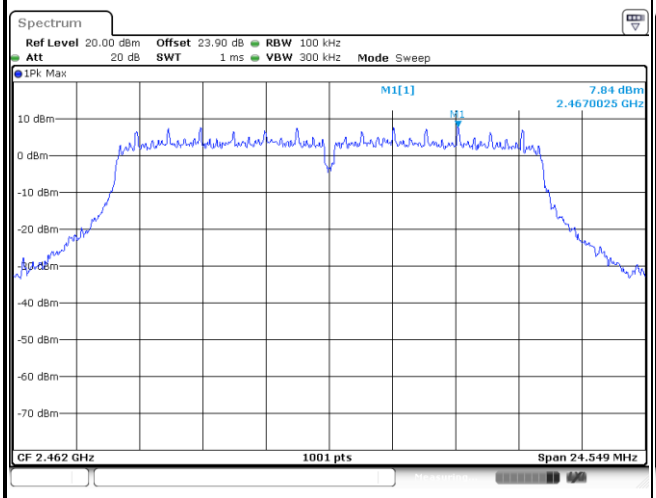
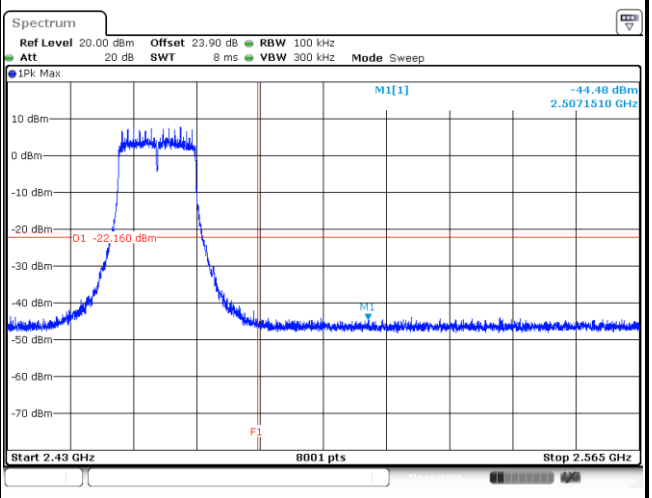
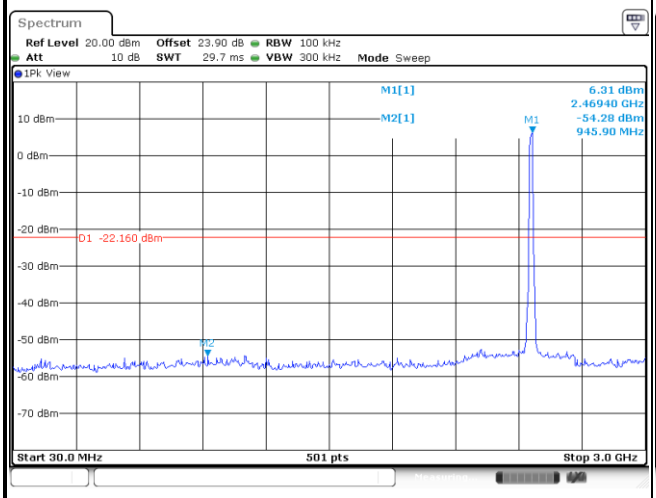
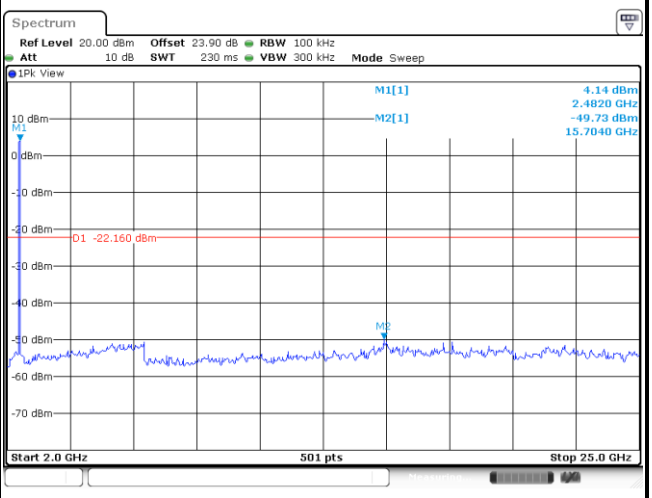
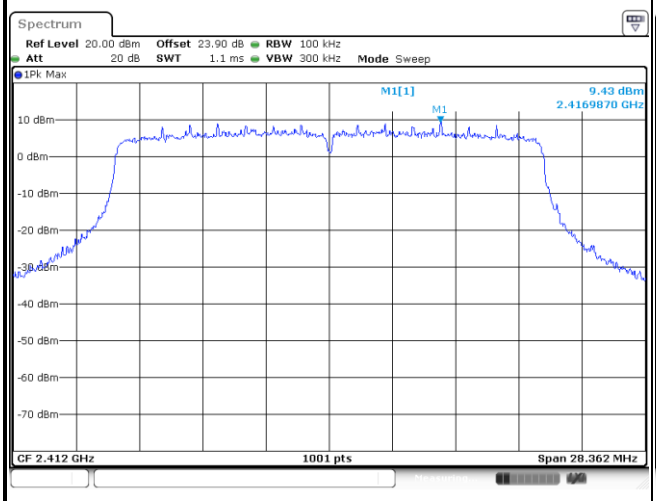
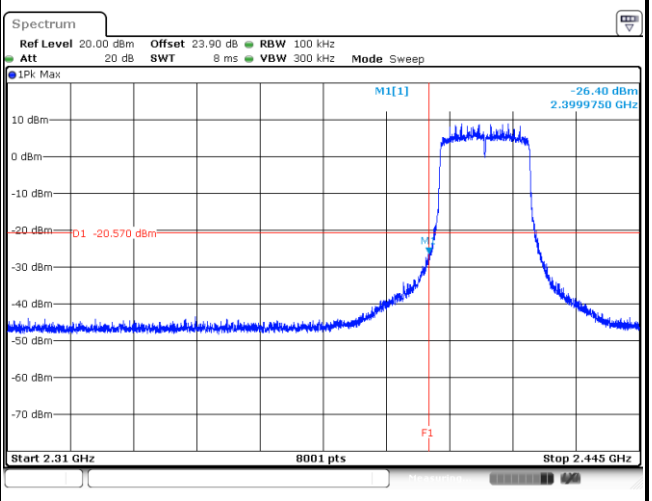
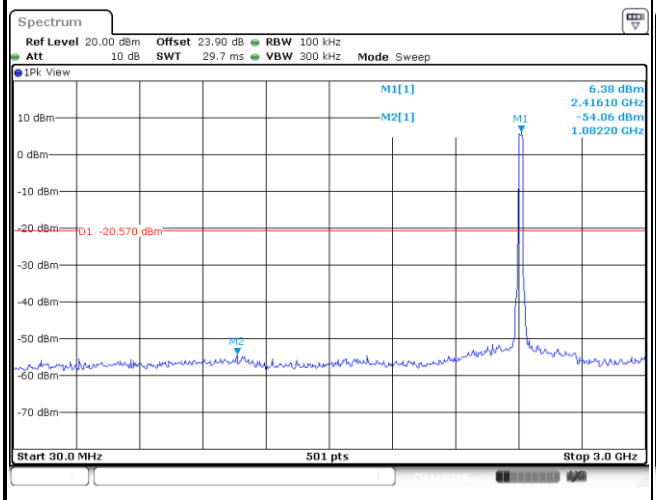
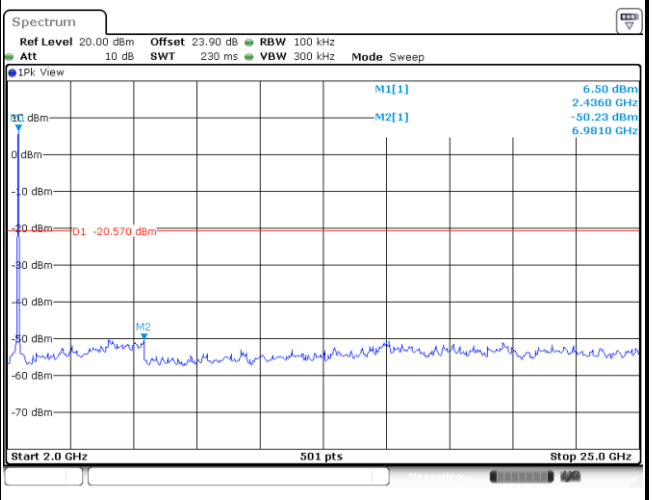
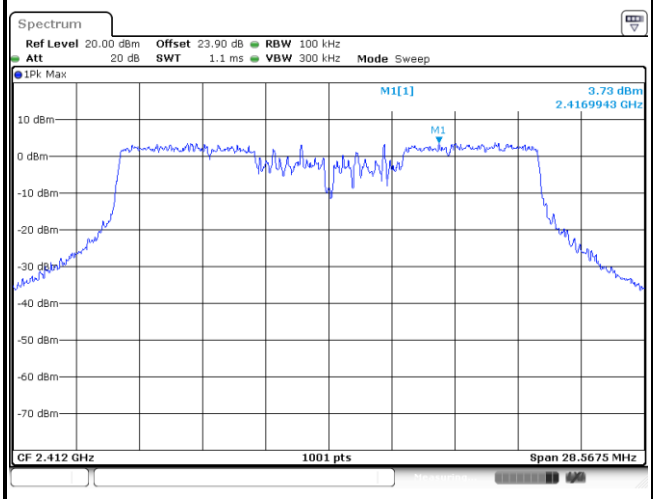
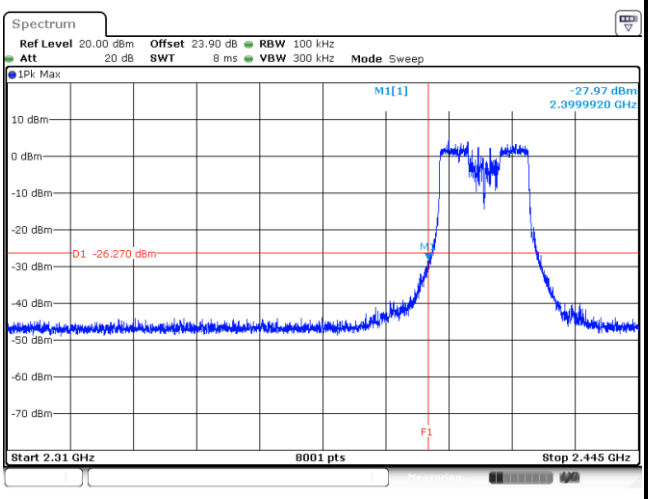
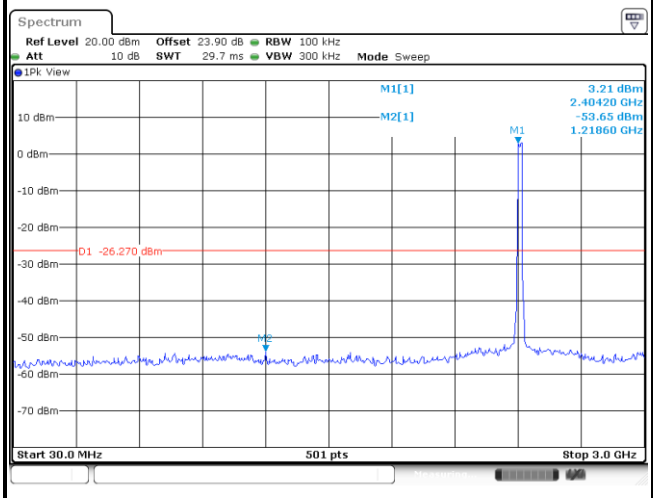
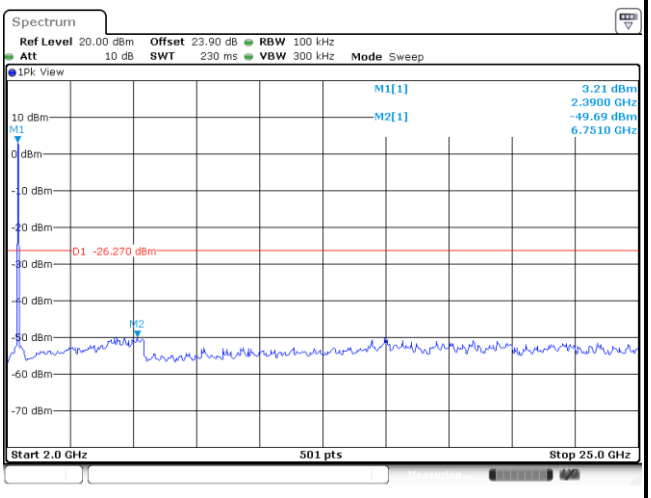
Test Mode :	802.11g	Test Channel :	11

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

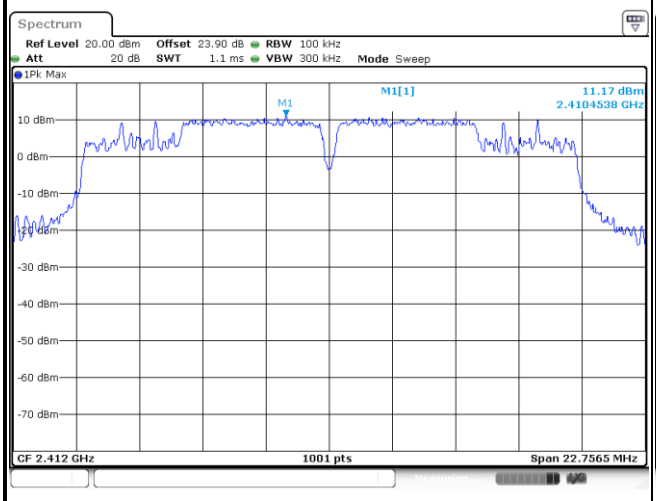
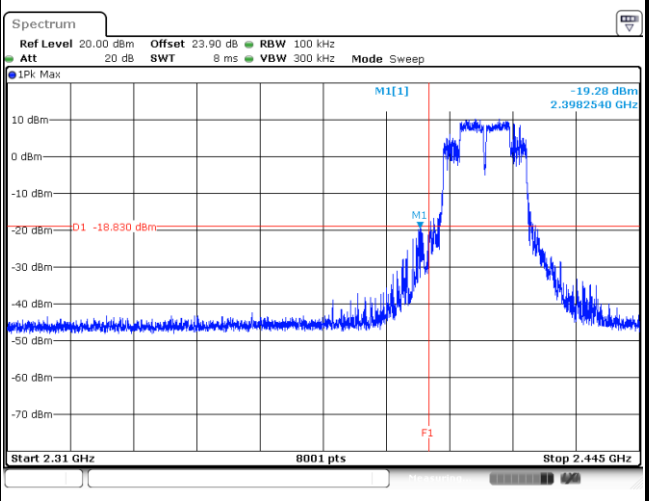
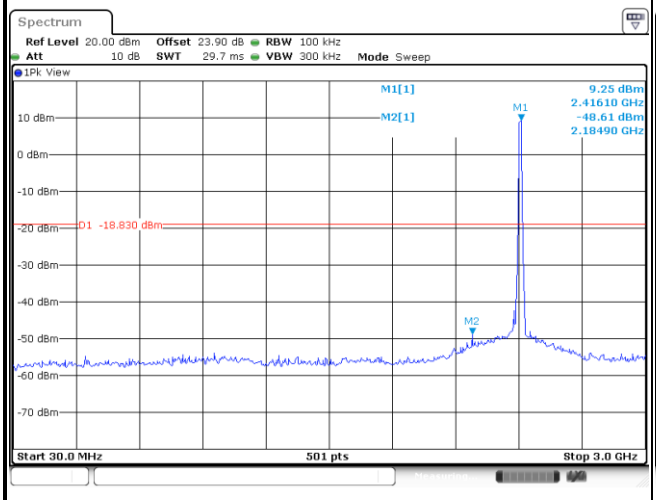
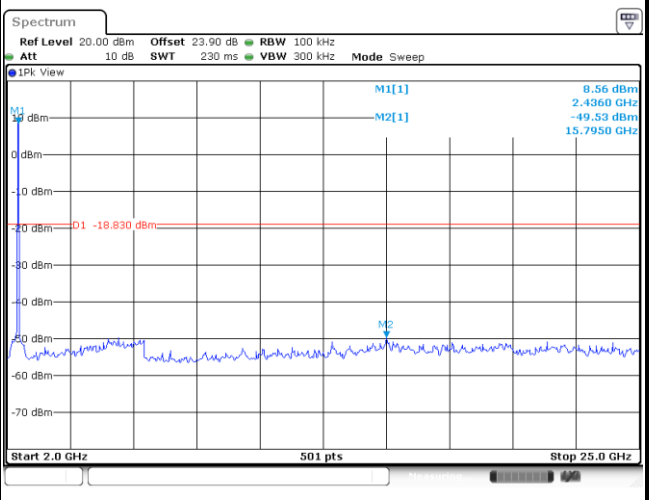
Test Mode :	802.11ax HE20	Test Channel :	01 Full RU

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

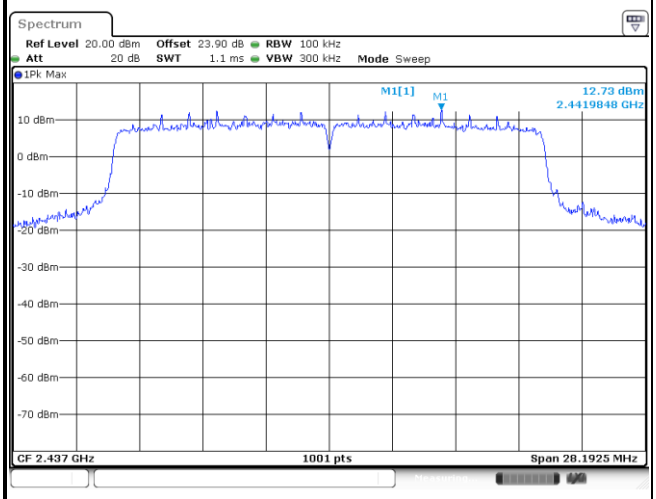
Test Mode :	802.11ax HE20	Test Channel :	01 Partial RU (M)

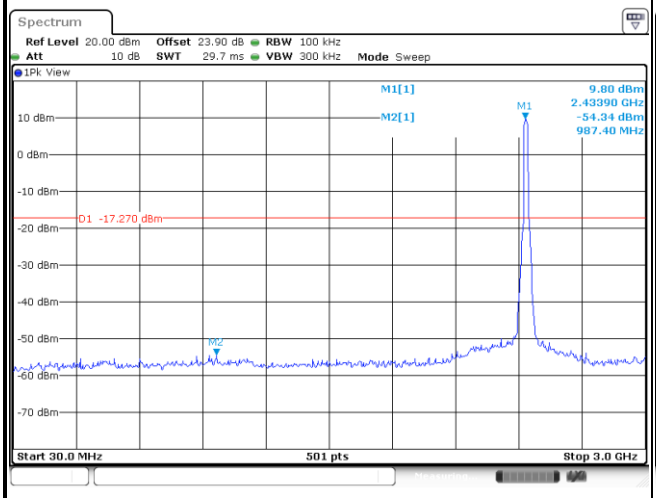
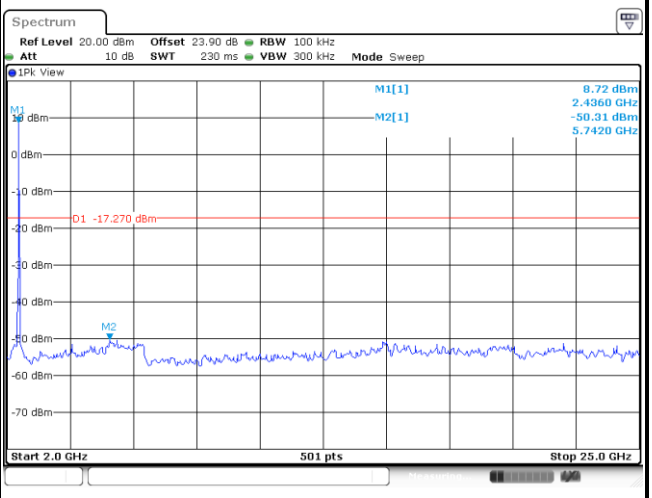
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE20	Test Channel :	01 Partial RU (BE)

