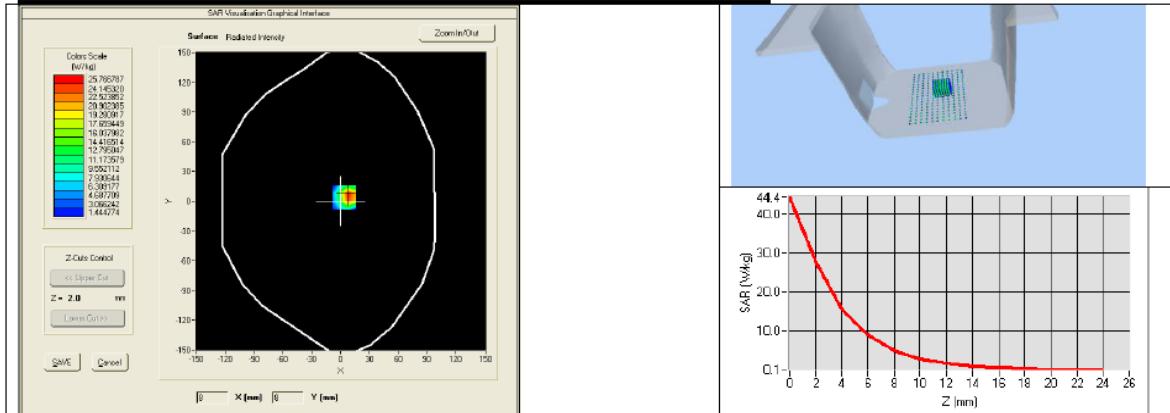




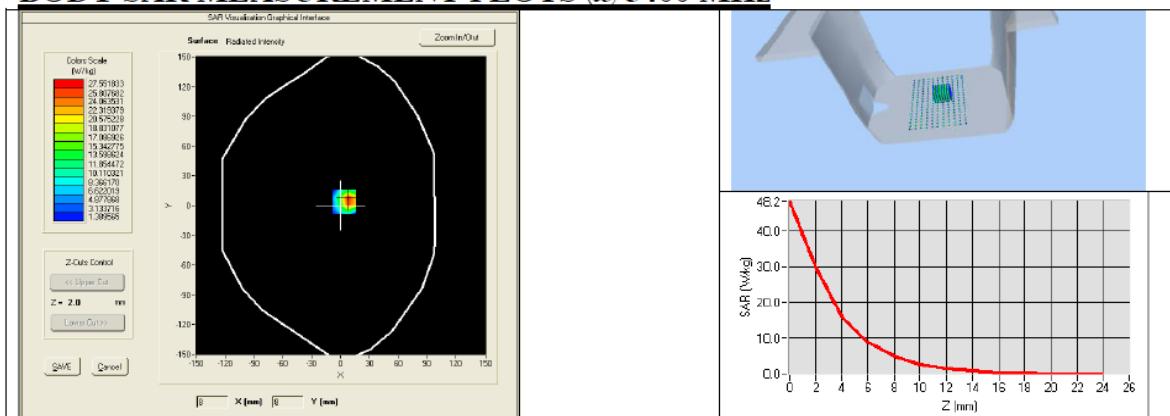
SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

