

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

For power measurements on IEEE 802.11 devices,

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

G_{ANT} is set equal to the gain of the antenna having the highest gain.

For PSD measurements, the directional gain calculation follows F)2)f)ii) of KDB 662911 D01 v02r01.

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th antenna.

As minimum $N_{SS}=1$ is supported by EUT, the formula can be simplified as:

$$Directional\ gain = 10 \cdot \log \left[\left(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20} \right)^2 / N_{ANT} \right] \text{ dBi}$$

Where G_1, G_2, \dots, G_N denote single antenna gain.

For example: If a device has two antenna, $G_{ANT1}= 3.6\text{dBi}$; $G_{ANT2}=4.2\text{dBi}$

Directional gain of power measurement = $\max(3.6, 4.2) + 0 = 4.2 \text{ dBi}$

Directional gain of PSD measurement = $10 \cdot \log \left[\left(10^{3.6/20} + 10^{4.2/20} \right)^2 / 2 \right] = 6.92 \text{ dBi}$



	Ant. 16 (dBi)	Ant. 18 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-1.27	0.00	0.00	2.40	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

Calculation example:

The DG for PSD is derived from formula is

$$10 \times \log \left\{ \left[10^{(-1.27 \text{ dBi} / 20)} + 10^{(0.00 \text{ dBi} / 20)} \right]^2 / 2 \right\}$$

= 2.40 dBi



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECEPEL	DTM-303A	TP201996	N/A	Nov. 16, 2021	Jun. 02, 2022~ Jun. 17, 2022	Nov. 15, 2022	Conducted (TH05-HY)
USB Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 16, 2021	Jun. 02, 2022~ Jun. 17, 2022	Dec. 15, 2022	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Jun. 02, 2022~ Jun. 17, 2022	Aug. 29, 2022	Conducted (TH05-HY)
Switch Control Mainframe	E-IUSTRUMENT	ETF-1405-0	EC1900067 (BOX7)	N/A	Aug. 12, 2021	Jun. 02, 2022~ Jun. 17, 2022	Aug. 11, 2022	Conducted (TH05-HY)
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Jun. 02, 2022	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 02, 2022	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 29, 2021	Jun. 02, 2022	Oct. 28, 2022	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 16, 2022	Jun. 02, 2022	Mar. 15, 2023	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Feb. 16, 2022	Jun. 02, 2022	Feb. 15, 2023	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Oct. 21, 2021	Jun. 02, 2022	Oct. 20, 2022	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESC17	100724	9kHz~7GHz	Feb. 24, 2022	Jun. 02, 2022	Feb. 23, 2023	Conduction (CO07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 09, 2021	Jun. 09, 2022~ Jun. 18, 2022	Sep. 08, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-0 6	41912 & 05	30MHz~1GHz	Feb. 06, 2022	Jun.09, 2022~ Jun. 18, 2022	Feb. 05, 2023	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2021	Jun. 09, 2022~ Jun. 18, 2022	Dec. 26, 2022	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02038	1GHz~18GHz	Aug. 04, 2021	Jun. 09, 2022~ Jun. 18, 2022	Aug. 03, 2022	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Nov. 30, 2021	Jun.09, 2022~ Jun. 18, 2022	Nov. 29, 2022	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-30 3	17100018000 55006	1GHz~18GHz	May 05, 2022	Jun. 09, 2022~ Jun. 18, 2022	May 04, 2023	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060803	1GHz-18GHz	Dec. 16, 2021	Jun. 09, 2022~ Jun. 18, 2022	Dec. 15, 2022	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060801	18-40GHz	Jun. 22, 2021	Jun. 09, 2022~ Jun. 18, 2022	Jun. 21, 2022	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Oct. 21, 2021	Jun. 09, 2022~ Jun. 18, 2022	Oct. 20, 2022	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Mar. 07, 2022	Jun. 09, 2022~ Jun. 18, 2022	Mar. 06, 2023	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jun.09, 2022~ Jun. 18, 2022	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jun. 09, 2022~ Jun. 18, 2022	N/A	Radiation (03CH15-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Jun. 09, 2022~ Jun. 18, 2022	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE, 508405/2E	30MHz~18G	Nov. 15, 2021	Jun. 09, 2022~ Jun. 18, 2022	Nov. 14, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804 012/2	30MHz-40GHz	Jan. 04, 2022	Jun. 09, 2022~ Jun. 18, 2022	Jan. 03, 2023	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Jun. 09, 2022~ Jun. 18, 2022	Mar. 09, 2023	Radiation (03CH15-HY)
Filter	Wainwright	WLJ4-1000-1530 -6000-40ST	SN4	1.53GHz Low Pass Filter	Jul. 02, 2021	Jun. 09, 2022~ Jun. 18, 2022	Jul. 01, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN4	3GHz High Pass Filter	Sep. 15, 2021	Jun. 09, 2022~ Jun. 18, 2022	Sep. 14, 2022	Radiation (03CH15-HY)



5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.8 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.3 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.6 dB
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2022/6/2~2022/6/17	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant16	Ant18	Ant16	Ant18		
11b	1Mbps	2	1	2412	12.49	12.79	8.08	8.06	0.50	Pass
11b	1Mbps	2	6	2437	12.79	12.84	7.60	8.10	0.50	Pass
11b	1Mbps	2	11	2462	12.59	12.54	8.06	8.08	0.50	Pass
11g	6Mbps	2	1	2412	17.88	17.43	15.75	15.75	0.50	Pass
11g	6Mbps	2	6	2437	18.03	17.53	15.72	16.34	0.50	Pass
11g	6Mbps	2	11	2462	17.63	17.48	15.49	16.33	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant16	Ant18	SUM	Ant16	Ant18	Ant16	Ant18	Ant16	Ant18	Ant16	Ant18	
11b	1Mbps	2	1	2412	19.80	19.60	22.71	30.00		0.00		22.71		36.00	Pass	
11b	1Mbps	2	6	2437	19.40	19.40	22.41	30.00		0.00		22.41		36.00	Pass	
11b	1Mbps	2	11	2462	19.40	18.90	22.17	30.00		0.00		22.17		36.00	Pass	
11g	6Mbps	2	1	2412	14.70	15.00	17.86	30.00		0.00		17.86		36.00	Pass	
11g	6Mbps	2	6	2437	16.30	16.70	19.51	30.00		0.00		19.51		36.00	Pass	
11g	6Mbps	2	11	2462	14.80	14.80	17.81	30.00		0.00		17.81		36.00	Pass	
HT20	MCS0	2	1	2412	12.70	13.10	15.91	30.00		0.00		15.91		36.00	Pass	
HT20	MCS0	2	6	2437	16.30	16.80	19.57	30.00		0.00		19.57		36.00	Pass	
HT20	MCS0	2	11	2462	12.80	12.90	15.86	30.00		0.00		15.86		36.00	Pass	

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant16	Ant18	Worse + 3.01	Ant16	Ant18	Ant16	Ant18	
11b	1Mbps	2	1	2412	-1.99	-2.28	1.02	2.40		8.00		Pass
11b	1Mbps	2	6	2437	-3.76	-4.29	-0.75	2.40		8.00		Pass
11b	1Mbps	2	11	2462	-3.27	-3.87	-0.26	2.40		8.00		Pass
11g	6Mbps	2	1	2412	-10.89	-10.89	-7.88	2.40		8.00		Pass
11g	6Mbps	2	6	2437	-9.52	-9.31	-6.30	2.40		8.00		Pass
11g	6Mbps	2	11	2462	-10.53	-10.77	-7.52	2.40		8.00		Pass

Measured power density (dBm) has offset with cable loss.

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
						Ant16	Ant18	Ant16	Ant18		
HE20	MCS0	2	1	2412	Full	19.53	19.48	17.48	18.35	0.50	Pass
HE20	MCS0	2	6	2437	Full	19.58	19.53	18.10	18.50	0.50	Pass
HE20	MCS0	2	11	2462	Full	19.58	19.33	17.89	17.39	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant16	Ant18	SUM	Ant16	Ant18	Ant16	Ant18	Ant16	Ant18	Ant16	Ant18	
HE20	MCS0	2	1	2412	Full	12.80	13.20	16.01	30.00	0.00	0.00	16.01	36.00	36.00	36.00	Pass	
HE20	MCS0	2	1	2412	26/0	5.10	5.20	8.16	30.00	0.00	0.00	8.16	36.00	36.00	36.00	Pass	
HE20	MCS0	2	1	2412	52/37	7.50	7.70	10.61	30.00	0.00	0.00	10.61	36.00	36.00	36.00	Pass	
HE20	MCS0	2	1	2412	106/53	10.10	10.10	13.11	30.00	0.00	0.00	13.11	36.00	36.00	36.00	Pass	
HE20	MCS0	2	6	2437	Full	16.40	16.90	19.67	30.00	0.00	0.00	19.67	36.00	36.00	36.00	Pass	
HE20	MCS0	2	6	2437	26/4	8.70	8.90	11.81	30.00	0.00	0.00	11.81	36.00	36.00	36.00	Pass	
HE20	MCS0	2	6	2437	52/39	10.80	11.00	13.91	30.00	0.00	0.00	13.91	36.00	36.00	36.00	Pass	
HE20	MCS0	2	6	2437	106/53	14.20	14.60	17.41	30.00	0.00	0.00	17.41	36.00	36.00	36.00	Pass	
HE20	MCS0	2	11	2462	Full	12.90	13.00	15.96	30.00	0.00	0.00	15.96	36.00	36.00	36.00	Pass	
HE20	MCS0	2	11	2462	26/8	4.60	3.10	6.92	30.00	0.00	0.00	6.92	36.00	36.00	36.00	Pass	
HE20	MCS0	2	11	2462	52/40	6.80	5.70	9.30	30.00	0.00	0.00	9.30	36.00	36.00	36.00	Pass	
HE20	MCS0	2	11	2462	106/54	9.60	8.60	12.14	30.00	0.00	0.00	12.14	36.00	36.00	36.00	Pass	

