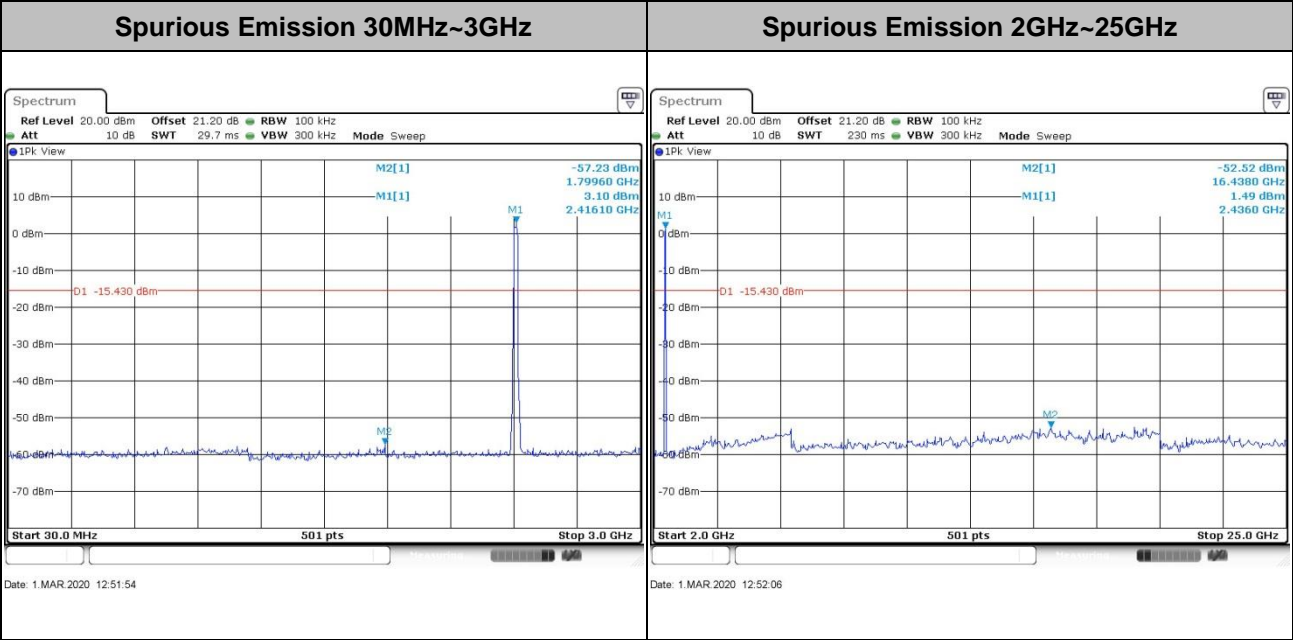
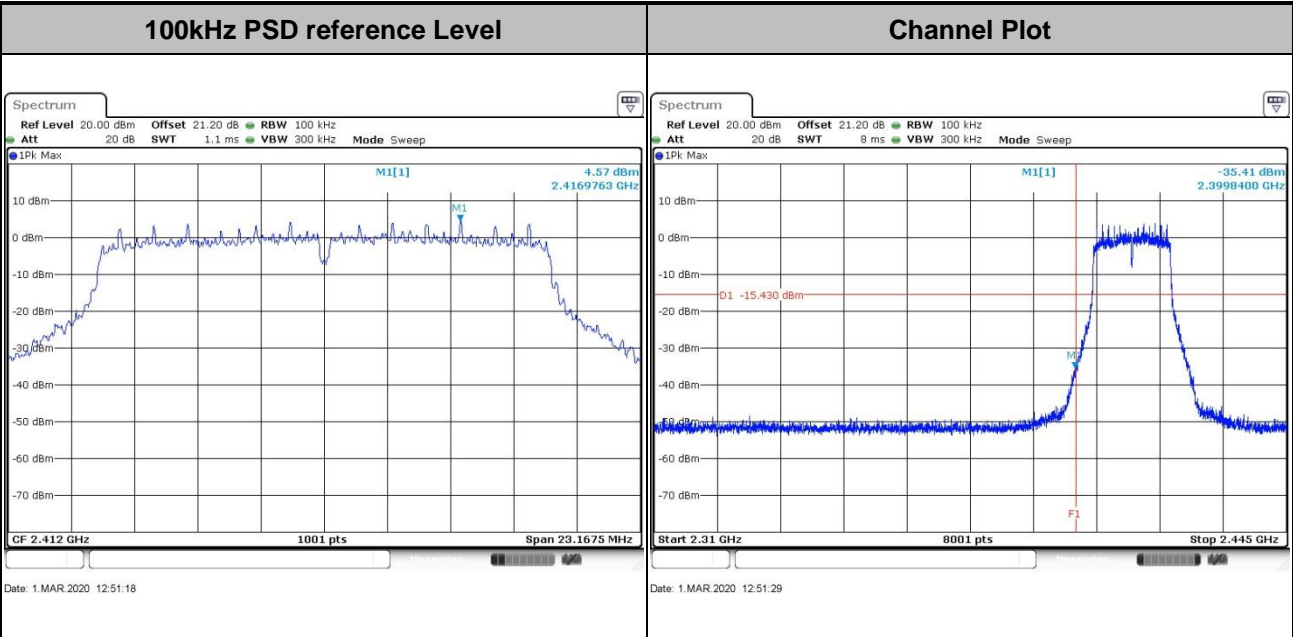


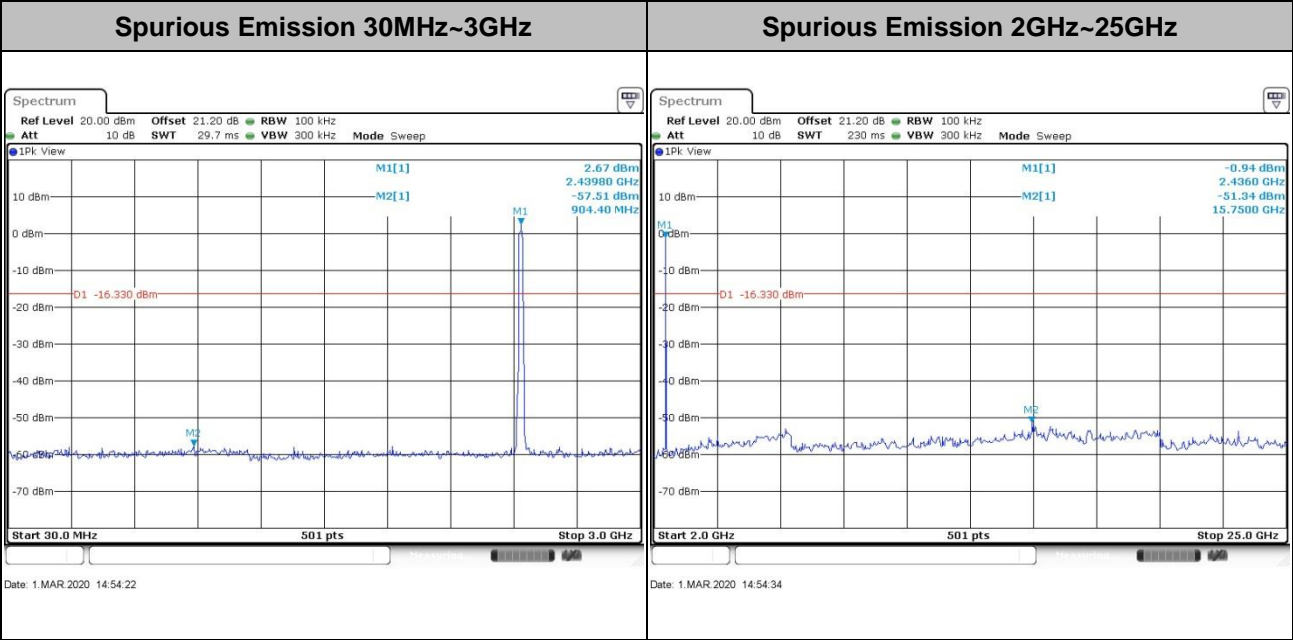
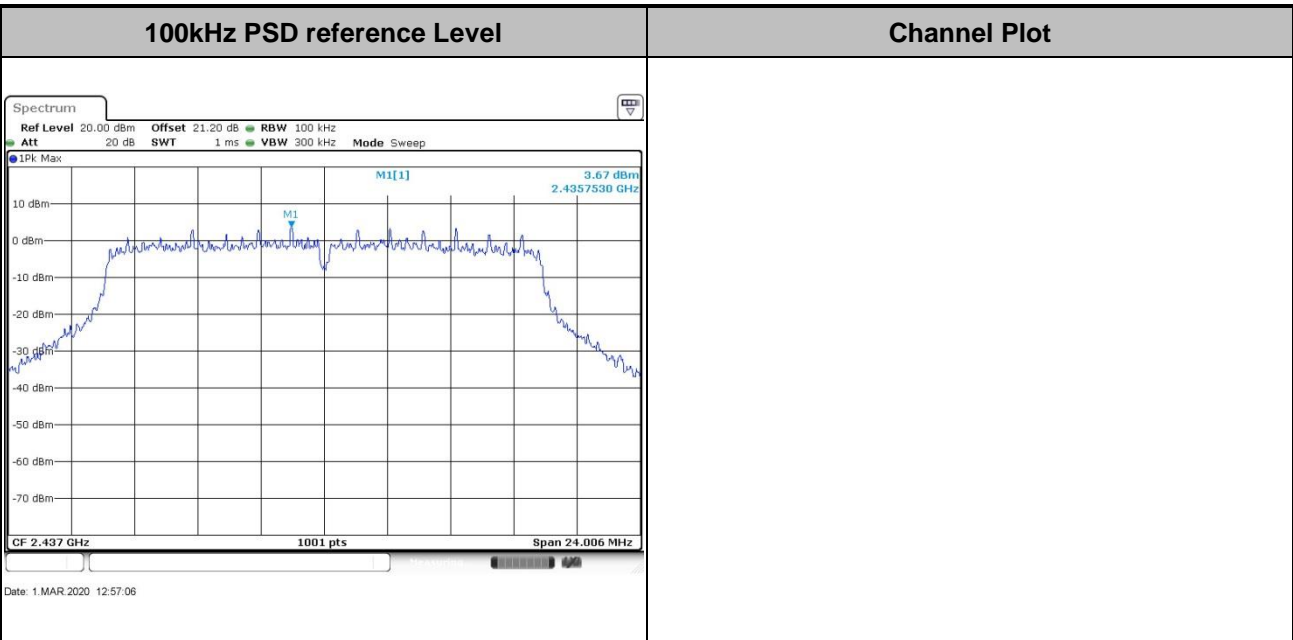


Test Mode : 802.11g Test Channel : 01



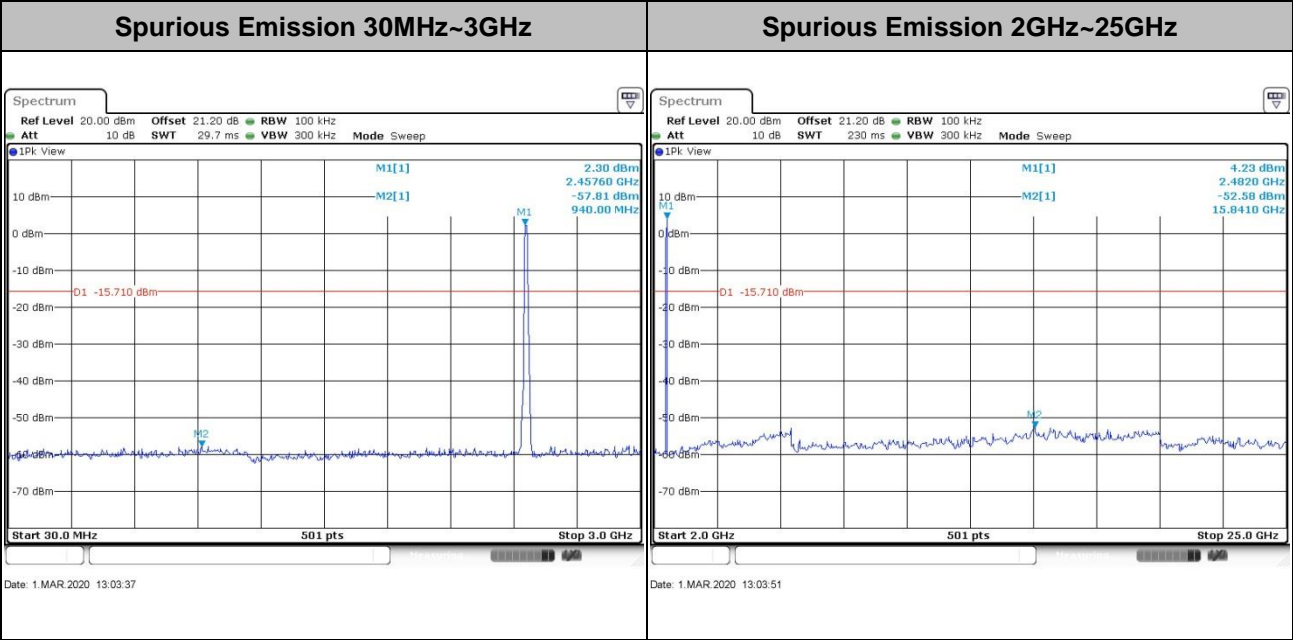
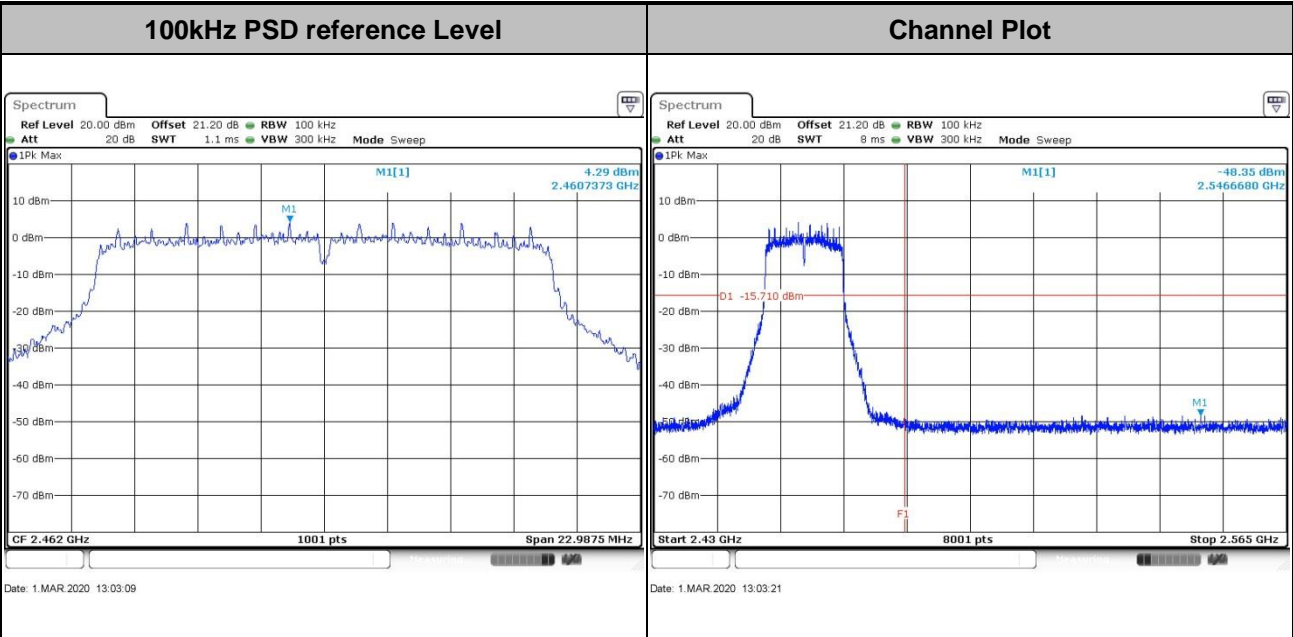


