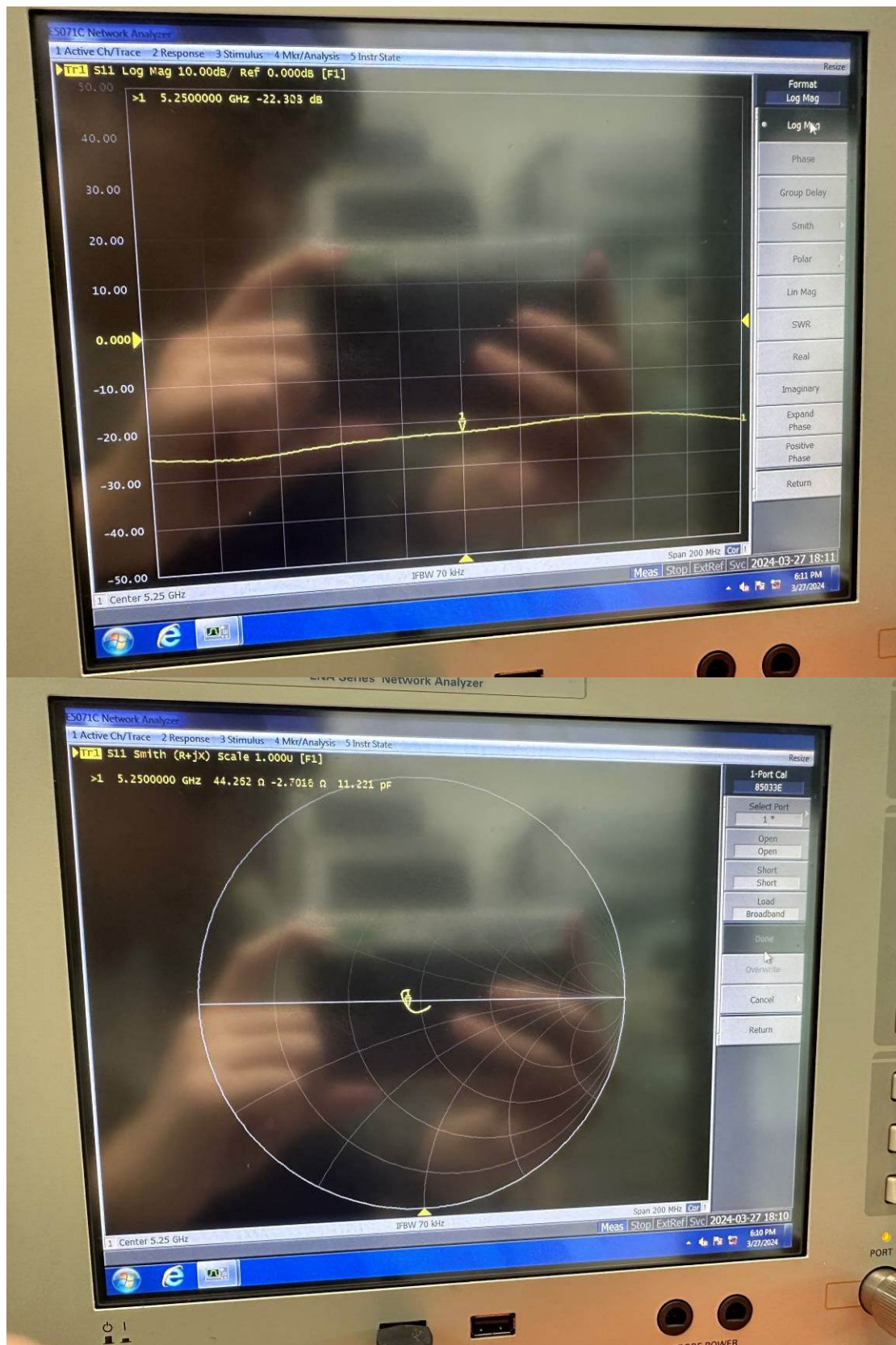
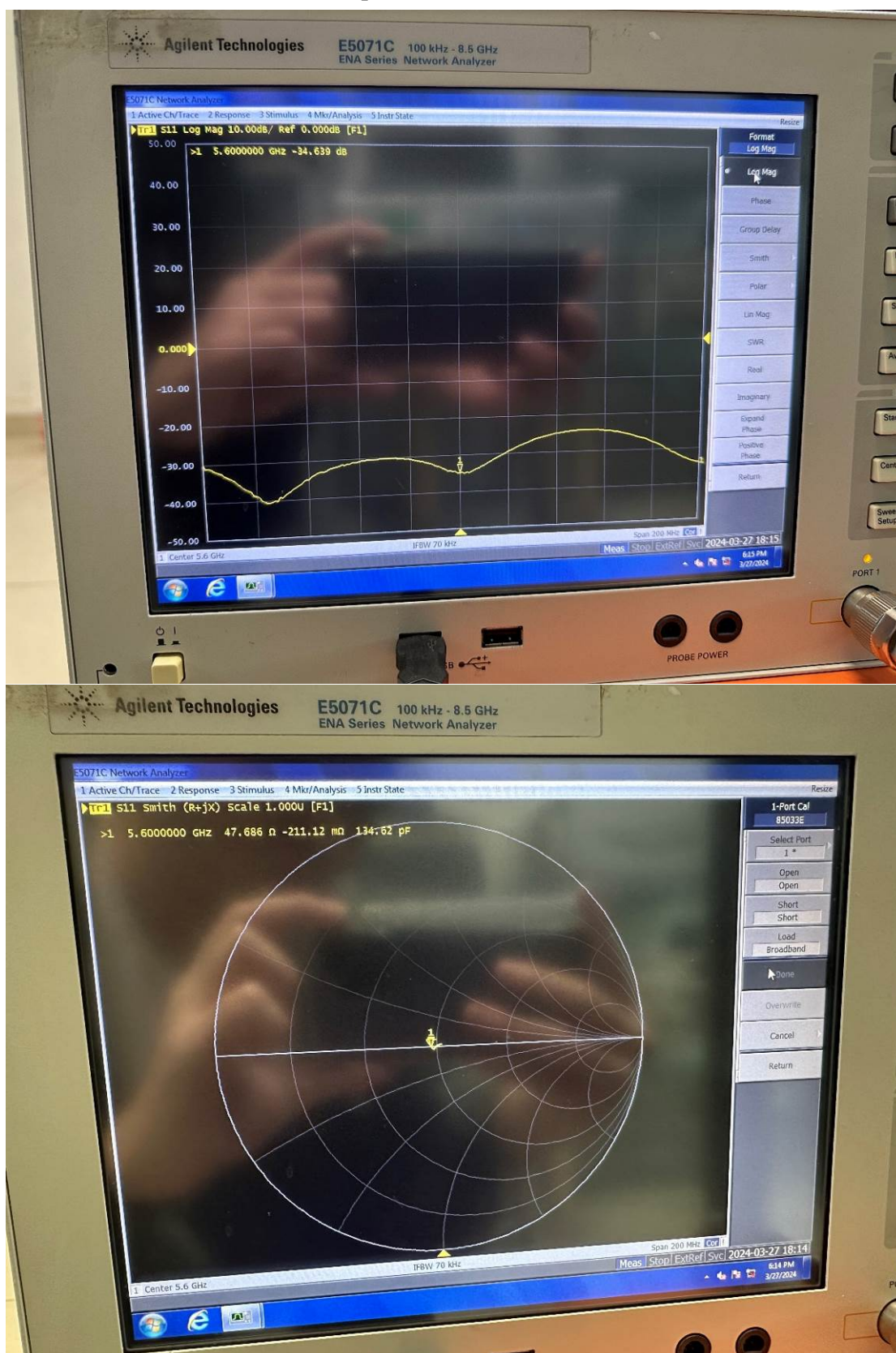
