

# MEASUREMENT REPORT

## FCC PART 15.247

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**FCC ID:** 2AQVB-T18V12110  
**APPLICANT:** Taisync Technology LLC  
**Application Type:** Certification  
**Product:** 2.4GHz HD Wireless Link  
**Model No.:** WLN2110-H  
**Brand Name:** TAISYNC  
**FCC Classification:** Digital Transmission System (DTS)  
**FCC Rule Part(s):** Part 15 Subpart C (Section 15.247)  
**Test Procedure(s):** ANSI C63.10-2013, KDB 558074 D01v04  
**Test Date:** July 31, 2018 ~ August 22, 2018

Reviewed By : Kevin Guo  
( Kevin Guo )  
Approved By : Robin Wu  
( Robin Wu )



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01v04. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
1807RSU019-U1	Rev. 01	Initial Report	08-22-2018	Valid

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### §2.1033 General Information

<b>Applicant:</b>	Taisync Technology LLC
<b>Applicant Address:</b>	6th floor,75 E. Santa Clara St., San Jose, CA 95113
<b>Manufacturer:</b>	Taisync
<b>Manufacturer Address:</b>	B-702 ,Creative Park, NO.100 dicui road, Binhu District, Wuxi, Jiangsu, China
<b>Test Site:</b>	MRT Technology (Suzhou) Co., Ltd
<b>Test Site Address:</b>	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
<b>FCC Registration No.:</b>	893164
<b>Test Device Serial No.:</b>	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

### Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



# 1. INTRODUCTION

## 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

## 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The measurement facility compliant with the test site requirements specified in ANSI C63.4-2014.



## 2. PRODUCT INFORMATION

### 2.1. Feature of Equipment under Test

Product Name:	2.4GHz HD Wireless Link
Model No.:	WLN2110-H
Brand Name:	TAISYNC
RF Specification:	2.4GHz
Antenna Delivery	1*Tx + 1*Rx

Note: Power supply is from rechargeable Battery (M/N: YSN-12011000) provided by manufacturer.

### 2.2. Product Specification Subjective to this Report



RF Specification (2.4GHz)	
Frequency Range:	2412 ~ 2472 MHz
Type of Modulation:	OFDM
Channel Bandwidth	2.5MHz / 10MHz
Data Rate:	Bandwidth 2.5MHz: 115200kbps Bandwidth 10MHz: 2.3 Mbps ~12Mbps

### 2.3. Working Frequencies for this report

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	12	2467 MHz
13	2472 MHz	--	--	--	--

Note: It's the same of channel list and channel center frequency that between Bandwidth 2.5MHz and 10MHz.

### 2.4. Description of Available Antennas

Antenna	Manufacturer	Frequency Band (GHz)	Antenna Name	Tx Paths
	saixun	2.4	RP-SMA Antenna	1Tx + 1Rx
	airgain	2.4	PCB Antenna	1Tx + 1Rx

Antenna Name	Frequency Band (GHz)	TX Paths	Max Peak Gain (dBi)
RP-SMA Antenna (Ant 1)	2.4 ~ 2.5	1	5.0
PCB Antenna (Ant 2)	2.4 ~ 2.5	1	2.0

Note: The device can only use the Ant 1 When it is working at 2.5MHz Bandwidth. This caution will be described in Operational description and User manual of this device by manufacturer.

### 2.5. Test Mode

Test Mode	Mode 1: Transmit by Bandwidth 10MHz (2.3Mbps)
	Mode 2: Transmit by Bandwidth 2.5MHz (115200kbps)



## 2.6. Test Software

The test utility software used during testing was “Taisync Wireless app”, and the version was “V2.4T”.

Final Power Parameter Value

Test Mode / Bandwidth	Antenna	Test Channel No.	Test Channel (MHz)	Power Parameter Value
10MHz	Ant 1	1	2412	26.0
		7	2442	26.0
		13	2472	26.0
	Ant 2	1	2412	25.0
		7	2442	26.0
		12	2467	25.0
		13	2472	20.0
2.5MHz	Ant 1	1	2412	21.0
		2	2417	23.0
		3	2422	25.0
		7	2442	26.0
		12	2467	25.0
		13	2472	22.0

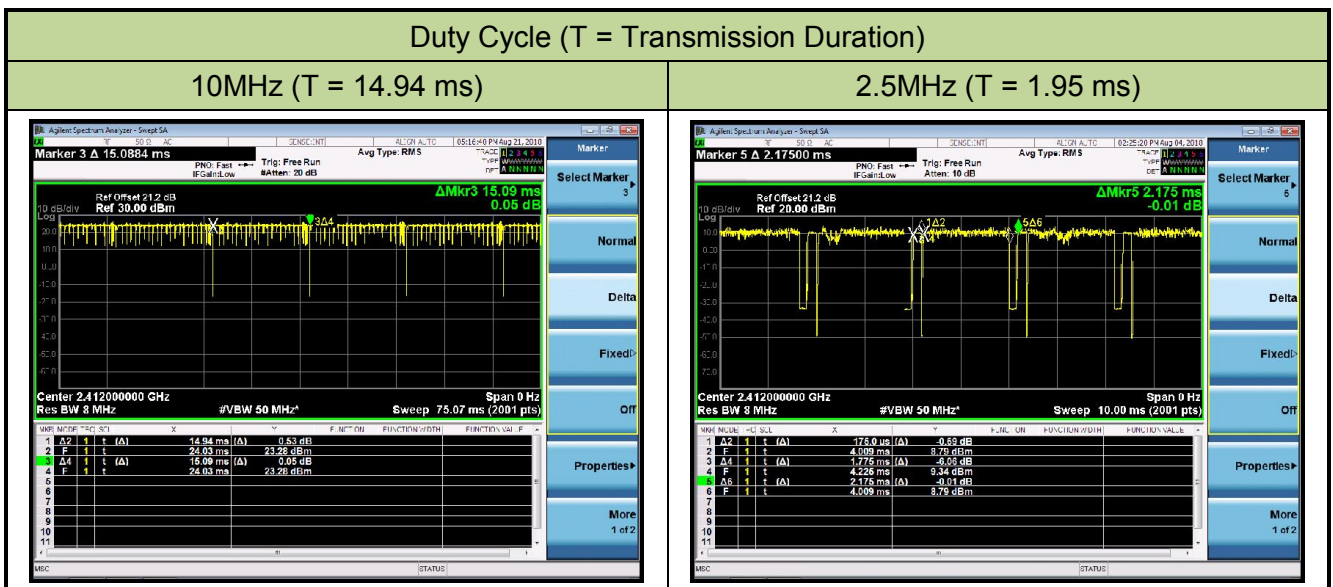
## 2.7. Device Capabilities

This device contains the following capabilities:

2.4G Radio frequency with 10MHz and 2.5MHz Bandwidth.

The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section 6.0 b) of KDB 558074 D01v04. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode / Bandwidth	Duty Cycle
10MHz	99.01 %
2.5MHz	89.66 %



## 2.8. Test Configuration

The device was tested per the guidance of KDB 558074 D01v04. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

## 2.9. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

## **2.10. Labeling Requirements**

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

### 3. DESCRIPTION of TEST

#### 3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 558074 D01v04 were used in the measurement of the device.

**Deviation from measurement procedure.....None**

#### 3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

### 3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

## 4. ANTENNA REQUIREMENTS

### **Excerpt from §15.203 of the FCC Rules/Regulations:**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. 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 provisions of this section.”

- There are provisions for special connector (MMCX PLUG connector) to an external antenna.

### **Conclusion:**

The device unit complies with the requirement of §15.203.

## 5. TEST EQUIPMENT CALIBRATION DATE

### Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2019/04/20
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2019/06/15
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2019/06/15
Temperature/Humidity Meter	Testo	608-H1	MRTSUE06404	1 year	2019/08/14
Shielding Anechoic Chamber	Mikebang	Chamber-SR2	MRTSUE06214	1 year	2019/05/10

### Radiated Disturbance – AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2018/09/30
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2019/08/18
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2018/11/20
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2019/04/12
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2018/10/21
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	1 year	2018/12/14
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2018/11/17
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2019/06/13
Temperature/Humidity Meter	Testo	608-H1	MRTSUE06403	1 year	2019/08/14
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2019/05/02

### Radiated Disturbance - AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Agilent	N9038A	MRTSUE06125	1 year	2019/08/18
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06171	1 year	2018/11/18
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2019/04/16
Digital Thermometer & Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2018/12/12
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2019/05/09

## Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2019/04/20
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2018/12/06
Temperature&Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2018/12/06
Temperature/Humidity Meter	Testo	608-H1	MRTSUE06401	1 year	2018/11/21

Software	Version	Function
e3	V8.3.5	EMI Test Software



## 6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

<b>AC Conducted Emission Measurement - SR2</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 150kHz~30MHz: $\pm 3.46\text{dB}$
<b>Radiated Emission Measurement – AC1</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 9kHz ~ 1GHz: $\pm 4.18\text{dB}$ 1GHz ~ 25GHz: $\pm 4.76\text{dB}$
<b>Spurious Emissions, Conducted - TR3</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 0.78dB
<b>Output Power - TR3</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 1.13dB
<b>Power Spectrum Density - TR3</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 1.15dB
<b>Occupied Bandwidth - TR3</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 0.28%

## 7. TEST RESULT

### 7.1. Summary

**Company Name:** Taisync Technology LLC

**FCC ID:** 2AQVB-T18V12110

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	6dB Bandwidth	$\geq 500\text{kHz}$	Conducted	Pass	Section 7.2
15.247(b)(3)	Output Power	$\leq 1\text{ Watt}$		Pass	Section 7.3
15.247(e)	Power Spectral Density	$\leq 8\text{ dBm} / 3\text{kHz}$		Pass	Section 7.4
15.247(d)	Band Edge / Out-of-Band Emissions	$\leq 30\text{dBc (Average)}$		Pass	Section 7.5
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 7.6 & 7.7
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	N/A	Section 7.8

**Notes:**

- 1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

## 7.2. 6dB Bandwidth Measurement

### 7.2.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

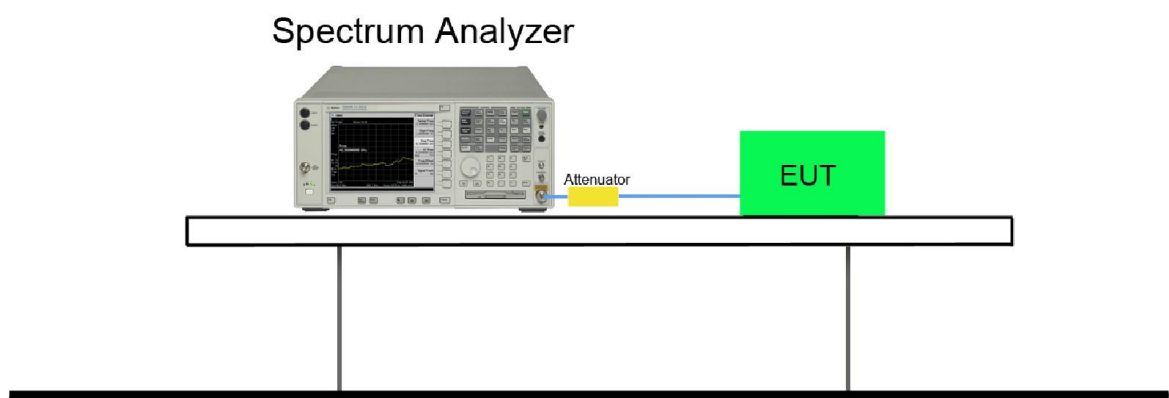
### 7.2.2. Test Procedure used

KDB 558074 D01v04 - Section 8.2 Option 2

### 7.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to  $X = 6$ . The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace was allowed to stabilize

### 7.2.4. Test Setup



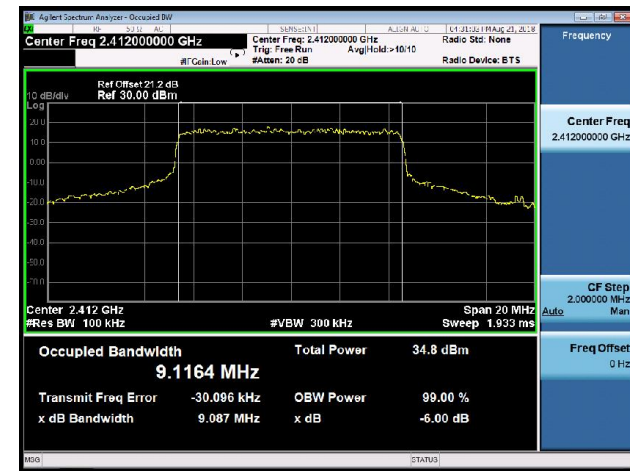
**7.2.5. Test Result**

Product	2.4GHz HD Wireless Link	Temperature	25°C
Test Engineer	Snake Ni	Relative Humidity	52%
Test Site	TR3	Test Date	2018/08/21

Test Mode / Bandwidth	Data Rate	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
<b>Ant 1</b>						
10MHz	2.3Mbps	01	2412	9.12	≥ 0.5	Pass
10MHz	2.3Mbps	07	2442	9.10	≥ 0.5	Pass
10MHz	2.3Mbps	13	2472	9.11	≥ 0.5	Pass
2.5MHz	115200kbps	01	2412	2.32	≥ 0.5	Pass
2.5MHz	115200kbps	07	2442	2.32	≥ 0.5	Pass
2.5MHz	115200kbps	13	2472	2.31	≥ 0.5	Pass
<b>Ant 2</b>						
10MHz	2.3Mbps	01	2412	9.12	≥ 0.5	Pass
10MHz	2.3Mbps	07	2442	9.13	≥ 0.5	Pass
10MHz	2.3Mbps	13	2472	9.09	≥ 0.5	Pass

10MHz 6dB Bandwidth - Ant 1

Channel 01 (2412MHz)



Channel 07 (2442MHz)



Channel 13 (2472MHz)

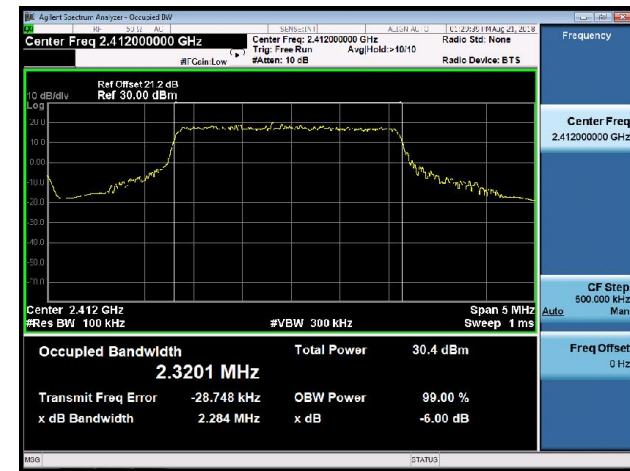


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2.5MHz 6dB Bandwidth - Ant 1

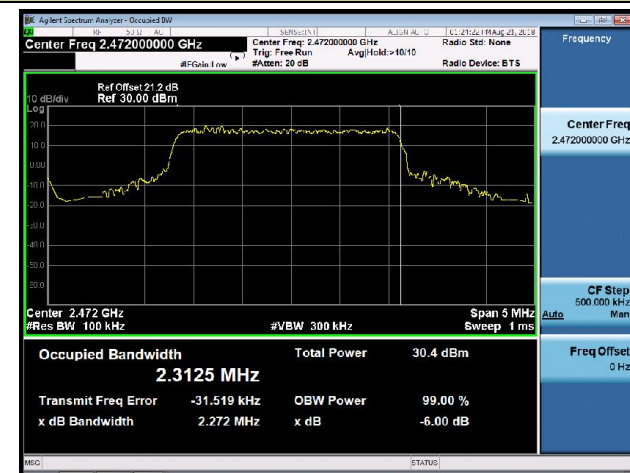
Channel 01 (2412MHz)



Channel 07 (2442MHz)



Channel 13 (2472MHz)

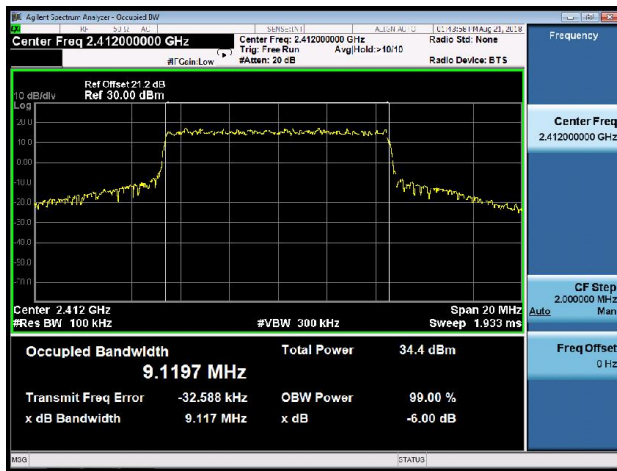


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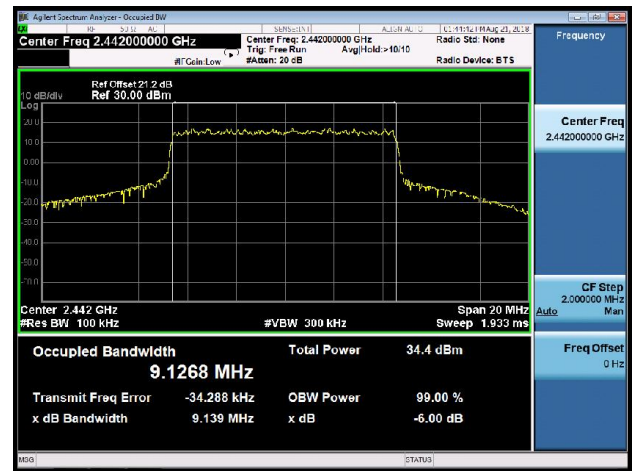
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## 10MHz 6dB Bandwidth - Ant 2

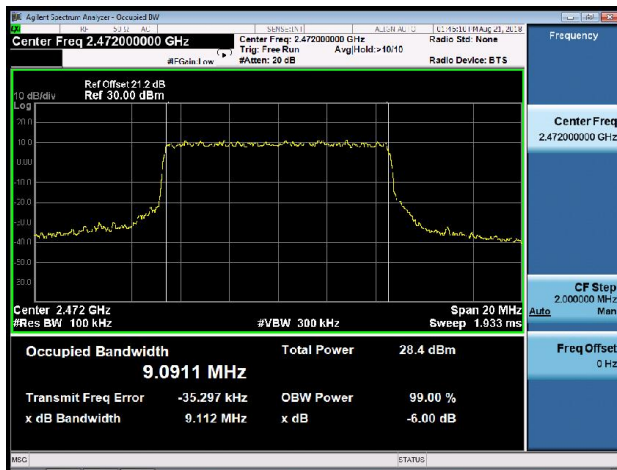
## Channel 01 (2412MHz)



## Channel 07 (2442MHz)



## Channel 13 (2472MHz)



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### 7.3. Output Power Measurement

#### 7.3.1. Test Limit

The maximum out power shall be less 1 Watt (30dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 7.3.2. Test Procedure Used

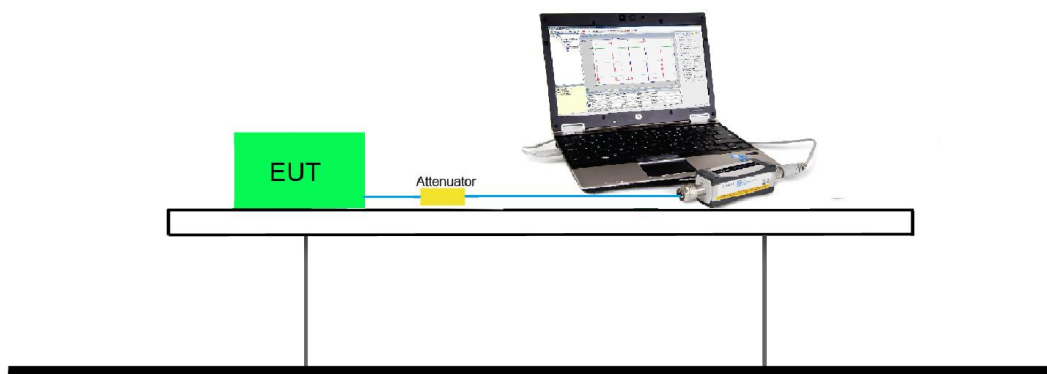
KDB 558074 D01v04 - Section 9.2.3.2 AVGPM-G Average Power Method

#### 7.3.3. Test Setting

##### Average Power Measurement

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

#### 7.3.4. Test Setup





**7.3.5. Test Result**

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (Gray marker) for final test of each channel.

