

Appendix B – System Check Plots

Date: 2025/2/10

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; $\sigma = 1.792$ S/m; $\epsilon_r = 40.178$; $\rho = 1000$ 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(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 001 BB; Serial: 1036
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 2450MHz/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.13 W/kg

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

Reference Value = 50.27 V/m; Power Drift = -0.17 dB

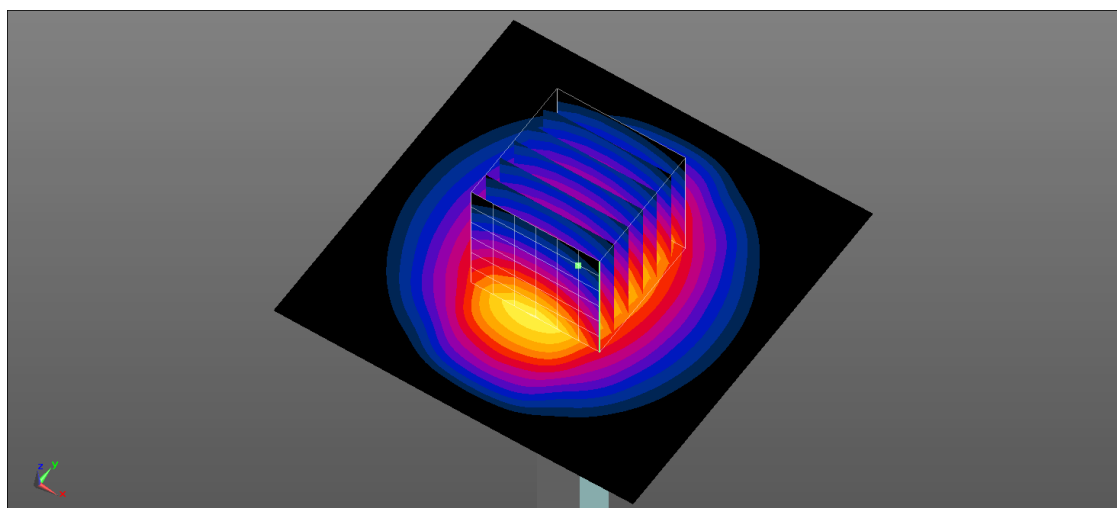
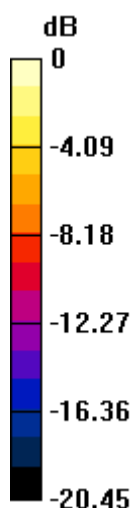
Peak SAR (extrapolated) = 5.08 W/kg

SAR(1 g) = 2.53 W/kg; SAR(10 g) = 1.2 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 9.2 mm

Ratio of SAR at M2 to SAR at M1 = 51.8%

Maximum value of SAR (measured) = 4.16 W/kg



0 dB = 4.16 W/kg = 6.19 dBW/kg

Date: 2025/2/11

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; $\sigma = 4.374$ S/m; $\epsilon_r = 35.168$; $\rho = 1000$ 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(5.68, 5.15, 5.5) @ 5250 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 001 BB; Serial: 1036
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5250 MHz/Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 8.94 W/kg

