WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 06 2437MHz		4874	52.83	-21.17	74	40.7	32.55	13.07	33.49	100	43	P	H
		4874	48.64	-5.36	54	36.51	32.55	13.07	33.49	100	43	A	H
		7311	56.23	-17.77	74	38.57	37.5	16	35.84	154	360	P	H
		7311	49.9	-4.1	54	32.24	37.5	16	35.84	154	360	A	H
													H
													H
													H
													H
													H
													H
													H
													H
		4874	51.33	-22.67	74	39.2	32.55	13.07	33.49	206	344	P	V
		4874	45.9	-8.1	54	33.77	32.55	13.07	33.49	206	344	A	V
		7311	55.46	-18.54	74	37.8	37.5	16	35.84	272	0	P	V
		7311	50.11	-3.89	54	32.45	37.5	16	35.84	272	0	A	V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz		4924	48.87	-25.13	74	36.6	32.65	13.1	33.48	199	34	P	H
		4924	43.3	-10.7	54	31.03	32.65	13.1	33.48	199	34	A	H
		7386	56.05	-17.95	74	38.42	37.43	16.09	35.89	158	1	P	H
		7386	50.59	-3.41	54	32.96	37.43	16.09	35.89	158	1	A	H
													H
													H
													H
													H
													H
													H
													H
													H
		4924	48.38	-25.62	74	36.11	32.65	13.1	33.48	304	344	P	V
		4924	42.14	-11.86	54	29.87	32.65	13.1	33.48	304	344	A	V
		7386	55.52	-18.48	74	37.89	37.43	16.09	35.89	377	32	P	V
		7386	49.88	-4.12	54	32.25	37.43	16.09	35.89	377	32	A	V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.8	55.27	-18.73	74	42.36	26.9	18.36	32.35	357	43	P	H
		2389.38	44.37	-9.63	54	31.45	26.91	18.36	32.35	357	43	A	H
	*	2412	116.51	-	-	103.5	26.98	18.4	32.37	357	43	P	H
	*	2412	108.85	-	-	95.84	26.98	18.4	32.37	357	43	A	H
		2484.6	53.61	-20.39	74	40.59	26.9	18.53	32.41	357	43	P	H
		2485.568	43.06	-10.94	54	30.04	26.9	18.53	32.41	357	43	A	H
		2389.065	55.97	-18.03	74	43.05	26.91	18.36	32.35	349	0	P	V
		2389.905	43.5	-10.5	54	30.59	26.9	18.36	32.35	349	0	A	V
	*	2412	115.56	-	-	102.55	26.98	18.4	32.37	349	0	P	V
	*	2412	107.79	-	-	94.78	26.98	18.4	32.37	349	0	A	V
		2483.544	52.27	-21.73	74	39.25	26.9	18.53	32.41	349	0	P	V
		2485.656	42.13	-11.87	54	29.11	26.9	18.53	32.41	349	0	A	V
802.11g CH 06 2437MHz		2388.88	53.73	-20.27	74	40.81	26.91	18.36	32.35	258	39	P	H
		2390	43.93	-10.07	54	31.02	26.9	18.36	32.35	258	39	A	H
	*	2437	120.8	-	-	107.93	26.8	18.45	32.38	258	39	P	H
	*	2437	113	-	-	100.13	26.8	18.45	32.38	258	39	A	H
		2483.84	54.93	-19.07	74	41.91	26.9	18.53	32.41	258	39	P	H
		2483.52	44.84	-9.16	54	31.82	26.9	18.53	32.41	258	39	A	H
		2383.76	52.16	-21.84	74	39.2	26.96	18.35	32.35	271	1	P	V
		2387.76	41.97	-12.03	54	29.04	26.92	18.36	32.35	271	1	A	V
	*	2437	118.38	-	-	105.51	26.8	18.45	32.38	271	1	P	V
	*	2437	110.58	-	-	97.71	26.8	18.45	32.38	271	1	A	V
		2483.76	56.53	-17.47	74	43.51	26.9	18.53	32.41	271	1	P	V
		2483.52	43.61	-10.39	54	30.59	26.9	18.53	32.41	271	1	A	V

802.11g CH 11 2462MHz		2389.8	53.64	-20.36	74	40.73	26.9	18.36	32.35	327	36	P	H
		2386.912	43	-11	54	30.06	26.93	18.36	32.35	327	36	A	H
	*	2462	117.54	-	-	104.65	26.8	18.49	32.4	327	36	P	H
	*	2462	109.77	-	-	96.88	26.8	18.49	32.4	327	36	A	H
		2483.72	62.35	-11.65	74	49.33	26.9	18.53	32.41	327	36	P	H
		2483.52	50.31	-3.69	54	37.29	26.9	18.53	32.41	327	36	A	H
		2388.736	52.83	-21.17	74	39.91	26.91	18.36	32.35	245	360	P	V
		2389.952	42.93	-11.07	54	30.02	26.9	18.36	32.35	245	360	A	V
	*	2462	115.14	-	-	102.25	26.8	18.49	32.4	245	360	P	V
	*	2462	107.72	-	-	94.83	26.8	18.49	32.4	245	360	A	V
		2483.6	60.2	-13.8	74	47.18	26.9	18.53	32.41	245	360	P	V
		2483.52	48.83	-5.17	54	35.81	26.9	18.53	32.41	245	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	46.47	-27.53	74	34.52	32.4	13.05	33.5	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		4824	44.9	-29.1	74	32.95	32.4	13.05	33.5	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 06 2437MHz		4874	48.9	-25.1	74	36.77	32.55	13.07	33.49	235	26	P	H
		4874	39.07	-14.93	54	26.94	32.55	13.07	33.49	235	26	A	H
		7311	60.79	-13.21	74	43.13	37.5	16	35.84	153	0	P	H
		7311	50.55	-3.45	54	32.89	37.5	16	35.84	153	0	A	H
													H
													H
													H
													H
													H
													H
													H
													H
		4874	46.19	-27.81	74	34.06	32.55	13.07	33.49	-	-	P	V
		7311	58.15	-15.85	74	40.49	37.5	16	35.84	391	32	P	V
		7311	48.97	-5.03	54	31.31	37.5	16	35.84	391	32	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz		4924	46.23	-27.77	74	33.96	32.65	13.1	33.48	-	-	P	H
		7386	58.97	-15.03	74	41.34	37.43	16.09	35.89	156	1	P	H
		7386	49.47	-4.53	54	31.84	37.43	16.09	35.89	156	1	A	H
													H
													H
													H
													H
													H
													H
													H
													H
		4924	45.13	-28.87	74	32.86	32.65	13.1	33.48	-	-	P	V
		7386	57.99	-16.01	74	40.36	37.43	16.09	35.89	376	32	P	V
		7386	48.76	-5.24	54	31.13	37.43	16.09	35.89	376	32	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		2389.8	60.03	-13.97	74	47.12	26.9	18.36	32.35	269	43	P	H
		2390	46.3	-7.7	54	33.39	26.9	18.36	32.35	269	43	A	H
	*	2412	119.98	-	-	106.97	26.98	18.4	32.37	269	43	P	H
	*	2412	109.55	-	-	96.54	26.98	18.4	32.37	269	43	A	H
		2483.632	52.53	-21.47	74	39.51	26.9	18.53	32.41	269	43	P	H
		2483.544	42.25	-11.75	54	29.23	26.9	18.53	32.41	269	43	A	H
		2389.695	58.06	-15.94	74	45.15	26.9	18.36	32.35	236	0	P	V
		2390	44.62	-9.38	54	31.71	26.9	18.36	32.35	236	0	A	V
	*	2412	115.86	-	-	102.85	26.98	18.4	32.37	236	0	P	V
	*	2412	106.1	-	-	93.09	26.98	18.4	32.37	236	0	A	V
		2483.544	52.99	-21.01	74	39.97	26.9	18.53	32.41	236	0	P	V
		2483.544	42.13	-11.87	54	29.11	26.9	18.53	32.41	236	0	A	V
802.11ax HE20 Full CH 06 2437MHz		2389.52	59.33	-14.67	74	46.42	26.9	18.36	32.35	360	37	P	H
		2390	45.65	-8.35	54	32.74	26.9	18.36	32.35	360	37	A	H
	*	2437	121.27	-	-	108.4	26.8	18.45	32.38	360	37	P	H
	*	2437	111.4	-	-	98.53	26.8	18.45	32.38	360	37	A	H
		2483.84	62.61	-11.39	74	49.59	26.9	18.53	32.41	360	37	P	H
		2483.52	47.5	-6.5	54	34.48	26.9	18.53	32.41	360	37	A	H
		2390	60.91	-13.09	74	48	26.9	18.36	32.35	268	0	P	V
		2390	44.02	-9.98	54	31.11	26.9	18.36	32.35	268	0	A	V
	*	2437	119.7	-	-	106.83	26.8	18.45	32.38	268	0	P	V
	*	2437	111.04	-	-	98.17	26.8	18.45	32.38	268	0	A	V
		2483.52	58.77	-15.23	74	45.75	26.9	18.53	32.41	268	0	P	V
		2483.52	45.64	-8.36	54	32.62	26.9	18.53	32.41	268	0	A	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 11 2462MHz		2375.36	52.78	-21.22	74	39.8	27	18.33	32.35	100	46	P	H
		2387.368	42	-12	54	29.06	26.93	18.36	32.35	100	46	A	H
	*	2462	116.85	-	-	103.96	26.8	18.49	32.4	100	46	P	H
	*	2462	107.29	-	-	94.4	26.8	18.49	32.4	100	46	A	H
		2484.2	67.21	-6.79	74	54.19	26.9	18.53	32.41	100	46	P	H
		2483.52	52.24	-1.76	54	39.22	26.9	18.53	32.41	100	46	A	H
		2387.064	52.63	-21.37	74	39.69	26.93	18.36	32.35	249	0	P	V
		2387.824	42.22	-11.78	54	29.29	26.92	18.36	32.35	249	0	A	V
	*	2462	116.24	-	-	103.35	26.8	18.49	32.4	249	0	P	V
	*	2462	106.3	-	-	93.41	26.8	18.49	32.4	249	0	A	V
		2483.64	65.6	-8.4	74	52.58	26.9	18.53	32.41	249	0	P	V
		2483.52	51.27	-2.73	54	38.25	26.9	18.53	32.41	249	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	45.23	-28.77	74	33.28	32.4	13.05	33.5	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 01		4824	45.76	-28.24	74	33.81	32.4	13.05	33.5	-	-	P	V
2412MHz													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	47.17	-26.83	74	35.04	32.55	13.07	33.49	-	-	P	H
		7311	61.09	-12.91	74	43.43	37.5	16	35.84	140	360	P	H
		7311	50.75	-3.25	54	33.09	37.5	16	35.84	140	360	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 06		4874	46.62	-27.38	74	34.49	32.55	13.07	33.49	-	-	P	V
2437MHz		7311	60.25	-13.75	74	42.59	37.5	16	35.84	386	31	P	V
		7311	49.82	-4.18	54	32.16	37.5	16	35.84	386	31	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4924	45.04	-28.96	74	32.77	32.65	13.1	33.48	-	-	P	H
		7386	57.29	-16.71	74	39.66	37.43	16.09	35.89	159	1	P	H
		7386	45.66	-8.34	54	28.03	37.43	16.09	35.89	159	1	A	H
													H
													H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 11		4924	45.27	-28.73	74	33	32.65	13.1	33.48	-	-	P	V
2462MHz		7386	55.55	-18.45	74	37.92	37.43	16.09	35.89	392	31	P	V
		7386	44.87	-9.13	54	27.24	37.43	16.09	35.89	392	31	A	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 106 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 106/53 CH 01 2412MHz		2389.04	70.19	-3.81	74	57.27	26.91	8.52	32.35	339	45	P	H
		2390	50.85	-3.15	54	37.94	26.9	8.52	32.35	339	45	A	H
	*	2412	126.94	52.94	74	113.93	26.98	8.56	32.37	339	45	P	H
	*	2412	118.77	64.77	54	105.76	26.98	8.56	32.37	339	45	A	H
		2483.76	61.27	-12.73	74	48.25	26.9	8.69	32.41	339	45	P	H
		2483.52	51.37	-2.63	54	38.35	26.9	8.69	32.41	339	45	A	H
		2389.04	61.04	-12.96	74	48.12	26.91	8.52	32.35	263	8	P	V
		2390	49.69	-4.31	54	36.78	26.9	8.52	32.35	263	8	A	V
	*	2412	125.33	51.33	74	112.32	26.98	8.56	32.37	263	8	P	V
	*	2412	117.41	63.41	54	104.4	26.98	8.56	32.37	263	8	A	V
		2483.6	56.22	-17.78	74	43.2	26.9	8.69	32.41	263	8	P	V
		2483.52	45.28	-8.72	54	32.26	26.9	8.69	32.41	263	8	A	V
802.11ax HE20 Partial 106/54 CH 11 2462MHz		2386.48	64.07	-9.93	74	51.13	26.94	18.35	32.35	251	37	P	H
		2388.08	52.9	-1.1	54	39.97	26.92	18.36	32.35	251	37	A	H
	*	2462	126.97	-	-	114.08	26.8	18.49	32.4	251	37	P	H
	*	2462	118.86	-	-	105.97	26.8	18.49	32.4	251	37	A	H
		2483.68	68.84	-5.16	74	55.82	26.9	18.53	32.41	251	37	P	H
		2483.52	52.92	-1.08	54	39.9	26.9	18.53	32.41	251	37	A	H
		2389.2	60.07	-13.93	74	47.15	26.91	18.36	32.35	266	0	P	V
		2389.36	49.63	-4.37	54	36.71	26.91	18.36	32.35	266	0	A	V
	*	2462	125.82	-	-	112.93	26.8	18.49	32.4	266	0	P	V
	*	2462	116.91	-	-	104.02	26.8	18.49	32.4	266	0	A	V
		2483.52	67.33	-6.67	74	54.31	26.9	18.53	32.41	266	0	P	V
		2483.52	49.71	-4.29	54	36.69	26.9	18.53	32.41	266	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11ax HE20 (SHF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
2.4GHz 802.11ax HE20 SHF		24181	38.49	-35.51	74	40.62	38.58	19.41	60.12	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		24797	38.64	-35.36	74	39.56	39.31	19.68	59.91	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Emission below 1GHz

