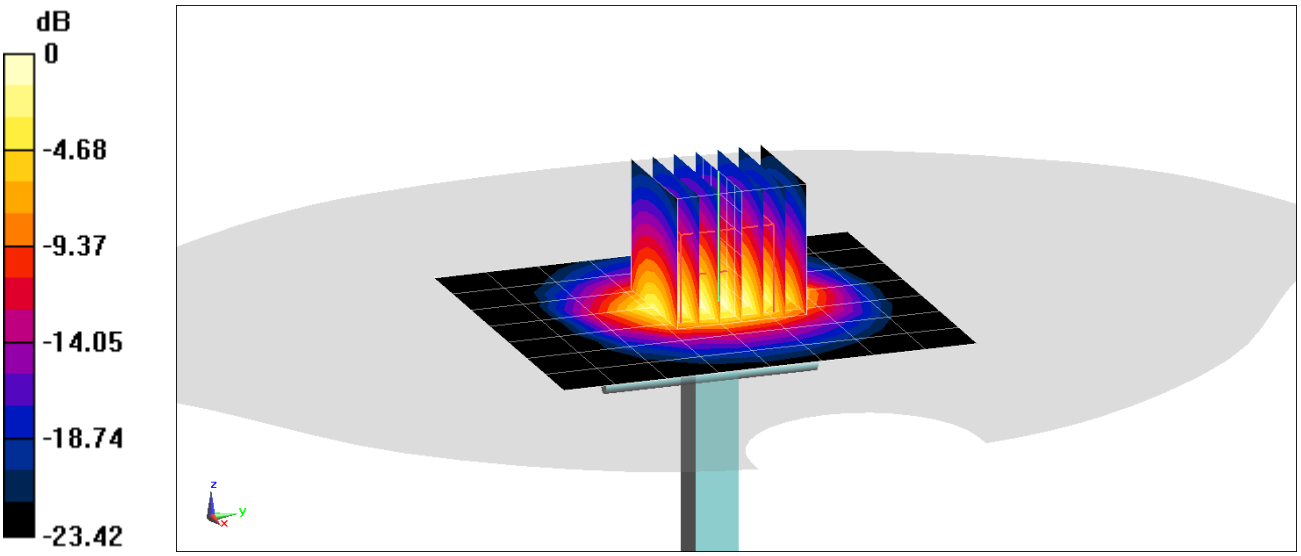
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.903 S/m; ε_r = 37.36; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/12/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2600 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.6 W/kg
SAR(1 g) = 5.74 W/kg
Deviation(1 g) = -1.20%



0 dB = 9.82 W/kg = 9.92 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 1064

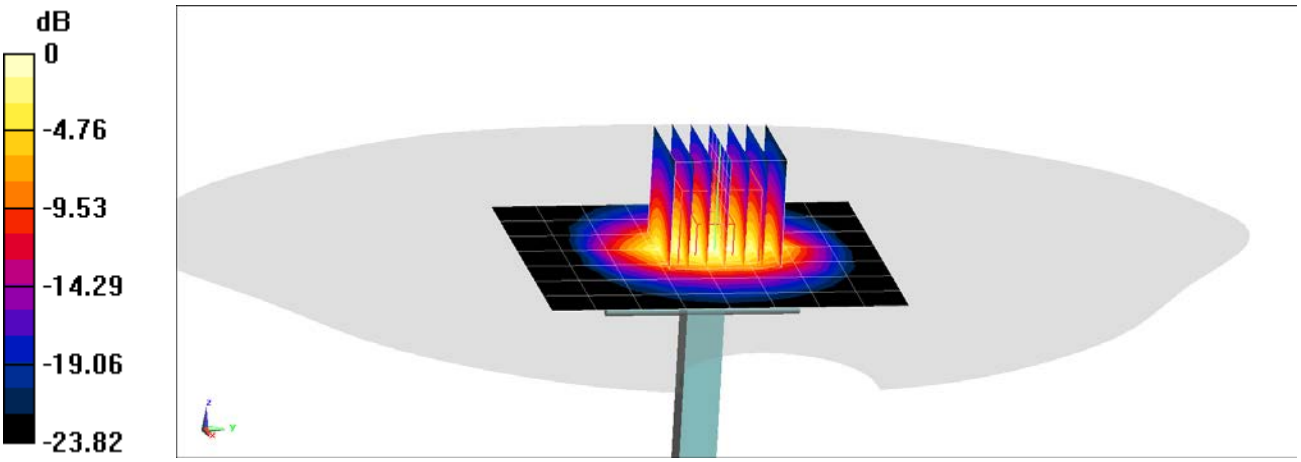
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.914 S/m; ε_r = 38.19; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/03/2020; Ambient Temp: 22.9°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2600 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 5.89 W/kg
Deviation(1 g) = 1.38%



0 dB = 10.3 W/kg = 10.13 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

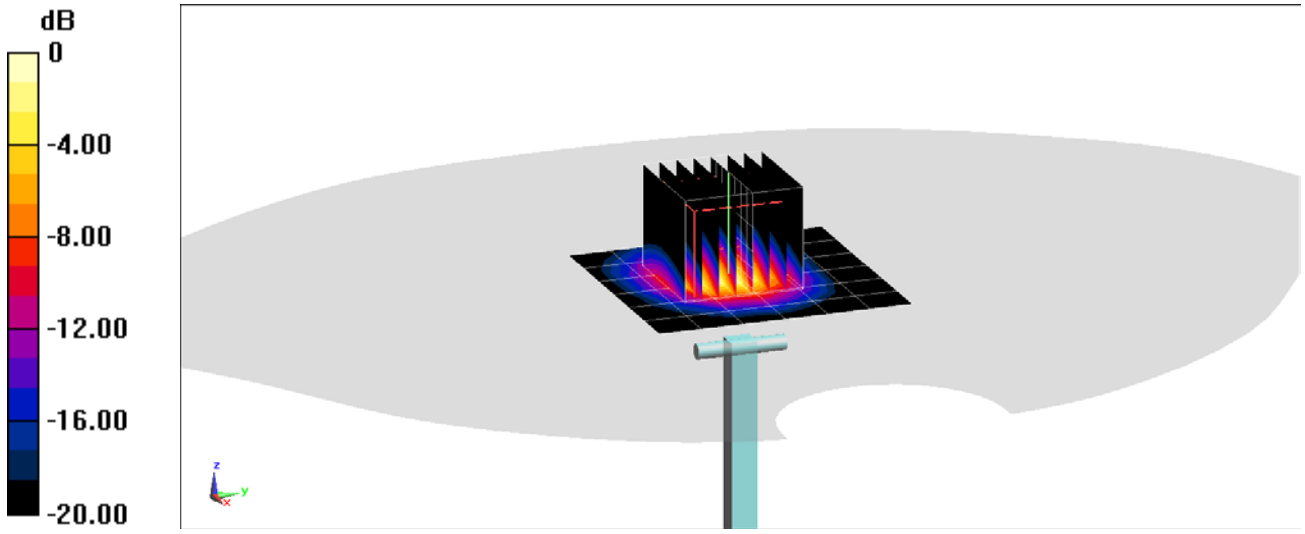
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head Medium parameters used:
f = 5250 MHz; σ = 4.594 S/m; ε_r = 34.644; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7406; ConvF(5.54, 5.54, 5.54) @ 5250 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 3.84 W/kg
Deviation(1 g) = -4.95%



0 dB = 8.98 W/kg = 9.53 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

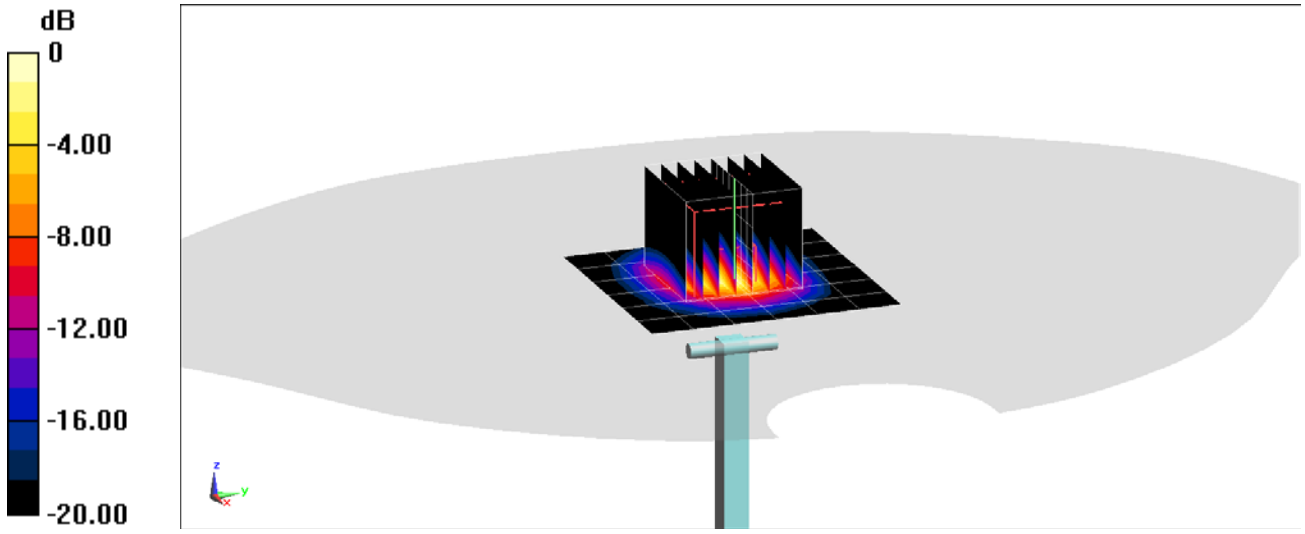
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head Medium parameters used:
f = 5750 MHz; σ = 5.169 S/m; ε_r = 33.756; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5750 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 3.71 W/kg
Deviation(1 g) = -7.48%



0 dB = 9.09 W/kg = 9.59 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

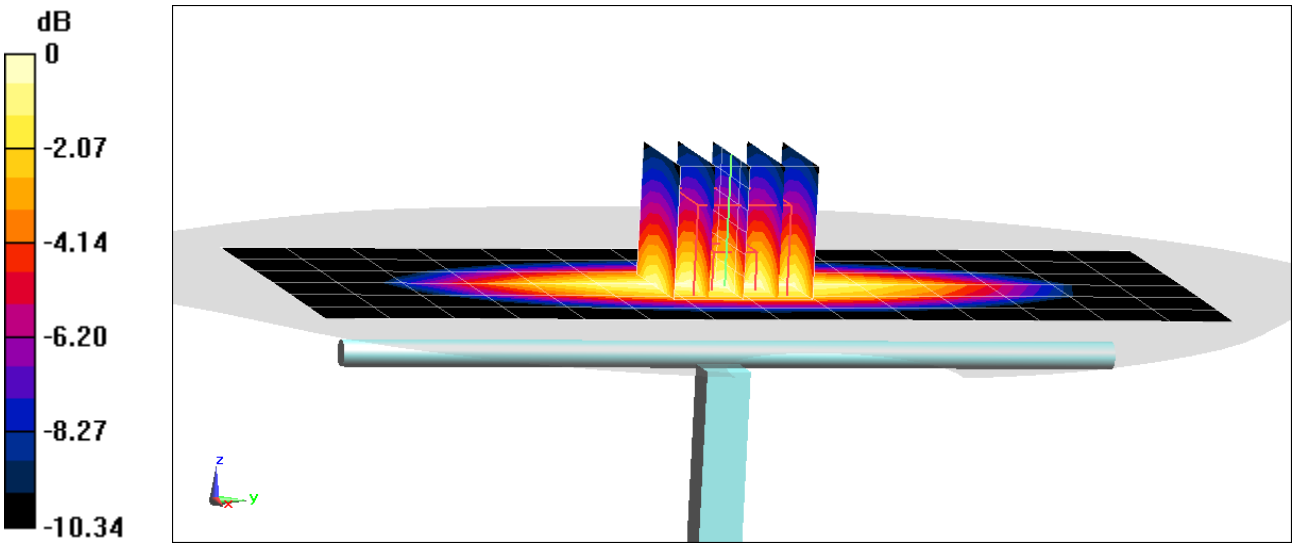
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used:
f = 750 MHz; σ = 0.949 S/m; ε_r = 53.751; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/20/2020; Ambient Temp:21.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 750 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.55 W/kg
SAR(1 g) = 1.72 W/kg
Deviation(1 g) = 2.02%



0 dB = 2.28 W/kg = 3.58 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

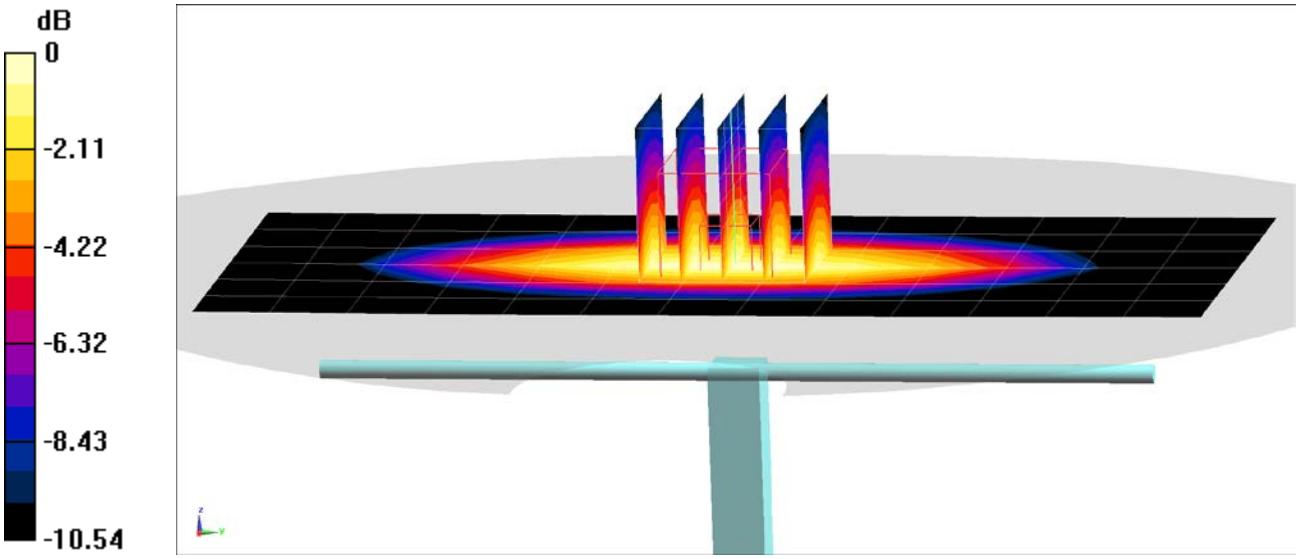
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.973 S/m; ε_r = 54.611; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/27/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 835 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.87 W/kg
SAR(1 g) = 1.88 W/kg
Deviation(1 g) = -3.59%



0 dB = 2.53 W/kg = 4.03 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

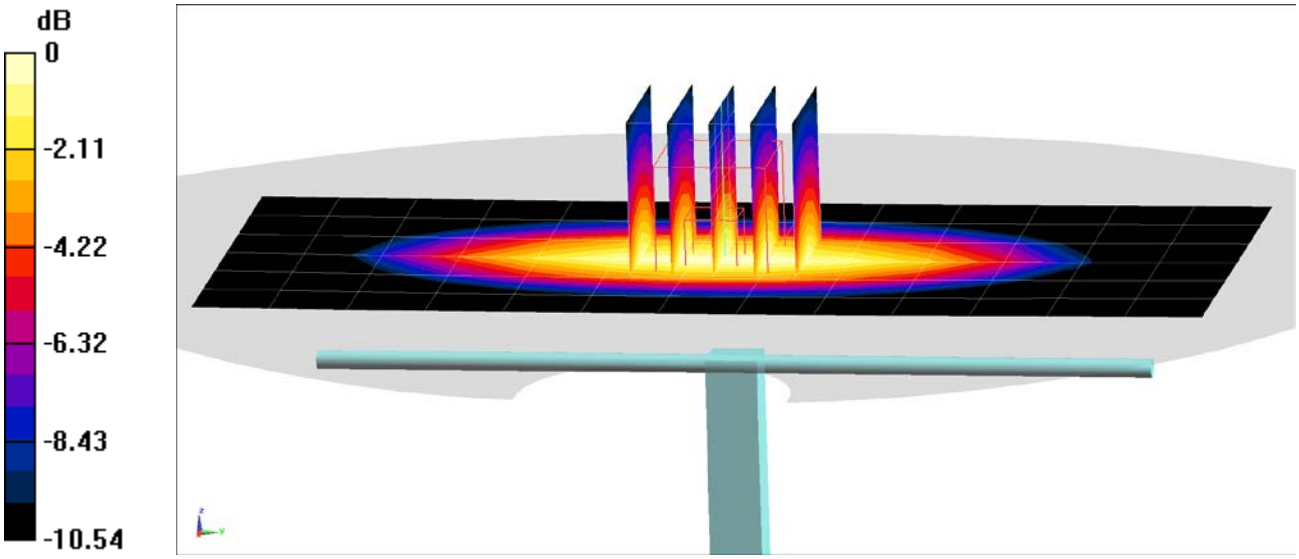
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.959 S/m; ε_r = 54.407; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/29/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 835 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.90 W/kg
SAR(1 g) = 1.86 W/kg
Deviation(1 g) = -4.62%



0 dB = 2.52 W/kg = 4.01 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

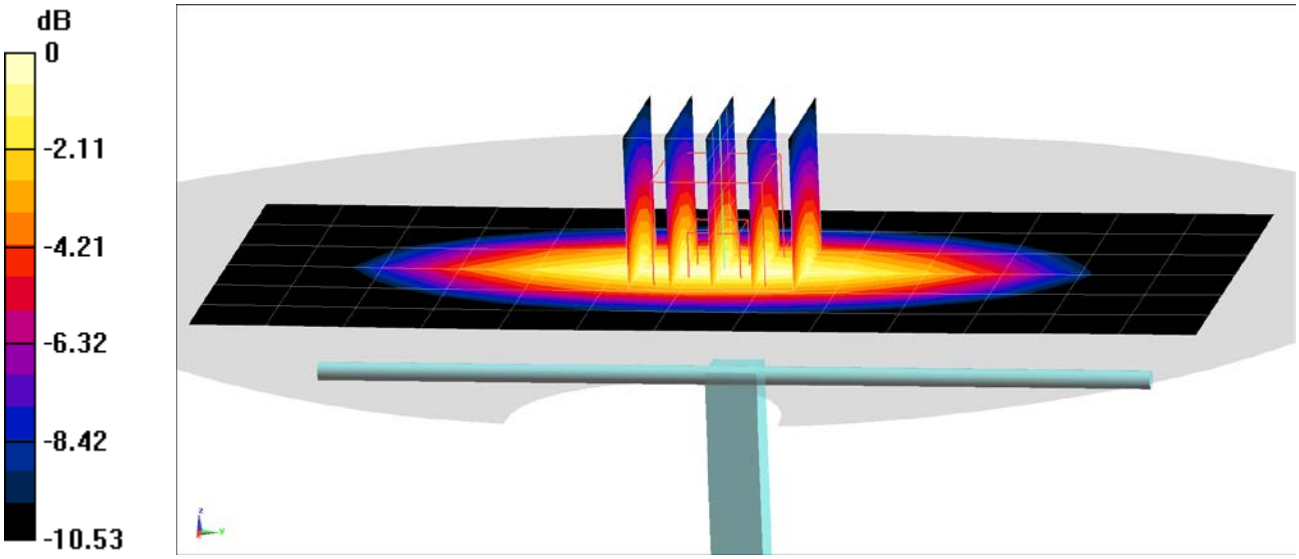
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.965 S/m; ε_r = 54.155; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/04/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 835 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.92 W/kg
SAR(1 g) = 1.91 W/kg
Deviation(1 g) = -4.12%



0 dB = 2.57 W/kg = 4.10 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

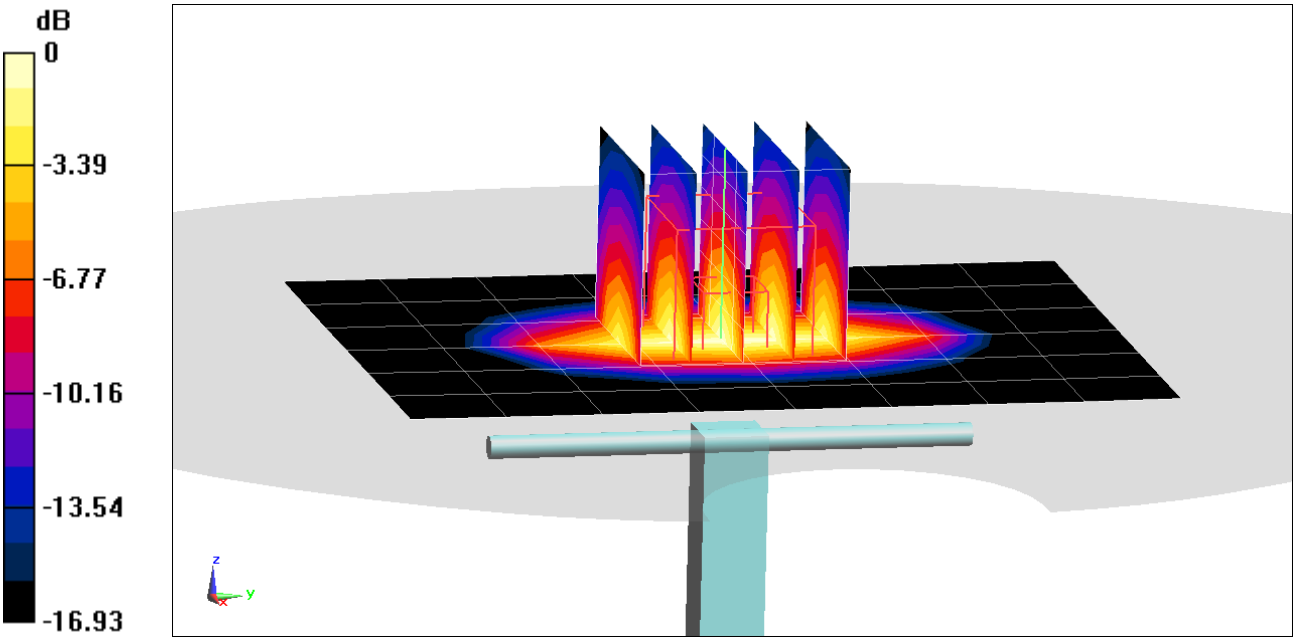
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.491 S/m; ε_r = 55.348; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/30/2020; Ambient Temp: 21.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.94 W/kg
SAR(1 g) = 3.86 W/kg
Deviation(1 g) = 5.46%



