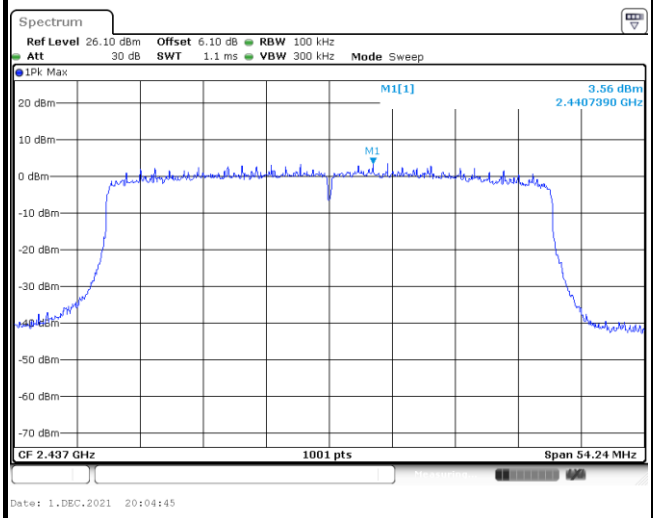
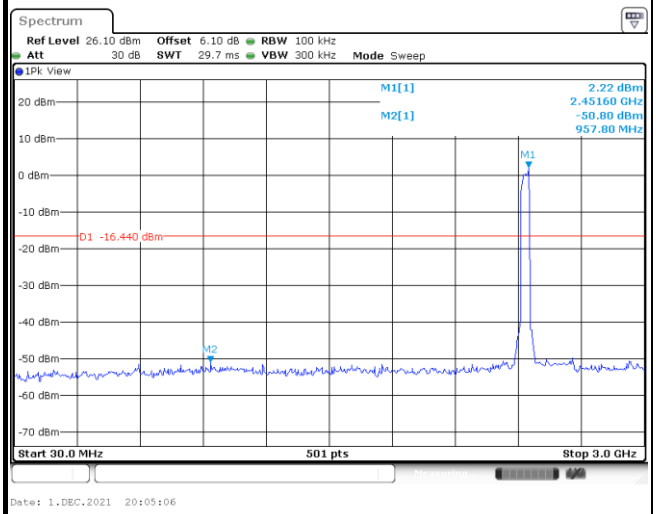
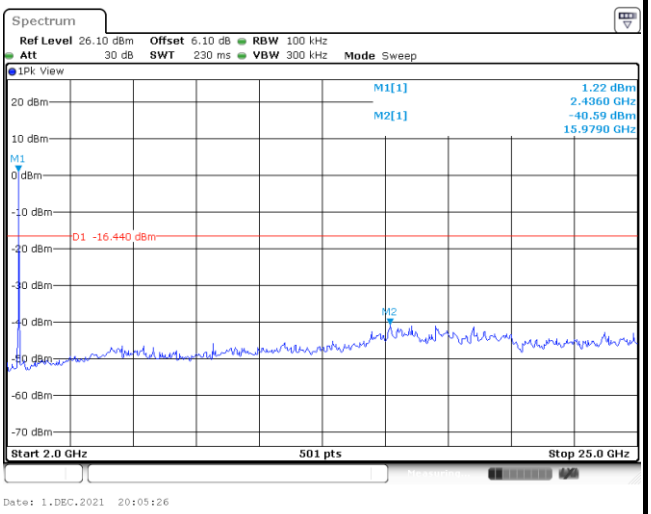
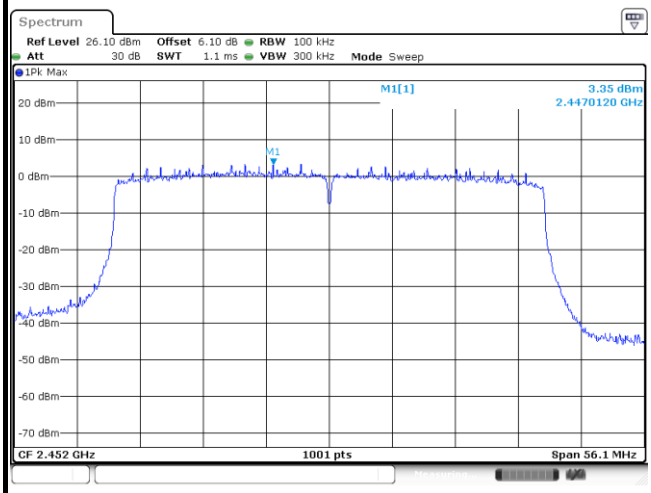
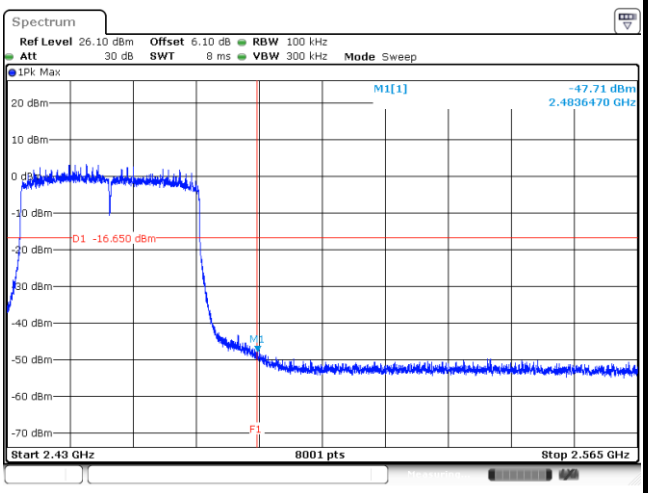
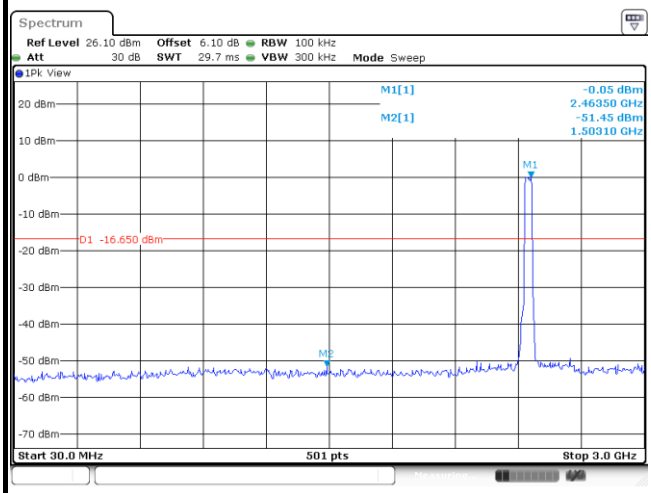
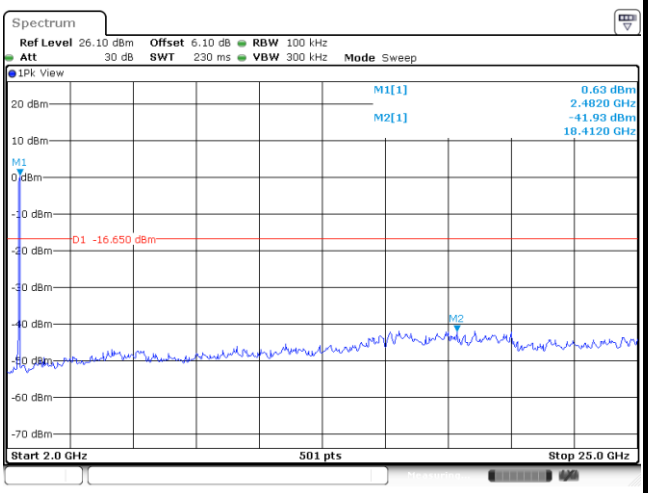
Test Mode :	802.11ax HE40	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	

