



FCC RADIO TEST REPORT

FCC ID : PPD-QCNFA435
Equipment : Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card
Brand Name : Qualcomm Atheros
Model Name : QCNFA435
Applicant : Qualcomm Atheros, Inc
1700 Technology Drive, San Jose, CA 95110
Manufacturer : Qualcomm Atheros, Inc
1700 Technology Drive, San Jose, CA 95110
Standard : FCC Part 15 Subpart C §15.247

The product was received on Jun. 27, 2018 and testing was started from Jul. 24, 2018 and completed on Aug. 04, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this partial 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: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Product Feature of Equipment Under Test.....	5
1.2 Modification of EUT	5
1.3 Testing Location	6
1.4 Applicable Standards.....	6
2 Test Configuration of Equipment Under Test	7
2.1 Carrier Frequency and Channel	7
2.2 Test Mode.....	7
2.3 Connection Diagram of Test System.....	8
2.4 Support Unit used in test configuration and system	8
2.5 EUT Operation Test Setup	8
3 Test Result	9
3.1 Output Power Measurement.....	9
3.2 Radiated Band Edges and Spurious Emission Measurement	10
3.3 Antenna Requirements.....	14
4 List of Measuring Equipment.....	15
5 Uncertainty of Evaluation	16
Appendix A. Conducted Test Results	
Appendix B. Radiated Spurious Emission	
Appendix C. Radiated Spurious Emission Plots	
Appendix D. Duty Cycle Plots	
Appendix E. Setup Photographs	



History of this test report

Report No.	Version	Description	Issued Date
FR862732C	01	Initial issue of report	Aug. 30, 2018



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(b)	Power Output Measurement	Pass	-
3.2	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 1.71 dB at 2483.600 MHz
3.3	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Reviewed by: Joseph Lin

Report Producer: Natasha Hsieh

1 General Description

1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, and Wi-Fi 5GHz 802.11a/n/ac

Product Specification subjective to this standard	
Sample 1	EUT with Host 1
Sample 2	EUT with Host 2

The product was installed into Portable Computer (Brand Name: DELL, Model Name: P77F) during test, and the host information was recorded in the following table.

Host Information	
Host 1	Host with WNC Antenna
Host 2	Host with HB Antenna

Antenna Information								
Mode	Manufacturer	Antenna type	Antenna	2.4G	5G B1	5G B2	5G B3	5G B4
Notebook	HB	PIFA	1(main)	0.72	-2.24	-3.79	-0.4	0.84
			2(aux)	-2.07	-4.02	-2.29	0.98	0.98
	WNC	PIFA	1(main)	-3.86	-1.92	-0.86	-3.04	-2.23
			2(aux)	-3.88	-3.41	-3.03	-0.97	-0.97

1.2 Modification of EUT

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



1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
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	03CH07-HY

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

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 v04
- ♦ ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

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).

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

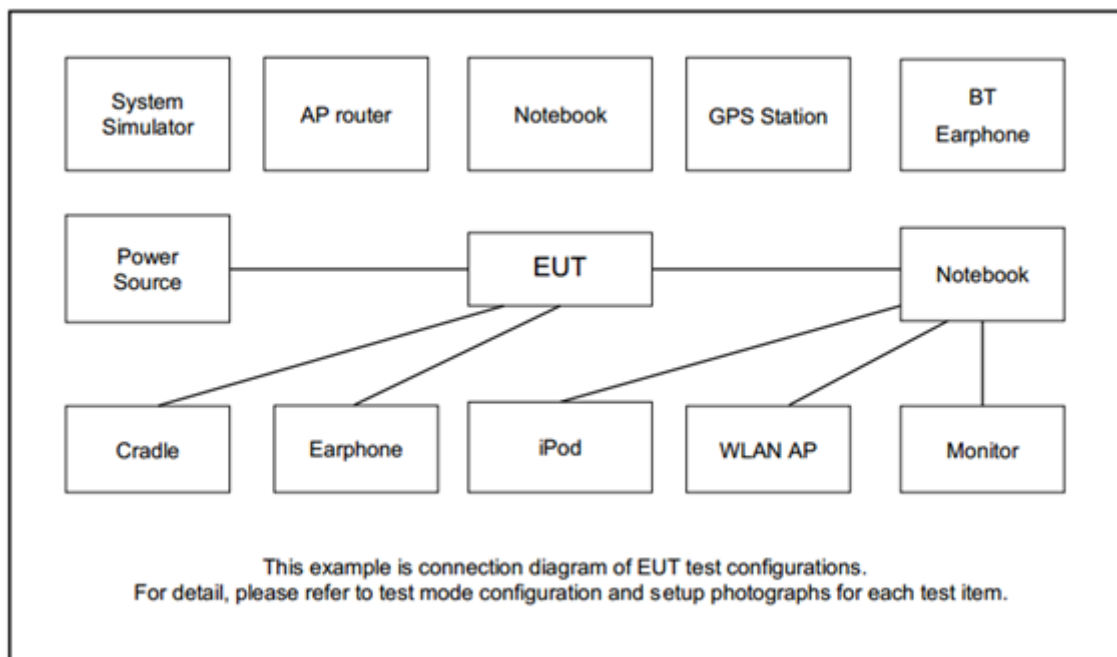
Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0

Remark:

1. For Radiated Test Cases, the tests were performed with Adapter 1.
2. The test configuration was designated by manufacturer.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT” was installed in Portable Computer 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 peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

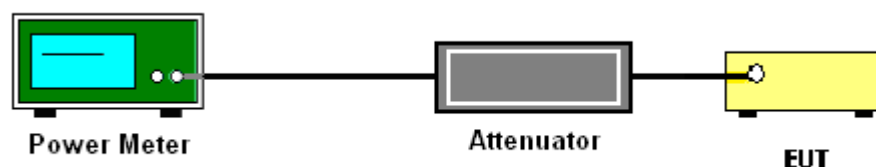
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. For Peak Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.3 PKPM1 Peak power meter method.
2. For Average Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.2.3.1 Method AVGPM.
3. 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.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure the conducted output power and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.1.6 Test Result of Average output Power (Reporting Only)

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

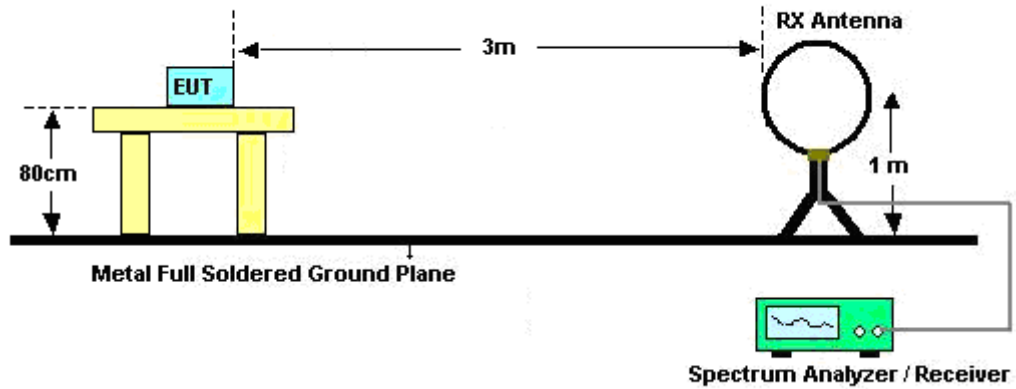
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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:

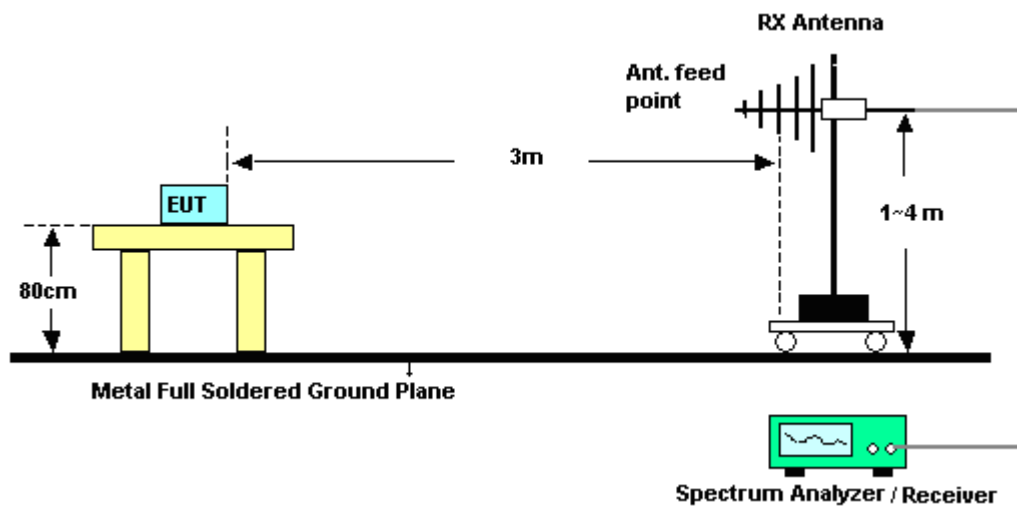
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.2.4 Test Setup

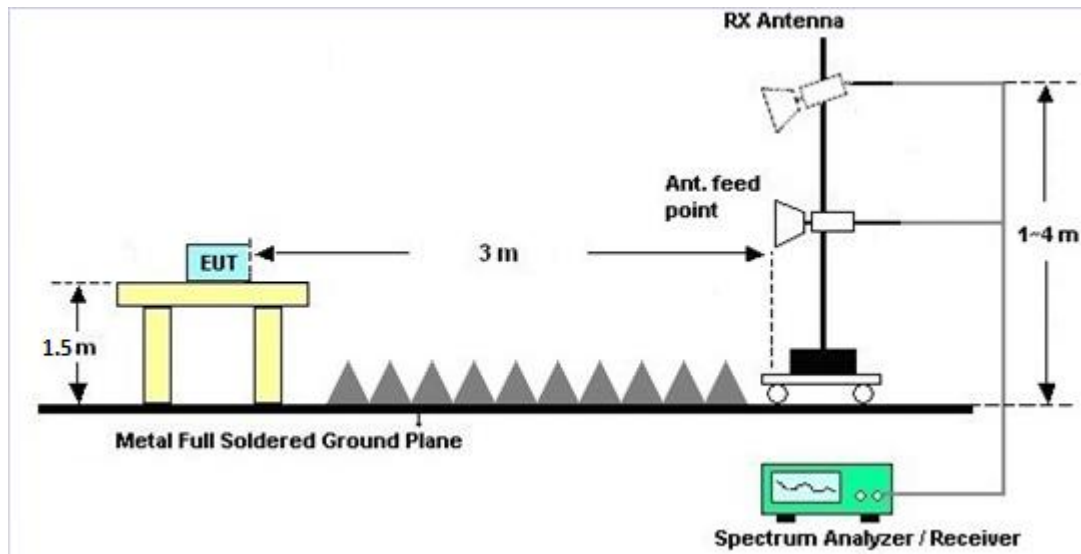
For radiated emissions below 30MHz



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 semi-Anechoic chamber, and the result came out very similar.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.2.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.



