

System Performance Check Report

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]
D5GHzV2 – SN1396	5750	HSL	20

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	10	CW, 0--	5750, 0	4.93	5.08	35.3	

Hardware Setup

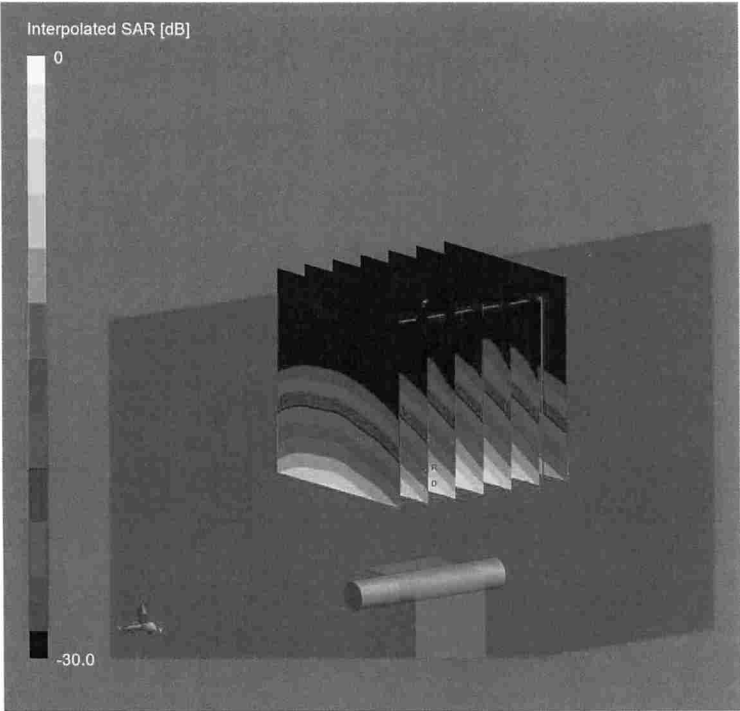
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
MFP V8.0 Center	HSL, 2024-11-15	EX3DV4 – SN7349, 2024-06-03	DAE4ip Sn1836, 2024-10-28

Scans Setup

	Zoom Scan
Grid Extents [mm]	22 x 22 x 22
Grid Steps [mm]	4.0 x 4.0 x 1.4
Sensor Surface [mm]	1.4
Graded Grid	Yes
Grading Ratio	1.4
MAIA	N/A
Surface Detection	VMS + 6p
Scan Method	Measured

Measurement Results

	Zoom Scan
Date	2024-11-15
psSAR1g [W/Kg]	8.01
psSAR10g [W/Kg]	2.28
Power Drift [dB]	0.00
Power Scaling	Disabled
Scaling Factor [dB]	
TSL Correction	Positive / Negative



0 dB = 35.6 W/Kg

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Flat	10	CW, 0--		5850, 0	4.96	5.18	35.2

