



FCC RADIO TEST REPORT

FCC ID : 2AF77-H2221540
Equipment : Communication Device
Brand Name : blink
Model Name : BSM00500U
Applicant : Immedia Semiconductor LLC.
 100 Riverpark Drive Suite 125, North Reading, MA,
 United States 01864
Manufacturer : Immedia Semiconductor LLC.
 100 Riverpark Drive Suite 125, North Reading, MA,
 United States 01864
Standard : FCC Part 15 Subpart C §15.247

The product was received on Oct. 03, 2023 and testing was performed from Jan. 09, 2024 to Feb. 29, 2024. We, Sporton International (USA) Inc., 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 (USA) Inc., the test report shall not be reproduced except in full.

Approved by: Neil Kao

Sporton International (USA) Inc.
 1175 Montague Expressway, Milpitas, CA 95035



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History of this test report

Report No.	Version	Description	Issue Date
FR230915002B	01	Initial issue of report	Mar. 12, 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	3.03 dB under the limit at 84.32 MHz
3.6	15.207	AC Conducted Emission	Pass	22.18 dB under the limit at 1.96 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/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

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



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs Bluetooth-LE, Wi-Fi 2.4GHz 802.11b/g/n, SRD and 802.11ah.	
Antenna Type WLAN: Stamped Metal Antenna Bluetooth: Stamped Metal Antenna SRD: Stamped Metal Antenna 802.11ah: Stamped Metal Antenna	

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	4.2

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 (USA) Inc.
Test Site Location	1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300
Test Site No.	Sporton Site No.
	03CH02-CA, CO01-CA, TH01-CA

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

FCC Designation No.: US1250

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. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

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

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

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

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

Single Antenna

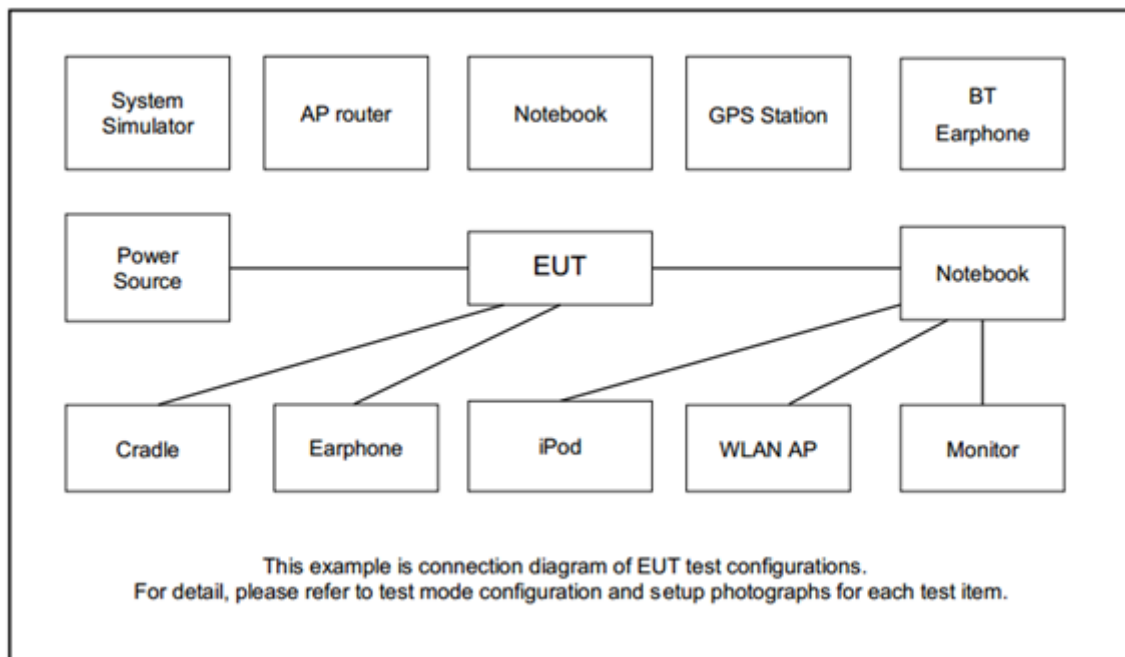
Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :WLAN Tx + USB Cable (Charging from Adapter)

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





2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Adapter	Amazon	FANA7R	N/A	N/A	N/A
2.	USB Cable	Amazon	N/A	N/A	N/A	N/A
3.	Adapter	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

Writing commands onto the SD card, inserting the SD card into the EUT, and upon powering up, the EUT will automatically transmit 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.

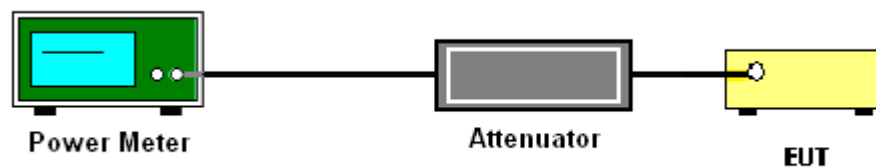
3.2.2 Measuring Instruments

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.

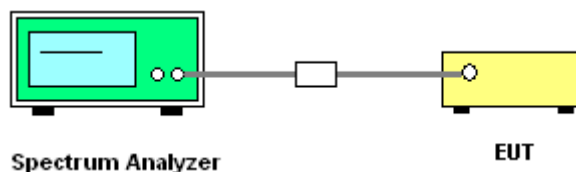
3.4.2 Measuring Instruments

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.

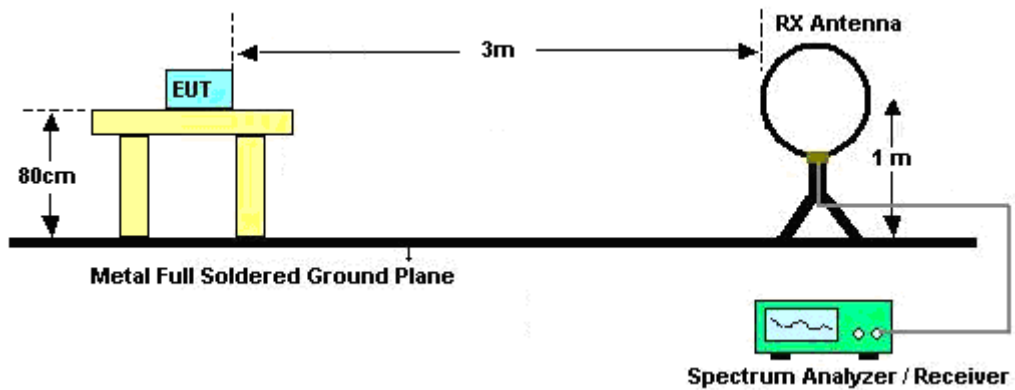
3.5.3 Test Procedures

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 “-“.

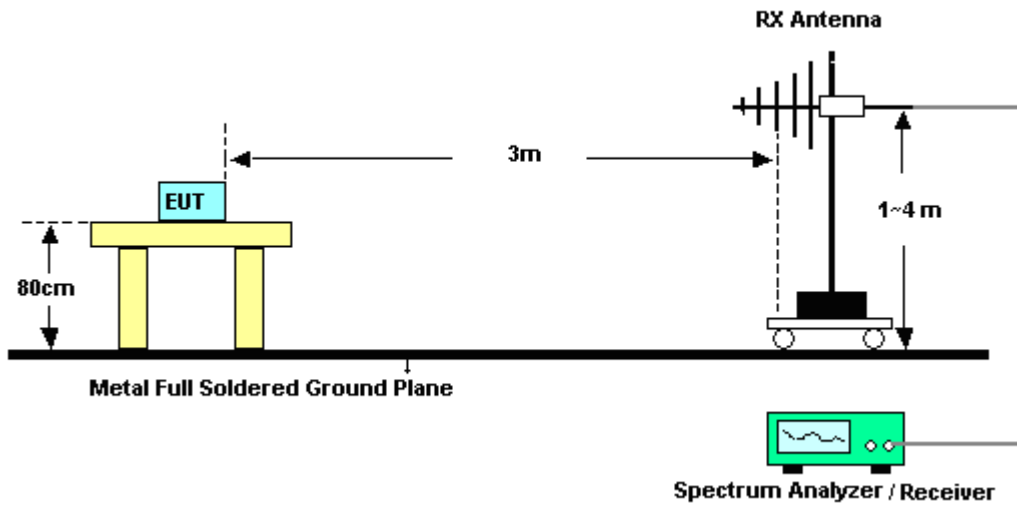
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with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

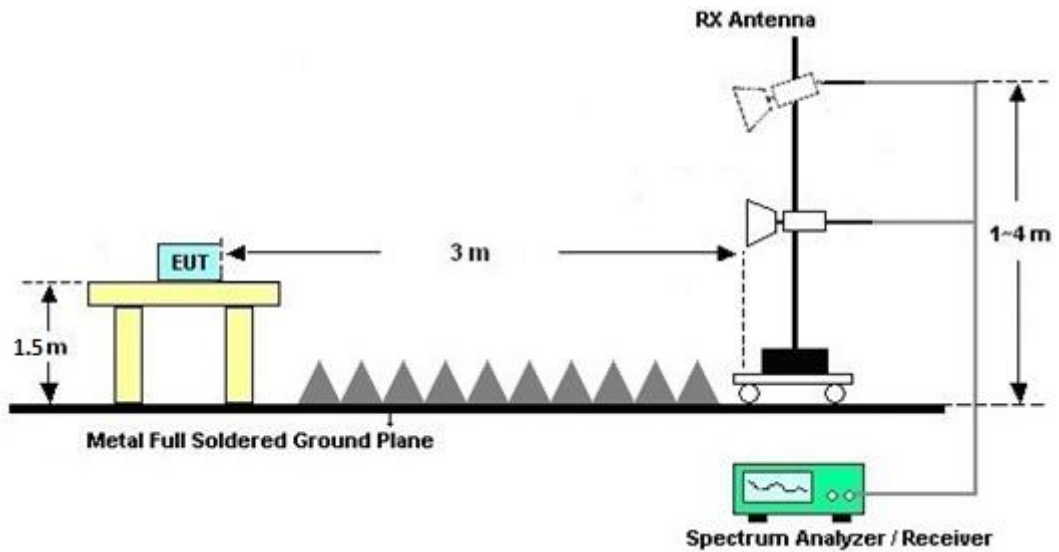
For radiated emissions below 30MHz



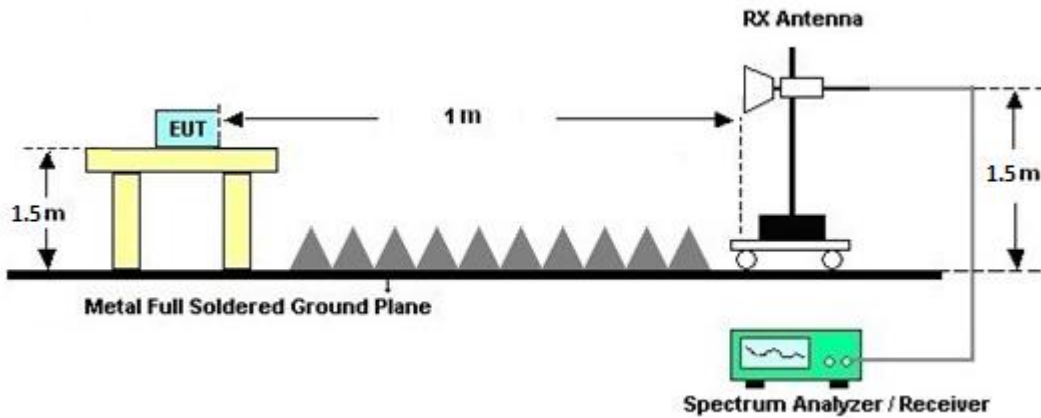
For radiated emissions from 30MHz to 1GHz



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	R&S	HFH2-Z2E	100840	9kHz~30MHz	Jun. 29, 2023	Jan. 31, 2024~ Feb. 05, 2024	Jun. 28, 2024	Radiation (03CH02-CA)
Bilog Antenna	TESEQ	6111D	50392	30MHz~1GHz	Sep. 05, 2023	Jan. 31, 2024~ Feb. 05, 2024	Sep. 04, 2024	Radiation (03CH02-CA)
Horn Antenna	SCHWARZBECK	BBHA 9120D	02113	1GHz~18GHz	Jun. 07, 2023	Jan. 31, 2024~ Feb. 05, 2024	Jun. 06, 2024	Radiation (03CH02-CA)
Horn Antenna	SCHWARZBECK	BBHA9170	00841	18GHz~40GHz	Aug. 22, 2023	Jan. 31, 2024~ Feb. 05, 2024	Aug. 21, 2024	Radiation (03CH02-CA)
Amplifier	SONOMA	300N	372240	N/A	May 03, 2023	Jan. 31, 2024~ Feb. 05, 2024	May 02, 2024	Radiation (03CH02-CA)
Preamplifier	Keysight	83017A	MY53270323	1GHz~26.5GHz	May 04, 2023	Jan. 31, 2024~ Feb. 05, 2024	May 03, 2024	Radiation (03CH02-CA)
Preamplifier	E-instrument	ERA-100M-18G-56-01-A70	EC1900252	1GHz~18GHz	May 23, 2023	Jan. 31, 2024~ Feb. 05, 2024	May 22, 2024	Radiation (03CH02-CA)
Preamplifier	EMEC	EMC18G40G	060725	18GHz~40GHz	May 04, 2023	Jan. 31, 2024~ Feb. 05, 2024	May 03, 2024	Radiation (03CH02-CA)
RF Cable	HUBER+SUHNER	SUCOFLEX 102	804209/2, 802406/2, 802875/2, 802952/2	N/A	Oct. 13, 2023	Jan. 31, 2024~ Feb. 05, 2024	Oct. 12, 2024	Radiation (03CH02-CA)
High Pass Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN10	8G~25G	Jun. 05, 2023	Jan. 31, 2024~ Feb. 05, 2024	Jun. 04, 2024	Radiation (03CH02-CA)
Filter	Wainwright	WLK12-1200-1272-11000-40SS	SN2	1.2GHz Low Pass Filter	Jun. 05, 2023	Jan. 31, 2024~ Feb. 05, 2024	Jun. 04, 2024	Radiation (03CH02-CA)
Hygrometer	TESEO	608-H1	45142602	N/A	Aug. 30, 2023	Jan. 31, 2024~ Feb. 05, 2024	Aug. 29, 2024	Radiation (03CH02-CA)
Controller	ChainTek	EM-1000	060876	NA	N/A	Jan. 31, 2024~ Feb. 05, 2024	N/A	Radiation (03CH02-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jan. 31, 2024~ Feb. 05, 2024	N/A	Radiation (03CH02-CA)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jan. 31, 2024~ Feb. 05, 2024	N/A	Radiation (03CH02-CA)
Software	Audix	E3	N/A	N/A	N/A	Jan. 31, 2024~ Feb. 05, 2024	N/A	Radiation (03CH02-CA)
Hygrometer	Testo	608-H1	45141354	N/A	Jul. 26, 2023	Jan. 10, 2024~ Feb. 29, 2024	Jul. 25, 2024	Conducted (TH01-CA)
Power Sensor	DARE!!	RPR3008W	RPR8W-1901027	10MHz-6GHz	May 01, 2023	Jan. 10, 2024~ Feb. 29, 2024	Apr. 30, 2024	Conducted (TH01-CA)
Switch Box	EM Electronics	EMSW18	1070902	N/A	N/A	Jan. 10, 2024~ Feb. 29, 2024	N/A	Conducted (TH01-CA)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101089	10Hz-40GHz	May 22, 2023	Jan. 10, 2024~ Feb. 29, 2024	May 21, 2024	Conducted (TH01-CA)
LISN	TESEQ	NNB51	47415	N/A	Jul. 31, 2023	Jan. 09, 2024	Jul. 30, 2024	Conduction (CO01-CA)
LISN	TESEQ	NNB51	47407	N/A	May 16, 2023	Jan. 09, 2024	May 15, 2024	Conduction (CO01-CA)
EMI Test Receiver	R&S	ESR7	102177	9kHz~7GHz	May 23, 2023	Jan. 09, 2024	May 22, 2024	Conduction (CO01-CA)
Pulse limiter with 10dB attenuation	R&S	VTSD 9561-F N	9561-F-N00412	N/A	Jun. 05, 2023	Jan. 09, 2024	Jun. 04, 2024	Conduction (CO01-CA)
Test Software	R&S	EMC32 V10.30.0	N/A	N/A	N/A	Jan. 09, 2024	N/A	Conduction (CO01-CA)



