# FCC Test Report

Product Name	: Multimedia Systen	n
Trade Name	: Continental	
Model No.	: NAC EUR wave 3	
FCC ID.	: ZFW-NACEUR3	

Applicant : Continental Automotive Rambouillet France SAS

Address : 1, rue de Clairefontaine, Rambouillet, 78120, France

Date of Receipt	: Sep. 21, 2017
Issued Date	: Oct. 20, 2017
Report No.	: 1790307R-RFUSP01V00-A
Report Version	: V1.0



The test results relate only to the samples tested.

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#### **Test Report Certification** Issued Date : Oct. 20, 2017 : 1790307R-RFUSP01V00-A Report No. DEKRA Product Name : Multimedia System Continental Automotive Rambouillet France SAS Applicant Address : 1, rue de Clairefontaine, Rambouillet, 78120, France Manufacturer : Continental Automotive Czech Republic, s.r.o Model No. : NAC EUR wave 3 FCC ID. : ZFW-NACEUR3 : DC 12V EUT Voltage : DC 12V Testing Voltage Trade Name : Continental Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015 ANSI C63.10: 2013 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 and In Documented By 1 (Carol Tsai / Senior Engineering Adm. Specialist) Max Chana Tested By (Max Chang / Engineer) Approved By (Roy Wang / Director)



## **Revision History**

Report No.	Version	Description	Issued Date
1790307R-RFUSP01V00-A	V1.0	Initial issue of report	Oct. 20, 2017



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#### 1. General Information

#### 1.1. EUT Description

Product Name	Multimedia System
Trade Name	Continental
Model No.	NAC EUR wave 3
Frequency Range/Channel Number	2402~2480MHz / 79 Channels
Type of Modulation	GFSK, π/4-DQPSK, 8-DPSK

Antenna Information		
Antenna Type	Small Loop Antenna	
Antenna Gain	-0.99 dBi	



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		

- 1. This device is a Multimedia System including 2.4GHz b/g/n and BT2.0 transmitting and receiving function.
- 2. Regards to the frequency band operation; the lowest 
  imiddle 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	
тх	Mode 1: Transmit

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

Pro	oduct	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	DELL	Latitude 600	N/A		Non-Shielded, 1.7m, one ferrite core bonded
2	Battery	YUASA	NP7-12	N/A	DoC	



## 1.4. Configuration of tested System

	Connection Diagram			
B	Battery (2)	UT A		
Signal Cable Type		Signal cable Description		
Α	USB Cable	Shielded, 1m		
В	Power Cable	Shielded, 2m		

#### 1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.		
2	Execute the test program "CSR".		
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	Actual	Test Site
		(IEC 68-1)		
Temperature (°C)		15 - 35	23	
Humidity (%RH)	FCC PART 15 C 15.207	25 - 75	50	]
Barometric pressure (mbar)	Conducted Emission (FHSS)	860 - 1060	950-1000	
Temperature (°C)		15 - 35	24	
Humidity (%RH)	FCC PART 15 C 15.247 Peak Power Output (FHSS)	25 - 75	45	3
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)		15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.247	25 - 75	54	2
Barometric pressure (mbar)	Radiated Emission (FHSS)	860 - 1060	950-1000	
Temperature (°C)		15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.247	25 - 75	50	2
Barometric pressure (mbar)	Band Edge (FHSS)	860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	24	
Humidity (%RH)	Number of hopping Frequency	25 - 75	45	3
Barometric pressure (mbar)	(FHSS)	860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	24	
Humidity (%RH)	Carrier Frequency Separation	25 - 75	45	3
Barometric pressure (mbar)	(FHSS)	860 - 1060	950-1000	]
Temperature (°C)		15 - 35	24	
Humidity (%RH)	FCC PART 15 C 15.247	25 - 75	45	3
Barometric pressure (mbar)	Occupied Bandwidth (FHSS)	860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247	15 - 35	24	
Humidity (%RH)	RF antenna conducted test	25 - 75	45	3
Barometric pressure (mbar)	(FHSS)	860 - 1060	950-1000	]
Temperature (°C)		15 - 35	24	
Humidity (%RH)	FCC PART 15 C 15.247 Dwell Time (FHSS)	25 - 75	45	3
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test site information refers to 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

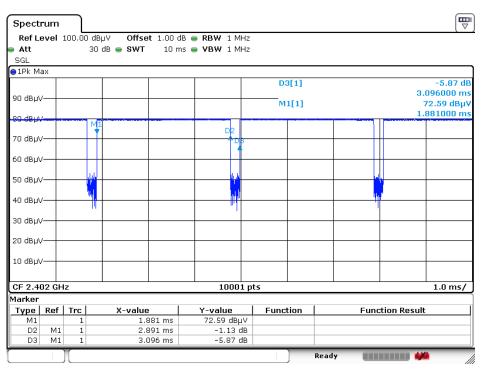
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : <u>http://www.dekra.com.tw/index\_en.aspx</u>

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

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   TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

#### 1.7. Duty Cycle

```
Duty Cycle=2.895msec /3.75msec=0.772
Duty Cycle correction factor= 20 LOG 0.772= -2.248 dB
```



Date: 24.SEP.2017 15:05:53

#### 2. Conducted Emission

#### 2.1. Test Equipment

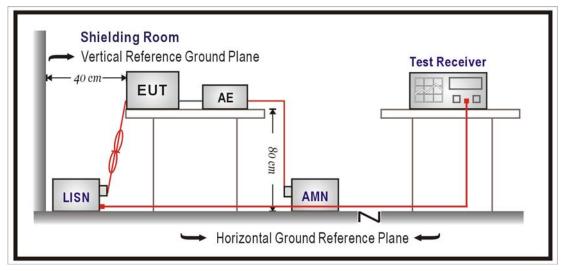
The following test equipment's are used during the test:

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2017/02/06
Test Receiver	R&S	ESCS 30	836858/022	2017/04/12
LISN	R&S	ENV216	100092	2017/07/31

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 invested 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

EUT using DC input voltage, so the project does not have to test.

#### 3. Peak Power Output

#### 3.1. Test Equipment

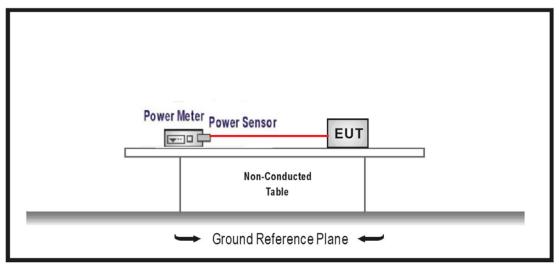
The following test equipment is used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13
High Speed Peak Power	Anritsu	ML2496A	1602004	2017/01/20
Meter Dual Input				
Pulse Power Sensor	Anritsu	MA2411B	1531043	2017/01/20
Pulse Power Sensor	Anritsu	MA2411B	1531044	2017/01/20

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	Multimedia System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

#### GFSK

Channel No.	Frequency	Measure Level	Limit	Deput
Channel No.	(MHz)	(dBm)	(dBm)	Result
00	2402	4.390	30	Pass
39	2441	4.730	30	Pass
78	2480	5.090	30	Pass

#### π/4-DQPSK

Channel No.	Frequency	Measure Level	Limit	Result
	(MHz)	(dBm)	(dBm)	
00	2402	4.400	30	Pass
39	2441	4.740	30	Pass
78	2480	5.110	30	Pass

#### 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	4.410	30	Pass
39	2441	4.720	30	Pass
78	2480	5.100	30	Pass

#### 4. Radiated Emission

#### 4.1. Test Equipment

The following test equipment are used during the test:

#### Radiated Emission / CB4-H

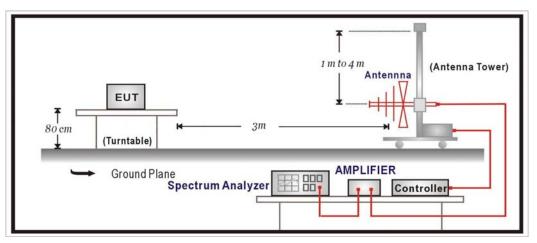
Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26

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

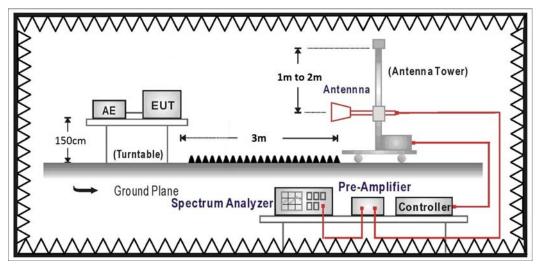


#### 4.2. Test Setup

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.

