

APPENDIX A: SAR TEST DATA

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV004PQM6

Communication System: UID 0, _GSM GPRS; 2 Tx slots; Frequency: 824.2 MHz; Duty Cycle: 1:4.15

Medium: 835 Body Medium parameters used (interpolated):

$f = 824.2$ MHz; $\sigma = 1.005$ S/m; $\epsilon_r = 53.243$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-19-2020; Ambient Temp: 20.4°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 824.2 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

Mode: GPRS 850 Antenna 1, Body SAR, Left Edge, Low.ch, 2 Tx Slots

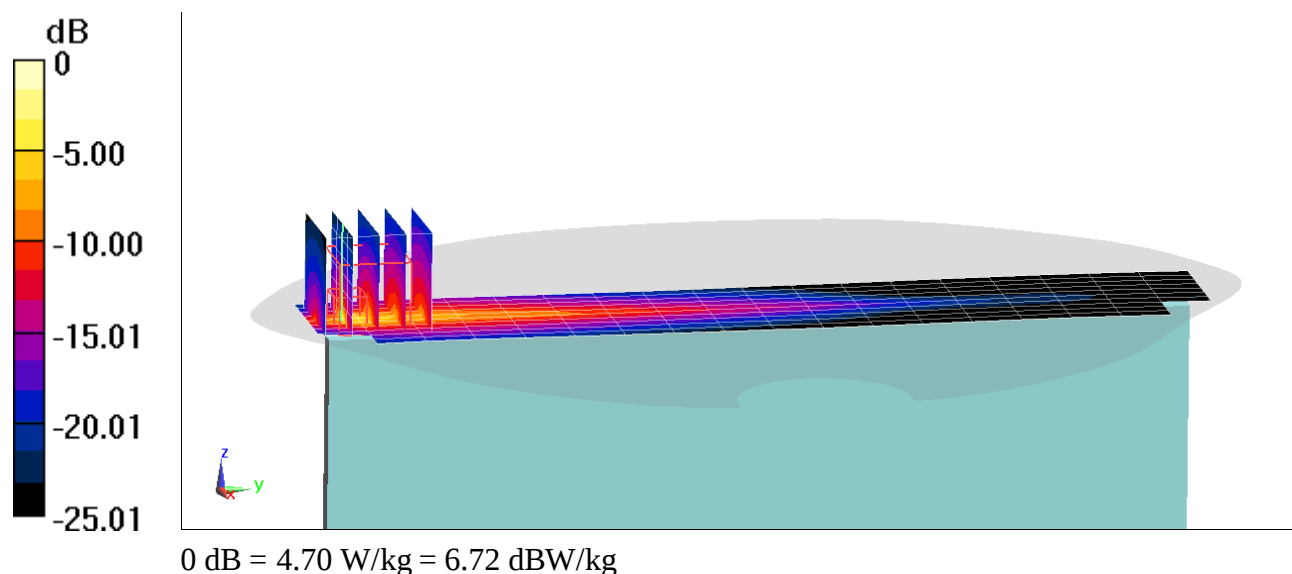
Area Scan (10x23x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 32.27 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 8.16 W/kg

SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.358 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00LPQKX

Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body Medium parameters used:

$f = 1910$ MHz; $\sigma = 1.587$ S/m; $\epsilon_r = 51.584$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-22-2020; Ambient Temp: 21.1°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1909.8 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

Mode: GPRS 1900 Antenna 2b, Body SAR, Back side, High.ch, 2 Tx Slots

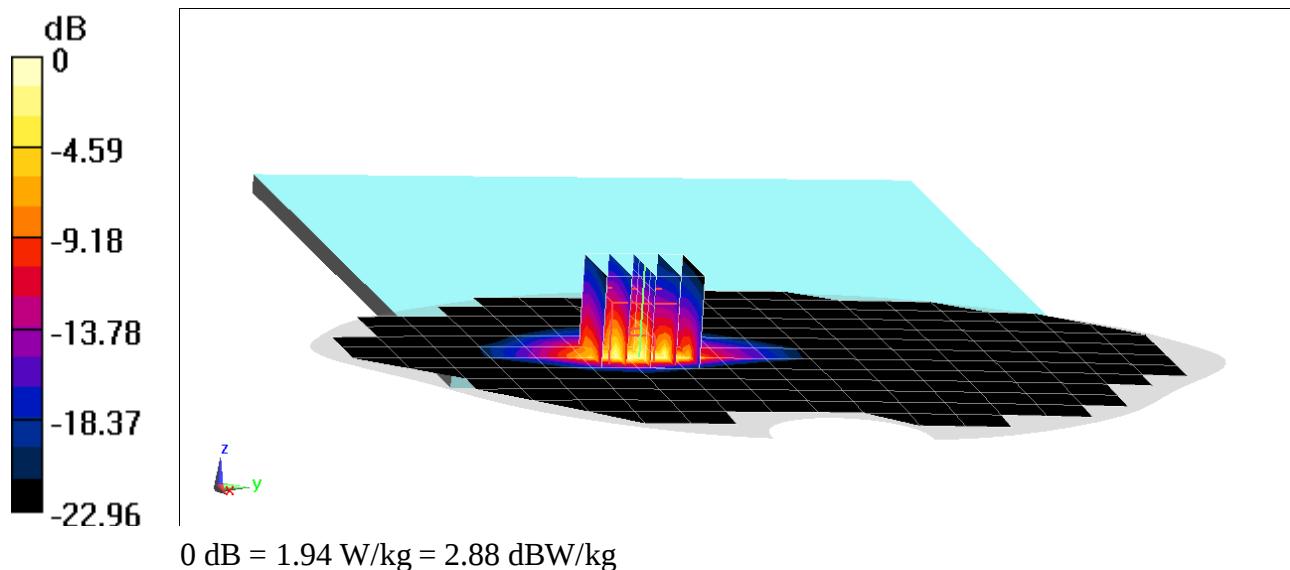
Area Scan (15x19x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan 1 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.22 V/m; Power Drift = -0.21 dB

Peak SAR (extrapolated) = 2.72 W/kg

SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.397 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV004PQM6

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 826.4$ MHz; $\sigma = 1.007$ S/m; $\epsilon_r = 53.225$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-19-2020; Ambient Temp: 20.4°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 826.4 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

Mode: UMTS 850 Antenna 1, Body SAR, Left Edge, Low.ch

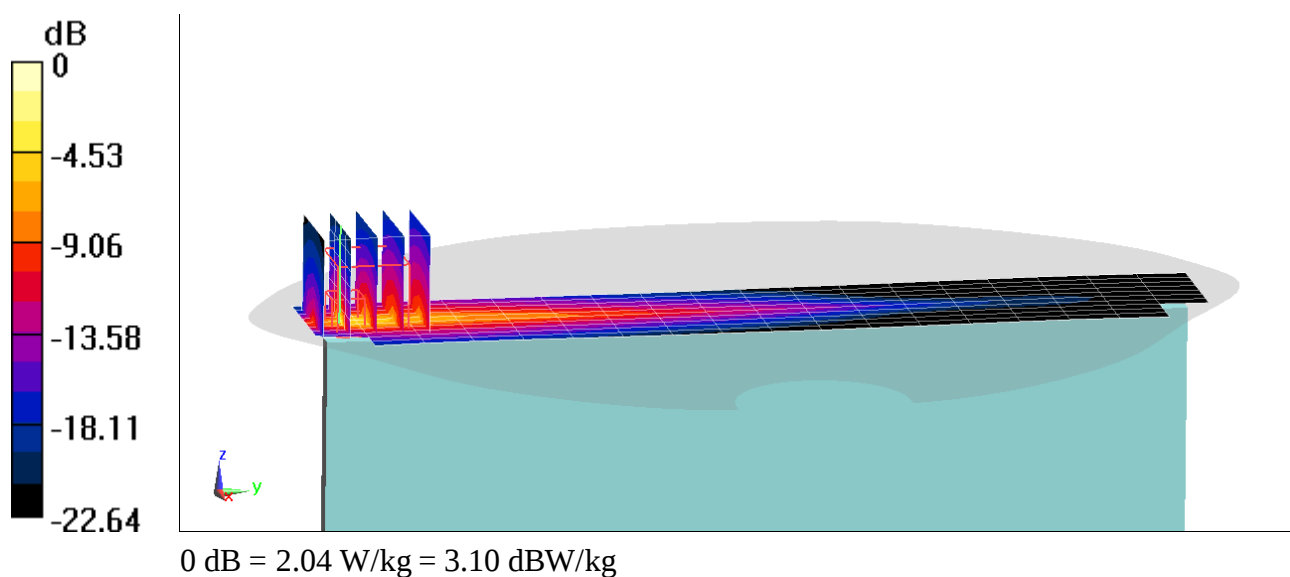
Area Scan (10x23x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 30.56 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 5.29 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.417 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV004P57G

Communication System: UID 0, UMTS; Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1712.4 \text{ MHz}$; $\sigma = 1.48 \text{ S/m}$; $\epsilon_r = 51.879$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-23-2020; Ambient Temp: 23.0°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7427; ConvF(8.14, 8.14, 8.14) @ 1712.4 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

Mode: UMTS 1750 Antenna 2b, Body SAR, Back side, Low.ch

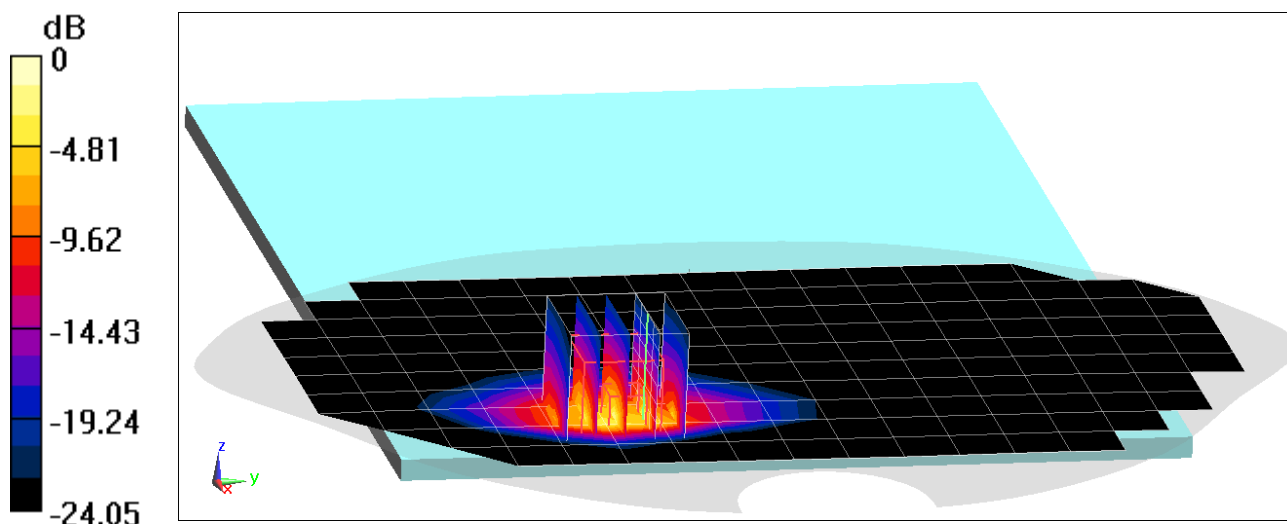
Area Scan (11x18x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 27.89 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.425 W/kg



0 dB = 2.71 W/kg = 4.33 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00WPQKX

Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1907.6$ MHz; $\sigma = 1.585$ S/m; $\epsilon_r = 51.588$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-22-2020; Ambient Temp: 21.1°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1907.6 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

Mode: UMTS 1900 Antenna 2b, Body SAR, Back side, High.ch

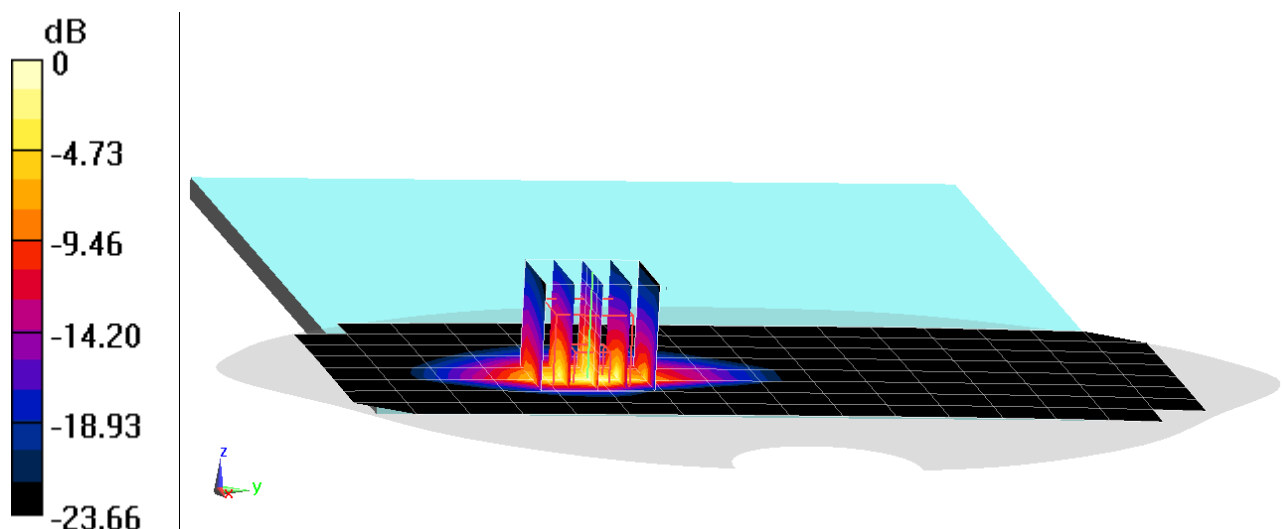
Area Scan (9x17x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 27.82 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 3.58 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.457 W/kg



0 dB = 2.51 W/kg = 4.00 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV01JPKX

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; $\sigma = 0.927$ S/m; $\epsilon_r = 54.761$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-18-2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7421; ConvF(9.66, 9.66, 9.66) @ 707.5 MHz; Calibrated: 3/18/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 12 Antenna 1, Body SAR, Left Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

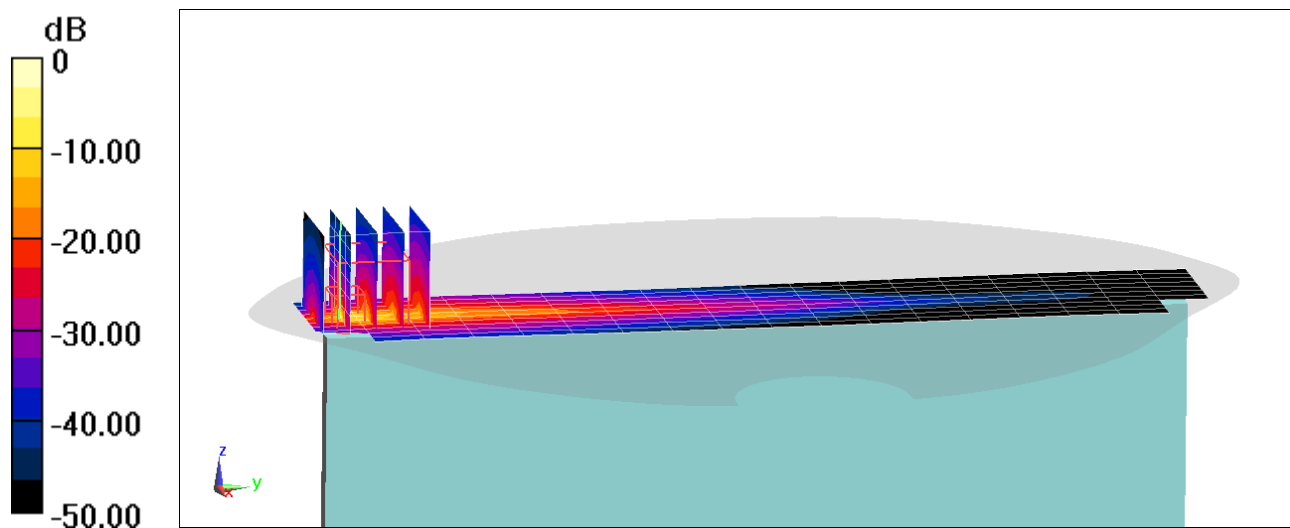
Area Scan for plot (11x21x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 35.99 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 8.23 W/kg

SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.326 W/kg



0 dB = 5.19 W/kg = 7.15 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00WPQKX

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 1.006 \text{ S/m}$; $\epsilon_r = 53.906$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-18-2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7421; ConvF(9.66, 9.66, 9.66) @ 782 MHz; Calibrated: 3/18/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 13 Antenna 1, Body SAR, Left Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

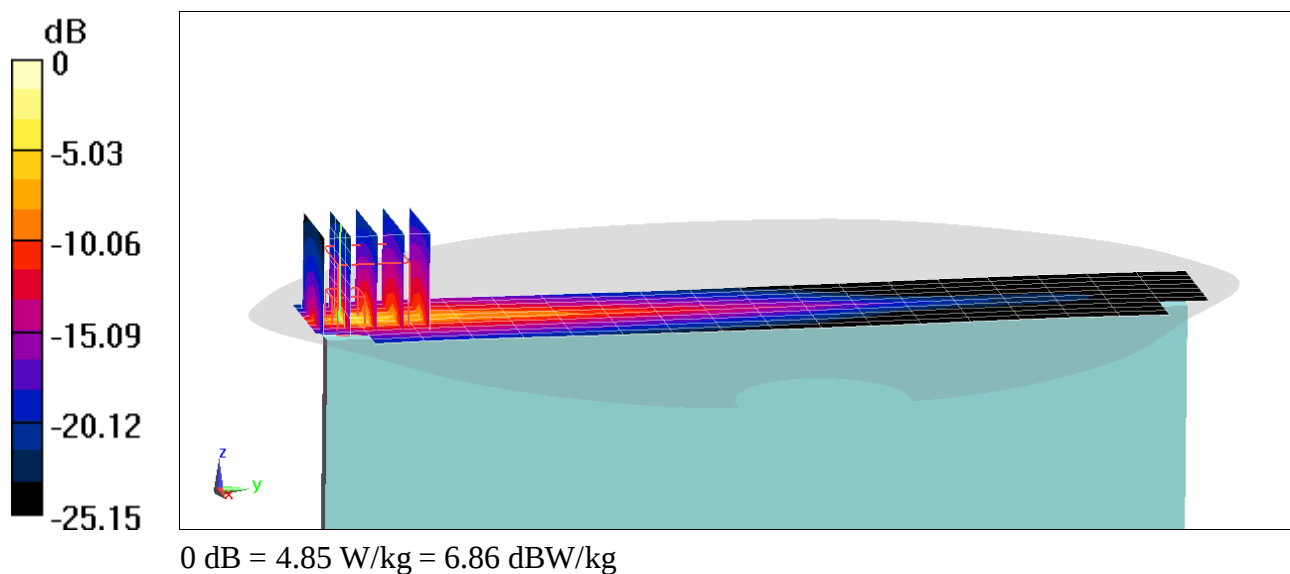
Area Scan (11x21x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 28.59 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 7.07 W/kg

SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.371 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00WPQKX

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; $\sigma = 0.98$ S/m; $\epsilon_r = 54.528$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-16-2020; Ambient Temp: 20.4°C; Tissue Temp: 18.8°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 836.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 5 (Cell.) Antenna 1, Body SAR, Left Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

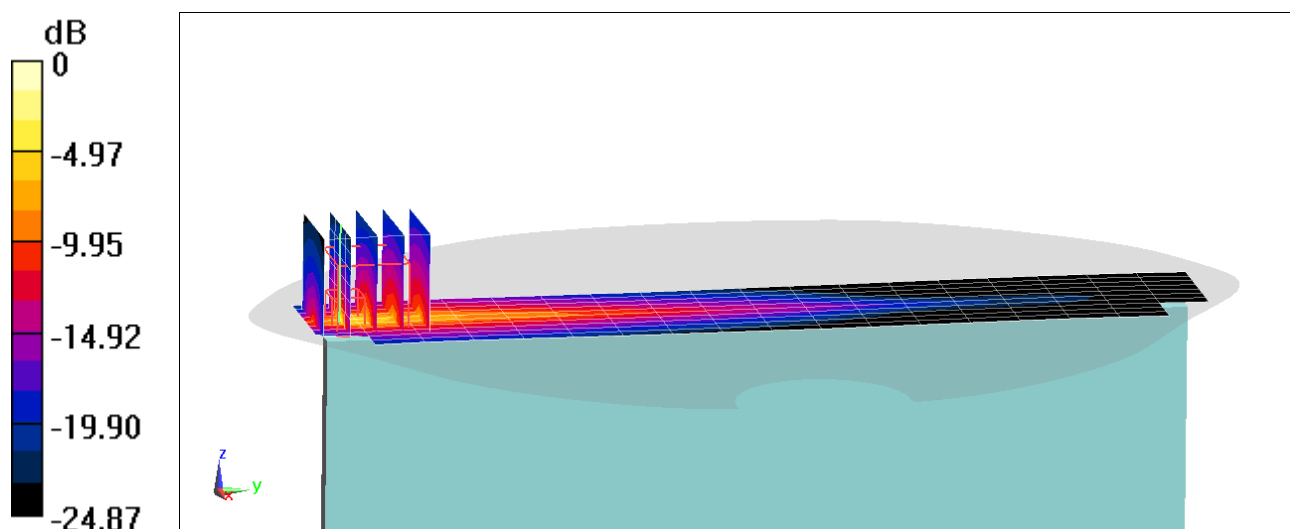
Area Scan (10x11x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 28.74 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 7.34 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.398 W/kg



