

Appendix E. Tissue & System Verification

The measuring results for tissue simulating liquid and system check are shown as below.

Note:

1. For Section 5.3, the dielectric properties of the tissue simulating liquid have been measured within 24 hours before the SAR testing and within $\pm 10\%$ of the target values. Liquid temperature during the SAR testing has kept within $\pm 2^\circ\text{C}$.
2. For Section 5.4, The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.
3. For Section 5.5, Comparing to the reference SAR value provided by SPEAG in dipole calibration certificate, the deviation of system check results is within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots please refer to Appendix A of this report.
4. Comparing to the reference value provided by SPEAG, the validation data should be within its specification of $\pm 0.66\text{ dB}$. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Tissue Verification									Validation for CW			Validation for Modulation				System Validation					Note		
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Targeted Conductivity (σ)	Targeted Permittivity (ϵ_r)	Deviation Conductivity (σ)	Deviation Permittivity (ϵ_r)	Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR	Date	Frequency (MHz)	Targeted 1g SAR (W/kg)	Measured 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
S01	2450	23.3	1.885	38.34	1.8	39.2	4.72	-2.19	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 07, 2021	2450	51.60	2.41	48.20	-6.59	737	7555	1589
S02	5250	23.2	4.878	37.061	4.71	35.9	3.57	-3.23	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 08, 2021	5250	80.60	4.13	82.60	2.48	1019	7555	1589
S03	5600	23.3	4.913	36.164	5.07	35.5	-3.10	1.87	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 07, 2021	5600	82.40	3.81	76.20	-7.52	1019	7555	1589
S04	5750	23.3	5.061	35.952	5.22	35.4	-3.05	1.56	Pass	Pass	Pass	OFDM	N/A	Pass	Jul. 07, 2021	5750	79.40	4.24	84.80	6.80	1019	7555	1589
S05	2450	23.2	1.882	38.359	1.8	39.2	4.56	-2.15	Pass	Pass	Pass	OFDM	N/A	Pass	Apr. 15, 2021	2450	51.60	2.58	51.60	0.00	737	3650	1356

Tissue Verification									Validation for CW			Validation for Modulation				System Validation					Note		
Plot No.	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Targeted Conductivity (σ)	Targeted Permittivity (ε _r)	Deviation Conductivity (σ)	Deviation Permittivity (ε _r)	Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR	Date	Frequency (MHz)	Targeted 1g SAR (W/kg)	Measured 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
S06	6500	23.3	6.21	33.7	6.07	34.5	2.31	-2.32	Pass	Pass	Pass	OFDM	N/A	Pass	Jun. 02, 2021	6500	285.00	31.2	312.00	9.47	1008	3971	1431
S07	6500	23.3	6.21	33.7	6.07	34.5	2.31	-2.32	Pass	Pass	Pass	OFDM	N/A	Pass	Jun. 02, 2021	6500	285.00	31.2	312.00	9.47	1008	3971	1431
S08	6500	23	6.19	33.8	6.07	34.5	1.98	-2.03	Pass	Pass	Pass	OFDM	N/A	Pass	Jun. 02, 2021	6500	285.00	27.5	275.00	-3.51	1008	7554	1590
S09	6500	23.3	6.21	33.7	6.07	34.5	2.31	-2.32	Pass	Pass	Pass	OFDM	N/A	Pass	Jun. 02, 2021	6500	285.00	31.2	312.00	9.47	1008	3971	1431

Plot No.	Test Date	Frequency [GHz]	mmWave Probe S/N	Verification Source S/N	Averaging Area [cm ²]	Distance [mm]	Target Power Density [W/m ²]	Measured Power Density [W/m ²]	Deviation [%]
S09	Jun. 11, 2021	10	9454	1025	4	10.0	45.8	42.3	-7.64%

Appendix F. Maximum Target Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

WLAN Tune-up Power (Full)							
WLAN2.4GHz							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11b	1	2412	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
	12	2467	15.5	15.5	15.5	15.5	18.5
	13	2472	15.5	15.5	15.5	15.5	18.5
802.11g	1	2412	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
	12	2467	15.5	15.5	15.5	15.5	18.5
	13	2472	15.5	15.5	15.5	15.5	18.5
802.11n HT20	1	2412	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
	12	2467	15.5	15.5	15.5	15.5	18.5
	13	2472	15.5	15.5	15.5	15.5	18.5
802.11n HT40	3	2422	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	9	2452	15.5	15.5	15.5	15.5	18.5
	10	2457	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
802.11ac VHT20	1	2412	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
	12	2467	15.5	15.5	15.5	15.5	18.5
	13	2472	15.5	15.5	15.5	15.5	18.5
802.11ac VHT40	3	2422	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	9	2452	15.5	15.5	15.5	15.5	18.5
	10	2457	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
802.11ax HE20	1	2412	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5
	12	2467	15.5	15.5	15.5	15.5	18.5
	13	2472	15.5	15.5	15.5	15.5	18.5
802.11ax HE40	3	2422	15.5	15.5	15.5	15.5	18.5
	6	2437	15.5	15.5	15.5	15.5	18.5
	9	2452	15.5	15.5	15.5	15.5	18.5
	10	2457	15.5	15.5	15.5	15.5	18.5
	11	2462	15.5	15.5	15.5	15.5	18.5

WLAN Tune-up Power (Full)					
Bluetooth					
Mode	Channel	Frequency		Ant 1 Max Tune-up	
BR / EDR	0	2402		11.5	
	39	2441		11.5	
	78	2480		11.5	
LE	0	2402		11.5	
	19	2440		11.5	
	39	2480		11.5	

WLAN Tune-up Power (Full)							
WLAN 5.2GHz							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	36	5180	16.0	16.0	16.0	16.0	19.0
	40	5200	16.0	16.0	16.0	16.0	19.0
	44	5220	16.0	16.0	16.0	16.0	19.0
	48	5240	16.0	16.0	16.0	16.0	19.0
802.11n HT20	36	5180	16.0	16.0	16.0	16.0	19.0
	40	5200	16.0	16.0	16.0	16.0	19.0
	44	5220	16.0	16.0	16.0	16.0	19.0
	48	5240	16.0	16.0	16.0	16.0	19.0
802.11n HT40	38	5190	16.0	16.0	16.0	16.0	19.0
	46	5230	16.0	16.0	16.0	16.0	19.0
802.11ac VHT20	36	5180	16.0	16.0	16.0	16.0	19.0
	40	5200	16.0	16.0	16.0	16.0	19.0
	44	5220	16.0	16.0	16.0	16.0	19.0
	48	5240	16.0	16.0	16.0	16.0	19.0
802.11ac VHT40	38	5190	16.0	16.0	16.0	16.0	19.0
	46	5230	16.0	16.0	16.0	16.0	19.0
802.11ac VHT80	42	5210	16.0	16.0	16.0	16.0	19.0
802.11ax HE20	36	5180	16.0	16.0	16.0	16.0	19.0
	40	5200	16.0	16.0	16.0	16.0	19.0
	44	5220	16.0	16.0	16.0	16.0	19.0
	48	5240	16.0	16.0	16.0	16.0	19.0
802.11ax HE40	38	5190	16.0	16.0	16.0	16.0	19.0
	46	5230	16.0	16.0	16.0	16.0	19.0
802.11ax HE80	42	5210	16.0	16.0	16.0	16.0	19.0

