

APPENDIX F: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, 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 Publication 865664 D01v01r04 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.

**Table F-1
SAR System Validation Summary – 1g**

SAR System	Freq. (MHz)	Date	Probe SN	DAE	Probe Cal Point		Cond. (σ)	Perm. (ε _r)	CW VALIDATION			MOD. VALIDATION		
									SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM8	750	04/03/2023	7421	604	750	Head	0.867	43.219	PASS	PASS	PASS	N/A	N/A	N/A
AM10	835	02/03/2023	3746	1237	835	Head	0.917	41.190	PASS	PASS	PASS	GMSK	PASS	N/A
AM9	835	02/21/2023	7427	1403	835	Head	0.918	42.476	PASS	PASS	PASS	GMSK	PASS	N/A
AM10	1750	02/01/2023	3746	1237	1750	Head	1.344	39.058	PASS	PASS	PASS	N/A	N/A	N/A
AM4	1900	01/09/2023	7490	1644	1900	Head	1.439	38.968	PASS	PASS	PASS	GMSK	PASS	N/A
AM9	2450	02/28/2023	7427	1403	2450	Head	1.870	39.800	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM7	2450	05/25/2023	7532	501	2450	Head	1.866	39.839	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM7	2600	05/25/2023	7532	501	2600	Head	1.993	39.636	PASS	PASS	PASS	TDD	PASS	N/A
AM1	5250	11/07/2022	7420	1333	5250	Head	4.606	34.600	PASS	PASS	PASS	OFDM	N/A	PASS
AM1	5600	11/07/2022	7420	1333	5600	Head	4.980	34.000	PASS	PASS	PASS	OFDM	N/A	PASS
AM1	5750	11/07/2022	7420	1333	5750	Head	5.170	33.700	PASS	PASS	PASS	OFDM	N/A	PASS

**Table F-2
SAR System Validation Summary – 10g**

SAR System	Freq. (MHz)	Date	Probe SN	DAE	Probe Cal Point		Cond. (σ)	Perm. (ε _r)	CW VALIDATION			MOD. VALIDATION		
									SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
AM8	750	04/03/2023	7421	604	750	Head	0.867	43.219	PASS	PASS	PASS	N/A	N/A	N/A
AM6	750	04/04/2023	7638	1408	750	Head	0.880	43.500	PASS	PASS	PASS	N/A	N/A	N/A
AM10	835	02/03/2023	3746	1237	835	Head	0.917	41.190	PASS	PASS	PASS	GMSK	PASS	N/A
AM6	835	05/25/2023	7638	1408	835	Head	0.889	42.058	PASS	PASS	PASS	GMSK	PASS	N/A
AM10	1750	02/01/2023	3746	1237	1750	Head	1.344	39.058	PASS	PASS	PASS	N/A	N/A	N/A
AM4	1900	01/09/2023	7490	1644	1900	Head	1.439	38.968	PASS	PASS	PASS	GMSK	PASS	N/A
AM1	2450	11/09/2022	7420	1333	2450	Head	1.820	38.300	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM2	2450	03/28/2023	7308	467	2450	Head	1.794	38.973	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM7	2450	05/25/2023	7532	501	2450	Head	1.866	39.839	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
AM7	2600	05/25/2023	7532	501	2600	Head	1.993	39.636	PASS	PASS	PASS	TDD	PASS	N/A
AM1	5250	11/07/2022	7420	1333	5250	Head	4.606	34.600	PASS	PASS	PASS	OFDM	N/A	PASS
AM1	5600	11/07/2022	7420	1333	5600	Head	4.980	34.000	PASS	PASS	PASS	OFDM	N/A	PASS
AM1	5750	11/07/2022	7420	1333	5750	Head	5.170	33.700	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both 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 D01v01r04 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 GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04

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