Test Mode :	802.11g	Test Channel :	06
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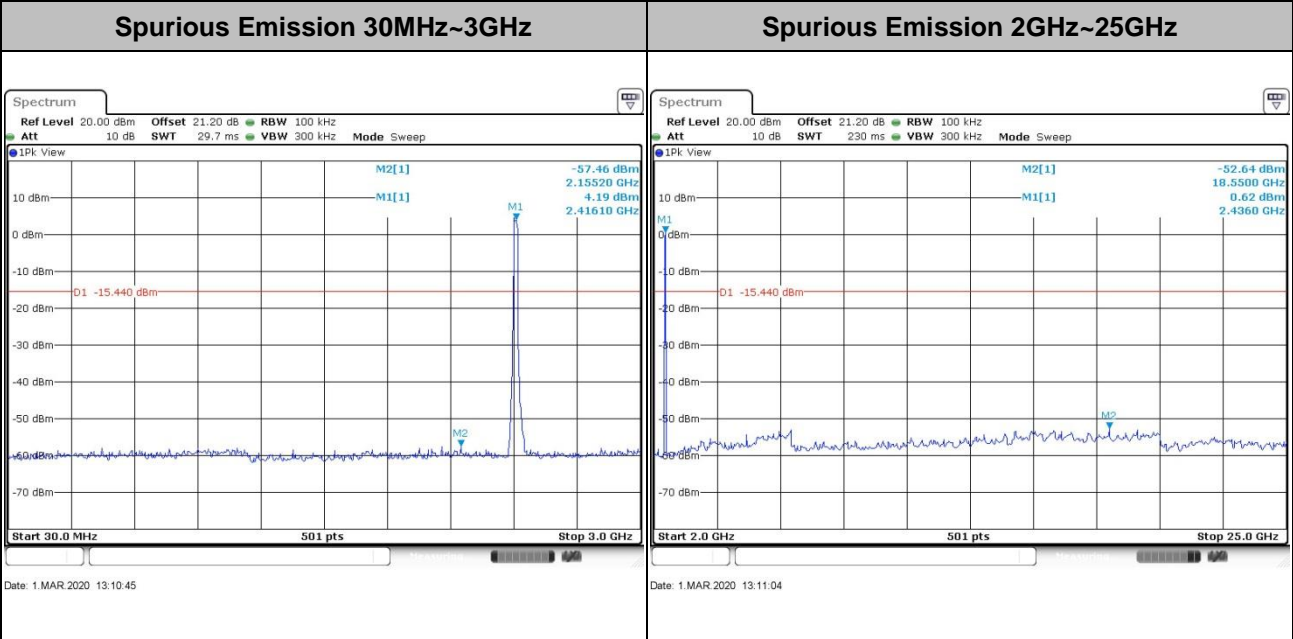
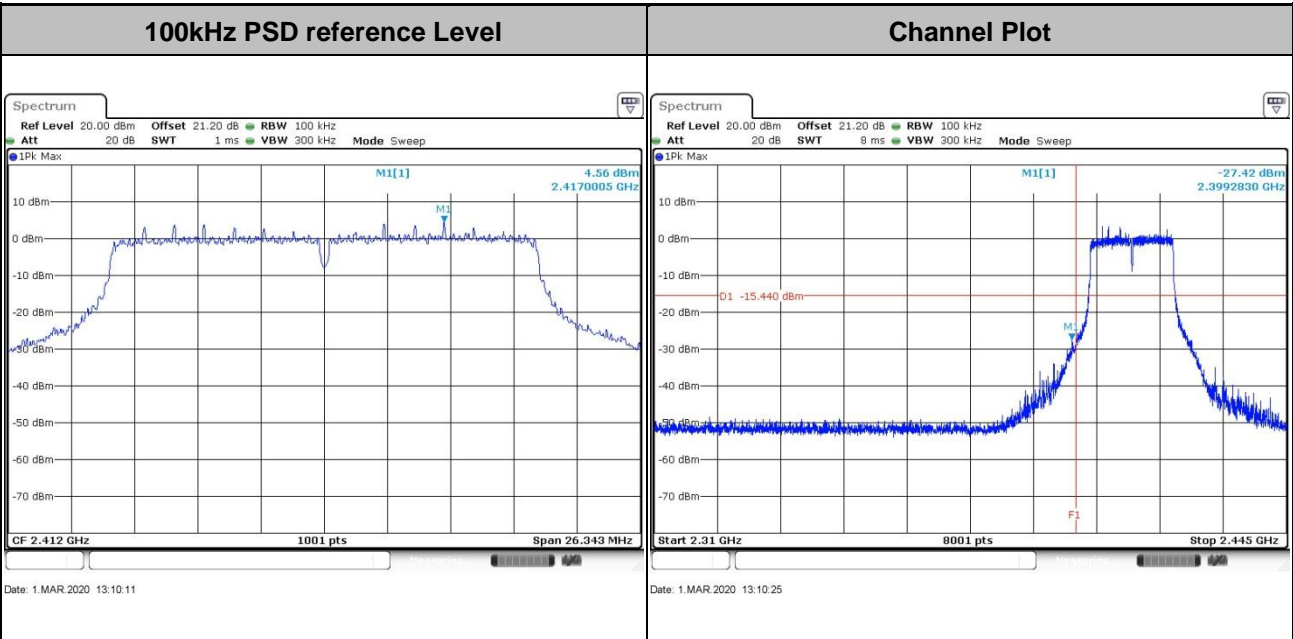


Test Mode : 802.11g Test Channel : 11



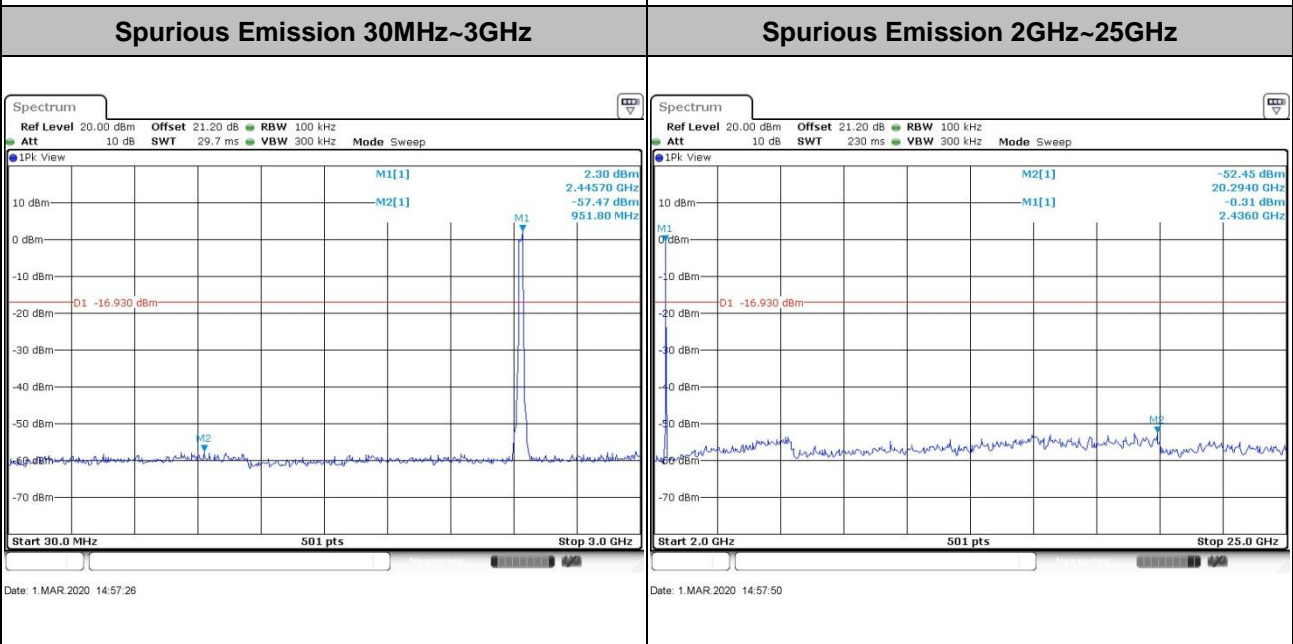
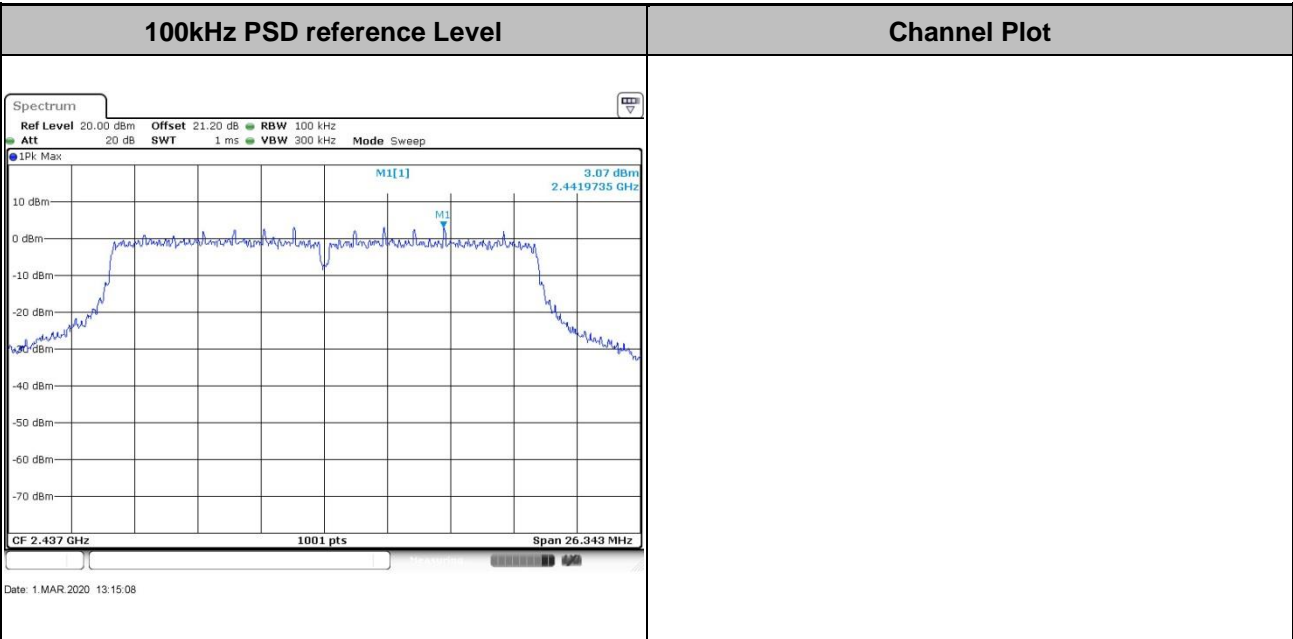