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

Test Mode :	802.11ax HE40	Test Channel :	09

100kHz PSD reference Level	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

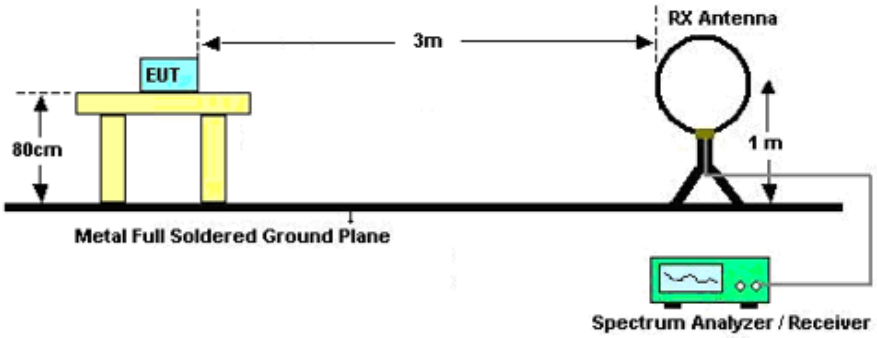
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

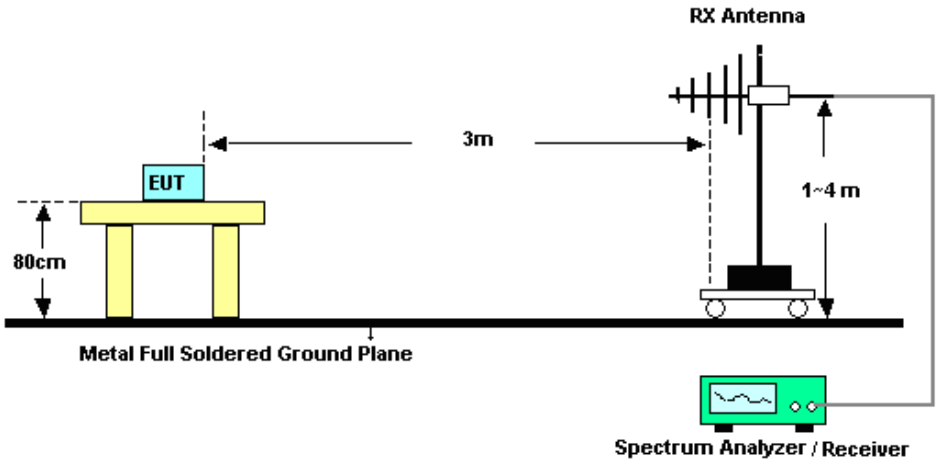
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz 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

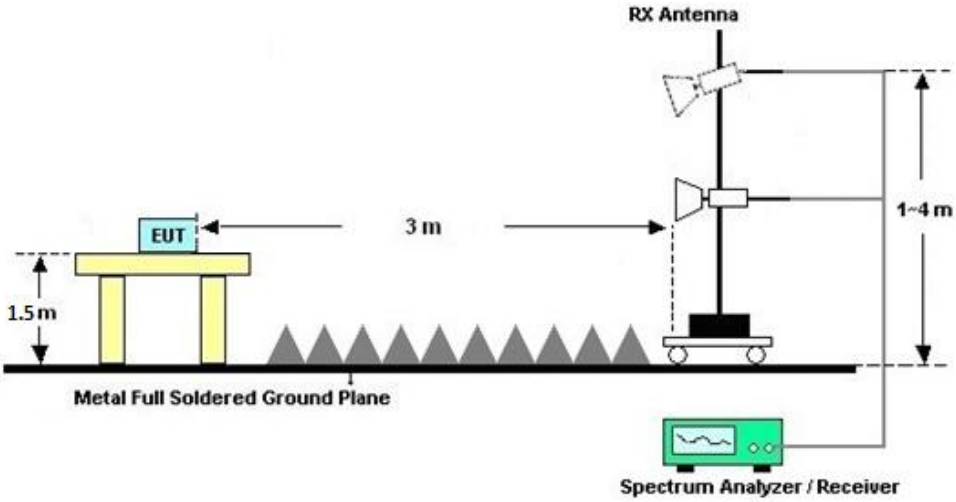
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated 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 (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.

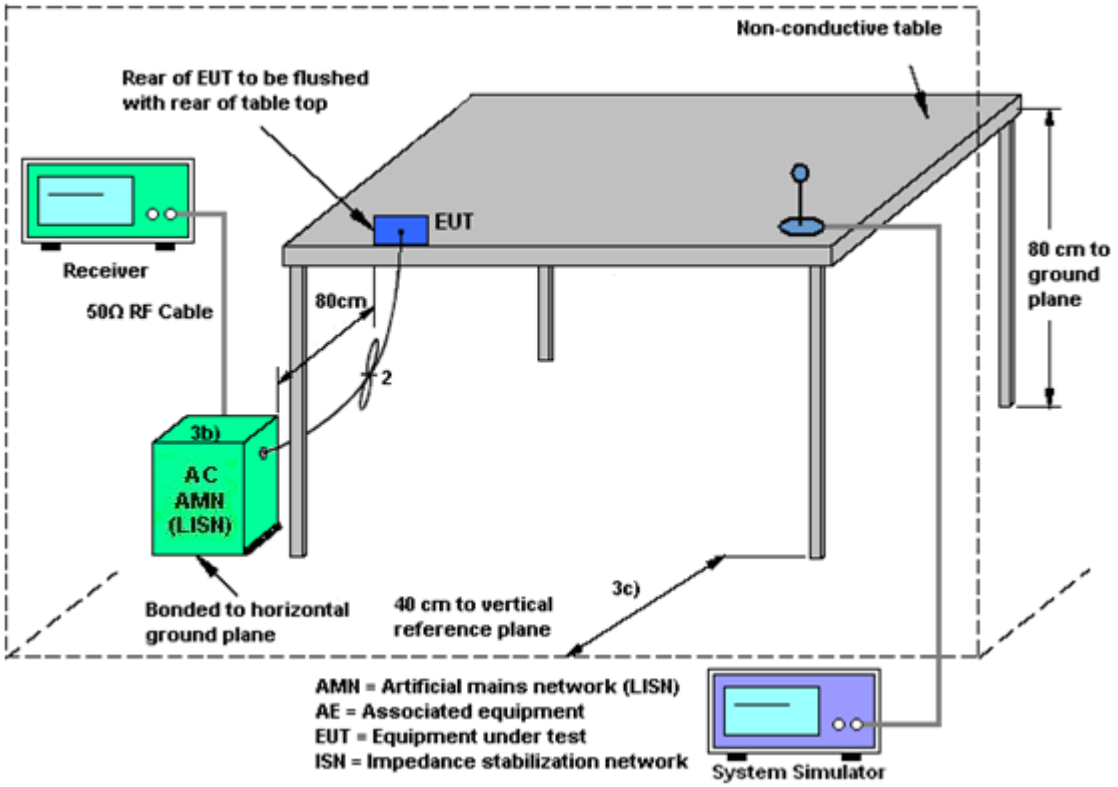
3.6.2 Measuring Instruments

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

<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>

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-4.40	-2.00	-2.00	-0.11	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	FSV40	101040	10Hz~40GHz	Oct. 14, 2021	Dec. 01, 2021	Oct. 13, 2022	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 07, 2021	Dec. 01, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 07, 2021	Dec. 01, 2021	Jan. 06, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 16, 2021	Dec. 08, 2021	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44GHz	Apr. 12, 2021	Dec. 08, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Dec. 08, 2021	Oct. 29, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	May 27, 2021	Dec. 08, 2021	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Dec. 08, 2021	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2021	Dec. 08, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 12, 2021	Dec. 08, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 06, 2021	Dec. 08, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Dec. 08, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 13, 2021	Dec. 08, 2021	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 08, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 08, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 08, 2021	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 21, 2021	Dec. 17, 2021	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Dec. 17, 2021	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 13, 2021	Dec. 17, 2021	Apr. 12, 2022	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Dec. 17, 2021	Oct. 13, 2022	Conduction (CO01-KS)

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 (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.94dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

---------- THE END ----------

Appendix A. Conducted Test Results

Report Number : FR1O1701C

Test Engineer:	Albert shi	Temperature:	0-40	°C
Test Date:	2021/12/1	Relative Humidity:	51~54	%