Hardware Setup

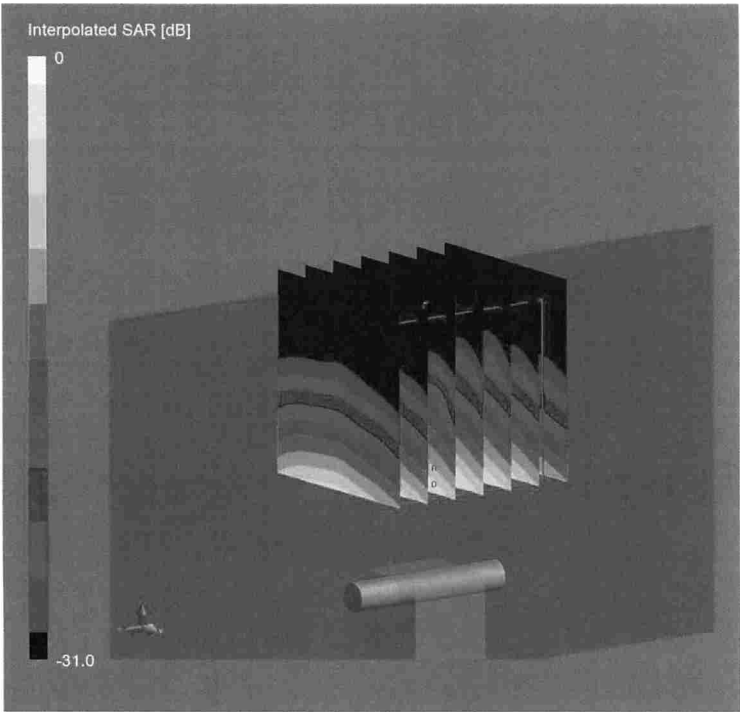
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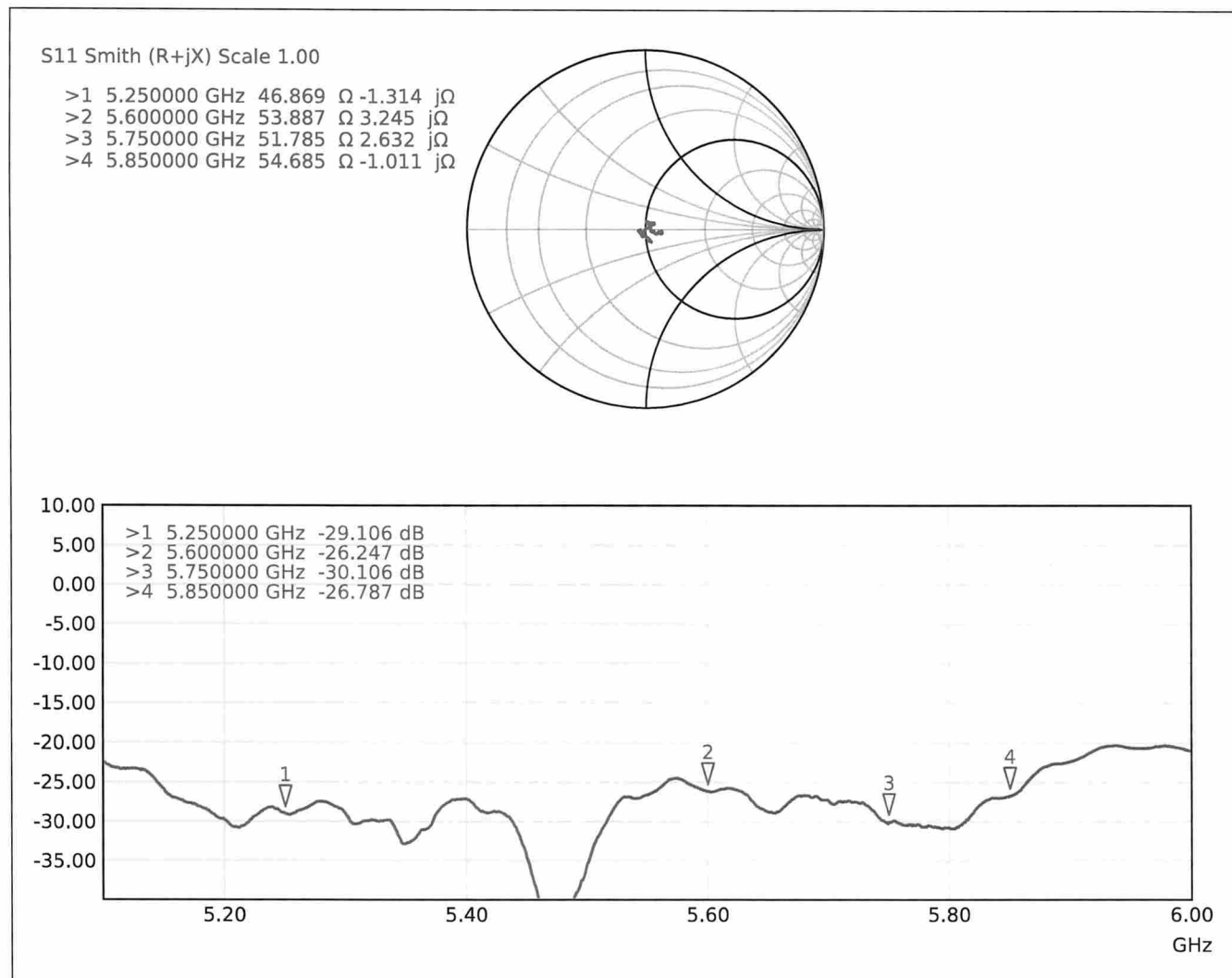
Measurement Results

	Zoom Scan
Date	2024-11-15
psSAR1g [W/Kg]	7.69
psSAR10g [W/Kg]	2.20
Power Drift [dB]	0.00
Power Scaling	Disabled
Scaling Factor [dB]	
TSL Correction	Positive / Negative



0 dB = 34.8 W/Kg

Impedance Measurement Plot for Head TSL



IN-HOUSE SAR VERIFICATION SOURCE CALIBRATION EXTENSION

Object: D5GHzV2 – SN: 1396
Description: SAR Validation Dipole at 5250, 5600, 5750, and 5850 MHz
Procedure (s): Procedure for SAR Verification Source Calibration Extension
In-house Check Date: 07/30/2025

