Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.5 ℃
Ambient Temperature:	21.7 ℃
Test Date:	06/16/2020
Plot No.:	9

DUT: SM-N980FDS; Type: Bar

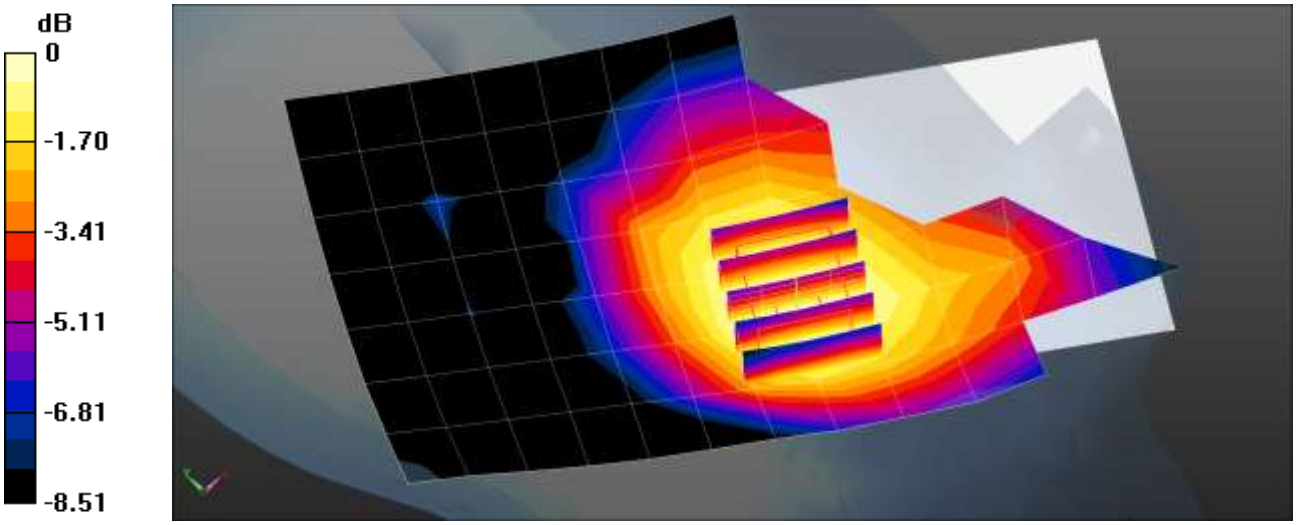
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 0.927 S/m; ε_r = 41.563; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27) @ 782 MHz; Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 13 Head Left Touch QPSK 10MHz 1RB 49offset 23230ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.114 W/kg

LTE band 13 Head Left Touch QPSK 10MHz 1RB 49offset 23230ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.773 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.122 W/kg
SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.073 W/kg
Maximum value of SAR (measured) = 0.112 W/kg



0 dB = 0.112 W/kg = -9.51 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.1 ℃
Test Date:	06/11/2020
Plot No.:	10

DUT: SM-N980FDS; Type: Bar

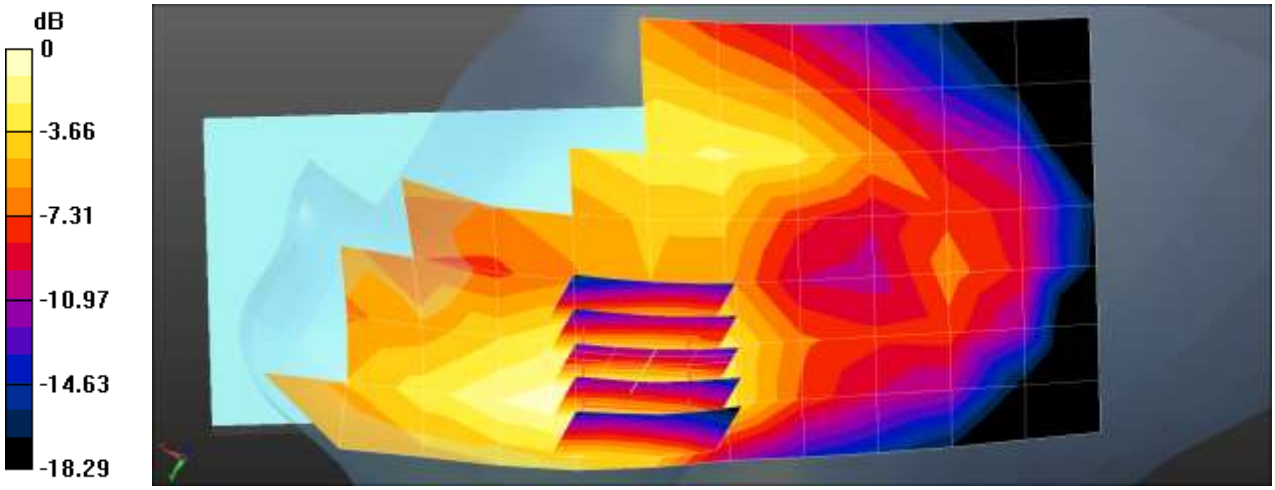
Communication System: UID 0, LTE Band 25 (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.385 S/m; ε_r = 39.22; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1882.5 MHz; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 25 Head Right Touch QPSK 20MHz 1RB 0offset 26365ch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.161 W/kg

LTE Band 25 Head Right Touch QPSK 20MHz 1RB 0offset 26365ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.882 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.183 W/kg
SAR(1 g) = 0.115 W/kg; SAR(10 g) = 0.069 W/kg
Maximum value of SAR (measured) = 0.154 W/kg



0 dB = 0.154 W/kg = -8.12 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.5 ℃
Ambient Temperature:	20.7 ℃
Test Date:	06/10/2020
Plot No.:	11

DUT: SM-N980FDS; Type: Bar

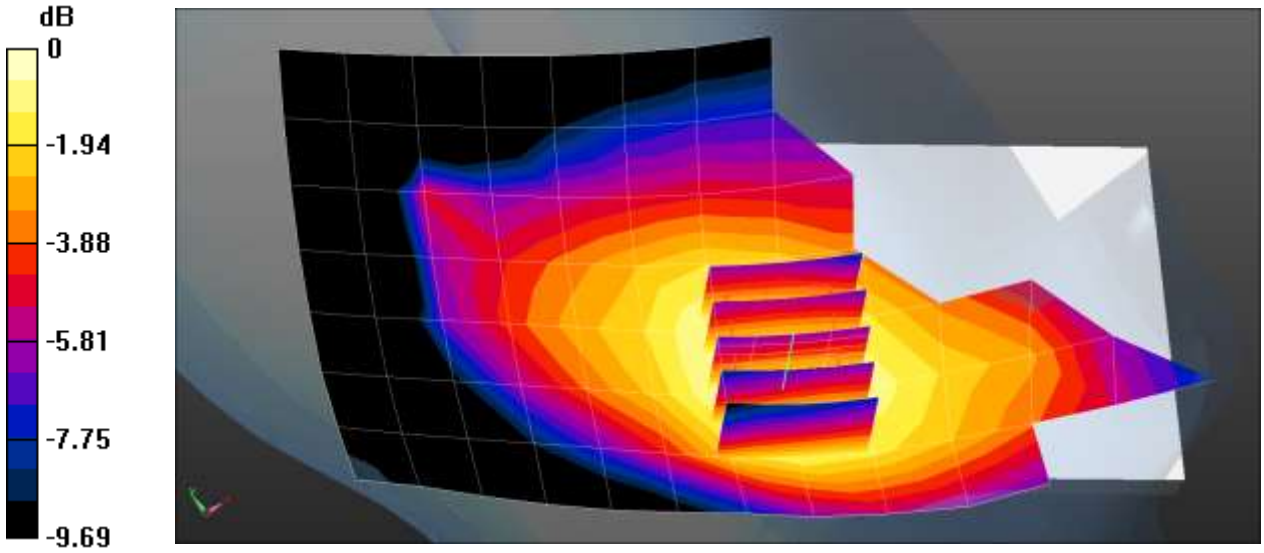
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.939 S/m; ε_r = 42.575; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(9.88, 9.88, 9.88) @ 831.5 MHz; Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 26 Head Left Touch QPSK 15MHz 1RB 0offset 26865ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.176 W/kg

LTE band 26 Head Left Touch QPSK 15MHz 1RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.048 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.145 W/kg; SAR(10 g) = 0.109 W/kg
Maximum value of SAR (measured) = 0.177 W/kg



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

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.4 ℃
Ambient Temperature:	20.7 ℃
Test Date:	06/16/2020
Plot No.:	12

DUT: SM-N980FDS; Type: Bar

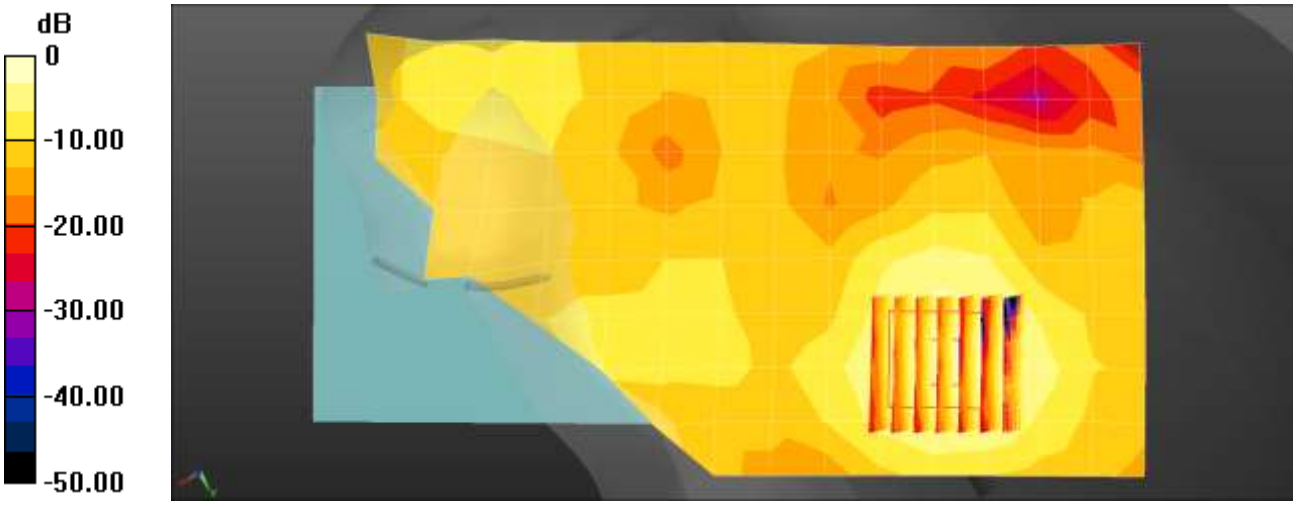
Communication System: UID 0, LTE Band41 (0); Frequency: 2593 MHz;Duty Cycle: 1:1.58016
Medium parameters used (interpolated): f = 2593 MHz; σ = 1.951 S/m; ε_r = 37.894; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/LTE Band 41 Head Left Tilt QPSK 20MHz 1RB 0offset 40620ch/Area Scan (9x17x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.0916 W/kg

SM-N980FDS/LTE Band 41 Head Left Tilt QPSK 20MHz 1RB 0offset 40620ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.150 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.061 W/kg; SAR(10 g) = 0.030 W/kg
Maximum value of SAR (measured) = 0.0948 W/kg



0 dB = 0.0916 W/kg = -10.38 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.5 ℃
Ambient Temperature:	19.7 ℃
Test Date:	06/12/2020
Plot No.:	13

DUT: SM-N980FDS; Type: Bar

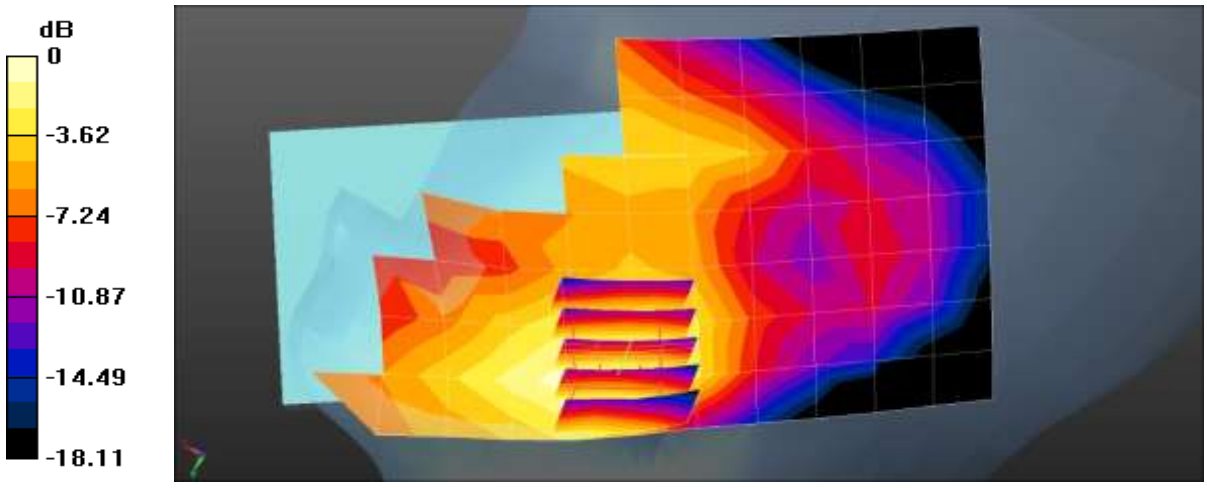
Communication System: UID 0, LTE 66 (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.318 S/m; ε_r = 39.901; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14) @ 1745 MHz; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 66 Head Right Touch QPSK 20MHz 1RB 99offset 132322ch/Area Scan (8x13x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.171 W/kg

LTE Band 66 Head Right Touch QPSK 20MHz 1RB 99offset 132322ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.034 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.190 W/kg
SAR(1 g) = 0.122 W/kg; SAR(10 g) = 0.076 W/kg
Maximum value of SAR (measured) = 0.165 W/kg



0 dB = 0.165 W/kg = -7.83 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.4 ℃
Test Date:	06/12/2020
Plot No.:	14

DUT: SM-N980FDS; Type: Bar

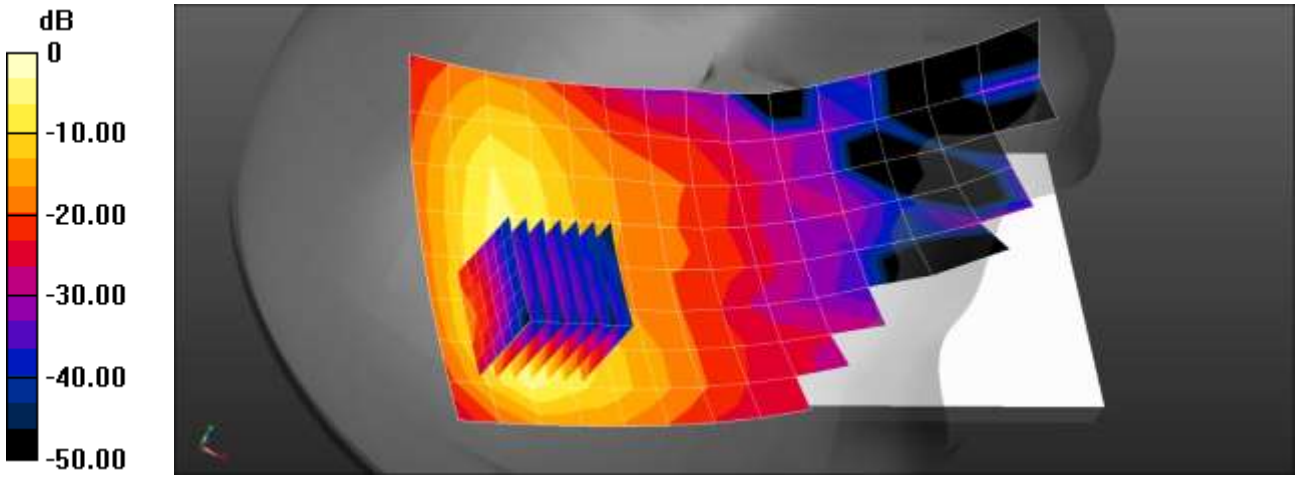
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: σ = 1.82442 S/m, ε_r = 39.4767; ρ = 1 kg/m^3 , Medium parameters used (interpolated): f = 2462 MHz; σ = 1.826 S/m; ε_r = 39.469; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.6, 7.6, 7.6); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 2020-04-22
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11b Head Right Tilt 1Mbps 11ch/Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.11 W/kg

SM-N980FDS/802.11b Head Right Tilt 1Mbps 11ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.97 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.622 W/kg; SAR(10 g) = 0.234 W/kg
Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1526 uV = 63.67 dBuV

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.6℃
Ambient Temperature:	21.8℃
Test Date:	07/08/2020
Plot No.:	15

DUT: SM-N980FDS; Type: Bar

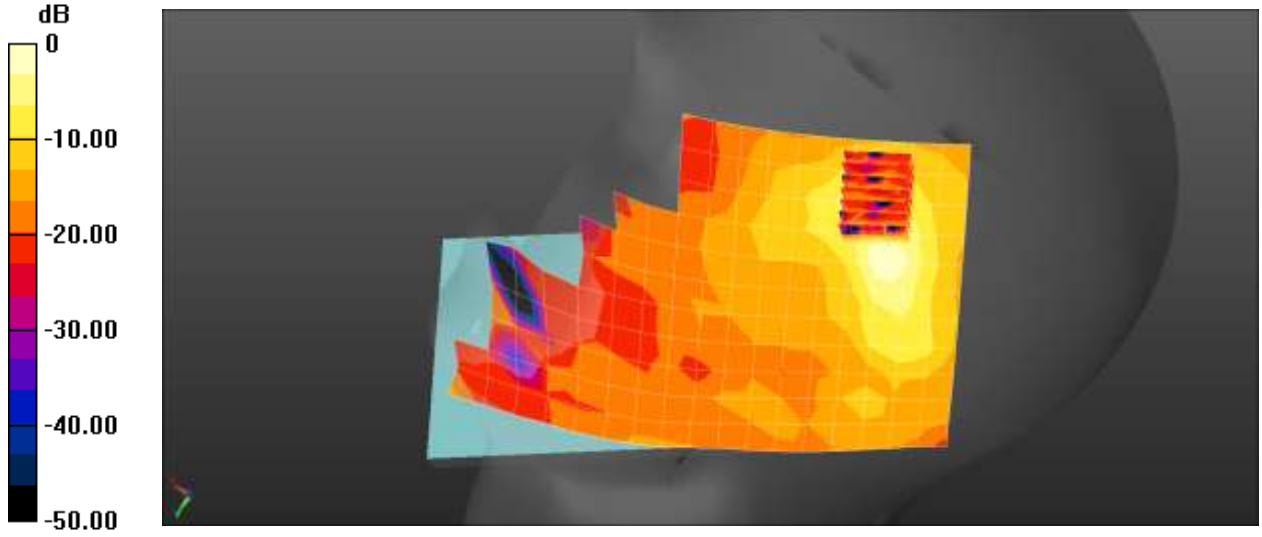
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5270 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 4.698 S/m; ε_r = 36.496; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(5.57, 5.57, 5.57) @ 5270 MHz Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 4/22/2020
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11n40 Head Right Tilt MCS0 54ch/Area Scan (12x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.359 W/kg

SM-N980FDS/802.11n40 Head Right Tilt MCS0 138ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 3.751 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.639 W/kg
SAR(1 g) = 0.129 W/kg; SAR(10 g) = 0.041 W/kg
Maximum value of SAR (measured) = 0.347 W/kg



0 dB = 0.347 W/kg = -4.60 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.6 ℃
Ambient Temperature:	21.8 ℃
Test Date:	06/24/2020
Plot No.:	16

DUT: SM-N980FDS; Type: Bar

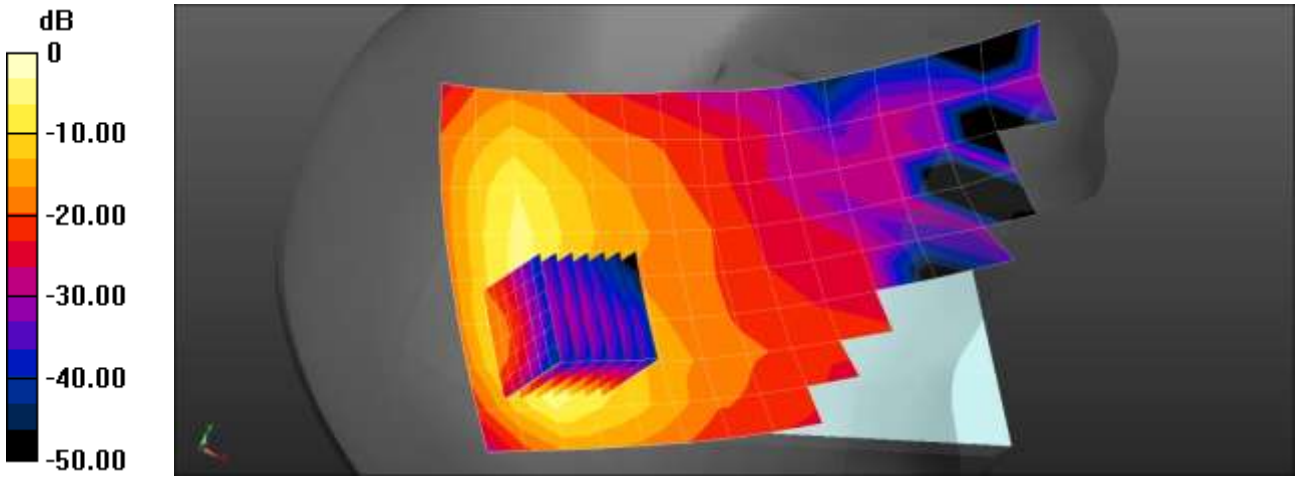
Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz;Duty Cycle: 1:1.3
Medium parameters used: f = 2480 MHz; σ = 1.828 S/m; ε_r = 38.338; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.65, 7.65, 7.65); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/Bluetooth Head Right Tilt DH5 78ch/Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.46 W/kg

SM-N980FDS/Bluetooth Head Right Tilt DH5 78ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.76 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 2.20 W/kg
SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 1.59 W/kg



0 dB = 1.46 W/kg = 1.66 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.6 ℃
Test Date:	06/10/2020
Plot No.:	17

DUT: SM-N980FDS; Type: Bar

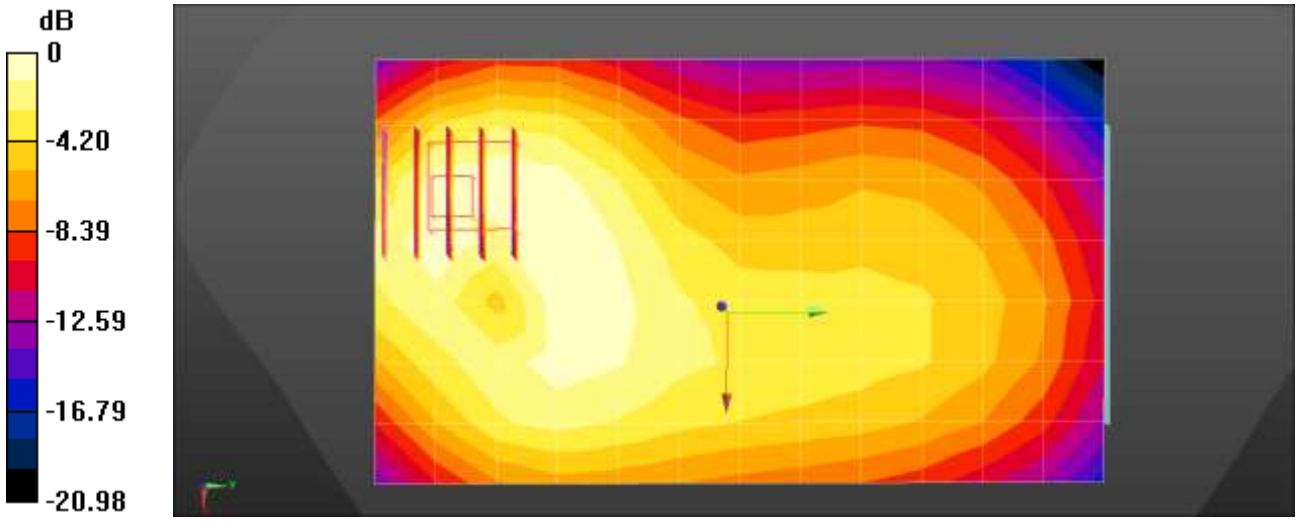
Communication System: UID 0, GSM 850 3Tx (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.77013
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.922 S/m; ε_r = 42.834; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 836.6 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

GSM 850 Body Rear 3Tx 190ch Body Worn/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.458 W/kg

GSM 850 Body Rear 3Tx 190ch Body Worn/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.54 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.548 W/kg
SAR(1 g) = 0.344 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 0.475 W/kg



0 dB = 0.458 W/kg = -3.40 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.3 ℃
Test Date:	06/22/2020
Plot No.:	18

DUT: SM-N980FDS; Type: Bar

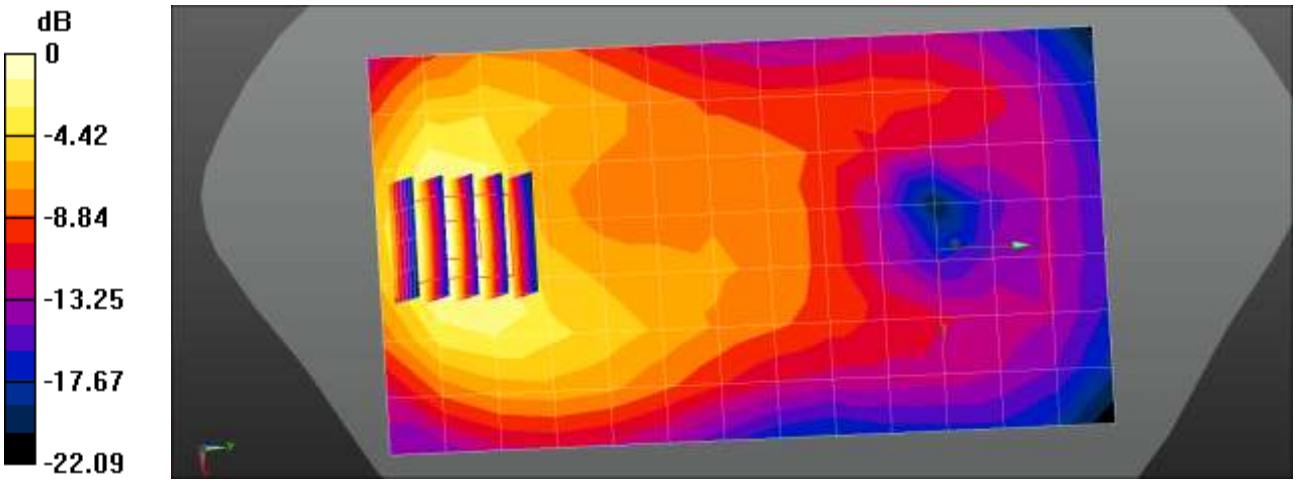
Communication System: UID 0, GSM 1900 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.77013
Medium parameters used: f = 1880 MHz; σ = 1.396 S/m; ε_r = 39.998; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

GSM1900 Body Rear 3Tx 661ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.591 W/kg

GSM1900 Body Rear 3Tx 661ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.945 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.819 W/kg
SAR(1 g) = 0.468 W/kg; SAR(10 g) = 0.263 W/kg
Smallest distance from peaks to all points 3 dB below = 12.8 mm
Ratio of SAR at M2 to SAR at M1 = 57.5%
Maximum value of SAR (measured) = 0.689 W/kg



0 dB = 0.591 W/kg = -2.29 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.0 ℃
Test Date:	06/11/2020
Plot No.:	19

