

## System Check\_Head\_835MHz

### DUT: D835V2-4d167

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL\_850\_200126 Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.882$  S/m;  $\epsilon_r = 42.016$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.6 °C

### DASY5 Configuration

- Probe: EX3DV4 - SN3931; ConvF(9.8, 9.8, 9.8) @ 835 MHz; Calibrated: 2019/9/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2019/5/21
- Phantom: ELI V5.0; Type: QD OVA 002 Ax; Serial: 1191
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.07 W/kg

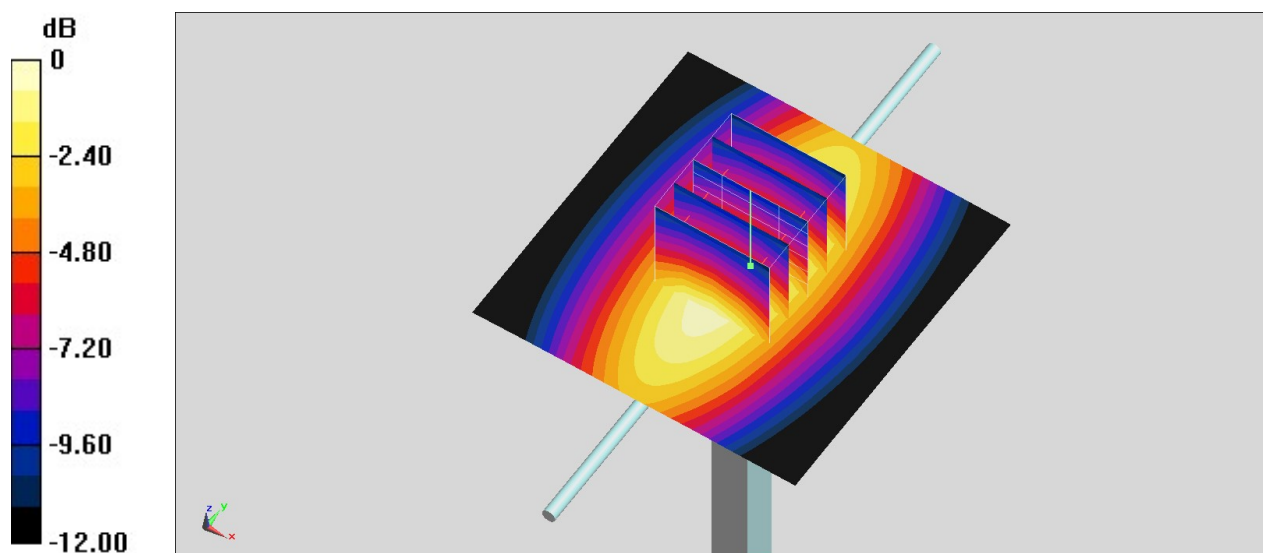
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 62.63 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 3.39 W/kg

**SAR(1 g) = 2.32 W/kg; SAR(10 g) = 1.52 W/kg**

Maximum value of SAR (measured) = 3.07 W/kg



0 dB = 3.07 W/kg = 4.87 dBW/kg

## System Check\_Head\_835MHz

### DUT: D835V2-4d167

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL\_850\_200214 Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.918$  S/m;  $\epsilon_r = 41.502$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

### DASY5 Configuration

- Probe: ES3DV3 - SN3169; ConvF(6.42, 6.42, 6.42) @ 835 MHz; Calibrated: 2019/5/24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2019/9/17
- Phantom: ELI V5.0; Type: QD OVA 002 Ax; Serial: 1191
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.65 W/kg

