FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2413-2, XT2413V
FCC ID	:	IHDT56AN4
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System
TEST DATE(S)	:	Sep. 25, 2023 ~ Oct. 19, 2023

We, Sporton International Inc. (Shenzhen), 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 of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.01

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR391515C	Rev. 01	Initial issue of report	Nov. 02, 2023

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.16 dB at 2483.54 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 10.92 dB at 0.54 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	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.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2413-2, XT2413V
FCC ID	IHDT56AN4
IMEI Code	Conducted: 352036360013864 Conduction: 352036360011892 Radiation: 352036360011736
HW Version	DVT2
SW Version	T3TF33.55
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The model name XT2413-2, XT2413V are the same product except model name different for market segment.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to antenna	802.11b : 22.35 dBm (0.1718 W) 802.11g : 25.07 dBm (0.3214 W) 802.11n HT20 : 25.14 dBm (0.3266 W) 802.11n HT40 : 24.51 dBm (0.2825 W)
99% Occupied Bandwidth	802.11b : 13.89 MHz 802.11g : 16.88 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.56 MHz
Antenna Type / Gain	IFA Antenna type with gain -5.6 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (AOHAI)	**Model Name**	MC-101
AC Adapter 2	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-101
AC Adapter 3	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-101
Battery 1	**Brand Name**	Motorola (Sunwoda)	**Model Name**	QF50
Battery 2	**Brand Name**	Motorola (SCUD)	**Model Name**	QF50
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	S928D97979/S928D97981
USB Cable 2	**Brand Name**	Motorola (Naiyi)	**Model Name**	S928D97980/S928D97982

1.7 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-SZ TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b

1.9 Applicable Standards

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

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. 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, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded 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

Final test modes are considering the modulation and worse data rates as below table.

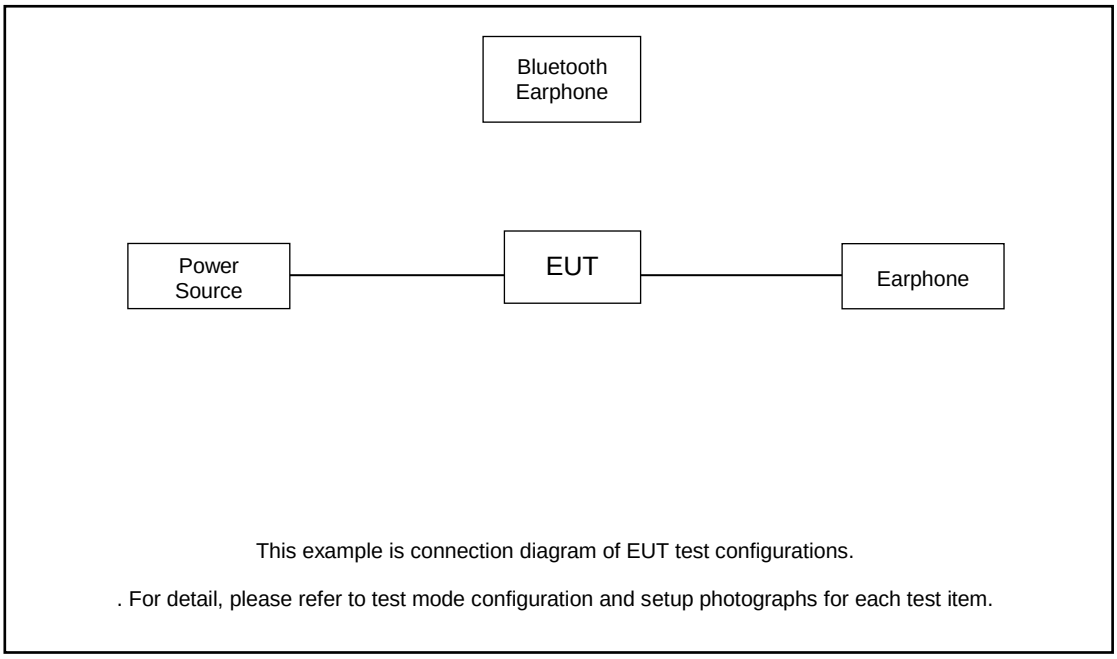
Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :GSM 850 Idle + WLAN Link(2.4G) + Adapter 1 + USB Cable + Battery 1 + Earphone
Remark: Test Cases, The tests were performance with Adapter 1, Earphone and USB Cable 1	

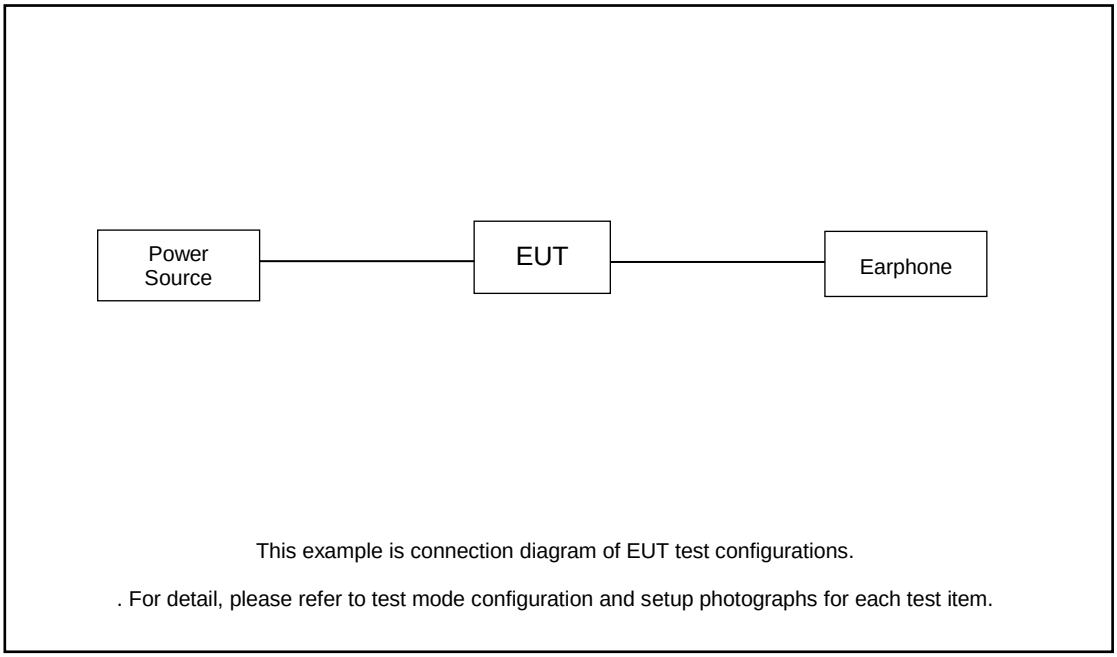
Simultaneous transmission
802. 11n HT40_CH09 + LTE Band 13 link

2.3 Connection Diagram of Test System

AC Conducted Emission:



Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station(LTE)	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
3.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	Earphone	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

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 13.60 dB and 10dB attenuator.

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

= 13.60 + 10 = 23.60 (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.

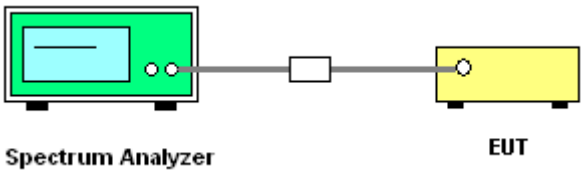
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

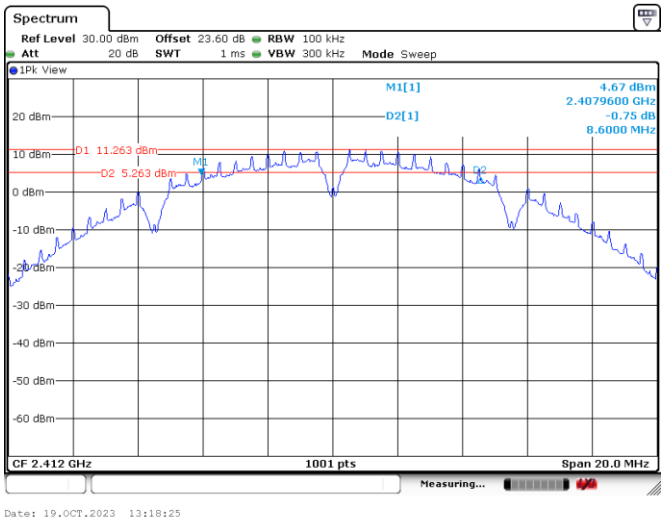
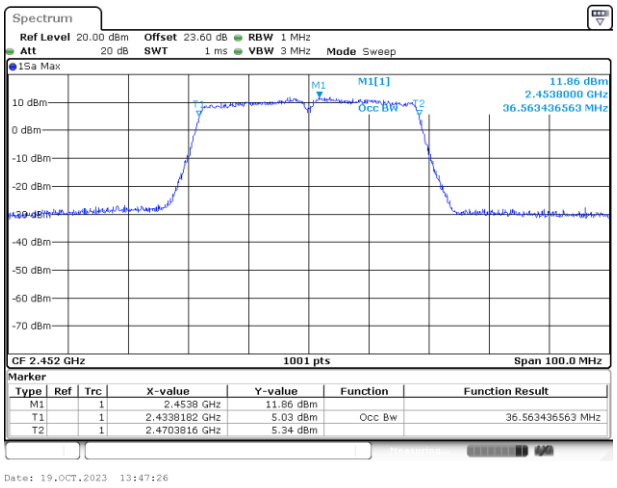
1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement 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) = 1%~5% of OBW and set the Video bandwidth (VBW) = 3MHz.
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.

Minimum 6dB Bandwidth	Maximum 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 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi 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 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

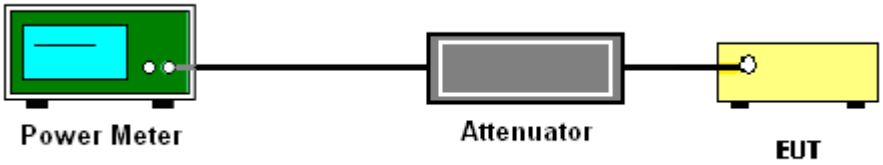
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT 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 Peak Output Power

Please refer to Appendix A.

3.2.6 Test Result of Average Output Power (Reporting Only)

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 8dBm in any 3kHz band at any time interval of continuous transmission.

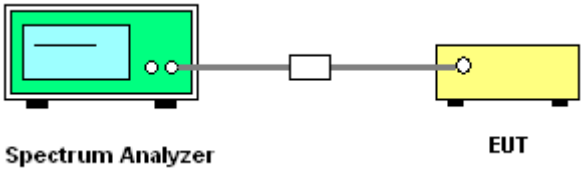
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT 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.

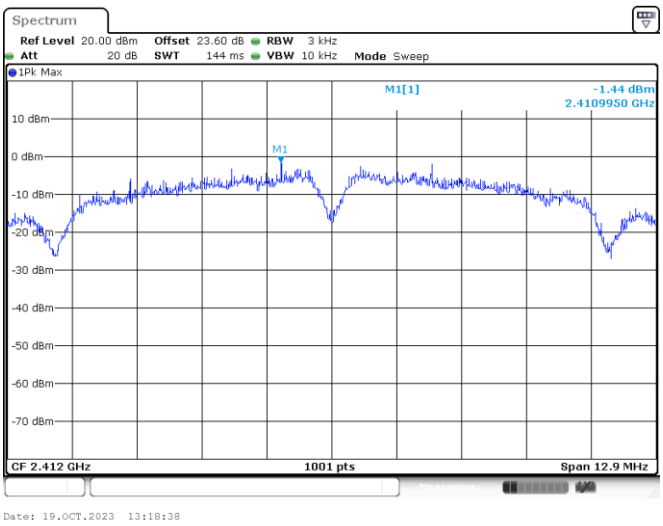
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/3kHz)



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.

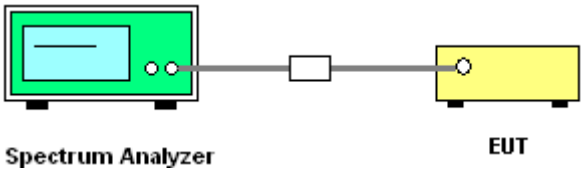
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.11
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT 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

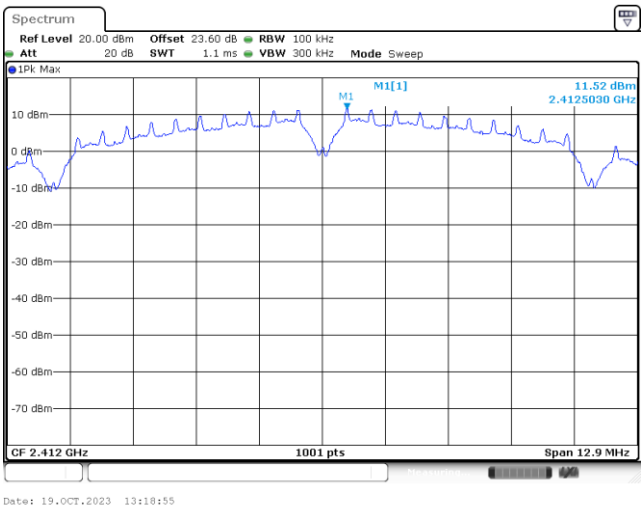


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

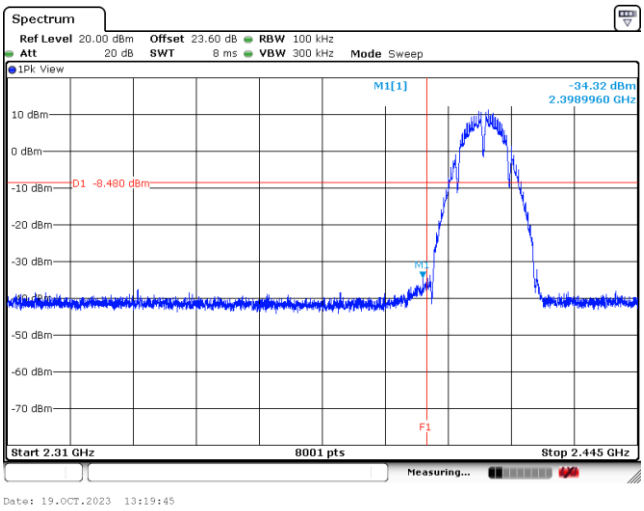
Test Engineer :	Zhang Jiang	**Temperature :**	24~26℃
		Relative Humidity :	50~53%

Test Mode :	802.11b	**Test Channel :**	01

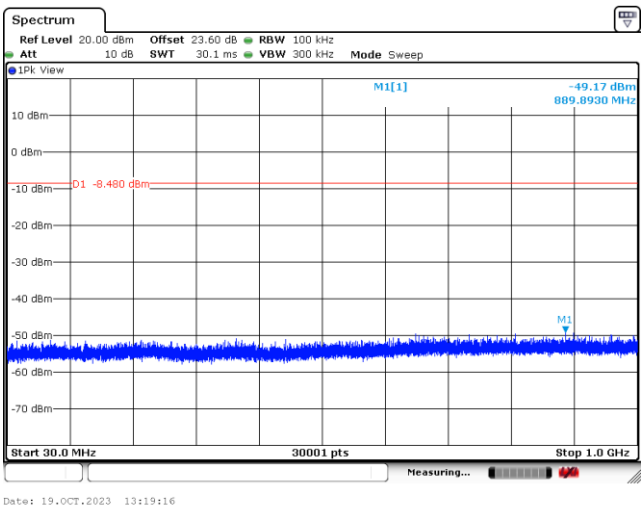
100kHz PSD reference Level



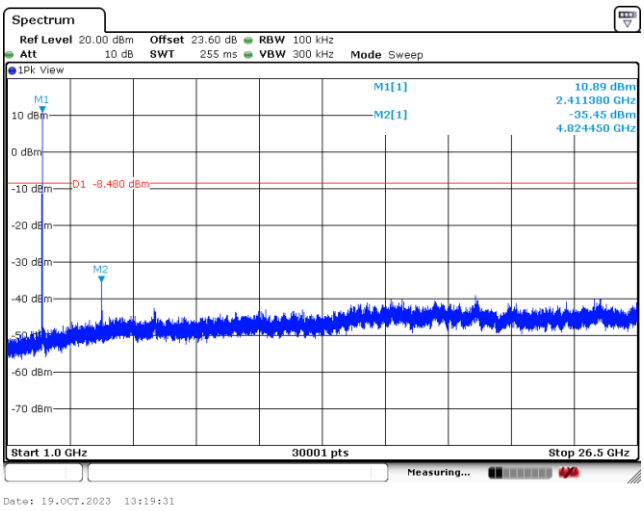
Channel Plot



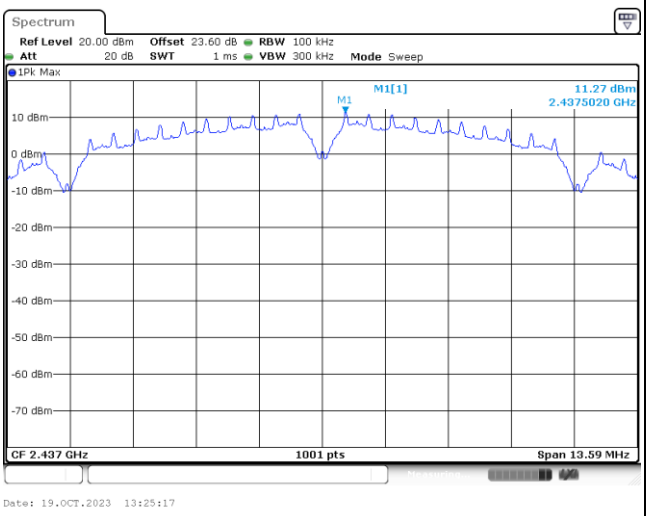
Spurious Emission 30MHz~3GHz

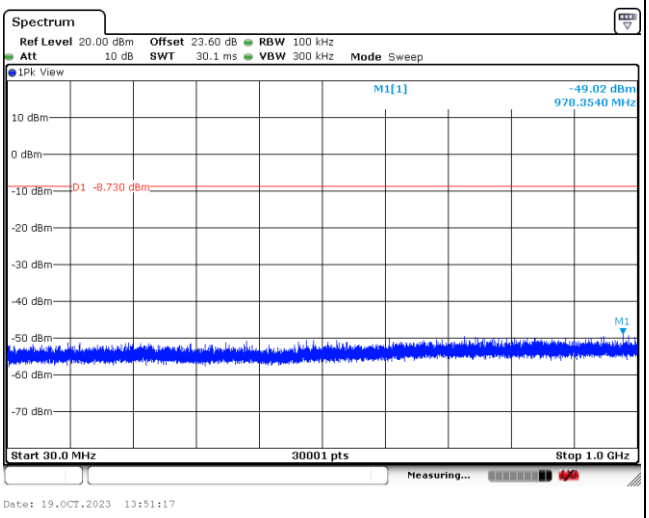
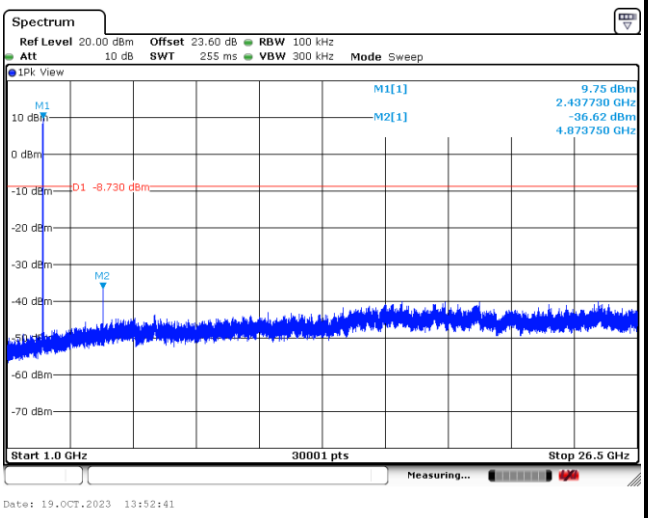


Spurious Emission 2GHz~25GHz

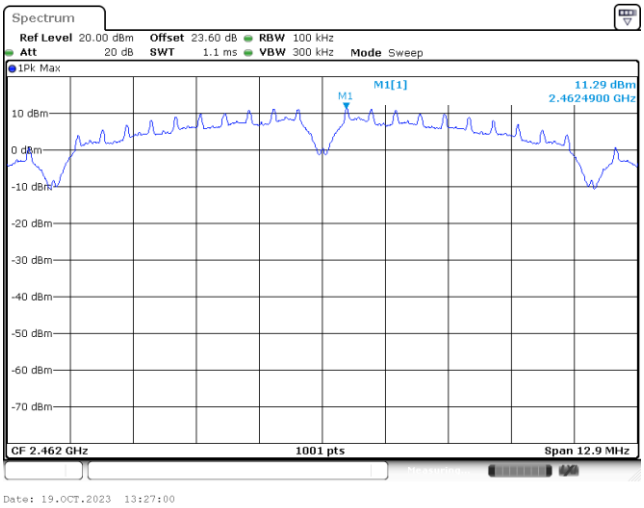
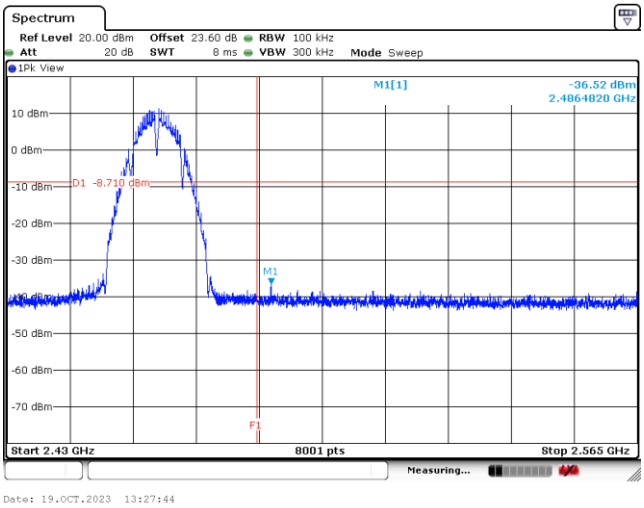
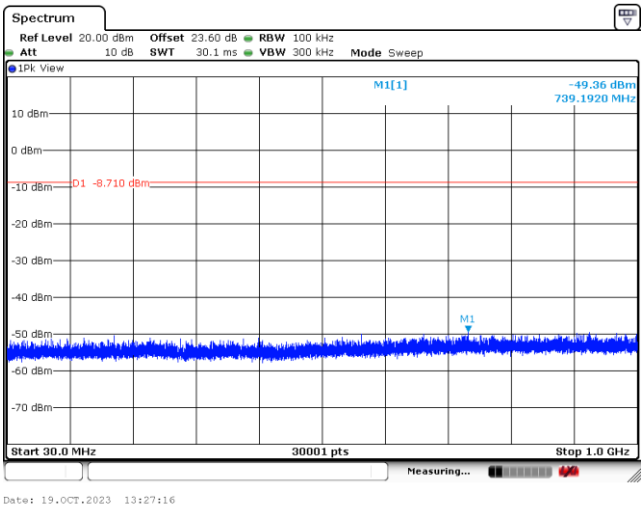
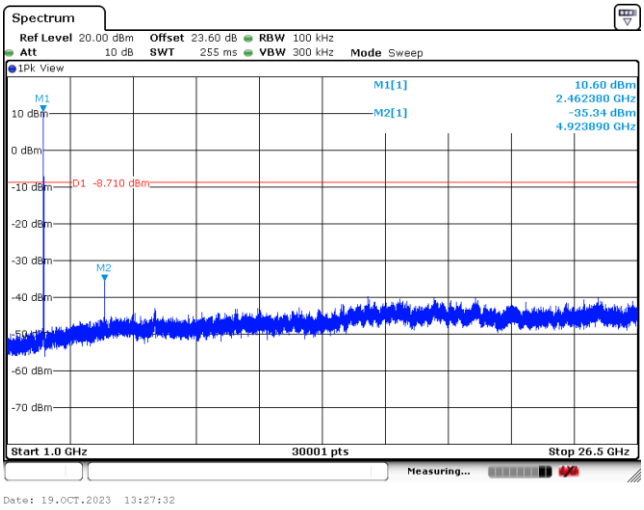