WLAN Tune-up Power (Full)							
WLAN 5.3GHz							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	52	5260	16.0	16.0	16.0	16.0	19.0
	56	5280	16.0	16.0	16.0	16.0	19.0
	60	5300	16.0	16.0	16.0	16.0	19.0
	64	5320	16.0	16.0	16.0	16.0	19.0
802.11n HT20	52	5260	16.0	16.0	16.0	16.0	19.0
	56	5280	16.0	16.0	16.0	16.0	19.0
	60	5300	16.0	16.0	16.0	16.0	19.0
	64	5320	16.0	16.0	16.0	16.0	19.0
802.11n HT40	54	5270	16.0	16.0	16.0	16.0	19.0
	62	5310	16.0	16.0	16.0	16.0	19.0
802.11ac VHT20	52	5260	16.0	16.0	16.0	16.0	19.0
	56	5280	16.0	16.0	16.0	16.0	19.0
	60	5300	16.0	16.0	16.0	16.0	19.0
	64	5320	16.0	16.0	16.0	16.0	19.0
802.11ac VHT40	54	5270	16.0	16.0	16.0	16.0	19.0
	62	5310	16.0	16.0	16.0	16.0	19.0
802.11ac VHT80	58	5290	16.0	16.0	16.0	16.0	19.0
802.11ac VHT160	50	5250	16.0	16.0	16.0	16.0	19.0
802.11ax HE20	52	5260	16.0	16.0	16.0	16.0	19.0
	56	5280	16.0	16.0	16.0	16.0	19.0
	60	5300	16.0	16.0	16.0	16.0	19.0
	64	5320	16.0	16.0	16.0	16.0	19.0
802.11ax HE40	54	5270	16.0	16.0	16.0	16.0	19.0
	62	5310	16.0	16.0	16.0	16.0	19.0
802.11ax HE80	58	5290	16.0	16.0	16.0	16.0	19.0
802.11ax HE160	50	5250	16.0	16.0	16.0	16.0	19.0

WLAN Tune-up Power (Full)							
WLAN 5.6GHz							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	100	5500	14.0	14.0	14.0	14.0	17.0
	116	5580	14.0	14.0	14.0	14.0	17.0
	120	5600	14.0	14.0	14.0	14.0	17.0
	124	5620	14.0	14.0	14.0	14.0	17.0
	132	5660	14.0	14.0	14.0	14.0	17.0
	140	5700	14.0	14.0	14.0	14.0	17.0
	144	5720	14.0	14.0	14.0	14.0	17.0
802.11n HT20	100	5500	14.0	14.0	14.0	14.0	17.0
	116	5580	14.0	14.0	14.0	14.0	17.0
	120	5600	14.0	14.0	14.0	14.0	17.0
	124	5620	14.0	14.0	14.0	14.0	17.0
	132	5660	14.0	14.0	14.0	14.0	17.0
	140	5700	14.0	14.0	14.0	14.0	17.0
	144	5720	14.0	14.0	14.0	14.0	17.0
802.11n HT40	102	5510	14.0	14.0	14.0	14.0	17.0
	110	5550	14.0	14.0	14.0	14.0	17.0
	118	5590	14.0	14.0	14.0	14.0	17.0
	126	5630	14.0	14.0	14.0	14.0	17.0
	134	5670	14.0	14.0	14.0	14.0	17.0
	142	5710	14.0	14.0	14.0	14.0	17.0
802.11ac VHT20	100	5500	14.0	14.0	14.0	14.0	17.0
	116	5580	14.0	14.0	14.0	14.0	17.0
	120	5600	14.0	14.0	14.0	14.0	17.0
	124	5620	14.0	14.0	14.0	14.0	17.0
	132	5660	14.0	14.0	14.0	14.0	17.0
	140	5700	14.0	14.0	14.0	14.0	17.0
	144	5720	14.0	14.0	14.0	14.0	17.0
802.11ac VHT40	102	5510	14.0	14.0	14.0	14.0	17.0
	110	5550	14.0	14.0	14.0	14.0	17.0
	118	5590	14.0	14.0	14.0	14.0	17.0
	126	5630	14.0	14.0	14.0	14.0	17.0
	134	5670	14.0	14.0	14.0	14.0	17.0
	142	5710	14.0	14.0	14.0	14.0	17.0
802.11ac VHT80	106	5530	14.0	14.0	14.0	14.0	17.0
	122	5610	14.0	14.0	14.0	14.0	17.0
	138	5690	14.0	14.0	14.0	14.0	17.0
802.11ac VHT160	114	5570	14.0	14.0	14.0	14.0	17.0
802.11ax HE20	100	5500	14.0	14.0	14.0	14.0	17.0
	116	5580	14.0	14.0	14.0	14.0	17.0
	120	5600	14.0	14.0	14.0	14.0	17.0
	124	5620	14.0	14.0	14.0	14.0	17.0
	132	5660	14.0	14.0	14.0	14.0	17.0
	140	5700	14.0	14.0	14.0	14.0	17.0
	144	5720	14.0	14.0	14.0	14.0	17.0
802.11ax HE40	102	5510	14.0	14.0	14.0	14.0	17.0
	110	5550	14.0	14.0	14.0	14.0	17.0
	118	5590	14.0	14.0	14.0	14.0	17.0
	126	5630	14.0	14.0	14.0	14.0	17.0
	134	5670	14.0	14.0	14.0	14.0	17.0
	142	5710	14.0	14.0	14.0	14.0	17.0
802.11ax HE80	106	5530	14.0	14.0	14.0	14.0	17.0
	122	5610	14.0	14.0	14.0	14.0	17.0
	138	5690	14.0	14.0	14.0	14.0	17.0
802.11ax HE160	114	5570	14.0	14.0	14.0	14.0	17.0

