



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT1929-4(SS)
FCC ID : IHDT56XE1
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

This is partial report. The product was received on Jan. 18, 2018 and testing was completed on Mar. 03, 2018. We, Sporton International (Kunshan) 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.

This report contains data that were produced under subcontract by Laboratory SPORTON INTERNATIONAL INC.

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



Approved by: James Huang / Manager

Sporton International (Kunshan) Inc.

No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China



TABLE OF CONTENTS

REVISION HISTORY..... 3

SUMMARY OF TEST RESULT 4

1 GENERAL DESCRIPTION 5

 1.1 Applicant 5

 1.2 Manufacturer 5

 1.3 Product Feature of Equipment Under Test..... 5

 1.4 Product Specification of Equipment Under Test..... 6

 1.5 Modification of EUT 6

 1.6 Testing Location 7

 1.7 Applicable Standards..... 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST 8

 2.1 Carrier Frequency and Channel 8

 2.2 Test Mode 8

 2.3 Connection Diagram of Test System 9

 2.4 EUT Operation Test Setup 9

 2.5 Measurement Results Explanation Example..... 9

3 TEST RESULT 10

 3.1 Radiated Band Edges and Spurious Emission Measurement 10

 3.2 Antenna Requirements 14

4 LIST OF MEASURING EQUIPMENT 15

5 UNCERTAINTY OF EVALUATION 16

APPENDIX A. RADIATED SPURIOUS EMISSION

APPENDIX B. RADIATED SPURIOUS EMISSION PLOTS

APPENDIX C. DUTY CYCLE PLOTS



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 4.19 dB at 2486.800 MHz
3.2	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1929-4(SS)
FCC ID	IHDT56XE1
IMEI Code	Radiation : IMEI: 351886090018703
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/GNSS/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DVT2
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



Accessory List	
AC Adapter 1	Brand Name : Motorola
	Model Name : SC-22 SPN5970A
	Manufacturer : Salom
AC Adapter 2	Brand Name : Motorola
	Model Name : SC-22 SPN5993A
	Manufacturer : Chenyang
Battery	Brand Name : Motorola
	Model Name : JS40
	Manufacturer : SUNWODA
C2Audio Cable 1	Brand Name : Motorola
	Model Name : SC18C27844
	Manufacturer : Luxshare
C2Audio Cable 2	Brand Name : Motorola
	Model Name : SC18C27845
	Manufacturer : Cabletech
USB Cable 1	Brand Name : Cabletech
	Model Name : SKN6473A
USB Cable 2	Brand Name : FOXLINK
	Model Name : SKN6473A 17195-C 0403532
USB Cable 3	Brand Name : SAIBAO
	Model Name : SKN6473A 17214-C 1127044
USB Cable 4	Brand Name : Luxshare
	Model Name : SKN6473A 17227-C 1126538

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Antenna Type / Gain	Internal Antenna with gain -5.0 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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



1.6 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.	
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	Sporton Site No.	FCC Test Firm Registration No.
	03CH04-KS	630927

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

1.7 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:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

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

2.2 Test Mode

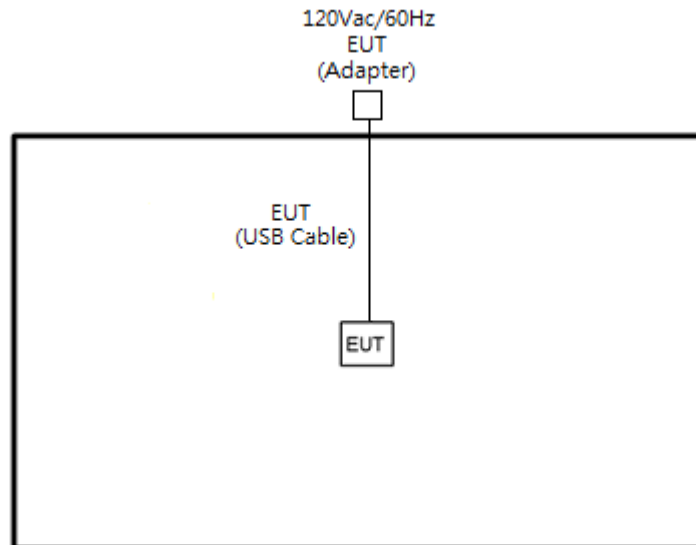
Final test modes are considering the modulation and worse data rates as below table.

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

Remark: For Radiated Test Cases, The tests were performance with Adapter 1, and USB Cable 1 Type C.

2.3 Connection Diagram of Test System

<EUT with Adapter>



2.4 EUT Operation Test Setup

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

2.5 Measurement Results Explanation Example

For all conducted test items:

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

Example:

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

Offset = RF cable loss + attenuator factor.

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

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)



3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 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

