
Appendix B – System Check Plots

Date: 2024/10/14

System Performance Check at 2450 MHz

DUT: D2450V2_SN712

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.798$ S/m; $\epsilon_r = 39.318$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3977; ConvF(7.73, 7.11, 7.58) @ 2450 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 2450MHz/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.39 W/kg

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.23 V/m; Power Drift = -0.11 dB

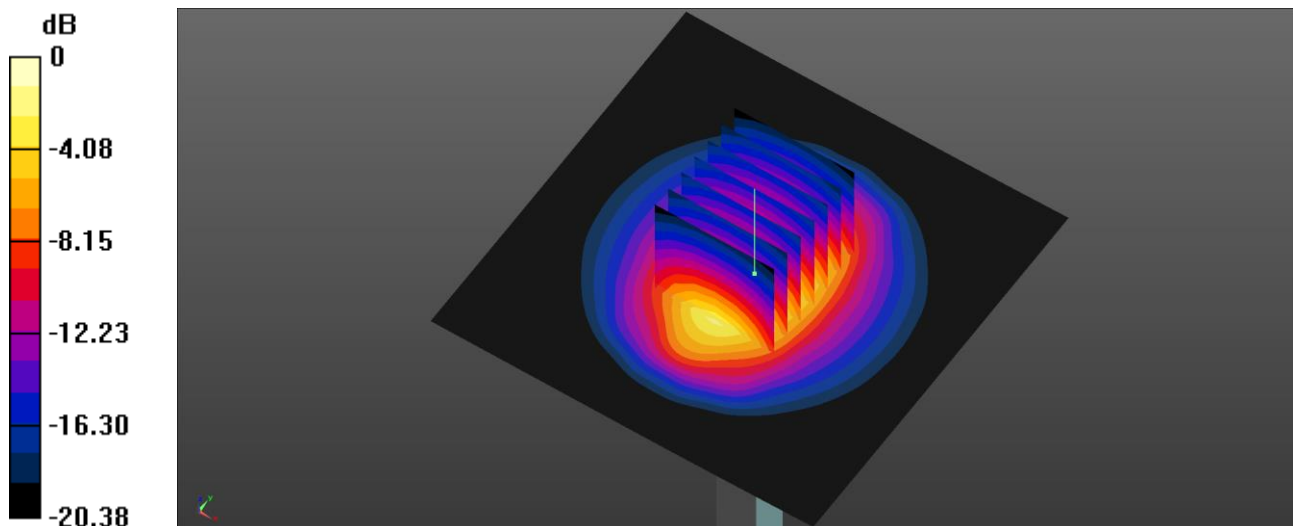
Peak SAR (extrapolated) = 5.27 W/kg

SAR(1 g) = 2.72 W/kg; SAR(10 g) = 1.3 W/kg

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 52.4%

Maximum value of SAR (measured) = 4.40 W/kg



Date: 2024/10/19

System Performance Check at 5250 MHz

DUT: D5GHzV2_SN1021

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.694$ S/m; $\epsilon_r = 36.207$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3977; ConvF(5.68, 5.15, 5.5) @ 5250 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5250MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.42 W/kg

System Performance Check at 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 52.31 V/m; Power Drift = -0.01 dB

