



FCC RADIO TEST REPORT

FCC ID : PKRISGM2000B
Equipment : Wireless Hotspot Modem
Brand Name : Inseego
Model Name : M2000B
Marketing Name : M2000
Applicant : Inseego Corporation
9710 Scranton Road Suite 200, San Diego, CA 92121
Manufacturer : Inseego Corporation
9710 Scranton Road Suite 200, San Diego, CA 92121
Standard : FCC Part 15 Subpart C §15.247

The product was received on Jul. 30, 2020 and testing was started from Aug. 14, 2020 and completed on Sep. 14, 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 variant 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.

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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History of this test report

Report No.	Version	Description	Issued Date
FR041658A	01	Initial issue of report	Sep. 22, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.247(a)(2)	6dB Bandwidth	Not Required	-
-	2.1049	99% Occupied Bandwidth	Not Required	-
3.1	15.247(b)	Power Output Measurement	Pass	-
-	15.247(e)	Power Spectral Density	Not Required	-
-	15.247(d)	Conducted Band Edges	Not Required	-
		Conducted Spurious Emission	Not Required	-
3.2	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 1.75 dB at 2483.530 MHz
3.3	15.207	AC Conducted Emission	Pass	Under limit 13.69 dB at 0.157 MHz
3.4	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Note:

- Not required means after assessing, test items are not necessary to carry out.
- This is a variant report, please refer to the Declaration of Similarity Letter provided by the applicant for the deviation against its parent model. All the test cases were performed on original report which can be referred to Sporton Report Number FR041657A as appendix G. Based on the original report, the test cases were verified.

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: Cindy Liu



1 General Description

1.1 Product Feature of Equipment Under Test

WCDMA/LTE/5G NR, Wi-Fi 2.4GHz 802.11b/g/n/ax, Wi-Fi 5GHz 802.11a/n/ac/ax, and GNSS.

Product Specification subjective to this standard	
Antenna Type	WWAN: Fixed Internal Antenna WLAN: <Ant. 0> Fixed Internal Antenna <Ant. 1> Fixed Internal Antenna GPS: Fixed Internal Antenna

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	CO05-HY

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

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.	
	03CH15-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.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ 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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

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

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0

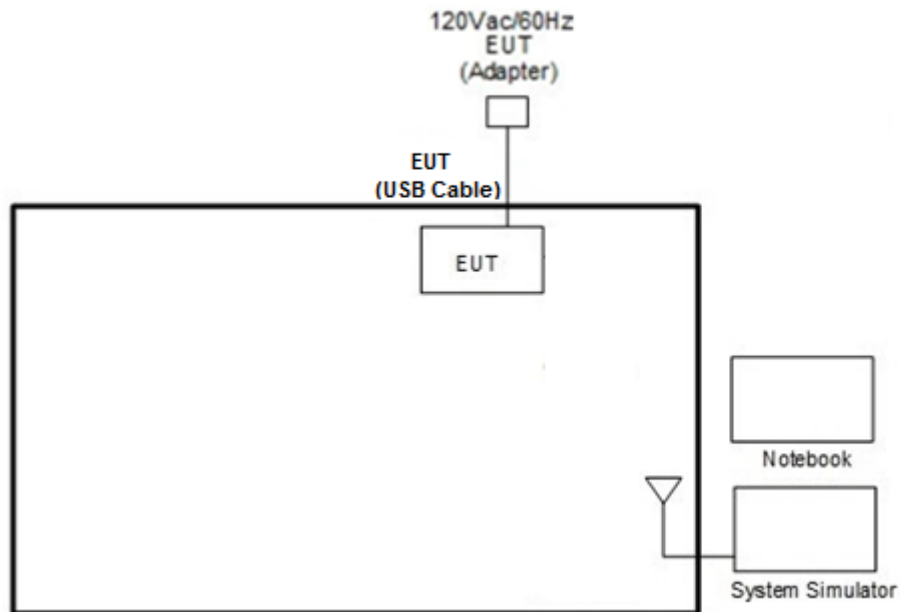
Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band V Idle + WLAN (2.4GHz) Link + Battery 1 + USB Cable (Charging from Adapter)
Remark: For Radiated Test Cases, the tests were performed with Battery 2	

Ch. #	2400-2483.5 MHz
	802.11ax HE40
Low	03
Middle	-
High	09

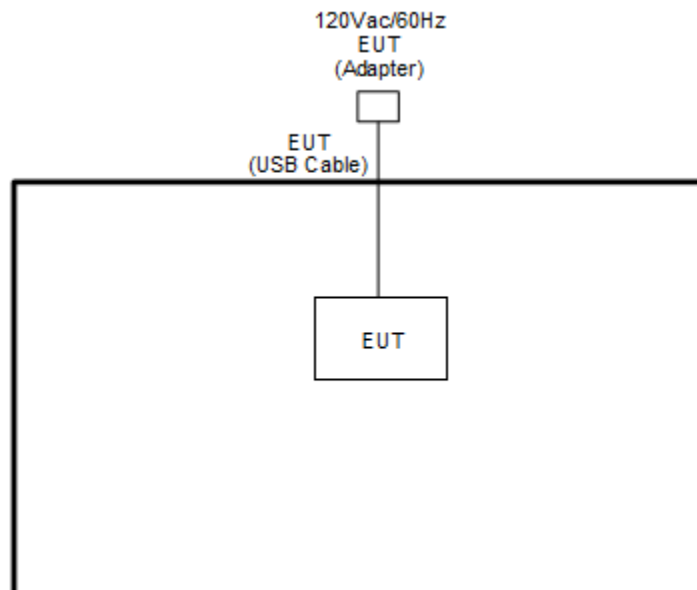
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power, the worst mode of WLAN and LTE for simultaneous transmission were verified and compliant.

2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>





2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT V4.0.00142.0” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 Output Power Measurement

3.1.1 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.

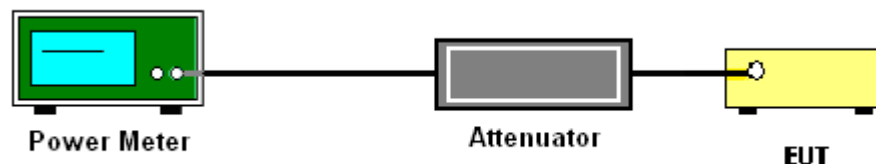
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 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.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.1.4 Test Setup



3.1.5 Test Result of Average Output Power

Please refer to Appendix A.