2.4GHz WIFI 802.11ax HE20 (LF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
2.4GHz 802.11ax HE20 LF		45.39	27.74	-12.26	40	42.18	17.12	1.16	32.72	-	-	P	H
		94.8	29.8	-13.7	43.5	45.41	15.39	1.73	32.73	-	-	P	H
		225.21	37.6	-8.4	46	52	15.61	2.66	32.67	-	-	P	H
		449.8	37.44	-8.56	46	43.45	22.95	3.79	32.75	-	-	P	H
		675.2	40.39	-5.61	46	42.19	26.39	4.61	32.8	-	-	P	H
		809.6	37.34	-8.66	46	36.87	27.83	5.07	32.43	-	-	P	H
													H
													H
													H
													H
													H
													H
		45.39	33.12	-6.88	40	47.56	17.12	1.16	32.72	-	-	P	V
		149.88	33.56	-9.94	43.5	47.06	17.03	2.18	32.71	-	-	P	V
		224.94	37.96	-8.04	46	52.41	15.58	2.64	32.67	-	-	P	V
		450.5	42.24	-3.76	46	48.24	22.96	3.79	32.75	100	172	Q	V
		675.2	38.45	-7.55	46	40.25	26.39	4.61	32.8	-	-	P	V
		881.7	36.89	-9.11	46	34.52	29.1	5.25	31.98	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **Margin** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =

Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

3. Margin (dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Margin (dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Margin (dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Ken Kuo, Bank Lin, Fred Tseng, and Karl Hou	**Temperature :**	20.8~24.8°C
		Relative Humidity :	52.4~63.8%

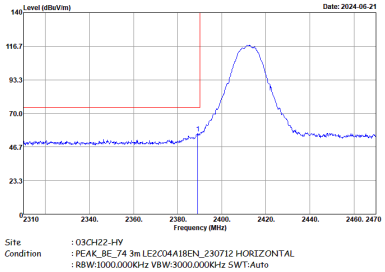
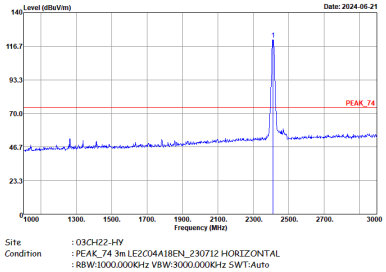
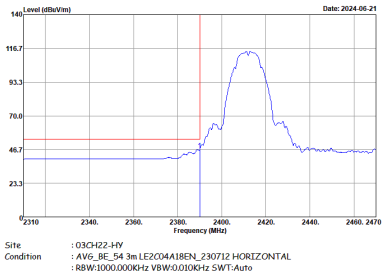
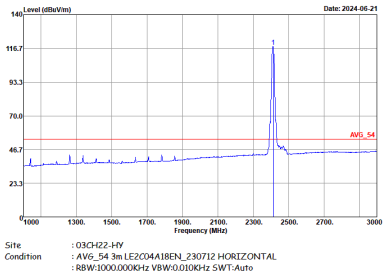
Note symbol

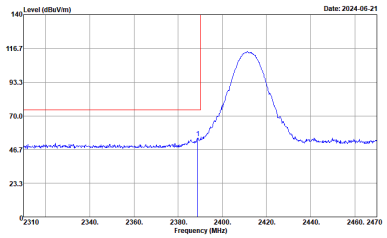
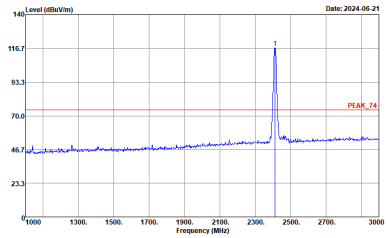
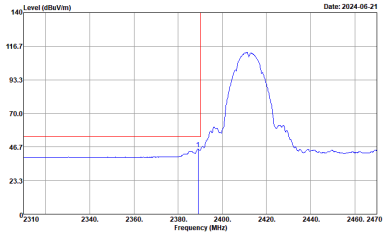
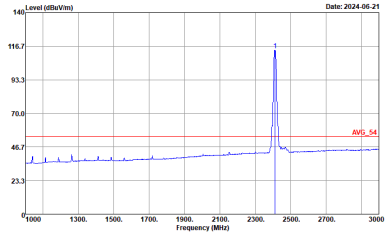
-L	**Low channel location**
-R	**High channel location**

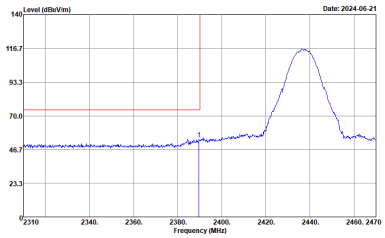
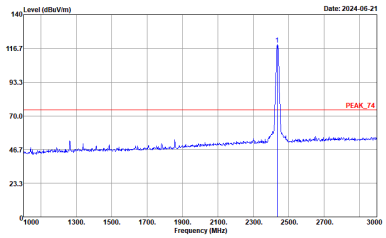
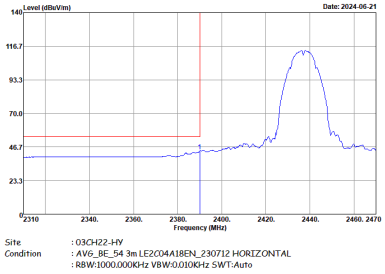
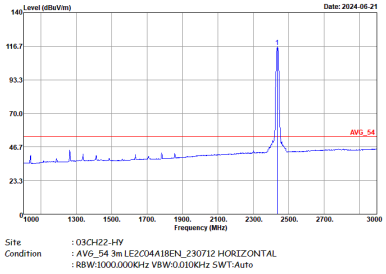
MIMO<Ant. 1+2>

