FCC Test Report

Product Name	:	Miku Life Monitor
Trade Name	:	Miku
Model No.	:	M0100
FCC ID.	:	2AQM3M0100

Applicant	:	Miku, Inc.
Address	:	10 Woodbridge Center Drive Suite 650 Woodbridge, NJ 07095

Date of Receipt	:	Aug. 02, 2018
Issued Date	:	Sep. 21, 2018
Report No.	:	1880035R-RFUSP26V00
Report Version	:	V1.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Sep. 21, 2018
Report No. : 1880035R-RFUSP26V00

Product Name	:	Miku Life Monitor
Applicant	:	Miku, Inc.
Address	:	10 Woodbridge Center Drive Suite 650 Woodbridge, NJ 07095
Manufacturer	:	CHENG UEI PRECISION INDUSTRY CO. LTD.
Model No.	:	M0100
Trade Name	:	Miku
FCC ID.	:	2AQM3M0100
EUT Test Voltage	:	AC 100-240V, 50/60Hz
Testing Voltage	:	AC 120V/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2017 ANSI C63.10: 2013 KDB 558074 D01 V05 / KDB 662911 D01 V02r01
Laboratory Name	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By :

(Demi Chang / Senior Engineering Adm. Specialist)

Tested By :

(Scott Chang / Engineer)

Approved By :

(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1880035R-RFUSP26V00	V1.0	Initial issue of report	Sep. 21, 2018

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	Miku Life Monitor	
Trade Name	Miku	
Model No.	M0100	
Frequency Range/ Channel Number	IEEE 802.11b/g IEEE 802.11n (20MHz)	2412~2462MHz / 11 Channels
	IEEE 802.11n (40MHz)	2422~2452MHz / 7 Channels
Type of Modulation	IEEE 802.11b	Direct Sequence Spread Spectrum
	IEEE 802.11g/n	Orthogonal Frequency Division Multiplexing
Data Speed	IEEE 802.11b	1, 2, 5.5, 11Mbps
	IEEE 802.11g	6, 12, 18, 24, 36, 48, 54Mbps
	IEEE 802.11n	Support a subset of the combination of GI, MCS 0~MCS 15 and bandwidth defined in 802.11n

Antenna Information	
Antenna Type	Monopole Antenna
Antenna Gain	3.45dBi

Accessories Information	
Fixed seat	1 Set
Sidebar	6 Set
Cross screwdriver	1 Set
Power Adapter	Sunward, AD15AM050300 I/P : 100-240V~, 50/60Hz 0.7A max. O/P : 5.0V⎓3A Cable Out: Non-Shielded, 1.8m Power Cord : Non-Shielded, 1.8m

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX		RX	
Mode/ Channel Bandwidth	20MHz	40MHz	20MHz	40MHz
IEEE802.11b	✓		✓	
IEEE802.11g	✓		✓	
IEEE802.11n	✓	✓	✓	✓

IEEE 802.11n

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
0	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.2	15.0
1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.4	30.0
2	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.7	45.0
3	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.9	60.0
4	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.3	90.0
5	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.8	120.0
6	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.0	135.0
7	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.2	150.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 1 – MCS parameters for TX Antenna number = 1

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
8	BPSK	1/2	1	104	216	52	108	13.0	27.0	14.4	30.0
9	QPSK	1/2	2	208	432	104	216	26.0	54.0	28.9	60.0
10	QPSK	3/4	2	208	432	156	324	39.0	81.0	43.3	90.0
11	16-QAM	1/2	4	416	864	208	432	52.0	108.0	57.8	120.0
12	16-QAM	3/4	4	416	864	312	648	78.0	162.0	86.7	180.0
13	64-QAM	2/3	6	624	1296	416	864	104.0	216.0	115.6	240.0
14	64-QAM	3/4	6	624	1296	468	972	117.0	243.0	130.0	270.0
15	64-QAM	5/6	6	624	1296	520	1080	130.0	270.0	144.4	300.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 2 – MCS parameters for TX Antenna number = 2

Symbol	Explanation
R	Code rate
N_{BPSC}	Number of coded bits per single carrier
N_{CBPS}	Number of coded bits per symbol
N_{DBPS}	Number of data bits per symbol
GI	guard interval

IEEE 802.11b/g, IEEE 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz	-	-

IEEE 802.11n (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
003	2422 MHz	004	2427 MHz	005	2432 MHz	006	2437 MHz
007	2442 MHz	008	2447 MHz	009	2452 MHz	-	-

Note:

1. This device is a Miku Life Monitor including WIFI 2.4GHz b/g/n and UWB function.
2. This device contain an UWB module that FCC ID: 2AD9QX4M02.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

Test Mode	Mode 1: Transmit

Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11n(40MHz)	6	0+1	Complies
Maximum peak conducted output power	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0+1	Complies
	11n(40MHz)	3/6/9	0+1	Complies
Radiated Emission	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0+1	Complies
	11n(40MHz)	3/6/9	0+1	Complies
RF antenna conducted test	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0/1	Complies
	11n(40MHz)	3/6/9	0/1	Complies
Radiated Emission Band Edge	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0+1	Complies
	11n(40MHz)	3/6/9	0+1	Complies
DTS Bandwidth	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0/1	Complies
	11n(40MHz)	3/6/9	0/1	Complies
Occupied Bandwidth	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0/1	Complies
	11n(40MHz)	3/6/9	0/1	Complies
Power Density	11b/g	1/6/11	0	Complies
	11n(20MHz)	1/6/11	0+1	Complies
	11n(40MHz)	3/6/9	0+1	Complies

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
N/A					

1.4. Configuration of tested System

Connection Diagram


1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the Control program on the EUT.
3	Configure the test mode, the test channel, and the data rate.
4	Make the EUT to start the continuous transmitting.
5	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual	Test Site
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20	3
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Maximum peak conducted output power	15 - 35	25	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	25	2
Humidity (%RH)		25 - 75	65	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	25	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission Band Edge	15 - 35	25	2
Humidity (%RH)		25 - 75	48	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth & DTS Bandwidth	15 - 35	25	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	25	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test Site information refers to Laboratory Information.

Laboratory Information

USA	**:**	**FCC Registration Number: TW3024**
Canada		**IC Registration Number: 22397-1 / 22397-2 / 22397-3**

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

1 No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan (R.O.C.)
TEL: +886-3-592-8858 / FAX: +886-3-592-8859 E-Mail : info.tw@dekra.com

2 No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

3 No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

1.7. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2018/01/22	2019/01/21
Test Receiver	R&S	ESCS 30	836858/022	2018/03/30	2019/03/29
LISN	R&S	ENV216	100092	2018/07/23	2019/07/22

Maximum peak conducted output power / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411b	1531043	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411b	1531044	2018/01/02	2019/01/01
Power Meter	Keysight	8990B	MY51000248	2018/06/07	2019/06/06
Power Sensor	Keysight	N1923A	MY57240005	2018/06/07	2019/06/06

Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Radiated Emission Band Edge / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Power Density / SR10-H

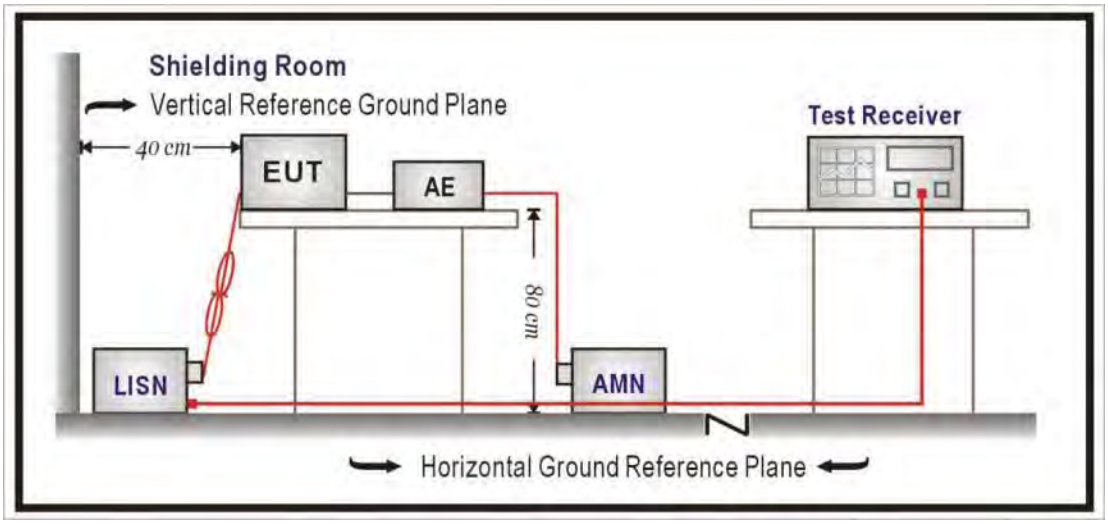
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

1.8. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
Maximum peak conducted output power	± 1.27 dB
Radiated Emission	30MHz～1GHz as ± 3.43 dB 1GHz～26.5GHz as ± 3.65 dB
RF antenna conducted test	± 1.27dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 50 Hz
Occupied Bandwidth	± 50 Hz
Power Density	± 1.27 dB

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

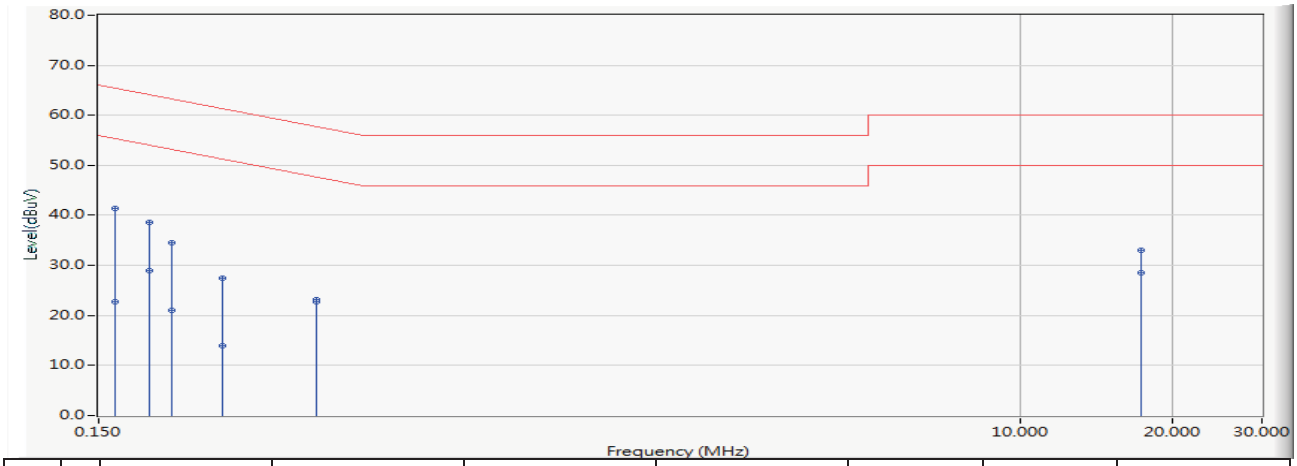
The EUT was setup according to ANSI C63.4: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2017

2.5. Test Result

Site : SR2-H	Time : 2018/08/20
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-B127_LISN(16A)-8 - Line1	Power : AC 120V/60Hz
EUT : Miku Life Monitor	Note : Mode 1: Transmit_802.11n(40M)_2437MHz

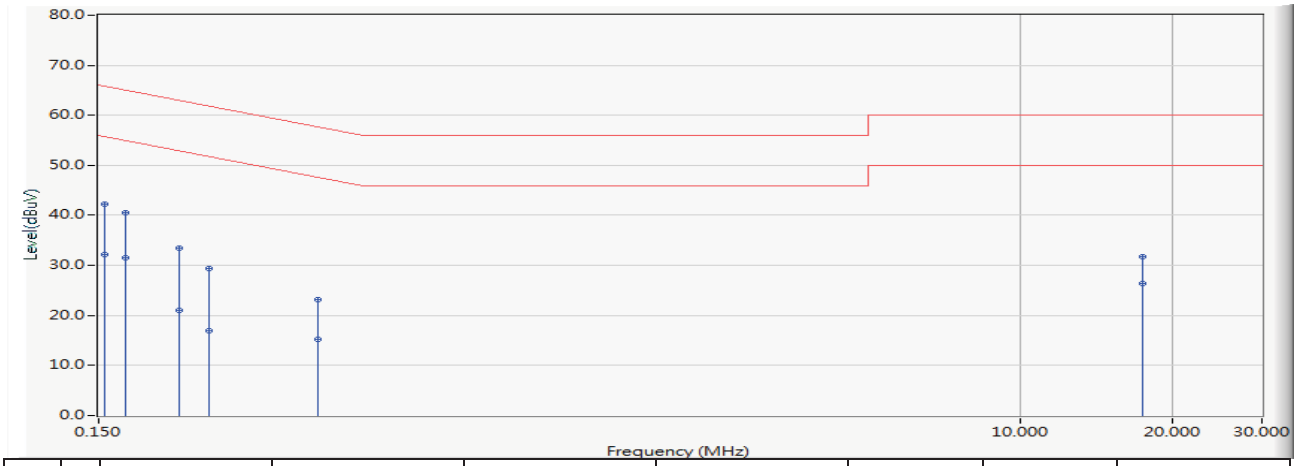


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.680	31.800	41.480	-23.895	65.375	QUASIPEAK
2		0.162	9.680	13.070	22.750	-32.625	55.375	AVERAGE
3		0.189	9.680	28.940	38.620	-25.458	64.078	QUASIPEAK
4		0.189	9.680	19.200	28.880	-25.198	54.078	AVERAGE
5		0.209	9.680	24.920	34.600	-28.661	63.261	QUASIPEAK
6		0.209	9.680	11.330	21.010	-32.251	53.261	AVERAGE
7		0.263	9.680	17.720	27.400	-33.927	61.327	QUASIPEAK
8		0.263	9.680	4.280	13.960	-37.367	51.327	AVERAGE
9		0.404	9.680	13.500	23.180	-34.593	57.773	QUASIPEAK
10		0.404	9.680	13.150	22.830	-24.943	47.773	AVERAGE
11		17.306	10.324	22.640	32.964	-27.036	60.000	QUASIPEAK
12	*	17.306	10.324	18.300	28.624	-21.376	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2-H	**Time : 2018/08/20**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2-B127_LISN(16A)-8 - Line2	**Power : AC 120V/60Hz**
EUT : Miku Life Monitor	**Note : Mode 1: Transmit_802.11n(40M)_2437MHz**



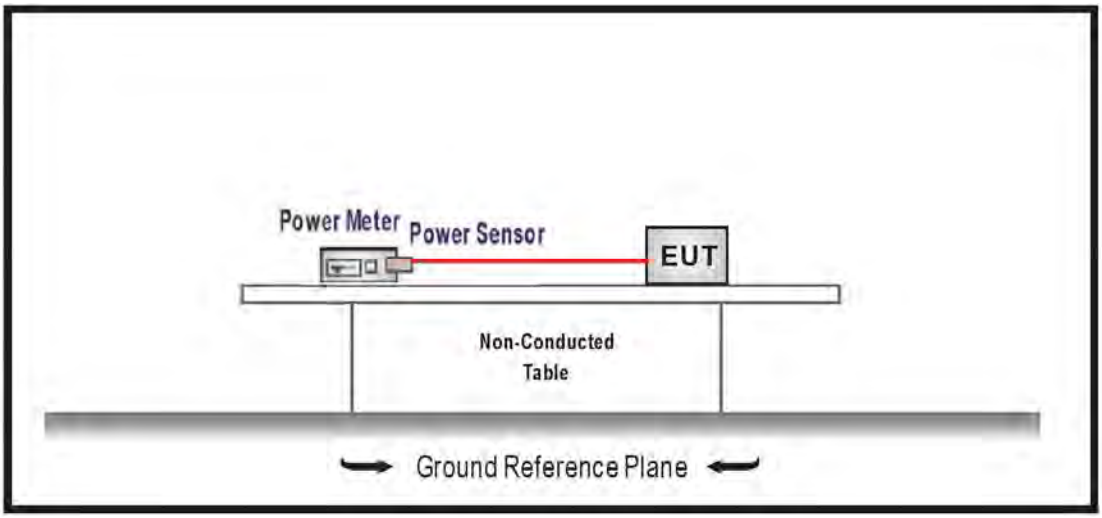
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.154	9.673	32.600	42.272	-23.514	65.786	QUASIPEAK
2		0.154	9.673	22.560	32.232	-23.554	55.786	AVERAGE
3		0.170	9.680	30.920	40.600	-24.383	64.983	QUASIPEAK
4	*	0.170	9.680	21.950	31.630	-23.353	54.983	AVERAGE
5		0.216	9.680	23.880	33.560	-29.396	62.956	QUASIPEAK
6		0.216	9.680	11.330	21.010	-31.946	52.956	AVERAGE
7		0.248	9.680	19.620	29.300	-32.535	61.835	QUASIPEAK
8		0.248	9.680	7.280	16.960	-34.875	51.835	AVERAGE
9		0.408	9.680	13.580	23.260	-34.433	57.693	QUASIPEAK
10		0.408	9.680	5.590	15.270	-32.423	47.693	AVERAGE
11		17.435	10.289	21.400	31.688	-28.312	60.000	QUASIPEAK
12		17.435	10.289	16.000	26.288	-23.712	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Maximum peak conducted output power

3.1. Test Setup



3.2. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 D01 V05, Measurement to FCC 47CFR 15.247 requirements.

3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2017

3.5. Test Result

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11b (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	21.550	≦30
6	2437	22.520	≦30
11	2462	24.400	≦30

The worst emission of data rate is 1 Mbps

Maximum peak conducted output power (dBm)						
Channel No.	Frequency(MHz)	Data Rate (Mbps)				Required Limit (dBm)
		1	2	5.5	11	
1	2412	21.550	--	--	--	≦30
6	2437	22.520	22.380	22.230	22.090	≦30
11	2462	24.400	--	--	--	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11g (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	26.410	≦30
6	2437	26.530	≦30
11	2462	26.240	≦30

The worst emission of data rate is 6Mbps

Maximum peak conducted output power (dBm)									
Channel No	Frequency (MHz)	Data Rate (Mbps)							Required Limit (dBm)
		6	12	18	24	36	48	54	
1	2412	26.410	--	--	--	--	--	--	≦30
6	2437	26.530	26.390	26.250	26.110	25.970	25.830	25.690	≦30
11	2462	26.240	--	--	--	--	--	--	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 20M (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	15.940	≦30
6	2437	20.110	≦30
11	2462	19.920	≦30

The worst emission of data rate is MCS0

Maximum peak conducted output power (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit (dBm)
		0	1	2	3	4	5	6	7	
1	2412	15.940	--	--	--	--	--	--	--	≦30
6	2437	20.110	19.970	19.820	19.680	19.540	19.410	19.280	19.140	≦30
11	2462	19.920	--	--	--	--	--	--	--	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 20M (ANT 1)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	18.150	≦30
6	2437	21.830	≦30
11	2462	21.860	≦30

The worst emission of data rate is MCS0

Maximum peak conducted output power (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit (dBm)
		0	1	2	3	4	5	6	7	
1	2412	18.150	--	--	--	--	--	--	--	≦30
6	2437	21.830	21.690	21.550	21.410	21.270	21.130	20.990	20.850	≦30
11	2462	21.860	--	--	--	--	--	--	--	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 20M (ANT 0+1)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	20.194	≦30
6	2437	24.065	≦30
11	2462	24.008	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 40M (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
3	2422	19.760	≦30
6	2437	19.460	≦30
9	2452	19.600	≦30

The worst emission of data rate is MCS0

Maximum peak conducted output power (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit (dBm)
		0	1	2	3	4	5	6	7	
3	2422	19.760	--	--	--	--	--	--	--	≦30
6	2437	19.460	19.310	19.170	19.030	18.880	18.740	18.610	18.480	≦30
9	2452	19.600	--	--	--	--	--	--	--	≦30

Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 40M (ANT 1)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
3	2422	21.500	≦30
6	2437	21.560	≦30
9	2452	21.660	≦30

The worst emission of data rate is MCS0

Maximum peak conducted output power (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit (dBm)
		0	1	2	3	4	5	6	7	
3	2422	21.500	--	--	--	--	--	--	--	≦30
6	2437	21.560	21.430	21.300	21.160	21.020	20.870	20.740	20.590	≦30
9	2452	21.660	--	--	--	--	--	--	--	≦30

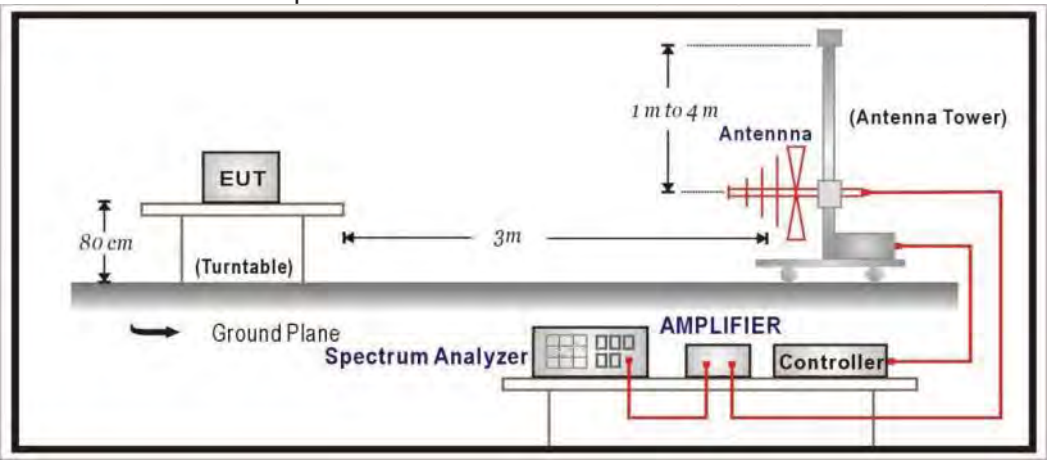
Product	Miku Life Monitor		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/10	Test Site	SR10-H

IEEE 802.11n 40M (ANT 0+1)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
3	2422	23.727	≦30
6	2437	23.646	≦30
9	2452	23.761	≦30

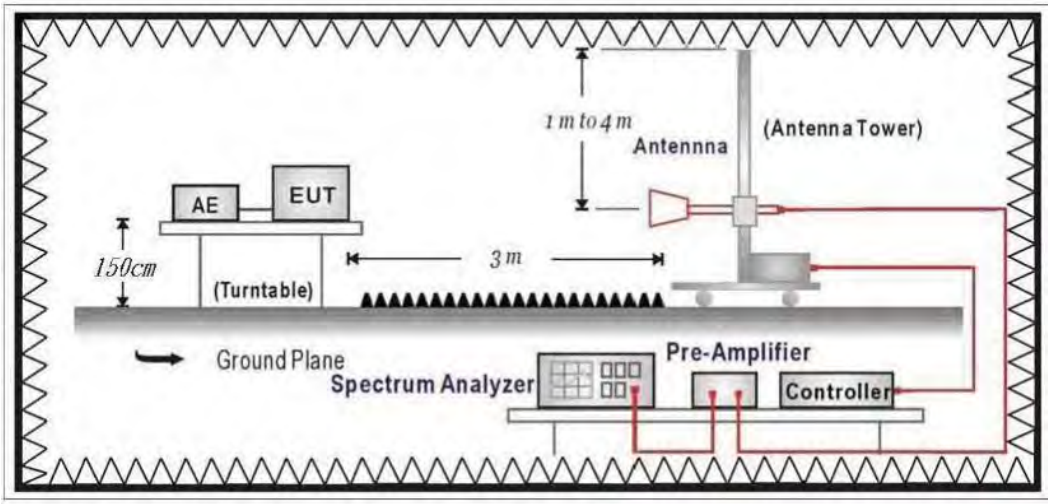
4. Radiated Emission

4.1. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.3. Test Procedure

The EUT was setup according to ANSI C63.10:2013 and tested according to DTS test procedure of KDB558074 D01 V05 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 1.5 meter above ground(under 1GHz) or 1.5 meter above ground (above 1GHz). The turn table can rotate 360 degrees to determine the position of the maximum emission level.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to
ANSI C63.10:2013 on radiated measurement.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