5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.5 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2 dB
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Leon Huang and Vincent Lam	Temperature:	18.4~24.7	°C
Test Date:	2024/01/10~2024/02/29	Relative Humidity:	44.7~57.1	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant1	Ant2	Ant1	Ant2		
11b	1Mbps	1	1	2412	13.49	-	10.12	-	0.50	Pass
11b	1Mbps	1	6	2437	13.49	-	10.12	-	0.50	Pass
11b	1Mbps	1	11	2462	13.49	-	10.10	-	0.50	Pass
11g	6Mbps	1	1	2412	16.88	-	16.40	-	0.50	Pass
11g	6Mbps	1	6	2437	16.98	-	16.46	-	0.50	Pass
11g	6Mbps	1	11	2462	16.88	-	16.40	-	0.50	Pass
HT20	MCS 0	1	1	2412	17.83	-	17.62	-	0.50	Pass
HT20	MCS 0	1	6	2437	17.83	-	17.62	-	0.50	Pass
HT20	MCS 0	1	11	2462	17.78	-	17.64	-	0.50	Pass

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	16.43	-		30.00	-	4.20	-	20.63	-	36.00	-	Pass
11b	1Mbps	1	6	2437	16.28	-		30.00	-	4.20	-	20.48	-	36.00	-	Pass
11b	1Mbps	1	11	2462	16.12	-		30.00	-	4.20	-	20.32	-	36.00	-	Pass
11g	6Mbps	1	1	2412	15.57	-		30.00	-	4.20	-	19.77	-	36.00	-	Pass
11g	6Mbps	1	6	2437	16.56	-		30.00	-	4.20	-	20.76	-	36.00	-	Pass
11g	6Mbps	1	11	2462	13.30	-		30.00	-	4.20	-	17.50	-	36.00	-	Pass
HT20	MCS 0	1	1	2412	14.73	-		30.00	-	4.20	-	18.93	-	36.00	-	Pass
HT20	MCS 0	1	6	2437	16.01	-		30.00	-	4.20	-	20.21	-	36.00	-	Pass
HT20	MCS 0	1	11	2462	12.43	-		30.00	-	4.20	-	16.63	-	36.00	-	Pass

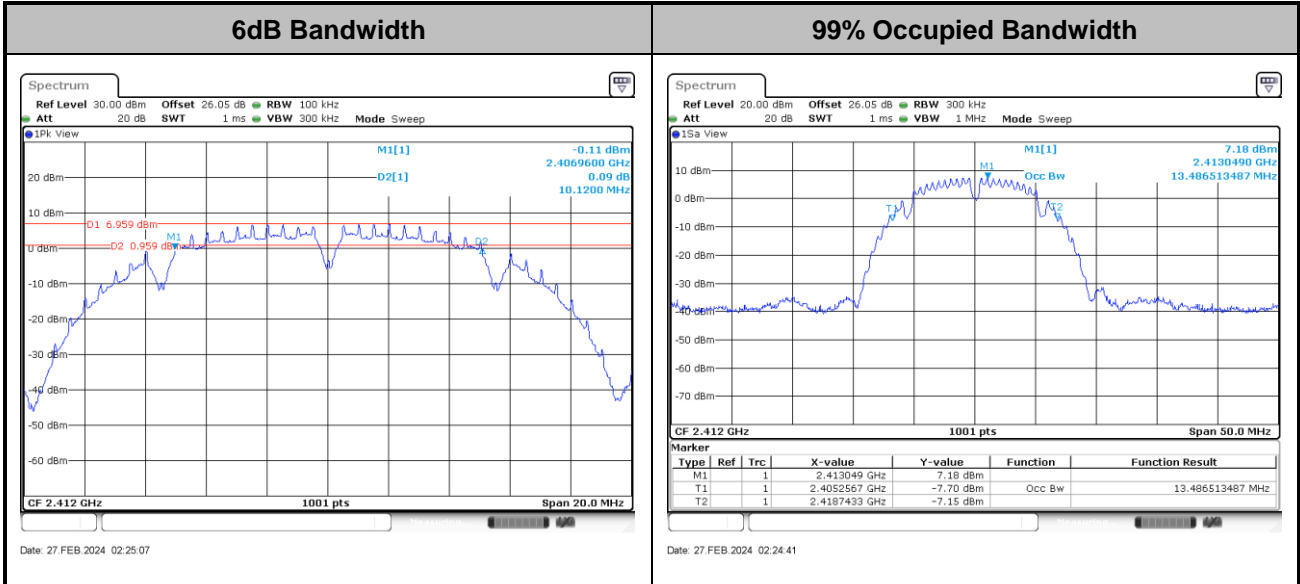
TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band Single Antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant1	Ant2	Worse + 3.01	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	1	1	2412	-6.27	-		4.20	-	8.00	-	Pass
11b	1Mbps	1	6	2437	-6.50	-		4.20	-	8.00	-	Pass
11b	1Mbps	1	11	2462	-6.92	-		4.20	-	8.00	-	Pass
11g	6Mbps	1	1	2412	-8.73	-		4.20	-	8.00	-	Pass
11g	6Mbps	1	6	2437	-7.38	-		4.20	-	8.00	-	Pass
11g	6Mbps	1	11	2462	-10.87	-		4.20	-	8.00	-	Pass
HT20	MCS 0	1	1	2412	-9.27	-		4.20	-	8.00	-	Pass
HT20	MCS 0	1	6	2437	-7.91	-		4.20	-	8.00	-	Pass
HT20	MCS 0	1	11	2462	-11.91	-		4.20	-	8.00	-	Pass



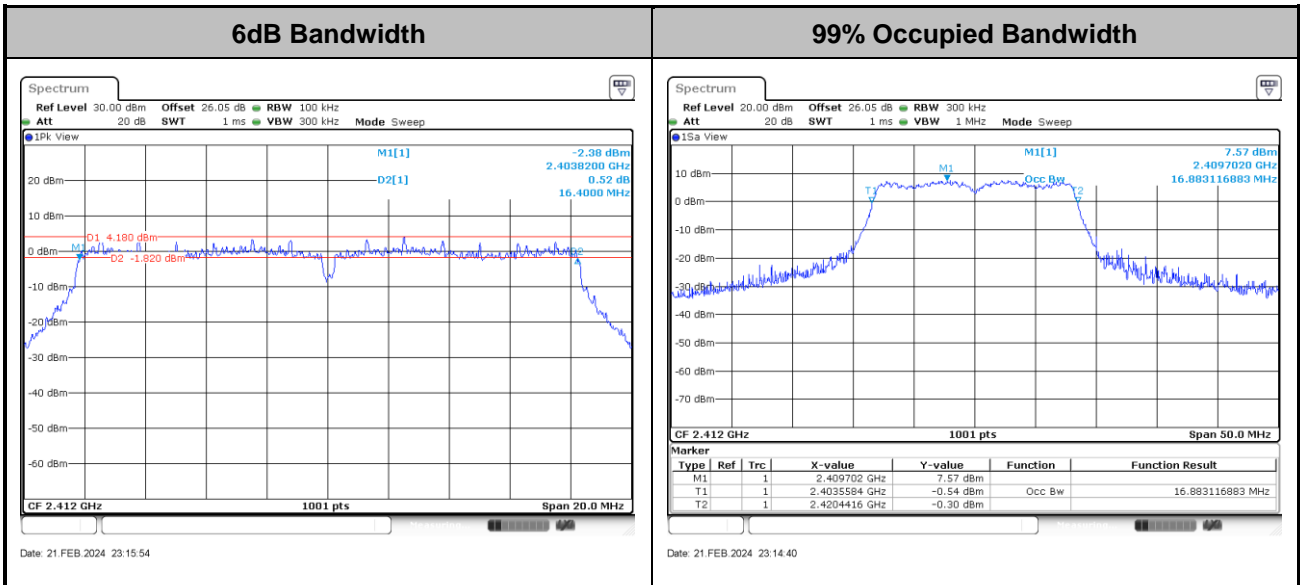
6dB and 99% Occupied Bandwidth

<802.11b>



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

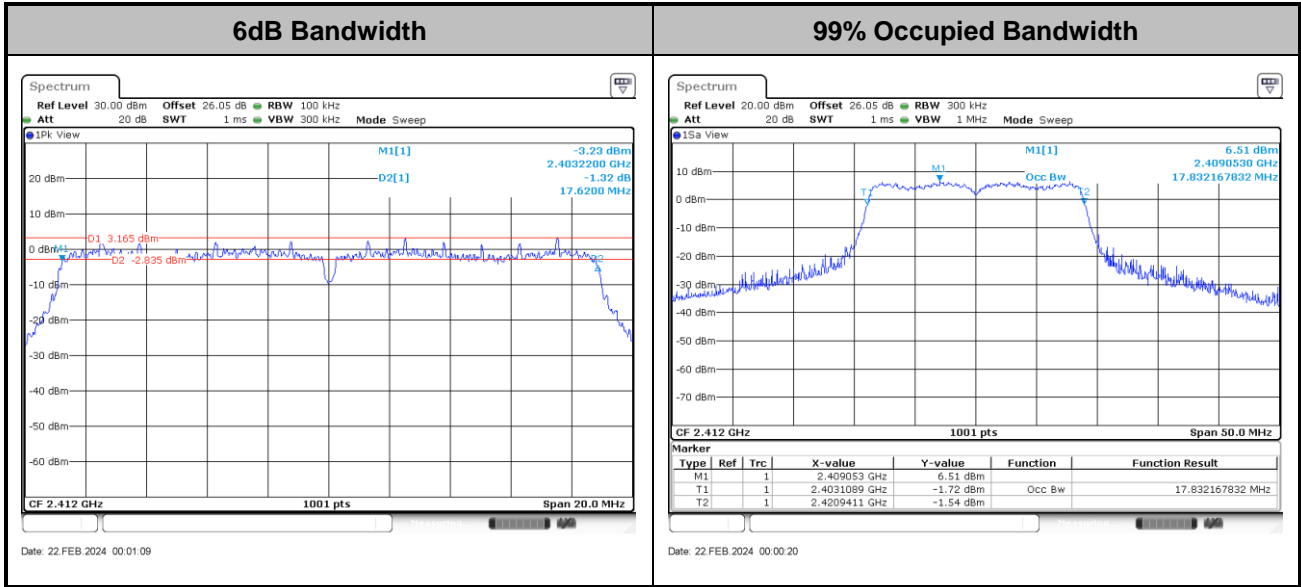
<802.11g>



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



<802.11n HT20>

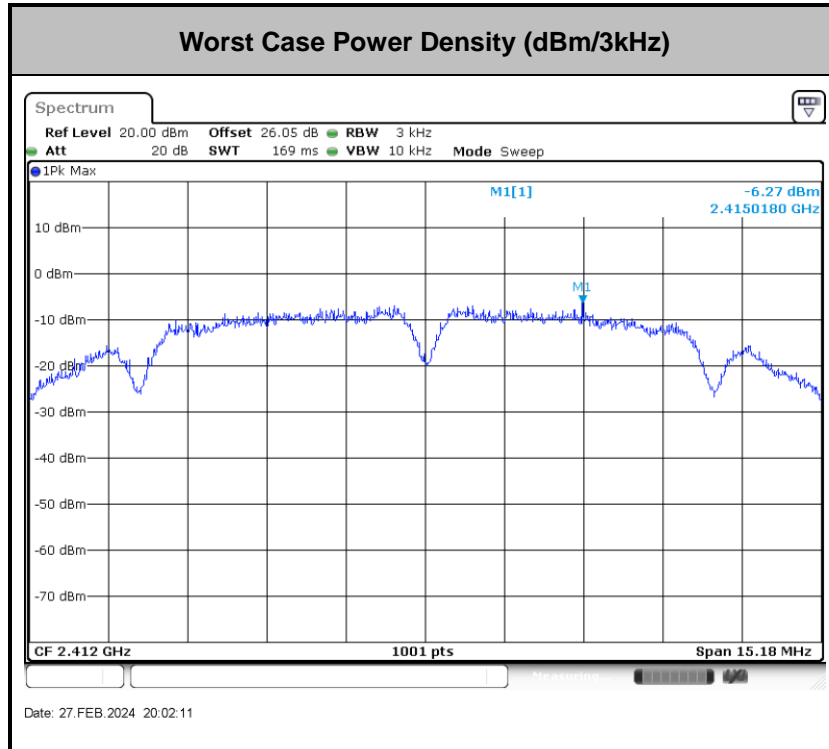


Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

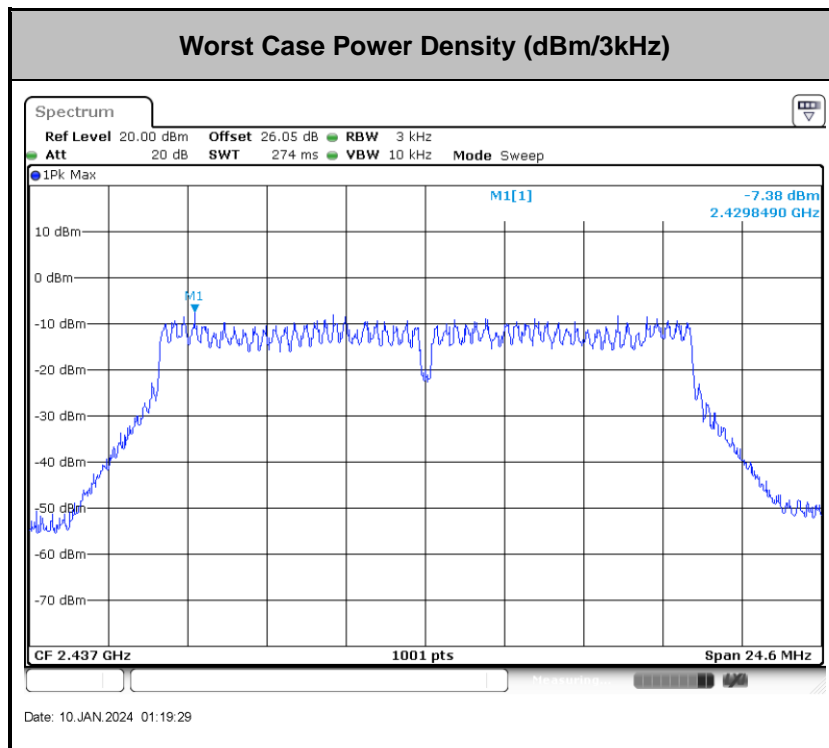


Power Spectral Density(dBm/3kHz)