3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

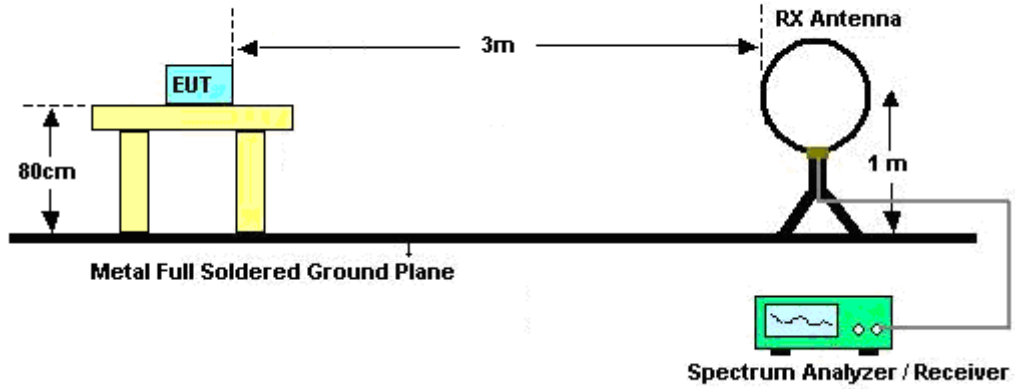


3.1.3 Test Procedures

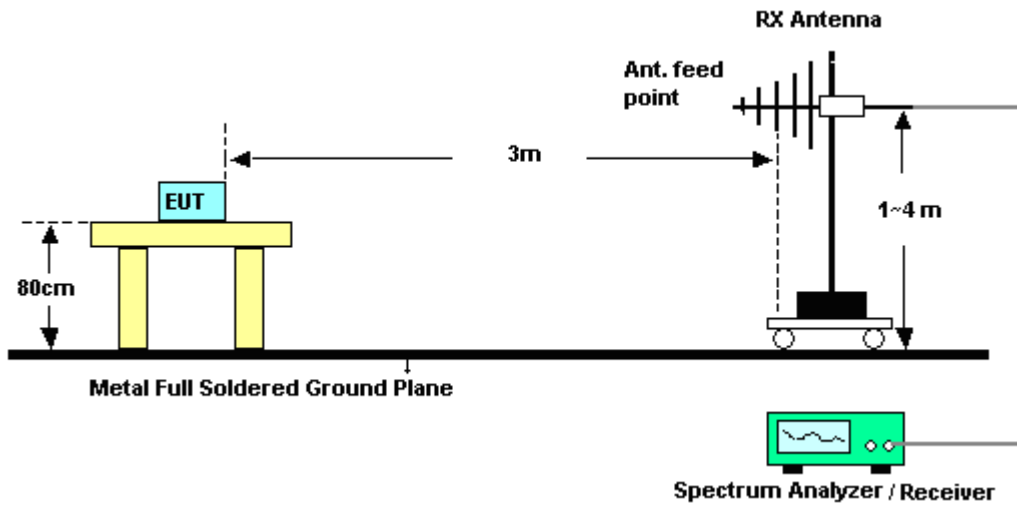
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test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

3.1.4 Test Setup

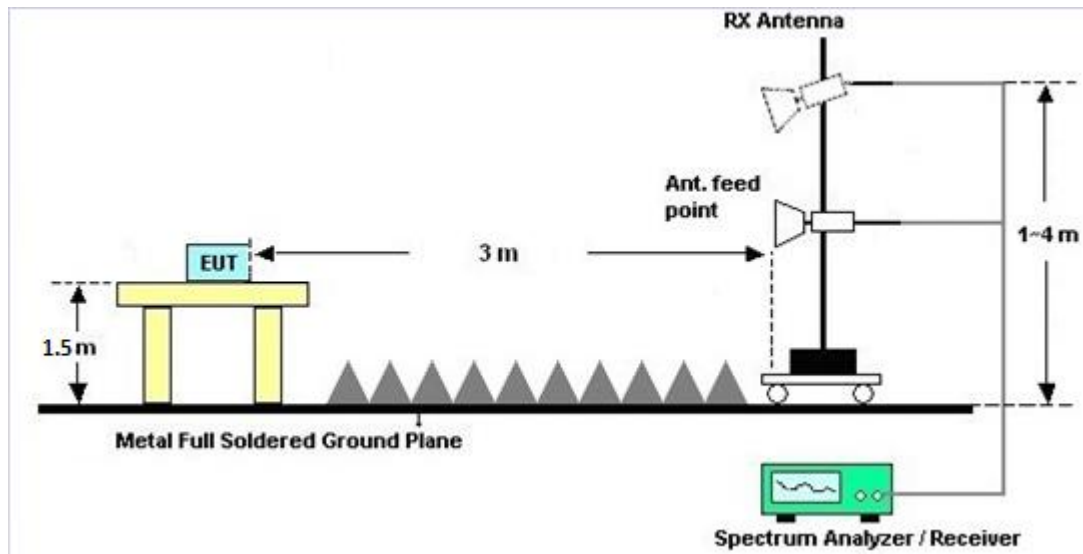
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 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.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix A and B.



3.2 Antenna Requirements

3.2.1 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.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 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
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44GHz	Oct. 19, 2017	Mar. 03, 2018	Oct. 18, 2018	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 23, 2017	Mar. 03, 2018	Nov. 22, 2018	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Jan. 22, 2018	Mar. 03, 2018	Jan. 21, 2019	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1648	1GHz~18GHz	Dec. 17, 2017	Mar. 03, 2018	Dec. 16, 2018	Radiation (03CH04-KS)
SHF-EHF Horn	com-power	AH-840	101093	18GHz~40GHz	Dec. 21, 2017	Mar. 03, 2018	Dec. 20, 2018	Radiation (03CH04-KS)
Amplifier	Burgeon	BPA-530	102219	0.01MHz~3000MHz	Dec. 17, 2017	Mar. 03, 2018	Dec. 16, 2018	Radiation (03CH04-KS)
Amplifier	MITEQ	TTA1840-35-HG	2014749	18~40GHz	Apr. 18, 2017	Mar. 03, 2018	Apr. 17, 2018	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2012228	1Ghz-18Ghz	Apr. 18, 2017	Mar. 03, 2018	Apr. 17, 2018	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5 GHz	Dec. 17, 2017	Mar. 03, 2018	Dec. 16, 2017	Radiation (03CH04-KS)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.40
---	------