3.2 Radiated Band Edges and Spurious Emission Measurement

3.2.1 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

3.2.2 Measuring Instruments

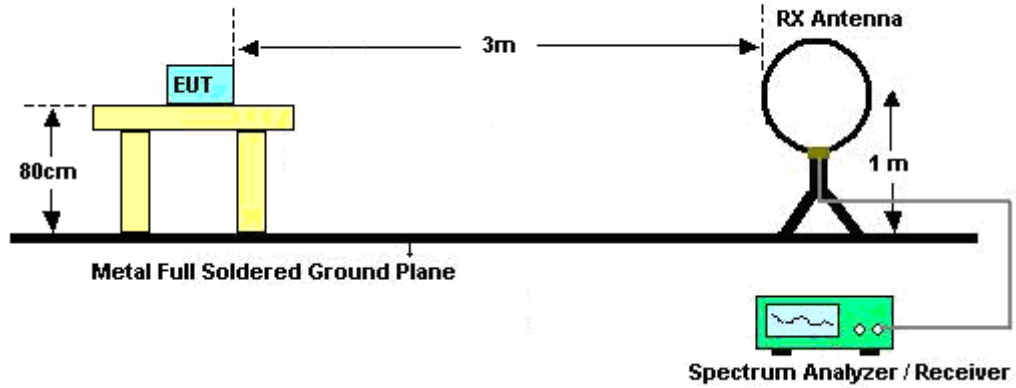
See list of measuring equipment of this test report.

3.2.3 Test Procedures

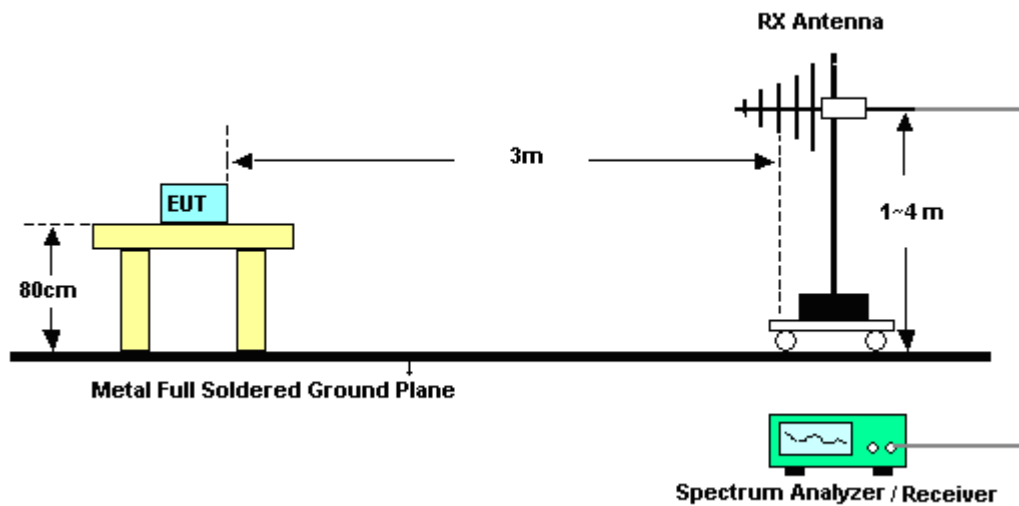
1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the 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.

3.2.4 Test Setup

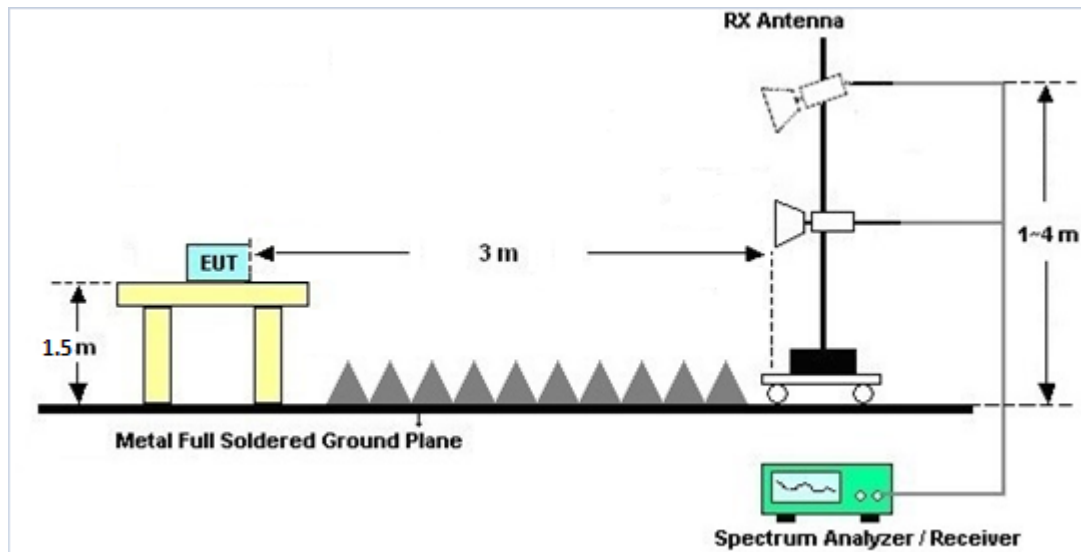
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.2.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.3 AC Conducted Emission Measurement

3.3.1 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.

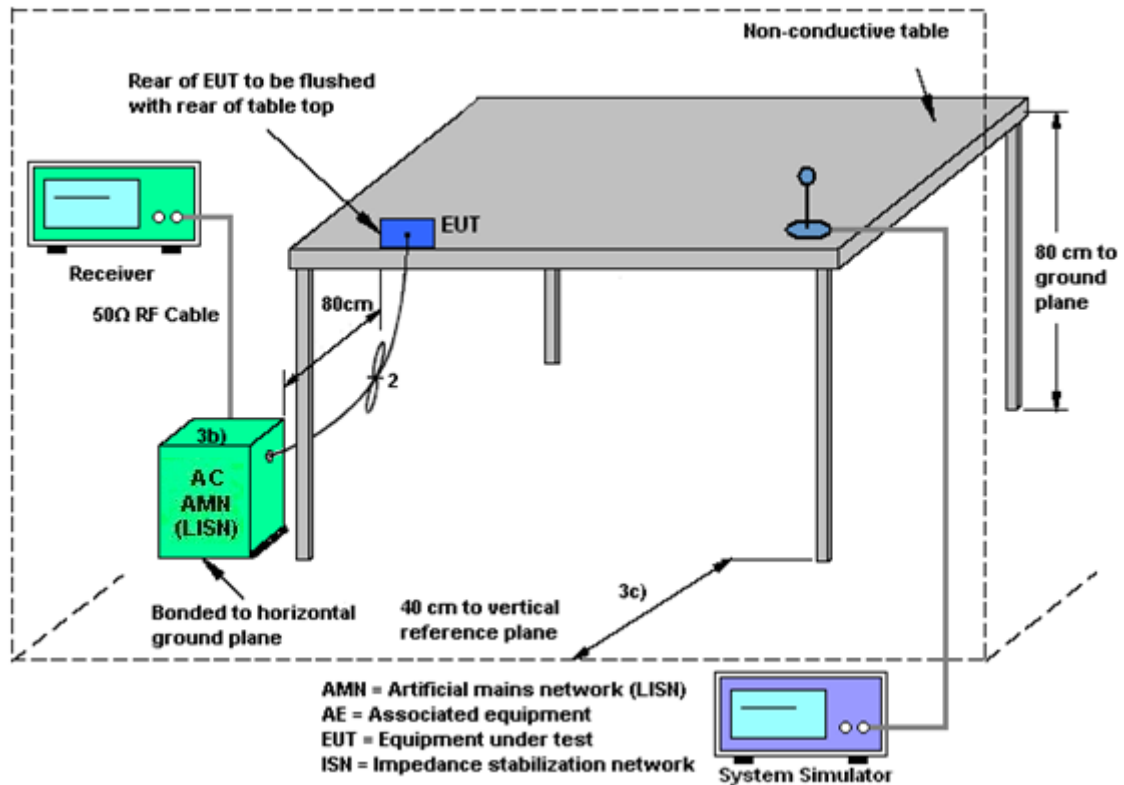
3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.4 Antenna Requirements