0 dB = 4.96 W/kg = 6.95 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV002PQM6

Communication System: UID 0, _LTE Band 26; Frequency: 819 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 819 \text{ MHz}$; $\sigma = 1 \text{ S/m}$; $\epsilon_r = 53.289$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-19-2020; Ambient Temp: 20.4°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 819 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 26 (Cell.) Antenna 1, Body SAR, Left Edge, Low.ch,
10 MHz Bandwidth, QPSK, 25 RB, 25 RB Offset**

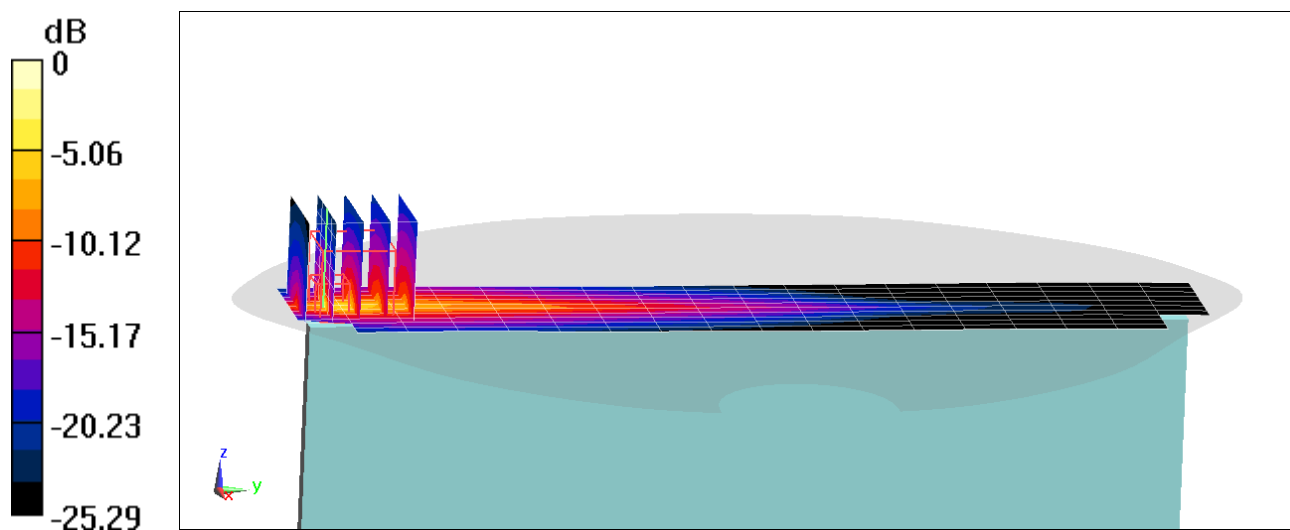
Area Scan (11x23x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 28.99 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 7.81 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.396 W/kg



0 dB = 5.41 W/kg = 7.33 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT004P57G

Communication System: UID 0, LTE Band 4 (AWS); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1732.5 \text{ MHz}$; $\sigma = 1.468 \text{ S/m}$; $\epsilon_r = 52.368$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-21-2020; Ambient Temp: 23.8°C; Tissue Temp: 18.4°C

Probe: EX3DV4 - SN7427; ConvF(8.14, 8.14, 8.14) @ 1732.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 4 (AWS) Antenna 2b, Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

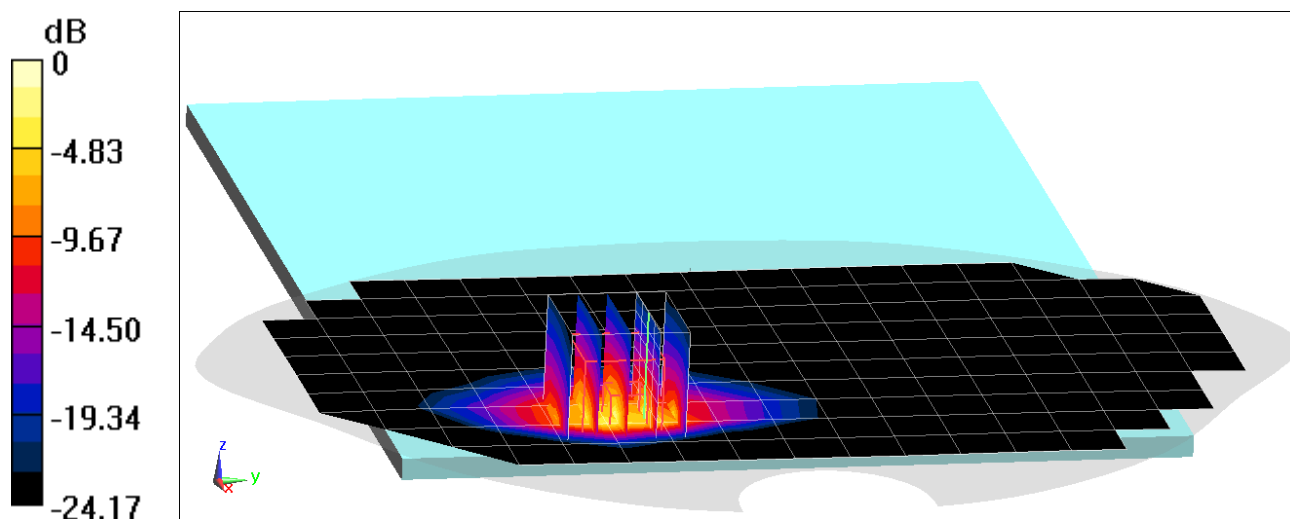
Area Scan (11x18x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 28.67 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.86 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.432 W/kg



0 dB = 2.81 W/kg = 4.48 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT004P57G

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$; $\sigma = 1.456 \text{ S/m}$; $\epsilon_r = 52.414$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-21-2020; Ambient Temp: 23.8°C; Tissue Temp: 18.4°C

Probe: EX3DV4 - SN7427; ConvF(8.14, 8.14, 8.14) @ 1720 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

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

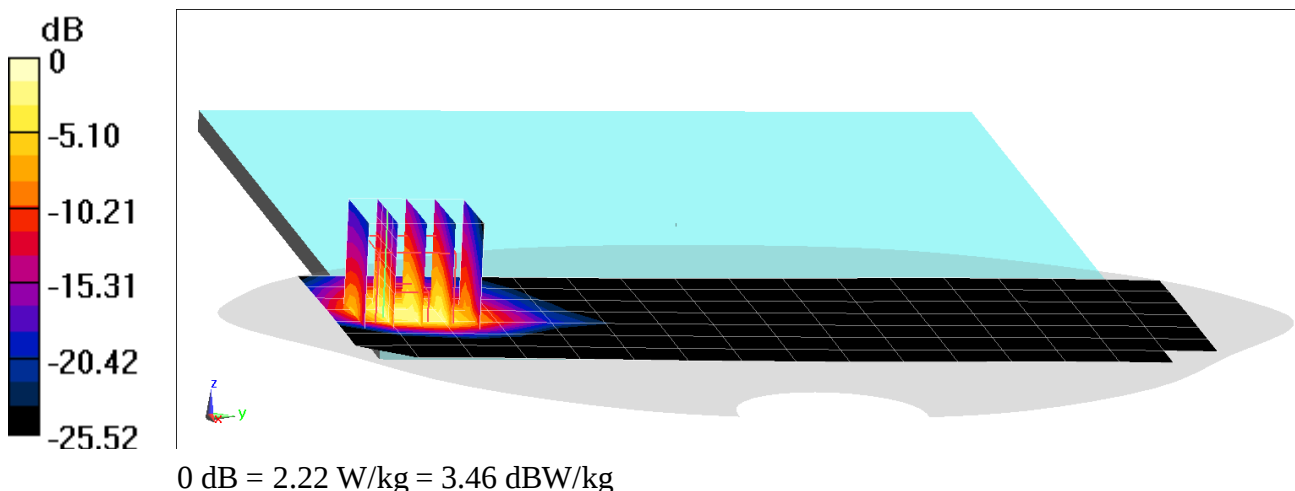
Area Scan (8x17x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 29.00 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.567 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT004P57G

Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.573 \text{ S/m}$; $\epsilon_r = 52.835$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-16-2020; Ambient Temp: 20.7°C; Tissue Temp: 19.5°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1900 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 2 (PCS) Antenna 2a, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

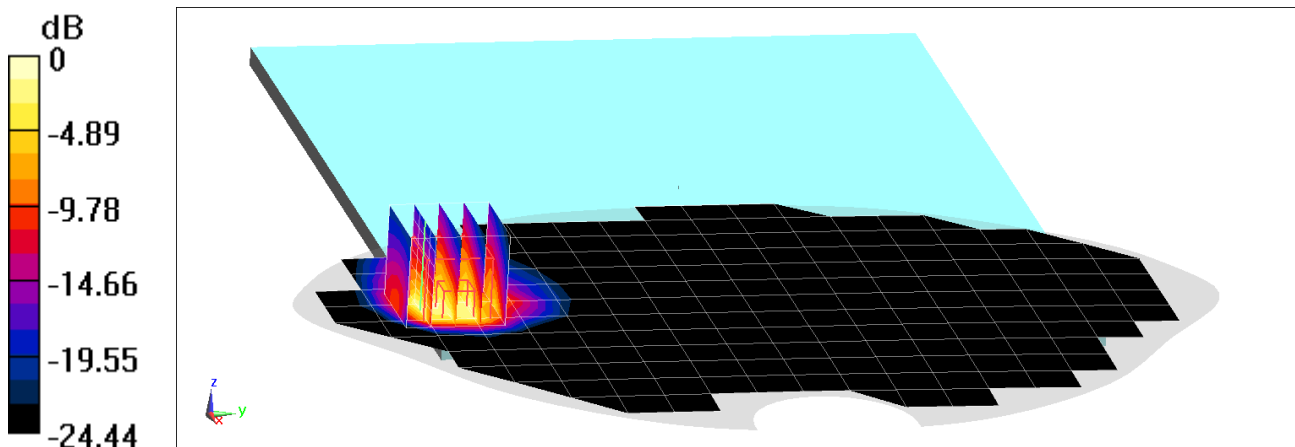
Area Scan (15x19x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 25.54 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.34 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.555 W/kg



0 dB = 2.18 W/kg = 3.38 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT004P57G

Communication System: UID 0, _LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.576 \text{ S/m}$; $\epsilon_r = 52.843$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-16-2020; Ambient Temp: 20.7°C; Tissue Temp: 19.5°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1905 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 25 (PCS) Antenna 2a, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 100 RB, 0 RB Offset**

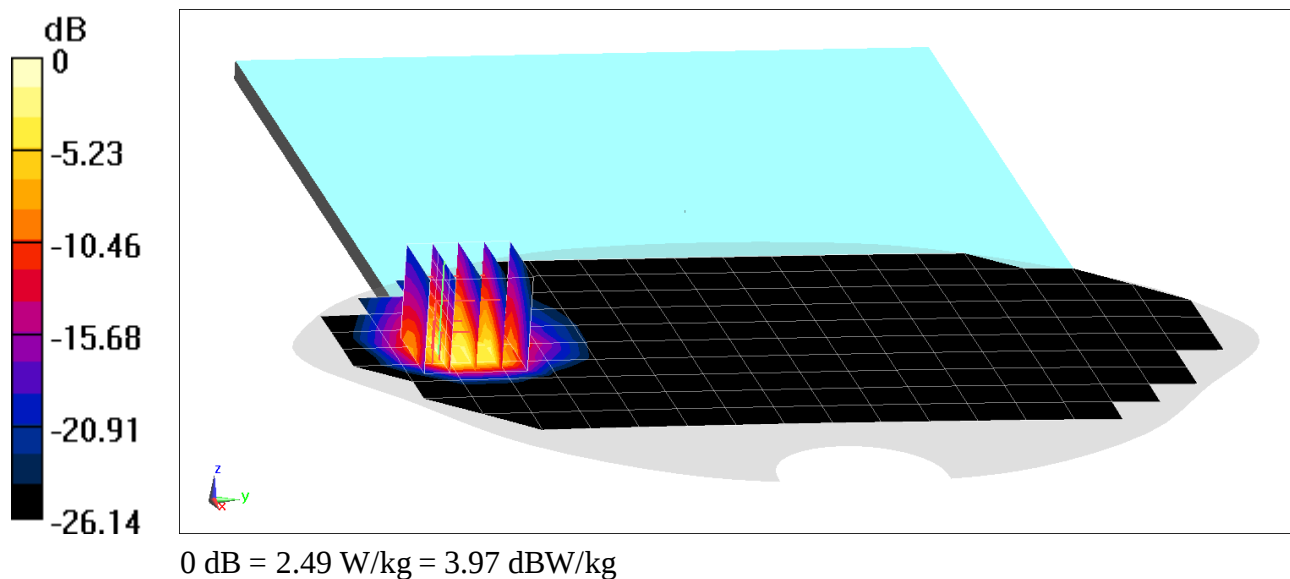
Area Scan (11x21x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 26.08 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.76 W/kg

SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.512 W/kg



PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT002P57G

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Body Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.849 \text{ S/m}$; $\epsilon_r = 51.56$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 02-05-2020; Ambient Temp: 21.0°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7532; ConvF(7.93, 7.93, 7.93) @ 2310 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 30 Antenna 4b, Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

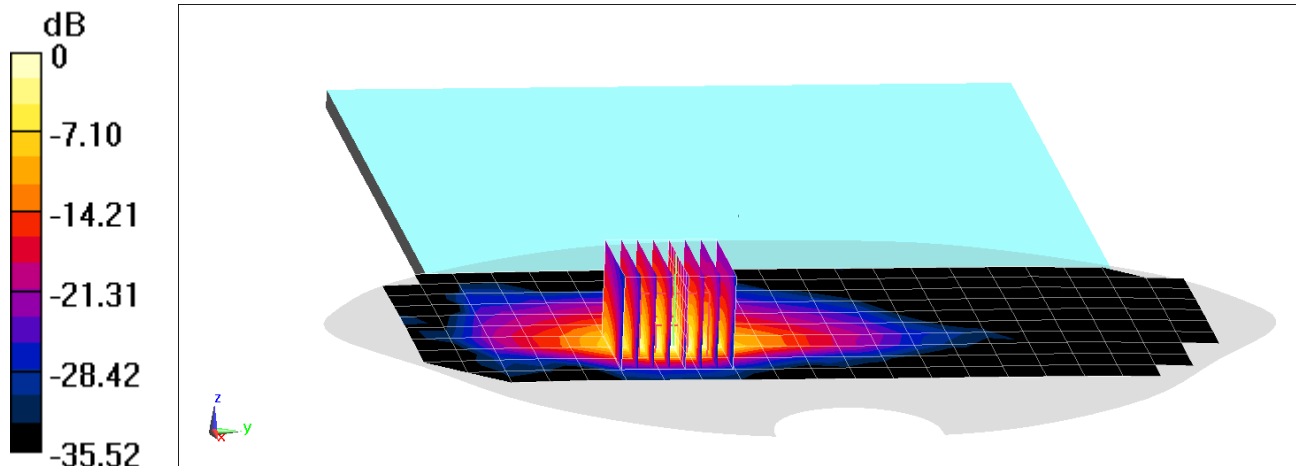
Area Scan (11x11x1): Measurement grid: dx=12mm, dy=12mm

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

Reference Value = 24.72 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.42 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.373 W/kg



0 dB = 1.81 W/kg = 2.58 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT002P57G

Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used (interpolated):

$f = 2535 \text{ MHz}$; $\sigma = 2.122 \text{ S/m}$; $\epsilon_r = 50.532$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-29-2020; Ambient Temp: 22.1°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7532; ConvF(7.47, 7.47, 7.47) @ 2535 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 7 Antenna 4b, Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset**

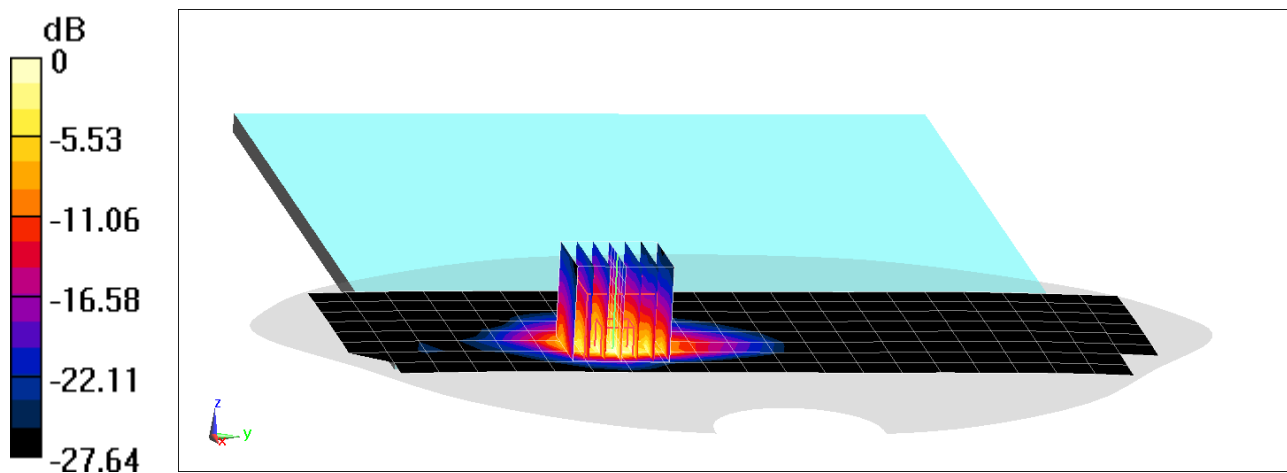
Area Scan (11x11x1): Measurement grid: dx=12mm, dy=12mm

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

Reference Value = 23.74 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.58 W/kg

SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.371 W/kg



0 dB = 2.18 W/kg = 3.38 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00BPQKX

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2549.5 MHz; Duty Cycle: 1:1.58

Medium: 2450-2600 Body Medium parameters used:

$f = 2550$ MHz; $\sigma = 2.155$ S/m; $\epsilon_r = 50.683$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 02-04-2020; Ambient Temp: 22.2°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN3949; ConvF(7.69, 7.69, 7.69) @ 2549.5 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 41 Antenna 4a, Body SAR, Back side, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

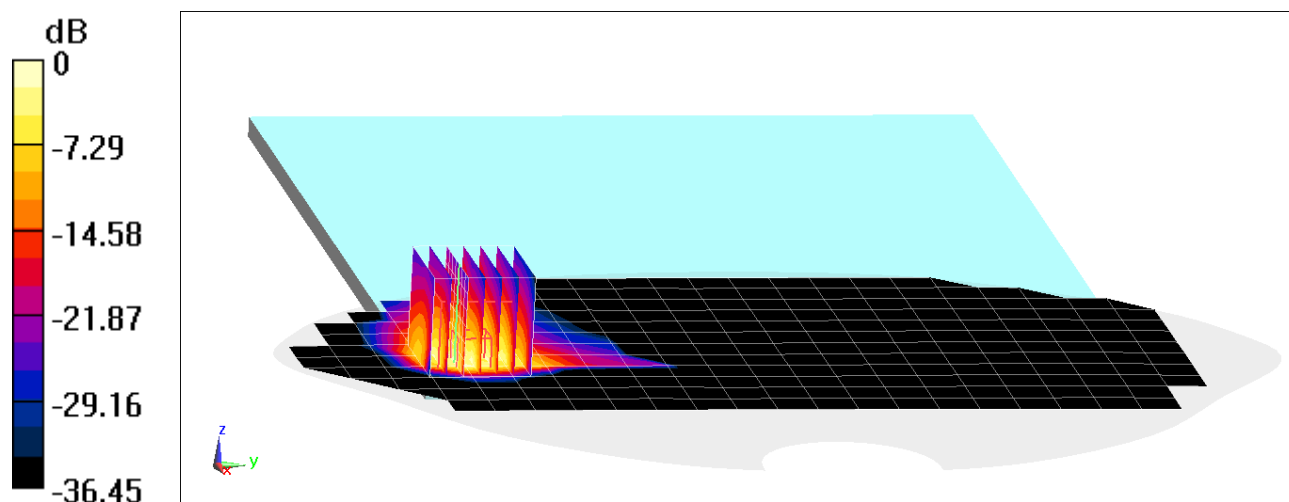
Area Scan (7x8x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.05 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 4.27 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.483 W/kg



0 dB = 2.65 W/kg = 4.23 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZT001P57G

Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58

Medium: 3500-3700 Body; Medium parameters used (interpolated):

$f = 3603.3$ MHz; $\sigma = 3.497$ S/m; $\epsilon_r = 49.265$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-20-2020; Ambient Temp: 21.4°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN3949; ConvF(6.78, 6.78, 6.78) @ 3603.3 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: LTE Band 48 Antenna 2b, Body SAR, Back side, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