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.60
---	------



Appendix A. Radiated Spurious Emission

Test Engineer :	Level Zhao	Temperature :	22~24°C
		Relative Humidity :	41~44%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11b CH 01 2412MHz		2388.91	58.67	-15.33	74	55.86	31.3	5.65	34.14	153	40	P	H	
		2389.95	42.88	-11.12	54	40.07	31.3	5.65	34.14	153	40	A	H	
	*	2412	111.59	-	-	108.75	31.33	5.67	34.16	153	40	P	H	
	*	2414	108.14	-	-	105.3	31.33	5.67	34.16	153	40	A	H	
													H	
														H
			2389.56	57.64	-16.36	74	54.83	31.3	5.65	34.14	392	104	P	V
			2389.95	42.28	-11.72	54	39.47	31.3	5.65	34.14	392	104	A	V
	*		2412	109.72	-	-	106.88	31.33	5.67	34.16	392	104	P	V
	*		2410	106.59	-	-	103.75	31.33	5.67	34.16	392	104	A	V
														V
														V
802.11b CH 06 2437MHz		2389.69	57.91	-16.09	74	55.1	31.3	5.65	34.14	153	40	P	H	
		2389.95	42.1	-11.9	54	39.29	31.3	5.65	34.14	153	40	A	H	
	*	2438	109.7	-	-	106.82	31.39	5.71	34.22	153	40	P	H	
	*	2438	106.1	-	-	103.22	31.39	5.71	34.22	153	40	A	H	
			2487.28	59.55	-14.45	74	56.64	31.44	5.75	34.28	153	40	P	H
			2484.52	42.73	-11.27	54	39.82	31.44	5.75	34.28	153	40	A	H
			2389.69	53.85	-20.15	74	51.04	31.3	5.65	34.14	339	103	P	V
			2389.69	41.51	-12.49	54	38.7	31.3	5.65	34.14	339	103	A	V
	*		2436	109.11	-	-	106.25	31.36	5.69	34.19	339	103	P	V
	*		2436	105.84	-	-	102.98	31.36	5.69	34.19	339	103	A	V
			2486.2	54.04	-19.96	74	51.13	31.44	5.75	34.28	339	103	P	V
			2484.16	41.52	-12.48	54	38.61	31.44	5.75	34.28	339	103	A	V



802.11b CH 11 2462MHz	*	2462	112	-	-	109.11	31.41	5.73	34.25	192	42	P	H
	*	2462	108.41	-	-	105.52	31.41	5.73	34.25	192	42	A	H
		2483.56	60.87	-13.13	74	57.96	31.44	5.75	34.28	192	42	P	H
		2483.62	44.07	-9.93	54	41.16	31.44	5.75	34.28	192	42	A	H
													H
													H
	*	2462	108.66	-	-	105.77	31.41	5.73	34.25	339	110	P	V
	*	2460	105.39	-	-	102.5	31.41	5.73	34.25	339	110	A	V
		2500	53.32	-20.68	74	50.38	31.47	5.77	34.3	339	110	P	V
		2483.8	42.02	-11.98	54	39.11	31.44	5.75	34.28	339	110	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11b CH 01 2412MHz		4824	48.43	-25.57	74	66.23	35.65	7.86	61.31	150	360	P	H	
													H	
													H	
													H	
			4824	44.35	-29.65	74	62.15	35.65	7.86	61.31	150	360	P	V
														V
														V
802.11b CH 06 2437MHz		4872	48.38	-25.62	74	66.07	35.61	7.9	61.2	150	360	P	H	
		7308	46.19	-27.81	74	63.9	35.89	9.5	63.1	150	360	P	H	
													H	
													H	
			4872	44.33	-29.67	74	62.02	35.61	7.9	61.2	150	360	P	V
			7308	48.45	-25.55	74	66.16	35.89	9.5	63.1	150	360	P	V
														V
802.11b CH 11 2462MHz		4926	48.69	-25.31	74	66.26	35.57	7.94	61.08	150	360	P	H	
		7386	45.47	-28.53	74	63.17	35.94	9.53	63.17	150	360	P	H	
													H	
													H	
			4926	45.81	-28.19	74	63.38	35.57	7.94	61.08	150	360	P	V
			7386	42.04	-31.96	74	59.74	35.94	9.53	63.17	150	360	P	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11g CH 01 2412MHz		2389.95	62.67	-11.33	74	59.86	31.3	5.65	34.14	169	77	P	H	
		2389.95	45.37	-8.63	54	42.56	31.3	5.65	34.14	169	77	A	H	
	*	2412	112.19	-	-	109.35	31.33	5.67	34.16	169	77	P	H	
	*	2410	104.32	-	-	101.48	31.33	5.67	34.16	169	77	A	H	
													H	
														H
			2389.95	61.51	-12.49	74	58.7	31.3	5.65	34.14	384	118	P	V
			2389.69	44.88	-9.12	54	42.07	31.3	5.65	34.14	384	118	A	V
	*		2414	111.33	-	-	108.49	31.33	5.67	34.16	384	118	P	V
	*		2412	103.33	-	-	100.49	31.33	5.67	34.16	384	118	A	V
														V
														V
802.11g CH 06 2437MHz		2389.82	59.18	-14.82	74	56.37	31.3	5.65	34.14	163	71	P	H	
		2389.69	44.27	-9.73	54	41.46	31.3	5.65	34.14	163	71	A	H	
	*	2438	111.14	-	-	108.26	31.39	5.71	34.22	163	71	P	H	
	*	2436	103.3	-	-	100.44	31.36	5.69	34.19	163	71	A	H	
			2483.5	66.05	-7.95	74	63.14	31.44	5.75	34.28	163	71	P	H
			2483.5	46.21	-7.79	54	43.3	31.44	5.75	34.28	163	71	A	H
			2389.69	55.95	-18.05	74	53.14	31.3	5.65	34.14	327	100	P	V
			2389.82	43.01	-10.99	54	40.2	31.3	5.65	34.14	327	100	A	V
	*		2440	109.6	-	-	106.72	31.39	5.71	34.22	327	100	P	V
	*		2436	102.02	-	-	99.16	31.36	5.69	34.19	327	100	A	V
			2484.04	65.97	-8.03	74	63.06	31.44	5.75	34.28	327	100	P	V
			2483.56	46.01	-7.99	54	43.1	31.44	5.75	34.28	327	100	A	V