**Ant 1 Output power at various data rates:**

Test Mode / Bandwidth	Channel No.	Frequency (MHz)	Data Rate	Average Power (dBm)
10MHz	7	2442	2.3 Mbps	25.47
			6.94 Mbps	25.36
			12 Mbps	25.30
2.5MHz	7	2442	115200kbps	25.89
			N/A	N/A
			N/A	N/A

Product	2.4GHz HD Wireless Link	Temperature	23°C
Test Engineer	Snake Ni	Relative Humidity	51%
Test Site	TR3	Test Date	2018/08/17

Test Mode / Bandwidth	Data Rate	Channel No.	Freq. (MHz)	Average Power (dBm)	Limit (dBm)	Result
<b>Ant 1</b>						
10MHz	2.3Mbps	1	2412	26.01	≤ 30.00	Pass
	2.3Mbps	7	2442	25.47	≤ 30.00	Pass
	2.3Mbps	13	2472	24.77	≤ 30.00	Pass
2.5MHz	115200kbps	1	2412	22.03	≤ 30.00	Pass
	115200kbps	7	2442	25.89	≤ 30.00	Pass
	115200kbps	13	2472	20.97	≤ 30.00	Pass
<b>Ant 2</b>						
10MHz	2.3Mbps	1	2412	25.13	≤ 30.00	Pass
	2.3Mbps	7	2442	25.19	≤ 30.00	Pass
	2.3Mbps	13	2472	18.70	≤ 30.00	Pass

## **7.4. Power Spectral Density Measurement**

### **7.4.1. Test Limit**

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

### **7.4.2. Test Procedure Used**

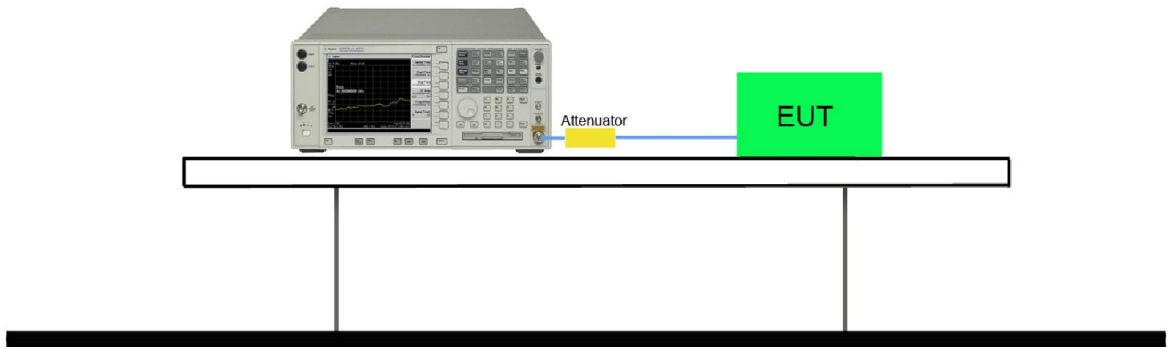
KDB 558074 D01v04 - Section 10.5 Method AVGPSD

### **7.4.3. Test Setting**

1. Measure the duty cycle (x) of the transmitter output signal.
2. Set instrument center frequency to DTS channel center frequency.
3. Set span to at least 1.5 times the OBW.
4. RBW = 10 kHz.
5. VBW = 30 kHz.
6. Detector = RMS.
7. Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span}/\text{RBW}$ .
8. Sweep time = auto couple.
9. Don't use sweep triggering. Allow sweep to "free run".
10. Employ trace averaging (RMS) mode over a minimum of 100 traces.
11. Use the peak marker function to determine the maximum amplitude level.
12. Add  $10 \log (1/x)$ , where x is the duty cycle measured in step (a), to the measured PSD to compute the average PSD during the actual transmission time.

### 7.4.4. Test Setup

#### Spectrum Analyzer



**7.4.5. Test Result**

Product	2.4GHz HD Wireless Link	Temperature	23°C
Test Engineer	Snake Ni	Relative Humidity	52%
Test Site	TR3	Test Date	2018/08/21

Test Mode	Data Rate	Channel No.	Freq. (MHz)	AVGPSD (dBm / 10kHz)	Duty Cycle (%)	Final AVGPSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
<b>Ant 1</b>								
10MHz	2.3Mbps	1	2412	-1.03	99.01	-6.26	≤ 8.00	Pass
	2.3Mbps	7	2442	-1.68	99.01	-6.91	≤ 8.00	Pass
	2.3Mbps	13	2472	-2.23	99.01	-7.46	≤ 8.00	Pass
2.5MHz	115200 kbps	1	2412	0.26	89.66	-4.49	≤ 8.00	Pass
	115200 kbps	7	2442	4.86	89.66	0.11	≤ 8.00	Pass
	115200 kbps	13	2472	1.04	89.66	-3.71	≤ 8.00	Pass
<b>Ant 2</b>								
10MHz	2.3Mbps	1	2412	-1.55	99.01	-6.78	≤ 8.00	Pass
	2.3Mbps	7	2442	-1.38	99.01	-6.61	≤ 8.00	Pass
	2.3Mbps	13	2472	-6.93	99.01	-12.16	≤ 8.00	Pass

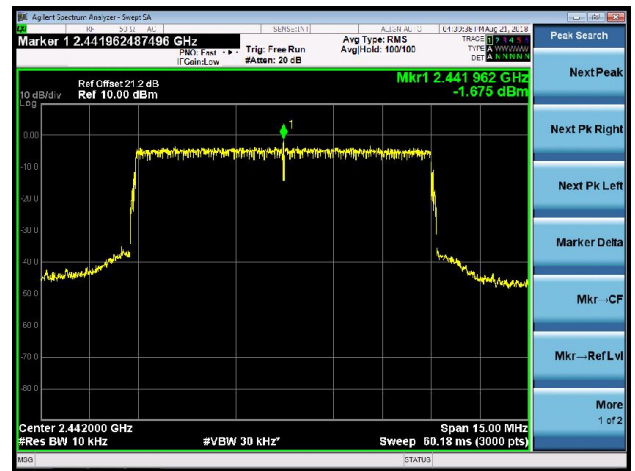
Note: When EUT duty cycle < 98%, Final AVGPSD (dBm / 3kHz) = AVGPSD + 10\*log (1/Duty Cycle).  
 When EUT duty cycle ≥ 98%, Final AVGPSD (dBm / 3kHz) = AVGPSD.

10MHz PSD - Ant 1

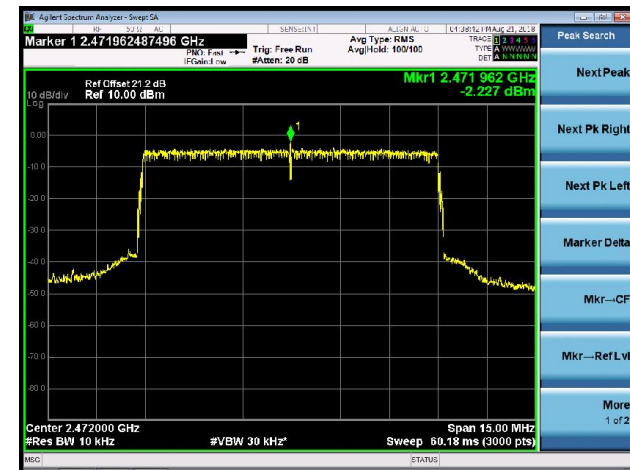
Channel 01 (2412MHz)



Channel 07 (2442MHz)



Channel 13 (2472MHz)



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2.5MHz PSD-Ant 1

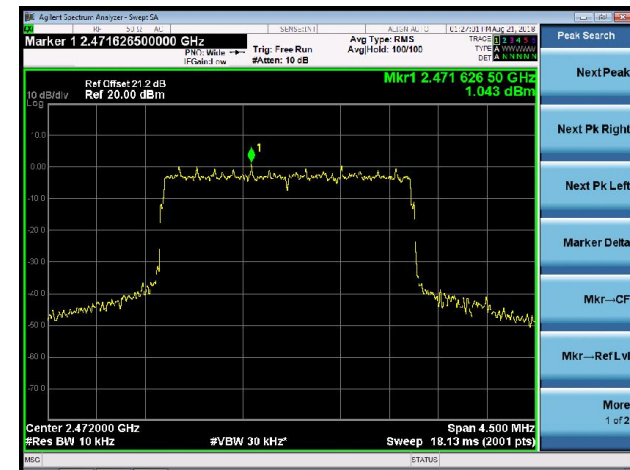
Channel 01 (2412MHz)



Channel 07 (2442MHz)



Channel 13 (2472MHz)

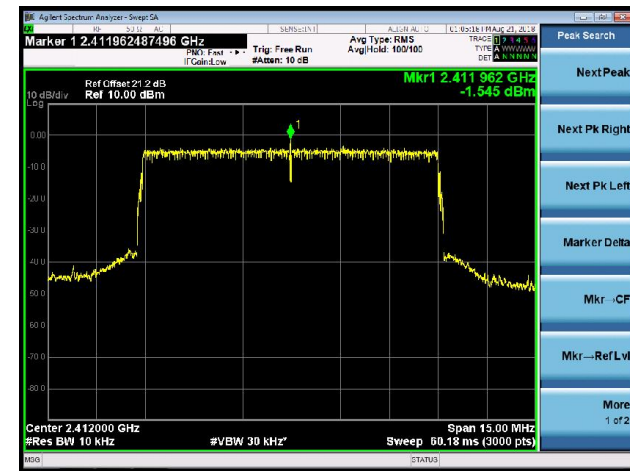


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10MHz PSD-Ant 2

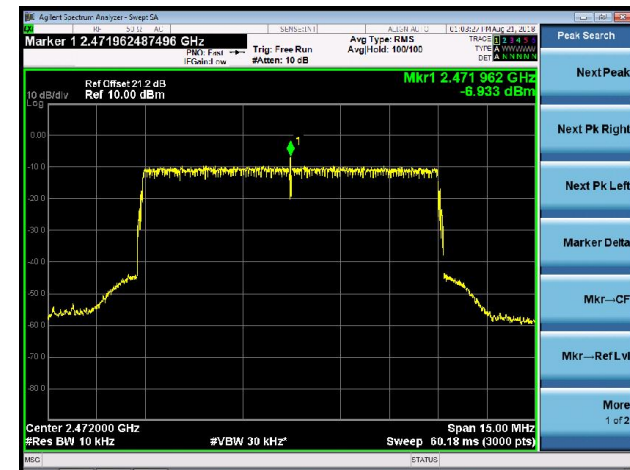
Channel 01 (2412MHz)



Channel 07 (2442MHz)



Channel 13 (2472MHz)



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## **7.5. Conducted Band Edge and Out-of-Band Emissions**

### **7.5.1. Test Limit**

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

### **7.5.2. Test Procedure Used**

KDB 558074 D01v04 - Section 11.2 & Section 11.3

### **7.5.3. Test Setting**

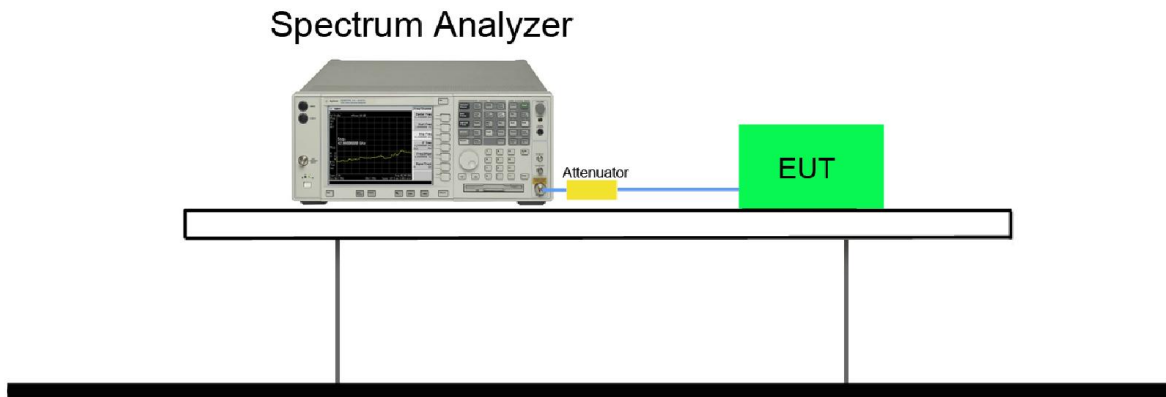
#### **Reference level measurement**

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to  $\geq 1.5$  times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW  $\geq 3 \times$  RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

#### **Emission level measurement**

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

### 7.5.4. Test Setup



**7.5.5. Test Result**

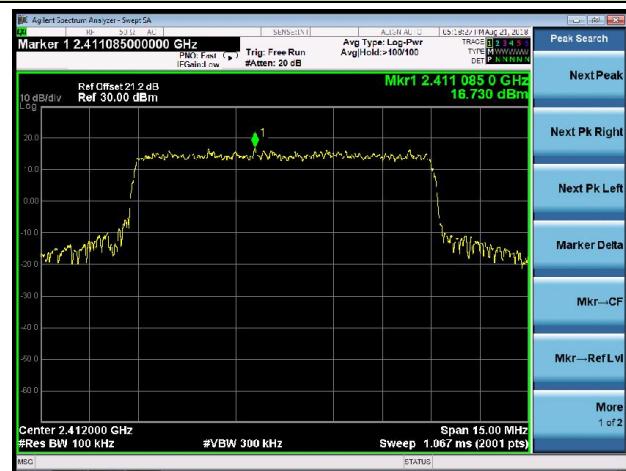
Product	2.4GHz HD Wireless Link	Temperature	23°C
Test Engineer	Snake Ni	Relative Humidity	52%
Test Site	TR3	Test Date	2018/08/21

Test Mode / Bandwidth	Data Rate	Channel No.	Frequency (MHz)	Limit	Result
<b>Ant 1</b>					
10MHz	2.3Mbps	01	2412	30dBc	Pass
10MHz	2.3Mbps	07	2442	30dBc	Pass
10MHz	2.3Mbps	13	2472	30dBc	Pass
2.5MHz	115200kbps	01	2412	30dBc	Pass
2.5MHz	115200kbps	07	2442	30dBc	Pass
2.5MHz	115200kbps	13	2472	30dBc	Pass
<b>Ant 2</b>					
10MHz	2.3Mbps	01	2412	30dBc	Pass
10MHz	2.3Mbps	07	2442	30dBc	Pass
10MHz	2.3Mbps	13	2472	30dBc	Pass

10MHz Out-of-Band Emissions - Ant 1

Channel 01 (2412MHz)

