

APPENDIX A: SYSTEM CHECKING SCANS

(0mm)



Front face



Rear face



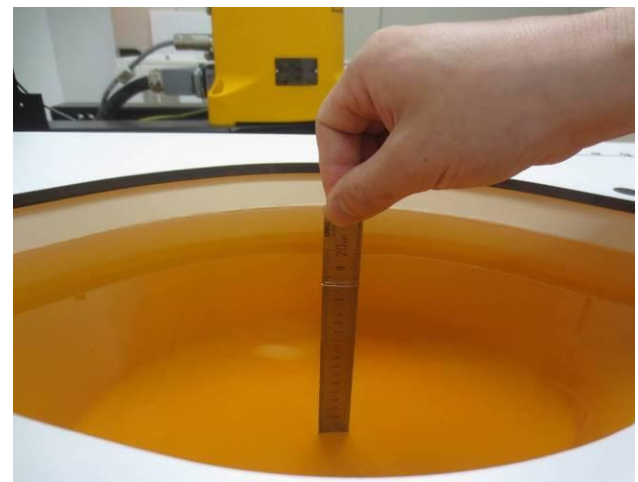
Left side



Right Side



Bottom side



APPENDIX B: SYSTEM CHECKING SCANS

Date: 11/23/2024

750 System Check

Communication System: UID 0, _CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.894 \text{ S/m}$; $\epsilon_r = 42.37$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: $22.0 \text{ }^\circ\text{C}$; Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

DASY Configuration:

- Probe: EX3DV4 - SN7322; ConvF(10.03, 10.03, 10.03) @ 750 MHz; Calibrated: 3/26/2024
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1473; Calibrated: 3/18/2024
- Phantom: ELI V6.0 (20deg probe tilt); Type: QD OVA 003 AA; Serial: 2033
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Configuration/Pin=250 mW/Area Scan (7x19x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Maximum value of SAR (measured) = 2.35 W/kg

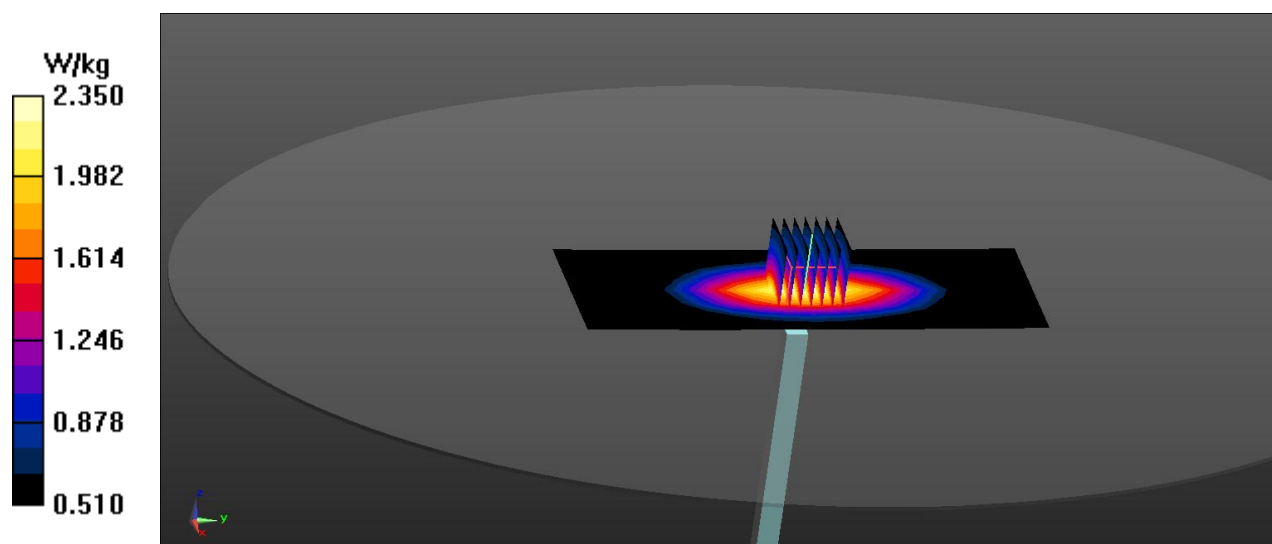
Configuration/Pin=250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 51.78 V/m ; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.81 W/kg