DUT: SM-N980FDS; Type: Bar

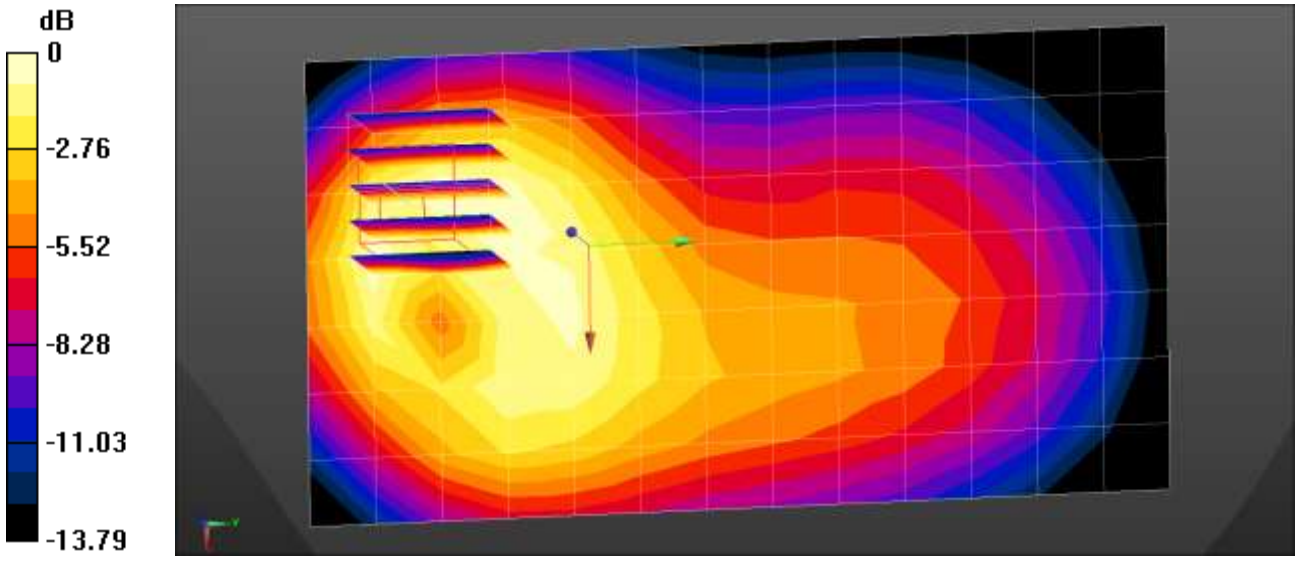
Communication System: UID 0, WCDMA850 (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.942 S/m; ε_r = 42.707; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 836.6 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA Band 5 Body Rear 4183ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.447 W/kg

WCDMA Band 5 Body Rear 4183ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.51 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.558 W/kg
SAR(1 g) = 0.343 W/kg; SAR(10 g) = 0.212 W/kg
Maximum value of SAR (measured) = 0.467 W/kg



0 dB = 0.467 W/kg = -3.31 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.6 ℃
Ambient Temperature:	20.8 ℃
Test Date:	06/19/2020
Plot No.:	20

DUT: SM-N980FDS; Type: Bar

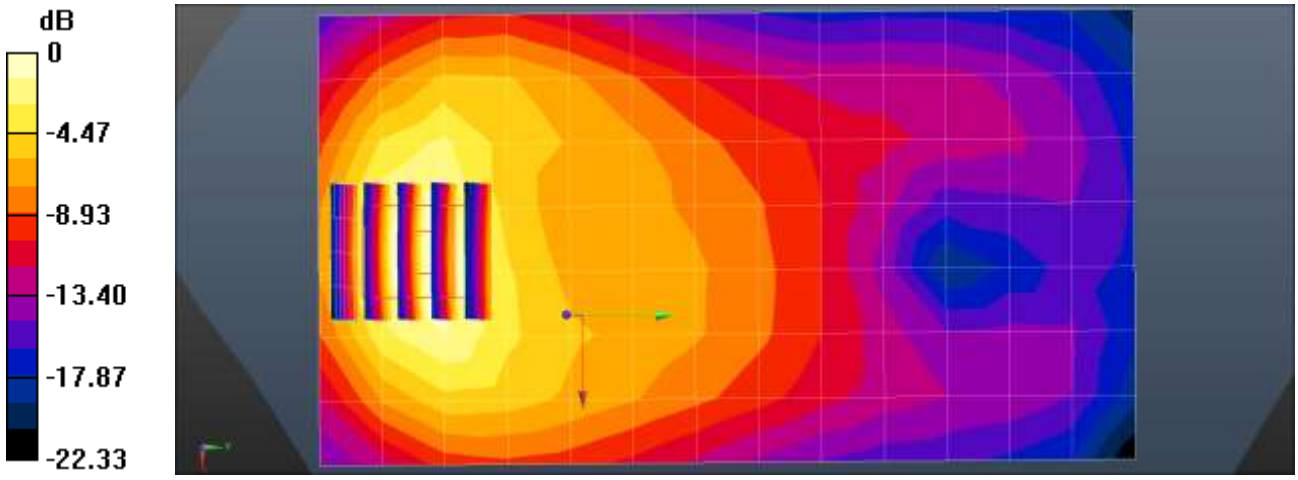
Communication System: UID 0, WCDMA 1700 (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.338 S/m; ε_r = 39.914; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.34, 5.34, 5.34); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B4 Body Worn Rear 1412ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.598 W/kg

WCDMA B4 Body Worn Rear 1412ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.947 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.838 W/kg
SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.320 W/kg
Maximum value of SAR (measured) = 0.650 W/kg



0 dB = 0.598 W/kg = −2.23 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.6 ℃
Test Date:	06/18/2020
Plot No.:	21

DUT: SM-N980FDS; Type: Bar

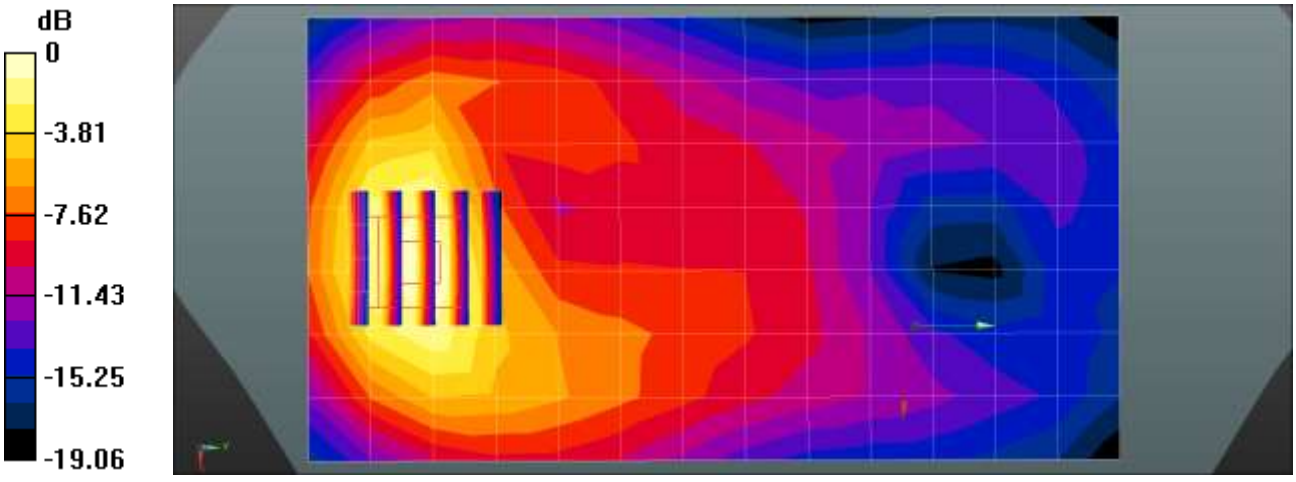
Communication System: UID 0, WCDMA1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.422 S/m; ε_r = 39.329; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.1, 5.1, 5.1); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B2 Body Worn Rear 9400ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.786 W/kg

WCDMA B2 Body Worn Rear 9400ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.479 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.698 W/kg; SAR(10 g) = 0.392 W/kg
Maximum value of SAR (measured) = 0.858 W/kg



0 dB = 0.786 W/kg = −1.05 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.6 ℃
Ambient Temperature:	19.8 ℃
Test Date:	06/16/2020
Plot No.:	22

DUT: SM-N980FDS; Type: Bar

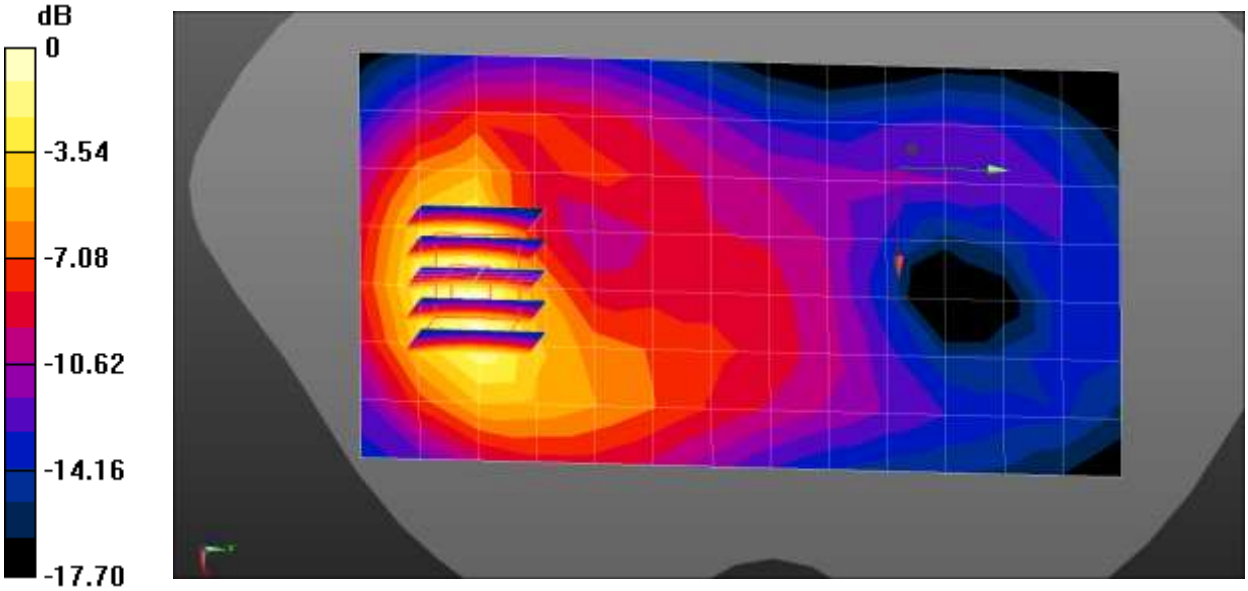
Communication System: UID 0, LTE2 (20MHz) (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.389 S/m; ε_r = 39.363; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1880 MHz; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 2 Body Rear QPSK 20MHz 1RB 0offset 18900ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.850 W/kg

LTE Band 2 Body Rear QPSK 20MHz 1RB 0offset 18900ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.825 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.588 W/kg; SAR(10 g) = 0.327 W/kg
Smallest distance from peaks to all points 3 dB below = 12.9 mm
Ratio of SAR at M2 to SAR at M1 = 57.4%
Maximum value of SAR (measured) = 0.874 W/kg



0 dB = 0.874 W/kg = −0.58 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.9 ℃
Ambient Temperature:	20.2 ℃
Test Date:	06/19/2020
Plot No.:	23

DUT: SM-N980FDS; Type: Bar

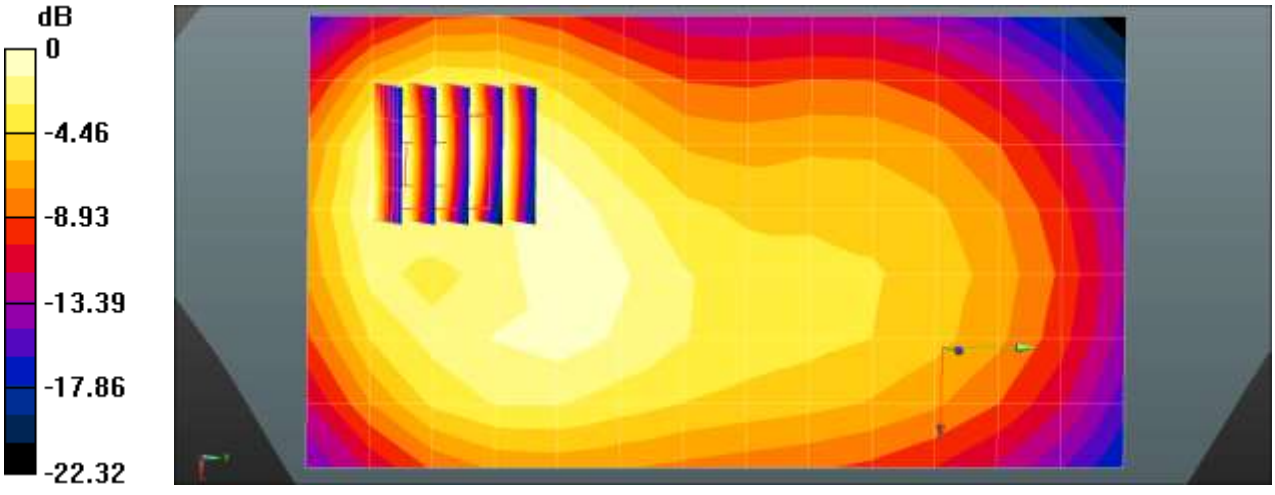
Communication System: UID 0, LTE Band 5 (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.919 S/m; ε_r = 42.668; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ET3DV6 - SN1630; ConvF(6.96, 6.96, 6.96); Calibrated: 2020-02-26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 5 Body-worn Rear QPSK 10MHz 1RB 0offset 20525ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.368 W/kg

LTE band 5 Body-worn Rear QPSK 10MHz 1RB 0offset 20525ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.87 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.560 W/kg
SAR(1 g) = 0.344 W/kg; SAR(10 g) = 0.207 W/kg
Maximum value of SAR (measured) = 0.369 W/kg



0 dB = 0.368 W/kg = −4.35 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.0 ℃
Test Date:	06/17/2020
Plot No.:	24

DUT: SM-N980FDS; Type: Bar

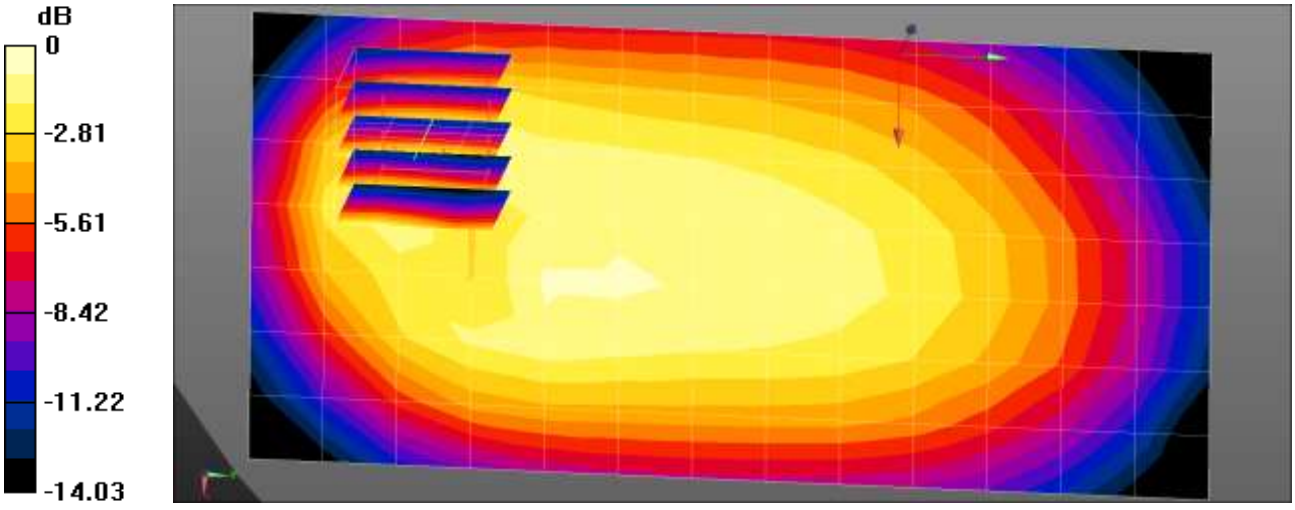
Communication System: UID 0, LTE 12 (0); Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.855 S/m; ε_r = 42.518; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27) @ 707.5 MHz; Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.131 W/kg

LTE band 12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.84 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.171 W/kg
SAR(1 g) = 0.098 W/kg; SAR(10 g) = 0.059 W/kg
Maximum value of SAR (measured) = 0.143 W/kg



0 dB = 0.143 W/kg = −8.45 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.0 ℃
Test Date:	06/17/2020
Plot No.:	25

DUT: SM-N980FDS; Type: Bar

Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 0.929 S/m; ε_r = 41.535; ρ = 1000 kg/m^3
Phantom section: Flat Section

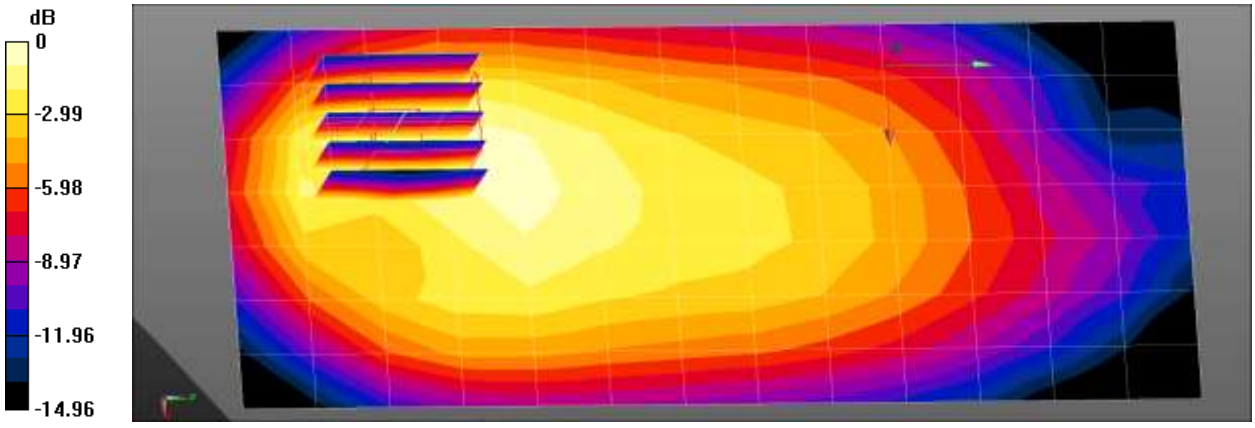
DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27) @ 782 MHz; Calibrated: 08/29/2019;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 13 Body Rear QPSK 10MHz 1RB 49offset 23230ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.213 W/kg

LTE band 13 Body Rear QPSK 10MHz 1RB 49offset 23230ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.74 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.254 W/kg
SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.092 W/kg
Maximum value of SAR (measured) = 0.214 W/kg



0 dB = 0.214 W/kg = −6.70 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.1 ℃
Test Date:	06/11/2020
Plot No.:	26

DUT: SM-N980FDS; Type: Bar

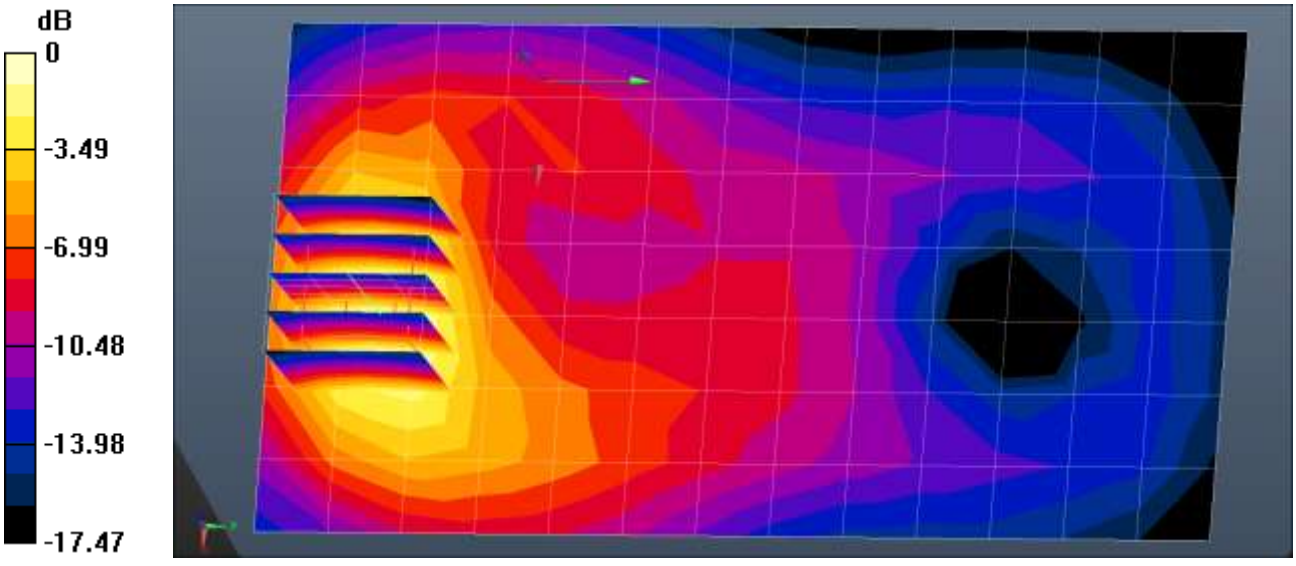
Communication System: UID 0, LTE Band 25 (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.385 S/m; ε_r = 39.22; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1882.5 MHz; Calibrated: 11/28/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 25 Body Rear QPSK 20MHz 1RB 0offset 26365ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.876 W/kg

LTE Band 25 Body Rear QPSK 20MHz 1RB 0offset 26365ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.16 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.713 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 1.06 W/kg = 0.25 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	22.1 ℃
Ambient Temperature:	22.4 ℃
Test Date:	06/11/2020
Plot No.:	27

DUT: SM-N980FDS; Type: Bar

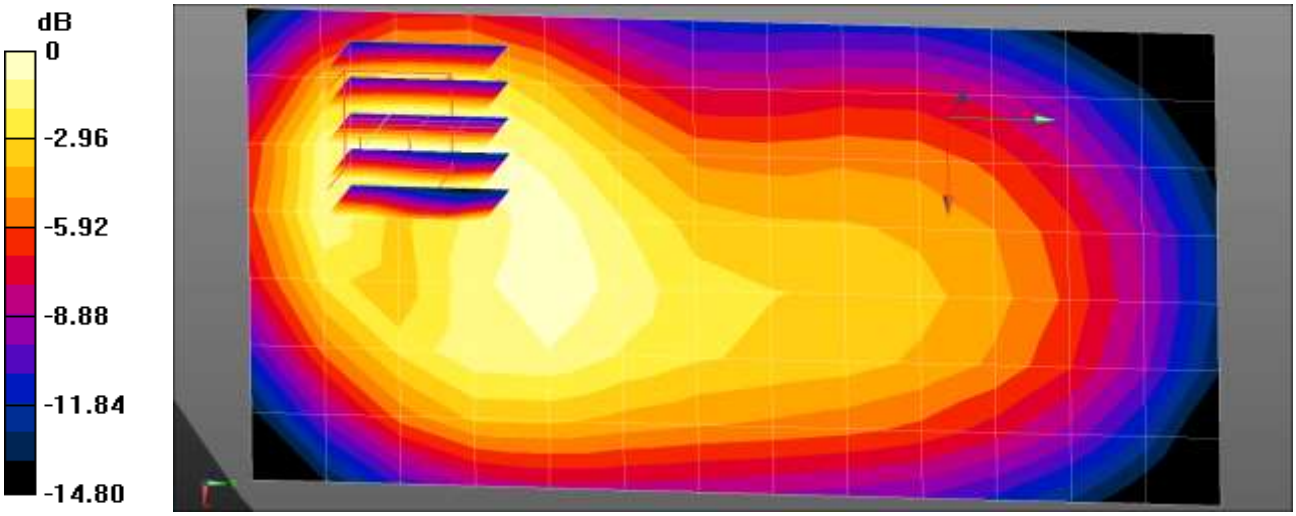
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.918 S/m; ε_r = 42.655; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(9.88, 9.88, 9.88) @ 831.5 MHz; Calibrated: 08/29/2019;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.343 W/kg

LTE band 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.91 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.407 W/kg
SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.152 W/kg
Maximum value of SAR (measured) = 0.343 W/kg



0 dB = 0.343 W/kg = −4.65 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.4 ℃
Ambient Temperature:	20.7 ℃
Test Date:	06/16/2020
Plot No.:	28

DUT: SM-N980FDS; Type: Bar

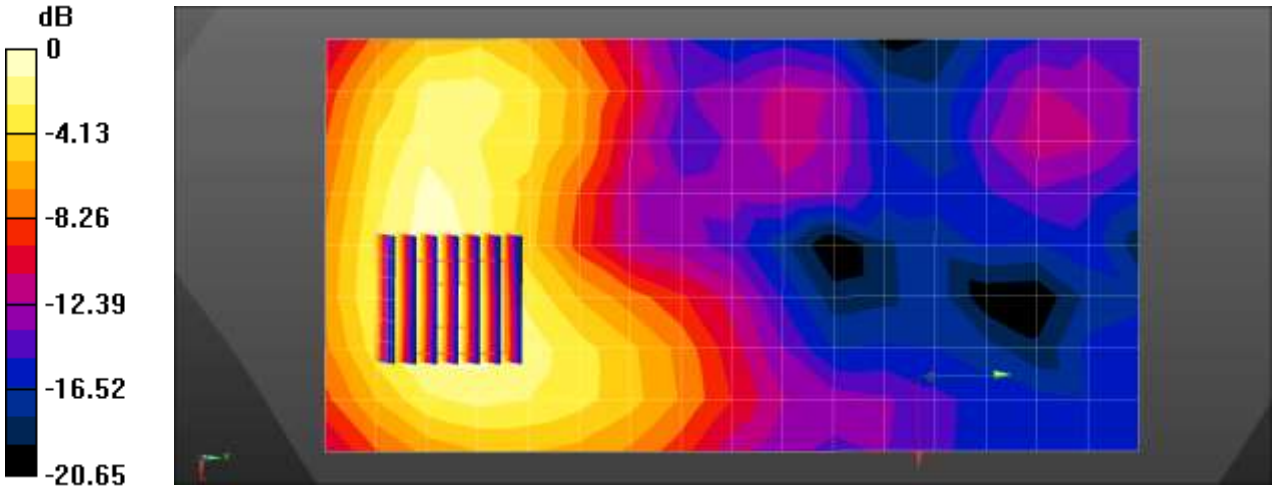
Communication System: UID 0, LTE Band41 (0); Frequency: 2593 MHz;Duty Cycle: 1:1.58016
Medium parameters used (interpolated): f = 2593 MHz; σ = 1.951 S/m; ε_r = 37.894; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/LTE Band 41 Body Rear QPSK 20MHz 1RB 0offset 40620ch/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.132 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.469 W/kg
SAR(1 g) = 0.249 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) = 0.384 W/kg

SM-N980FDS/LTE Band 41 Body Rear QPSK 20MHz 1RB 0offset 40620ch/Area Scan (9x17x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.383 W/kg



0 dB = 0.384 W/kg = -4.16 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.5 ℃
Ambient Temperature:	19.7 ℃
Test Date:	06/12/2020
Plot No.:	29

DUT: SM-N980FDS; Type: Bar

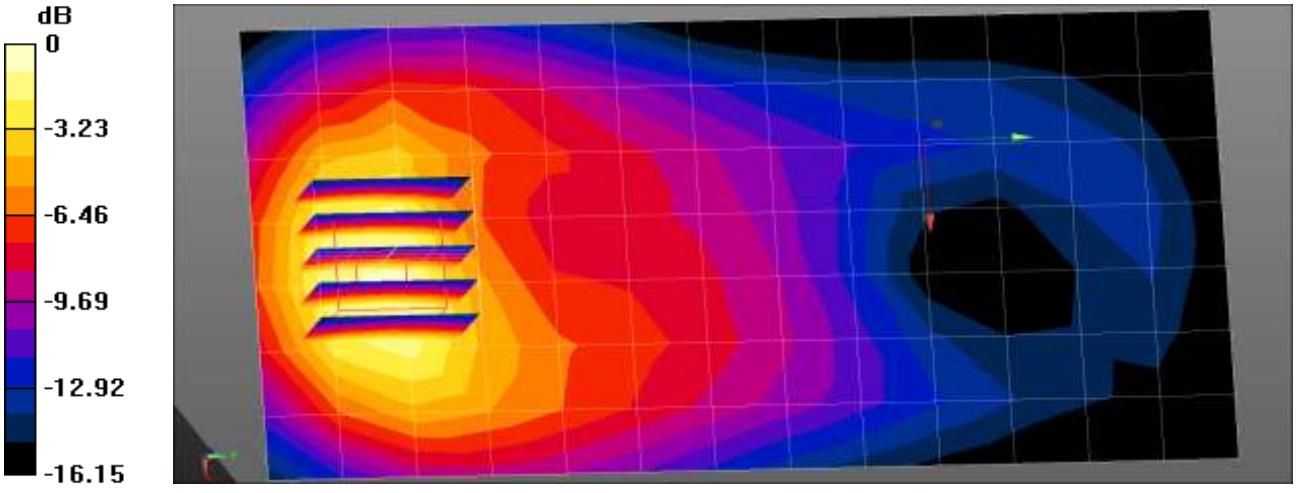
Communication System: UID 0, LTE 66 (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.318 S/m; ε_r = 39.901; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14) @ 1745 MHz; Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 66 Body Rear QPSK 20MHz 1RB 99offset 132322ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.768 W/kg