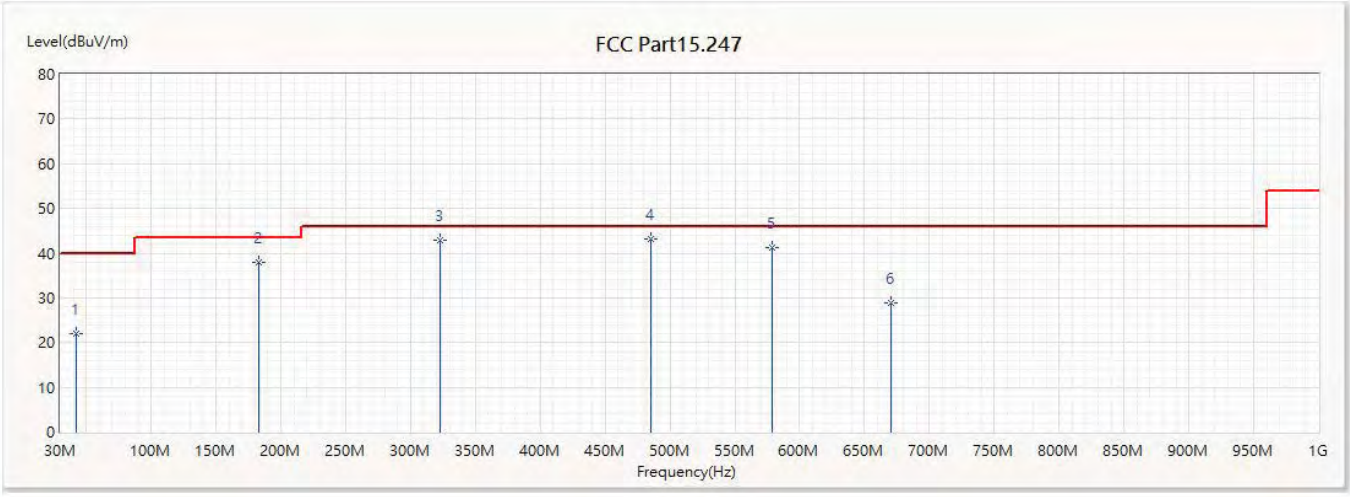
4.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2017

4.5. Test Result

30MHz-1GHz Spurious

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2437MHz		

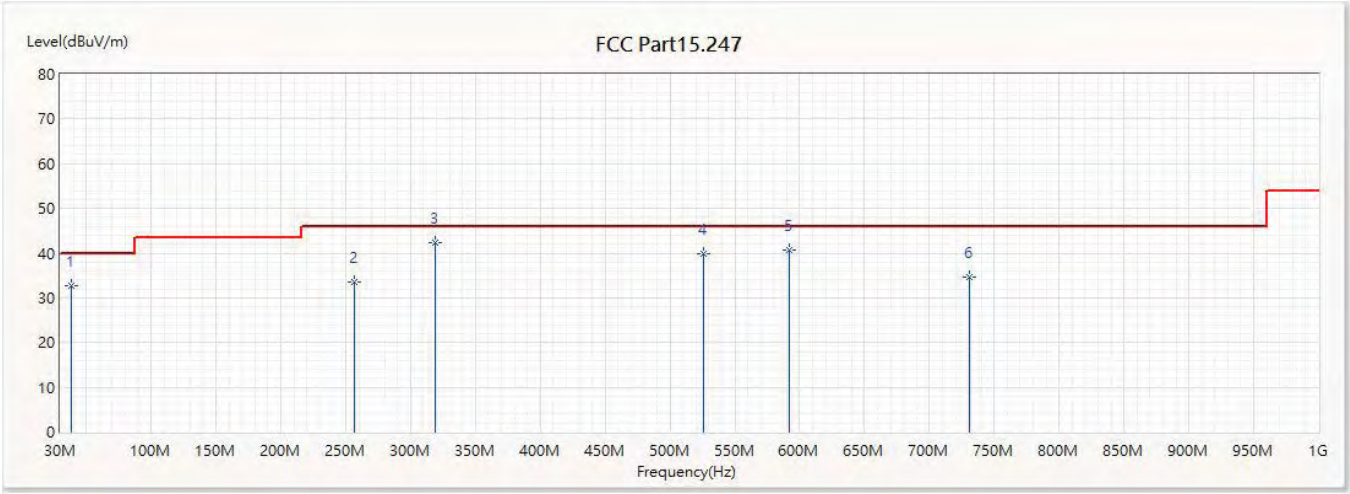


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	42.61	21.87	40.00	-18.13	39.71	-17.84	QP
2	183.26	37.99	43.50	-5.51	60.34	-22.35	QP
3	322.455	42.79	46.00	-3.21	61.31	-18.52	QP
* 4	485.415	43.27	46.00	-2.73	57.09	-13.82	QP
5	578.535	41.14	46.00	-4.86	54.22	-13.08	QP
6	670.685	28.97	46.00	-17.03	40.31	-11.34	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2437MHz		

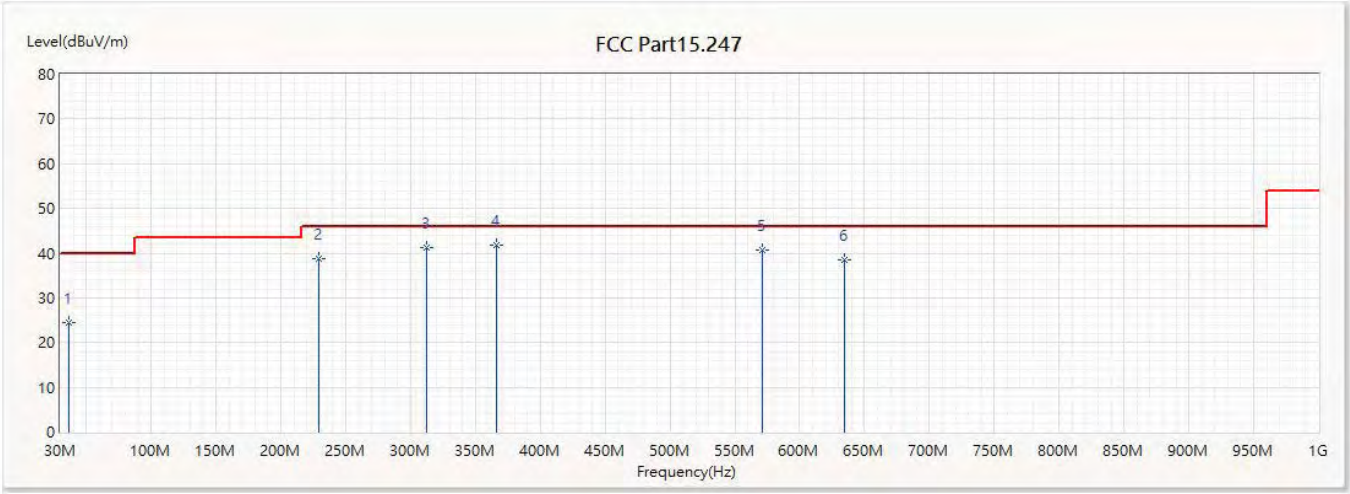


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	38.245	32.65	40.00	-7.35	48.78	-16.13	QP
2	256.495	33.54	46.00	-12.46	53.85	-20.31	QP
* 3	318.575	42.46	46.00	-3.54	61.09	-18.63	QP
4	526.155	39.86	46.00	-6.14	54.43	-14.57	QP
5	592.115	40.74	46.00	-5.26	54.61	-13.87	QP
6	730.825	34.53	46.00	-11.47	45.49	-10.96	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2437MHz		

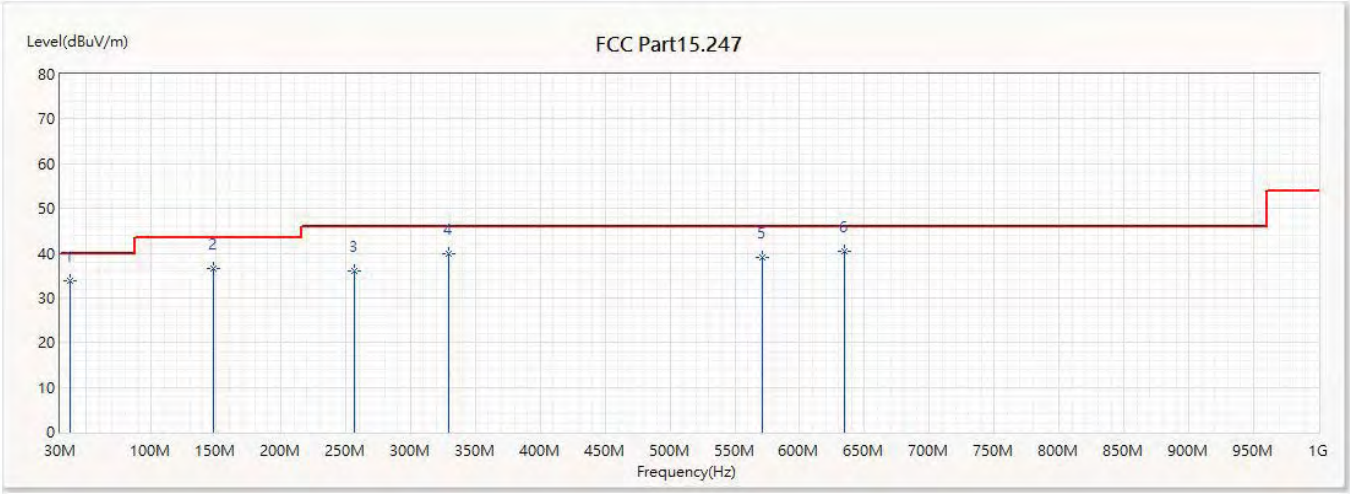


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	36.79	24.60	40.00	-15.40	40.61	-16.01	QP
2	228.85	38.66	46.00	-7.34	59.12	-20.46	QP
3	312.27	41.37	46.00	-4.63	60.49	-19.12	QP
* 4	366.59	41.88	46.00	-4.12	58.82	-16.94	QP
5	571.26	40.71	46.00	-5.29	54.15	-13.44	QP
6	634.31	38.44	46.00	-7.56	50.94	-12.50	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2437MHz		

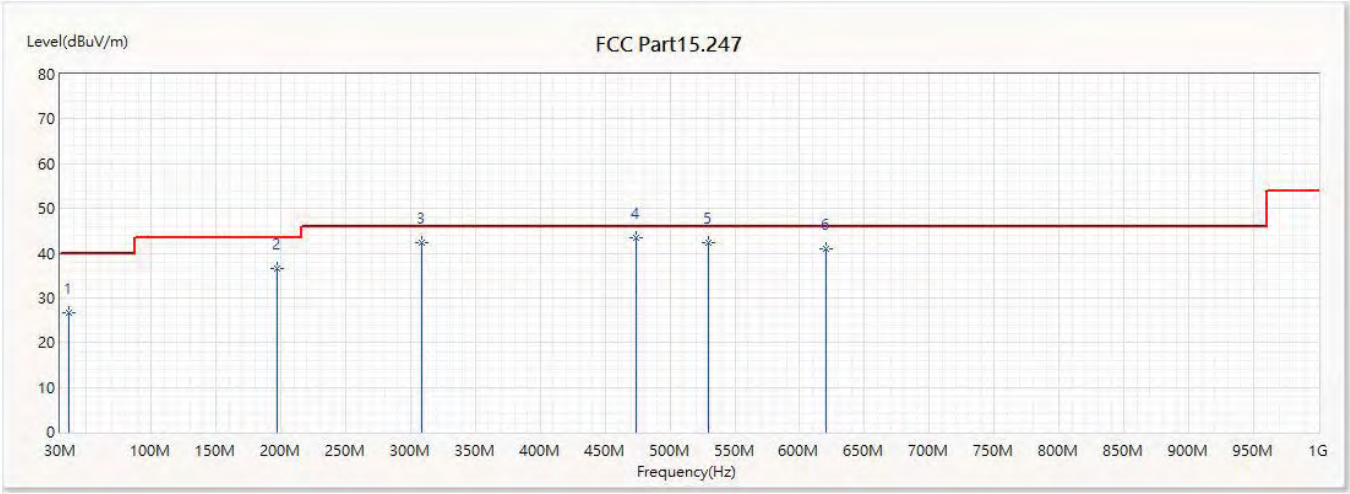


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	37.76	33.81	40.00	-6.19	49.90	-16.09	QP
2	148.34	36.67	43.50	-6.83	58.51	-21.84	QP
3	256.495	35.92	46.00	-10.08	56.23	-20.31	QP
4	329.73	39.94	46.00	-6.06	58.55	-18.61	QP
5	571.26	39.01	46.00	-6.99	52.45	-13.44	QP
* 6	634.31	40.36	46.00	-5.64	52.86	-12.50	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2437MHz		

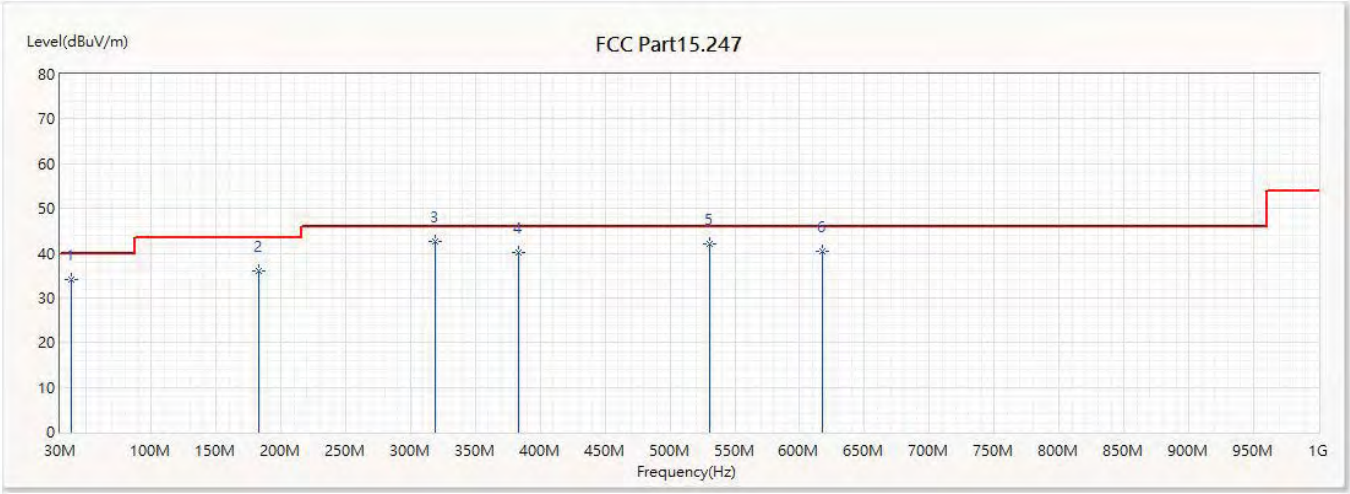


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	36.79	26.59	40.00	-13.41	42.60	-16.01	QP
2	197.325	36.55	43.50	-6.95	58.77	-22.22	QP
3	308.39	42.22	46.00	-3.78	61.51	-19.29	QP
* 4	474.26	43.57	46.00	-2.43	58.24	-14.67	QP
5	530.035	42.30	46.00	-3.70	57.09	-14.79	QP
6	620.73	40.89	46.00	-5.11	54.19	-13.30	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2437MHz		

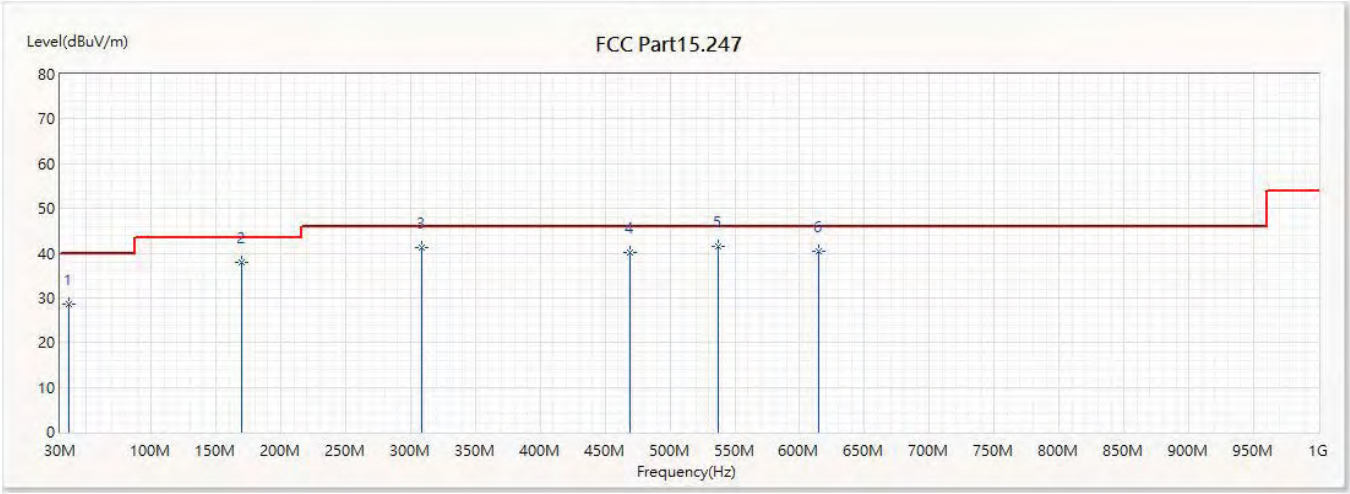


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	38.245	34.11	40.00	-5.89	50.24	-16.13	QP
2	183.26	35.98	43.50	-7.52	58.33	-22.35	QP
* 3	319.06	42.56	46.00	-3.44	61.18	-18.62	QP
4	383.08	40.01	46.00	-5.99	56.63	-16.62	QP
5	530.52	42.10	46.00	-3.90	56.80	-14.70	QP
6	617.82	40.42	46.00	-5.58	53.38	-12.96	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2437MHz		

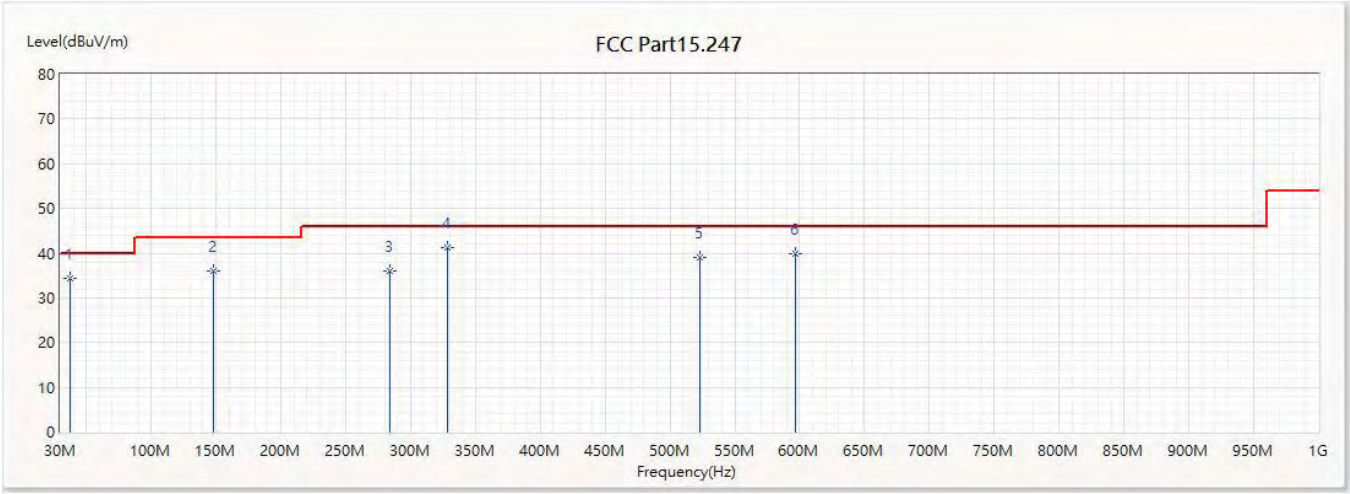


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	36.79	28.46	40.00	-11.54	44.48	-16.02	QP
2	170.165	37.90	43.50	-5.60	59.66	-21.76	QP
3	308.39	41.21	46.00	-4.79	60.50	-19.29	QP
4	469.41	40.19	46.00	-5.81	55.35	-15.16	QP
* 5	536.825	41.52	46.00	-4.48	55.06	-13.54	QP
6	614.425	40.49	46.00	-5.51	53.16	-12.67	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/8
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2437MHz		



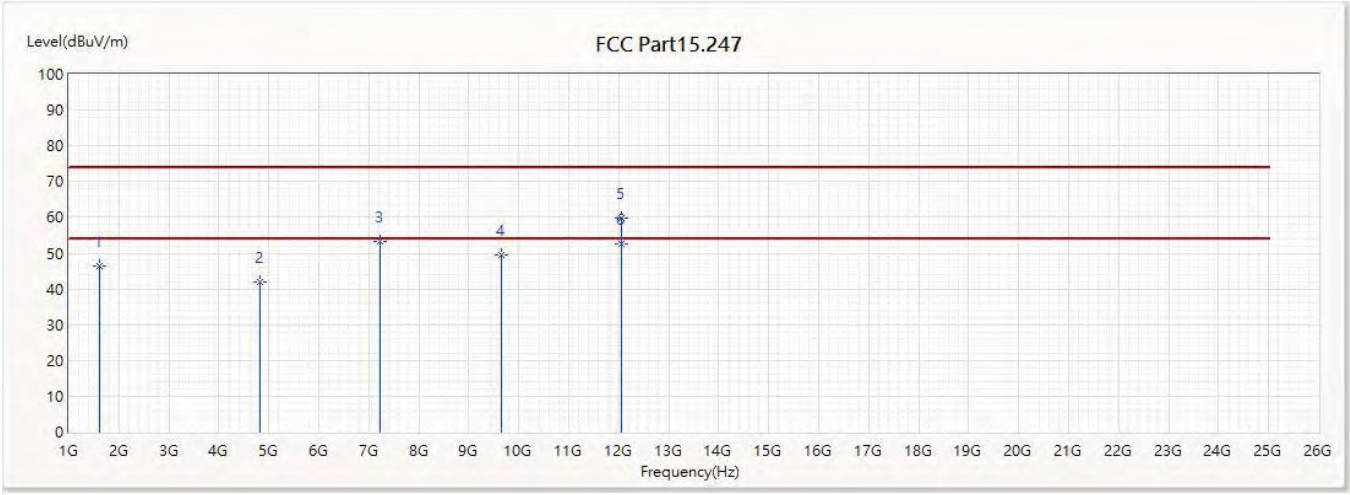
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	37.76	34.24	40.00	-5.76	50.33	-16.09	QP
2	148.34	35.88	43.50	-7.62	57.72	-21.84	QP
3	284.14	36.14	46.00	-9.86	55.90	-19.76	QP
* 4	328.76	41.17	46.00	-4.83	59.72	-18.55	QP
5	522.76	38.94	46.00	-7.06	52.92	-13.98	QP
6	596.965	39.75	46.00	-6.25	52.88	-13.13	QP

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are too low.