SAR(1 g) = 2.08 W/kg ; SAR(10 g) = 1.39 W/kg

Maximum value of SAR (measured) = 2.35 W/kg



Date: 11/24/2024

1750 System Check

Communication System: UID 0, _CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used: $f = 1750$ MHz; $\sigma = 1.404$ S/m; $\epsilon_r = 40.569$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0 °C; Liquid Temperature: 21.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN7322; ConvF(8.36, 8.36, 8.36) @ 1750 MHz; Calibrated: 3/26/2024
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1473; Calibrated: 3/18/2024
- Phantom: SAM 1 V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1888
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)
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Configuration/Pin=250 mW/Area Scan (5x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 10.9 W/kg

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

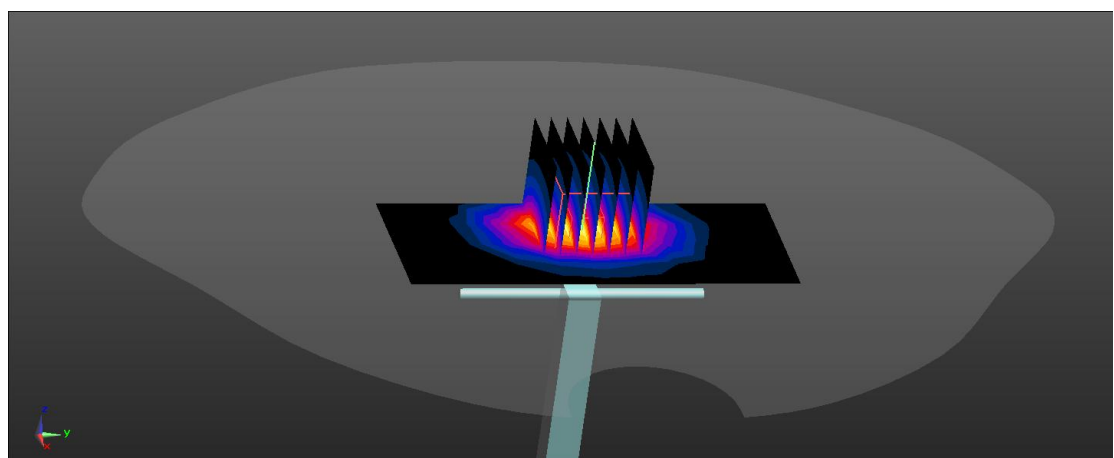
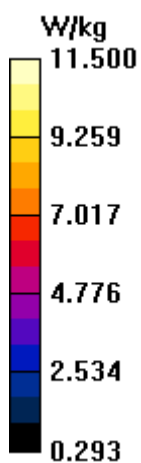
Reference Value = 76.83 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 16.0 W/kg

SAR(1 g) = 9.23 W/kg; SAR(10 g) = 5.12 W/kg

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

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1900 HEAD

Communication System: UID 0, _CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1950 Head Medium parameters used: $f = 1900$ MHz; $\sigma = 1.382$ S/m; $\epsilon_r = 40.383$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0 °C; Liquid Temperature: 21.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN7322; ConvF(8.05, 8.05, 8.05) @ 1900 MHz; Calibrated: 3/26/2024
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1473; Calibrated: 3/18/2024
- Phantom: ELI V6.0 (20deg probe tilt); Type: QD OVA 003 AA; Serial: 2033
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Configuration/Pin=250 mW/Area Scan (5x11x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 12.2 W/kg

