FCC RADIO TEST REPORT

FCC ID	:	**MSQAI2201**
Equipment	:	**ASUS Phone(Mobile Phone)**
Brand Name	:	**ASUS**
Model Name	:	**ASUS_AI2201_F 、ASUS_AI2201_D**
Applicant	:	**ASUSTeK COMPUTER INC.** **1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan**
Manufacturer	:	**ASUSTeK COMPUTER INC.** **1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan**
Standard	:	**FCC Part 15 Subpart C §15.247**

The product was received on Jan. 26, 2022 and testing was performed from Apr. 30, 2022 to Jun. 09, 2022. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issue Date
FR210404C	01	Initial issue of report	Jun. 30, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges	Pass	-
		Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	2.04 dB under the limit at 2484.790 MHz
3.6	15.207	AC Conducted Emission	Pass	6.98 dB under the limit at 0.150 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Declaration of Conformity:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
   It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Avis Chuang

Report Producer: Cindy Liu

1 General Description

1.1 Product Feature of Equipment Under Test

GSM/WCDMA/LTE/5G NR, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, Wi-Fi 5GHz 802.11a/n/ac/ax, Wi-Fi 6GHz 802.11a/ax, NFC, and GNSS

Product Feture	
Sample 1	SKU 1
Sample 2	SKU 2
Antenna Type	WWAN: PIFA Antenna WLAN <Ant. 4>: PIFA Antenna <Ant. 5>: PIFA Antenna <Ant. 6>: PIFA Antenna Bluetooth <Ant. 4>: PIFA Antenna <Ant. 5>: PIFA Antenna <Ant. 6>: PIFA Antenna GPS/Glonass/BDS/Galileo/SBAS: PIFA Antenna NFC: Loop Antenna

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	Ant. 4: -3.44 Ant. 5: -1.67 Ant. 6: -3.90

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.

Sample Information		
SKU	SKU 1	SKU 2
Build Stage	PR	
Config.	WW-High (with LGF)	WW-High (with PMOLED)
RF module board	WW-High(Entry)	WW-PRO
LCD + Touch front frame	AI2201 FRONT CASE ASSY WW	AI2201 FRONT CASE ASSY WW
DDR	16G (Samsung) LPDDR5 SAMSUNG/K3LK6K60BM-BGCP	18G(HYNIX) LPDDR5 HYNIX/H58GU6MK6HX042
UFS	512G (HYNIX) HYNIX HN8T25DEHKX077	512G (HYNIX) HYNIX HN8T25DEHKX077
MB	AI2201_MB	AI2201_MB
Battery	SCUD/C21P2101	SWD/C21P2101
Rear Camera 50+13M	PRIMAX/50-704JQASC8	TRIPLEWIN/CASAF-001A
Front Camera 12M	TSPRECISION/TNBF1166	LUXVISIONS/FRA-00000658
Rear Camera 5M	SHINE PHOTICS/BF515B	TSPRECISION/O5F9323 VERA1
PCB	COMPEQ	COMPEQ
CPU	QUALCOMM MPSP1518B / SM-8475-1 MPSP1518B ES	QUALCOMM MPSP1518B / SM-8475-1 MPSP1518B ES

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	TH05-HY, 03CH15-HY, CO07-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find X plane as worst plane.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.2 Test Mode

The 802.11ax mode is investigated among different tones, full resource units (RU), partial resource units. The partial RU has no higher power than full RU's, thus the full RU is chosen as main test configuration.

The CDD mode is chosen as worst case configuration for all test cases due to higher power than SISO mode.

The 802.11n/ac mode has no higher power and PSD than 802.11ax mode, thus the 802.11ax mode is chosen as main test configuration, and the 802.11n/ac mode is verified the power.

The final test modes consider the modulation and the worst data rates as shown in the table below.

MIMO Antenna

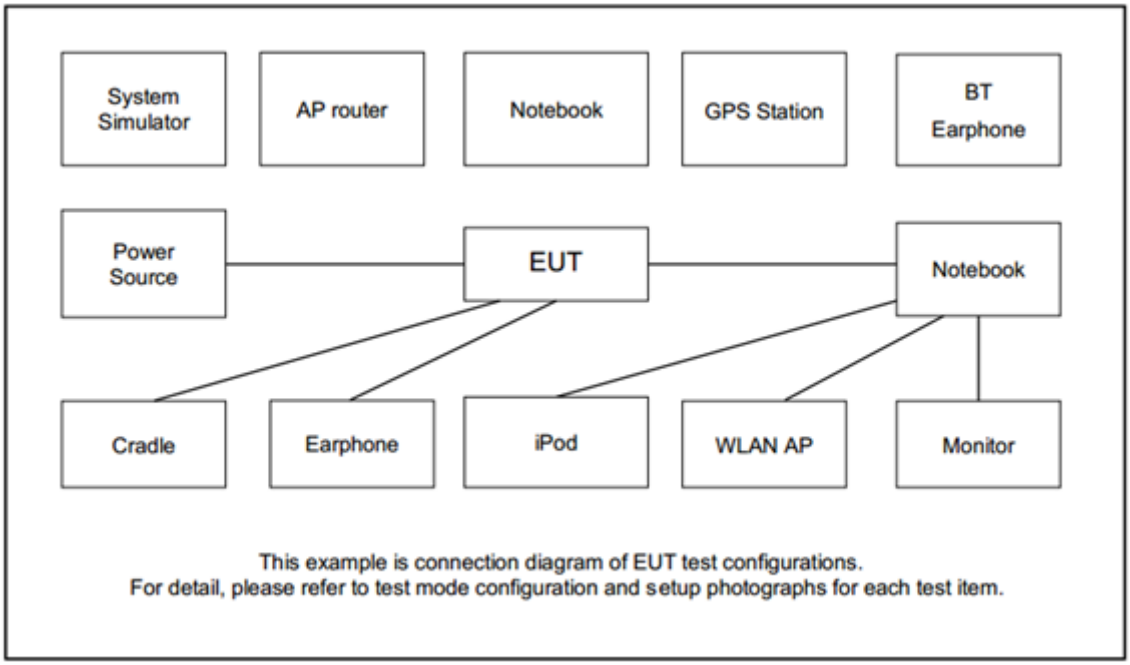
Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20 (Covered by HE20)	MCS0
802.11n HT40 (Covered by HE40)	MCS0
802.11ac VHT20 (Covered by HE20)	MCS0
802.11ac VHT40 (Covered by HE40)	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0

Test Cases	
AC Conducted Emission	Mode 1 GSM 850 Idle + Bluetooth Link + WLAN (2.4GHz) Link + Camera (Front) + NFC On + USB Cable 1 (Bottom USB Port) (Charging from AC Adapter 1) + X mode + Aura sync + SIM 1 for Sample 2
Remark: For Radiated Test Cases, the tests were performed with Adapter 1, USB Cable 1 and Sample 2	

Ch. #	2400-2483.5 MHz			
	802.11b	802.11g	802.11ax HE20	802.11ax HE40
Low	01	01	01	03
Middle	06	06	06	06
High	11	11	11	09

Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony	SBH20	PY7-RD0010	N/A	N/A
3.	WLAN AP	ASUS	RT-AC52A	N/A	N/A	Unshielded, 1.8m
4.	Notebook	DELL	Latitude E3340	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT.4.0.00195.0” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.
Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

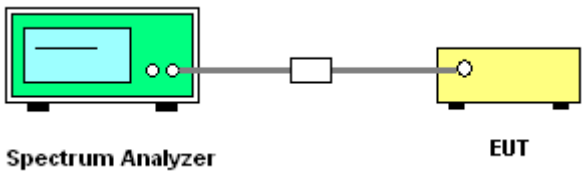
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
6. Measure and record the results in the test report.

3.1.4 Test Setup

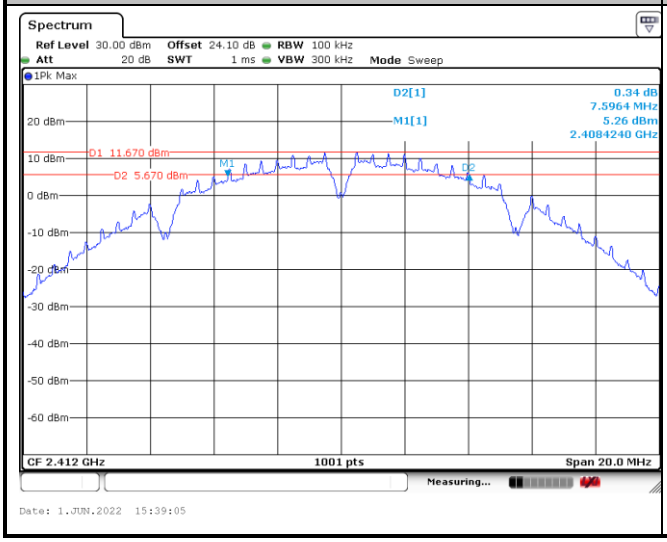
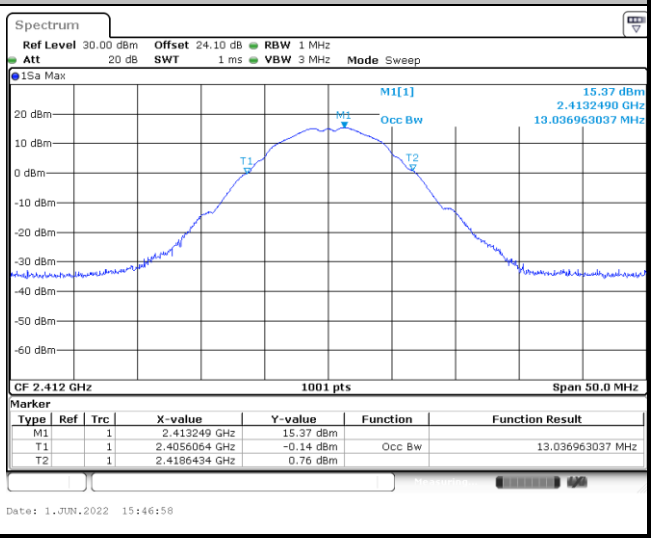


3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.

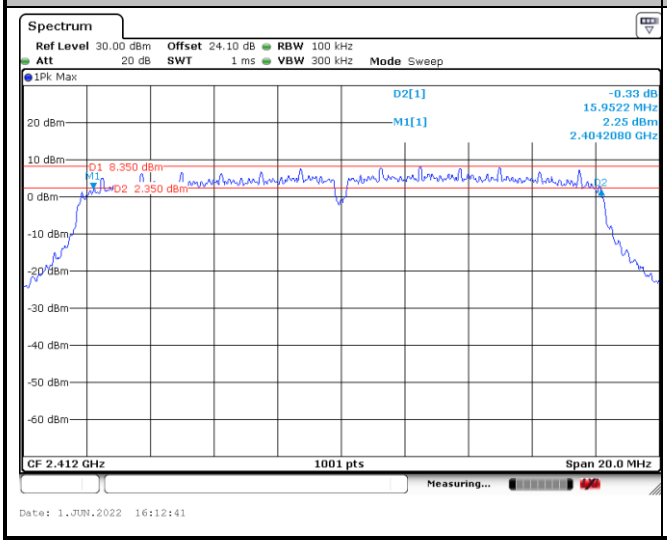
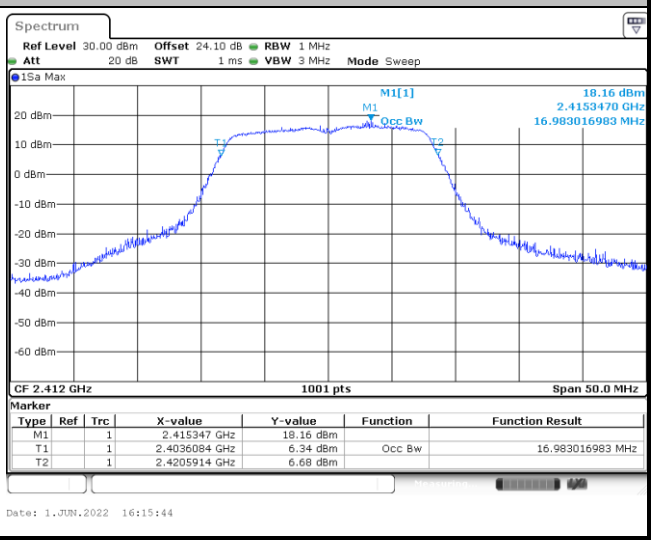
MIMO <Ant. 5+6>

<802.11b>

6dB Bandwidth	99% Occupied Bandwidth
	

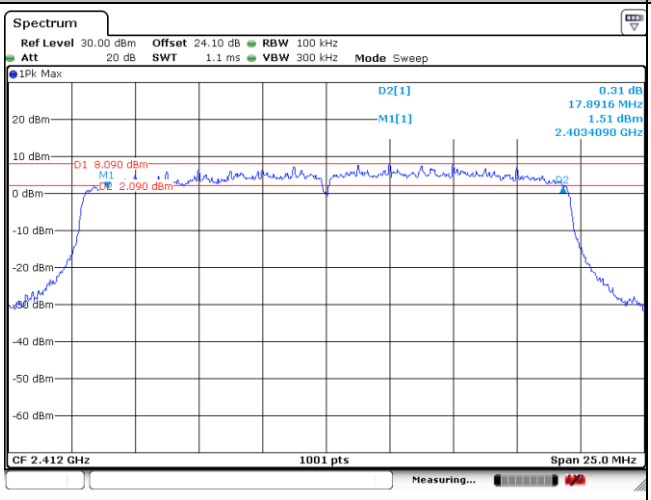
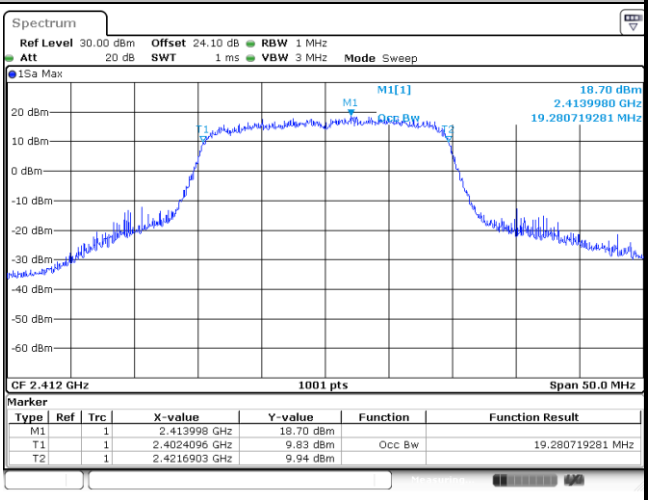
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11g>

6dB Bandwidth	99% Occupied Bandwidth
	

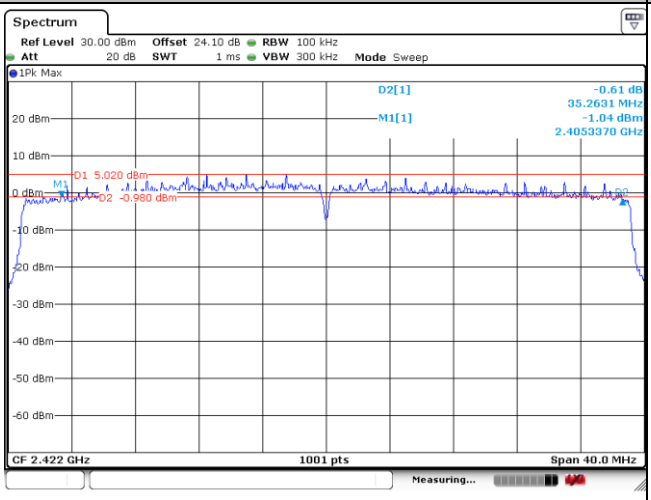
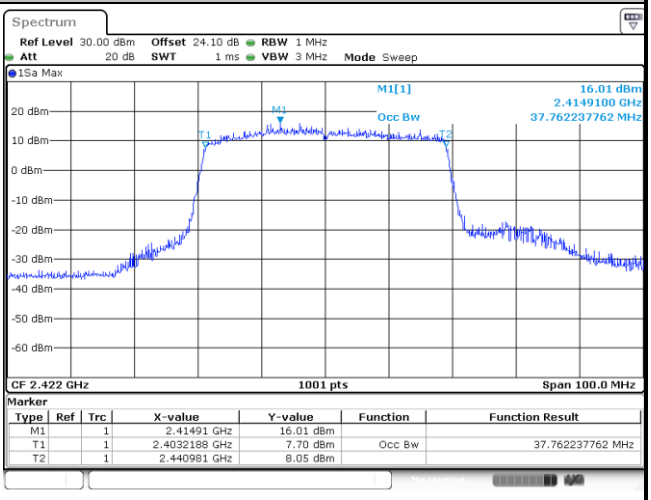
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE20>

6dB Bandwidth	99% Occupied Bandwidth
	

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11ax HE40>

6dB Bandwidth	99% Occupied Bandwidth
	

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna with directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

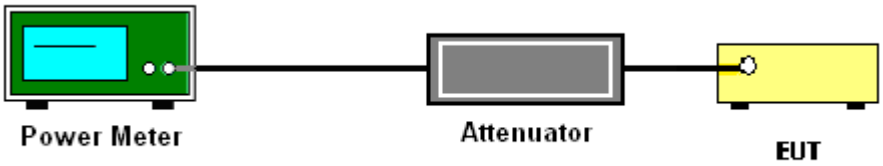
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
2. The RF output of EUT is connected to the power meter by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   Method (1): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

   Method (2): Measure and add 10 log (N) dB, where N is the number of outputs. (N=2)

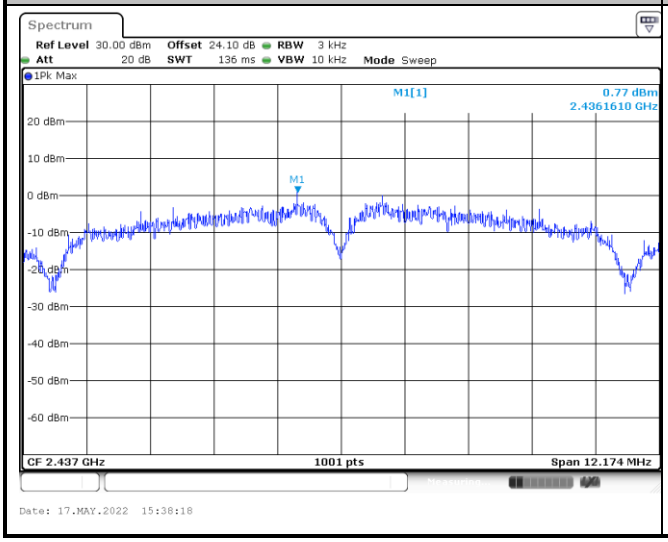
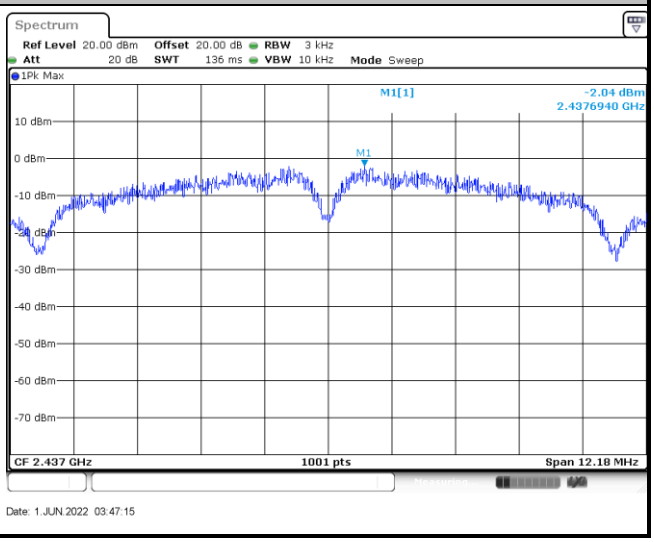
3.3.4 Test Setup

3.3.5 Test Result of Power Spectral Density

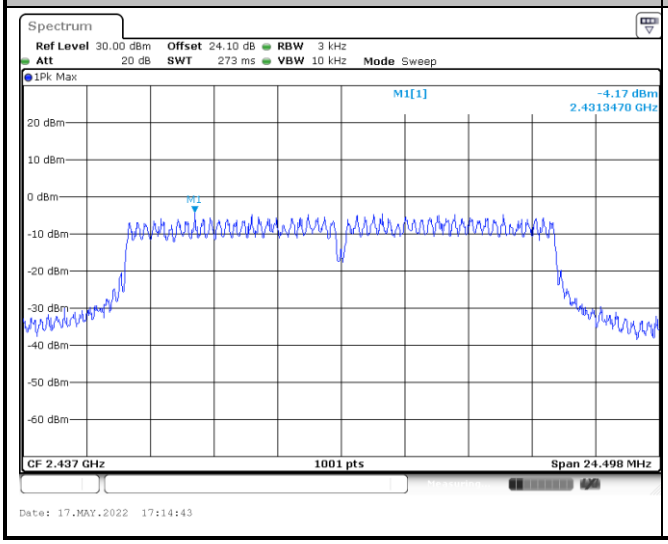
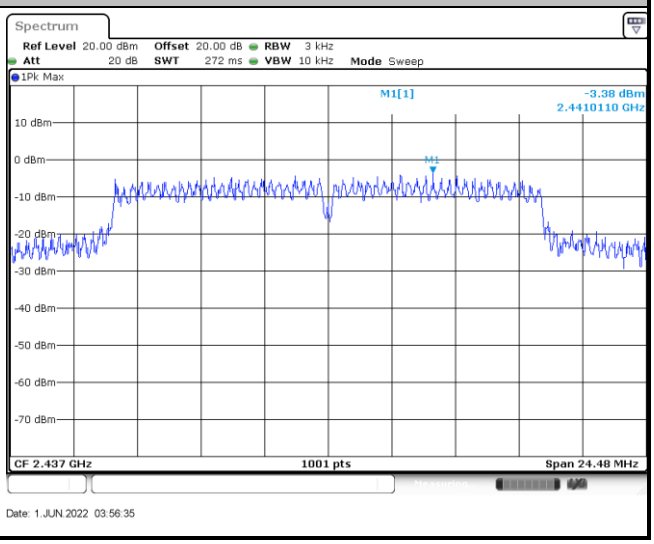
Please refer to Appendix A.