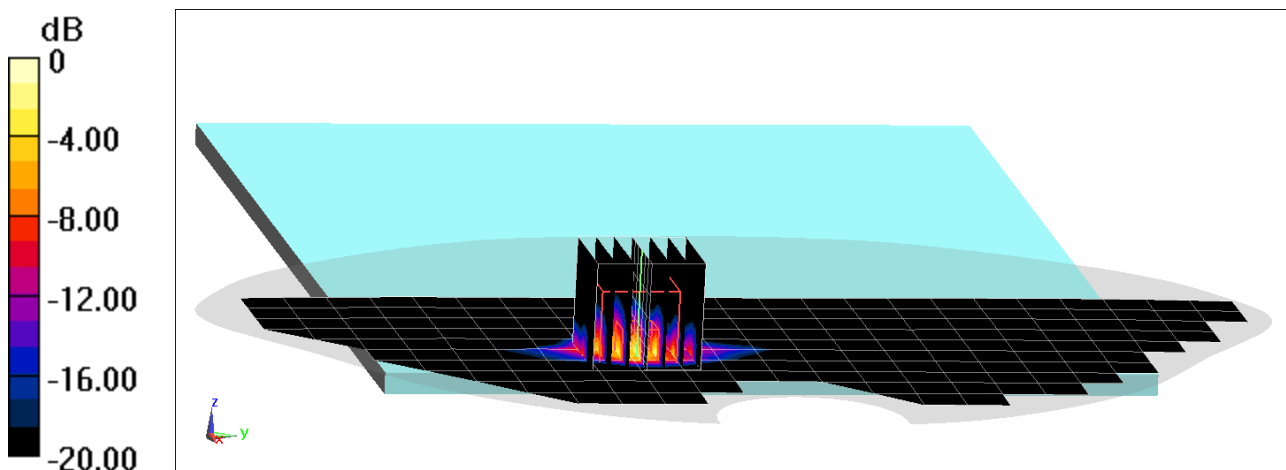
Area Scan (11x24x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 21.38 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 5.08 W/kg

SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.342 W/kg



0 dB = 3.28 W/kg = 5.16 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZR010P57F

Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2412 \text{ MHz}$; $\sigma = 1.989 \text{ S/m}$; $\epsilon_r = 51.228$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 12-20-2019; Ambient Temp: 21.0°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7532; ConvF(7.66, 7.66, 7.66) @ 2412 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

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

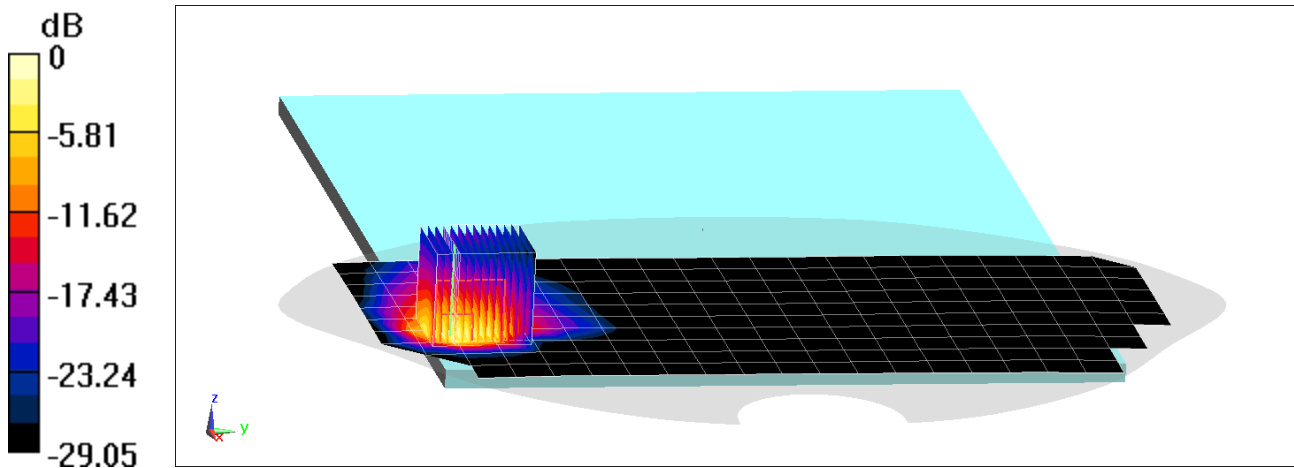
Area Scan (11x22x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (13x14x8)/Cube 0: Measurement grid: dx=2.4mm, dy=2.4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 22.72 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 3.72 W/kg

SAR(1 g) = 0.894 W/kg; SAR(10 g) = 0.393 W/kg



0 dB = 2.19 W/kg = 3.40 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZV00LPQKX

Communication System: UID 0, _IEEE 802.11n; Frequency: 5230 MHz; Duty Cycle: 1:1

Medium: 5GHz Body; Medium parameters used (interpolated):

$f = 5230 \text{ MHz}$; $\sigma = 5.103 \text{ S/m}$; $\epsilon_r = 48.42$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2020; Ambient Temp: 22.1°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7491; ConvF(4.87, 4.87, 4.87) @ 5230 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

**Mode: IEEE 802.11n, 5GHz ANTlower Variant 1, U-NII-1, 40 MHz Bandwidth,
Body SAR, Ch 46, 13.5 Mbps, Right Edge**

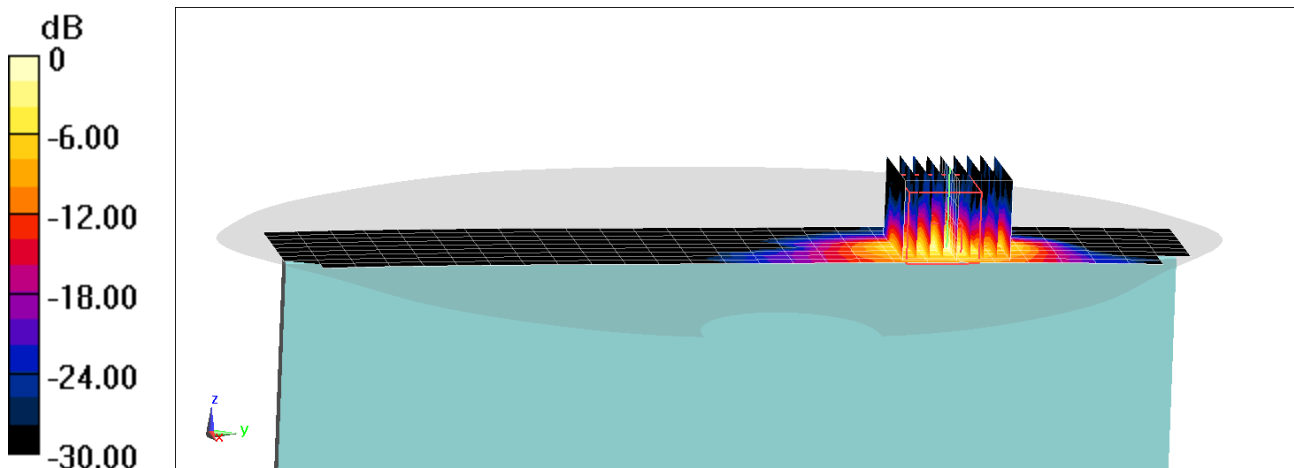
Area Scan (10x10x1): Measurement grid: dx=5mm, dy=10mm

Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 16.20 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 4.47 W/kg

SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.224 W/kg



0 dB = 2.06 W/kg = 3.14 dBW/kg

PCTEST

DUT: BCGA2232; Type: Tablet Device; Serial: DLXZR010P57F

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.302

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 1.937 \text{ S/m}$; $\epsilon_r = 50.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-14-2020; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7532; ConvF(7.66, 7.66, 7.66) @ 2441 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

Mode: Bluetooth Antenna 4a Variant 1, Body SAR, Ch 39, 1 Mbps, Back Side

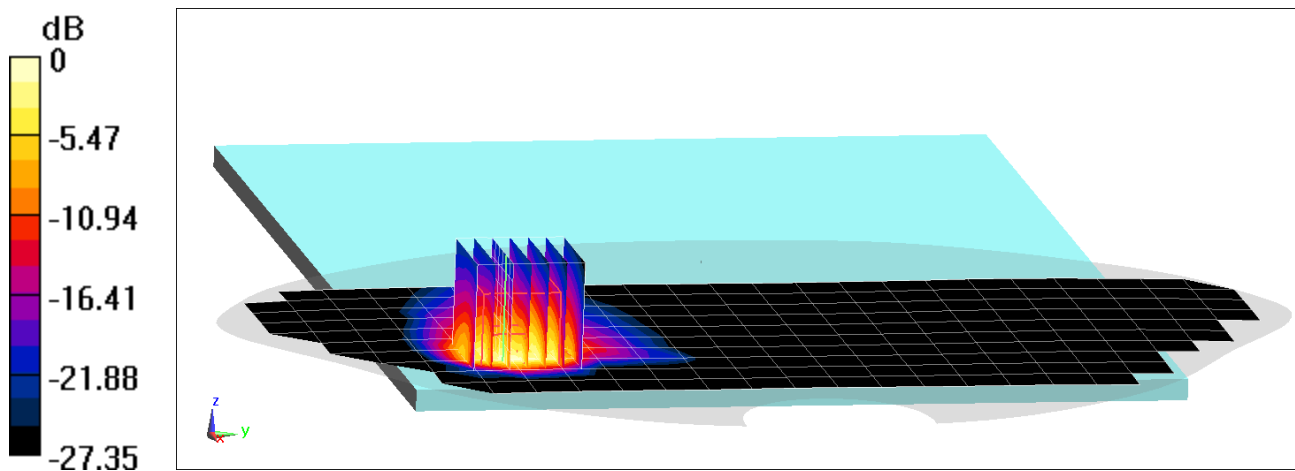
Area Scan (11x26x1): Measurement grid: dx=12mm, dy=12mm

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

Reference Value = 21.33 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.69 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.497 W/kg



0 dB = 2.54 W/kg = 4.05 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1097

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.971 \text{ S/m}$; $\epsilon_r = 53.969$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-18-2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7421; ConvF(9.66, 9.66, 9.66) @ 750 MHz; Calibrated: 3/18/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

750 MHz System Verification at 23.0 dBm (200 mW)

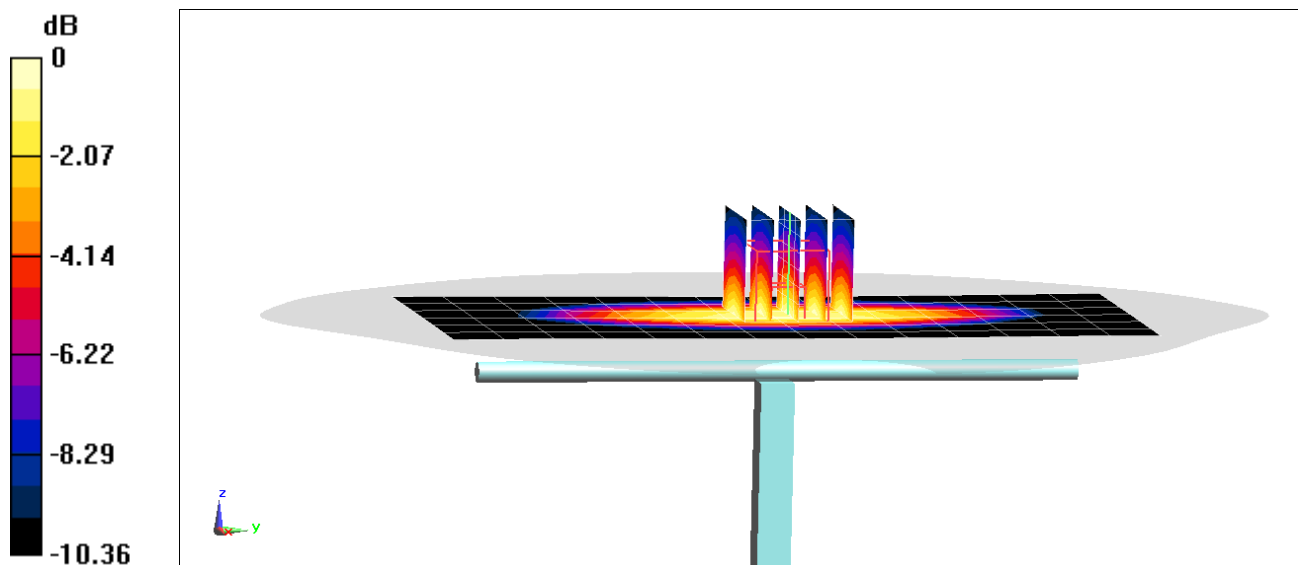
Area Scan (7x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.82 W/kg

SAR(1 g) = 1.83 W/kg; SAR(10 g) = 1.21 W/kg

Deviation(1 g) = 6.89%



0 dB = 2.47 W/kg = 3.93 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.978 \text{ S/m}$; $\epsilon_r = 54.548$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-16-2020; Ambient Temp: 20.4°C; Tissue Temp: 18.8°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 835 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

835 MHz System Verification at 23.0 dBm (200 mW)

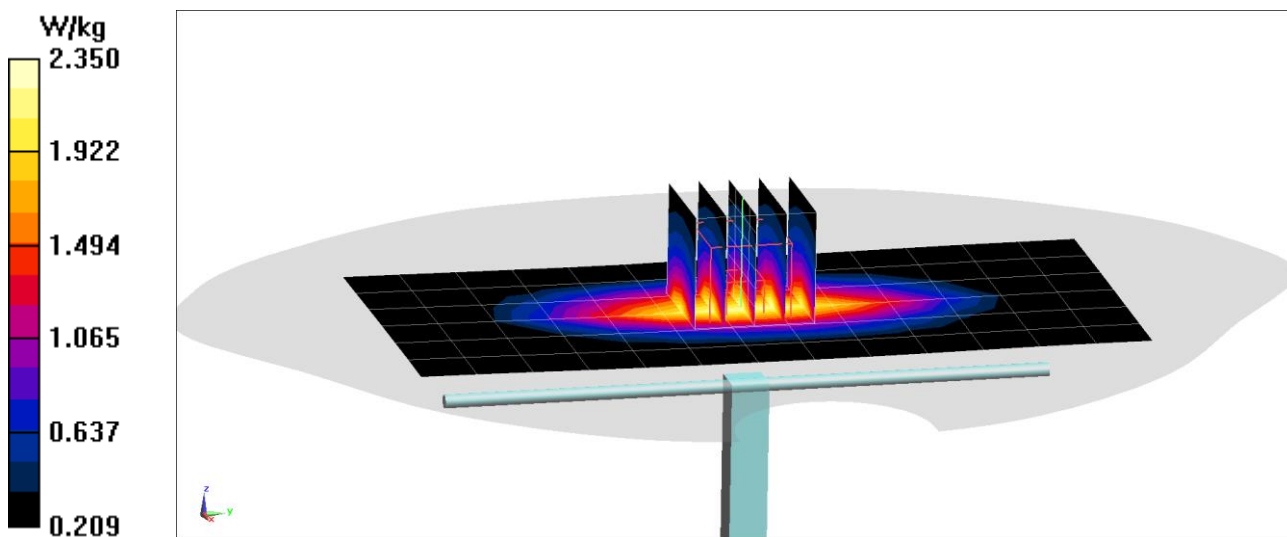
Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.65 W/kg

SAR(1 g) = 1.77 W/kg; SAR(10 g) = 1.17 W/kg

Deviation(1 g) = -7.14%



PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 1.015 \text{ S/m}$; $\epsilon_r = 53.152$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-19-2020; Ambient Temp: 20.4°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7427; ConvF(10.18, 10.18, 10.18) @ 835 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

835 MHz System Verification at 23.0 dBm (200 mW)

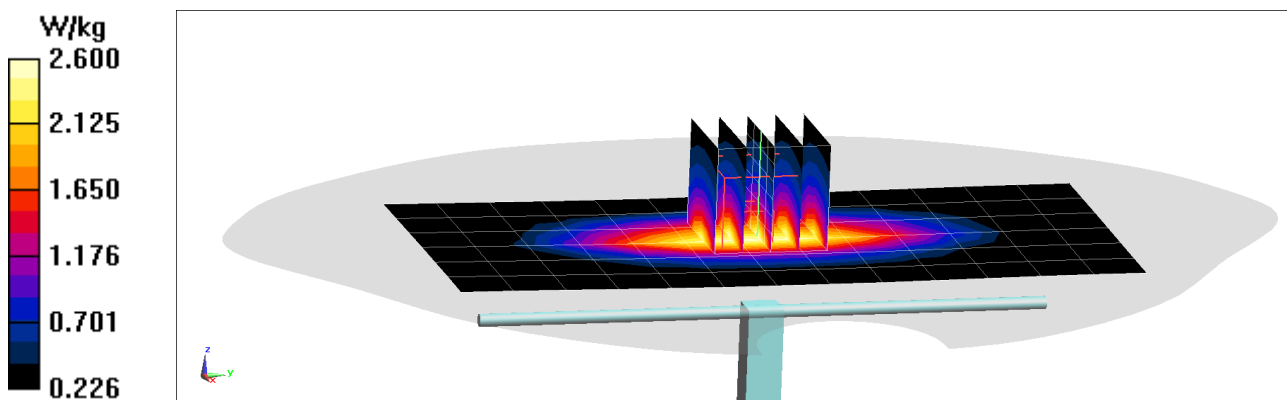
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.93 W/kg

SAR(1 g) = 1.95 W/kg; SAR(10 g) = 1.28 W/kg

Deviation(1 g) = 2.31%



PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.484 \text{ S/m}$; $\epsilon_r = 52.302$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-21-2020; Ambient Temp: 23.8°C; Tissue Temp: 18.4°C

Probe: EX3DV4 - SN7427; ConvF(8.14, 8.14, 8.14) @ 1750 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

1750 MHz System Verification at 20.0 dBm (100 mW)

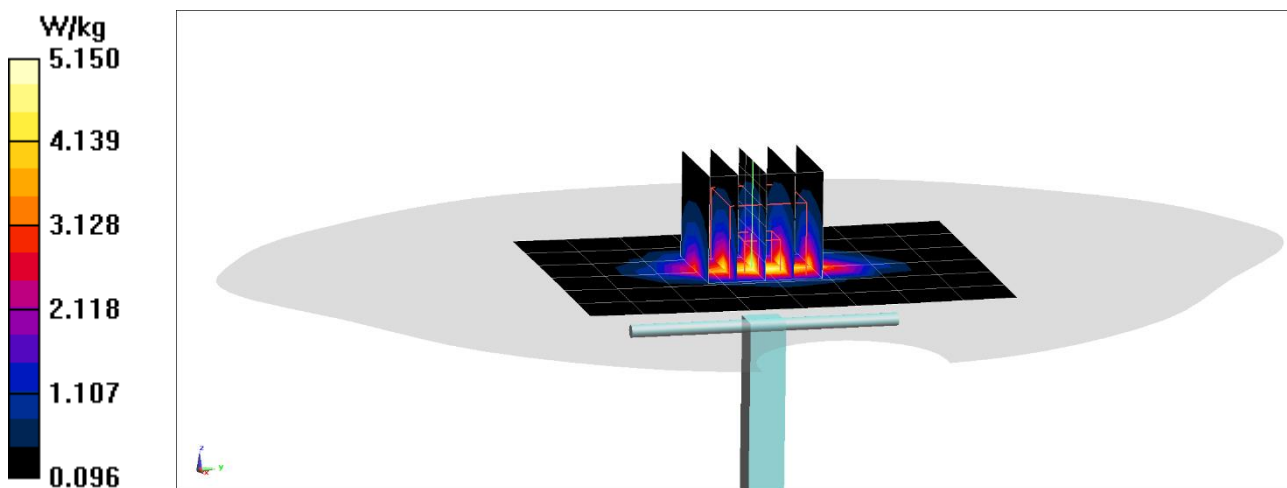
Area Scan (7x9x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 6.07 W/kg

SAR(1 g) = 3.42 W/kg; SAR(10 g) = 1.82 W/kg

Deviation(1 g) = -7.82%



PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.514 \text{ S/m}$; $\epsilon_r = 51.756$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-23-2020; Ambient Temp: 23.0°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7427; ConvF(8.14, 8.14, 8.14) @ 1750 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2019

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

1750 MHz System Verification at 20.0 dBm (100 mW)

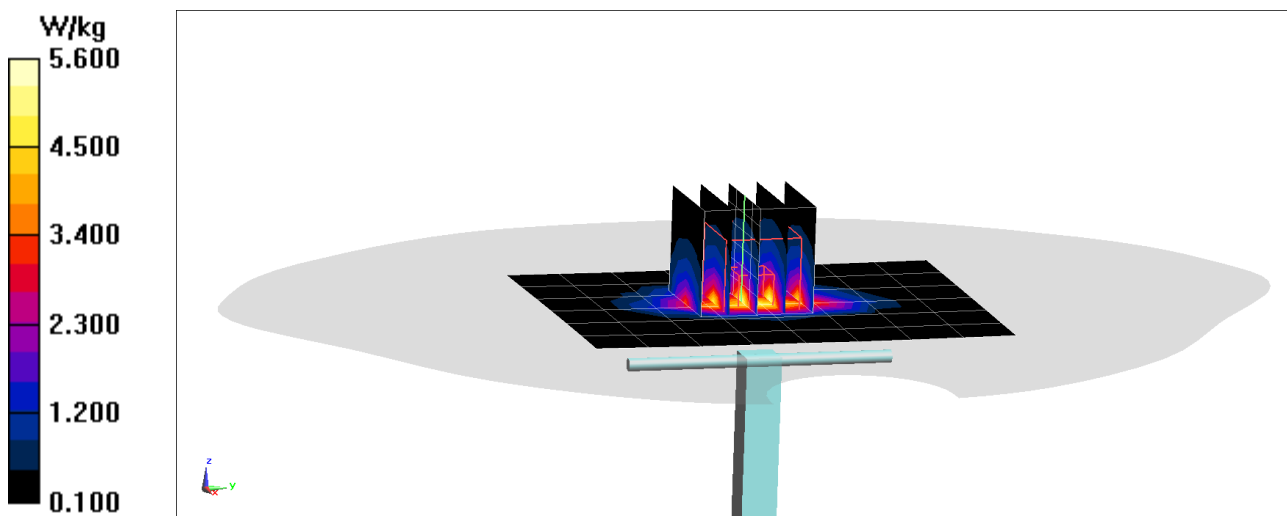
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.62 W/kg