FCC Part 15 Subpart C Paragraph 15.209 Limits				
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

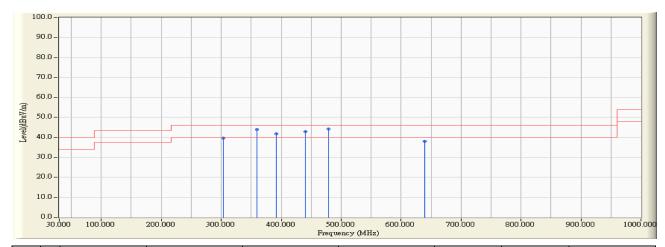
According to FCC Part 15 Subpart C Paragraph 15.247: 2015



#### 4.6. Test Result

#### **30MHz-1GHz Spurious**

Site : CB4-H	Time : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2441MHz

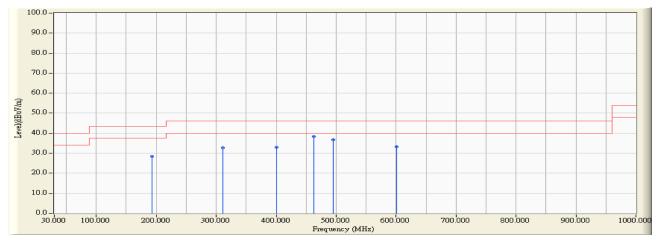


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		303.217	-19.645	59.206	39.561	-6.439	46.000	QUASIPEAK
2		359.800	-17.555	61.522	43.968	-2.032	46.000	QUASIPEAK
3		392.133	-16.489	58.287	41.798	-4.202	46.000	QUASIPEAK
4		440.633	-15.660	58.494	42.834	-3.166	46.000	QUASIPEAK
5	*	479.433	-14.697	58.858	44.161	-1.839	46.000	QUASIPEAK
6		639.483	-12.731	50.745	38.013	-7.987	46.000	QUASIPEAK

- 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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2441MHz

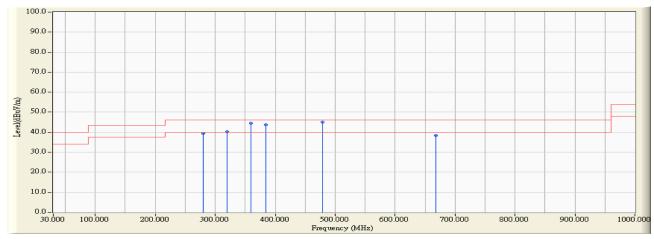


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		193.283	-23.607	52.037	28.431	-15.069	43.500	QUASIPEAK
2		311.300	-19.173	51.981	32.809	-13.191	46.000	QUASIPEAK
3		400.217	-16.224	49.151	32.927	-13.073	46.000	QUASIPEAK
4	*	463.267	-15.200	53.466	38.266	-7.734	46.000	QUASIPEAK
5		495.600	-14.474	51.222	36.749	-9.251	46.000	QUASIPEAK
6		600.683	-13.146	46.340	33.194	-12.806	46.000	QUASIPEAK

- 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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

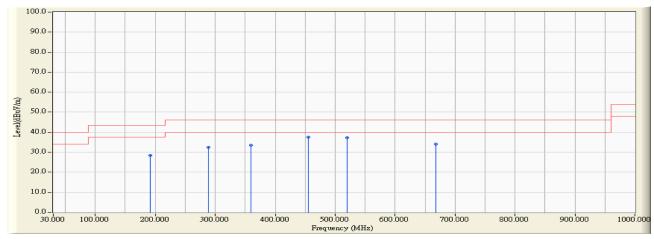


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		280.583	-19.874	59.290	39.417	-6.583	46.000	QUASIPEAK
2		319.383	-18.683	59.006	40.323	-5.677	46.000	QUASIPEAK
3		359.800	-17.555	62.096	44.542	-1.458	46.000	QUASIPEAK
4		384.050	-16.792	60.418	43.626	-2.374	46.000	QUASIPEAK
5	*	479.433	-14.697	59.812	45.115	-0.885	46.000	QUASIPEAK
6		668.583	-12.418	50.707	38.288	-7.712	46.000	QUASIPEAK

- 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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

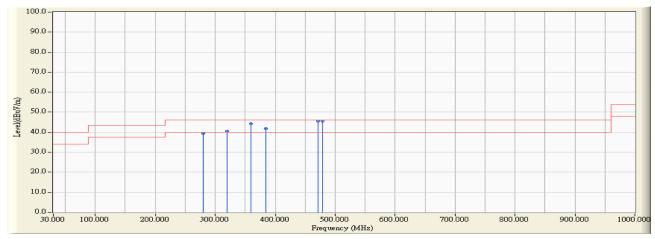


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		191.667	-23.662	52.133	28.472	-15.028	43.500	QUASIPEAK
2		288.667	-19.731	52.287	32.556	-13.444	46.000	QUASIPEAK
3		359.800	-17.555	51.052	33.498	-12.502	46.000	QUASIPEAK
4	*	455.183	-15.229	52.630	37.401	-8.599	46.000	QUASIPEAK
5		519.850	-14.245	51.441	37.196	-8.804	46.000	QUASIPEAK
6		668.583	-12.418	46.460	34.041	-11.959	46.000	QUASIPEAK

- 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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2441MHz

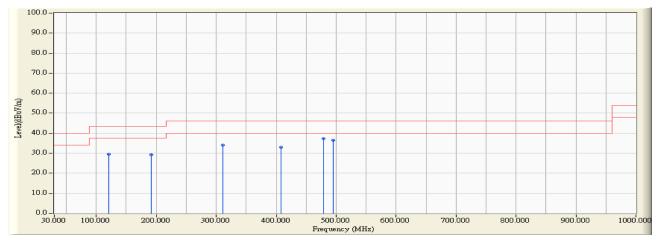


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		280.583	-19.874	59.275	39.402	-6.598	46.000	QUASIPEAK
2		319.383	-18.683	59.076	40.393	-5.607	46.000	QUASIPEAK
3		359.800	-17.555	61.913	44.359	-1.641	46.000	QUASIPEAK
4		384.050	-16.792	58.661	41.869	-4.131	46.000	QUASIPEAK
5	*	471.350	-14.978	60.548	45.570	-0.430	46.000	QUASIPEAK
6		479.433	-14.697	60.246	45.549	-0.451	46.000	QUASIPEAK

- 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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCCCC_EFS_S2_30M-1GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2441MHz



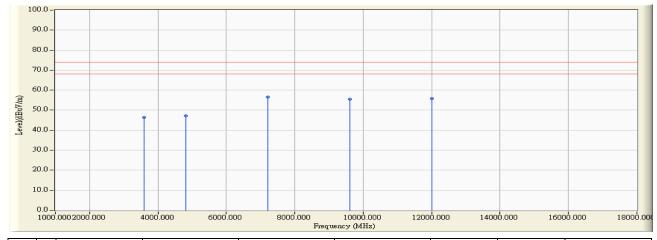
		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		120.533	-21.084	50.443	29.359	-14.141	43.500	QUASIPEAK
2		191.667	-23.662	52.757	29.096	-14.404	43.500	QUASIPEAK
3		311.300	-19.173	53.293	34.121	-11.879	46.000	QUASIPEAK
4		408.300	-16.335	49.322	32.988	-13.012	46.000	QUASIPEAK
5	*	479.433	-14.697	52.048	37.351	-8.649	46.000	QUASIPEAK
6		495.600	-14.474	50.879	36.406	-9.594	46.000	QUASIPEAK

- 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 : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2402MHz

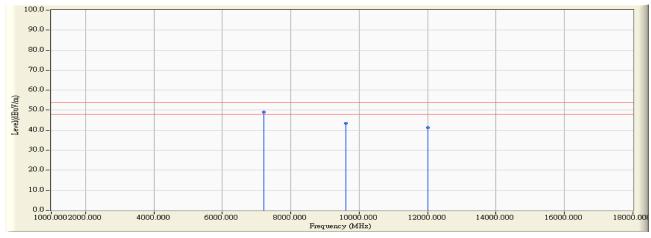


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3603.065	3.295	43.100	46.395	-27.605	74.000	PEAK
2		4804.217	8.276	38.810	47.086	-26.914	74.000	PEAK
3	*	7205.650	17.857	38.690	56.547	-17.453	74.000	PEAK
4		9607.285	22.459	32.980	55.438	-18.562	74.000	PEAK
5		12009.412	25.360	30.290	55.650	-18.350	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2402MHz

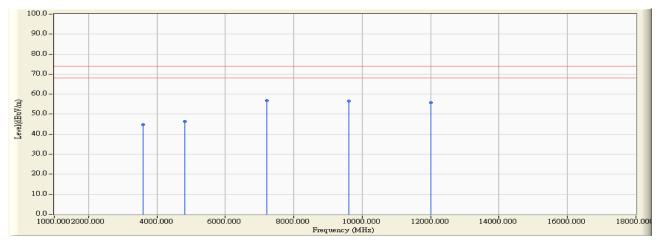


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7205.650	17.857	31.260	49.117	-4.883	54.000	AVERAGE
2		9607.285	22.459	21.060	43.518	-10.482	54.000	AVERAGE
3		12009.412	25.360	15.950	41.310	-12.690	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2402MHz