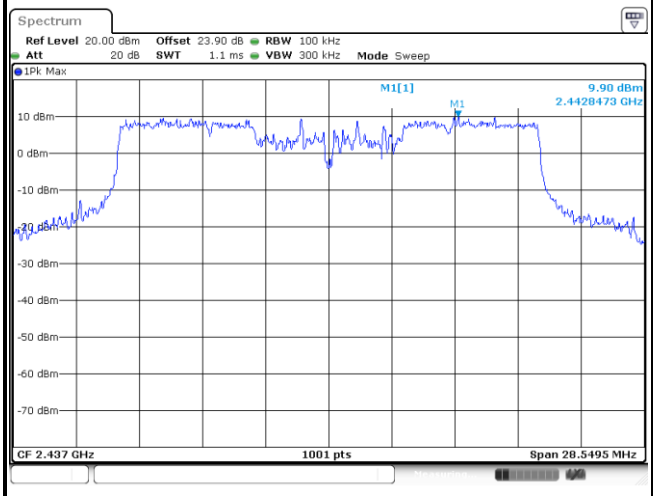
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

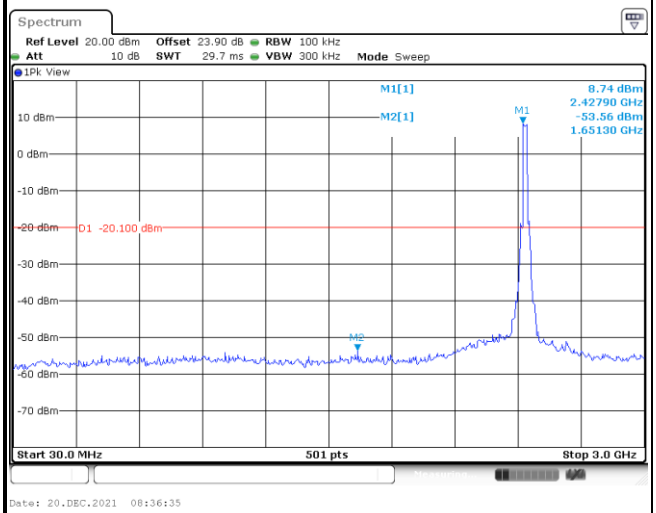
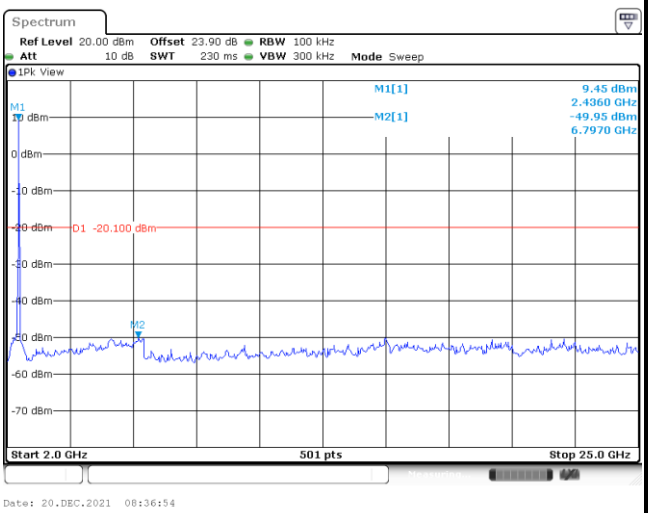
Test Mode :	802.11ax HE20	Test Channel :	06 Full RU

100kHz PSD reference Level	Channel Plot
	

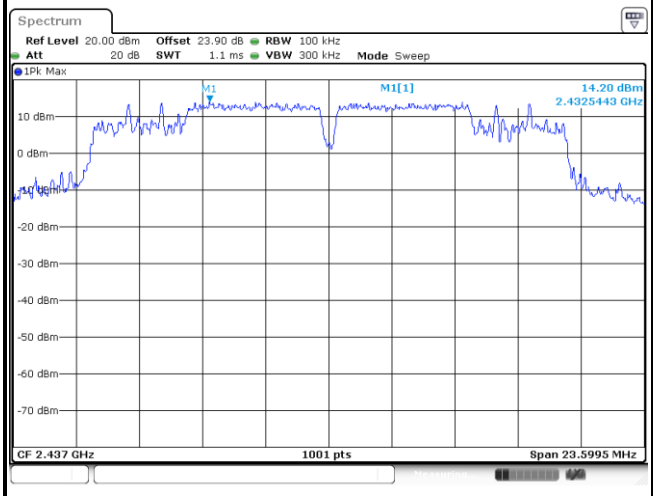
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

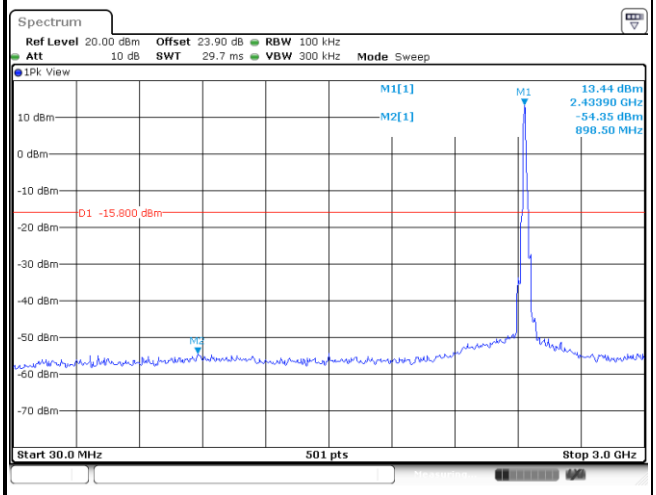
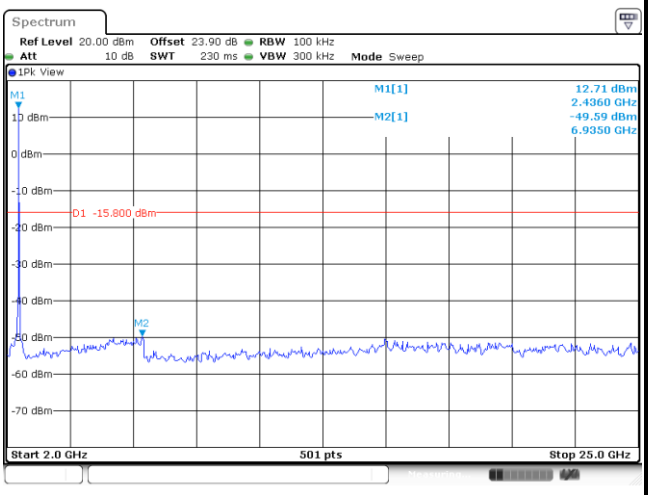
Test Mode :	802.11ax HE20	Test Channel :	06 Partial RU (M)

100kHz PSD reference Level	Channel Plot
	

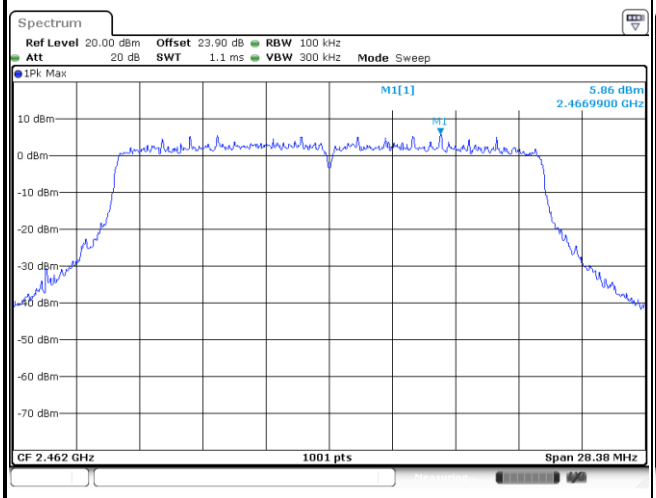
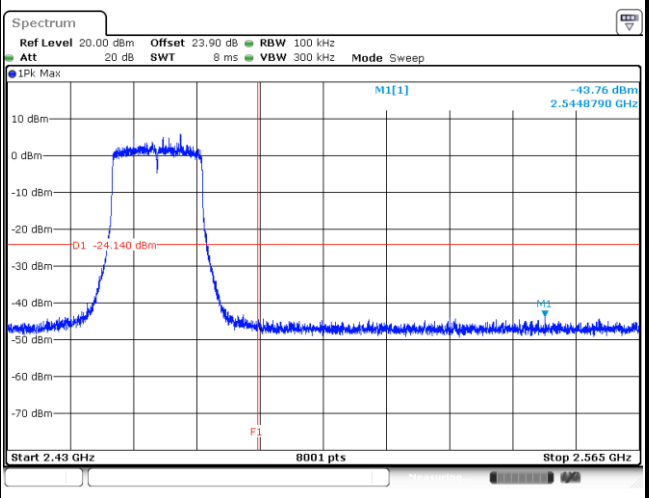
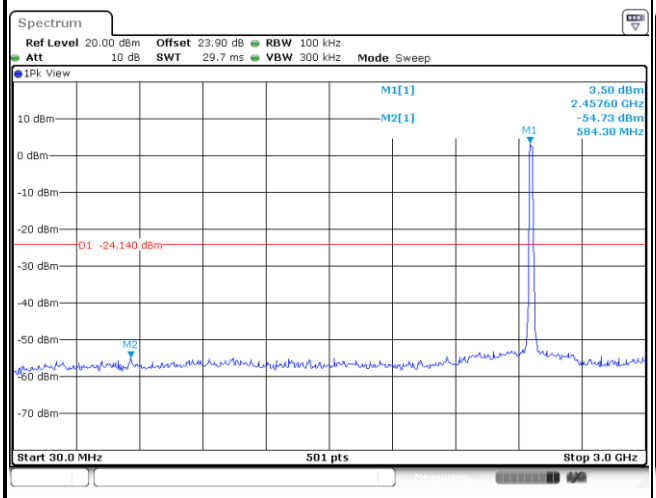
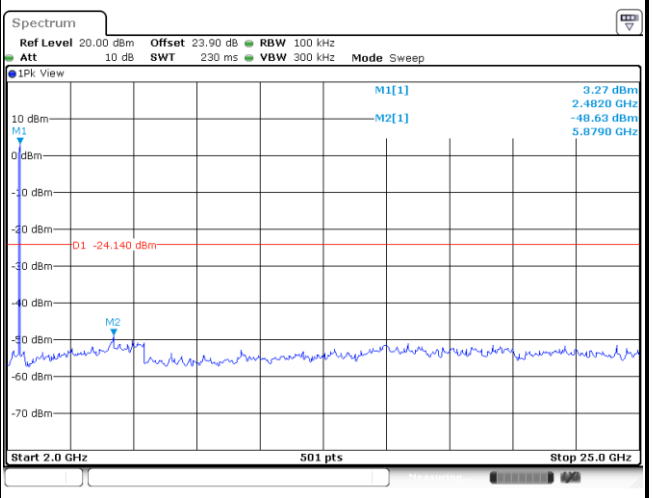
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11ax HE20	Test Channel :	06 Partial RU (BE)

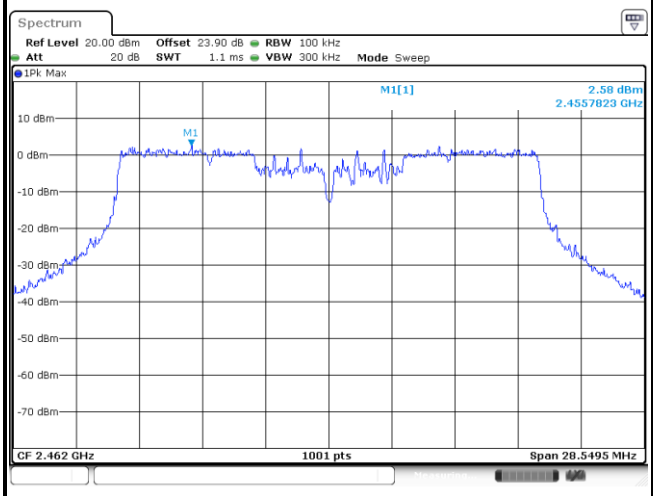
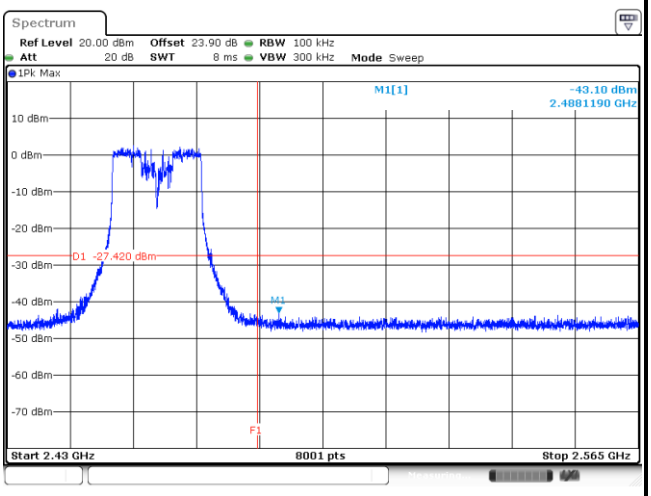
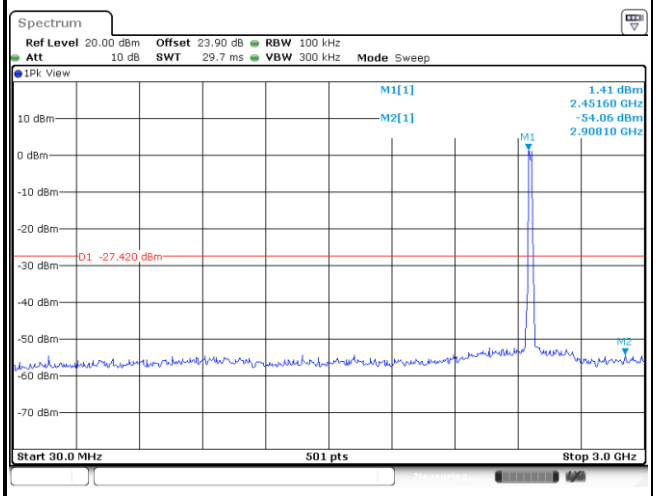
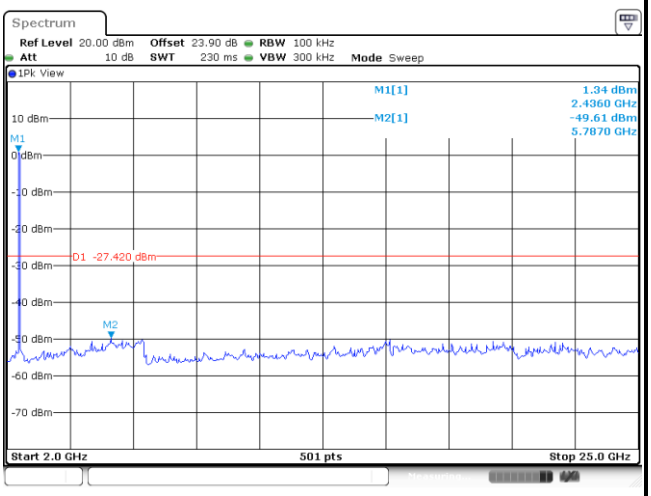
100kHz PSD reference Level	Channel Plot
	

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

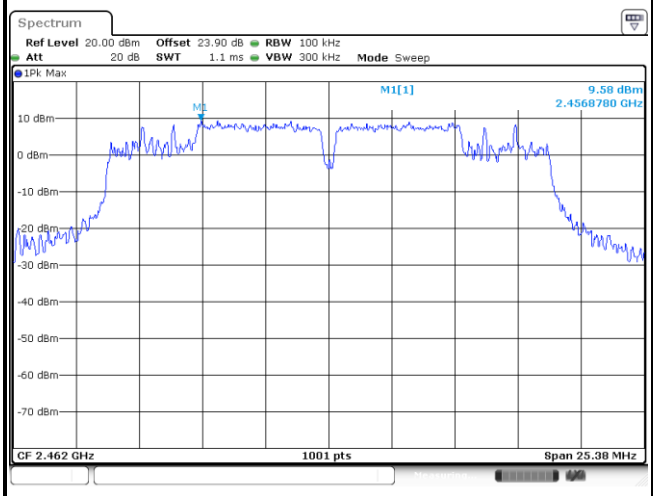
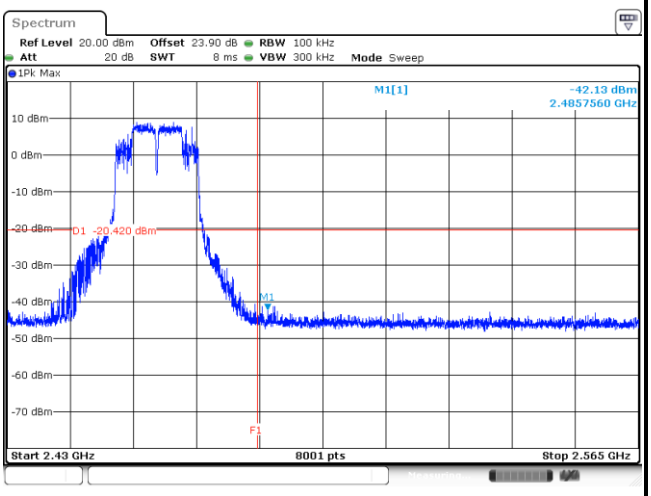
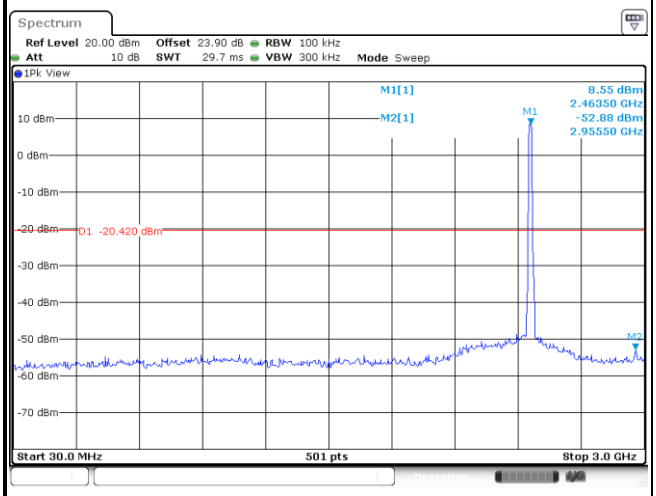
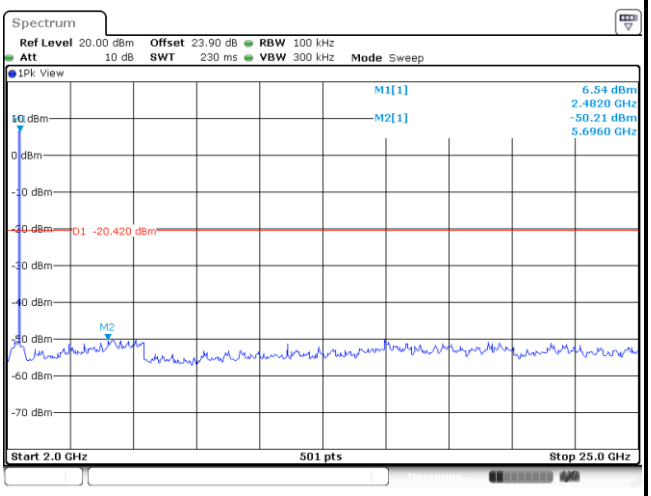
Test Mode :	802.11ax HE20	Test Channel :	11 Full RU