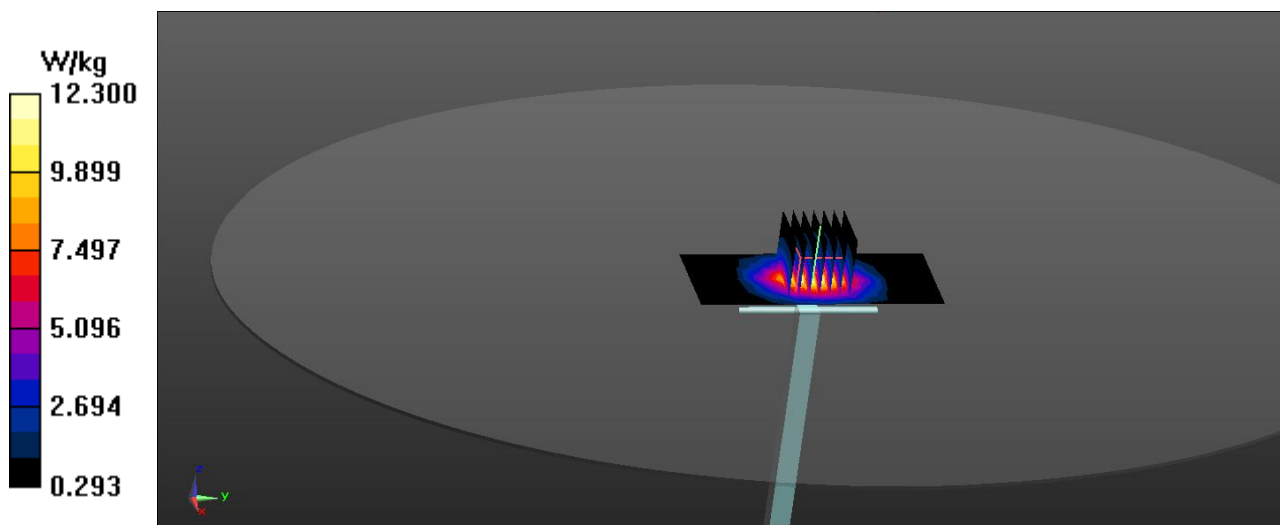
Configuration/Pin=250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.76 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 9.86 W/kg; SAR(10 g) = 5.42 W/kg

Maximum value of SAR (measured) = 12.3 W/kg



APPENDIX C: MEASUREMENT SCANS

Date: 11/23/2024

Test Laboratory: Intertek Service

LTE_band2 Front Side_CH 18700 1RB0

Communication System: UID 0, Generic LTE FDD (0); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1950 Head Medium parameters used: $f = 1860$ MHz; $\sigma = 1.341$ S/m; $\epsilon_r = 40.564$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0 °C; Liquid Temperature: 21.5 °C

DASY Configuration:

Probe: EX3DV4 - SN7322; ConvF(8.05, 8.05, 8.05) @ 1860 MHz; Calibrated: 3/26/2024

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1473; Calibrated: 3/18/2024

Phantom: ELI V6.0 (20deg probe tilt); Type: QD OVA 003 AA; Serial: 2033

DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Area Scan (7x11x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 1.93 W/kg

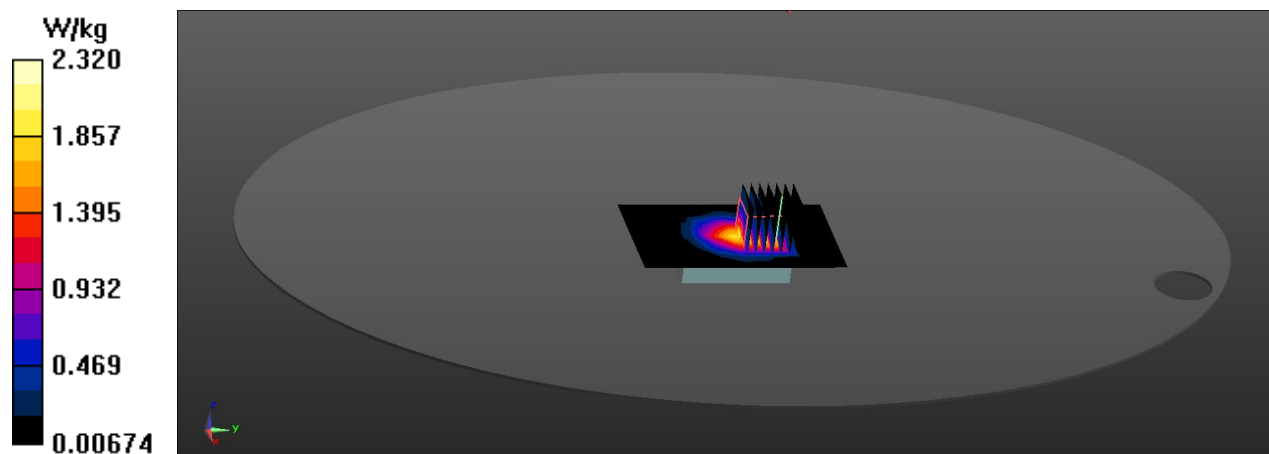
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 38.65 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.40 W/kg