0 dB = 5.89 W/kg = 7.70 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

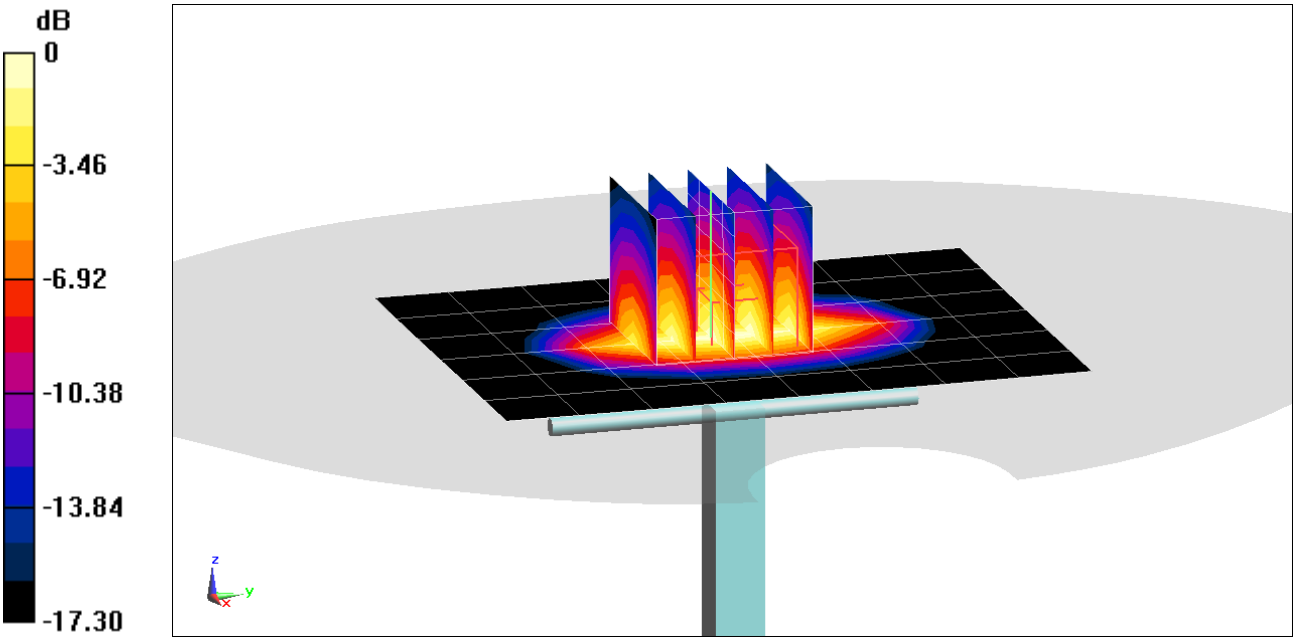
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.512 S/m; ε_r = 53.686; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/11/2020; Ambient Temp: 21.8°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1750 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.54 W/kg
SAR(1 g) = 3.73 W/kg
Deviation(1 g) = -1.06%



0 dB = 5.55 W/kg = 7.44 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

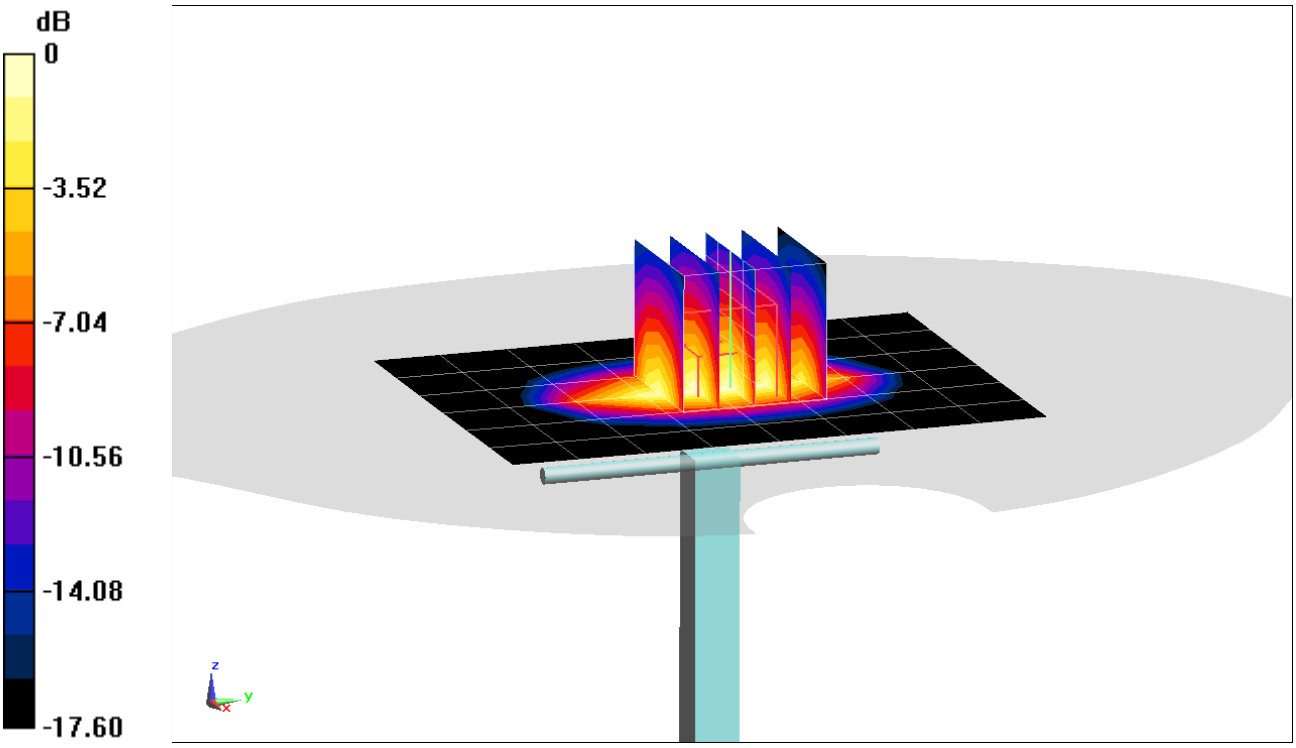
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.496 S/m; ε_r = 54.991; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1750 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.31 W/kg
SAR(1 g) = 3.57 W/kg; SAR(10 g) = 1.9 W/kg
Deviation(1 g) = -2.46%; Deviation(10 g) = -2.06%



0 dB = 5.30 W/kg = 7.24 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

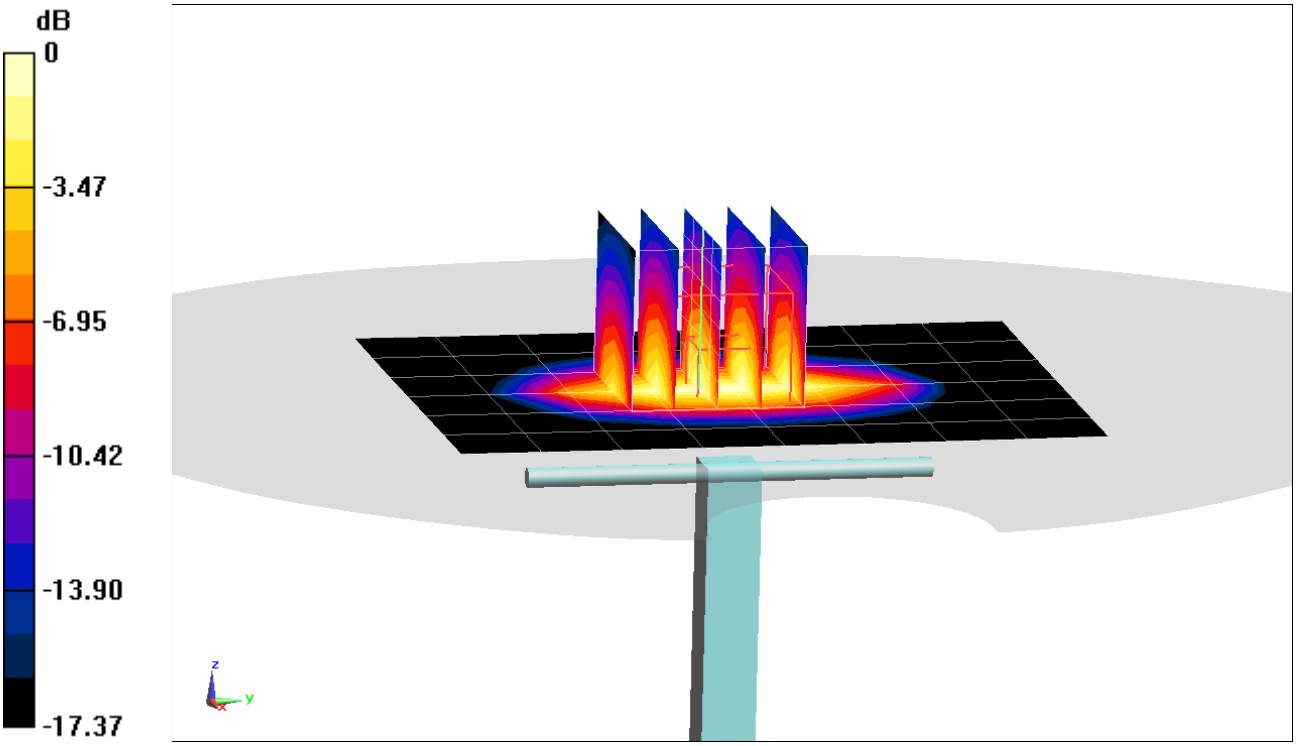
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.481 S/m; ε_r = 53.929; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/15/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1750 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.35 W/kg
SAR(10 g) = 1.91 W/kg
Deviation(10 g) = -1.55%



0 dB = 5.37 W/kg = 7.30 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

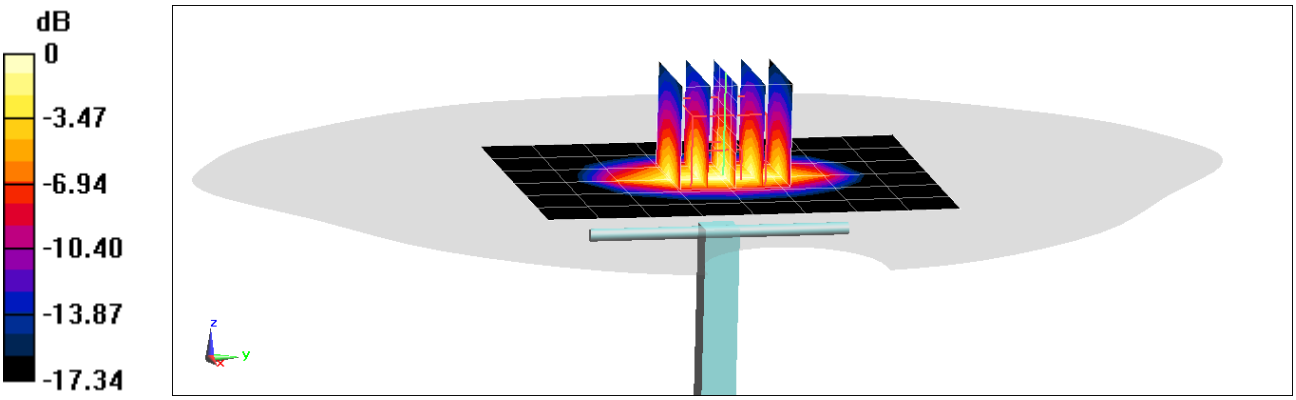
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.523 S/m; ε_r = 52.088; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/03/2020; Ambient Temp: 21.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1750 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.97 W/kg
SAR(1 g) = 3.88 W/kg
Deviation(1 g) = 6.01%



0 dB = 5.95 W/kg = 7.75 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

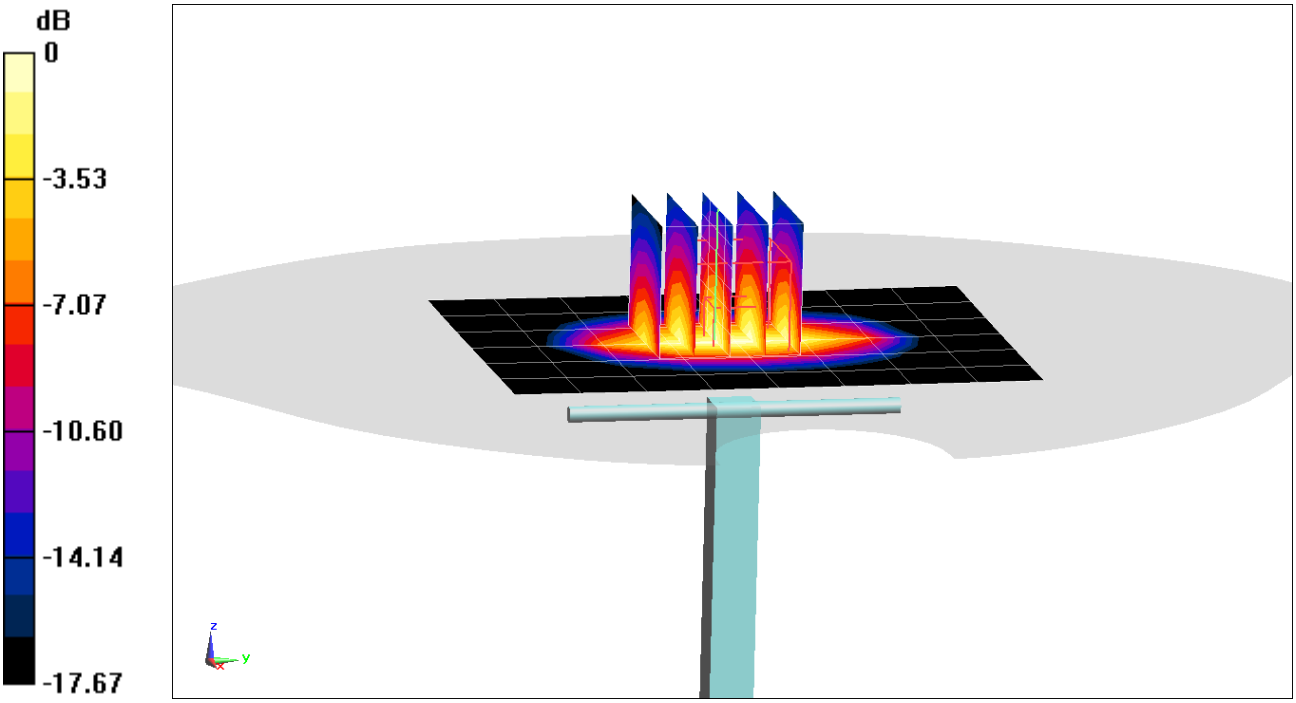
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.498 S/m; ε_r = 52.627; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/06/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7527; ConvF(8.1, 8.1, 8.1) @ 1750 MHz; Calibrated: 3/17/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.36 W/kg
SAR(10 g) = 1.85 W/kg
Deviation(10 g) = -4.64%



0 dB = 5.31 W/kg = 7.25 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

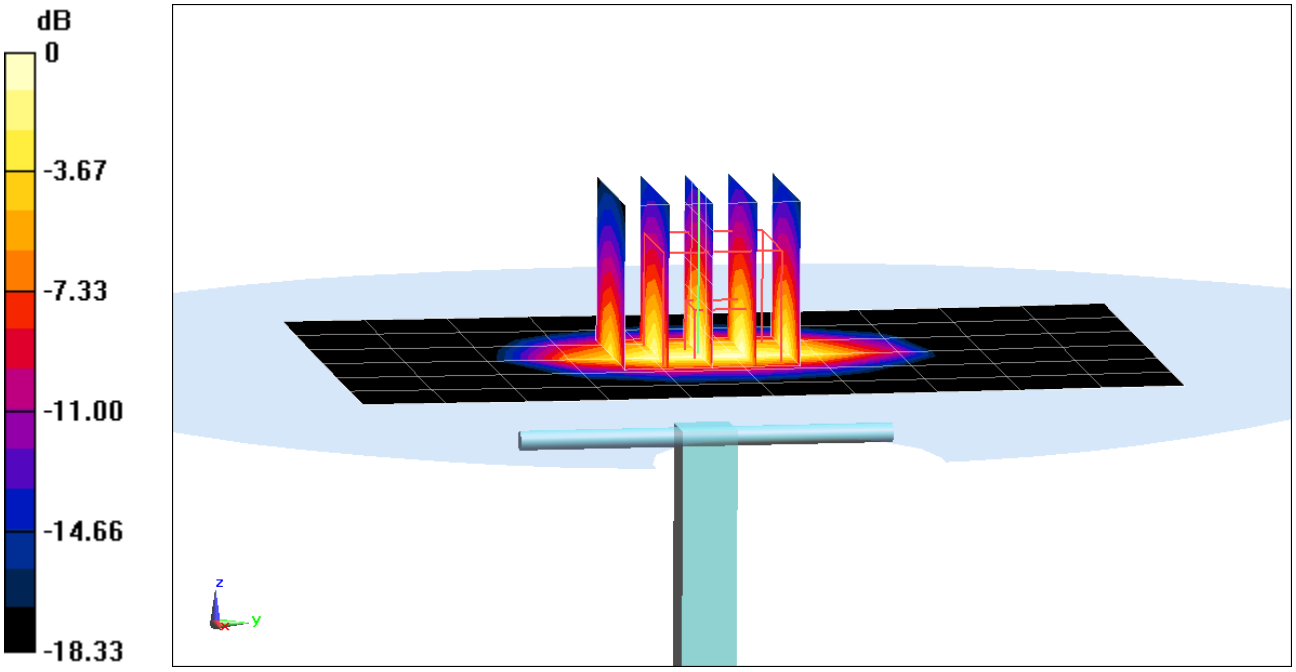
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.573 S/m; ε_r = 54.839; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/25/2020; Ambient Temp: 21.1°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.64 W/kg
SAR(1 g) = 4.2 W/kg
Deviation(1 g) = 7.14%



0 dB = 6.37 W/kg = 8.04 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

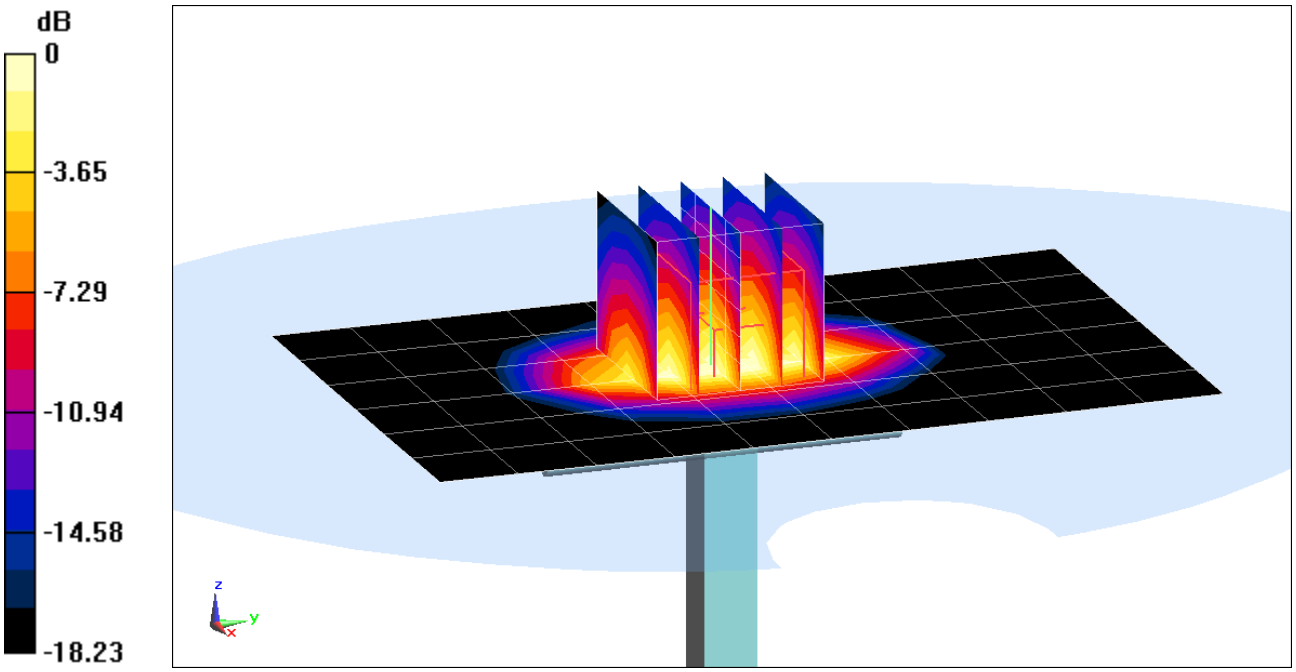
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.559 S/m; ε_r = 53.729; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03/31/2020; Ambient Temp: 22.3°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.09 W/kg
SAR(1 g) = 3.89 W/kg
Deviation(1 g) = -0.77%



