



FCC RADIO TEST REPORT

FCC ID : A4RGGE4J
Equipment : Wireless Device
Model Name : GGE4J
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC Part 15 Subpart C §15.247

The product was received on Feb. 16, 2024 and testing was performed from Mar. 05, 2024 to Mar. 28, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory

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



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History of this test report

Report No.	Version	Description	Issue Date
FR420107C	01	Initial issue of report	Apr. 19, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15.247(d)	Conducted Band Edges	Pass	-
		Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	1.54 dB under the limit at 2483.76 MHz
3.6	15.207	AC Conducted Emission	Pass	17.93 dB under the limit at 0.16 MHz
3.7	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:

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

Disclaimer:

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

Reviewed by: Yun Huang

Report Producer: Rebecca Wu



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Bluetooth, BLE, BLE (CH2-76), Wi-Fi 2.4GHz 802.11b/g/n/ax, Wi-Fi 5GHz 802.11a/n/ac/ax, NFC, GPS and UWB.
Antenna Type WLAN: PIFA Antenna

EUT Information List	
S/N	Performed Test Item
41301JEAYW004K	RF Conducted Measurement
41291JEAYW00T8	Radiated Spurious Emission
41291JEAYW00T3	Conducted Emission

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	-7.7

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.



1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	TH05-HY, CO07-HY, 03CH12-HY

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

FCC designation No.: TW3786

1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

This device support 26/52/106/242-tone RU.

The PSD of partial RU is reduced to be smaller than full RU according to TCB workshop interim guidance Oct. 2022.

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

The 242-tone RU is covered by 20MHz channel.

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

Single Antenna

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11ax HE20	MCS0

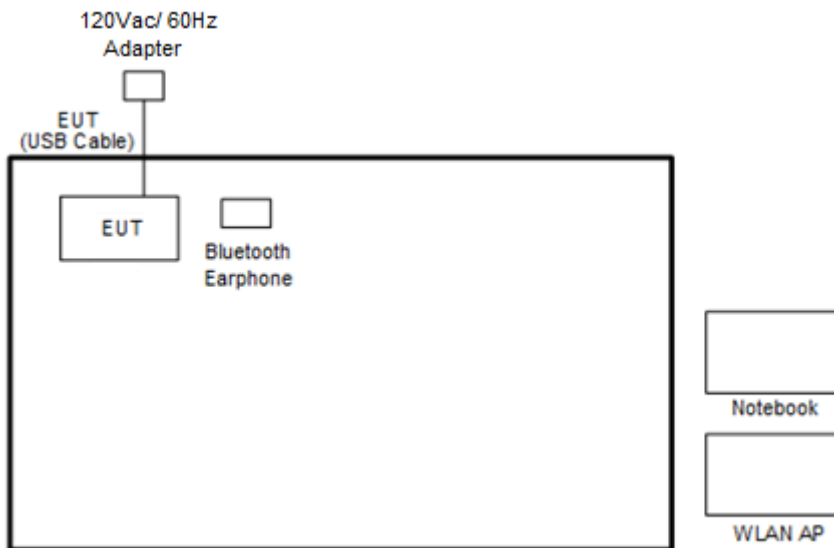
Test Cases	
AC Conducted Emission	Mode 1 :WLAN (2.4GHz) Link + Bluetooth Link + USB Cable (Charging from AC Adapter)

Ch. #	2400-2483.5 MHz			
	802.11b	802.11g	802.11n HT20	802.11ax HE20
Low	01	01	01	01
Middle	06	06	06	06
High	11	11	11	11

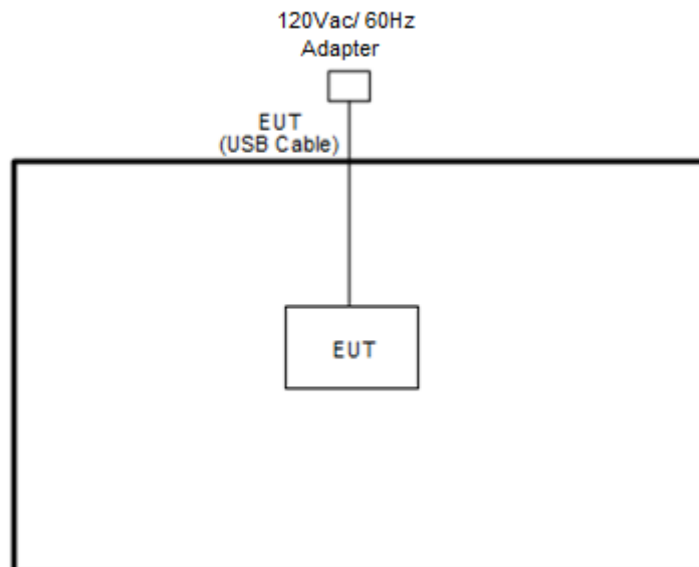
Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony	SBH20	PY7-RD0010	N/A	N/A
2.	WLAN AP	ASUS	RT-AC52	MSQ-RTAC4A00	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	AC Adapter	Chicony	G9BR1	N/A	N/A	N/A
5.	AC Adapter	Aohai	G9BR1	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “adb version 1.0.39” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

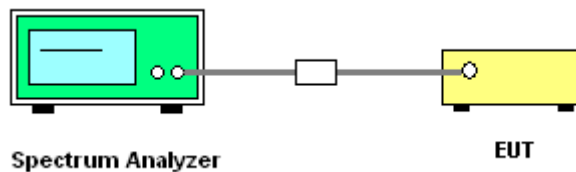
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

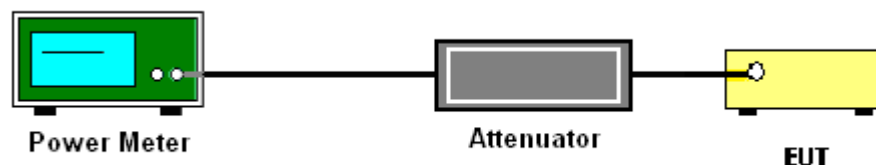
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

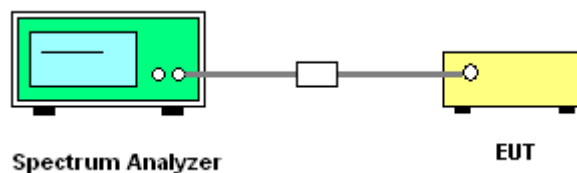
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

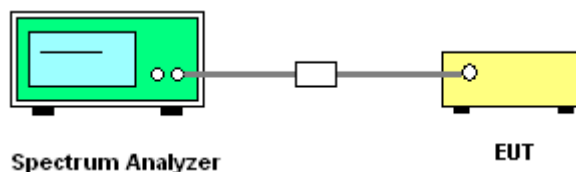
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Please refer to Appendix A.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-”.

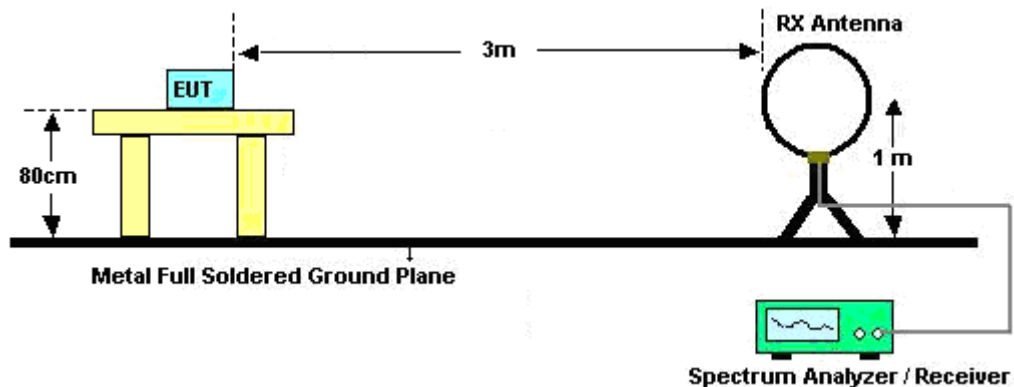
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW = 100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW = 3 MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:

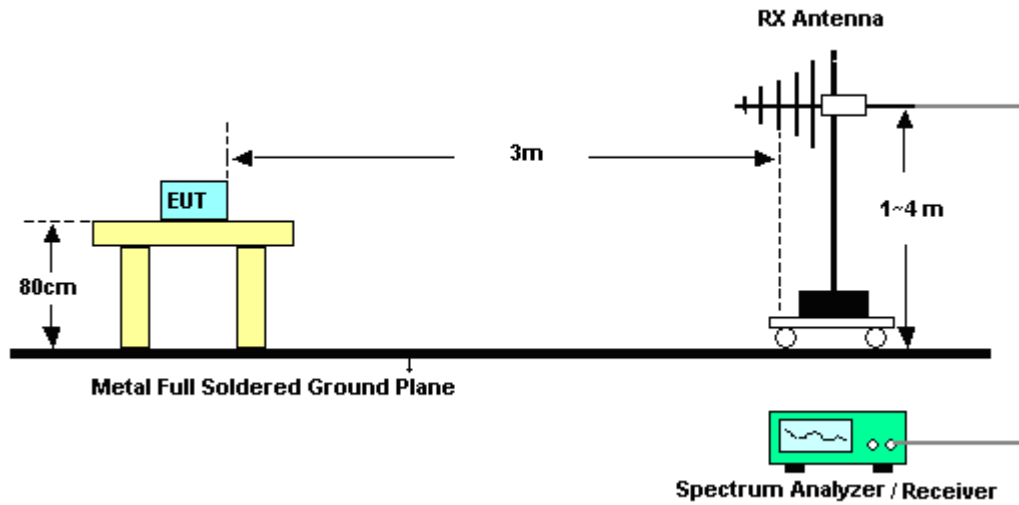
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

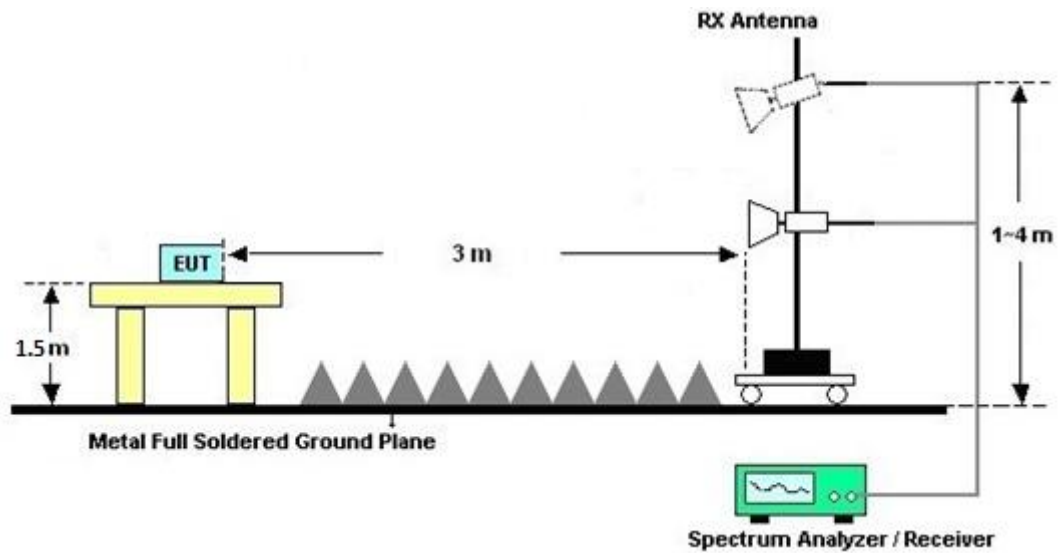
For radiated emissions below 30MHz



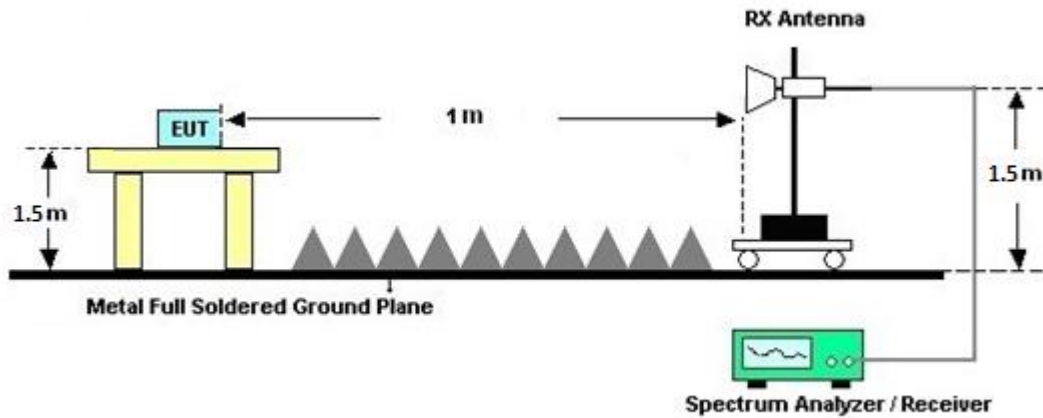
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



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

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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

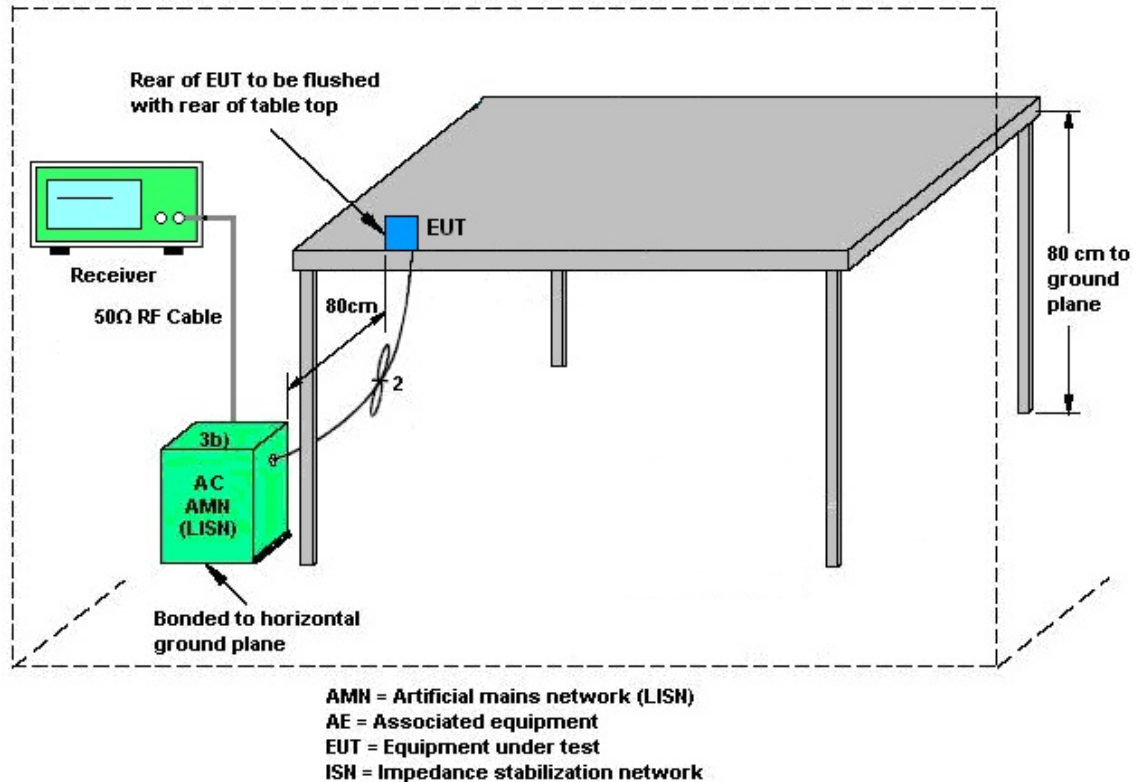
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.7 Antenna Requirements

3.7.1 Standard Applicable

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.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 23, 2023	Mar. 11, 2024~ Mar. 28, 2024	Feb. 22, 2025	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	37059 & 01	30MHz~1GHz	Nov. 03, 2023	Mar. 11, 2024~ Mar. 28, 2024	Nov. 02, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 31, 2023	Mar. 11, 2024~ Mar. 28, 2024	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00993	18GHz~40GHz	Nov. 24, 2023	Mar. 11, 2024~ Mar. 28, 2024	Nov. 23, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161075	10MHz~1GHz	Mar. 21, 2023	Mar. 11, 2024~ Mar. 19, 2024	Mar. 20, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161075	10MHz~1GHz	Mar. 20, 2024	Mar. 20, 2024~ Mar. 28, 2024	Mar. 21, 2025	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Mar. 11, 2024~ Mar. 28, 2024	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18 G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 20, 2023	Mar. 11, 2024~ Mar. 28, 2024	Dec. 19, 2024	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 27, 2023	Mar. 11, 2024~ Mar. 28, 2024	Jun. 26, 2024	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2024	Mar. 11, 2024~ Mar. 28, 2024	Jan. 09, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN2	3GHz High Pass Filter	Mar. 14, 2023	Mar. 11, 2024~ Mar. 12, 2024	Mar. 13, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN2	3GHz High Pass Filter	Mar. 13, 2024	Mar. 13, 2024~ Mar. 28, 2024	Mar. 12, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2024	Mar. 11, 2024~ Mar. 28, 2024	Mar. 05, 2025	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 18, 2023	Mar. 11, 2024~ Mar. 28, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 18, 2023	Mar. 11, 2024~ Mar. 28, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 18, 2023	Mar. 11, 2024~ Mar. 28, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210117	N/A	Oct. 19, 2023	Mar. 11, 2024~ Mar. 28, 2024	Oct. 18, 2024	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 11, 2024~ Mar. 28, 2024	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Mar. 11, 2024~ Mar. 28, 2024	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Mar. 11, 2024~ Mar. 28, 2024	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Mar. 11, 2024~ Mar. 28, 2024	N/A	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	Mar. 05, 2024~ Mar. 19, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	15I00041SNO 10 (NO:248)	10MHz~6GHz	Jun. 05, 2023	Mar. 05, 2024~ Mar. 19, 2024	Jun. 04, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 23, 2023	Mar. 05, 2024~ Mar. 19, 2024	Aug. 22, 2024	Conducted (TH05-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Mar. 15, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Mar. 15, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	Mar. 15, 2024	Oct. 19, 2024	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	Mar. 15, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	Mar. 15, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	Mar. 15, 2024	Sep. 19, 2024	Conduction (CO07-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.44 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.10 dB
--	---------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.30 dB
--	---------

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.80 dB
--	---------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.30 dB
--	---------