3.4.1 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.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 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	Jan. 09, 2020	Sep. 13, 2020~ Sep. 14, 2020	Jan. 08, 2021	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&008 00N1D01N-06	41912&05	30MHz to 1GHz	Feb. 09, 2020	Sep. 13, 2020~ Sep. 14, 2020	Feb. 08, 2021	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2019	Sep. 13, 2020~ Sep. 14, 2020	Dec. 26, 2020	Radiation (03CH15-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1620	1-18GHz	Oct. 28, 2019	Sep. 13, 2020~ Sep. 14, 2020	Oct. 27, 2020	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZB ECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Dec. 10, 2019	Sep. 13, 2020~ Sep. 14, 2020	Dec. 09, 2020	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-30 3	17100018000 55006	1GHz~18GHz	May 07, 2020	Sep. 13, 2020~ Sep. 14, 2020	May 06, 2021	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 21, 2020	Sep. 13, 2020~ Sep. 14, 2020	Aug. 20, 2021	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Sep. 13, 2020~ Sep. 14, 2020	Dec. 12, 2020	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Nov. 01, 2019	Sep. 13, 2020~ Sep. 14, 2020	Oct. 31, 2020	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	May 04, 2020	Sep. 13, 2020~ Sep. 14, 2020	May 03, 2021	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Sep. 13, 2020~ Sep. 14, 2020	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Sep. 13, 2020~ Sep. 14, 2020	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Sep. 13, 2020~ Sep. 14, 2020	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36980/4	30M-18G	Apr. 14, 2020	Sep. 13, 2020~ Sep. 14, 2020	Apr. 13, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9838/4PE	30M-18G	Apr. 14, 2020	Sep. 13, 2020~ Sep. 14, 2020	Apr. 13, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY37710/4	30M-18G	Apr. 17, 2020	Sep. 13, 2020~ Sep. 14, 2020	Apr. 16, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 25, 2020	Sep. 13, 2020~ Sep. 14, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 25, 2020	Sep. 13, 2020~ Sep. 14, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 12, 2020	Sep. 13, 2020~ Sep. 14, 2020	Mar. 11, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-15 30-8000-40SS	SN4	1.53G Low Pass	Jul. 03, 2020	Sep. 13, 2020~ Sep. 14, 2020	Jul. 02, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700- 3000-18000-60 ST	SN4	3GHz High Pass Filter	Sep. 17, 2019	Sep. 13, 2020~ Sep. 14, 2020	Sep. 16, 2020	Radiation (03CH15-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	Sep. 01, 2020~ Sep. 11, 2020	Mar. 01, 2021	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 10	10MHz~6GHz	Dec. 23, 2019	Sep. 01, 2020~ Sep. 11, 2020	Dec. 22, 2020	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 15, 2019	Sep. 01, 2020~ Sep. 11, 2020	Nov. 14, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Dec. 30, 2019	Sep. 01, 2020~ Sep. 11, 2020	Dec. 29, 2020	Conducted (TH05-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2020	Sep. 01, 2020~ Sep. 11, 2020	Mar. 16, 2021	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Aug. 14, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	Aug. 14, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 07, 2019	Aug. 14, 2020	Nov. 06, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	Aug. 14, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Aug. 14, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	Aug. 14, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	Aug. 14, 2020	Jan. 01, 2021	Conduction (CO05-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Amber Cheng / Kai Liao	Temperature:	21~25	°C
Test Date:	2020/9/01 ~ 9/11	Relative Humidity:	51~54	%

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
					Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
11b	1Mbps	1	1	2412	13.50	13.50		30.00	30.00	1.50	2.90	15.00	16.40	36.00	36.00	Pass
11b	1Mbps	1	6	2437	13.30	13.10		30.00	30.00	1.50	2.90	14.80	16.00	36.00	36.00	Pass
11b	1Mbps	1	11	2462	13.30	13.00		30.00	30.00	1.50	2.90	14.80	15.90	36.00	36.00	Pass
11g	6Mbps	1	1	2412	13.20	13.10		30.00	30.00	1.50	2.90	14.70	16.00	36.00	36.00	Pass
11g	6Mbps	1	6	2437	13.10	13.00		30.00	30.00	1.50	2.90	14.60	15.90	36.00	36.00	Pass
11g	6Mbps	1	11	2462	13.00	13.00		30.00	30.00	1.50	2.90	14.50	15.90	36.00	36.00	Pass
HT20	MCS0	1	1	2412	13.40	13.30		30.00	30.00	1.50	2.90	14.90	16.20	36.00	36.00	Pass
HT20	MCS0	1	6	2437	13.40	13.00		30.00	30.00	1.50	2.90	14.90	15.90	36.00	36.00	Pass
HT20	MCS0	1	11	2462	13.20	13.00		30.00	30.00	1.50	2.90	14.70	15.90	36.00	36.00	Pass
HT40	MCS0	1	3	2422	11.20	11.10		30.00	30.00	1.50	2.90	12.70	14.00	36.00	36.00	Pass
HT40	MCS0	1	6	2437	11.30	11.10		30.00	30.00	1.50	2.90	12.80	14.00	36.00	36.00	Pass
HT40	MCS0	1	9	2452	11.20	10.90		30.00	30.00	1.50	2.90	12.70	13.80	36.00	36.00	Pass