Ref: ACR.256.12.15.SATU.A

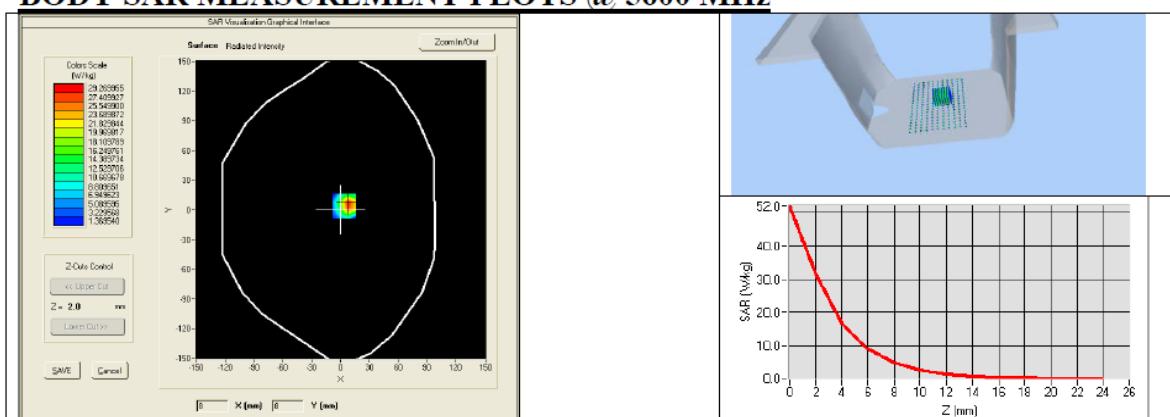
BODY SAR MEASUREMENT PLOTS @ 5200 MHz



BODY SAR MEASUREMENT PLOTS @ 5400 MHz



BODY SAR MEASUREMENT PLOTS @ 5600 MHz



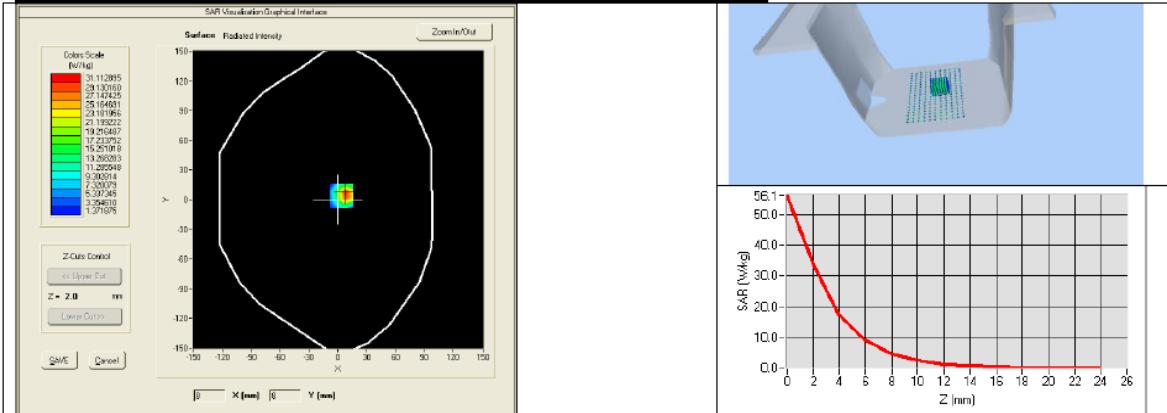


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BODY SAR MEASUREMENT PLOTS @ 5800 MHz



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8 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
Flat Phantom	MVG	SN-20/09-SAM71	Validated. No cal required.	Validated. No cal required.
COMOSAR Test Bench	Version 3	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rhode & Schwarz ZVA	SN100132	02/2024	02/2025
Calipers	Carrera	CALIPER-01	01/2024	01/2025
Reference Probe	MVG	EPG122 SN 18/11	10/2023	10/2024
Multimeter	Keithley 2000	1188656	01/2024	01/2025
Signal Generator	Agilent E4438C	MY49070581	01/2024	01/2025
Amplifier	Aethercomm	SN 046	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	HP E4418A	US38261498	01/2024	01/2025
Power Sensor	HP ECP-E26A	US37181460	01/2024	01/2025
Directional Coupler	Narda 4216-20	01386	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Temperature and Humidity Sensor	Control Company	150798832	10/2023	10/2024

Appendix E: SAR SYSTEM VALIDATION

Per FCC KDB 865664 D02v01, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB 865664 D01 v01 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