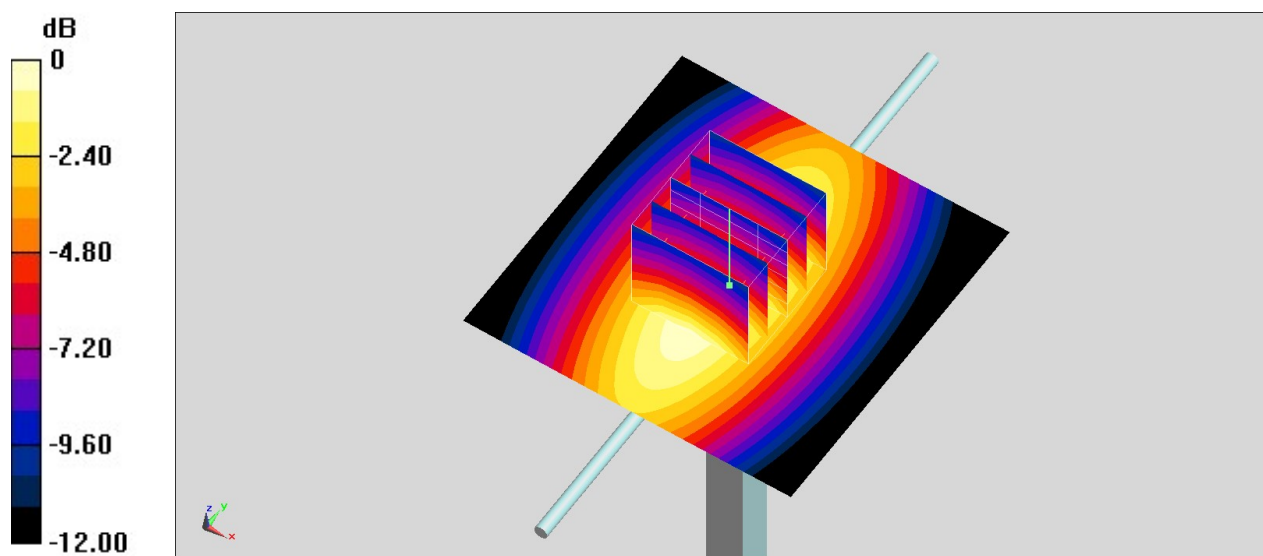
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 55.36 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.38 W/kg

**SAR(1 g) = 2.27 W/kg; SAR(10 g) = 1.49 W/kg**

Maximum value of SAR (measured) = 2.66 W/kg



0 dB = 2.66 W/kg = 4.25 dBW/kg

## System Check\_Head\_1900MHz

### DUT: D1900V2-5d041

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_200119 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.447$  S/m;  $\epsilon_r = 40.783$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3169; ConvF(5.14, 5.14, 5.14) @ 1900 MHz; Calibrated: 2019/5/24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2019/9/17
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1131
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.9 W/kg

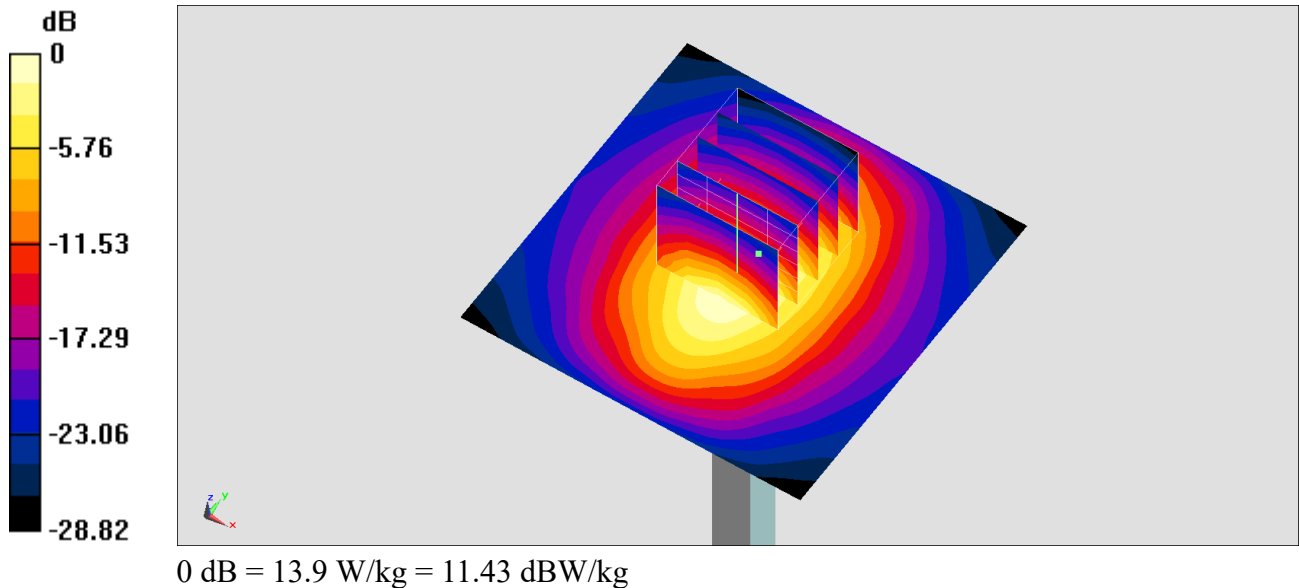
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 100.5 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 20.0 W/kg