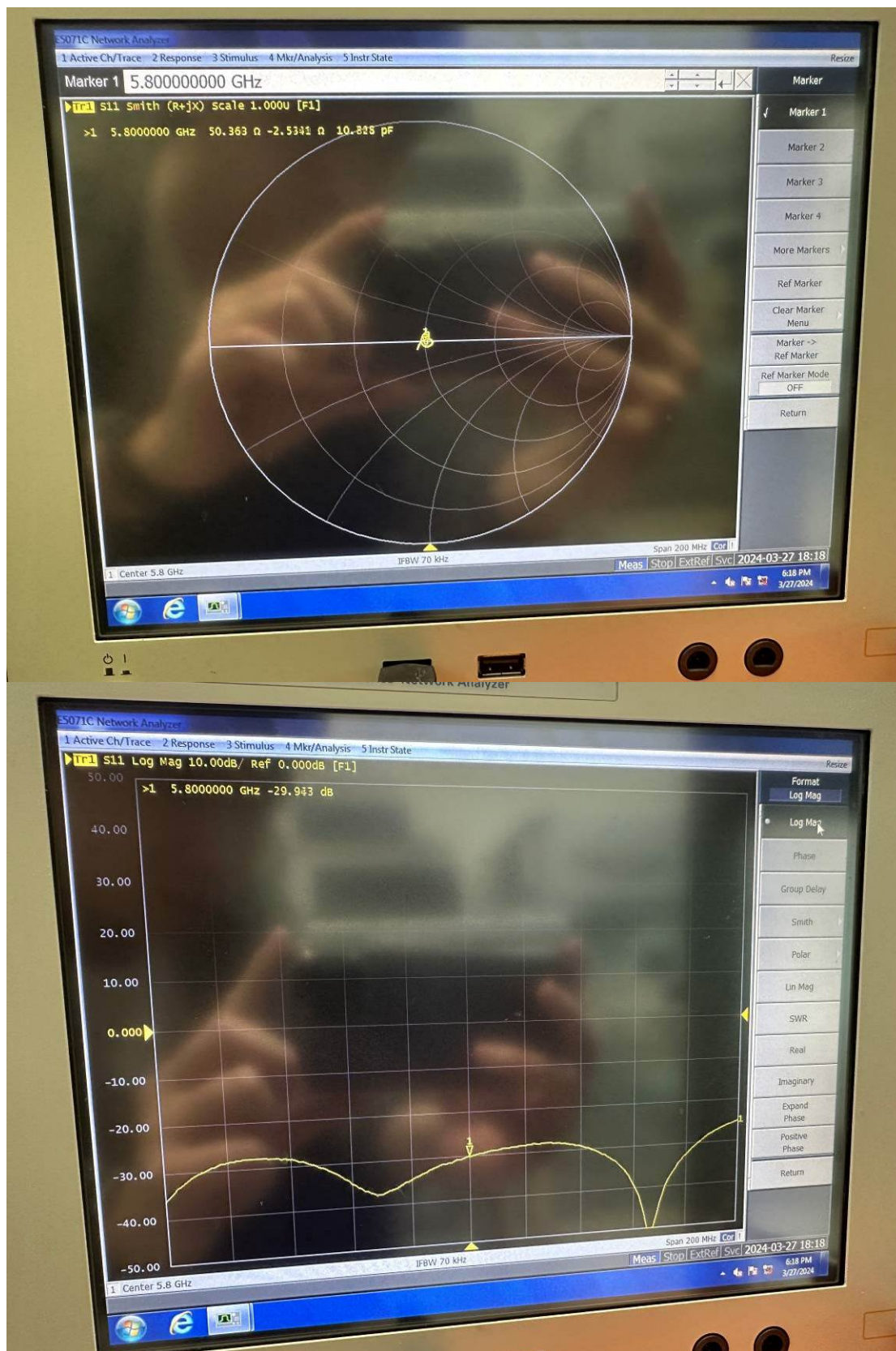