Report Number : FR1O1701C

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																		
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
					RU	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	2	1	2412	-	21.96	21.53	24.76	30.00		-2.00		22.76		36.00		Pass
11b	1Mbps	2	6	2437	-	21.83	21.76	24.81	30.00		-2.00		22.81		36.00		Pass
11b	1Mbps	2	11	2462	-	21.44	21.44	24.45	30.00		-2.00		22.45		36.00		Pass
11g	6Mbps	2	1	2412	-	25.32	25.20	28.27	30.00		-2.00		26.27		36.00		Pass
11g	6Mbps	2	6	2437	-	25.44	25.15	28.31	30.00		-2.00		26.31		36.00		Pass
11g	6Mbps	2	11	2462	-	25.32	25.13	28.24	30.00		-2.00		26.24		36.00		Pass
HT20	MCS0	2	1	2412	-	25.46	25.15	28.32	30.00		-2.00		26.32		36.00		Pass
HT20	MCS0	2	6	2437	-	25.35	25.17	28.27	30.00		-2.00		26.27		36.00		Pass
HT20	MCS0	2	11	2462	-	25.21	25.11	28.17	30.00		-2.00		26.17		36.00		Pass
HT40	MCS0	2	3	2422	-	24.56	24.52	27.55	30.00		-2.00		25.55		36.00		Pass
HT40	MCS0	2	6	2437	-	24.49	24.49	27.50	30.00		-2.00		25.50		36.00		Pass
HT40	MCS0	2	9	2452	-	24.65	24.64	27.66	30.00		-2.00		25.66		36.00		Pass
HE20	MCS0	2	1	2412	FULL	25.74	25.62	28.69	30.00		-2.00		26.69		36.00		Pass
HE20	MCS0	2	1	2412	26	19.65	19.52	22.60	30.00		-2.00		20.60		36.00		Pass
HE20	MCS0	2	1	2412	52	21.42	21.25	24.35	30.00		-2.00		22.35		36.00		Pass
HE20	MCS0	2	1	2412	106	23.66	23.54	26.61	30.00		-2.00		24.61		36.00		Pass
HE20	MCS0	2	6	2437	FULL	25.65	25.53	28.60	30.00		-2.00		26.60		36.00		Pass
HE20	MCS0	2	6	2437	26	20.97	20.65	23.82	30.00		-2.00		21.82		36.00		Pass
HE20	MCS0	2	6	2437	52	25.28	25.12	28.21	30.00		-2.00		26.21		36.00		Pass
HE20	MCS0	2	6	2437	106	25.22	25.11	28.18	30.00		-2.00		26.18		36.00		Pass
HE20	MCS0	2	11	2462	FULL	25.47	25.38	28.44	30.00		-2.00		26.44		36.00		Pass
HE20	MCS0	2	11	2462	26	20.48	20.32	23.41	30.00		-2.00		21.41		36.00		Pass
HE20	MCS0	2	11	2462	52	23.35	23.28	26.33	30.00		-2.00		24.33		36.00		Pass
HE20	MCS0	2	11	2462	106	24.55	24.41	27.49	30.00		-2.00		25.49		36.00		Pass
HE40	MCS0	2	3	2422	FULL	24.72	24.65	27.70	30.00		-2.00		25.70		36.00		Pass
HE40	MCS0	2	6	2437	FULL	24.65	24.57	27.62	30.00		-2.00		25.62		36.00		Pass
HE40	MCS0	2	9	2452	FULL	24.53	24.49	27.52	30.00		-2.00		25.52		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band										
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)			Average Conducted Power (dBm)		
					RU	Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	2	1	2412	-	0.00	0.00	19.33	18.87	22.12
11b	1Mbps	2	6	2437	-	0.00	0.00	19.33	18.75	22.06
11b	1Mbps	2	11	2462	-	0.00	0.00	19.15	19.16	22.17
11g	6Mbps	2	1	2412	-	0.00	0.00	18.16	17.96	21.07
11g	6Mbps	2	6	2437	-	0.00	0.00	18.26	18.02	21.15
11g	6Mbps	2	11	2462	-	0.00	0.00	18.01	18.26	21.15
HT20	MCS0	2	1	2412	-	0.00	0.00	18.09	17.66	20.89
HT20	MCS0	2	6	2437	-	0.00	0.00	18.06	17.75	20.92
HT20	MCS0	2	11	2462	-	0.00	0.00	17.86	18.16	21.02
HT40	MCS0	2	3	2422	-	0.00	0.00	16.98	16.86	19.93
HT40	MCS0	2	6	2437	-	0.00	0.00	16.89	17.15	20.03
HT40	MCS0	2	9	2452	-	0.00	0.00	16.95	17.05	20.01
HE20	MCS0	2	1	2412	FULL	0.00	0.00	18.12	17.85	21.00
HE20	MCS0	2	1	2412	26	0.00	0.00	9.72	9.14	12.45
HE20	MCS0	2	1	2412	52	0.00	0.00	12.08	11.50	14.81
HE20	MCS0	2	1	2412	106	0.00	0.00	14.11	13.95	17.04
HE20	MCS0	2	6	2437	FULL	0.00	0.00	18.13	17.86	21.01
HE20	MCS0	2	6	2437	26	0.00	0.00	10.11	9.62	12.88
HE20	MCS0	2	6	2437	52	0.00	0.00	12.12	11.68	14.92
HE20	MCS0	2	6	2437	106	0.00	0.00	14.45	14.08	17.28
HE20	MCS0	2	11	2462	FULL	0.00	0.00	17.93	18.22	21.09
HE20	MCS0	2	11	2462	26	0.00	0.00	10.06	9.99	13.04
HE20	MCS0	2	11	2462	52	0.00	0.00	12.92	12.40	15.68
HE20	MCS0	2	11	2462	106	0.00	0.00	14.28	13.98	17.14
HE40	MCS0	2	3	2422	FULL	0.00	0.00	17.06	16.95	20.02
HE40	MCS0	2	6	2437	FULL	0.00	0.00	16.98	17.21	20.11
HE40	MCS0	2	9	2452	FULL	0.00	0.00	17.09	17.13	20.12

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

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	2	1	2412	13.29	13.29	7.58	7.54	0.50	Pass
11b	1Mbps	2	6	2437	13.24	13.24	8.02	7.56	0.50	Pass
11b	1Mbps	2	11	2462	13.24	13.29	7.58	7.56	0.50	Pass
11g	6Mbps	2	1	2412	17.18	17.13	16.04	16.02	0.50	Pass
11g	6Mbps	2	6	2437	17.08	17.08	16.04	16.28	0.50	Pass
11g	6Mbps	2	11	2462	17.13	17.08	16.32	16.32	0.50	Pass
HT20	MCS0	2	1	2412	18.13	18.08	16.94	16.58	0.50	Pass
HT20	MCS0	2	6	2437	18.03	18.03	17.54	16.56	0.50	Pass
HT20	MCS0	2	11	2462	18.08	18.08	16.54	17.58	0.50	Pass
HT40	MCS0	2	3	2422	36.16	36.16	36.08	35.72	0.50	Pass
HT40	MCS0	2	6	2437	36.06	36.06	35.72	35.28	0.50	Pass
HT40	MCS0	2	9	2452	36.06	36.06	36.04	35.72	0.50	Pass
HE20	MCS0	2	1	2412	19.38	19.38	18.60	18.85	0.50	Pass
HE20	MCS0	2	6	2437	19.38	19.43	18.48	18.60	0.50	Pass
HE20	MCS0	2	11	2462	19.43	19.38	18.35	18.73	0.50	Pass
HE40	MCS0	2	3	2422	37.96	37.96	36.96	37.12	0.50	Pass
HE40	MCS0	2	6	2437	37.86	37.76	37.28	36.16	0.50	Pass
HE40	MCS0	2	9	2452	37.66	37.86	36.72	37.40	0.50	Pass