0 dB = 5.91 W/kg = 7.72 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

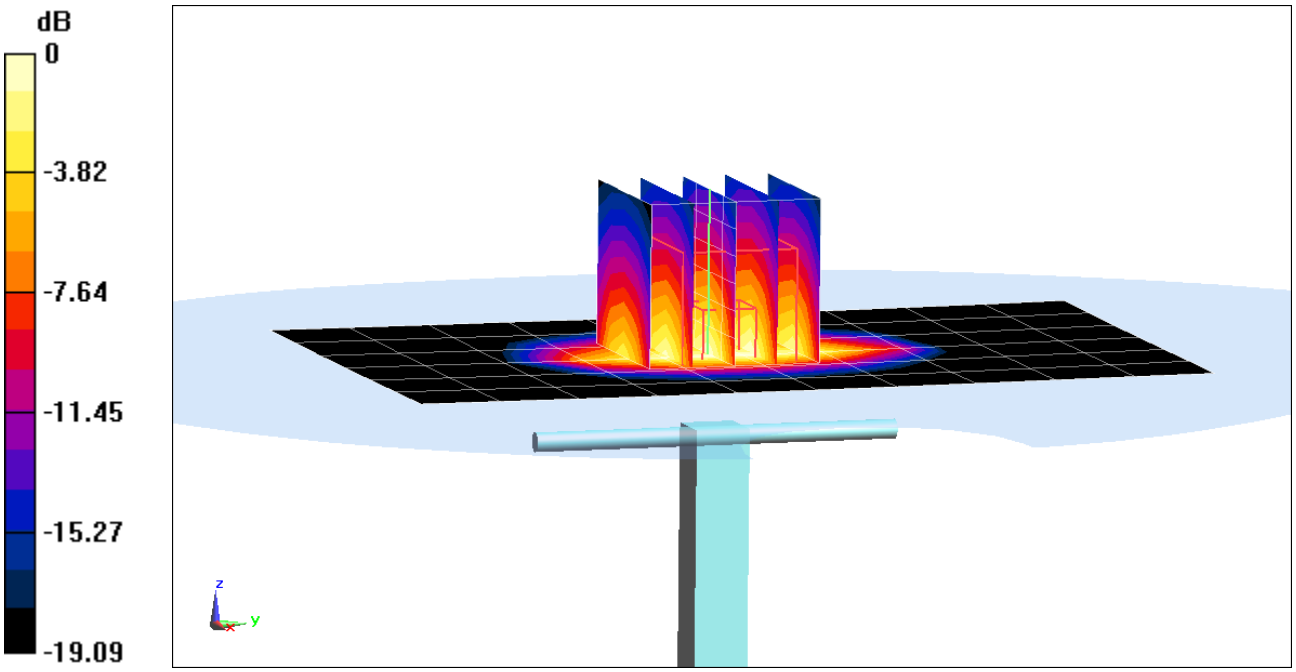
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.581 S/m; ε_r = 54.172; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/14/2020; Ambient Temp: 22.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.82 W/kg
SAR(1 g) = 4.16 W/kg; SAR(10 g) = 2.12 W/kg
Deviation(1 g) = 6.12%; Deviation(10 g) = 2.91%



0 dB = 6.44 W/kg = 8.09 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

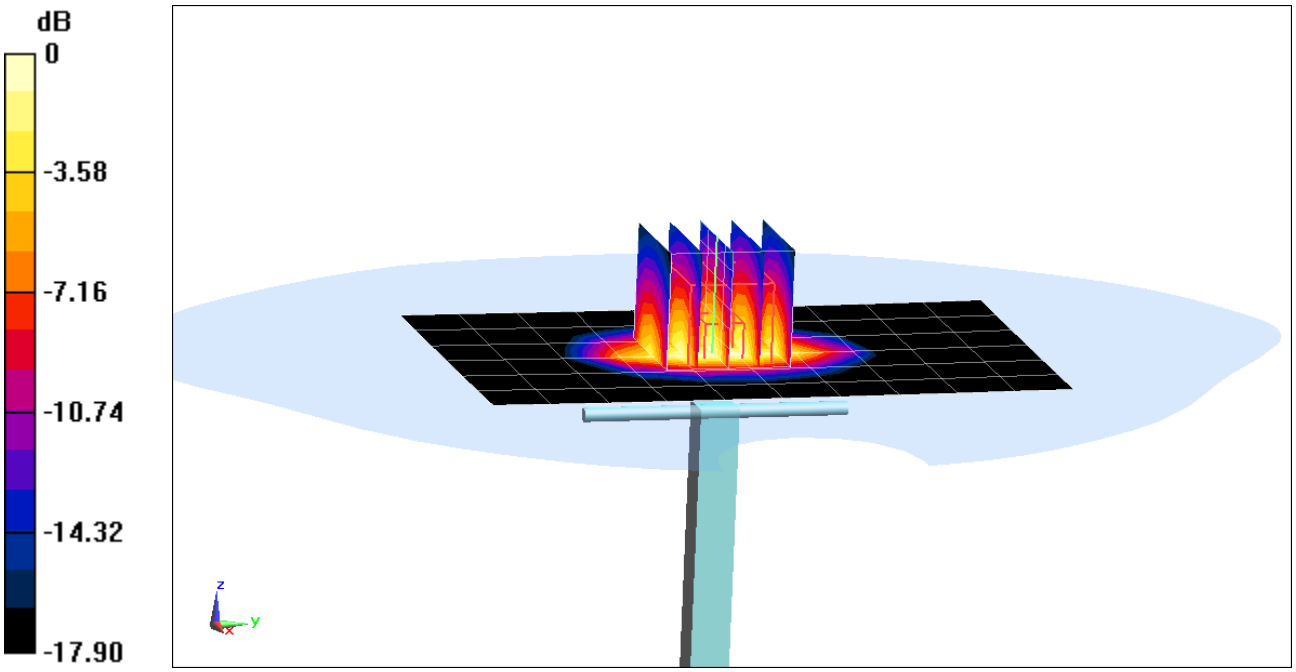
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.564 S/m; ε_r = 54.343; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/16/2020; Ambient Temp: 21.7°C; Tissue Temp: 24.0°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.58 W/kg
SAR(1 g) = 4.16 W/kg; SAR(10 g) = 2.16 W/kg
Deviation(1 g) = 6.12%; Deviation(10 g) = 4.85%



0 dB = 6.33 W/kg = 8.01 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

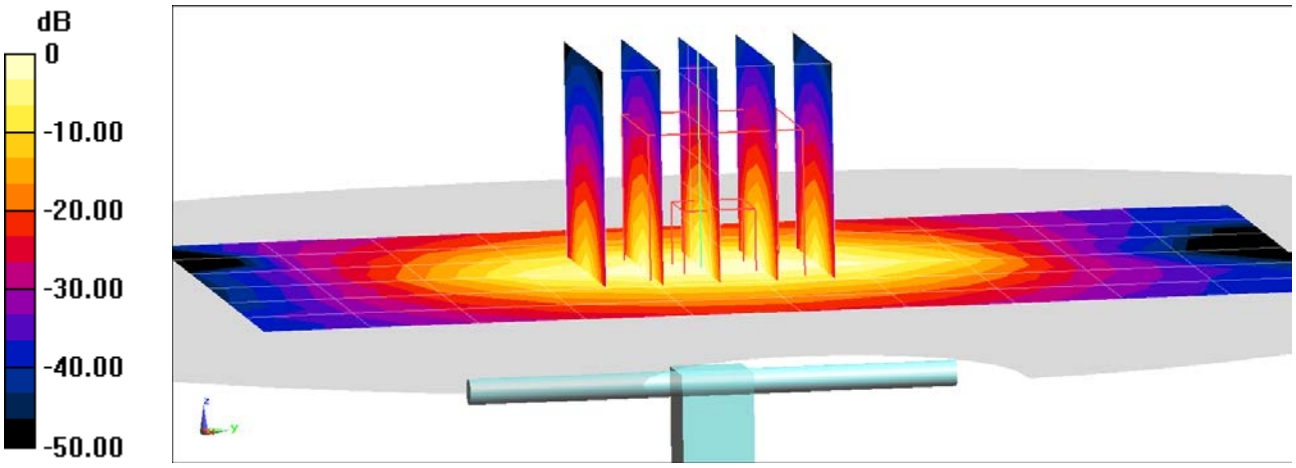
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.581 S/m; ε_r = 51.679; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/21/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.54 W/kg
SAR(1 g) = 4.09 W/kg; SAR(10 g) = 2.11 W/kg
Deviation(1 g) = 4.34%; Deviation(10 g) = 2.43%



0 dB = 6.50 W/kg = 8.13 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

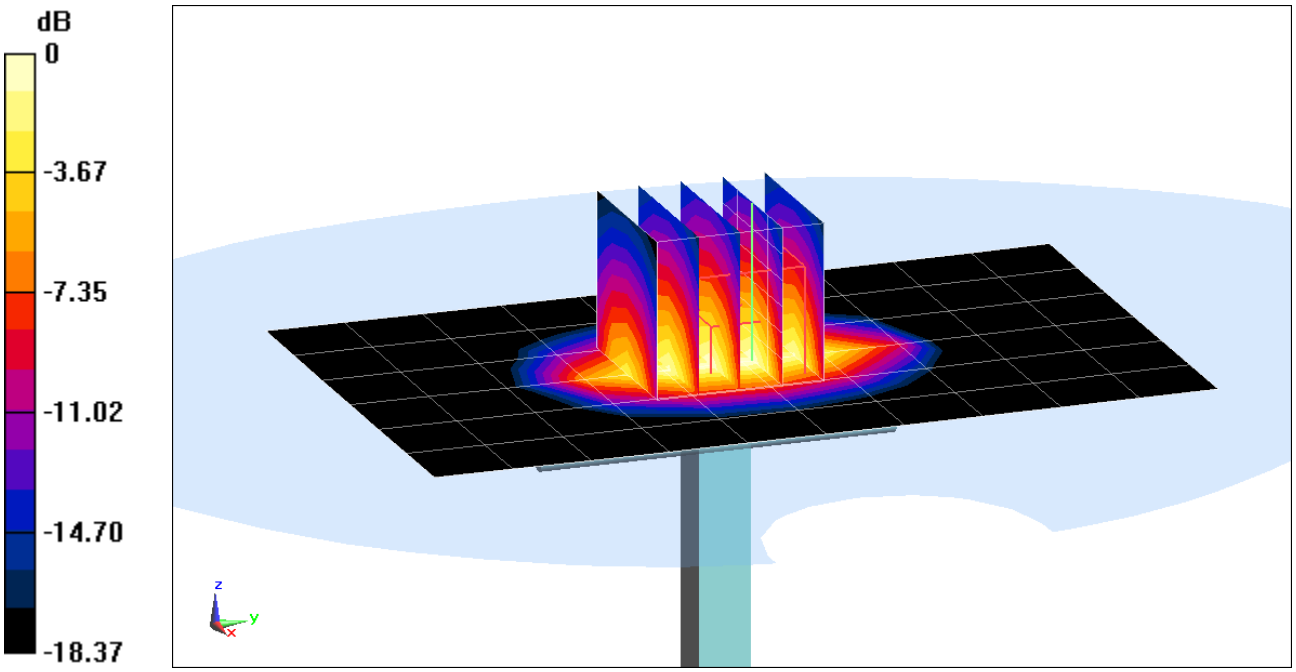
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.532 S/m; ε_r = 53.097; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/25/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.11 W/kg
SAR(1 g) = 3.9 W/kg
Deviation(1 g) = -0.51%



0 dB = 5.86 W/kg = 7.68 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

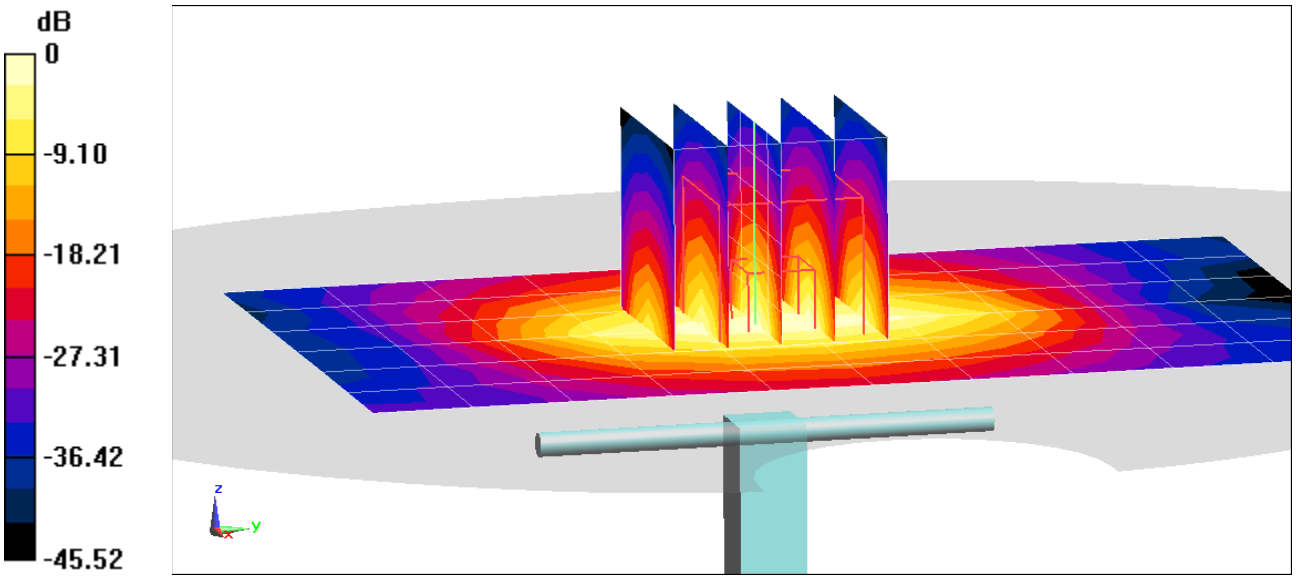
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.574 S/m; ε_r = 52.664; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/28/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.74 W/kg
SAR(1 g) = 4.21 W/kg; SAR(10 g) = 2.18 W/kg
Deviation(1 g) = 6.85%; Deviation(10 g) = 5.31%



0 dB = 6.53 W/kg = 8.15 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

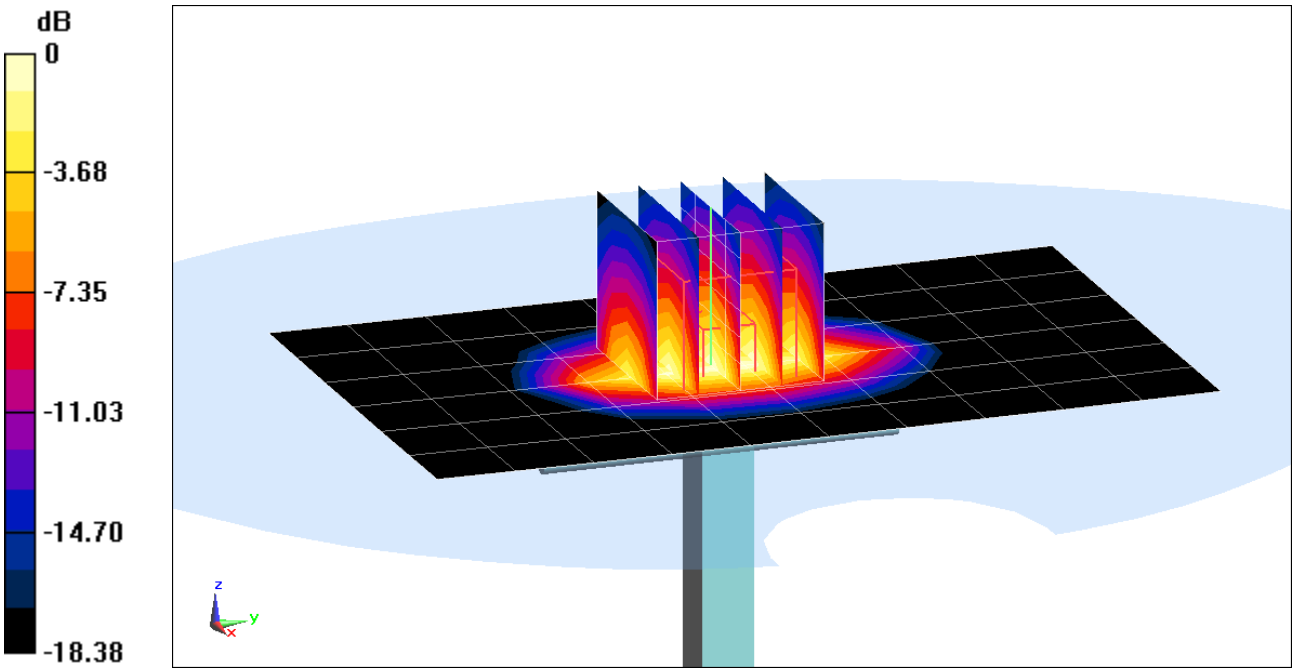
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.583 S/m; ε_r = 55.672; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/05/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.76 W/kg
SAR(1 g) = 4.15 W/kg; SAR(10 g) = 2.13 W/kg
Deviation(1 g) = 6.14%; Deviation(10 g) = 3.90%



0 dB = 6.48 W/kg = 8.12 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

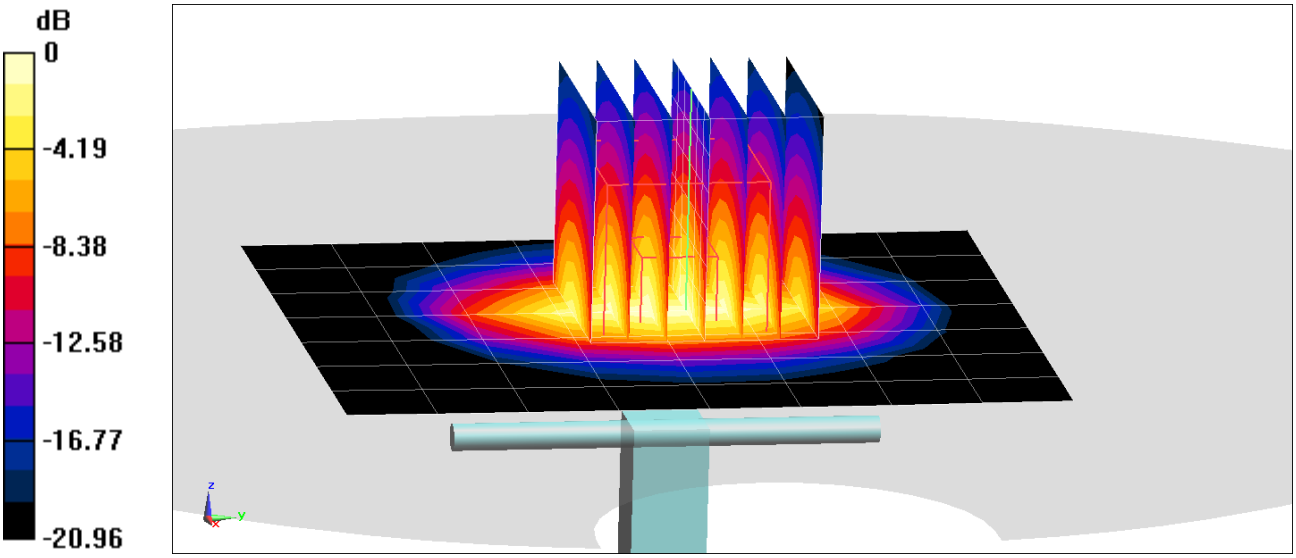
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2300 MHz; σ = 1.829 S/m; ε_r = 51.032; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2300 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 9.68 W/kg
SAR(1 g) = 4.9 W/kg
Deviation(1 g) = 2.73%



0 dB = 7.92 W/kg = 8.99 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

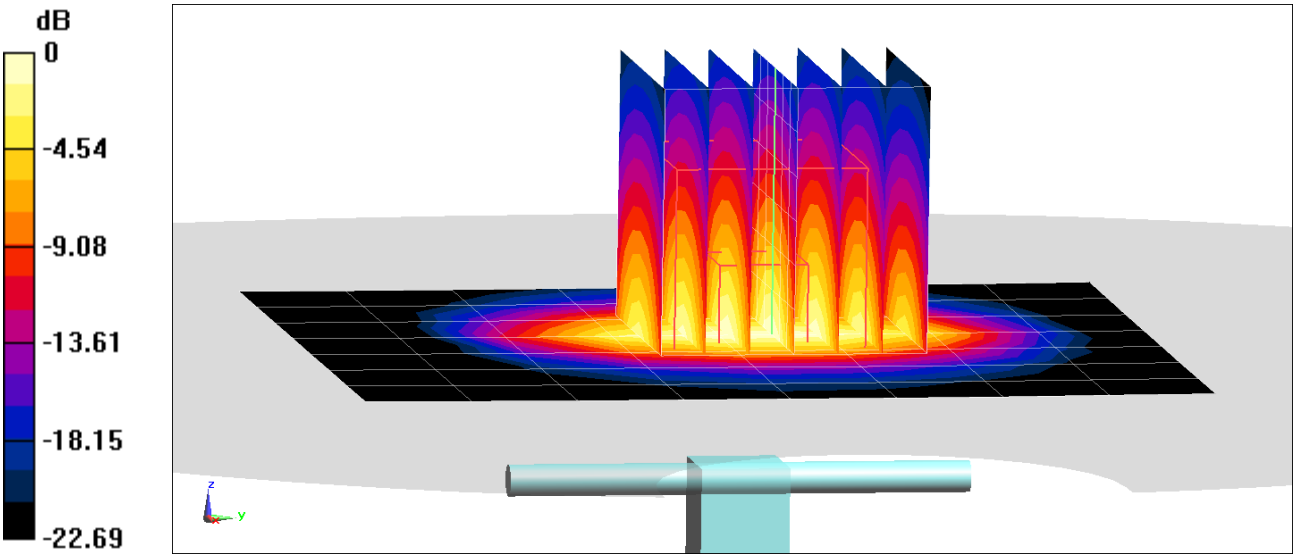
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.998 S/m; ε_r = 50.595; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.7 W/kg
SAR(10 g) = 2.34 W/kg
Deviation(10 g) = -2.50%