SAR(1 g) = 3.7 W/kg; SAR(10 g) = 1.96 W/kg

Deviation(1 g) = -0.27%



PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.573 \text{ S/m}$; $\epsilon_r = 52.835$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-16-2020; Ambient Temp: 20.7°C; Tissue Temp: 19.5°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1900 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

1900 MHz System Verification at 20.0 dBm (100 mW)

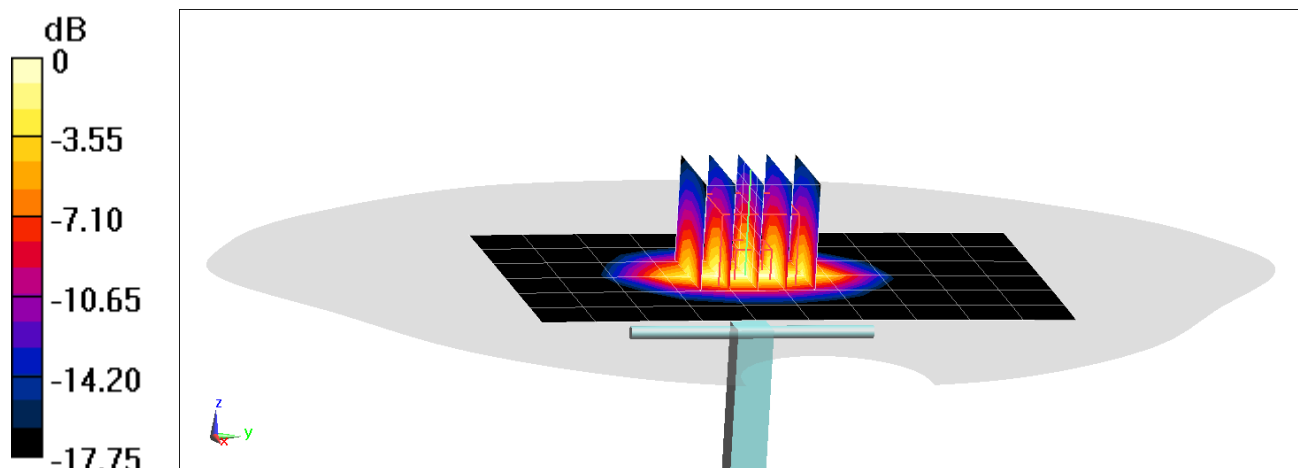
Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 7.63 W/kg

SAR(1 g) = 4.18 W/kg; SAR(10 g) = 2.16 W/kg

Deviation(1 g) = 4.76%



PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.58 \text{ S/m}$; $\epsilon_r = 51.599$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-22-2020; Ambient Temp: 21.1°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7420; ConvF(7.64, 7.64, 7.64) @ 1900 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

1900 MHz System Verification at 20.0 dBm (100 mW)

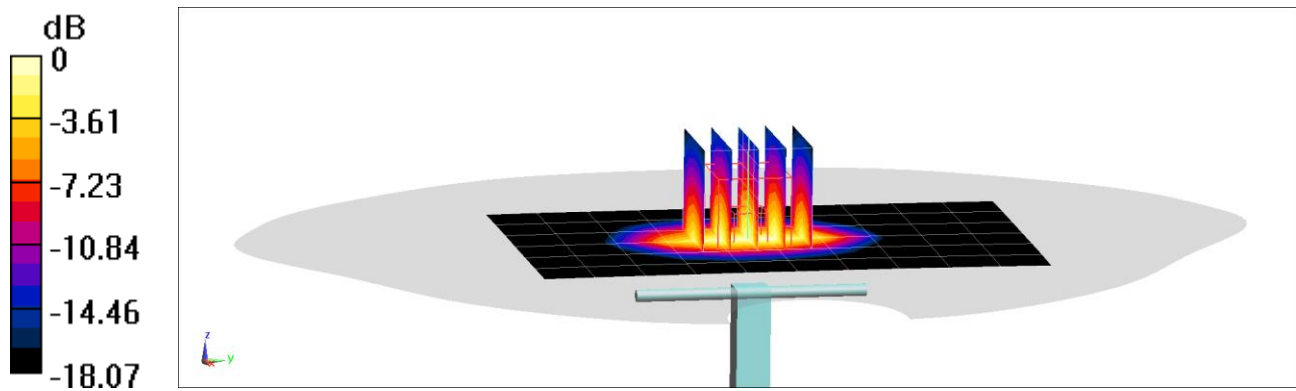
Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.51 W/kg

SAR(1 g) = 4.08 W/kg; SAR(10 g) = 2.1 W/kg

Deviation(1 g) = 2.26%



0 dB = 6.36 W/kg = 8.03 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V3; Serial: 1038

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2300 Body Medium parameters used:

$f = 2300 \text{ MHz}$; $\sigma = 1.832 \text{ S/m}$; $\epsilon_r = 51.591$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-05-2020; Ambient Temp: 21.0°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7532; ConvF(7.93, 7.93, 7.93) @ 2300 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

2300 MHz System Verification at 20.0 dBm (100 mW)

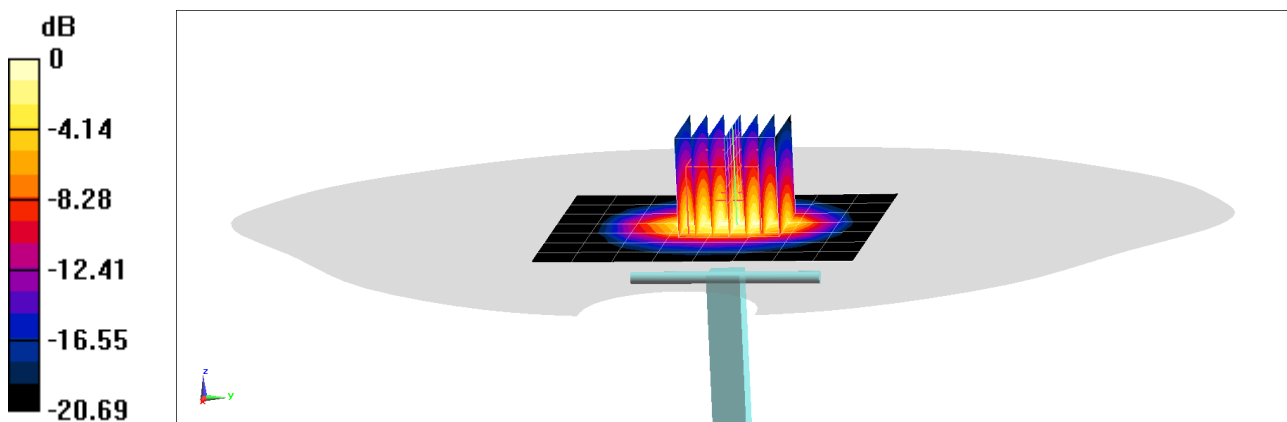
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 8.71 W/kg

SAR(1 g) = 4.43 W/kg; SAR(10 g) = 2.12 W/kg

Deviation(1 g) = -5.14%



0 dB = 7.18 W/kg = 8.56 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 921

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 2.036 \text{ S/m}$; $\epsilon_r = 51.076$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-20-2019; Ambient Temp: 21.0°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7532; ConvF(7.66, 7.66, 7.66) @ 2450 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

2450 MHz System Verification at 20.0 dBm (100 mW)

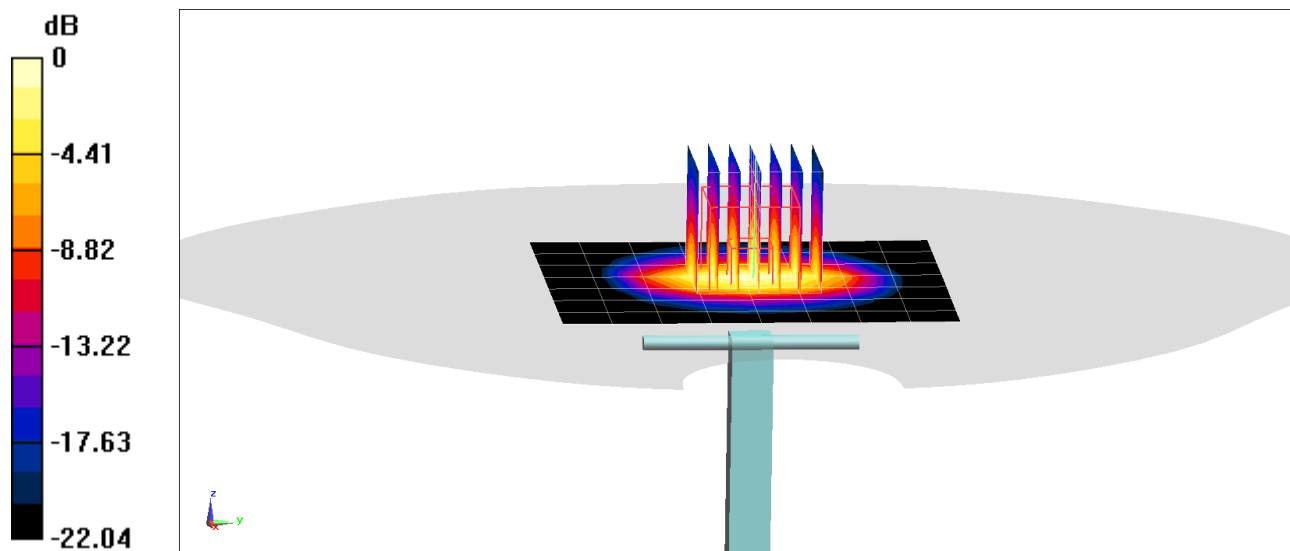
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 10.9 W/kg

SAR(1 g) = 5.36 W/kg; SAR(10 g) = 2.48 W/kg

Deviation(1 g) = 5.51%



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

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 921

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.948 \text{ S/m}$; $\epsilon_r = 50.877$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-14-2020; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7532; ConvF(7.66, 7.66, 7.66) @ 2450 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

2450 MHz System Verification at 20.0 dBm (100 mW)

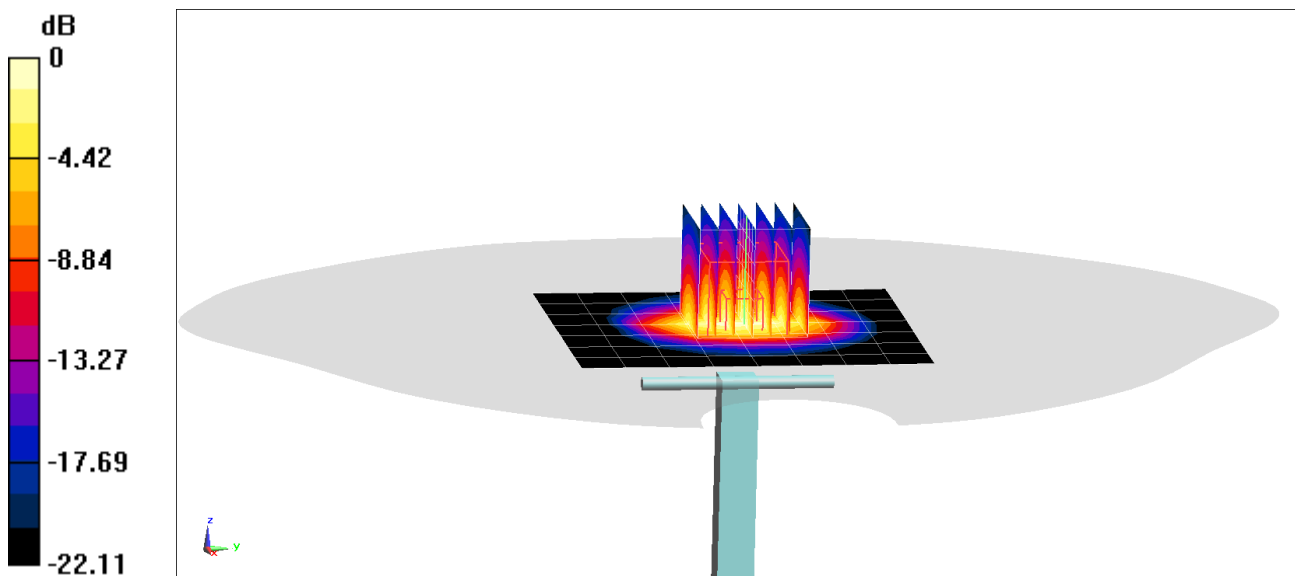
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 10.5 W/kg

SAR(1 g) = 5.12 W/kg; SAR(10 g) = 2.36 W/kg

Deviation(1 g) = 0.79%



0 dB = 8.54 W/kg = 9.31 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 921

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 2.005 \text{ S/m}$; $\epsilon_r = 50.845$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-29-2020; Ambient Temp: 22.1°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7532; ConvF(7.66, 7.66, 7.66) @ 2450 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

2450 MHz System Verification at 20.0 dBm (100 mW)

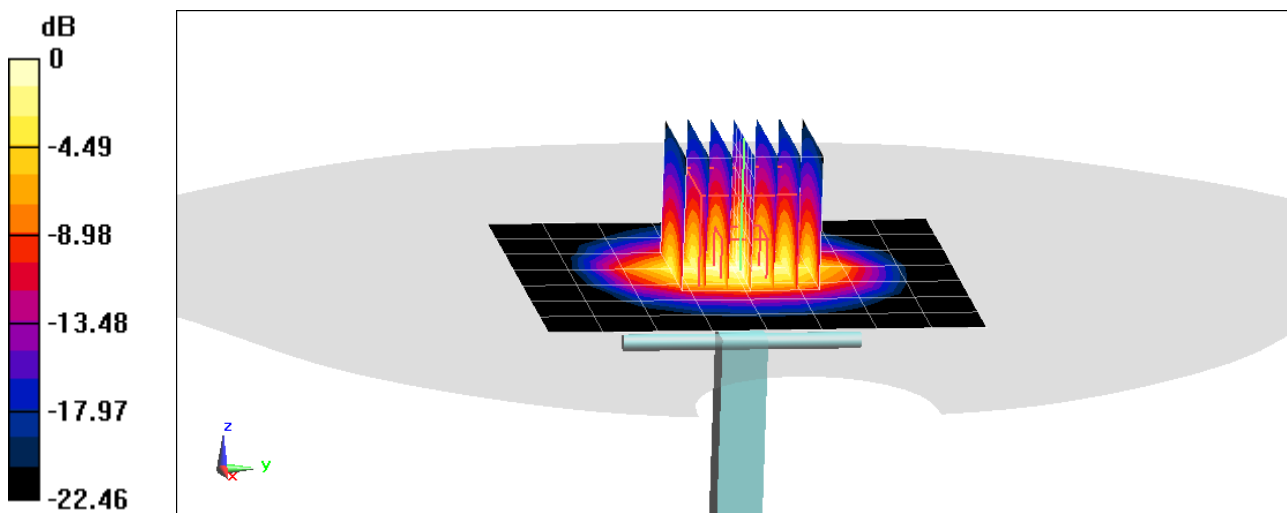
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 10.2 W/kg

SAR(1 g) = 4.92 W/kg; SAR(10 g) = 2.24 W/kg

Deviation(1 g) = -3.15%



0 dB = 8.31 W/kg = 9.20 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 945

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 2.038 \text{ S/m}$; $\epsilon_r = 51$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date:02-04-2020; Ambient Temp: 22.2°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN3949; ConvF(7.75, 7.75, 7.75) @ 2450 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

2450 MHz System Verification at 20.0 dBm (100 mW)

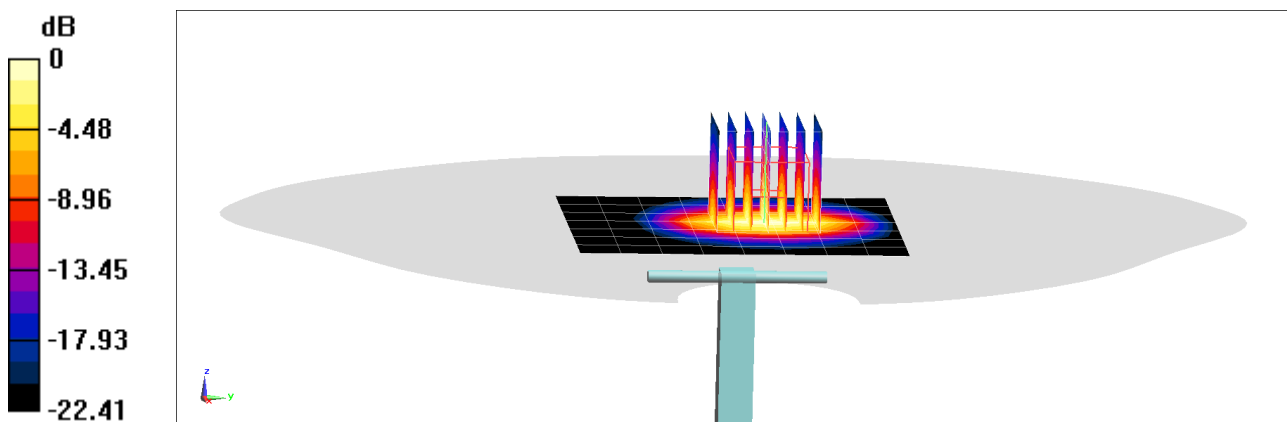
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.2 W/kg

SAR(1 g) = 5.21 W/kg; SAR(10 g) = 2.38 W/kg

Deviation(1 g) = 5.47%



0 dB = 8.92 W/kg = 9.50 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1069

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2600$ MHz; $\sigma = 2.216$ S/m; $\epsilon_r = 50.297$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-29-2020; Ambient Temp: 22.1°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7532; ConvF(7.47, 7.47, 7.47) @ 2600 MHz; Calibrated: 4/12/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/17/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (3); SEMCAD X Version 14.6.13 (7474)

2600 MHz System Verification at 20.0 dBm (100 mW)

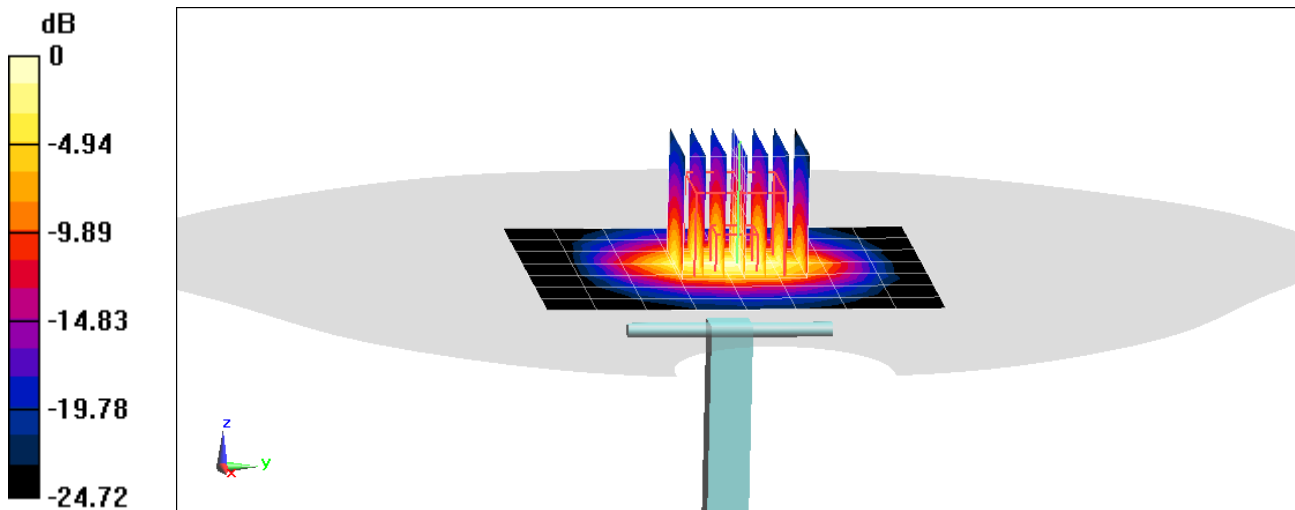
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 11.9 W/kg

SAR(1 g) = 5.25 W/kg; SAR(10 g) = 2.31 W/kg

Deviation(1 g) = -5.06%



PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1009

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2600$ MHz; $\sigma = 2.223$ S/m; $\epsilon_r = 50.587$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date:02-04-2020; Ambient Temp: 22.2°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN3949; ConvF(7.69, 7.69, 7.69) @ 2600 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