Report Number : FR1O1701C

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)				DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					RU	Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	2	1	2412	-	-4.42	-4.00	-0.99	-0.11		8.00		Pass
11b	1Mbps	2	6	2437	-	-4.37	-4.53	-1.36	-0.11		8.00		Pass
11b	1Mbps	2	11	2462	-	-4.74	-4.62	-1.61	-0.11		8.00		Pass
11g	6Mbps	2	1	2412	-	-8.29	-7.27	-4.26	-0.11		8.00		Pass
11g	6Mbps	2	6	2437	-	-7.73	-7.65	-4.64	-0.11		8.00		Pass
11g	6Mbps	2	11	2462	-	-7.96	-7.96	-4.95	-0.11		8.00		Pass
HT20	MCS0	2	1	2412		-7.46	-7.16	-4.15	-0.11		8.00		Pass
HT20	MCS0	2	6	2437		-7.50	-6.70	-3.69	-0.11		8.00		Pass
HT20	MCS0	2	11	2462		-7.38	-7.13	-4.12	-0.11		8.00		Pass
HT40	MCS0	2	3	2422		-10.47	-10.29	-7.28	-0.11		8.00		Pass
HT40	MCS0	2	6	2437		-9.92	-10.95	-6.91	-0.11		8.00		Pass
HT40	MCS0	2	9	2452		-10.92	-11.06	-7.91	-0.11		8.00		Pass
HE20	MCS0	2	1	2412	FULL	-7.38	-7.04	-4.03	-0.11		8.00		Pass
HE20	MCS0	2	1	2412	26	-7.78	-8.24	-4.77	-0.11		8.00		Pass
HE20	MCS0	2	1	2412	52	-8.07	-7.41	-4.40	-0.11		8.00		Pass
HE20	MCS0	2	1	2412	106	-7.86	-7.86	-4.85	-0.11		8.00		Pass
HE20	MCS0	2	6	2437	FULL	-7.48	-6.80	-3.79	-0.11		8.00		Pass
HE20	MCS0	2	6	2437	26	-8.32	-7.70	-4.69	-0.11		8.00		Pass
HE20	MCS0	2	6	2437	52	-7.67	-7.44	-4.43	-0.11		8.00		Pass
HE20	MCS0	2	6	2437	106	-7.40	-7.32	-4.31	-0.11		8.00		Pass
HE20	MCS0	2	11	2462	FULL	-8.26	-7.04	-4.03	-0.11		8.00		Pass
HE20	MCS0	2	11	2462	26	-7.61	-7.85	-4.60	-0.11		8.00		Pass
HE20	MCS0	2	11	2462	52	-7.45	-7.67	-4.44	-0.11		8.00		Pass
HE20	MCS0	2	11	2462	106	-7.54	-7.83	-4.53	-0.11		8.00		Pass
HE40	MCS0	2	3	2422	FULL	-11.34	-11.54	-8.33	-0.11		8.00		Pass
HE40	MCS0	2	6	2437	FULL	-11.23	-11.39	-8.22	-0.11		8.00		Pass
HE40	MCS0	2	9	2452	FULL	-11.27	-11.55	-8.26	-0.11		8.00		Pass

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

Report Number : FR1O1701C

TEST RESULTS DATA
Peak Output Power for
sample 2

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
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	2	1	2412	21.64	21.32	24.49	30		-		-		-		Pass
11g	6Mbps	2	6	2437	24.97	25.02	28.01	30		-		-		-		Pass
HT20	MCS0	2	1	2412	25.12	24.87	28.01	30		-		-		-		Pass
HT40	MCS0	2	3	2422	24.24	24.28	27.27	30		-		-		-		Pass

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

Report Number : FR1O1701C

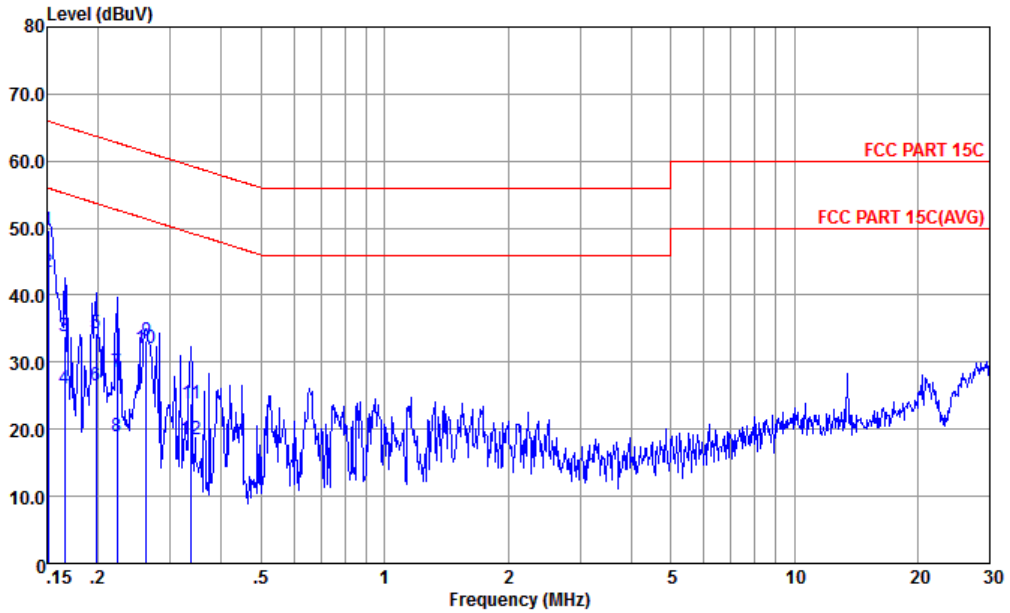
TEST RESULTS DATA
Peak Output Power for sample 2

2.4GHz Band MIMO																	
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	RU Config.	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
HE20	MCS0	2	6	2437	Full	25.25	25.32	28.30	30		-		-		-		Pass
HE40	MCS0	2	9	2452	Full	24.25	24.24	27.26	30		-		-		-		Pass

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

Appendix B. AC Conducted Emission Test Results

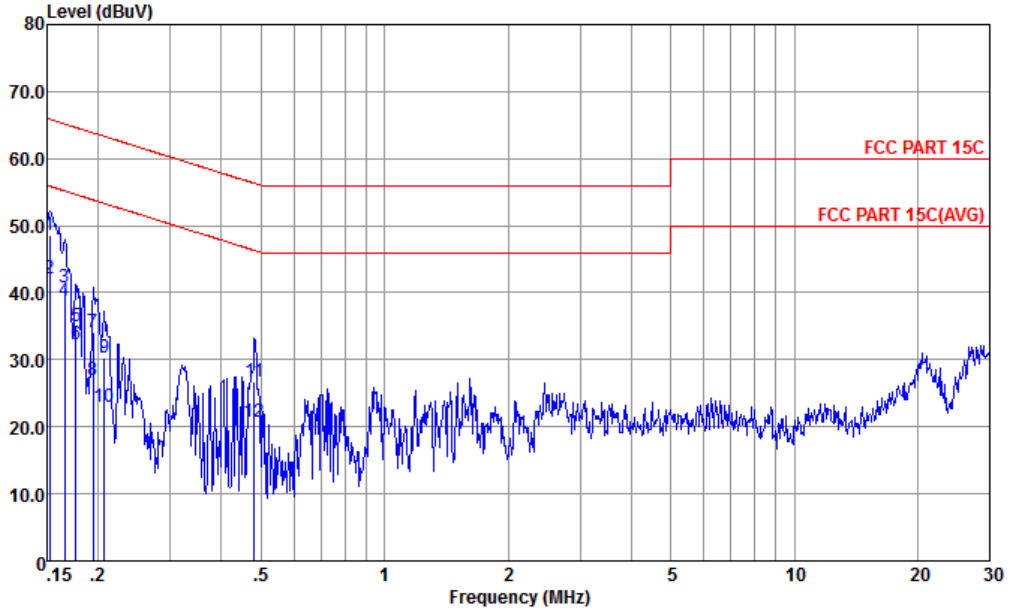
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC PART 15C LISN-060105-L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.151	49.60	-16.36	65.96	39.10	0.02	10.48	QP
2	*	0.151	43.50	-12.46	55.96	33.00	0.02	10.48	Average
3		0.166	33.97	-31.19	65.16	23.50	0.03	10.44	QP
4		0.166	25.97	-29.19	55.16	15.50	0.03	10.44	Average
5		0.198	34.21	-29.50	63.71	23.80	0.04	10.37	QP
6		0.198	26.61	-27.10	53.71	16.20	0.04	10.37	Average
7		0.222	28.60	-34.14	62.74	18.20	0.05	10.35	QP
8		0.222	19.00	-33.74	52.74	8.60	0.05	10.35	Average
9		0.262	33.29	-28.09	61.38	22.90	0.06	10.33	QP
10		0.262	32.19	-19.19	51.38	21.80	0.06	10.33	Average
11		0.337	23.87	-35.40	59.27	13.50	0.08	10.29	QP
12		0.337	18.57	-30.70	49.27	8.20	0.08	10.29	Average

Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		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-KS
Condition : FCC PART 15C LISN-060105-N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	48.68	-17.19	65.87	38.10	0.11	10.47	QP
2	*	0.152	42.18	-13.69	55.87	31.60	0.11	10.47	Average
3		0.166	40.75	-24.41	65.16	30.20	0.11	10.44	QP
4		0.166	38.75	-16.41	55.16	28.20	0.11	10.44	Average
5		0.177	35.02	-29.62	64.64	24.51	0.10	10.41	QP
6		0.177	32.32	-22.32	54.64	21.81	0.10	10.41	Average
7		0.194	34.08	-29.76	63.84	23.61	0.10	10.37	QP
8		0.194	26.98	-26.86	53.84	16.51	0.10	10.37	Average
9		0.207	30.26	-33.06	63.32	19.80	0.10	10.36	QP
10		0.207	22.96	-30.36	53.32	12.50	0.10	10.36	Average
11		0.481	26.85	-29.47	56.32	16.50	0.11	10.24	QP
12		0.481	20.65	-25.67	46.32	10.30	0.11	10.24	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. 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	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp 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		2341.85	54.9	-19.1	74	49.98	30.77	7.07	32.92	105	85	P	H
		2387.61	43.83	-10.17	54	38.61	30.94	7.16	32.88	105	85	A	H
	*	2412	109.89	-	-	104.55	31	7.18	32.84	105	85	P	H
	*	2414	106.66	-	-	101.32	31	7.18	32.84	105	85	A	H
		2349.39	54.28	-19.72	74	49.3	30.83	7.07	32.92	392	12	P	V
		2386.7	43.08	-10.92	54	37.86	30.94	7.16	32.88	392	12	A	V
	*	2412	103.45	-	-	98.11	31	7.18	32.84	392	12	P	V
	*	2412	100.67	-	-	95.33	31	7.18	32.84	392	12	A	V
802.11b CH 06 2437MHz		2381.37	54.86	-19.14	74	49.73	30.88	7.13	32.88	100	294	P	H
	*	2387.22	43	-11	54	37.78	30.94	7.16	32.88	100	294	A	H
		2488.9	54.7	-19.3	74	48.87	31.17	7.3	32.64	100	294	A	H
		2485.72	43.53	-10.47	54	37.73	31.17	7.27	32.64	100	294	P	H
		2436	106.49	-	-	100.99	31.07	7.2	32.77	100	294	A	H
	*	2436	103.31	-	-	97.81	31.07	7.2	32.77	100	294	P	H
		2388.91	54.52	-19.48	74	49.3	30.94	7.16	32.88	364	54	P	V
		2389.95	42.97	-11.03	54	37.71	30.94	7.16	32.84	364	54	A	V
		2484.28	54.71	-19.29	74	48.95	31.13	7.27	32.64	364	54	P	V
		2485.48	43.51	-10.49	54	37.71	31.17	7.27	32.64	364	54	A	V
	*	2436	102.48	-	-	96.98	31.07	7.2	32.77	364	54	P	V
	*	2436	100.57	-	-	95.07	31.07	7.2	32.77	364	54	A	V

802.11b CH 11 2462MHz		2496.64	54.87	-19.13	74	48.97	31.17	7.3	32.57	112	90	P	H
		2486.86	43.72	-10.28	54	37.92	31.17	7.27	32.64	112	90	A	H
	*	2462	108.57	-	-	102.93	31.1	7.25	32.71	112	90	P	H
	*	2462	105.89	-	-	100.25	31.1	7.25	32.71	112	90	A	H
		2495.86	55.69	-18.31	74	49.79	31.17	7.3	32.57	400	57	P	V
		2486.98	43.55	-10.45	54	37.75	31.17	7.27	32.64	400	57	A	V
	*	2462	104.94	-	-	99.3	31.1	7.25	32.71	400	57	P	V
	*	2462	100.76	-	-	95.12	31.1	7.25	32.71	400	57	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)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	40.55	-33.45	74	55.76	34.57	10.26	60.04	300	0	P	H
		4824	41.51	-32.49	74	56.72	34.57	10.26	60.04	300	360	P	V
802.11b CH 06 2437MHz		4872	41.26	-32.74	74	56.31	34.66	10.32	60.03	300	0	P	H
		7308	42.55	-31.45	74	53.75	36.56	12.75	60.51	300	0	P	H
		4872	40.99	-33.01	74	56.04	34.66	10.32	60.03	300	360	P	V
		7308	43.18	-30.82	74	54.38	36.56	12.75	60.51	300	360	P	V
802.11b CH 11 2462MHz		4926	40.67	-33.33	74	55.55	34.75	10.39	60.02	300	0	P	H
		7386	44.57	-29.43	74	55.69	36.58	12.83	60.53	300	0	P	H
		4926	39.92	-34.08	74	54.8	34.75	10.39	60.02	300	360	P	V
		7386	43.49	-30.51	74	54.61	36.58	12.83	60.53	300	360	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 802.11g (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2388.52	60.62	-13.38	74	55.4	30.94	7.16	32.88	100	96	P	H
		2388.78	46.58	-7.42	54	41.36	30.94	7.16	32.88	100	96	A	H
	*	2414	109.66	-	-	104.32	31	7.18	32.84	100	96	P	H
	*	2408	101.43	-	-	96.09	31	7.18	32.84	100	96	A	H
		2389.82	56.77	-17.23	74	51.51	30.94	7.16	32.84	286	76	P	V
		2389.82	44.41	-9.59	54	39.15	30.94	7.16	32.84	286	76	A	V
	*	2410	106.19	-	-	100.85	31	7.18	32.84	286	76	P	V
	*	2414	98.02	-	-	92.68	31	7.18	32.84	286	76	A	V
802.11g CH 06 2437MHz		2353.94	54.43	-19.57	74	49.42	30.83	7.1	32.92	107	141	P	H
		2389.17	43.42	-10.58	54	38.2	30.94	7.16	32.88	107	141	A	H
		2489.74	55.22	-18.78	74	49.39	31.17	7.3	32.64	107	141	P	H
		2484.1	43.89	-10.11	54	38.13	31.13	7.27	32.64	107	141	A	H
	*	2440	111.32	-	-	105.79	31.07	7.23	32.77	107	141	P	H
	*	2438	103.39	-	-	97.86	31.07	7.23	32.77	107	141	A	H
		2378.64	54.6	-19.4	74	49.47	30.88	7.13	32.88	365	87	P	V
		2389.69	43.09	-10.91	54	37.87	30.94	7.16	32.88	365	87	A	V
		2490.76	55.22	-18.78	74	49.39	31.17	7.3	32.64	365	87	P	V
		2485.18	43.63	-10.37	54	37.83	31.17	7.27	32.64	365	87	A	V
	*	2440	107.32	-	-	101.79	31.07	7.23	32.77	365	87	P	V
	*	2440	99.63	-	-	94.1	31.07	7.23	32.77	365	87	A	V