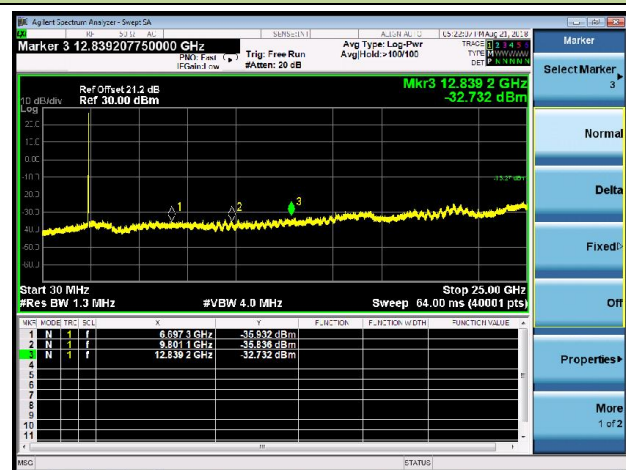
100kHz PSD reference Level



Low Band Edge



Spurious Emission



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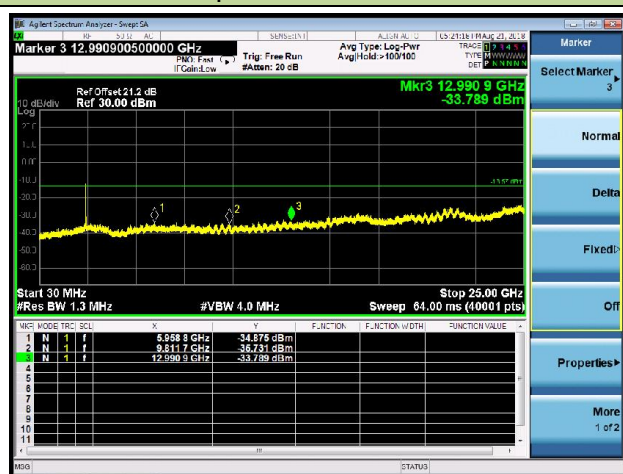
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Channel 07 (2442MHz)

100kHz PSD reference Level



Spurious Emission



Channel 13 (2472MHz)

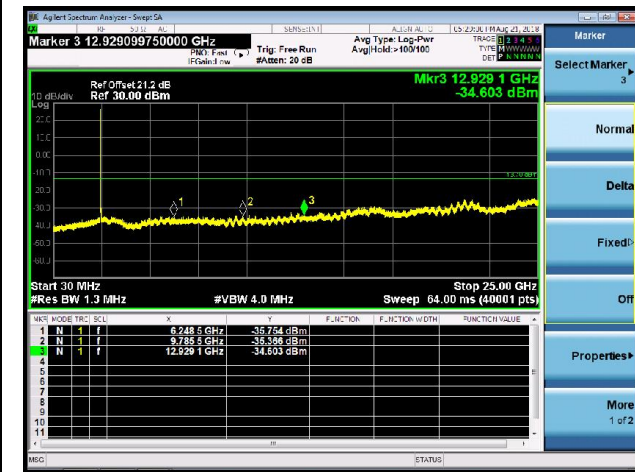
100kHz PSD reference Level



High Band Edge



Spurious Emission



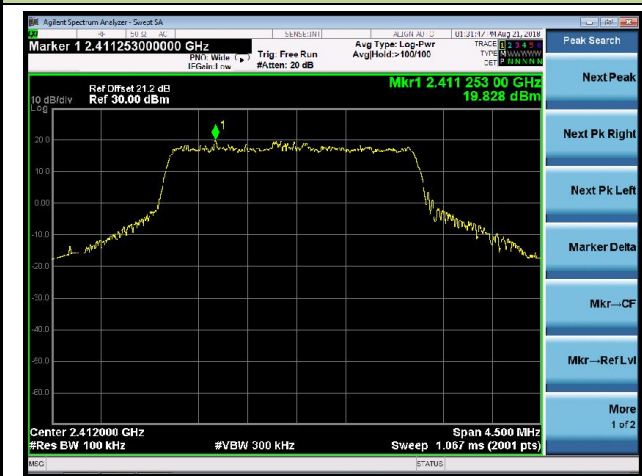
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### 2.5MHz Out-of-Band Emissions - Ant 1

#### Channel 01 (2412MHz)

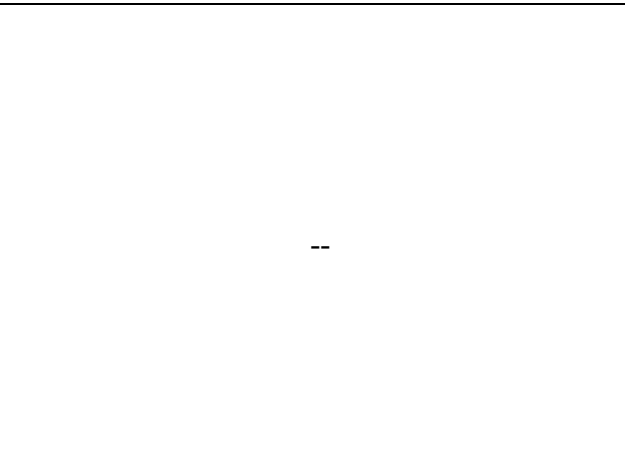
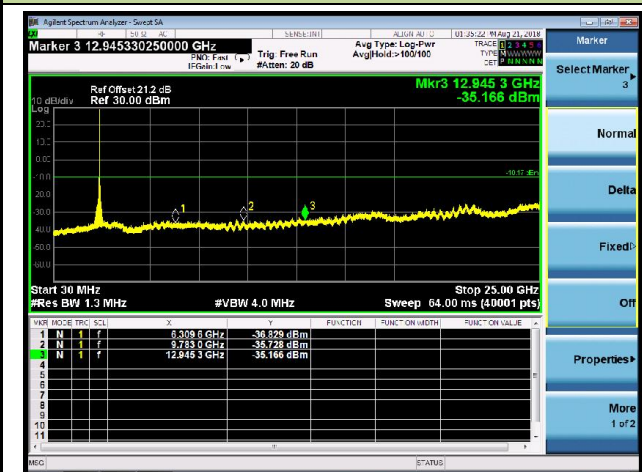
##### 100kHz PSD reference Level



##### Low Band Edge

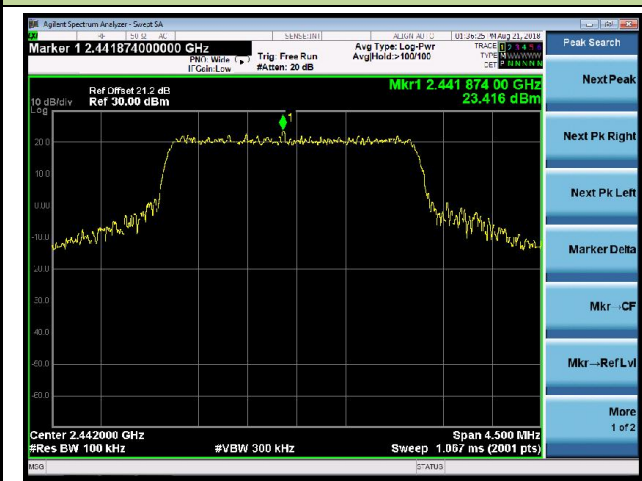


##### Spurious Emission

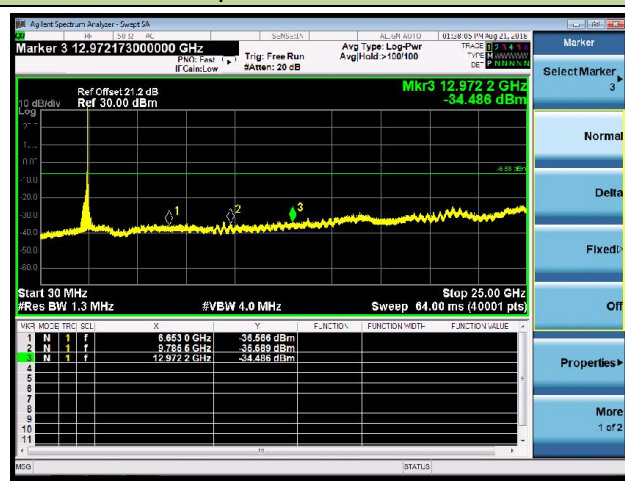


#### Channel 07 (2442MHz)

##### 100kHz PSD reference Level



##### Spurious Emission



Channel 13 (2472MHz)

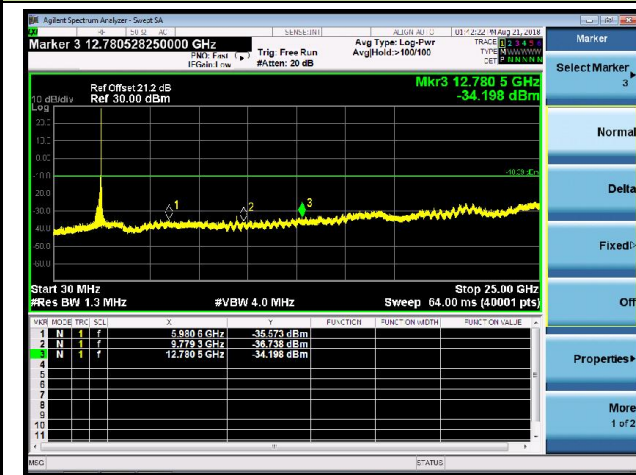
100kHz PSD reference Level



High Band Edge



Spurious Emission



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### 10MHz Out-of-Band Emissions - Ant 2

#### Channel 01 (2412MHz)

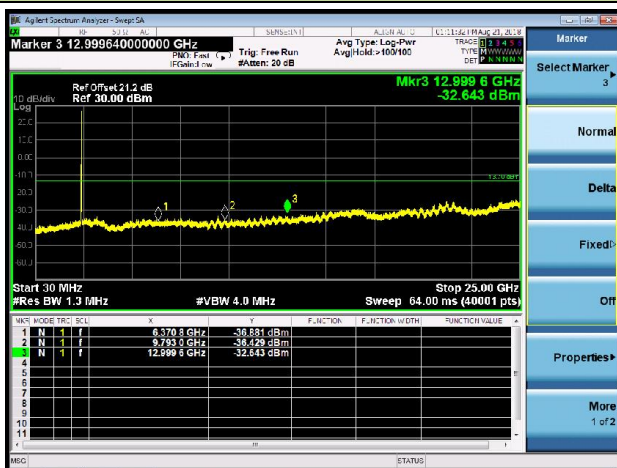
##### 100kHz PSD reference Level



##### Low Band Edge



##### Spurious Emission



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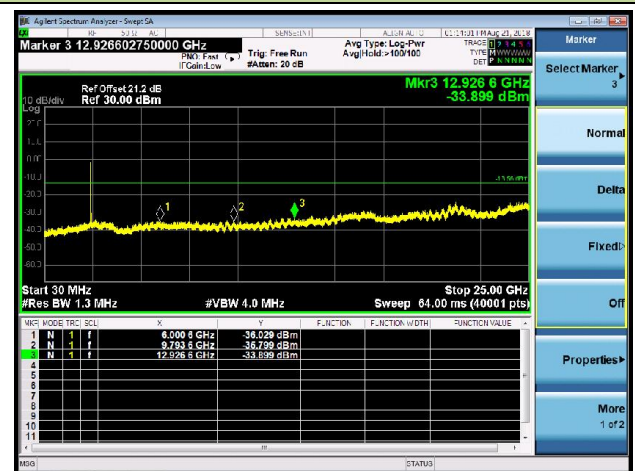
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#### Channel 07 (2442MHz)

##### 100kHz PSD reference Level



##### Spurious Emission



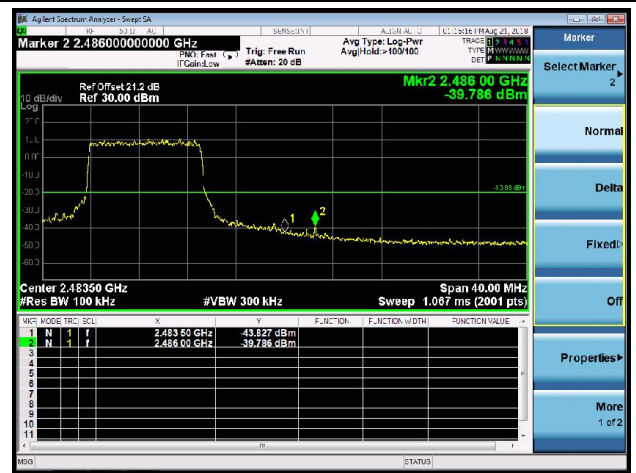


## Channel 13 (2472MHz)

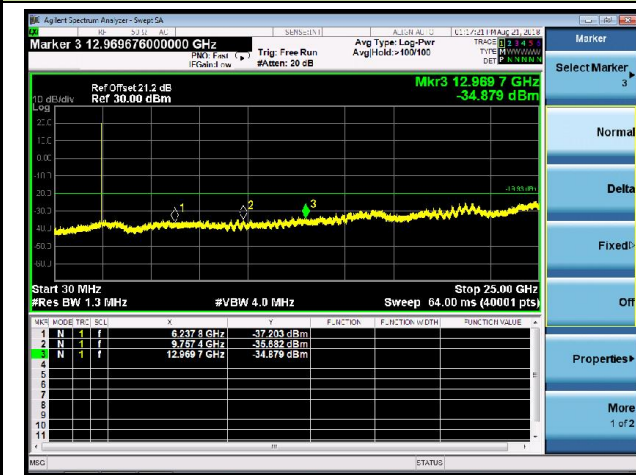
## 100kHz PSD reference Level



## High Band Edge



## Spurious Emission



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## 7.6. Radiated Spurious Emission Measurement

### 7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

### 7.6.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

### 7.6.3. Test Setting

#### Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak or average
5. Sweep time = auto couple
6. Trace was allowed to stabilize

**Table 1 - RBW as a function of frequency**

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz

**Peak Measurements above 1GHz**

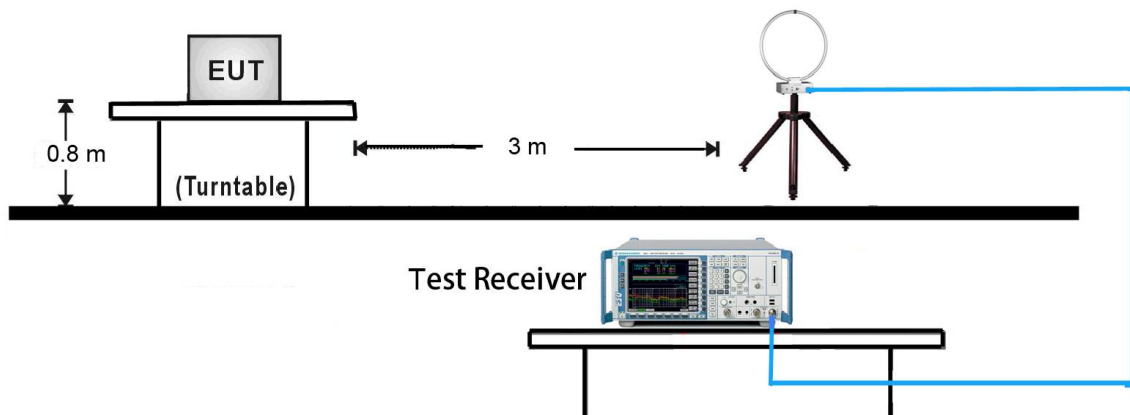
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

**Average Measurements above 1GHz (Method VB)**

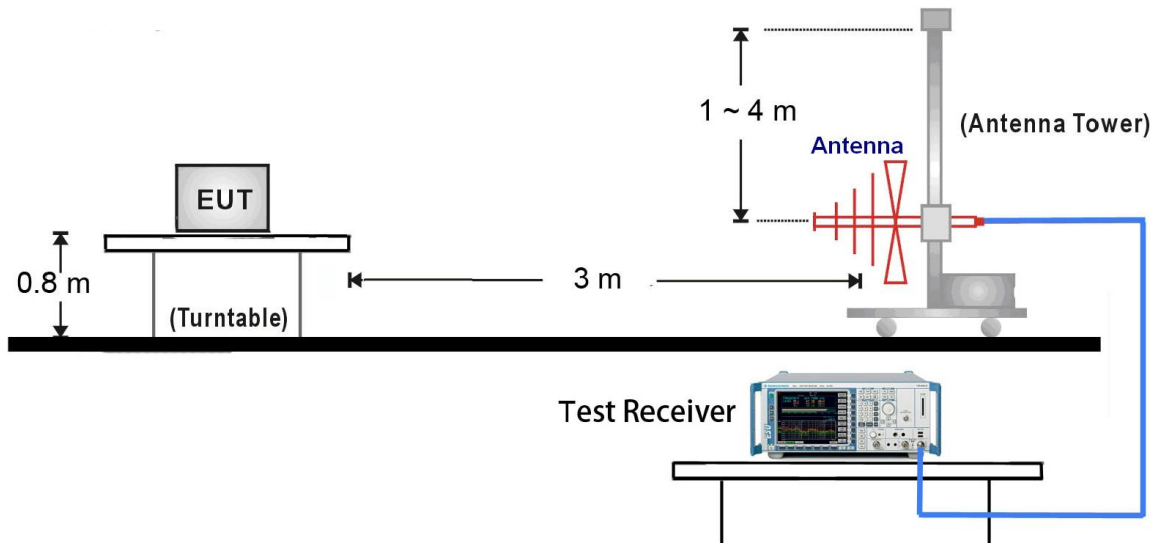
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle  $\geq 98\%$ , set VBW = 10 Hz.  
If the EUT duty cycle is  $< 98\%$ , set VBW  $\geq 1/T$ . T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

### 7.6.4. Test Setup

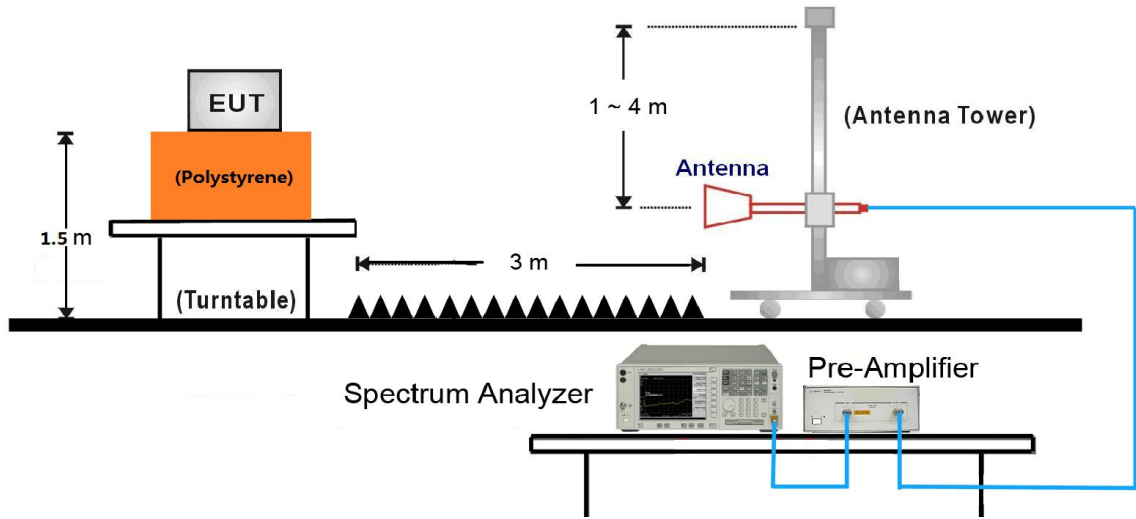
#### 9kHz ~ 30MHz Test Setup:



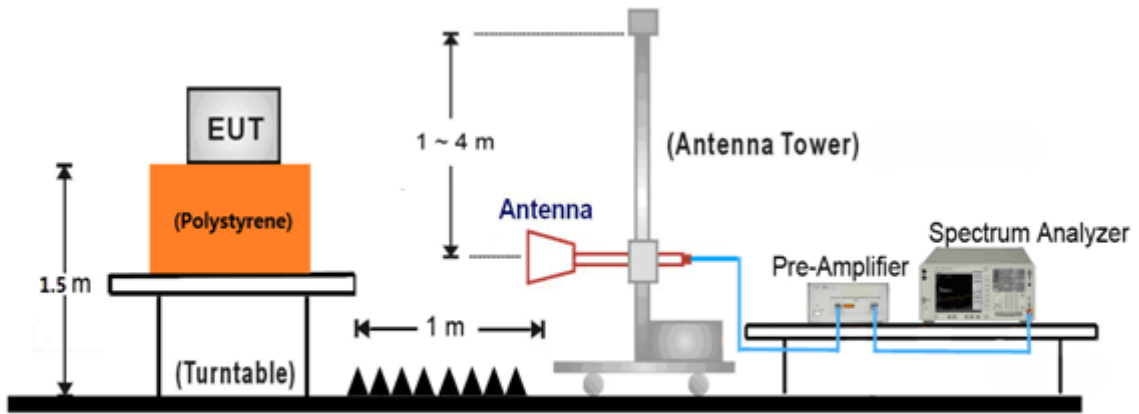
#### 30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



Above 18GHz Test Setup:



### 7.6.5. Test Result

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	01	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4995.0	51.1	5.8	56.9	74.0	-17.1	Peak	Horizontal
	4995.4	31.3	5.8	37.1	54.0	-16.9	Average	Horizontal
	7485.5	46.9	14.0	60.9	74.0	-13.1	Peak	Horizontal
	7487.1	28.9	14.0	42.9	54.0	-11.1	Average	Horizontal
*	8794.5	32.2	14.9	47.1	82.3	-35.2	Peak	Horizontal
*	9976.0	37.2	17.3	54.5	82.3	-27.8	Peak	Horizontal
	4986.5	42.8	5.7	48.5	74.0	-25.5	Peak	Vertical
	7484.8	35.4	14.0	49.4	54.0	-4.6	Average	Vertical
	7485.5	49.4	14.0	63.4	74.0	-10.6	Peak	Vertical
*	9976.0	42.6	17.3	59.9	82.3	-22.4	Peak	Vertical
*	10154.5	33.0	17.8	50.8	82.3	-31.5	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (112.3dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	07	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4884.0	36.0	5.6	41.6	54.0	-12.4	Average	Horizontal
	4884.5	50.4	5.6	56.0	74.0	-18.0	Peak	Horizontal
	7324.0	38.5	13.8	52.3	74.0	-21.7	Peak	Horizontal
*	9772.0	35.4	17.0	52.4	82.6	-30.2	Peak	Horizontal
*	10375.5	31.2	18.7	49.9	82.6	-32.7	Peak	Horizontal
	4884.5	45.6	5.6	51.2	74.0	-22.8	Peak	Vertical
	7324.0	42.7	13.8	56.5	74.0	-17.5	Peak	Vertical
	7324.3	28.4	13.8	42.2	54.0	-11.8	Average	Vertical
*	9763.5	36.1	17.0	53.1	82.6	-29.5	Peak	Vertical
*	9976.0	33.9	17.3	51.2	82.6	-31.4	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (112.6dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	13	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4944.0	51.3	5.7	57.0	74.0	-17.0	Peak	Horizontal
	4944.3	29.6	5.7	35.3	54.0	-18.7	Average	Horizontal
	7417.5	41.8	14.1	55.9	74.0	-18.1	Peak	Horizontal
*	9891.0	36.9	17.3	54.2	84.3	-30.1	Peak	Horizontal
*	10324.5	30.8	18.4	49.2	84.3	-35.1	Peak	Horizontal
	4944.0	43.6	5.7	49.3	74.0	-24.7	Peak	Vertical
	7415.9	27.0	14.0	41.0	54.0	-13.0	Average	Vertical
	7417.5	44.5	14.1	58.6	74.0	-15.4	Peak	Vertical
*	9891.0	38.7	17.3	56.0	84.3	-28.3	Peak	Vertical
*	10452.0	31.4	18.5	49.9	84.3	-34.4	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (114.3dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)



Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	01	Test Engineer:	Cat Hu
Test Mode:	2.5MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4680.5	32.4	5.4	37.8	74.0	-36.2	Peak	Horizontal
	4994.9	40.7	5.8	46.5	54.0	-7.5	Average	Horizontal
	4995.0	53.3	5.8	59.1	74.0	-14.9	Peak	Horizontal
*	5598.5	54.2	6.7	60.9	84.3	-23.4	Peak	Horizontal
*	9976.0	39.9	17.3	57.2	84.3	-27.1	Peak	Horizontal
	4995.0	42.8	5.8	48.6	74.0	-25.4	Peak	Vertical
*	5607.0	42.9	6.7	49.6	84.3	-34.7	Peak	Vertical
	7494.0	41.8	14.0	55.8	74.0	-18.2	Peak	Vertical
	7494.1	28.5	14.0	42.5	54.0	-11.5	Average	Vertical
*	9976.0	40.3	17.3	57.6	84.3	-26.7	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (114.3dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	07	Test Engineer:	Cat Hu
Test Mode:	2.5MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4884.5	59.5	5.6	65.1	74.0	-8.9	Peak	Horizontal
	4884.5	43.1	5.6	48.7	54.0	-5.3	Average	Horizontal
*	5615.5	55.0	6.7	61.7	85.2	-23.5	Peak	Horizontal
	7324.0	47.2	13.8	61.0	74.0	-13.0	Peak	Horizontal
	7325.0	32.5	13.8	46.3	54.0	-7.7	Average	Horizontal
*	9755.0	42.1	16.9	59.0	85.2	-26.2	Peak	Horizontal
	4884.5	50.6	5.6	56.2	74.0	-17.8	Peak	Vertical
	4884.6	34.6	5.6	40.2	54.0	-13.8	Average	Vertical
	7324.0	46.1	13.8	59.9	74.0	-14.1	Peak	Vertical
	7324.5	28.5	13.8	42.3	54.0	-11.7	Average	Vertical
*	9755.0	43.4	16.9	60.3	85.2	-24.9	Peak	Vertical
*	10426.5	29.7	18.5	48.2	85.2	-37.0	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (115.2dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	13	Test Engineer:	Cat Hu
Test Mode:	2.5MHz Bandwidth - Ant 1		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4578.5	34.7	4.9	39.6	74.0	-34.4	Peak	Horizontal
	4944.0	54.0	5.7	59.7	74.0	-14.3	Peak	Horizontal
	4944.2	38.5	5.7	44.2	54.0	-9.8	Average	Horizontal
*	5607.0	53.9	6.7	60.6	88.0	-27.4	Peak	Horizontal
*	9874.0	41.3	17.3	58.6	88.0	-29.4	Peak	Horizontal
	4689.0	34.3	5.3	39.6	74.0	-34.4	Peak	Vertical
	4944.0	48.3	5.7	54.0	74.0	-20.0	Peak	Vertical
*	5590.0	52.5	6.7	59.2	88.0	-28.8	Peak	Vertical
*	9874.0	42.3	17.3	59.6	88.0	-28.4	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (118.0dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	01	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 2		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4825.0	47.3	5.6	52.9	74.0	-21.1	Peak	Horizontal
*	7230.5	43.0	13.9	56.9	87.3	-30.4	Peak	Horizontal
	8182.5	33.1	14.3	47.4	74.0	-26.6	Peak	Horizontal
*	9644.5	35.7	16.4	52.1	87.3	-35.2	Peak	Horizontal
	4825.0	47.1	5.6	52.7	74.0	-21.3	Peak	Vertical
	5054.5	36.1	6.0	42.1	74.0	-31.9	Peak	Vertical
*	7239.0	36.3	13.9	50.2	87.3	-37.1	Peak	Vertical
*	9644.5	37.7	16.4	54.1	87.3	-33.2	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (117.3dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	07	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 2		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4884.5	47.4	5.6	53.0	74.0	-21.0	Peak	Horizontal
	7315.5	40.6	13.7	54.3	74.0	-19.7	Peak	Horizontal
	7325.2	27.2	13.8	41.0	54.0	-13.0	Average	Horizontal
*	9763.5	38.1	17.0	55.1	91.2	-36.1	Peak	Horizontal
*	10299.0	32.3	18.4	50.7	91.2	-40.5	Peak	Horizontal
	4884.5	47.0	5.6	52.6	74.0	-21.4	Peak	Vertical
	7324.0	35.8	13.8	49.6	74.0	-24.4	Peak	Vertical
*	9772.0	39.6	17.0	56.6	91.2	-34.6	Peak	Vertical
*	9976.0	34.1	17.3	51.4	91.2	-39.8	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (121.2dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Product	2.4GHz HD Wireless Link	Test Site:	AC1
Test Channel:	13	Test Engineer:	Cat Hu
Test Mode:	10MHz Bandwidth - Ant 2		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
	4697.5	34.6	5.3	39.9	74.0	-34.1	Peak	Horizontal
	4944.0	40.6	5.7	46.3	74.0	-27.7	Peak	Horizontal
*	7927.5	32.7	14.7	47.4	85.9	-38.5	Peak	Horizontal
*	9891.0	39.6	17.3	56.9	85.9	-29.0	Peak	Horizontal
	4944.0	41.4	5.7	47.1	74.0	-26.9	Peak	Vertical
	7417.5	33.6	14.1	47.7	74.0	-26.3	Peak	Vertical
*	9891.0	40.3	17.3	57.6	85.9	-28.3	Peak	Vertical
*	10265.0	32.2	18.2	50.4	85.9	-35.5	Peak	Vertical

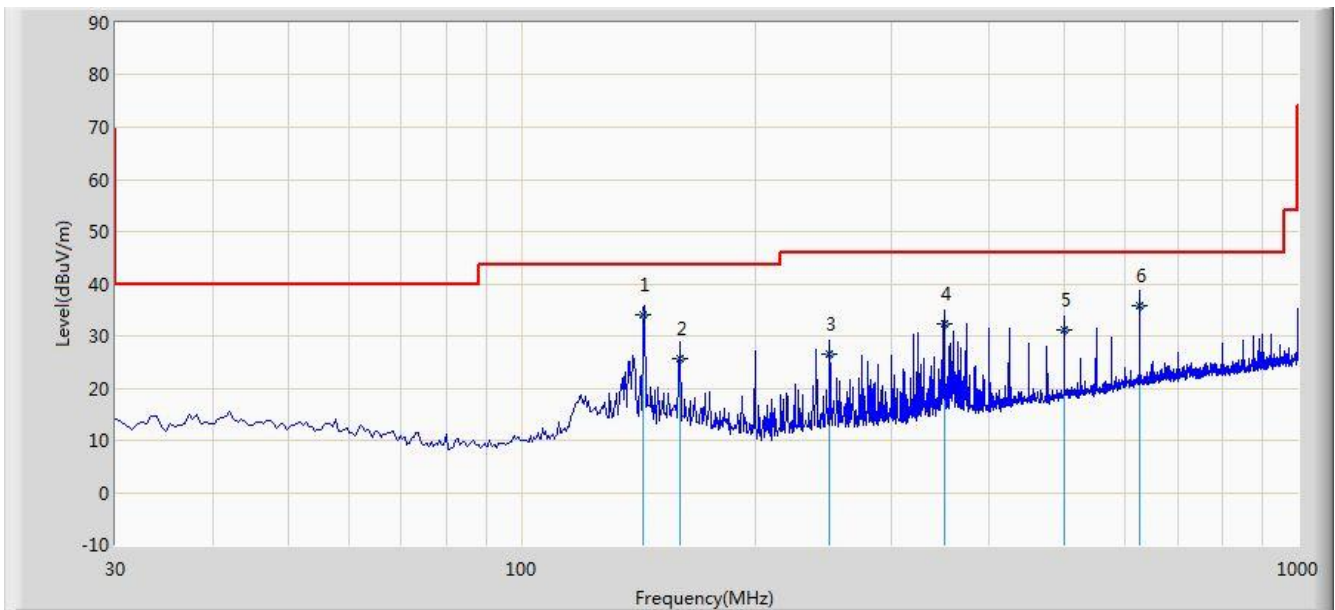
Note 1: "\*" is not in restricted band, its limit is 30dBc of the fundamental emission level (115.9dB $\mu$ V/m) or 15.209 which is higher.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

**The worst case of Radiated Emission below 1GHz:**

Site: AC1	Time: 2018/08/22 - 11:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Cloud Guo
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By Battery
<b>Test Mode: There is the worst case within frequency range 30MHz~1GHz.</b>	



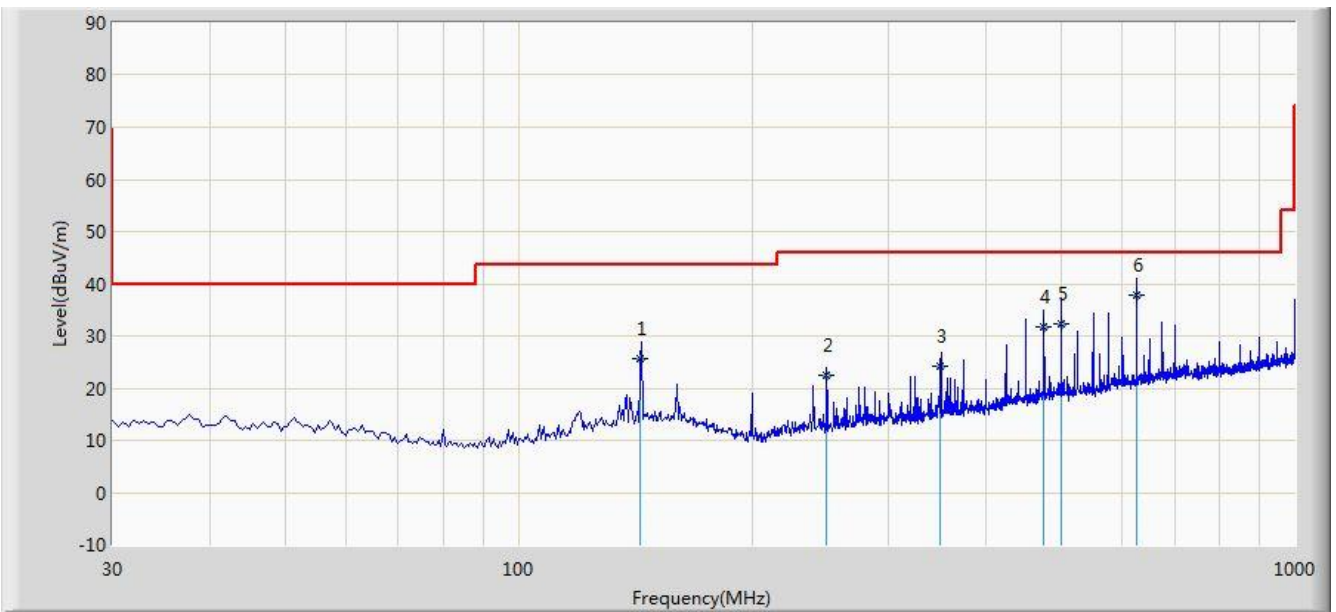
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	143.554	34.082	19.245	-9.418	43.500	14.837	QP
2			159.954	25.592	10.323	-17.908	43.500	15.269	QP
3			249.574	26.563	13.548	-19.437	46.000	13.015	QP
4			350.210	32.411	16.854	-13.589	46.000	15.557	QP
5			499.540	31.146	12.584	-14.854	46.000	18.562	QP
6			625.095	35.675	14.574	-10.325	46.000	21.101	QP

Note 1: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: AC1	Time: 2018/08/22 - 11:41
Limit: FCC_Part15.209_RE(3m)	Engineer: Cloud Guo
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By Battery
<b>Test Mode: There is the worst case within frequency range 30MHz~1GHz.</b>	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			143.254	25.670	10.854	-17.830	43.500	14.816	QP
2			249.575	22.599	9.584	-23.401	46.000	13.015	QP
3			350.012	24.137	8.584	-21.863	46.000	15.553	QP
4			474.940	31.760	13.548	-14.240	46.000	18.212	QP
5			499.548	32.450	13.888	-13.550	46.000	18.562	QP
6		*	625.093	37.957	16.856	-8.043	46.000	21.101	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.



## 7.7. Radiated Restricted Band Edge Measurement

### 7.7.1. Test Limit

#### **For 15.205 requirement:**

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

### 7.7.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

### 7.7.3. Test Setting

#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### Average Field Strength Measurements

. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1MHz

3. VBW; If the EUT is configured to transmit with duty cycle  $\geq 98\%$ , set VBW = 10 Hz.

If the EUT duty cycle is  $< 98\%$ , set  $VBW \geq 1/T$ . T is the minimum transmission duration.