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant16	Ant18	Worse + 3.01	Ant16	Ant18	Ant16	Ant18	
HE20	MCS0	2	1	2412	Full	-13.33	-13.30	-10.29	2.40		8.00		Pass
HE20	MCS0	2	1	2412	26/0	-13.61	-13.52	-10.51	2.40		8.00		Pass
HE20	MCS0	2	1	2412	52/37	-13.51	-13.67	-10.50	2.40		8.00		Pass
HE20	MCS0	2	1	2412	106/53	-13.36	-13.72	-10.35	2.40		8.00		Pass
HE20	MCS0	2	6	2437	Full	-10.47	-9.39	-6.38	2.40		8.00		Pass
HE20	MCS0	2	6	2437	26/4	-10.82	-9.86	-6.85	2.40		8.00		Pass
HE20	MCS0	2	6	2437	52/39	-10.71	-9.78	-6.77	2.40		8.00		Pass
HE20	MCS0	2	6	2437	106/53	-10.62	-9.70	-6.69	2.40		8.00		Pass
HE20	MCS0	2	11	2462	Full	-13.92	-13.55	-10.54	2.40		8.00		Pass
HE20	MCS0	2	11	2462	26/8	-13.96	-13.91	-10.90	2.40		8.00		Pass
HE20	MCS0	2	11	2462	52/40	-14.21	-13.98	-10.97	2.40		8.00		Pass
HE20	MCS0	2	11	2462	106/54	-14.07	-13.69	-10.68	2.40		8.00		Pass

Measured power density (dBm) has offset with cable loss.



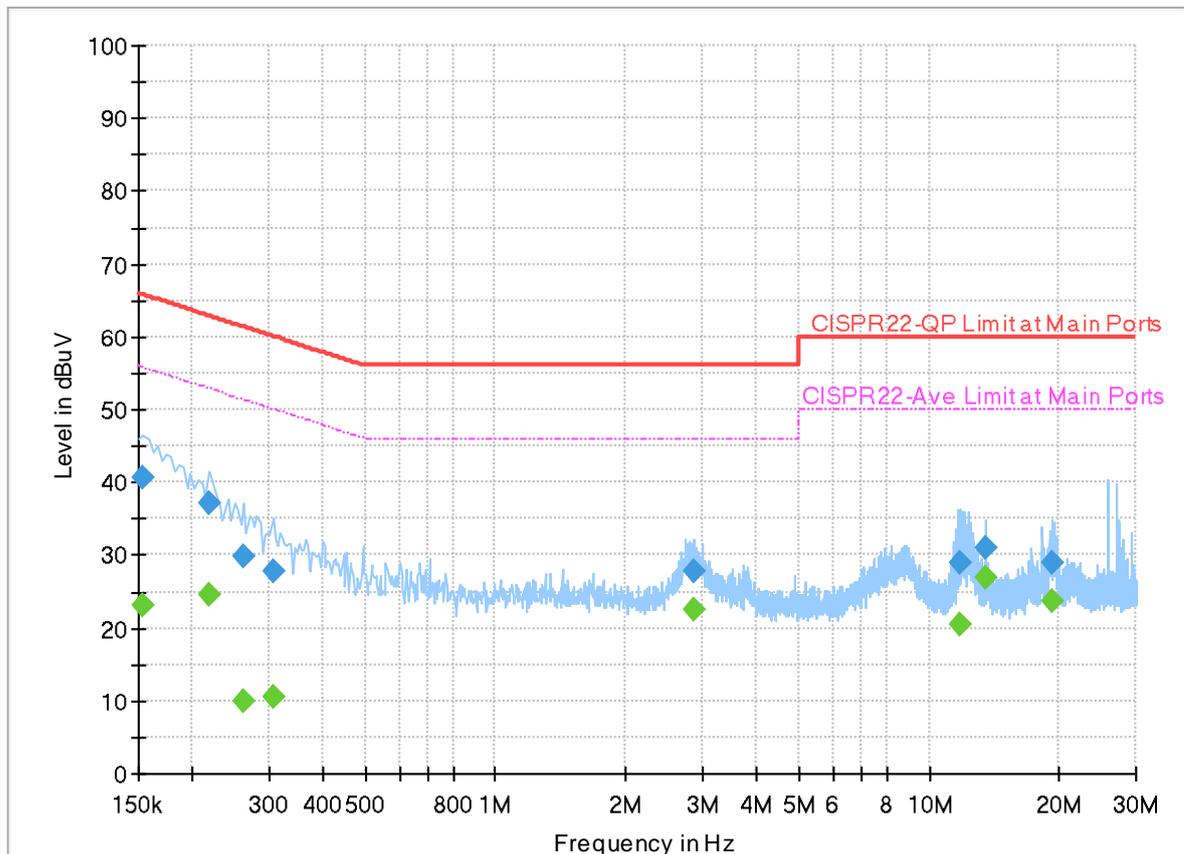
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	Temperature :	21.3~25.6°C
		Relative Humidity :	48.2~57.6%

EUT Information

Report NO : 251212
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



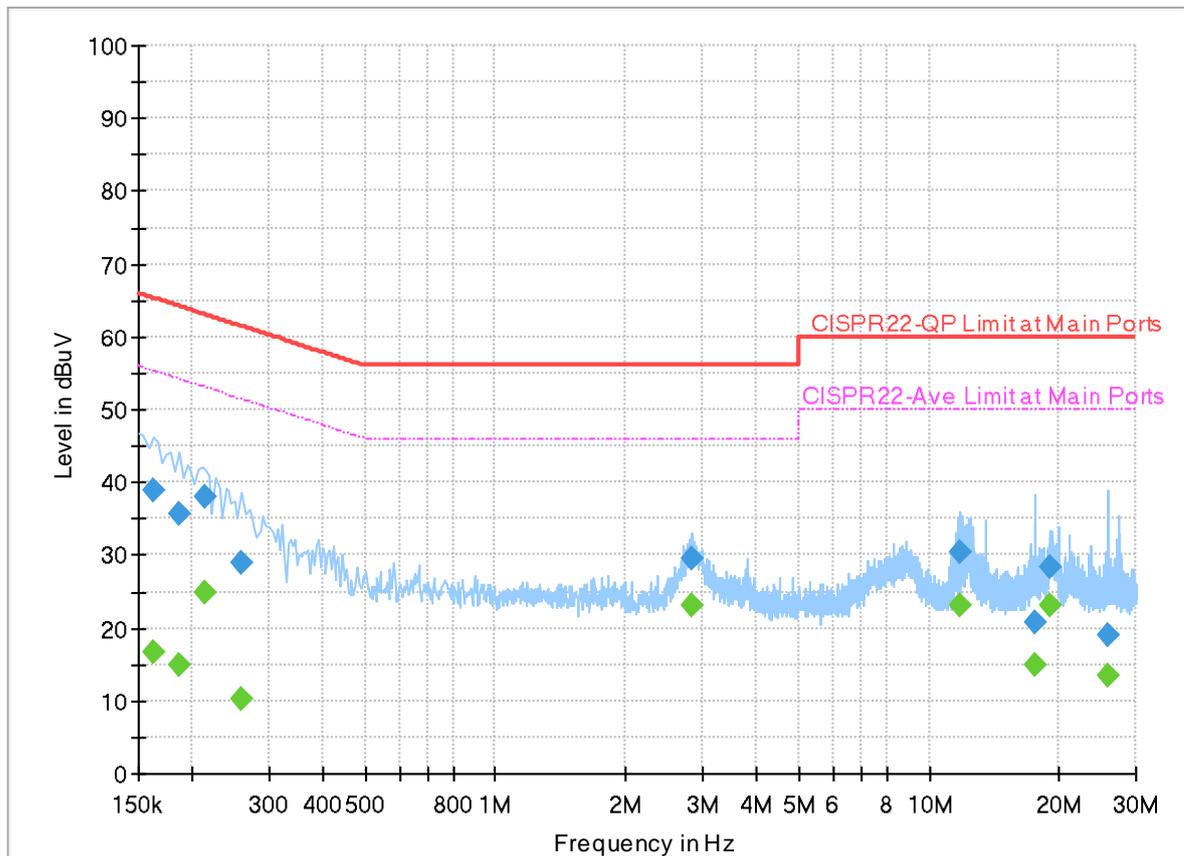
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154000	---	23.18	55.78	32.60	L1	OFF	20.0
0.154000	40.55	---	65.78	25.23	L1	OFF	20.0
0.218000	---	24.70	52.90	28.20	L1	OFF	20.0
0.218000	37.15	---	62.90	25.75	L1	OFF	20.0
0.262000	---	9.94	51.37	41.43	L1	OFF	20.0
0.262000	29.89	---	61.37	31.48	L1	OFF	20.0
0.306000	---	10.64	50.08	39.44	L1	OFF	20.0
0.306000	27.86	---	60.08	32.22	L1	OFF	20.0
2.858000	---	22.38	46.00	23.62	L1	OFF	20.0
2.858000	27.68	---	56.00	28.32	L1	OFF	20.0
11.750000	---	20.55	50.00	29.45	L1	OFF	20.2
11.750000	29.01	---	60.00	30.99	L1	OFF	20.2
13.562000	---	26.92	50.00	23.08	L1	OFF	20.2
13.562000	31.10	---	60.00	28.90	L1	OFF	20.2
19.222000	---	23.59	50.00	26.41	L1	OFF	20.2
19.222000	29.03	---	60.00	30.97	L1	OFF	20.2