Above 1GHz Spurious

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2412MHz		

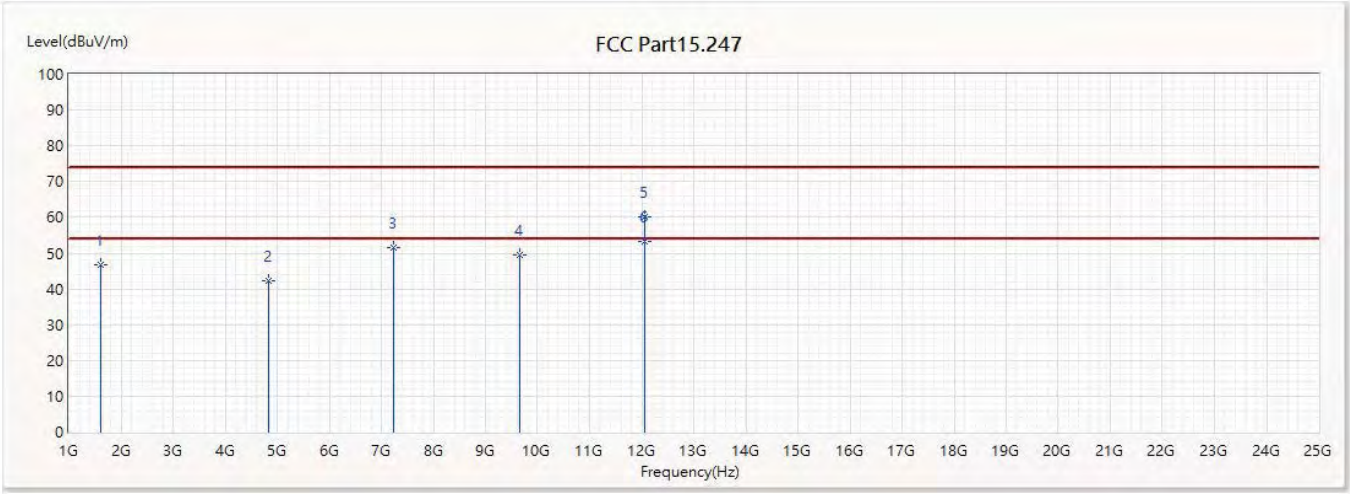


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1608	46.23	74.00	-27.77	56.80	-10.57	PK
2	4824	41.95	74.00	-32.05	40.71	1.24	PK
3	7236	53.42	74.00	-20.58	43.80	9.62	PK
4	9648	49.40	74.00	-24.60	34.91	14.49	PK
5	12060	59.74	74.00	-14.26	41.11	18.63	PK
* 6	12060	52.51	54.00	-1.49	33.88	18.63	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2412MHz		

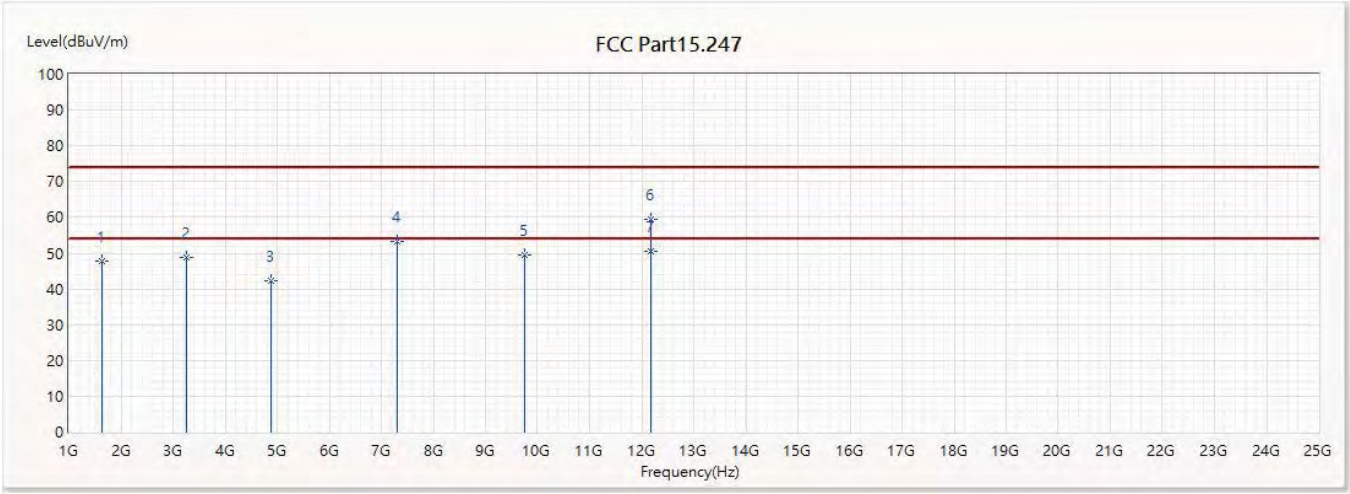


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1608	46.60	74.00	-27.40	57.17	-10.57	PK
2	4824	42.29	74.00	-31.71	41.04	1.25	PK
3	7236	51.42	74.00	-22.58	41.80	9.62	PK
4	9648	49.50	74.00	-24.50	35.01	14.49	PK
5	12060	60.12	74.00	-13.88	41.49	18.63	PK
* 6	12060	53.29	54.00	-0.71	34.66	18.63	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2437MHz		

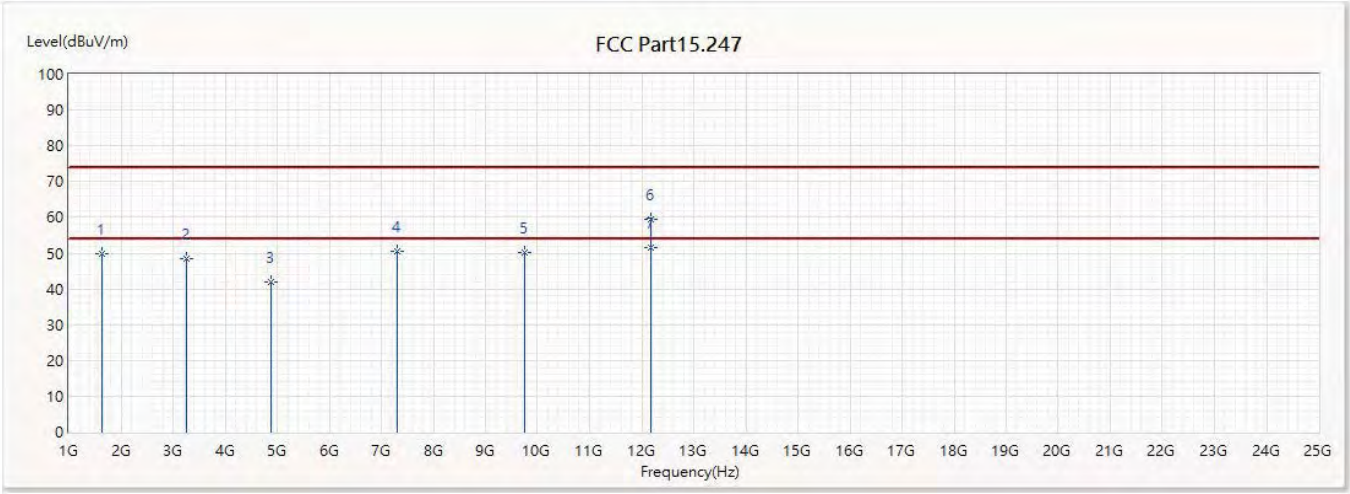


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1624.8	47.74	74.00	-26.26	58.25	-10.51	PK
2	3249	48.75	74.00	-25.25	53.10	-4.35	PK
3	4874	42.22	74.00	-31.78	40.66	1.56	PK
4	7311	53.24	74.00	-20.76	43.39	9.85	PK
5	9748	49.54	74.00	-24.46	34.92	14.62	PK
6	12185	59.55	74.00	-14.45	41.13	18.42	PK
* 7	12185	50.44	54.00	-3.56	32.02	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2437MHz		

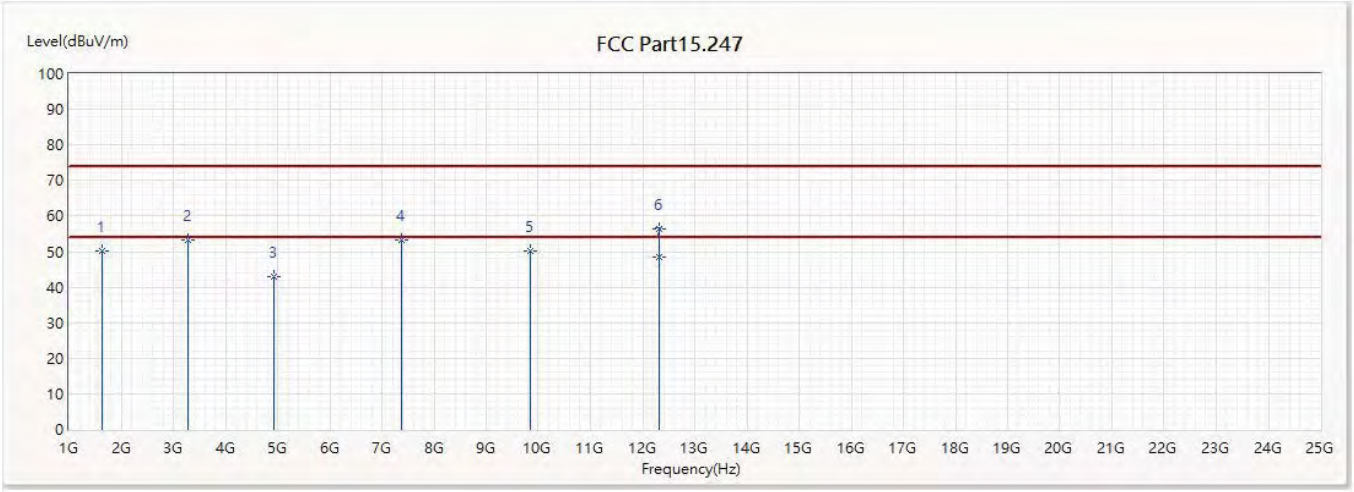


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1624.6	49.88	74.00	-24.12	60.40	-10.52	PK
2	3249	48.61	74.00	-25.39	52.96	-4.35	PK
3	4874	41.89	74.00	-32.11	40.32	1.57	PK
4	7311	50.67	74.00	-23.33	40.82	9.85	PK
5	9748	50.03	74.00	-23.97	35.41	14.62	PK
6	12185	59.56	74.00	-14.44	41.14	18.42	PK
* 7	12185	51.57	54.00	-2.43	33.15	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2462MHz		

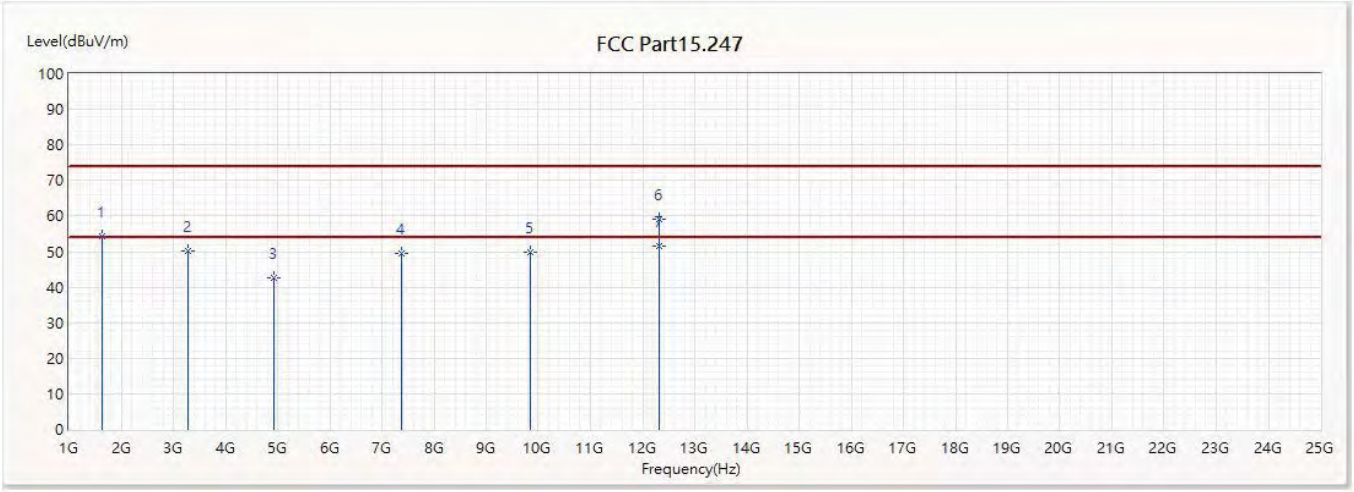


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1641	50.15	74.00	-23.85	60.62	-10.47	PK
2	3282.7	53.13	74.00	-20.87	57.47	-4.34	PK
3	4924	42.94	74.00	-31.06	41.07	1.87	PK
4	7386	53.18	74.00	-20.82	42.96	10.22	PK
5	9848	50.05	74.00	-23.95	35.09	14.96	PK
6	12310	56.41	74.00	-17.59	38.36	18.05	PK
* 7	12310	48.49	54.00	-5.51	30.44	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11b_2462MHz		

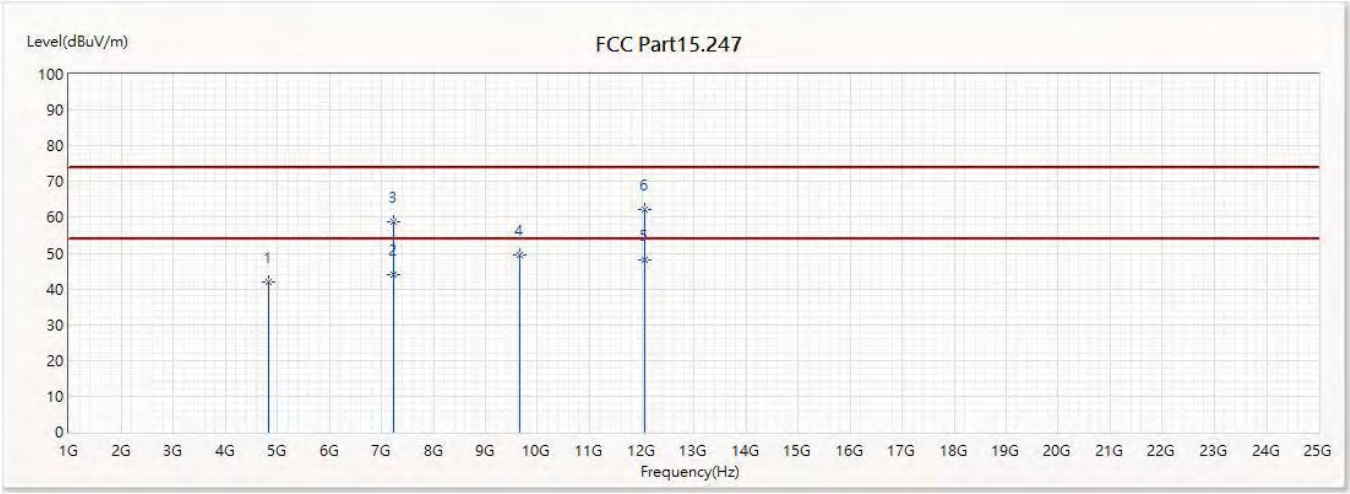


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1641	54.44	74.00	-19.56	64.91	-10.47	PK
2	3282.7	50.21	74.00	-23.79	54.55	-4.34	PK
3	4924	42.65	74.00	-31.35	40.78	1.87	PK
4	7386	49.57	74.00	-24.43	39.35	10.22	PK
5	9848	49.77	74.00	-24.23	34.81	14.96	PK
6	12310	59.12	74.00	-14.88	41.07	18.05	PK
* 7	12310	51.43	54.00	-2.57	33.38	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2412MHz		

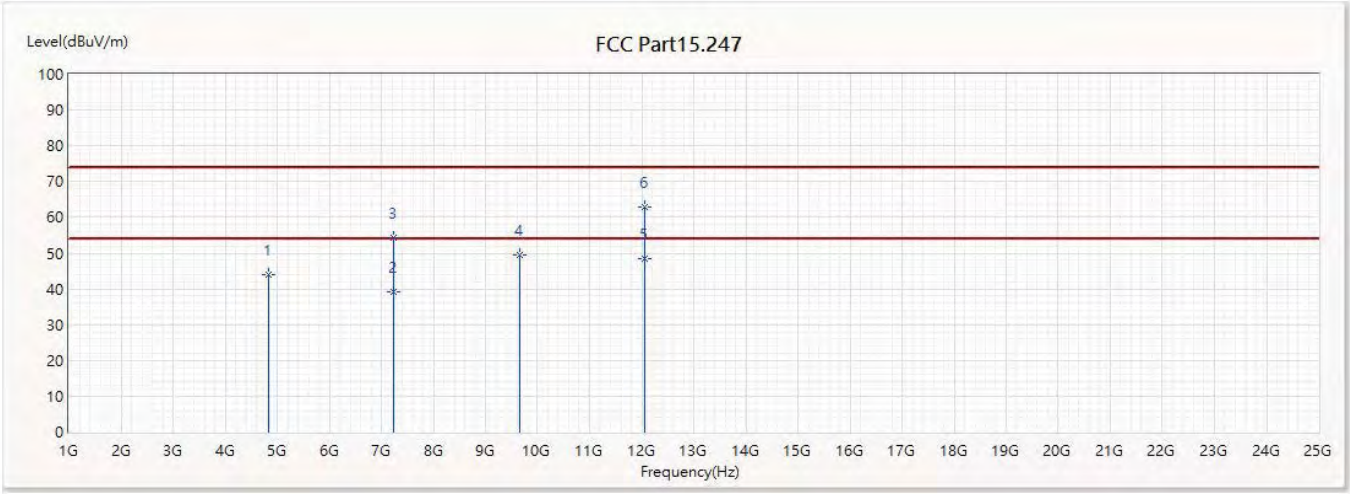


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824	41.82	74.00	-32.18	40.58	1.24	PK
2	7236	43.95	54.00	-10.05	34.33	9.62	AV
3	7236	58.62	74.00	-15.38	49.00	9.62	PK
4	9648	49.35	74.00	-24.65	34.86	14.49	PK
* 5	12060	48.18	54.00	-5.82	29.55	18.63	AV
6	12060	62.05	74.00	-11.95	43.42	18.63	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Scott
Model No :	M0100	Test Date :	2018/9/5
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2412MHz		

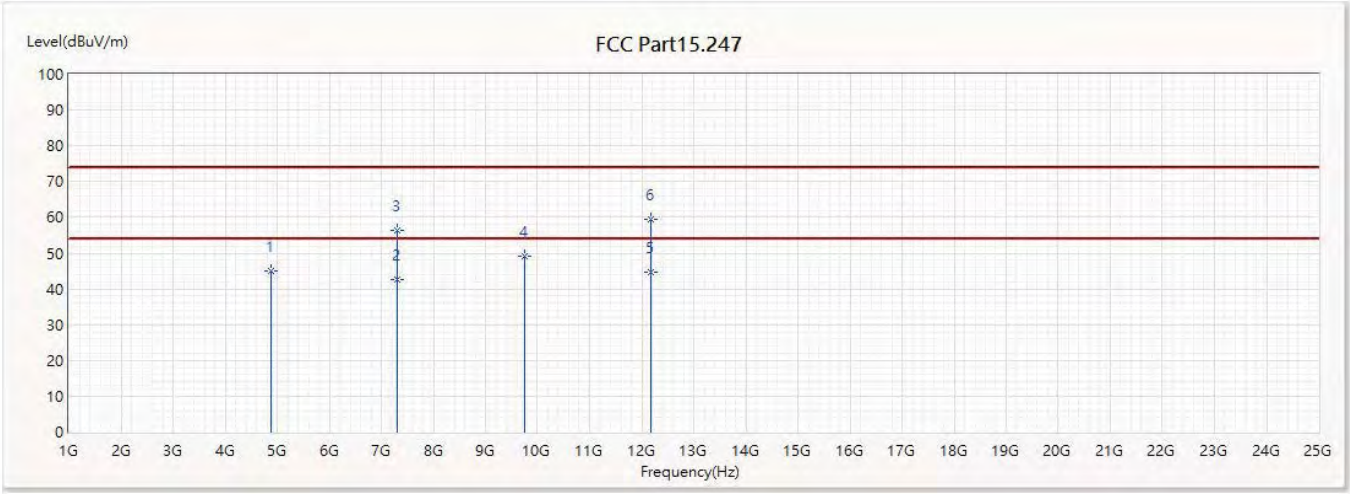


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824	43.85	74.00	-30.15	42.60	1.25	PK
2	7236	39.27	54.00	-14.73	29.65	9.62	AV
3	7236	54.30	74.00	-19.70	44.68	9.62	PK
4	9648	49.55	74.00	-24.45	35.06	14.49	PK
* 5	12060	48.41	54.00	-5.59	29.78	18.63	AV
6	12060	63.02	74.00	-10.98	44.39	18.63	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2437MHz		

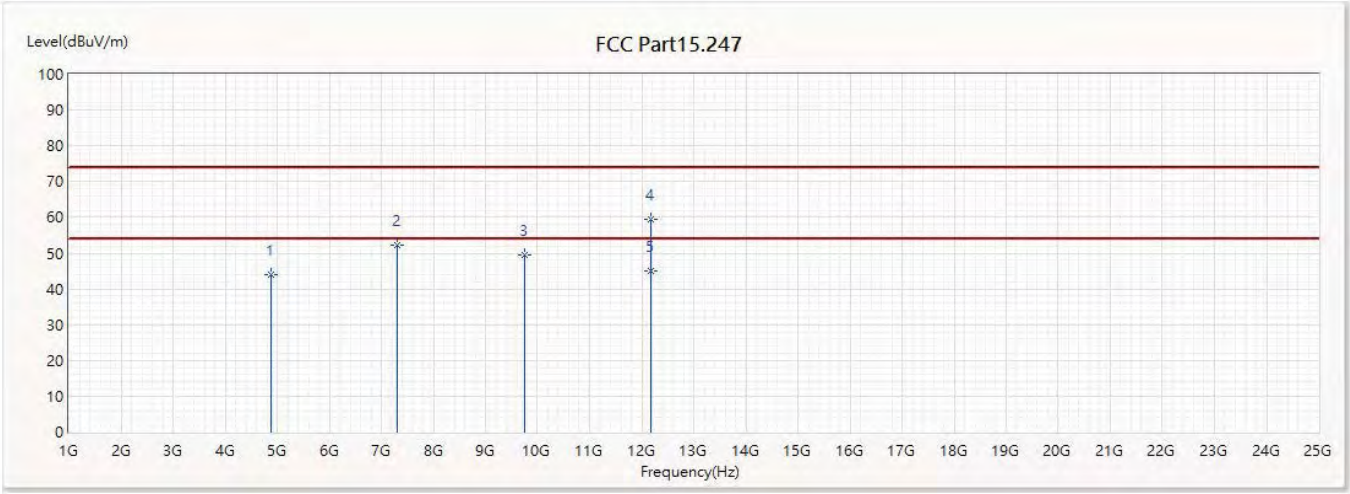


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	44.91	74.00	-29.09	43.35	1.56	PK
2	7311	42.61	54.00	-11.39	32.76	9.85	AV
3	7311	56.44	74.00	-17.56	46.59	9.85	PK
4	9748	49.17	74.00	-24.83	34.55	14.62	PK
* 5	12185	44.83	54.00	-9.17	26.41	18.42	AV
6	12185	59.41	74.00	-14.59	40.99	18.42	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2437MHz		

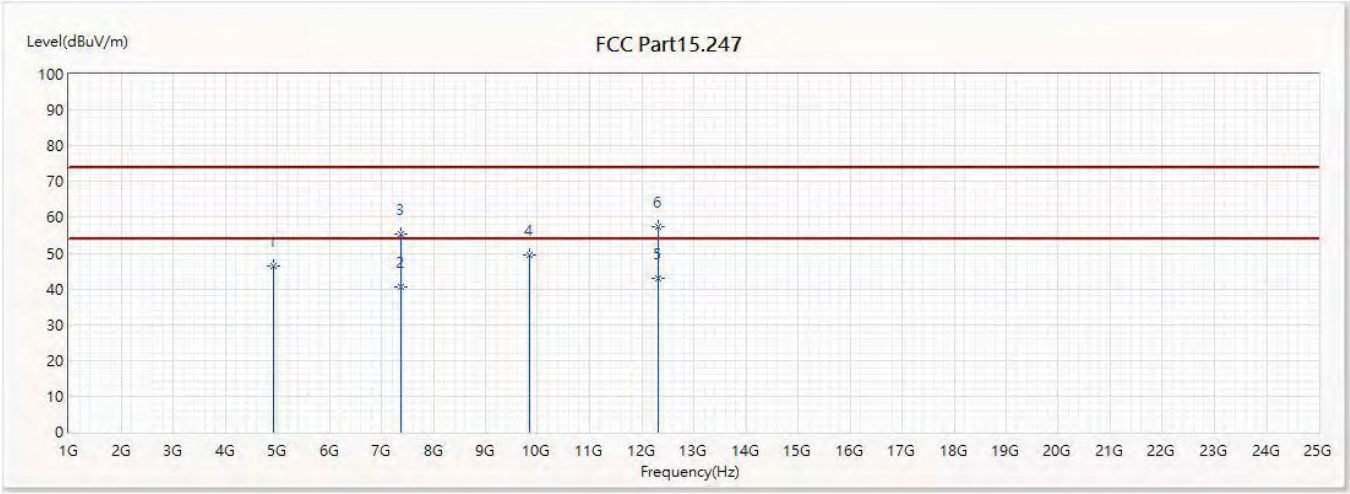


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	44.04	74.00	-29.96	42.47	1.57	PK
2	7311	52.31	74.00	-21.69	42.46	9.85	PK
3	9748	49.60	74.00	-24.40	34.98	14.62	PK
4	12185	59.55	74.00	-14.45	41.13	18.42	PK
* 5	12185	45.01	54.00	-8.99	26.59	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2462MHz		