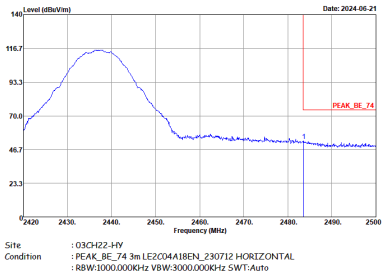
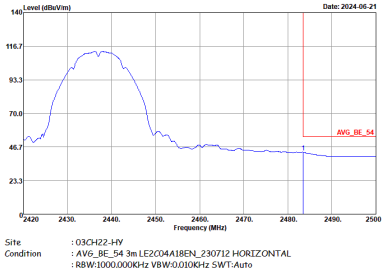
2.4GHz 2400~2483.5MHz

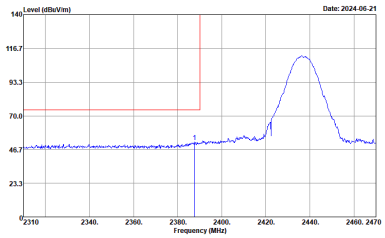
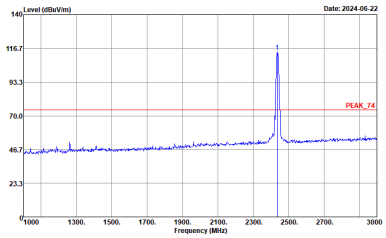
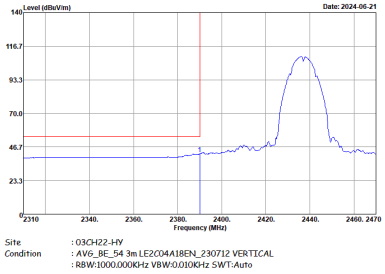
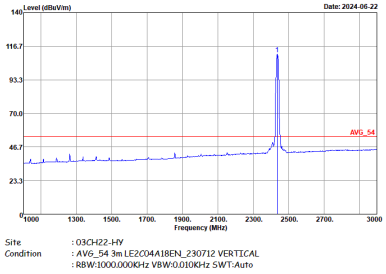
WIFI 802.11b (Band Edge @ 3m)

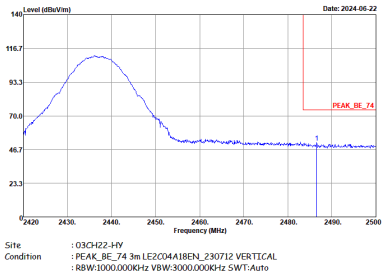
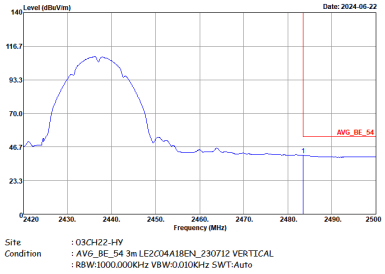
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

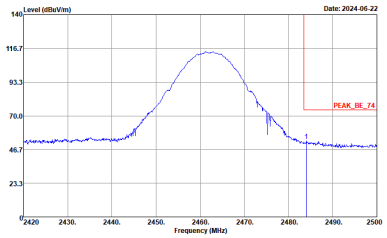
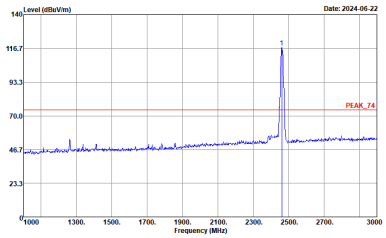
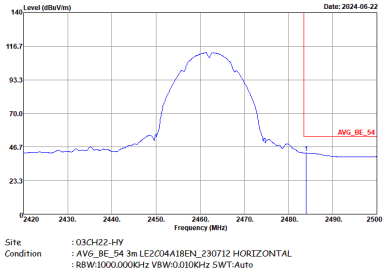
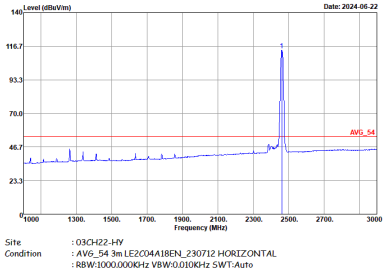
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

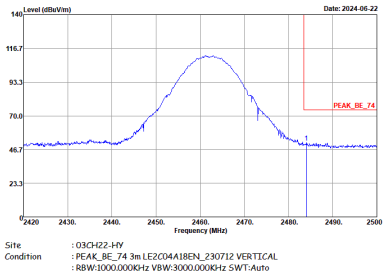
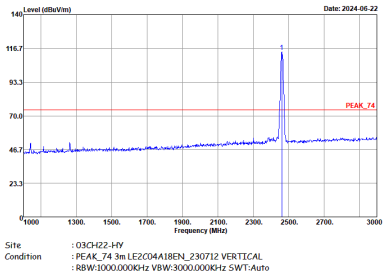
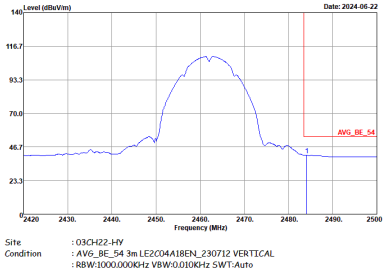
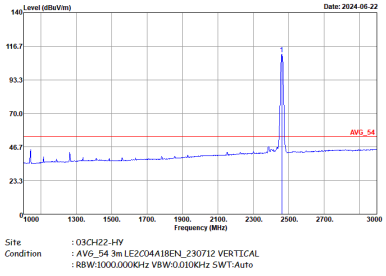
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

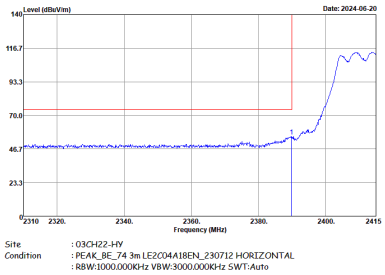
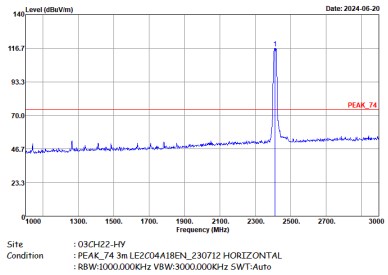
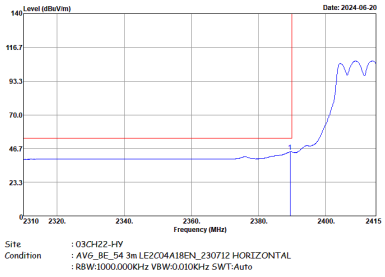
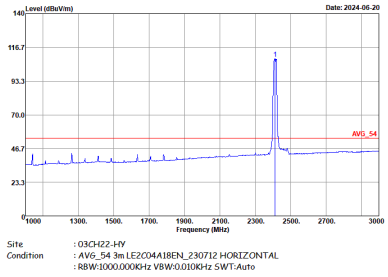
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

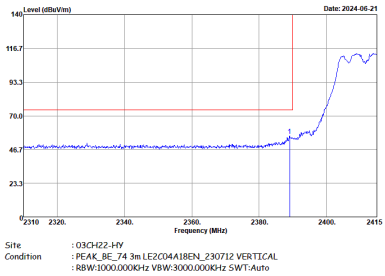
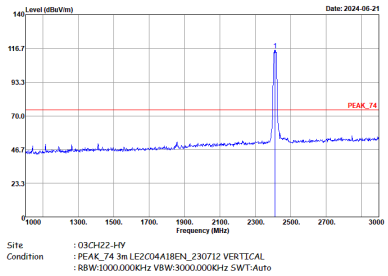
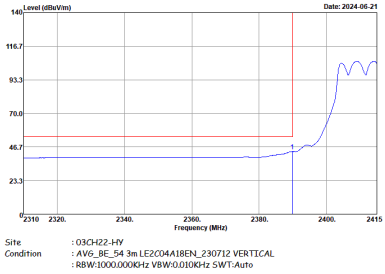
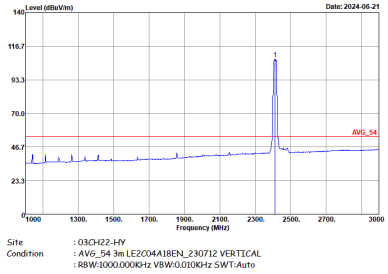
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