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2024/03/05 ~ 2024/03/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant1		
11b	1Mbps	1	1	2412	13.18	8.53	0.50	Pass
11b	1Mbps	1	6	2437	13.18	8.52	0.50	Pass
11b	1Mbps	1	11	2462	13.13	8.53	0.50	Pass
11g	6Mbps	1	1	2412	17.38	16.33	0.50	Pass
11g	6Mbps	1	6	2437	17.28	16.35	0.50	Pass
11g	6Mbps	1	11	2462	17.28	16.34	0.50	Pass
HT20	MCS0	1	1	2412	18.33	17.56	0.50	Pass
HT20	MCS0	1	6	2437	18.28	17.58	0.50	Pass
HT20	MCS0	1	11	2462	18.38	17.58	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)		Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
					Ant1	SUM	Ant1	Ant1	Ant1	Ant1	
11b	1Mbps	1	1	2412	18.20		30.00	-7.70	10.50	36.00	Pass
11b	1Mbps	1	6	2437	18.30		30.00	-7.70	10.60	36.00	Pass
11b	1Mbps	1	11	2462	18.30		30.00	-7.70	10.60	36.00	Pass
11g	6Mbps	1	1	2412	18.40		30.00	-7.70	10.70	36.00	Pass
11g	6Mbps	1	6	2437	18.10		30.00	-7.70	10.40	36.00	Pass
11g	6Mbps	1	11	2462	18.10		30.00	-7.70	10.40	36.00	Pass
HT20	MCS0	1	1	2412	18.40		30.00	-7.70	10.70	36.00	Pass
HT20	MCS0	1	6	2437	18.10		30.00	-7.70	10.40	36.00	Pass
HT20	MCS0	1	11	2462	18.10		30.00	-7.70	10.40	36.00	Pass

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna									
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)		DG (dBi)	Peak PSD Limit (dBm/3kHz)	Pass/Fail
					Ant1	Worse + 3.01	Ant1	Ant1	
11b	1Mbps	1	1	2412	-3.99		-7.70	8.00	Pass
11b	1Mbps	1	6	2437	-4.06		-7.70	8.00	Pass
11b	1Mbps	1	11	2462	-3.98		-7.70	8.00	Pass
11g	6Mbps	1	1	2412	-6.75		-7.70	8.00	Pass
11g	6Mbps	1	6	2437	-7.31		-7.70	8.00	Pass
11g	6Mbps	1	11	2462	-7.21		-7.70	8.00	Pass
HT20	MCS0	1	1	2412	-6.68		-7.70	8.00	Pass
HT20	MCS0	1	6	2437	-6.79		-7.70	8.00	Pass
HT20	MCS0	1	11	2462	-7.09		-7.70	8.00	Pass

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

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
						Ant1	Ant1		
HE20	MCS0	1	1	2412	Full	19.18	18.95	0.50	Pass
HE20	MCS0	1	6	2437	Full	19.28	19.01	0.50	Pass
HE20	MCS0	1	11	2462	Full	19.23	19.01	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna												
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)		Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
						Ant1	SUM	Ant1	Ant1	Ant1	Ant1	
HE20	MCS0	1	1	2412	Full	18.40		30.00	-7.70	10.70	36.00	Pass
HE20	MCS0	1	1	2412	26/0	9.50		30.00	-7.70	1.80	36.00	Pass
HE20	MCS0	1	1	2412	52/37	11.90		30.00	-7.70	4.20	36.00	Pass
HE20	MCS0	1	1	2412	106/53	15.20		30.00	-7.70	7.50	36.00	Pass
HE20	MCS0	1	6	2437	Full	18.40		30.00	-7.70	10.70	36.00	Pass
HE20	MCS0	1	6	2437	26/4	9.60		30.00	-7.70	1.90	36.00	Pass
HE20	MCS0	1	6	2437	52/38	11.80		30.00	-7.70	4.10	36.00	Pass
HE20	MCS0	1	6	2437	106/53	15.00		30.00	-7.70	7.30	36.00	Pass
HE20	MCS0	1	11	2462	Full	17.40		30.00	-7.70	9.70	36.00	Pass
HE20	MCS0	1	11	2462	26/8	8.60		30.00	-7.70	0.90	36.00	Pass
HE20	MCS0	1	11	2462	52/40	11.60		30.00	-7.70	3.90	36.00	Pass
HE20	MCS0	1	11	2462	106/54	14.00		30.00	-7.70	6.30	36.00	Pass

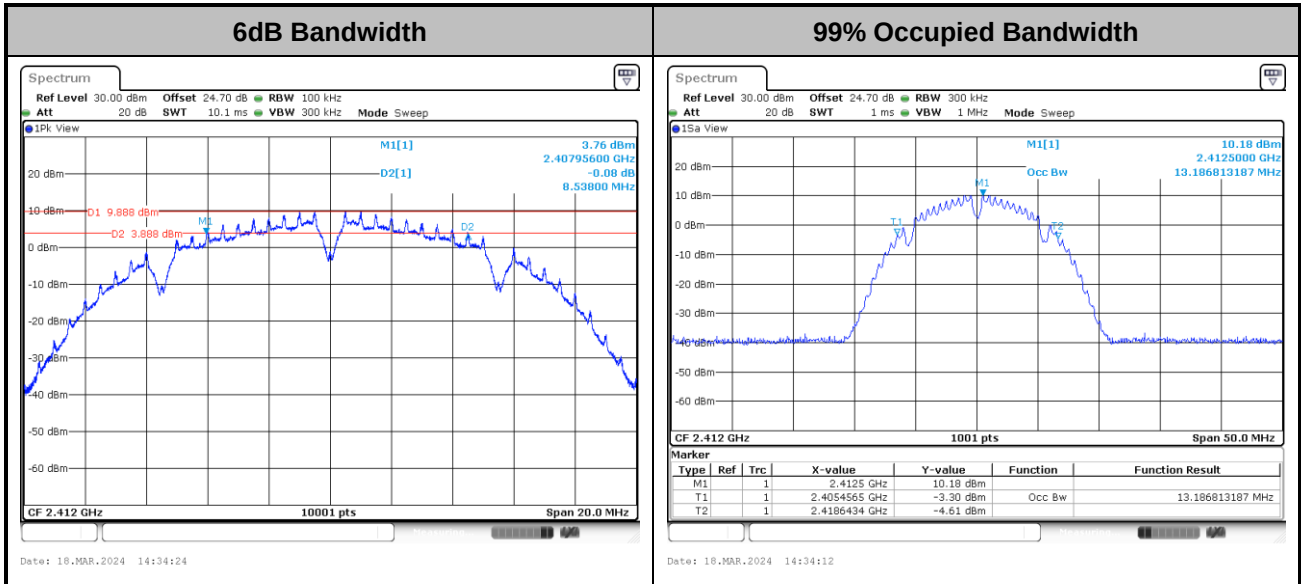
TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	RU Config	Peak PSD (dBm/3kHz)		DG (dBi)	Peak PSD Limit (dBm/3kHz)	Pass/Fail
						Ant1	Worse + 3.01	Ant1	Ant1	
HE20	MCS0	1	1	2412	Full	-7.05		-7.70	8.00	Pass
HE20	MCS0	1	1	2412	26/0	-7.29		-7.70	8.00	Pass
HE20	MCS0	1	1	2412	52/37	-7.34		-7.70	8.00	Pass
HE20	MCS0	1	1	2412	106/53	-7.47		-7.70	8.00	Pass
HE20	MCS0	1	6	2437	Full	-7.48		-7.70	8.00	Pass
HE20	MCS0	1	6	2437	26/4	-7.74		-7.70	8.00	Pass
HE20	MCS0	1	6	2437	52/38	-7.67		-7.70	8.00	Pass
HE20	MCS0	1	6	2437	106/53	-7.64		-7.70	8.00	Pass
HE20	MCS0	1	11	2462	Full	-8.98		-7.70	8.00	Pass
HE20	MCS0	1	11	2462	26/8	-9.32		-7.70	8.00	Pass
HE20	MCS0	1	11	2462	52/40	-9.37		-7.70	8.00	Pass
HE20	MCS0	1	11	2462	106/54	-9.32		-7.70	8.00	Pass



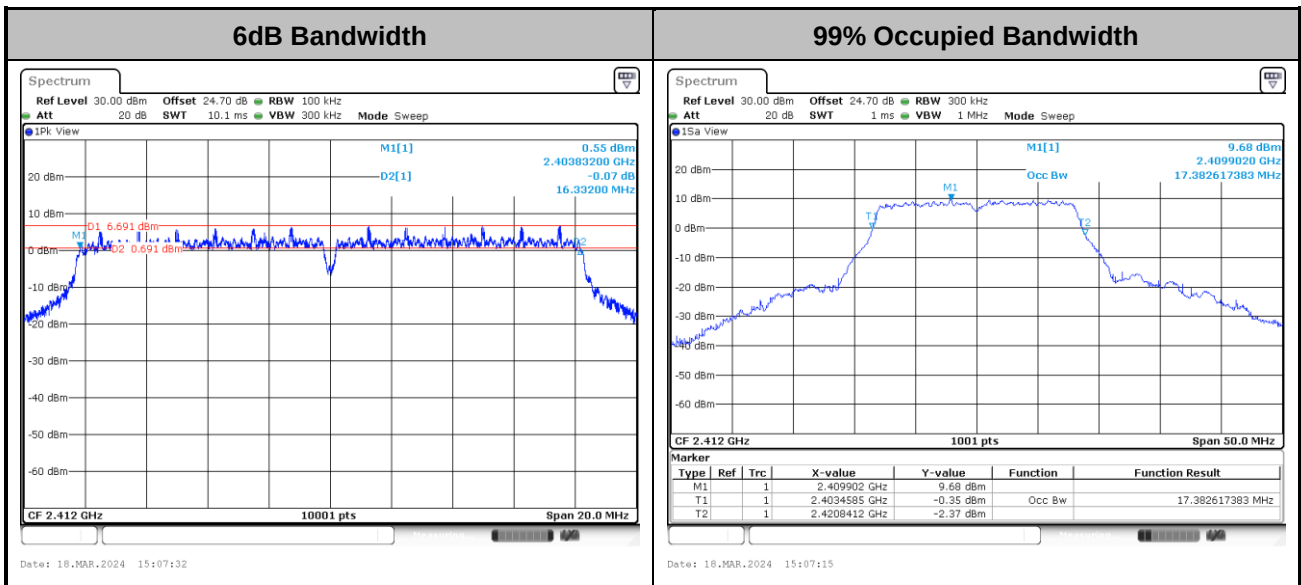
6dB and 99% Occupied Bandwidth

<802.11b>



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

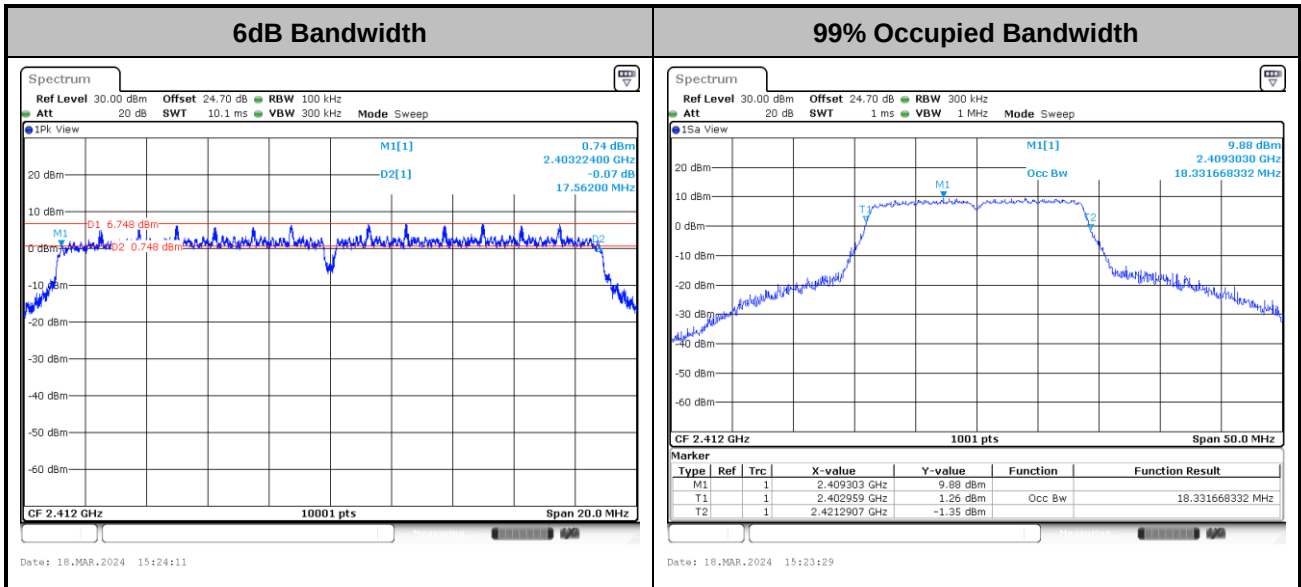
<802.11g>



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

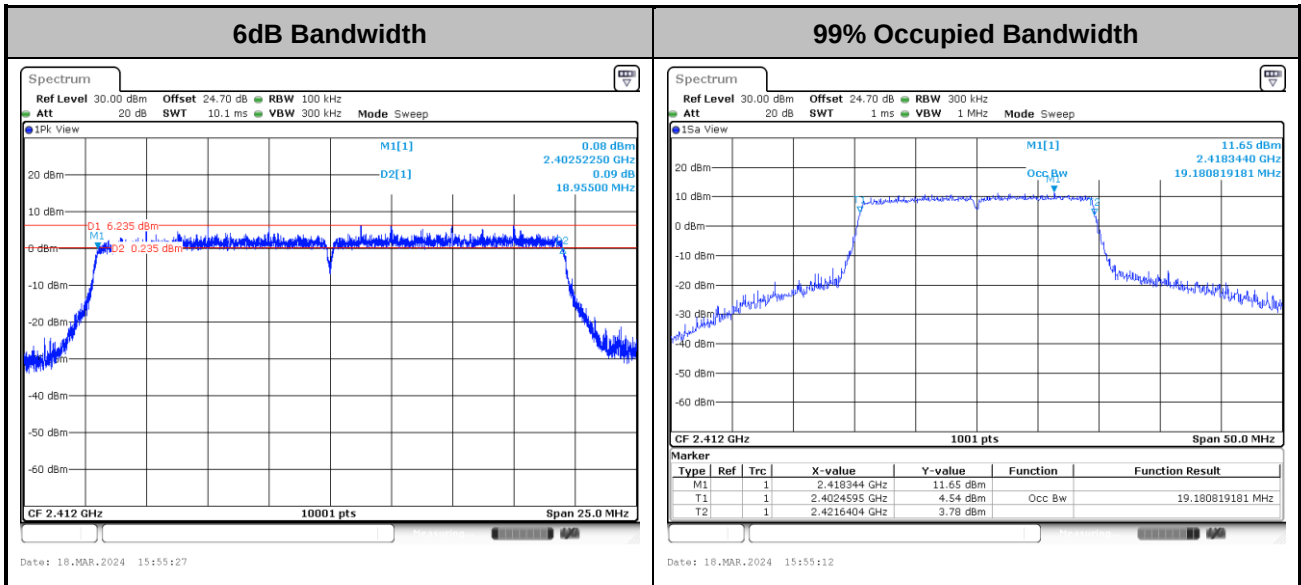


<802.11n HT20>



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

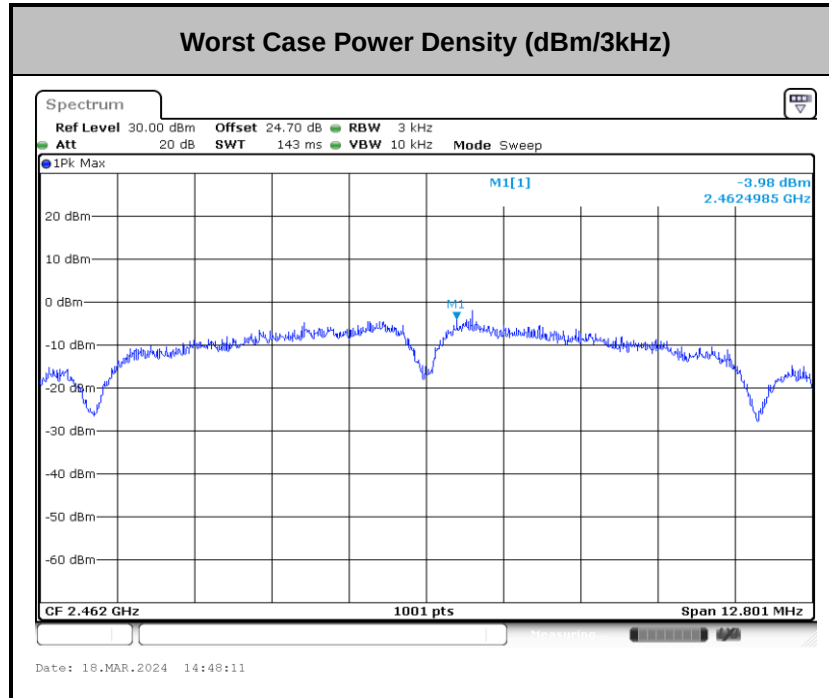
<802.11ax HE20>



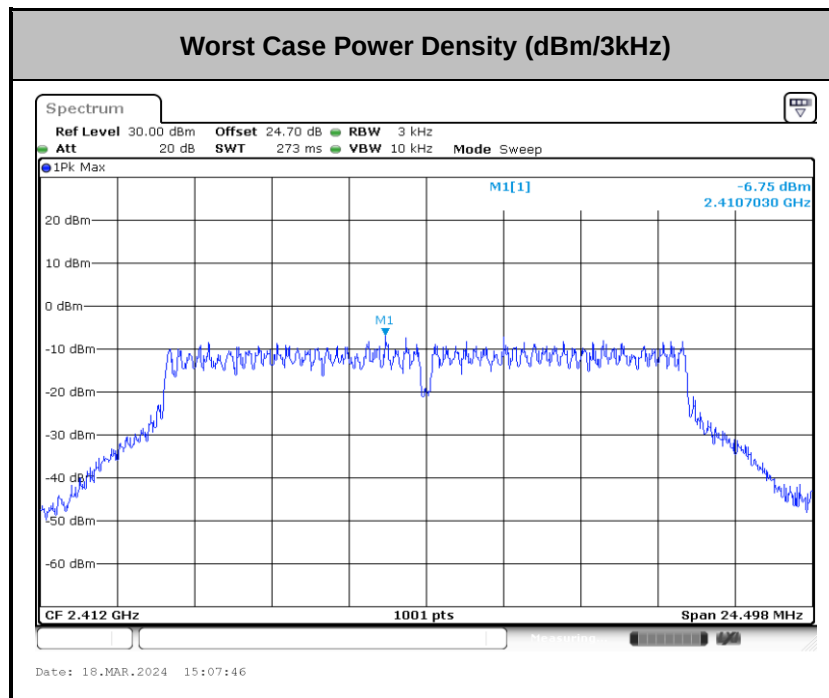
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

Power Spectral Density(dBm/3kHz)