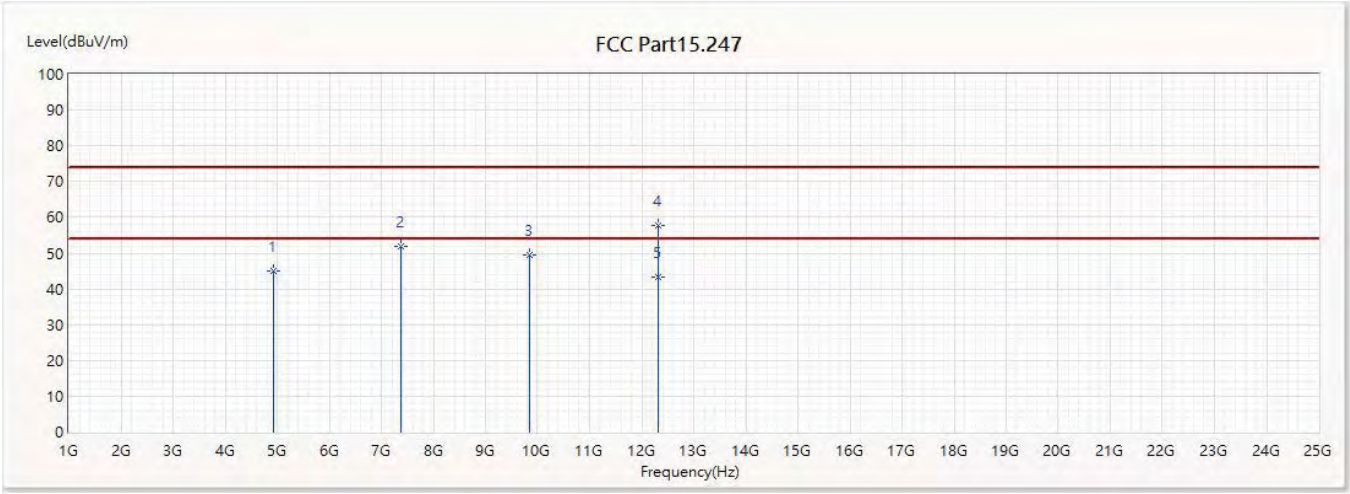


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924	46.55	74.00	-27.45	44.68	1.87	PK
2	7386	40.38	54.00	-13.62	30.16	10.22	AV
3	7386	55.26	74.00	-18.74	45.04	10.22	PK
4	9848	49.61	74.00	-24.39	34.65	14.96	PK
* 5	12310	42.97	54.00	-11.03	24.92	18.05	AV
6	12310	57.35	74.00	-16.65	39.30	18.05	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11g_2462MHz		

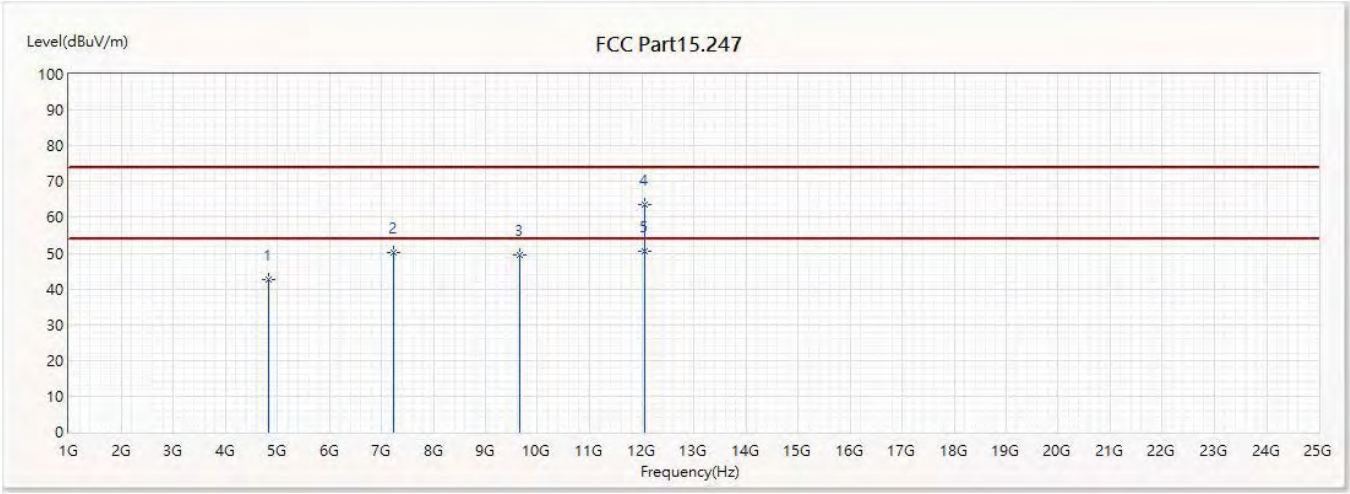


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924	44.97	74.00	-29.03	43.10	1.87	PK
2	7386	51.78	74.00	-22.22	41.56	10.22	PK
3	9848	49.64	74.00	-24.36	34.68	14.96	PK
4	12310	57.68	74.00	-16.32	39.63	18.05	PK
* 5	12310	43.28	54.00	-10.72	25.23	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2412MHz		

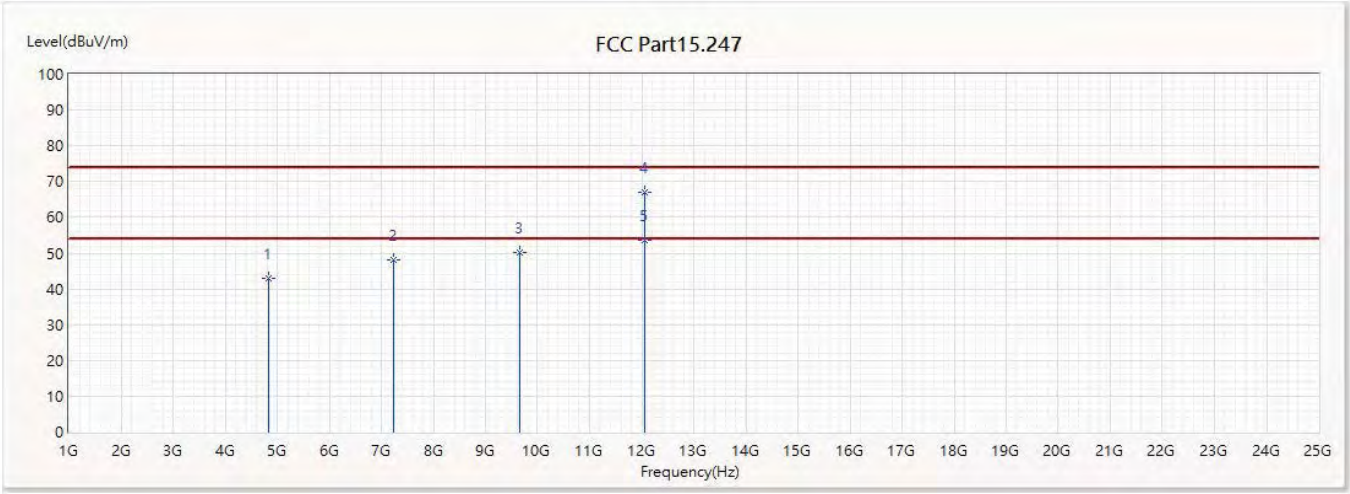


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824	42.66	74.00	-31.34	41.42	1.24	PK
2	7236	50.20	74.00	-23.80	40.58	9.62	PK
3	9648	49.57	74.00	-24.43	35.08	14.49	PK
4	12060	63.42	74.00	-10.58	44.79	18.63	PK
* 5	12060	50.63	54.00	-3.37	32.00	18.63	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2412MHz		

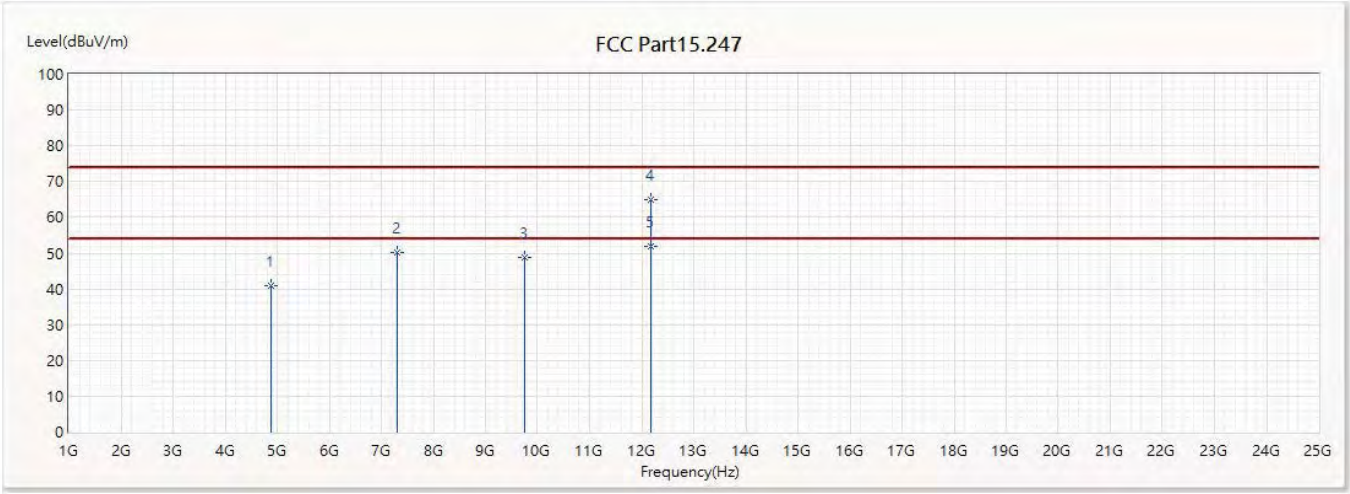


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4824	42.81	74.00	-31.19	41.56	1.25	PK
2	7236	48.22	74.00	-25.78	38.60	9.62	PK
3	9648	50.19	74.00	-23.81	35.70	14.49	PK
4	12060	66.84	74.00	-7.16	48.21	18.63	PK
* 5	12060	53.67	54.00	-0.33	35.04	18.63	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2437MHz		

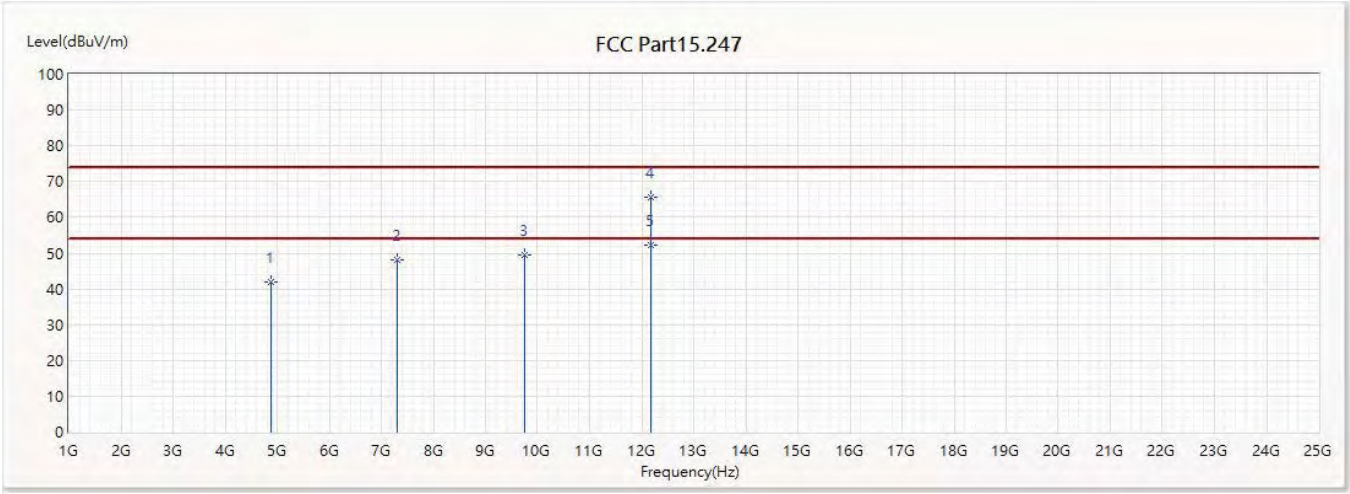


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	40.98	74.00	-33.02	39.42	1.56	PK
2	7311	50.15	74.00	-23.85	40.30	9.85	PK
3	9748	48.82	74.00	-25.18	34.20	14.62	PK
4	12185	64.87	74.00	-9.13	46.45	18.42	PK
* 5	12185	52.05	54.00	-1.95	33.63	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2437MHz		

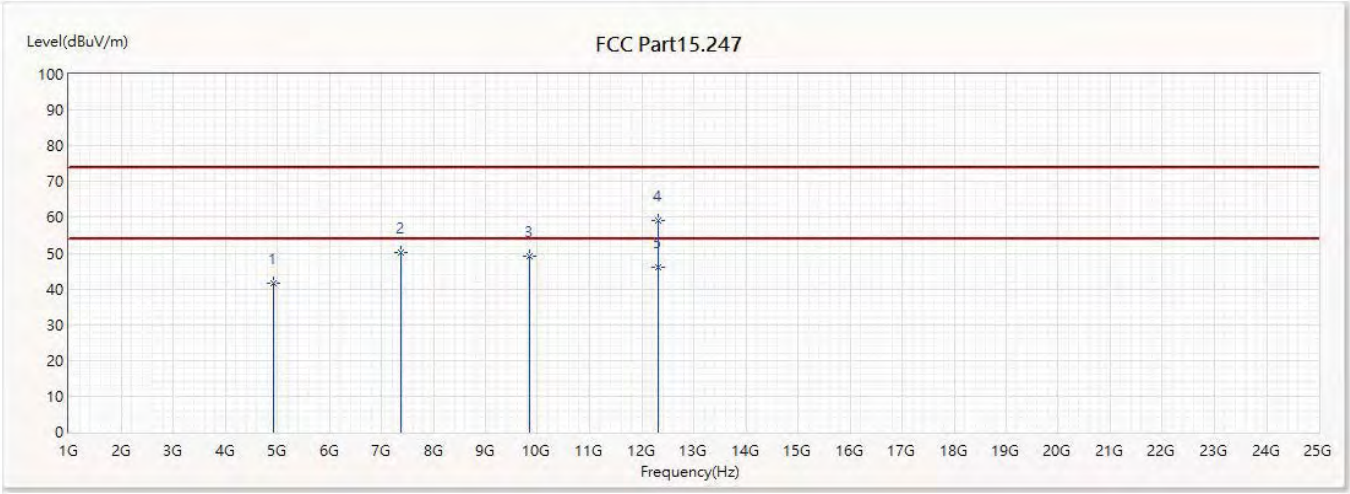


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	41.76	74.00	-32.24	40.19	1.57	PK
2	7311	48.07	74.00	-25.93	38.22	9.85	PK
3	9748	49.34	74.00	-24.66	34.72	14.62	PK
4	12185	65.48	74.00	-8.52	47.06	18.42	PK
* 5	12185	52.26	54.00	-1.74	33.84	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2462MHz		

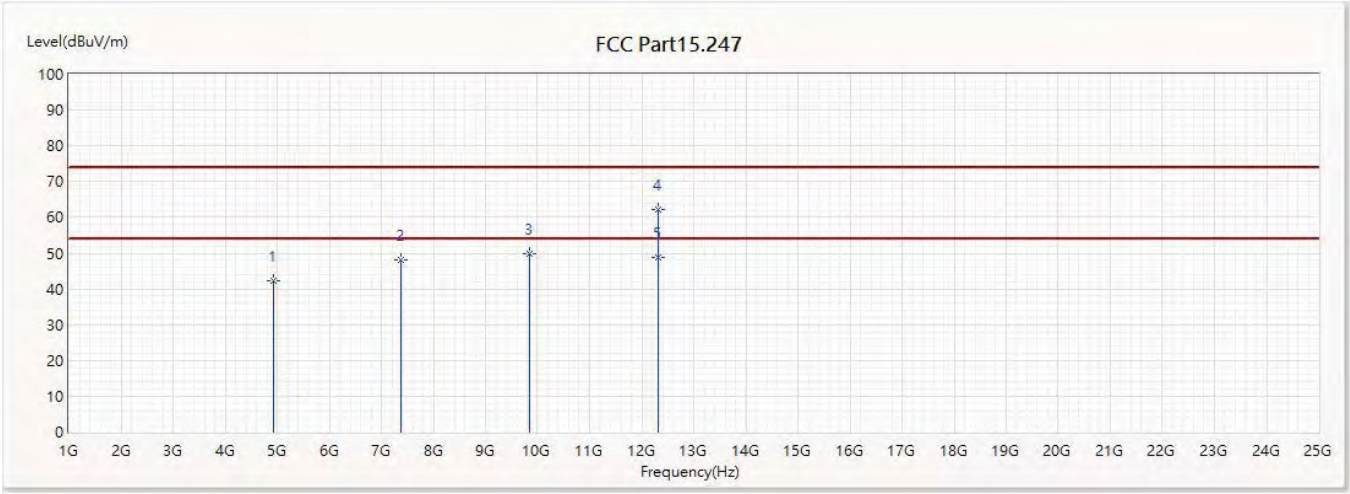


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924	41.75	74.00	-32.25	39.88	1.87	PK
2	7386	50.07	74.00	-23.93	38.91	11.16	PK
3	9848	49.27	74.00	-24.73	34.31	14.96	PK
4	12310	59.25	74.00	-14.75	41.20	18.05	PK
* 5	12310	46.01	54.00	-7.99	27.96	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(20M)_2462MHz		

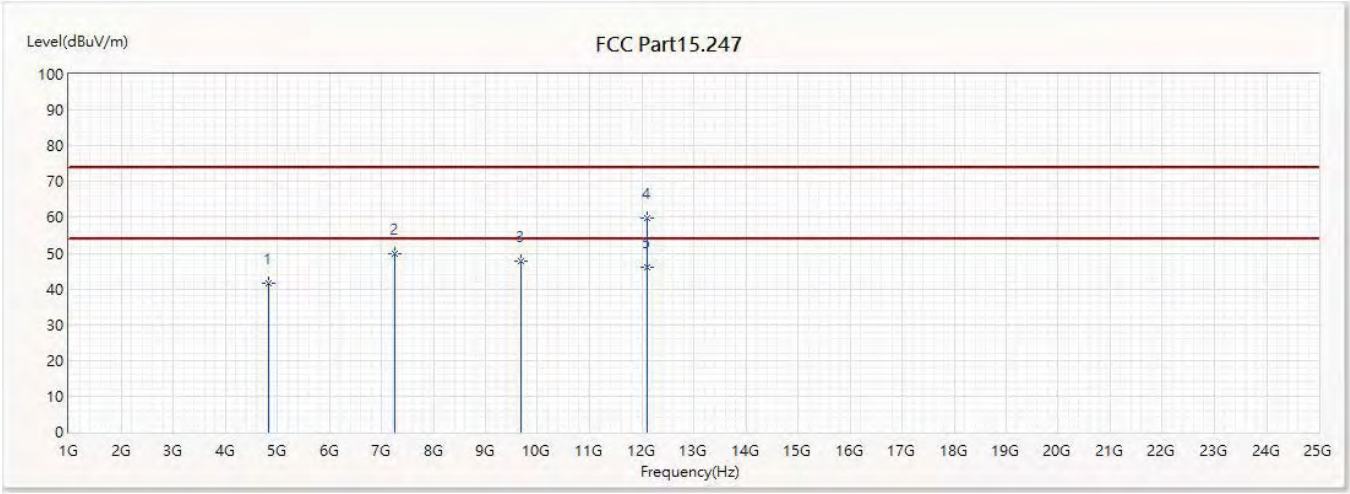


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4924	42.32	74.00	-31.68	40.45	1.87	PK
2	7386	47.97	74.00	-26.03	37.75	10.22	PK
3	9848	49.98	74.00	-24.02	35.02	14.96	PK
4	12310	62.12	74.00	-11.88	44.07	18.05	PK
* 5	12310	48.79	54.00	-5.21	30.74	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2422MHz		

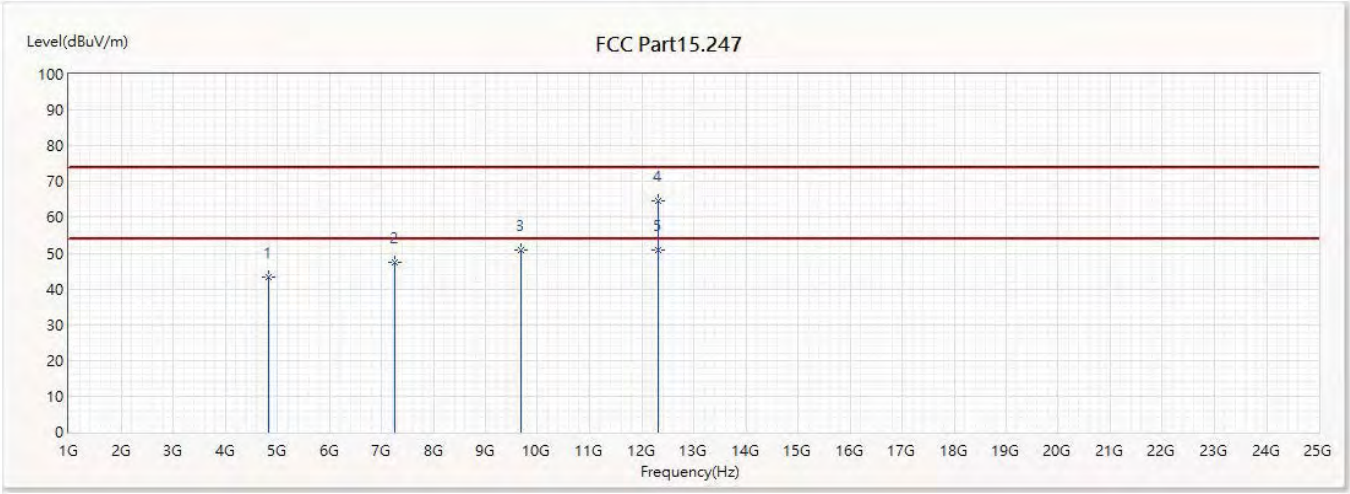


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844	41.64	74.00	-32.36	40.27	1.37	PK
2	7266	49.81	74.00	-24.19	40.12	9.69	PK
3	9688	47.65	74.00	-26.35	33.10	14.55	PK
4	12110	59.96	74.00	-14.04	41.41	18.55	PK
* 5	12110	45.92	54.00	-8.08	27.37	18.55	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2422MHz		

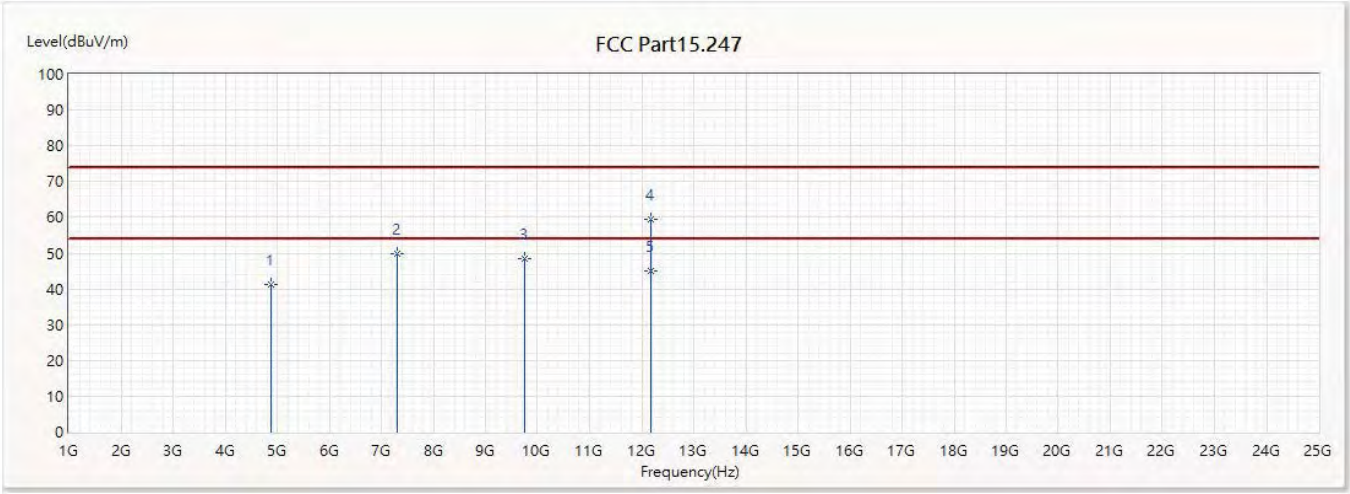


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4844	43.47	74.00	-30.53	42.10	1.37	PK
2	7266	47.56	74.00	-26.44	37.87	9.69	PK
3	9688	50.72	74.00	-23.28	36.17	14.55	PK
4	12310	64.71	74.00	-9.29	46.66	18.05	PK
* 5	12310	50.75	54.00	-3.25	32.70	18.05	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2437MHz		