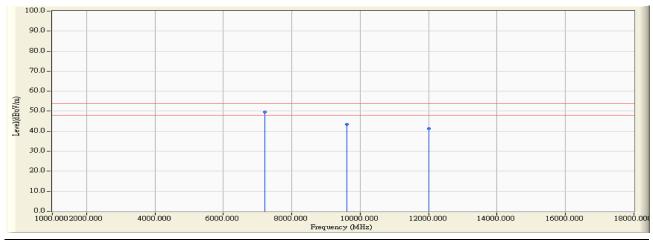


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3602.750	3.294	41.440	44.734	-29.266	74.000	PEAK
2		4803.780	8.273	38.180	46.454	-27.546	74.000	PEAK
3	*	7206.460	17.860	38.860	56.719	-17.281	74.000	PEAK
4		9607.062	22.458	34.030	56.488	-17.512	74.000	PEAK
5		12011.012	25.360	30.380	55.740	-18.260	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2402MHz

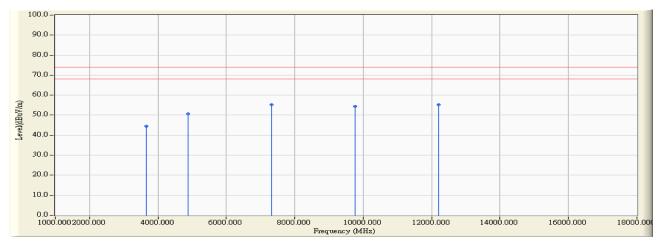


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7206.460	17.860	31.760	49.619	-4.381	54.000	AVERAGE
2		9607.942	22.461	20.950	43.411	-10.589	54.000	AVERAGE
3		12011.012	25.360	15.920	41.280	-12.720	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2441MHz

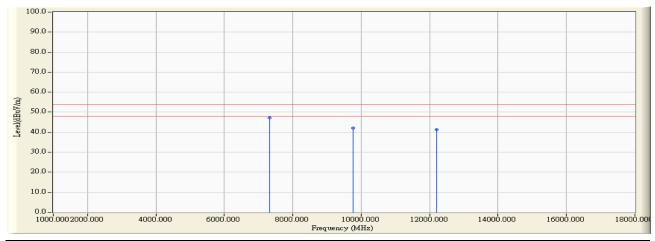


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3661.145	3.488	40.940	44.428	-29.572	74.000	PEAK
2		4881.890	8.670	42.070	50.740	-23.260	74.000	PEAK
3		7323.572	18.129	37.010	55.140	-18.860	74.000	PEAK
4		9764.495	23.087	31.450	54.536	-19.464	74.000	PEAK
5	*	12206.310	25.500	29.650	55.150	-18.850	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2441MHz

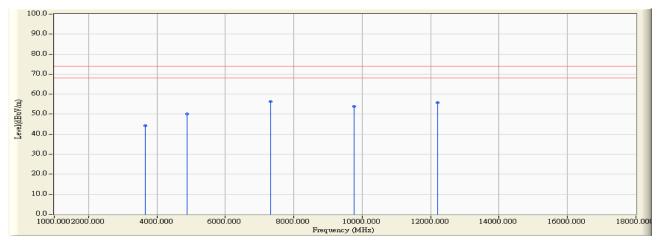


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7323.572	18.129	29.030	47.160	-6.840	54.000	AVERAGE
2		9764.495	23.087	18.960	42.046	-11.954	54.000	AVERAGE
3		12206.310	25.500	15.700	41.200	-12.800	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2441MHz

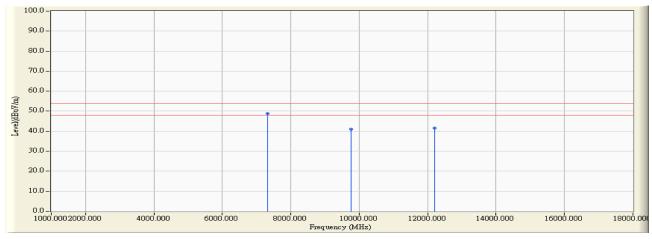


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3661.015	3.488	40.620	44.108	-29.892	74.000	PEAK
2		4881.660	8.669	41.580	50.249	-23.751	74.000	PEAK
3	*	7323.445	18.129	38.110	56.240	-17.760	74.000	PEAK
4		9763.745	23.083	30.720	53.804	-20.196	74.000	PEAK
5		12205.412	25.499	30.290	55.789	-18.211	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2441MHz

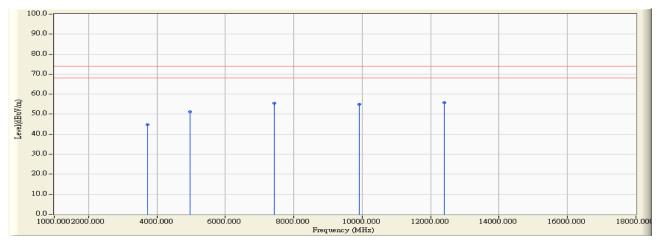


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7323.015	18.129	30.660	48.789	-5.211	54.000	AVERAGE
2		9763.745	23.083	17.900	40.984	-13.016	54.000	AVERAGE
3		12205.412	25.499	15.930	41.429	-12.571	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2480MHz

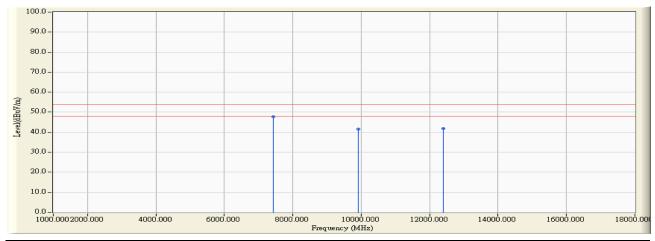


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3720.342	3.685	41.080	44.765	-29.235	74.000	PEAK
2		4959.947	9.066	42.090	51.156	-22.844	74.000	PEAK
3		7440.340	18.380	37.210	55.591	-18.409	74.000	PEAK
4		9919.837	23.616	31.250	54.866	-19.134	74.000	PEAK
5	*	12400.712	25.649	30.160	55.808	-18.192	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26			
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6			
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V			
HORIZONTAL				
EUT : Multimedia System	Note : DH5_2480MHz			

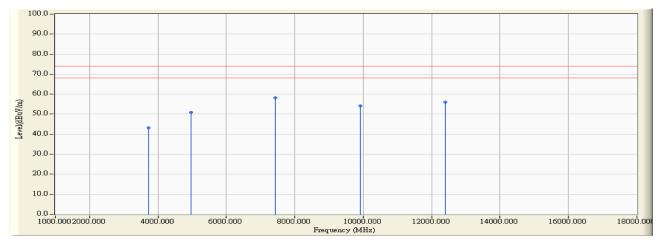


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7440.340	18.380	29.280	47.661	-6.339	54.000	AVERAGE
2		9919.837	23.616	18.060	41.676	-12.324	54.000	AVERAGE
3		12400.712	25.649	16.290	41.938	-12.062	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2480MHz

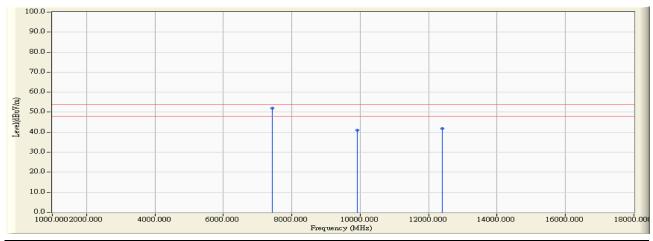


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3719.465	3.682	39.370	43.052	-30.948	74.000	PEAK
2		4960.222	9.068	41.740	50.808	-23.192	74.000	PEAK
3	*	7440.355	18.380	39.800	58.181	-15.819	74.000	PEAK
4		9920.032	23.616	30.490	54.106	-19.894	74.000	PEAK
5		12400.417	25.648	30.260	55.908	-18.092	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2480MHz

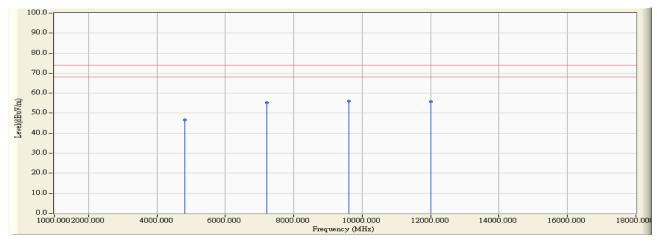


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7440.355	18.380	33.550	51.931	-2.069	54.000	AVERAGE
2		9920.120	23.616	17.400	41.017	-12.983	54.000	AVERAGE
3		12400.417	25.648	16.130	41.778	-12.222	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2402MHz

