
Appendix B – System Check Plots

Date: 2025/1/20

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; $\sigma = 1.796$ S/m; $\epsilon_r = 39.307$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5

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 - SN3847; ConvF(7.17, 7.17, 7.17) @ 2450 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 1.4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/10/28
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

System Performance Check at 2450 MHz/Area Scan (81x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm
Maximum value of SAR (interpolated) = 3.96 W/kg

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

Reference Value = 49.08 V/m; Power Drift = 0.00 dB

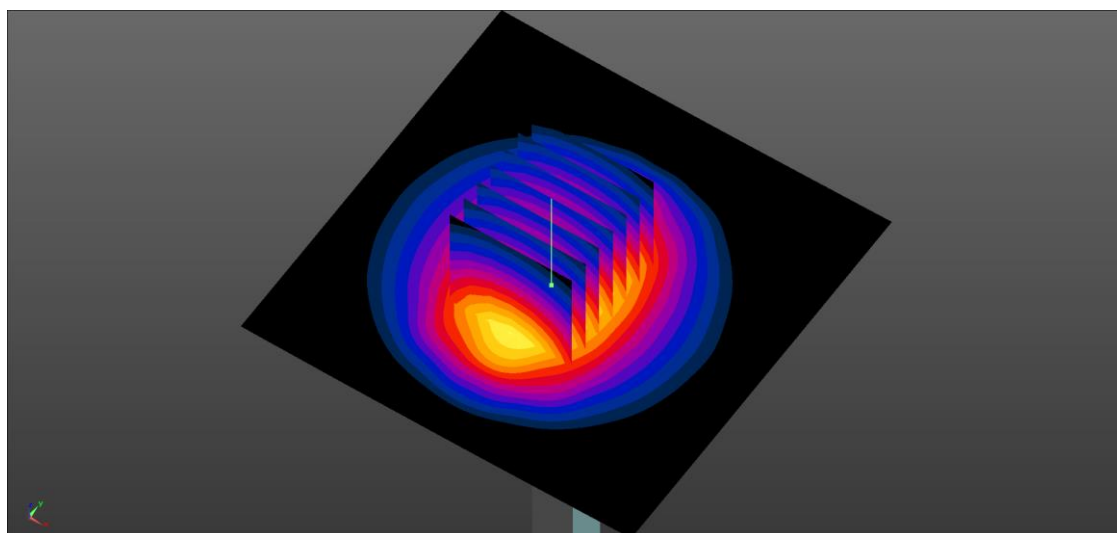
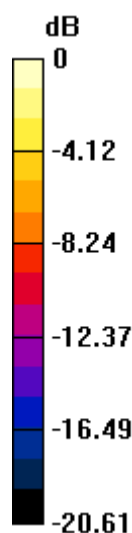
Peak SAR (extrapolated) = 4.71 W/kg

SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.17 W/kg (SAR corrected for target medium)

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

Ratio of SAR at M2 to SAR at M1 = 52.5%

Maximum value of SAR (measured) = 3.96 W/kg



0 dB = 3.96 W/kg = 5.98 dBW/kg

Date: 2024/1/21

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; $\sigma = 4.71$ S/m; $\epsilon_r = 36.328$; $\rho = 1000$ 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 - SN3847; ConvF(5.35, 5.35, 5.35) @ 5250 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/10/28
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- 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) = 9.01 W/kg