<802.11b>

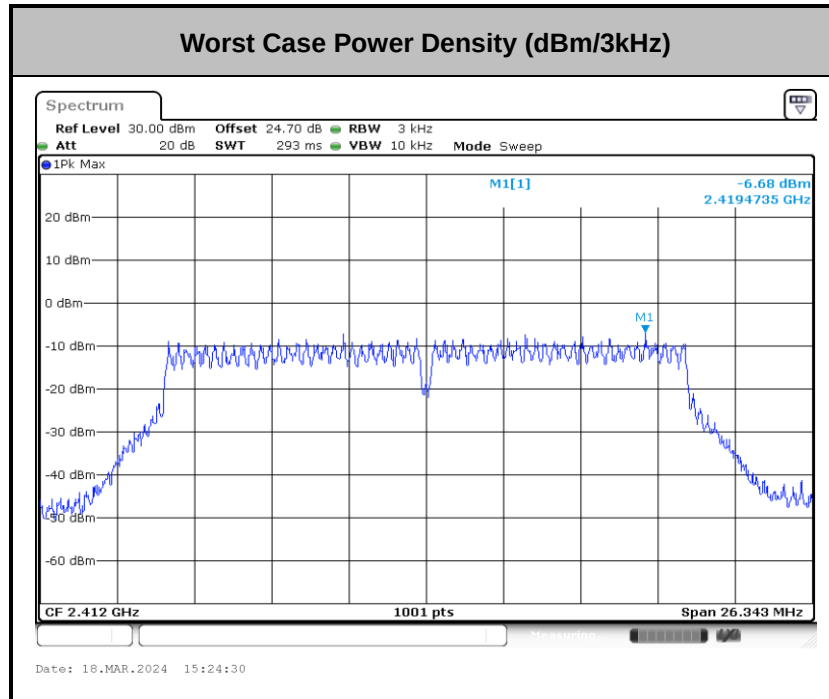


<802.11g>

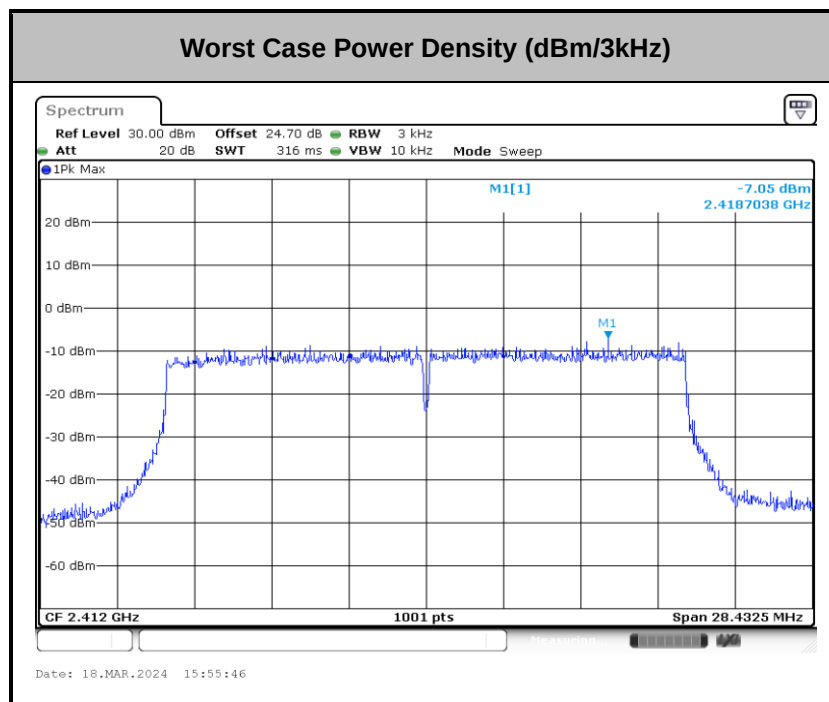




<802.11n HT20>



<802.11ax HE20>





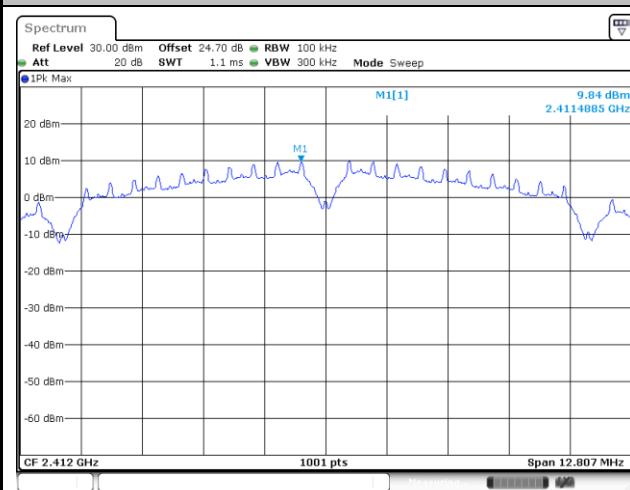
Band Edges and Spurious Emission

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

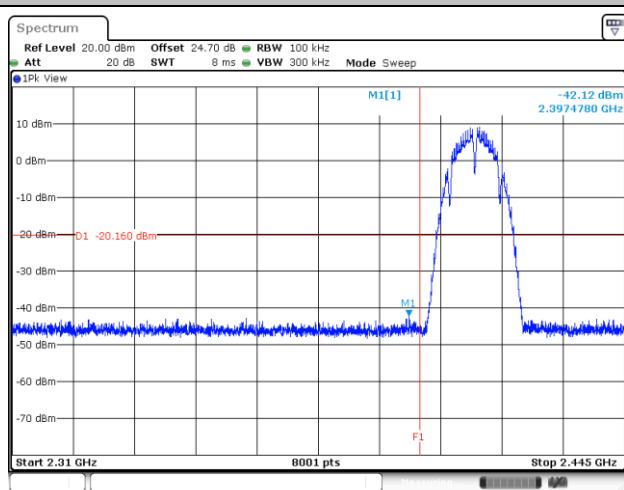
Test Mode : 802.11b

Test Channel : 01

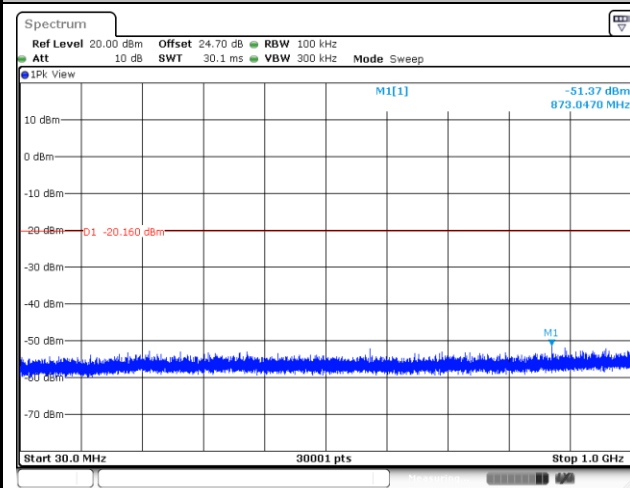
100kHz PSD reference Level



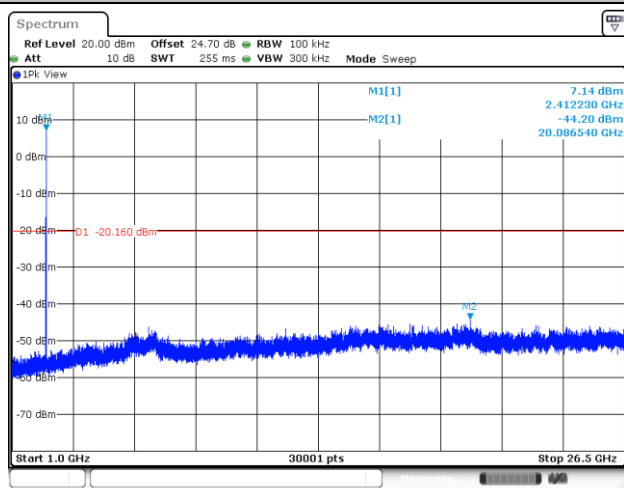
Low Channel Plot



Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

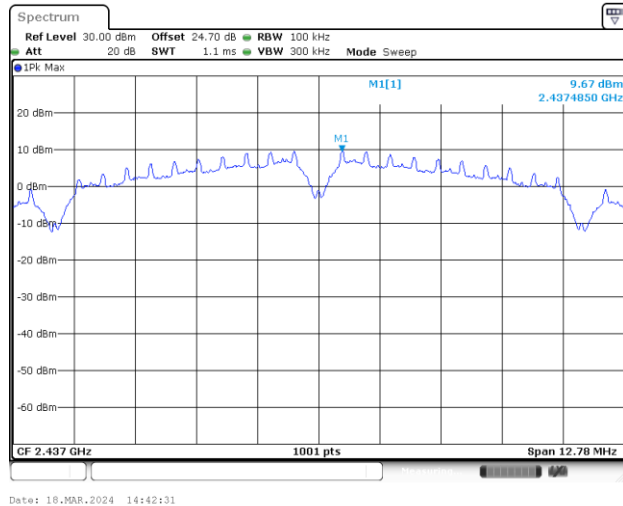




Test Mode : 802.11b

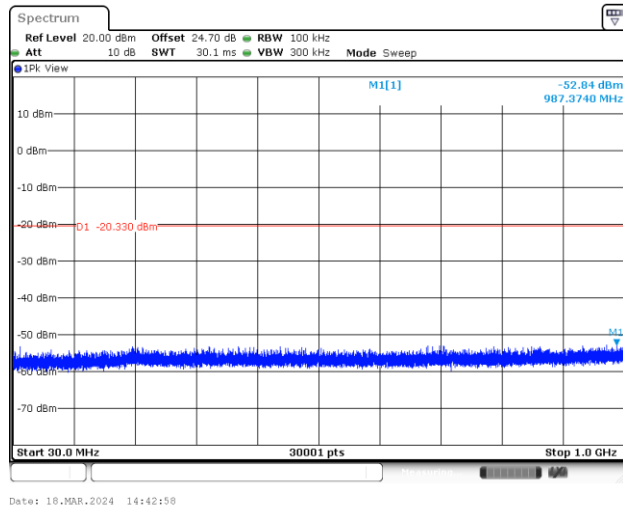
Test Channel : 06

100kHz PSD reference Level

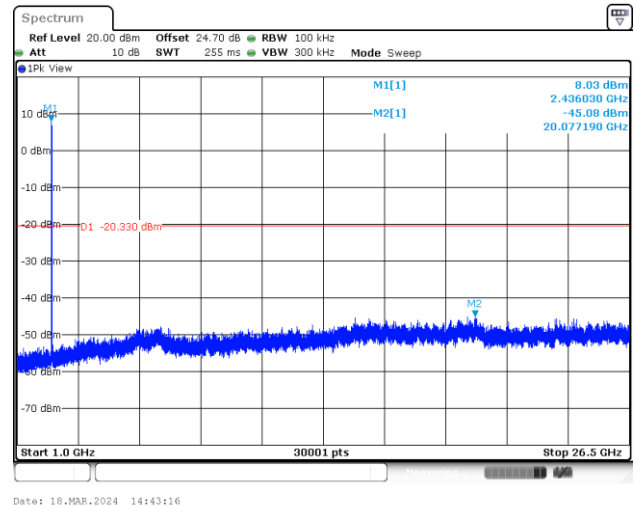


Middle Channel Plot

Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

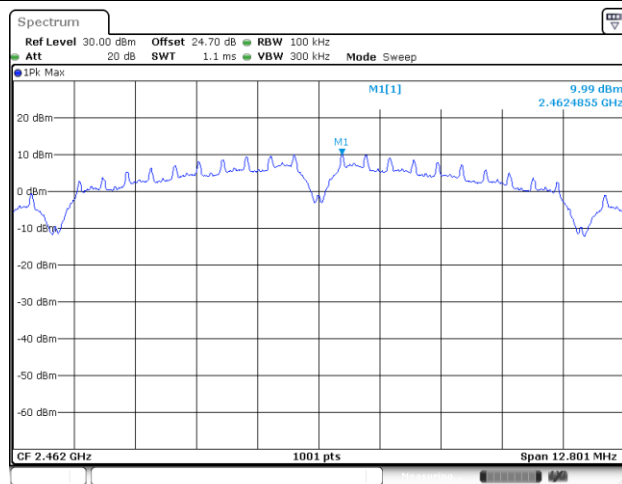




Test Mode : 802.11b

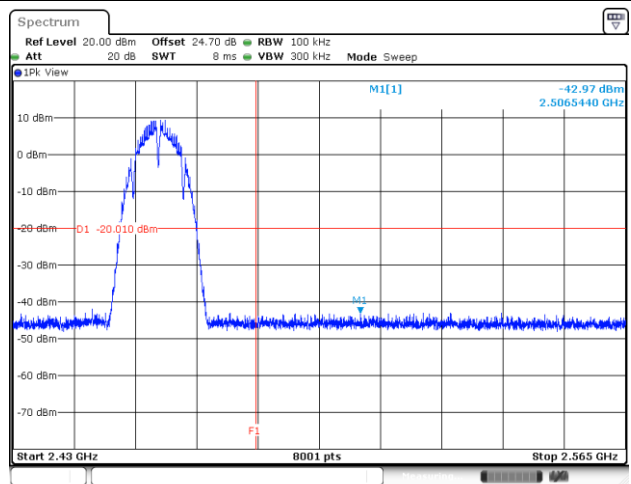
Test Channel : 11

100kHz PSD reference Level



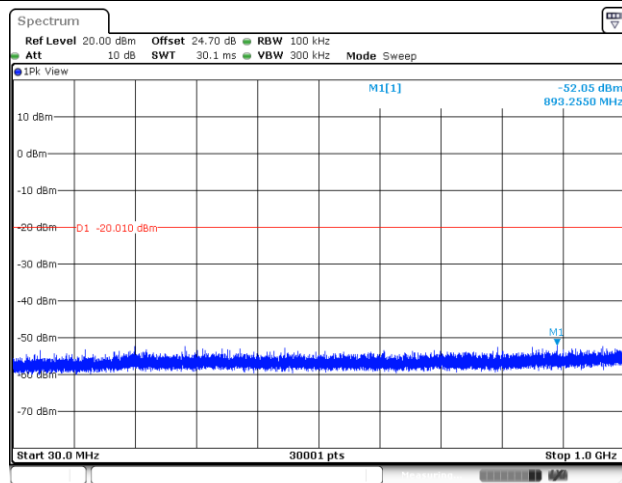
Date: 18.MAR.2024 14:50:32

High Channel Plot



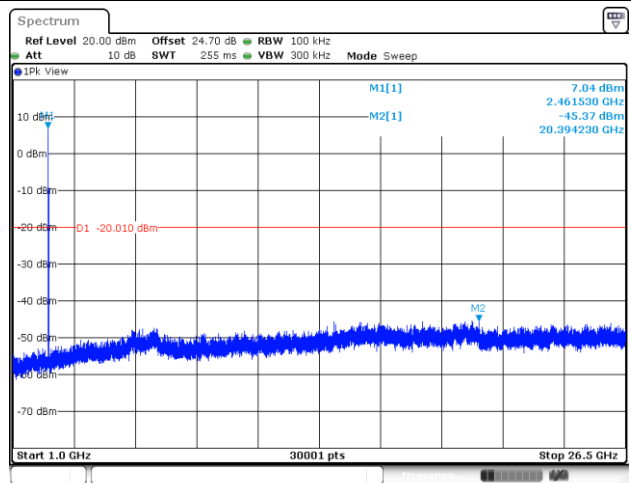
Date: 18.MAR.2024 14:52:20

Spurious Emission 30MHz~1GHz



Date: 18.MAR.2024 14:51:32

Spurious Emission 1GHz~26.5GHz



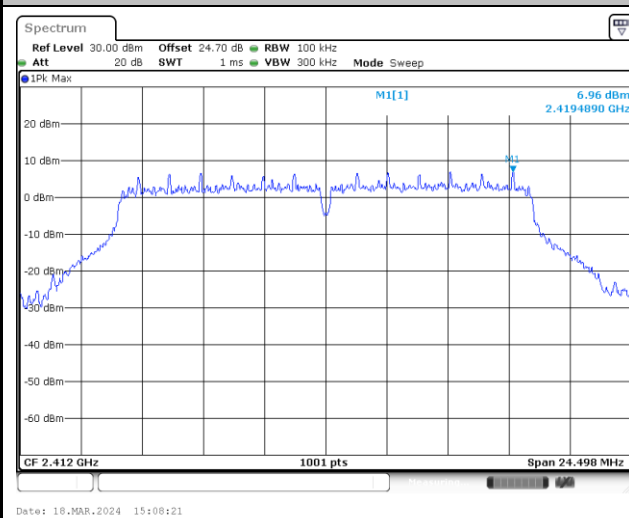
Date: 18.MAR.2024 14:52:07



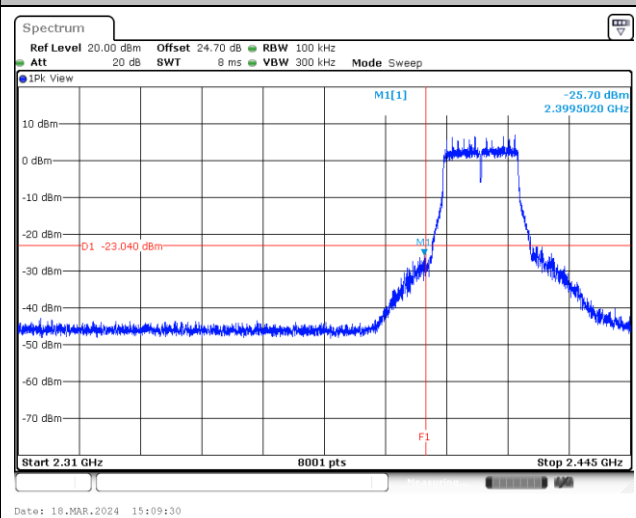
Test Mode : 802.11g

Test Channel : 01

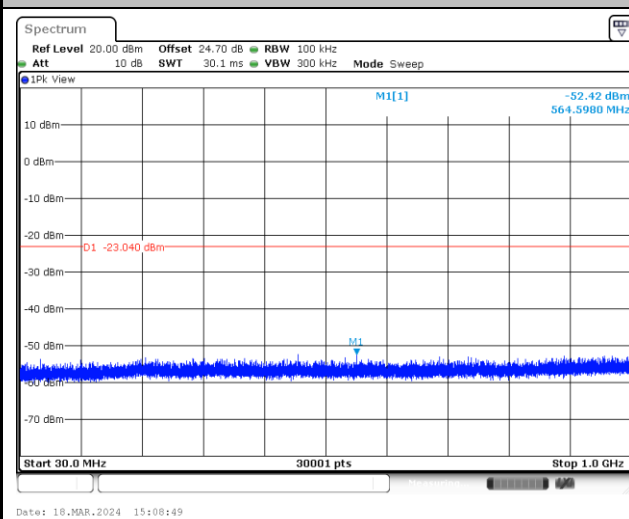
100kHz PSD reference Level



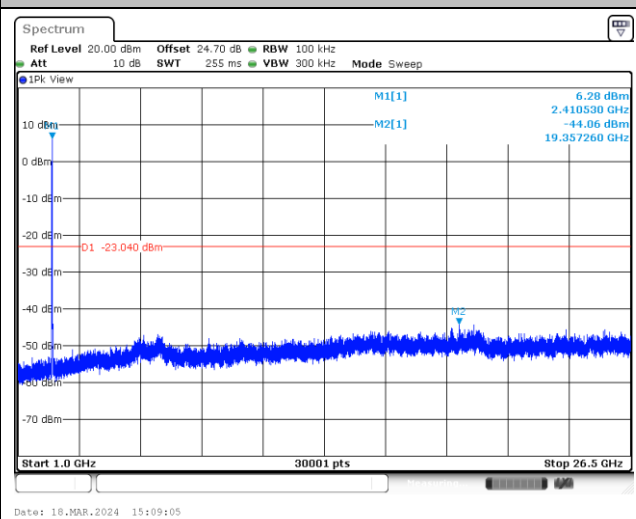