3.3 Antenna Requirements

3.3.1 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.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 Antenna Gain

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



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 26, 2017	Jul. 24, 2018 ~ Jul. 25, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 26, 2017	Jul. 24, 2018 ~ Jul. 25, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Jul. 24, 2018 ~ Jul. 25, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jul. 24, 2018 ~ Jul. 25, 2018	Feb. 28, 2019	Conducted (TH05-HY)
Bilog Antenna	TESEQ	CBL 6111D&0080 0N1D01N-06	35419&03	30MHz to 1GHz	Dec. 18, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Dec. 17, 2018	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 23, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Aug. 22, 2018	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Nov. 10, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Nov. 09, 2018	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-001 01800-30-10 P	1590075	1GHz ~ 18GHz	Apr. 25, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Apr. 24, 2019	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1GHz	May 21, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	May 20, 2019	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 30, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Oct. 29, 2018	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY5347011 8	10Hz~44GHz	Apr. 17, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Apr. 16, 2019	Radiation (03CH07-HY)
Filter	Wainwright	WLKS1200- 8SS	SN3	1.2G Low Pass	Nov. 21, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Nov. 20, 2018	Radiation (03CH07-HY)
Filter	Microwave	H3G018G1	SN477220	3.0G High Pass	Nov. 21, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Nov. 20, 2018	Radiation (03CH07-HY)
Filter	Microwave	WHKX7.0/26 .5G-6SS	SN4	7G High Pass	Nov. 21, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Nov. 20, 2018	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4, MY28655/4	9KHz~30MHz	Jan. 02, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Jan. 01, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	30MHz~1GHz	Feb. 27, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Feb. 26, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	1GHz~18GHz	Feb. 27, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Feb. 26, 2019	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 27, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Feb. 26, 2019	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Jul. 24, 2018 ~ Aug. 04, 2018	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Jul. 24, 2018 ~ Aug. 04, 2018	N/A	Radiation (03CH07-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Jul. 15, 2019	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA91702 51	18GHz- 40GHz	Nov. 10, 2017	Jul. 24, 2018 ~ Aug. 04, 2018	Nov. 09, 2018	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY5329005 3	20Hz to 26.5GHz	Jan. 16, 2018	Jul. 24, 2018 ~ Aug. 04, 2018	Jan. 15, 2019	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	8050400465 6H	N/A	N/A	Jul. 24, 2018 ~ Aug. 04, 2018	N/A	Radiation (03CH07-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.7
--	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.5
--	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
--	-----

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Luffy Lin	Temperature:	21~25	°C
Test Date:	2018/7/24 ~ 2018/7/25	Relative Humidity:	51~54	%

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	21.51	-	-	30.00	30.00	0.72	-2.07	22.23	-	36.00	-	Pass
11b	1Mbps	1	6	2437	21.45	-	-	30.00	30.00	0.72	-2.07	22.17	-	36.00	-	Pass
11b	1Mbps	1	11	2462	21.65	-	-	30.00	30.00	0.72	-2.07	22.37	-	36.00	-	Pass
11g	6Mbps	1	1	2412	21.54	-	-	30.00	30.00	0.72	-2.07	22.26	-	36.00	-	Pass
11g	6Mbps	1	6	2437	23.18	-	-	30.00	30.00	0.72	-2.07	23.90	-	36.00	-	Pass
11g	6Mbps	1	11	2462	22.22	-	-	30.00	30.00	0.72	-2.07	22.94	-	36.00	-	Pass
HT20	MCS0	1	1	2412	22.19	-	-	30.00	30.00	0.72	-2.07	22.91	-	36.00	-	Pass
HT20	MCS0	1	6	2437	23.75	-	-	30.00	30.00	0.72	-2.07	24.47	-	36.00	-	Pass
HT20	MCS0	1	11	2462	21.30	-	-	30.00	30.00	0.72	-2.07	22.02	-	36.00	-	Pass
HT40	MCS0	1	3	2422	20.54	-	-	30.00	30.00	0.72	-2.07	21.26	-	36.00	-	Pass
HT40	MCS0	1	6	2437	23.11	-	-	30.00	30.00	0.72	-2.07	23.83	-	36.00	-	Pass
HT40	MCS0	1	9	2452	20.13	-	-	30.00	30.00	0.72	-2.07	20.85	-	36.00	-	Pass
VHT20	MCS0	1	1	2412	22.24	-	-	30.00	30.00	0.72	-2.07	22.96	-	36.00	-	Pass
VHT20	MCS0	1	6	2437	23.83	-	-	30.00	30.00	0.72	-2.07	24.55	-	36.00	-	Pass
VHT20	MCS0	1	11	2462	21.35	-	-	30.00	30.00	0.72	-2.07	22.07	-	36.00	-	Pass
VHT40	MCS0	1	3	2422	20.57	-	-	30.00	30.00	0.72	-2.07	21.29	-	36.00	-	Pass
VHT40	MCS0	1	6	2437	23.13	-	-	30.00	30.00	0.72	-2.07	23.85	-	36.00	-	Pass
VHT40	MCS0	1	9	2452	20.20	-	-	30.00	30.00	0.72	-2.07	20.92	-	36.00	-	Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.05	-	18.95	-	-
11b	1Mbps	1	6	2437	0.05	-	18.93	-	
11b	1Mbps	1	11	2462	0.05	-	18.98	-	
11g	6Mbps	1	1	2412	0.25	-	15.71	-	
11g	6Mbps	1	6	2437	0.25	-	17.73	-	
11g	6Mbps	1	11	2462	0.25	-	16.47	-	
HT20	MCS0	1	1	2412	0.31	-	15.82	-	
HT20	MCS0	1	6	2437	0.31	-	17.85	-	
HT20	MCS0	1	11	2462	0.31	-	15.24	-	
HT40	MCS0	1	3	2422	0.48	-	13.92	-	
HT40	MCS0	1	6	2437	0.48	-	16.93	-	
HT40	MCS0	1	9	2452	0.48	-	13.47	-	
VHT20	MCS0	1	1	2412	0.31	-	15.84	-	
VHT20	MCS0	1	6	2437	0.31	-	17.87	-	
VHT20	MCS0	1	11	2462	0.31	-	15.26	-	
VHT40	MCS0	1	3	2422	0.52	-	13.94	-	
VHT40	MCS0	1	6	2437	0.52	-	16.96	-	
VHT40	MCS0	1	9	2452	0.52	-	13.49	-	

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



Appendix B. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh, and Ken Wu	Temperature :	22~24°C
		Relative Humidity :	52~54%