Test Mode :	802.11b	Test Channel :	06

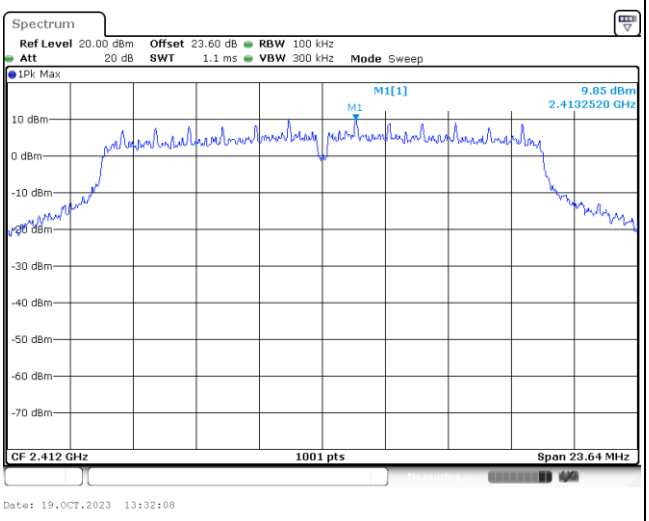
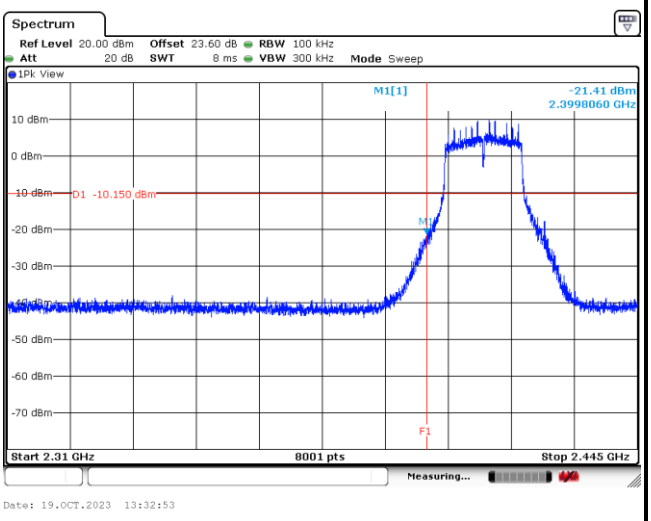
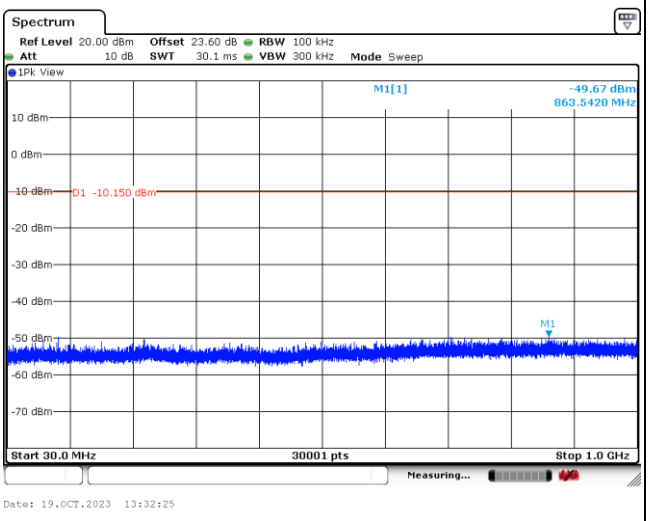
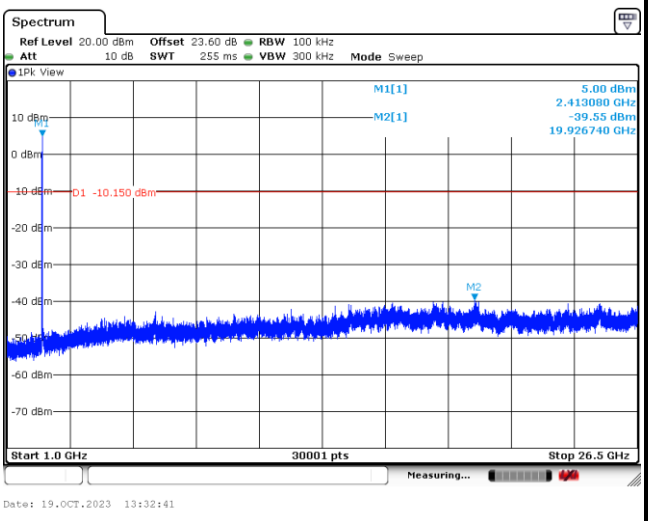
100kHz PSD reference Level	Channel Plot
	NA

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

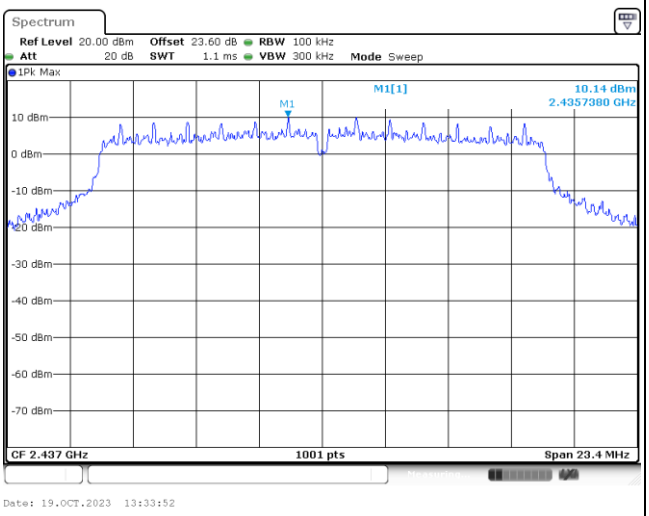
Test Mode :	802.11b	Test Channel :	11

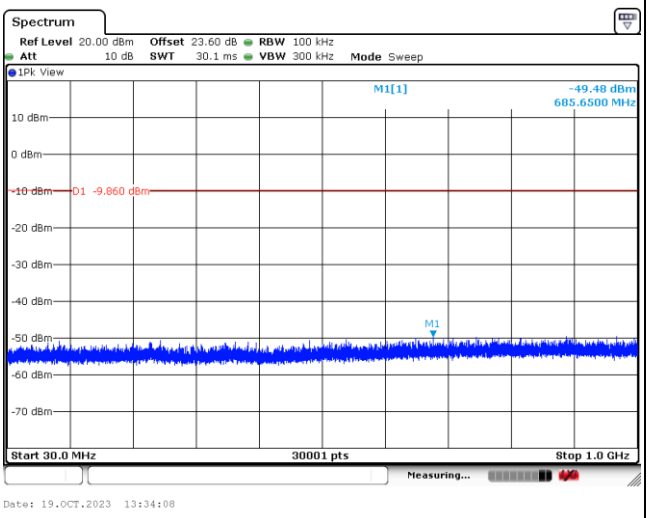
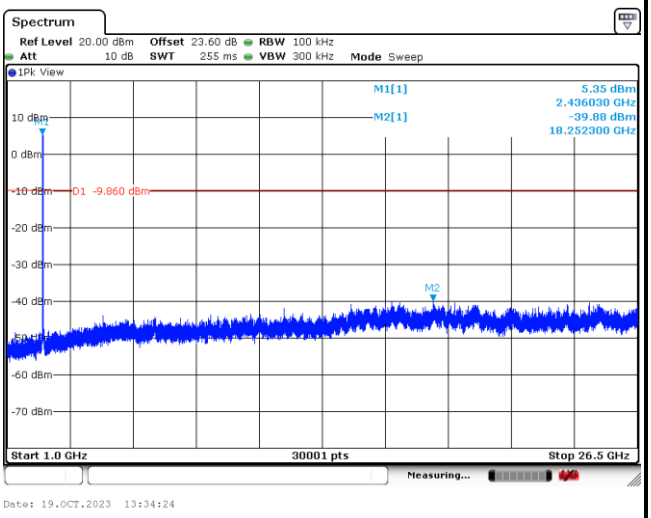
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	01

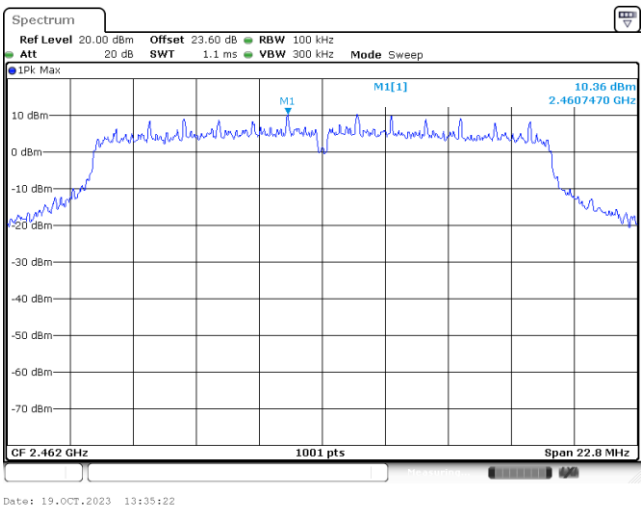
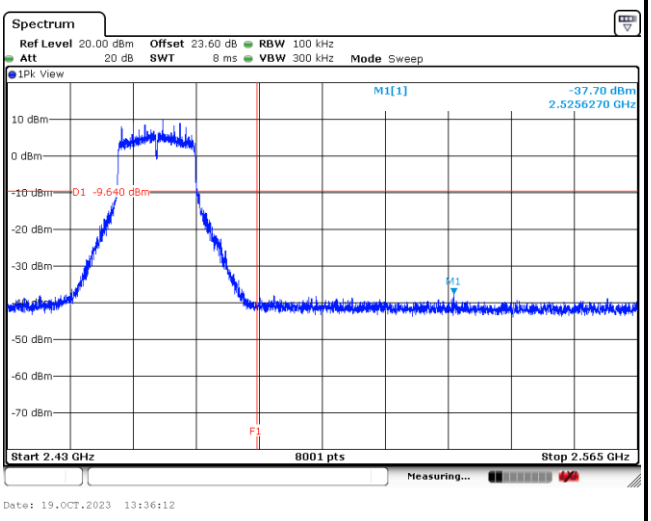
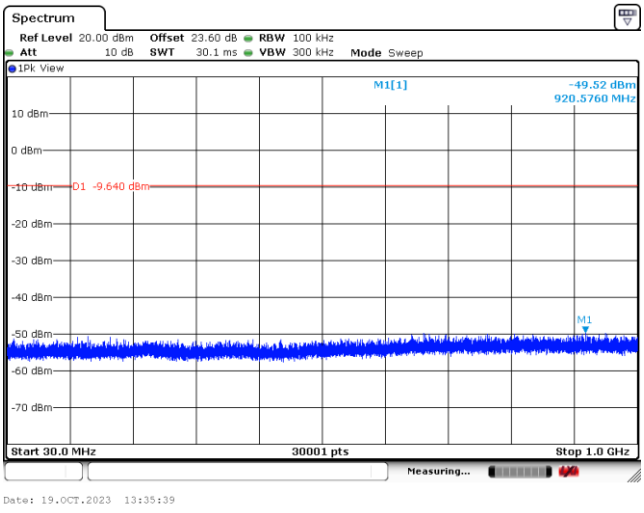
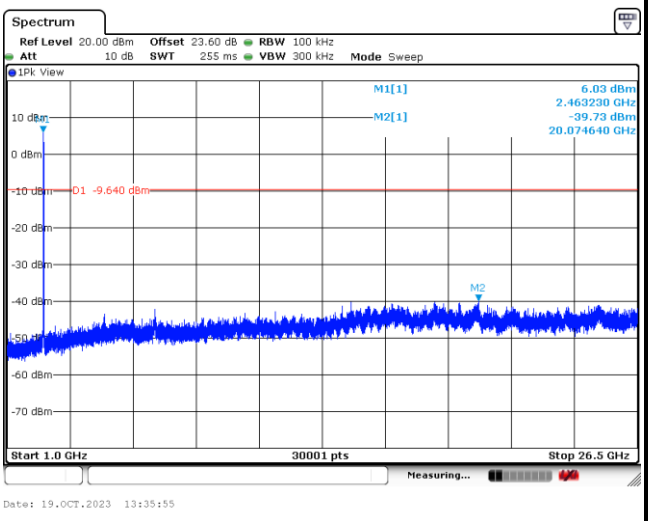
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11g	Test Channel :	06

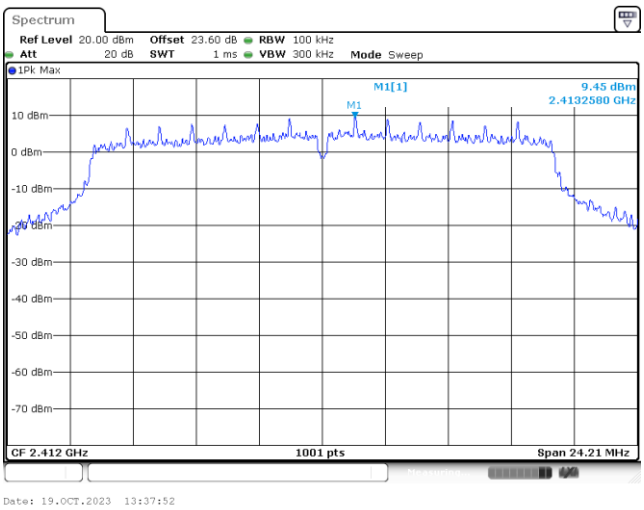
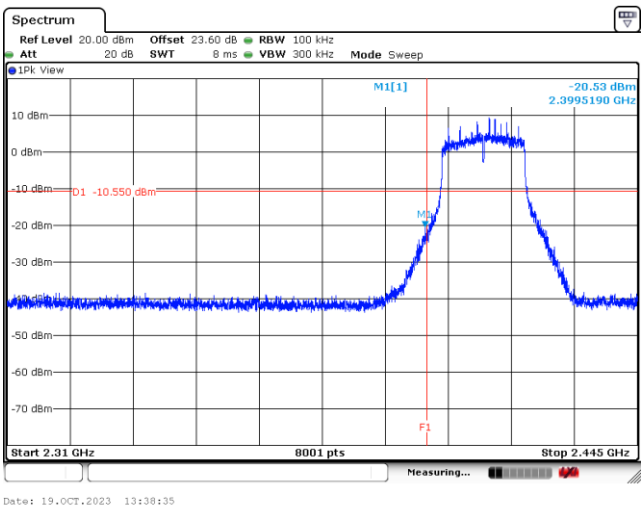
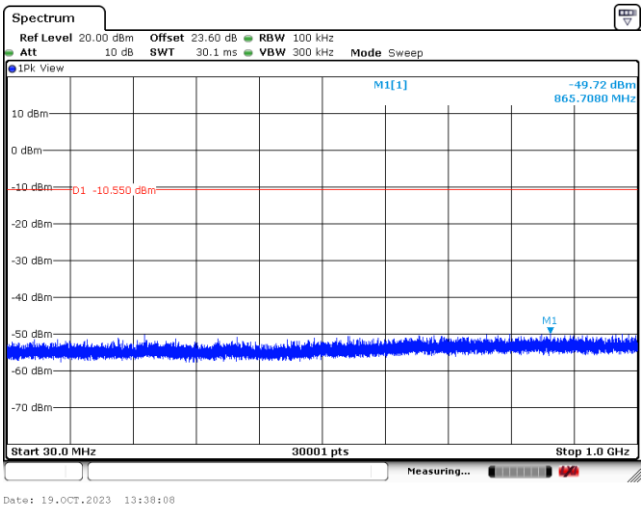
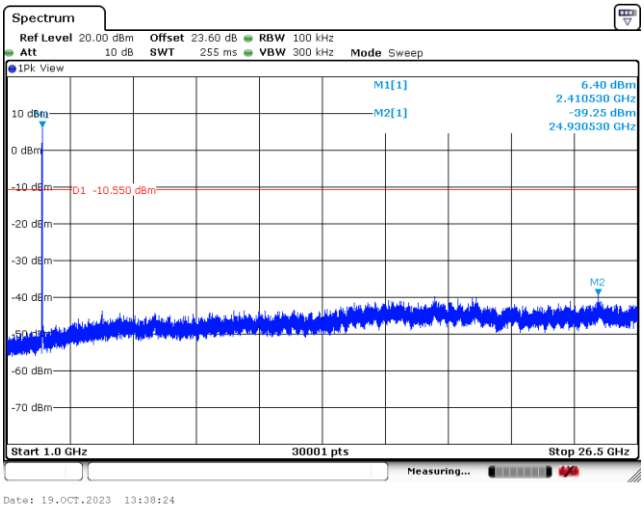
100kHz PSD reference Level	Channel Plot
	NA

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

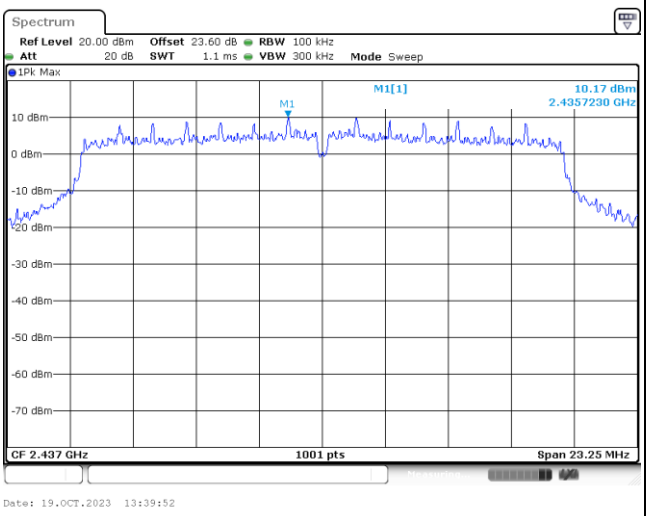
Test Mode :	802.11g	Test Channel :	11

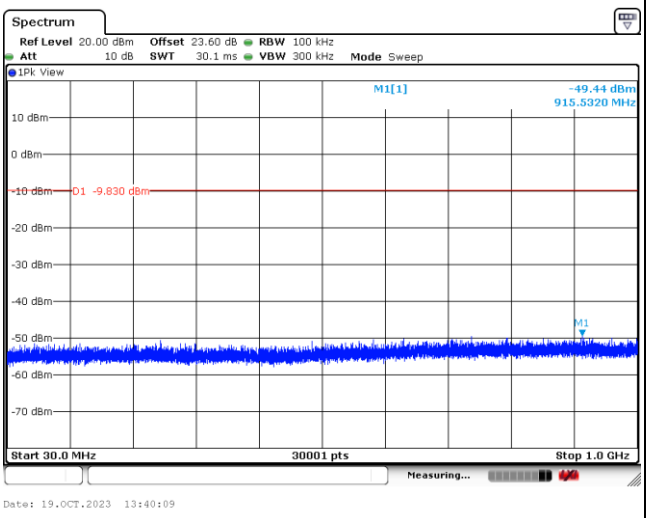
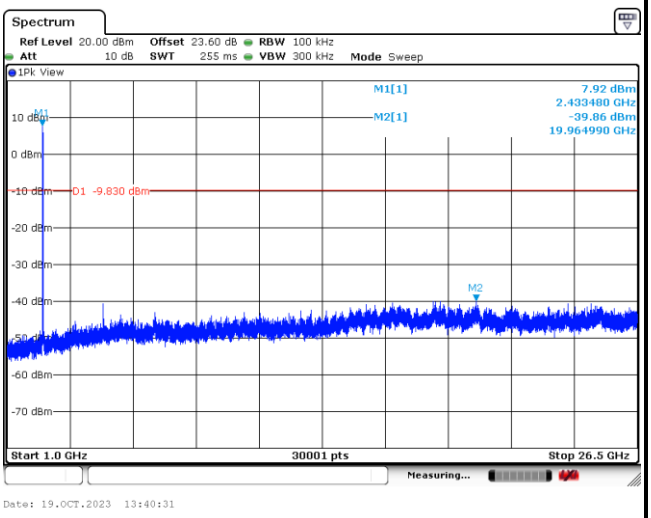
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	01

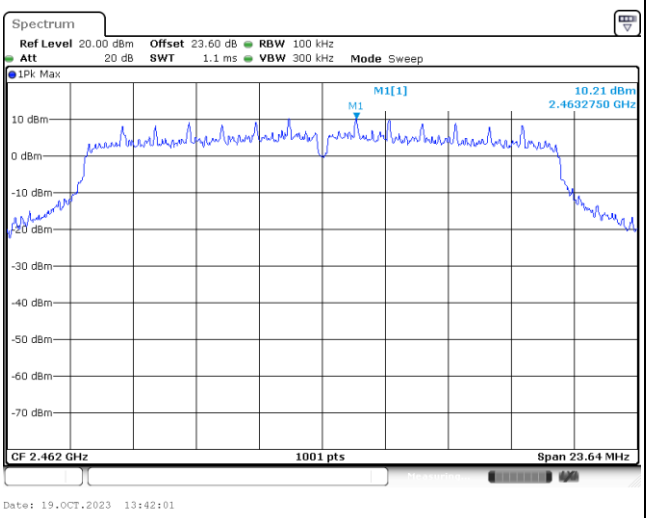
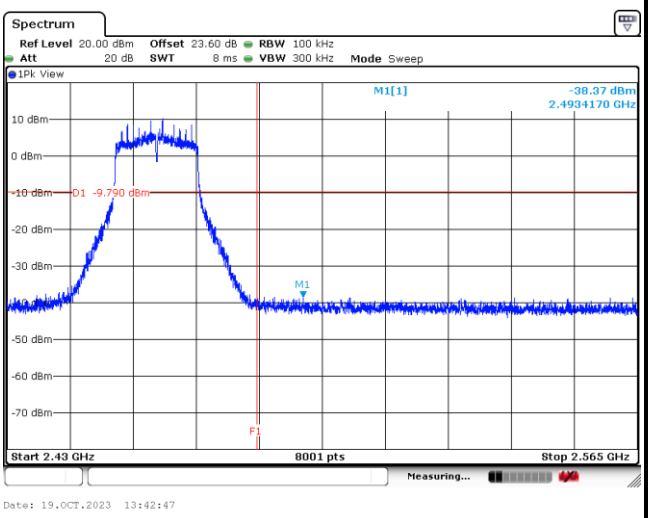
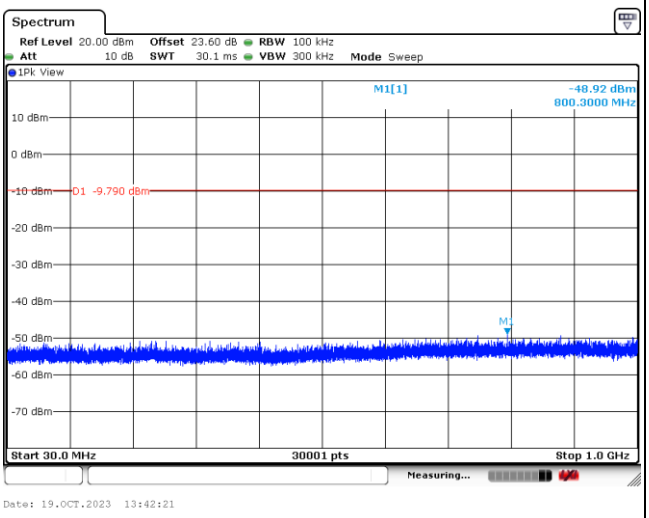
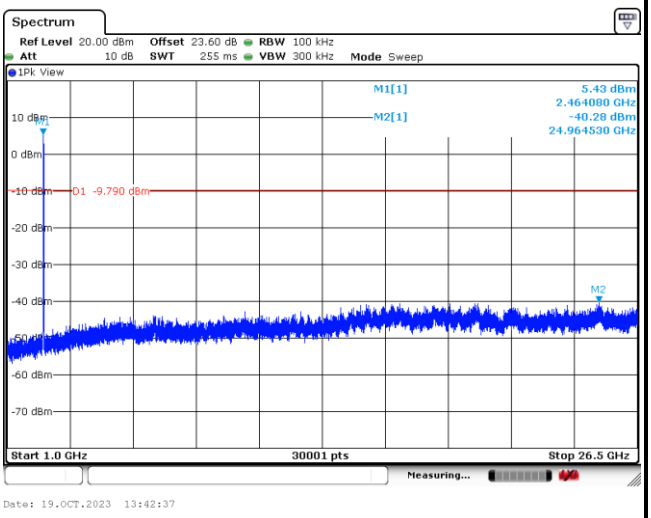
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT20	Test Channel :	06