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

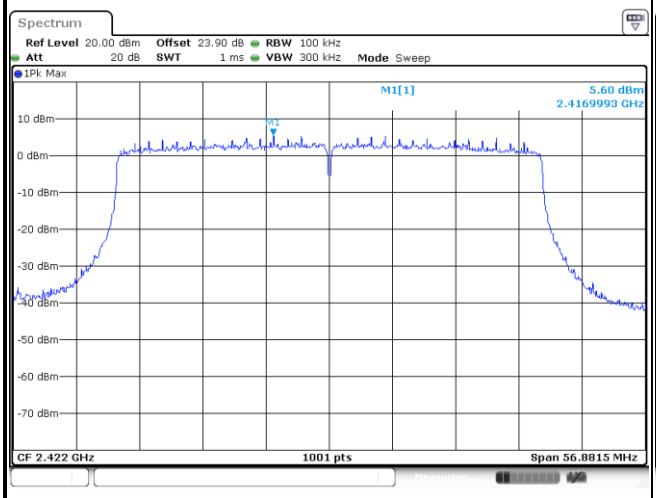
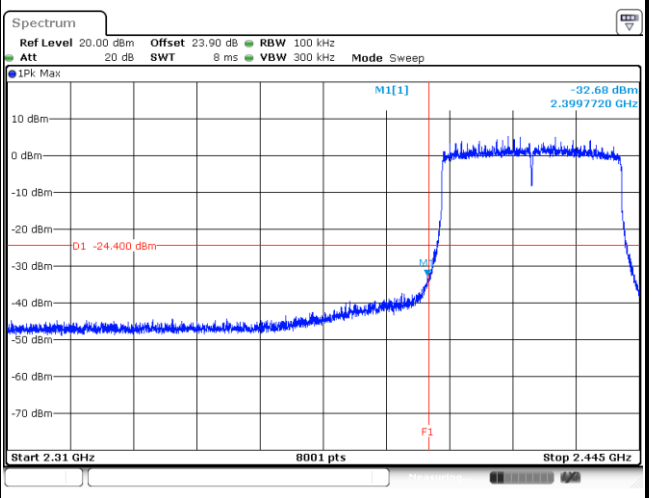
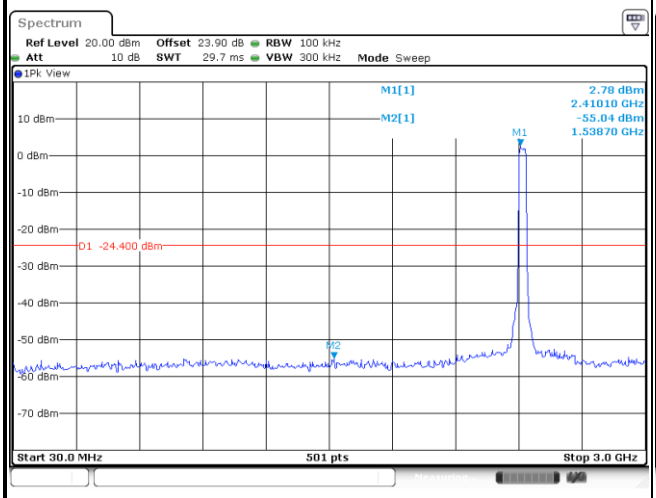
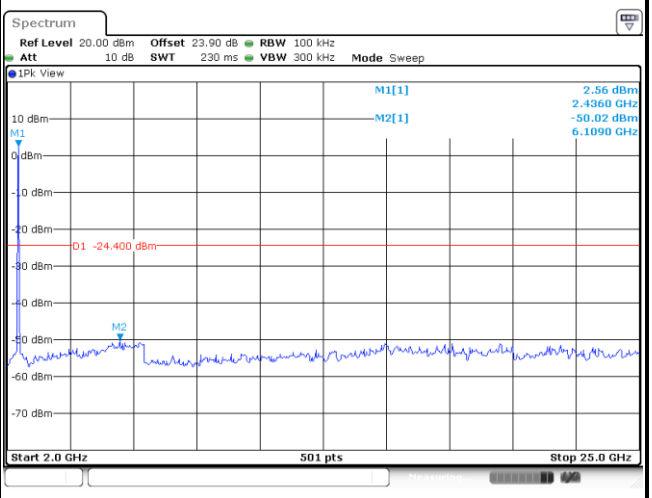
Test Mode :	802.11ax HE20	Test Channel :	11 Partial RU (M)

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

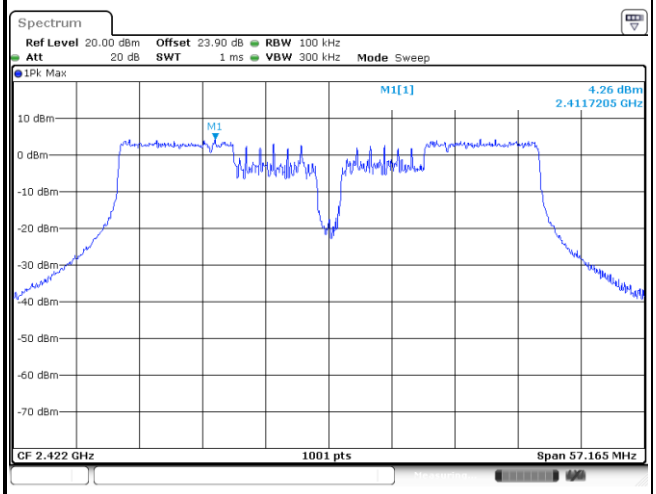
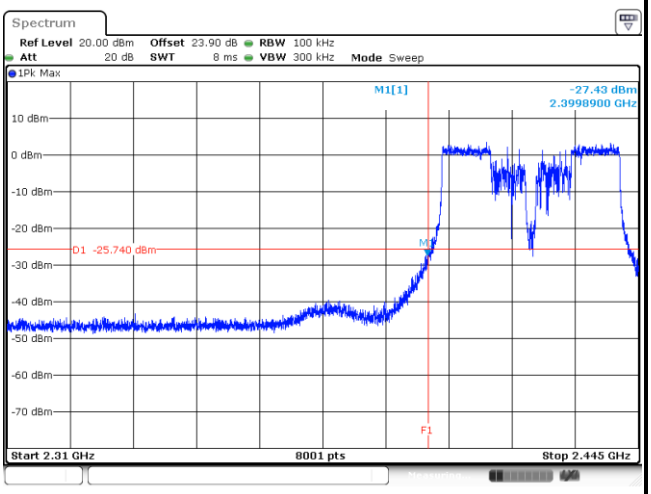
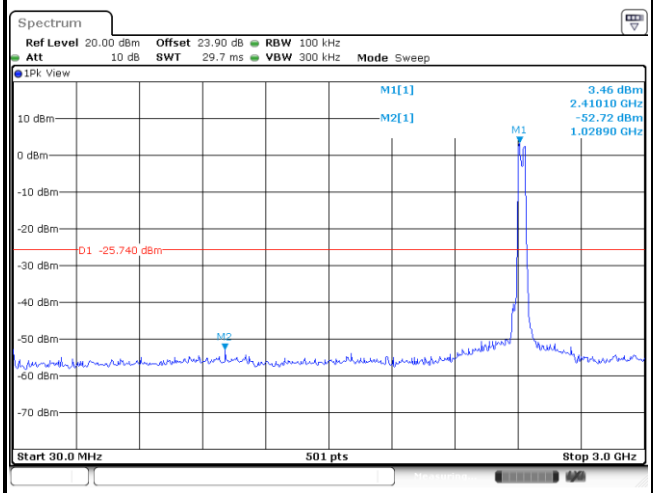
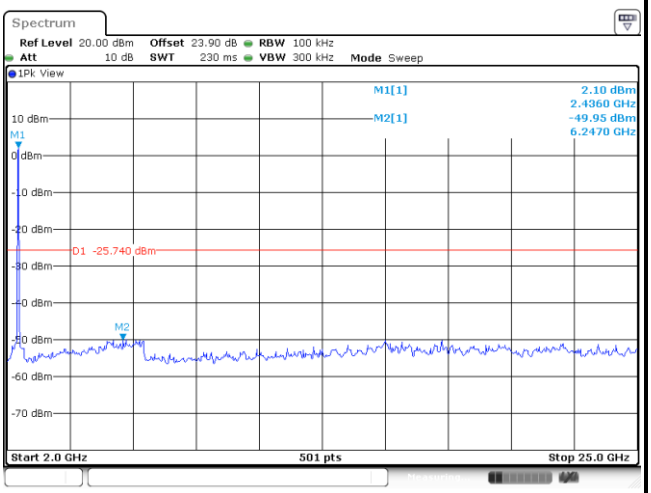
Test Mode :	802.11ax HE20	Test Channel :	11 Partial RU (BE)

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

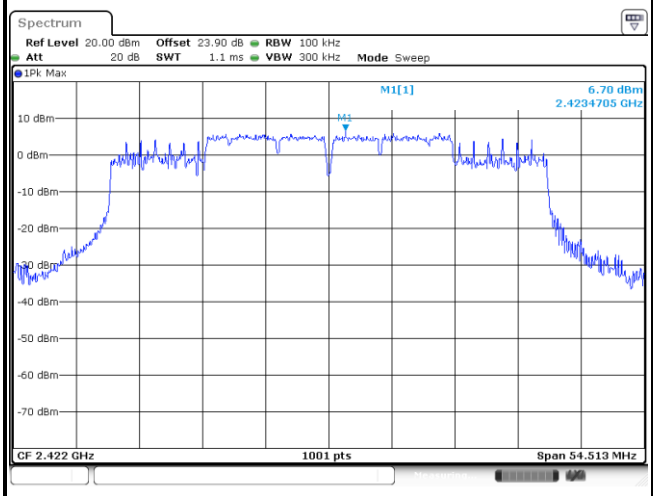
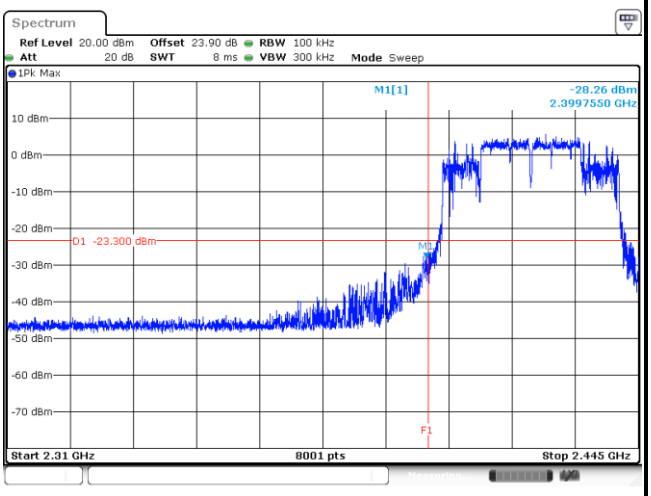
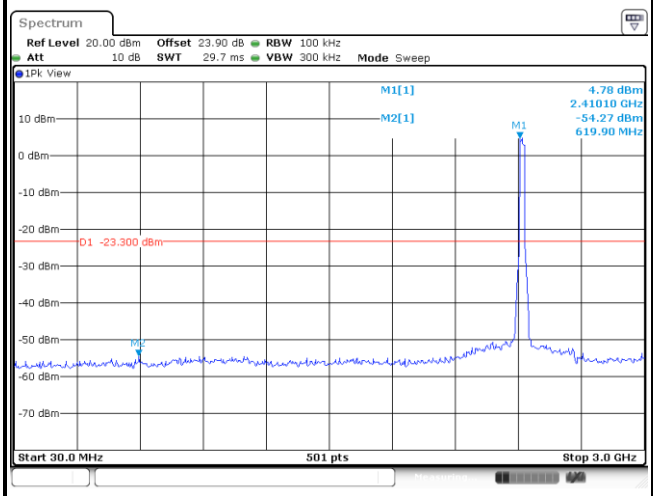
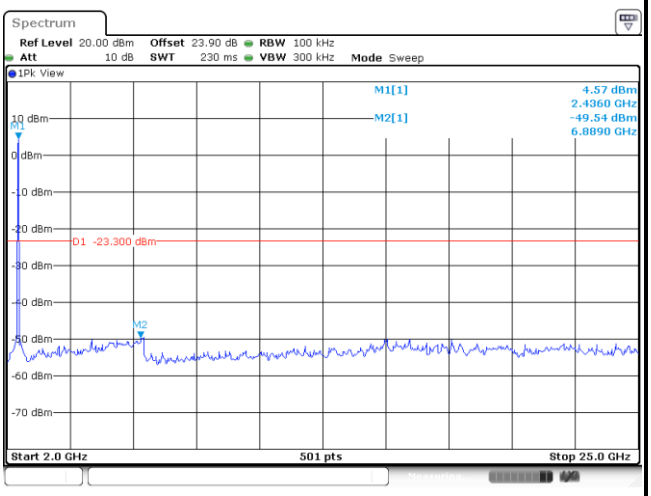
Test Mode :	802.11ax HE40	Test Channel :	03 Full RU

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

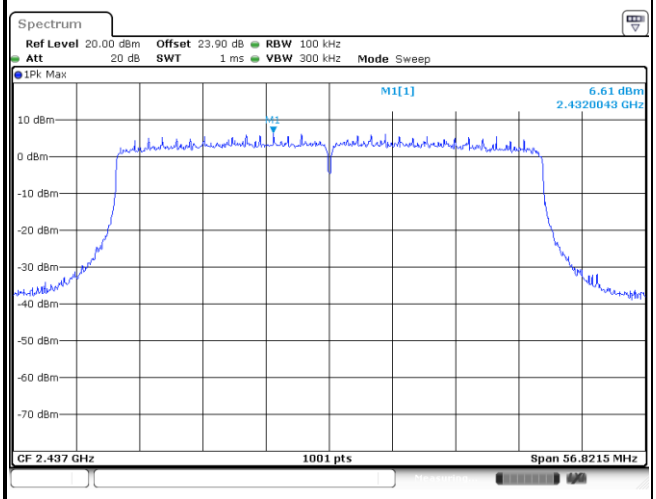
Test Mode :	802.11ax HE40	Test Channel :	03 Partial RU (M)

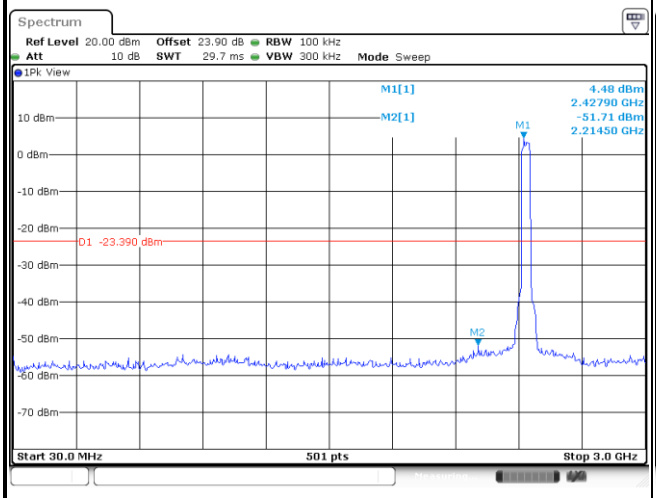
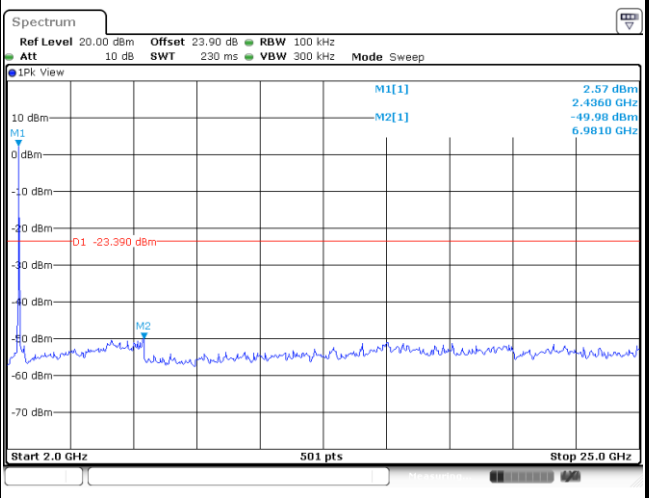
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE40	Test Channel :	03 Partial RU (BE)

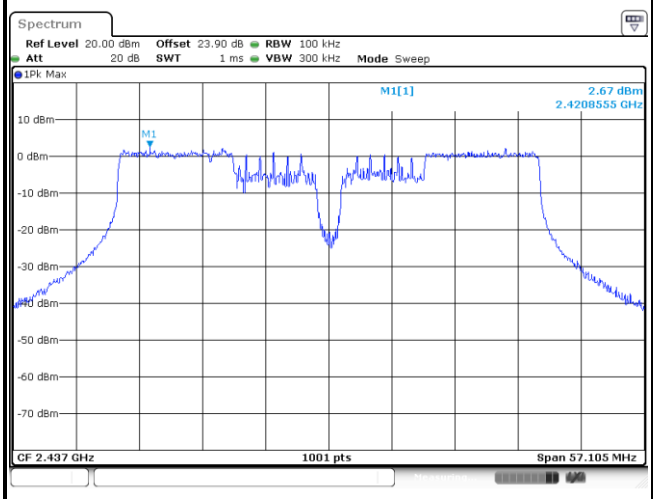
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

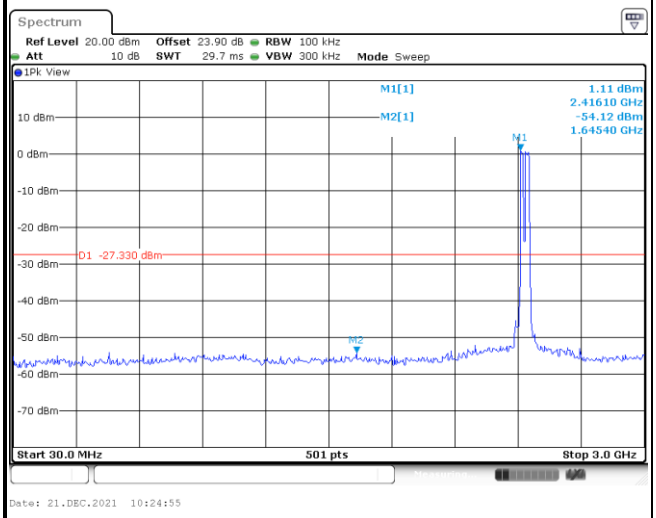
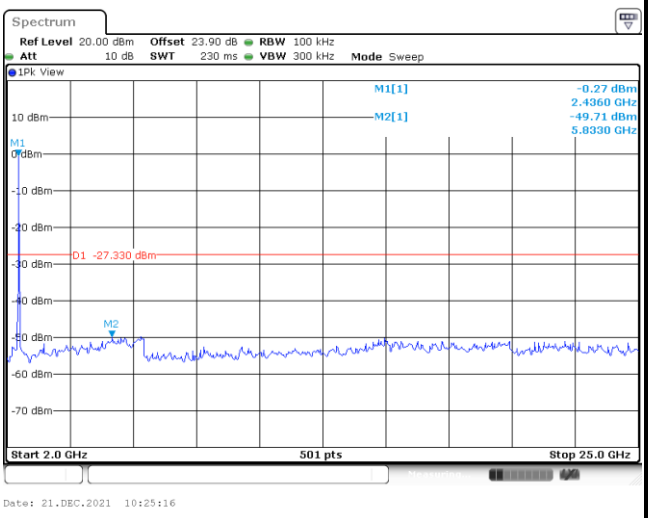
Test Mode :	802.11ax HE40	Test Channel :	06 Full RU

100kHz PSD reference Level	Channel Plot
	

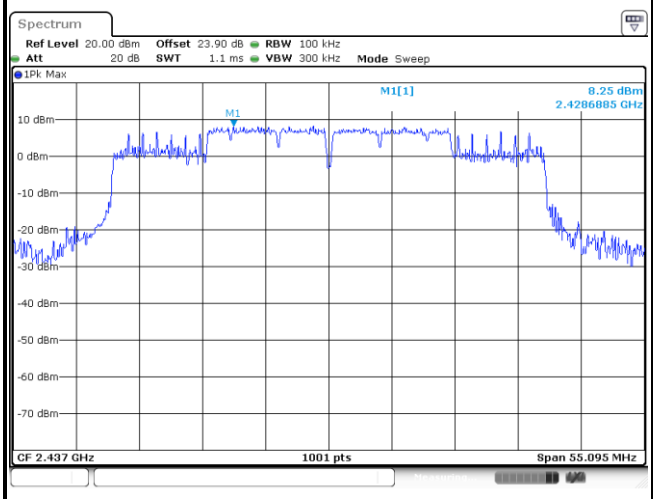
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