Low Channel Plot



Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

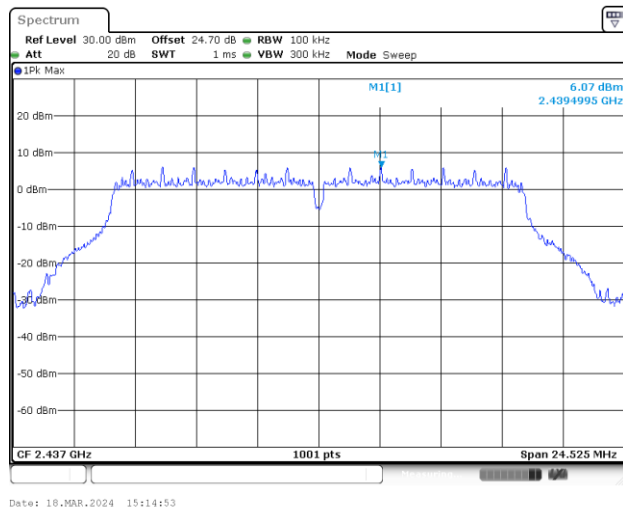




Test Mode : 802.11g

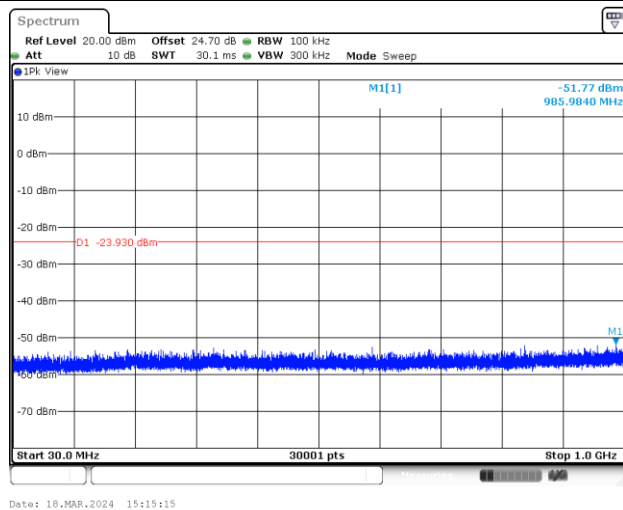
Test Channel : 06

100kHz PSD reference Level

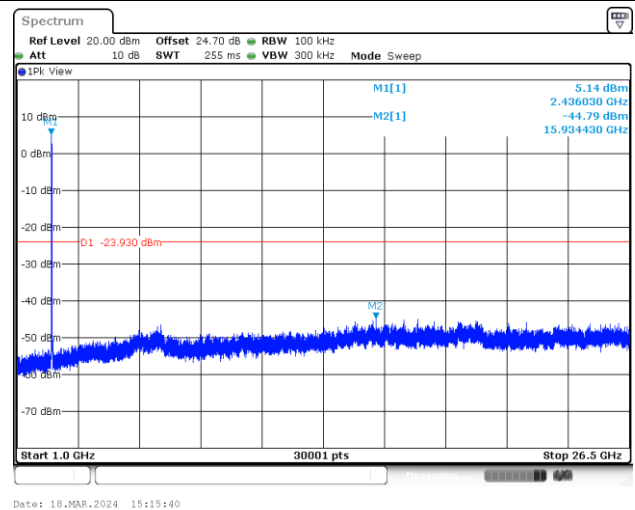


Middle Channel Plot

Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

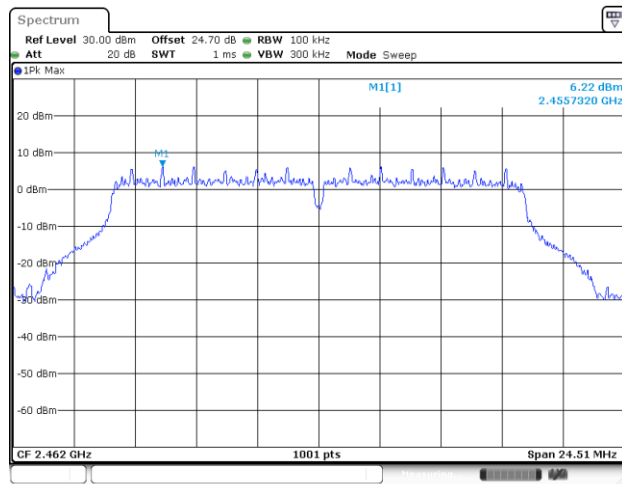




Test Mode : 802.11g

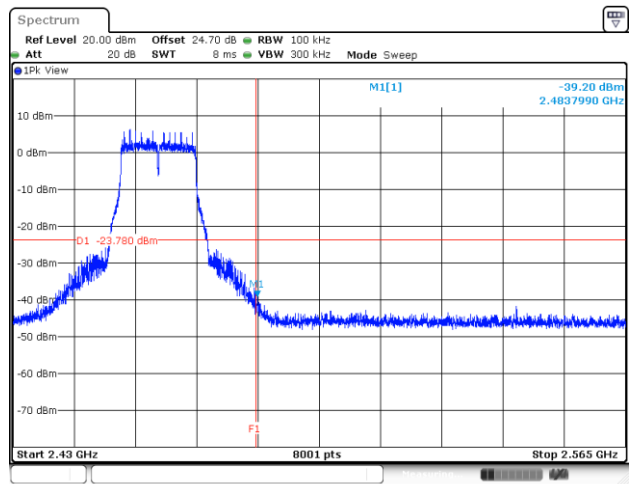
Test Channel : 11

100kHz PSD reference Level



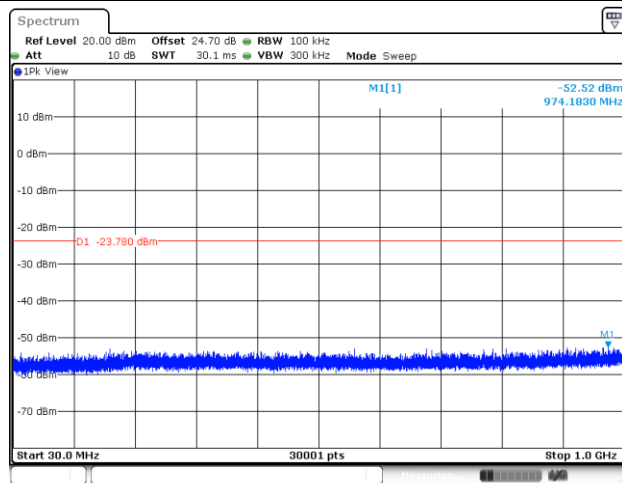
Date: 18.MAR.2024 15:19:42

High Channel Plot



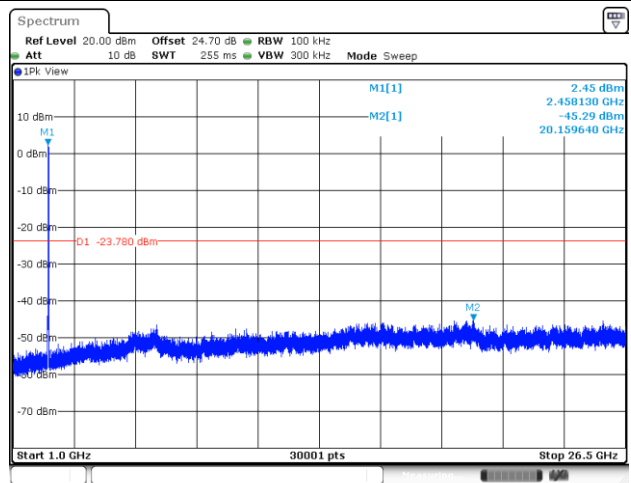
Date: 18.MAR.2024 15:21:09

Spurious Emission 30MHz~1GHz



Date: 18.MAR.2024 15:20:19

Spurious Emission 1GHz~26.5GHz



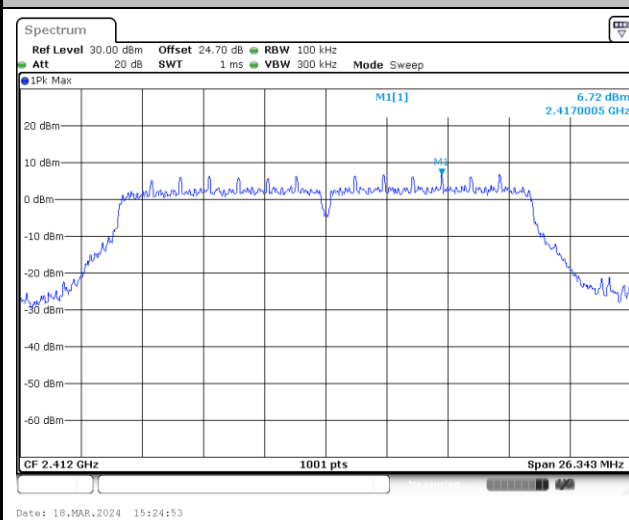
Date: 18.MAR.2024 15:20:38



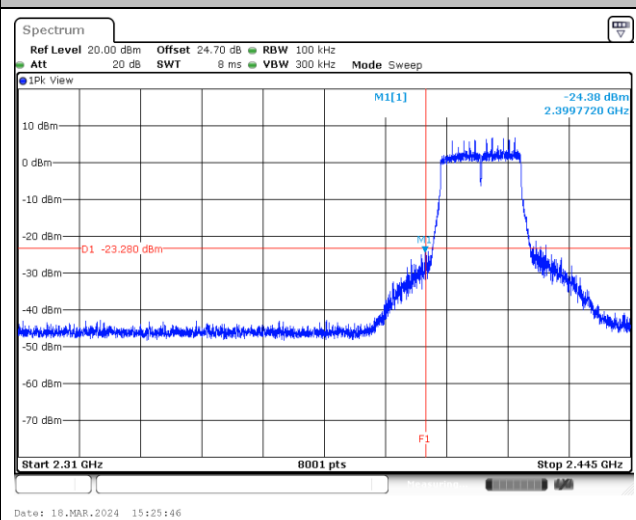
Test Mode : 802.11n HT20

Test Channel : 01

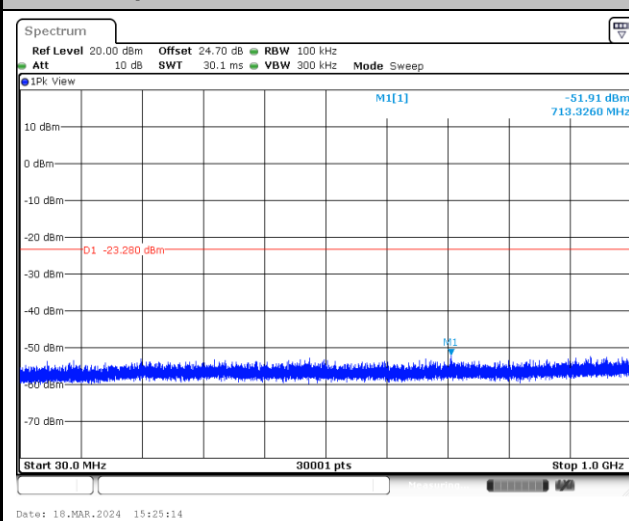
100kHz PSD reference Level



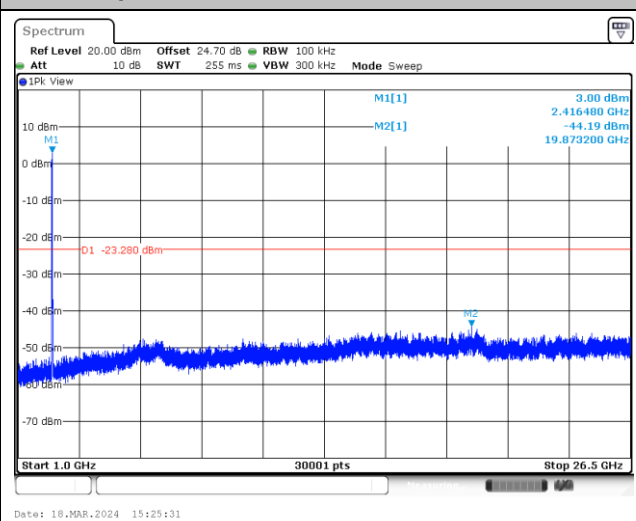
Low Channel Plot



Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

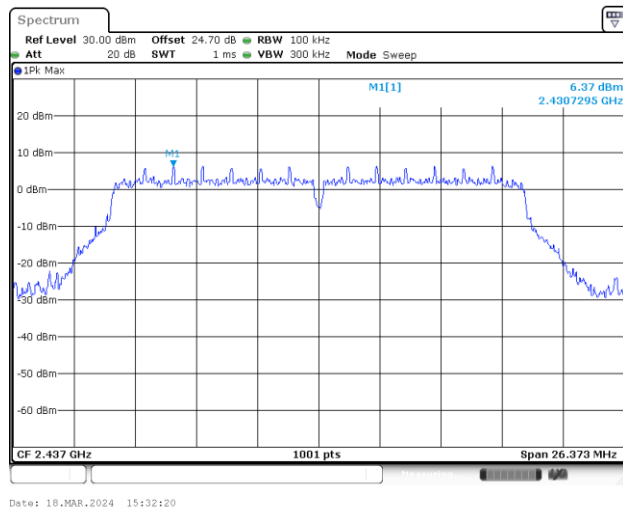




Test Mode : 802.11n HT20

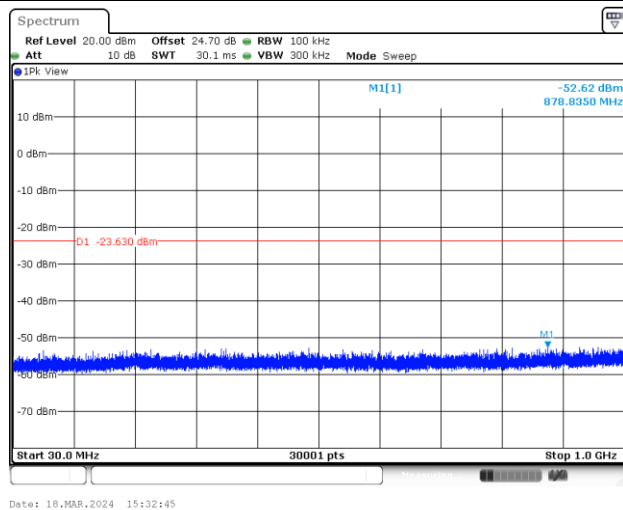
Test Channel : 06

100kHz PSD reference Level

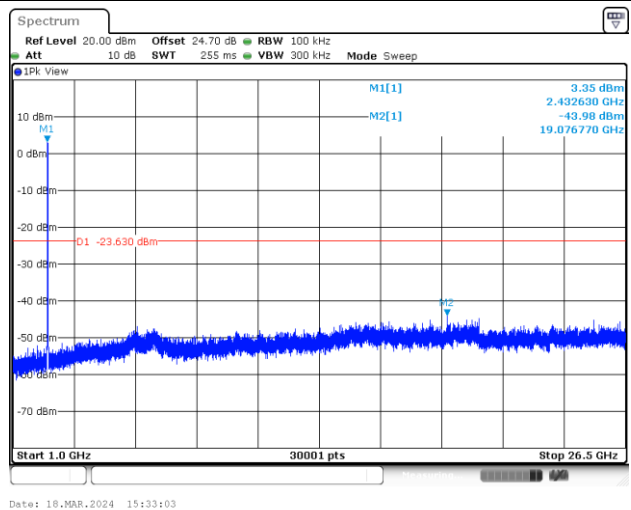


Middle Channel Plot

Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

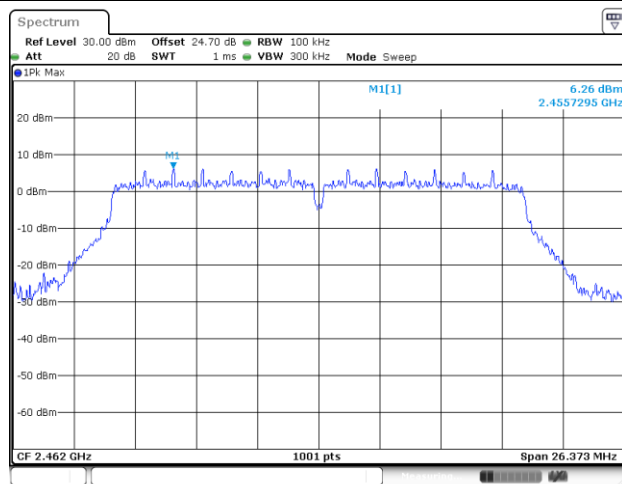




Test Mode : 802.11n HT20