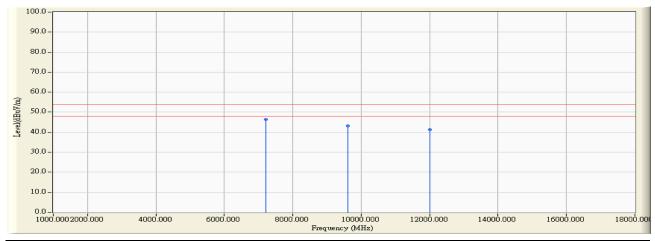


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4804.270	8.276	38.250	46.527	-27.473	74.000	PEAK
2		7206.217	17.858	37.400	55.259	-18.741	74.000	PEAK
3	*	9607.245	22.458	33.480	55.938	-18.062	74.000	PEAK
4		12009.630	25.360	30.350	55.710	-18.290	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2402MHz

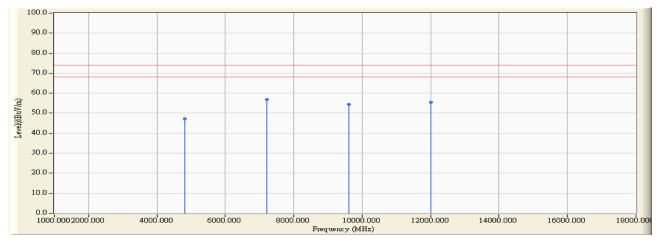


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7206.217	17.858	28.510	46.369	-7.631	54.000	AVERAGE
2		9607.245	22.458	20.780	43.238	-10.762	54.000	AVERAGE
3		12009.630	25.360	15.800	41.160	-12.840	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2402MHz

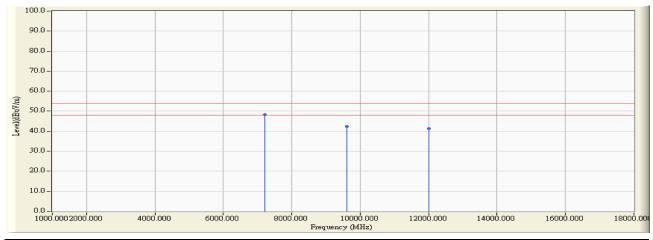


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4804.332	8.276	38.960	47.237	-26.763	74.000	PEAK
2	*	7205.857	17.857	38.910	56.768	-17.232	74.000	PEAK
3		9608.295	22.463	32.020	54.483	-19.517	74.000	PEAK
4		12011.225	25.360	30.130	55.491	-18.509	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2402MHz

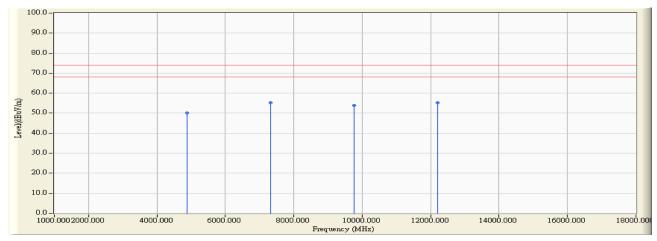


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7205.857				<u> </u>	54.000	AVERAGE
2		9608.295					54.000	
3		12011.225	25.360	15.830	41.191	-12.809	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

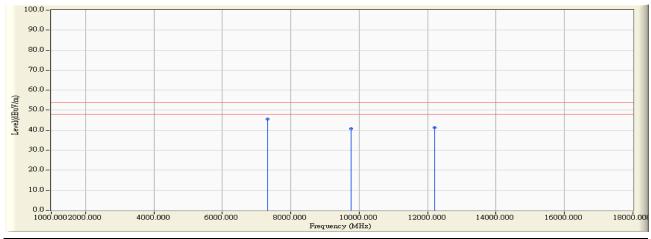


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4881.525	43.280	41.600	50.268	-23.732	74.000	PEAK
2	*	7323.527	50.800	37.170	55.300	-18.700	74.000	PEAK
3		9766.227	23.092	30.810	53.902	-20.098	74.000	PEAK
4		12205.715	25.500	29.790	55.289	-18.711	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

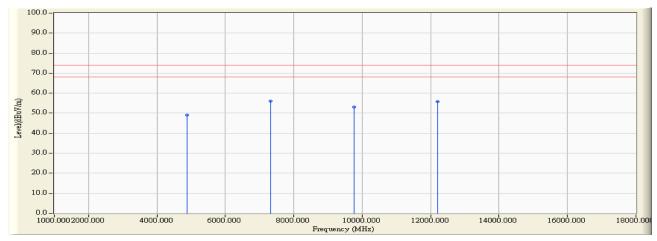


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7323.527	18.129	27.380	45.510	-8.490	54.000	AVERAGE
2		9766.227	23.092	17.590	40.682	-13.318	54.000	AVERAGE
3		12205.715	25.500	15.670	41.169	-12.831	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

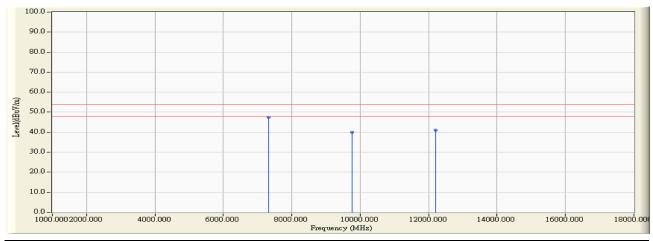


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4881.880	8.670	40.430	49.100	-24.900	74.000	PEAK
2	*	7322.322	18.128	37.980	56.107	-17.893	74.000	PEAK
3		9764.037	23.084	30.020	53.105	-20.895	74.000	PEAK
4		12204.840	25.499	30.200	55.699	-18.301	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2441MHz

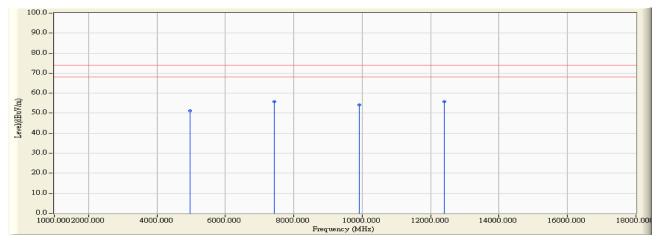


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7322.322	18.128	29.290	47.417	-6.583	54.000	AVERAGE
2		9764.037	23.084	16.990	40.075	-13.925	54.000	AVERAGE
3		12204.840	25.499	15.640	41.139	-12.861	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2480MHz

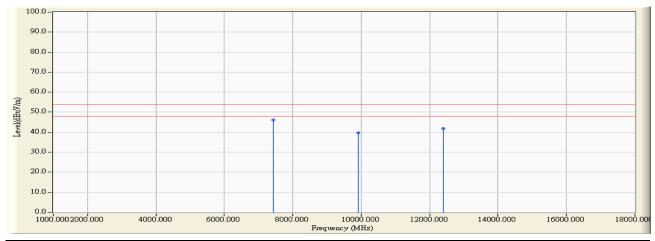


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4960.722	9.070	42.010	51.080	-22.920	74.000	PEAK
2	*	7439.467	18.379	37.470	55.849	-18.151	74.000	PEAK
3		9920.340	23.617	30.410	54.027	-19.973	74.000	PEAK
4		12400.887	25.648	30.170	55.818	-18.182	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2480MHz

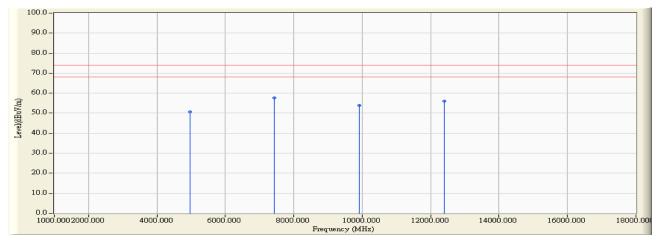


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7439.467	18.379	27.820	46.199	-7.801	54.000	AVERAGE
2		9920.340	23.617	16.190	39.807	-14.193	54.000	AVERAGE
3		12400.887	25.648	16.120	41.768	-12.232	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2480MHz

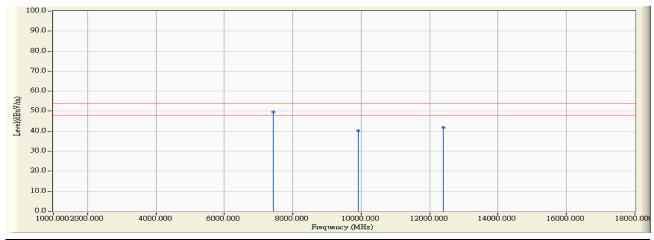


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4960.175	9.068	41.700	50.767	-23.233	74.000	PEAK
2	*	7439.572	18.379	39.150	57.529	-16.471	74.000	PEAK
3		9920.395	23.618	30.300	53.918	-20.082	74.000	PEAK
4		12401.530	25.649	30.490	56.139	-17.861	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 2DH5_2480MHz