WLAN Tune-up Power (Full)							
WLAN 5.8GHz							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	149	5745	14.0	14.0	14.0	14.0	17.0
	153	5765	14.0	14.0	14.0	14.0	17.0
	157	5785	14.0	14.0	14.0	14.0	17.0
	161	5805	14.0	14.0	14.0	14.0	17.0
	165	5825	14.0	14.0	14.0	14.0	17.0
802.11n HT20	149	5745	14.0	14.0	14.0	14.0	17.0
	153	5765	14.0	14.0	14.0	14.0	17.0
	157	5785	14.0	14.0	14.0	14.0	17.0
	161	5805	14.0	14.0	14.0	14.0	17.0
	165	5825	14.0	14.0	14.0	14.0	17.0
802.11n HT40	151	5755	14.0	14.0	14.0	14.0	17.0
	159	5795	14.0	14.0	14.0	14.0	17.0
802.11ac VHT20	149	5745	14.0	14.0	14.0	14.0	17.0
	153	5765	14.0	14.0	14.0	14.0	17.0
	157	5785	14.0	14.0	14.0	14.0	17.0
	161	5805	14.0	14.0	14.0	14.0	17.0
	165	5825	14.0	14.0	14.0	14.0	17.0
802.11ac VHT40	151	5755	14.0	14.0	14.0	14.0	17.0
	159	5795	14.0	14.0	14.0	14.0	17.0
802.11ac VHT80	155	5775	14.0	14.0	14.0	14.0	17.0
802.11ax HE20	149	5745	14.0	14.0	14.0	14.0	17.0
	153	5765	14.0	14.0	14.0	14.0	17.0
	157	5785	14.0	14.0	14.0	14.0	17.0
	161	5805	14.0	14.0	14.0	14.0	17.0
	165	5825	14.0	14.0	14.0	14.0	17.0
802.11ax HE40	151	5755	14.0	14.0	14.0	14.0	17.0
	159	5795	14.0	14.0	14.0	14.0	17.0
802.11ax HE80	155	5775	14.0	14.0	14.0	14.0	17.0

WLAN Tune-up Power (Full)							
UNII-5							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	1	5955	1.0	1.0	1.0	1.0	4.0
	5	5975	1.0	1.0	1.0	1.0	4.0
	9	5995	1.0	1.0	1.0	1.0	4.0
	13	6015	1.0	1.0	1.0	1.0	4.0
	17	6035	1.0	1.0	1.0	1.0	4.0
	21	6055	1.0	1.0	1.0	1.0	4.0
	25	6075	1.0	1.0	1.0	1.0	4.0
	29	6095	1.0	1.0	1.0	1.0	4.0
	33	6115	1.0	1.0	1.0	1.0	4.0
	37	6135	1.0	1.0	1.0	1.0	4.0
	41	6155	1.0	1.0	1.0	1.0	4.0
	45	6175	1.0	1.0	1.0	1.0	4.0
	49	6195	1.0	1.0	1.0	1.0	4.0
	53	6215	1.0	1.0	1.0	1.0	4.0
	57	6235	1.0	1.0	1.0	1.0	4.0
	61	6255	1.0	1.0	1.0	1.0	4.0
	65	6275	1.0	1.0	1.0	1.0	4.0
	69	6295	1.0	1.0	1.0	1.0	4.0
	73	6315	1.0	1.0	1.0	1.0	4.0
	77	6335	1.0	1.0	1.0	1.0	4.0
	81	6355	1.0	1.0	1.0	1.0	4.0
	85	6375	1.0	1.0	1.0	1.0	4.0
	89	6395	1.0	1.0	1.0	1.0	4.0
	93	6425	1.0	1.0	1.0	1.0	4.0
802.11ax HE20	1	5955	1.5	2.0	1.5	1.5	4.5
	5	5975	1.5	2.0	1.5	1.5	4.5
	9	5995	1.5	2.0	1.5	1.5	4.5
	13	6015	1.5	2.0	1.5	1.5	4.5
	17	6035	1.5	2.0	1.5	1.5	4.5
	21	6055	1.5	2.0	1.5	1.5	4.5
	25	6075	1.5	2.0	1.5	1.5	4.5
	29	6095	1.5	2.0	1.5	1.5	4.5
	33	6115	1.5	2.0	1.5	1.5	4.5
	37	6135	1.5	2.0	1.5	1.5	4.5
	41	6155	1.5	2.0	1.5	1.5	4.5
	45	6175	1.5	2.0	1.5	1.5	4.5
	49	6195	1.5	2.0	1.5	1.5	4.5
	53	6215	1.5	2.0	1.5	1.5	4.5
	57	6235	1.5	2.0	1.5	1.5	4.5
	61	6255	1.5	2.0	1.5	1.5	4.5
	65	6275	1.5	2.0	1.5	1.5	4.5
	69	6295	1.5	2.0	1.5	1.5	4.5
	73	6315	1.5	2.0	1.5	1.5	4.5
	77	6335	1.5	2.0	1.5	1.5	4.5
	81	6355	1.5	2.0	1.5	1.5	4.5
	85	6375	1.5	2.0	1.5	1.5	4.5
	89	6395	1.5	2.0	1.5	1.5	4.5
	93	6415	1.5	2.0	1.5	1.5	4.5
802.11ax HE40	3	5965	4.5	4.0	4.0	4.0	7.0
	11	6005	4.5	4.0	4.0	4.0	7.0
	19	6045	4.5	4.0	4.0	4.0	7.0
	27	6085	4.5	4.0	4.0	4.0	7.0
	35	6125	4.5	4.0	4.0	4.0	7.0
	43	6165	4.5	4.0	4.0	4.0	7.0
	51	6205	4.5	4.0	4.0	4.0	7.0
	59	6245	4.5	4.0	4.0	4.0	7.0
	67	6285	4.5	4.0	4.0	4.0	7.0
	75	6325	4.5	4.0	4.0	4.0	7.0
	83	6365	4.5	4.0	4.0	4.0	7.0
802.11ax HE80	7	5985	7.5	7.5	7.0	7.0	10.0
	23	6065	7.5	7.5	7.0	7.0	10.0
	39	6145	7.5	7.5	7.0	7.0	10.0
	55	6225	7.5	7.5	7.0	7.0	10.0
	71	6305	7.5	7.5	7.0	7.0	10.0
	87	6385	7.5	7.5	7.0	7.0	10.0
802.11ax HE160	15	6025	10.0	9.5	9.5	9.5	12.5
	47	6185	9.5	9.5	9.5	9.5	12.5
	79	6345	10.0	10.0	10.0	10.0	13.0