802.11g CH 11 2462MHz	*	2462	111.72	-	-	108.83	31.41	5.73	34.25	162	37	P	H
	*	2460	103.84	-	-	100.95	31.41	5.73	34.25	162	37	A	H
		2486.86	67.94	-6.06	74	65.03	31.44	5.75	34.28	162	37	P	H
		2483.5	47.92	-6.08	54	45.01	31.44	5.75	34.28	162	37	A	H
													H
													H
	*	2466	109.84	-	-	106.95	31.41	5.73	34.25	327	111	P	V
	*	2462	102.17	-	-	99.28	31.41	5.73	34.25	327	111	A	V
		2486.44	66.6	-7.4	74	63.69	31.44	5.75	34.28	327	111	P	V
		2483.8	47.16	-6.84	54	44.25	31.44	5.75	34.28	327	111	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11g CH 01 2412MHz		4824	44.5	-29.5	74	62.3	35.65	7.86	61.31	150	360	P	H	
													H	
													H	
													H	
			4824	44.58	-29.42	74	62.38	35.65	7.86	61.31	150	360	P	V
														V
														V
802.11g CH 06 2437MHz		4872	45.48	-28.52	74	63.17	35.61	7.9	61.2	150	360	P	H	
		7308	45.26	-28.74	74	62.97	35.89	9.5	63.1	150	360	P	H	
													H	
													H	
			4872	44.02	-29.98	74	61.71	35.61	7.9	61.2	150	360	P	V
			7308	42.86	-31.14	74	60.57	35.89	9.5	63.1	150	360	P	V
														V
802.11g CH 11 2462MHz		4926	45.69	-28.31	74	63.26	35.57	7.94	61.08	150	360	P	H	
		7386	42.49	-31.51	74	60.19	35.94	9.53	63.17	150	360	P	H	
													H	
													H	
			4926	46	-28	74	63.57	35.57	7.94	61.08	150	360	P	V
			7386	42.81	-31.19	74	60.51	35.94	9.53	63.17	150	360	P	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 01 2412MHz		2389.56	62	-12	74	59.19	31.3	5.65	34.14	149	81	P	H	
		2389.95	45.62	-8.38	54	42.81	31.3	5.65	34.14	149	81	A	H	
	*	2412	111.46	-	-	108.62	31.33	5.67	34.16	149	81	P	H	
	*	2412	103.95	-	-	101.11	31.33	5.67	34.16	149	81	A	H	
													H	
													H	
			2389.69	60.78	-13.22	74	57.97	31.3	5.65	34.14	392	109	P	V
			2389.95	44.38	-9.62	54	41.57	31.3	5.65	34.14	392	109	A	V
		*	2410	108.72	-	-	105.88	31.33	5.67	34.16	392	109	P	V
		*	2410	100.5	-	-	97.66	31.33	5.67	34.16	392	109	A	V
													V	
													V	
802.11n HT20 CH 06 2437MHz		2388.39	58.92	-15.08	74	56.11	31.3	5.65	34.14	230	36	P	H	
		2389.56	44.94	-9.06	54	42.13	31.3	5.65	34.14	230	36	A	H	
	*	2438	110.72	-	-	107.84	31.39	5.71	34.22	230	36	P	H	
	*	2438	103.08	-	-	100.2	31.39	5.71	34.22	230	36	A	H	
			2484.82	67.04	-6.96	74	64.13	31.44	5.75	34.28	230	36	P	H
			2483.8	47.31	-6.69	54	44.4	31.44	5.75	34.28	230	36	A	H
			2389.82	58.31	-15.69	74	55.5	31.3	5.65	34.14	341	105	P	V
			2389.56	43.71	-10.29	54	40.9	31.3	5.65	34.14	341	105	A	V
		*	2436	108.89	-	-	106.03	31.36	5.69	34.19	341	105	P	V
		*	2438	101.06	-	-	98.18	31.39	5.71	34.22	341	105	A	V
		2484.34	61.24	-12.76	74	58.33	31.44	5.75	34.28	341	105	P	V	
		2483.74	43.4	-10.6	54	40.49	31.44	5.75	34.28	341	105	A	V	