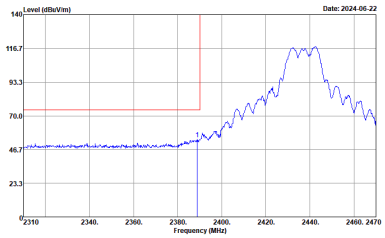
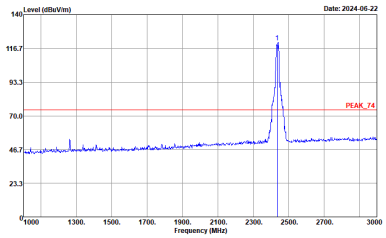
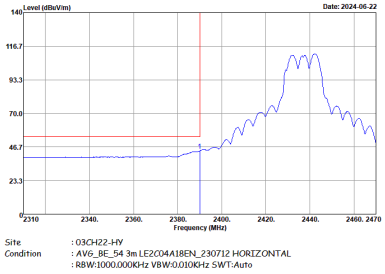
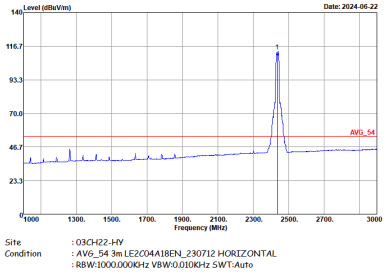
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

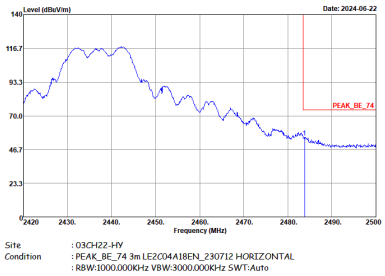
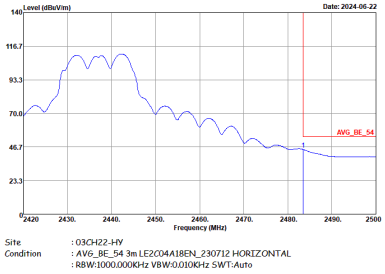
2.4GHz 2400~2483.5MHz

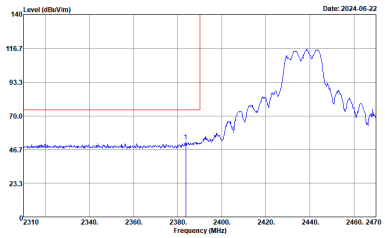
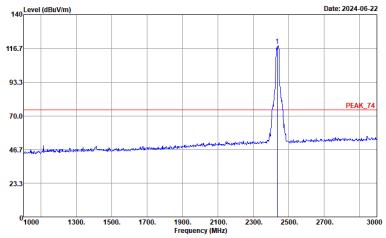
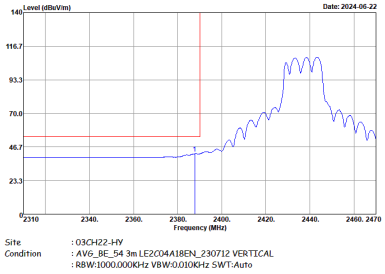
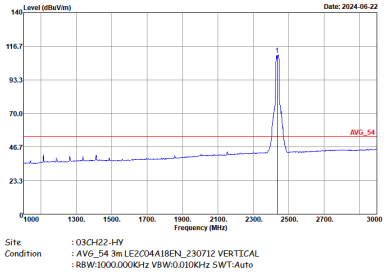
WIFI 802.11g (Band Edge @ 3m)

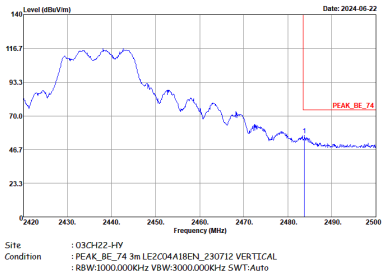
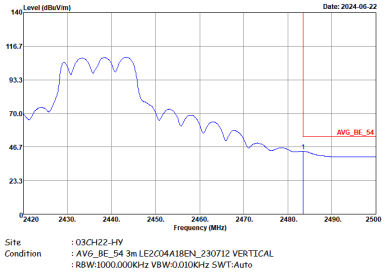
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

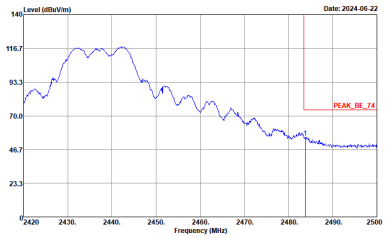
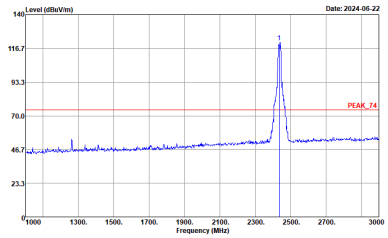
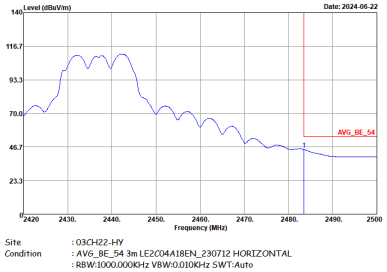
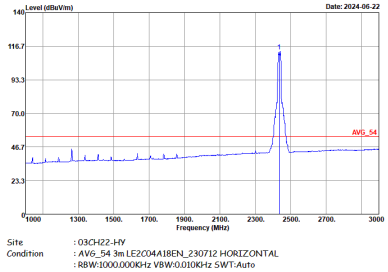
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

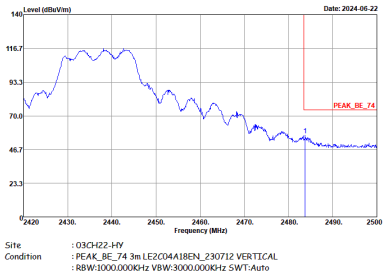
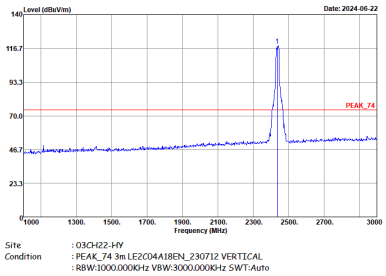
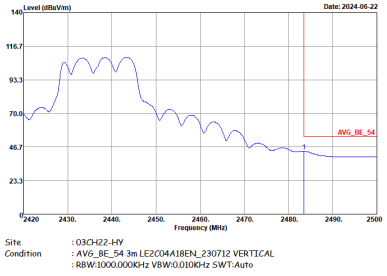
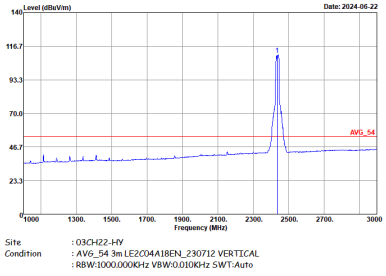
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

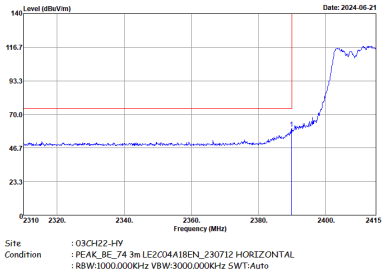
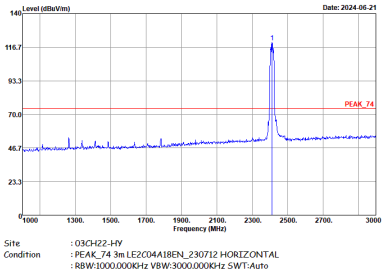
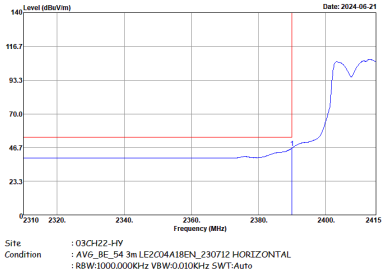
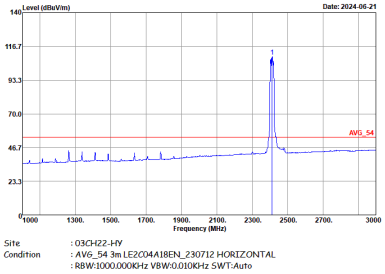
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

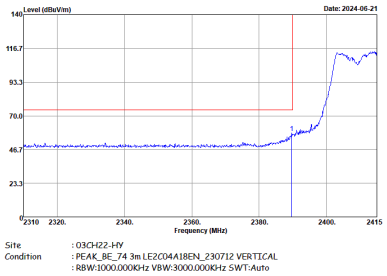
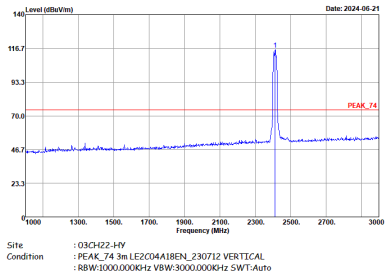
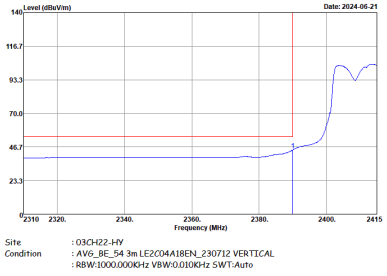
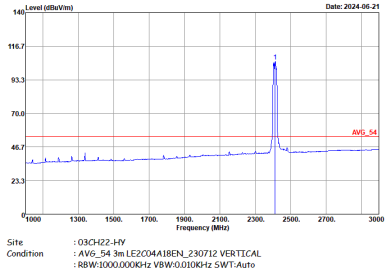
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