2.4GHz Band MIMO																
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
					Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
11b	1Mbps	2	1	2412	13.80	13.70	16.76	30.00		2.90		19.66		36.00		Pass
11b	1Mbps	2	6	2437	13.50	13.20	16.36	30.00		2.90		19.26		36.00		Pass
11b	1Mbps	2	11	2462	13.50	13.10	16.31	30.00		2.90		19.21		36.00		Pass
11g	6Mbps	2	1	2412	13.30	13.20	16.26	30.00		2.90		19.16		36.00		Pass
11g	6Mbps	2	6	2437	13.30	13.20	16.26	30.00		2.90		19.16		36.00		Pass
11g	6Mbps	2	11	2462	13.20	13.10	16.16	30.00		2.90		19.06		36.00		Pass
HT20	MCS0	2	1	2412	13.50	13.50	16.51	30.00		2.90		19.41		36.00		Pass
HT20	MCS0	2	6	2437	13.50	13.30	16.41	30.00		2.90		19.31		36.00		Pass
HT20	MCS0	2	11	2462	13.40	13.40	16.41	30.00		2.90		19.31		36.00		Pass
HT40	MCS0	2	3	2422	11.30	11.20	14.26	30.00		2.90		17.16		36.00		Pass
HT40	MCS0	2	6	2437	11.40	11.20	14.31	30.00		2.90		17.21		36.00		Pass
HT40	MCS0	2	9	2452	11.50	11.00	14.27	30.00		2.90		17.17		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band Single Antenna																	
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
HE20	MCS0	1	1	2412	Full	13.50	13.50		30.00	30.00	1.50	2.90	15.00	16.40	36.00	36.00	Pass
HE20	MCS0	1	1	2412	26/0	4.70	5.00		30.00	30.00	1.50	2.90	6.20	7.90	36.00	36.00	Pass
HE20	MCS0	1	1	2412	52/37	6.40	6.80		30.00	30.00	1.50	2.90	7.90	9.70	36.00	36.00	Pass
HE20	MCS0	1	1	2412	106/53	9.90	9.90		30.00	30.00	1.50	2.90	11.40	12.80	36.00	36.00	Pass
HE20	MCS0	1	6	2437	Full	13.50	13.10		30.00	30.00	1.50	2.90	15.00	16.00	36.00	36.00	Pass
HE20	MCS0	1	6	2437	26/4	5.40	5.10		30.00	30.00	1.50	2.90	6.90	8.00	36.00	36.00	Pass
HE20	MCS0	1	11	2462	Full	13.30	13.20		30.00	30.00	1.50	2.90	14.80	16.10	36.00	36.00	Pass
HE20	MCS0	1	11	2462	26/8	4.60	5.00		30.00	30.00	1.50	2.90	6.10	7.90	36.00	36.00	Pass
HE20	MCS0	1	11	2462	52/40	5.20	5.40		30.00	30.00	1.50	2.90	6.70	8.30	36.00	36.00	Pass
HE20	MCS0	1	11	2462	106/54	9.10	9.50		30.00	30.00	1.50	2.90	10.60	12.40	36.00	36.00	Pass
HE40	MCS0	1	3	2422	Full	11.60	11.30		30.00	30.00	1.50	2.90	13.10	14.20	36.00	36.00	Pass
HE40	MCS0	1	3	2422	242/61	8.60	8.80		30.00	30.00	1.50	2.90	10.10	11.70	36.00	36.00	Pass
HE40	MCS0	1	6	2437	Full	11.40	11.30		30.00	30.00	1.50	2.90	12.90	14.20	36.00	36.00	Pass
HE40	MCS0	1	9	2452	Full	11.30	11.00		30.00	30.00	1.50	2.90	12.80	13.90	36.00	36.00	Pass
HE40	MCS0	1	9	2452	242/62	8.40	8.50		30.00	30.00	1.50	2.90	9.90	11.40	36.00	36.00	Pass

2.4GHz Band MIMO																	
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
						Ant0	Ant1	SUM	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	
HE20	MCS0	2	1	2412	Full	13.60	13.60	16.61	30.00		2.90		19.51		36.00		Pass
HE20	MCS0	2	1	2412	26/0	4.80	5.20	8.01	30.00		2.90		10.91		36.00		Pass
HE20	MCS0	2	1	2412	52/37	6.70	7.00	9.86	30.00		2.90		12.76		36.00		Pass
HE20	MCS0	2	1	2412	106/53	10.00	10.10	13.06	30.00		2.90		15.96		36.00		Pass
HE20	MCS0	2	6	2437	Full	13.60	13.50	16.56	30.00		2.90		19.46		36.00		Pass
HE20	MCS0	2	6	2437	26/4	5.70	5.20	8.47	30.00		2.90		11.37		36.00		Pass
HE20	MCS0	2	11	2462	Full	13.80	13.50	16.66	30.00		2.90		19.56		36.00		Pass
HE20	MCS0	2	11	2462	26/8	4.90	5.20	8.06	30.00		2.90		10.96		36.00		Pass
HE20	MCS0	2	11	2462	52/40	5.30	5.50	8.41	30.00		2.90		11.31		36.00		Pass
HE20	MCS0	2	11	2462	106/54	9.50	9.80	12.66	30.00		2.90		15.56		36.00		Pass
HE40	MCS0	2	3	2422	Full	11.70	11.70	14.71	30.00		2.90		17.61		36.00		Pass
HE40	MCS0	2	3	2422	242/61	8.70	8.90	11.81	30.00		2.90		14.71		36.00		Pass
HE40	MCS0	2	6	2437	Full	11.50	11.40	14.46	30.00		2.90		17.36		36.00		Pass
HE40	MCS0	2	9	2452	Full	11.60	11.10	14.37	30.00		2.90		17.27		36.00		Pass
HE40	MCS0	2	9	2452	242/62	8.40	8.60	11.51	30.00		2.90		14.41		36.00		Pass