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

Reference Value = 48.52 V/m; Power Drift = -0.15 dB

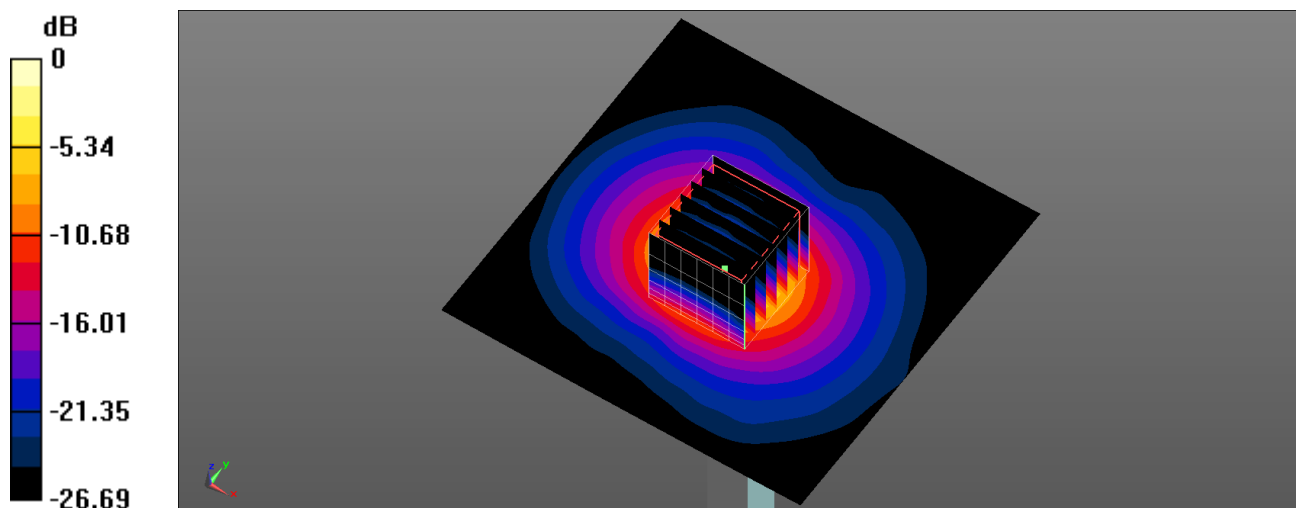
Peak SAR (extrapolated) = 16.0 W/kg

SAR(1 g) = 3.81 W/kg; SAR(10 g) = 1.07 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.8 mm

Ratio of SAR at M2 to SAR at M1 = 61.4%

Maximum value of SAR (measured) = 9.24 W/kg



0 dB = 9.24 W/kg = 9.66 dBW/kg

Date: 2025/2/12

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; $\sigma = 4.695$ S/m; $\epsilon_r = 34.853$; $\rho = 1000$ 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(4.9, 4.47, 4.74) @ 5600 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 001 BB; Serial: 1036
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5600 MHz/Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 9.88 W/kg

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

Reference Value = 49.74 V/m; Power Drift = -0.07 dB

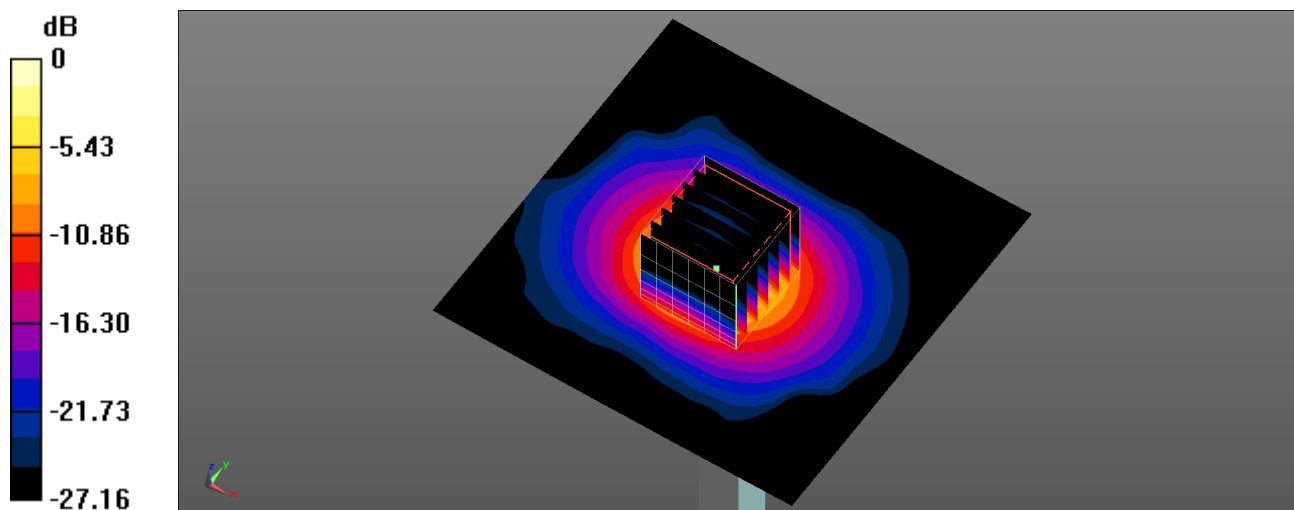
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 4.13 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.8 mm

Ratio of SAR at M2 to SAR at M1 = 60.8%

Maximum value of SAR (measured) = 10.4 W/kg



0 dB = 10.4 W/kg = 10.17 dBW/kg

Date: 2025/2/13

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; $\sigma = 4.874$ S/m; $\epsilon_r = 34.533$; $\rho = 1000$ 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(5.03, 4.62, 4.96) @ 5800 MHz; Calibrated: 2024/3/21
- Sensor-Surface: 1.4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn779; Calibrated: 2024/6/5
- Phantom: ELI; Type: QD OVA 001 BB; Serial: 1036
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 5800 MHz/Area Scan (91x91x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 9.46 W/kg