Test Mode : 802.11n HT20 Test Channel : 01



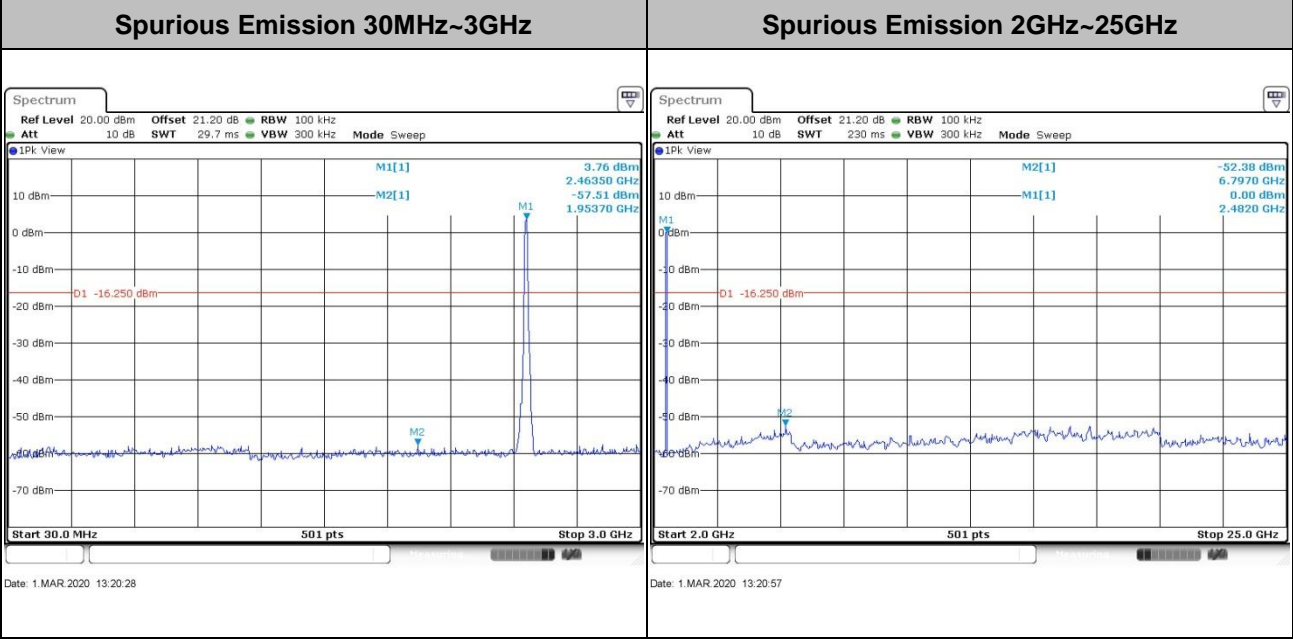
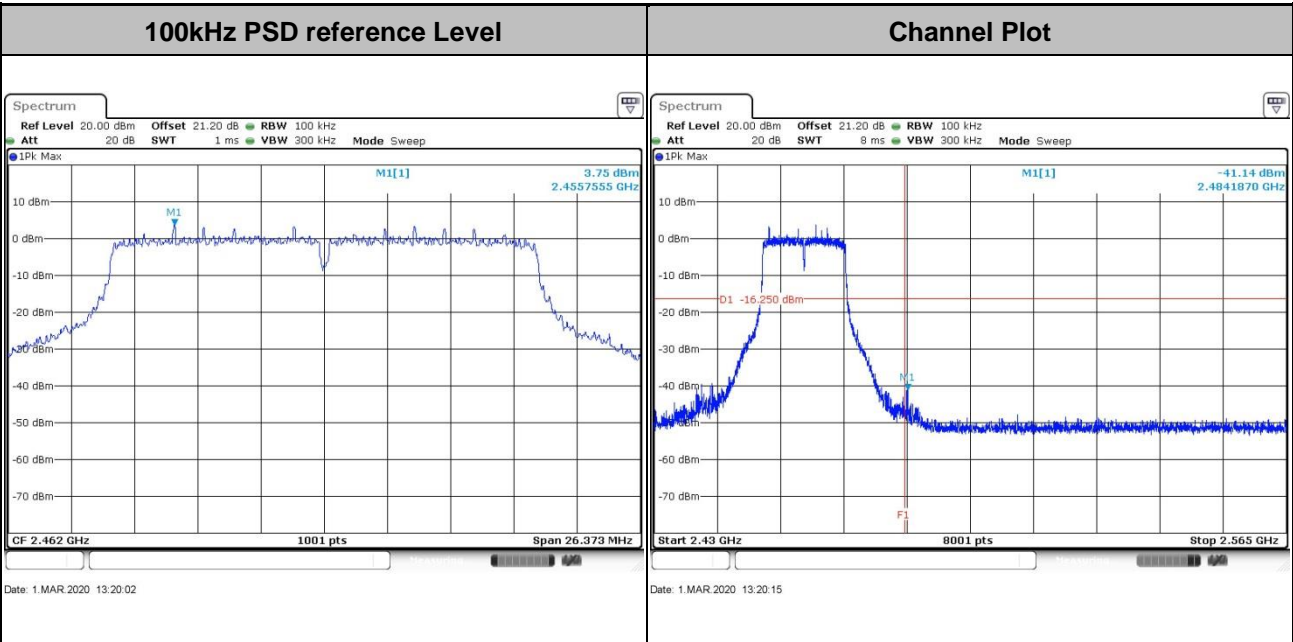


Test Mode :	802.11n HT20	Test Channel :	06
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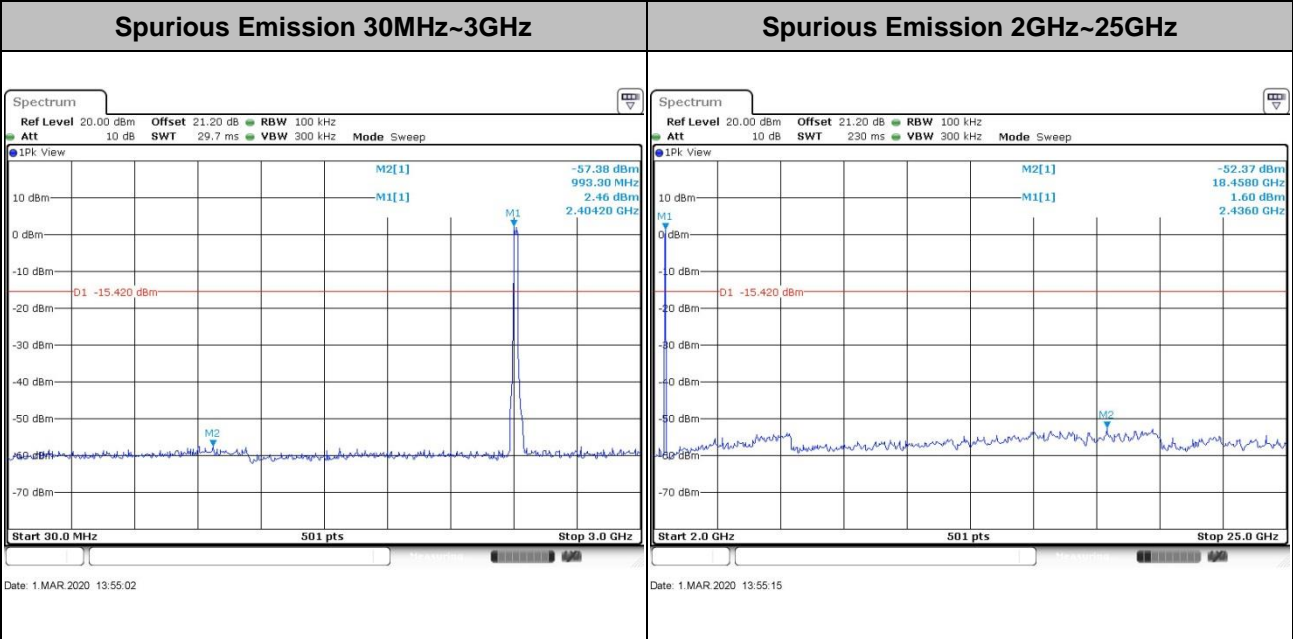
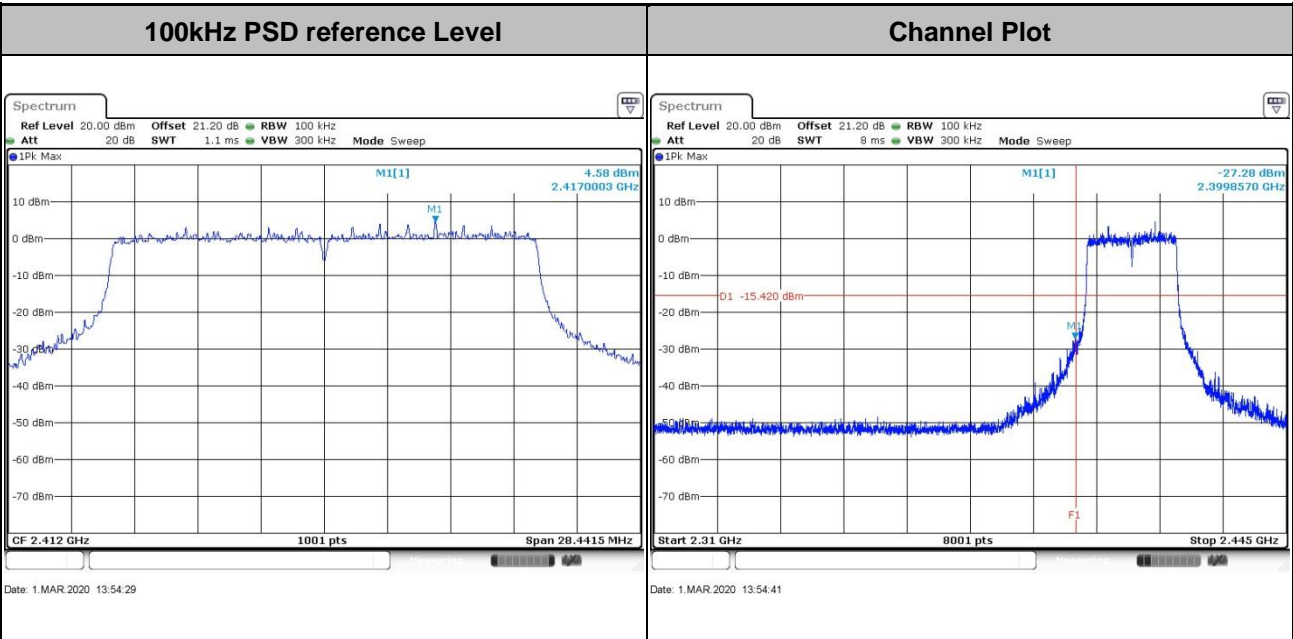


<b>Test Mode :</b> 802.11n HT20	<b>Test Channel :</b> 11
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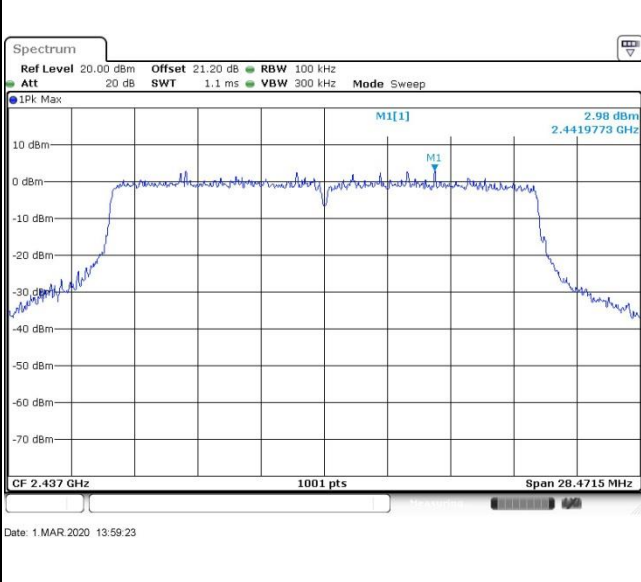
Test Mode : 802.11ax HE20 Test Channel : 01



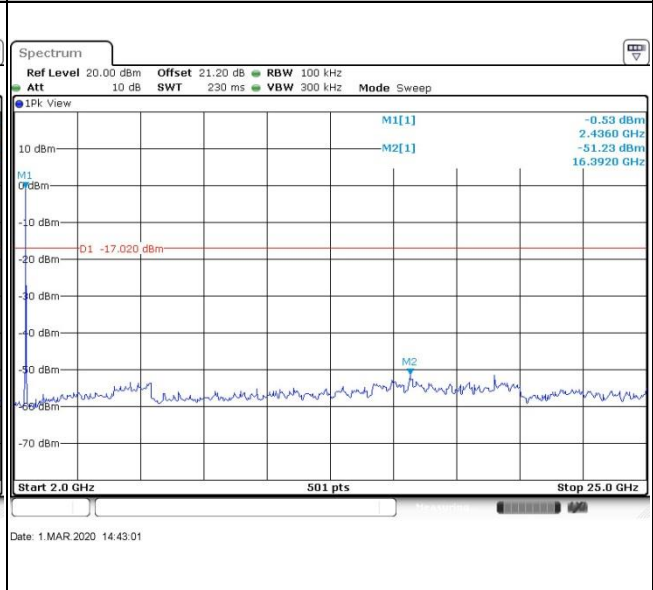
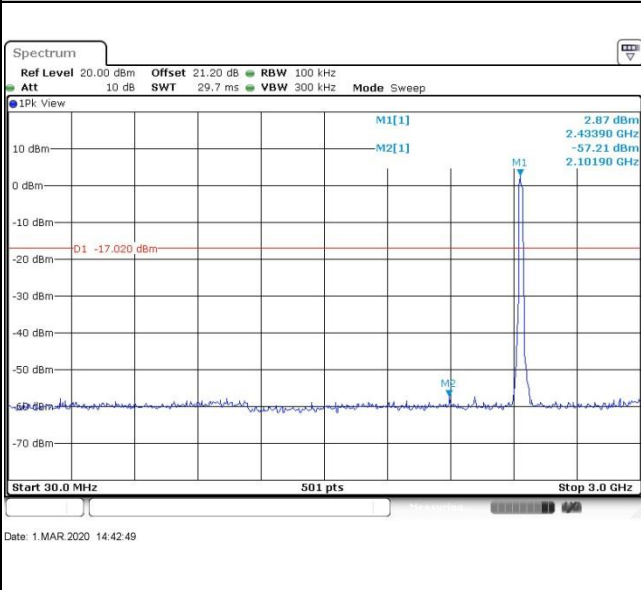