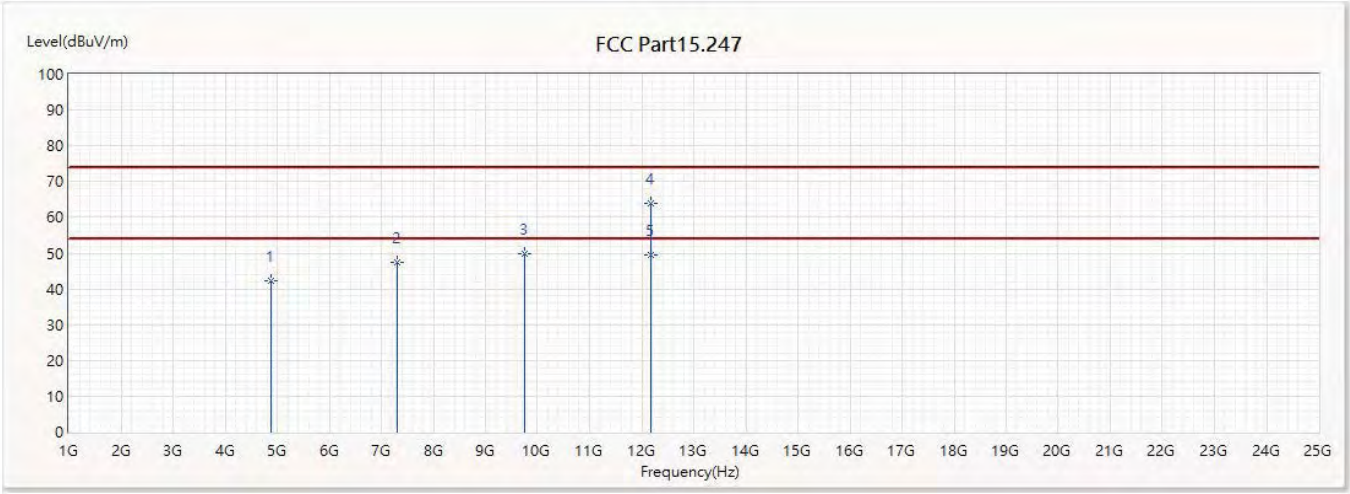


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	41.12	74.00	-32.88	39.56	1.56	PK
2	7311	49.74	74.00	-24.26	39.89	9.85	PK
3	9748	48.51	74.00	-25.49	33.89	14.62	PK
4	12185	59.55	74.00	-14.45	41.13	18.42	PK
* 5	12185	45.02	54.00	-8.98	26.60	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2437MHz		

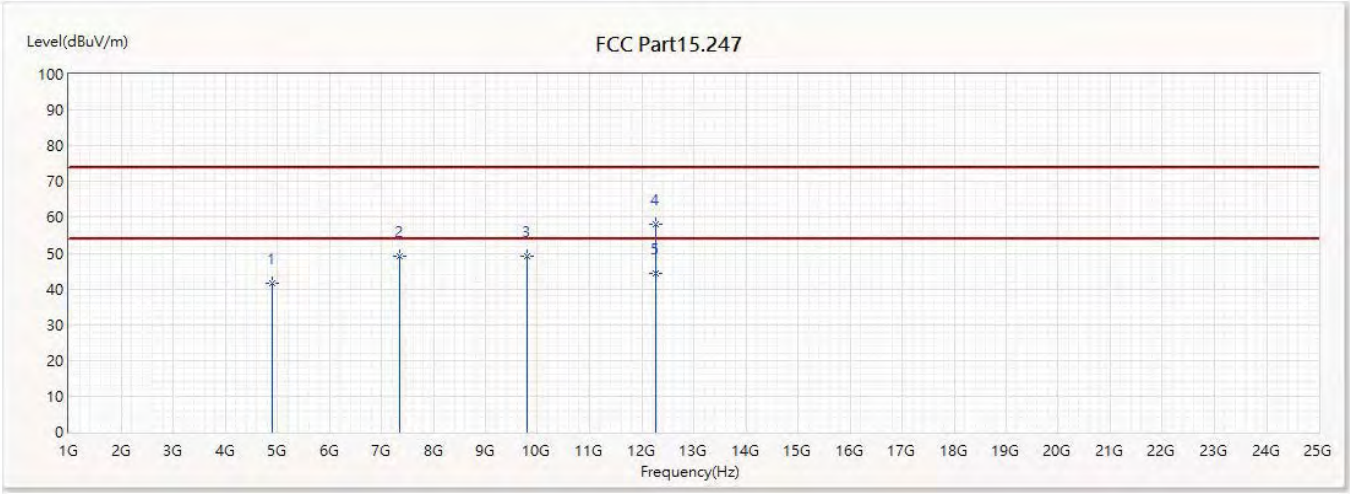


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4874	42.27	74.00	-31.73	40.70	1.57	PK
2	7311	47.41	74.00	-26.59	37.56	9.85	PK
3	9748	49.83	74.00	-24.17	35.21	14.62	PK
4	12185	63.81	74.00	-10.19	45.39	18.42	PK
* 5	12185	49.32	54.00	-4.68	30.90	18.42	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2452MHz		

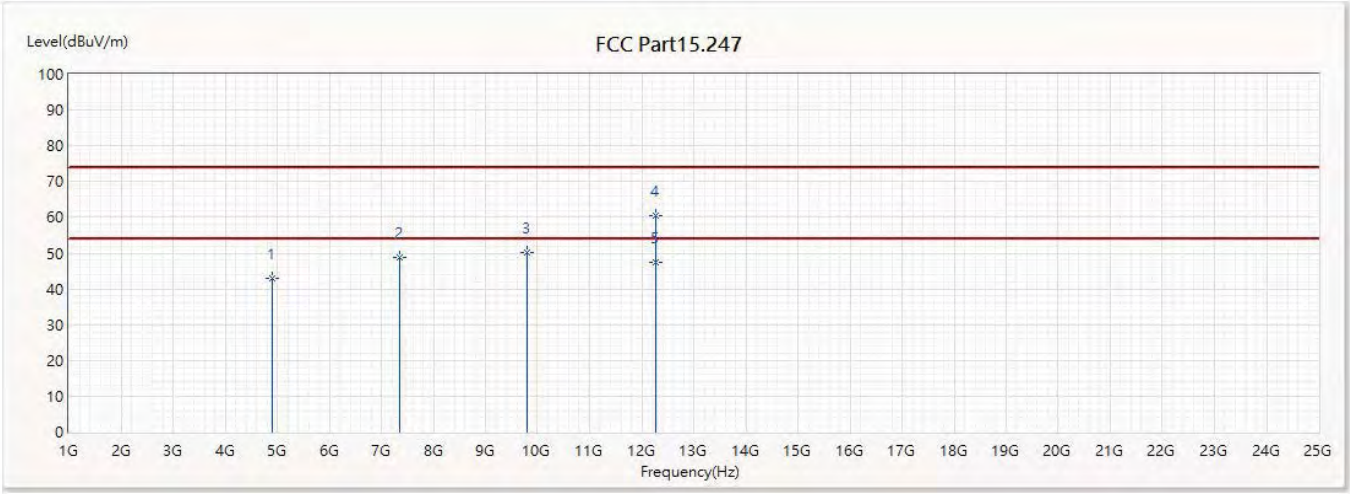


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904	41.50	74.00	-32.50	39.75	1.75	PK
2	7356	49.11	74.00	-24.89	39.05	10.06	PK
3	9808	49.19	74.00	-24.81	34.36	14.83	PK
4	12260	58.04	74.00	-15.96	39.81	18.23	PK
* 5	12260	44.39	54.00	-9.61	26.16	18.23	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

Site :	CB4-H	Engineer :	Elwin
Model No :	M0100	Test Date :	2018/9/7
Test Voltage :	AC 120V/60Hz	Polarity :	Vertical
Test Mode :	Mode 1: Transmit		
Note :	802.11n(40M)_2452MHz		



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	4904	42.84	74.00	-31.16	41.09	1.75	PK
2	7356	48.76	74.00	-25.24	38.70	10.06	PK
3	9808	50.34	74.00	-23.66	35.51	14.83	PK
4	12260	60.62	74.00	-13.38	42.39	18.23	PK
* 5	12260	47.31	54.00	-6.69	29.08	18.23	AV

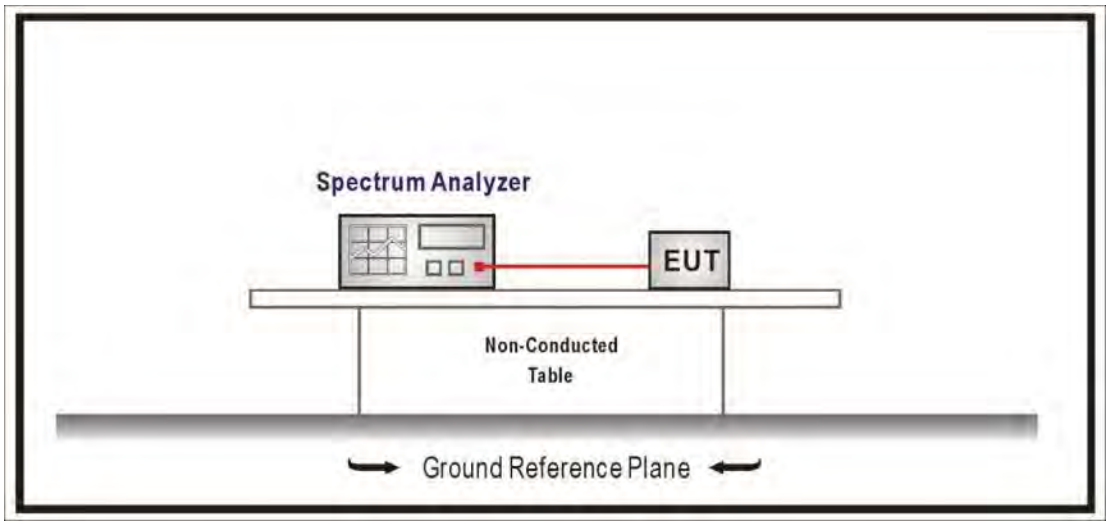
Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The Emission above 18GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Setup

RF Antenna Conducted Measurement:



5.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure section 11.2 of KDB558074 D01 V05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.4. Test Specification

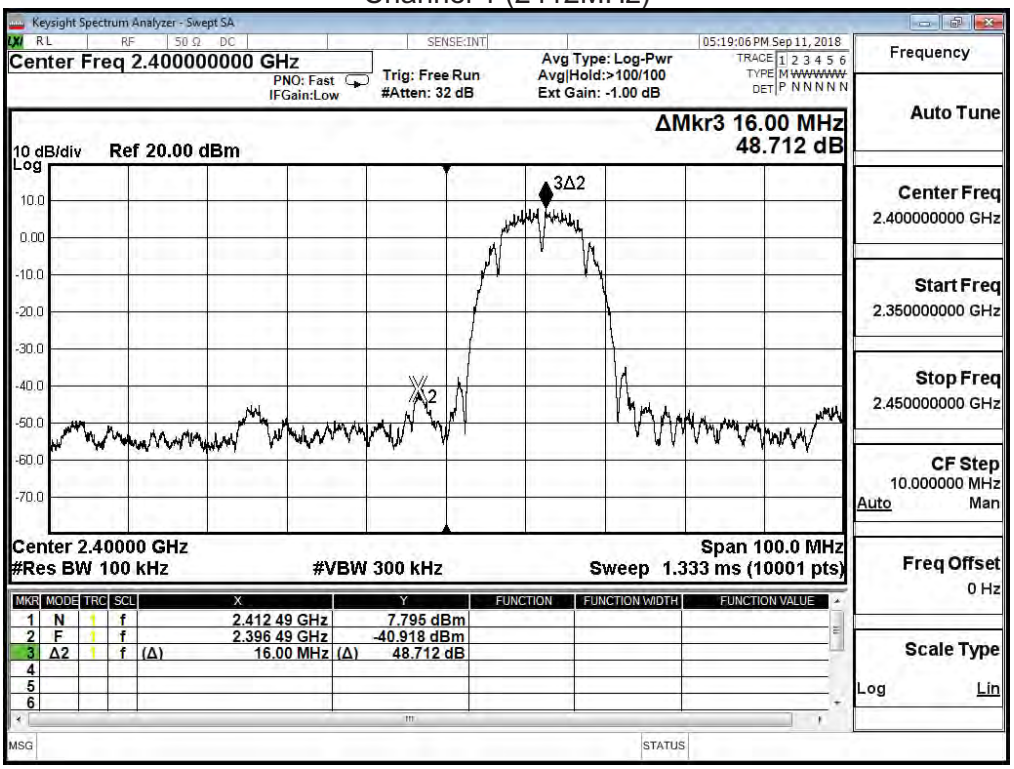
According to FCC Part 15 Subpart C Paragraph 15.247: 2017

5.5. Test Result

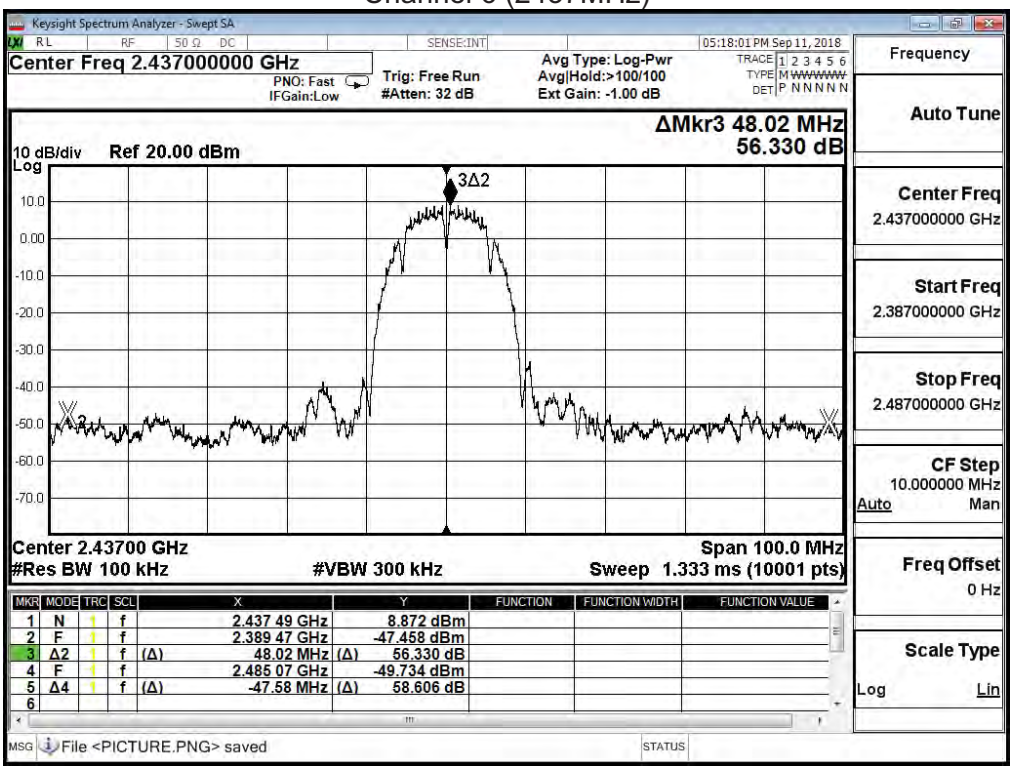
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11b (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	48.314	≧30	Pass
6	2437	46.816	≧30	Pass
11	2462	41.158	≧30	Pass

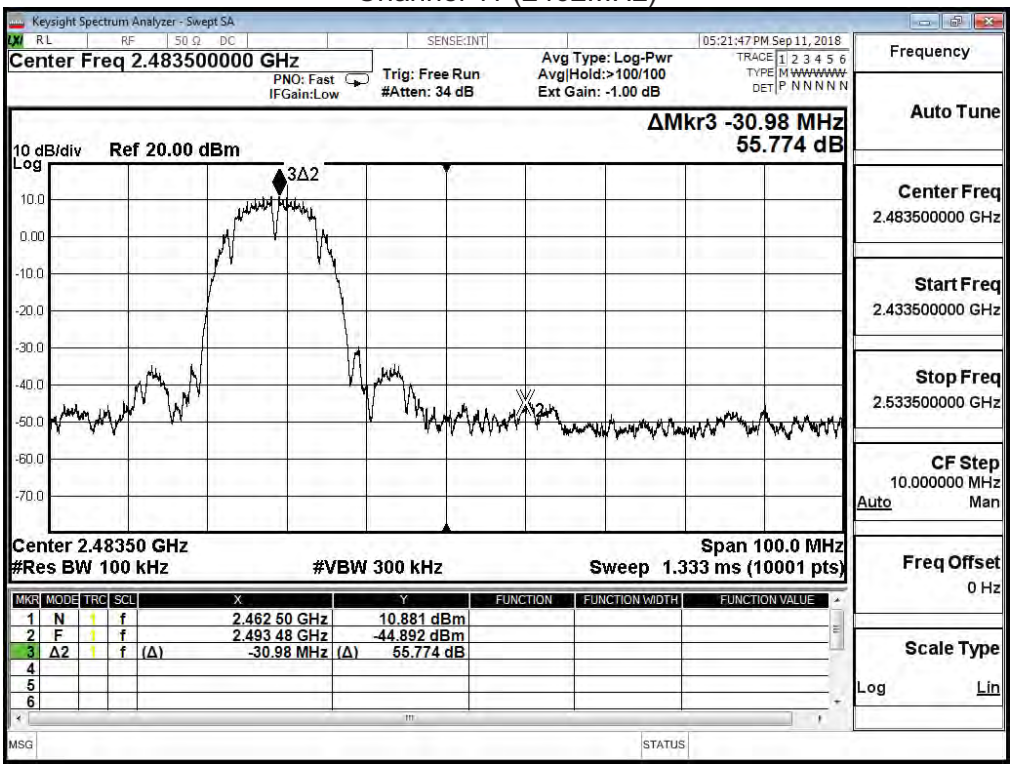
Channel 1 (2412MHz)



Channel 6 (2437MHz)



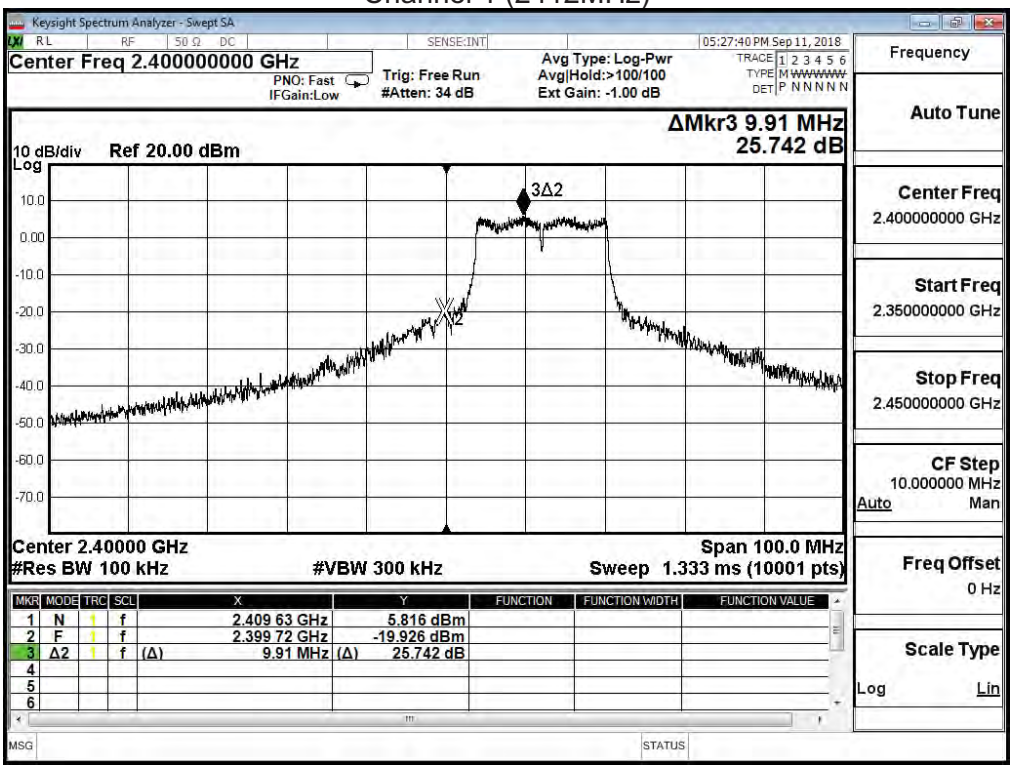
Channel 11 (2462MHz)



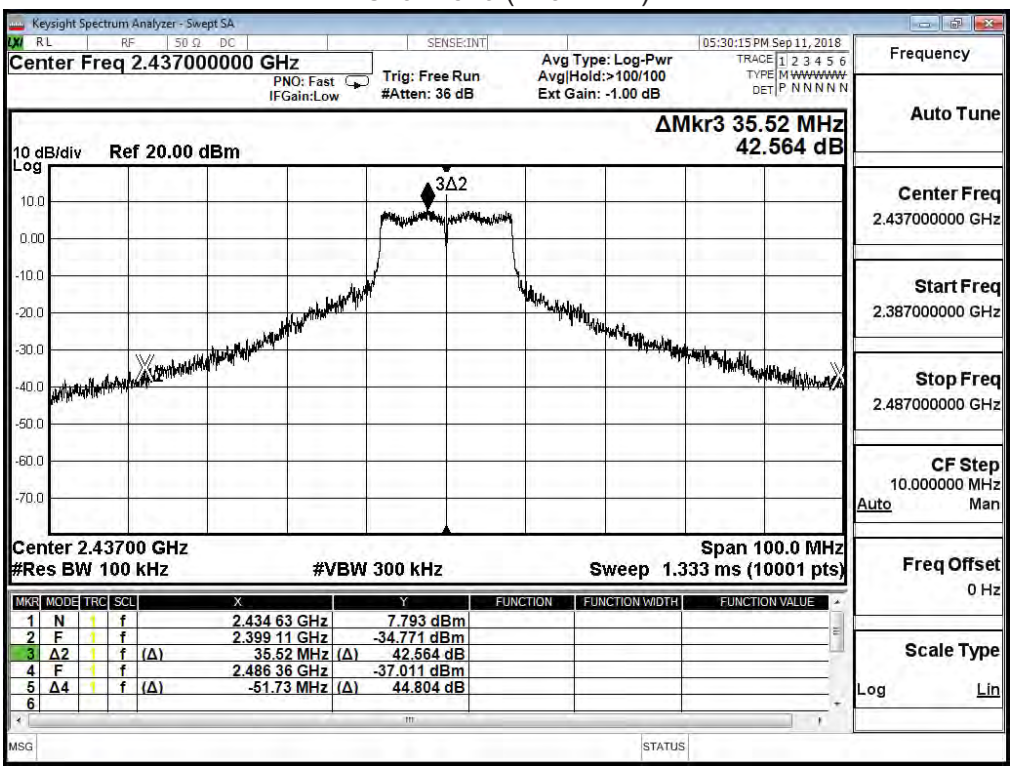
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11g (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	25.742	≧30	Pass
6	2437	42.564	≧30	Pass
11	2462	38.531	≧30	Pass

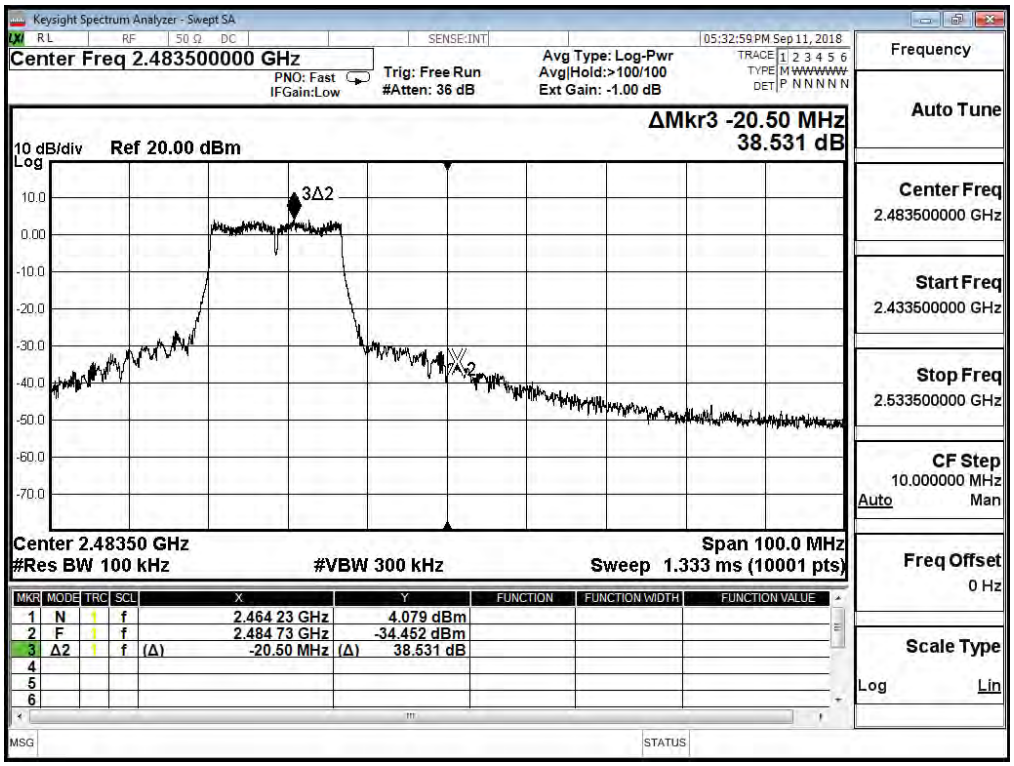
Channel 1 (2412MHz)



Channel 6 (2437MHz)