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

Reference Value = 47.87 V/m; Power Drift = -0.03 dB

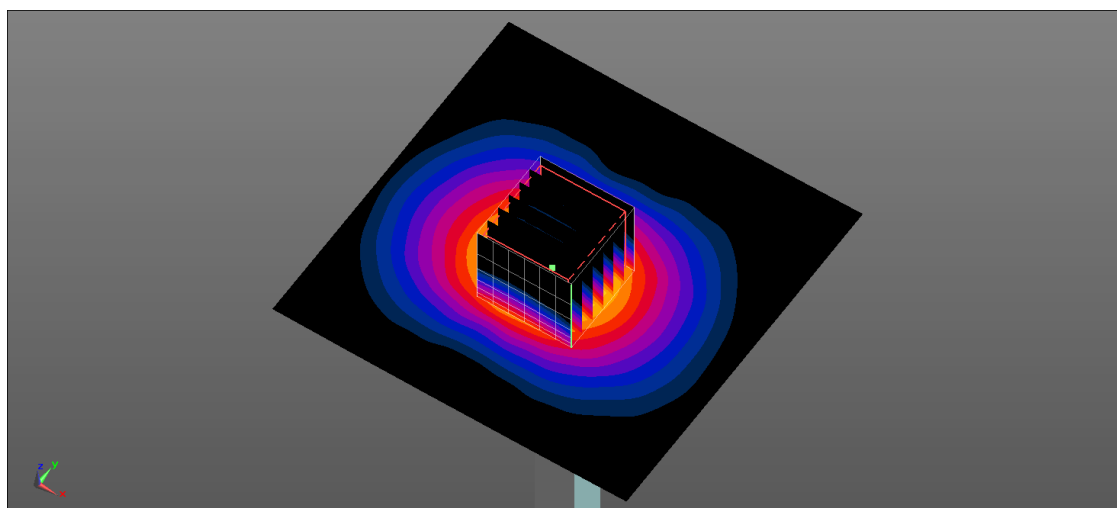
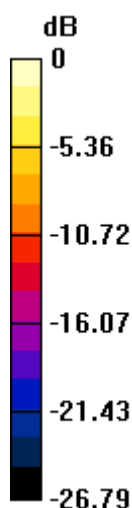
Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 3.8 W/kg; SAR(10 g) = 1.05 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.7 mm

Ratio of SAR at M2 to SAR at M1 = 62.3%

Maximum value of SAR (measured) = 9.75 W/kg



0 dB = 9.75 W/kg = 9.89 dBW/kg

Test Date : 2025-02-13 | Ambient Temp : 22.3 °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	5.2	6.18	34.0

Hardware Setup

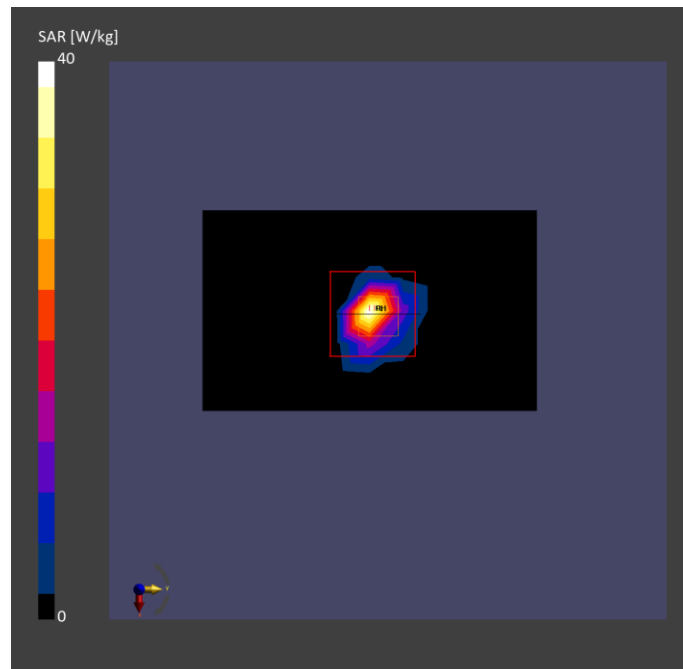
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000V6	EX3DV4 - SN7647 / 2024-04-24	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		16.4.0.5005	