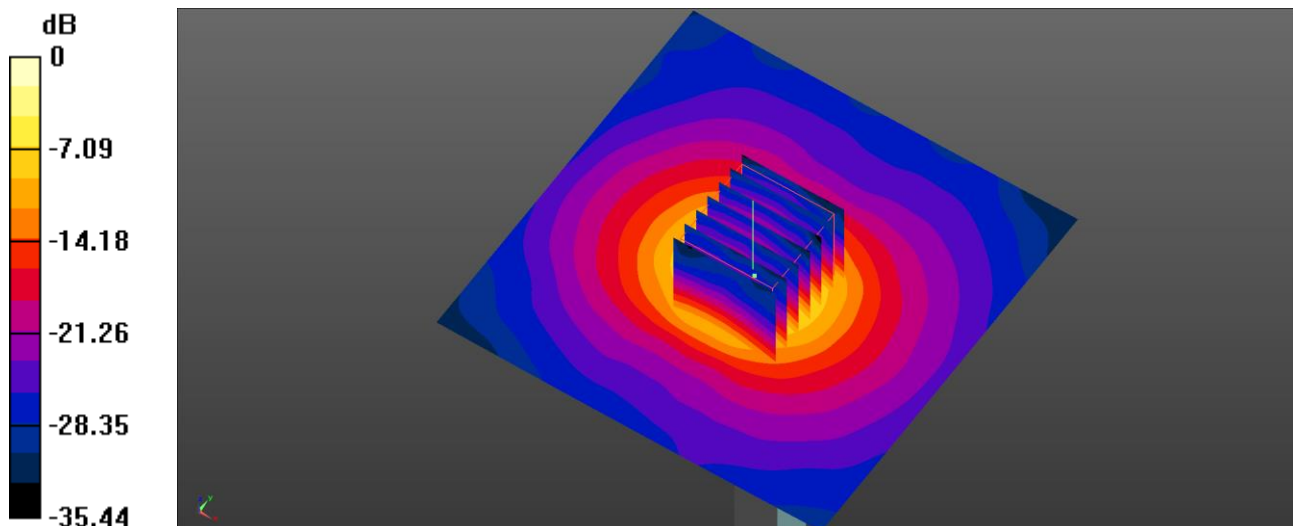
Peak SAR (extrapolated) = 16.2 W/kg

SAR(1 g) = 4.06 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 = 64.5%

Maximum value of SAR (measured) = 9.92 W/kg



0 dB = 9.92 W/kg = 9.97 dBW/kg

Date: 2024/10/20

System Performance Check at 5600 MHz

DUT: D5GHzV2_SN1021

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.018$ S/m; $\epsilon_r = 35.636$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3977; ConvF(4.9, 4.47, 4.74) @ 5600 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5600MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 11.2 W/kg

System Performance Check at 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 54.03 V/m; Power Drift = -0.06 dB