**SAR(1 g) = 10.8 W/kg; SAR(10 g) = 5.6 W/kg**

Maximum value of SAR (measured) = 13.5 W/kg



## System Check\_Head\_1900MHz

### DUT: D1900V2-5d041

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_200128 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.449$  S/m;  $\epsilon_r = 39.742$ ;

$\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.6 °C

### DASY5 Configuration

- Probe: EX3DV4 - SN3931; ConvF(8.32, 8.32, 8.32) @ 1900 MHz; Calibrated: 2019/9/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2019/5/21
- Phantom: ELI V5.0; Type: QD OVA 002 Ax; Serial: 1191
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Pin=250mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.8 W/kg

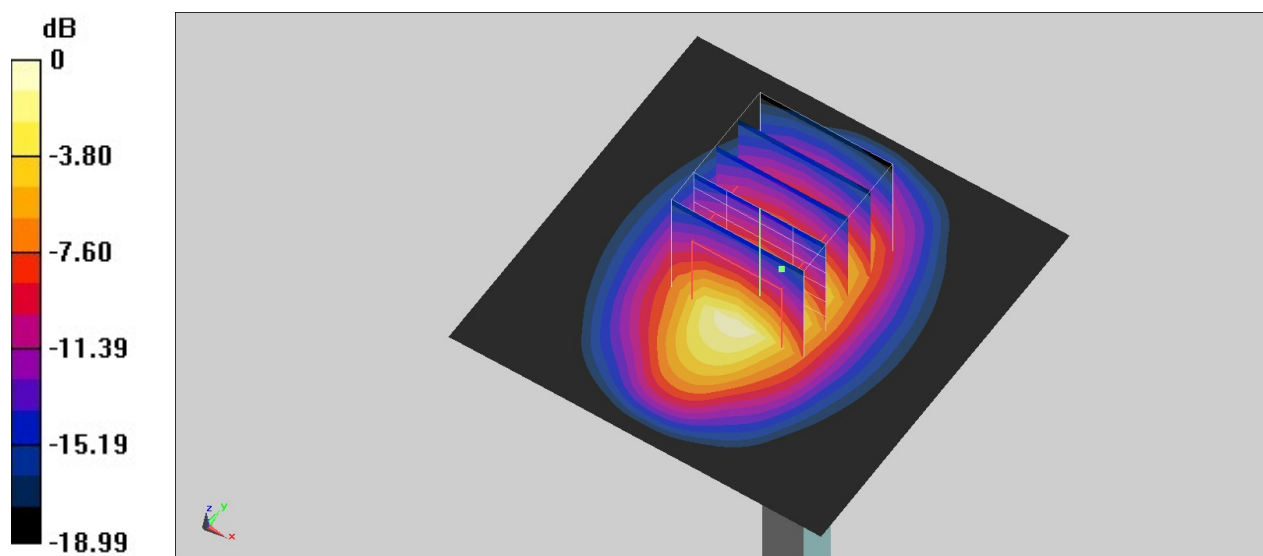
**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 107.0 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 18.0 W/kg

**SAR(1 g) = 9.87 W/kg; SAR(10 g) = 5.14 W/kg**

Maximum value of SAR (measured) = 15.1 W/kg



0 dB = 15.1 W/kg = 11.79 dBW/kg

## System Check\_Head\_2600MHz

### DUT: D2600V2-1008

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL\_2600\_200118 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.92$  S/m;  $\epsilon_r = 38.589$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3169; ConvF(4.38, 4.38, 4.38) @ 2600 MHz; Calibrated: 2019/5/24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2019/9/17
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 1131
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 20.0 W/kg