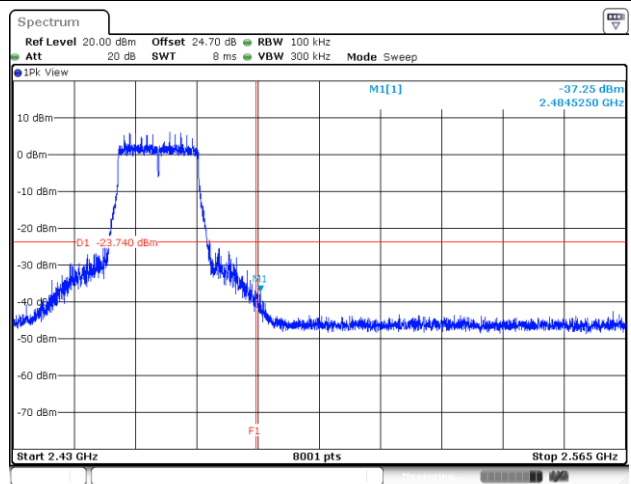
Test Channel : 11

100kHz PSD reference Level



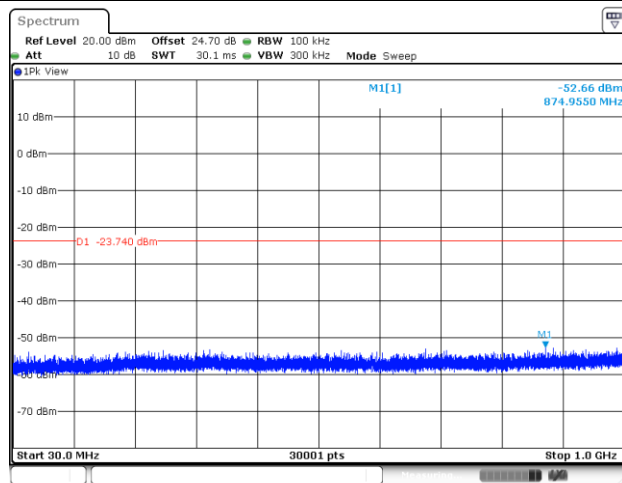
Date: 19.MAR.2024 09:25:27

High Channel Plot



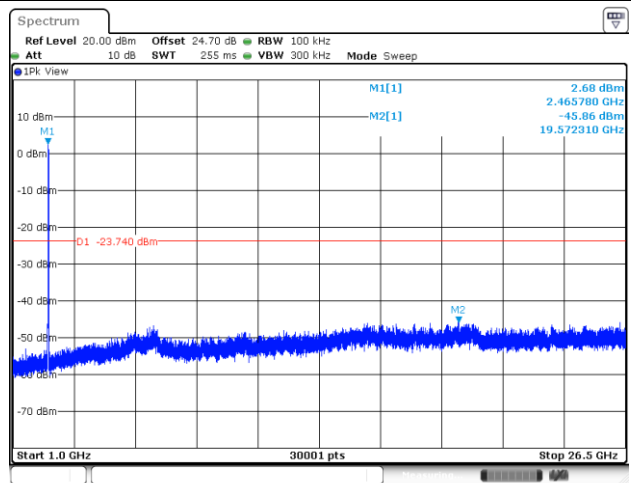
Date: 19.MAR.2024 09:28:13

Spurious Emission 30MHz~1GHz



Date: 19.MAR.2024 09:25:59

Spurious Emission 1GHz~26.5GHz



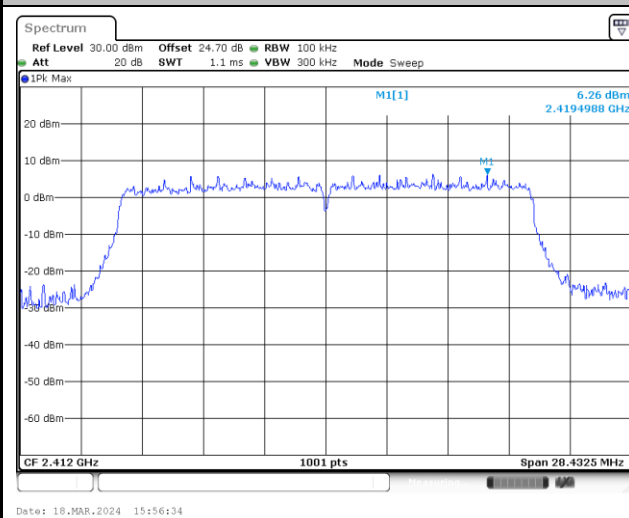
Date: 19.MAR.2024 09:26:49



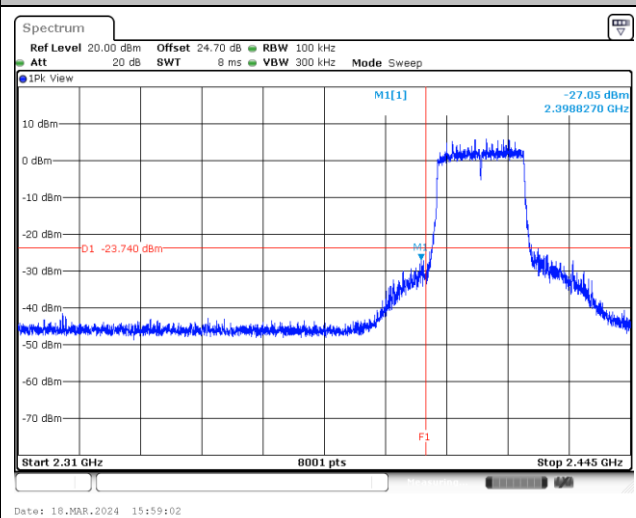
Test Mode : 802.11ax HE20_FullIRU

Test Channel : 01

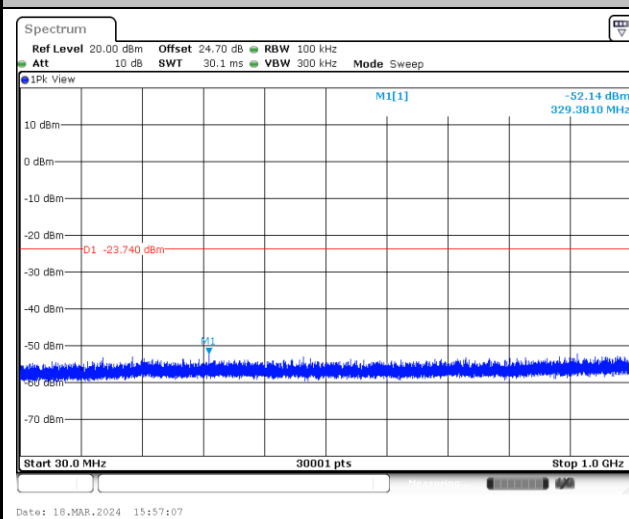
100kHz PSD reference Level



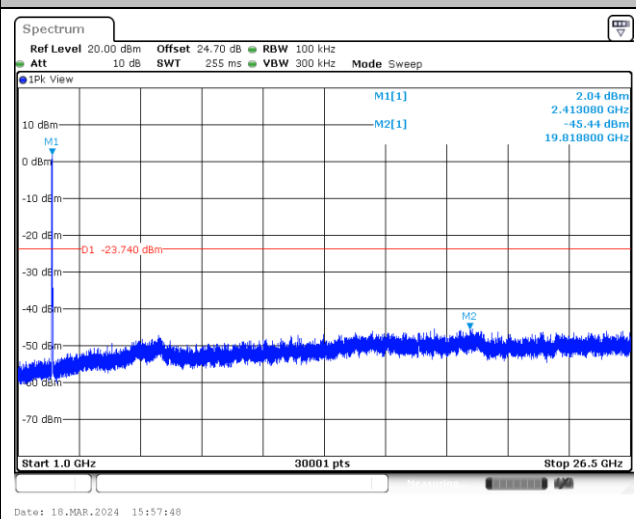
Low Channel Plot



Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

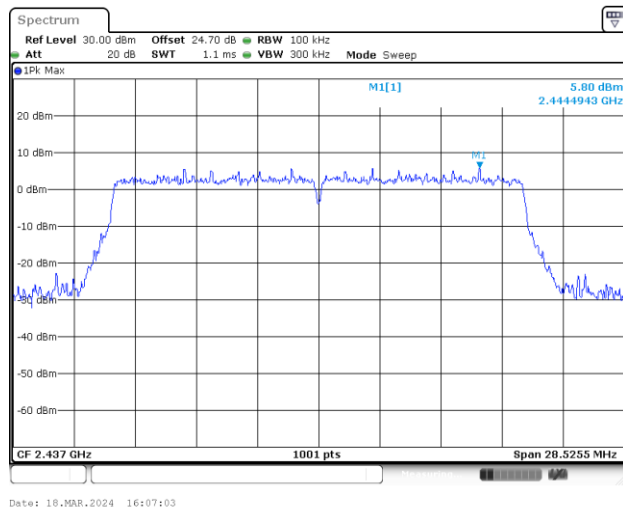




Test Mode : 802.11ax HE20_FullIRU

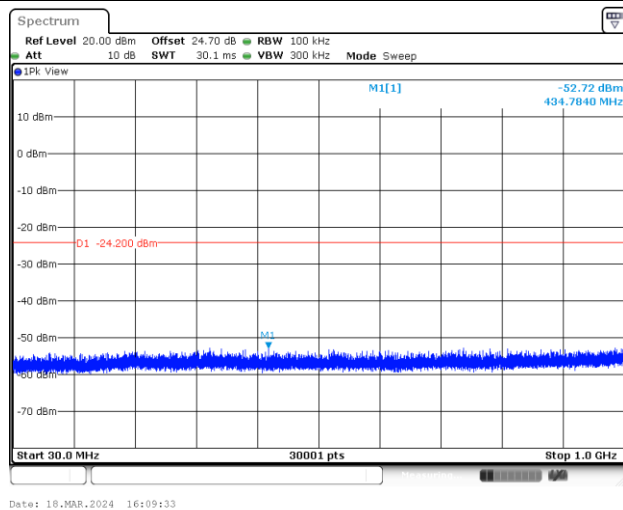
Test Channel : 06

100kHz PSD reference Level

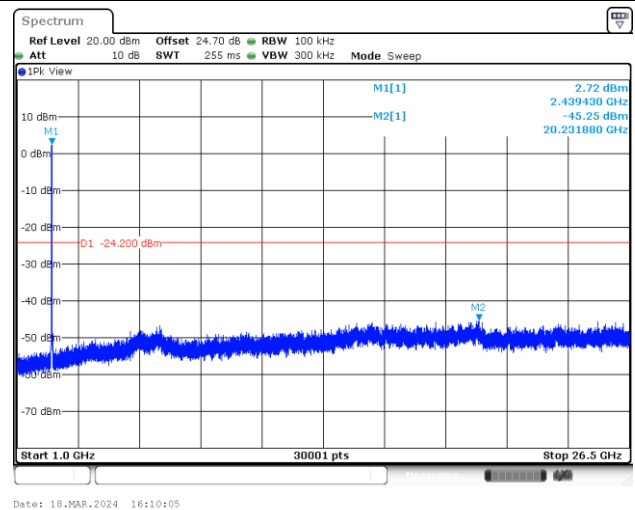


Middle Channel Plot

Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz

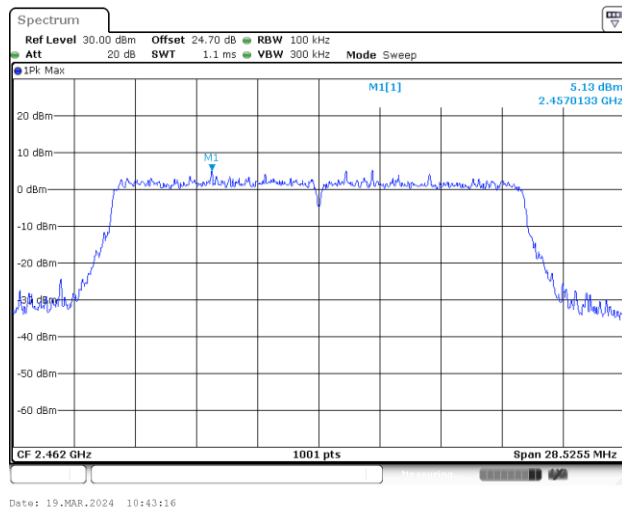




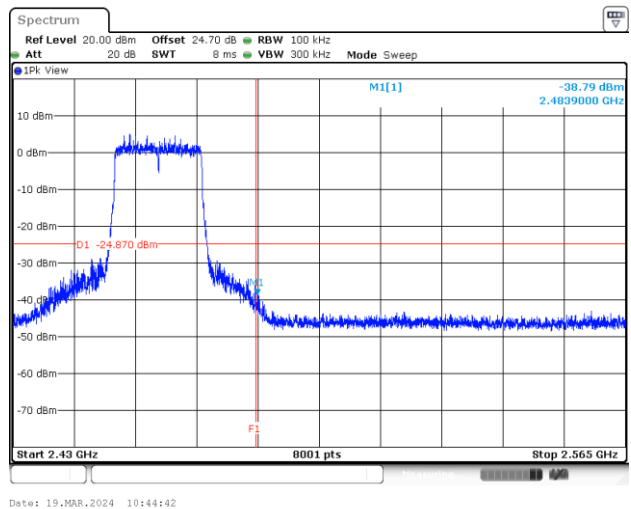
Test Mode : 802.11ax HE20_FullIRU

Test Channel : 11

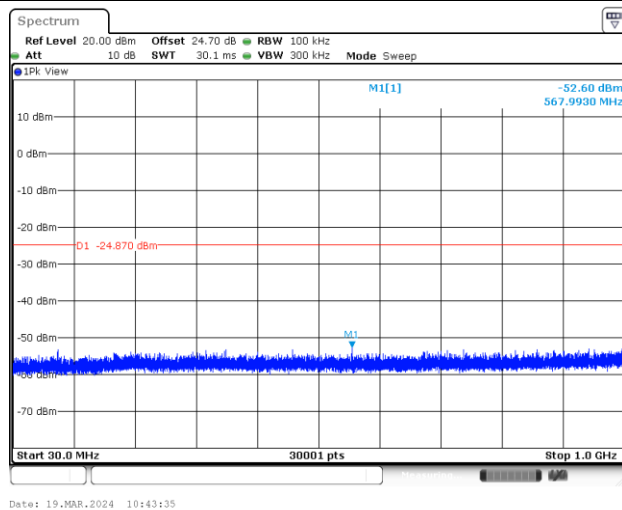
100kHz PSD reference Level



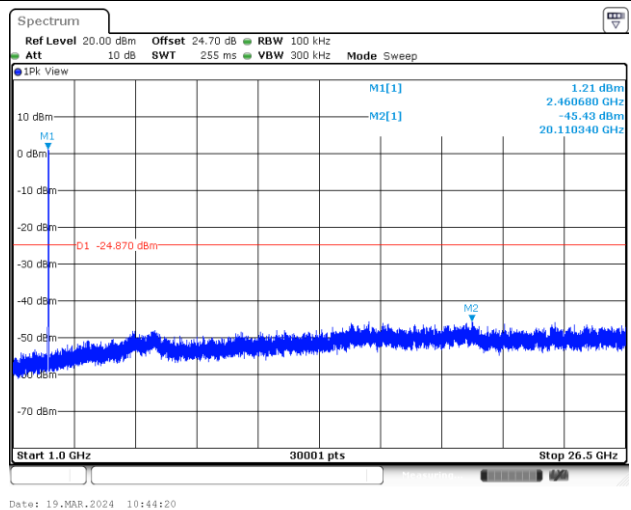
High Channel Plot



Spurious Emission 30MHz~1GHz



Spurious Emission 1GHz~26.5GHz





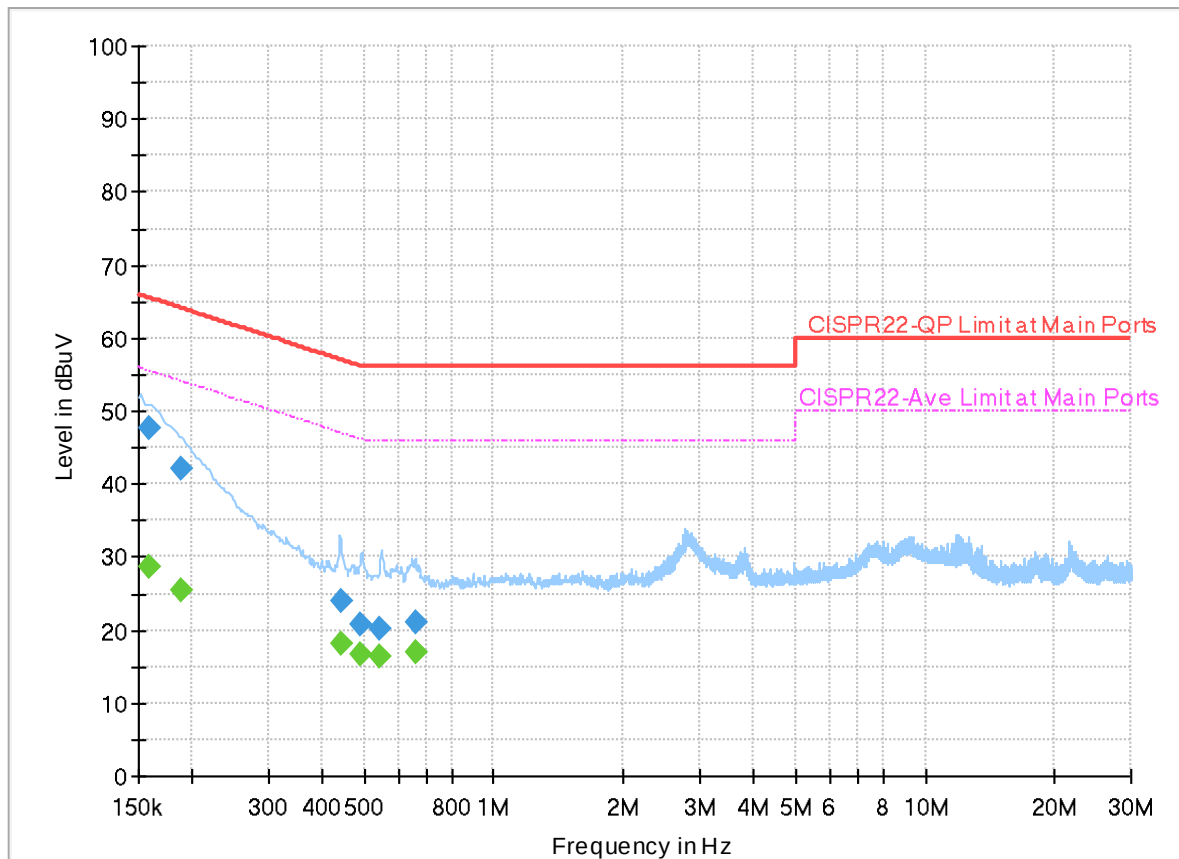
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Louis Chung	Temperature :	20.5~21.7°C
		Relative Humidity :	41.2~46.4%