4. Detector = Peak

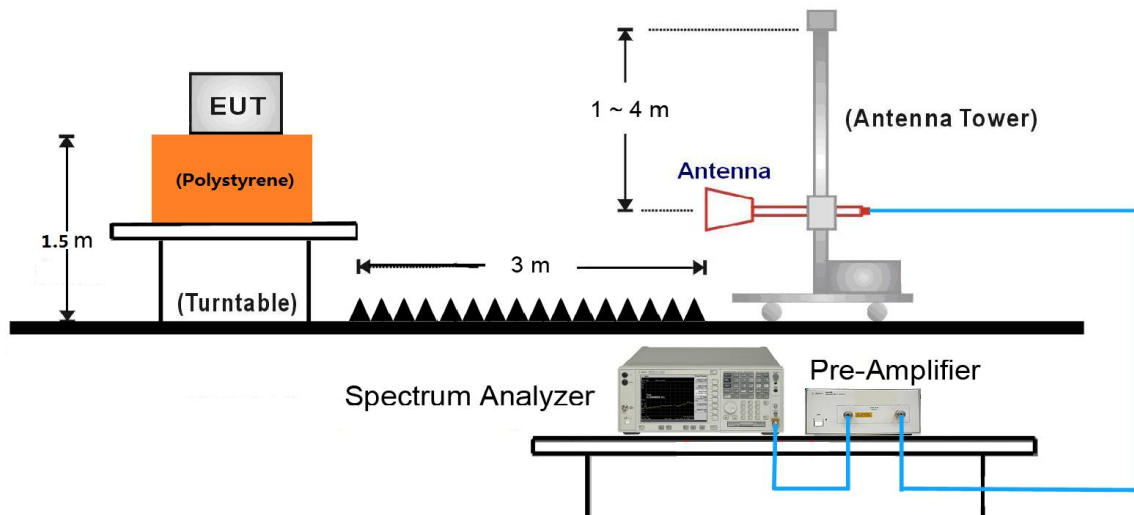
5. Sweep time = auto

6. Trace mode = max hold

7. Trace was allowed to stabilize

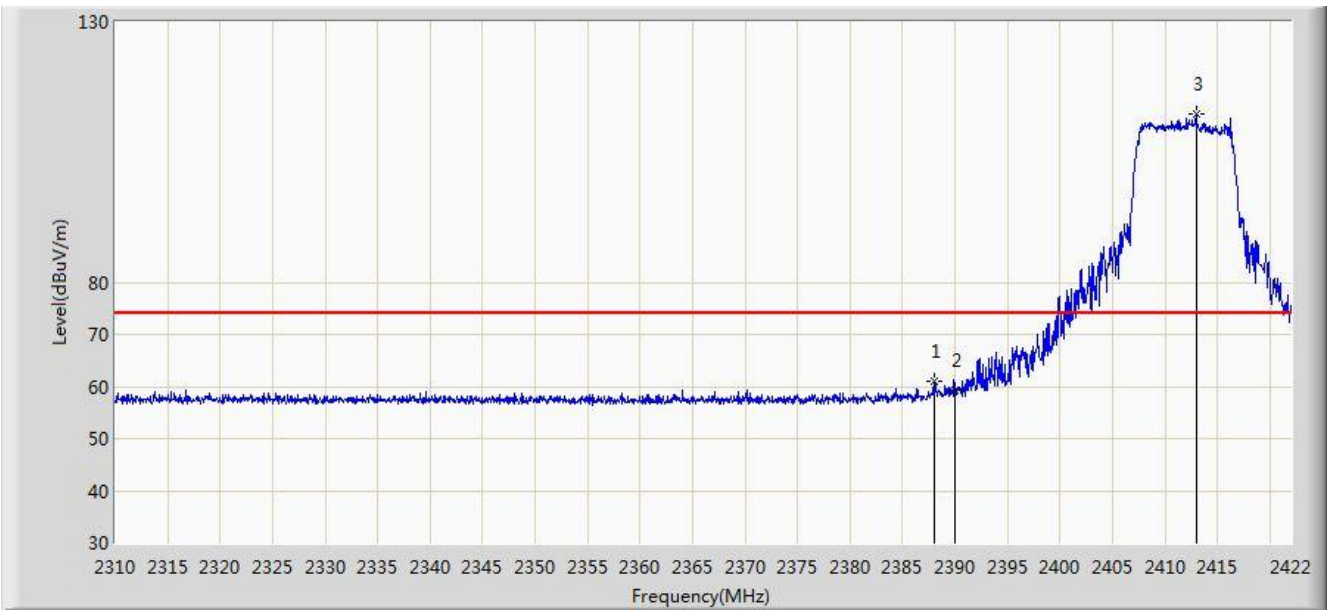
#### **7.7.4. Test Setup**

1GHz ~ 18GHz Test Setup:



### 7.7.5. Test Result

Site: AC2	Time: 2018/08/07 - 19:48
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 1	

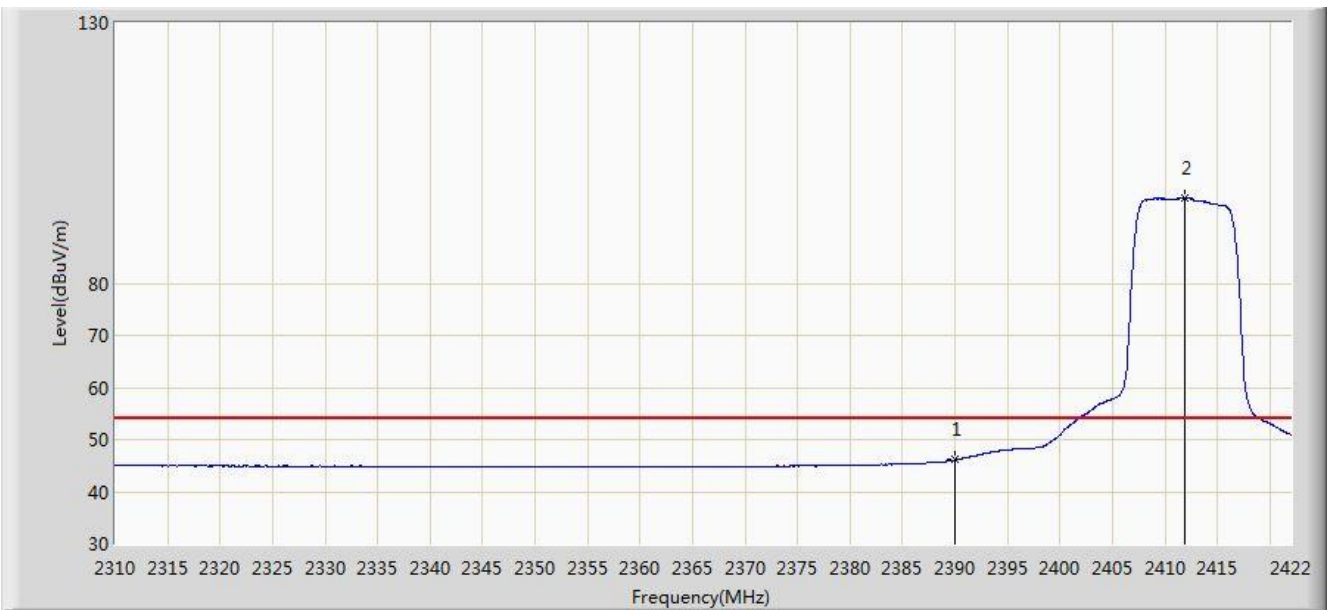


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2388.008	61.102	28.524	-12.898	74.000	32.578	PK
2			2390.000	59.186	26.611	-14.814	74.000	32.575	PK
3		*	2412.984	112.346	79.799	N/A	N/A	32.547	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:00
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 1	

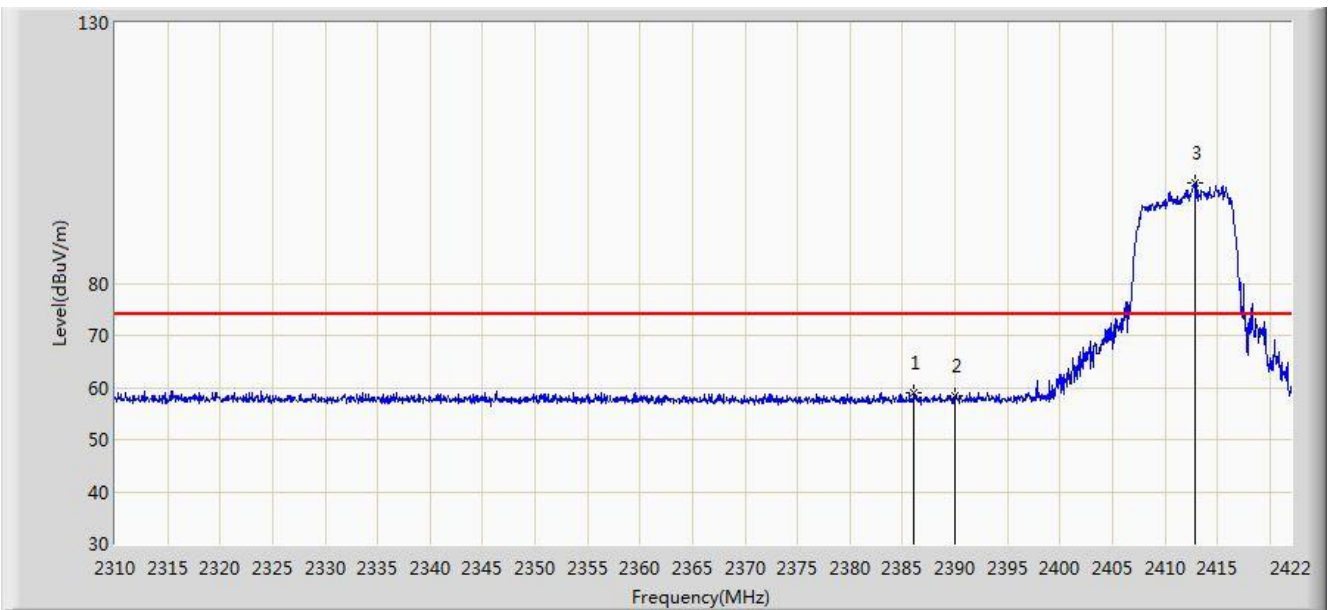


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	46.106	13.531	-7.894	54.000	32.575	AV
2		*	2411.864	96.472	63.924	N/A	N/A	32.548	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:02
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 1	

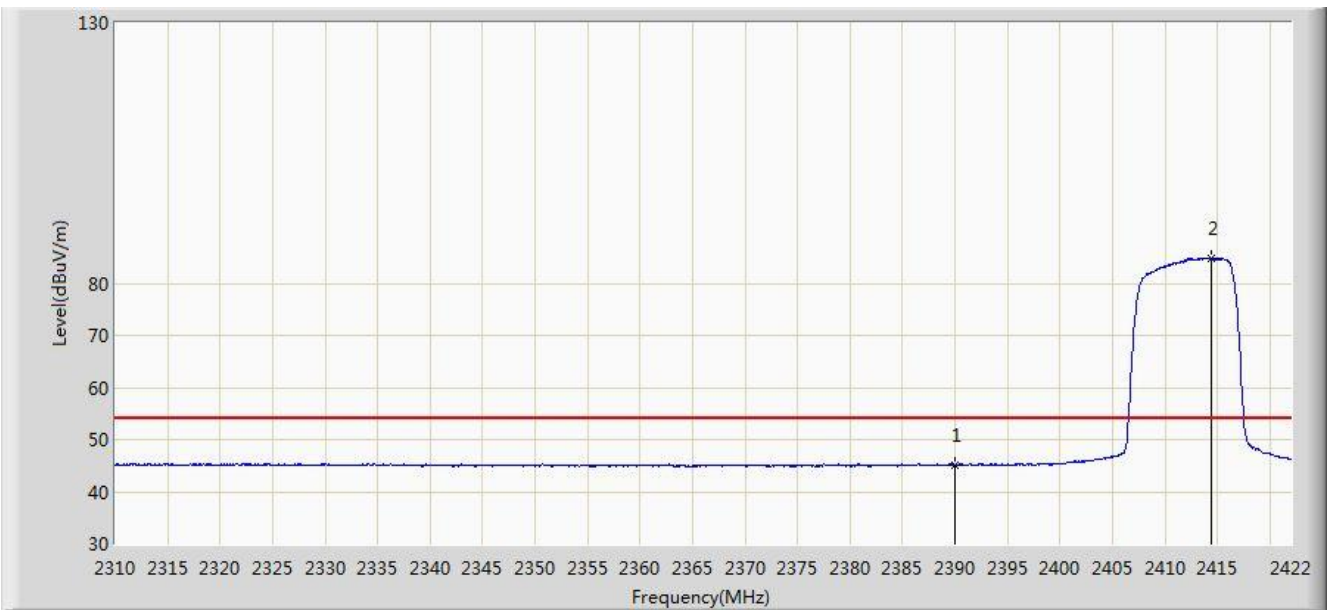


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2386.104	58.936	26.355	-15.064	74.000	32.581	PK
2			2390.000	58.282	25.707	-15.718	74.000	32.575	PK
3		*	2412.816	99.311	66.764	N/A	N/A	32.547	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:04
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 1	

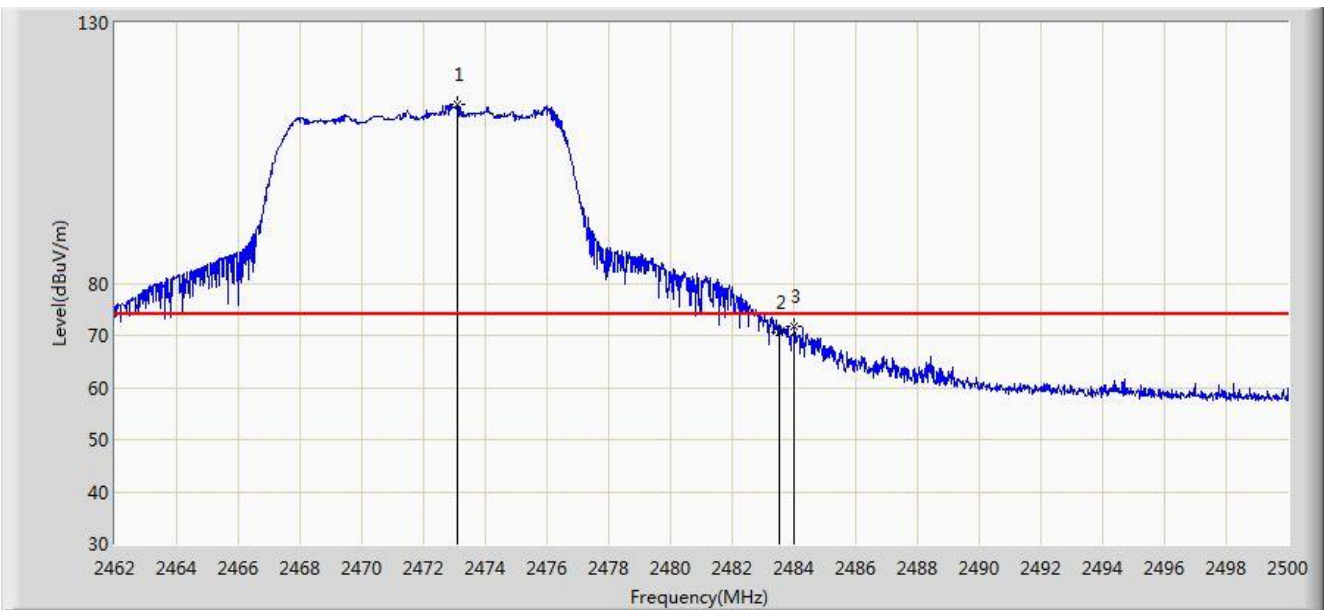


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.137	12.562	-8.863	54.000	32.575	AV
2		*	2414.384	84.815	52.270	N/A	N/A	32.544	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:14
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 1	



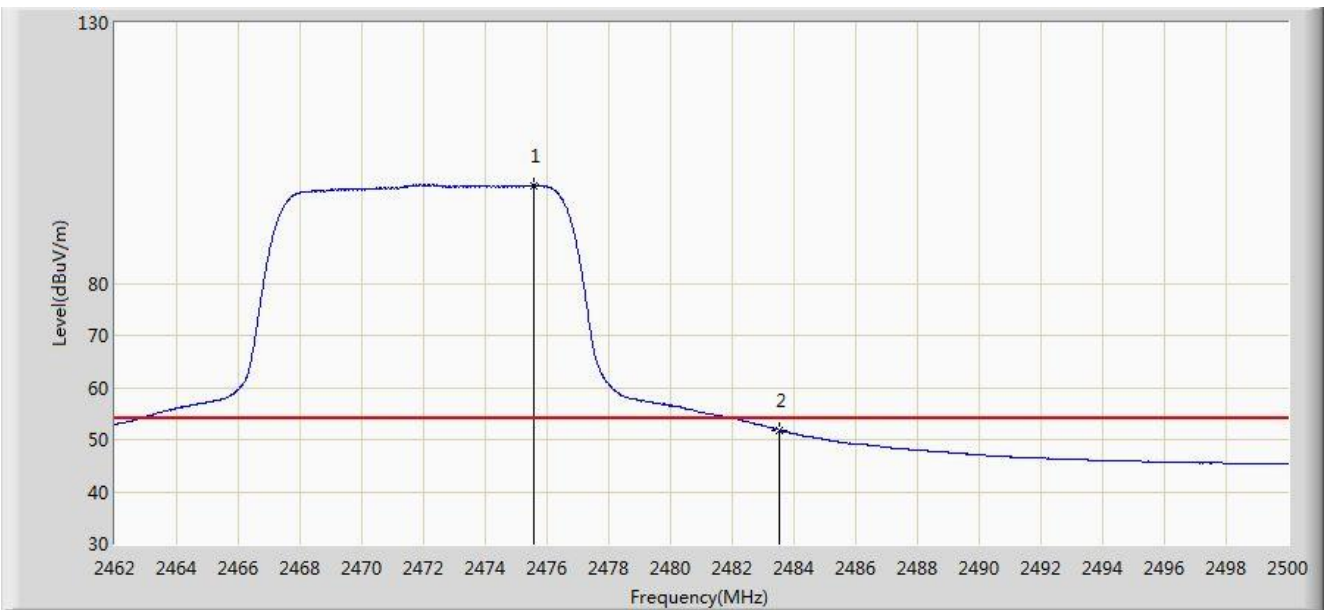
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2473.115	114.328	81.759	N/A	N/A	32.569	PK
2			2483.500	70.710	38.114	-3.290	74.000	32.596	PK
3			2484.021	71.742	39.145	-2.258	74.000	32.598	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC2	Time: 2018/08/17 - 10:20
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 1	