5. Test Plot & System Validation Data:**Dipole, 5250MHz, 1374**

Dipole, 5600MHz, 1374



Dipole, 5800MHz, 1374



System Performance 5250 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.65$ S/m; $\epsilon_r = 34.729$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7382; ConvF(5.62, 5.62, 5.62) @ 5250 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/27/2023
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5250MHz Pin=100mW/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 17.7 W/kg

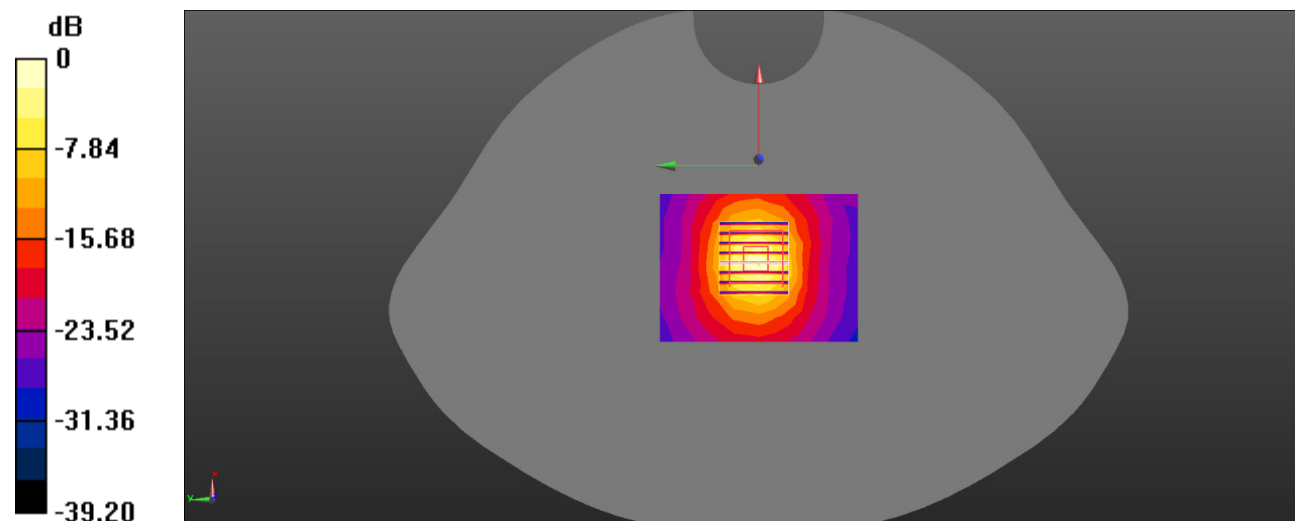
Configuration/Head 5250MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 44.86 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 28.0 W/kg

SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.41 W/kg

Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg = 12.67 dBW/kg

System Performance 5600 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.099$ S/m; $\epsilon_r = 35.785$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7382; ConvF(5.1, 5.1, 5.1) @ 5600 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/27/2023
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5600MHz Pin=100mW/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 18.9 W/kg

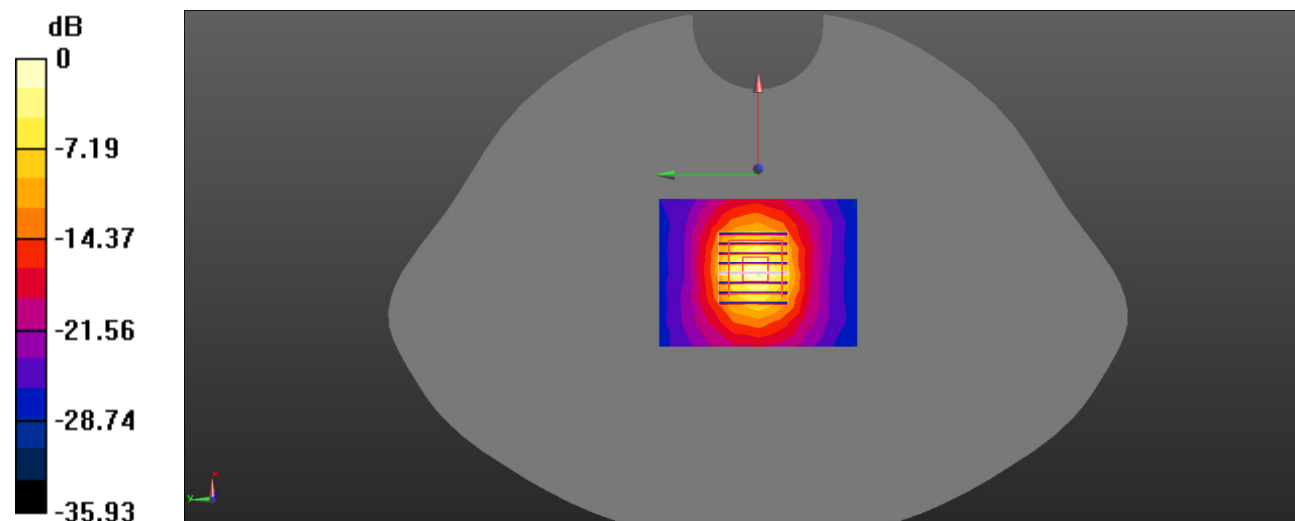
Configuration/Head 5600MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 42.74 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 28.6 W/kg