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

Reference Value = 45.52 V/m; Power Drift = 0.00 dB

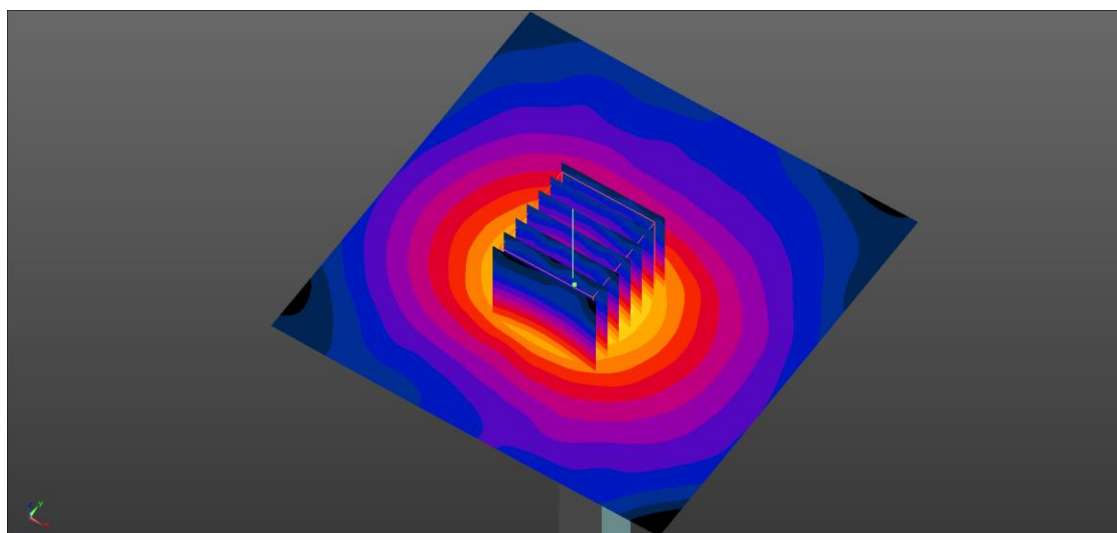
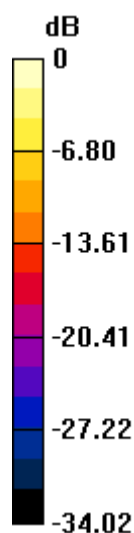
Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 3.84 W/kg; SAR(10 g) = 1.08 W/kg (SAR corrected for target medium)

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

Ratio of SAR at M2 to SAR at M1 = 65.2%

Maximum value of SAR (measured) = 9.17 W/kg



0 dB = 9.17 W/kg = 9.62 dBW/kg

Date: 2025/1/22

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; $\sigma = 5.038$ S/m; $\epsilon_r = 35.554$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5

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 - SN3847; ConvF(4.66, 4.66, 4.66) @ 5600 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/10/28
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- 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) = 10.5 W/kg