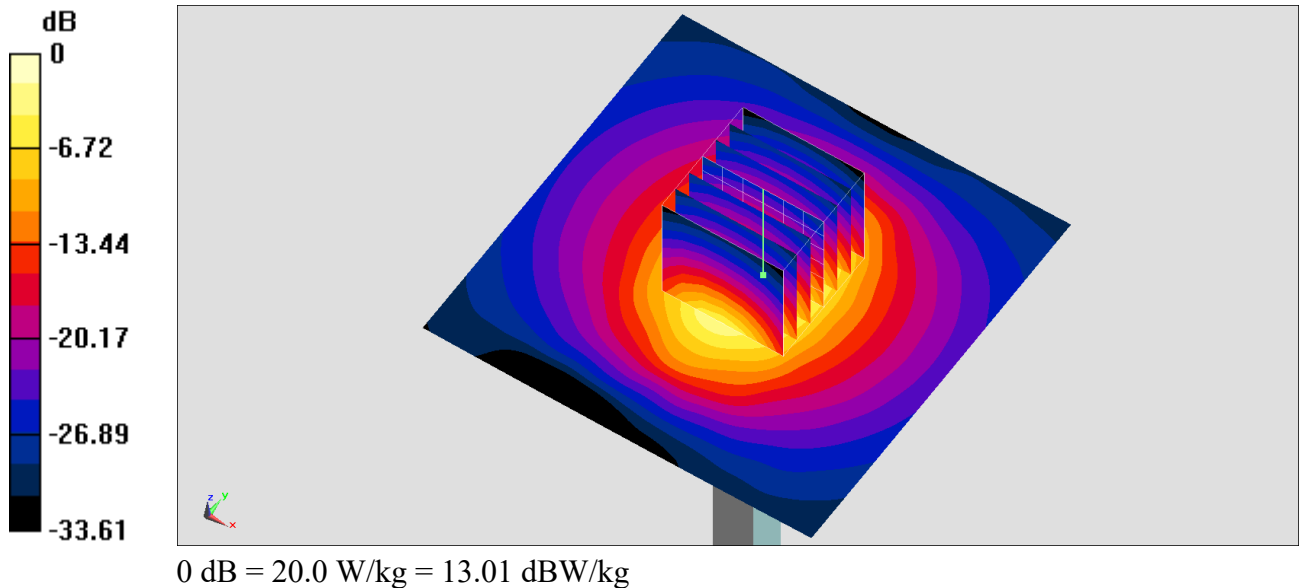
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.6 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 30.4 W/kg

**SAR(1 g) = 14.6 W/kg; SAR(10 g) = 6.61 W/kg**

Maximum value of SAR (measured) = 19.4 W/kg



## System Check\_Head\_2600MHz

### DUT: D2600V2-1008

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL\_2600\_200127 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.982$  S/m;  $\epsilon_r = 38.418$ ;

$\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

### DASY5 Configuration

- Probe: EX3DV4 - SN3931; ConvF(7.43, 7.43, 7.43) @ 2600 MHz; Calibrated: 2019/9/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2019/5/21
- Phantom: ELI V5.0; Type: QD OVA 002 Ax; Serial: 1191
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Pin=250mW/Area Scan (71x71x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 26.0 W/kg

