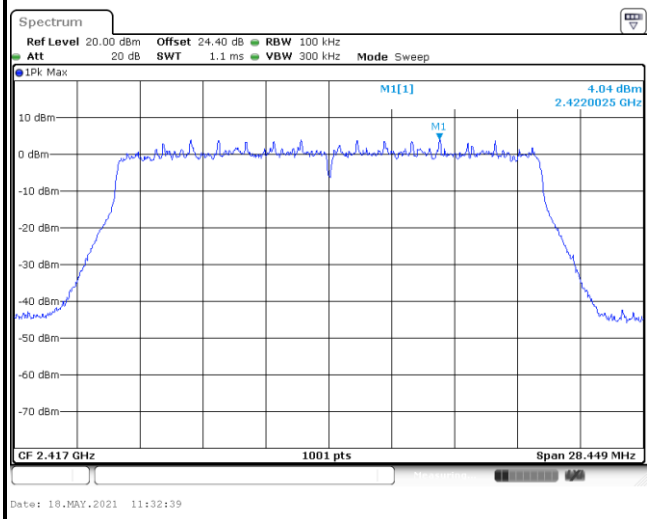
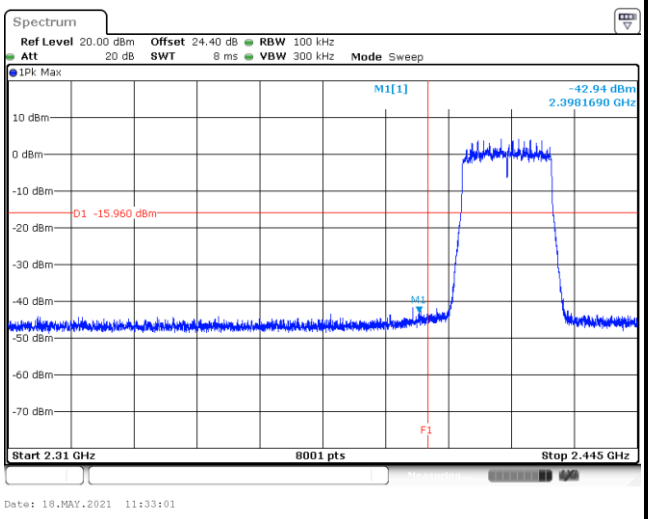
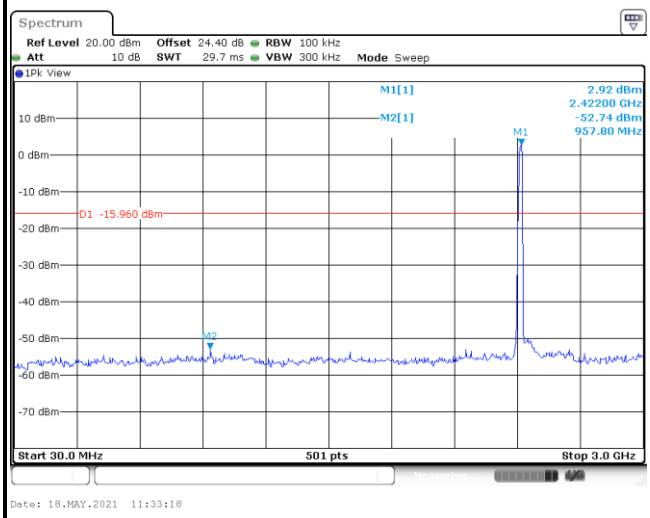
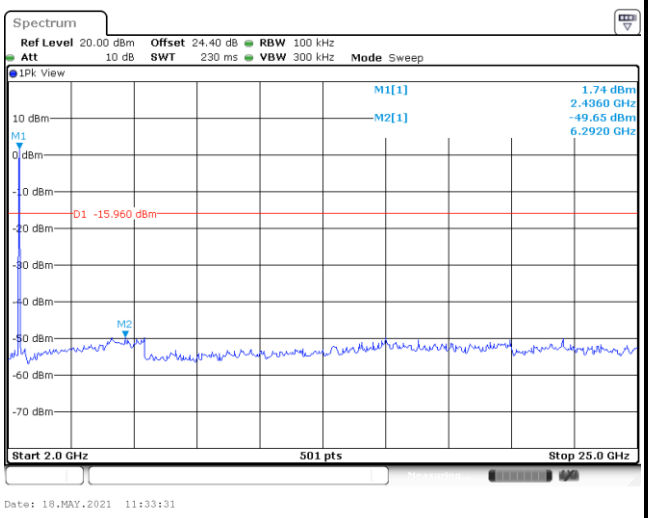
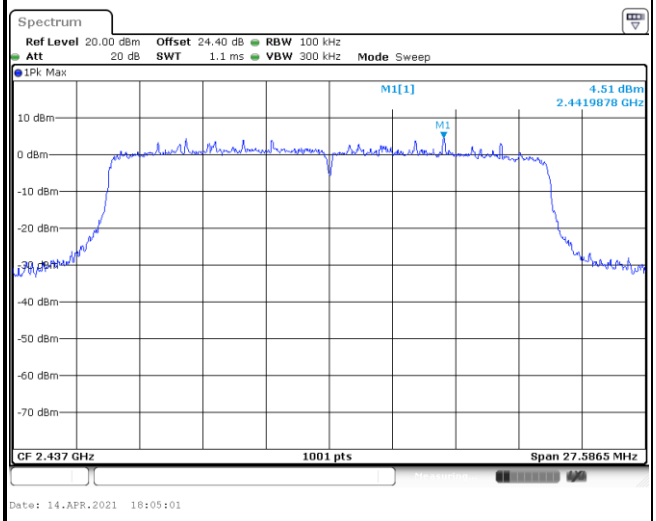
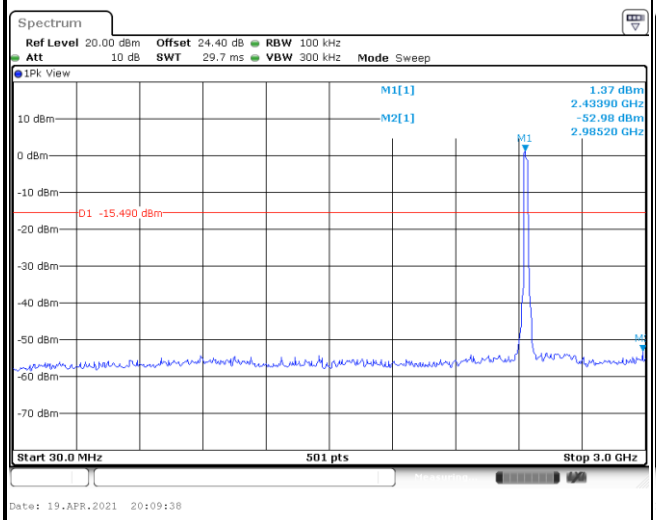
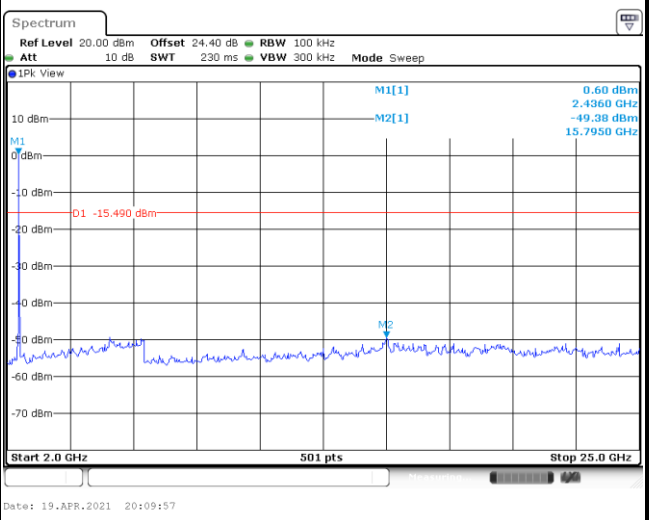
Test Mode :	802.11ax HE20	Test Channel :	02 Full RU

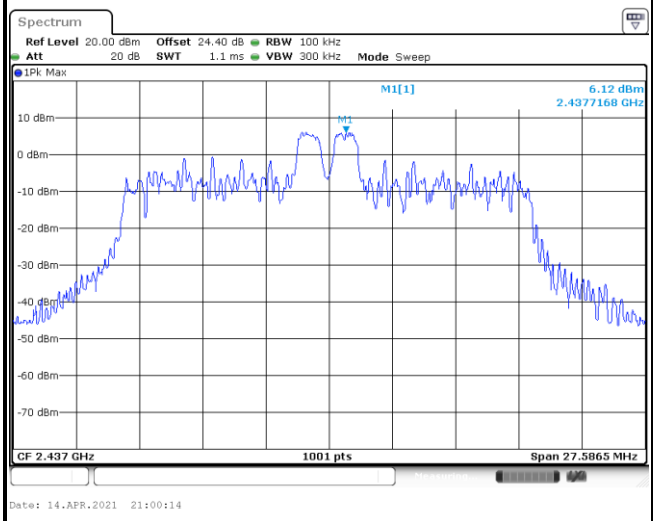
100kHz PSD reference Level	Mid Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

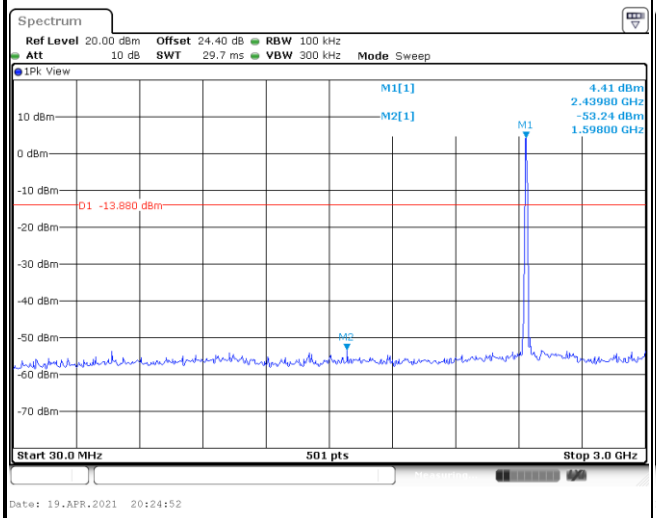
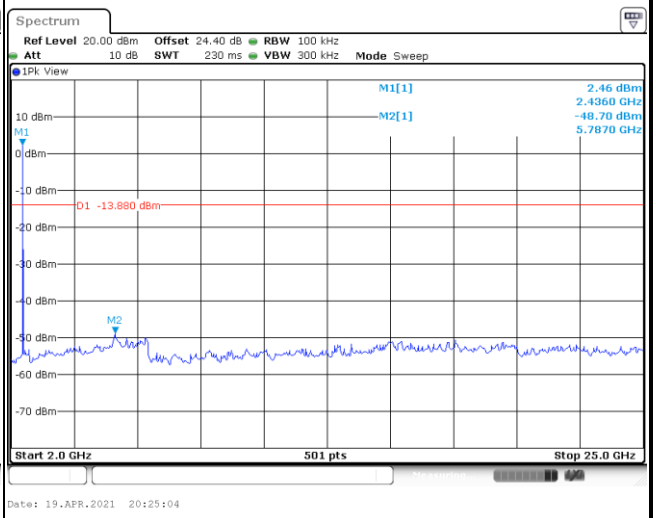
Test Mode :	802.11ax HE20	Test Channel :	06 Full RU

100kHz PSD reference Level	Mid Channel Plot
	

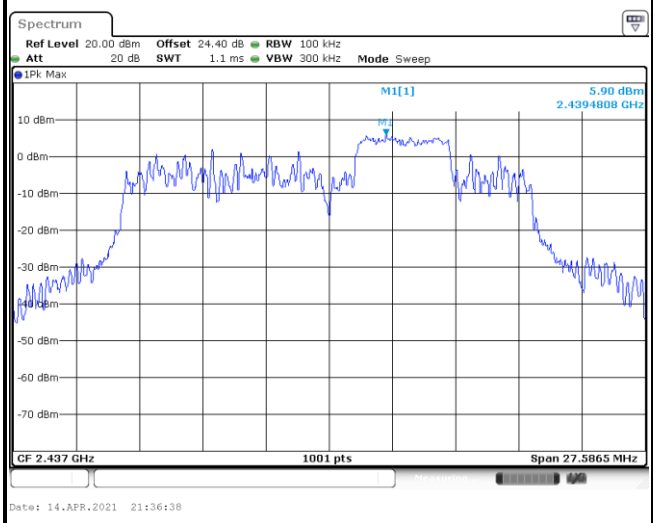
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

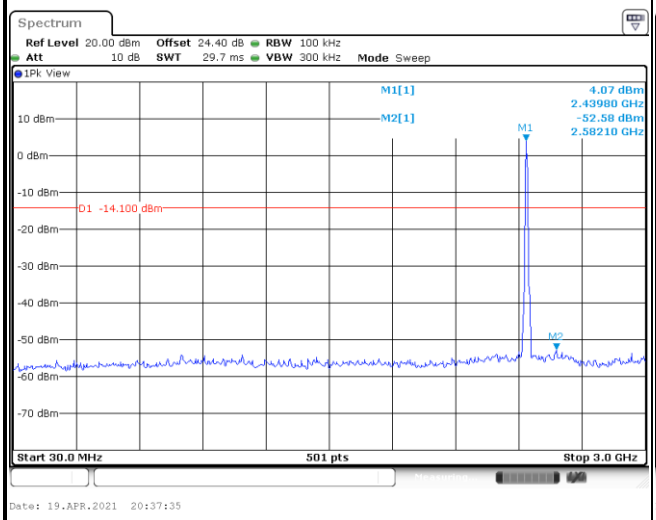
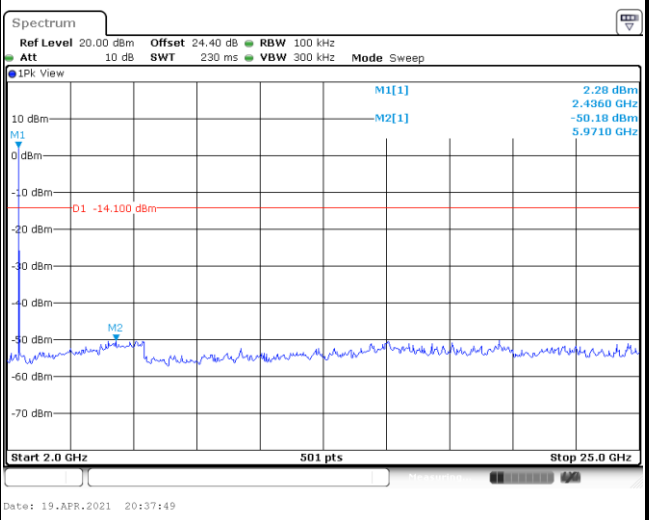
Test Mode :	802.11ax HE20	Test Channel :	06 Partial RU 26/4

100kHz PSD reference Level	Mid Channel Plot
	

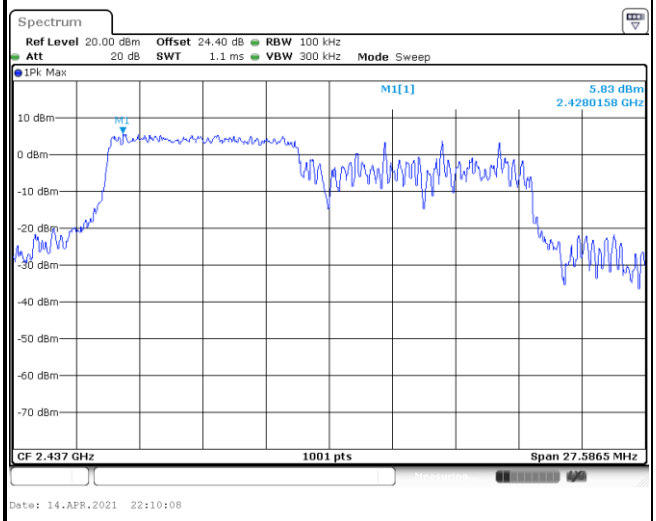
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

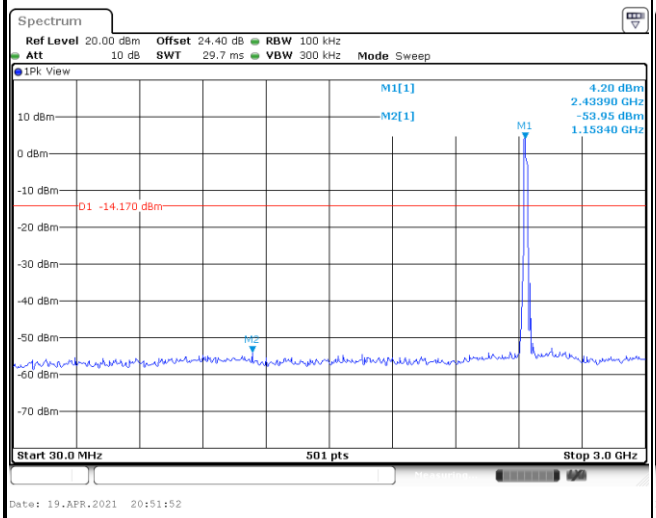
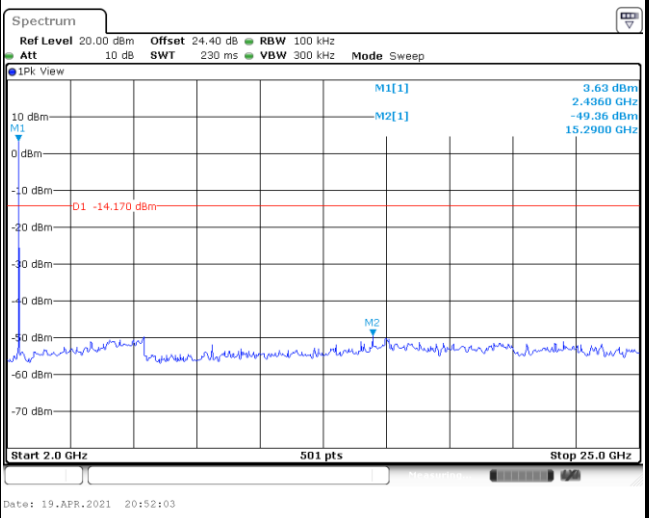
Test Mode :	802.11ax HE20	Test Channel :	06 Partial RU 52/39

100kHz PSD reference Level	Mid Channel Plot
	

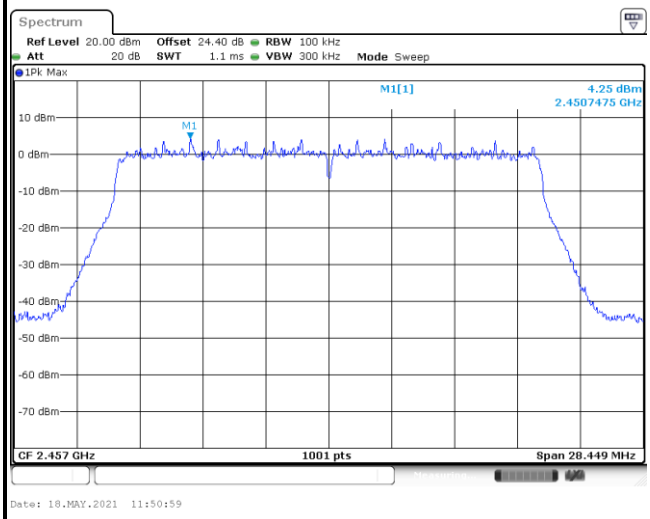
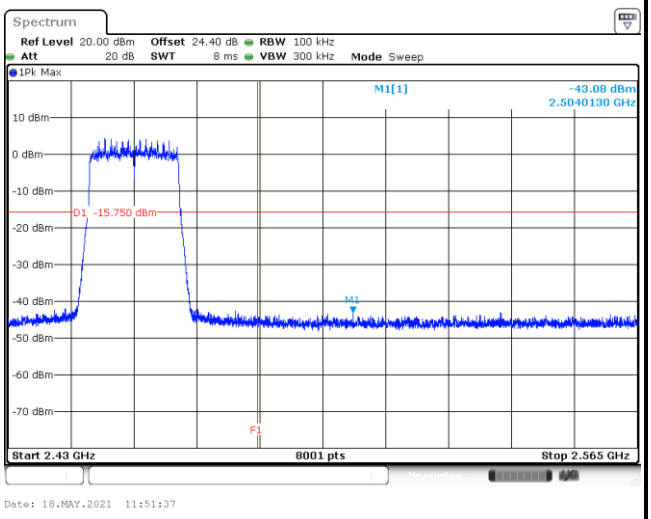
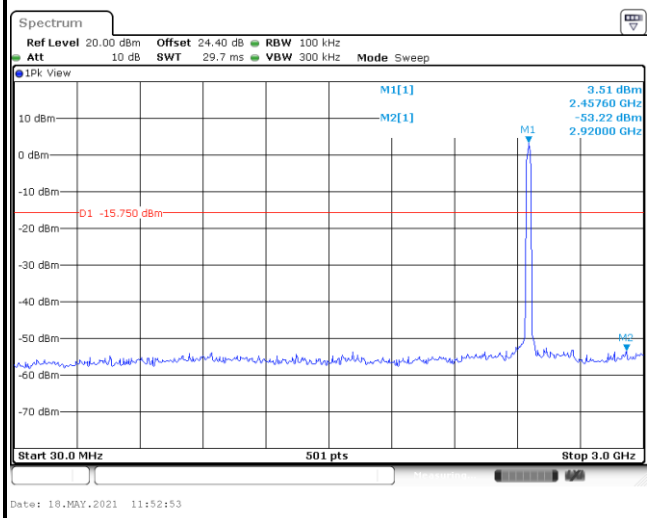
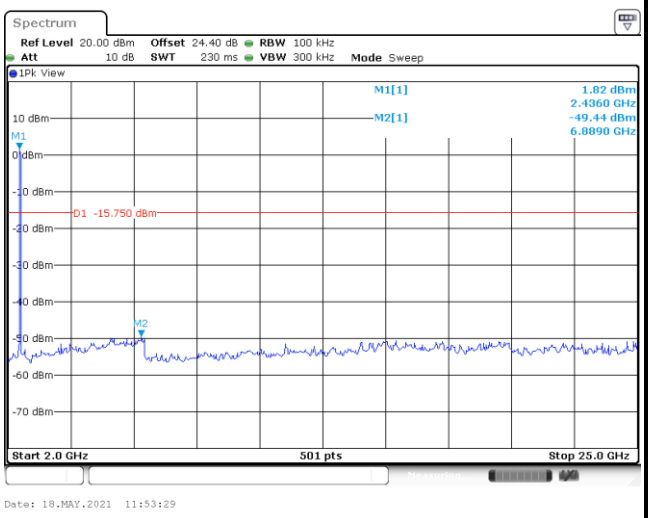
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11ax HE20	Test Channel :	06 Partial RU 106/53