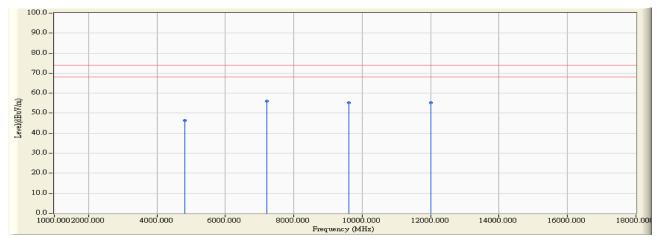


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7439.572	18.379	31.220	49.599	-4.401	54.000	AVERAGE
2		9920.395	23.618	16.630	40.248	-13.752	54.000	AVERAGE
3		12401.530	25.649	16.150	41.799	-12.201	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

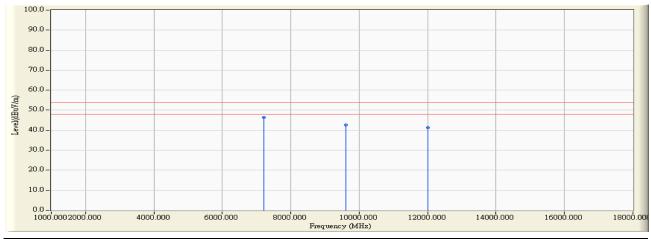


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4803.640	8.273	38.020	46.293	-27.707	74.000	PEAK
2	*	7205.672	17.857	38.110	55.967	-18.033	74.000	PEAK
3		9608.075	22.461	32.820	55.282	-18.718	74.000	PEAK
4		12011.955	25.361	29.890	55.251	-18.749	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

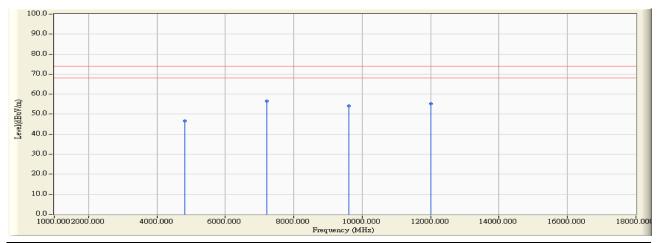


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7205.672	17.857	28.580	46.437	-7.563	54.000	AVERAGE
2		9608.075	22.461	20.140	42.602	-11.398	54.000	AVERAGE
3		12011.955	25.361	15.880	41.241	-12.759	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

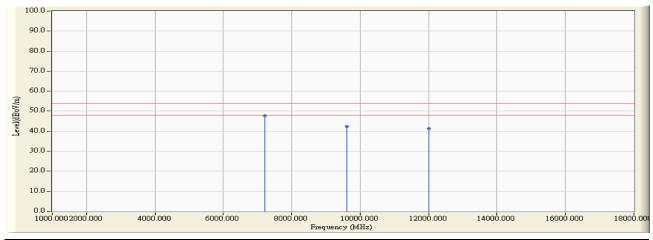


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4803.985	8.275	38.490	46.765	-27.235	74.000	PEAK
2	*	7205.755	17.857	38.720	56.577	-17.423	74.000	PEAK
3		9608.042	22.461	31.770	54.232	-19.768	74.000	PEAK
4		12008.960	25.359	29.980	55.339	-18.661	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

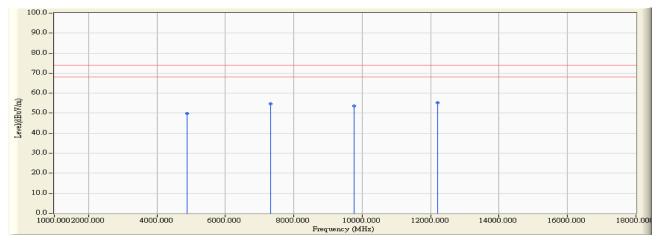


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7205.755	17.857	29.750	47.607	-6.393	54.000	AVERAGE
2		9608.042	22.461	19.860	42.322	-11.678	54.000	AVERAGE
3		12008.960	25.359	15.890	41.249	-12.751	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2441MHz

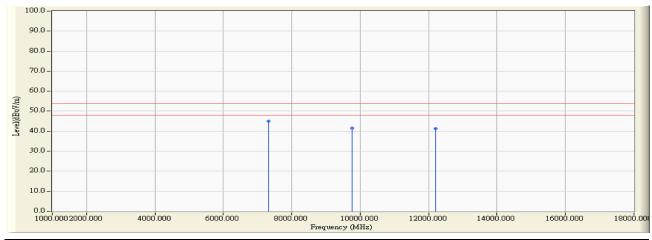


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4881.702	8.669	41.120	49.789	-24.211	74.000	PEAK
2		7323.280	18.129	36.580	54.710	-19.290	74.000	PEAK
3		9764.490	23.087	30.500	53.586	-20.414	74.000	PEAK
4	*	12203.992	25.498	29.730	55.228	-18.772	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2441MHz

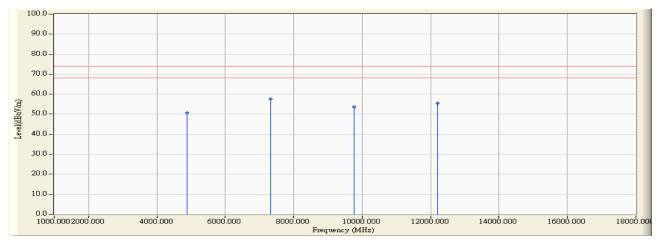


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7323.280	18.129	26.830	44.960	-9.040	54.000	AVERAGE
2		9764.490	23.087	18.340	41.426	-12.574	54.000	AVERAGE
3		12203.992	25.498	15.710	41.208	-12.792	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2441MHz

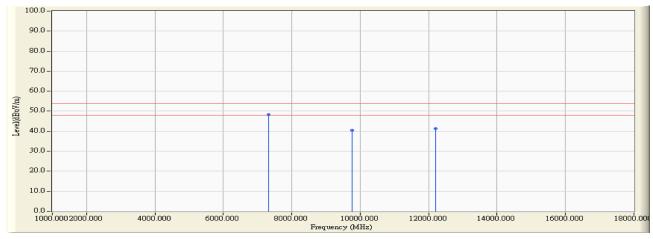


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4881.960	8.670	41.920	50.591	-23.409	74.000	PEAK
2	*	7322.685	18.128	39.590	57.718	-16.282	74.000	PEAK
3		9765.097	23.088	30.650	53.738	-20.262	74.000	PEAK
4		12205.750	25.500	30.000	55.499	-18.501	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2441MHz

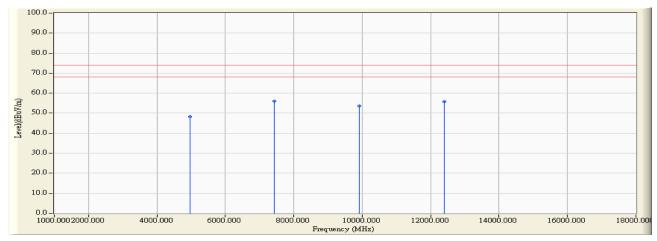


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7322.685	18.128	30.190	48.318	-5.682	54.000	AVERAGE
2		9765.097	23.088	17.500	40.588	-13.412	54.000	AVERAGE
3		12205.750	25.500	15.660	41.159	-12.841	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

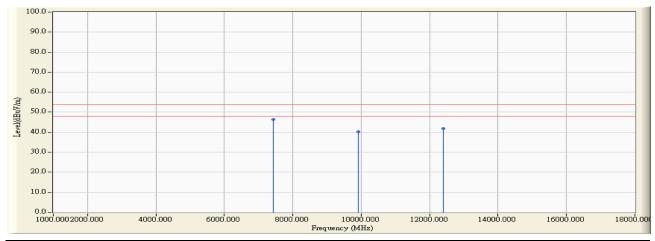


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4960.515	9.069	39.120	48.189	-25.811	74.000	PEAK
2	*	7439.622	18.380	37.610	55.989	-18.011	74.000	PEAK
3		9919.777	23.616	29.900	53.516	-20.484	74.000	PEAK
4		12401.487	25.649	30.100	55.749	-18.251	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

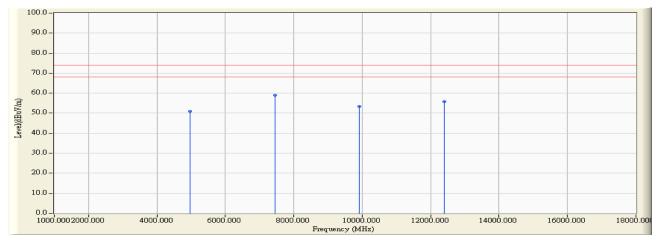


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7439.622	18.380	27.950	46.329	-7.671	54.000	AVERAGE
2		9919.777	23.616	16.690	40.306	-13.694	54.000	AVERAGE
3		12401.487	25.649	16.150	41.799	-12.201	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

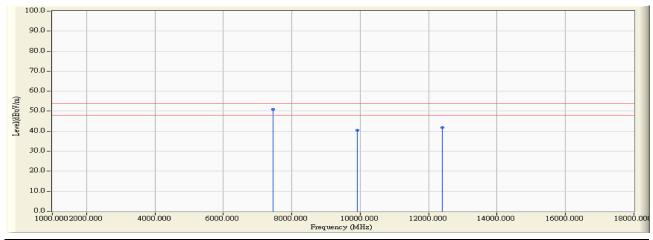


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		4959.807	9.065	41.740	50.806	-23.194	74.000	PEAK
2	*	7440.687	18.381	40.580	58.961	-15.039	74.000	PEAK
3		9919.632	23.615	29.740	53.355	-20.645	74.000	PEAK
4		12397.587	25.645	30.110	55.756	-18.244	74.000	PEAK

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.