SAR(1 g) = 1.54 W/kg; SAR(10 g) = 0.781 W/kg

Maximum value of SAR (measured) = 2.32 W/kg



Date: 11/24/2024

Test Laboratory: Intertek Service

LTE_band4 Front Side_CH 20300 1RB0

Communication System: UID 0, Generic LTE FDD (0); Frequency: 1745 MHz; Duty Cycle: 1:3.74973
Medium: 1750 Head Medium parameters used: $f = 1745$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 40.599$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0 °C; Liquid Temperature: 21.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN7322; ConvF(8.36, 8.36, 8.36) @ 1745 MHz; Calibrated: 3/26/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1473; Calibrated: 3/18/2024
- Phantom: SAM 1 V5.0 (30deg); Type: QD 000 P40 CD; Serial: 1888
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.78 W/kg

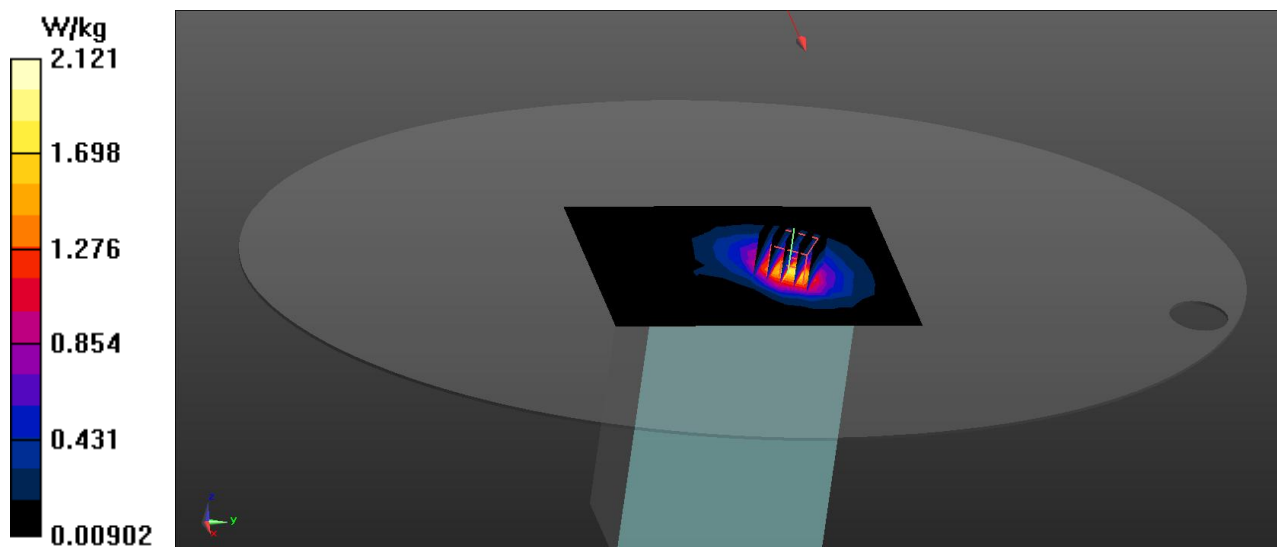
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.61 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 2.73 W/kg

SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.614 W/kg

Maximum value of SAR (measured) = 1.90 W/kg



Test Laboratory: Intertek Service

LTE_Band12 front Side_CH 39750 1RB

Communication System: UID 0, Generic LTE FDD (0); Frequency: 704 MHz; Duty Cycle: 1:3.74973
Medium: 750 Head Medium parameters used: $f = 704$ MHz; $\sigma = 0.852$ S/m; $\epsilon_r = 43.173$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.0 °C; Liquid Temperature: 21.5 °C