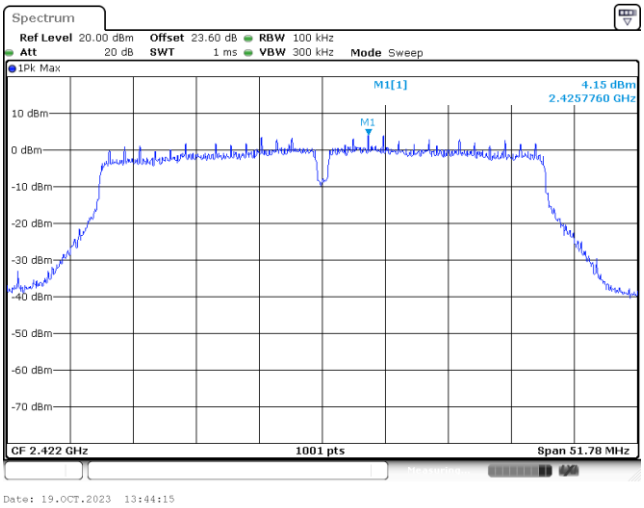
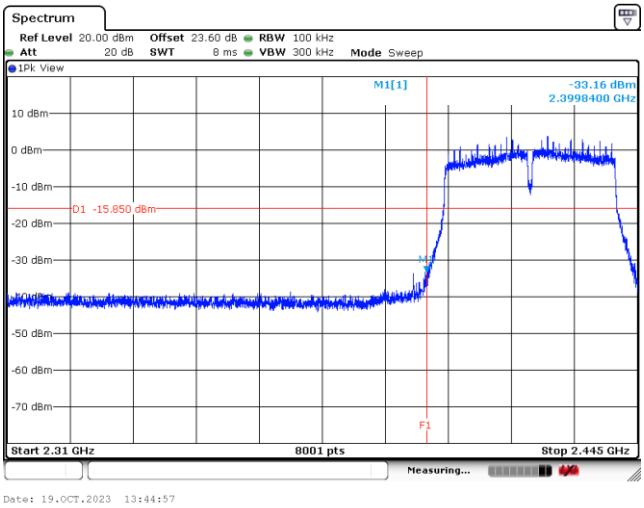
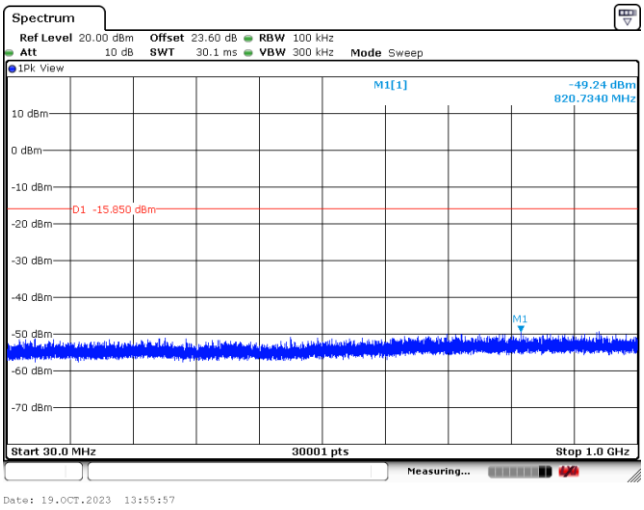
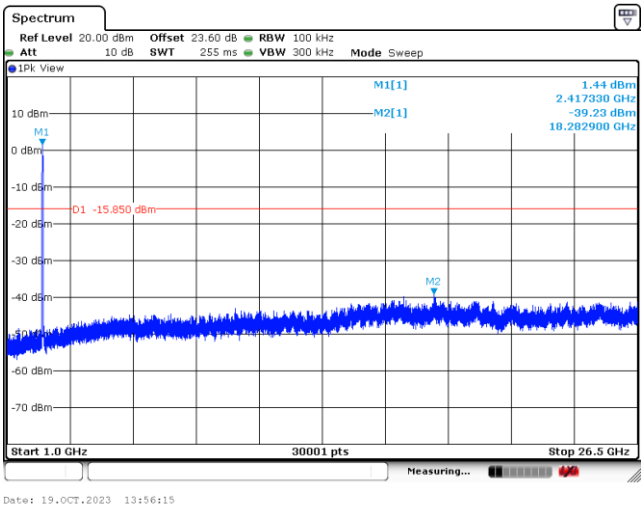
100kHz PSD reference Level	Channel Plot
	NA

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

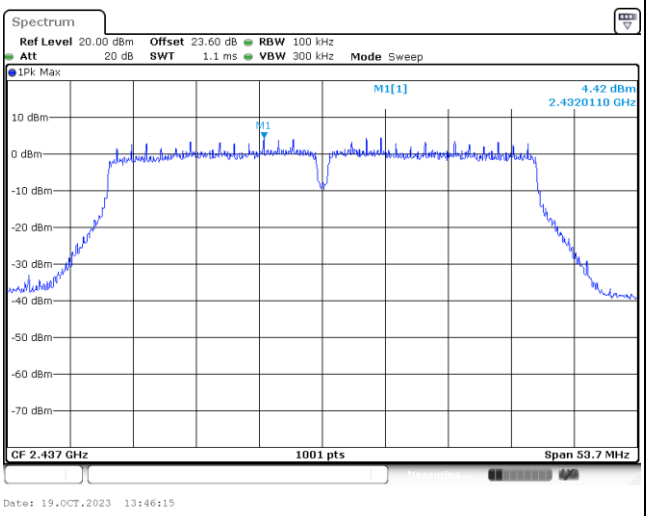
Test Mode :	802.11n HT20	Test Channel :	11

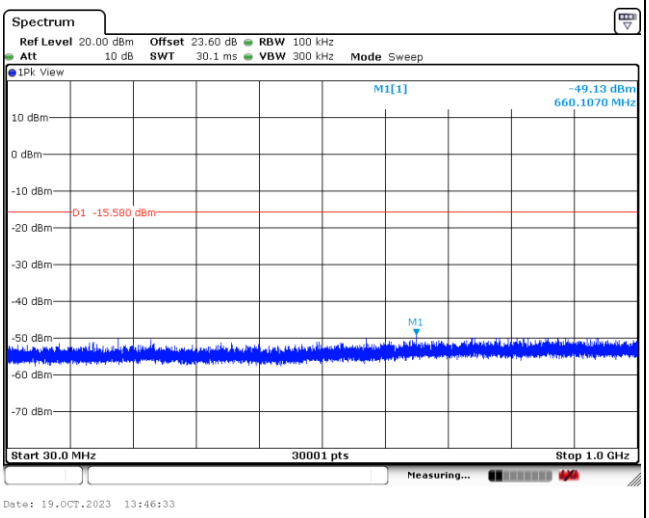
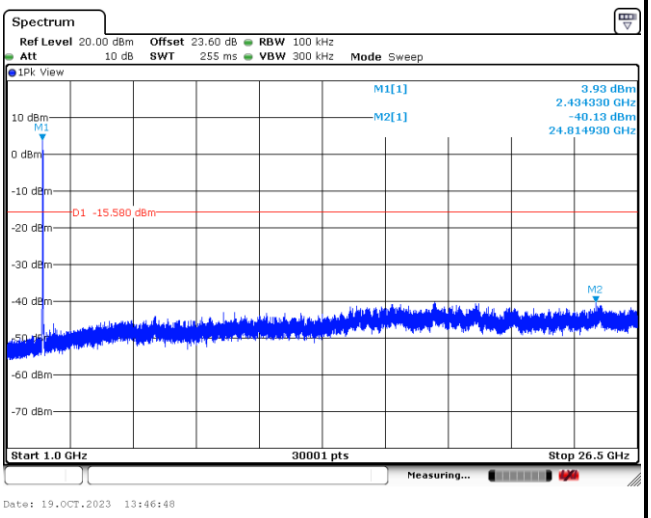
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT40	Test Channel :	03

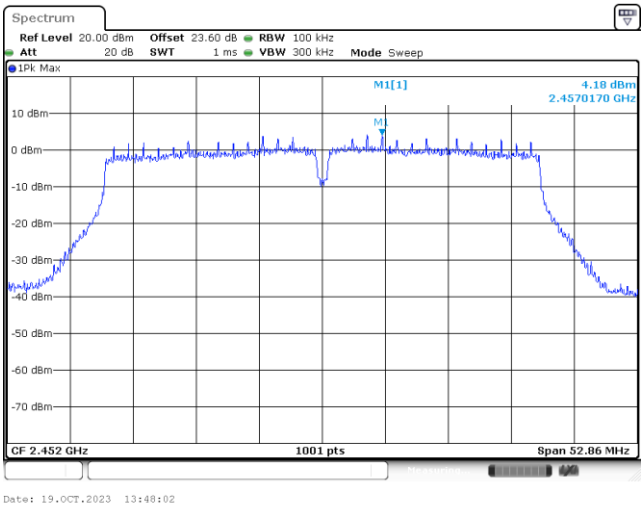
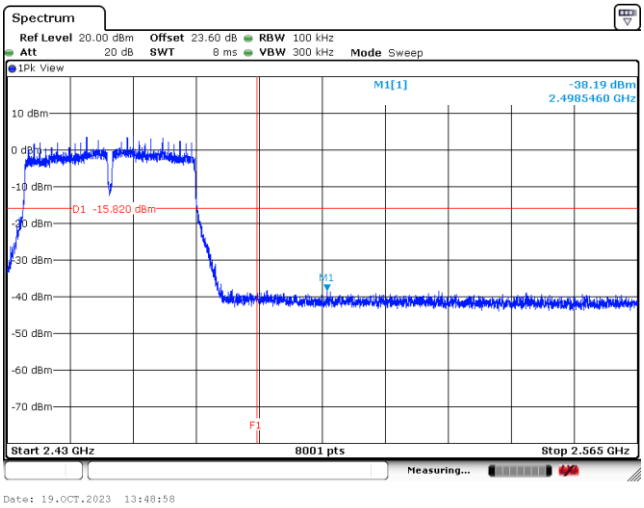
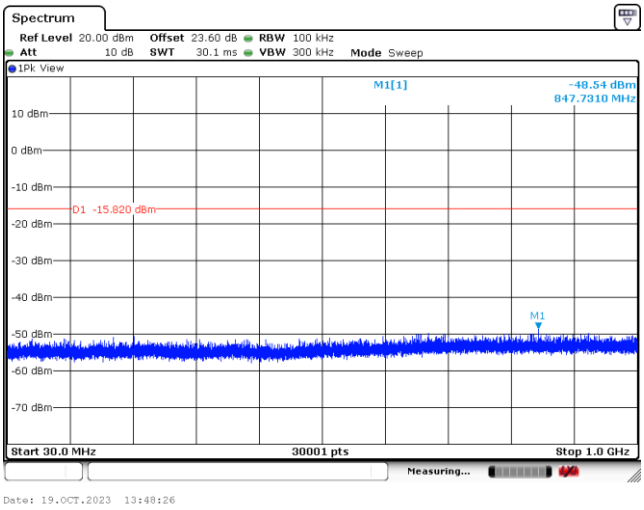
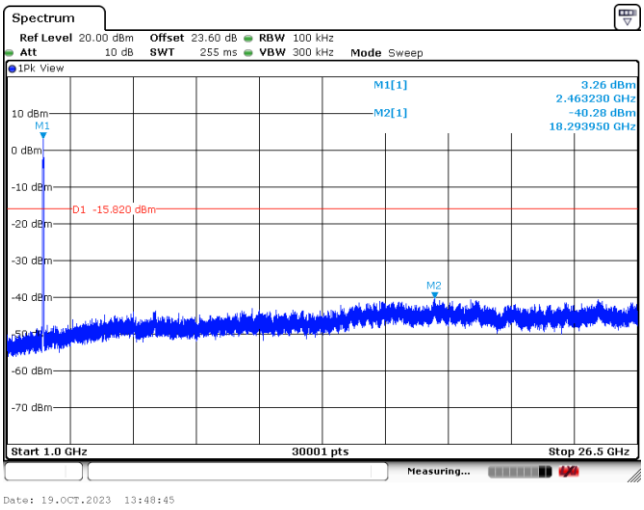
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	

Test Mode :	802.11n HT40	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	NA

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

Test Mode :	802.11n HT40	Test Channel :	09

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

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

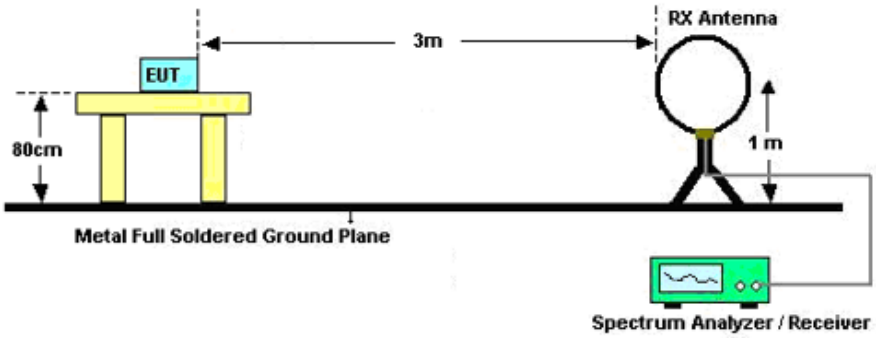
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

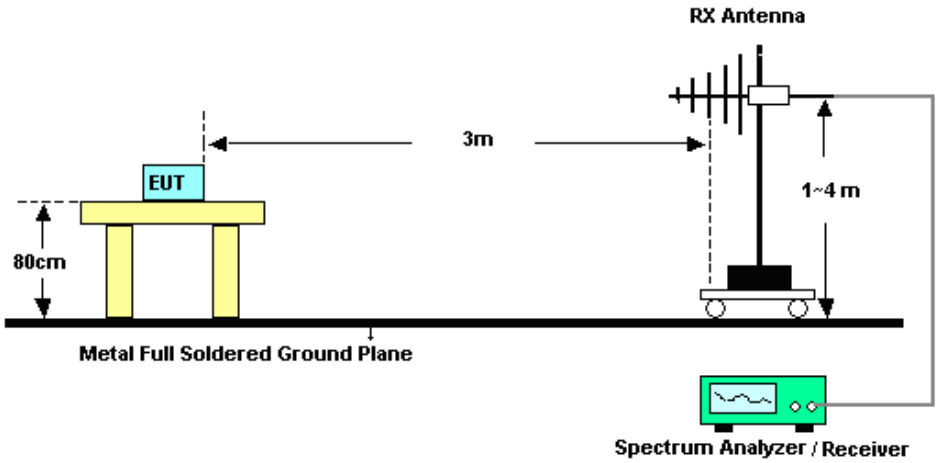
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

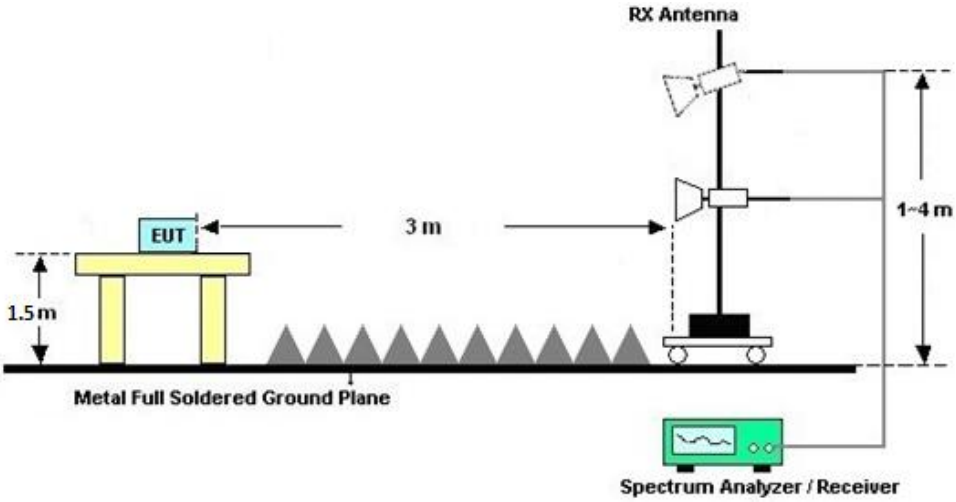
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

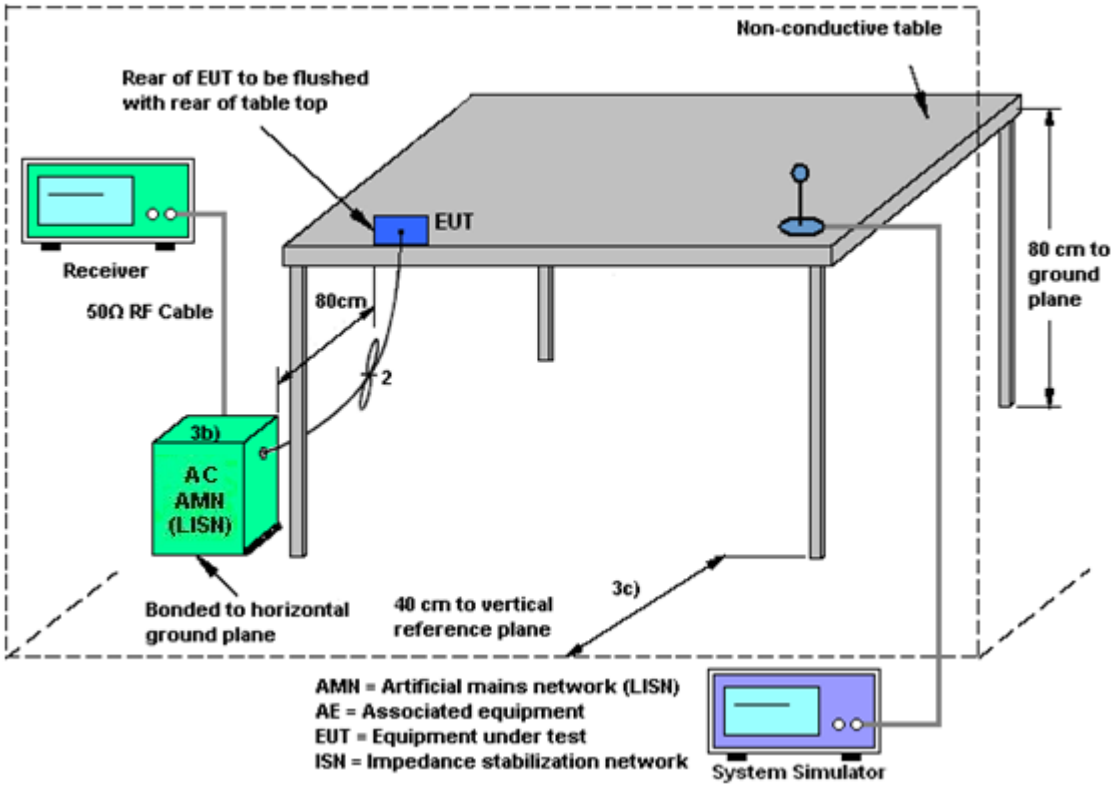
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jul. 06, 2023	Sep. 25, 2023	Jul. 05, 2024	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Aug. 21, 2023	Sep. 25, 2023	Aug. 20, 2024	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 17, 2022	Sep. 25, 2023	Oct. 16, 2023	Conduction (CO01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 06, 2023	Oct. 19, 2023	Apr. 05, 2024	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 27, 2022	Oct. 19, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1542004	50MHz Bandwidth	Dec. 27, 2022	Oct. 19, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Thermo meter	Anymetre	JR593	#7	- 10℃ ~ 50℃ 10%RH~99%RH	Apr. 08, 2023	Oct. 19, 2023	Apr. 07, 2024	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 19, 2022	Sep. 26, 2023~ Oct. 13, 2023	Oct. 18, 2023	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2023	Sep. 26, 2023~ Oct. 13, 2023	Jul. 06, 2024	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 28, 2022	Sep. 26, 2023~ Oct. 13, 2023	Jun. 27, 2024	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May. 14, 2023	Sep. 26, 2023~ Oct. 13, 2023	May. 13, 2024	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 07, 2023	Sep. 26, 2023~ Oct. 13, 2023	Jul. 06, 2024	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 08, 2023	Sep. 26, 2023~ Oct. 13, 2023	Jul. 07, 2024	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2022	Sep. 26, 2023~ Oct. 13, 2023	Oct. 18, 2023	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2022	Sep. 26, 2023~ Oct. 13, 2023	Oct. 18, 2023	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2023	Sep. 26, 2023~ Oct. 13, 2023	Jul. 06, 2024	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY57280136	500MHz~26.5GHz	Aug. 21, 2023	Sep. 26, 2023~ Oct. 13, 2023	Aug. 20, 2024	Radiation (03CH04-SZ)
AC Power Source	APC	AFV-S-600B	F119050019	N/A	Nov. 10, 2022	Sep. 26, 2023~ Oct. 13, 2023	Nov. 10, 2023	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 26, 2023~ Oct. 13, 2023	NCR	Radiation (03CH04-SZ)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.012 %
Conducted Power Spectral Density	±1.32 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.7 dB

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.8 dB

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

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

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

Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Zhang Jiang	Temperature:	21~25	°C
Test Date:	2023/10/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
					Ant 2	Ant 2		
11b	1Mbps	1	1	2412	13.84	8.60	0.50	Pass
11b	1Mbps	1	6	2437	13.89	9.06	0.50	Pass
11b	1Mbps	1	11	2462	13.79	8.60	0.50	Pass
11g	6Mbps	1	1	2412	16.83	15.76	0.50	Pass
11g	6Mbps	1	6	2437	16.88	15.60	0.50	Pass
11g	6Mbps	1	11	2462	16.73	15.20	0.50	Pass
HT20	MCS0	1	1	2412	17.93	16.14	0.50	Pass
HT20	MCS0	1	6	2437	17.93	15.50	0.50	Pass
HT20	MCS0	1	11	2462	17.88	15.76	0.50	Pass
HT40	MCS0	1	3	2422	36.36	34.52	0.50	Pass
HT40	MCS0	1	6	2437	36.56	35.80	0.50	Pass
HT40	MCS0	1	9	2452	36.56	35.24	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
					Ant 2	Ant 2	Ant 2	Ant 2	Ant 2	
11b	1Mbps	1	1	2412	22.05	30.00	-5.60	16.45	36.00	Pass
11b	1Mbps	1	6	2437	22.13	30.00	-5.60	16.53	36.00	Pass
11b	1Mbps	1	11	2462	22.35	30.00	-5.60	16.75	36.00	Pass
11g	6Mbps	1	1	2412	24.51	30.00	-5.60	18.91	36.00	Pass
11g	6Mbps	1	6	2437	24.66	30.00	-5.60	19.06	36.00	Pass
11g	6Mbps	1	11	2462	25.07	30.00	-5.60	19.47	36.00	Pass
HT20	MCS0	1	1	2412	24.32	30.00	-5.60	18.72	36.00	Pass
HT20	MCS0	1	6	2437	24.71	30.00	-5.60	19.11	36.00	Pass
HT20	MCS0	1	11	2462	25.14	30.00	-5.60	19.54	36.00	Pass
HT40	MCS0	1	3	2422	23.86	30.00	-5.60	18.26	36.00	Pass
HT40	MCS0	1	6	2437	24.51	30.00	-5.60	18.91	36.00	Pass
HT40	MCS0	1	9	2452	24.02	30.00	-5.60	18.42	36.00	Pass

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

TEST RESULTS DATA
Average Output Power
(Report Only)