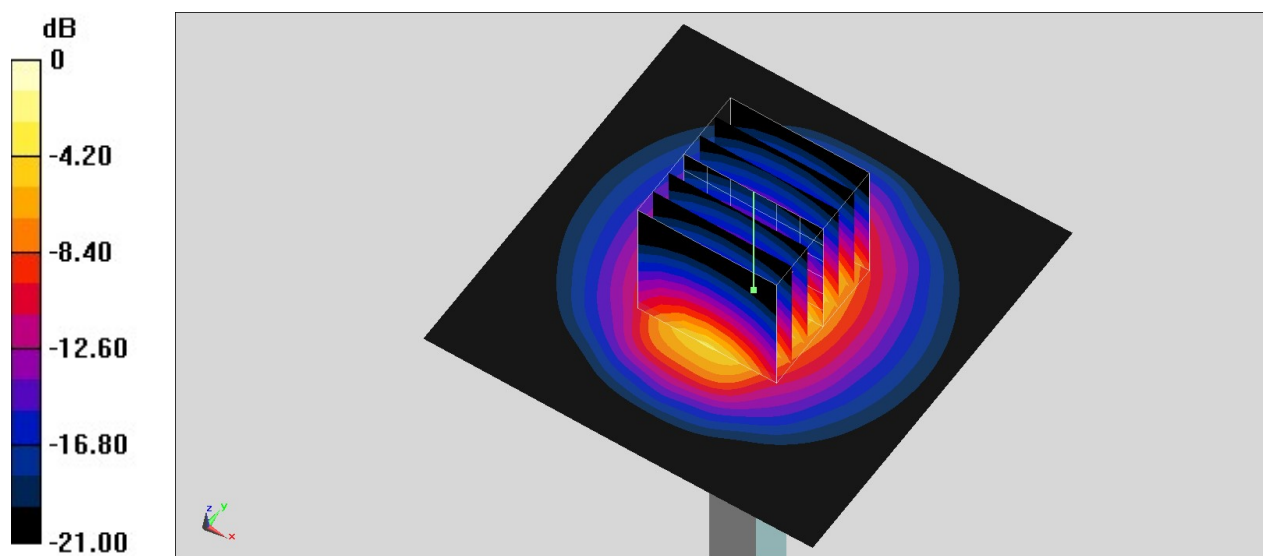
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 116.1 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 31.5 W/kg

**SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.36 W/kg**

Maximum value of SAR (measured) = 25.1 W/kg



0 dB = 25.1 W/kg = 14.00 dBW/kg

Test Laboratory: Sporton International Inc.

Device Under Test Properties

|              |                       |      |          |
|--------------|-----------------------|------|----------|
| Manufacturer | Dimensions [mm]       | IMEI | DUT Type |
|              | 100.0 x 100.0 x 100.0 |      | Phone    |

Exposure Conditions

|                 |                              |                 |                   |
|-----------------|------------------------------|-----------------|-------------------|
| Phantom Section | Position, Test Distance [mm] | Frequency [MHz] | Conversion Factor |
| 5G              | FRONT, 5.55                  | 30000.0         | 1.0               |

Hardware Setup

|               |        |                                       |                        |
|---------------|--------|---------------------------------------|------------------------|
| Phantom       | Medium | Probe, Calibration Date               | DAE, Calibration Date  |
| mmWave – xxxx | Air –  | EUmmWV4 – SN9461_F1–78GHz, 2019–11–05 | DAE4 Sn854, 2019–05–21 |

Scans Setup

|                     |             |
|---------------------|-------------|
| Grid Extents [mm]   | 60.0 x 60.0 |
| Grid Steps [lambda] | 0.25 x 0.25 |
| Sensor Surface [mm] | 5.55        |

Measurement Results

|                                          |                   |
|------------------------------------------|-------------------|
| Date                                     | 2019–12–17, 00:12 |
| Avg. Area [cm <sup>2</sup> ]             | 4.00              |
| S <sub>avg inc</sub> [W/m <sup>2</sup> ] | 31.1              |
| S <sub>avg tot</sub> [W/m <sup>2</sup> ] | 31.5              |
| S <sub>peak</sub> [W/m <sup>2</sup> ]    | 46.2              |
| E <sub>peak</sub> [V/m]                  | 131               |
| H <sub>peak</sub> [A/m]                  | 0.358             |
| Power Drift [dB]                         | –0.07             |

0



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Test Laboratory: Sporton International Inc.

Device Under Test Properties

| Manufacturer | Dimensions [mm]       | IMEI | DUT Type |
|--------------|-----------------------|------|----------|
|              | 100.0 x 100.0 x 100.0 |      | Phone    |

Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Frequency [MHz] | Conversion Factor |
|-----------------|------------------------------|-----------------|-------------------|
| 5G              | FRONT, 5.55                  | 30000.0         | 1.0               |

Hardware Setup

| Phantom       | Medium | Probe, Calibration Date               | DAE, Calibration Date  |
|---------------|--------|---------------------------------------|------------------------|
| mmWave – xxxx | Air –  | EUmmWV4 – SN9461_F1–78GHz, 2019–11–05 | DAE4 Sn854, 2019–05–21 |