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

Reference Value = 49.72 V/m; Power Drift = 0.11 dB

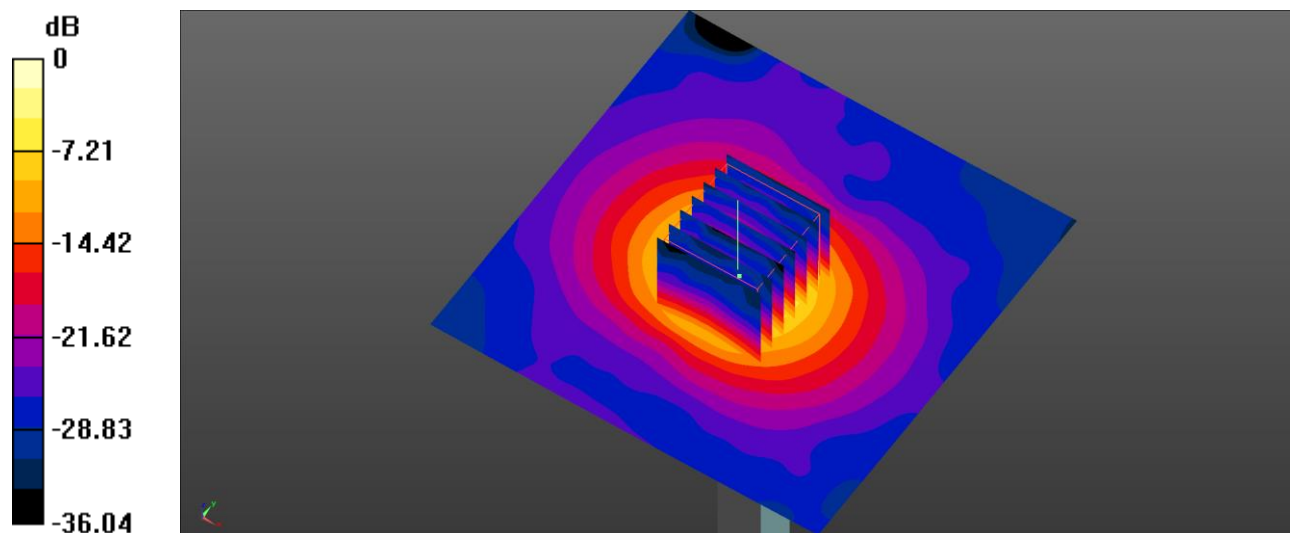
Peak SAR (extrapolated) = 19.0 W/kg

SAR(1 g) = 4.3 W/kg; SAR(10 g) = 1.19 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.5 mm

Ratio of SAR at M2 to SAR at M1 = 61.8%

Maximum value of SAR (measured) = 10.9 W/kg



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

Date: 2024/1/23

System Performance Check at 5800MHz

DUT: D5GHzV2_SN1021

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.277$ S/m; $\epsilon_r = 35.444$; $\rho = 1000$ 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 - SN3847; ConvF(4.79, 4.79, 4.79) @ 5800 MHz; Calibrated: 2024/2/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2024/10/28
- Phantom: ELI; Type: QD OVA 002 AA; Serial: 1175
- 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) = 9.43 W/kg

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

Reference Value = 46.28 V/m; Power Drift = 0.01 dB

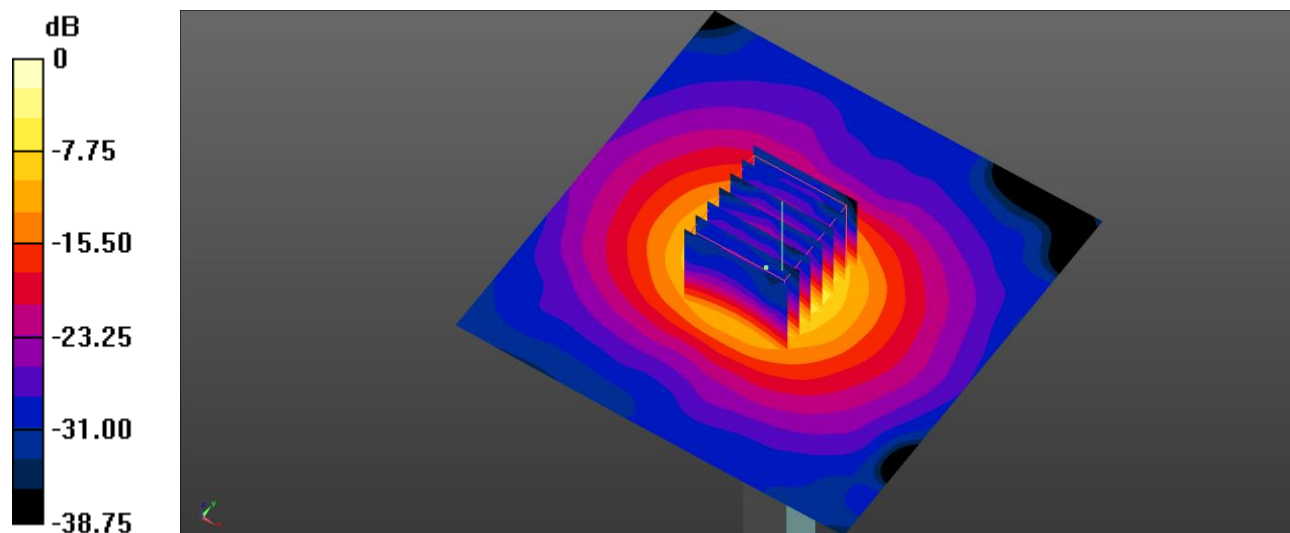
Peak SAR (extrapolated) = 21.7 W/kg

SAR(1 g) = 4.25 W/kg; SAR(10 g) = 1.17 W/kg (SAR corrected for target medium)