SAR(1 g) = 7.68 W/kg; SAR(10 g) = 2.23 W/kg

Maximum value of SAR (measured) = 17.7 W/kg



0 dB = 17.7 W/kg = 12.48 dBW/kg

System Performance 5800 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.233$ S/m; $\epsilon_r = 34.327$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7382; ConvF(5.08, 5.08, 5.08) @ 5800 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/27/2023
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5800MHz Pin=100mW/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 19.6 W/kg

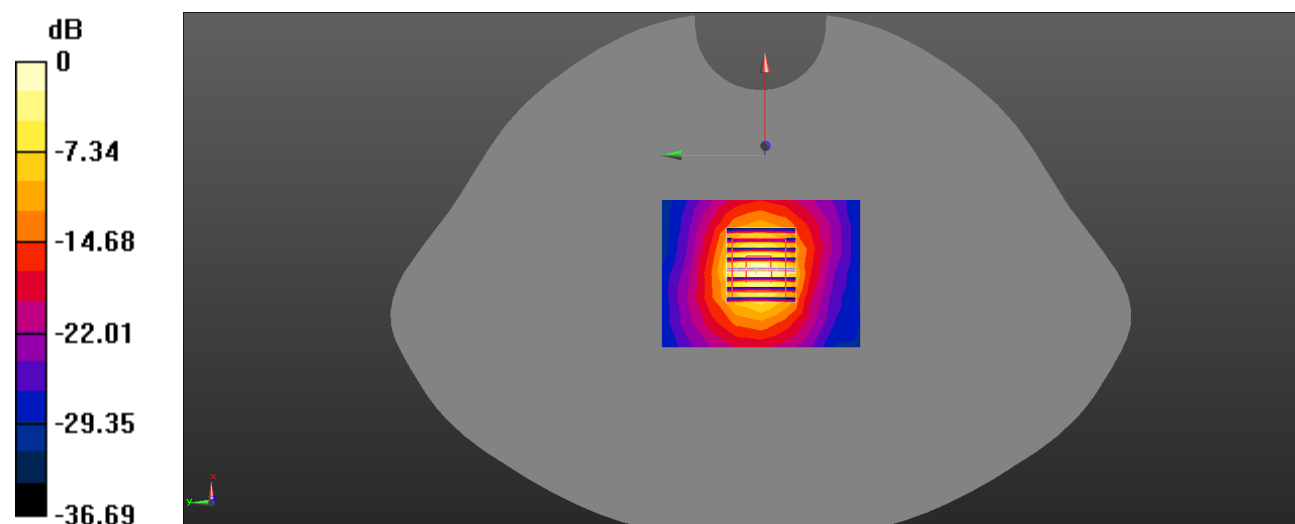
Configuration/Head 5800MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.74 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 31.8 W/kg

SAR(1 g) = 7.97 W/kg; SAR(10 g) = 2.32 W/kg

Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Performance Qualification Report For 5GHz SAR Dipole-2

Equipment Details:

Description: Dipole
Manufacturer: Speag
Model Number: D5GHzV2
Serial Number: 1374
Calibration Date: 2025/03/26

Calibration and Checked By:

Approved By:

Bob Lu

Luke Jiang

Bob Lu

Luke Jiang

1. Equipment List & Calibration Information:

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52 52.10.2	N/A	NCR	NCR
DASY6 Measurement Server	DASY6 6.0.31	N/A	NCR	NCR
Data Acquisition Electronics	DAE4	1325	2024/10/08	2025/10/07
Dosimetric E-field Probes	EX3DV4	7896	2024/11/07	2025/11/06
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
SAM Twin Phantom	SAM-Twin V8.0	1962	NCR	NCR
Simulated Tissue Liquid Head	HBBL600-10000V6	2200808-2	Each Time	
SAM Twin Phantom	SAM-Twin V8.0	1962	NCR	NCR
Network Analyzer	E5071C	SER MY46519680	2024/05/21	2025/05/20
Network Analyzer Calibration Kit	50 Ω	51026	NCR	NCR
MXG Analog Signal Generator	N5181A	MY48180408	2024/12/04	2025/12/03
Microwave peak power sensor	MA24418A	12622	NCR	NCR
USB wideband power sensor	U2021XA	MY52350001	2024/05/21	2025/05/20
20dBAttenuator	N/A	N/A	NCR	NCR
Directional Coupler	855673	3307	NCR	NCR

2. Standard Requirements:

Referring to KDB 865664 D01 3.3.2, for dipole calibration, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements:

- 1) When the measured SAR does not deviates from the calibrated SAR value by more than 10%.
- 2) When the most recent return-loss result, measured at least annually, does not deviate by more than 20% from the previous measurement or meeting the required 20 dB minimum return-loss requirement.
- 3) When the most recent measurement of the real or imaginary parts of the impedance, measured at least annually, does not deviate by more than 5 Ω from the previous measurement.