<For Sample 1>

2.4GHz 2400~2483.5MHz

WIFI 802.11b (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.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2386.86	54.87	-19.13	74	40.53	31.95	17.43	35.04	375	242	P	H
		2389.065	44.85	-9.15	54	30.51	31.95	17.43	35.04	375	242	A	H
	*	2412	107.04	-	-	92.67	31.99	17.43	35.05	375	242	P	H
	*	2412	103.81	-	-	89.44	31.99	17.43	35.05	375	242	A	H
													H
													H
		2382.03	57.37	-16.63	74	43.07	31.91	17.43	35.04	243	193	P	V
		2385.285	46.62	-7.38	54	32.32	31.91	17.43	35.04	243	193	A	V
	*	2412	110.64	-	-	96.27	31.99	17.43	35.05	243	193	P	V
	*	2412	107.36	-	-	92.99	31.99	17.43	35.05	243	193	A	V
													V
													V
802.11b CH 11 2462MHz	*	2462	107.6	-	-	92.99	32.12	17.55	35.06	354	241	P	H
	*	2462	104.36	-	-	89.75	32.12	17.55	35.06	354	241	A	H
		2487	55.24	-18.76	74	40.6	32.16	17.55	35.07	354	241	P	H
		2485.44	44.7	-9.3	54	30.06	32.16	17.55	35.07	354	241	A	H
													H
													H
	*	2462	111.68	-	-	97.07	32.12	17.55	35.06	282	188	P	V
	*	2462	108.66	-	-	94.05	32.12	17.55	35.06	282	188	A	V
		2484.4	59.04	-14.96	74	44.4	32.16	17.55	35.07	282	188	P	V
		2485.2	48.55	-5.45	54	33.91	32.16	17.55	35.07	282	188	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 06 2437MHz		4874	53.94	-20.06	74	67.93	34.22	11.03	59.24	380	178	P	H
		4874	50.72	-3.28	54	64.71	34.22	11.03	59.24	380	178	A	H
		7311	46.76	-27.24	74	55.52	35.71	13.66	58.13	100	0	P	H
													H
		4874	49.66	-24.34	74	63.65	34.22	11.03	59.24	100	0	P	V
		7311	45.86	-28.14	74	54.62	35.71	13.66	58.13	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 802.11g (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		2387.595	55.41	-18.59	74	41.07	31.95	17.43	35.04	376	243	P	H
		2389.8	46.53	-7.47	54	32.2	31.95	17.43	35.05	376	243	A	H
	*	2412	105.45	-	-	91.08	31.99	17.43	35.05	376	243	P	H
	*	2412	97.52	-	-	83.15	31.99	17.43	35.05	376	243	A	H
													H
													H
		2384.97	58.33	-15.67	74	44.03	31.91	17.43	35.04	243	190	P	V
		2389.695	48.93	-5.07	54	34.59	31.95	17.43	35.04	243	190	A	V
	*	2412	109.18	-	-	94.81	31.99	17.43	35.05	243	190	P	V
	*	2412	101.68	-	-	87.31	31.99	17.43	35.05	243	190	A	V
													V
													V
802.11g CH 11 2462MHz	*	2462	107.27	-	-	92.66	32.12	17.55	35.06	347	246	P	H
	*	2462	99.28	-	-	84.67	32.12	17.55	35.06	347	246	A	H
		2493.76	57.57	-16.43	74	42.9	32.2	17.55	35.08	347	246	P	H
		2483.52	47.38	-6.62	54	32.74	32.16	17.55	35.07	347	246	A	H
													H
													H
	*	2462	111.1	-	-	96.49	32.12	17.55	35.06	281	190	P	V
	*	2462	103.18	-	-	88.57	32.12	17.55	35.06	281	190	A	V
		2483.88	62.25	-11.75	74	47.61	32.16	17.55	35.07	281	190	P	V
		2483.6	52.29	-1.71	54	37.65	32.16	17.55	35.07	281	190	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 06 2437MHz		4874	46.85	-27.15	74	60.84	34.22	11.03	59.24	100	0	P	H
		7311	44.46	-29.54	74	53.22	35.71	13.66	58.13	100	0	P	H
													H
													H
		4874	47.71	-26.29	74	61.7	34.22	11.03	59.24	100	0	P	V
		7311	45.54	-28.46	74	54.3	35.71	13.66	58.13	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 802.11n 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		2390	55.97	-18.03	74	41.64	31.95	17.43	35.05	376	244	P	H
		2389.8	46.74	-7.26	54	32.41	31.95	17.43	35.05	376	244	A	H
	*	2412	104.95	-	-	90.58	31.99	17.43	35.05	376	244	P	H
	*	2412	97.08	-	-	82.71	31.99	17.43	35.05	376	244	A	H
													H
													H
		2389.59	58.89	-15.11	74	44.55	31.95	17.43	35.04	243	188	P	V
		2390	49.75	-4.25	54	35.42	31.95	17.43	35.05	243	188	A	V
	*	2412	109.05	-	-	94.68	31.99	17.43	35.05	243	188	P	V
	*	2412	101.16	-	-	86.79	31.99	17.43	35.05	243	188	A	V
													V
													V
802.11n HT20 CH 11 2462MHz	*	2462	104.99	-	-	90.38	32.12	17.55	35.06	347	246	P	H
	*	2462	97.37	-	-	82.76	32.12	17.55	35.06	347	246	A	H
		2488.88	56.05	-17.95	74	41.37	32.2	17.55	35.07	347	246	P	H
		2483.56	46.05	-7.95	54	31.41	32.16	17.55	35.07	347	246	A	H
													H
													H
	*	2462	109.08	-	-	94.47	32.12	17.55	35.06	281	190	P	V
	*	2462	101.24	-	-	86.63	32.12	17.55	35.06	281	190	A	V
		2483.92	59.01	-14.99	74	44.37	32.16	17.55	35.07	281	190	P	V
		2483.56	49.86	-4.14	54	35.22	32.16	17.55	35.07	281	190	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 06 2437MHz		4874	48.42	-25.58	74	62.41	34.22	11.03	59.24	100	0	P	H
		7311	46.41	-27.59	74	55.17	35.71	13.66	58.13	100	0	P	H
													H
													H
		4874	49.07	-24.93	74	63.06	34.22	11.03	59.24	100	0	P	V
		7311	45.33	-28.67	74	54.09	35.71	13.66	58.13	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 802.11n HT40 (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 HT40 CH 03 2422MHz		2388.54	62.69	-11.31	74	48.35	31.95	17.43	35.04	375	240	P	H
		2389.1	48.65	-5.35	54	34.31	31.95	17.43	35.04	375	240	A	H
	*	2422	100.21	-	-	85.75	32.03	17.49	35.06	375	240	P	H
	*	2422	92.64	-	-	78.18	32.03	17.49	35.06	375	240	A	H
		2491.81	55.76	-18.24	74	41.09	32.2	17.55	35.08	375	240	P	H
		2488.94	46.16	-7.84	54	31.48	32.2	17.55	35.07	375	240	A	H
		2382.24	64.91	-9.09	74	50.61	31.91	17.43	35.04	260	191	P	V
		2389.38	51.9	-2.1	54	37.56	31.95	17.43	35.04	260	191	A	V
	*	2422	104.91	-	-	90.45	32.03	17.49	35.06	260	191	P	V
	*	2422	96.83	-	-	82.37	32.03	17.49	35.06	260	191	A	V
		2486.21	58.39	-15.61	74	43.75	32.16	17.55	35.07	260	191	P	V
		2485.37	47.37	-6.63	54	32.73	32.16	17.55	35.07	260	191	A	V
802.11n HT40 CH 09 2452MHz		2344.72	54.22	-19.78	74	40.05	31.83	17.37	35.03	338	112	P	H
		2389.66	45.24	-8.76	54	30.9	31.95	17.43	35.04	338	112	A	H
	*	2452	99.63	-	-	85.12	32.08	17.49	35.06	338	112	P	H
	*	2452	91.71	-	-	77.2	32.08	17.49	35.06	338	112	A	H
		2484.95	57.26	-16.74	74	42.62	32.16	17.55	35.07	338	112	P	H
		2485.65	46.63	-7.37	54	31.99	32.16	17.55	35.07	338	112	A	H
		2387.7	54.1	-19.9	74	39.76	31.95	17.43	35.04	208	221	P	V
		2382.1	45.15	-8.85	54	30.85	31.91	17.43	35.04	208	221	A	V
	*	2452	102.83	-	-	88.32	32.08	17.49	35.06	208	221	P	V
	*	2452	94.62	-	-	80.11	32.08	17.49	35.06	208	221	A	V
		2486.35	63.39	-10.61	74	48.75	32.16	17.55	35.07	208	221	P	V
		2485.16	51.29	-2.71	54	36.65	32.16	17.55	35.07	208	221	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 HT40 (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 HT40 CH 06 2437MHz		4874	44.04	-29.96	74	58.03	34.22	11.03	59.24	100	0	P	H
		7311	42.55	-31.45	74	51.31	35.71	13.66	58.13	100	0	P	H
													H
													H
		4874	43.64	-30.36	74	57.63	34.22	11.03	59.24	100	0	P	V
		7311	42.99	-31.01	74	51.75	35.71	13.66	58.13	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 01 2412MHz		2383.395	55.7	-18.3	74	41.4	31.91	17.43	35.04	376	244	P	H
		2390	46.92	-7.08	54	32.59	31.95	17.43	35.05	376	244	A	H
	*	2412	104.73	-	-	90.36	31.99	17.43	35.05	376	244	P	H
	*	2412	97.19	-	-	82.82	31.99	17.43	35.05	376	244	A	H
													H
													H
		2389.905	58.15	-15.85	74	43.82	31.95	17.43	35.05	243	188	P	V
		2390	49.66	-4.34	54	35.33	31.95	17.43	35.05	243	188	A	V
	*	2412	109.12	-	-	94.75	31.99	17.43	35.05	243	188	P	V
	*	2412	101.15	-	-	86.78	31.99	17.43	35.05	243	188	A	V
													V
													V
802.11ac VHT20 CH 11 2462MHz	*	2462	104.7	-	-	90.09	32.12	17.55	35.06	347	247	P	H
	*	2462	96.97	-	-	82.36	32.12	17.55	35.06	347	247	A	H
		2484.92	55.66	-18.34	74	41.02	32.16	17.55	35.07	347	247	P	H
		2483.52	46.53	-7.47	54	31.89	32.16	17.55	35.07	347	247	A	H
													H
													H
	*	2462	108.79	-	-	94.18	32.12	17.55	35.06	281	189	P	V
	*	2462	100.95	-	-	86.34	32.12	17.55	35.06	281	189	A	V
		2484.8	60.2	-13.8	74	45.56	32.16	17.55	35.07	281	189	P	V
		2484	50.5	-3.5	54	35.86	32.16	17.55	35.07	281	189	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 802.11ac VHT20 (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)
802.11ac VHT20 CH 06 2437MHz		4874	48.38	-25.62	74	62.37	34.22	11.03	59.24	100	0	P	H
		7311	47.01	-26.99	74	55.77	35.71	13.66	58.13	100	0	P	H
													H
													H
		4874	47.42	-26.58	74	61.41	34.22	11.03	59.24	100	0	P	V
		7311	45.55	-28.45	74	54.31	35.71	13.66	58.13	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 802.11ac VHT40 (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)
802.11ac VHT40 CH 03 2422MHz		2388.4	62.13	-11.87	74	47.79	31.95	17.43	35.04	375	240	P	H
		2389.8	48.79	-5.21	54	34.46	31.95	17.43	35.05	375	240	A	H
	*	2422	100.53	-	-	86.07	32.03	17.49	35.06	375	240	P	H
	*	2422	92.62	-	-	78.16	32.03	17.49	35.06	375	240	A	H
		2490.27	56.53	-17.47	74	41.85	32.2	17.55	35.07	375	240	P	H
		2484.53	46.02	-7.98	54	31.38	32.16	17.55	35.07	375	240	A	H
		2383.36	63.71	-10.29	74	49.41	31.91	17.43	35.04	260	191	P	V
		2388.96	52.1	-1.9	54	37.76	31.95	17.43	35.04	260	191	A	V
	*	2422	104.66	-	-	90.2	32.03	17.49	35.06	260	191	P	V
	*	2422	96.78	-	-	82.32	32.03	17.49	35.06	260	191	A	V
		2485.58	57.84	-16.16	74	43.2	32.16	17.55	35.07	260	191	P	V
		2485.51	47.25	-6.75	54	32.61	32.16	17.55	35.07	260	191	A	V
802.11ac VHT40 CH 09 2452MHz		2332.26	54.82	-19.18	74	40.74	31.79	17.31	35.02	337	117	P	H
		2311.82	45.07	-8.93	54	31.04	31.74	17.31	35.02	337	117	A	H
	*	2452	99.71	-	-	85.2	32.08	17.49	35.06	337	117	P	H
	*	2452	91.86	-	-	77.35	32.08	17.49	35.06	337	117	A	H
		2486.21	57.87	-16.13	74	43.23	32.16	17.55	35.07	337	117	P	H
		2484.6	46.98	-7.02	54	32.34	32.16	17.55	35.07	337	117	A	H
		2352.56	54.18	-19.82	74	39.97	31.87	17.37	35.03	208	221	P	V
		2381.12	45.24	-8.76	54	30.94	31.91	17.43	35.04	208	221	A	V
	*	2452	102.63	-	-	88.12	32.08	17.49	35.06	208	221	P	V
	*	2452	94.59	-	-	80.08	32.08	17.49	35.06	208	221	A	V
		2486.28	64.05	-9.95	74	49.41	32.16	17.55	35.07	208	221	P	V
		2484.53	50.72	-3.28	54	36.08	32.16	17.55	35.07	208	221	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 802.11ac VHT40 (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)
802.11ac VHT40 CH 06 2437MHz		4874	44.05	-29.95	74	58.04	34.22	11.03	59.24	100	0	P	H
		7311	42.79	-31.21	74	51.55	35.71	13.66	58.13	100	0	P	H
													H
													H
		4874	44.67	-29.33	74	58.66	34.22	11.03	59.24	100	0	P	V
		7311	43.13	-30.87	74	51.89	35.71	13.66	58.13	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		69.69	35.53	-4.47	40	53.08	12.34	1.7	31.59	100	0	P	H
		98.31	34.97	-8.53	43.5	49.2	15.58	1.75	31.56	-	-	P	H
		253.83	29.27	-16.73	46	39.17	18.84	2.63	31.37	-	-	P	H
		743.1	30.79	-15.21	46	29.27	27.7	4.46	30.64	-	-	P	H
		860.7	31.24	-14.76	46	27.88	29.03	4.88	30.55	-	-	P	H
		947.5	32.12	-13.88	46	27.36	30.23	5.05	30.52	-	-	P	H
													H
													H
													H
													H
													H
													H
		68.34	32.15	-7.85	40	49.8	12.24	1.7	31.59	100	0	P	V
		151.77	30.15	-13.35	43.5	42.46	16.94	2.25	31.5	-	-	P	V
		253.56	24.57	-21.43	46	34.58	18.73	2.63	31.37	-	-	P	V
		666.1	30.82	-15.18	46	31.1	26.2	4.25	30.73	-	-	P	V
		873.3	31.21	-14.79	46	27.92	28.95	4.88	30.54	-	-	P	V
		954.5	31.63	-14.37	46	26.5	30.59	5.05	30.51	-	-	P	V
													V
													V
													V
													V
													V
													V
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<For Sample 2>