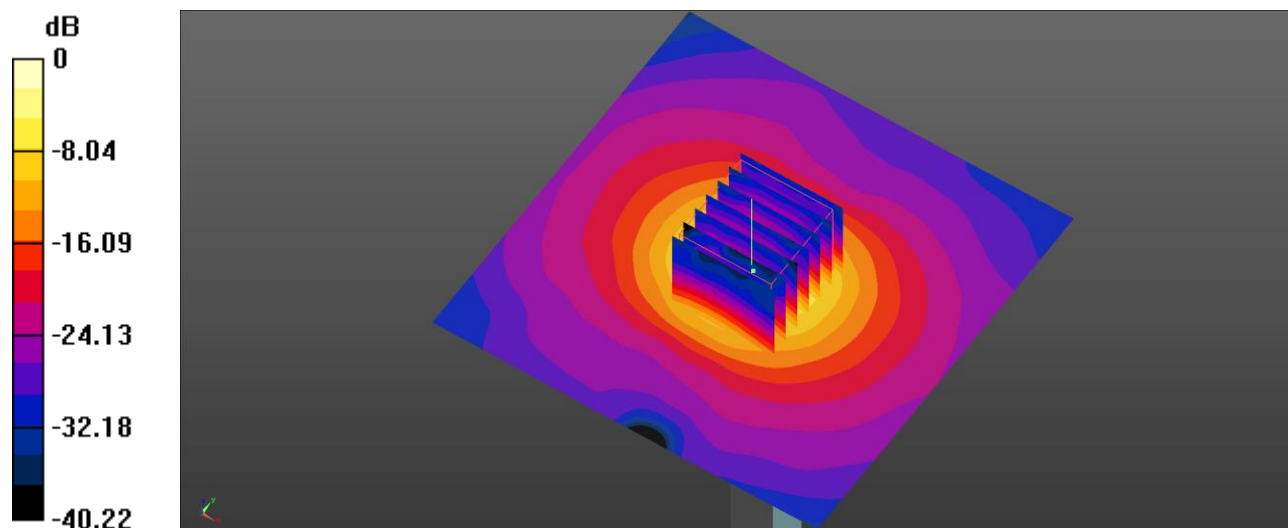
Peak SAR (extrapolated) = 20.9 W/kg

SAR(1 g) = 4.27 W/kg; SAR(10 g) = 1.23 W/kg

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 60.4%

Maximum value of SAR (measured) = 11.5 W/kg



0 dB = 11.5 W/kg = 10.61 dBW/kg

Date: 2024/10/21

System Performance Check at 5800 MHz

DUT: D5GHzV2_SN1021

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.275$ S/m; $\epsilon_r = 35.329$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5.2 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3977; ConvF(5.03, 4.62, 4.96) @ 5800 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1133
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5800MHz/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.52 W/kg

System Performance Check at 5800MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 46.49 V/m; Power Drift = 0.01 dB

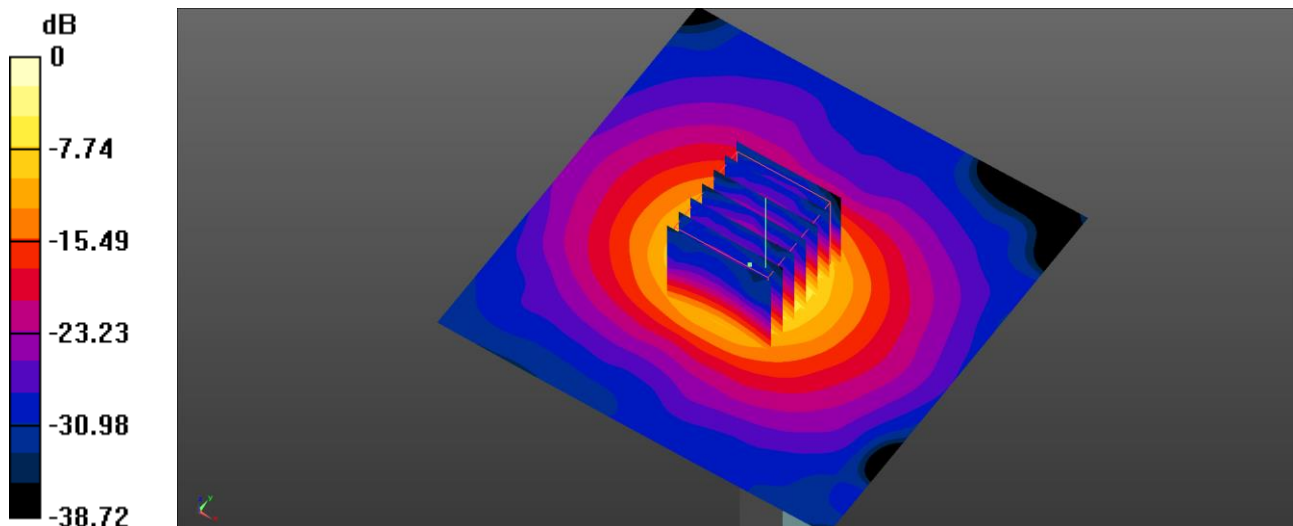
Peak SAR (extrapolated) = 21.7 W/kg

SAR(1 g) = 4.24 W/kg; SAR(10 g) = 1.21 W/kg

Smallest distance from peaks to all points 3 dB below = 6.8 mm

Ratio of SAR at M2 to SAR at M1 = 60.3%

Maximum value of SAR (measured) = 11.3 W/kg



0 dB = 11.3 W/kg = 10.53 dBW/kg

Test Date : 2024-10-18 | Ambient Temp : 23.2 °C | Tissue Temp : 22.1 °C

System Performance Check**System Performance Check at 6500 MHz****Verification Source Properties**