802.11n HT20 CH 11 2462MHz	*	2460	109.93	-	-	107.04	31.41	5.73	34.25	161	31	P	H
	*	2462	102.07	-	-	99.18	31.41	5.73	34.25	161	31	A	H
	!	2486.8	69.81	-4.19	74	66.9	31.44	5.75	34.28	161	31	P	H
	!	2483.62	48.02	-5.98	54	45.11	31.44	5.75	34.28	161	31	A	H
													H
													H
	*	2462	108.57	-	-	105.68	31.41	5.73	34.25	326	112	P	V
	*	2460	100.69	-	-	97.8	31.41	5.73	34.25	326	112	A	V
		2487.22	66.83	-7.17	74	63.92	31.44	5.75	34.28	326	112	P	V
		2483.74	46.86	-7.14	54	43.95	31.44	5.75	34.28	326	112	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 01 2412MHz		4824	45.04	-28.96	74	62.84	35.65	7.86	61.31	150	360	P	H	
													H	
													H	
													H	
			4824	44.71	-29.29	74	62.51	35.65	7.86	61.31	150	360	P	V
														V
														V
802.11n HT20 CH 06 2437MHz		4872	44.72	-29.28	74	62.41	35.61	7.9	61.2	150	360	P	H	
		7308	43.04	-30.96	74	60.75	35.89	9.5	63.1	150	360	P	H	
													H	
													H	
			4872	44.91	-29.09	74	62.6	35.61	7.9	61.2	150	360	P	V
			7308	43.52	-30.48	74	61.23	35.89	9.5	63.1	150	360	P	V
														V
802.11n HT20 CH 11 2462MHz		4926	44.92	-29.08	74	62.49	35.57	7.94	61.08	150	360	P	H	
		7386	42.22	-31.78	74	59.92	35.94	9.53	63.17	150	360	P	H	
													H	
													H	
			4926	43.74	-30.26	74	61.31	35.57	7.94	61.08	150	360	P	V
			7386	42.34	-31.66	74	60.04	35.94	9.53	63.17	150	360	P	V
														V
Remark	1. No other spurious found.													
	2. All results are PASS against Peak and Average limit line.													



Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.	
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
2.4GHz 802.11n HT20 LF		33.88	21.8	-18.2	40	28.14	24.06	0.62	31.02	100	234	P	H	
		47.46	17.49	-22.51	40	31.8	16.4	0.74	31.45			P	H	
		175.5	22.68	-20.82	43.5	35.76	16.48	1.44	31			P	H	
		195.87	23.33	-20.17	43.5	37.08	15.83	1.5	31.08			P	H	
		281.23	21.96	-24.04	46	32.55	18.97	1.83	31.39			P	H	
		495.6	23.47	-22.53	46	28.57	24.02	2.48	31.6			P	H	
														H
														H
														H
														H
														H
														H
														H
			30.97	30.28	-9.72	40	35.04	25.74	0.58	31.08			P	V
			45.52	31.41	-8.59	40	44.77	17.33	0.73	31.42	100	26	P	V
			52.31	31.41	-8.59	40	47.57	14.56	0.78	31.5			P	V
			81.41	20.35	-19.65	40	35.21	15.56	0.98	31.4			P	V
			180.35	28.2	-15.3	43.5	41.43	16.33	1.46	31.02			P	V
			443.22	21.4	-24.6	46	27.45	23.21	2.33	31.59			P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



Note symbol

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



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(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

- Level(dBμV/m) =
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

- Level(dBμV/m)
= Antenna Factor(dB/m) + Cable 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)
- Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

- Level(dBμV/m)
= Antenna Factor(dB/m) + Cable 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)
- 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 B. Radiated Spurious Emission Plots

Test Engineer :	Level Zhao	Temperature :	22~24°C
		Relative Humidity :	41~44%

Note symbol

-L	Low channel location
-R	High channel location



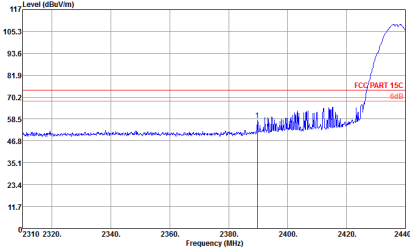
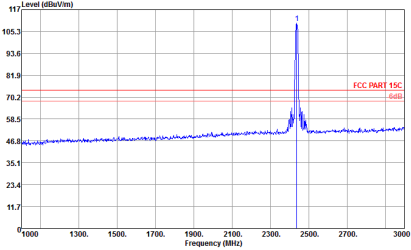
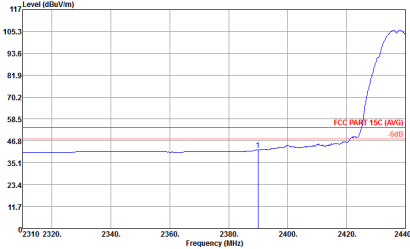
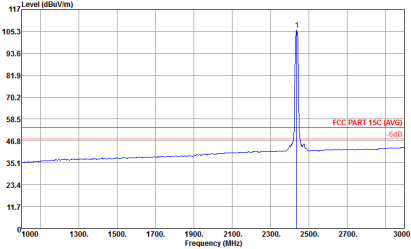
2.4GHz 2400~2483.5MHz
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>

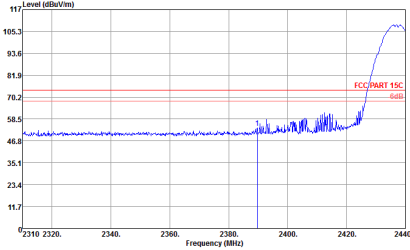
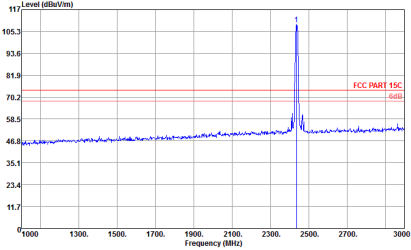
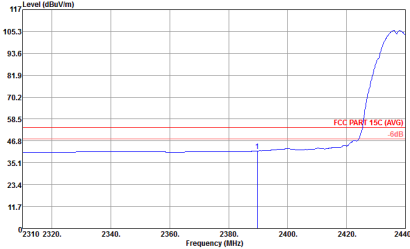
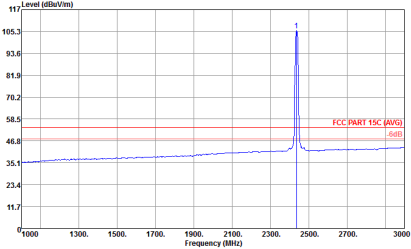


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL : RBW:1800.000KHz VBW:3000.000KHz SMT:Auto</p>	Left blank
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL : RBW:1800.000KHz VBW:0.010KHz SMT:Auto</p>	Left blank