SAR System Validation Summary

Date	Freq. [MHz]	Probe S/N	Tissu e type	COND. PERM.	COND. PERM.	CW Validation			Mod. Validation		
				(σ)	(εr)	sensitivity	Probe linearity	Probe isotropy	Mod. type	Duty factor	Peak to average power ratio
09/09/2024	835	SN 25/22 EPM 375	Head	42.3	0.89	PASS	PASS	PASS	GMSK	PASS	N/A
09/09/2024	1800	SN 25/22 EPM 375	Head	40.57	1.36	PASS	PASS	PASS	GMSK	PASS	N/A
09/09/2024	1900	SN 25/22 EPM 375	Head	40.31	1.38	PASS	PASS	PASS	GMSK	PASS	N/A
09/09/2024	2450	SN 25/22 EPM 375	Head	38.99	1.88	PASS	PASS	PASS	OFDM	PASS	N/A
09/09/2024	5G	SN 25/22 EPM 375	Head	36.68	4.45 ~ 5.08	PASS	PASS	PASS	OFDM	PASS	N/A

NOTE: While the probes have been calibrated for both a CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as OFDM according to KDB 865664.

Appendix F: The Check Data of Impedance and Return Loss

The information are included in the SAR report to qualify for the three-year extended calibration interval;

Impedance in head liquid							Date: 09/09/2024
Freq. (MHz)	Temp (°C)	Dipole Impedance Re(z)			Dipole Impedance Im(z)		
		measured	Target	△ (±5Ω)	measured	Target	△ (±5Ω)
835	22	52.30	51.60	0.7	2.30	1.70	0.6
1800	22	46.50	48.60	-2.1	0.60	-0.50	1.1
1900	22	50.30	51.70	-1.4	4.20	4.90	-0.7
2450	22	45.90	46.50	-0.6	-0.36	-0.20	-0.1
5G	22	36.06	35.30	0.76	4.44	5.27	-0.83

Return loss in head liquid							Date: 09/09/2024
Freq. (MHz)	Temp (°C)	Return loss(dB)					
		measured	Target	△ (±20%)			
835	22	-30.35	-32.78		-7.41		
1800	22	-37.89	-36.92		2.63		
1900	22	-24.33	-25.64		-5.11		
2450	22	-30.95	-29.05		6.54		
5G	22	-21.87	-22.80		0.93		

liquid	Freq. (MHz)	Temp (°C)	εr / relative permittivity			σ(s/m) / conductivity			ρ (kg/m3)
			measured	Target	△ (±5%)	measured	Target	△ (±5%)	
Head	835	22	42.30	41.50	1.93	0.89	0.90	-1.11	1000
	1800	22	40.50	40.00	1.25	1.36	1.40	-2.86	1000
	1900	22	40.31	40.00	0.78	1.38	1.40	-1.43	1000
	2450	22	38.99	39.20	-0.54	1.88	1.80	4.44	1000
	5G	22	36.06	35.30	0.76	4.44	5.27	-0.83	1000

Test Equipment	Manufacturer	Model	Serial Number	Calibration	
				Calibration Date (D.M.Y)	Calibration Due (D.M.Y)
Signal Generator	Agilent	N5182A	MY47070282	Jul. 04, 2024	Jul. 03, 2025
Multimeter	Keithley	Multimeter 2000	4078275	Jul. 04, 2024	Jul. 03, 2025
Network Analyzer	Agilent	8753E	US38432457	Jul. 04, 2024	Jul. 03, 2025
Power Meter	Agilent	E4418B	GB43312526	Jul. 04, 2024	Jul. 03, 2025
Power Sensor	Agilent	E9301A	MY41497725	Jul. 04, 2024	Jul. 03, 2025
Power Amplifier	PE	PE15A4019	112342	N/A	N/A
Temperature / Humidity Sensor	Control company	TH101B	152470214	Jul. 04, 2024	Jul. 03, 2025

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