MIMO <Ant. 5+6>

<802.11b>

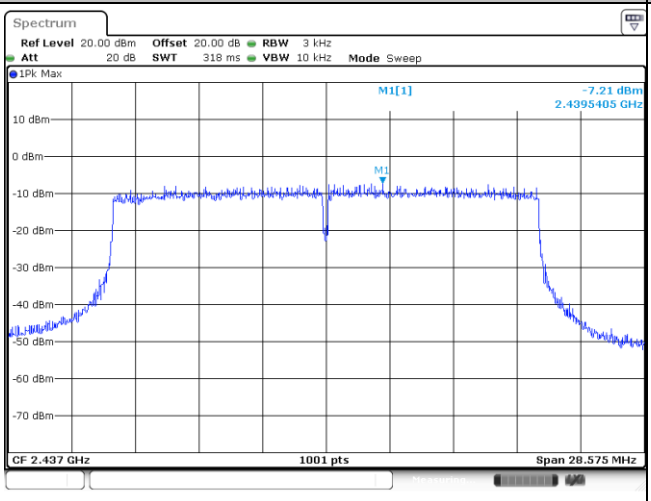
Maximum Power Density Plot (dBm/3kHz)	
MIMO Ant. 5	**MIMO Ant. 6**
	

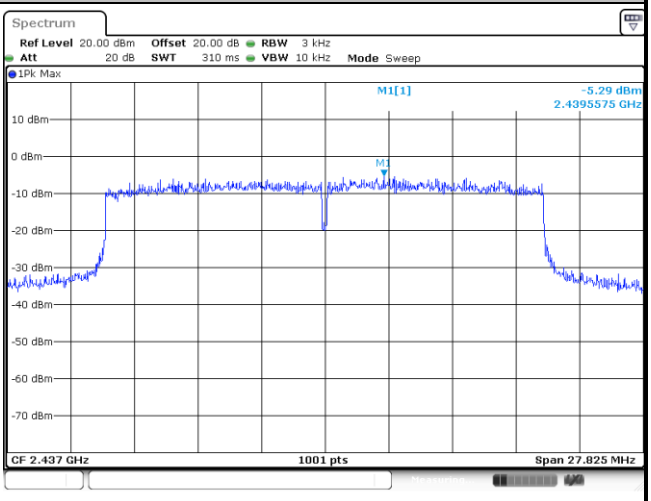
<802.11g>

Maximum Power Density Plot (dBm/3kHz)	
MIMO Ant. 5	**MIMO Ant. 6**
	

<802.11ax HE20>

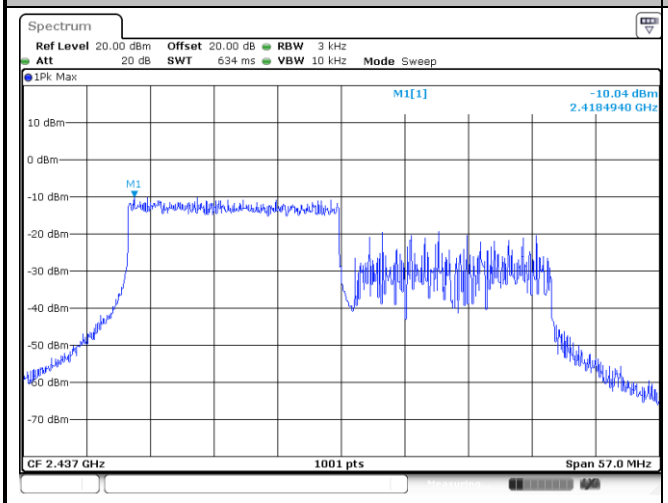
Maximum Power Density Plot (dBm/3kHz)	
MIMO Ant. 5	**MIMO Ant. 6**

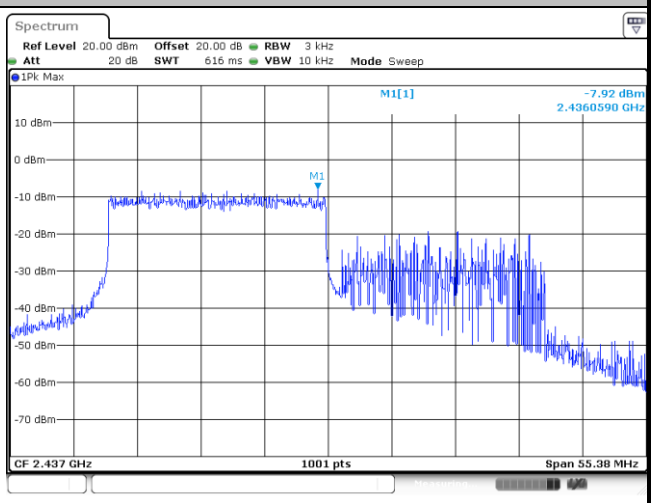




<802.11ax HE40>

Maximum Power Density Plot (dBm/3kHz)	
MIMO Ant. 5	**MIMO Ant. 6**





3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

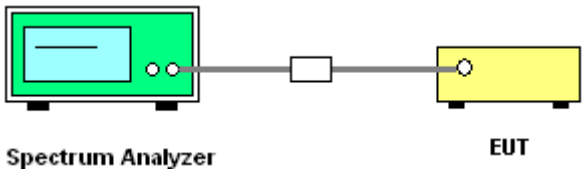
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
3. Set the maximum power setting and enable the EUT to transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

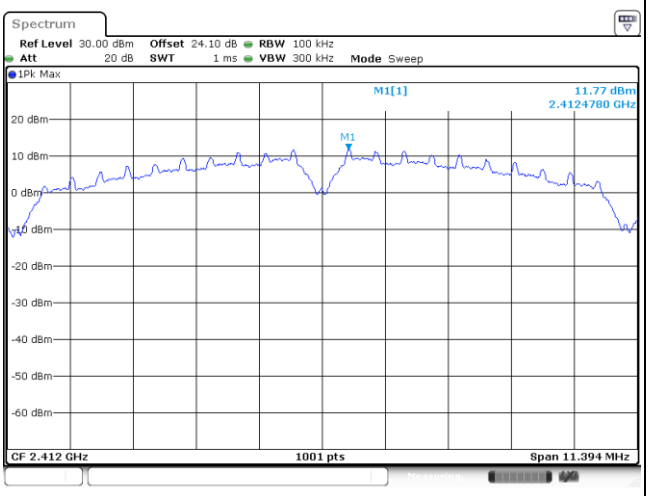
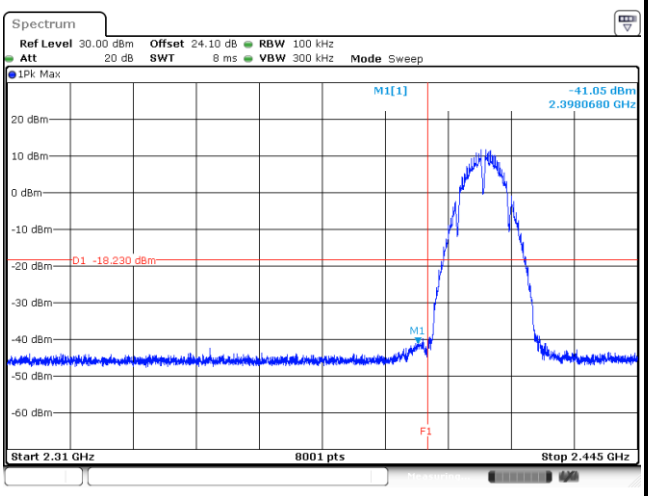
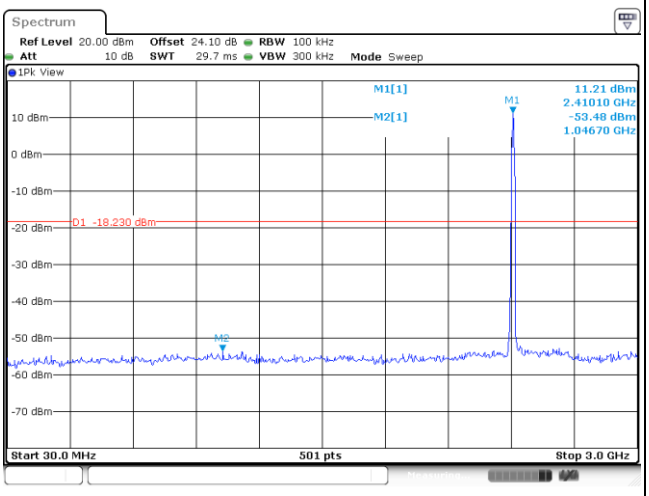
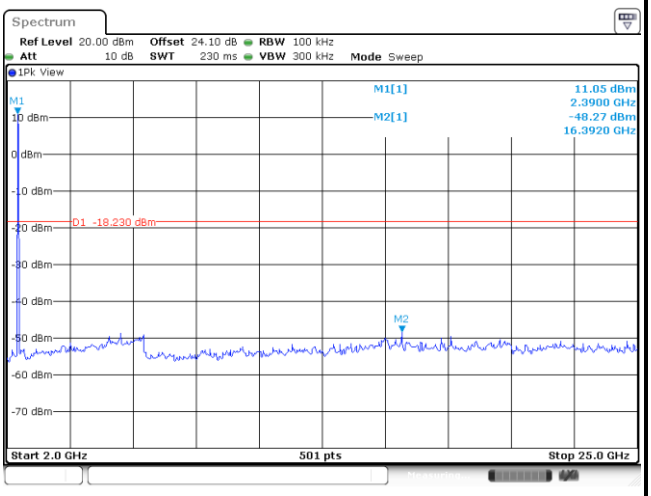
3.4.4 Test Setup



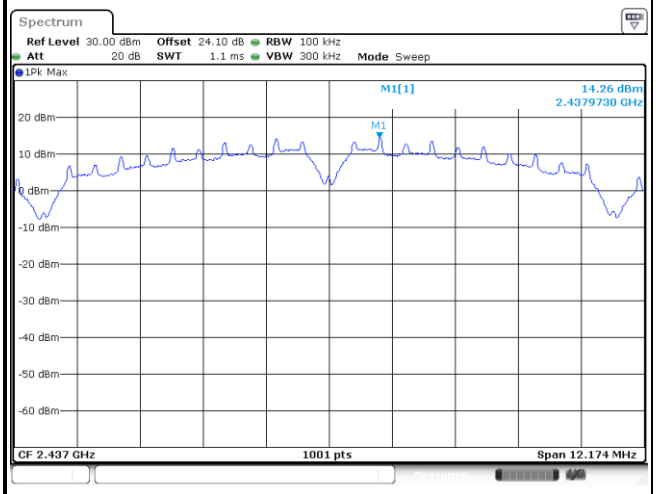
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

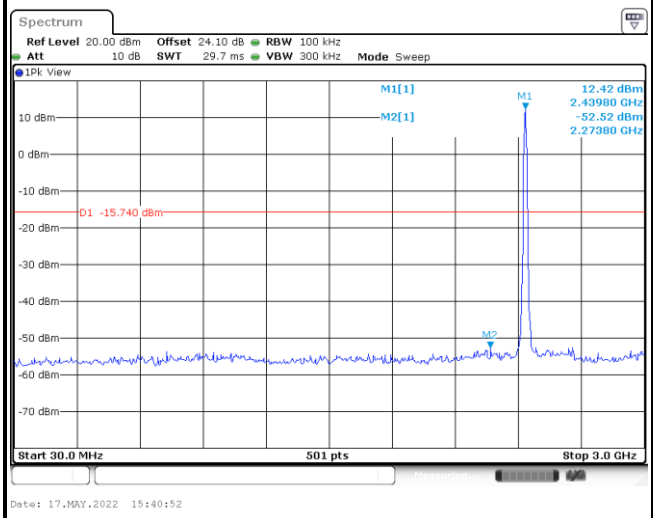
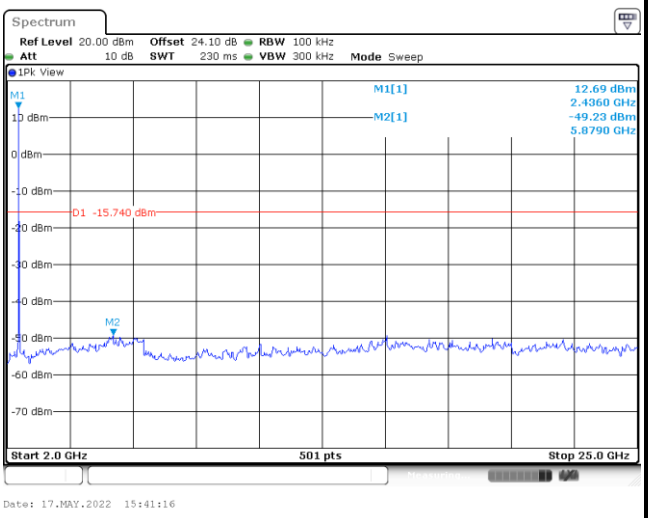
Number of TX = 2, Ant. 5 (Measured)

Test Mode :	802.11b	Test Channel :	01

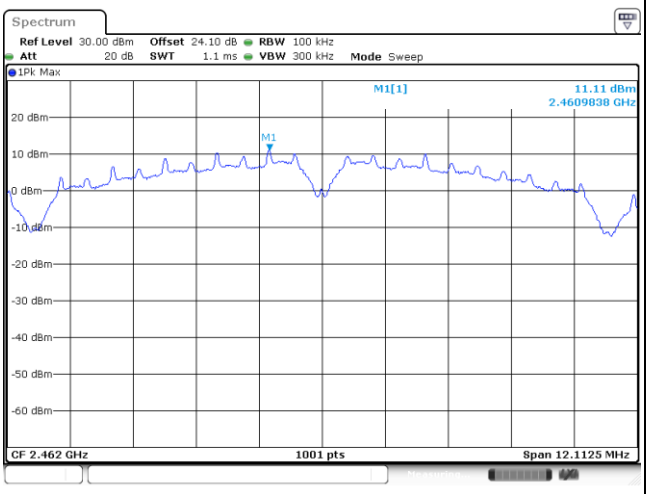
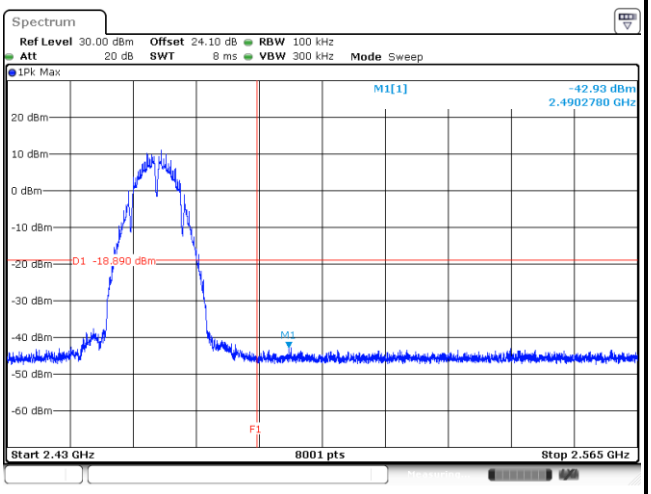
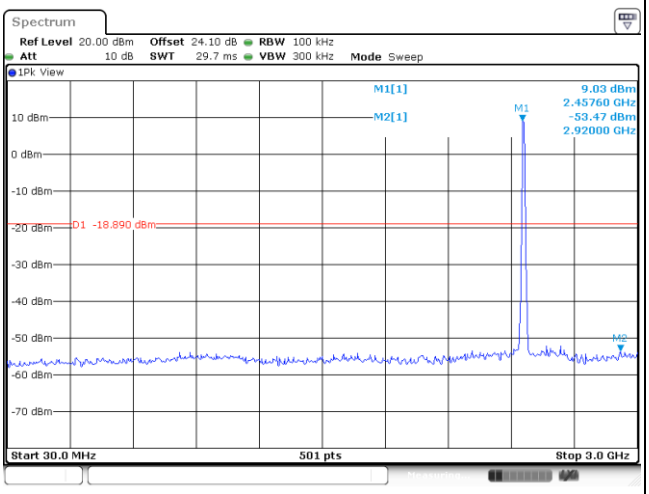
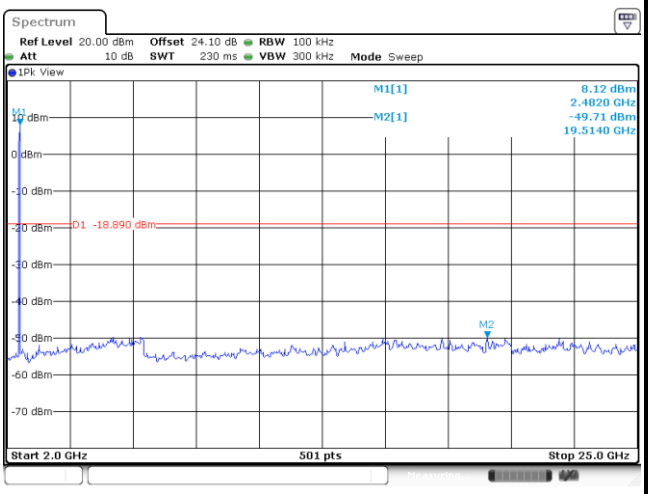
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11b	Test Channel :	06

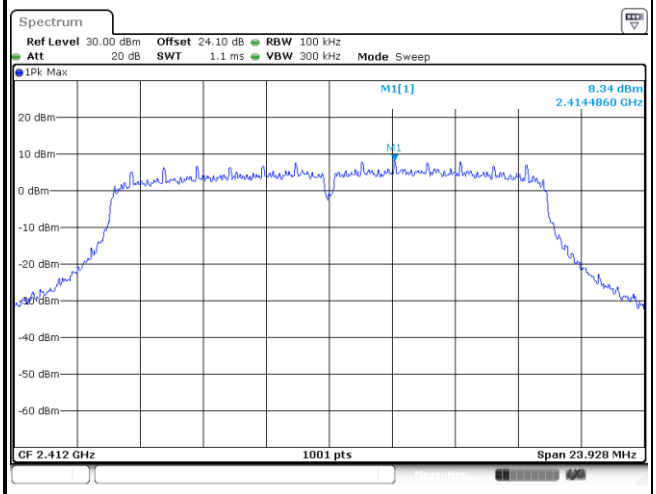
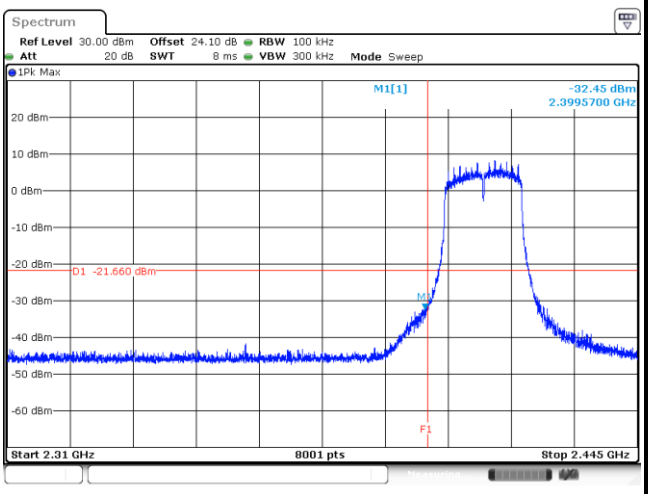
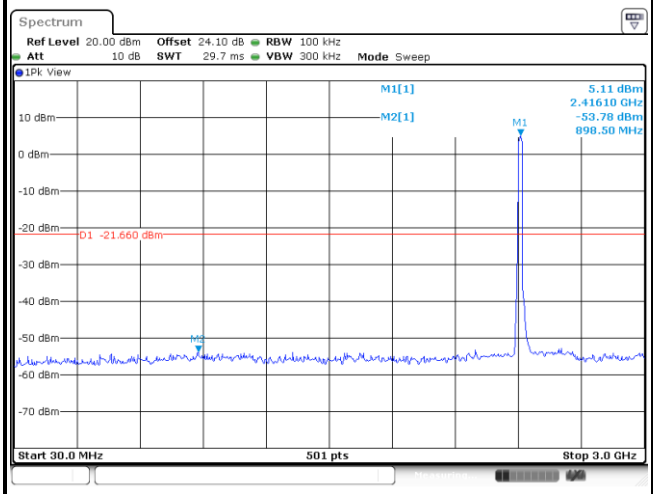
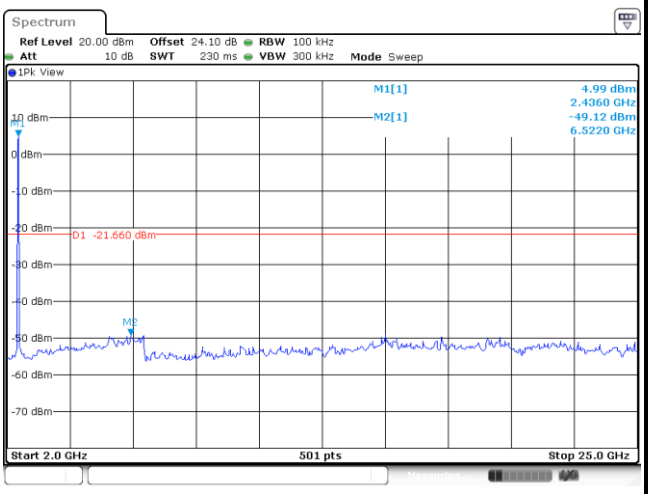
100kHz PSD reference Level	Channel Plot
	

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

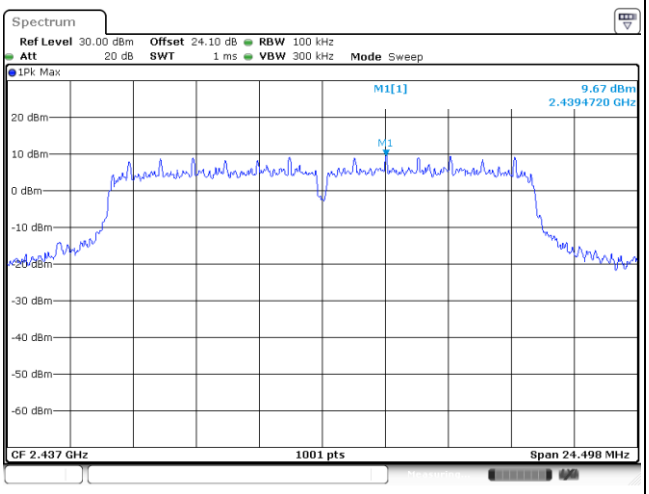
Test Mode :	802.11b	Test Channel :	11

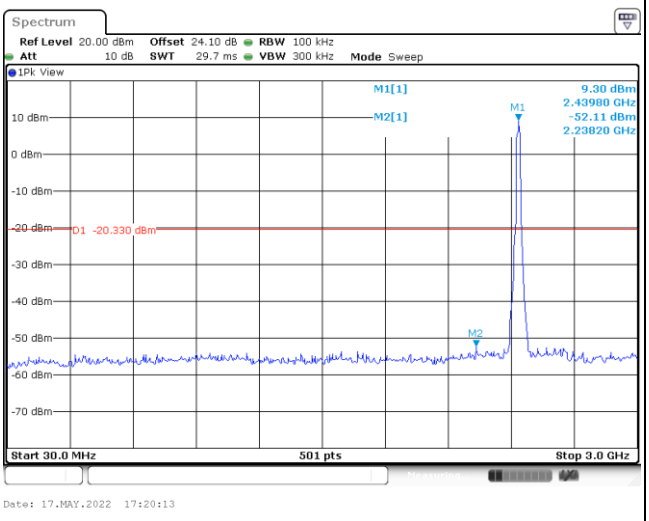
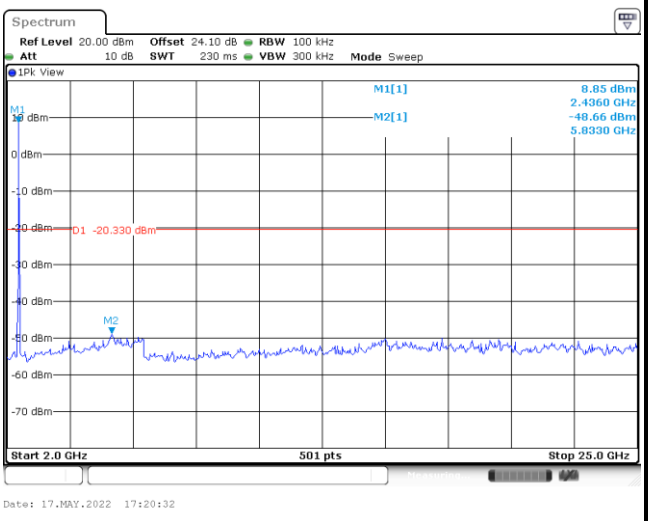
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	01

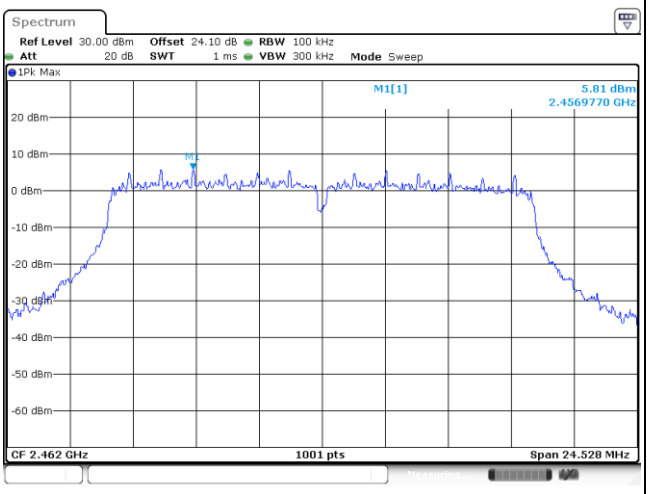
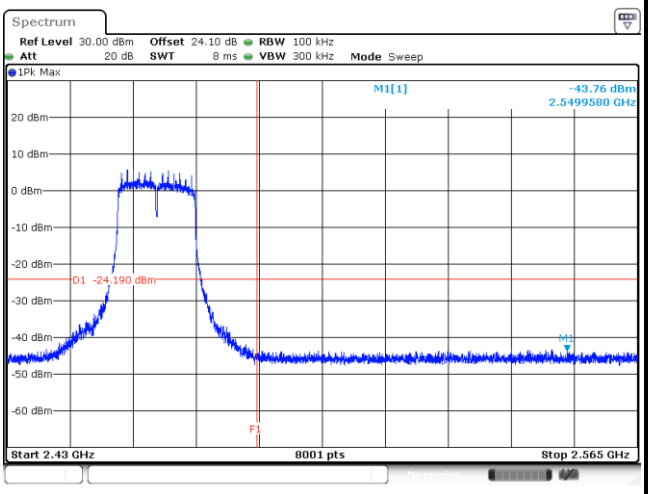
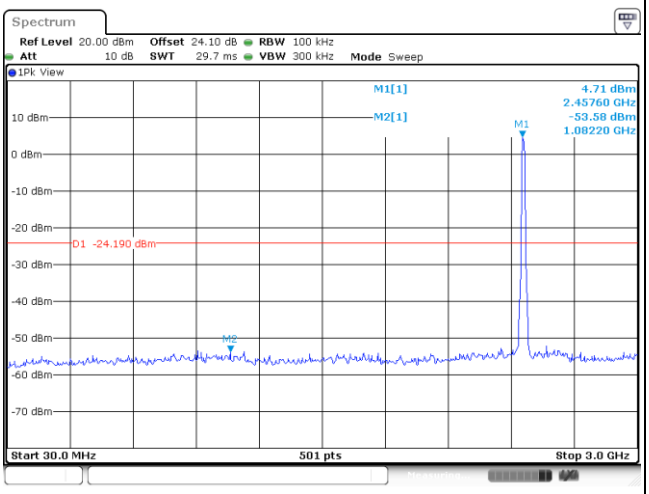
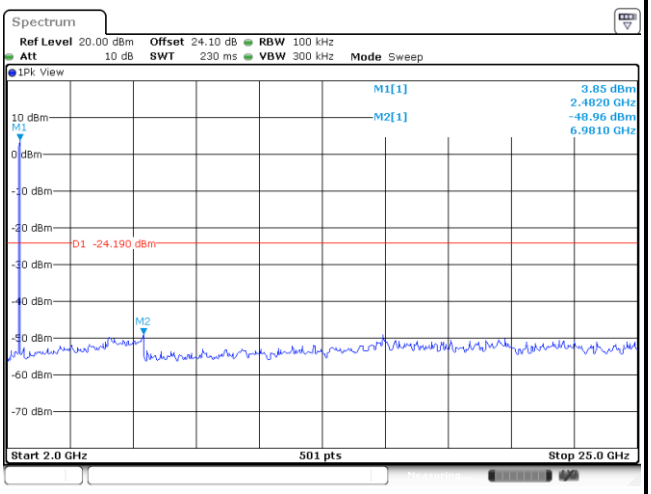
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	06