<b>Test Mode :</b>	802.11ax HE20	<b>Test Channel :</b>	06
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<b>100kHz PSD reference Level</b>	<b>Channel Plot</b>
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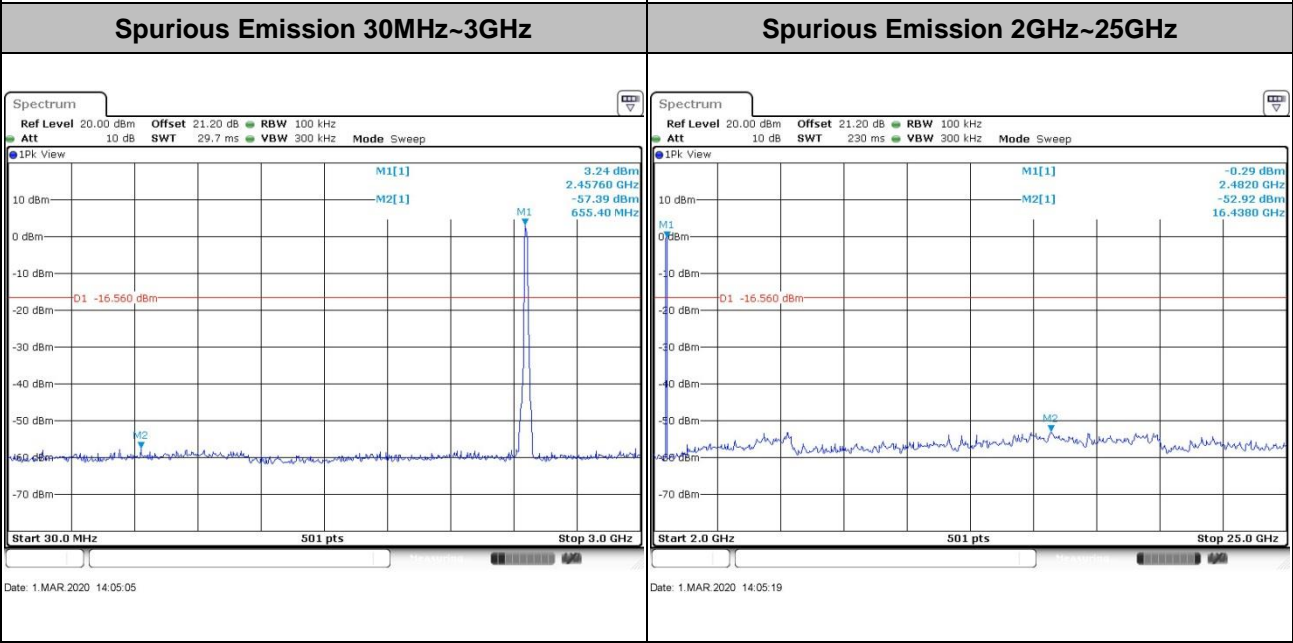
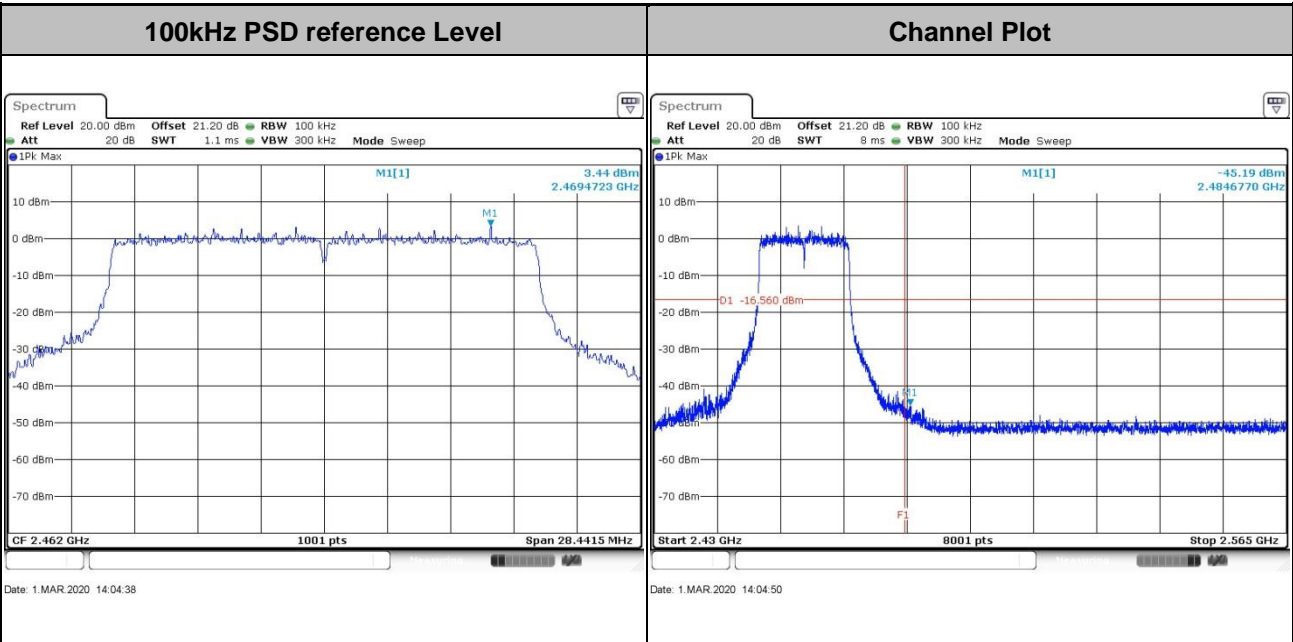
<b>Spurious Emission 30MHz~3GHz</b>	<b>Spurious Emission 2GHz~25GHz</b>
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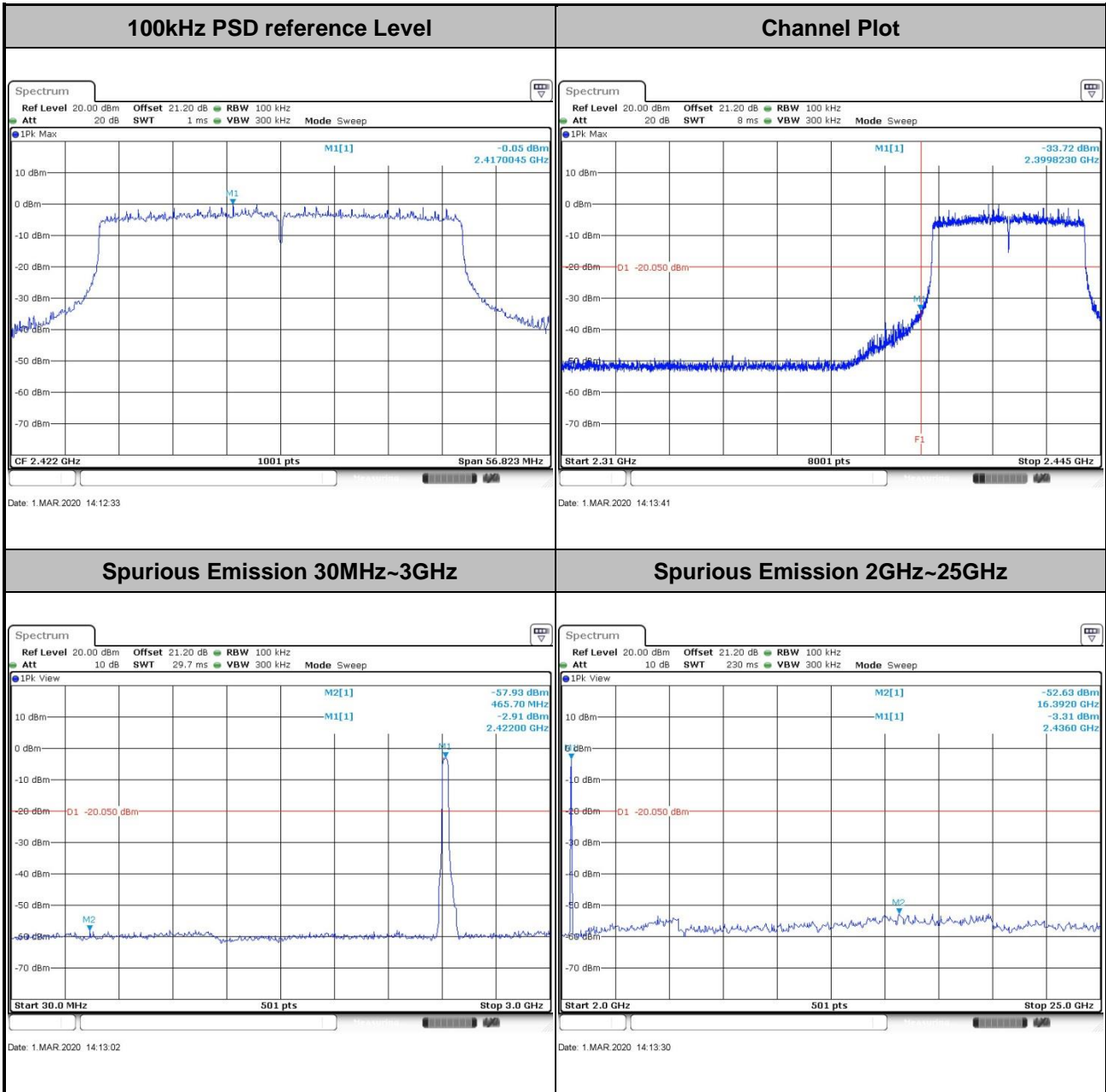


Test Mode : 802.11ax HE20 Test Channel : 11



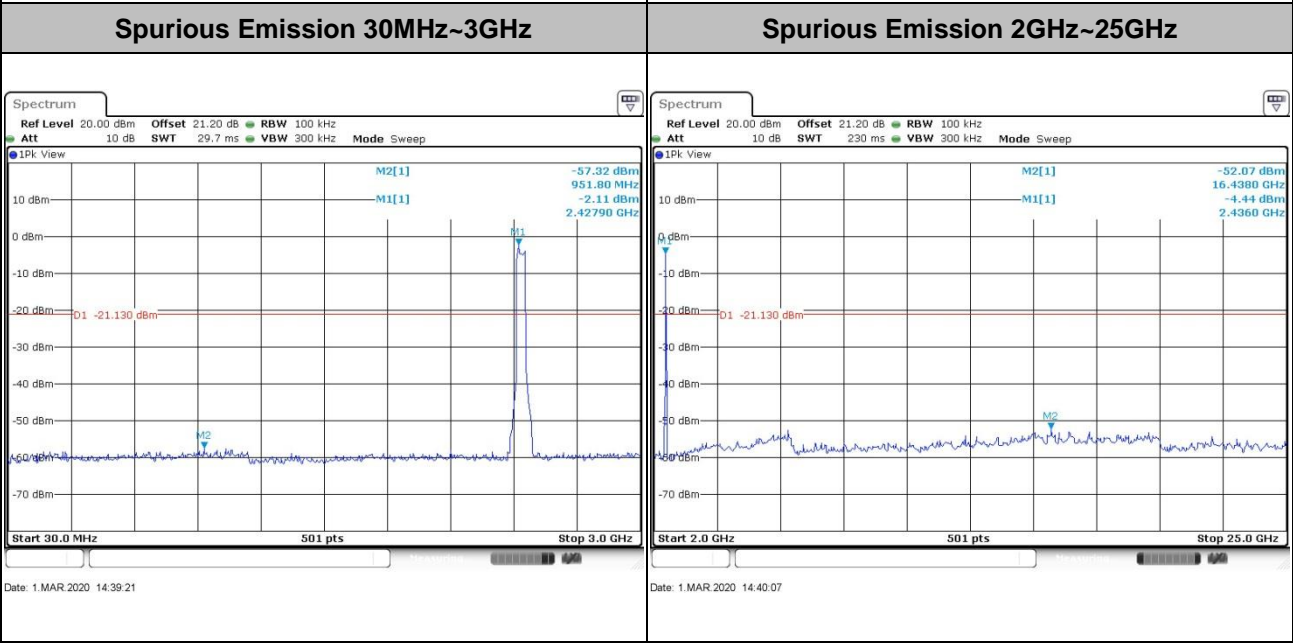
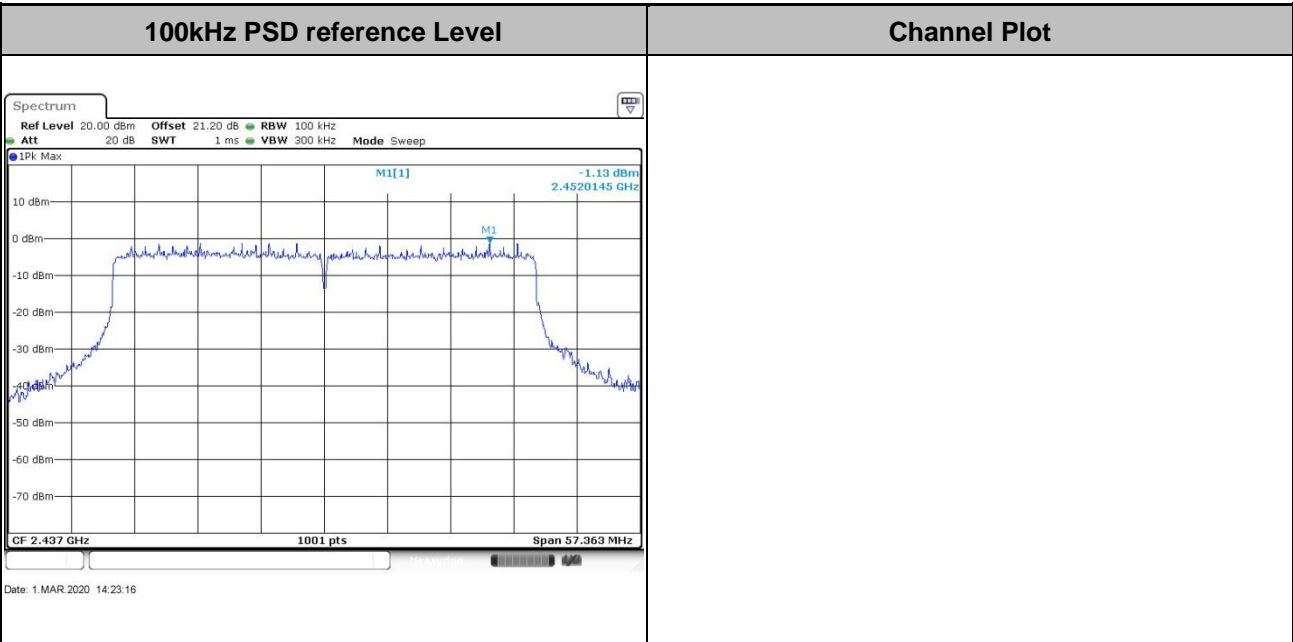