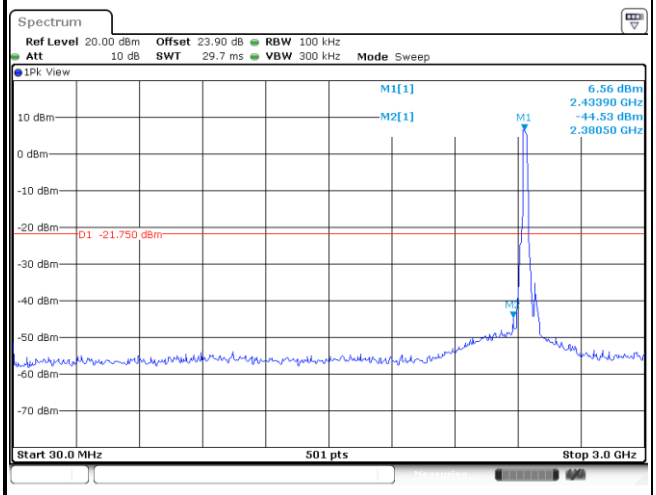
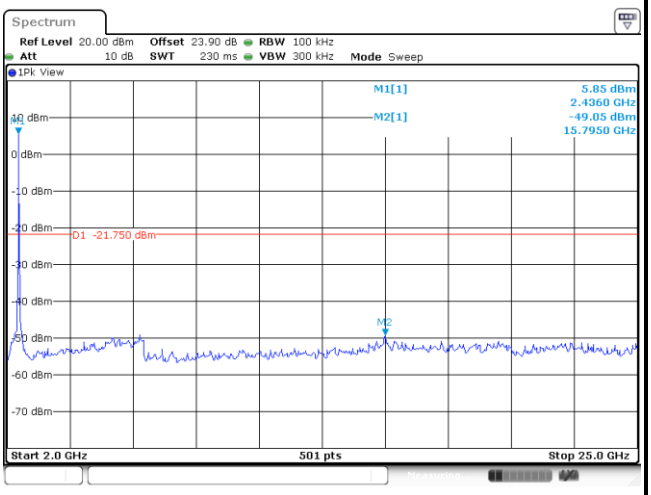
Test Mode :	802.11ax HE40	Test Channel :	06 Partial RU (M)

100kHz PSD reference Level	Channel Plot
	

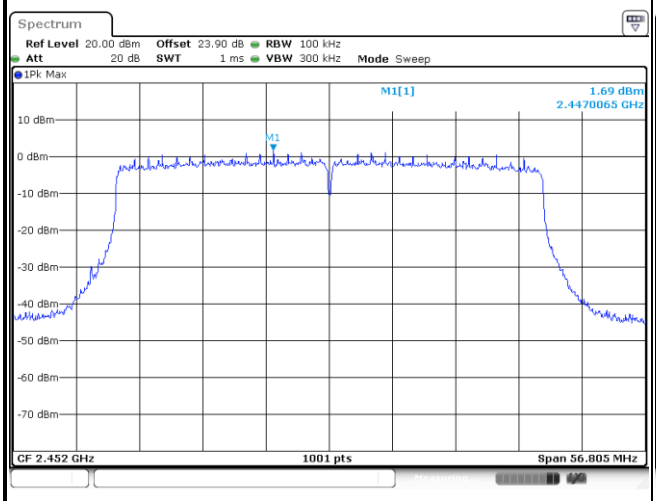
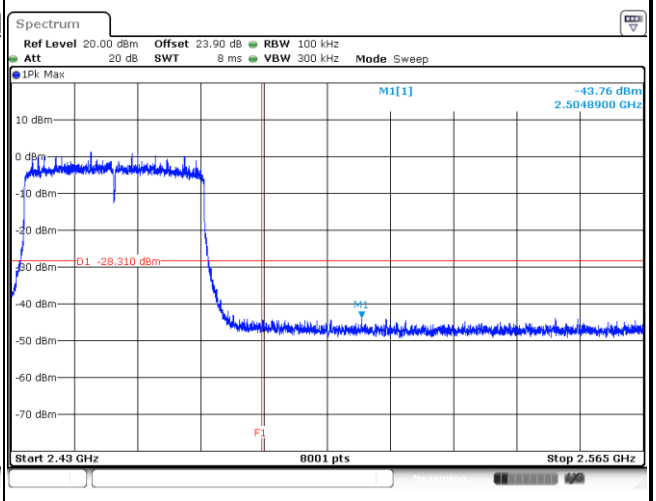
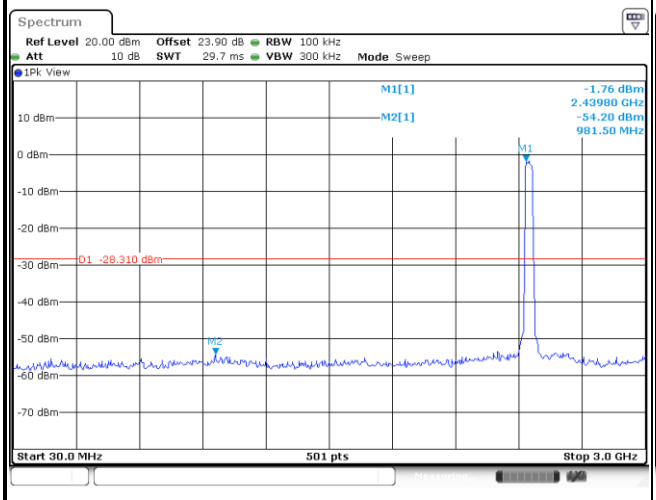
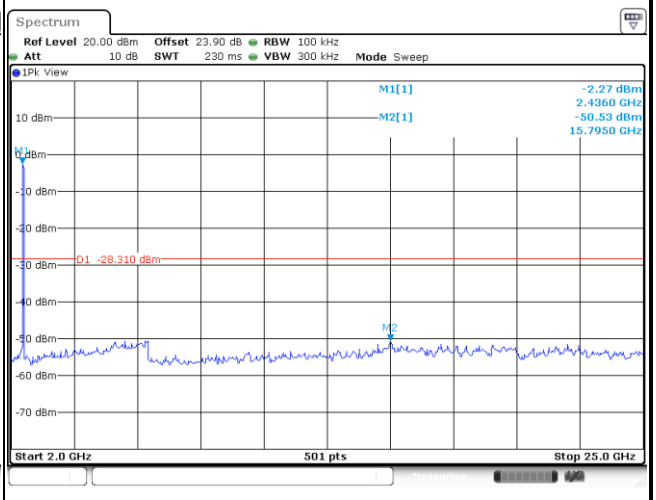
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11ax HE40	Test Channel :	06 Partial RU (BE)

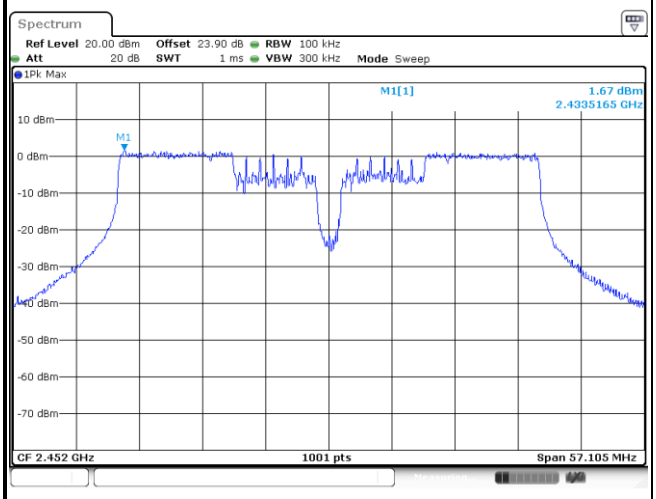
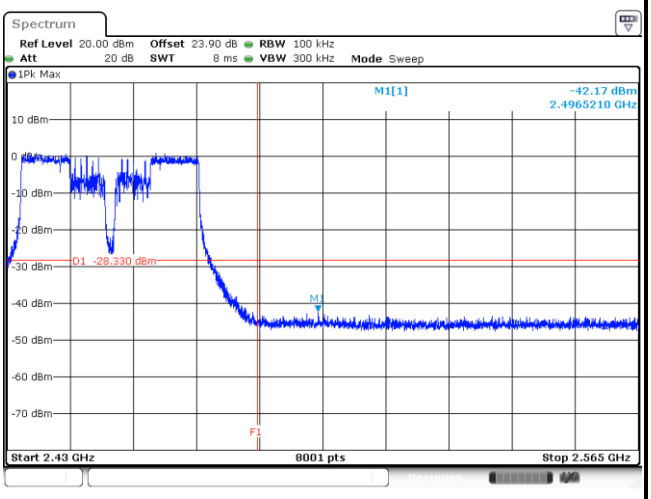
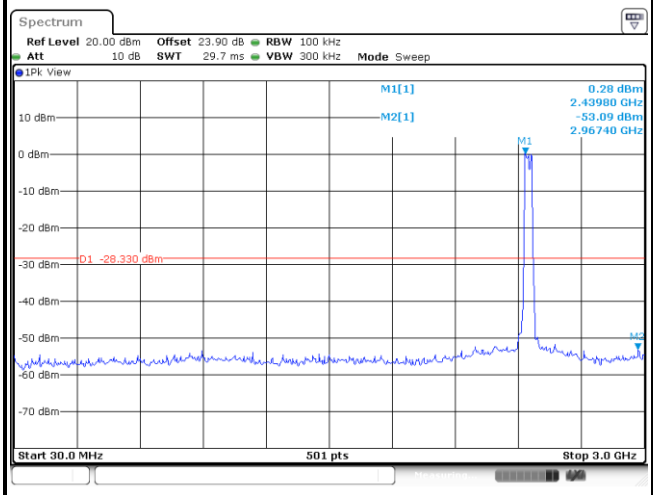
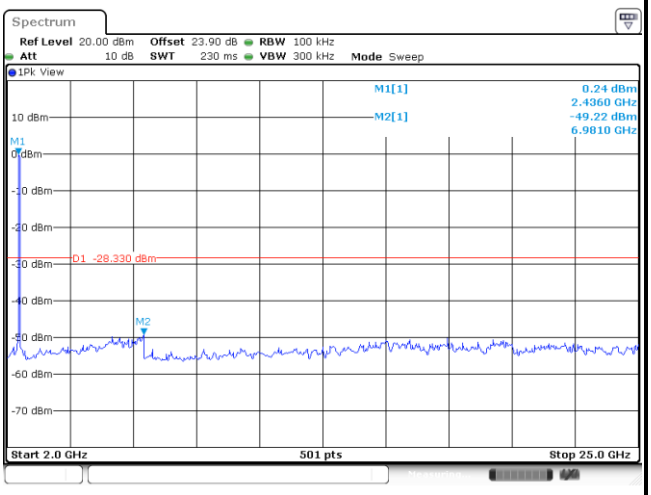
100kHz PSD reference Level	Channel Plot
	

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

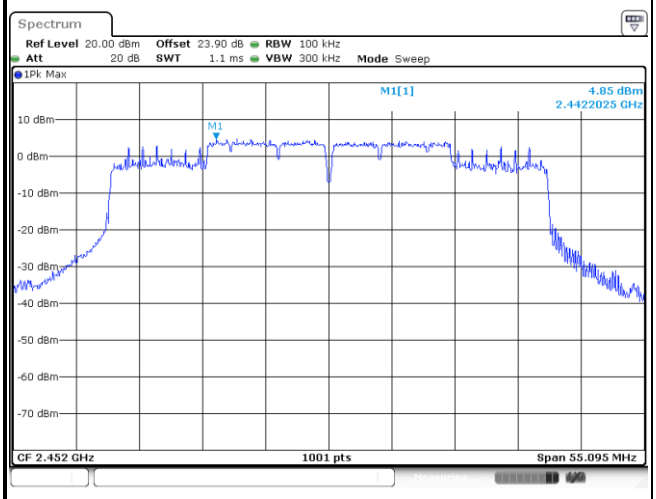
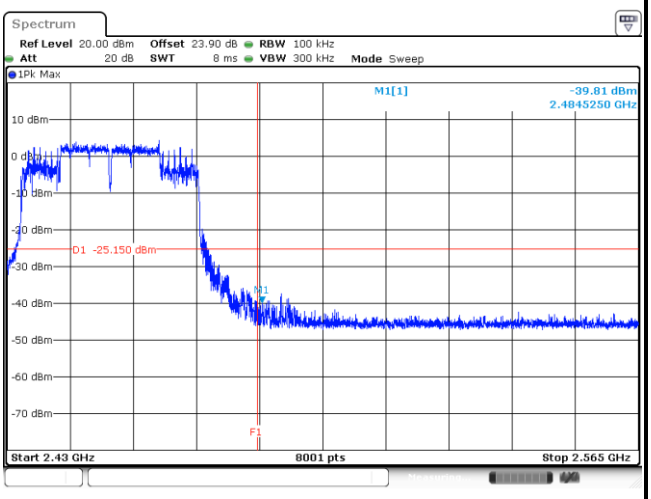
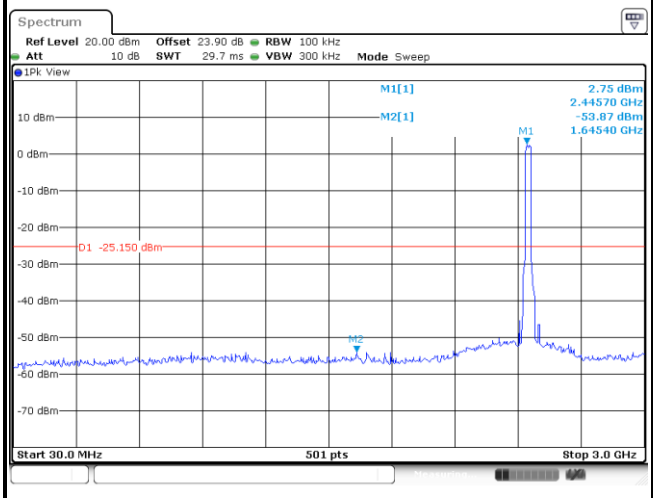
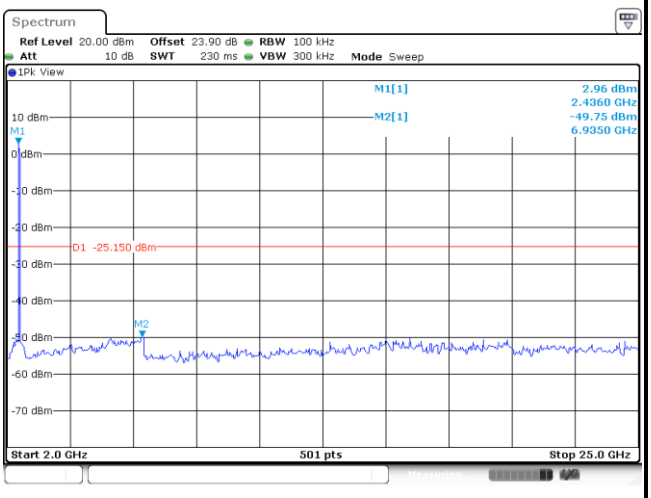
Test Mode :	802.11ax HE40	Test Channel :	09 Full RU

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

Test Mode :	802.11ax HE40	Test Channel :	09 Partial RU (M)

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

Test Mode :	802.11ax HE40	Test Channel :	09 Partial RU (BE)

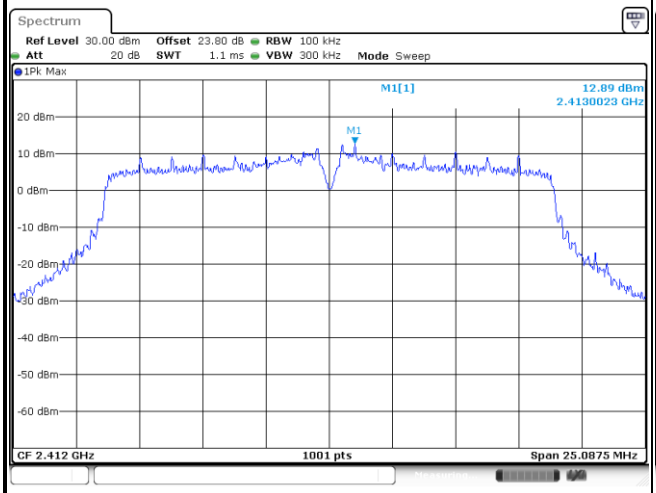
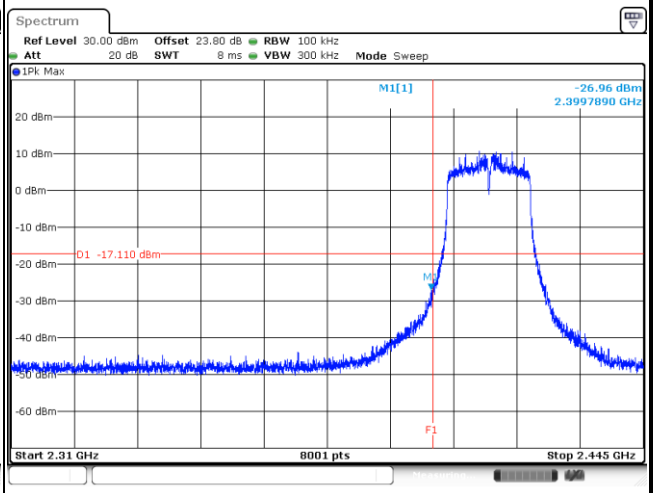
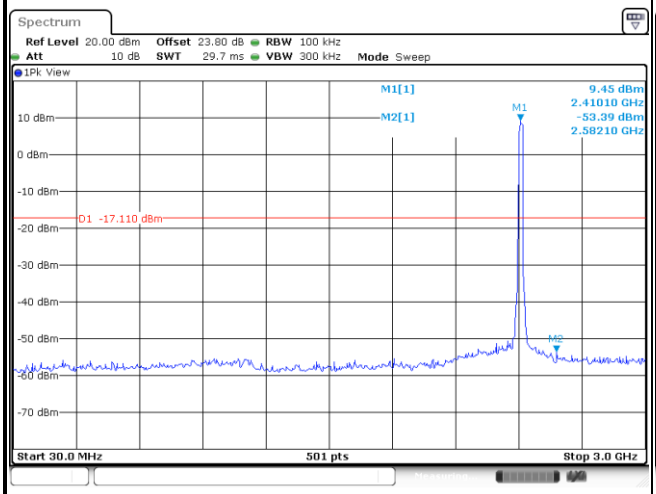
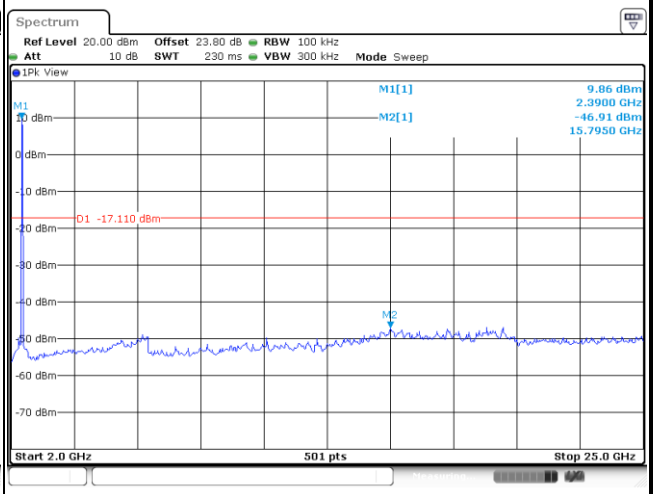
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

<TXBF Modes>

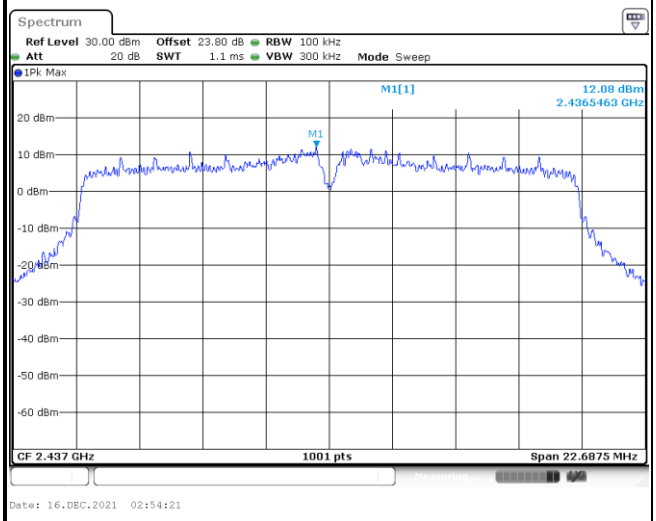
Test Engineer :	Hank Hsu	**Temperature :**	21~25℃
		Relative Humidity :	51~54%