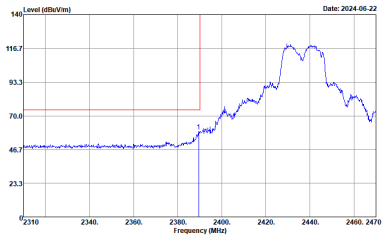
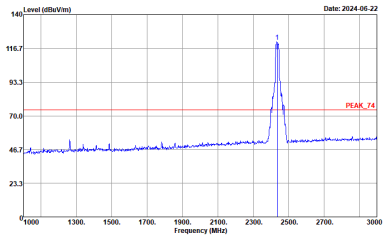
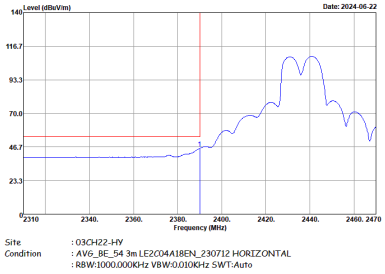
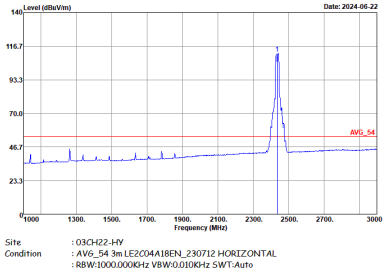
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

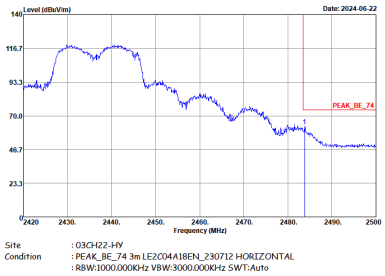
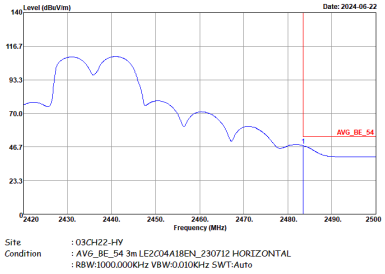
2.4GHz 2400~2483.5MHz

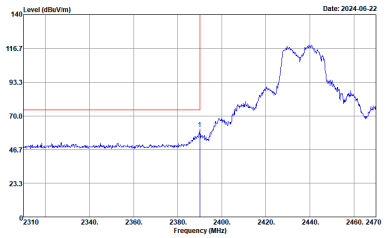
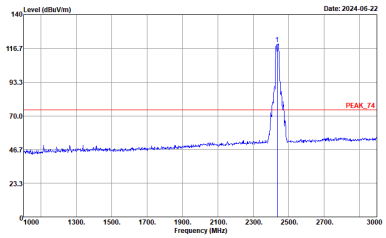
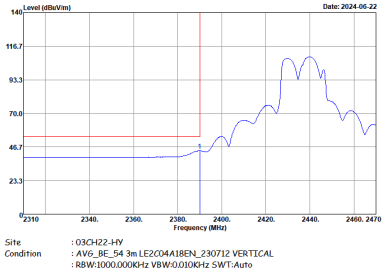
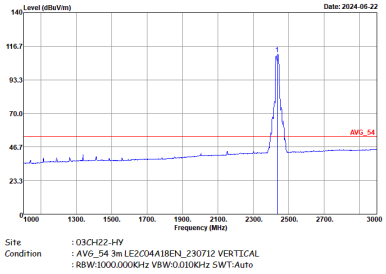
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

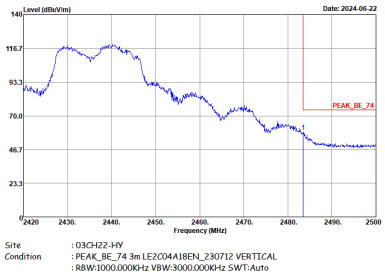
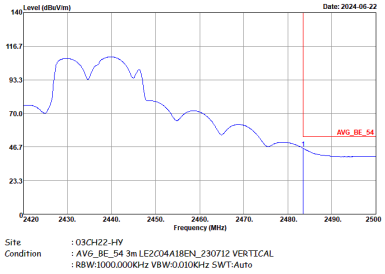
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

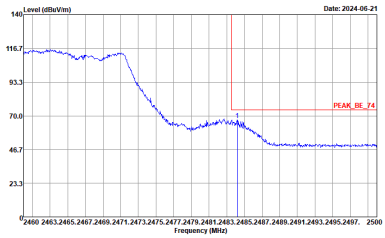
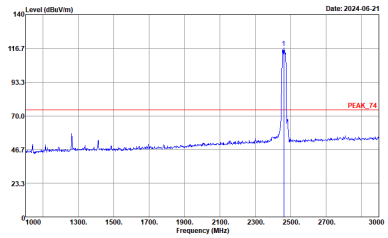
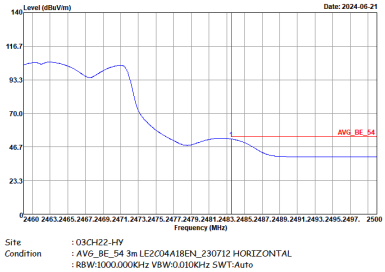
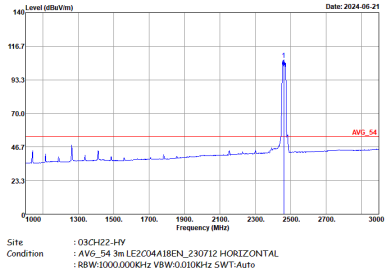
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

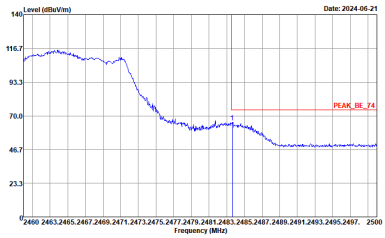
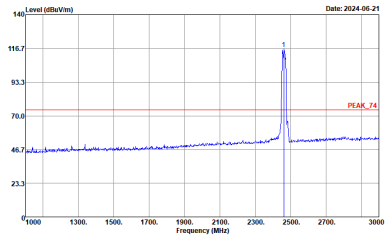
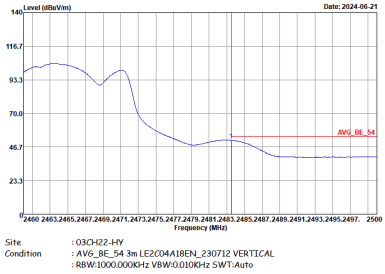
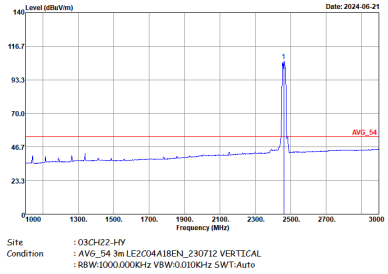
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		

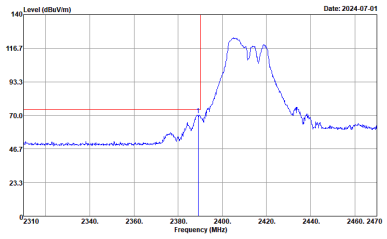
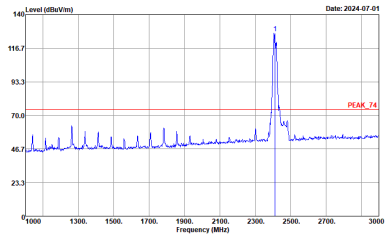
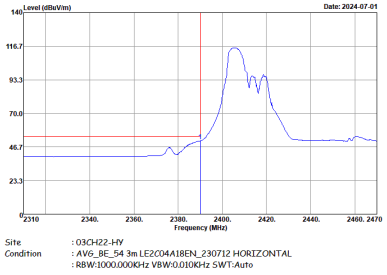
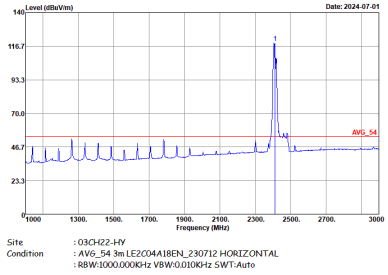
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

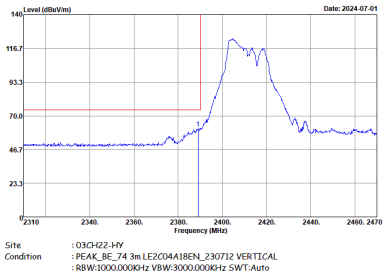
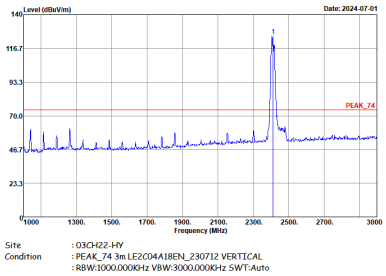
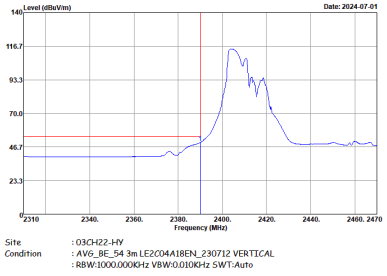
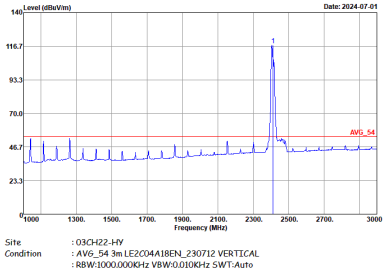
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

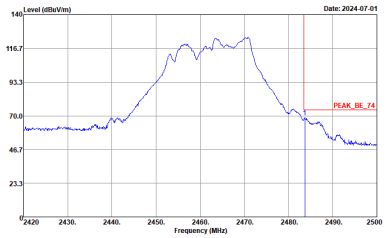
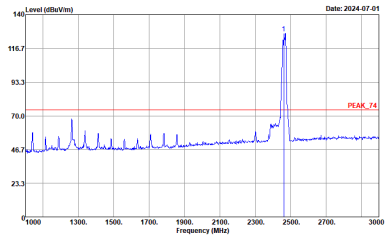
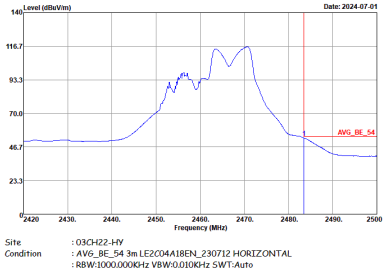
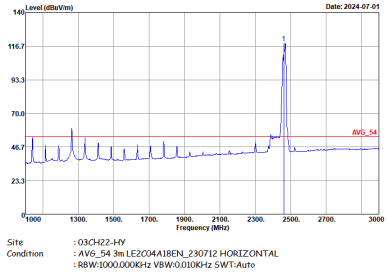
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