EUT Information

Report NO : 251212
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.162000	---	16.65	55.36	38.71	N	OFF	20.0
0.162000	38.80	---	65.36	26.56	N	OFF	20.0
0.186000	---	15.05	54.21	39.16	N	OFF	20.0
0.186000	35.72	---	64.21	28.49	N	OFF	20.0
0.214000	---	24.83	53.05	28.22	N	OFF	20.0
0.214000	38.03	---	63.05	25.02	N	OFF	20.0
0.258000	---	10.19	51.50	41.31	N	OFF	20.0
0.258000	28.83	---	61.50	32.67	N	OFF	20.0
2.842000	---	23.14	46.00	22.86	N	OFF	20.0
2.842000	29.63	---	56.00	26.37	N	OFF	20.0
11.770000	---	23.12	50.00	26.88	N	OFF	20.2
11.770000	30.43	---	60.00	29.57	N	OFF	20.2
17.646000	---	14.82	50.00	35.18	N	OFF	20.3
17.646000	20.85	---	60.00	39.15	N	OFF	20.3
19.038000	---	22.98	50.00	27.02	N	OFF	20.3
19.038000	28.38	---	60.00	31.62	N	OFF	20.3
25.886000	---	13.44	50.00	36.56	N	OFF	20.3
25.886000	18.95	---	60.00	41.05	N	OFF	20.3



Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Lee, Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
16+18		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11b CH 01 2412MHz		2390	55.06	-18.94	74	47.97	27.36	16.56	36.83	287	340	P	H	
		2387.805	48.93	-5.07	54	41.85	27.35	16.56	36.83	287	340	A	H	
	*	2412	111.31	-	-	104.11	27.42	16.6	36.82	287	340	P	H	
	*	2412	108.25	-	-	101.05	27.42	16.6	36.82	287	340	A	H	
													H	
														H
			2387.7	54.77	-19.23	74	47.69	27.35	16.56	36.83	166	288	P	V
			2387.595	47.82	-6.18	54	40.74	27.35	16.56	36.83	166	288	A	V
	*		2412	110.32	-	-	103.12	27.42	16.6	36.82	166	288	P	V
	*		2412	107.25	-	-	100.05	27.42	16.6	36.82	166	288	A	V
														V
														V
802.11b CH 06 2437MHz		2385.68	50.58	-23.42	74	43.51	27.34	16.56	36.83	300	334	P	H	
		2390	40.74	-13.26	54	33.65	27.36	16.56	36.83	300	334	A	H	
	*	2437	111.15	-	-	103.85	27.47	16.64	36.81	300	334	P	H	
	*	2437	108.21	-	-	100.91	27.47	16.64	36.81	300	334	A	H	
			2484.25	50.89	-23.11	74	43.33	27.64	16.71	36.79	300	334	P	H
			2483.53	41.18	-12.82	54	33.63	27.63	16.71	36.79	300	334	A	H
			2374.32	51.24	-22.76	74	44.24	27.3	16.54	36.84	172	263	P	V
			2390	40.54	-13.46	54	33.45	27.36	16.56	36.83	172	263	A	V
	*		2437	108.29	-	-	100.99	27.47	16.64	36.81	172	263	P	V
	*		2437	104.99	-	-	97.69	27.47	16.64	36.81	172	263	A	V
			2484.97	51.58	-22.42	74	44.02	27.64	16.71	36.79	172	263	P	V
			2484.34	41.13	-12.87	54	33.57	27.64	16.71	36.79	172	263	A	V



802.11b CH 11 2462MHz	*	2462	109.54	-	-	102.11	27.55	16.68	36.8	331	325	P	H
	*	2462	106.65	-	-	99.22	27.55	16.68	36.8	331	325	A	H
		2488.48	53.33	-20.67	74	45.75	27.65	16.72	36.79	331	325	P	H
		2487.88	44.85	-9.15	54	37.27	27.65	16.72	36.79	331	325	A	H
													H
													H
	*	2462	111.05	-	-	103.62	27.55	16.68	36.8	158	270	P	V
	*	2462	107.84	-	-	100.41	27.55	16.68	36.8	158	270	A	V
		2488	52.8	-21.2	74	45.22	27.65	16.72	36.79	158	270	P	V
		2488.68	44.14	-9.86	54	36.56	27.65	16.72	36.79	158	270	A	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 802.11b (Harmonic @ 3m)

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	49.21	-24.79	74	65.75	32.35	9.66	58.55	100	308	P	H
		4824	44.88	-9.12	54	61.42	32.35	9.66	58.55	100	308	A	H
		11205	50.12	-23.88	74	58.75	38.81	13.48	60.92	-	-	P	H
		11205	40.34	-13.66	54	48.97	38.81	13.48	60.92	-	-	A	H
		14475	50.26	-23.74	74	57.97	40.53	15.22	63.46	-	-	P	H
		14475	41.48	-12.52	54	49.19	40.53	15.22	63.46	-	-	A	H
		17940	55.63	-18.37	74	53.29	42.56	17.03	57.25	-	-	P	H
		17940	45.85	-8.15	54	43.51	42.56	17.03	57.25	-	-	A	H
													H
													H
													H
													H
802.11b													
CH 01													
2412MHz		4824	47.79	-26.21	74	64.33	32.35	9.66	58.55	-	-	P	V
		11445	49.98	-24.02	74	58.25	38.97	13.54	60.78	-	-	P	V
		11445	40.22	-13.78	54	48.49	38.97	13.54	60.78	-	-	A	V
		14499	50.51	-23.49	74	58.27	40.5	15.23	63.49	-	-	P	V
		14499	41.74	-12.26	54	49.5	40.5	15.23	63.49	-	-	A	V
		17835	55.69	-18.31	74	54.82	41.29	16.97	57.39	-	-	P	V
		17835	45.91	-8.09	54	45.04	41.29	16.97	57.39	-	-	A	V
													V
													V
													V
													V
													V



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	44.99	-29.01	74	61.39	32.5	9.68	58.58	-	-	P	H
		7311	45.37	-28.63	74	55.63	36.56	11.26	58.08	-	-	P	H
		11310	49.57	-24.43	74	58	38.92	13.51	60.86	-	-	P	H
		11310	39.79	-14.21	54	48.22	38.92	13.51	60.86	-	-	A	H
		14490	50.6	-23.4	74	58.34	40.51	15.23	63.48	-	-	P	H
		14490	41.82	-12.18	54	49.56	40.51	15.23	63.48	-	-	A	H
		17835	55.22	-18.78	74	54.35	41.29	16.97	57.39	-	-	P	H
		17835	45.46	-8.54	54	44.59	41.29	16.97	57.39	-	-	A	H
													H
													H
													H
													H
802.11b													
CH 06													
2437MHz		4874	43.52	-30.48	74	59.92	32.5	9.68	58.58	-	-	P	V
		7311	45.73	-28.27	74	55.99	36.56	11.26	58.08	-	-	P	V
		12060	49.61	-24.39	74	58.28	38.78	13.93	61.38	-	-	P	V
		12060	39.84	-14.16	54	48.51	38.78	13.93	61.38	-	-	A	V
		14475	51.22	-22.78	74	58.93	40.53	15.22	63.46	-	-	P	V
		14475	42.44	-11.56	54	50.15	40.53	15.22	63.46	-	-	A	V
		17910	55.29	-18.71	74	53.28	42.29	17.01	57.29	-	-	P	V
		17910	45.72	-8.28	54	43.71	42.29	17.01	57.29	-	-	A	V
													V
													V
													V
													V



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	49.54	-24.46	74	65.76	32.7	9.7	58.62	100	293	P	H
		4924	45.28	-8.72	54	61.5	32.7	9.7	58.62	100	293	A	H
		7386	49.19	-24.81	74	59.78	36.18	11.26	58.03	100	57	P	H
		7386	40.07	-13.93	54	50.66	36.18	11.26	58.03	100	57	A	H
		12420	50.86	-23.14	74	59.62	38.7	14.17	61.63	-	-	P	H
		12420	41.06	-12.94	54	49.82	38.7	14.17	61.63	-	-	A	H
		14499	52.32	-21.68	74	60.08	40.5	15.23	63.49	-	-	P	H
		14499	43.75	-10.25	54	51.51	40.5	15.23	63.49	-	-	A	H
		17835	56.35	-17.65	74	55.48	41.29	16.97	57.39	-	-	P	H
		17835	47.03	-6.97	54	46.16	41.29	16.97	57.39	-	-	A	H
													H
													H
802.11b													
CH 11													
2462MHz		4924	48.73	-25.27	74	64.95	32.7	9.7	58.62	340	277	P	V
		4924	42.98	-11.02	54	59.2	32.7	9.7	58.62	340	277	A	V
		7386	52.22	-21.78	74	62.81	36.18	11.26	58.03	300	329	P	V
		7386	46.22	-7.78	54	56.81	36.18	11.26	58.03	300	329	A	V
		11250	51.19	-22.81	74	59.75	38.85	13.49	60.9	-	-	P	V
		11250	40.93	-13.07	54	49.49	38.85	13.49	60.9	-	-	A	V
		14499	51.52	-22.48	74	59.28	40.5	15.23	63.49	-	-	P	V
		14499	42.14	-11.86	54	49.9	40.5	15.23	63.49	-	-	A	V
		18000	56.3	-17.7	74	53.31	43.1	17.06	57.17	-	-	P	V
		18000	47.88	-6.12	54	44.89	43.1	17.06	57.17	-	-	A	V
													V
													V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. The emission level close to 18GHz is checked that the average emission level is noise floor only. 												