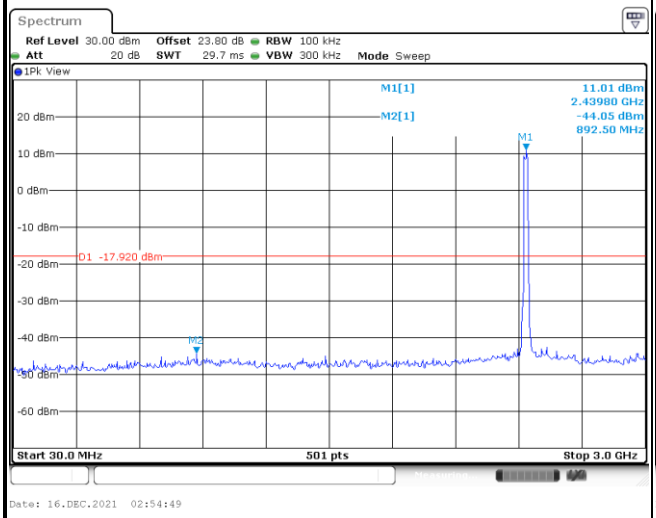
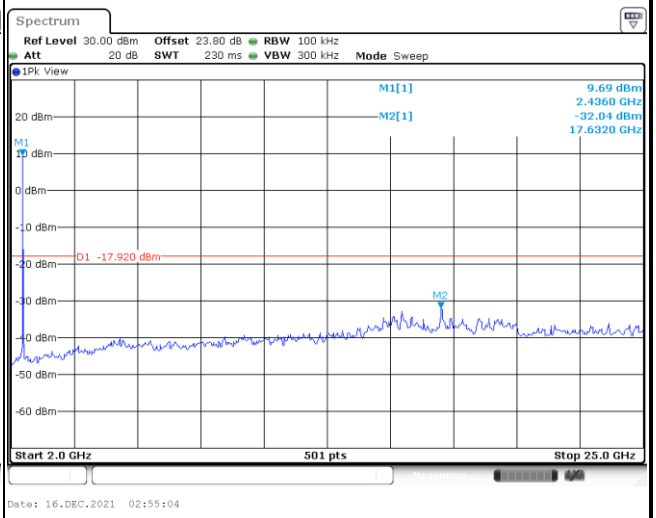
Number of TX = 2, Ant. 3 (Measured)

Test Mode :	802.11ax HE20	**Test Channel :**	01 Full RU

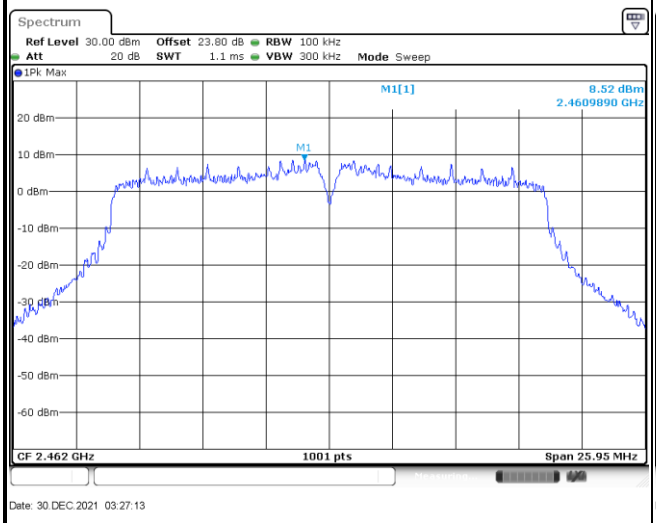
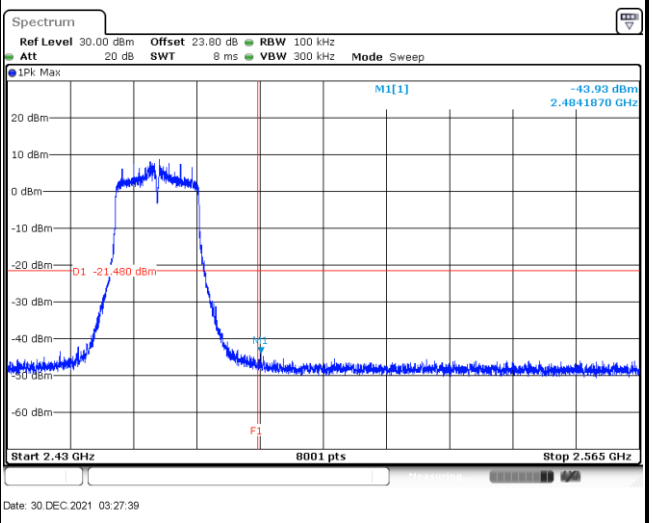
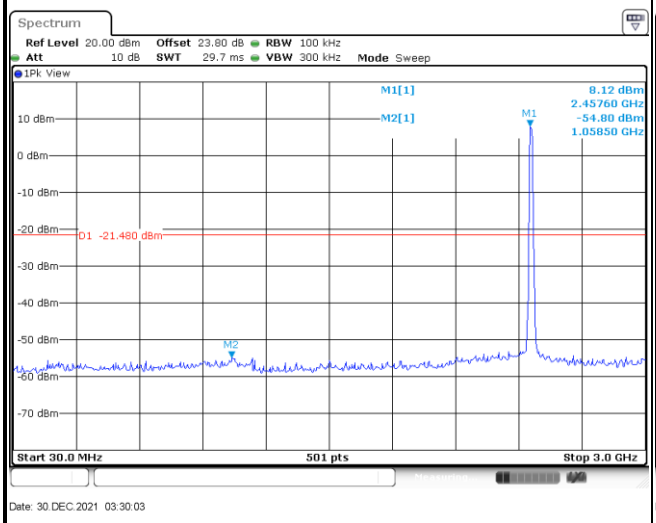
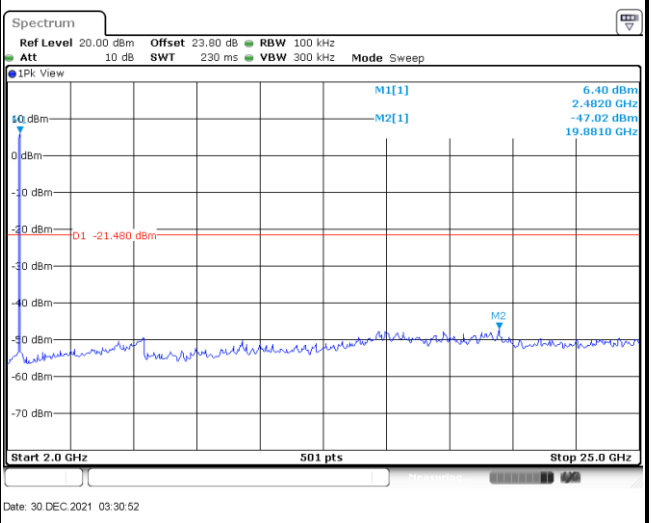
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

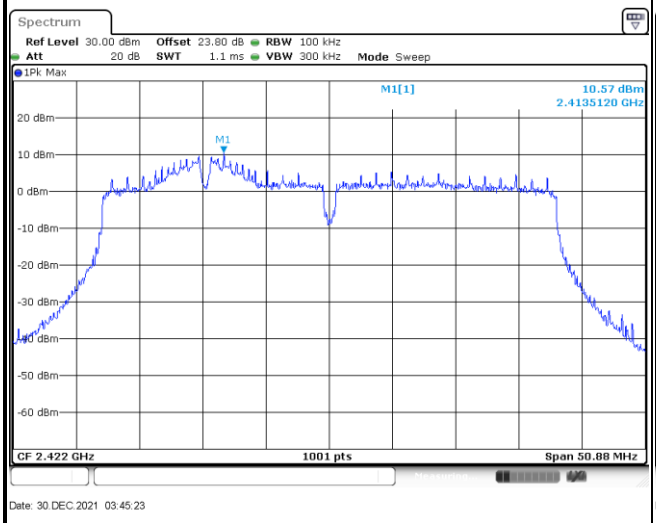
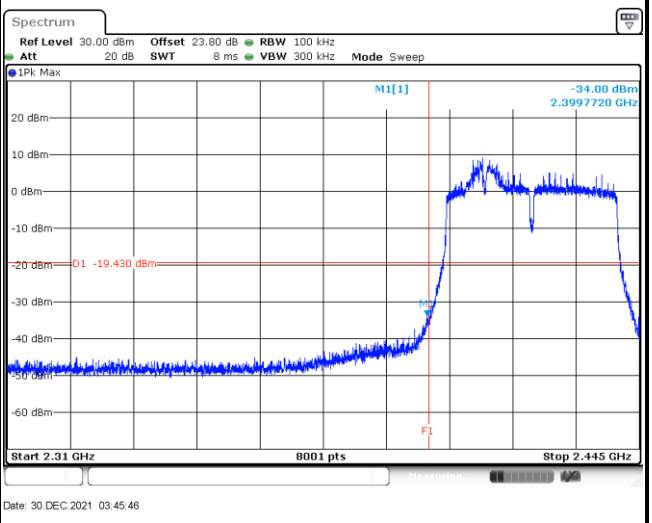
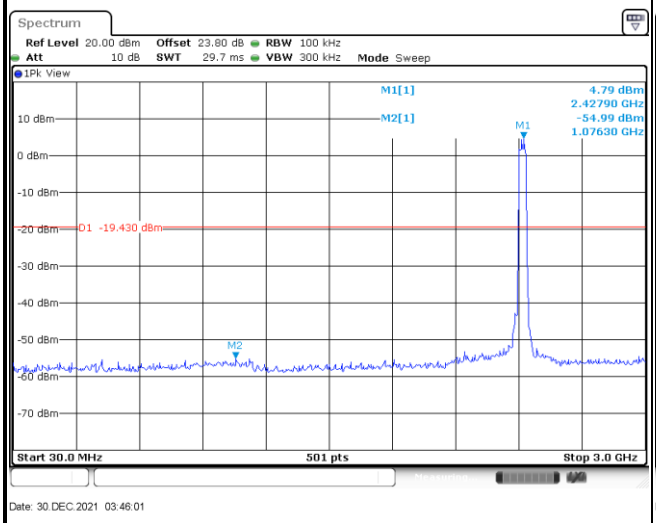
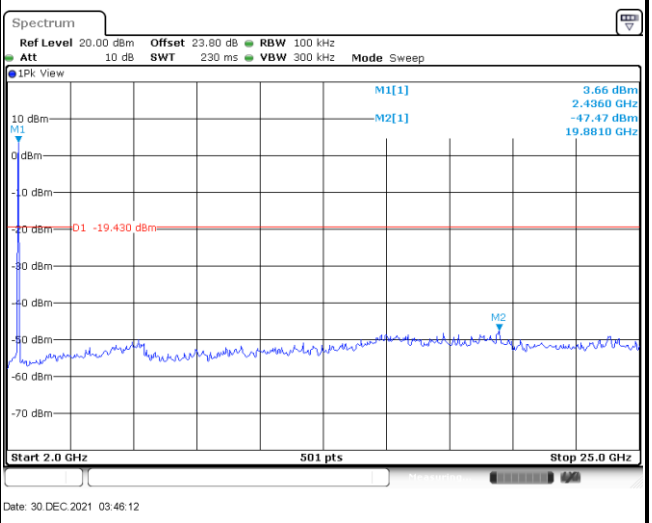
100kHz PSD reference Level	Channel Plot
	

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

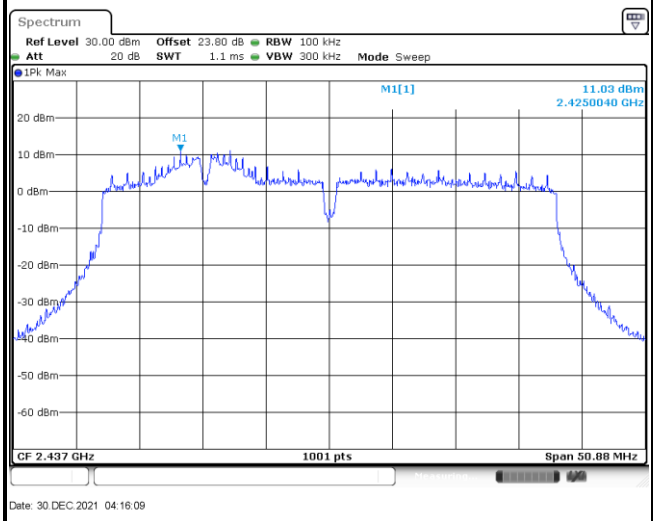
Test Mode :	802.11ax HE20	Test Channel :	11 Full RU

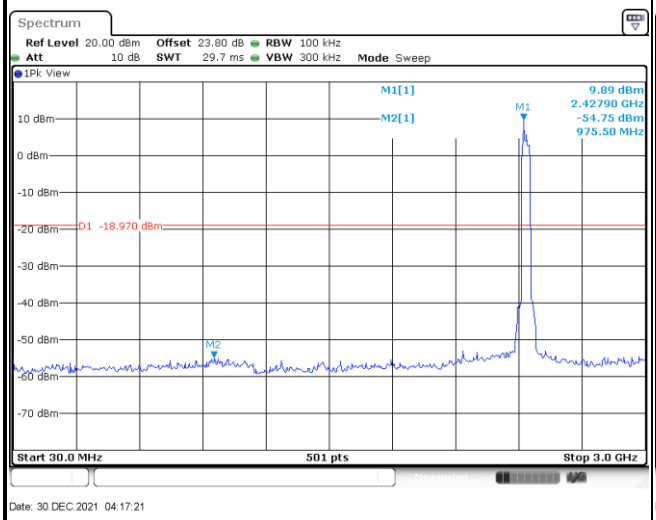
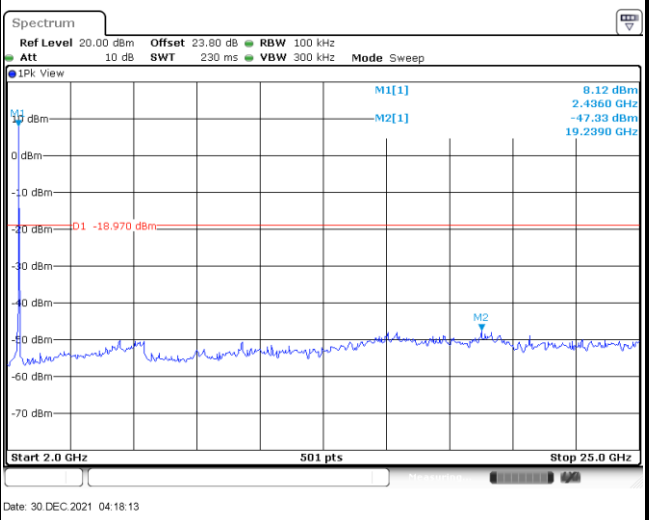
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE40	Test Channel :	03 Full RU

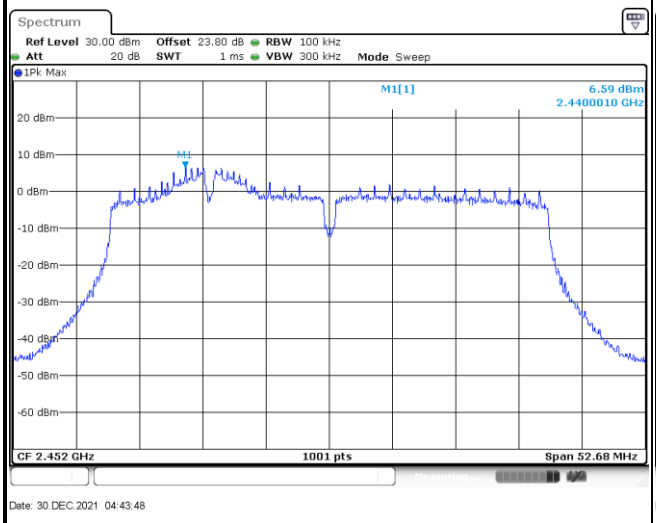
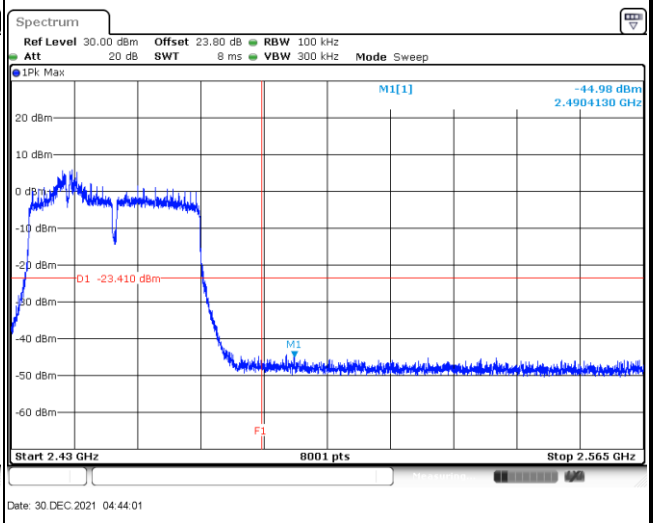
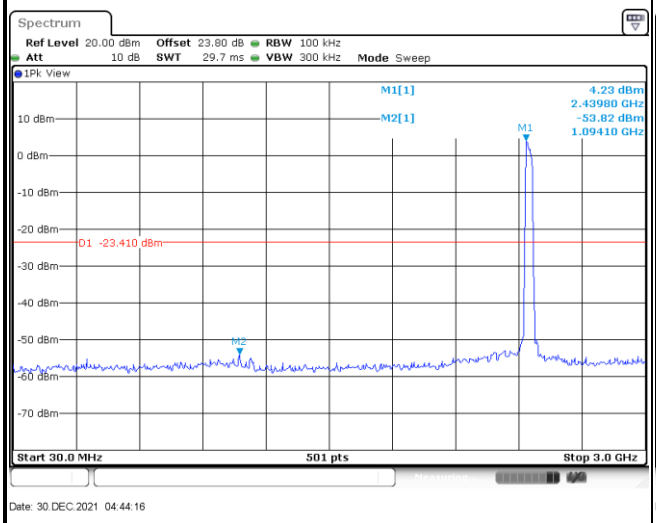
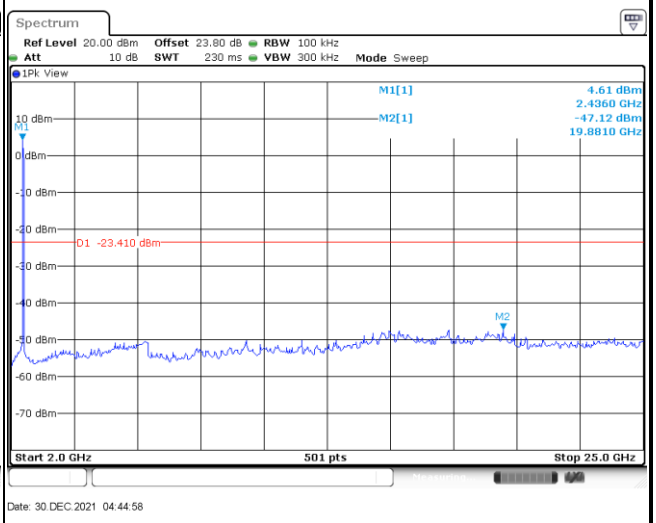
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE40	Test Channel :	06 Full RU