WLAN Tune-up Power (Full)							
UNII-6							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	97	6435	2.5	1.5	-1.0	-1.0	2.0
	101	6455	2.5	1.5	-1.0	-1.0	2.0
	105	6475	2.5	1.5	-1.0	-1.0	2.0
	109	6495	2.5	1.5	-1.0	-1.0	2.0
	113	6515	2.5	1.5	-1.0	-1.0	2.0
	117	6535	2.5	1.5	-1.0	-1.0	2.0
802.11ax HE20	97	6435	2.0	2.5	2.5	2.5	5.5
	101	6455	2.0	2.5	2.5	2.5	5.5
	105	6475	2.0	2.5	2.5	2.5	5.5
	109	6495	2.0	2.5	2.5	2.5	5.5
	113	6515	2.0	2.5	2.5	2.5	5.5
	117	6535	1.5	1.0	1.5	1.5	4.5
802.11ax HE40	99	6445	4.5	4.0	4.0	4.0	7.0
	107	6485	4.0	4.5	4.5	4.5	7.5
	115	6525	4.5	4.0	4.0	4.0	7.0
802.11ax HE80	103	6465	7.5	7.5	7.5	7.5	10.5
	119	6545	7.5	8.0	7.5	7.5	10.5
802.11ax HE160	111	6505	10.0	10.0	10.0	10.0	13.0

WLAN Tune-up Power (Full)							
UNII-7							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	121	6555	1.5	1.0	1.5	1.5	4.5
	125	6575	1.5	1.0	1.5	1.5	4.5
	129	6595	1.5	1.0	1.5	1.5	4.5
	133	6615	1.5	1.0	1.5	1.5	4.5
	137	6635	1.5	1.0	1.5	1.5	4.5
	141	6655	1.5	1.0	1.5	1.5	4.5
	145	6675	1.5	1.0	1.5	1.5	4.5
	149	6695	1.5	1.0	1.5	1.5	4.5
	153	6715	1.5	1.0	1.5	1.5	4.5
	157	6735	1.5	1.0	1.5	1.5	4.5
	161	6755	1.5	1.0	1.5	1.5	4.5
	165	6775	1.5	1.0	1.5	1.5	4.5
	169	6795	1.5	1.0	1.5	1.5	4.5
	173	6815	1.5	1.0	1.5	1.5	4.5
	177	6835	1.5	1.0	1.5	1.5	4.5
802.11ax HE20	181	6855	1.5	1.0	1.5	1.5	4.5
	185	6875	1.5	1.0	1.5	1.5	4.5
	121	6555	2.0	2.5	2.0	2.0	5.0
	125	6575	2.0	2.5	2.0	2.0	5.0
	129	6595	2.0	2.5	2.0	2.0	5.0
	133	6615	2.0	2.5	2.0	2.0	5.0
	137	6635	2.0	2.5	2.0	2.0	5.0
	141	6655	2.0	2.5	2.0	2.0	5.0
	145	6675	2.0	2.5	2.0	2.0	5.0
	149	6695	2.0	2.5	2.0	2.0	5.0
	153	6715	2.0	2.5	2.0	2.0	5.0
	157	6735	2.0	2.5	2.0	2.0	5.0
	161	6755	2.0	2.5	2.0	2.0	5.0
	165	6775	2.0	2.5	2.0	2.0	5.0
	169	6795	2.0	2.5	2.0	2.0	5.0
802.11ax HE40	173	6815	2.0	2.5	2.0	2.0	5.0
	177	6835	2.0	2.5	2.0	2.0	5.0
	181	6855	2.0	2.5	2.0	2.0	5.0
	185	6875	2.0	2.5	2.0	2.0	5.0
	123	6565	4.5	4.0	4.5	4.5	7.5
	131	6605	4.5	4.0	4.5	4.5	7.5
	139	6645	4.5	4.0	4.5	4.5	7.5
	147	6685	4.5	4.0	4.5	4.5	7.5
	155	6725	4.5	4.0	4.5	4.5	7.5
802.11ax HE80	163	6765	4.5	4.0	4.5	4.5	7.5
	171	6805	4.5	4.0	4.5	4.5	7.5
	179	6845	4.5	4.0	4.5	4.5	7.5
	187	6885	4.5	4.0	4.5	4.5	7.5
802.11ax HE160	135	6625	7.5	7.5	7.5	7.5	10.5
	151	6705	6.5	6.5	6.5	6.5	9.5
	167	6785	7.0	6.5	6.5	6.5	9.5
	183	6865	7.5	7.0	7.5	7.5	10.5
	143	6665	9.5	10.0	10.0	10.0	13.0
	175	6825	10.5	9.5	9.5	9.5	12.5

WLAN Tune-up Power (Full)							
UNII-8							
Mode	Channel	Frequency	SISO Ant 0 Max Tune up	SISO Ant 1 Max Tune up	MIMO Ant 0 Tune up	MIMO Ant 1 Tune up	MIMO Ant 0+1 Max Tune up
802.11a	189	6895	1.5	2.0	1.5	1.5	4.5
	193	6915	1.5	2.0	1.5	1.5	4.5
	197	6935	1.5	2.0	1.5	1.5	4.5
	201	6955	1.5	2.0	1.5	1.5	4.5
	205	6975	1.5	2.0	1.5	1.5	4.5
	209	6995	1.5	2.0	1.5	1.5	4.5
	213	7015	1.5	2.0	1.5	1.5	4.5
	217	7035	1.5	2.0	1.5	1.5	4.5
	221	7055	1.5	2.0	1.5	1.5	4.5
	225	7075	1.5	2.0	1.5	1.5	4.5
	229	7095	1.5	2.0	1.5	1.5	4.5
802.11ax HE20	233	7115	1.5	2.0	1.5	1.5	4.5
	189	6895	2.5	3.0	2.5	2.5	5.5
	193	6915	2.5	3.0	2.5	2.5	5.5
	197	6935	2.5	3.0	2.5	2.5	5.5
	201	6955	2.5	3.0	2.5	2.5	5.5
	205	6975	2.5	3.0	2.5	2.5	5.5
	209	6995	2.5	3.0	2.5	2.5	5.5
	213	7015	2.5	3.0	2.5	2.5	5.5
	217	7035	2.5	3.0	2.5	2.5	5.5
	221	7055	2.5	3.0	2.5	2.5	5.5
	225	7075	2.5	3.0	2.5	2.5	5.5
802.11ax HE40	229	7095	2.5	3.0	2.5	2.5	5.5
	233	7115	2.5	3.0	2.5	2.5	5.5
	195	6925	4.5	5.0	4.5	4.5	7.5
	203	6965	4.5	5.0	4.5	4.5	7.5
	211	7005	4.5	5.0	4.5	4.5	7.5
802.11ax HE80	219	7045	4.5	5.0	4.5	4.5	7.5
	227	7085	4.5	5.0	4.5	4.5	7.5
	199	6945	7.5	7.5	7.5	7.5	10.5
802.11ax HE160	215	7025	6.5	8.5	7.5	7.5	10.5
	207	6985	10.0	10.5	10.5	10.5	13.5

Appendix G. Measured Conducted Power Result

The measuring conducted power (Unit: dBm) are shown as below.