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



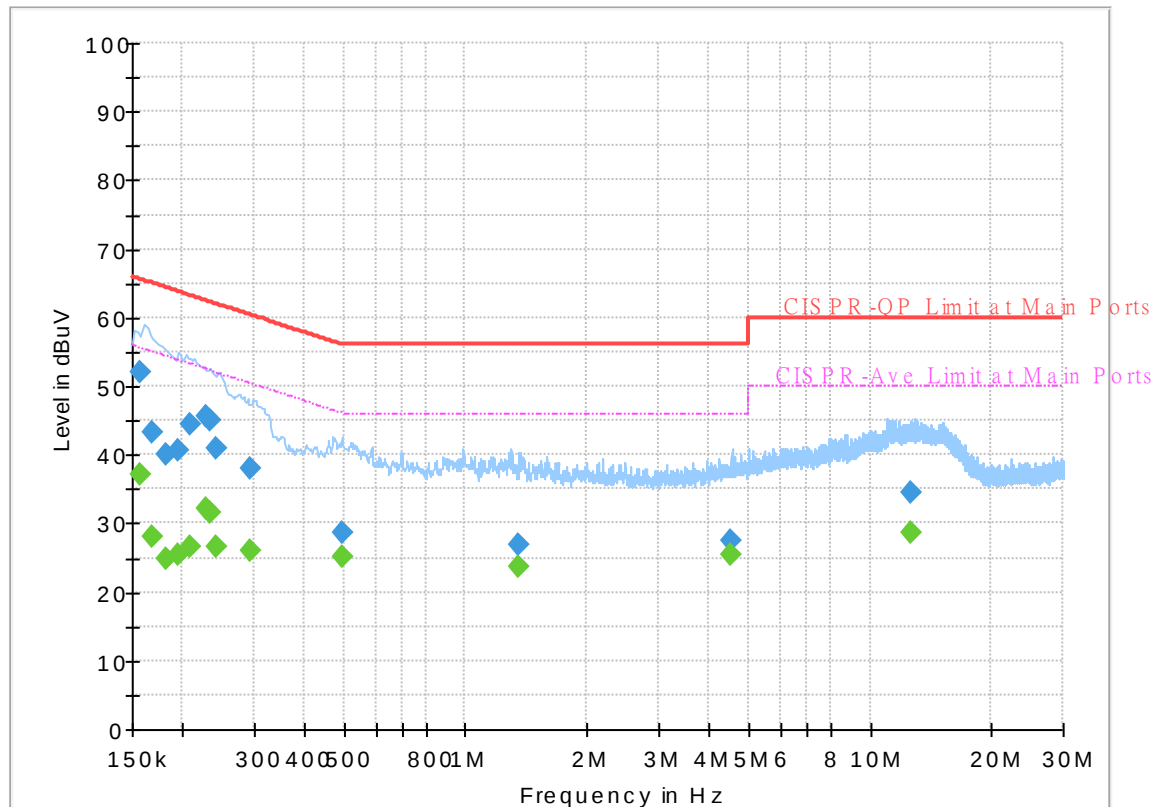
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Howard Huang	Temperature :	23~25℃
		Relative Humidity :	42~45%

EUT Information

Report NO : 041658
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



Final_Result

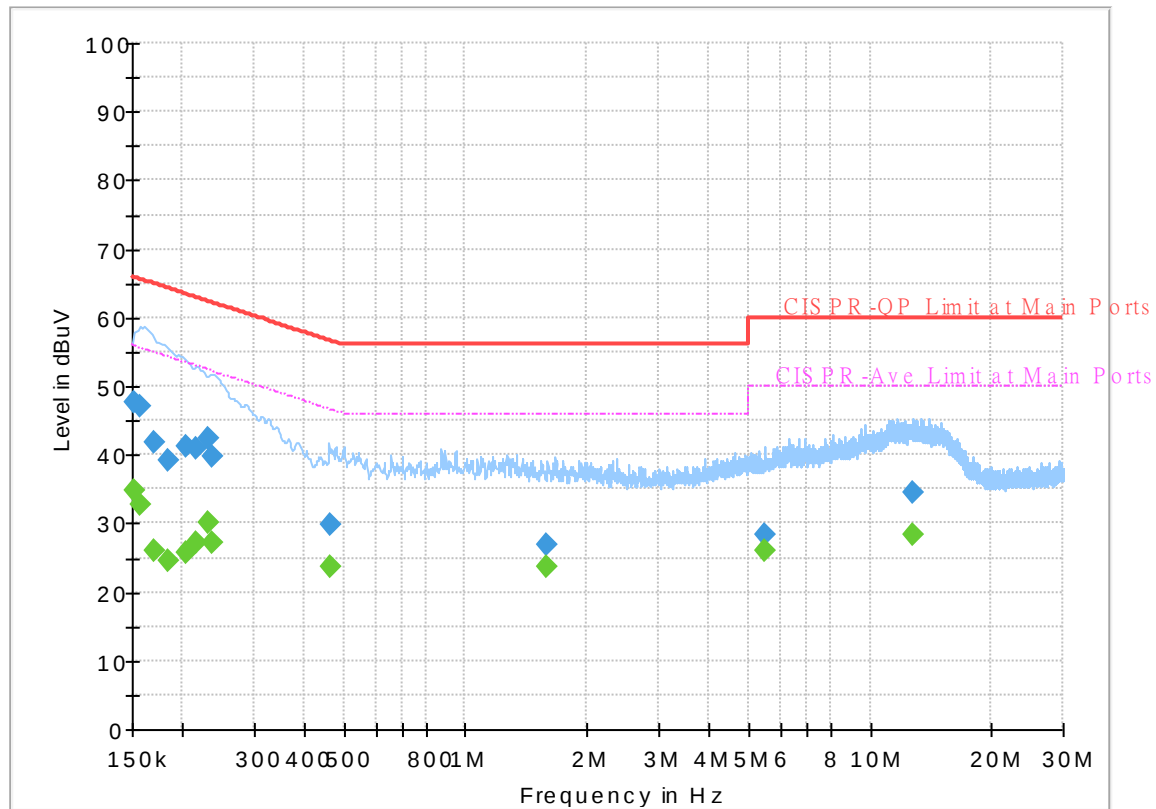
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	37.24	55.63	18.39	L1	OFF	19.6
0.156750	51.94	---	65.63	13.69	L1	OFF	19.6
0.168000	---	28.02	55.06	27.04	L1	OFF	19.6
0.168000	43.39	---	65.06	21.67	L1	OFF	19.6
0.182130	---	24.91	54.39	29.48	L1	OFF	19.6
0.182130	40.05	---	64.39	24.34	L1	OFF	19.6
0.194640	---	25.37	53.84	28.47	L1	OFF	19.6
0.194640	40.58	---	63.84	23.26	L1	OFF	19.6
0.208500	---	26.69	53.27	26.58	L1	OFF	19.6
0.208500	44.30	---	63.27	18.97	L1	OFF	19.6
0.228750	---	32.05	52.50	20.45	L1	OFF	19.6
0.228750	45.75	---	62.50	16.75	L1	OFF	19.6
0.234150	---	31.44	52.30	20.86	L1	OFF	19.6
0.234150	44.88	---	62.30	17.42	L1	OFF	19.6
0.242250	---	26.57	52.02	25.45	L1	OFF	19.6
0.242250	40.87	---	62.02	21.15	L1	OFF	19.6
0.294000	---	26.07	50.41	24.34	L1	OFF	19.6
0.294000	38.05	---	60.41	22.36	L1	OFF	19.6
0.498750	---	25.13	46.02	20.89	L1	OFF	19.6
0.498750	28.52	---	56.02	27.50	L1	OFF	19.6
1.349250	---	23.56	46.00	22.44	L1	OFF	19.6