100kHz PSD reference Level	Channel Plot
	

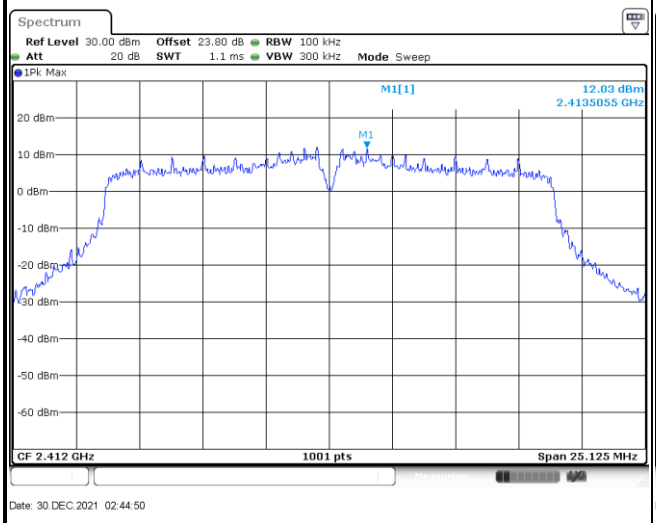
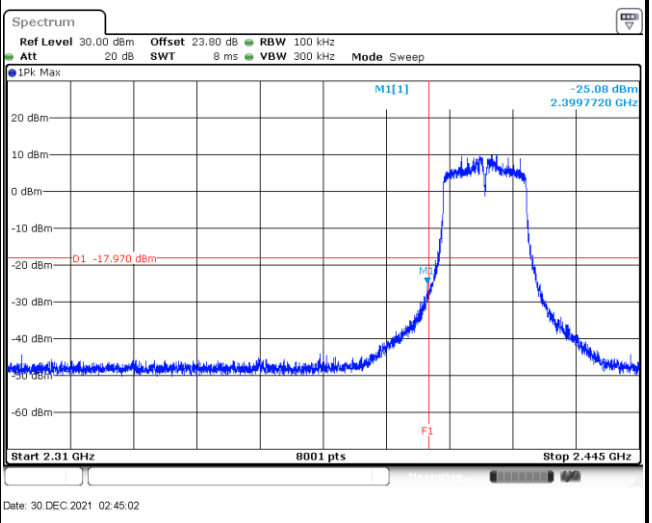
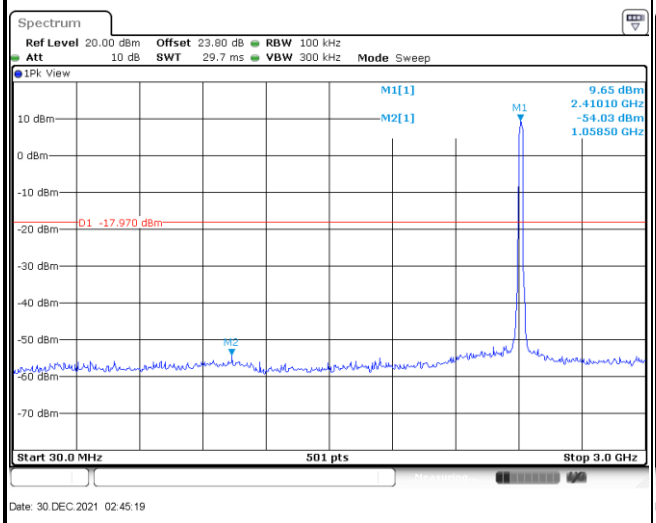
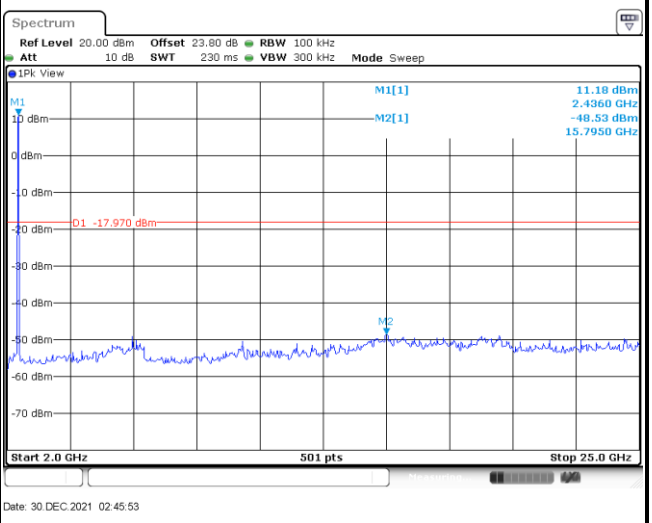
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11ax HE40	Test Channel :	09 Full RU

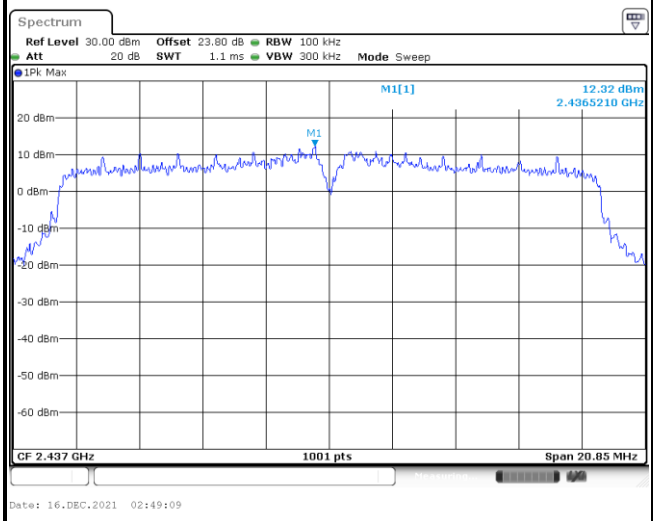
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

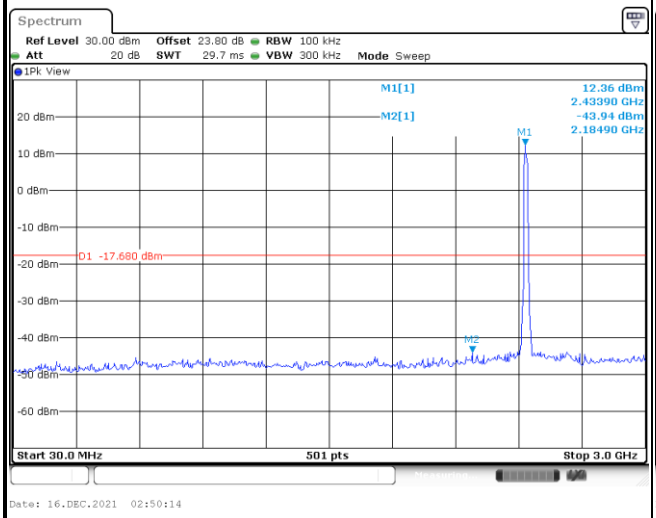
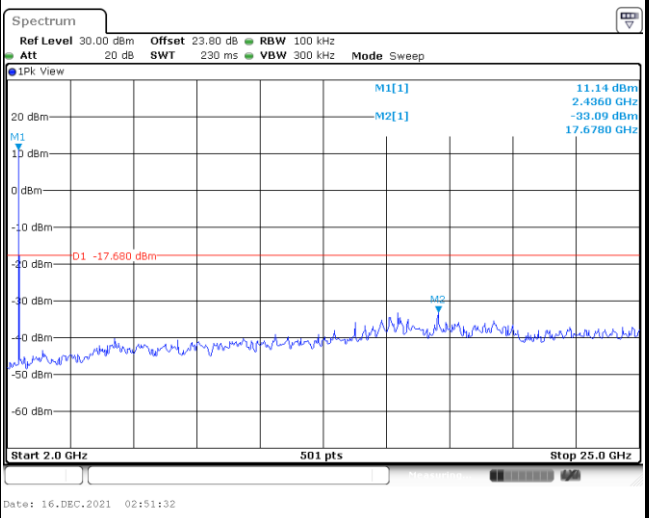
Number of TX = 2, Ant. 4 (Measured)

Test Mode :	802.11ax HE20	Test Channel :	01 Full RU

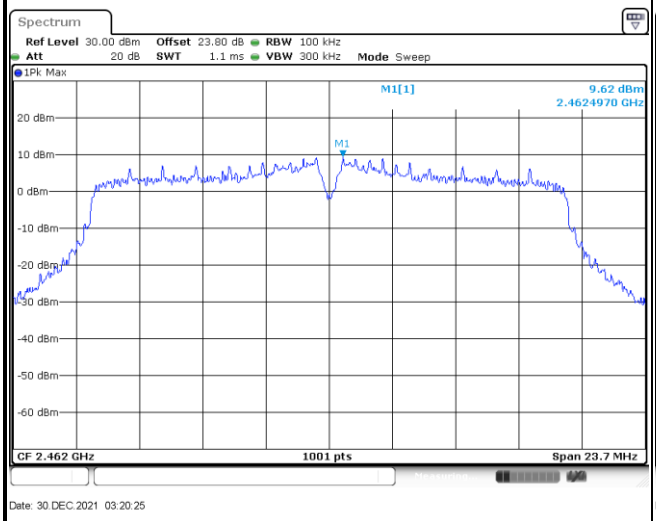
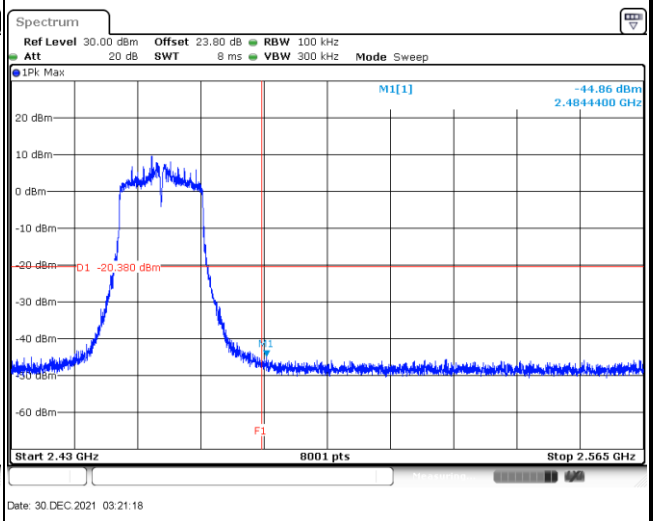
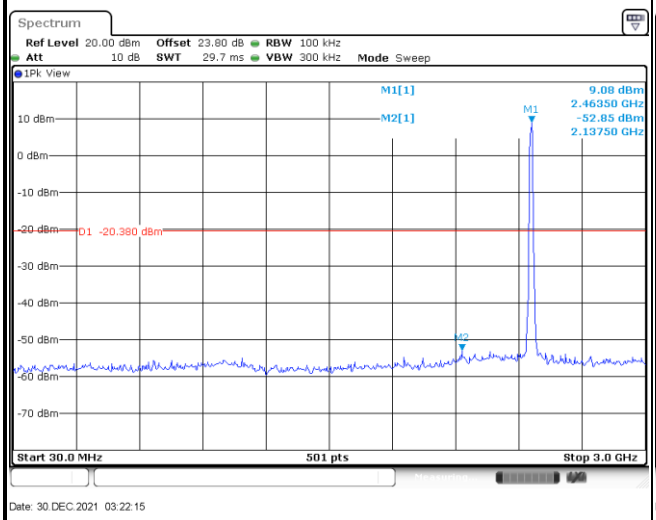
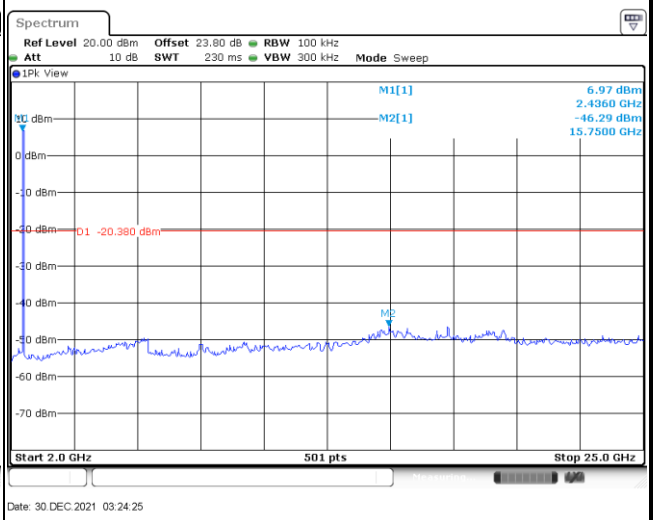
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

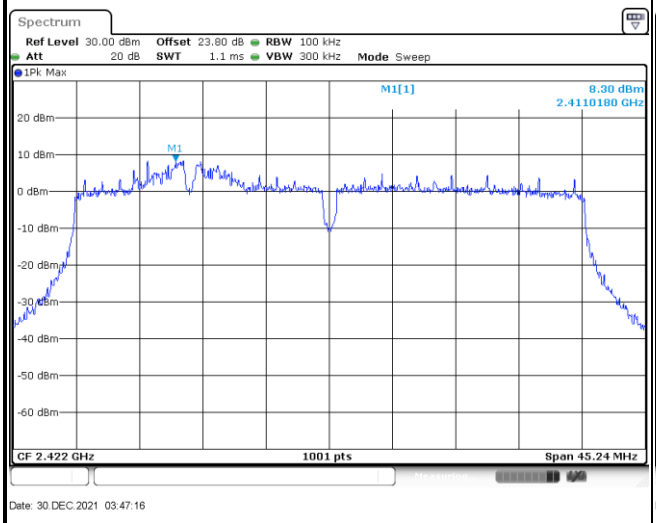
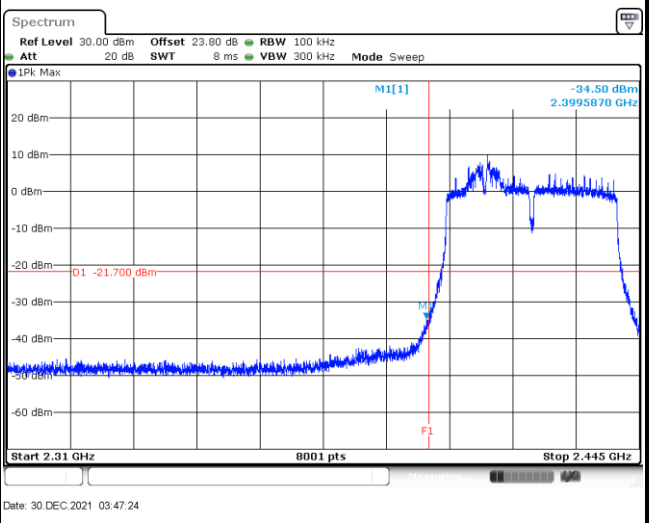
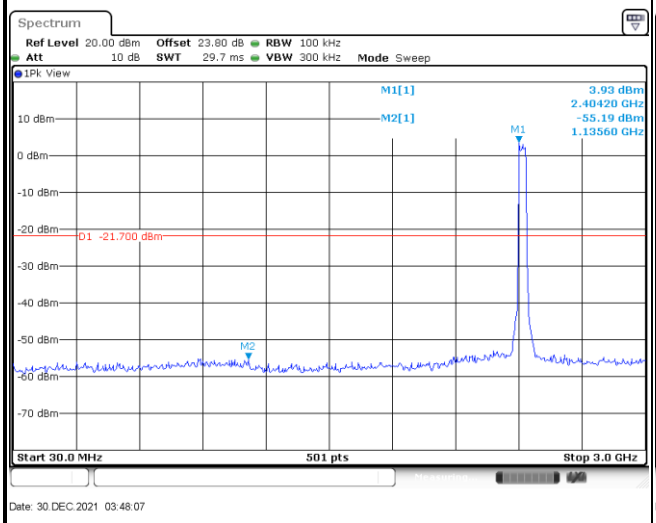
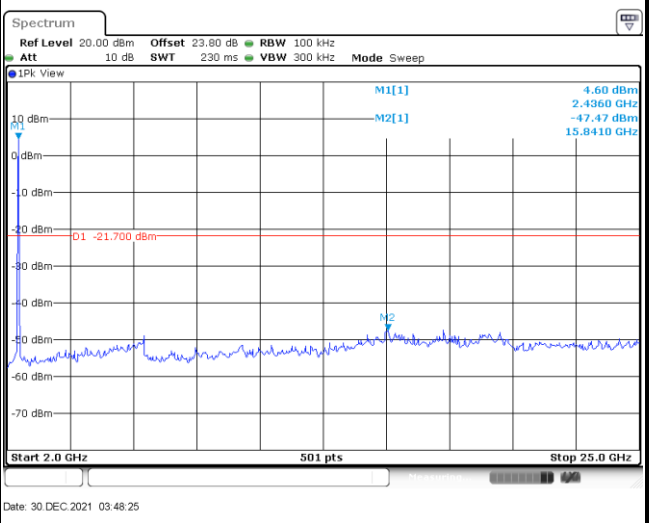
100kHz PSD reference Level	Channel Plot
	

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

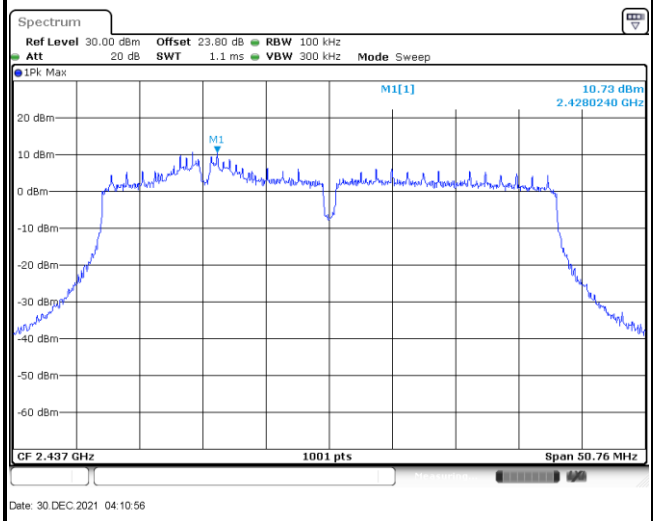
Test Mode :	802.11ax HE20	Test Channel :	11 Full RU

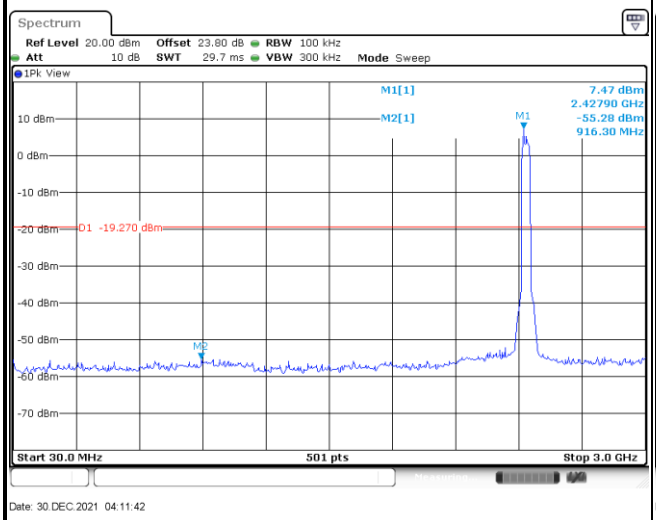
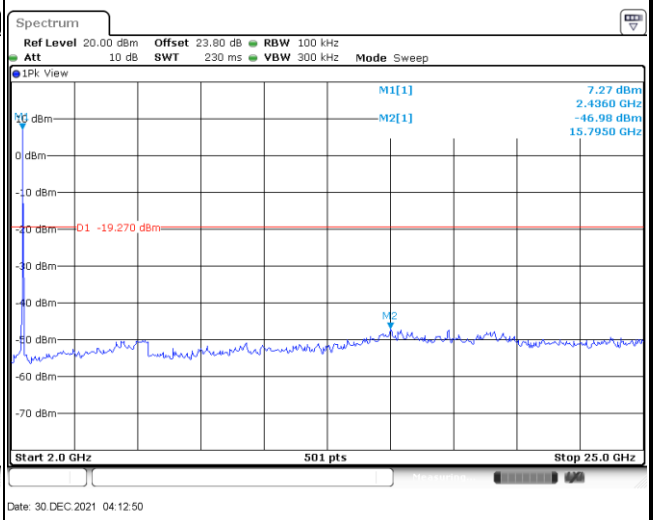
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE40	Test Channel :	03 Full RU

