

# FCC Test Report

Product Name : UHD861-P

Trade Name : Vestel

Model No. : UHD861-P

FCC ID. : XU6-UHD861-P

Applicant : VESTEL TRADE CO.

Address : Organize Sanayi Bölgesi (45030) Manisa/Türkiye

Date of Receipt : Mar. 21, 2017

Issued Date : Aug. 11, 2017

Report No. : 1770393R-RFUSP01V01

Report Version : V2.0



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# Test Report Certification

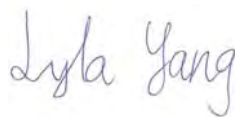
Issued Date : Aug. 11, 2017

Report No. : 1770393R-RFUSP01V01



Product Name : UHD861-P  
Applicant : VESTEL TRADE CO.  
Address : Organize Sanayi Bölgesi (45030) Manisa/Türkiye  
Manufacturer : VESTEL TRADE CO.  
Model No. : UHD861-P  
FCC ID. : XU6-UHD861-P  
EUT Voltage : AC 100-240V, 50-60Hz  
Testing Voltage : AC 120V/60Hz  
Trade Name : Vestel  
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015  
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 :



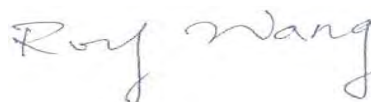
( Lyla Yang / Engineering Adm. Specialist )

Tested By :



( Carter Hsu / Senior Engineer )

Approved By :



( Roy Wang / Director )

**Revision History**

Report No.	Version	Description	Issued Date
1770393R-RFUSP01V01	V2.0	Initial issue of report	Aug. 11, 2017

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## 1. General Information

### 1.1. EUT Description

Product Name	UHD861-P
Trade Name	Vestel
Model No.	UHD861-P
Frequency Range/ Channel Number	2402~2480MHz / 79 Channels
Type of Modulation	GFSK, $\pi/4$ -DQPSK, 8-DPSK
HW version	MB120DS

Antenna Information	
Antenna Type	PIFA Antenna
Antenna Gain	2 dBi

Accessories Information	
Power Plugs	1 Set
IR Extender	1 Set
Tripod	1 Set
Remote Control	1 Set
Battery	1 Set

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 20	2422 MHz	Channel 40	2442 MHz	Channel 60	2462 MHz
Channel 01	2403 MHz	Channel 21	2423 MHz	Channel 41	2443 MHz	Channel 61	2463 MHz
Channel 02	2404 MHz	Channel 22	2424 MHz	Channel 42	2444 MHz	Channel 62	2464 MHz
Channel 03	2405 MHz	Channel 23	2425 MHz	Channel 43	2445 MHz	Channel 63	2465 MHz
Channel 04	2406 MHz	Channel 24	2426 MHz	Channel 44	2446 MHz	Channel 64	2466 MHz
Channel 05	2407 MHz	Channel 25	2427 MHz	Channel 45	2447 MHz	Channel 65	2467 MHz
Channel 06	2408 MHz	Channel 26	2428 MHz	Channel 46	2448 MHz	Channel 66	2468 MHz
Channel 07	2409 MHz	Channel 27	2429 MHz	Channel 47	2449 MHz	Channel 67	2469 MHz
Channel 08	2410 MHz	Channel 28	2430 MHz	Channel 48	2450 MHz	Channel 68	2470 MHz
Channel 09	2411 MHz	Channel 29	2431 MHz	Channel 49	2451 MHz	Channel 69	2471 MHz
Channel 10	2412 MHz	Channel 30	2432 MHz	Channel 50	2452 MHz	Channel 70	2472 MHz
Channel 11	2413 MHz	Channel 31	2433 MHz	Channel 51	2453 MHz	Channel 71	2473 MHz
Channel 12	2414 MHz	Channel 32	2434 MHz	Channel 52	2454 MHz	Channel 72	2474 MHz
Channel 13	2415 MHz	Channel 33	2435 MHz	Channel 53	2455 MHz	Channel 73	2475 MHz
Channel 14	2416 MHz	Channel 34	2436 MHz	Channel 54	2456 MHz	Channel 74	2476 MHz
Channel 15	2417 MHz	Channel 35	2437 MHz	Channel 55	2457 MHz	Channel 75	2477 MHz
Channel 16	2418 MHz	Channel 36	2438 MHz	Channel 56	2458 MHz	Channel 76	2478 MHz
Channel 17	2419 MHz	Channel 37	2439 MHz	Channel 57	2459 MHz	Channel 77	2479 MHz
Channel 18	2420 MHz	Channel 38	2440 MHz	Channel 58	2460 MHz	Channel 78	2480 MHz
Channel 19	2421 MHz	Channel 39	2441 MHz	Channel 59	2461 MHz		

## Note:

1. This device is a UHD861-P including BT2.0 and BT4.0 transmitting and receiving function.
2. 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. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Test Mode	
TX	Mode 1: Tx_DH5 Mode 2: Tx_2DH5 Mode 3: Tx_3DH5

Test Items	Mode 1	Mode 2	Mode 3
Conducted Emission	No	No	Yes
Peak Power Output	Yes	Yes	Yes
Radiated Emission	Yes	Yes	Yes
RF antenna conducted test	Yes	Yes	Yes
Band Edge	Yes	Yes	Yes
Number of hopping Frequency	Yes	No	No
Carrier Frequency Separation	Yes	Yes	Yes
Occupied Bandwidth	Yes	Yes	Yes
Dwell Time	Yes	Yes	Yes

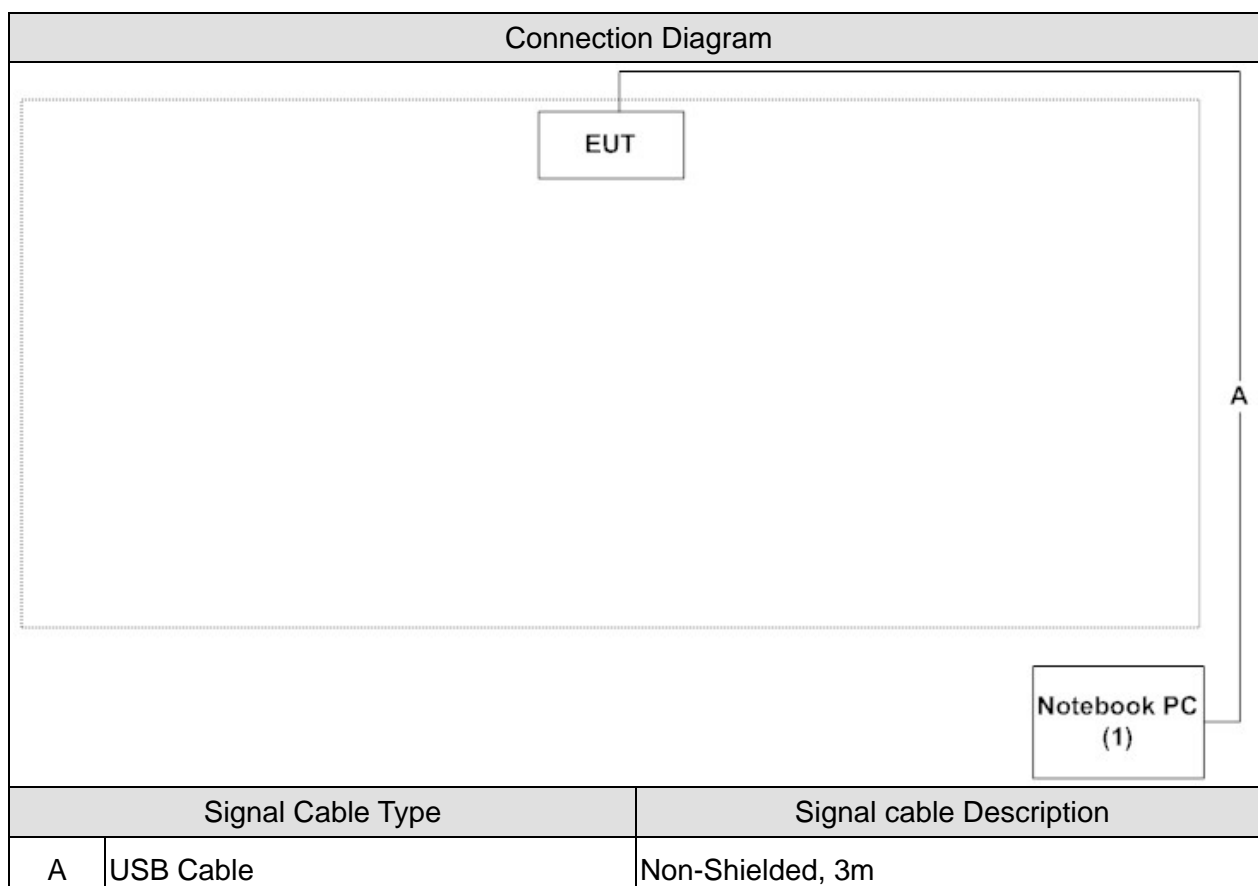


### 1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Notebook PC	ASUS	X522EP	E5N0CV04326 4197	DoC	Non-Shielded, 1.8m, one ferrite core bonded

### 1.4. Configuration of tested System



### 1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the test program "Bluetool".
3	Configure the test mode, the test channel, and the data rate.
4	Press "Start TX" 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 (FHSS)	15 - 35	23	3
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission (FHSS)	15 - 35	25	2
Humidity (%RH)		25 - 75	54	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Band Edge (FHSS)	15 - 35	25	2
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Number of hopping Frequency (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Carrier Frequency Separation (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Dwell Time (FHSS)	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test Site information refers to Laboratory Information.

## Laboratory Information

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

## 2. Conducted Emission

### 2.1. Test Equipment

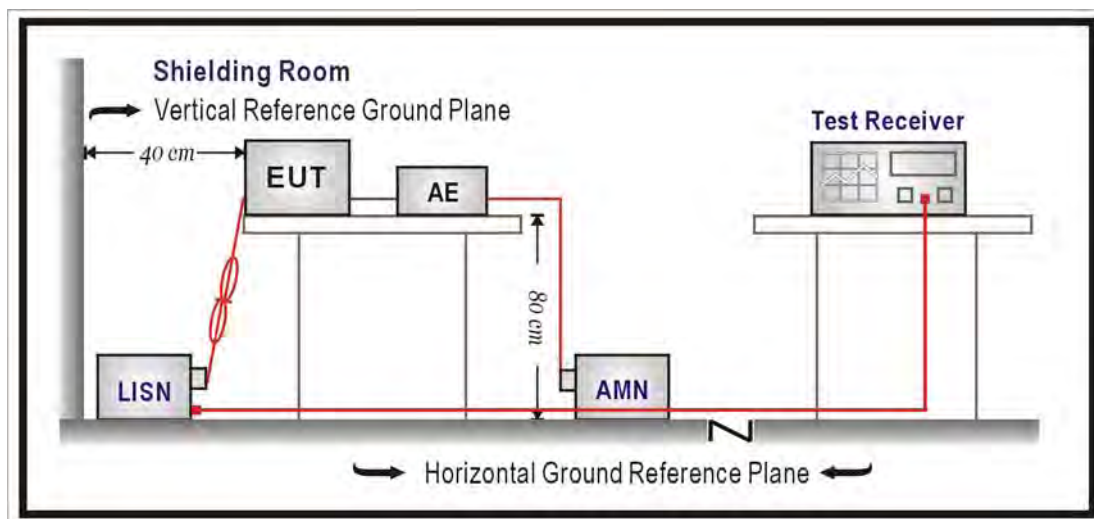
The following test equipment are used during the test:

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2018/02/05
LISN	R&S	ENV216	100092	2017/08/16
Test Receiver	R&S	ESCS 30	836858/022	2018/01/14

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 2.2. Test Setup



### 2.3. 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.

## **2.4. Test Procedure**

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2009 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

## **2.5. Test Specification**

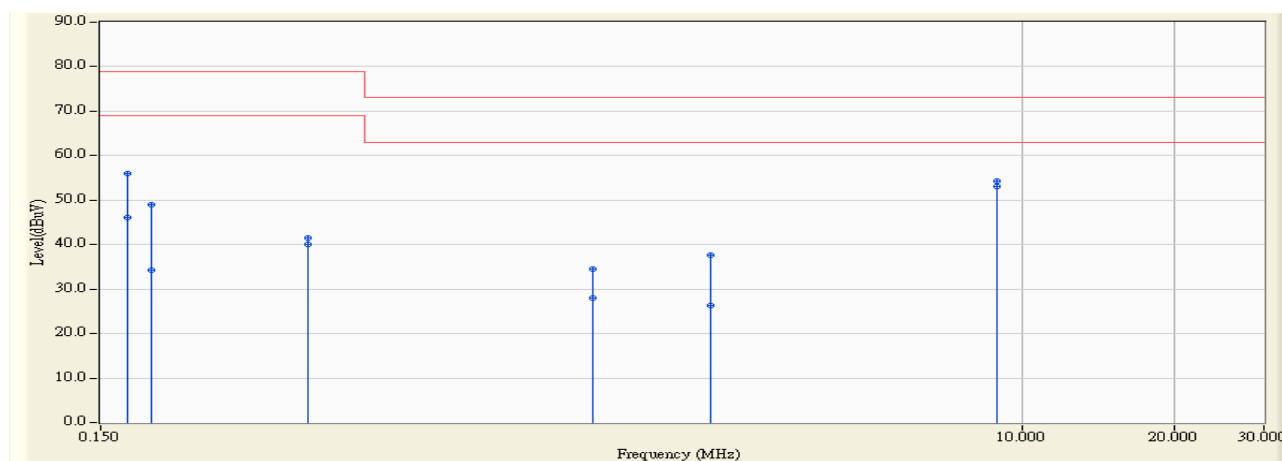
According to FCC Part 15 Subpart C Paragraph 15.207: 2015

## **2.6. Uncertainty**

The measurement uncertainty is defined as  $\pm 2.26$  dB.

## 2.7. Test Result

Site : SR2-H	Time : 2017/08/09
Limit : CISPR_A_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line1	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_3DH5_2441MHz

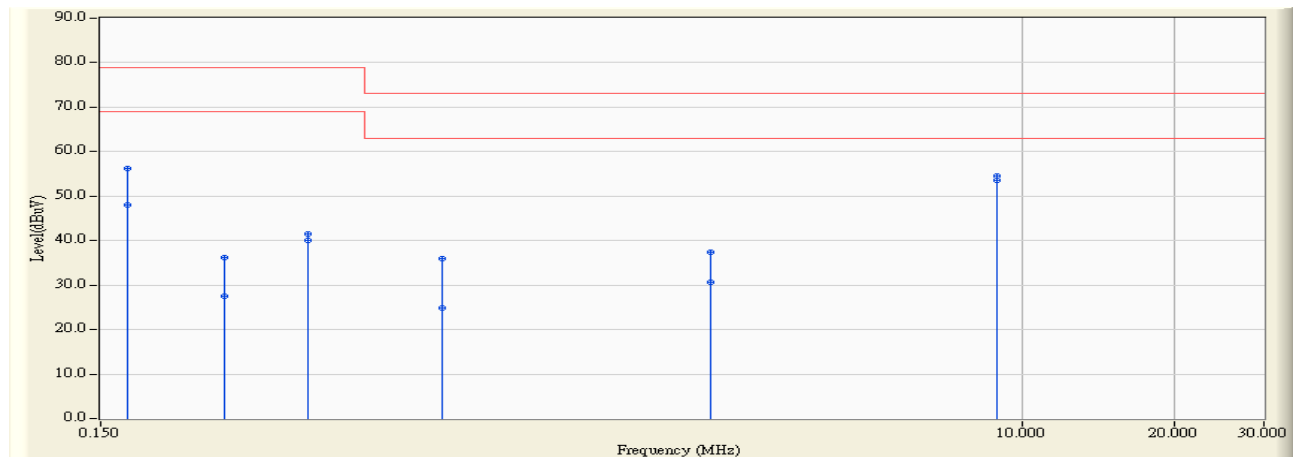


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.170	9.753	46.200	55.953	-23.047	79.000	QUASIPeAK
2	0.170	9.753	36.420	46.173	-19.827	66.000	AVERAGE
3	0.189	9.751	39.340	49.091	-29.909	79.000	QUASIPeAK
4	0.189	9.751	24.520	34.271	-31.729	66.000	AVERAGE
5	0.384	9.732	31.680	41.412	-37.588	79.000	QUASIPeAK
6	0.384	9.732	30.310	40.042	-25.958	66.000	AVERAGE
7	1.412	9.836	24.750	34.586	-38.414	73.000	QUASIPeAK
8	1.412	9.836	18.100	27.936	-32.064	60.000	AVERAGE
9	2.420	9.873	27.780	37.653	-35.347	73.000	QUASIPeAK
10	2.420	9.873	16.340	26.213	-33.787	60.000	AVERAGE
11	8.888	10.084	44.270	54.354	-18.646	73.000	QUASIPeAK
12	*	10.084	43.070	53.154	-6.846	60.000	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 : 2017/08/09
Limit : CISPR_A_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line2	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_3DH5_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.170	9.753	46.420	56.173	-22.827	79.000	QUASPEAK
2		0.170	9.753	38.290	48.043	-17.957	66.000	AVERAGE
3		0.263	9.750	26.350	36.100	-42.900	79.000	QUASPEAK
4		0.263	9.750	17.820	27.570	-38.430	66.000	AVERAGE
5		0.384	9.750	31.700	41.450	-37.550	79.000	QUASPEAK
6		0.384	9.750	30.310	40.060	-25.940	66.000	AVERAGE
7		0.709	9.777	26.130	35.906	-37.094	73.000	QUASPEAK
8		0.709	9.777	15.100	24.876	-35.124	60.000	AVERAGE
9		2.420	9.848	27.460	37.308	-35.692	73.000	QUASPEAK
10		2.420	9.848	20.790	30.638	-29.362	60.000	AVERAGE
11		8.888	10.086	44.410	54.495	-18.505	73.000	QUASPEAK
12	*	8.888	10.086	43.580	53.665	-6.335	60.000	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. Peak Power Output

#### 3.1. Test Equipment

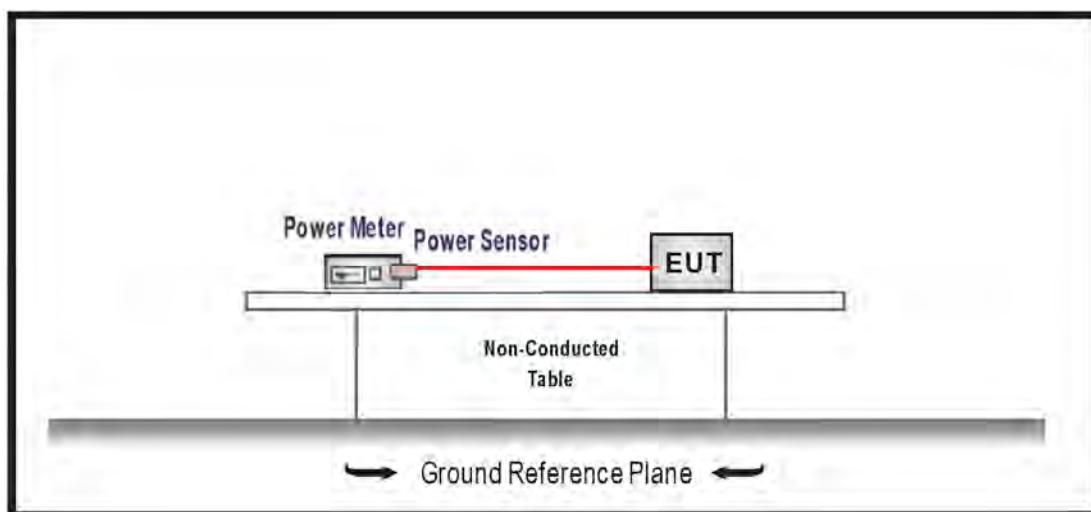
The following test equipment is used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531043	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531044	2018/01/19

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

#### 3.2. Test Setup



#### 3.3. Test procedures

The EUT was setup according to ANSI C63.10:2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

#### 3.4. Limits

For frequency hopping systems operating in the 902-928 MHz band: 1 Watt for systems employing at least 50 hopping channels; and, 0.25 Watts for systems employing less than 50 hopping channels.

For frequency hopping systems in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1Watt.

For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 Watt.

#### 3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015.



**3.6. Test Result**

Product	UHD861-P		
Test Item	Peak Power Output		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

**GFSK**

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-1.160	30	Pass
39	2441	-1.020	30	Pass
78	2480	-0.970	30	Pass

Product	UHD861-P		
Test Item	Peak Power Output		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

 **$\pi/4$ -DQPSK**

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	1.620	30	Pass
39	2441	1.890	30	Pass
78	2480	1.920	30	Pass

Product	UHD861-P		
Test Item	Peak Power Output		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

**8-DPSK**

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	2.190	30	Pass
39	2441	2.370	30	Pass
78	2480	2.540	30	Pass

## 4. Radiated Emission

### 4.1. Test Equipment

The following test equipment are used during the test:

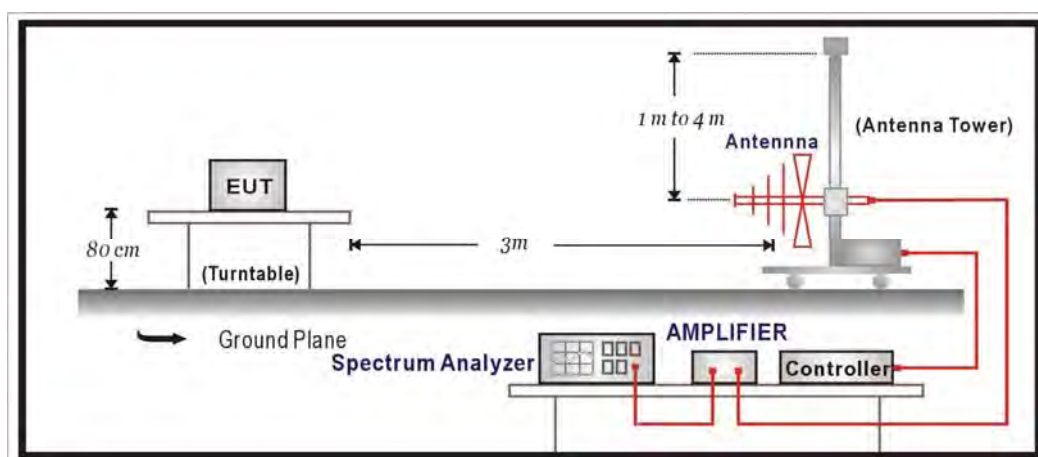
Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2891	2017/08/14
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Pre-Amplifier	EMCI	EMC0031835	980233	2018/02/02
Pre-Amplifier	Schwarzbeck	DBL-1840N506	013	2017/09/29
Pre-Amplifier	Miteq	JS41-001040000-58-5P	1573954	2017/10/04
Horn Antenna	Schwarzbeck	BBHA 9170	203	2017/08/28
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22

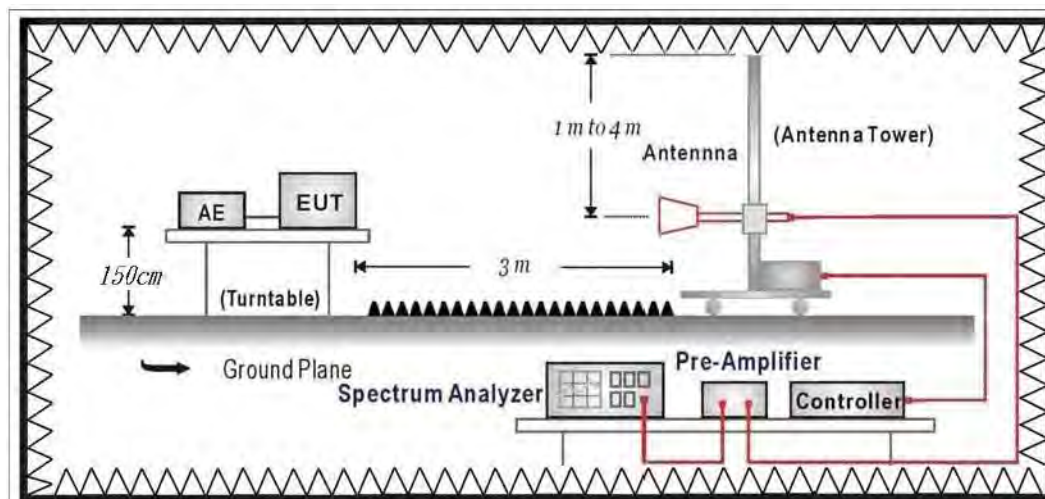
Note: All equipment that need to calibrate are with calibration period of 1 year.

### 4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



### 4.3. 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.

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

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### 4.4. Test Procedure

The EUT was setup according to ANSI C63.10:2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. 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.

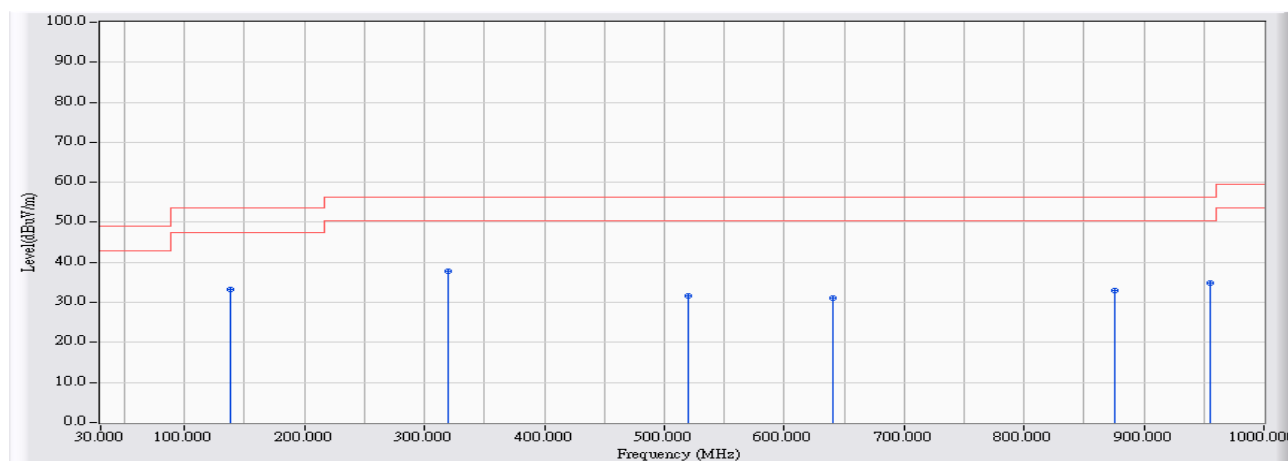
### 4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

#### 4.6. Test Result

##### 30MHz-1GHz Spurious

Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz

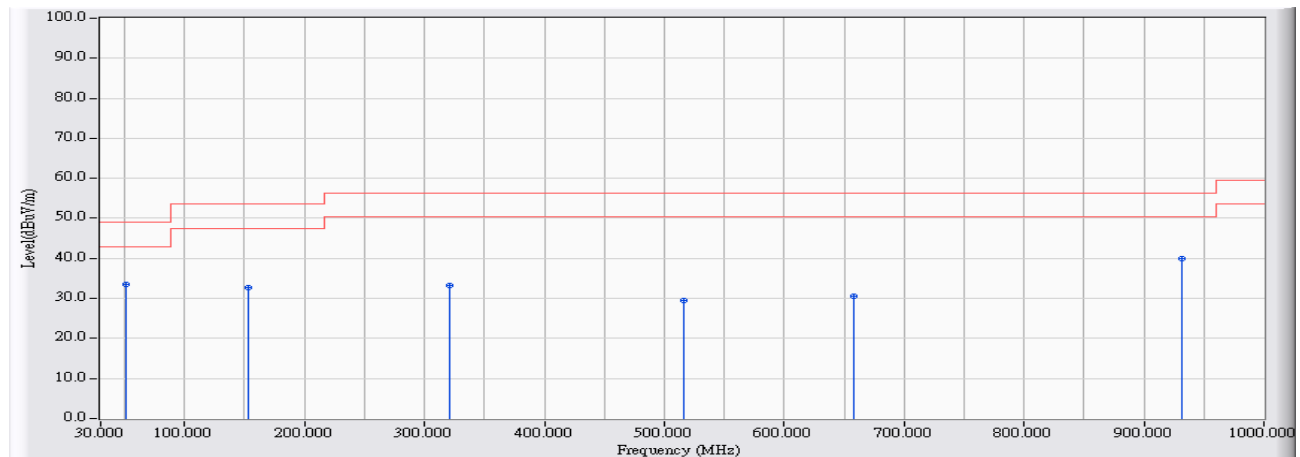


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		138.241	-21.568	54.851	33.283	-20.217	53.500	QUASIPeAK
2	*	320.001	-19.126	56.987	37.861	-18.539	56.400	QUASIPeAK
3		520.189	-13.965	45.489	31.524	-24.876	56.400	QUASIPeAK
4		640.942	-13.181	44.301	31.120	-25.280	56.400	QUASIPeAK
5		875.658	-9.664	42.516	32.852	-23.548	56.400	QUASIPeAK
6		954.706	-8.009	42.759	34.750	-21.650	56.400	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz

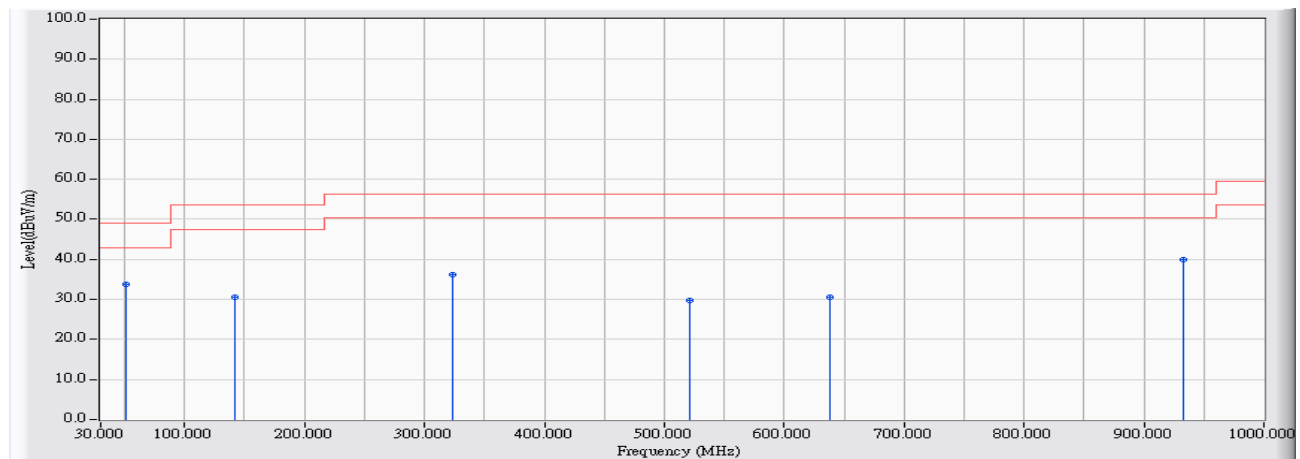


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	50.853	-25.630	59.188	33.558	-15.442	49.000	QUASIPeAK
2		153.469	-22.487	55.223	32.736	-20.764	53.500	QUASIPeAK
3		321.359	-19.046	52.195	33.149	-23.251	56.400	QUASIPeAK
4		516.794	-13.962	43.482	29.520	-26.880	56.400	QUASIPeAK
5		658.497	-12.795	43.454	30.659	-25.741	56.400	QUASIPeAK
6		931.331	-8.508	48.505	39.997	-16.403	56.400	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz



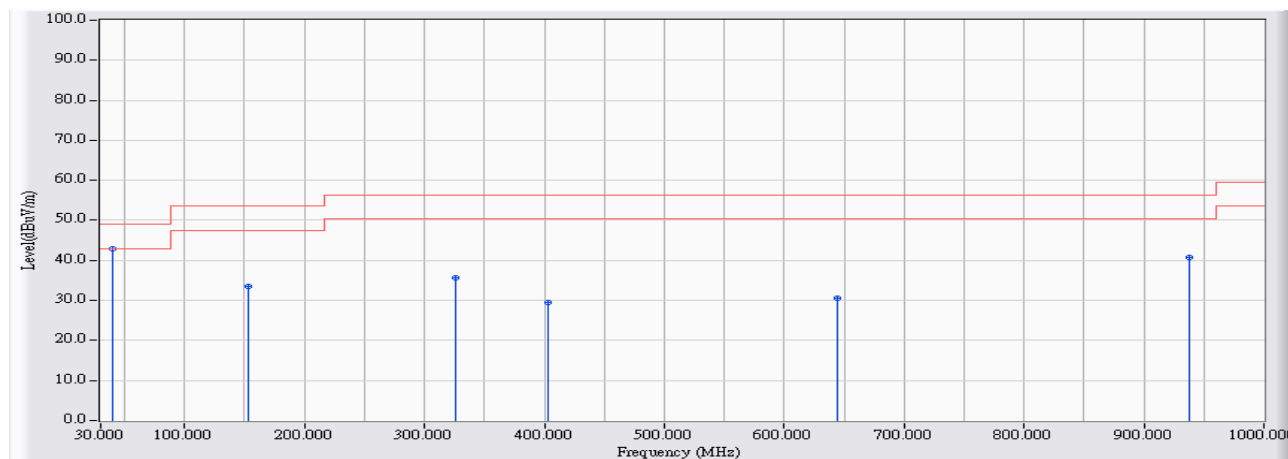
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	51.144	-25.712	59.440	33.728	-15.272	49.000	QUASIPeAK
2		142.412	-21.776	52.432	30.656	-22.844	53.500	QUASIPeAK
3		322.911	-18.954	55.196	36.242	-20.158	56.400	QUASIPeAK
4		521.741	-14.017	43.895	29.878	-26.522	56.400	QUASIPeAK
5		638.517	-13.070	43.614	30.543	-25.857	56.400	QUASIPeAK
6		932.398	-8.389	48.215	39.826	-16.574	56.400	QUASIPeAK

## Note:

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



Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz

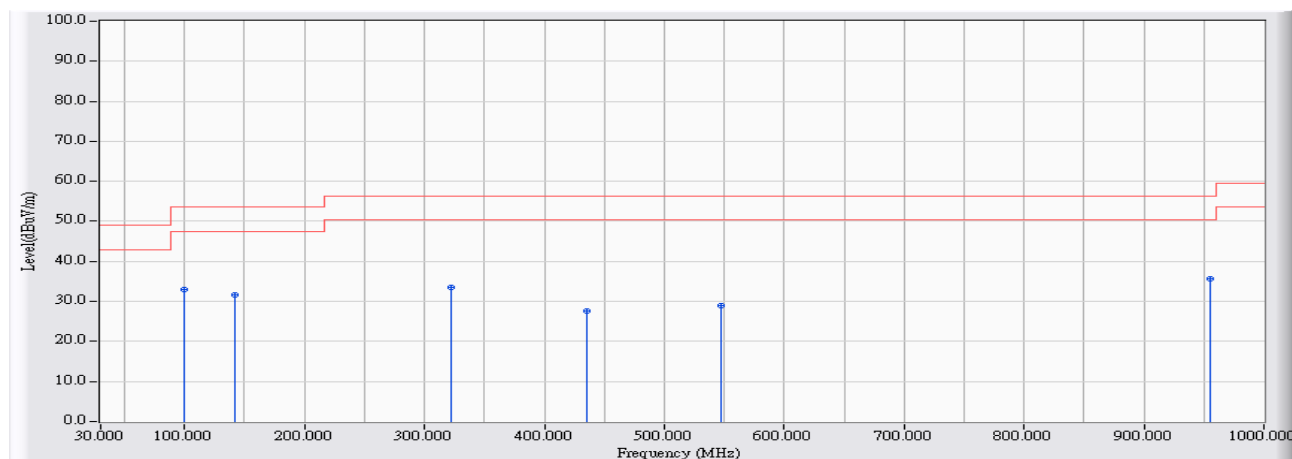


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	39.893	-16.308	59.256	42.949	-6.051	49.000	QUASIPeAK
2		153.566	-22.494	56.101	33.607	-19.893	53.500	QUASIPeAK
3		325.432	-18.804	54.559	35.755	-20.645	56.400	QUASIPeAK
4		402.540	-15.958	45.373	29.414	-26.986	56.400	QUASIPeAK
5		644.725	-13.281	43.907	30.626	-25.774	56.400	QUASIPeAK
6		938.314	-7.725	48.411	40.685	-15.715	56.400	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz

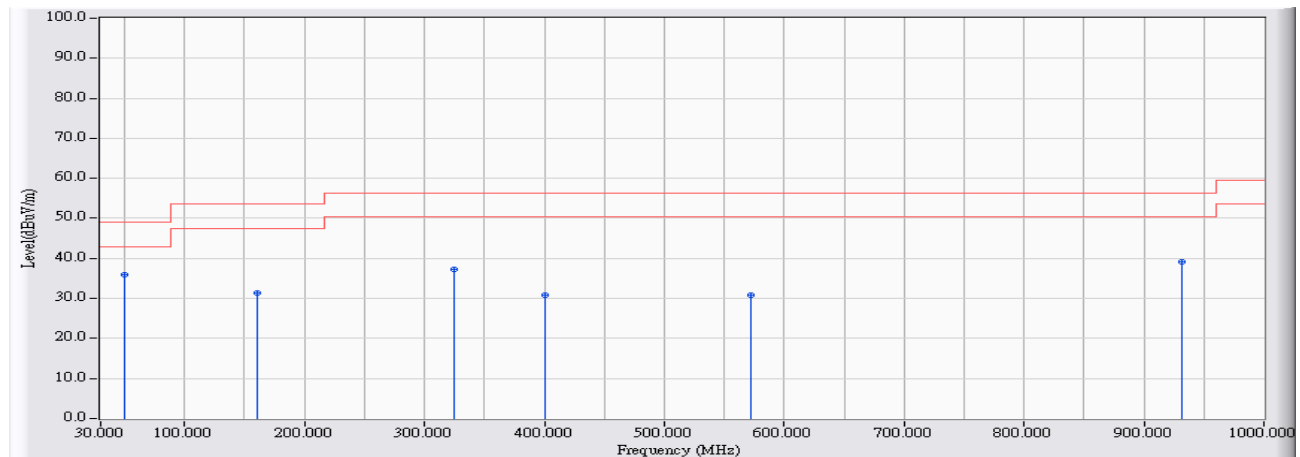


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	100.124	-23.387	56.463	33.075	-20.425	53.500	QUASIPeAK
2		141.345	-21.709	53.434	31.724	-21.776	53.500	QUASIPeAK
3		321.844	-19.017	52.403	33.386	-23.014	56.400	QUASIPeAK
4		435.322	-15.655	43.179	27.524	-28.876	56.400	QUASIPeAK
5		547.734	-13.650	42.612	28.961	-27.439	56.400	QUASIPeAK
6		954.803	-8.012	43.770	35.758	-20.642	56.400	QUASIPeAK

## Note:

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

Site : CB4-H	Time : 2017/08/07
Limit : FCC_CLASS_A_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz



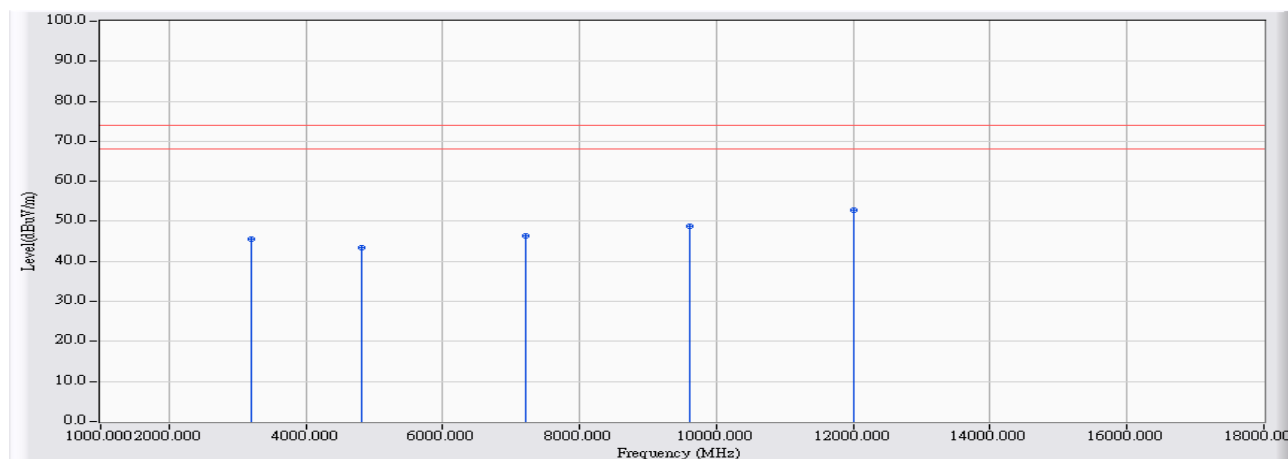
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	50.077	-25.353	61.292	35.940	-13.060	49.000	QUASIPeAK
2		160.743	-22.987	54.470	31.483	-22.017	53.500	QUASIPeAK
3		325.044	-18.827	56.014	37.187	-19.213	56.400	QUASIPeAK
4		400.988	-15.987	46.731	30.744	-25.656	56.400	QUASIPeAK
5		572.176	-13.359	44.155	30.796	-25.604	56.400	QUASIPeAK
6		932.107	-8.422	47.483	39.062	-17.338	56.400	QUASIPeAK

Note:

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

**Harmonic & Spurious:**

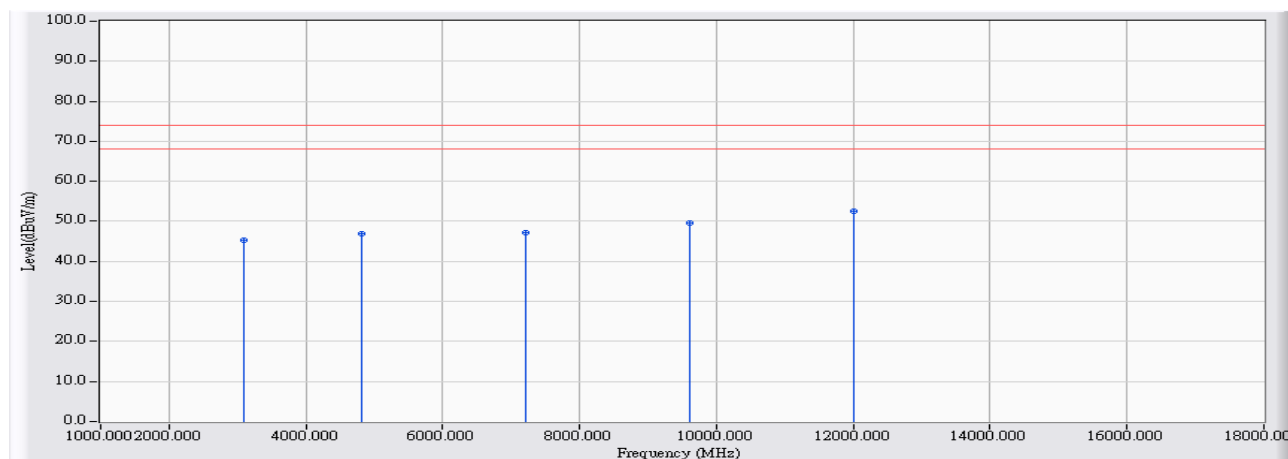
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3202.312	-6.794	52.350	45.555	-28.445	74.000	PEAK
2		4804.004	-0.209	43.770	43.562	-30.438	74.000	PEAK
3		7206.005	6.970	39.430	46.399	-27.601	74.000	PEAK
4		9608.056	12.540	36.130	48.671	-25.329	74.000	PEAK
5	*	12007.256	15.528	37.250	52.778	-21.222	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

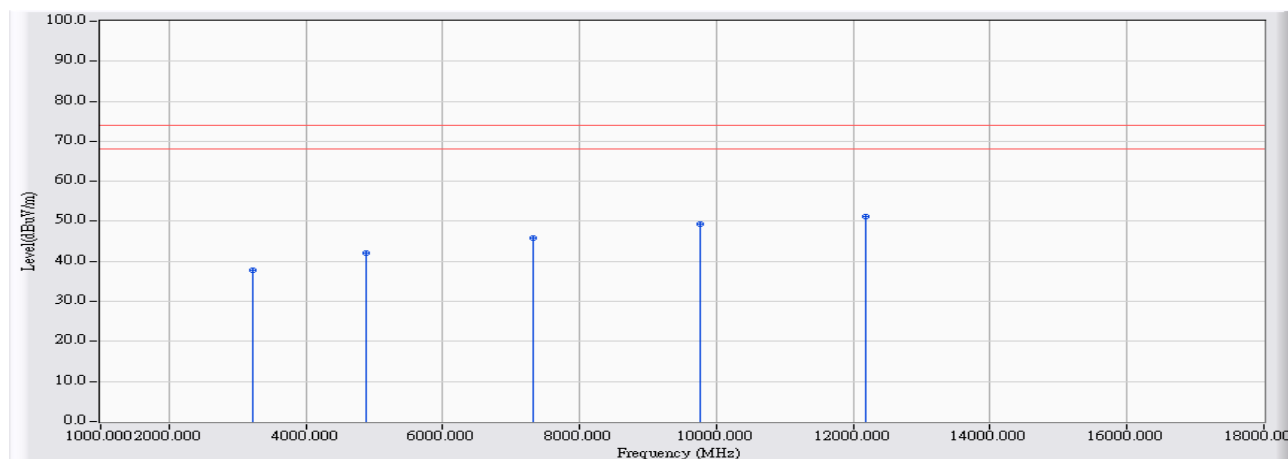
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3101.859	-6.961	52.370	45.409	-28.591	74.000	PEAK
2		4803.356	-0.209	47.010	46.801	-27.199	74.000	PEAK
3		7206.110	6.971	40.189	47.159	-26.841	74.000	PEAK
4		9608.176	12.542	36.940	49.481	-24.519	74.000	PEAK
5	*	12013.415	15.502	37.060	52.562	-21.438	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

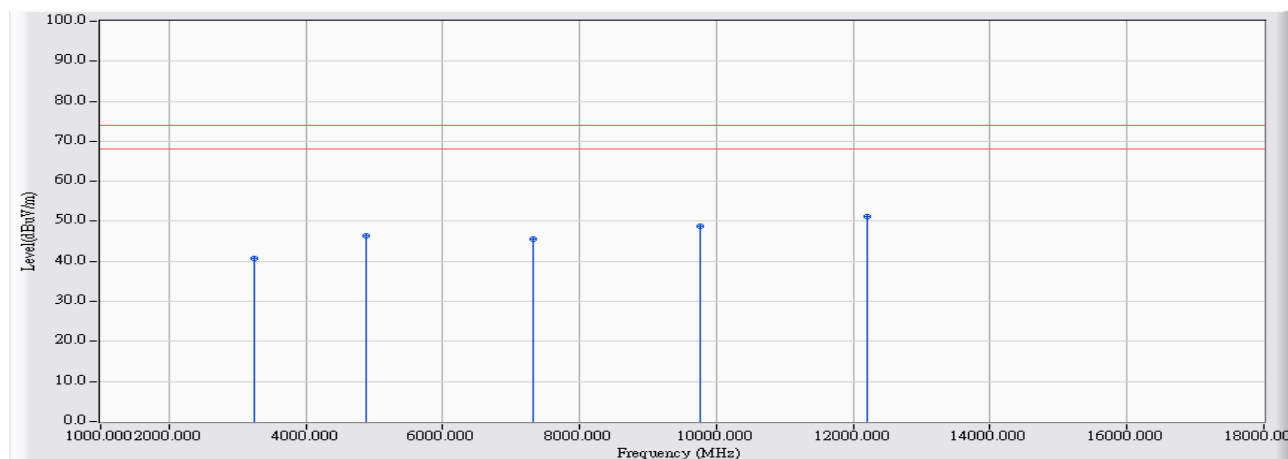
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3217.379	-6.769	44.700	37.930	-36.070	74.000	PEAK
2		4882.004	-0.124	42.100	41.977	-32.023	74.000	PEAK
3		7322.974	7.448	38.470	45.917	-28.083	74.000	PEAK
4		9763.846	12.871	36.410	49.281	-24.719	74.000	PEAK
5	*	12183.578	14.909	36.360	51.269	-22.731	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

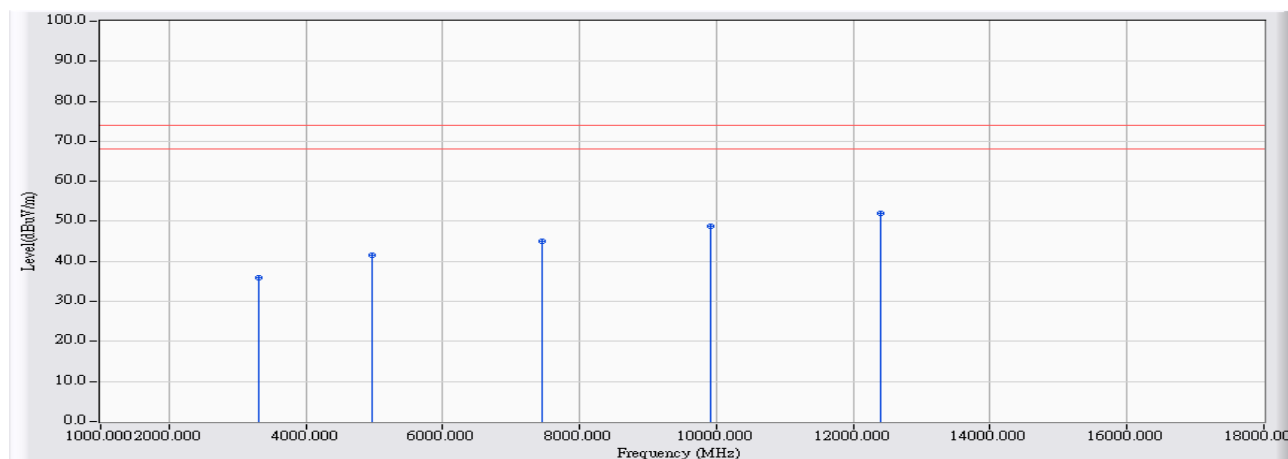
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3254.369	-6.706	47.560	40.854	-33.146	74.000	PEAK
2		4882.284	-0.123	46.560	46.437	-27.563	74.000	PEAK
3		7323.178	7.448	38.210	45.658	-28.342	74.000	PEAK
4		9764.025	12.871	36.030	48.901	-25.099	74.000	PEAK
5	*	12204.975	14.834	36.330	51.164	-22.836	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz

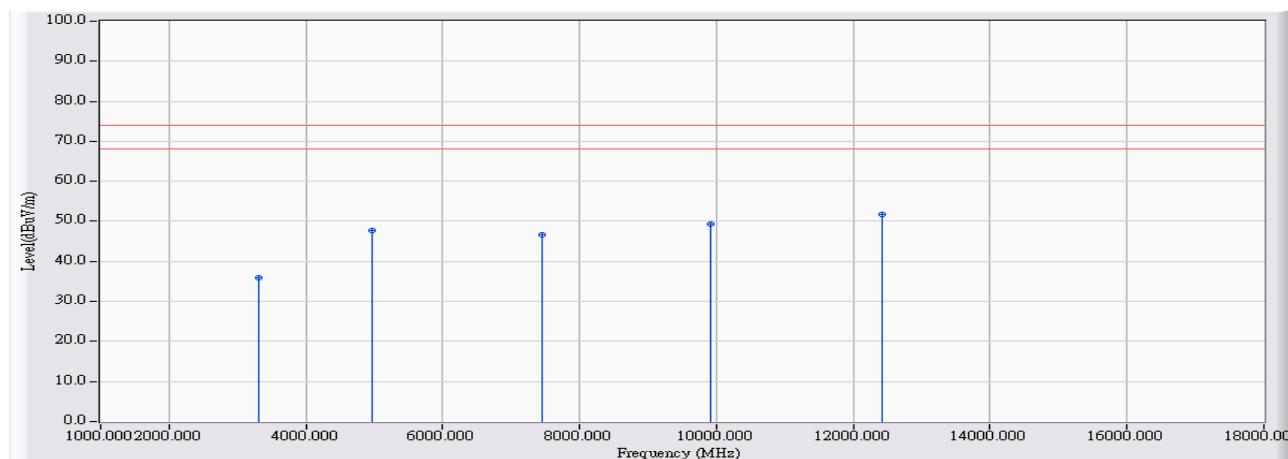


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3305.984	-6.604	42.540	35.936	-38.064	74.000	PEAK
2		4959.961	-0.034	41.700	41.666	-32.334	74.000	PEAK
3		7444.510	7.885	37.060	44.945	-29.055	74.000	PEAK
4		9921.341	13.093	35.590	48.683	-25.317	74.000	PEAK
5	*	12406.211	15.777	36.290	52.067	-21.933	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.



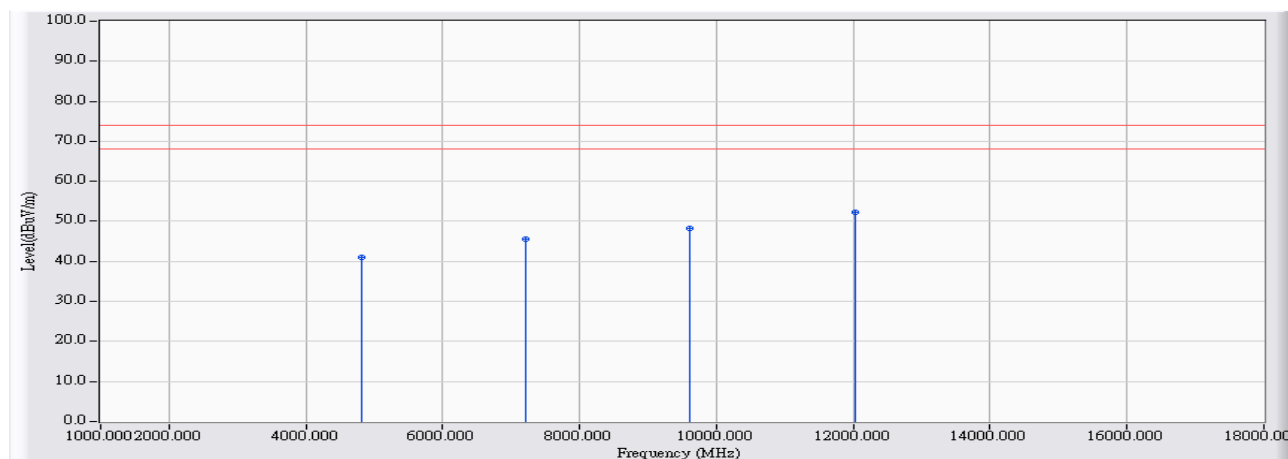
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3306.667	-6.602	42.620	36.018	-37.982	74.000	PEAK
2		4960.009	-0.035	47.750	47.716	-26.284	74.000	PEAK
3		7453.889	7.918	38.640	46.558	-27.442	74.000	PEAK
4		9920.410	13.092	36.230	49.322	-24.678	74.000	PEAK
5	*	12413.206	15.827	35.880	51.707	-22.293	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

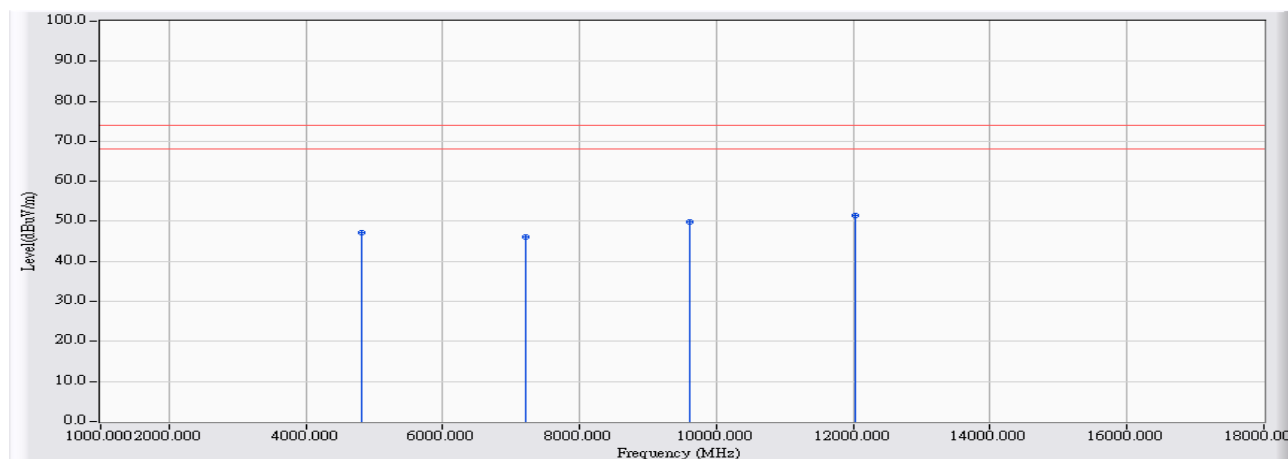
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4803.296	-0.209	41.360	41.151	-32.849	74.000	PEAK
2		7207.263	6.982	38.640	45.622	-28.378	74.000	PEAK
3		9610.839	12.549	35.680	48.229	-25.771	74.000	PEAK
4	*	12038.940	15.412	36.810	52.222	-21.778	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

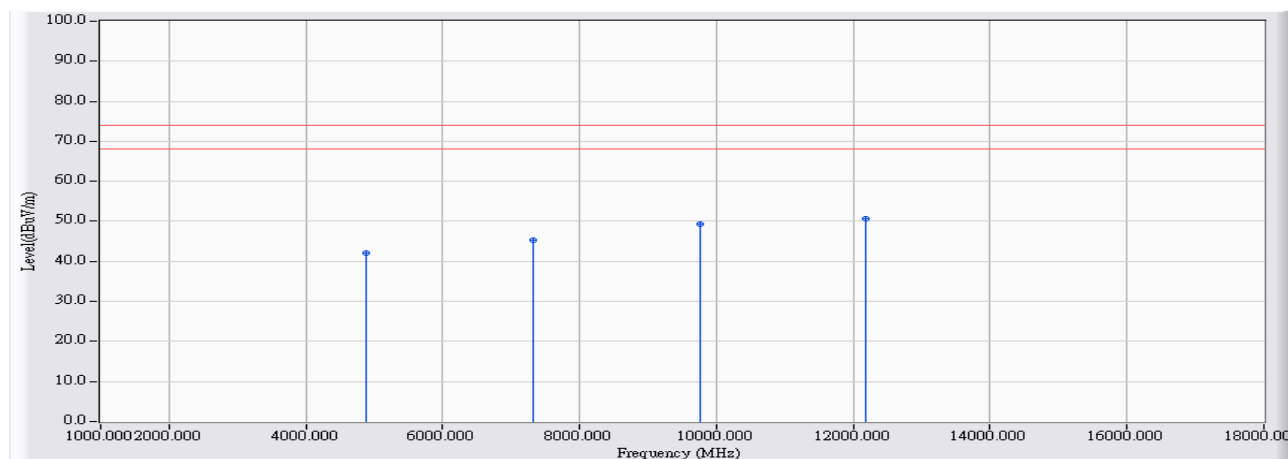
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.136	-0.208	47.450	47.242	-26.758	74.000	PEAK
2		7208.219	6.992	39.110	46.103	-27.897	74.000	PEAK
3		9607.672	12.540	37.230	49.770	-24.230	74.000	PEAK
4	*	12018.062	15.485	35.970	51.454	-22.546	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

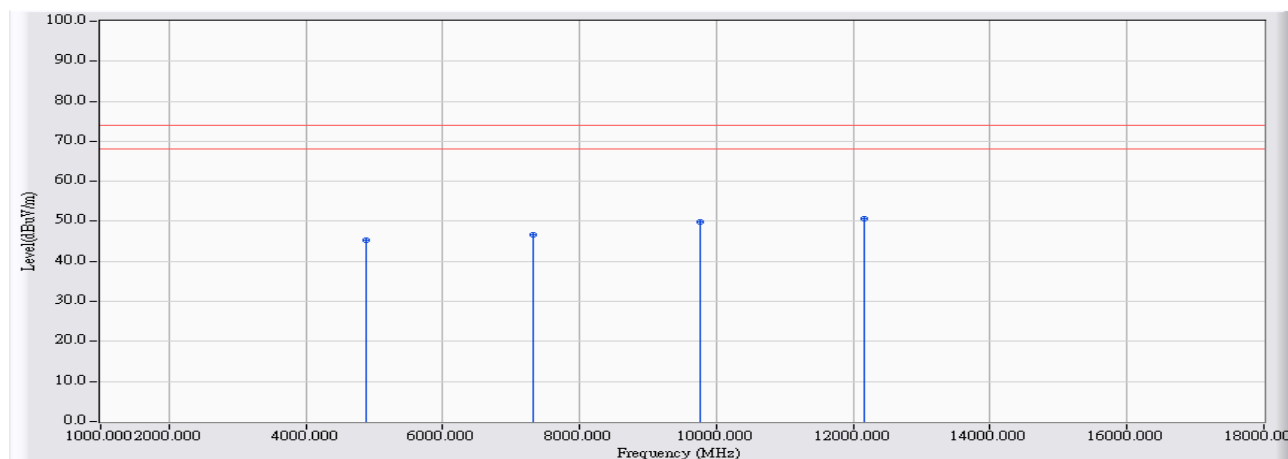
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4881.728	-0.124	42.130	42.006	-31.994	74.000	PEAK
2		7323.252	7.448	37.970	45.418	-28.582	74.000	PEAK
3		9763.562	12.870	36.580	49.450	-24.550	74.000	PEAK
4	*	12171.955	14.949	35.800	50.749	-23.251	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

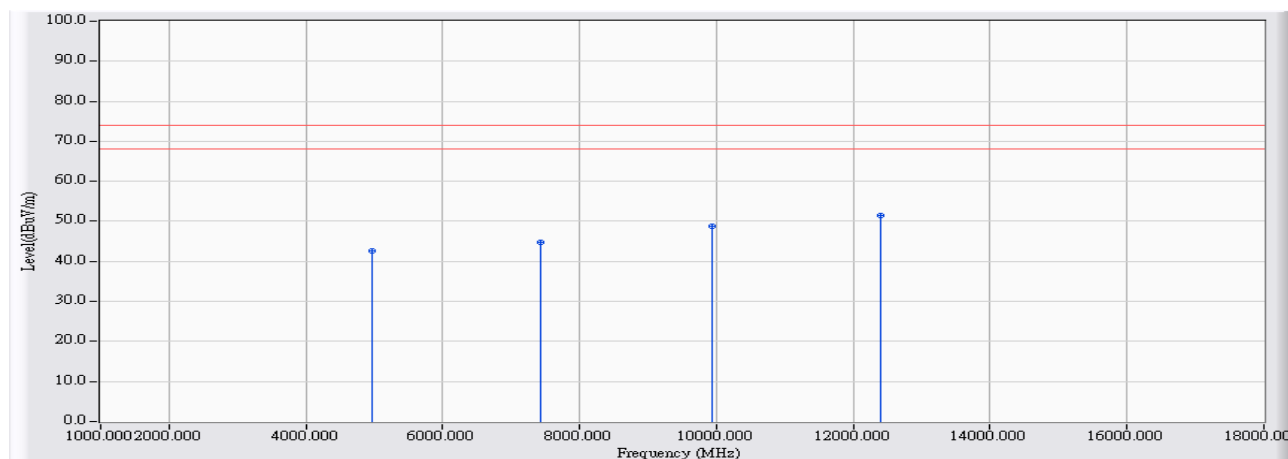
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4881.944	-0.123	45.420	45.297	-28.703	74.000	PEAK
2		7324.210	7.452	39.310	46.762	-27.238	74.000	PEAK
3		9765.210	12.872	37.120	49.993	-24.007	74.000	PEAK
4	*	12168.995	14.959	35.680	50.640	-23.360	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

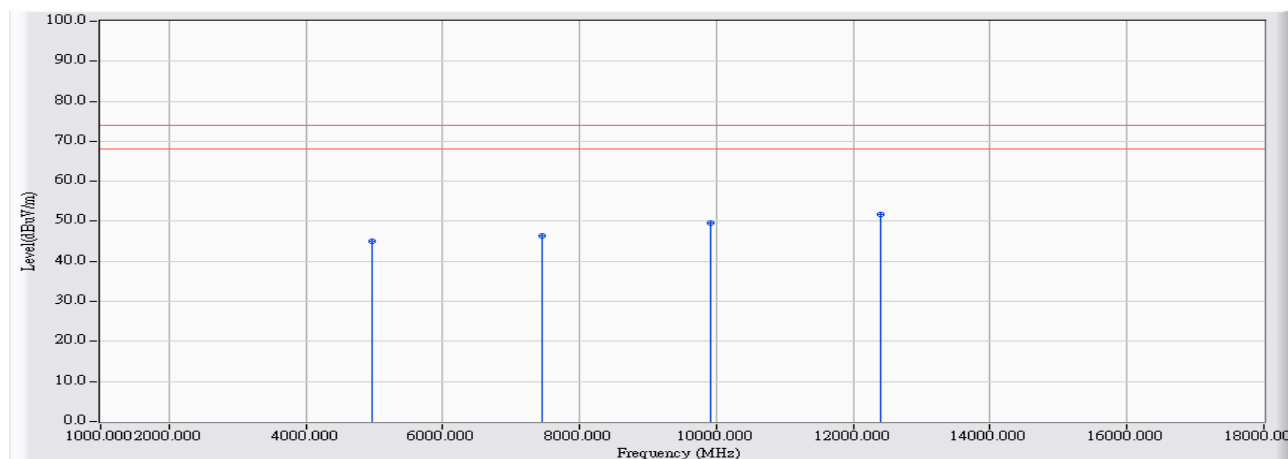
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.425	-0.034	42.660	42.626	-31.374	74.000	PEAK
2		7440.268	7.870	37.030	44.899	-29.101	74.000	PEAK
3		9926.637	13.100	35.790	48.891	-25.109	74.000	PEAK
4	*	12403.234	15.756	35.630	51.386	-22.614	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

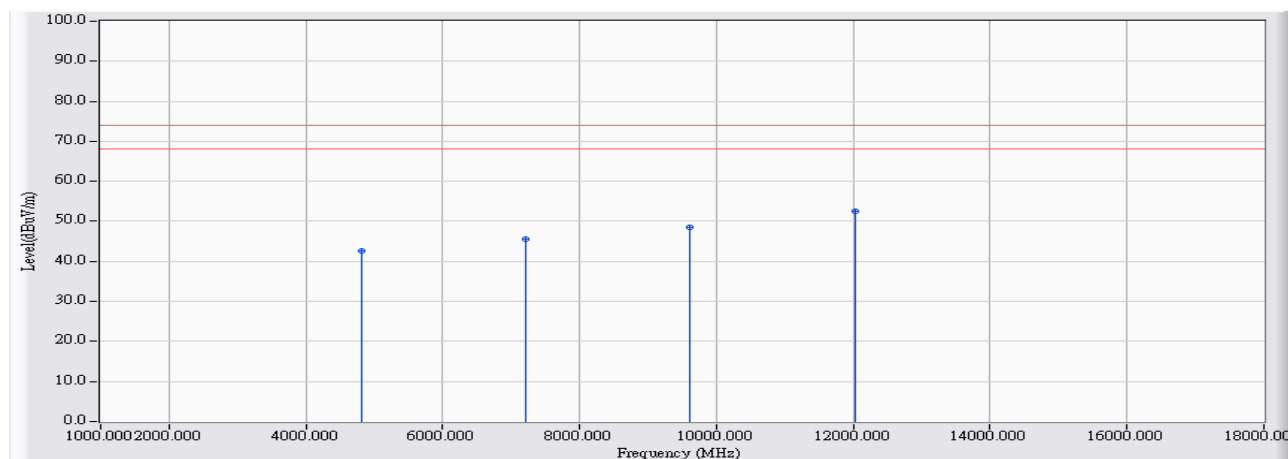
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.312	-0.034	44.990	44.956	-29.044	74.000	PEAK
2		7443.685	7.882	38.400	46.282	-27.718	74.000	PEAK
3		9923.678	13.096	36.590	49.686	-24.314	74.000	PEAK
4	*	12403.225	15.756	35.870	51.626	-22.374	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz

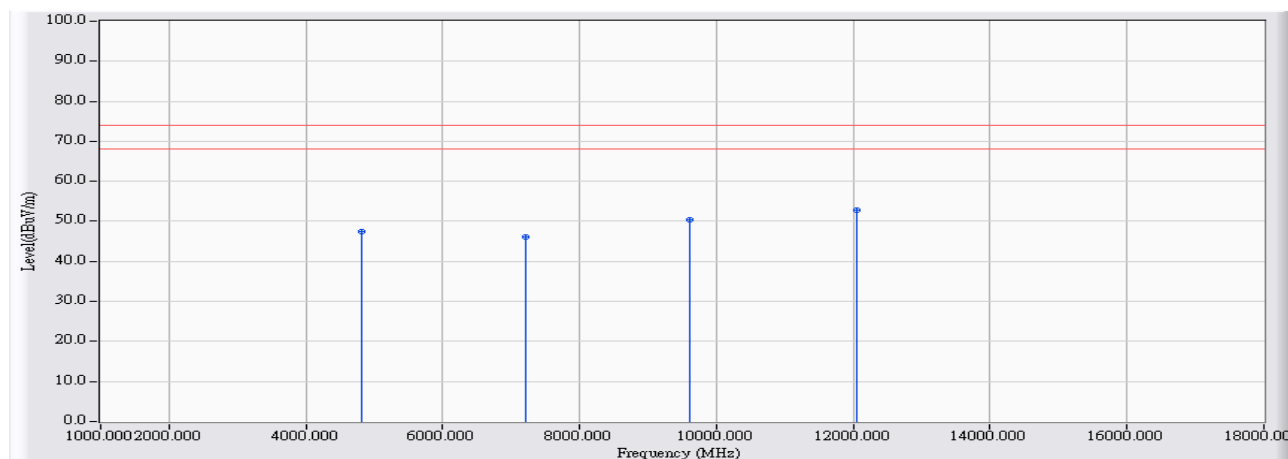


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.214	-0.208	42.760	42.552	-31.448	74.000	PEAK
2		7205.859	6.968	38.530	45.498	-28.502	74.000	PEAK
3		9608.360	12.542	36.070	48.612	-25.388	74.000	PEAK
4	*	12025.198	15.459	36.990	52.449	-21.551	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.



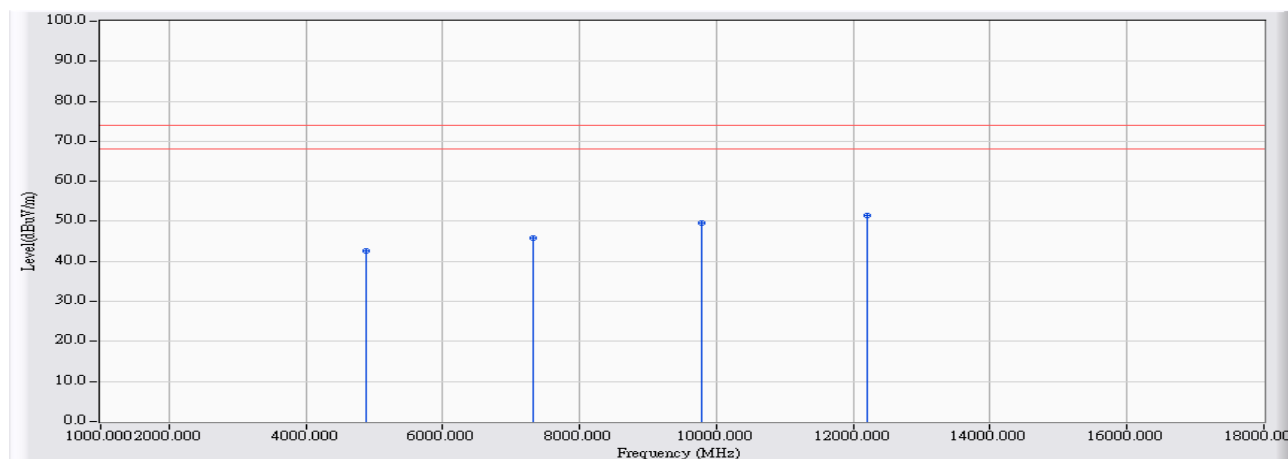
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4803.891	-0.208	47.560	47.352	-26.648	74.000	PEAK
2		7207.423	6.983	39.110	46.094	-27.906	74.000	PEAK
3		9608.048	12.540	37.870	50.411	-23.589	74.000	PEAK
4	*	12041.125	15.404	37.280	52.684	-21.316	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

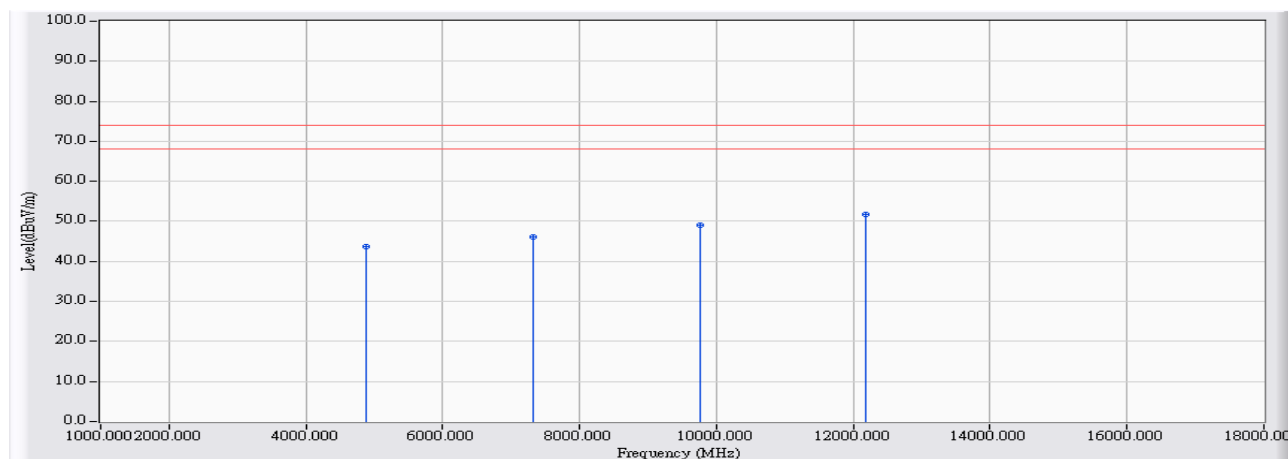
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4881.640	-0.124	42.740	42.616	-31.384	74.000	PEAK
2		7322.920	7.448	38.380	45.827	-28.173	74.000	PEAK
3		9781.302	12.895	36.750	49.645	-24.355	74.000	PEAK
4	*	12198.012	14.858	36.670	51.529	-22.471	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

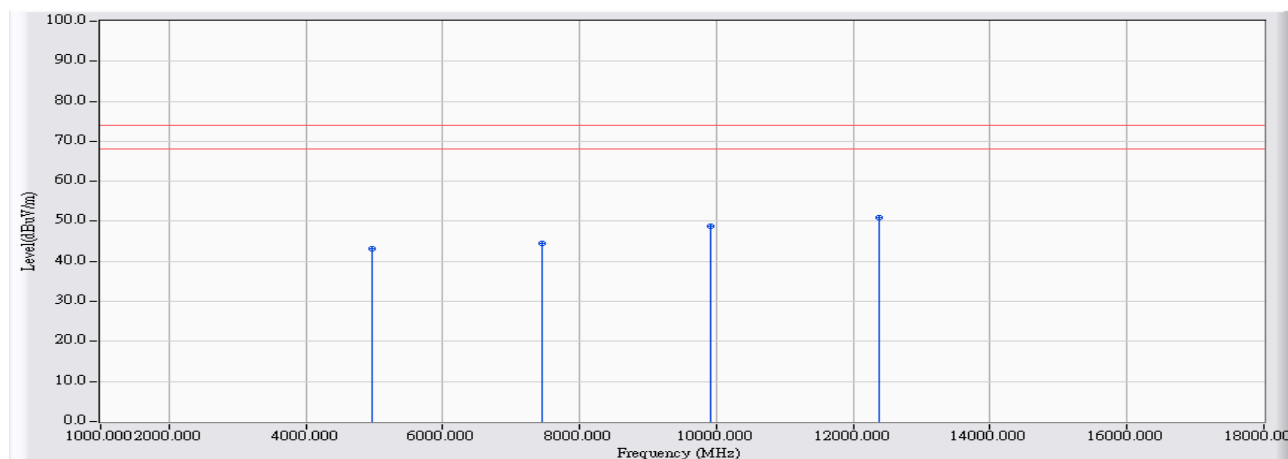
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.192	-0.124	43.740	43.617	-30.383	74.000	PEAK
2		7323.215	7.448	38.670	46.118	-27.882	74.000	PEAK
3		9764.212	12.871	36.280	49.151	-24.849	74.000	PEAK
4	*	12174.121	14.942	36.920	51.862	-22.138	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

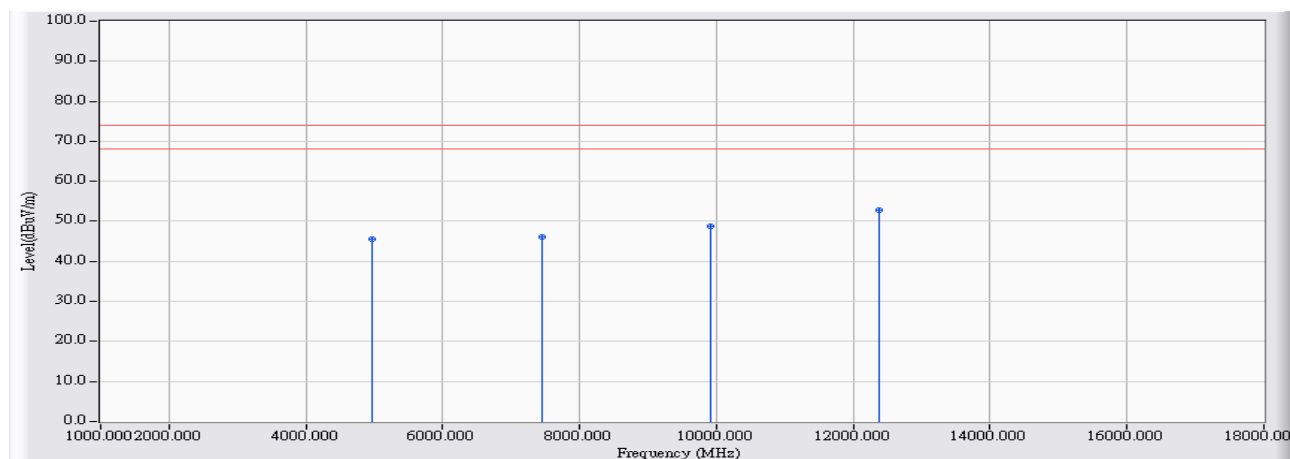
Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.024	-0.035	43.150	43.116	-30.884	74.000	PEAK
2		7442.322	7.877	36.760	44.637	-29.363	74.000	PEAK
3		9924.215	13.097	35.700	48.797	-25.203	74.000	PEAK
4	*	12372.921	15.542	35.500	51.042	-22.958	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.241	-0.035	45.670	45.636	-28.364	74.000	PEAK
2		7446.252	7.890	38.340	46.231	-27.769	74.000	PEAK
3		9923.285	13.096	35.700	48.796	-25.204	74.000	PEAK
4	*	12386.329	15.636	37.210	52.846	-21.154	74.000	PEAK

- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

## 5. RF antenna conducted test

### 5.1. Test Equipment

The following test equipment is used during the test:

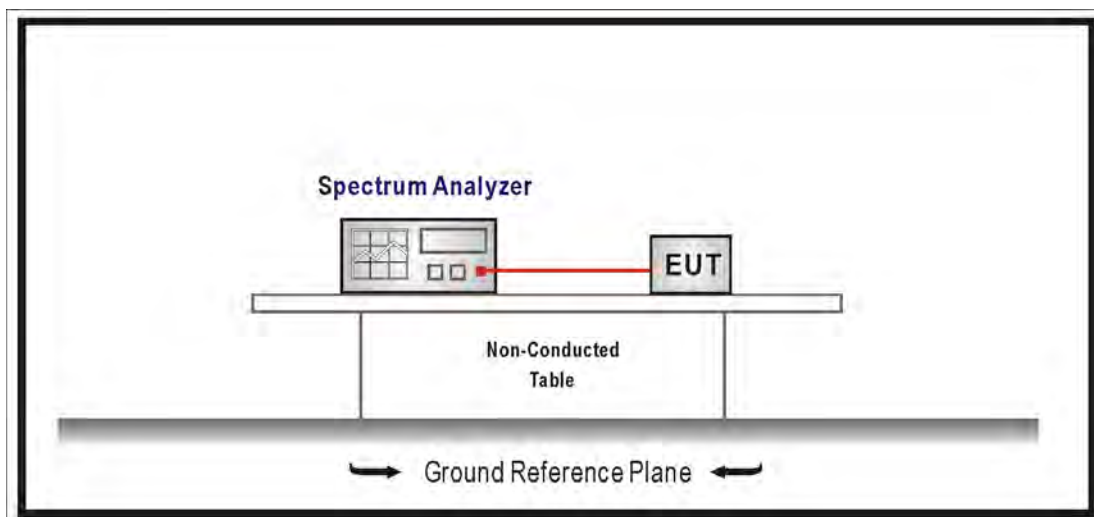
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 5.2. Test Setup

RF Conducted Measurement:



### **5.3. 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)).

### **5.4. Test Procedure**

The EUT was setup according to ANSI C63.10:2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

### **5.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

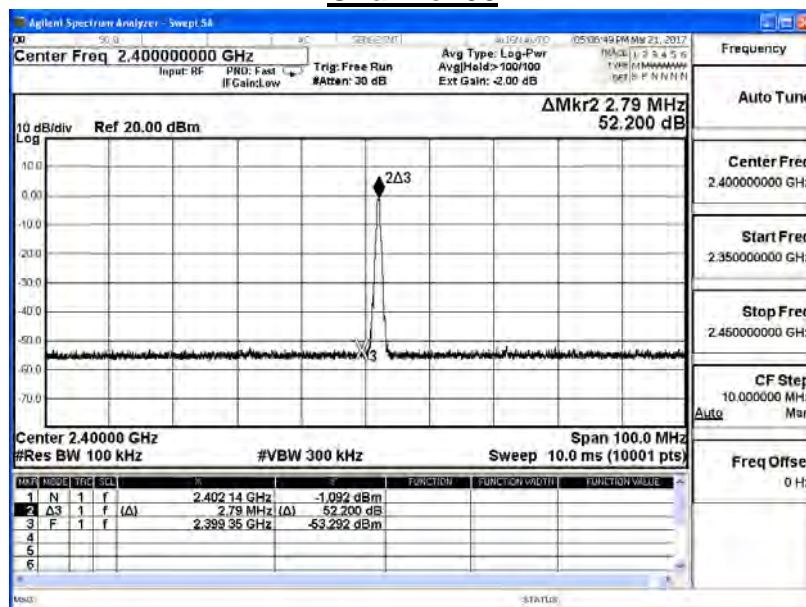
## 5.6. Test Result

Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

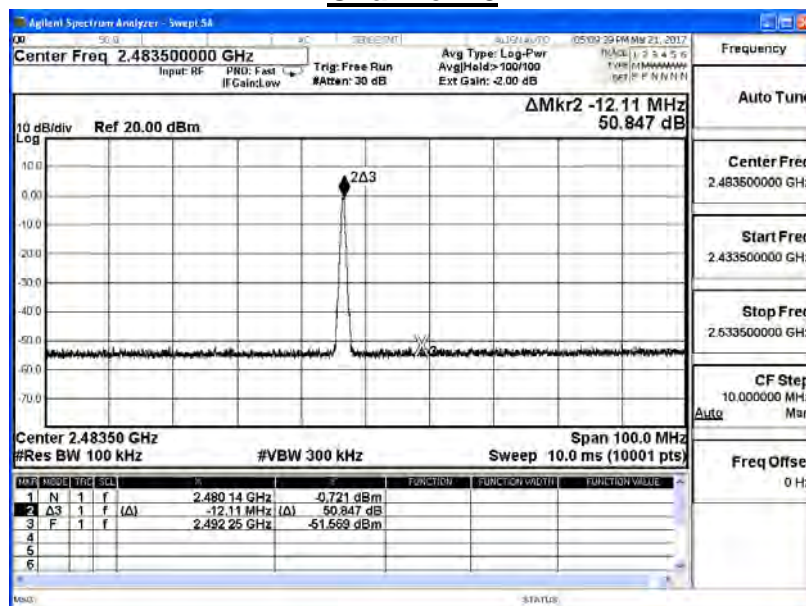
### GFSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	52.200	$\geq 20$	Pass
78	2480	50.847	$\geq 20$	Pass