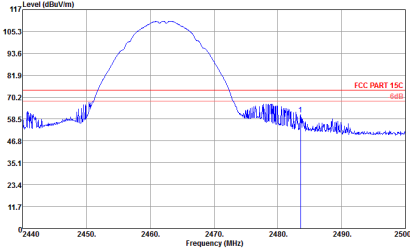
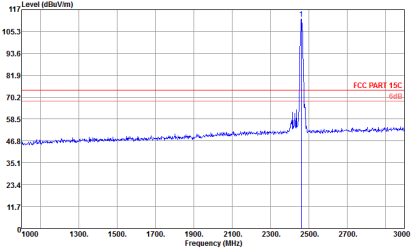
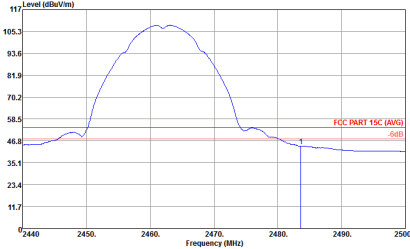
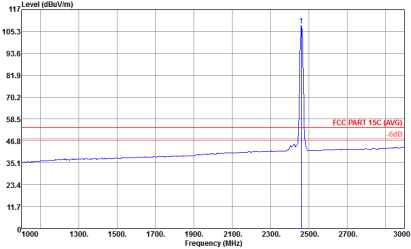


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>

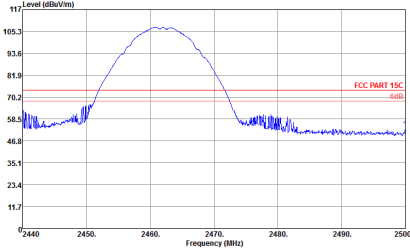
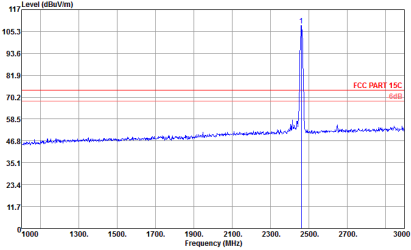
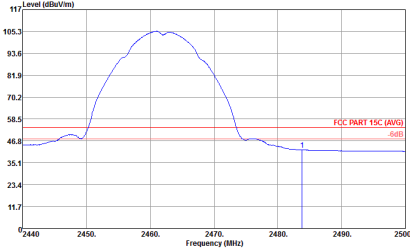
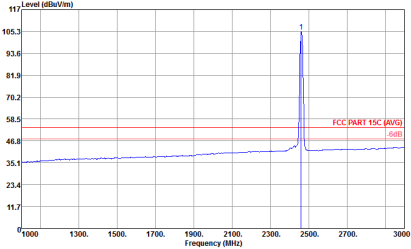


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	Left blank
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000KHz VBW:0.010KHz SMT:Auto</p>	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>	 <p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:0.010kHz SMT:Auto</p>



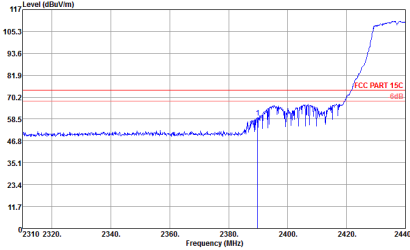
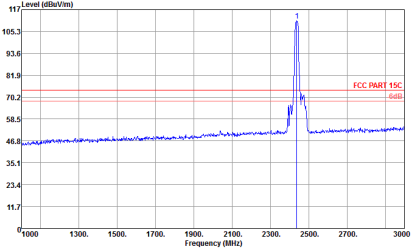
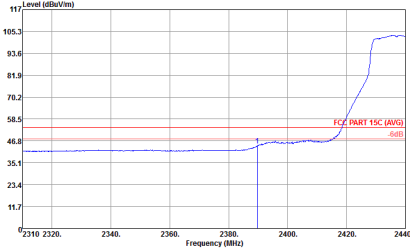
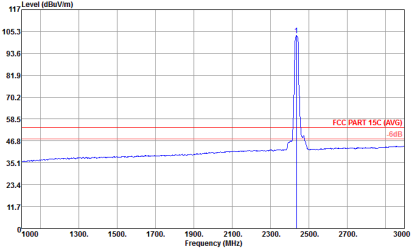
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	<p>Site : 83CM03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	Left blank
Avg.	<p>Site : 83CM03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SMT:Auto</p>	Left blank

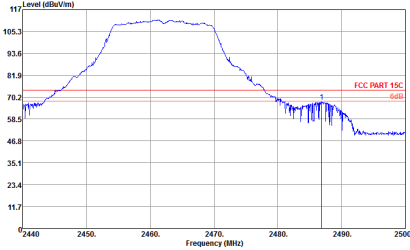
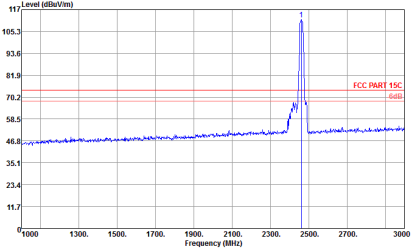
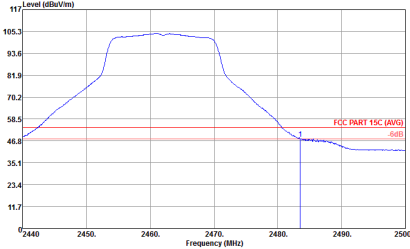
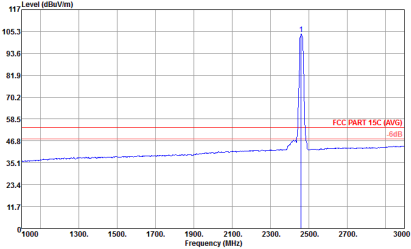