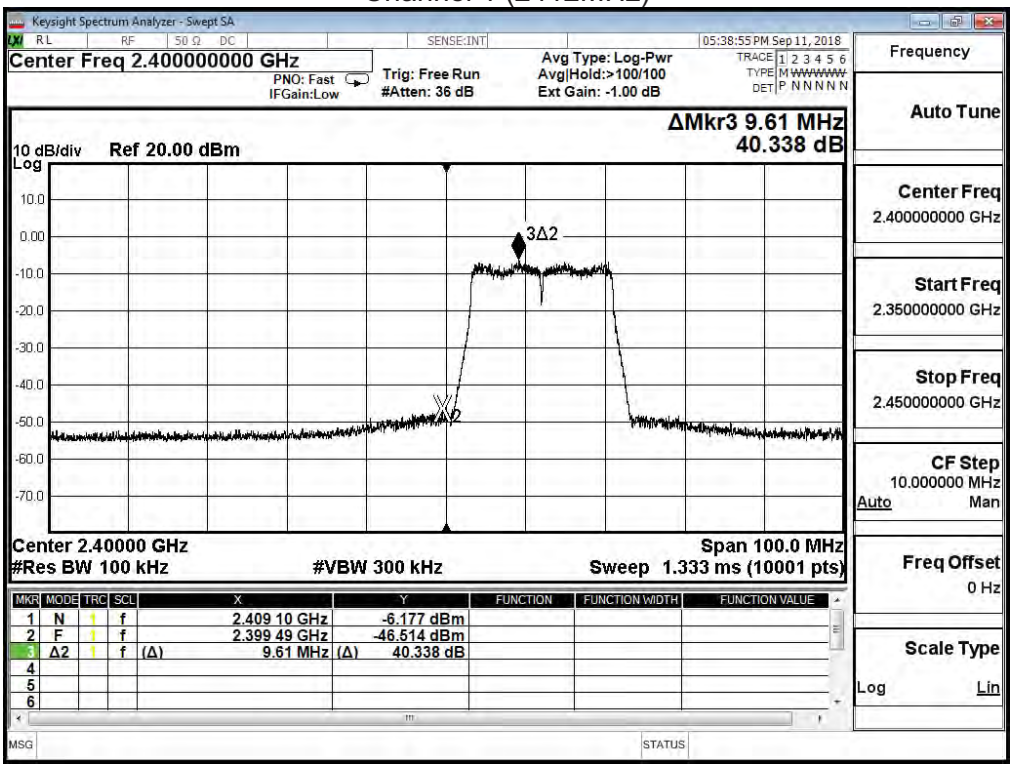
Channel 11 (2462MHz)



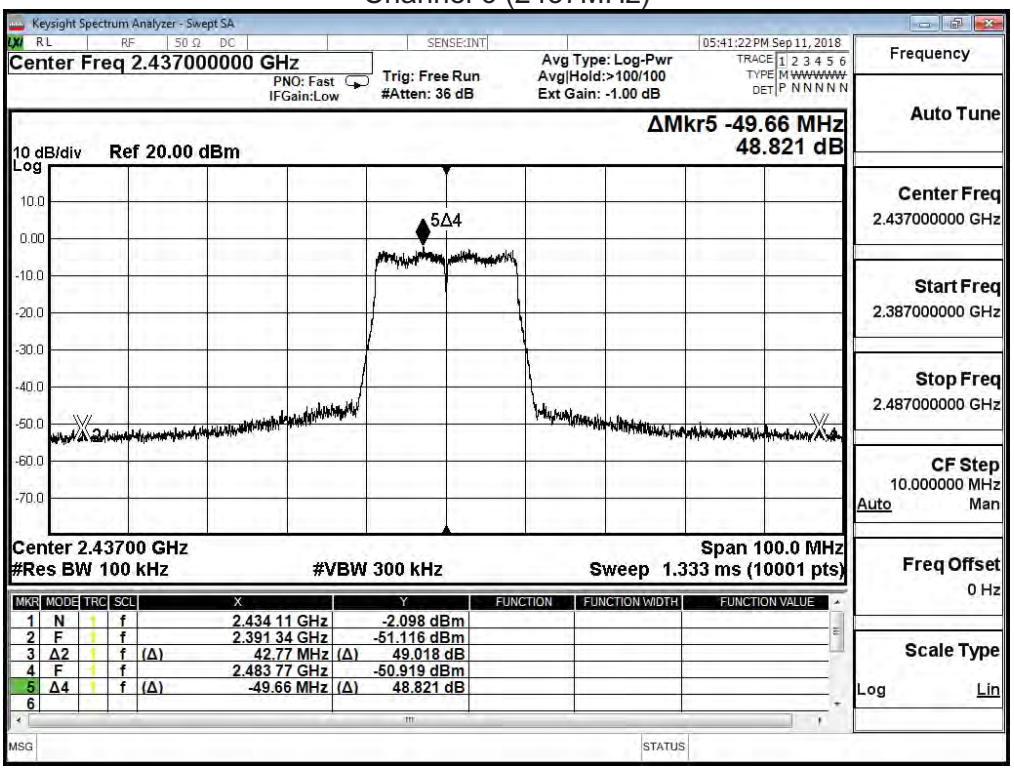
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11n 20M (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	40.338	≧30	Pass
6	2437	47.503	≧30	Pass
11	2462	45.924	≧30	Pass

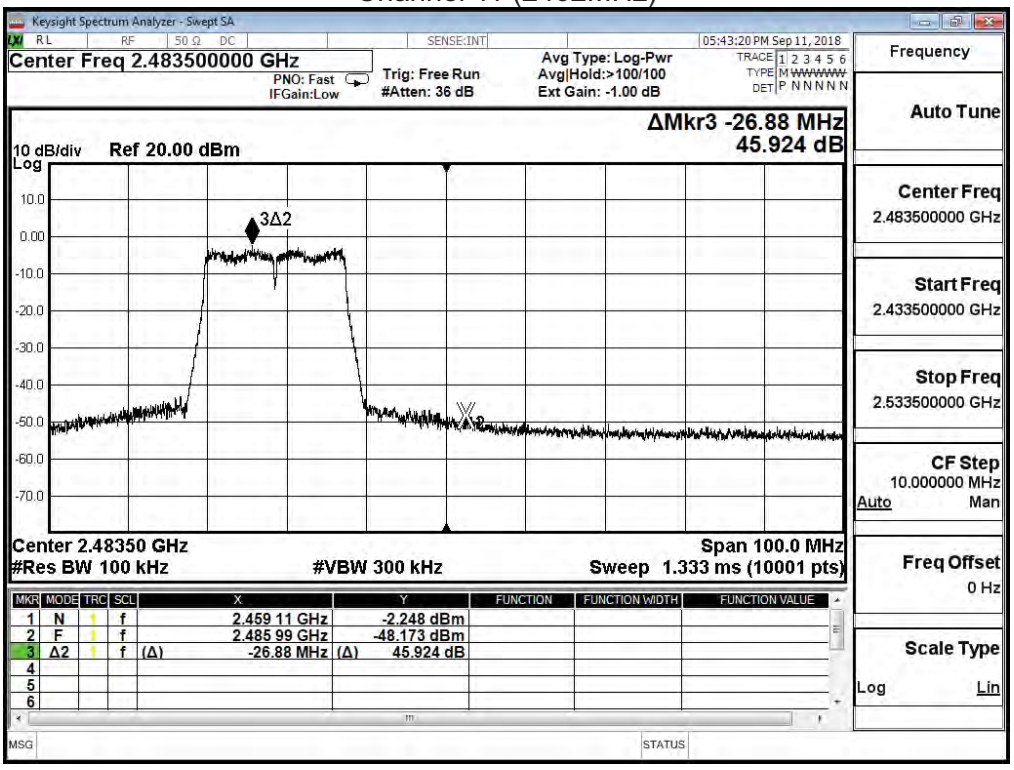
Channel 1 (2412MHz)



Channel 6 (2437MHz)



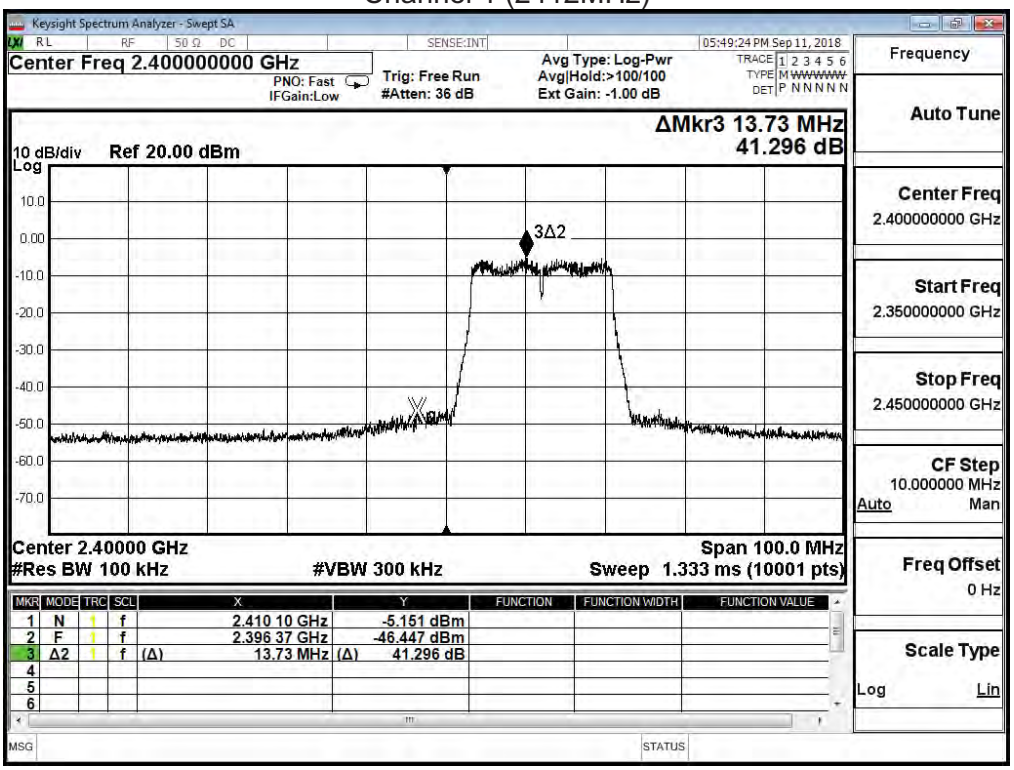
Channel 11 (2462MHz)



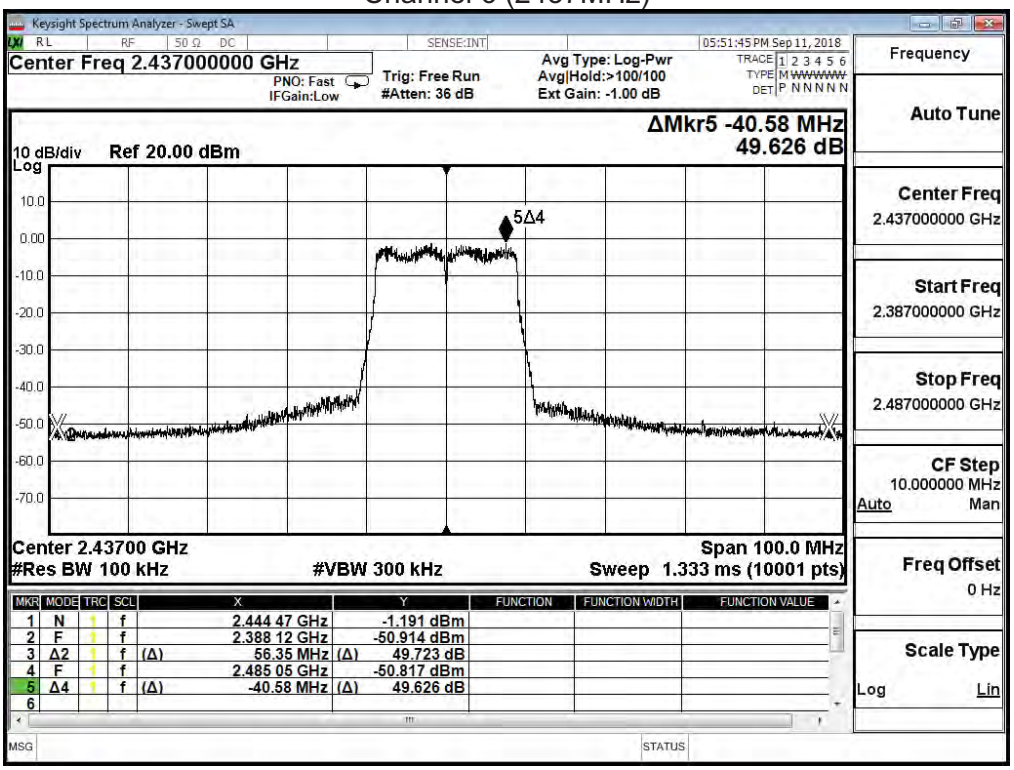
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11n 20M (ANT 1)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	41.296	≧30	Pass
6	2437	44.02	≧30	Pass
11	2462	44.122	≧30	Pass

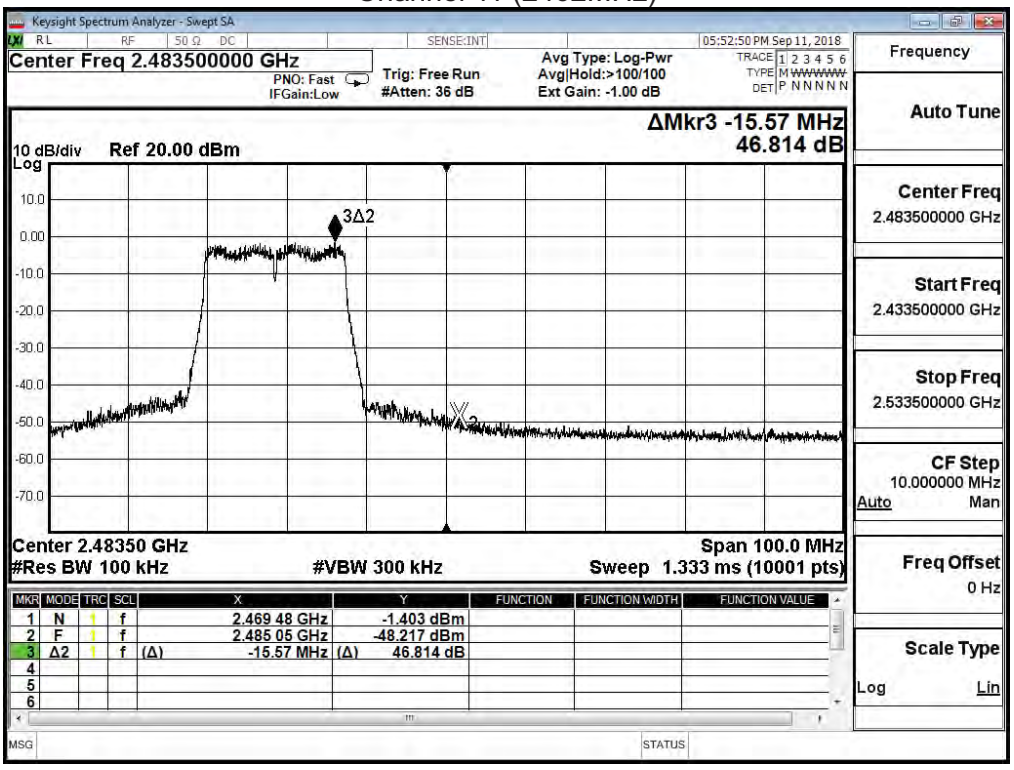
Channel 1 (2412MHz)



Channel 6 (2437MHz)



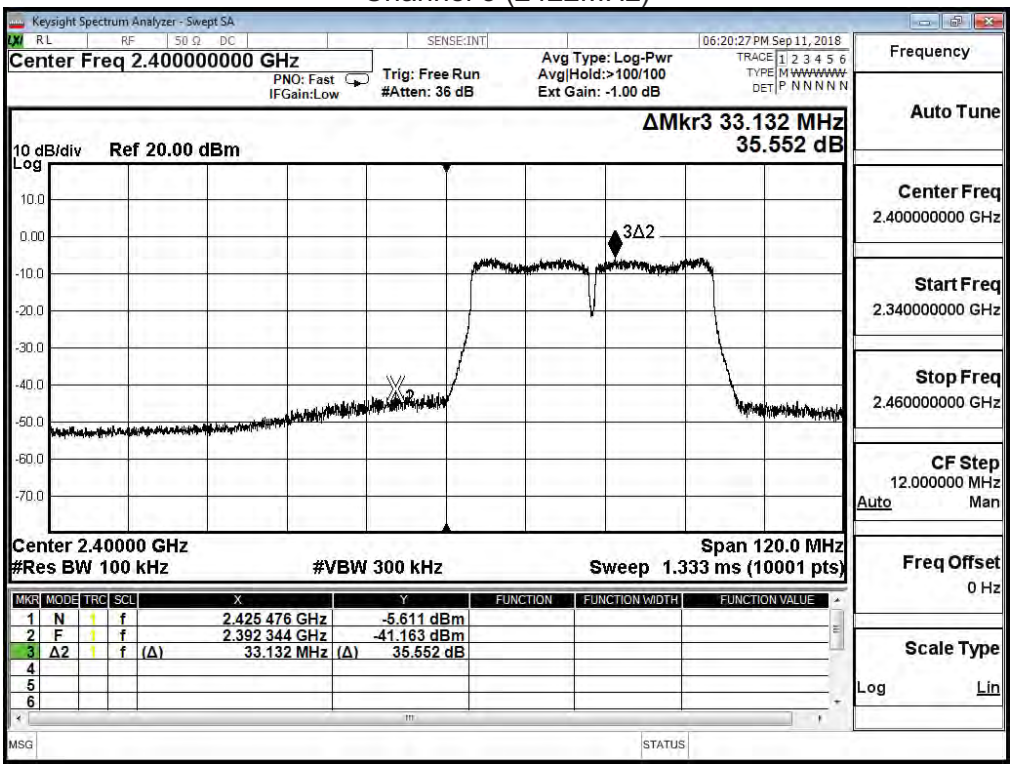
Channel 11 (2462MHz)



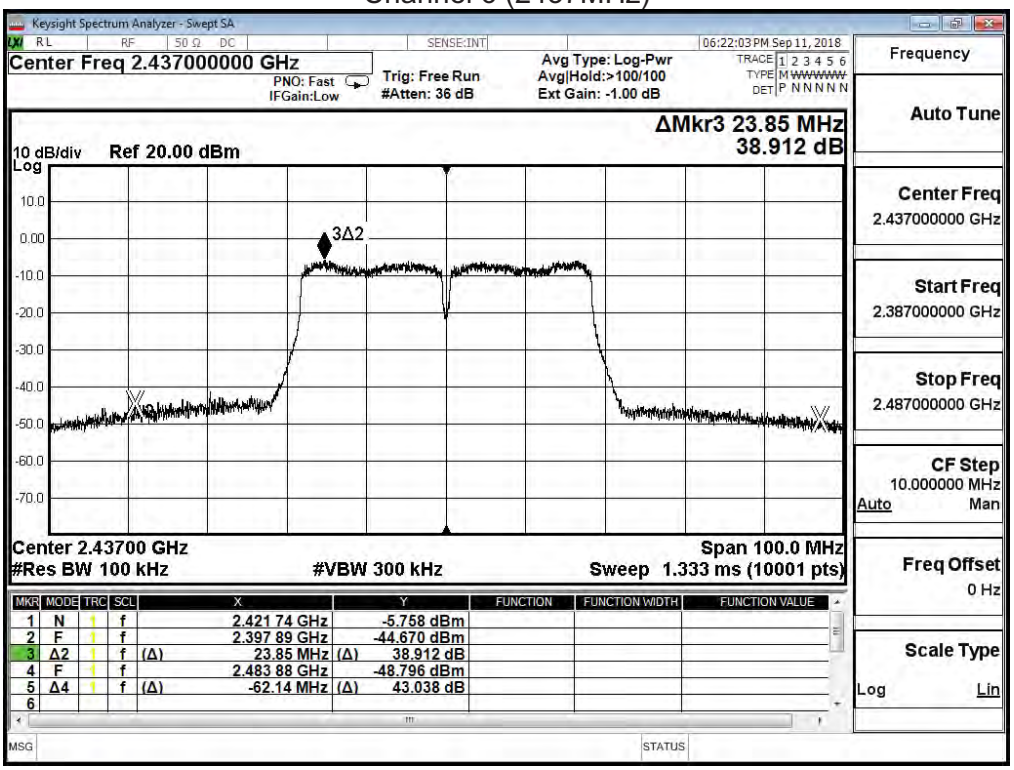
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11n 40M (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	35.552	≧30	Pass
6	2437	38.912	≧30	Pass
9	2452	39.427	≧30	Pass

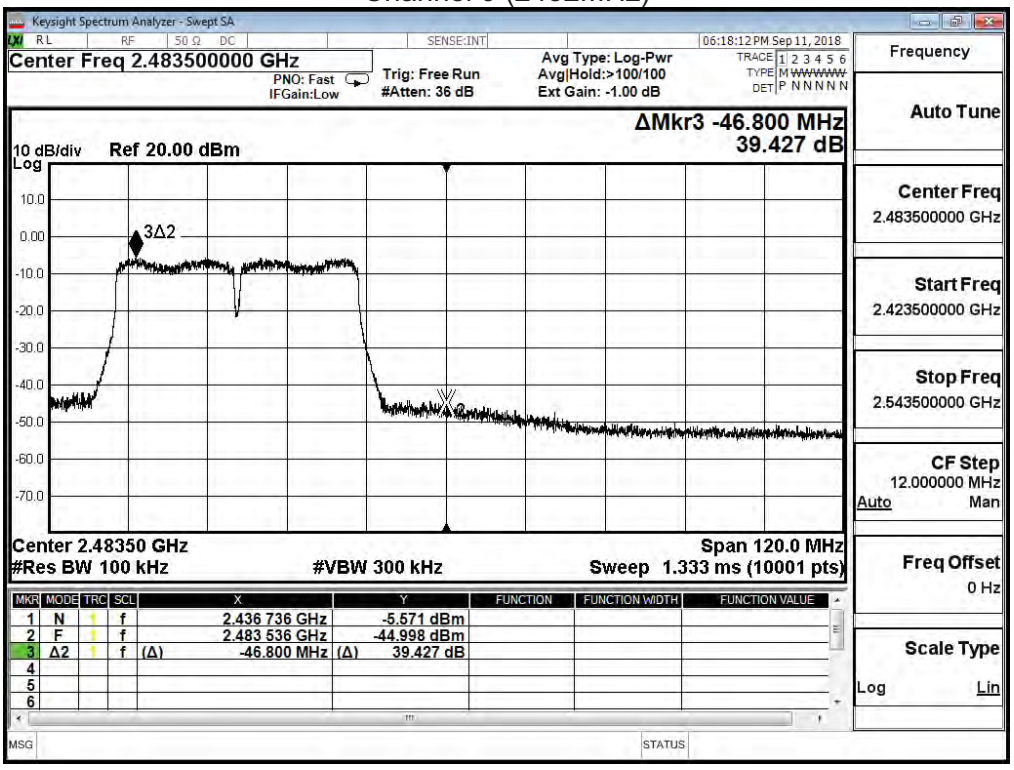
Channel 3 (2422MHz)



Channel 6 (2437MHz)



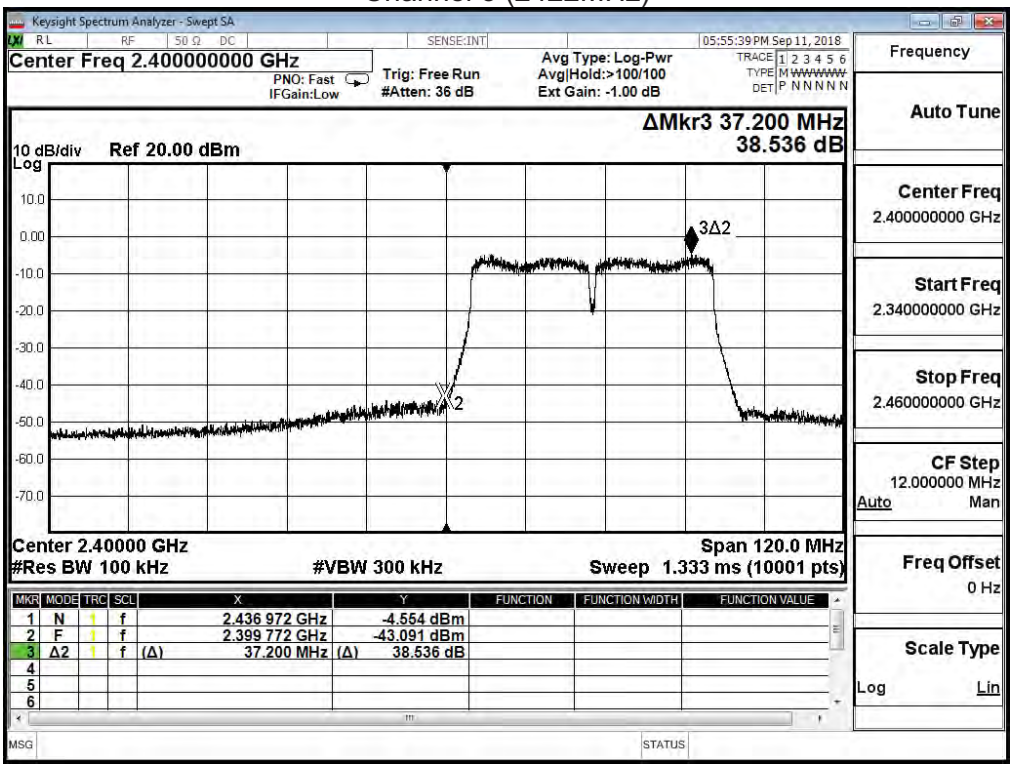
Channel 9 (2452MHz)