<802.11b>

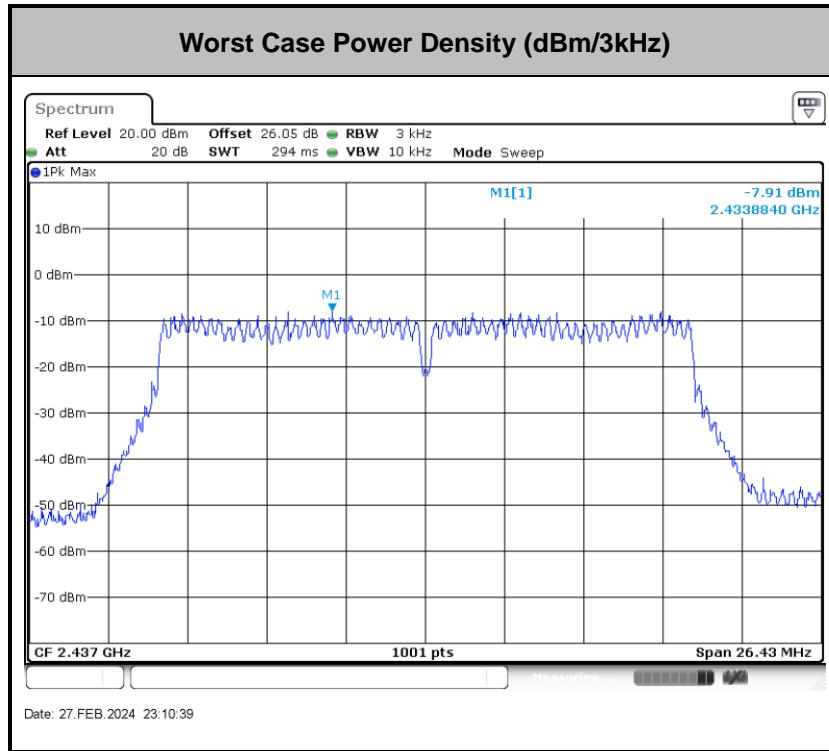


<802.11g>





<802.11n HT20>

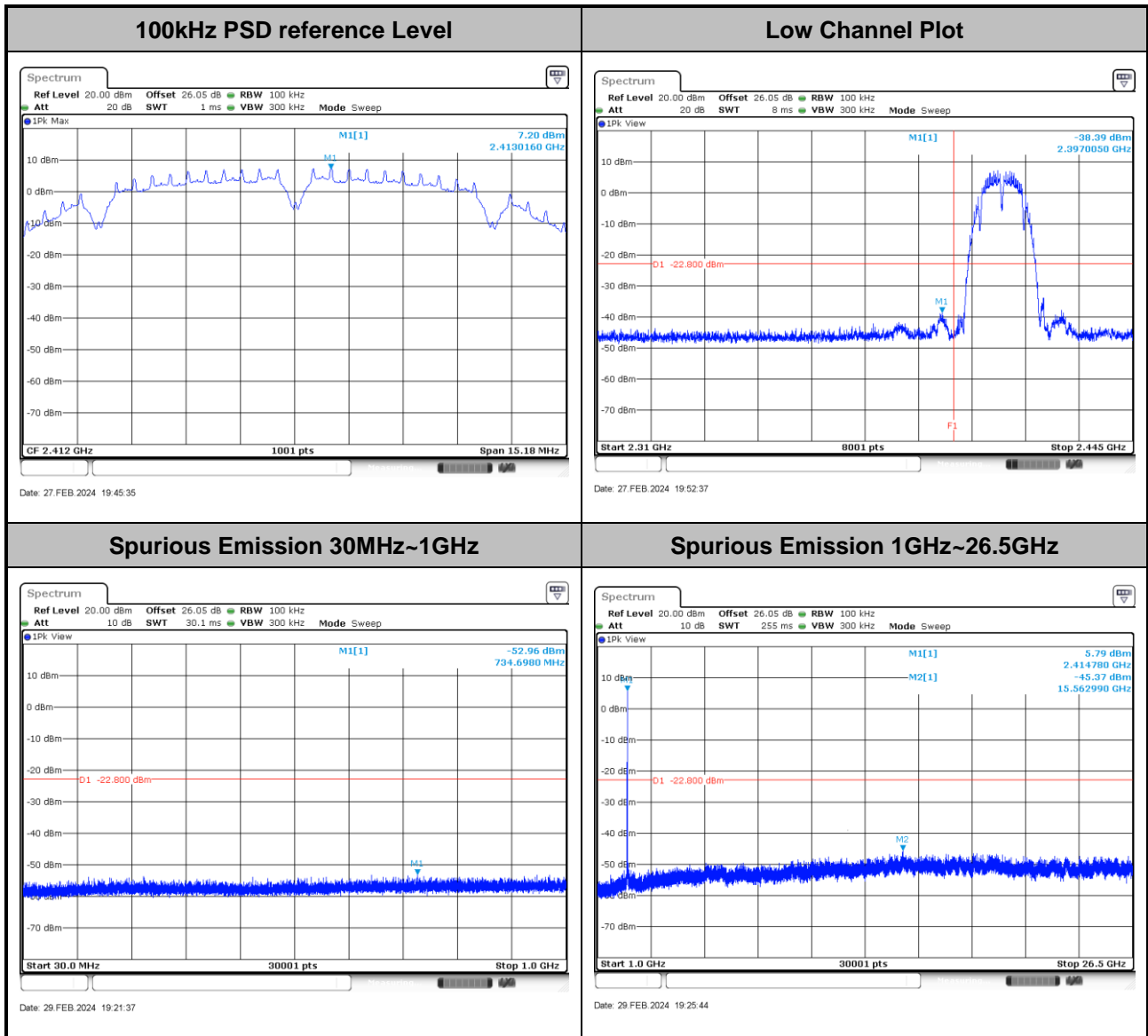




Band Edges and Spurious Emission

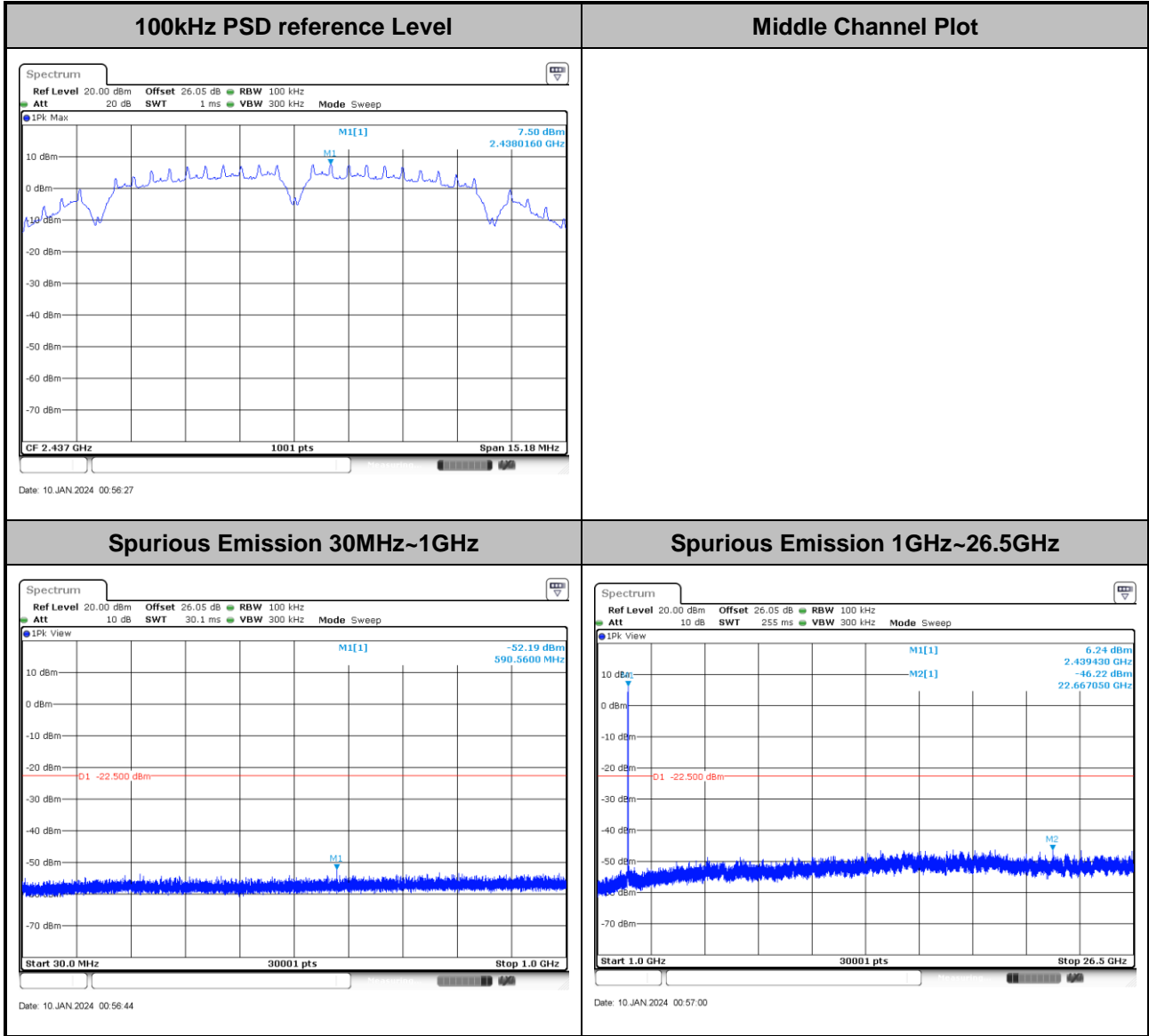
Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01
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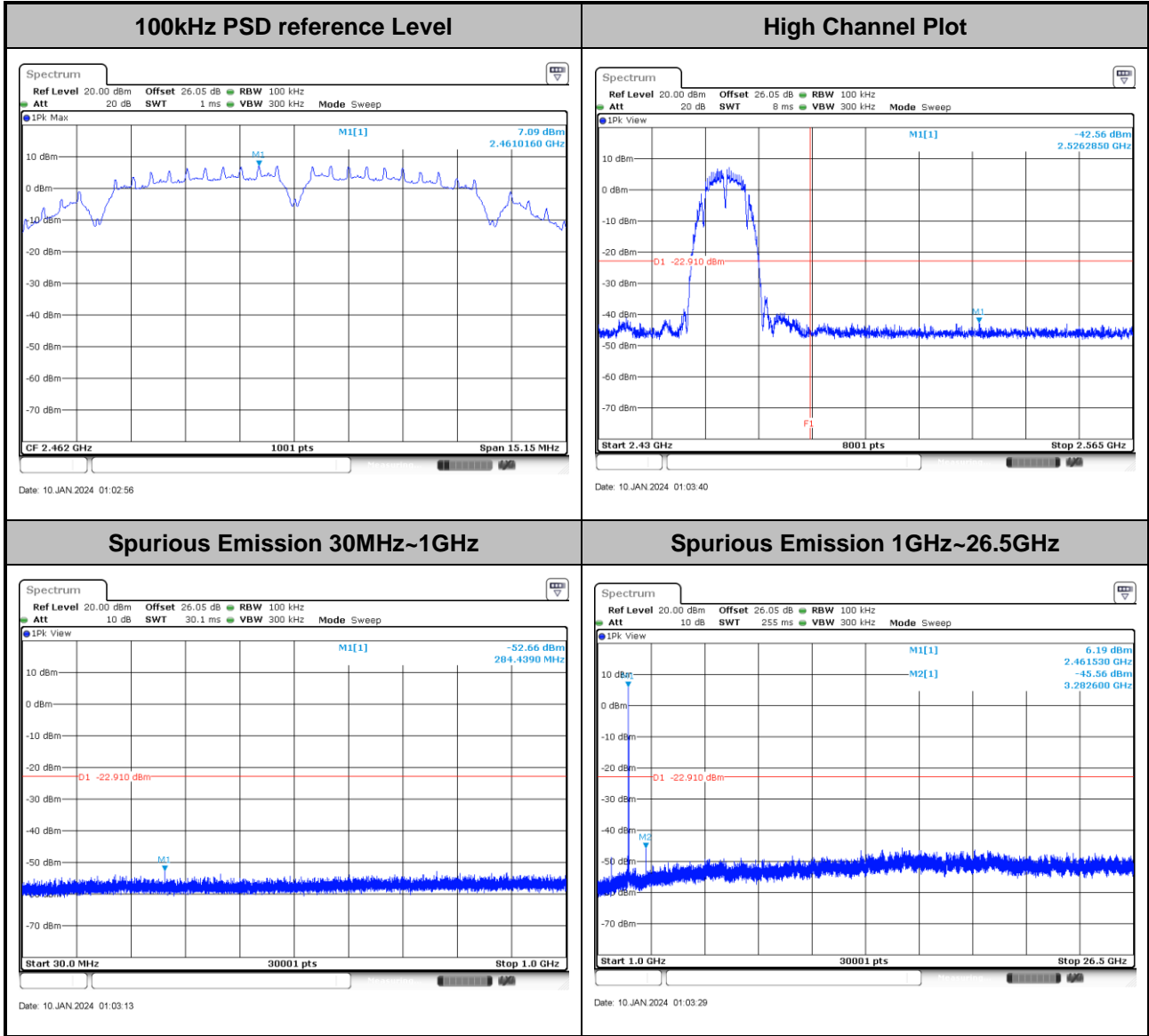