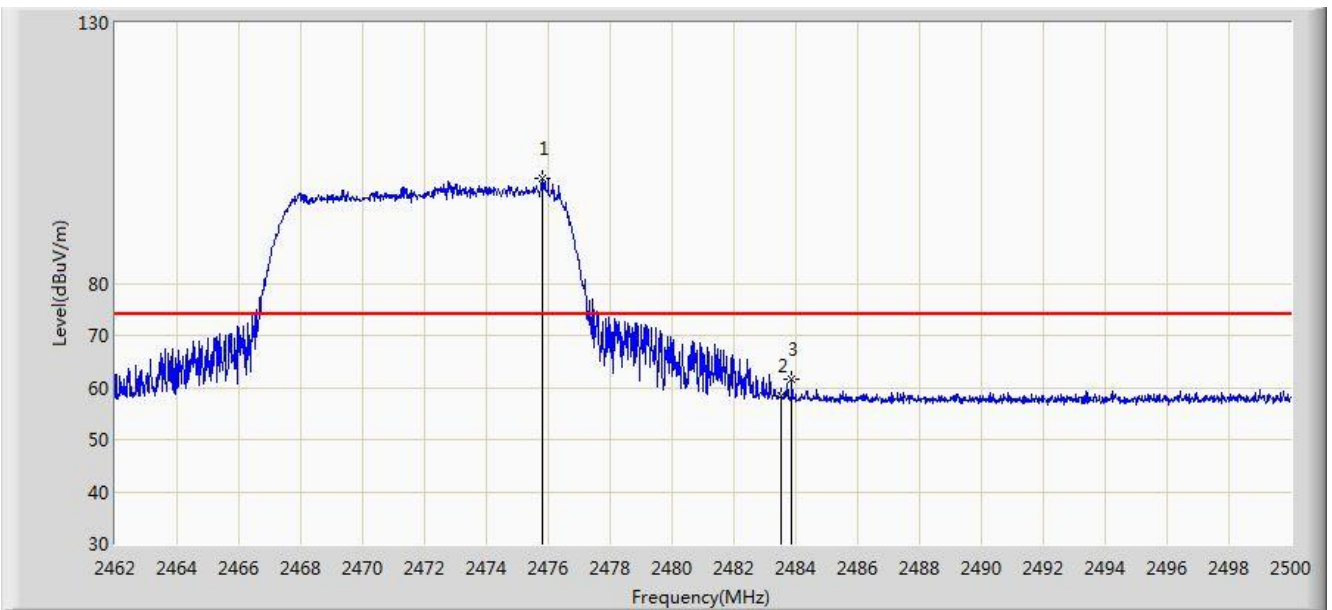


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2475.566	98.822	66.247	N/A	N/A	32.575	AV
2			2483.500	51.849	19.253	-2.151	54.000	32.596	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:20
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 1	

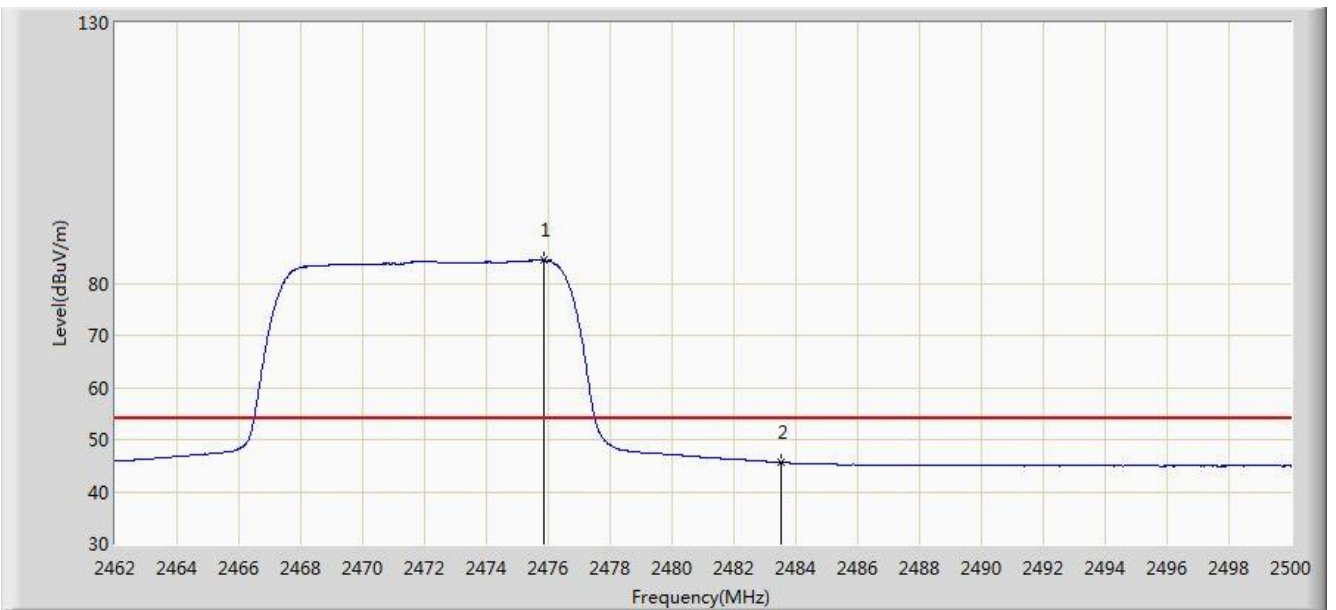


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2475.832	100.069	67.493	N/A	N/A	32.576	PK
2			2483.500	58.447	25.851	-15.553	74.000	32.596	PK
3			2483.869	61.456	28.859	-12.544	74.000	32.596	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:22
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 1	

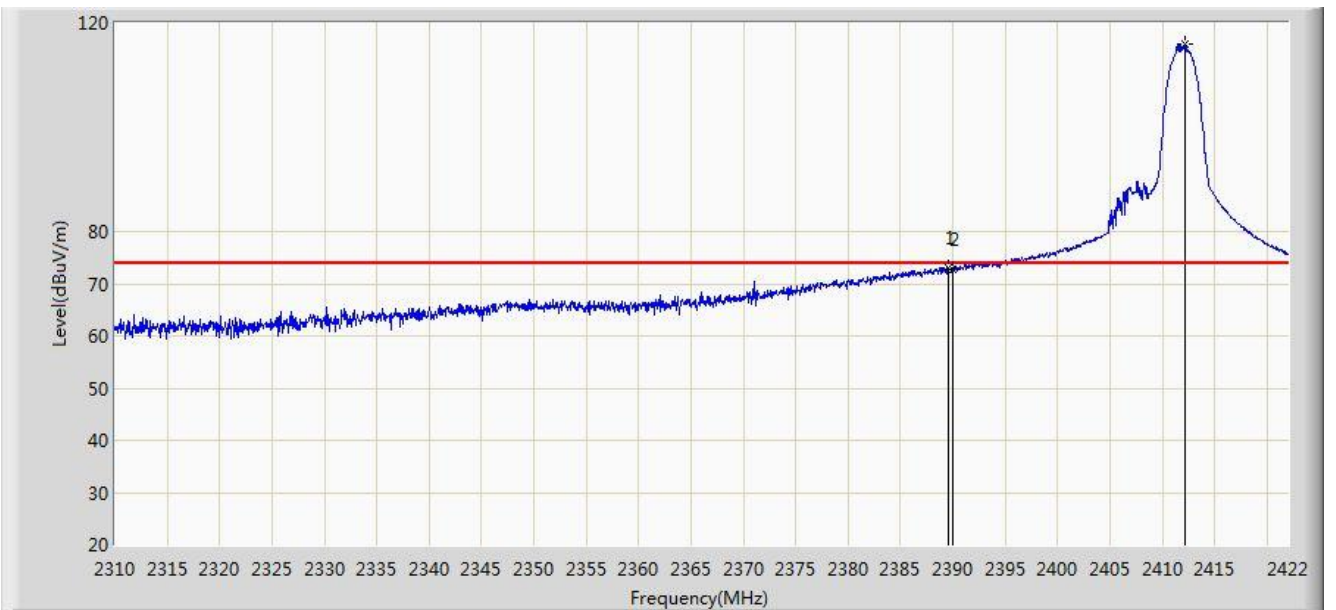


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2475.851	84.422	51.846	N/A	N/A	32.576	AV
2			2483.500	45.612	13.016	-8.388	54.000	32.596	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 14:42
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2412MHz with Ant 1	

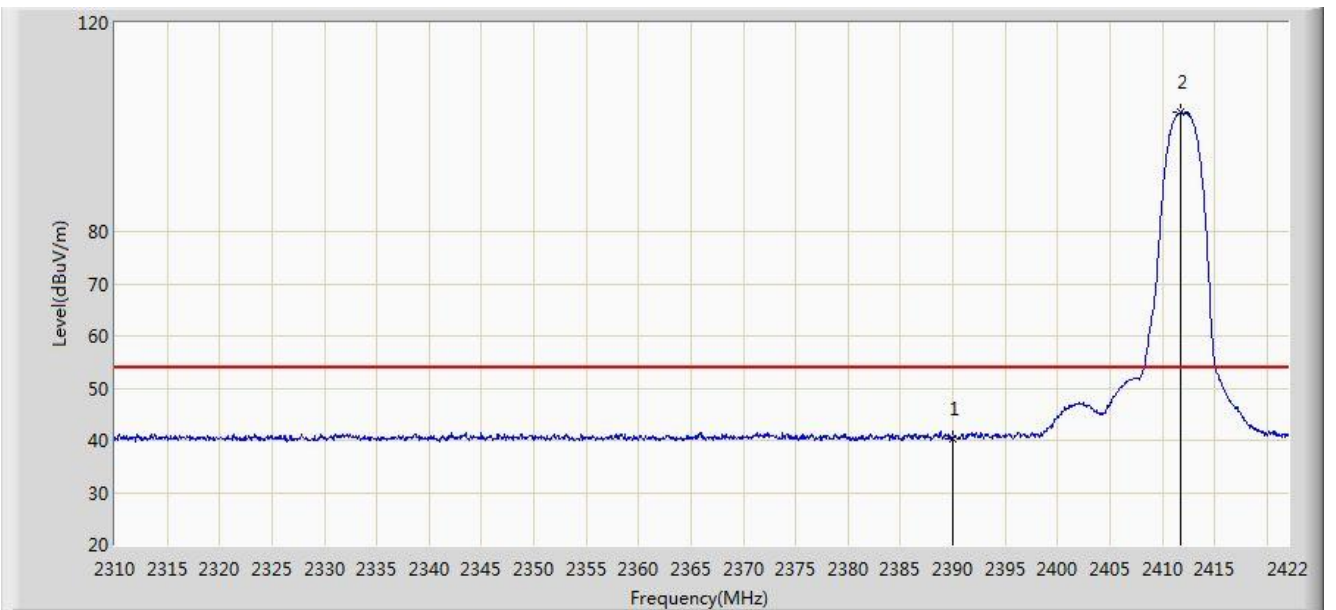


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.520	73.080	40.752	-0.920	74.000	32.327	PK
2			2390.000	72.769	40.442	-1.231	74.000	32.327	PK
3		*	2412.144	115.931	83.646	N/A	N/A	32.285	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 14:44
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2412MHz with Ant 1	

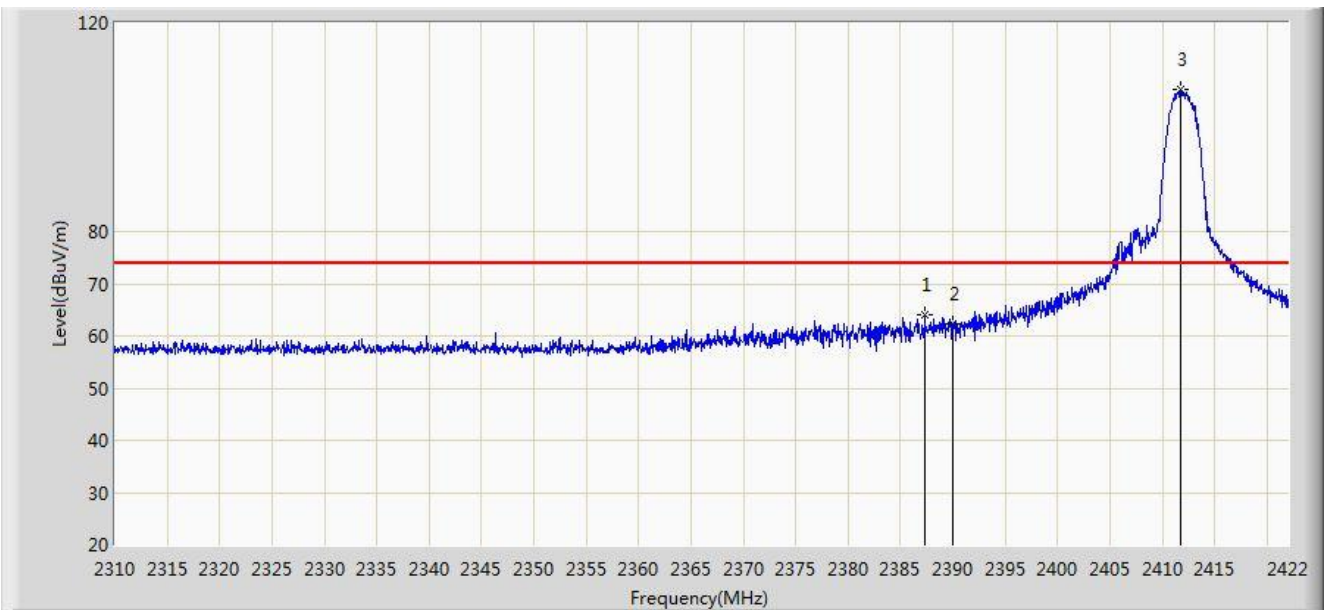


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	40.399	8.072	-13.601	54.000	32.327	AV
2		*	2411.696	102.995	70.710	N/A	N/A	32.285	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 14:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2412MHz with Ant 1	

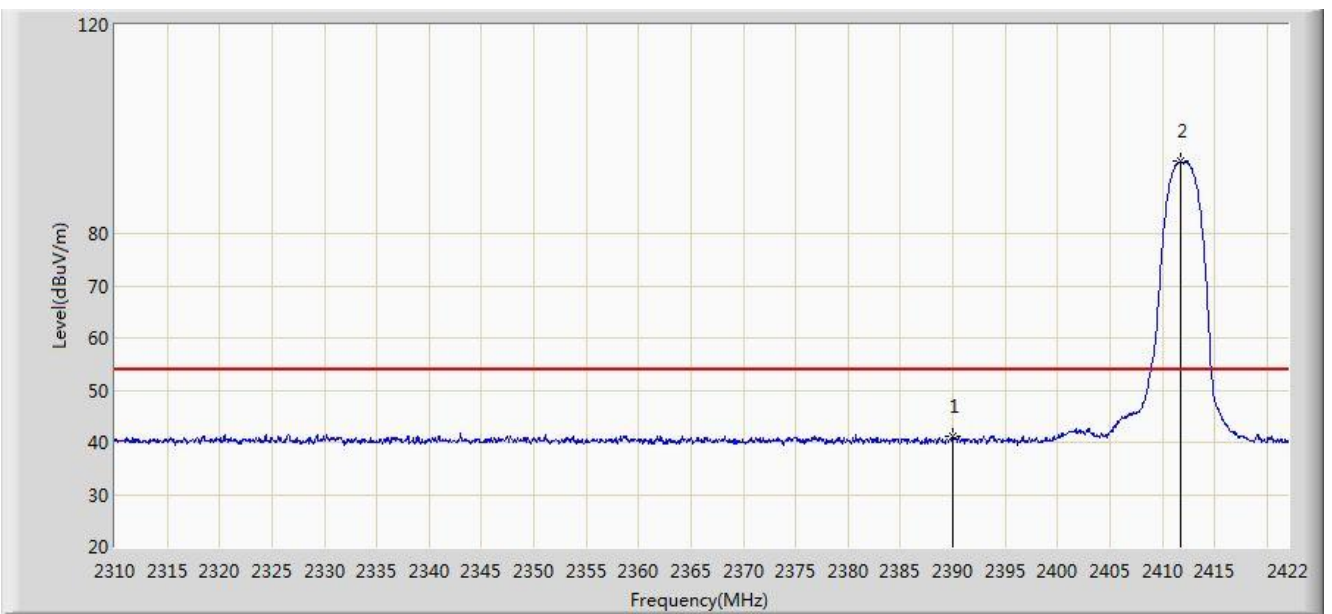


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2387.336	64.129	31.799	-9.871	74.000	32.331	PK
2			2390.000	62.245	29.918	-11.755	74.000	32.327	PK
3		*	2411.752	107.249	74.964	N/A	N/A	32.285	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 14:59
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2412MHz with Ant 1	