Test Mode :	802.11ax HE40	Test Channel :	03
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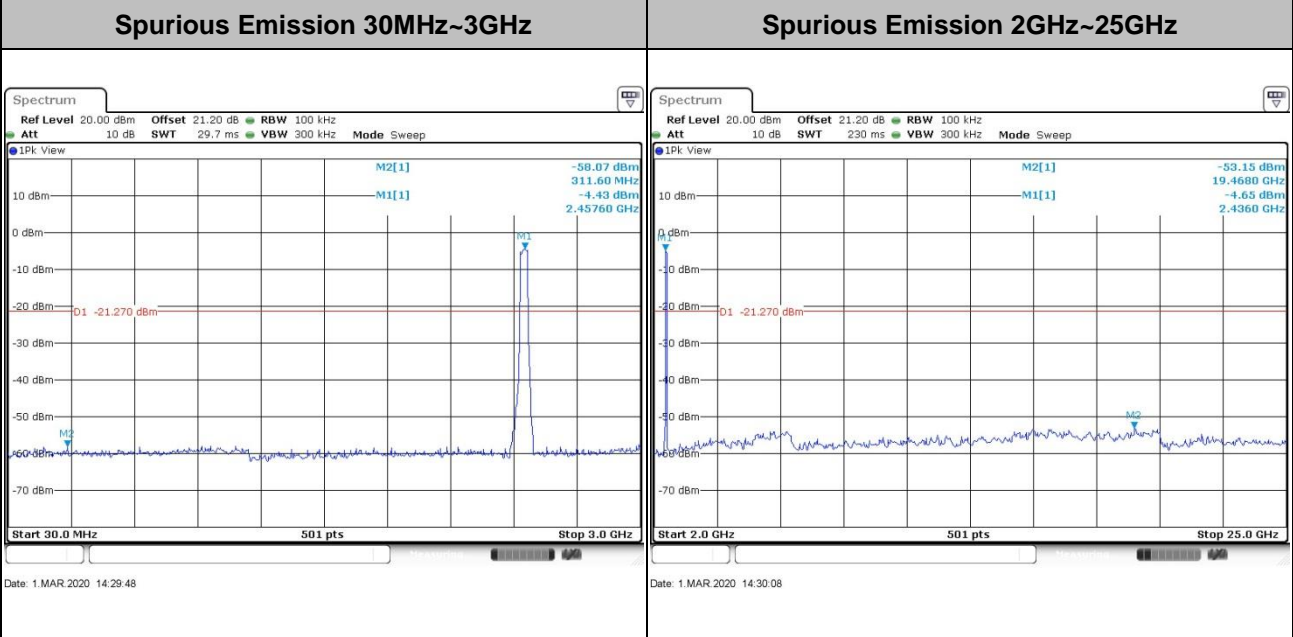
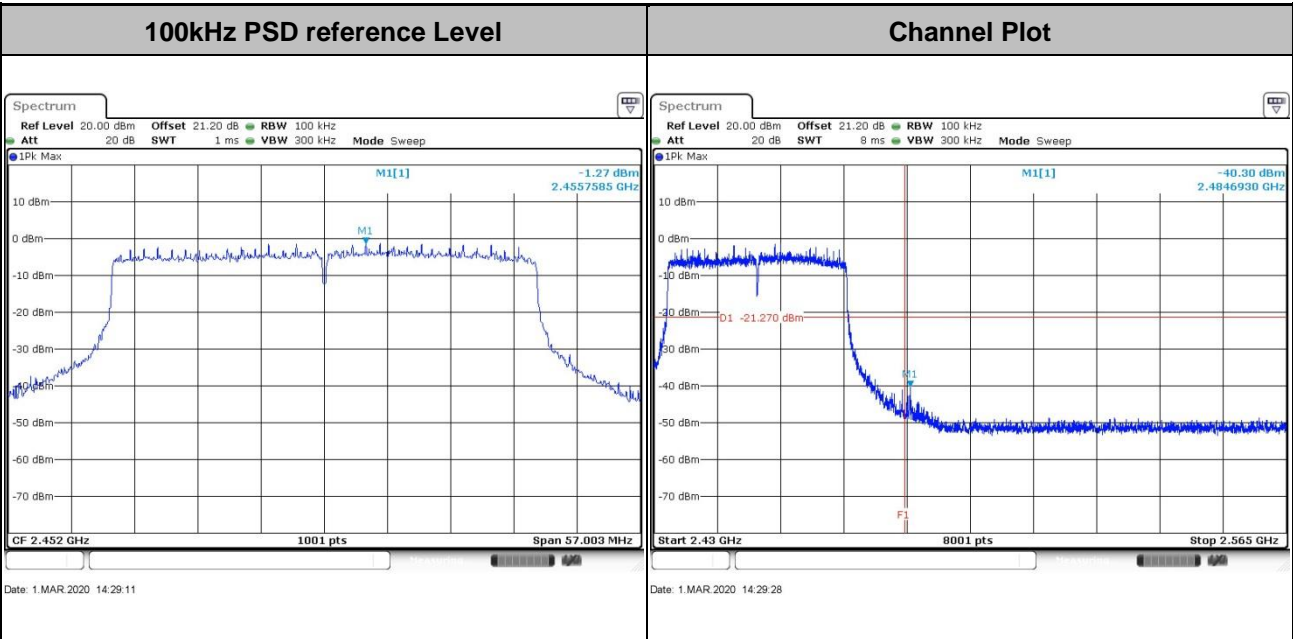


Test Mode :	802.11ax HE40	Test Channel :	06
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<b>Test Mode :</b> 802.11ax HE40	<b>Test Channel :</b> 09
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Note: For 11ax testing, the whole testing has assessed only full Ru tones mode by referring to their higher conducted power.



### 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.

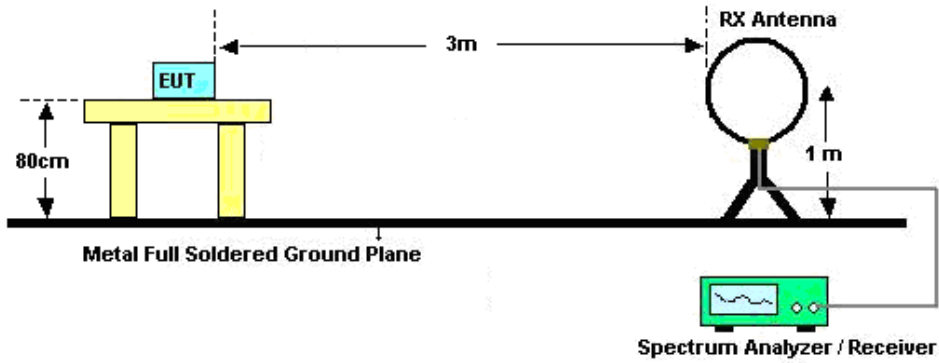


### 3.5.3 Test Procedures

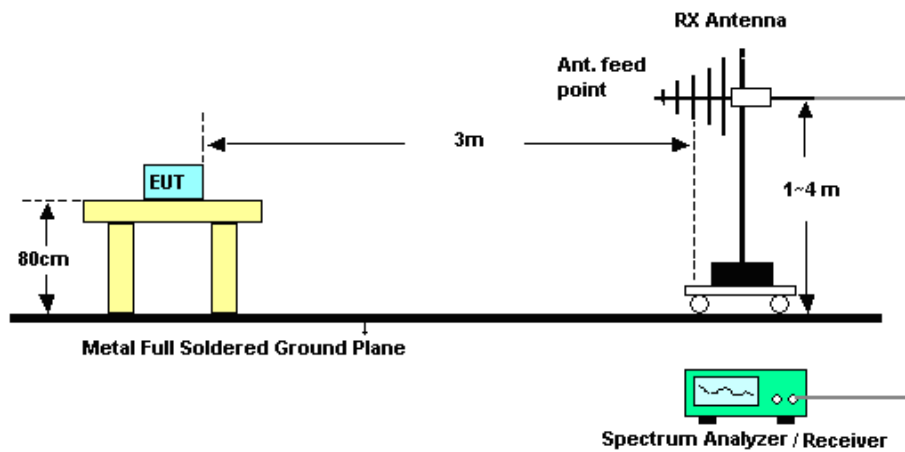
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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 average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz;  $VBW \geq RBW$ ; 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

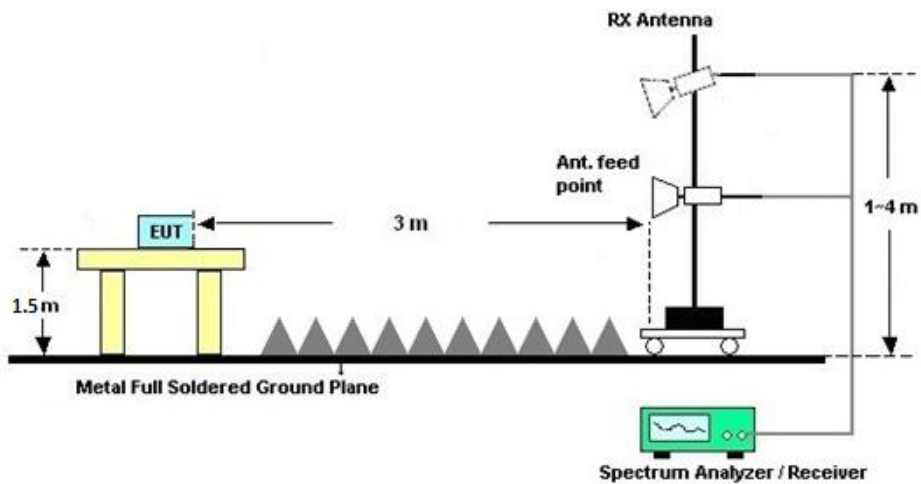
For radiated emissions below 30MHz



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 ~ 10<sup>th</sup> Harmonic)**

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 $\mu$ 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.

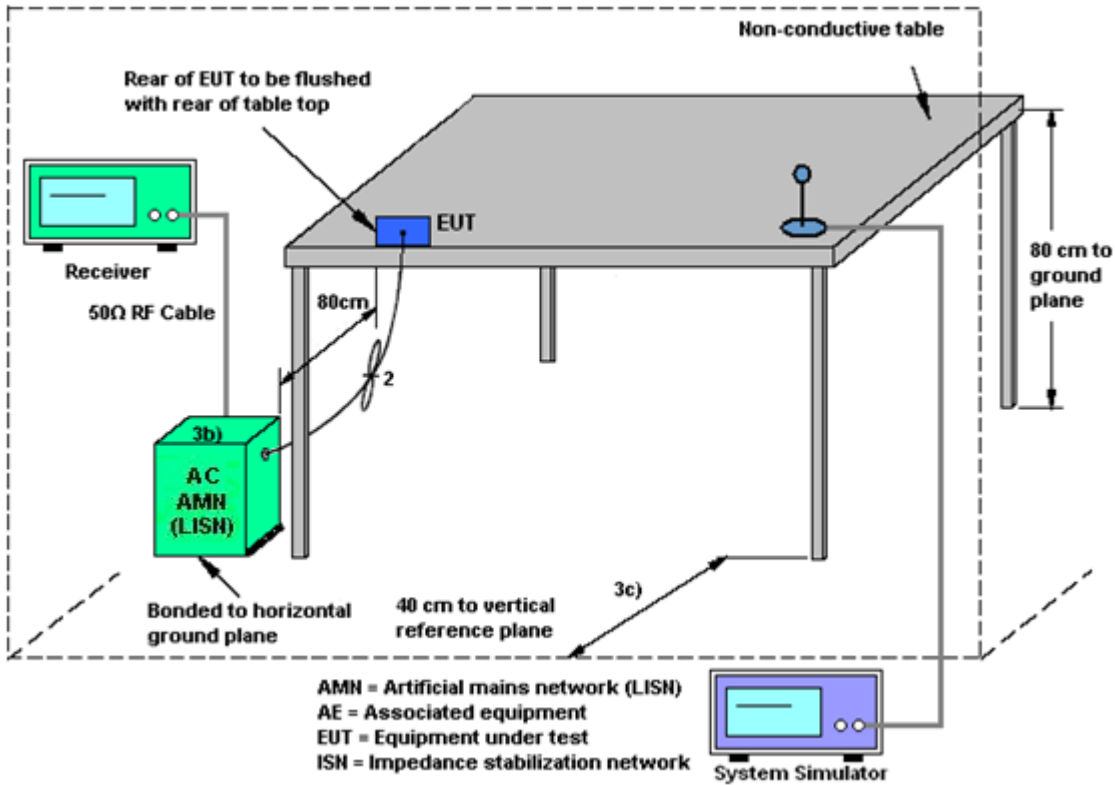
### 3.6.2 Measuring Instruments

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

<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.