Site : CB4-H	Time : 2017/09/26
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCCCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	7440.687	18.381	32.480	50.861	-3.139	54.000	AVERAGE
2		9919.632	23.615	16.840	40.455	-13.545	54.000	AVERAGE
3		12397.587	25.645	16.140	41.786	-12.214	54.000	AVERAGE

- 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. This Emission test range from 1GHz to 25GHz, but above 13GHz were not included because their levels are too low.

## 5. **RF** antenna conducted test

# 5.1. Test Equipment

The following test equipment is used during the test:

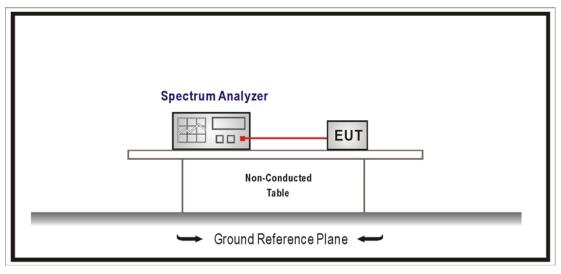
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date		
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23		
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13		
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26		

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	t Multimedia System													
Test Item	RF antenna conducted test													
Test Mode	Mode 1: Transmit													
Date of Test 2017/09/27 Test Site SR10-H														
GFSK														
Channel	Frequency	Measure Level	Limit	Result										
Channel	(MHz)	(dBc)	(dBc)	rtesuit										
00	2402	45.828	≧20	Pass										
39	2441	59.649	≧20	Pass										
78	2480	56.016	≧20	Pass										

										unne	1 00					
Agilen	rt Spec	etrum	Analyz	er - Swe	ept SA											
w∣ Cen		Fred	<sup>RF</sup> <b>q 2.4</b>	50 Ω 0000	AC   10000 G					dB Ext Gain: -1.30 dB DET P N N N N				quency		
						PNO: Fast FGain:Lov		Trig: Free #Atten: 30					D			Auto Tune
10 d	B/div	F	Ref 2	0.00 c	lBm							Δ		00 MHz .828 dB	<u> </u>	
Log		-	<u> </u>													
10.0						_			<b>2</b> 2	Δ3					C	enter Freq
0.00									7						2.400	000000 GHz
-10.0																
-10.0																Start Freq
-20.0						_			-						2.350	000000 GHz
-30.0	<u> </u>								╎╎							
-40.0	<u> </u>		+						K3 1							Stop Freq
-50.0			+.											<b>A</b>	2.450	000000 GHz
-60.0	ورونهنا رطوم	النهيدي	all the second		, endersteret, set	under stade about		۵ مورندونه بالمار اليران م		V Links	Listano, fritting als	Lundrest and the second				
															10.0	CF Step 000000 MHz
-70.0															<u>Auto</u>	Man
			000 C									_		00.0 MHz		
#Re	s BV	N 10	0 kH	Z		#V	BW 3	300 kHz				Sweep 10	).00 ms (1	0001 pts)	F	req Offset
	MODE				×			Y		FUNC	TION FI	JNCTION WIDTH	FUNCTI	ON VALUE		0 Hz
1	<u>N</u> ∆3		<u>f</u> f (Δ	1		<u>00 GHz</u> .00 MHz	(A)	4.327 dl 45.828						=		
3	F	•	f			00 GHz		41.501 dl								
4			_													
6														~		
< MSG												STATU	s			
WSG												STATU	3			

### Channel 00



Channel 39	Channel	39
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		ctrun		ilyzer - S	wept	SA															
LXI RL Cent		Fre	RF q 2	50 2.441		ac   000 (			_	] Trig: l		ISE:INT	-		Гуре	ALIGN AUTO : Log-Pwr >100/100		TRAC	4 Sep 27, 2017 <sup>E</sup> 1 2 3 4 5 6 E M <del>MWWW</del> A	5	Frequency
10 d	PNO: Fast C Trig: Free Run Avg Hold:>100/100 TYPE MHWWWWW IFGain:Low #Atten: 30 dB Ext Gain: -1.30 dB DET P P N N N ΔMkr4 -45.39 MHz 59.649 dB												Auto Tune								
10.00 0.00				20.00							-	4∆5	j								Center Freq 2.441000000 GHz
-10.0 -20.0 -30.0																					<b>Start Freq</b> 2.391000000 GHz
-30.0 -40.0 -50.0	b. 14 <b>. 1</b> 94 1.			ka stal a boar		a dan bi akara		فرون المراجعة وراد	مغالله ومع		ļ		رور بر ا	a della ta descritta	. بد او ف	share and an and an and an	al				<b>Stop Freq</b> 2.49100000 GHz
-60.0 -70.0				(a years) is far a far af a		4.4.1.4.1.p.e.c.										(,					CF Step 10.000000 MHz Auto Man
#Res	Center 2.44100 GHz Span 100.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 10.00 ms (10001 pts)														Freq Offset 0 Hz						
2 3 4	MODE Δ3 F Δ5 F	1 1 1 1	f f f f	(Δ) (Δ)		2.398	2 <u>.99</u> 8 00 5.39	MHz GHz MHz		4.71 59.7 -55.02 59.6 -54.89	79 ( 9 dE 649 (	dB 3m dB	FUNC		FUN	CTION WIDTH		NCTIO	N VALUE		0 H2



-		ctrun		ilyzer - S		SA																		
<mark>ι»/</mark> ℝL Cent		Fre	RF Pq 2	50 2.483	ιΩ 4 5000	)00 G			_	Tri	्र g: Fr		E:INT			Гуре	ALIGN AU : Log-P >100/10	wr	12:4	TRAC	M Sep 27 2E 1 2 3 2E M <del>M W</del>	456		Frequency
10 dE	3/div	,	Ref	20.00	) dB			: Fast in:Low			ten:						-1.30 di	3	/lkr2	ы - <b>4</b> .	ET P P N	1Hz		Auto Tune
Log 10.0 0.00											<b>*</b>		3											Center Freq 2.483500000 GHz
-10.0 -20.0 -30.0																								<b>Start Freq</b> 2.433500000 GHz
-30.0 -40.0 -50.0						a. yeli di da		اللغوين رام	<b>1</b>		$\bigwedge$		3	( <b>burb</b> a	a	L I L.	<b>MA</b>		10.1k mar, etc. mt.	Humi				<b>Stop Freq</b> 2.533500000 GHz
-60.0 -70.0													5 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)										A	<b>CF Step</b> 10.000000 MHz <u>uto</u> Man
#Res	s Bl	N 1	00	0 GHz kHz				#V	вw	300	kH	z					weep		.00 m	s (1		pts)		Freq Offset
	MODE N A3 F		f f f	(Δ)		× 2.479 -4 2.484	06 1	MHz	(Δ)		071 6.01 945	6 d	m B	FUNC		FUN	CTION W	TATUS		JNCTIC				<u> </u>



Product Multimedia System													
Test Item	RF antenna conducted test												
Test Mode	Mode 1: Transmit												
Date of Test 2017/09/27 Test Site SR10-H													
π/4-DQPSK													
	Frequency	Measure Level	Limit	Decult									
Channel	(MHz)	(dBc)	(dBc)	Result									
00	2402	28.404	≧20	Pass									
39	2441	59.801	≧20	Pass									
78	2480	37.985	≧20	Pass									