EUT Information

Report NO : 420107
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



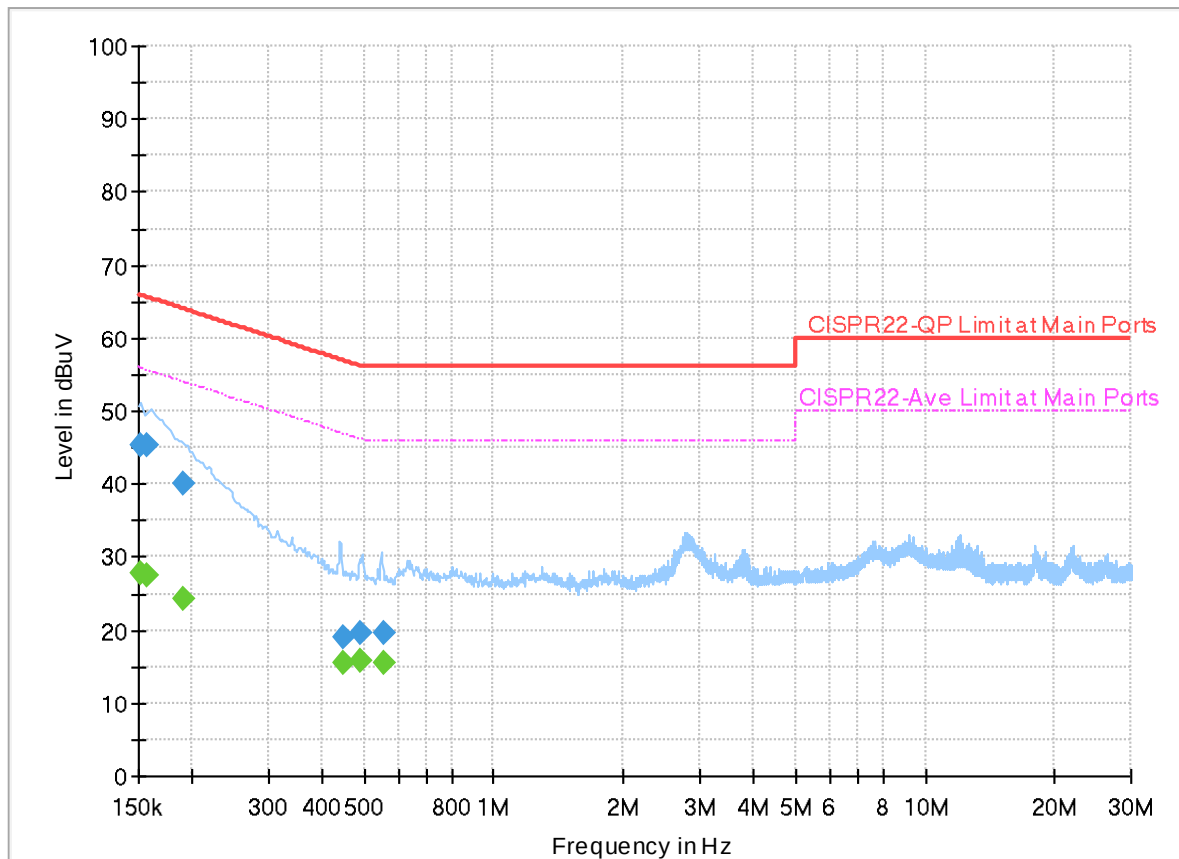
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.159000	---	28.70	55.52	26.82	L1	OFF	19.9
0.159000	47.59	---	65.52	17.93	L1	OFF	19.9
0.188340	---	25.31	54.11	28.80	L1	OFF	19.9
0.188340	42.02	---	64.11	22.09	L1	OFF	19.9
0.443130	---	18.18	47.00	28.82	L1	OFF	19.9
0.443130	23.98	---	57.00	33.02	L1	OFF	19.9
0.490560	---	16.72	46.16	29.44	L1	OFF	19.9
0.490560	20.79	---	56.16	35.37	L1	OFF	19.9
0.544560	---	16.27	46.00	29.73	L1	OFF	19.9
0.544560	20.07	---	56.00	35.93	L1	OFF	19.9
0.658950	---	16.84	46.00	29.16	L1	OFF	19.9
0.658950	21.19	---	56.00	34.81	L1	OFF	19.9

EUT Information

Report NO : 420107
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.151890	---	27.76	55.90	28.14	N	OFF	19.9
0.151890	45.43	---	65.90	20.47	N	OFF	19.9
0.156750	---	27.50	55.63	28.13	N	OFF	19.9
0.156750	45.39	---	65.63	20.24	N	OFF	19.9
0.190230	---	24.37	54.03	29.66	N	OFF	19.9
0.190230	39.99	---	64.03	24.04	N	OFF	19.9
0.447000	---	15.45	46.93	31.48	N	OFF	19.9
0.447000	19.15	---	56.93	37.78	N	OFF	19.9
0.490470	---	15.77	46.16	30.39	N	OFF	19.9
0.490470	19.51	---	56.16	36.65	N	OFF	19.9
0.555000	---	15.58	46.00	30.42	N	OFF	19.9
0.555000	19.63	---	56.00	36.37	N	OFF	19.9



Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Fan, Tim Lee, and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2360.715	56.42	-17.58	74	45.43	27.4	17.22	33.63	179	138	P	H
		2389.485	44.66	-9.34	54	33.57	27.49	17.24	33.64	179	138	A	H
	*	2412	101.92	-	-	90.69	27.6	17.27	33.64	179	138	P	H
	*	2412	98.83	-	-	87.6	27.6	17.27	33.64	179	138	A	H
													H
		2336.88	55.98	-18.02	74	45.12	27.27	17.21	33.62	295	254	P	V
		2390	44.68	-9.32	54	33.58	27.5	17.24	33.64	295	254	A	V
	*	2412	103.66	-	-	92.43	27.6	17.27	33.64	295	254	P	V
	*	2412	100.5	-	-	89.27	27.6	17.27	33.64	295	254	A	V
													V
802.11b CH 06 2437MHz		2313.64	55.56	-18.44	74	44.68	27.3	17.2	33.62	200	137	P	H
		2358.72	45.09	-8.91	54	34.11	27.39	17.22	33.63	200	137	A	H
	*	2437	101.11	-	-	89.82	27.6	17.34	33.65	200	137	P	H
	*	2437	98.27	-	-	86.98	27.6	17.34	33.65	200	137	A	H
		2498.39	56.21	-17.79	74	44.35	28	17.52	33.66	200	137	P	H
		2493.84	45.63	-8.37	54	33.79	28	17.5	33.66	200	137	A	H
		2359.14	57.2	-16.8	74	46.22	27.39	17.22	33.63	305	286	P	V
		2358.86	45.51	-8.49	54	34.53	27.39	17.22	33.63	305	286	A	V
	*	2437	105.25	-	-	93.96	27.6	17.34	33.65	305	286	P	V
	*	2437	102.27	-	-	90.98	27.6	17.34	33.65	305	286	A	V
		2497.41	56.04	-17.96	74	44.19	28	17.51	33.66	305	286	P	V
		2491.74	45.64	-8.36	54	33.8	28	17.5	33.66	305	286	A	V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 11 2462MHz	*	2462	100.58	-	-	89.02	27.8	17.41	33.65	107	139	P	H
	*	2462	97.45	-	-	85.89	27.8	17.41	33.65	107	139	A	H
		2495.24	56.69	-17.31	74	44.84	28	17.51	33.66	107	139	P	H
		2494.44	45.47	-8.53	54	33.63	28	17.5	33.66	107	139	A	H
													H
													H
	*	2462	103.48	-	-	91.92	27.8	17.41	33.65	296	286	P	V
	*	2462	100.37	-	-	88.81	27.8	17.41	33.65	296	286	A	V
		2484.4	56.8	-17.2	74	45.04	27.94	17.48	33.66	296	286	P	V
		2489.84	45.47	-8.53	54	33.64	28	17.49	33.66	296	286	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	41.42	-32.58	74	63.7	32.3	12.48	67.06	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		4824	41.17	-32.83	74	63.45	32.3	12.48	67.06	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 06 2437MHz		4874	41.01	-32.99	74	63.23	32.54	12.24	67	-	-	P	H
		7311	47.48	-26.52	74	61.91	37	14.6	66.03	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		4874	41.34	-32.66	74	63.56	32.54	12.24	67	-	-	P	V
		7311	52.07	-21.93	74	66.5	37	14.6	66.03	307	322	P	V
		7311	45.44	-8.56	54	59.87	37	14.6	66.03	307	322	A	V
													V
													V
													V
													V
													V
													V
													V
													V

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11b CH 11 2462MHz		4924	41.86	-32.14	74	64	32.8	12	66.94	-	-	P	H	
		7386	46.98	-27.02	74	61.49	36.78	14.8	66.09	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4924	43.21	-30.79	74	65.35	32.8	12	66.94	-	-	P	V
			7386	50.84	-23.16	74	65.35	36.78	14.8	66.09	303	321	P	V
			7386	44.14	-9.86	54	58.65	36.78	14.8	66.09	303	321	A	V
														V
														V
														V
														V
														V
														V
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



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

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.695	55.56	-18.44	74	44.46	27.5	17.24	33.64	149	142	P	H
		2390	46.1	-7.9	54	35	27.5	17.24	33.64	149	142	A	H
	*	2412	103.3	-	-	92.07	27.6	17.27	33.64	149	142	P	H
	*	2412	95.56	-	-	84.33	27.6	17.27	33.64	149	142	A	H
													H
													H
		2340.765	56.39	-17.61	74	45.5	27.3	17.21	33.62	190	82	P	V
		2389.905	46.57	-7.43	54	35.47	27.5	17.24	33.64	190	82	A	V
	*	2412	103.49	-	-	92.26	27.6	17.27	33.64	190	82	P	V
	*	2412	95.85	-	-	84.62	27.6	17.27	33.64	190	82	A	V
													V
													V
802.11g CH 06 2437MHz		2346.96	55.24	-18.76	74	44.35	27.3	17.22	33.63	201	43	P	H
		2362.22	45.52	-8.48	54	34.53	27.4	17.22	33.63	201	43	A	H
	*	2437	101.3	-	-	90.01	27.6	17.34	33.65	201	43	P	H
	*	2437	93.58	-	-	82.29	27.6	17.34	33.65	201	43	A	H
		2499.3	55.91	-18.09	74	44.05	28	17.52	33.66	201	43	P	H
		2497.9	46.63	-7.37	54	34.78	28	17.51	33.66	201	43	A	H
		2361.52	55.75	-18.25	74	44.76	27.4	17.22	33.63	177	85	P	V
		2368.1	45.68	-8.32	54	34.68	27.4	17.23	33.63	177	85	A	V
	*	2437	103.03	-	-	91.74	27.6	17.34	33.65	177	85	P	V
	*	2437	95.44	-	-	84.15	27.6	17.34	33.65	177	85	A	V
		2489.64	55.88	-18.12	74	44.05	28	17.49	33.66	177	85	P	V
		2486.21	46.58	-7.42	54	34.8	27.96	17.48	33.66	177	85	A	V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz	*	2462	102.43	-	-	90.87	27.8	17.41	33.65	255	26	P	H
	*	2462	93.94	-	-	82.38	27.8	17.41	33.65	255	26	A	H
		2483.72	64.81	-9.19	74	53.06	27.94	17.47	33.66	255	26	P	H
		2483.68	49.36	-4.64	54	37.61	27.94	17.47	33.66	255	26	A	H
													H
													H
	*	2462	103.25	-	-	91.69	27.8	17.41	33.65	258	286	P	V
	*	2462	95.49	-	-	83.93	27.8	17.41	33.65	258	286	A	V
		2483.76	66.61	-7.39	74	54.86	27.94	17.47	33.66	258	286	P	V
		2483.68	49.76	-4.24	54	38.01	27.94	17.47	33.66	258	286	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	42.02	-31.98	74	64.08	32.3	12.7	67.06	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		4824	41.84	-32.16	74	63.9	32.3	12.7	67.06	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V



Report No. : FR420107C

802.11g
CH 06
2437MHz

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11g CH 11 2462MHz		4924	42.79	-31.21	74	64.74	32.8	12.19	66.94	-	-	P	H	
		7386	47.7	-26.3	74	61.91	36.78	15.1	66.09	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4924	42.37	-31.63	74	64.32	32.8	12.19	66.94	-	-	P	V
			7386	51.99	-22.01	74	66.2	36.78	15.1	66.09	301	315	P	V
			7386	42.02	-11.98	54	56.23	36.78	15.1	66.09	301	315	A	V
														V
														V
														V
														V
														V
														V
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2389.905	56.47	-17.53	74	45.37	27.5	17.24	33.64	149	140	P	H
		2390	46.17	-7.83	54	35.07	27.5	17.24	33.64	149	140	A	H
	*	2412	101.44	-	-	90.21	27.6	17.27	33.64	149	140	P	H
	*	2412	93.6	-	-	82.37	27.6	17.27	33.64	149	140	A	H
													H
													H
		2389.905	61.84	-12.16	74	50.74	27.5	17.24	33.64	346	269	P	V
		2354.835	48.88	-5.12	54	37.94	27.35	17.22	33.63	346	269	A	V
	*	2412	104.94	-	-	93.71	27.6	17.27	33.64	346	269	P	V
	*	2412	97.18	-	-	85.95	27.6	17.27	33.64	346	269	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2376.5	55.71	-18.29	74	44.71	27.4	17.23	33.63	138	139	P	H
		2355.64	45.78	-8.22	54	34.83	27.36	17.22	33.63	138	139	A	H
	*	2437	100.85	-	-	89.56	27.6	17.34	33.65	138	139	P	H
	*	2437	92.96	-	-	81.67	27.6	17.34	33.65	138	139	A	H
		2493	55.97	-18.03	74	44.13	28	17.5	33.66	138	139	P	H
		2486.35	46.47	-7.53	54	34.69	27.96	17.48	33.66	138	139	A	H
		2355.78	59.25	-14.75	74	48.3	27.36	17.22	33.63	304	256	P	V
		2354.8	49.61	-4.39	54	38.67	27.35	17.22	33.63	304	256	A	V
	*	2437	104.11	-	-	92.82	27.6	17.34	33.65	304	256	P	V
	*	2437	96.28	-	-	84.99	27.6	17.34	33.65	304	256	A	V
		2493.42	56.41	-17.59	74	44.57	28	17.5	33.66	304	256	P	V
		2496.22	46.44	-7.56	54	34.59	28	17.51	33.66	304	256	A	V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 11 2462MHz	*	2462	101.39	-	-	89.83	27.8	17.41	33.65	105	140	P	H
	*	2462	93.69	-	-	82.13	27.8	17.41	33.65	105	140	A	H
		2484.08	68.41	-5.59	74	56.65	27.94	17.48	33.66	105	140	P	H
		2483.5	51.61	-2.39	54	39.87	27.93	17.47	33.66	105	140	A	H
													H
													H
	*	2462	103.91	-	-	92.35	27.8	17.41	33.65	295	259	P	V
	*	2462	96.01	-	-	84.45	27.8	17.41	33.65	295	259	A	V
		2483.72	69.37	-4.63	74	57.62	27.94	17.47	33.66	295	259	P	V
		2483.76	52.46	-1.54	54	40.71	27.94	17.47	33.66	295	259	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	41.55	-32.45	74	63.61	32.3	12.7	67.06	-	-	P	H
													H
													H
													H
													H
													H
		4824	41.9	-32.1	74	63.96	32.3	12.7	67.06	-	-	P	V
													V
													V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	42.15	-31.85	74	64.17	32.54	12.44	67	-	-	P	H
		7311	47.71	-26.29	74	61.83	37	14.91	66.03	-	-	P	H
													H
													H
													H
													H
													H
													H
		4874	41.48	-32.52	74	63.5	32.54	12.44	67	-	-	P	V
		7311	53.22	-20.78	74	67.34	37	14.91	66.03	298	316	P	V
		7311	42.75	-11.25	54	56.87	37	14.91	66.03	298	316	A	V
													V
													V
													V
													V
													V

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 11 2462MHz		4924	41.9	-32.1	74	63.85	32.8	12.19	66.94	-	-	P	H
		7386	47.36	-26.64	74	61.57	36.78	15.1	66.09	-	-	P	H
													H
													H
													H
													H
													H
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2.4GHz 2400~2483.5MHz

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

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		2389.905	63.51	-10.49	74	52.41	27.5	17.24	33.64	400	324	P	H
		2390	48.58	-5.42	54	37.48	27.5	17.24	33.64	400	324	A	H
	*	2412	105.35	-	-	94.12	27.6	17.27	33.64	400	324	P	H
	*	2412	95.55	-	-	84.32	27.6	17.27	33.64	400	324	A	H
													H
													H
		2389.695	63.5	-10.5	74	52.4	27.5	17.24	33.64	136	341	P	V
		2389.905	49.45	-4.55	54	38.35	27.5	17.24	33.64	136	341	A	V
	*	2412	106.63	-	-	95.4	27.6	17.27	33.64	136	341	P	V
	*	2412	96.86	-	-	85.63	27.6	17.27	33.64	136	341	A	V
													V
													V
802.11ax HE20 Full CH 06 2437MHz		2376.36	56.17	-17.83	74	45.17	27.4	17.23	33.63	100	345	P	H
		2361.94	45.42	-8.58	54	34.43	27.4	17.22	33.63	100	345	A	H
	*	2437	104.64	-	-	93.35	27.6	17.34	33.65	100	345	P	H
	*	2437	94.37	-	-	83.08	27.6	17.34	33.65	100	345	A	H
		2492.44	56.42	-17.58	74	44.58	28	17.5	33.66	100	345	P	H
		2498.95	46.13	-7.87	54	34.27	28	17.52	33.66	100	345	A	H
		2359.42	55.8	-18.2	74	44.82	27.39	17.22	33.63	296	84	P	V
		2342.62	45.26	-8.74	54	34.38	27.3	17.21	33.63	296	84	A	V
	*	2437	108.33	-	-	97.04	27.6	17.34	33.65	296	84	P	V
	*	2437	97.84	-	-	86.55	27.6	17.34	33.65	296	84	A	V
		2494.82	56.63	-17.37	74	44.78	28	17.51	33.66	296	84	P	V
		2487.89	46.26	-7.74	54	34.45	27.98	17.49	33.66	296	84	A	V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 11 2462MHz	*	2462	99.5	-	-	87.94	27.8	17.41	33.65	100	63	P	H
	*	2462	89.57	-	-	78.01	27.8	17.41	33.65	100	63	A	H
		2484.2	67.21	-6.79	74	55.45	27.94	17.48	33.66	100	63	P	H
		2483.52	47.6	-6.4	54	35.85	27.94	17.47	33.66	100	63	A	H
													H
													H
	*	2462	102.81	-	-	91.25	27.8	17.41	33.65	350	83	P	V
	*	2462	93.68	-	-	82.12	27.8	17.41	33.65	350	83	A	V
		2484.52	70.42	-3.58	74	58.65	27.95	17.48	33.66	350	83	P	V
		2483.76	51.76	-2.24	54	40.01	27.94	17.47	33.66	350	83	A	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

[illegible]



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 06 2437MHz		4874	42.25	-31.75	74	64.47	32.54	12.24	67	-	-	P	H
		7311	47.98	-26.02	74	62.41	37	14.6	66.03	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
		4874	43.18	-30.82	74	65.4	32.54	12.24	67	-	-	P	V
		7311	52.46	-21.54	74	66.89	37	14.6	66.03	300	319	P	V
		7311	43.01	-10.99	54	57.44	37	14.6	66.03	300	319	A	V
													V
													V
													V
													V
													V
													V
													V

[illegible]