2.4GHz 2400~2483.5MHz

WIFI 802.11g (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.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 11 2462MHz	*	2462	106.39	-	-	91.78	32.12	17.55	35.06	366	240	P	H
	*	2462	98.76	-	-	84.15	32.12	17.55	35.06	366	240	A	H
		2489.88	56.56	-17.44	74	41.88	32.2	17.55	35.07	366	240	P	H
		2483.52	47.01	-6.99	54	32.37	32.16	17.55	35.07	366	240	A	H
													H
													H
	*	2462	107.08	-	-	92.47	32.12	17.55	35.06	236	135	P	V
	*	2462	99.54	-	-	84.93	32.12	17.55	35.06	236	135	A	V
		2483.6	56.65	-17.35	74	42.01	32.16	17.55	35.07	236	135	P	V
		2483.52	47.44	-6.56	54	32.8	32.16	17.55	35.07	236	135	A	V
													V
													V
Remark	3. No other spurious found. 4. 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 11 2462MHz		4924	43.39	-30.61	74	57.23	34.21	11.09	59.14	100	0	P	H
		7386	43.73	-30.27	74	52.57	35.66	13.76	58.26	100	0	P	H
													H
													H
		4924	44.92	-29.08	74	58.76	34.21	11.09	59.14	100	0	P	V
		7386	44.02	-29.98	74	52.86	35.66	13.76	58.26	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		30	28.48	-11.52	40	33.9	24.6	1.33	31.35	-	-	P	H
		210.36	29.75	-13.75	43.5	43.69	15.12	2.38	31.44	-	-	P	H
		251.67	35.15	-10.85	46	45.28	18.61	2.63	31.37	100	0	P	H
		860.7	30.43	-15.57	46	27.07	29.03	4.88	30.55	-	-	P	H
		894.3	31.44	-14.56	46	28.29	28.77	4.9	30.52	-	-	P	H
		953.8	32.28	-13.72	46	27.2	30.54	5.05	30.51	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
		30.27	31.91	-8.09	40	37.33	24.6	1.33	31.35	100	0	P	V
		151.23	31.14	-12.36	43.5	43.41	16.98	2.25	31.5	-	-	P	V
		250.05	30.46	-15.54	46	40.83	18.38	2.63	31.38	-	-	P	V
		664	30.49	-15.51	46	30.78	26.19	4.25	30.73	-	-	P	V
		878.2	31.23	-14.77	46	27.97	28.91	4.89	30.54	-	-	P	V
		957.3	33.8	-12.2	46	28.51	30.75	5.05	30.51	-	-	P	V
													V
													V
													V
													V
													V
												V	
												V	
Remark	3. No other spurious found.												
	4. 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	P eak or A verage
H/V	H orizontal or V ertical

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 :	Jesse Wang, Stan Hsieh, and Ken Wu	Temperature :	22~24°C
		Relative Humidity :	52~54%

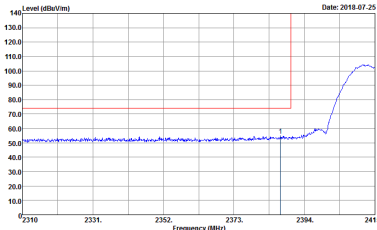
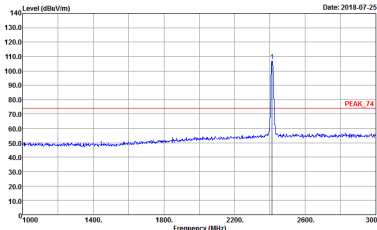
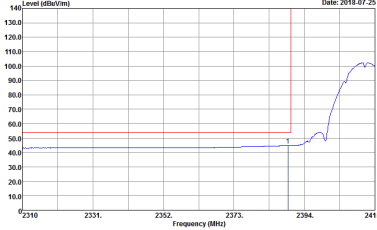
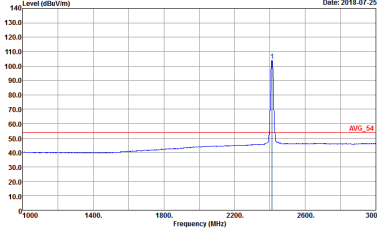
Note symbol

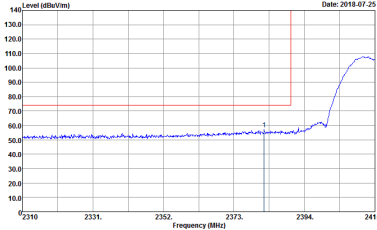
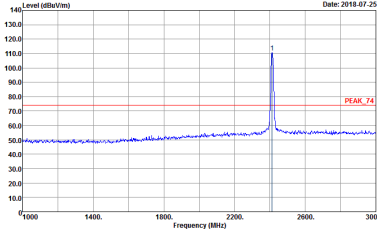
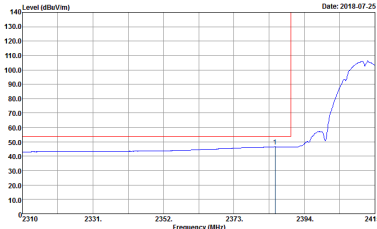
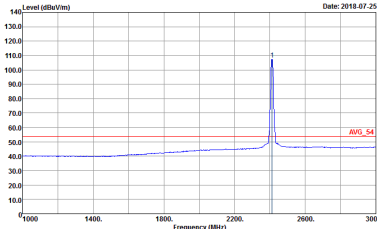
-L	Low channel location
-R	High channel location



<For Sample 1>

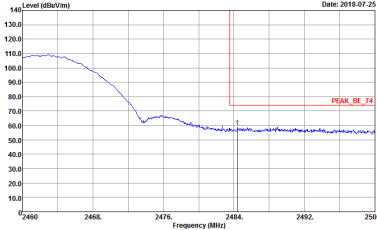
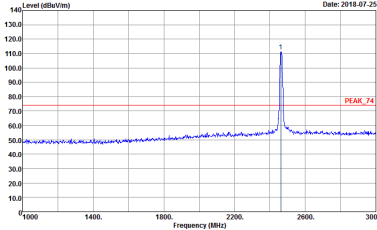
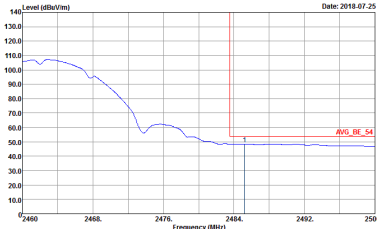
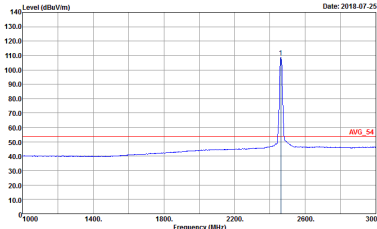
**2.4GHz 2400~2483.5MHz
WIFI 802.11b (Band Edge @ 3m)**

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Project : 862732 Mode : 9	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Project : 862732 Mode : 9
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:0.010kHz SMT:Auto Project : 862732 Mode : 9	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:0.010kHz SMT:Auto Project : 862732 Mode : 9

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 9	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 9
	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:0.0100kHz SMT:Auto Detector : Peak Project : 862732 Mode : 9	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:0.0100kHz SMT:Auto Detector : Peak Project : 862732 Mode : 9



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 11	Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 11
	Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 11	Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 11

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 11	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 11
	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 11	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 11

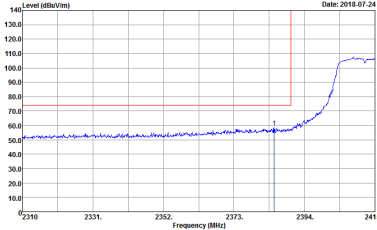
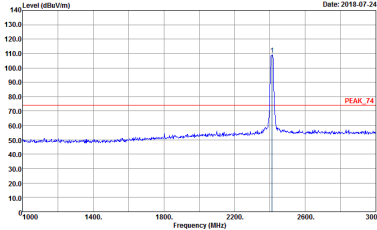
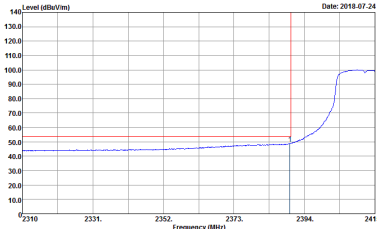
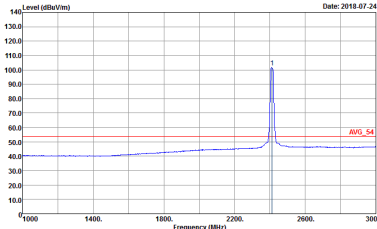


2.4GHz 2400~2483.5MHz

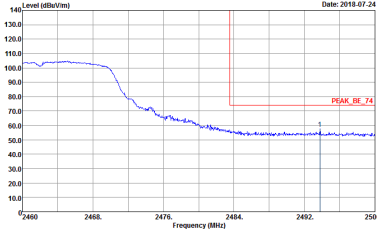
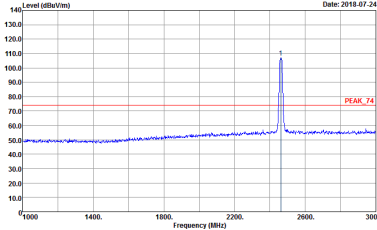
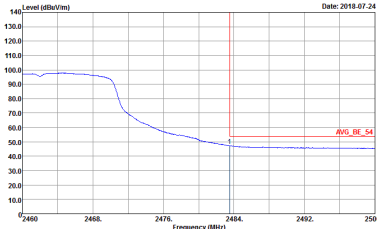
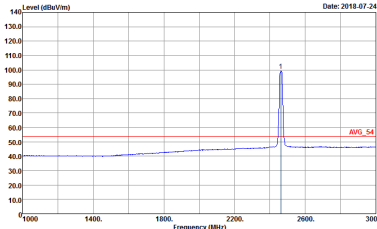
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 12	Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 12
Avg.	Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 12	Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 12