### Channel 00



### Channel 78

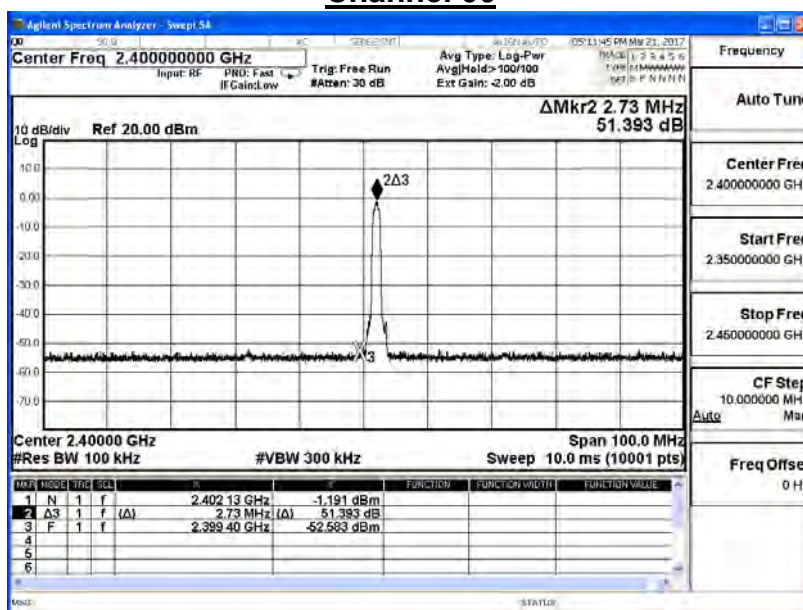
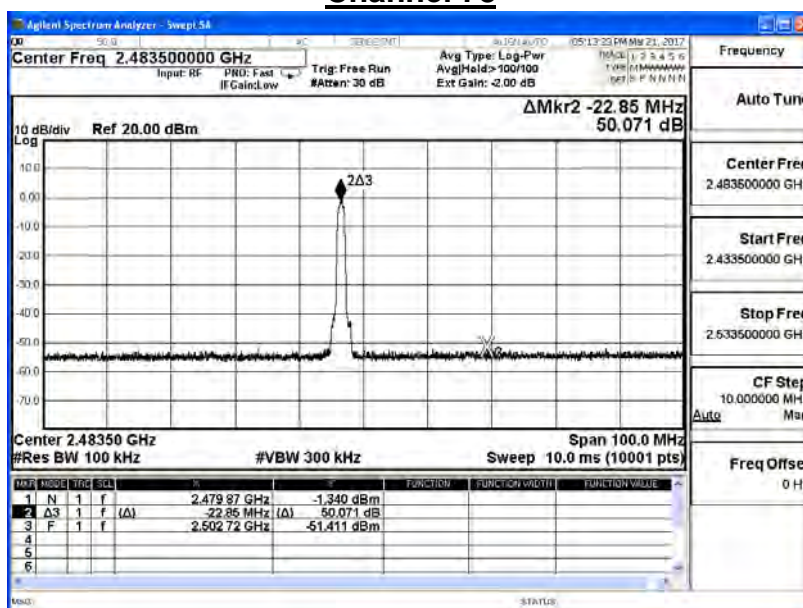




Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

 **$\pi/4$ -DQPSK**

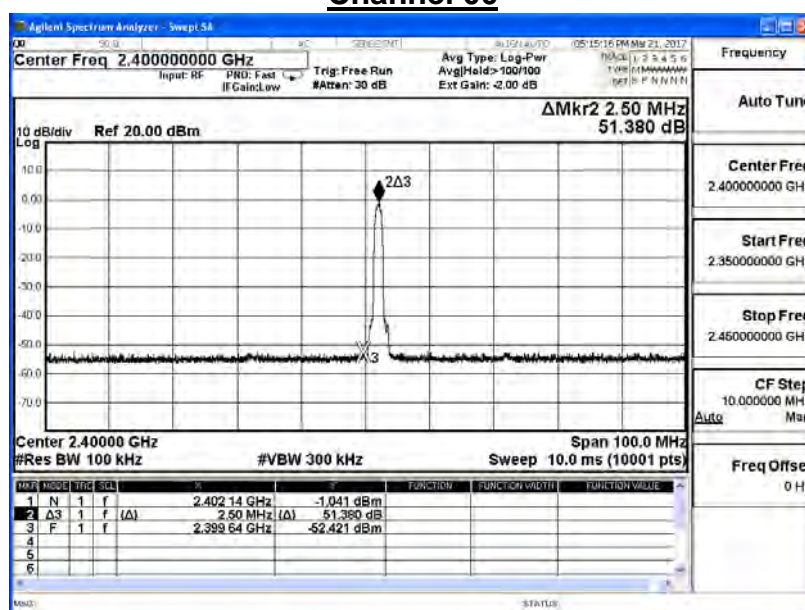
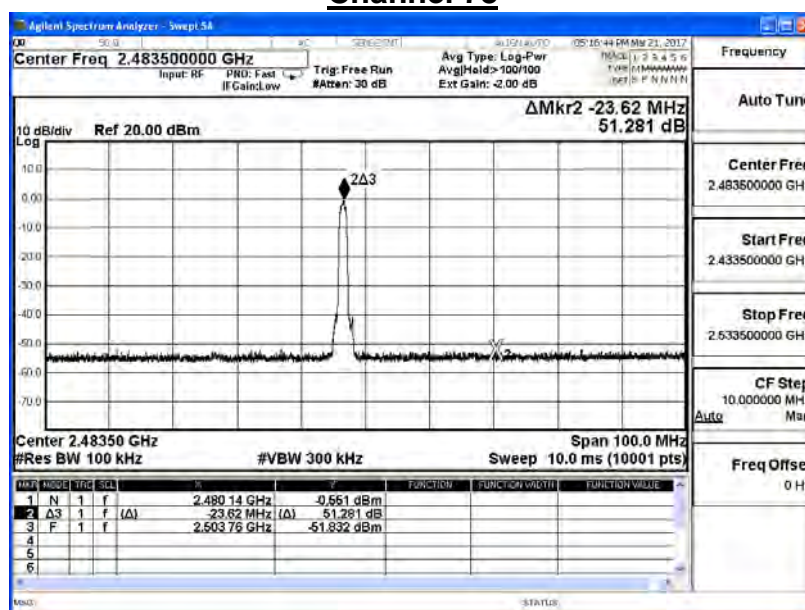
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	51.393	$\geq 20$	Pass
78	2480	50.071	$\geq 20$	Pass

**Channel 00****Channel 78**

Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

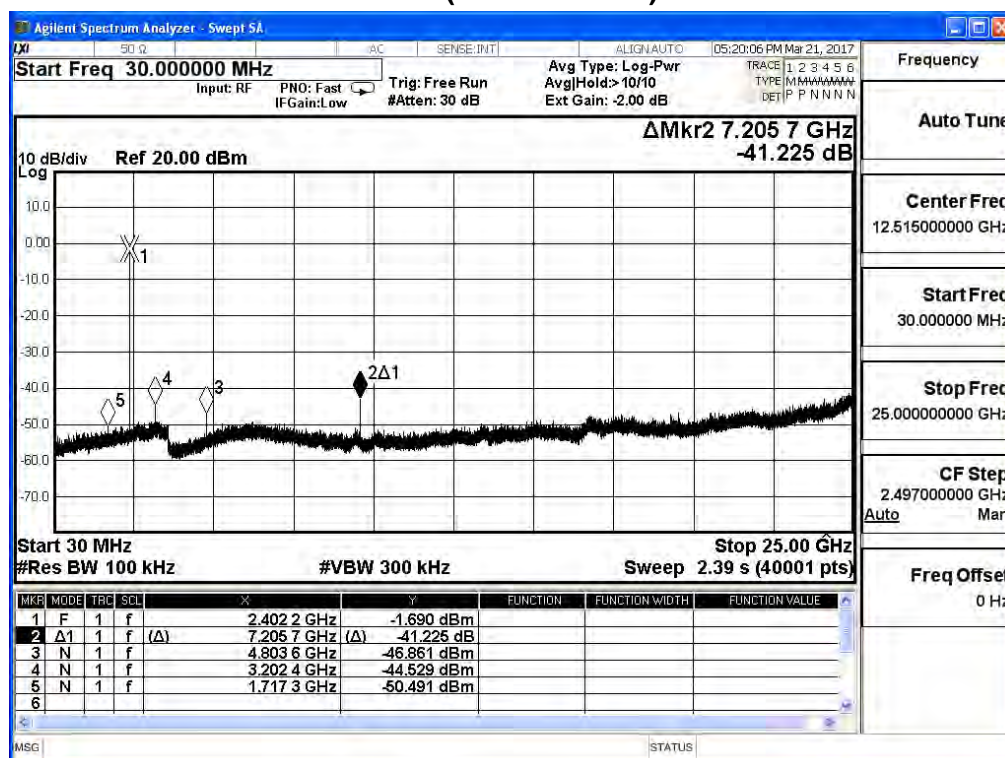
**8-DPSK**

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	51.380	$\geq 20$	Pass
78	2480	51.281	$\geq 20$	Pass

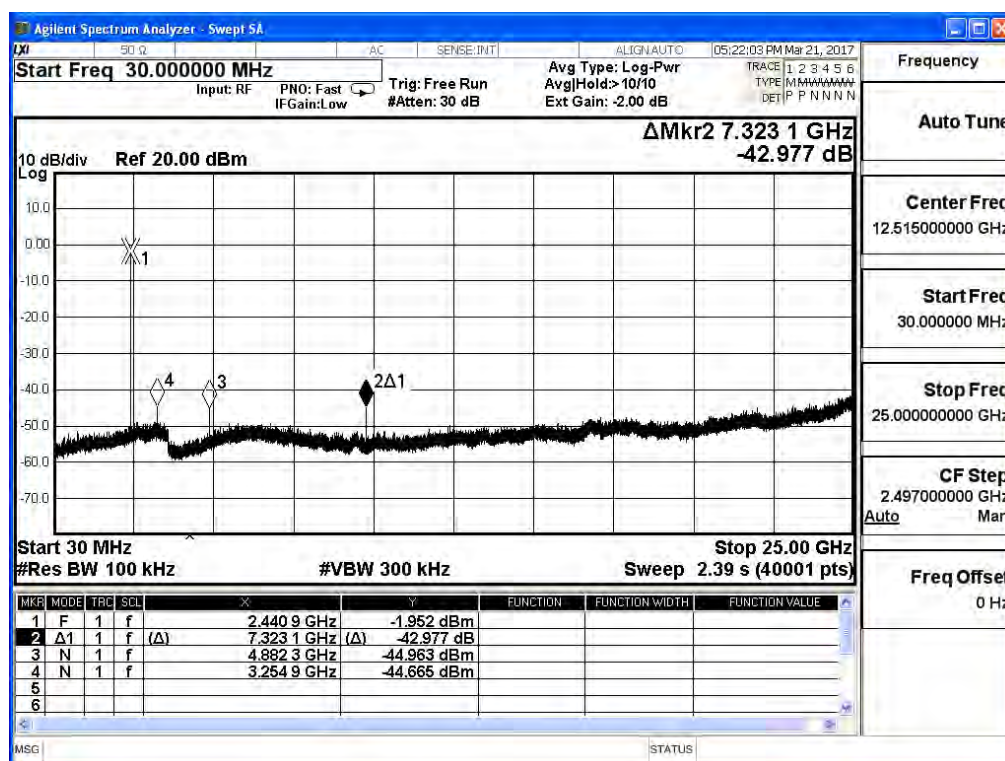
**Channel 00****Channel 78**

Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

## Channel 00 (30MHz-25GHz)- GFSK

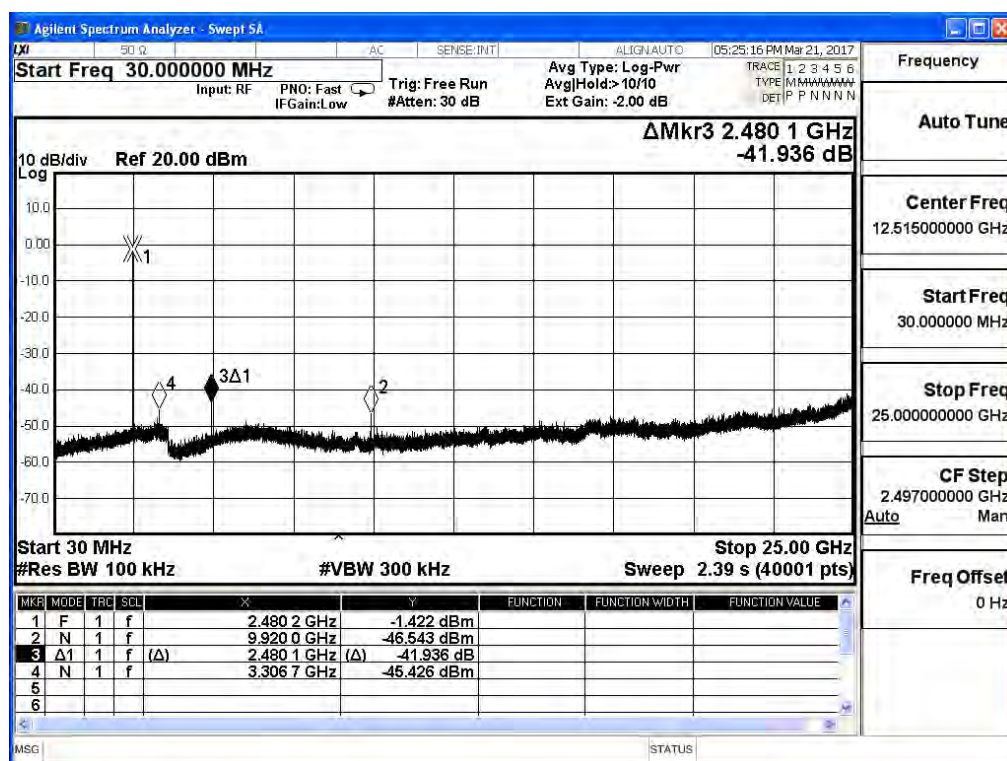


## Channel 39 (30MHz-25GHz)- GFSK

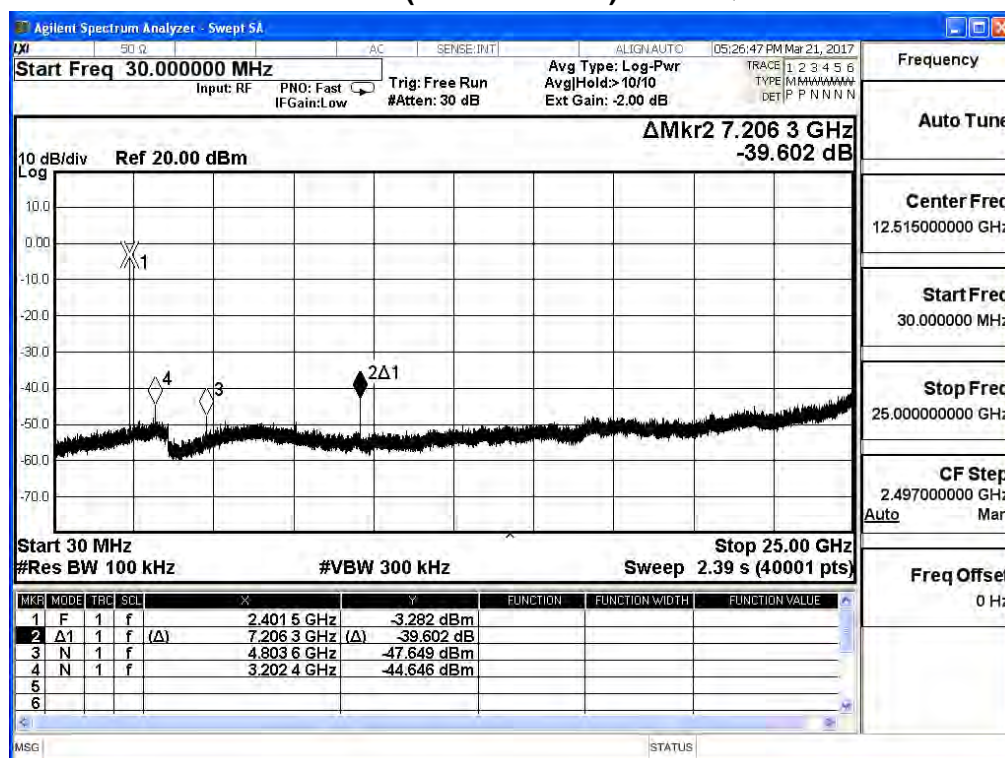
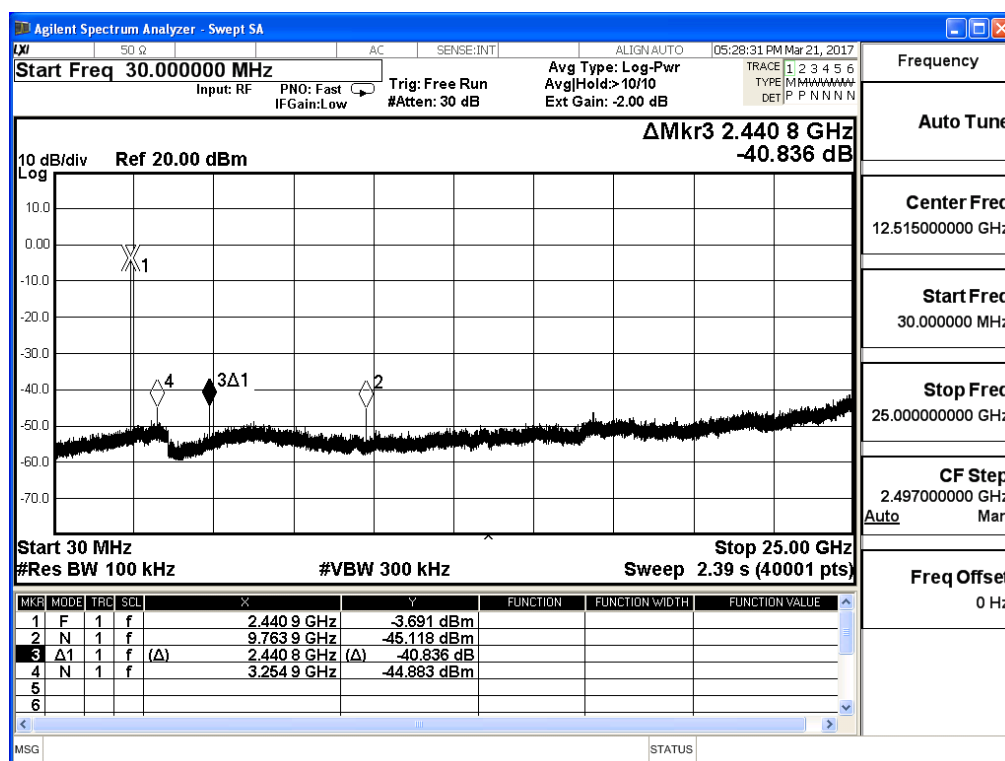




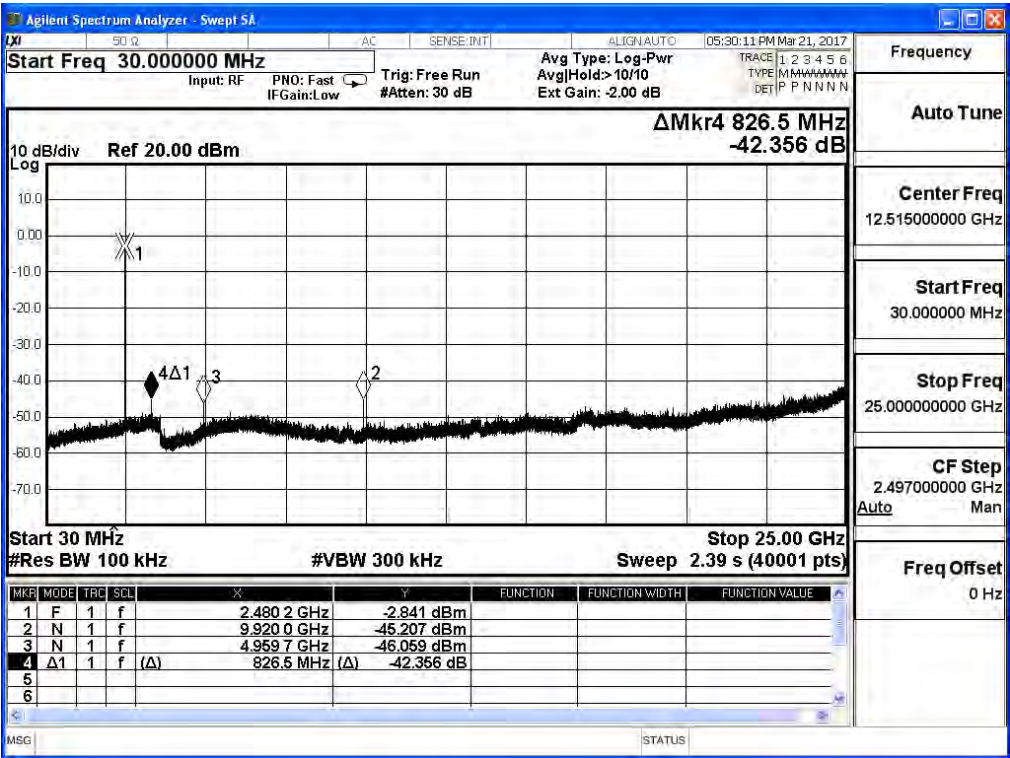
## Channel 78 (30MHz-25GHz)- GFSK



Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

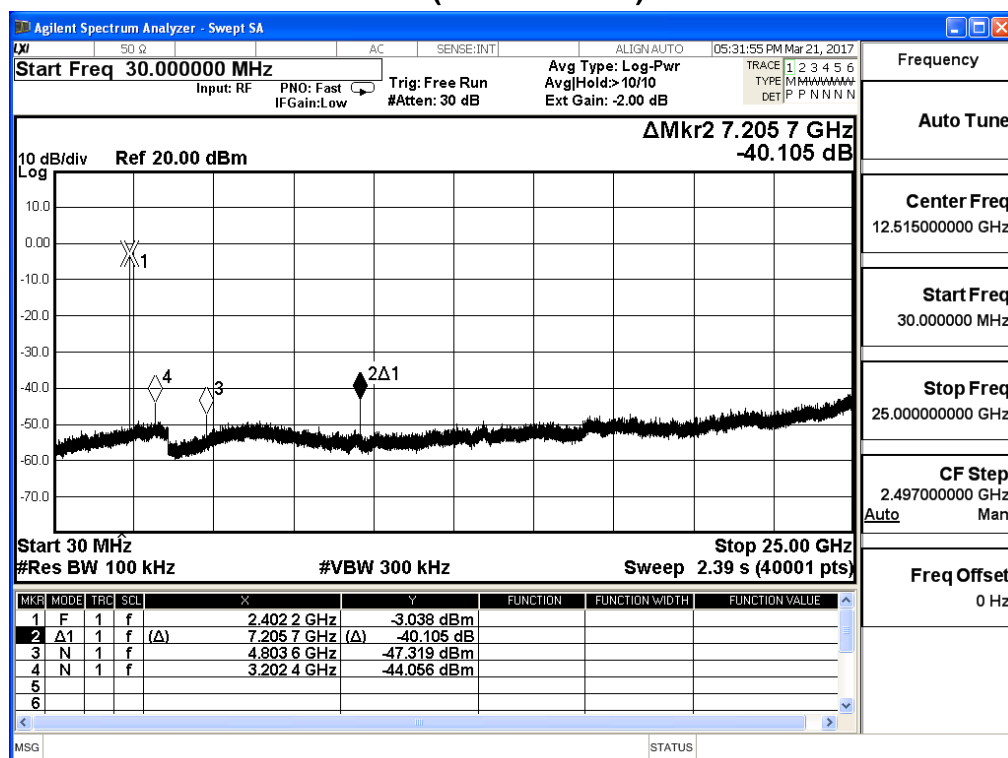
Channel 00 (30MHz-25GHz)-  $\pi/4$ -DQPSKChannel 39 (30MHz-25GHz)-  $\pi/4$ -DQPSK

Channel 78 (30MHz-25GHz)-  $\pi/4$ -DQPSK

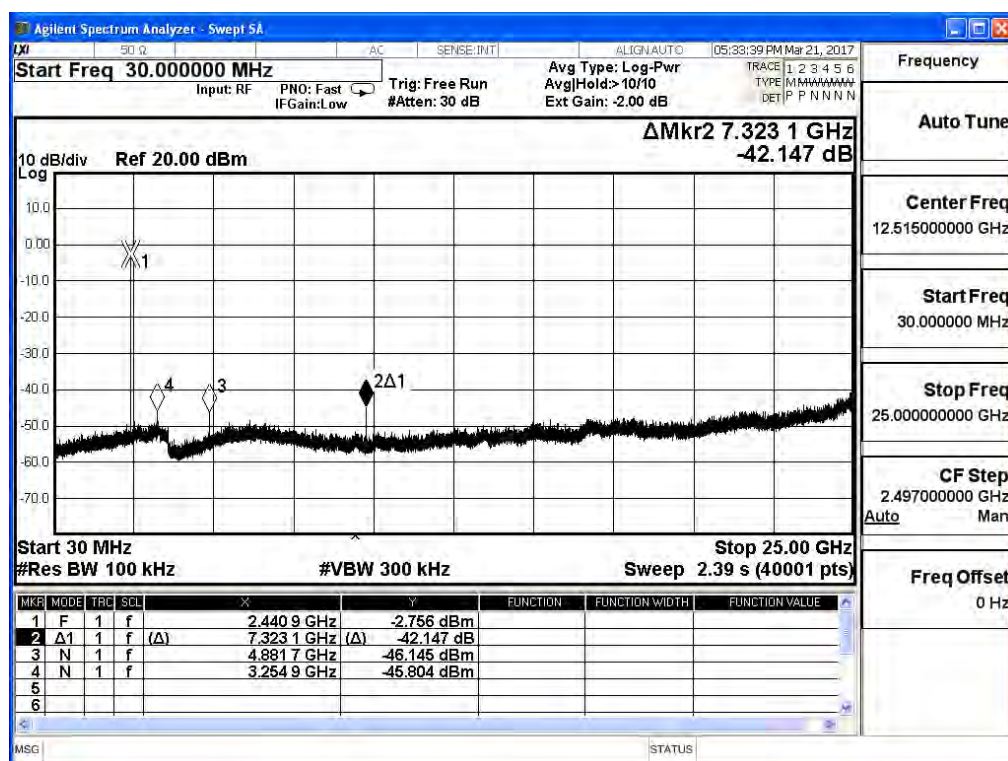


Product	UHD861-P		
Test Item	RF antenna conducted test		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

## Channel 00 (30MHz-25GHz)- 8-DPSK

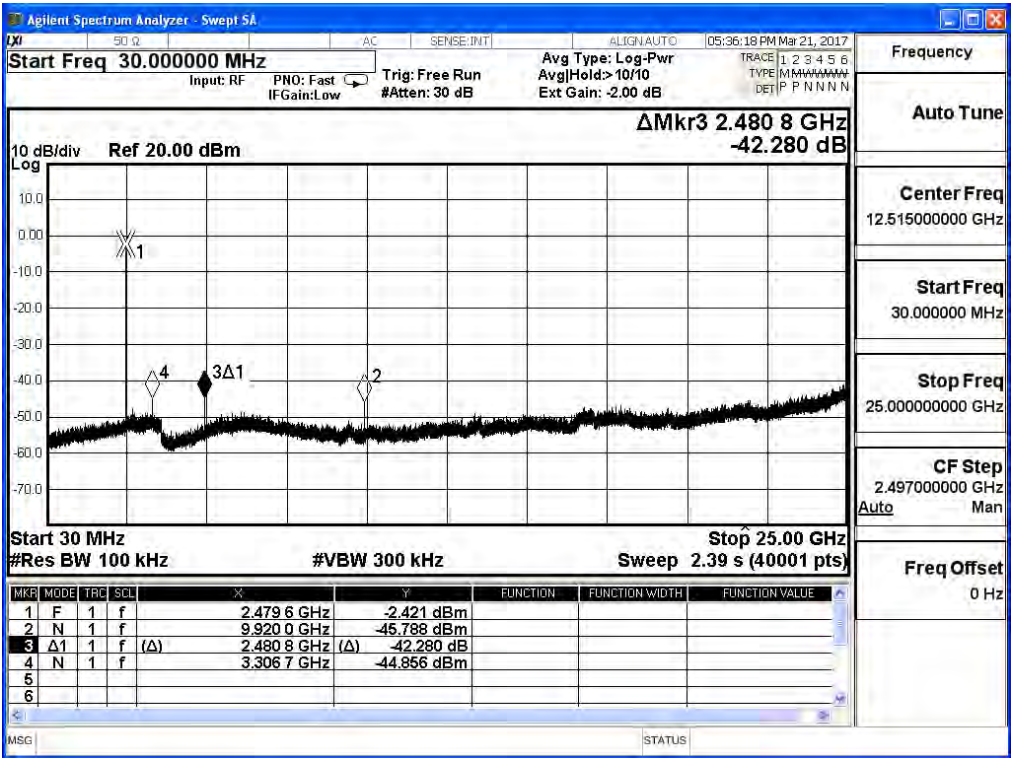


## Channel 39 (30MHz-25GHz)- 8-DPSK





Channel 78 (30MHz-25GHz)- 8-DPSK





## 6. Band Edge

### 6.1. Test Equipment

The following test equipment are used during the test:

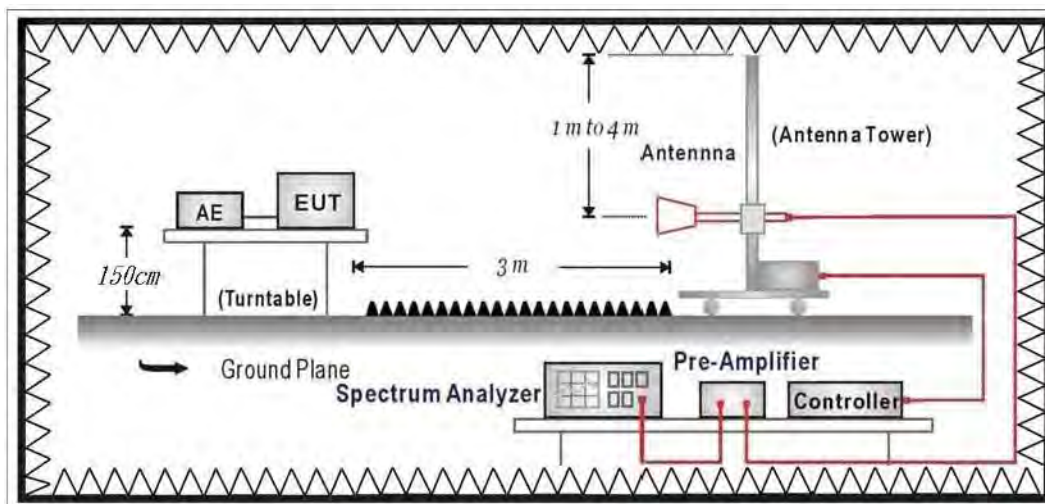
Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/05

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 6.2. Test Setup

RF Radiated Measurement:



### **6.3. 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.

### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 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. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

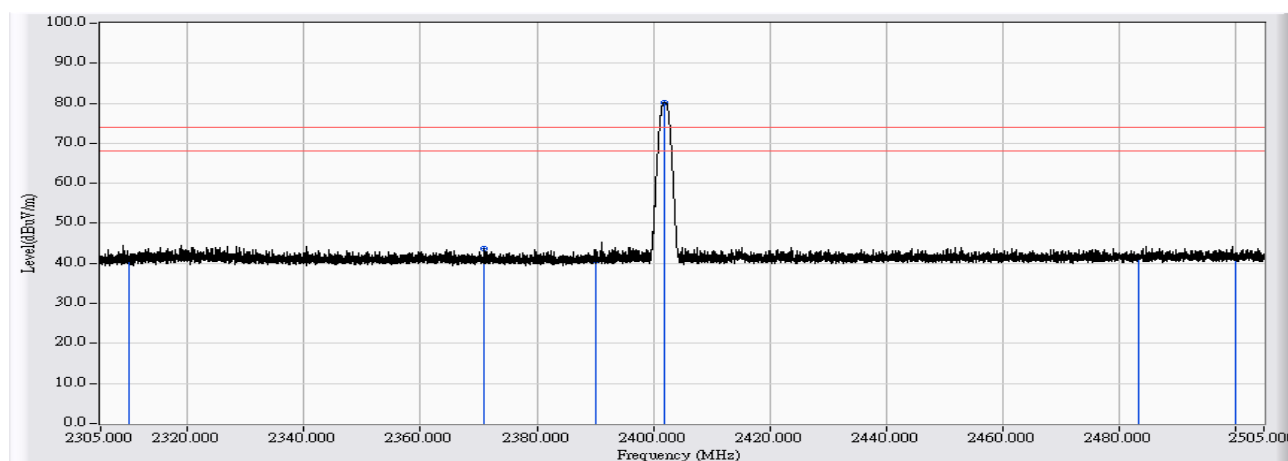
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

### **6.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

## 6.6. Test Result

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz

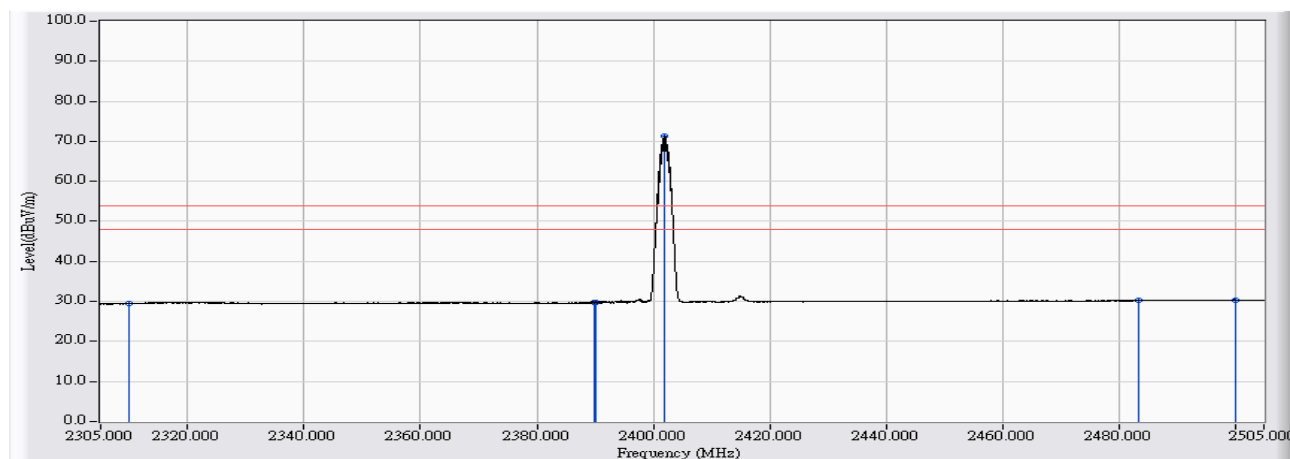


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.514	40.529	-33.471	74.000	PEAK
2		2371.013	11.419	32.205	43.623	-30.377	74.000	PEAK
3		2390.000	11.544	29.090	40.634	-33.366	74.000	PEAK
4	*	2401.850	11.623	68.634	80.257	6.257	74.000	PEAK
5		2483.500	12.172	29.275	41.447	-32.553	74.000	PEAK
6		2500.000	12.274	29.292	41.567	-32.433	74.000	PEAK

### Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz

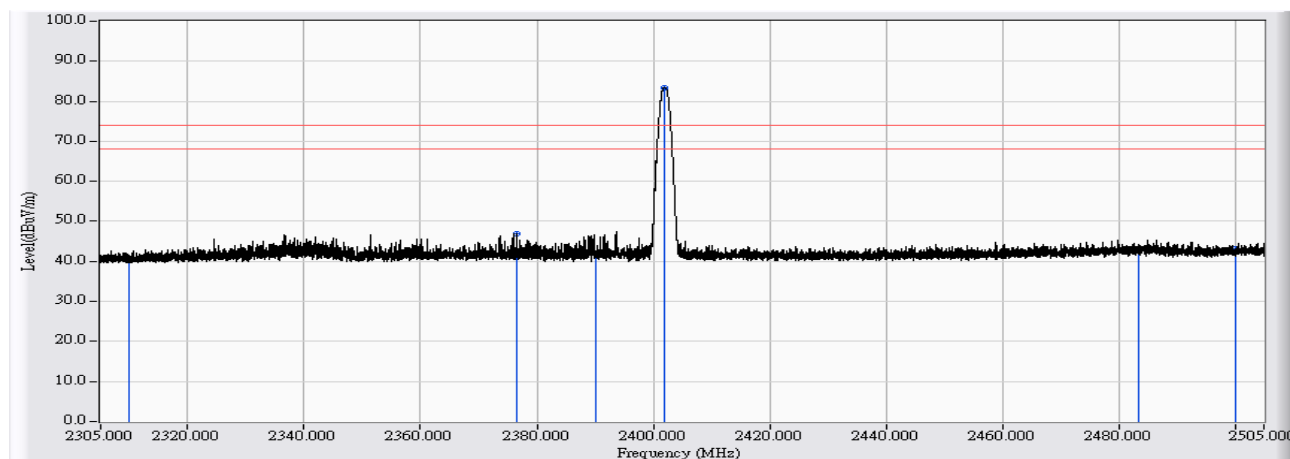


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.385	29.400	-24.600	54.000	AVERAGE
2		2389.771	11.542	18.249	29.791	-24.209	54.000	AVERAGE
3		2390.000	11.544	18.284	29.828	-24.172	54.000	AVERAGE
4	*	2402.010	11.625	59.691	71.315	17.315	54.000	AVERAGE
5		2483.500	12.172	18.032	30.204	-23.796	54.000	AVERAGE
6		2500.000	12.274	18.070	30.345	-23.655	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz

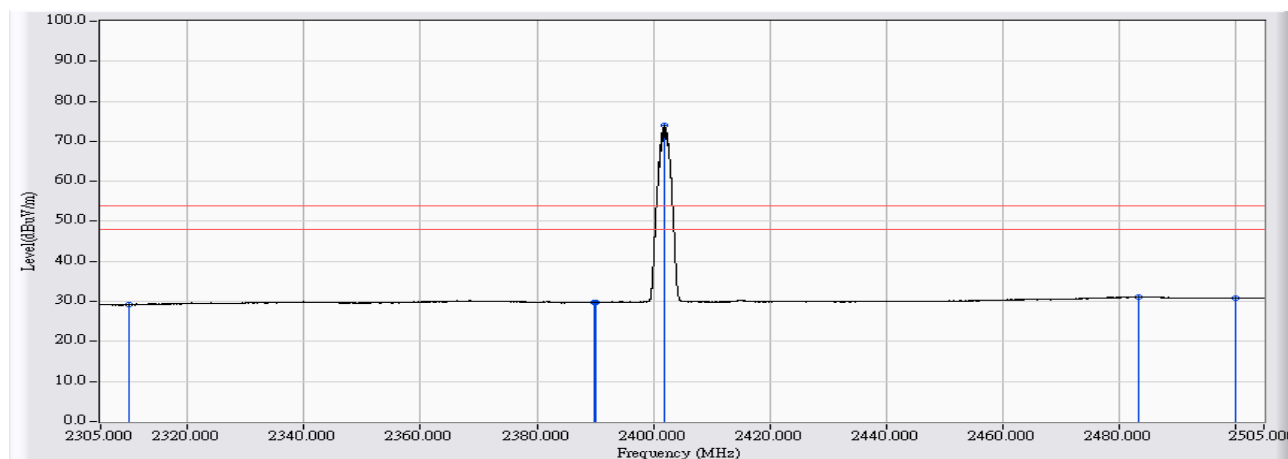


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.853	40.868	-33.132	74.000	PEAK
2		2376.493	11.454	35.507	46.961	-27.039	74.000	PEAK
3		2390.000	11.544	30.605	42.149	-31.851	74.000	PEAK
4	*	2401.830	11.623	71.772	83.395	9.395	74.000	PEAK
5		2483.500	12.172	30.380	42.552	-31.448	74.000	PEAK
6		2500.000	12.274	30.950	43.225	-30.775	74.000	PEAK