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 26/0 CH 01 2412MHz		2342.445	56.02	-17.98	74	45.14	27.3	17.21	33.63	400	319	P	H
		2384.865	45.76	-8.24	54	34.71	27.45	17.23	33.63	400	319	A	H
	*	2412	109.09	-	-	97.86	27.6	17.27	33.64	400	319	P	H
	*	2412	101.14	-	-	89.91	27.6	17.27	33.64	400	319	A	H
													H
													H
		2389.59	56.95	-17.05	74	45.85	27.5	17.24	33.64	303	89	P	V
		2389.905	45.98	-8.02	54	34.88	27.5	17.24	33.64	303	89	A	V
	*	2412	110.96	-	-	99.73	27.6	17.27	33.64	303	89	P	V
	*	2412	104.12	-	-	92.89	27.6	17.27	33.64	303	89	A	V
													V
													V
802.11ax HE20 Partial 26/4 CH 06 2437MHz		2346.4	55.54	-18.46	74	44.65	27.3	17.22	33.63	152	318	P	H
		2348.08	45.76	-8.24	54	34.87	27.3	17.22	33.63	152	318	A	H
	*	2437	110.79	-	-	99.5	27.6	17.34	33.65	152	318	P	H
	*	2437	103.4	-	-	92.11	27.6	17.34	33.65	152	318	A	H
		2494.89	56.21	-17.79	74	44.36	28	17.51	33.66	152	318	P	H
		2496.57	46.52	-7.48	54	34.67	28	17.51	33.66	152	318	A	H
		2339.4	55.33	-18.67	74	44.45	27.29	17.21	33.62	297	82	P	V
		2358.86	45.66	-8.34	54	34.68	27.39	17.22	33.63	297	82	A	V
	*	2437	113.03	-	-	101.74	27.6	17.34	33.65	297	82	P	V
	*	2437	105.98	-	-	94.69	27.6	17.34	33.65	297	82	A	V
		2489.29	56.22	-17.78	74	44.4	27.99	17.49	33.66	297	82	P	V
		2492.58	46.71	-7.29	54	34.87	28	17.5	33.66	297	82	A	V



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 26/8 CH 11 2462MHz	*	2462	109.39	-	-	97.83	27.8	17.41	33.65	174	319	P	H
	*	2462	102.86	-	-	91.3	27.8	17.41	33.65	174	319	A	H
		2483.88	64.62	-9.38	74	52.87	27.94	17.47	33.66	174	319	P	H
		2483.56	48.86	-5.14	54	37.11	27.94	17.47	33.66	174	319	A	H
													H
													H
	*	2462	113.93	-	-	102.37	27.8	17.41	33.65	286	81	P	V
	*	2462	106.83	-	-	95.27	27.8	17.41	33.65	286	81	A	V
		2484.12	68.57	-5.43	74	56.81	27.94	17.48	33.66	286	81	P	V
		2483.8	50.69	-3.31	54	38.94	27.94	17.47	33.66	286	81	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 26 (Harmonic @ 3m)

[illegible]



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 26/4 CH 06 2437MHz		4874	41.4	-32.6	74	63.62	32.54	12.24	67	-	-	P	H
		7311	55.61	-18.39	74	70.04	37	14.6	66.03	302	335	P	H
		7311	45.5	-8.5	54	59.93	37	14.6	66.03	302	335	A	H
													H
													H
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													H
													H
													H
		4874	41.21	-32.79	74	63.43	32.54	12.24	67	-	-	P	V
		7311	60.56	-13.44	74	74.99	37	14.6	66.03	301	318	P	V
		7311	50.23	-3.77	54	64.66	37	14.6	66.03	301	318	A	V
													V
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													V

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Partial 26/8 CH 11 2462MHz		4924	41.81	-32.19	74	63.95	32.8	12	66.94	-	-	P	H
		7386	54.82	-19.18	74	69.33	36.78	14.8	66.09	249	336	P	H
		7386	45.75	-8.25	54	60.26	36.78	14.8	66.09	249	336	A	H
													H
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2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 52 (Band Edge @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 52/37 CH 01 2412MHz		2383.71	55.92	-18.08	74	44.88	27.44	17.23	33.63	389	314	P	H
		2363.445	45.72	-8.28	54	34.73	27.4	17.22	33.63	389	314	A	H
	*	2412	106.75	-	-	95.52	27.6	17.27	33.64	389	314	P	H
	*	2412	97.84	-	-	86.61	27.6	17.27	33.64	389	314	A	H
													H
													H
		2389.8	57.87	-16.13	74	46.77	27.5	17.24	33.64	304	91	P	V
		2389.59	45.74	-8.26	54	34.64	27.5	17.24	33.64	304	91	A	V
	*	2412	110.12	-	-	98.89	27.6	17.27	33.64	304	91	P	V
	*	2412	101.99	-	-	90.76	27.6	17.27	33.64	304	91	A	V
													V
													V
802.11ax HE20 Partial 52/40 CH 11 2462MHz	*	2462	108.52	-	-	96.96	27.8	17.41	33.65	172	318	P	H
	*	2462	100.15	-	-	88.59	27.8	17.41	33.65	172	318	A	H
		2483.84	64.69	-9.31	74	52.94	27.94	17.47	33.66	172	318	P	H
		2483.96	48.56	-5.44	54	36.8	27.94	17.48	33.66	172	318	A	H
													H
													H
	*	2462	112.06	-	-	100.5	27.8	17.41	33.65	287	81	P	V
	*	2462	103.84	-	-	92.28	27.8	17.41	33.65	287	81	A	V
		2483.56	68.22	-5.78	74	56.47	27.94	17.47	33.66	287	81	P	V
		2483.64	50.9	-3.1	54	39.15	27.94	17.47	33.66	287	81	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

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

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 106/53 CH 01 2412MHz		2344.02	55.89	-18.11	74	45.01	27.3	17.21	33.63	388	320	P	H
		2369.955	45.71	-8.29	54	34.71	27.4	17.23	33.63	388	320	A	H
	*	2412	105.07	-	-	93.84	27.6	17.27	33.64	388	320	P	H
	*	2412	97.19	-	-	85.96	27.6	17.27	33.64	388	320	A	H
													H
													H
		2389.905	58.45	-15.55	74	47.35	27.5	17.24	33.64	303	91	P	V
		2389.59	46.15	-7.85	54	35.05	27.5	17.24	33.64	303	91	A	V
	*	2412	109.01	-	-	97.78	27.6	17.27	33.64	303	91	P	V
	*	2412	100.11	-	-	88.88	27.6	17.27	33.64	303	91	A	V
													V
													V
802.11ax HE20 Partial 106/54 CH 11 2462MHz	*	2462	106.45	-	-	94.89	27.8	17.41	33.65	203	321	P	H
	*	2462	97.93	-	-	86.37	27.8	17.41	33.65	203	321	A	H
		2483.76	64.71	-9.29	74	52.96	27.94	17.47	33.66	203	321	P	H
		2484.48	49.03	-4.97	54	37.27	27.94	17.48	33.66	203	321	A	H
													H
													H
	*	2462	109.35	-	-	97.79	27.8	17.41	33.65	326	82	P	V
	*	2462	100.63	-	-	89.07	27.8	17.41	33.65	326	82	A	V
		2483.52	70.79	-3.21	74	59.04	27.94	17.47	33.66	326	82	P	V
		2483.64	51.5	-2.5	54	39.75	27.94	17.47	33.66	326	82	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission above 18GHz

2.4GHz WIFI 802.11n HT20 (SHF)

[illegible]

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

[illegible]



Note symbol

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



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Margin(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Margin(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Jesse Fan, Tim Lee, and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Note symbol

-L	Low channel location
-R	High channel location

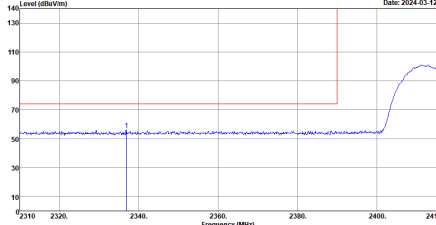
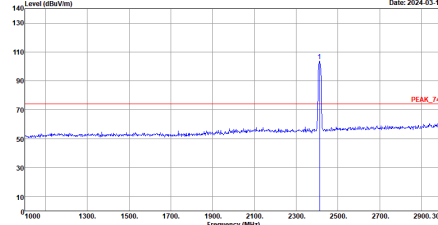
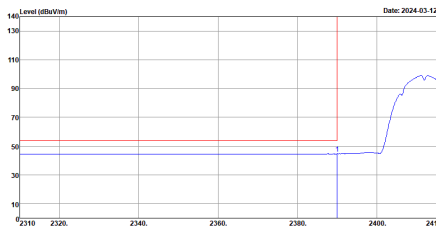
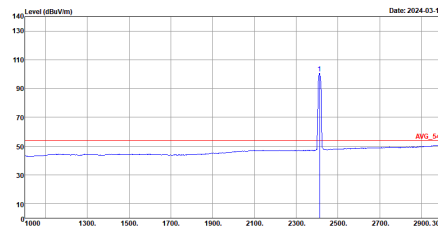


2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH01 2412MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

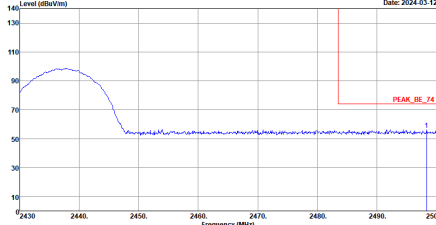
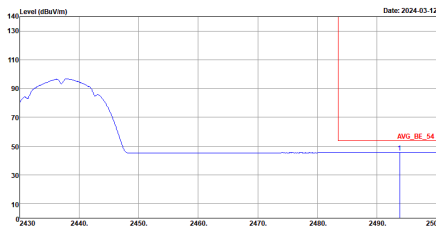


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH01 2412MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH06 2437MHz - L	
	Horizontal	Fundamental
Peak	Level (dBuV/m) Date: 2024-03-12 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) Date: 2024-03-12 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) Date: 2024-03-12 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Level (dBuV/m) Date: 2024-03-12 Site : 03CH12-HY Condition : AVG_54 3m HORN_91200_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

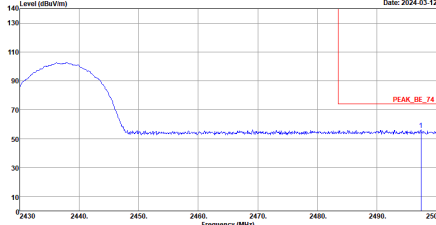
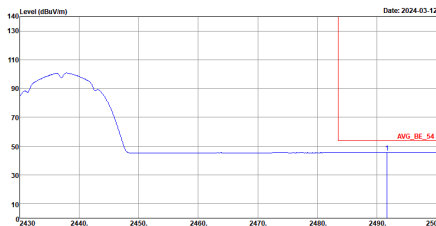


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH06 2437MHz - L	
	Vertical	Fundamental
Peak	Level (dBuV/m) Date: 2024-03-12 Frequency (MHz) Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) Date: 2024-03-12 Frequency (MHz) Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) Date: 2024-03-12 Frequency (MHz) Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Level (dBuV/m) Date: 2024-03-12 Frequency (MHz) Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH11 2462MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto

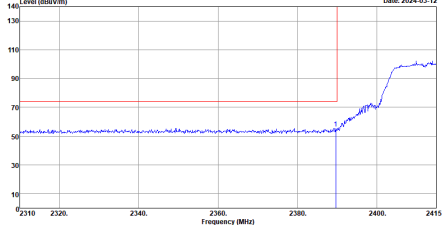
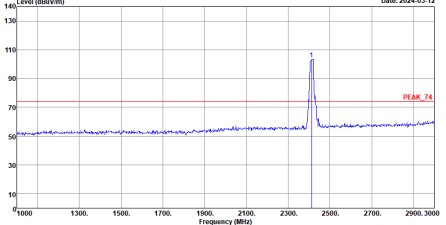
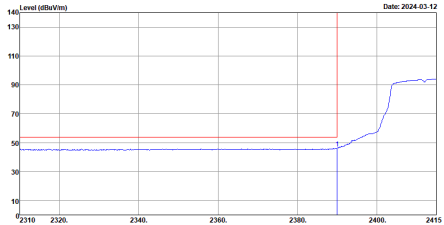
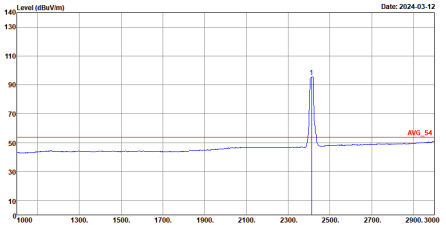


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH11 2462MHz	
	Vertical	Fundamental
Peak	Level (dBuV/m) 140 130 110 90 70 50 30 10 0 2460 2463 2465 2467 2469 2471 2473 2475 2477 2479 2481 2483 2485 2487 2489 2491 2493 2495 2497 2500 Frequency (MHz) PEAK_BE_74 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) 140 130 110 90 70 50 30 10 0 1300 1500 1700 1900 2100 2300 2500 2700 2900 3000 Frequency (MHz) PEAK_74 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) 140 130 110 90 70 50 30 10 0 2460 2463 2465 2467 2469 2471 2473 2475 2477 2479 2481 2483 2485 2487 2489 2491 2493 2495 2497 2500 Frequency (MHz) AVG_BE_54 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Level (dBuV/m) 140 130 110 90 70 50 30 10 0 1300 1500 1700 1900 2100 2300 2500 2700 2900 3000 Frequency (MHz) AVG_54 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH01 2412MHz	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

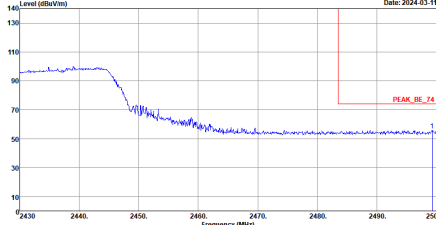
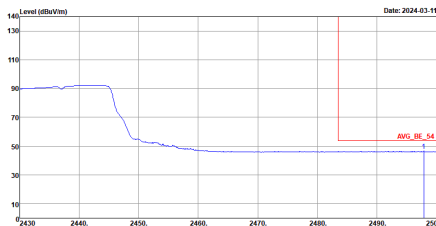


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH01 2412MHz	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - L	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

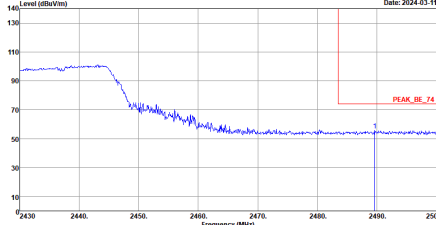
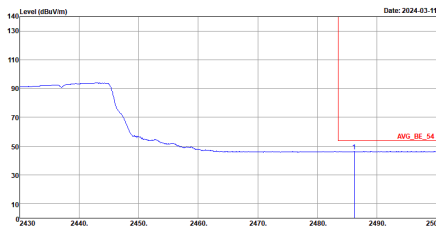


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - L	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

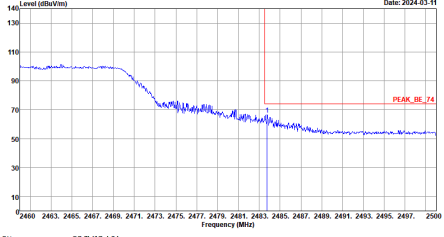
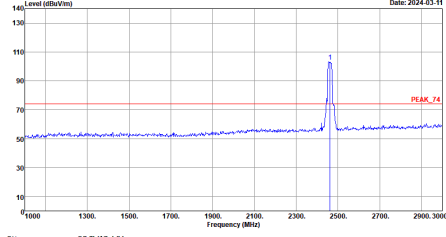
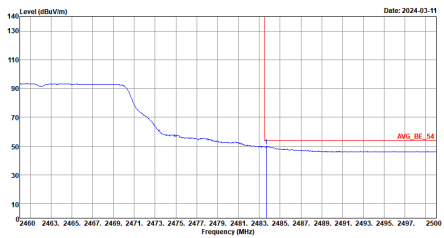
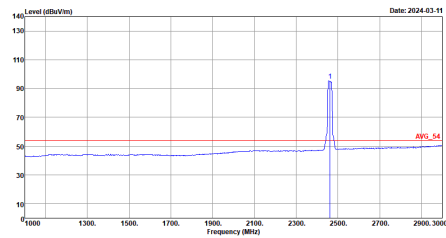


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left Blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH11 2462MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

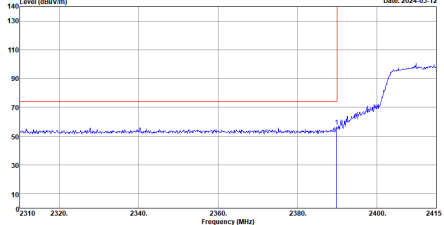
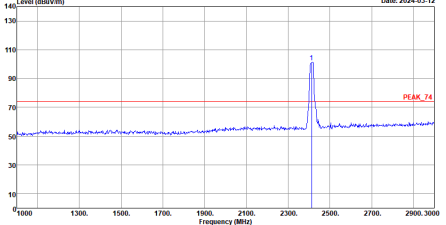
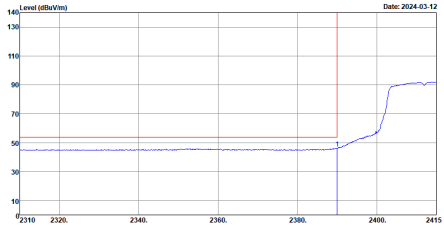
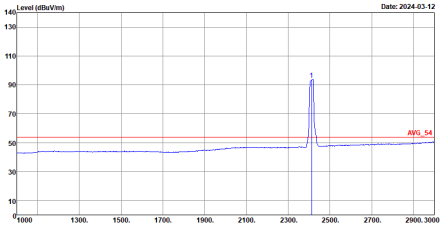


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH11 2462MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

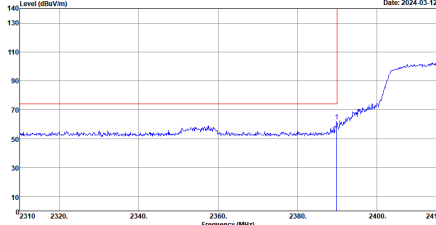
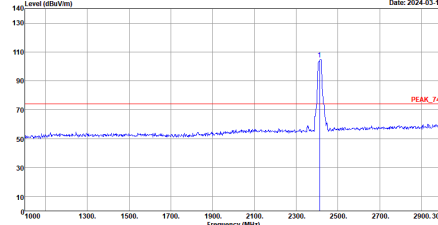
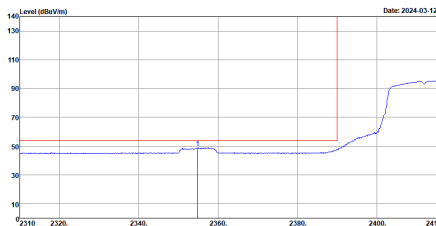
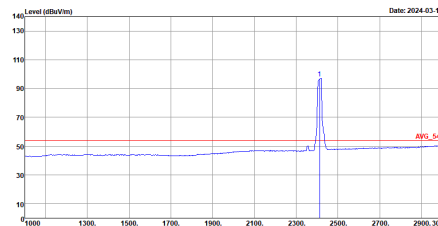