0 dB = 8.55 W/kg = 9.32 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

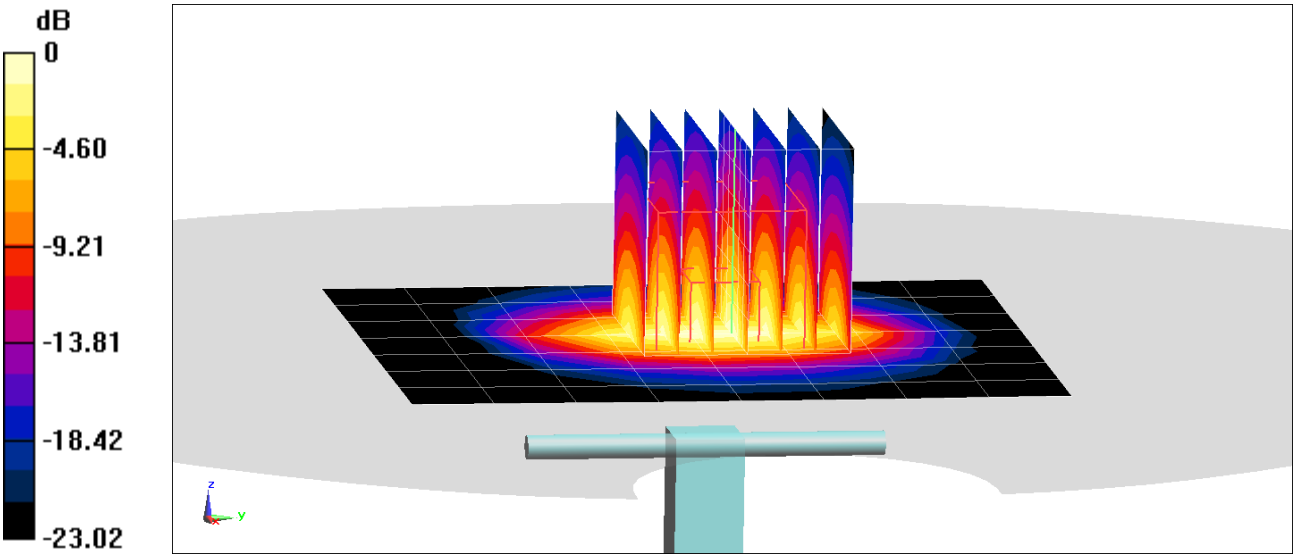
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.037 S/m; ε_r = 50.891; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.2 W/kg
Deviation(1 g) = 2.36%



0 dB = 8.70 W/kg = 9.40 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

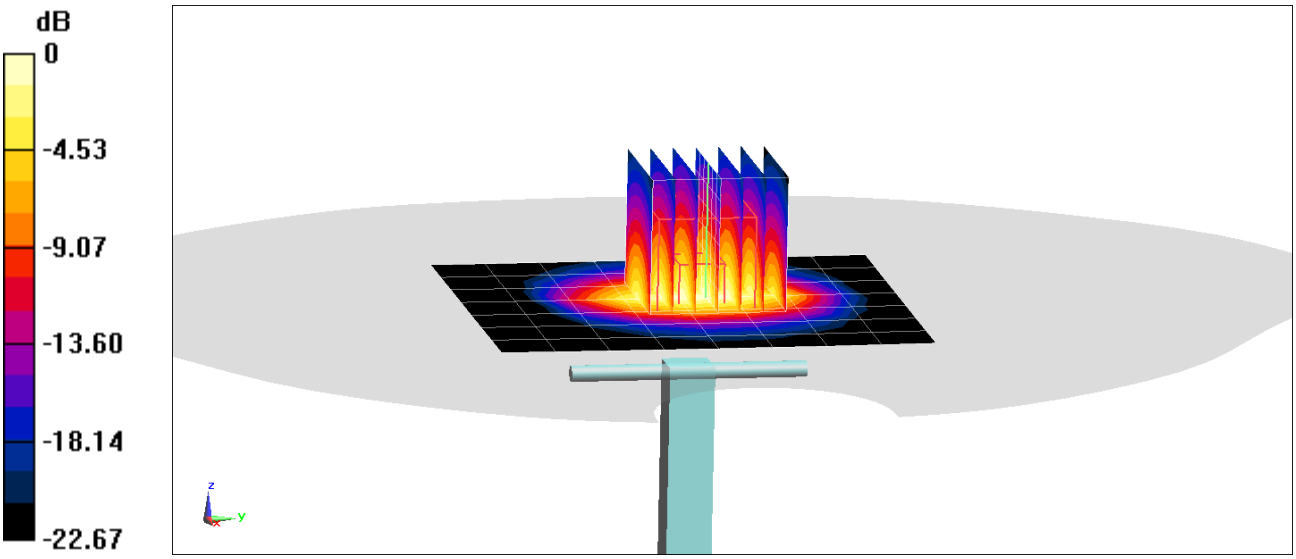
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.029 S/m; ε_r = 51.509; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/23/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(10 g) = 2.43 W/kg
Deviation(10 g) = 1.25%



0 dB = 8.83 W/kg = 9.46 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

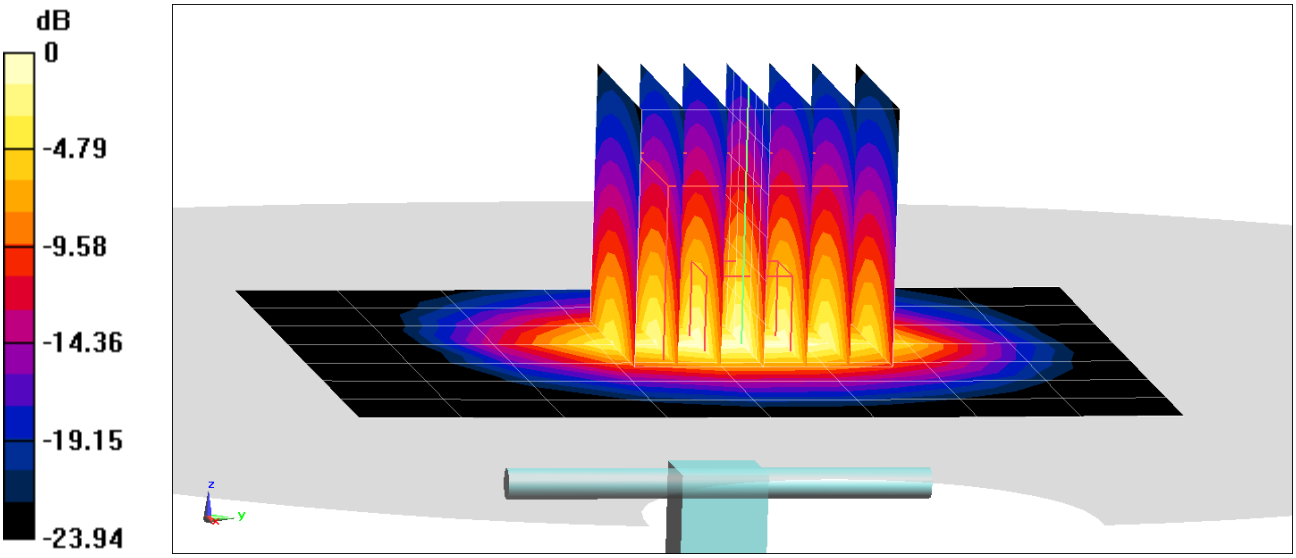
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.168 S/m; ε_r = 50.163; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.0 W/kg
SAR(1 g) = 5.48 W/kg; SAR(10 g) = 2.42 W/kg
Deviation(1 g) = -1.44%; Deviation(10 g) = -3.20%



0 dB = 9.54 W/kg = 9.80 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

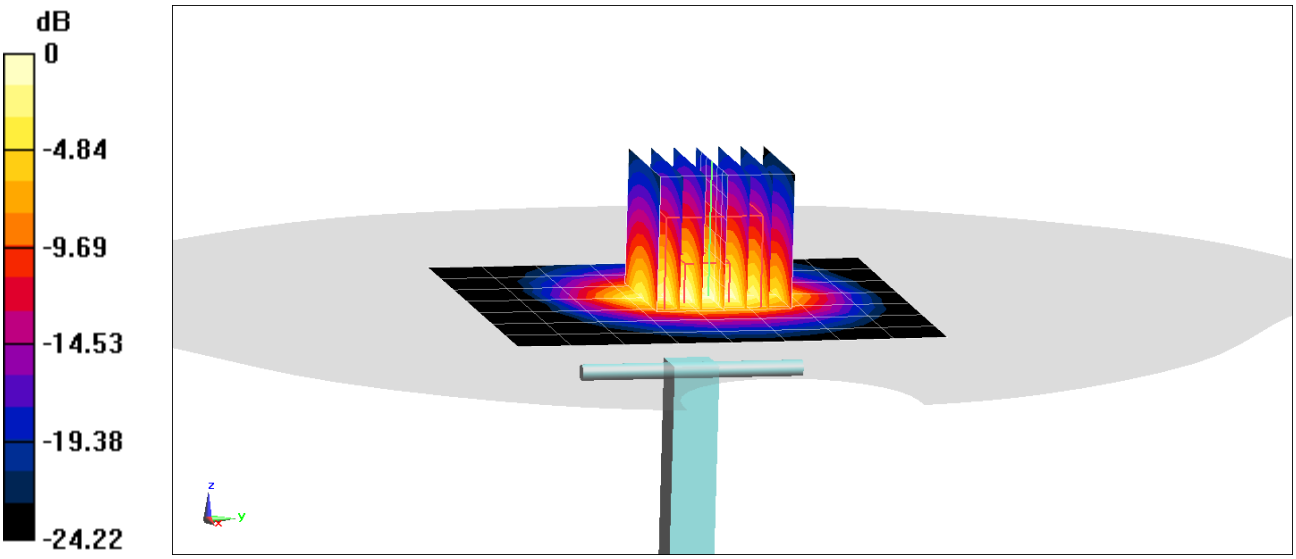
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.205 S/m; ε_r = 51.095; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/23/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.1 W/kg
SAR(10 g) = 2.43 W/kg
Deviation(10 g) = -2.80%



0 dB = 9.48 W/kg = 9.77 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

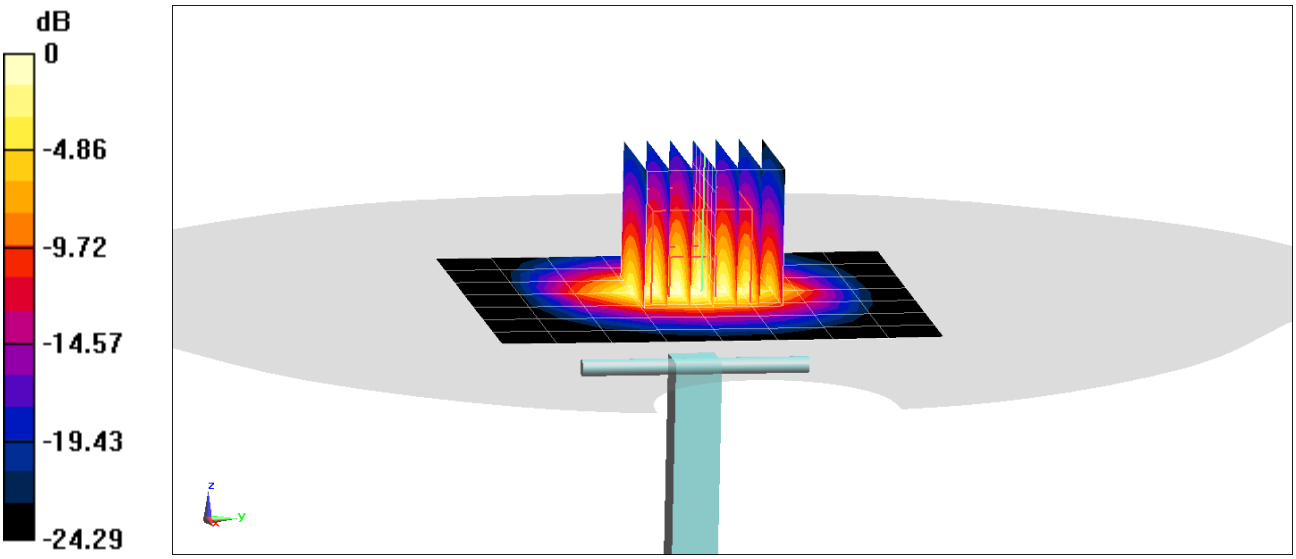
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.189 S/m; ε_r = 50.865; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 23.2°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.2 W/kg
SAR(1 g) = 5.5 W/kg
Deviation(1 g) = -1.08%



0 dB = 9.43 W/kg = 9.75 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

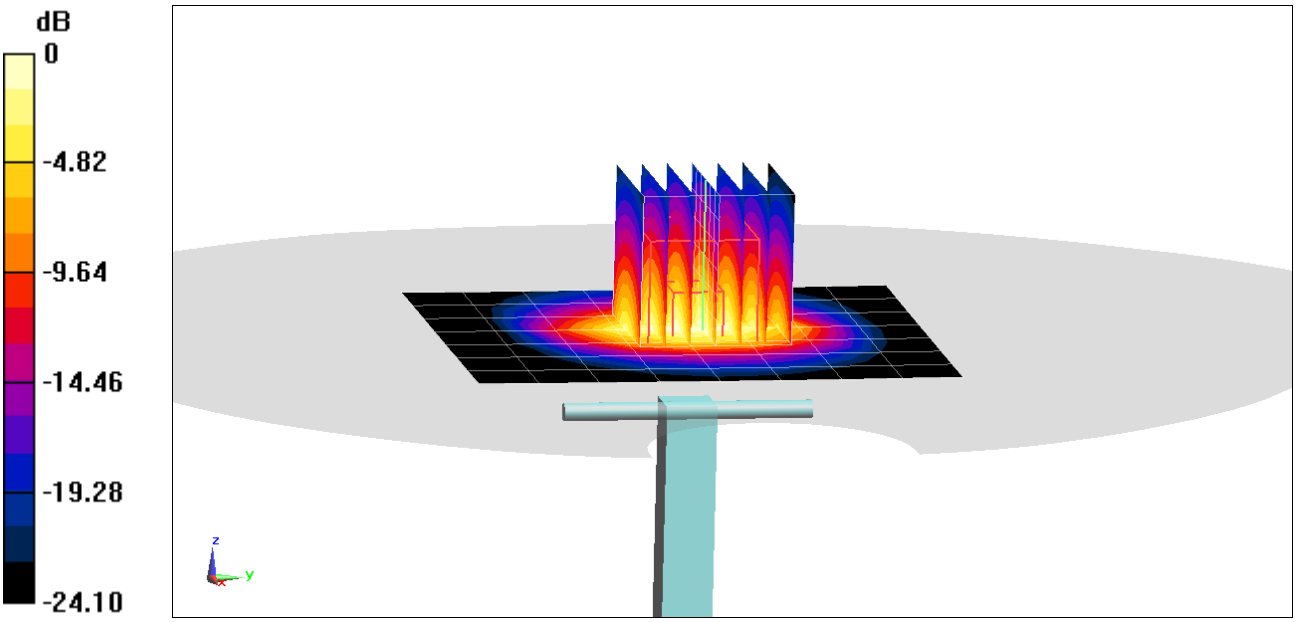
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.167 S/m; ε_r = 51.982; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.1 W/kg
SAR(1 g) = 5.55 W/kg
Deviation(1 g) = -0.18%



0 dB = 9.53 W/kg = 9.79 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

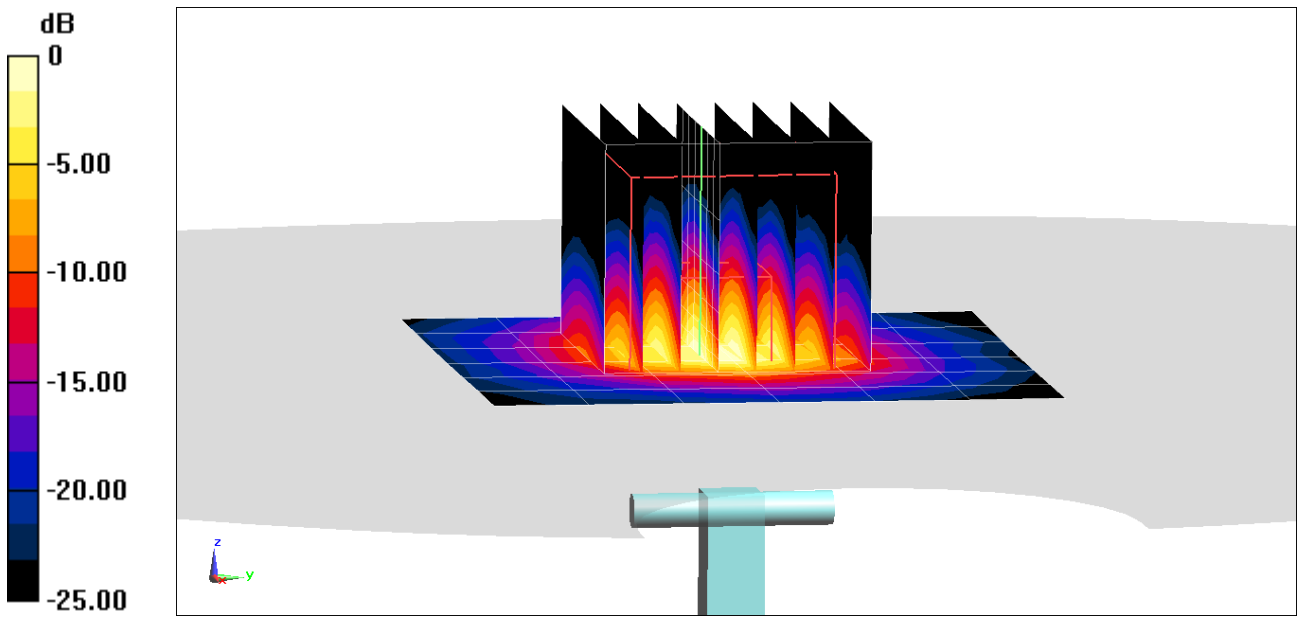
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5250 MHz; σ = 5.529 S/m; ε_r = 47.48; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5250 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) = 3.75 W/kg
Deviation(1 g) = -1.19%



0 dB = 8.79 W/kg = 9.44 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

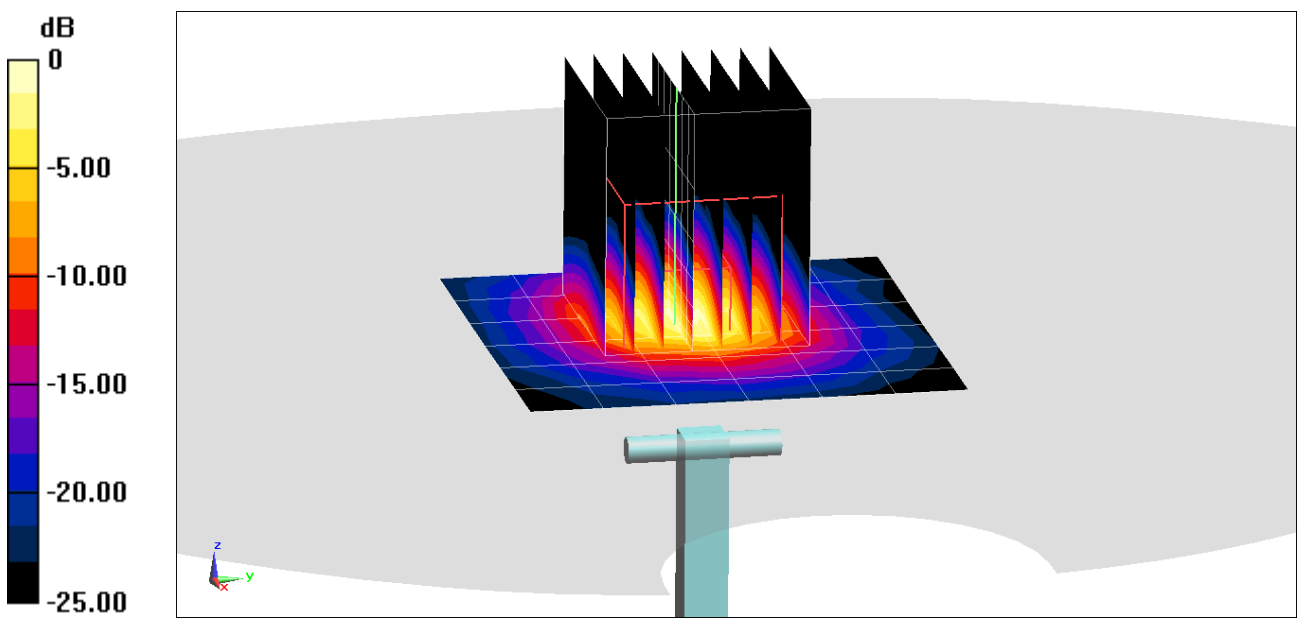
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5250 MHz; σ = 5.428 S/m; ε_r = 46.735; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5250 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.7 W/kg
SAR(10 g) = 1.12 W/kg
Deviation(10 g) = 6.16%



0 dB = 9.68 W/kg = 9.86 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

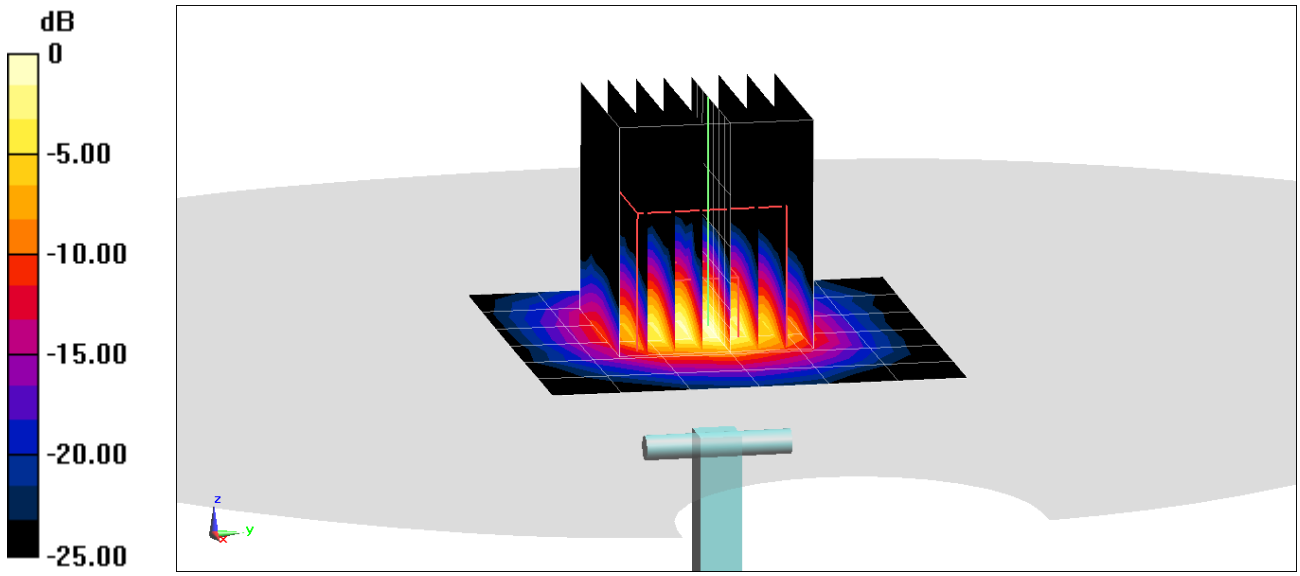
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5600 MHz; σ = 6.004 S/m; ε_r = 46.88; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7409; ConvF(4.22, 4.22, 4.22) @ 5600 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 4.21 W/kg
Deviation(1 g) = 5.38%