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	Left Blank
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000KHz VBW:1.000KHz SMT:Auto</p>	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	 <p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 03CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



2.4GHz 2400~2483.5MHz

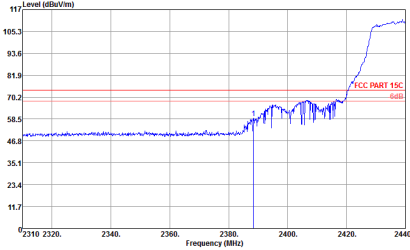
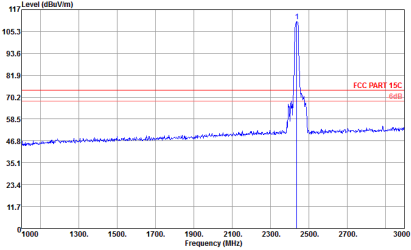
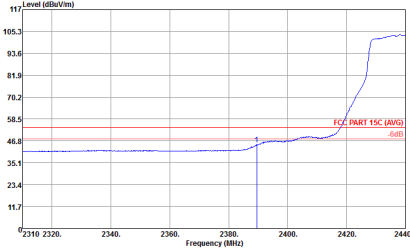
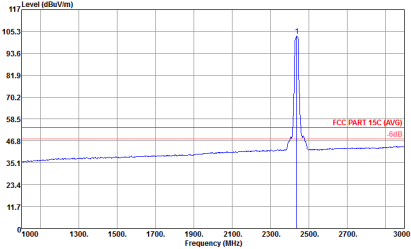
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>

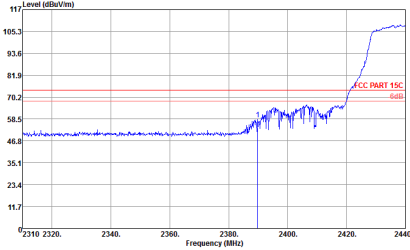
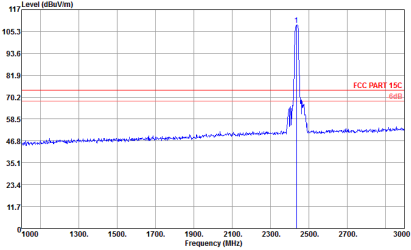
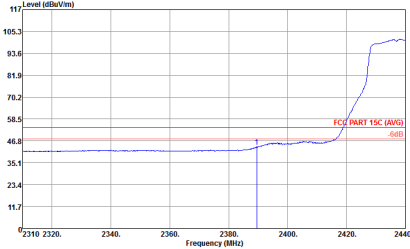
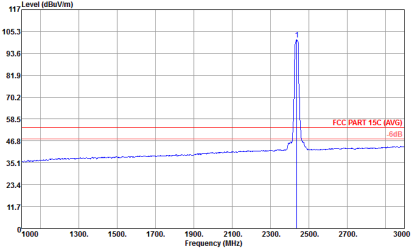


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	<p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	Left blank
Avg.	<p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SMT:Auto</p>	Left blank

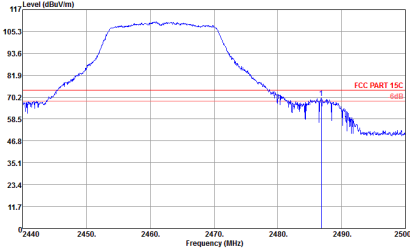
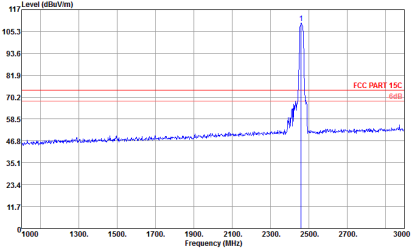
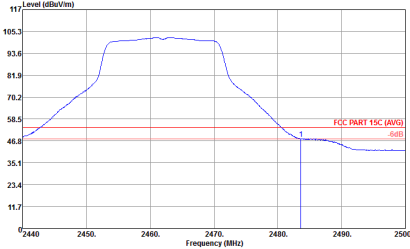
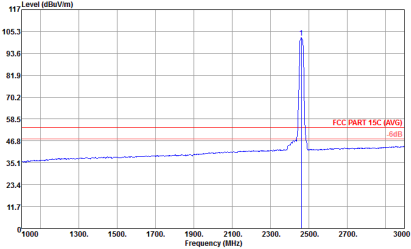


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	 <p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	<p>Site : 83CH03-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SMT:Auto</p>	Left Blank
Avg.	<p>Site : 83CH03-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL : RBW:1000.000KHz VBW:1.000KHz SMT:Auto</p>	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	 <p>Site : 83CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:3000.000kHz SMT:Auto</p>
Avg.	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>	<p>Site : 03CH3-K5 Condition : FCC PART 15C (AVG) 3m 966-02 HF ANT VERTICAL RBW:1000.000kHz VBW:1.000kHz SMT:Auto</p>



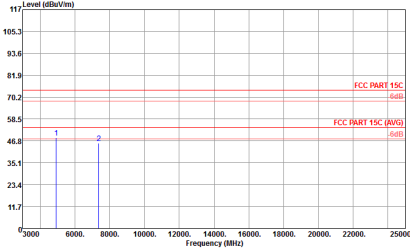
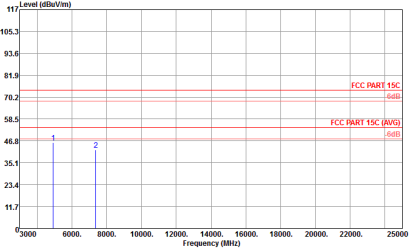
2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 80CM3-ES Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 80CM3-ES Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	<p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	 <p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



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

Table with 3 columns: WIFI, ANT, and 1. Sub-headers: Horizontal and Vertical. Content: Peak and Avg. plots showing Level (dBuV/m) vs Frequency (MHz) for FCC PART 15C and FCC PART 15C (AVG).