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

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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	61.94	-12.06	74	54.85	27.36	16.56	36.83	300	332	P	H	
		2390	50.37	-3.63	54	43.28	27.36	16.56	36.83	300	332	A	H	
	*	2412	111.31	-	-	104.11	27.42	16.6	36.82	300	332	P	H	
	*	2412	102.04	-	-	94.84	27.42	16.6	36.82	300	332	A	H	
													H	
														H
			2389.59	61.31	-12.69	74	54.22	27.36	16.56	36.83	150	265	P	V
			2390	49.92	-4.08	54	42.83	27.36	16.56	36.83	150	265	A	V
	*		2412	112.72	-	-	105.52	27.42	16.6	36.82	150	265	P	V
	*		2412	103.23	-	-	96.03	27.42	16.6	36.82	150	265	A	V
														V
														V
802.11g CH 06 2437MHz		2387.76	51.34	-22.66	74	44.26	27.35	16.56	36.83	304	332	P	H	
		2389.84	43.15	-10.85	54	36.06	27.36	16.56	36.83	304	332	A	H	
	*	2437	111.54	-	-	104.24	27.47	16.64	36.81	304	332	P	H	
	*	2437	104.28	-	-	96.98	27.47	16.64	36.81	304	332	A	H	
			2484.43	53.52	-20.48	74	45.96	27.64	16.71	36.79	304	332	P	H
			2483.8	44.23	-9.77	54	36.67	27.64	16.71	36.79	304	332	A	H
			2389.52	52.08	-21.92	74	44.99	27.36	16.56	36.83	135	251	P	V
			2389.52	43.19	-10.81	54	36.1	27.36	16.56	36.83	135	251	A	V
	*		2437	111.72	-	-	104.42	27.47	16.64	36.81	135	251	P	V
	*		2437	104.11	-	-	96.81	27.47	16.64	36.81	135	251	A	V
			2484.43	53.51	-20.49	74	45.95	27.64	16.71	36.79	135	251	P	V
			2483.71	44.41	-9.59	54	36.86	27.63	16.71	36.79	135	251	A	V



802.11g CH 11 2462MHz	*	2462	110.64	-	-	103.21	27.55	16.68	36.8	300	333	P	H
	*	2462	103.94	-	-	96.51	27.55	16.68	36.8	300	333	A	H
		2483.68	61.54	-12.46	74	53.99	27.63	16.71	36.79	300	333	P	H
		2483.6	50.76	-3.24	54	43.21	27.63	16.71	36.79	300	333	A	H
													H
													H
	*	2462	108.53	-	-	101.1	27.55	16.68	36.8	100	349	P	V
	*	2462	101.56	-	-	94.13	27.55	16.68	36.8	100	349	A	V
		2483.6	62.78	-11.22	74	55.23	27.63	16.71	36.79	100	349	P	V
		2483.56	49.95	-4.05	54	42.4	27.63	16.71	36.79	100	349	A	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 (Harmonic @ 3m)**

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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	42.04	-31.96	74	58.58	32.35	9.66	58.55	-	-	P	H	
		10620	48.71	-25.29	74	57.53	38.8	13.18	60.8	-	-	P	H	
		10620	38.74	-15.26	54	47.56	38.8	13.18	60.8	-	-	A	H	
		14490	50.61	-23.39	74	58.35	40.51	15.23	63.48	-	-	P	H	
		14490	40.62	-13.38	54	48.36	40.51	15.23	63.48	-	-	A	H	
		17910	54.6	-19.4	74	52.59	42.29	17.01	57.29	-	-	P	H	
		17910	44.59	-9.41	54	42.58	42.29	17.01	57.29	-	-	A	H	
														H
														H
														H
														H
														H
			4824	41.47	-32.53	74	58.01	32.35	9.66	58.55	-	-	P	V
			10830	48.51	-25.49	74	57.22	38.91	13.31	60.93	-	-	P	V
			10830	38.5	-15.5	54	47.21	38.91	13.31	60.93	-	-	A	V
			14499	50.56	-23.44	74	58.32	40.5	15.23	63.49	-	-	P	V
			14499	40.61	-13.39	54	48.37	40.5	15.23	63.49	-	-	A	V
			18000	55.07	-18.93	74	52.08	43.1	17.06	57.17	-	-	P	V
		18000	45.1	-8.9	54	42.11	43.1	17.06	57.17	-	-	A	V	
													V	
													V	
													V	
													V	
													V	
													V	



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	43.99	-30.01	74	60.39	32.5	9.68	58.58	-	-	P	H	
		7311	45.92	-28.08	74	56.18	36.56	11.26	58.08	-	-	P	H	
		10770	49.2	-24.8	74	57.88	38.94	13.28	60.9	-	-	P	H	
		10770	40.19	-13.81	54	48.87	38.94	13.28	60.9	-	-	A	H	
		14499	50.71	-23.29	74	58.47	40.5	15.23	63.49	-	-	P	H	
		14499	40.71	-13.29	54	48.47	40.5	15.23	63.49	-	-	A	H	
		17940	55.89	-18.11	74	53.55	42.56	17.03	57.25	-	-	P	H	
		17940	45.92	-8.08	54	43.58	42.56	17.03	57.25	-	-	A	H	
														H
														H
														H
														H
			4874	43.36	-30.64	74	59.76	32.5	9.68	58.58	-	-	P	V
			7311	47.67	-26.33	74	57.93	36.56	11.26	58.08	-	-	P	V
			10620	49.05	-24.95	74	57.87	38.8	13.18	60.8	-	-	P	V
			10620	50.04	-3.96	54	58.86	38.8	13.18	60.8	-	-	A	V
			14475	50.98	-23.02	74	58.69	40.53	15.22	63.46	-	-	P	V
			14475	40.92	-13.08	54	48.63	40.53	15.22	63.46	-	-	A	V
		17910	55.32	-18.68	74	53.31	42.29	17.01	57.29	-	-	P	V	
		17910	45.37	-8.63	54	43.36	42.29	17.01	57.29	-	-	A	V	
													V	
													V	
													V	
													V	



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	43.11	-30.89	74	59.33	32.7	9.7	58.62	-	-	P	H	
		7386	43.67	-30.33	74	54.26	36.18	11.26	58.03	-	-	P	H	
		11505	49.97	-24.03	74	58.39	38.79	13.55	60.76	-	-	P	H	
		11505	40.44	-13.56	54	48.86	38.79	13.55	60.76	-	-	A	H	
		14490	51.96	-22.04	74	59.7	40.51	15.23	63.48	-	-	P	H	
		14490	42.72	-11.28	54	50.46	40.51	15.23	63.48	-	-	A	H	
		17985	54.76	-19.24	74	51.93	42.97	17.05	57.19	-	-	P	H	
		17985	45.01	-8.99	54	42.18	42.97	17.05	57.19	-	-	A	H	
														H
														H
														H
														H
			4924	42.84	-31.16	74	59.06	32.7	9.7	58.62	-	-	P	V
			7386	45.53	-28.47	74	56.12	36.18	11.26	58.03	-	-	P	V
			11505	49.47	-24.53	74	57.89	38.79	13.55	60.76	-	-	P	V
			11505	38.75	-15.25	54	47.17	38.79	13.55	60.76	-	-	A	V
			14490	51.04	-22.96	74	58.78	40.51	15.23	63.48	-	-	P	V
			14490	42.18	-11.82	54	49.92	40.51	15.23	63.48	-	-	A	V
			17925	55.82	-18.18	74	53.65	42.42	17.02	57.27	-	-	P	V
			17925	46.59	-7.41	54	44.42	42.42	17.02	57.27	-	-	A	V
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. The emission level close to 18GHz is checked that the average emission level is noise floor only. 													



2.4GHz 2400~2483.5MHz
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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		2388.015	63.07	-10.93	74	55.99	27.35	16.56	36.83	317	335	P	H	
		2390	50.25	-3.75	54	43.16	27.36	16.56	36.83	317	335	A	H	
	*	2412	107.69	-	-	100.49	27.42	16.6	36.82	317	335	P	H	
	*	2412	99.15	-	-	91.95	27.42	16.6	36.82	317	335	A	H	
													H	
														H
			2387.595	63.31	-10.69	74	56.23	27.35	16.56	36.83	222	271	P	V
			2389.905	50.11	-3.89	54	43.02	27.36	16.56	36.83	222	271	A	V
		*	2412	107.74	-	-	100.54	27.42	16.6	36.82	222	271	P	V
		*	2412	99.62	-	-	92.42	27.42	16.6	36.82	222	271	A	V
802.11ax HE20 Full CH 06 2437MHz		2389.68	56.83	-17.17	74	49.74	27.36	16.56	36.83	305	333	P	H	
		2390	46.29	-7.71	54	39.2	27.36	16.56	36.83	305	333	A	H	
		*	2437	112.38	-	-	105.08	27.47	16.64	36.81	305	333	P	H
		*	2437	103.29	-	-	95.99	27.47	16.64	36.81	305	333	A	H
			2483.8	56.64	-17.36	74	49.08	27.64	16.71	36.79	305	333	P	H
			2483.62	47.1	-6.9	54	39.55	27.63	16.71	36.79	305	333	A	H
			2389.84	55.85	-18.15	74	48.76	27.36	16.56	36.83	228	258	P	V
			2390	45.65	-8.35	54	38.56	27.36	16.56	36.83	228	258	A	V
		*	2437	110.73	-	-	103.43	27.47	16.64	36.81	228	258	P	V
		*	2437	102.65	-	-	95.35	27.47	16.64	36.81	228	258	A	V
		2484.25	55.97	-18.03	74	48.41	27.64	16.71	36.79	228	258	P	V	
		2483.53	46.61	-7.39	54	39.06	27.63	16.71	36.79	228	258	A	V	