3. Environmental Conditions:

TSL Temperature:	18.2 ~ 19.6°C
Ambient Temperature:	18.8 ~ 20.7°C
Relative Humidity:	50 ~ 63%
ATM Pressure:	98.1 kPa
Test Date:	2025/03/26

4. Test Results:

Return Loss & Impedance Measurement Results:

Frequency (MHz)	Simulated Liquid	Parameter	Measured Value	Target Value	Deviation	Reference Range	Results
5250	Head	Return Loss	21.310 dB	23.781 dB	-10.391 %	$\pm 20\%$; $\geq 20\text{dB}$	Pass
		Real Impedance	49.591 Ω	45.776 Ω	3.815 Ω	$\leq 5 \Omega$	Pass
		Imaginary Impedance	-8.589 Ω	-4.545 Ω	4.044 Ω	$\leq 5 \Omega$	Pass
5600	Head	Return Loss	35.147 dB	35.868 dB	-2.010 %	$\pm 20\%$; $\geq 20\text{dB}$	Pass
		Real Impedance	45.173 Ω	43.421 Ω	1.752 Ω	$\leq 5 \Omega$	Pass
		Imaginary Impedance	-1.343 Ω	1.492 Ω	2.835 Ω	$\leq 5 \Omega$	Pass
5800	Head	Return Loss	25.866 dB	27.331 dB	-5.360 %	$\pm 20\%$; $\geq 20\text{dB}$	Pass
		Real Impedance	51.957 Ω	54.232 Ω	2.275 Ω	$\leq 5 \Omega$	Pass
		Imaginary Impedance	4.812 Ω	1.475 Ω	3.337 Ω	$\leq 5 \Omega$	Pass

Liquid Verification Results:

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ϵ_r	σ (S/m)	ϵ_r	σ (S/m)	$\Delta\epsilon_r$	$\Delta\sigma$	
5250	Simulated Tissue Liquid Head	34.761	4.617	35.95	4.71	-3.31	-1.97	± 5
5600	Simulated Tissue Liquid Head	35.202	5.116	35.50	5.07	-0.84	0.91	± 5
5800	Simulated Tissue Liquid Head	35.998	5.089	35.30	5.27	1.98	-3.43	± 5