802.11g CH 11 2462MHz		2483.56	60.57	-13.43	74	54.81	31.13	7.27	32.64	103	126	P	H
		2483.74	47.52	-6.48	54	41.76	31.13	7.27	32.64	103	126	A	H
	*	2460	111.27	-	-	105.63	31.1	7.25	32.71	103	126	P	H
	*	2460	103.41	-	-	97.77	31.1	7.25	32.71	103	126	A	H
		2484.88	59.36	-14.64	74	53.6	31.13	7.27	32.64	400	87	P	V
		2484.64	46.38	-7.62	54	40.62	31.13	7.27	32.64	400	87	A	V
	*	2466	107.63	-	-	101.99	31.1	7.25	32.71	400	87	P	V
	*	2466	100	-	-	94.36	31.1	7.25	32.71	400	87	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)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	40.52	-33.48	74	55.73	34.57	10.26	60.04	300	0	P	H
		4824	40.92	-33.08	74	56.13	34.57	10.26	60.04	300	360	P	V
802.11g CH 06 2437MHz		4872	42	-32	74	57.05	34.66	10.32	60.03	300	0	P	H
		7308	42.94	-31.06	74	54.14	36.56	12.75	60.51	300	0	P	H
		4872	41.48	-32.52	74	56.53	34.66	10.32	60.03	300	360	P	V
		7308	43.58	-30.42	74	54.78	36.56	12.75	60.51	300	360	P	V
802.11g CH 11 2462MHz		4926	39.81	-34.19	74	54.69	34.75	10.39	60.02	300	0	P	H
		7386	42.56	-31.44	74	53.68	36.58	12.83	60.53	300	0	P	H
		4926	40.35	-33.65	74	55.23	34.75	10.39	60.02	300	360	P	V
		7386	43.27	-30.73	74	54.39	36.58	12.83	60.53	300	360	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)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		2389.04	59.61	-14.39	74	54.39	30.94	7.16	32.88	100	100	P	H
		2389.95	47.38	-6.62	54	42.12	30.94	7.16	32.84	100	100	A	H
		2410	109.08	-	-	103.74	31	7.18	32.84	100	100	P	H
		2410	98.5	-	-	93.16	31	7.18	32.84	100	100	A	H
		2389.82	59.62	-14.38	74	54.36	30.94	7.16	32.84	383	95	P	V
		2389.95	46.64	-7.36	54	41.38	30.94	7.16	32.84	383	95	A	V
		2414	106.4	-	-	101.06	31	7.18	32.84	383	95	P	V
		2416	96.37	-	-	90.96	31	7.18	32.77	383	95	A	V
802.11ax HE20 Full CH 06 2437MHz		2386.83	54.11	-19.89	74	48.89	30.94	7.16	32.88	149	139	P	H
		2389.43	43.11	-10.89	54	37.89	30.94	7.16	32.88	149	139	A	H
		2493.34	54.62	-19.38	74	48.72	31.17	7.3	32.57	149	139	P	H
		2483.86	43.63	-10.37	54	37.87	31.13	7.27	32.64	149	139	A	H
		2436	110.51	-	-	105.01	31.07	7.2	32.77	149	139	P	H
		2440	99.85	-	-	94.32	31.07	7.23	32.77	149	139	A	H
		2386.18	54	-20	74	48.78	30.94	7.16	32.88	300	54	P	V
		2389.69	43.02	-10.98	54	37.8	30.94	7.16	32.88	300	54	A	V
		2499.64	54.8	-19.2	74	48.9	31.17	7.3	32.57	300	54	P	V
		2487.4	43.52	-10.48	54	37.72	31.17	7.27	32.64	300	54	A	V
		2436	102.73	-	-	97.23	31.07	7.2	32.77	300	54	P	V
		2442	93.44	-	-	87.85	31.07	7.23	32.71	300	54	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 1+2	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)
8802.11ax HE20 Full CH 11 2462MHz		2483.5	60.97	-13.03	74	55.21	31.13	7.27	32.64	100	128	P	H
		2483.5	47.72	-6.28	54	41.96	31.13	7.27	32.64	100	128	A	H
		2460	110.59	-	-	104.95	31.1	7.25	32.71	100	128	P	H
		2460	100.42	-	-	94.78	31.1	7.25	32.71	100	128	A	H
		2484.46	57.54	-16.46	74	51.78	31.13	7.27	32.64	355	110	P	V
		2483.5	44.86	-9.14	54	39.1	31.13	7.27	32.64	355	110	A	V
		2458	106.12	-	-	100.48	31.1	7.25	32.71	355	110	P	V
		2458	96.07	-	-	90.43	31.1	7.25	32.71	355	110	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)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		4824	40.99	-33.01	74	56.2	34.57	10.26	60.04	300	0	P	H
		4824	40.41	-33.59	74	55.62	34.57	10.26	60.04	300	360	P	V
802.11ax HE20 Full CH 06 2437MHz		4872	40.5	-33.5	74	55.55	34.66	10.32	60.03	300	0	P	H
		7308	42.44	-31.56	74	53.64	36.56	12.75	60.51	300	0	P	H
		4872	41.13	-32.87	74	56.18	34.66	10.32	60.03	300	360	P	V
		7308	42.76	-31.24	74	53.96	36.56	12.75	60.51	300	360	P	V
802.11ax HE20 Full CH 11 2462MHz		4926	41.22	-32.78	74	56.1	34.75	10.39	60.02	300	0	P	H
		7386	43.19	-30.81	74	54.31	36.58	12.83	60.53	300	0	P	H
		4926	41.23	-32.77	74	56.11	34.75	10.39	60.02	300	360	P	V
		7386	42.62	-31.38	74	53.74	36.58	12.83	60.53	300	360	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 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI Ant. 1+2	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		2373.18	53.72	-20.28	74	48.59	30.88	7.13	32.88	100	0	P	H
		2389.56	42.88	-11.12	54	37.66	30.94	7.16	32.88	100	0	A	H
		2404	103.77	-	-	98.43	31	7.18	32.84	100	0	P	H
		2404	95.51	-	-	90.17	31	7.18	32.84	100	0	A	H
		2383.58	54.37	-19.63	74	49.18	30.94	7.13	32.88	158	322	P	V
		2389.43	42.91	-11.09	54	37.69	30.94	7.16	32.88	158	322	A	V
		2404	102.98	-	-	97.64	31	7.18	32.84	158	322	P	V
		2404	94.29	-	-	88.95	31	7.18	32.84	158	322	A	V
802.11ax HE20 Partial 26/8 CH 11 2462MHz		2487.1	56	-18	74	50.2	31.17	7.27	32.64	269	340	P	H
		2484.82	43.49	-10.51	54	37.73	31.13	7.27	32.64	269	340	A	H
		2470	103.65	-	-	97.91	31.13	7.25	32.64	269	340	P	H
		2470	94.47	-	-	88.73	31.13	7.25	32.64	269	340	A	H
		2487.7	54.96	-19.04	74	49.13	31.17	7.3	32.64	109	157	P	V
		2484.82	43.43	-10.57	54	37.67	31.13	7.27	32.64	109	157	A	V
		2470	104.99	-	-	99.25	31.13	7.25	32.64	109	157	P	V
		2470	95.61	-	-	89.87	31.13	7.25	32.64	109	157	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 (Harmonic @ 3m)

WIFI Ant. 1+2	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	41.45	-32.55	74	56.66	34.57	10.26	60.04	300	0	P	H
		4824	41.9	-32.1	74	57.11	34.57	10.26	60.04	300	360	P	V
802.11ax HE20 Partial 26/8 CH 11 2462MHz		4926	40.83	-33.17	74	55.71	34.75	10.39	60.02	300	0	P	H
		7386	43.65	-30.35	74	54.77	36.58	12.83	60.53	300	0	P	H
		4926	42.13	-31.87	74	57.01	34.75	10.39	60.02	300	360	P	V
		7386	43.15	-30.85	74	54.27	36.58	12.83	60.53	300	360	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)	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 HE40 Full CH 03 2422MHz		2389.3	59.42	-14.58	74	54.2	30.94	7.16	32.88	119	78	P	H
		2389.95	47.16	-6.84	54	41.9	30.94	7.16	32.84	119	78	A	H
		2486.92	54.61	-19.39	74	48.81	31.17	7.27	32.64	119	78	P	H
		2483.5	43.48	-10.52	54	37.72	31.13	7.27	32.64	119	78	A	H
		2418	105.36	-	-	99.92	31.03	7.18	32.77	119	78	P	H
		2414	94.7	-	-	89.36	31	7.18	32.84	119	78	A	H
		2389.95	54.8	-19.2	74	49.54	30.94	7.16	32.84	365	93	P	V
		2389.95	44.09	-9.91	54	38.83	30.94	7.16	32.84	365	93	A	V
		2499.22	54.86	-19.14	74	48.96	31.17	7.3	32.57	365	93	P	V
		2484.52	43.28	-10.72	54	37.52	31.13	7.27	32.64	365	93	A	V
		2430	102.51	-	-	97.05	31.03	7.2	32.77	365	93	P	V
		2428	92	-	-	86.54	31.03	7.2	32.77	365	93	A	V
802.11ax HE40 Full CH 06 2437MHz		2388.78	54.89	-19.11	74	49.67	30.94	7.16	32.88	183	139	P	H
		2389.95	44.03	-9.97	54	38.77	30.94	7.16	32.84	183	139	A	H
		2484.7	55.2	-18.8	74	49.44	31.13	7.27	32.64	183	139	P	H
		2483.5	44.36	-9.64	54	38.6	31.13	7.27	32.64	183	139	A	H
		2440	105.6	-	-	100.07	31.07	7.23	32.77	183	139	P	H
		2444	95.19	-	-	89.6	31.07	7.23	32.71	183	139	A	H
		2383.84	53.58	-20.42	74	48.39	30.94	7.13	32.88	366	80	P	V
		2389.95	42.84	-11.16	54	37.58	30.94	7.16	32.84	366	80	A	V
		2491.72	54.23	-19.77	74	48.4	31.17	7.3	32.64	366	80	P	V
		2483.5	43.81	-10.19	54	38.05	31.13	7.27	32.64	366	80	A	V
		2448	103.96	-	-	98.37	31.07	7.23	32.71	366	80	P	V
		2444	93.72	-	-	88.13	31.07	7.23	32.71	366	80	A	V