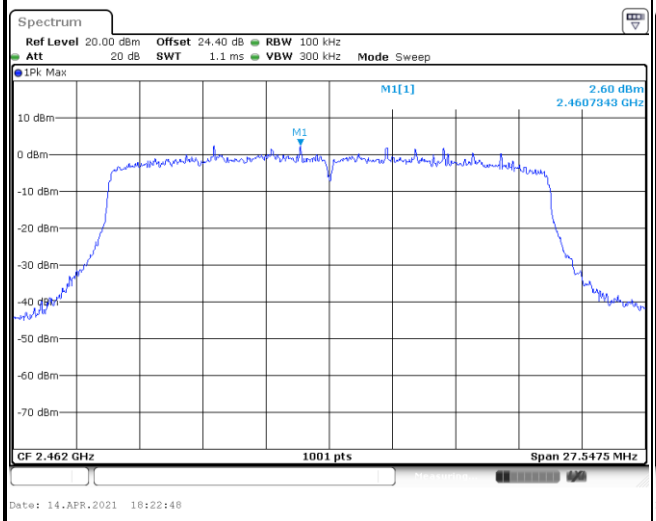
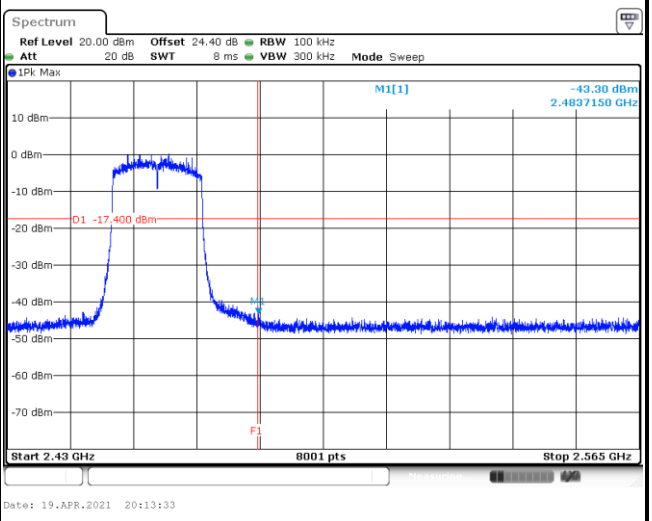
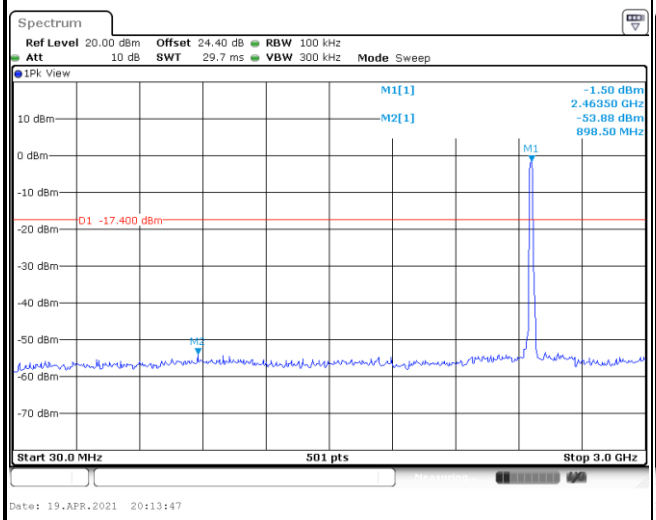
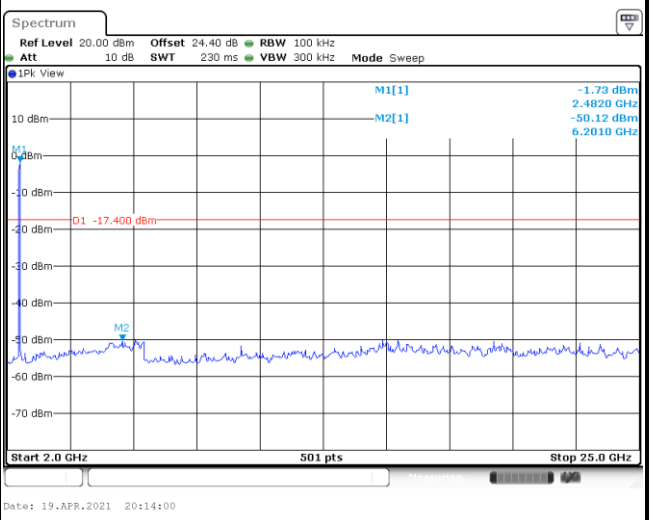
100kHz PSD reference Level	Mid Channel Plot
	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

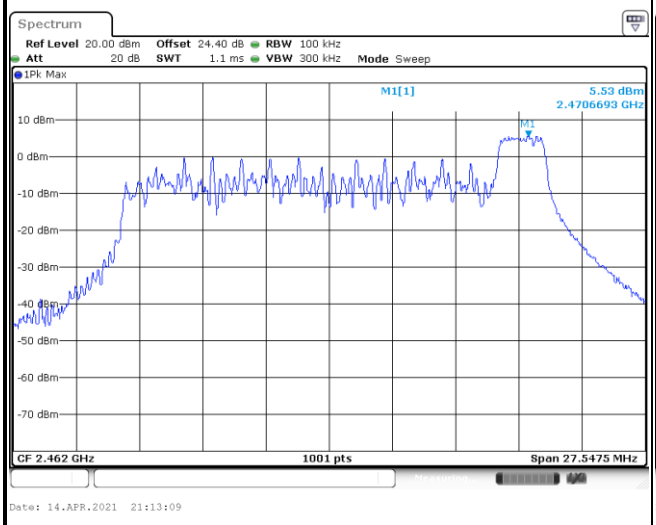
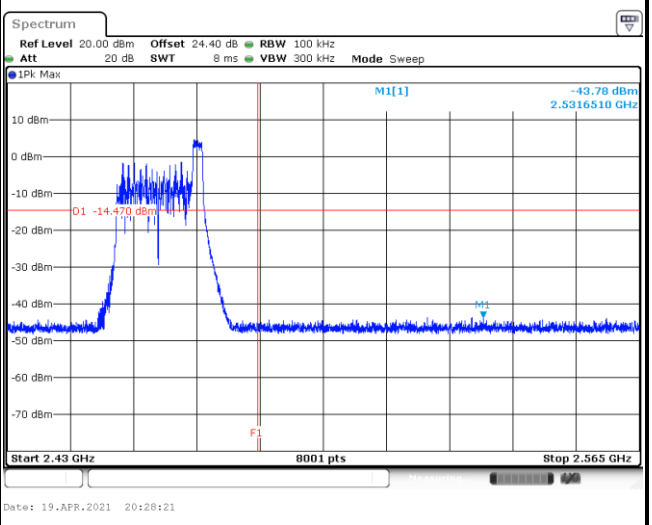
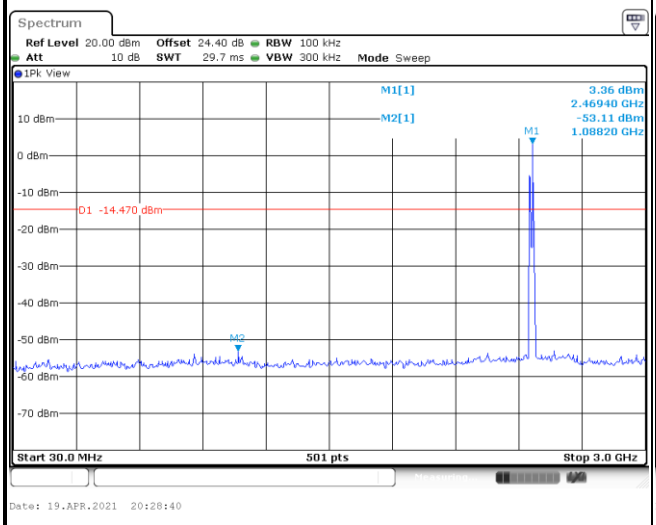
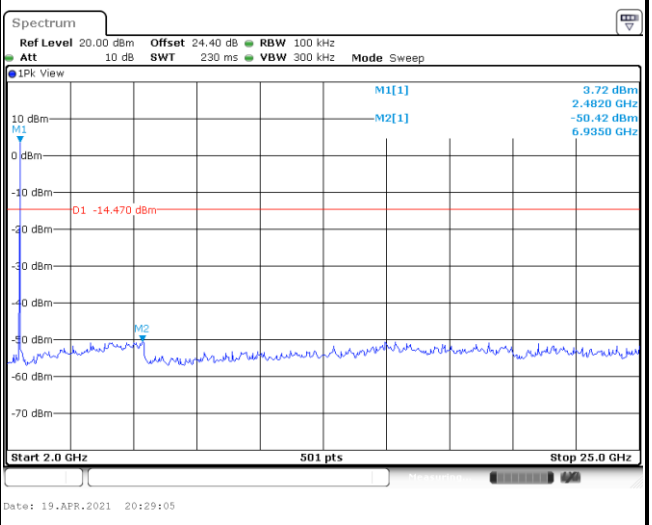
Test Mode :	802.11ax HE20	Test Channel :	10 Full RU

100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

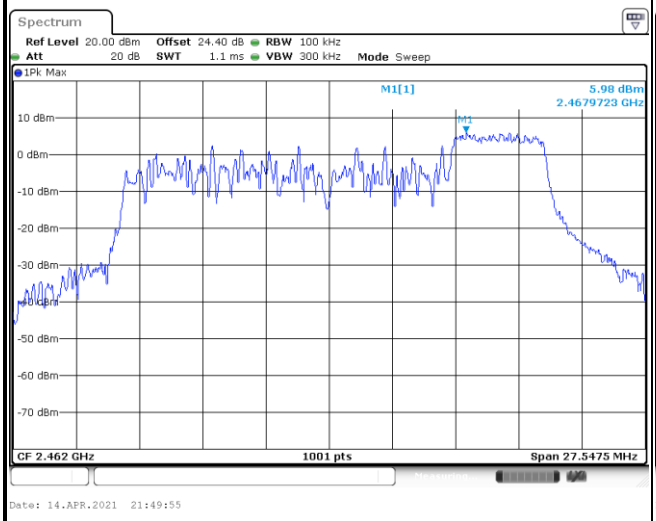
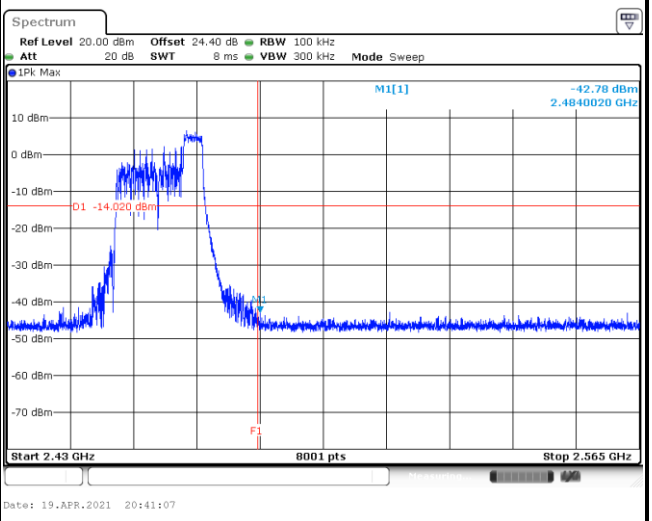
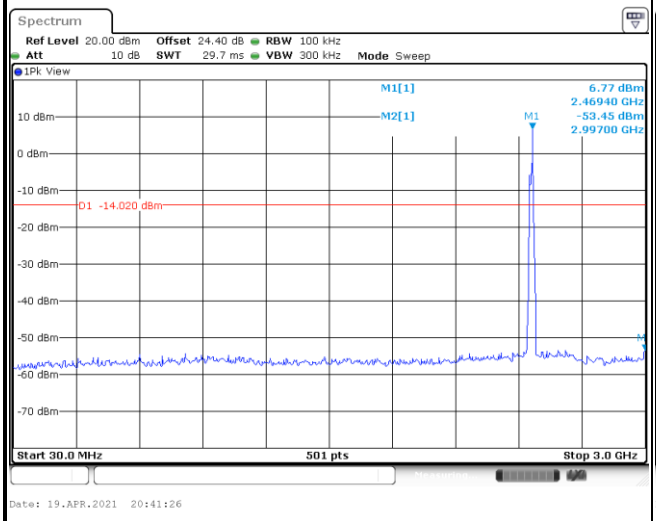
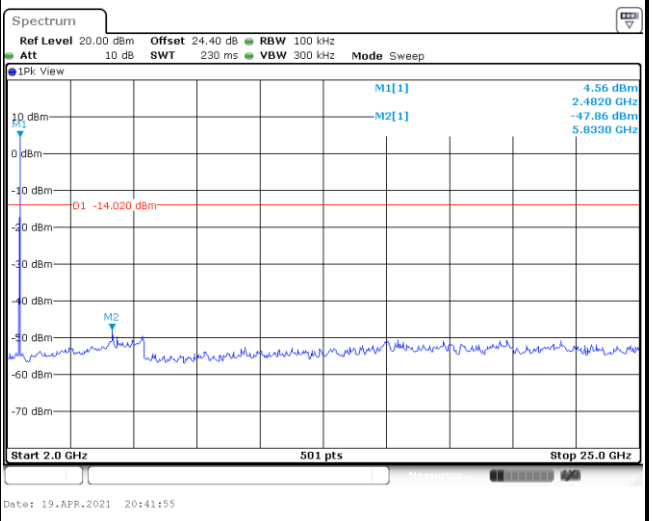
Test Mode :	802.11ax HE20	Test Channel :	11 Full RU

100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

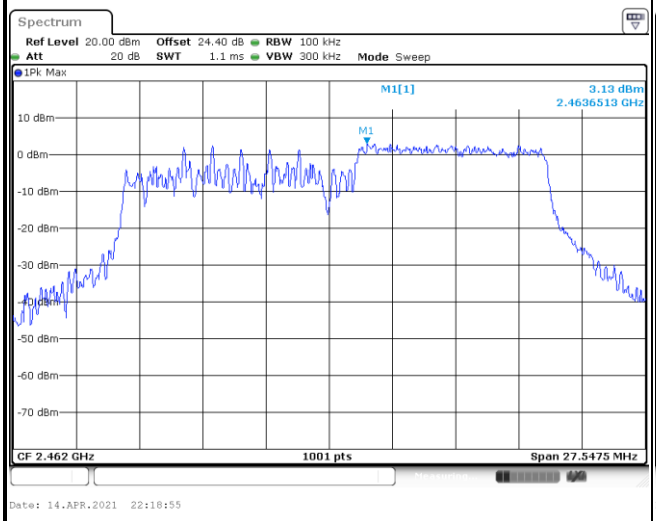
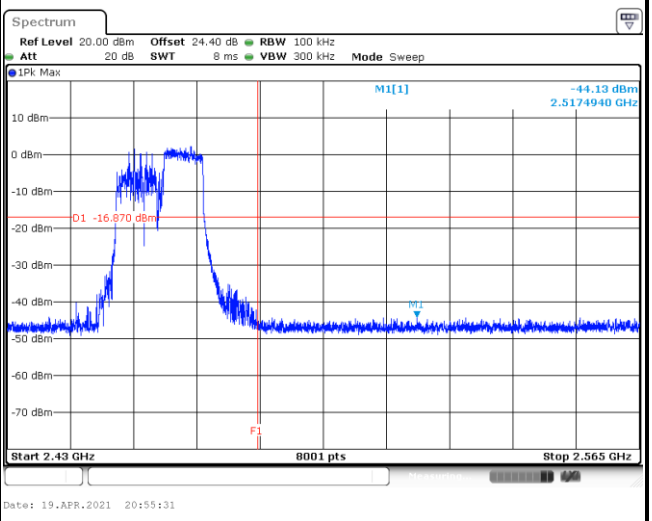
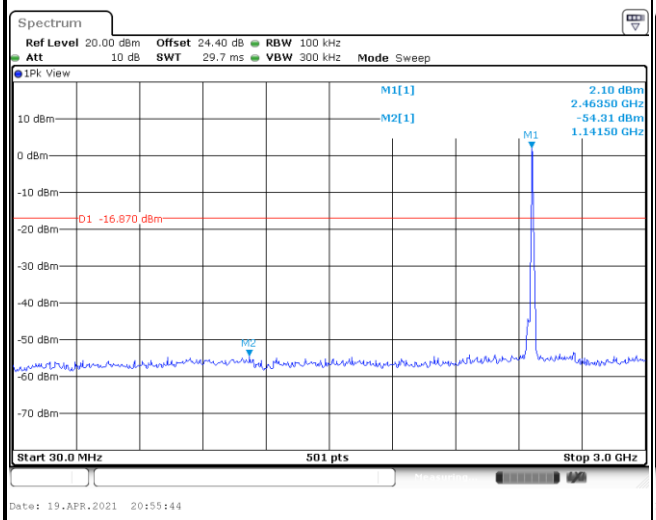
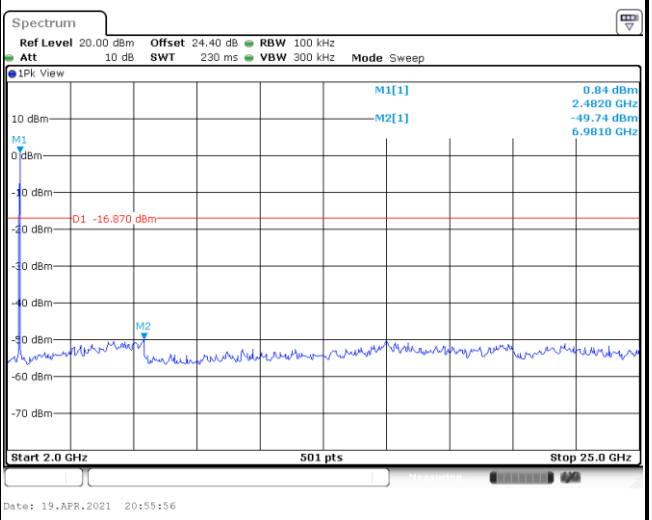
Test Mode :	802.11ax HE20	Test Channel :	11 Partial RU 26/8

100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE20	Test Channel :	11 Partial RU 52/40

100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE20	Test Channel :	11 Partial RU 106/54

100kHz PSD reference Level	High Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

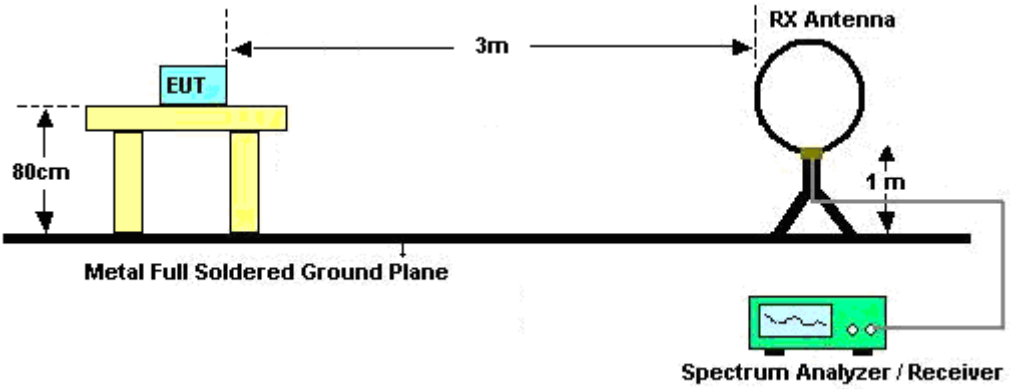
See list of measuring equipment of this test report.