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 12	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 12
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 12	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 12

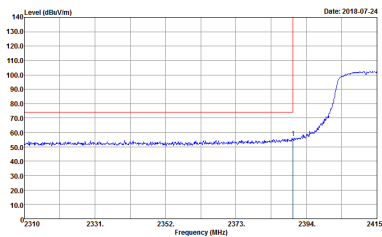
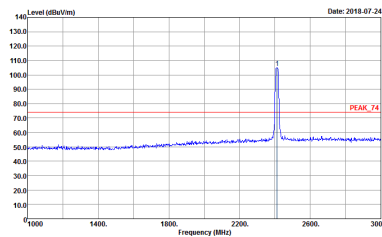
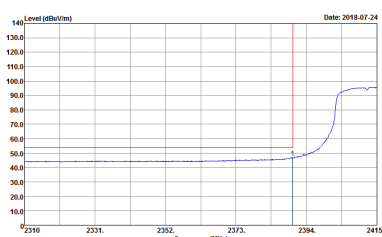
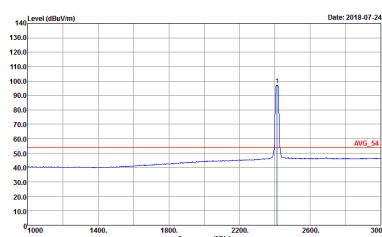


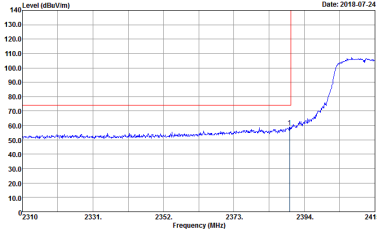
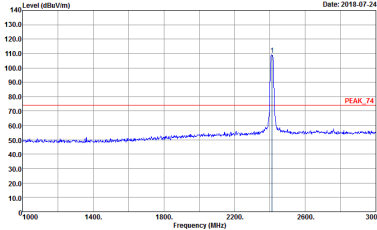
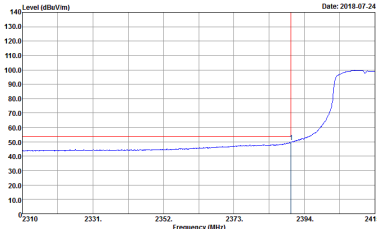
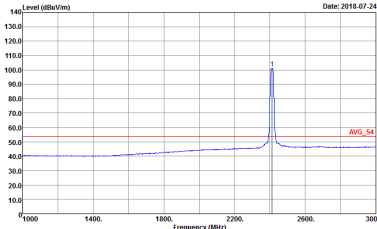
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 14	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 14
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 14	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 14



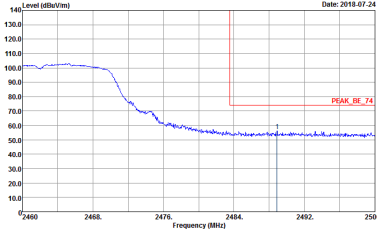
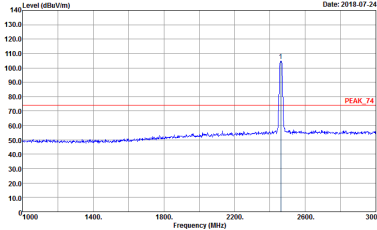
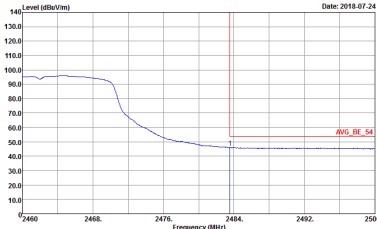
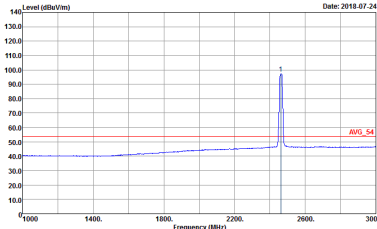
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 14	Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 14
	Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 14	Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 14

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

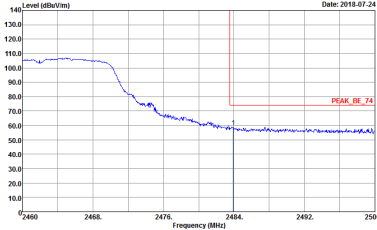
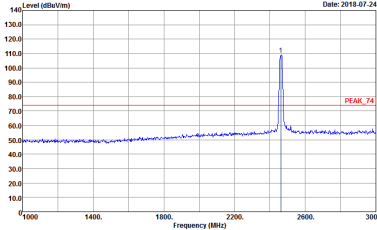
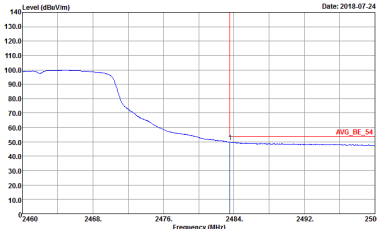
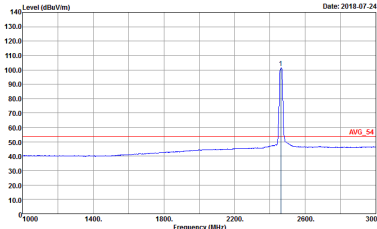
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 15	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 15
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 15	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 15

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 15	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 15
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 15	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 15

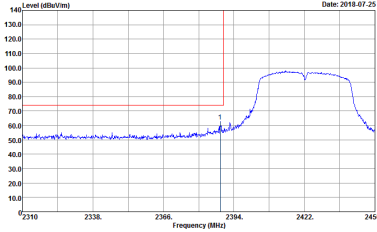
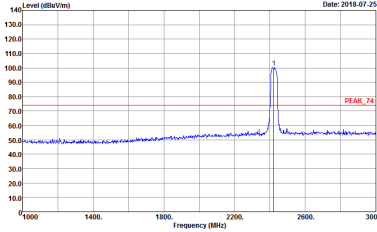
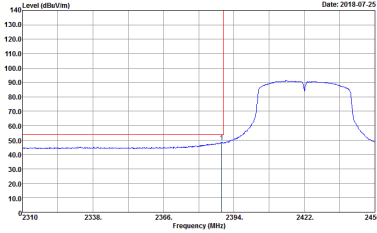
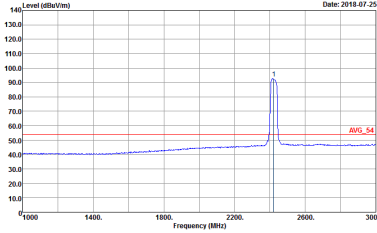


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 17	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 17
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 17	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 17

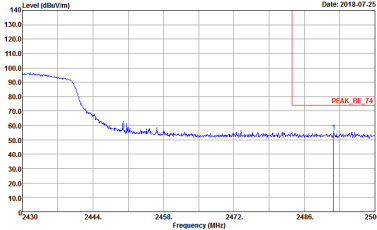
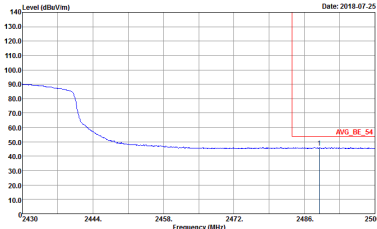


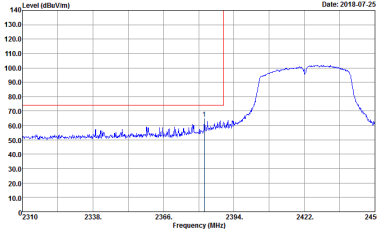
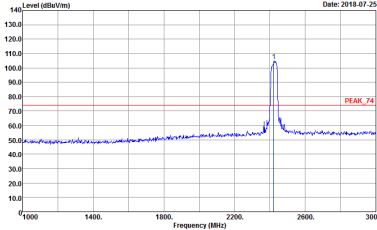
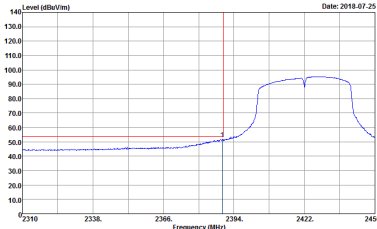
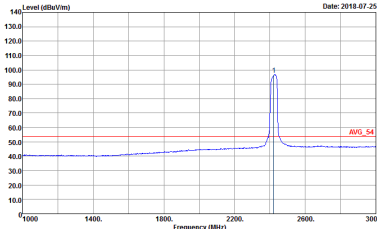
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 17	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 17
	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 17	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 17

2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

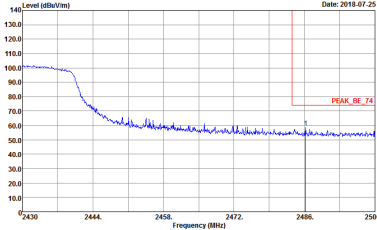
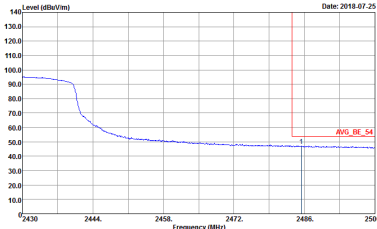
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 21	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 21
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 21	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 21

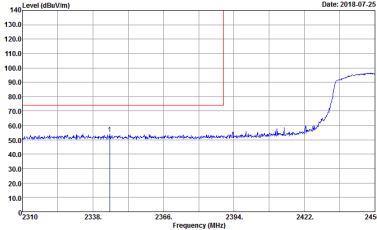
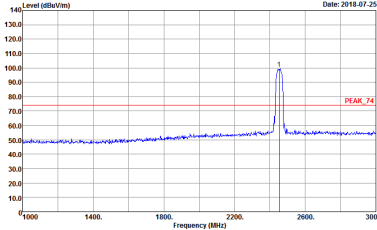
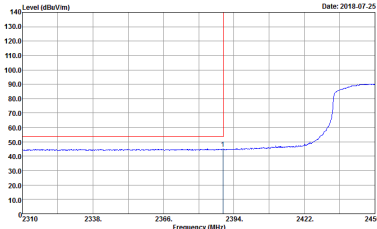
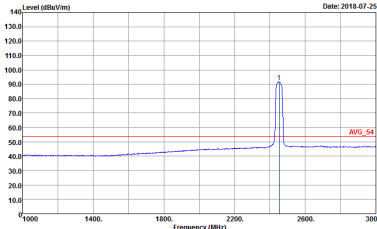