LTE Band 66 Body Rear QPSK 20MHz 1RB 99offset 132322ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.704 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.606 W/kg; SAR(10 g) = 0.352 W/kg
Maximum value of SAR (measured) = 0.882 W/kg



0 dB = 0.882 W/kg = -0.55 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.4 ℃
Test Date:	06/12/2020
Plot No.:	30

DUT: SM-N980FDS; Type: Bar

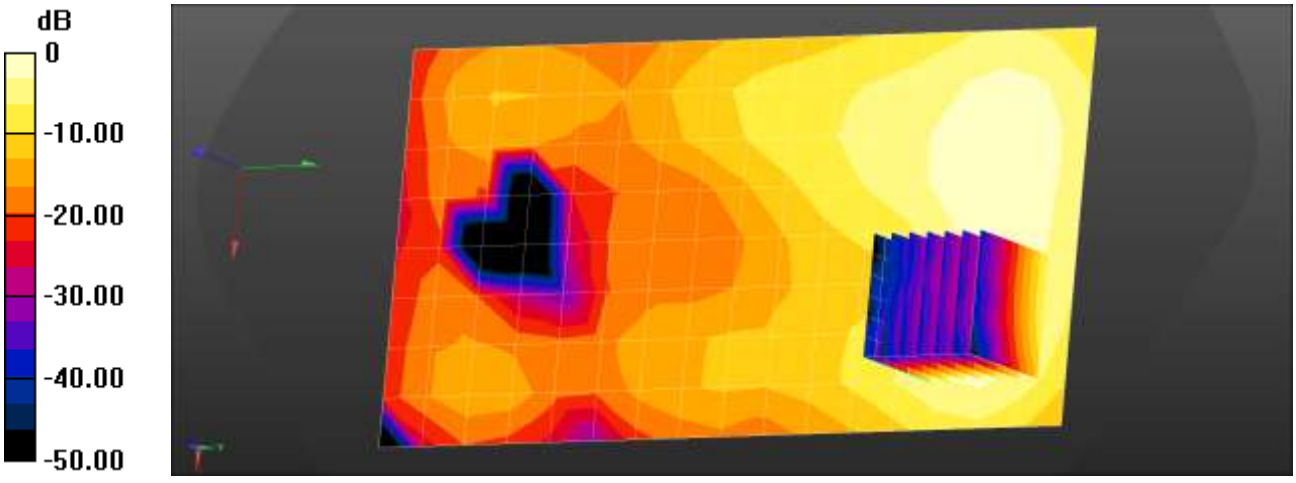
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.766 S/m; ε_r = 39.625; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.6, 7.6, 7.6); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 2020-04-22
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11b Body Rear 1Mbps 1ch/Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.245 W/kg

SM-N980FDS/802.11b Body Rear 1Mbps 1ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.536 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.312 W/kg
SAR(1 g) = 0.151 W/kg; SAR(10 g) = 0.074 W/kg
Maximum value of SAR (measured) = 0.250 W/kg



0 dB = 0.245 W/kg = -6.11 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.4 ℃
Ambient Temperature:	20.6 ℃
Test Date:	06/23/2020
Plot No.:	31

DUT: SM-N980FDSDS; Type: Bar

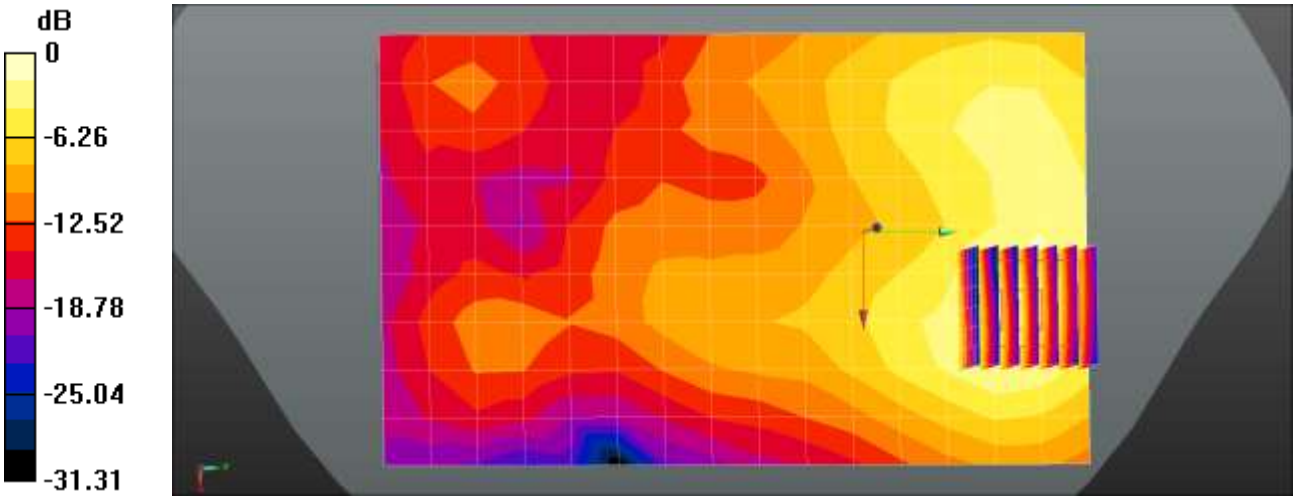
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.799 S/m; ε_r = 39.807; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.61, 4.61, 4.61); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS /802.11g Body Rear 6Mbps 6ch/Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.164 W/kg

SM-N980FDS /802.11g Body Rear 6Mbps 6ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.389 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.076 W/kg
Maximum value of SAR (measured) = 0.186 W/kg



0 dB = 0.164 W/kg = -7.85 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.7 ℃
Test Date:	06/23/2020
Plot No.:	33

DUT: SM-N980FDS; Type: Bar

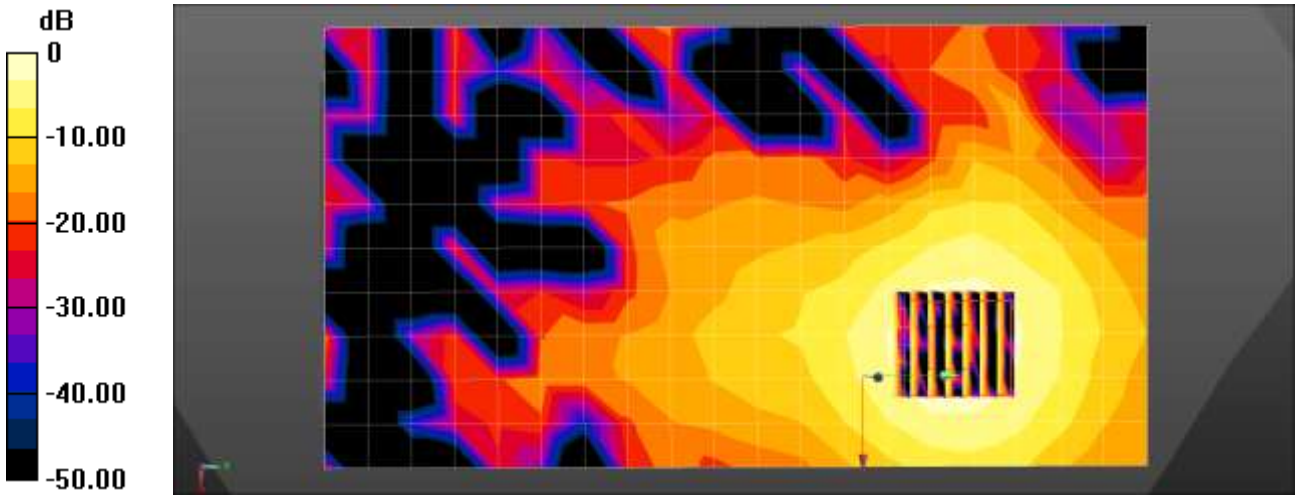
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5610 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5610 MHz; σ = 5.082 S/m; ε_r = 36.525; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.6, 4.6, 4.6); Calibrated: 2020-05-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11ac BodyWorn Rear MCS0 122ch/Area Scan (11x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.391 W/kg

SM-N980FDS/802.11ac BodyWorn Rear MCS0 122ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.870 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.733 W/kg
SAR(1 g) = 0.183 W/kg; SAR(10 g) = 0.070 W/kg
Maximum value of SAR (measured) = 0.430 W/kg



0 dB = 0.391 W/kg = -4.08 dBW/kg

Test Laboratory: HCT CO., LTD
EUT Type: Mobile Phone
Liquid Temperature: 21.6 ℃
Ambient Temperature: 21.8 ℃
Test Date: 06/24/2020
Plot No.: 34

DUT: SM-N980FDS; Type: Bar

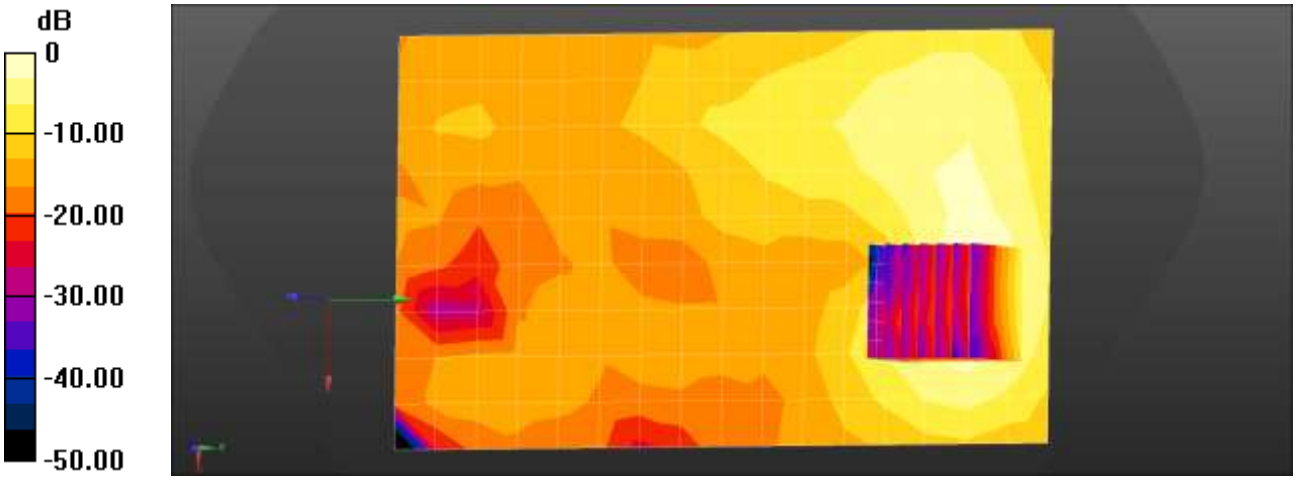
Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz;Duty Cycle: 1:1.3
Medium parameters used: f = 2480 MHz; σ = 1.828 S/m; ε_r = 38.338; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.65, 7.65, 7.65); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/Bluetooth Body Rear DH5 78ch/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.165 W/kg

SM-N980FDS/Bluetooth Body Rear DH5 78ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.6580 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.200 W/kg
SAR(1 g) = 0.100 W/kg; SAR(10 g) = 0.049 W/kg
Maximum value of SAR (measured) = 0.162 W/kg



0 dB = 0.165 W/kg = -7.84 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.6 ℃
Test Date:	06/10/2020
Plot No.:	35

DUT: SM-N980FDS; Type: Bar

Communication System: UID 0, GSM 850 3Tx (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.77013
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.922 S/m; ε_r = 42.834; ρ = 1000 kg/m^3
Phantom section: Flat Section

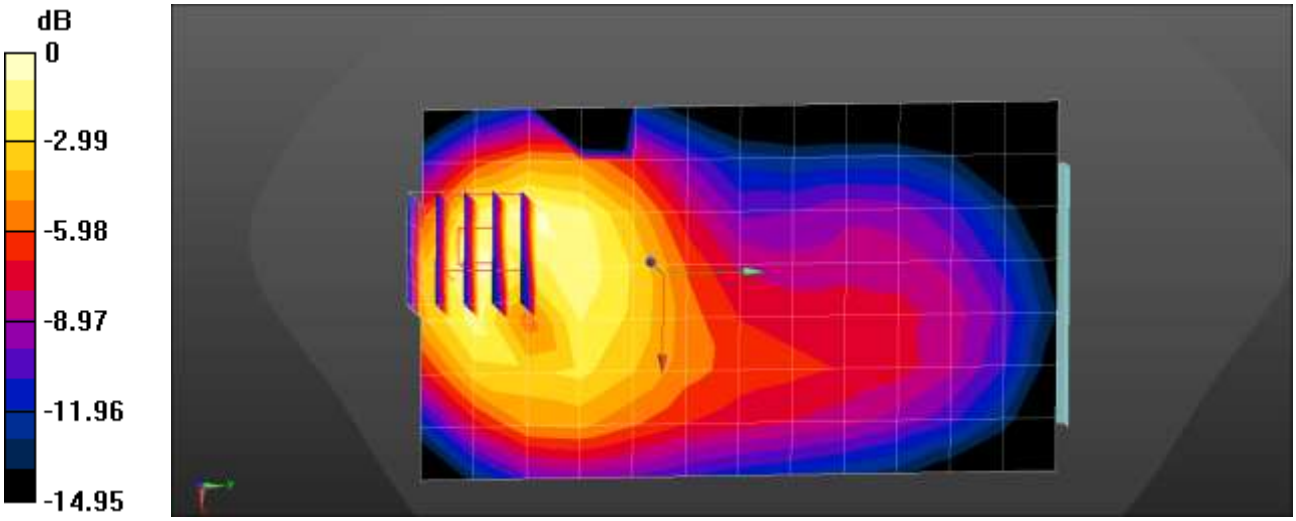
DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 836.6 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

GSM 850 Body Rear 3Tx 190ch/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.07 W/kg

GSM 850 Body Rear 3Tx 190ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.50 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.435 W/kg
Maximum value of SAR (measured) = 1.07 W/kg



0 dB = 1.07 W/kg = 0.29 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.3 ℃
Test Date:	06/22/2020
Plot No.:	36

DUT: SM-N980FDS; Type: Bar

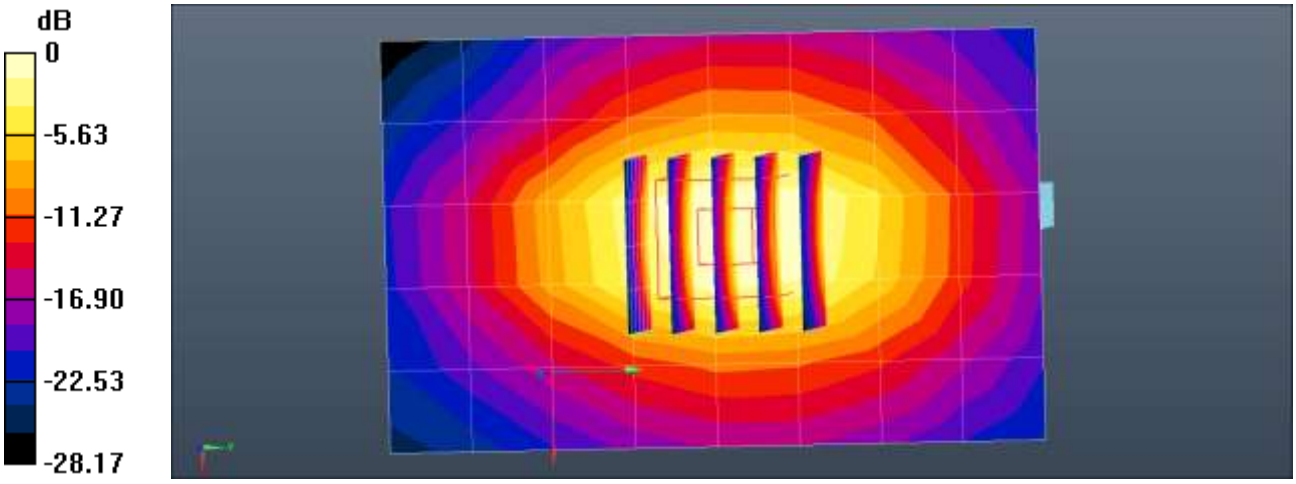
Communication System: UID 0, GSM 1900 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.396 S/m; ε_r = 39.998; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

GSM1900 Body Bottom 4Tx 661ch/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.966 W/kg

GSM1900 Body Bottom 4Tx 661ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.76 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.457 W/kg
Smallest distance from peaks to all points 3 dB below = 9.6 mm
Ratio of SAR at M2 to SAR at M1 = 54%
Maximum value of SAR (measured) = 1.37 W/kg



0 dB = 0.966 W/kg = -0.15 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.0 ℃
Test Date:	06/11/2020
Plot No.:	37

DUT: SM-N980FDS; Type: Bar

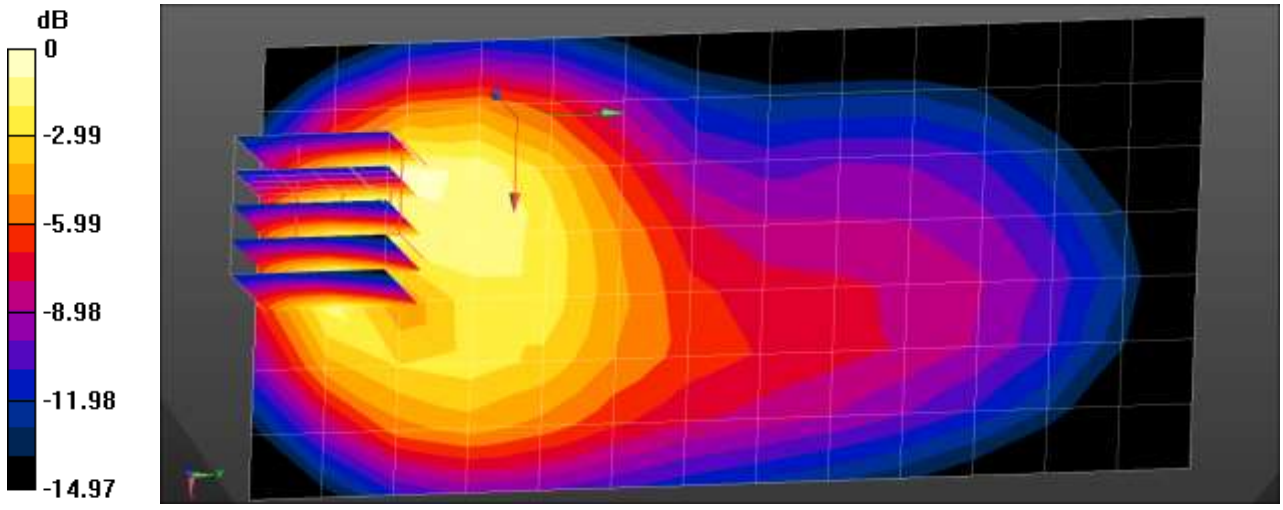
Communication System: UID 0, WCDMA850 (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.951 S/m; ε_r = 42.589; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 846.6 MHz; Calibrated: 2020/03/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA Band 5 Body Rear 4233ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.876 W/kg

WCDMA Band 5 Body Rear 4233ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.52 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.700 W/kg; SAR(10 g) = 0.410 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.6 ℃
Ambient Temperature:	20.8 ℃
Test Date:	06/19/2020
Plot No.:	38

DUT: SM-N980FDS; Type: Bar

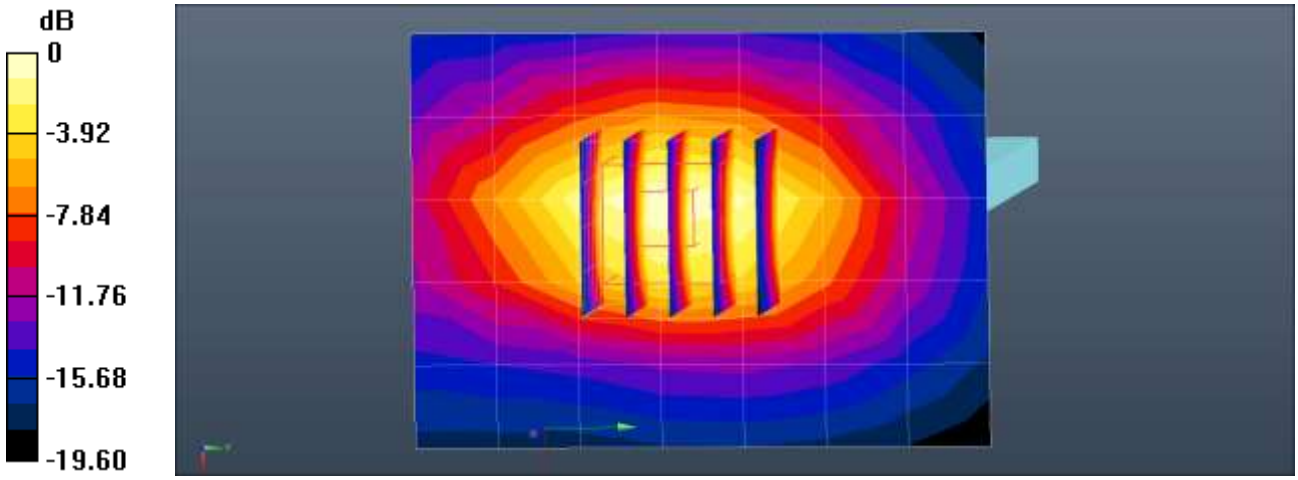
Communication System: UID 0, WCDMA 1700 (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.338 S/m; ε_r = 39.914; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.34, 5.34, 5.34); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B4 Body Bottom 1412ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.672 W/kg

WCDMA B4 Body Bottom 1412ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.30 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.968 W/kg
SAR(1 g) = 0.579 W/kg; SAR(10 g) = 0.315 W/kg
Maximum value of SAR (measured) = 0.709 W/kg



0 dB = 0.672 W/kg = −1.73 dBW/kg

Test Laboratory: HCT CO., LTD
EUT Type: Mobile Phone
Liquid Temperature: 21.4 ℃
Ambient Temperature: 21.6 ℃
Test Date: 06/18/2020
Plot No.: 39

DUT: SM-N980FDS; Type: Bar

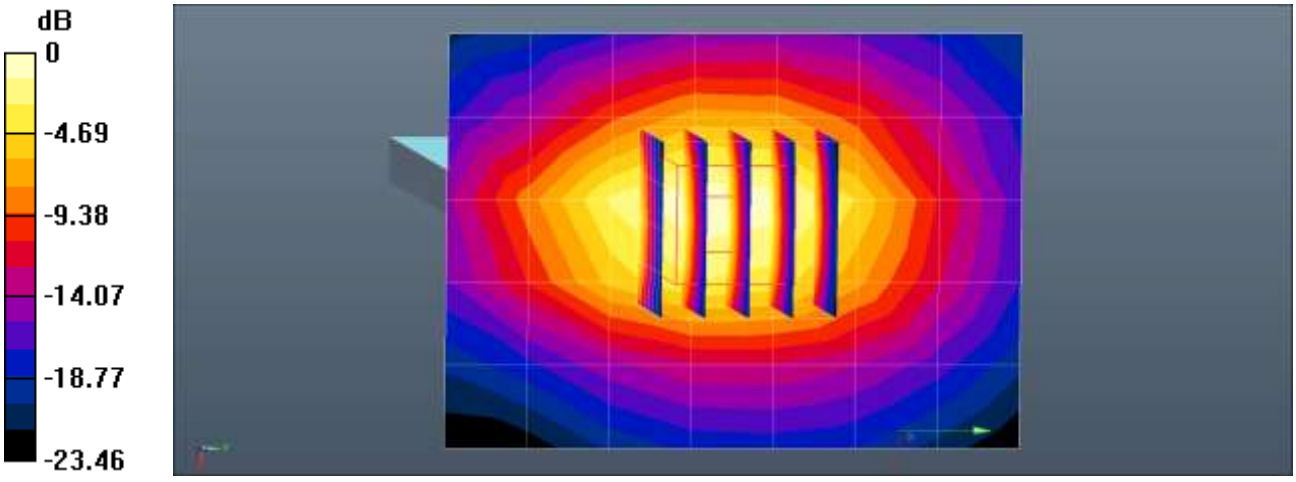
Communication System: UID 0, WCDMA1900 (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.45 S/m; ε_r = 39.138; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.1, 5.1, 5.1); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B2 Body Bottom 9538ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 W/kg

WCDMA B2 Body Bottom 9538ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.07 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.944 W/kg; SAR(10 g) = 0.491 W/kg
Maximum value of SAR (measured) = 1.19 W/kg



0 dB = 1.07 W/kg = 0.28 dBW/kg

Test Laboratory: HCT CO., LTD

EUT Type: Mobile Phone
Liquid Temperature: 19.6 ℃
Ambient Temperature: 19.8 ℃
Test Date: 06/16/2020
Plot No.: 40

DUT: SM-N980FDS; Type: Bar

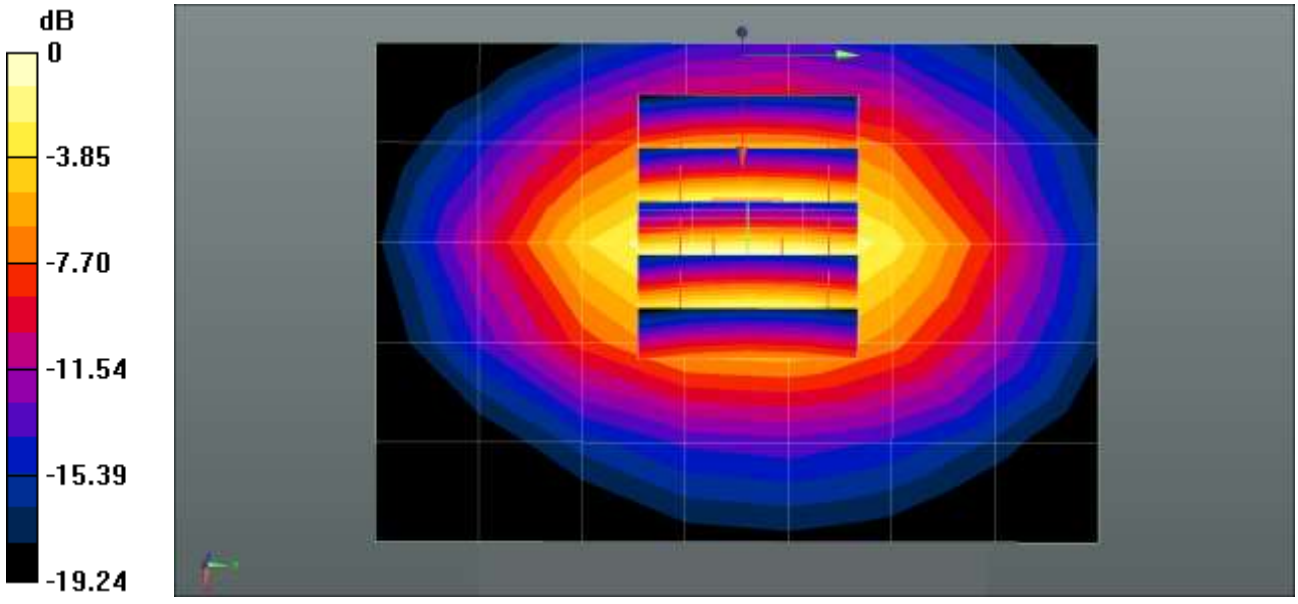
Communication System: UID 0, LTE2 (20MHz) (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.389 S/m; ε_r = 39.363; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1880 MHz; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 2 Body Bottom QPSK 20MHz 1RB 0offset 18900ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.71 W/kg