1.349250	26.91	---	56.00	29.09	L1	OFF	19.6
4.548750	---	25.52	46.00	20.48	L1	OFF	19.8
4.548750	27.49	---	56.00	28.51	L1	OFF	19.8
12.588000	---	28.57	50.00	21.43	L1	OFF	20.2
12.588000	34.49	---	60.00	25.51	L1	OFF	20.2

EUT Information

Report NO : 041658
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.151485	---	34.74	55.92	21.18	N	OFF	19.5
0.151485	47.67	---	65.92	18.25	N	OFF	19.5
0.156750	---	32.87	55.63	22.76	N	OFF	19.5
0.156750	47.14	---	65.63	18.49	N	OFF	19.5
0.170250	---	25.93	54.95	29.02	N	OFF	19.5
0.170250	41.84	---	64.95	23.11	N	OFF	19.5
0.183750	---	24.68	54.31	29.63	N	OFF	19.5
0.183750	39.30	---	64.31	25.01	N	OFF	19.5
0.203010	---	25.60	53.49	27.89	N	OFF	19.5
0.203010	41.15	---	63.49	22.34	N	OFF	19.5
0.215700	---	27.30	52.98	25.68	N	OFF	19.5
0.215700	40.98	---	62.98	22.00	N	OFF	19.5
0.231000	---	30.06	52.41	22.35	N	OFF	19.5
0.231000	42.32	---	62.41	20.09	N	OFF	19.5
0.237750	---	27.12	52.17	25.05	N	OFF	19.5
0.237750	39.69	---	62.17	22.48	N	OFF	19.5
0.465000	---	23.73	46.60	22.87	N	OFF	19.5
0.465000	29.77	---	56.60	26.83	N	OFF	19.5
1.594770	---	23.60	46.00	22.40	N	OFF	19.6
1.594770	27.03	---	56.00	28.97	N	OFF	19.6
5.492670	---	26.02	50.00	23.98	N	OFF	19.7

5.492670	28.50	---	60.00	31.50	N	OFF	19.7
12.707250	---	28.39	50.00	21.61	N	OFF	19.9
12.707250	34.64	---	60.00	25.36	N	OFF	19.9



Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Lee, Mancy Chou and Bigshow	Temperature :	22~24°C
		Relative Humidity :	47~58%

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE40 Full (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE40 Full CH 09 2452MHz		2373.07	57.32	-16.68	74	43.07	27.86	17.31	30.92	110	42	P	H
		2390	45.45	-8.55	54	31.26	27.76	17.35	30.92	110	42	A	H
	*	2452	109.16	-	-	94.99	27.6	17.46	30.89	110	42	P	H
	*	2452	99.32	-	-	85.15	27.6	17.46	30.89	110	42	A	H
		2484.52	63.73	-10.27	74	49.56	27.53	17.52	30.88	110	42	P	H
		2483.53	52.25	-1.75	54	38.08	27.53	17.52	30.88	110	42	A	H
		2352.84	56.58	-17.42	74	42.26	27.98	17.27	30.93	400	183	P	V
		2338.05	45.3	-8.7	54	30.98	28.02	17.24	30.94	400	183	A	V
	*	2452	107.07	-	-	92.9	27.6	17.46	30.89	400	183	P	V
	*	2452	97.06	-	-	82.89	27.6	17.46	30.89	400	183	A	V
		2483.8	62.69	-11.31	74	48.52	27.53	17.52	30.88	400	183	P	V
		2483.53	51.32	-2.68	54	37.15	27.53	17.52	30.88	400	183	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 802.11 ax HE40 Full (Harmonic @ 3m)**

WIFI Ant. 0+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)
802.11ax HE40 Full CH 09 2452MHz		4904	40.97	-33.03	74	58.14	31.22	10.75	59.14	100	0	P	H
		7356	45.51	-28.49	74	54.81	36.58	12.62	58.5	100	0	P	H
													H
													H
		4904	40.08	-33.92	74	57.25	31.22	10.75	59.14	100	0	P	V
		7356	45.56	-28.44	74	54.86	36.58	12.62	58.5	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**2.4GHz 2400~2483.5MHz****WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)**

WIFI Ant. 0+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)
802.11ax HE40 Partial 242/61 CH 03 2422MHz		2388.03	57.59	-16.41	74	43.4	27.77	17.34	30.92	110	317	P	H
		2390	45.78	-8.22	54	31.59	27.76	17.35	30.92	110	317	A	H
	*	2422	108.31	-	-	94.14	27.66	17.41	30.9	110	317	P	H
	*	2422	98.2	-	-	84.03	27.66	17.41	30.9	110	317	A	H
		2488.21	56.72	-17.28	74	42.54	27.52	17.53	30.87	110	317	P	H
		2483.8	45.18	-8.82	54	31.01	27.53	17.52	30.88	110	317	A	H
		2388.37	56.94	-17.06	74	42.75	27.77	17.34	30.92	371	184	P	V
		2389.56	45.3	-8.7	54	31.11	27.76	17.35	30.92	371	184	A	V
	*	2422	107.16	-	-	92.99	27.66	17.41	30.9	371	184	P	V
	*	2422	96.86	-	-	82.69	27.66	17.41	30.9	371	184	A	V
		2490.1	56.42	-17.58	74	42.24	27.52	17.53	30.87	371	184	P	V
		2487.22	45.11	-8.89	54	30.94	27.53	17.52	30.88	371	184	A	V



Emission below 1GHz

2.4GHz WIFI 802.11ax HE40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11ax HE40 LF		79.47	26.57	-13.43	40	44.32	13.57	1.2	32.52	-	-	P	H
		107.6	23.1	-20.4	43.5	37.18	16.84	1.41	32.33	-	-	P	H
		162.89	24.05	-19.45	43.5	38.2	16.49	1.77	32.41	-	-	P	H
		197.81	22.6	-20.9	43.5	37.85	15.13	2	32.38	-	-	P	H
		345.25	31.05	-14.95	46	40.97	20	2.53	32.45	-	-	P	H
		900.09	32.88	-13.12	46	31.98	28.56	4.3	31.96	100	0	P	H
													H
													H
													H
													H
													H
													H
		37.76	26.27	-13.73	40	37.31	20.51	0.79	32.34	-	-	P	V
		80.44	24.02	-15.98	40	41.62	13.7	1.2	32.5	-	-	P	V
		100.81	22.55	-20.95	43.5	37.15	16.32	1.36	32.28	-	-	P	V
		194.9	23.33	-20.17	43.5	38.69	15.04	1.98	32.38	-	-	P	V
		719.67	37.44	-8.56	46	39.24	26.88	3.74	32.42	-	-	P	V
		894.27	37.77	-8.23	46	36.86	28.57	4.28	31.94	100	0	P	V
													V
													V
													V
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													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.	
0+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”.