2600 MHz System Verification at 20.0 dBm (100 mW)

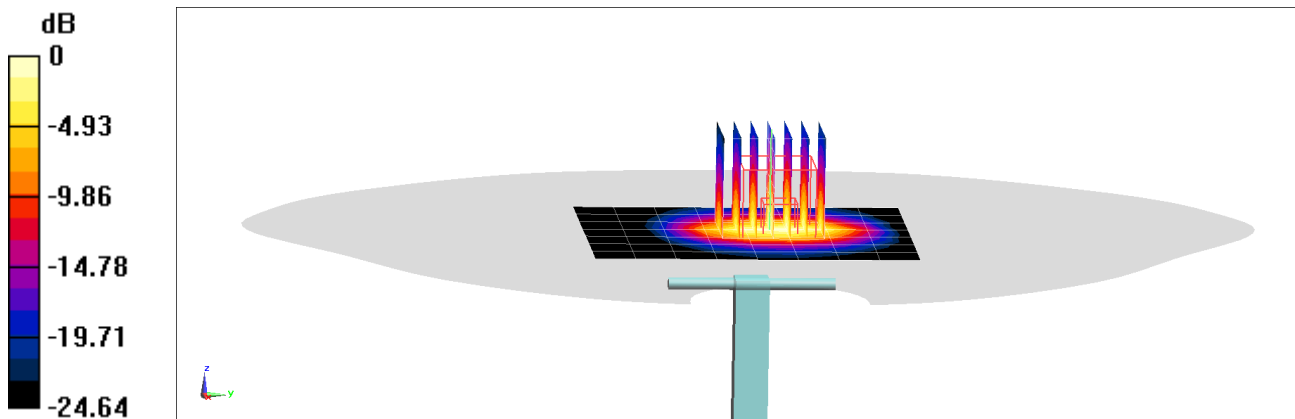
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

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

Peak SAR (extrapolated) = 12.5 W/kg

SAR(1 g) = 5.55 W/kg; SAR(10 g) = 2.41 W/kg

Deviation(1 g) = 0.00%



0 dB = 9.66 W/kg = 9.85 dBW/kg

PCTEST

DUT: Dipole 3500 MHz; Type: D3500V2; Serial: 1068

Communication System: UID 0, CW; Frequency: 3500 MHz; Duty Cycle: 1:1

Medium: 3500-3700 Body Medium parameters used:

$f = 3500 \text{ MHz}$; $\sigma = 3.361 \text{ S/m}$; $\epsilon_r = 49.551$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-20-2020; Ambient Temp: 21.4°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN3949; ConvF(6.88, 6.88, 6.88) @ 3500 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

3500 MHz System Verification at 20.0 dBm (100 mW)

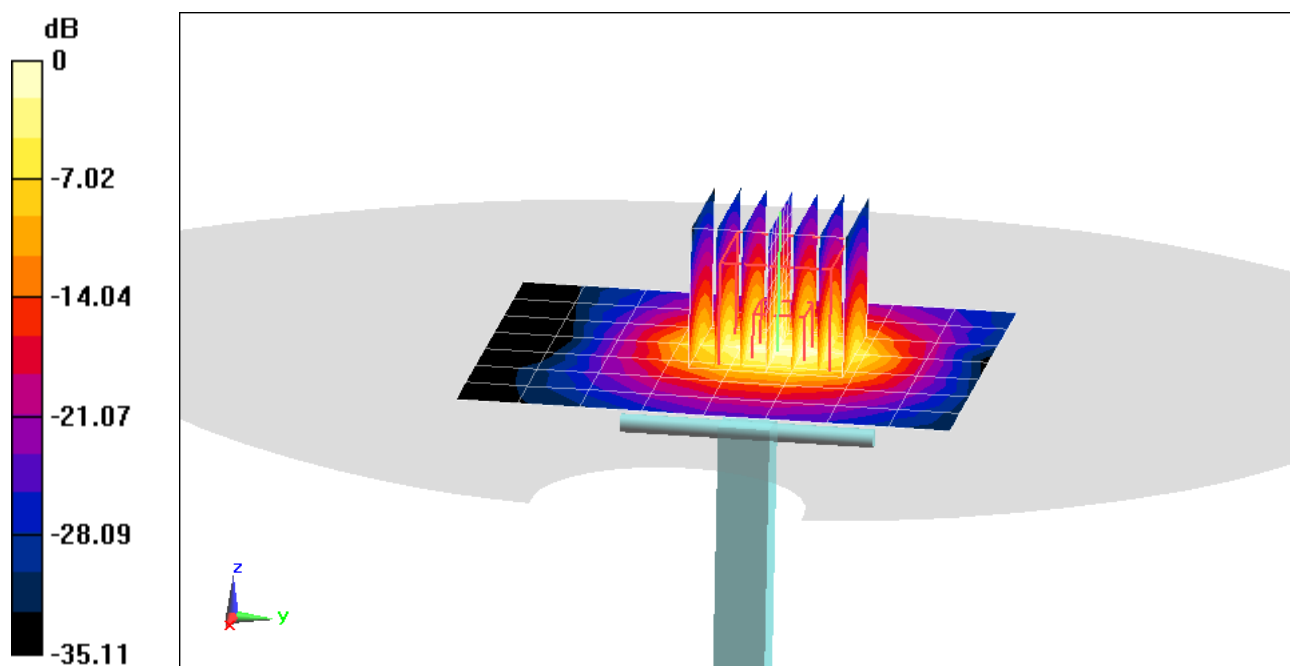
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=4mm

Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 6.16 W/kg; SAR(10 g) = 2.28 W/kg

Deviation(1 g) = -5.67%



0 dB = 12.0 W/kg = 10.79 dBW/kg

PCTEST

DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1029

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3500-3700 Body Medium parameters used (interpolated):

$f = 3700 \text{ MHz}$; $\sigma = 3.628 \text{ S/m}$; $\epsilon_r = 48.993$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-20-2020; Ambient Temp: 21.4°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN3949; ConvF(6.78, 6.78, 6.78) @ 3700 MHz; Calibrated: 8/29/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 8/12/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

3700 MHz System Verification at 20.0 dBm (100 mW)

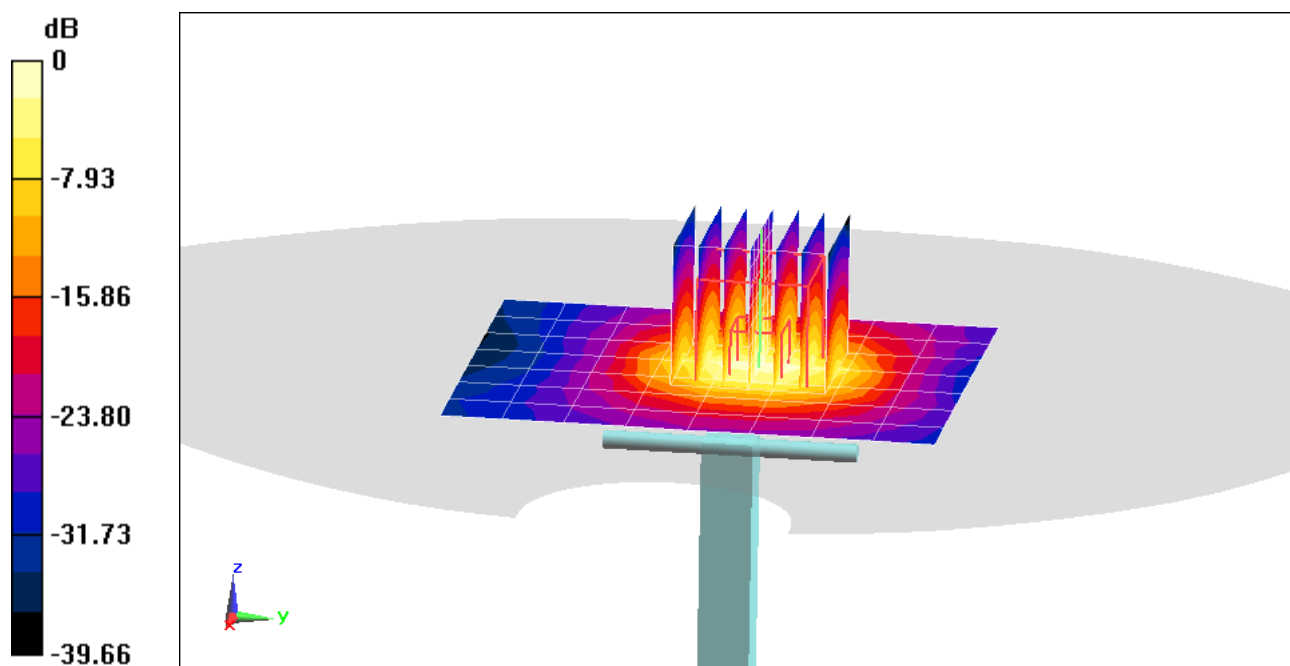
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x8)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=4\text{mm}$

Peak SAR (extrapolated) = 17.2 W/kg

SAR(1 g) = 6.28 W/kg; SAR(10 g) = 2.22 W/kg

Deviation(1 g) = -3.24%



0 dB = 12.7 W/kg = 11.04 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used (interpolated):

$f = 5250 \text{ MHz}$; $\sigma = 5.121 \text{ S/m}$; $\epsilon_r = 48.383$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2020; Ambient Temp: 22.1°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7491; ConvF(4.87, 4.87, 4.87) @ 5250 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

5250 MHz System Verification at 17.0 dBm (50 mW)

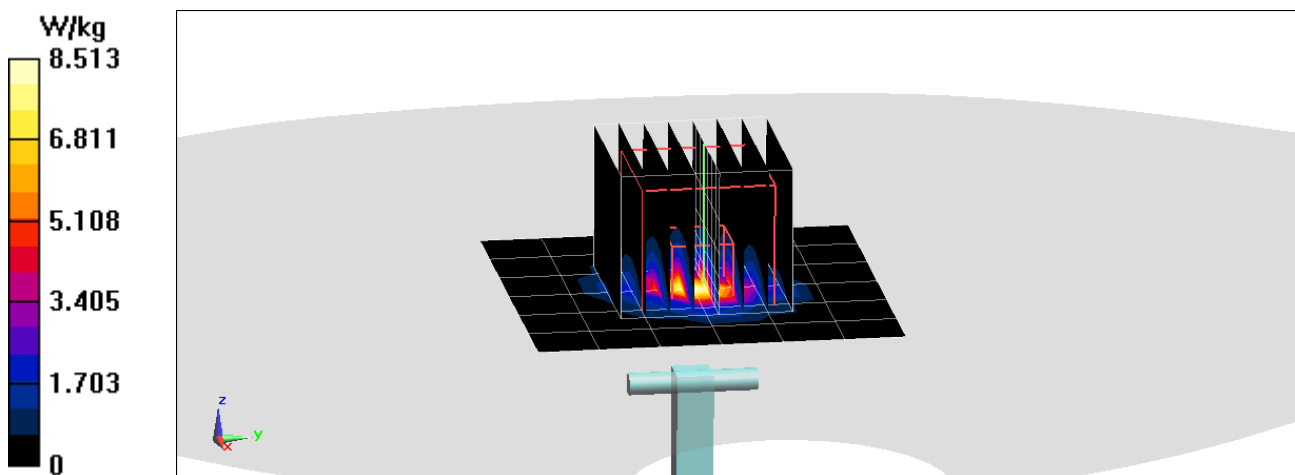
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 13.5 W/kg

SAR(1 g) = 3.66 W/kg; SAR(10 g) = 1.02 W/kg

Deviation(1 g) = -5.79%



PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used:

$f = 5600 \text{ MHz}$; $\sigma = 5.629 \text{ S/m}$; $\epsilon_r = 47.689$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2020; Ambient Temp: 22.1°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7491; ConvF(4.23, 4.23, 4.23) @ 5600 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

5600 MHz System Verification at 17.0 dBm (50 mW)

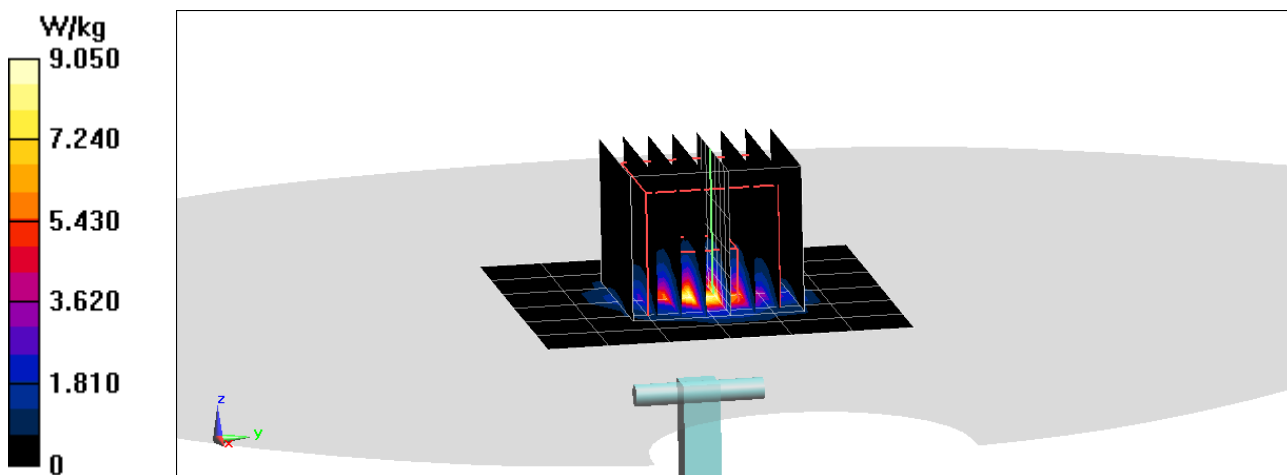
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 3.78 W/kg; SAR(10 g) = 1.04 W/kg

Deviation(1 g) = -5.62%



PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used (interpolated):

$f = 5750 \text{ MHz}$; $\sigma = 5.83 \text{ S/m}$; $\epsilon_r = 47.404$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2020; Ambient Temp: 22.1°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7491; ConvF(4.32, 4.32, 4.32) @ 5750 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

Measurement SW: DASY52, Version 52.10 (3);SEMCAD X Version 14.6.13 (7474)

5750 MHz System Verification at 17.0 dBm (50 mW)

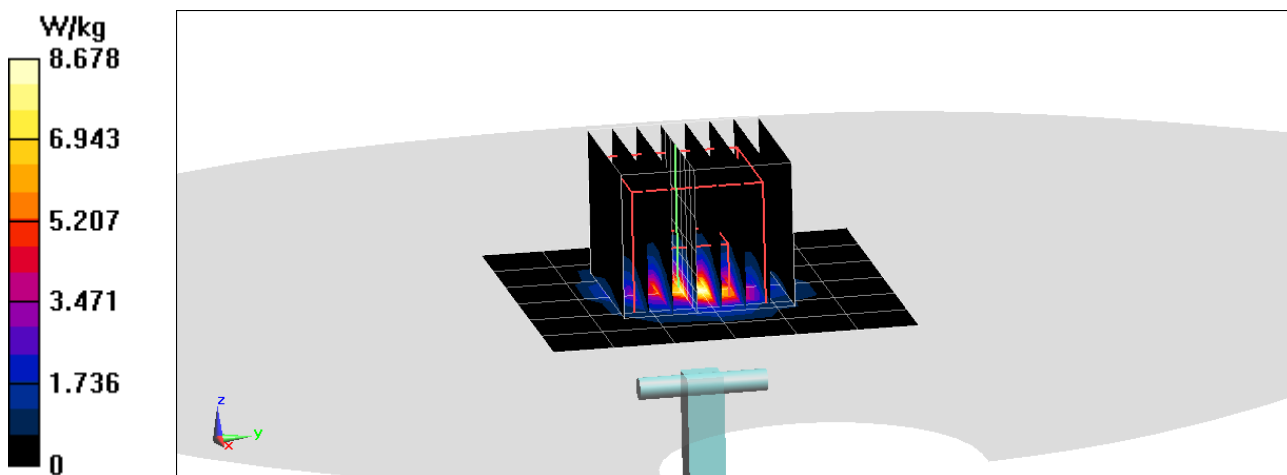
Area Scan (7x7x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 3.59 W/kg; SAR(10 g) = 0.995 W/kg

Deviation(1 g) = -7.71%



APPENDIX C: SAR TISSUE SPECIFICATIONS

FCC ID: BCGA2232	 SAR EVALUATION REPORT	Approved by: Quality Manager
Test Dates: 12/20/2019 – 02/05/2020	DUT Type: Tablet Device	APPENDIX C: Page 1 of 3

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):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

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, > C₁₆ 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.

FCC ID: BCGA2232	 SAR EVALUATION REPORT	Approved by: Quality Manager
Test Dates: 12/20/2019 – 02/05/2020	DUT Type: Tablet Device	APPENDIX C: Page 2 of 3

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 865864 compliance standard.

Test Condition

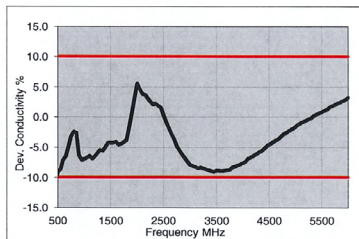
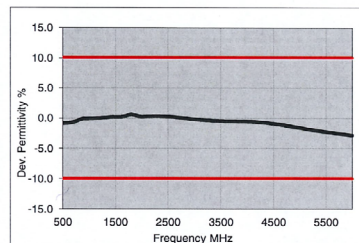
Ambient Condition 22°C ; 30% humidity
TSL Temperature 22°C
Test Date 30-Oct-18
Operator CL

Additional Information

TSL Density
TSL Heat-capacity

Results

f [MHz]	Measured			Target		Diff.to Target [%]	
	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

Figure C-2
600 – 5800 MHz Body Tissue Equivalent Matter

FCC ID: BCGA2232	 PCTEST	SAR EVALUATION REPORT	Approved by: Quality Manager
Test Dates: 12/20/2019 – 02/05/2020	DUT Type: Tablet Device		APPENDIX C: Page 3 of 3
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APPENDIX D: SAR SYSTEM VALIDATION

FCC ID: BCGA2232	 PCTEST	SAR EVALUATION REPORT	Approved by: Quality Manager
Test Dates: 12/20/2019 – 02/05/2020	DUT Type: Tablet Device		APPENDIX D: Page 1 of 2

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.	PERM.	CW VALIDATION			MOD. VALIDATION		
					(σ)	(ϵ_r)	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM1	750	7/15/2019	7421	750	Body	0.93	53.942	PASS	PASS	PASS	N/A	N/A
AM6	835	8/7/2019	7427	835	Body	0.959	54.066	PASS	PASS	PASS	GMSK	PASS
AM6	1750	3/12/2019	7427	1750	Body	1.456	51.525	PASS	PASS	PASS	N/A	N/A
AM2	1900	12/5/2019	7420	1900	Body	1.490	52.56	PASS	PASS	PASS	GMSK	PASS
AM4	2300	4/23/2019	7532	2300	Body	1.897	50.974	PASS	PASS	PASS	N/A	N/A
AM4	2450	4/23/2019	7532	2450	Body	2.027	50.762	PASS	PASS	PASS	OFDM/TDD	PASS
AM3	2450	9/4/2019	3949	2450	Body	1.955	52.22	PASS	PASS	PASS	OFDM/TDD	PASS
AM4	2600	4/23/2019	7532	2600	Body	2.167	50.527	PASS	PASS	PASS	TDD	PASS
AM3	2600	9/4/2019	3949	2600	Body	2.096	51.97	PASS	PASS	PASS	TDD	PASS
AM3	3500	12/11/2019	3949	3500	Body	3.448	50.786	PASS	PASS	PASS	TDD	PASS
AM3	3700	12/11/2019	3949	3700	Body	3.67	50.471	PASS	PASS	PASS	TDD	PASS
AM5	5250	8/27/2019	7491	5250	Body	5.352	47.481	PASS	PASS	PASS	OFDM	N/A
AM5	5600	8/14/2019	7491	5600	Body	5.897	46.808	PASS	PASS	PASS	OFDM	N/A
AM5	5750	8/14/2019	7491	5750	Body	6.122	46.512	PASS	PASS	PASS	OFDM	N/A

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.
- The antenna with highest maximum output power for each LTE Band was selected for the PCC configurations of DLCA power measurements.