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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	*	2462	109.22	-	-	101.79	27.55	16.68	36.8	296	328	P	H
	*	2462	100.44	-	-	93.01	27.55	16.68	36.8	296	328	A	H
		2483.72	60.89	-13.11	74	53.34	27.63	16.71	36.79	296	328	P	H
		2483.76	50.59	-3.41	54	43.03	27.64	16.71	36.79	296	328	A	H
													H
													H
	*	2462	108.77	-	-	101.34	27.55	16.68	36.8	200	267	P	V
	*	2462	101.01	-	-	93.58	27.55	16.68	36.8	200	267	A	V
		2483.88	61.22	-12.78	74	53.66	27.64	16.71	36.79	200	267	P	V
		2483.52	50.91	-3.09	54	43.36	27.63	16.71	36.79	200	267	A	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 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	43.43	-30.57	74	59.97	32.35	9.66	58.55	-	-	P	H
		11460	50.48	-23.52	74	58.78	38.92	13.55	60.77	-	-	P	H
		11460	40.54	-13.46	54	48.84	38.92	13.55	60.77	-	-	A	H
		14499	51.02	-22.98	74	58.78	40.5	15.23	63.49	-	-	P	H
		14499	41.74	-12.26	54	49.5	40.5	15.23	63.49	-	-	A	H
		17940	55.64	-18.36	74	53.3	42.56	17.03	57.25	-	-	P	H
		17940	45.8	-8.2	54	43.46	42.56	17.03	57.25	-	-	A	H
													H
													H
													H
													H
													H
802.11ax													H
HE20 Full													H
CH 01		4824	43.36	-30.64	74	59.9	32.35	9.66	58.55	-	-	P	V
2412MHz		11445	50.07	-23.93	74	58.34	38.97	13.54	60.78	-	-	P	V
		11445	40.37	-13.63	54	48.64	38.97	13.54	60.78	-	-	A	V
		14490	52.13	-21.87	74	59.87	40.51	15.23	63.48	-	-	P	V
		14490	43.08	-10.92	54	50.82	40.51	15.23	63.48	-	-	A	V
		18000	55.37	-18.63	74	52.38	43.1	17.06	57.17	-	-	P	V
		18000	46.41	-7.59	54	43.42	43.1	17.06	57.17	-	-	A	V
													V
													V
													V
													V
													V



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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	42.64	-31.36	74	59.04	32.5	9.68	58.58	-	-	P	H
		7311	49.56	-24.44	74	59.82	36.56	11.26	58.08	300	19	P	H
		7311	38.97	-15.03	54	49.23	36.56	11.26	58.08	300	19	A	H
		11430	50.32	-23.68	74	58.56	39.01	13.54	60.79	-	-	P	H
		11430	40.22	-13.78	54	48.46	39.01	13.54	60.79	-	-	A	H
		14499	51.08	-22.92	74	58.84	40.5	15.23	63.49	-	-	P	H
		14499	42.15	-11.85	54	49.91	40.5	15.23	63.49	-	-	A	H
		17925	55.36	-18.64	74	53.19	42.42	17.02	57.27	-	-	P	H
		17925	46.66	-7.34	54	44.49	42.42	17.02	57.27	-	-	A	H
													H
													H
802.11ax													H
HE20 Full													H
CH 06		4874	43.81	-30.19	74	60.21	32.5	9.68	58.58	-	-	P	V
2437MHz		7311	51.45	-22.55	74	61.71	36.56	11.26	58.08	200	11	P	V
		7311	41.01	-12.99	54	51.27	36.56	11.26	58.08	200	11	A	V
		11280	50.81	-23.19	74	59.31	38.88	13.5	60.88	-	-	P	V
		11280	40.65	-13.35	54	49.15	38.88	13.5	60.88	-	-	A	V
		14499	51.33	-22.67	74	59.09	40.5	15.23	63.49	-	-	P	V
		14499	42.71	-11.29	54	50.47	40.5	15.23	63.49	-	-	A	V
		18000	56.19	-17.81	74	53.2	43.1	17.06	57.17	-	-	P	V
		18000	47.88	-6.12	54	44.89	43.1	17.06	57.17	-	-	A	V
													V
													V
													V



WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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		4924	43.23	-30.77	74	59.45	32.7	9.7	58.62	-	-	P	H	
		7386	46.63	-27.37	74	57.22	36.18	11.26	58.03	-	-	P	H	
		11445	50.34	-23.66	74	58.61	38.97	13.54	60.78	-	-	P	H	
		11445	40.54	-13.46	54	48.81	38.97	13.54	60.78	-	-	A	H	
		14490	50.93	-23.07	74	58.67	40.51	15.23	63.48	-	-	P	H	
		14490	41.72	-12.28	54	49.46	40.51	15.23	63.48	-	-	A	H	
		17940	56.57	-17.43	74	54.23	42.56	17.03	57.25	-	-	P	H	
		17940	47.41	-6.59	54	45.07	42.56	17.03	57.25	-	-	A	H	
														H
														H
														H
														H
			4924	42.61	-31.39	74	58.83	32.7	9.7	58.62	-	-	P	V
			7386	46.13	-27.87	74	56.72	36.18	11.26	58.03	-	-	P	V
			11400	51.45	-22.55	74	59.63	39.1	13.53	60.81	-	-	P	V
			11400	41.71	-12.29	54	49.89	39.1	13.53	60.81	-	-	A	V
			14499	51.46	-22.54	74	59.22	40.5	15.23	63.49	-	-	P	V
			14499	42.74	-11.26	54	50.5	40.5	15.23	63.49	-	-	A	V
		17940	55.65	-18.35	74	53.31	42.56	17.03	57.25	-	-	P	V	
		17940	47.23	-6.77	54	44.89	42.56	17.03	57.25	-	-	A	V	
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. The emission level close to 18GHz is checked that the average emission level is noise floor only. 													



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI Ant. 16+18	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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 26/0 CH 01 2412MHz		2389.744	64.26	-9.74	74	57.53	27.36	16.2	36.83	100	320	P	H	
		2387.392	40.23	-13.77	54	33.51	27.35	16.2	36.83	100	320	A	H	
	*	2412	107.23	-	-	100.39	27.42	16.24	36.82	100	320	P	H	
	*	2412	99.22	-	-	92.38	27.42	16.24	36.82	100	320	A	H	
													H	
														H
			2388.736	61.8	-12.2	74	55.08	27.35	16.2	36.83	101	23	P	V
			2386.72	40.01	-13.99	54	33.29	27.35	16.2	36.83	101	23	A	V
		*	2412	111.69	-	-	104.85	27.42	16.24	36.82	101	23	P	V
		*	2412	102.39	-	-	95.55	27.42	16.24	36.82	101	23	A	V
													V	
													V	
802.11ax HE20 Partial 26/8 CH 11 2462MHz	*	2462	110.41	-	-	103.34	27.55	16.32	36.8	329	308	P	H	
	*	2462	100.12	-	-	93.05	27.55	16.32	36.8	329	308	A	H	
		2484.7	64.51	-9.49	74	57.3	27.64	16.36	36.79	329	308	P	H	
		2487.15	40.53	-13.47	54	33.31	27.65	16.36	36.79	329	308	A	H	
													H	
														H
		*	2462	108.84	-	-	101.77	27.55	16.32	36.8	101	33	P	V
		*	2462	100.39	-	-	93.32	27.55	16.32	36.8	101	33	A	V
			2483.5	62.13	-11.87	74	54.93	27.63	16.36	36.79	101	33	P	V
			2485.75	40.42	-13.58	54	33.21	27.64	16.36	36.79	101	33	A	V
													V	
													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	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
16+18		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11ax HE20 SHF		23288	42.24	-31.76	74	60	38.88	-2.6	54.04	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
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													H
													H
													H
			24064	41.74	-32.26	74	58.71	38.83	-2.15	53.65	-	-	P
													V
													V
													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	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
16+18		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
2.4GHz 802.11ax HE20 LF		59.1	30.12	-9.88	40	49.95	11.73	0.99	32.55	-	-	P	H	
		164.83	29.43	-14.07	43.5	44.14	16.05	1.7	32.46	-	-	P	H	
		207.51	21.73	-21.77	43.5	37.41	14.96	1.85	32.49	-	-	P	H	
		729.37	36.22	-9.78	46	37.89	27.29	3.37	32.33	-	-	P	H	
		745.86	34.75	-11.25	46	35.83	27.82	3.39	32.29	-	-	P	H	
		958.29	33.27	-12.73	46	29.51	30.94	3.97	31.15	-	-	P	H	
														H
														H
														H
														H
														H
														H
			30	32.91	-7.09	40	40.38	24.3	0.7	32.47	-	-	P	V
			57.16	33.22	-6.78	40	52.86	11.95	0.97	32.56	-	-	P	V
			164.83	25.05	-18.45	43.5	39.76	16.05	1.7	32.46	-	-	P	V
			207.51	21.48	-22.02	43.5	37.16	14.96	1.85	32.49	-	-	P	V
			721.61	37.86	-8.14	46	39.99	26.87	3.35	32.35	-	-	P	V
			885.54	37.3	-8.7	46	36.44	28.72	3.78	31.64	-	-	P	V
													V	
													V	
													V	
													V	
													V	
													V	

Remark

- No other spurious found.
- All results are PASS against limit line.
- 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 over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
16+18		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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. Over Limit(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. Over Limit(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. Over Limit(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

