FCC RADIO TEST REPORT

FCC ID	:	**COFTPA8800**
Equipment	:	**Payment Tablet eMoBo**
Brand Name	:	**USI**
Model Name	:	**TPA-8800**
Applicant	:	**Universal Global Scientific Industrial Co., Ltd. No.141, Lane 351, Sec.1, Taiping Road, Tsaotuen, Nantou County 542007 Taiwan**
Manufacturer	:	**Universal Global Scientific Industrial Co., Ltd. No.141, Lane 351, Sec.1, Taiping Road, Tsaotuen, Nantou County 542007 Taiwan**
Standard	:	**FCC Part 15 Subpart C §15.247**

The product was received on Oct. 30, 2024 and testing was performed from Nov. 14, 2024 to Feb. 24, 2025. 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
FR491831C	01	Initial issue of report	Feb. 11, 2025
FR491831C	02	Revise List of Measuring Equipment and Appendix A This report is an updated version, replacing the report issued on Feb. 11, 2025.	Feb. 20, 2025
FR491831C	03	Revise List of Measuring Equipment and Appendix A This report is an updated version, replacing the report issued on Feb. 20, 2025.	Feb. 25, 2025

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	Pass	-
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	-
3.6	15.207	AC Conducted Emission	Pass	-
3.7	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.

Disclaimer:

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

Reviewed by: Wei Chen

Report Producer: Rebecca Wu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac and NFC. **Antenna Type** WLAN: PIFA Antenna

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	2.84

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

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, CO07-HY, 03CH11-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 15.247 Meas Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- 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 only the worst case emissions were reported in this report.

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 final test modes include the worst data rates for each modulation shown in the table below.

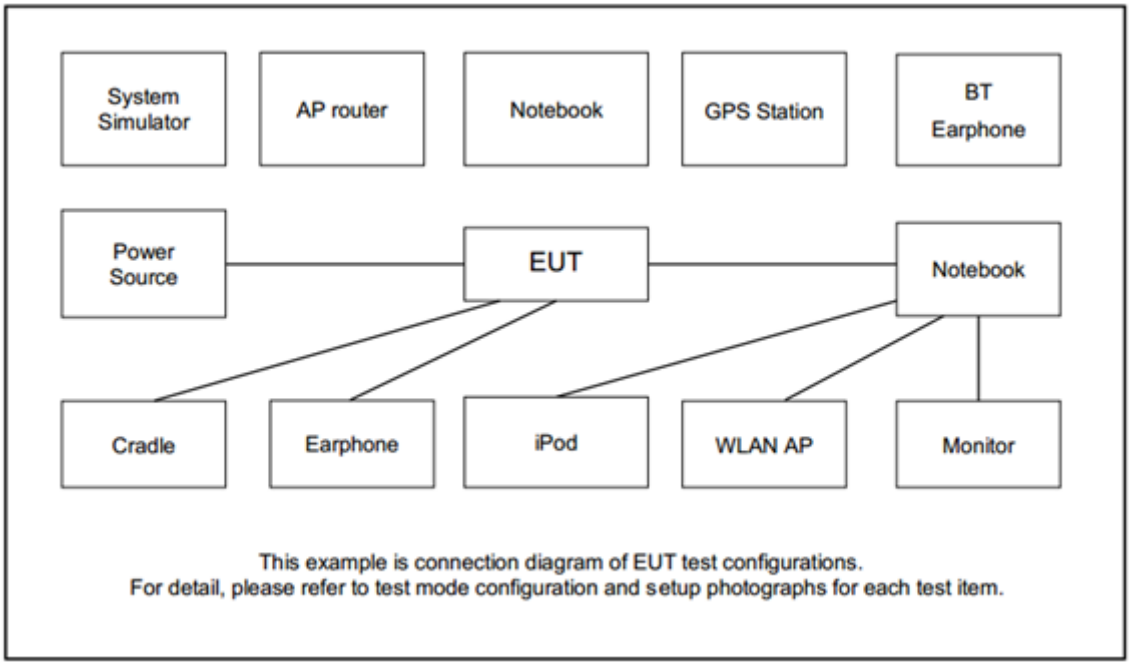
Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :WLAN (2.4GHz) Link + Bluetooth Link + NFC on + IC card reader + Camera (Rear) + Adapter

Ch. #	2400-2483.5 MHz			
	802.11b	802.11g	802.11n HT20	802.11n HT40
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.	Bluetooth Earphone	Sony	SBH20	PY7-RD0010	N/A	N/A
2.	WLAN AP	ASUS	RT-AC52	MSQ-RTAC4A00	N/A	Unshielded, 1.8 m
3.	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 Version 4.0.211.0” 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.

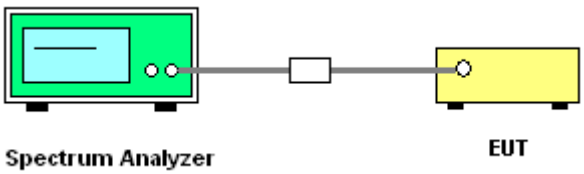
3.1.2 Measuring Instruments

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.

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.

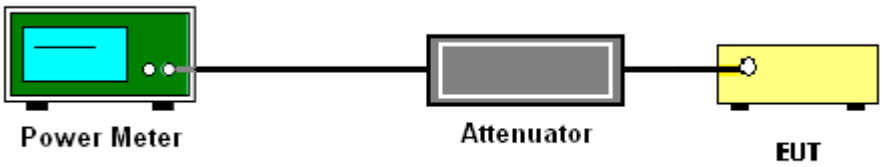
3.2.2 Measuring Instruments

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.

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.

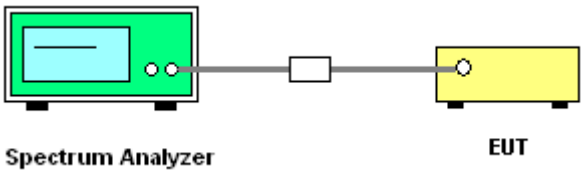
3.3.2 Measuring Instruments

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.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

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.

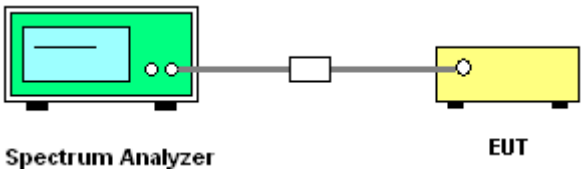
3.4.2 Measuring Instruments

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

Please refer to Appendix A.

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.

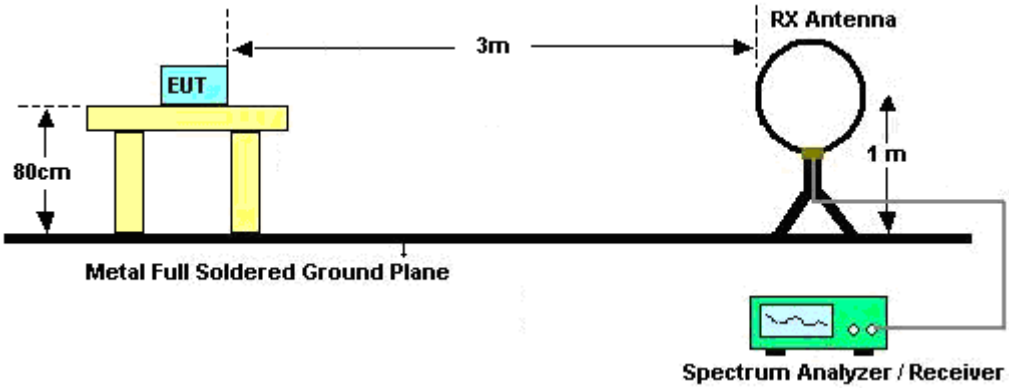
3.5.3 Test Procedures

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 “-“.

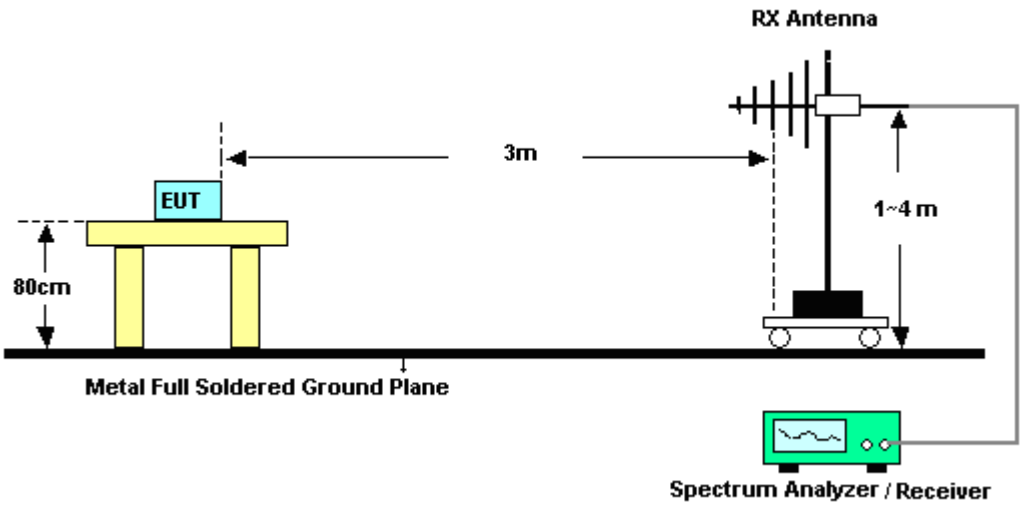
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with 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

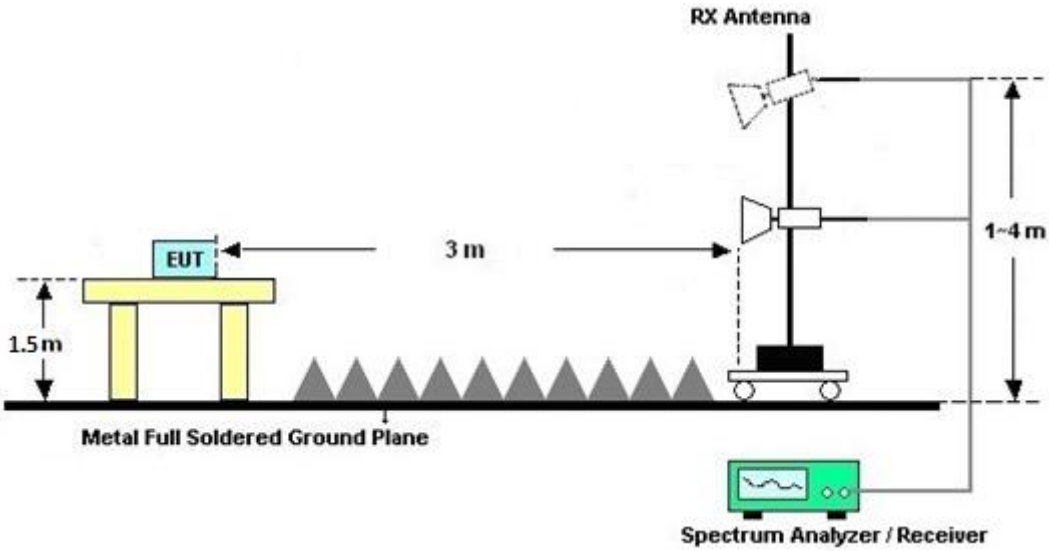
For radiated emissions below 30MHz



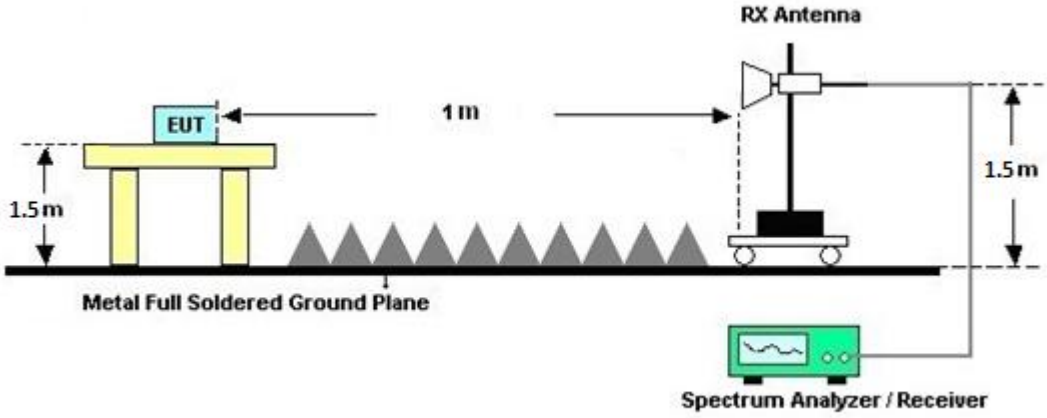
For radiated emissions from 30MHz to 1GHz



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.

3.5.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

Frequency of Emission (MHz)	Conducted Limit (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.

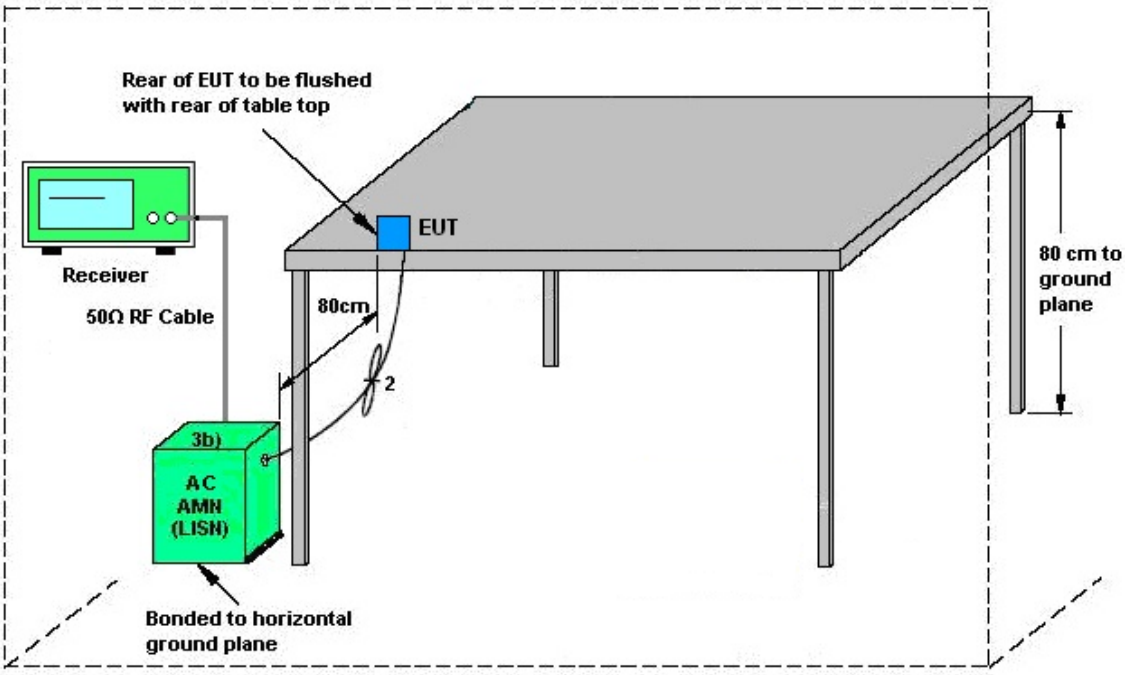
3.6.2 Measuring Instruments

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



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.7.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	41912 & 05	30MHz~1GHz	Feb. 04, 2024	Dec. 02, 2024~ Dec. 05, 2024	Feb. 03, 2025	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug. 29, 2024	Dec. 02, 2024~ Dec. 05, 2024	Aug. 28, 2025	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Aug. 28, 2024	Dec. 02, 2024~ Dec. 05, 2024	Aug. 27, 2025	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1224	18GHz~40GHz	Jun. 24, 2024	Dec. 02, 2024~ Dec. 05, 2024	Jun. 23, 2025	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 08, 2023	Dec. 02, 2024~ Dec. 05, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Mar. 25, 2024	Dec. 02, 2024~ Dec. 05, 2024	Mar. 24, 2025	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	17100018000 55007	1GHz~18GHz	Jun. 13, 2024	Dec. 02, 2024~ Dec. 05, 2024	Jun. 12, 2025	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	May 27, 2024	Dec. 02, 2024~ Dec. 05, 2024	May 26, 2025	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 14, 2024	Dec. 02, 2024~ Dec. 05, 2024	Oct. 13, 2025	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	20MHz~8.4GHz	Jul. 19, 2024	Dec. 02, 2024~ Dec. 05, 2024	Jul. 18, 2025	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Dec. 02, 2024~ Dec. 05, 2024	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Dec. 02, 2024~ Dec. 05, 2024	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Dec. 02, 2024~ Dec. 05, 2024	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Dec. 02, 2024~ Dec. 05, 2024	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Dec. 08, 2023	Dec. 02, 2024~ Dec. 05, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	May 23, 2024	Dec. 02, 2024~ Dec. 05, 2024	May 22, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 06, 2024	Dec. 02, 2024~ Dec. 05, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 06, 2024	Dec. 02, 2024~ Dec. 05, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 06, 2024	Dec. 02, 2024~ Dec. 05, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN3	3GHz High Pass Filter	Sep. 10, 2024	Dec. 02, 2024~ Dec. 05, 2024	Sep. 09, 2025	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1.53GHz Low Pass Filter	Sep. 10, 2024	Dec. 02, 2024~ Dec. 05, 2024	Sep. 09, 2025	Radiation (03CH11-HY)
Attenuator	HONOVA	5910 SMA-50-005	0028	N/A	Sep. 10, 2024	Dec. 02, 2024~ Dec. 05, 2024	Sep. 09, 2025	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 01, 2024	Nov. 14, 2024~ Feb. 24, 2025	Oct. 30, 2025	Conducted (TH05-HY)
USB Power Sensor	DARE	RPR3008W	RPR8W-23010013 (NO:100)	10MHz~8GHz	Jul. 26, 2024	Nov. 14, 2024~ Feb. 24, 2025	Jul. 25, 2025	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101466	10HZ~44GHZ	Aug. 14, 2024	Nov. 14, 2024~ Feb. 24, 2025	Aug. 13, 2025	Conducted (TH05-HY)
Switch Control Mainframe	Burgeon	ETF-058	EC1300484 (BOX3)	N/A	May 20, 2024	Nov. 14, 2024~ Feb. 24, 2025	May 19, 2025	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_version_240513	N/A	Conducted Other Test Item	N/A	Nov. 14, 2024~ Feb. 24, 2025	N/A	Conducted (TH05-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	Dec. 12, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Dec. 12, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 23, 2024	Dec. 12, 2024	Oct. 22, 2025	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	Dec. 12, 2024	Mar. 13, 2025	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	Dec. 12, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	Dec. 12, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 23, 2024	Dec. 12, 2024	Sep. 22, 2025	Conduction (CO07-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.7 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.4 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