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CM92-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 03CM92-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	<p>Site : 03CM02-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 03CM02-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>

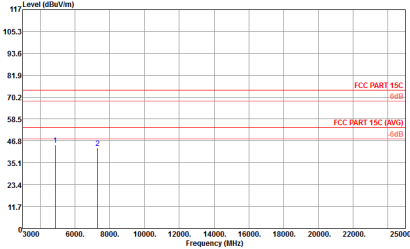
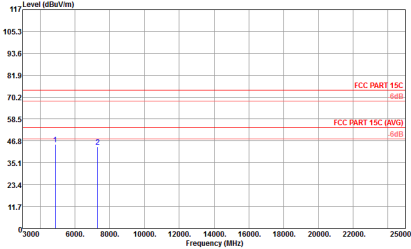


2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 80CM3-ES Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 80CM3-ES Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CM02-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	 <p>Site : 03CM02-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT HORIZONTAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>	<p>Site : 03CM2-K5 Condition : FCC PART 15C 3m 966-02 HF ANT VERTICAL RBW:1000.000KHZ VBW:3000.000KHZ SMT:Auto</p>



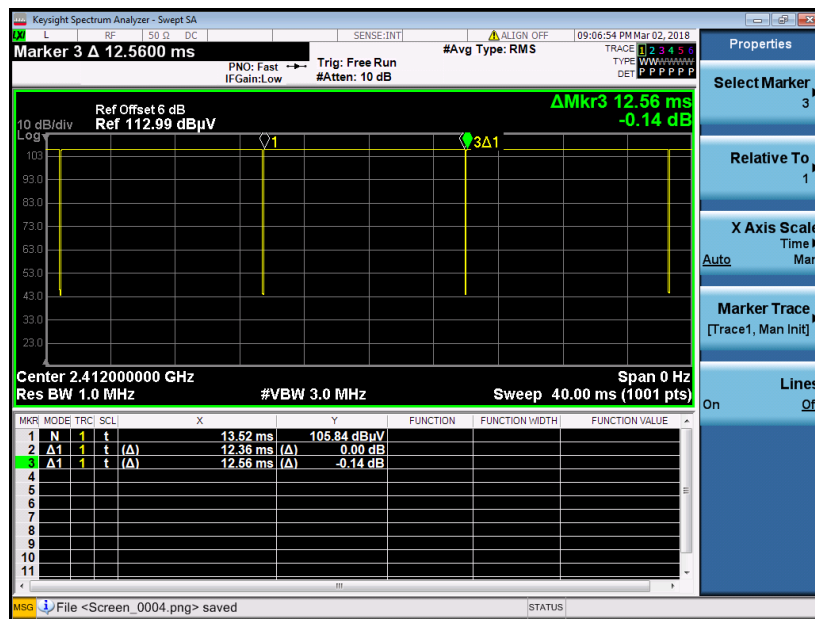
Emission below 1GHz
2.4GHz WIFI 802.11n HT20 (LF)

Table with 3 columns: WIFI (2.4GHz 2400~2483.5MHz), ANT (802.11n HT20 LF), and 1 (Horizontal/Vertical). It contains two spectral plots showing Level (dBuV/m) vs Frequency (MHz) for Horizontal and Vertical orientations. The plots include a red line for the FCC Part 15C limit and a blue line for the measured emission. The measured emission is consistently below the limit across the frequency range.

Appendix C. Duty Cycle Plots

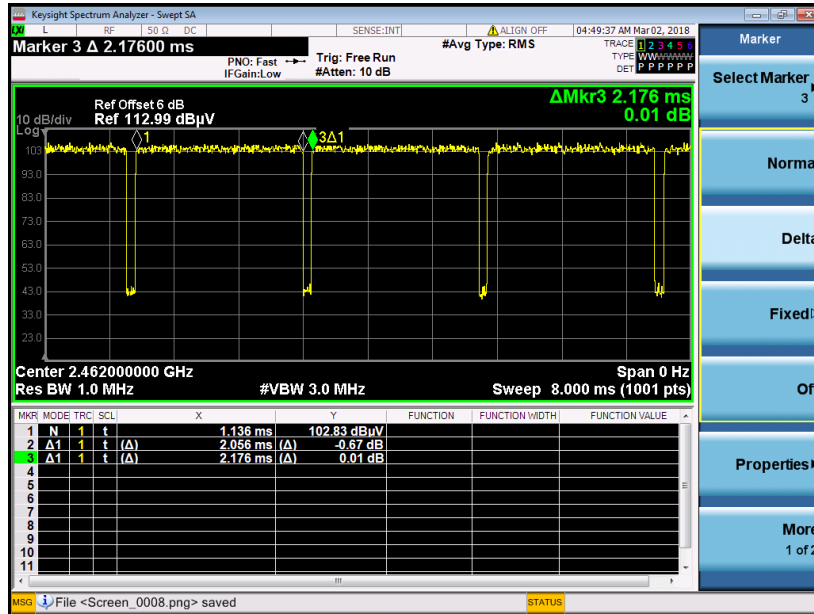
Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
802.11b	98.41	-	-	10Hz	0.03
802.11g	94.49	2.056	0.49	1KHz	0.22
2.4GHz 802.11n HT20	94.16	1.919	0.52	1KHz	0.18

802.11b





802.11g



802.11n HT20