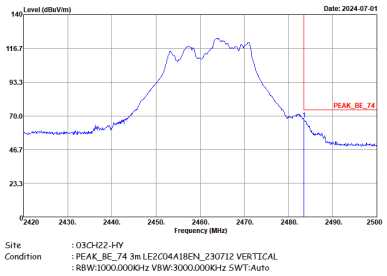
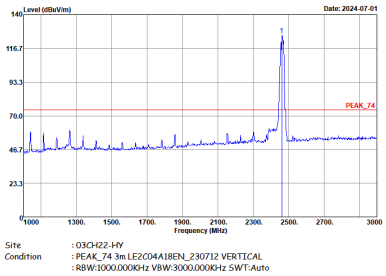
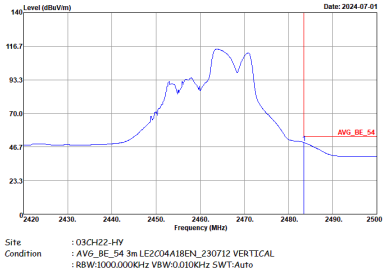
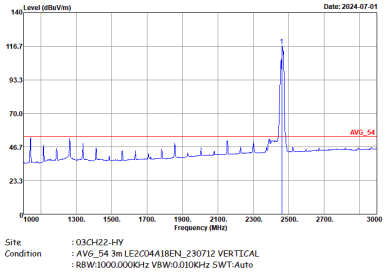
2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 106 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/53 CH01 2412MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

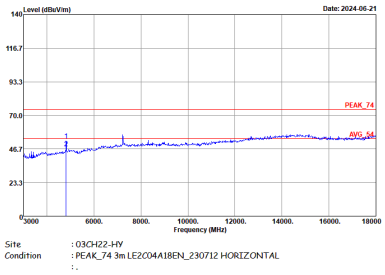
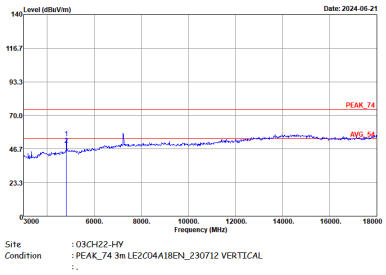
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/53 CH01 2412MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

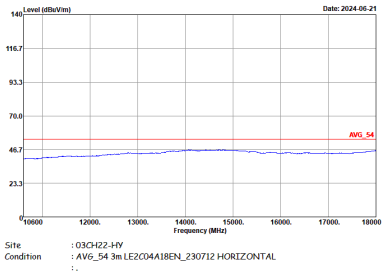
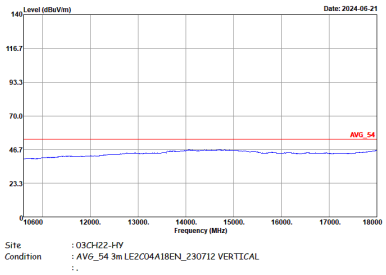
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH11 2462MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		

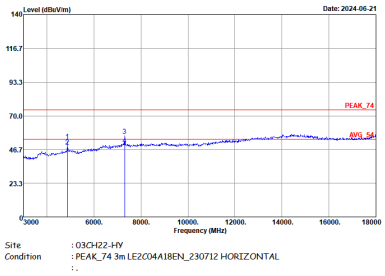
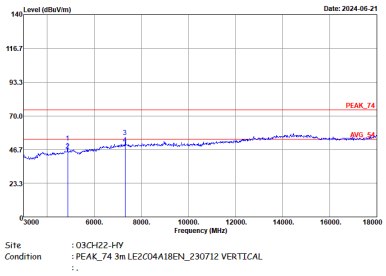
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 106/54 CH11 2462MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		

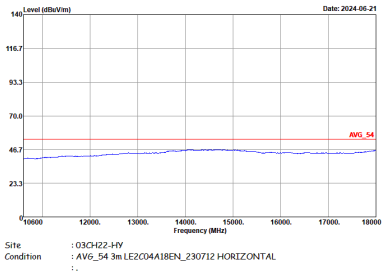
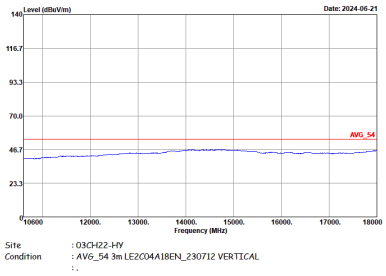
2.4GHz 2400~2483.5MHz

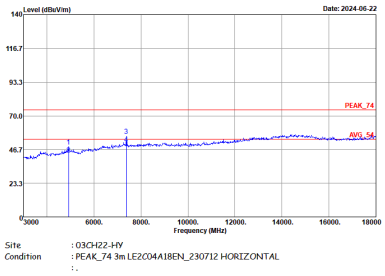
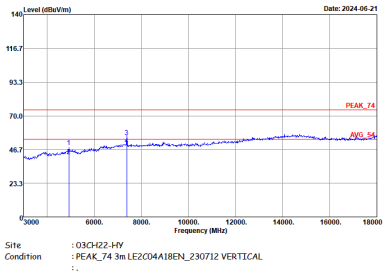
WIFI 802.11b (Harmonic @ 3m)

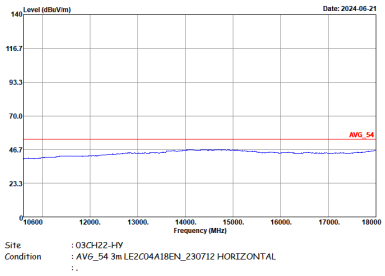
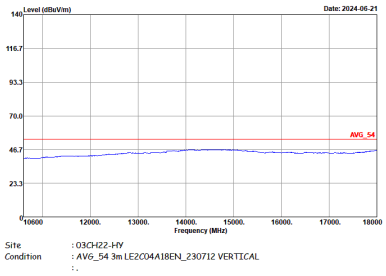
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

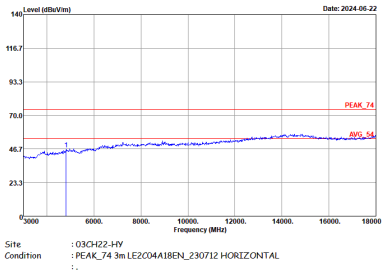
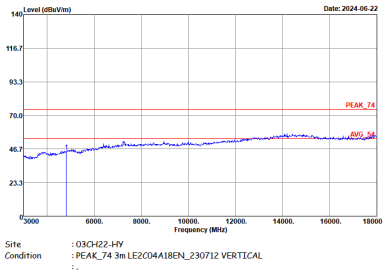
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

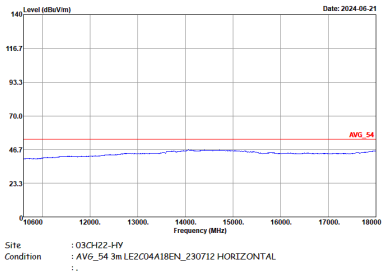
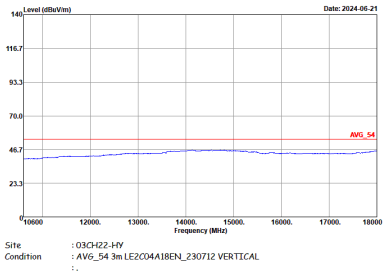
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

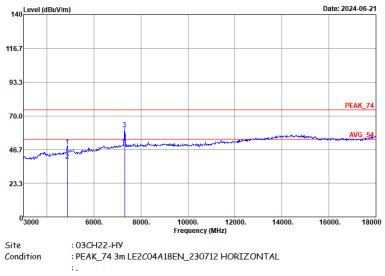
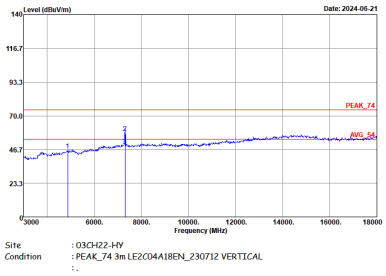
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

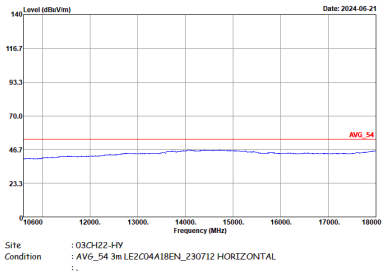
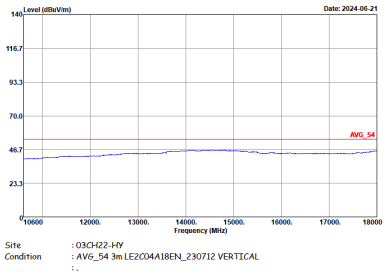
2.4GHz 2400~2483.5MHz

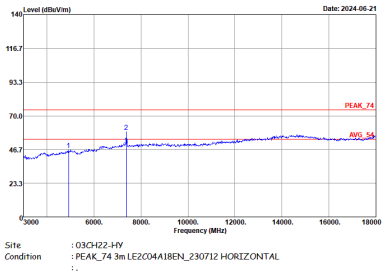
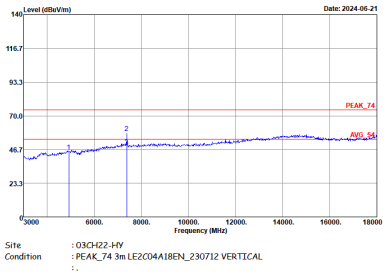
WIFI 802.11g (Harmonic @ 3m)

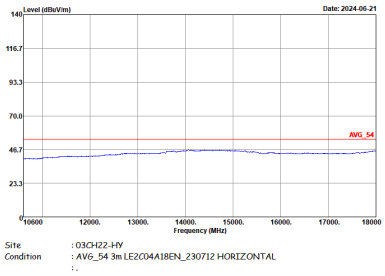
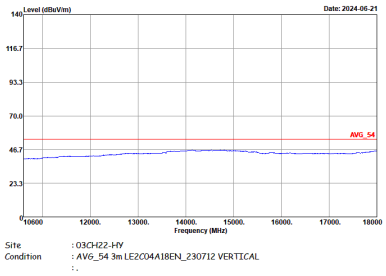
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

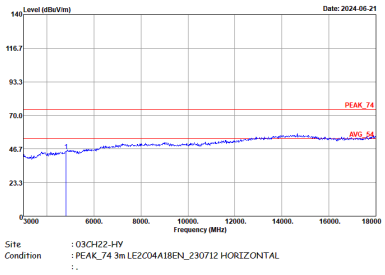
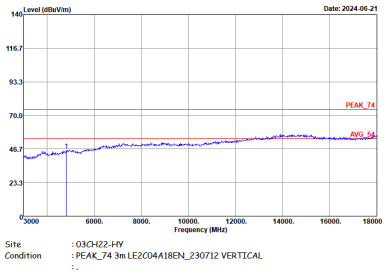
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

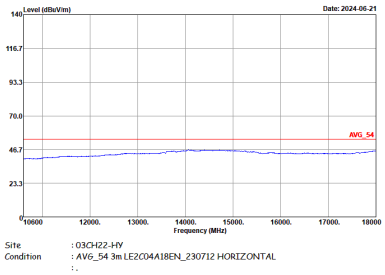
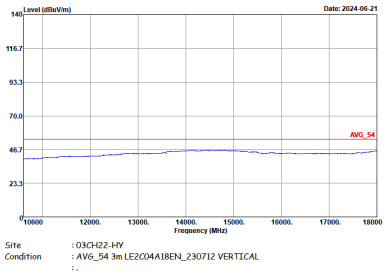
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

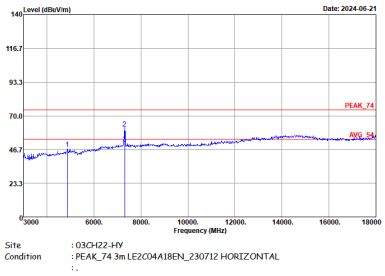
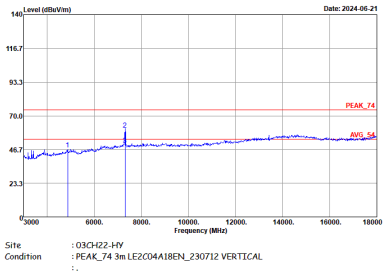
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

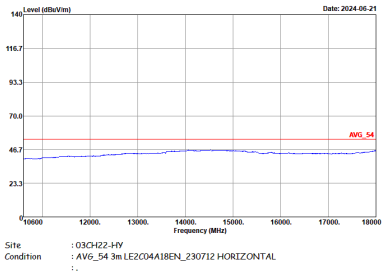
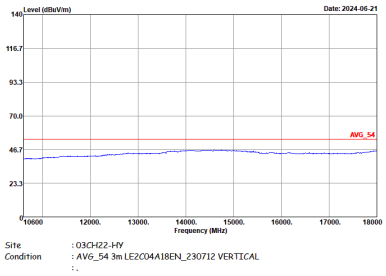
2.4GHz 2400~2483.5MHz

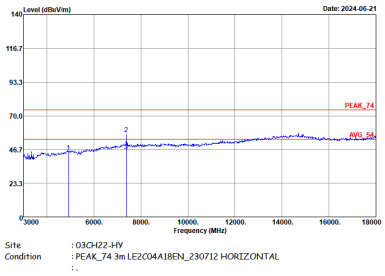
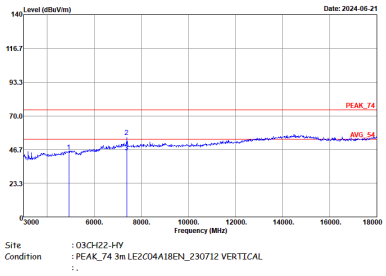
WIFI 802.11ax HE20 Full (Harmonic @ 3m)

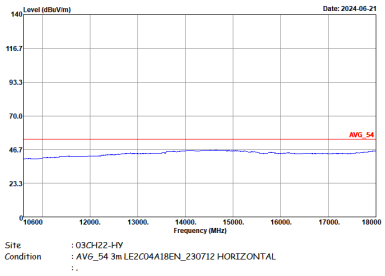
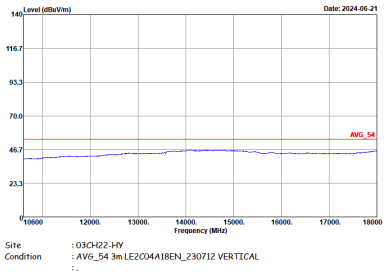
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11 ax HE20 Full CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH01 2412MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.		

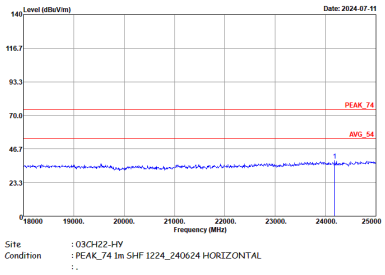
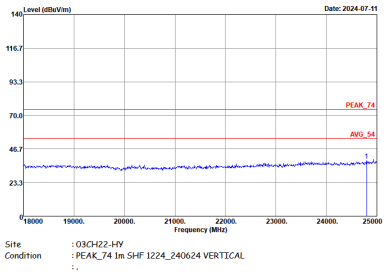
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
1+2	Horizontal	Vertical
10.6G ~18G Avg.		

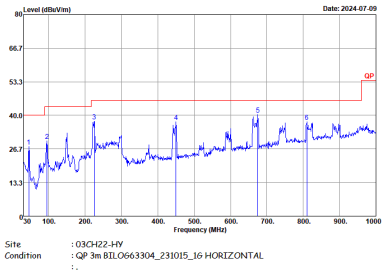
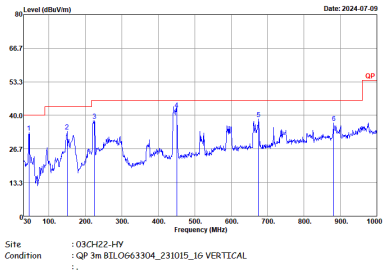
Emission above 18GHz

2.4GHz WIFI 802.11ax HE20 Full (SHF @ 1m)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11ax HE20 Full SHF	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

2.4GHz WIFI 802.11ax HE20 Full (LF)

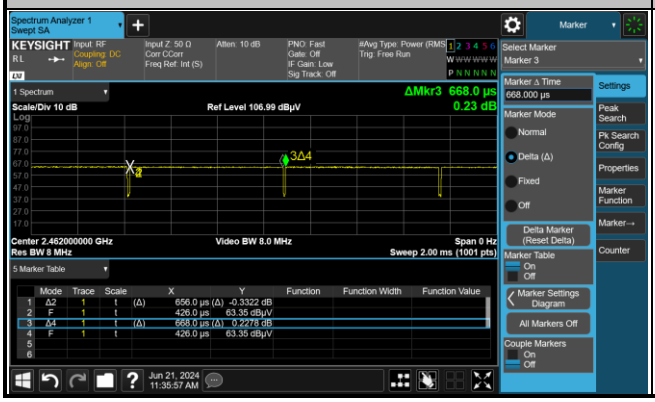
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11ax HE20 Full LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

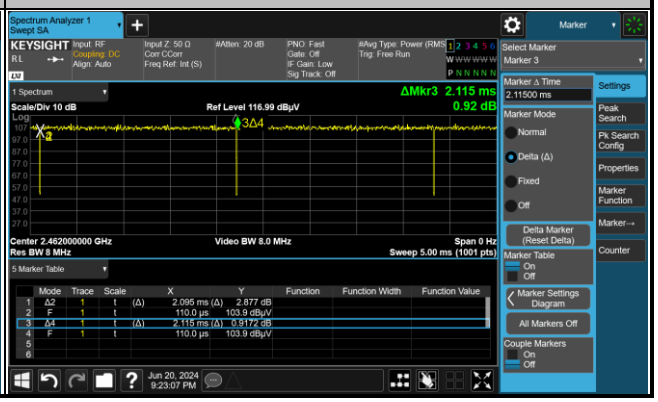
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	802.11b	98.20	-	-	10Hz
1+2	802.11g	99.05	-	-	10Hz
1+2	802.11ax HE20 Full RU	100.00	-	-	10Hz
1+2	802.11ax HE20 106 RU	99.29	-	-	10Hz