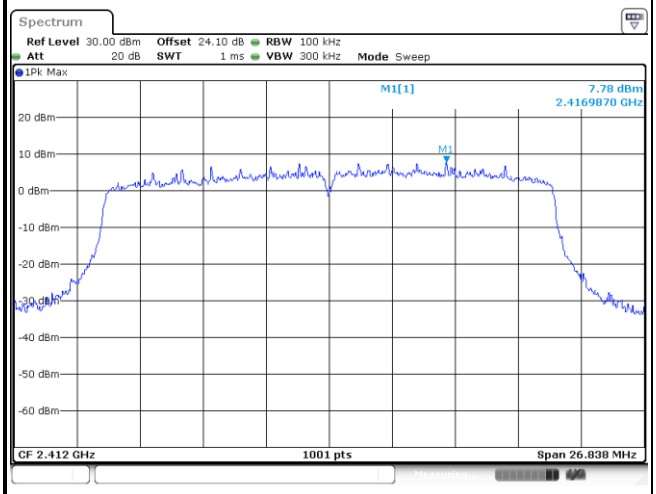
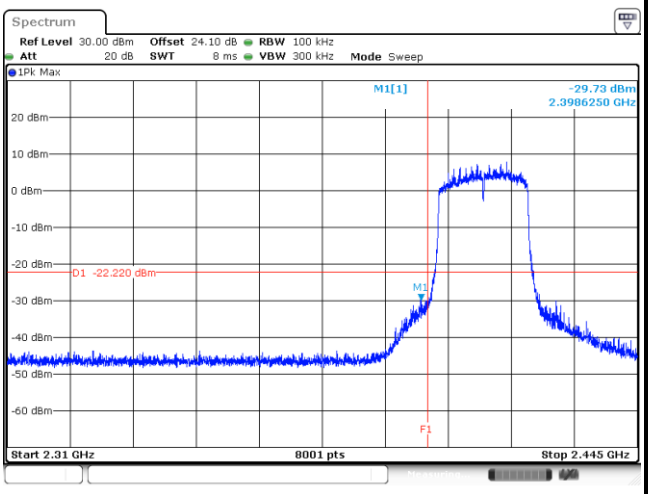
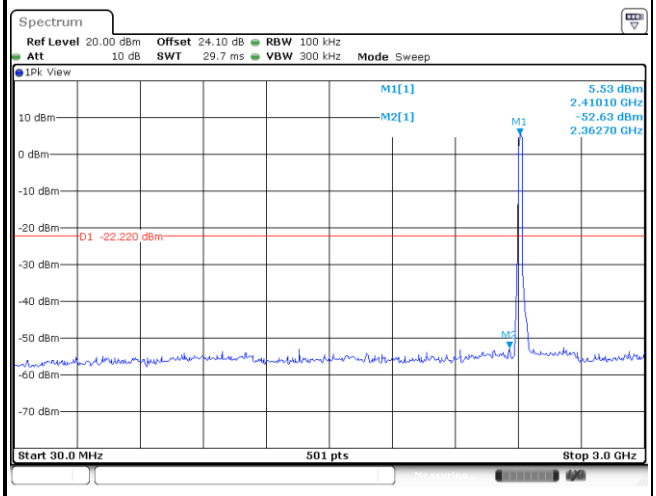
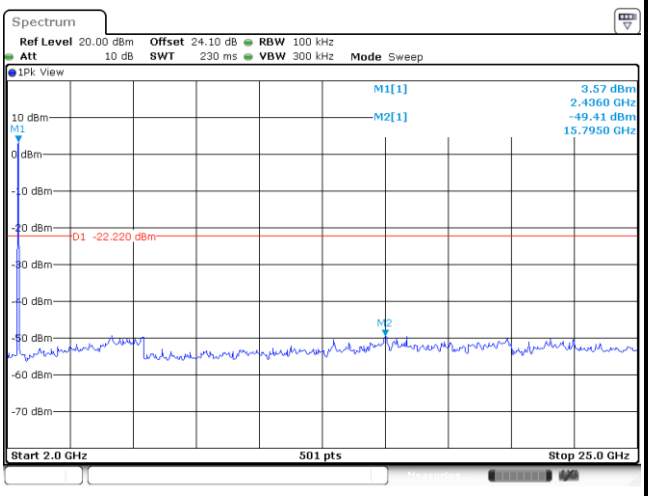
100kHz PSD reference Level	Channel Plot
	

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

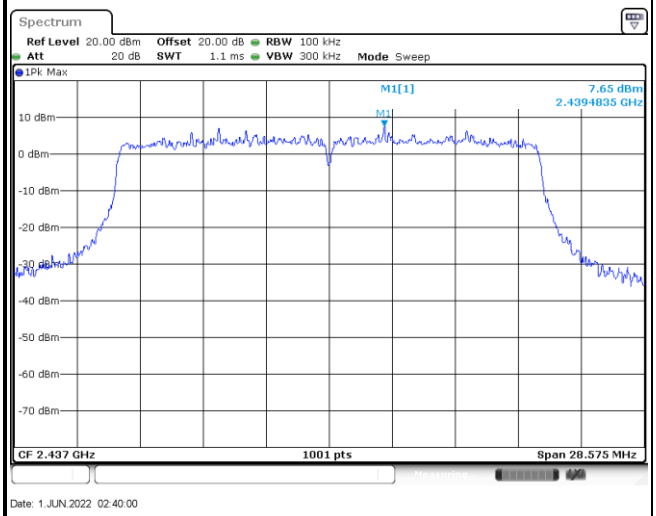
Test Mode :	802.11g	Test Channel :	11

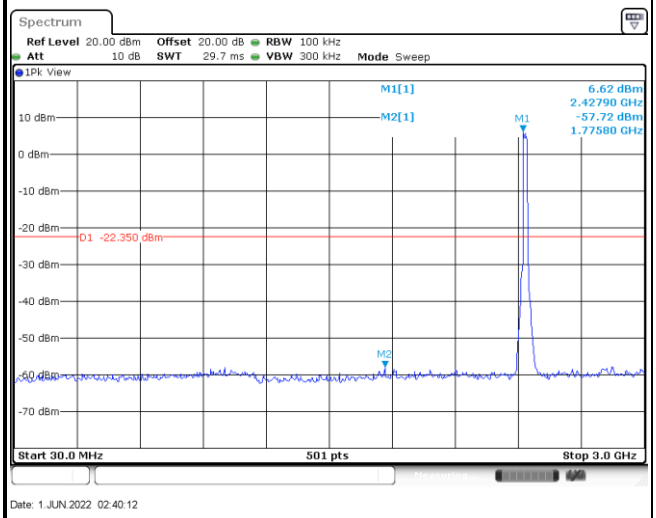
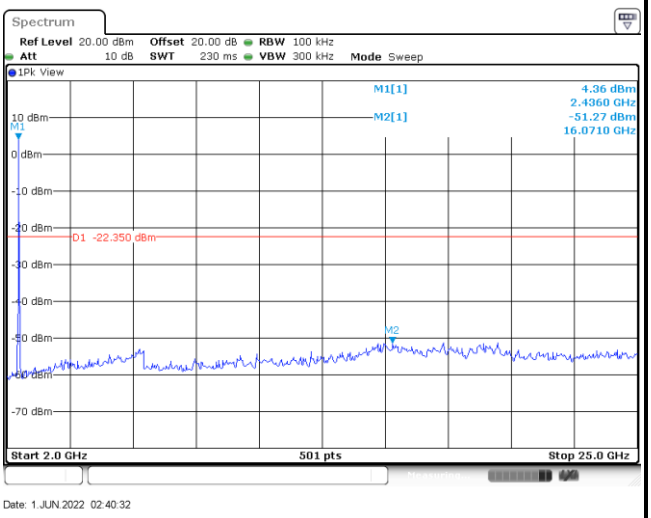
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

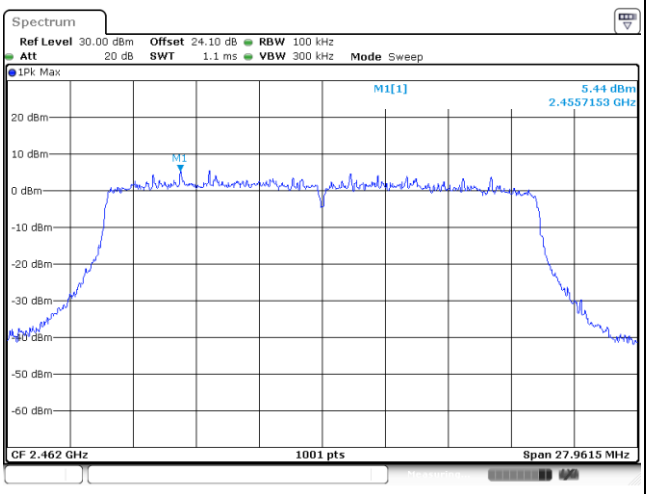
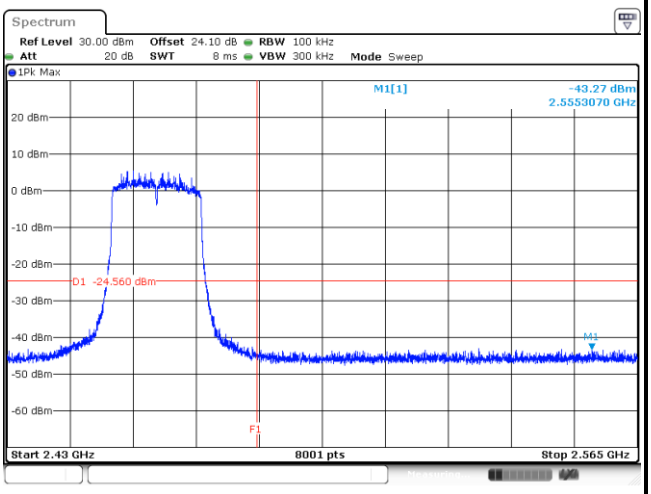
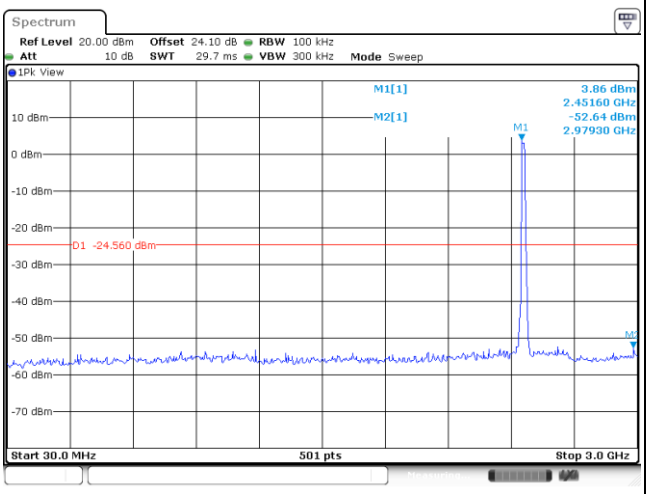
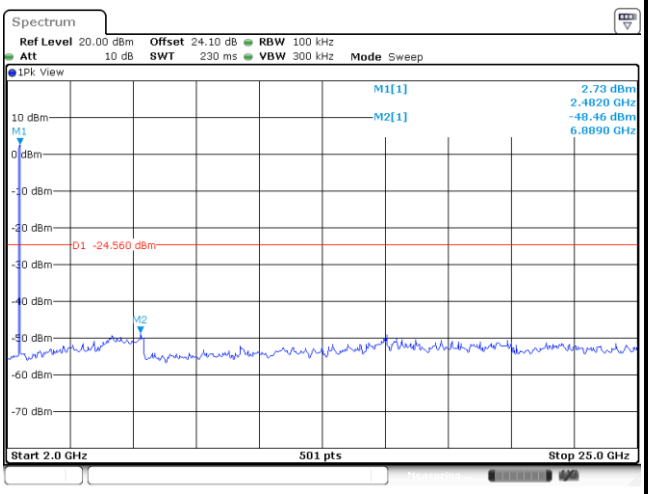
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

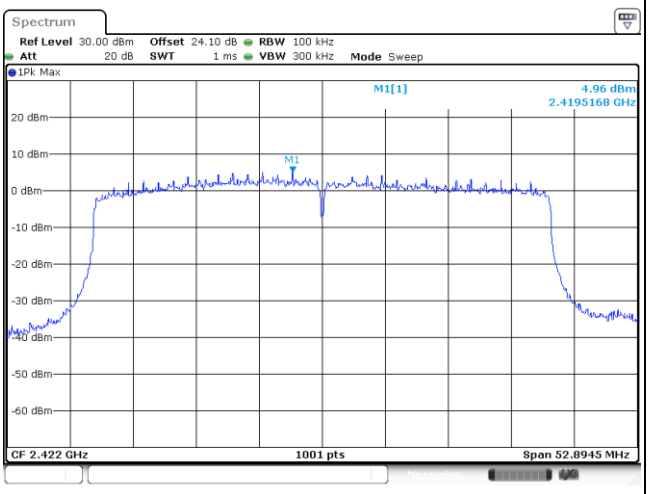
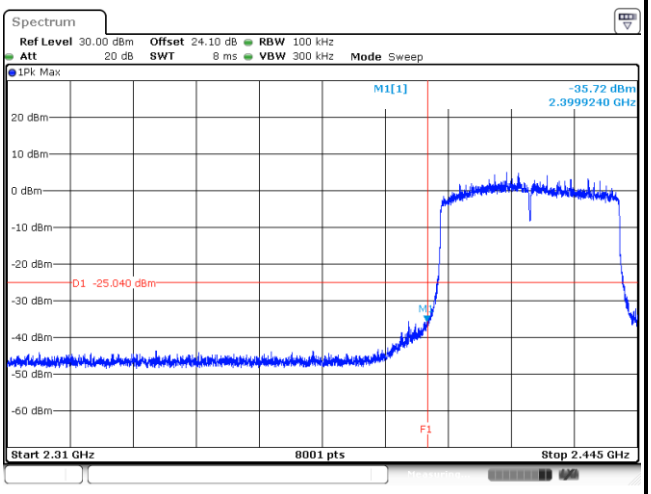
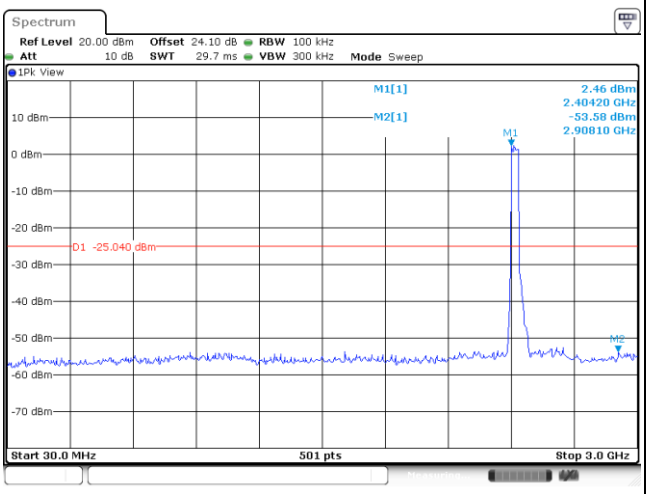
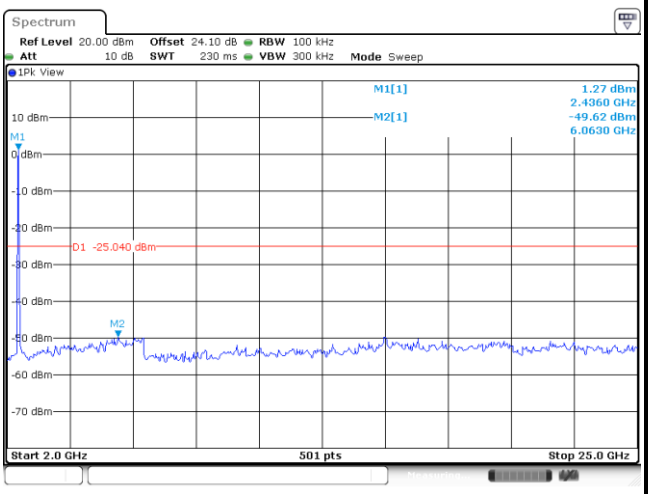
100kHz PSD reference Level	Channel Plot
	

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

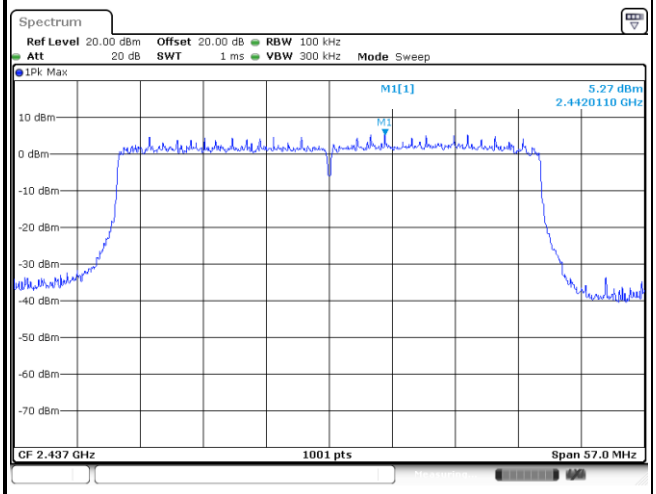
Test Mode :	802.11ax HE20 Full RU	Test Channel :	11

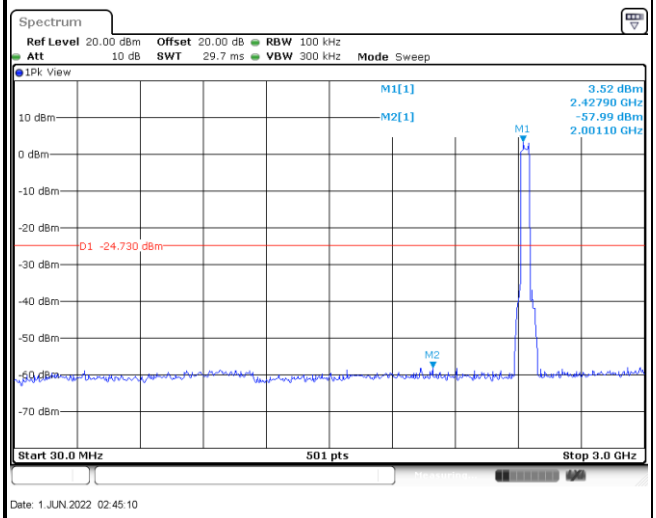
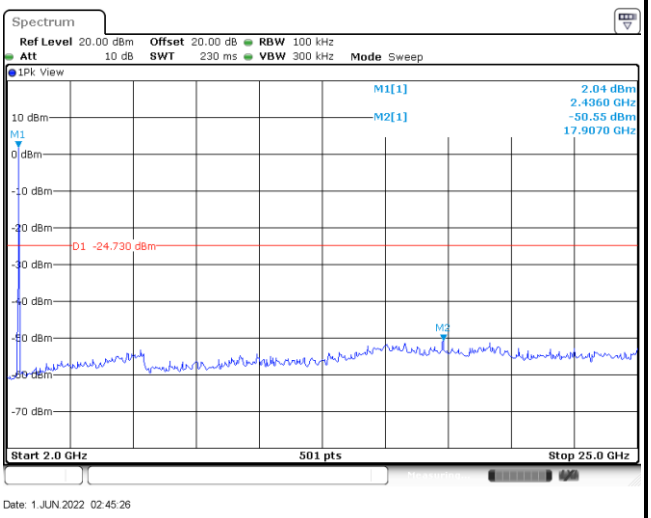
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

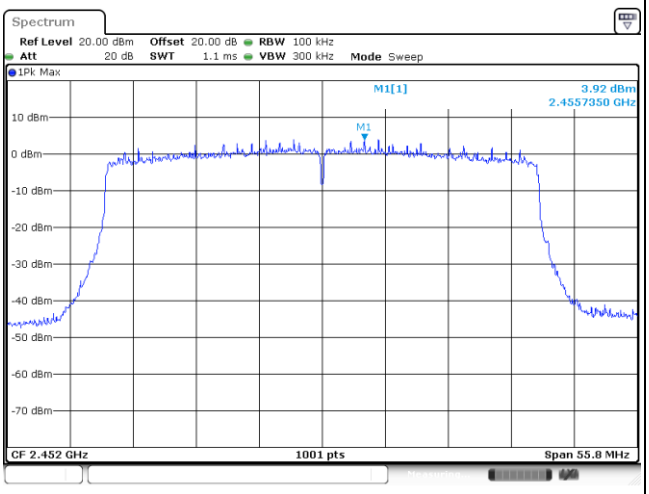
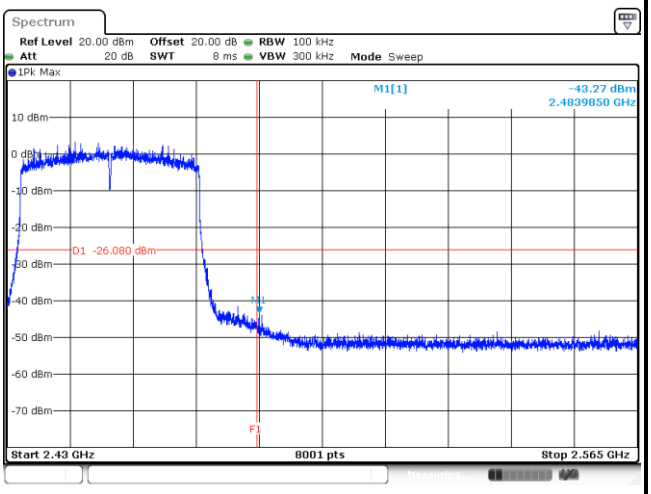
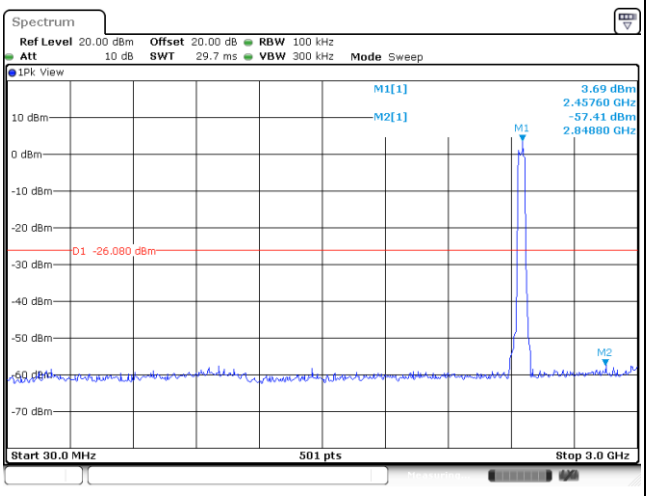
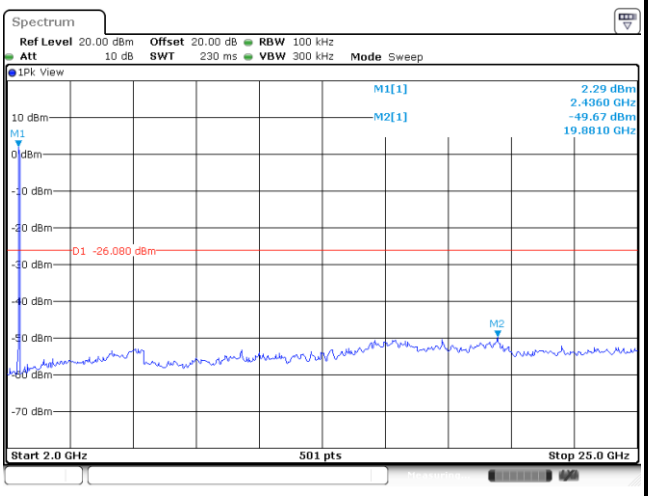
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

100kHz PSD reference Level	Channel Plot
	

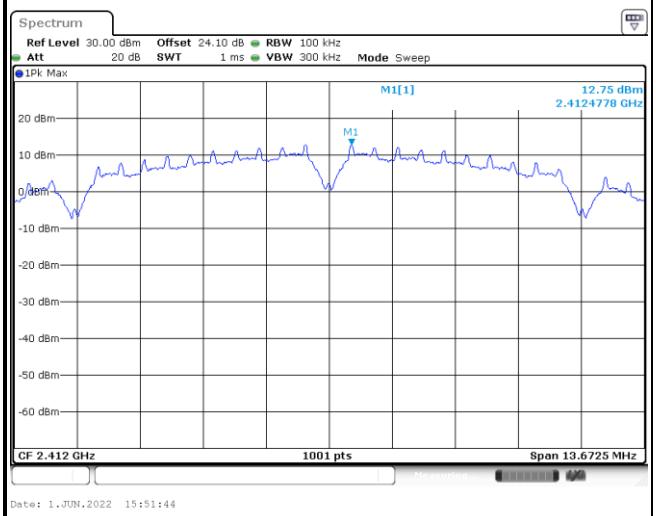
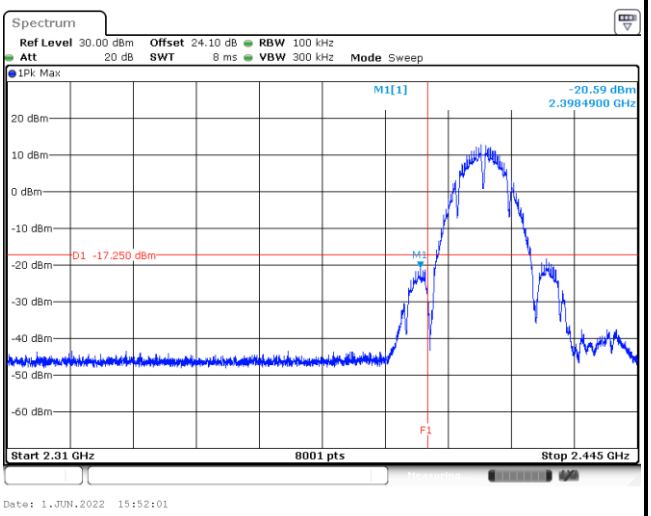
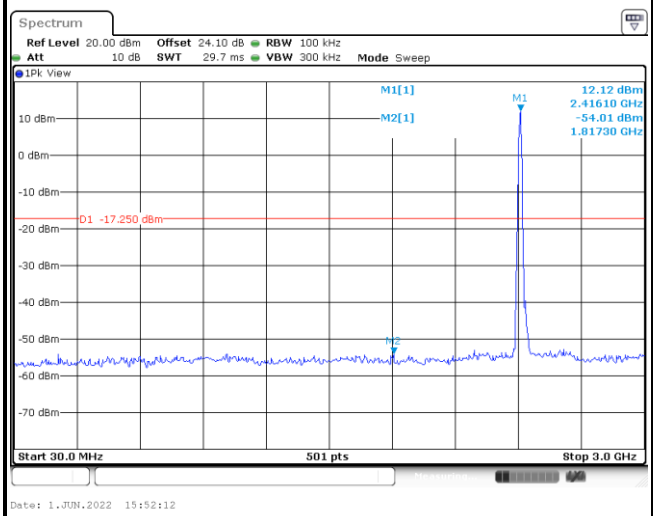
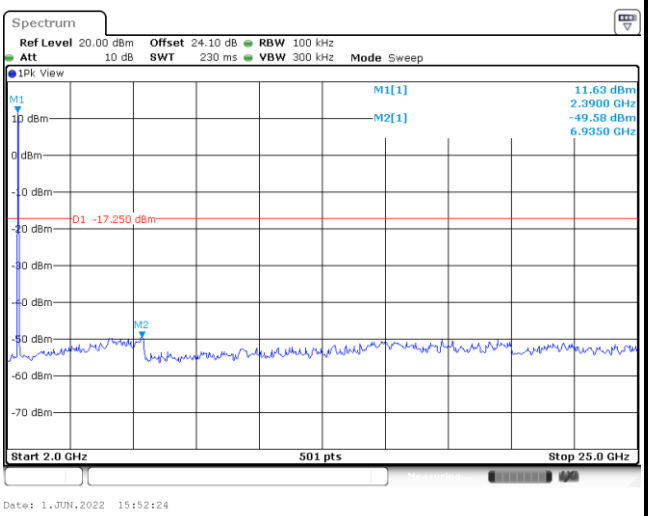
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

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

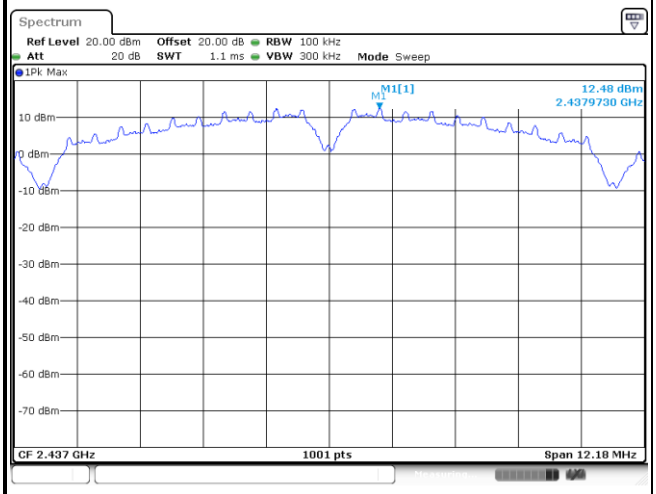
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

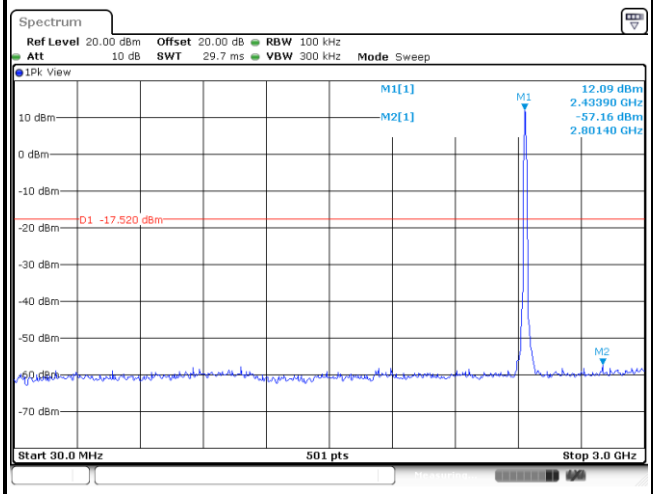
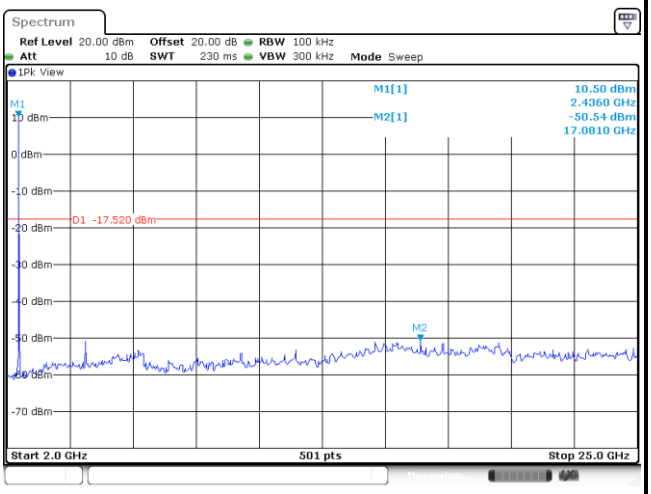
Number of TX = 2, Ant. 6 (Measured)

Test Mode :	802.11b	Test Channel :	01

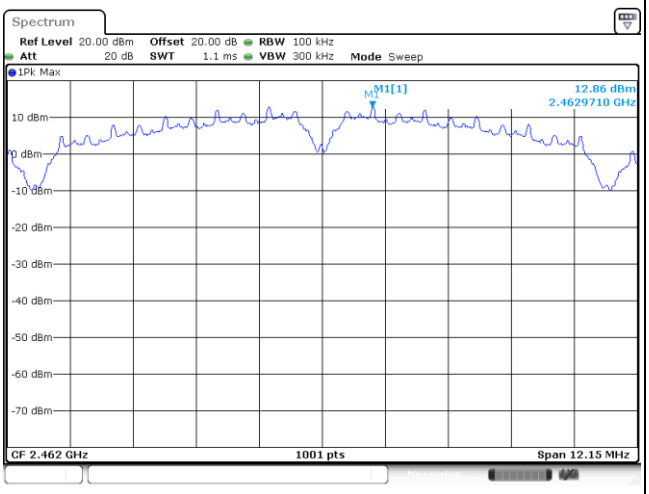
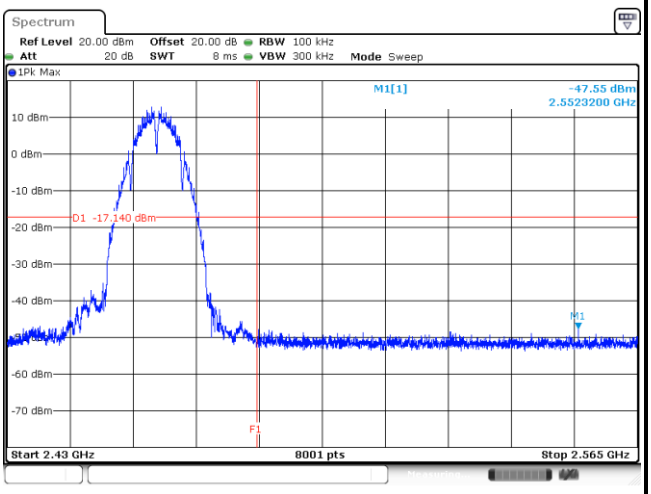
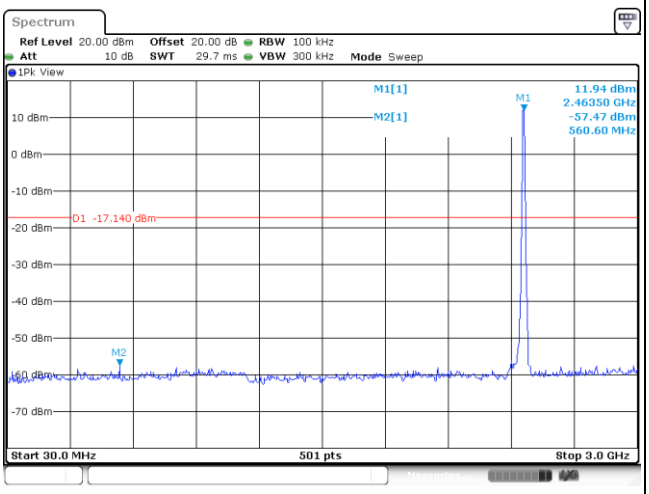
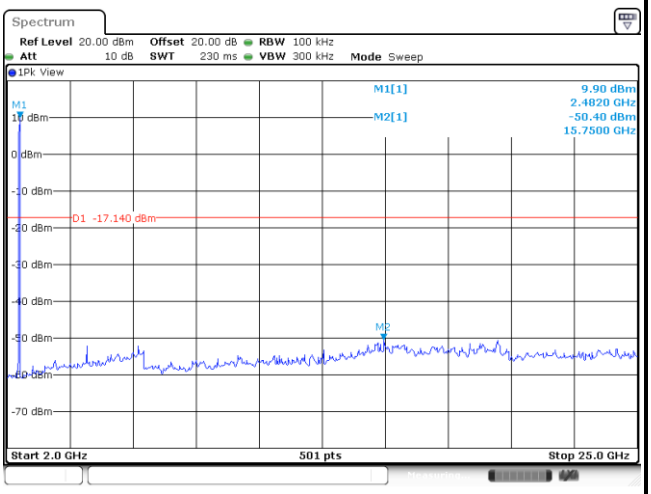
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11b	Test Channel :	06

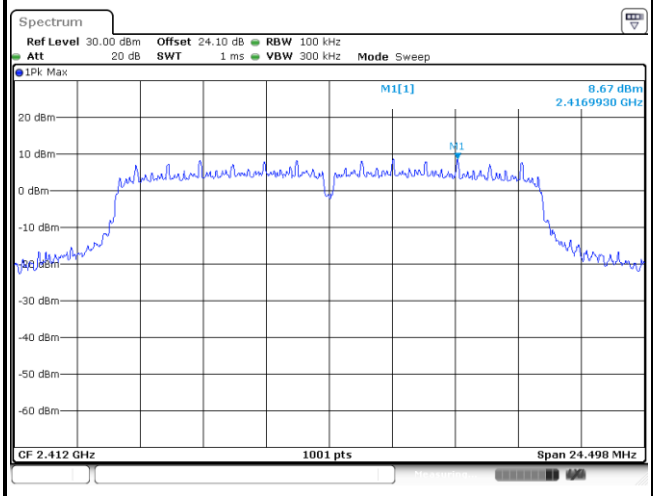
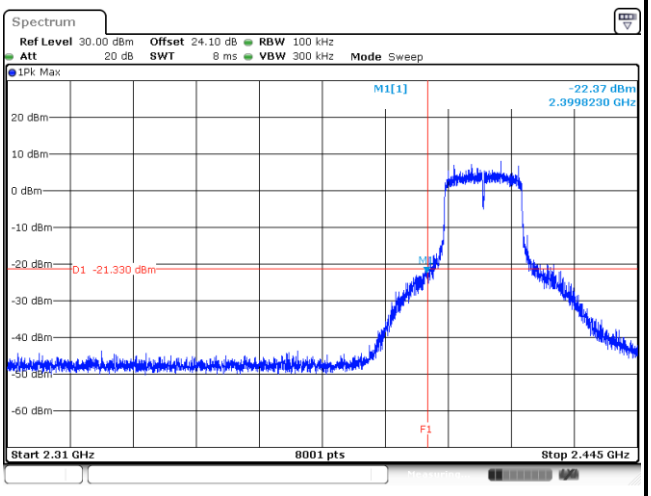
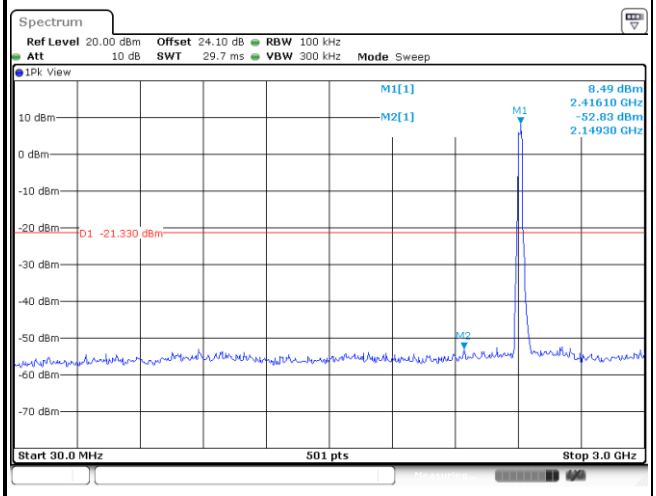
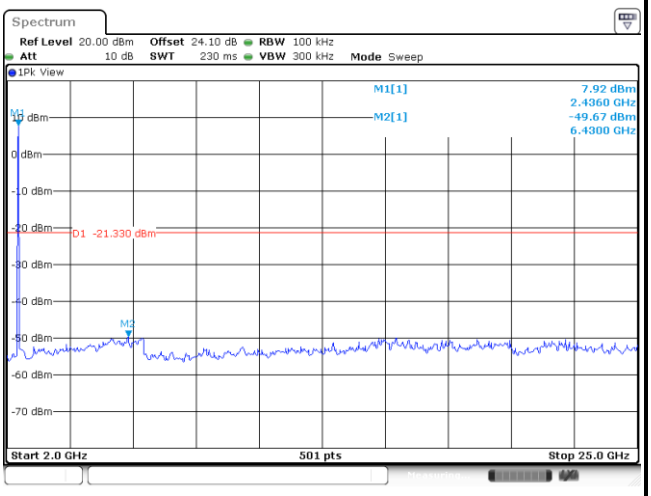
100kHz PSD reference Level	Channel Plot
	

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

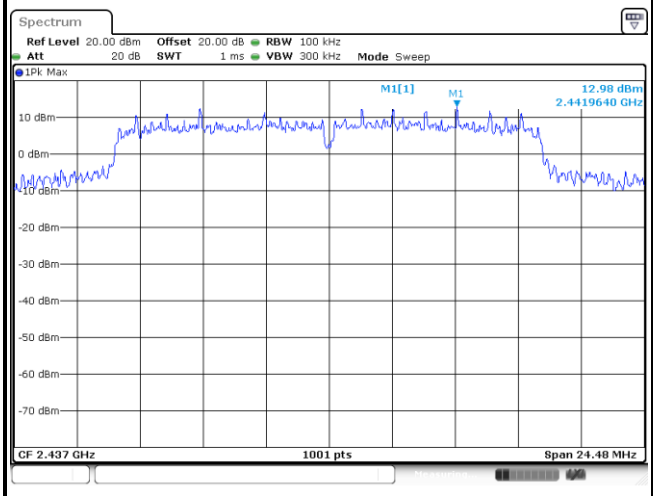
Test Mode :	802.11b	Test Channel :	11

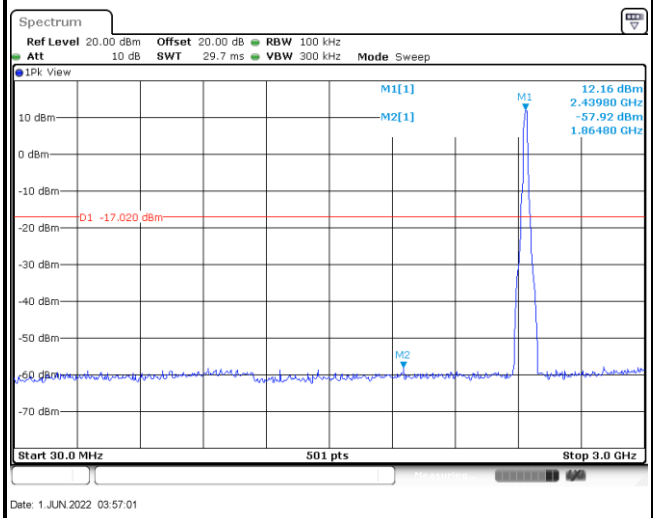
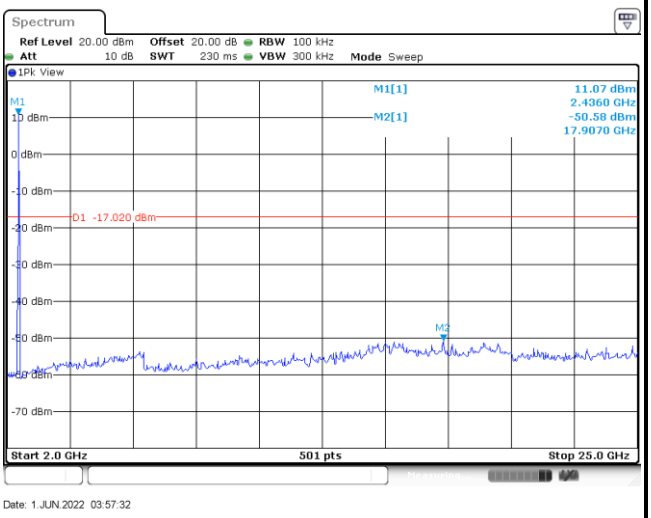
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	01

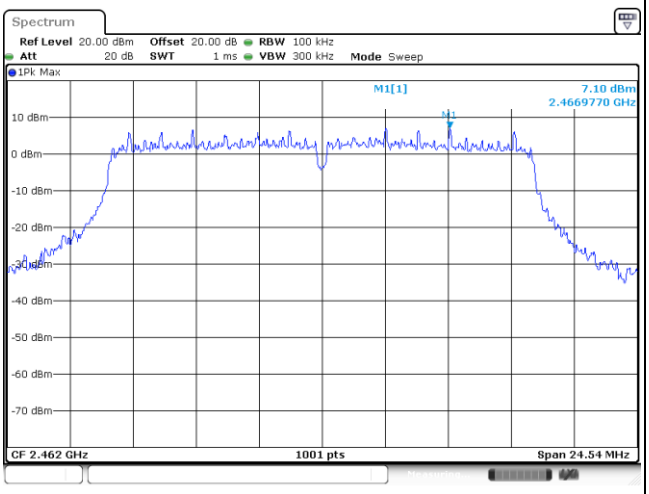
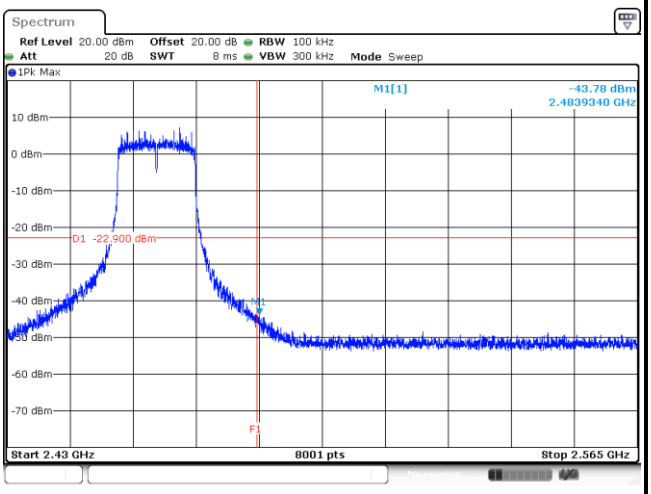
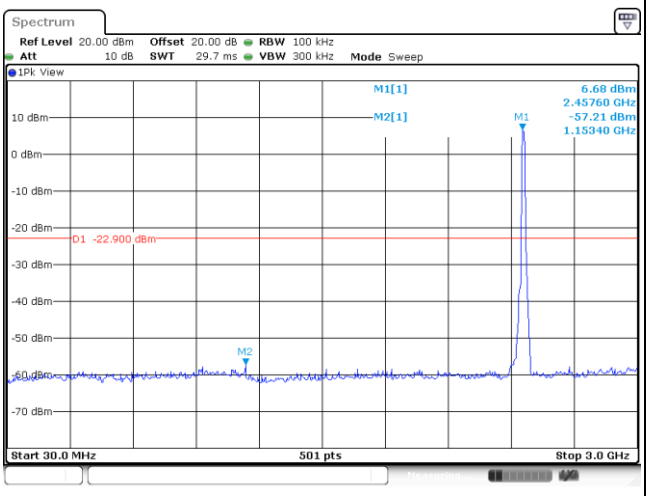
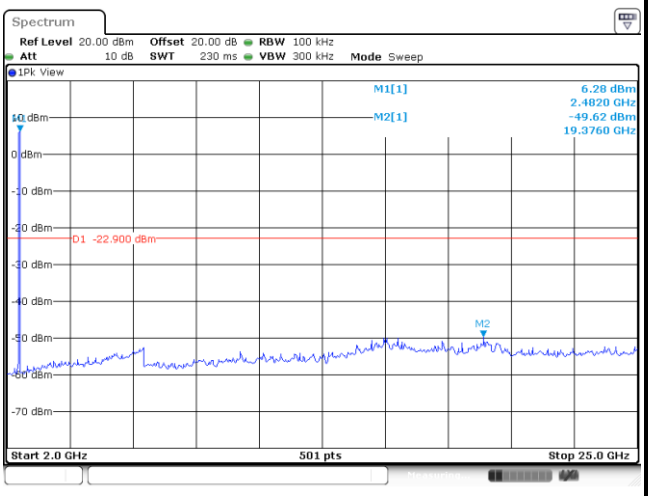
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	06

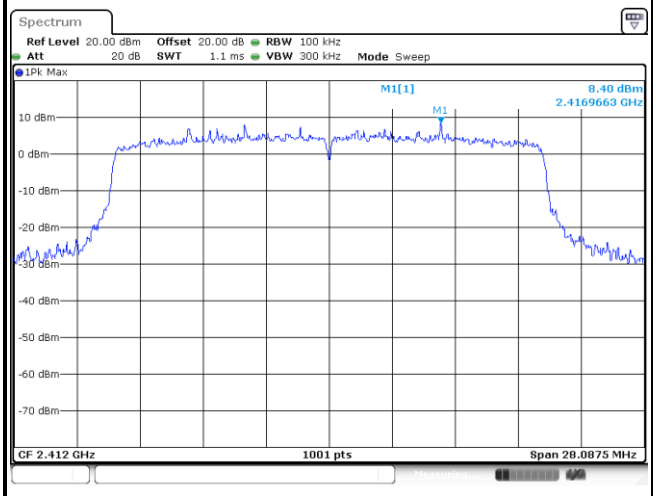
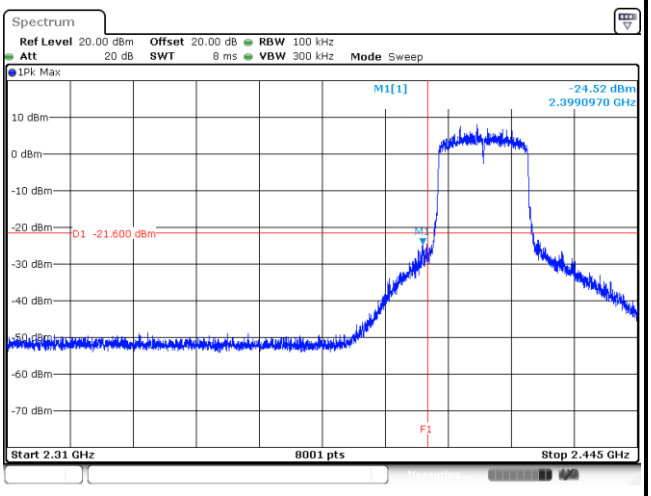
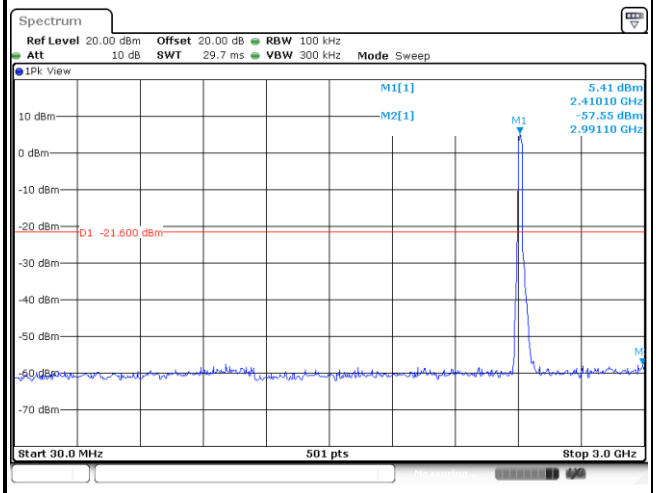
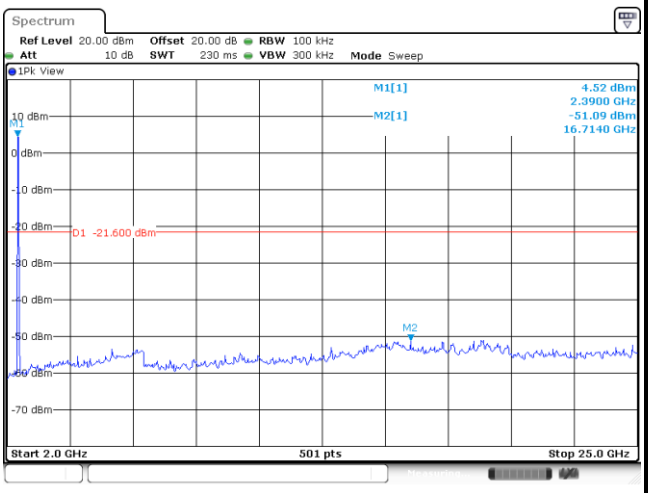
100kHz PSD reference Level	Channel Plot
	

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

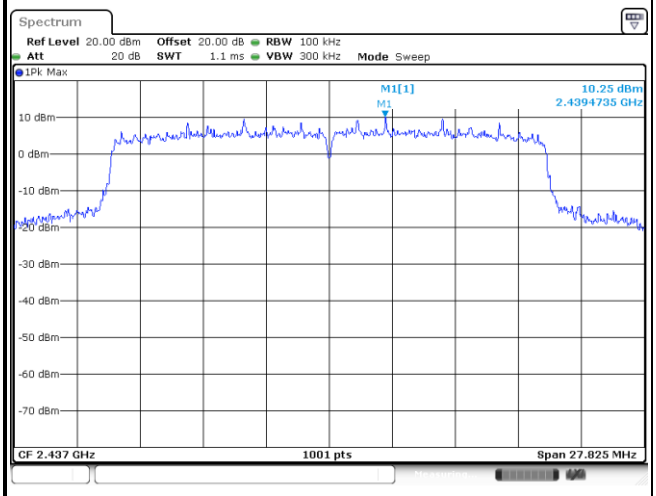
Test Mode :	802.11g	Test Channel :	11

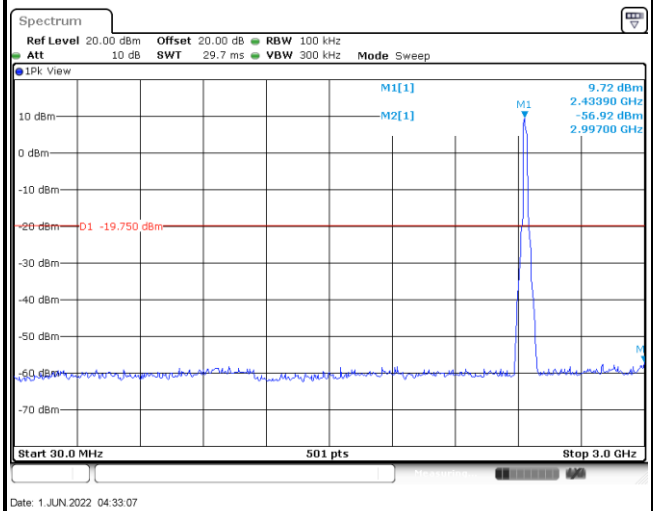
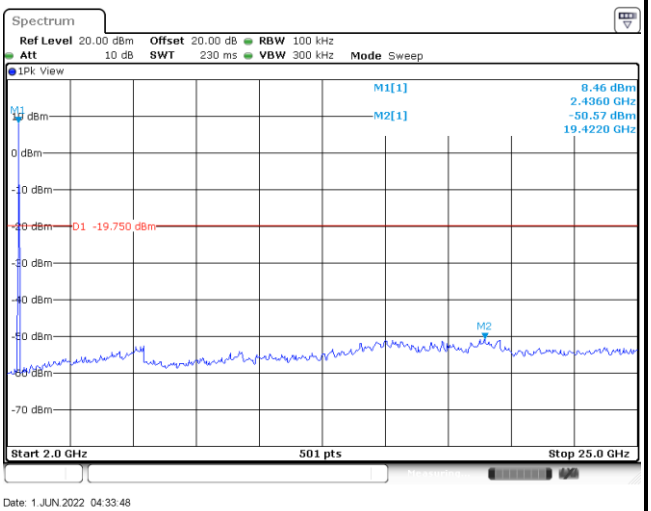
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

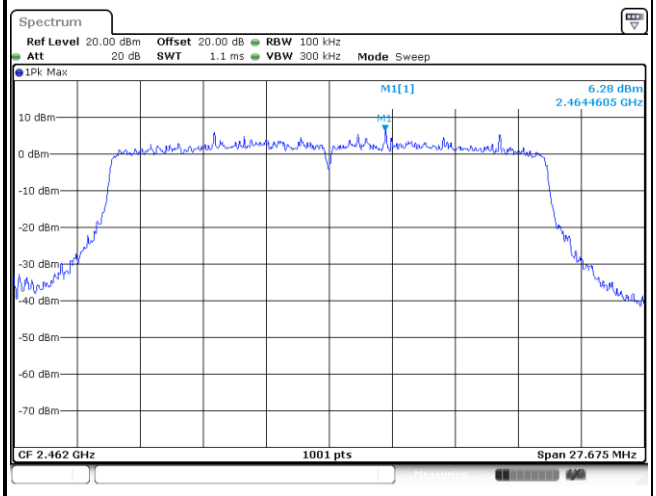
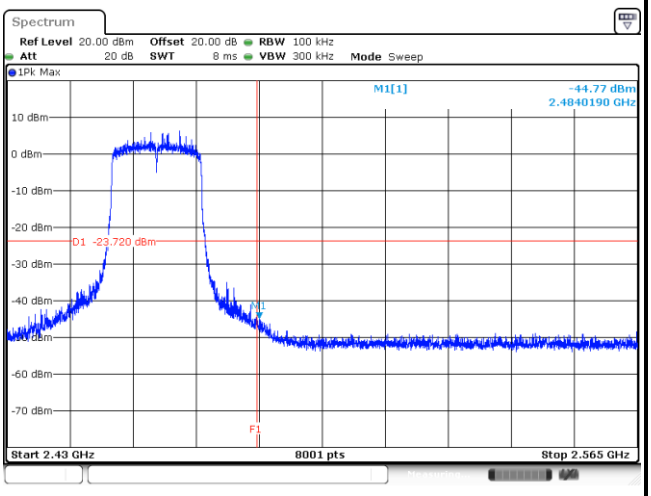
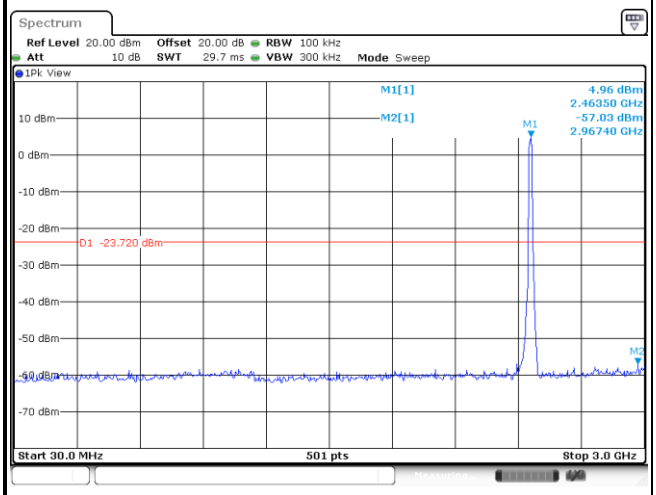
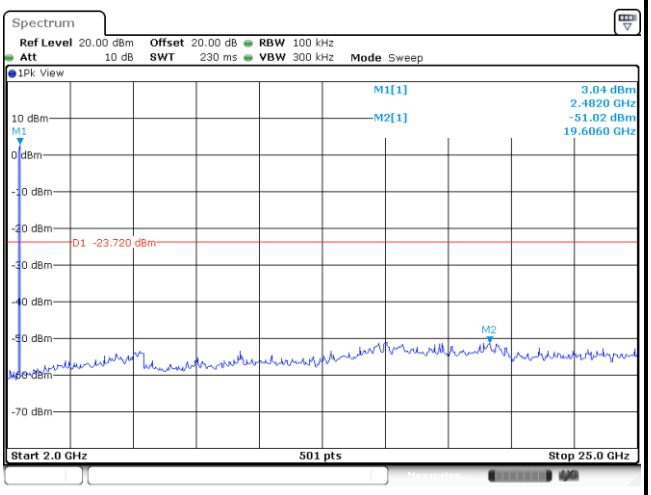
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

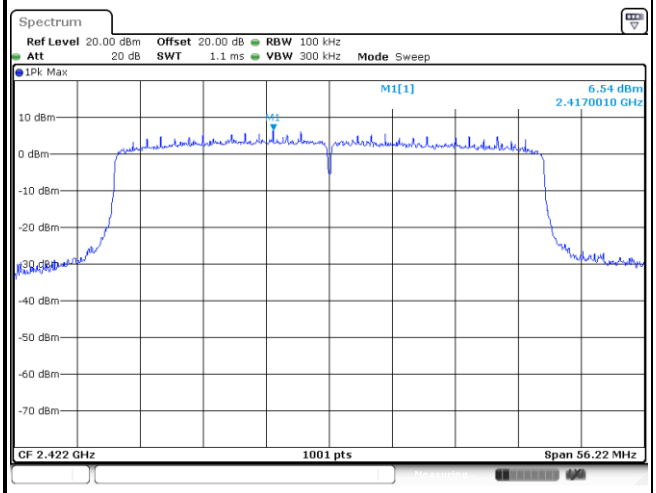
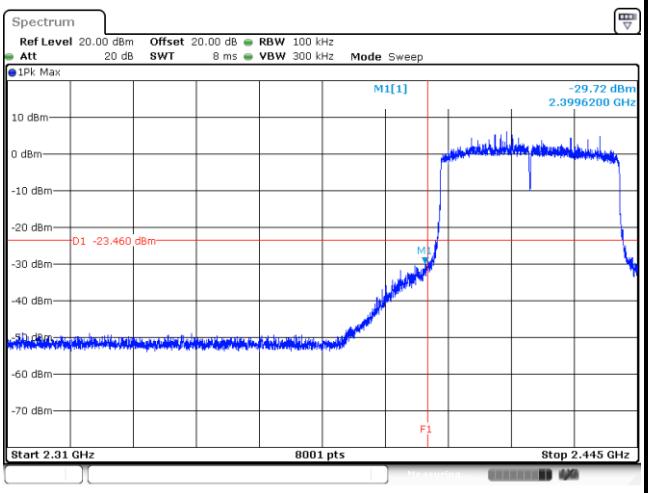
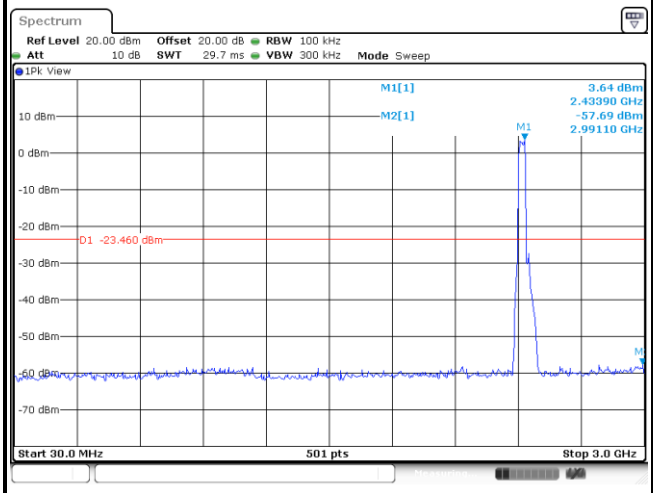
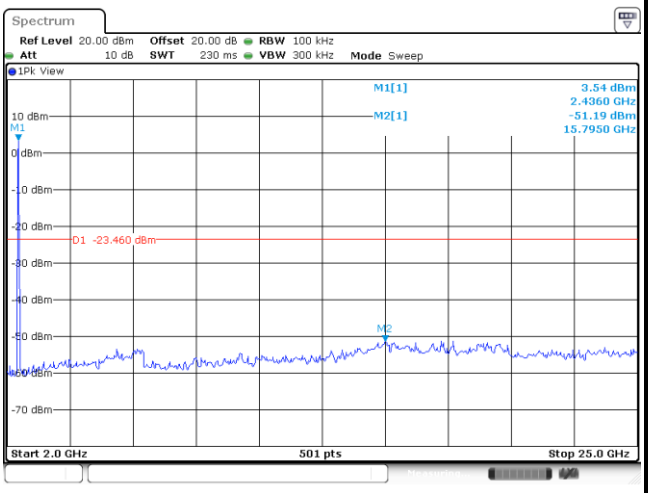
100kHz PSD reference Level	Channel Plot
	

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

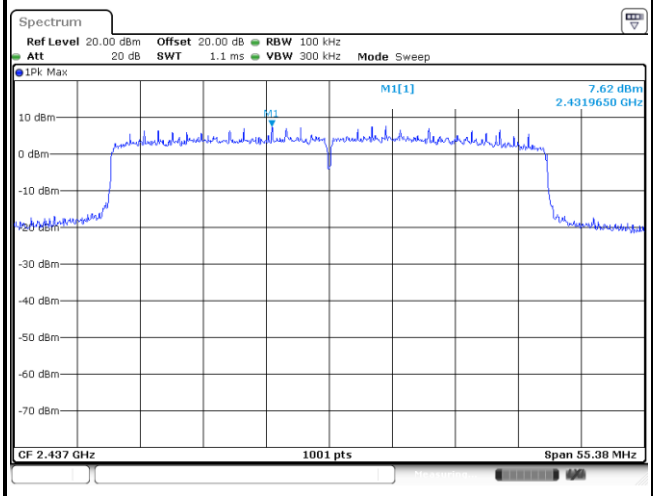
Test Mode :	802.11ax HE20 Full RU	Test Channel :	11

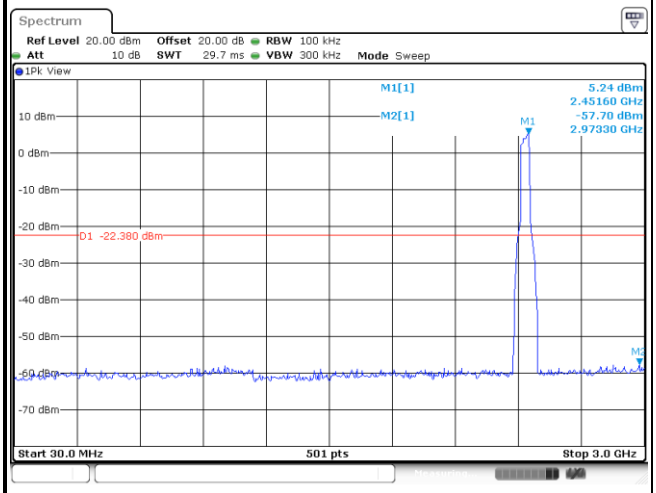
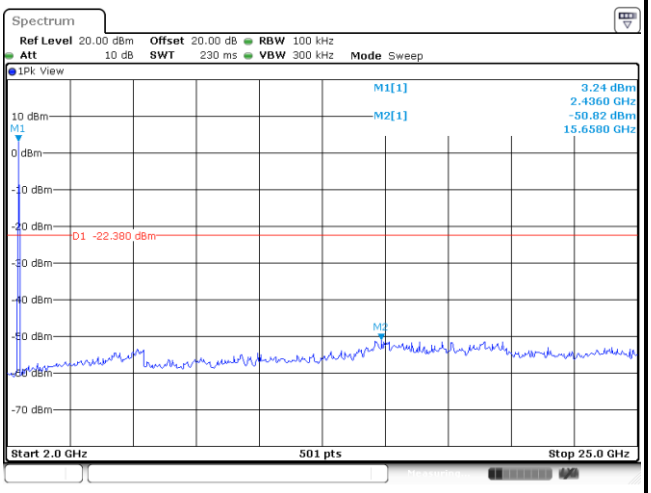
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

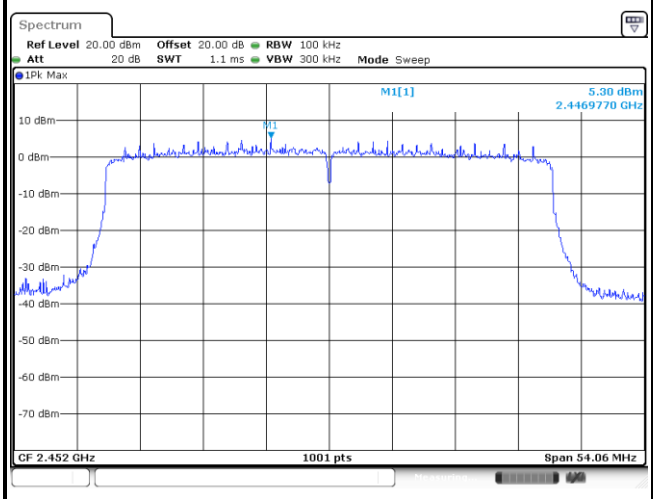
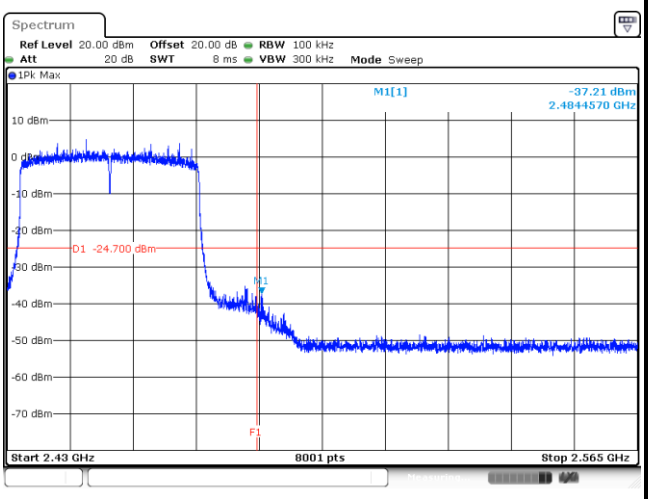
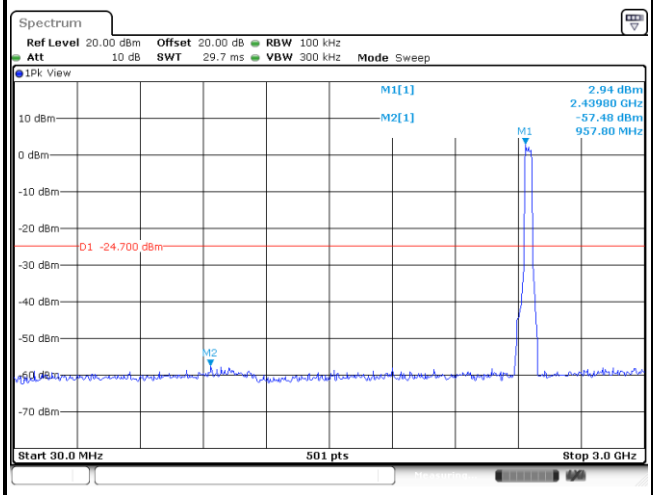
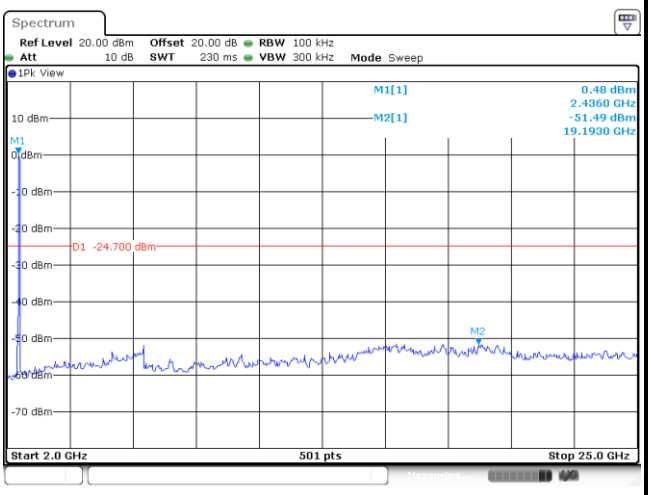
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

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

100kHz PSD reference Level	Channel Plot
	

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

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

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

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device 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

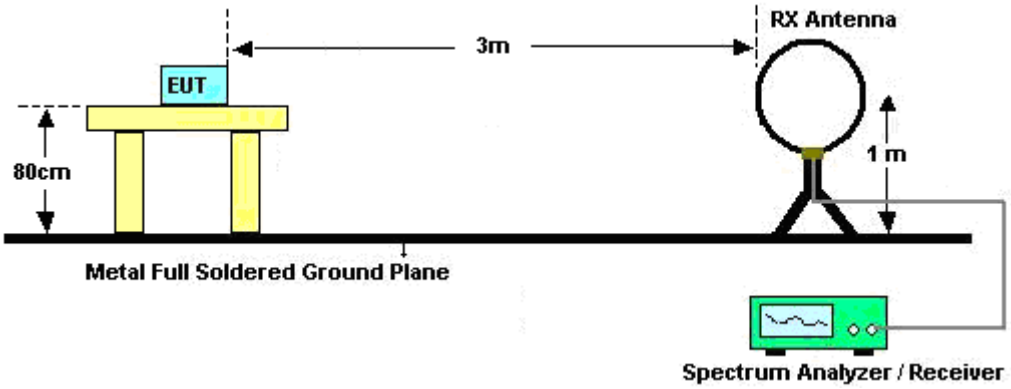
Please refer to the measuring equipment list in this test report.

3.5.3 Test Procedures

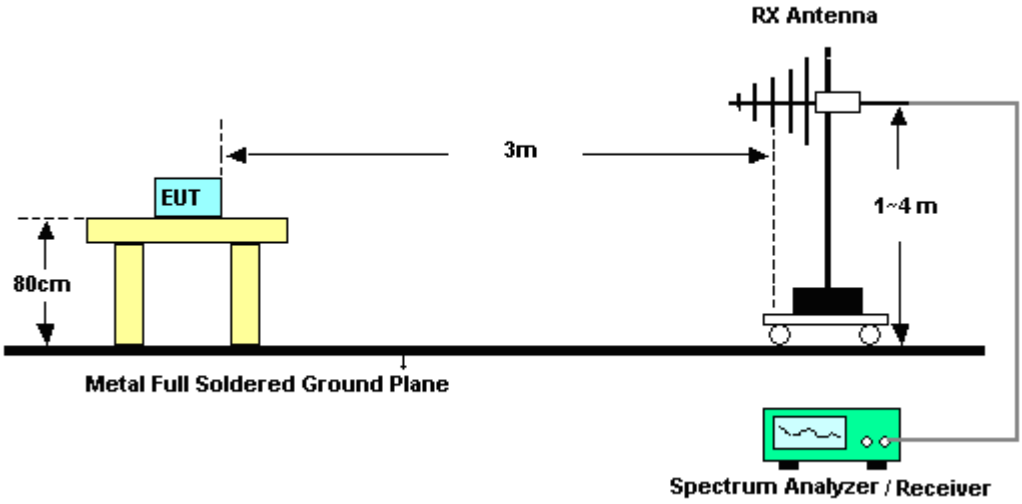
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the 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

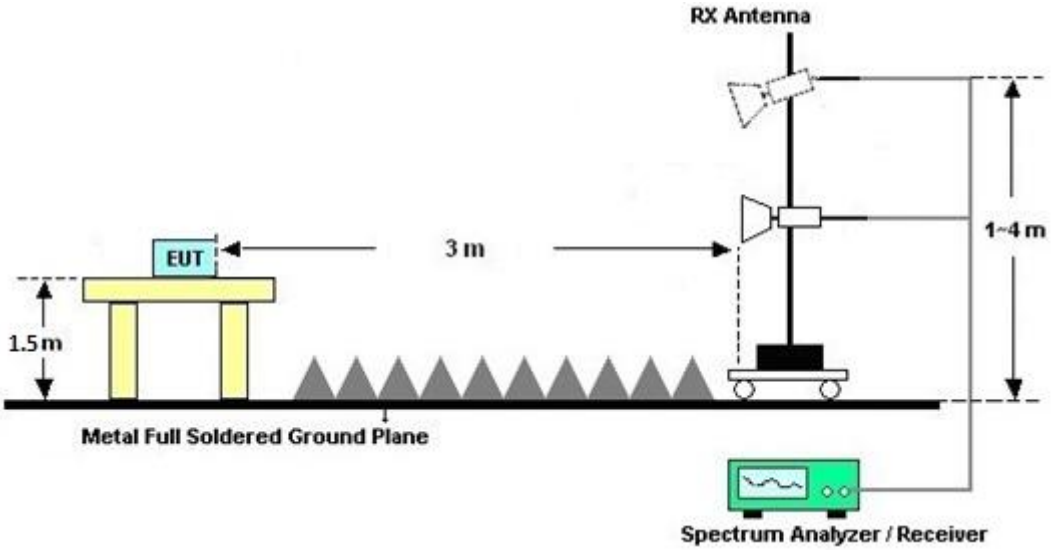
For radiated emissions below 30MHz



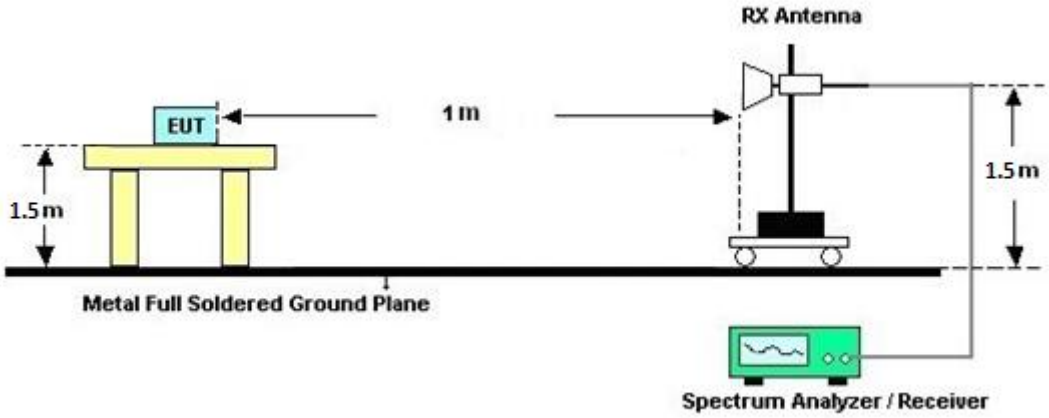
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

The low frequency, which 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 (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

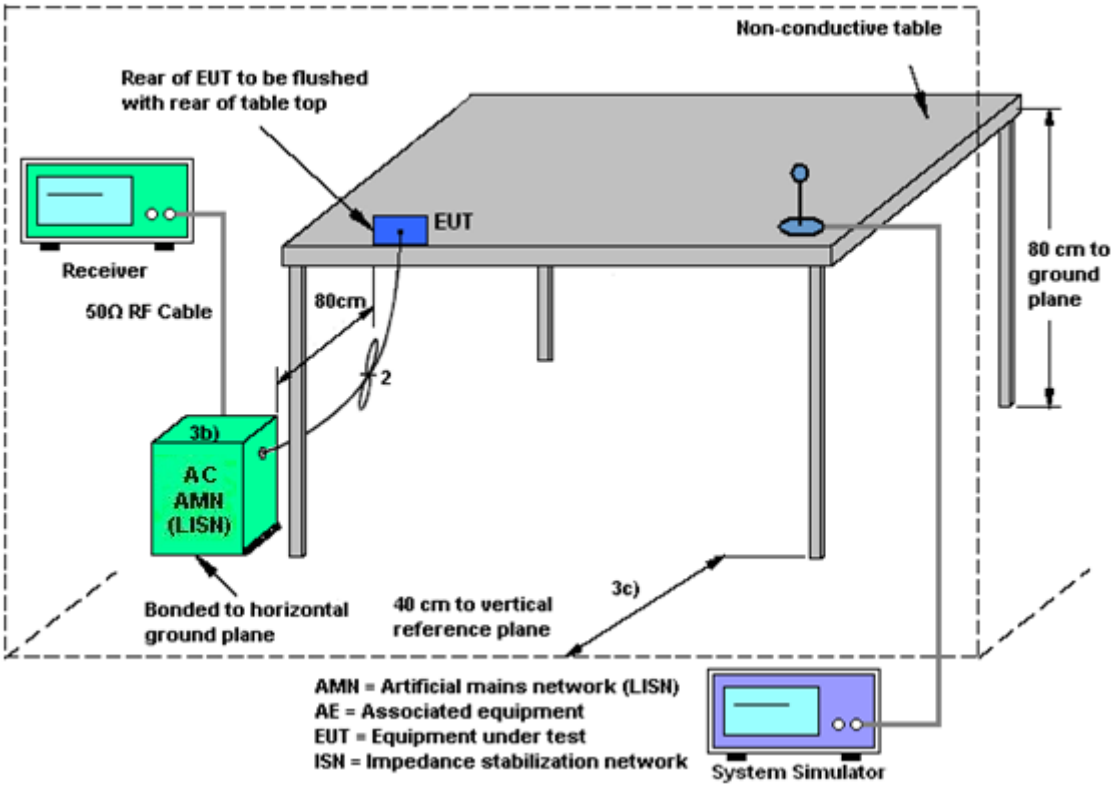
3.6.2 Measuring Instruments

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 = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

For power measurements on IEEE 802.11 devices,

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

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

G_{ANT} is set equal to the gain of the antenna having the highest gain.

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

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

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.

As minimum N_{SS}=1 is supported by EUT, the formula can be simplified as:

Directional gain = $10*\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi

Where G1, G2….GN denote single antenna gain.

For example: If a device has two antenna, G_{ANT1}= 3.6dBi; G_{ANT2}=4.2dBi

Directional gain of power measurement = max(3.6, 4.2) + 0 = 4.2 dBi

Directional gain of PSD measurement = $10 * \log[(10^{3.6/20} + 10^{4.2/20})^2 / 2]$ = 6.92 dBi

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

	Ant. 5 (dBi)	Ant. 4 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-1.67	-3.44	-1.67	0.50	0.00	0.00

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

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

Calculation example:

The DG for PSD is derived from formula is

10 x log { { [10^ (-1.67 dBi / 20) + 10^ (-3.44 dBi / 20)] ^ 2 } / 2 }

= 0.50 dBi

	Ant. 5 (dBi)	Ant. 6 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	-1.67	-3.90	-1.67	0.30	0.00	0.00

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

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

Calculation example:

The DG for PSD is derived from formula is

10 x log { { [10^ (-1.67 dBi / 20) + 10^ (-3.90 dBi / 20)] ^ 2 } / 2 }

= 0.30 dBi

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 09, 2021	Apr. 30, 2022~ Jun. 09, 2022	Sep. 08, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Feb. 06, 2022	Apr. 30, 2022~ Jun. 09, 2022	Feb. 05, 2023	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2021	Apr. 30, 2022~ Jun. 09, 2022	Dec. 26, 2022	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02038	1GHz~18GHz	Aug. 04, 2021	Apr. 30, 2022~ Jun. 09, 2022	Aug. 03, 2022	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Nov. 30, 2021	Apr. 30, 2022~ Jun. 09, 2022	Nov. 29, 2022	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	171000180005006	1GHz~18GHz	May 06, 2021	Apr. 30, 2022~ May 04, 2022	May 05, 2022	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	171000180005006	1GHz~18GHz	May 05, 2022	May 06, 2022~ Jun. 09, 2022	May 04, 2023	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	171000180005006	1GHz~18GHz	May 05, 2022	Apr. 30, 2022~ Jun. 09, 2022	May 04, 2023	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060803	1GHz-18GHz	Dec. 16, 2021	Apr. 30, 2022~ Jun. 09, 2022	Dec. 15, 2022	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060801	18-40GHz	Jun. 22, 2021	Apr. 30, 2022~ Jun. 09, 2022	Jun. 21, 2022	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Oct. 21, 2021	Apr. 30, 2022~ Jun. 09, 2022	Oct. 20, 2022	Radiation (03CH15-HY
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	May. 07, 2021	Apr. 30, 2022~ May 05, 2022	May. 06, 2022	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	May. 07, 2022	May 06, 2022~ Jun. 09, 2022	May. 06, 2023	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Mar. 07, 2022	Apr. 30, 2022~ Jun. 09, 2022	Mar. 06, 2023	Radiation (03CH15-HY
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Apr. 30, 2022~ Jun. 09, 2022	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Apr. 30, 2022~ Jun. 09, 2022	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Apr. 30, 2022~ Jun. 09, 2022	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE, 508405/2E	30MHz~18G	Nov. 15, 2021	Apr. 30, 2022~ Jun. 09, 2022	Nov. 14, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,804012/2	30MHz-40GHz	Jan. 04, 2022	Apr. 30, 2022~ Jun. 09, 2022	Jan. 03, 2023	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Apr. 30, 2022~ Jun. 09, 2022	Mar. 09, 2023	Radiation (03CH15-HY)
Filter	Wainwright	WLJ4-1000-1530-6000-40ST	SN4	1.53GHz Low Pass Filter	Jul. 02, 2021	Apr. 30, 2022~ Jun. 09, 2022	Jul. 01, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN4	3GHz High Pass Filter	Sep. 15, 2021	Apr. 30, 2022~ Jun. 09, 2022	Sep. 14, 2022	Radiation (03CH15-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	May 11, 2022	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 11, 2022	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 29, 2021	May 11, 2022	Oct. 28, 2022	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 16, 2022	May 11, 2022	Mar. 15, 2023	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Feb. 16, 2022	May 11, 2022	Feb. 15, 2023	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI7	100724	9kHz~7GHz	Fed. 24, 2022	May 11, 2022	Feb. 23, 2023	Conduction (CO07-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 16, 2021	May 17, 2022~ Jun. 08, 2022	Nov. 15, 2022	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 16, 2021	May 17, 2022~ Jun. 08, 2022	Dec. 15, 2022	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 30, 2021	May 17, 2022~ Jun. 08, 2022	Aug. 29, 2022	Conducted (TH05-HY)
Switch Control Mainframe	E-IUSTRUMENT	ETF-1405-0	EC1900067 (BOX7)	N/A	Aug. 12, 2021	May 17, 2022~ Jun. 08, 2022	Aug. 11, 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))	**2.3 dB**

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

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

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.6 dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang / Hank Hsu	Temperature:	21~25	°C
Test Date:	2022/5/17~6/08	Relative Humidity:	51~54	%

MIMO <Ant. 5+6>

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
					Ant5	Ant6	Ant5	Ant6		
11b	1Mbps	2	1	2412	13.04	15.13	7.60	9.12	0.50	Pass
11b	1Mbps	2	6	2437	13.94	13.34	8.12	8.12	0.50	Pass
11b	1Mbps	2	11	2462	13.49	13.29	8.08	8.10	0.50	Pass
11g	6Mbps	2	1	2412	16.98	17.43	15.95	16.33	0.50	Pass
11g	6Mbps	2	6	2437	17.83	28.17	16.33	16.32	0.50	Pass
11g	6Mbps	2	11	2462	17.08	17.08	16.35	16.36	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
					Ant5	Ant6	SUM	Ant5	Ant6	Ant5	Ant6	Ant5	Ant6	Ant5	Ant6	
11b	1Mbps	2	1	2412	20.30	21.70	24.07	30.00		-1.67		22.40		36.00		Pass
11b	1Mbps	2	6	2437	18.90	22.60	24.14	30.00		-1.67		22.47		36.00		Pass
11b	1Mbps	2	11	2462	19.30	21.50	23.55	30.00		-1.67		21.88		36.00		Pass
11g	6Mbps	2	1	2412	19.30	19.60	22.46	30.00		-1.67		20.79		36.00		Pass
11g	6Mbps	2	6	2437	21.00	23.60	25.50	30.00		-1.67		23.83		36.00		Pass
11g	6Mbps	2	11	2462	17.20	18.40	20.85	30.00		-1.67		19.18		36.00		Pass
HT20	MCS0	2	1	2412	18.90	20.20	22.61	30.00		-1.67		20.94		36.00		Pass
HT20	MCS0	2	6	2437	19.60	21.60	23.72	30.00		-1.67		22.05		36.00		Pass
HT20	MCS0	2	11	2462	16.60	17.50	20.08	30.00		-1.67		18.41		36.00		Pass
HT40	MCS0	2	3	2422	18.30	19.80	22.12	30.00		-1.67		20.45		36.00		Pass
HT40	MCS0	2	6	2437	19.60	21.60	23.72	30.00		-1.67		22.05		36.00		Pass
HT40	MCS0	2	9	2452	17.70	18.70	21.24	30.00		-1.67		19.57		36.00		Pass
VHT20	MCS0	2	1	2412	19.00	20.30	22.71	30.00		-1.67		21.04		36.00		Pass
VHT20	MCS0	2	6	2437	19.70	21.70	23.82	30.00		-1.67		22.15		36.00		Pass
VHT20	MCS0	2	11	2462	16.70	17.60	20.18	30.00		-1.67		18.51		36.00		Pass
VHT40	MCS0	2	3	2422	18.40	19.90	22.22	30.00		-1.67		20.55		36.00		Pass
VHT40	MCS0	2	6	2437	19.70	21.70	23.82	30.00		-1.67		22.15		36.00		Pass
VHT40	MCS0	2	9	2452	17.80	18.80	21.34	30.00		-1.67		19.67		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
					Ant5	Ant6	Worse + 3.01	Ant5	Ant6	Ant5	Ant6	
11b	1Mbps	2	1	2412	-2.40	-1.42	1.59	0.30		8.00		Pass
11b	1Mbps	2	6	2437	0.77	-2.04	3.78	0.30		8.00		Pass
11b	1Mbps	2	11	2462	-3.37	-1.93	1.08	0.30		8.00		Pass
11g	6Mbps	2	1	2412	-4.32	-5.31	-1.31	0.30		8.00		Pass
11g	6Mbps	2	6	2437	-4.17	-3.38	-0.37	0.30		8.00		Pass
11g	6Mbps	2	11	2462	-8.11	-6.09	-3.08	0.30		8.00		Pass

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

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band MIMO											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
						Ant5	Ant6	Ant5	Ant6		
HE20	MCS0	2	1	2412	Full	19.28	19.38	17.89	18.73	0.50	Pass
HE20	MCS0	2	6	2437	Full	19.43	19.93	19.05	18.55	0.50	Pass
HE20	MCS0	2	11	2462	Full	19.33	19.28	18.64	18.45	0.50	Pass
HE40	MCS0	2	3	2422	Full	37.76	37.86	35.26	37.48	0.50	Pass
HE40	MCS0	2	6	2437	Full	38.06	38.26	38.00	36.92	0.50	Pass
HE40	MCS0	2	9	2452	Full	37.76	37.86	37.20	36.04	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
						Ant5	Ant6	SUM	Ant5	Ant6	Ant5	Ant6	Ant5	Ant6	Ant5	Ant6	
HE20	MCS0	2	1	2412	Full	19.10	20.40	22.81	30.00		-1.67		21.14		36.00		Pass
HE20	MCS0	2	1	2412	26/0	7.40	10.00	11.90	30.00		-1.67		10.23		36.00		Pass
HE20	MCS0	2	1	2412	52/37	9.70	12.40	14.27	30.00		-1.67		12.60		36.00		Pass
HE20	MCS0	2	1	2412	106/53	13.50	15.80	17.81	30.00		-1.67		16.14		36.00		Pass
HE20	MCS0	2	1	2412	242/61	17.60	19.20	21.48	30.00		-1.67		19.81		36.00		Pass
HE20	MCS0	2	6	2437	Full	19.80	21.80	23.92	30.00		-1.67		22.25		36.00		Pass
HE20	MCS0	2	6	2437	26/4	9.80	11.70	13.86	30.00		-1.67		12.19		36.00		Pass
HE20	MCS0	2	6	2437	52/39	12.70	14.80	16.89	30.00		-1.67		15.22		36.00		Pass
HE20	MCS0	2	6	2437	106/53	16.00	18.00	20.12	30.00		-1.67		18.45		36.00		Pass
HE20	MCS0	2	6	2437	242/61	19.30	20.70	23.07	30.00		-1.67		21.40		36.00		Pass
HE20	MCS0	2	11	2462	Full	16.80	17.70	20.28	30.00		-1.67		18.61		36.00		Pass
HE20	MCS0	2	11	2462	26/8	6.80	8.00	10.45	30.00		-1.67		8.78		36.00		Pass
HE20	MCS0	2	11	2462	52/40	9.80	10.60	13.23	30.00		-1.67		11.56		36.00		Pass
HE20	MCS0	2	11	2462	106/54	12.20	13.60	15.97	30.00		-1.67		14.30		36.00		Pass
HE20	MCS0	2	11	2462	242/61	16.70	17.60	20.18	30.00		-1.67		18.51		36.00		Pass
HE40	MCS0	2	3	2422	Full	18.50	20.00	22.32	30.00		-1.67		20.65		36.00		Pass
HE40	MCS0	2	3	2422	242/61	16.00	17.80	20.00	30.00		-1.67		18.33		36.00		Pass
HE40	MCS0	2	3	2422	484/65	16.10	18.10	20.22	30.00		-1.67		18.55		36.00		Pass
HE40	MCS0	2	6	2437	Full	19.80	21.80	23.92	30.00		-1.67		22.25		36.00		Pass
HE40	MCS0	2	6	2437	242/61	17.30	19.30	21.42	30.00		-1.67		19.75		36.00		Pass
HE40	MCS0	2	6	2437	484/65	19.80	21.60	23.80	30.00		-1.67		22.13		36.00		Pass
HE40	MCS0	2	9	2452	Full	17.90	18.90	21.44	30.00		-1.67		19.77		36.00		Pass
HE40	MCS0	2	9	2452	242/62	15.00	15.70	18.37	30.00		-1.67		16.70		36.00		Pass
HE40	MCS0	2	9	2452	484/65	15.80	16.60	19.23	30.00		-1.67		17.56		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
						Ant5	Ant6	Worse + 3.01	Ant5	Ant6	Ant5	Ant6	
HE20	MCS0	2	1	2412	Full	-7.57	-7.14	-4.13	0.30		8.00		Pass
HE20	MCS0	2	1	2412	26/0	-9.53	-7.50	-4.49	0.30		8.00		Pass
HE20	MCS0	2	1	2412	52/37	-10.37	-7.22	-4.21	0.30		8.00		Pass
HE20	MCS0	2	1	2412	106/53	-8.70	-7.36	-4.35	0.30		8.00		Pass
HE20	MCS0	2	1	2412	242/61	-8.35	-7.29	-4.28	0.30		8.00		Pass
HE20	MCS0	2	6	2437	Full	-7.21	-5.29	-2.28	0.30		8.00		Pass
HE20	MCS0	2	6	2437	26/4	-6.83	-5.76	-2.75	0.30		8.00		Pass
HE20	MCS0	2	6	2437	52/39	-7.19	-5.73	-2.72	0.30		8.00		Pass
HE20	MCS0	2	6	2437	106/53	-7.32	-5.35	-2.34	0.30		8.00		Pass
HE20	MCS0	2	6	2437	242/61	-6.95	-5.69	-2.68	0.30		8.00		Pass
HE20	MCS0	2	11	2462	Full	-9.52	-8.79	-5.78	0.30		8.00		Pass
HE20	MCS0	2	11	2462	26/8	-10.01	-9.31	-6.30	0.30		8.00		Pass
HE20	MCS0	2	11	2462	52/40	-9.93	-9.00	-5.99	0.30		8.00		Pass
HE20	MCS0	2	11	2462	106/54	-10.61	-9.25	-6.24	0.30		8.00		Pass
HE20	MCS0	2	11	2462	242/61	-9.58	-8.99	-5.98	0.30		8.00		Pass
HE40	MCS0	2	3	2422	Full	-9.88	-8.61	-5.60	0.30		8.00		Pass
HE40	MCS0	2	3	2422	242/61	-9.35	-8.92	-5.91	0.30		8.00		Pass
HE40	MCS0	2	3	2422	484/65	-12.60	-10.12	-7.11	0.30		8.00		Pass
HE40	MCS0	2	6	2437	Full	-9.58	-7.52	-4.51	0.30		8.00		Pass
HE40	MCS0	2	6	2437	242/61	-10.04	-7.92	-4.91	0.30		8.00		Pass
HE40	MCS0	2	6	2437	484/65	-9.30	-8.02	-5.01	0.30		8.00		Pass
HE40	MCS0	2	9	2452	Full	-10.81	-10.15	-7.14	0.30		8.00		Pass
HE40	MCS0	2	9	2452	242/62	-10.48	-10.54	-7.47	0.30		8.00		Pass
HE40	MCS0	2	9	2452	484/65	-13.16	-11.99	-8.98	0.30		8.00		Pass

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

MIMO <Ant. 5+4>

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
					Ant5	Ant4	SUM	Ant5	Ant4	Ant5	Ant4	Ant5	Ant4	Ant5	Ant4	
11b	1Mbps	2	1	2412	20.30	21.50	23.95	30.00		-1.67		22.28		36.00		Pass
11b	1Mbps	2	6	2437	18.90	20.30	22.67	30.00		-1.67		21.00		36.00		Pass
11b	1Mbps	2	11	2462	19.30	20.30	22.84	30.00		-1.67		21.17		36.00		Pass
11g	6Mbps	2	1	2412	19.30	18.50	21.93	30.00		-1.67		20.26		36.00		Pass
11g	6Mbps	2	6	2437	21.00	21.40	24.21	30.00		-1.67		22.54		36.00		Pass
11g	6Mbps	2	11	2462	17.20	17.70	20.47	30.00		-1.67		18.80		36.00		Pass
HT20	MCS0	2	1	2412	18.90	18.00	21.48	30.00		-1.67		19.81		36.00		Pass
HT20	MCS0	2	6	2437	19.60	19.50	22.56	30.00		-1.67		20.89		36.00		Pass
HT20	MCS0	2	11	2462	16.60	16.80	19.71	30.00		-1.67		18.04		36.00		Pass
HT40	MCS0	2	3	2422	18.30	17.80	21.07	30.00		-1.67		19.40		36.00		Pass
HT40	MCS0	2	6	2437	19.60	19.20	22.41	30.00		-1.67		20.74		36.00		Pass
HT40	MCS0	2	9	2452	17.70	17.70	20.71	30.00		-1.67		19.04		36.00		Pass
VHT20	MCS0	2	1	2412	19.00	18.00	21.54	30.00		-1.67		19.87		36.00		Pass
VHT20	MCS0	2	6	2437	19.70	19.50	22.61	30.00		-1.67		20.94		36.00		Pass
VHT20	MCS0	2	11	2462	16.70	16.80	19.76	30.00		-1.67		18.09		36.00		Pass
VHT40	MCS0	2	3	2422	18.40	17.80	21.12	30.00		-1.67		19.45		36.00		Pass
VHT40	MCS0	2	6	2437	19.70	19.20	22.47	30.00		-1.67		20.80		36.00		Pass
VHT40	MCS0	2	9	2452	17.80	17.70	20.76	30.00		-1.67		19.09		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant5	Ant4	SUM	Ant5	Ant4	Ant5	Ant4	Ant5	Ant4	Ant5	Ant4	
HE20	MCS0	2	1	2412	Full	19.10	18.10	21.64	30.00		-1.67		19.97		36.00		Pass
HE20	MCS0	2	1	2412	26/0	7.40	9.40	11.52	30.00		-1.67		9.85		36.00		Pass
HE20	MCS0	2	1	2412	52/37	9.70	11.50	13.70	30.00		-1.67		12.03		36.00		Pass
HE20	MCS0	2	1	2412	106/53	13.50	14.30	16.93	30.00		-1.67		15.26		36.00		Pass
HE20	MCS0	2	1	2412	242/61	17.60	17.40	20.51	30.00		-1.67		18.84		36.00		Pass
HE20	MCS0	2	6	2437	26/4	9.80	10.10	12.96	30.00		-1.67		11.29		36.00		Pass
HE20	MCS0	2	6	2437	52/39	12.70	13.10	15.91	30.00		-1.67		14.24		36.00		Pass
HE20	MCS0	2	6	2437	106/53	16.00	16.00	19.01	30.00		-1.67		17.34		36.00		Pass
HE20	MCS0	2	6	2437	242/61	19.30	18.60	21.97	30.00		-1.67		20.30		36.00		Pass
HE20	MCS0	2	11	2462	Full	16.80	16.90	19.86	30.00		-1.67		18.19		36.00		Pass
HE20	MCS0	2	11	2462	26/8	6.80	7.80	10.34	30.00		-1.67		8.67		36.00		Pass
HE20	MCS0	2	11	2462	52/40	9.80	10.00	12.91	30.00		-1.67		11.24		36.00		Pass
HE20	MCS0	2	11	2462	106/54	12.20	12.50	15.36	30.00		-1.67		13.69		36.00		Pass
HE20	MCS0	2	11	2462	242/61	16.70	16.50	19.61	30.00		-1.67		17.94		36.00		Pass
HE40	MCS0	2	3	2422	Full	18.50	17.90	21.22	30.00		-1.67		19.55		36.00		Pass
HE40	MCS0	2	3	2422	242/61	16.00	15.60	18.81	30.00		-1.67		17.14		36.00		Pass
HE40	MCS0	2	3	2422	484/65	16.10	16.70	19.42	30.00		-1.67		17.75		36.00		Pass
HE40	MCS0	2	6	2437	Full	19.80	19.30	22.57	30.00		-1.67		20.90		36.00		Pass
HE40	MCS0	2	6	2437	242/61	17.30	17.30	20.31	30.00		-1.67		18.64		36.00		Pass
HE40	MCS0	2	6	2437	484/65	19.80	19.20	22.52	30.00		-1.67		20.85		36.00		Pass
HE40	MCS0	2	9	2452	Full	17.90	17.80	20.86	30.00		-1.67		19.19		36.00		Pass
HE40	MCS0	2	9	2452	242/62	15.00	14.70	17.86	30.00		-1.67		16.19		36.00		Pass
HE40	MCS0	2	9	2452	484/65	15.80	15.80	18.81	30.00		-1.67		17.14		36.00		Pass

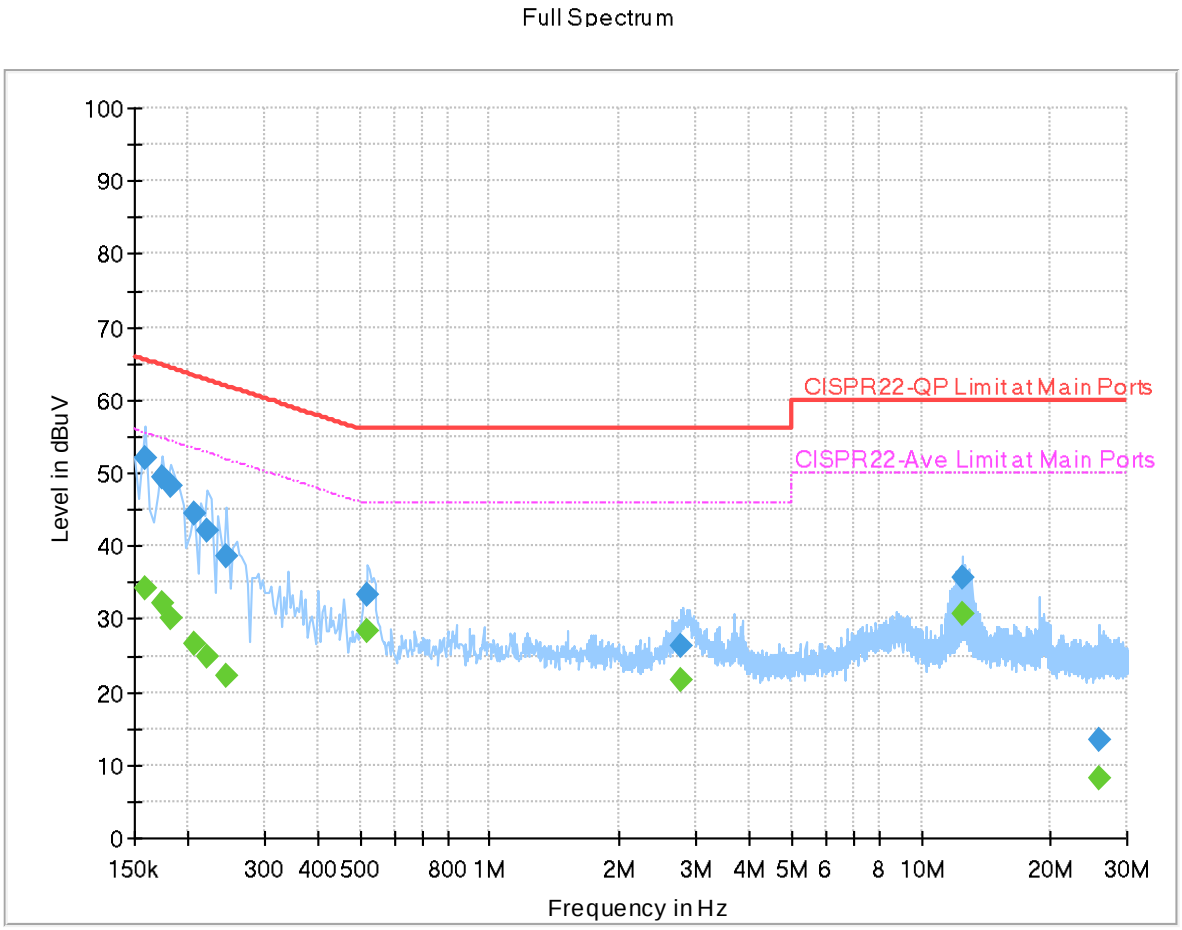
Note: Measured power (dBm) has offset with cable loss.

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	**Temperature :**	23.3~27.8℃
		Relative Humidity :	42.6~48.7%

EUT Information

Report NO :	210404
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



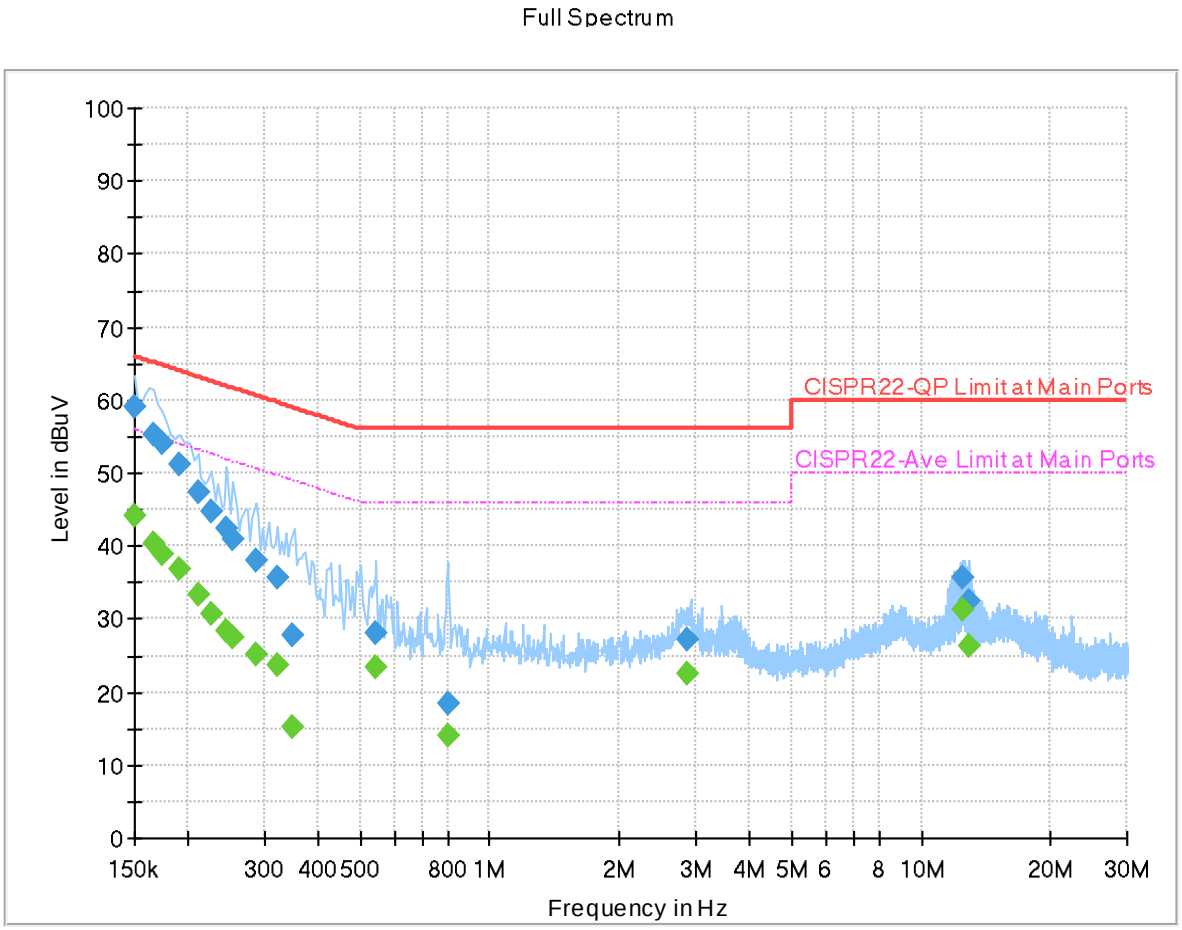
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.158000	---	34.26	55.57	21.31	L1	OFF	20.0
0.158000	51.97	---	65.57	13.60	L1	OFF	20.0
0.174000	---	32.05	54.77	22.72	L1	OFF	20.0
0.174000	49.40	---	64.77	15.37	L1	OFF	20.0
0.182000	---	30.23	54.39	24.16	L1	OFF	20.0
0.182000	48.25	---	64.39	16.14	L1	OFF	20.0
0.206000	---	26.51	53.37	26.86	L1	OFF	20.0
0.206000	44.32	---	63.37	19.05	L1	OFF	20.0
0.222000	---	24.93	52.74	27.81	L1	OFF	20.0
0.222000	42.10	---	62.74	20.64	L1	OFF	20.0
0.246000	---	22.23	51.89	29.66	L1	OFF	20.0
0.246000	38.63	---	61.89	23.26	L1	OFF	20.0
0.522000	---	28.42	46.00	17.58	L1	OFF	20.0
0.522000	33.35	---	56.00	22.65	L1	OFF	20.0
2.766000	---	21.64	46.00	24.36	L1	OFF	20.0
2.766000	26.38	---	56.00	29.62	L1	OFF	20.0
12.478000	---	30.67	50.00	19.33	L1	OFF	20.2
12.478000	35.77	---	60.00	24.23	L1	OFF	20.2
25.874000	---	8.18	50.00	41.82	L1	OFF	20.3

25.874000	**13.37**	**---**	**60.00**	**46.63**	**L1**	**OFF**	**20.3**

EUT Information

Report NO :	210404
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	44.26	56.00	11.74	N	OFF	20.0
0.150000	59.02	---	66.00	6.98	N	OFF	20.0
0.166000	---	40.36	55.16	14.80	N	OFF	20.0
0.166000	55.29	---	65.16	9.87	N	OFF	20.0
0.174000	---	39.01	54.77	15.76	N	OFF	20.0
0.174000	54.17	---	64.77	10.60	N	OFF	20.0
0.190000	---	36.76	54.04	17.28	N	OFF	20.0
0.190000	51.10	---	64.04	12.94	N	OFF	20.0
0.210000	---	33.20	53.21	20.01	N	OFF	20.0
0.210000	47.43	---	63.21	15.78	N	OFF	20.0
0.226000	---	30.59	52.60	22.01	N	OFF	20.0
0.226000	44.66	---	62.60	17.94	N	OFF	20.0
0.246000	---	28.32	51.89	23.57	N	OFF	20.0
0.246000	42.47	---	61.89	19.42	N	OFF	20.0
0.254000	---	27.63	51.63	24.00	N	OFF	20.0
0.254000	41.06	---	61.63	20.57	N	OFF	20.0
0.286000	---	25.02	50.64	25.62	N	OFF	20.0
0.286000	37.91	---	60.64	22.73	N	OFF	20.0
0.322000	---	23.82	49.66	25.84	N	OFF	20.0

0.322000	35.68	---	59.66	23.98	N	OFF	20.0
0.350000	---	15.10	48.96	33.86	N	OFF	20.0
0.350000	27.84	---	58.96	31.12	N	OFF	20.0
0.546000	---	23.30	46.00	22.70	N	OFF	20.0
0.546000	28.11	---	56.00	27.89	N	OFF	20.0
0.798000	---	14.08	46.00	31.92	N	OFF	20.0
0.798000	18.54	---	56.00	37.46	N	OFF	20.0
2.858000	---	22.39	46.00	23.61	N	OFF	20.0
2.858000	27.06	---	56.00	28.94	N	OFF	20.0
12.474000	---	31.29	50.00	18.71	N	OFF	20.2
12.474000	35.60	---	60.00	24.40	N	OFF	20.2
12.946000	---	26.26	50.00	23.74	N	OFF	20.2
12.946000	32.52	---	60.00	27.48	N	OFF	20.2

Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Lee, Mancy Chou and Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
5+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.99	54.84	-19.16	74	47.76	27.35	16.56	36.83	119	130	P	H
		2387.99	46.03	-7.97	54	38.95	27.35	16.56	36.83	119	130	A	H
	*	2412	104.76	-	-	97.56	27.42	16.6	36.82	119	130	P	H
	*	2412	101.68	-	-	94.48	27.42	16.6	36.82	119	130	A	H
													H
													H
		2387.22	52.64	-21.36	74	45.56	27.35	16.56	36.83	386	235	P	V
		2387.99	43.76	-10.24	54	36.68	27.35	16.56	36.83	386	235	A	V
	*	2412	101.19	-	-	93.99	27.42	16.6	36.82	386	235	P	V
	*	2412	97.94	-	-	90.74	27.42	16.6	36.82	386	235	A	V
													V
													V
802.11b CH 06 2437MHz		2381.52	51.67	-22.33	74	44.62	27.33	16.55	36.83	100	26	P	H
		2389.36	40.25	-13.75	54	33.16	27.36	16.56	36.83	100	26	A	H
	*	2437	112.04	-	-	104.74	27.47	16.64	36.81	100	26	P	H
	*	2437	109.07	-	-	101.77	27.47	16.64	36.81	100	26	A	H
		2484.16	52.35	-21.65	74	44.79	27.64	16.71	36.79	100	26	P	H
		2487.67	41.24	-12.76	54	33.66	27.65	16.72	36.79	100	26	A	H
		2350.32	51.62	-22.38	74	44.77	27.2	16.5	36.85	400	99	P	V
		2388.88	40.09	-13.91	54	33	27.36	16.56	36.83	400	99	A	V
	*	2437	106.85	-	-	99.55	27.47	16.64	36.81	400	99	P	V
	*	2437	103.85	-	-	96.55	27.47	16.64	36.81	400	99	A	V
		2498.11	52.67	-21.33	74	45.03	27.69	16.73	36.78	400	99	P	V
		2487.49	40.7	-13.3	54	33.12	27.65	16.72	36.79	400	99	A	V

802.11b CH 11 2462MHz	*	2462	103.62	-	-	96.19	27.55	16.68	36.8	100	162	P	H
	*	2462	100.42	-	-	92.99	27.55	16.68	36.8	100	162	A	H
		2488.95	55.83	-18.17	74	48.24	27.66	16.72	36.79	100	162	P	H
		2488.75	47.43	-6.57	54	39.84	27.66	16.72	36.79	100	162	A	H
													H
													H
	*	2462	106.05	-	-	98.62	27.55	16.68	36.8	400	223	P	V
	*	2462	102.88	-	-	95.45	27.55	16.68	36.8	400	223	A	V
		2489	54.61	-19.39	74	47.02	27.66	16.72	36.79	400	223	P	V
		2488.8	46.19	-7.81	54	38.6	27.66	16.72	36.79	400	223	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	44.15	-29.85	74	60.51	32.35	10.15	58.86	396	70	P	H
		4824	38.51	-15.49	54	54.87	32.35	10.15	58.86	396	70	A	H
		10815	48.6	-25.4	74	55.87	38.96	14.66	60.89	-	-	P	H
		10815	38.55	-15.45	54	45.82	38.96	14.66	60.89	-	-	A	H
		14475	48.88	-25.12	74	54.68	40.53	16.85	63.18	-	-	P	H
		14475	38.86	-15.14	54	44.66	40.53	16.85	63.18	-	-	A	H
		18000	53.06	-20.94	74	48.25	43.1	18.95	57.24	-	-	P	H
		18000	43.03	-10.97	54	38.22	43.1	18.95	57.24	-	-	A	H
													H
													H
													H
802.11b CH 01 2412MHz													H
		4824	44.6	-29.4	74	62.01	31.3	10.15	58.86	114	19	P	V
		4824	40.64	-13.36	54	58.05	31.3	10.15	58.86	114	19	A	V
		10995	50.48	-23.52	74	56	40.59	14.75	60.86	-	-	P	V
		10995	40.56	-13.44	54	46.08	40.59	14.75	60.86	-	-	A	V
		14490	49.62	-24.38	74	54.56	41.37	16.86	63.17	-	-	P	V
		14490	39.6	-14.4	54	44.54	41.37	16.86	63.17	-	-	A	V
		18000	57.79	-16.21	74	47.68	48.4	18.95	57.24	-	-	P	V
		18000	47.73	-6.27	54	37.62	48.4	18.95	57.24	-	-	A	V
													V
													V
													V
													V

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	39.41	-34.59	74	55.61	32.5	10.2	58.9	-	-	P	H
		7311	43.86	-30.14	74	53.31	36.56	12.42	58.43	-	-	P	H
		10770	48.23	-25.77	74	55.54	38.94	14.64	60.89	-	-	P	H
		10770	38.25	-15.75	54	45.56	38.94	14.64	60.89	-	-	A	H
		14475	49.1	-24.9	74	54.9	40.53	16.85	63.18	-	-	P	H
		14475	39.12	-14.88	54	44.92	40.53	16.85	63.18	-	-	A	H
		18000	51.47	-22.53	74	46.66	43.1	18.95	57.24	-	-	P	H
		18000	41.46	-12.54	54	36.65	43.1	18.95	57.24	-	-	A	H
													H
													H
													H
802.11b CH 06 2437MHz													H
		4874	38.53	-35.47	74	55.93	31.3	10.2	58.9	-	-	P	V
		7311	44.39	-29.61	74	54.08	36.32	12.42	58.43	-	-	P	V
		10995	49.76	-24.24	74	55.28	40.59	14.75	60.86	-	-	P	V
		10995	40.08	-13.92	54	45.6	40.59	14.75	60.86	-	-	A	V
		14499	50.26	-23.74	74	55.17	41.4	16.86	63.17	-	-	P	V
		14499	40.22	-13.78	54	45.13	41.4	16.86	63.17	-	-	A	V
		17985	56.67	-17.33	74	46.9	48.1	18.94	57.27	-	-	P	V
		17985	46.75	-7.25	54	36.98	48.1	18.94	57.27	-	-	A	V
													V
													V
													V
													V

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz		4924	42.23	-31.77	74	58.23	32.7	10.25	58.95	378	66	P	H
		4924	34.46	-19.54	54	50.46	32.7	10.25	58.95	378	66	A	H
		7386	46.98	-27.02	74	56.65	36.18	12.44	58.29	387	189	P	H
		7386	38.97	-15.03	54	48.64	36.18	12.44	58.29	387	189	A	H
		10725	47.9	-26.1	74	55.33	38.85	14.62	60.9	-	-	P	H
		10725	37.93	-16.07	54	45.36	38.85	14.62	60.9	-	-	A	H
		14475	48.53	-25.47	74	54.33	40.53	16.85	63.18	-	-	P	H
		14475	38.58	-15.42	54	44.38	40.53	16.85	63.18	-	-	A	H
		17940	51.9	-22.1	74	47.81	42.56	18.91	57.38	-	-	P	H
		17940	41.91	-12.09	54	37.82	42.56	18.91	57.38	-	-	A	H
													H
													H
		4924	42.53	-31.47	74	59.83	31.4	10.25	58.95	100	30	P	V
		4924	36.76	-17.24	54	54.06	31.4	10.25	58.95	100	30	A	V
		7386	48.75	-25.25	74	58.34	36.26	12.44	58.29	278	242	P	V
		7386	42.56	-11.44	54	52.15	36.26	12.44	58.29	278	242	A	V
		10905	49.94	-24.06	74	55.69	40.41	14.71	60.87	-	-	P	V
		10905	39.92	-14.08	54	45.67	40.41	14.71	60.87	-	-	A	V
		14475	49.12	-24.88	74	54.12	41.33	16.85	63.18	-	-	P	V
		14475	39.17	-14.83	54	44.17	41.33	16.85	63.18	-	-	A	V
		18000	57.18	-16.82	74	47.07	48.4	18.95	57.24	-	-	P	V
		18000	47.2	-6.8	54	37.09	48.4	18.95	57.24	-	-	A	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.
4. The emission level close to 18GHz is checked that the average emission level is noise floor only.

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.64	63.29	-10.71	74	56.2	27.36	16.56	36.83	139	133	P	H
		2389.97	49.57	-4.43	54	42.48	27.36	16.56	36.83	139	133	A	H
	*	2412	109.95	-	-	102.75	27.42	16.6	36.82	139	133	P	H
	*	2412	102.15	-	-	94.95	27.42	16.6	36.82	139	133	A	H
													H
													H
		2389.75	61.2	-12.8	74	54.11	27.36	16.56	36.83	383	234	P	V
		2389.97	48.33	-5.67	54	41.24	27.36	16.56	36.83	383	234	A	V
	*	2412	109.36	-	-	102.16	27.42	16.6	36.82	383	234	P	V
	*	2412	101.68	-	-	94.48	27.42	16.6	36.82	383	234	A	V
													V
													V
802.11g CH 11 2462MHz	*	2462	105.74	-	-	98.31	27.55	16.68	36.8	100	162	P	H
	*	2462	98.09	-	-	90.66	27.55	16.68	36.8	100	162	A	H
		2483.5	61.39	-12.61	74	53.84	27.63	16.71	36.79	100	162	P	H
		2483.5	48.83	-5.17	54	41.28	27.63	16.71	36.79	100	162	A	H
													H
													H
	*	2462	104.88	-	-	97.45	27.55	16.68	36.8	400	235	P	V
	*	2462	97.25	-	-	89.82	27.55	16.68	36.8	400	235	A	V
		2483.8	60.51	-13.49	74	52.95	27.64	16.71	36.79	400	235	P	V
		2483.5	48.7	-5.3	54	41.15	27.63	16.71	36.79	400	235	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	41.15	-32.85	74	57.35	32.5	10.2	58.9	-	-	P	H
		7311	44.78	-29.22	74	54.23	36.56	12.42	58.43	-	-	P	H
		10725	50.41	-23.59	74	57.84	38.85	14.62	60.9	-	-	P	H
		10725	40.64	-13.36	54	48.07	38.85	14.62	60.9	-	-	A	H
		14475	50.37	-23.63	74	56.17	40.53	16.85	63.18	-	-	P	H
		14475	41.6	-12.4	54	47.4	40.53	16.85	63.18	-	-	A	H
		18000	53.89	-20.11	74	49.08	43.1	18.95	57.24	-	-	P	H
		18000	44.12	-9.88	54	39.31	43.1	18.95	57.24	-	-	A	H
													H
													H
													H
802.11g CH 06 2437MHz													H
		4874	40.03	-33.97	74	57.43	31.3	10.2	58.9	-	-	P	V
		7311	45.49	-28.51	74	55.18	36.32	12.42	58.43	-	-	P	V
		11085	50.62	-23.38	74	56.34	40.34	14.8	60.86	-	-	P	V
		11085	40.85	-13.15	54	46.57	40.34	14.8	60.86	-	-	A	V
		14475	50.29	-23.71	74	55.29	41.33	16.85	63.18	-	-	P	V
		14475	41.51	-12.49	54	46.51	41.33	16.85	63.18	-	-	A	V
		17970	58.7	-15.3	74	49.28	47.8	18.93	57.31	-	-	P	V
		17970	49.03	-4.97	54	39.61	47.8	18.93	57.31	-	-	A	V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.
4. The emission level close to 18GHz is checked that the average emission level is noise floor only.

2.4GHz 2400~2483.5MHz

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

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.86	63.11	-10.89	74	56.02	27.36	16.56	36.83	100	135	P	H
		2389.97	50.25	-3.75	54	43.16	27.36	16.56	36.83	100	135	A	H
	*	2412	111.08	-	-	103.88	27.42	16.6	36.82	100	135	P	H
	*	2412	100.26	-	-	93.06	27.42	16.6	36.82	100	135	A	H
802.11ax													H
HE20 Full													H
CH 01		2389.97	60.11	-13.89	74	53.02	27.36	16.56	36.83	386	237	P	V
2412MHz		2389.97	47.05	-6.95	54	39.96	27.36	16.56	36.83	386	237	A	V
	*	2412	106.15	-	-	98.95	27.42	16.6	36.82	386	237	P	V
	*	2412	95.77	-	-	88.57	27.42	16.6	36.82	386	237	A	V
													V
													V
	*	2462	108.13	-	-	100.7	27.55	16.68	36.8	100	160	P	H
	*	2462	97.73	-	-	90.3	27.55	16.68	36.8	100	160	A	H
		2483.5	64.87	-9.13	74	57.32	27.63	16.71	36.79	100	160	P	H
		2483.5	50.49	-3.51	54	42.94	27.63	16.71	36.79	100	160	A	H
802.11ax													H
HE20 Full													H
CH 11	*	2462	108.02	-	-	100.59	27.55	16.68	36.8	400	230	P	V
2462MHz	*	2462	97.73	-	-	90.3	27.55	16.68	36.8	400	230	A	V
		2483.9	63.34	-10.66	74	55.78	27.64	16.71	36.79	400	230	P	V
		2483.5	49.68	-4.32	54	42.13	27.63	16.71	36.79	400	230	A	V
													V
													V

Remark

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

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	38.86	-35.14	74	55.06	32.5	10.2	58.9	-	-	P	H
		7311	44.03	-29.97	74	53.48	36.56	12.42	58.43	-	-	P	H
		12030	48.57	-25.43	74	56.07	38.69	15.27	61.46	-	-	P	H
		12030	38.79	-15.21	54	46.29	38.69	15.27	61.46	-	-	A	H
		14475	49.72	-24.28	74	55.52	40.53	16.85	63.18	-	-	P	H
		14475	40.94	-13.06	54	46.74	40.53	16.85	63.18	-	-	A	H
		17985	52.5	-21.5	74	47.86	42.97	18.94	57.27	-	-	P	H
		17985	42.73	-11.27	54	38.09	42.97	18.94	57.27	-	-	A	H
													H
													H
802.11ax													H
HE20 Full													H
CH 06		4874	38.74	-35.26	74	56.14	31.3	10.2	58.9	-	-	P	V
2437MHz		7311	45.06	-28.94	74	54.75	36.32	12.42	58.43	-	-	P	V
		11025	49.93	-24.07	74	55.5	40.52	14.77	60.86	-	-	P	V
		11025	40.15	-13.85	54	45.72	40.52	14.77	60.86	-	-	A	V
		14475	49.13	-24.87	74	54.13	41.33	16.85	63.18	-	-	P	V
		14475	40.35	-13.65	54	45.35	41.33	16.85	63.18	-	-	A	V
		18000	57.11	-16.89	74	47	48.4	18.95	57.24	-	-	P	V
		18000	47.33	-6.67	54	37.22	48.4	18.95	57.24	-	-	A	V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.
4. The emission level close to 18GHz is checked that the average emission level is noise floor only.

2.4GHz 2400~2483.5MHz

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

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2390	67.06	-6.94	74	59.97	27.36	16.56	36.83	146	137	P	H
		2390	49.47	-4.53	54	42.38	27.36	16.56	36.83	146	137	A	H
	*	2412	113.84	-	-	106.64	27.42	16.6	36.82	146	137	P	H
802.11ax	*	2412	106.26	-	-	99.06	27.42	16.6	36.82	146	137	A	H
HE20													H
Partial													H
106/53		2387.805	62.05	-11.95	74	54.97	27.35	16.56	36.83	340	218	P	V
CH 01		2390	47.23	-6.77	54	40.14	27.36	16.56	36.83	340	218	A	V
2412MHz	*	2412	111.12	-	-	103.92	27.42	16.6	36.82	340	218	P	V
	*	2412	103.56	-	-	96.36	27.42	16.6	36.82	340	218	A	V
													V
													V
	*	2462	113.75	-	-	106.68	27.55	16.32	36.8	105	165	P	H
	*	2462	103.9	-	-	96.83	27.55	16.32	36.8	105	165	A	H
		2487.1	69.6	-4.4	74	62.38	27.65	16.36	36.79	105	165	P	H
802.11ax		2483.5	48.34	-5.66	54	41.14	27.63	16.36	36.79	105	165	A	H
HE20													H
Partial													H
106/54	*	2462	113.28	-	-	106.21	27.55	16.32	36.8	400	228	P	V
CH 11	*	2462	105.07	-	-	98	27.55	16.32	36.8	400	228	A	V
2462MHz		2487.25	70.03	-3.97	74	62.81	27.65	16.36	36.79	400	228	P	V
		2483.5	48.01	-5.99	54	40.81	27.63	16.36	36.79	400	228	A	V
													V
													V

Remark

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

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 242 (Band Edge @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.59	61.75	-12.25	74	54.66	27.36	16.56	36.83	145	132	P	H
		2390	48.94	-5.06	54	41.85	27.36	16.56	36.83	145	132	A	H
	*	2412	108.34	-	-	101.14	27.42	16.6	36.82	145	132	P	H
802.11ax	*	2412	100.51	-	-	93.31	27.42	16.6	36.82	145	132	A	H
HE20													H
Partial													H
242/61		2389.905	59.46	-14.54	74	52.37	27.36	16.56	36.83	334	193	P	V
CH 01		2390	47.13	-6.87	54	40.04	27.36	16.56	36.83	334	193	A	V
2412MHz	*	2412	102.98	-	-	95.78	27.42	16.6	36.82	334	193	P	V
	*	2412	94.54	-	-	87.34	27.42	16.6	36.82	334	193	A	V
													V
													V
	*	2462	110.08	-	-	103.01	27.55	16.32	36.8	107	162	P	H
	*	2462	100.58	-	-	93.51	27.55	16.32	36.8	107	162	A	H
		2483.55	68.61	-5.39	74	61.41	27.63	16.36	36.79	107	162	P	H
802.11ax		2483.5	51.07	-2.93	54	43.87	27.63	16.36	36.79	107	162	A	H
HE20													H
Partial													H
242/61	*	2462	109.85	-	-	102.78	27.55	16.32	36.8	400	231	P	V
CH 11	*	2462	100.76	-	-	93.69	27.55	16.32	36.8	400	231	A	V
2462MHz		2483.5	68.91	-5.09	74	61.71	27.63	16.36	36.79	400	231	P	V
		2483.5	51.6	-2.4	54	44.4	27.63	16.36	36.79	400	231	A	V
													V
													V

Remark

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

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE40 Full (Band Edge @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2390	62.58	-11.42	74	55.49	27.36	16.56	36.83	100	131	P	H
		2390	51.07	-2.93	54	43.98	27.36	16.56	36.83	100	131	A	H
	*	2422	105.45	-	-	98.22	27.44	16.61	36.82	100	131	P	H
	*	2422	96.65	-	-	89.42	27.44	16.61	36.82	100	131	A	H
802.11ax		2483.53	55.98	-18.02	74	48.43	27.63	16.71	36.79	100	131	P	H
HE40 Full		2483.53	44.55	-9.45	54	37	27.63	16.71	36.79	100	131	A	H
CH 03		2390	59.24	-14.76	74	52.15	27.36	16.56	36.83	385	236	P	V
2422MHz		2390	48.37	-5.63	54	41.28	27.36	16.56	36.83	385	236	A	V
	*	2422	102.93	-	-	95.7	27.44	16.61	36.82	385	236	P	V
	*	2422	94.1	-	-	86.87	27.44	16.61	36.82	385	236	A	V
		2484.43	53.47	-20.53	74	45.91	27.64	16.71	36.79	385	236	P	V
		2483.53	42.09	-11.91	54	34.54	27.63	16.71	36.79	385	236	A	V
		2357.04	51.13	-22.87	74	44.24	27.23	16.51	36.85	100	159	P	H
		2390	40.23	-13.77	54	33.14	27.36	16.56	36.83	100	159	A	H
	*	2452	107.93	-	-	100.56	27.51	16.66	36.8	100	159	P	H
	*	2452	98.11	-	-	90.74	27.51	16.66	36.8	100	159	A	H
802.11ax		2484.25	68.4	-5.6	74	60.84	27.64	16.71	36.79	100	159	P	H
HE40 Full		2483.53	50.73	-3.27	54	43.18	27.63	16.71	36.79	100	159	A	H
CH 09		2315.92	51.54	-22.46	74	44.9	27.06	16.44	36.86	400	236	P	V
2452MHz		2389.84	40.19	-13.81	54	33.1	27.36	16.56	36.83	400	236	A	V
	*	2452	105.84	-	-	98.47	27.51	16.66	36.8	400	236	P	V
	*	2452	96.77	-	-	89.4	27.51	16.66	36.8	400	236	A	V
		2483.62	67.19	-6.81	74	59.64	27.63	16.71	36.79	400	236	P	V
		2483.53	49.71	-4.29	54	42.16	27.63	16.71	36.79	400	236	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE40 Full (Harmonic @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4874	38.85	-35.15	74	55.05	32.5	10.2	58.9	-	-	P	H
		7311	44.11	-29.89	74	53.56	36.56	12.42	58.43	-	-	P	H
		11280	49.99	-24.01	74	57.08	38.88	14.9	60.87	-	-	P	H
		11280	40.42	-13.58	54	47.51	38.88	14.9	60.87	-	-	A	H
		14490	48.65	-25.35	74	54.45	40.51	16.86	63.17	-	-	P	H
		14490	39.88	-14.12	54	45.68	40.51	16.86	63.17	-	-	A	H
		18000	51.48	-22.52	74	46.67	43.1	18.95	57.24	-	-	P	H
		18000	41.71	-12.29	54	36.9	43.1	18.95	57.24	-	-	A	H
													H
													H
802.11ax													H
HE40 Full													H
CH 06		4874	38.89	-35.11	74	56.29	31.3	10.2	58.9	-	-	P	V
2437MHz		7311	44.31	-29.69	74	54	36.32	12.42	58.43	-	-	P	V
		11130	50.1	-23.9	74	55.93	40.21	14.82	60.86	-	-	P	V
		11130	40.33	-13.67	54	46.16	40.21	14.82	60.86	-	-	A	V
		14490	49.82	-24.18	74	54.76	41.37	16.86	63.17	-	-	P	V
		14490	41.05	-12.95	54	45.99	41.37	16.86	63.17	-	-	A	V
		18000	57.27	-16.73	74	47.16	48.4	18.95	57.24	-	-	P	V
		18000	47.5	-6.5	54	37.39	48.4	18.95	57.24	-	-	A	V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.
4. The emission level close to 18GHz is checked that the average emission level is noise floor only.

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2390	66.12	-7.88	74	59.39	27.36	16.2	36.83	142	137	P	H
		2390	51.5	-2.5	54	44.77	27.36	16.2	36.83	142	137	A	H
	*	2416	110.13	-	-	103.27	27.43	16.25	36.82	142	137	P	H
802.11ax	*	2416	100.73	-	-	93.87	27.43	16.25	36.82	142	137	A	H
HE40		2483.71	56.52	-17.48	74	49.32	27.63	16.36	36.79	142	137	P	H
Partial		2483.98	40.9	-13.1	54	33.69	27.64	16.36	36.79	142	137	A	H
242/61		2390	63.24	-10.76	74	56.51	27.36	16.2	36.83	381	193	P	V
CH 03		2390	49.2	-4.8	54	42.47	27.36	16.2	36.83	381	193	A	V
2422MHz	*	2422	108.36	-	-	101.48	27.44	16.26	36.82	381	193	P	V
	*	2422	99.33	-	-	92.45	27.44	16.26	36.82	381	193	A	V
		2483.8	55.56	-18.44	74	48.35	27.64	16.36	36.79	381	193	P	V
		2484.07	40.87	-13.13	54	33.66	27.64	16.36	36.79	381	193	A	V
		2338.64	51.16	-22.84	74	44.74	27.15	16.12	36.85	100	160	P	H
		2390	40.17	-13.83	54	33.44	27.36	16.2	36.83	100	160	A	H
	*	2452	111.06	-	-	104.04	27.51	16.31	36.8	100	160	P	H
802.11ax	*	2452	100.67	-	-	93.65	27.51	16.31	36.8	100	160	A	H
HE40		2485.06	69.85	-4.15	74	62.64	27.64	16.36	36.79	100	160	P	H
Partial		2483.53	50.55	-3.45	54	43.35	27.63	16.36	36.79	100	160	A	H
242/62		2325.84	51.1	-22.9	74	44.77	27.1	16.09	36.86	400	229	P	V
CH 09		2389.04	40.17	-13.83	54	33.44	27.36	16.2	36.83	400	229	A	V
2452MHz	*	2452	109.1	-	-	102.08	27.51	16.31	36.8	400	229	P	V
	*	2452	100.3	-	-	93.28	27.51	16.31	36.8	400	229	A	V
		2487.49	69.85	-4.15	74	62.63	27.65	16.36	36.79	400	229	P	V
		2483.53	50.57	-3.43	54	43.37	27.63	16.36	36.79	400	229	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 Partial 484 (Band Edge @ 3m)

WIFI Ant. 5+4	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.84	62.28	-11.72	74	55.55	27.36	16.2	36.83	121	136	P	H
		2390	48.17	-5.83	54	41.44	27.36	16.2	36.83	121	136	A	H
	*	2422	105.3	-	-	98.42	27.44	16.26	36.82	121	136	P	H
802.11ax	*	2422	96.35	-	-	89.47	27.44	16.26	36.82	121	136	A	H
HE40		2484.61	55.71	-18.29	74	48.5	27.64	16.36	36.79	121	136	P	H
Partial		2483.53	43.6	-10.4	54	36.4	27.63	16.36	36.79	121	136	A	H
484/65		2390	60.4	-13.6	74	53.67	27.36	16.2	36.83	382	213	P	V
CH 03		2390	47.53	-6.47	54	40.8	27.36	16.2	36.83	382	213	A	V
2422MHz	*	2422	103.67	-	-	96.79	27.44	16.26	36.82	382	213	P	V
	*	2422	95.65	-	-	88.77	27.44	16.26	36.82	382	213	A	V
		2484.61	54.76	-19.24	74	47.55	27.64	16.36	36.79	382	213	P	V
		2483.53	42.96	-11.04	54	35.76	27.63	16.36	36.79	382	213	A	V
		2388.72	51.58	-22.42	74	44.86	27.35	16.2	36.83	108	158	P	H
		2390	40.32	-13.68	54	33.59	27.36	16.2	36.83	108	158	A	H
	*	2452	107.13	-	-	100.11	27.51	16.31	36.8	108	158	P	H
802.11ax	*	2452	97.99	-	-	90.97	27.51	16.31	36.8	108	158	A	H
HE40		2487.4	69.93	-4.07	74	62.71	27.65	16.36	36.79	108	158	P	H
Partial		2483.53	50.8	-3.2	54	43.6	27.63	16.36	36.79	108	158	A	H
484/65		2378.96	50.97	-23.03	74	44.31	27.32	16.18	36.84	400	230	P	V
CH 09		2389.68	40.21	-13.79	54	33.48	27.36	16.2	36.83	400	230	A	V
2452MHz	*	2452	107.35	-	-	100.33	27.51	16.31	36.8	400	230	P	V
	*	2452	97.24	-	-	90.22	27.51	16.31	36.8	400	230	A	V
		2487.58	69.54	-4.46	74	62.32	27.65	16.36	36.79	400	230	P	V
		2483.53	50.64	-3.36	54	43.44	27.63	16.36	36.79	400	230	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11ax HE40 (SHF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
5+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		24528	41.91	-32.09	74	58.37	39.09	-2.17	53.38	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
2.4GHz													H
802.11ax													H
HE40		24968	42.17	-31.83	74	58.29	39.17	-2.17	53.12	-	-	P	V
SHF													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.

Emission below 1GHz

2.4GHz WIFI 802.11ax HE40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
5+4		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		68.8	29.6	-10.4	40	48.86	12.19	1.06	32.51	-	-	P	H
		99.84	35.98	-7.52	43.5	51.44	15.78	1.23	32.47	-	-	P	H
		158.04	35.49	-8.01	43.5	49.67	16.58	1.69	32.45	-	-	P	H
		242.43	28.3	-17.7	46	41.36	17.34	2.06	32.46	-	-	P	H
		704.15	34.74	-11.26	46	37.48	26.32	3.33	32.39	-	-	P	H
		744.89	35.51	-10.49	46	36.59	27.82	3.39	32.29	-	-	P	H
													H
													H
													H
													H
2.4GHz													H
802.11ax													H
HE40		34.85	31.95	-8.05	40	41.68	22.08	0.7	32.51	100	311	Q	V
LF		59.1	34.27	-5.73	40	54.1	11.73	0.99	32.55	200	151	Q	V
		97.9	29.96	-13.54	43.5	45.62	15.59	1.22	32.47	-	-	P	V
		158.04	30.93	-12.57	43.5	45.11	16.58	1.69	32.45	-	-	P	V
		704.15	32.58	-13.42	46	35.32	26.32	3.33	32.39	-	-	P	V
		948.59	33.11	-12.89	46	29.86	30.53	3.95	31.23	-	-	P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.
3. The emission position marked as “-” means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
5+6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2338.035	51.42	-22.58	74	44.64	27.15	16.48	36.85	100	60	P	H
		2388.015	40.54	-13.46	54	33.46	27.35	16.56	36.83	100	60	A	H
	*	2412	109.13	-	-	101.93	27.42	16.6	36.82	100	60	P	H
	*	2412	106.03	-	-	98.83	27.42	16.6	36.82	100	60	A	H
													H
													H
		2381.715	51.55	-22.45	74	44.5	27.33	16.55	36.83	300	268	P	V
		2387.91	40.19	-13.81	54	33.11	27.35	16.56	36.83	300	268	A	V
	*	2412	96.24	-	-	89.04	27.42	16.6	36.82	300	268	P	V
	*	2412	93.09	-	-	85.89	27.42	16.6	36.82	300	268	A	V
													V
													V
802.11b CH 06 2437MHz		2321.68	52.14	-21.86	74	45.46	27.09	16.45	36.86	100	45	P	H
		2390	40.17	-13.83	54	33.08	27.36	16.56	36.83	100	45	A	H
	*	2437	109.7	-	-	102.4	27.47	16.64	36.81	100	45	P	H
	*	2437	106.77	-	-	99.47	27.47	16.64	36.81	100	45	A	H
		2487.49	51.84	-22.16	74	44.26	27.65	16.72	36.79	100	45	P	H
		2485.24	40.71	-13.29	54	33.15	27.64	16.71	36.79	100	45	A	H
		2354.48	51.38	-22.62	74	44.51	27.22	16.5	36.85	204	241	P	V
		2389.2	40.08	-13.92	54	32.99	27.36	16.56	36.83	204	241	A	V
	*	2437	102.94	-	-	95.64	27.47	16.64	36.81	204	241	P	V
	*	2437	99.96	-	-	92.66	27.47	16.64	36.81	204	241	A	V
		2496.13	52.15	-21.85	74	44.52	27.68	16.73	36.78	204	241	P	V
		2483.53	40.54	-13.46	54	32.99	27.63	16.71	36.79	204	241	A	V

802.11b CH 11 2462MHz	*	2462	111.6	-	-	104.17	27.55	16.68	36.8	100	51	P	H
	*	2462	108.55	-	-	101.12	27.55	16.68	36.8	100	51	A	H
		2483.6	53.83	-20.17	74	46.28	27.63	16.71	36.79	100	51	P	H
		2483.52	46.61	-7.39	54	39.06	27.63	16.71	36.79	100	51	A	H
													H
													H
	*	2462	95.15	-	-	87.72	27.55	16.68	36.8	300	280	P	V
	*	2462	92.18	-	-	84.75	27.55	16.68	36.8	300	280	A	V
		2483.8	51.92	-22.08	74	44.36	27.64	16.71	36.79	300	280	P	V
		2483.52	42.34	-11.66	54	34.79	27.63	16.71	36.79	300	280	A	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 5+6	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		4824	43.8	-30.2	74	60.16	32.35	10.15	58.86	400	78	P	H
		4824	37.88	-16.12	54	54.24	32.35	10.15	58.86	400	78	A	H
		11400	48.89	-25.11	74	55.7	39.1	14.96	60.87	-	-	P	H
		11400	39.12	-14.88	54	45.93	39.1	14.96	60.87	-	-	A	H
		14475	49.74	-24.26	74	55.54	40.53	16.85	63.18	-	-	P	H
		14475	40.96	-13.04	54	46.76	40.53	16.85	63.18	-	-	A	H
		18000	51.68	-22.32	74	46.87	43.1	18.95	57.24	-	-	P	H
		18000	41.91	-12.09	54	37.1	43.1	18.95	57.24	-	-	A	H
													H
													H
													H
802.11b CH 01 2412MHz													H
		4824	43.6	-30.4	74	61.01	31.3	10.15	58.86	100	26	P	V
		4824	39.07	-14.93	54	56.48	31.3	10.15	58.86	100	26	A	V
		10950	50.07	-23.93	74	55.71	40.5	14.73	60.87	-	-	P	V
		10950	40.3	-13.7	54	45.94	40.5	14.73	60.87	-	-	A	V
		14475	49.61	-24.39	74	54.61	41.33	16.85	63.18	-	-	P	V
		14475	40.84	-13.16	54	45.84	41.33	16.85	63.18	-	-	A	V
		18000	58.28	-15.72	74	48.17	48.4	18.95	57.24	-	-	P	V
		18000	48.51	-5.49	54	38.4	48.4	18.95	57.24	-	-	A	V
													V
													V
													V
													V