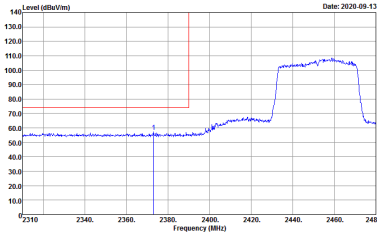
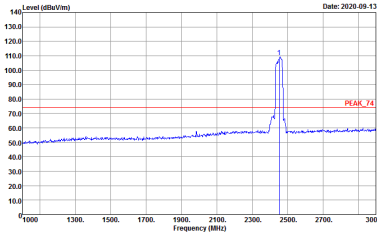
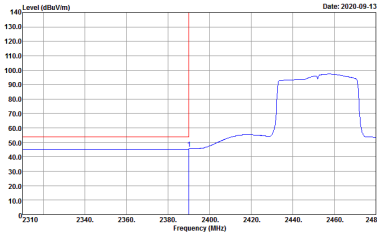
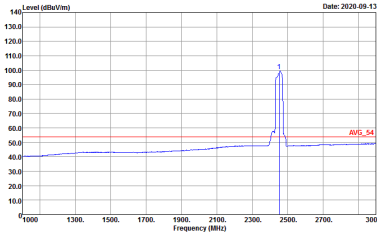
Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Leo Lee, Mancy Chou and Bigshow	Temperature :	22~24°C
		Relative Humidity :	47~58%

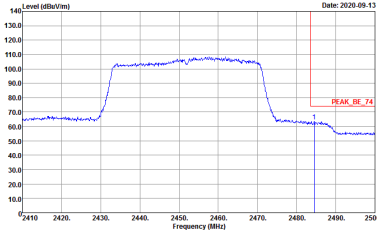
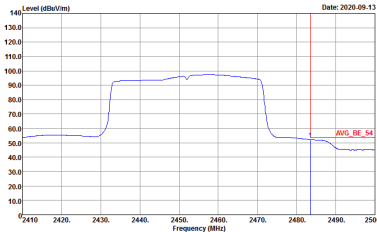
Note symbol

-L	Low channel location
-R	High channel location

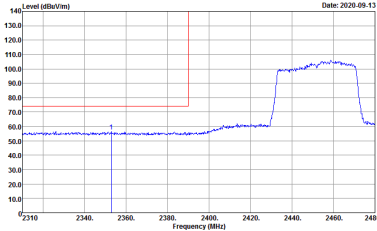
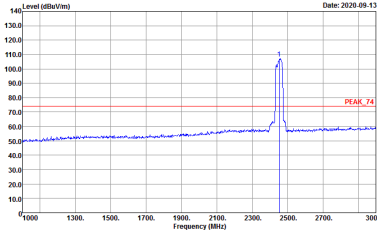
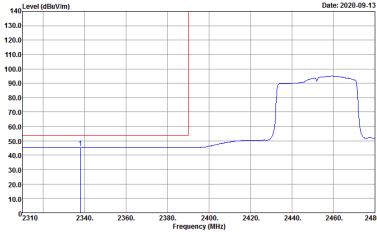
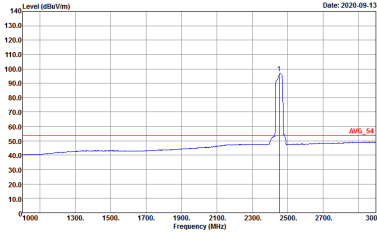
2.4GHz 2400~2483.5MHz
WIFI 802.11ax HE40 Full (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH09 2452MHz - L	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL Detector : Peak Project : 041658
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : AVG_54 3m 91200_15_1620 HORIZONTAL Detector : Peak Project : 041658

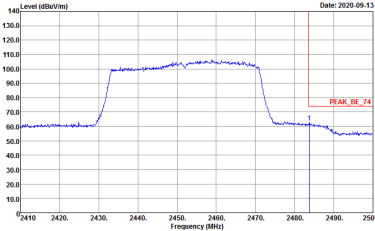
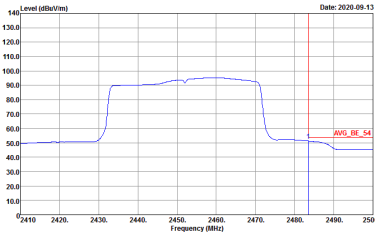


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH09 2452MHz - R	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH09 2452MHz - L	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658
	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : AVG_54 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658

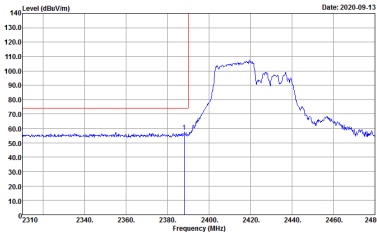
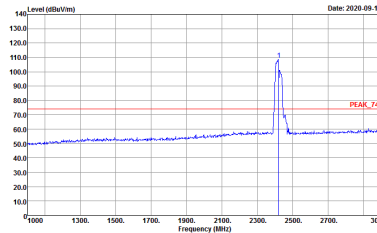
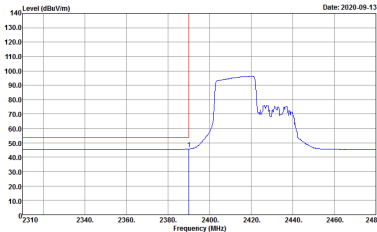
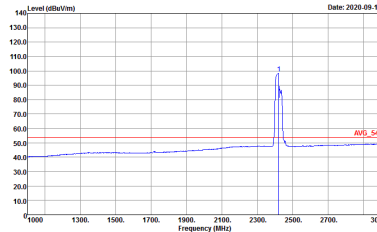


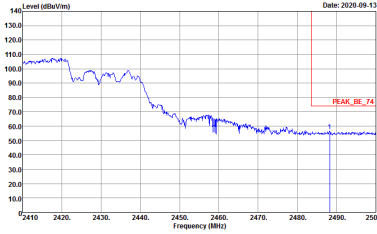
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH09 2452MHz - R	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	Left blank



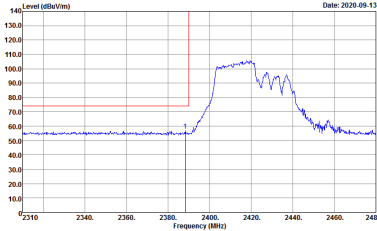
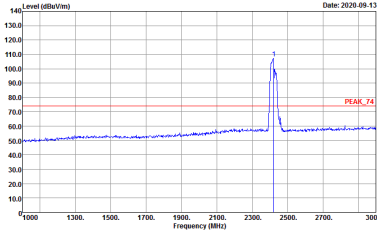
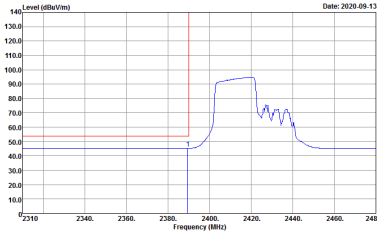
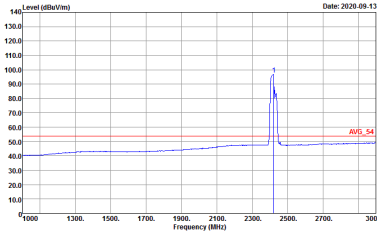
2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)