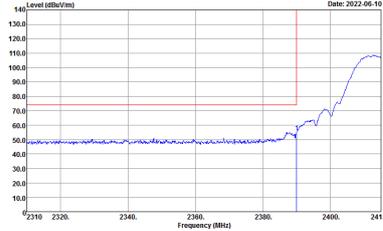
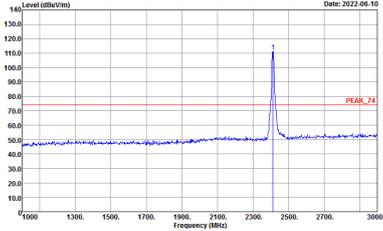
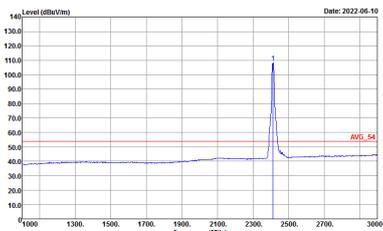
Test Engineer :	Leo Lee, Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%

Note symbol

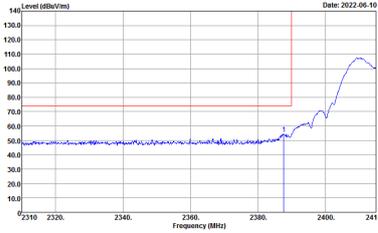
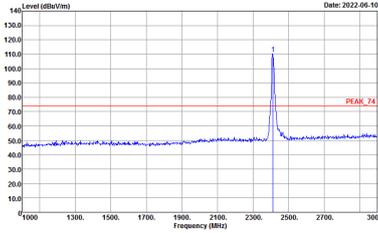
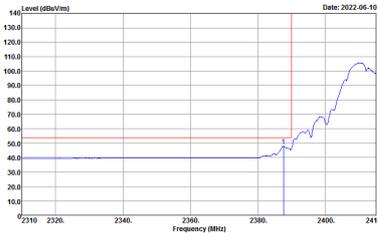
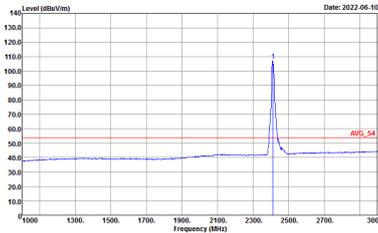
-L	Low channel location
-R	High channel location



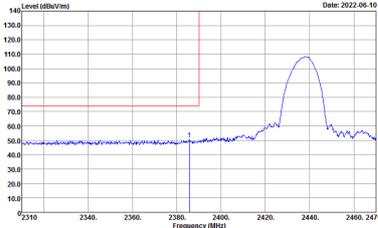
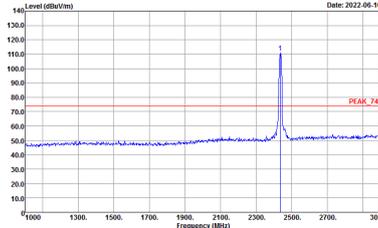
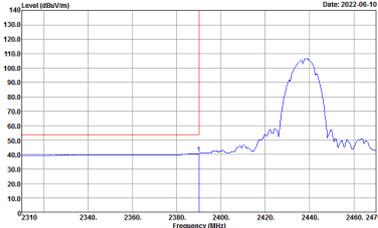
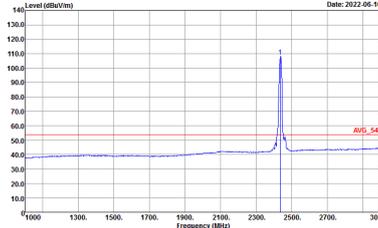
2.4GHz 2400~2483.5MHz
 WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>

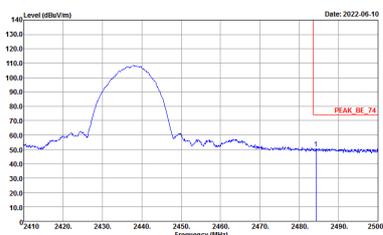
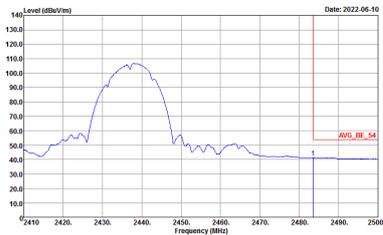


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_8E_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_8E_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

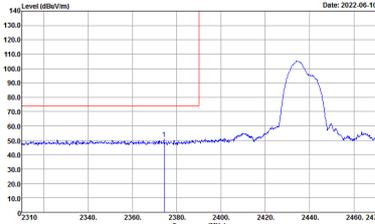
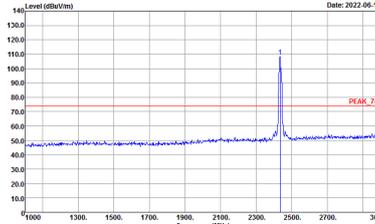
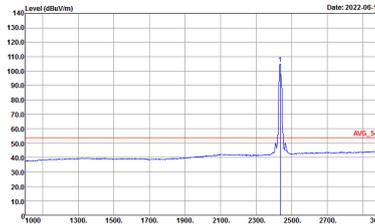


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

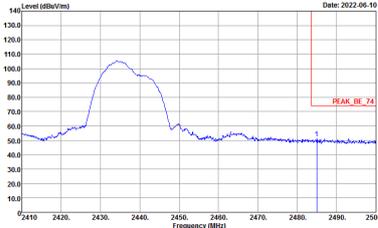


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
16+18	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.020KHz SWF:Auto</p>	<p>Left blank</p>

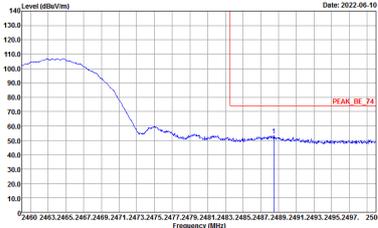
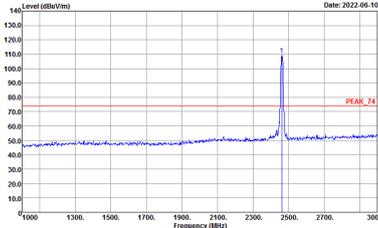
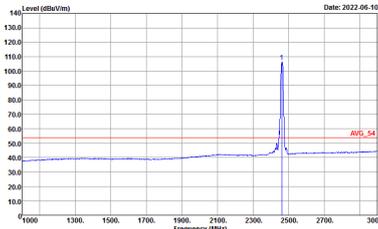


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_8E_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_8E_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

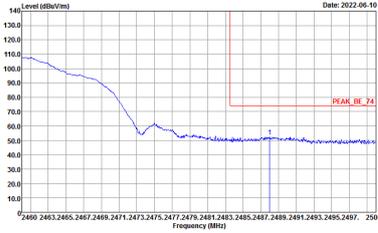
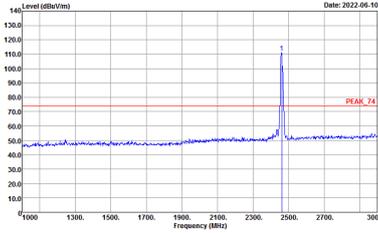
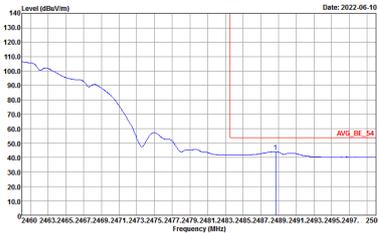
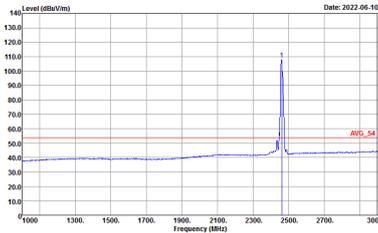


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
16+18	Vertical	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



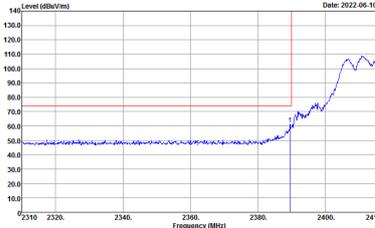
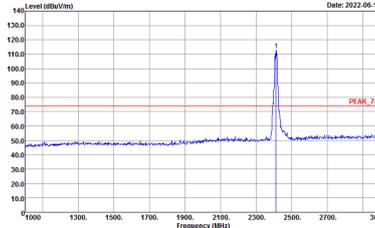
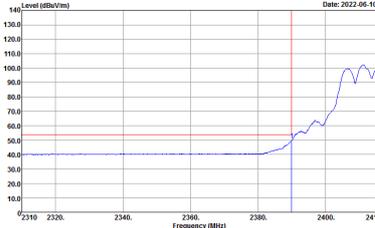
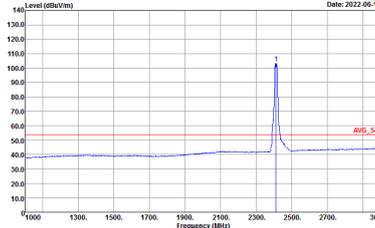
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 9d120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 9d120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 9d120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 9d120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



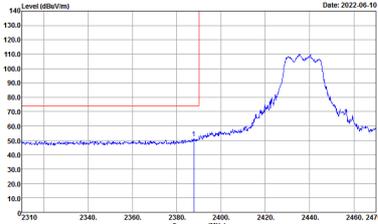
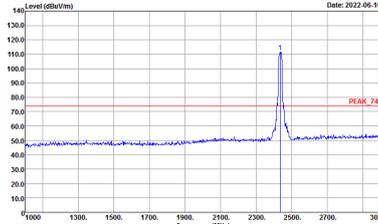
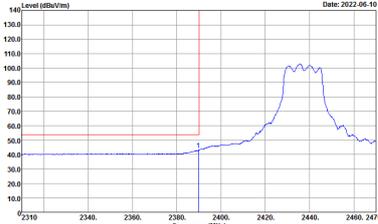
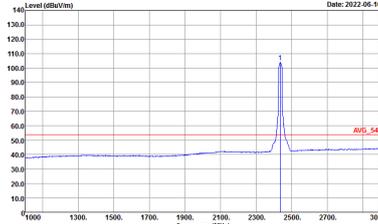
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
16+18	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	<p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto</p>