WLAN Conducted Power (Full)			
WLAN2.4GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11b	1	2412	15.32
	6	2437	15.35
	11	2462	15.14
	12	2467	15.12
	13	2472	15.19

WLAN 5.3GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ac VHT160	50	5250	15.49

WLAN 5.6GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ac VHT160	114	5570	13.78

WLAN 5.8GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ac VHT80	155	5775	13.75

WLAN Conducted Power (Full)			
WLAN2.4GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11b	1	2412	15.34
	6	2437	15.49
	11	2462	15.46
	12	2467	15.36
	13	2472	15.36

Bluetooth Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
BR / EDR	0	2402	11.48
	39	2441	11.46
	78	2480	11.42
LE	0	2402	11.03
	19	2440	11.02
	39	2480	10.98

WLAN 5.3GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ac VHT160	50	5250	15.91

WLAN 5.6GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ac VHT160	114	5570	13.98

WLAN 5.8GHz Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ac VHT80	155	5775	13.63

WLAN Conducted Power (Full)					
WLAN2.4GHz Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11b	1	2412	15.32	15.34	18.34
	6	2437	15.35	15.37	18.37
	11	2462	15.24	15.46	18.36
	12	2467	15.12	15.36	18.25
	13	2472	15.19	15.36	18.29

WLAN 5.3GHz Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ac VHT160	50	5250	15.66	15.78	18.73

WLAN 5.6GHz Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ac VHT160	114	5570	13.78	13.98	16.89

WLAN 5.8GHz Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ac VHT80	155	5775	13.75	13.87	16.82

WLAN Conducted Power (Full)			
UNII-5 Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ax HE160	15	6025	9.91
	47	6185	9.47
	79	6345	9.83

UNII-6 Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ax HE160	111	6505	9.84

UNII-7 Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ax HE160	143	6665	9.49
	175	6825	10.33

UNII-8 Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11ax HE160	207	6985	9.98

WLAN Conducted Power (Full)			
UNII-5 Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ax HE160	15	6025	9.45
	47	6185	9.48
	79	6345	9.98

UNII-6 Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ax HE160	111	6505	9.99

UNII-7 Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ax HE160	143	6665	9.85
	175	6825	9.39

UNII-8 Ant 1			
Mode	Channel	Frequency	SISO Ant 1 Avg. Power
802.11ax HE160	207	6985	10.47

WLAN Conducted Power (Full)					
UNII-5 Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ax HE160	15	6025	9.46	9.45	12.47
	47	6185	9.36	9.42	12.4
	79	6345	9.91	9.81	12.87

UNII-6 Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ax HE160	111	6505	9.94	9.93	12.95

UNII-7 Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ax HE160	143	6665	9.89	9.65	12.78
	175	6825	9.29	9.47	12.39

UNII-8 Ant 0+1					
Mode	Channel	Frequency	MIMO Ant 0 Avg. Power	MIMO Ant 1 Avg. Power	MIMO Ant 0+1 Avg. Power
802.11ax HE160	207	6985	10.41	10.46	13.45

Appendix H. SAR and PD Test Result

SAR Results for Module Exposure Condition.

Note:

1. SAR testing for WLAN was performed on the maximum power mode.
2. Per Apr. 2021 TCB Workshop U-NII 6-7G interim procedures, the power density measured results were scaled by factor 1.545 when measurement uncertainty exceed 30% to report power density.

Body SAR Test Result

System & Position						DUT & Accessory	SAR							
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WLAN2.4G	802.11b	Front Face	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.09	0.502	0.52
	WLAN2.4G	802.11b	Rear Face	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.14	0.215	0.22
	WLAN2.4G	802.11b	Left Side	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.16	0.162	0.17
	WLAN2.4G	802.11b	Right Side	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.18	0.466	0.48
	WLAN2.4G	802.11b	Top Side	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.05	0.505	0.53
	WLAN2.4G	802.11b	Bottom Side	5	6	Ant 0	100.00	1.00	15.50	15.35	1.04	0.04	0.623	0.65
	WLAN2.4G	802.11b	Front Face	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	-0.13	0.566	0.57
	WLAN2.4G	802.11b	Rear Face	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	0.16	0.34	0.34
	WLAN2.4G	802.11b	Left Side	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	0.07	0.343	0.34
	WLAN2.4G	802.11b	Right Side	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	0.01	0.626	0.63
	WLAN2.4G	802.11b	Top Side	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	-0.13	0.553	0.55
	WLAN2.4G	802.11b	Bottom Side	5	6	Ant 1	100.00	1.00	15.50	15.49	1.00	-0.02	0.638	0.64
	WLAN2.4G	802.11b	Front Face	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	-0.01	0.614	0.63
	WLAN2.4G	802.11b	Rear Face	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	-0.02	0.36	0.37
	WLAN2.4G	802.11b	Left Side	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	0.1	0.337	0.35
	WLAN2.4G	802.11b	Right Side	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	0.19	0.646	0.67
	WLAN2.4G	802.11b	Top Side	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	-0.1	0.602	0.62
	WLAN2.4G	802.11b	Bottom Side	5	6	Ant 0+1	100.00	1.00	18.50	18.37	1.03	0.18	0.675	0.70
	WLAN2.4G	802.11b	Bottom Side	5	1	Ant 0+1	100.00	1.00	18.50	18.34	1.04	0.18	0.697	0.72
1	WLAN2.4G	802.11b	Bottom Side	5	11	Ant 0+1	100.00	1.00	18.50	18.36	1.03	-0.09	0.72	0.74
	WLAN2.4G	802.11b	Bottom Side	5	12	Ant 0+1	100.00	1.00	18.50	18.25	1.06	0.04	0.646	0.68
	WLAN2.4G	802.11b	Bottom Side	5	13	Ant 0+1	100.00	1.00	18.50	18.29	1.05	0.14	0.64	0.67