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

Uncertainty of Radiated Emission Measurement (6000 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))	5.3 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Hank Hsu	Temperature:	21~25	°C
Test Date:	2024/11/14 ~ 2025/02/24	Relative Humidity:	51~54	%

Report Number : FR491831C

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant2	Ant1	Ant2		
11b	1Mbps	1	1	2412	13.80	-	9.03	-	0.50	Pass
11b	1Mbps	1	6	2437	13.82	-	8.56	-	0.50	Pass
11b	1Mbps	1	11	2462	13.78	-	8.56	-	0.50	Pass
11g	6Mbps	1	1	2412	16.82	-	15.44	-	0.50	Pass
11g	6Mbps	1	6	2437	16.83	-	15.67	-	0.50	Pass
11g	6Mbps	1	11	2462	16.83	-	15.45	-	0.50	Pass
HT20	MCS0	1	1	2412	17.92	-	15.47	-	0.50	Pass
HT20	MCS0	1	6	2437	17.94	-	15.33	-	0.50	Pass
HT20	MCS0	1	11	2462	17.93	-	15.94	-	0.50	Pass
HT40	MCS0	1	3	2422	36.47	-	35.32	-	0.50	Pass
HT40	MCS0	1	6	2437	36.48	-	35.31	-	0.50	Pass
HT40	MCS0	1	9	2452	36.40	-	35.10	-	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna																
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
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	13.80	-		30.00	-	2.84	-	16.64	-	36.00	-	Pass
11b	1Mbps	1	6	2437	14.60	-		30.00	-	2.84	-	17.44	-	36.00	-	Pass
11b	1Mbps	1	11	2462	13.90	-		30.00	-	2.84	-	16.74	-	36.00	-	Pass
11g	6Mbps	1	1	2412	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
11g	6Mbps	1	6	2437	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
11g	6Mbps	1	11	2462	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT20	MCS0	1	1	2412	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT20	MCS0	1	6	2437	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT20	MCS0	1	11	2462	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT40	MCS0	1	3	2422	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT40	MCS0	1	6	2437	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass
HT40	MCS0	1	9	2452	14.90	-		30.00	-	2.84	-	17.74	-	36.00	-	Pass

Report Number : FR491831C

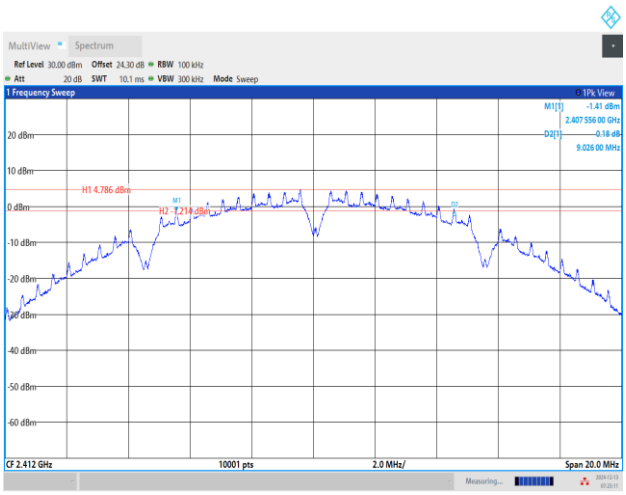
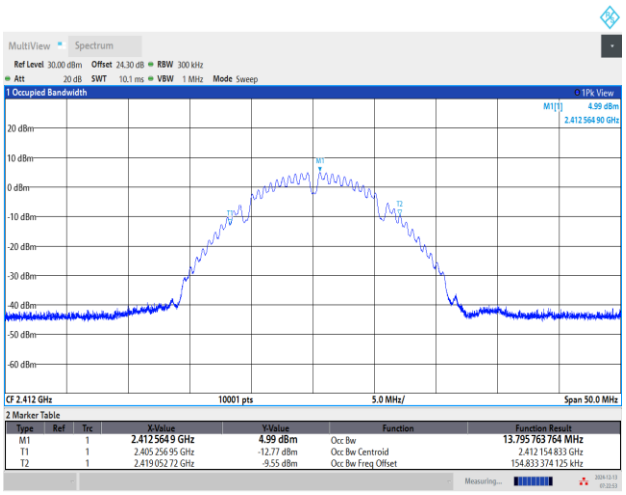
TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	-8.55	-		2.84	-	8.00	-	Pass
11b	1Mbps	1	6	2437	-7.64	-		2.84	-	8.00	-	Pass
11b	1Mbps	1	11	2462	-8.63	-		2.84	-	8.00	-	Pass
11g	6Mbps	1	1	2412	-10.20	-		2.84	-	8.00	-	Pass
11g	6Mbps	1	6	2437	-9.09	-		2.84	-	8.00	-	Pass
11g	6Mbps	1	11	2462	-9.01	-		2.84	-	8.00	-	Pass
HT20	MCS0	1	1	2412	-9.27	-		2.84	-	8.00	-	Pass
HT20	MCS0	1	6	2437	-10.12	-		2.84	-	8.00	-	Pass
HT20	MCS0	1	11	2462	-10.13	-		2.84	-	8.00	-	Pass
HT40	MCS0	1	3	2422	-12.74	-		2.84	-	8.00	-	Pass
HT40	MCS0	1	6	2437	-12.74	-		2.84	-	8.00	-	Pass
HT40	MCS0	1	9	2452	-13.34	-		2.84	-	8.00	-	Pass

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

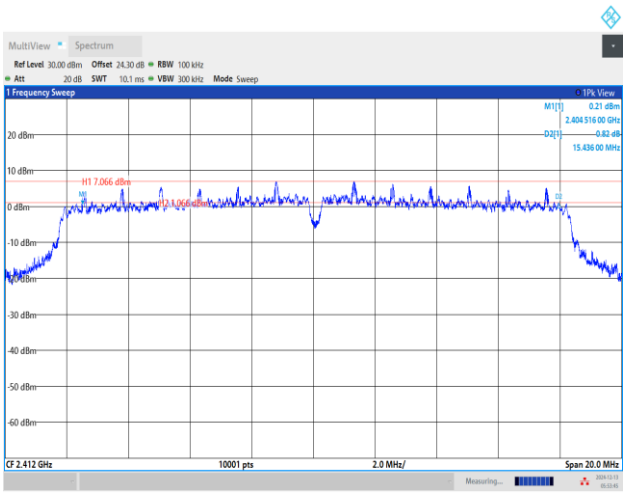
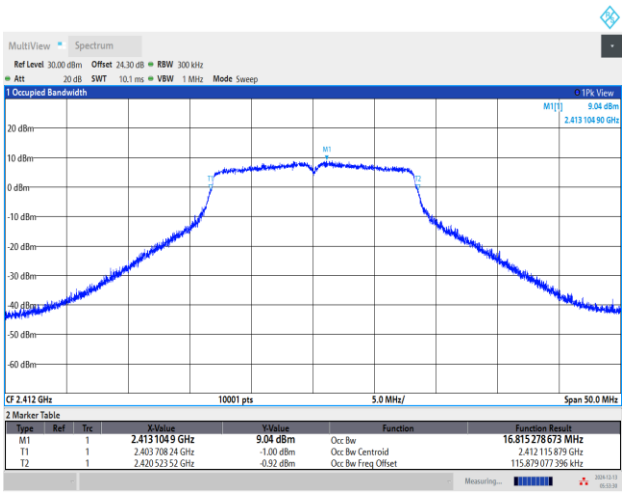
6dB and 99% Occupied Bandwidth

<802.11b>

6dB Bandwidth	99% Occupied Bandwidth
	

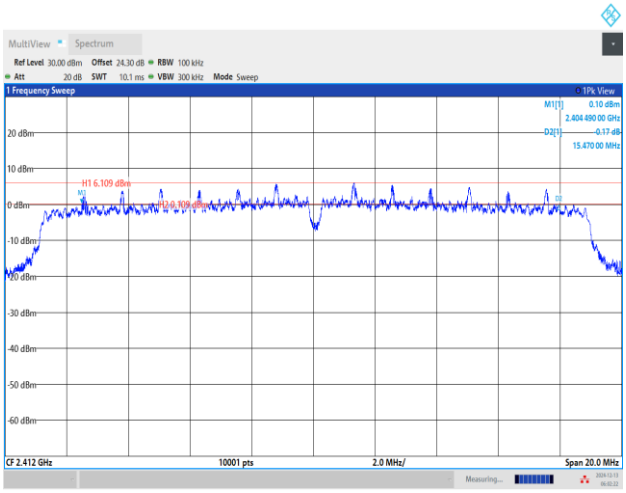
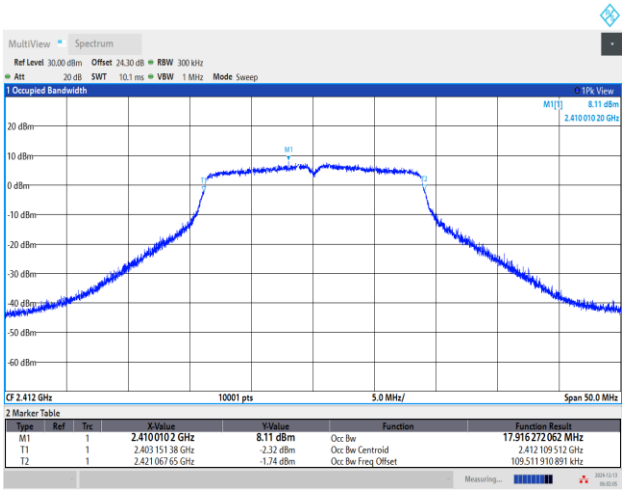
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11g>

6dB Bandwidth	99% Occupied Bandwidth
	

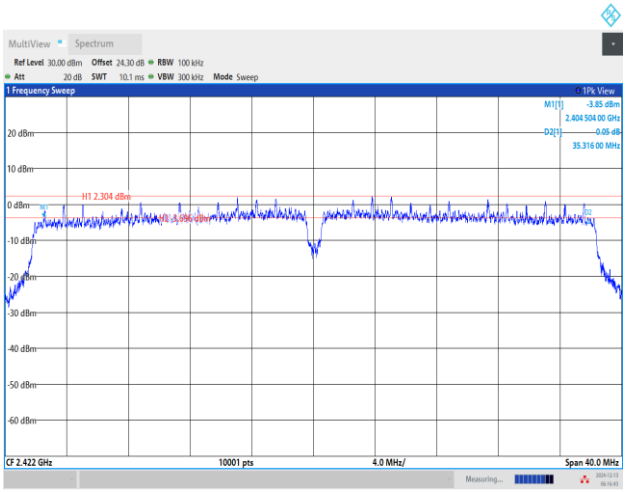
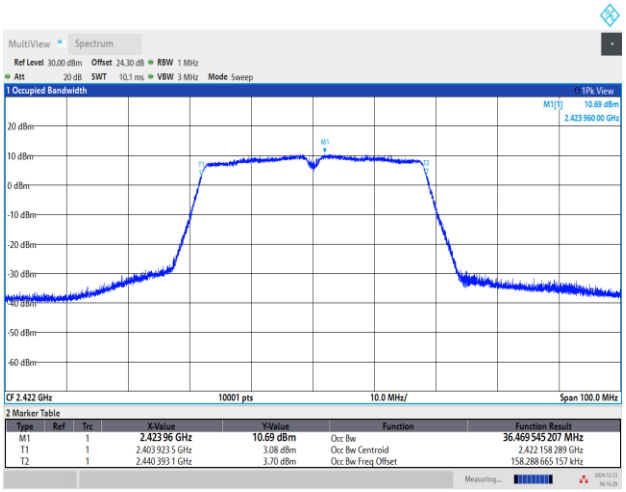
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<802.11n HT20>

6dB Bandwidth	99% Occupied Bandwidth
	

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

<802.11n HT40>

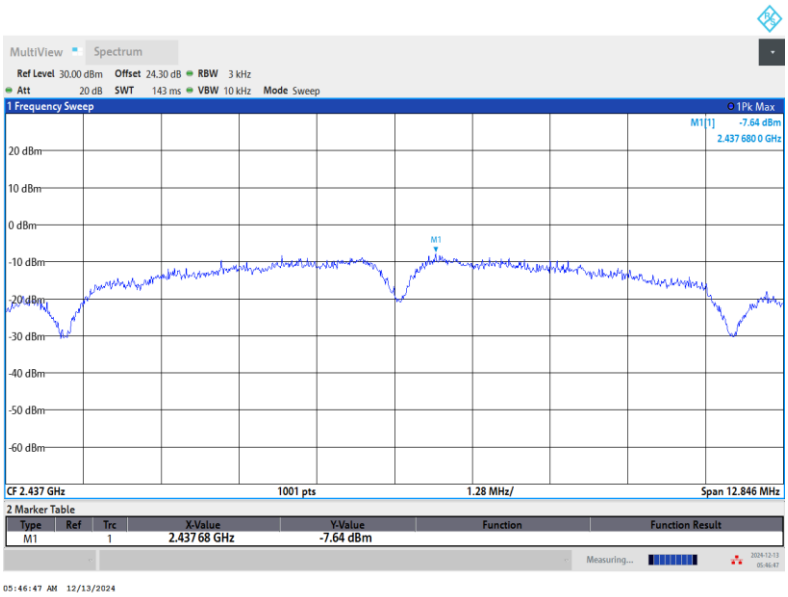
6dB Bandwidth	99% Occupied Bandwidth
	

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

Power Spectral Density(dBm/3kHz)

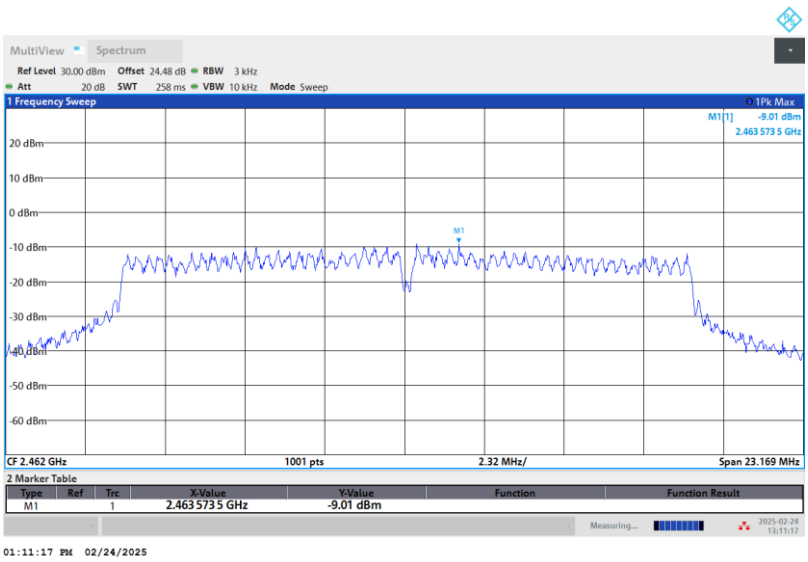
<802.11b>

Worst Case Power Density (dBm/3kHz)



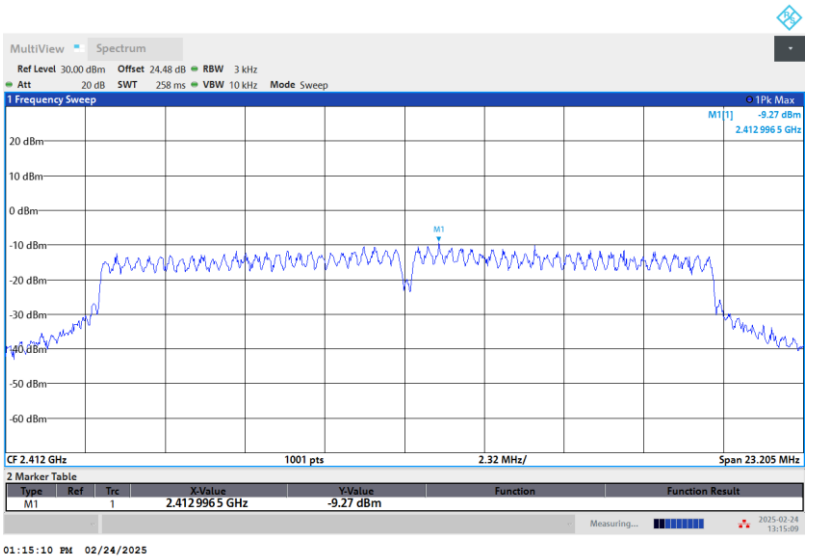
<802.11g>

Worst Case Power Density (dBm/3kHz)



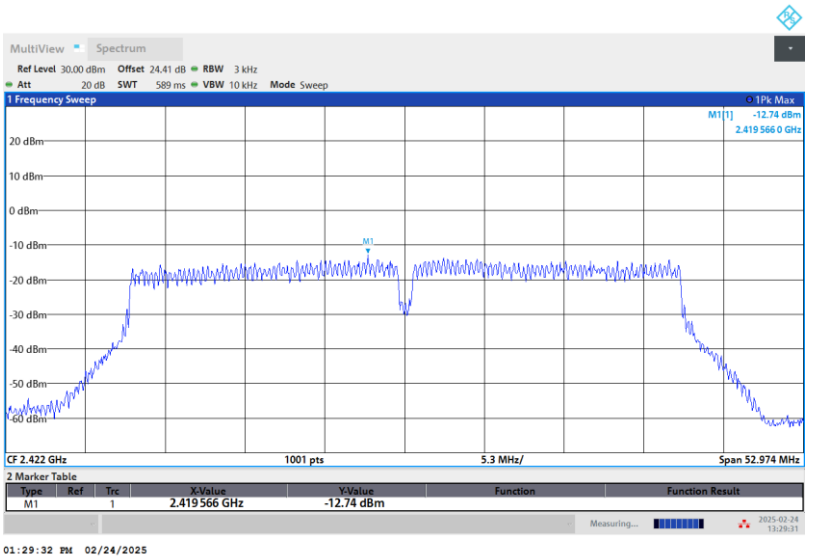
<802.11n HT20>

Worst Case Power Density (dBm/3kHz)