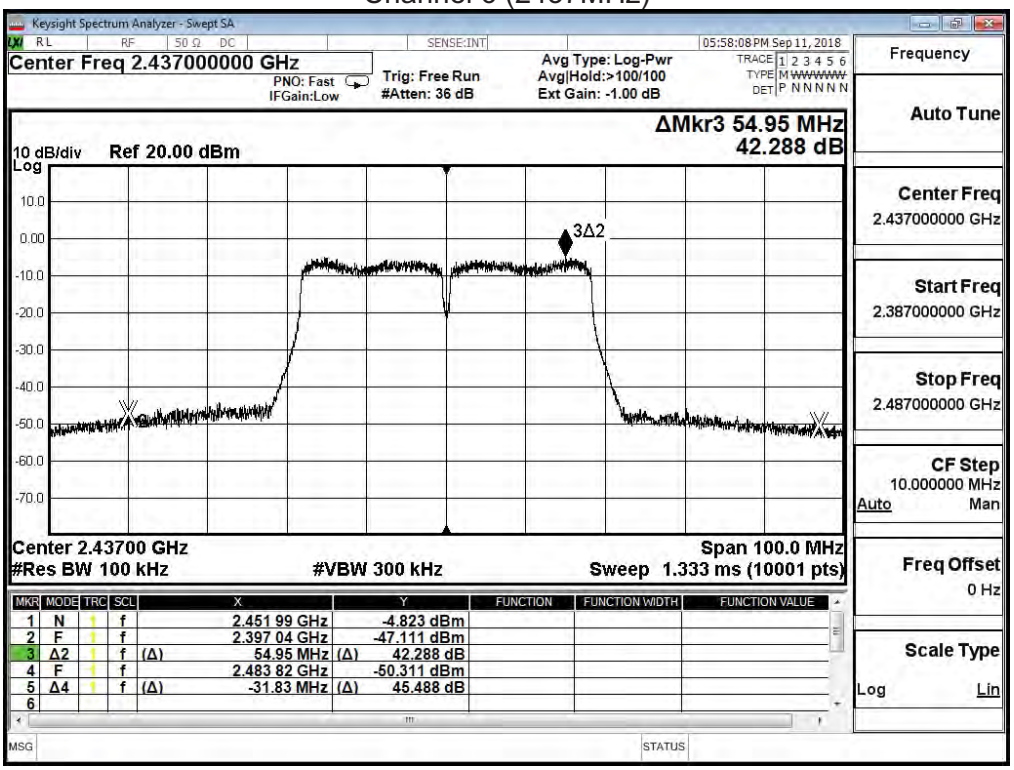
Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

IEEE 802.11n 40M (ANT 1)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	38.536	≧30	Pass
6	2437	42.288	≧30	Pass
9	2452	43.078	≧30	Pass

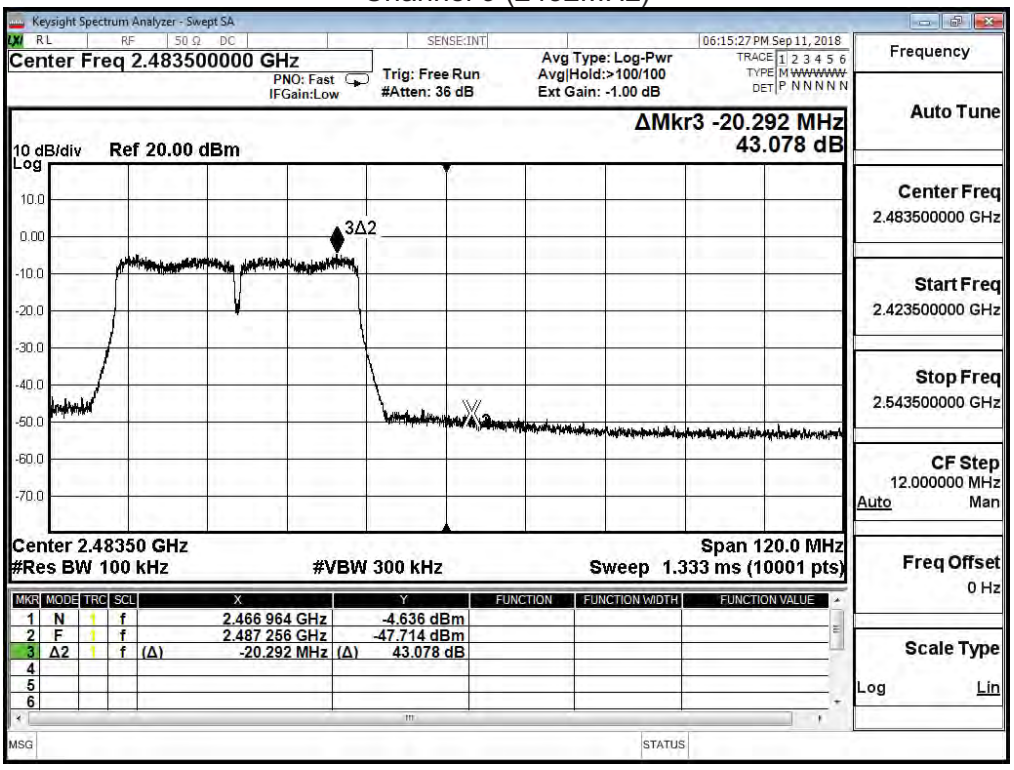
Channel 3 (2422MHz)



Channel 6 (2437MHz)

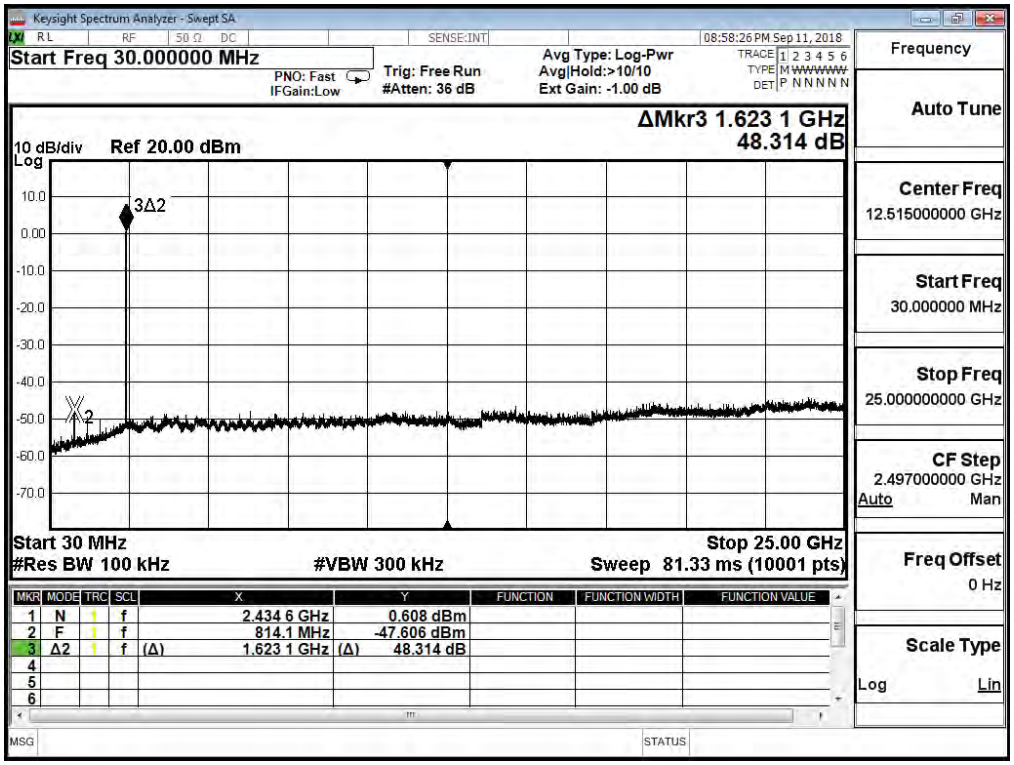


Channel 9 (2452MHz)

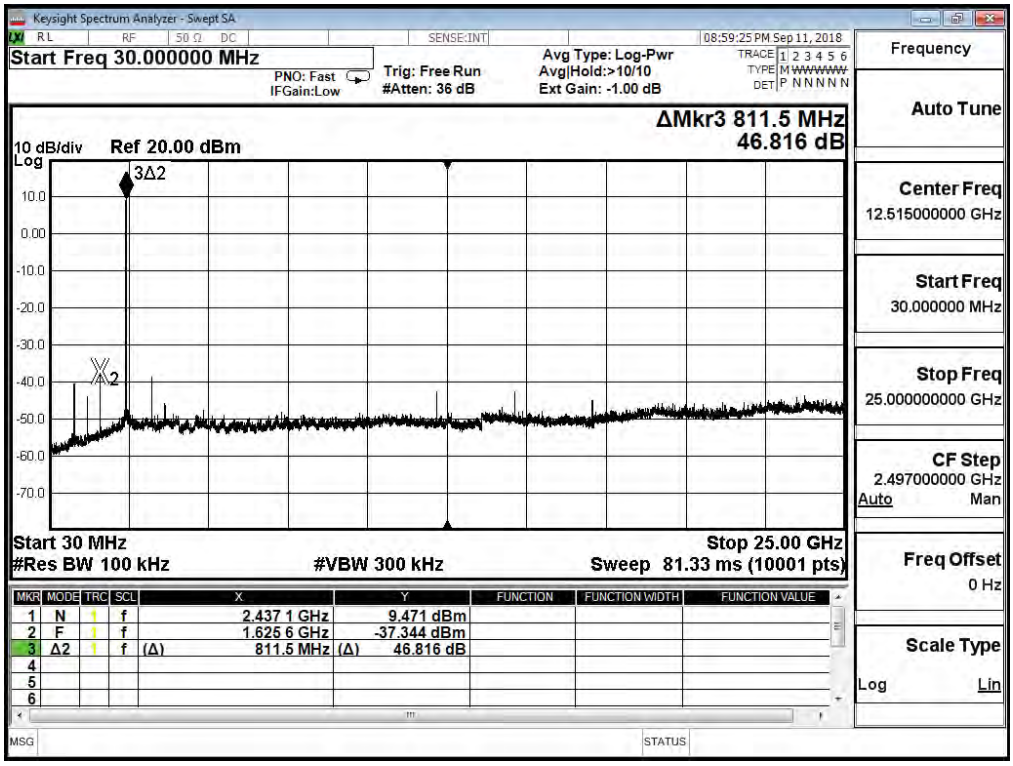


Product	Miku Life Monitor		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2018/09/11	Test Site	SR10-H