<b>&lt;CDD Modes&gt;</b>						
			<b>DG for Power (dBi)</b>	<b>DG for PSD (dBi)</b>	<b>Power Limit Reduction (dB)</b>	<b>PSD Limit Reduction (dB)</b>
	<b>Ant. 1 (dBi)</b>	<b>Ant. 2 (dBi)</b>				
<b>2.4 GHz</b>	-2.80	-3.00	-2.80	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	101078	10Hz~40GHz	Apr. 18, 2019	Jan. 17, 2020~ Mar. 01, 2020	Apr. 17, 2020	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Jan. 17, 2020~ Mar. 01, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Jan. 17, 2020~ Mar. 01, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 18, 2019	Mar. 03, 2020	Apr. 17, 2020	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 18, 2019	Mar. 03, 2020	Apr. 17, 2020	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 29, 2019	Mar. 03, 2020	May 28, 2020	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2019	Mar. 03, 2020	Apr. 18, 2020	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 01 2019	Mar. 03, 2020	Mar. 31, 2020	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 22, 2019	Mar. 03, 2020	Jul. 21, 2020	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 18, 2019	Mar. 03, 2020	Apr. 17, 2020	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 18, 2019	Mar. 03, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2019	Mar. 03, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5G Hz	Dec. 23, 2019	Mar. 03, 2020	Dec. 22, 2020	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	6160100019 85	N/A	NCR	Mar. 03, 2020	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 03, 2020	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2019	Jan. 12, 2020	Dec. 25, 2020	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 17, 2019	Jan. 12, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Dec. 26, 2019	Jan. 12, 2020	Dec. 25, 2020	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	6160200008 91	100Vac~250Vac	Jul. 23, 2019	Jan. 12, 2020	Jul. 22, 2020	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))	2.6dB
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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))	5.0dB
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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))	4.6dB
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## **Appendix A. Conducted Test Results**

### A1. Conducted Test Results

Test Engineer:	Hayden Chen	Temperature:	21~25	°C
Test Date:	2020/1/17~2020/3/1	Relative Humidity:	51~54	%

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

2.4GHz Band MIMO										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant2	Ant1	Ant2		
11b	1Mbps	2	1	2412	12.99	12.99	8.05	8.05	0.50	Pass
11b	1Mbps	2	6	2437	13.09	12.99	7.11	7.53	0.50	Pass
11b	1Mbps	2	11	2462	13.04	12.89	7.55	8.07	0.50	Pass
11g	6Mbps	2	1	2412	16.33	16.38	15.70	15.45	0.50	Pass
11g	6Mbps	2	6	2437	16.38	16.38	15.78	16.00	0.50	Pass
11g	6Mbps	2	11	2462	16.33	16.38	15.88	15.33	0.50	Pass
HT20	MCS0	2	1	2412	17.83	17.88	17.58	17.56	0.50	Pass
HT20	MCS0	2	6	2437	17.88	17.88	17.58	17.56	0.50	Pass
HT20	MCS0	2	11	2462	17.88	17.83	17.56	17.58	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
						Ant1	Ant2	Ant1	Ant2		
HE20	MCS0	2	1	2412	Full	19.08	19.03	18.98	18.96	0.50	Pass
HE20	MCS0	2	6	2437	Full	19.08	19.03	19.00	18.98	0.50	Pass
HE20	MCS0	2	11	2462	Full	19.03	19.03	19.02	18.96	0.50	Pass
HE40	MCS0	2	3	2422	Full	38.36	38.26	38.08	37.88	0.50	Pass
HE40	MCS0	2	6	2437	Full	38.26	38.46	37.96	38.24	0.50	Pass
HE40	MCS0	2	9	2452	Full	38.26	38.16	38.00	38.00	0.50	Pass

**TEST RESULTS DATA**  
**Peak Output Power**

2.4GHz Band MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	2	1	2412	20.40	19.12	22.82	30.00		-2.80		20.02		36.00	Pass	
11b	1Mbps	2	6	2437	20.01	19.35	22.70	30.00		-2.80		19.90		36.00	Pass	
11b	1Mbps	2	11	2462	20.21	20.11	23.17	30.00		-2.80		20.37		36.00	Pass	
11g	6Mbps	2	1	2412	21.90	21.79	24.86	30.00		-2.80		22.06		36.00	Pass	
11g	6Mbps	2	6	2437	21.51	21.53	24.53	30.00		-2.80		21.73		36.00	Pass	
11g	6Mbps	2	11	2462	21.86	22.19	25.04	30.00		-2.80		22.24		36.00	Pass	
HT20	MCS0	2	1	2412	25.13	25.46	28.31	30.00		-2.80		25.51		36.00	Pass	
HT20	MCS0	2	6	2437	25.67	25.89	28.79	30.00		-2.80		25.99		36.00	Pass	
HT20	MCS0	2	11	2462	25.80	25.42	28.62	30.00		-2.80		25.82		36.00	Pass	

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
						Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
HE20	MCS0	2	1	2412	Full	25.76	25.56	28.67	30.00		-2.80	25.87		36.00		Pass	
HE20	MCS0	2	1	2412	26/0	20.05	19.52	23.99	30.00		-2.80	21.19		36.00		Pass	
HE20	MCS0	2	1	2412	52/37	21.19	21.03	25.19	30.00		-2.80	22.39		36.00		Pass	
HE20	MCS0	2	1	2412	106/53	21.33	21.61	25.67	30.00		-2.80	22.87		36.00		Pass	
HE20	MCS0	2	6	2437	Full	25.76	25.69	28.74	30.00		-2.80	25.94		36.00		Pass	
HE20	MCS0	2	11	2462	Full	25.80	25.80	28.81	30.00		-2.80	26.01		36.00		Pass	
HE20	MCS0	2	11	2462	26/8	19.01	19.81	23.89	30.00		-2.80	21.09		36.00		Pass	
HE20	MCS0	2	11	2462	52/40	21.43	21.43	25.64	30.00		-2.80	22.84		36.00		Pass	
HE20	MCS0	2	11	2462	106/54	21.99	21.77	26.00	30.00		-2.80	23.20		36.00		Pass	
HE40	MCS0	2	3	2422	Full	24.59	25.05	27.84	30.00		-2.80	25.04		36.00		Pass	
HE40	MCS0	2	3	2422	242/61	20.52	20.73	23.64	30.00		-2.80	20.84		36.00		Pass	
HE40	MCS0	2	6	2437	Full	24.62	24.65	27.65	30.00		-2.80	24.85		36.00		Pass	
HE40	MCS0	2	9	2452	Full	24.55	24.16	27.37	30.00		-2.80	24.57		36.00		Pass	
HE40	MCS0	2	9	2452	242/62	20.48	20.73	23.62	30.00		-2.80	20.82		36.00		Pass	

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

**TEST RESULTS DATA**  
**Peak Power Spectral Density**

2.4GHz Band MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	2	1	2412	-7.27	-7.98	-4.26	0.11		8.00		Pass
11b	1Mbps	2	6	2437	-7.38	-7.94	-4.37	0.11		8.00		Pass
11b	1Mbps	2	11	2462	-7.04	-7.45	-4.03	0.11		8.00		Pass
11g	6Mbps	2	1	2412	-11.21	-11.29	-8.20	0.11		8.00		Pass
11g	6Mbps	2	6	2437	-11.04	-11.91	-8.03	0.11		8.00		Pass
11g	6Mbps	2	11	2462	-11.02	-11.24	-8.01	0.11		8.00		Pass
HT20	MCS0	2	1	2412	-9.82	-9.41	-6.40	0.11		8.00		Pass
HT20	MCS0	2	6	2437	-9.46	-9.77	-6.45	0.11		8.00		Pass
HT20	MCS0	2	11	2462	-9.52	-10.08	-6.51	0.11		8.00		Pass

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

**TEST RESULTS DATA**  
**Peak Power Spectral Density**

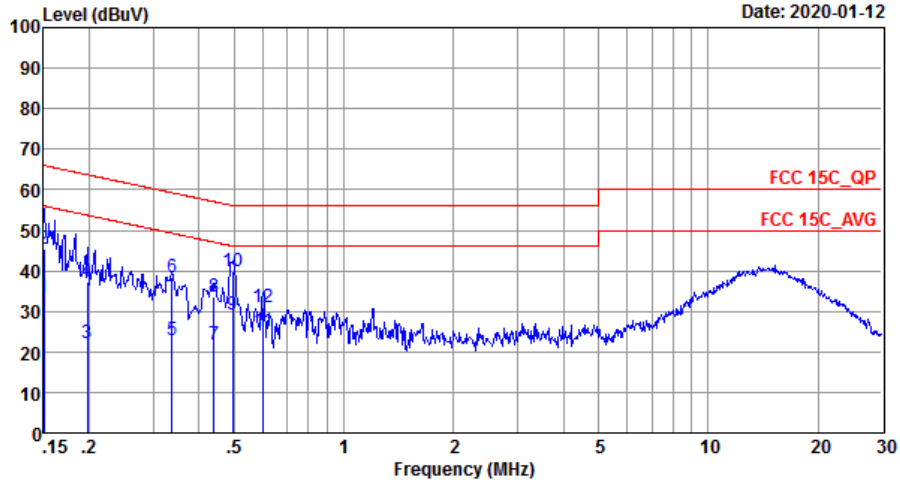
2.4GHz Band MIMO													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
HE20	MCS0	2	1	2412	Full	-10.80	-10.71	-7.70	0.11		8.00		Pass
HE20	MCS0	2	1	2412	26/0	-11.03	-11.26	-8.02	0.11		8.00		Pass
HE20	MCS0	2	1	2412	52/37	-11.37	-11.36	-8.35	0.11		8.00		Pass
HE20	MCS0	2	1	2412	106/53	-11.90	-11.28	-8.27	0.11		8.00		Pass
HE20	MCS0	2	6	2437	Full	-11.51	-11.23	-8.22	0.11		8.00		Pass
HE20	MCS0	2	11	2462	Full	-10.70	-10.77	-7.69	0.11		8.00		Pass
HE20	MCS0	2	1	2462	26/8	-11.09	-11.47	-8.08	0.11		8.00		Pass
HE20	MCS0	2	1	2462	52/40	-10.93	-11.09	-7.92	0.11		8.00		Pass
HE20	MCS0	2	1	2462	106/54	-12.48	-11.84	-8.83	0.11		8.00		Pass
HE40	MCS0	2	3	2422	Full	-15.11	-14.47	-11.46	0.11		8.00		Pass
HE40	MCS0	2	3	2422	242/61	-16.29	-15.26	-12.25	0.11		8.00		Pass
HE40	MCS0	2	6	2437	Full	-15.76	-16.26	-12.75	0.11		8.00		Pass
HE40	MCS0	2	9	2452	Full	-15.22	-15.07	-12.06	0.11		8.00		Pass
HE40	MCS0	2	9	2452	242/62	-16.18	-15.95	-12.94	0.11		8.00		Pass

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



## Appendix B. AC Conducted Emission Test Results

Test Engineer :	LiuDaLin	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line



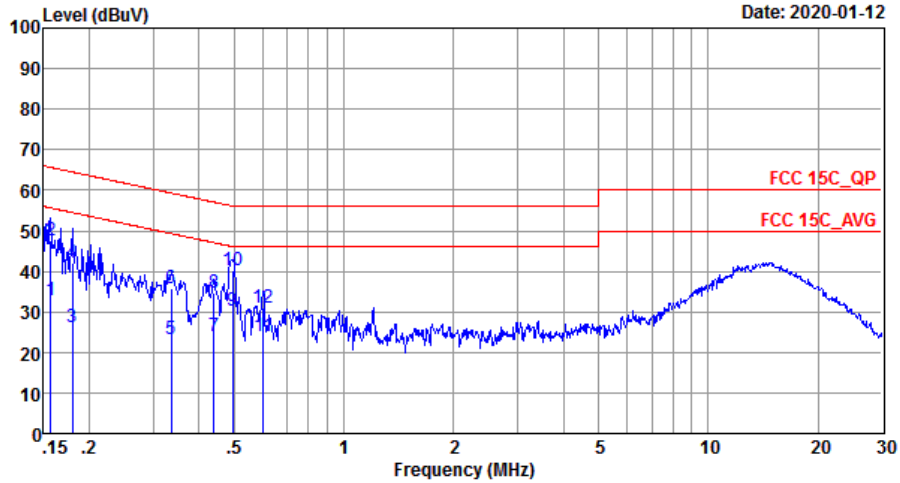
Site : CO01-SZ  
 Condition: FCC 15C\_QP LISN\_20190719\_L LINE

IMEI : 865422040025876/865422040025868

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	33.34	-22.66	56.00	23.30	0.03	10.01	Average
2	0.15	45.34	-20.66	66.00	35.30	0.03	10.01	QP
3	0.20	22.04	-31.67	53.71	12.00	0.03	10.01	Average
4	0.20	37.34	-26.37	63.71	27.30	0.03	10.01	QP
5	0.34	22.84	-26.43	49.27	12.80	0.03	10.01	Average
6	0.34	38.34	-20.93	59.27	28.30	0.03	10.01	QP
7	0.44	21.66	-25.41	47.07	11.60	0.03	10.03	Average
8	0.44	33.76	-23.31	57.07	23.70	0.03	10.03	QP
9	0.49	29.18	-16.92	46.10	19.10	0.02	10.06	Average
10 *	0.49	39.88	-16.22	56.10	29.80	0.02	10.06	QP
11	0.60	25.19	-20.81	46.00	15.10	0.02	10.07	Average
12	0.60	30.89	-25.11	56.00	20.80	0.02	10.07	QP



Test Engineer :	LiuDaLin	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : CO01-SZ  
 Condition: FCC 15C\_QP LISN\_20190719\_N NEUTRAL

IMEI : 865422040025876/865422040025868

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	32.94	-22.71	55.65	22.90	0.03	10.01	Average
2	0.16	47.44	-18.21	65.65	37.40	0.03	10.01	QP
3	0.18	26.14	-28.36	54.50	16.10	0.03	10.01	Average
4	0.18	41.94	-22.56	64.50	31.90	0.03	10.01	QP
5	0.34	23.34	-25.97	49.31	13.30	0.03	10.01	Average
6	0.34	35.84	-23.47	59.31	25.80	0.03	10.01	QP
7	0.44	23.85	-23.22	47.07	13.80	0.02	10.03	Average
8	0.44	34.65	-22.42	57.07	24.60	0.02	10.03	QP
9	0.49	30.38	-15.72	46.10	20.30	0.02	10.06	Average
10 *	0.49	40.38	-15.72	56.10	30.30	0.02	10.06	QP
11	0.60	23.99	-22.01	46.00	13.90	0.02	10.07	Average
12	0.60	30.99	-25.01	56.00	20.90	0.02	10.07	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	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
802.11b CH 01 2412MHz		2318.08	49.99	-24.01	74	53.37	27.91	4.75	36.04	132	315	P	H
		2389.8	39.79	-14.21	54	43.15	27.8	4.82	35.98	132	315	A	H
		2412	106.11	-	-	109.5	27.77	4.82	35.98	132	315	P	H
		2412	102.93	-	-	106.32	27.77	4.82	35.98	132	315	A	H
		2381.29	50.37	-23.63	74	53.76	27.83	4.78	36	150	55	P	V
		2388.96	39.54	-14.46	54	42.9	27.8	4.82	35.98	150	55	A	V
		2412	104.35	-	-	107.74	27.77	4.82	35.98	150	55	P	V
		2412	101.11	-	-	104.5	27.77	4.82	35.98	150	55	A	V
802.11b CH 06 2437MHz		2377.2	49.54	-24.46	74	52.93	27.83	4.78	36	132	317	P	H
		2389.24	39.04	-14.96	54	42.4	27.8	4.82	35.98	132	317	A	H
		2437	105.8	-	-	109.19	27.71	4.86	35.96	132	317	P	H
		2437	102.7	-	-	106.09	27.71	4.86	35.96	132	317	A	H
		2484.32	50.24	-23.76	74	53.6	27.66	4.9	35.92	132	317	P	H
		2483.55	38.99	-15.01	54	42.35	27.66	4.9	35.92	132	317	A	H
		2339.4	49.93	-24.07	74	53.32	27.88	4.75	36.02	110	54	P	V
		2389.94	38.98	-15.02	54	42.34	27.8	4.82	35.98	110	54	A	V
		2437	105.57	-	-	108.96	27.71	4.86	35.96	110	54	P	V
		2437	102.49	-	-	105.88	27.71	4.86	35.96	110	54	A	V
	2496.08	50.09	-23.91	74	53.46	27.63	4.9	35.9	110	54	P	V	
	2483.76	38.95	-15.05	54	42.31	27.66	4.9	35.92	110	54	A	V	