WIFI Ant. 1+2	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 HE40 Full CH 09 2452MHz		2360.57	54.47	-19.53	74	49.46	30.83	7.1	32.92	102	137	P	H
		2389.82	43.06	-10.94	54	37.8	30.94	7.16	32.84	102	137	A	H
		2484.28	57.87	-16.13	74	52.11	31.13	7.27	32.64	102	137	P	H
		2483.5	46.15	-7.85	54	40.39	31.13	7.27	32.64	102	137	A	H
		2454	106.08	-	-	100.44	31.1	7.25	32.71	102	137	P	H
		2454	96.29	-	-	90.65	31.1	7.25	32.71	102	137	A	H
		2322.61	53.96	-20.04	74	49.17	30.71	7.04	32.96	356	110	P	V
		2389.69	42.7	-11.3	54	37.48	30.94	7.16	32.88	356	110	A	V
		2483.98	55.37	-18.63	74	49.61	31.13	7.27	32.64	356	110	P	V
		2483.5	44.15	-9.85	54	38.39	31.13	7.27	32.64	356	110	A	V
		2450	103.31	-	-	97.72	31.07	7.23	32.71	356	110	P	V
		2450	93.34	-	-	87.75	31.07	7.23	32.71	356	110	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)	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		4842	42.09	-31.91	74	57.24	34.6	10.28	60.03	300	0	P	H
HE40 Full		7266	43.08	-30.92	74	54.32	36.55	12.72	60.51	300	0	P	H
CH 03		4842	40.02	-33.98	74	55.17	34.6	10.28	60.03	300	360	P	V
2422MHz		7266	42.91	-31.09	74	54.15	36.55	12.72	60.51	300	360	P	V
802.11ax		4872	40.52	-33.48	74	55.57	34.66	10.32	60.03	300	0	P	H
HE40 Full		7311	43.36	-30.64	74	54.56	36.56	12.75	60.51	300	0	P	H
CH 06		4872	41.16	-32.84	74	56.21	34.66	10.32	60.03	300	360	P	V
2437MHz		7311	43.93	-30.07	74	55.13	36.56	12.75	60.51	300	360	P	V
802.11ax		4926	40.27	-33.73	74	55.15	34.75	10.39	60.02	300	0	P	H
HE40 Full		7386	42.58	-31.42	74	53.7	36.58	12.83	60.53	300	0	P	H
CH 09		4902	39.58	-34.42	74	54.54	34.69	10.37	60.02	300	360	P	V
2452MHz		7356	42.69	-31.31	74	53.84	36.57	12.8	60.52	300	360	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 With WPC (Band Edge @ 3m)

WIFI Ant. 1+2	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)
8802.11ax HE20 Full CH 11 2462MHz		2484.94	57.98	-16.02	74	52.22	31.13	7.27	32.64	223	156	P	H
		2483.5	45.14	-8.86	54	39.38	31.13	7.27	32.64	223	156	A	H
		2464	108.94	-	-	103.3	31.1	7.25	32.71	223	156	P	H
		2462	99.91	-	-	94.27	31.1	7.25	32.71	223	156	A	H
		2489.56	54.83	-19.17	74	49	31.17	7.3	32.64	299	207	P	V
		2483.5	44.31	-9.69	54	38.55	31.13	7.27	32.64	299	207	A	V
		2460	107.54	-	-	101.9	31.1	7.25	32.71	299	207	P	V
		2460	99.4	-	-	93.76	31.1	7.25	32.71	299	207	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 With WPC(Harmonic @ 3m)

WIFI Ant. 1+2	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		4926	42.17	-31.83	74	57.05	34.75	10.39	60.02	300	0	P	H
HE20 Full		7386	43.33	-30.67	74	54.45	36.58	12.83	60.53	300	0	P	H
CH 11		4926	41.03	-32.97	74	55.91	34.75	10.39	60.02	300	360	P	V
2462MHz		7386	43.55	-30.45	74	54.67	36.58	12.83	60.53	300	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Co-location

2.4GHz 2400~2483.5MHz

BT TX+WLAN 2.4G TX (Harmonic @ 3m)

WIFI Ant.	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)
BT TX+WLAN 2.4G TX		4417	41.72	-32.28	74	58.02	34	9.8	60.1	100	0	P	H
		5709	43.72	-30.28	74	57.03	35.6	11.23	60.14	100	0	P	H
		7239	44.99	-29.01	74	56.25	36.55	12.69	60.5	100	0	P	H
		8361	44.88	-29.12	74	54.89	37.12	13.75	60.88	100	0	P	H
		9585	45.55	-28.45	74	53.92	37.78	14.83	60.98	100	0	P	H
		10724	46.77	-27.23	74	53.3	38.44	15.63	60.6	100	0	P	H
		4757	42.86	-31.14	74	58.29	34.45	10.17	60.05	100	44	P	V
		6253	43.9	-30.1	74	56.63	35.65	11.74	60.12	100	44	P	V
		8157	45.61	-28.39	74	55.78	36.99	13.58	60.74	100	44	P	V
		10010	46.31	-27.69	74	53.75	38.2	15.12	60.76	100	44	P	V
		12101	47.01	-26.99	74	51.34	38.89	16.86	60.08	100	44	P	V
		13716	48.03	-25.97	74	50.36	39.92	17.83	60.08	100	44	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11 ax HE20 Full (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp 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)
5GHz 802.11ax HE20 Full LF		30.97	23.67	-16.33	40	29.74	24.59	0.59	31.25	-	-	P	H
		79.47	16.73	-23.27	40	33.82	13.43	1.32	31.84	-	-	P	H
		134.76	27.17	-16.33	43.5	39.94	16.85	1.87	31.49	-	-	P	H
		176.47	30.25	-13.25	43.5	43.45	15.99	2.14	31.33	-	-	P	H
		209.45	27.89	-15.61	43.5	40.83	16.05	2.35	31.34	-	-	P	H
		341.37	26.83	-19.17	46	35.29	20.2	2.99	31.65	-	-	P	H
		30.97	31.02	-8.98	40	36.7	24.98	0.59	31.25	-	-	P	V
		40.67	30.58	-9.42	40	42.12	19.38	0.73	31.65	-	-	P	V
		116.33	25.92	-17.58	43.5	37.95	17.9	1.75	31.68	-	-	P	V
		165.8	31.79	-11.71	43.5	43.93	17.12	2.07	31.33	-	-	P	V
		315.18	25.22	-20.78	46	33.41	20.57	2.88	31.64	-	-	P	V
		831.22	35.85	-10.15	46	35.35	27.09	4.7	31.29	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