0 dB = 10.3 W/kg = 10.13 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

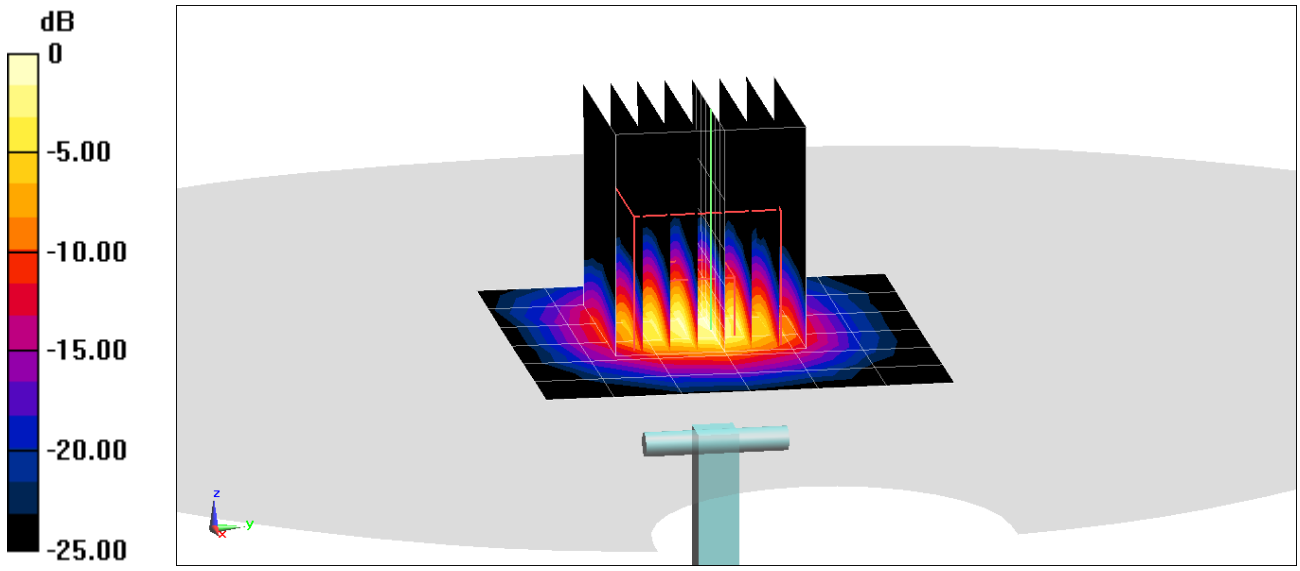
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5600 MHz; σ = 5.89 S/m; ε_r = 46.147; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN7409; ConvF(4.22, 4.22, 4.22) @ 5600 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.6 W/kg
SAR(10 g) = 1.14 W/kg
Deviation(10 g) = 2.24%



0 dB = 10.2 W/kg = 10.09 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

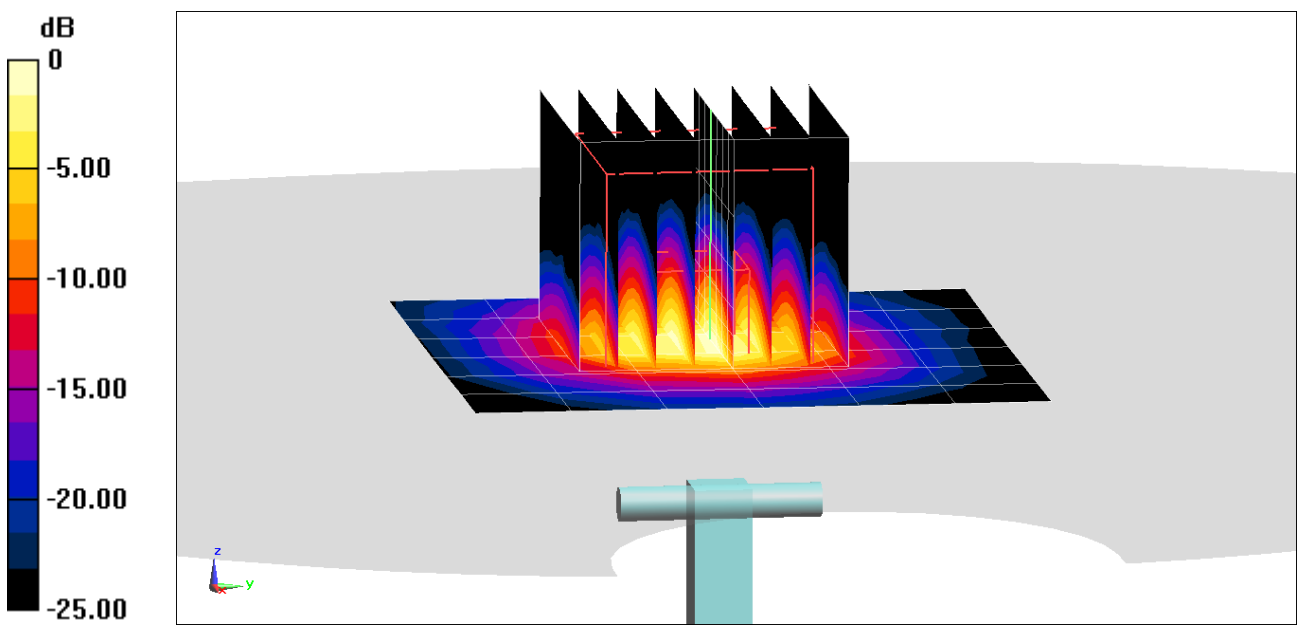
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5750 MHz; σ = 6.202 S/m; ε_r = 46.625; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/13/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5750 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.7 W/kg
SAR(1 g) = 3.91 W/kg
Deviation(1 g) = 1.96%



0 dB = 9.45 W/kg = 9.75 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1057

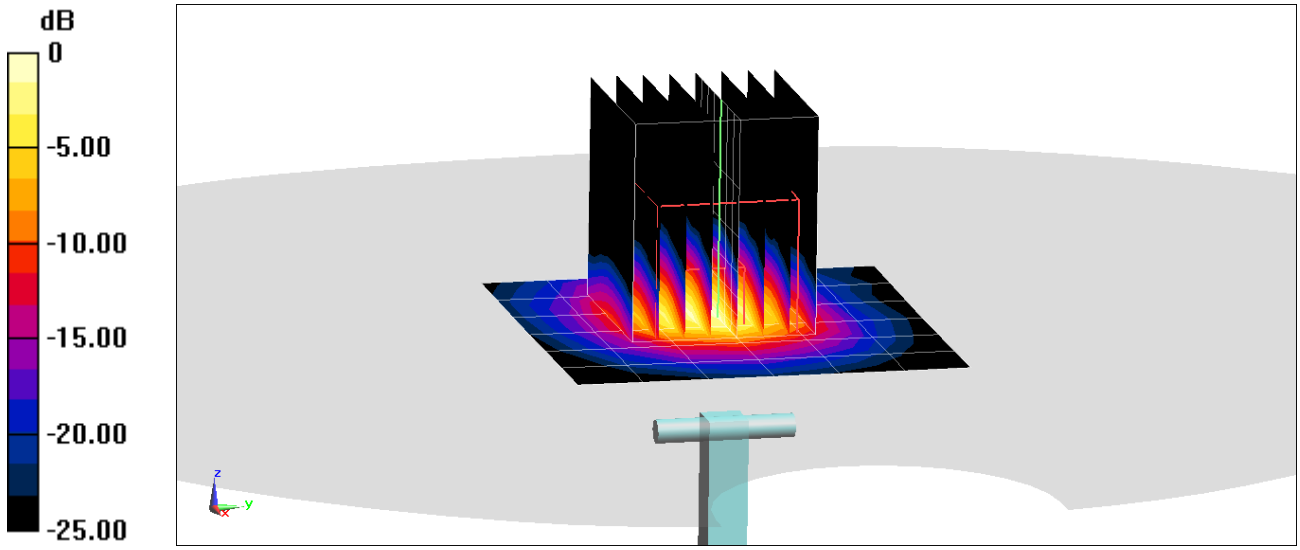
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5750 MHz; σ = 6.089 S/m; ε_r = 45.895; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5750 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.0 W/kg
SAR(10 g) = 1.02 W/kg
Deviation(10 g) = -3.77%



0 dB = 9.63 W/kg = 9.84 dBW/kg

APPENDIX C: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity ε' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{[\ln(b/a)]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r^{'}\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

3 Composition / Information on ingredients

3.2 Mixtures
Description: Aqueous solution with surfactants and inhibitors
Declarable, or hazardous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	**Ethanediol** STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	**Sodium petroleum sulfonate** Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	**Hexylene Glycol / 2-Methyl-pentane-2,4-diol** Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	**Alkoxylated alcohol, > C_{16}** Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

Additional information:
For the wording of the listed risk phrases refer to section 16.
Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.
The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Figure C-1

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

Measurement Certificate / Material Test

Item Name	**Body Tissue Simulating Liquid (MBBL600-6000V6)**
Product No.	SL AAM U16 BC (Batch: 181029-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the KDB 865664 compliance standard.

Test Condition

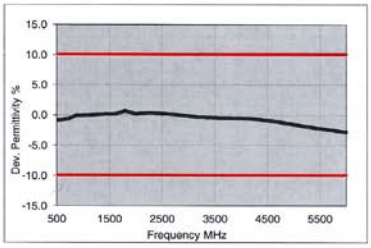
Ambient Condition	22°C ; 30% humidity
TSL Temperature	22°C
Test Date	30-Oct-18
Operator	CL

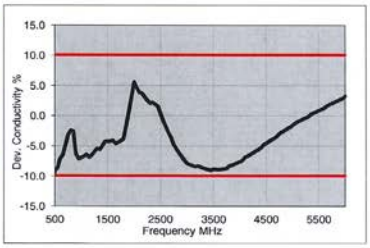
Additional Information

TSL Density
TSL Heat-capacity

Results

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e"	sigma	eps	sigma	Δ-eps	Δ-sigma
800	55.1	21.3	0.95	55.3	0.97	-0.4	-2.1
825	55.1	20.8	0.96	55.2	0.98	-0.3	-2.0
835	55.1	20.6	0.96	55.1	0.99	0.0	-2.5
850	55.1	20.4	0.96	55.2	0.99	-0.1	-3.0
900	55.0	19.7	0.98	55.0	1.05	0.0	-6.7
1400	54.2	15.6	1.22	54.1	1.28	0.2	-4.7
1450	54.1	15.4	1.24	54.0	1.30	0.2	-4.6
1500	54.1	15.3	1.27	53.9	1.33	0.3	-4.5
1550	54.0	15.1	1.30	53.9	1.36	0.2	-4.4
1600	53.9	15.0	1.33	53.8	1.39	0.2	-4.3
1625	53.9	14.9	1.35	53.8	1.41	0.3	-4.3
1640	53.9	14.9	1.36	53.7	1.42	0.3	-4.2
1650	53.8	14.9	1.36	53.7	1.43	0.2	-4.9
1700	53.8	14.8	1.40	53.6	1.46	0.4	-4.1
1750	53.7	14.7	1.43	53.4	1.49	0.5	-4.0
1800	53.7	14.6	1.46	53.3	1.52	0.8	-3.9
1810	53.7	14.6	1.47	53.3	1.52	0.8	-3.3
1825	53.7	14.6	1.48	53.3	1.52	0.8	-2.6
1850	53.6	14.5	1.50	53.3	1.52	0.6	-1.3
1900	53.5	14.5	1.53	53.3	1.52	0.4	0.7
1950	53.5	14.5	1.57	53.3	1.52	0.4	3.3
2000	53.4	14.4	1.60	53.3	1.52	0.2	5.3
2050	53.4	14.4	1.64	53.2	1.57	0.3	4.5
2100	53.3	14.4	1.68	53.2	1.62	0.2	3.7
2150	53.3	14.4	1.72	53.1	1.66	0.4	3.6
2200	53.2	14.4	1.76	53.0	1.71	0.3	2.9
2250	53.1	14.4	1.81	53.0	1.76	0.2	2.8
2300	53.1	14.4	1.85	52.9	1.81	0.4	2.2
2350	53.0	14.5	1.89	52.8	1.85	0.3	2.2
2400	52.9	14.5	1.94	52.8	1.90	0.2	2.1
2450	52.9	14.5	1.98	52.7	1.95	0.4	1.5
2500	52.8	14.6	2.03	52.6	2.02	0.3	0.5
2550	52.7	14.6	2.07	52.6	2.09	0.2	-1.0
2600	52.6	14.7	2.12	52.5	2.16	0.2	-1.9





3500	51.1	15.5	3.02	51.3	3.31	-0.4	-8.8
3700	50.8	15.7	3.24	51.1	3.55	-0.5	-8.8
5200	48.1	18.2	5.27	49.0	5.30	-1.8	-0.6
5250	48.0	18.3	5.34	49.0	5.36	-1.9	-0.4
5300	47.9	18.4	5.41	48.9	5.42	-2.0	-0.2
5500	47.5	18.6	5.70	48.6	5.65	-2.2	0.8
5600	47.3	18.8	5.84	48.5	5.77	-2.3	1.3
5700	47.1	18.9	5.99	48.3	5.88	-2.5	1.8
5800	47.0	19.0	6.14	48.2	6.00	-2.6	2.3

TSL Dielectric Parameters 1

Figure C-2
600 – 5800 MHz Body Tissue Equivalent Matter

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Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL600-10000V6)**
Product No.	SL AAH U16 BC (Batch: 181031-2)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

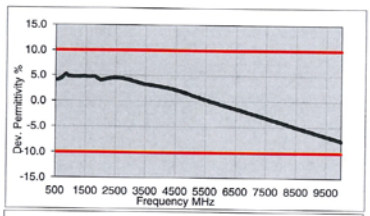
Ambient Condition	22°C ; 30% humidity
TSL Temperature	22°C
Test Date	31-Oct-18
Operator	CL

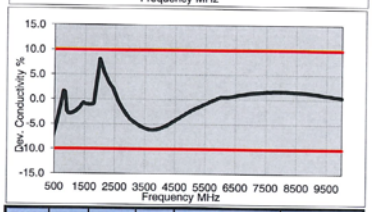
Additional Information

TSL Density
TSL Heat-capacity

Results

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	43.8	20.5	0.91	41.7	0.90	5.1	1.4
825	43.8	20.1	0.92	41.6	0.91	5.3	1.5
835	43.8	19.9	0.93	41.5	0.91	5.4	2.0
850	43.7	19.7	0.93	41.5	0.92	5.3	1.5
900	43.5	18.9	0.95	41.5	0.97	4.8	-2.1
1400	42.5	15.0	1.17	40.6	1.18	4.7	-0.8
1450	42.5	14.8	1.19	40.5	1.20	4.9	-0.8
1600	42.2	14.3	1.27	40.3	1.28	4.7	-1.1
1625	42.2	14.2	1.29	40.3	1.30	4.8	-0.7
1640	42.2	14.2	1.30	40.3	1.31	4.8	-0.5
1650	42.1	14.2	1.30	40.2	1.31	4.6	-1.0
1700	42.1	14.0	1.33	40.2	1.34	4.8	-0.9
1750	42.0	13.9	1.36	40.1	1.37	4.8	-0.8
1800	41.9	13.9	1.39	40.0	1.40	4.7	-0.7
1810	41.9	13.8	1.40	40.0	1.40	4.7	0.0
1825	41.9	13.8	1.41	40.0	1.40	4.7	0.7
1850	41.8	13.8	1.42	40.0	1.40	4.5	1.4
1900	41.8	13.7	1.45	40.0	1.40	4.5	3.6
1950	41.7	13.7	1.48	40.0	1.40	4.3	5.7
2000	41.6	13.6	1.51	40.0	1.40	4.0	7.9
2050	41.6	13.6	1.55	39.9	1.44	4.2	7.3
2100	41.5	13.5	1.58	39.8	1.49	4.2	6.1
2150	41.4	13.5	1.62	39.7	1.53	4.2	5.7
2200	41.4	13.5	1.65	39.6	1.58	4.4	4.6
2250	41.3	13.5	1.69	39.6	1.62	4.4	4.2
2300	41.2	13.5	1.72	39.5	1.67	4.4	3.2
2350	41.1	13.5	1.76	39.4	1.71	4.4	2.9
2400	41.1	13.5	1.80	39.3	1.76	4.6	2.5
2450	41.0	13.5	1.84	39.2	1.80	4.6	2.2
2500	40.9	13.5	1.88	39.1	1.85	4.5	1.4
2550	40.8	13.5	1.92	39.1	1.91	4.4	0.6
2600	40.8	13.6	1.96	39.0	1.96	4.6	-0.2
3500	39.2	14.1	2.74	37.9	2.91	3.3	-5.8
3700	38.9	14.2	2.93	37.7	3.12	3.1	-6.1





5200	36.3	15.8	4.57	36.0	4.66	0.9	-1.7
5250	36.2	15.9	4.63	35.9	4.71	0.8	-1.6
5300	36.1	15.9	4.69	35.9	4.76	0.7	-1.4
5500	35.8	16.1	4.92	35.6	4.96	0.3	-0.9
5600	35.6	16.2	5.04	35.5	5.07	0.1	-0.6
5700	35.4	16.2	5.15	35.4	5.17	0.0	-0.3
5800	35.2	16.3	5.27	35.3	5.27	-0.2	0.0
6000	34.9	16.5	5.50	35.1	5.48	-0.6	0.5
6500	34.0	16.9	6.12	34.5	6.07	-1.4	0.9
7000	33.1	17.3	6.74	33.9	6.65	-2.3	1.3
7500	32.2	17.6	7.36	33.3	7.24	-3.2	1.6
8000	31.4	17.9	7.97	32.7	7.84	-4.1	1.7
8500	30.5	18.2	8.59	32.1	8.45	-5.0	1.6
9000	29.7	18.4	9.20	31.5	9.08	-5.9	1.3
9500	28.9	18.5	9.80	31.0	9.71	-6.8	0.9
10000	28.1	18.7	10.40	30.4	10.36	-7.6	0.4

TSL Dielectric Parameters

1

Figure C-3
600 – 5800 MHz Head Tissue Equivalent Matter

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APPENDIX D: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table D-1
SAR System Validation Summary – 1g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
P	750	10/1/2019	7551	750	Head	0.904	41.462	PASS	PASS	PASS	N/A	N/A	N/A
P	835	10/1/2019	7551	835	Head	0.918	41.180	PASS	PASS	PASS	GMSK	PASS	N/A
P	1750	10/2/2019	7551	1750	Head	1.346	39.450	PASS	PASS	PASS	N/A	N/A	N/A
D	1750	3/17/2020	7488	1750	Head	1.352	40.341	PASS	PASS	PASS	N/A	N/A	N/A
H	1900	1/13/2020	7406	1900	Head	1.460	38.946	PASS	PASS	PASS	GMSK	PASS	N/A
P	1900	10/2/2019	7551	1900	Head	1.444	39.260	PASS	PASS	PASS	GMSK	PASS	N/A
E	2300	2/5/2020	3589	2300	Head	1.717	39.033	PASS	PASS	PASS	N/A	N/A	N/A
E	2450	2/5/2020	3589	2450	Head	1.823	38.835	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2600	2/5/2020	3589	2600	Head	1.933	38.635	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	12/7/2019	7406	5250	Head	4.709	35.885	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	12/7/2019	7406	5750	Head	5.309	34.961	PASS	PASS	PASS	OFDM	N/A	PASS
L	750	8/20/2019	7410	750	Body	0.941	54.921	PASS	PASS	PASS	N/A	N/A	N/A
D	835	2/20/2020	7488	835	Body	1.001	53.450	PASS	PASS	PASS	GMSK	PASS	N/A
I	1750	5/21/2019	7357	1750	Body	1.442	55.384	PASS	PASS	PASS	N/A	N/A	N/A
I	1750	4/7/2020	7527	1750	Body	1.506	54.990	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	1/1/2020	7571	1900	Body	1.579	51.919	PASS	PASS	PASS	GMSK	PASS	N/A
O	1900	2/14/2020	7552	1900	Body	1.564	51.850	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	9/5/2019	7547	2300	Body	1.893	52.450	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	9/6/2019	7547	2450	Body	1.996	51.898	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	9/5/2019	7547	2600	Body	2.716	52.040	PASS	PASS	PASS	TDD	PASS	N/A
G	5250	10/4/2019	7409	5250	Body	5.223	47.070	PASS	PASS	PASS	OFDM	N/A	PASS
G	5600	10/7/2019	7409	5600	Body	5.884	47.080	PASS	PASS	PASS	OFDM	N/A	PASS
G	5750	10/7/2019	7409	5750	Body	6.111	46.780	PASS	PASS	PASS	OFDM	N/A	PASS

Table D-2
SAR System Validation Summary – 10g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	1750	4/7/2020	7527	1750	Body	1.506	54.990	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	1/1/2020	7571	1900	Body	1.579	51.919	PASS	PASS	PASS	GMSK	PASS	N/A
O	1900	2/14/2020	7552	1900	Body	1.564	51.850	PASS	PASS	PASS	GMSK	PASS	N/A
K	2450	9/6/2019	7547	2450	Body	1.996	51.898	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	9/5/2019	7547	2600	Body	2.716	52.040	PASS	PASS	PASS	TDD	PASS	N/A
G	5250	10/4/2019	7409	5250	Body	5.223	47.070	PASS	PASS	PASS	OFDM	N/A	PASS
G	5600	10/7/2019	7409	5600	Body	5.884	47.080	PASS	PASS	PASS	OFDM	N/A	PASS
G	5750	10/7/2019	7409	5750	Body	6.111	46.780	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

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APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS

1.1 LTE Downlink Only Carrier Aggregation Test Reduction Methodology

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.
- Downlink CA combinations for SISO and 4x4 Downlink MIMO operations were measured independently, per May 2017 TCBC Workshop notes.