<b>802.11b</b> <b>CH 11</b> <b>2462MHz</b>	2462	105.62	-	-	109.01	27.69	4.86	35.94	108	317	P	H
	2462	102.35	-	-	105.74	27.69	4.86	35.94	108	317	A	H
	2493.36	49.66	-24.34	74	53.03	27.63	4.9	35.9	108	317	P	H
	2483.52	39.28	-14.72	54	42.64	27.66	4.9	35.92	108	317	A	H
	2462	104.43	-	-	107.82	27.69	4.86	35.94	110	83	P	V
	2462	101.29	-	-	104.68	27.69	4.86	35.94	110	83	A	V
	2495.72	49.99	-24.01	74	53.36	27.63	4.9	35.9	110	83	P	V
	2483.68	39.29	-14.71	54	42.65	27.66	4.9	35.92	110	83	A	V
<b>Remark</b>	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	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	42.88	-31.12	74	61.71	31.12	7.53	57.48	145	274	P	H
		4824	46.31	-27.69	74	65.14	31.12	7.53	57.48	191	220	P	V
802.11b CH 06 2437MHz		4874	44.78	-29.22	74	63.55	31.17	7.58	57.52	112	229	P	H
		7311	45.31	-28.69	74	59.14	36.03	9.06	58.92	174	100	P	H
		4874	49.92	-24.08	74	68.69	31.17	7.58	57.52	251	0	P	V
		4874	46.02	-7.98	54	64.79	31.17	7.58	57.52	251	0	A	V
802.11b CH 11 2462MHz		4924	44.27	-29.73	74	62.93	31.22	7.67	57.55	133	180	P	H
		7386	45.53	-28.47	74	59.16	36.29	9.04	58.96	145	274	P	H
		4924	47.47	-26.53	74	66.13	31.22	7.67	57.55	251	0	P	V
		7386	46.84	-27.16	74	60.47	36.29	9.04	58.96	166	210	P	V
<b>Remark</b>	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)

Table with 14 columns: WIFI Ant. 1, 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). Rows include data for 802.11g CH 01 (2412MHz) and 802.11g CH 06 (2437MHz).



<b>802.11g CH 11 2462MHz</b>	2462	106.5	-	-	109.89	27.69	4.86	35.94	213	317	P	H
	2462	98.42	-	-	101.81	27.69	4.86	35.94	213	317	A	H
	2484.32	51.14	-22.86	74	54.5	27.66	4.9	35.92	213	317	P	H
	2483.56	40.73	-13.27	54	44.09	27.66	4.9	35.92	213	317	A	H
	2462	105.77	-	-	109.16	27.69	4.86	35.94	135	55	P	V
	2462	97.76	-	-	101.15	27.69	4.86	35.94	135	55	A	V
	2484.56	50.68	-23.32	74	54.04	27.66	4.9	35.92	135	55	P	V
	2483.52	40.22	-13.78	54	43.58	27.66	4.9	35.92	135	55	A	V
<b>Remark</b>	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	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	41.51	-32.49	74	60.34	31.12	7.53	57.48	145	274	P	H
		4824	41.81	-32.19	74	60.64	31.12	7.53	57.48	191	220	P	V
802.11g CH 06 2437MHz		4874	42.13	-31.87	74	60.9	31.17	7.58	57.52	112	229	P	H
		7311	45.08	-28.92	74	58.91	36.03	9.06	58.92	174	100	P	H
		4874	41.55	-32.45	74	60.32	31.17	7.58	57.52	156	360	P	V
		7311	45.32	-28.68	74	59.15	36.03	9.06	58.92	120	106	P	V
802.11g CH 11 2462MHz		4924	41.31	-32.69	74	59.97	31.22	7.67	57.55	133	180	P	H
		7386	45.5	-28.5	74	59.13	36.29	9.04	58.96	145	274	P	H
		4924	41.85	-32.15	74	60.51	31.22	7.67	57.55	156	360	P	V
		7386	45.89	-28.11	74	59.52	36.29	9.04	58.96	166	210	P	V
<b>Remark</b>	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	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 )
802.11n HT20 CH 01 2412MHz		2389.38	66.4	-7.6	74	69.76	27.8	4.82	35.98	138	319	P	H
		2388.75	45.36	-8.64	54	48.72	27.8	4.82	35.98	138	319	A	H
		2412	105.22	-	-	108.61	27.77	4.82	35.98	138	319	P	H
		2412	97.51	-	-	100.9	27.77	4.82	35.98	138	319	A	H
		2389.91	62.1	-11.9	74	65.46	27.8	4.82	35.98	117	56	P	V
		2390	41.58	-12.42	54	44.94	27.8	4.82	35.98	117	56	A	V
		2412	104.76	-	-	108.15	27.77	4.82	35.98	117	56	P	V
802.11n HT20 CH 06 2437MHz		2412	94.95	-	-	98.34	27.77	4.82	35.98	117	56	A	V
		2332.26	50.38	-23.62	74	53.76	27.91	4.75	36.04	133	316	P	H
		2389.52	39.18	-14.82	54	42.54	27.8	4.82	35.98	133	316	A	H
		2437	106.7	-	-	110.09	27.71	4.86	35.96	133	316	P	H
		2437	98.87	-	-	102.26	27.71	4.86	35.96	133	316	A	H
		2483.97	50.48	-23.52	74	53.84	27.66	4.9	35.92	133	316	P	H
		2484.11	39.11	-14.89	54	42.47	27.66	4.9	35.92	133	316	A	H
		2366.84	48.27	-25.73	74	51.64	27.85	4.78	36	100	66	P	V
		2358.3	37.48	-16.52	54	40.87	27.85	4.78	36.02	100	66	A	V
		2437	103.82	-	-	107.21	27.71	4.86	35.96	100	66	P	V
		2437	96.81	-	-	100.2	27.71	4.86	35.96	100	66	A	V
	2495.59	48.28	-25.72	74	51.65	27.63	4.9	35.9	100	66	P	V	
	2483.76	37.24	-16.76	54	40.6	27.66	4.9	35.92	100	66	A	V	



<b>802.11n</b> <b>HT20</b> <b>CH 11</b> <b>2462MHz</b>		2462	104.31	-	-	107.7	27.69	4.86	35.94	126	319	P	H
		2462	96.58	-	-	99.97	27.69	4.86	35.94	126	319	A	H
		2483.56	67.87	-6.13	74	71.23	27.66	4.9	35.92	126	319	P	H
		2483.5	46.77	-7.23	54	50.13	27.66	4.9	35.92	126	319	A	H
		2462	103.41	-	-	106.8	27.69	4.86	35.94	100	51	P	V
		2462	95.53	-	-	98.92	27.69	4.86	35.94	100	51	A	V
		2483.68	67.73	-6.27	74	71.09	27.66	4.9	35.92	100	51	P	V
	2483.52	44.7	-9.3	54	48.06	27.66	4.9	35.92	100	51	A	V	
<b>Remark</b>	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	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 )
802.11n HT20 CH 01 2412MHz		4824	41.36	-32.64	74	60.19	31.12	7.53	57.48	145	274	P	H
		4824	40.92	-33.08	74	59.75	31.12	7.53	57.48	191	220	P	V
802.11n HT20 CH 06 2437MHz		4874	41.74	-32.26	74	60.51	31.17	7.58	57.52	112	229	P	H
		7311	45.12	-28.88	74	58.95	36.03	9.06	58.92	174	100	P	H
		4874	41.15	-32.85	74	59.92	31.17	7.58	57.52	156	360	P	V
		7311	45.46	-28.54	74	59.29	36.03	9.06	58.92	120	106	P	V
802.11n HT20 CH 11 2462MHz		4924	40.64	-33.36	74	59.3	31.22	7.67	57.55	133	180	P	H
		7386	45.23	-28.77	74	58.86	36.29	9.04	58.96	145	274	P	H
		4924	41.54	-32.46	74	60.2	31.22	7.67	57.55	158	360	P	V
		7386	45.76	-28.24	74	59.39	36.29	9.04	58.96	166	210	P	V
<b>Remark</b>	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 (Band Edge @ 3m)

Table with 14 columns: 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). Rows include data for 802.11ax HE20 CH 01 (2412MHz) and CH 06 (2437MHz).



<b>802.11ax</b>  <b>HE20</b>  <b>CH 11</b>  <b>2462MHz</b>	*	2462	106.07	-	-	109.46	27.69	4.86	35.94	122	316	P	H
	*	2462	96.09	-	-	99.48	27.69	4.86	35.94	122	316	A	H
		2483.56	67.66	-6.34	74	71.02	27.66	4.9	35.92	122	316	P	H
		2483.56	45.84	-8.16	54	49.2	27.66	4.9	35.92	122	316	A	H
	*	2462	105.43	-	-	108.82	27.69	4.86	35.94	137	54	P	V
	*	2462	96.47	-	-	99.86	27.69	4.86	35.94	137	54	A	V
		2483.52	67.29	-6.71	74	70.65	27.66	4.9	35.92	137	54	P	V
	2483.52	43.38	-10.62	54	46.74	27.66	4.9	35.92	137	54	A	V	
<b>Remark</b>	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 (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 )
802.11ax HE20 CH 01 2412MHz		4824	41.23	-32.77	74	60.06	31.12	7.53	57.48	145	274	P	H
		4824	40.37	-33.63	74	59.2	31.12	7.53	57.48	145	274	P	V
802.11ax HE20 CH 06 2437MHz		4874	39.82	-34.18	74	58.59	31.17	7.58	57.52	112	229	P	H
		7311	44.88	-29.12	74	58.71	36.03	9.06	58.92	174	100	P	H
		4874	40.59	-33.41	74	59.36	31.17	7.58	57.52	156	360	P	V
		7311	45.34	-28.66	74	59.17	36.03	9.06	58.92	120	106	P	V
802.11ax HE20 CH 11 2462MHz		4924	41.03	-32.97	74	59.69	31.22	7.67	57.55	133	180	P	H
		7386	45.41	-28.59	74	59.04	36.29	9.04	58.96	145	274	P	H
		4924	41.74	-32.26	74	60.4	31.22	7.67	57.55	156	360	P	V
		7386	46.09	-27.91	74	59.72	36.29	9.04	58.96	166	210	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11ax HE40 (Band Edge @ 3m)

Table with 14 columns: 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). Rows include test data for 802.11ax HE40 CH 03 (2422MHz) and CH 06 (2437MHz).



802.11ax HE40 CH 09 2452MHz		2323.02	50.87	-23.13	74	54.25	27.91	4.75	36.04	152	315	P	H
		2389.52	39.01	-14.99	54	42.37	27.8	4.82	35.98	152	315	A	H
	*	2452	102.18	-	-	105.55	27.71	4.86	35.94	152	315	P	H
	*	2452	92.37	-	-	95.74	27.71	4.86	35.94	152	315	A	H
		2483.5	63.84	-10.16	74	67.2	27.66	4.9	35.92	152	315	P	H
		2483.5	42.41	-11.59	54	45.77	27.66	4.9	35.92	152	315	A	H
		2385.04	50.58	-23.42	74	53.93	27.83	4.82	36	113	54	P	V
		2389.66	38.96	-15.04	54	42.32	27.8	4.82	35.98	113	54	A	V
	*	2452	102.97	-	-	106.34	27.71	4.86	35.94	113	54	P	V
	*	2452	92.94	-	-	96.31	27.71	4.86	35.94	113	54	A	V
		2483.97	64.55	-9.45	74	67.91	27.66	4.9	35.92	113	54	P	V
		2483.5	42.05	-11.95	54	45.41	27.66	4.9	35.92	113	54	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 HE40 (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 )
802.11ax		4844	41.45	-32.55	74	60.23	31.13	7.58	57.49	129	172	P	H
HE40		7266	46.12	-27.88	74	60.04	35.93	9.06	58.91	200	360	P	H
CH 03		4844	41.06	-32.94	74	59.84	31.13	7.58	57.49	129	172	P	V
2422MHz		7266	44.65	-29.35	74	58.57	35.93	9.06	58.91	200	360	P	V
802.11ax		4874	40.66	-33.34	74	59.43	31.17	7.58	57.52	163	309	P	H
HE40		7311	44.62	-29.38	74	58.45	36.03	9.06	58.92	285	151	P	H
CH 06		4874	41.96	-32.04	74	60.73	31.17	7.58	57.52	163	309	P	V
2437MHz		7311	44.95	-29.05	74	58.78	36.03	9.06	58.92	285	151	P	V
802.11ax		4904	40.25	-33.75	74	58.97	31.2	7.62	57.54	199	203	P	H
HE40		7356	46.4	-27.6	74	60.1	36.19	9.05	58.94	112	72	P	H
CH 09		4904	41.16	-32.84	74	59.88	31.2	7.62	57.54	158	274	P	V
2452MHz		7356	45.38	-28.62	74	59.08	36.19	9.05	58.94	302	260	P	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Partial Ru:

**2.4GHz 2400~2483.5MHz  
WIFI 802.11ax HE20 (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 )
802.11ax HE20 CH 01 2412MHz		2388.96	53.66	-20.34	74	57.02	27.8	4.82	35.98	143	0	P	H
		2387.07	39.29	-14.71	54	42.67	27.8	4.82	36	143	0	A	H
	*	2412	105.28	-	-	108.67	27.77	4.82	35.98	143	0	P	H
	*	2412	96.03	-	-	99.42	27.77	4.82	35.98	143	0	A	H
		2389.905	57.05	-16.95	74	60.41	27.8	4.82	35.98	100	61	P	V
		2388.855	39.16	-14.84	54	42.52	27.8	4.82	35.98	100	61	A	V
	*	2412	104.58	-	-	107.97	27.77	4.82	35.98	100	61	P	V
	*	2412	96.64	-	-	100.03	27.77	4.82	35.98	100	61	A	V
802.11ax HE20 CH 11 2462MHz	*	2462	106.05	-	-	109.44	27.69	4.86	35.94	131	235	P	H
	*	2462	98.33	-	-	101.72	27.69	4.86	35.94	131	235	A	H
		2484.28	57.15	-16.85	74	60.51	27.66	4.9	35.92	131	235	P	H
		2483.76	39.38	-14.62	54	42.74	27.66	4.9	35.92	131	235	A	H
	*	2462	105.38	-	-	108.77	27.69	4.86	35.94	201	57	P	V
	*	2462	97.61	-	-	101	27.69	4.86	35.94	201	57	A	V
		2484.56	56.74	-17.26	74	60.1	27.66	4.9	35.92	201	57	P	V
		2484.28	39.5	-14.5	54	42.86	27.66	4.9	35.92	201	57	A	V
Remark	5. No other spurious found. 6. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 (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 )
802.11ax HE20 CH 01 2412MHz		4824	41.24	-32.76	74	60.07	31.12	7.53	57.48	156	360	P	H
		4824	40.79	-33.21	74	59.62	31.12	7.53	57.48	156	360	P	V
802.11ax HE20 CH 11 2462MHz		4924	41.21	-32.79	74	59.87	31.22	7.67	57.55	156	360	P	H
		7386	45.27	-28.73	74	58.9	36.29	9.04	58.96	156	360	P	H
		4924	41.08	-32.92	74	59.74	31.22	7.67	57.55	156	360	P	V
		7386	44.95	-29.05	74	58.58	36.29	9.04	58.96	156	360	P	V
Remark	5. No other spurious found.												
	6. All results are PASS against Peak and Average limit line.												





**2.4GHz 2400~2483.5MHz  
WIFI 802.11ax HE40 (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 )
802.11ax HE40 CH 03 2422MHz		2387.84	58.57	-15.43	74	61.93	27.8	4.82	35.98	251	230	P	H
		2389.94	39.36	-14.64	54	42.72	27.8	4.82	35.98	251	230	A	H
	*	2422	105	-	-	108.4	27.74	4.82	35.96	251	230	P	H
	*	2422	96.87	-	-	100.27	27.74	4.82	35.96	251	230	A	H
		2492.86	50.73	-23.27	74	54.1	27.63	4.9	35.9	251	230	P	H
		2484.25	39.04	-14.96	54	42.4	27.66	4.9	35.92	251	230	A	H
		2389.8	61.51	-12.49	74	64.87	27.8	4.82	35.98	100	69	P	V
		2389.94	39.61	-14.39	54	42.97	27.8	4.82	35.98	100	69	A	V
	*	2422	105.37	-	-	108.77	27.74	4.82	35.96	100	69	P	V
	*	2422	97.36	-	-	100.76	27.74	4.82	35.96	100	69	A	V
		2493.63	50.86	-23.14	74	54.23	27.63	4.9	35.9	100	69	P	V
		2484.46	39	-15	54	42.36	27.66	4.9	35.92	100	69	A	V
802.11ax HE40 CH 09 2452MHz		2375.8	50.73	-23.27	74	54.12	27.83	4.78	36	100	235	P	H
		2388.96	38.97	-15.03	54	42.33	27.8	4.82	35.98	100	235	A	H
	*	2452	103.42	-	-	106.79	27.71	4.86	35.94	100	235	P	H
	*	2452	95.91	-	-	99.28	27.71	4.86	35.94	100	235	A	H
		2484.25	63.3	-10.7	74	66.66	27.66	4.9	35.92	100	235	P	H
		2483.97	39.24	-14.76	54	42.6	27.66	4.9	35.92	100	235	A	H
		2389.66	52.58	-21.42	74	55.94	27.8	4.82	35.98	111	61	P	V
		2389.8	39	-15	54	42.36	27.8	4.82	35.98	111	61	A	V
	*	2452	106.58	-	-	109.95	27.71	4.86	35.94	111	61	P	V
	*	2452	99.24	-	-	102.61	27.71	4.86	35.94	111	61	A	V
	2484.53	64.55	-9.45	74	67.91	27.66	4.9	35.92	111	61	P	V	
	2483.5	39.46	-14.54	54	42.82	27.66	4.9	35.92	111	61	A	V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE40 (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 )
802.11ax		4844	40.71	-33.29	74	59.49	31.13	7.58	57.49	158	360	P	H
HE40		7266	44.83	-29.17	74	58.75	35.93	9.06	58.91	158	360	P	H
CH 03		4844	41.16	-32.84	74	59.94	31.13	7.58	57.49	158	360	P	V
2422MHz		7266	44.97	-29.03	74	58.89	35.93	9.06	58.91	158	360	P	V
802.11ax		4904	43.43	-30.57	74	56.69	31.17	9.9	54.33	173	52	P	H
HE40		7356	44.39	-29.61	74	50.61	36.4	11.94	54.56	143	301	P	H
CH 09		4904	39.02	-34.98	74	52.28	31.17	9.9	54.33	150	360	P	V
2452MHz		7356	44.81	-29.19	74	51.03	36.4	11.94	54.56	165	335	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



Emission below 1GHz  
2.4GHz WIFI 802.11n HT20 (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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
2.4GHz 802.11n HT20 LF		30.97	22.79	-17.21	40	30.04	24.62	0.53	32.4	-	-	P	H
		106.63	23.51	-19.99	43.5	37.19	17.53	0.99	32.2	-	-	P	H
		224.97	28.97	-17.03	46	43.64	15.85	1.42	31.94	-	-	P	H
		287.05	30.6	-15.4	46	41.43	19.27	1.62	31.72	-	-	P	H
		410.24	33.33	-12.67	46	40.63	22.13	1.95	31.38	100	23	P	H
		920.46	29.44	-16.56	46	31.1	26.92	2.92	31.5	-	-	P	H
		30	30.97	-9.03	40	37.65	25.2	0.52	32.4	100	254	P	V
		57.16	24.92	-15.08	40	43.55	13.04	0.73	32.4	-	-	P	V
		96.93	26.08	-17.42	43.5	40.93	16.36	0.94	32.15	-	-	P	V
		159.98	24.45	-19.05	43.5	39.12	16.3	1.21	32.18	-	-	P	V
		310.33	25.36	-20.64	46	35.75	19.63	1.68	31.7	-	-	P	V
	991.27	29.54	-24.46	54	30.09	27.51	3.03	31.09	-	-	P	V	

**Remark**

- No other spurious found.
- All results are PASS against limit line.



Note symbol

*	<b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is <b>over limit</b> line.
P/A	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



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		( 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

- Level(dBμV/m) =  
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

- 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)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

- 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)
- 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”.

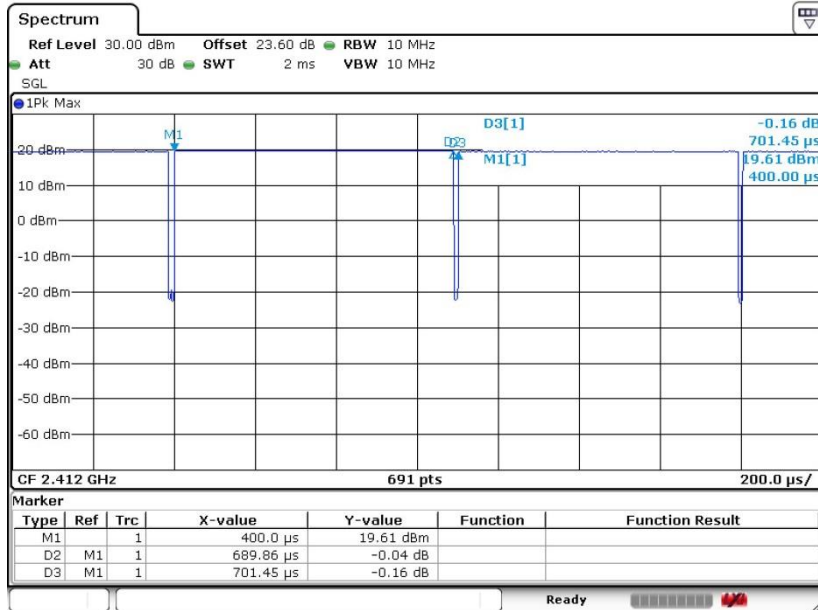


## Appendix D. Duty Cycle Plots

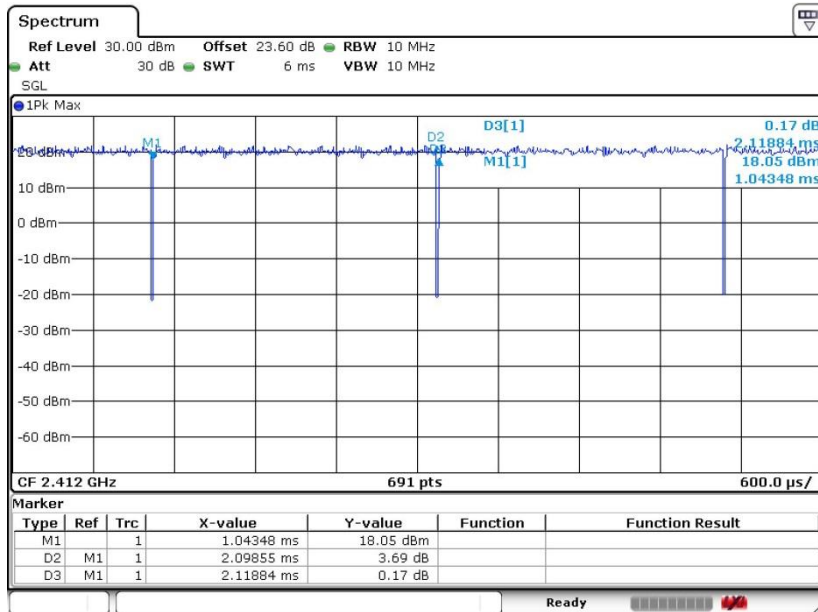
Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2	802.11b	98.35	-	-	10Hz
1+2	802.11g	99.04	-	-	10Hz
1+2	802.11n HT20	100	-	-	10Hz
1+2	802.11ax HE20	100	-	-	10Hz
1+2	802.11ax HE40	100	-	-	10Hz



802.11b

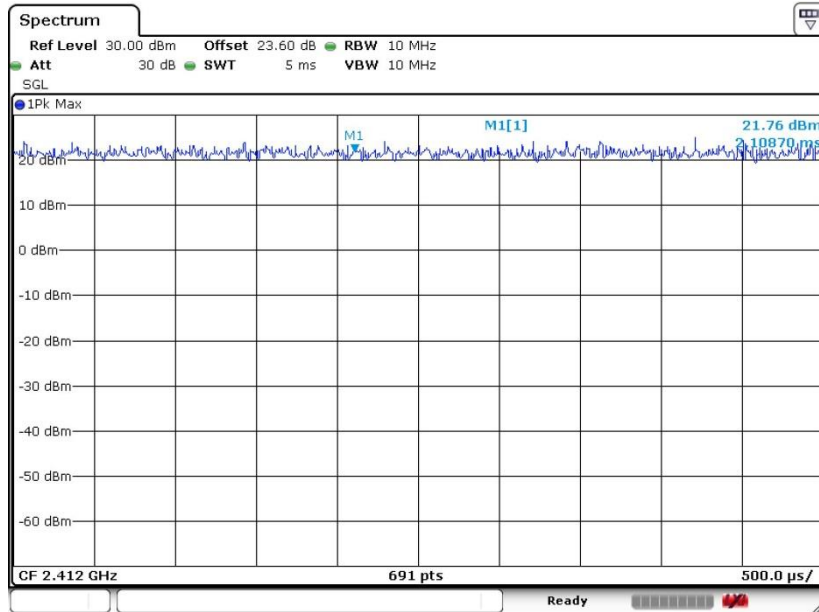


802.11g





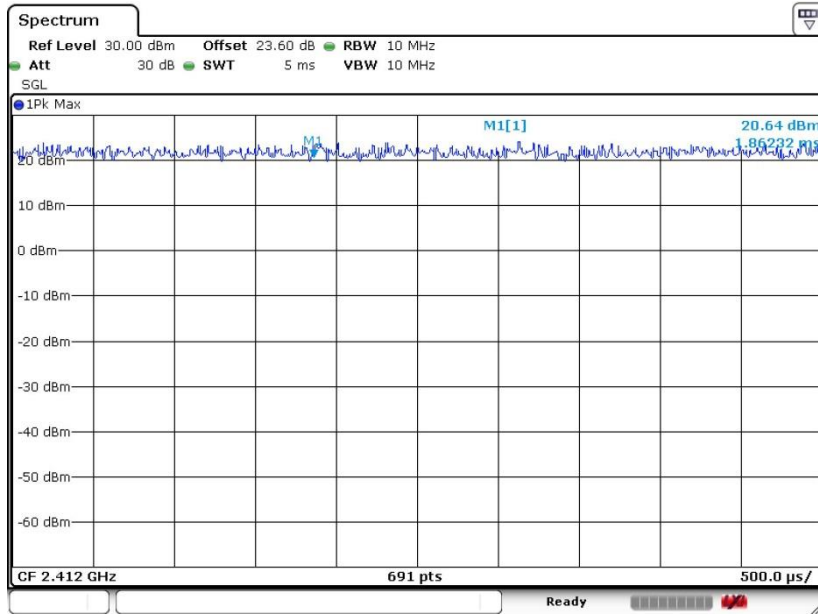
802.11n HT20







### 802.11ax HE20



### 802.11ax HE40