Table 1 – Example of Exclusion Table for SISO Configurations

Index	CC	Supported Channel Bandwidth [MHz]	Restriction	Completely Covered by Measurement Superset
CCC#1	CA [2A]	5, 10, 15, 20	None	Yes
CCC#2	CA [2A]	5, 10, 15, 20	None	Yes
CCC#3	CA [2A]	5, 10, 15, 20	None	Yes
CCC#4	CA [2A]	5, 10, 15, 20	None	Yes
CCC#5	CA [2A]	5, 10, 15, 20	None	Yes
CCC#6	CA [2A]	5, 10, 15, 20	None	Yes
CCC#7	CA [2A]	5, 10, 15, 20	None	Yes
CCC#8	CA [2A]	5, 10, 15, 20	None	Yes
CCC#9	CA [2A]	5, 10, 15, 20	None	Yes
CCC#10	CA [2A]	5, 10, 15, 20	None	Yes
CCC#11	CA [2A]	5, 10, 15, 20	None	Yes
CCC#12	CA [2A]	5, 10, 15, 20	None	Yes
CCC#13	CA [2A]	5, 10, 15, 20	None	Yes
CCC#14	CA [2A]	5, 10, 15, 20	None	Yes
CCC#15	CA [2A]	5, 10, 15, 20	None	Yes
CCC#16	CA [2A]	5, 10, 15, 20	None	Yes
CCC#17	CA [2A]	5, 10, 15, 20	None	Yes
CCC#18	CA [2A]	5, 10, 15, 20	None	Yes
CCC#19	CA [2A]	5, 10, 15, 20	None	Yes
CCC#20	CA [2A]	5, 10, 15, 20	None	Yes
CCC#21	CA [2A]	5, 10, 15, 20	None	Yes
CCC#22	CA [2A]	5, 10, 15, 20	None	Yes
CCC#23	CA [2A]	5, 10, 15, 20	None	Yes
CCC#24	CA [2A]	5, 10, 15, 20	None	Yes
CCC#25	CA [2A]	5, 10, 15, 20	None	Yes
CCC#26	CA [2A]	5, 10, 15, 20	None	Yes
CCC#27	CA [2A]	5, 10, 15, 20	None	Yes
CCC#28	CA [2A]	5, 10, 15, 20	None	Yes
CCC#29	CA [2A]	5, 10, 15, 20	None	Yes
CCC#30	CA [2A]	5, 10, 15, 20	None	Yes
CCC#31	CA [2A]	5, 10, 15, 20	None	Yes
CCC#32	CA [2A]	5, 10, 15, 20	None	Yes
CCC#33	CA [2A]	5, 10, 15, 20	None	Yes
CCC#34	CA [2A]	5, 10, 15, 20	None	Yes
CCC#35	CA [2A]	5, 10, 15, 20	None	Yes
CCC#36	CA [2A]	5, 10, 15, 20	None	Yes
CCC#37	CA [2A]	5, 10, 15, 20	None	Yes
CCC#38	CA [2A]	5, 10, 15, 20	None	Yes
CCC#39	CA [2A]	5, 10, 15, 20	None	Yes
CCC#40	CA [2A]	5, 10, 15, 20	None	Yes
CCC#41	CA [2A]	5, 10, 15, 20	None	Yes
CCC#42	CA [2A]	5, 10, 15, 20	None	Yes
CCC#43	CA [2A]	5, 10, 15, 20	None	Yes
CCC#44	CA [2A]	5, 10, 15, 20	None	Yes
CCC#45	CA [2A]	5, 10, 15, 20	None	Yes
CCC#46	CA [2A]	5, 10, 15, 20	None	Yes
CCC#47	CA [2A]	5, 10, 15, 20	None	Yes
CCC#48	CA [2A]	5, 10, 15, 20	None	Yes
CCC#49	CA [2A]	5, 10, 15, 20	None	Yes
CCC#50	CA [2A]	5, 10, 15, 20	None	Yes
CCC#51	CA [2A]	5, 10, 15, 20	None	Yes
CCC#52	CA [2A]	5, 10, 15, 20	None	Yes
CCC#53	CA [2A]	5, 10, 15, 20	None	Yes
CCC#54	CA [2A]	5, 10, 15, 20	None	Yes
CCC#55	CA [2A]	5, 10, 15, 20	None	Yes
CCC#56	CA [2A]	5, 10, 15, 20	None	Yes
CCC#57	CA [2A]	5, 10, 15, 20	None	Yes
CCC#58	CA [2A]	5, 10, 15, 20	None	Yes
CCC#59	CA [2A]	5, 10, 15, 20	None	Yes
CCC#60	CA [2A]	5, 10, 15, 20	None	Yes
CCC#61	CA [2A]	5, 10, 15, 20	None	Yes
CCC#62	CA [2A]	5, 10, 15, 20	None	Yes
CCC#63	CA [2A]	5, 10, 15, 20	None	Yes
CCC#64	CA [2A]	5, 10, 15, 20	None	Yes
CCC#65	CA [2A]	5, 10, 15, 20	None	Yes
CCC#66	CA [2A]	5, 10, 15, 20	None	Yes
CCC#67	CA [2A]	5, 10, 15, 20	None	Yes
CCC#68	CA [2A]	5, 10, 15, 20	None	Yes
CCC#69	CA [2A]	5, 10, 15, 20	None	Yes
CCC#70	CA [2A]	5, 10, 15, 20	None	Yes
CCC#71	CA [2A]	5, 10, 15, 20	None	Yes
CCC#72	CA [2A]	5, 10, 15, 20	None	Yes
CCC#73	CA [2A]	5, 10, 15, 20	None	Yes
CCC#74	CA [2A]	5, 10, 15, 20	None	Yes
CCC#75	CA [2A]	5, 10, 15, 20	None	Yes
CCC#76	CA [2A]	5, 10, 15, 20	None	Yes
CCC#77	CA [2A]	5, 10, 15, 20	None	Yes
CCC#78	CA [2A]	5, 10, 15, 20	None	Yes
CCC#79	CA [2A]	5, 10, 15, 20	None	Yes
CCC#80	CA [2A]	5, 10, 15, 20	None	Yes
CCC#81	CA [2A]	5, 10, 15, 20	None	Yes
CCC#82	CA [2A]	5, 10, 15, 20	None	Yes
CCC#83	CA [2A]	5, 10, 15, 20	None	Yes
CCC#84	CA [2A]	5, 10, 15, 20	None	Yes
CCC#85	CA [2A]	5, 10, 15, 20	None	Yes
CCC#86	CA [2A]	5, 10, 15, 20	None	Yes
CCC#87	CA [2A]	5, 10, 15, 20	None	Yes
CCC#88	CA [2A]	5, 10, 15, 20	None	Yes
CCC#89	CA [2A]	5, 10, 15, 20	None	Yes
CCC#90	CA [2A]	5, 10, 15, 20	None	Yes
CCC#91	CA [2A]	5, 10, 15, 20	None	Yes
CCC#92	CA [2A]	5, 10, 15, 20	None	Yes
CCC#93	CA [2A]	5, 10, 15, 20	None	Yes
CCC#94	CA [2A]	5, 10, 15, 20	None	Yes
CCC#95	CA [2A]	5, 10, 15, 20	None	Yes
CCC#96	CA [2A]	5, 10, 15, 20	None	Yes
CCC#97	CA [2A]	5, 10, 15, 20	None	Yes
CCC#98	CA [2A]	5, 10, 15, 20	None	Yes
CCC#99	CA [2A]	5, 10, 15, 20	None	Yes
CCC#100	CA [2A]	5, 10, 15, 20	None	Yes

Table 2 – Example of Exclusion Table for 4x4 Downlink MIMO Configurations

Index	CC	Supported Channel Bandwidth [MHz]	Restriction	Completely Covered by Measurement Superset
CCC#1	CA [2A]	5, 10, 15, 20	None	Yes
CCC#2	CA [2A]	5, 10, 15, 20	None	Yes
CCC#3	CA [2A]	5, 10, 15, 20	None	Yes
CCC#4	CA [2A]	5, 10, 15, 20	None	Yes
CCC#5	CA [2A]	5, 10, 15, 20	None	Yes
CCC#6	CA [2A]	5, 10, 15, 20	None	Yes
CCC#7	CA [2A]	5, 10, 15, 20	None	Yes
CCC#8	CA [2A]	5, 10, 15, 20	None	Yes
CCC#9	CA [2A]	5, 10, 15, 20	None	Yes
CCC#10	CA [2A]	5, 10, 15, 20	None	Yes
CCC#11	CA [2A]	5, 10, 15, 20	None	Yes
CCC#12	CA [2A]	5, 10, 15, 20	None	Yes
CCC#13	CA [2A]	5, 10, 15, 20	None	Yes
CCC#14	CA [2A]	5, 10, 15, 20	None	Yes
CCC#15	CA [2A]	5, 10, 15, 20	None	Yes
CCC#16	CA [2A]	5, 10, 15, 20	None	Yes
CCC#17	CA [2A]	5, 10, 15, 20	None	Yes
CCC#18	CA [2A]	5, 10, 15, 20	None	Yes
CCC#19	CA [2A]	5, 10, 15, 20	None	Yes
CCC#20	CA [2A]	5, 10, 15, 20	None	Yes
CCC#21	CA [2A]	5, 10, 15, 20	None	Yes
CCC#22	CA [2A]	5, 10, 15, 20	None	Yes
CCC#23	CA [2A]	5, 10, 15, 20	None	Yes
CCC#24	CA [2A]	5, 10, 15, 20	None	Yes
CCC#25	CA [2A]	5, 10, 15, 20	None	Yes
CCC#26	CA [2A]	5, 10, 15, 20	None	Yes
CCC#27	CA [2A]	5, 10, 15, 20	None	Yes
CCC#28	CA [2A]	5, 10, 15, 20	None	Yes
CCC#29	CA [2A]	5, 10, 15, 20	None	Yes
CCC#30	CA [2A]	5, 10, 15, 20	None	Yes
CCC#31	CA [2A]	5, 10, 15, 20	None	Yes
CCC#32	CA [2A]	5, 10, 15, 20	None	Yes
CCC#33	CA [2A]	5, 10, 15, 20	None	Yes
CCC#34	CA [2A]	5, 10, 15, 20	None	Yes
CCC#35	CA [2A]	5, 10, 15, 20	None	Yes
CCC#36	CA [2A]	5, 10, 15, 20	None	Yes
CCC#37	CA [2A]	5, 10, 15, 20	None	Yes
CCC#38	CA [2A]	5, 10, 15, 20	None	Yes
CCC#39	CA [2A]	5, 10, 15, 20	None	Yes
CCC#40	CA [2A]	5, 10, 15, 20	None	Yes
CCC#41	CA [2A]	5, 10, 15, 20	None	Yes
CCC#42	CA [2A]	5, 10, 15, 20	None	Yes
CCC#43	CA [2A]	5, 10, 15, 20	None	Yes
CCC#44	CA [2A]	5, 10, 15, 20	None	Yes
CCC#45	CA [2A]	5, 10, 15, 20	None	Yes
CCC#46	CA [2A]	5, 10, 15, 20	None	Yes
CCC#47	CA [2A]	5, 10, 15, 20	None	Yes
CCC#48	CA [2A]	5, 10, 15, 20	None	Yes
CCC#49	CA [2A]	5, 10, 15, 20	None	Yes
CCC#50	CA [2A]	5, 10, 15, 20	None	Yes
CCC#51	CA [2A]	5, 10, 15, 20	None	Yes
CCC#52	CA [2A]	5, 10, 15, 20	None	Yes
CCC#53	CA [2A]	5, 10, 15, 20	None	Yes
CCC#54	CA [2A]	5, 10, 15, 20	None	Yes
CCC#55	CA [2A]	5, 10, 15, 20	None	Yes
CCC#56	CA [2A]	5, 10, 15, 20	None	Yes
CCC#57	CA [2A]	5, 10, 15, 20	None	Yes
CCC#58	CA [2A]	5, 10, 15, 20	None	Yes
CCC#59	CA [2A]	5, 10, 15, 20	None	Yes
CCC#60	CA [2A]	5, 10, 15, 20	None	Yes
CCC#61	CA [2A]	5, 10, 15, 20	None	Yes
CCC#62	CA [2A]	5, 10, 15, 20	None	Yes
CCC#63	CA [2A]	5, 10, 15, 20	None	Yes
CCC#64	CA [2A]	5, 10, 15, 20	None	Yes
CCC#65	CA [2A]	5, 10, 15, 20	None	Yes
CCC#66	CA [2A]	5, 10, 15, 20	None	Yes
CCC#67	CA [2A]	5, 10, 15, 20	None	Yes
CCC#68	CA [2A]	5, 10, 15, 20	None	Yes
CCC#69	CA [2A]	5, 10, 15, 20	None	Yes
CCC#70	CA [2A]	5, 10, 15, 20	None	Yes
CCC#71	CA [2A]	5, 10, 15, 20	None	Yes
CCC#72	CA [2A]	5, 10, 15, 20	None	Yes
CCC#73	CA [2A]	5, 10, 15, 20	None	Yes
CCC#74	CA [2A]	5, 10, 15, 20	None	Yes
CCC#75	CA [2A]	5, 10, 15, 20	None	Yes
CCC#76	CA [2A]	5, 10, 15, 20	None	Yes
CCC#77	CA [2A]	5, 10, 15, 20	None	Yes
CCC#78	CA [2A]	5, 10, 15, 20	None	Yes
CCC#79	CA [2A]	5, 10, 15, 20	None	Yes
CCC#80	CA [2A]	5, 10, 15, 20	None	Yes
CCC#81	CA [2A]	5, 10, 15, 20	None	Yes
CCC#82	CA [2A]	5, 10, 15, 20	None	Yes
CCC#83	CA [2A]	5, 10, 15, 20	None	Yes
CCC#84	CA [2A]	5, 10, 15, 20	None	Yes
CCC#85	CA [2A]	5, 10, 15, 20	None	Yes
CCC#86	CA [2A]	5, 10, 15, 20	None	Yes
CCC#87	CA [2A]	5, 10, 15, 20	None	Yes
CCC#88	CA [2A]	5, 10, 15, 20	None	Yes
CCC#89	CA [2A]	5, 10, 15, 20	None	Yes
CCC#90	CA [2A]	5, 10, 15, 20	None	Yes
CCC#91	CA [2A]	5, 10, 15, 20	None	Yes
CCC#92	CA [2A]	5, 10, 15, 20	None	Yes
CCC#93	CA [2A]	5, 10, 15, 20	None	Yes
CCC#94	CA [2A]	5, 10, 15, 20	None	Yes
CCC#95	CA [2A]	5, 10, 15, 20	None	Yes
CCC#96	CA [2A]	5, 10, 15, 20	None	Yes
CCC#97	CA [2A]	5, 10, 15, 20	None	Yes
CCC#98	CA [2A]	5, 10, 15, 20	None	Yes
CCC#99	CA [2A]	5, 10, 15, 20	None	Yes
CCC#100	CA [2A]	5, 10, 15, 20	None	Yes

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.

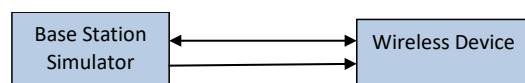


Figure 1
DL CA Power Measurement Setup

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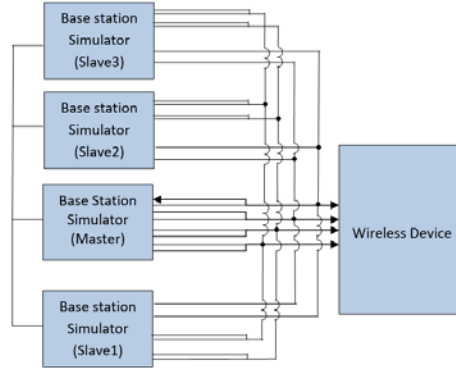


Figure 2
DL CA with DL 4x4 MIMO Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 12 as PCC

Table 1
Output Powers – Ant 3

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 1				SCC 2				SCC 3				SCC 4				LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
										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]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]		
CA 2A-12A (1)	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	-	-	-	-	-	-	-	-	-	-	-	-	21.80	21.80
CA 4A-12A (1)	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	21.70	21.80
CA 4A-12A (2)	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	-	-	21.70	21.80
CA 12A-6A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B25	20	8365	1062.5	-	-	-	-	-	-	-	-	-	-	-	-	21.80	21.80
CA 12A-6A (1)	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B46	20	5055	5537.5	-	-	-	-	-	-	-	-	-	-	-	-	21.80	21.80
CA 12A-6A (2)	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	-	-	-	-	21.80	21.80
CA 2C-12A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	-	-	-	-	-	-	-	-	-	-	-	-	21.80	21.80
CA 2A-2A-12A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B2	20	700	1940	-	-	-	-	-	-	-	-	21.80	21.80
CA 4A-4A-12A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.80	21.80
CA 2A-2A-4A-12A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.80	21.80
CA 2A-4A-12A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	21.80	21.80
CA 4A-4A-12A-6A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.80	21.80
CA 2A-2A-12A-6A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.80	21.80
CA 2A-2A-12A-6A-6A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	LTE B66	20	66785	2145	21.80	21.80
CA 2A-2A-12A-6A-6A-6A	LTE B12	5	23035	731.5	16QAM	1	12	5035	731.5	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	LTE B66	20	66785	2145	21.80	21.80

1.3.2 LTE Band 13 as PCC

Table 2
Output Powers – Ant 3

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 1				SCC 2				SCC 3				SCC 4				LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
										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]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]		
CA 4A-4A-13A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	21.58	21.64
CA 2A-4A-13A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	21.57	21.64
CA 2A-12A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.67	21.64
CA 13A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64
CA 13A-6A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64
CA 2A-2A-13A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.58	21.64
CA 2A-2A-13A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	LTE B66	20	66785	2145	21.58	21.64
CA 2A-2A-13A-6A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	LTE B66	20	66785	2145	21.58	21.64
CA 2A-13A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B12	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2175	2132.5	-	-	-	-	21.57	21.64
CA 13A-6A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64
CA 2A-13A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64
CA 2A-13A-6A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64
CA 2A-13A-6A-6A-6A-6A	LTE B13	10	23230	762	QPSK	1	0	5230	762	LTE B46	20	5055	5537.5	LTE B66	20	66785	2145	-	-	-	-	-	-	-	-	21.68	21.64

FCC ID: BCGA2232	 PCTEST Ready for your next test	SAR EVALUATION REPORT	Reviewed by: Quality Manager
Test Dates: 12/20/2019-2/05/2020	DUT Type: Tablet Device		APPENDIX F: Page 3 of 16

1.3.3

LTE Band 5 as PCC

Table 3
Output Powers – Ant 3

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 1				SCC 2				SCC 3				SCC 4				Power			
										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]	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 B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B7	20	3100	2665	-	-	-	-	-	-	-	-	-	-	-	-	-	21.27	21.17	
CA 5A-25A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B25	20	8365	1962.5	-	-	-	-	-	-	-	-	-	-	-	-	-	21.28	21.17	
CA 5A-41A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	-	-	-	-	-	21.17	21.17	
CA 5A-46A (1)	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	-	-	-	-	-	21.23	21.17	
CA 5A-46A	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	-	-	-	-	-	21.22	21.17	
CA 2C-5A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	-	-	-	-	-	-	-	-	-	-	20.86	21.17
CA 4A-5B (1)	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	5	2577	886.7	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	-	-	20.94	21.17
CA 5A-7A-7A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B7	20	3100	2665	LTE B7	20	2850	2630	-	-	-	-	-	-	-	-	-	-	20.97	21.17
CA 5A-7C	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B7	20	3100	2665	LTE B7	20	2850	2630	-	-	-	-	-	-	-	-	-	-	20.92	21.17
CA 5A-46C (1)	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	-	-	-	-	-	21.00	21.17	
CA 2A-5A-66A	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	-	-	-	-	-	-	-	-	-	-	20.95	21.17
CA 5A-46A-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	LTE B46	20	66786	2145	-	-	-	-	-	-	-	-	-	-	20.96	21.17
CA 4A-4A-5B	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	10	2553	884.3	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	-	-	-	-	-	-	20.89	21.17
CA 5A-46D (1)	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50665	5537.5	-	-	-	-	-	-	20.86	21.17
CA 5A-46A-66B	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	66786	2145	LTE B46	5	67188	2163.2	LTE B46	15	67261	2162.5	-	-	-	-	-	-	20.97	21.17
CA 2A-4A-5A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	-	-	20.93	21.17
CA 2A-4A-4A-5A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	20	2150	2150	-	-	-	-	-	-	20.94	21.17
CA 2A-4A-5B	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	10	2553	884.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	20.91	21.17
CA 2A-5A-46C	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	-	-	20.93	21.17
CA 4A-4A-5A-20A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B4	20	2175	2132.5	LTE B4	10	2250	2150	LTE B30	10	8020	2355	-	-	-	-	-	-	20.95	21.17
CA 5A-46C-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	66786	2145	-	-	-	-	-	-	20.96	21.17
CA 2A-4A-5A-20A	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B30	10	8020	2355	-	-	-	-	-	-	20.96	21.17
CA 2A-2A-5A-66A-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B46	20	66786	2145	LTE B46	20	67236	2150	20.89	21.17		
CA 2A-2A-5A-66B	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B46	15	66786	2145	LTE B46	5	66879	2154.3	20.84	21.17		
CA 2A-2A-5A-66C	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B46	20	66786	2145	LTE B46	20	66984	2164.8	20.86	21.17		
CA 2A-5A-46D	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50665	5537.5	20.92	21.17		
CA 2A-5B-66B	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	10	2553	884.3	LTE B2	20	900	1960	LTE B46	15	66786	2145	LTE B46	5	66879	2154.3	20.86	21.17		
CA 2A-5B-66A-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	10	2553	884.3	LTE B2	20	900	1960	LTE B46	20	66786	2145	LTE B46	20	66984	2164.8	20.85	21.17		
CA 2A-5B-66B-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B5	10	2553	884.3	LTE B2	20	900	1960	LTE B46	20	66786	2145	LTE B46	20	67038	2150	20.93	21.17		
CA 5A-46D-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B46	20	50665	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	50665	5537.5	LTE B46	20	66786	2145	20.88	21.17		
CA 5B-30A-66A-66A	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B5	10	2553	884.3	LTE B30	10	8020	2355	LTE B46	20	66786	2145	LTE B46	20	67236	2150	20.87	21.17		
CA 2A-2A-5A-20A-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	8020	2355	LTE B46	20	66786	2145	20.86	21.17		
CA 2A-5A-30A-66A-66A	LTE B5	5	26025	846.5	64QAM	1	0	26225	891.5	LTE B2	20	900	1960	LTE B30	10	8020	2355	LTE B46	20	66786	2145	LTE B46	20	67236	2150	20.88	21.17		
CA 2A-5B-30A-66A	LTE B5	5	26025	846.5	64QAM	2	0	26225	891.5	LTE B5	10	2553	884.3	LTE B2	20	900	1960	LTE B30	10	8020	2355	LTE B46	20	66786	2145	20.92	21.17		