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

Ratio of SAR at M2 to SAR at M1 = 59.8%

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



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

Test Date : 2025-01-16 | Ambient Temp : 22.3 °C | Tissue Temp : 21.3 °C

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

Manufacturer	Model No.	Serial No.	Input Power [dBm]
SPEAG	D6.5GHzV2	1016	20.0

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	CW	6500.000	5.5	6.12	34.7

Hardware Setup

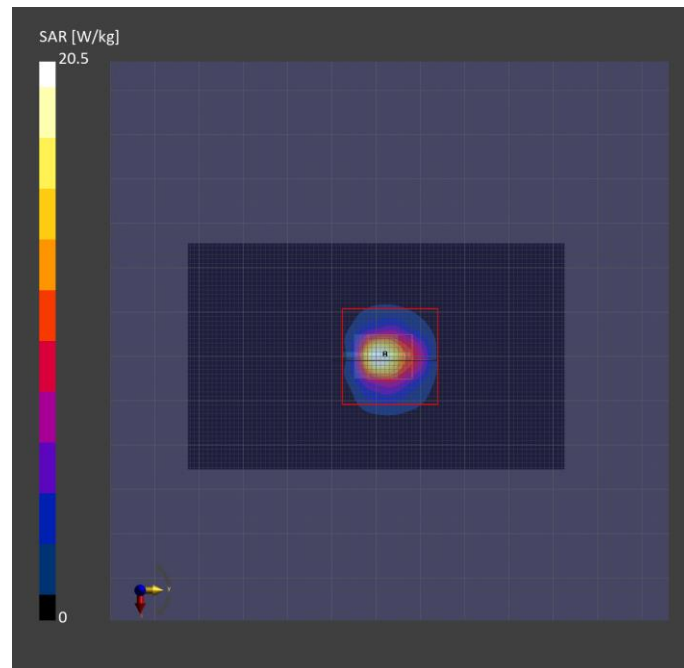
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000V6	EX3DV4 - SN3847 / 2024-02-21	DAE4 Sn541 / 2024-10-28

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]	21.8	28.2
psSAR-8g [W/kg]	5.62	6.24
psSAR-10g [W/kg]	4.73	5.16
psAPD (1.0 cm ² , sq) [W/m ²]		282
psAPD (4.0 cm ² , sq) [W/m ²]		128
Power Drift [dB]		0.09
TSL Correction	Positive only	Positive only



Test Date : 2025-01-17 | Ambient Temp : 22.4 °C | Tissue Temp : 21.4 °C

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

Manufacturer	Model No.	Serial No.	Input Power [dBm]
SPEAG	D6.5GHzV2	1016	20.0

Exposure Conditions

Phantom Section	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	CW	6500.000	5.5	6.12	34.7