Body SAR Test Result

System & Position						DUT & Accessory	SAR							
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WLAN5.3G	802.11ac VHT160	Front Face	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	0.03	0.639	0.72
	WLAN5.3G	802.11ac VHT160	Rear Face	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	0.17	0.142	0.16
	WLAN5.3G	802.11ac VHT160	Left Side	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	0.03	0.199	0.22
	WLAN5.3G	802.11ac VHT160	Right Side	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	0.11	0.192	0.22
	WLAN5.3G	802.11ac VHT160	Top Side	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	-0.08	0.48	0.54
	WLAN5.3G	802.11ac VHT160	Bottom Side	5	50	Ant 0	100.00	1.00	16.00	15.49	1.12	0.02	0.644	0.72
	WLAN5.3G	802.11ac VHT160	Front Face	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	-0.12	0.618	0.63
	WLAN5.3G	802.11ac VHT160	Rear Face	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	0.14	0.293	0.30
	WLAN5.3G	802.11ac VHT160	Left Side	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	-0.08	0.152	0.16
	WLAN5.3G	802.11ac VHT160	Right Side	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	-0.03	0.188	0.19
	WLAN5.3G	802.11ac VHT160	Top Side	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	0.06	0.688	0.70
2	WLAN5.3G	802.11ac VHT160	Bottom Side	5	50	Ant 1	100.00	1.00	16.00	15.91	1.02	0.03	0.715	0.73
	WLAN5.3G	802.11ac VHT160	Front Face	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	0.14	0.629	0.67
	WLAN5.3G	802.11ac VHT160	Rear Face	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	0.15	0.215	0.23
	WLAN5.3G	802.11ac VHT160	Left Side	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	0.17	0.311	0.33
	WLAN5.3G	802.11ac VHT160	Right Side	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	-0.16	0.22	0.23
	WLAN5.3G	802.11ac VHT160	Top Side	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	-0.15	0.66	0.70
	WLAN5.3G	802.11ac VHT160	Bottom Side	5	50	Ant 0+1	100.00	1.00	19.00	18.73	1.06	-0.04	0.678	0.72
	WLAN5.6G	802.11ac VHT160	Front Face	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	-0.03	0.592	0.62
	WLAN5.6G	802.11ac VHT160	Rear Face	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	-0.15	0.156	0.16
	WLAN5.6G	802.11ac VHT160	Left Side	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	-0.16	0.154	0.16
	WLAN5.6G	802.11ac VHT160	Right Side	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	-0.08	0.129	0.14
	WLAN5.6G	802.11ac VHT160	Top Side	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	-0.07	0.516	0.54
	WLAN5.6G	802.11ac VHT160	Bottom Side	5	114	Ant 0	100.00	1.00	14.00	13.78	1.05	0.03	0.608	0.64
	WLAN5.6G	802.11ac VHT160	Front Face	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	-0.03	0.65	0.65
	WLAN5.6G	802.11ac VHT160	Rear Face	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	-0.04	0.188	0.19
	WLAN5.6G	802.11ac VHT160	Left Side	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	0.13	0.229	0.23
	WLAN5.6G	802.11ac VHT160	Right Side	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	0.17	0.106	0.11
	WLAN5.6G	802.11ac VHT160	Top Side	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	0.03	0.523	0.52
3	WLAN5.6G	802.11ac VHT160	Bottom Side	5	114	Ant 1	100.00	1.00	14.00	13.98	1.00	0.03	0.715	0.72
	WLAN5.6G	802.11ac VHT160	Front Face	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	-0.07	0.586	0.60
	WLAN5.6G	802.11ac VHT160	Rear Face	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	-0.19	0.181	0.19
	WLAN5.6G	802.11ac VHT160	Left Side	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	-0.06	0.224	0.23
	WLAN5.6G	802.11ac VHT160	Right Side	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	-0.18	0.133	0.14
	WLAN5.6G	802.11ac VHT160	Top Side	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	-0.18	0.476	0.49
	WLAN5.6G	802.11ac VHT160	Bottom Side	5	114	Ant 0+1	100.00	1.00	17.00	16.89	1.03	0.01	0.591	0.61

Body SAR Test Result

System & Position						DUT & Accessory	SAR							
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WLAN5.8G	802.11ac VHT80	Front Face	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	-0.08	0.699	0.74
	WLAN5.8G	802.11ac VHT80	Rear Face	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	0.12	0.183	0.19
	WLAN5.8G	802.11ac VHT80	Left Side	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	0.12	0.208	0.22
	WLAN5.8G	802.11ac VHT80	Right Side	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	-0.1	0.195	0.21
	WLAN5.8G	802.11ac VHT80	Top Side	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	-0.06	0.671	0.71
	WLAN5.8G	802.11ac VHT80	Bottom Side	5	155	Ant 0	100.00	1.00	14.00	13.75	1.06	-0.13	0.708	0.75
	WLAN5.8G	802.11ac VHT80	Front Face	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	0.13	0.645	0.70
	WLAN5.8G	802.11ac VHT80	Rear Face	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	0.01	0.189	0.21
	WLAN5.8G	802.11ac VHT80	Left Side	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	0.08	0.241	0.26
	WLAN5.8G	802.11ac VHT80	Right Side	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	-0.18	0.133	0.14
	WLAN5.8G	802.11ac VHT80	Top Side	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	-0.05	0.442	0.48
4	WLAN5.8G	802.11ac VHT80	Bottom Side	5	155	Ant 1	100.00	1.00	14.00	13.63	1.09	-0.08	0.707	0.77
	WLAN5.8G	802.11ac VHT80	Front Face	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	0.03	0.713	0.74
	WLAN5.8G	802.11ac VHT80	Rear Face	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	0.13	0.246	0.26
	WLAN5.8G	802.11ac VHT80	Left Side	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	-0.04	0.26	0.27
	WLAN5.8G	802.11ac VHT80	Right Side	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	-0.16	0.183	0.19
	WLAN5.8G	802.11ac VHT80	Top Side	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	0.15	0.561	0.58
	WLAN5.8G	802.11ac VHT80	Bottom Side	5	155	Ant 0+1	100.00	1.00	17.00	16.82	1.04	-0.01	0.73	0.76
	BT	BR / EDR	Front Face	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	-0.01	0.08	0.10
	BT	BR / EDR	Rear Face	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	-0.04	0.075	0.10
	BT	BR / EDR	Left Side	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	-0.1	0.118	0.15
	BT	BR / EDR	Right Side	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	0.05	0.116	0.15
	BT	BR / EDR	Top Side	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	-0.16	0.18	0.24
5	BT	BR / EDR	Bottom Side	5	0	Ant 1	76.08	1.31	11.50	11.48	1.00	-0.12	0.2	0.26
	BT	BR / EDR	Bottom Side	5	39	Ant 1	76.08	1.31	11.50	11.46	1.01	-0.19	0.193	0.26
	BT	BR / EDR	Bottom Side	5	78	Ant 1	76.08	1.31	11.50	11.42	1.02	0.09	0.194	0.26