3.5.3 Test Procedures

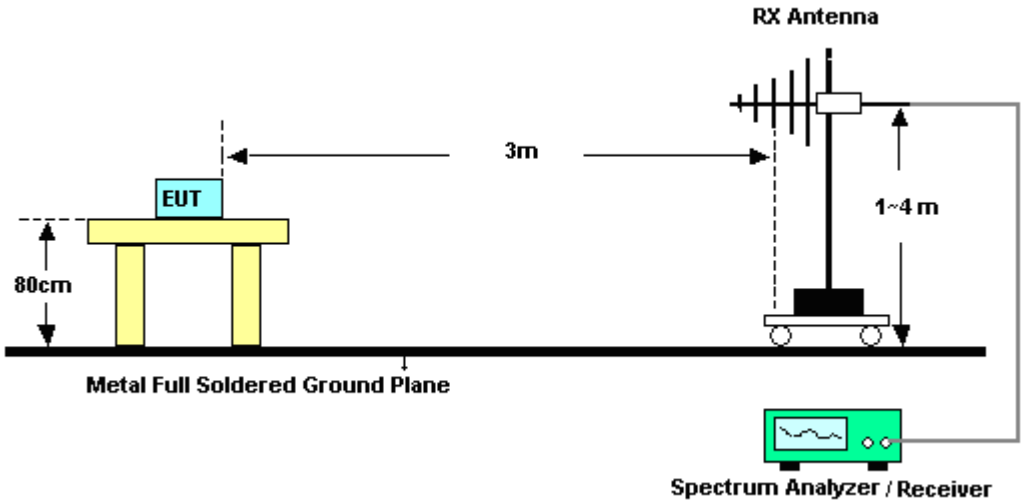
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1 GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW = 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3 MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

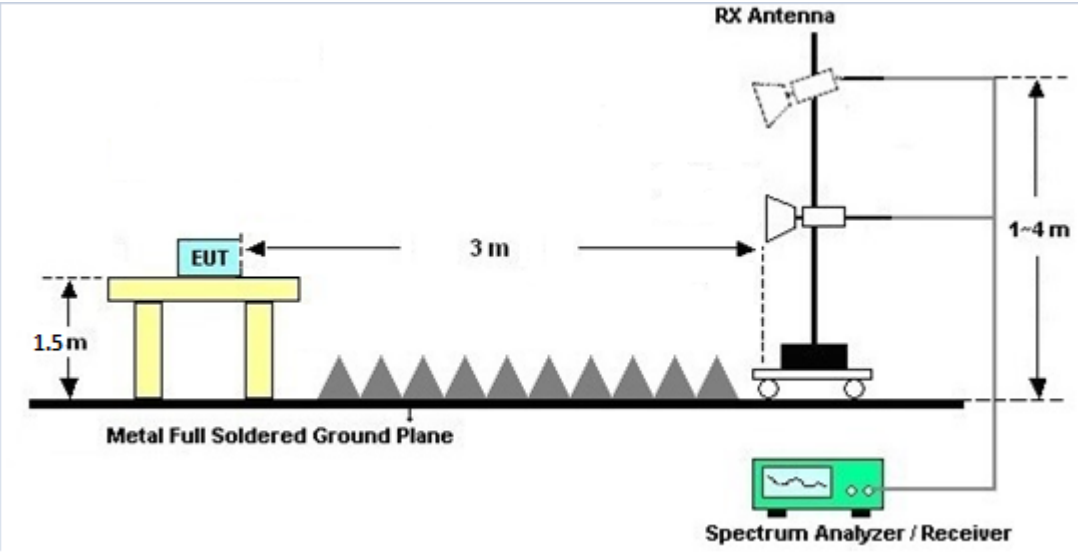
For radiated emissions below 30MHz



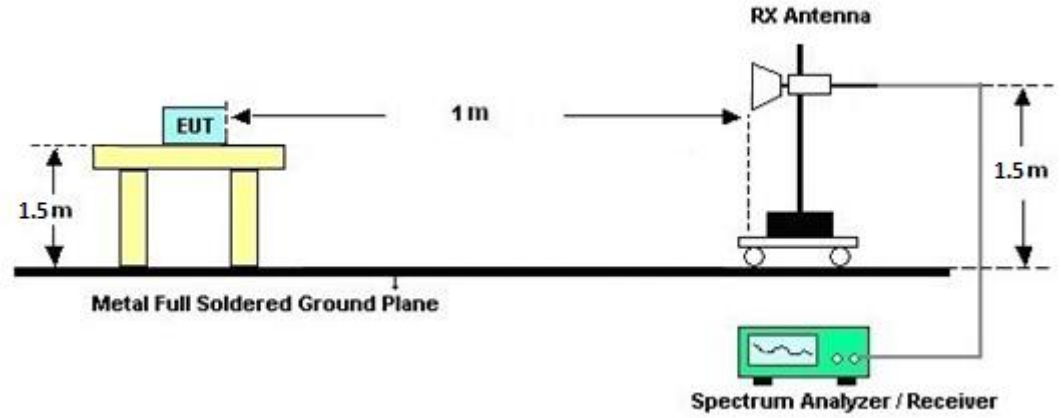
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

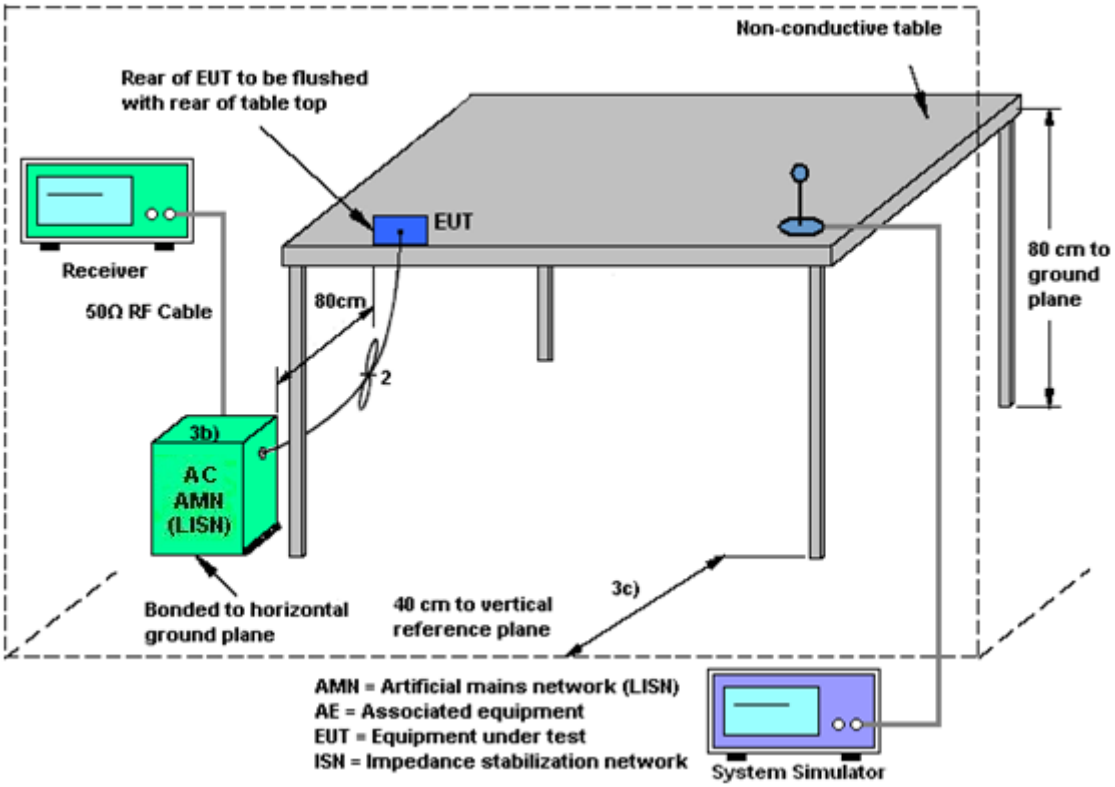
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

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 >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

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

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

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

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

<CDD Modes>

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Chain 0 (dBi)	Chain 1 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	-2.30	-7.00	-2.30	-1.33	0.00	0.00

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

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

4 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	9 kHz~30 MHz	Jul. 14, 2020	Apr. 08, 2021~ May 19, 2021	Jul. 13, 2021	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	41912 & 05	30MHz~1GHz	Feb. 08, 2021	Apr. 08, 2021~ May 19, 2021	Feb. 07, 2022	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 28, 2020	Apr. 08, 2021~ May 19, 2021	Dec. 27, 2021	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Nov. 03, 2020	Apr. 08, 2021~ May 19, 2021	Nov. 02, 2021	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Dec. 02, 2020	Apr. 08, 2021~ May 19, 2021	Dec. 01, 2021	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055006	1GHz~18GHz	May 07, 2020	Apr. 08, 2021~ May 05, 2021	May 06, 2021	Radiation (03CH15-HY)
Amplifier	EMCI	EMC118A45SE	980791	1GHz-18GHz	Nov. 16, 2020	May 06, 2021~ May 19, 2021	Nov. 15, 2021	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 21, 2020	Apr. 08, 2021~ May 19, 2021	Aug. 20, 2021	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Oct. 27, 2020	Apr. 08, 2021~ May 19, 2021	Oct. 26, 2021	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY54130085	20MHz~8.4GHz	Nov. 02, 2020	Apr. 08, 2021~ May 19, 2021	Nov. 01, 2021	Radiation (03CH15-HY
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	May 04, 2020	Apr. 08, 2021~ May 02, 2021	May 03, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Mar. 05, 2021	May 03, 2021~ May 19, 2021	Mar. 04, 2022	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Apr. 08, 2021~ May 19, 2021	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Apr. 08, 2021~ May 19, 2021	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24 (k5)	RK-000451	N/A	N/A	Apr. 08, 2021~ May 19, 2021	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE,508405/2E	30MHz~18G	Nov. 16, 2020	Apr. 08, 2021~ May 19, 2021	Nov. 15, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 22, 2021	Apr. 08, 2021~ May 19, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 22, 2021	Apr. 08, 2021~ May 19, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Apr. 08, 2021~ May 19, 2021	Mar. 10, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WLJ4-1000-1530-6000-40ST	SN4	1.53GHz Low Pass Filter	Jul. 03, 2020	Apr. 08, 2021~ May 19, 2021	Jul. 02, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN4	3GHz High Pass Filter	Sep. 16, 2020	Apr. 08, 2021~ May 19, 2021	Sep. 15, 2021	Radiation (03CH15-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	TR-32	HE17XB2468	N/A	Mar. 09, 2021	Mar. 30, 2021~ May 18, 2021	Mar. 08, 2022	Conducted (TH02-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO12	10MHz~6GHz	Dec. 16, 2020	Mar. 30, 2021~ May 18, 2021	Dec. 15, 2021	Conducted (TH02-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz ~ 40GHz	Jul. 22, 2020	Mar. 30, 2021~ May 18, 2021	Jul. 21, 2021	Conducted (TH02-HY)
Switch Box & RF Cable	Burgeon	ETF058	EC1300484	N/A	Nov. 19, 2020	Mar. 30, 2021~ May 18, 2021	Nov. 18, 2021	Conducted (TH02-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 08, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 30, 2020	Apr. 08, 2021	Nov. 29, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Apr. 08, 2021	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 01, 2020	Apr. 08, 2021	Nov. 30, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 16, 2020	Apr. 08, 2021	Nov. 15, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Apr. 08, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Feb. 25, 2021	Apr. 08, 2021	Feb. 24, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Apr. 08, 2021	Dec. 30, 2021	Conduction (CO05-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**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.3**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.9**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2021/3/29~05/18	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
					Chain 0	Chain 1	Chain 0	Chain 1		
11b	1Mbps	2	1	2412	13.09	13.14	8.06	7.56	0.50	Pass
11b	1Mbps	2	6	2437	13.19	13.19	8.06	8.06	0.50	Pass
11b	1Mbps	2	11	2462	12.99	12.94	8.04	8.06	0.50	Pass
11g	6Mbps	2	1	2412	16.38	16.38	16.05	15.95	0.50	Pass
11g	6Mbps	2	6	2437	16.43	16.38	15.91	15.93	0.50	Pass
11g	6Mbps	2	11	2462	16.33	16.33	15.65	15.71	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band MIMO															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Chain 0	Chain 1	SUM	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	
11b	1Mbps	2	1	2412	17.35	15.26	19.44	30.00		-2.30		17.14		36.00		Pass
11b	1Mbps	2	6	2437	17.21	15.29	19.37	30.00		-2.30		17.07		36.00		Pass
11b	1Mbps	2	11	2462	17.39	15.23	19.45	30.00		-2.30		17.15		36.00		Pass
11g	6Mbps	2	1	2412	22.60	22.39	25.51	30.00		-2.30		23.21		36.00		Pass
11g	6Mbps	2	6	2437	22.41	21.99	25.22	30.00		-2.30		22.92		36.00		Pass
11g	6Mbps	2	11	2462	22.21	22.23	25.23	30.00		-2.30		22.93		36.00		Pass
HT20	MCS0	2	1	2412	22.60	22.52	25.57	30.00		-2.30		23.27		36.00		Pass
HT20	MCS0	2	2	2417	22.76	22.46	25.62	30.00		-2.30		23.32		36.00		Pass
HT20	MCS0	2	6	2437	22.92	22.55	25.75	30.00		-2.30		23.45		36.00		Pass
HT20	MCS0	2	10	2457	22.55	22.50	25.54	30.00		-2.30		23.24		36.00		Pass
HT20	MCS0	2	11	2462	21.85	21.72	24.80	30.00		-2.30		22.50		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	Chain 0	Chain 1	SUM	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	
11b	1Mbps	2	1	2412	0.07	0.07	14.75	12.70	16.86	30.00		-2.30		14.56		36.00		Pass
11b	1Mbps	2	6	2437	0.07	0.07	14.63	12.76	16.81	30.00		-2.30		14.51		36.00		Pass
11b	1Mbps	2	11	2462	0.07	0.07	14.75	12.67	16.84	30.00		-2.30		14.54		36.00		Pass
11g	6Mbps	2	1	2412	0.04	0.03	14.98	14.96	17.98	30.00		-2.30		15.68		36.00		Pass
11g	6Mbps	2	6	2437	0.04	0.03	14.90	14.82	17.87	30.00		-2.30		15.57		36.00		Pass
11g	6Mbps	2	11	2462	0.04	0.03	14.39	14.44	17.43	30.00		-2.30		15.13		36.00		Pass
HT20	MCS0	2	1	2412	0.00	0.00	14.40	14.38	17.40	30.00		-2.30		15.10		36.00		Pass
HT20	MCS0	2	2	2417	0.00	0.00	14.63	14.61	17.63	30.00		-2.30		15.33		36.00		Pass
HT20	MCS0	2	6	2437	0.00	0.00	14.71	14.70	17.72	30.00		-2.30		15.42		36.00		Pass
HT20	MCS0	2	10	2457	0.00	0.00	14.30	14.33	17.33	30.00		-2.30		15.03		36.00		Pass
HT20	MCS0	2	11	2462	0.00	0.00	12.71	12.65	15.69	30.00		-2.30		13.39		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
					Chain 0	Chain 1	Worse + 3.01	Chain 0	Chain 1	Chain 0	Chain 1	
11b	1Mbps	2	1	2412	-6.79	-7.49	-3.78	-1.33		8.00		Pass
11b	1Mbps	2	6	2437	-7.55	-7.24	-4.23	-1.33		8.00		Pass
11b	1Mbps	2	11	2462	-7.34	-6.45	-3.44	-1.33		8.00		Pass
11g	6Mbps	2	1	2412	-10.67	-10.49	-7.48	-1.33		8.00		Pass
11g	6Mbps	2	6	2437	-11.44	-10.90	-7.89	-1.33		8.00		Pass
11g	6Mbps	2	11	2462	-9.92	-10.88	-6.91	-1.33		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
						Chain 0	Chain 1	Chain 0	Chain 1		
HE20	MCS0	2	1	2412	Full	18.88	18.88	18.67	18.52	0.50	Pass
HE20	MCS0	2	1	2412	26/0	18.63	18.58	2.09	2.09	0.50	Pass
HE20	MCS0	2	1	2412	52/37	18.43	18.38	17.06	17.06	0.50	Pass
HE20	MCS0	2	1	2412	106/53	18.33	18.28	18.09	18.09	0.50	Pass
HE20	MCS0	2	6	2437	Full	18.88	18.93	18.56	18.39	0.50	Pass
HE20	MCS0	2	6	2437	26/4	17.13	17.03	2.65	2.67	0.50	Pass
HE20	MCS0	2	6	2437	52/39	17.33	17.13	15.09	15.07	0.50	Pass
HE20	MCS0	2	6	2437	106/53	18.33	18.23	17.14	17.14	0.50	Pass
HE20	MCS0	2	11	2462	Full	18.83	18.83	18.39	18.37	0.50	Pass
HE20	MCS0	2	11	2462	26/8	18.43	18.38	2.06	14.52	0.50	Pass
HE20	MCS0	2	11	2462	52/40	18.33	18.28	16.99	15.74	0.50	Pass
HE20	MCS0	2	11	2462	106/54	18.28	18.28	17.39	17.39	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band MIMO															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Chain 0	Chain 1	SUM	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	
HE20	MCS0	2	1	2412	Full	22.65	22.63	25.65	30.00		-2.30		23.35		36.00		Pass
HE20	MCS0	2	1	2412	26/0	20.14	20.99	23.60	30.00		-2.30		21.30		36.00		Pass
HE20	MCS0	2	1	2412	52/37	22.56	22.79	25.69	30.00		-2.30		23.39		36.00		Pass
HE20	MCS0	2	1	2412	106/53	23.36	23.29	26.34	30.00		-2.30		24.04		36.00		Pass
HE20	MCS0	2	2	2417	Full	22.96	22.71	25.85	30.00		-2.30		23.55		36.00		Pass
HE20	MCS0	2	6	2437	Full	23.05	22.68	25.88	30.00		-2.30		23.58		36.00		Pass
HE20	MCS0	2	6	2437	26/4	20.20	20.76	23.50	30.00		-2.30		21.20		36.00		Pass
HE20	MCS0	2	6	2437	52/39	22.60	22.80	25.71	30.00		-2.30		23.41		36.00		Pass
HE20	MCS0	2	6	2437	106/53	23.39	23.18	26.30	30.00		-2.30		24.00		36.00		Pass
HE20	MCS0	2	10	2457	Full	22.61	22.60	25.62	30.00		-2.30		23.32		36.00		Pass
HE20	MCS0	2	11	2462	Full	21.96	21.86	24.92	30.00		-2.30		22.62		36.00		Pass
HE20	MCS0	2	11	2462	26/8	20.26	20.98	23.65	30.00		-2.30		21.35		36.00		Pass
HE20	MCS0	2	11	2462	52/40	22.78	22.75	25.78	30.00		-2.30		23.48		36.00		Pass
HE20	MCS0	2	11	2462	106/54	22.71	22.74	25.74	30.00		-2.30		23.44		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Chain 0	Chain 1	Chain 0	Chain 1	SUM	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	Chain 0	Chain 1	
HE20	MCS0	2	1	2412	Full	0.02	0.03	14.47	14.45	17.47	30.00		-2.30		15.17		36.00		Pass
HE20	MCS0	2	1	2412	26/0	0.02	0.03	9.32	9.49	12.42	30.00		-2.30		10.12		36.00		Pass
HE20	MCS0	2	1	2412	52/37	0.02	0.03	12.33	12.44	15.40	30.00		-2.30		13.10		36.00		Pass
HE20	MCS0	2	1	2412	106/53	0.02	0.03	14.48	14.48	17.49	30.00		-2.30		15.19		36.00		Pass
HE20	MCS0	2	2	2417	Full	0.02	0.03	14.73	14.73	17.74	30.00		-2.30		15.44		36.00		Pass
HE20	MCS0	2	6	2437	Full	0.02	0.03	14.80	14.76	17.79	30.00		-2.30		15.49		36.00		Pass
HE20	MCS0	2	6	2437	26/4	0.02	0.03	9.48	9.48	12.49	30.00		-2.30		10.19		36.00		Pass
HE20	MCS0	2	6	2437	52/39	0.02	0.03	12.42	12.48	15.46	30.00		-2.30		13.16		36.00		Pass
HE20	MCS0	2	6	2437	106/53	0.02	0.03	14.48	14.49	17.50	30.00		-2.30		15.20		36.00		Pass
HE20	MCS0	2	10	2457	Full	0.02	0.03	14.49	14.42	17.47	30.00		-2.30		15.17		36.00		Pass
HE20	MCS0	2	11	2462	Full	0.02	0.03	14.43	12.72	16.67	30.00		-2.30		14.37		36.00		Pass
HE20	MCS0	2	11	2462	26/8	0.02	0.03	9.45	9.48	12.48	30.00		-2.30		10.18		36.00		Pass
HE20	MCS0	2	11	2462	52/40	0.02	0.03	12.49	12.46	15.49	30.00		-2.30		13.19		36.00		Pass
HE20	MCS0	2	11	2462	106/54	0.02	0.03	12.41	12.48	15.46	30.00		-2.30		13.16		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
						Chain 0	Chain 1	Worse + 3.01	Chain 0	Chain 1	Chain 0	Chain 1	
HE20	MCS0	2	1	2412	Full	-10.75	-10.33	-7.32	-1.33		8.00		Pass
HE20	MCS0	2	1	2412	26/0	-8.30	-7.59	-4.58	-1.33		8.00		Pass
HE20	MCS0	2	1	2412	52/37	-5.39	-5.24	-2.23	-1.33		8.00		Pass
HE20	MCS0	2	1	2412	106/53	-7.61	-8.11	-4.60	-1.33		8.00		Pass
HE20	MCS0	2	6	2437	Full	-10.75	-10.61	-7.60	-1.33		8.00		Pass
HE20	MCS0	2	6	2437	26/4	-7.94	-7.27	-4.26	-1.33		8.00		Pass
HE20	MCS0	2	6	2437	52/39	-6.62	-6.28	-3.27	-1.33		8.00		Pass
HE20	MCS0	2	6	2437	106/53	-7.27	-7.35	-4.26	-1.33		8.00		Pass
HE20	MCS0	2	11	2462	Full	-12.33	-12.21	-9.20	-1.33		8.00		Pass
HE20	MCS0	2	11	2462	26/8	-5.95	-6.51	-2.94	-1.33		8.00		Pass
HE20	MCS0	2	11	2462	52/40	-4.71	-6.18	-1.70	-1.33		8.00		Pass
HE20	MCS0	2	11	2462	106/54	-8.66	-9.30	-5.65	-1.33		8.00		Pass

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

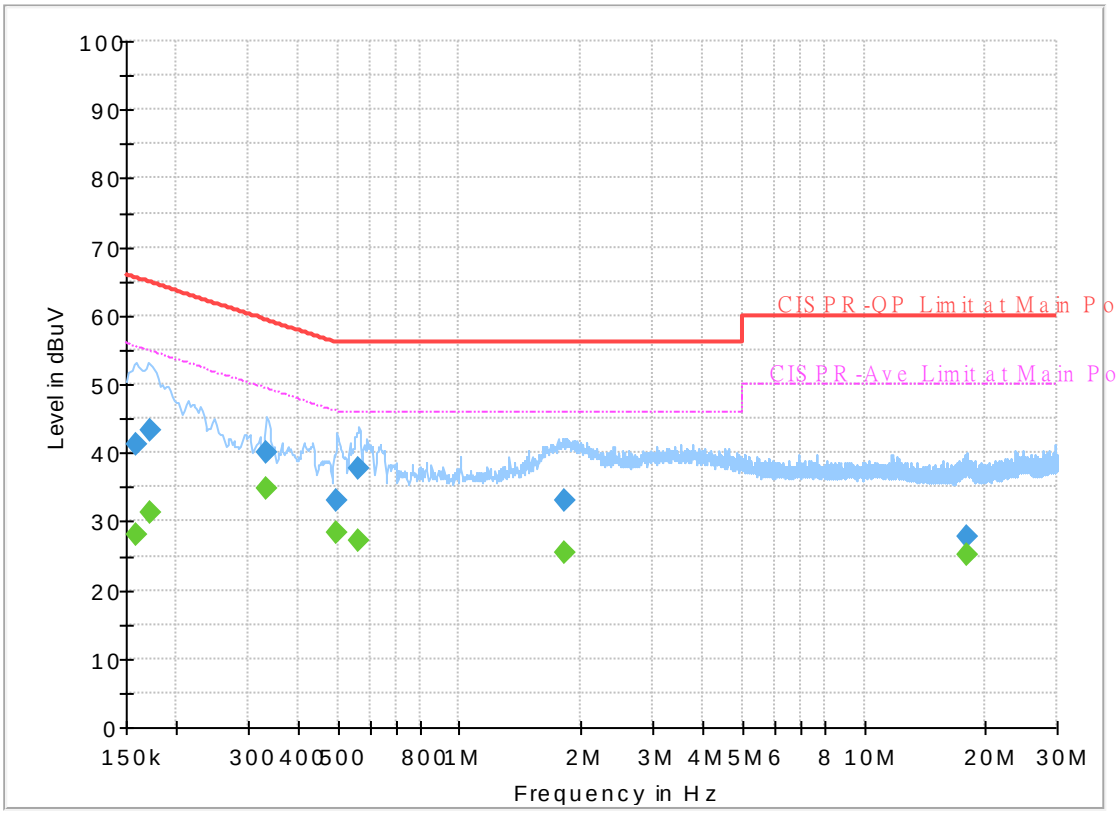
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	**Temperature :**	23~26℃
		Relative Humidity :	40~50%