Equipment List

Manufacturer	Model	Description	Serial Number	Calibration Date	Calibration Due	CBT
Rohde & Schwarz	ZNL20	Vector Network Analyzer	101202	9/12/2024	9/12/2025	
Rohde & Schwarz	ZN-Z135	Calibration Kit	5000-309192839	10/31/24	10/31/26	
Control Company	4040	Ambient Thermometer	230581657	8/28/2023	8/28/2025	
Control Company	4040	Ambient Thermometer	230581662	8/28/2023	8/28/2025	
Control Company	4352	Long Stem Liquid Thermometer	230662223	9/28/2023	9/28/2025	
Control Company	4352	Long Stem Liquid Thermometer	230662212	9/28/2023	9/28/2025	
Micro-Coax	UFB205A-0-0240-30x30	SMA M-F RF test Cable (DC - 18 GHz)	-			✓
Maury-Micro	360D	10dB RF Fixed Attenuator (DC - 18 GHz) + Short Circuit Termination	7799	12/28/2024	12/28/2025	
Huber+Suhner	SF126	High Performance RF Cable	570292/126			✓
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1839	9/4/2024	9/4/2025	
SPEAG	DAK-3.5	DAK-3.5 Dielectric Probe	1349	9/2/2024	9/2/2025	
SPEAG	EX3DV4	SAR Measurement Probe	7836	9/12/2024	9/12/2025	
SPEAG	Powersource1	Signal Generator	4341	1/9/2025	1/9/2026	

CBT: Components calibrated before testing. Prior to testing, the measurement paths containing a cable, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator, power sensor, or VNA) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

Measurement Uncertainty = $\pm 27\%$ (k=2)

	Name	Function	Signature
Tested By:	Yue Li	Engineer	
Approved By:	Phuong Nguyen	Technical Manager	



Per FCC KDB Publication 865664 D01, dipole can have longer calibration intervals of up to three years when it is demonstrated that the SAR target, impedance and return loss of the dipole have remained stable according to the following requirements:

1. Measured SAR does not deviate from the calibrated SAR value by more than 10%.
2. Return loss does not deviate by more than 20% from the previous measurement (i.e. value in dB x 0.2) and meet the required minimum return-loss.
3. Real and imaginary part of the impedance do not deviate by more than 5 Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have an extended calibration interval:

Dipole SN	Freq (MHz)	In-house Check Date	Cal Date	Head SAR target (1g) @ 30dBm (W/kg)	Measured Head SAR (1g) @ 17dBm (W/kg)	1g SAR Dev (%)	Head SAR target (10g) @ 30dBm (W/kg)	Measured Head SAR (10g) @ 17dBm (W/kg)	10g SAR Dev (%)	Cert Head Impedance (Ohm) - Real	Previous Head Impedance (Ohm) - Real	Measured Head Impedance (Ohm) - Real	Head Impedance Deviation (Ohm) - Real	Cert Head Impedance (Ohm) - Imaginary	Previous Head Impedance (Ohm) - Imaginary	Measured Head Impedance (Ohm) - Imaginary	Head Impedance Deviation (Ohm) - Imaginary	Cert Head Return Loss (dB)	Previous Head Return Loss (dB)	Measured Head Return Loss (dB)	Return Loss Dev (%)	PASS/FAIL	Note
1396	5250	11/21/2024	11/15/2024							46.9	46.9	46.8	-0.1	-1.3	-1.3	-0.2	1.1	-29.1	-29.1	-29.5	-8.91%	PASS	In-house check after Calibration
1396	5600	11/21/2024	11/15/2024							53.9	53.9	53.3	-0.6	3.2	3.2	4.1	0.9	-26.2	-26.2	-25.9	7.60%	PASS	In-house check after Calibration
1396	5750	11/21/2024	11/15/2024							51.8	51.8	51.9	0.1	2.6	2.6	2.5	-0.1	-30.1	-30.1	-30.2	-2.27%	PASS	In-house check after Calibration
1396	5850	11/21/2024	11/15/2024							54.7	54.7	54.2	-0.5	-1.0	-1.0	-2.1	-1.1	-26.8	-26.8	-26.9	-1.76%	PASS	In-house check after Calibration
1396	5250	7/30/2025	11/15/2024	77.9	3.77	-3.44%	22.4	1.07	-4.69%	46.9	46.8	47.7	0.9	-1.3	-0.2	-2.5	-2.3	-29.1	-29.5	-29.1	10.90%	PASS	-
1396	5600	7/30/2025	11/15/2024	81.1	4.07	0.13%	23.3	1.15	-1.52%	53.9	53.3	52.8	-0.5	3.2	4.1	4.4	0.3	-26.2	-25.9	-25.9	-0.97%	PASS	-
1396	5750	7/30/2025	11/15/2024	80.1	3.79	-5.59%	22.8	1.08	-5.49%	51.8	51.9	52.7	0.8	2.6	2.5	1.9	-0.6	-30.1	-30.2	-29.9	7.42%	PASS	-
1396	5850	7/30/2025	11/15/2024	76.9	3.96	2.75%	22	1.12	1.58%	54.7	54.2	54.2	0.0	-1.0	-2.1	-3.8	0.3	-26.8	-26.9	-27.1	-4.66%	PASS	-



Impedance and Return-Loss Measurement Plot for Head TSL