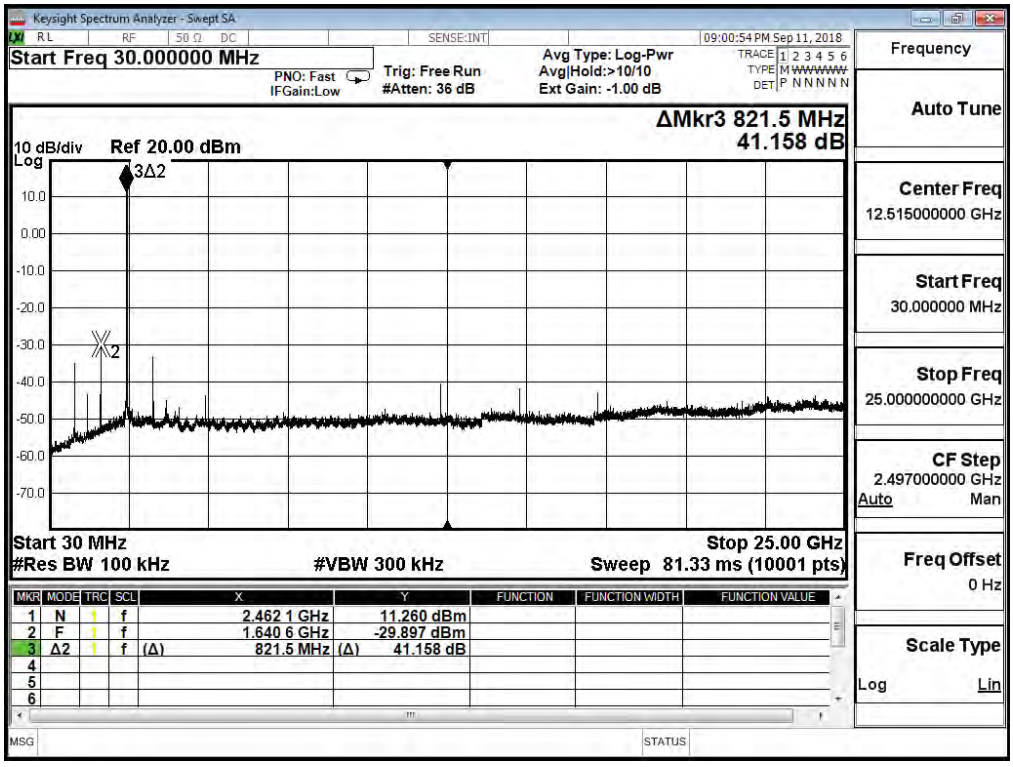
2412MHz (30MHz-25GHz)-802.11b-ANT 0



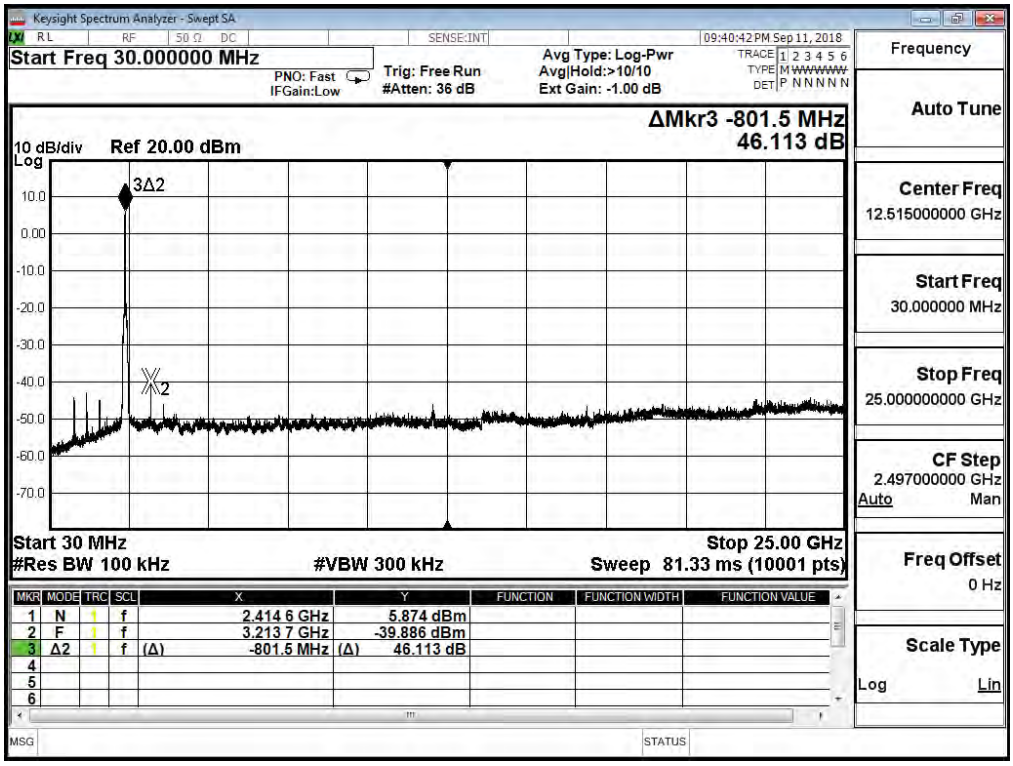
2437MHz (30MHz-25GHz)-802.11b-ANT 0



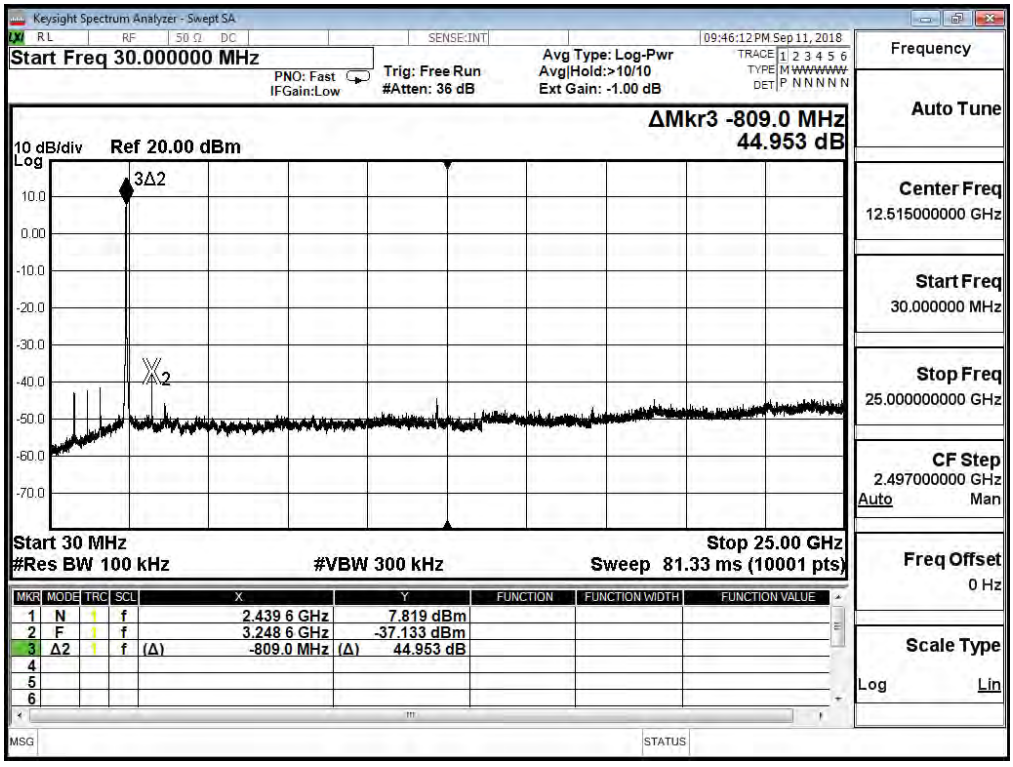
2462MHz (30MHz-25GHz)-802.11b-ANT 0



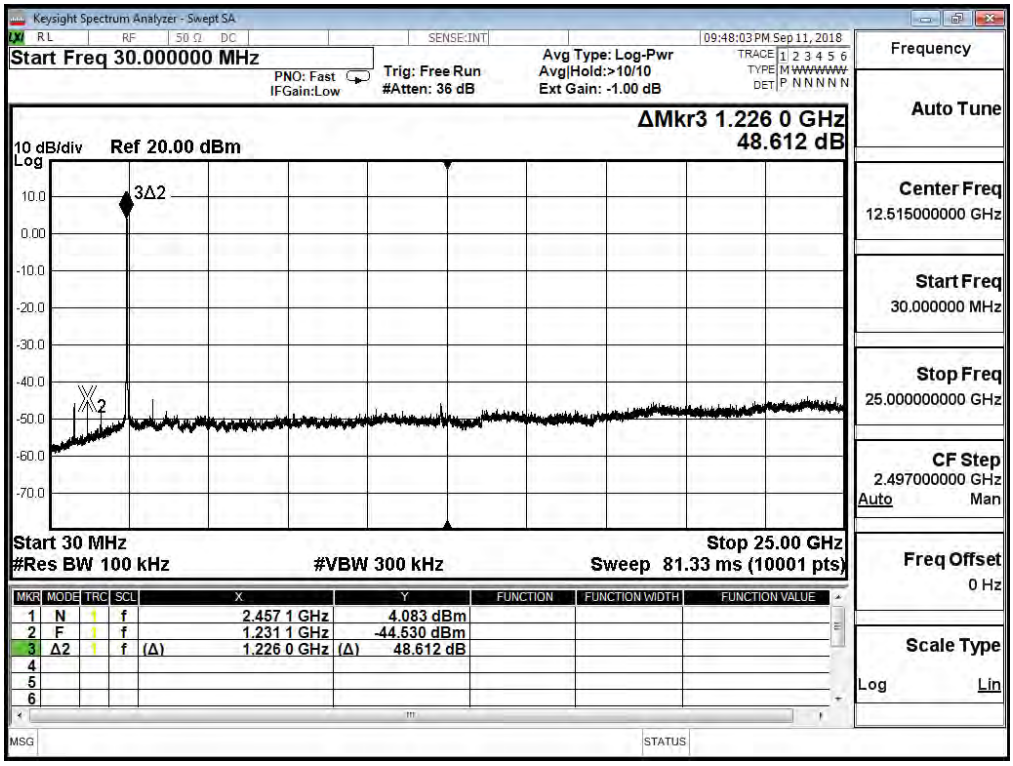
2412MHz (30MHz-25GHz)-802.11g-ANT 0



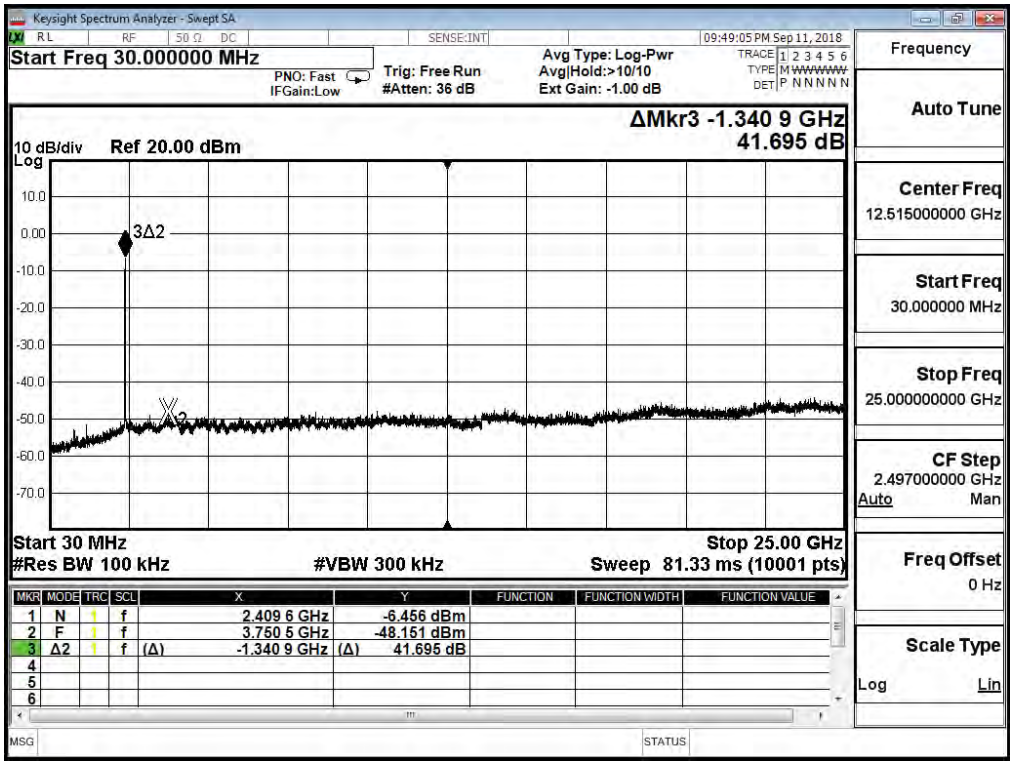
2437MHz (30MHz-25GHz)-802.11g-ANT 0



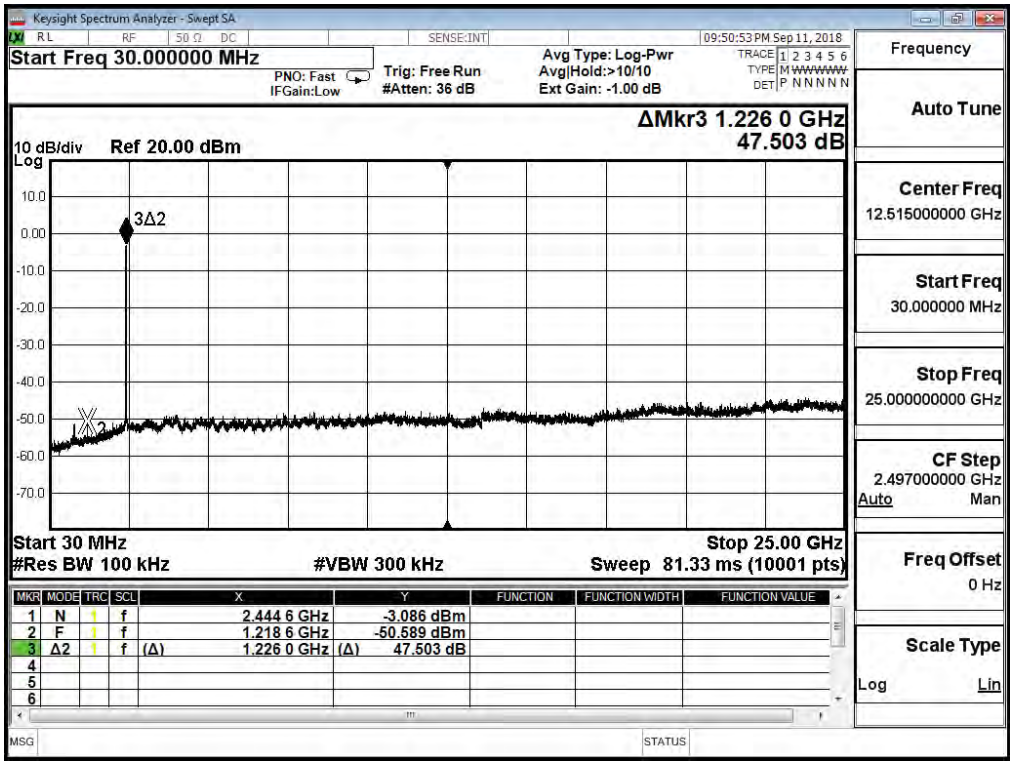
2462MHz (30MHz-25GHz)-802.11g-ANT 0



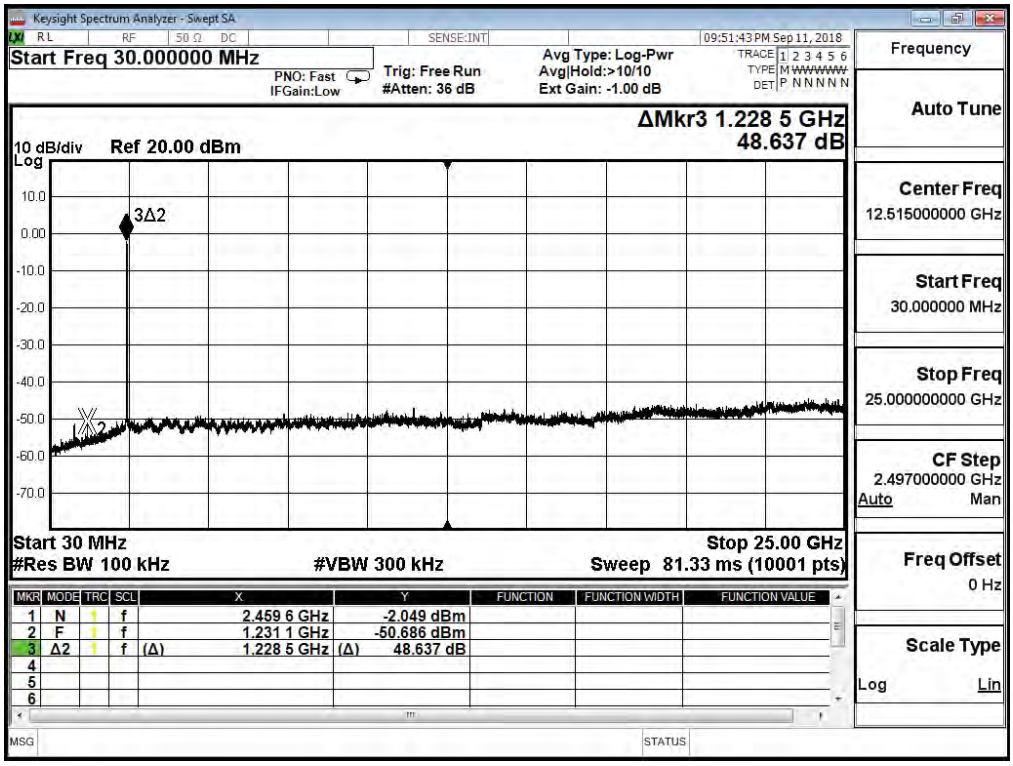
2412MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 0



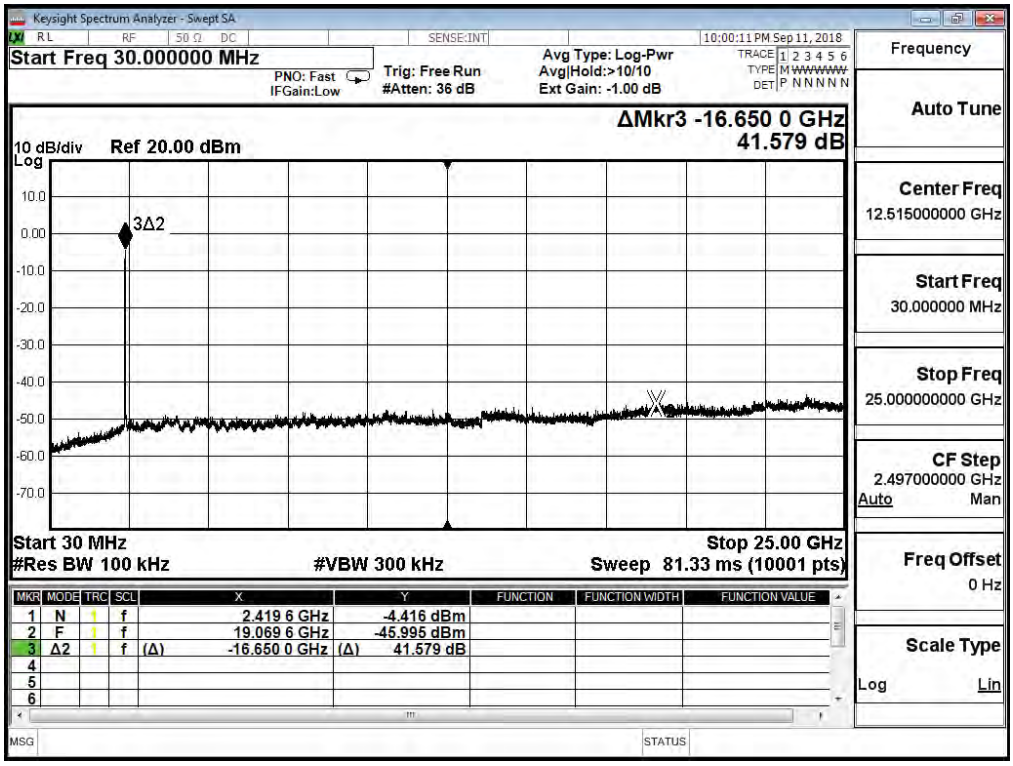
2437MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 0



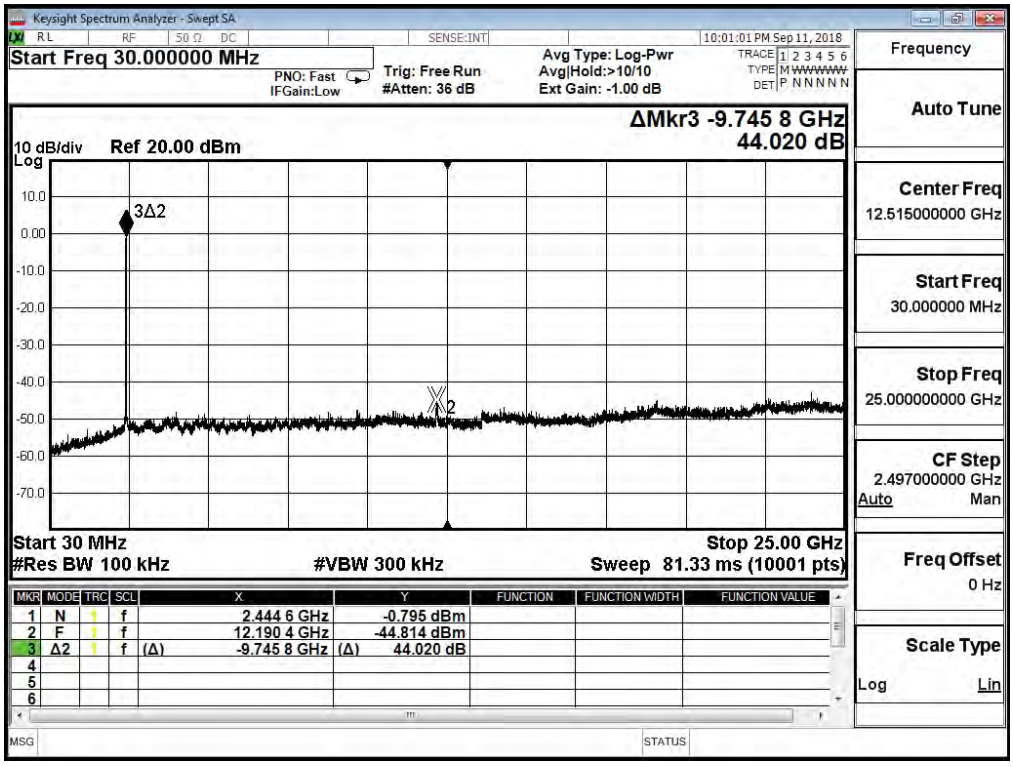
2462MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 0



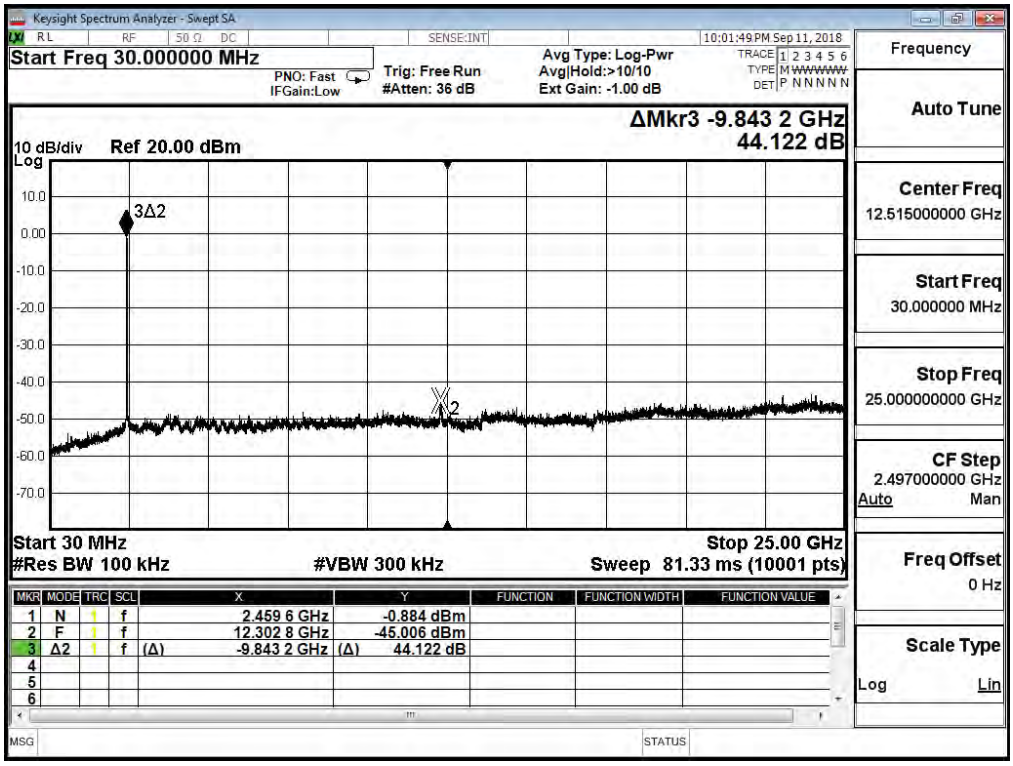
2412MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 1



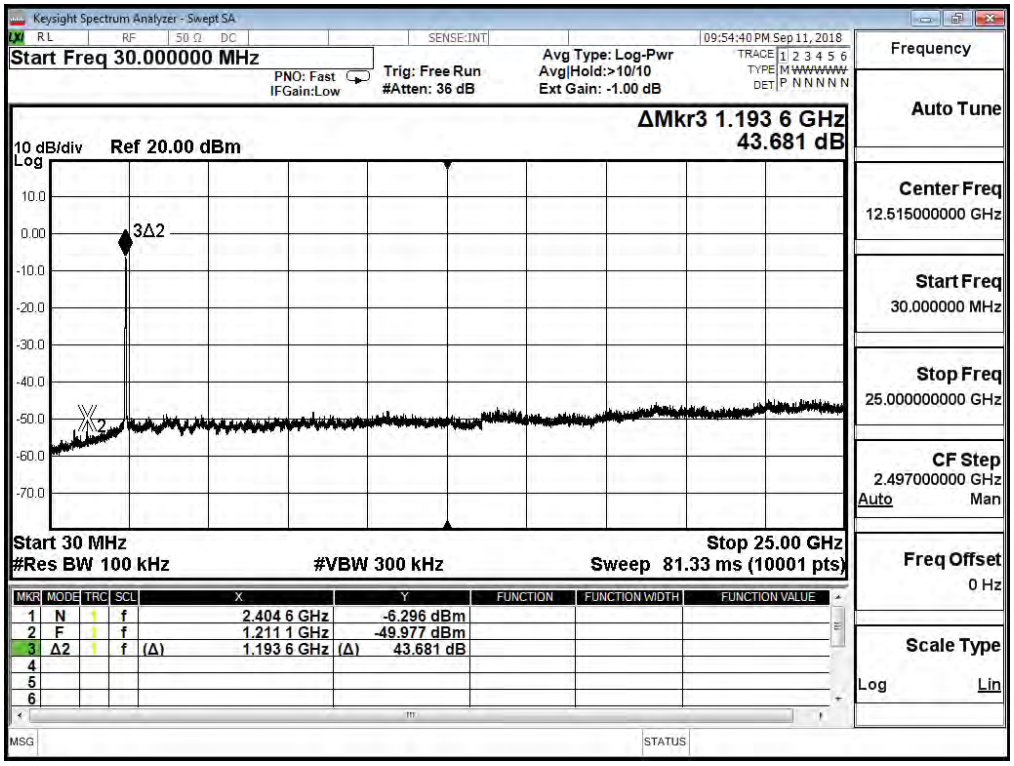
2437MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 1



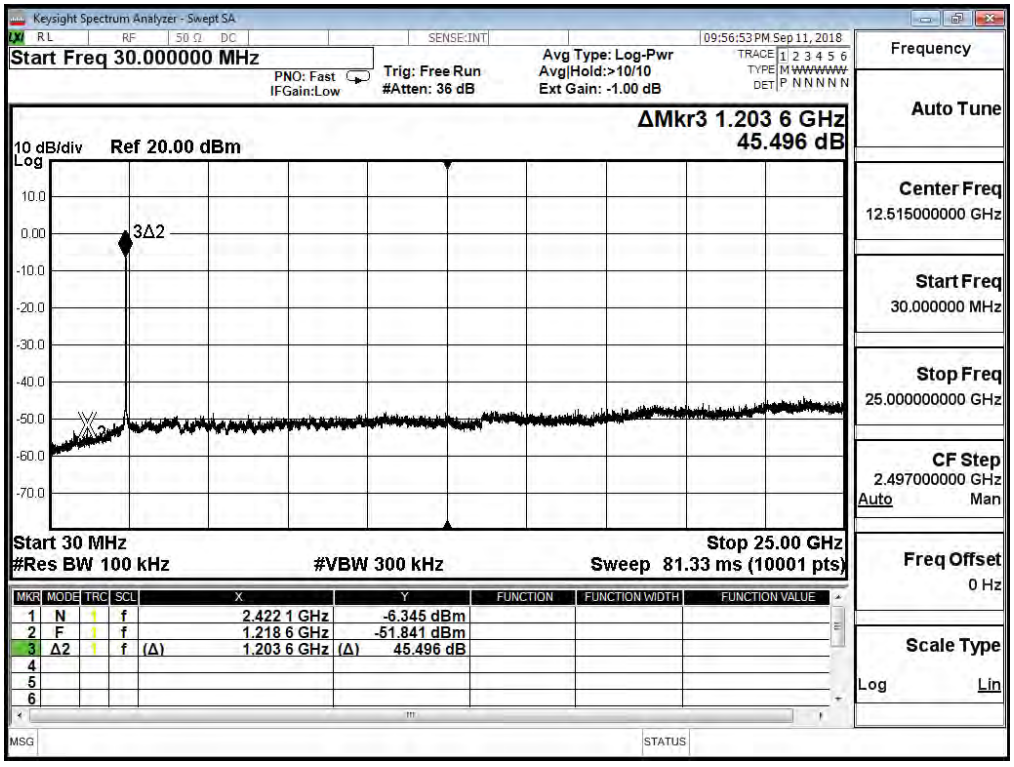
2462MHz (30MHz-25GHz)-802.11n(20MHz)-ANT 1



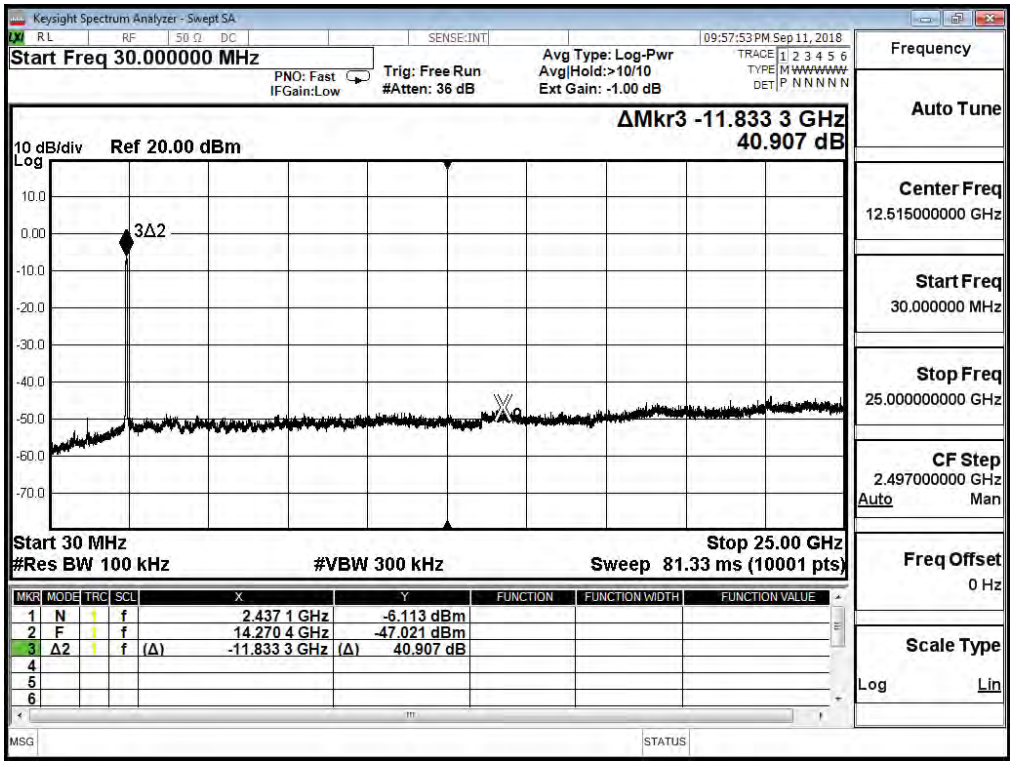
2422MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 0



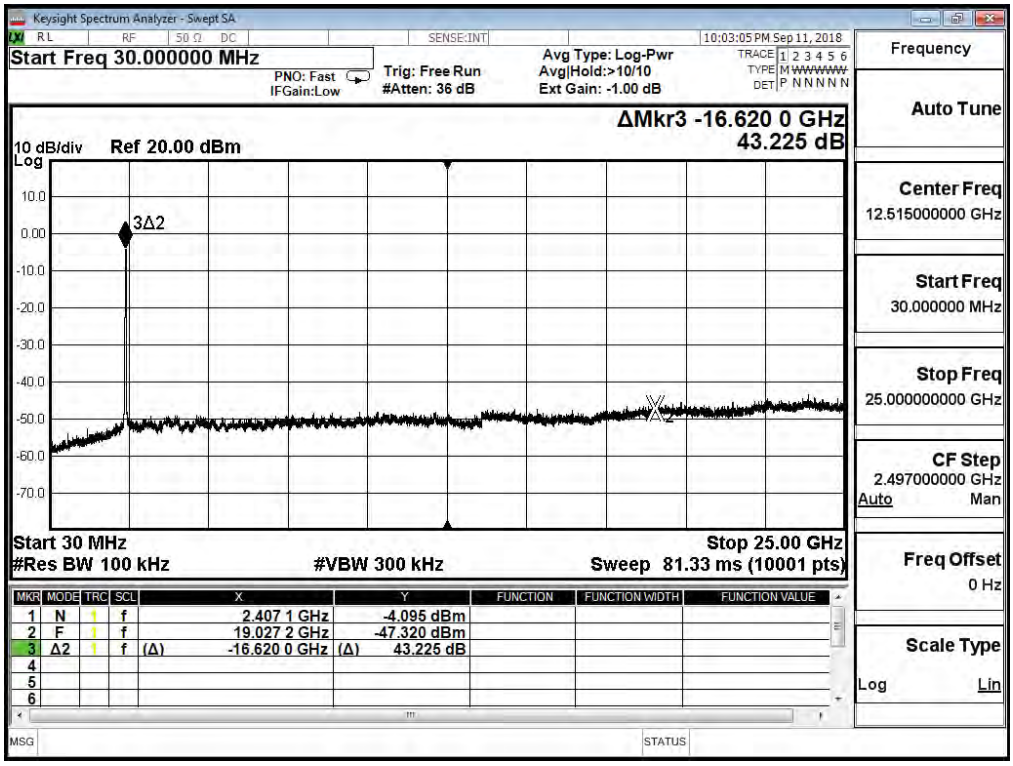
2437MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 0



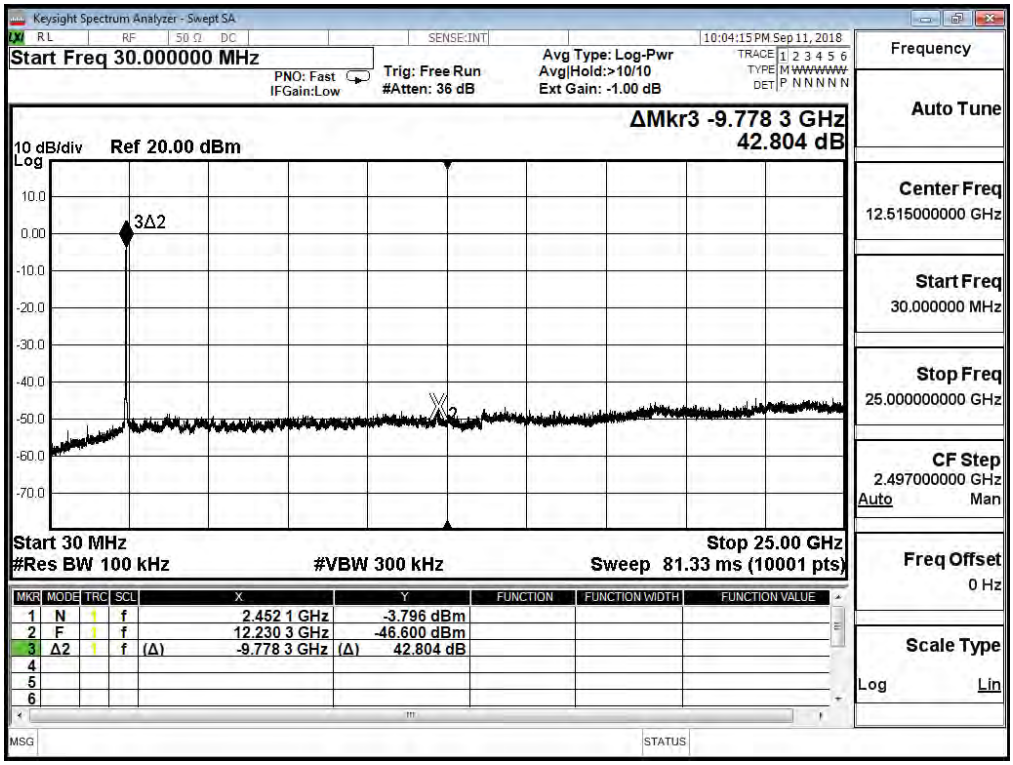
2452MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 0



2422MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 1



2437MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 1



2452MHz (30MHz-25GHz)-802.11n(40MHz)-ANT 1