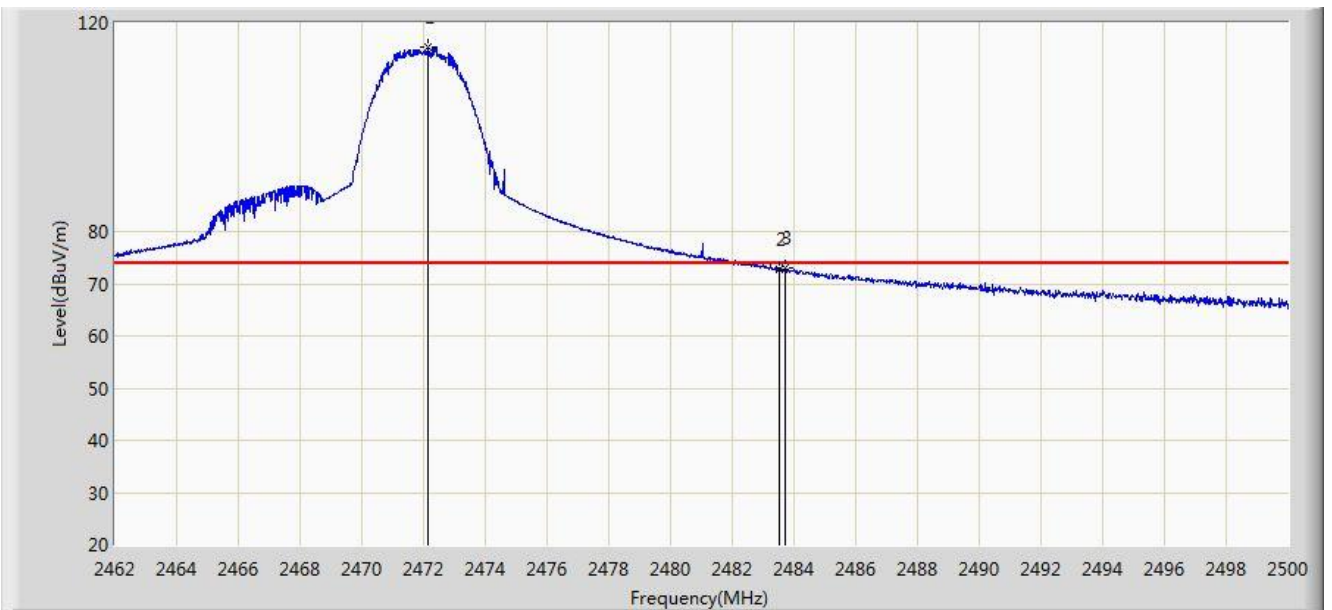


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	41.231	8.904	-12.769	54.000	32.327	AV
2		*	2411.696	94.037	61.752	N/A	N/A	32.285	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 15:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2472MHz with Ant 1	



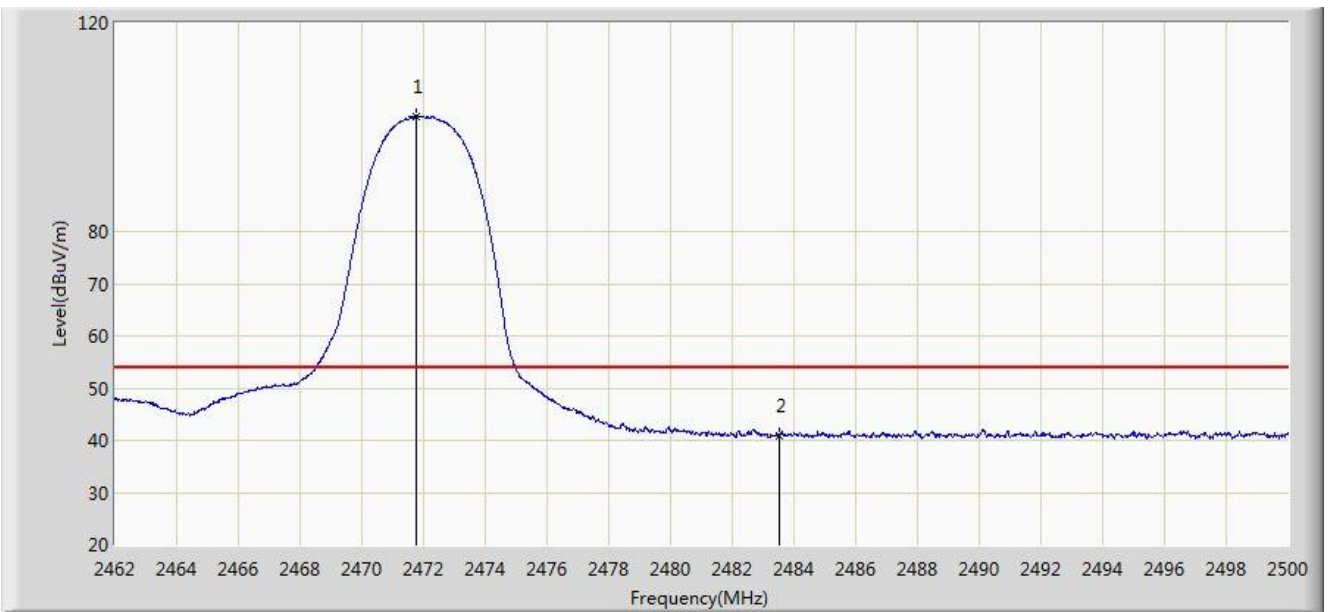
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2472.165	115.244	82.940	N/A	N/A	32.304	PK
2			2483.500	72.878	40.539	-1.122	74.000	32.340	PK
3			2483.698	72.906	40.566	-1.094	74.000	32.340	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC2	Time: 2018/08/13 - 15:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2472MHz with Ant 1	

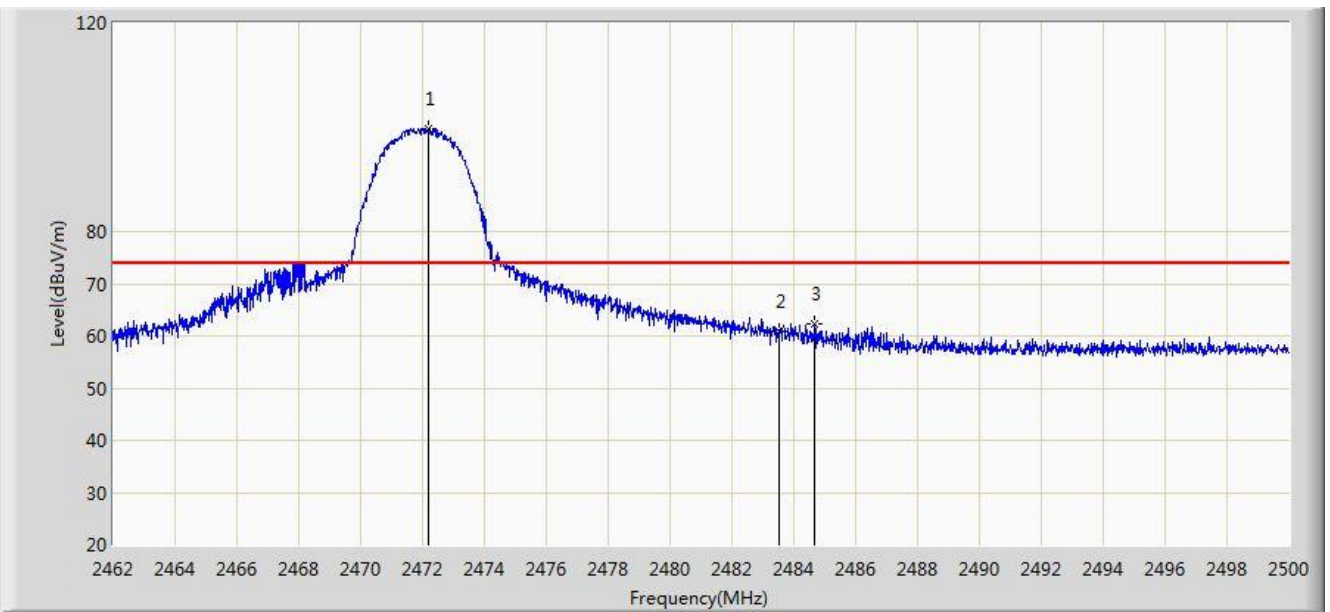


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2471.747	102.159	69.856	N/A	N/A	32.303	AV
2			2483.500	40.980	8.641	-13.020	54.000	32.340	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 15:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2472MHz with Ant 1	

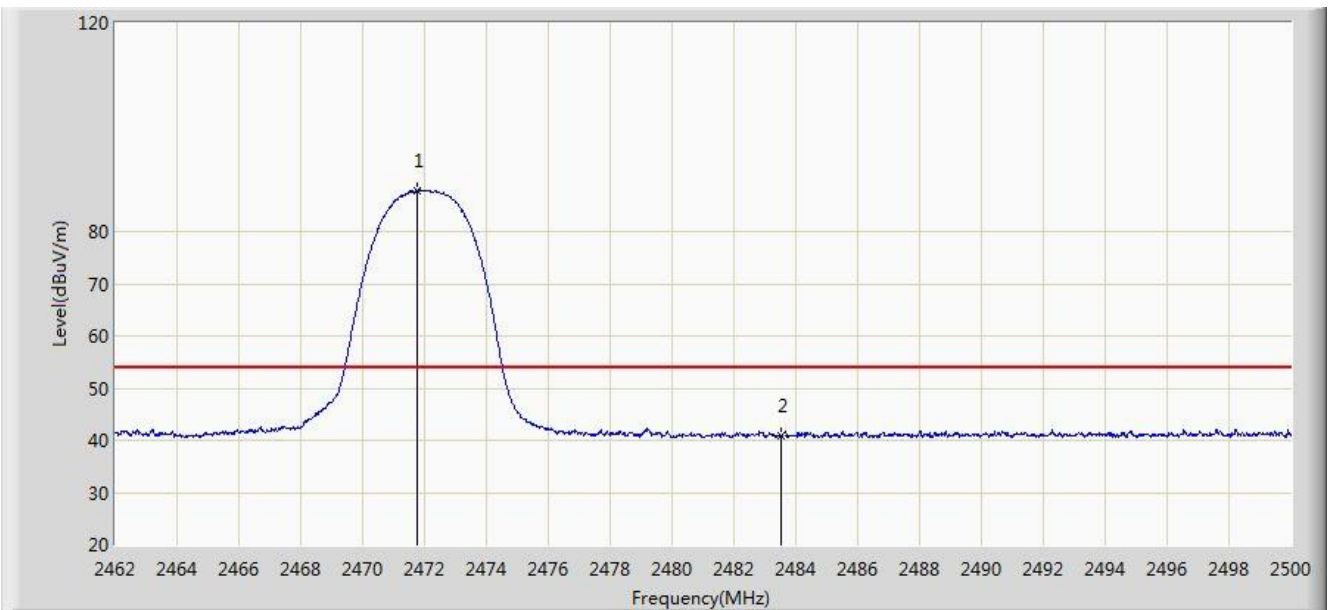


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2472.203	99.717	67.413	N/A	N/A	32.304	PK
2			2483.500	60.736	28.397	-13.264	74.000	32.340	PK
3			2484.686	62.207	29.863	-11.793	74.000	32.344	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/13 - 15:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Messiah Li
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 2.5MHz Bandwidth at channel 2472MHz with Ant 1	

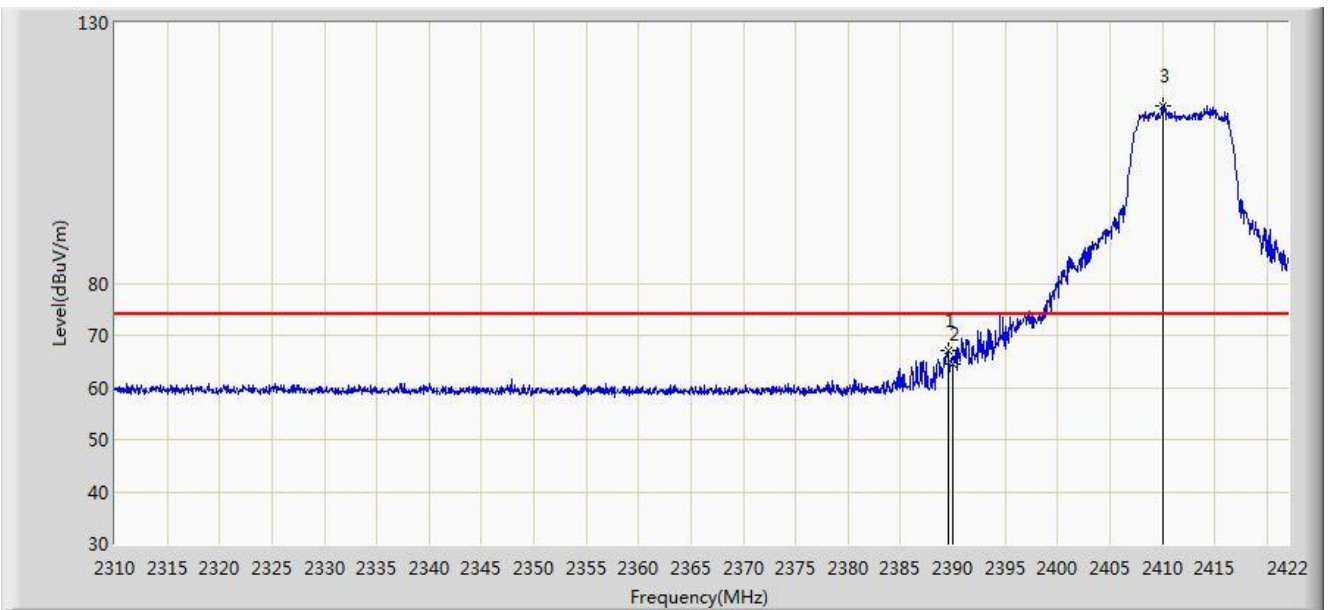


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2471.785	87.905	55.602	N/A	N/A	32.303	AV
2			2483.500	40.731	8.392	-13.269	54.000	32.340	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:30
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 2	

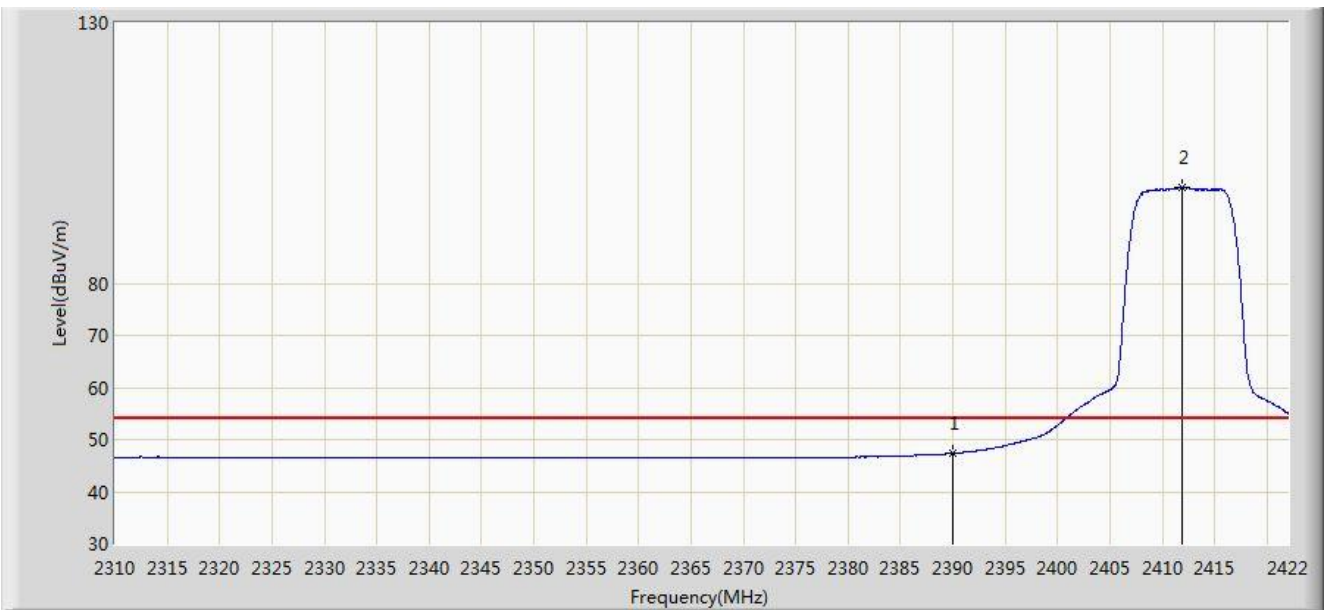


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.520	66.985	34.410	-7.015	74.000	32.575	PK
2			2390.000	64.376	31.801	-9.624	74.000	32.575	PK
3		*	2410.016	114.091	81.541	N/A	N/A	32.551	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:34
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 2	

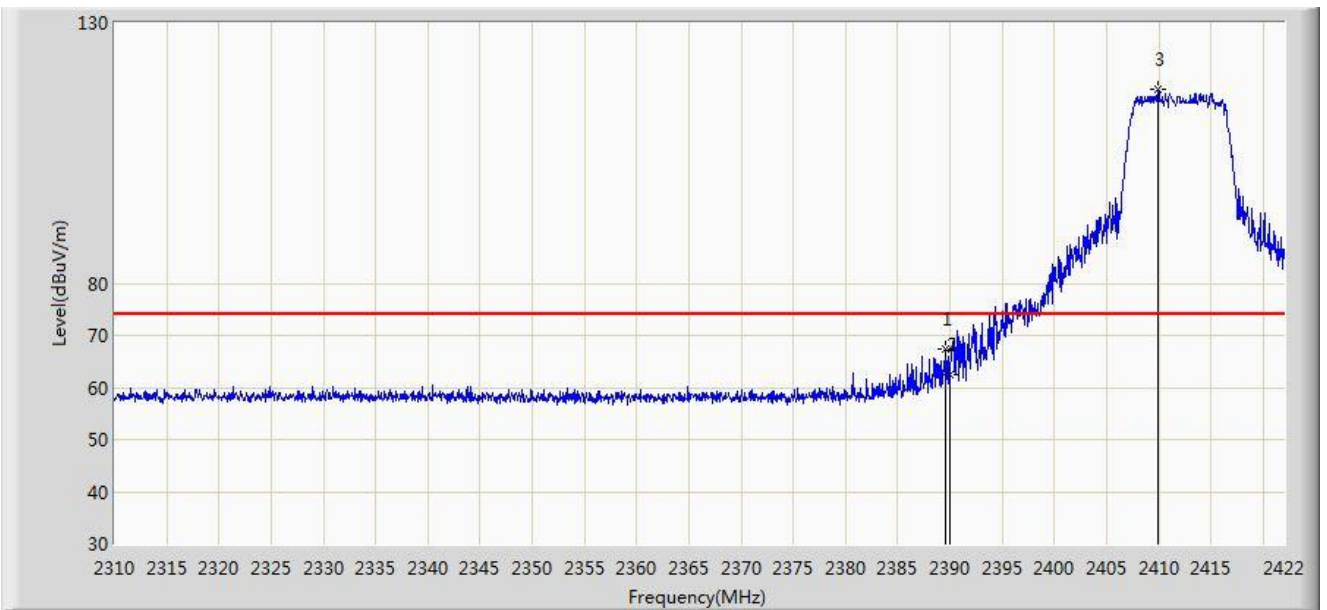


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	47.365	14.790	-6.635	54.000	32.575	AV
2		*	2411.864	98.451	65.903	N/A	N/A	32.548	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:35
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 2	