2.4GHz Band											
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	Setting
					Ant 2	Ant 2	Ant 2	Ant 2	Ant 2		Ant 2
11b	1Mbps	1	1	2412	20.00	30.00	-5.60	14.40	36.00	Pass	20.50
11b	1Mbps	1	6	2437	20.10	30.00	-5.60	14.50	36.00	Pass	20.50
11b	1Mbps	1	11	2462	20.20	30.00	-5.60	14.60	36.00	Pass	20.50
11g	6Mbps	1	1	2412	20.00	30.00	-5.60	14.40	36.00	Pass	20.50
11g	6Mbps	1	6	2437	20.20	30.00	-5.60	14.60	36.00	Pass	20.50
11g	6Mbps	1	11	2462	20.30	30.00	-5.60	14.70	36.00	Pass	20.50
HT20	MCS0	1	1	2412	19.70	30.00	-5.60	14.10	36.00	Pass	20.00
HT20	MCS0	1	6	2437	20.30	30.00	-5.60	14.70	36.00	Pass	20.50
HT20	MCS0	1	11	2462	20.40	30.00	-5.60	14.80	36.00	Pass	20.50
HT40	MCS0	1	3	2422	17.20	30.00	-5.60	11.60	36.00	Pass	17.00
HT40	MCS0	1	6	2437	18.20	30.00	-5.60	12.60	36.00	Pass	18.00
HT40	MCS0	1	9	2452	17.60	30.00	-5.60	12.00	36.00	Pass	17.50

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

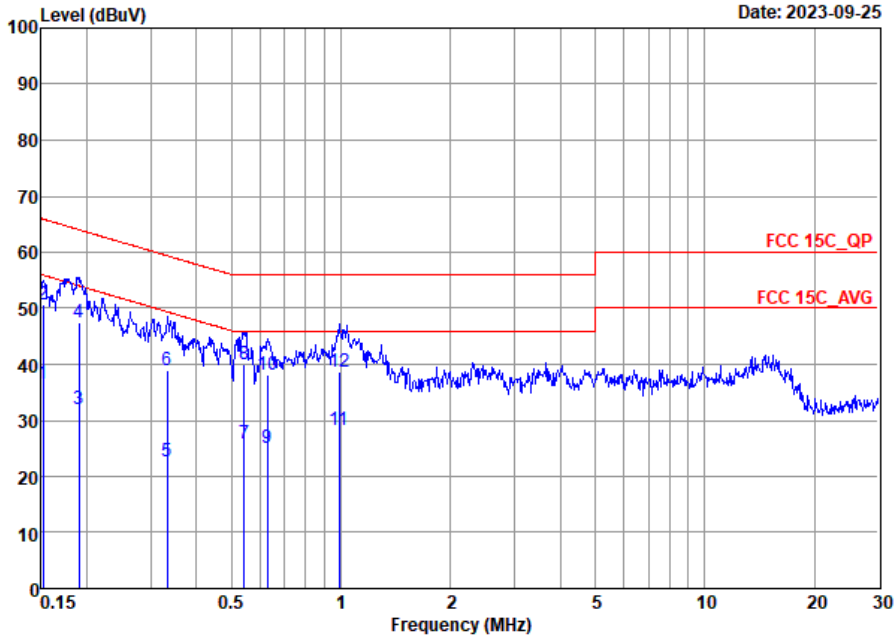
TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)	DG (dBi)	Peak PSD Limit (dBm/3kHz)	Pass/Fail
					Ant 2	Ant 2	Ant 2	
11b	1Mbps	1	1	2412	-1.44	-5.60	8.00	Pass
11b	1Mbps	1	6	2437	-2.42	-5.60	8.00	Pass
11b	1Mbps	1	11	2462	-2.04	-5.60	8.00	Pass
11g	6Mbps	1	1	2412	-6.08	-5.60	8.00	Pass
11g	6Mbps	1	6	2437	-5.26	-5.60	8.00	Pass
11g	6Mbps	1	11	2462	-5.37	-5.60	8.00	Pass
HT20	MCS0	1	1	2412	-6.18	-5.60	8.00	Pass
HT20	MCS0	1	6	2437	-5.40	-5.60	8.00	Pass
HT20	MCS0	1	11	2462	-5.35	-5.60	8.00	Pass
HT40	MCS0	1	3	2422	-10.34	-5.60	8.00	Pass
HT40	MCS0	1	6	2437	-10.96	-5.60	8.00	Pass
HT40	MCS0	1	9	2452	-10.94	-5.60	8.00	Pass

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

Appendix B. AC Conducted Emission Test Results

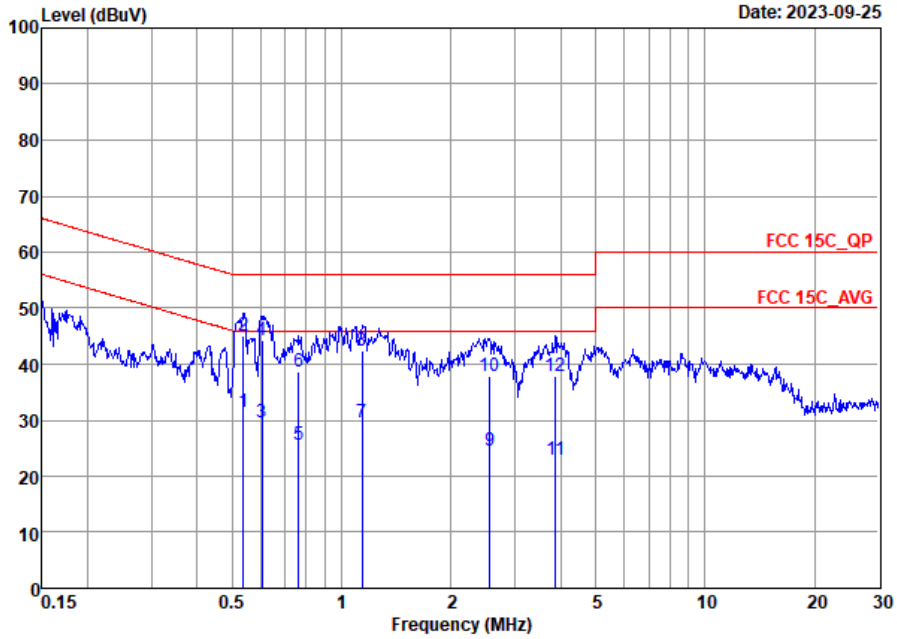
Test Engineer :	Lily Qiu	**Temperature :**	22~24℃
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20230420_L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	36.40	-19.51	55.91	15.80	10.47	10.13	Average
2	*	0.15	50.70	-15.21	65.91	30.10	10.47	10.13	QP
3		0.19	31.98	-22.04	54.02	11.40	10.43	10.15	Average
4		0.19	47.58	-16.44	64.02	27.00	10.43	10.15	QP
5		0.33	22.58	-26.82	49.40	2.09	10.33	10.16	Average
6		0.33	38.88	-20.52	59.40	18.39	10.33	10.16	QP
7		0.54	25.92	-20.08	46.00	5.50	10.26	10.16	Average
8		0.54	39.92	-16.08	56.00	19.50	10.26	10.16	QP
9		0.63	25.12	-20.88	46.00	4.70	10.26	10.16	Average
10		0.63	38.22	-17.78	56.00	17.80	10.26	10.16	QP
11		0.99	28.20	-17.80	46.00	7.80	10.24	10.16	Average
12		0.99	38.80	-17.20	56.00	18.40	10.24	10.16	QP

Test Engineer :	Lily Qiu	**Temperature :**	22~24℃
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20230420_N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.54	31.48	-14.52	46.00	11.10	10.22	10.16	Average
2	*	0.54	45.08	-10.92	56.00	24.70	10.22	10.16	QP
3		0.60	29.69	-16.31	46.00	9.30	10.23	10.16	Average
4		0.60	44.39	-11.61	56.00	24.00	10.23	10.16	QP
5		0.76	25.61	-20.39	46.00	5.20	10.25	10.16	Average
6		0.76	38.71	-17.29	56.00	18.30	10.25	10.16	QP
7		1.14	29.64	-16.36	46.00	9.20	10.27	10.17	Average
8		1.14	42.44	-13.56	56.00	22.00	10.27	10.17	QP
9		2.55	24.52	-21.48	46.00	4.10	10.16	10.26	Average
10		2.55	37.82	-18.18	56.00	17.40	10.16	10.26	QP
11		3.88	22.97	-23.03	46.00	2.50	10.15	10.32	Average
12		3.88	37.87	-18.13	56.00	17.40	10.15	10.32	QP

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

Appendix C Radiated Spurious Emission Test Data

Test Engineer :	ZhangXu	Relative Humidity :	48~49%
		Temperature :	24-25℃

Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	2	802.11b	01	2412	1Mbps	-	-
Mode 2	2400-2483.5	2	802.11b	06	2437	1Mbps	-	-
Mode 3	2400-2483.5	2	802.11b	11	2462	1Mbps	-	-
Mode 4	2400-2483.5	2	802.11g	01	2412	6Mbps	-	-
Mode 5	2400-2483.5	2	802.11g	06	2437	6Mbps	-	-
Mode 6	2400-2483.5	2	802.11g	11	2462	6Mbps	-	-
Mode 7	2400-2483.5	2	802.11n HT20	01	2412	MCS0	-	-
Mode 8	2400-2483.5	2	802.11n HT20	06	2437	MCS0	-	-
Mode 9	2400-2483.5	2	802.11n HT20	11	2462	MCS0	-	-
Mode 10	2400-2483.5	2	802.11n HT40	03	2422	MCS0	-	-
Mode 11	2400-2483.5	2	802.11n HT40	09	2452	MCS0	-	-
Mode 12	2400-2483.5	2	802.11n HT40	09	2452	MCS0	-	LF

Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11b	01	2389.43	47.35	54.00	-6.65	V	AVERAGE	Pass	Band Edge
1	802.11b	01	4824.00	43.25	54.00	-10.75	H	Average	Pass	Harmonic
2	802.11b	06	-	-	-	-	-	-	-	Band Edge
2	802.11b	06	4874.00	49.35	54.00	-4.65	H	Average	Pass	Harmonic
3	802.11b	11	2484.04	47.21	54.00	-6.79	H	AVERAGE	Pass	Band Edge
3	802.11b	11	4924.00	41.72	54.00	-12.28	H	Average	Pass	Harmonic
4	802.11g	01	2389.95	50.47	54.00	-3.53	H	AVERAGE	Pass	Band Edge
4	802.11g	01	4824.00	45.35	74.00	-28.65	H	Peak	Pass	Harmonic
5	802.11g	06	-	-	-	-	-	-	-	Band Edge
5	802.11g	06	4874.00	41.50	54.00	-12.50	H	Average	Pass	Harmonic
6	802.11g	11	-	-	-	-	-	-	-	Band Edge
6	802.11g	11	7386.00	45.30	74.00	-28.70	V	Peak	Pass	Harmonic
7	802.11n HT20	01	2389.95	50.20	54.00	-3.80	H	AVERAGE	Pass	Band Edge
7	802.11n HT20	01	4824.00	46.66	74.00	-27.34	H	Peak	Pass	Harmonic
8	802.11n HT20	06	-	-	-	-	-	-	-	Band Edge
8	802.11n HT20	06	4874.00	47.84	74.00	-26.16	H	Peak	Pass	Harmonic
9	802.11n HT20	11	2483.85	50.11	54.00	-3.89	H	AVERAGE	Pass	Band Edge
9	802.11n HT20	11	7386.00	45.18	74.00	-28.82	V	Peak	Pass	Harmonic
10	802.11n HT40	03	2389.74	50.56	54.00	-3.44	H	AVERAGE	Pass	Band Edge
10	802.11n HT40	03	-	-	-	-	-	-	-	Harmonic
11	802.11n HT40	09	2483.54	50.84	54.00	-3.16	H	AVERAGE	Pass	Band Edge
11	802.11n HT40	09	4904.00	45.25	74.00	-28.75	V	Peak	Pass	Harmonic
12	802.11n HT40	09	48.43	26.67	40.00	-13.33	V	Peak	Pass	LF

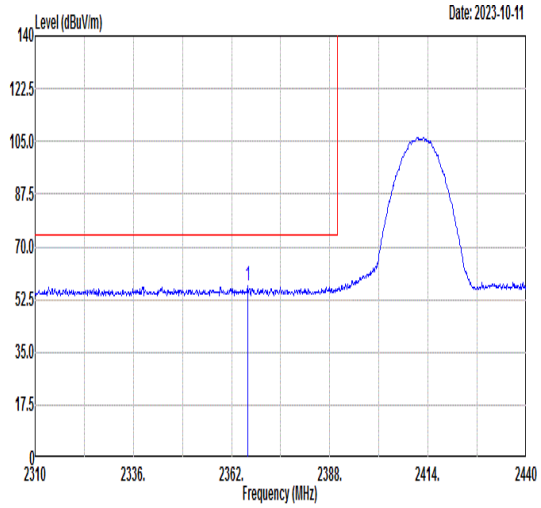
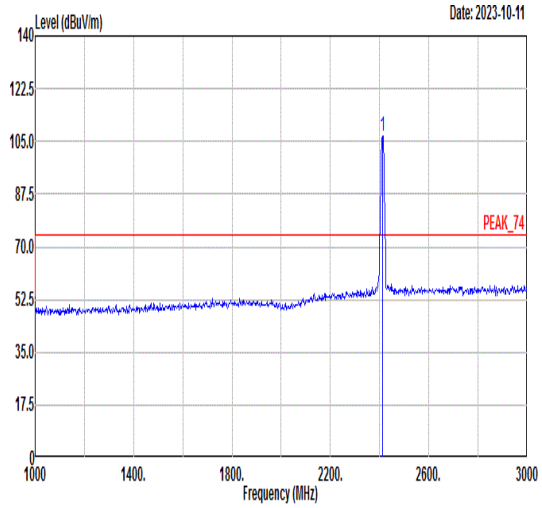
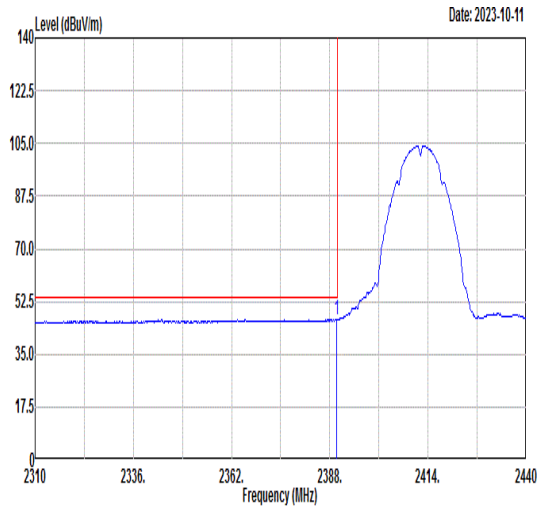
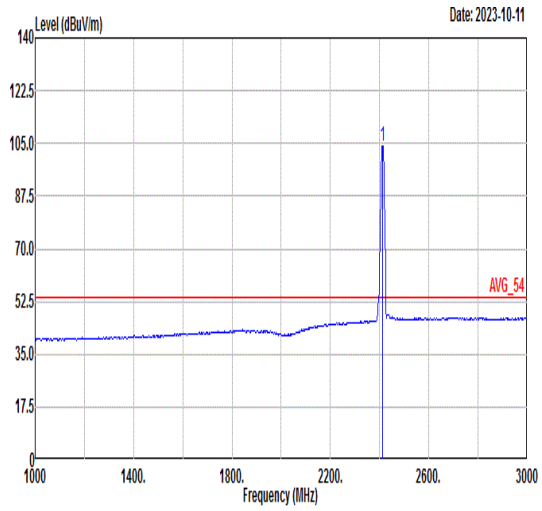
<Co-colation>

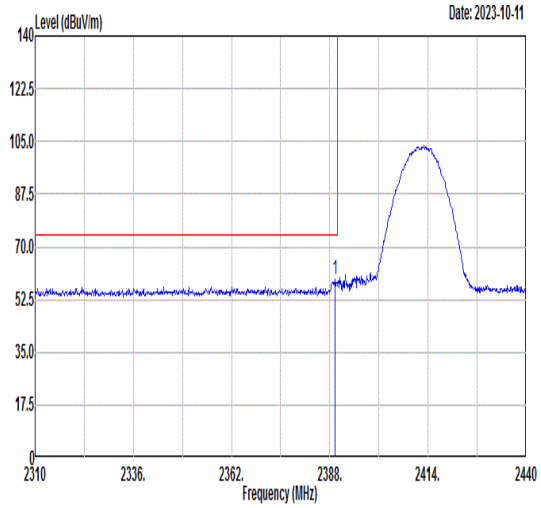
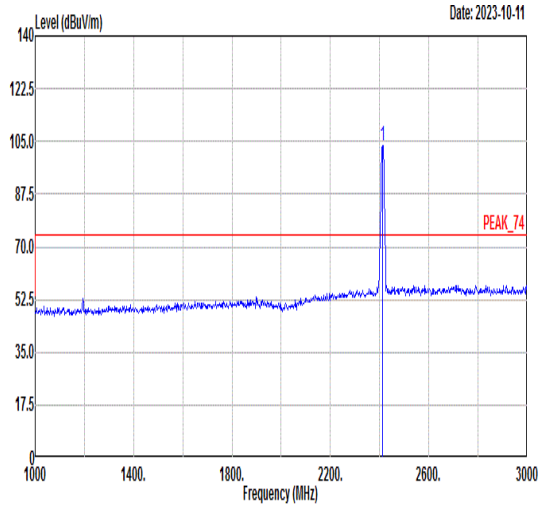
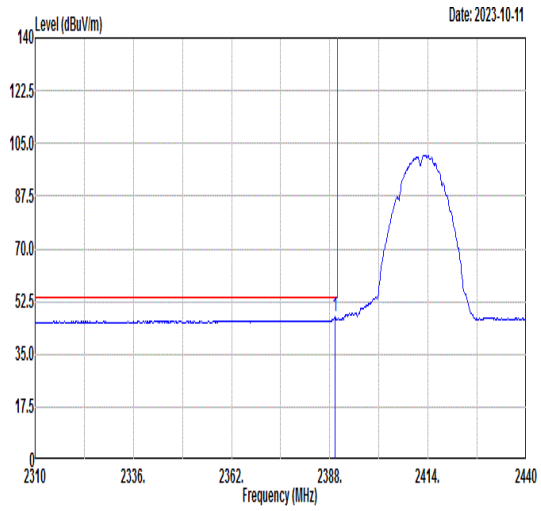
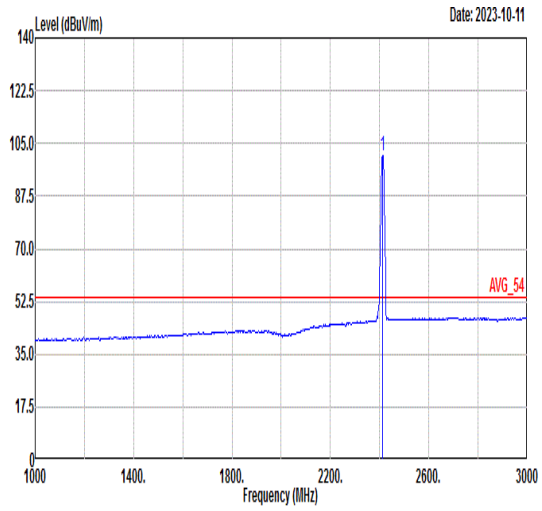
11n HT40_CH09+LTE B13 Link (Band Edge @ 3m)

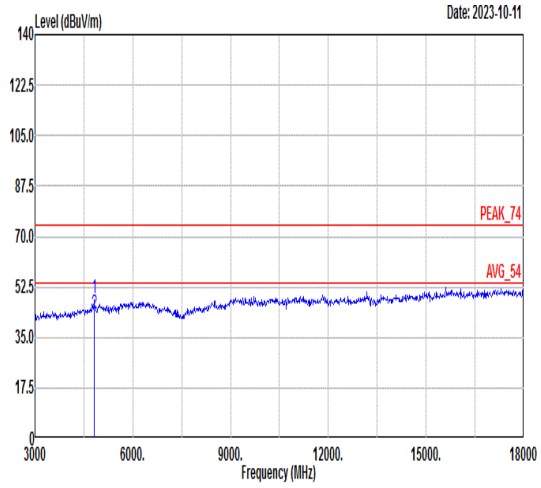
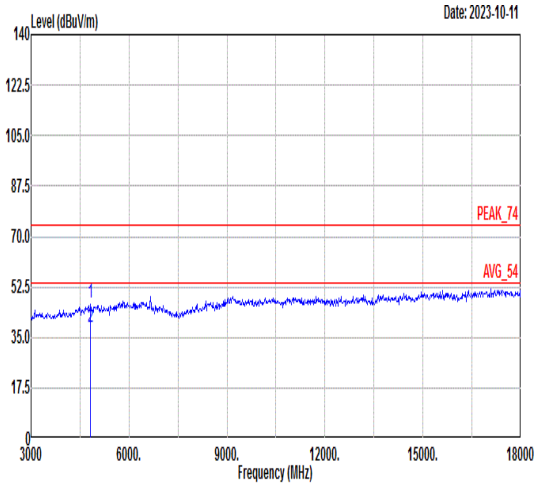
WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
WIFI 802. 11n HT40_CH09+LTE B13 Link Co-location		2350.46	56.66	-17.34	74	51.98	33.21	5.34	33.87	100	285	Pak	H
		2388.82	46.89	-7.11	54	42.09	33.31	5.37	33.88	100	285	A	H
	*	2452	102.63	-	-	97.63	33.48	5.41	33.89	100	285	P	H
	*	2452	96.07	-	-	91.07	33.48	5.41	33.89	100	285	A	H
		2483.62	60.29	-13.71	74	55.17	33.56	5.46	33.9	100	285	P	H
		2483.76	50.74	-3.26	54	45.62	33.56	5.46	33.9	100	285	A	H
		2353.26	55.84	-18.16	74	51.15	33.22	5.34	33.87	356	282	P	V
		2386.3	47.11	-6.89	54	42.32	33.3	5.37	33.88	356	282	A	V
	*	2452	92.6	-	-	87.6	33.48	5.41	33.89	356	282	P	V
	*	2452	86.21	-	-	81.21	33.48	5.41	33.89	356	282	A	V
		2486.56	56.5	-17.5	74	51.37	33.57	5.46	33.9	356	282	P	V
		2496.22	46.84	-7.16	54	41.69	33.59	5.46	33.9	356	282	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

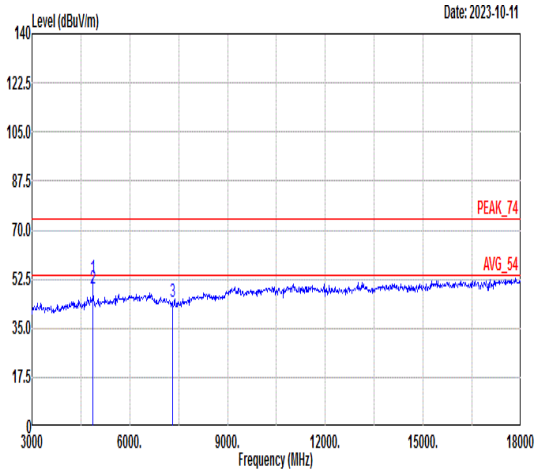
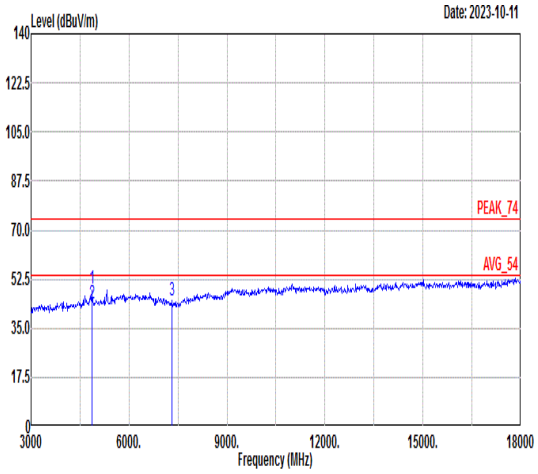
11n HT40_CH09+LTE B13 Link (Harmonic @ 3m)

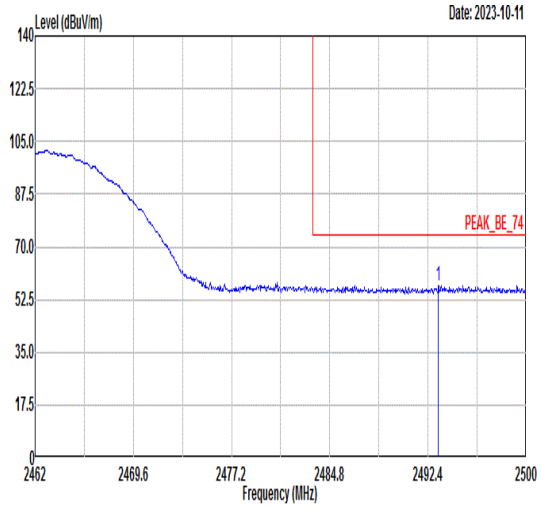
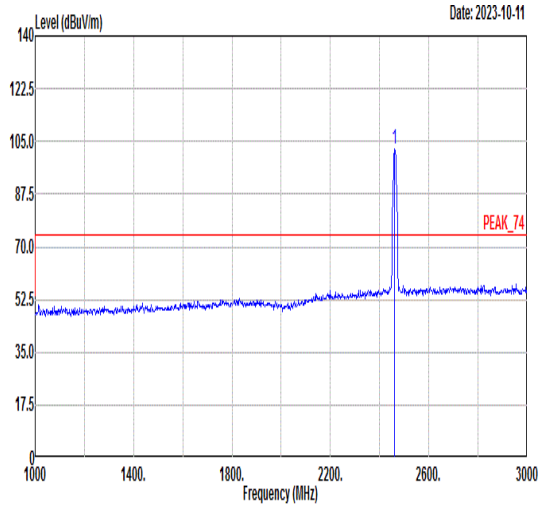
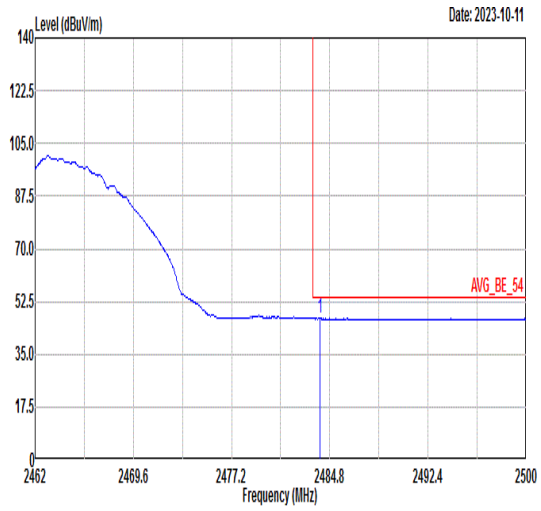
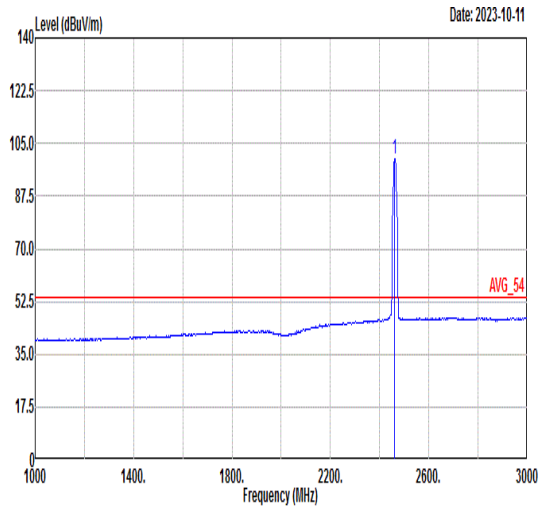
WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
WIFI 802. 11n HT40_CH09+LTE B13 Link Co-location		4904	43.44	-30.56	74	63.53	36.14	8.65	64.88	-	-	P	H
		7356	44.45	-29.55	74	63.01	36.12	10.18	64.86	-	-	P	H
		4904	43.87	-30.13	74	63.96	36.14	8.65	64.88	-	-	P	V
		7356	45.76	-28.24	74	64.32	36.12	10.18	64.86	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

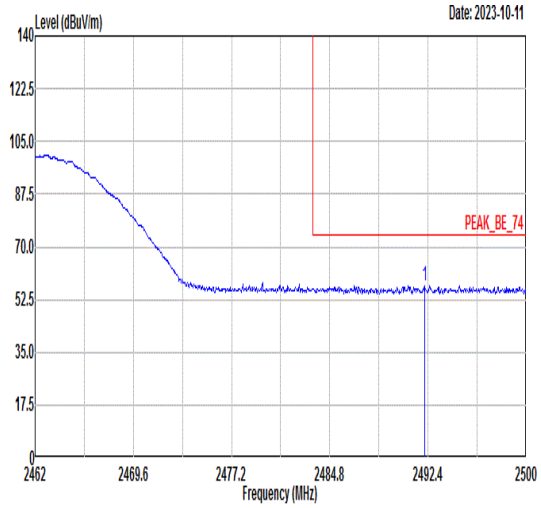
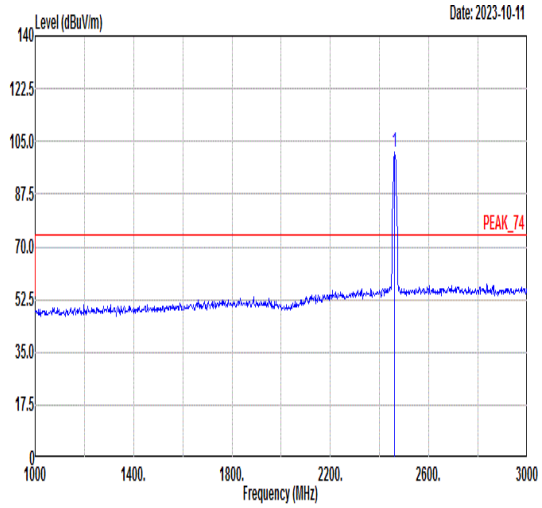
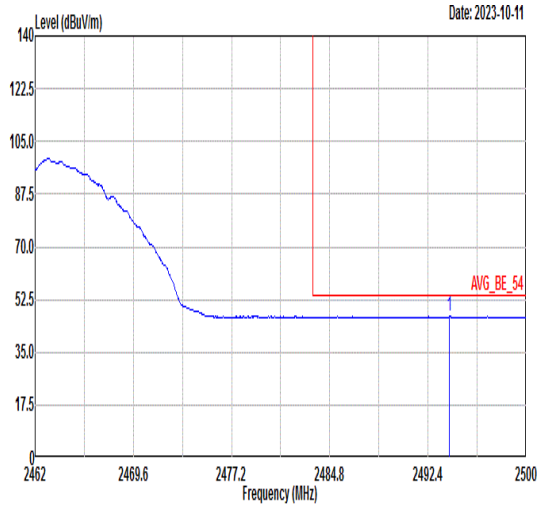
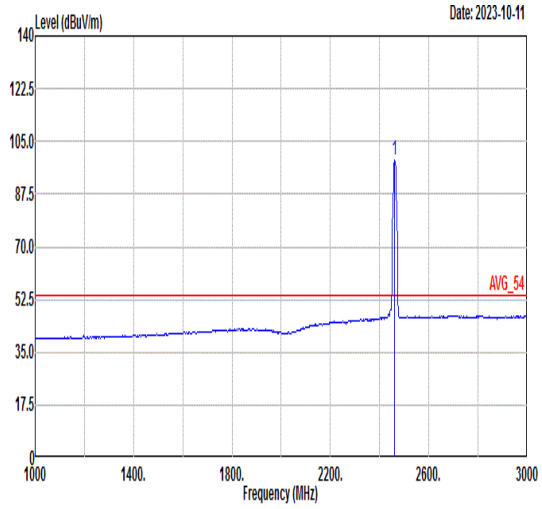
Mode	1	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2366.29 57.21 74.00 -16.79 51.91 33.25 5.34 33.29 100 290 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 106.89 ------ ------ 101.36 33.37 5.38 33.22 100 290 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.82 46.60 54.00 -7.40 41.18 33.31 5.36 33.25 100 290 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 104.11 ------ ------ 98.58 33.37 5.38 33.22 100 290 AVERAGE

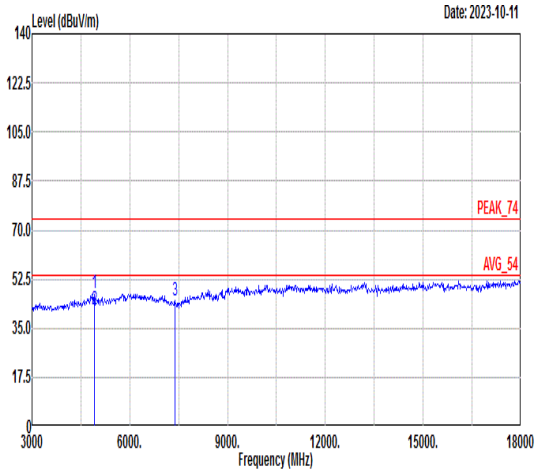
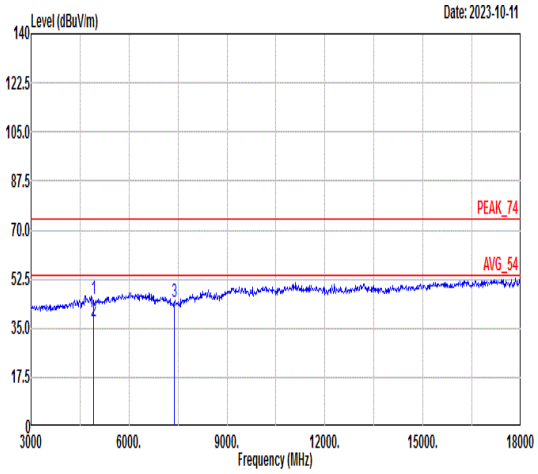
Mode	1	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.30 58.92 74.00 -15.08 53.50 33.31 5.36 33.25 100 247 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 103.62 ------ ------ 98.08 33.38 5.38 33.22 100 247 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.43 47.35 54.00 -6.65 41.93 33.31 5.36 33.25 100 247 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 100.81 ------ ------ 95.28 33.37 5.38 33.22 100 247 AVERAGE

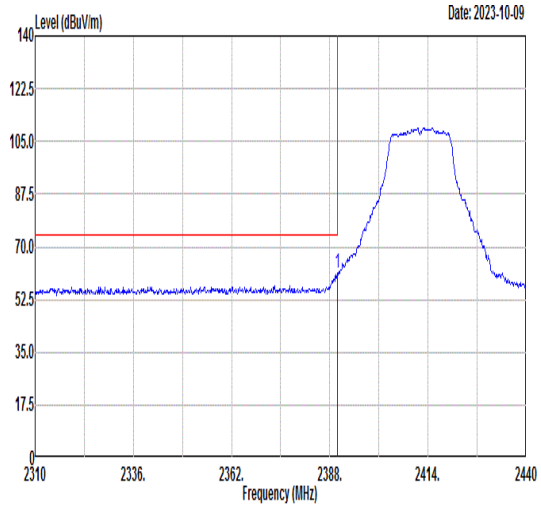
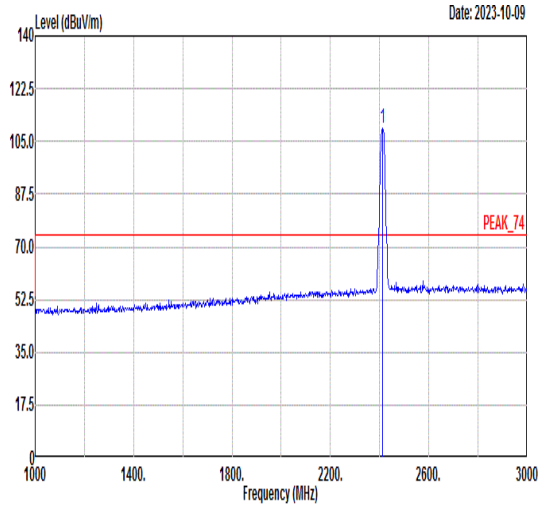
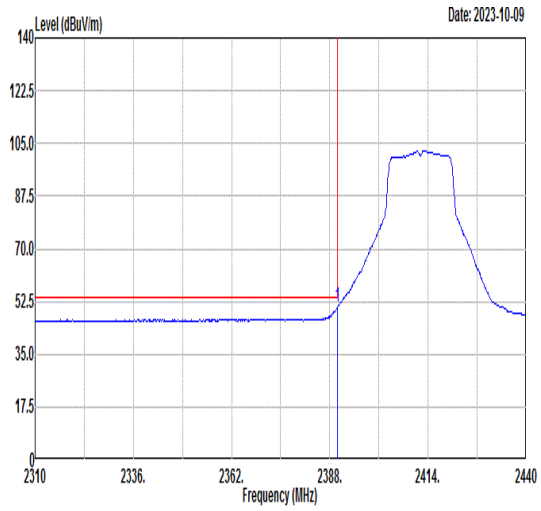
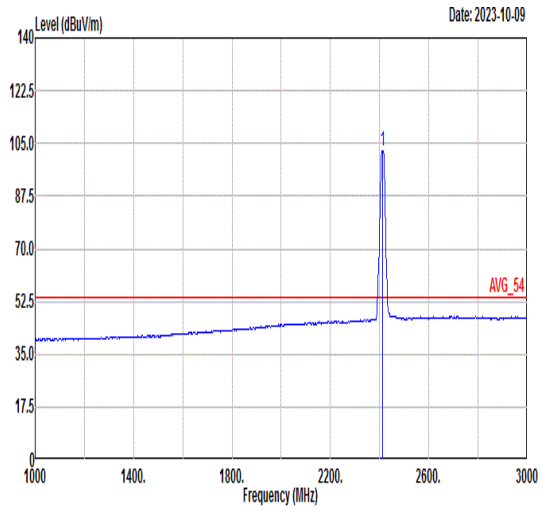
Mode	1	
	Harmonic	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 48.80 74.00 -25.20 68.68 36.09 8.88 64.85 100 295 Peak 2 4824.00 43.25 54.00 -10.75 63.13 36.09 8.88 64.85 100 295 Average	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 46.92 74.00 -27.08 66.80 36.09 8.88 64.85 100 80 Peak 2 4824.00 38.67 54.00 -15.33 58.55 36.09 8.88 64.85 100 80 Average

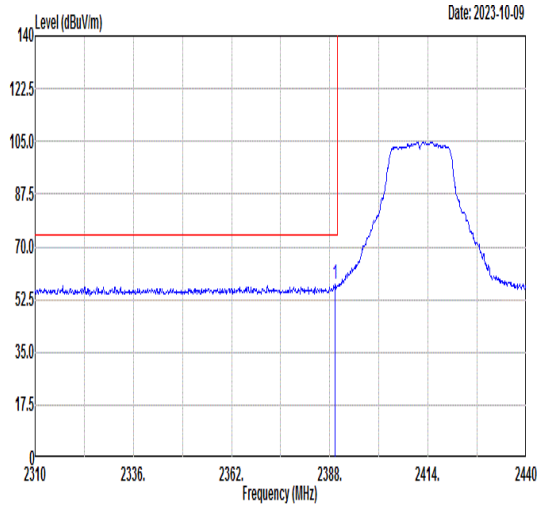
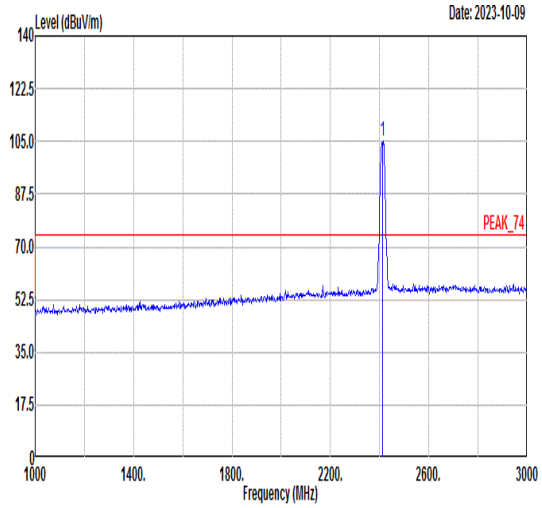
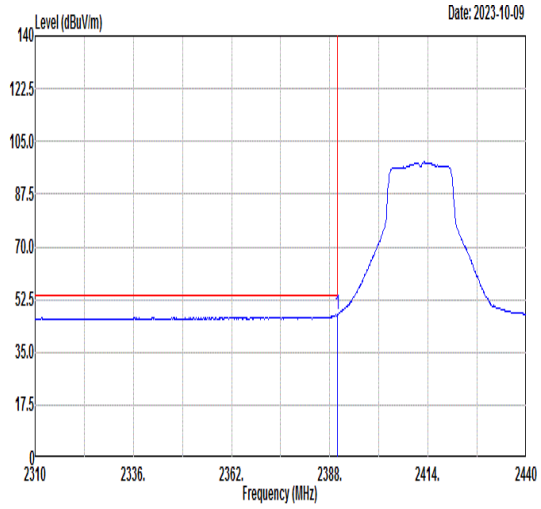
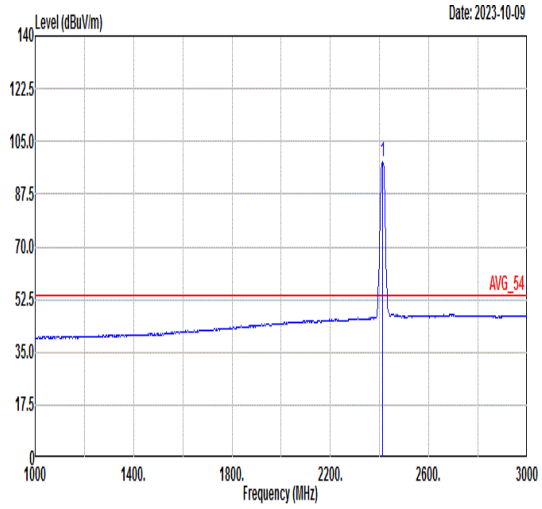
Mode	2	
	Harmonic	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 53.03 74.00 -20.97 73.06 36.12 8.72 64.87 100 301 Peak 2 4874.00 49.35 54.00 -4.65 69.38 36.12 8.72 64.87 100 301 Average 3 7311.00 44.35 74.00 -29.65 62.81 36.22 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 49.13 74.00 -24.87 69.16 36.12 8.72 64.87 157 144 Peak 2 4874.00 43.83 54.00 -10.17 63.86 36.12 8.72 64.87 157 144 Average 3 7311.00 44.81 74.00 -29.19 63.27 36.22 10.18 64.86 --- --- Peak

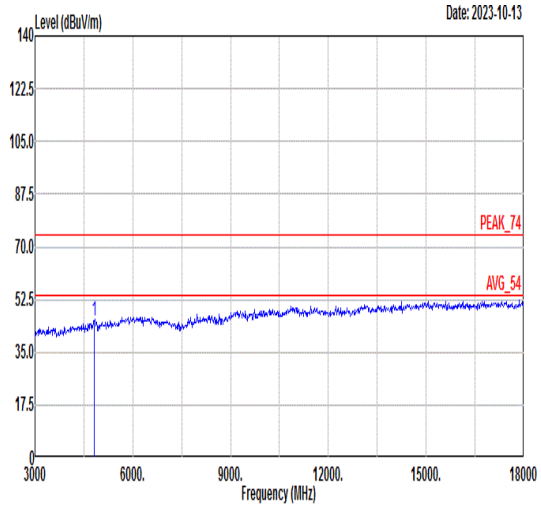
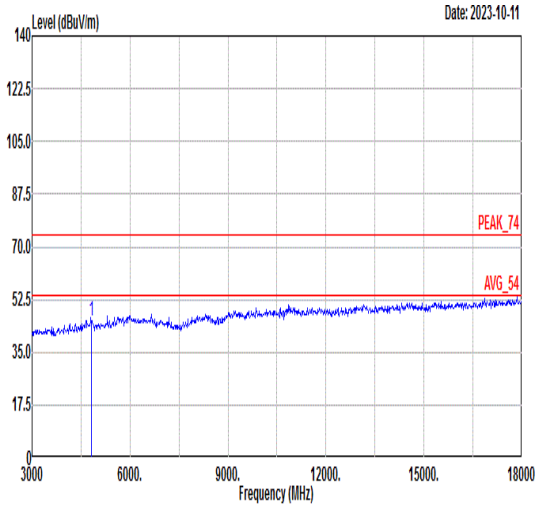
Mode	3	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2493.20 57.05 74.00 -16.95 51.11 33.58 5.47 33.11 200 295 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 102.32 ------ ------ 96.53 33.50 5.44 33.15 200 295 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.04 47.21 54.00 -6.79 41.31 33.56 5.46 33.12 200 295 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 99.81 ------ ------ 94.02 33.50 5.44 33.15 200 295 AVERAGE

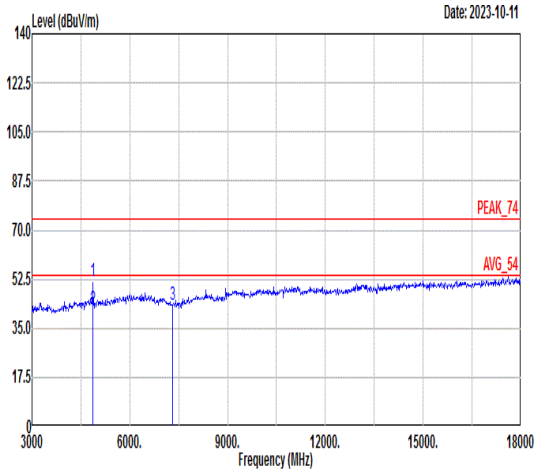
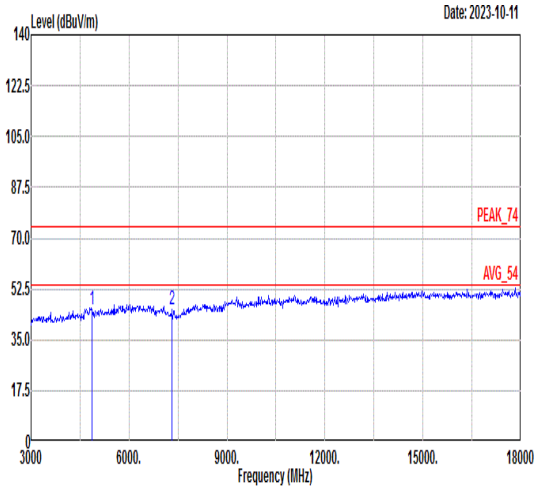
Mode	3	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2492.17 57.25 74.00 -16.75 51.31 33.58 5.47 33.11 400 232 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 101.34 ------ ------ 95.55 33.50 5.44 33.15 400 232 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2494.07 46.92 54.00 -7.08 40.98 33.58 5.47 33.11 400 232 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 98.86 ------ ------ 93.07 33.50 5.44 33.15 400 232 AVERAGE

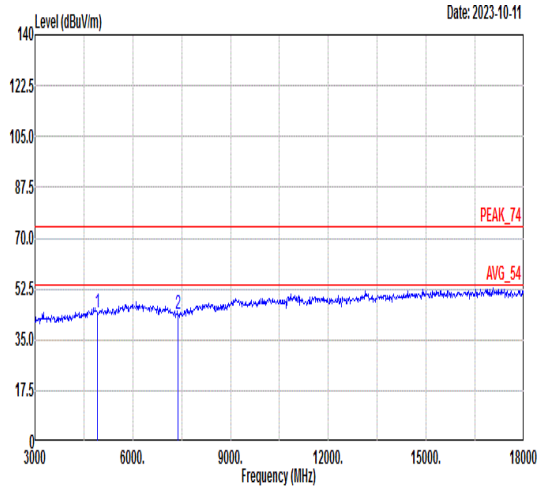
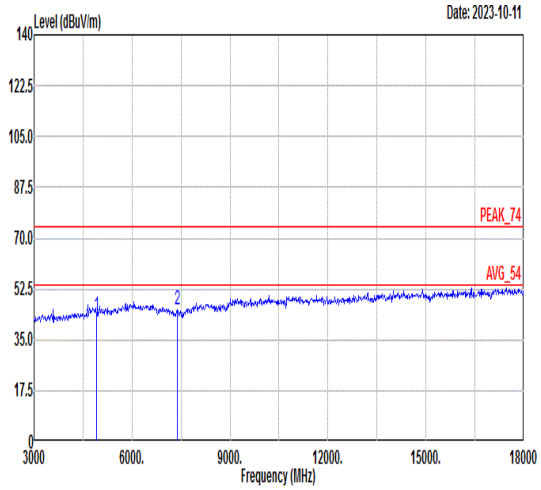
Mode	3	
	Harmonic	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 47.38 74.00 -26.62 67.55 36.15 8.57 64.89 100 300 Peak 2 4924.00 41.72 54.00 -12.28 61.89 36.15 8.57 64.89 100 300 Average 3 7386.00 44.80 74.00 -29.20 63.43 36.05 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 45.20 74.00 -28.80 65.37 36.15 8.57 64.89 100 118 Peak 2 4924.00 37.75 54.00 -16.25 57.92 36.15 8.57 64.89 100 118 Average 3 7386.00 44.35 74.00 -29.65 62.98 36.05 10.18 64.86 --- --- Peak

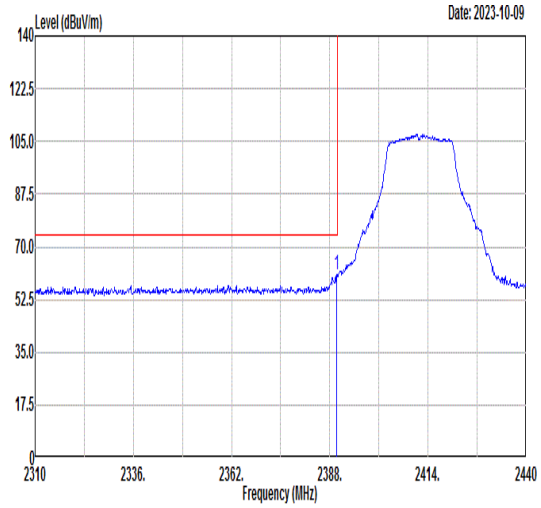
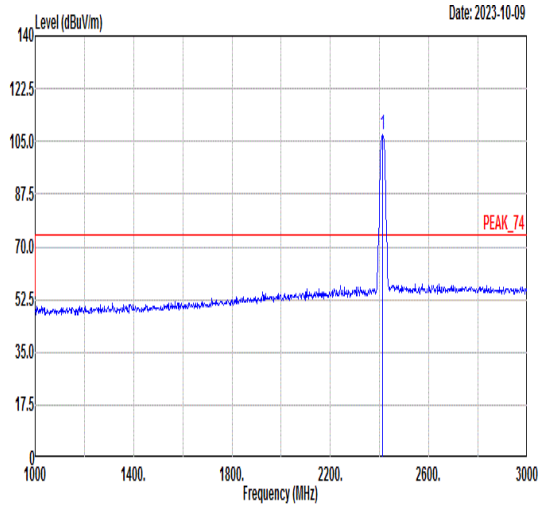
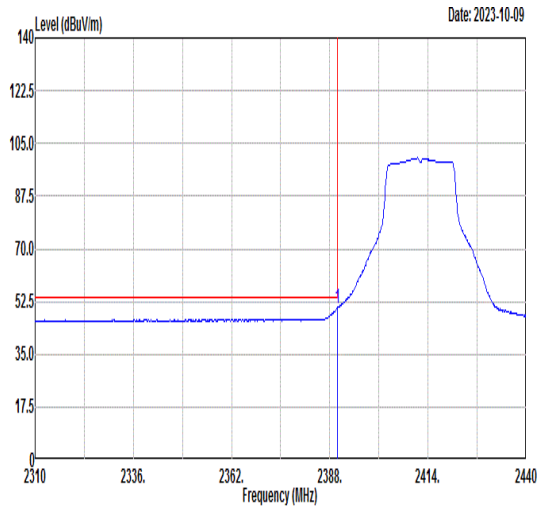
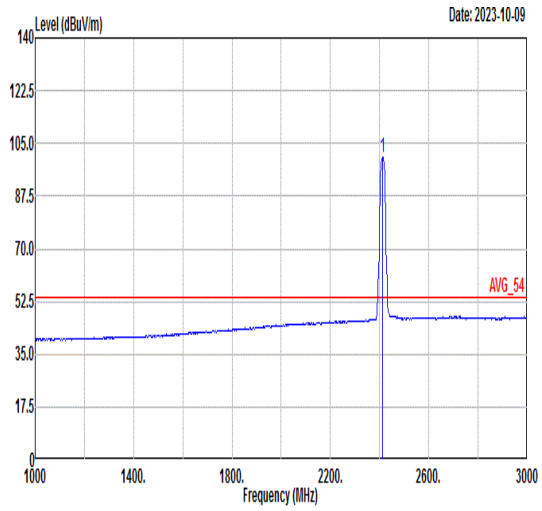
Mode	4	
	Band Edge	
	2400-2483.5_802.11g_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.95 61.37 74.00 -12.63 55.95 33.31 5.36 33.25 286 282 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 109.19 ------ ------ 103.66 33.37 5.38 33.22 286 282 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.95 50.47 54.00 -3.53 45.05 33.31 5.36 33.25 286 282 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 102.64 ------ ------ 97.11 33.37 5.38 33.22 286 282 AVERAGE

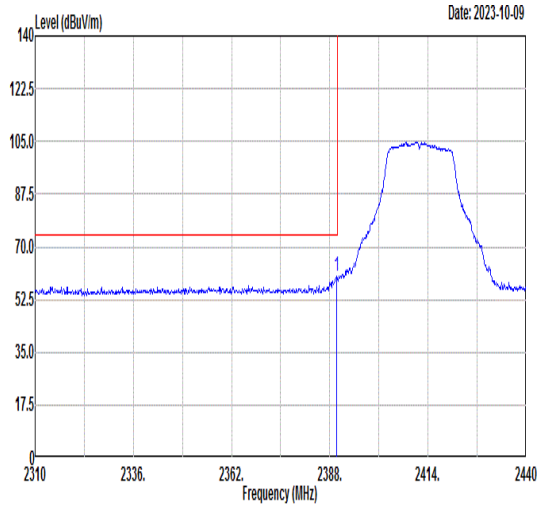
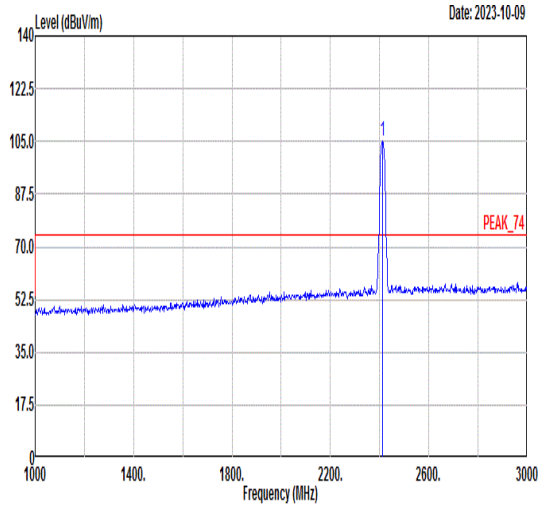
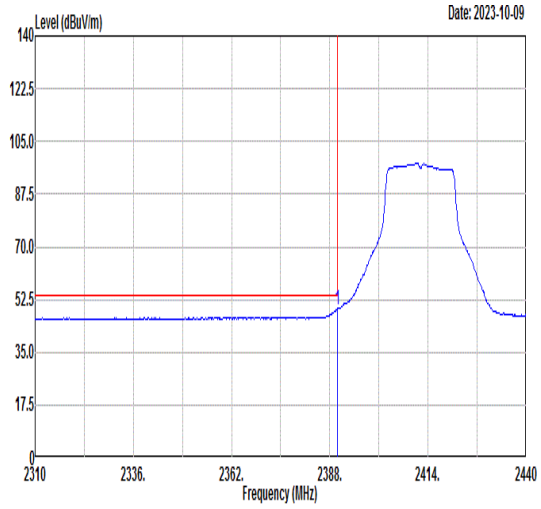
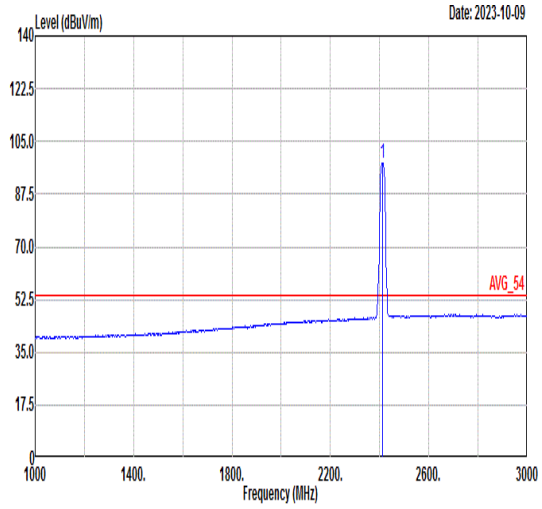
Mode	4	
	Band Edge	
	2400-2483.5_802.11g_CH01_2412MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.43 57.51 74.00 -16.49 52.09 33.31 5.36 33.25 400 262 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 105.07 ------ ------ 99.53 33.38 5.38 33.22 400 262 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.95 47.65 54.00 -6.35 42.23 33.31 5.36 33.25 400 262 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 98.05 ------ ------ 92.52 33.37 5.38 33.22 400 262 AVERAGE

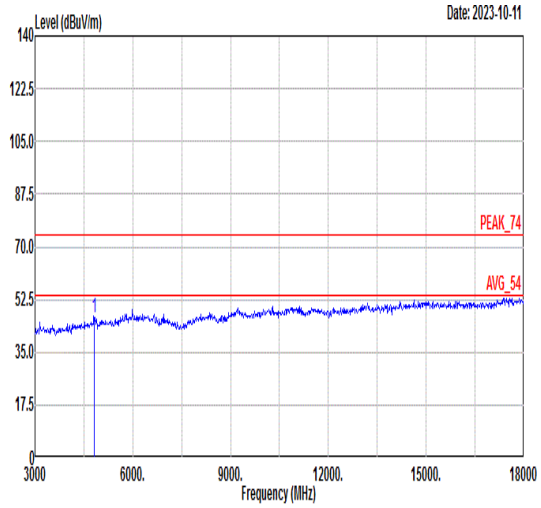
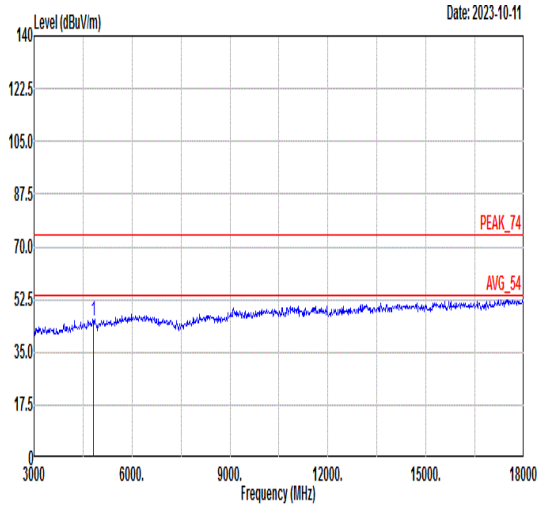
Mode	4	
	Harmonic	
	2400-2483.5_802.11g_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.35 74.00 -28.65 65.23 36.09 8.88 64.85 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.28 74.00 -28.72 65.16 36.09 8.88 64.85 --- --- Peak

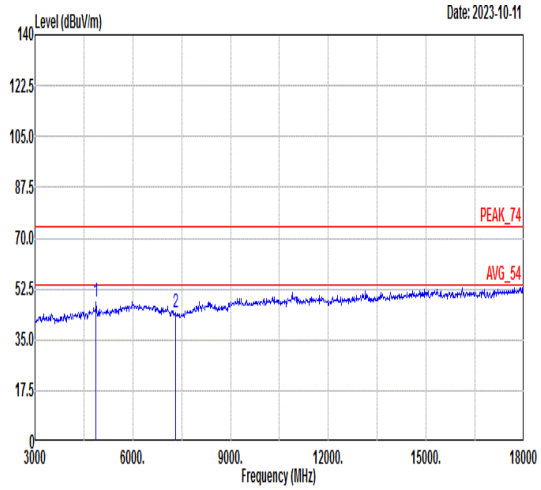
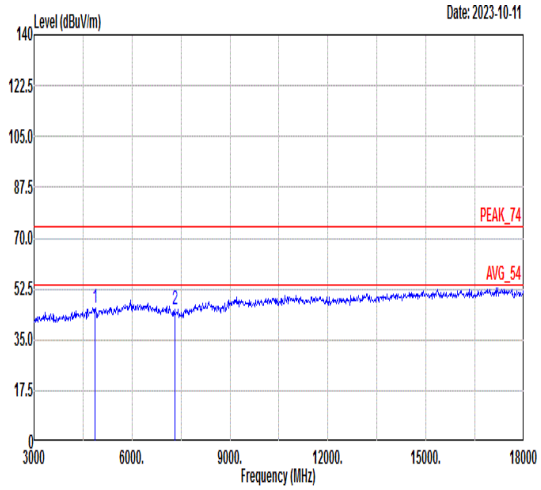
Mode	5	
	Harmonic	
	2400-2483.5_802.11g_CH06_2437MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 51.73 74.00 -22.27 71.76 36.12 8.72 64.87 100 298 Peak 2 4874.00 41.50 54.00 -12.50 61.53 36.12 8.72 64.87 100 298 Average 3 7311.00 43.31 74.00 -30.69 61.77 36.22 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 45.28 74.00 -28.72 65.31 36.12 8.72 64.87 --- --- Peak 2 7311.00 45.23 74.00 -28.77 63.69 36.22 10.18 64.86 --- --- Peak

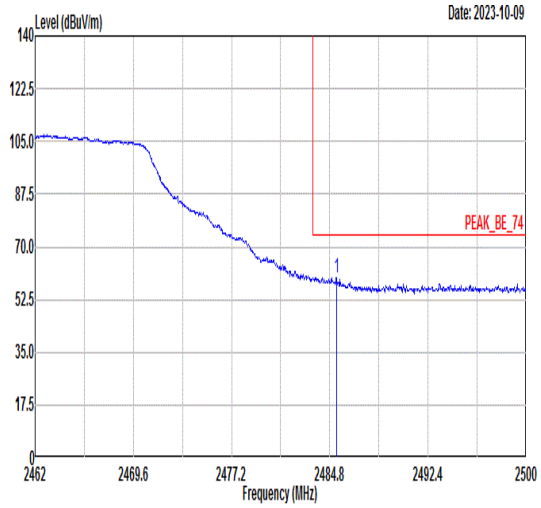
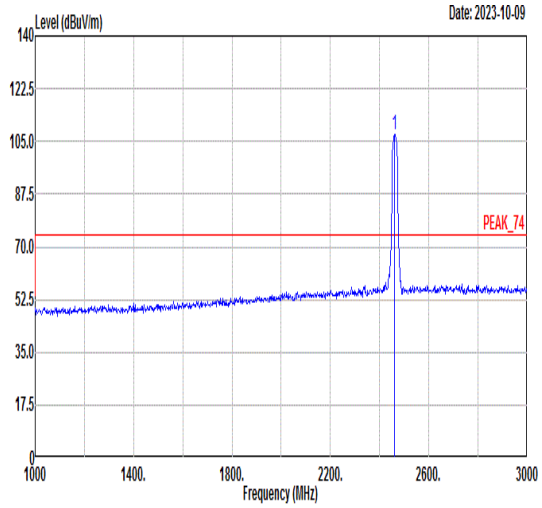
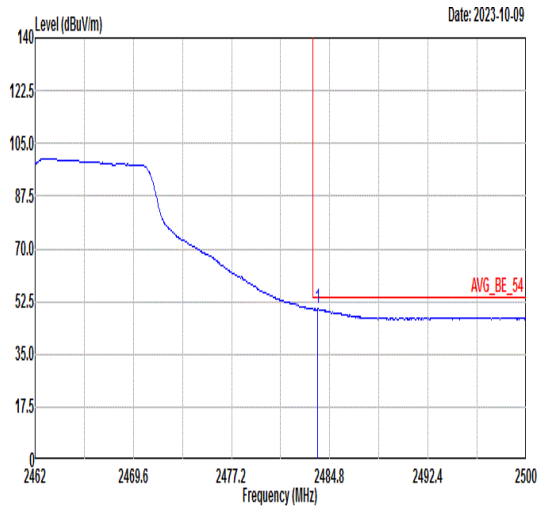
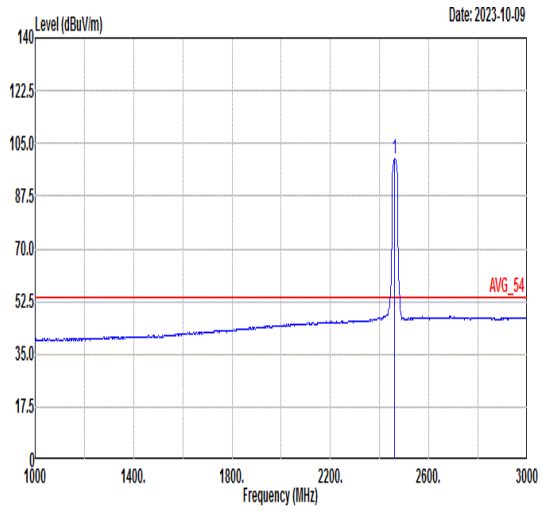
Mode	6	
	Harmonic	
	2400-2483.5_802.11g_CH11_2462MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 44.57 74.00 -29.43 64.74 36.15 8.57 64.89 --- --- Peak 2 7386.00 43.95 74.00 -30.05 62.58 36.05 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 43.45 74.00 -30.55 63.62 36.15 8.57 64.89 --- --- Peak 2 7386.00 45.30 74.00 -28.70 63.93 36.05 10.18 64.86 --- --- Peak

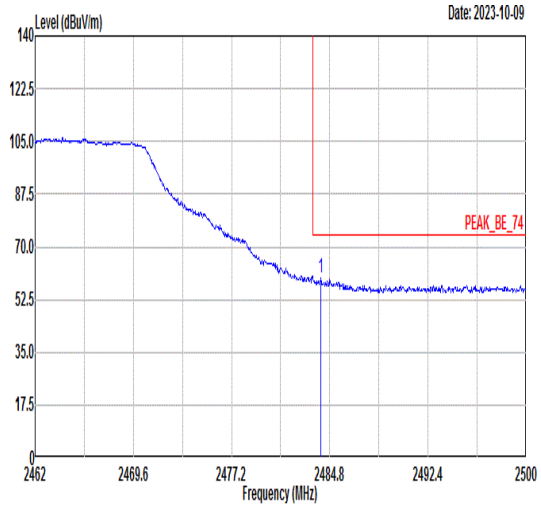
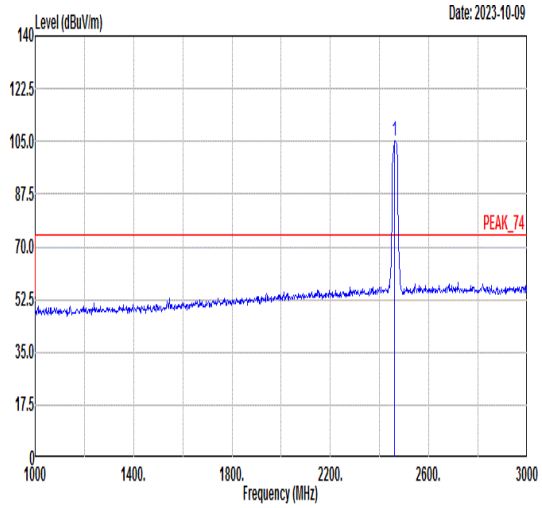
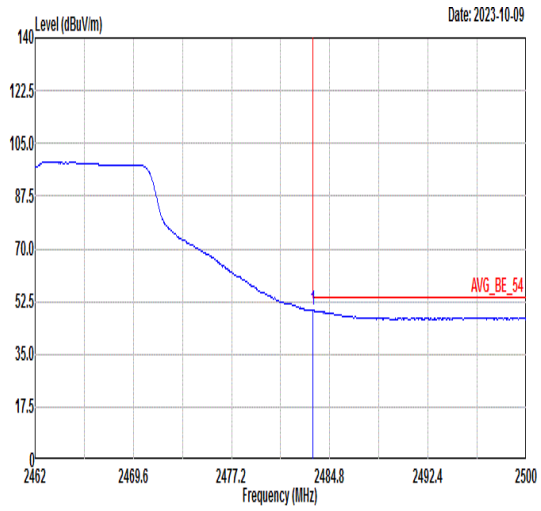
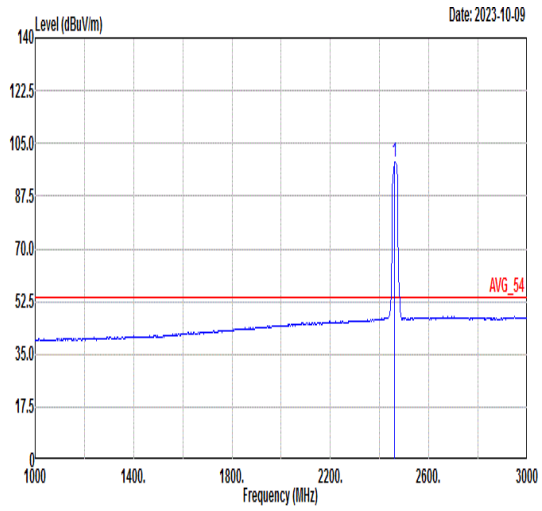
Mode	7	
	Band Edge	
	2400-2483.5_802.11n HT20_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.82 60.69 74.00 -13.31 55.27 33.31 5.36 33.25 218 285 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 107.29 ------ ------ 101.76 33.37 5.38 33.22 218 285 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.95 50.20 54.00 -3.80 44.78 33.31 5.36 33.25 218 285 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 100.23 ------ ------ 94.70 33.37 5.38 33.22 218 285 AVERAGE

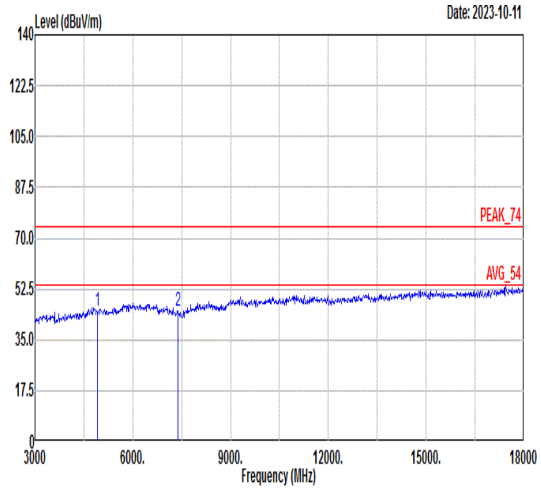
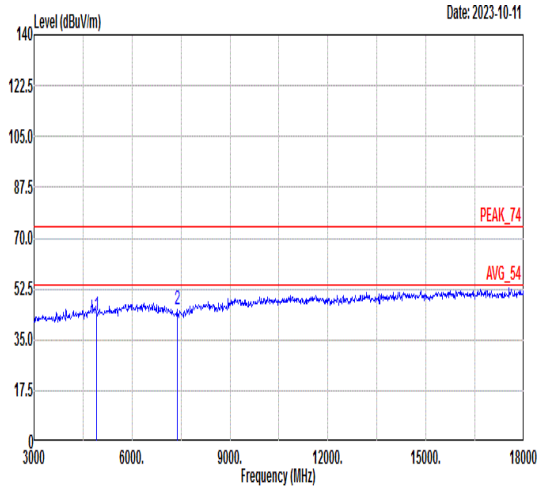
Mode	7	
	Band Edge	
	2400-2483.5_802.11n HT20_CH01_2412MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.82 59.98 74.00 -14.02 54.56 33.31 5.36 33.25 367 250 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 104.95 ------ ------ 99.42 33.37 5.38 33.22 367 250 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.95 49.36 54.00 -4.64 43.94 33.31 5.36 33.25 367 250 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 97.91 ------ ------ 92.38 33.37 5.38 33.22 367 250 AVERAGE

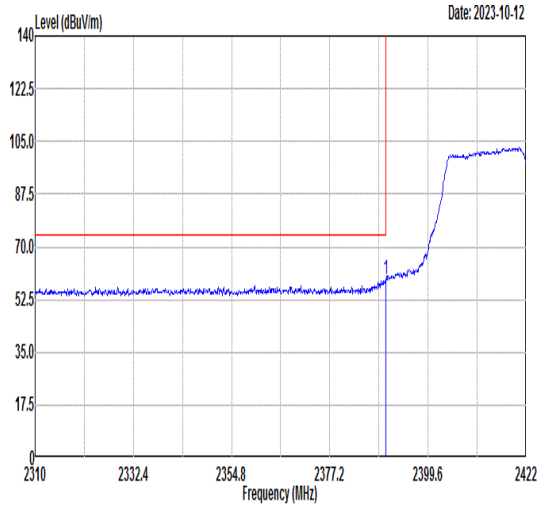
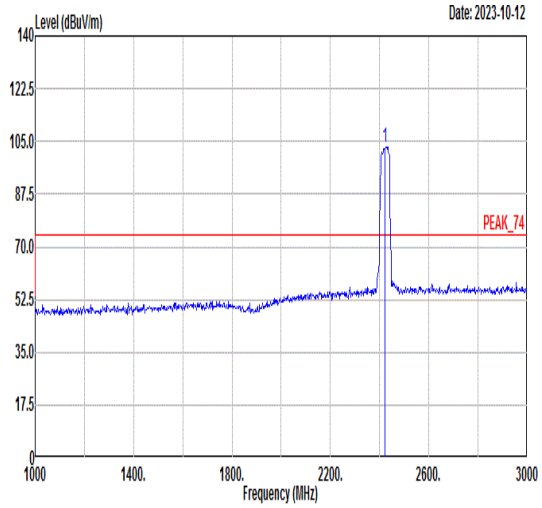
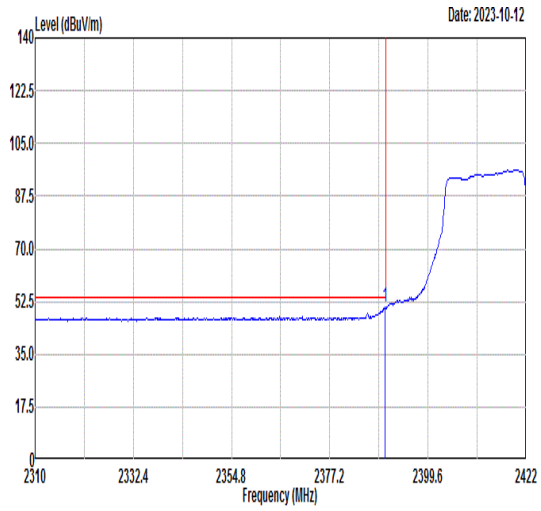
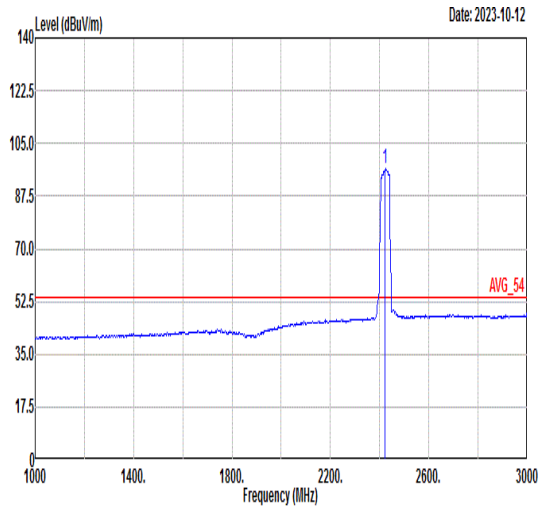
Mode	7	
	Harmonic	
	2400-2483.5_802.11n HT20_CH01_2412MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 46.66 74.00 -27.34 66.54 36.09 8.88 64.85 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.53 74.00 -28.47 65.41 36.09 8.88 64.85 --- --- Peak

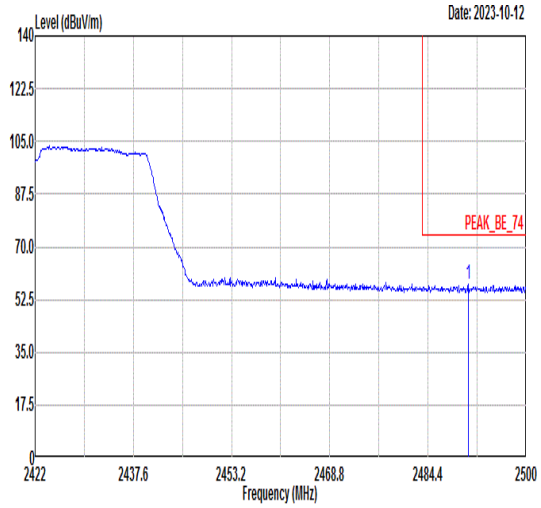
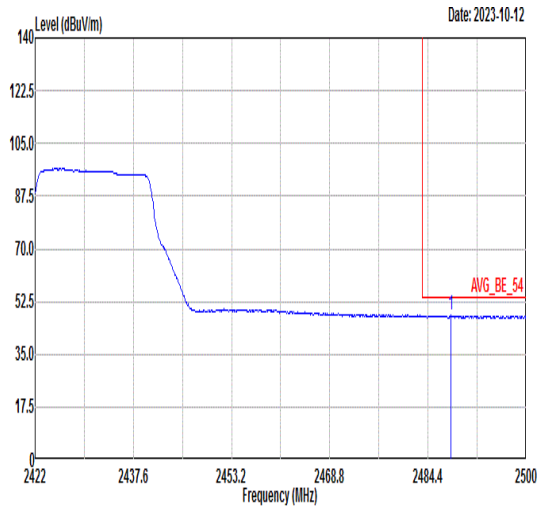
Mode	8	
	Harmonic	
	2400-2483.5_802.11n HT20_CH06_2437MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 47.84 74.00 -26.16 67.87 36.12 8.72 64.87 --- --- Peak 2 7311.00 44.18 74.00 -29.82 62.64 36.22 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 46.18 74.00 -27.82 66.21 36.12 8.72 64.87 --- --- Peak 2 7311.00 45.52 74.00 -28.48 63.98 36.22 10.18 64.86 --- --- Peak

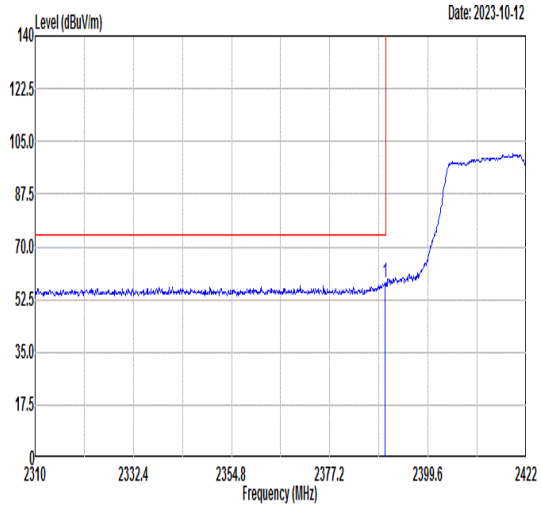
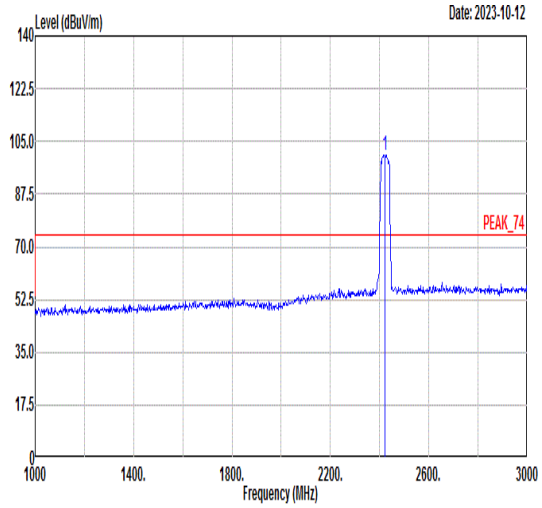
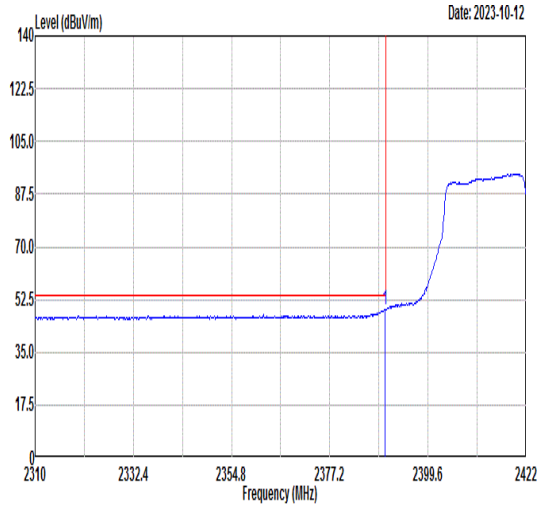
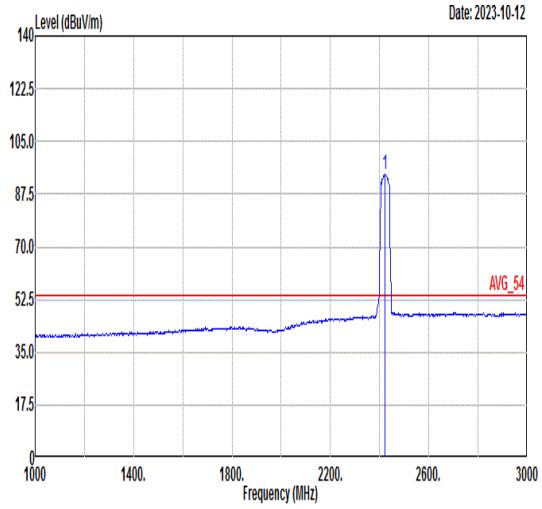
Mode	9	
	Band Edge	
	2400-2483.5_802.11n HT20_CH11_2462MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2485.33 59.94 74.00 -14.06 54.04 33.56 5.46 33.12 152 279 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 107.39 ------ ------ 101.62 33.50 5.43 33.16 152 279 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.85 50.11 54.00 -3.89 44.21 33.56 5.46 33.12 152 279 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 100.04 ------ ------ 94.25 33.50 5.44 33.15 152 279 AVERAGE

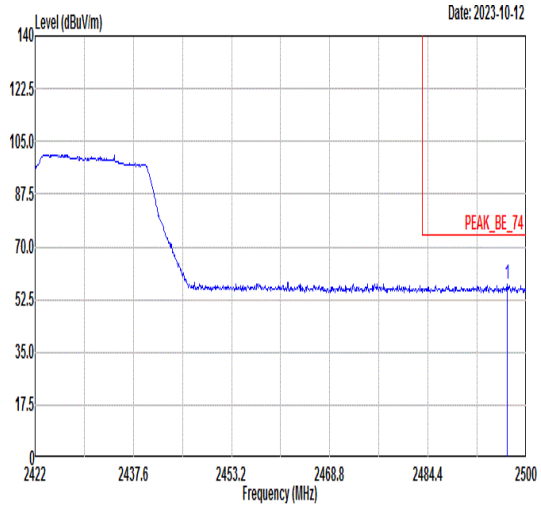
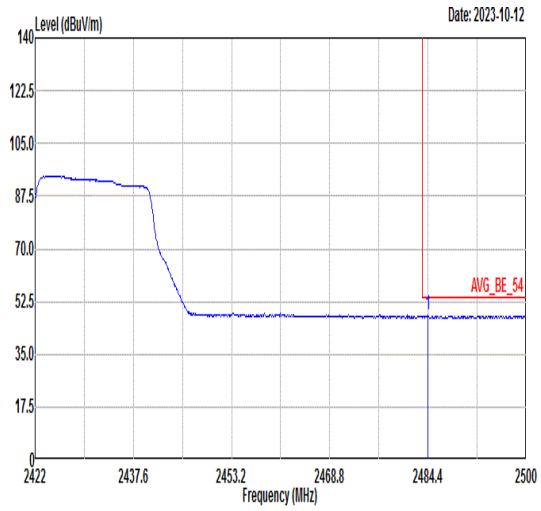
Mode	9	
	Band Edge	
	2400-2483.5_802.11n HT20_CH11_2462MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.12 59.49 74.00 -14.51 53.59 33.56 5.46 33.12 376 233 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 105.14 ------ ------ 99.34 33.51 5.44 33.15 376 233 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.51 49.63 54.00 -4.37 43.73 33.56 5.46 33.12 376 233 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 98.72 ------ ------ 92.92 33.51 5.44 33.15 376 233 AVERAGE

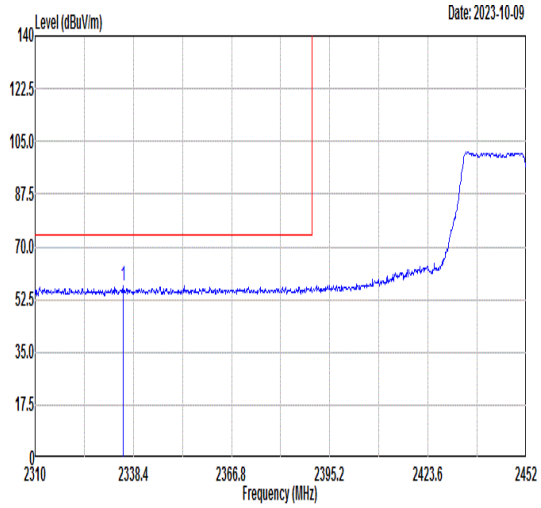
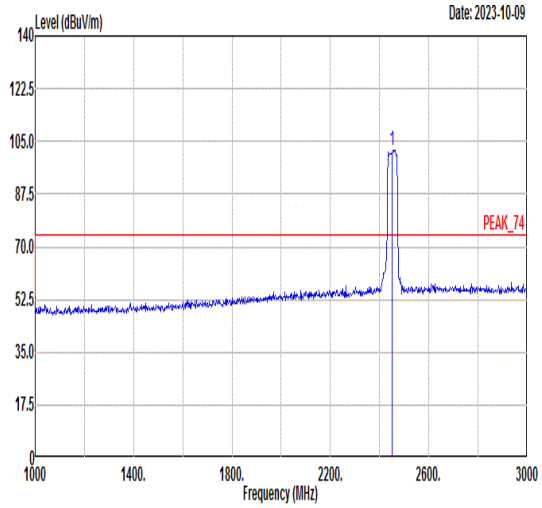
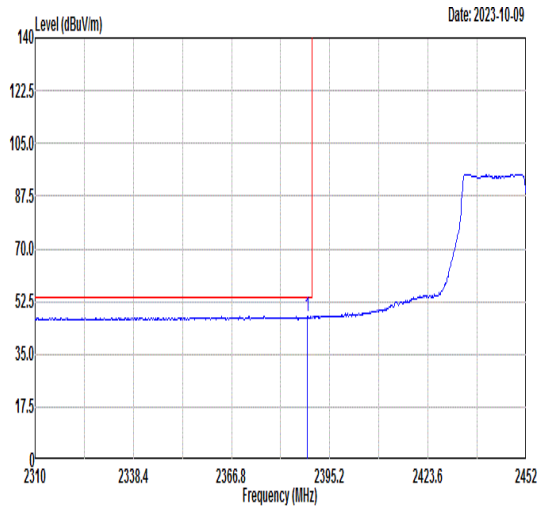
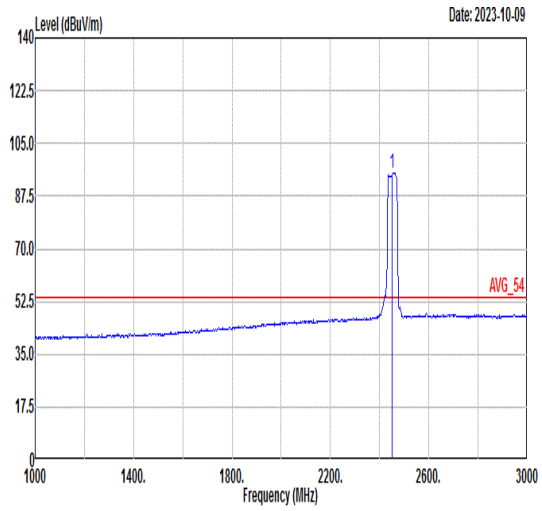
Mode	9	
	Harmonic	
	2400-2483.5_802.11n HT20_CH11_2462MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 44.76 74.00 -29.24 64.93 36.15 8.57 64.89 --- --- Peak 2 7386.00 44.69 74.00 -29.31 63.32 36.05 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 43.49 74.00 -30.51 63.66 36.15 8.57 64.89 --- --- Peak 2 7386.00 45.18 74.00 -28.82 63.81 36.05 10.18 64.86 --- --- Peak

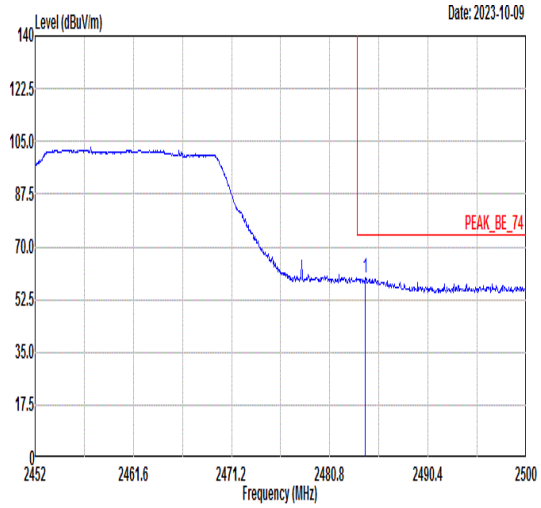
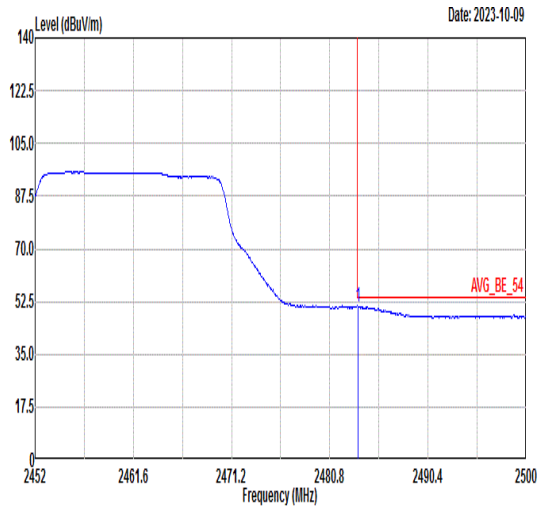
Mode	10	
	Band Edge - L	
	2400-2483.5_802.11n HT40_CH03_2422MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.97 58.98 74.00 -15.02 53.56 33.31 5.36 33.25 100 285 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 103.20 ------ ------ 97.59 33.41 5.40 33.20 100 285 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.74 50.56 54.00 -3.44 45.14 33.31 5.36 33.25 100 285 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 96.51 ------ ------ 90.91 33.41 5.39 33.20 100 285 AVERAGE

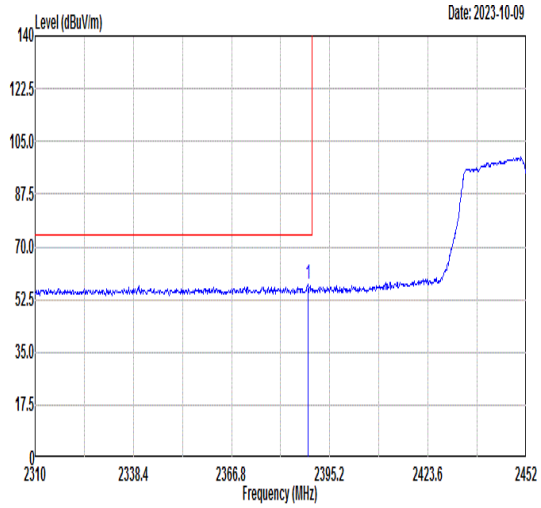
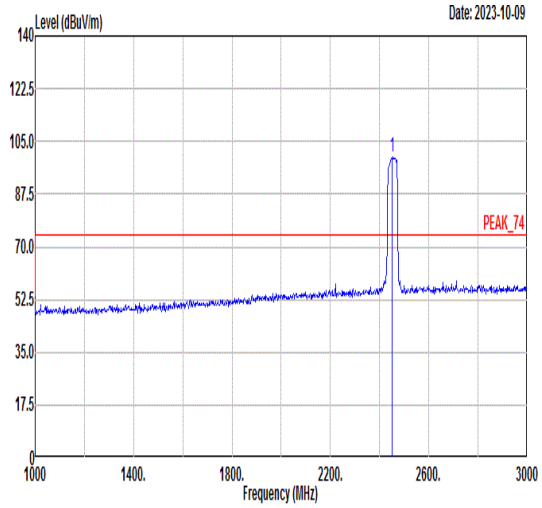
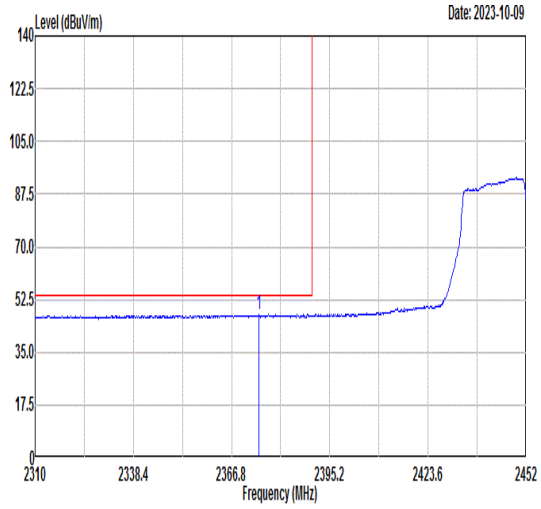
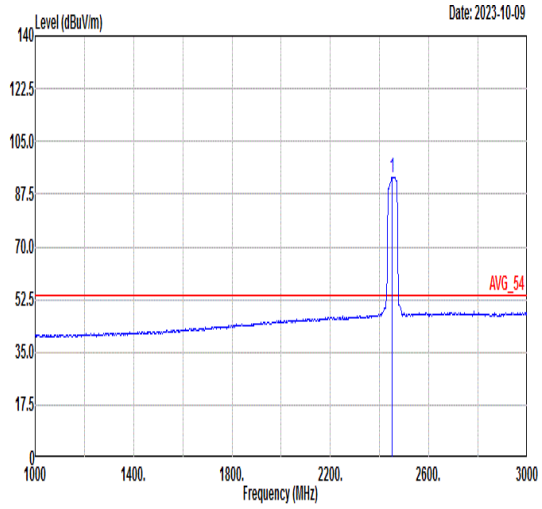
Mode	10	
	Band Edge - R	
	2400-2483.5_802.11n HT40_CH03_2422MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2490.80 57.42 74.00 -16.58 51.48 33.58 5.47 33.11 100 285 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2487.99 47.82 54.00 -6.18 41.91 33.57 5.46 33.12 100 285 AVERAGE	Blank