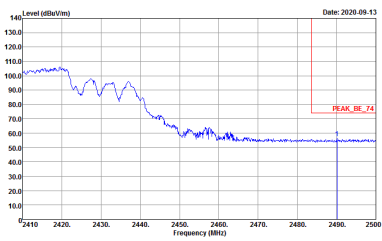
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH03 2422MHz - L	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : AVG_54 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH03 2422MHz - R	
0+1	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH03 2422MHz - L	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 041658
	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : AVG_54 3m 91200_15_1620 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 041658

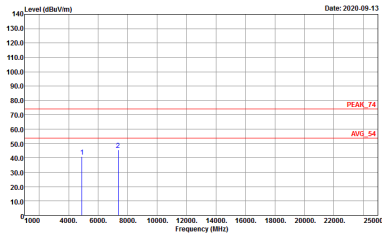
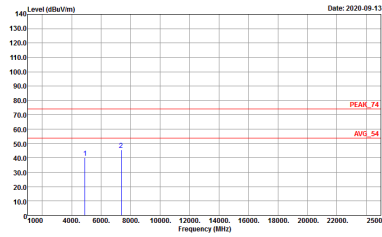


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE40 Partial 242/61 CH03 2422MHz - R	
0+1	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL Detector : Peak Project : 041658	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL Detector : Peak Project : 041658	Left blank



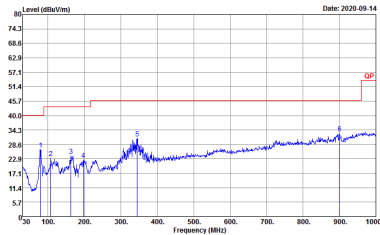
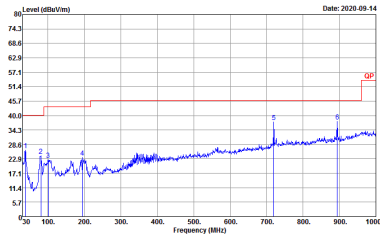
2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE40 Full (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11 ax HE40 Full CH09 2452MHz	
0+1	Horizontal	Vertical
Peak Avg.	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : PEAK_74 3m 91200_15_1620 VERTICAL Detector : Peak Project : 041658



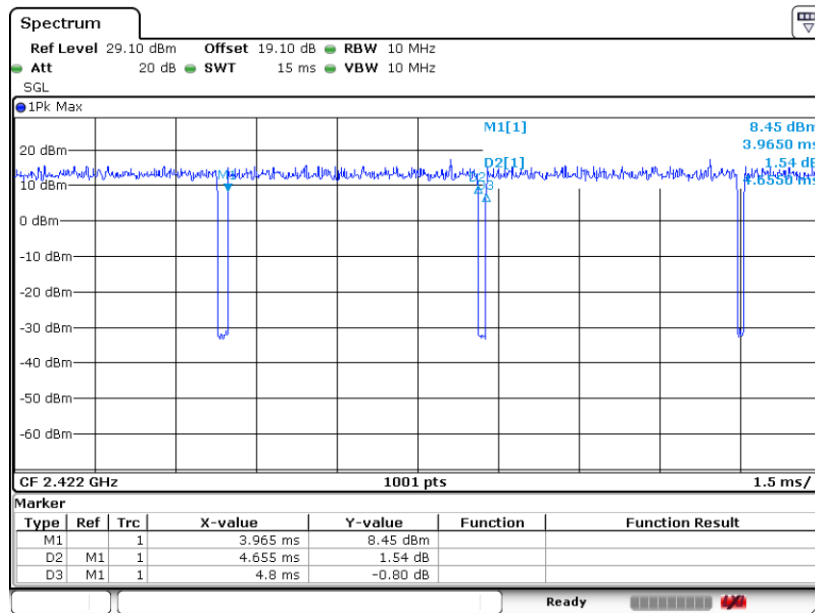
Emission below 18GHz
2.4GHz WIFI 802.11ax HE40 Full (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11ax HE40 Full LF	
0+1	Horizontal	Vertical
QP / Peak	 Site : 03CH15-HY Condition : QP 3m BILOG_15_41912 HORIZONTAL Detector : Peak Project : 041658	 Site : 03CH15-HY Condition : QP 3m BILOG_15_41912 VERTICAL Detector : Peak Project : 041658

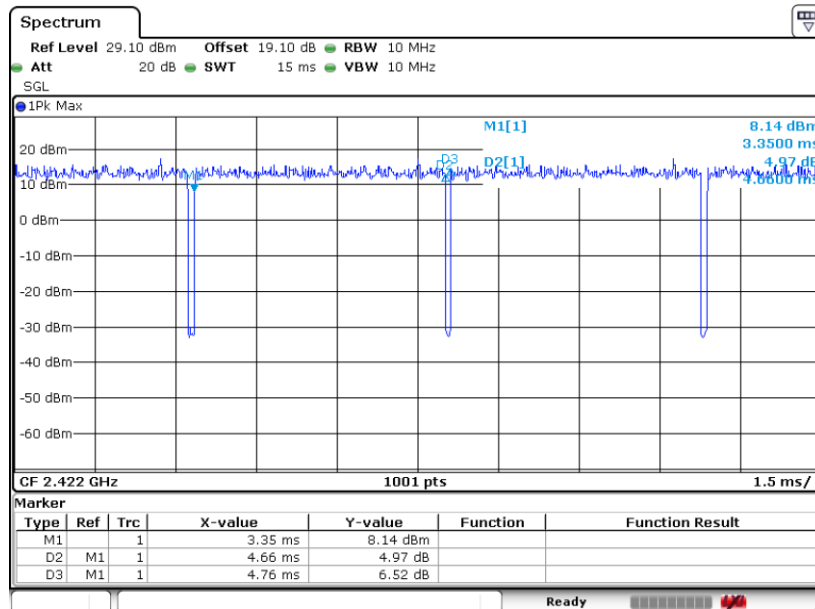


Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
0+1	802.11ax40 Full RU for Ant. 0	96.98	4655	0.21	300Hz	0.13
0+1	802.11ax40 Full RU for Ant. 1	97.90	4660	0.21	300Hz	0.09

**MIMO <Ant. 0>****802.11ax HE40 Full RU**

Date: 1.SEP.2020 19:09:39

MIMO <Ant. 1>**802.11ax HE40 Full RU**

Date: 1.SEP.2020 19:13:27