MIMO <Ant. 1+2>

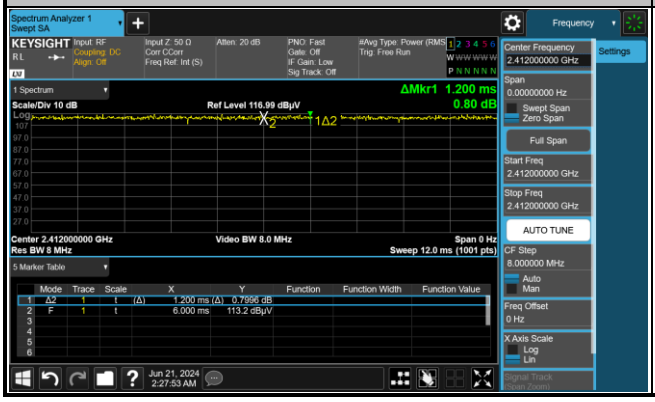
802.11b



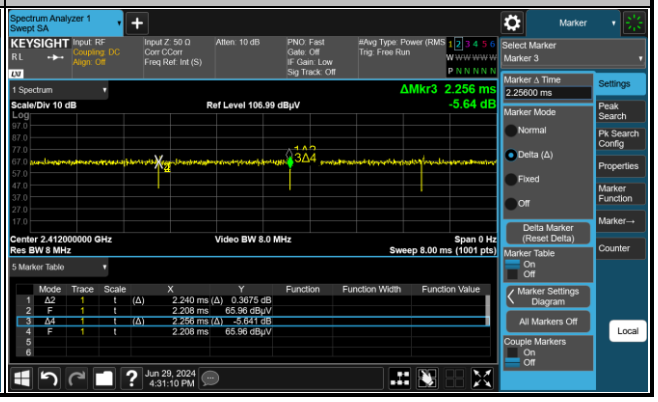
802.11g



802.11ax HE20 Full RU



802.11ax HE20 106 RU



Appendix G. Spot Check Evaluation on KC50E22

Conducted power test and radiated spurious emission test configurations were selected from the worst cases identified in the parent model and tested to demonstrate the test data from original model remains representative for the variant model.

The deviation between the spot check and the referenced values is within 3dB, therefore data referencing is justified according to the guidance in the ECR inquiry

Mode	Test Item	UZ7KC50A22 Reference Worst mode Test Result	UZ7KC50E22 Variant Check Test Result	Deviation	Limit (dB)
Bluetooth	Number of Channels	79	79	0	Within the authorized block
	Hopping Channel Separation	1.003	1.007	0.004	Within the authorized block
	Dwell Time of Each Channel	0.31	0.31	0	Within the authorized block
	20dB Bandwidth	0.893	0.891	0.002	Within the authorized frequency block
	99% Bandwidth	0.827	0.827	0	Within the authorized frequency block
	Conducted Band Edges	-41.22	-41.73	0.51	Deviation (ddB) < 3 dB
	Conducted Spurious Emission	-31.93	-32.30	0.37	Deviation (ddB) < 3 dB
	Peak Output Power	5.40	6.20	0.8	Deviation (ddB) < 3 dB
	Radiated Band Edges and Radiated Spurious Emission	42.16	39.94	2.22	Deviation (ddB) < 3 dB
	AC Conducted Emission	42.98	40.01	2.97	Deviation (ddB) < 3 dB
Bluetooth-LE	6dB Bandwidth	0.674	0.668	0.006	Within the authorized frequency block
	99% Bandwidth	1.019	1.019	0	Within the authorized frequency block
	Power Spectral Density	-9.55	-10.09	0.54	Deviation (ddB) < 3 dB
	Conducted Band Edges	-41.10	-42.38	1.28	Deviation (ddB) < 3 dB
	Conducted Spurious Emission	-31.69	-32.23	0.54	Deviation (ddB) < 3 dB
	Power Output Measurement	4.80	4.60	0.2	Deviation (ddB) < 3 dB
	Radiated Band Edges and Spurious Emission	42.35	39.81	2.54	Deviation (ddB) < 3 dB
	AC Conducted Emission	42.98	40.01	2.97	Deviation (ddB) < 3 dB
WIFI 2.4G	6dB Bandwidth	8.06	8.08	0.02	Within the authorized frequency block
	99% Bandwidth	13.04	13.09	0.05	Within the authorized frequency block
	Power Spectral Density	3.70	3.78	0.08	Deviation (ddB) < 3 dB
	Conducted Band Edges	-36.65	-36.24	0.41	Deviation (ddB) < 3 dB
	Conducted Spurious Emission	-42.84	-41.89	0.95	Deviation (ddB) < 3 dB
	Output Power	26.46	26.36	0.1	Deviation (ddB) < 3 dB
	Radiated Band Edges and Spurious Emission	52.24	51.35	0.89	Deviation (ddB) < 3 dB
	AC Conducted Emission	42.98	40.01	2.97	Deviation (ddB) < 3 dB

Mode	Test Item	UZ7KC50A22 Reference Worst mode Test Result	UZ7KC50E22 Variant Check Test Result	Deviation	Limit (dB)
WIFI 5G	26dB Bandwidth	165.98	165.94	0.04	Within the authorized frequency block
	99% Bandwidth	156.32	156.56	0.24	Within the authorized frequency block
	Power Spectral Density	10.52	10.38	0.14	Deviation (ddB) < 3 dB
	Maximum Conducted Output Power	23.58	23.48	0.1	Deviation (ddB) < 3 dB
	Unwanted Emissions	66.96	64.84	2.12	Deviation (ddB) < 3 dB
	AC Conducted Emission	41.81	40.50	1.31	Deviation (ddB) < 3 dB
WIFI 6G	26dB Emission Bandwidth	165.84	166.56	0.72	Within the authorized frequency block
	99% Occupied Bandwidth	156.80	157.76	0.96	Within the authorized frequency block
	Contention Based Protocol	-66.35	-68.65	2.3	Within the authorized block
	Fundamental Maximum EIRP	26.54	25.96	0.58	Deviation (ddB) < 3 dB
	Fundamental Power Spectral Density	16.81	16.71	0.1	Deviation (ddB) < 3 dB
	In-Band Emissions (Channel Mask)	-42.43	-41.04	1.39	Deviation (ddB) < 3 dB
	Unwanted Emissions	67.14	66.93	0.21	Deviation (ddB) < 3 dB
	AC Conducted Emission	41.15	40.16	0.99	Deviation (ddB) < 3 dB

List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9kHz~30MHz	Sep. 12, 2023	Aug. 02, 2024~ Aug. 06, 2024	Sep. 11, 2024	Radiation (03CH22-HY)
Bilog Antenna with 6dB	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	63304 & 002	30MHz~1GHz	Oct. 15, 2023	Aug. 02, 2024~ Aug. 06, 2024	Oct. 14, 2024	Radiation (03CH22-HY)
Amplifier	SONOMA	310N	421581	N/A	Jul. 14, 2024	Aug. 02, 2024~ Aug. 06, 2024	Jul. 13, 2025	Radiation (03CH22-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C04A18EN	1GHz~18GHz	Jul. 11, 2024	Aug. 02, 2024~ Aug. 06, 2024	Jul. 10, 2025	Radiation (03CH22-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1224	18GHz-40GHz	Jun. 24, 2024	Aug. 02, 2024~ Aug. 06, 2024	Jun. 23, 2025	Radiation (03CH22-HY)
Amplifier	EMEC	EM01G18GA	060877	N/A	Sep. 28, 2023	Aug. 02, 2024~ Aug. 06, 2024	Sep. 27, 2024	Radiation (03CH22-HY)
Preamplifier	EMEC	EM18G40G	060872	18-40GHz	Sep. 06, 2023	Aug. 02, 2024~ Aug. 06, 2024	Sep. 05, 2024	Radiation (03CH22-HY)
Signal Analyzer	Keysight	N9010B	MY62170278	10Hz~44GHz	Aug. 31, 2023	Aug. 02, 2024~ Aug. 06, 2024	Aug. 30, 2024	Radiation (03CH22-HY)
EMI Test Receiver	Keysight	N9038B	MY62210111	20Hz~8.4GHz	Aug. 23, 2023	Aug. 02, 2024~ Aug. 06, 2024	Aug. 22, 2024	Radiation (03CH22-HY)
Hygrometer	TECPEL	DTM-303A	TP211469	N/A	Jan. 03, 2024	Aug. 02, 2024~ Aug. 06, 2024	Jan. 02, 2025	Radiation (03CH22-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Aug. 02, 2024~ Aug. 06, 2024	N/A	Radiation (03CH22-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 02, 2024~ Aug. 06, 2024	N/A	Radiation (03CH22-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 02, 2024~ Aug. 06, 2024	N/A	Radiation (03CH22-HY)
Software	Audix	E3 6.09824_2019122	RK-002347	N/A	N/A	Aug. 02, 2024~ Aug. 06, 2024	N/A	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2024	Aug. 02, 2024~ Aug. 06, 2024	Mar. 05, 2025	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804390/2,804611/2,804615/2	N/A	Oct. 24, 2023	Aug. 02, 2024~ Aug. 06, 2024	Oct. 23, 2024	Radiation (03CH22-HY)
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Jul. 16, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jul. 16, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	Jul. 16, 2024	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	Jul. 16, 2024	Mar. 13, 2025	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	Jul. 16, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	Jul. 16, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	Jul. 16, 2024	Sep. 19, 2024	Conduction (CO07-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	Jul. 20, 2024~ Jul. 27, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	15I00041SNO 10 (NO:248)	10MHz~6GHz	Jan. 10, 2024	Jul. 20, 2024~ Jul. 27, 2024	Jan. 09, 2025	Conducted (TH05-HY)
Switch Control Mainframe	Burgeon	ETF-058	EC1300485 (BOX4)	N/A	Apr. 08, 2024	Jul. 20, 2024~ Jul. 27, 2024	Apr. 07, 2025	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 23, 2023	Jul. 20, 2024~ Jul. 27, 2024	Aug. 22, 2024	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_ version_240411	N/A	Conducted Other Test Item	N/A	Jul. 20, 2024~ Jul. 27, 2024	N/A	Conducted (TH05-HY)

———THE END———