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2402MHz

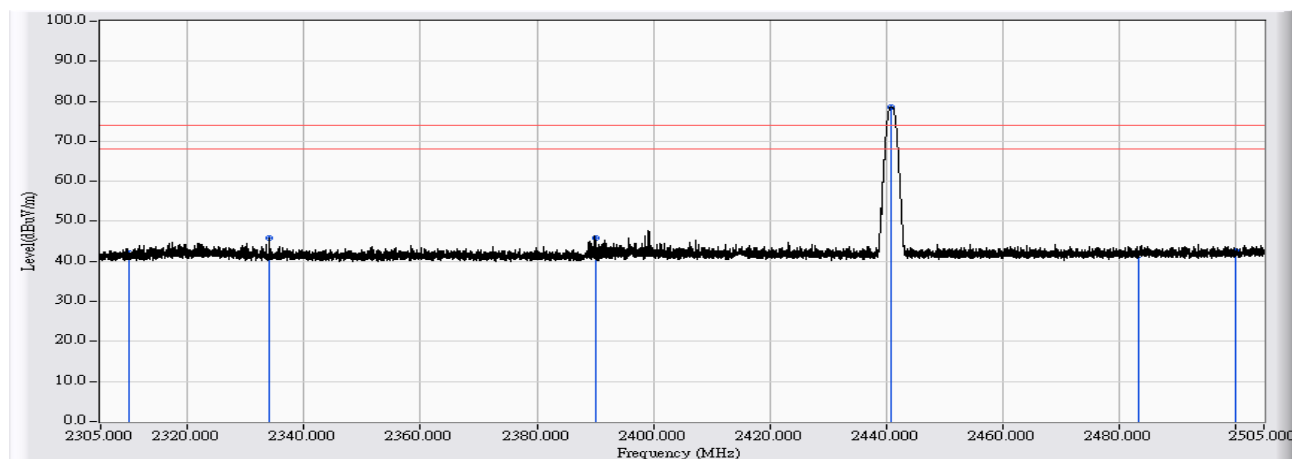


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.257	29.272	-24.728	54.000	AVERAGE
2		2389.851	11.542	18.272	29.815	-24.185	54.000	AVERAGE
3		2390.000	11.544	18.288	29.832	-24.168	54.000	AVERAGE
4	*	2401.930	11.623	62.286	73.910	19.910	54.000	AVERAGE
5		2483.500	12.172	18.853	31.025	-22.975	54.000	AVERAGE
6		2500.000	12.274	18.609	30.884	-23.116	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz

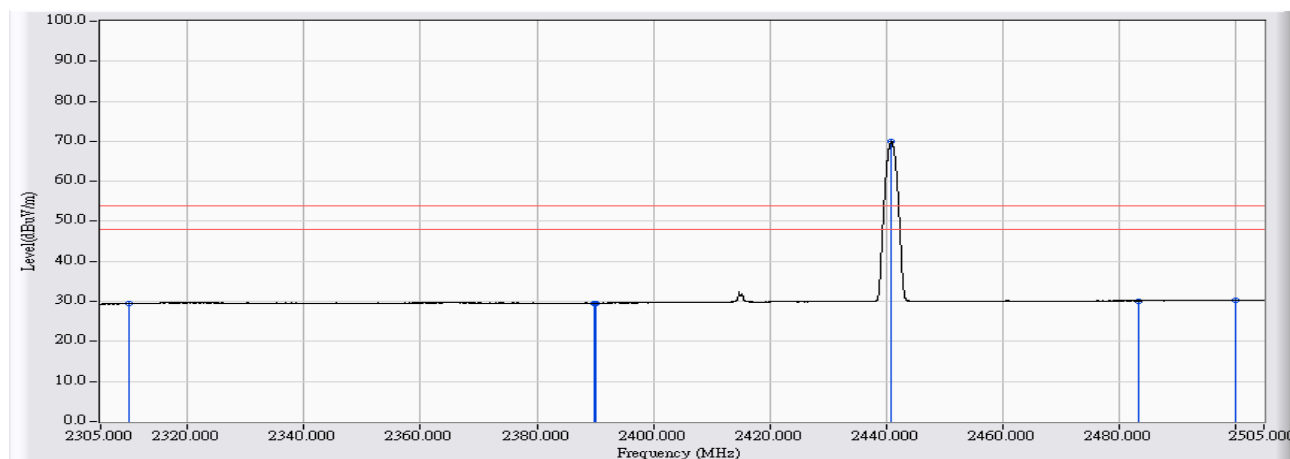


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	31.069	42.084	-31.916	74.000	PEAK
2		2334.097	11.174	34.688	45.862	-28.138	74.000	PEAK
3		2390.000	11.544	34.249	45.793	-28.207	74.000	PEAK
4	*	2440.826	11.886	66.782	78.667	4.667	74.000	PEAK
5		2483.500	12.172	29.447	41.619	-32.381	74.000	PEAK
6		2500.000	12.274	30.293	42.568	-31.432	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz



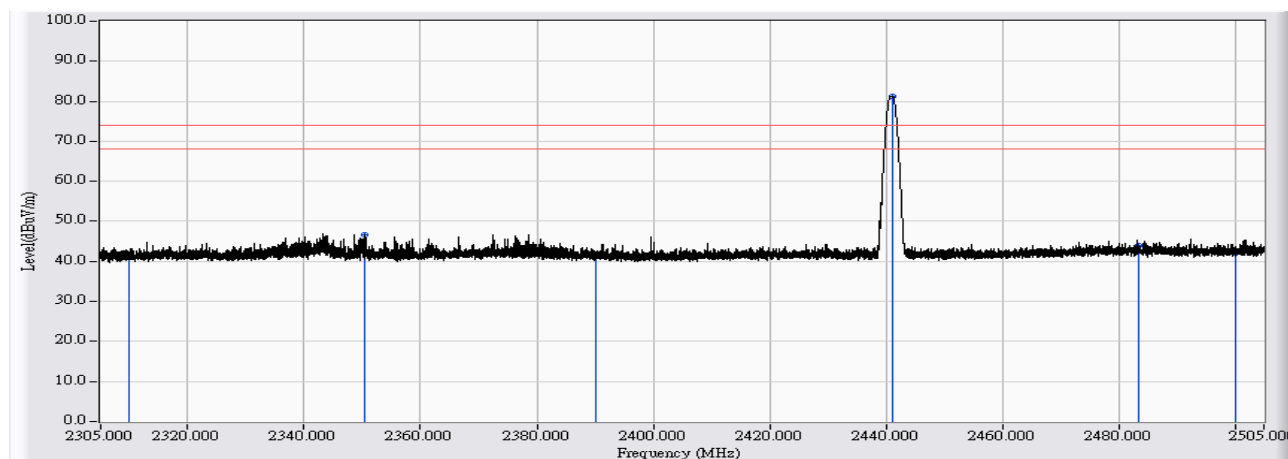
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.401	29.416	-24.584	54.000	AVERAGE
2		2389.751	11.542	17.941	29.483	-44.517	74.000	AVERAGE
3		2390.000	11.544	17.937	29.481	-24.519	54.000	AVERAGE
4	*	2440.906	11.886	58.049	69.935	15.935	54.000	AVERAGE
5		2483.500	12.172	17.987	30.159	-23.841	54.000	AVERAGE
6		2500.000	12.274	18.137	30.412	-23.588	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz

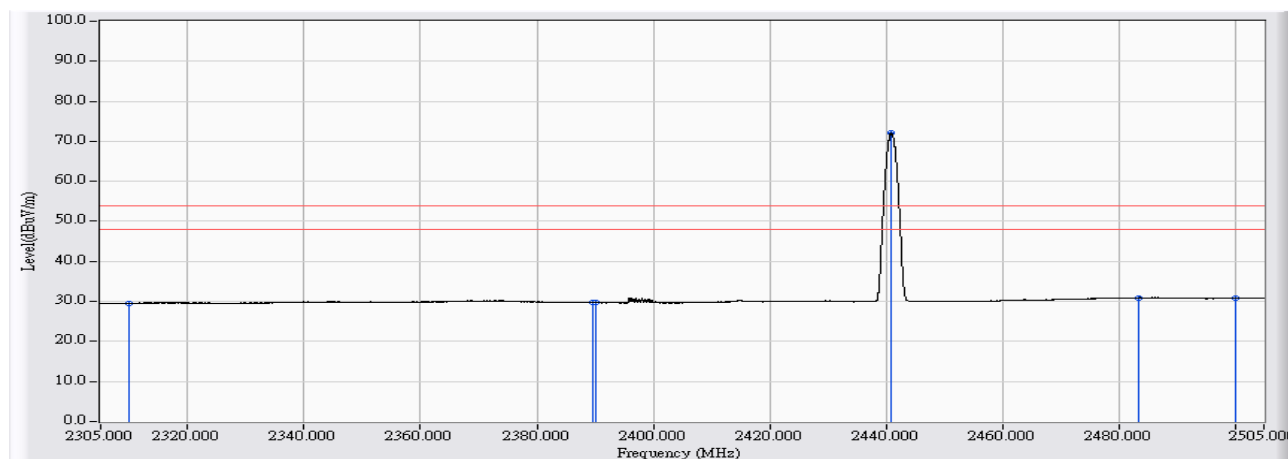


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	11.014	30.318	41.333	-32.667	74.000	PEAK
2	2350.395	11.281	35.371	46.653	-27.347	74.000	PEAK
3	2390.000	11.544	30.087	41.631	-32.369	74.000	PEAK
4	* 2441.106	11.887	69.423	81.310	7.310	74.000	PEAK
5	2483.500	12.172	31.669	43.841	-30.159	74.000	PEAK
6	2500.000	12.274	29.714	41.989	-32.011	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2441MHz

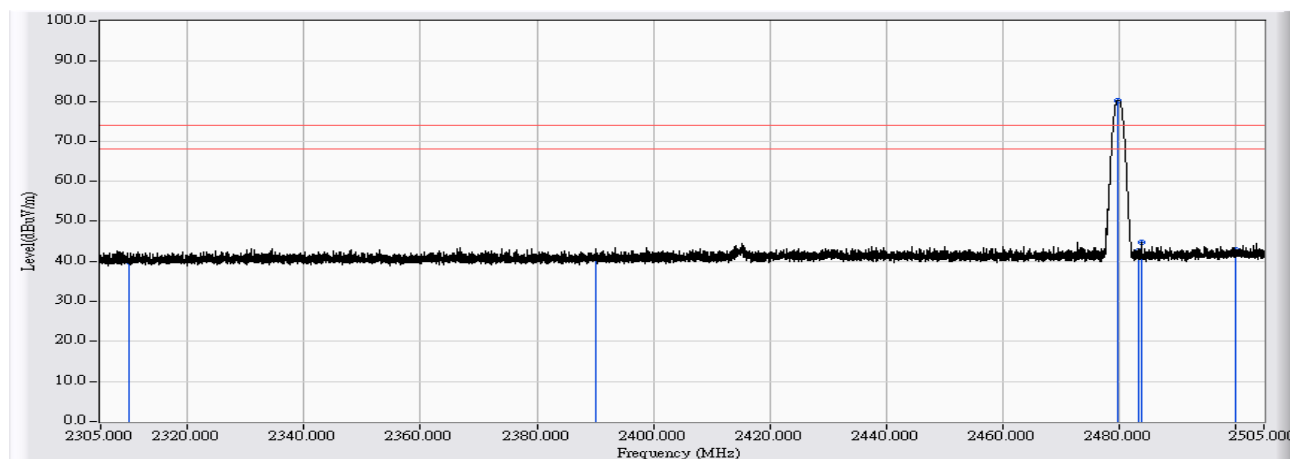


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.512	29.527	-24.473	54.000	AVERAGE
2		2389.491	11.541	18.182	29.722	-24.278	54.000	AVERAGE
3		2390.000	11.544	18.101	29.645	-24.355	54.000	AVERAGE
4	*	2440.926	11.886	60.273	72.159	18.159	54.000	AVERAGE
5		2483.500	12.172	18.752	30.924	-23.076	54.000	AVERAGE
6		2500.000	12.274	18.520	30.795	-23.205	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz

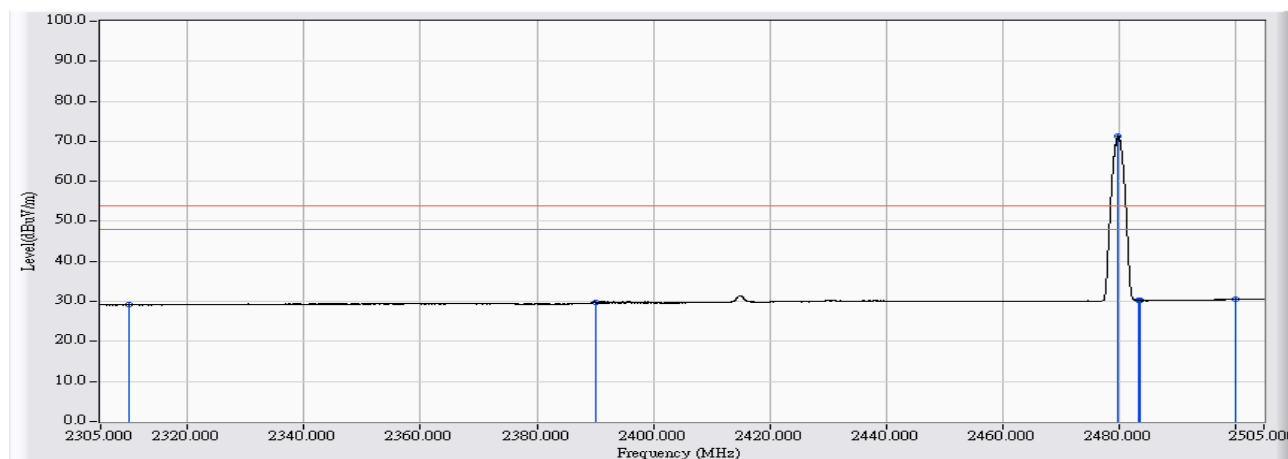


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	28.853	39.868	-34.132	74.000	PEAK
2		2390.000	11.544	29.730	41.274	-32.726	74.000	PEAK
3	*	2479.822	12.147	68.144	80.292	6.292	74.000	PEAK
4		2483.500	12.172	30.397	42.569	-31.431	74.000	PEAK
5		2483.962	12.175	32.722	44.897	-29.103	74.000	PEAK
6		2500.000	12.274	30.500	42.775	-31.225	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz

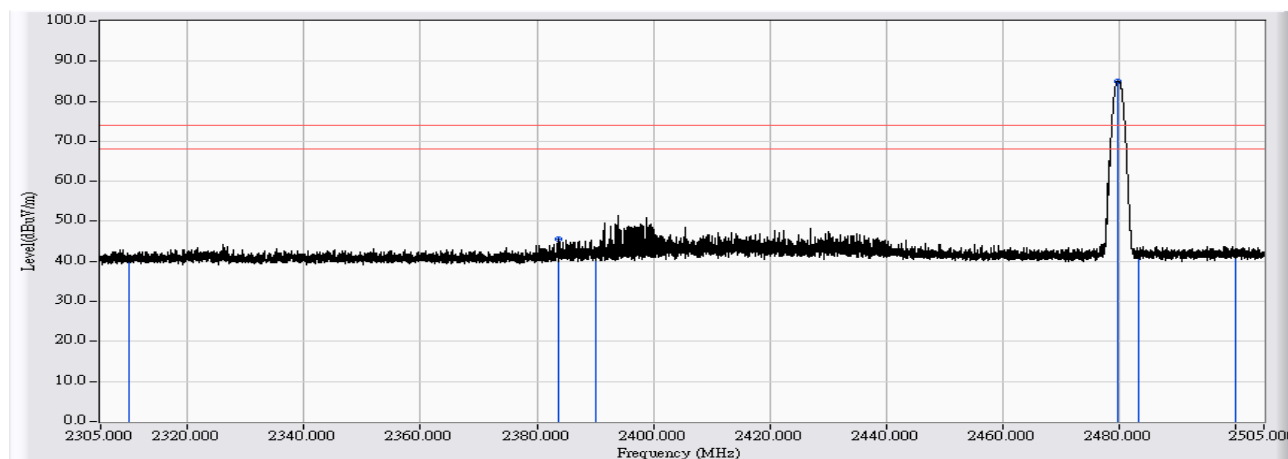


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.141	29.156	-24.844	54.000	AVERAGE
2		2390.000	11.544	18.121	29.665	-24.335	54.000	AVERAGE
3	*	2479.942	12.149	59.202	71.350	17.350	54.000	AVERAGE
4		2483.500	12.172	18.043	30.215	-23.785	54.000	AVERAGE
5		2483.602	12.172	18.047	30.220	-23.780	54.000	AVERAGE
6		2500.000	12.274	18.360	30.635	-23.365	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz

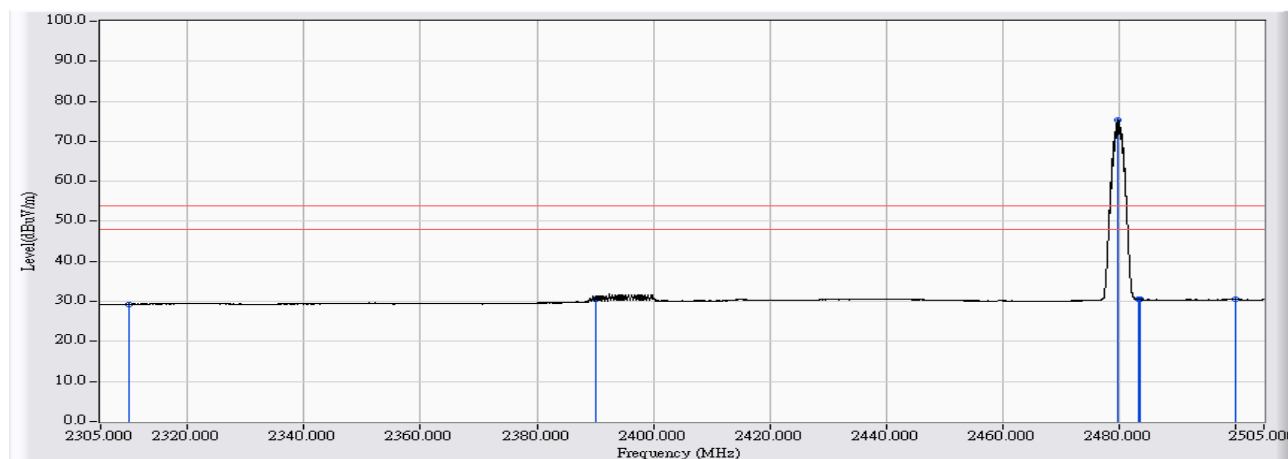


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.099	40.114	-33.886	74.000	PEAK
2		2383.772	11.503	34.149	45.652	-28.348	74.000	PEAK
3		2390.000	11.544	29.940	41.484	-32.516	74.000	PEAK
4	*	2479.802	12.147	72.770	84.918	10.918	74.000	PEAK
5		2483.500	12.172	29.918	42.090	-31.910	74.000	PEAK
6		2500.000	12.274	29.845	42.120	-31.880	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 1: Tx_DH5_802.15.1_2480MHz

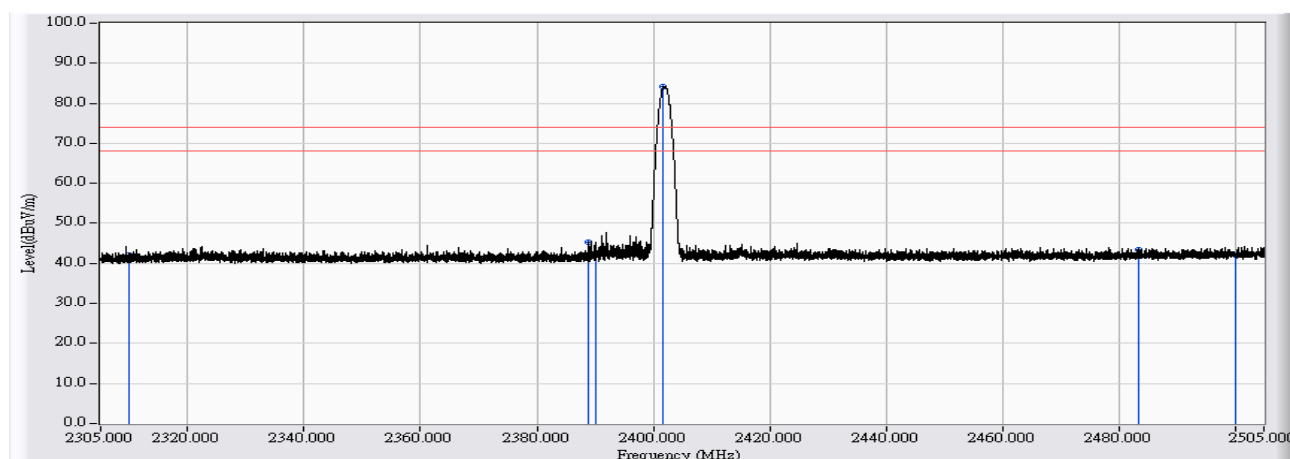


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.326	29.341	-24.659	54.000	AVERAGE
2		2390.000	11.544	18.954	30.498	-23.502	54.000	AVERAGE
3	*	2479.942	12.149	63.156	75.304	21.304	54.000	AVERAGE
4		2483.500	12.172	18.300	30.472	-23.528	54.000	AVERAGE
5		2483.602	12.172	18.293	30.466	-23.534	54.000	AVERAGE
6		2500.000	12.274	18.259	30.534	-23.466	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz

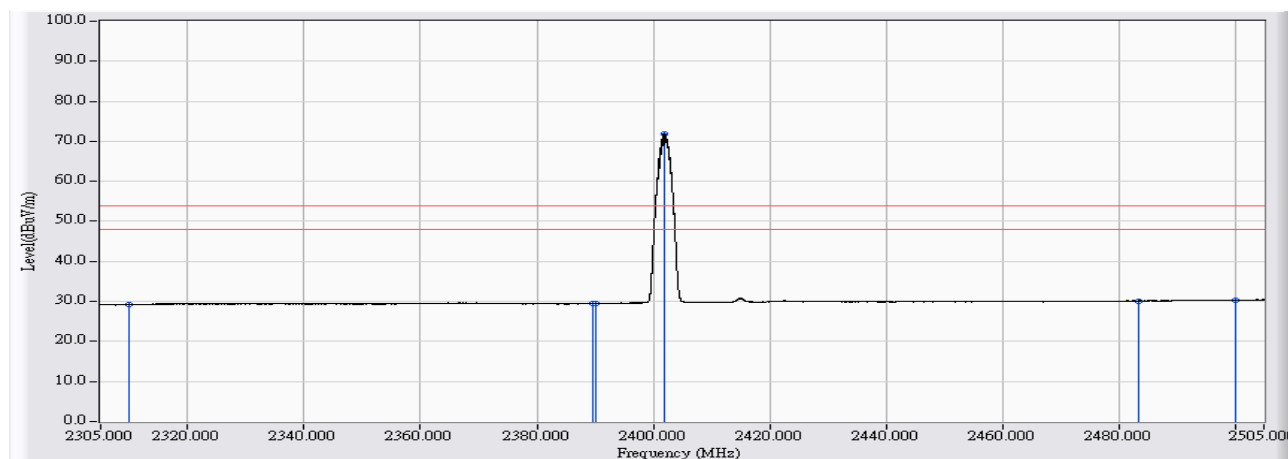


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	30.996	42.011	-31.989	74.000	PEAK
2		2388.872	11.536	33.653	45.189	-28.811	74.000	PEAK
3		2390.000	11.544	30.880	42.424	-31.576	74.000	PEAK
4	*	2401.790	11.622	72.534	84.157	10.157	74.000	PEAK
5		2483.500	12.172	31.328	43.500	-30.500	74.000	PEAK
6		2500.000	12.274	29.917	42.192	-31.808	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz



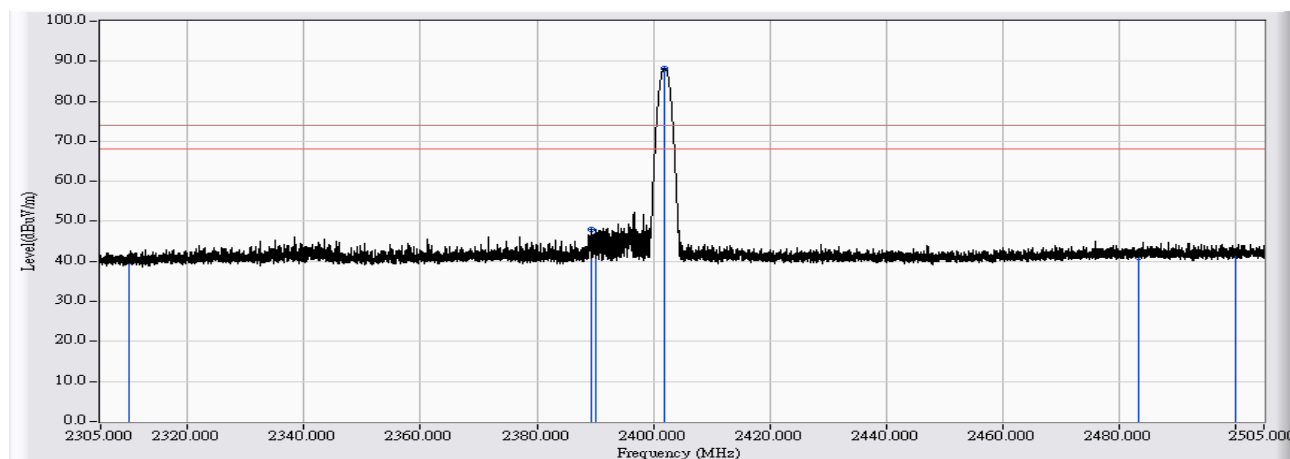
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.225	29.240	-24.760	54.000	AVERAGE
2		2389.491	11.541	17.915	29.455	-24.545	54.000	AVERAGE
3		2390.000	11.544	17.944	29.488	-24.512	54.000	AVERAGE
4	*	2401.950	11.623	60.317	71.941	17.941	54.000	AVERAGE
5		2483.500	12.172	17.956	30.128	-23.872	54.000	AVERAGE
6		2500.000	12.274	18.079	30.354	-23.646	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz

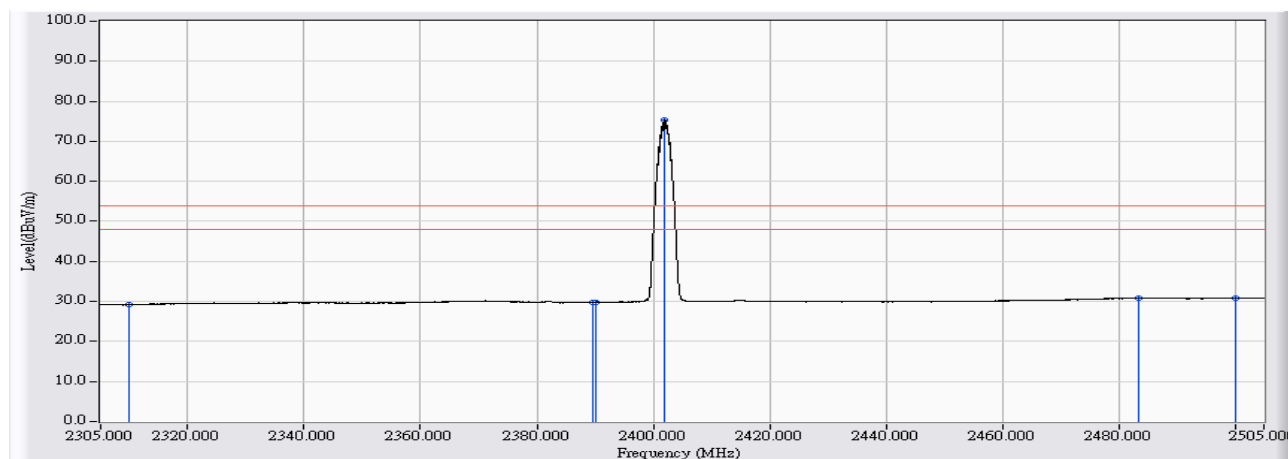


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.062	40.077	-33.923	74.000	PEAK
2		2389.371	11.539	36.319	47.859	-26.141	74.000	PEAK
3		2390.000	11.544	34.735	46.279	-27.721	74.000	PEAK
4	*	2401.870	11.623	76.621	88.244	14.244	74.000	PEAK
5		2483.500	12.172	28.797	40.969	-33.031	74.000	PEAK
6		2500.000	12.274	29.829	42.104	-31.896	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2402MHz

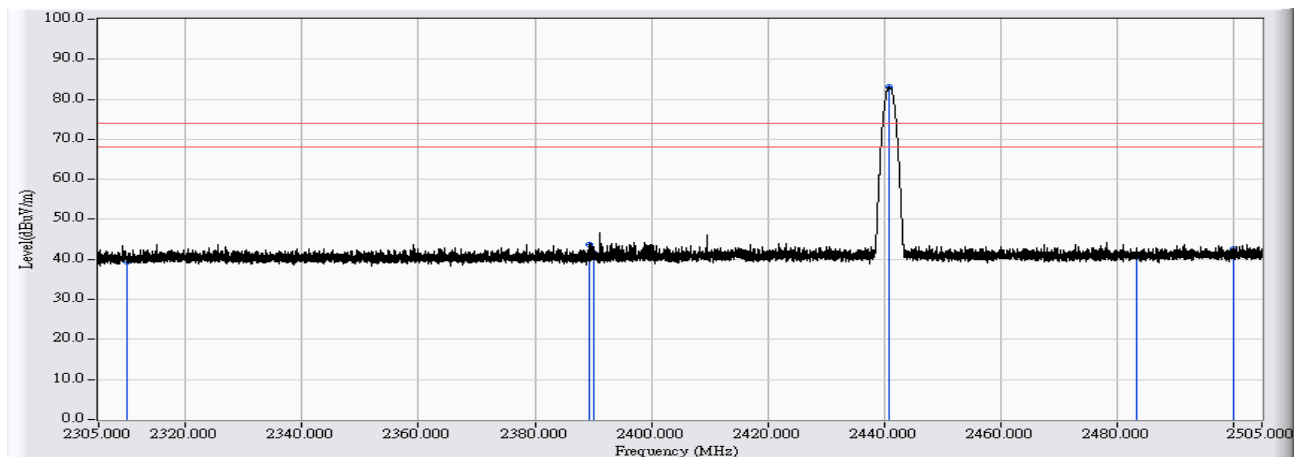


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.140	29.155	-24.845	54.000	AVERAGE
2		2389.651	11.542	18.257	29.798	-24.202	54.000	AVERAGE
3		2390.000	11.544	18.211	29.755	-24.245	54.000	AVERAGE
4	*	2401.930	11.623	63.581	75.205	21.205	54.000	AVERAGE
5		2483.500	12.172	18.679	30.851	-23.149	54.000	AVERAGE
6		2500.000	12.274	18.577	30.852	-23.148	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz

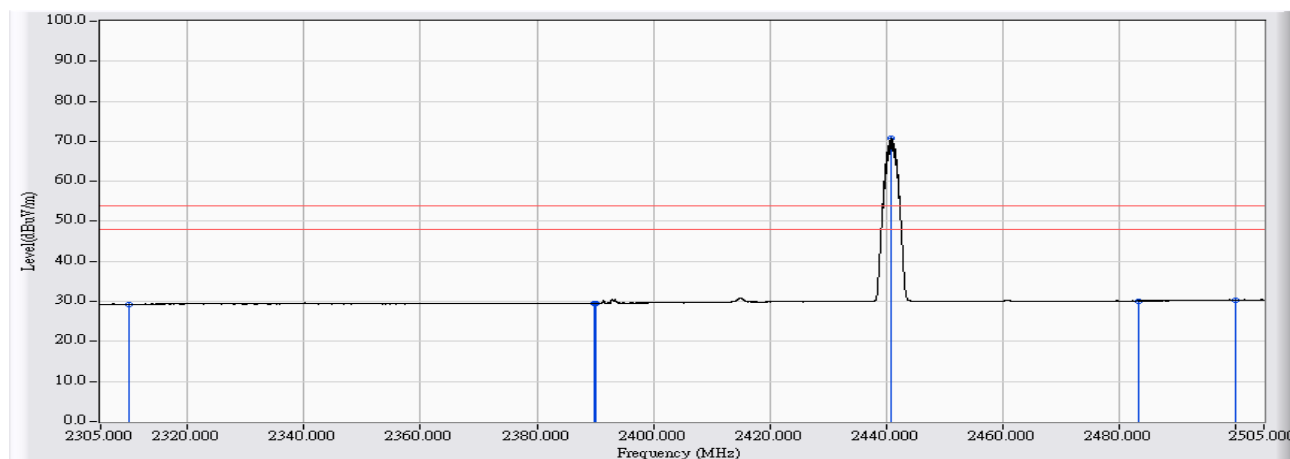


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	11.014	28.529	39.544	-34.456	74.000	PEAK
2	2389.252	11.538	32.122	43.661	-30.339	74.000	PEAK
3	2390.000	11.544	30.045	41.589	-32.411	74.000	PEAK
4	* 2440.866	11.886	71.163	83.049	9.049	74.000	PEAK
5	2483.500	12.172	28.525	40.697	-33.303	74.000	PEAK
6	2500.000	12.274	30.434	42.709	-31.291	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz

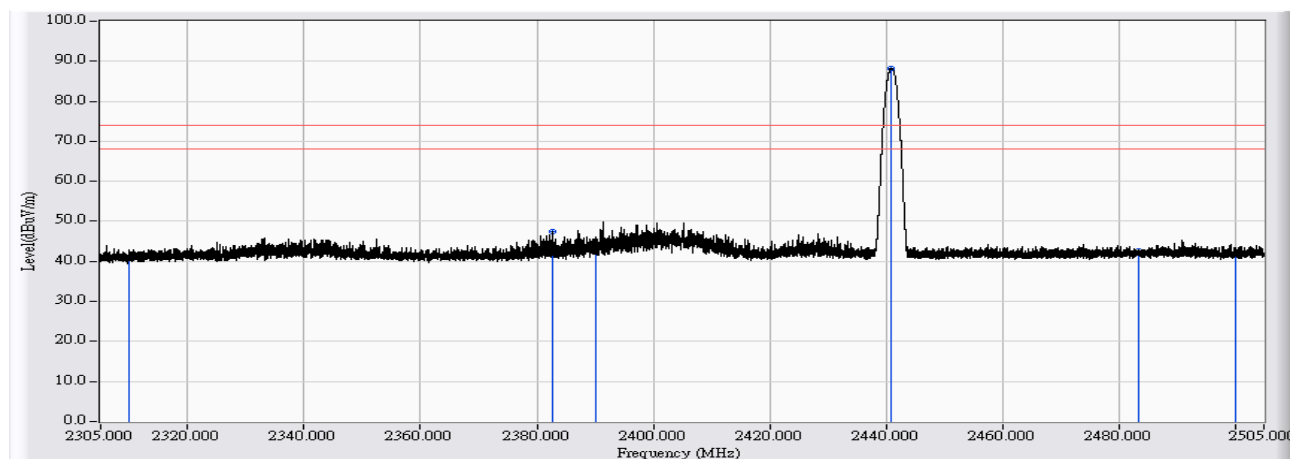


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.217	29.232	-24.768	54.000	AVERAGE
2		2389.751	11.542	17.920	29.462	-24.538	54.000	AVERAGE
3		2390.000	11.544	17.963	29.507	-24.493	54.000	AVERAGE
4	*	2440.966	11.886	58.907	70.793	16.793	54.000	AVERAGE
5		2483.500	12.172	17.969	30.141	-23.859	54.000	AVERAGE
6		2500.000	12.274	18.112	30.387	-23.613	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz

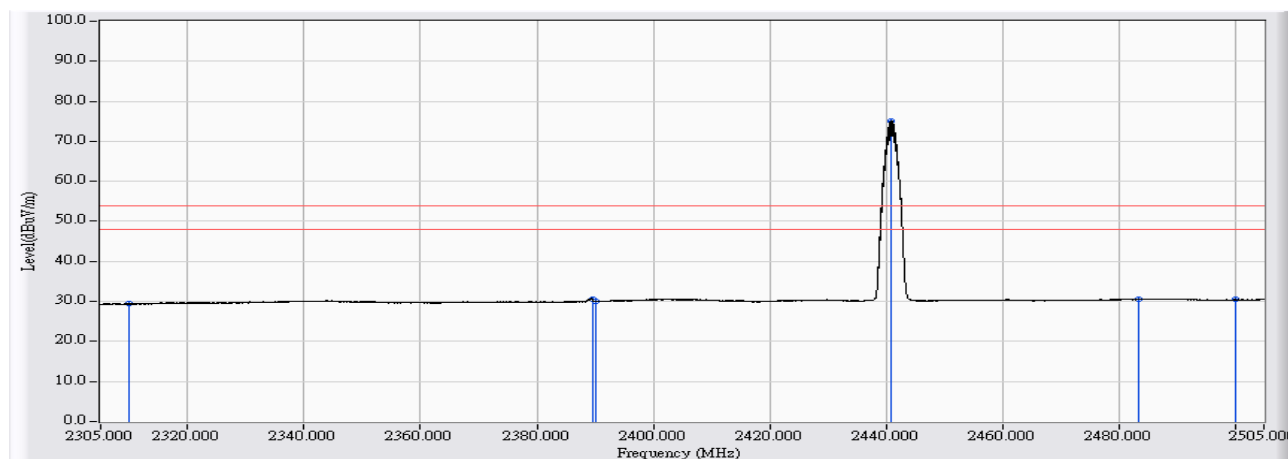


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.748	40.763	-33.237	74.000	PEAK
2		2382.632	11.494	35.906	47.401	-26.599	74.000	PEAK
3		2390.000	11.544	32.732	44.276	-29.724	74.000	PEAK
4	*	2440.866	11.886	76.398	88.284	14.284	74.000	PEAK
5		2483.500	12.172	30.334	42.506	-31.494	74.000	PEAK
6		2500.000	12.274	29.814	42.089	-31.911	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2441MHz

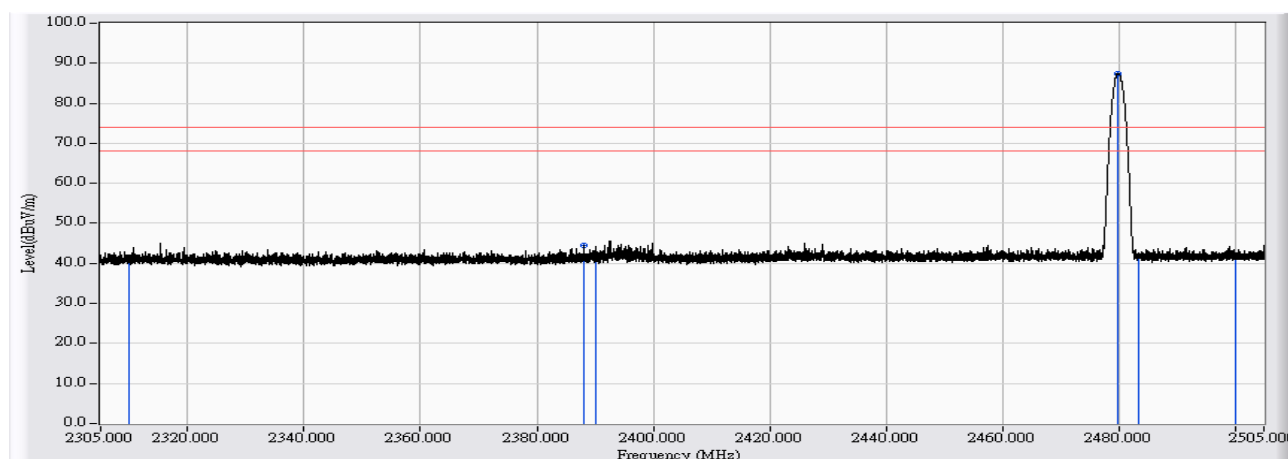


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.374	29.389	-24.611	54.000	AVERAGE
2		2389.491	11.541	18.939	30.479	-23.521	54.000	AVERAGE
3		2390.000	11.544	18.420	29.964	-24.036	54.000	AVERAGE
4	*	2440.866	11.886	63.250	75.136	21.136	54.000	AVERAGE
5		2483.500	12.172	18.345	30.517	-23.483	54.000	AVERAGE
6		2500.000	12.274	18.168	30.443	-23.557	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz

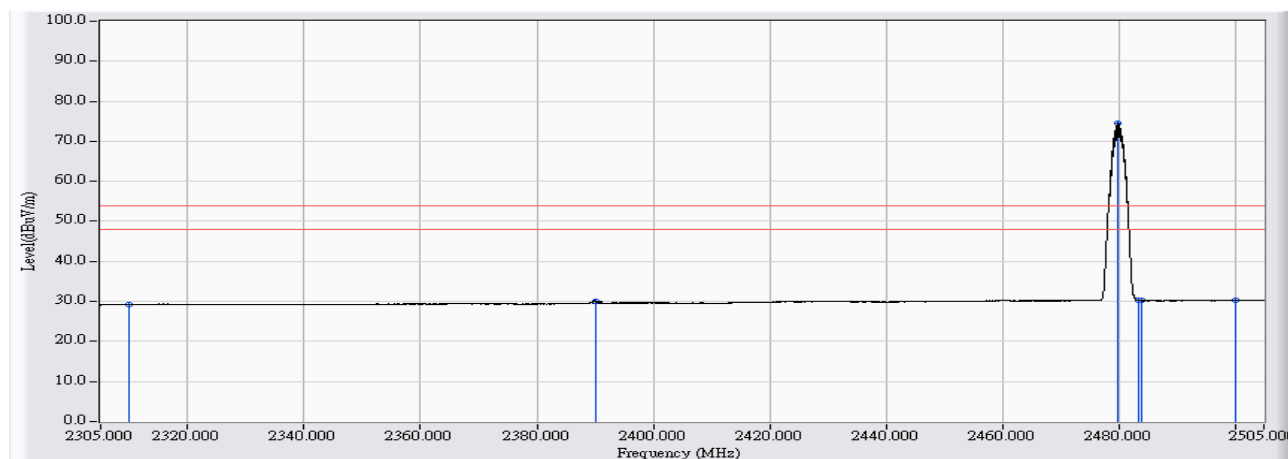


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.856	40.871	-33.129	74.000	PEAK
2		2388.072	11.531	32.865	44.396	-29.604	74.000	PEAK
3		2390.000	11.544	30.601	42.145	-31.855	74.000	PEAK
4	*	2479.822	12.147	75.213	87.361	13.361	74.000	PEAK
5		2483.500	12.172	29.551	41.723	-32.277	74.000	PEAK
6		2500.000	12.274	29.834	42.109	-31.891	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz



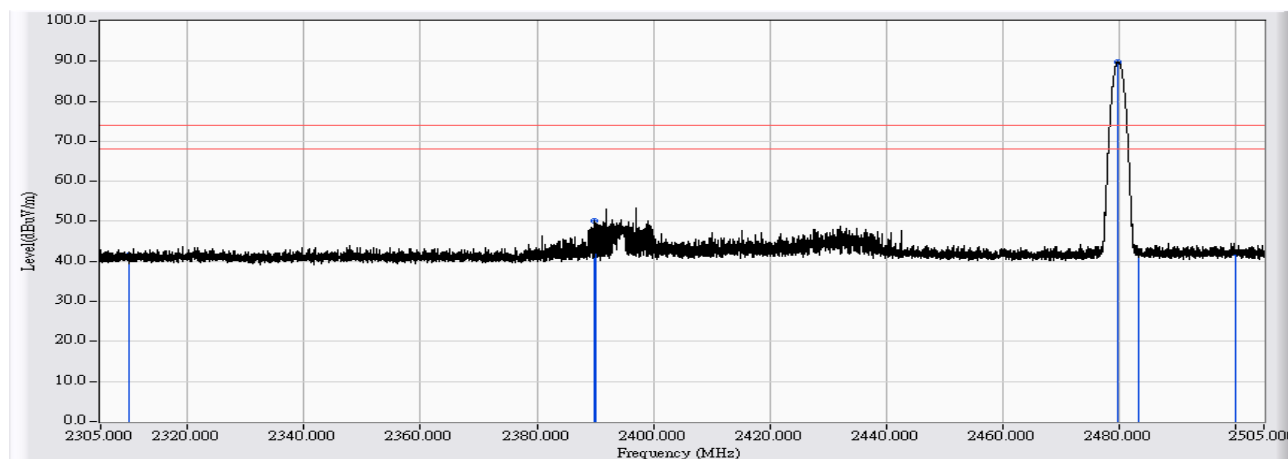
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.260	29.275	-24.725	54.000	AVERAGE
2		2390.000	11.544	18.415	29.959	-24.041	54.000	AVERAGE
3	*	2479.902	12.148	62.257	74.405	20.405	54.000	AVERAGE
4		2483.500	12.172	18.045	30.217	-23.783	54.000	AVERAGE
5		2483.862	12.175	18.021	30.196	-23.804	54.000	AVERAGE
6		2500.000	12.274	18.093	30.368	-23.632	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz

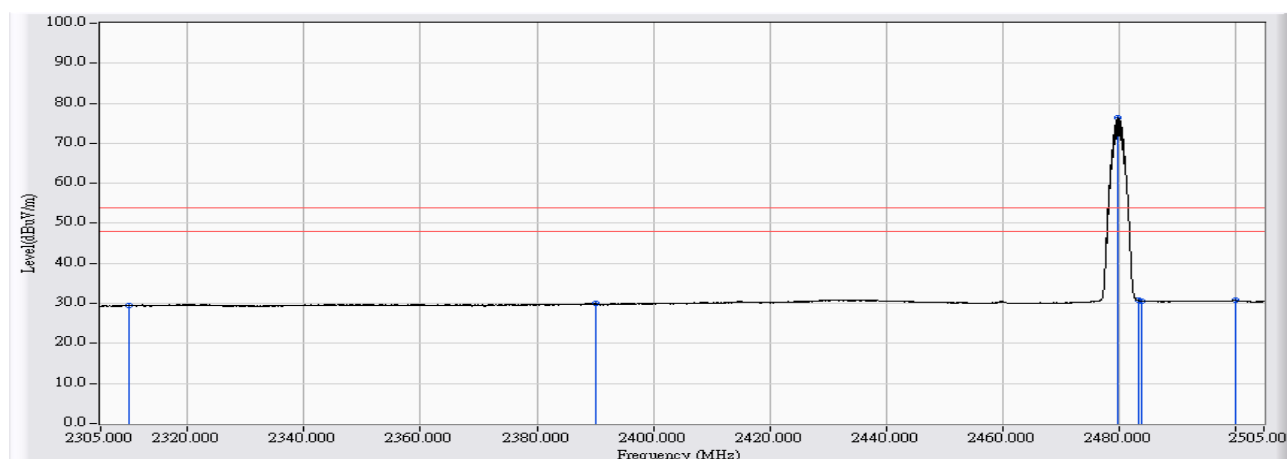


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	11.014	30.426	41.441	-32.559	74.000	PEAK
2	2389.891	11.543	38.549	50.092	-23.908	74.000	PEAK
3	2390.000	11.544	34.936	46.480	-27.520	74.000	PEAK
4	* 2479.802	12.147	77.607	89.755	15.755	74.000	PEAK
5	2483.500	12.172	30.581	42.753	-31.247	74.000	PEAK
6	2500.000	12.274	29.769	42.044	-31.956	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 2: Tx_2DH5_802.15.1_2480MHz

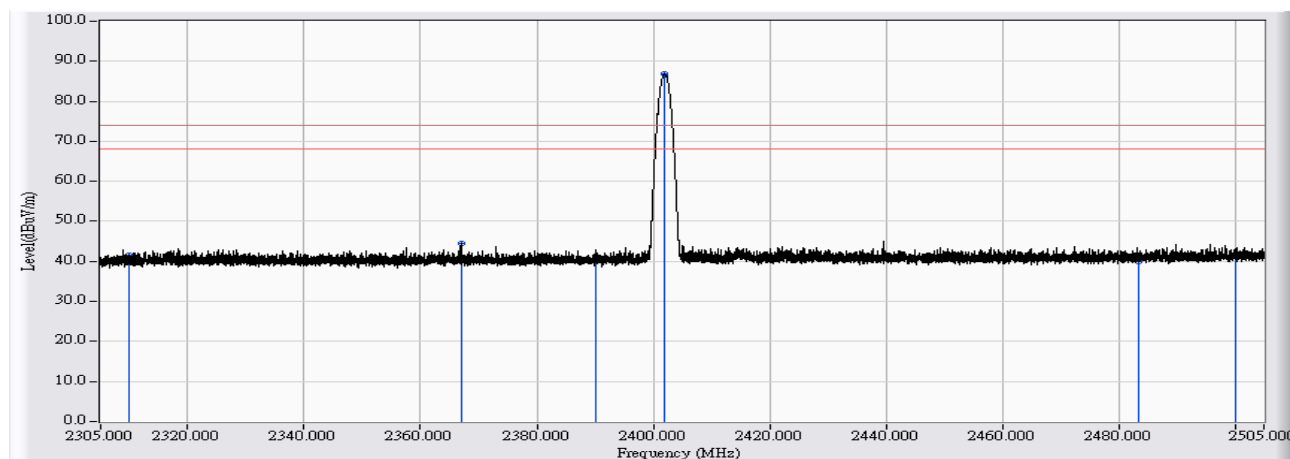


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.494	29.509	-24.491	54.000	AVERAGE
2		2390.000	11.544	18.378	29.922	-24.078	54.000	AVERAGE
3	*	2479.862	12.148	64.322	76.470	22.470	54.000	AVERAGE
4		2483.500	12.172	18.554	30.726	-23.274	54.000	AVERAGE
5		2483.862	12.175	18.437	30.612	-23.388	54.000	AVERAGE
6		2500.000	12.274	18.533	30.808	-23.192	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz

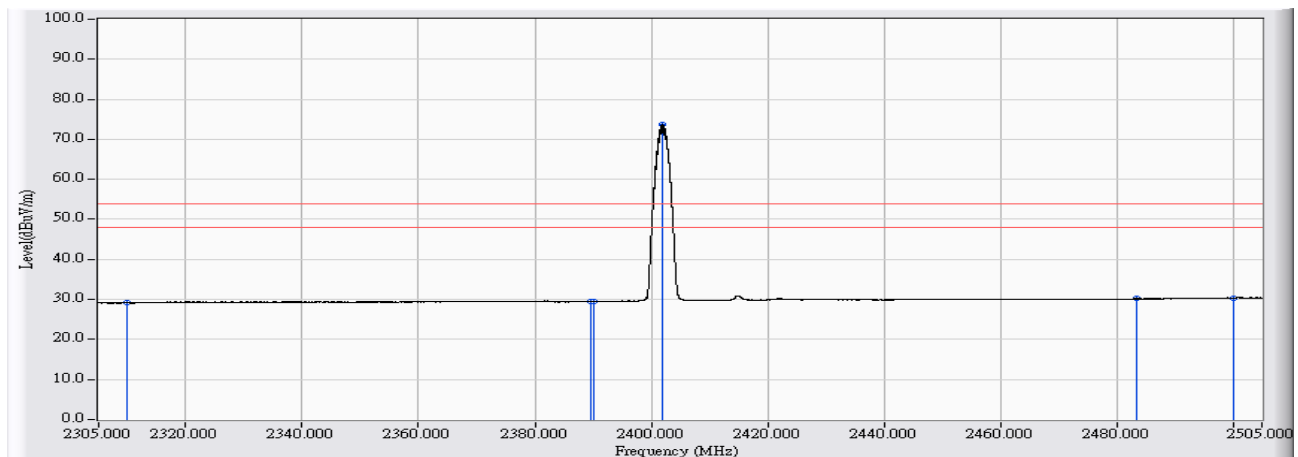


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	11.014	30.626	41.641	-32.359	74.000	PEAK
2	2366.934	11.391	33.086	44.477	-29.523	74.000	PEAK
3	2390.000	11.544	29.024	40.568	-33.432	74.000	PEAK
4	* 2401.930	11.623	75.294	86.918	12.918	74.000	PEAK
5	2483.500	12.172	27.785	39.957	-34.043	74.000	PEAK
6	2500.000	12.274	29.675	41.950	-32.050	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz

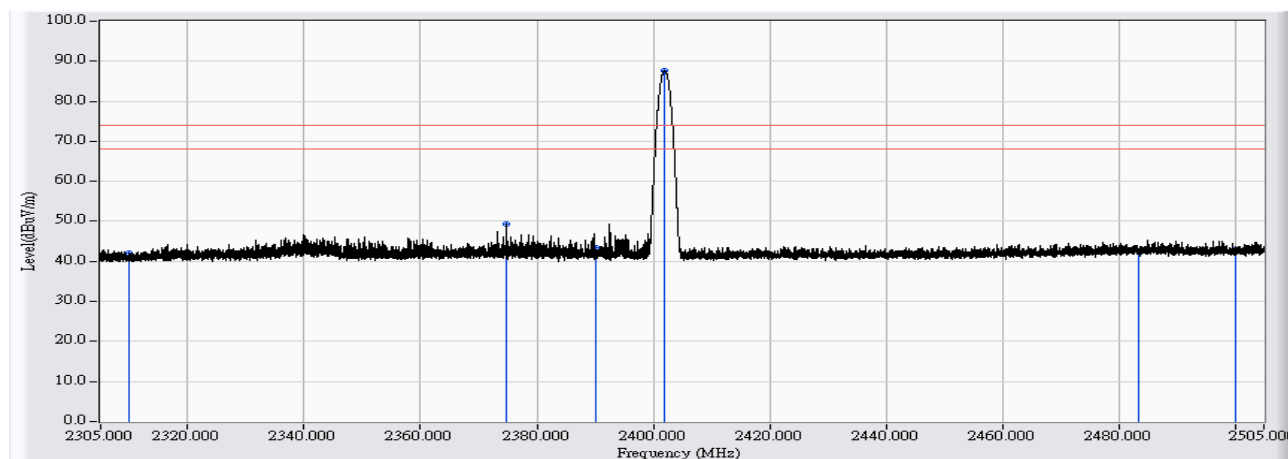


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.137	29.152	-24.848	54.000	AVERAGE
2		2389.491	11.541	17.929	29.469	-24.531	54.000	AVERAGE
3		2390.000	11.544	17.922	29.466	-24.534	54.000	AVERAGE
4	*	2401.890	11.623	62.118	73.741	19.741	54.000	AVERAGE
5		2483.500	12.172	18.012	30.184	-23.816	54.000	AVERAGE
6		2500.000	12.274	18.130	30.405	-23.595	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz

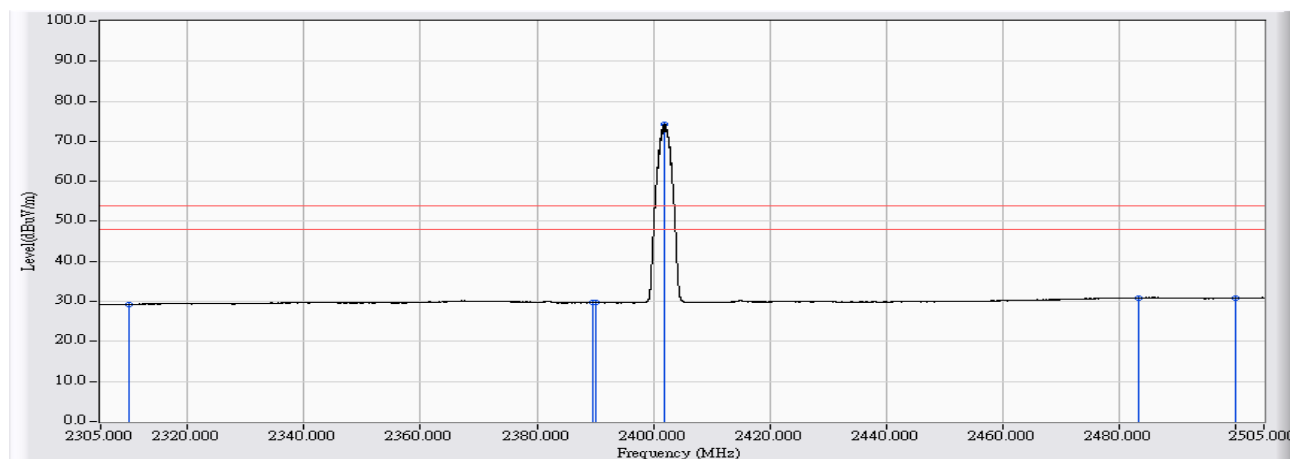


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	31.117	42.132	-31.868	74.000	PEAK
2		2374.733	11.443	37.894	49.337	-24.663	74.000	PEAK
3		2390.000	11.544	31.756	43.300	-30.700	74.000	PEAK
4	*	2401.950	11.623	75.976	87.600	13.600	74.000	PEAK
5		2483.500	12.172	30.390	42.562	-31.438	74.000	PEAK
6		2500.000	12.274	30.655	42.930	-31.070	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2402MHz

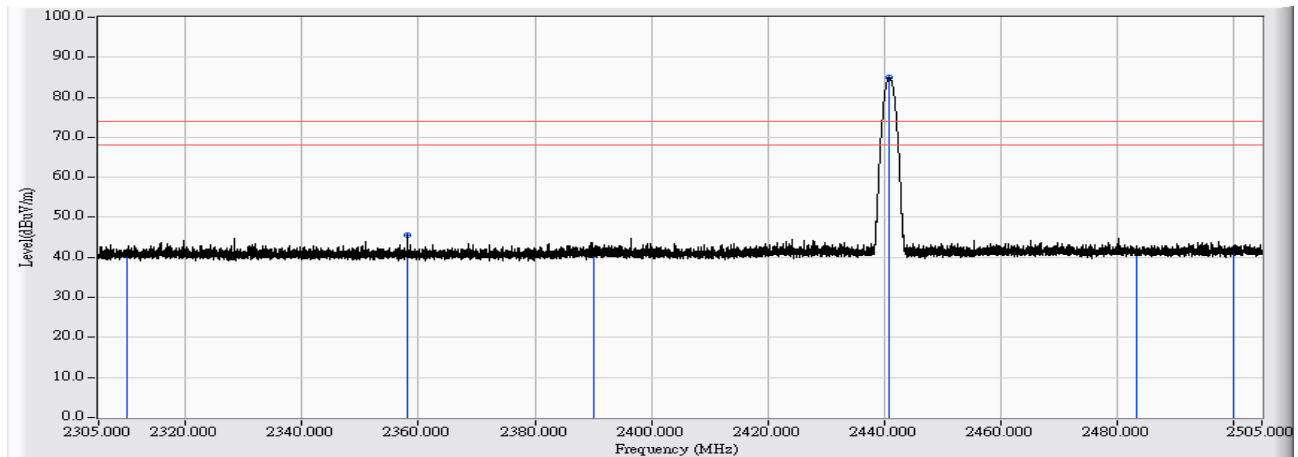


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.262	29.277	-24.723	54.000	AVERAGE
2		2389.651	11.542	18.253	29.794	-24.206	54.000	AVERAGE
3		2390.000	11.544	18.174	29.718	-24.282	54.000	AVERAGE
4	*	2401.990	11.623	62.577	74.201	20.201	54.000	AVERAGE
5		2483.500	12.172	18.738	30.910	-23.090	54.000	AVERAGE
6		2500.000	12.274	18.563	30.838	-23.162	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz

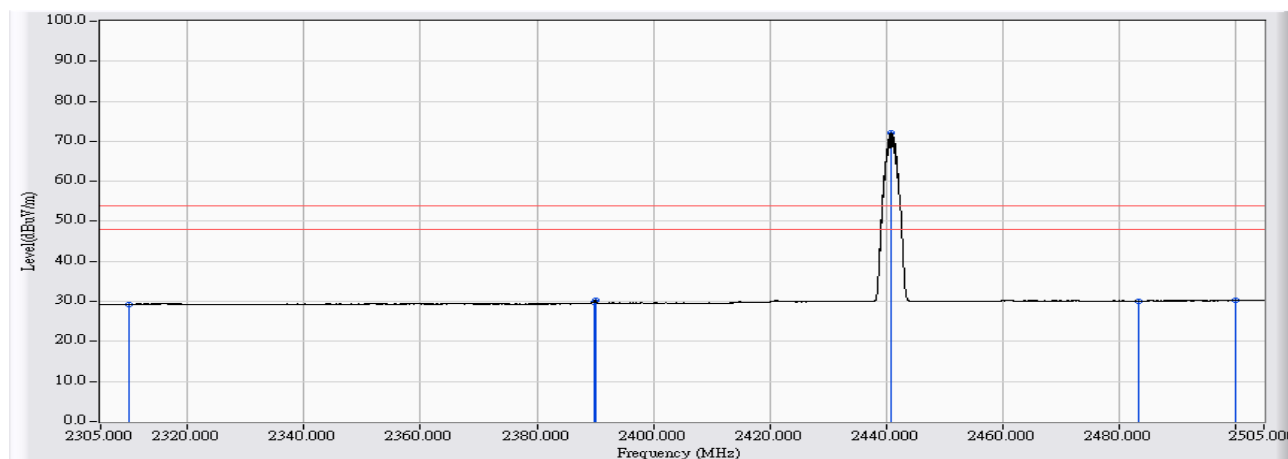


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.371	40.386	-33.614	74.000	PEAK
2		2357.975	11.332	34.349	45.681	-28.319	74.000	PEAK
3		2390.000	11.544	30.051	41.595	-32.405	74.000	PEAK
4	*	2440.906	11.886	73.026	84.912	10.912	74.000	PEAK
5		2483.500	12.172	29.090	41.262	-32.738	74.000	PEAK
6		2500.000	12.274	29.832	42.107	-31.893	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz



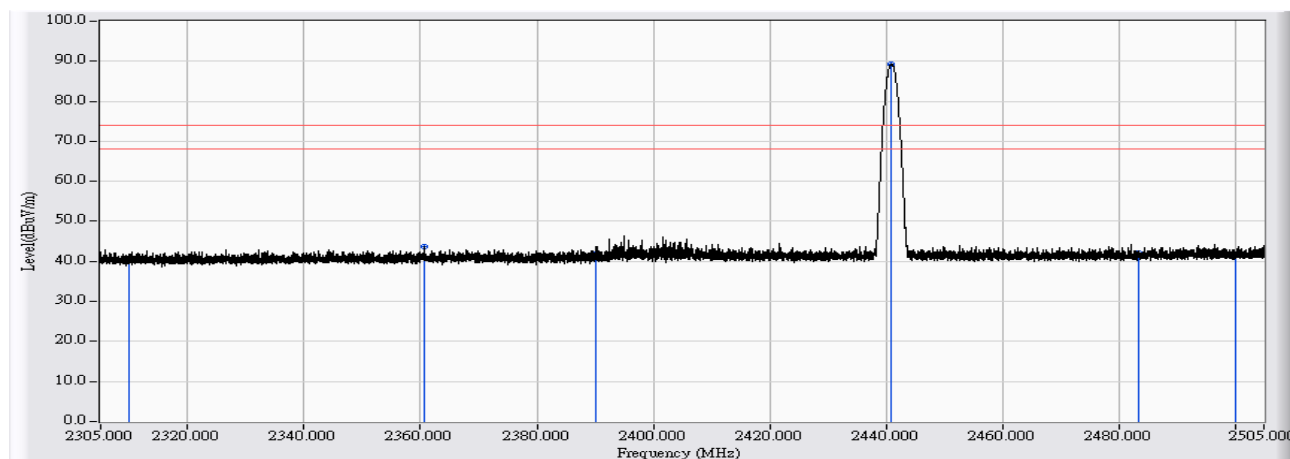
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.271	29.286	-24.714	54.000	AVERAGE
2		2389.751	11.542	18.163	29.705	-24.295	54.000	AVERAGE
3		2390.000	11.544	18.655	30.199	-23.801	54.000	AVERAGE
4	*	2441.006	11.887	60.165	72.052	18.052	54.000	AVERAGE
5		2483.500	12.172	17.907	30.079	-23.921	54.000	AVERAGE
6		2500.000	12.274	17.961	30.236	-23.764	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz

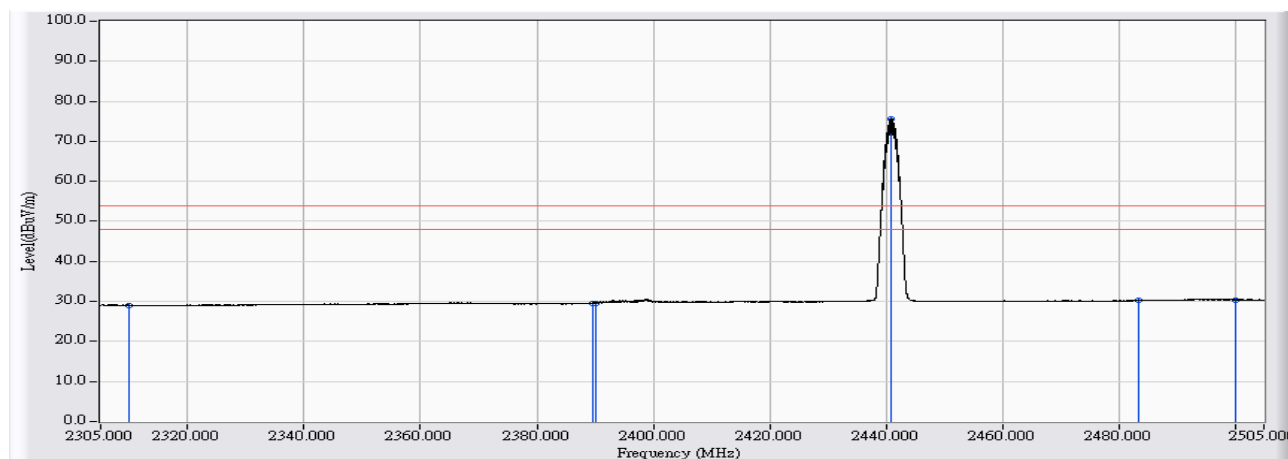


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.202	40.217	-33.783	74.000	PEAK
2		2360.574	11.349	32.380	43.729	-30.271	74.000	PEAK
3		2390.000	11.544	30.327	41.871	-32.129	74.000	PEAK
4	*	2440.966	11.886	77.407	89.293	15.293	74.000	PEAK
5		2483.500	12.172	29.823	41.995	-32.005	74.000	PEAK
6		2500.000	12.274	29.440	41.715	-32.285	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2441MHz

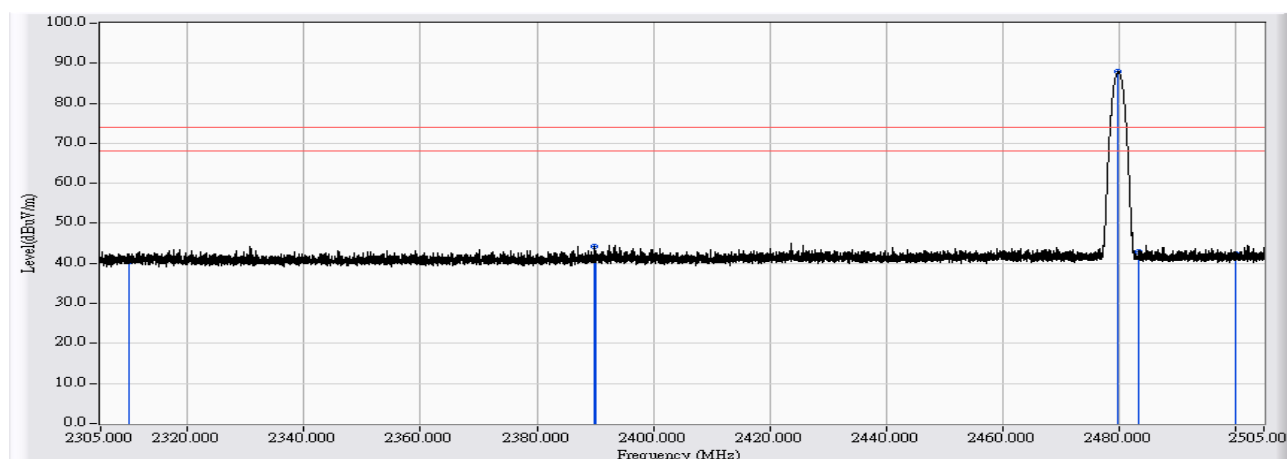


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.053	29.068	-24.932	54.000	AVERAGE
2		2389.491	11.541	17.991	29.531	-24.469	54.000	AVERAGE
3		2390.000	11.544	18.002	29.546	-24.454	54.000	AVERAGE
4	*	2440.966	11.886	63.835	75.721	21.721	54.000	AVERAGE
5		2483.500	12.172	18.024	30.196	-23.804	54.000	AVERAGE
6		2500.000	12.274	18.123	30.398	-23.602	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz

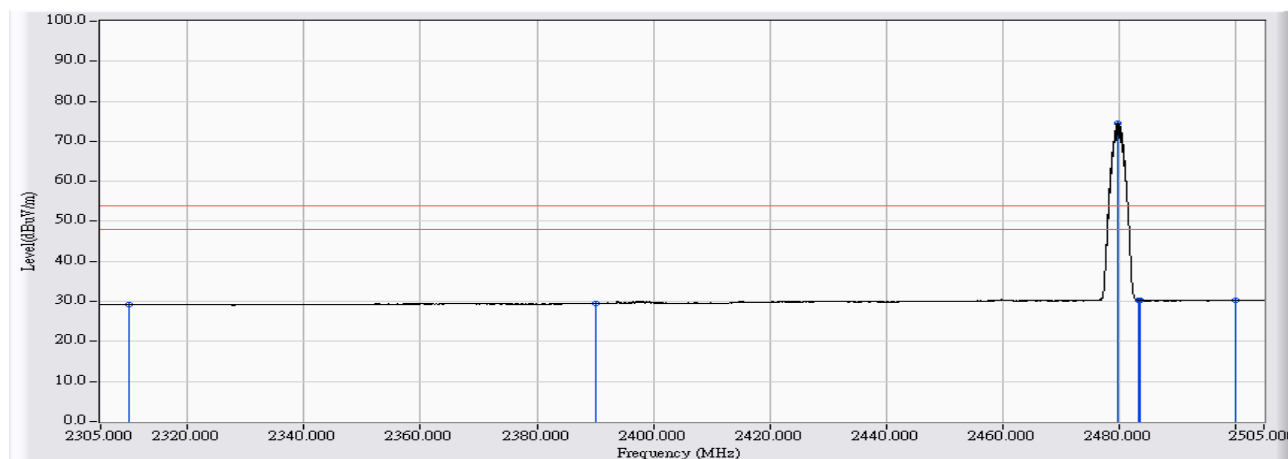


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	29.346	40.361	-33.639	74.000	PEAK
2		2389.811	11.542	32.664	44.207	-29.793	74.000	PEAK
3		2390.000	11.544	30.202	41.746	-32.254	74.000	PEAK
4	*	2479.982	12.149	75.759	87.908	13.908	74.000	PEAK
5		2483.500	12.172	30.854	43.026	-30.974	74.000	PEAK
6		2500.000	12.274	30.075	42.350	-31.650	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz

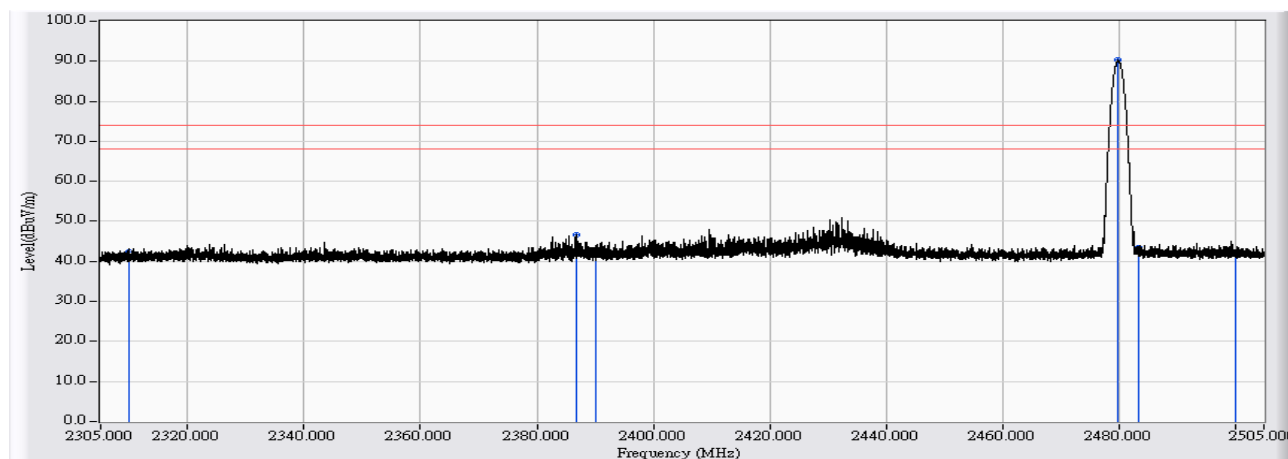


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.221	29.236	-24.764	54.000	AVERAGE
2		2390.000	11.544	17.976	29.520	-24.480	54.000	AVERAGE
3	*	2479.862	12.148	62.348	74.496	20.496	54.000	AVERAGE
4		2483.500	12.172	18.098	30.270	-23.730	54.000	AVERAGE
5		2483.602	12.172	18.087	30.260	-23.740	54.000	AVERAGE
6		2500.000	12.274	18.107	30.382	-23.618	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz

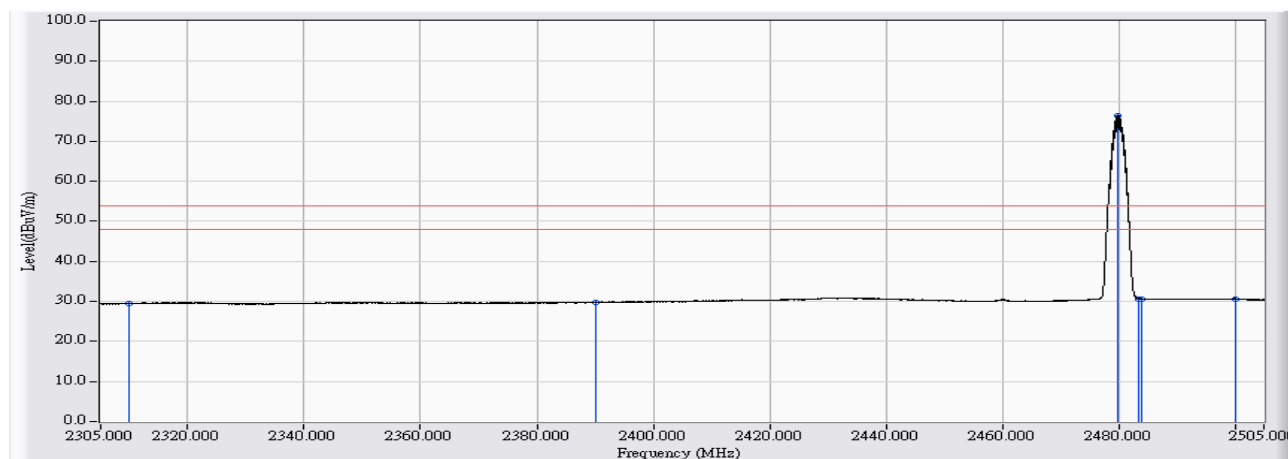


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	31.446	42.461	-31.539	74.000	PEAK
2		2386.732	11.522	35.091	46.613	-27.387	74.000	PEAK
3		2390.000	11.544	30.822	42.366	-31.634	74.000	PEAK
4	*	2479.982	12.149	78.077	90.226	16.226	74.000	PEAK
5		2483.500	12.172	31.259	43.431	-30.569	74.000	PEAK
6		2500.000	12.274	29.680	41.955	-32.045	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	Time : 2017/08/03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : AC 120V/60Hz
EUT : UHD861-P	Note : Mode 3: Tx_3DH5_802.15.1_2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	11.014	18.592	29.607	-24.393	54.000	AVERAGE
2		2390.000	11.544	18.233	29.777	-24.223	54.000	AVERAGE
3	*	2479.882	12.148	64.371	76.519	22.519	54.000	AVERAGE
4		2483.500	12.172	18.512	30.684	-23.316	54.000	AVERAGE
5		2483.862	12.175	18.475	30.650	-23.350	54.000	AVERAGE
6		2500.000	12.274	18.414	30.689	-23.311	54.000	AVERAGE

## Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

## 7. Number of hopping frequency

### 7.1. Test Equipment

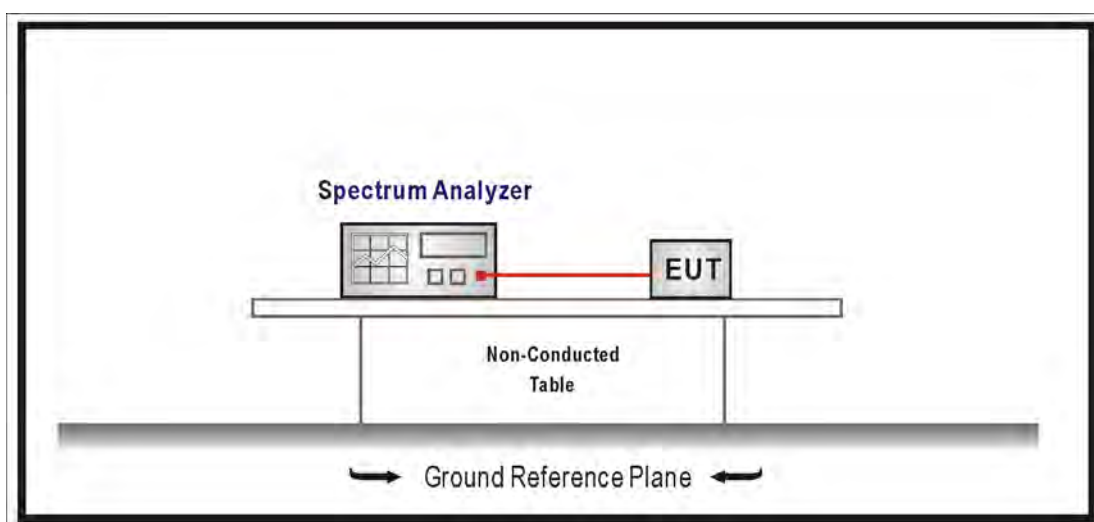
The following test equipment is used during the test:

Number of hopping frequency / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 7.2. Test Setup



### 7.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

For frequency hopping systems operating in the 2400-2483.5 MHz bands, which use fewer than 75 hopping frequencies, may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels are used.

For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

### 7.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements ,

Span = the frequency band of operation ,RBW  $\geq$  1% of the span, VBW  $\geq$  RBW,

Sweep = auto, Detector function = peak, Trace = max hold.