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]	22.0	27.3
psSAR-8g [W/kg]	5.50	6.21
psSAR-10g [W/kg]	4.57	5.11
psAPD (1.0 cm ² , sq) [W/m ²]		273
psAPD (4.0 cm ² , sq) [W/m ²]		124
Power Drift [dB]		0.03
TSL Correction	Positive only	Positive only



Test Date : 2025-02-14 | Ambient Temp : 22.3 °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	5.2	6.22	34.1

Hardware Setup

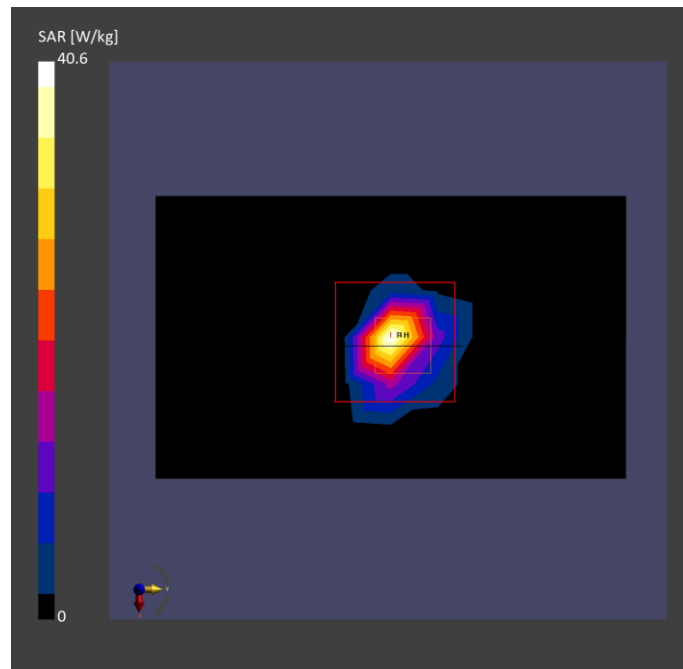
Phantom	Tissue Simulating Liquid	Probe / Calibration Date	DAE / Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000V6	EX3DV4 - SN7647 / 2024-04-24	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		16.4.0.5005	

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]	22.2	27.5
psSAR-8g [W/kg]	5.55	6.27
psSAR-10g [W/kg]	4.61	5.16
psAPD (1.0 cm ² , sq) [W/m ²]		275
psAPD (4.0 cm ² , sq) [W/m ²]		125
Power Drift [dB]		-0.01
TSL Correction	Positive only	Positive only



Test Date : 2025-02-15 | Ambient Temp : 22.4 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	1060

Exposure Conditions

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

Hardware Setup

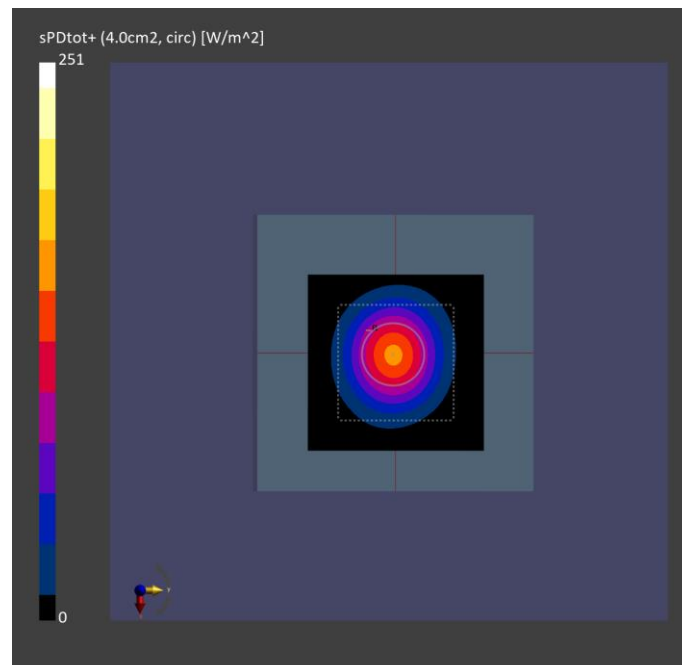
Phantom	Medium	Probe Calibration Date	DAE Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1-55GHz / 2024-11-15	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		3.2.2.2358	