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Project : 862732 Mode : 21	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3.000kHz SMT:Auto Project : 862732 Mode : 21	Left Blank

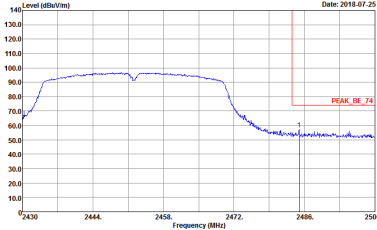
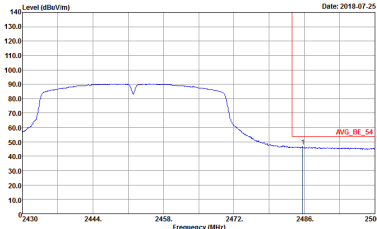
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 21	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 21
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 21	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 21

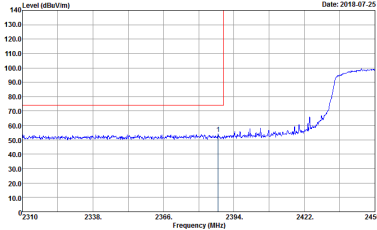
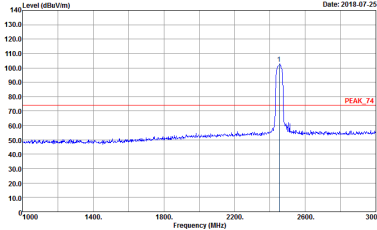
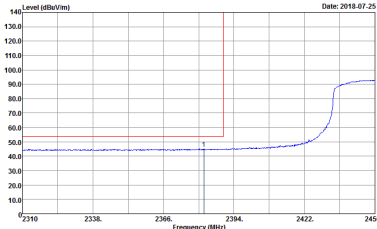
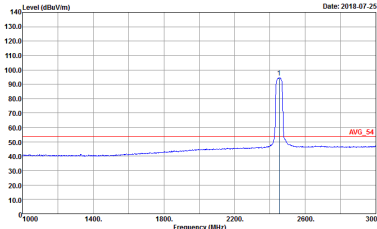


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Project : 862732 Mode : 21	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000kHz VBW:3.000kHz SMT:Auto Project : 862732 Mode : 21	Left Blank

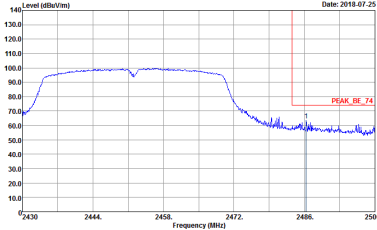
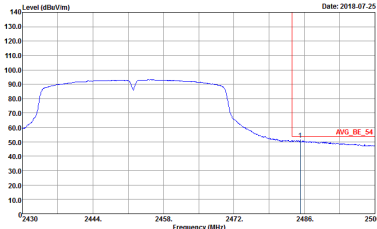
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 23	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 23
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 23	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 23



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 23	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 23	Left Blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23

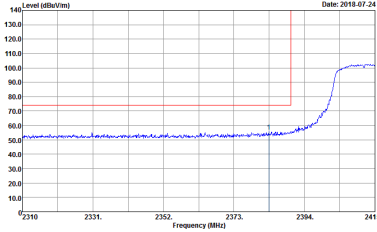
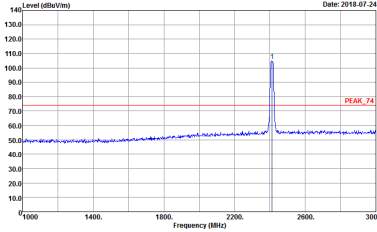
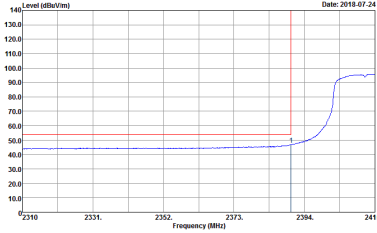
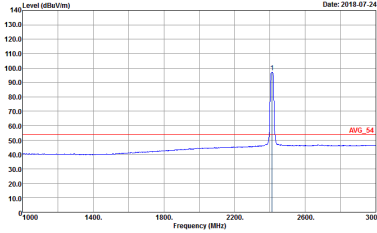


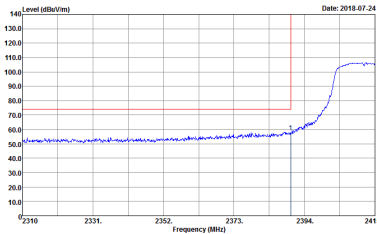
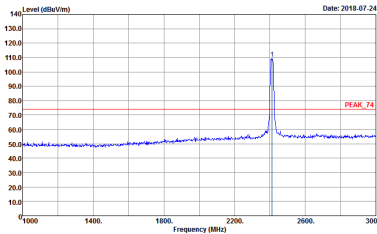
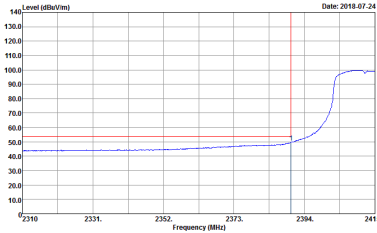
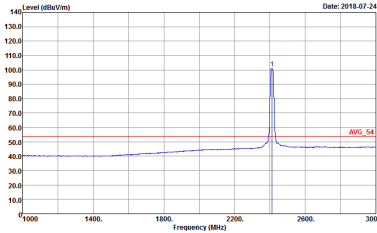
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 23	Left Blank



2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

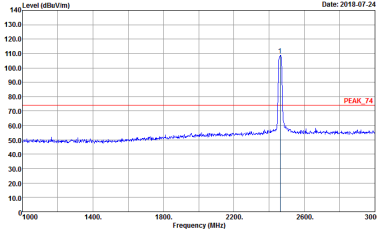
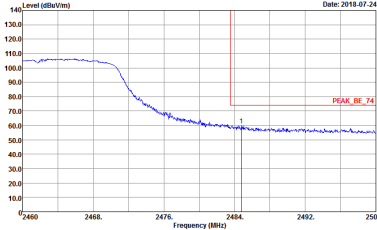
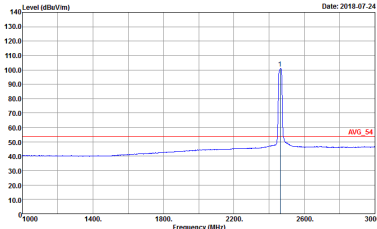
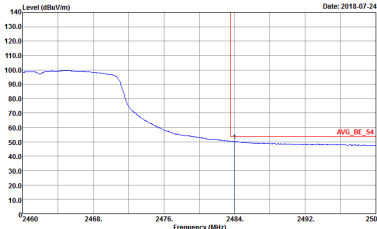
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 18	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 18
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 18	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 18

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 18	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 18
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 18	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 18



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 20	Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 20
	Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 20	Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 20

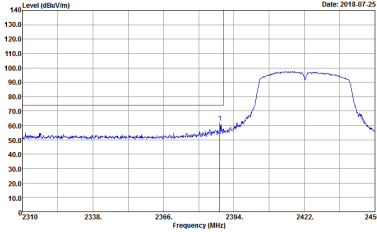
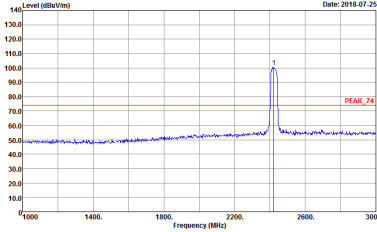
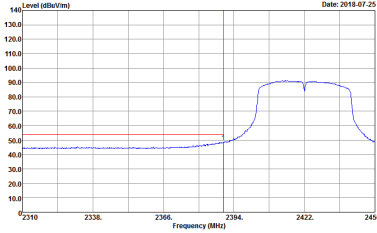
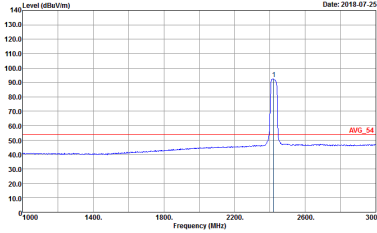


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 20	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 20
	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 20	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 20

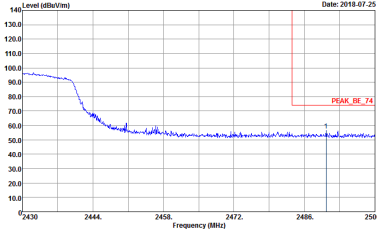
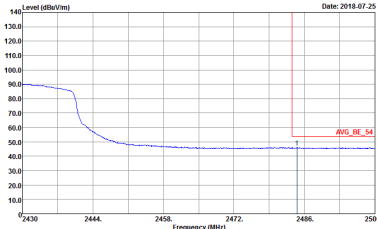


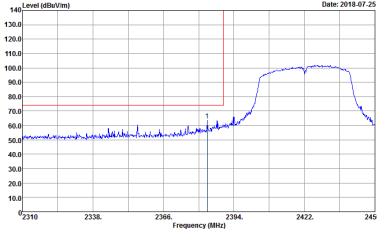
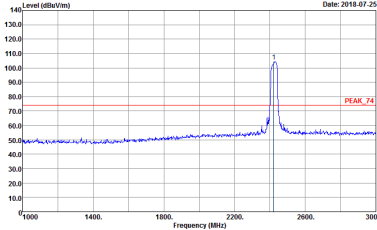
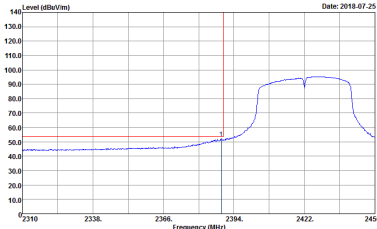
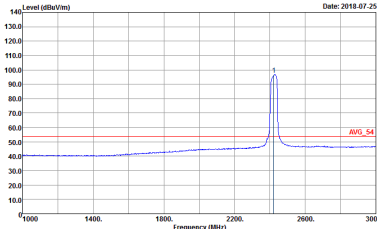
2.4GHz 2400~2483.5MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

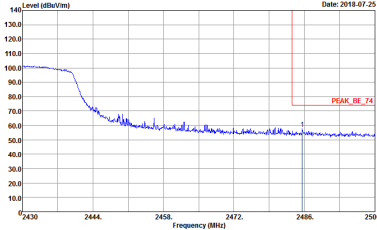
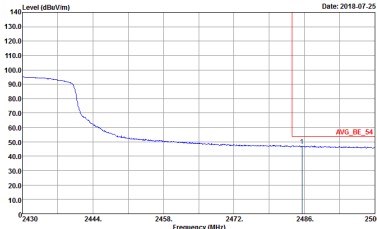
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH03 2422MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 24	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 24
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 24	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 24