### 7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

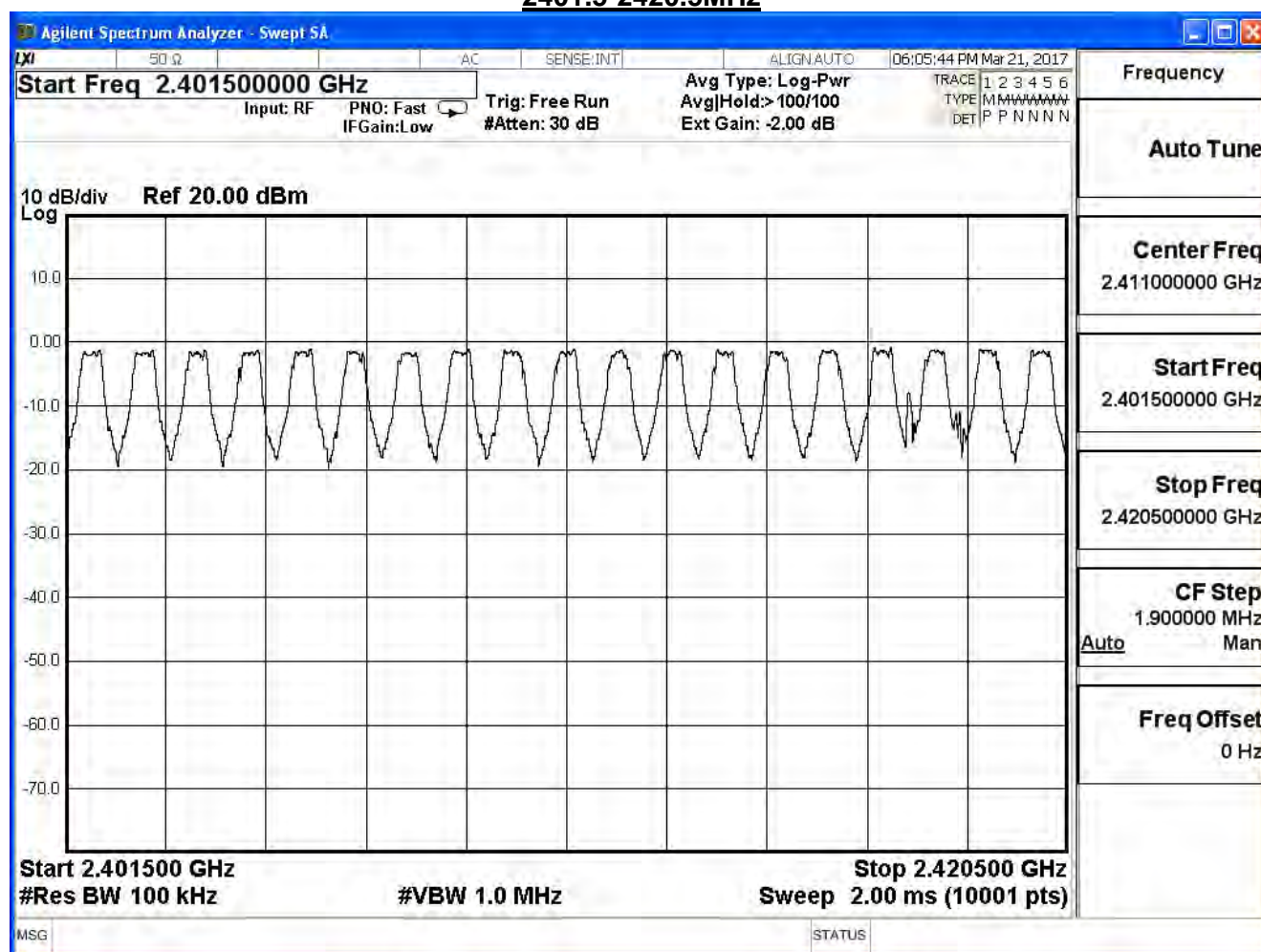


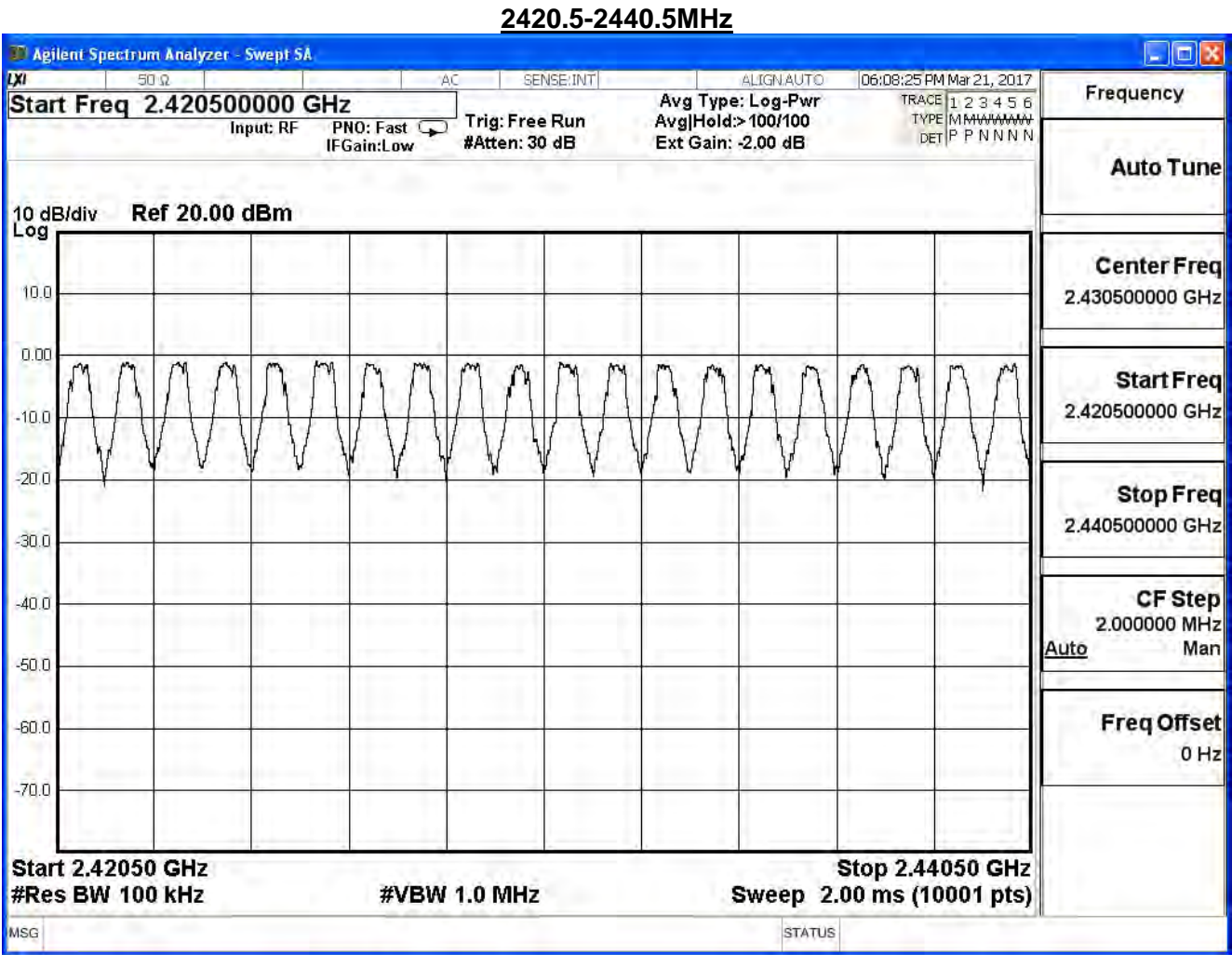
## 7.6. Test Result

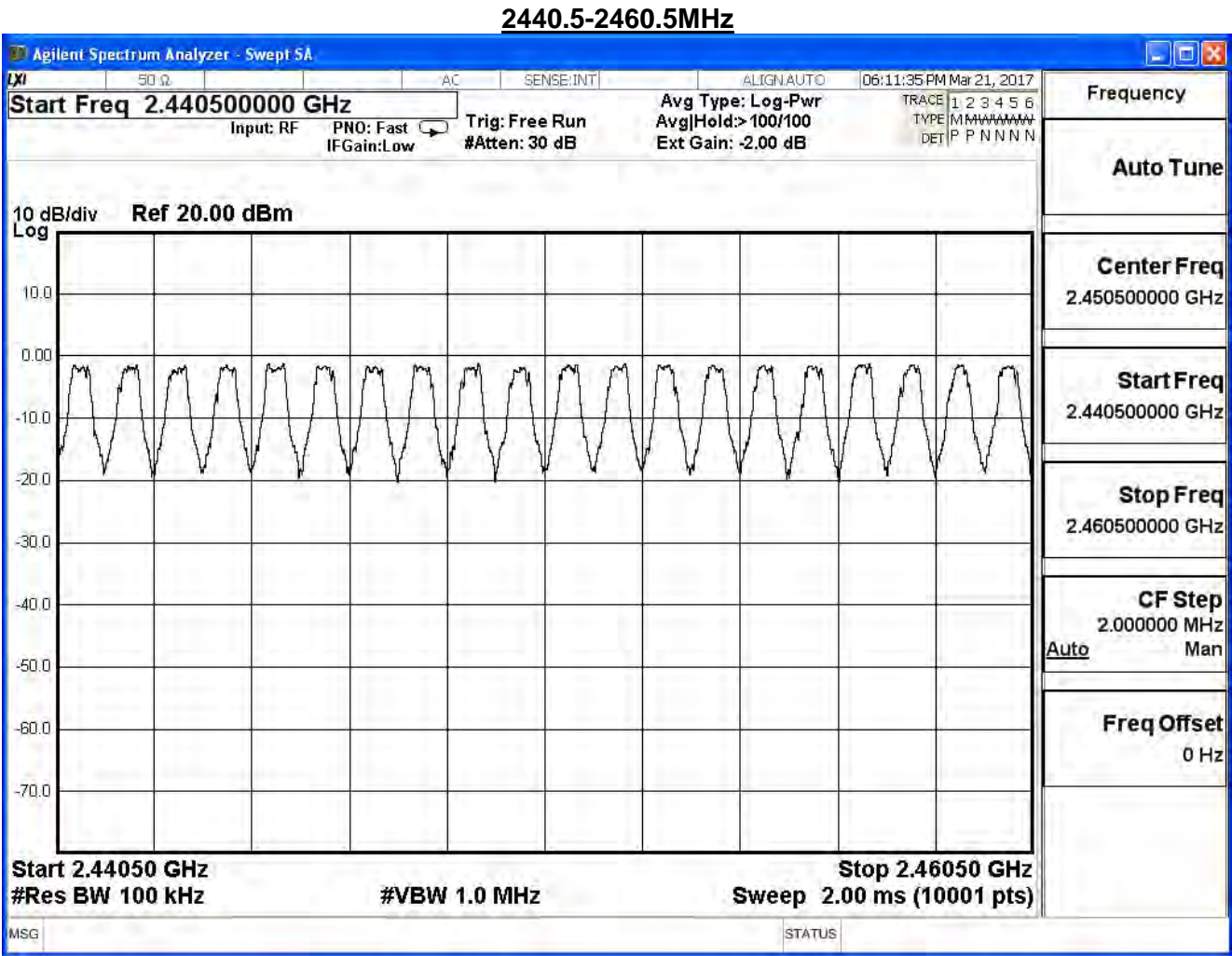
Product	UHD861-P		
Test Item	Number of hopping frequency		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

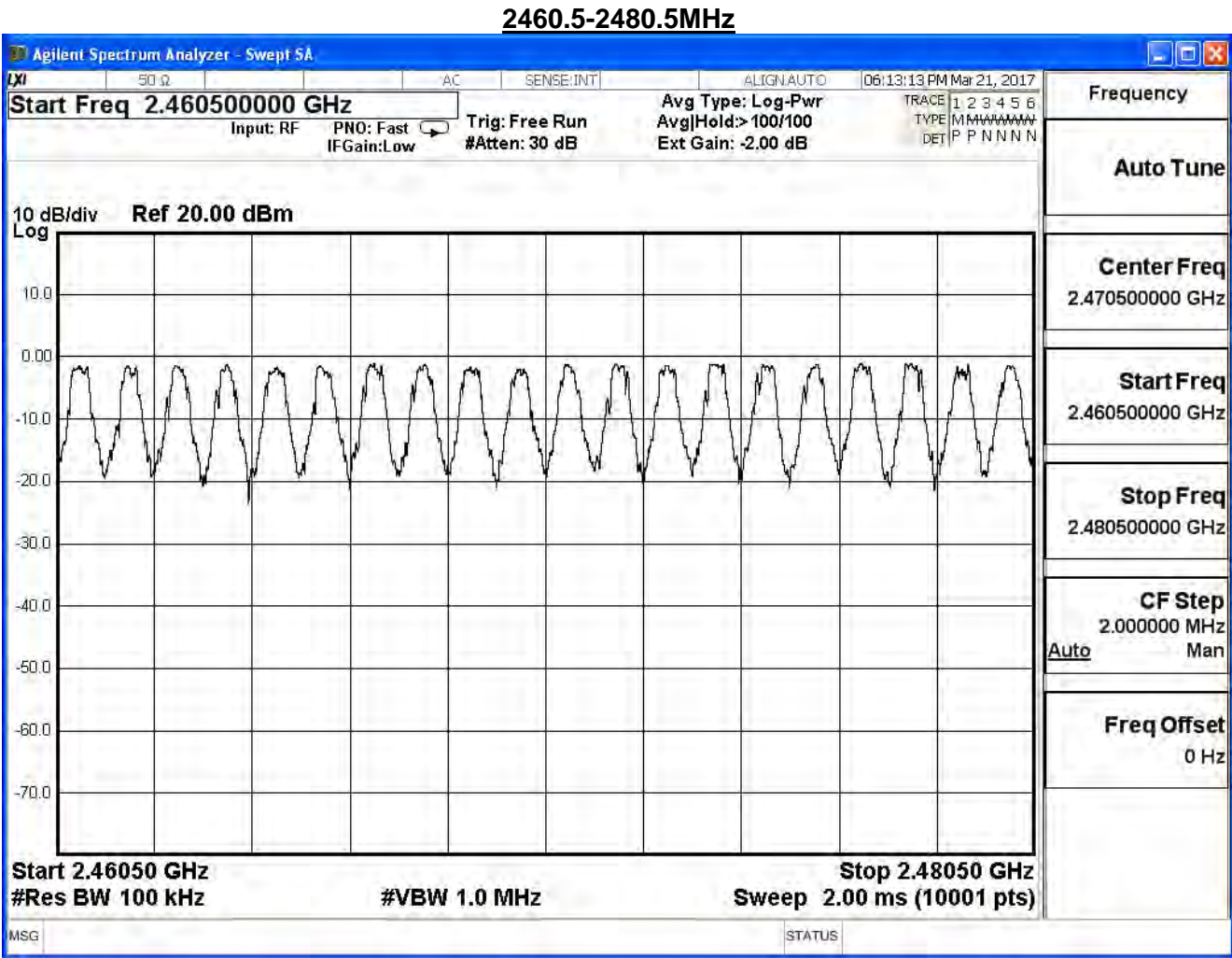
Frequency Range (MHz)	Measure Level (Channels)	Limit (Channels)	Result
2402 - 2480	79	$\geq 75$	Pass

### 2401.5-2420.5MHz









## 8. Carrier Frequency Separation

### 8.1. Test Equipment

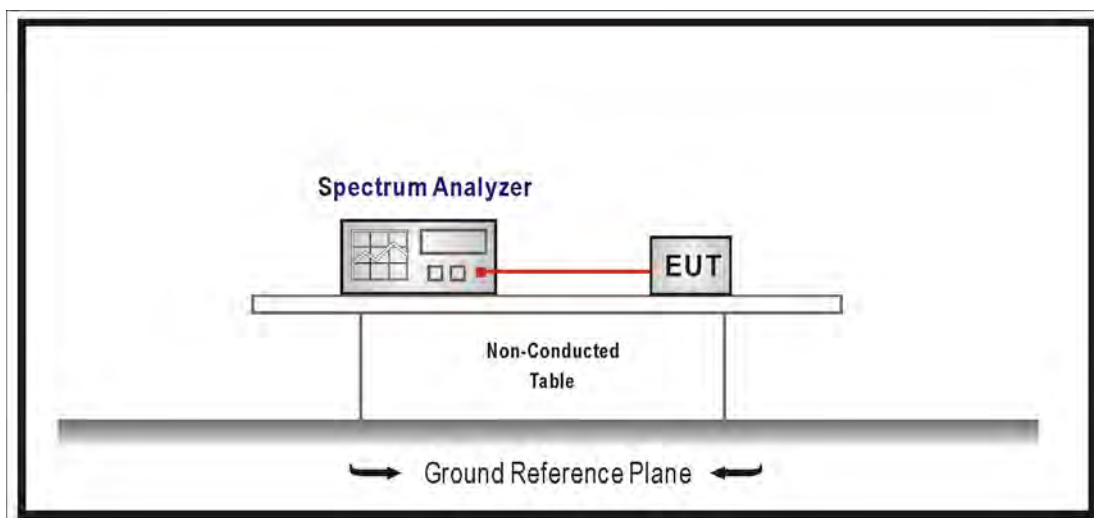
The following test equipment is used during the test:

Carrier Frequency Separation / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 8.2. Test Setup



### 8.3. Limits

For frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

### 8.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Span = wide enough to capture the peaks of two adjacent channels

Resolution Bandwidth (RBW)  $\geq$  1% of the span, VBW  $\geq$  RBW

Sweep = auto, Detector function = peak, Trace = max hold

### 8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015



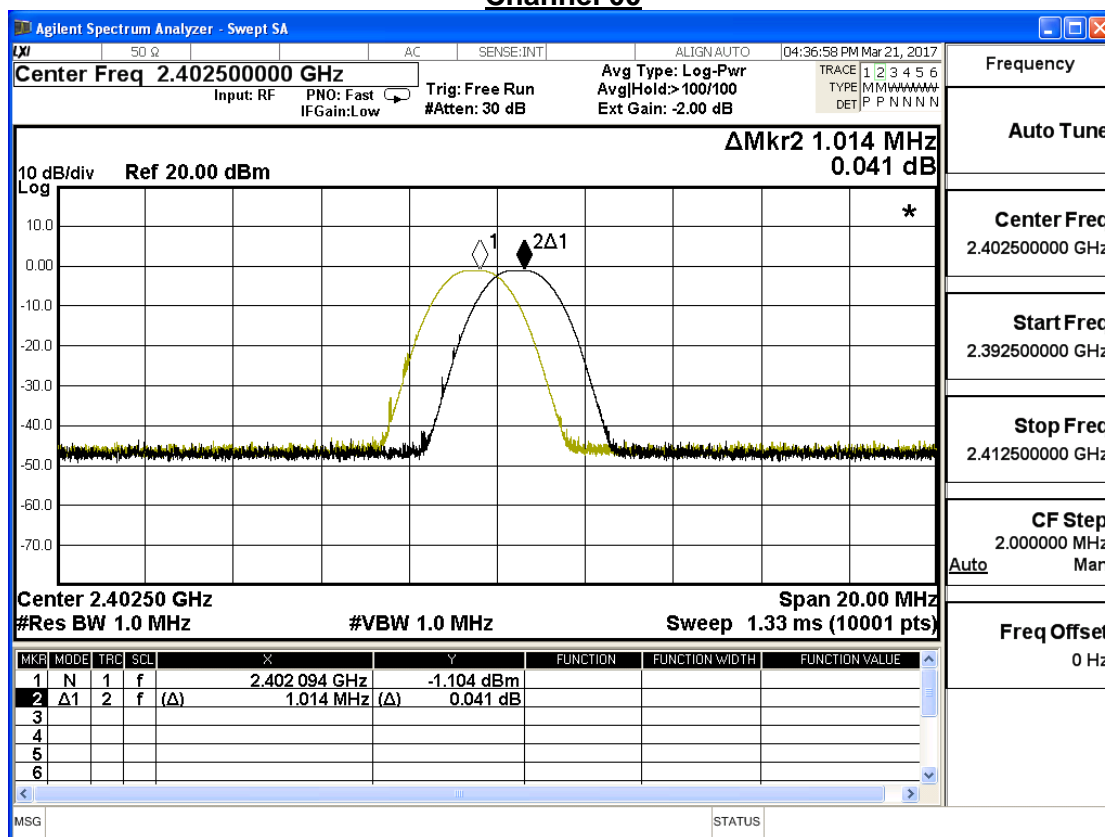
## 8.6. Test Result

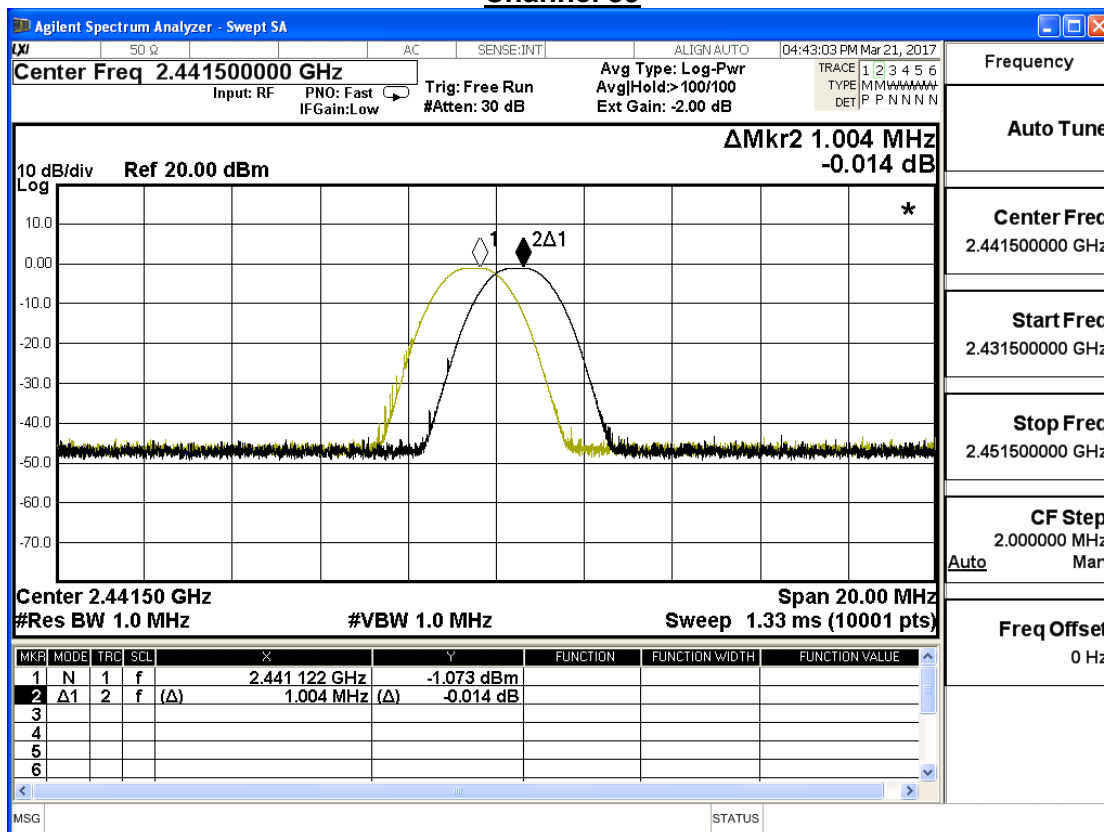
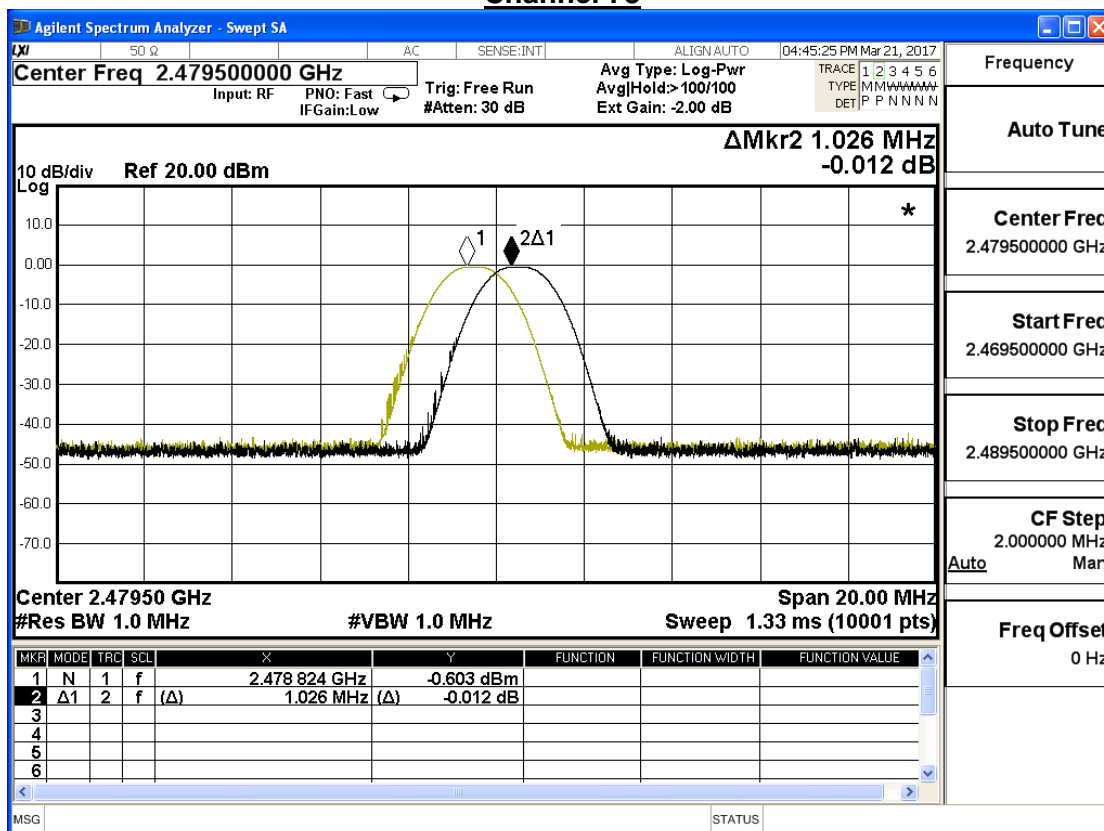
Product	UHD861-P		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

### GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.014	0.738	Pass
39	2441	1.004	0.739	Pass
78	2480	1.026	0.738	Pass

### Channel 00

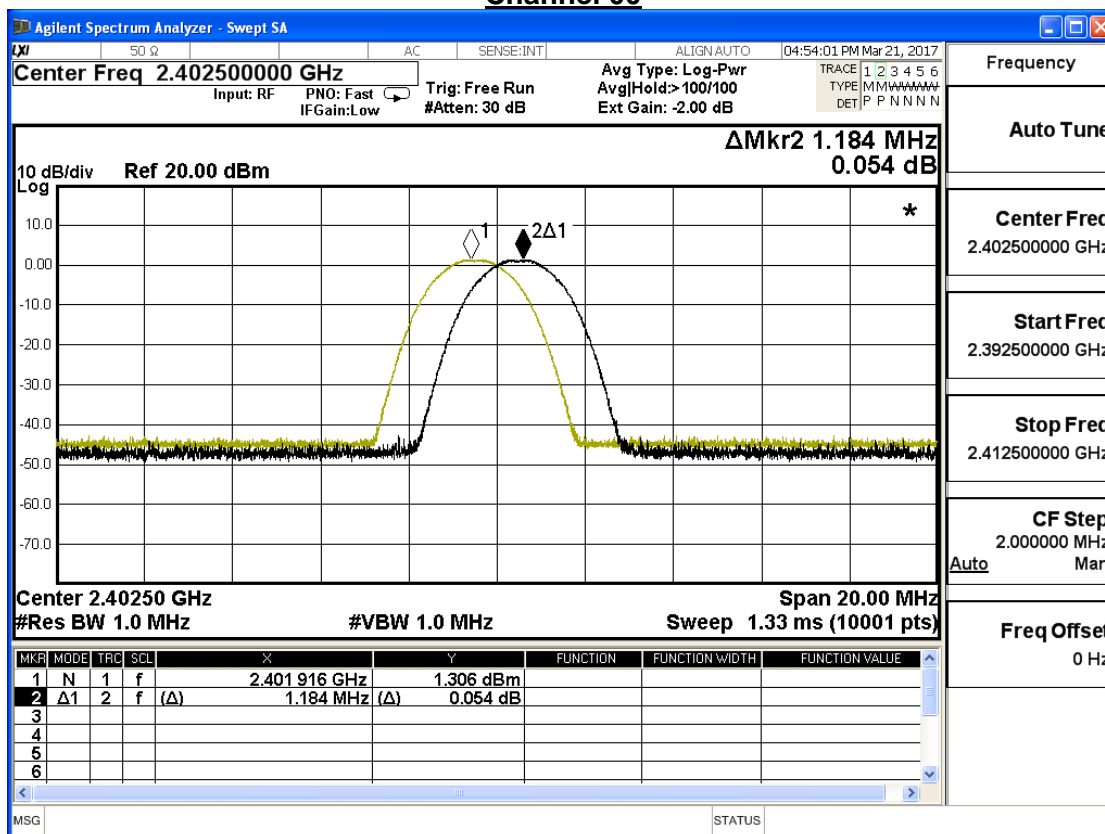


**Channel 39****Channel 78**

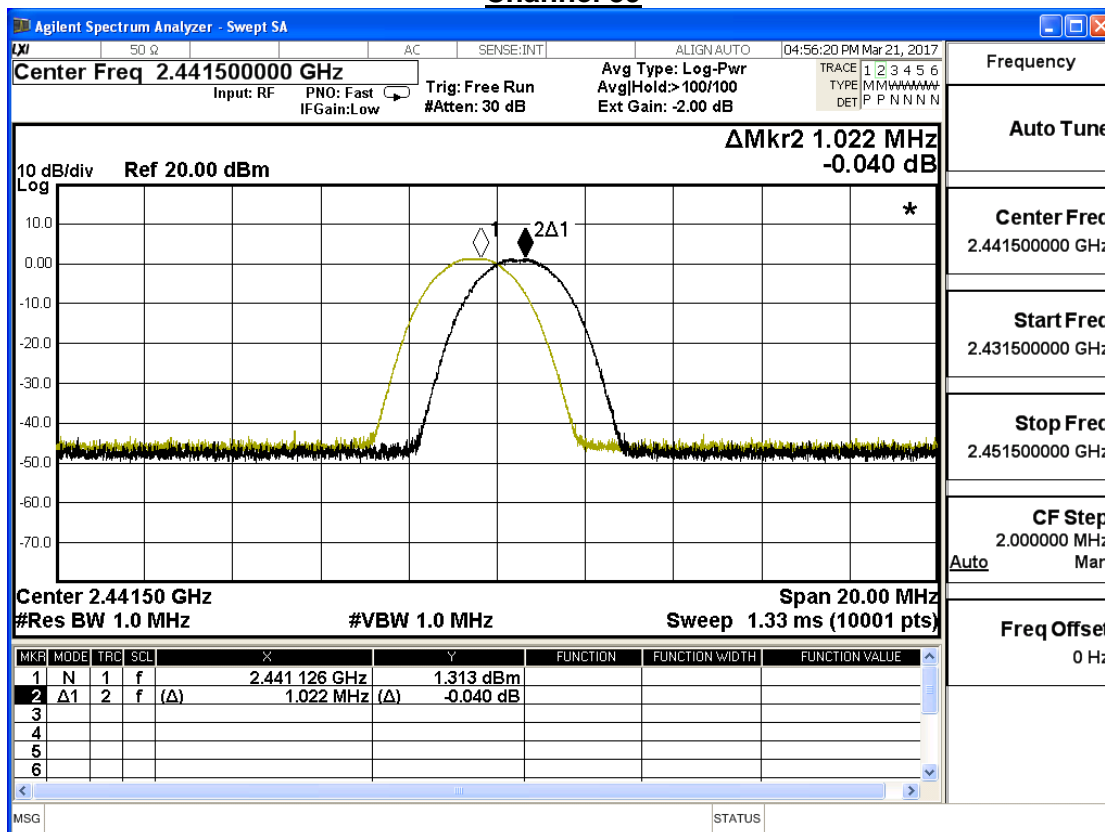
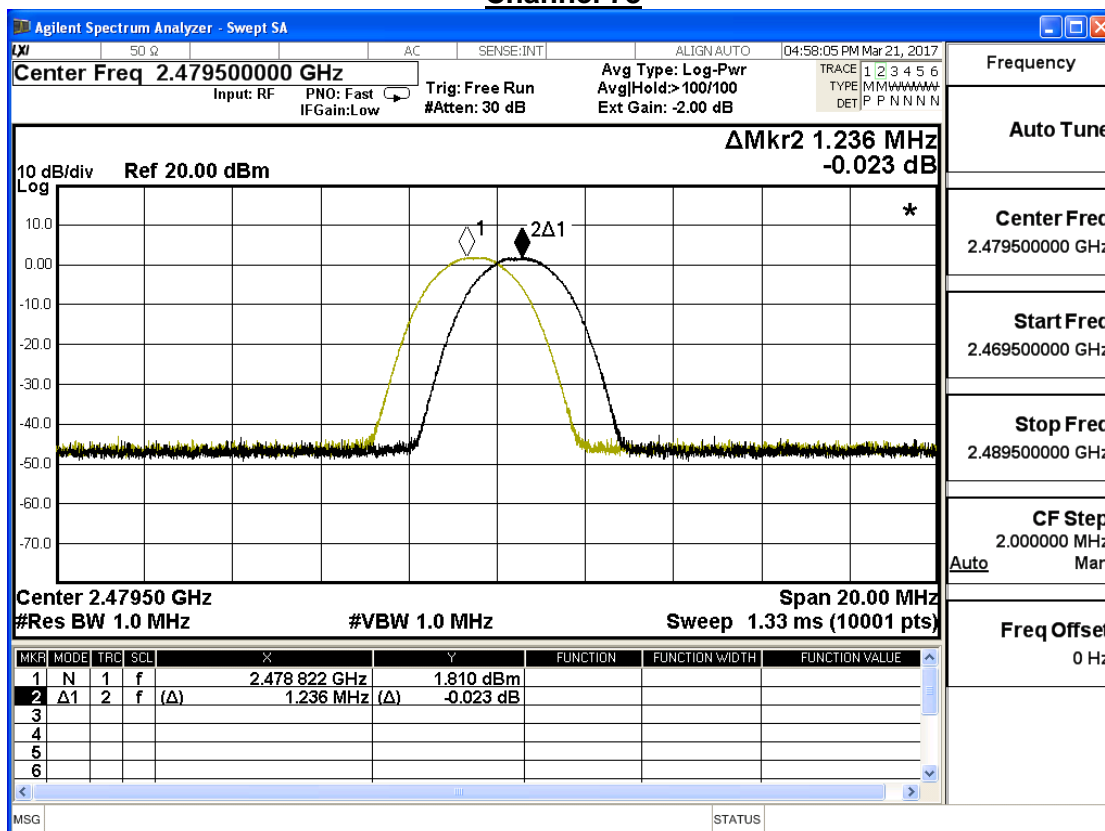
Product	UHD861-P		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

 **$\pi/4$ -DQPSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.184	0.926	Pass
39	2441	1.022	0.929	Pass
78	2480	1.236	0.927	Pass

**Channel 00**

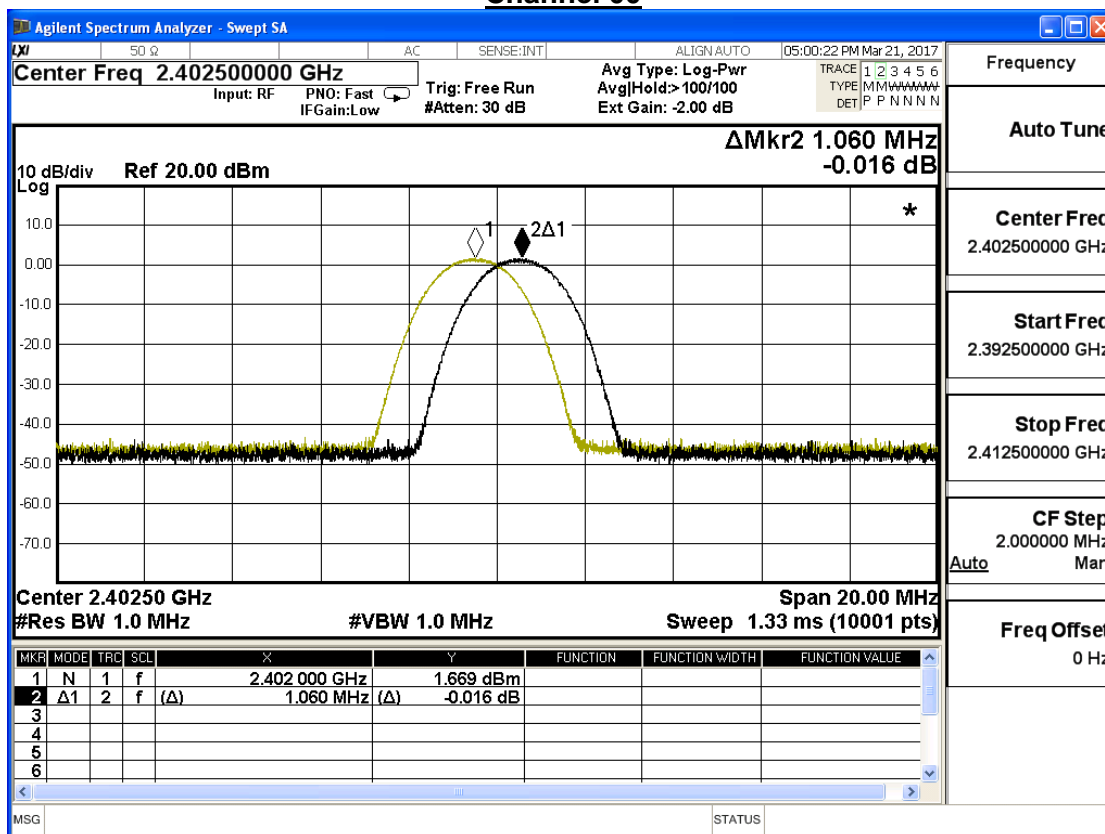


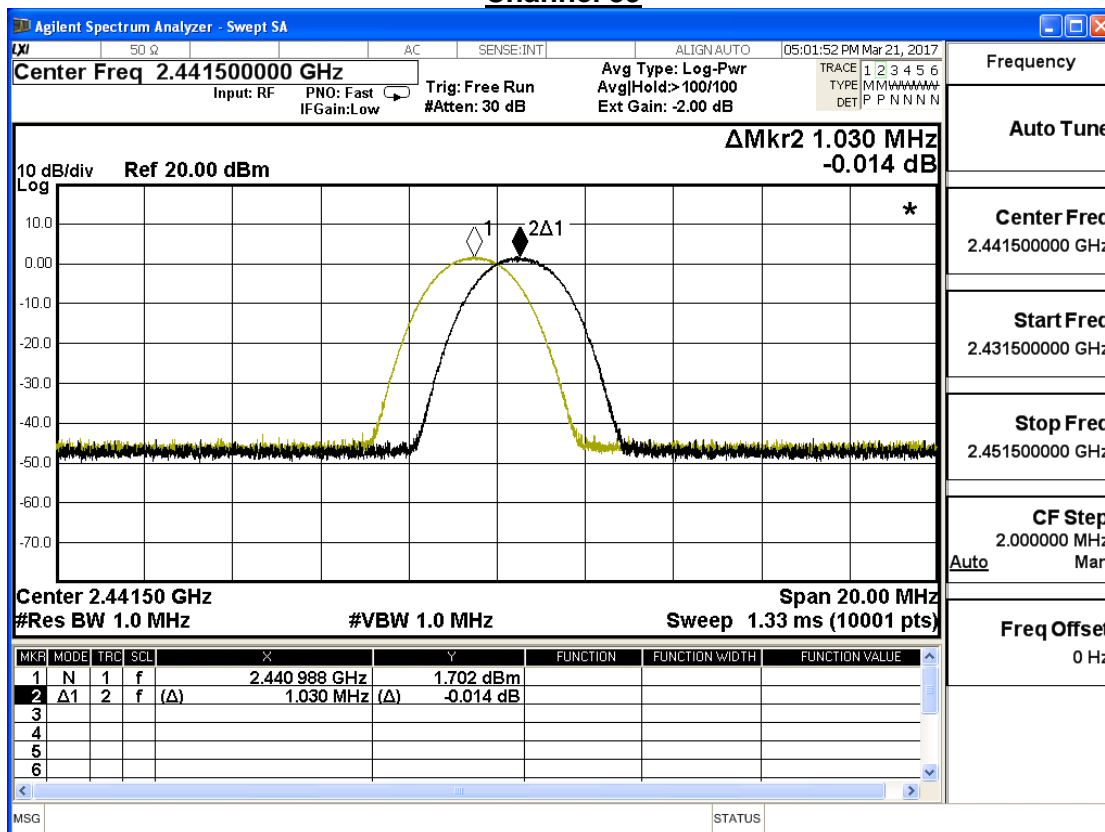
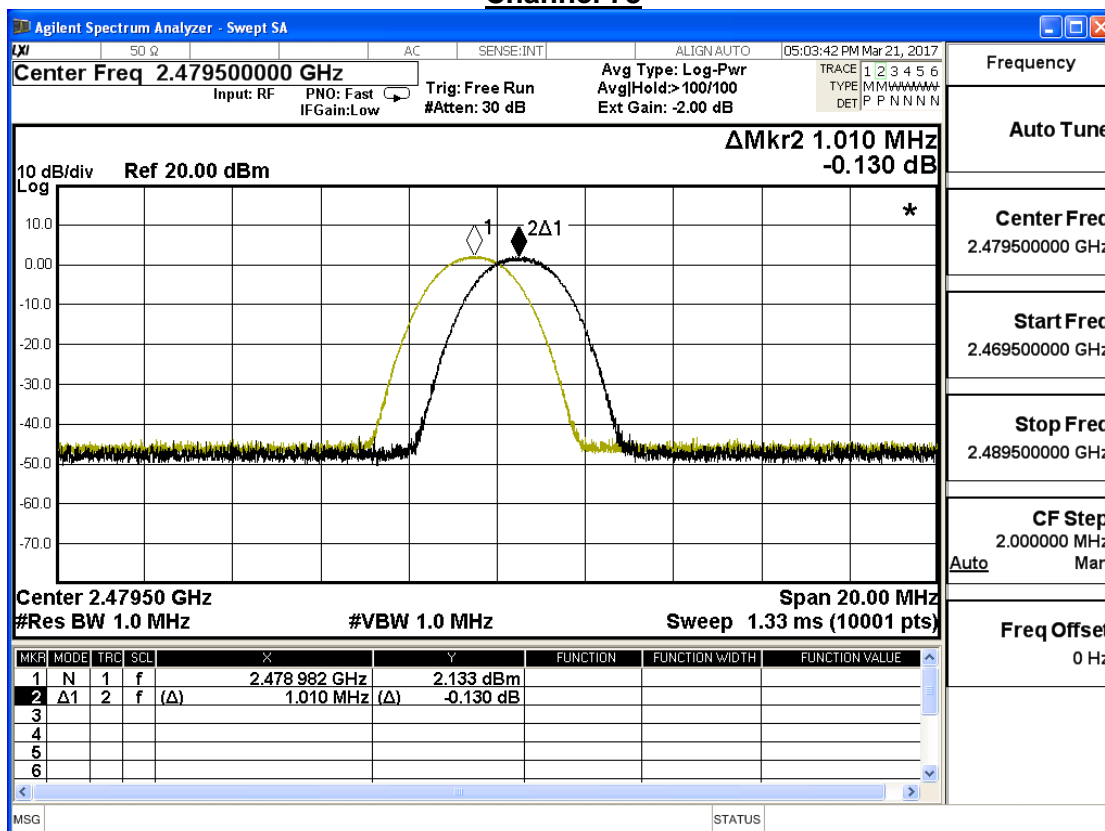
**Channel 39****Channel 78**

Product	UHD861-P		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

**8-DPSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.060	0.926	Pass
39	2441	1.030	0.926	Pass
78	2480	1.010	0.927	Pass

**Channel 00**

**Channel 39****Channel 78**

## 9. Occupied Bandwidth

### 9.1. Test Equipment

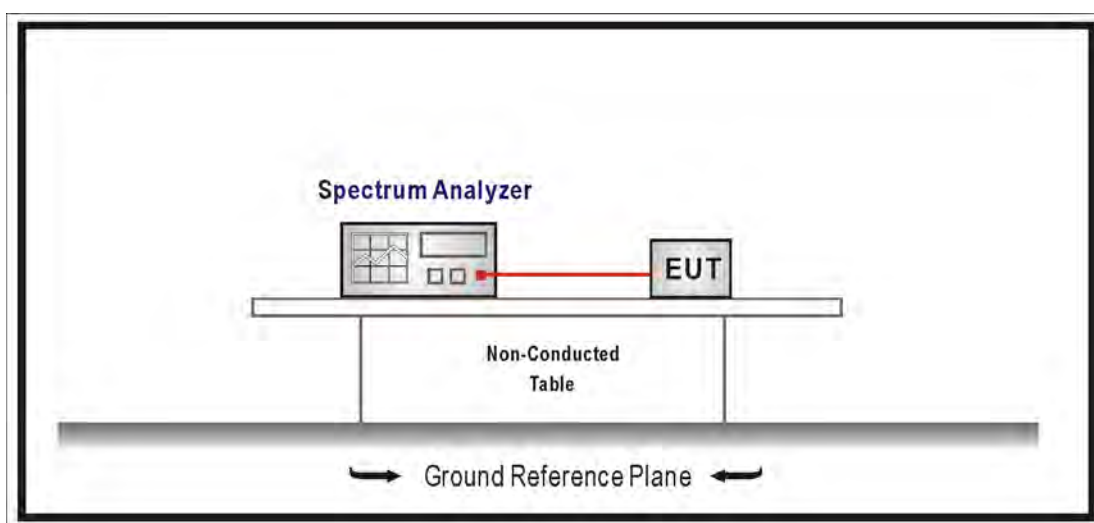
The following test equipment is used during the test:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 9.2. Test Setup



### 9.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

For frequency hopping systems operating in the 5725-5850 MHz bands. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

For frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

#### **9.4. Test Procedures**

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW  $\geq$  1% of the 20 dB bandwidth, VBW  $\geq$  RBW , Sweep = auto, Detector function = peak,

Trace = max hold , The EUT should be transmitting at its maximum data rate.