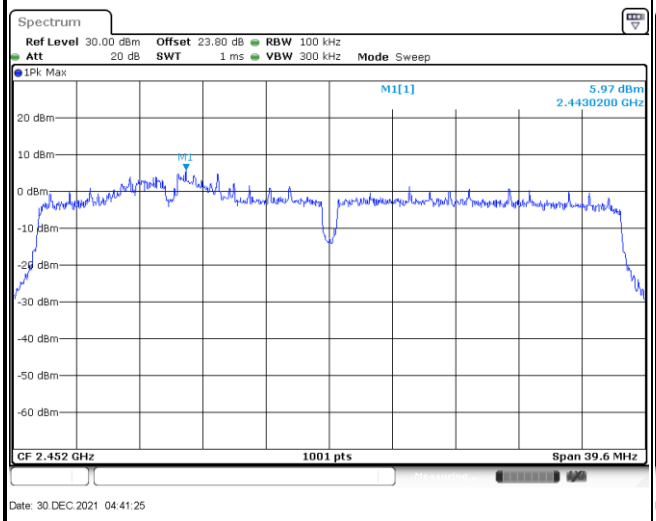
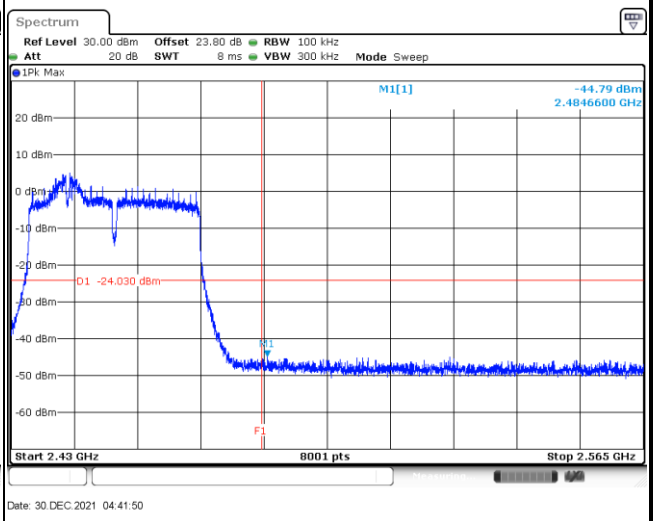
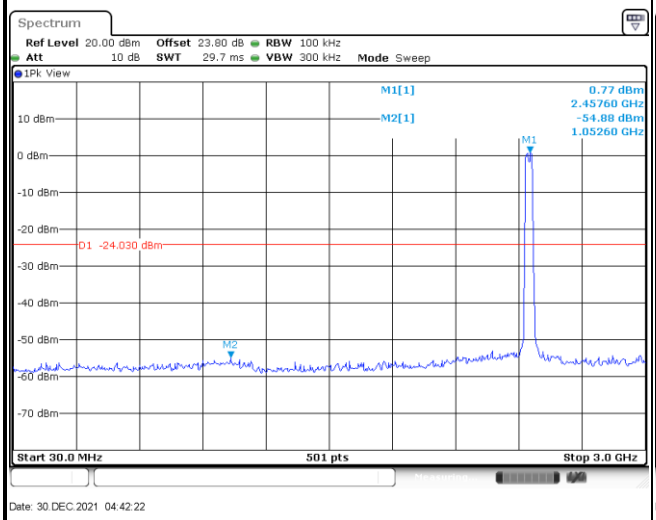
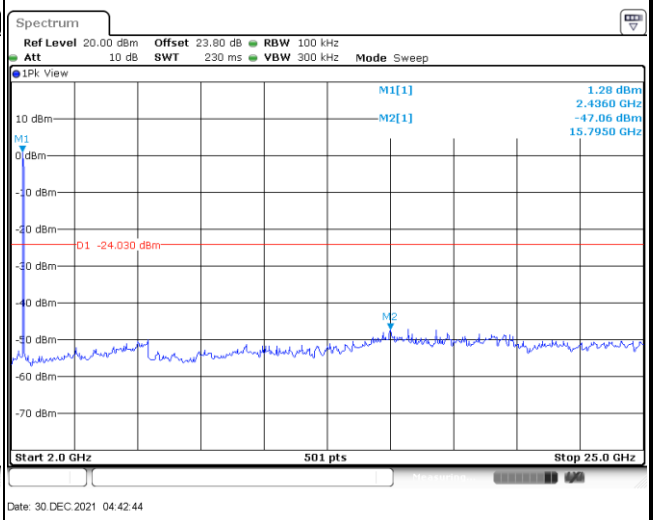
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11ax HE40	Test Channel :	06 Full RU

100kHz PSD reference Level	Channel Plot
	

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

Test Mode :	802.11ax HE40	Test Channel :	09 Full RU

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 is 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

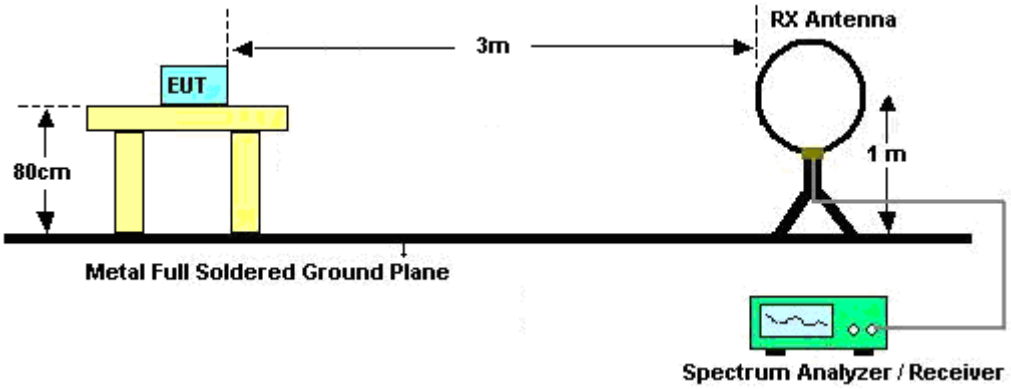
Please refer to the measuring equipment list in this test report.

3.5.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements
2. The EUT is 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 is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as "-".
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW = 3 MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

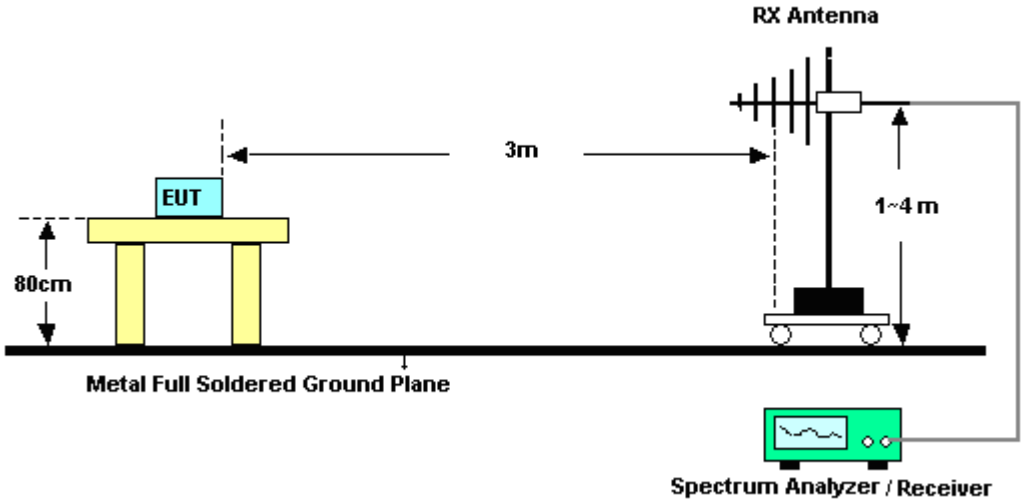
3.5.4 Test Setup

For radiated emissions below 30MHz

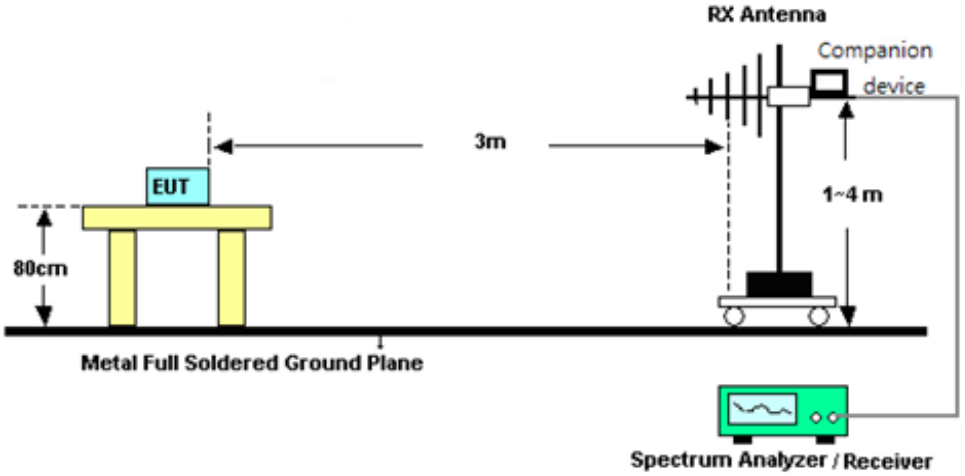


For radiated emissions from 30MHz to 1GHz

<CDD Mode>

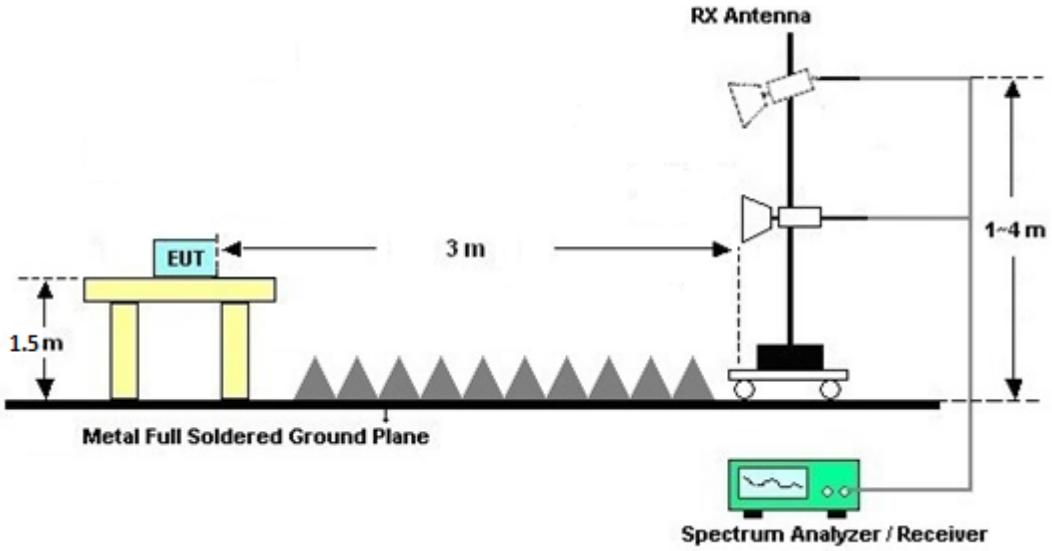


<TXBF Modes>

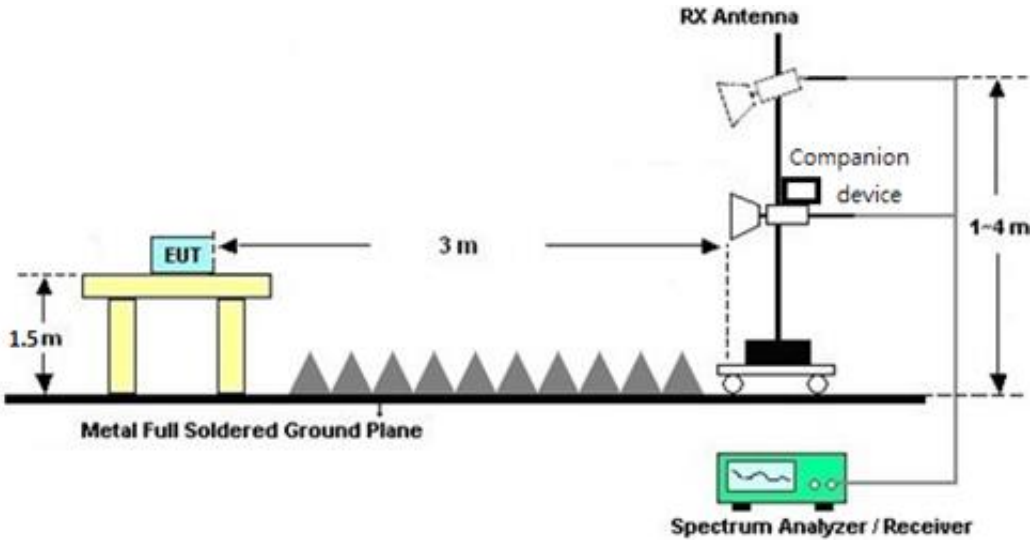


For radiated test from 1GHz to 18GHz

<CDD Mode>

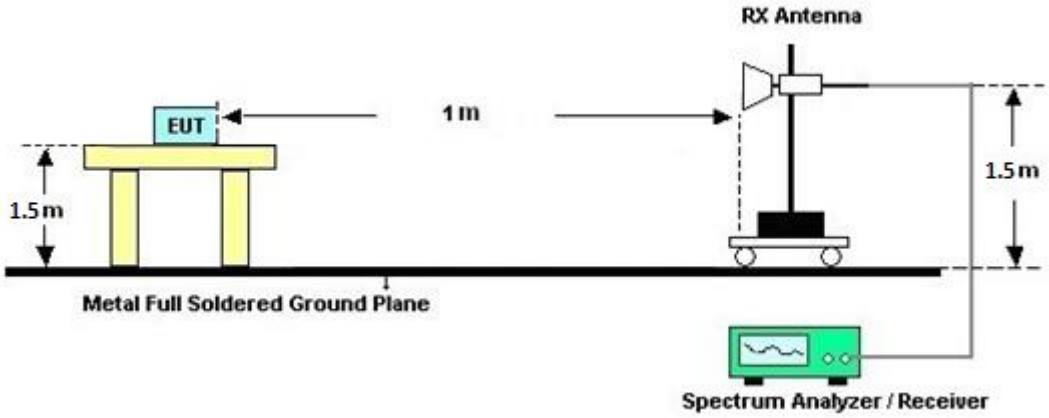


<TXBF Modes>

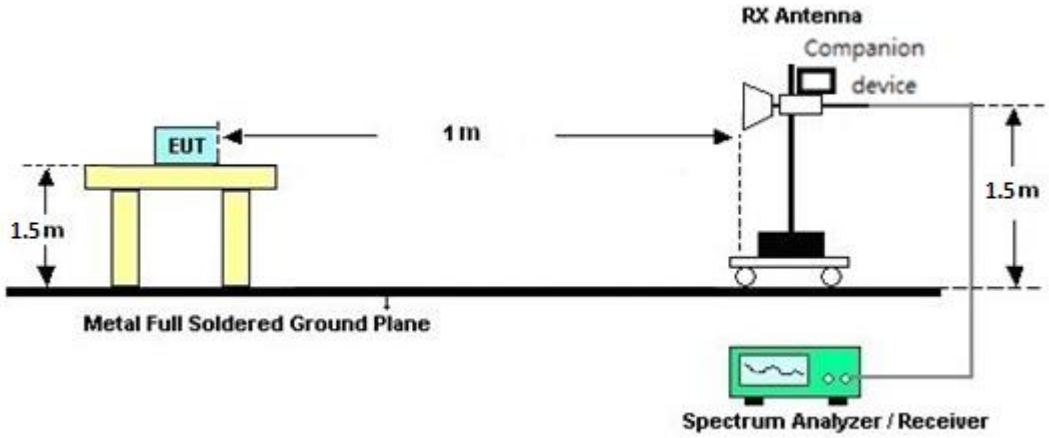


For radiated test above 18GHz

<CDD Mode>



<TXBF Modes>



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

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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

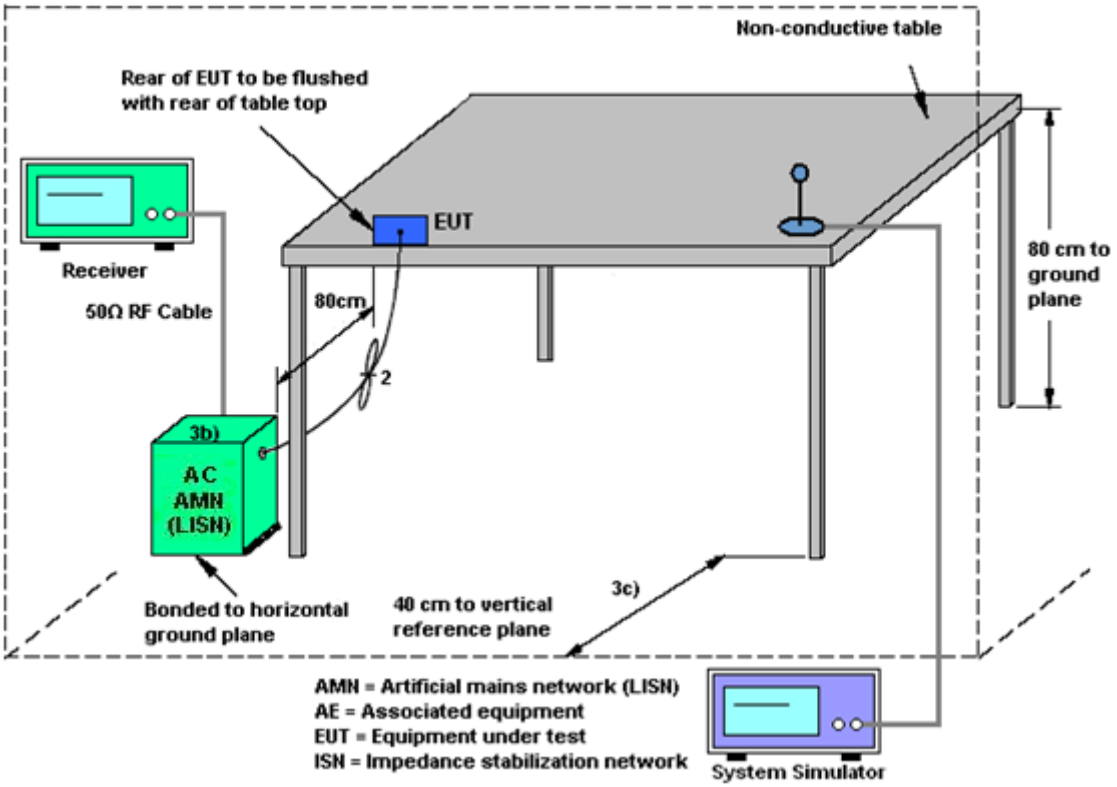
3.6.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

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

<CDD Modes>

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant. 3 (dBi)	Ant. 4 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	1.40	2.60	2.60	5.03	0.00	0.00

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

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

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

where

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

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

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)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.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 3	Ant. 4	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	1.40	2.60	5.03	5.03	0.00	0.00

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

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

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Oct. 21, 2021~ Dec. 27, 2021	Jan. 03, 2022	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	35419 & 03	30MHz~1GHz	Apr. 28, 2021	Oct. 21, 2021~ Dec. 27, 2021	Apr. 27, 2022	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2020	Oct. 21, 2021~ Nov. 28, 2021	Nov. 30, 2021	Radiation (03CH07-HY)
Horn Antenna	ESCO	3117	00066584	1GHz~18GHz	Oct. 25, 2021	Nov. 29, 2021~ Dec. 27, 2021	Oct. 24, 2022	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Dec. 02, 2020	Oct. 21, 2021~ Nov. 29, 2021	Dec. 01, 2021	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Nov. 30, 2021	Nov. 30, 2021~ Dec. 27, 2021	Nov. 29, 2022	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 04, 2021	Oct. 21, 2021~ Dec. 27, 2021	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590075	1GHz~18GHz	Apr. 22, 2021	Oct. 21, 2021~ Dec. 27, 2021	Apr. 21, 2022	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Oct. 04, 2021	Oct. 21, 2021~ Dec. 27, 2021	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 23, 2021	Oct. 21, 2021~ Dec. 27, 2021	Jul. 22, 2022	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Jul. 22, 2021	Oct. 21, 2021~ Dec. 27, 2021	Jul. 21, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682-4	30MHz to 18GHz	Feb. 24, 2021	Oct. 21, 2021~ Dec. 27, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971-4	9kHz to 18GHz	Feb. 24, 2021	Oct. 21, 2021~ Dec. 27, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655-4	9kHz to 18GHz	Feb. 24, 2021	Oct. 21, 2021~ Dec. 27, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2,801606/2	18GHz~40GHz	Feb. 24, 2021	Oct. 21, 2021~ Dec. 27, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 17, 2021	Oct. 21, 2021~ Dec. 27, 2021	Sep. 16, 2022	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Oct. 21, 2021~ Dec. 27, 2021	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Oct. 21, 2021~ Dec. 27, 2021	N/A	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	Oct. 21, 2021~ Dec. 27, 2021	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 09, 2021	Oct. 21, 2021~ Dec. 27, 2021	Mar. 08, 2022	Radiation (03CH07-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Dec. 14, 2021	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	Dec. 14, 2021	Nov. 30, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	Dec. 14, 2021	Dec. 02, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Dec. 14, 2021	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Jul. 28, 2021	Dec. 14, 2021	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 31, 2020	Dec. 14, 2021	Dec. 30, 2021	Conduction (CO05-HY)
Power Sensor	DARE	RPR3006W #010	RPR6W-2101 002(NO:123)	10MHz~8GHz	Feb. 03, 2021	Dec. 11, 2021~ Dec. 30, 2021	Feb. 02, 2022	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO 31(NO:182)	10MHz~6GHz	Dec. 30, 2020	Nov. 09, 2021~ Dec. 21, 2021	Dec. 29, 2021	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	Nov. 09, 2021~ Dec. 30, 2021	Aug. 29, 2022	Conducted (TH05-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW191204 (BOX8)	N/A	Jan. 07, 2021	Nov. 09, 2021~ Dec. 30, 2021	Jan. 06, 2022	Conducted (TH05-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.1 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.8 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.0 dB**