<802.11n HT40>

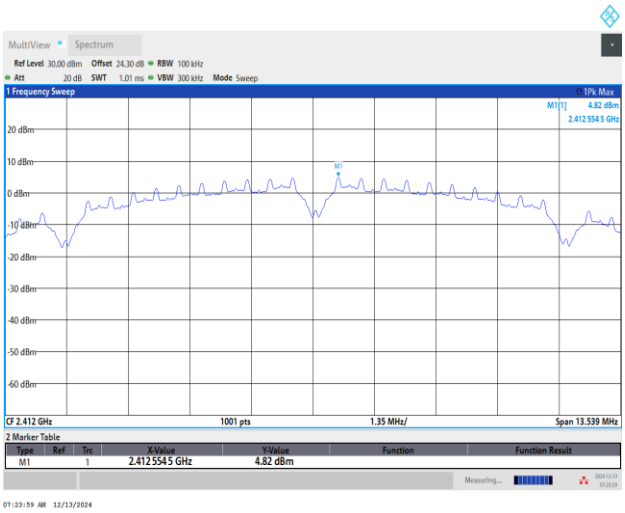
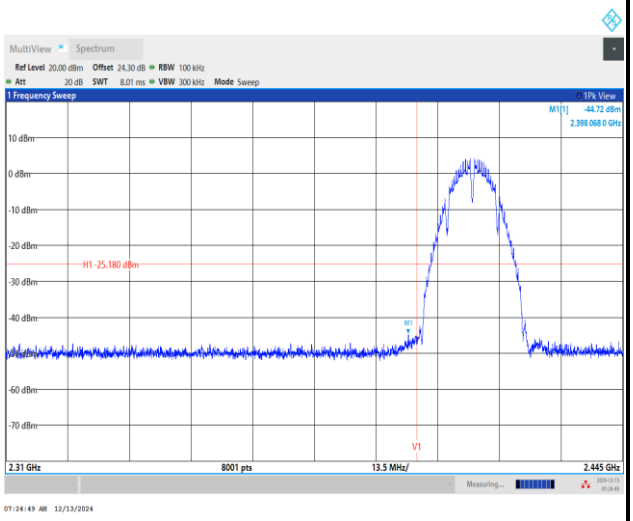
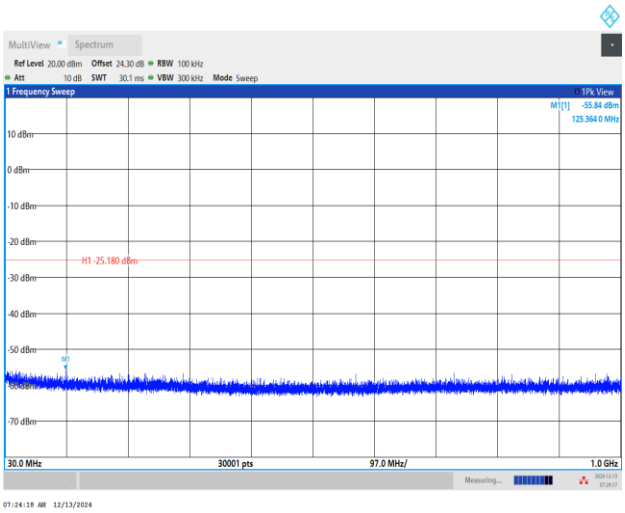
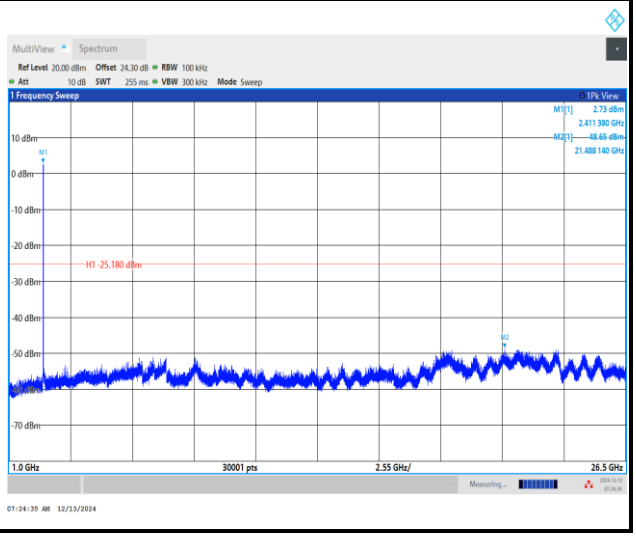
Worst Case Power Density (dBm/3kHz)



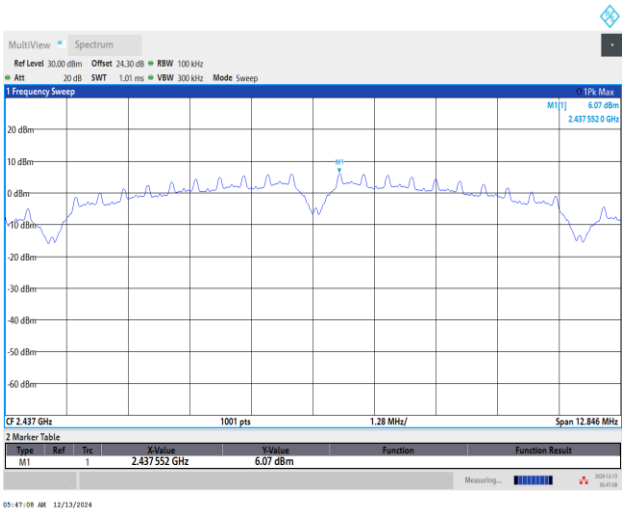
Band Edges and Spurious Emission

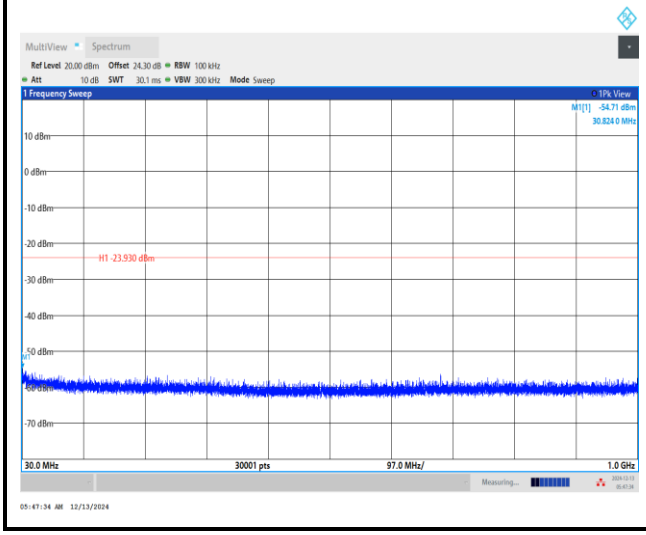
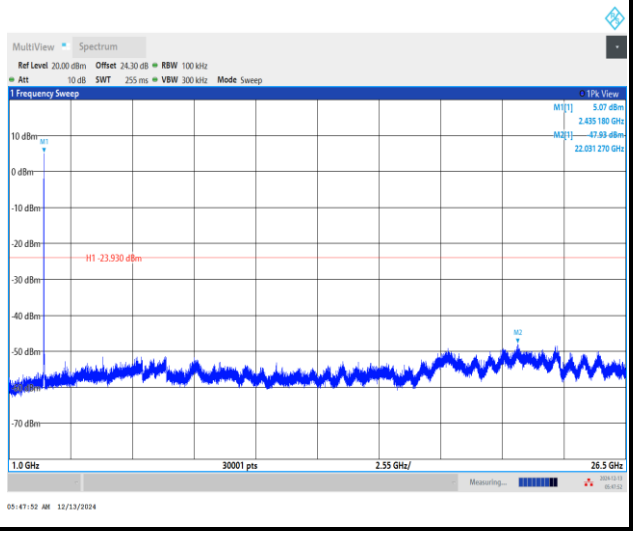
Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01

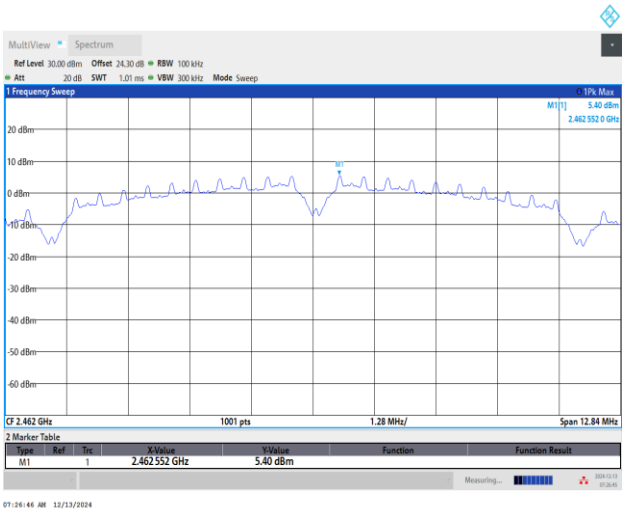
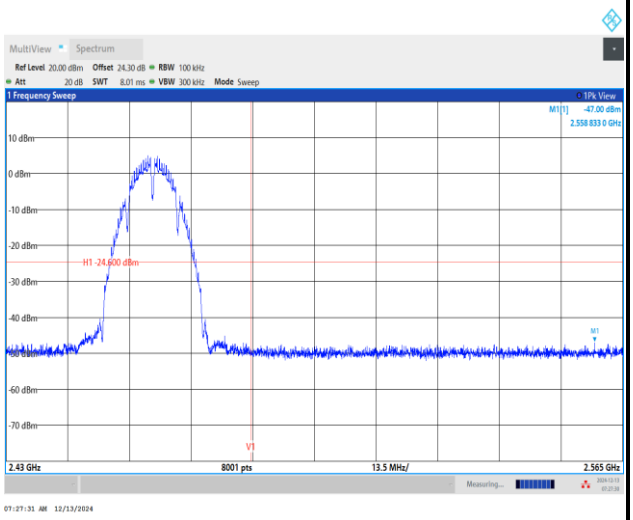
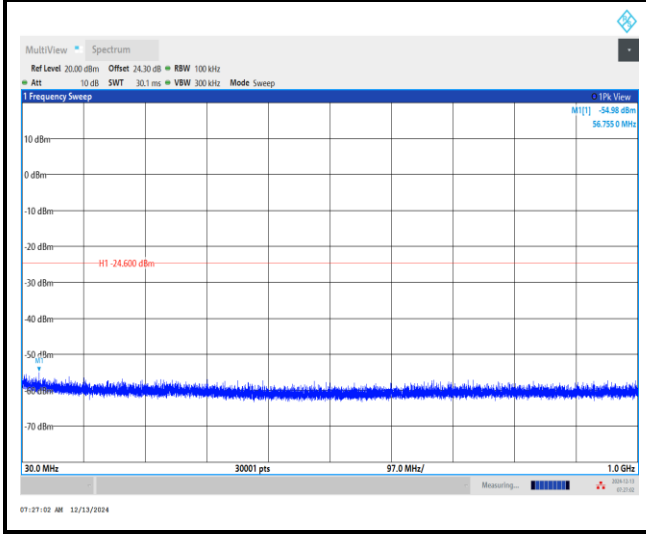
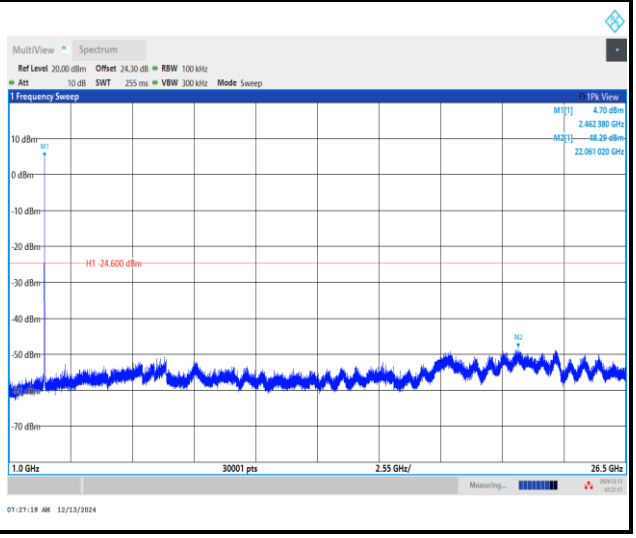
100kHz PSD reference Level	Channel 01 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11b	Test Channel :	06

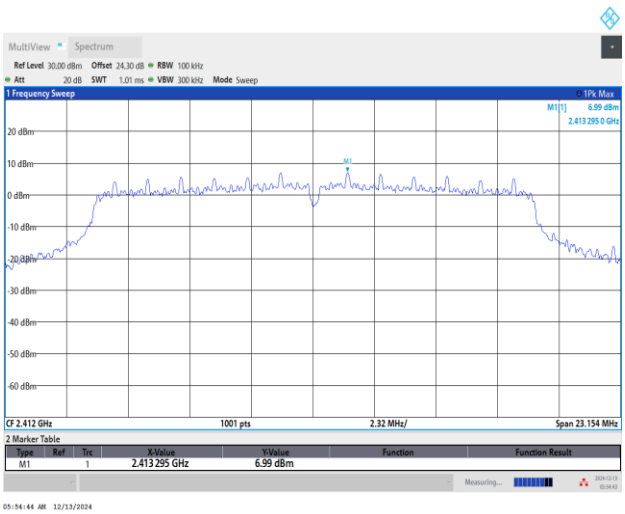
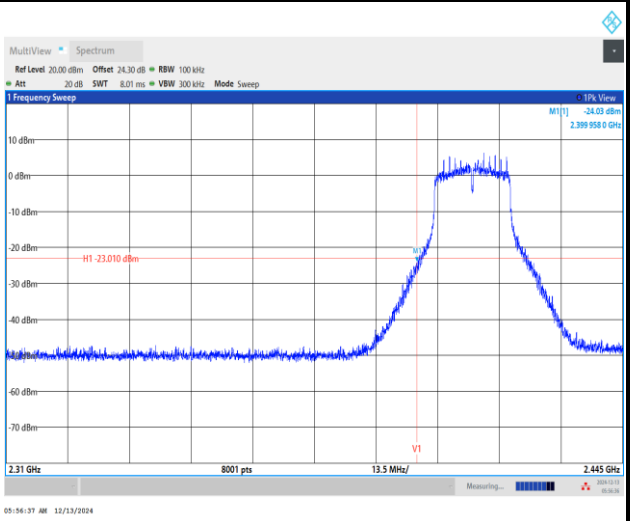
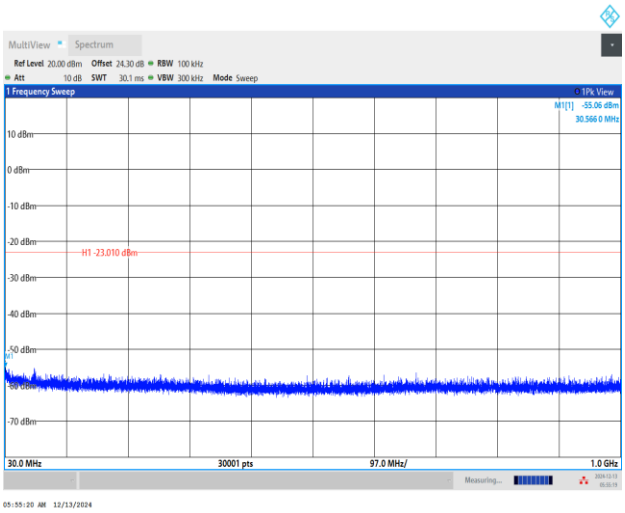
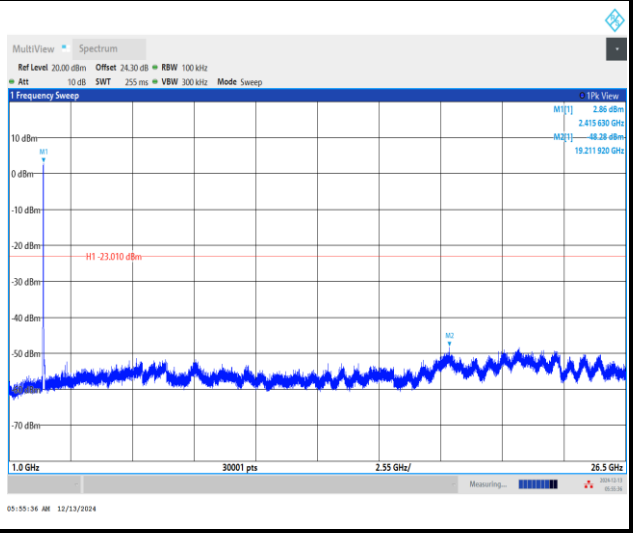
100kHz PSD reference Level	Channel 06 Plot
	