EUT Information

Report NO :	132425
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



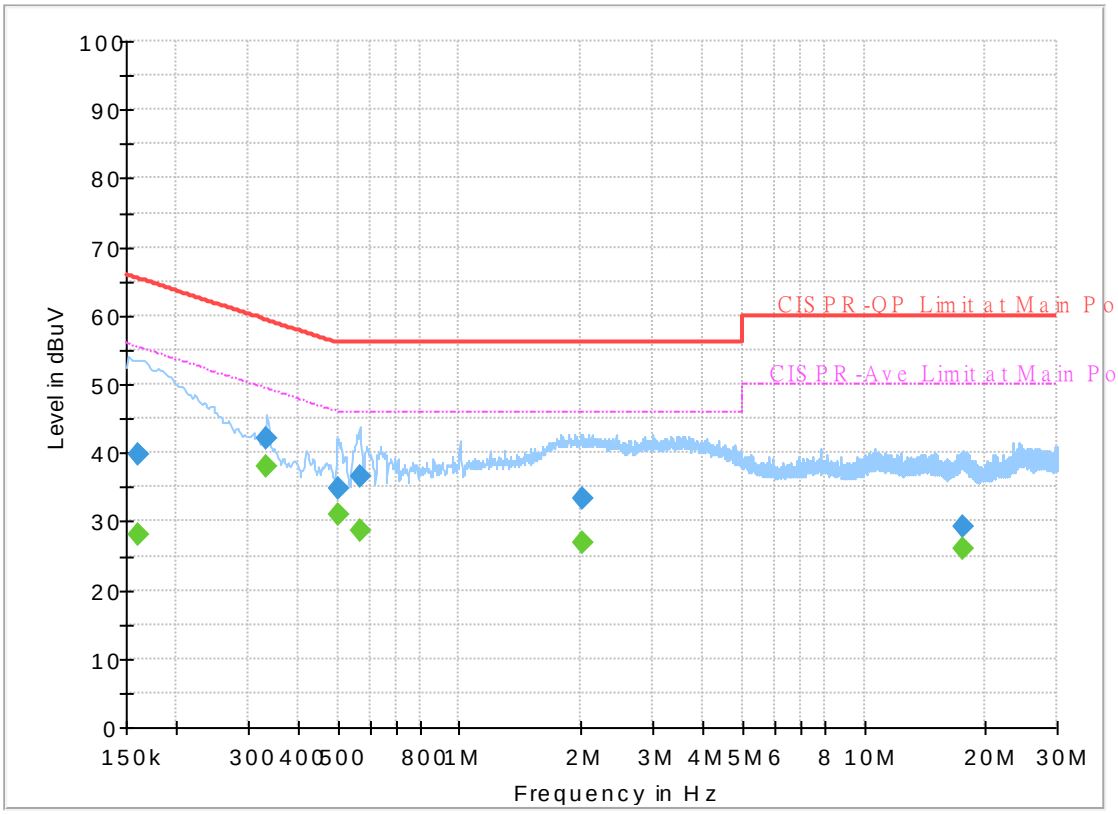
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.159000	---	28.19	55.52	27.33	L1	OFF	19.7
0.159000	41.09	---	65.52	24.43	L1	OFF	19.7
0.172500	---	31.35	54.84	23.49	L1	OFF	19.7
0.172500	43.17	---	64.84	21.67	L1	OFF	19.7
0.334500	---	34.71	49.34	14.63	L1	OFF	19.7
0.334500	39.96	---	59.34	19.38	L1	OFF	19.7
0.498750	---	28.49	46.02	17.53	L1	OFF	19.9
0.498750	33.08	---	56.02	22.94	L1	OFF	19.9
0.564000	---	27.34	46.00	18.66	L1	OFF	19.9
0.564000	37.64	---	56.00	18.36	L1	OFF	19.9
1.826250	---	25.53	46.00	20.47	L1	OFF	20.2
1.826250	33.18	---	56.00	22.82	L1	OFF	20.2
18.044250	---	25.13	50.00	24.87	L1	OFF	20.5
18.044250	27.68	---	60.00	32.32	L1	OFF	20.5

EUT Information

Report NO :	132425
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)
0.161250	---	27.98	55.40	27.42	N	OFF	19.7
0.161250	39.79	---	65.40	25.61	N	OFF	19.7
0.334500	---	37.95	49.34	11.39	N	OFF	19.8
0.334500	42.19	---	59.34	17.15	N	OFF	19.8
0.501000	---	30.95	46.00	15.05	N	OFF	19.9
0.501000	34.86	---	56.00	21.14	N	OFF	19.9
0.566250	---	28.76	46.00	17.24	N	OFF	20.0
0.566250	36.64	---	56.00	19.36	N	OFF	20.0
2.008500	---	26.86	46.00	19.14	N	OFF	20.2
2.008500	33.46	---	56.00	22.54	N	OFF	20.2
17.553750	---	26.15	50.00	23.85	N	OFF	20.6
17.553750	29.15	---	60.00	30.85	N	OFF	20.6

Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Lee, Mancy Chou and Bigshow Wan	Temperature :	22.5~23.5°C
		Relative Humidity :	45~55%

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.
Chain				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2352.21	54.75	-19.25	74	41.49	27.69	16.5	30.93	400	200	P	H
		2354.205	43.88	-10.12	54	30.63	27.68	16.5	30.93	400	200	A	H
	*	2412	101.32	-	-	88.13	27.5	16.6	30.91	400	200	P	H
	*	2412	98.3	-	-	85.11	27.5	16.6	30.91	400	200	A	H
													H
													H
		2321.025	54.8	-19.2	74	41.54	27.76	16.45	30.95	357	10	P	V
		2325.75	43.85	-10.15	54	30.58	27.75	16.46	30.94	357	10	A	V
	*	2412	101.65	-	-	88.46	27.5	16.6	30.91	357	10	P	V
	*	2412	98.64	-	-	85.45	27.5	16.6	30.91	357	10	A	V
													V
													V
802.11b CH 06 2437MHz		2379.76	54.74	-19.26	74	41.53	27.58	16.55	30.92	349	327	P	H
		2335.92	43.91	-10.09	54	30.65	27.73	16.47	30.94	349	327	A	H
	*	2437	103.13	-	-	89.89	27.5	16.64	30.9	349	327	P	H
	*	2437	100.1	-	-	86.86	27.5	16.64	30.9	349	327	A	H
		2491.36	54.31	-19.69	74	41.04	27.42	16.72	30.87	349	327	P	H
		2498.65	43.88	-10.12	54	30.62	27.4	16.73	30.87	349	327	A	H
		2384.4	54.94	-19.06	74	41.75	27.56	16.55	30.92	283	22	P	V
		2343.92	43.91	-10.09	54	30.65	27.71	16.49	30.94	283	22	A	V
	*	2437	102.54	-	-	89.3	27.5	16.64	30.9	283	22	P	V
	*	2437	99.54	-	-	86.3	27.5	16.64	30.9	283	22	A	V
		2488.03	55	-19	74	41.74	27.42	16.72	30.88	283	22	P	V
		2484.16	43.91	-10.09	54	30.65	27.43	16.71	30.88	283	22	A	V

802.11b CH 11 2462MHz	*	2462	102.73	-	-	89.46	27.48	16.68	30.89	337	325	P	H
	*	2462	99.6	-	-	86.33	27.48	16.68	30.89	337	325	A	H
		2488	55.19	-18.81	74	41.93	27.42	16.72	30.88	337	325	P	H
		2483.96	43.94	-10.06	54	30.68	27.43	16.71	30.88	337	325	A	H
													H
													H
	*	2462	103.16	-	-	89.89	27.48	16.68	30.89	250	10	P	V
	*	2462	100.02	-	-	86.75	27.48	16.68	30.89	250	10	A	V
		2487.12	54.7	-19.3	74	41.43	27.43	16.72	30.88	250	10	P	V
		2485.08	43.99	-10.01	54	30.73	27.43	16.71	30.88	250	10	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 Chain 0+1	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)
802.11b CH 01 2412MHz		4824	38.76	-35.24	74	56.68	31.1	10.07	59.09	100	0	P	H
		17985	59.17	-14.83	74	49.48	48.73	18.88	57.92	300	214	P	H
		17985	49.32	-4.68	54	39.63	48.73	18.88	57.92	300	214	A	H
													H
		4824	38.53	-35.47	74	56.45	31.1	10.07	59.09	100	0	P	V
		18000	60.73	-13.27	74	50.74	49	18.89	57.9	100	135	P	V
		18000	50.42	-3.58	54	40.43	49	18.89	57.9	100	135	A	V
													V
802.11b CH 06 2437MHz		4874	39.35	-34.65	74	57.31	31.05	10.11	59.12	100	0	P	H
		7311	43.97	-30.03	74	53.92	36.3	12.31	58.56	100	0	P	H
		18000	59.06	-14.94	74	49.07	49	18.89	57.9	300	214	P	H
		18000	49.28	-4.72	54	39.29	49	18.89	57.9	300	214	A	H
		4874	39.47	-34.53	74	57.43	31.05	10.11	59.12	100	0	P	V
		7311	44.14	-29.86	74	54.09	36.3	12.31	58.56	100	0	P	V
		18000	60.16	-13.84	74	50.17	49	18.89	57.9	100	127	P	V
		18000	50.24	-3.76	54	40.25	49	18.89	57.9	100	127	A	V
802.11b CH 11 2462MHz		4924	39.47	-34.53	74	57.38	31.1	10.14	59.15	100	0	P	H
		7386	44.09	-29.91	74	53.9	36.3	12.35	58.46	100	0	P	H
		18000	59.64	-14.36	74	49.65	49	18.89	57.9	300	274	P	H
		18000	49.8	-4.2	54	39.81	49	18.89	57.9	300	274	A	H
		4924	39.62	-34.38	74	57.53	31.1	10.14	59.15	100	0	P	V
		7386	44.01	-29.99	74	53.82	36.3	12.35	58.46	100	0	P	V
		18000	59.15	-14.85	74	49.16	49	18.89	57.9	100	130	P	V
		18000	49.62	-4.38	54	39.63	49	18.89	57.9	100	130	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 (Band Edge @ 3m)

WIFI Chain 0+1	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		2328.795	55.11	-18.89	74	41.85	27.74	16.46	30.94	319	327	P	H
		2389.905	44.32	-9.68	54	31.14	27.54	16.56	30.92	319	327	A	H
	*	2412	107.03	-	-	93.84	27.5	16.6	30.91	319	327	P	H
	*	2412	99.63	-	-	86.44	27.5	16.6	30.91	319	327	A	H
													H
													H
		2387.175	55.27	-18.73	74	42.08	27.55	16.56	30.92	250	21	P	V
		2390	44.19	-9.81	54	31.01	27.54	16.56	30.92	250	21	A	V
	*	2412	107.22	-	-	94.03	27.5	16.6	30.91	250	21	P	V
	*	2412	99.67	-	-	86.48	27.5	16.6	30.91	250	21	A	V
													V
													V
802.11g CH 06 2437MHz		2323.76	55.49	-18.51	74	42.23	27.75	16.45	30.94	348	329	P	H
		2357.68	43.89	-10.11	54	30.64	27.67	16.51	30.93	348	329	A	H
	*	2437	107.63	-	-	94.39	27.5	16.64	30.9	348	329	P	H
	*	2437	100.27	-	-	87.03	27.5	16.64	30.9	348	329	A	H
		2484.16	55.13	-18.87	74	41.87	27.43	16.71	30.88	348	329	P	H
		2484.7	43.91	-10.09	54	30.65	27.43	16.71	30.88	348	329	A	H
		2387.6	55.09	-18.91	74	41.9	27.55	16.56	30.92	283	10	P	V
		2330.64	43.89	-10.11	54	30.62	27.74	16.47	30.94	283	10	A	V
	*	2437	108.7	-	-	95.46	27.5	16.64	30.9	283	10	P	V
	*	2437	100.99	-	-	87.75	27.5	16.64	30.9	283	10	A	V
		2494.06	54.12	-19.88	74	40.85	27.41	16.73	30.87	283	10	P	V
		2485.78	43.94	-10.06	54	30.68	27.43	16.71	30.88	283	10	A	V

802.11g CH 11 2462MHz	*	2462	107.39	-	-	94.12	27.48	16.68	30.89	303	330	P	H
	*	2462	99.93	-	-	86.66	27.48	16.68	30.89	303	330	A	H
		2484.8	59.7	-14.3	74	46.44	27.43	16.71	30.88	303	330	P	H
		2483.64	47.29	-6.71	54	34.03	27.43	16.71	30.88	303	330	A	H
													H
													H
	*	2462	108.95	-	-	95.68	27.48	16.68	30.89	247	10	P	V
	*	2462	101.39	-	-	88.12	27.48	16.68	30.89	247	10	A	V
		2483.56	59.93	-14.07	74	46.67	27.43	16.71	30.88	247	10	P	V
		2483.56	47.71	-6.29	54	34.45	27.43	16.71	30.88	247	10	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 Chain 0+1	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	38.56	-35.44	74	56.48	31.1	10.07	59.09	100	0	P	H
		18000	59.4	-14.6	74	49.41	49	18.89	57.9	300	241	P	H
		18000	49.24	-4.76	54	39.25	49	18.89	57.9	300	241	A	H
													H
		4824	38.62	-35.38	74	56.54	31.1	10.07	59.09	100	0	P	V
		18000	60.15	-13.85	74	50.16	49	18.89	57.9	100	174	P	V
		18000	50.42	-3.58	54	40.43	49	18.89	57.9	100	174	A	V
													V
802.11g CH 06 2437MHz		4874	39.24	-34.76	74	57.2	31.05	10.11	59.12	100	0	P	H
		7311	43.15	-30.85	74	53.1	36.3	12.31	58.56	100	0	P	H
		17985	58.98	-15.02	74	49.29	48.73	18.88	57.92	300	204	P	H
		17985	49.03	-4.97	54	39.34	48.73	18.88	57.92	300	204	A	H
		4874	39.21	-34.79	74	57.17	31.05	10.11	59.12	100	0	P	V
		7311	44.38	-29.62	74	54.33	36.3	12.31	58.56	100	0	P	V
		17985	59.86	-14.14	74	50.17	48.73	18.88	57.92	100	148	P	V
		17985	50.04	-3.96	54	40.35	48.73	18.88	57.92	100	148	A	V
802.11g CH 11 2462MHz		4924	39.39	-34.61	74	57.3	31.1	10.14	59.15	100	0	P	H
		7386	44.21	-29.79	74	54.02	36.3	12.35	58.46	100	0	P	H
		17985	59.55	-14.45	74	49.86	48.73	18.88	57.92	300	217	P	H
		17985	49.43	-4.57	54	39.74	48.73	18.88	57.92	300	217	A	H
		4924	39.55	-34.45	74	57.46	31.1	10.14	59.15	100	0	P	V
		7386	43.63	-30.37	74	53.44	36.3	12.35	58.46	100	0	P	V
		18000	60.18	-13.82	74	50.19	49	18.89	57.9	100	136	P	V
		18000	50.32	-3.68	54	40.33	49	18.89	57.9	100	136	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 (Band Edge @ 3m)

WIFI Chain 0+1	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)
		2387.805	55.28	-18.72	74	42.09	27.55	16.56	30.92	119	31	P	H
		2390	44.4	-9.6	54	31.22	27.54	16.56	30.92	119	31	A	H
	*	2412	103.43	-	-	90.24	27.5	16.6	30.91	119	31	P	H
	*	2412	93.73	-	-	80.54	27.5	16.6	30.91	119	31	A	H
802.11ax													H
HE20 Full													H
CH 01		2387.91	55.53	-18.47	74	42.34	27.55	16.56	30.92	349	106	P	V
2412MHz		2390	44.66	-9.34	54	31.48	27.54	16.56	30.92	349	106	A	V
	*	2412	107.06	-	-	93.87	27.5	16.6	30.91	349	106	P	V
	*	2412	97.17	-	-	83.98	27.5	16.6	30.91	349	106	A	V
													V
													V
		2325.84	55.39	-18.61	74	42.12	27.75	16.46	30.94	400	334	P	H
		2334.09	43.88	-10.12	54	30.62	27.73	16.47	30.94	400	334	A	H
	*	2417	103.07	-	-	89.86	27.5	16.61	30.9	400	334	P	H
	*	2417	92.93	-	-	79.72	27.5	16.61	30.9	400	334	A	H
802.11ax													H
HE20 Full													H
CH 02		2341.13	55.95	-18.05	74	42.69	27.72	16.48	30.94	348	108	P	V
2417MHz		2325.18	43.79	-10.21	54	30.52	27.75	16.46	30.94	348	108	A	V
	*	2417	104.22	-	-	91.01	27.5	16.61	30.9	348	108	P	V
	*	2417	94.09	-	-	80.88	27.5	16.61	30.9	348	108	A	V
													V
													V

WIFI Chain 0+1	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)
		2372.08	55.76	-18.24	74	42.54	27.61	16.53	30.92	140	35	P	H
		2352.72	43.89	-10.11	54	30.63	27.69	16.5	30.93	140	35	A	H
	*	2437	103.97	-	-	90.73	27.5	16.64	30.9	140	35	P	H
	*	2437	94.04	-	-	80.8	27.5	16.64	30.9	140	35	A	H
802.11ax		2493.34	55.29	-18.71	74	42.03	27.41	16.72	30.87	140	35	P	H
HE20 Full		2494.15	43.89	-10.11	54	30.62	27.41	16.73	30.87	140	35	A	H
CH 06		2382.48	55.65	-18.35	74	42.45	27.57	16.55	30.92	312	62	P	V
2437MHz		2343.92	43.87	-10.13	54	30.61	27.71	16.49	30.94	312	62	A	V
	*	2437	107.75	-	-	94.51	27.5	16.64	30.9	312	62	P	V
	*	2437	98.24	-	-	85	27.5	16.64	30.9	312	62	A	V
		2495.86	55.04	-18.96	74	41.77	27.41	16.73	30.87	312	62	P	V
		2486.86	43.88	-10.12	54	30.62	27.43	16.71	30.88	312	62	A	V
	*	2457	104.15	-	-	90.88	27.49	16.67	30.89	383	340	P	H
	*	2457	94.96	-	-	81.69	27.49	16.67	30.89	383	340	A	H
		2483.65	55.02	-18.98	74	41.76	27.43	16.71	30.88	383	340	P	H
		2483.5	44.44	-9.56	54	31.18	27.43	16.71	30.88	383	340	A	H
802.11ax													H
HE20 Full													H
CH 10	*	2457	104.14	-	-	90.87	27.49	16.67	30.89	367	63	P	V
2457MHz	*	2457	95.15	-	-	81.88	27.49	16.67	30.89	367	63	A	V
		2486.5	55.48	-18.52	74	42.22	27.43	16.71	30.88	367	63	P	V
		2483.5	44.62	-9.38	54	31.36	27.43	16.71	30.88	367	63	A	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

WIFI Chain 0+1	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)
	*	2462	99.63	-	-	86.36	27.48	16.68	30.89	199	41	P	H
	*	2462	90.39	-	-	77.12	27.48	16.68	30.89	199	41	A	H
		2484.56	55.45	-18.55	74	42.19	27.43	16.71	30.88	199	41	P	H
		2483.52	44.71	-9.29	54	31.45	27.43	16.71	30.88	199	41	A	H
8802.11ax													H
HE20 Full													H
CH 11	*	2462	105.77	-	-	92.5	27.48	16.68	30.89	307	63	P	V
2462MHz	*	2462	96.47	-	-	83.2	27.48	16.68	30.89	307	63	A	V
		2483.92	58.1	-15.9	74	44.84	27.43	16.71	30.88	307	63	P	V
		2483.52	46.7	-7.3	54	33.44	27.43	16.71	30.88	307	63	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 Chain 0+1	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	39.15	-34.85	74	57.07	31.1	10.07	59.09	100	0	P	H
		18000	59.58	-14.42	74	49.59	49	18.89	57.9	300	247	P	H
802.11ax		18000	49.63	-4.37	54	39.64	49	18.89	57.9	300	247	A	H
HE20 Full													H
CH 01		4824	38.87	-35.13	74	56.79	31.1	10.07	59.09	100	0	P	V
2412MHz		18000	59.34	-14.66	74	49.35	49	18.89	57.9	100	142	P	V
		18000	49.74	-4.26	54	39.75	49	18.89	57.9	100	142	A	V
													V
		4874	38.85	-35.15	74	56.81	31.05	10.11	59.12	100	0	P	H
		7311	43.92	-30.08	74	53.87	36.3	12.31	58.56	100	0	P	H
802.11ax		18000	60.39	-13.61	74	50.4	49	18.89	57.9	300	264	P	H
HE20 Full		18000	50.6	-3.4	54	40.61	49	18.89	57.9	300	264	A	H
CH 06		4874	38.68	-35.32	74	56.64	31.05	10.11	59.12	100	0	P	V
2437MHz		7311	43.88	-30.12	74	53.83	36.3	12.31	58.56	100	0	P	V
		18000	60.1	-13.9	74	50.11	49	18.89	57.9	100	134	P	V
		18000	50.31	-3.69	54	40.32	49	18.89	57.9	100	134	A	V
		4874	38.2	-35.8	74	56.16	31.05	10.11	59.12	100	0	P	H
		7311	43.81	-30.19	74	53.76	36.3	12.31	58.56	100	0	P	H
802.11ax		17970	59.44	-14.56	74	50.05	48.46	18.87	57.94	300	214	P	H
HE20 Full		17970	50.04	-3.96	54	40.65	48.46	18.87	57.94	300	214	A	H
CH 11		4874	38.43	-35.57	74	56.39	31.05	10.11	59.12	100	0	P	V
2462MHz		7311	43.74	-30.26	74	53.69	36.3	12.31	58.56	100	0	P	V
		18000	59.95	-14.05	74	49.96	49	18.89	57.9	100	125	P	V
		18000	49.82	-4.18	54	39.83	49	18.89	57.9	100	125	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 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI Chain 0+1	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		2357.565	55.21	-18.79	74	41.96	27.67	16.51	30.93	201	212	P	H
		2328.585	43.84	-10.16	54	30.58	27.74	16.46	30.94	201	212	A	H
	*	2412	105.15	-	-	91.96	27.5	16.6	30.91	201	212	P	H
	*	2412	95.23	-	-	82.04	27.5	16.6	30.91	201	212	A	H
													H
													H
		2384.34	55.23	-18.77	74	42.04	27.56	16.55	30.92	100	50	P	V
		2327.22	43.88	-10.12	54	30.61	27.75	16.46	30.94	100	50	A	V
	*	2412	106.88	-	-	93.69	27.5	16.6	30.91	100	50	P	V
	*	2412	97.52	-	-	84.33	27.5	16.6	30.91	100	50	A	V
													V
													V
802.11ax HE20 Partial 26/8 CH 11 2462MHz	*	2462	101.21	-	-	87.94	27.48	16.68	30.89	250	191	P	H
	*	2462	93.92	-	-	80.65	27.48	16.68	30.89	250	191	A	H
		2486.24	55.11	-18.89	74	41.85	27.43	16.71	30.88	250	191	P	H
		2497.96	43.88	-10.12	54	30.62	27.4	16.73	30.87	250	191	A	H
													H
													H
	*	2462	104.98	-	-	91.71	27.48	16.68	30.89	100	48	P	V
	*	2462	96.67	-	-	83.4	27.48	16.68	30.89	100	48	A	V
		2499.72	55.78	-18.22	74	42.52	27.4	16.73	30.87	100	48	P	V
		2485.4	43.89	-10.11	54	30.63	27.43	16.71	30.88	100	48	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 802.11ax HE20 Partial 26 (Harmonic @ 3m)

WIFI Chain 0+1	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		4824	38.46	-35.54	74	56.38	31.1	10.07	59.09	100	0	P	H
		18000	59.65	-14.35	74	49.66	49	18.89	57.9	300	234	P	H
		18000	49.83	-4.17	54	39.84	49	18.89	57.9	300	234	A	H
													H
		4824	38.78	-35.22	74	56.7	31.1	10.07	59.09	100	0	P	V
		17985	59.55	-14.45	74	49.86	48.73	18.88	57.92	100	159	P	V
		17985	49.41	-4.59	54	39.72	48.73	18.88	57.92	100	159	A	V
													V
802.11ax HE20 Partial 26/8 CH 11 2462MHz		4924	39.51	-34.49	74	57.42	31.1	10.14	59.15	100	0	P	H
		7386	44.53	-29.47	74	54.34	36.3	12.35	58.46	100	0	P	H
		18000	59.3	-14.7	74	49.31	49	18.89	57.9	300	123	P	H
		18000	49.36	-4.64	54	39.37	49	18.89	57.9	300	123	A	H
		4924	40.29	-33.71	74	58.2	31.1	10.14	59.15	100	0	P	V
		7386	45.1	-28.9	74	54.91	36.3	12.35	58.46	100	0	P	V
		17985	60.35	-13.65	74	50.66	48.73	18.88	57.92	100	247	P	V
		17985	50.43	-3.57	54	40.74	48.73	18.88	57.92	100	247	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 802.11ax HE20 Partial 52 (Band Edge @ 3m)

WIFI Chain 0+1	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)
		2337.3	55.36	-18.64	74	42.09	27.73	16.48	30.94	203	213	P	H
		2342.34	43.85	-10.15	54	30.59	27.72	16.48	30.94	203	213	A	H
	*	2412	107.64	-	-	94.45	27.5	16.6	30.91	203	213	P	H
802.11ax	*	2412	97.97	-	-	84.78	27.5	16.6	30.91	203	213	A	H
HE20													H
Partial													H
52/37		2333.31	56.1	-17.9	74	42.84	27.73	16.47	30.94	100	50	P	V
CH 01		2329.635	43.9	-10.1	54	30.64	27.74	16.46	30.94	100	50	A	V
2412MHz	*	2412	109.14	-	-	95.95	27.5	16.6	30.91	100	50	P	V
	*	2412	100.43	-	-	87.24	27.5	16.6	30.91	100	50	A	V
													V
													V
	*	2462	105.08	-	-	91.81	27.48	16.68	30.89	253	69	P	H
	*	2462	95.69	-	-	82.42	27.48	16.68	30.89	253	69	A	H
		2483.52	56.76	-17.24	74	43.5	27.43	16.71	30.88	253	69	P	H
802.11ax		2485.2	43.94	-10.06	54	30.68	27.43	16.71	30.88	253	69	A	H
HE20													H
Partial													H
52/40	*	2462	105.24	-	-	91.97	27.48	16.68	30.89	100	46	P	V
CH 11	*	2462	96	-	-	82.73	27.48	16.68	30.89	100	46	A	V
2462MHz		2486.88	57.86	-16.14	74	44.6	27.43	16.71	30.88	100	46	P	V
		2483.8	44.05	-9.95	54	30.79	27.43	16.71	30.88	100	46	A	V
													V
													V

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 52 (Harmonic @ 3m)

WIFI Chain 0+1	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 52/37 CH 01 2412MHz		4824	38.67	-35.33	74	56.59	31.1	10.07	59.09	100	0	P	H
		18000	60.29	-13.71	74	50.3	49	18.89	57.9	300	247	P	H
		18000	50.5	-3.5	54	40.51	49	18.89	57.9	300	247	A	H
													H
		4824	38.46	-35.54	74	56.38	31.1	10.07	59.09	100	0	P	V
		18000	59.81	-14.19	74	49.82	49	18.89	57.9	100	147	P	V
		18000	49.73	-4.27	54	39.74	49	18.89	57.9	100	147	A	V
													V
802.11ax HE20 Partial 52/40 CH 11 2462MHz		4924	39.71	-34.29	74	57.62	31.1	10.14	59.15	100	0	P	H
		7386	45.5	-28.5	74	55.31	36.3	12.35	58.46	100	0	P	H
		18000	59.62	-14.38	74	49.63	49	18.89	57.9	100	30	P	H
		18000	49.84	-4.16	54	39.85	49	18.89	57.9	100	30	A	H
		4924	40.67	-33.33	74	58.58	31.1	10.14	59.15	100	0	P	V
		7386	46.23	-27.77	74	56.04	36.3	12.35	58.46	100	0	P	V
		18000	59.79	-14.21	74	49.8	49	18.89	57.9	100	20	P	V
		18000	49.83	-4.17	54	39.84	49	18.89	57.9	100	20	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 802.11ax HE20 Partial 106 (Band Edge @ 3m)

WIFI Chain 0+1	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)
		2319.66	55.24	-18.76	74	41.98	27.76	16.45	30.95	100	43	P	H
		2390	43.91	-10.09	54	30.73	27.54	16.56	30.92	100	43	A	H
	*	2412	109.88	-	-	96.69	27.5	16.6	30.91	100	43	P	H
802.11ax	*	2412	100.64	-	-	87.45	27.5	16.6	30.91	100	43	A	H
HE20													H
Partial													H
106/53		2378.88	55.41	-18.59	74	42.2	27.58	16.55	30.92	399	38	P	V
CH 01		2390	44.07	-9.93	54	30.89	27.54	16.56	30.92	399	38	A	V
2412MHz	*	2412	111.91	-	-	98.72	27.5	16.6	30.91	399	38	P	V
	*	2412	102.89	-	-	89.7	27.5	16.6	30.91	399	38	A	V
													V
													V
	*	2462	105.17	-	-	91.9	27.48	16.68	30.89	251	72	P	H
	*	2462	95.78	-	-	82.51	27.48	16.68	30.89	251	72	A	H
		2483.56	55.97	-18.03	74	42.71	27.43	16.71	30.88	251	72	P	H
802.11ax		2484.44	43.93	-10.07	54	30.67	27.43	16.71	30.88	251	72	A	H
HE20													H
Partial													H
106/54	*	2462	106.78	-	-	93.51	27.48	16.68	30.89	100	44	P	V
CH 11	*	2462	98.77	-	-	85.5	27.48	16.68	30.89	100	44	A	V
2462MHz		2484.76	55.97	-18.03	74	42.71	27.43	16.71	30.88	100	44	P	V
		2483.52	44.08	-9.92	54	30.82	27.43	16.71	30.88	100	44	A	V
													V
													V

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 106 (Harmonic @ 3m)

WIFI Chain 0+1	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 106/53 CH 01 2412MHz		4824	40.83	-33.17	74	58.75	31.1	10.07	59.09	100	0	P	H
		17985	59.66	-14.34	74	49.97	48.73	18.88	57.92	100	33	P	H
		17985	50.02	-3.98	54	40.33	48.73	18.88	57.92	100	33	A	H
													H
		4824	39.86	-34.14	74	57.78	31.1	10.07	59.09	100	0	P	V
		18000	61.1	-12.9	74	51.11	49	18.89	57.9	100	23	P	V
		18000	50.85	-3.15	54	40.86	49	18.89	57.9	100	23	A	V
													V
802.11ax HE20 Partial 106/54 CH 11 2462MHz		4924	41.01	-32.99	74	58.92	31.1	10.14	59.15	100	0	P	H
		7386	46.03	-27.97	74	55.84	36.3	12.35	58.46	100	0	P	H
		17985	60.03	-13.97	74	50.34	48.73	18.88	57.92	100	30	P	H
		17985	49.95	-4.05	54	40.26	48.73	18.88	57.92	100	30	A	H
		4924	39.93	-34.07	74	57.84	31.1	10.14	59.15	100	0	P	V
		7386	45.57	-28.43	74	55.38	36.3	12.35	58.46	100	0	P	V
		18000	60.39	-13.61	74	50.4	49	18.89	57.9	100	20	P	V
		18000	50.15	-3.85	54	40.16	49	18.89	57.9	100	20	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

Emission above 18GHz

2.4GHz WIFI 802.11g (SHF)

WIFI Chain 0+1	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)
2.4GHz 802.11g SHF		22352	40.21	-33.79	74	43.62	38.89	12.26	54.56	150	0	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		23032	40.37	-33.63	74	43.39	38.61	12.46	54.09	150	0	P	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.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Chain				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		43.58	23.31	-16.69	40	37.59	17.47	0.83	32.58	-	-	P	H
		105.66	32.46	-11.04	43.5	47.02	16.48	1.47	32.51	-	-	P	H
		174.53	27.26	-16.24	43.5	42.59	15.24	1.92	32.49	-	-	P	H
		568.35	33.61	-12.39	46	36.92	25.98	3.28	32.57	-	-	P	H
		718.7	36.47	-9.53	46	38.48	26.81	3.63	32.45	-	-	P	H
		777.87	37.5	-8.5	46	37.9	28.07	3.82	32.29	100	0	P	H
													H
													H
													H
													H
													H
													H
		43.58	33.18	-6.82	40	47.46	17.47	0.83	32.58	-	-	P	V
		104.69	25.78	-17.72	43.5	40.43	16.39	1.47	32.51	-	-	P	V
		175.5	25.35	-18.15	43.5	40.74	15.17	1.92	32.48	-	-	P	V
		718.7	37.13	-8.87	46	39.14	26.81	3.63	32.45	-	-	P	V
		777.87	34.26	-11.74	46	34.66	28.07	3.82	32.29	-	-	P	V
		898.15	39.67	-6.33	46	38.26	28.89	4.16	31.64	100	0	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

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	**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	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	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. 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

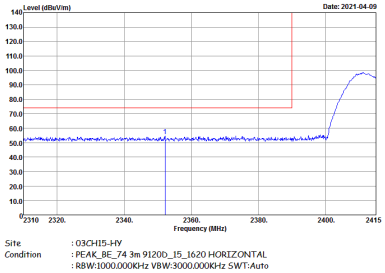
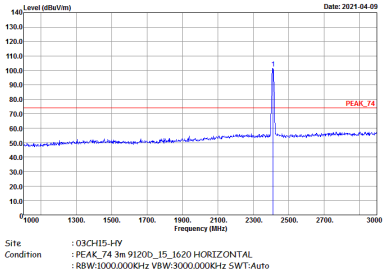
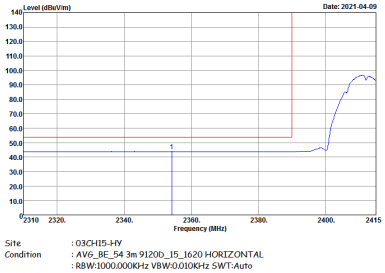
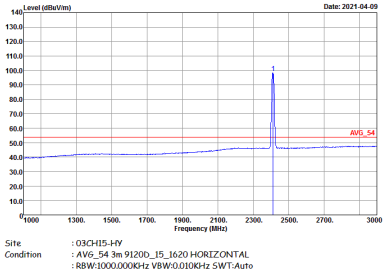
Test Engineer :	Leo Lee, Mancy Chou and Bigshow Wan	**Temperature :**	22.5~23.5°C
		Relative Humidity :	45~55%

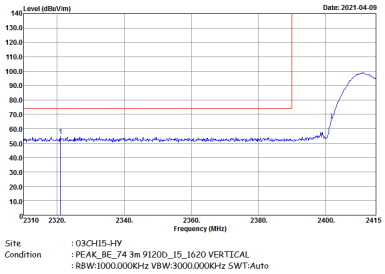
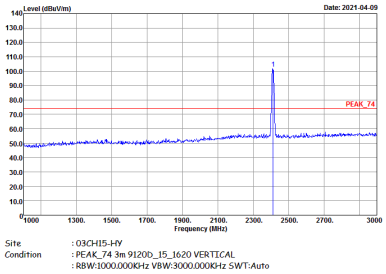
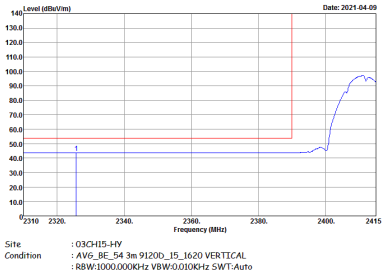
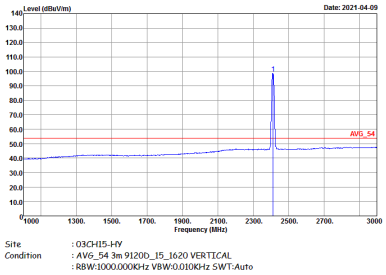
Note symbol

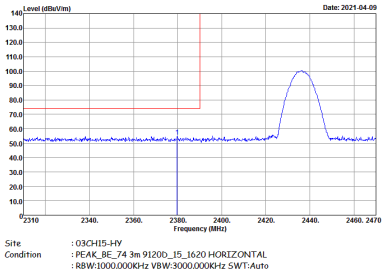
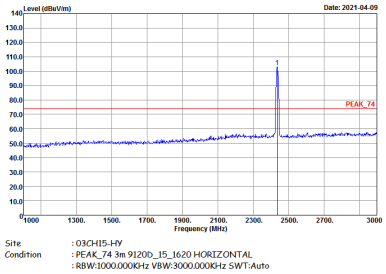
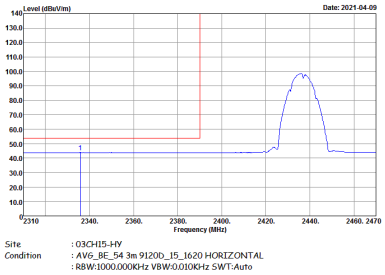
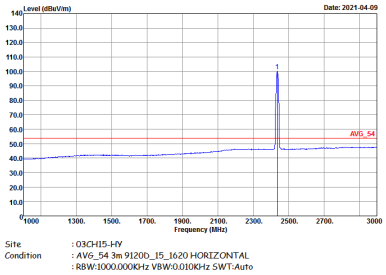
-L	**Low channel location**
-R	**High channel location**

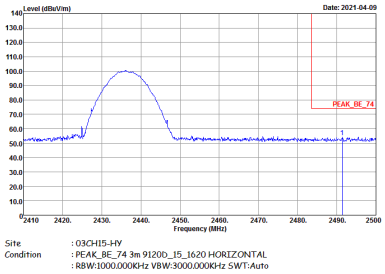
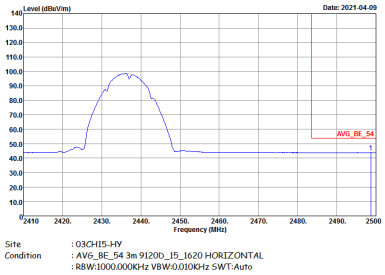
2.4GHz 2400~2483.5MHz

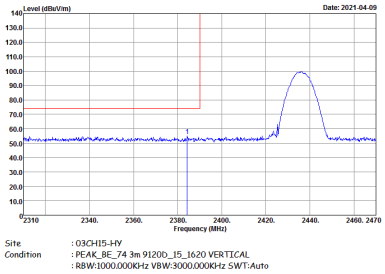
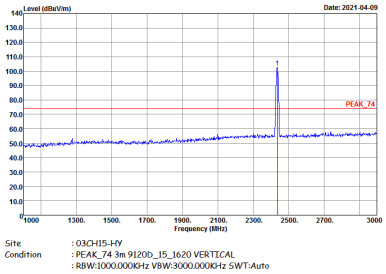
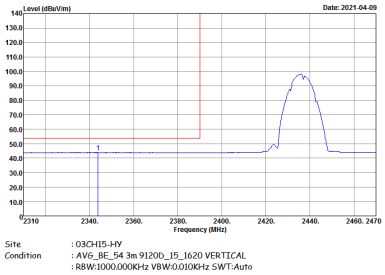
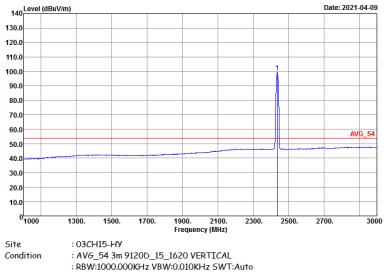
WIFI 802.11b (Band Edge @ 3m)

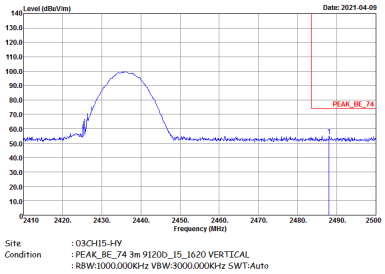
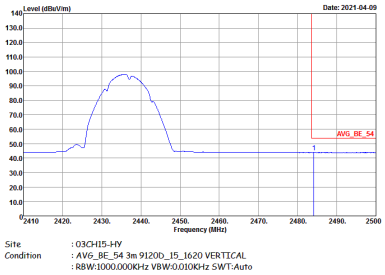
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

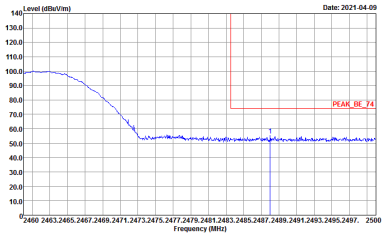
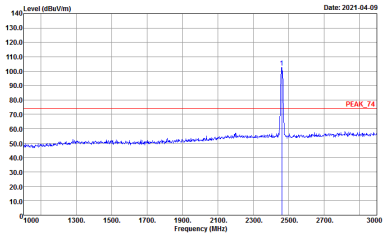
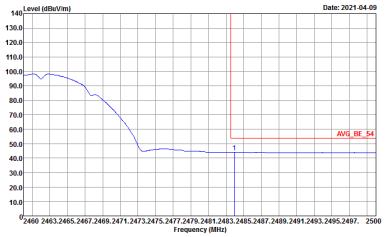
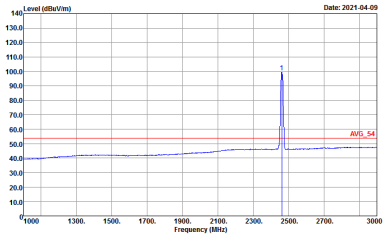
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

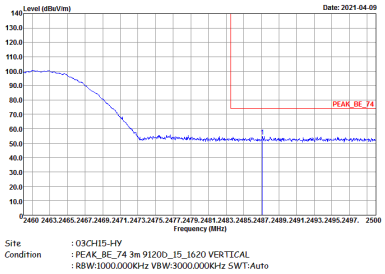
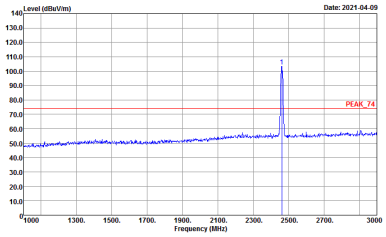
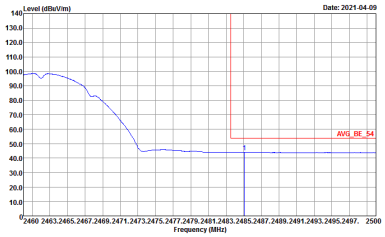
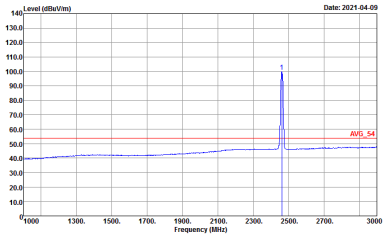
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH06 2437MHz - L	
0+1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH06 2437MHz - R	
0+1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH06 2437MHz - L	
0+1	Vertical	Fundamental
Peak		
Avg.		

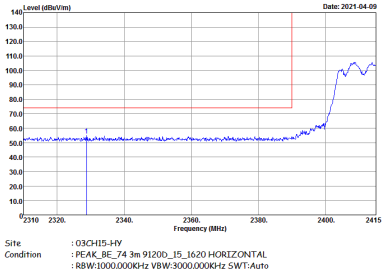
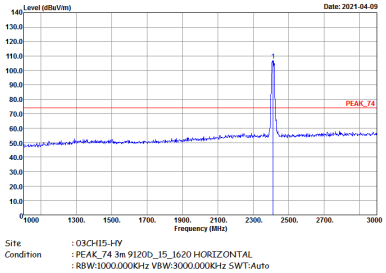
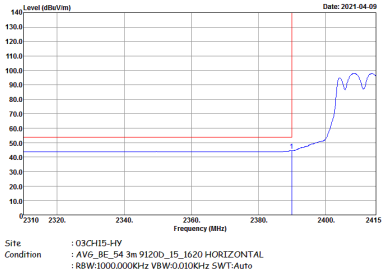
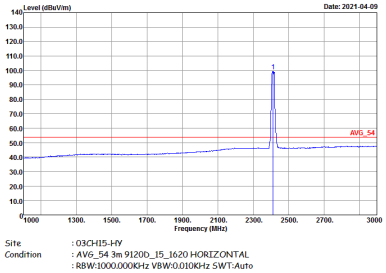
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH06 2437MHz - R	
0+1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

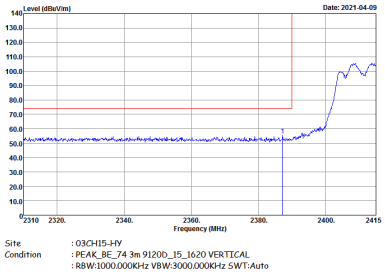
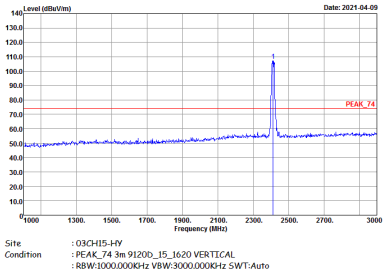
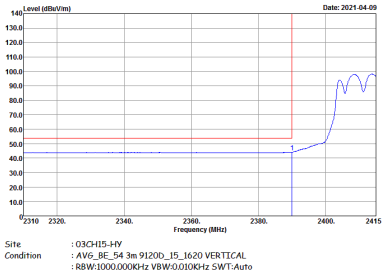
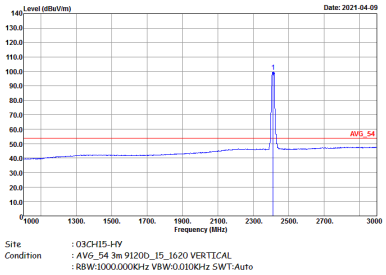
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HV Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HV Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HV Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HV Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

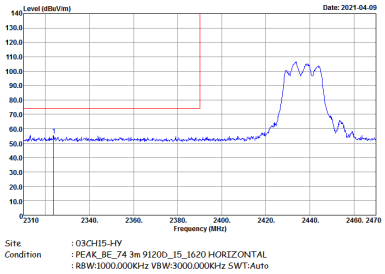
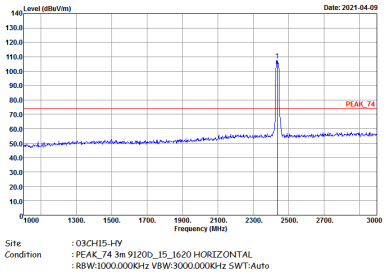
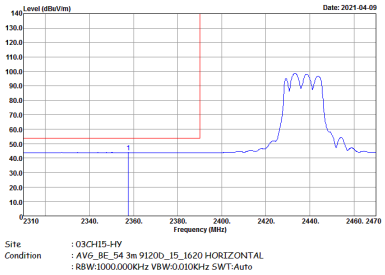
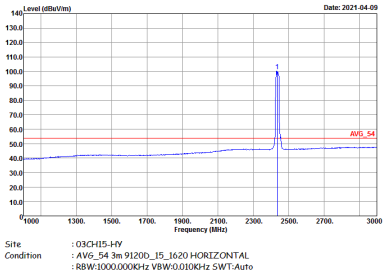
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11b CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HV Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HV Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HV Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HV Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

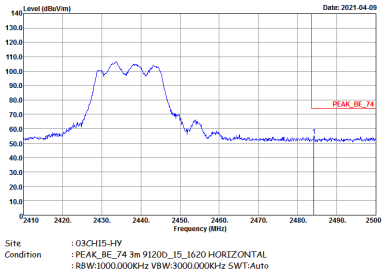
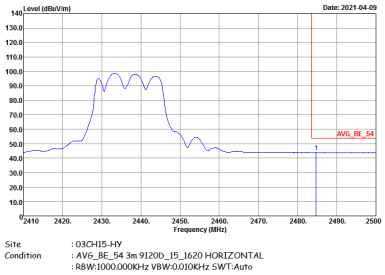
2.4GHz 2400~2483.5MHz

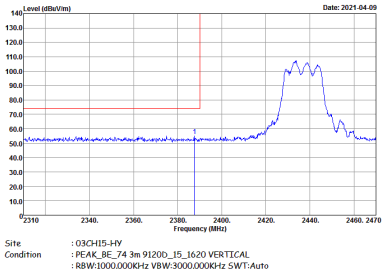
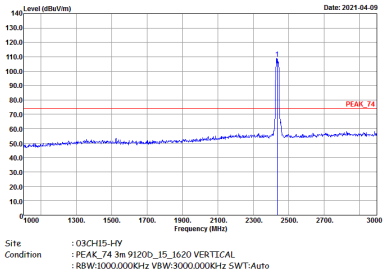
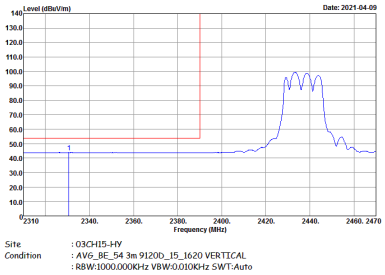
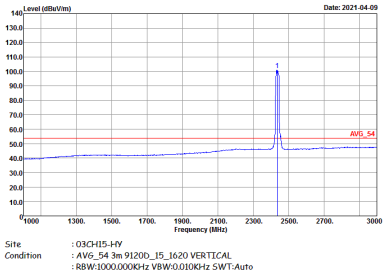
WIFI 802.11g (Band Edge @ 3m)

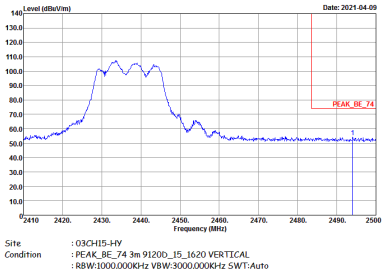
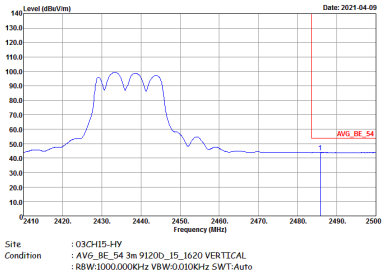
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

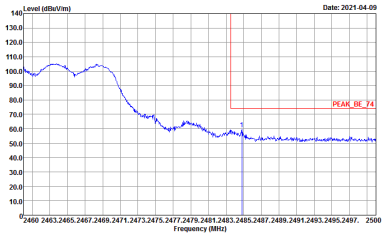
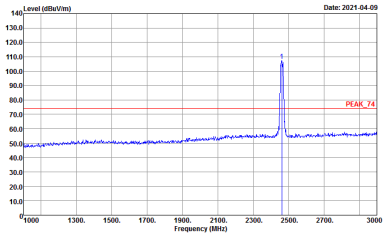
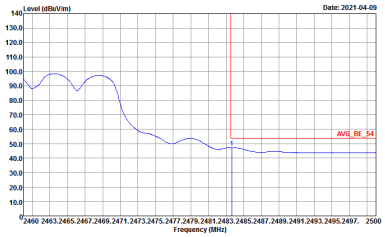
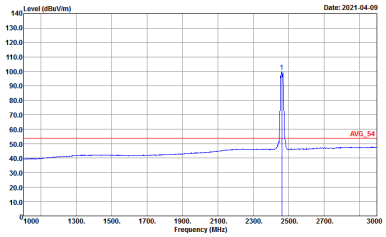
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

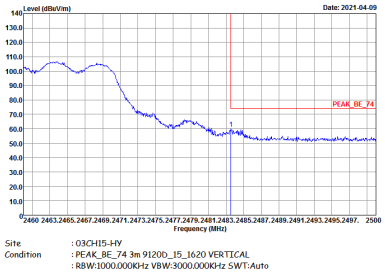
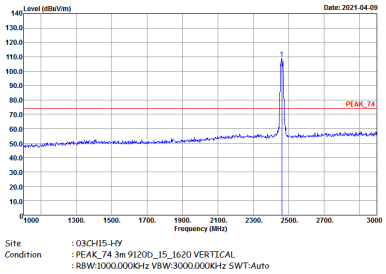
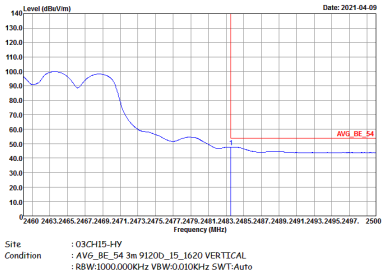
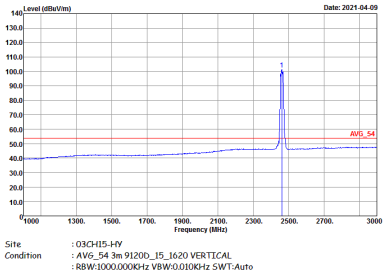
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH06 2437MHz - L	
0+1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH06 2437MHz - R	
0+1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH06 2437MHz - L	
0+1	Vertical	Fundamental
Peak		
Avg.		

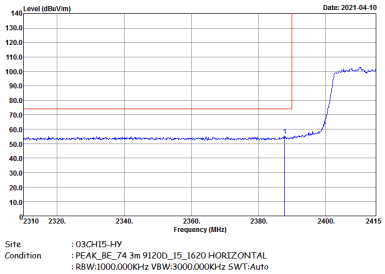
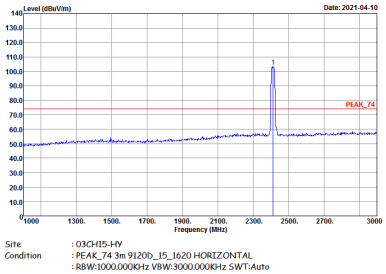
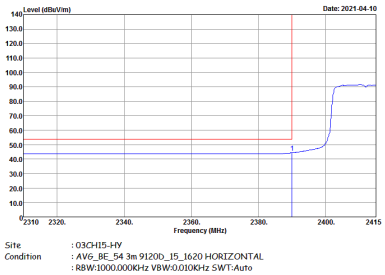
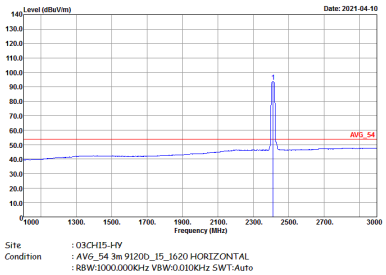
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH06 2437MHz - R	
0+1	Vertical	Fundamental
Peak		Left Blank
Avg.		Left Blank

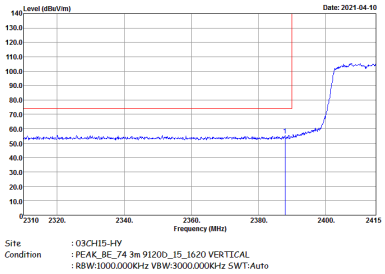
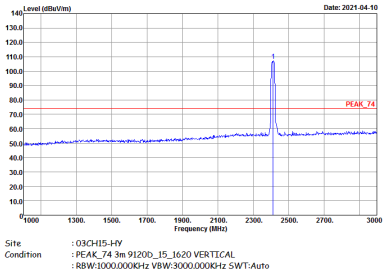
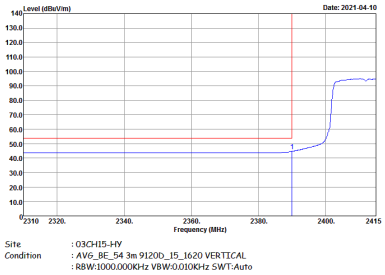
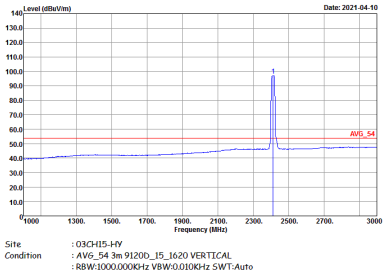
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

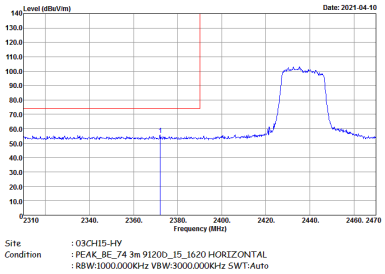
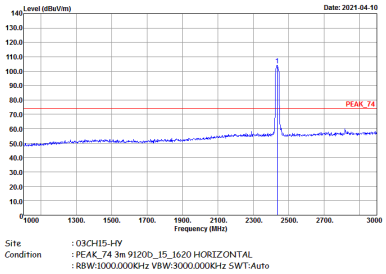
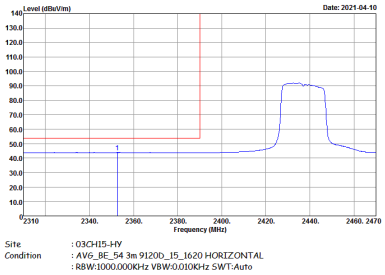
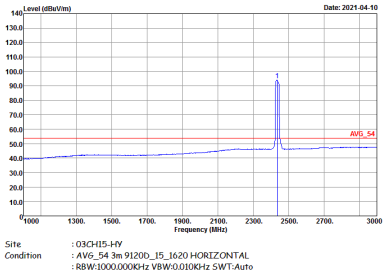
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11g CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

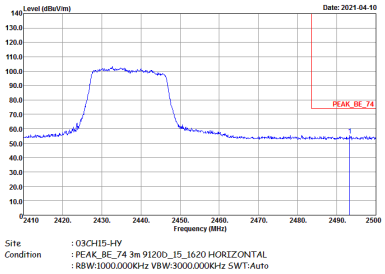
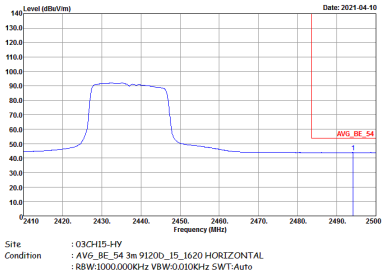
2.4GHz 2400~2483.5MHz

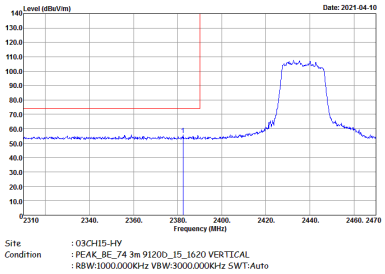
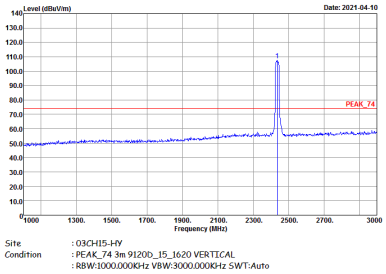
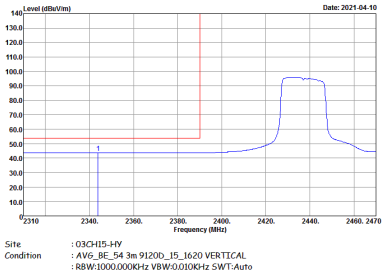
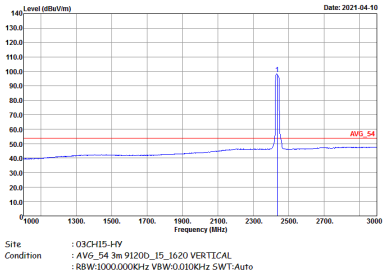
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

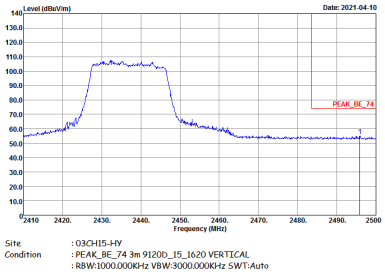
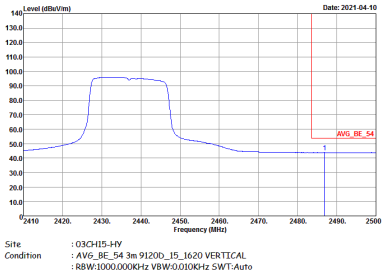
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

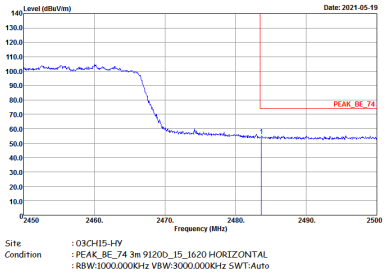
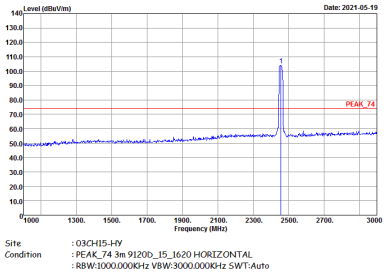
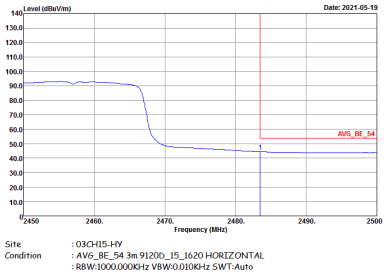
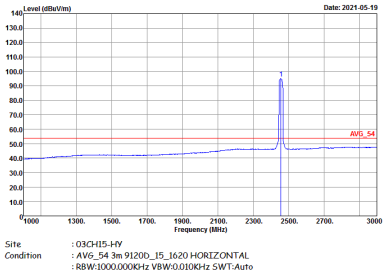
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

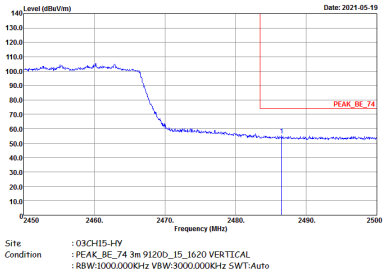
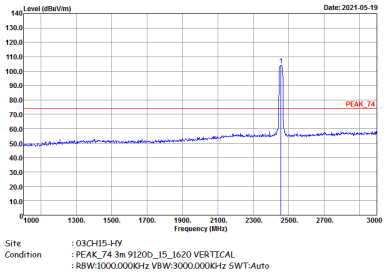
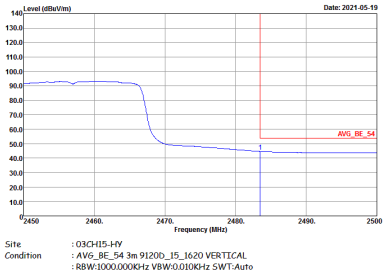
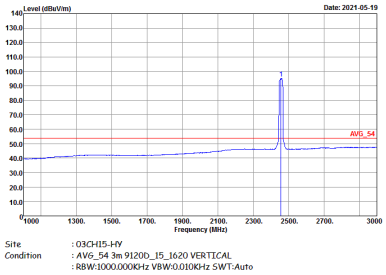
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH06 2437MHz - L	
0+1	Horizontal	Fundamental
Peak		
Avg.		