# Channel 00

		ALIGNAUTO	12:34:54 PM Sep 27, 2017 TRACE 1 2 3 4 5 6	Frequency
IFGain:Low	#Atten: 30 dB	Ext Gain: -1.30 dB	DET P P N N N N	Auto Tune
	2∆3			Center Freq 2.400000000 GHz
	3 1			<b>Start Freq</b> 2.350000000 GHz
				<b>Stop Freq</b> 2.450000000 GHz
Hystochyddiaddir ar fallan yw f Hystochyddiad yw fallan		Mittel Alexandra Angele Santa Ang		<b>CF Step</b> 10.000000 MHz <u>Auto</u> Man
#VBW	300 kHz	Sweep 10	Span 100.0 MHz .00 ms (10001 pts)	Freq Offset
X 2.401 99 GHz 1.99 MHz (Δ) 2.400 00 GHz	Y         FUN           4.308 dBm         -28.404 dB           -24.095 dBm         -24.095 dBm		FUNCTION VALUE	0 Hz
	2.401 99 GHz 2.401 99 GHz 2.401 99 GHz (Δ) (Δ) (Δ) (Δ) (Δ) (Δ) (Δ) (Δ)	DO000 GHz         Trig: Free Run           PN0: Fast         Trig: Free Run           IFGain:Low         #Atten: 30 dB           dBm         2Δ3           3         3           3         3           4         3           4         3           4         4	DOODO GHz         Avg Type: Log-Pwr Avg Hold:>100/100           PNO: Fast IFGain:Low         Trig: Free Run #Atten: 30 dB         Avg Type: Log-Pwr Avg Hold:>100/100           C         C         C           dBm         2Δ3         C           3         2Δ3         C           4         2Δ3         C           3         3         C           4         3         C           4         3         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         4         C           4         5         C           4         5         C           4         5         C           4         5         C           4	D0000 GHz         Trig: Free Run         Avg Type: Log-Pwr Avg Hold>100/100         TRACE [12.3.4.5.6           PN0: Fast IFGain:Low         Trig: Free Run         Avg Type: Log-Pwr Avg Hold>100/100         TRACE [12.3.4.5.6           CMKr2 1.99 MHz         28.404 dB         28.404 dB         28.404 dB           400         203         Avg Type: Log-Pwr Avg Hold>10.00 mLz         28.404 dB           400         203         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 mLz           400         203         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 mLz           400         203         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 mLz           400         400         400         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Span 100.0 MHz           #VBW 300 kHz         Sweep 10.00 ms (10001 pts)         Sweep 10.00 ms (10001 pts)         Avg Type: Log-Pwr Avg Hold>10.00 mLz         Avg Type: Log-Pwr Avg Hold>10.00 MLz           2.400 90 GHz         2.400 95 dBm         Avg Type: Log-Pwr Avg Hold>10.00 MLz         Avg Type: Log-Pwr Avg Hold>10.00 MLz         Avg Type: Log-Pwr Avg Hold>10.00 MLz



Channel 39

-		ctrum		lyzer - Swi											
Cen		Fre	RF q 2	50 Ω 2.44100					ENSE:IN			ALIGN AUTO : Log-Pwr :> 100/100	TRA	M Sep 27, 2017 CE 1 2 3 4 5 6 PE M <del>MWWW</del>	Frequency
10 d	B/div	,	Ref	20.00	dBm		10: Fast C Jain:Low	► #Atten:			Ext Gain:	-1.30 dB	₀ /lkr2 47.	51 MHz .801 dB	Auto Tune
Log 10.0 0.00									<b>●</b> 2∆:	3					Center Freq 2.441000000 GHz
-10.0 -20.0 -30.0															<b>Start Freq</b> 2.391000000 GHz
-40.0 -50.0				an sitt of the same for stimes					\					huter ignere	<b>Stop Freq</b> 2.491000000 GHz
-60.0 -70.0	₩7∧π	2.4									1				CF Step 10.000000 MHz <u>Auto</u> Man
Cen #Re				) GHz (Hz			#VB	W 300 kH	z		s	weep 10		00.0 MHz 0001 pts)	Freq Offset
3	MODE <u>∆</u> 3 F <u>∆</u> 5 F	1 1 1 1 1 1	f f f	(Δ) (Δ)	2.3	47.51 393 48 -44.37	9 GHz 1 MHz (Δ 3 GHz 7 MHz (Δ 5 GHz	-55.021	1 dB dBm 4 dB	FUN		NCTION WIDTH		JN VALUE	0 Hz



Channel 78
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		ctrur	n An	alyzer - Sw											
wµ ⊓ Cer		Fre	RF Pq 2		e ac   00000 (			SE Trig: Fre	NSE:INT	•		ALIGN AUTO e: Log-Pwr i>100/100	TRA	PM Sep 27, 2017 ACE 1 2 3 4 5 6 YPE M <del>MWWWW</del>	Frequency
10 0	B/div	,	Poi	7 20.00	dBm	PNO: Fast IFGain:Lov		#Atten: 3			Ext Gain:	-1.30 dB	 Mkr2 -3	.51 MHz .985 dB	Auto Tune
10.00 0.00		• 		20.00				<sup>2/</sup>	\						Center Freq 2.483500000 GHz
-10.0 -20.0															<b>Start Freq</b> 2.433500000 GHz
-40.0 -50.0	I		4.4					/	×3		lin , fac, ast , be to al	distant all stores as seen	Lach Jelandar Linesitein	6	<b>Stop Freq</b> 2.533500000 GHz
-60.0 -70.0							(),)))()))))))))))))))))))))))))))))))				halaan ahaan yaan yaan yaan ya			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CF Step 10.000000 MHz <u>Auto</u> Man
Cer #Re				0 GHz kHz		#V	/BW 3	00 kHz	:		S	weep 1		100.0 MHz 10001 pts)	Freq Offset
1 3 4 5 6 <	MODE ∆3 F	TRC 1 1	f f f	(Δ)	Ń	999 GHz 9.51 MHz 9.50 GHz		¥ <u>4.975 d</u> 37.985 33.009 d	dB	FUNC					0 Hz
MSG												STATU	JS		



Product	Multimedia System											
Test Item	RF antenna conducted test											
Test Mode	st Mode 1: Transmit											
Date of Test 2017/09/27 Test Site SR10-H												
8-DPSK												
Observal	Frequency	Measure Level	Limit	Result								
Channel	(MHz)	(dBc)	(dBc)	Result								
00	2402	27.661	≧20	Pass								
39	2441	58.985	≧20	Pass								
78	2480	31.436	≧20	Pass								

## Channel 00

	Spectrum	Analyze	er - Swej	ot SA											
Cento	er Fred	RF <b>3 2.4</b>	50 Ω 0000	AC   0000 GH			SENSE			Type:	LIGNAUTO		:15 PM Sep 27 TRACE 1 2 3	456	Frequency
		1		Р	NO: Fast ( Gain:Low		Free R n: 30 d				-100/100 1.30 dB	Mkr2	2.00 N	INNN 1Hz	Auto Tune
10 dB/ Log 10.0 -	/div F	tef 20	).00 d	Bm				2Δ3_					27.661	dB	Center Freq 2.400000000 GHz
-10.0 - -20.0 - -30.0 -							/ 3	          							<b>Start Freq</b> 2.350000000 GHz
-40.0 -						erpi herrina /"					Window or s		hineised fil <sup>d</sup> abara		<b>Stop Freq</b> 2.45000000 GHz
-60.0 -				an da hi (Ligor), bara (K.											CF Step 10.000000 MHz <u>Auto</u> Man
	er 2.40 BW 10				#VB	W 300 I	Hz			Sv	veep 1		n 100.0   s (10001		Freq Offset
1 1 2 Δ	3 1	50L f (Δ) f		× 2.401 9 2.0 2.400 0	0 MHz (/	<u>) 27.</u>	9 dBm 361 dB 3 dBm		CTION		CTION WIDTH		NCTION VALUE		0 Hz
MSG											STATU	JS			



Channel 39

-		ctrum		lyzer - Swi	ept SA										
<mark>⊮</mark> ℝ Cer		Fre	RF q 2	50 Ω 2.44100				Tria	SEN Free:				TRAC	M Sep 27, 2017 <sup>CE</sup> 1 2 3 4 5 6 PE M <del>MWMM/</del>	Frequency
10 d	B/div	/ F	Ref	20.00	dBm		IO: Fast C ain:Low		en: 30		Ext Gain:	-1.30 dB	⊳ kr4 -45.	29 MHz 509 dB	Auto Tune
Lõĝ 10.0 0.00			_							4∆5					Center Freq 2.441000000 GHz
-10.0 -20.0 -30.0										И И И.					<b>Start Freq</b> 2.391000000 GHz
-40.0 -50.0	ı —			1944 - 44 - 14   1914		الم الم		Nager and Party	l I	Th M					<b>Stop Freq</b> 2.491000000 GHz
-60.0 -70.0														Anna Airth	<b>CF Step</b> 10.000000 MHz <u>Auto</u> Man
	nter : es Bl			) GHz KHz			#VB	N 300	kHz		S	weep 10		00.0 MHz 0001 pts)	Freq Offset 0 Hz
MKR 1 2 3 4 5 6 <	M0DE Ν Δ3 F Δ5 F	1       1       1       1       1       1	f f f	(Δ) (Δ)	2.3	45.69 395 30 45.29	) GHz ) MHz (Δ ) GHz ) MHz (Δ 3 GHz	) 58 -54.1	.509	3m dB 3m dB		ICTION WIDTH			