Test Mode :	802.11b	Test Channel :	06
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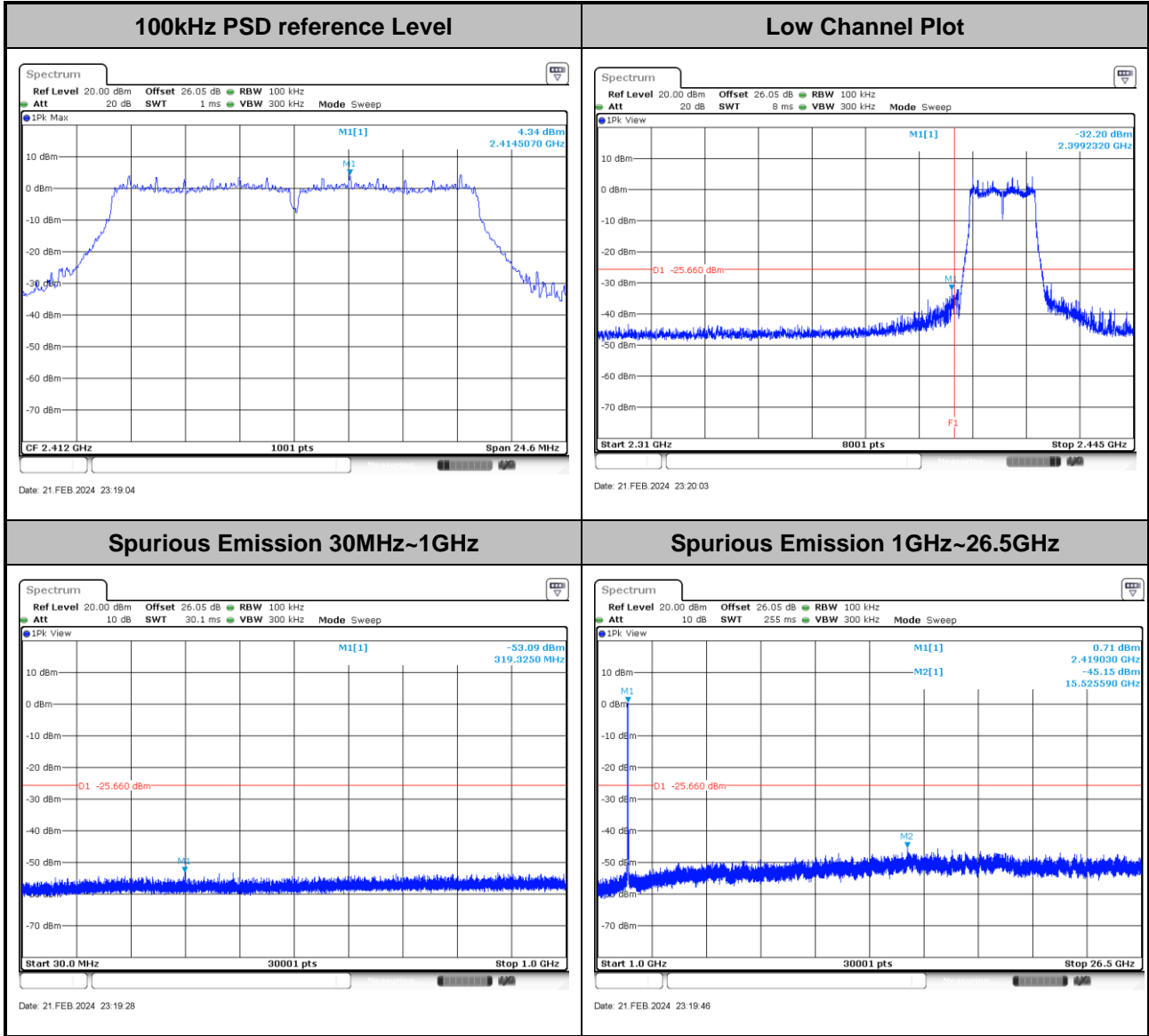


Test Mode :	802.11b	Test Channel :	11
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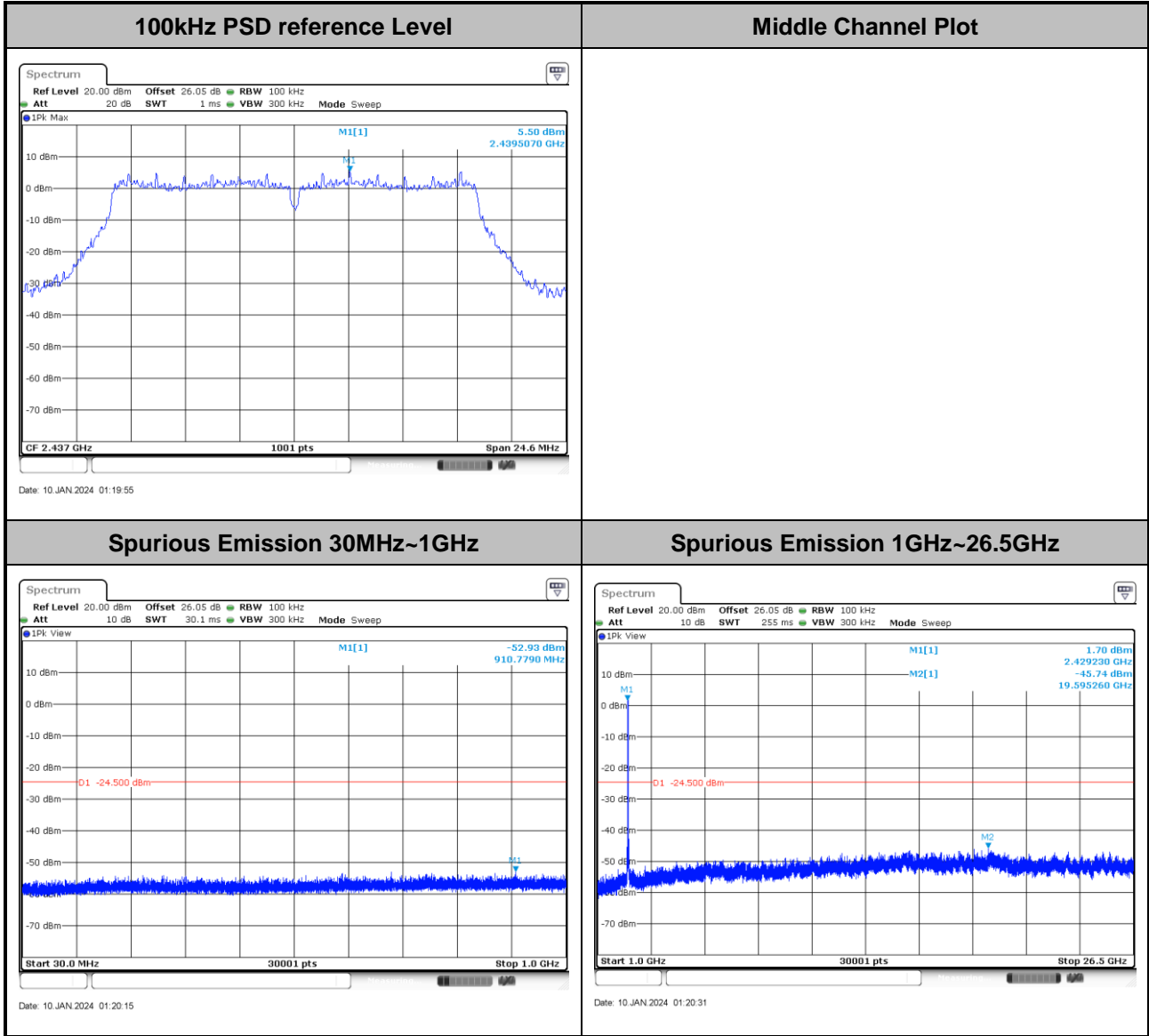


Test Mode :	802.11g	Test Channel :	01
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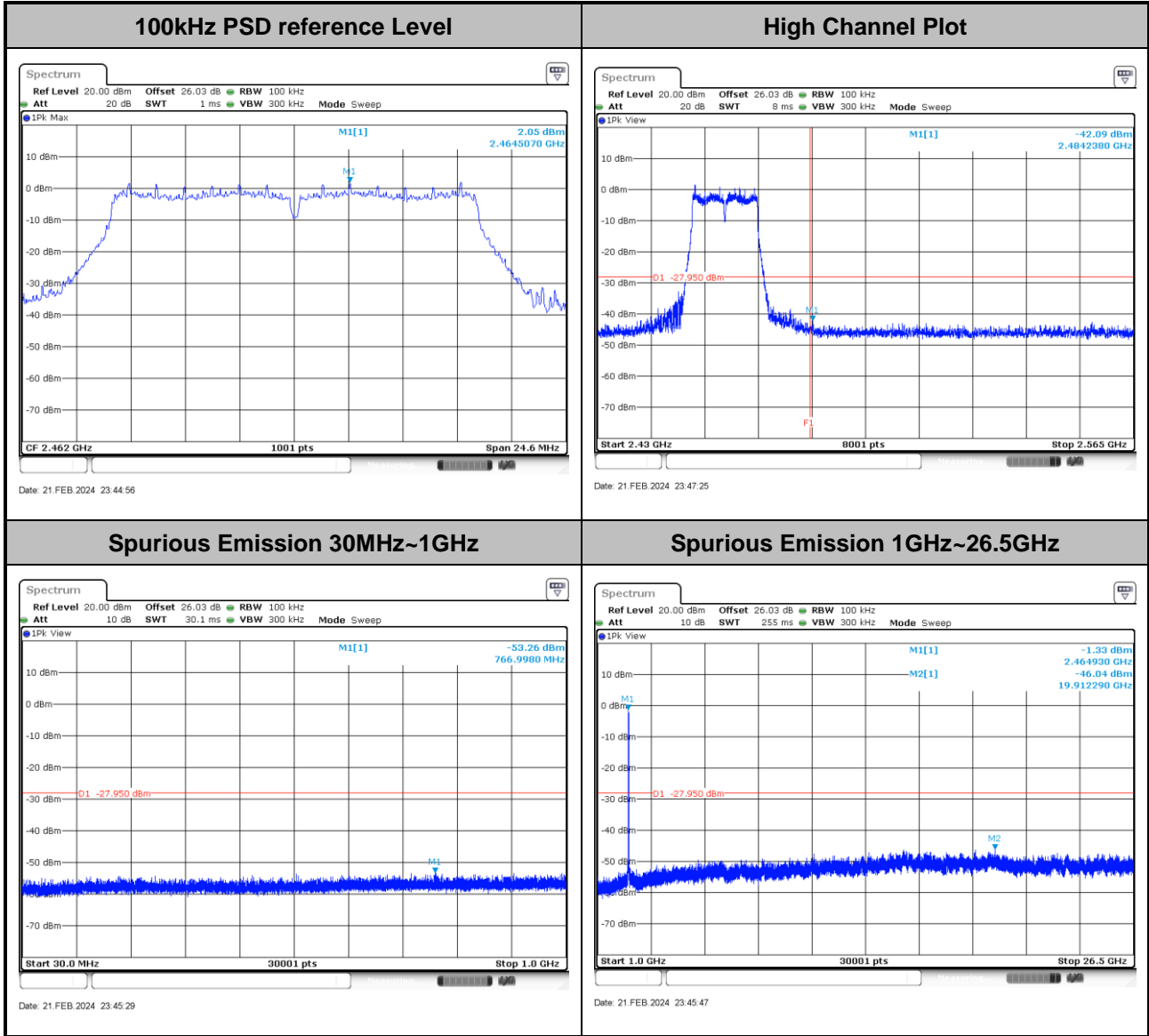


Test Mode :	802.11g	Test Channel :	06
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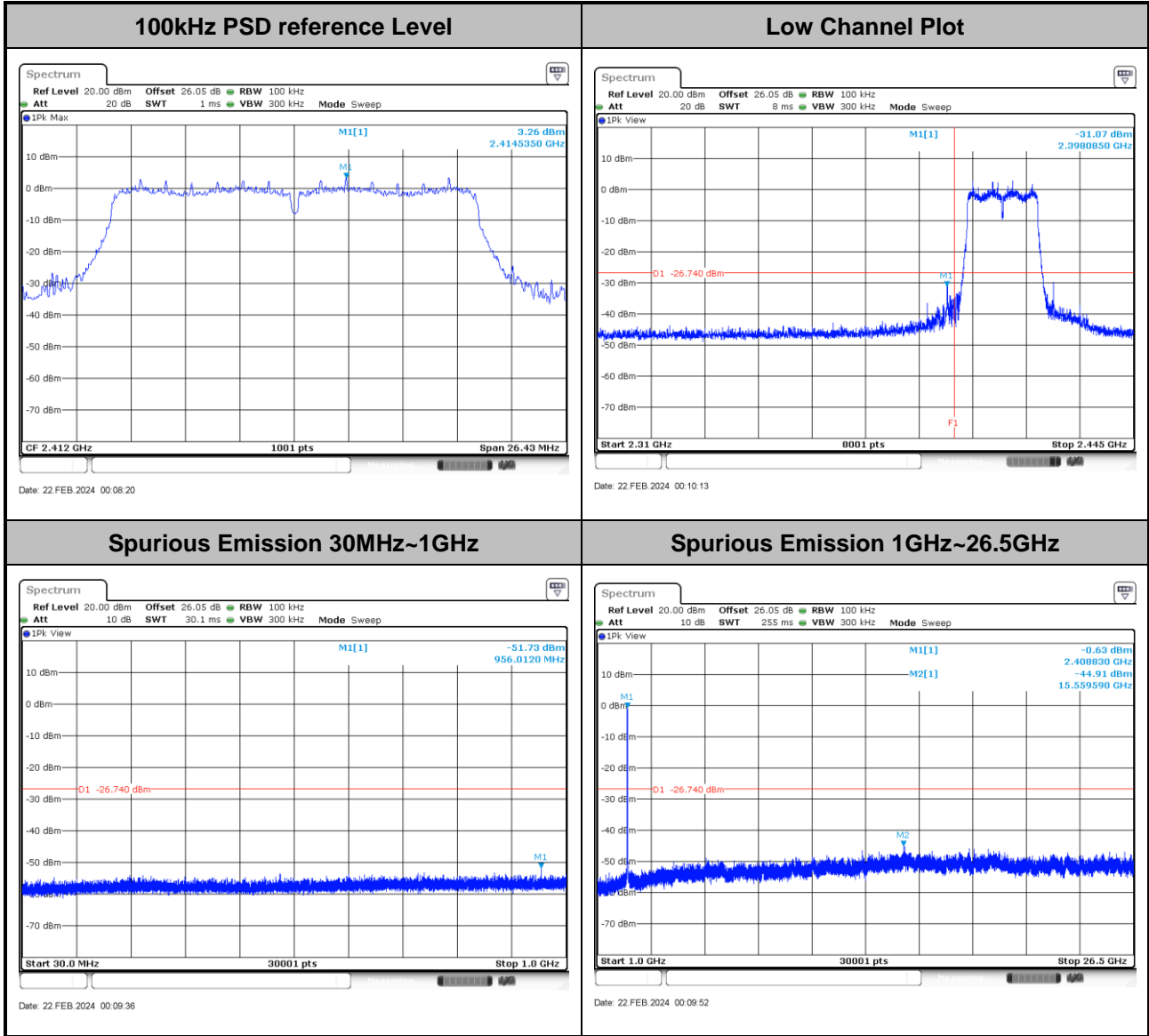


Test Mode :	802.11g	Test Channel :	11
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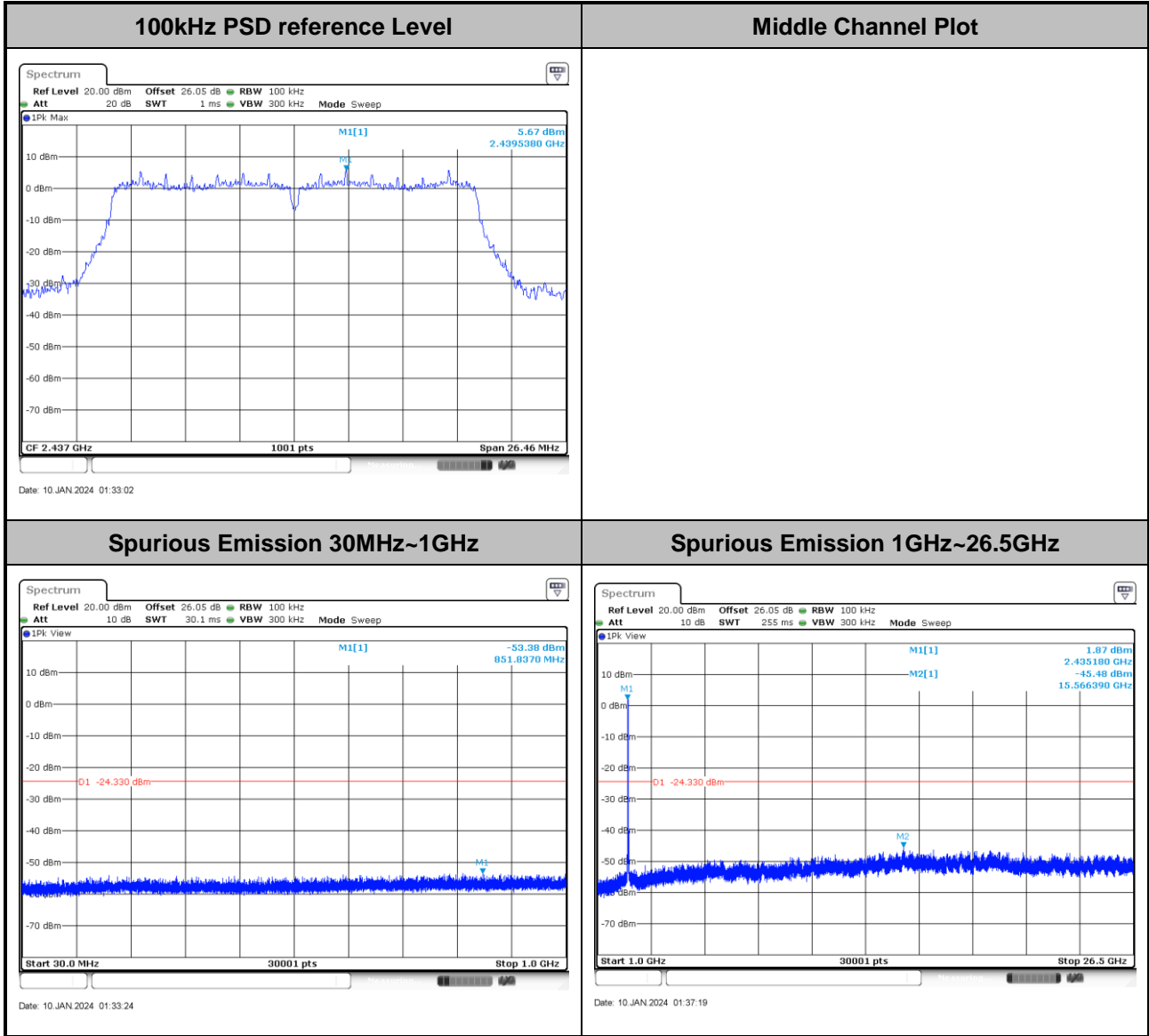


Test Mode :	802.11n HT20	Test Channel :	01
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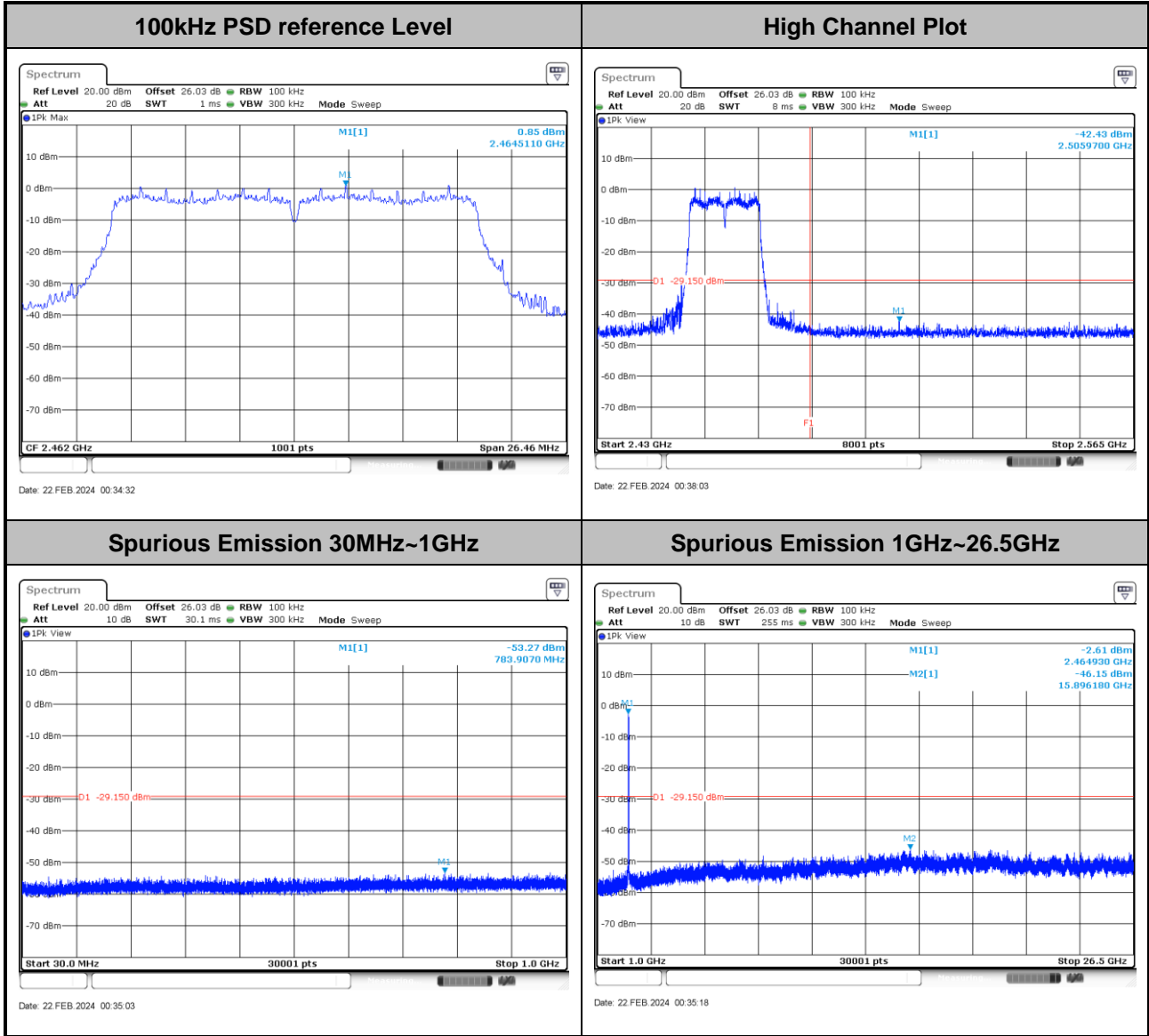


Test Mode :	802.11n HT20	Test Channel :	06
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Test Mode :	802.11n HT20	Test Channel :	11
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Appendix B. AC Conducted Emission Test Results

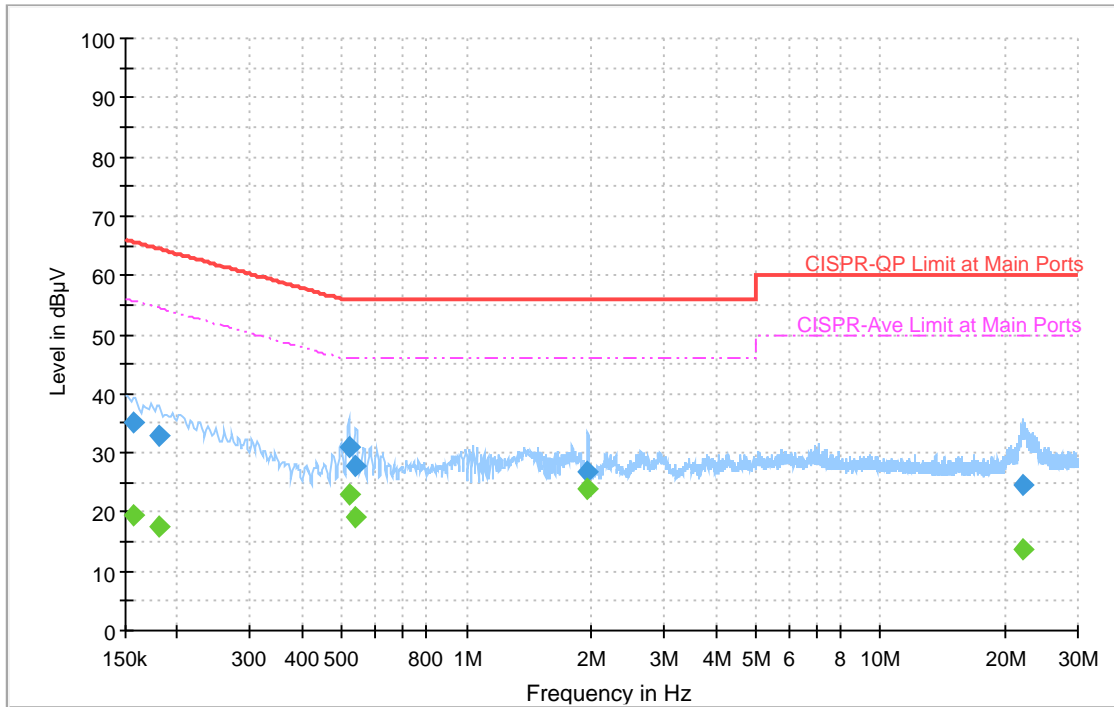
Test Engineer :	Leo Liu	Temperature :	20.5~22.6°C
		Relative Humidity :	39.7~42.3%

EUT Information

Test Site Location : CO01-CA
 Project : 230915002
 Power: 120Vac/60Hz

Line

Full Spectrum



Final Result

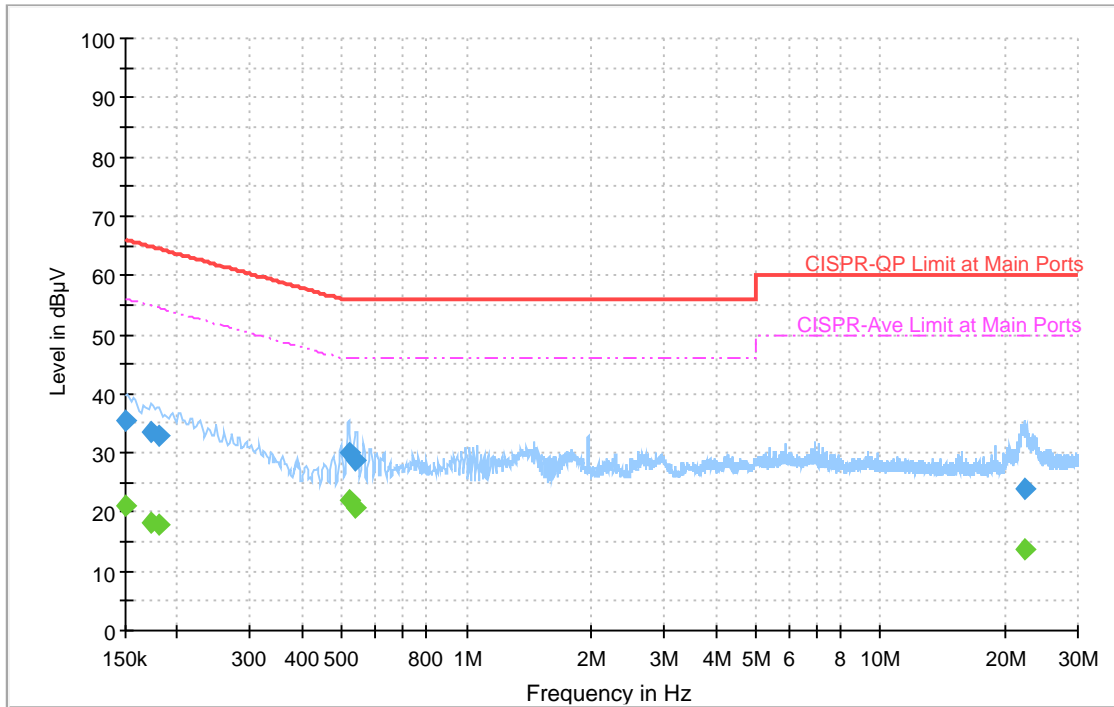
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.157281	35.23	---	65.61	30.38	L1	OFF	20.2
0.157281	---	19.56	55.61	36.05	L1	OFF	20.2
0.180051	32.99	---	64.48	31.49	L1	OFF	20.3
0.180051	---	17.70	54.48	36.78	L1	OFF	20.3
0.520521	31.10	---	56.00	24.90	L1	OFF	20.3
0.520521	---	22.88	46.00	23.12	L1	OFF	20.3
0.539052	27.70	---	56.00	28.30	L1	OFF	20.3
0.539052	---	19.29	46.00	26.71	L1	OFF	20.3
1.963707	26.68	---	56.00	29.32	L1	OFF	20.3
1.963707	---	23.82	46.00	22.18	L1	OFF	20.3
21.989472	24.57	---	60.00	35.43	L1	OFF	21.2
21.989472	---	13.74	50.00	36.26	L1	OFF	21.2

EUT Information

Test Site Location : CO01-CA
 Project : 230915002
 Power: 120Vac/60Hz

Neutral

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150500	35.43	---	65.97	30.54	N	OFF	20.2
0.150500	---	21.08	55.97	34.89	N	OFF	20.2
0.173652	33.42	---	64.78	31.36	N	OFF	20.2
0.173652	---	18.22	54.78	36.56	N	OFF	20.2
0.179736	32.83	---	64.50	31.67	N	OFF	20.2
0.179736	---	17.74	54.50	36.76	N	OFF	20.2
0.521313	30.10	---	56.00	25.90	N	OFF	20.2
0.521313	---	22.05	46.00	23.95	N	OFF	20.2
0.540834	28.78	---	56.00	27.22	N	OFF	20.2
0.540834	---	20.66	46.00	25.34	N	OFF	20.2
22.372593	24.11	---	60.00	35.89	N	OFF	21.2
22.372593	---	13.60	50.00	36.40	N	OFF	21.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Thinh Hoang	Temperature :	16.2~18.6 °C
		Relative Humidity :	54.5~66.0 %

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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)	
802.11b CH 01 2412MHz		2387.805	58.08	-15.92	74	43.61	27.48	18.4	31.41	100	313	P	H	
		2387.07	49.67	-4.33	54	35.21	27.47	18.4	31.41	100	313	A	H	
	*	2412	106.35	-	-	91.68	27.59	18.46	31.38	100	313	P	H	
	*	2412	103.73	-	-	89.06	27.59	18.46	31.38	100	313	A	H	
													H	
			2386.65	56.93	-17.07	74	42.51	27.43	18.4	31.41	400	72	P	V
			2387.07	47.86	-6.14	54	33.44	27.43	18.4	31.41	400	72	A	V
	*		2412	102.58	-	-	88	27.5	18.46	31.38	400	72	P	V
	*		2412	99.96	-	-	85.38	27.5	18.46	31.38	400	72	A	V
														V
802.11b CH 06 2437MHz		2387.76	55.95	-18.05	74	41.48	27.48	18.4	31.41	100	309	P	H	
		2382.8	45.18	-8.82	54	30.77	27.43	18.39	31.41	100	309	A	H	
	*	2437	108.6	-	-	93.65	27.76	18.53	31.34	100	309	P	H	
	*	2437	105.98	-	-	91.03	27.76	18.53	31.34	100	309	A	H	
			2490.56	56.71	-17.29	74	41.27	28.05	18.68	31.29	100	309	P	H
			2491.2	46.67	-7.33	54	31.23	28.05	18.68	31.29	100	309	A	H
			2387.76	55.29	-18.71	74	40.86	27.44	18.4	31.41	300	63	P	V
			2389.04	44.43	-9.57	54	29.98	27.45	18.41	31.41	300	63	A	V
	*		2437	101.72	-	-	86.88	27.65	18.53	31.34	300	63	P	V
	*		2437	99.02	-	-	84.18	27.65	18.53	31.34	300	63	A	V
			2490	56.15	-17.85	74	40.9	27.86	18.68	31.29	300	63	P	V
			2500	45.36	-8.64	54	30.01	27.89	18.71	31.25	300	63	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	108.15	-	-	92.96	27.9	18.6	31.31	287	294	P	H
	*	2462	104.11	-	-	88.92	27.9	18.6	31.31	287	294	A	H
		2485.6	58.68	-15.32	74	43.27	28.04	18.67	31.3	287	294	P	H
		2485.8	50.38	-3.62	54	34.97	28.04	18.67	31.3	287	294	A	H
													H
													H
	*	2462	103.31	-	-	88.28	27.74	18.6	31.31	364	67	P	V
	*	2462	99.19	-	-	84.16	27.74	18.6	31.31	364	67	A	V
		2496.8	57.65	-16.35	74	42.34	27.88	18.7	31.27	364	67	P	V
		2485.65	47.91	-6.09	54	32.7	27.84	18.67	31.3	364	67	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI	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	43.81	-30.19	74	65.42	32.68	12.48	66.77	-	-	P	H	
		12060	51.42	-22.58	74	59.33	39.06	19.39	66.36	108	110	P	H	
		12060	43.46	-10.54	54	51.37	39.06	19.39	66.36	108	110	A	H	
		14472	52.19	-21.81	74	57.37	40.35	21.3	66.83	100	116	P	H	
		14472	45	-9	54	50.18	40.35	21.3	66.83	100	116	A	H	
														H
														H
														H
			4824	43.44	-30.56	74	65.05	32.68	12.48	66.77	-	-	P	V
			7230	47.41	-26.59	74	60.18	36.82	15.14	64.73	-	-	P	V
			12060	53.59	-20.41	74	61.47	39.09	19.39	66.36	107	58	P	V
			12060	46.54	-7.46	54	54.42	39.09	19.39	66.36	107	58	A	V
			14472	54.14	-19.86	74	59.3	40.37	21.3	66.83	400	234	P	V
			14472	46.42	-7.58	54	51.58	40.37	21.3	66.83	400	234	A	V
			16884	51.8	-22.2	74	58.68	37.21	23.24	67.33	100	38	P	V
			16884	44.05	-9.95	54	50.93	37.21	23.24	67.33	100	38	A	V
802.11b CH 06 2437MHz		4874	44.27	-29.73	74	65.59	32.86	12.6	66.78	-	-	P	H	
		7311	46.28	-27.72	74	60.12	36.8	15.21	65.85	-	-	P	H	
													H	
													H	
													H	
			4874	43.91	-30.09	74	65.3	32.79	12.6	66.78	-	-	P	V
			7311	47.05	-26.95	74	60.83	36.86	15.21	65.85	-	-	P	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	45.98	-28.02	74	67.1	33.03	12.73	66.88	-	-	P	H
		7386	45.64	-28.36	74	60.29	36.53	15.28	66.46	-	-	P	H
													H
													H
													H
		4924	44.31	-29.69	74	65.52	32.94	12.73	66.88	-	-	P	V
		7386	47.08	-26.92	74	61.68	36.58	15.28	66.46	-	-	P	V
		12310	54.37	-19.63	74	62.32	39.06	19.59	66.6	102	50	P	V
		12310	47.92	-6.08	54	55.87	39.06	19.59	66.6	102	50	A	V
		17234	53.54	-20.46	74	59.72	37.69	23.57	67.44	100	39	P	V
	17234	46.25	-7.75	54	52.43	37.69	23.57	67.44	100	39	A	V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 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		2389.38	70.73	-3.27	74	56.23	27.5	18.41	31.41	130	295	P	H	
		2390	49.01	-4.99	54	34.51	27.5	18.41	31.41	130	295	A	H	
	*	2412	107.96	-	-	93.29	27.59	18.46	31.38	130	295	P	H	
	*	2412	100.74	-	-	86.07	27.59	18.46	31.38	130	295	A	H	
													H	
														H
			2389.17	68.31	-5.69	74	53.86	27.45	18.41	31.41	396	70	P	V
			2355.15	50.37	-3.63	54	36.17	27.35	18.32	31.47	396	70	A	V
	*		2412	105.49	-	-	90.91	27.5	18.46	31.38	396	70	P	V
	*		2412	98.15	-	-	83.57	27.5	18.46	31.38	396	70	A	V
														V
														V
802.11g CH 06 2437MHz		2375.92	67.54	-6.46	74	53.21	27.37	18.38	31.42	100	307	P	H	
		2389.84	46.26	-7.74	54	31.76	27.5	18.41	31.41	100	307	A	H	
	*	2437	111.33	-	-	96.38	27.76	18.53	31.34	100	307	P	H	
	*	2437	103.87	-	-	88.92	27.76	18.53	31.34	100	307	A	H	
			2483.84	66.18	-7.82	74	50.79	28.03	18.66	31.3	100	307	P	H
			2483.68	48	-6	54	32.61	28.03	18.66	31.3	100	307	A	H
			2389.68	57.07	-16.93	74	42.62	27.45	18.41	31.41	400	96	P	V
			2390	44.7	-9.3	54	30.25	27.45	18.41	31.41	400	96	A	V
	*		2437	101.21	-	-	86.37	27.65	18.53	31.34	400	96	P	V
	*		2437	93.66	-	-	78.82	27.65	18.53	31.34	400	96	A	V
			2490.8	65.77	-8.23	74	50.52	27.86	18.68	31.29	400	96	P	V
			2487.92	45.85	-8.15	54	30.62	27.85	18.67	31.29	400	96	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	109.45	-	-	94.26	27.9	18.6	31.31	102	318	P	H	
	*	2462	98.48	-	-	83.29	27.9	18.6	31.31	102	318	A	H	
		2485.8	67.8	-6.2	74	52.39	28.04	18.67	31.3	102	318	P	H	
		2483.5	49.24	-4.76	54	33.85	28.03	18.66	31.3	102	318	A	H	
													H	
														H
	*	2462	102.42	-	-	87.39	27.74	18.6	31.31	400	49	P	V	
	*	2462	95.09	-	-	80.06	27.74	18.6	31.31	400	49	A	V	
		2484.1	64.79	-9.21	74	49.6	27.83	18.66	31.3	400	49	P	V	
		2483.5	47.15	-6.85	54	31.96	27.83	18.66	31.3	400	49	A	V	
														V
														V
Remark	<ol style="list-style-type: none"> No other spurious found. 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	42.57	-31.43	74	64.18	32.68	12.48	66.77	-	-	P	H
		12060	50.46	-23.54	74	58.37	39.06	19.39	66.36	100	105	P	H
		12060	40	-14	54	47.91	39.06	19.39	66.36	100	105	A	H
													H
													H
		4824	43.19	-30.81	74	64.8	32.68	12.48	66.77	-	-	P	V
													V
													V
													V
													V
802.11g CH 06 2437MHz		4874	42.82	-31.18	74	64.14	32.86	12.6	66.78	-	-	P	H
		7311	46.21	-27.79	74	60.05	36.8	15.21	65.85	-	-	P	H
													H
													H
													H
		4874	45.47	-28.53	74	66.86	32.79	12.6	66.78	-	-	P	V
		7311	46.84	-27.16	74	60.62	36.86	15.21	65.85	-	-	P	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)	
802.11g CH 11 2462MHz		4924	42.75	-31.25	74	63.87	33.03	12.73	66.88	-	-	P	H	
		7386	46.86	-27.14	74	61.51	36.53	15.28	66.46	-	-	P	H	
													H	
													H	
													H	
			4924	42.01	-31.99	74	63.22	32.94	12.73	66.88	-	-	P	V
			7386	46.57	-27.43	74	61.17	36.58	15.28	66.46	-	-	P	V
														V
														V
														V
Remark	<ol style="list-style-type: none"> 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		2390	70.77	-3.23	74	56.27	27.5	18.41	31.41	105	306	P	H	
		2390	50.39	-3.61	54	35.89	27.5	18.41	31.41	105	306	A	H	
	*	2412	108.48	-	-	93.81	27.59	18.46	31.38	105	306	P	H	
	*	2412	99.5	-	-	84.83	27.59	18.46	31.38	105	306	A	H	
													H	
														H
			2388.12	65.4	-8.6	74	50.97	27.44	18.4	31.41	400	79	P	V
			2390	47.32	-6.68	54	32.87	27.45	18.41	31.41	400	79	A	V
		*	2412	103.49	-	-	88.91	27.5	18.46	31.38	400	79	P	V
		*	2412	94.51	-	-	79.93	27.5	18.46	31.38	400	79	A	V
													V	
													V	
802.11n HT20 CH 06 2437MHz		2382.96	69.27	-4.73	74	54.86	27.43	18.39	31.41	100	322	P	H	
		2390	45.71	-8.29	54	31.21	27.5	18.41	31.41	100	322	A	H	
		*	2437	109.78	-	-	94.83	27.76	18.53	31.34	100	322	P	H
		*	2437	102.38	-	-	87.43	27.76	18.53	31.34	100	322	A	H
			2484.56	65.59	-8.41	74	50.19	28.04	18.66	31.3	100	322	P	H
			2483.68	47.48	-6.52	54	32.09	28.03	18.66	31.3	100	322	A	H
			2338.64	55.22	-18.78	74	41.07	27.31	18.29	31.45	400	27	P	V
			2390	44.34	-9.66	54	29.89	27.45	18.41	31.41	400	27	A	V
		*	2437	96.49	-	-	81.65	27.65	18.53	31.34	400	27	P	V
		*	2437	89.13	-	-	74.29	27.65	18.53	31.34	400	27	A	V
		2495.04	57.51	-16.49	74	42.22	27.87	18.69	31.27	400	27	P	V	
		2498.16	45.4	-8.6	54	30.07	27.89	18.7	31.26	400	27	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	107.74	-	-	92.55	27.9	18.6	31.31	106	311	P	H
	*	2462	98.82	-	-	83.63	27.9	18.6	31.31	106	311	A	H
		2483.75	69.68	-4.32	74	54.29	28.03	18.66	31.3	106	311	P	H
		2483.5	50.1	-3.9	54	34.71	28.03	18.66	31.3	106	311	A	H
													H
													H
	*	2462	102.35	-	-	87.32	27.74	18.6	31.31	400	64	P	V
	*	2462	93.25	-	-	78.22	27.74	18.6	31.31	400	64	A	V
		2483.8	64.5	-9.5	74	49.31	27.83	18.66	31.3	400	64	P	V
		2483.6	46.94	-7.06	54	31.75	27.83	18.66	31.3	400	64	A	V
												V	
												V	
Remark	<ol style="list-style-type: none"> No other spurious found. 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	43.33	-30.67	74	64.91	32.7	12.49	66.77	-	-	P	H
													H
													H
													H
													H
		4824	42.93	-31.07	74	64.5	32.71	12.49	66.77	-	-	P	V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	44.34	-29.66	74	65.66	32.86	12.6	66.78	-	-	P	H
		7311	46.29	-27.71	74	60.13	36.8	15.21	65.85	-	-	P	H
													H
													H
													H
		4874	43.47	-30.53	74	64.86	32.79	12.6	66.78	-	-	P	V
		7311	47.15	-26.85	74	60.93	36.86	15.21	65.85	-	-	P	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	41.75	-32.25	74	62.87	33.03	12.73	66.88	-	-	P	H	
		7386	45.31	-28.69	74	59.96	36.53	15.28	66.46	-	-	P	H	
													H	
													H	
													H	
			4924	41.9	-32.1	74	63.11	32.94	12.73	66.88	-	-	P	V
			7386	46.03	-27.97	74	60.63	36.58	15.28	66.46	-	-	P	V
														V
														V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. 													



Emission above 18GHz
2.4GHz WIFI 802.11n HT20 (SHF)

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)
2.4GHz 802.11n HT20 SHF		22760	44.35	-29.65	74	37.14	38.82	26.87	48.94	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			24860	45.24	-28.76	74	36.24	39.17	28.43	49.06	-	-	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

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)	
2.4GHz 802.11n HT20 LF		48.43	21.71	-18.29	40	36.92	16	1.16	32.43	-	-	P	H	
		121.18	27.57	-15.93	43.5	40.43	17.72	1.86	32.48	-	-	P	H	
		165.8	30.32	-13.18	43.5	43.8	16.68	2.16	32.39	-	-	P	H	
		445.16	31.1	-14.9	46	36.6	23.21	3.55	32.51	-	-	P	H	
		746.83	34.54	-11.46	46	34.28	27.54	4.58	32.28	-	-	P	H	
		969.93	33.46	-20.54	54	28.16	30.5	5.23	30.84	-	-	P	H	
														H
														H
														H
														H
														H
														H
			49.4	34.24	-5.76	40	50.09	15.36	1.17	32.44	-	-	P	V
			84.32	36.97	-3.03	40	53.4	14.4	1.53	32.46	-	-	P	V
			206.54	29.38	-14.12	43.5	43.07	16.29	2.42	32.48	-	-	P	V
			394.72	26.6	-19.4	46	33.11	22.48	3.34	32.49	-	-	P	V
			746.83	35.24	-10.76	46	34.98	27.54	4.58	32.28	-	-	P	V
			993.21	33.7	-20.3	54	28.13	30.46	5.28	30.65	-	-	P	V
													V	
													V	
													V	
													V	
													V	
													V	

Remark

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



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.
		(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		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H
2412MHz													

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 :	Thinh Hoang	Temperature :	16.2~18.6 °C
		Relative Humidity :	54.5~66.0 %

Note symbol

-L	Low channel location
-R	High channel location

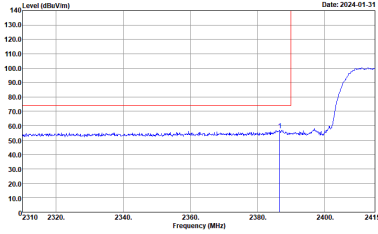
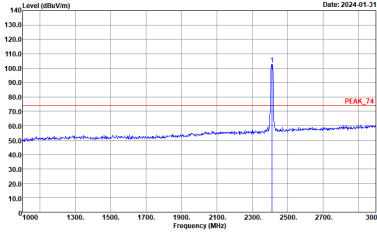
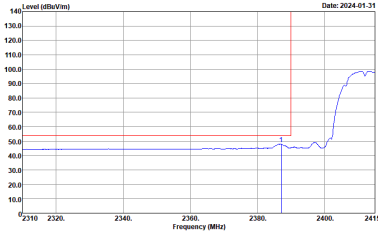
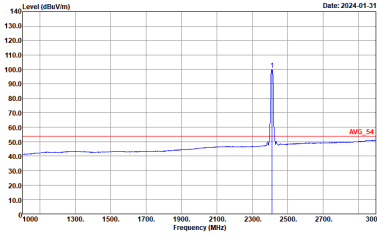


2.4GHz 2400~2483.5MHz

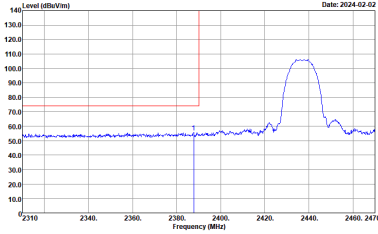
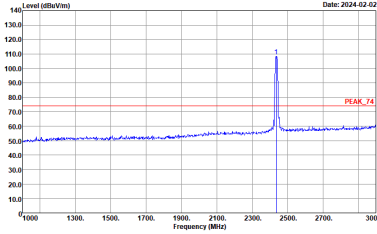
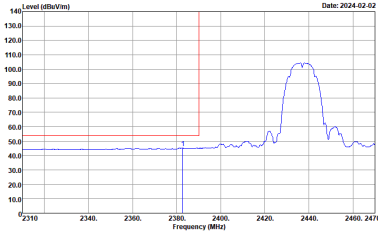
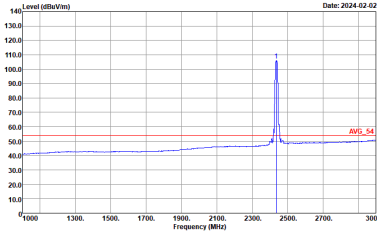
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH01 2412MHz	
	Horizontal	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

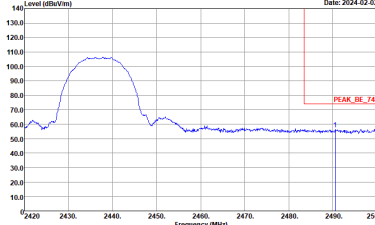
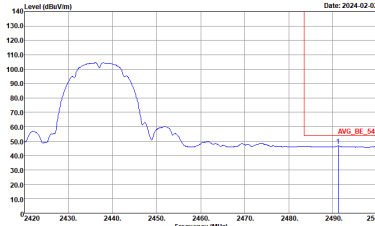


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11b CH01 2412MHz		
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

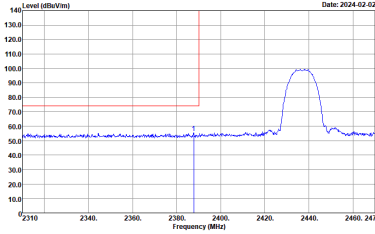
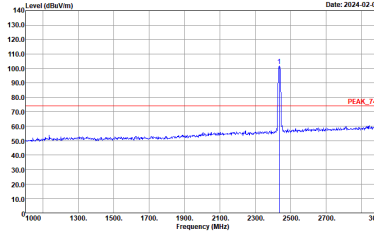
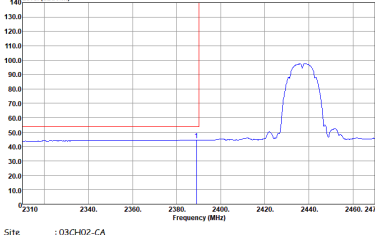
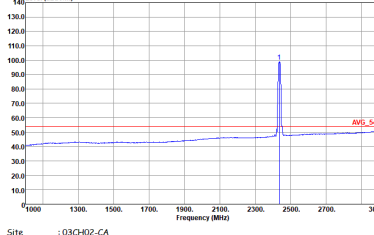


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11b CH06 2437MHz - L		
Horizontal		Fundamental
Peak	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH06 2437MHz - R	
	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWF:Auto</p>	<p>Left blank</p>

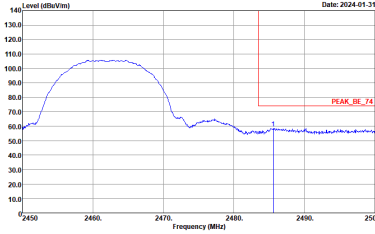
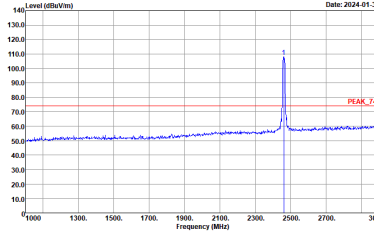
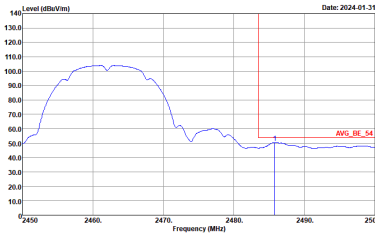
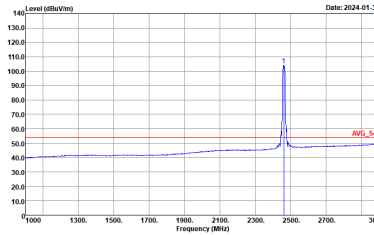


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11b CH06 2437MHz - L		
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11b CH06 2437MHz - R		
	Vertical	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11b CH11 2462MHz		
	Horizontal	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11b CH11 2462MHz	
	Vertical	Fundamental
Peak	<p>Level (dBm/100MHz) vs Frequency (MHz) plot for Vertical Peak. The plot shows a signal level around 100 dBm/100MHz between 2400 and 2480 MHz, with a sharp peak at 2462 MHz. A red line indicates the peak level at approximately 130 dBm/100MHz. The date is 2024-01-31.</p> <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Level (dBm/100MHz) vs Frequency (MHz) plot for Fundamental Peak. The plot shows a sharp peak at 2462 MHz with a level of approximately 130 dBm/100MHz. The date is 2024-01-31.</p> <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Level (dBm/100MHz) vs Frequency (MHz) plot for Vertical Avg. The plot shows a signal level around 100 dBm/100MHz between 2400 and 2480 MHz, with a sharp peak at 2462 MHz. A red line indicates the average level at approximately 60 dBm/100MHz. The date is 2024-01-31.</p> <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Level (dBm/100MHz) vs Frequency (MHz) plot for Fundamental Avg. The plot shows a sharp peak at 2462 MHz with a level of approximately 60 dBm/100MHz. The date is 2024-01-31.</p> <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

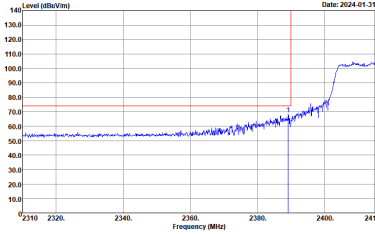
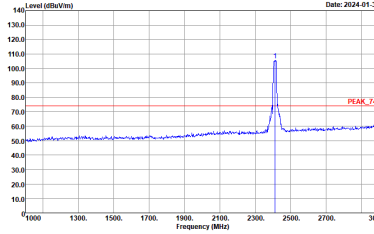
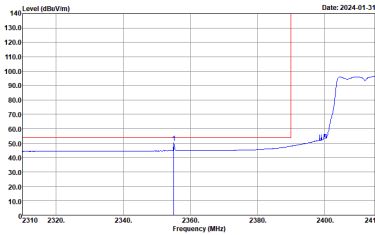
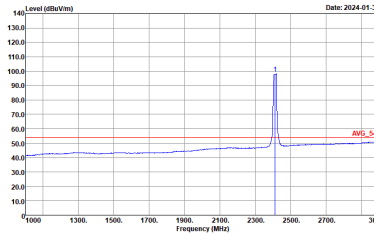


2.4GHz 2400~2483.5MHz

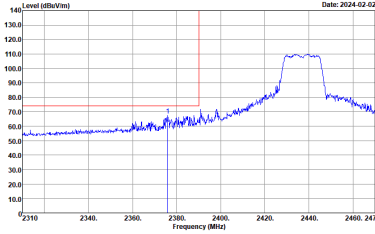
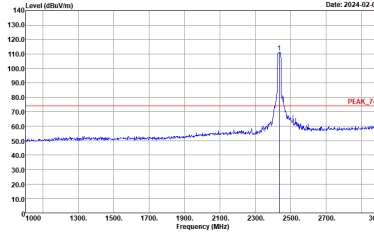
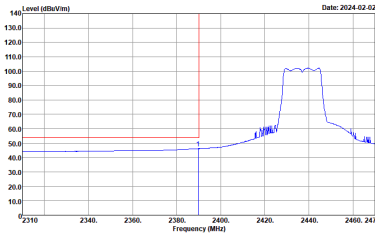
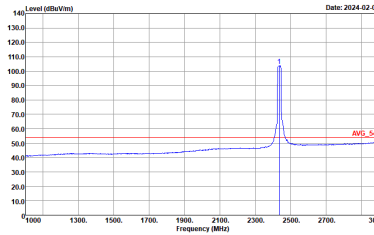
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH01 2412MHz	
	Horizontal	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

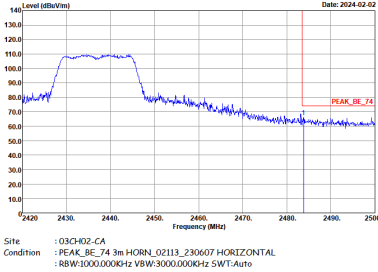
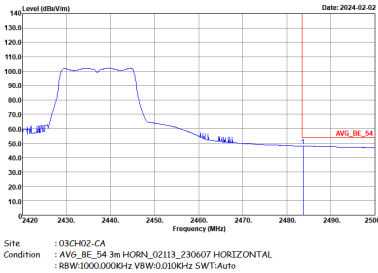


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11g CH01 2412MHz		
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

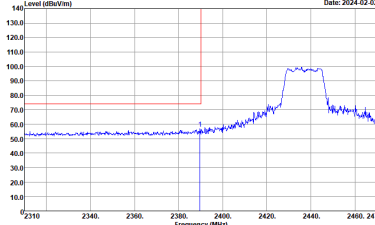
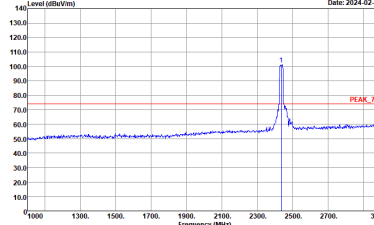
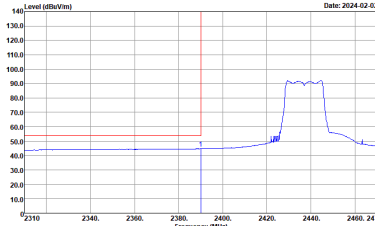
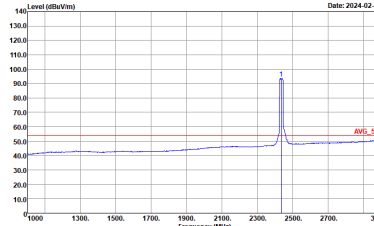


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11g CH06 2437MHz - L		
	Horizontal	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	Left blank
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWF:Auto</p>	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11g CH06 2437MHz - L		
Vertical		Fundamental
Peak	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Date: 2024-02-02</p> <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

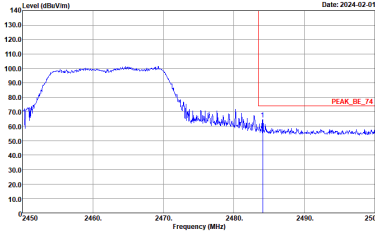
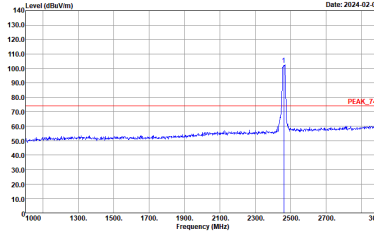
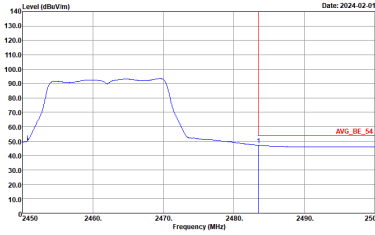
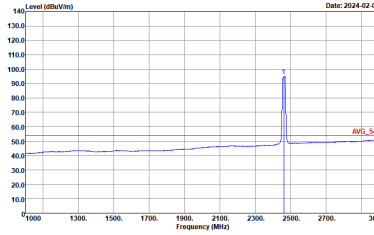