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH03 2422MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Project : 862732 Mode : 24	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3.000kHz SMT:Auto Project : 862732 Mode : 24	Left Blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH03 2422MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24	 Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24
	 Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24	 Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24

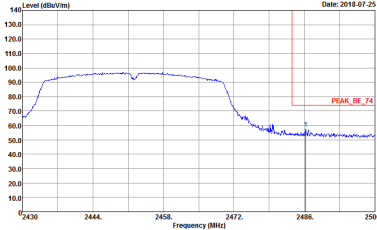
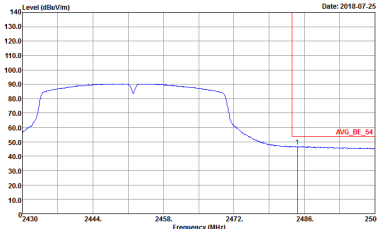


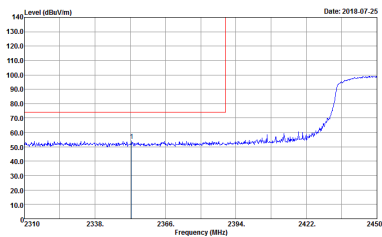
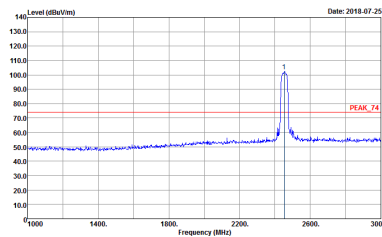
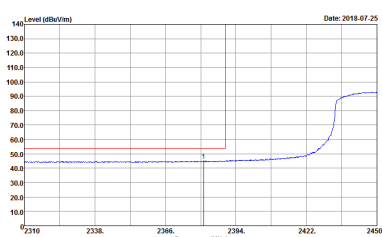
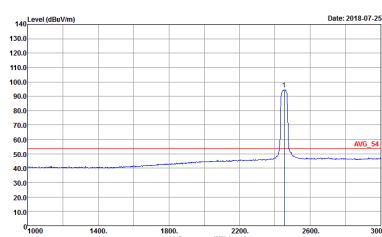
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH03 2422MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 24	Left Blank



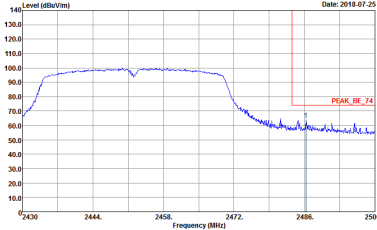
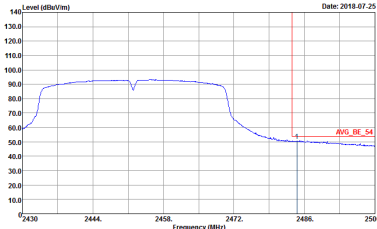
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH09 2452MHz - L	
1	Horizontal	Fundamental
Peak	Site : 03CH07-HY Condition : PEAK_BE_74_3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26	Site : 03CH07-HY Condition : PEAK_74_3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26
Avg.	Site : 03CH07-HY Condition : AVG_BE_54_3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26	Site : 03CH07-HY Condition : AVG_54_3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH09 2452MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 862732 Mode : 26	Left Blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH09 2452MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26
	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26

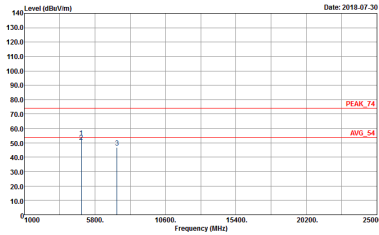
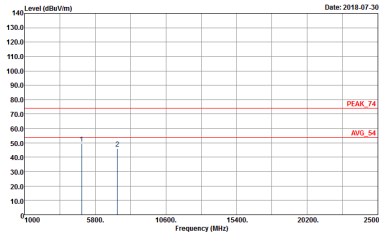


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH09 2452MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26	Left Blank
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 26	Left Blank



2.4GHz 2400~2483.5MHz

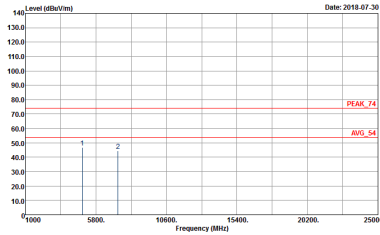
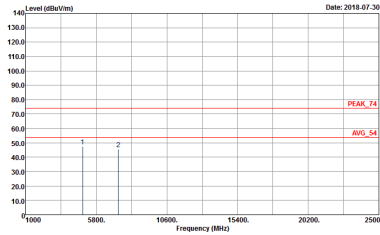
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 10	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 10

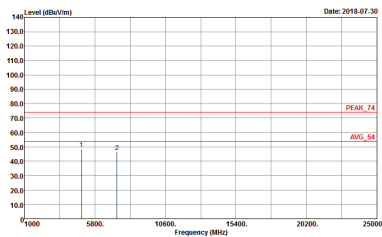
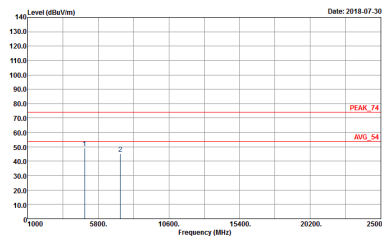


2.4GHz 2400~2483.5MHz

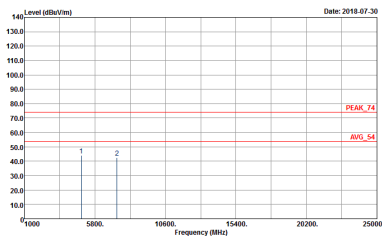
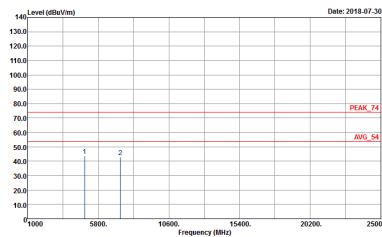
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 13	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 13

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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 16	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 16

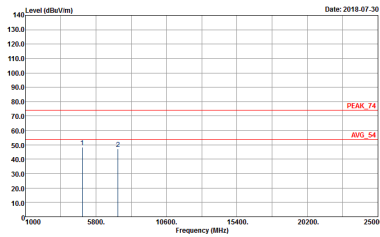
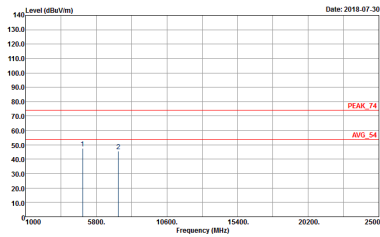
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 22	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 22



2.4GHz 2400~2483.5MHz

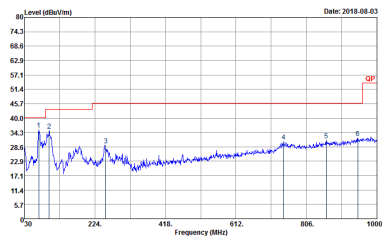
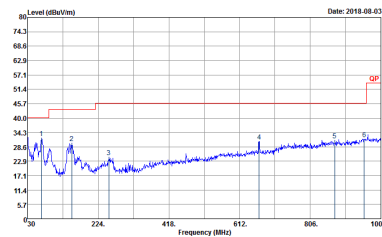
WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 19	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 19

**2.4GHz 2400~2483.5MHz****WIFI 802.11ac VHT40 (Harmonic @ 3m)**

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 25	Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 25

Emission below 1GHz
2.4GHz WIFI 802.11g (LF)

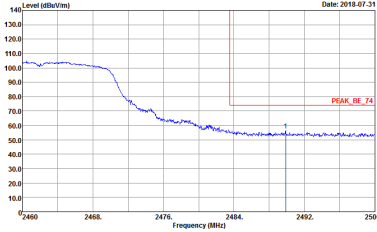
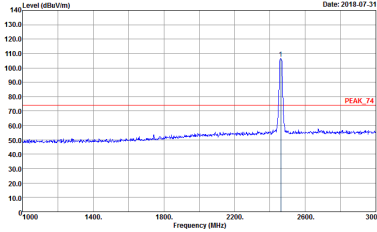
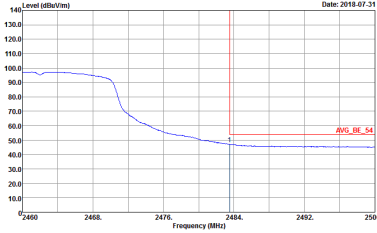
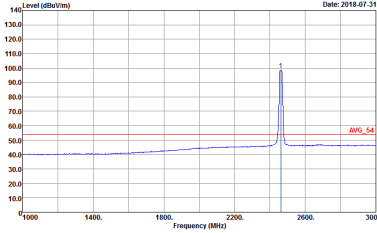
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) HORIZONTAL Detector : Peak Project : 862732 Mode : 27	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) VERTICAL Detector : Peak Project : 862732 Mode : 27



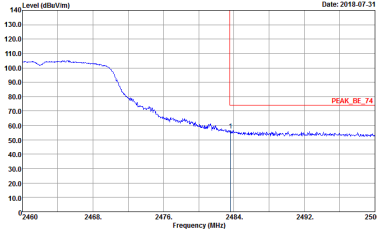
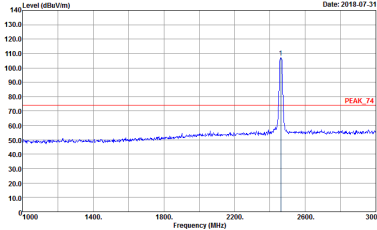
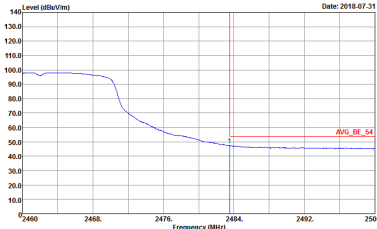
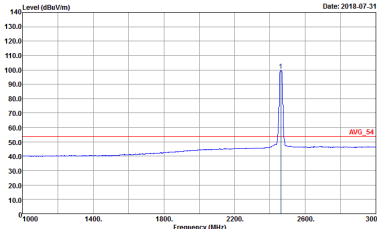
<For Sample 2>