2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH01 2412MHz	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

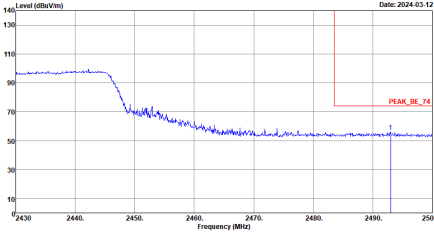
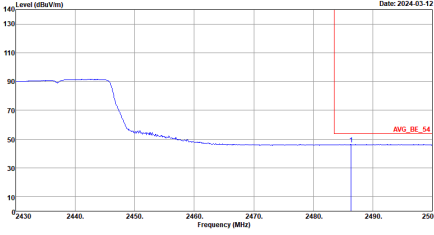


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH01 2412MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

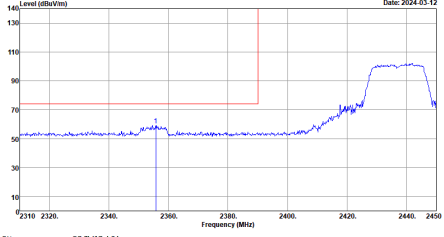
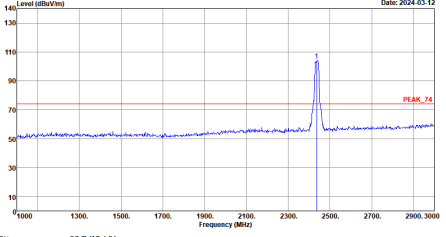
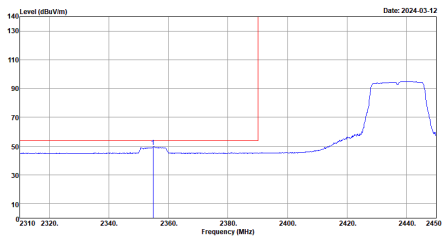
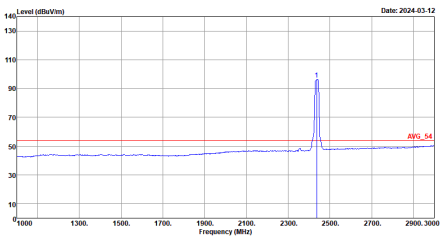


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - L	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - L	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - R	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left Blank
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH11 2462MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

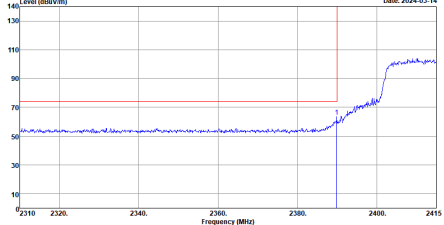
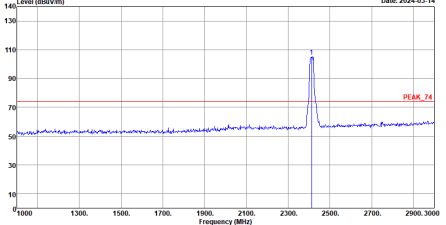
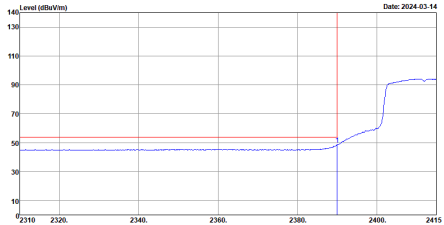
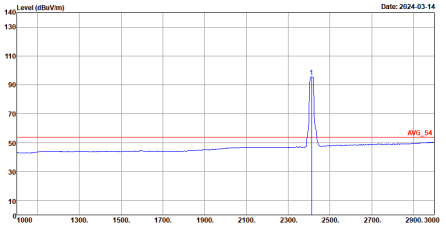


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
	802.11n HT20 CH11 2462MHz	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

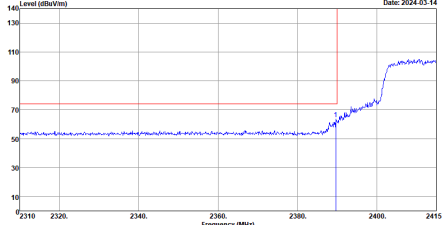
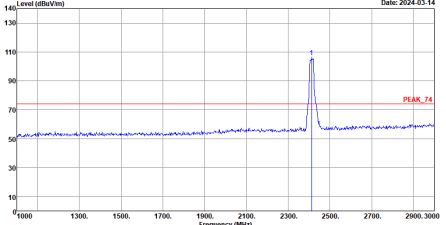
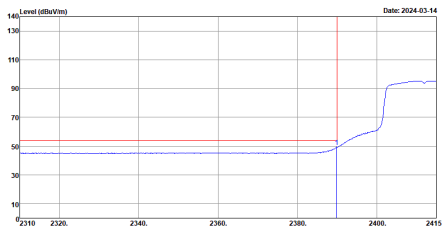
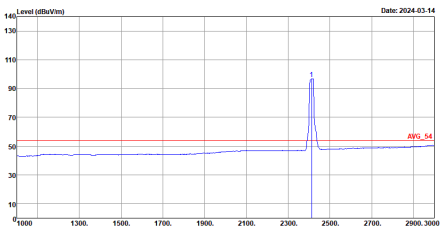


2.4GHz 2400~2483.5MHz

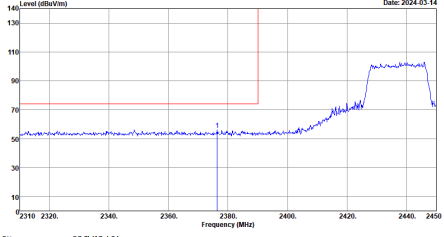
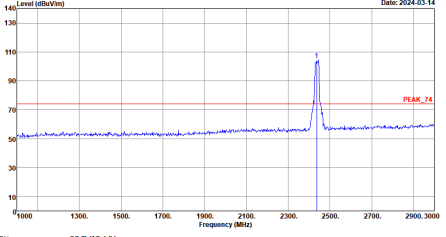
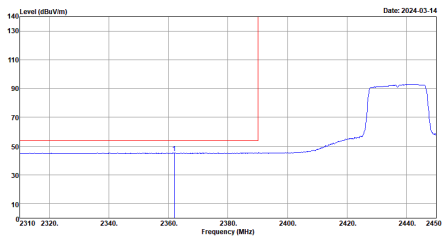
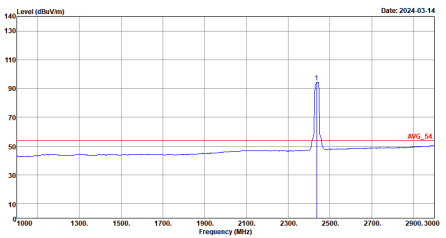
WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH01 2412MHz	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

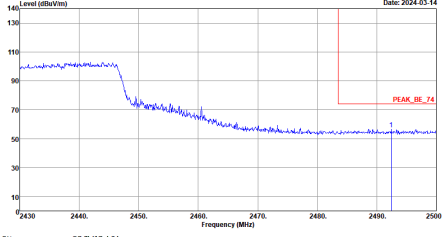
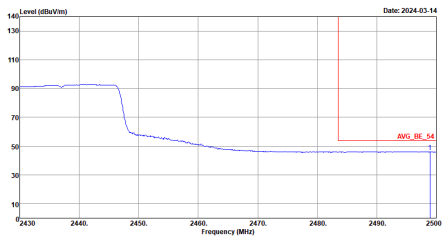


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH01 2412MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

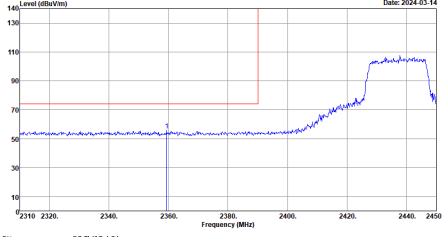
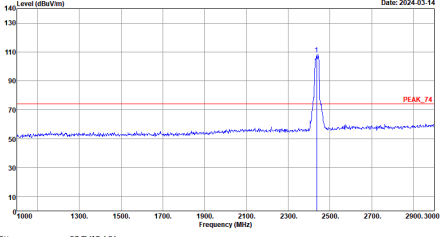
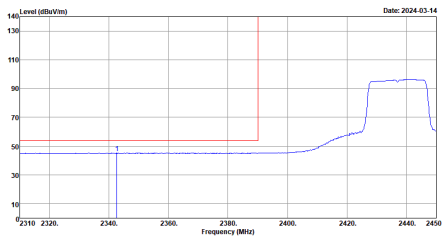
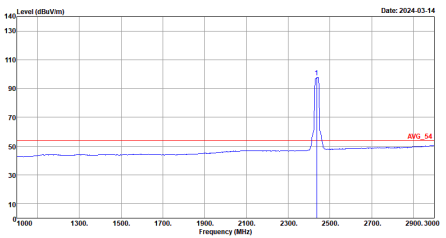


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH06 2437MHz - L	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

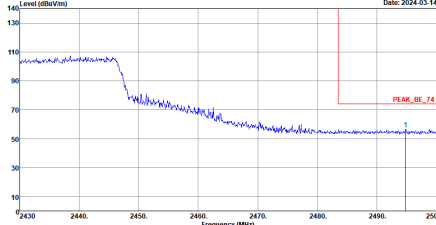
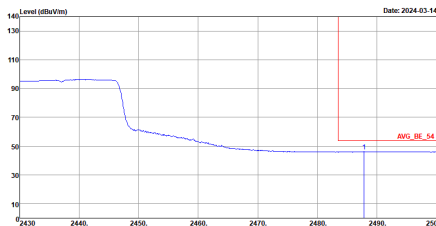


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH06 2437MHz - L	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH11 2462MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Full CH11 2462MHz	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

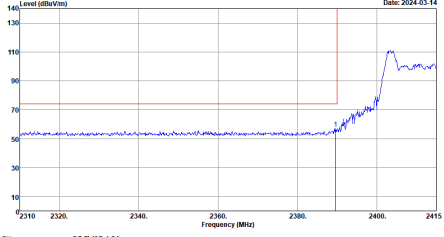
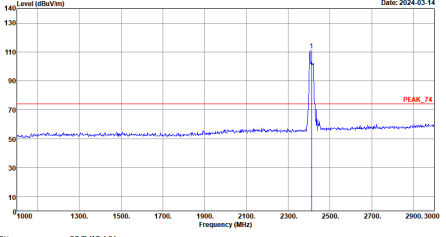
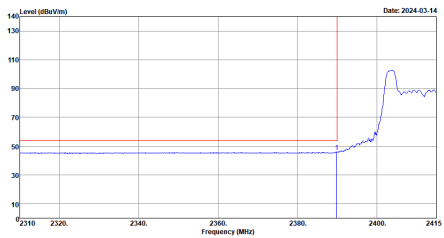
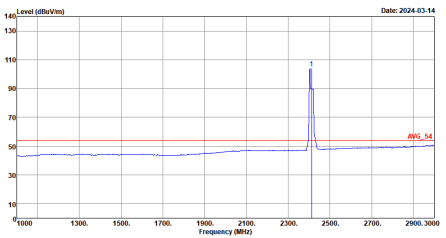


2.4GHz 2400~2483.5MHz

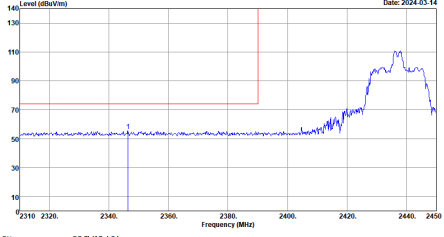
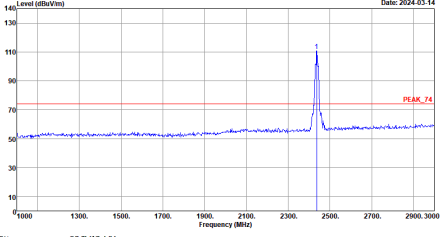
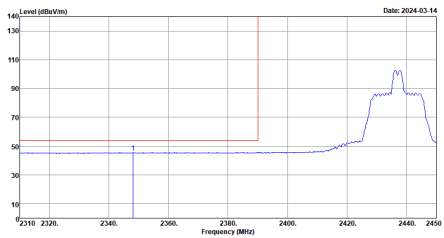
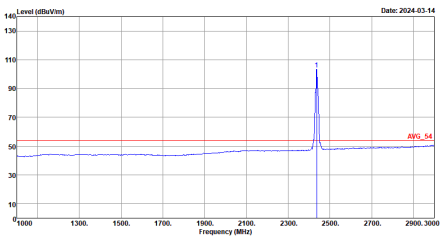
WIFI 802.11ax HE20 Partial 26 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/0 CH01 2412MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

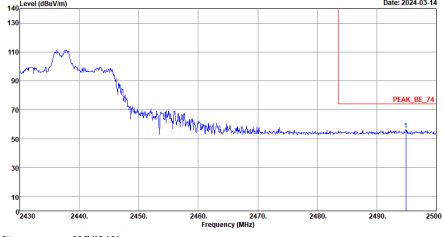
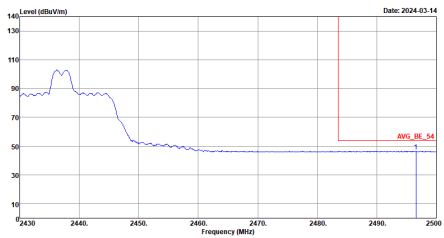


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/0 CH01 2412MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

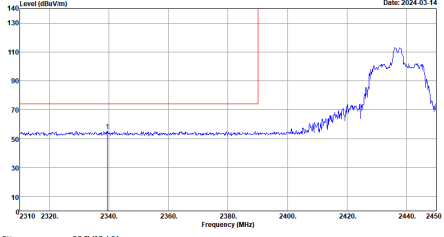
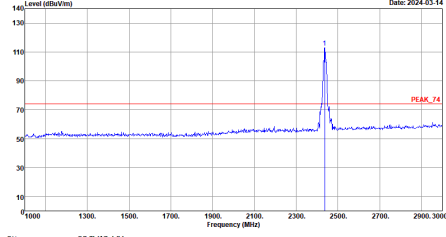
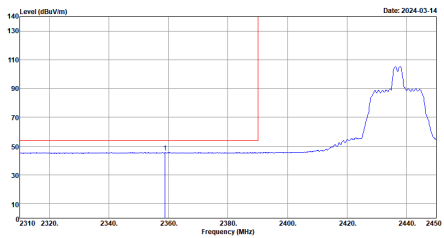
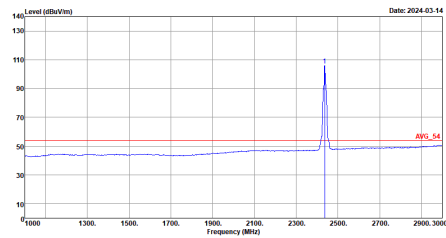


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/4 CH06 2437MHz - L	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

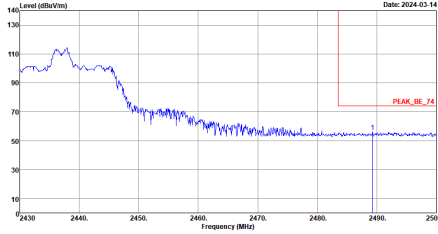
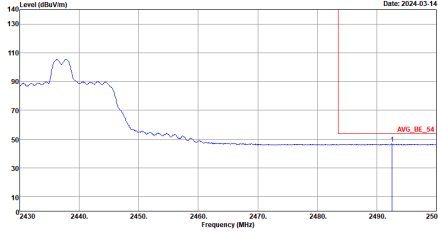


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/4 CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto	Left blank

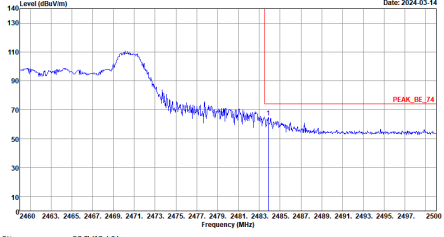
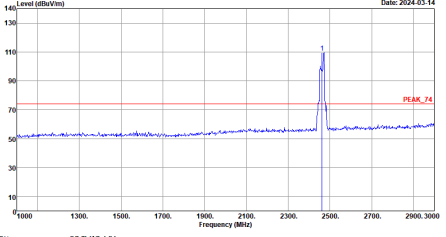
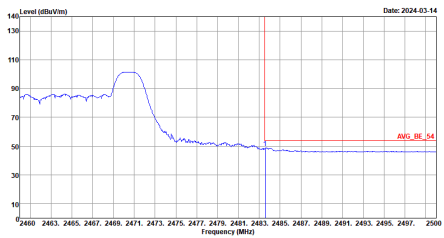
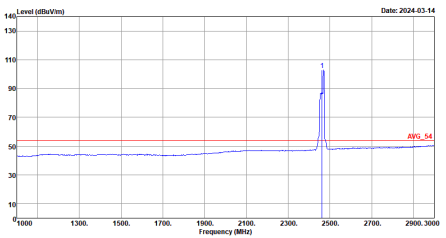


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/4 CH06 2437MHz - L	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/4 CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	Left Blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000kHz VBW:1000kHz SWT:Auto	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/8 CH11 2462MHz	
	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 26/8 CH11 2462MHz	
	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto

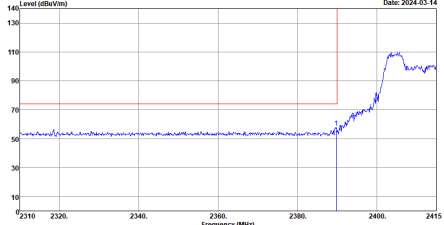
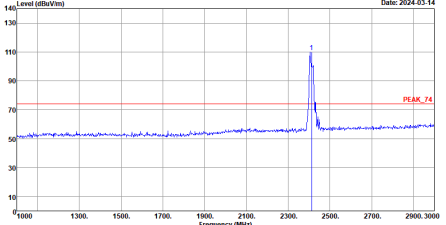
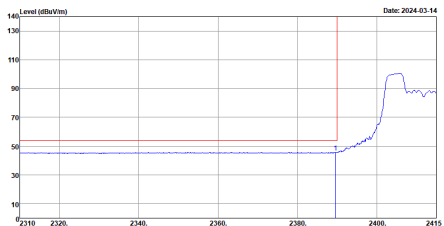
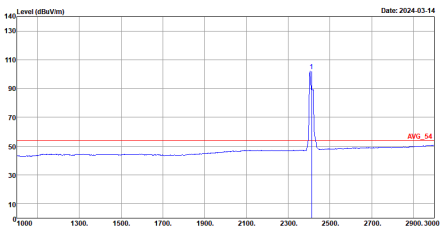


2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 52 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 52/37 CH01 2412MHz	
	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11ax HE20 Partial 52/37 CH01 2412MHz	
	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	 Site : 03CH12-HY Condition : AVG_54 3m HORN_9120D_02114 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto