



FCC RADIO TEST REPORT

FCC ID : P4Q-N669
Equipment : DASHBOARD CAMERA
Brand Name : JVC
Model Name : KV-DR305W
Applicant : MiTAC Digital Technology Corporation
4F., NO. 1, R&D ROAD 2, HSINCHU SCIENCE
PARK, HSINCHU 30076, TAIWAN, R.O.C.
Manufacturer : MITAC Computer (Kunshan) Co., Ltd.
No. 269, 2nd Avenue, District A, Comprehensive
Free Trade Zone, 300 Kunshan, China
Standard : FCC Part 15 Subpart C §15.247

The product was received on Sep. 18, 2020 and testing was started from Oct. 06, 2020 and completed on Nov. 05, 2020. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications 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 of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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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	Under limit 0.59 dB at 2483.640 MHz
-	15.207	AC Conducted Emission	Not Required	-
3.6	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Note: Not required means after assessing, test items are not necessary to carry out.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang
Report Producer: Vivian Hsu



1 General Description

1.1 Product Feature of Equipment Under Test

Wi-Fi 2.4GHz 802.11b/g/n and GNSS.

Product Specification subjective to this standard	
Antenna Type	WLAN: Chip Antenna GPS / Glonass: Patch Antenna
Antenna Gain	WLAN: -0.83 dBi

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

1.2 Modification of EUT

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

1.3 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No.
	TH05-HY

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH13-HY

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

FCC designation No.: TW1190 and TW0007



1.4 Applicable Standards

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

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

Remark:

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



2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

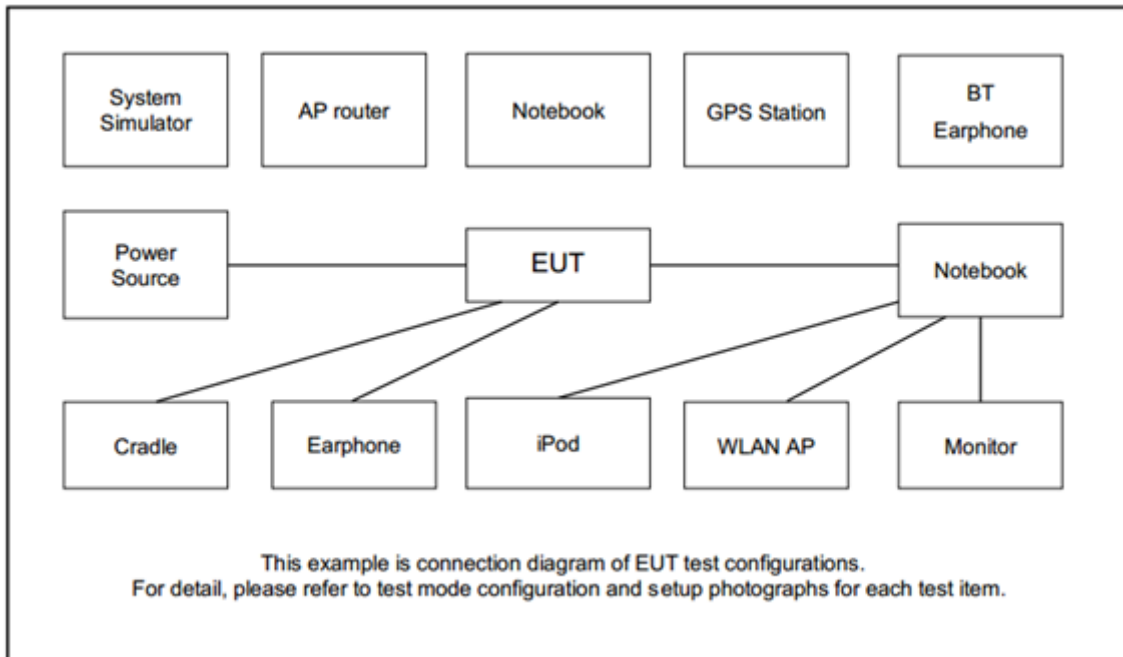
Final test modes are considering the modulation and worse data rates as below table.

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

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 final modulation and the worst data rate was reference 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.	Power Supply	GWINSTEK	GPE-2323	N/A	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, 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 10dB 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

See list of measuring equipment of 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 was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) 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.

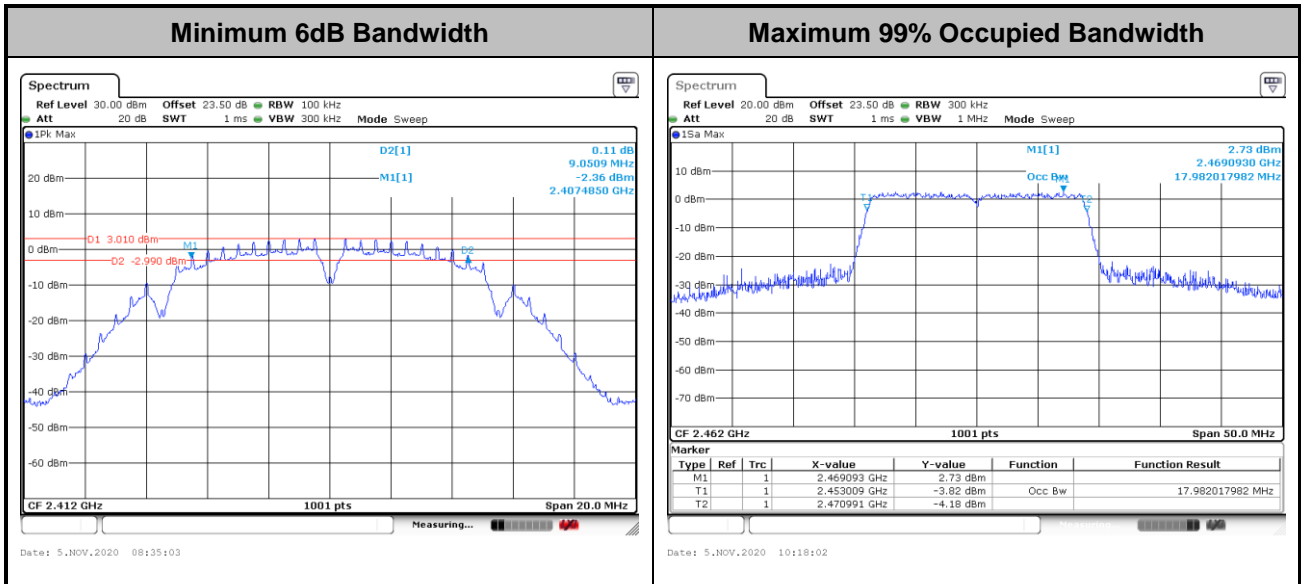
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



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

3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

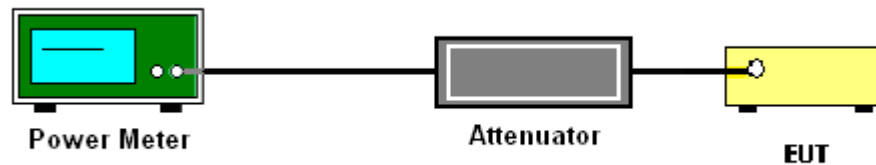
3.2.2 Measuring Instruments

See list of measuring equipment of 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 was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



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

3.3.2 Measuring Instruments

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

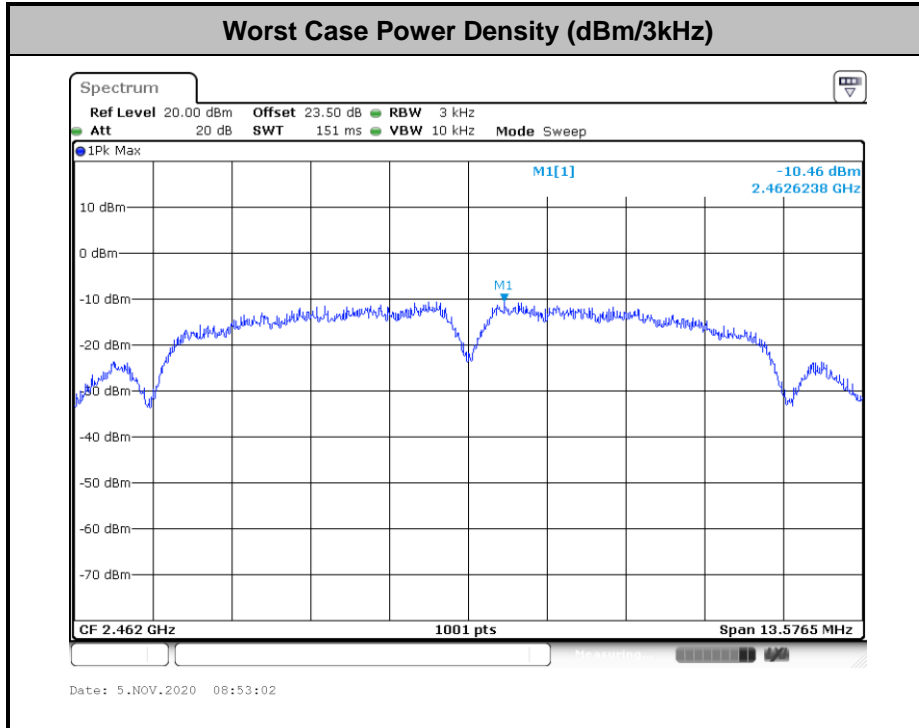
3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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.

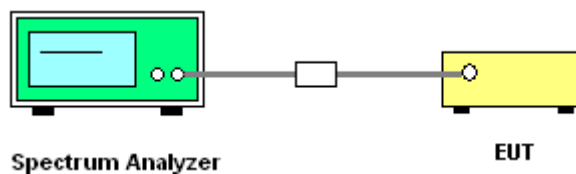
3.4.2 Measuring Instruments

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

3.4.4 Test Setup



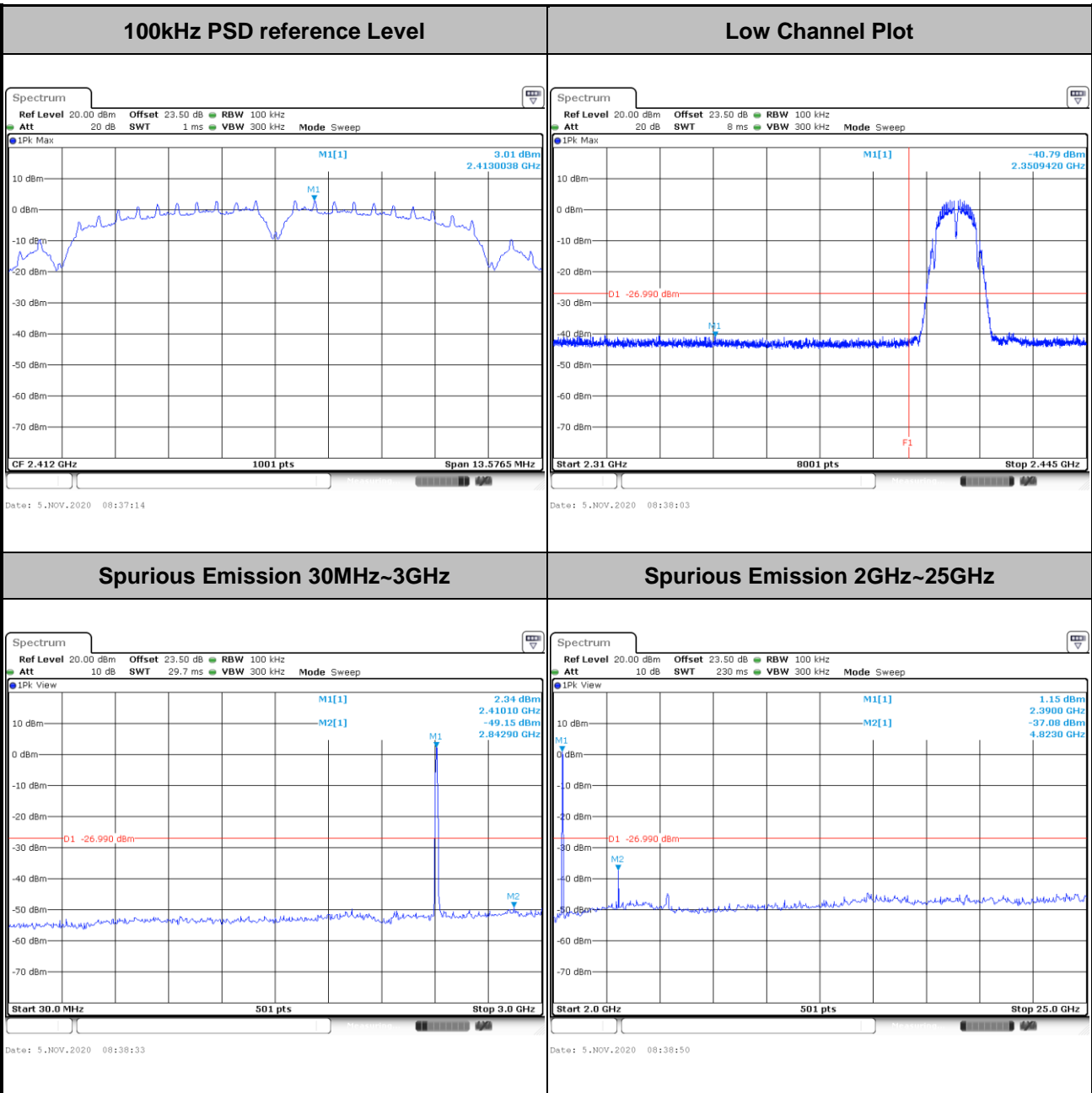


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer : Eason Huang	Temperature :	21~25°C
	Relative Humidity :	51~54%

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

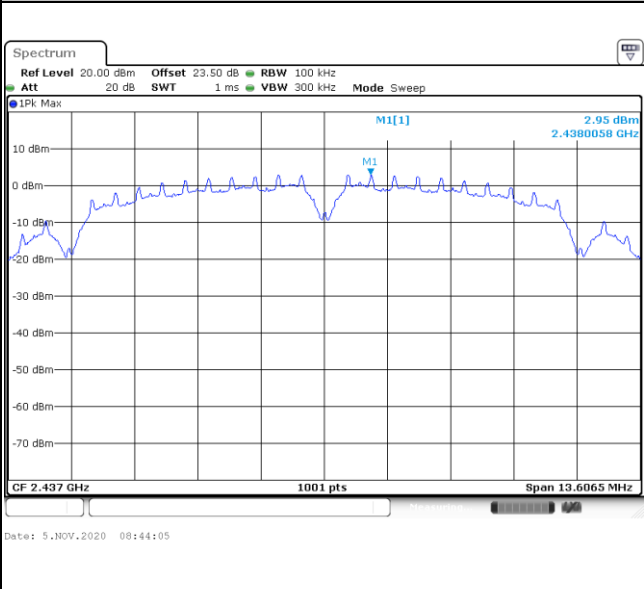
Test Mode :	802.11b	Test Channel :	01
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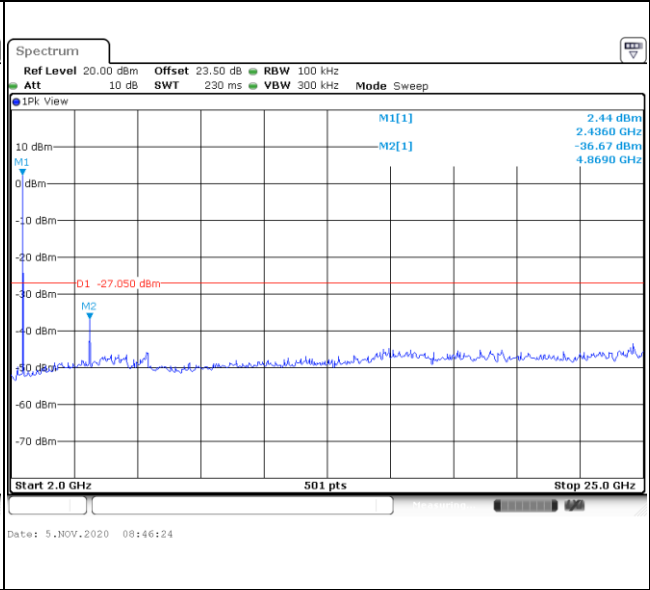
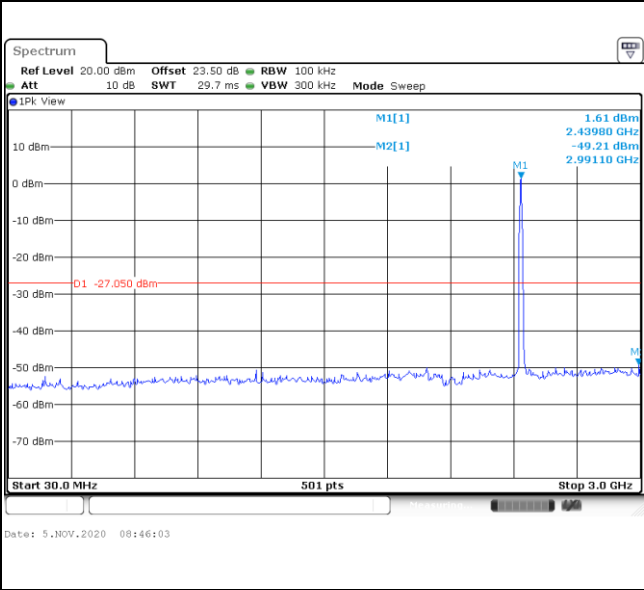


Test Mode :	802.11b	Test Channel :	06
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100kHz PSD reference Level	Mid Channel Plot
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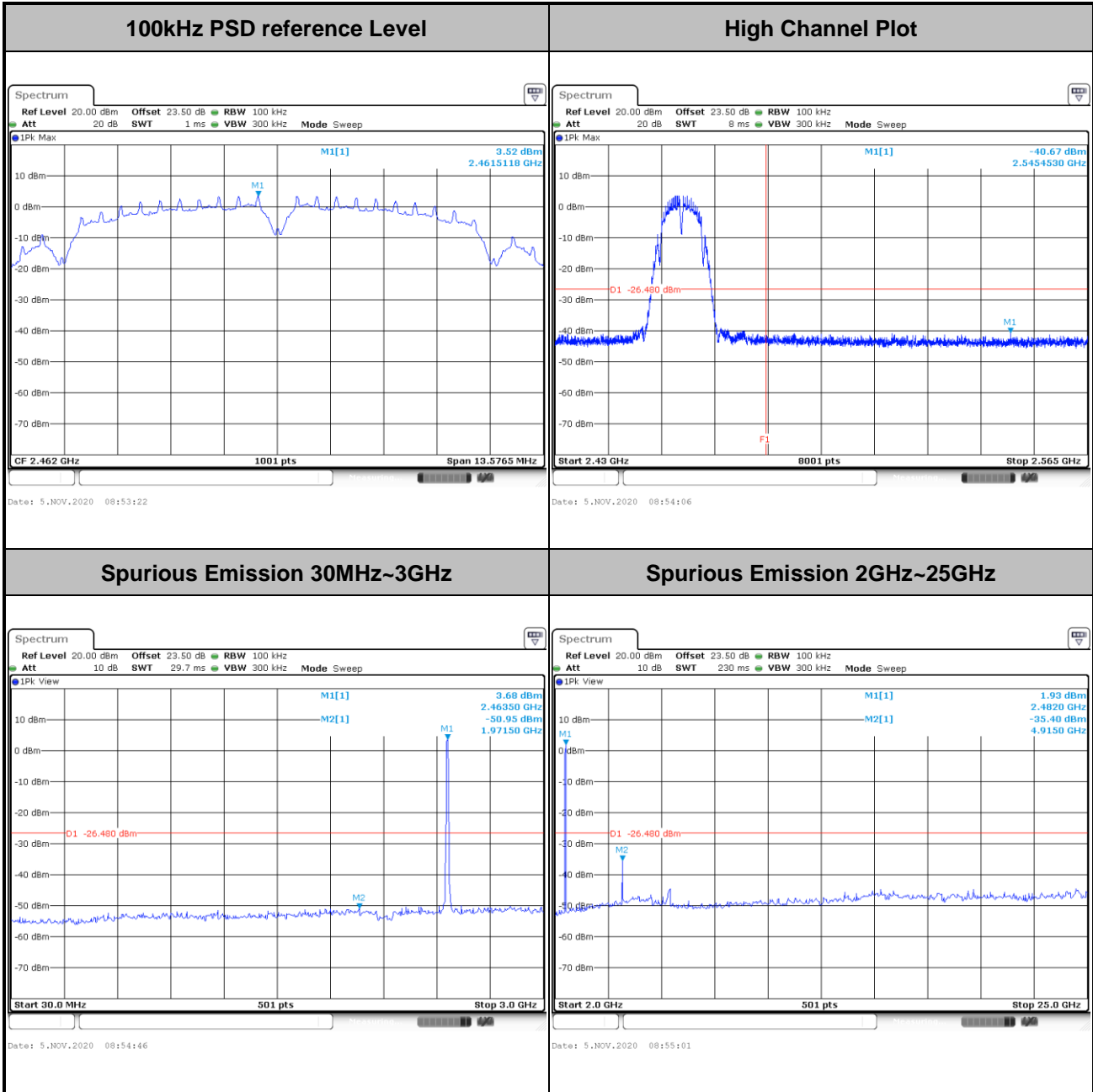


Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
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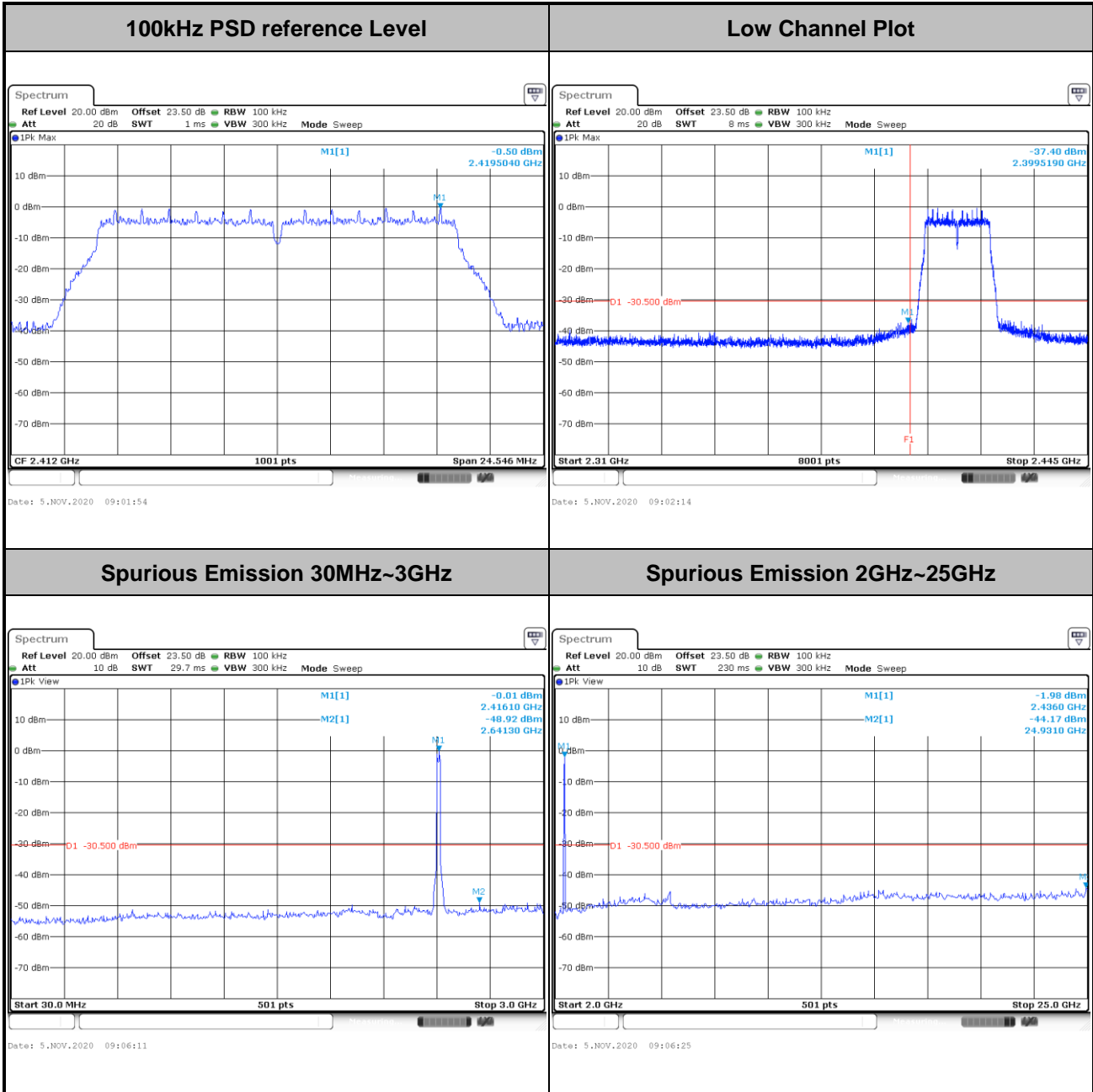


Test Mode :	802.11b	Test Channel :	11
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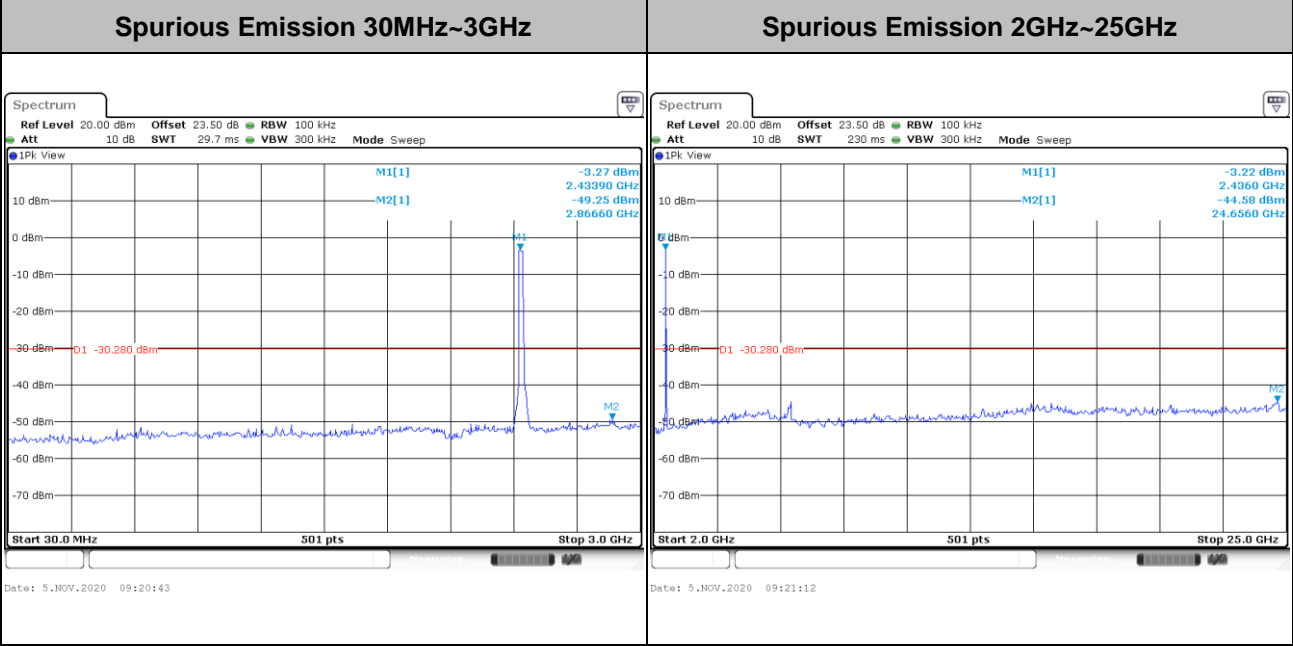
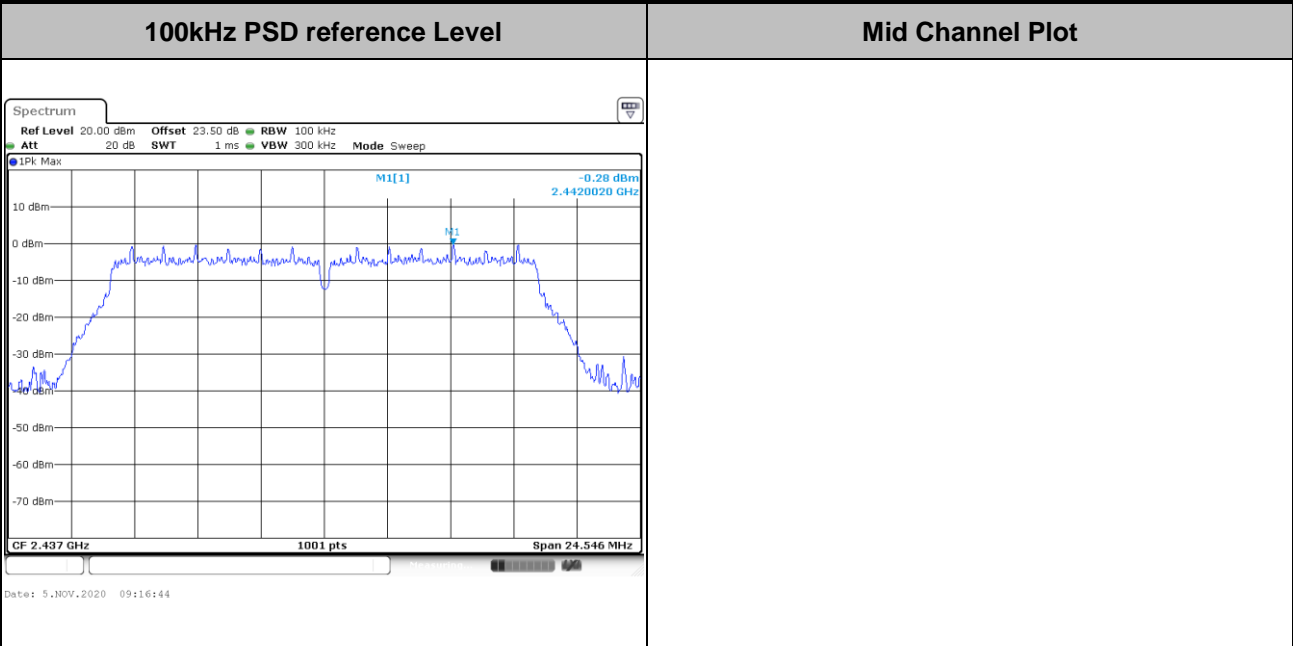


Test Mode :	802.11g	Test Channel :	01
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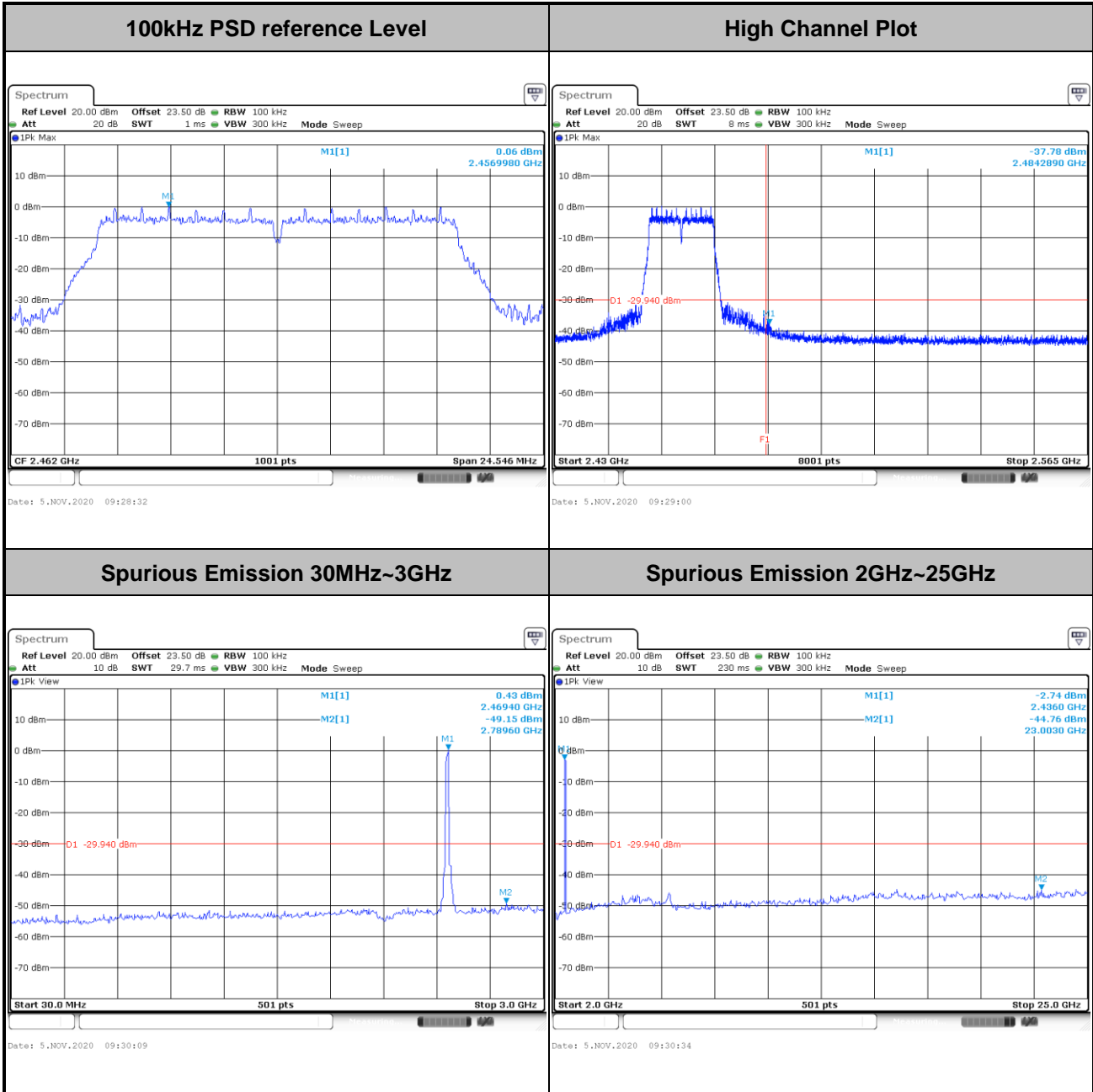


Test Mode :	802.11g	Test Channel :	06
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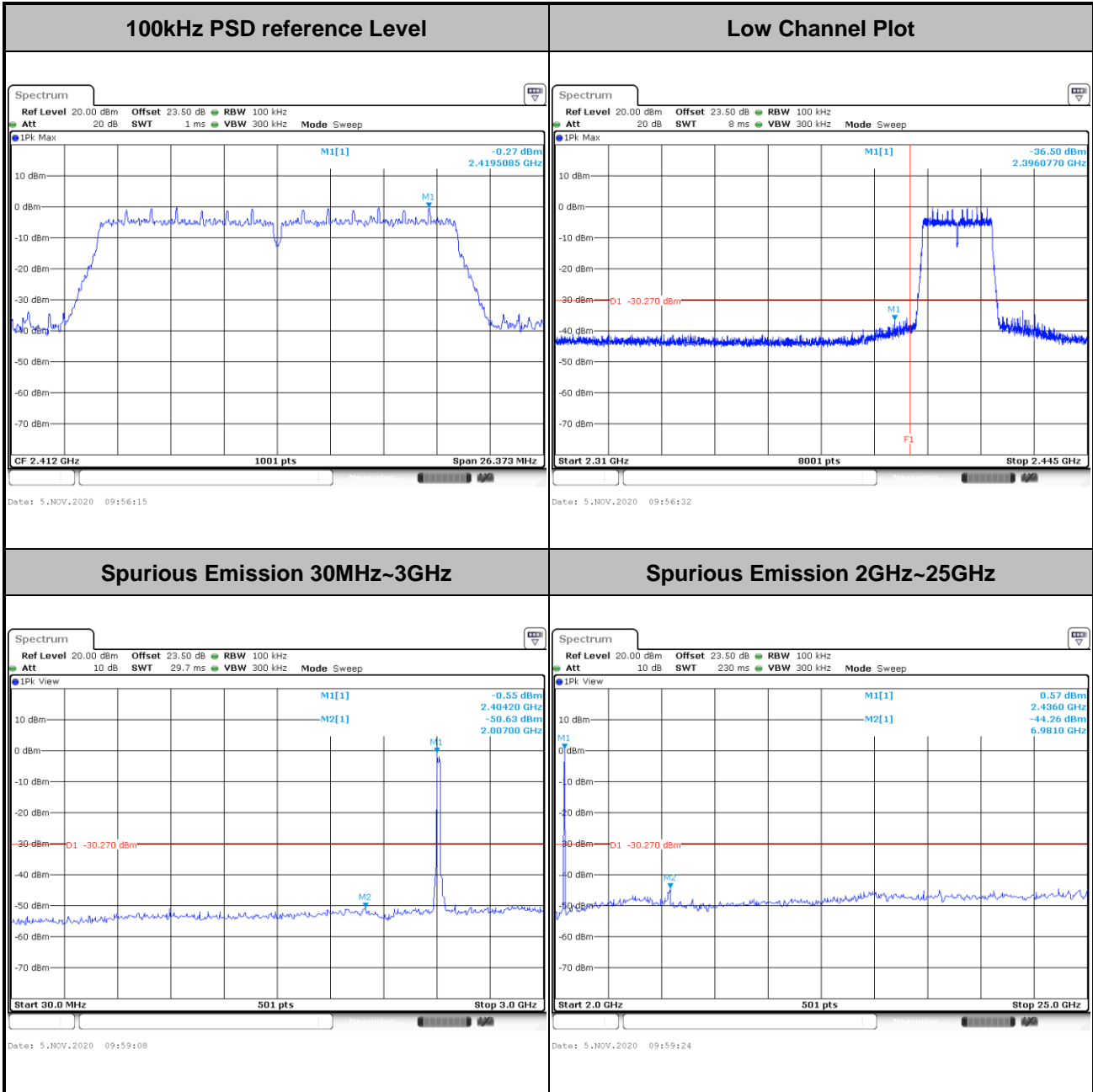


Test Mode :	802.11g	Test Channel :	11
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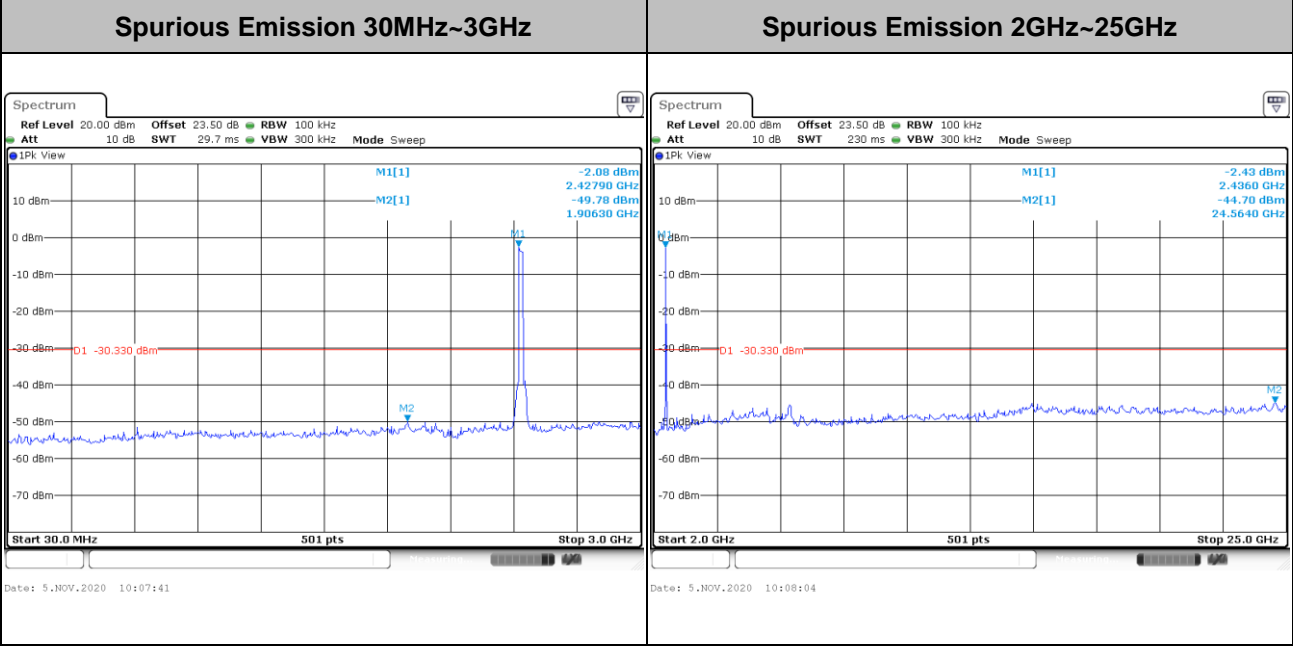
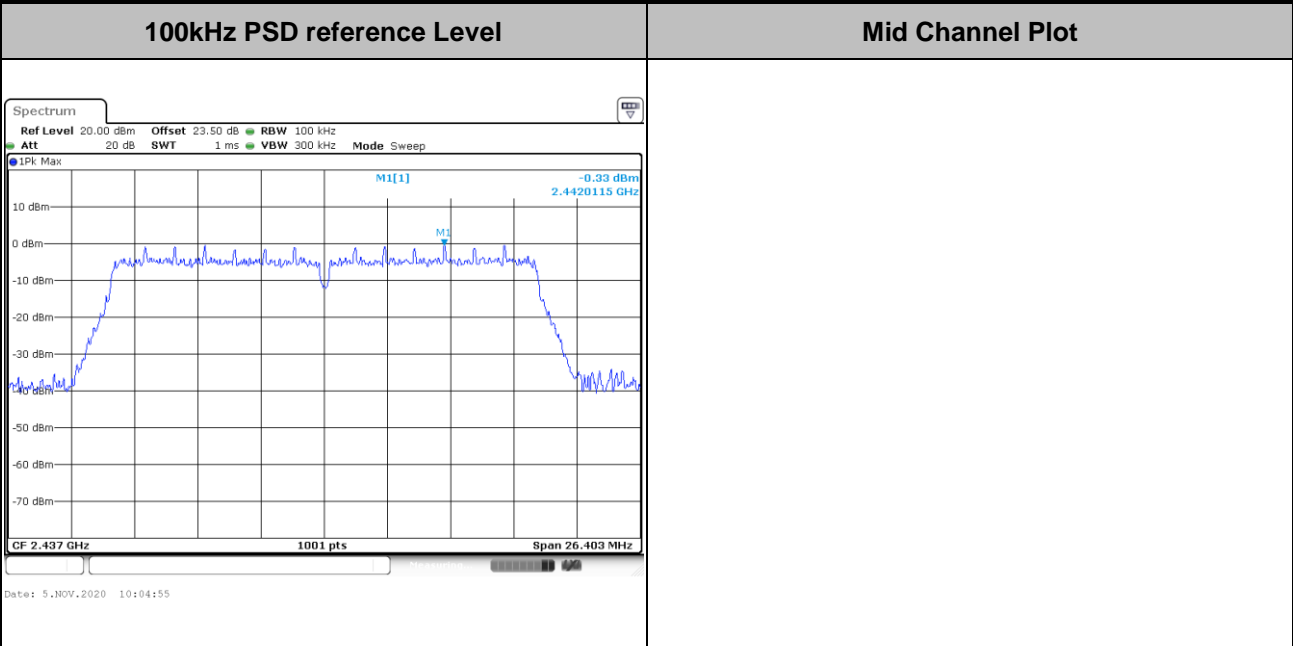


Test Mode :	802.11n HT20	Test Channel :	01
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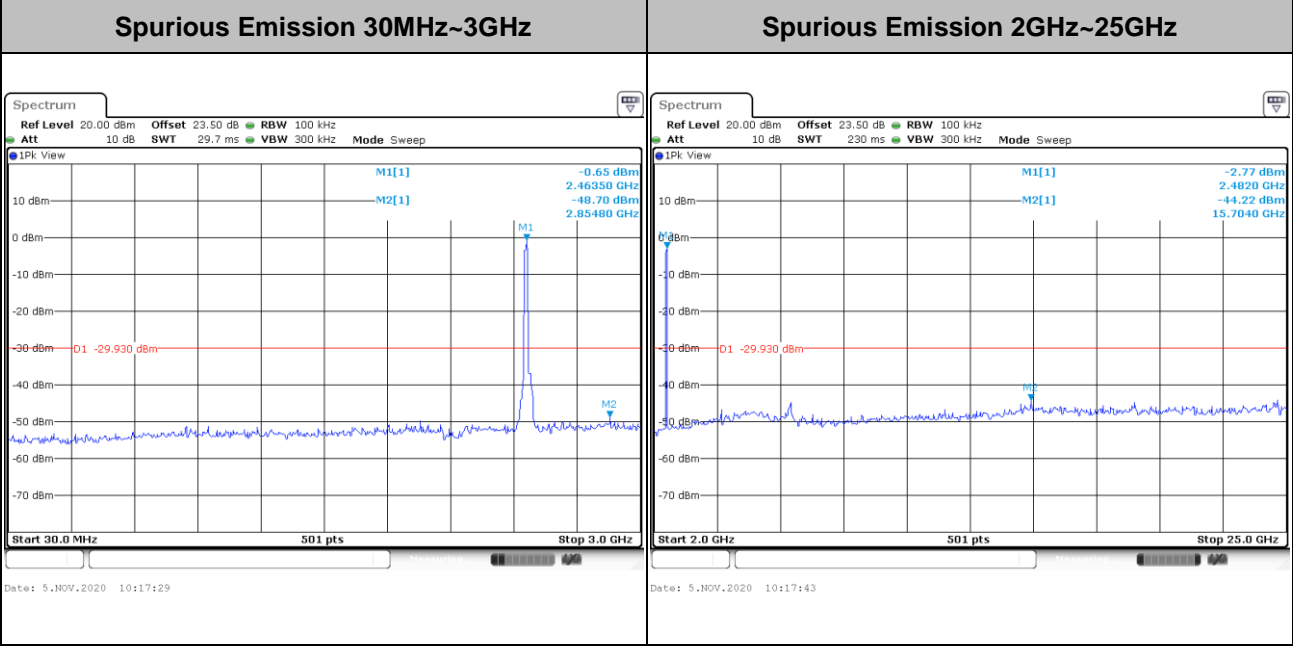
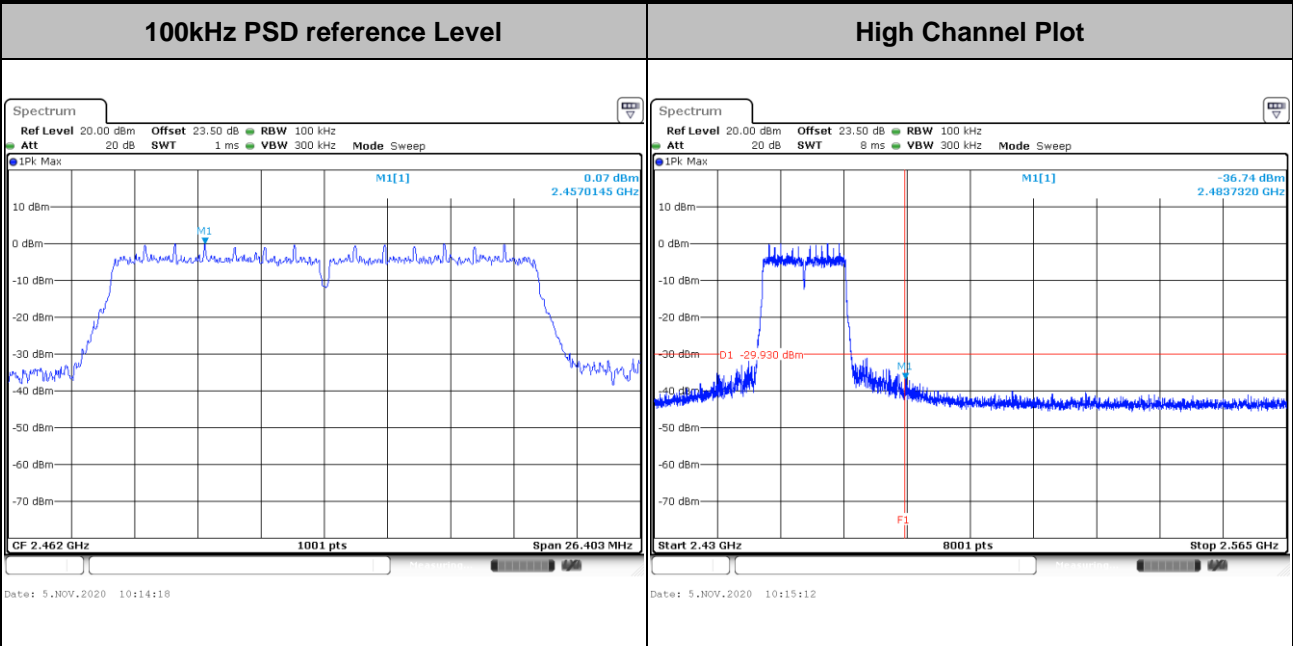


Test Mode :	802.11n HT20	Test Channel :	06
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Test Mode :	802.11n HT20	Test Channel :	11
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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

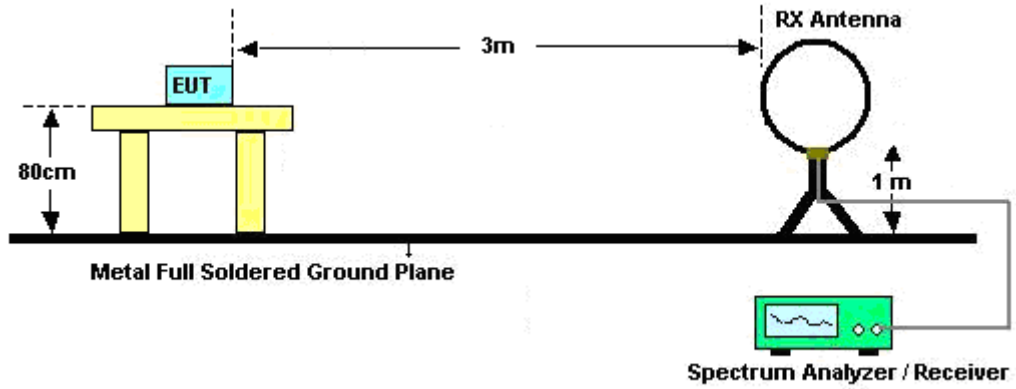


3.5.3 Test Procedures

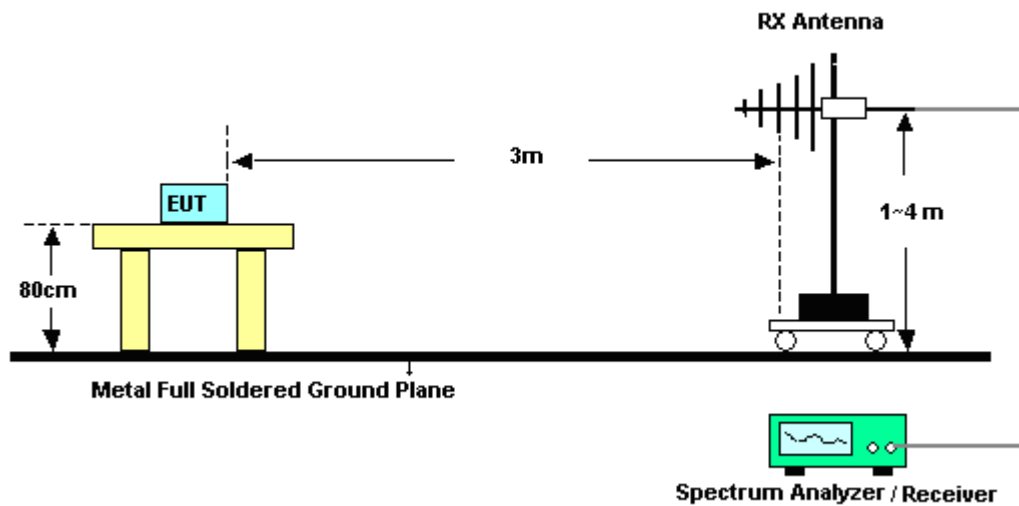
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz 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

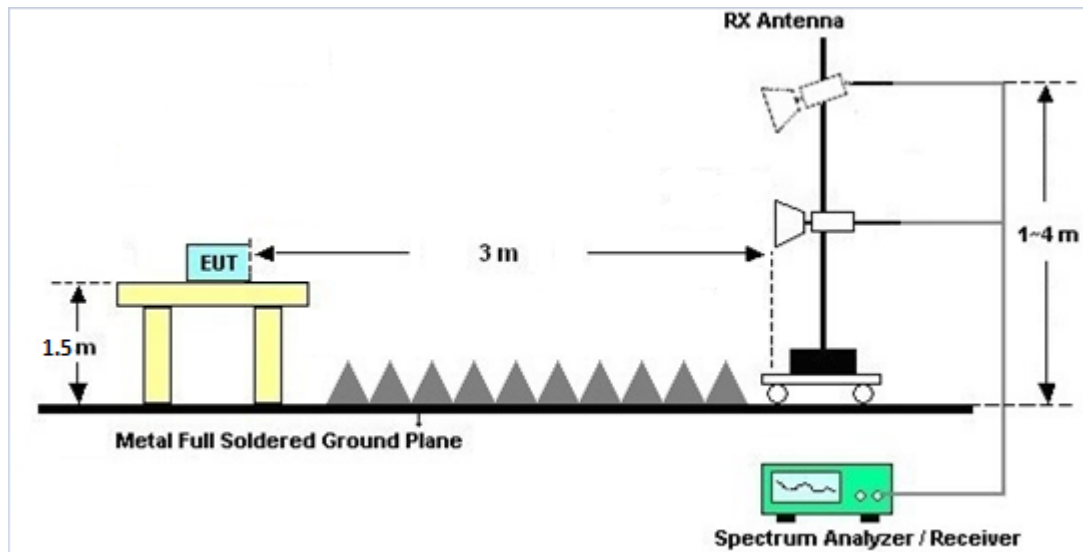
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.5.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.



3.6 Antenna Requirements

3.6.1 Standard Applicable

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

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 Antenna Gain

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



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jul. 14, 2020	Nov. 02, 2020~ Nov. 03, 2020	Jul. 13, 2021	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532700 80	1GHz~26.5GHz	Nov. 14, 2018	Nov. 02, 2020~ Nov. 03, 2020	Nov. 13, 2020	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-124 1	1GHz~18GHz	Jul. 15, 2020	Nov. 02, 2020~ Nov. 03, 2020	Jul. 14, 2021	Radiation (03CH13-HY)
Hygrometer	TECEPEL	DTM-303B	TP150115	N/A	N/A	Nov. 02, 2020~ Nov. 03, 2020	N/A	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 19, 2020	Nov. 02, 2020~ Nov. 03, 2020	May 18, 2021	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532701 47	1GHz~26.5GHz	Oct. 28, 2020	Nov. 02, 2020~ Nov. 03, 2020	Oct. 27, 2021	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 20, 2020	Nov. 02, 2020~ Nov. 03, 2020	Mar. 19, 2021	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-270 0-3000-18000 -60SS	SN2	3GHz High Pass Filter	Jul. 13, 2020	Nov. 02, 2020~ Nov. 03, 2020	Jul. 12, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 PE	9kHz~30MHz	Mar. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Mar. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Mar. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz~40GHz	Mar. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Mar. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30MHz~18GHz	Feb. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	804793/4	30MHz~18GHz	Feb. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/ 4	30MHz~18GHz	Feb. 12, 2020	Nov. 02, 2020~ Nov. 03, 2020	Feb. 11, 2021	Radiation (03CH13-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Nov. 02, 2020~ Nov. 03, 2020	N/A	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Nov. 02, 2020~ Nov. 03, 2020	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Nov. 02, 2020~ Nov. 03, 2020	N/A	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Nov. 02, 2020~ Nov. 03, 2020	N/A	Radiation (03CH13-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY532900 45	20MHz~8.4GHz	Jan. 18, 2020	Nov. 02, 2020~ Nov. 03, 2020	Jan. 17, 2021	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz~40GHz	Dec. 10, 2019	Nov. 02, 2020~ Nov. 03, 2020	Dec. 09, 2020	Radiation (03CH13-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 13, 2019	Nov. 02, 2020~ Nov. 03, 2020	Dec. 12, 2020	Radiation (03CH13-HY)
Filter	Wainwright	WLK4-1000-1 530-8000-40S S	SN12	1.53GHz Low Pass Filter	Sep. 15, 2020	Nov. 02, 2020~ Nov. 03, 2020	Sep. 14, 2021	Radiation (03CH13-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 02, 2020	Oct. 06, 2020~ Nov. 05, 2020	Mar. 01, 2021	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054S NO10	10MHz~6GHz	Dec. 23, 2019	Oct. 06, 2020~ Nov. 05, 2020	Dec. 22, 2020	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 15, 2019	Oct. 06, 2020~ Nov. 05, 2020	Nov. 14, 2020	Conducted (TH05-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2020	Oct. 06, 2020~ Nov. 05, 2020	Mar. 16, 2021	Conducted (TH05-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2020/10/6~11/05	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band Single Antenna										
Mod.	Data Rate	N _{TX}	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	11.94	-	9.05	-	0.50	Pass
11b	1Mbps	1	6	2437	12.04	-	9.07	-	0.50	Pass
11b	1Mbps	1	11	2462	11.99	-	9.05	-	0.50	Pass
11g	6Mbps	1	1	2412	17.03	-	16.36	-	0.50	Pass
11g	6Mbps	1	6	2437	17.03	-	16.36	-	0.50	Pass
11g	6Mbps	1	11	2462	17.13	-	16.36	-	0.50	Pass
HT20	MCS0	1	1	2412	17.93	-	17.58	-	0.50	Pass
HT20	MCS0	1	6	2437	17.93	-	17.60	-	0.50	Pass
HT20	MCS0	1	11	2462	17.98	-	17.60	-	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	12.30	-		30.00	-	-0.83	-	11.47	-	36.00	-	Pass
11b	1Mbps	1	6	2437	12.30	-		30.00	-	-0.83	-	11.47	-	36.00	-	Pass
11b	1Mbps	1	11	2462	12.90	-		30.00	-	-0.83	-	12.07	-	36.00	-	Pass
11g	6Mbps	1	1	2412	11.80	-		30.00	-	-0.83	-	10.97	-	36.00	-	Pass
11g	6Mbps	1	6	2437	11.60	-		30.00	-	-0.83	-	10.77	-	36.00	-	Pass
11g	6Mbps	1	11	2462	12.20	-		30.00	-	-0.83	-	11.37	-	36.00	-	Pass
HT20	MCS0	1	1	2412	12.00	-		30.00	-	-0.83	-	11.17	-	36.00	-	Pass
HT20	MCS0	1	6	2437	11.80	-		30.00	-	-0.83	-	10.97	-	36.00	-	Pass
HT20	MCS0	1	11	2462	12.40	-		30.00	-	-0.83	-	11.57	-	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	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	-10.90	-		-0.83	-	8.00	-	Pass
11b	1Mbps	1	6	2437	-10.67	-		-0.83	-	8.00	-	Pass
11b	1Mbps	1	11	2462	-10.46	-		-0.83	-	8.00	-	Pass
11g	6Mbps	1	1	2412	-14.44	-		-0.83	-	8.00	-	Pass
11g	6Mbps	1	6	2437	-13.59	-		-0.83	-	8.00	-	Pass
11g	6Mbps	1	11	2462	-13.26	-		-0.83	-	8.00	-	Pass
HT20	MCS0	1	1	2412	-14.69	-		-0.83	-	8.00	-	Pass
HT20	MCS0	1	6	2437	-14.36	-		-0.83	-	8.00	-	Pass
HT20	MCS0	1	11	2462	-13.52	-		-0.83	-	8.00	-	Pass

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



Appendix B. Radiated Spurious Emission

Test Engineer :	Daniel Lee, Jacky Hung 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	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11b CH 01 2412MHz		2363.865	55.16	-18.84	74	41.37	27.67	13.97	27.85	312	61	P	H	
		2389.38	43.98	-10.02	54	30.21	27.62	13.99	27.84	312	61	A	H	
	*	2412	102.02	-	-	88.27	27.58	14.01	27.84	312	61	P	H	
	*	2412	98.9	-	-	85.15	27.58	14.01	27.84	312	61	A	H	
													H	
														H
			2312.415	55.73	-18.27	74	41.89	27.78	13.92	27.86	400	114	P	V
			2389.275	43.61	-10.39	54	29.84	27.62	13.99	27.84	400	114	A	V
	*		2412	97.63	-	-	83.88	27.58	14.01	27.84	400	114	P	V
	*		2412	94.46	-	-	80.71	27.58	14.01	27.84	400	114	A	V
														V
														V
802.11b CH 06 2437MHz		2319.38	55.11	-18.89	74	41.29	27.76	13.92	27.86	110	242	P	H	
		2388.12	43.34	-10.66	54	29.57	27.62	13.99	27.84	110	242	A	H	
	*	2437	99.36	-	-	85.63	27.53	14.03	27.83	110	242	P	H	
	*	2437	96.17	-	-	82.44	27.53	14.03	27.83	110	242	A	H	
			2498.95	54.52	-19.48	74	40.75	27.5	14.09	27.82	110	242	P	H
			2499.65	43.39	-10.61	54	29.62	27.5	14.09	27.82	110	242	A	H
			2379.58	54.63	-19.37	74	40.85	27.64	13.98	27.84	337	276	P	V
			2389.94	43.34	-10.66	54	29.57	27.62	13.99	27.84	337	276	A	V
	*		2437	96.35	-	-	82.62	27.53	14.03	27.83	337	276	P	V
	*		2437	93.18	-	-	79.45	27.53	14.03	27.83	337	276	A	V
			2499.02	55.25	-18.75	74	41.48	27.5	14.09	27.82	337	276	P	V
			2488.17	43.4	-10.6	54	29.64	27.5	14.08	27.82	337	276	A	V



802.11b CH 11 2462MHz	*	2462	99.08	-	-	85.35	27.5	14.06	27.83	101	230	P	H
	*	2462	95.93	-	-	82.2	27.5	14.06	27.83	101	230	A	H
		2483.6	56.13	-17.87	74	42.37	27.5	14.08	27.82	101	230	P	H
		2483.52	46.51	-7.49	54	32.75	27.5	14.08	27.82	101	230	A	H
													H
													H
	*	2462	95.43	-	-	81.7	27.5	14.06	27.83	332	279	P	V
	*	2462	92.25	-	-	78.52	27.5	14.06	27.83	332	279	A	V
		2486.52	54.41	-19.59	74	40.65	27.5	14.08	27.82	332	279	P	V
		2483.52	44.8	-9.2	54	31.04	27.5	14.08	27.82	332	279	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	38.43	-35.57	74	57.74	31.15	6.99	57.45	100	0	P	H
		18000	56.83	-17.17	74	51.43	48.1	13.77	56.47	256	135	P	H
		18000	47.19	-6.81	54	41.79	48.1	13.77	56.47	256	135	A	H
													H
		4824	42.99	-31.01	74	62.3	31.15	6.99	57.45	100	0	P	V
		18000	56.92	-17.08	74	51.52	48.1	13.77	56.47	137	308	P	V
		18000	47.95	-6.05	54	42.55	48.1	13.77	56.47	137	308	A	V
802.11b CH 06 2437MHz		4874	38.17	-35.83	74	57.32	31.2	6.99	57.34	100	0	P	H
		7311	43.79	-30.21	74	55.78	36.78	8.32	57.09	100	0	P	H
		17985	57.35	-16.65	74	52.39	47.68	13.76	56.48	223	128	P	H
		17985	47.74	-6.26	54	42.78	47.68	13.76	56.48	223	128	A	H
		4874	43.28	-30.72	74	62.43	31.2	6.99	57.34	100	0	P	V
		7311	43.28	-30.72	74	55.27	36.78	8.32	57.09	100	0	P	V
		17985	56.29	-17.71	74	51.33	47.68	13.76	56.48	122	321	P	V
		17985	48.17	-5.83	54	43.21	47.68	13.76	56.48	122	321	A	V
802.11b CH 11 2462MHz		4924	39.41	-34.59	74	58.34	31.3	7	57.23	100	0	P	H
		7386	43.8	-30.2	74	56.11	36.56	8.33	57.2	100	0	P	H
		17985	56.29	-17.71	74	51.33	47.68	13.76	56.48	251	136	P	H
		17985	46.83	-7.17	54	41.87	47.68	13.76	56.48	251	136	A	H
		4924	42.21	-31.79	74	61.14	31.3	7	57.23	100	0	P	V
		7386	43.25	-30.75	74	55.56	36.56	8.33	57.2	100	0	P	V
		18000	57.12	-16.88	74	51.72	48.1	13.77	56.47	140	306	P	V
		18000	47.32	-6.68	54	41.92	48.1	13.77	56.47	140	306	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11g CH 01 2412MHz		2389.59	68.38	-5.62	74	54.61	27.62	13.99	27.84	310	62	P	H	
		2389.275	49.93	-4.07	54	36.16	27.62	13.99	27.84	310	62	A	H	
	*	2412	102.54	-	-	88.79	27.58	14.01	27.84	310	62	P	H	
	*	2412	94.9	-	-	81.15	27.58	14.01	27.84	310	62	A	H	
													H	
													H	
			2390	62.57	-11.43	74	48.8	27.62	13.99	27.84	400	112	P	V
			2390	47.56	-6.44	54	33.79	27.62	13.99	27.84	400	112	A	V
	*		2412	98.96	-	-	85.21	27.58	14.01	27.84	400	112	P	V
	*		2412	91.26	-	-	77.51	27.58	14.01	27.84	400	112	A	V
													V	
													V	
802.11g CH 06 2437MHz		2389.94	54.68	-19.32	74	40.91	27.62	13.99	27.84	100	238	P	H	
		2380.28	44.29	-9.71	54	30.51	27.64	13.98	27.84	100	238	A	H	
	*	2437	100.08	-	-	86.35	27.53	14.03	27.83	100	238	P	H	
	*	2437	92.67	-	-	78.94	27.53	14.03	27.83	100	238	A	H	
			2498.53	54.38	-19.62	74	40.61	27.5	14.09	27.82	100	238	P	H
			2487.47	44.35	-9.65	54	30.59	27.5	14.08	27.82	100	238	A	H
			2335.2	54.36	-19.64	74	40.54	27.73	13.94	27.85	387	299	P	V
			2379.86	44.34	-9.66	54	30.56	27.64	13.98	27.84	387	299	A	V
	*		2437	96.94	-	-	83.21	27.53	14.03	27.83	387	299	P	V
	*		2437	89.15	-	-	75.42	27.53	14.03	27.83	387	299	A	V
			2494.89	54.09	-19.91	74	40.32	27.5	14.09	27.82	387	299	P	V
			2486.98	44.31	-9.69	54	30.55	27.5	14.08	27.82	387	299	A	V



802.11g CH 11 2462MHz	*	2462	99.78	-	-	86.05	27.5	14.06	27.83	116	61	P	H
	*	2462	92.04	-	-	78.31	27.5	14.06	27.83	116	61	A	H
		2483.64	67.05	-6.95	74	53.29	27.5	14.08	27.82	116	61	P	H
		2483.72	51.74	-2.26	54	37.98	27.5	14.08	27.82	116	61	A	H
													H
													H
	*	2462	94.23	-	-	80.5	27.5	14.06	27.83	298	94	P	V
	*	2462	86.62	-	-	72.89	27.5	14.06	27.83	298	94	A	V
		2484.16	62.38	-11.62	74	48.62	27.5	14.08	27.82	298	94	P	V
		2483.52	47.09	-6.91	54	33.33	27.5	14.08	27.82	298	94	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	38.43	-35.57	74	57.74	31.15	6.99	57.45	100	0	P	H
		17985	57.61	-16.39	74	52.65	47.68	13.76	56.48	250	162	P	H
		17985	46.18	-7.82	54	41.22	47.68	13.76	56.48	250	162	A	H
													H
		4824	40.09	-33.91	74	59.4	31.15	6.99	57.45	100	0	P	V
		17985	58.72	-15.28	74	53.76	47.68	13.76	56.48	132	297	P	V
		17985	47.29	-6.71	54	42.33	47.68	13.76	56.48	132	297	A	V
802.11g CH 06 2437MHz		4874	38.28	-35.72	74	57.43	31.2	6.99	57.34	100	0	P	H
		7311	44.59	-29.41	74	56.58	36.78	8.32	57.09	100	0	P	H
		17985	56.9	-17.1	74	51.94	47.68	13.76	56.48	256	118	P	H
		17985	46.48	-7.52	54	41.52	47.68	13.76	56.48	256	118	A	H
		4874	39.29	-34.71	74	58.44	31.2	6.99	57.34	100	0	P	V
		7311	43.85	-30.15	74	55.84	36.78	8.32	57.09	100	0	P	V
		18000	57.06	-16.94	74	51.66	48.1	13.77	56.47	135	320	P	V
		18000	46.96	-7.04	54	41.56	48.1	13.77	56.47	135	320	A	V
802.11g CH 11 2462MHz		4924	38.08	-35.92	74	57.01	31.3	7	57.23	100	0	P	H
		7386	44.08	-29.92	74	56.39	36.56	8.33	57.2	100	0	P	H
		17985	57.1	-16.9	74	52.14	47.68	13.76	56.48	247	150	P	H
		17985	46.62	-7.38	54	41.66	47.68	13.76	56.48	247	150	A	H
		4924	39.3	-34.7	74	58.23	31.3	7	57.23	100	0	P	V
		7386	44.2	-29.8	74	56.51	36.56	8.33	57.2	100	0	P	V
		18000	58.06	-15.94	74	52.66	48.1	13.77	56.47	125	331	P	V
		18000	47.33	-6.67	54	41.93	48.1	13.77	56.47	125	331	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 01 2412MHz		2389.905	69.36	-4.64	74	55.59	27.62	13.99	27.84	151	55	P	H	
		2389.905	51.13	-2.87	54	37.36	27.62	13.99	27.84	151	55	A	H	
	*	2412	102.38	-	-	88.63	27.58	14.01	27.84	151	55	P	H	
	*	2412	94.66	-	-	80.91	27.58	14.01	27.84	151	55	A	H	
													H	
														H
			2389.59	63.11	-10.89	74	49.34	27.62	13.99	27.84	394	113	P	V
			2389.485	48.13	-5.87	54	34.36	27.62	13.99	27.84	394	113	A	V
		*	2412	98	-	-	84.25	27.58	14.01	27.84	394	113	P	V
		*	2412	90.49	-	-	76.74	27.58	14.01	27.84	394	113	A	V
													V	
													V	
802.11n HT20 CH 06 2437MHz		2366.84	54.37	-19.63	74	40.58	27.67	13.97	27.85	100	241	P	H	
		2368.38	44.36	-9.64	54	30.58	27.66	13.97	27.85	100	241	A	H	
	*	2437	100.29	-	-	86.56	27.53	14.03	27.83	100	241	P	H	
	*	2437	92.53	-	-	78.8	27.53	14.03	27.83	100	241	A	H	
			2499.44	54.08	-19.92	74	40.31	27.5	14.09	27.82	100	241	P	H
			2485.23	44.58	-9.42	54	30.82	27.5	14.08	27.82	100	241	A	H
			2389.66	55.65	-18.35	74	41.88	27.62	13.99	27.84	350	276	P	V
			2375.8	44.35	-9.65	54	30.56	27.65	13.98	27.84	350	276	A	V
		*	2437	96.69	-	-	82.96	27.53	14.03	27.83	350	276	P	V
		*	2437	89.11	-	-	75.38	27.53	14.03	27.83	350	276	A	V
		2484.18	53.98	-20.02	74	40.22	27.5	14.08	27.82	350	276	P	V	
		2483.62	44.38	-9.62	54	30.62	27.5	14.08	27.82	350	276	A	V	



802.11n HT20 CH 11 2462MHz	*	2462	99.64	-	-	85.91	27.5	14.06	27.83	119	59	P	H
	*	2462	91.84	-	-	78.11	27.5	14.06	27.83	119	59	A	H
		2483.64	69.77	-4.23	74	56.01	27.5	14.08	27.82	119	59	P	H
		2483.64	53.41	-0.59	54	39.65	27.5	14.08	27.82	119	59	A	H
													H
													H
	*	2462	94.81	-	-	81.08	27.5	14.06	27.83	296	91	P	V
	*	2462	87.03	-	-	73.3	27.5	14.06	27.83	296	91	A	V
		2483.96	65.06	-8.94	74	51.3	27.5	14.08	27.82	296	91	P	V
		2483.56	48.96	-5.04	54	35.2	27.5	14.08	27.82	296	91	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 Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 01 2412MHz		4824	37.98	-36.02	74	57.29	31.15	6.99	57.45	100	0	P	H	
		17985	56.31	-17.69	74	51.35	47.68	13.76	56.48	262	154	P	H	
		17985	46.33	-7.67	54	41.37	47.68	13.76	56.48	262	154	A	H	
													H	
			4824	38.98	-35.02	74	58.29	31.15	6.99	57.45	100	0	P	V
			17970	56.9	-17.1	74	52.38	47.26	13.75	56.49	140	295	P	V
			17970	46.97	-7.03	54	42.45	47.26	13.75	56.49	140	295	A	V
802.11n HT20 CH 06 2437MHz		4874	38.22	-35.78	74	57.37	31.2	6.99	57.34	100	0	P	H	
		7311	43.8	-30.2	74	55.79	36.78	8.32	57.09	100	0	P	H	
		18000	57.48	-16.52	74	52.08	48.1	13.77	56.47	256	157	P	H	
		18000	47.48	-6.52	54	42.08	48.1	13.77	56.47	256	157	A	H	
		4874	40	-34	74	59.15	31.2	6.99	57.34	100	0	P	V	
		7311	43.42	-30.58	74	55.41	36.78	8.32	57.09	100	0	P	V	
		18000	58.13	-15.87	74	52.73	48.1	13.77	56.47	135	329	P	V	
802.11n HT20 CH 11 2462MHz		18000	48.37	-5.63	54	42.97	48.1	13.77	56.47	135	329	A	V	
		4924	38.49	-35.51	74	57.42	31.3	7	57.23	100	0	P	H	
		7386	43.43	-30.57	74	55.74	36.56	8.33	57.2	100	0	P	H	
		18000	57.55	-16.45	74	52.15	48.1	13.77	56.47	240	162	P	H	
		18000	46.91	-7.09	54	41.51	48.1	13.77	56.47	240	162	A	H	
		4924	39.8	-34.2	74	58.73	31.3	7	57.23	100	0	P	V	
		7386	43.54	-30.46	74	55.85	36.56	8.33	57.2	100	0	P	V	
Remark		18000	58.23	-15.77	74	52.83	48.1	13.77	56.47	142	320	P	V	
		18000	47.75	-6.25	54	42.35	48.1	13.77	56.47	142	320	A	V	

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)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 SHF		23467	41.75	-32.25	74	42.9	39.62	12.55	53.32	150	0	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			23705	40.3	-33.7	74	41.01	39.99	12.6	53.3	150	0	P
													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.												



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 over limit 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	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(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. Over Limit(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. Over Limit(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. Over Limit(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 C. Radiated Spurious Emission Plots

Test Engineer :	Daniel Lee, Jacky Hung and Wilson Wu	Temperature :	20~25°C
		Relative Humidity :	50~60%

Note symbol

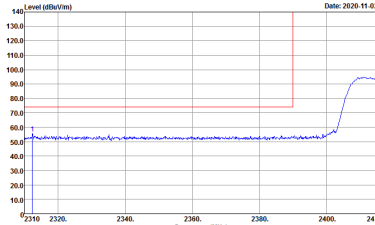
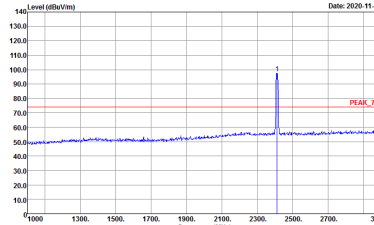
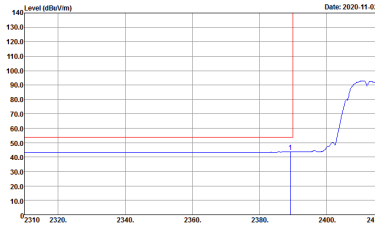
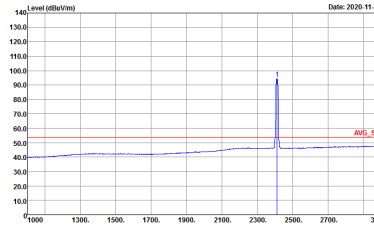
-L	Low channel location
-R	High channel location



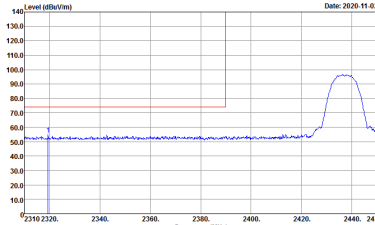
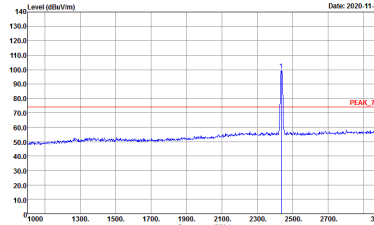
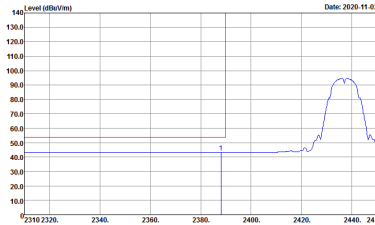
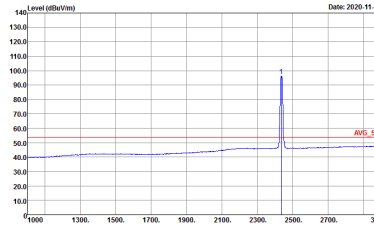
2.4GHz 2400~2483.5MHz
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>
Avg.	<p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>	<p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>

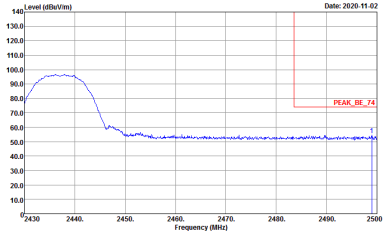
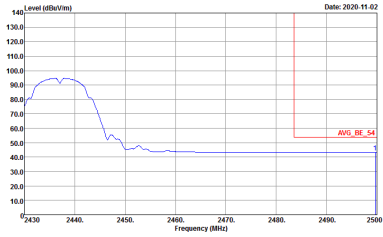


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>	 <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>
Avg.	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>	 <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 1</p>

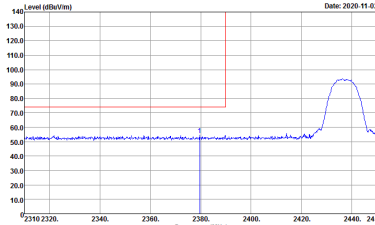
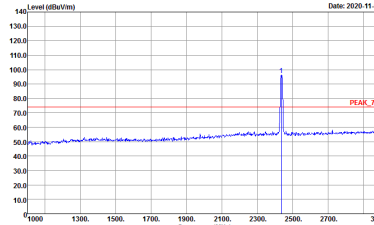
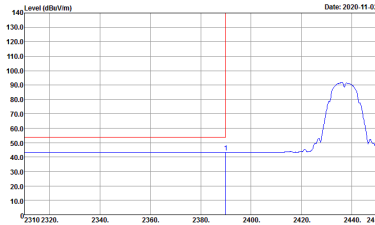
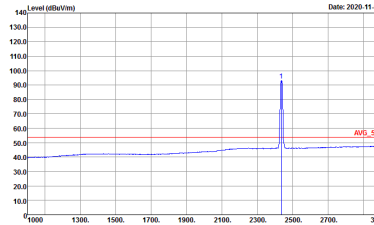


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
<p>Peak</p>	 <p> Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2 </p>	<p>Left blank</p>
<p>Avg.</p>	 <p> Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak Project : 091839 Mode : 2 </p>	<p>Left blank</p>

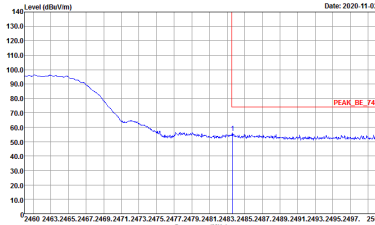
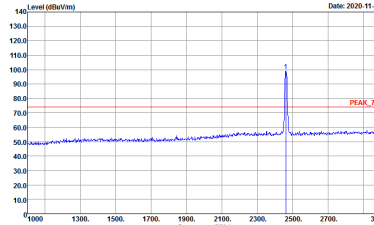
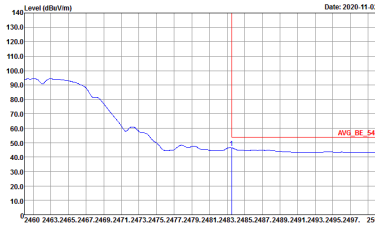
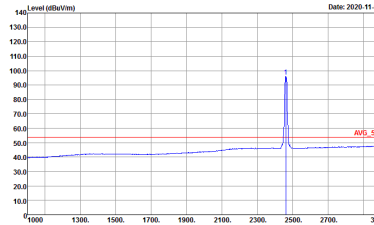


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 2</p>

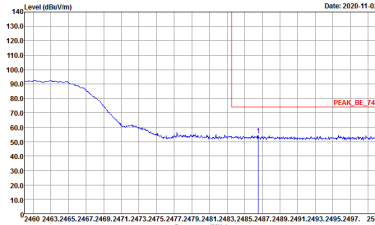
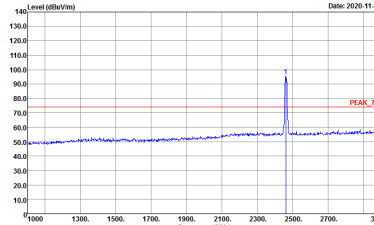
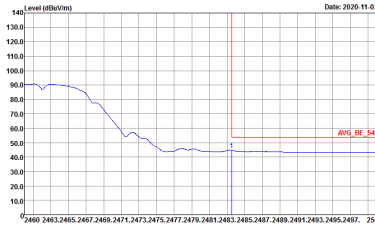
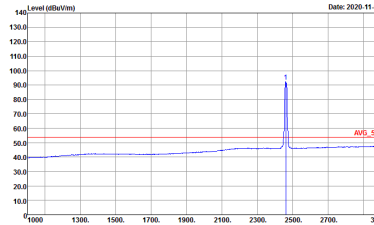


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
<p>Peak</p>		<p>Left blank</p>
<p>Avg.</p>		<p>Left blank</p>



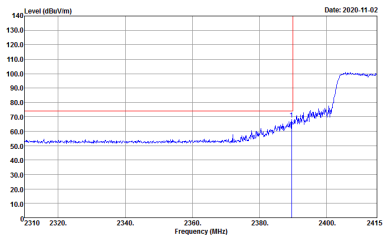
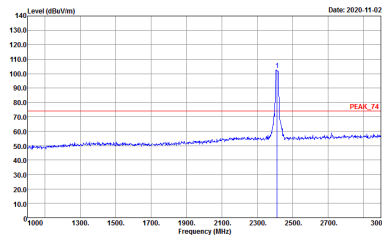
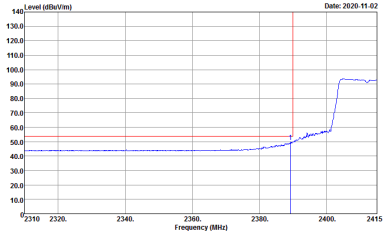
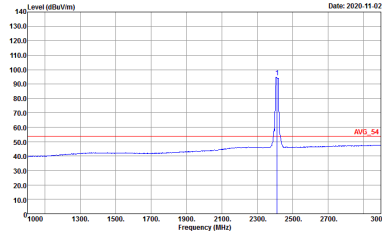
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>



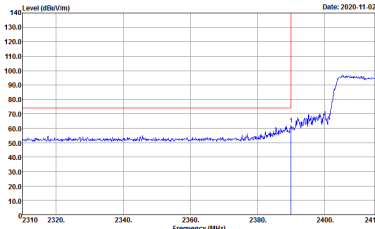
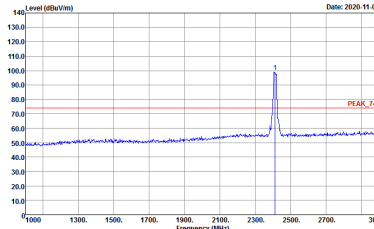
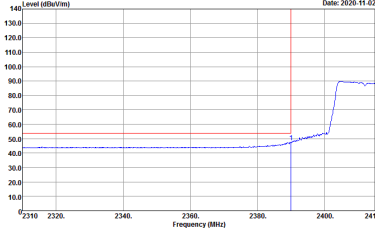
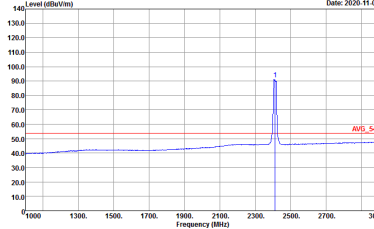
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 091839 Mode : 3</p>



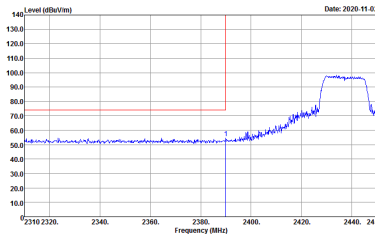
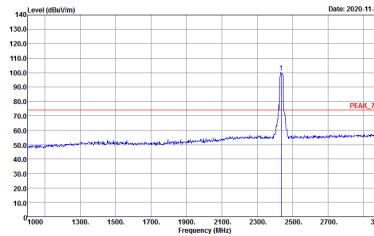
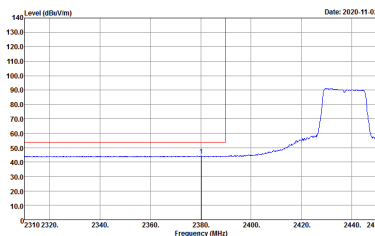
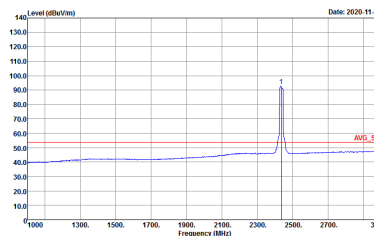
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 4</p>	 <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 4</p>
Avg.	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 4</p>	 <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 4</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 091839 Mode : 4</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 091839 Mode : 4</p>
	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 091839 Mode : 4</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 091839 Mode : 4</p>
Avg.		



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 5</p>	 <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 5</p>
Avg.	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 5</p>	 <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 5</p>

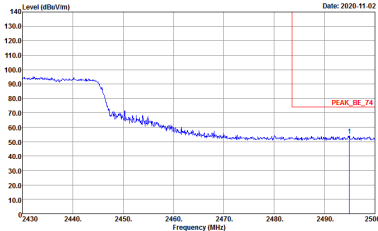
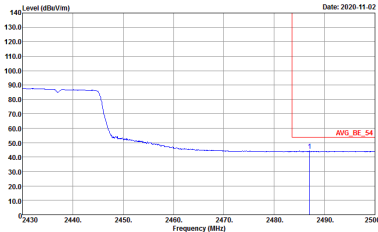


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
<p>Peak</p>		<p>Left blank</p>
<p>Avg.</p>		<p>Left blank</p>

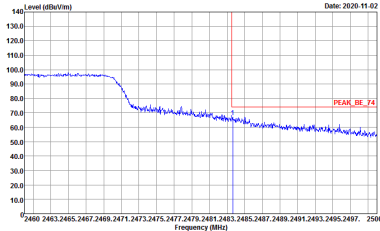
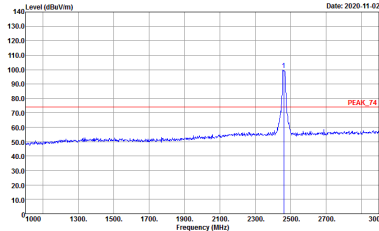
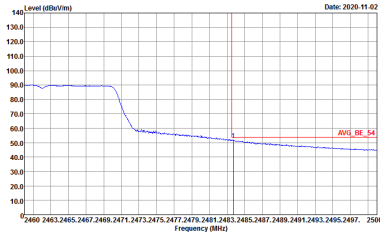
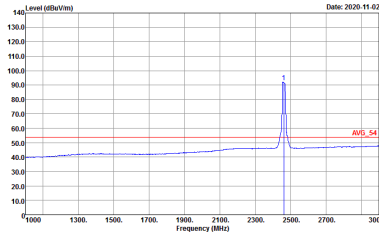


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	<p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>	<p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>
Avg.	<p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>	<p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>

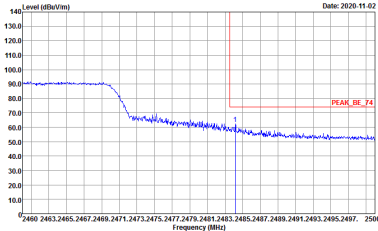
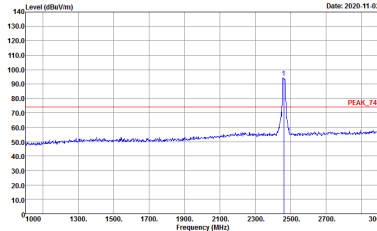
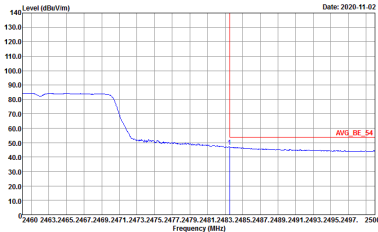
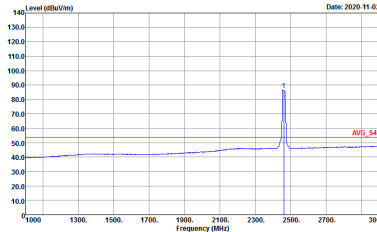


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Vertical	Fundamental
<p>Peak</p>	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>	<p>Left Blank</p>
<p>Avg.</p>	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 5</p>	<p>Left Blank</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>



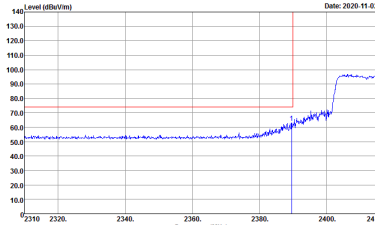
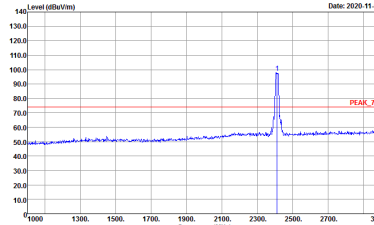
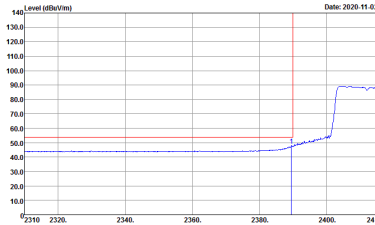
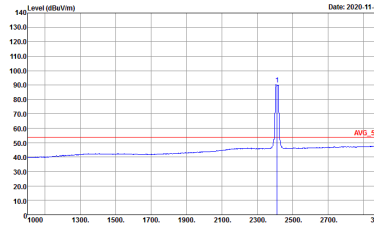
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>	 <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>
Avg.	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>	 <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 6</p>



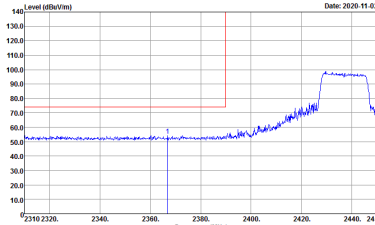
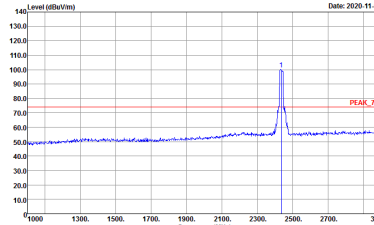
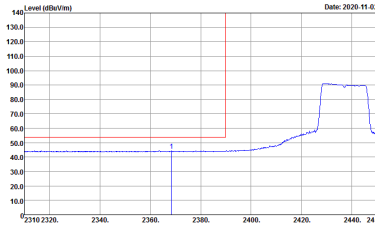
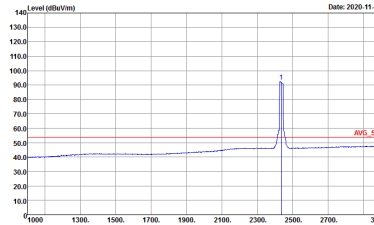
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>
Avg.	<p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>	<p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>

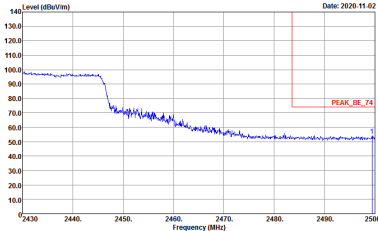
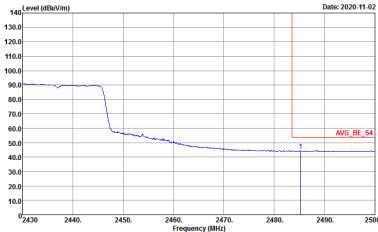


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 7</p>

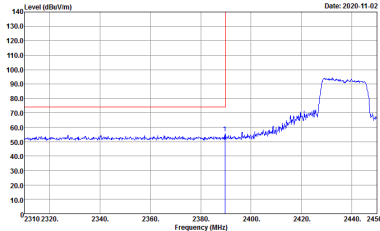
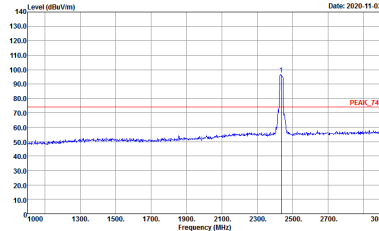
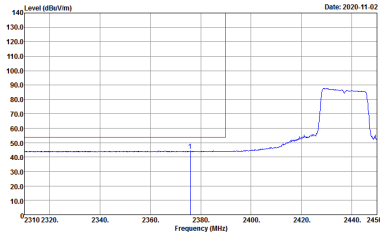
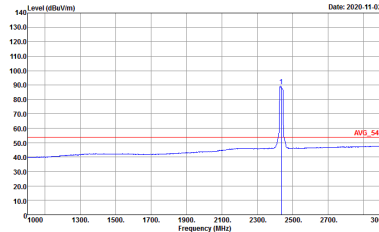


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>

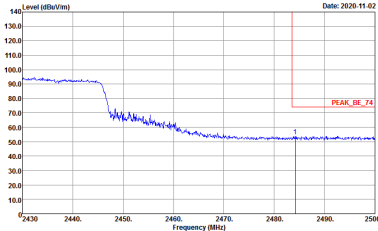
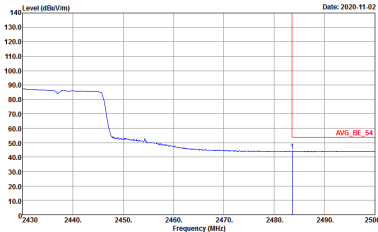


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
<p>Peak</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	<p>Left blank</p>

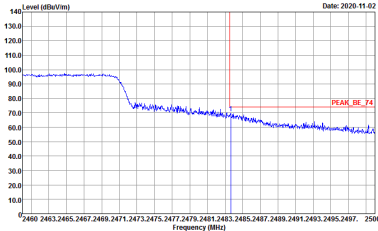
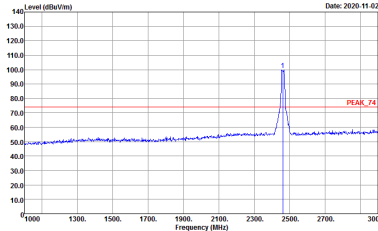
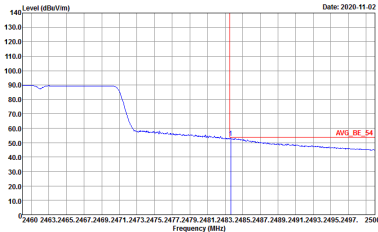
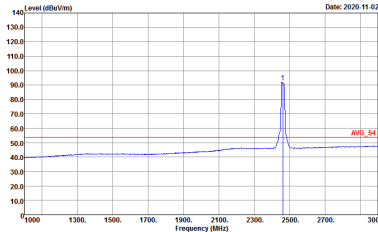


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>

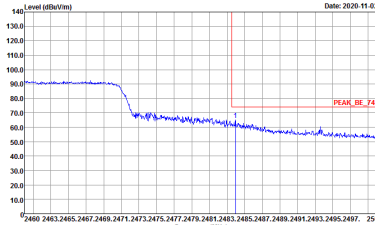
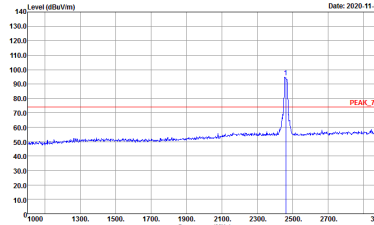
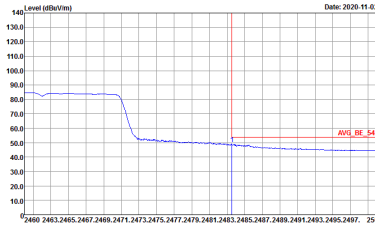
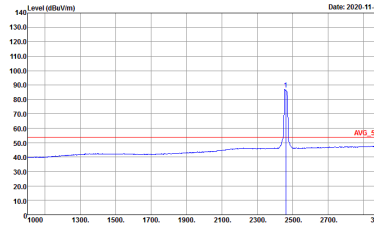


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
<p>Peak</p>	 <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	<p>Left Blank</p>
<p>Avg.</p>	 <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 8</p>	<p>Left Blank</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_BE_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>
Avg.	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_BE_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>	 <p>Date: 2020-11-02</p> <p>Site : 03CH13-HY Condition : AVG_54 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 091839 Mode : 9</p>



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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 1</p>	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 091839 Mode : 1</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH18-11Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : Z</p>	<p>Site : 03CH18-11Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : Z</p>



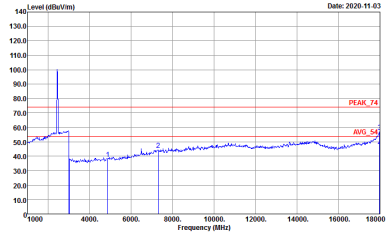
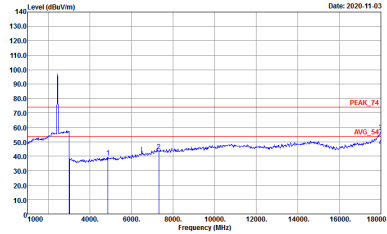
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-11Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 3</p>	<p>Site : 03CH11-11Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 3</p>



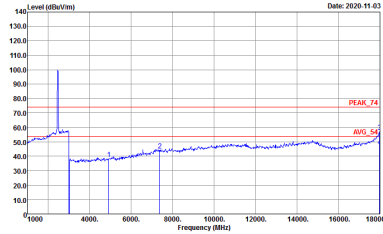
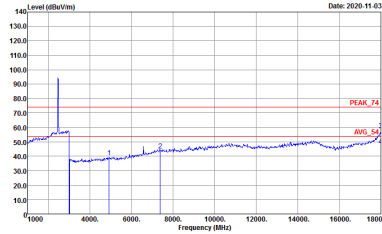
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 4</p>	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 4</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH18-14Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 5</p>	 <p>Site : 03CH18-14Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 5</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH11:14Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 6</p>	 <p>Site : 03CH11:14Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 6</p>



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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 7</p>	<p>Site : 03CH13-HY Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 7</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CHE13-11Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : S</p>	<p>Site : 03CHE13-11Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : S</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-11Y Condition : PEAK_74 3m HORN_9120D_1241 HORIZONTAL Detector : Peak Project : 091839 Mode : 9</p>	<p>Site : 03CH11-11Y Condition : PEAK_74 3m HORN_9120D_1241 VERTICAL Detector : Peak Project : 091839 Mode : 9</p>



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

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 SHF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH13-HY Condition : PEAK_74 In SHF HORN BBHA9170584 HORIZONTAL Detector : Peak Project : 091839</p>	<p>Site : 03CH13-HY Condition : PEAK_74 In SHF HORN BBHA9170584 VERTICAL Detector : Peak Project : 091839</p>



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

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH13-HY Condition : QP 3m BIL06_40103 HORIZONTAL Detector : Peak Project : 091839 Mode : 11</p>	<p>Site : 03CH13-HY Condition : QP 3m BIL06_40103 VERTICAL Detector : Peak Project : 091839 Mode : 11</p>



Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
802.11b	98.76	-	-	10Hz	0.05
802.11g	92.95	1385	0.72	1kHz	0.32
2.4GHz 802.11n HT20	92.09	1280	0.78	1kHz	0.36

