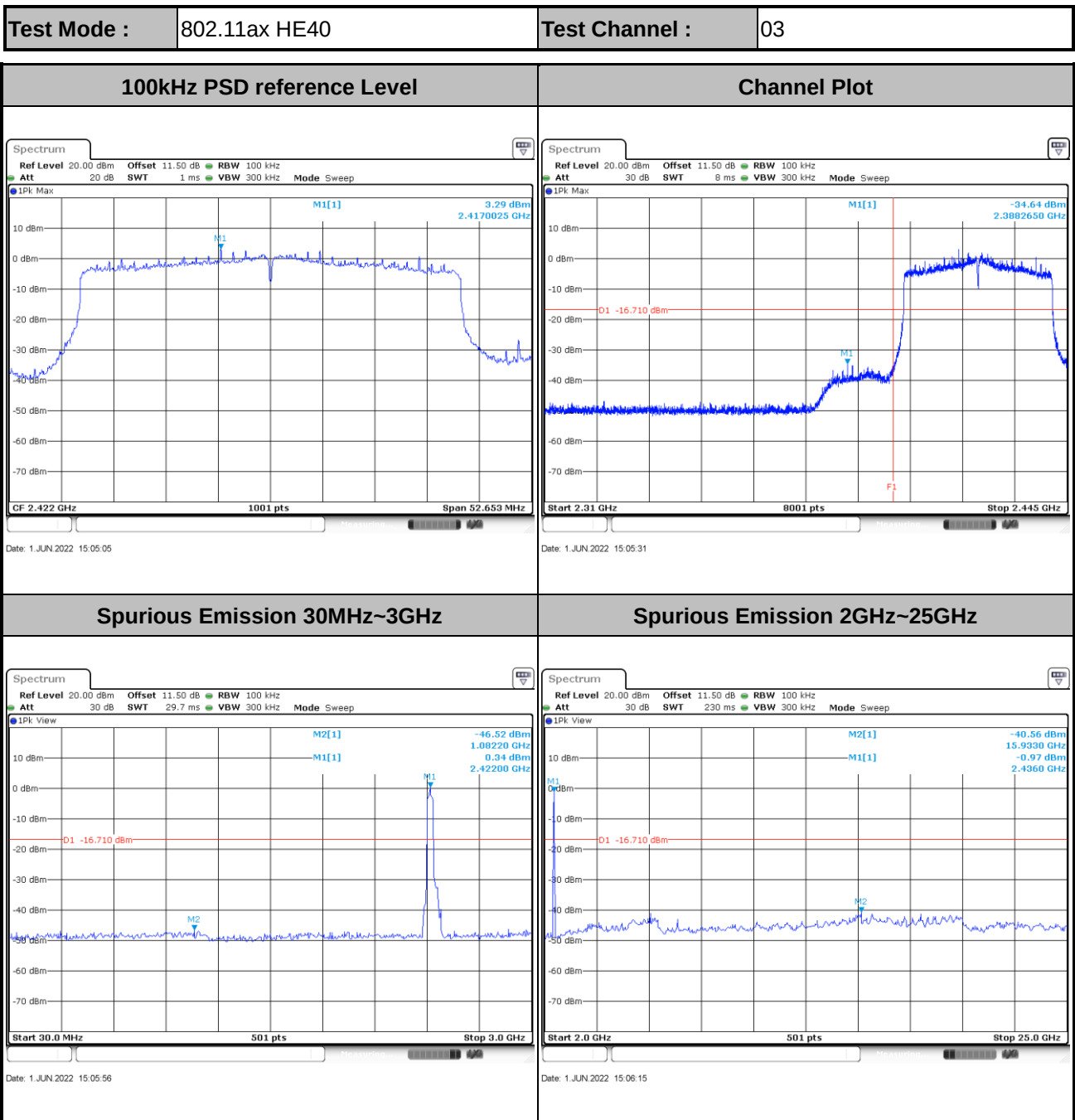
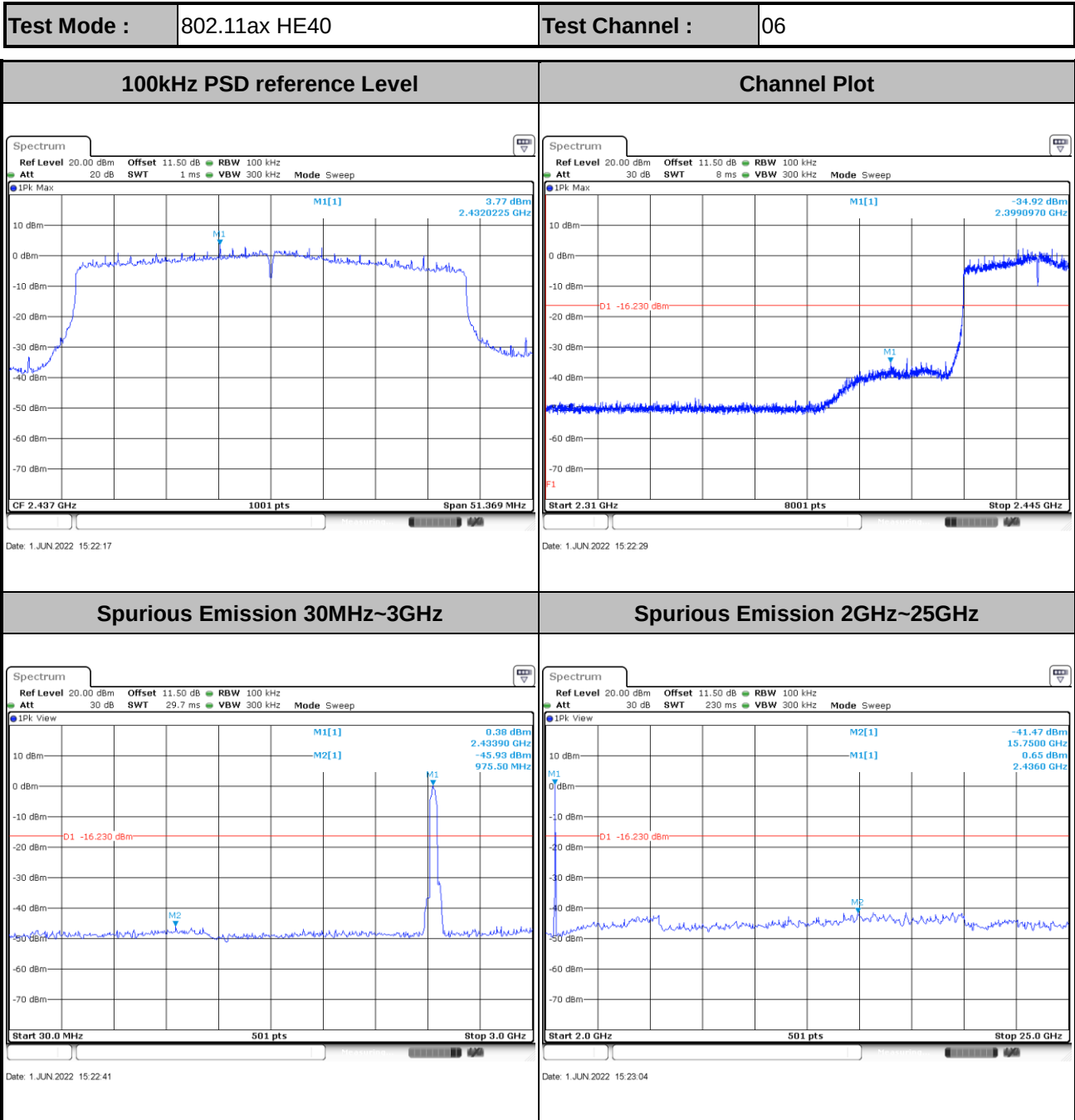
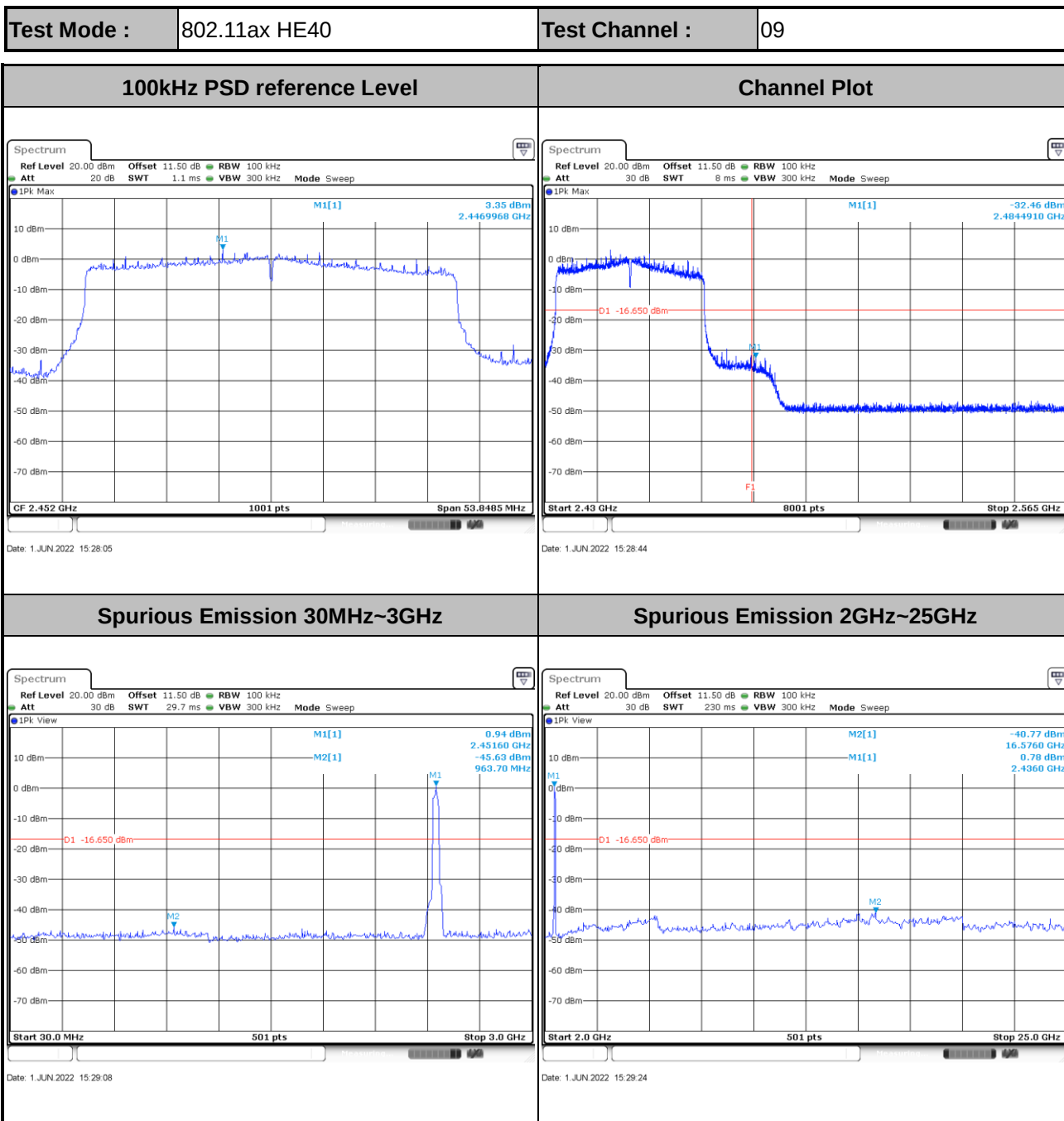








3.5 Radiated Band Edges and Spurious Emission Measurement

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

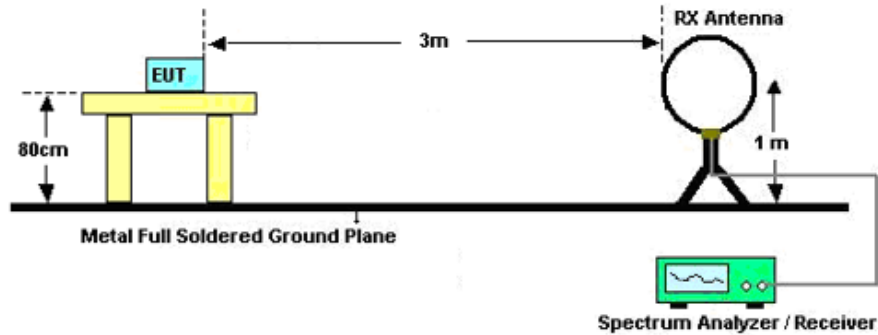
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

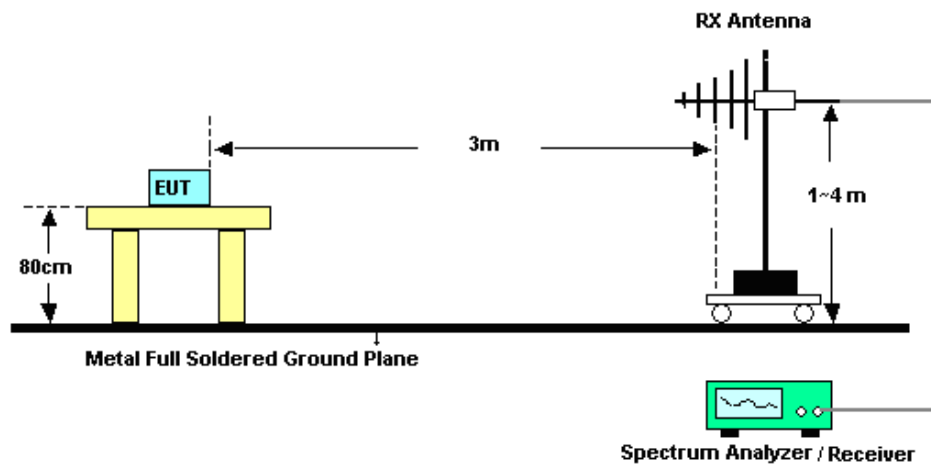
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz 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 1GHz, 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 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak 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 $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, 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

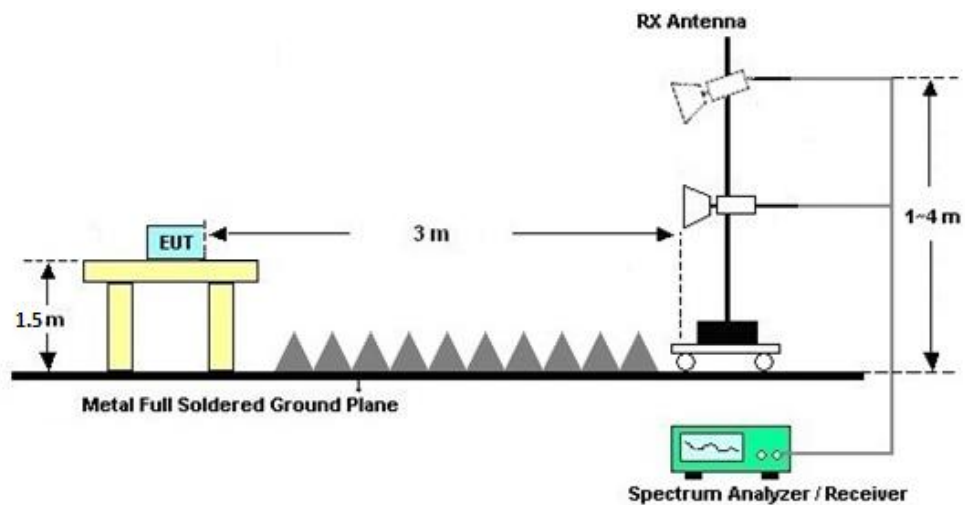
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



**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 semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

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 (dB μ V)	
	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.

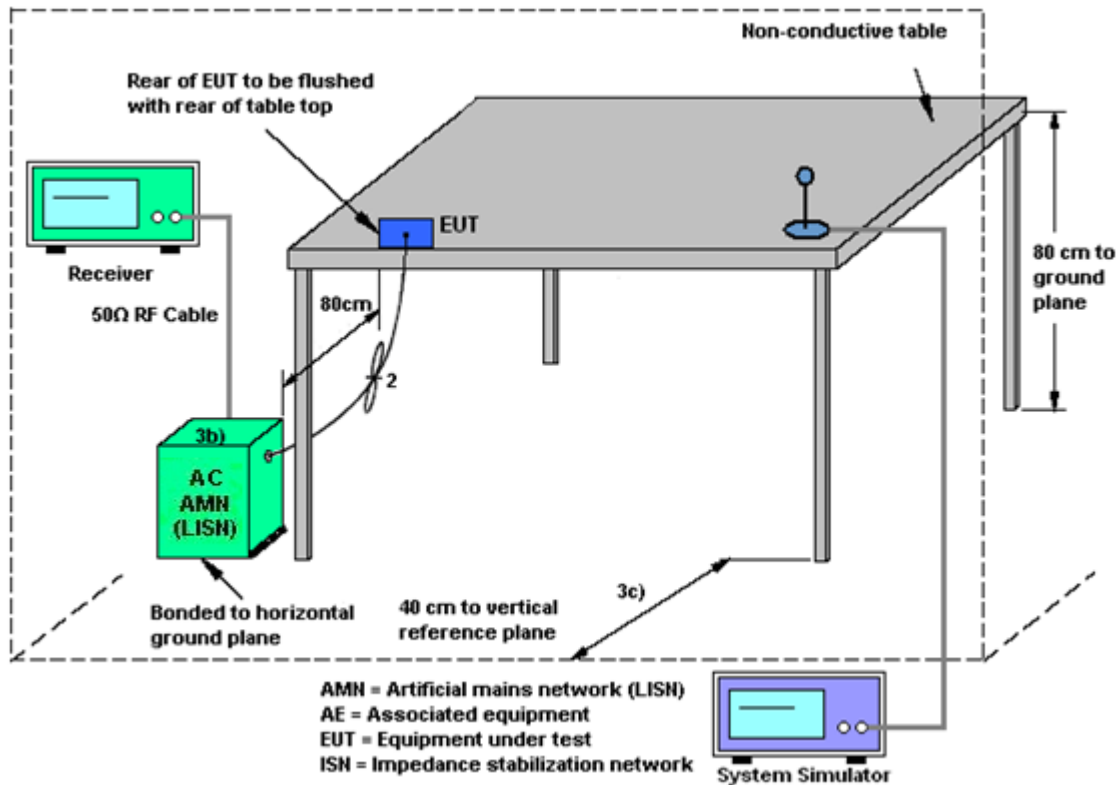
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 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 should 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 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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

<STBC Modes>

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

Basic methodology with NANT transmit antennas, each with the same directional gain GANT dBi, being driven by NANT transmitter outputs of equal power, and If antenna gains are not equal and each transmit antenna can be driven by more than one spatial stream, directional gain may be calculated by either of the following two formulas:

Directional gain = GANT MAX + 10 log(NANT/Nss) dBi, where NANT=2, Nss =2.

<STBC Modes>						
			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
2.4 GHz	-3.40	-6.10	-3.40	-3.40	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	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9KHz~30GHz	Dec. 28, 2021	Jun. 01, 2022~ Jun. 20, 2022	Dec. 27, 2022	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 28, 2021	Jun. 01, 2022~ Jun. 20, 2022	Dec. 27, 2022	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1542004	50MHz Bandwidth	Dec. 28, 2021	Jun. 01, 2022~ Jun. 20, 2022	Dec. 27, 2022	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 22, 2021	May 27, 2022~ Jun. 15, 2022	Oct. 21, 2022	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY551502 13	10Hz~44GHz	Jul. 20, 2021	May 27, 2022~ Jun. 15, 2022	Jul. 19, 2022	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	May 27, 2022~ Jun. 15, 2022	Jun. 21, 2022	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Oct. 22, 2021	May 27, 2022~ Jun. 15, 2022	Oct. 21, 2022	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-147 4	1GHz~18GHz	Jul. 15, 2021	May 27, 2022~ Jun. 15, 2022	Jul. 14, 2022	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 25, 2021	May 27, 2022~ Jun. 15, 2022	Jul. 24, 2022	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 22, 2021	May 27, 2022~ Jun. 15, 2022	Oct. 21, 2022	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1943528	1GHz~18GHz	Oct. 22, 2021	May 27, 2022~ Jun. 15, 2022	Oct. 21, 2022	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 20, 2021	May 27, 2022~ Jun. 15, 2022	Jul. 19, 2022	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY532701 56	500MHz~26.5G Hz	Oct. 22, 2021	May 27, 2022~ Jun. 15, 2022	Oct. 21, 2022	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	May 27, 2022~ Jun. 15, 2022	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	May 27, 2022~ Jun. 15, 2022	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	May 27, 2022~ Jun. 15, 2022	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Sep. 01, 2021	Jun. 09, 2022~ Jun. 13, 2022	Aug. 31, 2022	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Sep. 01, 2021	Jun. 09, 2022~ Jun. 13, 2022	Aug. 31, 2022	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 29, 2021	Jun. 09, 2022~ Jun. 13, 2022	Oct. 28, 2022	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.2dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1dB
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----- THE END -----



Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Chen Hong	Temperature:	24~26	°C
Test Date:	2022/6/1~2022/6/20	Relative Humidity:	50~53	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant0	Ant1	Ant0	Ant1		
11b	1Mbps	2	1	2412	13.39	13.34	8.08	8.08	0.50	Pass
11b	1Mbps	2	6	2437	13.39	13.39	8.02	8.06	0.50	Pass
11b	1Mbps	2	11	2462	13.49	13.34	8.08	8.06	0.50	Pass
11g	6Mbps	2	1	2412	16.28	16.33	15.10	15.12	0.50	Pass
11g	6Mbps	2	6	2437	16.28	16.33	15.10	15.10	0.50	Pass
11g	6Mbps	2	11	2462	16.33	16.33	15.04	15.12	0.50	Pass
HT20	MCS0	2	1	2412	17.53	17.53	15.14	15.72	0.50	Pass
HT20	MCS0	2	6	2437	17.53	17.58	15.10	15.34	0.50	Pass
HT20	MCS0	2	11	2462	17.58	17.53	15.98	15.08	0.50	Pass
HT40	MCS0	2	3	2422	35.96	36.06	35.06	35.04	0.50	Pass
HT40	MCS0	2	6	2437	36.06	36.06	35.30	33.74	0.50	Pass
HT40	MCS0	2	9	2452	36.06	36.16	35.06	33.78	0.50	Pass

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
						Ant0	Ant1	Ant0	Ant1		
HE20	MCS0	1	1	2412	Full	18.88	18.83	18.34	18.27	0.50	Pass
HE20	MCS0	1	6	2437	Full	18.88	18.88	18.19	18.29	0.50	Pass
HE20	MCS0	1	11	2462	Full	18.88	18.83	18.17	17.47	0.50	Pass
HE40	MCS0	1	3	2422	Full	37.76	37.86	35.46	35.10	0.50	Pass
HE40	MCS0	1	6	2437	Full	37.86	37.66	36.26	34.25	0.50	Pass
HE40	MCS0	1	9	2452	Full	37.76	37.76	36.18	35.90	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			DG (dBi)	
					Ant0	Ant1	SUM	Ant0	Ant1
11b	1Mbps	2	1	2412	17.70	17.80	20.76	-3.40	
11b	1Mbps	2	6	2437	17.40	17.90	20.67	-3.40	
11b	1Mbps	2	11	2462	17.50	17.40	20.46	-3.40	
11g	6Mbps	2	1	2412	17.90	18.20	21.06	-3.40	
11g	6Mbps	2	6	2437	17.80	18.30	21.07	-3.40	
11g	6Mbps	2	11	2462	17.70	17.90	20.81	-3.40	
HT20	MCS0	2	1	2412	16.50	16.70	19.61	-3.40	
HT20	MCS0	2	6	2437	17.40	18.00	20.72	-3.40	
HT20	MCS0	2	10	2457	17.20	17.70	20.47	-3.40	
HT20	MCS0	2	11	2462	14.50	14.60	17.56	-3.40	
HT40	MCS0	2	3	2422	15.40	15.60	18.51	-3.40	
HT40	MCS0	2	6	2437	15.60	16.10	18.87	-3.40	
HT40	MCS0	2	8	2447	15.40	15.90	18.67	-3.40	
HT40	MCS0	2	9	2452	12.30	12.60	15.46	-3.40	
VHT20	MCS0	2	1	2412	15.70	16.00	18.86	-3.40	
VHT20	MCS0	2	6	2437	15.60	16.20	18.92	-3.40	
VHT20	MCS0	2	11	2462	14.40	14.50	17.46	-3.40	
VHT40	MCS0	2	3	2422	15.30	15.50	18.41	-3.40	
VHT40	MCS0	2	6	2437	15.60	16.00	18.81	-3.40	
VHT40	MCS0	2	8	2447	15.30	15.80	18.57	-3.40	
VHT40	MCS0	2	9	2452	12.20	12.50	15.36	-3.40	

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

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
					Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
11b	1Mbps	2	1	2412	20.03	20.12	23.09	30.00		-3.40		19.69		36.00		Pass
11b	1Mbps	2	6	2437	20.10	20.58	23.36	30.00		-3.40		19.96		36.00		Pass
11b	1Mbps	2	11	2462	20.15	20.19	23.18	30.00		-3.40		19.78		36.00		Pass
11g	6Mbps	2	1	2412	23.89	23.95	26.93	30.00		-3.40		23.53		36.00		Pass
11g	6Mbps	2	6	2437	24.04	24.16	27.11	30.00		-3.40		23.71		36.00		Pass
11g	6Mbps	2	11	2462	23.85	23.91	26.89	30.00		-3.40		23.49		36.00		Pass
HT20	MCS0	2	1	2412	22.94	23.03	26.00	30.00		-3.40		22.60		36.00		Pass
HT20	MCS0	2	6	2437	23.88	24.10	27.00	30.00		-3.40		23.60		36.00		Pass
HT20	MCS0	2	10	2457	23.55	23.81	26.69	30.00		-3.40		23.29		36.00		Pass
HT20	MCS0	2	11	2462	20.74	20.98	23.87	30.00		-3.40		20.47		36.00		Pass
HT40	MCS0	2	3	2422	21.52	21.55	24.55	30.00		-3.40		21.15		36.00		Pass
HT40	MCS0	2	6	2437	21.88	22.32	25.12	30.00		-3.40		21.72		36.00		Pass
HT40	MCS0	2	8	2447	21.80	22.24	25.04	30.00		-3.40		21.64		36.00		Pass
HT40	MCS0	2	9	2452	18.48	18.72	21.61	30.00		-3.40		18.21		36.00		Pass
VHT20	MCS0	2	1	2412	21.84	21.96	24.91	30.00		-3.40		21.51		36.00		Pass
VHT20	MCS0	2	6	2437	21.85	22.52	25.21	30.00		-3.40		21.81		36.00		Pass
VHT20	MCS0	2	11	2462	20.70	20.91	23.82	30.00		-3.40		20.42		36.00		Pass
VHT40	MCS0	2	3	2422	21.48	21.50	24.50	30.00		-3.40		21.10		36.00		Pass
VHT40	MCS0	2	6	2437	21.85	22.27	25.08	30.00		-3.40		21.68		36.00		Pass
VHT40	MCS0	2	8	2447	21.72	22.11	24.93	30.00		-3.40		21.53		36.00		Pass
VHT40	MCS0	2	9	2452	18.44	18.66	21.56	30.00		-3.40		18.16		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.	Average Conducted Power (dBm)			DG (dBi)	
						Ant0	Ant1	SUM	Ant0	Ant1
HE20	MCS0	2	1	2412	Full	14.80	15.10	17.96	-3.40	
HE20	MCS0	2	6	2437	Full	15.80	16.40	19.12	-3.40	
HE20	MCS0	2	10	2457	Full	15.60	16.20	18.92	-3.40	
HE20	MCS0	2	11	2462	Full	13.10	13.30	16.21	-3.40	
HE40	MCS0	2	3	2422	Full	14.50	14.90	17.71	-3.40	
HE40	MCS0	2	6	2437	Full	15.30	15.80	18.57	-3.40	
HE40	MCS0	2	9	2452	Full	12.50	12.70	15.61	-3.40	

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

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
						Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
HE20	MCS0	2	1	2412	Full	23.34	23.72	26.54	30.00		-3.40		23.14		36.00		Pass
HE20	MCS0	2	6	2437	Full	24.43	25.11	27.79	30.00		-3.40		24.39		36.00		Pass
HE20	MCS0	2	10	2457	Full	23.31	24.35	26.87	30.00		-3.40		23.47		36.00		Pass
HE20	MCS0	2	11	2462	Full	21.65	21.78	24.73	30.00		-3.40		21.33		36.00		Pass
HE40	MCS0	2	3	2422	Full	21.52	21.91	24.73	30.00		-3.40		21.33		36.00		Pass
HE40	MCS0	2	6	2437	Full	22.32	22.54	25.44	30.00		-3.40		22.04		36.00		Pass
HE40	MCS0	2	9	2452	Full	19.45	19.66	22.57	30.00		-3.40		19.17		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	N _{TX}	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant0	Ant1	Worse + 3.01	Ant0	Ant1	Ant0	Ant1	
11b	1Mbps	2	1	2412	-6.76	-6.63	-3.62	-3.40		8.00		Pass
11b	1Mbps	2	6	2437	-5.72	-4.69	-1.68	-3.40		8.00		Pass
11b	1Mbps	2	11	2462	-6.80	-7.05	-3.79	-3.40		8.00		Pass
11g	6Mbps	2	1	2412	-7.68	-7.05	-4.04	-3.40		8.00		Pass
11g	6Mbps	2	6	2437	-8.09	-6.03	-3.02	-3.40		8.00		Pass
11g	6Mbps	2	11	2462	-7.71	-7.60	-4.59	-3.40		8.00		Pass
HT20	MCS0	2	1	2412	-6.74	-6.86	-3.73	-3.40		8.00		Pass
HT20	MCS0	2	6	2437	-6.29	-4.76	-1.75	-3.40		8.00		Pass
HT20	MCS0	2	11	2462	-4.86	-6.34	-1.85	-3.40		8.00		Pass
HT40	MCS0	2	3	2422	-11.45	-10.85	-7.84	-3.40		8.00		Pass
HT40	MCS0	2	6	2437	-11.74	-9.93	-6.92	-3.40		8.00		Pass
HT40	MCS0	2	9	2452	-11.08	-10.96	-7.95	-3.40		8.00		Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

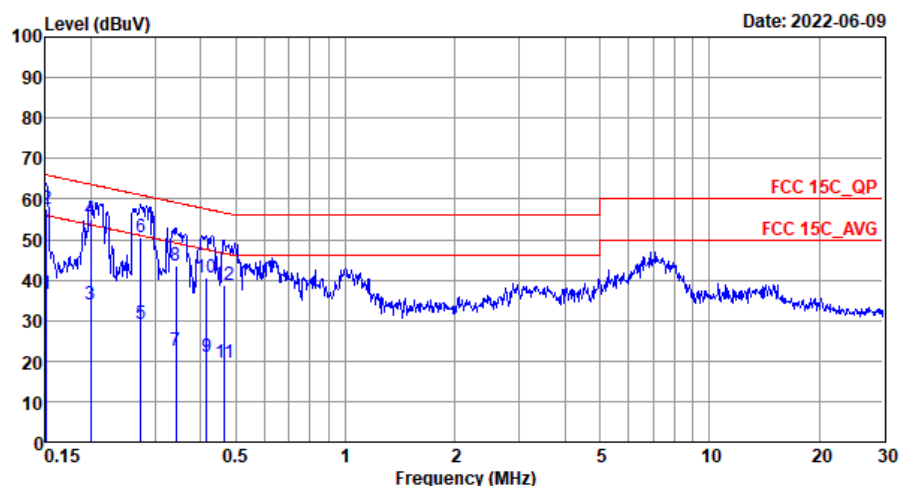
2.4GHz Band MIMO													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant0	Ant1	Worse + 3.01	Ant0	Ant1	Ant0	Ant1	
HE20	MCS0	2	1	2412	Full	-9.31	-8.71	-5.70	-3.40		8.00		Pass
HE20	MCS0	2	6	2437	Full	-8.22	-8.27	-5.21	-3.40		8.00		Pass
HE20	MCS0	2	11	2462	Full	-10.16	-10.64	-7.15	-3.40		8.00		Pass
HE40	MCS0	2	3	2422	Full	-13.09	-12.80	-9.79	-3.40		8.00		Pass
HE40	MCS0	2	6	2437	Full	-12.89	-12.09	-9.08	-3.40		8.00		Pass
HE40	MCS0	2	9	2452	Full	-14.45	-14.03	-11.02	-3.40		8.00		Pass

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



Appendix B. AC Conducted Emission Test Results

Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

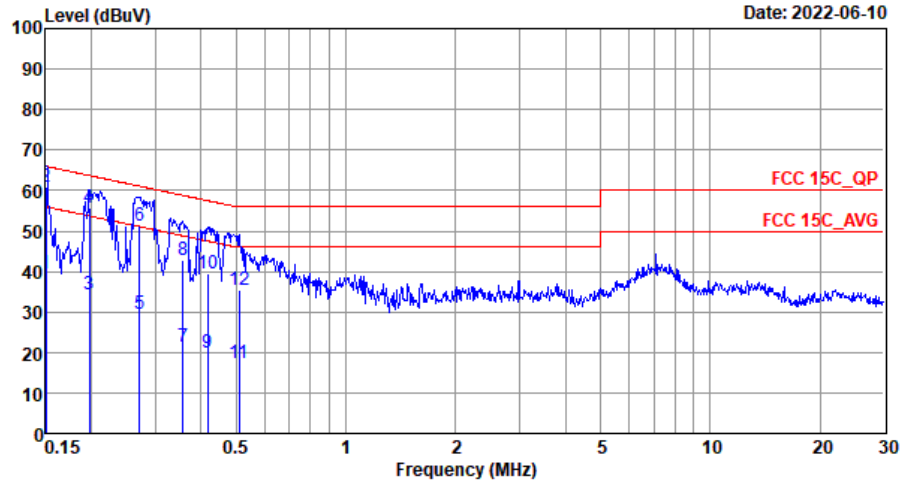


Site : CO01-SZ
Condition: FCC 15C_QP LISN_20210901_L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	36.65	-19.31	55.96	15.60	10.20	10.85	Average
2 *	0.15	57.65	-8.31	65.96	36.60	10.20	10.85	QP
3	0.20	33.95	-19.67	53.62	13.60	10.20	10.15	Average
4	0.20	55.15	-8.47	63.62	34.80	10.20	10.15	QP
5	0.27	29.01	-21.97	50.98	8.10	10.17	10.74	Average
6	0.27	50.41	-10.57	60.98	29.50	10.17	10.74	QP
7	0.34	22.45	-26.68	49.13	1.20	10.09	11.16	Average
8	0.34	43.65	-15.48	59.13	22.40	10.09	11.16	QP
9	0.41	21.01	-26.54	47.55	-0.60	10.10	11.51	Average
10	0.41	40.51	-17.04	57.55	18.90	10.10	11.51	QP
11	0.47	19.45	-27.13	46.58	-2.40	10.11	11.74	Average
12	0.47	38.65	-17.93	56.58	16.80	10.11	11.74	QP



Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20210901_N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.15	39.66	-16.34	56.00	18.50	10.31	10.85	Average
2 *	0.15	60.96	-5.04	66.00	39.80	10.31	10.85	QP
3	0.20	34.35	-19.36	53.71	13.90	10.28	10.17	Average
4	0.20	55.85	-7.86	63.71	35.40	10.28	10.17	QP
5	0.27	29.36	-21.71	51.07	8.40	10.23	10.73	Average
6	0.27	51.26	-9.81	61.07	30.30	10.23	10.73	QP
7	0.36	21.31	-27.47	48.78	-0.10	10.17	11.24	Average
8	0.36	42.91	-15.87	58.78	21.50	10.17	11.24	QP
9	0.42	19.92	-27.59	47.51	-1.80	10.19	11.53	Average
10	0.42	39.62	-17.89	57.51	17.90	10.19	11.53	QP
11	0.51	17.40	-28.60	46.00	-4.60	10.20	11.80	Average
12	0.51	35.40	-20.60	56.00	13.40	10.20	11.80	QP

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preampl Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz	*	2388.54	47.65	-26.35	74	49.12	27.02	5.37	33.86	306	315	P	H
		2388.96	39.01	-14.99	54	40.48	27.02	5.37	33.86	306	315	A	H
	*	2412	103.39	-	-	104.82	27.03	5.37	33.83	306	315	P	H
		2412	100.28	-	-	101.71	27.03	5.37	33.83	306	315	A	H
	*	2388.96	49.45	-24.55	74	50.92	27.02	5.37	33.86	239	243	P	V
		2388.855	41.94	-12.06	54	43.41	27.02	5.37	33.86	239	243	A	V
	*	2412	106.47	-	-	107.9	27.03	5.37	33.83	239	243	P	V
		2412	103.35	-	-	104.78	27.03	5.37	33.83	239	243	A	V
802.11b CH 06 2437MHz	*	2388.82	45.79	-28.21	74	47.26	27.02	5.37	33.86	100	291	P	H
		2389.38	36.39	-17.61	54	37.86	27.02	5.37	33.86	100	291	A	H
	*	2437	102.19	-	-	103.51	27.06	5.41	33.79	100	291	P	H
		2437	99.06	-	-	100.38	27.06	5.41	33.79	100	291	A	H
	*	2492.65	45.91	-28.09	74	47.03	27.1	5.46	33.68	100	291	P	H
		2483.55	35.53	-18.47	54	36.7	27.09	5.46	33.72	100	291	A	H
	*	2386.58	46.42	-27.58	74	47.89	27.02	5.37	33.86	174	275	P	V
		2389.52	37.13	-16.87	54	38.6	27.02	5.37	33.86	174	275	A	V
	*	2437	104.4	-	-	105.72	27.06	5.41	33.79	174	275	P	V
		2437	101.31	-	-	102.63	27.06	5.41	33.79	174	275	A	V
	*	2487.96	46.09	-27.91	74	47.25	27.1	5.46	33.72	174	275	P	V
		2483.62	35.6	-18.4	54	36.77	27.09	5.46	33.72	174	275	A	V
802.11b CH 11 2462MHz	*	2462	102.74	-	-	104.02	27.07	5.41	33.76	100	311	P	H
		2462	99.7	-	-	100.98	27.07	5.41	33.76	100	311	A	H
	*	2485.96	49.79	-24.21	74	50.96	27.09	5.46	33.72	100	311	P	H
		2485.88	42.67	-11.33	54	43.84	27.09	5.46	33.72	100	311	A	H
	*	2462	105.95	-	-	107.23	27.07	5.41	33.76	144	239	P	V
		2462	102.75	-	-	104.03	27.07	5.41	33.76	144	239	A	V
	*	2485.88	50.29	-23.71	74	51.46	27.09	5.46	33.72	144	239	P	V
		2483.52	44.68	-9.32	54	45.85	27.09	5.46	33.72	144	239	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 802.11b (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz	*	4824	43.55	-30.45	74	52.68	31.25	8.88	49.26	-	-	P	H
	*	4824	43.57	-30.43	74	52.7	31.25	8.88	49.26	-	-	P	V
802.11b CH 06 2437MHz		4874	43.16	-30.84	74	51.99	31.41	8.76	49	-	-	P	H
	*	7311	49.47	-24.53	74	54.64	36.46	10.18	51.81	214	164	P	H
		7311	40.96	-13.04	54	46.13	36.46	10.18	51.81	214	164	A	H
		4874	42.68	-31.32	74	51.51	31.41	8.76	49	-	-	P	V
	*	7311	50.69	-23.31	74	55.86	36.46	10.18	51.81	216	30	P	V
		7311	43.29	-10.71	54	48.46	36.46	10.18	51.81	216	30	A	V
802.11b CH 11 2462MHz		4924	44.29	-29.71	74	52.92	31.58	8.53	48.74	-	-	P	H
	*	7386	50.56	-23.44	74	55.67	36.61	10.18	51.9	99	60	P	H
		7386	43.32	-10.68	54	48.43	36.61	10.18	51.9	99	60	A	H
		4924	43.93	-30.07	74	52.56	31.58	8.53	48.74	-	-	P	V
	*	7386	53.71	-20.29	74	58.82	36.61	10.18	51.9	126	17	P	V
		7386	48.39	-5.61	54	53.5	36.61	10.18	51.9	126	17	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 Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz	*	2390	56.81	-17.19	74	58.25	27.02	5.37	33.83	305	321	P	H
		2390	45.04	-8.96	54	46.48	27.02	5.37	33.83	305	321	A	H
	*	2412	106.12	-	-	107.55	27.03	5.37	33.83	305	321	P	H
		2412	98.63	-	-	100.06	27.03	5.37	33.83	305	321	A	H
	*	2389.065	59.5	-14.5	74	60.97	27.02	5.37	33.86	182	273	P	V
		2387.91	47.16	-6.84	54	48.63	27.02	5.37	33.86	182	273	A	V
	*	2412	107.71	-	-	109.14	27.03	5.37	33.83	182	273	P	V
		2412	100.59	-	-	102.02	27.03	5.37	33.83	182	273	A	V
802.11g CH 06 2437MHz	*	2389.94	46.14	-27.86	74	47.58	27.02	5.37	33.83	333	314	P	H
		2389.94	36.07	-17.93	54	37.51	27.02	5.37	33.83	333	314	A	H
	*	2437	105.48	-	-	106.8	27.06	5.41	33.79	333	314	P	H
		2437	98.19	-	-	99.51	27.06	5.41	33.79	333	314	A	H
	*	2485.65	49.77	-24.23	74	50.94	27.09	5.46	33.72	333	314	P	H
		2485.23	37.05	-16.95	54	38.22	27.09	5.46	33.72	333	314	A	H
	*	2387.98	49.91	-24.09	74	51.38	27.02	5.37	33.86	207	257	P	V
		2387.84	38.53	-15.47	54	40	27.02	5.37	33.86	207	257	A	V
	*	2437	107.03	-	-	108.35	27.06	5.41	33.79	207	257	P	V
		2437	99.87	-	-	101.19	27.06	5.41	33.79	207	257	A	V
	*	2485.72	48.47	-25.53	74	49.64	27.09	5.46	33.72	207	257	P	V
		2486.42	37.23	-16.77	54	38.4	27.09	5.46	33.72	207	257	A	V
802.11g CH 11 2462MHz	*	2462	105.98	-	-	107.26	27.07	5.41	33.76	320	310	P	H
		2462	98.53	-	-	99.81	27.07	5.41	33.76	320	310	A	H
	*	2485	60.62	-13.38	74	61.79	27.09	5.46	33.72	320	310	P	H
		2483.52	49.25	-4.75	54	50.42	27.09	5.46	33.72	320	310	A	H
	*	2462	106.78	-	-	108.06	27.07	5.41	33.76	231	260	P	V
		2462	99.54	-	-	100.82	27.07	5.41	33.76	231	260	A	V
	*	2483.64	62.08	-11.92	74	63.25	27.09	5.46	33.72	231	260	P	V
		2483.52	50.94	-3.06	54	52.11	27.09	5.46	33.72	231	260	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz	*	4824	43.1	-30.9	74	52.23	31.25	8.88	49.26	-	-	P	H
	*	4824	42.91	-31.09	74	52.04	31.25	8.88	49.26	-	-	P	V
802.11g CH 06 2437MHz		4874	42.56	-31.44	74	51.39	31.41	8.76	49	-	-	P	H
	*	7311	45.88	-28.12	74	51.05	36.46	10.18	51.81	-	-	P	H
		4874	42.07	-31.93	74	50.9	31.41	8.76	49	-	-	P	V
	*	7311	46.37	-27.63	74	51.54	36.46	10.18	51.81	-	-	P	V
802.11g CH 11 2462MHz		4924	43.05	-30.95	74	51.68	31.58	8.53	48.74	-	-	P	H
	*	7386	47.79	-26.21	74	52.9	36.61	10.18	51.9	-	-	P	H
		4924	42.79	-31.21	74	51.42	31.58	8.53	48.74	-	-	P	V
	*	7386	50.19	-23.81	74	55.3	36.61	10.18	51.9	306	40	P	V
		7386	40.34	-13.66	54	45.45	36.61	10.18	51.9	306	40	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 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz	*	2389.905	61.39	-12.61	74	62.83	27.02	5.37	33.83	305	319	P	H
		2390	48.58	-5.42	54	50.02	27.02	5.37	33.83	305	319	A	H
	*	2412	105.69	-	-	107.12	27.03	5.37	33.83	305	319	P	H
		2412	98.11	-	-	99.54	27.03	5.37	33.83	305	319	A	H
	*	2389.8	62.99	-11.01	74	64.43	27.02	5.37	33.83	129	271	P	V
		2390	50.42	-3.58	54	51.86	27.02	5.37	33.83	129	271	A	V
	*	2412	107.85	-	-	109.28	27.03	5.37	33.83	129	271	P	V
		2412	100.13	-	-	101.56	27.03	5.37	33.83	129	271	A	V
802.11n HT20 CH 06 2437MHz	*	2386.44	48.33	-25.67	74	49.8	27.02	5.37	33.86	335	318	P	H
		2386.02	36.48	-17.52	54	37.95	27.02	5.37	33.86	335	318	A	H
	*	2437	106.33	-	-	107.65	27.06	5.41	33.79	335	318	P	H
		2437	98.32	-	-	99.66	27.04	5.41	33.79	335	318	A	H
	*	2486.56	49.52	-24.48	74	50.69	27.09	5.46	33.72	335	318	P	H
		2485.09	37.73	-16.27	54	38.9	27.09	5.46	33.72	335	318	A	H
	*	2386.86	50.57	-23.43	74	52.04	27.02	5.37	33.86	204	260	P	V
		2388.12	39.1	-14.9	54	40.57	27.02	5.37	33.86	204	260	A	V
	*	2437	108.63	-	-	109.95	27.06	5.41	33.79	204	260	P	V
		2437	100.75	-	-	102.07	27.06	5.41	33.79	204	260	A	V
	*	2485.16	49.65	-24.35	74	50.82	27.09	5.46	33.72	204	260	P	V
		2485.86	38.16	-15.84	54	39.33	27.09	5.46	33.72	204	260	A	V
802.11n HT20 CH 11 2462MHz	*	2462	103.93	-	-	105.21	27.07	5.41	33.76	263	302	P	H
		2462	95.9	-	-	97.18	27.07	5.41	33.76	263	302	A	H
	*	2483.96	58.39	-15.61	74	59.56	27.09	5.46	33.72	263	302	P	H
		2483.52	46.54	-7.46	54	47.71	27.09	5.46	33.72	263	302	A	H
	*	2462	106.16	-	-	107.44	27.07	5.41	33.76	118	287	P	V
		2462	98.57	-	-	99.85	27.07	5.41	33.76	118	287	A	V
	*	2483.72	62.34	-11.66	74	63.51	27.09	5.46	33.72	118	287	P	V
		2483.52	50.08	-3.92	54	51.25	27.09	5.46	33.72	118	287	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 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz	*	4824	42.53	-31.47	74	51.66	31.25	8.88	49.26	-	-	P	H
	*	4824	42.64	-31.36	74	51.77	31.25	8.88	49.26	-	-	P	V
802.11n HT20 CH 06 2437MHz		4874	42.57	-31.43	74	51.4	31.41	8.76	49	-	-	P	H
	*	7311	45.09	-28.91	74	50.26	36.46	10.18	51.81	-	-	P	H
		4874	42.47	-31.53	74	51.3	31.41	8.76	49	-	-	P	V
	*	7311	45.51	-28.49	74	50.68	36.46	10.18	51.81	-	-	P	V
802.11n HT20 CH 11 2462MHz		4924	43.05	-30.95	74	51.68	31.58	8.53	48.74	-	-	P	H
	*	7386	45.05	-28.95	74	50.16	36.61	10.18	51.9	-	-	P	H
		4924	44.16	-29.84	74	52.79	31.58	8.53	48.74	-	-	P	V
	*	7386	45.03	-28.97	74	50.14	36.61	10.18	51.9	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz	*	2387.84	58.69	-15.31	74	60.16	27.02	5.37	33.86	100	312	P	H
		2389.94	47.43	-6.57	54	48.87	27.02	5.37	33.83	100	312	A	H
	*	2422	99.83	-	-	101.21	27.04	5.37	33.79	100	312	P	H
		2422	92.34	-	-	93.72	27.04	5.37	33.79	100	312	A	H
	*	2483.9	47.82	-26.18	74	48.99	27.09	5.46	33.72	100	312	P	H
		2483.5	37.33	-16.67	54	38.5	27.09	5.46	33.72	100	312	A	H
	*	2388.12	63.61	-10.39	74	65.08	27.02	5.37	33.86	232	228	P	V
		2385.04	50.3	-3.7	54	51.79	27	5.37	33.86	232	228	A	V
	*	2422	103.72	-	-	105.1	27.04	5.37	33.79	232	228	P	V
		2422	95.67	-	-	97.05	27.04	5.37	33.79	232	228	A	V
	*	2483.83	52	-22	74	53.17	27.09	5.46	33.72	232	228	P	V
		2483.5	40.44	-13.56	54	41.61	27.09	5.46	33.72	232	228	A	V
802.11n HT40 CH 06 2437MHz	*	2386.72	56.74	-17.26	74	58.21	27.02	5.37	33.86	272	309	P	H
		2388.12	43.5	-10.5	54	44.97	27.02	5.37	33.86	272	309	A	H
	*	2437	101.3	-	-	102.62	27.06	5.41	33.79	272	309	P	H
		2437	93.13	-	-	94.45	27.06	5.41	33.79	272	309	A	H
	*	2484.46	55.7	-18.3	74	56.87	27.09	5.46	33.72	272	309	P	H
		2483.5	43.38	-10.62	54	44.55	27.09	5.46	33.72	272	309	A	H
	*	2389.52	64.5	-9.5	74	65.97	27.02	5.37	33.86	139	222	P	V
		2389.94	50.39	-3.61	54	51.83	27.02	5.37	33.83	139	222	A	V
	*	2437	103.33	-	-	104.65	27.06	5.41	33.79	139	222	P	V
		2437	95.5	-	-	96.82	27.06	5.41	33.79	139	222	A	V
	*	2484.81	60.32	-13.68	74	61.49	27.09	5.46	33.72	139	222	P	V
		2484.11	46.5	-7.5	54	47.67	27.09	5.46	33.72	139	222	A	V



802.11n HT40 CH 09 2452MHz	*	2334.78	45.44	-28.56	74	47.05	26.98	5.31	33.9	379	309	P	H
		2389.66	34.48	-19.52	54	35.95	27.02	5.37	33.86	379	309	A	H
	*	2452	97.96	-	-	99.25	27.06	5.41	33.76	379	309	P	H
		2452	89.74	-	-	91.03	27.06	5.41	33.76	379	309	A	H
	*	2484.74	57.12	-16.88	74	58.29	27.09	5.46	33.72	379	309	P	H
		2483.5	44.9	-9.1	54	46.07	27.09	5.46	33.72	379	309	A	H
	*	2389.24	46.54	-27.46	74	48.01	27.02	5.37	33.86	151	288	P	V
		2389.66	35.95	-18.05	54	37.42	27.02	5.37	33.86	151	288	A	V
	*	2452	101.42	-	-	102.71	27.06	5.41	33.76	151	288	P	V
		2452	93.43	-	-	94.72	27.06	5.41	33.76	151	288	A	V
	*	2484.74	60.87	-13.13	74	62.04	27.09	5.46	33.72	151	288	P	V
		2483.5	49.17	-4.83	54	50.34	27.09	5.46	33.72	151	288	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 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz		4844	43.13	-30.87	74	52.25	31.3	8.76	49.18	-	-	P	H
	*	7266	45.82	-28.18	74	51.02	36.4	10.18	51.78	-	-	P	H
		4844	43.56	-30.44	74	52.68	31.3	8.76	49.18	-	-	P	V
	*	7266	45.49	-28.51	74	50.69	36.4	10.18	51.78	-	-	P	V
802.11n HT40 CH 06 2437MHz		4874	42.83	-31.17	74	51.66	31.41	8.76	49	-	-	P	H
	*	7311	45.41	-28.59	74	50.58	36.46	10.18	51.81	-	-	P	H
		4874	42.51	-31.49	74	51.34	31.41	8.76	49	-	-	P	V
	*	7311	45.49	-28.51	74	50.66	36.46	10.18	51.81	-	-	P	V
802.11n HT40 CH 09 2452MHz		4904	42.94	-31.06	74	51.6	31.52	8.65	48.83	-	-	P	H
	*	7356	45.61	-28.39	74	50.74	36.55	10.18	51.86	-	-	P	H
		4904	42.99	-31.01	74	51.65	31.52	8.65	48.83	-	-	P	V
	*	7356	45.61	-28.39	74	50.74	36.55	10.18	51.86	-	-	P	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 Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz	*	2390	58.45	-15.55	74	59.89	27.02	5.37	33.83	350	316	P	H
		2390	46.48	-7.52	54	47.92	27.02	5.37	33.83	350	316	A	H
	*	2412	105.79	-	-	107.22	27.03	5.37	33.83	350	316	P	H
		2412	96.18	-	-	97.61	27.03	5.37	33.83	350	316	A	H
	*	2389.905	62.99	-11.01	74	64.43	27.02	5.37	33.83	156	226	P	V
		2390	50.18	-3.82	54	51.62	27.02	5.37	33.83	156	226	A	V
	*	2412	108.82	-	-	110.25	27.03	5.37	33.83	156	226	P	V
		2412	99.23	-	-	100.66	27.03	5.37	33.83	156	226	A	V
802.11ax HE20 Full CH 06 2437MHz	*	2385.18	45.17	-28.83	74	46.66	27	5.37	33.86	335	319	P	H
		2386.72	34.86	-19.14	54	36.33	27.02	5.37	33.86	335	319	A	H
	*	2437	105.49	-	-	106.81	27.06	5.41	33.79	335	319	P	H
		2437	96.11	-	-	97.43	27.06	5.41	33.79	335	319	A	H
	*	2483.55	46.98	-27.02	74	48.15	27.09	5.46	33.72	335	319	P	H
		2485.02	36.42	-17.58	54	37.59	27.09	5.46	33.72	335	319	A	H
	*	2388.82	49.26	-24.74	74	50.73	27.02	5.37	33.86	265	225	P	V
		2388.26	37.84	-16.16	54	39.31	27.02	5.37	33.86	265	225	A	V
	*	2437	108.11	-	-	109.43	27.06	5.41	33.79	265	225	P	V
		2437	98.41	-	-	99.73	27.06	5.41	33.79	265	225	A	V
	*	2485.86	47.55	-26.45	74	48.72	27.09	5.46	33.72	265	225	P	V
		2485.93	36.37	-17.63	54	37.54	27.09	5.46	33.72	265	225	A	V



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
8802.11ax HE20 Full CH 11 2462MHz	*	2462	105.32	-	-	106.6	27.07	5.41	33.76	372	318	P	H
		2462	94.66	-	-	95.94	27.07	5.41	33.76	372	318	A	H
	*	2483.6	58.09	-15.91	74	59.26	27.09	5.46	33.72	372	318	P	H
		2483.52	46.68	-7.32	54	47.85	27.09	5.46	33.72	372	318	A	H
	*	2462	105.87	-	-	107.15	27.07	5.41	33.76	223	223	P	V
		2462	97	-	-	98.28	27.07	5.41	33.76	223	223	A	V
	*	2484.28	62.23	-11.77	74	63.4	27.09	5.46	33.72	223	223	P	V
		2483.52	50.36	-3.64	54	51.53	27.09	5.46	33.72	223	223	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz	*	4824	42.22	-31.78	74	51.35	31.25	8.88	49.26	-	-	P	H
	*	4824	42.43	-31.57	74	51.56	31.25	8.88	49.26	-	-	P	V
802.11ax HE20 Full CH 06 2437MHz		4874	41.88	-32.12	74	50.71	31.41	8.76	49	-	-	P	H
	*	7311	46.18	-27.82	74	51.35	36.46	10.18	51.81	-	-	P	H
		4874	42.6	-31.4	74	51.43	31.41	8.76	49	-	-	P	V
	*	7311	45.6	-28.4	74	50.77	36.46	10.18	51.81	-	-	P	V
802.11ax HE20 Full CH 11 2462MHz		4924	44.03	-29.97	74	52.66	31.58	8.53	48.74	-	-	P	H
	*	7386	45.8	-28.2	74	50.91	36.61	10.18	51.9	-	-	P	H
		4924	44.22	-29.78	74	52.85	31.58	8.53	48.74	-	-	P	V
	*	7386	45.05	-28.95	74	50.16	36.61	10.18	51.9	-	-	P	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 HE40 Full (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 03 2422MHz	*	2389.8	59.53	-14.47	74	60.97	27.02	5.37	33.83	343	320	P	H
		2389.94	48.47	-5.53	54	49.91	27.02	5.37	33.83	343	320	A	H
	*	2422	102.27	-	-	103.65	27.04	5.37	33.79	343	320	P	H
		2422	92.84	-	-	94.22	27.04	5.37	33.79	343	320	A	H
	*	2485.72	47.33	-26.67	74	48.5	27.09	5.46	33.72	343	320	P	H
		2483.5	35.74	-18.26	54	36.91	27.09	5.46	33.72	343	320	A	H
	*	2385.6	63.27	-10.73	74	64.74	27.02	5.37	33.86	266	224	P	V
		2389.94	50.45	-3.55	54	51.89	27.02	5.37	33.83	266	224	A	V
	*	2422	103.73	-	-	105.11	27.04	5.37	33.79	266	224	P	V
		2422	95.08	-	-	96.46	27.04	5.37	33.79	266	224	A	V
	*	2483.5	49.63	-24.37	74	50.8	27.09	5.46	33.72	266	224	P	V
		2483.5	38.93	-15.07	54	40.1	27.09	5.46	33.72	266	224	A	V
802.11ax HE40 Full CH 06 2437MHz	*	2386.72	54.86	-19.14	74	56.33	27.02	5.37	33.86	338	321	P	H
		2387.42	42.54	-11.46	54	44.01	27.02	5.37	33.86	338	321	A	H
	*	2437	103.25	-	-	104.57	27.06	5.41	33.79	338	321	P	H
		2437	94.3	-	-	95.62	27.06	5.41	33.79	338	321	A	H
	*	2484.18	57.81	-16.19	74	58.98	27.09	5.46	33.72	338	321	P	H
		2483.69	45.49	-8.51	54	46.66	27.09	5.46	33.72	338	321	A	H
	*	2388.54	65.49	-8.51	74	66.96	27.02	5.37	33.86	266	226	P	V
		2389.94	50.62	-3.38	54	52.06	27.02	5.37	33.83	266	226	A	V
	*	2437	104.3	-	-	105.62	27.06	5.41	33.79	266	226	P	V
		2437	95.64	-	-	96.96	27.06	5.41	33.79	266	226	A	V
	*	2485.72	58.28	-15.72	74	59.45	27.09	5.46	33.72	266	226	P	V
		2484.74	45.89	-8.11	54	47.06	27.09	5.46	33.72	266	226	A	V



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 09 2452MHz	*	2363.06	45.94	-28.06	74	47.49	26.99	5.34	33.88	339	325	P	H
		2389.94	35.65	-18.35	54	37.09	27.02	5.37	33.83	339	325	A	H
	*	2452	100.12	-	-	101.41	27.06	5.41	33.76	339	325	P	H
		2452	91.14	-	-	92.43	27.06	5.41	33.76	339	325	A	H
	*	2487.05	57.48	-16.52	74	58.65	27.09	5.46	33.72	339	325	P	H
		2483.5	46.3	-7.7	54	47.47	27.09	5.46	33.72	339	325	A	H
	*	2389.8	49.77	-24.23	74	51.21	27.02	5.37	33.83	226	225	P	V
		2389.94	37.48	-16.52	54	38.92	27.02	5.37	33.83	226	225	A	V
	*	2452	103.12	-	-	104.41	27.06	5.41	33.76	226	225	P	V
		2452	93.96	-	-	95.25	27.06	5.41	33.76	226	225	A	V
	*	2484.11	62.78	-11.22	74	63.95	27.09	5.46	33.72	226	225	P	V
		2483.83	50.49	-3.51	54	51.66	27.09	5.46	33.72	226	225	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 HE40 Full (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax		4844	43.14	-30.86	74	52.26	31.3	8.76	49.18	-	-	P	H
HE40 Full	*	7266	45.65	-28.35	74	50.85	36.4	10.18	51.78	-	-	P	H
CH 03 2422MHz		4844	43.5	-30.5	74	52.62	31.3	8.76	49.18	-	-	P	V
802.11ax		4874	43.35	-30.65	74	52.18	31.41	8.76	49	-	-	P	H
HE40 Full	*	7311	45.05	-28.95	74	50.22	36.46	10.18	51.81	-	-	P	H
CH 06 2437MHz		4874	42.72	-31.28	74	51.55	31.41	8.76	49	-	-	P	V
	*	7311	45.35	-28.65	74	50.52	36.46	10.18	51.81	-	-	P	V
802.11ax		4904	43.16	-30.84	74	51.82	31.52	8.65	48.83	-	-	P	H
HE40 Full	*	7356	44.89	-29.11	74	50.02	36.55	10.18	51.86	-	-	P	H
CH 09 2452MHz		4904	43.34	-30.66	74	52	31.52	8.65	48.83	-	-	P	V
	*	7356	44.9	-29.1	74	50.03	36.55	10.18	51.86	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

11ax40_TX_CH09 2452MHz & LTE Band42 Link (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
11ax40_TX_CH09 2452MHz & LTE Band42		2389.94	51.95	-22.05	74	53.39	27.02	5.37	33.83	100	278	P	H
		2389.94	40.27	-13.73	54	41.71	27.02	5.37	33.83	100	278	A	H
		2452	101.76	-	-	103.05	27.06	5.41	33.76	100	278	P	H
		2452	92.53	-	-	93.82	27.06	5.41	33.76	100	278	A	H
		2483.5	63.13	-10.87	74	64.3	27.09	5.46	33.72	100	278	P	H
		2483.5	50.03	-3.97	54	51.2	27.09	5.46	33.72	100	278	A	H
		2369.5	50.07	-23.93	74	51.59	27	5.34	33.86	400	242	P	V
		2387.98	40.09	-13.91	54	41.56	27.02	5.37	33.86	400	242	A	V
		2452	103	-	-	104.29	27.06	5.41	33.76	400	242	P	V
		2452	92.77	-	-	94.06	27.06	5.41	33.76	400	242	A	V
		2483.55	62.64	-11.36	74	63.81	27.09	5.46	33.72	400	242	P	V
		2483.5	50	-4	54	51.17	27.09	5.46	33.72	400	242	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

11ax40_TX_CH09 2452MHz & LTE Band42 Link (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
11ax40_TX_ CH09 2452MHz & LTE Band42	*	4904	41.96	-32.04	74	50.62	31.52	8.65	48.83	-	-	P	H
		6982	44.82	-29.18	74	50.25	35.84	10.23	51.5	-	-	P	H
		7356	44.36	-29.64	74	49.49	36.55	10.18	51.86	-	-	P	H
		10473	52.46	-21.54	74	52.47	39.18	12.15	51.34	-	-	P	H
		13964	46.74	-27.26	74	45.01	41.24	13.86	53.37	-	-	P	H
	*	4904	42.36	-31.64	74	51.02	31.52	8.65	48.83	-	-	P	V
		6982	43.76	-30.24	74	49.19	35.84	10.23	51.5	-	-	P	V
		7356	44.65	-29.35	74	49.78	36.55	10.18	51.86	-	-	P	V
		10473	51.39	-22.61	74	51.4	39.18	12.15	51.34	-	-	P	V
		13964	47.41	-26.59	74	45.68	41.24	13.86	53.37	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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 Margin line.
P/A	Peak or Average
H/V	Horizontal or Vertical

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

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

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)

2. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Margin (dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Margin (dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

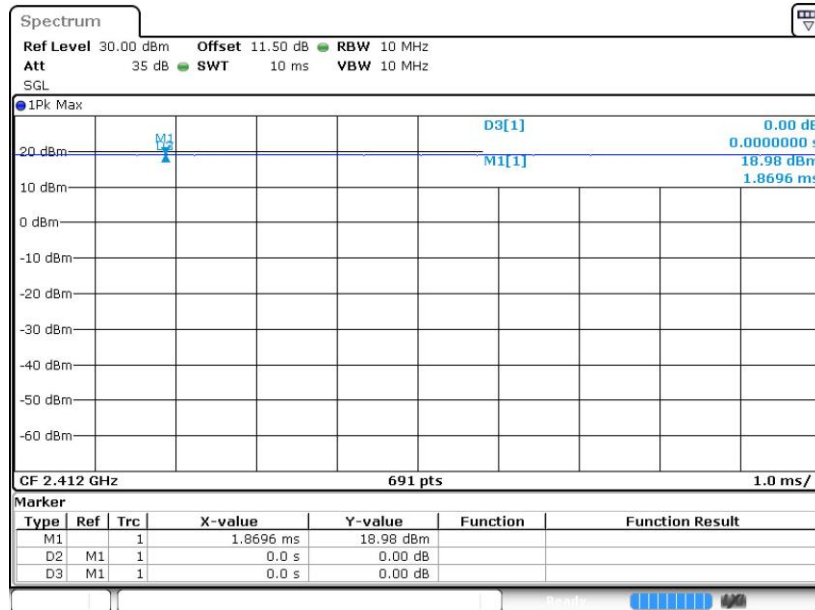
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

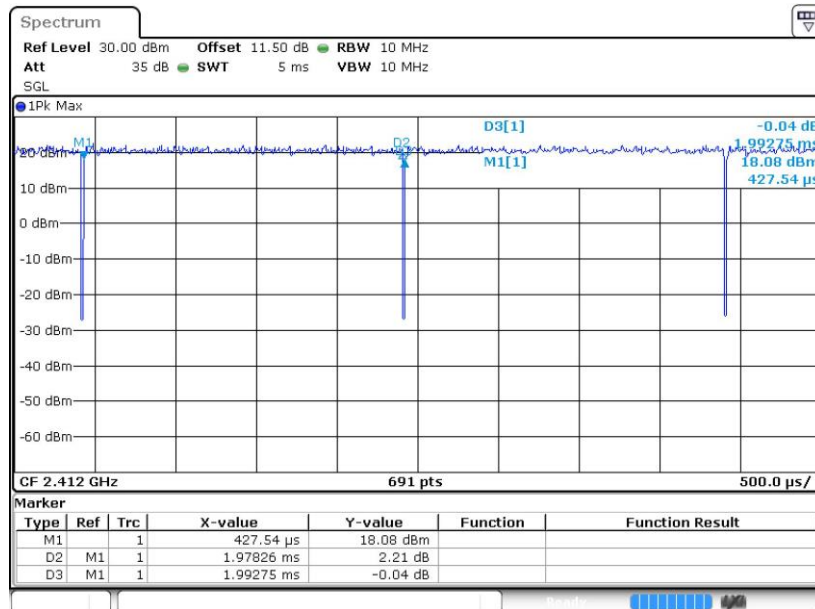
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	98.89	-	-	10Hz
802.11g	99.25	-	-	10Hz
802.11n 20	100	-	-	10Hz
802.11n 40	100	-	-	10Hz
802.11ax HE20	100	-	-	10Hz
802.11ax HE40	100	-	-	10Hz

802.11b



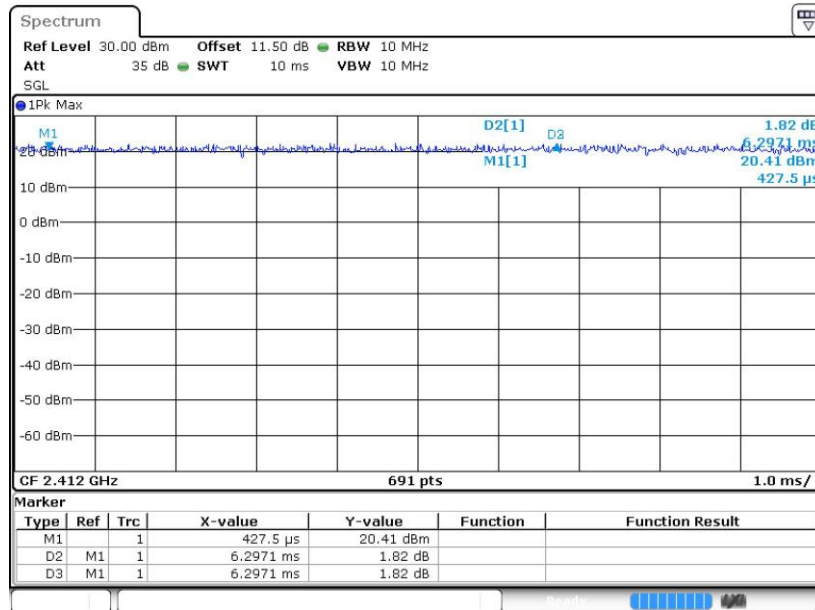
Date: 27.MAY.2022 09:51:07

802.11g



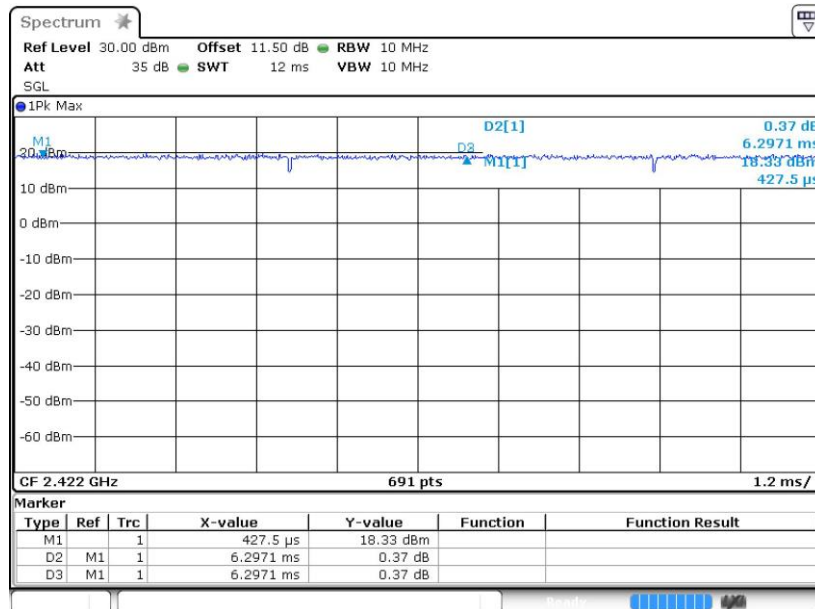
Date: 27.MAY.2022 09:54:00

802.11n20



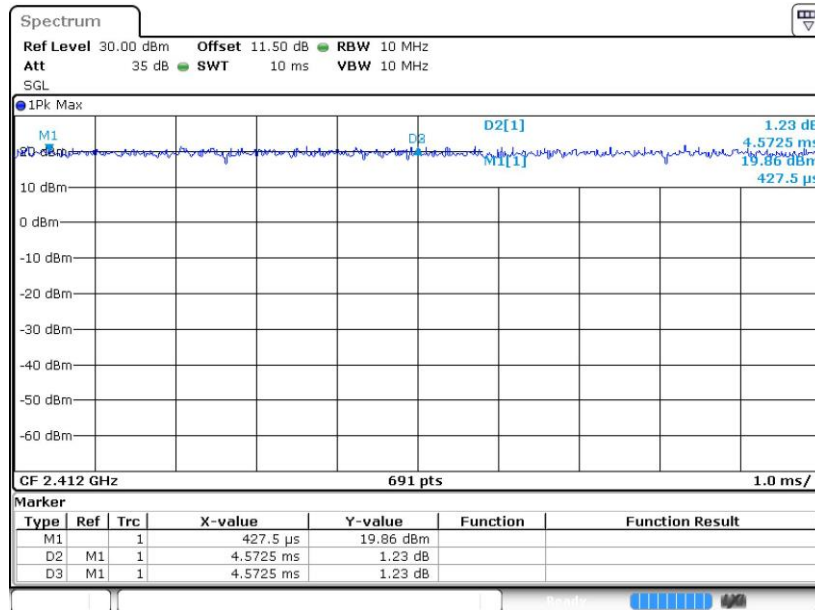
Date: 27.MAY.2022 09:59:52

802.11n40



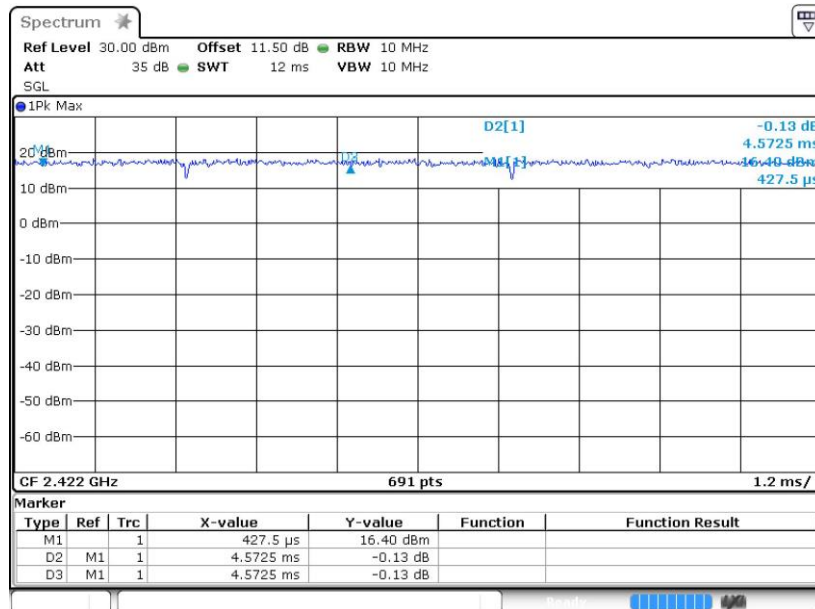
Date: 27.MAY.2022 10:02:15

802.11ax HE20



Date: 27.MAY.2022 10:15:30

802.11ax HE40



Date: 27.MAY.2022 10:17:26