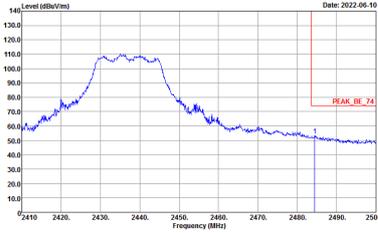


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_8E_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_8E_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

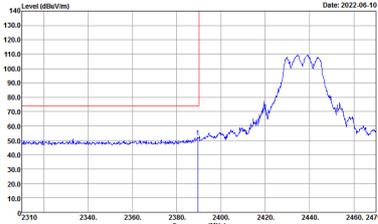
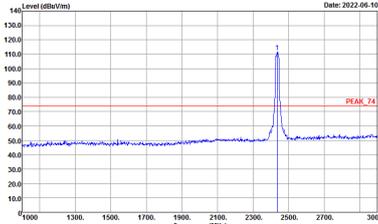
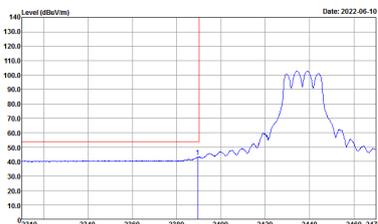
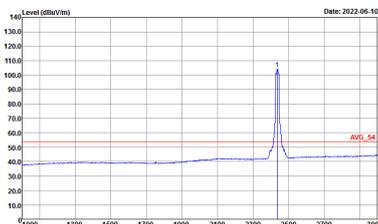


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
16+18	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWF:Auto</p>	<p>Left blank</p>

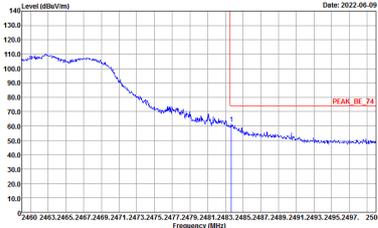
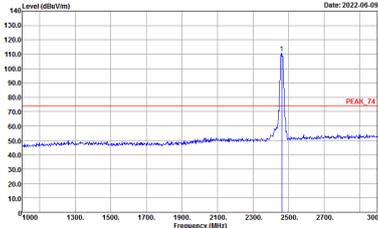
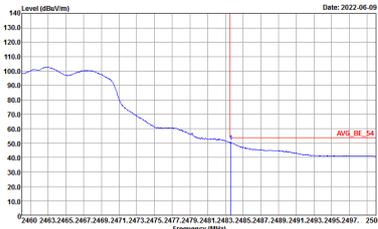
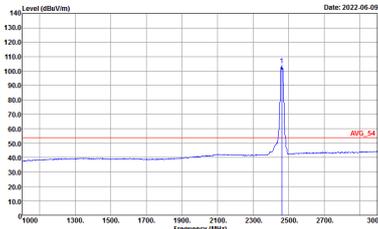


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

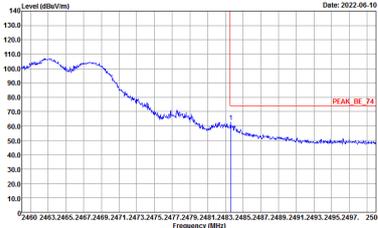
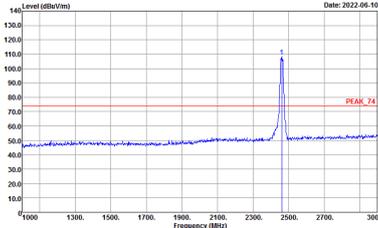
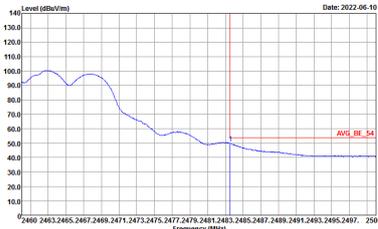
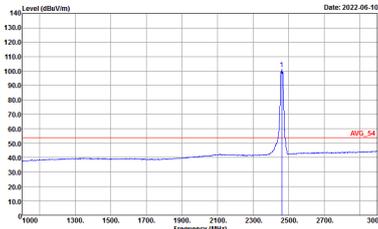


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
16+18	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	Left Blank
Avg.	<p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWF:Auto</p>	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
16+18	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

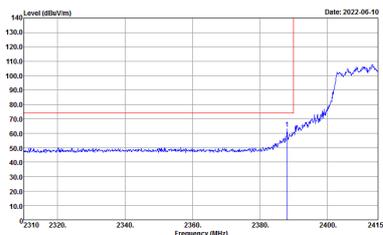
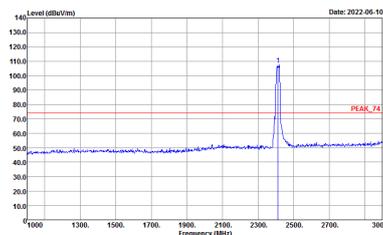
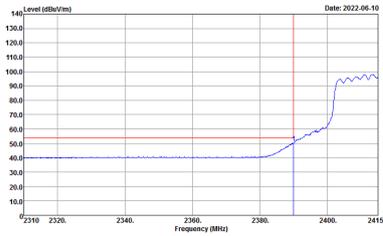
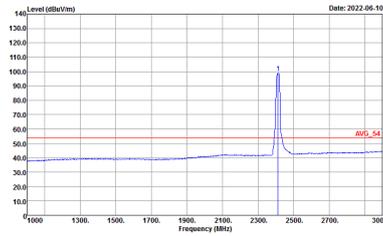


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

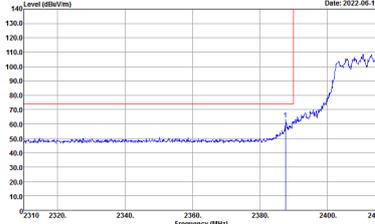
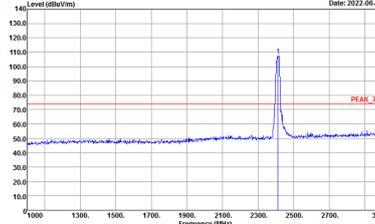
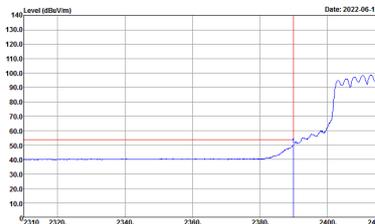
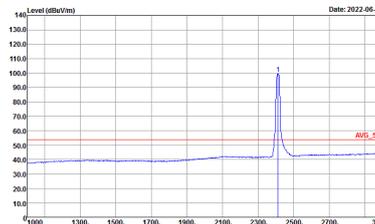


2.4GHz 2400~2483.5MHz

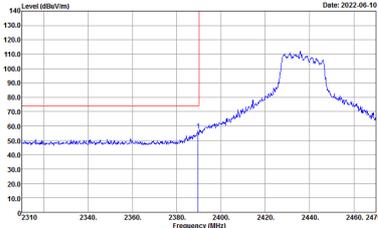
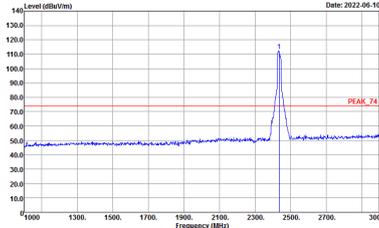
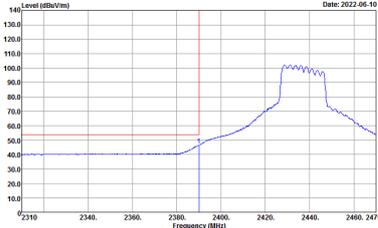
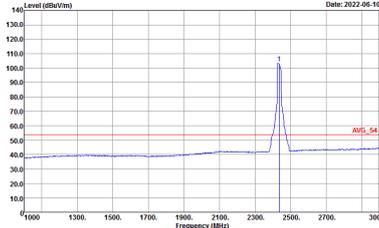
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH01 2412MHz	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

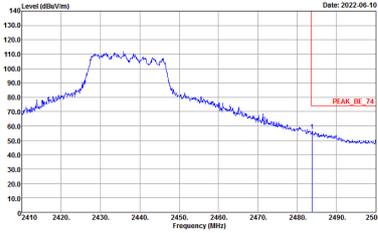
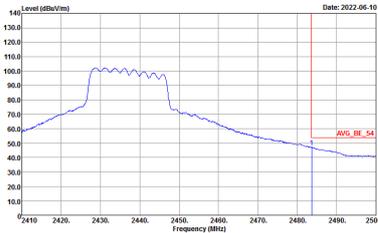


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH01 2412MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_8E_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_8E_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

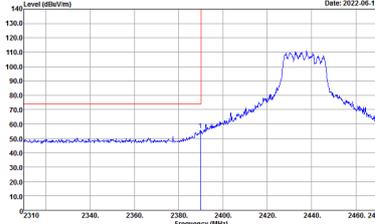
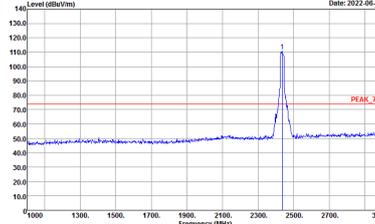
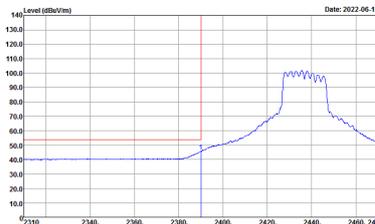
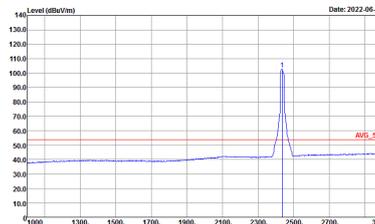