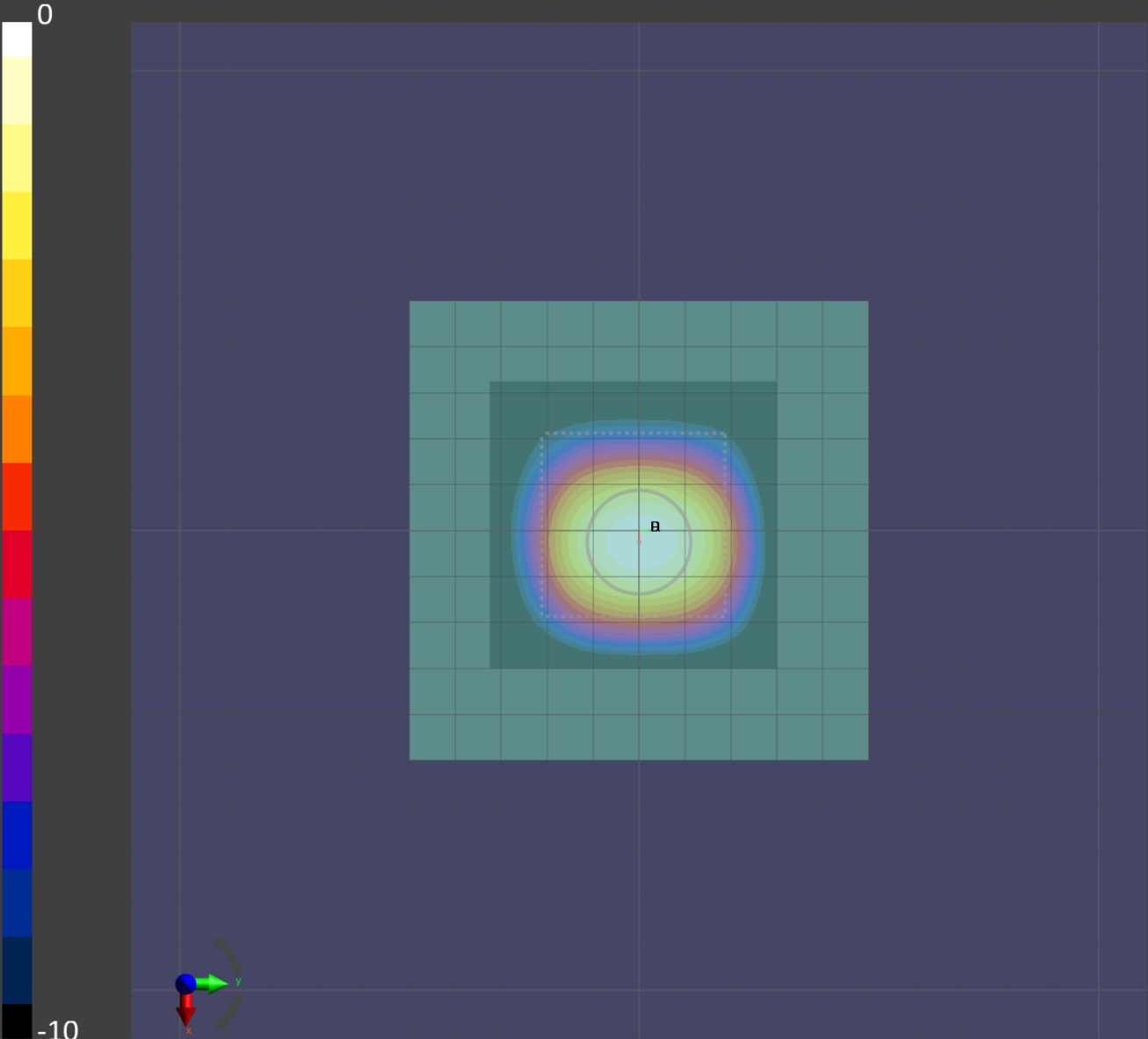
Scans Setup

|                     |             |
|---------------------|-------------|
| Grid Extents [mm]   | 60.0 x 60.0 |
| Grid Steps [lambda] | 0.25 x 0.25 |
| Sensor Surface [mm] | 5.55        |