Appendix A. Test Result of Conducted Test Items

<CDD Mode>

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2021/11/9~2021/12/21	Relative Humidity:	51~54	%

Report Number : FR1O0638B

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
					Ant3	Ant4	Ant3	Ant4		
11b	1Mbps	2	1	2412	13.59	13.49	8.07	8.07	0.50	Pass
11b	1Mbps	2	6	2437	13.44	13.39	8.07	7.58	0.50	Pass
11b	1Mbps	2	11	2462	13.54	13.34	7.57	8.04	0.50	Pass
11g	6Mbps	2	1	2412	17.03	17.18	16.32	16.36	0.50	Pass
11g	6Mbps	2	6	2437	18.63	18.03	16.31	16.34	0.50	Pass
11g	6Mbps	2	11	2462	17.13	17.13	16.32	16.37	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant3	Ant4	SUM	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	
11b	1Mbps	2	1	2412	26.10	26.00	29.06	30.00		2.60		31.66		36.00		Pass
11b	1Mbps	2	2	2417	26.00	26.00	29.01	30.00		2.60		31.61		36.00		Pass
11b	1Mbps	2	6	2437	25.60	25.70	28.66	30.00		2.60		31.26		36.00		Pass
11b	1Mbps	2	10	2457	25.60	25.20	28.41	30.00		2.60		31.01		36.00		Pass
11b	1Mbps	2	11	2462	25.60	25.20	28.41	30.00		2.60		31.01		36.00		Pass
11g	6Mbps	2	1	2412	21.40	21.30	24.36	30.00		2.60		26.96		36.00		Pass
11g	6Mbps	2	2	2417	22.50	22.40	25.46	30.00		2.60		28.06		36.00		Pass
11g	6Mbps	2	6	2437	25.10	25.30	28.21	30.00		2.60		30.81		36.00		Pass
11g	6Mbps	2	10	2457	22.50	22.30	25.41	30.00		2.60		28.01		36.00		Pass
11g	6Mbps	2	11	2462	20.00	19.80	22.91	30.00		2.60		25.51		36.00		Pass
HT20	MCS0	2	1	2412	21.40	21.30	24.36	30.00		2.60		26.96		36.00		Pass
HT20	MCS0	2	2	2417	21.80	21.90	24.86	30.00		2.60		27.46		36.00		Pass
HT20	MCS0	2	6	2437	25.00	25.10	28.06	30.00		2.60		30.66		36.00		Pass
HT20	MCS0	2	10	2457	21.80	21.70	24.76	30.00		2.60		27.36		36.00		Pass
HT20	MCS0	2	11	2462	18.00	17.60	20.81	30.00		2.60		23.41		36.00		Pass
HT40	MCS0	2	3	2422	19.80	19.70	22.76	30.00		2.60		25.36		36.00		Pass
HT40	MCS0	2	4	2427	19.80	19.80	22.81	30.00		2.60		25.41		36.00		Pass
HT40	MCS0	2	6	2437	20.60	20.80	23.71	30.00		2.60		26.31		36.00		Pass
HT40	MCS0	2	8	2447	18.10	18.10	21.11	30.00		2.60		23.71		36.00		Pass
HT40	MCS0	2	9	2452	15.90	15.80	18.86	30.00		2.60		21.46		36.00		Pass
VHT20	MCS0	2	1	2412	21.40	21.30	24.36	30.00		2.60		26.96		36.00		Pass
VHT20	MCS0	2	2	2417	21.80	21.90	24.86	30.00		2.60		27.46		36.00		Pass
VHT20	MCS0	2	6	2437	25.00	25.10	28.06	30.00		2.60		30.66		36.00		Pass
VHT20	MCS0	2	10	2457	21.80	21.70	24.76	30.00		2.60		27.36		36.00		Pass
VHT20	MCS0	2	11	2462	18.00	17.60	20.81	30.00		2.60		23.41		36.00		Pass
VHT40	MCS0	2	3	2422	19.80	19.70	22.76	30.00		2.60		25.36		36.00		Pass
VHT40	MCS0	2	4	2427	19.80	19.80	22.81	30.00		2.60		25.41		36.00		Pass
VHT40	MCS0	2	6	2437	20.60	20.80	23.71	30.00		2.60		26.31		36.00		Pass
VHT40	MCS0	2	8	2447	18.10	18.10	21.11	30.00		2.60		23.71		36.00		Pass
VHT40	MCS0	2	9	2452	15.90	15.80	18.86	30.00		2.60		21.46		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
					Ant3	Ant4	Worse + 3.01	Ant3	Ant4	Ant3	Ant4	
11b	1Mbps	2	1	2412	4.73	4.02	7.74	5.03		8.00		Pass
11b	1Mbps	2	6	2437	3.59	4.49	7.50	5.03		8.00		Pass
11b	1Mbps	2	11	2462	4.48	4.15	7.49	5.03		8.00		Pass
11g	6Mbps	2	1	2412	-6.14	-6.43	-3.13	5.03		8.00		Pass
11g	6Mbps	2	6	2437	-1.44	-1.66	1.57	5.03		8.00		Pass
11g	6Mbps	2	11	2462	-8.14	-6.94	-3.93	5.03		8.00		Pass

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

Report Number : FR1O0638B

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
						Ant3	Ant4	Ant3	Ant4		
HE20	MCS0	2	1	2412	Full	19.38	19.33	18.92	18.91	0.50	Pass
HE20	MCS0	2	1	2412	M	19.98	19.88	19.01	19.05	0.50	Pass
HE20	MCS0	2	1	2412	BE	18.03	17.83	16.95	15.17	0.50	Pass
HE20	MCS0	2	6	2437	Full	19.68	19.53	18.87	18.80	0.50	Pass
HE20	MCS0	2	6	2437	M	27.97	22.63	19.00	19.03	0.50	Pass
HE20	MCS0	2	6	2437	BE	19.98	19.73	17.57	15.73	0.50	Pass
HE20	MCS0	2	11	2462	Full	19.33	19.38	18.98	18.92	0.50	Pass
HE20	MCS0	2	11	2462	M	19.98	19.83	19.05	19.03	0.50	Pass
HE20	MCS0	2	11	2462	BE	17.93	17.78	16.55	16.92	0.50	Pass
HE40	MCS0	2	3	2422	Full	37.96	37.96	38.01	37.92	0.50	Pass
HE40	MCS0	2	3	2422	M	38.96	38.76	38.09	38.11	0.50	Pass
HE40	MCS0	2	3	2422	BE	37.16	37.16	35.11	36.34	0.50	Pass
HE40	MCS0	2	6	2437	Full	37.96	37.96	37.93	37.88	0.50	Pass
HE40	MCS0	2	6	2437	M	38.86	38.76	38.09	38.07	0.50	Pass
HE40	MCS0	2	6	2437	BE	37.46	37.26	35.17	36.73	0.50	Pass
HE40	MCS0	2	9	2452	Full	37.86	37.96	38.03	37.87	0.50	Pass
HE40	MCS0	2	9	2452	M	38.86	38.66	38.03	38.07	0.50	Pass
HE40	MCS0	2	9	2452	BE	37.16	37.16	37.35	36.73	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant3	Ant4	SUM	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	
HE20	MCS0	2	1	2412	Full	21.50	21.40	24.46	30.00		2.60		27.06		36.00		Pass
HE20	MCS0	2	1	2412	M	15.60	15.40	18.51	30.00		2.60		21.11		36.00		Pass
HE20	MCS0	2	1	2412	BE	21.40	21.20	24.31	30.00		2.60		26.91		36.00		Pass
HE20	MCS0	2	2	2417	Full	21.90	22.00	24.96	30.00		2.60		27.56		36.00		Pass
HE20	MCS0	2	2	2417	M	18.40	18.30	21.36	30.00		2.60		23.96		36.00		Pass
HE20	MCS0	2	2	2417	BE	23.60	23.60	26.61	30.00		2.60		29.21		36.00		Pass
HE20	MCS0	2	6	2437	Full	25.10	25.20	28.16	30.00		2.60		30.76		36.00		Pass
HE20	MCS0	2	6	2437	M	21.30	21.60	24.46	30.00		2.60		27.06		36.00		Pass
HE20	MCS0	2	6	2437	BE	24.50	25.00	27.77	30.00		2.60		30.37		36.00		Pass
HE20	MCS0	2	10	2457	Full	21.90	21.80	24.86	30.00		2.60		27.46		36.00		Pass
HE20	MCS0	2	10	2457	M	16.90	16.60	19.76	30.00		2.60		22.36		36.00		Pass
HE20	MCS0	2	10	2457	BE	23.20	22.90	26.06	30.00		2.60		28.66		36.00		Pass
HE20	MCS0	2	11	2462	Full	18.10	17.70	20.91	30.00		2.60		23.51		36.00		Pass
HE20	MCS0	2	11	2462	M	14.50	14.20	17.36	30.00		2.60		19.96		36.00		Pass
HE20	MCS0	2	11	2462	BE	20.50	20.10	23.31	30.00		2.60		25.91		36.00		Pass
HE40	MCS0	2	3	2422	Full	19.90	19.80	22.86	30.00		2.60		25.46		36.00		Pass
HE40	MCS0	2	3	2422	M	17.20	17.10	20.16	30.00		2.60		22.76		36.00		Pass
HE40	MCS0	2	3	2422	BE	19.00	19.00	22.01	30.00		2.60		24.61		36.00		Pass
HE40	MCS0	2	4	2427	Full	19.90	19.90	22.91	30.00		2.60		25.51		36.00		Pass
HE40	MCS0	2	4	2427	M	18.20	18.20	21.21	30.00		2.60		23.81		36.00		Pass
HE40	MCS0	2	4	2427	BE	19.40	19.50	22.46	30.00		2.60		25.06		36.00		Pass
HE40	MCS0	2	6	2437	Full	20.70	20.90	23.81	30.00		2.60		26.41		36.00		Pass
HE40	MCS0	2	6	2437	M	15.10	15.10	18.11	30.00		2.60		20.71		36.00		Pass
HE40	MCS0	2	6	2437	BE	21.20	21.30	24.26	30.00		2.60		26.86		36.00		Pass
HE40	MCS0	2	8	2447	Full	18.20	18.20	21.21	30.00		2.60		23.81		36.00		Pass
HE40	MCS0	2	8	2447	M	15.50	15.50	18.51	30.00		2.60		21.11		36.00		Pass
HE40	MCS0	2	8	2447	BE	18.20	18.30	21.26	30.00		2.60		23.86		36.00		Pass
HE40	MCS0	2	9	2452	Full	16.00	15.90	18.96	30.00		2.60		21.56		36.00		Pass
HE40	MCS0	2	9	2452	M	14.90	14.70	17.81	30.00		2.60		20.41		36.00		Pass
HE40	MCS0	2	9	2452	BE	17.60	17.60	20.61	30.00		2.60		23.21		36.00		Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant3	Ant4	Worse + 3.01	Ant3	Ant4	Ant3	Ant4	
HE20	MCS0	2	1	2412	Full	-5.38	-5.61	-2.37	5.03		8.00		Pass
HE20	MCS0	2	1	2412	M	-8.81	-8.88	-5.80	5.03		8.00		Pass
HE20	MCS0	2	1	2412	BE	-0.87	-1.18	2.14	5.03		8.00		Pass
HE20	MCS0	2	6	2437	Full	-2.64	-2.57	0.44	5.03		8.00		Pass
HE20	MCS0	2	6	2437	M	-3.38	-3.07	-0.06	5.03		8.00		Pass
HE20	MCS0	2	6	2437	BE	1.41	1.72	4.73	5.03		8.00		Pass
HE20	MCS0	2	11	2462	Full	-9.09	-9.09	-6.08	5.03		8.00		Pass
HE20	MCS0	2	11	2462	M	-10.53	-10.74	-7.52	5.03		8.00		Pass
HE20	MCS0	2	11	2462	BE	-3.16	-3.64	-0.15	5.03		8.00		Pass
HE40	MCS0	2	3	2422	Full	-8.60	-9.34	-5.59	5.03		8.00		Pass
HE40	MCS0	2	3	2422	M	-9.83	-9.13	-6.12	5.03		8.00		Pass
HE40	MCS0	2	3	2422	BE	-7.54	-7.19	-4.18	5.03		8.00		Pass
HE40	MCS0	2	6	2437	Full	-7.49	-8.14	-4.48	5.03		8.00		Pass
HE40	MCS0	2	6	2437	M	-11.38	-11.02	-8.01	5.03		8.00		Pass
HE40	MCS0	2	6	2437	BE	-4.89	-4.79	-1.78	5.03		8.00		Pass
HE40	MCS0	2	9	2452	Full	-13.50	-12.98	-9.97	5.03		8.00		Pass
HE40	MCS0	2	9	2452	M	-11.83	-11.01	-8.00	5.03		8.00		Pass
HE40	MCS0	2	9	2452	BE	-8.22	-8.36	-5.21	5.03		8.00		Pass

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

<TXBF Mode>

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2021/12/11~2021/12/30	Relative Humidity:	51~54	%

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
						Ant3	Ant4	Ant3	Ant4		
HE20	MCS0	2	1	2412	Full	18.18	18.18	16.73	16.75	0.50	Pass
HE20	MCS0	2	6	2437	Full	18.18	18.18	15.13	13.90	0.50	Pass
HE20	MCS0	2	11	2462	Full	18.18	18.13	17.30	15.80	0.50	Pass
HE40	MCS0	2	3	2422	Full	36.16	36.16	33.92	30.16	0.50	Pass
HE40	MCS0	2	6	2437	Full	36.26	36.23	33.92	33.84	0.50	Pass
HE40	MCS0	2	9	2452	Full	36.26	36.26	35.12	26.40	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant3	Ant4	SUM	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	Ant3	Ant4	
HE20	MCS0	2	1	2412	Full	21.70	21.60	24.66	30.00		5.03		29.69		36.00		Pass
HE20	MCS0	2	6	2437	Full	22.30	22.30	25.31	30.00		5.03		30.34		36.00		Pass
HE20	MCS0	2	10	2457	Full	22.30	22.20	25.26	30.00		5.03		30.29		36.00		Pass
HE20	MCS0	2	11	2462	Full	19.10	19.00	22.06	30.00		5.03		27.09		36.00		Pass
HE40	MCS0	2	3	2422	Full	19.40	19.30	22.36	30.00		5.03		27.39		36.00		Pass
HE40	MCS0	2	6	2437	Full	20.50	20.40	23.46	30.00		5.03		28.49		36.00		Pass
HE40	MCS0	2	8	2447	Full	18.60	18.20	21.41	30.00		5.03		26.45		36.00		Pass
HE40	MCS0	2	9	2452	Full	16.40	16.10	19.26	30.00		5.03		24.29		36.00		Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
						Ant3	Ant4	Worse + 3.01	Ant3	Ant4	Ant3	Ant4	
HE20	MCS0	2	1	2412	Full	-1.63	-1.33	1.68	5.03		8.00		Pass
HE20	MCS0	2	6	2437	Full	-0.92	-1.86	2.09	5.03		8.00		Pass
HE20	MCS0	2	11	2462	Full	-5.84	-6.08	-2.83	5.03		8.00		Pass
HE40	MCS0	2	3	2422	Full	-5.28	-5.75	-2.27	5.03		8.00		Pass
HE40	MCS0	2	6	2437	Full	-5.22	-6.99	-2.21	5.03		8.00		Pass
HE40	MCS0	2	9	2452	Full	-9.60	-8.88	-5.87	5.03		8.00		Pass

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

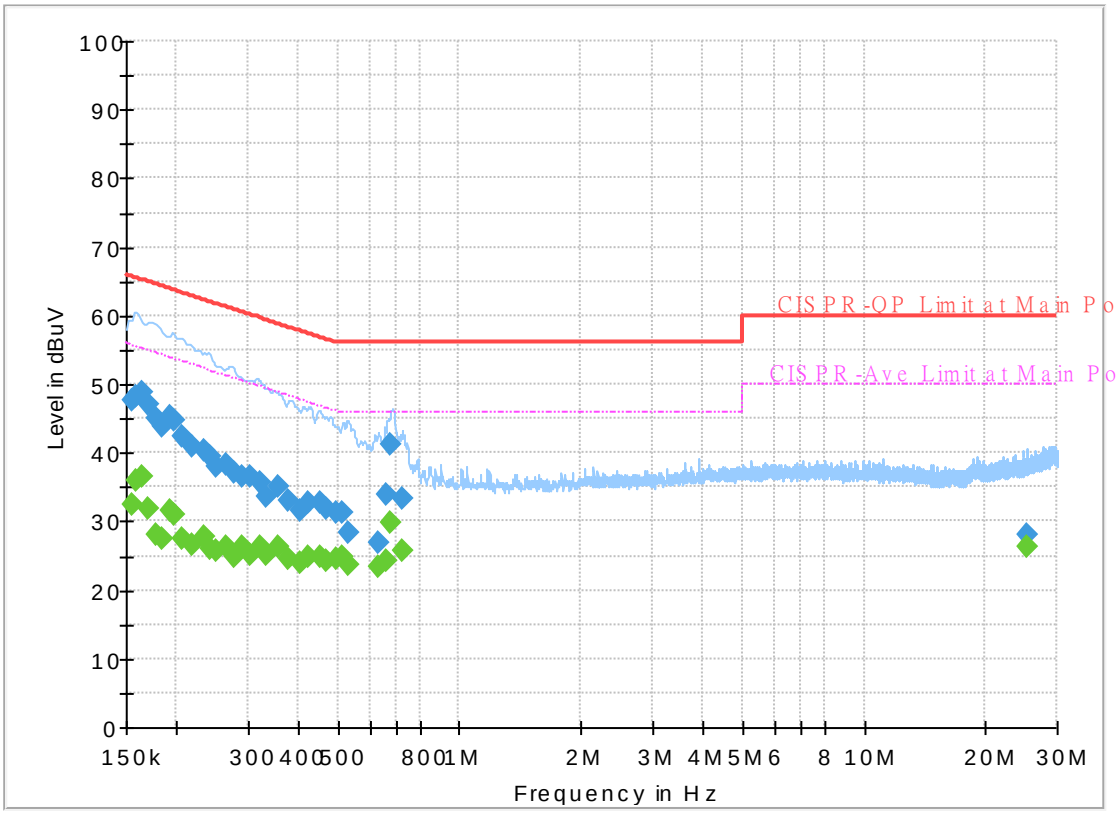
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Calvin Wang	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	1O0638
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	32.41	55.75	23.34	L1	OFF	19.6
0.154500	47.70	---	65.75	18.05	L1	OFF	19.6
0.159000	---	35.89	55.52	19.63	L1	OFF	19.6
0.159000	48.32	---	65.52	17.20	L1	OFF	19.6
0.163500	---	36.68	55.28	18.60	L1	OFF	19.6
0.163500	48.80	---	65.28	16.48	L1	OFF	19.6
0.170250	---	32.00	54.95	22.95	L1	OFF	19.6
0.170250	46.95	---	64.95	18.00	L1	OFF	19.6
0.177000	---	28.04	54.63	26.59	L1	OFF	19.6
0.177000	44.96	---	64.63	19.67	L1	OFF	19.6
0.183750	---	27.46	54.31	26.85	L1	OFF	19.6
0.183750	43.72	---	64.31	20.59	L1	OFF	19.6
0.192750	---	31.47	53.92	22.45	L1	OFF	19.6
0.192750	45.37	---	63.92	18.55	L1	OFF	19.6
0.197250	---	31.09	53.73	22.64	L1	OFF	19.6
0.197250	44.77	---	63.73	18.96	L1	OFF	19.6
0.206250	---	27.41	53.36	25.95	L1	OFF	19.6
0.206250	42.34	---	63.36	21.02	L1	OFF	19.6
0.217500	---	26.52	52.91	26.39	L1	OFF	19.6
0.217500	41.03	---	62.91	21.88	L1	OFF	19.6
0.233250	---	27.74	52.33	24.59	L1	OFF	19.6