2.4GHz 2400~2483.5MHz

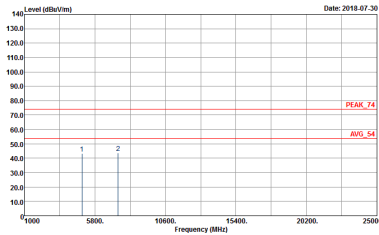
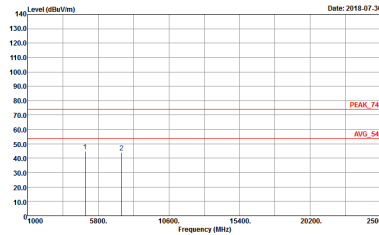
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 30	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 30
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 30	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto Detector : Peak Project : 862732 Mode : 30

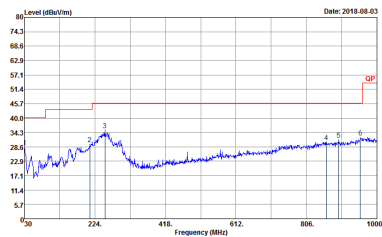
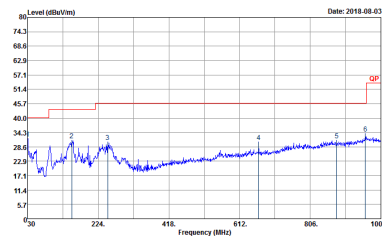


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 30	 Site : 03CH07-HY Condition : PEAK_74 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 30
Avg.	 Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 30	 Site : 03CH07-HY Condition : AVG_54 3m HF_ANT_00075962 VERTICAL Detector : Peak Project : 862732 Mode : 30

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

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 862732 Mode : 30	 Site : 03CH07-HY Condition : PEAK_74 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 862732 Mode : 30

Emission below 1GHz
2.4GHz WIFI 802.11g (LF)

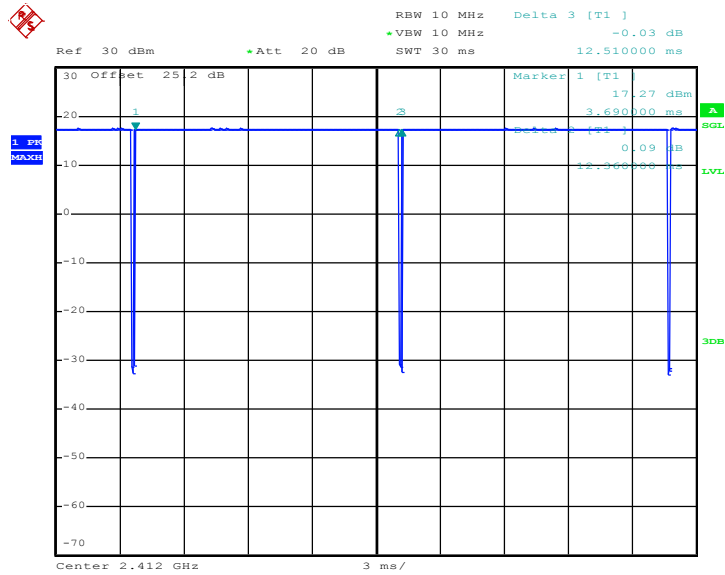
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) HORIZONTAL Detector : Peak Project : 862732 Mode : 33	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) VERTICAL Detector : Peak Project : 862732 Mode : 33

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11b	98.80	12360	0.08	10Hz	0.05
1	802.11g	94.50	2060	0.49	1kHz	0.25
1	2.4GHz 802.11n HT20	93.20	1920	0.52	1kHz	0.31
1	2.4GHz 802.11n HT40	89.62	950	1.05	3kHz	0.48
1	2.4GHz 802.11ac20	93.20	1920	0.52	1kHz	0.31
1	2.4GHz 802.11ac40	88.79	950	1.05	3kHz	0.52

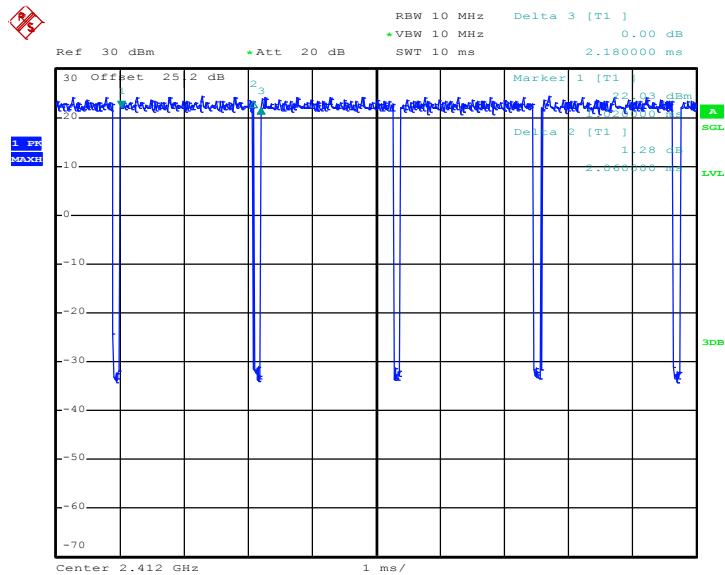


802.11b



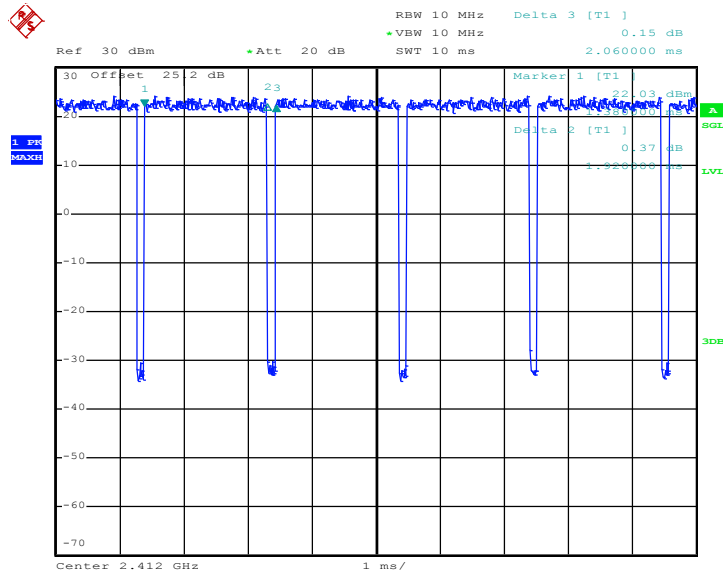
Date: 24.JUL.2018 03:29:38

802.11g



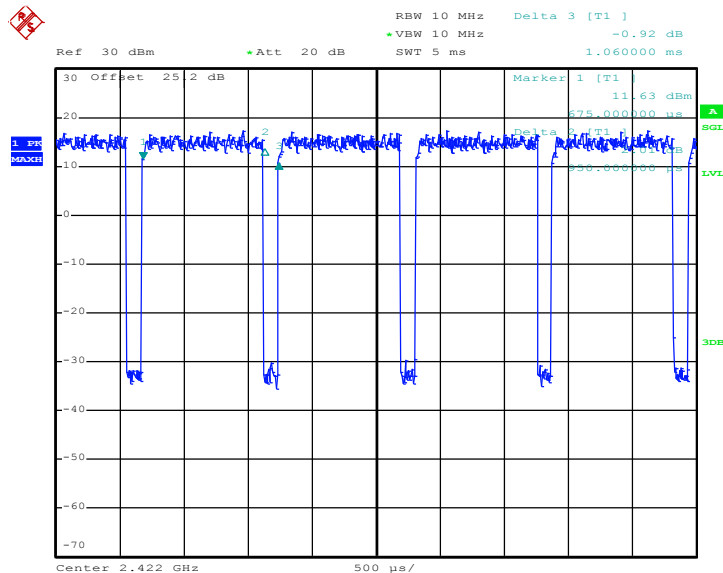
Date: 24.JUL.2018 03:44:53

802.11n HT20



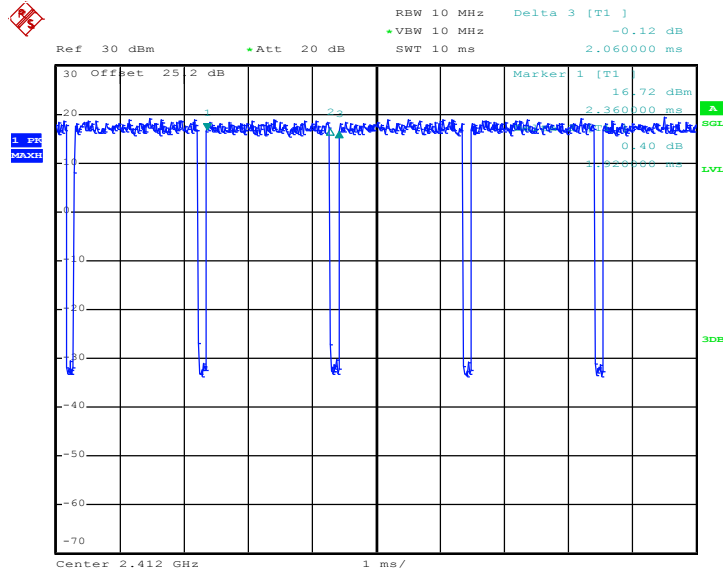
Date: 24.JUL.2018 03:51:49

802.11n HT40



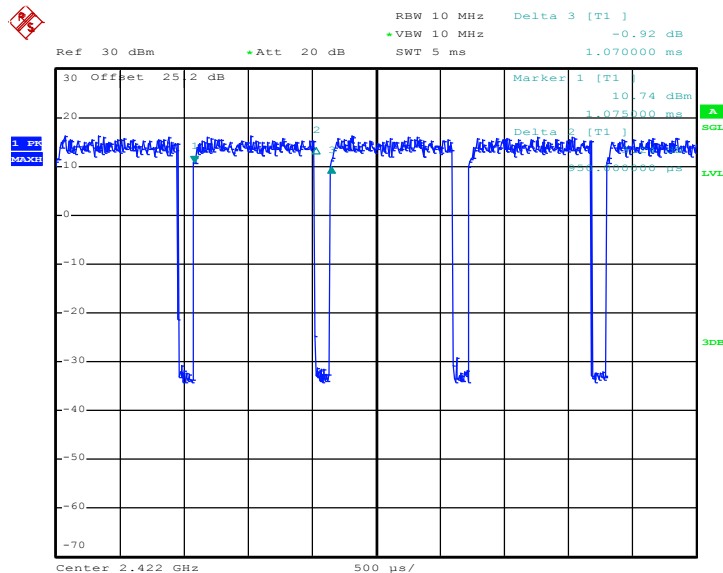
Date: 24.JUL.2018 04:13:37

802.11ac VHT20



Date: 24.JUL.2018 04:23:20

802.11ac VHT40



Date: 24.JUL.2018 04:31:18