5GHz WIFI 802.11 ax HE20 Full With WPC (LF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ax HE20 Full LF		30	24.75	-15.25	40	30.25	25.15	0.58	31.23	-	-	P	H
		92.08	19.22	-24.28	43.5	33.75	15.86	1.51	31.9	-	-	P	H
		162.89	25.67	-17.83	43.5	38.64	16.31	2.05	31.33	-	-	P	H
		280.26	33.37	-12.63	46	43.24	18.95	2.71	31.53	-	-	P	H
		337.49	29.16	-16.84	46	37.73	20.1	2.98	31.65	-	-	P	H
		828.31	29.22	-16.78	46	29.38	26.43	4.69	31.28	-	-	P	H
		31.94	32.49	-7.51	40	38.69	24.46	0.61	31.27	-	-	P	V
		40.67	31.03	-8.97	40	42.57	19.38	0.73	31.65	-	-	P	V
		92.08	24.41	-19.09	43.5	38.38	16.42	1.51	31.9	-	-	P	V
		162.89	37.38	-6.12	43.5	49.47	17.19	2.05	31.33	-	-	P	V
		286.08	33.78	-12.22	46	42.62	19.98	2.74	31.56	-	-	P	V
		550.89	31.79	-14.21	46	33.73	25.89	3.81	31.64	-	-	P	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	Cable	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. Level(dBμV/m) =

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

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable 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) + Cable 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)

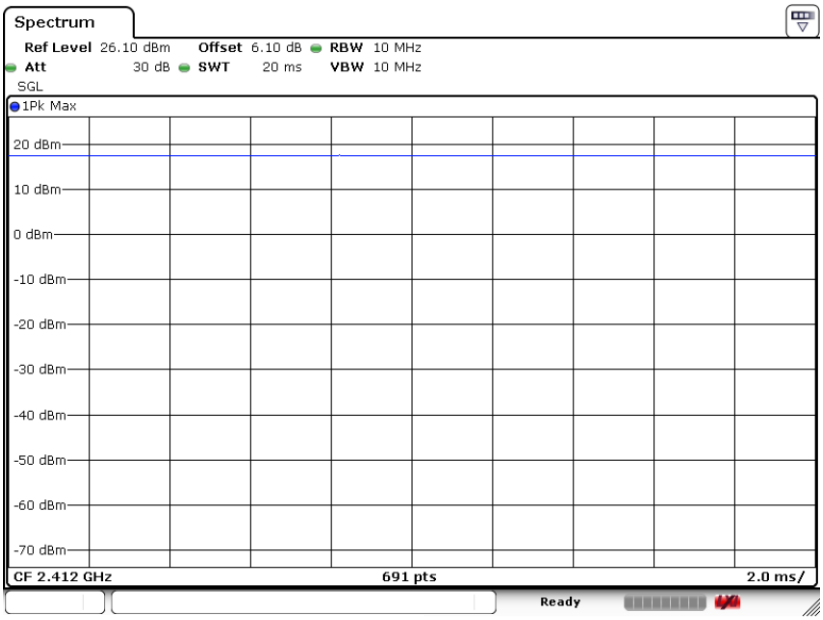
= -10.46(dB)

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

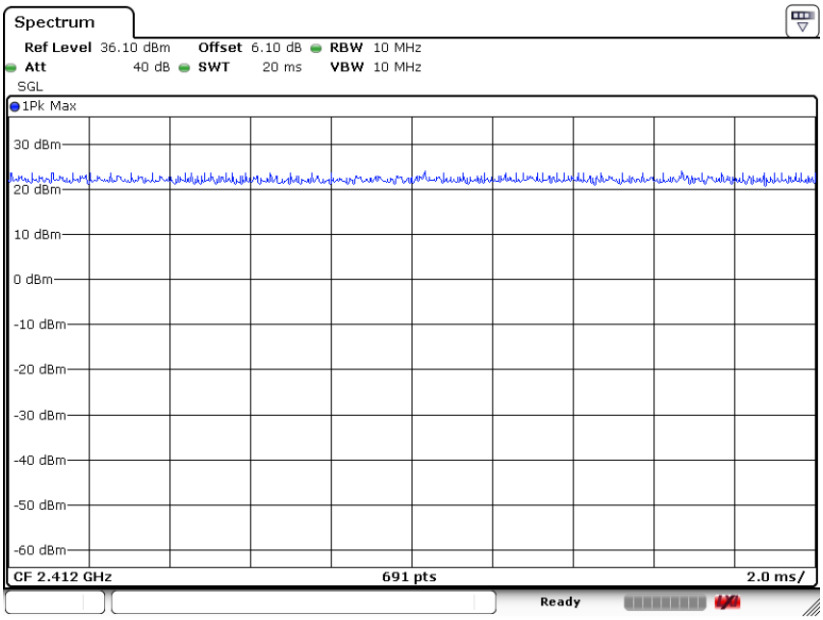
Appendix D. Duty Cycle Plots

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

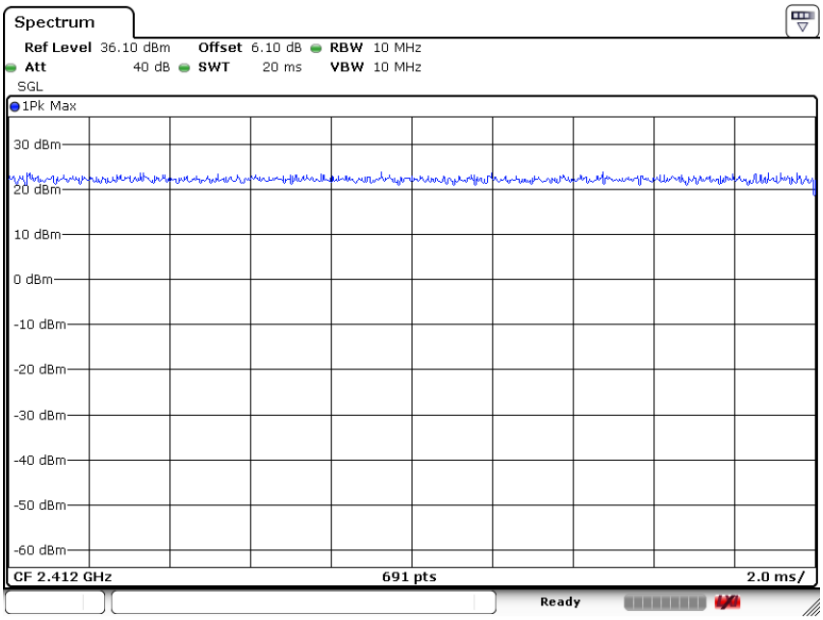
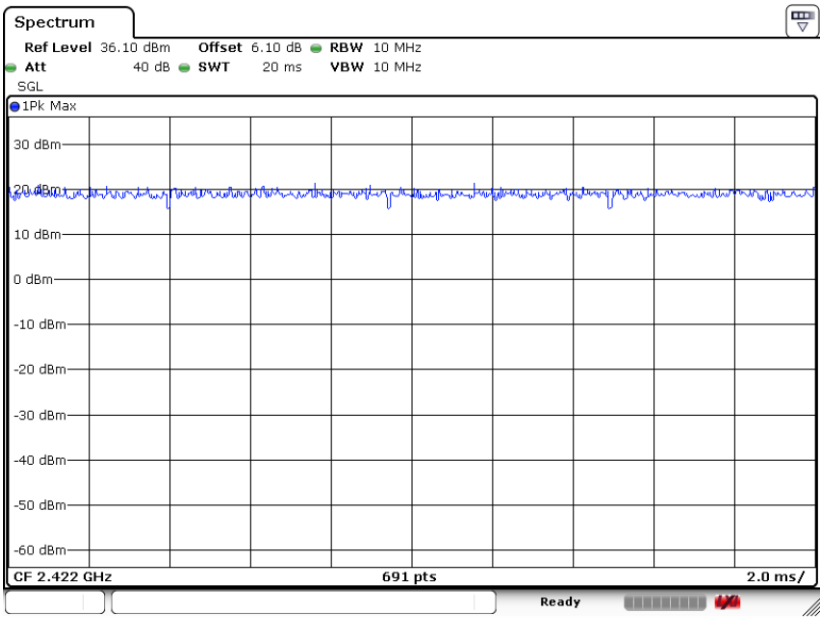
802.11b



802.11g



802.11ax HE20



802.11ax HE40