#### **9.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

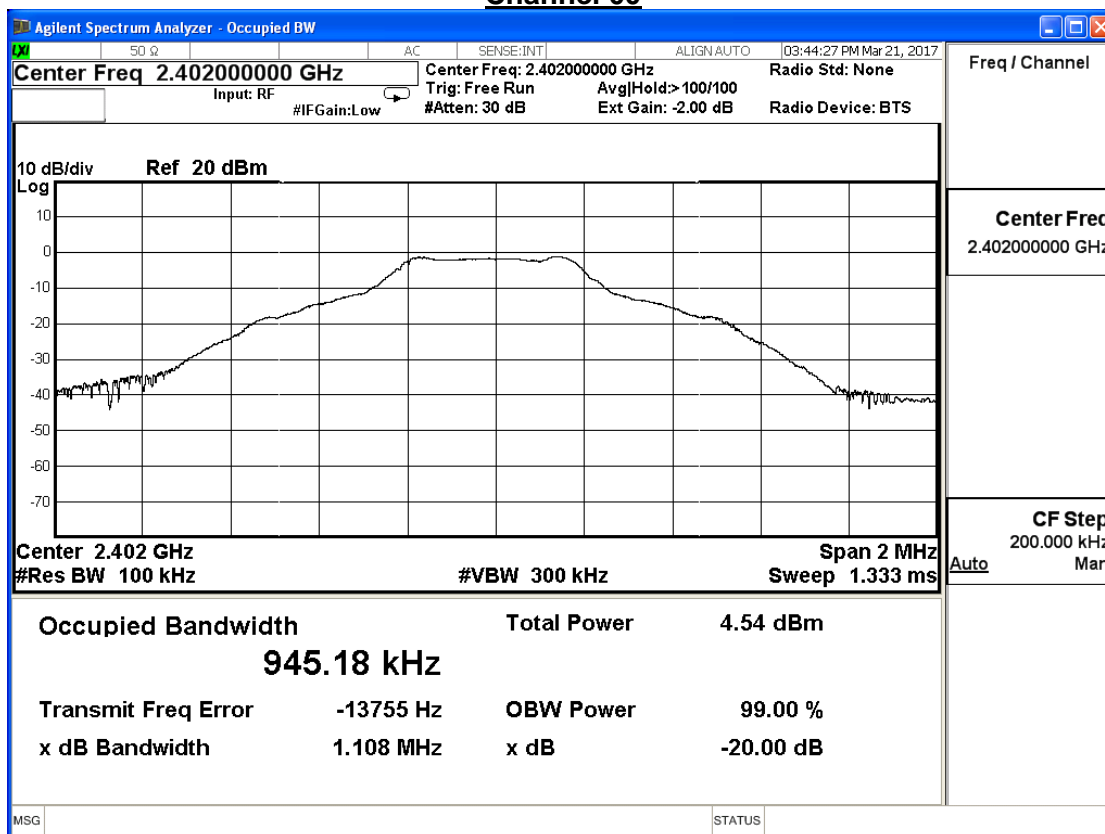
## 9.6. Test Result

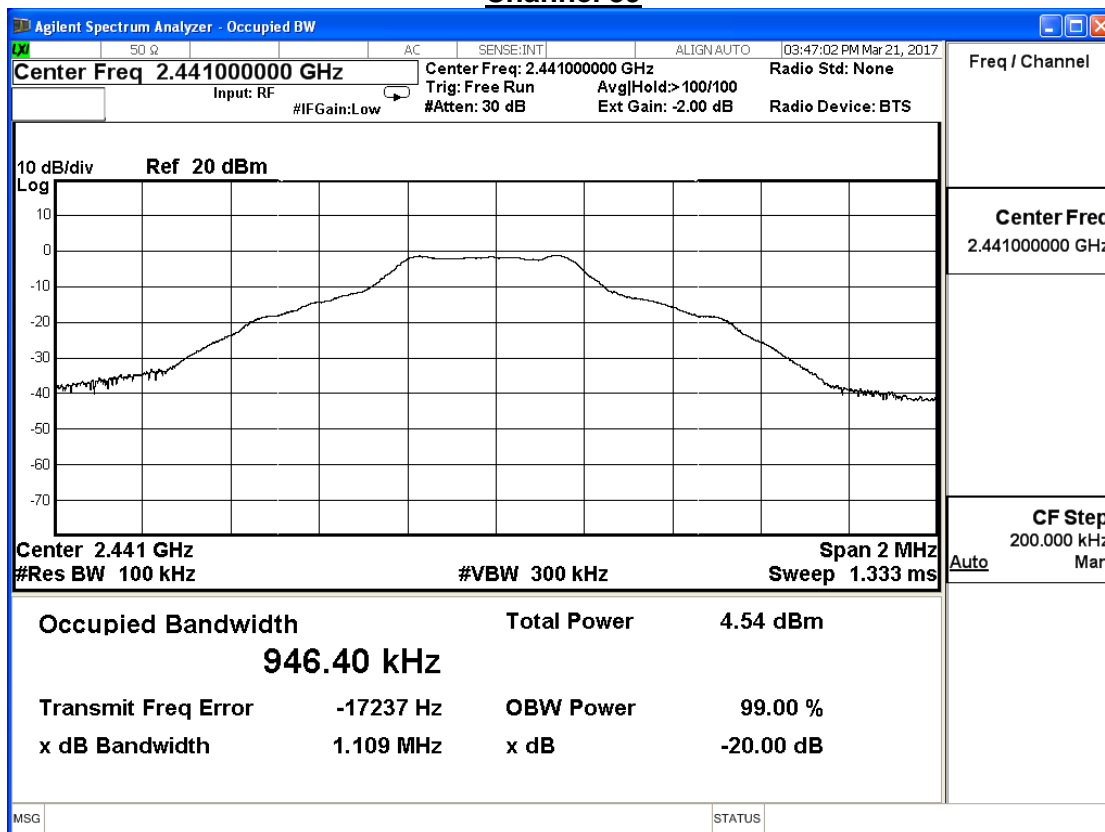
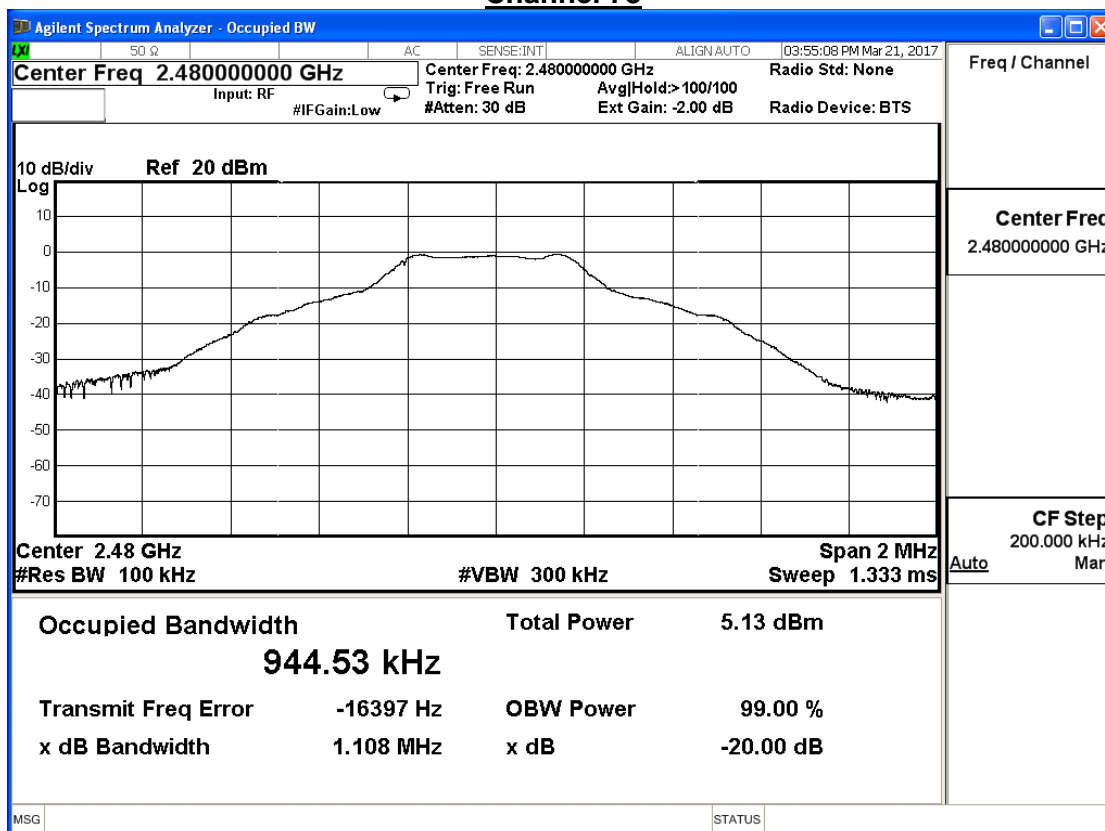
Product	UHD861-P		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

### GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.108	--	Pass
39	2441	1.109	--	Pass
78	2480	1.108	--	Pass

### Channel 00

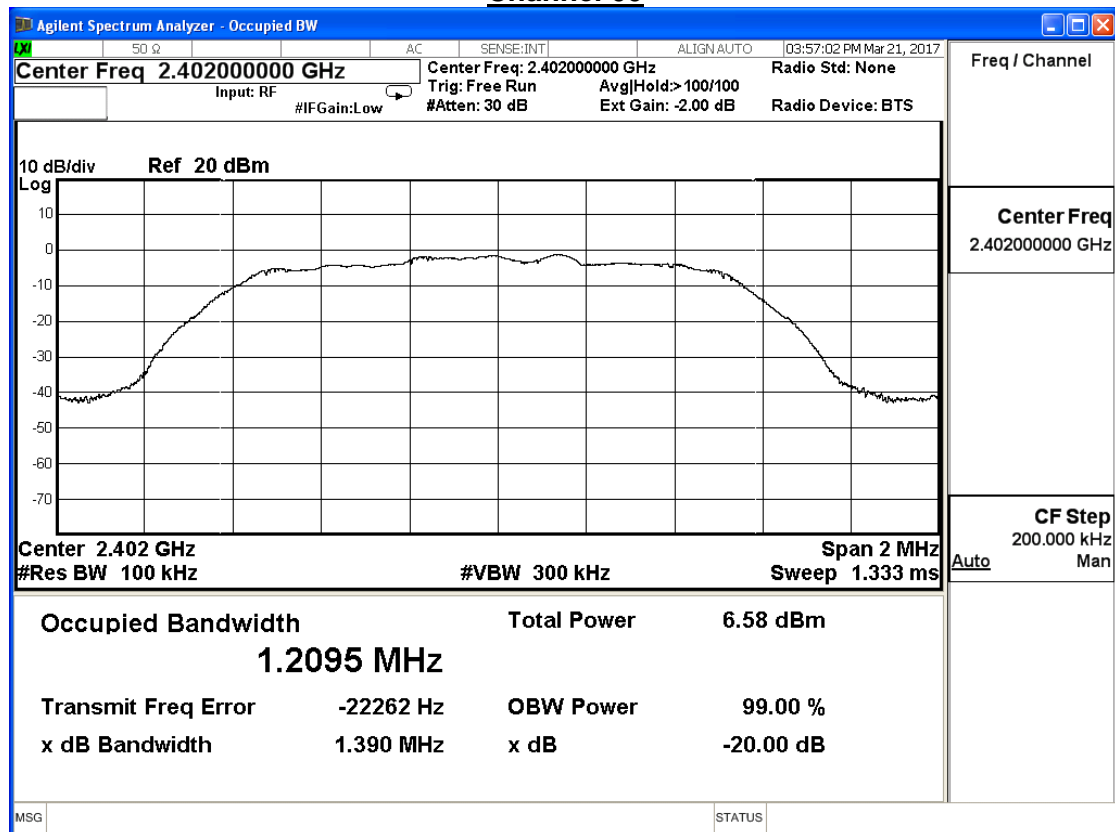


**Channel 39****Channel 78**

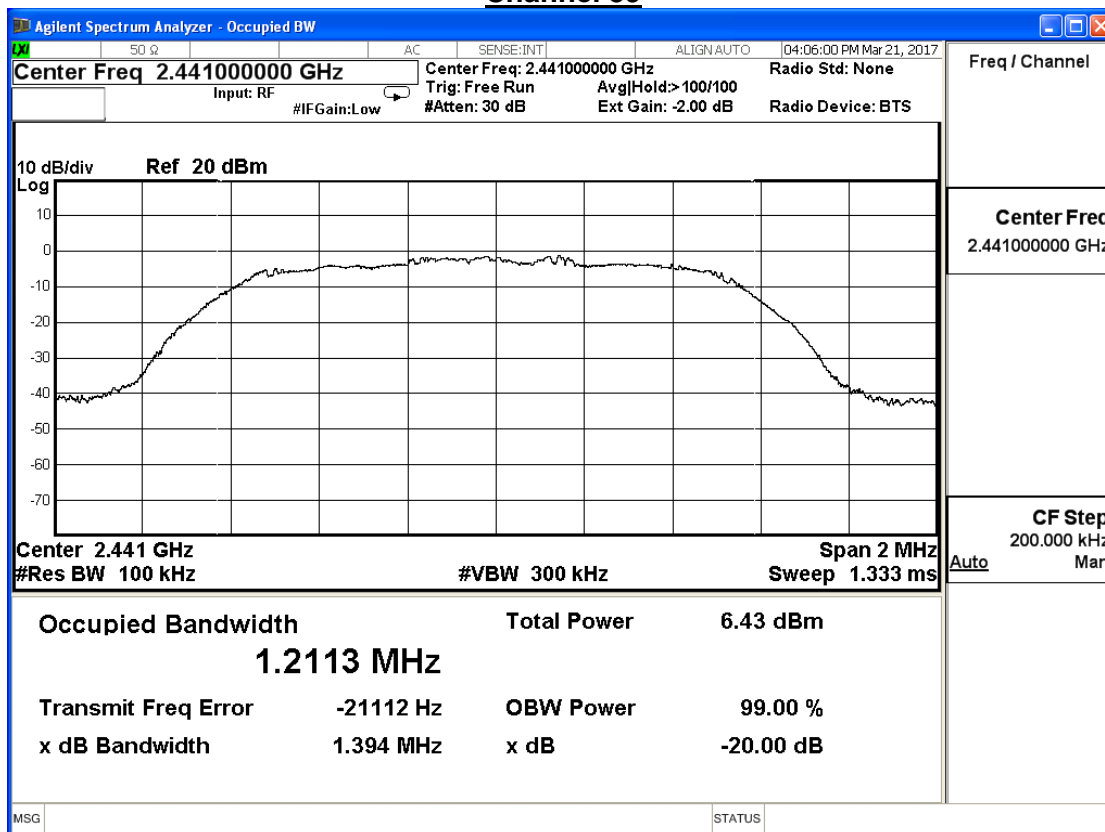
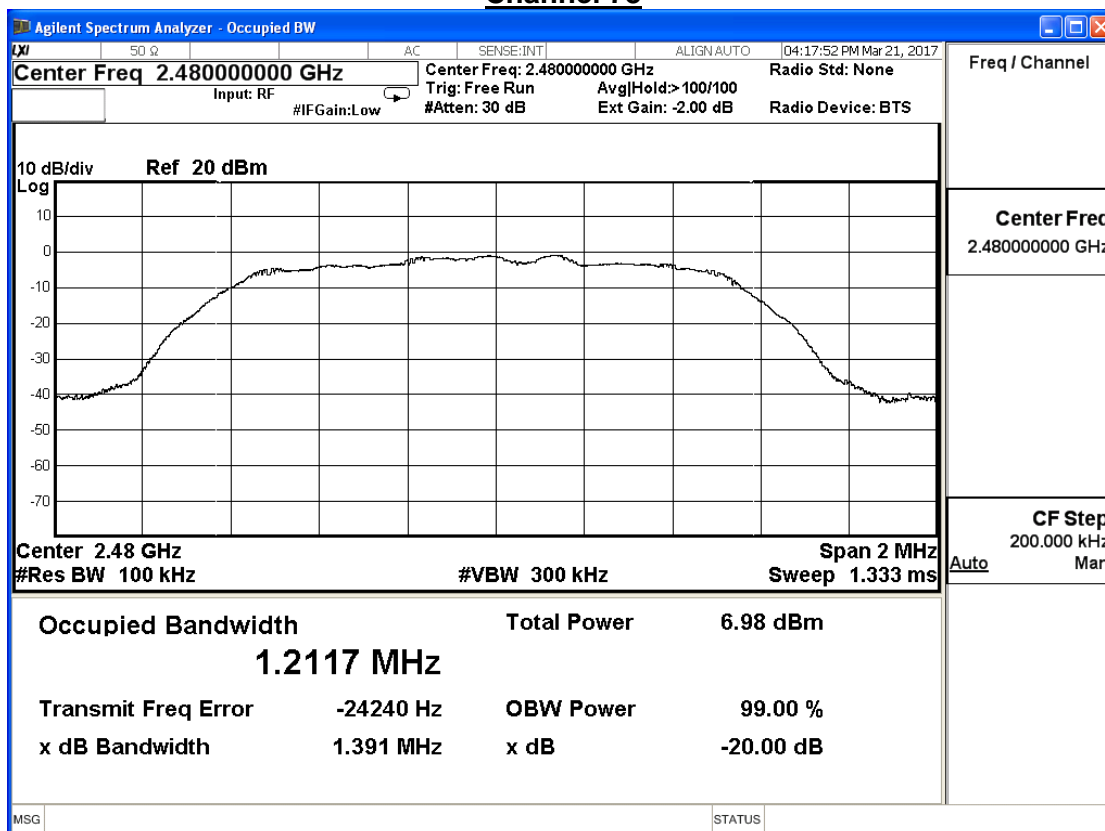
Product	UHD861-P		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

 **$\pi/4$ -DQPSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.390	--	Pass
39	2441	1.394	--	Pass
78	2480	1.391	--	Pass

**Channel 00**

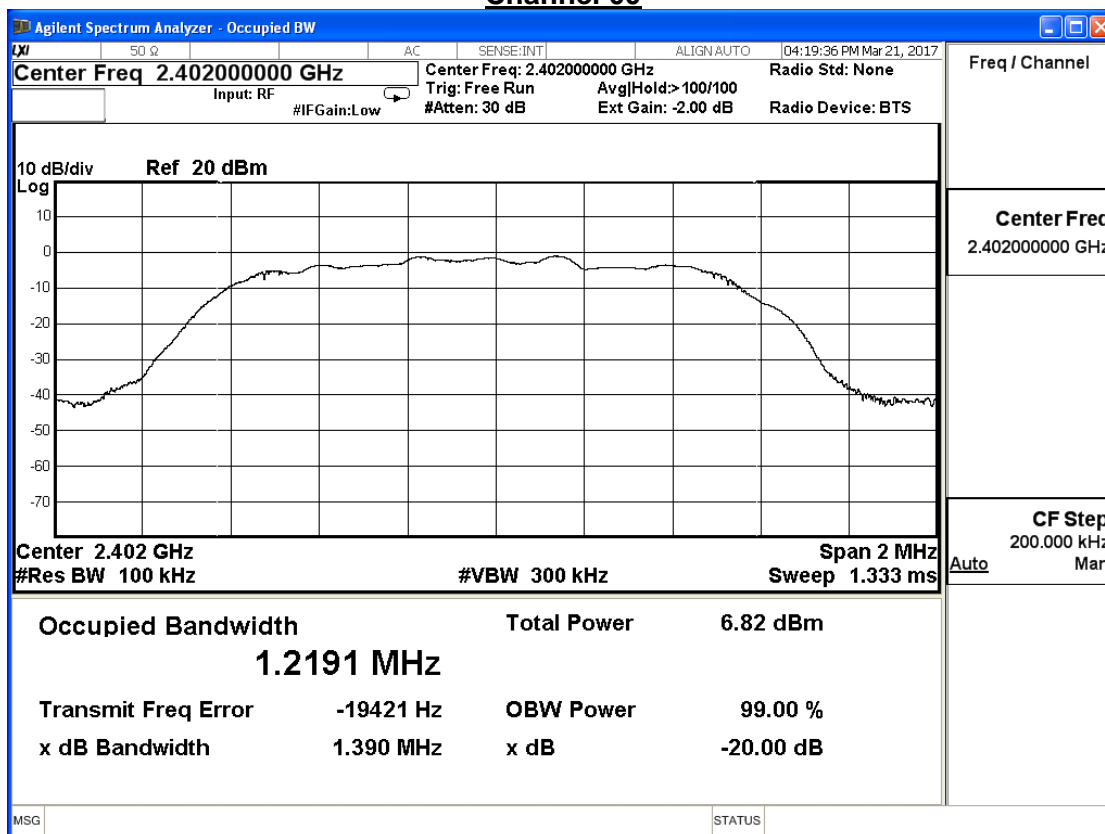


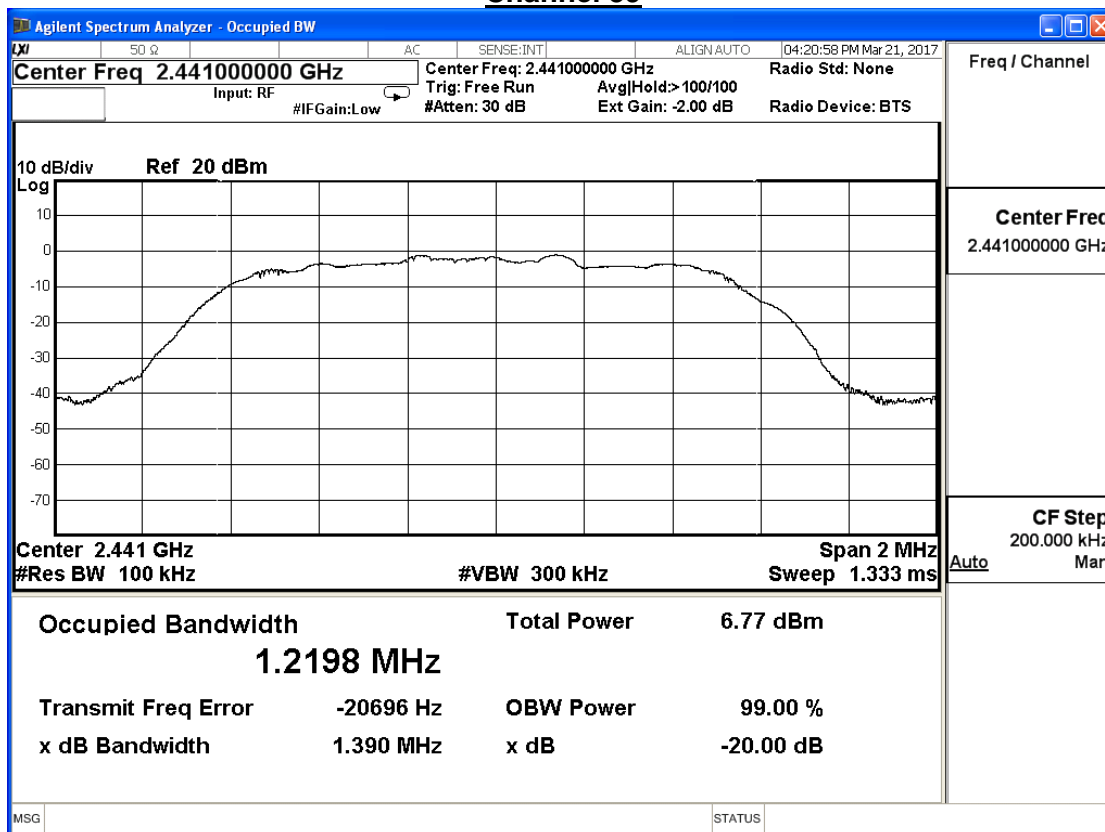
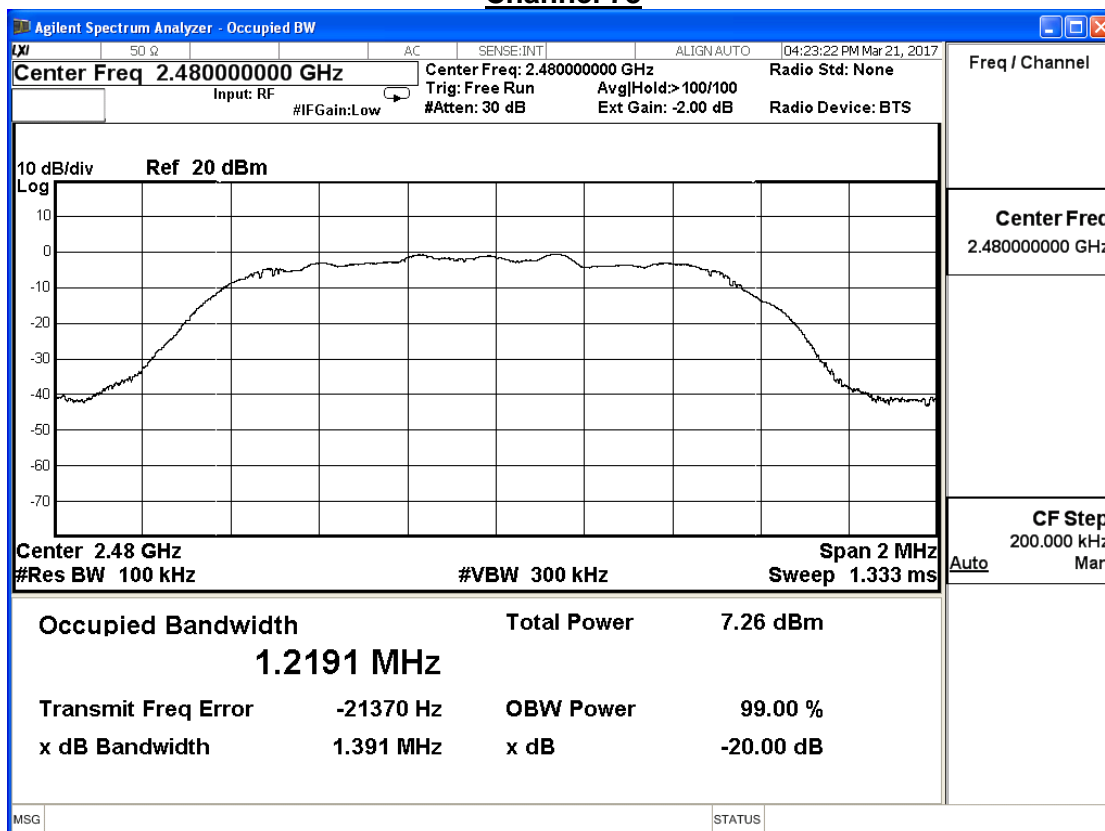
**Channel 39****Channel 78**

Product	UHD861-P		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

**8-DPSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.390	--	Pass
39	2441	1.390	--	Pass
78	2480	1.391	--	Pass

**Channel 00**

**Channel 39****Channel 78**

## 10. Dwell Time

### 10.1. Test Equipment

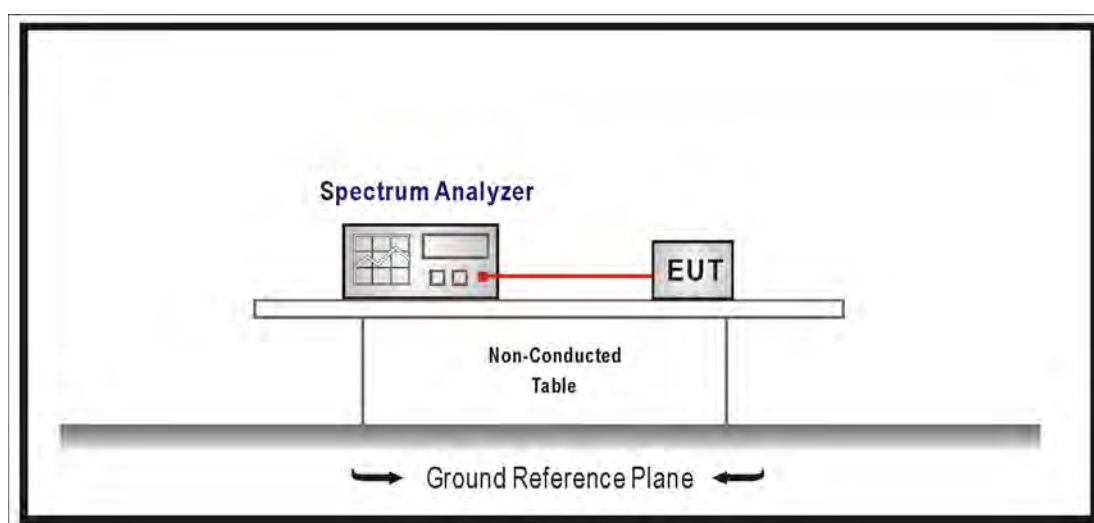
The following test equipment is used during the test:

Dwell Time / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipment that need to calibrate are with calibration period of 1 year.

### 10.2. Test Setup



### 10.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. For frequency hopping systems operating in the 2400-2483.5 MHz bands. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

For frequency hopping systems operating in the 5725-5850 MHz bands. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

#### **10.4. Test Procedures**

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Span = zero span, centered on a hopping channel, RBW = 1 MHz, VBW  $\geq$  RBW,

Sweep = as necessary to capture the entire dwell time per hopping channel,

Detector function = peak, Trace = max hold.

#### **10.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

## 10.6. Test Result

Product	UHD861-P		
Test Item	Dwell Time		
Test Mode	Mode 1: Tx_DH5		
Date of Test	2017/03/21	Test Site	SR10-H

### GFSK

Occupancy Time of Frequency Hopping System

A) 2402MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.886 ms = 0.002886 sec

Dwell Time : 0.002886 \*  $(266.67/79)$  \*  $31.60 = \underline{0.3078 \text{ sec}}$  °

B) 2441MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.888 ms = 0.002888 sec

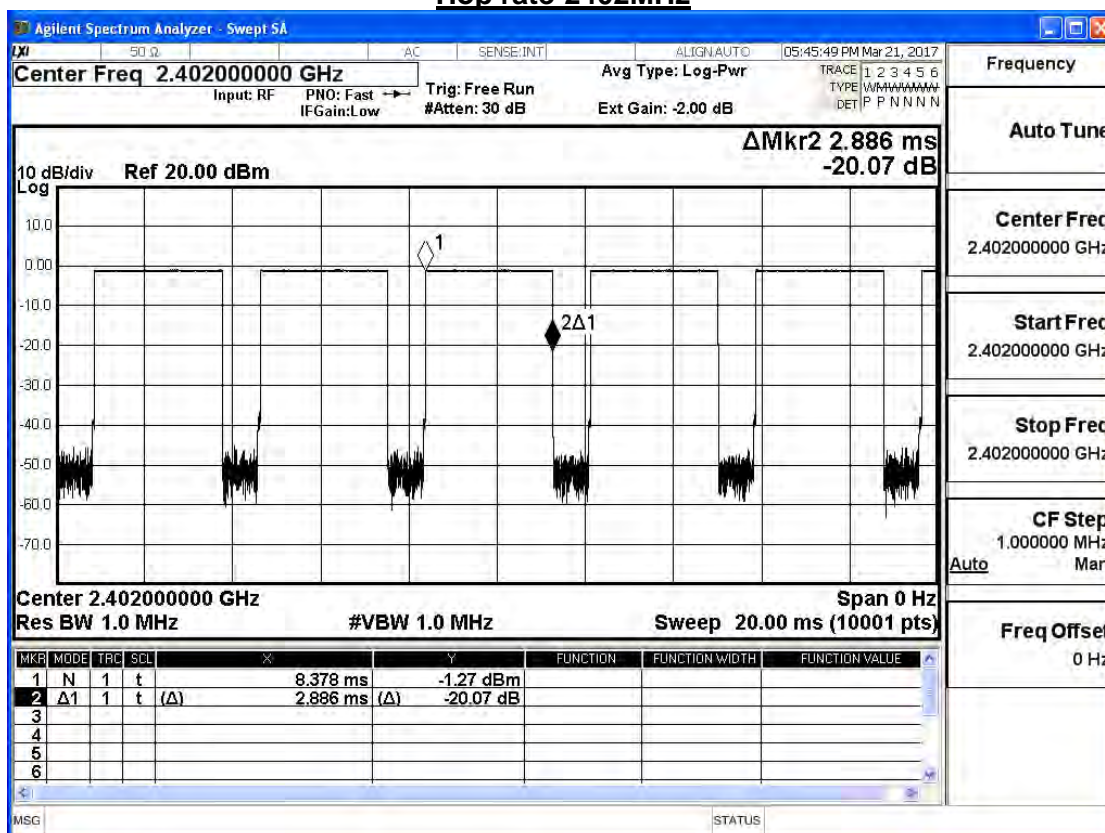
Dwell Time : 0.002888 \*  $(266.67/79)$  \*  $31.60 = \underline{0.3081 \text{ sec}}$  °

C) 2480MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.888 ms = 0.002888 sec

Dwell Time : 0.002888 \*  $(266.67/79)$  \*  $31.60 = \underline{0.3081 \text{ sec}}$  °

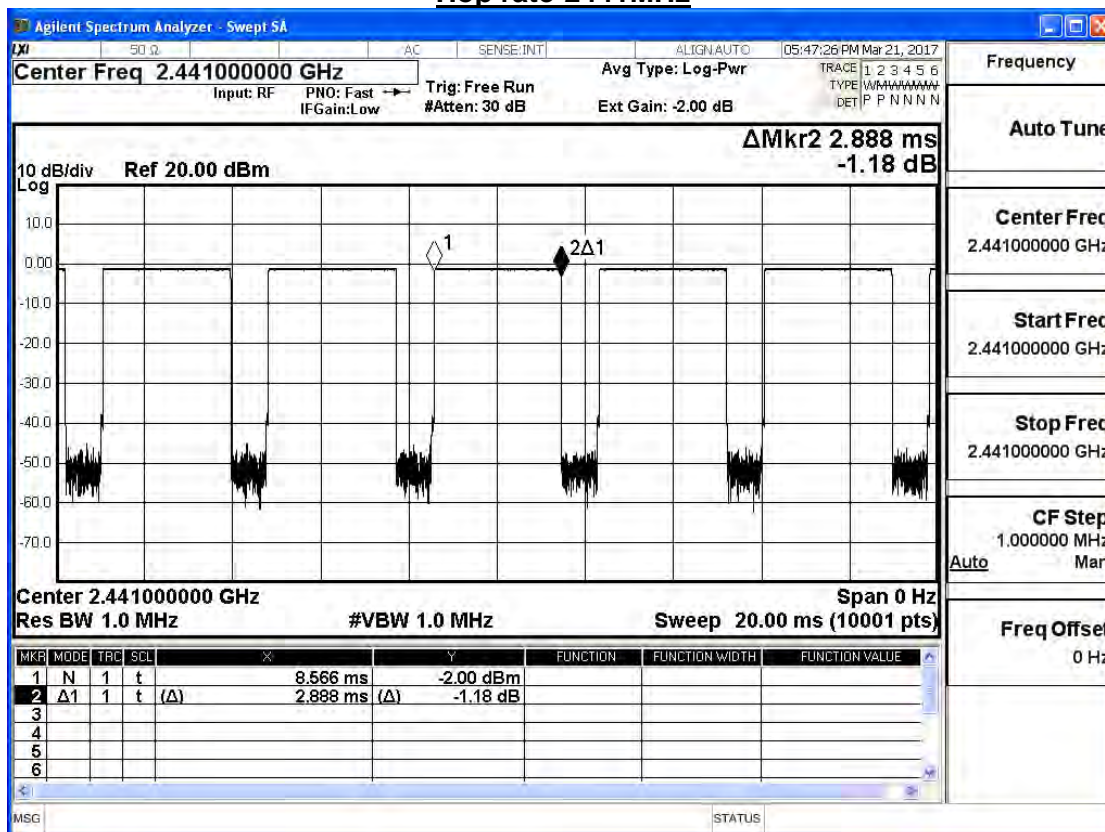
Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard °

### Hop rate-2402MHz

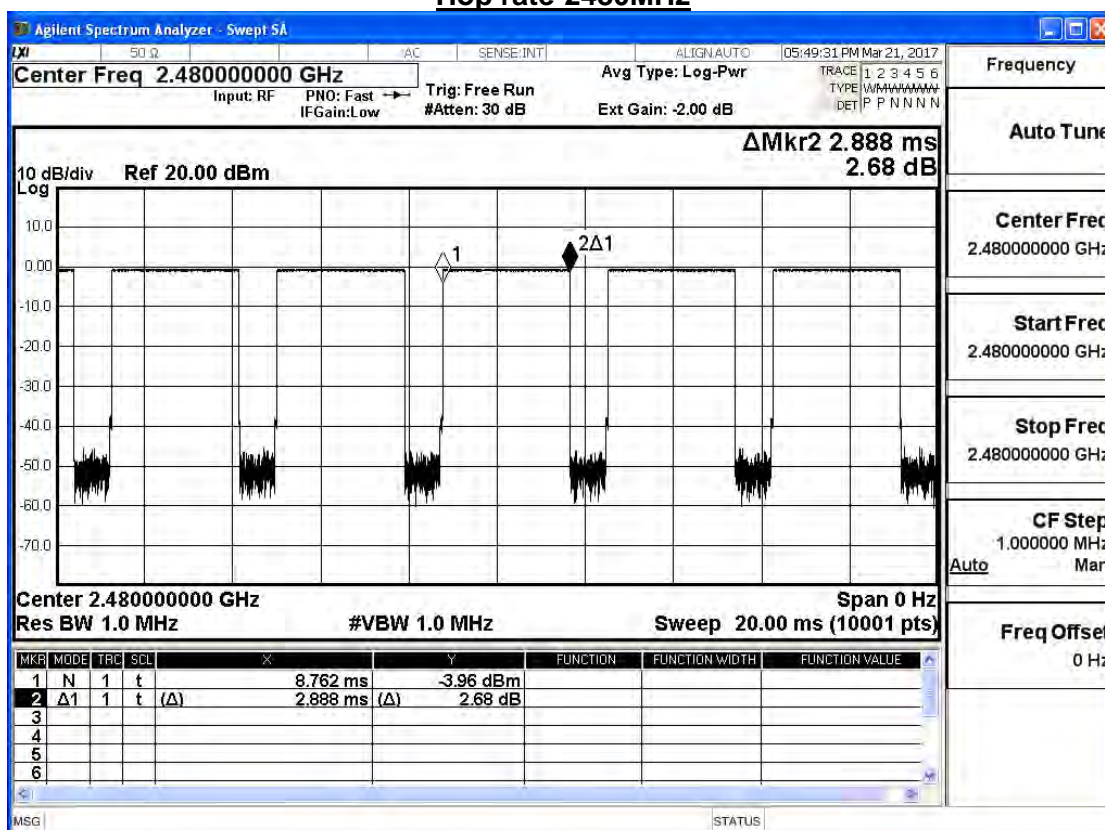




## Hop rate-2441MHz



## Hop rate-2480MHz



Note: Dwell time = time slot length \* hop rate / number of hopping channels \* period

Product	UHD861-P		
Test Item	Dwell Time		
Test Mode	Mode 2: Tx_2DH5		
Date of Test	2017/03/21	Test Site	SR10-H

### $\pi/4$ -DQPSK

Occupancy Time of Frequency Hopping System

A) 2402MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.892 ms = 0.002892 sec

Dwell Time : 0.002892 \* (266.67/79) \* 31.60 = 0.3085 sec °

B) 2441MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.890 ms = 0.002890 sec

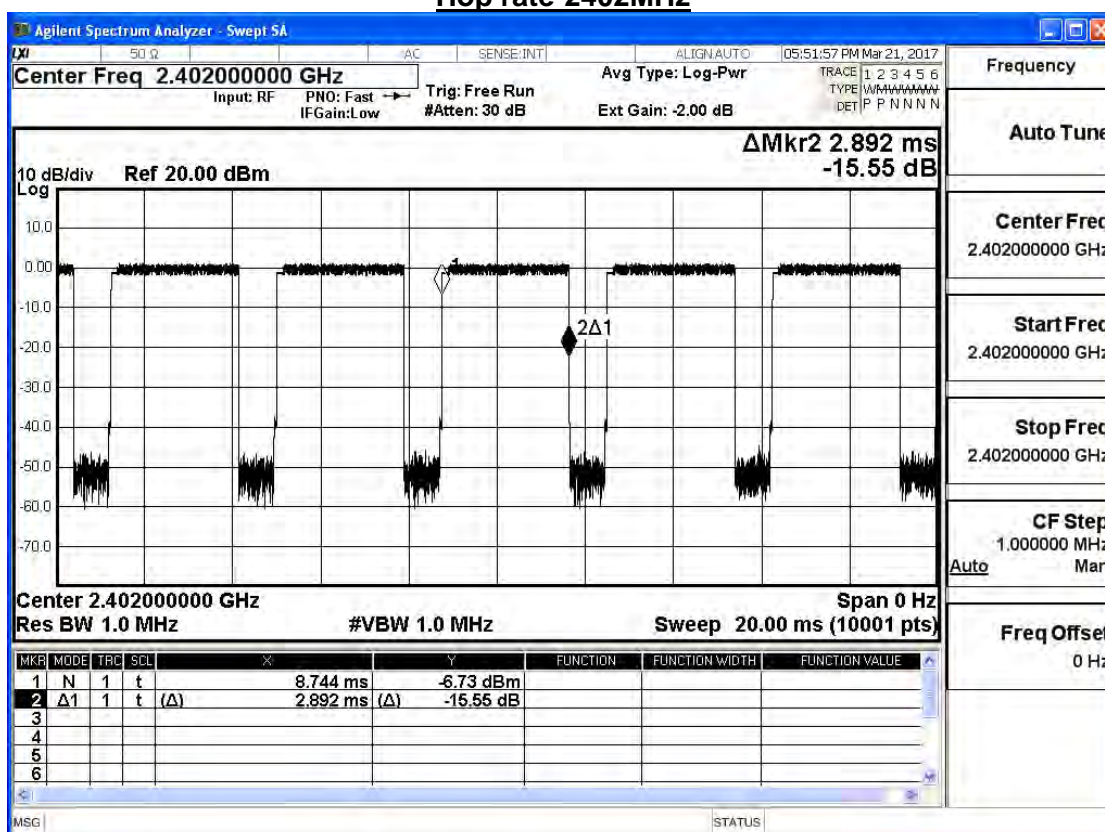
Dwell Time : 0.002890 \* (266.67/79) \* 31.60 = 0.3083 sec °

C) 2480MHz Test Time Period:  $0.4 \times 79 = 31.60 \text{ sec}$  , Time slot length : 2.890 ms = 0.002890 sec