LTE Band 2 Body Bottom QPSK 20MHz 1RB 0offset 18900ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.88 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.19 W/kg
SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.606 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 53%
Maximum value of SAR (measured) = 1.81 W/kg



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

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.9 ℃
Ambient Temperature:	20.2 ℃
Test Date:	06/19/2020
Plot No.:	41

DUT: SM-N980FDS; Type: Bar

Communication System: UID 0, LTE Band 5 (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.919 S/m; ε_r = 42.668; ρ = 1000 kg/m^3
Phantom section: Flat Section

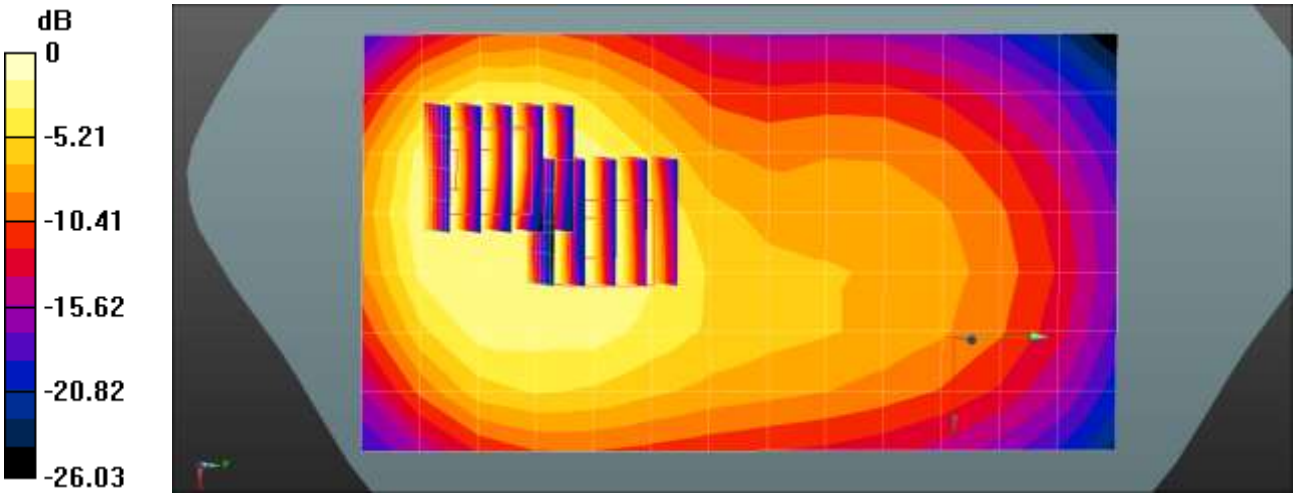
DASY Configuration:

- Probe: ET3DV6 - SN1630; ConvF(6.96, 6.96, 6.96); Calibrated: 2020-02-26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.769 W/kg

LTE band 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.63 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.720 W/kg; SAR(10 g) = 0.411 W/kg
Maximum value of SAR (measured) = 0.774 W/kg

LTE band 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.63 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.875 W/kg
SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.342 W/kg
Maximum value of SAR (measured) = 0.603 W/kg



0 dB = 0.769 W/kg = −1.14 dBW/kg

Test Laboratory: HCT CO., LTD
EUT Type: Mobile Phone
Liquid Temperature: 20.8 ℃
Ambient Temperature: 21.0 ℃
Test Date: 06/17/2020
Plot No.: 42

DUT: SM-N980FDS; Type: Bar

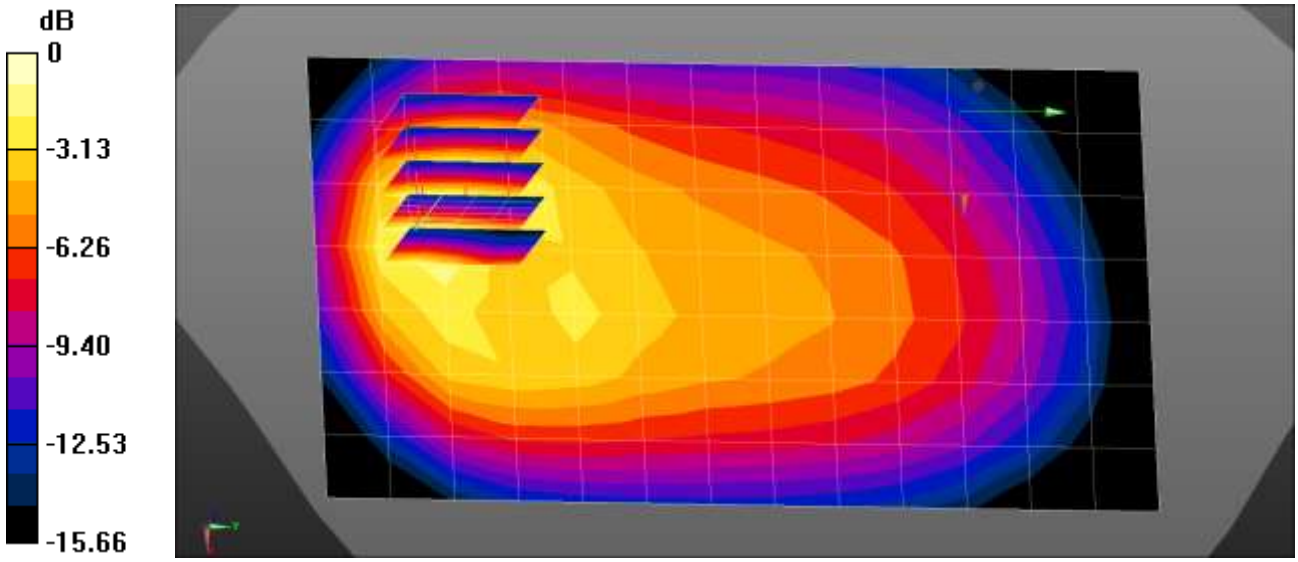
Communication System: UID 0, LTE 12 (0); Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.855 S/m; ε_r = 42.518; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27) @ 707.5 MHz; Calibrated: 2019/08/29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.295 W/kg

LTE band 12 Body Rear QPSK 10MHz 1RB 0offset 23095ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.94 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.442 W/kg
SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.124 W/kg
Maximum value of SAR (measured) = 0.335 W/kg



0 dB = 0.335 W/kg = -4.75 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.0 ℃
Test Date:	06/17/2020
Plot No.:	43

DUT: SM-N980FDS; Type: Bar

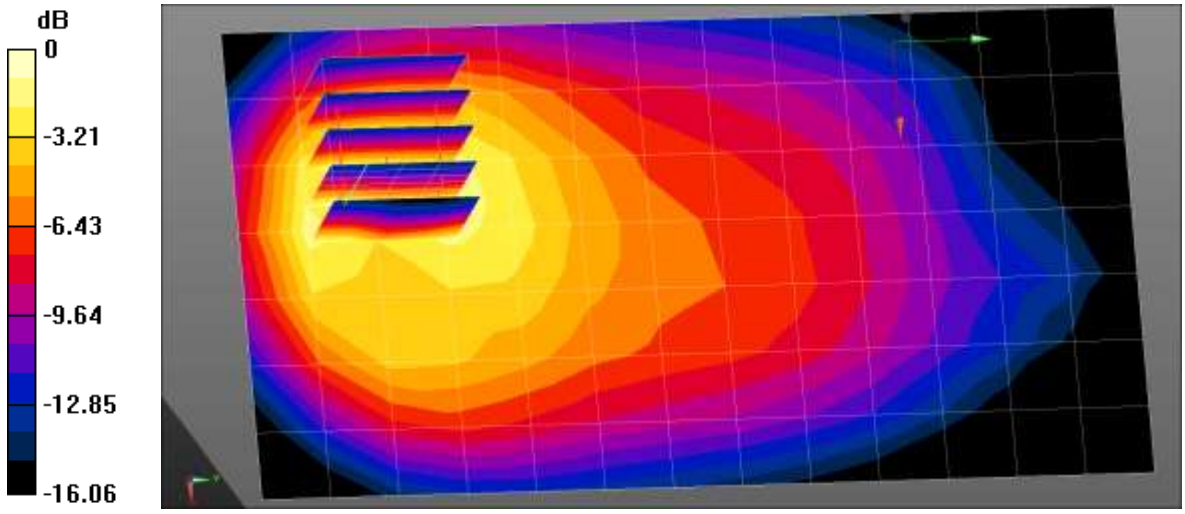
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 0.929 S/m; ε_r = 41.535; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27) @ 782 MHz; Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 13 Body Rear QPSK 10MHz 1RB 49offset 23230ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.518 W/kg

LTE band 13 Body Rear QPSK 10MHz 1RB 49offset 23230ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.97 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.686 W/kg
SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.194 W/kg
Maximum value of SAR (measured) = 0.537 W/kg



0 dB = 0.537 W/kg = -2.70 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.8 ℃
Ambient Temperature:	21.1 ℃
Test Date:	06/11/2020
Plot No.:	44

DUT: SM-N980FDS; Type: Bar

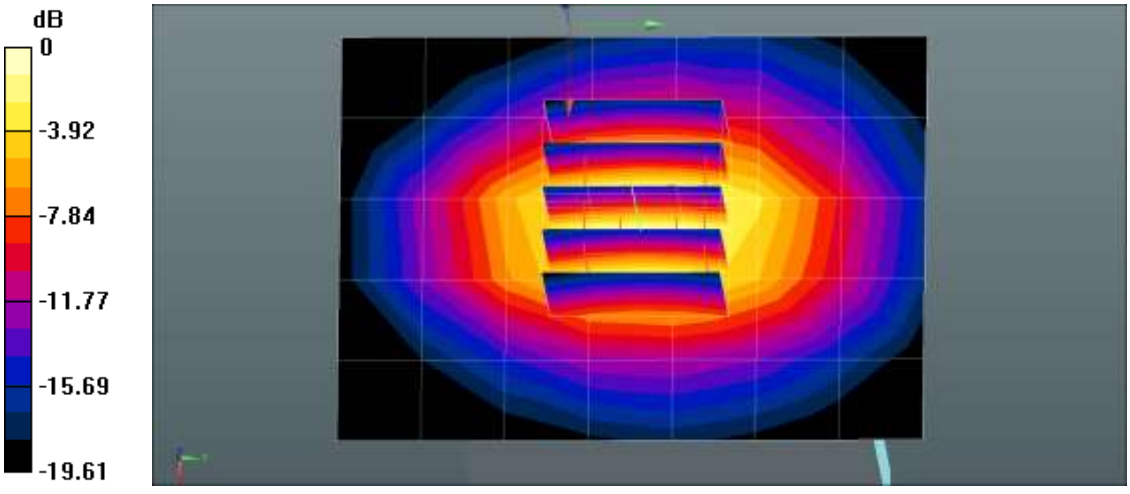
Communication System: UID 0, LTE Band 25 (0); Frequency: 1905 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1905 MHz; σ = 1.409 S/m; ε_r = 39.037; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1905 MHz; Calibrated: 2019/11/28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 25 Body Bottom QPSK 20MHz 100RB 0offset 26365ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.50 W/kg

LTE Band 25 Body Bottom QPSK 20MHz 100RB 0offset 26365ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 37.03 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.29 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.621 W/kg
Maximum value of SAR (measured) = 1.88 W/kg



0 dB = 1.88 W/kg = 2.74 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	22.1 ℃
Ambient Temperature:	22.4 ℃
Test Date:	06/11/2020
Plot No.:	45

DUT: SM-N980FDS; Type: Bar

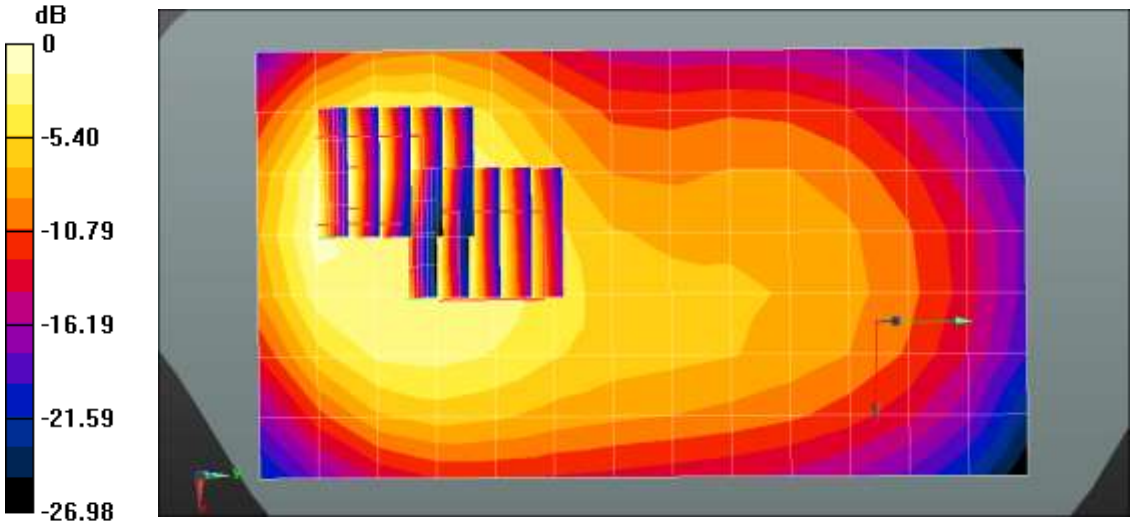
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.918 S/m; ε_r = 42.655; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7370; ConvF(9.88, 9.88, 9.88); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.805 W/kg

LTE band 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.74 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.578 W/kg; SAR(10 g) = 0.329 W/kg
Maximum value of SAR (measured) = 0.865 W/kg
Reference Value = 13.74 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.782 W/kg
SAR(1 g) = 0.428 W/kg; SAR(10 g) = 0.268 W/kg
Maximum value of SAR (measured) = 0.669 W/kg



0 dB = 0.805 W/kg = -0.94 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.4 ℃
Ambient Temperature:	20.7 ℃
Test Date:	06/16/2020
Plot No.:	46

DUT: SM-N980FDS; Type: Bar

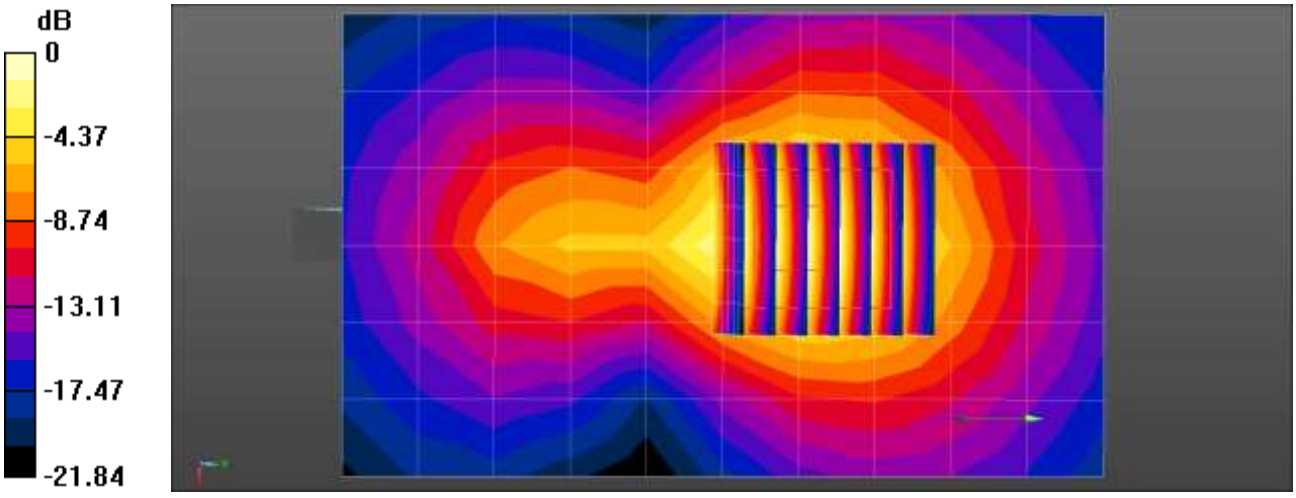
Communication System: UID 0, LTE Band41 (0); Frequency: 2636.5 MHz;Duty Cycle: 1:1.58016
Medium parameters used (interpolated): f = 2636.5 MHz; σ = 1.992 S/m; ε_r = 37.75; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/LTE Band 41 Body Bottom QPSK 20MHz 1RB 0offset 41055ch/Area Scan (7x11x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.35 W/kg

SM-N980FDS/LTE Band 41 Body Bottom QPSK 20MHz 1RB 0offset 41055ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.52 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 0.829 W/kg; SAR(10 g) = 0.394 W/kg



0 dB = 1.35 W/kg = 1.29 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.5 ℃
Ambient Temperature:	19.7 ℃
Test Date:	06/12/2020
Plot No.:	47

DUT: SM-N980FDS; Type: Bar

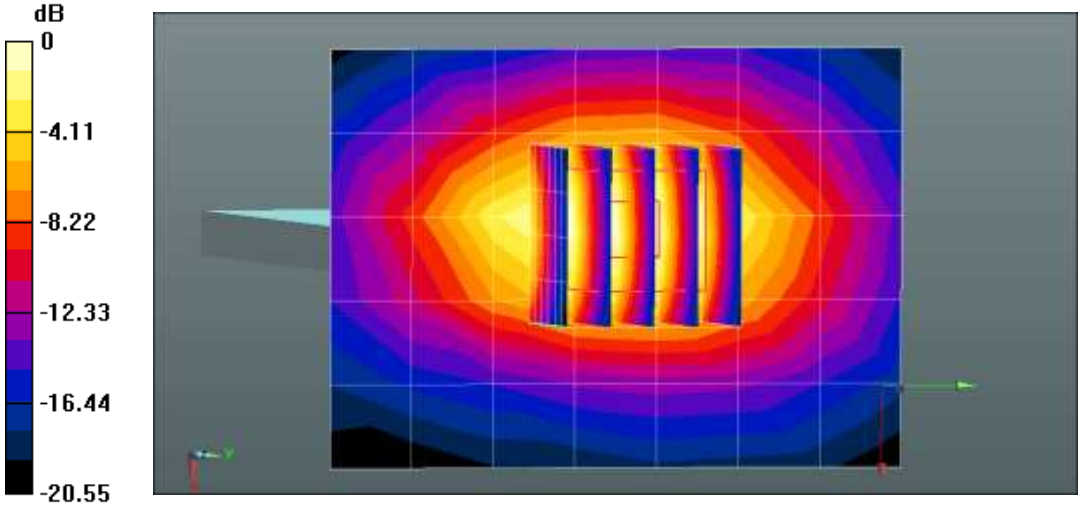
Communication System: UID 0, LTE 66 (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.318 S/m; ε_r = 39.901; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 66 Body Bottom QPSK 20MHz 50RB 0offset 132322ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.05 W/kg

LTE Band 66 Body Bottom QPSK 20MHz 50RB 0offset 132322ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.60 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.775 W/kg; SAR(10 g) = 0.410 W/kg
Maximum value of SAR (measured) = 1.20 W/kg



0 dB = 1.05 W/kg = 0.21 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.4 ℃
Test Date:	06/12/2020
Plot No.:	48

DUT: SM-N980FDS; Type: Bar

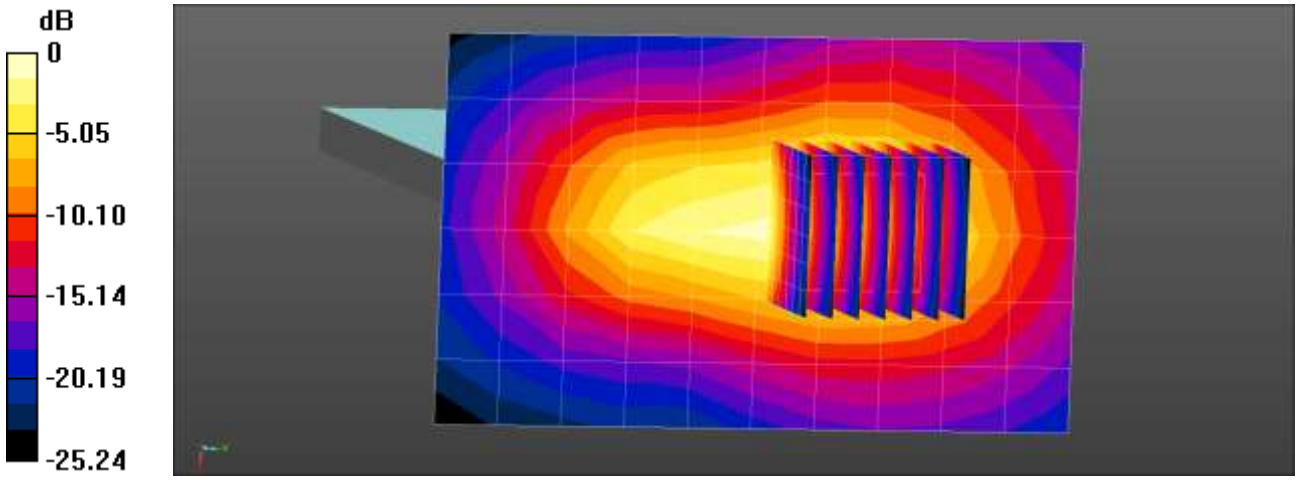
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.766 S/m; ε_r = 39.625; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.6, 7.6, 7.6); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 2020-04-22
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11b Body Top 1Mbps 1ch/Area Scan (7x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.09 W/kg

SM-N980FDS/802.11b Body Top 1Mbps 1ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.84 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 0.684 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 1.14 W/kg



0 dB = 1.09 W/kg = 0.37 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.0 ℃
Ambient Temperature:	20.2 ℃
Test Date:	06/19/2020
Plot No.:	49

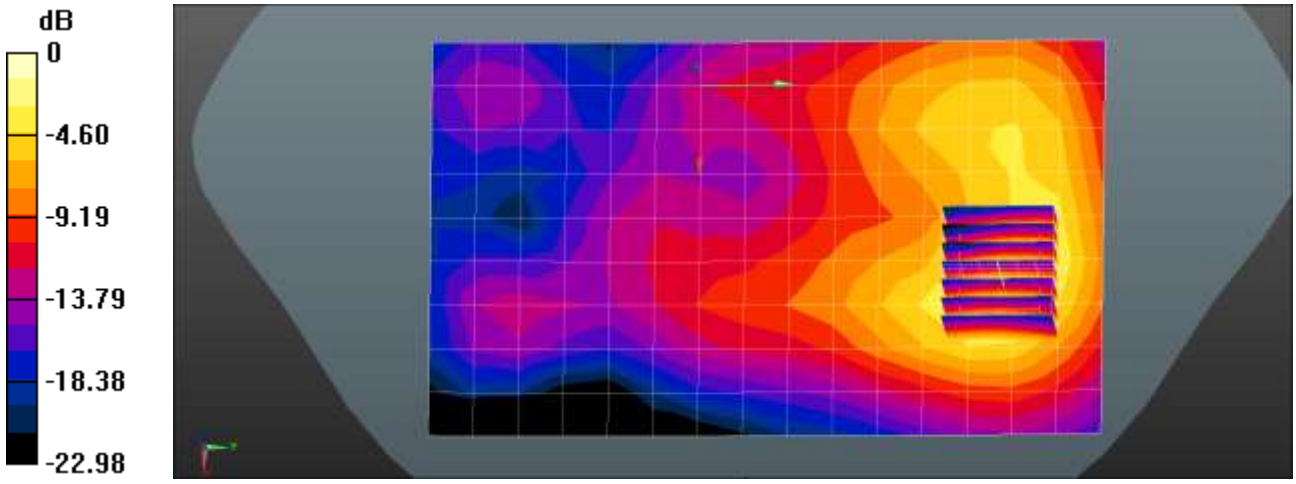
DUT: SM-N980FDS; Type: Bar
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.799 S/m; ε_r = 39.807; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.61, 4.61, 4.61) @ 2437 MHz; Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0
- Measurement SW: DASY52, Version 52.10 (4);

802.11g Body Rear 6Mbps 6ch/Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.297 W/kg

802.11g Body Rear 6Mbps 6ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.380 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.581 W/kg
SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.139 W/kg
Maximum value of SAR (measured) = 0.373 W/kg



0 dB = 0.373 W/kg = -4.28 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	19.9 ℃
Ambient Temperature:	20.2℃
Test Date:	06/15/2020
Plot No.:	50

DUT: SM-N980FDS; Type: Bar

Communication System: UID 0, WIFI 5GHz (0); Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5745 MHz; σ = 5.376 S/m; ε_r = 36.477; ρ = 1000 kg/m^3
Phantom section: Flat Section

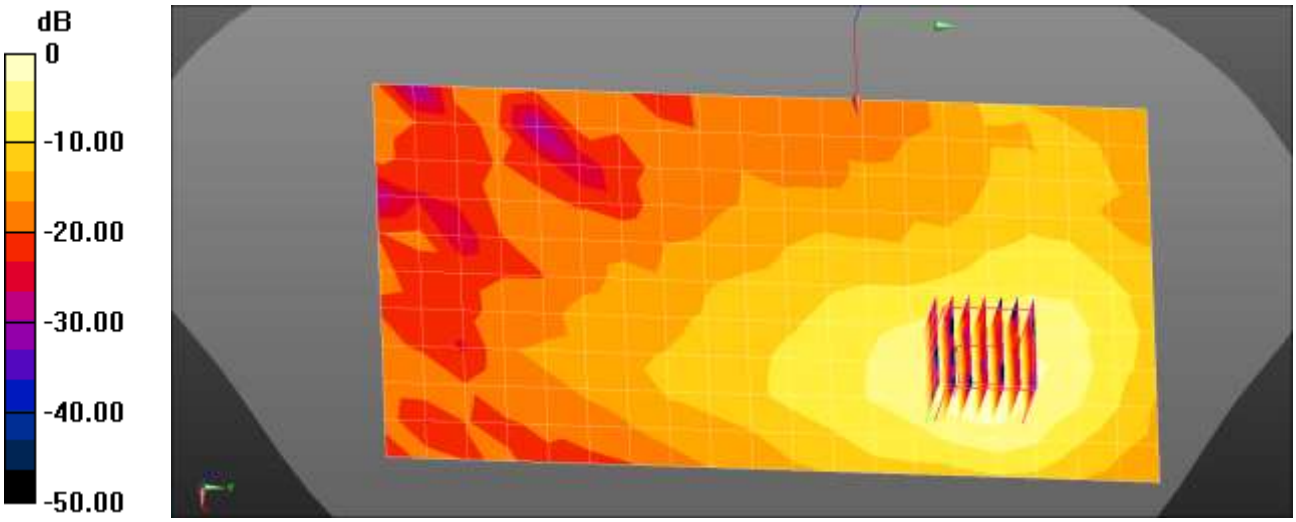
DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(4.95, 4.95, 4.95) @ 5745 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

SM-N980FDS/802.11a Body Rear 6Mbps 149ch/Area Scan (11x20x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.623 W/kg

SM-N980FDS/802.11a Body Rear 6Mbps 149ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.878 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.325 W/kg; SAR(10 g) = 0.119 W/kg
Maximum value of SAR (measured) = 0.792 W/kg



0 dB = 0.792 W/kg = -1.01 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.7 ℃
Test Date:	06/23/2020
Plot No.:	51