Body SAR and Power Density Test Result (Module)

System & Position						DUT & Accessory		SAR								Power Density												
Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Channel	Ant Status	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)	Measured APD W/m ² (4cm ²)	Test Duty Cycle [%]	Production Duty Cycle [%]	Duty Cycle Factor	Grid Step [λ]	iPD [W/m ²]	Scaling Factor for Measurement Uncertainty	Averaging Area [cm ²]	Power Drift [dB]	Normal psPD [W/m ²]	Scaled Normal psPD [W/m ²]	Total psPD [W/m ²]	Scaled Total psPD [W/m ²]	
		UNII-5	802.11ax HE160	Front Face	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	-0.04	0.15	0.17	1.25	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Rear Face	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	-0.18	0.078	0.09	0.50	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Left Side	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	-0.03	0.055	0.06	0.58	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Right Side	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	-0.19	0.136	0.16	1.36	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Top Side	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	0.12	0.146	0.17	1.28	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Bottom Side	5	15	Ant 0	87.89	1.14	10.00	9.91	1.02	0.15	0.261	0.30	2.49	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Front Face	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	-0.1	0.104	0.12	0.91	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Rear Face	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	-0.14	0.046	0.05	0.40	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Left Side	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	-0.05	0.102	0.12	0.96	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Right Side	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	-0.01	0.133	0.15	1.25	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Top Side	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	0.15	0.26	0.29	1.99	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Bottom Side	5	79	Ant 1	88.74	1.13	10.00	9.98	1.00	0.04	0.269	0.30	2.31	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Front Face	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	-0.11	0.143	0.17	1.51	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Rear Face	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	0.13	0.088	0.10	0.98	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Left Side	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	0.11	0.071	0.08	0.75	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Right Side	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	-0.18	0.186	0.22	1.91	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Top Side	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	-0.19	0.254	0.30	2.26	-	-	-	-	-	-	-	-	-	-	-	
6		UNII-5	802.11ax HE160	Bottom Side	5	79	Ant 0+1	87.84	1.14	13.00	12.87	1.03	0.13	0.323	0.38	3.21	87.84	87.84	1.14	0.25	4.47	1.545	4.00	-0.17	1.28	2.25	1.70	2.99
		UNII-5	802.11ax HE160	Bottom Side	5	15	Ant 0+1	87.84	1.14	13.00	12.47	1.13	0.02	0.285	0.37	2.88	-	-	-	-	-	-	-	-	-	-	-	
		UNII-5	802.11ax HE160	Bottom Side	5	47	Ant 0+1	87.84	1.14	13.00	12.40	1.15	0.08	0.284	0.37	2.69	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Front Face	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	0.02	0.128	0.15	1.00	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Rear Face	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	-0.14	0.067	0.08	0.40	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Left Side	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	-0.06	0.047	0.06	0.45	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Right Side	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	-0.14	0.116	0.14	1.08	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Top Side	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	-0.01	0.124	0.15	1.03	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Bottom Side	5	111	Ant 0	87.84	1.14	10.00	9.84	1.04	-0.07	0.223	0.26	1.99	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Front Face	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	-0.17	0.103	0.12	0.93	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Rear Face	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	0.01	0.046	0.05	0.43	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Left Side	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	0.1	0.101	0.12	1.00	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Right Side	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	-0.18	0.132	0.15	1.30	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Top Side	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	-0.1	0.258	0.29	2.06	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Bottom Side	5	111	Ant 1	87.44	1.14	10.00	9.99	1.00	0.17	0.267	0.30	2.38	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Front Face	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	-0.1	0.136	0.16	1.28	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Rear Face	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	-0.19	0.084	0.10	0.81	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Left Side	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	0.04	0.067	0.08	0.63	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Right Side	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	0.03	0.178	0.20	1.60	-	-	-	-	-	-	-	-	-	-	-	
		UNII-6	802.11ax HE160	Top Side	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	-0.14	0.242	0.28	1.91	-	-	-	-	-	-	-	-	-	-	-	
7		UNII-6	802.11ax HE160	Bottom Side	5	111	Ant 0+1	87.44	1.14	13.00	12.95	1.01	-0.09	0.312	0.36	2.76	87.44	87.44	1.14	0.25	3.79	1.545	4.00	-0.1	1.92	3.38	2.29	4.03
		UNII-7	802.11ax HE160	Front Face	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	0.1	0.188	0.22	1.36	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Rear Face	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	0.16	0.098	0.11	0.55	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Left Side	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	-0.17	0.069	0.08	0.63	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Right Side	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	0.08	0.171	0.20	1.48	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Top Side	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	0.05	0.182	0.21	1.41	-	-	-	-	-	-	-	-	-	-	-	
8		UNII-7	802.11ax HE160	Bottom Side	5	175	Ant 0	90.74	1.10	10.50	10.33	1.04	0.11	0.326	0.37	2.71	90.74	90.74	1.10	0.25	6.10	1.545	4.00	-0.05	1.72	2.92	1.83	3.11
		UNII-7	802.11ax HE160	Front Face	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	-0.08	0.114	0.14	0.89	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Rear Face	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	0.14	0.051	0.06	0.40	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Left Side	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	0.04	0.112	0.13	0.96	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Right Side	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	-0.18	0.146	0.17	1.25	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Top Side	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	0.11	0.285	0.34	1.96	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Bottom Side	5	143	Ant 1	87.44	1.14	10.00	9.85	1.04	0.1	0.295	0.35	2.29	87.44	87.44	1.14	0.25	6.06	1.545	4.00	-0.12	2.11	3.72	2.26	3.98
		UNII-7	802.11ax HE160	Front Face	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	0.09	0.105	0.13	1.03	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Rear Face	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	-0.15	0.065	0.08	0.65	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Left Side	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	0.09	0.052	0.06	0.53	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Right Side	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	-0.04	0.138	0.17	1.30	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Top Side	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	-0.11	0.188	0.23	1.56	-	-	-	-	-	-	-	-	-	-	-	
		UNII-7	802.11ax HE160	Bottom Side	5	143	Ant 0+1	87.44	1.14	13.00	12.78	1.05	-0.07															

Appendix I. SAR Measurement Variability

Since all the measured SAR are less than 0.8 W/kg, the repeated measurement is not required.