1.3.4

LTE Band 26 as PCC

Table 4
Output Powers – Ant 3

	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) 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]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 7A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B7	20	3100	2655	-	-	-	-	21.02	20.99
CA 25A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B25	20	8365	1962.5	-	-	-	-	21.01	20.99
CA 26A-41A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B41	20	40620	2593	-	-	-	-	21.07	20.99
CA 7A-7A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B7	20	3100	2655	LTE B7	20	2850	2630	20.72	20.99
CA 25A-25A-26A	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B25	20	8365	1962.5	LTE B25	20	8590	1985	20.63	20.99
CA 26A-41C	LTE B26	5	26715	816.5	64QAM	1	0	8715	861.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	20.86	20.99

FCC ID: BCGA2232



SAR EVALUATION REPORT

Reviewed by:
Quality Manager

Test Dates:

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Tablet Device

Table 5

REV 21.3 M
02/15/2019

LTE Band 25 as PCC

Table 6
Output Powers – Ant 2A

	PCC										SSC1				SSC2				SSC3				SSC4				Power					
Combination	PCC Band	PCC BW [MHz]	PCC [UL] [Ch]	PCC [UL] Freq. [MHz]	Mod.	PCC ULAR RB	PCC UL RB Offset	PCC [DL] Channel	PCC [DL] Freq. [MHz]	SSC Band	SSC BW [MHz]	SSC [DL] Channel	SSC [DL] Freq. [MHz]	SSC Band	SSC BW [MHz]	SSC [DL] Channel	SSC [DL] Freq. [MHz]	SSC Band	SSC BW [MHz]	SSC [DL] Channel	SSC [DL] Freq. [MHz]	SSC Band	SSC BW [MHz]	SSC [DL] Channel	SSC [DL] Freq. [MHz]	SSC Band	SSC BW [MHz]	SSC [DL] Channel	SSC [DL] Freq. [MHz]	LTE Tx Power with CC-CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA 5A-25A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B5	10	2525	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.90	15.00	
CA 12A-25A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.00	13.00	
CA 25A-25A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B26	10	8965	876.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.90	15.00	
CA 25A-40A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B46	20	50565	5537.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.00	15.00	
CA 25A-25A-25A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B25	20	8960	1985	LTE B26	5	8965	876.5	-	-	-	-	-	-	-	-	-	-	-	-	-	14.66	15.00
CA 25A-25A-41A	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B25	20	8960	1985	LTE B41	30	40020	2593	-	-	-	-	-	-	-	-	-	-	-	-	-	14.83	15.00
CA 25A-41C	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B41	20	40020	2593	LTE B41	30	40422	2573.2	-	-	-	-	-	-	-	-	-	-	-	-	-	14.84	15.00
CA 26A-46C	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B46	20	50605	5537.5	LTE B46	20	50467	5517.7	-	-	-	-	-	-	-	-	-	-	-	-	-	14.81	15.00
CA 25A-25A-41C	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B25	20	8960	1985	LTE B41	30	40422	2593	-	-	-	-	-	-	-	-	-	-	-	-	-	14.94	15.00
CA 25A-46C-40C	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B46	20	50605	5537.5	LTE B46	20	50467	5517.7	LTE B46	20	40020	2593	-	-	-	-	-	-	-	-	-	14.89	15.00
CA 25A-25A-41C	LTE B25	20	26140	1860	16QAM	1	99	B140	1940	LTE B25	20	8960	1985	LTE B41	30	40422	2573.2	LTE B41	30	40020	2593	LTE B41	20	40018	2512.8	-	-	-	-	-	14.94	15.00

LTE Band 30 as PCC

Table 7
Output Powers – Ant 2A

Combination	PCB Band	PCB BW [MHz]	PCC (UL) CC [MHz]	PCC				SCC1				SCC2				SCC3				SCC4				Power	
				Mod.	PCC UL BW	PCC UL BW Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC (DL) Channel	SCC (DL) Freq. [MHz]		LTE Tx Power with DL Carrier Tx Power [dBm]
CA 2C-30A	LTE E30	30	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B2	20	702	1540.2	-	-	-	-	-	-	13.24	13.55
CA 2A-2A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B2	20	700	1440	LTE B20	10	9715	722.5	-	-	13.26	13.55
CA 4A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B4	20	2175	2122.5	LTE B4	20	2250	2150	LTE B5	10	2520	2085	-	-	13.24	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B4	20	2175	2122.5	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.22	13.55
CA 4A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2250	2125	LTE B5	10	2520	2085	-	-	13.24	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.22	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	20	27710	2310	64QAM	1	49	9620	2355	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	LTE B12	10	2225	2085	-	-	13.20	13.55
CA 2A-5A-30A	LTE E30	10	27710	2310	64QAM	1	49	962																	

LTE Band 7 as PCC

Table 8
Output Powers – Ant 4A

		PCC										SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCB Band	PCC BW [MHz]	PCC [1] Ch	PCC [2] Freq. [MHz]	Mod.	PC LNA Rf Offset	PCC [2] Channel	PCC [2] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [2] Channel	SCC [2] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [2] Channel	SCC [2] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [2] Channel	SCC [2] Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC [2] Channel	SCC [2] Freq. [MHz]	LTE Tx Power with CA Power (dBm)	LTE Single Carrier Tx Power (dBm)			
CA 1B	LTE B7	15	20850	2507.5	QPSK	1	74	2525	2527.5	1	2525	2527.5	LTE B7	5	2525	2528.5									14.40	14.40			
CA 5A-7A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B5	10	2525	2528	881.5	14	505	14	505	14	505	14	505	14.50	14.50		
CA 7A-2A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B25	10	2525	2528	886.5	876.5							14.40	14.40			
CA 7A-6A (1)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B25	10	2525	2528	886.5	876.5							14.40	14.40			
CA 7A-6A (2)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B25	10	2525	2528	886.5	876.5							14.40	14.40			
CA 4A-4A-7A (1)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B4	20	2175	2122.5	LTE B4	20	2525	2525					14.55	14.55			
CA 5A-7A-7A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B5	10	2525	2525	881.5				14.52	14.60			
CA 5A-7C	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3048	2548.8	LTE B5	10	2525	2525	881.5				14.54	14.60			
CA 7A-7A-2A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B5	10	2525	2525	881.5				14.55	14.60			
CA 7A-4C (1)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B4	20	3048	2548.8	LTE B5	10	2525	2525	881.5				14.54	14.60			
CA 7A-4C (2)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B4	20	3048	2548.8	LTE B5	10	2525	2525	881.5				14.54	14.60			
CA 7C-4A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3048	2548.8	LTE B4	20	3048	2548.8	5537.5				14.53	14.60			
CA 7A-4A (1)	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3048	2548.8	LTE B4	20	3048	2548.8	5537.5				14.53	14.60			
CA 7C-4B	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3048	2548.8	LTE B4	20	3048	2548.8	5537.5				14.53	14.60			
CA 2A-4A-7A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	14.50	14.60			
CA 2A-4B	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	14.50	14.60			
CA 2A-4A-7A-12A	LTE B7	20	20850	2510									LTE B7	20	3350	2680	LTE B2	20	900	1960	LTE B4	20	2175	2122.5	14.55	14.60			
CA 2A-7A-7A-6A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B2	20	900	1960	LTE B5	10	2525	2525	14.60	14.60			
CA 2A-7A-7A-6A-6A	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3350	2680	LTE B2	20	900	1960	LTE B5	10	2525	2525	14.60	14.60			
CA 7C-4D	LTE B7	20	20850	2510	QPSK	1	99	2580	2582	10	2525	2528.5	LTE B7	20	3048	2548.8	LTE B4	20	3048	2548.8	5537.5				14.54	14.60			

FCC ID: BCGA2232	 SAR EVALUATION REPORT	Reviewed by: Quality Manager
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LTE Band 41 as PCC

Table 9
Output Powers – Ant 4A

Combination	PCB Band	PCC						SCC 1				SCC 2				SCC 3				SCC 4				Power				
		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] Ch	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]	SCC Band	SCC BW [MHz]	SCC [DL] Channel	SCC [DL] Freq. [MHz]	LTE Tx Power with SC CA Enabled [dBm]	LTE Single Carrier Tx Power [dBm]	
CA 41A-41A (1)	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	-	-	-	-	16.88	16.88
CA 5A-41A	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	16.88	16.88
CA 26A-41A	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	-	-	-	-	16.88	16.88
CA 41A-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	41292	2600.2	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	16.83	16.83
CA 41C-41A	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	16.79	16.80
CA 26A-41A-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.83	16.83
CA 26A-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.83	16.83
CA 41C-41D	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.83	16.83
CA 41C-41E	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.83	16.83
CA 41A-41D	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	41292	2600.2	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	16.80	16.80
CA 41D-41A	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	16.80	16.80
CA 41D-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.80	16.80
CA 25A-25A-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B35	10	28275	881.5	-	-	-	-	-	-	-	-	-	16.77	16.80
CA 41C-41D	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B41	20	41292	2600.2	LTE B41	20	41490	2680	-	-	-	-	-	16.88	16.88
CA 41A-41C	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B41	20	41292	2600.2	LTE B41	20	41490	2680	-	-	-	-	-	16.80	16.80
CA 25A-25A-41D	LTE B41	20	40185	2549.5	15QAM	0	0	40185	2549.5	LTE B41	20	40183	2560.3	LTE B41	20	41292	2600.2	LTE B35	10	28275	886	-	-	-	-	-	16.80	16.80

LTE Band 41 PC2 as PCC

Table 10
Output Powers – Ant 4A

Combination	PCB Band	PCF BW [MHz]	PCF [A/C]	PCF [L/F]	Mod.	SC1					SCC Band	SC2		SC3		SC4 Band	SC4 Channel	SC [D] Channel	SC [D] Freq. [MHz]	L/E Tx Power [dBm]	L/E Single Carrier Tx Power [dBm]
						PCF U/R	PCF A/R Offset	PCD [D] Channel	PCD [D] Freq. [MHz]	SCC Band		SCC BW [MHz]	SCC [D] Channel	SCC [D] Freq. [MHz]	SCC Band						
CA 43A-43A (1)	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41490	2680	-	-	-	-	-	16.90	-	
CA 5A-41A	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B6	10	2526	818.5	-	-	-	-	-	16.82	16.90	
CA 26A-41A	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B6	10	2526	818.5	-	-	-	-	-	16.88	16.90	
CA 41A-41C	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	-	-	-	-	-	16.90	-	
CA 41C-41A	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 26B-36A-41A	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 26A-41C	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 26A-41C	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41D	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20	41292	2602.0	LTE B41 PC2	20	41490	2680	-	16.90	-	
CA 41A-41E	LTE B41 PC2	20	40186	2549.5	25QAM	1	50	40186	2549.5	LTE B41 PC2	20										

LTE Band 48 as PCC

Table 11
Output Powers – Ant 3

[illegible]

FCC ID: BCGA2232	 SAR EVALUATION REPORT	Reviewed by: Quality Manager
Test Dates: 12/20/2019-2/05/2020	DUT Type: Tablet Device	APPENDIX F: Page 7 of 16

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 12
Output Powers – Ant 3

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Maximum Allowed Power [dBm]
48	20	56207	3646.7	16QAM	1	0	17.39	17.35	17.50

Table 13
Output Powers – Ant 2A

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Maximum Allowed Power [dBm]
25	20	26140	1860	16QAM	1	99	15.00	15.00	15.00
30	10	27710	2310	64QAM	1	49	13.61	13.55	14.00

Table 14
Output Powers – Ant 2B

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Maximum Allowed Power [dBm]
66	15	132322	1745	QPSK	1	0	15.03	15.10	15.10

FCC ID: BCGA2232	 SAR EVALUATION REPORT	Reviewed by: Quality Manager
Test Dates: 12/20/2019-2/05/2020	DUT Type: Tablet Device	APPENDIX F: Page 8 of 16

Table 15
Output Powers – Ant 4A

LTE Band	Bandwidth [MHz]	Channel	Frequency [MHz]	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx. Power [dBm]	Single Antenna Tx. Power [dBm]	Maximum Allowed Power [dBm]
7	20	20850	2510	QPSK	1	99	14.60	14.60	14.60
41	20	40185	2549.5	16QAM	50	0	16.90	16.90	16.90
41 PC2	20	40185	2549.5	16QAM	1	50	16.90	16.90	16.90

FCC ID: BCGA2232	 PCTEST Ready for the next step in 5G research	SAR EVALUATION REPORT	Reviewed by: Quality Manager
Test Dates: 12/20/2019-2/05/2020	DUT Type: Tablet Device		APPENDIX F: Page 9 of 16

1.4.2

LTE Band 12 as PCC

Table 16
Output Powers – Ant 3

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Freq. [MHz]	Mod.	PCC				DL Ant. Config.	SCC 1				DL Ant. Config.	SCC 2				DL Ant. Config.	SCC 3				DL Ant. Config.	SCC 4				Power								
					PCC UL RB	PCC UL RB Offset	PCC [DL] Ch.	PCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)							
CA [2A] [2A] [1]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.86	21.80						
CA [4A] [2A] [1]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.16	21.80						
CA [4A] [2A] [2]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.16	21.80						
CA [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B25	20	8365	1962.5	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.33	21.80						
CA [2A] [2A] [1A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B05	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.86	21.80						
CA [2A] [2A] [2]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B09	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.38	21.80						
CA [2C] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	702	1940.2	4x4	-	-	-	-	-	-	-	-	-	-	21.86	21.80					
CA [2A] [2A] [2B]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B12	10	1307	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	-	-	-	-	-	21.87	21.80					
CA [4A] [2A] [2B]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B12	10	1307	738.7	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	20	2190	2192	4x4	-	-	-	-	-	21.87	21.80					
CA [2A] [2A] [4A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	700	1940	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	21.82	21.80					
CA [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B20	10	9820	2305	4x4	-	-	-	-	-	21.39	21.80					
CA [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B2	20	700	1940	4x4	LTE B09	20	66786	2145	4x4	-	-	-	-	-	21.84	21.80					
CA [2A] [4A] [4A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2350	4x4	-	-	-	-	-	21.84	21.80					
CA [2A] [2A] [2B]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B12	10	1307	738.7	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	21.81	21.80					
CA [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B09	20	66786	2145	4x4	LTE B09	20	66786	2145	4x4	-	-	-	-	-	21.86	21.80					
CA [4A] [4A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2350	4x4	LTE B20	10	9820	2355	4x4	-	-	-	-	-	21.82	21.80					
CA [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B09	20	66786	2145	4x4	LTE B06	20	66786	2145	4x4	LTE B06	20	67236	2190	4x4	-	-	-	-	-	21.36	21.80					
CA [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B7	20	3100	2605	4x4	-	-	-	-	-	21.82	21.80					
CA [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	LTE B30	10	9820	2355	4x4	-	-	-	-	-	21.82	21.80					
CA [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B07	20	66786	2145	4x4	LTE B09	20	66786	2145	4x4	-	-	-	-	-	21.77	21.80					
CA [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	4x4	LTE B30	10	9820	2355	4x4	LTE B09	20	66786	2145	4x4	-	-	-	-	-	21.84	21.80					
CA [2A] [2A] [2A] [2A] [2A] [2A]	LTE B12	5	23035	701.5	16QAM	1	12	5035	731.5	2x2	LTE B2	20	900	1960	2x2	LTE B2	20	700	1940	2x2	LTE B30	10	9820	2355	4x4	LTE B06	20	66786	2145	4x4	LTE B06	20	67236	2190	4x4	21.79	21.80

1.4.3

LTE Band 13 as PCC

Table 17
Output Powers – Ant 3

Combination	PCC Band	PCC BW [MHz]	PCC [UL] Ch.	PCC [UL] Freq. [MHz]	Mod.	PCC				DL Ant. Config.	SCC 1				DL Ant. Config.	SCC 2				DL Ant. Config.	SCC 3				DL Ant. Config.	SCC 4				Power			
						PCC UL RB	PCC UL RB Offset	PCC [DL] Ch.	PCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]		SCC Band	SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)		
CA [4A] [4A] [13A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B4	20	2175	2132.5	4x4	LTE B4	10	2350	2190	4x4	-	-	-	-	-	-	-	-	-	-	21.56	21.64	
CA [2A] [4A] [13A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B2	20	900	1960	4x4	LTE B4	20	2175	2132.5	4x4	-	-	-	-	-	-	-	-	-	-	-	21.56	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B2	20	900	1960	4x4	LTE B46	20	50605	5537.5	2x2	-	-	-	-	-	-	-	-	-	-	-	21.60	21.64
CA [2A] [4A] [4A] [13A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.5	2x2	LTE B06	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.62	21.64
CA [2A] [4A] [4A] [13A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.5	2x2	LTE B09	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.62	21.64
CA [2A] [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B06	20	66786	2145	4x4	LTE B06	15	67261	2192.5	4x4	LTE B06	15	67261	2192.5	4x4	-	-	-	-	-	-	21.56	21.64
CA [2A] [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B06	20	66786	2145	4x4	LTE B06	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.58	21.64
CA [2A] [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B06	20	66786	2145	4x4	LTE B06	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.55	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B2	20	900	1960	4x4	LTE B46	20	50605	5537.5	2x2	LTE B46	20	50607	5537.7	2x2	-	-	-	-	-	-	21.59	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B2	20	900	1960	4x4	LTE B06	20	66786	2145	4x4	LTE B06	20	67236	2190	4x4	-	-	-	-	-	-	21.62	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.7	2x2	LTE B06	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.61	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.7	2x2	LTE B06	20	66786	2145	4x4	-	-	-	-	-	-	-	-	-	-	-	21.63	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.7	2x2	LTE B46	20	50607	5537.7	2x2	LTE B46	20	50607	5537.7	2x2	-	-	-	-	-	-	21.64	21.64
CA [2A] [2A] [13A] [4A]	LTE B13	10	52320	782	QPSK	1	0	52320	751	2x2	LTE B46	20	50605	5537.7	2x2	LTE B46	20	50607	5537.7	2x2	LTE B46	20	50607	5537.7									

LTE Band 66 as PCC

Table 20
Output Powers – Ant 2B

[illegible]

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LTE Band 25 as PCC

Table 21
Output Powers – Ant 2A

[illegible]

LTE Band 30 as PCC

Table 22
Output Powers – Ant 2A

Combination		PCC Band	PCC BW [MHz]	PCC UC [Ch]	PCC				SCC1				SCC2				SCC3				SCC4				Power			
					PU (UL Freq [MHz])	Mod.	PCC UL RB	PCC UL RB Offset	PCC DL Ch	PCC [DL] Freq [MHz]	DL Cont. Conf.	SCC Band	SCC BW [MHz]	SCC DL Ch	SCC [DL] Freq [MHz]	DL Cont. Conf.	SCC Band	SCC BW [MHz]	SCC DL Ch	SCC [DL] Freq [MHz]	DL Cont. Conf.	SCC Band	SCC BW [MHz]	SCC DL Ch	SCC [DL] Freq [MHz]	DL Cont. Conf.	LTE/TA Power with DL CA Enabled (dBm)	LTE Single Carrier Power (dBm)
CA [2C] [2D]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	702	1940.2	44a						13.25	13.55	
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B5	10	7325	881.5	2d2	-	13.18	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.5	2d2	-	13.13	13.55
CA [2A] [2A] [2A] [30A]	LTE B30	10	27750	2310	64QAM	1	49	9820	2355	44a	LTE B2	20	900	1960	44a	LTE B2	20	700	1940	44a	LTE B29	10	8715	773.				