DASY Configuration:

- Probe: EX3DV4 - SN7322; ConvF(10.18, 10.18, 10.18) @ 704 MHz; Calibrated: 3/26/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1473; Calibrated: 3/18/2024
- Phantom: ELI V6.0 (20deg probe tilt); Type: QD OVA 003 AA; Serial: 2033
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.41 W/kg

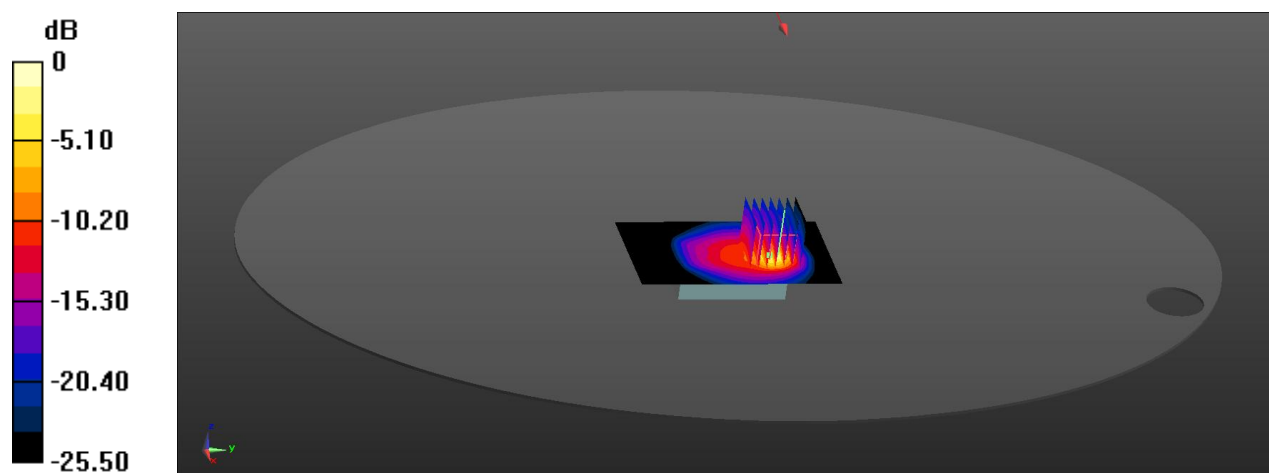
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.72 V/m; Power Drift = -0.67 dB

Peak SAR (extrapolated) = 7.79 W/kg

SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.363 W/kg

Maximum value of SAR (measured) = 3.45 W/kg



ANNEX D: SYSTEM VALIDATION

The SAR system must be validated against its performance specifications before it is deployed. When SAR probes, system components or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such components.

Justification for Extended SAR Dipole Calibrations

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss (≤ 20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Table D.1: Antenna Parameters with Body Tissue Simulating Liquid

Table D.1: System Validation Part 1

Dipole D750V2 SN: 1141				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	$\Delta\Omega$
2024-3-14	-29.9	-	51.9+2.62j	-

Dipole D1750V2 SN: 1138				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	$\Delta\Omega$
2024-11-06	-32.0	-	49.7+2.50j	-

Dipole D1900V2 SN: 5d203				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	$\Delta\Omega$
2024-11-04	-23.8	-	51.5+6.36j	-

Table D.2: System Validation Part 2

System No.	Probe SN.	Liquid name	Validation date	Frequency point	Permittivity ϵ	Conductivity σ (S/m)
1	1141	Head	2024-03-14	750 MHz	41.44	0.867
2	1138	Head	2024-11-06	1750MHz	41.11	1.384
4	5d203	Head	2024-11-04	1900MHz	41.02	1.410

Table D.3: System Validation Part 3

CW Validation	Sensitivity	PASS	PASS
	Probe linearity	PASS	PASS
	Probe Isotropy	PASS	PASS
Mod. Validation	MOD.type	QPSK	QPSK
	Duty factor	PASS	PASS
	PAR	PASS	PASS