Table 1 – Example of Exclusion Table for SISO Configurations

Index	2CC	Supported Channel Bandwidth [MHz]		Restriction	Completely Covered by Measurement Superset
		CC1	CC2		
2CC #1	CA_2C	5, 10, 15, 20	5, 10, 15, 20		3CC #4
2CC #2	CA_2A-5A	5, 10, 15, 20	5, 10		3CC #1
2CC #3	CA_2A-12A	5, 10, 15, 20	5, 10		3CC #3
2CC #4	CA_2A-13A	5, 10, 15, 20	10		3CC #9
2CC #5	CA_2A-17A	5, 10	5, 10		No
2CC #6	CA_2A-30A	5, 10, 15, 20	5, 10		3CC #14
2CC #8	CA_2A-66A (2)	5, 10, 15, 20	5, 10, 15, 20		3CC #1
2CC #9	CA_2A-71A	5, 10, 15, 20	5, 10, 15, 20		3CC #10
2CC #10	CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20		3CC #8
2CC #11	CA_4A-5A (1)	5, 10, 15, 20	5, 10		4CC #3
2CC #12	CA_4A-12A (4)	5, 10, 15, 20	5, 10		3CC #8
2CC #13	CA_4A-13A	5, 10, 15, 20	10		3CC #9
2CC #14	CA_4A-17A	5, 10	5, 10	B17 SCC Only	No
2CC #15	CA_5B	5, 10	5, 10		3CC #1
2CC #16	CA_5A-25A	5, 10	5, 10, 15, 20		No
2CC #17	CA_7C	15, 20	15, 20		No
2CC #18	CA_7A-7A (1)	5, 10, 15, 20	5, 10, 15, 20		No
2CC #19	CA_7A-12A	5, 10, 15, 20	5, 10		3CC #12
2CC #20	CA_12B	5	5, 10		3CC #13
2CC #21	CA_12A-25A	5, 10	5, 10, 15, 20		No
2CC #22	CA_12A-30A	5, 10	5, 10		3CC #14
2CC #23	CA_41A-41A (1)	5, 10, 15, 20	5, 10, 15, 20		No

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3		
3CC #1	CA_2A-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #1
3CC #2	CA_2A-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		3CC #1
3CC #3	CA_2A-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #4	CA_2C-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #5	CA_2A-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #6	CA_2A-4A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #7	CA_2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		4CC #1
3CC #8	CA_2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #9	CA_2A-4A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
3CC #10	CA_2A-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #11	CA_2A-5B	5, 10, 15, 20	5, 10	5, 10		3CC #5
3CC #12	CA_2A-7A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #13	CA_2A-12B	5, 10, 15, 20	5	5, 10		No
3CC #14	CA_2A-12A-30A	5, 10, 15, 20	5, 10	5, 10		No
3CC #15	CA_4A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #16	CA_5B-30A	5, 10	5, 10	5, 10		3CC #1
3CC #17	CA_5B-66A	5, 10	5, 10	5, 10, 15, 20		3CC #1
3CC #18	CA_5A-20A-66A	5, 10	5, 10	5, 10, 15, 20		3CC #9
3CC #19	CA_12A-66C	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
3CC #20	CA_30A-66A-66A	5, 10	5, 10, 15, 20	5, 10, 15, 20		3CC #9
3CC #21	CA_41D	10, 15, 20	10, 15, 20	10, 15, 20		No
3CC #22	CA_41A-41C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #23	CA_66D	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #24	CA_66A-66C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No

Index	4CC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
4CC #1	CA_2A-2A-4A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
4CC #2	CA_2A-2A-4A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20	5, 10	B12 SCC Only	No
4CC #3	CA_2A-2A-5A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10		No
4CC #4	CA_2A-2A-5A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
4CC #5	CA_2A-5B-30A	5, 10, 15, 20	5, 10	5, 10	5, 10		3CC #1
4CC #6	CA_2A-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		3CC #1
4CC #7	CA_5B-30A-66A	5, 10	5, 10	5, 10	5, 10		3CC #1
4CC #8	CA_5B-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		3CC #2
4CC #9	CA_5A-30A-66A-66A	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
4CC #10	CA_41C	15, 20	15, 20	15, 20	20		No

Index	5CC	Supported Channel Bandwidth [MHz]					Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4	CC5		
5CC #1	CA_2A-5B-30A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10	5, 10, 15, 20		No
5CC #2	CA_2A-5B-66A-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20	5, 10, 15, 20		No

Table 2 – Example of Exclusion Table for 4x4 Downlink MIMO Configurations

Index	2CC	Supported Channel Bandwidth [MHz]		Restriction	Completely Covered by Measurement Superset
		CC1	CC2		
2CC #M1	CA_[2C]	5, 10, 15, 20	5, 10, 15, 20		3CC #M6
2CC #M2	CA_[2A]-2A	5, 10, 15, 20	5, 10, 15, 20		3CC #M1
2CC #M3	CA_[2A]-[2A]	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M4	CA_[2A]-4A (2)	5, 10, 15, 20	5, 10, 15, 20		3CC #M1
2CC #M5	CA_[2A]-[4A] (2)	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M6	CA_[2A]-5A	5, 10, 15, 20	5, 10		4CC #M3
2CC #M7	CA_[2A]-12A (1)	5, 10, 15, 20	3, 5, 10		No
2CC #M8	CA_[2A]-13A	5, 10, 15, 20	10		3CC #M4
2CC #M9	CA_[2A]-17A	5, 10	5, 10		No
2CC #M10	CA_[2A]-29A (2)	5, 10, 15, 20	5, 10	B29 SCC Only	3CC #M12
2CC #M11	CA_[2A]-30A	5, 10, 15, 20	5, 10		3CC #M5
2CC #M12	CA_[2A]-66A (2)	5, 10, 15, 20	5, 10, 15, 20		4CC #M1
2CC #M13	CA_2A-[66A] (2)	5, 10, 15, 20	5, 10, 15, 20		4CC #M2
2CC #M14	CA_[2A]-[66A] (2)	5, 10, 15, 20	5, 10, 15, 20		No
2CC #M15	CA_[2A]-71A	5, 10, 15, 20	5, 10, 15, 20		3CC #M11
2CC #M16	CA_5A-[66A]	5, 10	5, 10, 15, 20		3CC #M16
2CC #M17	CA_12A-[66A] (4)	5, 10	5, 10, 15, 20		3CC #M17
2CC #M18	CA_13A-[66A]	5, 10	5, 10, 15, 20		3CC #M19
2CC #M19	CA_30A-[66A]	5, 10	5, 10, 15, 20		3CC #M20
2CC #M20	CA_[66B]	5, 10, 15	5, 10, 15		4CC #M4
2CC #M21	CA_[66C]	5, 10, 15, 20	5, 10, 15, 20		4CC #M6
2CC #M22	CA_[66A]-66A	5, 10, 15, 20	5, 10, 15, 20		4CC #M28
2CC #M23	CA_[66A]-[66A]	5, 10, 15, 20	5, 10, 15, 20		No

Index	3CC	Supported Channel Bandwidth [MHz]			Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3		
3CC #M1	CA_[2A]-2A-4A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M2	CA_[2A]-2A-5A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M3	CA_[2A]-2A-12A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M4	CA_[2A]-2A-13A	5, 10, 15, 20	5, 10, 15, 20	10		No
3CC #M5	CA_[2A]-2A-30A	5, 10, 15, 20	5, 10, 15, 20	5, 10		No
3CC #M6	CA_[2C]-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M7	CA_2C-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M8	CA_[2C]-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M9	CA_[2A]-2A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M10	CA_2A-2A-[66A]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M11	CA_[2A]-2A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M12	CA_[2A]-4A-29A	5, 10, 15, 20	5, 10, 15, 20	5, 10	B29 SCC Only	No
3CC #M13	CA_[2A]-4A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M14	CA_[2A]-5B	5, 10, 15, 20	5, 10	5, 10		4CC #M1
3CC #M15	CA_[2A]-5A-66A	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M16	CA_2A-5A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M17	CA_2A-12A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M18	CA_[2A]-13A-66A	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M19	CA_2A-13A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M20	CA_2A-30A-[66A]	5, 10, 15, 20	5, 10	5, 10, 15, 20		No
3CC #M21	CA_[2A]-66B	5, 10, 15, 20	5, 10, 15	5, 10, 15		4CC #M3
3CC #M22	CA_2A-[66B]	5, 10, 15, 20	5, 10, 15	5, 10, 15		4CC #M4
3CC #M23	CA_[2A]-[66B]	5, 10, 15, 20	5, 10, 15	5, 10, 15		No
3CC #M24	CA_[2A]-66C	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #M5
3CC #M25	CA_2A-[66C]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		4CC #M6
3CC #M26	CA_[2A]-[66C]	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M27	CA_[2A]-66A-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M28	CA_2A-[66A]-66A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No
3CC #M29	CA_[2A]-66A-71A	5, 10, 15, 20	5, 10, 15, 20	5, 10, 15, 20		No

Index	4CC	Supported Channel Bandwidth [MHz]				Restriction	Completely Covered by Measurement Superset
		CC1	CC2	CC3	CC4		
4CC #M1	CA_[2A]-5B-66A	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		No
4CC #M2	CA_2A-5B-[66A]	5, 10, 15, 20	5, 10	5, 10	5, 10, 15, 20		No
4CC #M3	CA_[2A]-5A-66B	5, 10, 15, 20	5, 10	5, 10, 15	5, 10, 15		No
4CC #M4	CA_2A-5A-[66B]	5, 10, 15, 20	5, 10	5, 10, 15	5, 10, 15		No
4CC #M5	CA_[2A]-5A-66C	5, 10, 15, 20	5, 10	5, 10, 15, 20	5, 10, 15, 20		No
4CC #M6	CA_2A-5A-[66C]	5, 10, 15, 20	5, 10	5, 10, 15, 20	5, 10, 15, 20		No

Note: [CC] indicates component carrier with 4x4 DL MIMO antenna configuration

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1.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

This device supports LAA with downlink carrier aggregation only. It uses carrier aggregation in the downlink to combine LTE in the unlicensed spectrum (i.e. LTE Band 46) with LTE in the licensed band (served as PCC). All uplink communications and acknowledgements on the PCC remain identical to specifications when downlink carrier aggregation is inactive.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the maximum average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KDB 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.

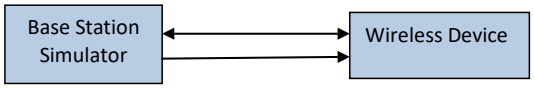

Figure 1
DL CA Power Measurement Setup

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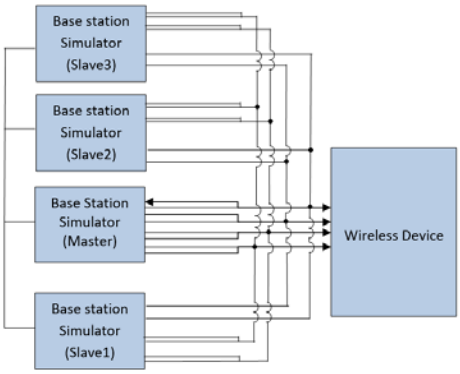

Figure 2
DL CA with DL 4x4 MIMO Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_46A-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	25.45	25.42
CA_2A-4A-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.50	25.42
CA_46C-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	25.33	25.42
CA_4A-4A-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.49	25.42
CA_66C-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	25.48	25.42
CA_2A-2A-66A-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.41	25.42
CA_2A-66A-66A-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.44	25.42

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.50	25.32
CA_12A-46A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	25.45	25.25
CA_12A-66A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.50	25.25
CA_12A-66A (2)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.48	25.32
CA_4A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.46	25.25
CA_4A-12A (2)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.47	25.32
CA_12A-46C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	25.23	25.25
CA_12A-66C	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	25.50	25.25
CA_2A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	-	-	-	-	25.33	25.25
CA_4A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	-	25.48	25.25
CA_4A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.49	25.25
CA_4A-7A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	-	-	-	-	25.49	25.25
CA_7A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B7	20	3100	2655	LTE B66	20	66786	2145	-	-	-	-	25.40	25.25
CA_12A-30A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.26	25.25
CA_12A-46D	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.25	25.25
CA_12B-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.27	25.25
CA_2A-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.19	25.25
CA_2A-2A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	25.18	25.25
CA_2A-2A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.22	25.25
CA_2A-2A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B2	20	700	1940	25.32	25.25
CA_2A-2A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	25.21	25.25
CA_2A-4A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	25.20	25.25
CA_2A-7A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B2	20	900	1960	LTE B7	20	3100	2655	25.25	25.25
CA_4A-4A-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.14	25.25
CA_7A-12B-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B12	10	5107	738.7	LTE B7	20	3100	2655	LTE B66	20	66786	2145	25.22	25.25

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1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_13A-46A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46	20	50665	5537.5	LTE B66	20	66786	2145	-	-	-	-	25.23	25.28
CA_4A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.04	25.18
CA_13A-46C-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B66	20	66786	2145	25.23	25.28
CA_13A-46D	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.24	25.28
CA_13A-66A-66C	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	67038	2170.2	LTE B66	20	67236	2190	25.18	25.28
CA_2A-13A-66A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.23	25.28
CA_2A-2A-13A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.23	25.28

1.3.4 LTE Band 14 as PCC

Table 4
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-14A-30A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B30	10	9820	2355	-	-	-	-	25.14	25.30
CA_14A-30A-66A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.30	25.30
CA_2A-14A-66A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.30	25.30
CA_2A-2A-14A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	10	66786	2145	25.31	25.30

1.3.5 LTE Band 5 as PCC

Table 5
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-46A (1)	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	25.12	25.08
CA_5A-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	10	2600	889	-	-	-	-	-	-	-	-	25.07	25.08
CA_5A-5A (1)	LTE B5	3	20415	825.5	QPSK	1	7	2415	870.5	LTE B5	5	2625	891.5	-	-	-	-	-	-	-	-	24.96	24.99
CA_5A-7A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B7	20	3100	2655	-	-	-	-	-	-	-	-	25.03	25.08
CA_5B (1)	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	3	2464	875.4	-	-	-	-	-	-	-	-	25.08	25.08
CA_2A-5A-46A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	-	-	-	-	25.18	25.08
CA_2A-5A-7A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	-	-	-	-	25.14	25.08
CA_4A-5A-30A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	-	25.17	25.08
CA_5A-46A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B46	20	50665	5537.5	LTE B66	20	66786	2145	-	-	-	-	25.16	25.08
CA_5A-46C (1)	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	25.07	25.08
CA_5A-7A-7A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B7	20	3100	2655	LTE B7	20	2850	2630	-	-	-	-	25.17	25.08
CA_2A-2A-4A-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	25.05	25.08
CA_2A-2A-5A-30A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	25.02	25.08
CA_2A-2A-5A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.03	25.08
CA_2A-4A-4A-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.04	25.08
CA_2A-5A-46C	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.02	25.08
CA_2A-5A-66A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.03	25.08
CA_2A-5B-30A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	10	2497	878.7	LTE B2	20	900	1960	LTE B30	10	9820	2355	25.03	25.08
CA_2A-5B-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	10	2497	878.7	LTE B2	20	900	1960	LTE B66	20	66786	2145	25.00	25.08
CA_5A-30A-66A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.01	25.08
CA_5A-46C-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B66	20	66786	2145	25.02	25.08
CA_5A-46D (1)	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.01	25.08
CA_5A-7A-66A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B7	20	3100	2655	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.01	25.08
CA_5A-7C-66A	LTE B5	5	20525	836.5	QPSK	1	24	2525	881.5	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	LTE B66	20	7720	2145	25.05	25.08
CA_5B-30A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	10	2497	878.7	LTE B30	10	9820	2355	LTE B66	20	7720	2145	25.01	25.08
CA_5B-66A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	LTE B5	10	2497	878.7	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.00	25.08

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1.3.6 LTE Band 66 as PCC

Table 6
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	25.34	25.31
CA_12A-66A (1)	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	25.37	25.31
CA_12A-66A (2)	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	25.37	25.31
CA_66B	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	15	67018	2168.2	-	-	-	-	-	-	-	-	25.36	25.31
CA_12A-66C	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66994	2165.8	LTE B12	10	5095	737.5	-	-	-	-	25.37	25.31
CA_13A-46A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B13	10	5230	751	LTE B46	20	50665	5537.5	-	-	-	-	25.34	25.31
CA_2A-46A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	-	-	-	-	25.35	25.31
CA_2C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	25.37	25.31
CA_46A-46A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B46	20	50665	5537.5	LTE B46	20	47090	5180	-	-	-	-	25.36	25.31
CA_46A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B46	20	50665	5537.5	-	-	-	-	25.32	25.31
CA_46A-66C	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66994	2165.8	LTE B46	20	50665	5537.5	-	-	-	-	25.31	25.31
CA_5A-46A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B5	10	2525	881.5	LTE B46	20	50665	5537.5	-	-	-	-	25.33	25.31
CA_66A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B66	20	67236	2190	-	-	-	-	25.31	25.31
CA_66C-71A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66994	2165.8	LTE B71	20	68761	634.5	-	-	-	-	25.36	25.31
CA_7A-12A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	-	-	-	-	25.25	25.31
CA_12A-30A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	25.03	25.31
CA_12B-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.02	25.31
CA_13A-46C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B13	10	5230	751	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.09	25.31
CA_13A-66A-66C	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66734	2139.8	LTE B66	20	66536	2120	LTE B13	10	5230	751	25.16	25.31
CA_13A-66C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66994	2165.8	LTE B66	20	66536	2120	LTE B13	10	5230	751	25.03	25.31
CA_14A-30A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B14	10	5330	763	LTE B30	10	9820	2355	25.05	25.31
CA_29A-30A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	25.14	25.31
CA_2A-12A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	25.20	25.31
CA_2A-13A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B13	10	5230	751	25.30	25.31
CA_2A-14A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B14	10	5330	763	25.31	25.31
CA_2A-2A-12A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	25.33	25.31
CA_2A-2A-13A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5230	751	25.36	25.31
CA_2A-2A-14A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	25.04	25.31
CA_2A-2A-30A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	25.06	25.31
CA_2A-2A-5A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	25.07	25.31
CA_2A-2A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	25.04	25.31
CA_2A-2A-66A-71A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B71	20	68761	634.5	25.11	25.31
CA_2A-2A-66C	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66994	2165.8	LTE B2	20	900	1960	LTE B2	20	700	1940	25.15	25.31
CA_2A-2A-7A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B7	20	3100	2655	25.20	25.31
CA_2A-30A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B30	10	9820	2355	25.04	25.31
CA_2A-46C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.03	25.31
CA_2A-5A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	25.10	25.31
CA_2A-5B-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	25.06	25.31
CA_2A-66A-66A-71A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B71	20	68761	634.5	25.15	25.31
CA_2A-7A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B7	20	3100	2655	25.03	25.31
CA_2A-7A-7A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	20	2850	2630	25.08	25.31
CA_46A-46C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	53540	5825	25.00	25.31
CA_46C-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.06	25.31
CA_46D-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.06	25.31
CA_5A-30A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.98	25.31
CA_5A-46C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B5	10	2525	881.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.04	25.31
CA_5A-7A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	LTE B7	20	3100	2655	24.95	25.31
CA_5A-7C-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B5	10	2525	881.5	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	24.97	25.31
CA_5B-30A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B30	10	9820	2355	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	25.05	25.31
CA_5B-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	25.03	25.31
CA_7A-12B-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B7	20	3100	2655	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.01	25.31
CA_7A-7A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B7	20	3100	2655	LTE B7	20	2850	2630	25.04	25.31
CA_7C-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	LTE B66	20	66536	2120	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	25.08	25.31