DUT: SM-N980FDS; Type: Bar

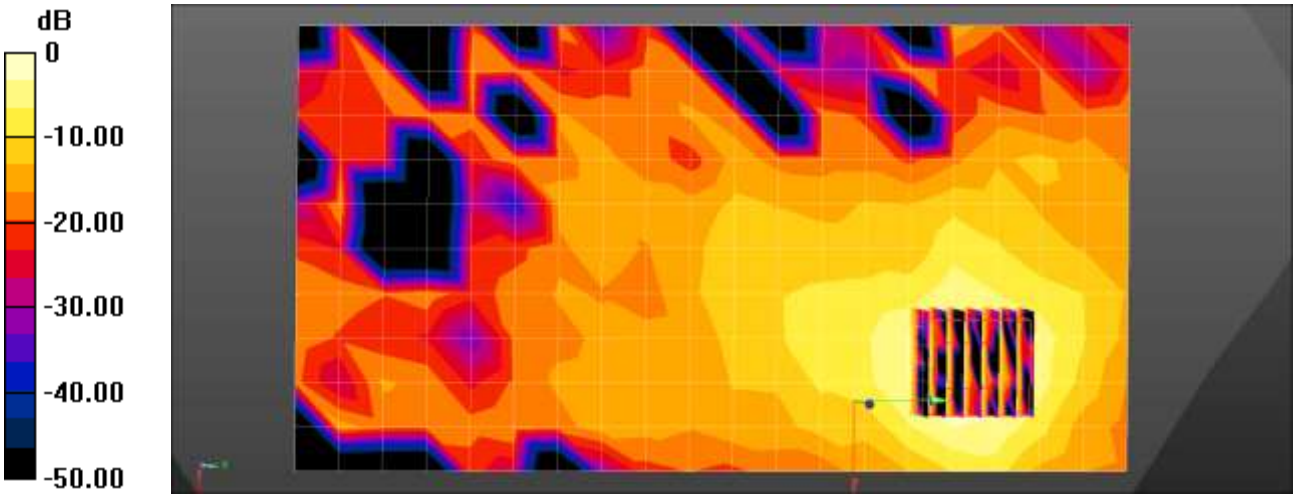
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5775 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5775 MHz; σ = 5.262 S/m; ε_r = 36.285; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.85, 4.85, 4.85); Calibrated: 2020-05-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11ac Body Rear MCS0 155ch/Area Scan (11x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.390 W/kg

SM-N980FDS/802.11ac Body Rear MCS0 155ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.380 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.807 W/kg
SAR(1 g) = 0.181 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.444 W/kg



0 dB = 0.390 W/kg = -4.09 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.6 ℃
Ambient Temperature:	21.8 ℃
Test Date:	06/24/2020
Plot No.:	52

DUT: SM-N980FDS; Type: Bar

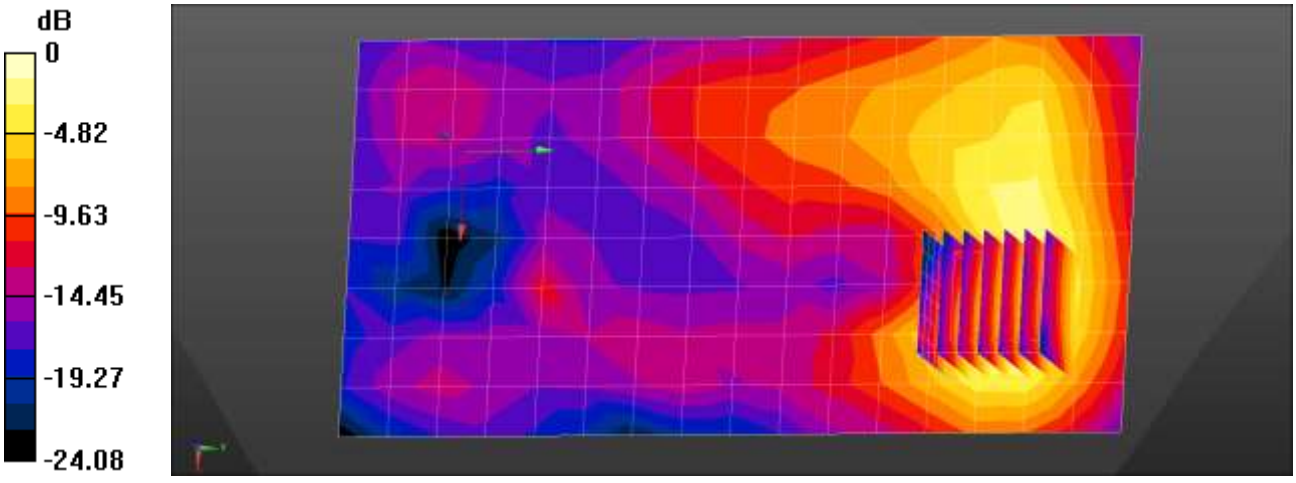
Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz;Duty Cycle: 1:1.3
Medium parameters used: f = 2480 MHz; σ = 1.828 S/m; ε_r = 38.338; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.65, 7.65, 7.65); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/Bluetooth Body Rear DH5 78ch/Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.286 W/kg

SM-N980FDS/Bluetooth Body Rear DH5 78ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.851 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.413 W/kg
SAR(1 g) = 0.202 W/kg; SAR(10 g) = 0.094 W/kg
Maximum value of SAR (measured) = 0.332 W/kg



0 dB = 0.286 W/kg = -5.43 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.4 ℃
Test Date:	06/23/2020
Plot No.:	53

DUT: SM-N980FDS; Type: Bar

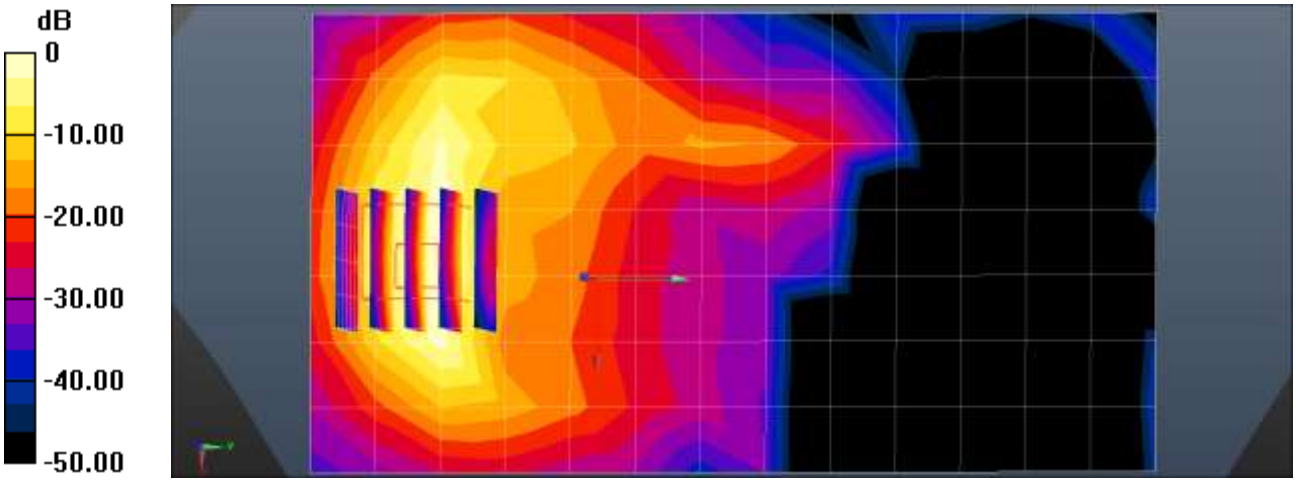
Communication System: UID 0, GSM 1900 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.398 S/m; ε_r = 39.962; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

GSM1900 Body Rear 4Tx 661ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.50 W/kg

GSM1900 Body Rear 4Tx 661ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.709 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 5.35 W/kg
SAR(1 g) = 2.28 W/kg; SAR(10 g) = 1.01 W/kg
Maximum value of SAR (measured) = 4.31 W/kg



0 dB = 3.50 W/kg = 5.44 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.6 ℃
Ambient Temperature:	20.8 ℃
Test Date:	06/19/2020
Plot No.:	54

DUT: SM-N980FDS; Type: Bar

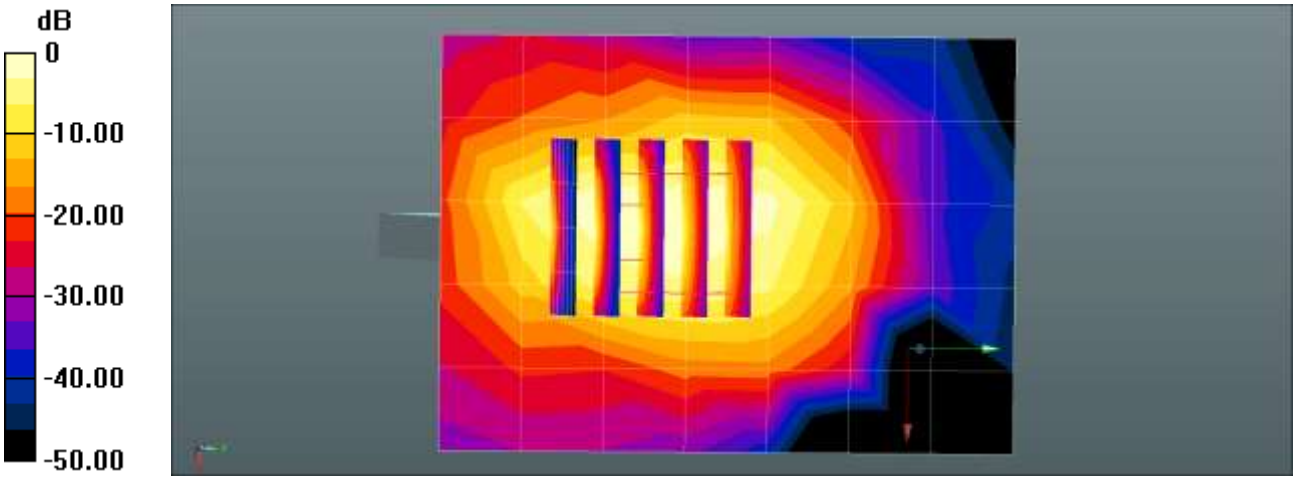
Communication System: UID 0, WCDMA 1700 (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.338 S/m; ε_r = 39.914; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.34, 5.34, 5.34); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B4 Phablet Bottom 1412ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.63 W/kg

WCDMA B4 Phablet Bottom 1412ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.31 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 14.9 W/kg
SAR(1 g) = 4.65 W/kg; SAR(10 g) = 1.82 W/kg
Maximum value of SAR (measured) = 7.57 W/kg



0 dB = 3.63 W/kg = 5.59 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.6 ℃
Test Date:	06/18/2020
Plot No.:	55

DUT: SM-N980FDS; Type: Bar

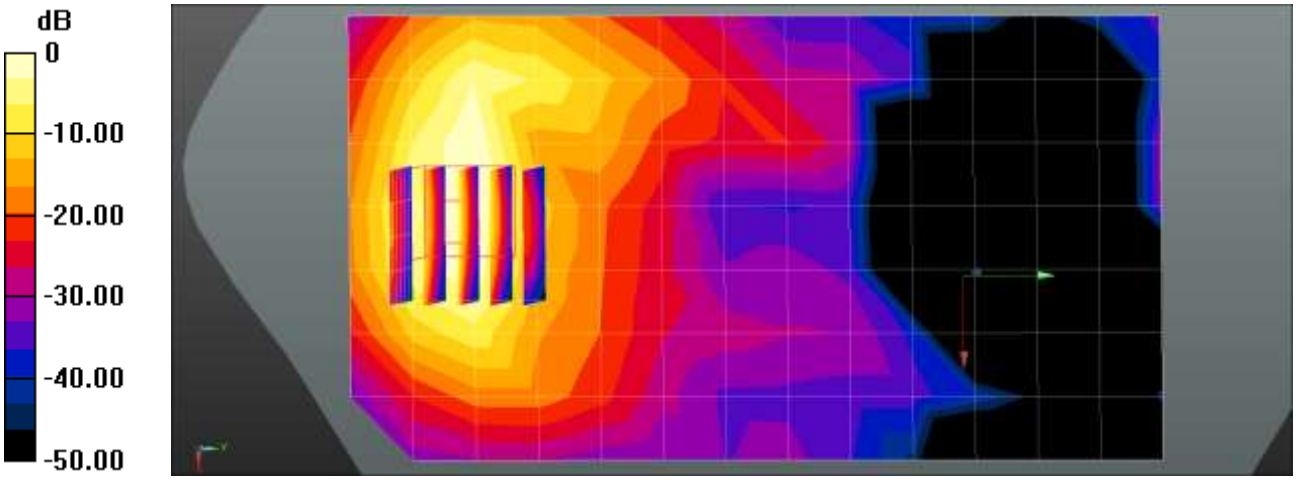
Communication System: UID 0, WCDMA1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.422 S/m; ε_r = 39.329; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.1, 5.1, 5.1); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4);

WCDMA B2 Phablet Rear 9400ch/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.91 W/kg

WCDMA B2 Phablet Rear 9400ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.5100 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 5.63 W/kg
SAR(1 g) = 2.7 W/kg; SAR(10 g) = 1.27 W/kg
Maximum value of SAR (measured) = 3.75 W/kg



0 dB = 2.91 W/kg = 4.64 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.0 ℃
Ambient Temperature:	20.2 ℃
Test Date:	06/17/2020
Plot No.:	56

DUT: SM-N980FDS; Type: Bar

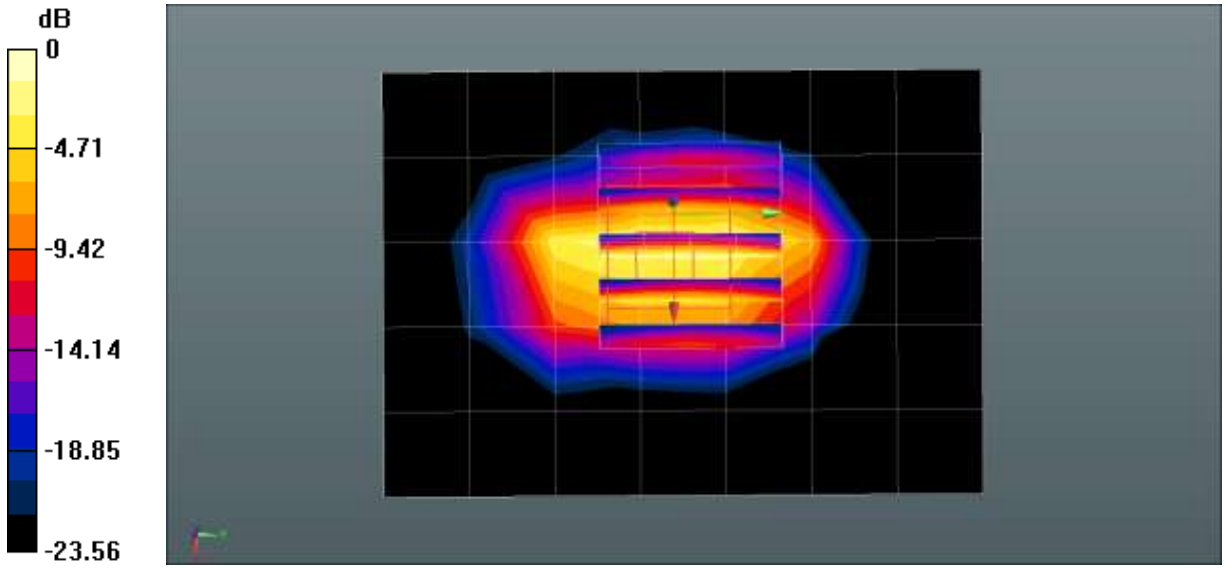
Communication System: UID 0, LTE2 (20MHz) (0); Frequency: 1860 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1860 MHz; σ = 1.369 S/m; ε_r = 40.036; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1860 MHz; Calibrated: 2019-11-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 2 Body Bottom QPSK 20MHz 1RB 0offset 18700ch/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.81 W/kg

LTE Band 2 Body Bottom QPSK 20MHz 1RB 0offset 18700ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 64.81 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 8.26 W/kg
SAR(1 g) = 3.31 W/kg; SAR(10 g) = 1.48 W/kg
Maximum value of SAR (measured) = 5.76 W/kg



0 dB = 5.76 W/kg = 7.60 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.0 ℃
Ambient Temperature:	21.1 ℃
Test Date:	06/13/2020
Plot No.:	57

DUT: SM-N980FDS; Type: Bar

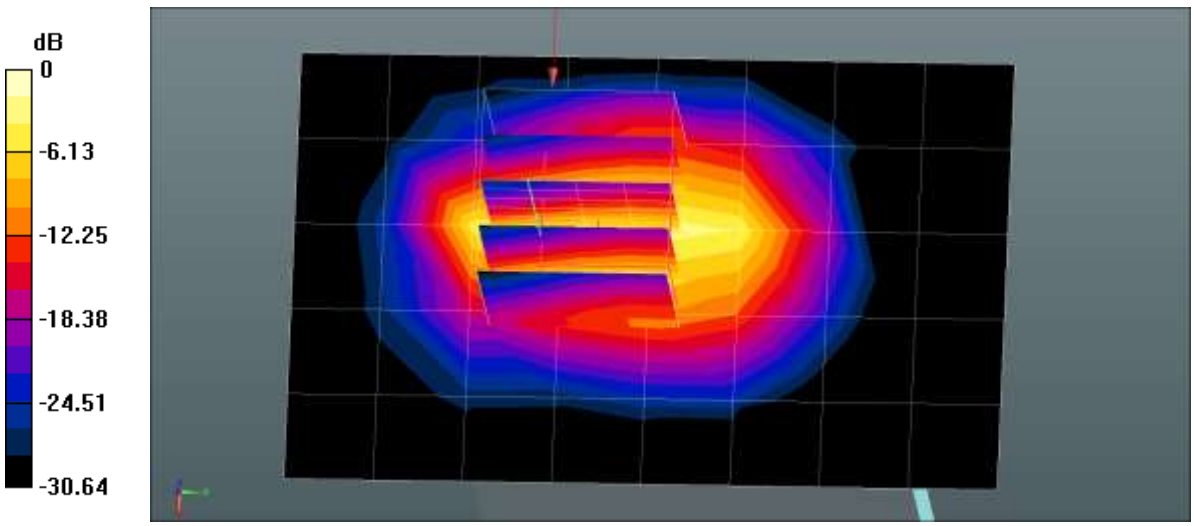
Communication System: UID 0, LTE Band 25 (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.395 S/m; ε_r = 39.258; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1882.5 MHz; Calibrated: 2019/11/28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 25 Body Bottom QPSK 20MHz 1RB 0offset 26365ch/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.46 W/kg

LTE Band 25 Body Bottom QPSK 20MHz 1RB 0offset 26365ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 58.10 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 12.5 W/kg
SAR(1 g) = 3.58 W/kg; SAR(10 g) = 1.47 W/kg
Maximum value of SAR (measured) = 8.84 W/kg



0 dB = 8.84 W/kg = 9.46 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.6 ℃
Test Date:	06/22/2020
Plot No.:	58

DUT: SM-N980FDS; Type: Bar

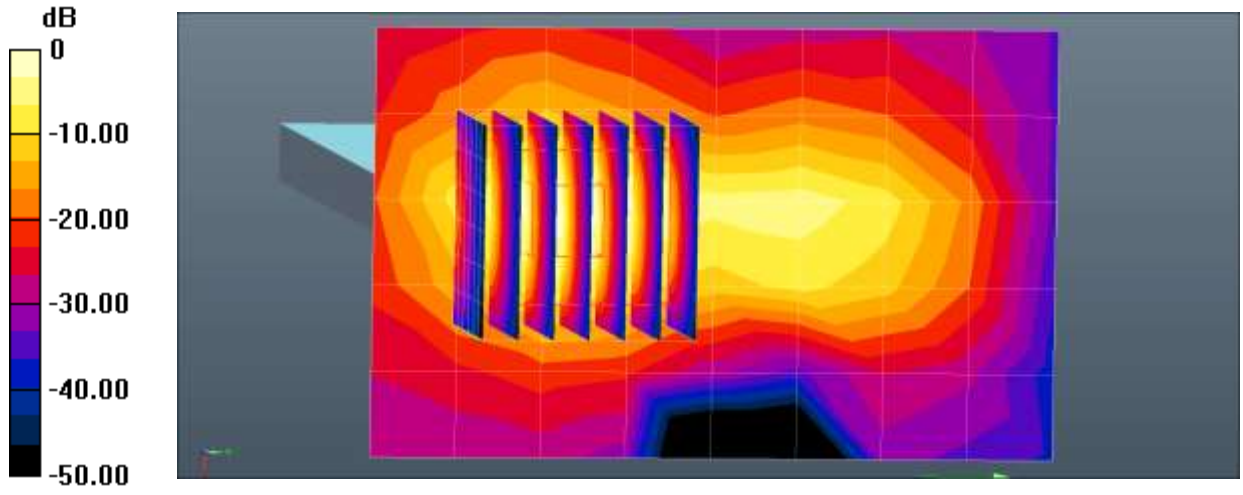
Communication System: UID 0, LTE Band 41 (0); Frequency: 2593 MHz;Duty Cycle: 1:1.58052
Medium parameters used (interpolated): f = 2593 MHz; σ = 1.946 S/m; ε_r = 37.859; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.49, 4.49, 4.49); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2020-02-26
- Phantom: SAM with CRP v5.0
- Measurement SW: DASY52, Version 52.10 (4);

LTE band 41 Body Bottom QPSK 20MHz 1RB 0offset 40620ch/Area Scan (6x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.44 W/kg

LTE band 41 Body Bottom QPSK 20MHz 1RB 0offset 40620ch/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.74 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 7.82 W/kg
SAR(1 g) = 2.53 W/kg; SAR(10 g) = 0.826 W/kg
Maximum value of SAR (measured) = 3.91 W/kg



0 dB = 3.44 W/kg = 5.36 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.3 ℃
Test Date:	06/15/2020
Plot No.:	59

DUT: SM-N980FDS; Type: Bar

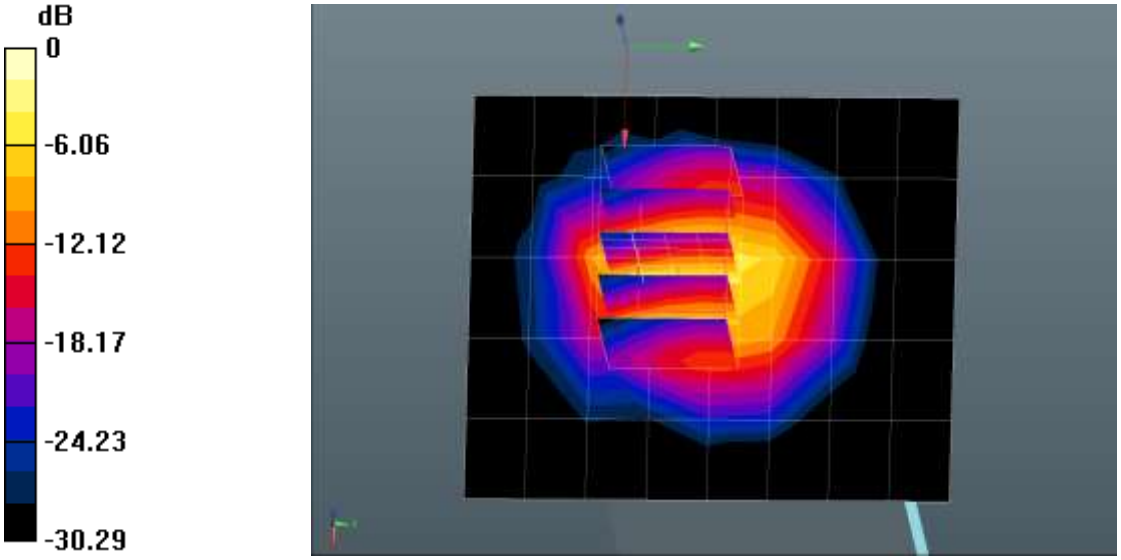
Communication System: UID 0, LTE 66 (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.328 S/m; ε_r = 40.111; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14) @ 1745 MHz; Calibrated: 2019/11/28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

LTE Band 66 Body Bottom QPSK 20MHz 50RB 0offset 132322ch/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.97 W/kg

LTE Band 66 Body Bottom QPSK 20MHz 50RB 0offset 132322ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 85.16 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 21.9 W/kg
SAR(1 g) = 5.78 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 15.6 W/kg



0 dB = 15.6 W/kg = 11.93 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Mobile Phone
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.4 ℃
Test Date:	06/17/2020
Plot No.:	60

DUT: SM-N980FDS; Type: Bar

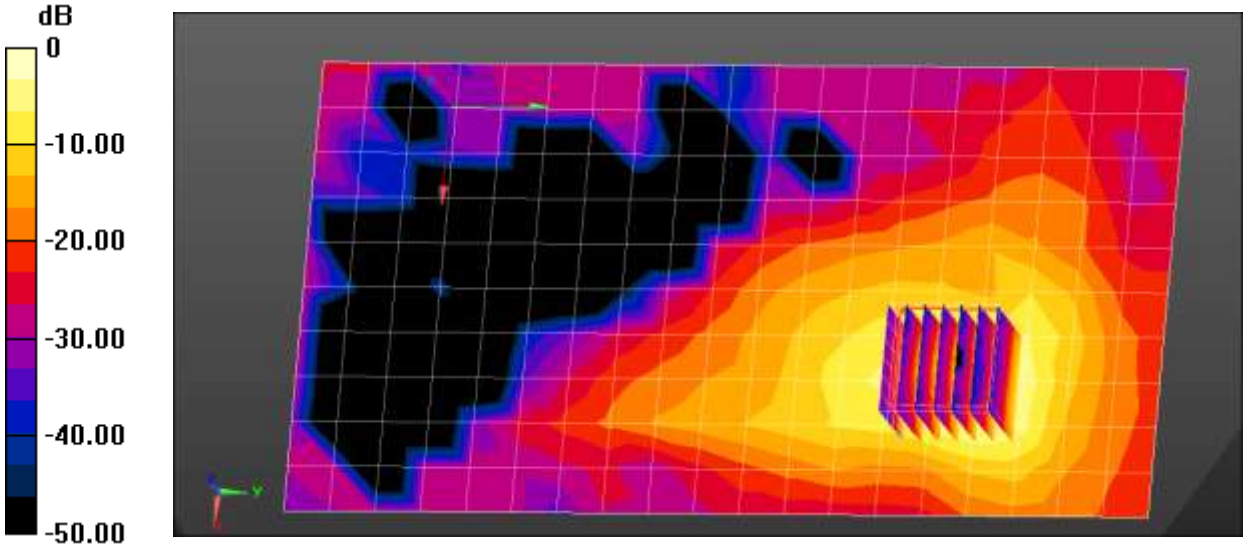
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 4.659 S/m; ε_r = 36.718; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(5.24, 5.24, 5.24); Calibrated: 2020-03-25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4);

SM-N980FDS/802.11a Body Rear 6Mbps 56ch/Area Scan (11x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 4.04 W/kg

SM-N980FDS/802.11a Body Rear 6Mbps 56ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.237 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 3.35 W/kg; SAR(10 g) = 0.781 W/kg
Maximum value of SAR (measured) = 12.0 W/kg



0 dB = 4.04 W/kg = 6.06 dBW/kg

Appendix C. – Dipole Verification Plots

■ **Verification Data (750 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.5 ℃
Test Date:	06/16/2020

DUT: Dipole 750 MHz D750V3; Type: D750V3

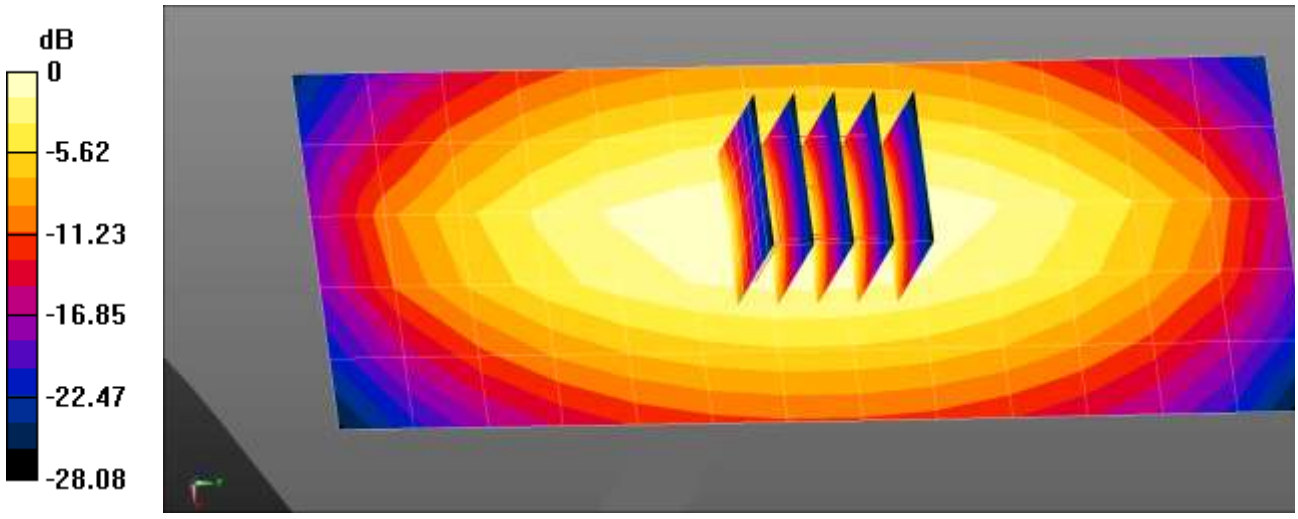
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.896 S/m; ε_r = 42.004; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