Appendix J. Analysis of Simultaneous Transmission SAR and TER.

The analysis of simultaneous transmission SAR are shown as below.

<Possibilities of Simultaneous Transmission>

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous TX Combination	Capable Transmit Configurations	Body Exposure Condition
A	WLAN 5G_Ant 0 + BT_Ant 1	Yes
B	WLAN 5G_Ant 1 + BT_Ant 1	Yes
C	WLAN 5G_MIMO + BT_Ant 1	Yes
D	WLAN 6E_Ant 0 + BT_Ant 1	Yes
E	WLAN 6E_Ant 1 + BT_Ant 1	Yes
F	WLAN 6E_MIMO + BT_Ant 1	Yes
Notes	1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.	

Simultaneous Transmission SAR Evaluation (Body)

Position	1	2	3	4	A(1+4)	B(2+4)	C(3+4)
	WLAN 5GHz Ant 0	WLAN 5GHz Ant 1	WLAN 5GHz Ant 0+1	BT Ant 1	Summimg result 1g SAR W/kg	Summimg result 1g SAR W/kg	Summimg result 1g SAR W/kg
	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg			
Front Face	0.74	0.70	0.74	0.10	0.84	0.80	0.84
Rear Face	0.19	0.30	0.26	0.10	0.29	0.40	0.36
Left Side	0.22	0.26	0.33	0.15	0.37	0.41	0.48
Right Side	0.22	0.19	0.23	0.15	0.37	0.34	0.38
Top Side	0.71	0.70	0.70	0.24	0.95	0.94	0.94
Bottom Side	0.75	0.77	0.76	0.26	1.01	1.03	1.02

Simultaneous Transmission SAR Evaluation (Body)							
Position	1	2	3	4	D(1+4)	E(2+4)	F(3+4)
	WIFI 6E Ant 0	WIFI 6E Ant 1	WIFI 6E Ant 0+1	BT Ant 1	Summing result 1g SAR W/kg	Summing result 1g SAR W/kg	Summing result 1g SAR W/kg
	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg	1g SAR W/kg			
Front Face	0.22	0.16	0.17	0.10	0.32	0.26	0.27
Rear Face	0.11	0.07	0.11	0.10	0.21	0.17	0.21
Left Side	0.08	0.16	0.09	0.15	0.23	0.31	0.24
Right Side	0.20	0.21	0.23	0.15	0.35	0.36	0.38
Top Side	0.21	0.40	0.31	0.24	0.45	0.64	0.55
Bottom Side	0.38	0.42	0.40	0.26	0.64	0.68	0.66

Total Exposure Ratio (Tablet Mode)

Anchor Band		Bluetooth Reported SAR	WiFi6e Ant 0 Reported SAR	WiFi6e Ant 1 Reported SAR	WiFi6E Ant 0+1 Reported PD	WiFi6E Ant 0 + BT	WiFi6E Ant 1 + BT	WiFi6E Ant 0+1 + BT
		W/kg	W/m²	W/m²	W/m²			
		4	1	2	3	F(1+4)	G(2+4)	I(3+4)
Applicable Limit		1.6	10	10	10	1.0	1.0	1.0
Bottom Side	Reported Value	0.26	3.11	4.10	4.03			
	Ratio to Limit	0.16	0.31	0.41	0.40	0.47	0.57	0.56

Appendix K. SAR to Peak Location Separation Ratio Analysis.

Since sum of simultaneous transmission SAR is less than the SAR limit for Body / Head : SAR_{1g} 1.6 W/kg ;
Extremity SAR_{10g} 4.0 W/kg. There is no requirement for SAR to Peak Location Separation Ratio Analysis.

Appendix L. Calibration of Test Equipment List

Calibration of Test Equipment List are shown as below.

Calibration of Test Equipment List					
Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D2450V2	737	Aug. 13, 2020	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1019	Mar. 19, 2021	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7555	Sep. 28, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3650	Mar. 26, 2021	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1589	Sep. 15, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1356	May. 19, 2020	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Apr. 06, 2021	1 Year
Universal Wireless Test Set	Anritsu	MT8870A/MU887000A	6201699387	Sep. 28, 2020	1 Year
Thermometer	YFE	YF-160A	120702365	Aug. 12, 2020	1 Year
Dielectric Assessment Kit	SPEAG	DAKS-3.5	0004	Mar. 24, 2021	1 Year
Powersource1	SPEAG	SE_UMS_160 BA	4010	Aug. 13, 2020	1 Year

WIFI 6E Equipment for SAR Test

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D6.5GHzV2	1008	Sep. 16, 2020	1 Year
System Verification Source	SPEAG	5G Verification Source 10 GHz	1025	Jan. 19, 2021	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3971	Jan. 27, 2021	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7554	Sep. 28, 2020	1 Year
E-Field Probe	SPEAG	EUmmWV4	9454	Sep. 24, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1590	Sep. 15, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1431	Mar. 24, 2021	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Apr. 06, 2021	1 Year
Universal Wireless Test Set	Anritsu	MT8870A/MU887000A	6201699387	Sep. 28, 2020	1 Year
Thermometer	YFE	YF-160A	120702365	Aug. 12, 2020	1 Year
Dielectric Assessment Kit	SPEAG	DAKS-3.5	0004	Mar. 24, 2021	1 Year
Powersource1	SPEAG	SE_UMS_160 BA	4010	Aug. 13, 2020	1 Year

Appendix M. Considerations Related to Bluetooth for Setup and Testing

This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

The Bluetooth call box has been used during SAR measurement and the EUT was set to DH5 mode at the maximum output power. Its duty factor was calculated as below and the measured SAR for Bluetooth would be scaled to the 100% transmission duty factor to determine compliance.

The duty factor of Bluetooth signal are shown as below.



Time-domain plot for Bluetooth transmission signal

The duty factor of Bluetooth signal has been calculated as following.

$$\text{Duty Factor} = \text{Pulse Width} / \text{Total Period} = (6.188 - 3.335) / (7.085 - 3.335) = 76.08 \%$$