Measurement Results

|                                          |                   |
|------------------------------------------|-------------------|
| Date                                     | 2019–12–26, 00:29 |
| Avg. Area [cm <sup>2</sup> ]             | 4.00              |
| S <sub>avg inc</sub> [W/m <sup>2</sup> ] | 34.1              |
| S <sub>avg tot</sub> [W/m <sup>2</sup> ] | 34.5              |
| S <sub>peak</sub> [W/m <sup>2</sup> ]    | 49.3              |
| E <sub>peak</sub> [V/m]                  | 135               |
| H <sub>peak</sub> [A/m]                  | 0.378             |
| Power Drift [dB]                         | –0.13             |

Averaged [4.0 cm<sup>2</sup>] |Re{S}|(x,y,z,f0) [dB(34.5W/m<sup>2</sup>)]



Test Laboratory: Sporton International Inc.

Device Under Test Properties

| Manufacturer | Dimensions [mm]       | IMEI | DUT Type |
|--------------|-----------------------|------|----------|
|              | 100.0 x 100.0 x 100.0 |      | Phone    |

Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Frequency [MHz] | Conversion Factor |
|-----------------|------------------------------|-----------------|-------------------|
| 5G              | FRONT, 5.55                  | 30000.0         | 1.0               |

Hardware Setup

| Phantom       | Medium | Probe, Calibration Date               | DAE, Calibration Date  |
|---------------|--------|---------------------------------------|------------------------|
| mmWave – xxxx | Air –  | EUmmWV4 – SN9461_F1–78GHz, 2019–11–05 | DAE4 Sn376, 2019–12–06 |