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH06 2437MHz - R	
	Vertical	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left Blank
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11g CH11 2462MHz	
	Horizontal	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

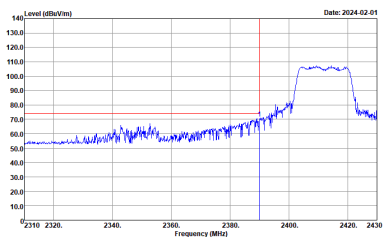
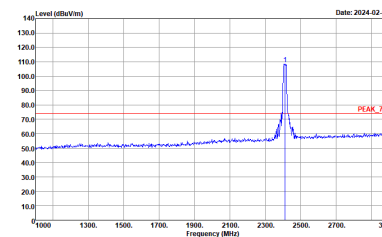
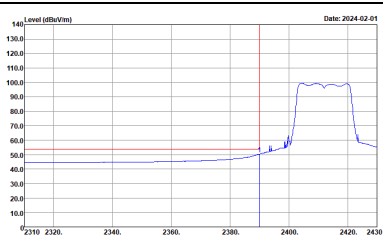
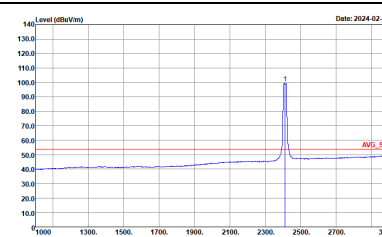


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11g CH11 2462MHz		
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto</p>

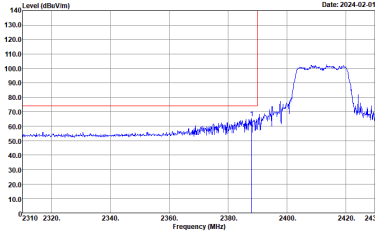
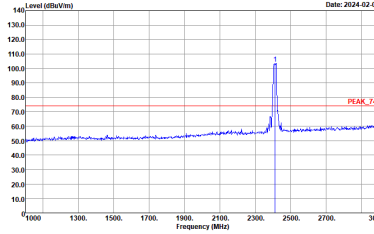
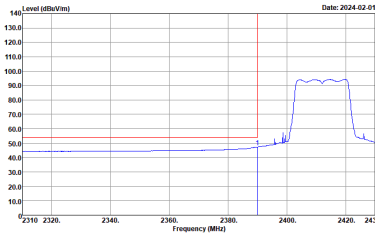
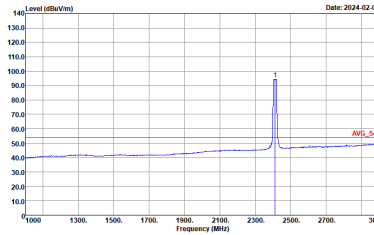


2.4GHz 2400~2483.5MHz

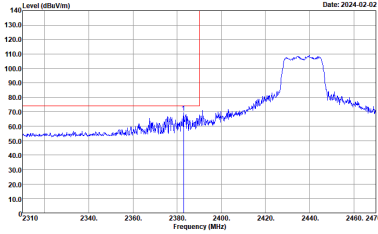
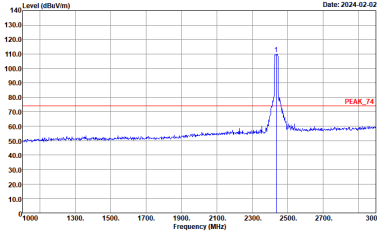
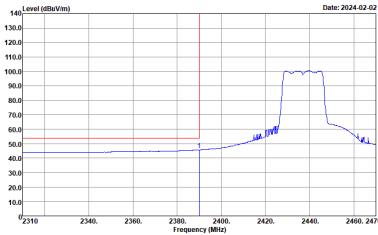
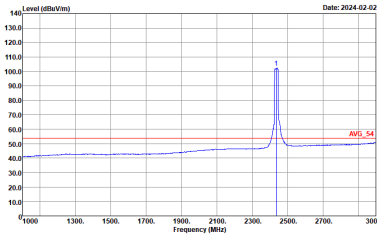
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH01 2412MHz	
	Horizontal	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH01 2412MHz	
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11n HT20 CH06 2437MHz - L		
Horizontal		Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

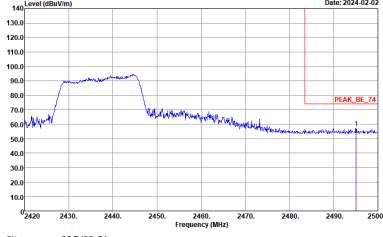
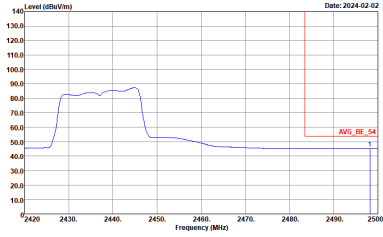


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - R	
	Horizontal	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	Left blank

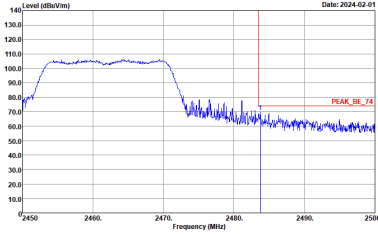
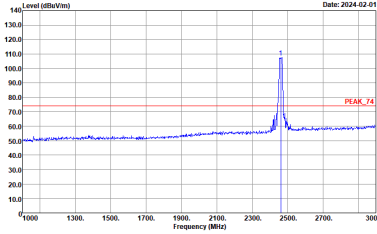
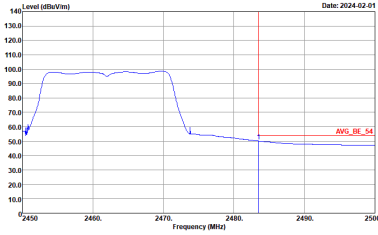
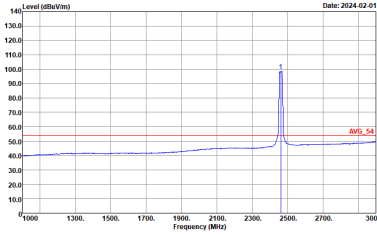


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11n HT20 CH06 2437MHz - L		
	Vertical	Fundamental
Peak	<p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

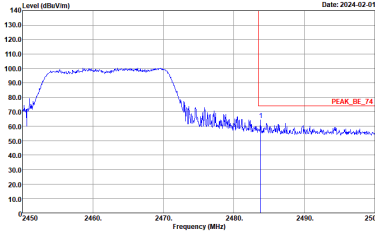
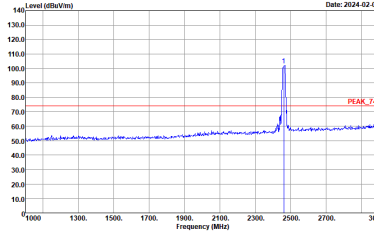
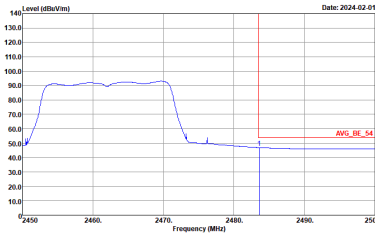
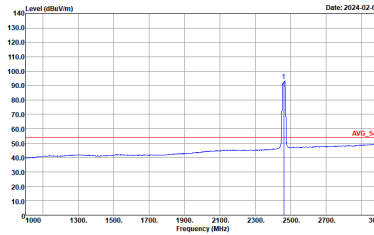


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	802.11n HT20 CH06 2437MHz - R	
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left Blank
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
802.11n HT20 CH11 2462MHz		
Horizontal		Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
	802.11n HT20 CH11 2462MHz	
	Vertical	Fundamental
Peak	 <p>Site : 03CH02-CA Condition : PEAK_BE_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH02-CA Condition : AVG_BE_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



2.4GHz 2400~2483.5MHz

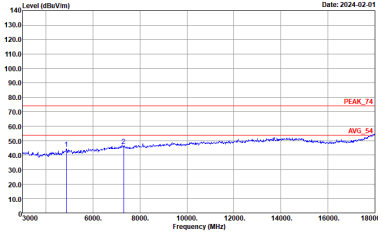
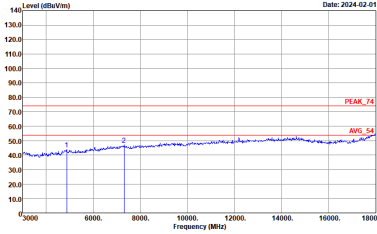
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11b CH01 2412MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11b CH01 2412MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto</p>

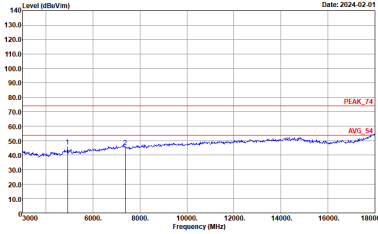
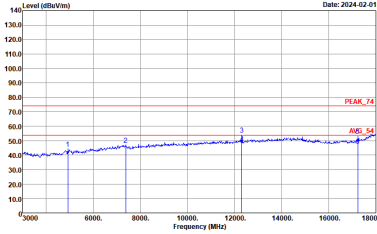


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
802.11b CH06 2437MHz		
	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11b CH06 2437MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11b CH11 2462MHz	
	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11b CH11 2462MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL :</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL :</p>



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11g CH01 2412MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11g CH01 2412MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>

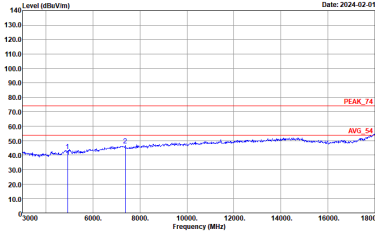
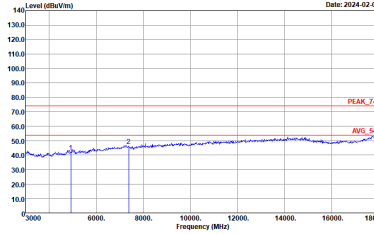


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11g CH06 2437MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11g CH06 2437MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
802.11g CH11 2462MHz		
	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	 <p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11g CH11 2462MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH01 2412MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH01 2412MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH06 2437MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH06 2437MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH11 2462MHz	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 3m HORN_02113_230607 VERTICAL</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
	802.11n HT20 CH11 2462MHz	
	Horizontal	Vertical
10.6G ~18G Avg.	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_230607 VERTICAL</p>



Emission above 18GHz
2.4GHz WIFI 802.11n HT20 (SHF @ 1m)

WIFI	2.4GHz 2400~2483.5MHz	
	802.11n HT20 SHF	
	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH02-CA Condition : PEAK_74 1m SHF_HORN_841_230822 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : PEAK_74 1m SHF_HORN_841_230822 VERTICAL</p>



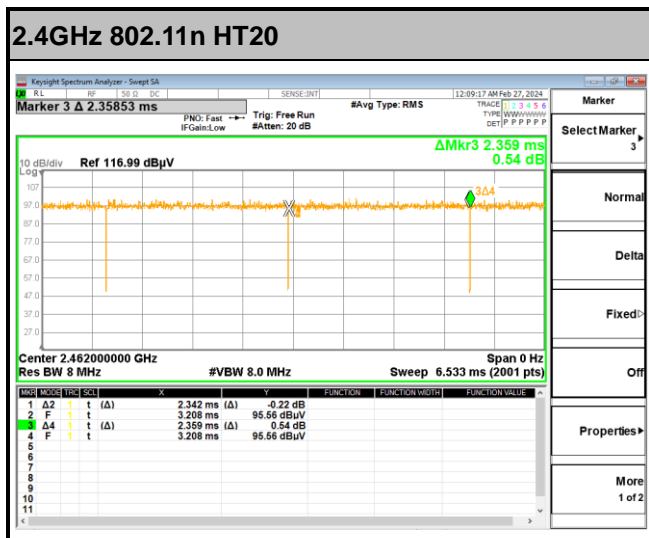
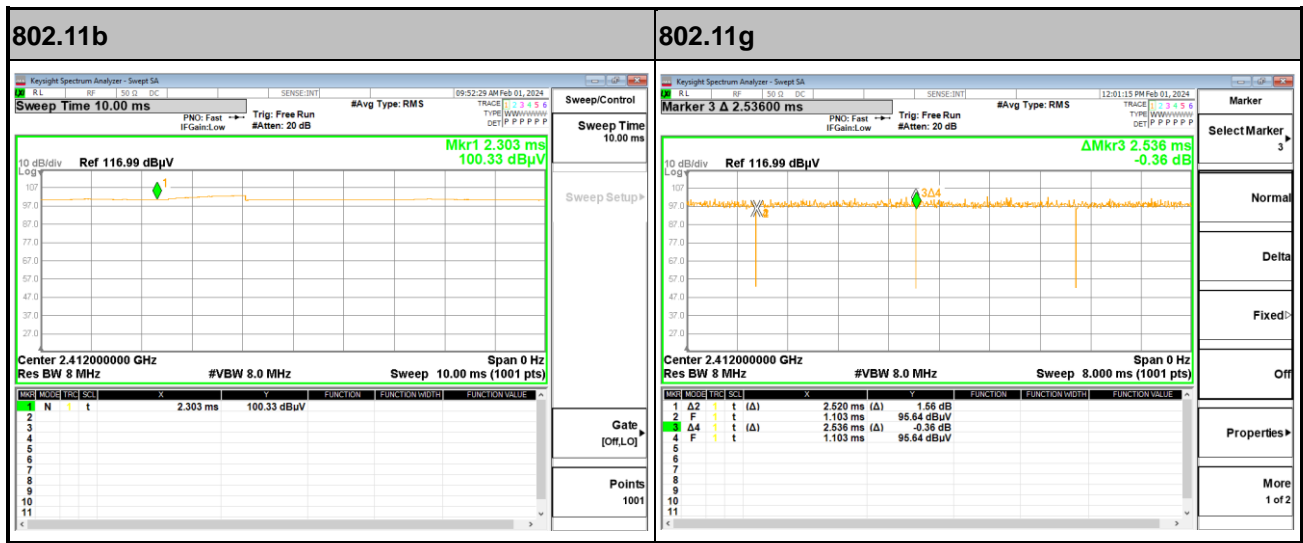
Emission below 1GHz
2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
	802.11n HT20 LF	
	Horizontal	Vertical
QP / Peak	<p>Site : 03CH02-CA Condition : QP-3m 81LOG_50392_230905 HORIZONTAL</p>	<p>Site : 03CH02-CA Condition : QP-3m 81LOG_50392_230905 VERTICAL</p>



Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10Hz
802.11g	99.37	-	-	10Hz
2.4GHz 802.11n HT20	99.28	-	10Hz	



—THE END—