Spurious Emission 30MHz~1GHz	Spurious Emission 1GHz~26.5GHz
	

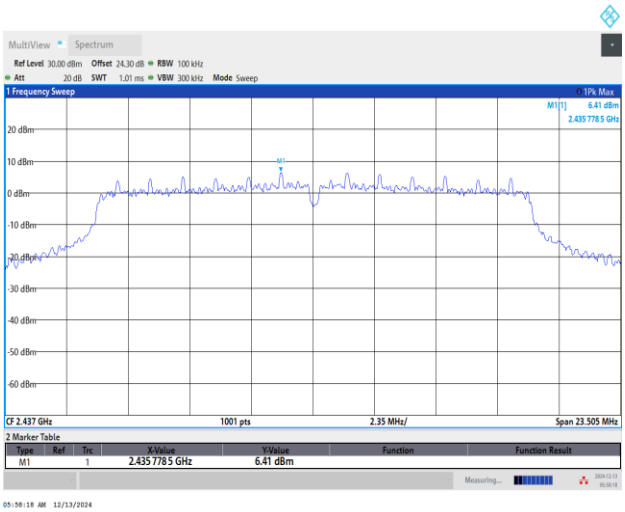
Test Mode :	802.11b	Test Channel :	11

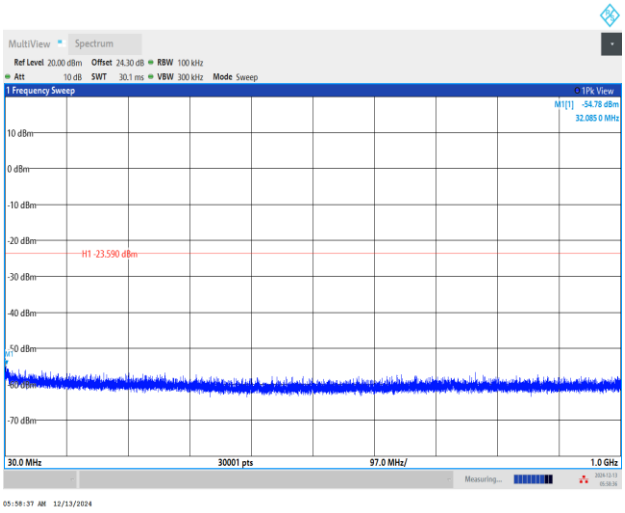
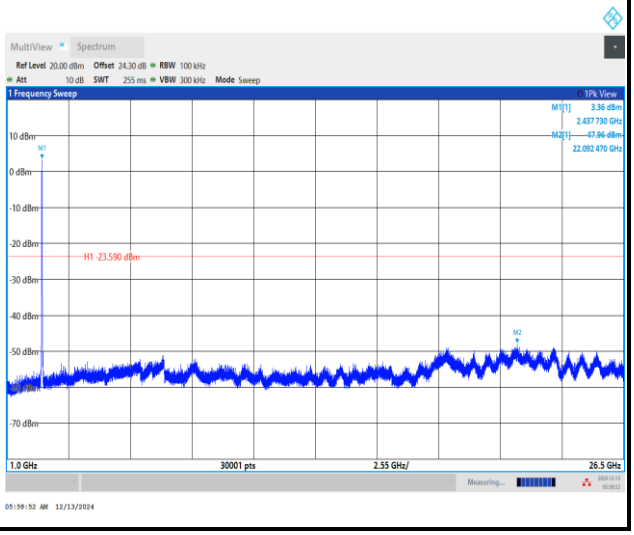
100kHz PSD reference Level	Channel 11 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11g	Test Channel :	01

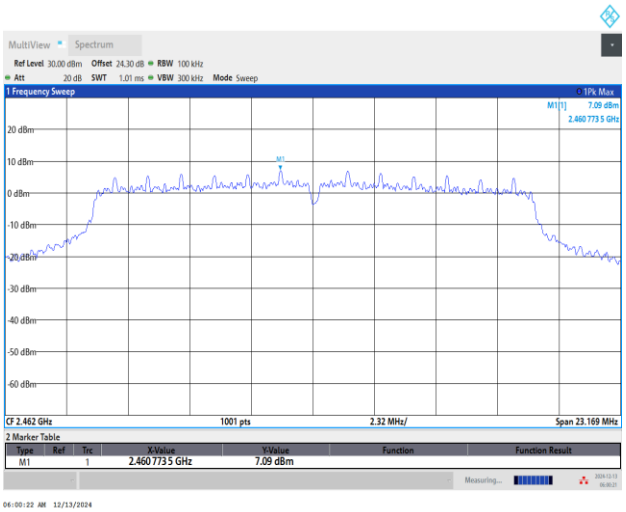
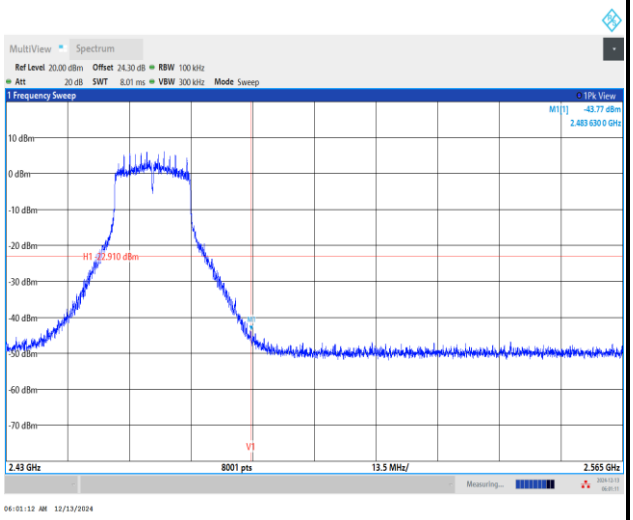
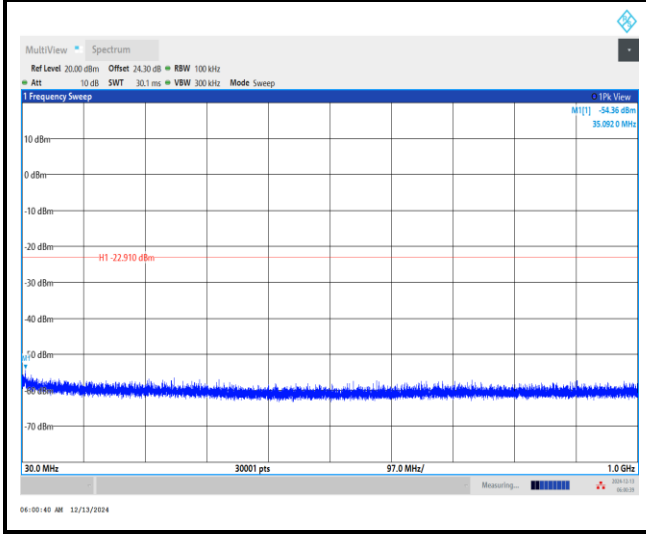
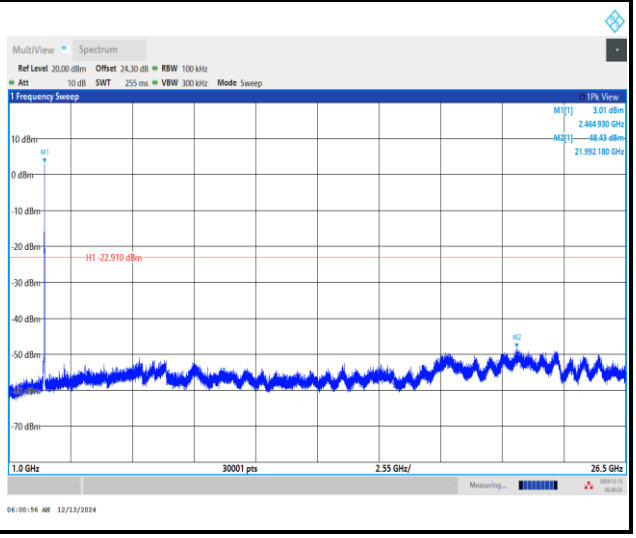
100kHz PSD reference Level	Channel 01 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11g	Test Channel :	06

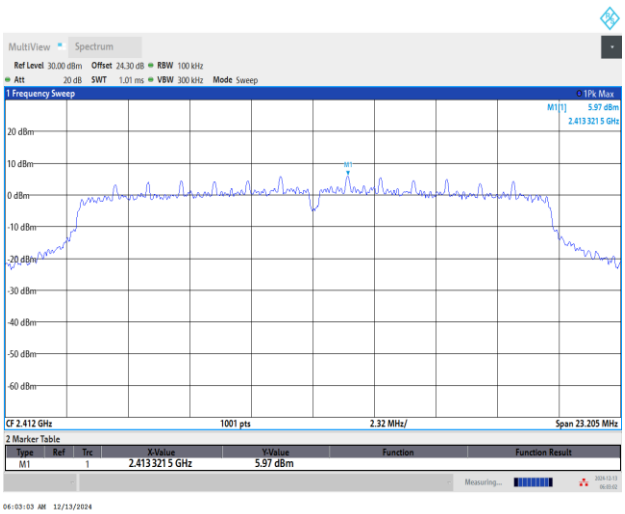
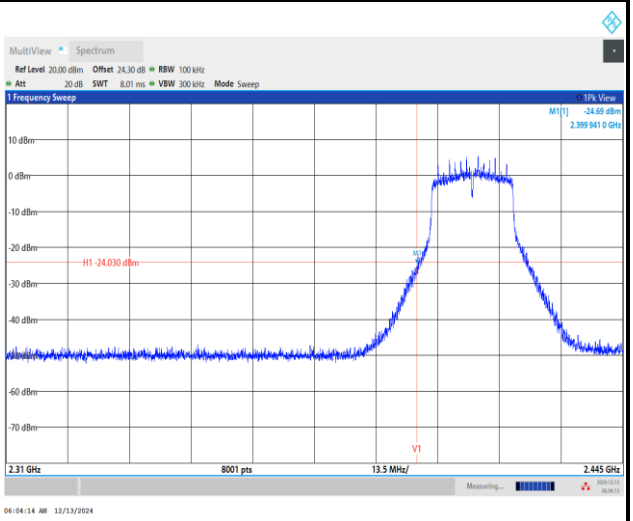
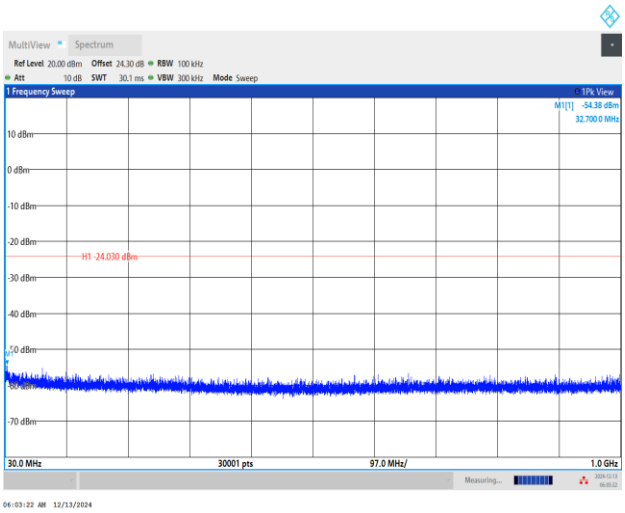
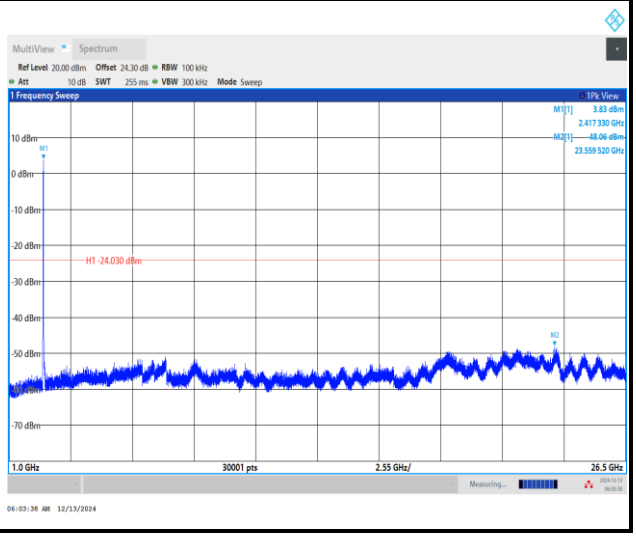
100kHz PSD reference Level	Channel 06 Plot
	

Spurious Emission 30MHz~1GHz	Spurious Emission 1GHz~26.5GHz
	

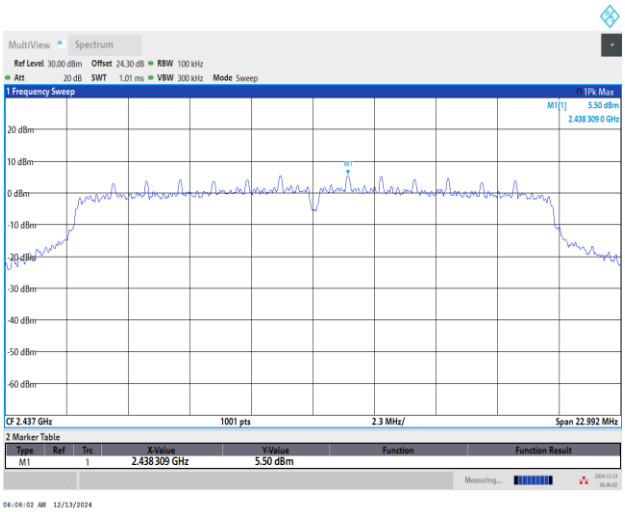
Test Mode :	802.11g	Test Channel :	11

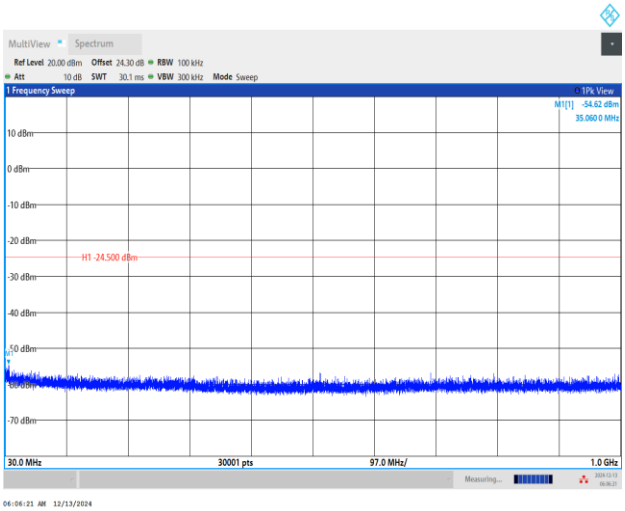
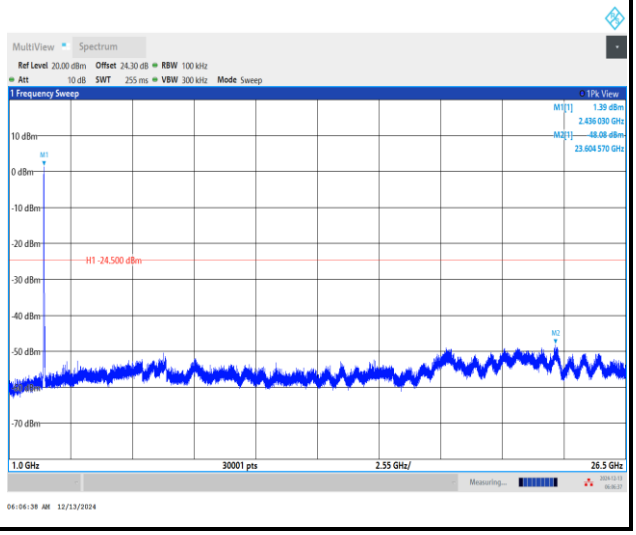
100kHz PSD reference Level	Channel 11 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11n HT20	Test Channel :	01

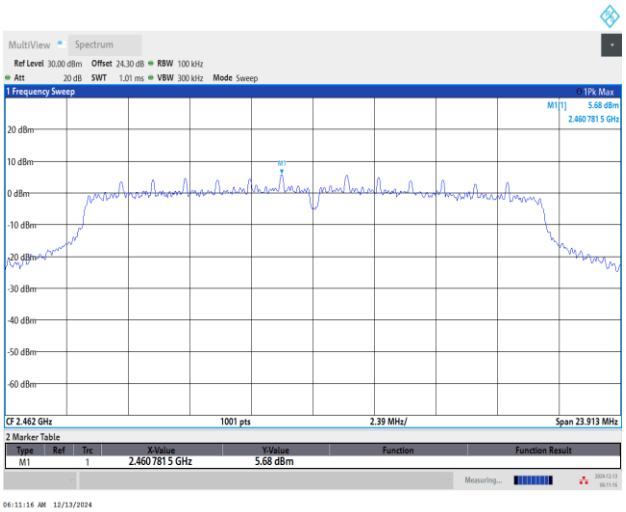
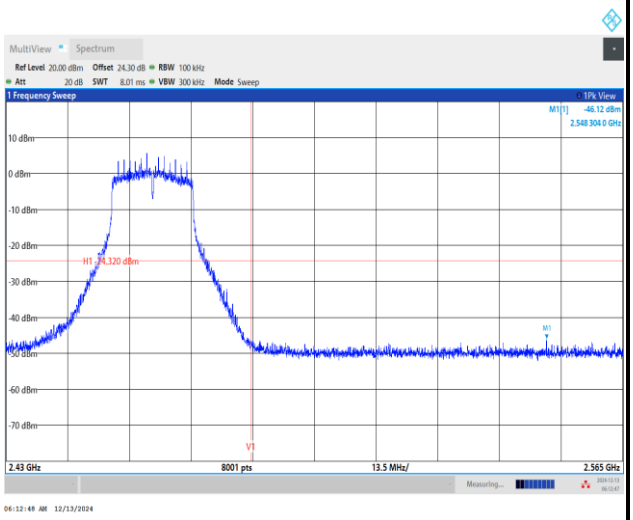
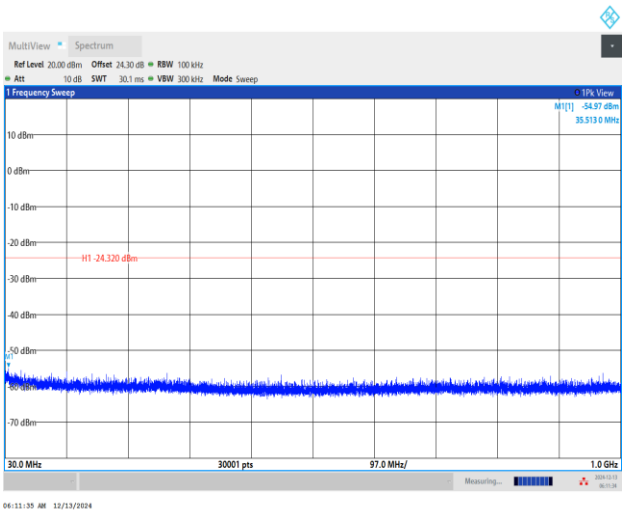
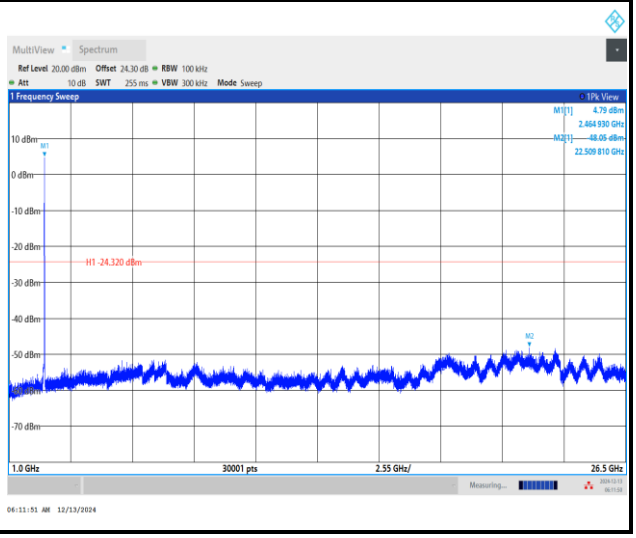
100kHz PSD reference Level	Channel 01 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11n HT20	Test Channel :	06

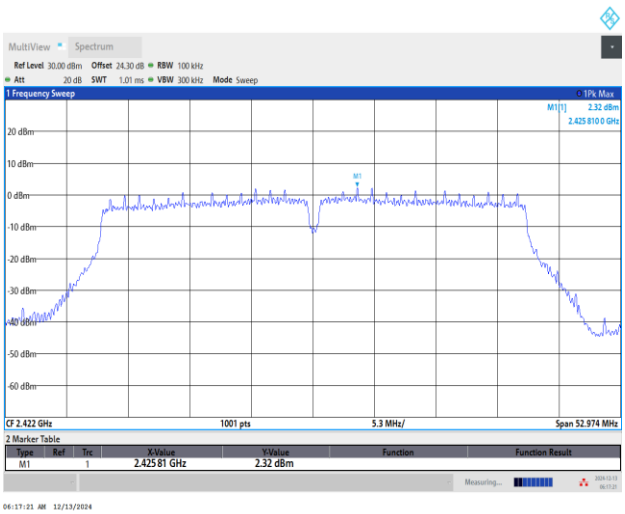
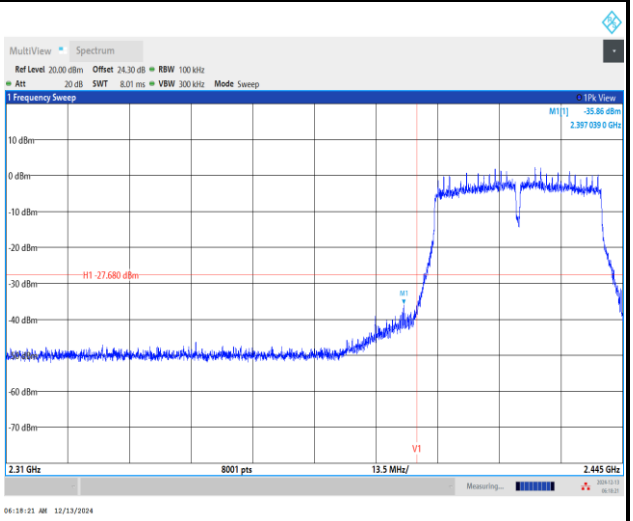
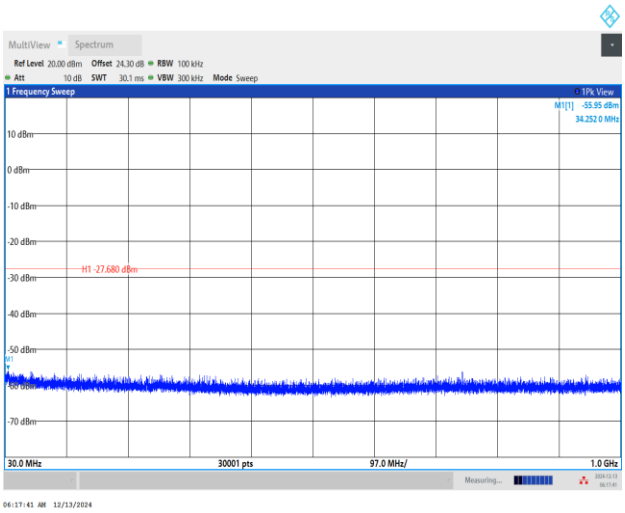
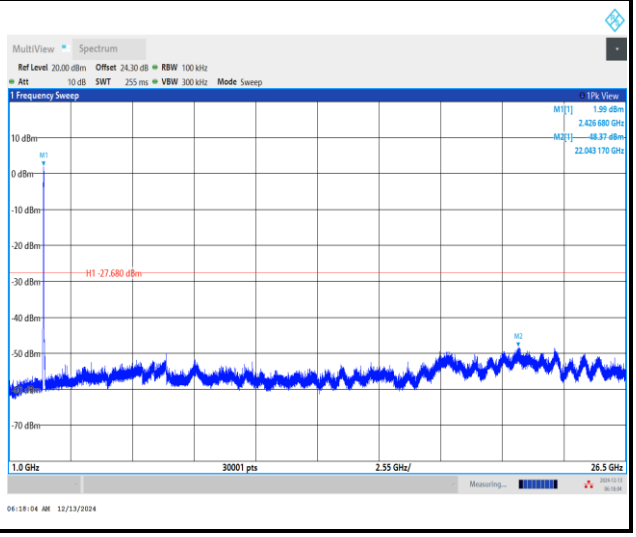
100kHz PSD reference Level	Channel 06 Plot
	

Spurious Emission 30MHz~1GHz	Spurious Emission 1GHz~26.5GHz
	

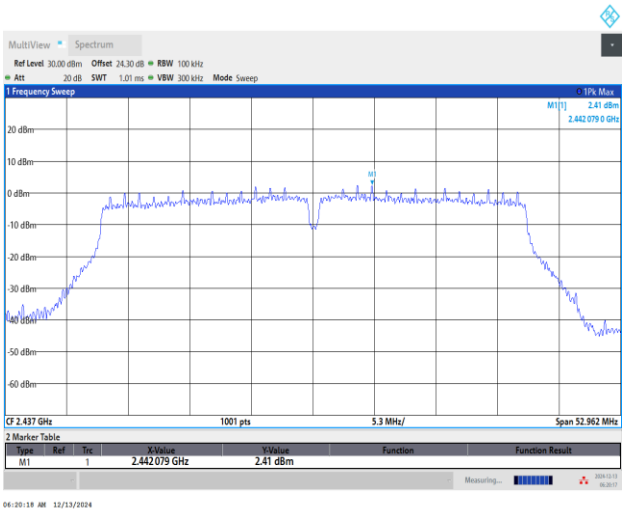
Test Mode :	802.11n HT20	Test Channel :	11

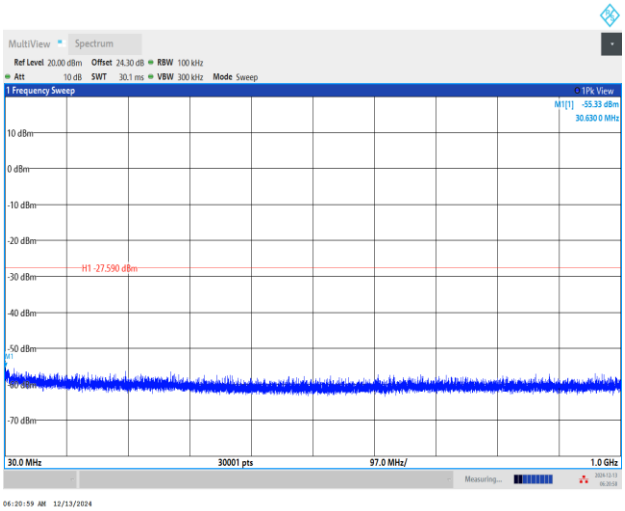
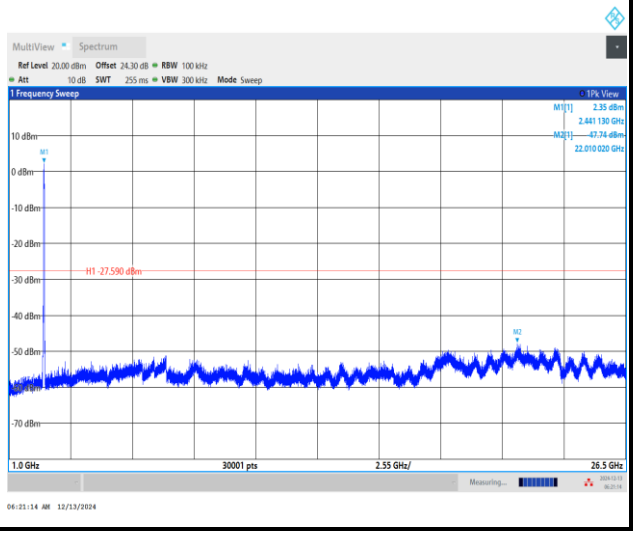
100kHz PSD reference Level	Channel 11 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11n HT40	Test Channel :	03

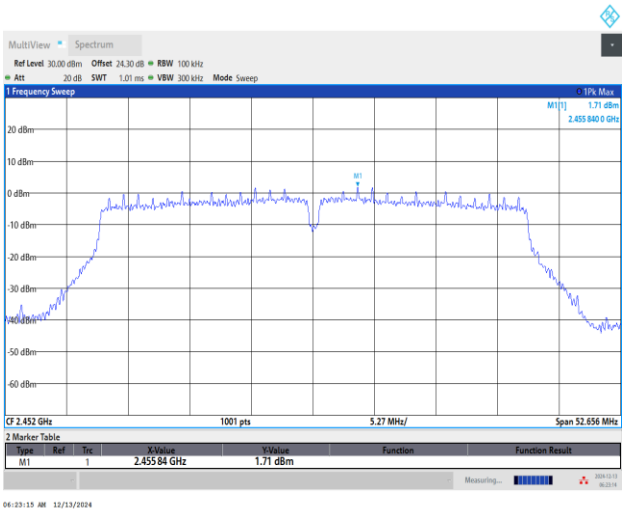
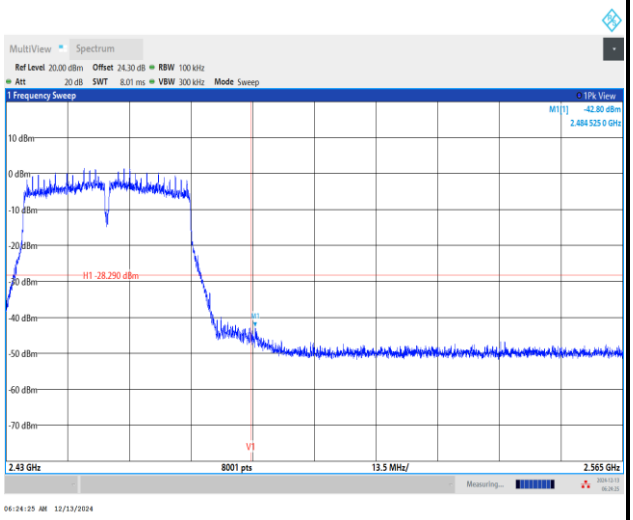
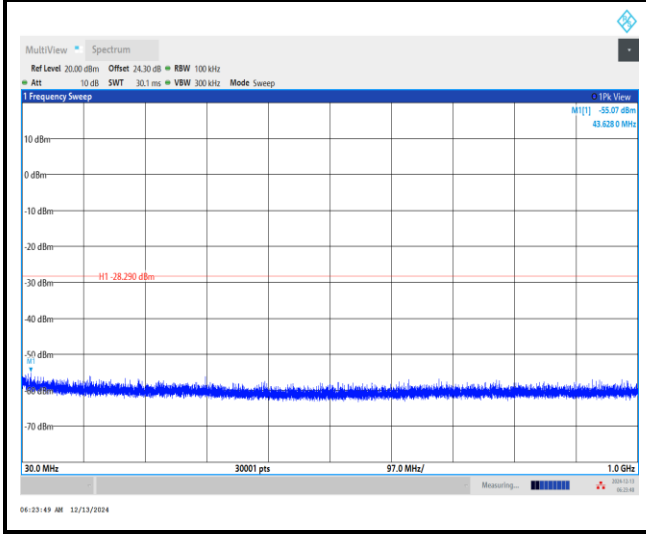
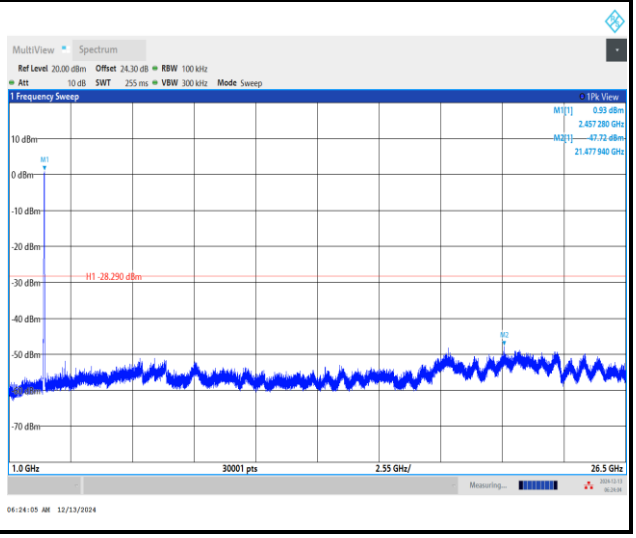
100kHz PSD reference Level	Channel 03 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Test Mode :	802.11n HT40	Test Channel :	06

100kHz PSD reference Level	Channel 06 Plot
	

Spurious Emission 30MHz~1GHz	Spurious Emission 1GHz~26.5GHz
	

Test Mode :	802.11n HT40	Test Channel :	09

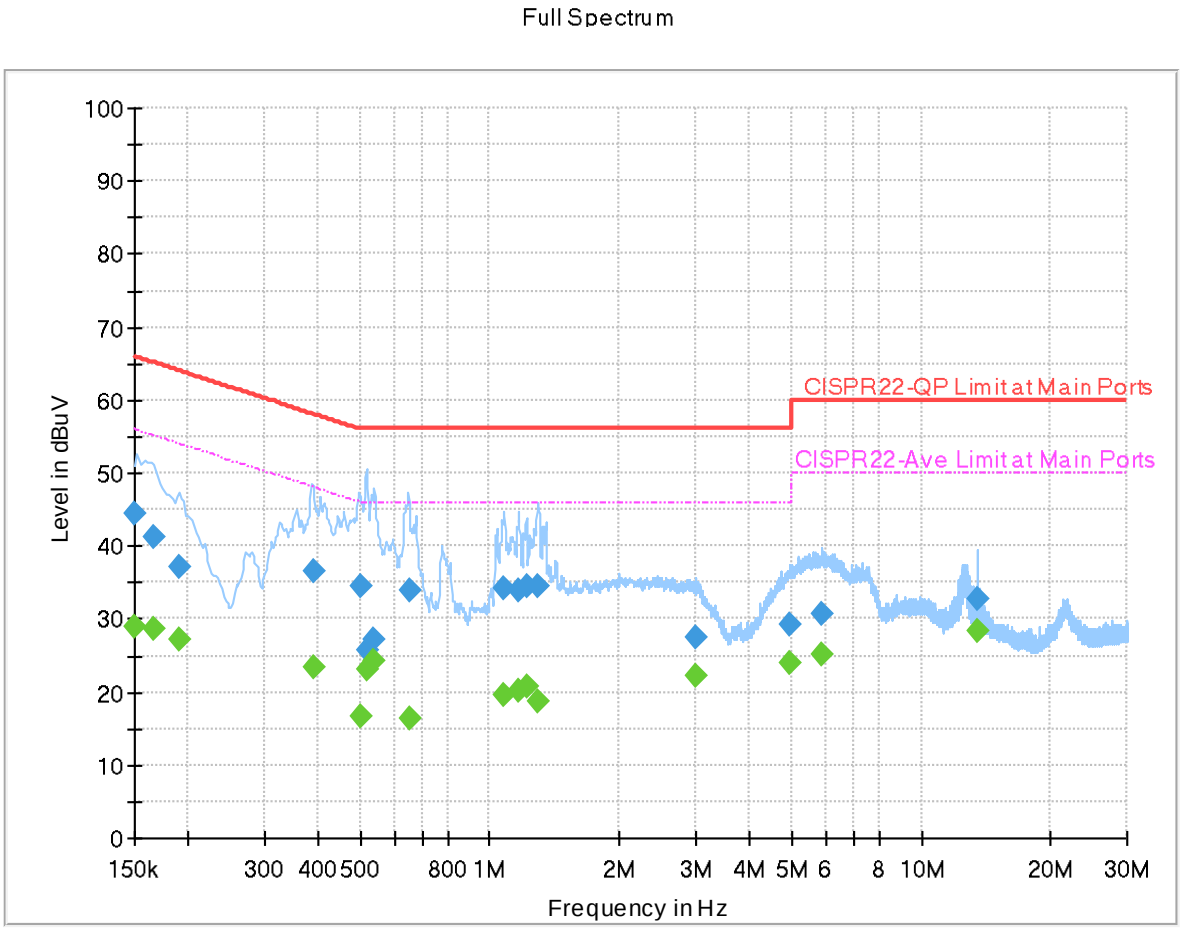
100kHz PSD reference Level	Channel 09 Plot
	
Spurious Emission 30MHz~1GHz	**Spurious Emission 1GHz~26.5GHz**
	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	**Temperature :**	20.2~22.6℃
		Relative Humidity :	41.4~52.8%

EUT Information

Report NO :	491831
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



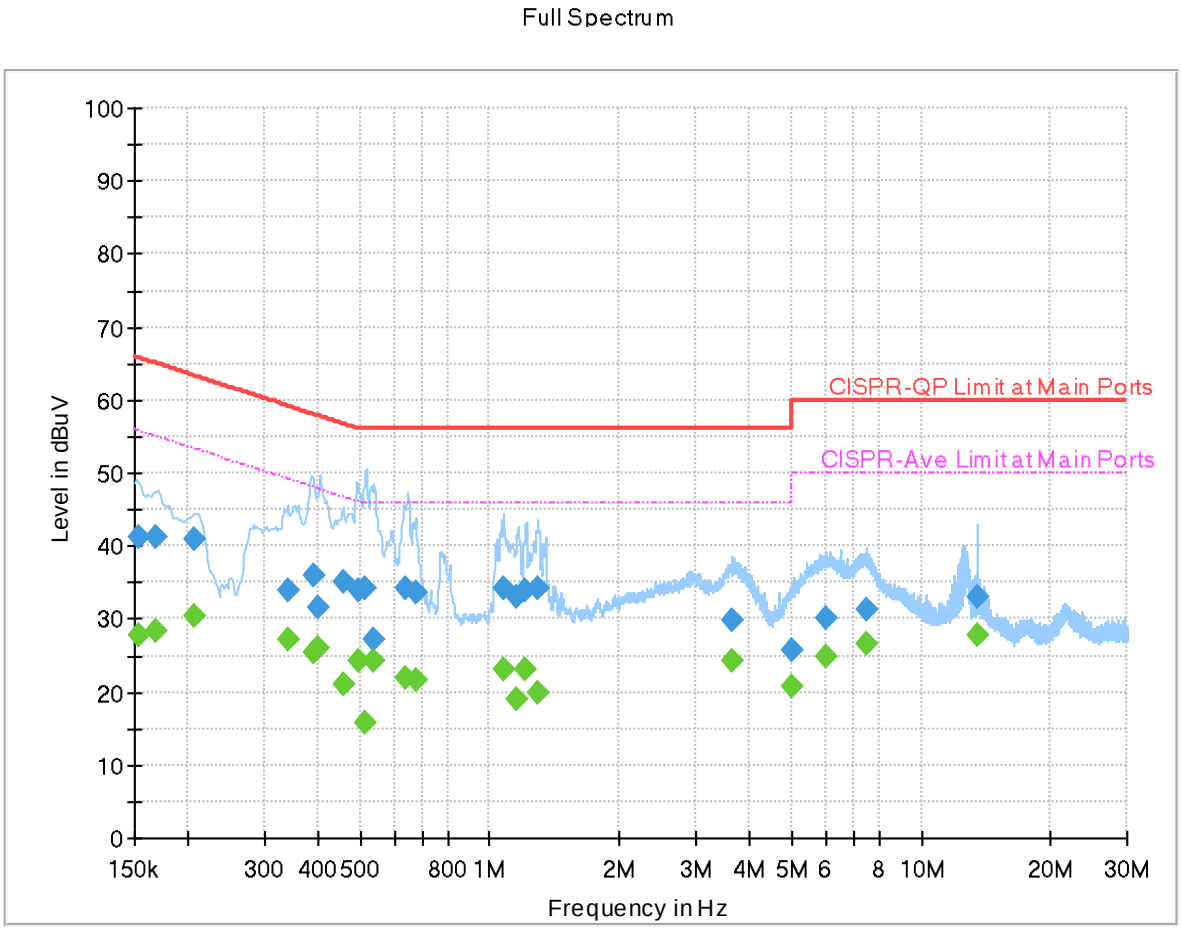
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	PE	Corr. (dB)
0.150000	---	28.82	56.00	27.18	L1	FLO	19.9
0.150000	44.45	---	66.00	21.55	L1	FLO	19.9
0.165750	---	28.67	55.17	26.50	L1	FLO	19.9
0.165750	41.19	---	65.17	23.98	L1	FLO	19.9
0.189600	---	27.32	54.05	26.73	L1	FLO	19.9
0.189600	37.24	---	64.05	26.81	L1	FLO	19.9
0.389850	---	23.44	48.07	24.63	L1	FLO	19.9
0.389850	36.46	---	58.07	21.61	L1	FLO	19.9
0.501000	---	16.64	46.00	29.36	L1	FLO	19.9
0.501000	34.41	---	56.00	21.59	L1	FLO	19.9
0.521250	---	23.19	46.00	22.81	L1	FLO	19.9
0.521250	25.79	---	56.00	30.21	L1	FLO	19.9
0.536910	---	24.23	46.00	21.77	L1	FLO	19.9
0.536910	27.13	---	56.00	28.87	L1	FLO	19.9
0.651300	---	16.33	46.00	29.67	L1	FLO	19.9
0.651300	34.05	---	56.00	21.95	L1	FLO	19.9
1.080150	---	19.73	46.00	26.27	L1	FLO	19.9
1.080150	34.29	---	56.00	21.71	L1	FLO	19.9
1.169250	---	20.24	46.00	25.76	L1	FLO	19.9

1.169250	34.03	---	56.00	21.97	L1	FLO	19.9
1.215870	---	20.86	46.00	25.14	L1	FLO	19.9
1.215870	34.40	---	56.00	21.60	L1	FLO	19.9
1.297500	---	18.59	46.00	27.41	L1	FLO	19.9
1.297500	34.41	---	56.00	21.59	L1	FLO	19.9
3.000570	---	22.10	46.00	23.90	L1	FLO	20.0
3.000570	27.62	---	56.00	28.38	L1	FLO	20.0
4.949970	---	23.99	46.00	22.01	L1	FLO	20.0
4.949970	29.20	---	56.00	26.80	L1	FLO	20.0
5.909550	---	25.18	50.00	24.82	L1	FLO	20.0
5.909550	30.62	---	60.00	29.38	L1	FLO	20.0
13.559460	---	28.44	50.00	21.56	L1	FLO	20.1
13.559460	32.88	---	60.00	27.12	L1	FLO	20.1

EUT Information

Report NO :	491831
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	PE	Corr. (dB)
0.152633	41.14	---	65.86	24.72	N	FLO	20.0
0.152633	---	27.91	55.86	27.95	N	FLO	20.0
0.168450	41.27	---	65.04	23.77	N	FLO	19.9
0.168450	---	28.23	55.04	26.81	N	FLO	19.9
0.206970	40.82	---	63.33	22.51	N	FLO	19.9
0.206970	---	30.47	53.33	22.86	N	FLO	19.9
0.342510	33.81	---	59.14	25.33	N	FLO	19.9
0.342510	---	27.13	49.14	22.01	N	FLO	19.9
0.390750	36.06	---	58.05	21.99	N	FLO	19.9
0.390750	---	25.58	48.05	22.47	N	FLO	19.9
0.401910	31.70	---	57.81	26.11	N	FLO	19.9
0.401910	---	25.89	47.81	21.92	N	FLO	19.9
0.458160	34.97	---	56.73	21.76	N	FLO	19.9
0.458160	---	21.02	46.73	25.71	N	FLO	19.9
0.495690	34.02	---	56.07	22.05	N	FLO	19.9
0.495690	---	24.29	46.07	21.78	N	FLO	19.9
0.513690	34.19	---	56.00	21.81	N	FLO	19.9
0.513690	---	15.71	46.00	30.29	N	FLO	19.9
0.535830	27.09	---	56.00	28.91	N	FLO	19.9

0.535830	---	24.32	46.00	21.68	N	FLO	19.9
0.640770	34.13	---	56.00	21.87	N	FLO	19.9
0.640770	---	21.92	46.00	24.08	N	FLO	19.9
0.674970	33.59	---	56.00	22.41	N	FLO	19.9
0.674970	---	21.59	46.00	24.41	N	FLO	19.9
1.076820	34.11	---	56.00	21.89	N	FLO	20.0
1.076820	---	23.11	46.00	22.89	N	FLO	20.0
1.155750	33.07	---	56.00	22.93	N	FLO	20.0
1.155750	---	19.01	46.00	26.99	N	FLO	20.0
1.210920	34.05	---	56.00	21.95	N	FLO	20.0
1.210920	---	22.96	46.00	23.04	N	FLO	20.0
1.294260	34.17	---	56.00	21.83	N	FLO	20.0
1.294260	---	19.77	46.00	26.23	N	FLO	20.0
3.664500	29.76	---	56.00	26.24	N	FLO	20.0
3.664500	---	24.34	46.00	21.66	N	FLO	20.0
4.991010	25.61	---	56.00	30.39	N	FLO	20.0
4.991010	---	20.86	46.00	25.14	N	FLO	20.0
6.034380	30.23	---	60.00	29.77	N	FLO	20.0
6.034380	---	24.79	50.00	25.21	N	FLO	20.0
7.501560	31.36	---	60.00	28.64	N	FLO	20.1
7.501560	---	26.58	50.00	23.42	N	FLO	20.1
13.560540	32.99	---	60.00	27.01	N	FLO	20.1
13.560540	---	27.84	50.00	22.16	N	FLO	20.1

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	Daniel Lee, Fu Chen, and Troye Hsieh	**Temperature:**	19.2~20.6℃
		Relative Humidity:	51.8~65.6%

Note symbol

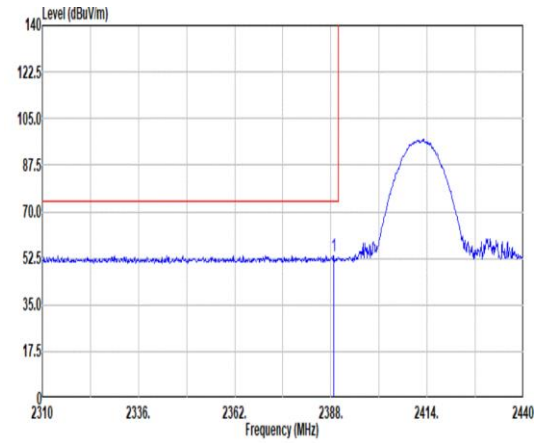
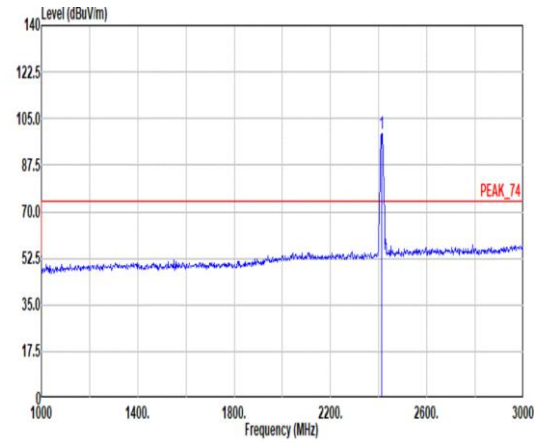
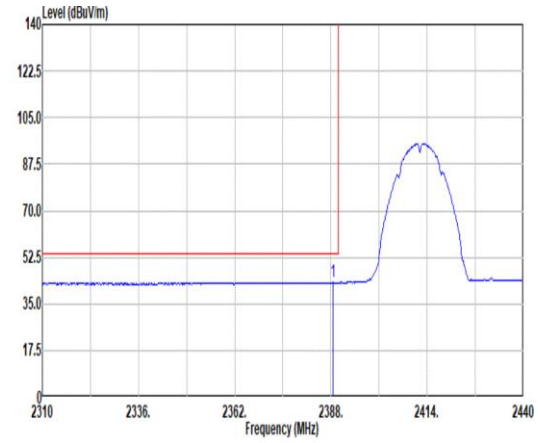
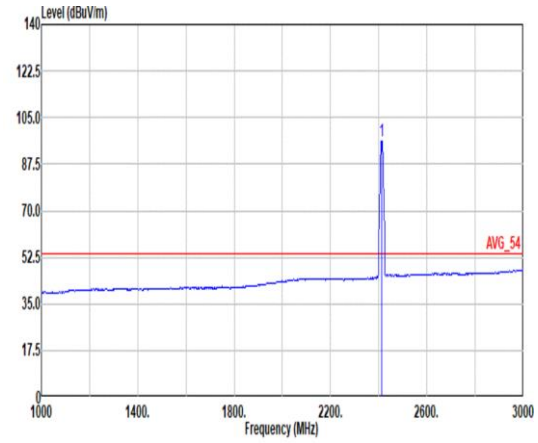
-L	**Low channel location**
-R	**High channel location**

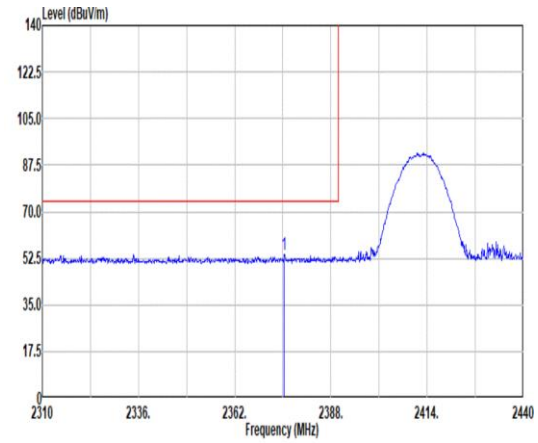
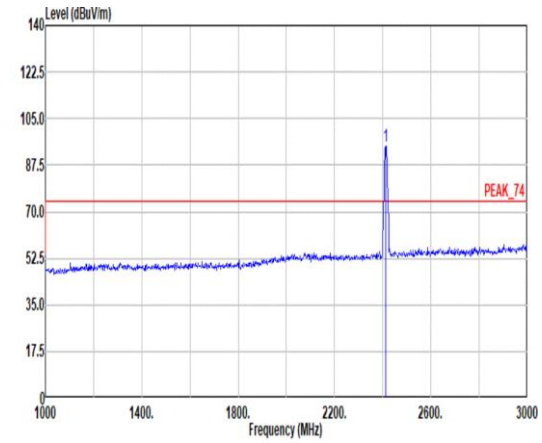
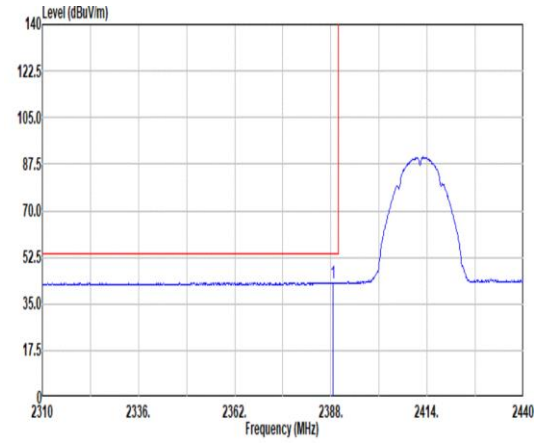
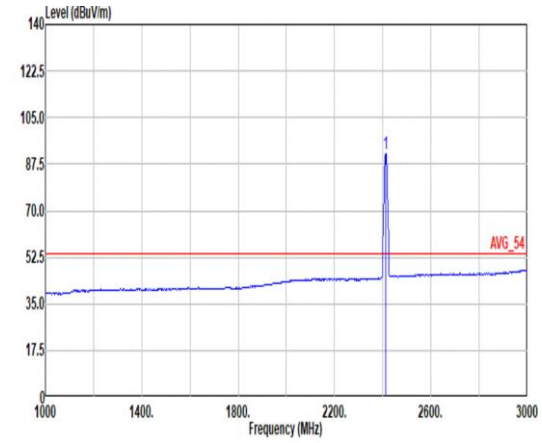
C1. Radiated Spurious Emission Test Modes

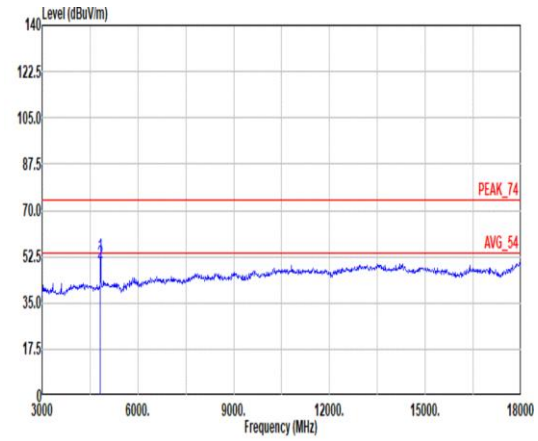
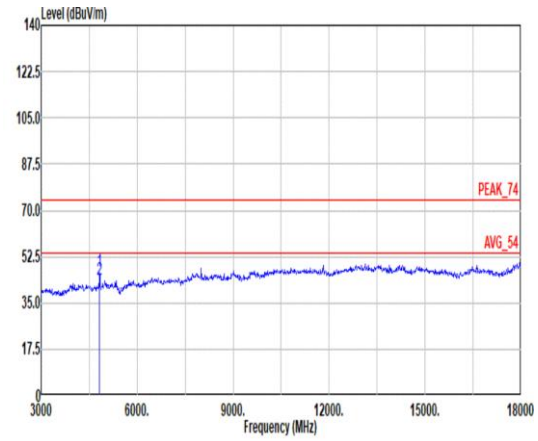
Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 7	2400-2483.5	1	802.11b	01	2412	1Mbps	-	-
Mode 8	2400-2483.5	1	802.11b	06	2437	1Mbps	-	-
Mode 9	2400-2483.5	1	802.11b	11	2462	1Mbps	-	-
Mode 10	2400-2483.5	1	802.11g	01	2412	6Mbps	-	-
Mode 11	2400-2483.5	1	802.11g	06	2437	6Mbps	-	-
Mode 12	2400-2483.5	1	802.11g	11	2462	6Mbps	-	-
Mode 13	2400-2483.5	1	802.11n HT20	01	2412	MCS0	-	-
Mode 14	2400-2483.5	1	802.11n HT20	06	2437	MCS0	-	-
Mode 15	2400-2483.5	1	802.11n HT20	11	2462	MCS0	-	-
Mode 16	2400-2483.5	1	802.11n HT40	03	2422	MCS0	-	-
Mode 17	2400-2483.5	1	802.11n HT40	06	2437	MCS0	-	-
Mode 18	2400-2483.5	1	802.11n HT40	09	2452	MCS0	-	-
Mode 23	2400-2483.5	1	802.11b	01	2462	1Mbps	-	SHF
Mode 24	2400-2483.5	1	802.11b	01	2462	1Mbps	-	LF

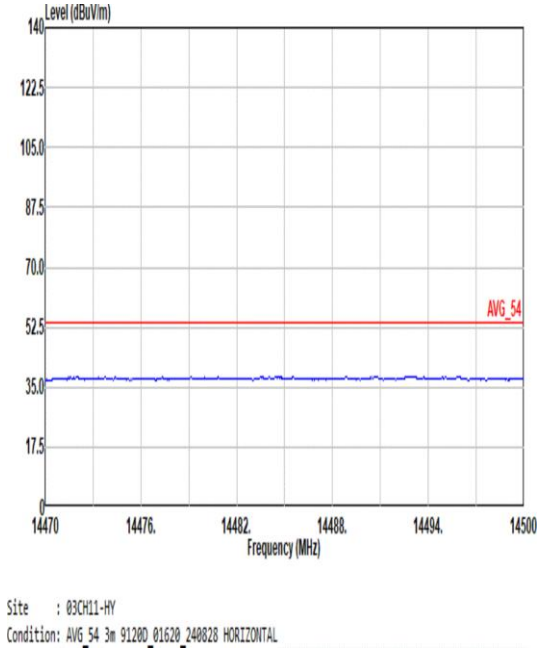
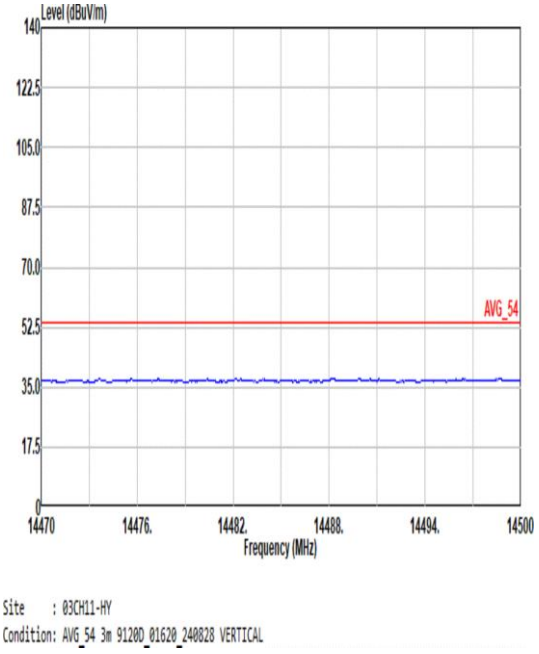
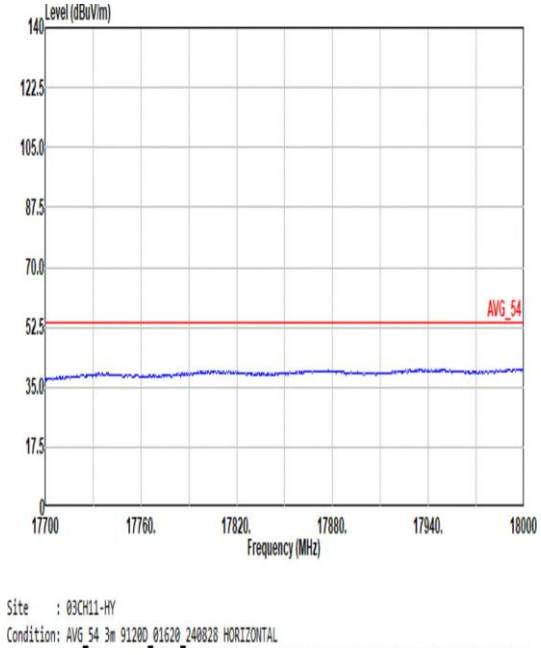
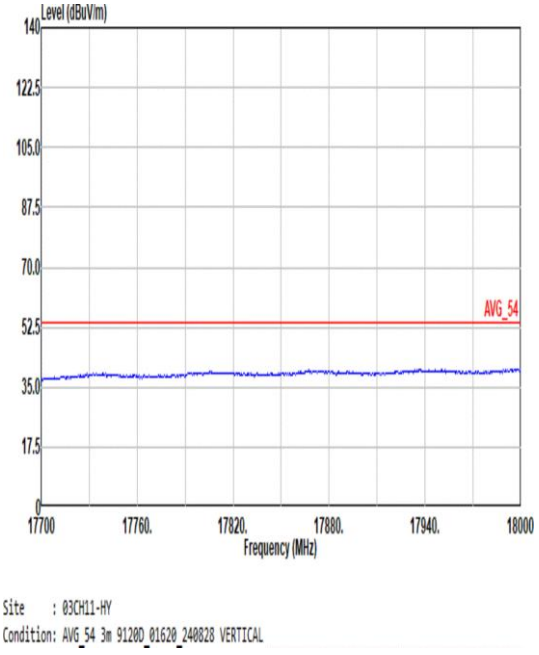
C2. Summary of each worse mode

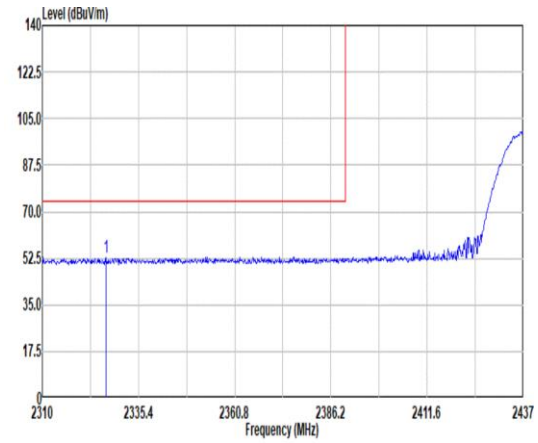
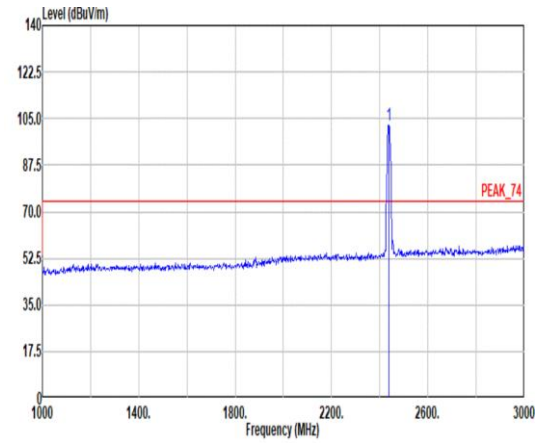
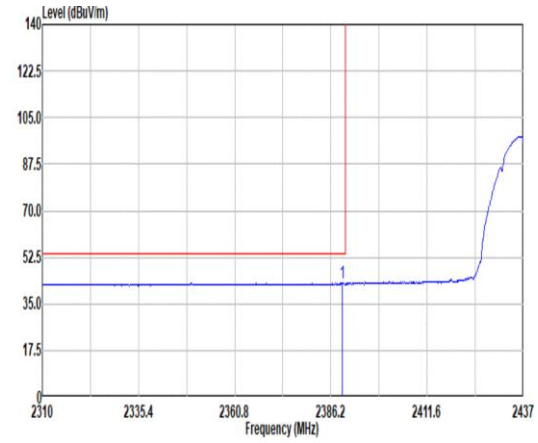
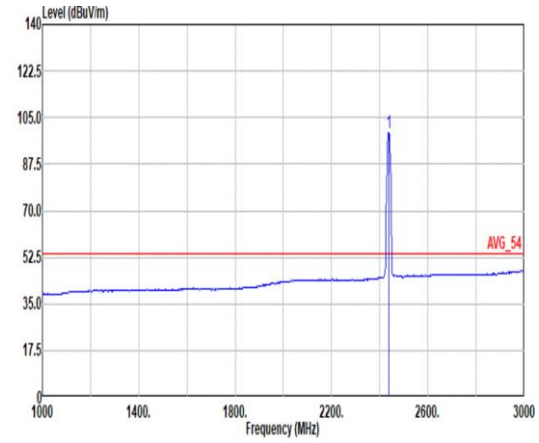
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
7	802.11b	01	2388.52	43.16	54.00	-10.84	H	Avg.	Pass	-	Band Edge
	802.11b	01	4824.00	50.40	54.00	-3.60	H	Avg.	Pass	-	Harmonic
8	802.11b	06	2484.31	43.69	54.00	-10.31	V	Avg.	Pass	-	Band Edge
	802.11b	06	4874.00	49.98	54.00	-4.02	H	Avg.	Pass	-	Harmonic
9	802.11b	11	2484.42	44.11	54.00	-9.89	V	Avg.	Pass	-	Band Edge
	802.11b	11	4924.00	50.99	54.00	-3.01	V	Avg.	Pass	-	Harmonic
10	802.11g	01	2389.95	44.58	54.00	-9.42	H	Avg.	Pass	-	Band Edge
	802.11g	01	4824.00	44.04	54.00	-9.96	H	Avg.	Pass	-	Harmonic
11	802.11g	06	2483.56	43.24	54.00	-10.76	V	Avg.	Pass	-	Band Edge
	802.11g	06	4874.00	43.28	54.00	-10.72	H	Avg.	Pass	-	Harmonic
12	802.11g	11	2483.51	47.14	54.00	-6.86	H	Avg.	Pass	-	Band Edge
	802.11g	11	4924.00	41.81	54.00	-12.19	H	Avg.	Pass	-	Harmonic
13	802.11n HT20	01	2389.95	44.78	54.00	-9.22	H	Avg.	Pass	-	Band Edge
	802.11n HT20	01	4824.00	42.32	54.00	-11.68	H	Avg.	Pass	-	Harmonic
14	802.11n HT20	06	2483.62	43.58	54.00	-10.42	H	Avg.	Pass	-	Band Edge
	802.11n HT20	06	4874.00	41.31	54.00	-12.69	H	Avg.	Pass	-	Harmonic
15	802.11n HT20	11	2483.51	47.15	54.00	-6.85	H	Avg.	Pass	-	Band Edge
	802.11n HT20	11	4924.00	40.12	54.00	-13.88	H	Avg.	Pass	-	Harmonic
16	802.11n HT40	03	2389.97	47.61	54.00	-6.39	H	Avg.	Pass	-	Band Edge
	802.11n HT40	03	4844.00	39.39	54.00	-14.61	H	Avg.	Pass	-	Harmonic
17	802.11n HT40	06	2483.68	46.74	54.00	-7.26	V	Avg.	Pass	-	Band Edge
	802.11n HT40	06	4874.00	40.35	54.00	-13.65	H	Avg.	Pass	-	Harmonic
18	802.11n HT40	09	2483.58	49.66	54.00	-4.34	H	Avg.	Pass	-	Band Edge
	802.11n HT40	09	4904.00	37.75	54.00	-16.25	V	Avg.	Pass	-	Harmonic
23	SHF	01	25691.02	41.80	74.00	-32.20	V	Peak	Pass	-	SHF
24	LF	01	60.07	33.52	40.00	-6.48	V	Peak	Pass	-	LF

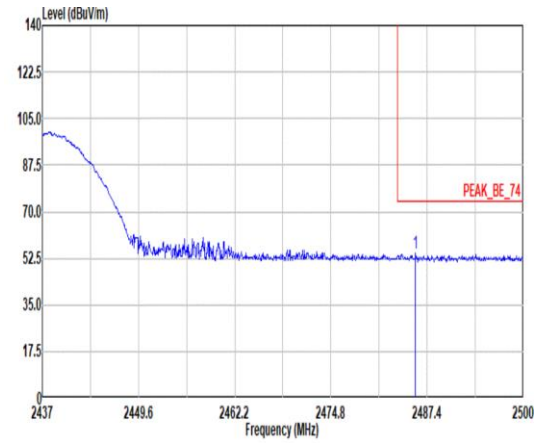
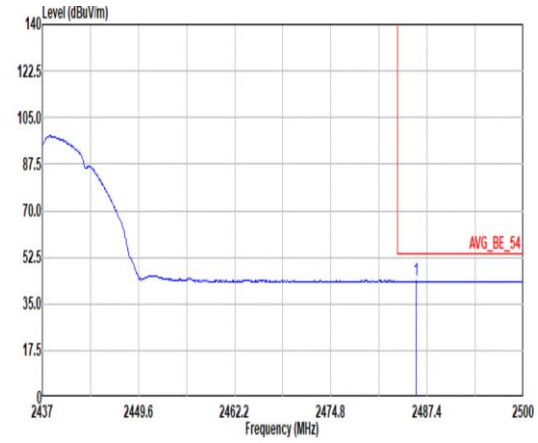
Mode	7	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2388.78 53.50 74.00 -20.50 42.74 27.29 6.78 33.34 10.03 100 2 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 99.44 ------ ------ 88.50 27.42 6.81 33.32 10.03 100 2 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2388.52 43.16 54.00 -10.84 32.40 27.29 6.78 33.34 10.03 100 2 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 96.36 ------ ------ 85.40 27.44 6.81 33.32 10.03 100 2 AVERAGE

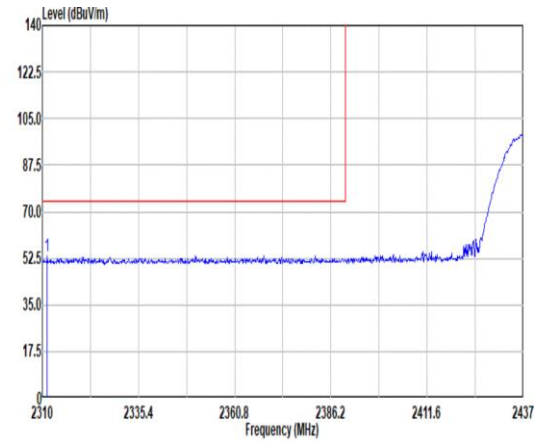
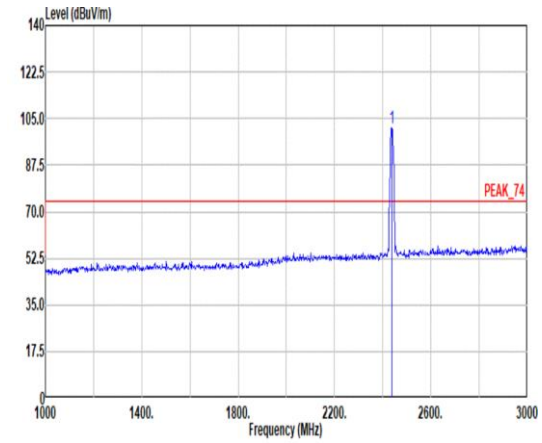
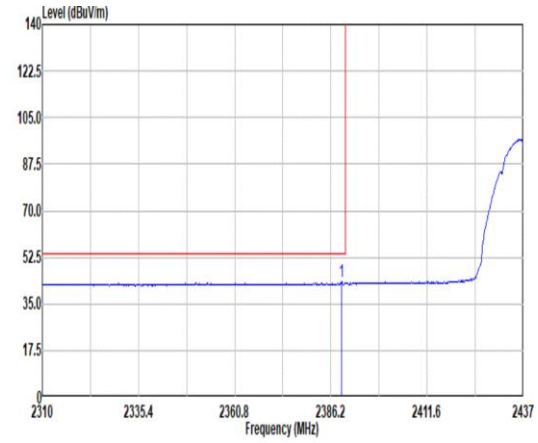
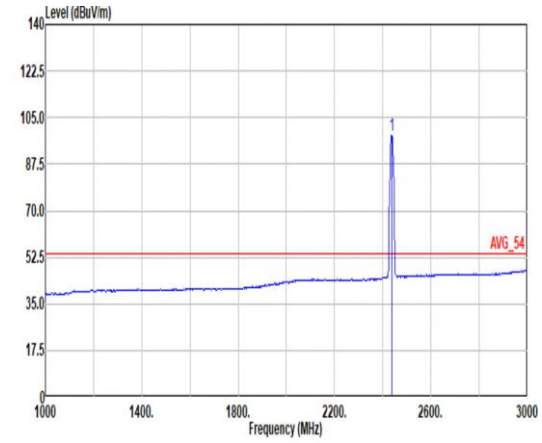
Mode	7	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2375.39 53.74 74.00 -20.26 43.10 27.20 6.77 33.35 10.02 300 273 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 94.39 ------ ------ 83.45 27.42 6.81 33.32 10.03 300 273 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2388.52 42.97 54.00 -11.03 32.21 27.29 6.78 33.34 10.03 300 273 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2412.00 91.29 ------ ------ 80.33 27.44 6.81 33.32 10.03 300 273 AVERAGE

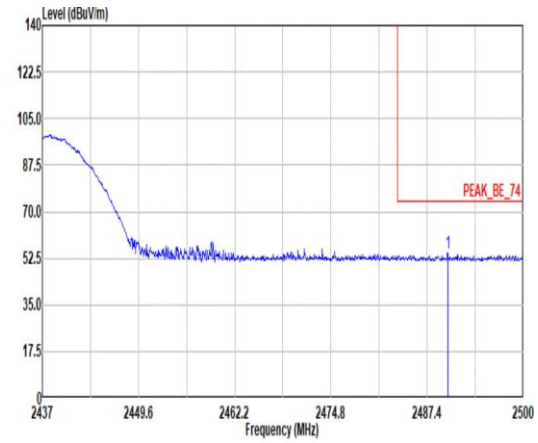
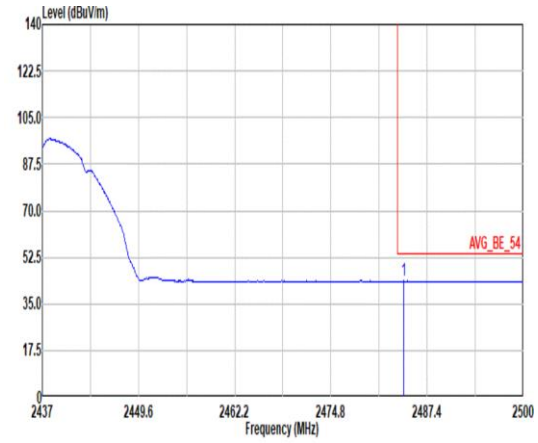
Mode	7	
	Harmonic	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4824.00 53.04 74.00 -20.96 67.27 32.44 11.36 58.54 0.51 100 308 Peak 2 4824.00 50.40 54.00 -3.60 64.63 32.44 11.36 58.54 0.51 100 308 Average	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4824.00 47.23 74.00 -26.77 61.46 32.44 11.36 58.54 0.51 250 271 Peak 2 4824.00 43.88 54.00 -10.12 58.11 32.44 11.36 58.54 0.51 250 271 Average

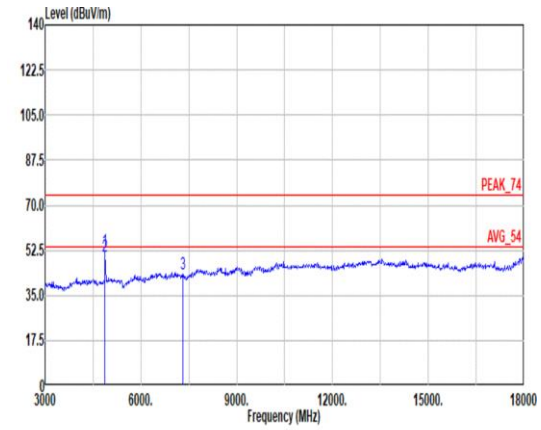
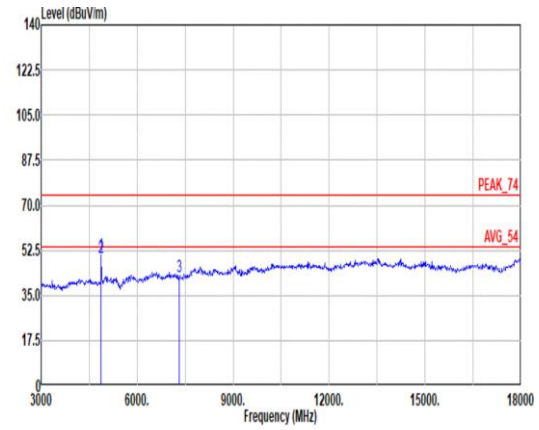
Mode	7	
	Harmonic	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	1	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

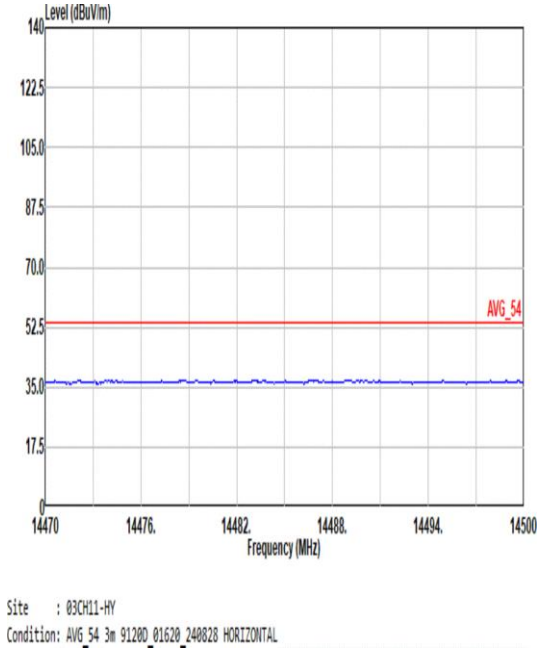
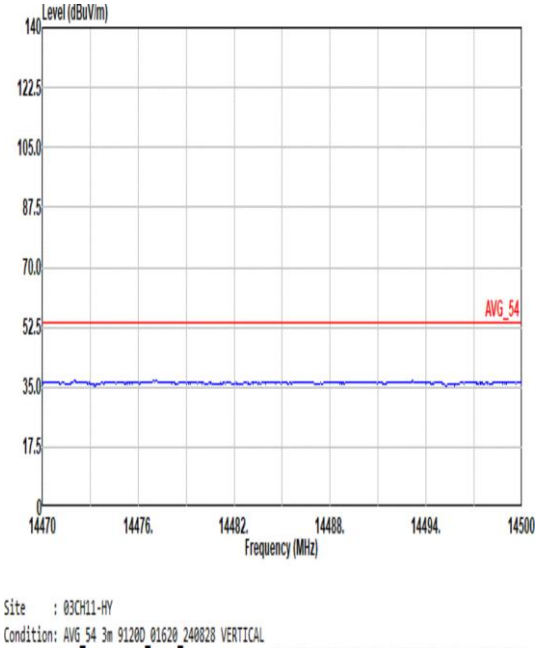
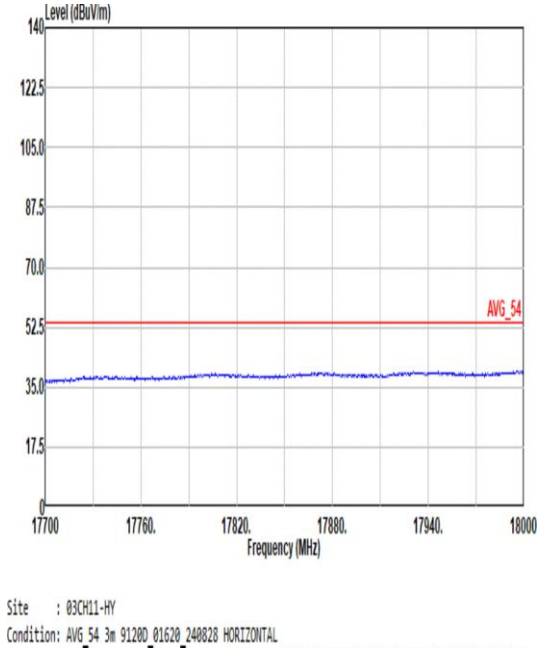
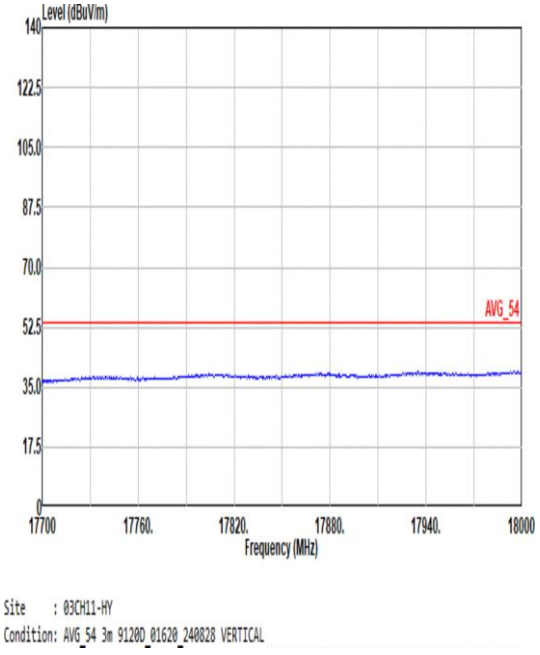
Mode	8	
	Band Edge - L	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2326.76 53.02 74.00 -20.98 42.52 27.13 6.74 33.38 10.01 100 13 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2437.00 102.41 ------ ------ 91.25 27.60 6.84 33.31 10.03 100 13 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.25 42.86 54.00 -11.14 32.10 27.29 6.78 33.34 10.03 100 13 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2437.00 99.24 ------ ------ 88.07 27.60 6.85 33.31 10.03 100 13 AVERAGE

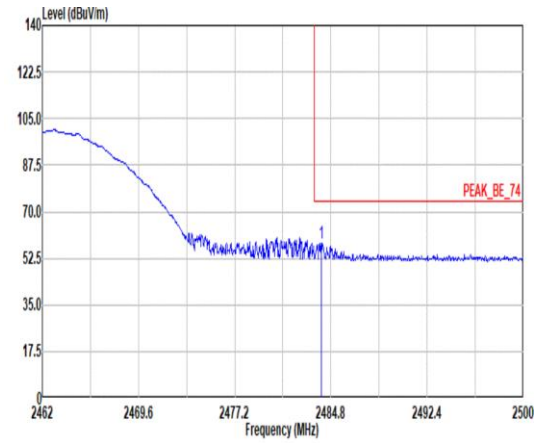
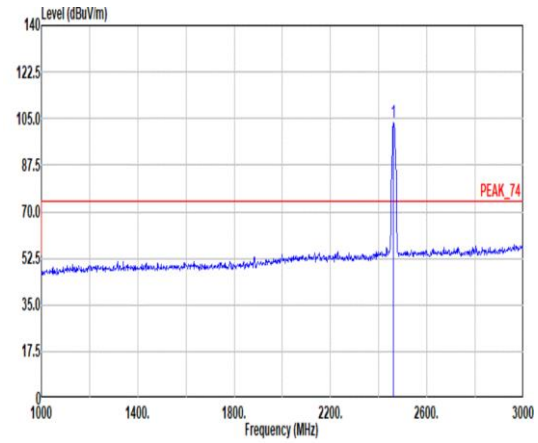
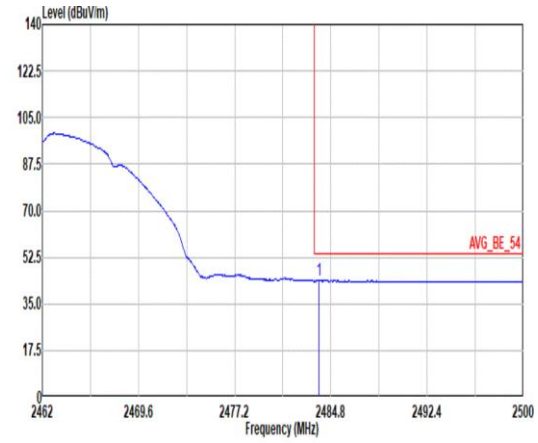
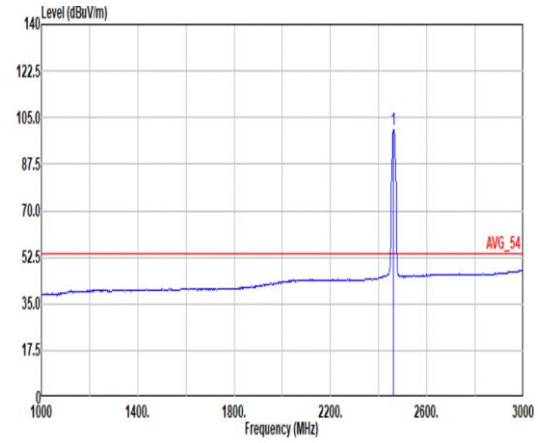
Mode	8	
	Band Edge - R	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2485.89 54.28 74.00 -19.72 42.76 27.86 6.91 33.28 10.03 100 13 PEAK	Blank
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2485.95 43.60 54.00 -10.40 32.08 27.86 6.91 33.28 10.03 100 13 AVERAGE	Blank

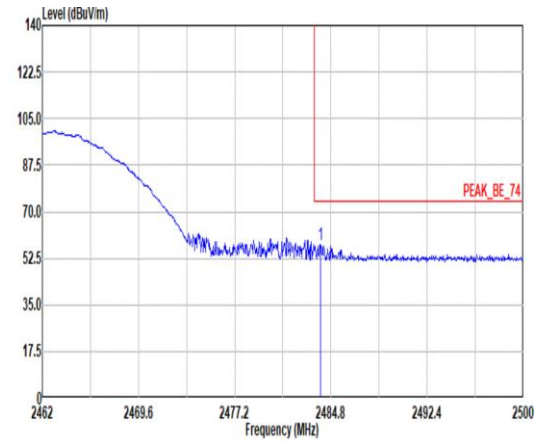
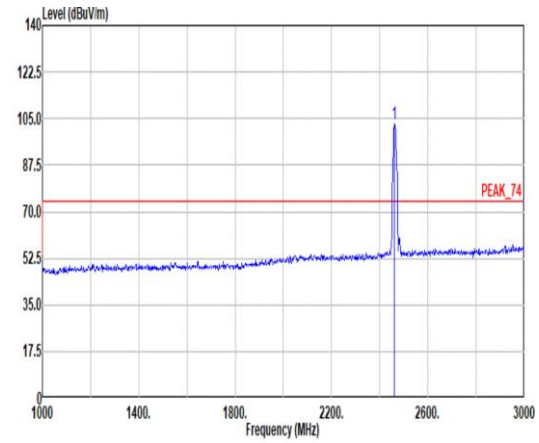
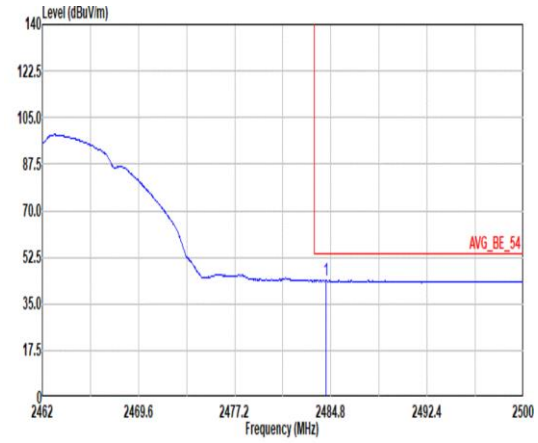
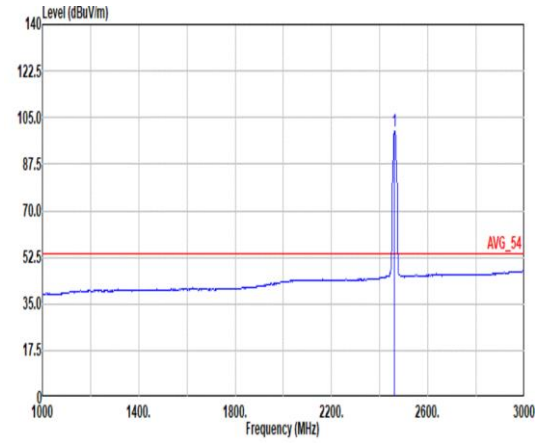
Mode	8	
	Band Edge - L	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2311.27 53.32 74.00 -20.68 42.78 27.20 6.72 33.39 10.01 305 101 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2437.00 101.36 ------ ------ 90.20 27.60 6.84 33.31 10.03 305 101 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2388.99 43.25 54.00 -10.75 32.49 27.29 6.78 33.34 10.03 305 101 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2437.00 98.17 ------ ------ 87.00 27.60 6.85 33.31 10.03 305 101 AVERAGE

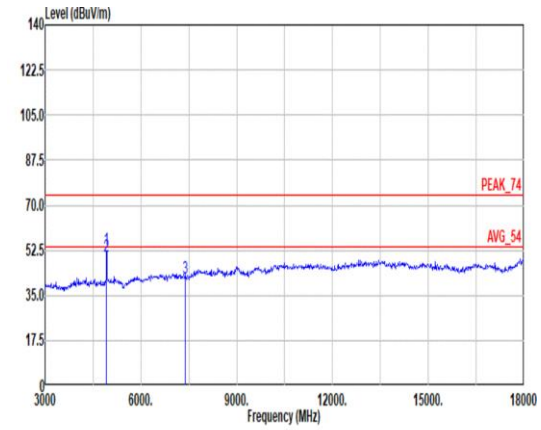
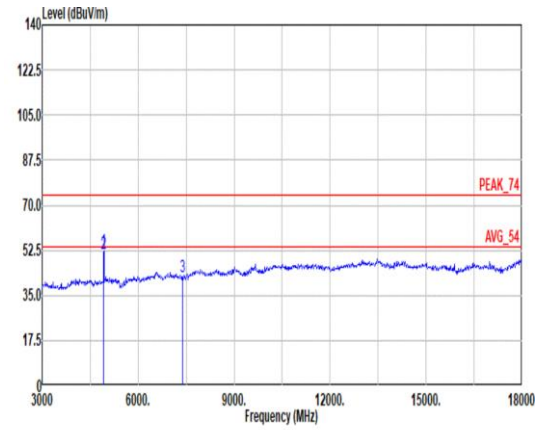
Mode	8	
	Band Edge - R	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2490.11 54.64 74.00 -19.36 43.07 27.90 6.92 33.28 10.03 305 101 PEAK	Blank
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.31 43.69 54.00 -10.31 32.19 27.84 6.91 33.28 10.03 305 101 AVERAGE	Blank

Mode	8	
	Harmonic	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4874.00 52.38 74.00 -21.62 66.28 32.70 11.45 58.58 0.53 100 308 Peak 2 4874.00 49.98 54.00 -4.02 63.88 32.70 11.45 58.58 0.53 100 308 Average 3 7311.00 43.46 74.00 -30.54 50.77 36.78 14.58 58.99 0.32 -- -- Peak	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4874.00 50.92 74.00 -23.08 64.82 32.70 11.45 58.58 0.53 300 275 Peak 2 4874.00 49.81 54.00 -4.19 63.71 32.70 11.45 58.58 0.53 300 275 Average 3 7311.00 42.24 74.00 -31.76 49.55 36.78 14.58 58.99 0.32 -- -- Peak

Mode	8	
	Harmonic	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	1	
Pol.	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg.		

Mode	9	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.04 58.09 74.00 -15.91 46.59 27.84 6.91 33.28 10.03 100 15 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2462.00 103.61 ------ ------ 92.37 27.62 6.88 33.29 10.03 100 15 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.85 43.80 54.00 -10.20 32.30 27.84 6.91 33.28 10.03 100 15 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2462.00 100.44 ------ ------ 89.20 27.62 6.88 33.29 10.03 100 15 AVERAGE

Mode	9	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition: PEAK_BE_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.00 57.63 74.00 -16.37 46.13 27.84 6.91 33.28 10.03 286 114 PEAK	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2462.00 103.03 ------ ------ 91.79 27.62 6.88 33.29 10.03 286 114 PEAK
Avg.	 Site : 03CH11-HY Condition: AVG_BE_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.42 44.11 54.00 -9.89 32.61 27.84 6.91 33.28 10.03 286 114 AVERAGE	 Site : 03CH11-HY Condition: AVG_54 3m 9120D_01620_240828 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2462.00 99.88 ------ ------ 88.64 27.62 6.88 33.29 10.03 286 114 AVERAGE

Mode	9	
	Harmonic	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4924.00 52.65 74.00 -21.35 66.28 32.90 11.53 58.62 0.56 100 303 Peak 2 4924.00 50.27 54.00 -3.73 63.90 32.90 11.53 58.62 0.56 100 303 Average 3 7386.00 41.62 74.00 -32.38 49.18 36.48 14.61 58.94 0.29 -- -- Peak	 Site : 03CH11-HY Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4924.00 52.05 74.00 -21.95 65.68 32.90 11.53 58.62 0.56 300 269 Peak 2 4924.00 50.99 54.00 -3.01 64.62 32.90 11.53 58.62 0.56 300 269 Average 3 7386.00 42.08 74.00 -31.92 49.64 36.48 14.61 58.94 0.29 -- -- Peak