Manufacturer	Model No.	Serial No.	Input Power [dBm]
SPEAG	D6.5GHz	1016	20.0

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	CW	6500.000	5.5	6.16	34

Hardware Setup

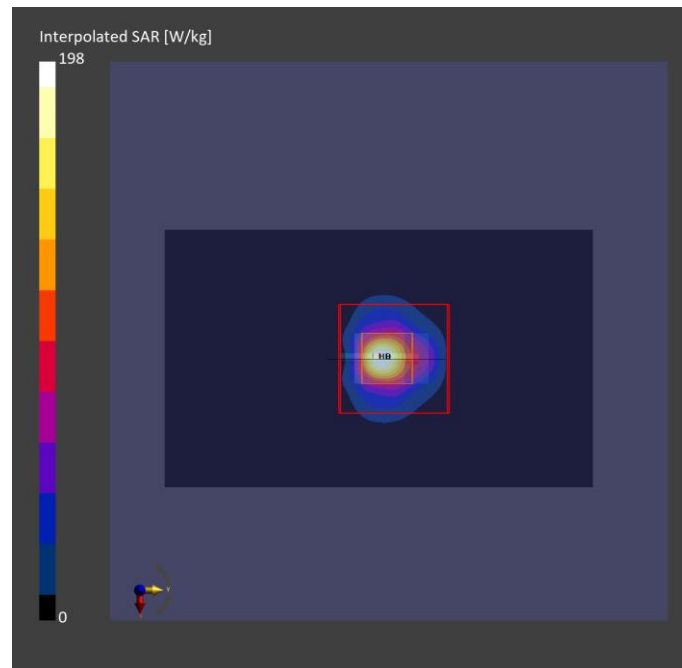
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000V6	EX3DV4 - SN3847 / 2024-02-21	DAE4 Sn1253 / 2024-04-22

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	51.0 x 85.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	8.5 x 8.5	3.4 x 3.4 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4

Measurement Results

	Area Scan	Zoom Scan
psSAR-1g [W/kg]	25.1	29.8
psSAR-8g [W/kg]	6.23	6.91
psSAR-10g [W/kg]	5.03	5.66
psAPD (1.0 cm ² , sq) [W/m ²]		298
psAPD (4.0 cm ² , sq) [W/m ²]		139
Power Drift [dB]		0.03
TSL Correction	Positive only	Positive only



Test Date : 2024-10-25 | Ambient Temp : 22.7 °C

System Performance Check**System Performance Check at 10GHz****Verification Source Properties**

Manufacturer	Model No.	Serial No.
SPEAG	D10G	2003

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor
5G	CW	10000.0	1.0

Hardware Setup

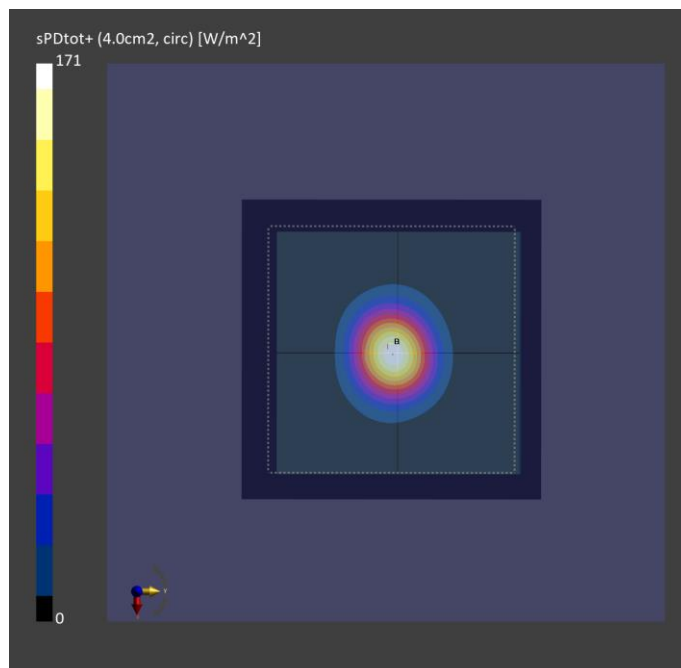
Phantom	Medium	Probe / Calibration Date	DAE / Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1- 55GHz / 2023-12-05	DAE4 Sn1253 / 2024-04-22