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - L	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

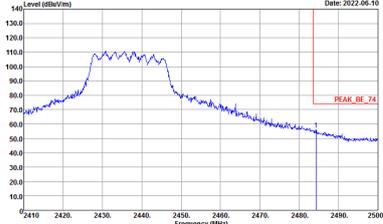


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - R	
16+18	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWF:Auto</p>	<p>Left blank</p>

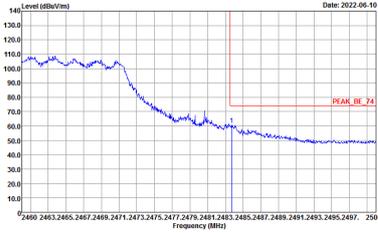
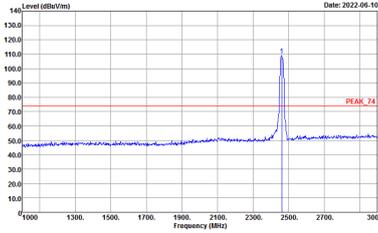
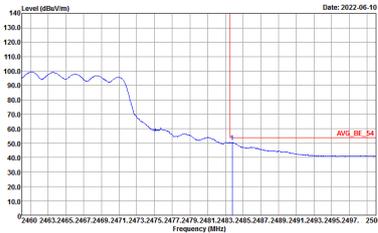
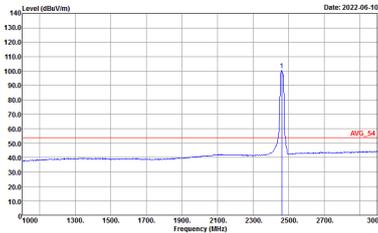


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - L	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_8E_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_8E_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

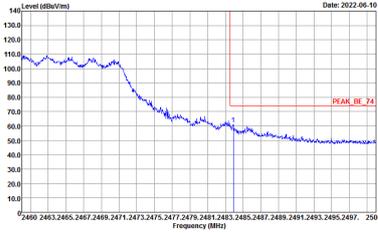
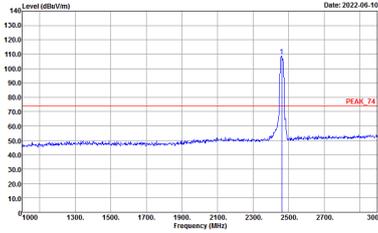
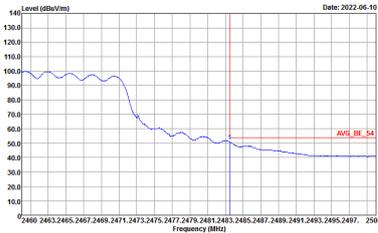
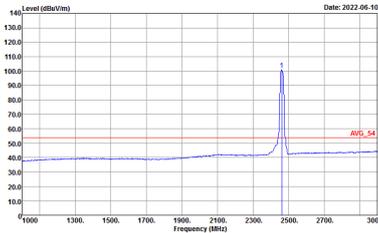


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	Left blank
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWF:Auto</p>	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

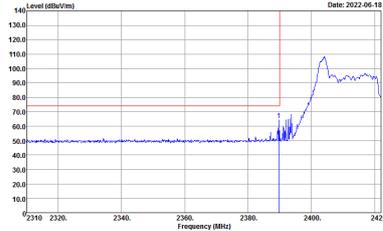
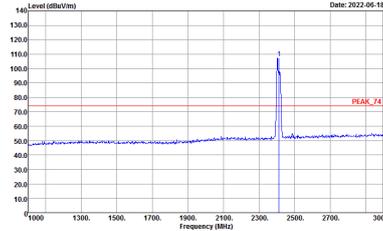
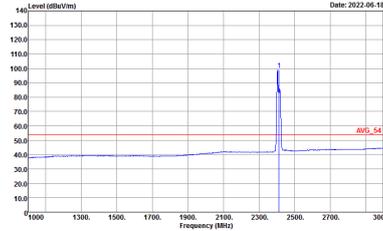


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto</p>

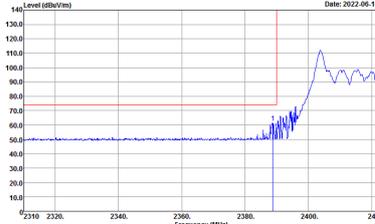
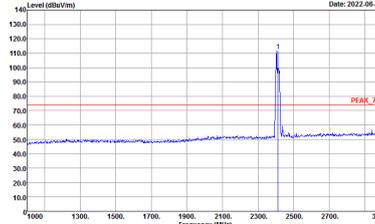
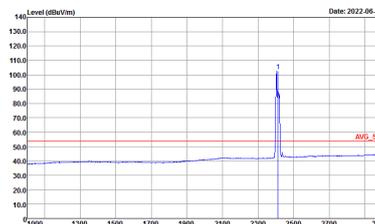


2.4GHz 2400~2483.5MHz

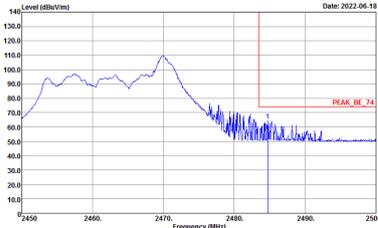
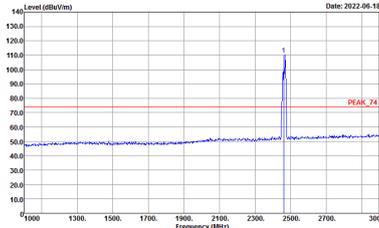
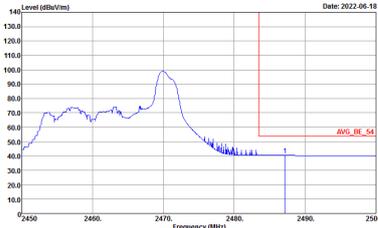
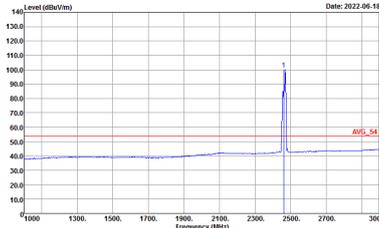
WIFI 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 26/0 CH01 2412MHz	
16+18	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
<p>Avg.</p>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

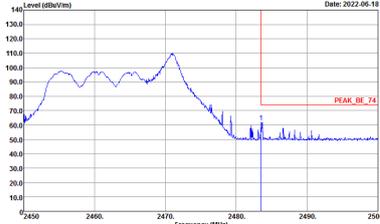
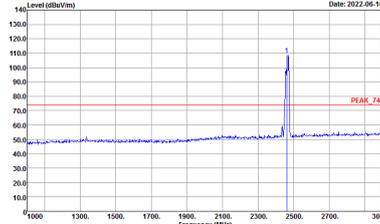
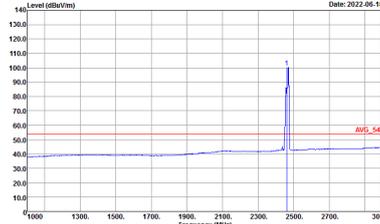


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 26/0 CH01 2412MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 26/8 CH11 2462MHz	
16+18	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Partial 26/8 CH11 2462MHz	
16+18	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : AVG_54 3m 90120_02038_20210804 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 9b120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 9b120_02038_20210804 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 VERTICAL</p>



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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 9D120_02038_20210804 HORIZONTAL Detector : Peak Project : 251212 Setting : 15</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 9D120_02038_20210804 VERTICAL Detector : Peak Project : 251212 Setting : 15</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL</p>



2.4GHz 2400~2483.5MHz
WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11 ax HE20 Full CH01 2412MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11 ax HE20 Full CH06 2437MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90d120_02038_20210804 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11 ax HE20 Full CH11 2462MHz	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 3m 90120_02038_20210804 VERTICAL</p>

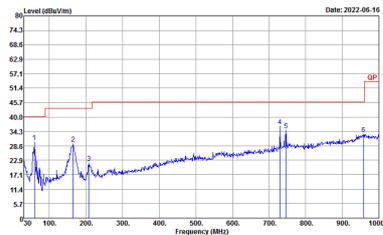
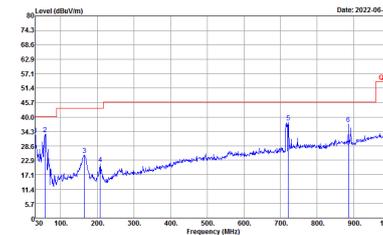


Emission above 18GHz
2.4GHz WIFI 802.11ax HE20 Full (SHF @ 1m)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11ax HE20 Full SHF	
16+18	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK_74 1m SHF ANT_9170_00993 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK_74 1m SHF ANT_9170_00993 VERTICAL</p>



Emission below 1GHz
2.4GHz WIFI 802.11ax HE20 Full (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11ax HE20 Full LF	
16+18	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH15-HY Condition : QP 3m BIL06_41912_20220206 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : QP 3m BIL06_41912_20220206 VERTICAL</p>



Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
16+18	802.11b	99.52	-	-	10Hz
16+18	802.11g	96.94	1392	0.72	1kHz
16+18	2.4GHz 802.11ax HE20 Full RU	95.85	1016	0.98	1kHz
16+18	2.4GHz 802.11ax HE20 26 RU	100.00	-	-	10Hz

MIMO <Ant. 16+18>