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
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]	52
psPD tot+ [W/m ²]	53
psPD mod+ [W/m ²]	54
E max [V/m]	94
Power Drift [dB]	0.01



Test Date : 2025-02-17 | Ambient Temp : 22.2 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	1060

Exposure Conditions

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

Hardware Setup

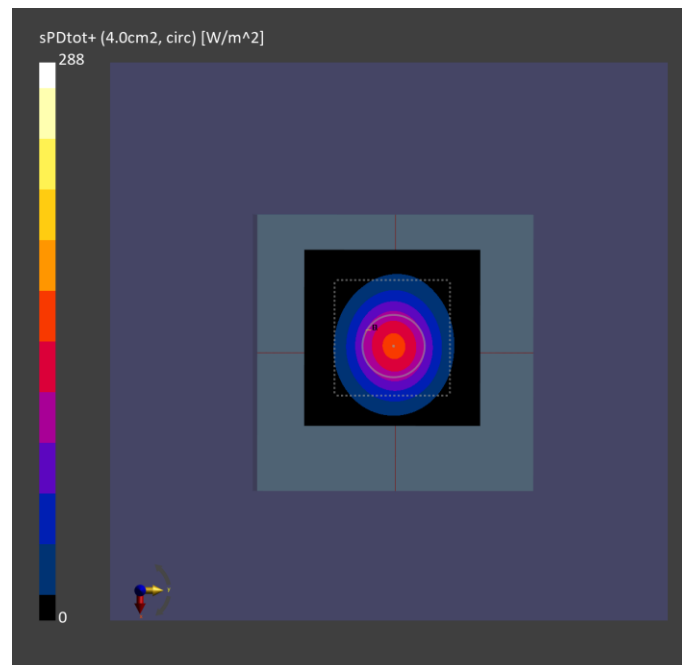
Phantom	Medium	Probe Calibration Date	DAE Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1-55GHz / 2024-11-15	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		3.2.2.2358	

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
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]	54
psPD tot+ [W/m ²]	55
psPD mod+ [W/m ²]	56
E max [V/m]	95
Power Drift [dB]	0.05



Test Date : 2025-02-18 | Ambient Temp : 22.2 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	1060

Exposure Conditions

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

Hardware Setup

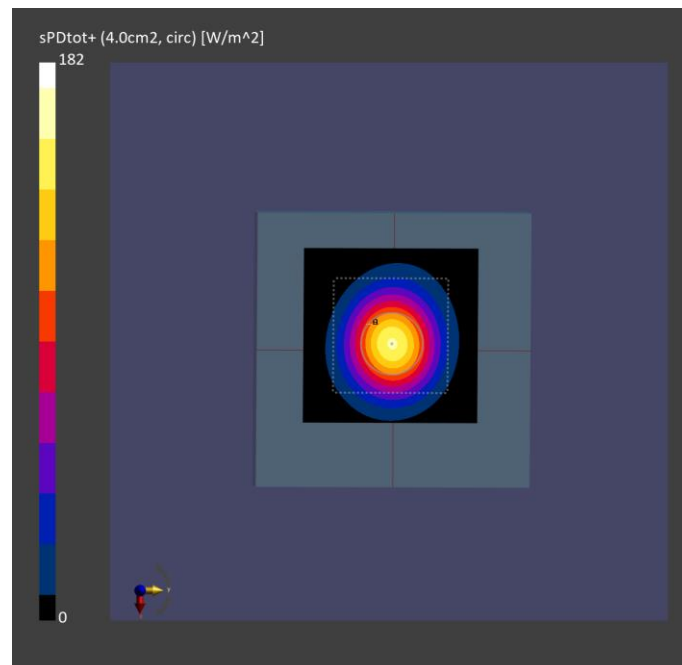
Phantom	Medium	Probe Calibration Date	DAE Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1- 55GHz / 2024-11-15	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		3.2.2.2358	

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
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]	57
psPD tot+ [W/m ²]	58
psPD mod+ [W/m ²]	58
E max [V/m]	107
Power Drift [dB]	0.04



Test Date : 2025-02-19 | Ambient Temp : 22.1 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	1060

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 / 2024-11-15	DAE4 Sn1253 / 2024-04-22
Measurement Software Version		3.2.2.2358	

Scan Setup

	5G Scan
Grid Extents [mm]	60.0 x 60.0
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]	53
psPD tot+ [W/m ²]	54
psPD mod+ [W/m ²]	54
E max [V/m]	95
Power Drift [dB]	0.03

