APPENDIX D: 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 D-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
G	750	05/20/2021	7357	750	Head	0.923	43.827	PASS	PASS	PASS	N/A	N/A	N/A
J	835	06/01/2021	7526	835	Head	0.932	41.465	PASS	PASS	PASS	GMSK	PASS	N/A
E	1900	02/23/2021	7571	1900	Head	1.407	38.999	PASS	PASS	PASS	GMSK	PASS	N/A
G	1750	05/16/2021	7357	1750	Head	1.393	40.373	PASS	PASS	PASS	N/A	N/A	N/A
P	2450	09/09/2020	7308	2450	Head	1.865	40.971	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K2	2450	04/21/2021	7527	2450	Head	1.868	38.706	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
P	2600	09/09/2020	7308	2600	Head	1.992	40.743	PASS	PASS	PASS	TDD	PASS	N/A
K1	5250	04/12/2021	7637	5250	Head	4.603	35.705	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5600	04/08/2021	7637	5600	Head	4.940	34.824	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5750	04/08/2021	7637	5750	Head	5.306	35.419	PASS	PASS	PASS	OFDM	N/A	PASS
G	750	02/22/2021	7406	750	Body	0.972	54.171	PASS	PASS	PASS	N/A	N/A	N/A
P	835	09/08/2020	7308	835	Body	0.977	54.534	PASS	PASS	PASS	GMSK	PASS	N/A
P	1750	09/08/2020	7308	1750	Body	1.478	52.861	PASS	PASS	PASS	N/A	N/A	N/A
H	1750	03/31/2021	7410	1750	Body	1.471	53.269	PASS	PASS	PASS	N/A	N/A	N/A
E	1900	02/23/2021	7571	1900	Body	1.538	53.192	PASS	PASS	PASS	GMSK	PASS	N/A
D	1900	03/02/2021	3589	1900	Body	1.587	53.150	PASS	PASS	PASS	GMSK	PASS	N/A
H	1900	03/31/2021	7410	1900	Body	1.570	53.138	PASS	PASS	PASS	GMSK	PASS	N/A
K	2450	03/09/2021	7409	2450	Head	1.862	40.943	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K2	2450	04/20/2021	7527	2450	Body	2.040	51.917	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	03/09/2021	7409	2600	Head	1.987	40.737	PASS	PASS	PASS	TDD	PASS	N/A
K1	5250	04/12/2021	7637	5250	Body	5.433	47.600	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5600	04/12/2021	7637	5600	Body	5.941	46.898	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5750	04/13/2021	7637	5750	Body	6.169	46.641	PASS	PASS	PASS	OFDM	N/A	PASS

Table D-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
H	1750	03/31/2021	7410	1750	Body	1.471	53.269	PASS	PASS	PASS	N/A	N/A	N/A
E	1900	02/23/2021	7571	1900	Body	1.538	53.192	PASS	PASS	PASS	GMSK	PASS	N/A
D	1900	03/02/2021	3589	1900	Body	1.587	53.150	PASS	PASS	PASS	GMSK	PASS	N/A
H	1900	03/31/2021	7410	1900	Body	1.570	53.138	PASS	PASS	PASS	GMSK	PASS	N/A
K	2450	03/09/2021	7409	2450	Head	1.862	40.943	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	03/09/2021	7409	2600	Head	1.987	40.737	PASS	PASS	PASS	TDD	PASS	N/A
K1	5250	04/12/2021	7637	5250	Body	5.433	47.600	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5600	04/12/2021	7637	5600	Body	5.941	46.898	PASS	PASS	PASS	OFDM	N/A	PASS
K1	5750	04/13/2021	7637	5750	Body	6.169	46.641	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.