750MHz Verification/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.507 W/kg

750MHz Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.47 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.620 W/kg
SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.267 W/kg
Maximum value of SAR (measured) = 0.547 W/kg



0 dB = 0.507 W/kg = -2.95 dBW/kg

■ **Verification Data (750 ㎒ Head)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.8 ℃
Test Date: 06/17/2020

DUT: Dipole 750 MHz D750V3; Type: D750V3

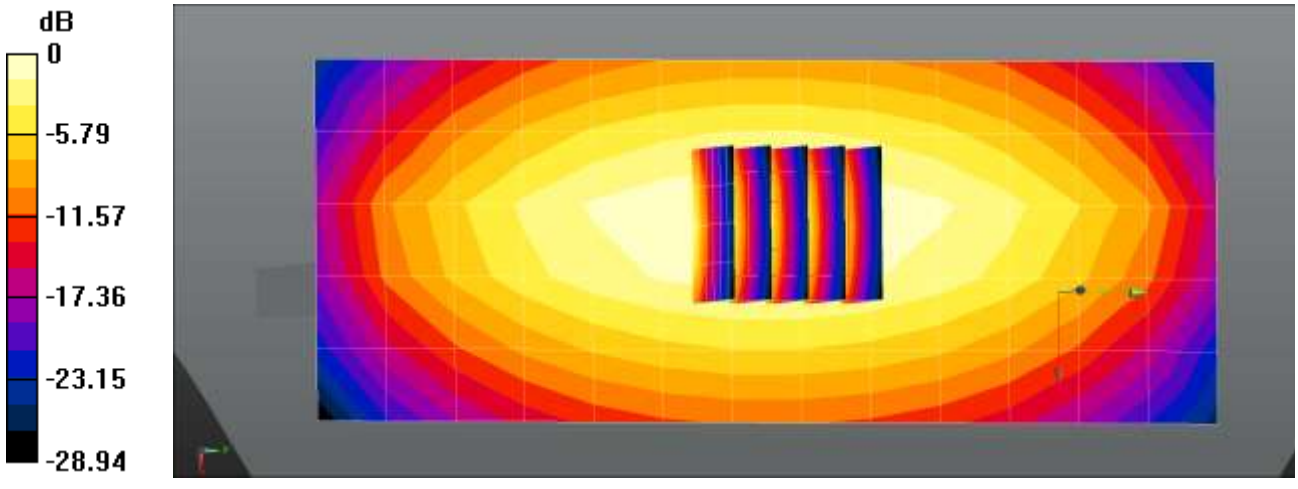
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.896 S/m; ε_r = 41.949; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7370; ConvF(10.27, 10.27, 10.27); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

750MHz Verification/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.504 W/kg

750MHz Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.38 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.618 W/kg
SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.267 W/kg
Maximum value of SAR (measured) = 0.545 W/kg



0 dB = 0.504 W/kg = −2.97 dBW/kg

■ **Verification Data (835 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	19.9 ℃
Test Date:	06/19/2020

DUT: Dipole 835 MHz D835V2; Type: D835V2

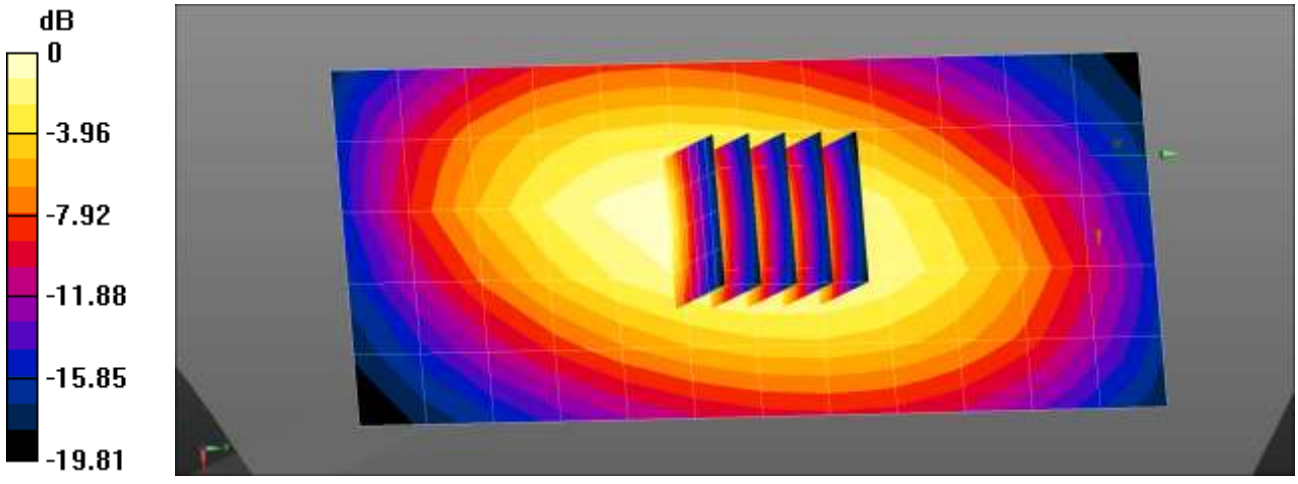
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.917 S/m; ε_r = 42.687; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: ET3DV6 - SN1630; ConvF(6.96, 6.96, 6.96); Calibrated: 2020-02-26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

835MHz Head Verification/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.505 W/kg

835MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.25 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.742 W/kg
SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.550 W/kg



0 dB = 0.505 W/kg = -2.97 dBW/kg

■ **Verification Data (835 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.5 ℃
Test Date:	06/10/2020

DUT: Dipole 835 MHz D835V2; Type: D835V2

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.942 S/m; ε_r = 42.535; ρ = 1000 kg/m^3
Phantom section: Flat Section

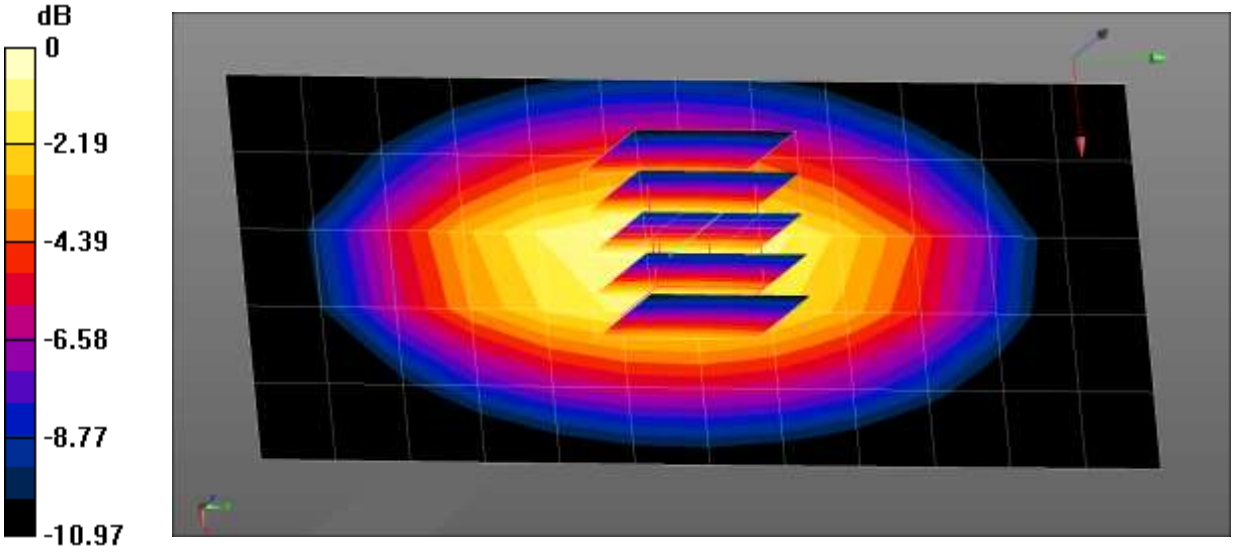
DASY5 Configuration:

- Probe: EX3DV4 - SN7370; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

835MHz Verification/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.630 W/kg

835MHz Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.74 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.778 W/kg
SAR(1 g) = 0.502 W/kg; SAR(10 g) = 0.328 W/kg
Maximum value of SAR (measured) = 0.682 W/kg



0 dB = 0.682 W/kg = -1.66 dBW/kg

■ **Verification Data (835 ㎒ Head)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 22.1 ℃
Test Date: 06/11/2020

DUT: Dipole 835 MHz D835V2; Type: D835V2

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.921 S/m; ε_r = 42.612; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

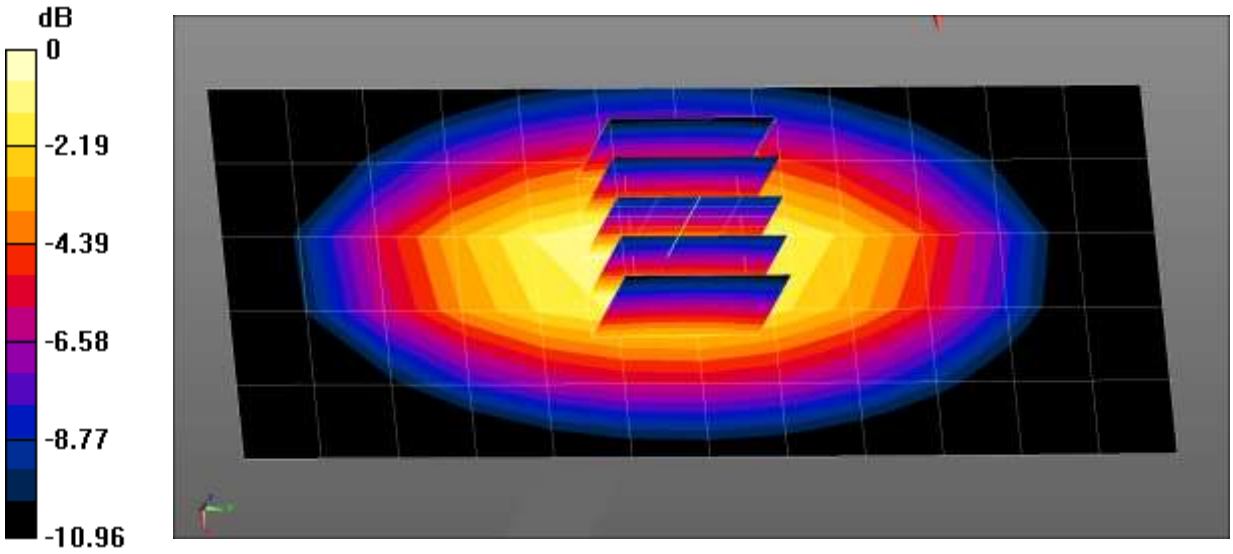
- Probe: EX3DV4 - SN7370; ConvF(9.88, 9.88, 9.88) @ 835 MHz; Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: SAM with CRP v5.0_2020_06_09
- Measurement SW: DASY52, Version 52.10 (4);

835MHz Verification/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.615 W/kg

835MHz Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.79 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.763 W/kg
SAR(1 g) = 0.491 W/kg; SAR(10 g) = 0.321 W/kg
Maximum value of SAR (measured) = 0.668 W/kg



0 dB = 0.668 W/kg = −1.75 dBW/kg

■ **Verification Data (835 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/10/2020

DUT: Dipole 835 MHz D835V2; Type: D835V2

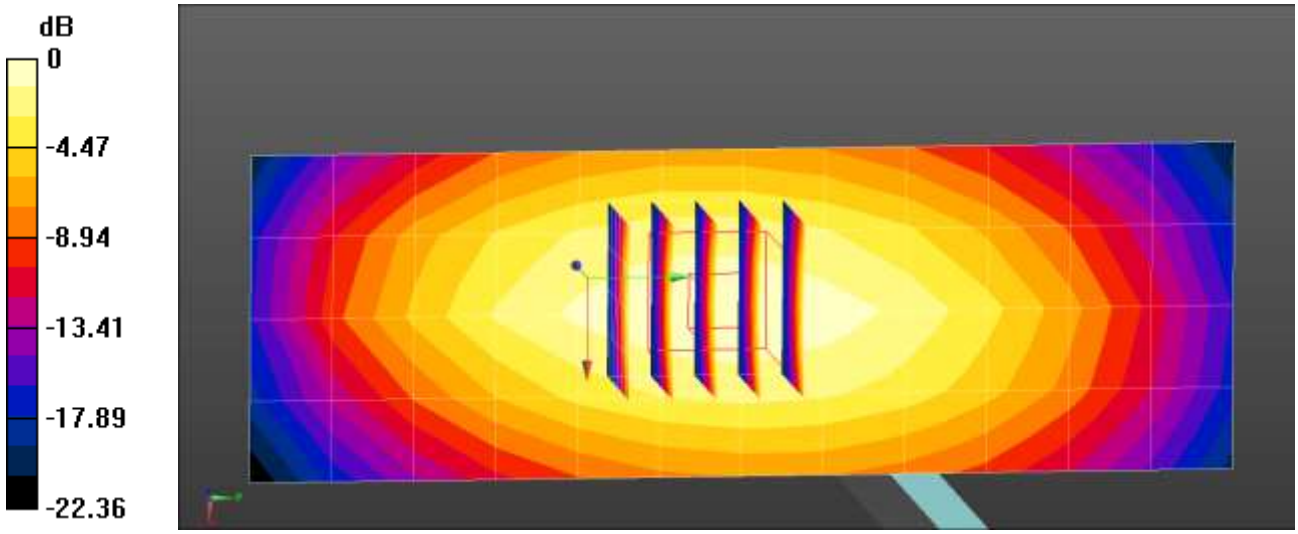
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.92 S/m; ε_r = 42.853; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 835 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

835MHz Head Verification/Area Scan (5x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.617 W/kg

835MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.22 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.699 W/kg
SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.309 W/kg
Maximum value of SAR (measured) = 0.618 W/kg



0 dB = 0.617 W/kg = -2.10 dBW/kg

■ **Verification Data (835 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.8 ℃
Test Date:	06/11/2020

DUT: Dipole 835 MHz D835V2; Type: D835V2

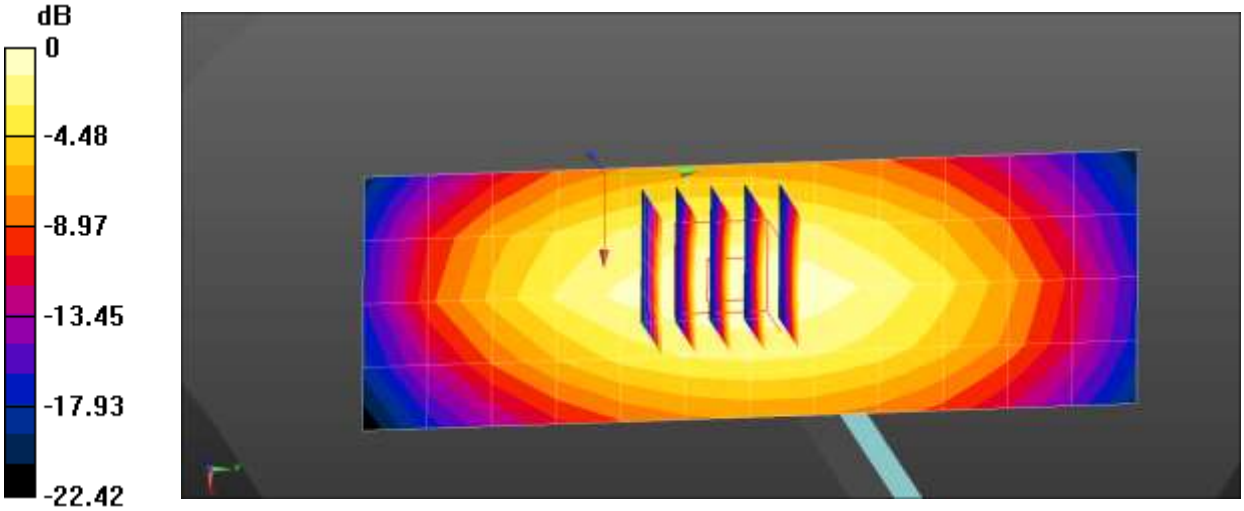
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.941 S/m; ε_r = 42.728; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(9.61, 9.61, 9.61) @ 835 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V5.0 (20deg probe tilt)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

835MHz Head Verification/Area Scan (5x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.631 W/kg

835MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.33 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.716 W/kg
SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.316 W/kg
Maximum value of SAR (measured) = 0.633 W/kg



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

■ **Verification Data (1 800 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.6 ℃
Test Date:	06/19/2020

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

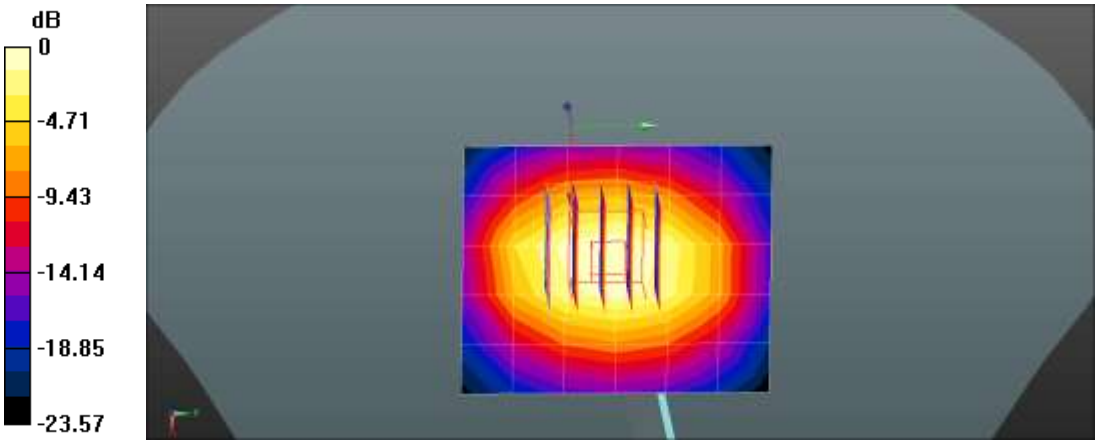
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.402 S/m; ε_r = 39.741; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.34, 5.34, 5.34) @ 1800 MHz; Calibrated: 7/23/2019
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2/26/2020
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Dipoole/1800MHz Head Verification/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.89 W/kg

Dipoole/1800MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41.32 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.16 W/kg
SAR(1 g) = 1.81 W/kg; SAR(10 g) = 0.984 W/kg
Maximum value of SAR (measured) = 2.26 W/kg



0 dB = 1.89 W/kg = 2.77 dBW/kg

■ **Verification Data (1 800 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	19.5 ℃
Test Date:	06/12/2020

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

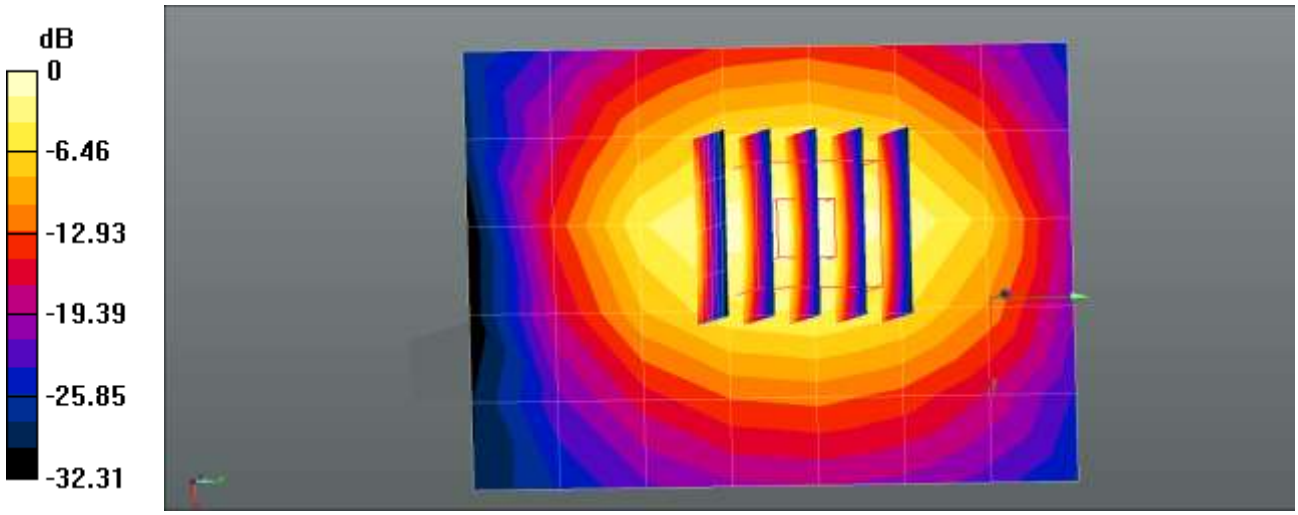
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.367 S/m; ε_r = 39.754; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

1800MHz Head Verification(LTE 66)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.04 W/kg

1800MHz Head Verification(LTE 66)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.07 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 3.80 W/kg
SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.01 W/kg
Maximum value of SAR (measured) = 3.08 W/kg



0 dB = 3.04 W/kg = 4.83 dBW/kg

■ **Verification Data (1 800 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.1 ℃
Test Date:	06/15/2020

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

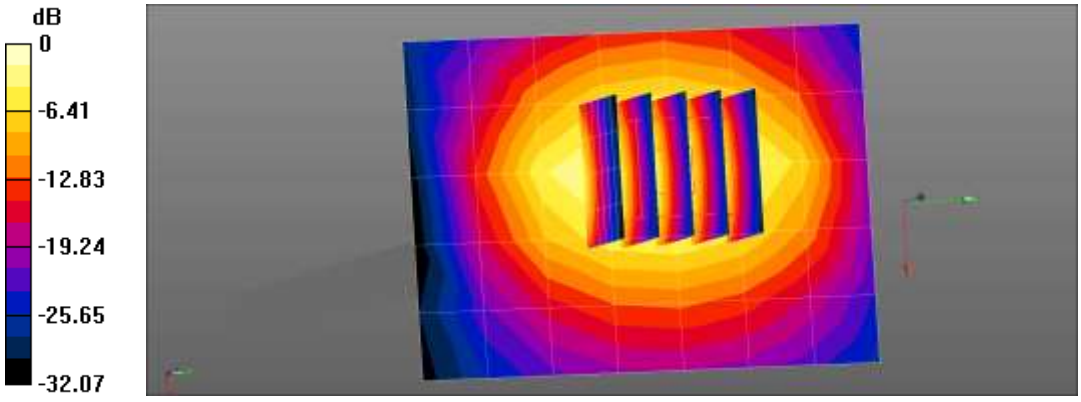
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.379 S/m; ε_r = 39.963; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.14, 8.14, 8.14); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

1800MHz Head Verification(LTE 66 Phablet)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.06 W/kg

1800MHz Head Verification(LTE 66 Phablet)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.21 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 3.83 W/kg
SAR(1 g) = 1.96 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.12 W/kg



0 dB = 3.06 W/kg = 4.86 dBW/kg

■ **Verification Data (1 900 MHz Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	19.6 ℃
Test Date:	06/16/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

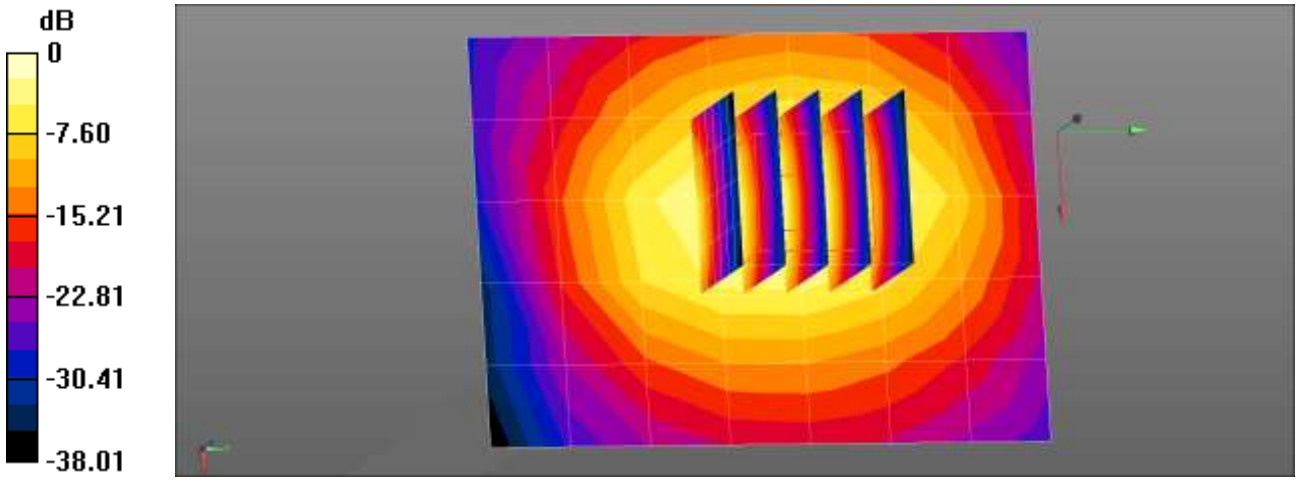
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.41 S/m; ε_r = 39.21; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

Dipole/1900MHz Head Verification(LTE 2)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.34 W/kg

Dipole/1900MHz Head Verification(LTE 2)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 45.64 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 4.23 W/kg
SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.06 W/kg
Maximum value of SAR (measured) = 3.41 W/kg



0 dB = 3.34 W/kg = 5.24 dBW/kg

■ **Verification Data (1 900 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/18/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

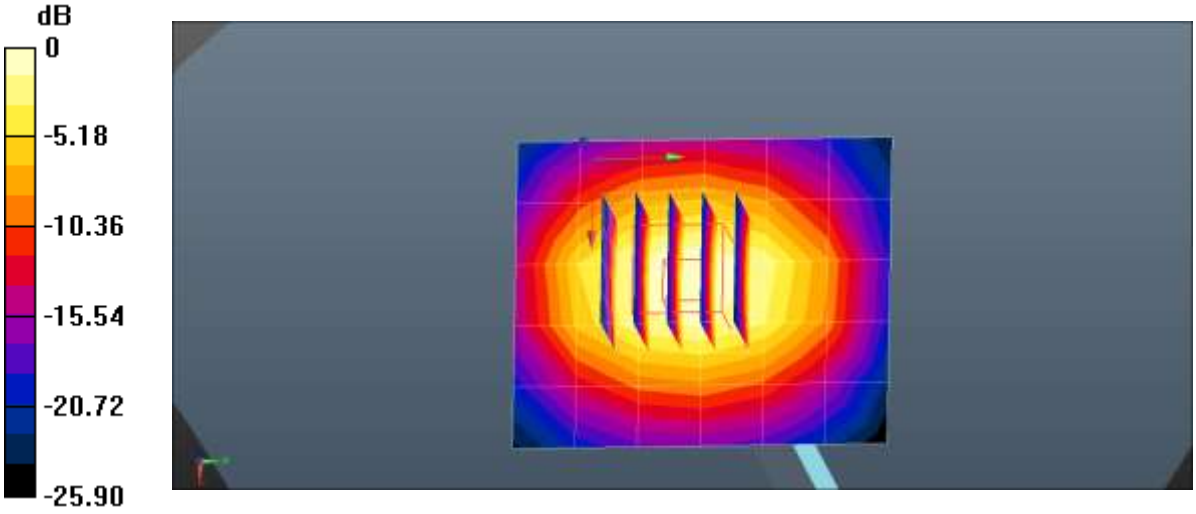
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.443 S/m; ε_r = 39.175; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.1, 5.1, 5.1) @ 1900 MHz; Calibrated: 7/23/2019
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2/26/2020
- Phantom: SAM with CRP v5.0_Front
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Dipoole/1900MHz Head Verification/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.05 W/kg