Dwell Time : 0.002890 \* (266.67/79) \* 31.60 = 0.3083 sec °

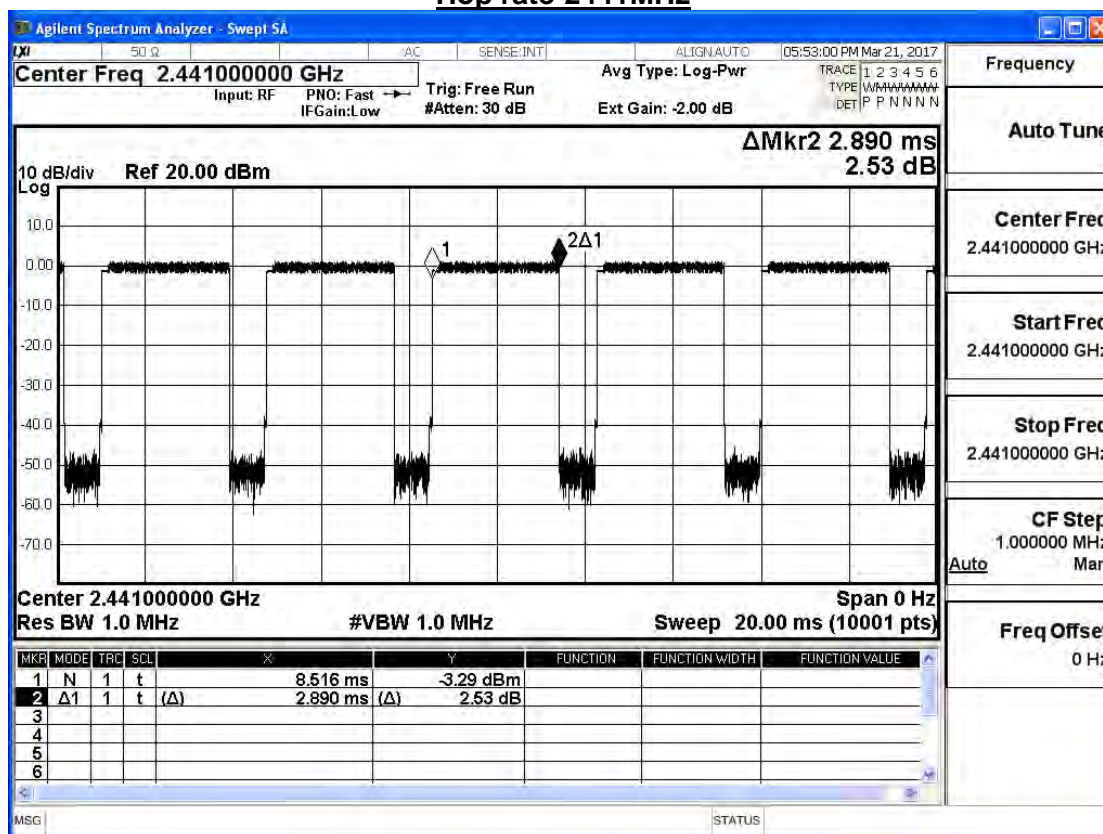
Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard °

### Hop rate-2402MHz

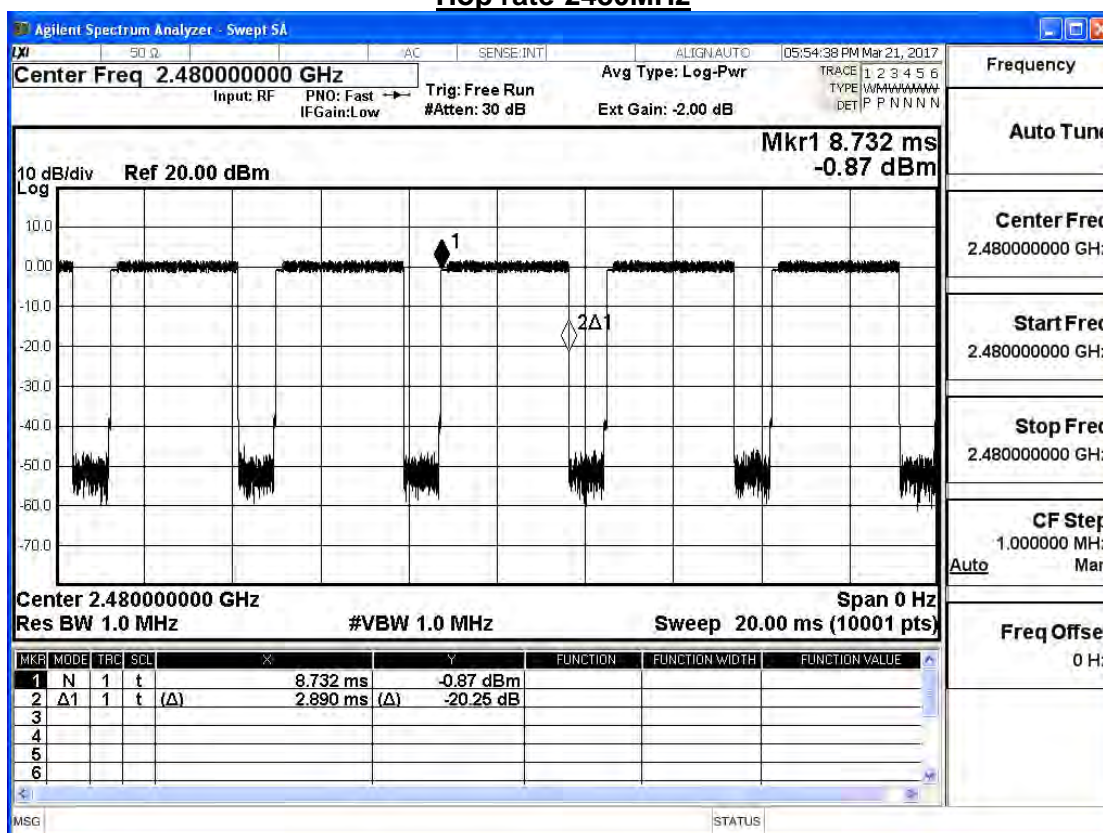




## Hop rate-2441MHz



## Hop rate-2480MHz



Note: Dwell time = time slot length \* hop rate / number of hopping channels \* period

Product	UHD861-P		
Test Item	Dwell Time		
Test Mode	Mode 3: Tx_3DH5		
Date of Test	2017/03/21	Test Site	SR10-H

## 8-DPSK

Occupancy Time of Frequency Hopping System

A) 2402MHz Test Time Period:  $0.4 \times 79 = 31.60\text{sec}$  , Time slot length :  $2.894\text{ms} = \underline{0.002894\text{ sec}}$

Dwell Time :  $\underline{0.002894} \times (266.67/79) \times 31.60 = \underline{0.3087\text{ sec}}$  °

B) 2441MHz Test Time Period:  $0.4 \times 79 = 31.60\text{sec}$  , Time slot length :  $2.894\text{ ms} = \underline{0.002894\text{ sec}}$

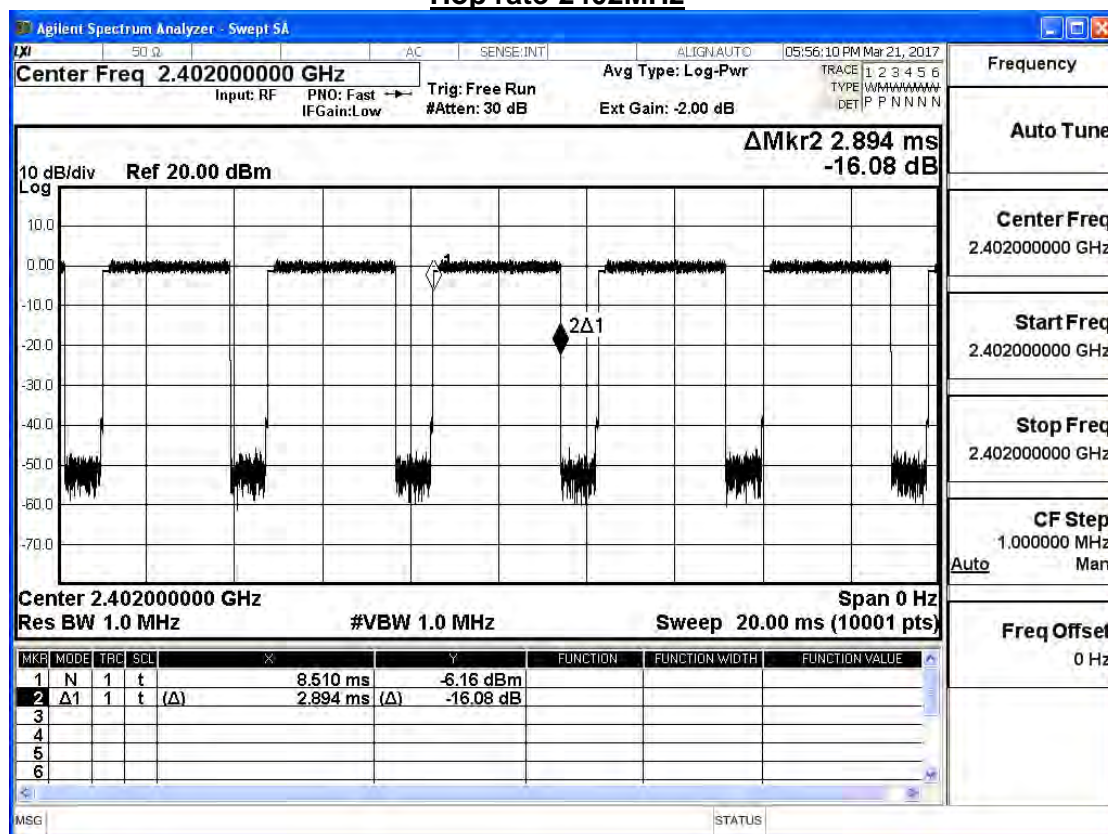
Dwell Time :  $\underline{0.002894} \times (266.67/79) \times 31.60 = \underline{0.3087\text{ sec}}$  °

C) 2480MHz Test Time Period:  $0.4 \times 79 = 31.60\text{sec}$  , Time slot length :  $2.894\text{ ms} = \underline{0.002894\text{ sec}}$

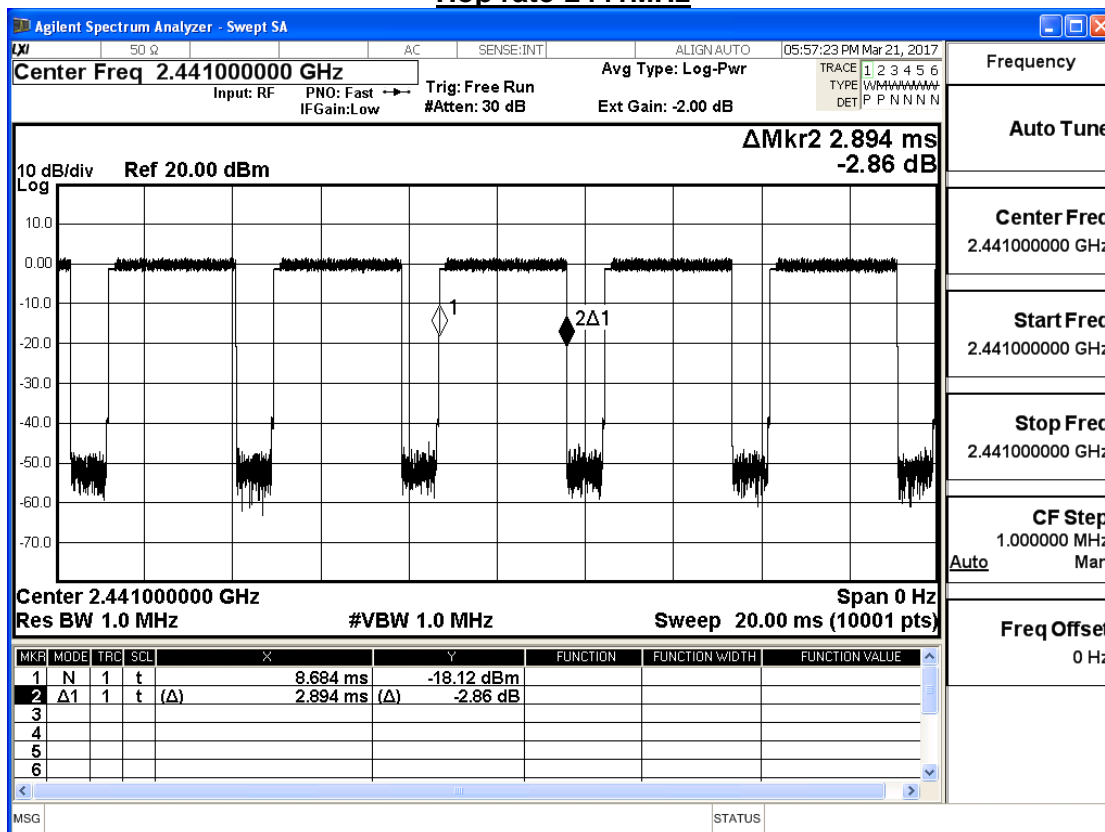
Dwell Time :  $\underline{0.002894} \times (266.67/79) \times 31.60 = \underline{0.3087\text{ sec}}$  °

Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard °

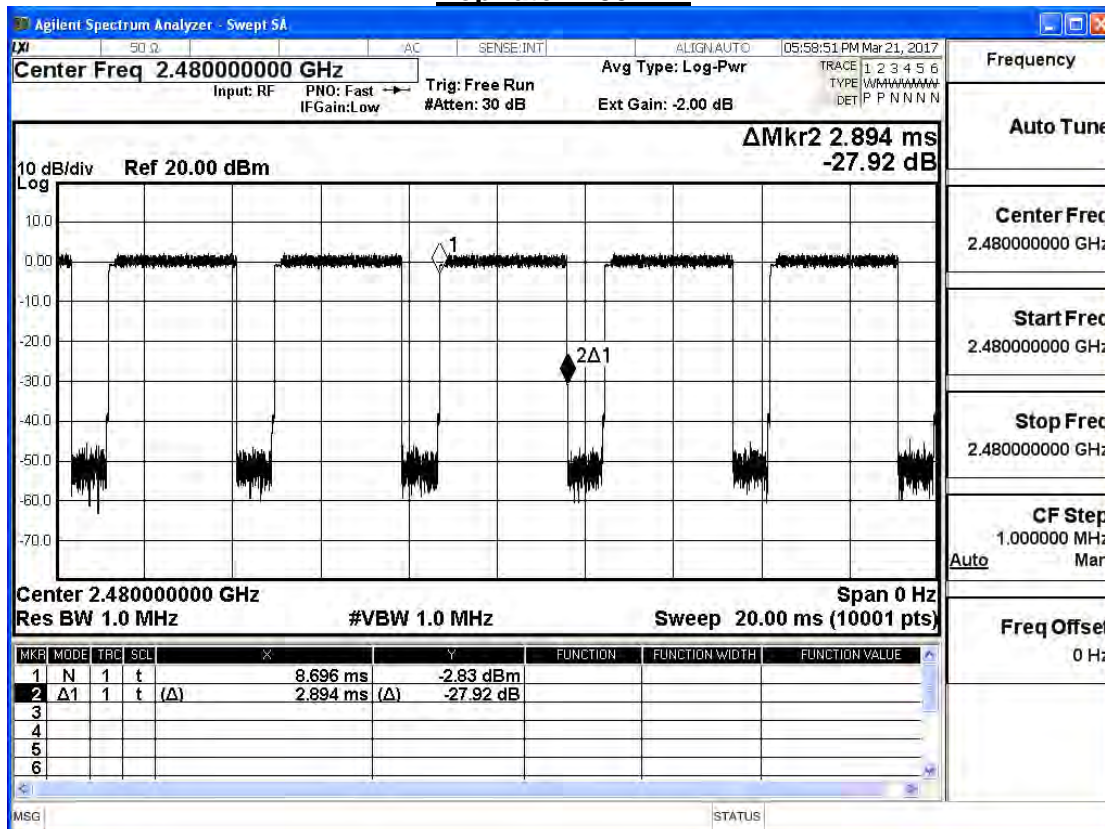
### Hop rate-2402MHz



## Hop rate-2441MHz



## Hop rate-2480MHz



Note: Dwell time = time slot length \* hop rate / number of hopping channels \* period



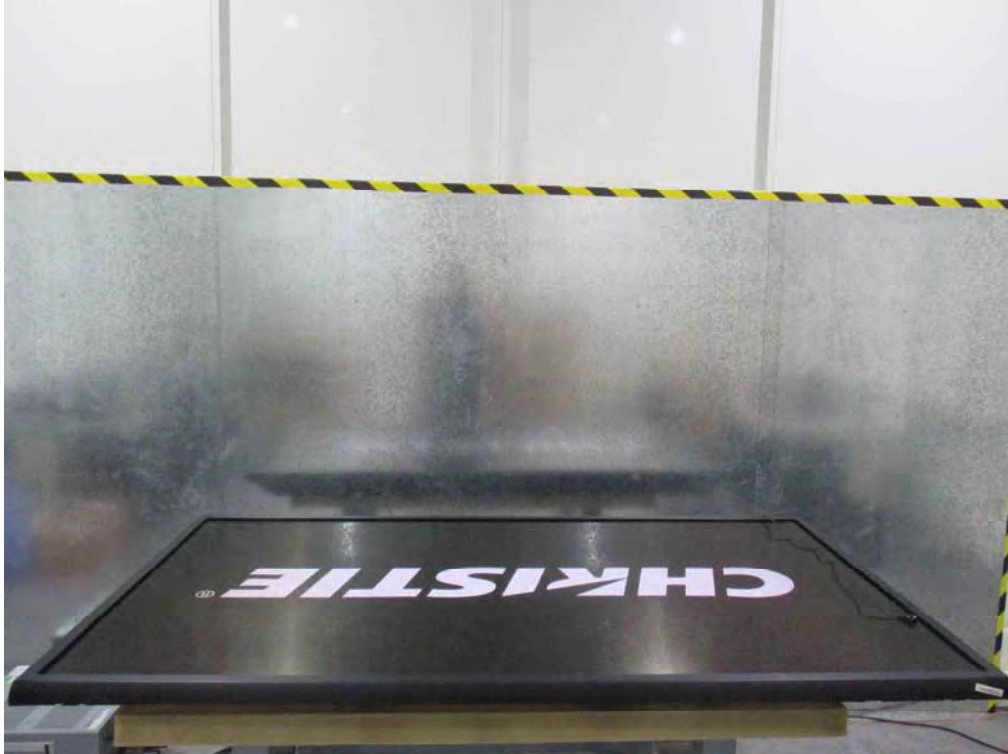
## Attachment 1

### ➤ Test Setup Photograph

#### <Conducted Emission>

Test Mode : Mode 3: Tx\_3DH5

Description : Front View of Conducted Emission Test Setup



Test Mode : Mode 3: Tx\_3DH5

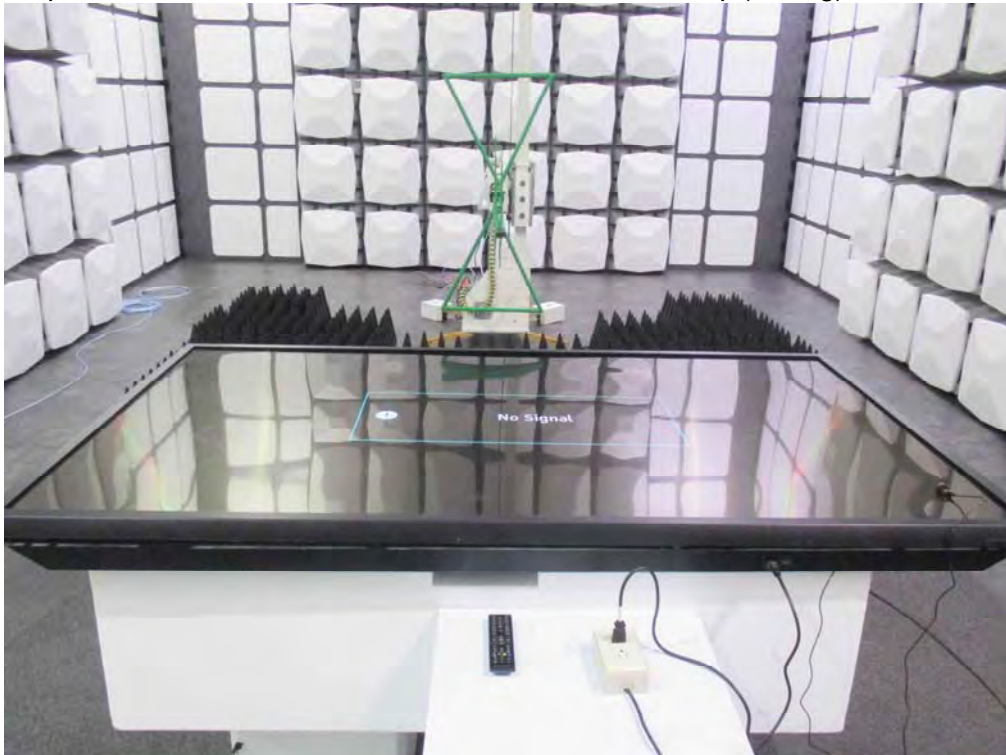
Description : Back View of Conducted Emission Test Setup



### <Radiated Emission>

Test Mode : Mode 1: Tx\_DH5

Description : Front View of Radiated Emission Test Setup (Bi-Log)



Test Mode : Mode 1: Tx\_DH5

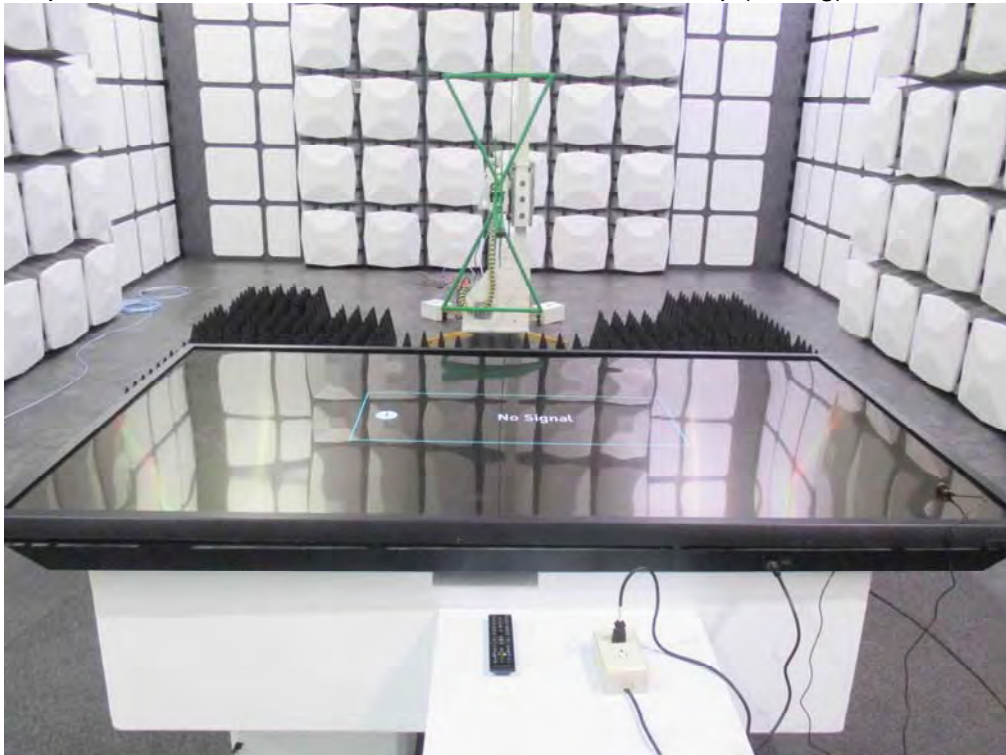
Description : Back View of Radiated Emission Test Setup (Bi-Log)





Test Mode : Mode 2: Tx\_2DH5

Description : Front View of Radiated Emission Test Setup (Bi-Log)



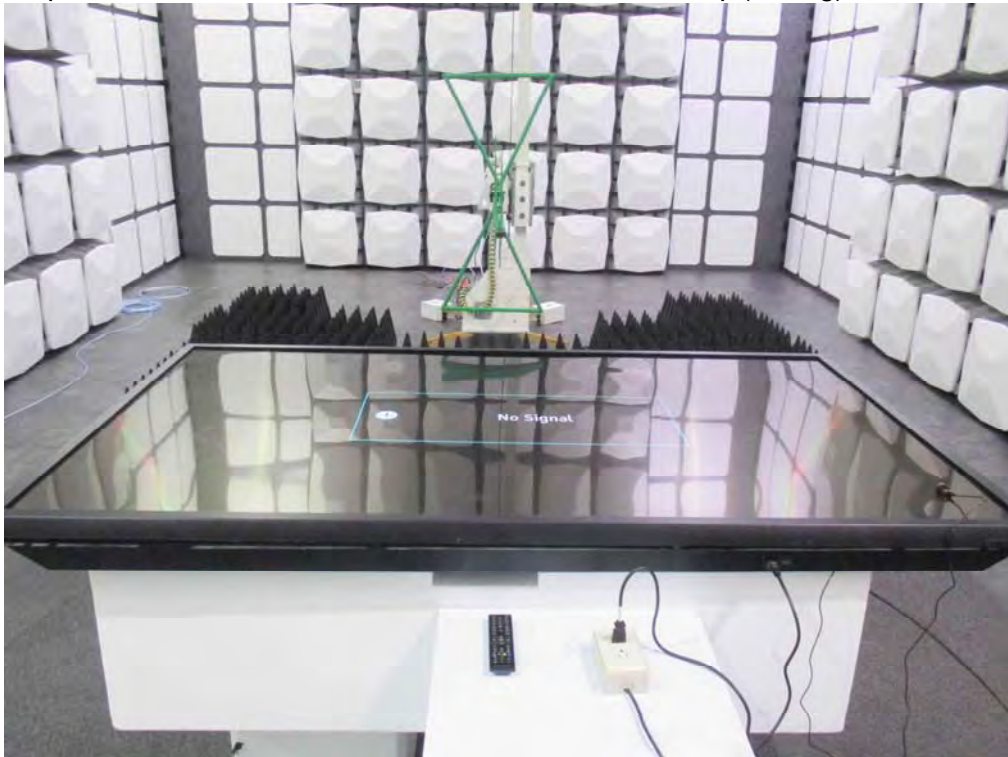
Test Mode : Mode 2: Tx\_2DH5

Description : Back View of Radiated Emission Test Setup (Bi-Log)



Test Mode : Mode 3: Tx\_3DH5

Description : Front View of Radiated Emission Test Setup (Bi-Log)



Test Mode : Mode 3: Tx\_3DH5

Description : Back View of Radiated Emission Test Setup (Bi-Log)





Test Mode : Mode 1: Tx\_DH5

Description : Front View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 1: Tx\_DH5

Description : Back View of Radiated Emission Test Setup (Horn)





Test Mode : Mode 2: Tx\_2DH5

Description : Front View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 2: Tx\_2DH5

Description : Back View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 3: Tx\_3DH5

Description : Front View of Radiated Emission Test Setup (Horn)



Test Mode : Mode 3: Tx\_3DH5

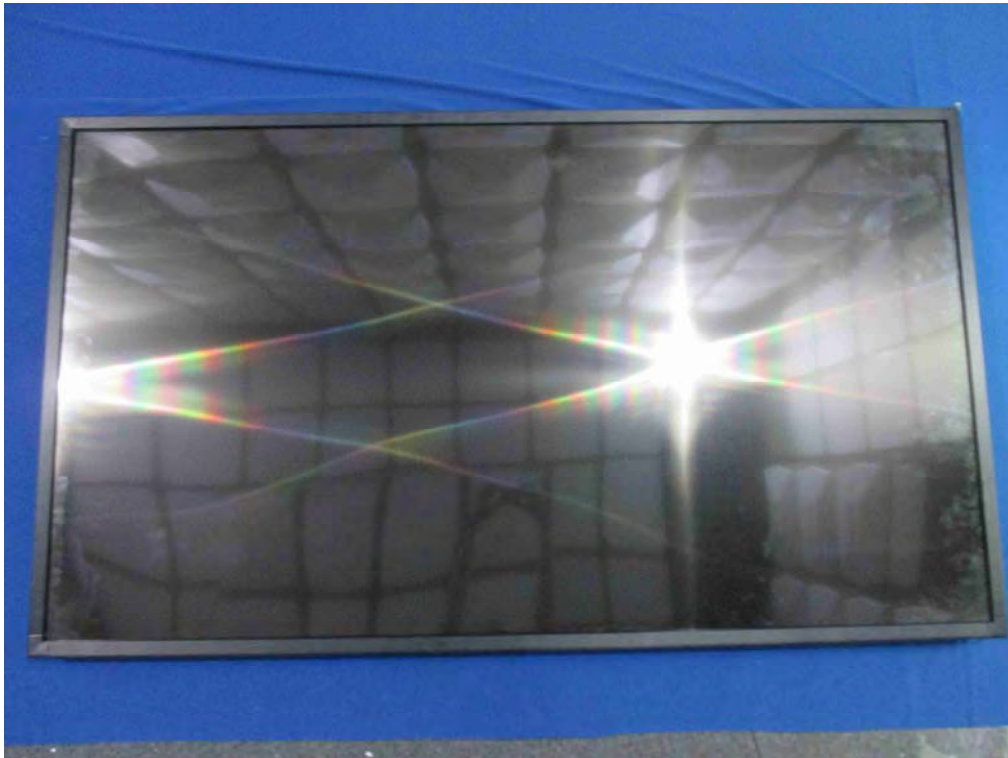
Description : Back View of Radiated Emission Test Setup (Horn)



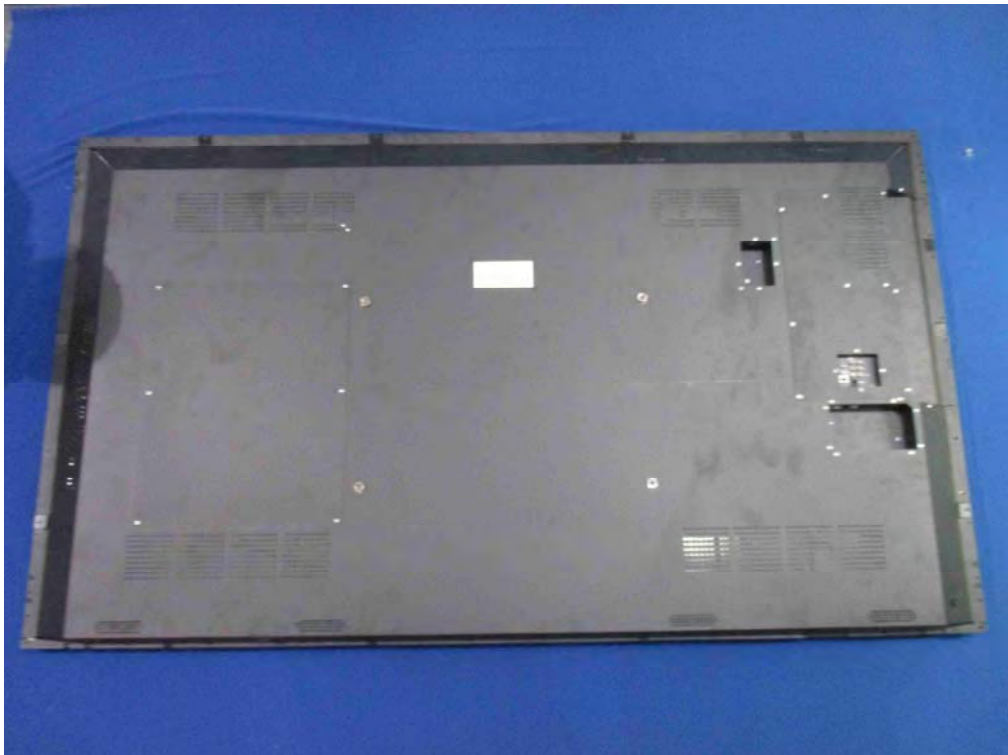
## Attachment 2

### ➤ EUT External Photograph

(1) EUT Photo



(2) EUT Photo

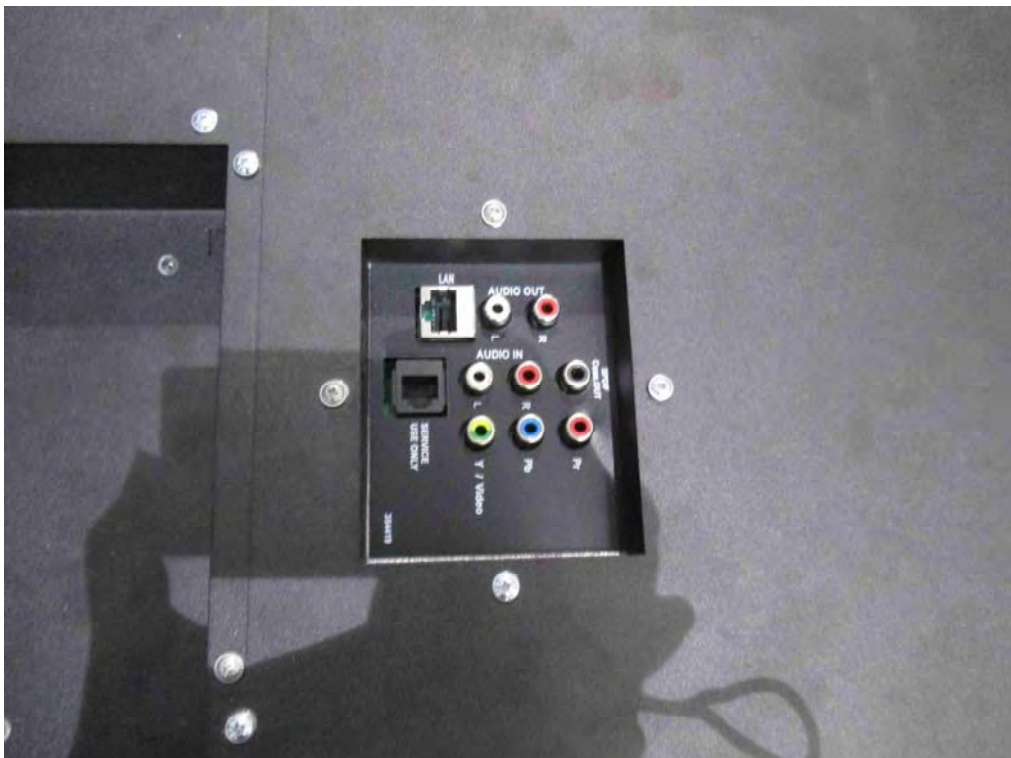




(3) EUT Photo



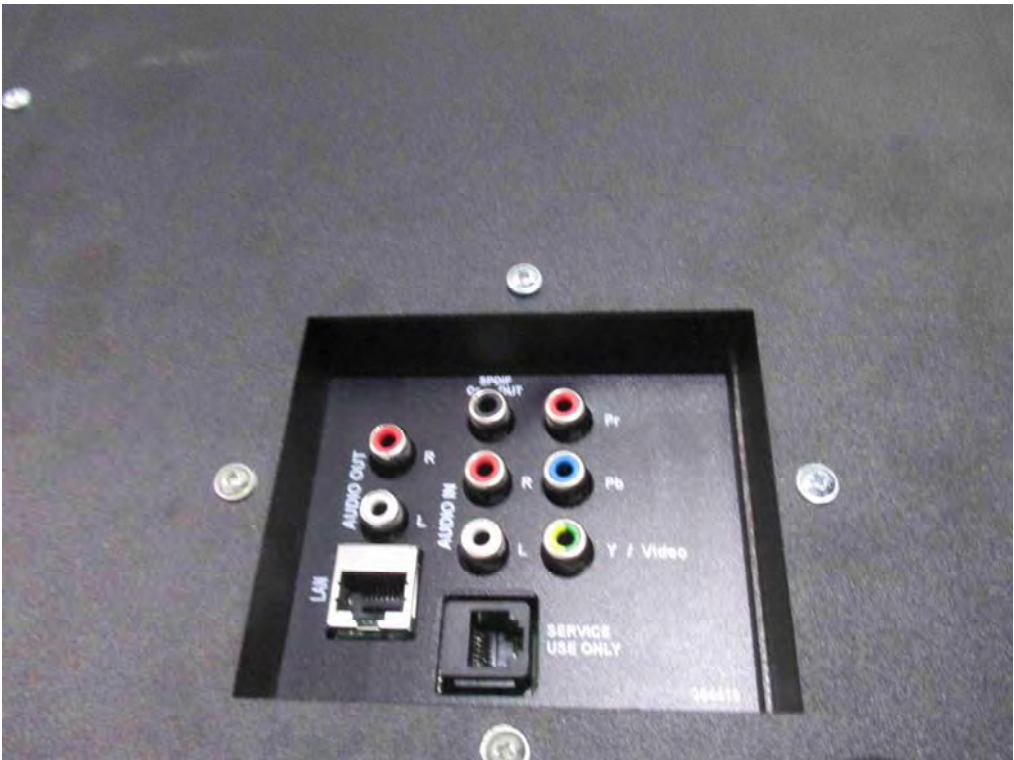
(4) EUT Photo



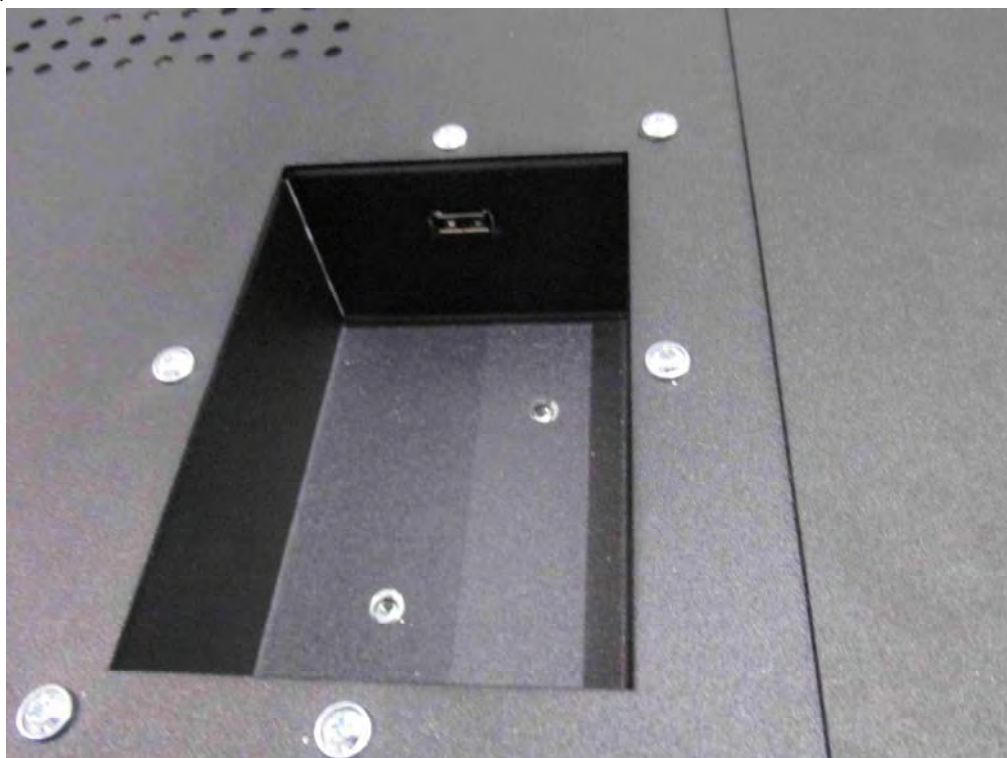
(5) EUT Photo



(6) EUT Photo



(7) EUT Photo

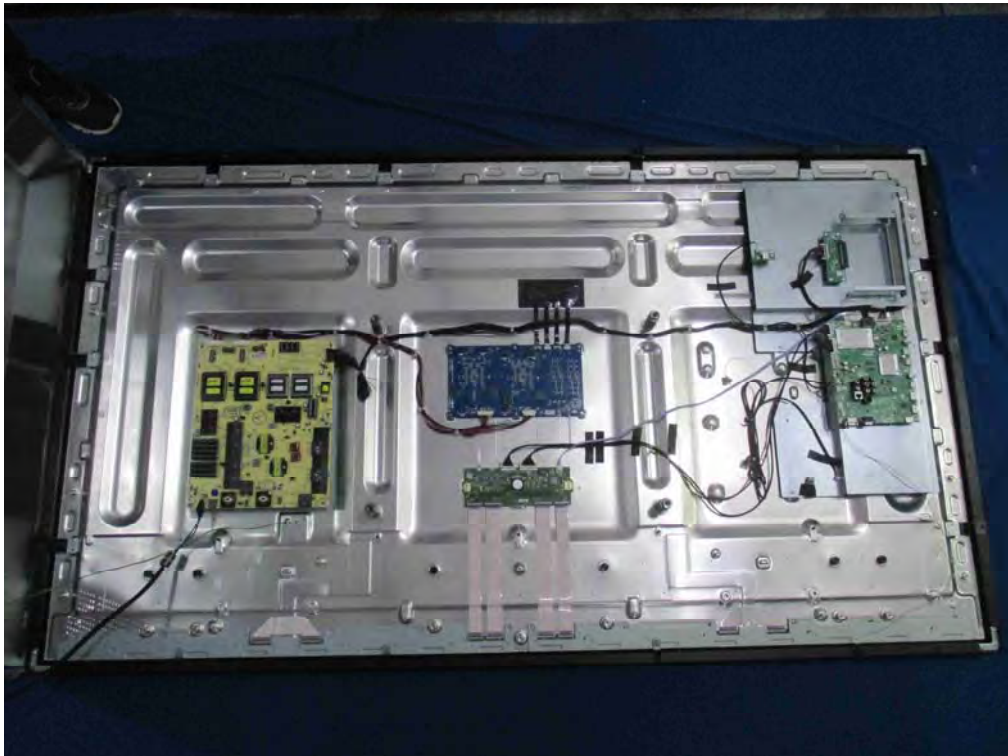




### Attachment 3

#### ➤ EUT Internal Photograph

(1) EUT Photo



(2) EUT Photo