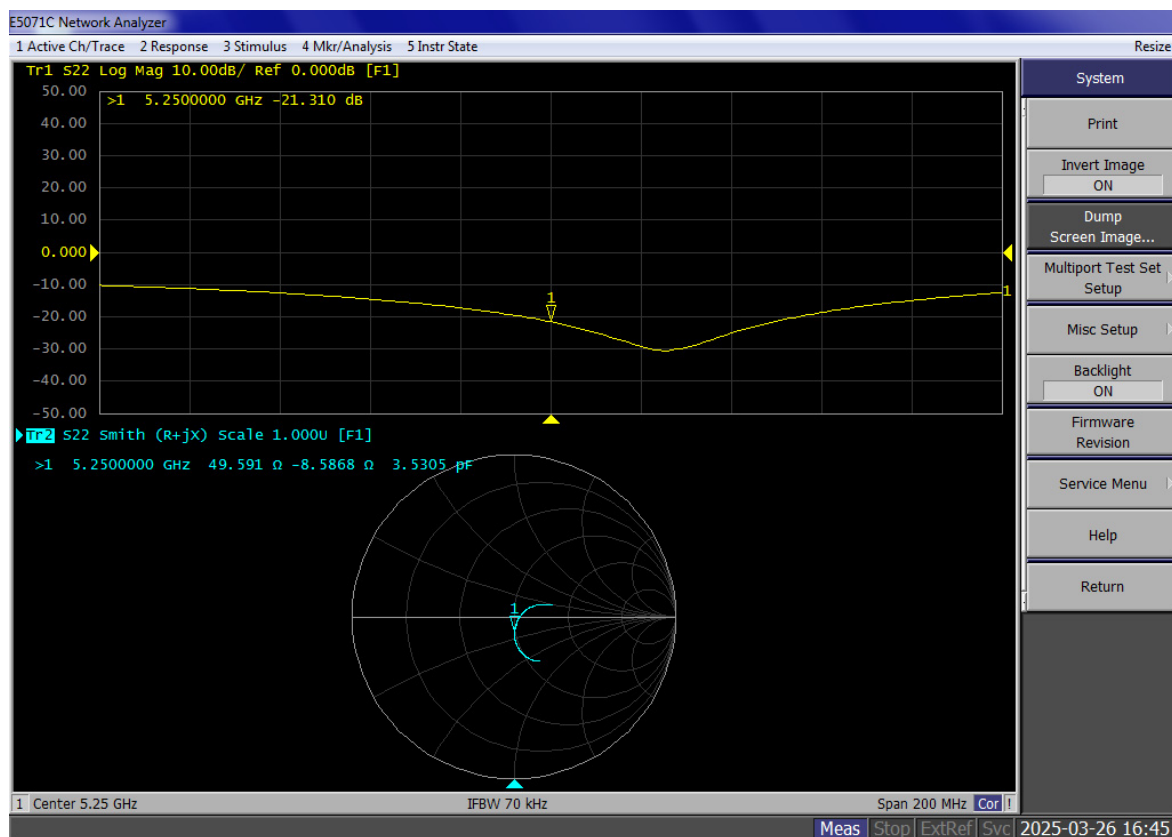
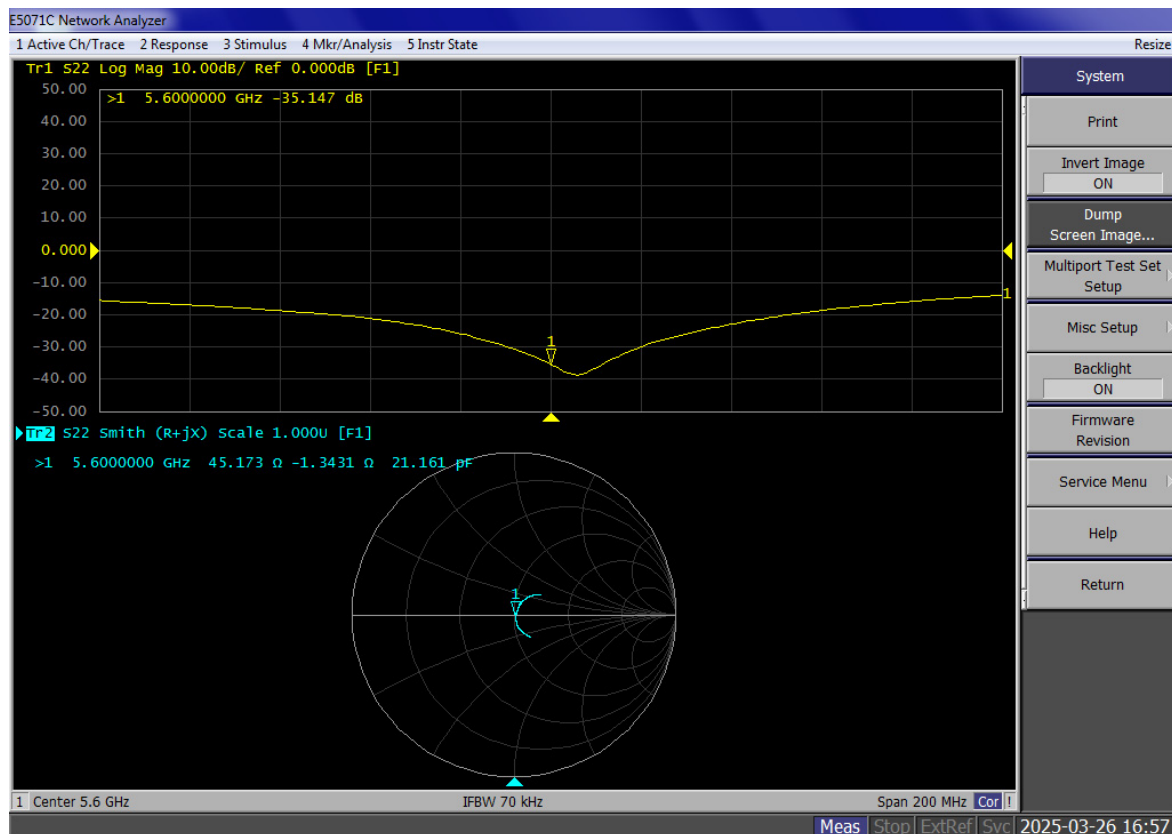
System Accuracy Check Results:

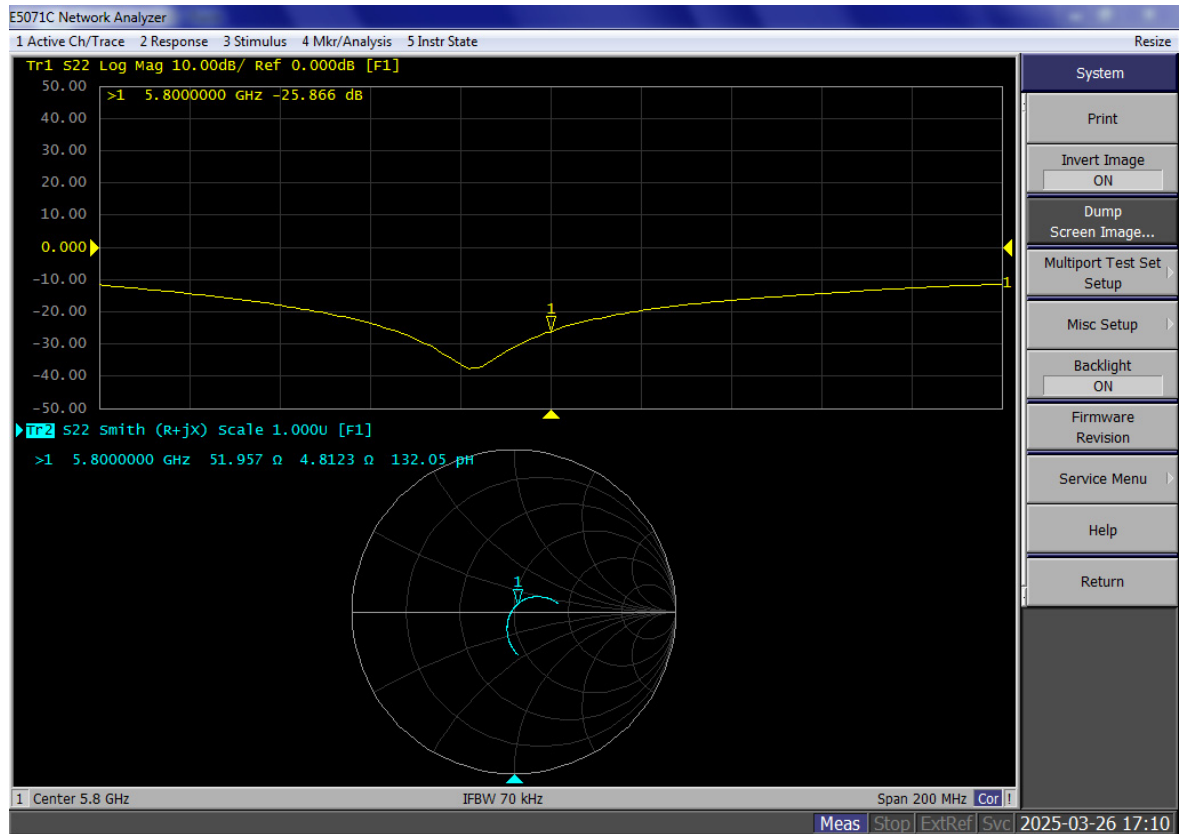
Frequency Band (MHz)	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/Kg)	Delta (%)	Tolerance (%)
5250	Head	100	1g	7.97	79.7	80.1	-0.499	±10
			10g	2.41	24.1	23.1	4.329	±10
5600	Head	100	1g	7.87	78.7	83.6	-5.861	±10
			10g	2.34	23.4	23.8	-1.681	±10
5800	Head	100	1g	8.38	83.8	81.4	2.948	±10
			10g	2.49	24.9	23.0	8.261	±10

Note:

1. Return Loss Deviation = (Measured-Target)/Target×100%

2. The target values above please refer to 5GHz dipole calibration certificate (Certificate No.: D5GHz-1374_Mar23), which was issued by SPEAG.

5. Test Plot & System Validation Data:**Dipole, 5250MHz, 1374****Dipole, 5600MHz, 1374**

Dipole, 5800MHz, 1374

System Performance 5250 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.617$ S/m; $\epsilon_r = 34.761$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(4.86, 5.09, 5.09) @ 5250 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 10/8/2024
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5250MHz Pin=100mW/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 18.5 W/kg

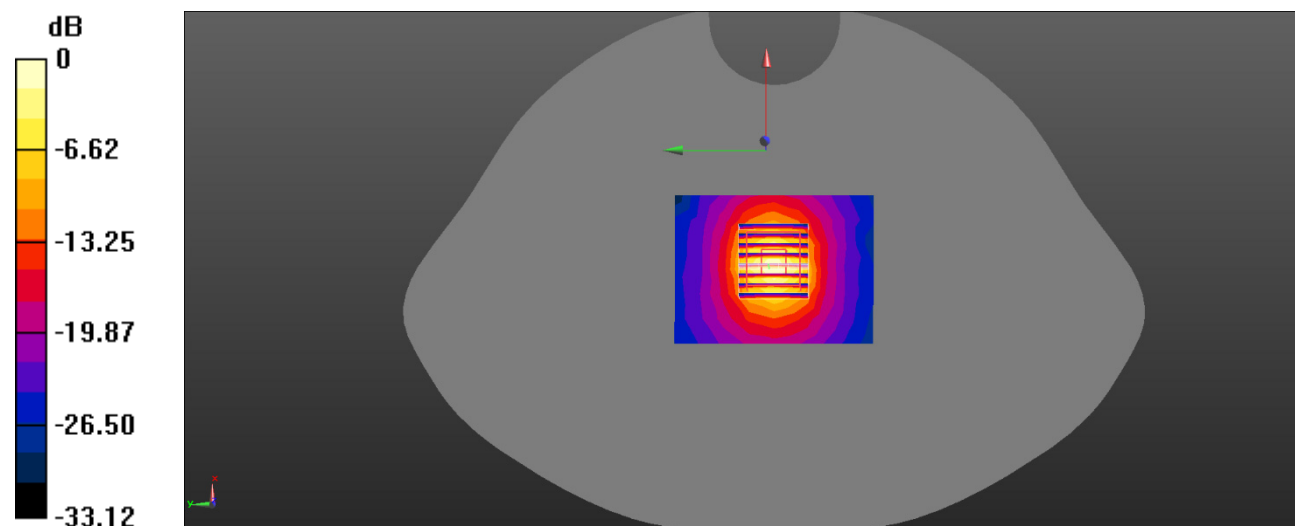
Configuration/Head 5250MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 46.17 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 26.8 W/kg

SAR(1 g) = 7.97 W/kg; SAR(10 g) = 2.41 W/kg

Maximum value of SAR (measured) = 17.0 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