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1.3.7 LTE Band 2 as PCC

Table 7
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	25.38	25.43
CA_2A-17A	LTE B2	5	18625	1852.5	QPSK	1	24	625	1932.5	LTE B17	10	5790	740	-	-	-	-	-	-	-	-	25.33	25.25
CA_2A-29A	LTE B2	5	18625	1852.5	QPSK	1	24	625	1932.5	LTE B29	10	9715	722.5	-	-	-	-	-	-	-	-	25.32	25.25
CA_2A-4A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	25.35	25.43
CA_2A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	25.37	25.43
CA_2A-14A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B14	10	5330	763	LTE B30	10	9820	2355	-	-	-	-	25.43	25.43
CA_2A-2A-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B46	20	50665	5537.5	-	-	-	-	25.40	25.43
CA_2A-46A-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	47090	5180	-	-	-	-	25.41	25.43
CA_2A-46A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B46	20	50665	5537.5	LTE B66	20	66786	2145	-	-	-	-	25.43	25.43
CA_2A-4A-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	-	-	-	-	25.42	25.43
CA_2A-4A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	-	-	-	-	25.39	25.43
CA_2A-4A-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B71	20	68761	634.5	-	-	-	-	25.42	25.43
CA_2A-5A-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B46	20	50665	5537.5	-	-	-	-	25.40	25.43
CA_2A-5A-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B7	20	3100	2655	-	-	-	-	25.16	25.43
CA_2A-7A-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	-	-	-	-	25.10	25.43
CA_2C-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	702	1940.2	LTE B66	20	66786	2145	-	-	-	-	25.43	25.43
CA_2A-12A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.36	25.43
CA_2A-13A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B13	10	5230	751	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.40	25.43
CA_2A-14A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B14	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.43	25.43
CA_2A-2A-12A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	25.43	25.43
CA_2A-2A-12A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	25.43	25.43
CA_2A-2A-12B	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.37	25.43
CA_2A-2A-13A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B13	10	5230	751	LTE B66	20	66786	2145	25.35	25.43
CA_2A-2A-14A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	LTE B66	20	66786	2145	25.36	25.43
CA_2A-2A-29A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	25.37	25.43
CA_2A-2A-30A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.42	25.43
CA_2A-2A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.41	25.43
CA_2A-2A-4A-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	25.41	25.43
CA_2A-2A-4A-4A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	25.35	25.43
CA_2A-2A-4A-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	25.43	25.43
CA_2A-2A-5A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	25.43	25.43
CA_2A-2A-5A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	25.43	25.43
CA_2A-2A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.34	25.43
CA_2A-2A-66A-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B71	20	68761	634.5	25.39	25.43
CA_2A-2A-66C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.41	25.43
CA_2A-2A-7A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B2	20	700	1940	LTE B7	20	3100	2655	LTE B66	20	66786	2145	25.29	25.43
CA_2A-30A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.28	25.43
CA_2A-46A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	53540	5825	25.36	25.43
CA_2A-46C-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B66	20	66786	2145	25.43	25.43
CA_2A-46D	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.31	25.43
CA_2A-4A-12B	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.34	25.43
CA_2A-4A-4A-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	LTE B5	10	2525	881.5	25.37	25.43
CA_2A-4A-7A-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	20	2850	2630	25.41	25.43
CA_2A-4A-7C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	25.39	25.43
CA_2A-5A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.40	25.43
CA_2A-5A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.35	25.43
CA_2A-5B-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	25.41	25.43
CA_2A-5B-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	25.42	25.43
CA_2A-66A-66A-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	LTE B71	20	68761	634.5	25.41	25.43
CA_2A-7A-12B	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.41	25.43
CA_2A-7A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.39	25.43
CA_2A-7A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.33	25.43
CA_2A-7A-7A-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B7	20	2850	2630	LTE B29	10	9716	722.5	25.39	25.43
CA_2A-7A-7A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B7	20	2850	2630	LTE B66	20	66786	2145	25.27	25.43
CA_2A-7C-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	LTE B7	20	3100	2655	LTE B7	20	2902	2635.2	LTE B29	10	9716	722.5	25.21	25.43

1.3.8 LTE Band 30 as PCC

Table 8
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-14A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B14	10	5330	763	-	-	-	-	22.55	22.48
CA_2A-4A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	22.52	22.48
CA_4A-12A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	-	-	-	-	22.53	22.48
CA_4A-29A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	-	-	-	-	22.54	22.48
CA_4A-5A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	-	-	-	-	22.55	22.48
CA_12A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	22.49	22.48
CA_14A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B14	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	67236	2190	22.37	22.48
CA_29A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	22.50	22.48
CA_2A-2A-12A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	22.47	22.48
CA_2A-2A-29A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B29	10	9715	722.5	22.49	22.48
CA_2A-2A-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	22.50	22.48
CA_2A-2A-5A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	22.49	22.48
CA_2A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	22.48	22.48
CA_2A-5B-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	22.50	22.48
CA_5A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	22.52	22.48
CA_5B-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	67236	2190	22.51	22.48

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1.3.9 LTE Band 7 as PCC

Table 9
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	25.30	25.33
CA_7A-46A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	25.31	25.33
CA_7B	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	5	3282	2673.2	-	-	-	-	-	-	-	-	25.29	25.33
CA_2A-5A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	-	-	-	-	25.38	25.33
CA_2A-7A-12A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	25.36	25.33
CA_4A-4A-7A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.32	25.33
CA_4A-7A-12A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	-	-	-	-	25.37	25.33
CA_5A-7A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B5	10	2525	881.5	-	-	-	-	25.39	25.33
CA_7A-12A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	25.31	25.33
CA_7A-46C (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	25.34	25.33
CA_7A-7A-46A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B46	20	50665	5537.5	-	-	-	-	25.30	25.33
CA_2A-2A-7A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	25.04	25.33
CA_2A-4A-7A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	25.15	25.33
CA_2A-4A-7C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	3204	2665.4	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	25.32	25.33
CA_2A-7A-12B	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	25.37	25.33
CA_2A-7A-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.33	25.33
CA_2A-7A-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.37	25.33
CA_2A-7A-7A-29A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B29	10	9716	722.5	25.39	25.33
CA_2A-7A-7A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B2	20	900	1960	LTE B66	20	66786	2145	25.34	25.33
CA_2A-7C-29A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	3204	2665.4	LTE B2	20	900	1960	LTE B29	10	9716	722.5	25.35	25.33
CA_5A-7A-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.15	25.33
CA_5A-7C-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	3204	2665.4	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	25.06	25.33
CA_7A-12B-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	LTE B66	20	66786	2145	25.20	25.33
CA_7A-46D (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50863	5557.3	25.27	25.33
CA_7A-7A-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.27	25.33
CA_7C-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	3204	2665.4	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	25.32	25.33
CA_7A-7A-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	2850	2630	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.31	25.33
CA_7C-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	LTE B7	20	3204	2665.4	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.27	25.33

1.3.10 LTE Band 41 as PCC

Table 10
Maximum Output Powers

	PCC									SCC 1				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	10	40620	2593	QPSK	1	25	40620	2593	LTE B41	20	40764	2607.4	25.37	25.34

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1.4 DL CA with DL 4x4 MIMO RF Conduction Powers

This device supports downlink 4x4 MIMO operations for some LTE bands. Uplink transmission is limited to a single output stream. When carrier aggregation was applicable, the general test selection and setup procedures described in Section 1.2 were applied.

Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

1.4.1 LTE 4x4 MIMO DL Standalone Powers

Table 11
Maximum Output Powers

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Target Power [dBm]
66	5	132647	1777.5	QPSK	1	12	25.32	25.31	24.5
2	20	18900	1880	QPSK	1	99	25.46	25.43	24.5
7	15	21375	2562.5	QPSK	1	36	25.31	25.33	24.5

1.4.2 LTE Band 71 as PCC

Table 12
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_[2A]-[2A]-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	25.34	25.42
CA_[2A]-[4A]-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	25.50	25.42
CA_[2A]-[66A]-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	25.50	25.42
CA_[4A]-[4A]-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	4x4	25.47	25.42
CA_[66C]-71A	LTE B71	15	133297	680.5	QPSK	1	36	68761	634.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	66984	2164.8	4x4	25.44	25.42

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1.4.3 LTE Band 12 as PCC

Table 13
Maximum Output Powers

	PCC										SCC 1					SCC 2					SCC 3					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-[66A] (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.45	25.25
CA_12A-[66A] (2)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.42	25.32
CA_[2A]-12A (1)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	-	-	-	-	-	25.44	25.32
CA_[4A]-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	25.43	25.25
CA_[4A]-12A (2)	LTE B12	3	23025	700.5	QPSK	1	0	5025	730.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	25.50	25.32
CA_12A-30A-[66A]	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B30	10	9820	2355	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.34	25.25
CA_12A-[66A]-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	-	-	-	-	-	25.46	25.25
CA_12A-[66A]-[66A]	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	-	-	-	-	-	25.50	25.25
CA_2A-12A-[66A]	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.42	25.25
CA_2A-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.49	25.25
CA_[2A]-12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.23	25.25
CA_[2A]-12A-[66A]	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.48	25.25
CA_[2A]-[2A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	-	-	-	-	-	25.47	25.25
CA_[2A]-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.45	25.25
CA_[2A]-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.50	25.25
CA_[2A]-[7A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.25	25.25
CA_4A-[7A]-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.47	25.25
CA_[4A]-12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.49	25.25
CA_[4A]-4A-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	-	-	-	-	-	25.45	25.25
CA_[4A]-[4A]-12A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	4x4	-	-	-	-	-	25.46	25.25
CA_[4A]-7A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.48	25.25
CA_[4A]-[7A]-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.46	25.25
CA_[7A]-12A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.21	25.25
CA_[2A]-2A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	2x2	25.28	25.25
CA_[2A]-[4A]-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	25.50	25.25
CA_[2A]-[7A]-12B	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	4x4	25.48	25.25
CA_[7A]-12B-66A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	2x2	25.38	25.25
CA_[7A]-12B-[66A]	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	2x2	LTE B12	10	5107	738.7	2x2	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	4x4	25.39	25.25

1.4.4 LTE Band 13 as PCC

Table 14
Maximum Output Powers

	PCC									SCC 1					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_13A-[66A]	LTE B13	5	23230	782	QPSK	1	0	5230	751	2x2	LTE B66	20	66786	2145	4x4	25.24	25.28
CA_[2A]-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	2x2	LTE B2	20	900	1960	4x4	25.20	25.18

1.4.5 LTE Band 5 as PCC

Table 15
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-[7A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.00	25.08
CA_2A-[4A]-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	24.99	25.08
CA_2A-5A-[66A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	24.95	25.08
CA_[2A]-2A-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	24.98	25.08
CA_[2A]-[2A]-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	24.99	25.08
CA_[2A]-4A-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	24.88	25.08
CA_[2A]-[4A]-5A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	24.85	25.08
CA_[2A]-5A-30A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B30	10	9820	2355	2x2	24.89	25.08
CA_[2A]-5A-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	25.01	25.08
CA_[2A]-5A-[66A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	4x4	24.85	25.08
CA_[2A]-5A-[7A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	4x4	24.78	25.08
CA_[4A]-5A-30A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B30	10	9820	2355	2x2	24.92	25.08
CA_5A-30A-[66A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B30	10	9820	2355	2x2	LTE B66	20	66786	2145	4x4	24.80	25.08
CA_5A-[66A]-66A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	24.85	25.08
CA_5A-[66A]-[66A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	24.98	25.08
CA_5A-[7A]-[66A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	4x4	25.03	25.08
CA_5A-[7A]-7A	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	2x2	25.08	25.08
CA_5A-[7A]-[7A]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	4x4	25.18	25.08
CA_5A-[7C]	LTE B5	5	20425	826.5	QPSK	1	24	2425	871.5	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2902	2635.2	4x4	25.17	25.08

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1.4.6 LTE Band 66 as PCC

Table 16
Maximum Output Powers

	PCC										SCC 1					SCC 2					SCC 3					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-[66A] (1)	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	-	-	-	-	-	25.37	25.31
CA_12A-[66A] (2)	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	-	-	-	-	-	25.37	25.31
CA_13A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B13	10	5230	751	2x2	-	-	-	-	-	-	-	-	-	-	25.37	25.31
CA_29A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	-	-	-	-	-	25.36	25.31
CA_2A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	2x2	-	-	-	-	-	-	-	-	-	-	25.34	25.31
CA_[2A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	-	-	-	-	-	25.29	25.31
CA_[2A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	-	-	-	-	-	-	-	-	-	-	25.30	25.31
CA_[66B]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	15	67018	2168.2	4x4	-	-	-	-	-	-	-	-	-	-	25.36	25.31
CA_12A-30A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B12	10	5095	737.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.30	25.31
CA_12A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.34	25.31
CA_12A-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.30	25.31
CA_12A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.33	25.31
CA_2A-12A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	2x2	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.31	25.31
CA_2A-30A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.29	25.31
CA_2A-5A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	2x2	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.32	25.31
CA_2A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B2	20	900	1960	2x2	-	-	-	-	-	25.32	25.31
CA_2A-[66C]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66994	2165.8	4x4	LTE B2	20	900	1960	2x2	-	-	-	-	-	25.35	25.31
CA_2A-[7A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	24.84	25.31
CA_[2A]-12A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.29	25.31
CA_[2A]-2A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	-	-	-	-	-	25.33	25.31
CA_[2A]-[2A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	-	-	-	-	-	25.27	25.31
CA_[2A]-30A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.29	25.31
CA_[2A]-46A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.36	25.31
CA_[2A]-5A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.30	25.31
CA_[2A]-5A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.30	25.31
CA_[2A]-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.34	25.31
CA_[2A]-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.33	25.31
CA_[2A]-[66A]-71A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B71	20	68761	634.5	2x2	-	-	-	-	-	25.32	25.31
CA_[2A]-66C	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66994	2165.8	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.23	25.31
CA_[2A]-[66C]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66994	2165.8	4x4	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.33	25.31
CA_[2A]-[7A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	24.96	25.31
CA_[2C]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B2	20	702	1940.2	4x4	-	-	-	-	-	25.28	25.31
CA_30A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.31	25.31
CA_30A-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.29	25.31
CA_30A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.32	25.31
CA_46A-46A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	47090	5180	2x2	-	-	-	-	-	25.28	25.31
CA_5A-30A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B5	10	2525	881.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.33	25.31
CA_5A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.35	25.31
CA_5A-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.30	25.31
CA_5A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.28	25.31
CA_5A-[7A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B5	10	2525	881.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.31	25.31
CA_[66A]-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B66	20	67236	2190	2x2	-	-	-	-	-	25.31	25.31
CA_66A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B66	20	67236	2190	2x2	-	-	-	-	-	25.26	25.31
CA_[66A]-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B66	20	67236	2190	2x2	-	-	-	-	-	25.34	25.31
CA_66A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B66	20	67236	2190	4x4	-	-	-	-	-	25.29	25.31
CA_[66C]-71A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66994	2165.8	4x4	LTE B71	20	68761	634.5	2x2	-	-	-	-	-	25.34	25.31
CA_[7A]-12A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B7	20	3100	2655	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	24.94	25.31
CA_[7C]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B7	20	3100	2655	4x4	LTE B7	20	2902	2635.2	4x4	-	-	-	-	-	25.34	25.31
CA_[7A]-[7A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B7	20	3350	2680	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.37	25.31
CA_7A-[66A]-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	4x4	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.36	25.31
CA_[7C]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2902	2635.2	4x4	-	-	-	-	-	25.37	25.31
CA_2A-2A-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	25.15	25.31
CA_2A-2A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	25.26	25.31
CA_[2A]-2A-12A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B12	10	5095	737.5	2x2	25.33	25.31
CA_[2A]-2A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	25.35	25.31
CA_[2A]-46C-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B2	20	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.37	25.31
CA_46A-46C-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B46	20	53540	5825	2x2	25.26	25.31
CA_46D-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B46	20	50863	5557.3	2x2	25.28	25.31
CA_[7A]-12B-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B7	20	3100	2655	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	25.31	25.31
CA_[7A]-12B-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B7	20	3100	2655	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	25.31	25.31
CA_[7A]-7A-66A-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	2x2	25.37	25.31
CA_7A-7A-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B7	20	3100	2655	2x2	LTE B7	20	2850	2630	2x2	25.28	25.31
CA_7A-7A-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B7	20	3100	2655	2x2	LTE B7	20	2850	2630	2x2	25.35	25.31
CA_7C-[66A]-66A	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	4x4	LTE B66	20	66536	2120	2x2	LTE B7	20	3100	2655	2x2	LTE B7	20	2902	2635.2	2x2	25.26	25.31
CA_7C-66A-[66A]	LTE B66	5	132647	1777.5	QPSK	1	12	67111	2177.5	2x2	LTE B66	20	66536	2120	4x4	LTE B7	20	3100	2655	2x2	LTE B7	20	2902	2635.2	2x2	25.31	25.31

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1.4.7 LTE Band 2 as PCC

Table 17
Maximum Output Powers

	PCC										SCC 1					SCC 2					SCC 3					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.41	25.43
CA_[2A]-12A (1)	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	-	-	-	-	-	25.43	25.43
CA_[2A]-13A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B13	10	5230	751	2x2	-	-	-	-	-	-	-	-	-	-	25.42	25.43
CA_[2A]-17A	LTE B2	5	18625	1852.5	QPSK	1	24	625	1932.5	4x4	LTE B17	10	5790	740	2x2	-	-	-	-	-	-	-	-	-	-	25.24	25.25
CA_[2A]-29A	LTE B2	5	18625	1852.5	QPSK	1	24	625	1932.5	4x4	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	-	-	-	-	-	25.25	25.25
CA_[2A]-[4A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	25.42	25.43
CA_[2A]-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	-	-	-	-	-	25.42	25.43
CA_[2A]-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	25.43	25.43
CA_2A-12A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.43	25.43
CA_2A-30A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B30	10	9820	2355	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.39	25.43
CA_2A-4A-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.42	25.43
CA_2A-[4A]-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.40	25.43
CA_2A-[4A]-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	25.39	25.43
CA_2A-[4A]-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.42	25.43
CA_2A-[4A]-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.41	25.43
CA_2A-[4A]-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.30	25.43
CA_2A-[4A]-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.40	25.43
CA_2A-5A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B5	10	2525	881.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.43	25.43
CA_2A-[66A]-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	-	-	-	-	-	25.43	25.43
CA_2A-[66C]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	66984	2164.8	4x4	-	-	-	-	-	25.41	25.43
CA_2A-[7A]-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.42	25.43
CA_[2A]-12A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B12	10	5095	737.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.41	25.43
CA_[2A]-12A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.39	25.43
CA_[2A]-29A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B29	10	9715	722.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.40	25.43
CA_[2A]-2A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.43	25.43
CA_2A-[2A]-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.37	25.43
CA_2A-[2A]-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-2A-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.40	25.43
CA_2A-[2A]-[4A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-2A-[4A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.42	25.43
CA_[2A]-2A-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.39	25.43
CA_2A-[2A]-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.39	25.43
CA_2A-[2A]-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-2A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-2A-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	702	1940.2	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.42	25.43
CA_2A-[2A]-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	702	1940.2	4x4	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-[2A]-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[2A]-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.38	25.43
CA_[2A]-[2A]-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.39	25.43
CA_[2A]-[2A]-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.43	25.43
CA_[2A]-[2A]-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[2A]-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B71	20	68761	634.5	2x2	-	-	-	-	-	25.40	25.43
CA_[2A]-30A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B30	10	9820	2355	2x2	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.41	25.43
CA_[2A]-46A-46A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	47090	5180	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-46A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.39	25.43
CA_[2A]-4A-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.41	25.43
CA_[2A]-4A-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	25.37	25.43
CA_[2A]-4A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.35	25.43
CA_[2A]-4A-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-4A-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.41	25.43
CA_[2A]-4A-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-[4A]-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.38	25.43
CA_[2A]-[4A]-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.41	25.43
CA_[2A]-[4A]-4A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[4A]-5A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.40	25.43
CA_[2A]-[4A]-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B71	20	68761	634.5	2x2	-	-	-	-	-	25.38	25.43
CA_[2A]-[4A]-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2655	2x2	-	-	-	-	-	25.27	25.43
CA_[2A]-5A-30A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B5	10	2525	881.5	2x2	LTE B30	10	9820	2355	2x2	-	-	-	-	-	25.39	25.43
CA_[2A]-5A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B5	10	2525	881.5	2x2	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.40	25.43
CA_[2A]-5A-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B5	10	2525	881.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.41	25.43
CA_[2A]-5A-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B5	10	2525	881.5	2x2	LTE B7	20	3100	2655	4x4	-	-	-	-	-	25.43	25.43
CA_[2A]-[66A]-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[66A]-71A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B71	20	68761	634.5	2x2	-	-	-	-	-	25.40	25.43
CA_[2A]-66C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	66984	2164.8	2x2	-	-	-	-	-	25.39	25.43
CA_[2A]-[66C]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B66	20	66786	2145	4x4	LTE B66	20	66984	2164.8	4x4	-	-	-	-	-	25.40	25.43
CA_[2A]-[7A]-12A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[7A]-29A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[7A]-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.43	25.43
CA_[2A]-[7A]-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	2x2	-	-	-	-	-	25.42	25.43
CA_[2A]-[7A]-[7C]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B7	20	2902	2635.2	4x4	-	-	-	-	-	25.39	25.43
CA_[2C]-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	702	1940.2	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.38	25.43
CA_[2A]-7A-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	2x2	LTE B7	20	2850	2630	2x2	-	-	-	-	-	25.43	25.43
CA_2A-[7A]-7A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	2x2	-	-	-	-	-	25.41	25.43
CA_2A-[7A]-[7A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2850	2630	4x4	-	-	-	-	-	25.40	25.43
CA_2A-2A-[66A]-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	25.43	25.43
CA_2A-4A-[7C]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	4x4	LTE B7	20	2902	2635.2	4x4	25.40	25.43
CA_2A-[2A]-12A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	2x2	25.41	25.43
CA_[2A]-2A-12A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	2x2	25.39	25.43
CA_2A-[2A]-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.36	25.43
CA_[2A]-2A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.37	25.43
CA_2A-[2A]-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	2x2	LTE B2	20	700	1940	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	25.38	25.43
CA_[2A]-2A-66A-66A	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	2x2	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	25.41	25.43
CA_[2A]-[2A]-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.42	25.43
CA_[2A]-46A-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B46	20	53540	5825	2x2	25.29	25.43
CA_[2A]-46C-[66A]	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B66	20	66786	2145	4x4	25.36	25.43
CA_[2A]-46D	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B46	20	50863	5557.3	2x2	25.43	25.43
CA_[2A]-4A-7C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	LTE B7	20	3100	2655	2x2	LTE B7	20	2902	2635.2	2x2	25.43	25.43
CA_[2A]-[4A]-12B	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	25.43	25.43
CA_[2A]-[7A]-12B	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	25.43	25.43
CA_[2A]-[7A]-46C	LTE B2	20	18900	1880	QPSK	1	99	900	1960	4x4	LTE B7	20	3100	2655	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.43	25.43

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1.4.8 LTE Band 30 as PCC

Table 18
Maximum Output Powers

	PCC										SCC 1					SCC 2					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-30A-[66A]	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	4x4	22.43	22.48
CA_2A-30A-[66A]	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	22.42	22.48
CA_2A-[4A]-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	22.44	22.48
CA_[2A]-12A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B12	10	5095	737.5	2x2	22.44	22.48
CA_[2A]-29A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B29	10	9715	722.5	2x2	22.42	22.48
CA_[2A]-2A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	22.45	22.48
CA_[2A]-[2A]-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	22.39	22.48
CA_[2A]-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	22.19	22.48
CA_[2A]-4A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	22.22	22.48
CA_[2A]-[4A]-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	22.21	22.48
CA_[2A]-5A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B2	20	900	1960	4x4	LTE B5	10	2525	881.5	2x2	22.24	22.48
CA_30A-[66A]-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	22.23	22.48
CA_30A-[66A]-[66A]	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	22.43	22.48
CA_[4A]-12A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B4	20	2175	2132.5	4x4	LTE B12	10	5095	737.5	2x2	22.21	22.48
CA_[4A]-29A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B4	20	2175	2132.5	4x4	LTE B29	10	9715	722.5	2x2	22.25	22.48
CA_[4A]-5A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B4	20	2175	2132.5	4x4	LTE B5	10	2525	881.5	2x2	22.24	22.48
CA_5A-30A-[66A]	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	2x2	LTE B5	10	2525	881.5	2x2	LTE B66	20	66786	2145	4x4	22.22	22.48