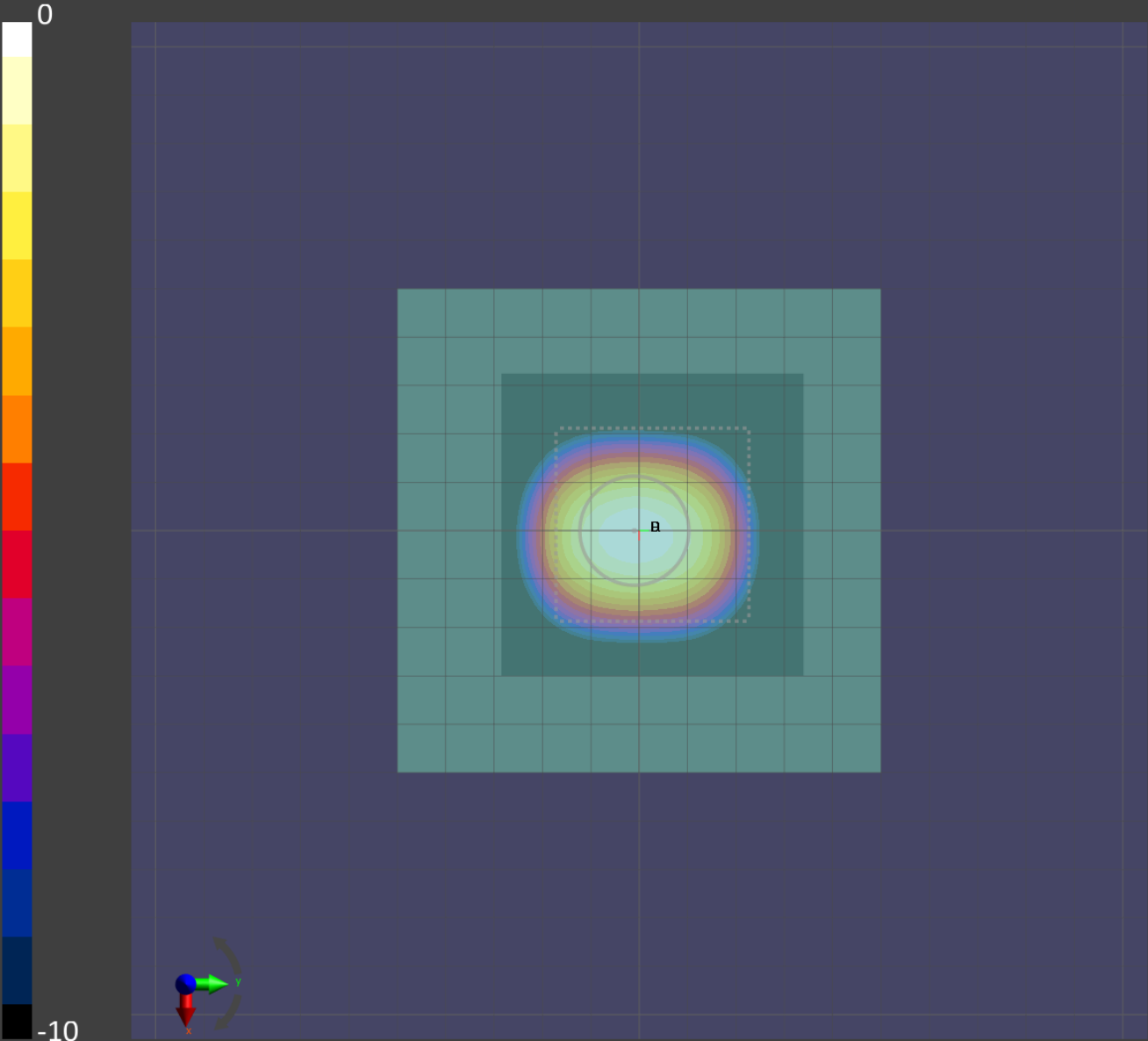
Scans Setup

|                     |             |
|---------------------|-------------|
| Grid Extents [mm]   | 60.0 x 60.0 |
| Grid Steps [lambda] | 0.25 x 0.25 |
| Sensor Surface [mm] | 5.55        |

Measurement Results

|                                          |                   |
|------------------------------------------|-------------------|
| Date                                     | 2020–01–23, 00:03 |
| Avg. Area [cm <sup>2</sup> ]             | 4.00              |
| S <sub>avg inc</sub> [W/m <sup>2</sup> ] | 30.8              |
| S <sub>avg tot</sub> [W/m <sup>2</sup> ] | 31.2              |
| S <sub>peak</sub> [W/m <sup>2</sup> ]    | 46.3              |
| E <sub>peak</sub> [V/m]                  | 134               |
| H <sub>peak</sub> [A/m]                  | 0.368             |
| Power Drift [dB]                         | 0.03              |

Averaged [4.0 cm<sup>2</sup>] |Re{S}|(x,y,z,f0) [dB(31.2W/m<sup>2</sup>)]



Test Laboratory: Sporton International Inc.

Device Under Test Properties

| Manufacturer | Dimensions [mm]       | IMEI | DUT Type |
|--------------|-----------------------|------|----------|
|              | 100.0 x 100.0 x 100.0 |      | Phone    |

Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Frequency [MHz] | Conversion Factor |
|-----------------|------------------------------|-----------------|-------------------|
| 5G              | FRONT, 5.55                  | 30000.0         | 1.0               |

Hardware Setup

| Phantom       | Medium | Probe, Calibration Date               | DAE, Calibration Date  |
|---------------|--------|---------------------------------------|------------------------|
| mmWave – xxxx | Air –  | EUmmWV4 – SN9441_F1–78GHz, 2019–11–20 | DAE4 Sn778, 2019–05–21 |

Scans Setup

|                     |             |
|---------------------|-------------|
| Grid Extents [mm]   | 60.0 x 60.0 |
| Grid Steps [lambda] | 0.25 x 0.25 |
| Sensor Surface [mm] | 5.55        |

Measurement Results

|                                          |                   |
|------------------------------------------|-------------------|
| Date                                     | 2020–02–12, 00:37 |
| Avg. Area [cm <sup>2</sup> ]             | 4.00              |
| S <sub>avg inc</sub> [W/m <sup>2</sup> ] | 30.4              |
| S <sub>avg tot</sub> [W/m <sup>2</sup> ] | 30.9              |
| S <sub>peak</sub> [W/m <sup>2</sup> ]    | 44.8              |
| E <sub>peak</sub> [V/m]                  | 130               |
| H <sub>peak</sub> [A/m]                  | 0.353             |
| Power Drift [dB]                         | –0.03             |

Averaged [4.0 cm<sup>2</sup>] |Re{S}|(x,y,z,f0) [dB(30.9W/m<sup>2</sup>)]