System Performance 5600 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.116$ S/m; $\epsilon_r = 35.202$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(4.52, 4.74, 4.74) @ 5600 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 10/8/2024
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5600MHz Pin=100mW/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 18.5 W/kg

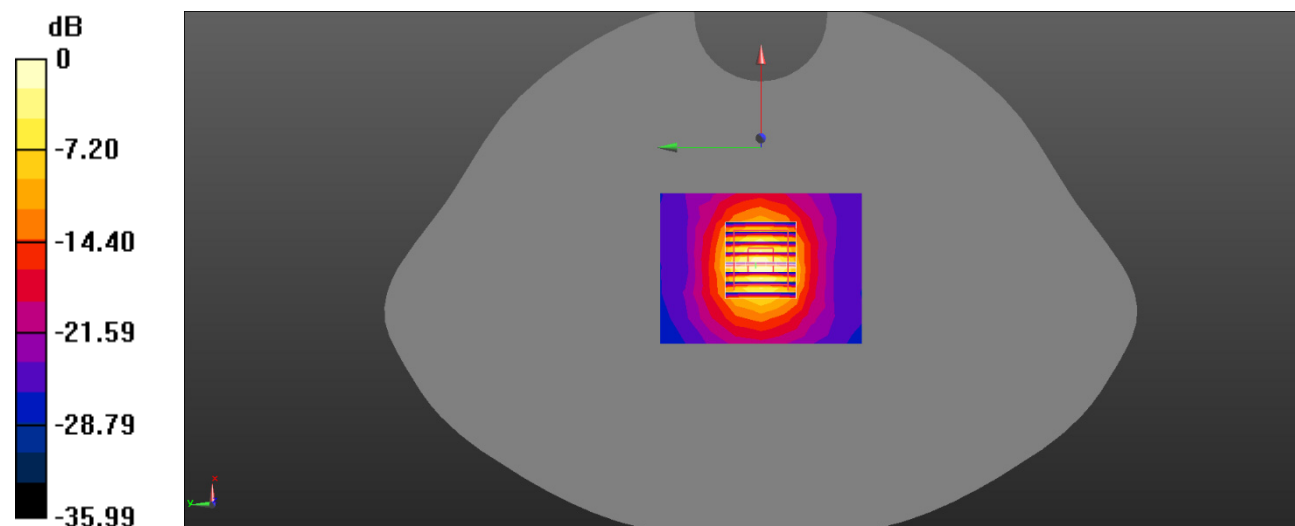
Configuration/Head 5600MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 42.29 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 7.87 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 17.3 W/kg



0 dB = 17.3 W/kg = 12.38 dBW/kg

System Performance 5800 MHz Head**DUT: Dipole D5GHz; Type: D5GHzV2; Serial: 1374**

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.089$ S/m; $\epsilon_r = 35.998$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(4.56, 4.78, 4.78) @ 5800 MHz;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 10/8/2024
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (2);

Configuration/Head 5800MHz Pin=100mW/Area Scan (11x13x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 19.7 W/kg

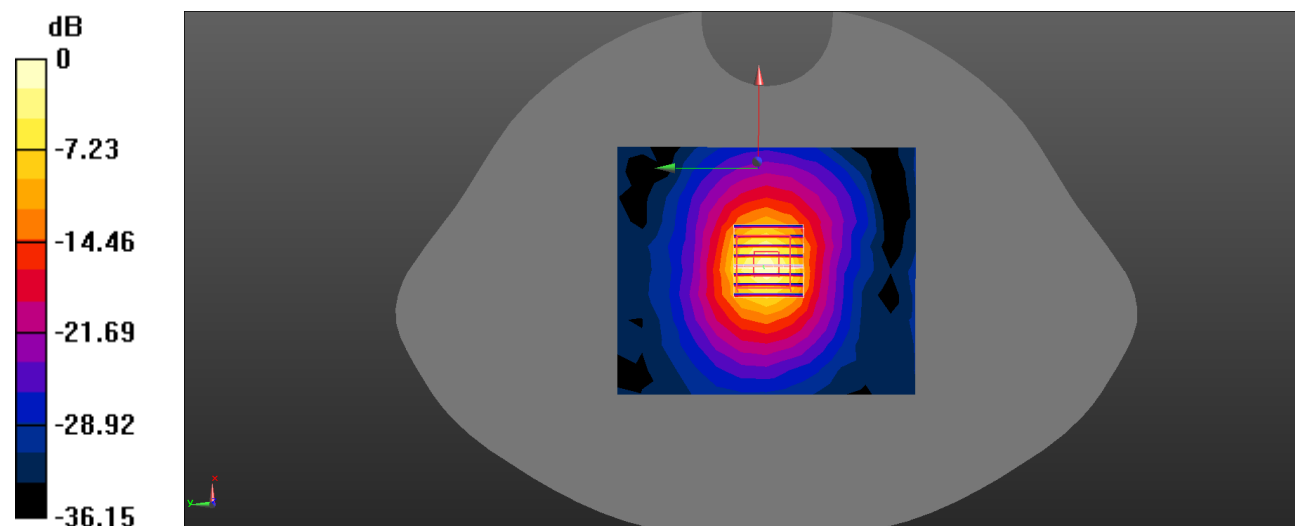
Configuration/Head 5800MHz Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 43.93 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 31.6 W/kg

SAR(1 g) = 8.38 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 19.6 W/kg

****** END OF REPORT ******