Dipoole/1900MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41.64 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 1.91 W/kg; SAR(10 g) = 1.01 W/kg
Maximum value of SAR (measured) = 2.41 W/kg



0 dB = 2.05 W/kg = 3.12 dBW/kg

■ **Verification Data (1 900 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.1 ℃
Test Date:	06/22/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

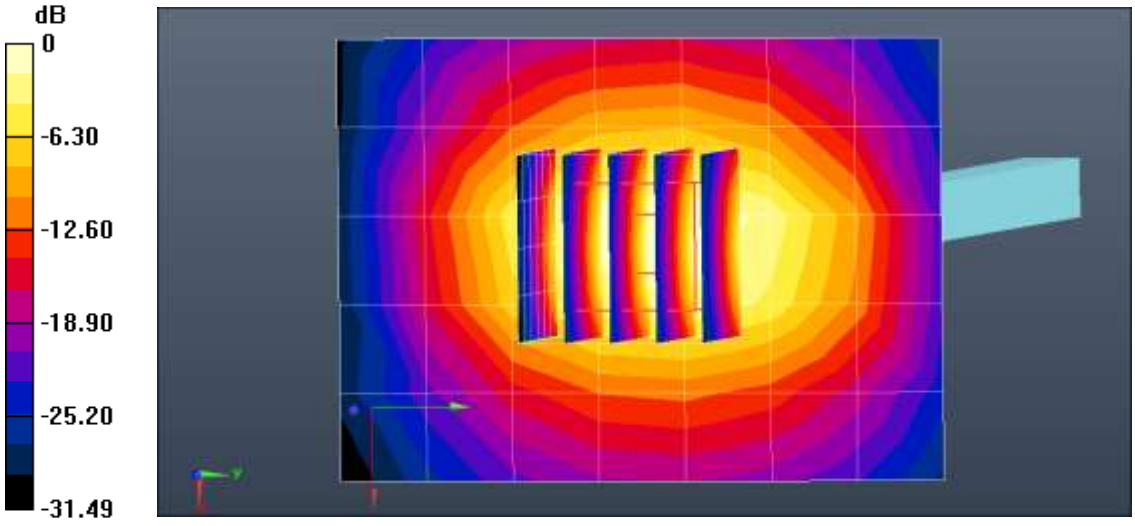
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.415 S/m; ε_r = 39.921; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

Dipole/1900MHz Head Verification (GSM 1900)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.59 W/kg

Dipole/1900MHz Head Verification (GSM 1900)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.33 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 3.98 W/kg
SAR(1 g) = 2 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.23 W/kg



0 dB = 2.59 W/kg = 4.14 dBW/kg

■ **Verification Data (1 900 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.8 ℃
Test Date:	06/11/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

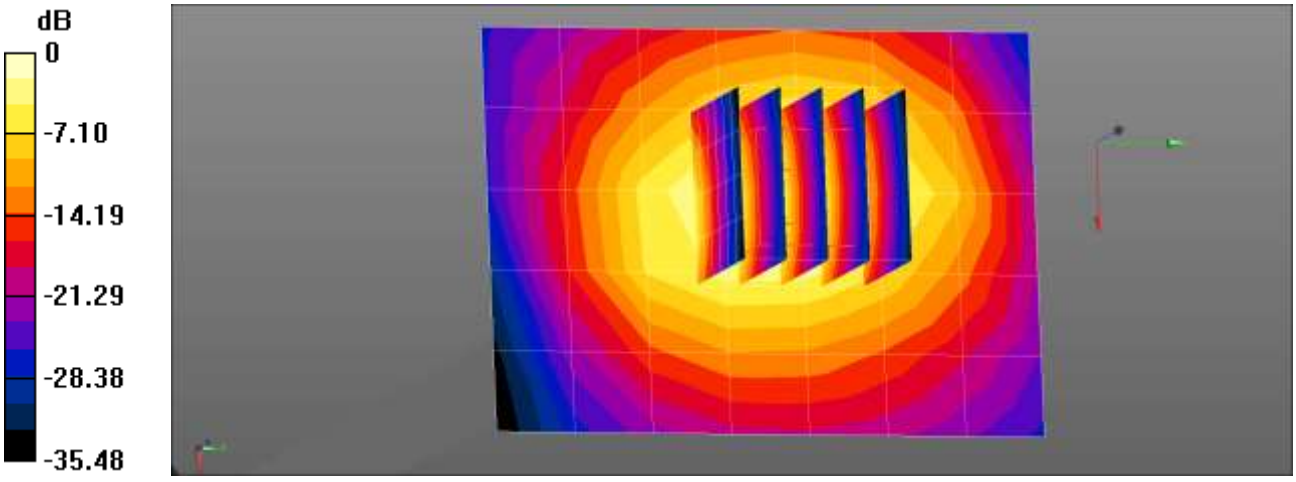
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.404 S/m; ε_r = 39.074; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

1900MHz Head Verification(LTE 25)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.27 W/kg

1900MHz Head Verification(LTE 25)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.47 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 4.12 W/kg
SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.07 W/kg
Maximum value of SAR (measured) = 3.38 W/kg



0 dB = 3.27 W/kg = 5.15 dBW/kg

■ **Verification Data (1 900 MHz Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.0 ℃
Test Date:	06/17/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

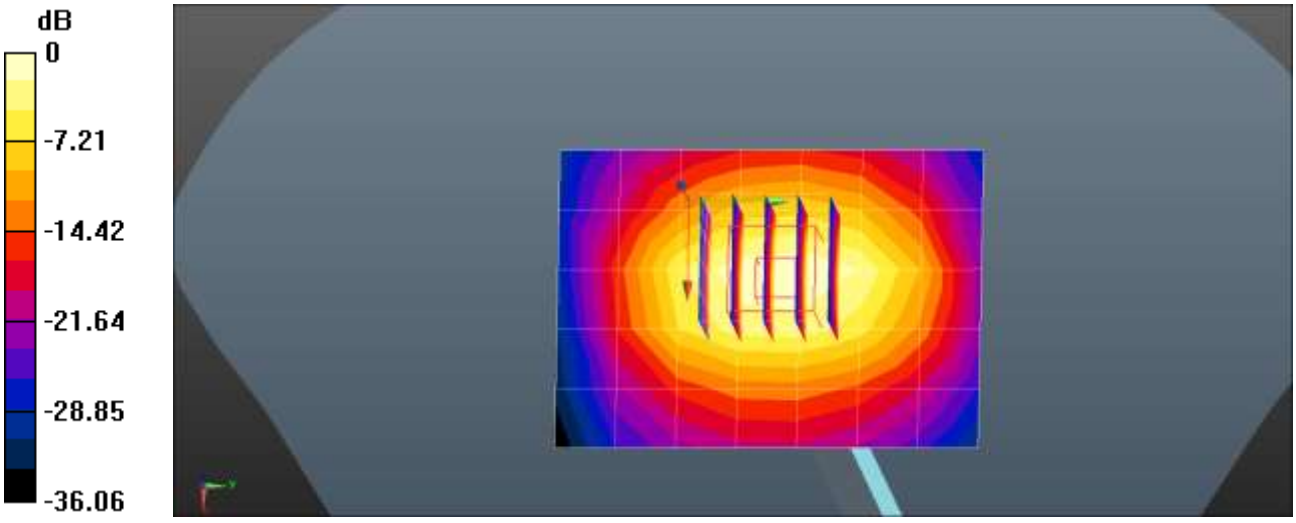
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.407 S/m; ε_r = 39.867; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1900 MHz; Calibrated: 11/28/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Dipole/1900MHz Head Verification/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.82 W/kg

Dipole/1900MHz Head Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.44 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 3.95 W/kg
SAR(1 g) = 2.01 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.25 W/kg



0 dB = 2.82 W/kg = 4.50 dBW/kg

■ **Verification Data (1 900 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.1 ℃
Test Date:	06/23/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

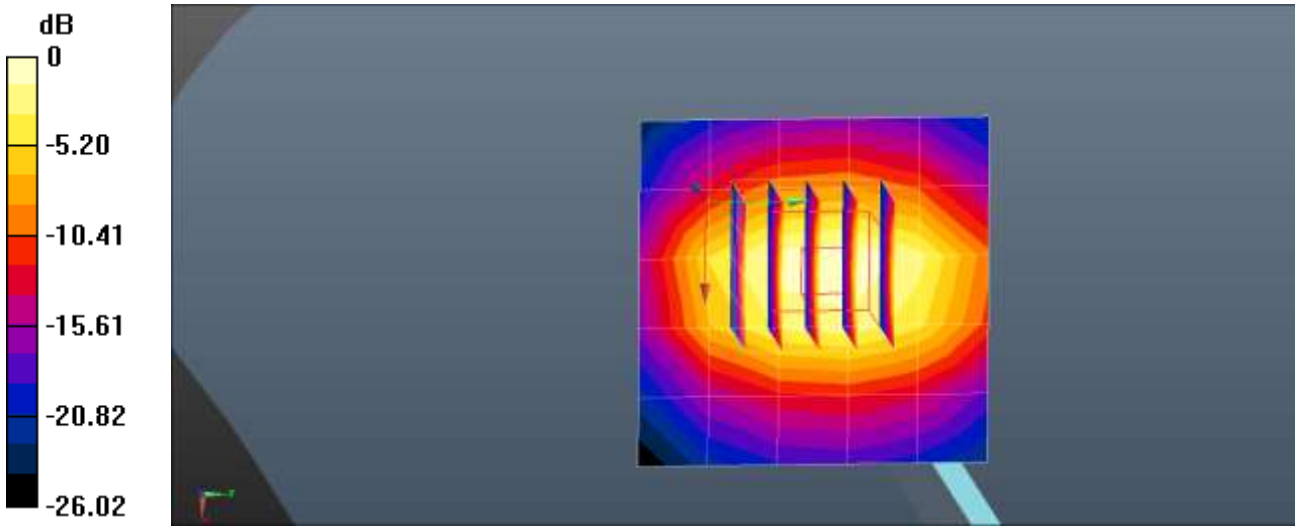
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.417 S/m; ε_r = 39.883; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75) @ 1900 MHz; Calibrated: 11/28/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 7/18/2019
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

1900MHz Head Verification (GSM 1900)/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.62 W/kg

1900MHz Head Verification (GSM 1900)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.59 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.98 W/kg
SAR(1 g) = 2 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.24 W/kg



0 dB = 2.62 W/kg = 4.19 dBW/kg

■ **Verification Data (1 900 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.0 ℃
Test Date:	06/13/2020

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

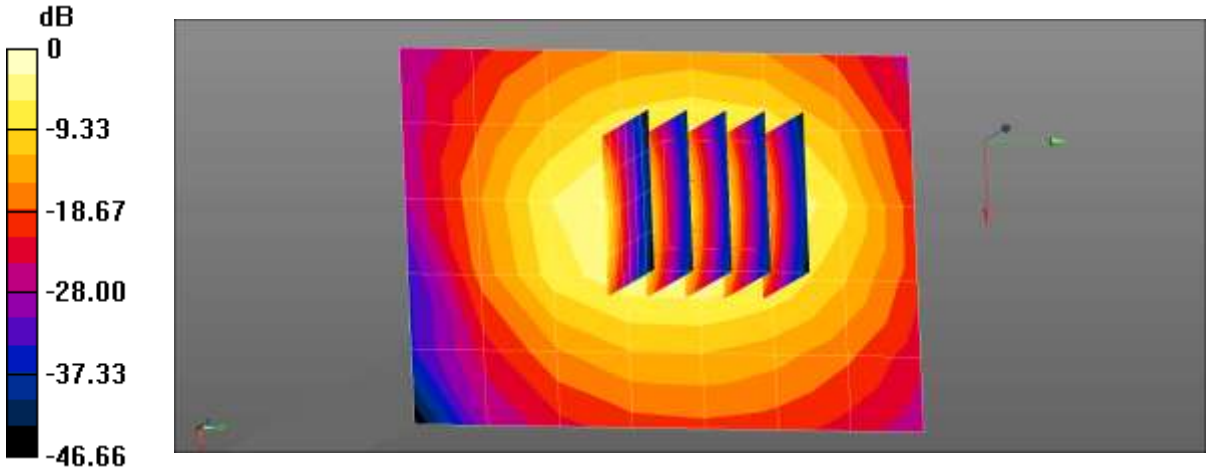
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.418 S/m; ε_r = 39.145; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.75, 7.75, 7.75); Calibrated: 2019-11-28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: SAM_Left_20170913
- Measurement SW: DASY52, Version 52.10 (4);

1900MHz Head Verification(LTE 25 Phablet)/Area Scan (6x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.33 W/kg

1900MHz Head Verification(LTE 25 Phablet)/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 45.32 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 4.21 W/kg
SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.07 W/kg
Maximum value of SAR (measured) = 3.40 W/kg



0 dB = 3.33 W/kg = 5.22 dBW/kg

■ **Verification Data (2 450 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.0 ℃
Test Date:	06/19/2020

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

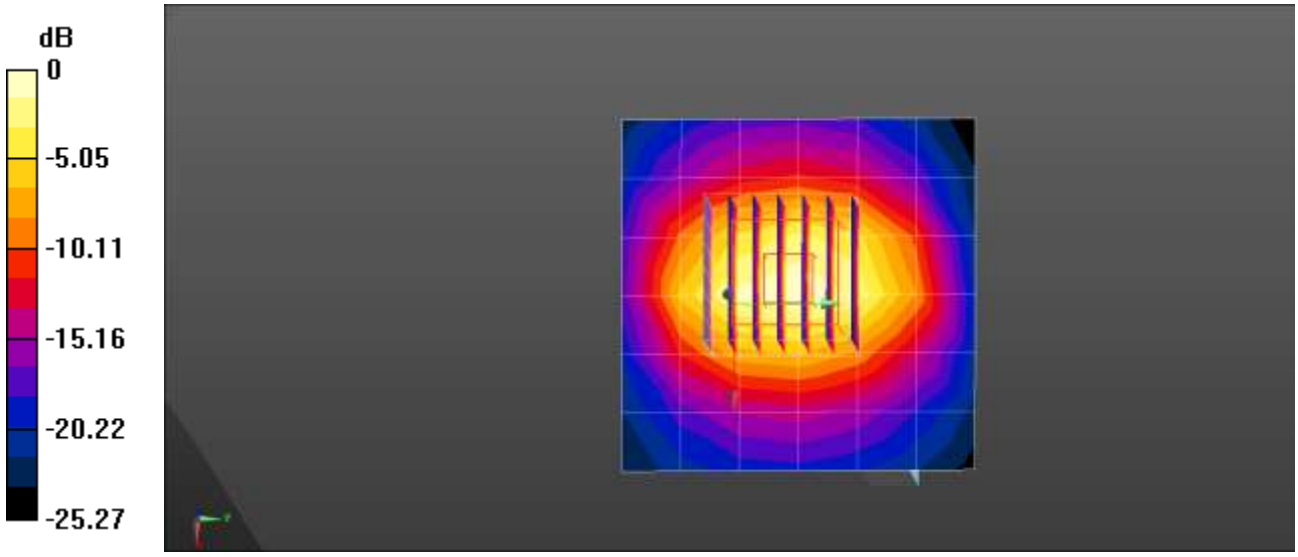
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.816 S/m; ε_r = 39.64; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.65, 7.65, 7.65) @ 2450 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Dipole/2450MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 4.24 W/kg

Dipole/2450MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 50.26 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 5.78 W/kg
SAR(1 g) = 2.66 W/kg; SAR(10 g) = 1.22 W/kg
Maximum value of SAR (measured) = 4.57 W/kg



0 dB = 4.24 W/kg = 6.27 dBW/kg

■ **Verification Data (2 450 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.6 ℃
Test Date:	06/24/2020

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

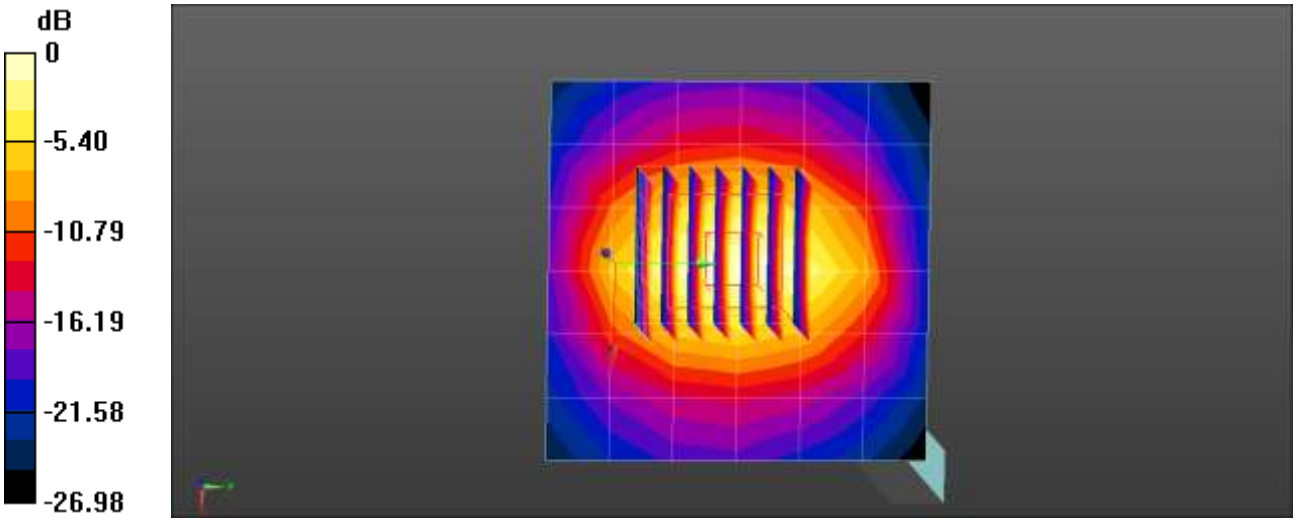
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.795 S/m; ε_r = 38.468; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.65, 7.65, 7.65) @ 2450 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

2450MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 4.33 W/kg

2450MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.04 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 5.49 W/kg
SAR(1 g) = 2.53 W/kg; SAR(10 g) = 1.15 W/kg
Smallest distance from peaks to all points 3 dB below = 9.1 mm
Ratio of SAR at M2 to SAR at M1 = 45.8%
Maximum value of SAR (measured) = 4.37 W/kg



0 dB = 4.33 W/kg = 6.36 dBW/kg

■ **Verification Data (2 450 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.1 ℃
Test Date:	06/12/2020

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

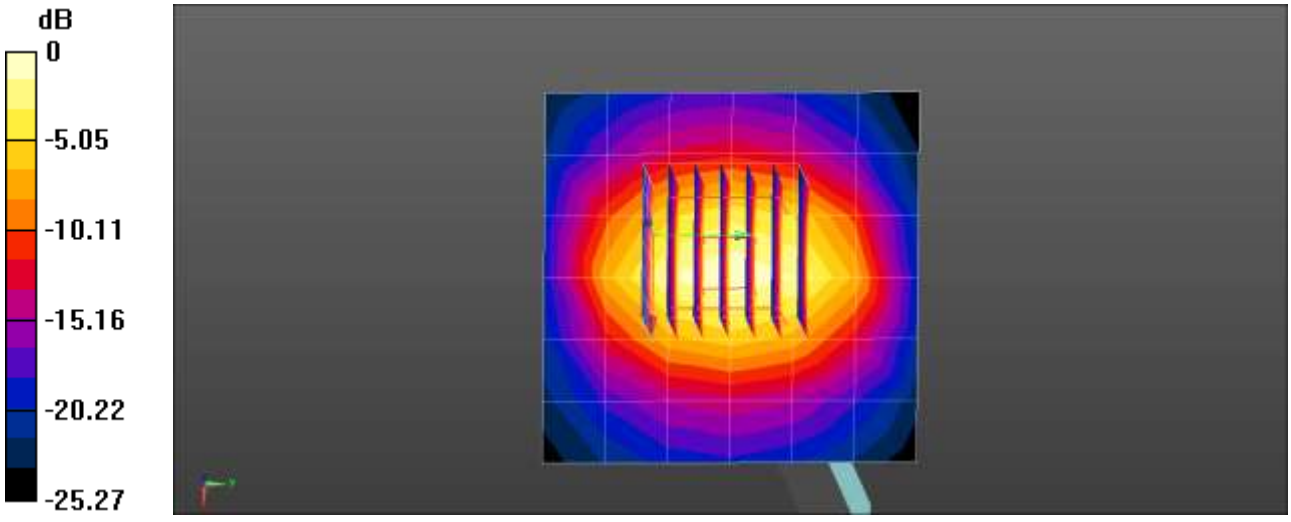
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.813 S/m; ε_r = 39.45; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.6, 7.6, 7.6) @ 2450 MHz; Calibrated: 9/27/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 4/22/2020
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

2450MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 4.34 W/kg

2450MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.57 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 5.61 W/kg
SAR(1 g) = 2.6 W/kg; SAR(10 g) = 1.18 W/kg
Maximum value of SAR (measured) = 4.44 W/kg



0 dB = 4.34 W/kg = 6.38 dBW/kg

■ **Verification Data (2 450 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.4 ℃
Test Date:	06/23/2020

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

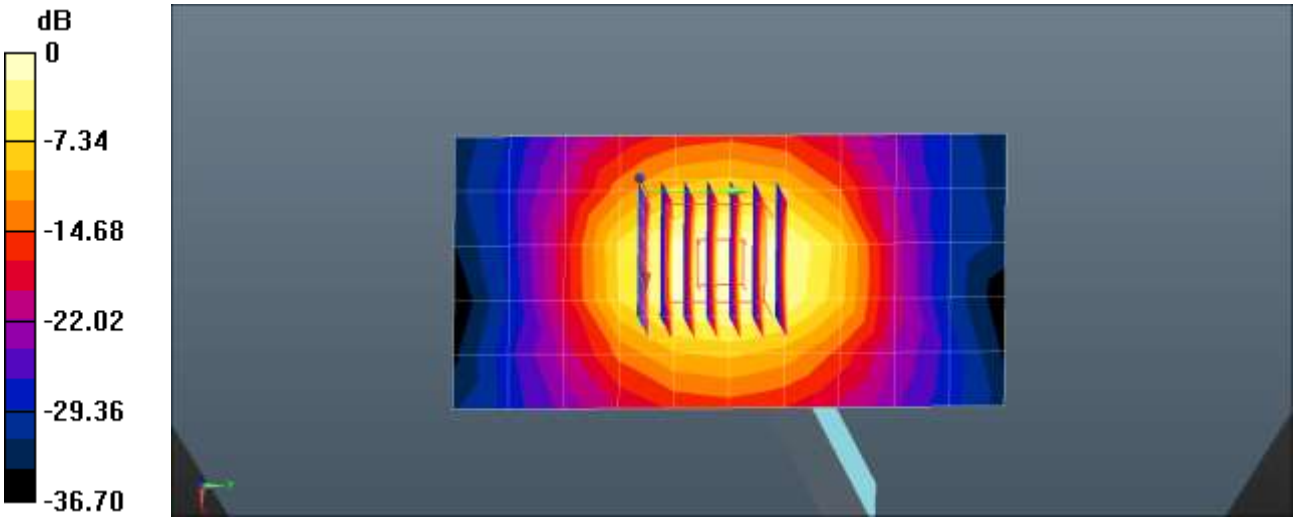
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.811 S/m; ε_r = 39.762; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.61, 4.61, 4.61) @ 2450 MHz; Calibrated: 7/23/2019
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2/26/2020
- Phantom: SAM with CRP v5.0
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

2450MHz Head Verification/Area Scan (6x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 2.72 W/kg

2450MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 45.90 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 5.36 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.21 W/kg
Maximum value of SAR (measured) = 3.47 W/kg



0 dB = 2.72 W/kg = 4.34 dBW/kg

■ **Verification Data (2 600 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.4 ℃
Test Date:	06/16/2020

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2

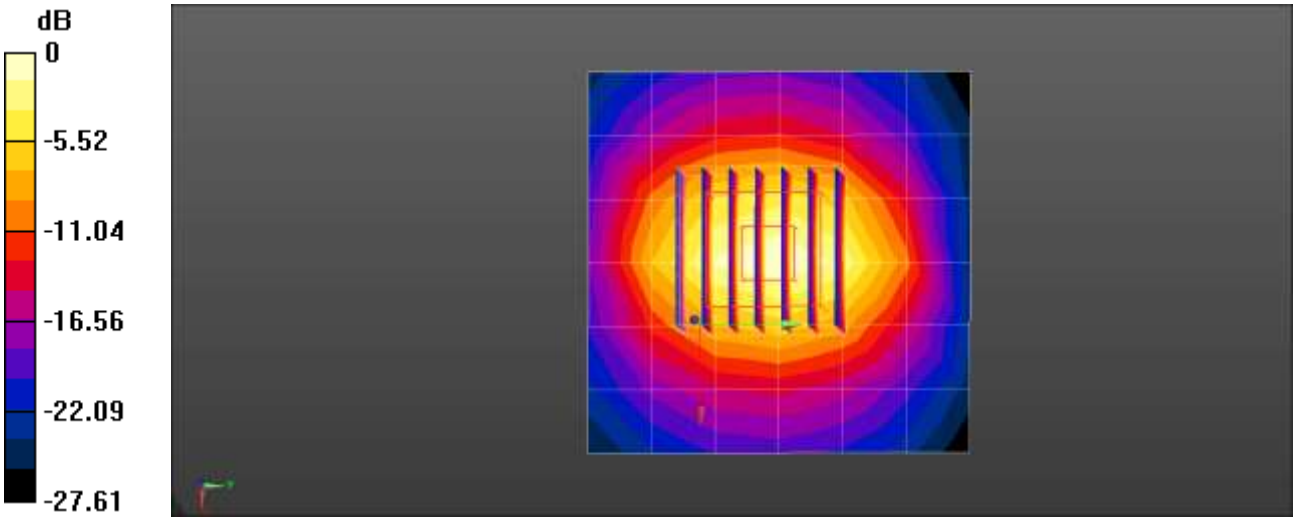
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.95 S/m; ε_r = 37.87; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49) @ 2600 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0(Left-Left)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

2600MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 5.23 W/kg

2600MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.26 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 6.99 W/kg
SAR(1 g) = 3 W/kg; SAR(10 g) = 1.29 W/kg
Smallest distance from peaks to all points 3 dB below = 8.9 mm
Ratio of SAR at M2 to SAR at M1 = 42.6%
Maximum value of SAR (measured) = 5.40 W/kg



0 dB = 5.23 W/kg = 7.18 dBW/kg

■ **Verification Data (2 600 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/22/2020

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2

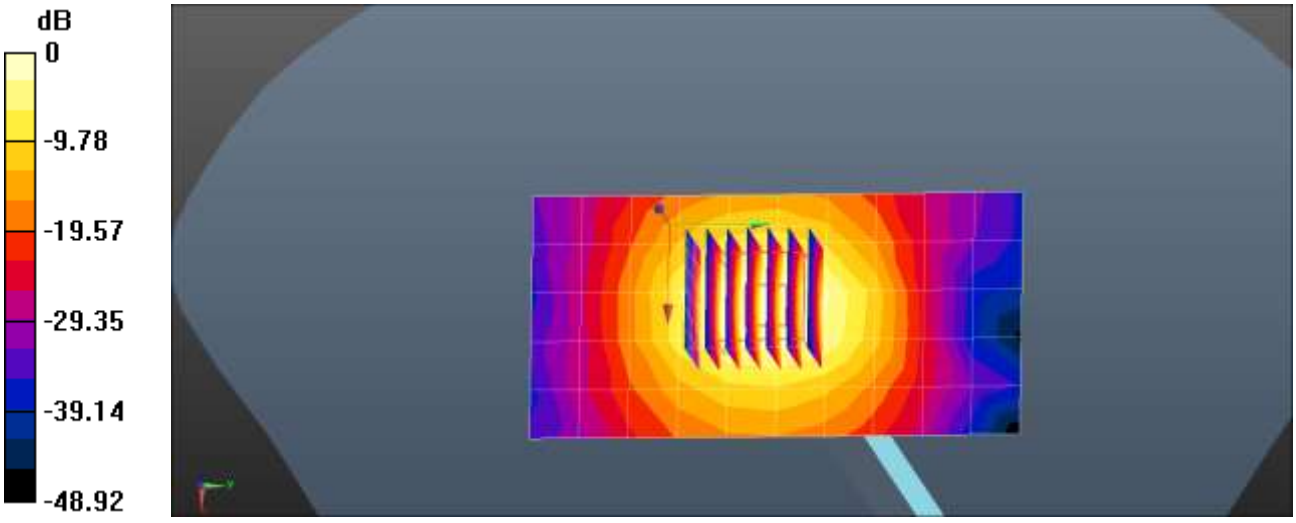
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.945 S/m; ε_r = 37.85; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.49, 4.49, 4.49) @ 2600 MHz; Calibrated: 7/23/2019
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2/26/2020
- Phantom: SAM with CRP v5.0
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