Hardware Setup

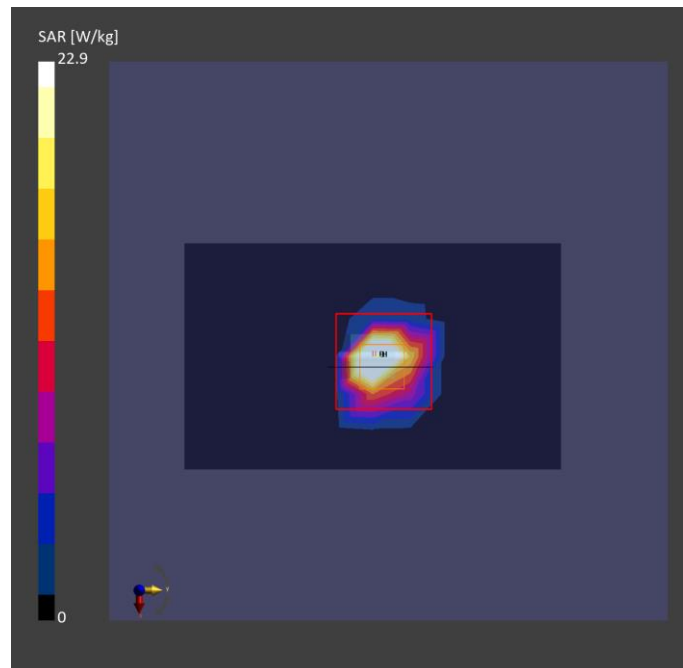
Phantom	Tissue Simulating Liquid	Probe Calibration Date	DAE Calibration Date
ELI V5.0 (20deg probe tilt) - 1175	HBBL-600-10000V6	EX3DV4 - SN3847 / 2024-02-21	DAE4 Sn541 / 2024-10-28

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]	24.8	28.4
psSAR-8g [W/kg]	5.82	6.34
psSAR-10g [W/kg]	4.77	5.15
psAPD (1.0 cm ² , sq) [W/m ²]		284
psAPD (4.0 cm ² , sq) [W/m ²]		129
Power Drift [dB]		-0.05
TSL Correction	Positive only	Positive only



Test Date : 2025-01-18 | Ambient Temp : 22.1 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	2003

Exposure Conditions

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

Hardware Setup

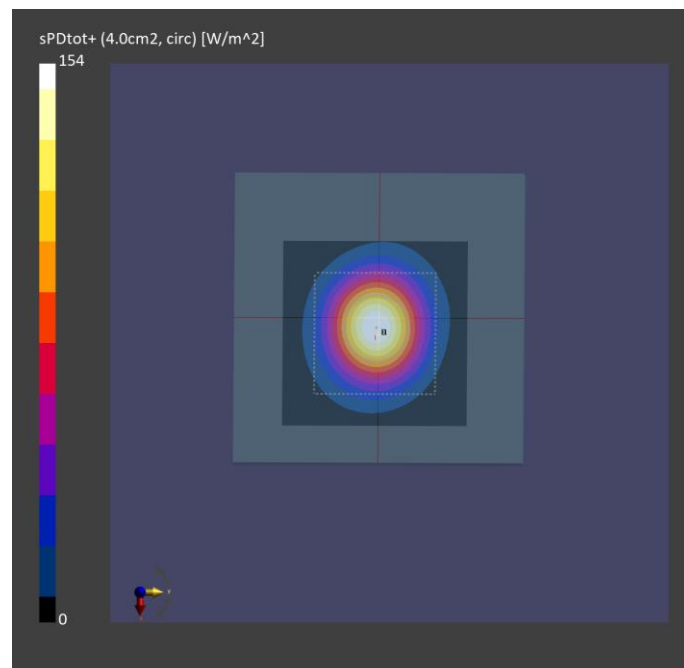
Phantom	Medium	Probe / Calibration Date	DAE / Calibration Date
mmWave - 5G Phantom	Air	EUmmWV3 - SN9403_F1- 55GHz / 2024-11-15	DAE4 Sn541 / 2024-10-28

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]	174
psPD tot+ [W/m ²]	177
psPD mod+ [W/m ²]	178
E max [V/m]	286
Power Drift [dB]	0.11



Test Date : 2025-01-19 | Ambient Temp : 21.8 °C

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

Manufacturer	Model No.	Serial No.
SPEAG	5G Verification Source 10GHz	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 / 2024-11-15	DAE4 Sn541 / 2024-10-28

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]	172
psPD tot+ [W/m ²]	174
psPD mod+ [W/m ²]	177
E max [V/m]	285
Power Drift [dB]	0.08