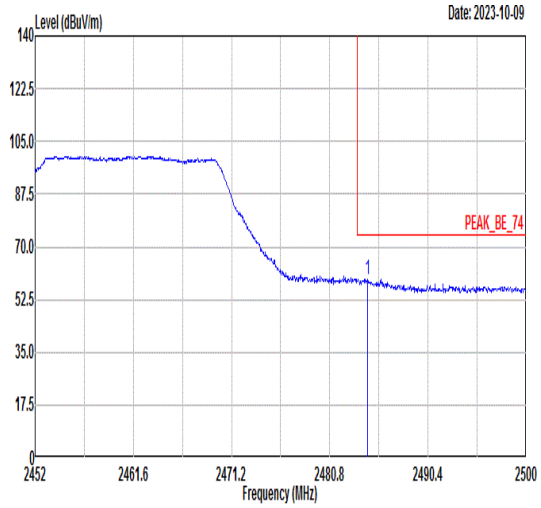
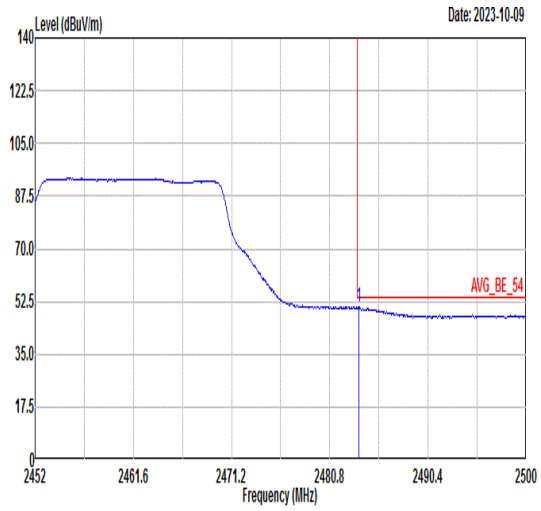
Mode	10	
	Band Edge - L	
	2400-2483.5_802.11n HT40_CH03_2422MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.86 57.93 74.00 -16.07 52.51 33.31 5.36 33.25 316 247 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 100.63 ------ ------ 95.09 33.38 5.38 33.22 316 247 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.74 49.12 54.00 -4.88 43.70 33.31 5.36 33.25 316 247 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 93.91 ------ ------ 88.34 33.39 5.39 33.21 316 247 AVERAGE

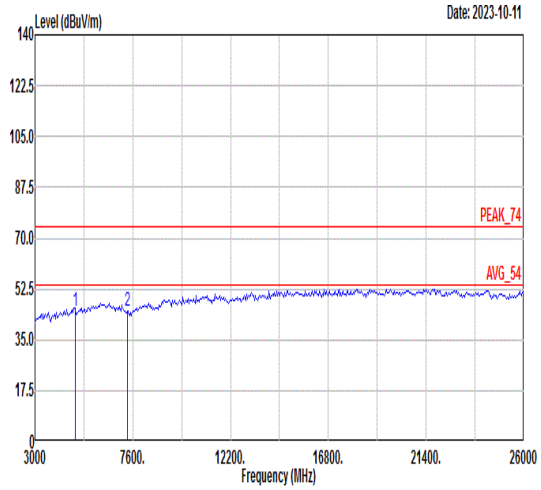
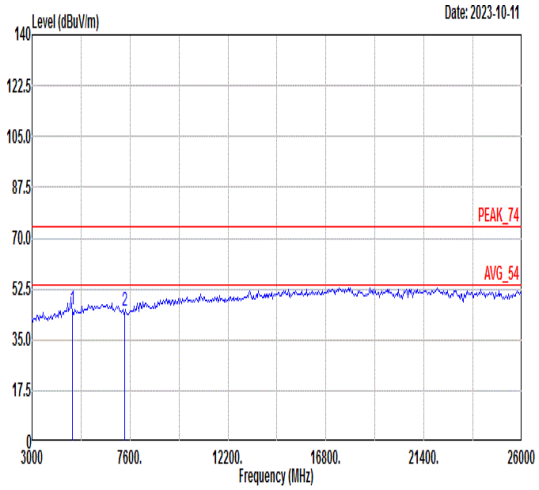
Mode	10	
	Band Edge - R	
	2400-2483.5_802.11n HT40_CH03_2422MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2496.96 57.66 74.00 -16.34 51.70 33.59 5.47 33.10 316 247 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.32 47.96 54.00 -6.04 42.06 33.56 5.46 33.12 316 247 AVERAGE	Blank

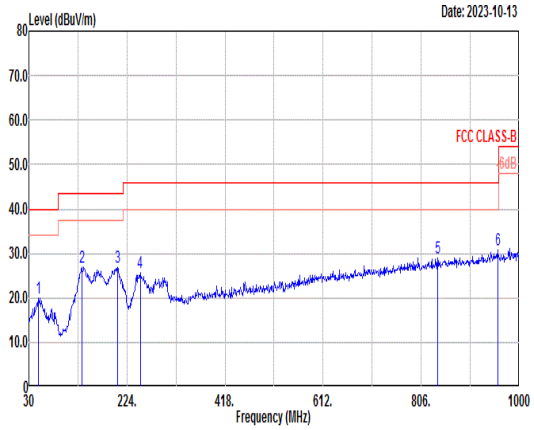
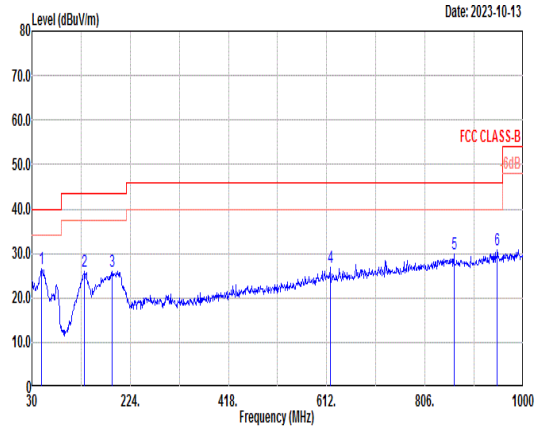
Mode	11	
	Band Edge - L	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2335.42 57.16 74.00 -16.84 52.01 33.17 5.31 33.33 101 284 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 102.21 ------ ------ 96.45 33.49 5.43 33.16 101 284 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2388.67 47.55 54.00 -6.45 42.14 33.31 5.36 33.26 101 284 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 95.25 ------ ------ 89.49 33.49 5.43 33.16 101 284 AVERAGE

Mode	11	
	Band Edge - R	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.26 59.87 74.00 -14.13 53.97 33.56 5.46 33.12 101 284 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.54 50.84 54.00 -3.16 44.94 33.56 5.46 33.12 101 284 AVERAGE	Blank

Mode	11	
	Band Edge - L	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2388.81 57.48 74.00 -16.52 52.07 33.31 5.36 33.26 384 235 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 99.75 ------ ------ 94.00 33.48 5.43 33.16 384 235 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2374.75 47.55 54.00 -6.45 42.21 33.27 5.35 33.28 384 235 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 93.12 ------ ------ 87.36 33.49 5.43 33.16 384 235 AVERAGE

Mode	11	
	Band Edge - R	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.50 59.33 74.00 -14.67 53.43 33.56 5.46 33.12 384 235 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.63 50.79 54.00 -3.21 44.89 33.56 5.46 33.12 384 235 AVERAGE	Blank

Mode	11	
	Harmonic	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4904.00 45.07 74.00 -28.93 65.18 36.14 8.63 64.88 --- --- Peak 2 7356.00 44.92 74.00 -29.08 63.48 36.12 10.18 64.86 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4904.00 45.25 74.00 -28.75 65.36 36.14 8.63 64.88 --- --- Peak 2 7356.00 44.80 74.00 -29.20 63.36 36.12 10.18 64.86 --- --- Peak

Mode	12	
	LF	
	2400-2483.5_802.11n HT40_CH09_2452MHz	
ANT	2	
Pol.	Horizontal	Vertical
QP/ Peak		

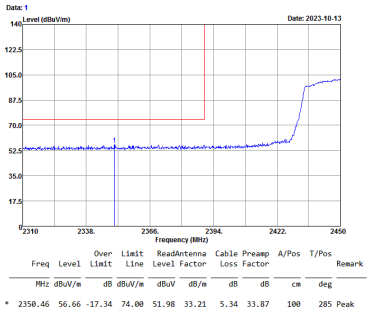
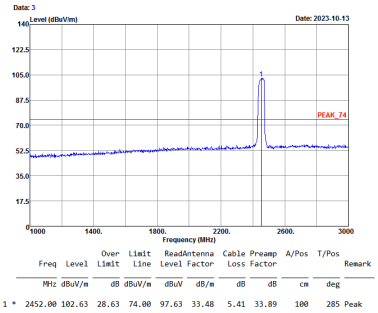
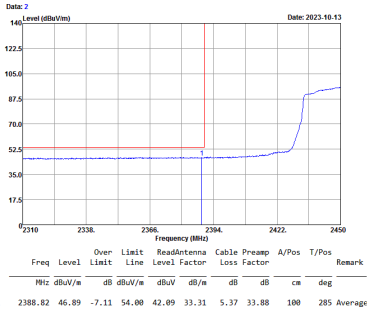
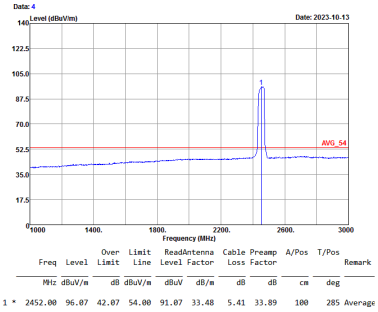
	Freq MHz	Level dBuV/m	Limit Line dBuV/m	Margin dB	Read Level dBuV	Ant Factor dB/m	Cable Loss dB	Preamp Factor dB	APos cm	TPos deg	Remark
1	48.43	19.94	40.00	-20.06	35.37	15.50	0.69	31.62	---	---	Peak
2	134.76	26.89	43.50	-16.61	39.52	17.70	1.19	31.52	---	---	Peak
3	205.57	26.79	43.50	-16.71	41.55	15.07	1.46	31.29	---	---	Peak
4	250.19	25.52	46.00	-20.48	36.57	18.50	1.65	31.20	---	---	Peak
5	838.01	29.04	46.00	-16.96	28.28	28.72	3.02	30.98	---	---	Peak
6	957.32	30.67	46.00	-15.33	27.05	31.14	3.24	30.76	---	---	Peak

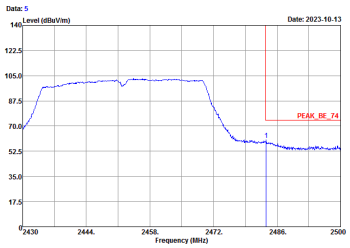
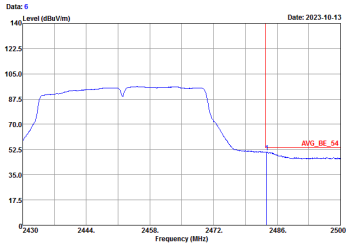
	Freq MHz	Level dBuV/m	Limit Line dBuV/m	Margin dB	Read Level dBuV	Ant Factor dB/m	Cable Loss dB	Preamp Factor dB	APos cm	TPos deg	Remark
1	48.43	26.67	40.00	-13.33	42.10	15.50	0.69	31.62	---	---	Peak
2	133.79	25.88	43.50	-17.62	38.53	17.70	1.18	31.53	---	---	Peak
3	188.11	25.88	43.50	-17.62	41.11	14.70	1.39	31.32	---	---	Peak
4	618.79	26.72	46.00	-19.28	29.41	25.70	2.59	30.98	---	---	Peak
5	863.23	29.78	46.00	-16.22	28.43	29.30	3.08	31.03	---	---	Peak
6	948.59	30.87	46.00	-15.13	27.69	30.76	3.23	30.81	---	---	Peak

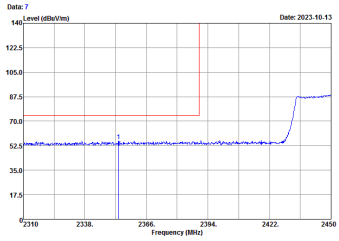
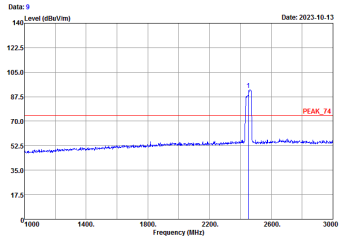
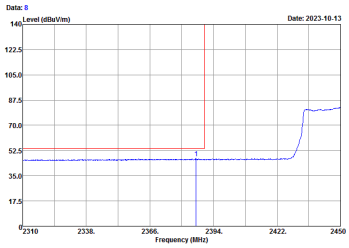
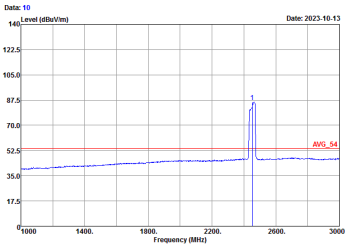
<Co-colation>

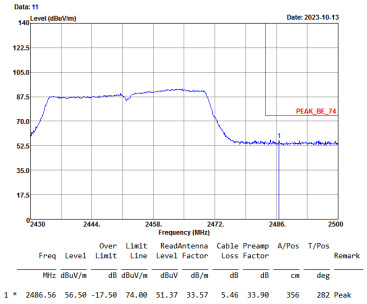
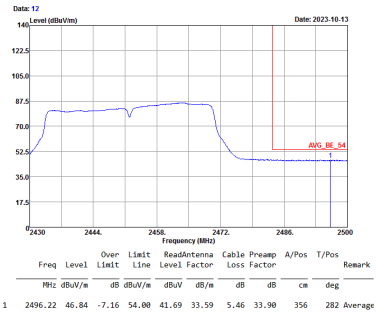
11n HT40_CH09+LTE B13 Link

Band Edge @ 3m

WIFI	2400-2483.5MHz Band Edge @ 3m	
ANT	11n HT40_CH09+LTE B13 Link Co-location	
2	Horizontal	Fundamental
Peak		
Avg.		

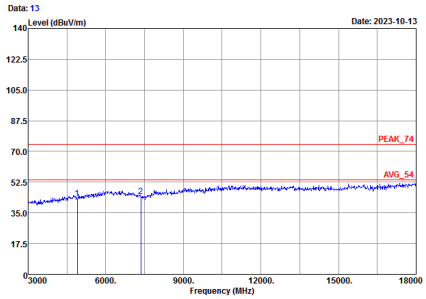
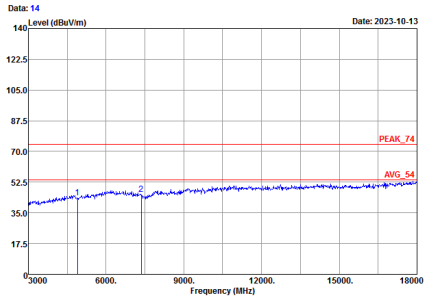
WIFI	2400-2483.5MHz Band Edge @ 3m	
ANT	11n HT40_CH09+LTE B13 Link Co-location	
2	Horizontal	Fundamental
Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2483.62 60.29 -13.71 74.00 55.17 33.56 5.46 33.90 100 285 Peak	NA
Avg.	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2483.76 50.74 -3.26 54.00 45.62 33.56 5.46 33.90 100 285 Average	NA

WIFI	2400-2483.5MHz Band Edge @ 3m	
ANT	11n HT40_CH09+LTE B13 Link Co-location	
2	Vertical	Fundamental
Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2353.26 55.84 -18.16 74.00 51.15 33.22 5.34 33.87 356 282 Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2452.00 92.60 18.60 74.00 87.60 33.48 5.41 33.89 356 282 Peak
Avg.	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2386.30 47.11 -6.89 54.00 42.32 33.30 5.37 33.88 356 282 Average	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2452.00 86.21 32.21 54.00 81.21 33.48 5.41 33.89 356 282 Average

ANT	11n HT40_CH09+LTE B13 Link Co-location	
2	Vertical	Fundamental
Peak		NA
Avg.		NA

11n HT40_CH09+LTE B13 Link

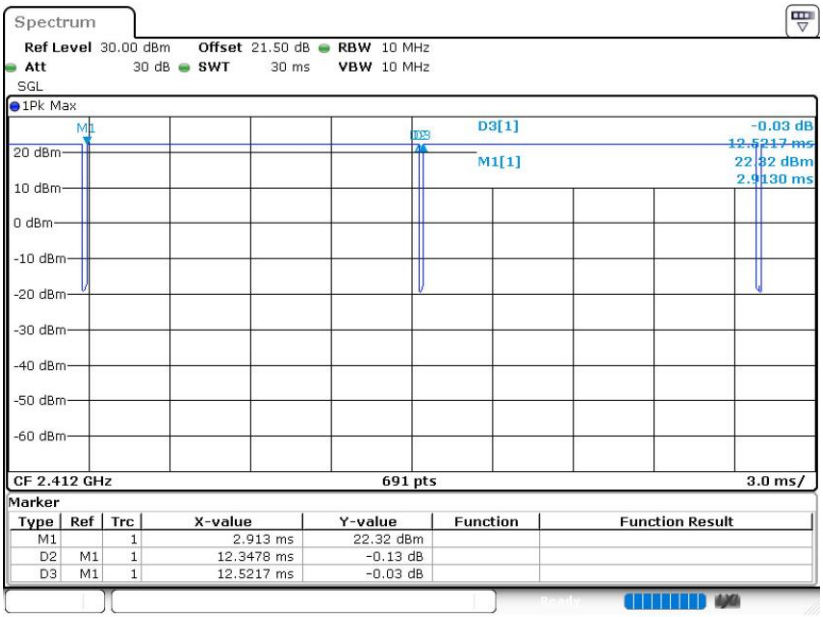
(Harmonic @ 3m)

WIFI	2400-2483.5MHz Band Edge @ 3m	
ANT	11n HT40_CH09+LTE B13 Link Co-location	
2	Horizontal	Vertical
Peak/ Avg.	 Freq Level Over Limit Limit Line ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4904.00 43.44 -30.56 74.00 63.53 36.14 8.65 64.88 --- --- Peak 2 * 7356.00 44.45 -29.55 74.00 63.01 36.12 10.18 64.86 --- --- Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4904.00 43.87 -30.13 74.00 63.96 36.14 8.65 64.88 --- --- Peak 2 * 7356.00 45.76 -28.24 74.00 64.32 36.12 10.18 64.86 --- --- Peak

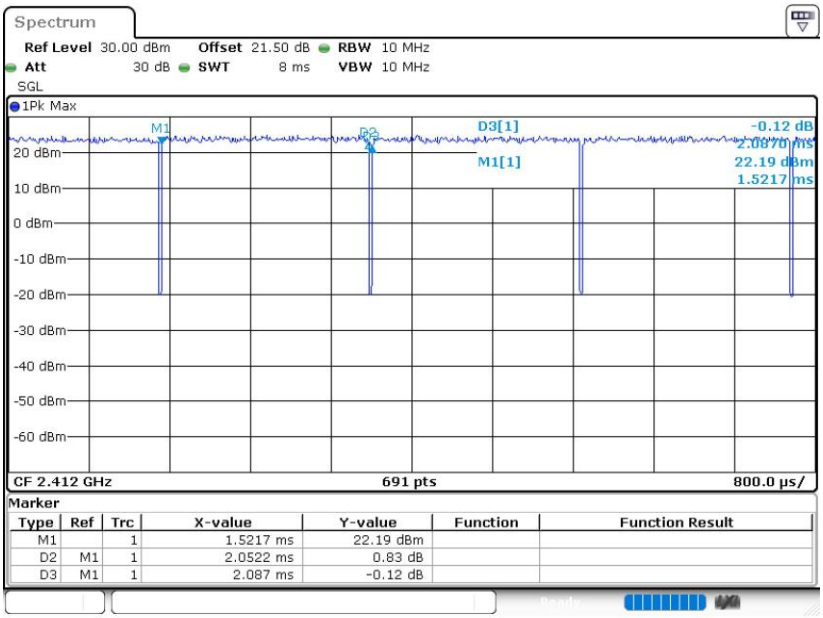
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	98.611	-	-	10Hz
802.11g	98.33	-	-	10Hz
802.11n HT20	97.62	1.901	0.526	1KHz
802.11n HT40	95.17	0.942	1.062	3KHz

802.11b

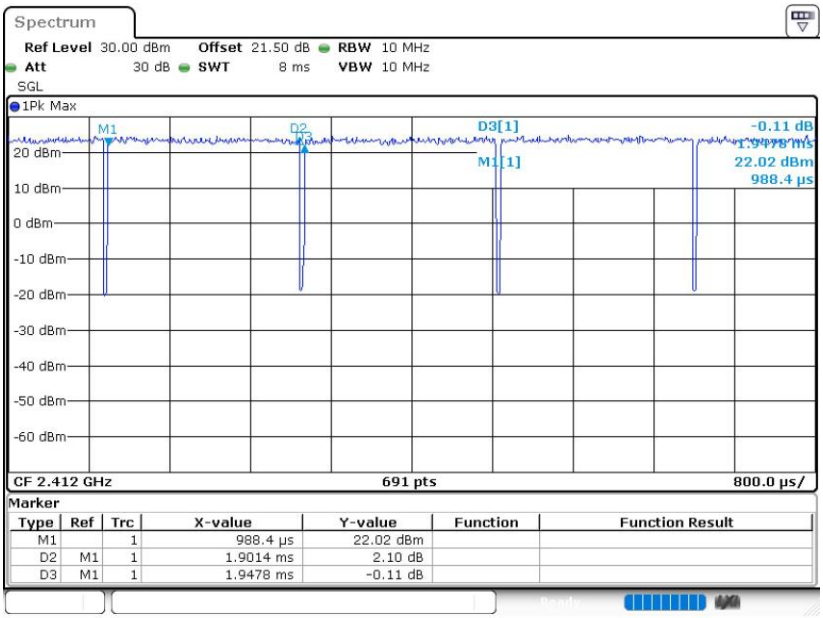


802.11g



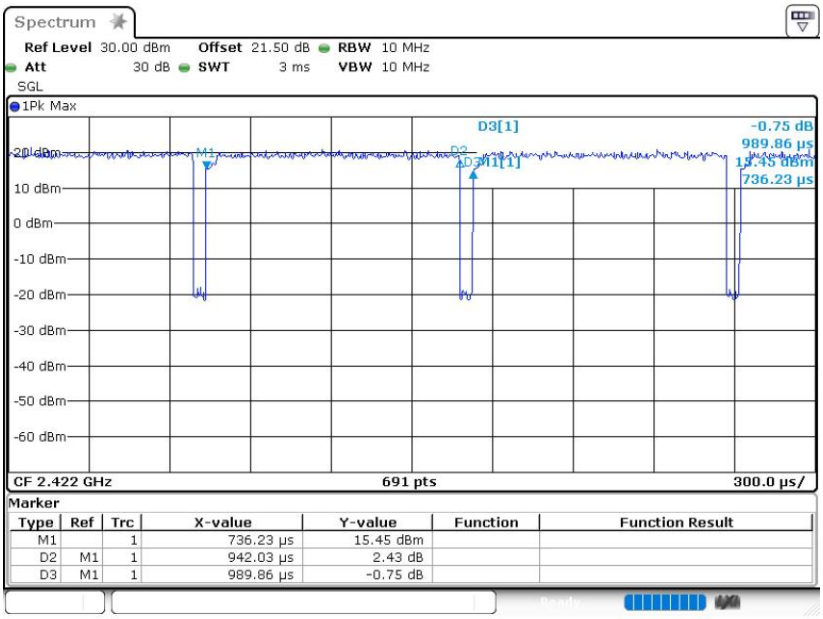
Date: 26.SEP.2023 13:08:08

802.11n HT20



Date: 26.SEP.2023 13:10:59

802.11n HT40


Spectrum
Ref Level 30.00 dBm Offset 21.50 dB RBW 10 MHz
Att 30 dB SWT 3 ms VBW 10 MHz
SGL
1Pk Max
D3[1] -0.75 dB
989.86 µs
M1[1] 15.45 dBm
736.23 µs
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.422 GHz
691 pts
300.0 µs/
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 736.23 µs 15.45 dBm
D2 M1 1 942.03 µs 2.43 dB
D3 M1 1 989.86 µs -0.75 dB
Date: 26.SEP.2023 13:24:02