LTE Band 7 as PCC

Table 23
Output Powers – Ant 4A

Combination		PCC										SEC1				SEC2				SEC3				SEC4				Power						
		PCC Band	PCC BW [MHz]	PCC [UL] [Ch.]	PCC [DL] Freq. [MHz]	Mod.	PCC UL#	PCC UL# on Offnet	PCC [DL] Ch.	PCC [DL] Freq. [MHz]	DL Ant. Conf.	SEC Band	SEC BW [MHz]	SEC [DL] [Ch.]	SEC [DL] Freq. [MHz]	DL Ant. Conf.	SEC Band	SEC BW [MHz]	SEC [DL] [Ch.]	SEC [DL] Freq. [MHz]	DL Ant. Conf.	SEC Band	SEC BW [MHz]	SEC [DL] [Ch.]	SEC [DL] Freq. [MHz]	DL Ant. Conf.	SEC Band	SEC BW [MHz]	SEC [DL] [Ch.]	SEC [DL] Freq. [MHz]	DL Ant. Conf.	LTE Tx Power [dBm]	LTE Single Carrier Tx Power [dBm]	
CA [T8]	LTE B7	15	20820	2507.5	QPSK	1	74	2825	2627.5	4x4	LTE B7	5	2918	2636.8	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA SA(TA)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	10	2925	2638.1	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 26A	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B05	10	2965	2676.3	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46A (1)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B46	20	30665	3537.5	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 26A (TA) 1	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46A (TA) 1 (2)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B4	10	2932.5	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA SA (TA) 7A	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA SA(TA)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 26A (TA) 2	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46C (1)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B46	20	30665	3537.5	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46A	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46A (TA) 2	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B7	20	3350	2630	4x4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46D (1)	LTE B7	20	20850	2510	QPSK	1	99	2850	2630	4x4	LTE B46	20	30665	3537.5	2x2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA [TA] 46C	LTE B7	20	20850	25																														

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LTE Band 41 as PCC

Table 24
Output Powers – Ant 4A

[illegible]

LTE Band 41 PC2 as PCC

Table 25
Output Powers – Ant 4A

[illegible]

LTE Band 48 as PCC

Table 26
Output Powers – Ant 3

[illegible]

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1.5 Downlink Carrier Aggregation with Uplink Carrier Aggregation enabled

This device supports uplink carrier aggregation (ULCA) with additional Carrier Aggregation configurations active in the downlink. Power measurements were performed with ULCA active and additional CA configurations active in the downlink for the configuration per Fall 2017 TCB Workshop Notes.

Per FCC Guidance, additional SAR measurements for these configurations were not required since their maximum output power was not more than 0.25 dB higher than the maximum output power for with only ULCA active.

1.5.1 DL Carrier Aggregation RF Conducted Powers

1.5.1.1 LTE Band 41

Table 27
Output Powers – Ant 4A

Combination	PCC Band	PCC				PCC UL RB Offset	PCC DL Freq. [MHz]	SCC Band	SCC 1				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 2				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 3				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 4				ULCA Tx Power with additional CA config. active (dBm)	ULCA Tx Power (dBm)
		SCC BW [MHz]	PCC [UL] Ch.	Mod.	PCC UL RB				SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.		
CA-41C-41A	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41D-41A	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41E-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41E-41E	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41D-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14

1.5.1.2 LTE Band 41 PC2

Table 28
Output Powers – Ant 4A

Combination	PCC Band	PCC				PCC UL RB Offset	PCC DL Freq. [MHz]	SCC Band	SCC 1				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 2				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 3				SCC UL RB Offset	SCC DL Freq. [MHz]	SCC 4				ULCA Tx Power with additional CA config. active (dBm)	ULCA Tx Power (dBm)
		SCC BW [MHz]	PCC [UL] Ch.	Mod.	PCC UL RB				SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.			SCC BW [MHz]	SCC [DL] Ch.	SCC [DL] Freq. [MHz]	Mod.		
CA-41C-41A	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41D-41A	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41E-41C	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41E-41E	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41D-41C	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14
CA-41D-41D	1.7E-B41-PC2	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14

1.5.2 DL Carrier Aggregation with DL 4x4 MIMO RF Conducted Powers

Note: 4x4 DL MIMO is only operating in the downlink. Uplink transmission is limited to a single output stream for each component carrier of ULCA.

1.5.2.1 LTE Band 41

Table 29
Output Powers – Ant 4A

Combination	PCC Band	PCC								SCC1								SCC2								SCC3								SCC4								Power	
		SCC BW [MHz]	PCC [UL] Ch.	Mod.	PCC [DL] Freq. [MHz]	PCC UL RB Offset	PCC DL Ch.	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	Mod.	SCC [DL] Freq. [MHz]	SCC UL RB Offset	SCC DL Ch.	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	Mod.	SCC [DL] Freq. [MHz]	SCC UL RB Offset	SCC DL Ch.	DL Ant. Config.	SCC Band	SCC BW [MHz]	SCC [DL] Ch.	Mod.	SCC [DL] Freq. [MHz]	SCC UL RB Offset	SCC DL Ch.	DL Ant. Config.	ULCA Tx Power with additional CA config. active (dBm)	ULCA Tx Power (dBm)									
CA-41D-41A	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41A-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41C-41A	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41A-41C-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41C-41A-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								
CA-41D-41C-41A-41C-41C	1.7E-B41	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	0	0	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	20	41000	256Q-QPSK	19.14	19.14								

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1.5.2.2 LTE Band 41 PC2

Table 30
Output Powers – Ant 4A

Output Powers – Ant 4A

[illegible]

1.5.2.3 LTE Band 7

Table 31
Output Powers – Ant 4A

Output Powers – Ant 4A

	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 (UL) Ch.	SCC (UL) Freq. [MHz]	Mod	SCC UL # RB	SCC UL RB Offset	SCC (DL) Ch.	SCC (DL) Freq. [MHz]	DL Ant. Config.	ULCA Tx Power with add'l CA config. active on DL (dBm)	ULCA Tx Power (dBm)
CA [7C]	LTE B7	20	20850	2510	QPSK	50	50	2850	2630	4x4	LTE B7	20	21048	2529.8	QPSK	50	0	3048	2649.8	4x4	14.21	14.42

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APPENDIX G: POWER REDUCTION VERIFICATION

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The device supports manufacturer's proprietary power reduction mechanism called "Detect Mode" for the Main Cellular Antenna. Details of this mechanism can be found in the Operational Description. When the device is being used "on-body" or "held in hand" by the user, the device will detect motion and reduce the power of the main antenna. Per the manufacturer, the mechanism is agnostic to different cellular air interfaces. Detect Mode operation was verified for two test cases, on-body and held in hand, for each supported cellular band. The power reduction verification results are below.

1.1 Main Antenna Power Reduction Verification Summary

Table G-1
Main Antenna Power Reduction Verification

Mode/Band	Antenna	Maximum Scenario Maximum Allowed Target Power [dBm]	Reduced Scenario Maximum Allowed Target Power [dBm]	Conducted Power [dBm]			Verdict
				Maximum	Test Case 1	Test Case 2	
GPRS 850 (2 Tx)	1	30.00 (± 0.75)	25.95 (± 0.75)	30.16	26.33	26.30	PASS
	3	31.50 (± 0.75)	27.25 (± 0.75)	31.75	26.89	26.88	PASS
	2a	26.50 (± 0.75)	20.25 (± 0.75)	26.52	19.84	19.83	PASS
	2b	26.50 (± 0.75)	19.25 (± 0.75)	27.13	19.90	19.91	PASS
GPRS 1900 (2 Tx)	4a	28.50 (± 0.75)	19.55 (± 0.75)	28.19	19.30	19.31	PASS
	4b	29.00 (± 0.75)	18.75 (± 0.75)	29.15	19.11	19.09	PASS
WCDMA B5	1	24.00 (± 0.5)	20.20 (± 0.5)	24.18	20.68	20.67	PASS
	3	25.20 (± 0.5)	21.30 (± 0.5)	25.68	20.80	20.80	PASS
WCDMA B4	2a	22.50 (± 0.5)	15.40 (± 0.5)	22.87	15.62	15.61	PASS
	2b	22.75 (± 0.5)	14.10 (± 1)	23.23	14.67	14.65	PASS
WCDMA B2	4a	24.50 (± 0.5)	13.80 (± 1)	24.61	14.30	14.29	PASS
	4b	25.20 (± 0.5)	12.90 (± 1)	25.70	13.15	13.13	PASS
WCDMA B2	2a	22.50 (± 0.5)	14.00 (± 1)	22.24	14.00	14.00	PASS
	2b	22.75 (± 0.5)	13.00 (± 1)	23.25	14.00	14.00	PASS
LTE Band 12	4a	24.50 (± 0.5)	13.80 (± 1)	24.51	13.93	13.91	PASS
	4b	25.20 (± 0.5)	12.50 (± 1)	25.53	12.89	12.88	PASS
LTE Band 17	1	24.00 (± 0.5)	20.80 (± 0.5)	24.43	20.95	20.94	PASS
	3	25.20 (± 0.5)	21.30 (± 0.5)	25.21	21.65	21.65	PASS
LTE Band 13	1	24.00 (± 0.5)	20.80 (± 0.5)	24.20	20.77	20.75	PASS
	3	25.20 (± 0.5)	21.30 (± 0.5)	25.21	21.60	21.59	PASS
LTE Band 5	1	24.00 (± 0.5)	20.80 (± 0.5)	24.31	21.45	21.44	PASS
	3	25.20 (± 0.5)	21.30 (± 0.5)	25.31	21.60	21.60	PASS
LTE Band 26	1	24.00 (± 0.5)	20.20 (± 0.5)	24.50	20.70	20.70	PASS
	3	25.20 (± 0.5)	21.00 (± 0.5)	25.15	20.50	20.50	PASS
LTE Band 4	1	24.00 (± 0.5)	20.20 (± 0.5)	24.16	20.36	20.37	PASS
	3	25.20 (± 0.5)	21.00 (± 0.5)	25.33	20.60	20.61	PASS
LTE Band 66	2a	22.50 (± 0.5)	13.90 (± 1)	22.60	14.20	14.21	PASS
	2b	23.00 (± 0.5)	14.10 (± 1)	23.11	14.37	14.38	PASS
LTE Band 66	4a	24.50 (± 0.5)	13.80 (± 1)	24.83	14.58	14.57	PASS
	4b	25.20 (± 0.5)	12.50 (± 1)	25.45	13.12	13.13	PASS
LTE Band 2	2a	22.50 (± 0.5)	13.90 (± 1)	22.87	14.45	14.44	PASS
	2b	23.00 (± 0.5)	14.10 (± 1)	23.29	14.51	14.55	PASS
LTE Band 2	4a	24.50 (± 0.5)	13.80 (± 1)	24.77	14.58	14.57	PASS
	4b	25.20 (± 0.5)	12.50 (± 1)	25.46	13.14	13.17	PASS
LTE Band 25	2a	22.50 (± 0.5)	14.00 (± 1)	22.36	14.00	14.02	PASS
	2b	23.00 (± 0.5)	13.00 (± 1)	23.50	14.00	13.99	PASS
LTE Band 25	4a	24.50 (± 0.5)	13.80 (± 1)	24.55	13.80	13.80	PASS
	4b	25.20 (± 0.5)	12.50 (± 1)	25.63	13.50	13.50	PASS
LTE Band 30	2a	22.50 (± 0.5)	14.00 (± 1)	22.54	14.12	14.13	PASS
	2b	23.00 (± 0.5)	13.00 (± 1)	23.50	14.00	14.00	PASS
LTE Band 7	4a	24.50 (± 0.5)	13.80 (± 1)	24.48	13.80	13.80	PASS
	4b	25.20 (± 0.5)	12.50 (± 1)	25.70	13.50	13.49	PASS
LTE Band 7	2a	21.70 (± 0.5)	13.00 (± 1)	22.02	13.02	13.00	PASS
	2b	22.75 (± 0.5)	12.10 (± 1)	23.23	12.57	12.59	PASS
LTE Band 7	4a	21.90 (± 0.5)	12.50 (± 1)	22.37	12.56	12.53	PASS
	4b	22.00 (± 0.5)	12.90 (± 1)	22.43	12.84	12.85	PASS
LTE Band 41 (PC3)	2a	22.50 (± 0.5)	13.10 (± 1)	22.78	13.55	13.57	PASS
	2b	22.50 (± 0.5)	10.80 (± 1)	22.89	11.80	11.80	PASS
LTE Band 41 (PC3)	4a	24.50 (± 0.5)	13.60 (± 1)	24.43	13.60	13.60	PASS
	4b	25.20 (± 0.5)	11.50 (± 1)	25.44	12.00	12.01	PASS
LTE Band 41 (PC2)	2a	22.00 (± 0.5)	15.90 (± 0.5)	21.88	15.68	15.67	PASS
	2b	22.50 (± 0.5)	12.80 (± 1)	22.82	13.30	13.28	PASS
LTE Band 41 (PC2)	4a	25.00 (± 0.5)	16.40 (± 0.5)	24.92	16.04	16.05	PASS
	4b	25.20 (± 0.5)	13.80 (± 1)	25.44	14.80	14.80	PASS
LTE Band 48	2a	25.00 (± 0.5)	15.90 (± 0.5)	24.87	15.92	15.91	PASS
	2b	24.50 (± 0.5)	12.80 (± 1)	24.83	13.30	13.30	PASS
LTE Band 48	4a	27.50 (± 0.5)	16.40 (± 0.5)	27.57	18.18	16.17	PASS
	4b	28.20 (± 0.5)	13.80 (± 1)	28.50	14.80	14.80	PASS
LTE B5 Intra-band ULCA	1	21.50 (± 0.5)	15.00 (± 0.5)	21.54	15.14	15.12	PASS
	3	24.50 (± 0.5)	17.00 (± 0.5)	24.88	17.11	17.12	PASS
LTE B7 Intra-band ULCA	2b	21.50 (± 0.5)	13.80 (± 1)	21.84	14.64	14.65	PASS
	4b	25.20 (± 0.5)	15.90 (± 0.5)	25.56	15.51	15.52	PASS
LTE B41 (PC3) Intra-band ULCA	1	22.50 (± 1)	19.70 (± 1)	22.89	20.21	20.22	PASS
	3	24.00 (± 1)	20.50 (± 1)	24.51	20.20	20.22	PASS
LTE B41 (PC2) Intra-band ULCA	2a	21.00 (± 1)	13.10 (± 1)	20.99	12.90	12.89	PASS
	2b	20.50 (± 1)	10.80 (± 1)	21.31	11.33	11.34	PASS
LTE B41 (PC2) Intra-band ULCA	4a	23.50 (± 1)	13.60 (± 1)	23.05	13.25	13.21	PASS
	4b	24.00 (± 1)	11.50 (± 1)	23.75	11.25	11.23	PASS
LTE B41 (PC2) Intra-band ULCA	2a	20.00 (± 1)	15.40 (± 1)	20.50	15.13	15.11	PASS
	2b	20.50 (± 1)	12.80 (± 1)	21.50	13.58	13.57	PASS
LTE B41 (PC2) Intra-band ULCA	4a	23.50 (± 1)	15.90 (± 1)	22.68	14.93	15.00	PASS
	4b	24.00 (± 1)	13.80 (± 1)	24.55	14.78	14.79	PASS
LTE B41 (PC2) Intra-band ULCA	2a	21.50 (± 1)	15.40 (± 1)	20.84	15.13	15.11	PASS
	2b	22.50 (± 1)	12.80 (± 1)	21.89	11.80	11.80	PASS
LTE B41 (PC2) Intra-band ULCA	4a	25.50 (± 1)	15.90 (± 1)	24.88	15.98	15.99	PASS
	4b	26.00 (± 1)	13.80 (± 1)	25.54	14.54	14.56	PASS

Test Case 1: Device Held in Hand

Test Case 2: Device Resting on Lap

Test Cases represent typical scenarios in which the device power would be reduced. In these scenarios detect mode has been verified to identify typical on-body use-cases including when thin objects, such as a magazine or newspaper, are placed between the body and the device. In the absence of detect mode output, the device defaults to the most conservative power.

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APPENDIX H: IEEE 802.11AX RU SAR EXCLUSION

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1.1 IEEE 802.11ax RU SAR Exclusion

To make the most efficient use of the additional available subcarriers (data tones), IEEE 802.11ax can utilize Orthogonal Frequency-Division Multiple Access (OFDMA) which divides the existing 802.11 channels into smaller subchannels called Resource Units (RUs). Possible RU sizes are: 26T, 52T, 106T, 242T, 484T and 996T.

Per FCC Guidance, 802.11ax was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 D01v02r02 for OFDM mode selection. Therefore, SAR tests were not required for 802.11ax based on the maximum allowed output powers of OFDM modes and the reported SAR values. Per FCC Guidance, maximum conducted powers were performed for each RU size to demonstrate that the output powers would not be higher than the other OFDM 802.11 modes.

1.2 IEEE 802.11ax RU Target Powers

1.2.1 Maximum 802.11ax RU WLAN Output Power

A. Antenna 2A										
Mode/ Band		Tones	26T		52T		106T		242T	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna 2A	20 MHz Bandwidth	1	10.50	9.00	10.50	9.00	10.50	9.00	10.50	9.00
		2	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		3	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		4	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		5	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		6	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		7	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		8	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		9	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		10	11.50	10.00	11.50	10.00	11.50	10.00	11.50	10.00
		11	10.00	8.50	10.00	8.50	10.00	8.50	10.00	8.50
		12	8.00	6.50	8.00	6.50	8.00	6.50	8.00	6.50
		13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mode/ Band		Tones	26T		52T		106T		242T	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna 2A	20 MHz Bandwidth	1	10.00	8.50	10.00	8.50	10.00	8.50	10.00	8.50
		2	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		3	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		4	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		5	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		6	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		7	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		8	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		9	14.00	12.50	14.00	12.50	14.00	12.50	14.00	12.50
		10	11.00	9.50	11.00	9.50	11.00	9.50	11.00	9.50
		11	9.50	8.00	9.50	8.00	9.50	8.00	9.50	8.00
		12	7.00	5.50	7.00	5.50	7.00	5.50	7.00	5.50
		13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: In MIMO operations, Antenna 2A transmits at maximum allowed powers at indicated above.

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B. Antenna 4A

Mode/ Band		Tones	26T		52T		106T		242T	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna 4A	20 MHz Bandwidth	1	12.50	11.00	12.50	11.00	12.50	11.00	12.50	11.00
		2	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		3	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		4	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		5	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		6	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		7	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		8	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		9	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		10	13.50	12.00	13.50	12.00	13.50	12.00	13.50	12.00
		11	12.00	10.50	12.00	10.50	12.00	10.50	12.00	10.50
		12	10.00	8.50	10.00	8.50	10.00	8.50	10.00	8.50
		13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Mode/ Band		Tones	26T		52T		106T		242T	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna 4A	20 MHz Bandwidth	1	12.00	10.50	12.00	10.50	12.00	10.50	12.00	10.50
		2	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		3	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		4	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		5	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		6	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		7	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		8	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		9	13.75	12.25	13.75	12.25	13.75	12.25	13.75	12.25
		10	13.00	11.50	13.00	11.50	13.00	11.50	13.00	11.50
		11	11.50	10.00	11.50	10.00	11.50	10.00	11.50	10.00
		12	9.00	7.50	9.00	7.50	9.00	7.50	9.00	7.50
		13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: In MIMO operations, Antenna 4A transmits at maximum allowed powers at indicated above.

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C. 5GHz ANTlower

Mode/ Band		Tones	26T		52T		106T		242T		484T		996T	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - 5GHz ANTlower	20 MHz Bandwidth	36	11.00	9.50	14.00	12.50	15.00	13.50	15.00	13.50				
		40	11.00	9.50	14.00	12.50	17.00	15.50	17.00	15.50				
		44	11.00	9.50	14.00	12.50	17.00	15.50	17.00	15.50				
		48	11.00	9.50	14.00	12.50	17.00	15.50	17.00	15.50				
		52	11.00	9.50	14.00	12.50	16.75	15.25	16.75	15.25				
		56	11.00	9.50	14.00	12.50	16.75	15.25	16.75	15.25				
		60	11.00	9.50	14.00	12.50	16.75	15.25	16.75	15.25				
		64	11.00	9.50	14.00	12.50	14.00	12.50	14.00	12.50				
		100	11.00	9.50	14.00	12.50	14.00	12.50	14.00	12.50				
		104	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		108	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		112	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		116	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		120	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		124	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		128	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		132	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		136	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		140	10.00	8.50	11.50	10.00	11.50	10.00	11.50	10.00				
		144	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00				
		149	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00				
		153	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00				
		157	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00				
		161	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00				
		165	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00				
	40 MHz Bandwidth	38	11.00	9.50	12.50	11.00	12.50	11.00	12.50	11.00	12.50	11.00		
		46	11.00	9.50	14.00	12.50	17.00	15.50	17.00	15.50	17.00	15.50		
		54	11.00	9.50	14.00	12.50	16.75	15.25	16.75	15.25	16.75	15.25		
		62	11.00	9.50	12.50	11.00	12.50	11.00	12.50	11.00	12.50	11.00		
		102	11.00	9.50	12.00	10.50	12.00	10.50	12.00	10.50	12.00	10.50		
		110	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00	15.50	14.00		
		118	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00	15.50	14.00		
		126	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00	15.50	14.00		
		134	11.00	9.50	14.00	12.50	15.00	13.50	15.00	13.50	15.00	13.50		
		142	11.00	9.50	14.00	12.50	15.50	14.00	11.50	10.00	15.50	14.00		
		151	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00		
		159	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00		
	80 MHz Bandwidth	42	11.00	9.50	12.00	10.50	12.00	10.50	12.00	10.50	12.00	10.50	12.00	10.50
		58	11.00	9.50	11.50	10.00	11.50	10.00	11.50	10.00	11.50	10.00	11.50	10.00
		106	11.00	9.50	11.00	9.50	11.00	9.50	11.00	9.50	11.00	9.50	11.00	9.50
		122	11.00	9.50	14.00	12.50	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00
		138	11.00	9.50	14.00	12.50	15.50	14.00	11.50	10.00	15.00	13.50	15.50	14.00
		155	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00	15.50	14.00

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Test Dates: 12/20/2019 – 02/05/2020	DUT Type: Tablet Device		APPENDIX H: Page 4 of 25