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm ²]	4.00
psPD n+ [W/m ²]	165
psPD tot+ [W/m ²]	169
psPD mod+ [W/m ²]	173
E max [V/m]	289
Power Drift [dB]	0.01



Test Date : 2024-10-26 | Ambient Temp : 22.8 °C

System Performance Check**System Performance Check at 10GHz****Verification Source Properties**

Manufacturer	Model No.	Serial No.
SPEAG	D10G	2003

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor
5G	CW	10000.0	1.0

Hardware Setup

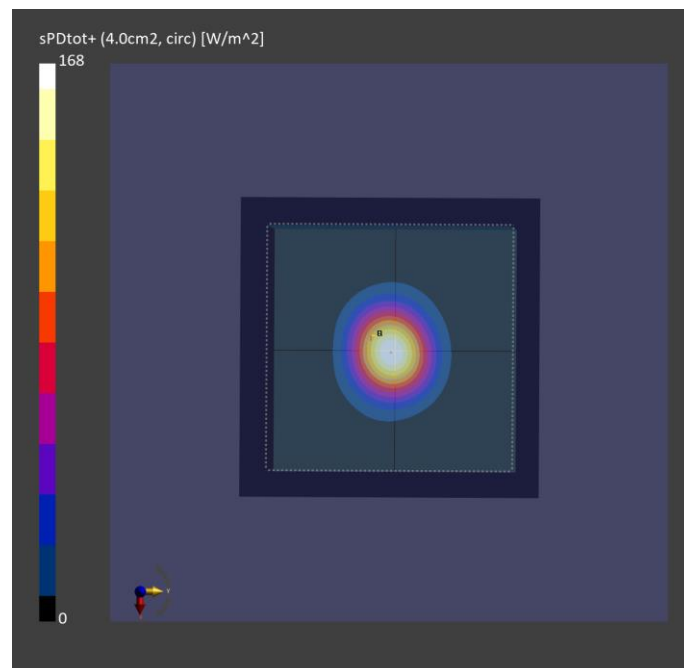
Phantom	Medium	Probe / Calibration Date	DAE / Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1- 55GHz / 2023-12-05	DAE4 Sn1253 / 2024-04-22

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm ²]	4.00
psPD n+ [W/m ²]	168
psPD tot+ [W/m ²]	172
psPD mod+ [W/m ²]	176
E max [V/m]	294
Power Drift [dB]	-0.09



Test Date : 2024-10-27 | Ambient Temp : 23.2 °C

System Performance Check**System Performance Check at 10GHz****Verification Source Properties**

Manufacturer	Model No.	Serial No.
SPEAG	D10G	2003

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor
5G	CW	10000.0	1.0

Hardware Setup

Phantom	Medium	Probe / Calibration Date	DAE / Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1- 55GHz / 2023-12-05	DAE4 Sn1253 / 2024-04-22

Scan Setup

	5G Scan
Grid Extents [mm]	120.0 x 120.0
Grid Steps [mm]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

	5G Scan
Avg. Area [cm ²]	4.00
psPD n+ [W/m ²]	174
psPD tot+ [W/m ²]	179
psPD mod+ [W/m ²]	183
E max [V/m]	299
Power Drift [dB]	-0.11