2600MHz Head Verification(LTE 41 Phablet)/Area Scan (6x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 2.84 W/kg

2600MHz Head Verification(LTE 41 Phablet)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 43.40 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 5.55 W/kg
SAR(1 g) = 2.65 W/kg; SAR(10 g) = 1.19 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 50%
Maximum value of SAR (measured) = 3.51 W/kg



0 dB = 2.84 W/kg = 4.53 dBW/kg

■ **Verification Data (5 250 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.1 ℃
Test Date:	06/17/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

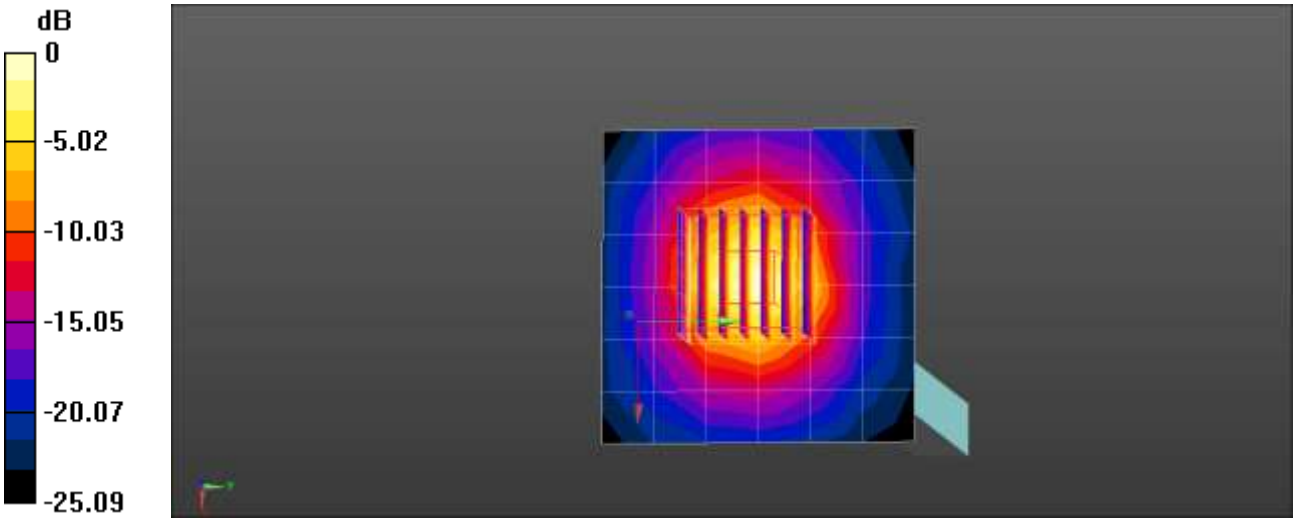
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.699 S/m; ε_r = 37.079; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(5.24, 5.24, 5.24) @ 5250 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5250MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.74 W/kg

5250MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 50.43 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 4.05 W/kg; SAR(10 g) = 1.15 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 62.9%
Maximum value of SAR (measured) = 10.4 W/kg



0 dB = 9.74 W/kg = 9.89 dBW/kg

■ **Verification Data (5 250 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/23/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

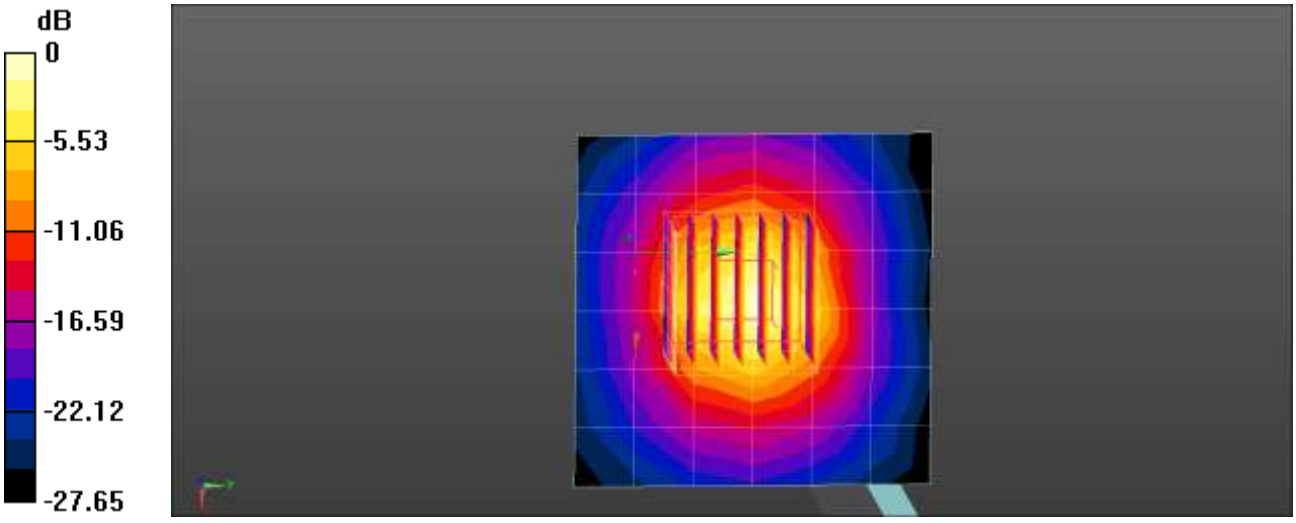
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5250 MHz; σ = 4.72 S/m; ε_r = 36.899; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(5, 5, 5) @ 5250 MHz; Calibrated: 5/27/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5250MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.82 W/kg

5250MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 50.53 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 3.97 W/kg; SAR(10 g) = 1.13 W/kg
Maximum value of SAR (measured) = 10.1 W/kg



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

■ **Verification Data (5 600 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.5 ℃
Test Date:	06/18/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

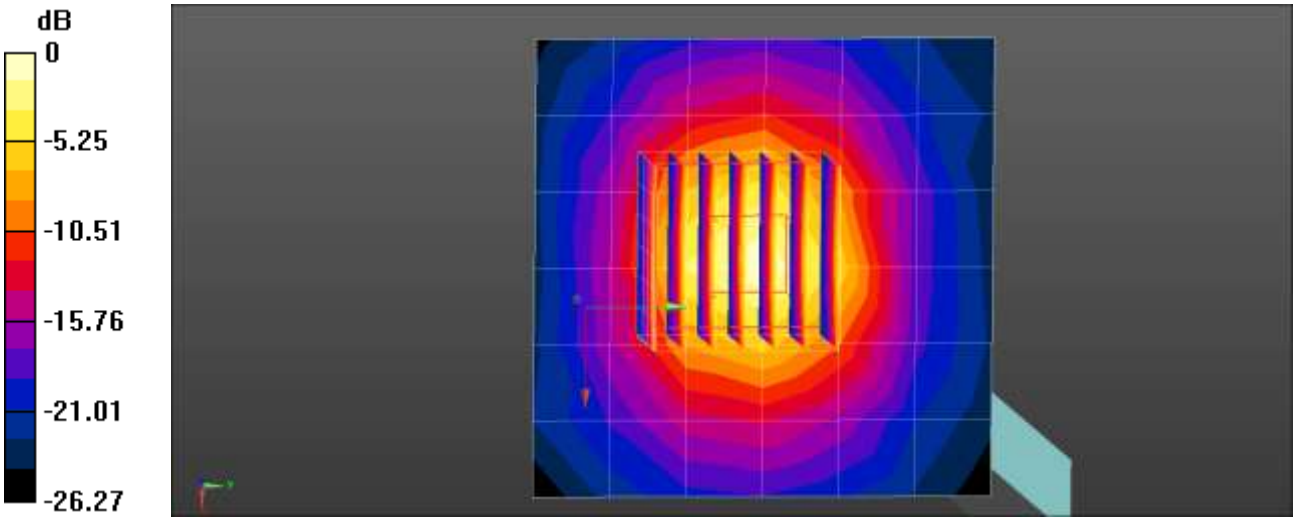
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.138 S/m; ε_r = 36.66; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(4.85, 4.85, 4.85) @ 5600 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5600MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.6 W/kg

5600MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 50.41 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 19.8 W/kg
SAR(1 g) = 4.3 W/kg; SAR(10 g) = 1.21 W/kg
Maximum value of SAR (measured) = 11.2 W/kg



0 dB = 10.6 W/kg = 10.27 dBW/kg

■ **Verification Data (5 600 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/23/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

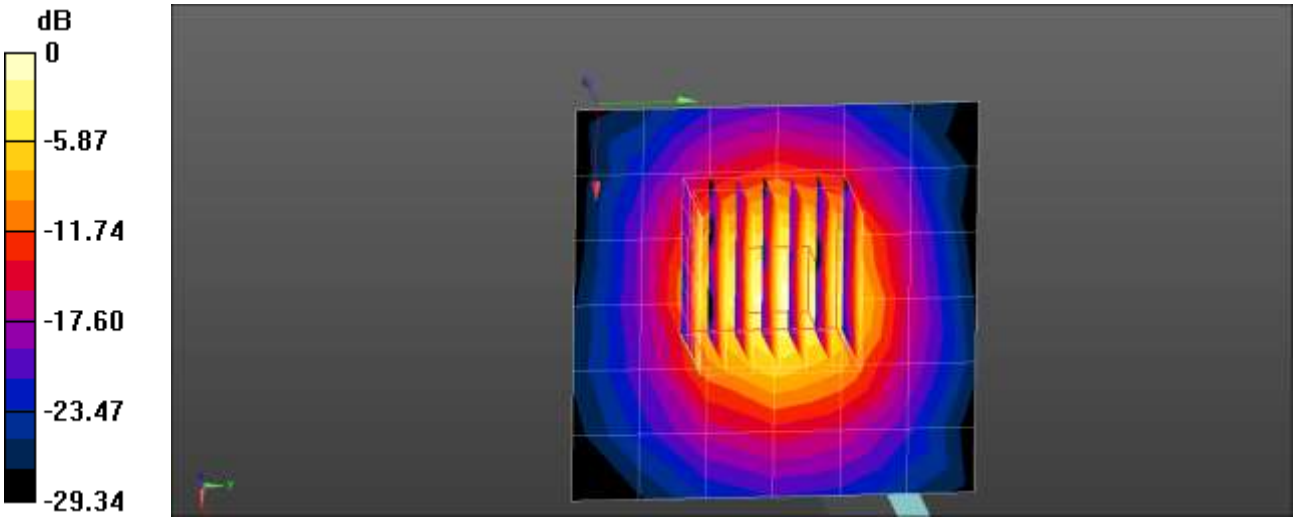
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.072 S/m; ε_r = 36.544; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.6, 4.6, 4.6) @ 5600 MHz; Calibrated: 5/27/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5600MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.4 W/kg

5600MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.82 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 3.99 W/kg; SAR(10 g) = 1.11 W/kg
Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.4 W/kg = 10.15 dBW/kg

■ **Verification Data (5 750 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	19.9 ℃
Test Date:	06/15/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

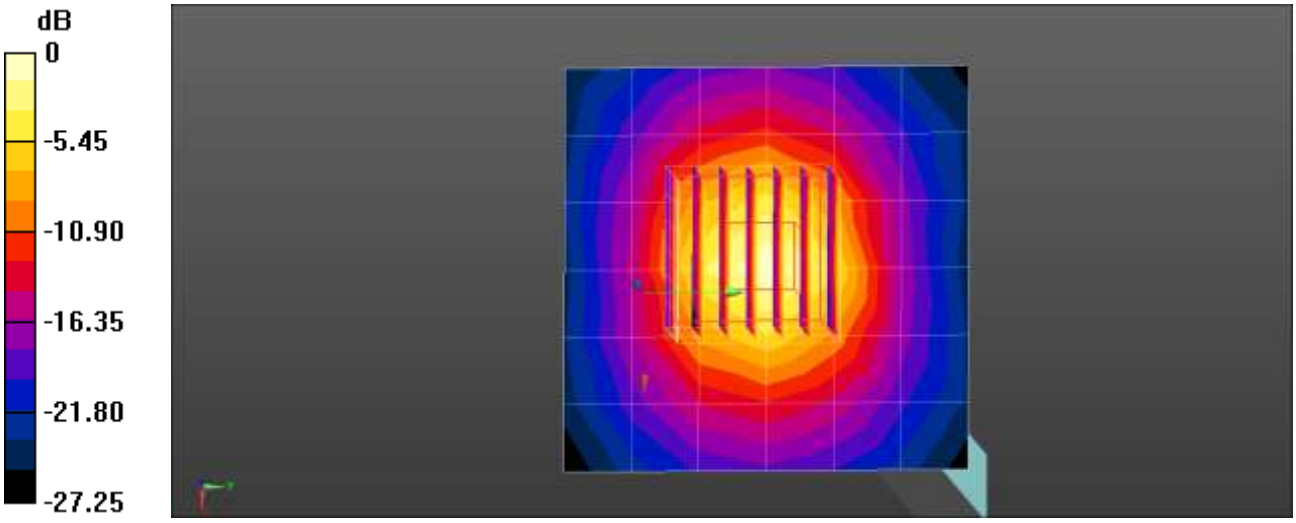
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.4 S/m; ε_r = 36.643; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(4.95, 4.95, 4.95) @ 5750 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5750MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.7 W/kg

5750MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.30 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 19.4 W/kg
SAR(1 g) = 4.1 W/kg; SAR(10 g) = 1.16 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 59.4%
Maximum value of SAR (measured) = 10.8 W/kg



0 dB = 10.7 W/kg = 10.30 dBW/kg

■ **Verification Data (5 750 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.0 ℃
Test Date:	06/19/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

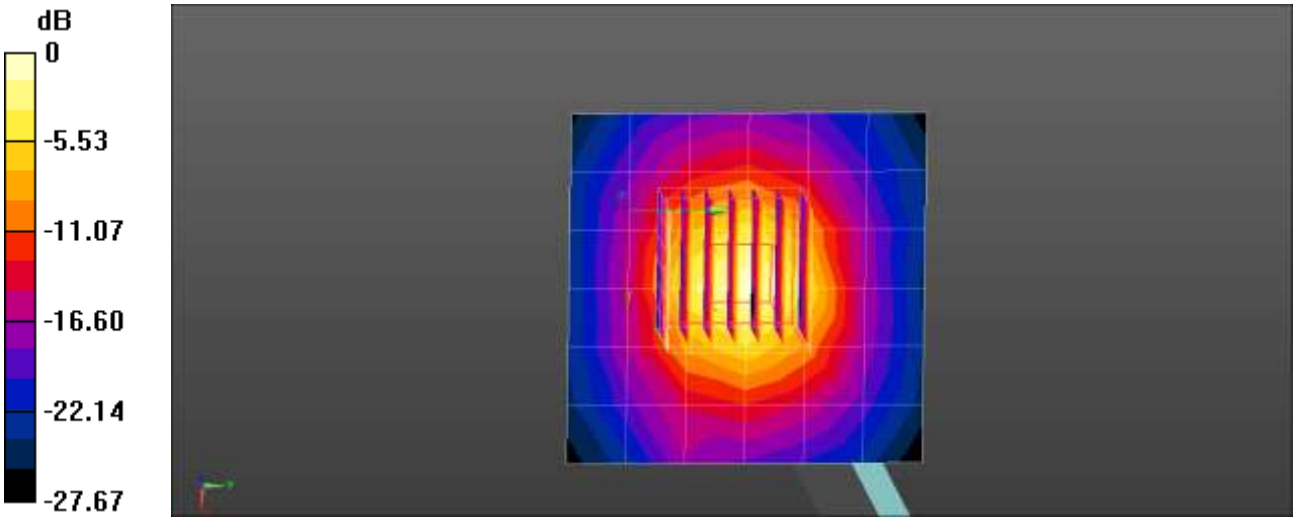
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.24 S/m; ε_r = 36.908; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(4.95, 4.95, 4.95) @ 5750 MHz; Calibrated: 3/25/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 9/19/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5750MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.5 W/kg

5750MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.38 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 19.3 W/kg
SAR(1 g) = 4.01 W/kg; SAR(10 g) = 1.13 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 59.1%
Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.5 W/kg = 10.22 dBW/kg

■ **Verification Data (5 750 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.4 ℃
Test Date:	06/23/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

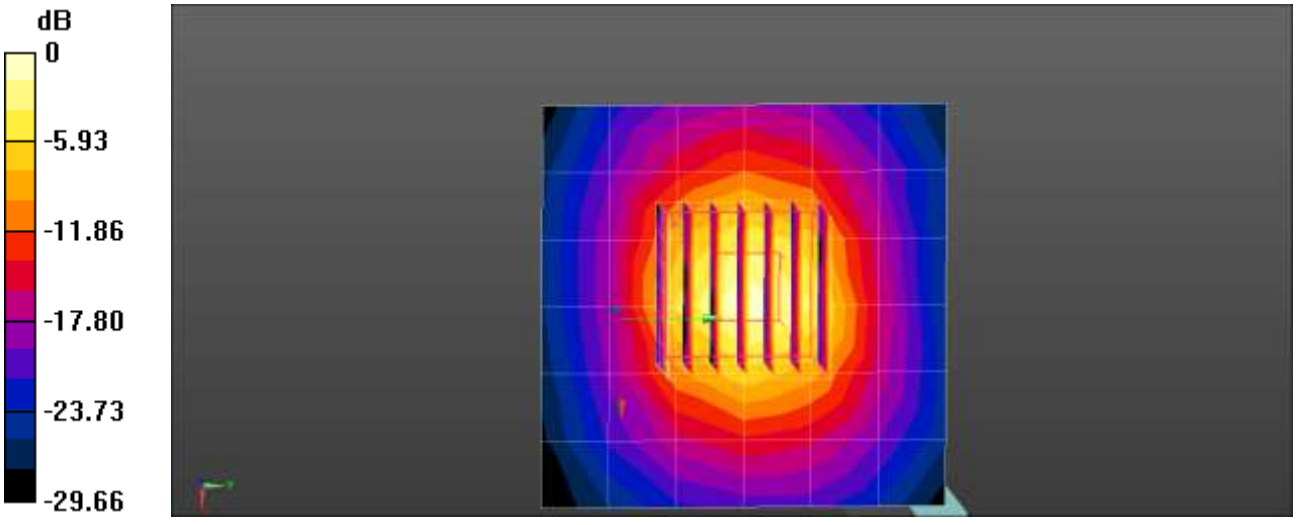
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.232 S/m; ε_r = 36.322; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.85, 4.85, 4.85) @ 5750 MHz; Calibrated: 5/27/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 9/4/2019
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

5750MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.9 W/kg

5750MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 50.55 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 21.6 W/kg
SAR(1 g) = 4.27 W/kg; SAR(10 g) = 1.19 W/kg
Smallest distance from peaks to all points 3 dB below = 6.8 mm
Ratio of SAR at M2 to SAR at M1 = 57.8%
Maximum value of SAR (measured) = 11.4 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

■ **Verification Data (5 250 ㎒ Head)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	21.6 ℃
Test Date:	07/08/2020

DUT: Dipole D5GHzV2; Type: D5GHzV2

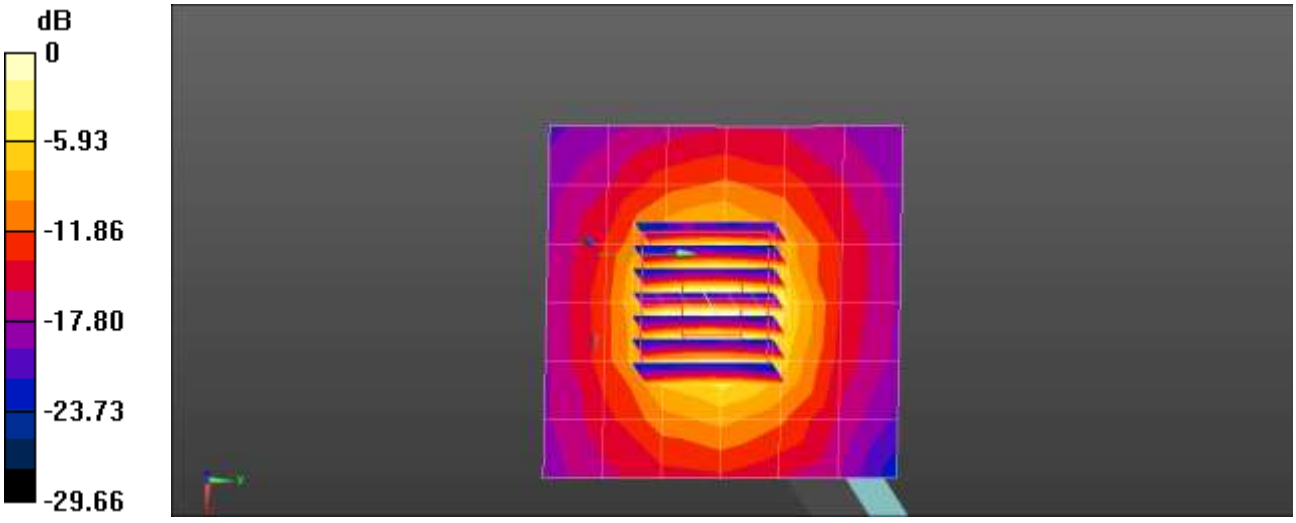
Communication System: UID 0, CW (0); Frequency: 5250MHz;Duty Cycle: 1:1
Medium parameters used: f = 525MHz; σ = 4.854 S/m; ε_r = 37.013; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3968; ConvF(5.57, 5.57, 5.57) @ 5250 MHz; Calibrated: 9/27/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn466; Calibrated: 4/22/2020
- Phantom: Twin-SAM V4.0 (Left-Right)
- Measurement SW: DASY52, Version 52.10 (4);

5250MHz Head Verification/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.60 W/kg

5250MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 49.24 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 19.4 W/kg
SAR(1 g) = 4.02 W/kg; SAR(10 g) = 1.13 W/kg
Maximum value of SAR (measured) = 10.6 W/kg



0 dB = 10.6 W/kg = 10.25 dBW/kg

Appendix D. – SAR Tissue Characterization

The brain and muscle mixtures consist of a viscous gel using hydrox-ethyl cellulose (HEC) gelling agent and saline solution (see Table 3.1). Preservation with a bacteriacide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The mixture characterizations used for the brain and muscle tissue simulating liquids are according to the data by C. Gabriel and G. Harts grove.

Ingredients (% by weight)	Frequency (㎒)											
	750		835		1 750		1 900		2 450 – 2 700		3500 - 5 800	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	41.1	51.7	40.45	53.06	52.6	68.8	54.9	70.17	71.88	73.2	65.52	78.66
Salt (NaCl)	1.4	0.9	1.45	0.94	0.4	0.2	0.18	0.39	0.16	0.1	0.0	0.0
Sugar	57.0	47.2	57.0	44.9	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
HEC	0.2	0	1.0	1.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Bactericide	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.97	0.0	17.24	10.67
DGBE	0.0	0.0	0.0	0.0	47	31	44.92	29.44	7.99	26.7	0.0	0.0
Diethylene glycol hexyl ether	-	-	-	-	-	-	-	-	-	-	-	-

Salt:	99 % Pure Sodium Chloride	Sugar:	98 % Pure Sucrose
Water:	De-ionized, 16M resistivity	HEC:	Hydroxyethyl Cellulose
DGBE:	99 % Di(ethylene glycol) butyl ether,[2-(2-butoxyethoxy) ethanol]		
Triton X-100(ultra-pure):	Polyethylene glycol mono[4-(1,1,3,3-tetramethylbutyl)phenyl] ether		

Composition of the Tissue Equivalent Matter

Appendix E. – SAR Tissue Characterization

Per FCC KCB 865664 D02v01r02, SAR system validation status should be document 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 IEEE 1528-2013 and FCC KDB 865664 D01v01r04. 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.

SAR System No.	Probe	Probe Type	Probe Calibration Point		Dipole	Date	Dielectric Parameters		CW Validation			Modulation Validation		
							Measured Permittivity	Measured Conductivity	Sensitivity	Probe Linearity	Probe Isotropy	MOD. Type	Duty Factor	PAR
12	7370	EX3DV4	Head	750	1014	2020-05-25	41.7	0.87	PASS	PASS	PASS	N/A	N/A	N/A
1	3863	EX3DV4	Head	750	1014	2019-06-07	41.6	0.88	PASS	PASS	PASS	N/A	N/A	N/A
12	7370	EX3DV4	Head	835	441	2019-09-11	41.6	0.91	PASS	PASS	PASS	N/A	N/A	N/A
7	1630	ET3DV6	Head	835	441	2020-03-06	41.3	0.88	PASS	PASS	PASS	N/A	N/A	N/A
5	3903	EX3DV4	Head	835	441	2020-04-06	41.5	0.89	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Head	1800	2d015	2019-09-23	40.1	1.39	PASS	PASS	PASS	GMSK	PASS	N/A
3	3797	EX3DV4	Head	1800	2d015	2019-12-05	40.2	1.38	PASS	PASS	PASS	N/A	N/A	N/A
3	3797	EX3DV4	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	N/A	N/A	N/A
3	3797	EX3DV4	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
3	3797	EX3DV4	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	N/A	N/A	N/A
9	3968	EX3DV4	Head	2450	743	2020-03-02	39.4	1.81	PASS	PASS	PASS	OFDM	N/A	PASS
11	3076	ES3DV3	Head	2450	743	2020-03-02	39.4	1.81	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Head	2450	743	2020-04-03	39.4	1.81	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Head	2600	1106	2020-04-03	39.2	1.96	PASS	PASS	PASS	N/A	N/A	N/A
5	3903	EX3DV4	Head	5250	1107	2020-04-03	35.6	4.71	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Head	5600	1107	2020-04-03	35.3	5.04	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Head	5750	1107	2020-04-03	35.8	5.25	PASS	PASS	PASS	OFDM	N/A	PASS
1	3863	EX3DV4	Head	5250	1107	2020-06-05	35.6	4.71	PASS	PASS	PASS	OFDM	N/A	PASS
1	3863	EX3DV4	Head	5600	1107	2020-06-05	35.3	5.04	PASS	PASS	PASS	OFDM	N/A	PASS
1	3863	EX3DV4	Head	5750	1107	2020-06-05	35.8	5.25	PASS	PASS	PASS	OFDM	N/A	PASS
9	3968	EX3DV4	Head	5250	1107	2020-06-05	35.6	4.71	PASS	PASS	PASS	OFDM	N/A	PASS

SAR System Validation Summary 1g

SAR System No.	Probe	Probe Type	Probe Calibration Point		Dipole	Date	Dielectric Parameters		CW Validation			Modulation Validation		
							Measured Permittivity	Measured Conductivity	Sensitivity	Probe Linearity	Probe Isotropy	MOD. Type	Duty Factor	PAR
11	3076	ES3DV3	Head	1800	2d015	2019-09-23	40.1	1.39	PASS	PASS	PASS	GMSK	PASS	N/A
3	3797	EX3DV4	Head	1800	2d015	2019-12-05	40.2	1.38	PASS	PASS	PASS	N/A	N/A	N/A
3	3797	EX3DV4	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	N/A	N/A	N/A
3	3797	ES3DV3	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Head	1900	5d061	2020-01-31	40.1	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Head	2600	1106	2020-04-03	39.2	1.96	PASS	PASS	PASS	GMSK	PASS	N/A
5	3903	EX3DV4	Head	5250	1107	2020-04-03	35.6	4.71	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Head	5600	1107	2020-04-03	35.3	5.04	PASS	PASS	PASS	OFDM	N/A	PASS

SAR System Validation Summary – Extremity SAR Considerations

Note;
All measurement were performed using probes calibrated for CW signal only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04. SAR system 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 KDB 865664 D01v01r04.