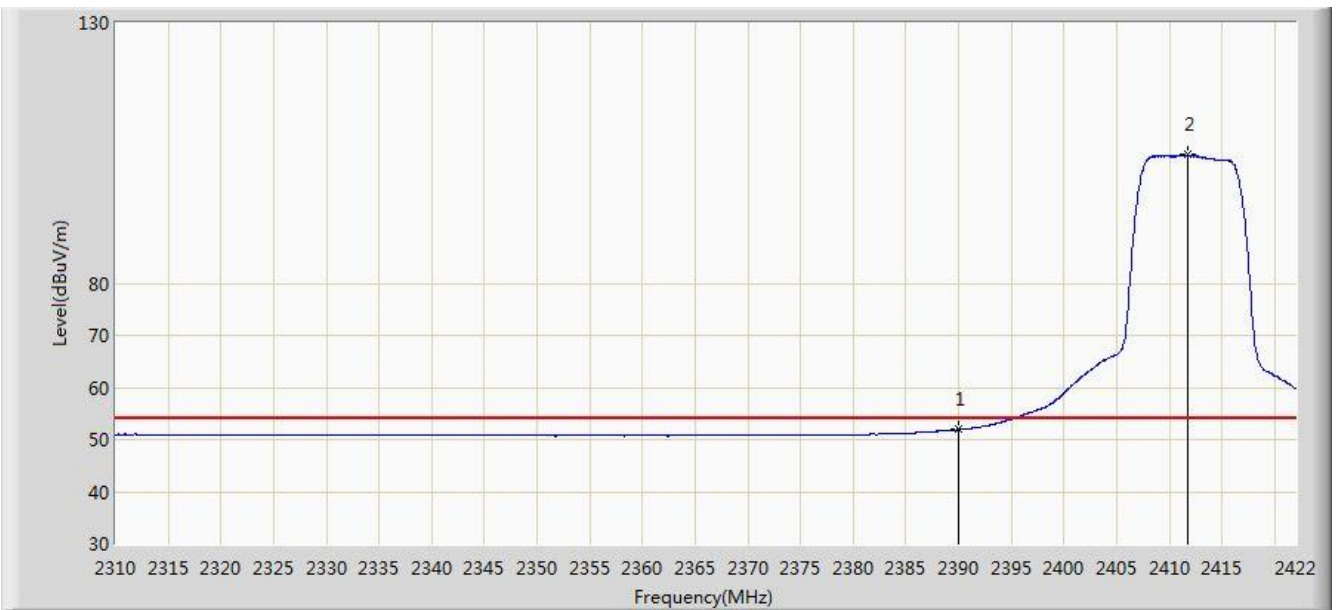


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.632	67.502	34.927	-6.498	74.000	32.575	PK
2			2390.000	62.498	29.923	-11.502	74.000	32.575	PK
3		*	2409.904	117.328	84.778	N/A	N/A	32.550	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:37
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2412MHz with Ant 2	

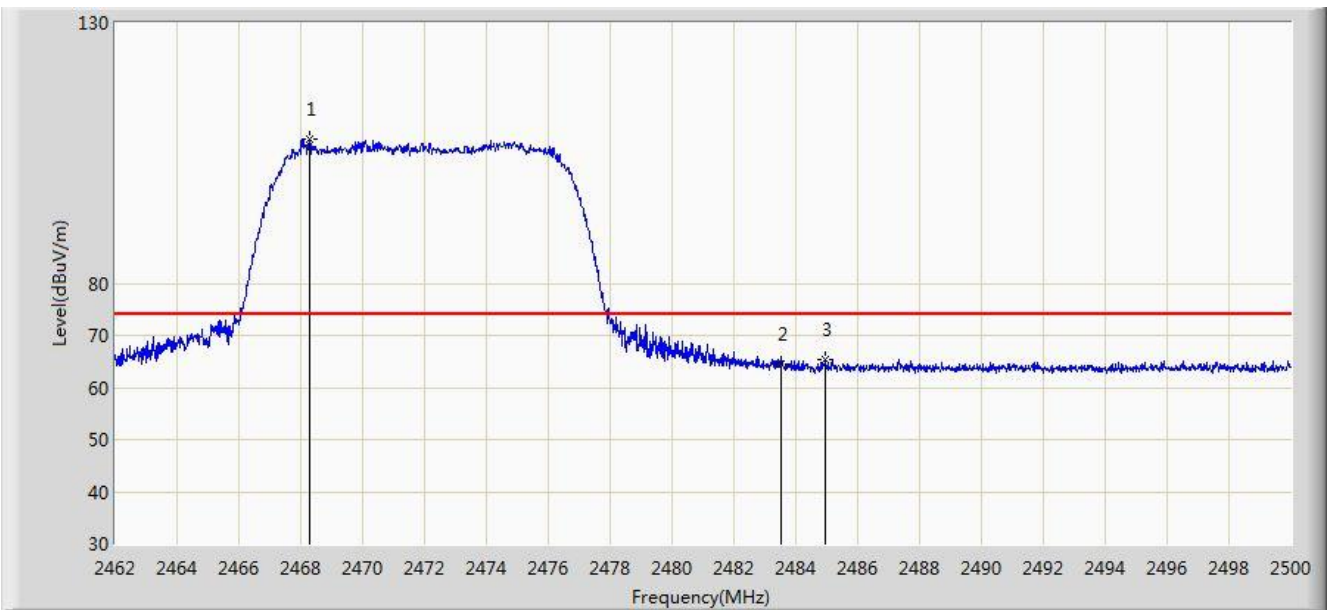


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	51.945	19.370	-2.055	54.000	32.575	AV
2		*	2411.696	104.646	72.098	N/A	N/A	32.549	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:46
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 2	



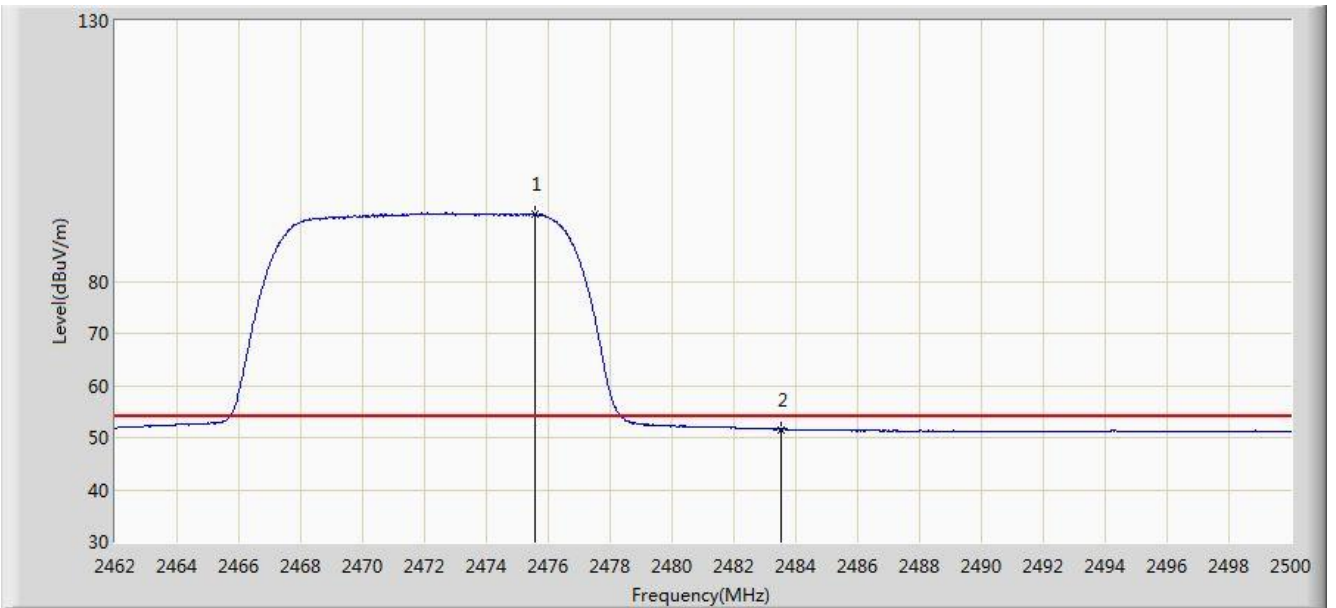
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2468.270	107.634	75.078	N/A	N/A	32.556	PK
2			2483.500	64.573	31.977	-9.427	74.000	32.596	PK
3			2484.952	65.360	32.761	-8.640	74.000	32.599	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC2	Time: 2018/08/17 - 10:50
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 2	

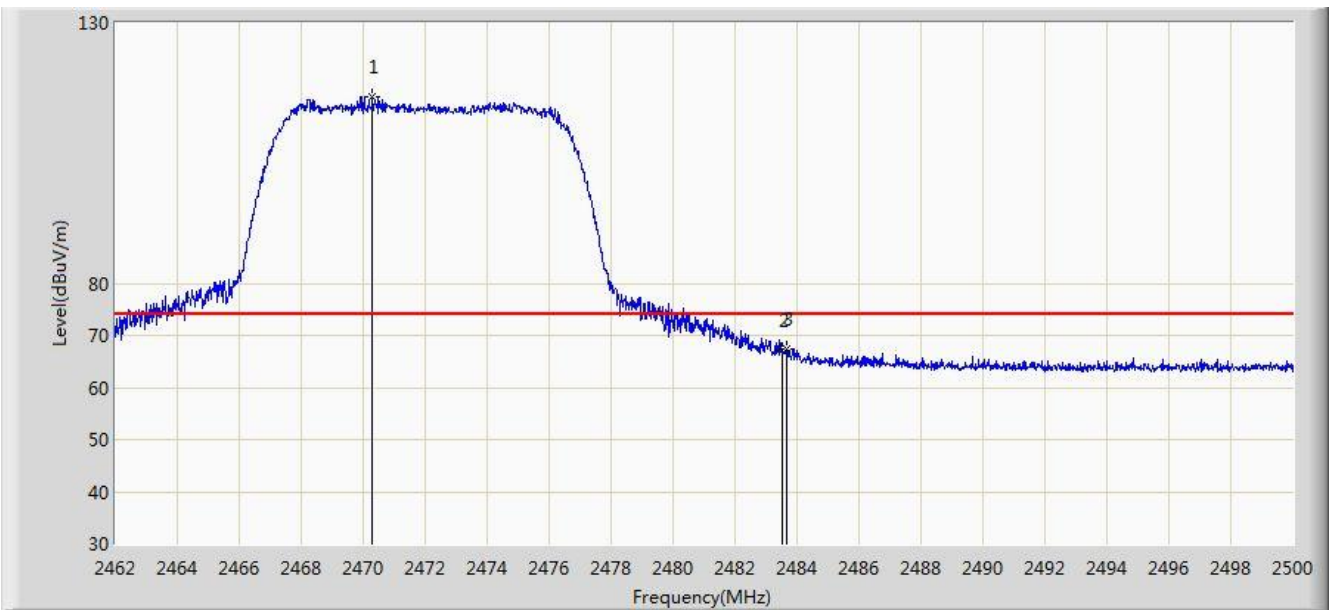


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2475.566	92.892	60.317	N/A	N/A	32.575	AV
2			2483.500	51.556	18.960	-2.444	54.000	32.596	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:51
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 2	

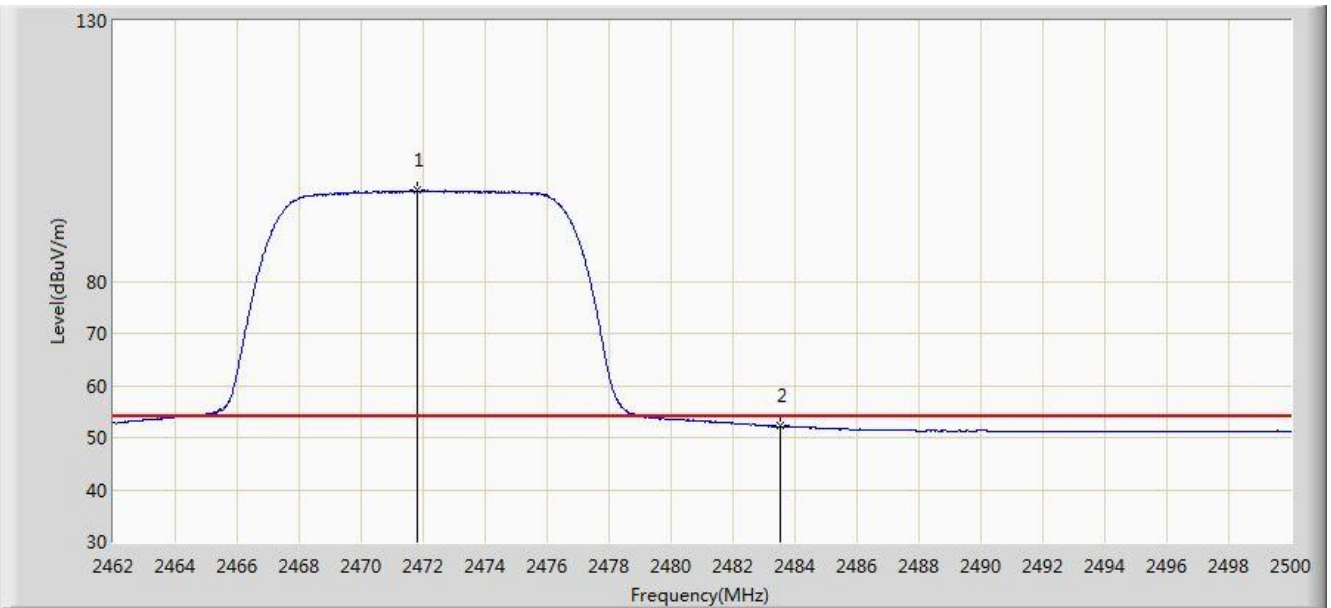


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2470.303	115.913	83.352	N/A	N/A	32.561	PK
2			2483.500	67.225	34.629	-6.775	74.000	32.596	PK
3			2483.660	67.476	34.880	-6.524	74.000	32.596	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: AC2	Time: 2018/08/17 - 10:52
Limit: FCC_Part15.209_RE(3m)	Engineer: David Lv
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 2.4GHz HD Wireless Link	Power: By battery
Test Mode: Transmit by 10MHz Bandwidth at channel 2472MHz with Ant 2	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2471.804	97.443	64.878	N/A	N/A	32.565	AV
2			2483.500	52.177	19.581	-1.823	54.000	32.596	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

## 7.8. AC Conducted Emissions Measurement

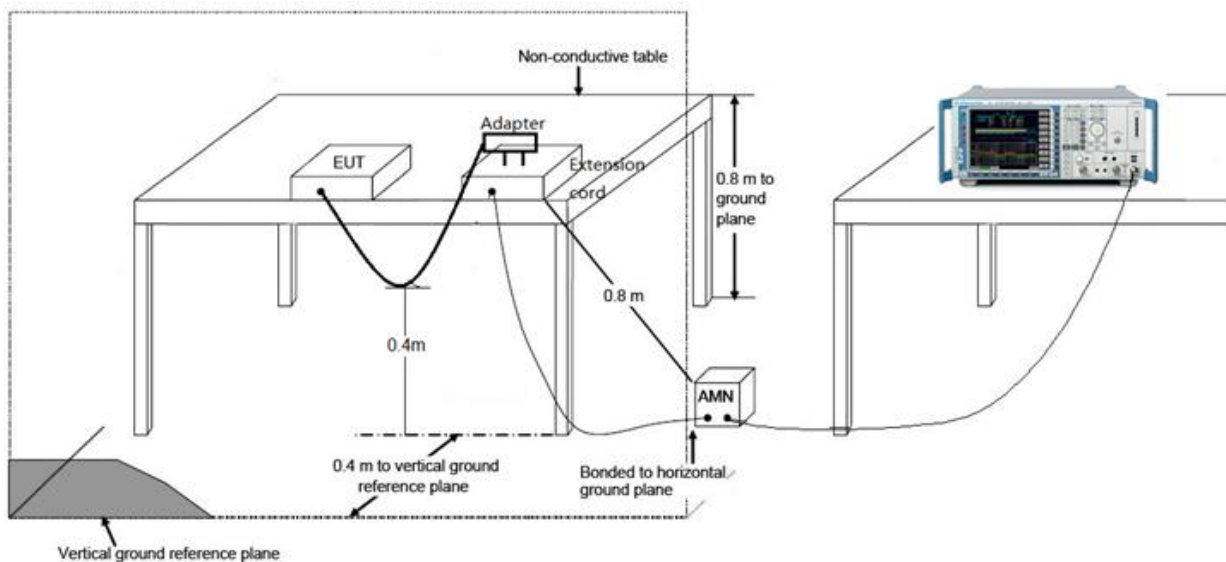
### 7.8.1. Test Limit

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

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

### 7.8.2. Test Setup



### 7.8.3. Test Result

The EUT is powered by rechargeable battery, so this test item is not applicable.

## 8. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with Part 15C of the FCC Rules.

\_\_\_\_\_ The End \_\_\_\_\_