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	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
K2	750	04/04/2022	7640	750	Head	0.914	41.639	PASS	PASS	PASS	N/A	N/A	N/A
K2	835	03/31/2022	7640	835	Head	0.941	41.153	PASS	PASS	PASS	GMSK	PASS	N/A
K2	1750	04/04/2022	7640	1750	Head	1.371	39.708	PASS	PASS	PASS	N/A	N/A	N/A
K2	1900	04/04/2022	7640	1900	Head	1.462	39.493	PASS	PASS	PASS	GMSK	PASS	N/A
E	2450	12/10/2021	7538	2450	Head	1.855	39.540	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
P	2450	01/18/2022	7410	2450	Head	1.872	38.651	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
P	2450	07/12/2022	7409	2450	Head	1.757	39.544	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
P	2600	07/12/2022	7409	2600	Head	1.933	39.030	PASS	PASS	PASS	TDD	PASS	N/A
O	5250	03/18/2022	7417	5250	Head	4.856	36.094	PASS	PASS	PASS	OFDM	N/A	PASS
O	5600	03/21/2022	7417	5600	Head	5.206	34.462	PASS	PASS	PASS	OFDM	N/A	PASS
O	5750	03/21/2022	7417	5750	Head	5.388	34.210	PASS	PASS	PASS	OFDM	N/A	PASS
O	5800	03/21/2022	7417	5800	Head	5.448	34.106	PASS	PASS	PASS	OFDM	N/A	PASS
K3	750	02/22/2022	7565	750	Body	0.947	55.511	PASS	PASS	PASS	N/A	N/A	N/A
K1	835	10/21/2021	7558	835	Body	1.002	53.813	PASS	PASS	PASS	GMSK	PASS	N/A
K3	835	02/22/2022	7565	835	Body	0.981	55.336	PASS	PASS	PASS	GMSK	PASS	N/A
K2	835	03/19/2022	7640	835	Body	1.004	54.002	PASS	PASS	PASS	GMSK	PASS	N/A
K2	1750	03/19/2022	7640	1750	Body	1.482	52.518	PASS	PASS	PASS	N/A	N/A	N/A
K3	1900	02/23/2022	7565	1900	Body	1.588	53.030	PASS	PASS	PASS	GMSK	PASS	N/A
S	2450	01/25/2022	7552	2450	Body	2.016	52.250	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2450	03/15/2022	7538	2450	Body	2.012	50.996	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
O	2450	03/23/2022	7417	2450	Body	1.986	52.109	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K2	2450	03/30/2022	7640	2450	Body	2.018	51.437	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
S	2600	01/25/2022	7552	2600	Body	2.147	51.997	PASS	PASS	PASS	TDD	PASS	N/A
K2	2600	03/30/2022	7640	2600	Body	2.154	51.196	PASS	PASS	PASS	TDD	PASS	N/A
O	5250	03/10/2022	7417	5250	Body	5.470	48.210	PASS	PASS	PASS	OFDM	N/A	PASS
O	5600	03/10/2022	7417	5600	Body	5.973	47.490	PASS	PASS	PASS	OFDM	N/A	PASS
O	5750	03/11/2022	7417	5750	Body	6.190	47.228	PASS	PASS	PASS	OFDM	N/A	PASS
O	5800	03/14/2022	7417	5800	Body	6.279	46.756	PASS	PASS	PASS	OFDM	N/A	PASS

Table F-2
SAR System Validation Summary – 10g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
G	13	06/09/2022	7527	13	Head	0.762	52.537	PASS	PASS	PASS	N/A	N/A	N/A
K1	750	10/21/2021	7558	750	Body	0.968	54.027	PASS	PASS	PASS	N/A	N/A	N/A
K3	750	02/22/2022	7565	750	Body	0.947	55.511	PASS	PASS	PASS	N/A	N/A	N/A
K1	835	10/21/2021	7558	835	Body	1.002	53.813	PASS	PASS	PASS	GMSK	PASS	N/A
K2	835	03/19/2022	7640	835	Body	1.004	54.002	PASS	PASS	PASS	GMSK	PASS	N/A
K2	1750	03/19/2022	7640	1750	Body	1.482	52.518	PASS	PASS	PASS	N/A	N/A	N/A
K3	1900	02/23/2022	7565	1900	Body	1.588	53.030	PASS	PASS	PASS	GMSK	PASS	N/A
S	2450	01/25/2022	7552	2450	Body	2.016	52.250	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
O	2450	03/23/2022	7417	2450	Body	1.986	52.109	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K2	2450	03/30/2022	7640	2450	Body	2.018	51.437	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
S	2600	01/25/2022	7552	2600	Body	2.147	51.997	PASS	PASS	PASS	TDD	PASS	N/A
K2	2600	03/30/2022	7640	2600	Body	2.154	51.196	PASS	PASS	PASS	TDD	PASS	N/A
O	5250	03/10/2022	7417	5250	Body	5.470	48.210	PASS	PASS	PASS	OFDM	N/A	PASS
O	5600	03/10/2022	7417	5600	Body	5.973	47.490	PASS	PASS	PASS	OFDM	N/A	PASS
O	5750	03/11/2022	7417	5750	Body	6.190	47.228	PASS	PASS	PASS	OFDM	N/A	PASS
O	5800	03/14/2022	7417	5800	Body	6.279	46.756	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: The probes have been calibrated for both CW and modulated signals. 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.