1.4.9 LTE Band 7 as PCC

Table 19
Maximum Output Powers

	PCC										SCC 1					SCC 2					SCC 3					Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Ch.	PCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	-	-	-	-	-	25.35	25.33
CA_[7A]-46A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	-	-	-	-	-	25.39	25.33
CA_2A-4A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.32	25.33
CA_2A-[4A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.36	25.33
CA_2A-[4A]-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.39	25.33
CA_2A-[7A]-[66A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.38	25.33
CA_[2A]-2A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	2x2	-	-	-	-	-	25.37	25.33
CA_[2A]-4A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.31	25.33
CA_[2A]-4A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.39	25.33
CA_[2A]-[4A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.35	25.33
CA_[2A]-5A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.38	25.33
CA_[2A]-[7A]-12A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.39	25.33
CA_[2A]-[7A]-29A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B29	10	9715	722.5	2x2	-	-	-	-	-	25.23	25.33
CA_[2A]-[7A]-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.36	25.33
CA_[2A]-7A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.39	25.33
CA_[2A]-[7A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.38	25.33
CA_[2A]-[7C]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.39	25.33
CA_4A-[7A]-12A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B4	20	2175	2132.5	2x2	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.35	25.33
CA_4A-[7A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.38	25.33
CA_4A-7A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B4	20	2175	2132.5	2x2	-	-	-	-	-	25.38	25.33
CA_[4A]-4A-[7A] (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2150	2x2	-	-	-	-	-	25.36	25.33
CA_[4A]-7A-12A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.37	25.33
CA_[4A]-7A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.33	25.33
CA_[4A]-7A-[7A]-12A (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B4	20	2175	2132.5	4x4	LTE B12	10	5095	737.5	2x2	-	-	-	-	-	25.39	25.33
CA_[4A]-[7C]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	25.30	25.33
CA_5A-[7A]-[66A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B5	10	2525	881.5	2x2	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.35	25.33
CA_5A-[7A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.38	25.33
CA_5A-7A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.37	25.33
CA_5A-[7A]-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.36	25.33
CA_5A-[7C]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B5	10	2525	881.5	2x2	-	-	-	-	-	25.35	25.33
CA_[7A]-12A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B12	10	5095	737.5	2x2	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.39	25.33
CA_[7A]-46C (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	-	-	-	-	-	25.37	25.33
CA_7A-[7A]-46A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.34	25.33
CA_[7A]-7A-46A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.36	25.33
CA_[7A]-[7A]-46A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	4x4	LTE B46	20	50665	5537.5	2x2	-	-	-	-	-	25.38	25.33
CA_[7C]-[66A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B66	20	66786	2145	4x4	-	-	-	-	-	25.39	25.33
CA_[2A]-7A-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	25.35	25.33
CA_2A-[7A]-7A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B2	20	900	1960	2x2	-	-	-	-	-	25.39	25.33
CA_2A-7A-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B2	20	900	1960	2x2	-	-	-	-	-	25.39	25.33
CA_2A-[7A]-[7A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	4x4	LTE B2	20	900	1960	2x2	-	-	-	-	-	25.39	25.33
CA_[7A]-[7A]-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.35	25.33
CA_7A-[66A]-[66A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	4x4	-	-	-	-	-	25.37	25.33
CA_[7C]-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B66	20	66786	2145	2x2	-	-	-	-	-	25.35	25.33
CA_2A-4A-[7C]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B2	20	900	1960	2x2	LTE B4	20	2175	2132.5	2x2	25.31	25.33
CA_[2A]-4A-7C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	3204	2665.4	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	2x2	25.38	25.33
CA_[2A]-[7A]-12B	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	25.38	25.33
CA_[2A]-[7A]-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B2	20	900	1960	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.39	25.33
CA_[7A]-12B-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	LTE B66	20	66786	2145	2x2	25.38	25.33
CA_[7A]-12B-[66A]	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B12	5	5095	737.5	2x2	LTE B12	5	5047	732.7	2x2	LTE B66	20	66786	2145	4x4	25.30	25.33
CA_[7A]-46D (1)	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	LTE B46	20	50863	5557.3	2x2	25.33	25.33
CA_[7A]-[7A]-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.36	25.33
CA_[7C]-46C	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	3204	2665.4	4x4	LTE B46	20	50665	5537.5	2x2	LTE B46	20	50467	5517.7	2x2	25.37	25.33
CA_[7A]-7A-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	4x4	LTE B7	20	2850	2630	2x2	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	25.36	25.33
CA_7A-[7A]-66A-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	4x4	LTE B66	20	66786	2145	2x2	LTE B66	20	67236	2190	2x2	25.35	25.33
CA_7A-7A-[66A]-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	2850	2630	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	25.34	25.33
CA_7C-[66A]-66A	LTE B7	15	21375	2562.5	QPSK	1	36	3375	2682.5	2x2	LTE B7	20	3204	2665.4	2x2	LTE B66	20	66786	2145	4x4	LTE B66	20	67236	2190	2x2	25.37	25.33

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APPENDIX G POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

G.1 Power Verification Procedure

The power verification was performed according to the following procedure:

1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered. For licensed modes, the device state index as displayed on the device UI was recorded before and after the mechanism was triggered.

2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.

3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the licensed modes combination cases, one mechanism was switched to a 'triggered' state at a time; the device state index was confirmed to be corresponding to the 'triggered' state after each additional mechanism was activated.

G.2 Distance Verification Procedure

The distance verification procedure was performed according to the following procedure:

1. A base station simulator was used to establish an RF connection and to monitor the power levels. The device being tested was placed below the relevant section of the phantom with the relevant side or edge of the device facing toward the phantom. For licensed modes, the device state index on the device UI was monitored to determine the triggering state.

2. The device was moved toward and away from the phantom to determine the distance at which the mechanism triggers and the output power is reduced, per KDB Publication 616217 D04v01r02 and FCC Guidance. Each applicable test position was evaluated. The distances were confirmed to be the same or larger (more conservative) than the minimum distances provided by the manufacturer.

3. Steps 1 and 2 were repeated for low, mid, and high bands, as appropriate (see note below Table G-2 for more details).

4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

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G.3 Main Antenna Verification Summary

Table G-1
Power Measurement Verification for Main Antenna

Mechanism(s)		Mode/Band	Device System Index		
1st	2nd		Un-triggered (Max)	Mechanism #1 (Reduced)	Mechanism #2 (Reduced)
Hotspot On		UMTS 1750	1	5	
Hotspot On	Grip	UMTS 1750	1	5	5
Grip		UMTS 1750	1	8	
Grip	Hotspot On	UMTS 1750	1	8	5
Hotspot On		UMTS 1900	1	5	
Hotspot On	Grip	UMTS 1900	1	5	5
Grip		UMTS 1900	1	8	
Grip	Hotspot On	UMTS 1900	1	8	5
Hotspot On		PCS CDMA	1	5	
Hotspot On	Grip	PCS CDMA	1	5	5
Grip		PCS CDMA	1	8	
Grip	Hotspot On	PCS CDMA	1	8	5
Hotspot On		LTE FDD Band 66	1	5	
Hotspot On	Grip	LTE FDD Band 66	1	5	5
Grip		LTE FDD Band 66	1	8	
Grip	Hotspot On	LTE FDD Band 66	1	8	5
Hotspot On		LTE FDD Band 4	1	5	
Hotspot On	Grip	LTE FDD Band 4	1	5	5
Grip		LTE FDD Band 4	1	8	
Grip	Hotspot On	LTE FDD Band 4	1	8	5
Hotspot On		LTE FDD Band 25	1	5	
Hotspot On	Grip	LTE FDD Band 25	1	5	5
Grip		LTE FDD Band 25	1	8	
Grip	Hotspot On	LTE FDD Band 25	1	8	5
Hotspot On		LTE FDD Band 2	1	5	
Hotspot On	Grip	LTE FDD Band 2	1	5	5
Grip		LTE FDD Band 2	1	8	
Grip	Hotspot On	LTE FDD Band 2	1	8	5
Hotspot On		LTE FDD Band 7	1	5	
Hotspot On	Grip	LTE FDD Band 7	1	5	5
Grip		LTE FDD Band 7	1	8	
Grip	Hotspot On	LTE FDD Band 7	1	8	5
Hotspot On		LTE TDD Band 41	1	5	
Hotspot On	Grip	LTE TDD Band 41	1	5	5
Grip		LTE TDD Band 41	1	8	
Grip	Hotspot On	LTE TDD Band 41	1	8	5

*Note: This device uses different Device State Indices (DSI) to configure different time averaged power levels based on certain exposure scenarios. For this device, DSI = 8 represents the case when the grip sensor is active, and DSI = 5 represents the case when hotspot mode is active. DSI = 1 is configured at max power when the device cannot detect the use condition.

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Table G-2
Distance Measurement Verification for Main Antenna

Mechanism(s)	Test Condition	Band	Distance Measurements (mm)		Minimum Distance per Manufacturer (mm)
			Moving Toward	Moving Away	
Grip	Phablet - Back Side	Mid	5	6	3
Grip	Phablet - Back Side	High	5	6	3
Grip	Phablet - Front Side	Mid	2	4	2
Grip	Phablet - Front Side	High	2	4	2
Grip	Phablet - Bottom Edge	Mid	5	6	5
Grip	Phablet - Bottom Edge	High	5	6	5

*Note: Mid band refers to: CDMA BC1, UMTS B2/4, LTE B2/4/25/66; High band refers to: LTE B7/41.

G.4 WIFI Verification Summary

Table G-3
Power Measurement Verification WIFI – Antenna 1

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	20.21	15.95
Held-to-Ear	802.11g	19.23	15.97
Held-to-Ear	802.11n (2.4GHz)	18.07	15.72
Held-to-Ear	802.11ac (2.4GHz)	17.52	15.73
Held-to-Ear	802.11a	18.54	15.07
Held-to-Ear	802.11n (5GHz, 20MHz BW)	18.36	15.03
Held-to-Ear	802.11ac (20MHz BW)	18.62	15.30

*Note: MIMO WIFI modes were not evaluated due to equipment limitations.

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Table G-4
Power Measurement Verification WIFI – Antenna 2

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	20.49	16.08
Held-to-Ear	802.11g	19.44	16.03
Held-to-Ear	802.11n (2.4GHz)	17.72	16.33
Held-to-Ear	802.11ac (2.4GHz)	18.29	16.29
Held-to-Ear	802.11a	18.99	15.91
Held-to-Ear	802.11n (5GHz, 20MHz BW)	18.74	16.00
Held-to-Ear	802.11ac (20MHz BW)	18.80	15.72

*Note: MIMO WIFI modes were not evaluated due to equipment limitations.

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APPENDIX H: PROBE AND DIPOLE CALIBRATION CERTIFICATES

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Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client PC Test

Certificate No: D750V3-1161_Oct18

CALIBRATION CERTIFICATE

Object	D750V3 - SN:1161
Calibration procedure(s)	QA CAL-05.v10 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	October 19, 2018

BN ✓ 10-30-2018
BN ✓ 10-20-2019

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	04-Oct-18 (No. DAE4-601_Oct18)	Oct-19

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-18)	In house check: Oct-20
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Manu Seitz	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 22, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.8 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.02 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.03 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.26 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.1 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.11 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.43 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.39 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.55 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.6 Ω - 1.9 jΩ
Return Loss	- 25.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.6 Ω - 4.2 jΩ
Return Loss	- 27.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.032 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 19, 2015

DASY5 Validation Report for Head TSL

Date: 19.10.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1161

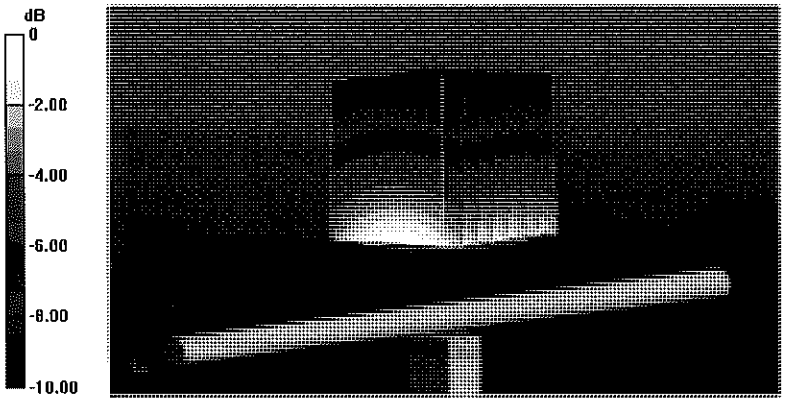
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.89 S/m; ε_r = 40.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

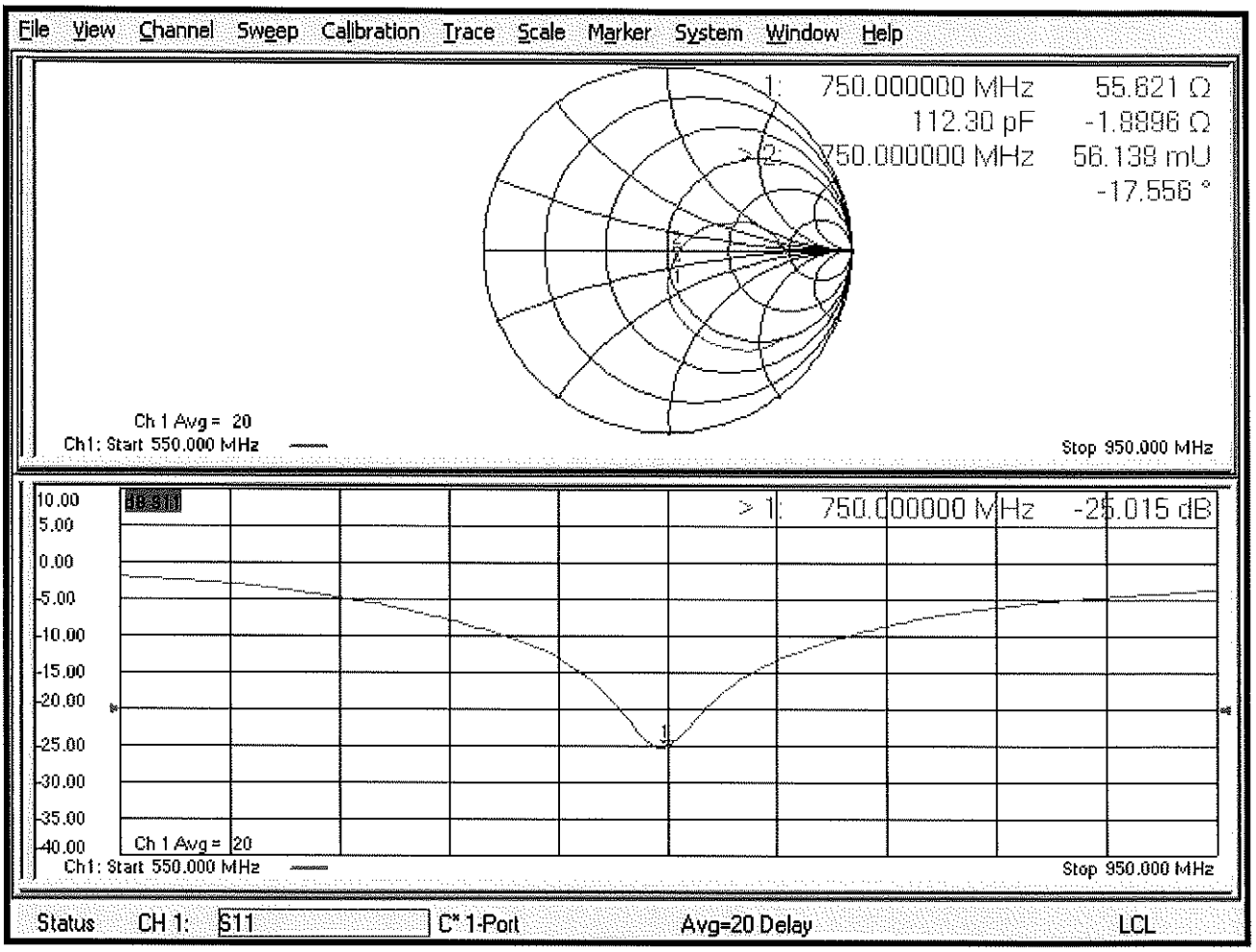
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.51 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.04 W/kg
SAR(1 g) = 2.02 W/kg; SAR(10 g) = 1.32 W/kg
Maximum value of SAR (measured) = 2.70 W/kg



0 dB = 2.70 W/kg = 4.31 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 19.10.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1161

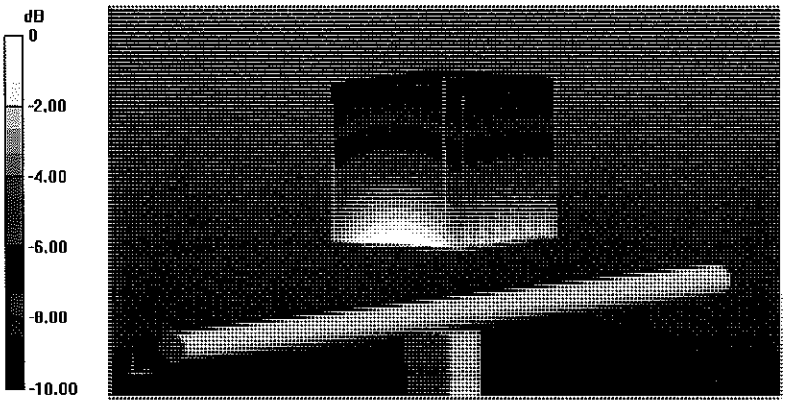
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.96 S/m; ε_r = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

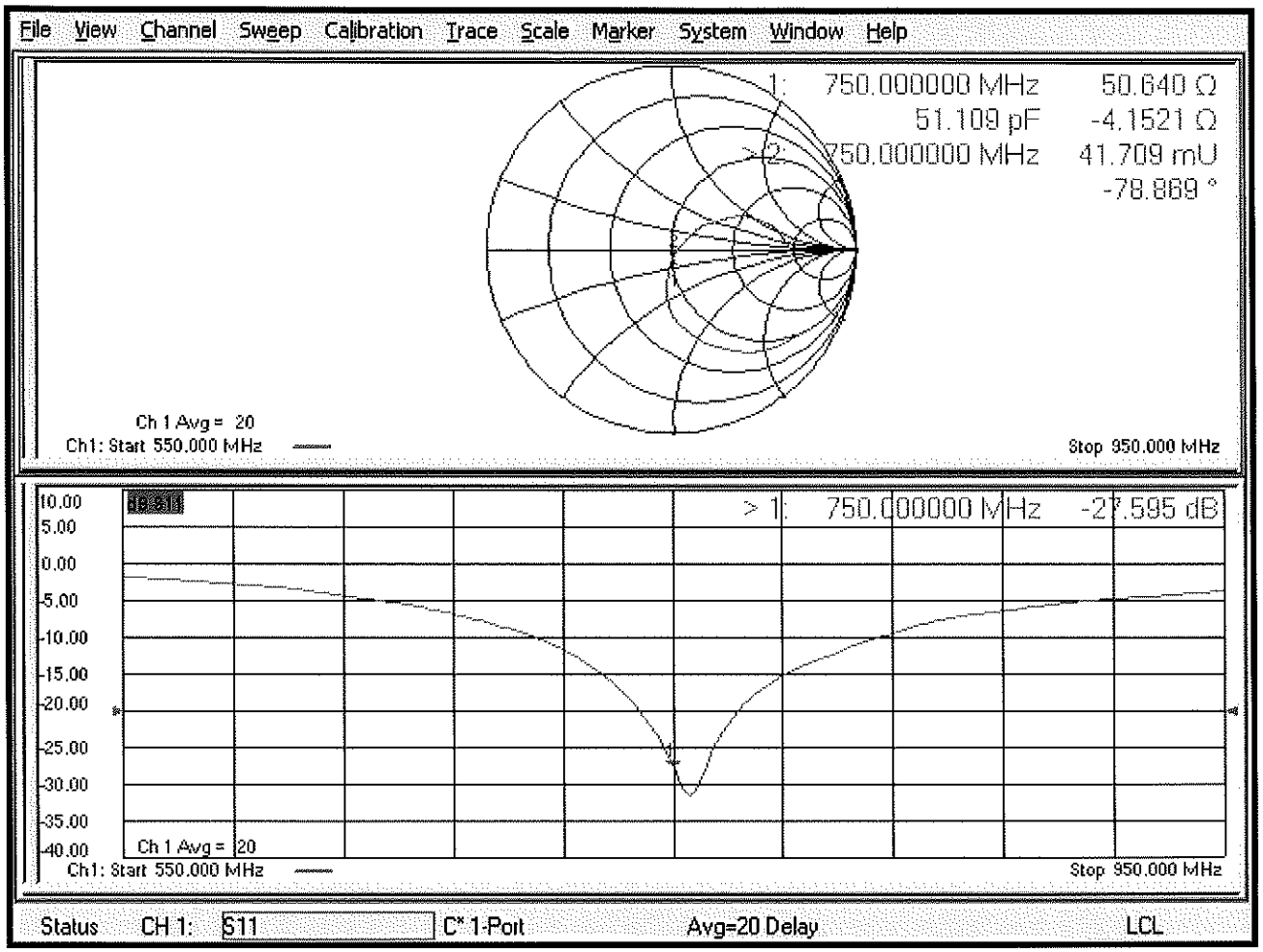
DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.19, 10.19, 10.19) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.57 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.18 W/kg
SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.39 W/kg
Maximum value of SAR (measured) = 2.83 W/kg



0 dB = 2.83 W/kg = 4.52 dBW/kg

Impedance Measurement Plot for Body TSL