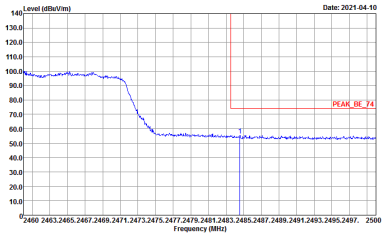
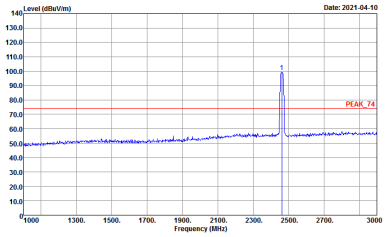
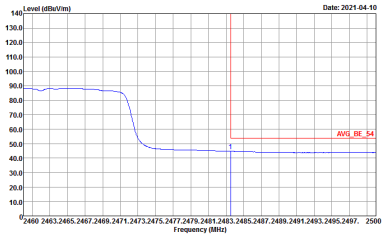
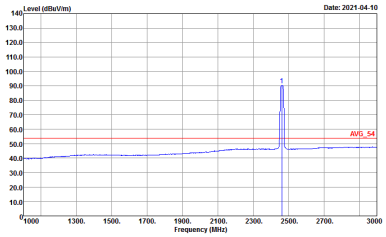
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH06 2437MHz - R	
0+1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

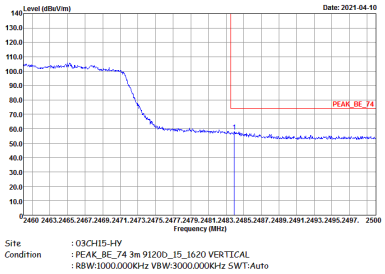
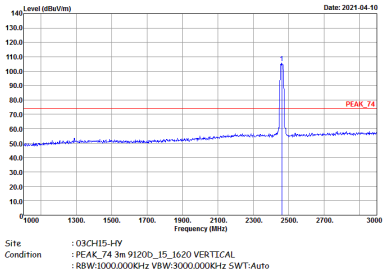
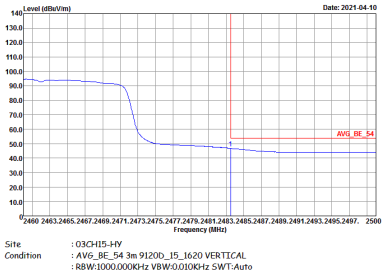
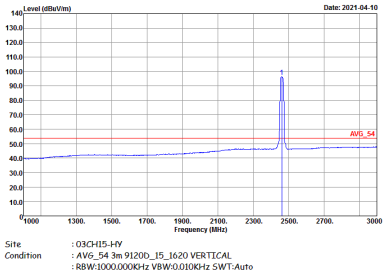
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH06 2437MHz - L	
0+1	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH06 2437MHz - R	
0+1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH10 2457MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

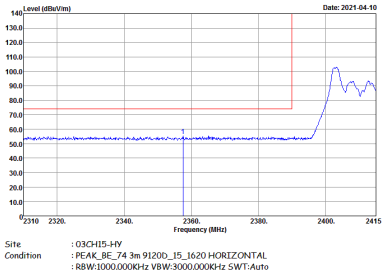
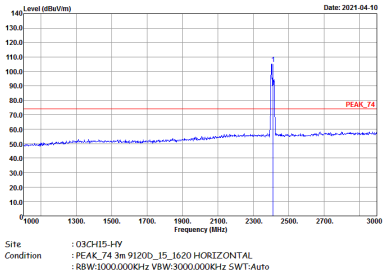
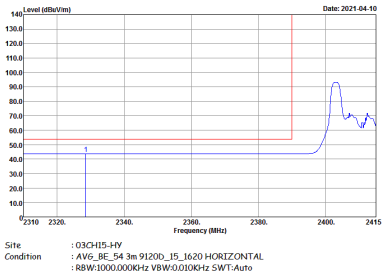
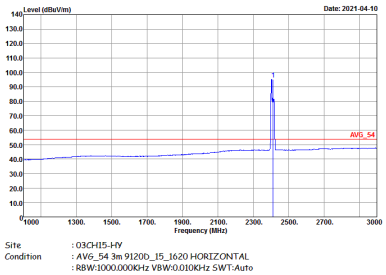
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH10 2457MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

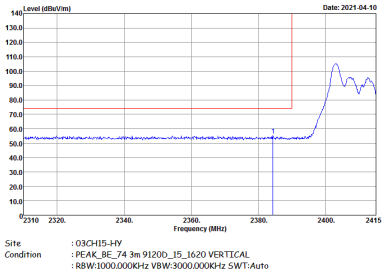
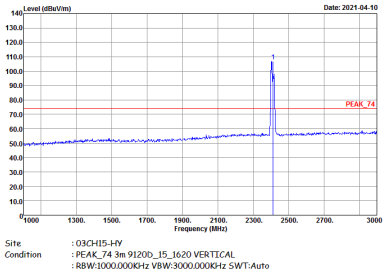
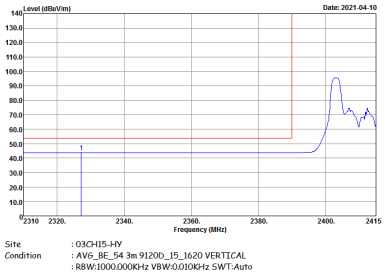
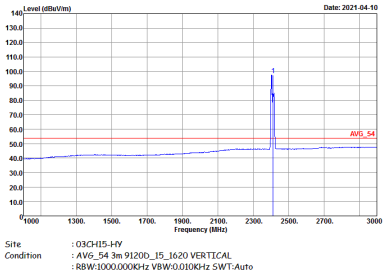
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

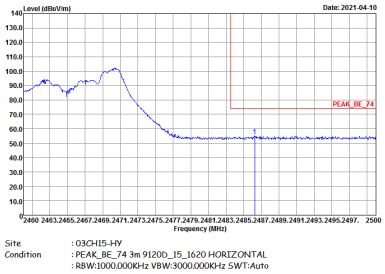
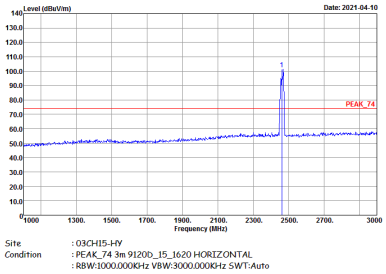
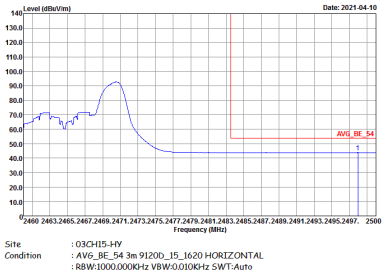
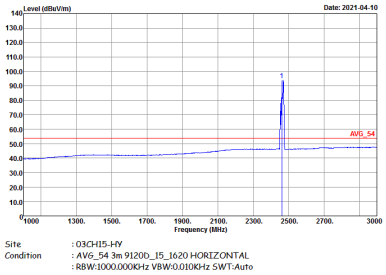
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Full CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

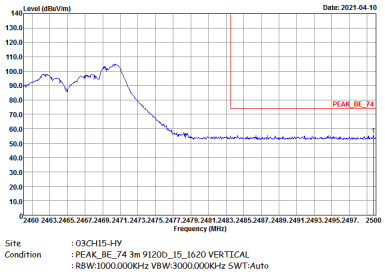
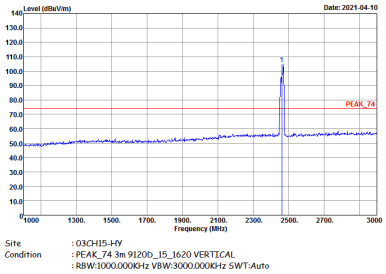
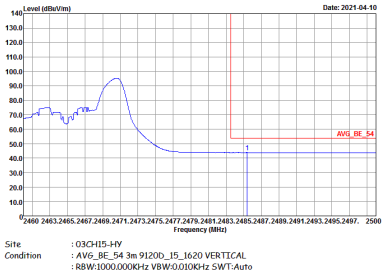
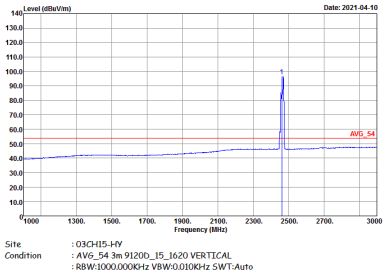
2.4GHz 2400~2483.5MHz

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 26/0 CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

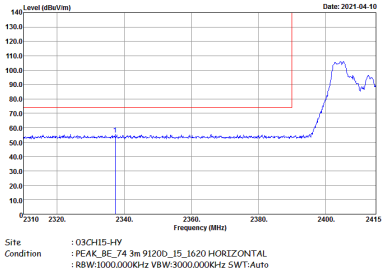
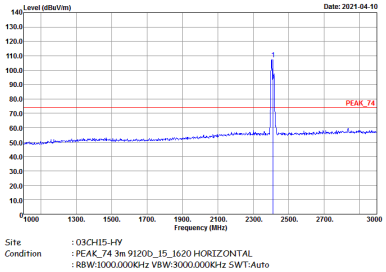
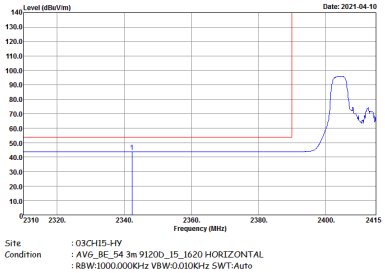
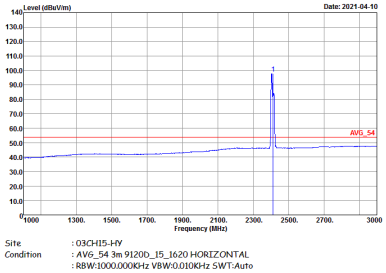
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 26/0 CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

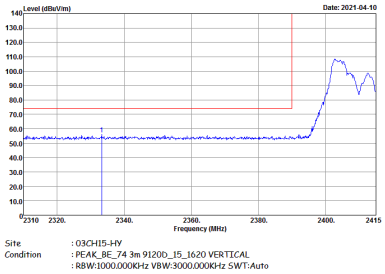
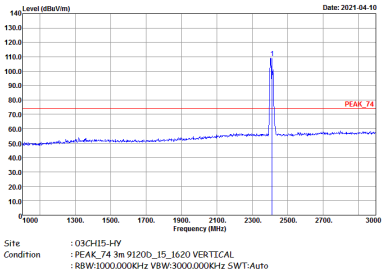
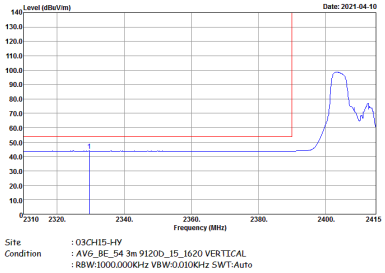
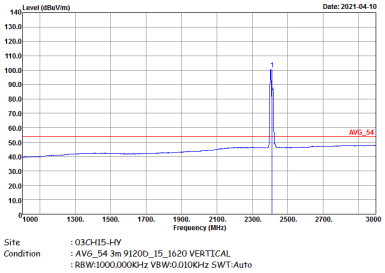
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 26/8 CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HV Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HV Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HV Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HV Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

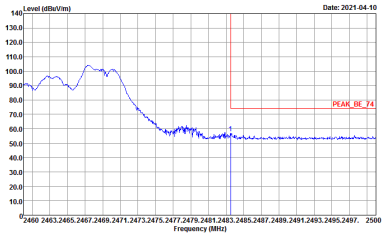
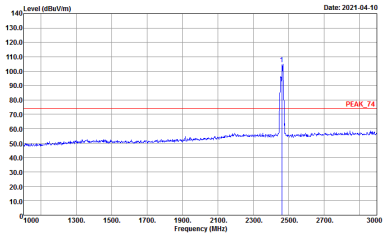
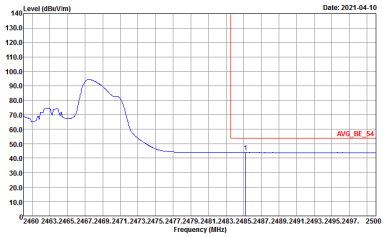
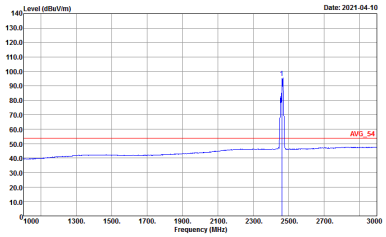
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 26/8 CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

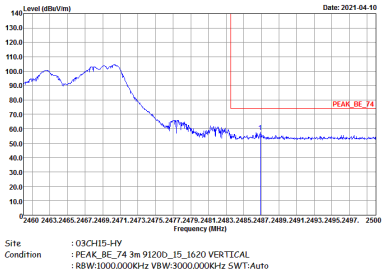
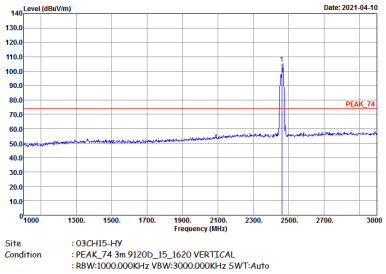
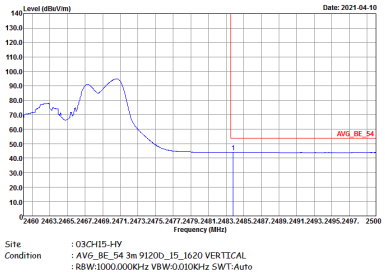
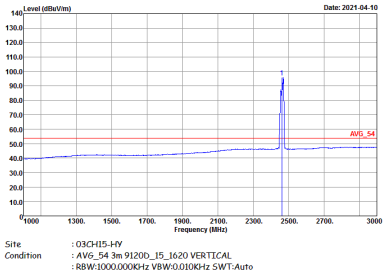
2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 52 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 52/37 CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

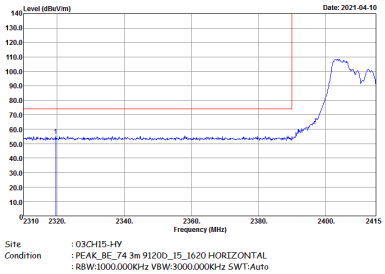
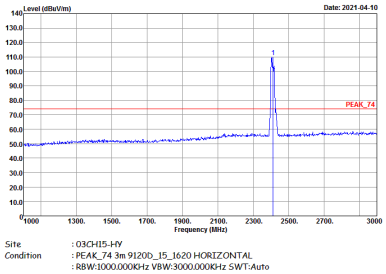
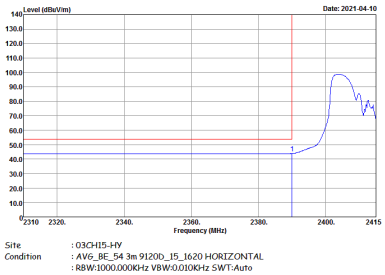
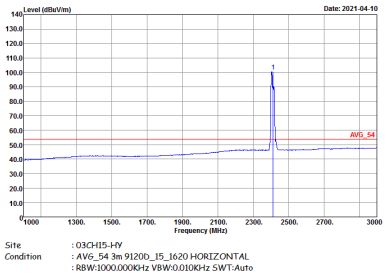
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 52/37 CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

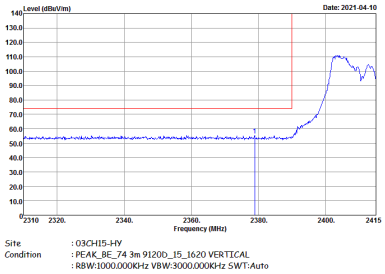
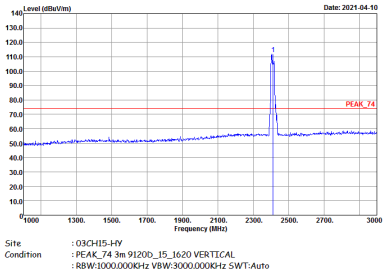
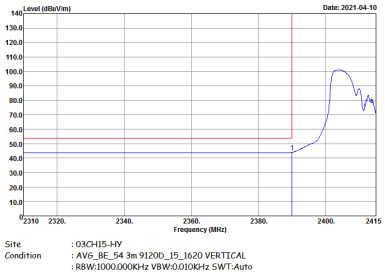
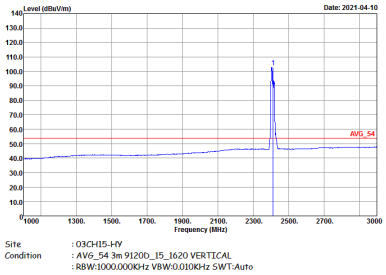
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 52/40 CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HV Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HV Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HV Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HV Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

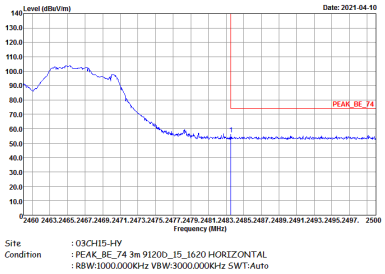
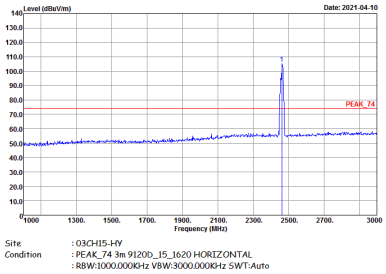
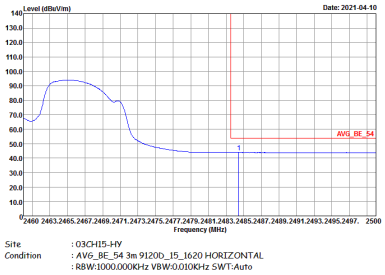
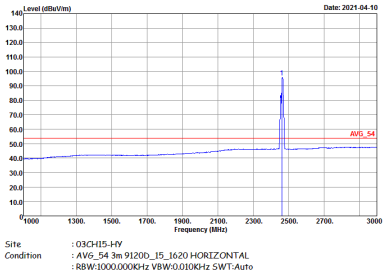
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
Chain	802.11ax HE20 Partial 52/40 CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

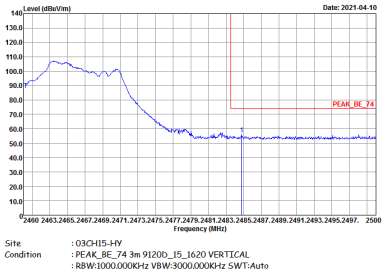
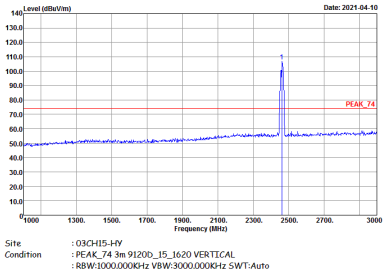
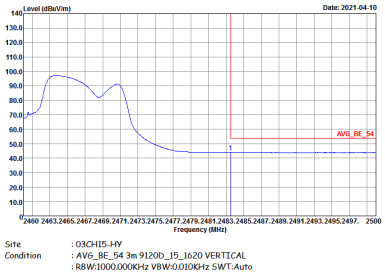
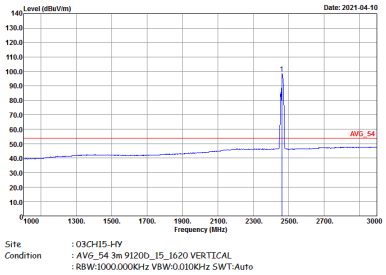
2.4GHz 2400~2483.5MHz

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 106/53 CH01 2412MHz	
0+1	Horizontal	Fundamental
Peak		
Avg.		

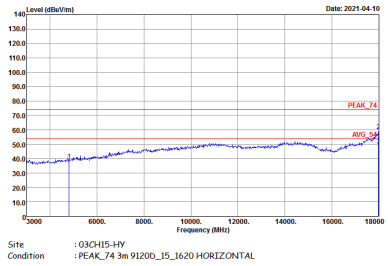
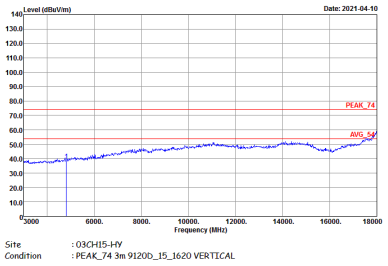
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 106/53 CH01 2412MHz	
0+1	Vertical	Fundamental
Peak		
Avg.		

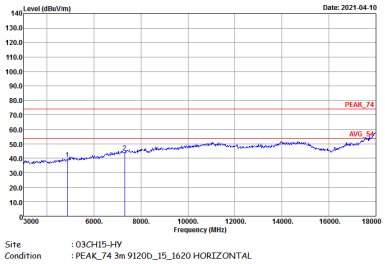
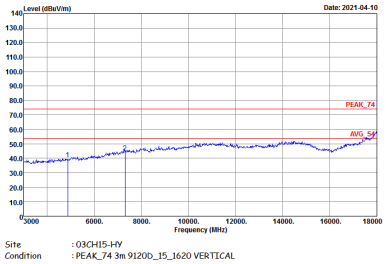
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 106/54 CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HV Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HV Condition : PEAK_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HV Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HV Condition : AVG_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

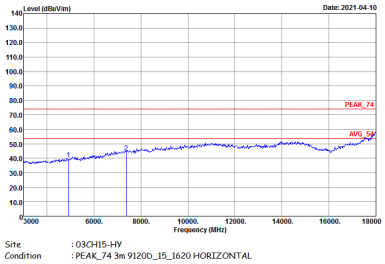
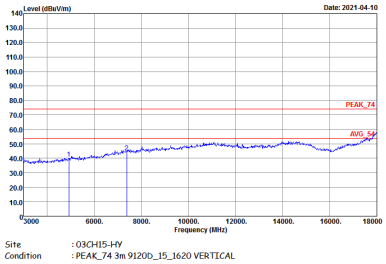
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
Chain	802.11ax HE20 Partial 106/54 CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH15-HY Condition : PEAK_74 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH15-HY Condition : AVG_54 3m 9120D_15_1620 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

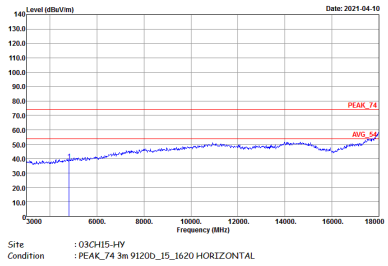
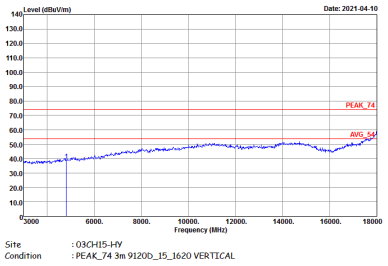
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11b CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

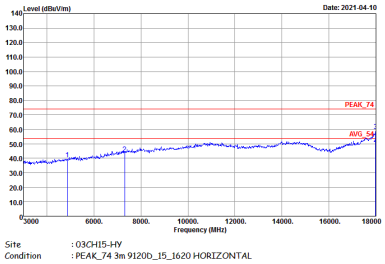
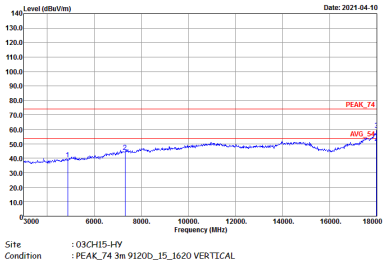
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11b CH06 2437MHz	
0+1	Horizontal	Vertical
Peak Avg.		

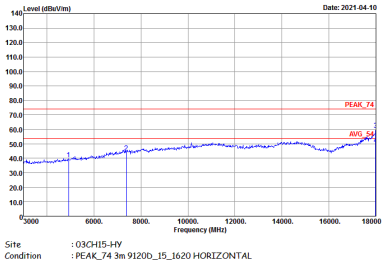
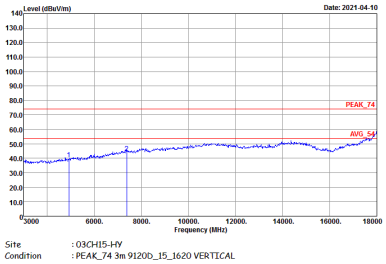
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11b CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

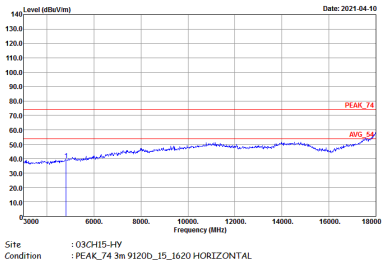
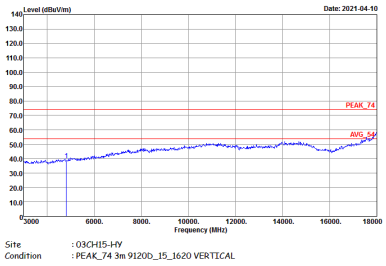
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11g CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

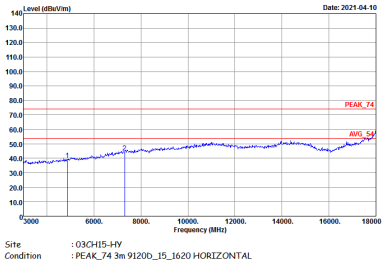
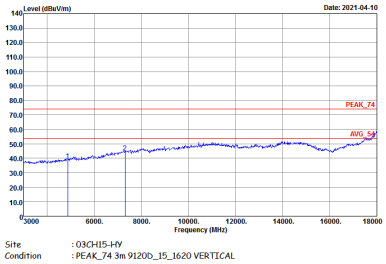
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11g CH06 2437MHz	
0+1	Horizontal	Vertical
Peak Avg.		

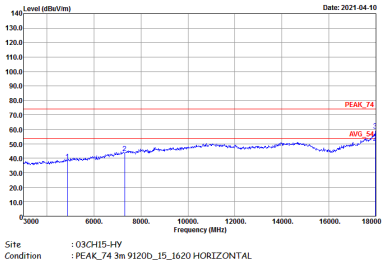
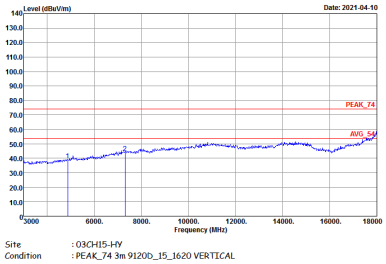
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11g CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

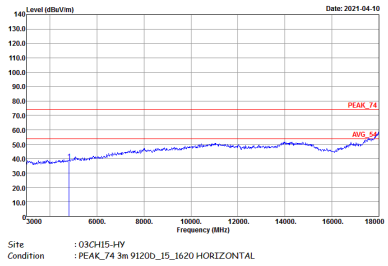
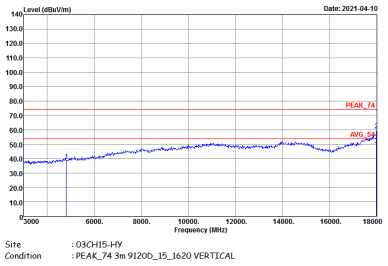
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11 ax HE20 Full CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

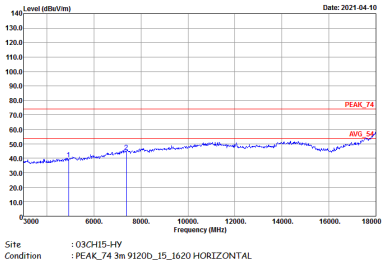
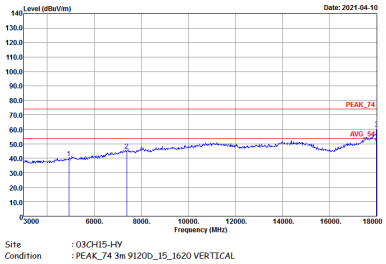
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11 ax HE20 Full CH06 2437MHz	
0+1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11 ax HE20 Full CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

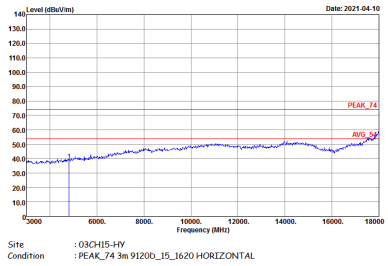
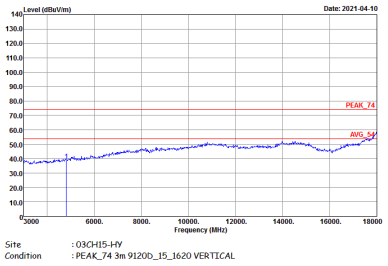
WIFI 802.11ax HE20 Partial 26 (Harmonic @ 3m)

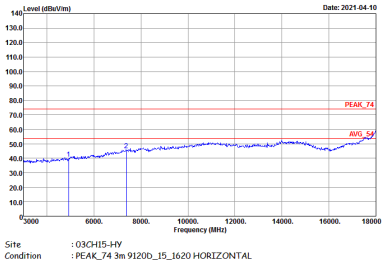
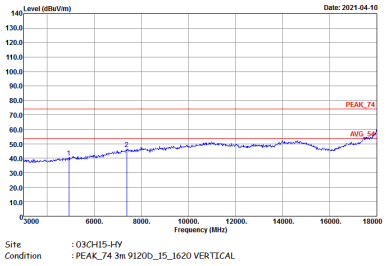
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 26/0 CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 26/8 CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

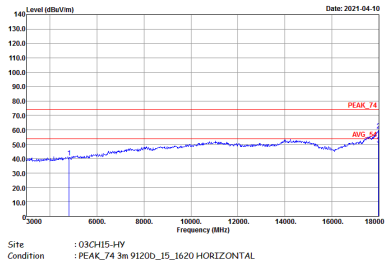
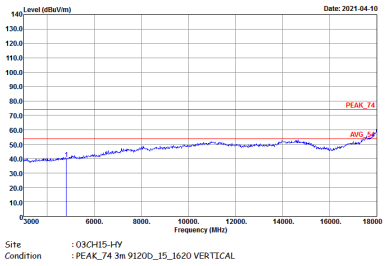
WIFI 802.11ax HE20 Partial 52 (Harmonic @ 3m)

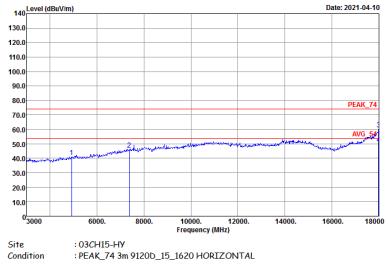
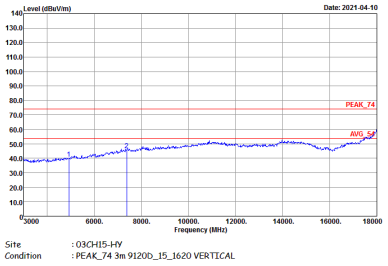
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 52/37 CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 52/40 CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

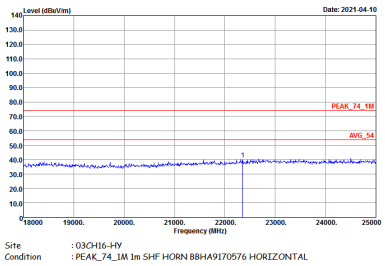
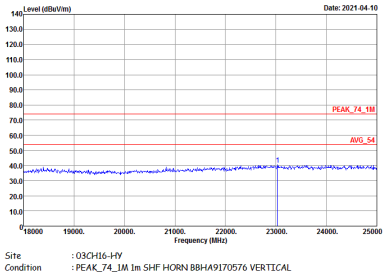
WIFI 802.11ax HE20 Partial 106 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 106/53 CH01 2412MHz	
0+1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
Chain	802.11ax HE20 Partial 106/54 CH11 2462MHz	
0+1	Horizontal	Vertical
Peak Avg.		

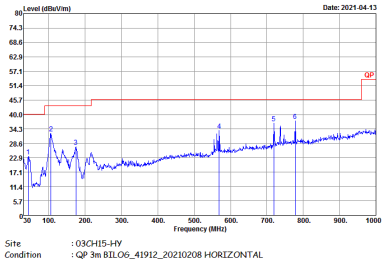
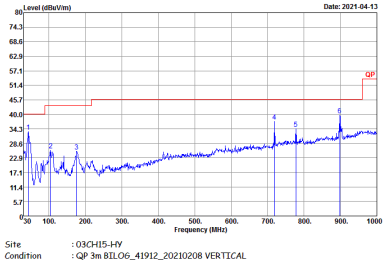
Emission above 18GHz

2.4GHz WIFI 802.11g (SHF)

WIFI	2.4GHz 2400~2483.5MHz	
Chain	802.11g SHF	
0+1	Horizontal	Vertical
QP / Peak		

Emission below 1GHz

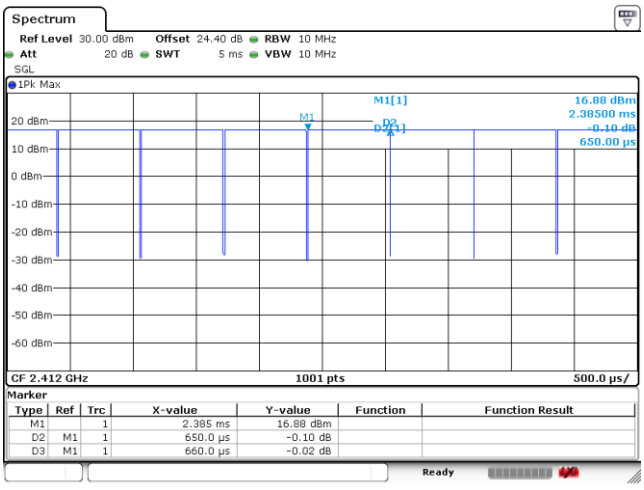
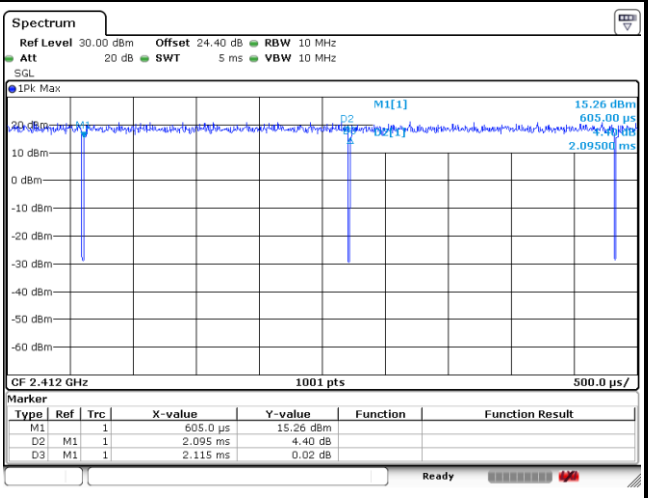
2.4GHz WIFI 802.11g (LF)

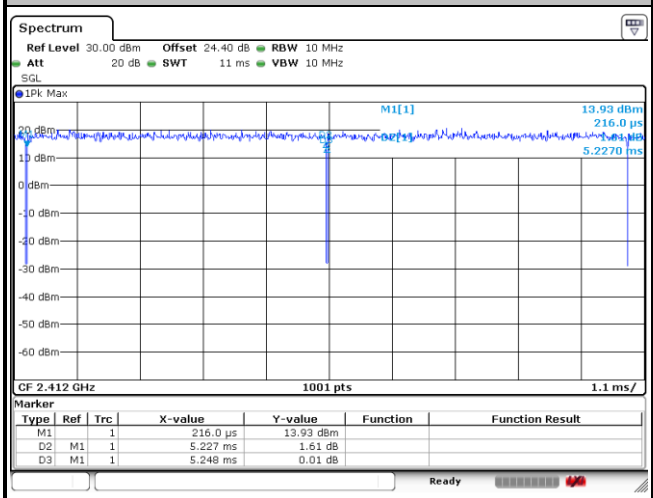
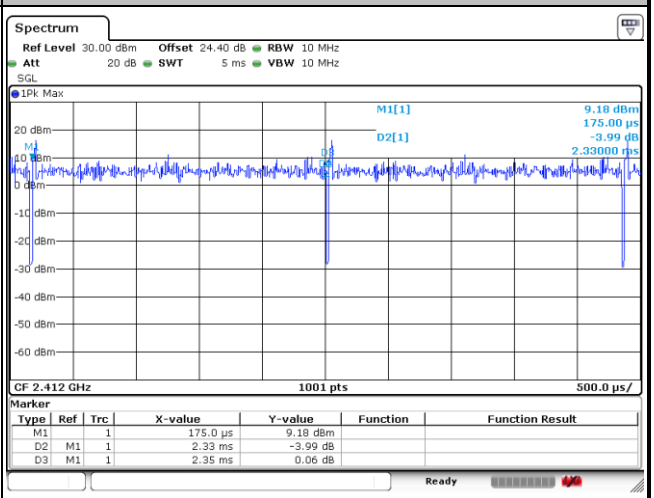
WIFI	2.4GHz 2400~2483.5MHz	
Chain	802.11g LF	
0+1	Horizontal	Vertical
QP / Peak		

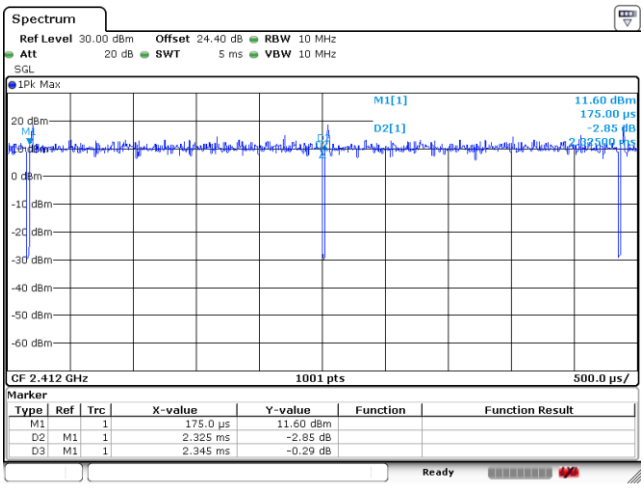
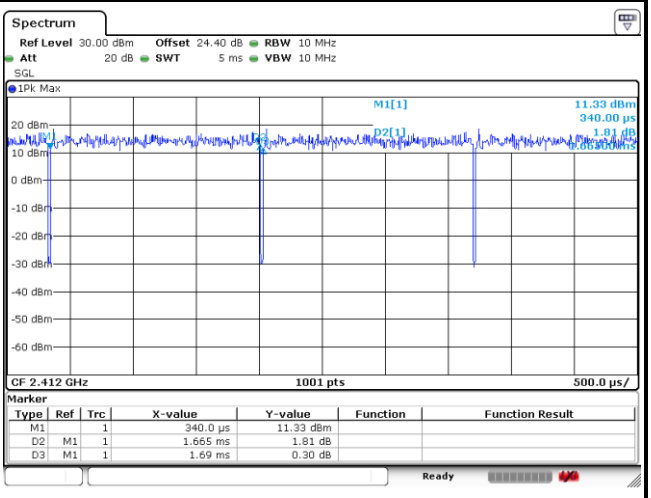
Appendix E. Duty Cycle Plots

Chain	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
0+1	802.11b for Chain 0	98.48	-	-	10Hz	0.07
0+1	802.11b for Chain 1	98.48	-	-	10Hz	0.07
0+1	802.11g for Chain 0	99.05	-	-	10Hz	0.04
0+1	802.11g for Chain 1	99.29	-	-	10Hz	0.03
0+1	2.4GHz 802.11ax HE20 Full RU for Chain 0	99.60	-	-	10Hz	0.02
0+1	2.4GHz 802.11ax HE20 Full RU for Chain 1	99.39	-	-	10Hz	0.03
0+1	2.4GHz 802.11ax HE20 26 RU for Chain 0	99.15	-	-	10Hz	0.04
0+1	2.4GHz 802.11ax HE20 26 RU for Chain 1	99.15	-	-	10Hz	0.04
0+1	2.4GHz 802.11ax HE20 52 RU for Chain 0	99.15	-	-	10Hz	0.04
0+1	2.4GHz 802.11ax HE20 52 RU for Chain 1	98.93	-	-	10Hz	0.05
0+1	2.4GHz 802.11ax HE20 106 RU for Chain 0	98.52	-	-	10Hz	0.06
0+1	2.4GHz 802.11ax HE20 106 RU for Chain 1	98.82	-	-	10Hz	0.05

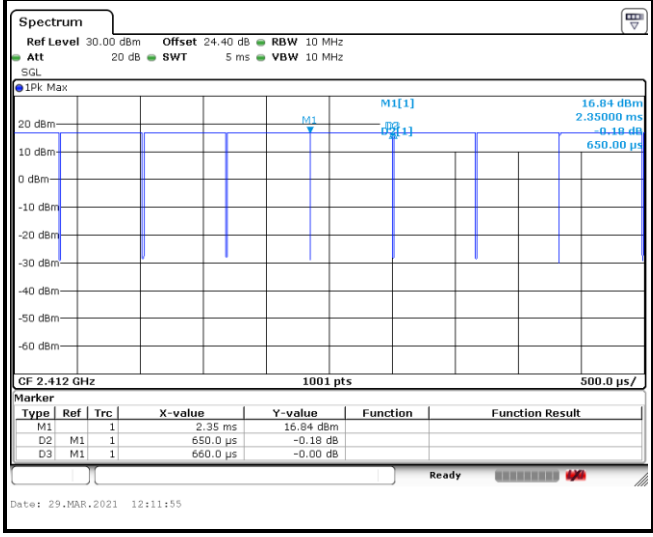
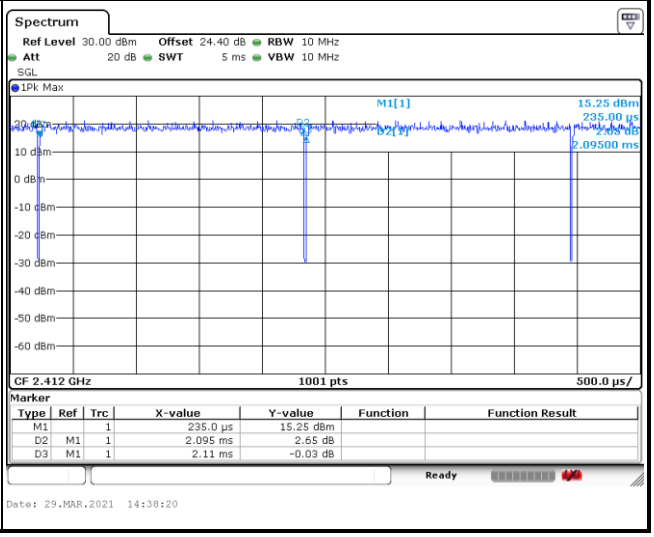
MIMO <Chain 0>

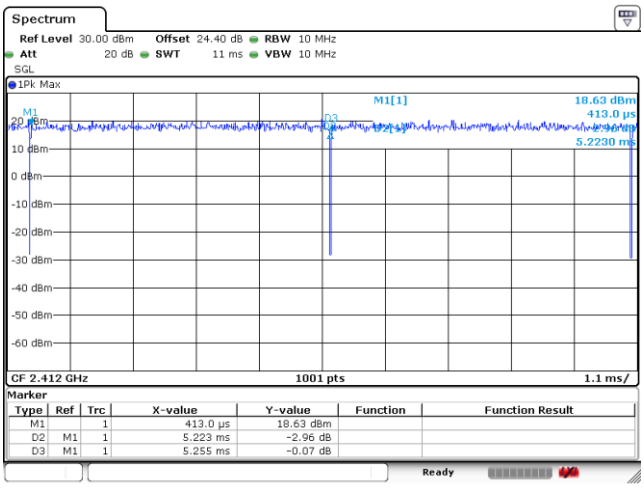
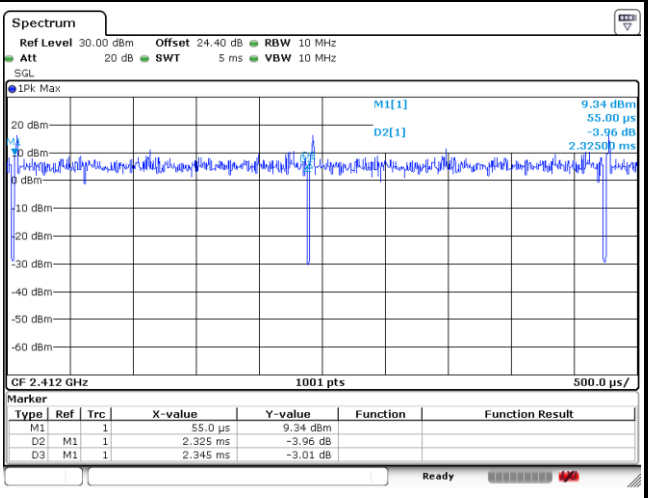
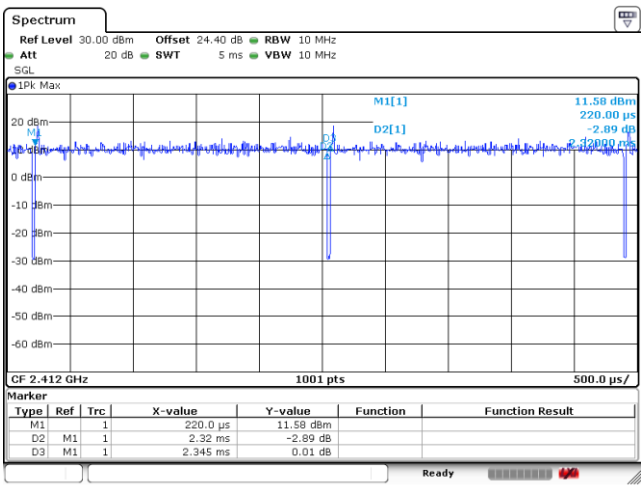
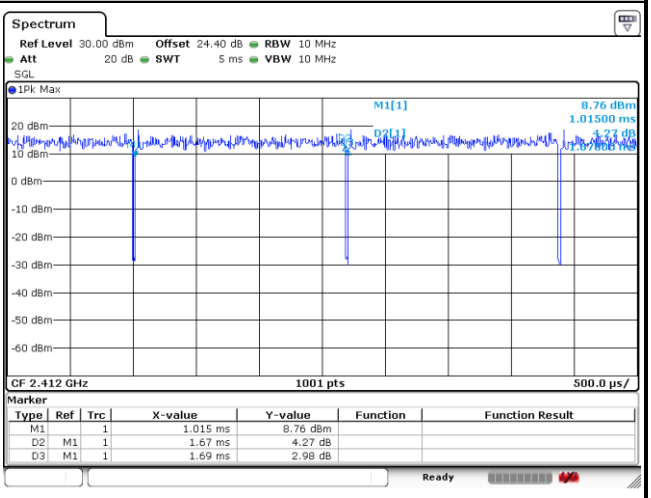
802.11b	802.11g
	

802.11ax HE20 Full RU	802.11ax HE20 26 RU
	

802.11ax HE20 52 RU	802.11ax HE20 106 RU
	

MIMO <Chain 1>

802.11b	802.11g
	

802.11ax HE20 Full RU	802.11ax HE20 26 RU
	
802.11ax HE20 52 RU	802.11ax HE20 106 RU
	

———THE END———