Center Freq 2.483500000 GHz         Trig: Free Run         Avg Type: Log-Pwr Avglhold>100 (Direction)         Trace: 12.3456         Frequency           0         Biddiv         Ref 20.00 dBm         #Atten: 30 dB         Biddiv         Aughoid>100 (Direction)         Aughoid>100 (Direction)         Auto TL           10         dB/div         Ref 20.00 dBm         2/2/3         Center Frequency         Center Frequency         Auto TL           10.0         2/2/3         10.0         2/2/3         10.0         2/4/3650000 (Direction)         2/4/3560000 (Direction)         2	Agilent Sp			Swept SA								
PRO: Past         #Atten: 30 dB         Ext Gain: -1.30 dB         Det [P P N N N N]           ΔMkr2 -3.67 MHz 31.436 dB         Auto TL           10 dB/div         Ref 20.00 dBm         2Δ3         Center Fl         2.48350000 G           10.0         2Δ3         Start Fl         2.48350000 G         Start Fl           20.0         30.0         33         Start Fl         2.43350000 G           30.0         33.0         33.0         Start Fl         2.43350000 G           40.0         33.0         33.0         Start Fl         2.53350000 G           60.0         Center 2.48350 GHz         Span 100.0 MHz         CF St	KN RL Centei			500000 GH		]	I	Avg Type	: Log-Pwr	TRA	E123456	Frequency
Log         2Δ3         Center Figure           10.0         2Δ3         2Δ3         2.48350000 G           .000	10 dB/d	liv R	ef 20.0	IF					-1.30 dB	⊳ ///////	67 MHz	Auto Tune
-20.0       -30.0 <td< td=""><td>10.0</td><td></td><td></td><td></td><td></td><td><b>●</b><sup>2∆</sup></td><td>3</td><td></td><td></td><td></td><td></td><td>Center Freq 2.483500000 GHz</td></td<>	10.0					<b>●</b> <sup>2∆</sup>	3					Center Freq 2.483500000 GHz
-40.0       -40.0 <td< td=""><td>-20.0 —</td><td></td><td></td><td></td><td></td><td>N In M In M In</td><td>3</td><td></td><td></td><td></td><td></td><td><b>Start Freq</b> 2.433500000 GHz</td></td<>	-20.0 —					N In M In M In	3					<b>Start Freq</b> 2.433500000 GHz
-70.0         10.00000 M           Center 2.48350 GHz         Span 100.0 MHz	-40.0	ىلىلغەر ب			Water and the second		ויין אין אין <b>ריק<sub>יראר</sub>ייייואי</b> א	Manifelia Maria La La	مالى الغور ولم وال		s. J., 161. J. S. Marti	<b>Stop Freq</b> 2.533500000 GHz
		a an							0		1 g v g = 1 i g ung (king li king i king king king king king king k	CF Step 10.000000 MHz <u>Auto</u> Man
	#Res E	3W 10	0 kHz		#VBW	/ 300 kHz			-	.00 ms (1	0001 pts)	Freq Offset 0 Hz
MKE     MODE     TRC     SCL     X     Y     FUNCTION     FUNCTION WIDTH     FUNCTION VALUE       1     N     1     f     2.479 83 GHz     5.009 dBm	1 N 2 ∆3 3 F 4 5 6	1	f f (Δ)	<u>2.479 8</u> -3.6	67 MHz (Δ)	31.436	3m dB					



Product	Multimedia System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/10/12	Test Site	SR10-H

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

🌉 Кеу	sight Spect	rum Analyzer	- Swept SA								
<mark>IXI</mark> Stor	t Eroa		50 Ω DC 000 MHz		SEN	ISE:INT	Ava Tvp	ALIGN AUTO e: Log-Pwr		MOct 12, 2017	Frequency
Star	t rieq	30.000		PNO: Fast ⊂ FGain:Low	Trig: Free #Atten: 30		Avg Hold Ext Gain:	l:>10/10 : -1.40 dB	TYI Di		Auto Tune
10 dE	3/div	Ref 20.0	00 dBm					ΔM		9.9 MHz .419 dB	Auto Tune
Log 10.0 0.00		2∆3 _									Center Freq 12.515000000 GHz
-10.0 -20.0 -30.0											Start Freq 30.000000 MHz
-30.0 -40.0 -50.0		3							ماند بر مربع ا	alas a data suda	<b>Stop Freq</b> 25.000000000 GHz
-60.0 -70.0			in the second second			National States of the States					<b>CF Step</b> 2.497000000 GHz <u>Auto</u> Mar
	t 0.03 ( s BW 1	GHz 00 kHz		#VBI	N 300 kHz		s	weep 81		5.00 GHz 0001 pts)	Freq Offset
1	MODE TRC N 1 Δ3 1 F 1	SCL f f (Δ) f	-119	2 2 GHz 9.9 MHz (Δ 2 0 GHz	¥ 4.521 dE ) 48.419 d -43.898 dE	3m dB	CTION FUI	NCTION WIDTH	FUNCTION	DN VALUE	0 H2
MSG								STATUS	5		

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

🚺 К	eysight	Spect		Analyzer - Sv										
<mark>⊮</mark> Sta	irt Fi	req	RF 30		Ω DC DO MHz	PNO: Fast		SENSE:			ALIGN AUTO pe: Log-Pwr d:>10/10	TRAC	MOCt 12, 2017 E 1 2 3 4 5 6 E M WWWWW	Frequency
_						PNO: Fast IFGain:Low	<b>−</b>	n: 30 dE			n: -1.40 dB	D		Auto Tun
	dB/div	v	Re	f 20.00	dBm						Δι	49 Wkr2	2.4 MHZ .442 dB	
Lo <u>c</u> 10.				2∆3										Center Fre
0.0	0				_									12.515000000 GH
-10.	a							_						Start Fre
-20.	0		$\parallel$											30.000000 MH
-30.			+					_						
-40.			*	2										Stop Fre 25.00000000 GH
-50.			1	ر. ريار التأكيماني	القارية والمعيد و	لتعطينه	يفانينه التربية غرار			Lindii II.	ىلىدىلەر بىلىرىدىدى. ئەلىدىلەر بىلىرىدىلىرىد		ومرغرة فأفرد وترجيه	
-60.1	-					*****			77					CF Ste 2.497000000 GH
-70.1														<u>Auto</u> Ma
	urt 0. es Bl					#V	BW 300 k	Hz			Sweep 81		5.00 GHz 0001 pts)	Freq Offs
	MODE	TRC			Х	ļ	Y		FUNC	TION	UNCTION WIDTH	FUNCTI	DN VALUE	0 H
1 2 3	N ∆3 F	1	f f	<u>(Δ)</u>	1	42 1 GHz 22.4 MHz 19 7 GHz	(Δ) 49.4	<u>1 dBm</u> 442 dB 1 dBm					Е	
45					2.0									
-6 ∢													*	
MSG											STATU	s		

								Analyzer - Sw		(eysight S
Frequency	7:41:41 PM Oct 12, 2017 TRACE 1 2 3 4 5 6	.og-Pwr	Avg Type:	ISE:INT				50 Ω .00000	ea 30	art Fr
Auto Tune	DET P NNNN	.40 dB	Avg Hold:> Ext Gain: -1		Trig: Free #Atten: 3	IO: Fast 🖵 Gain:Low	Р			
Auto Tulie	2 -119.9 MHz 50.551 dB	ΔMkr2 -			1Bm	f 20.00 (	Rei	dB/div		
Center Fred								2Δ3		
12.515000000 GHz										0
Start Fred										o
30.000000 MHz										0
Stop Fred										
25.00000000 GHz	ى بالمد بىنىتىتىتى	وروي والمعارية والمتحد والمتحالية والمحرور						3		o
CF Step			i de la contraction d	A CONTRACTOR		فاليوجيه والتأزيذ	-	اليجي فبالبياطي	الر	0
2.497000000 GHz Auto Mar										
Freq Offse	top 25.00 GHz ms (10001 pts)		Sw		300 kHz	#VBW		-	3 GHz V 100	
0 Hz				FUN	Y		х		TRC SCL	
	=			dB	5.003 dE 50.551 -45.548 dE	θ MHz (Δ)	2.479 -119. 2.599	(Δ)	1 f 1 f	Ν Δ3 F
				///	-40.040 UE		2.055			F
					m					
		STATUS								

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

🌉 Key	ysight Spe	ctrum	Analyzer -	Swept SA										
₩ Star	t Fred	RI 13(		Ω DC 00 MHz			SE	NSE:INT	Avg		ALIGN AUTO : Log-Pwr	TRA	Oct 12, 2017	Frequency
10 df			f 20.00		PNO: Fas IFGain:Lo		J Trig: Fre #Atten: 3				>10/10 -1.40 dB <b>∆M</b>	۔ kr2 -11	9.9 MHz 0.428 dB	Auto Tune
10 de Log 10.0		Re	2∆3											<b>Center Freq</b> 12.515000000 GHz
-10.0 -20.0 -30.0														Start Freq 30.000000 MHz
-40.0 -50.0		X	3				. Laike bit		linkovist iz st. Lin	ula ne	ىرورىدىنى ئىرورىدىنى ئىرىدىدىنى ئىرى	turner ak stylere	in the state of the	<b>Stop Freq</b> 25.00000000 GHz
-60.0 -70.0							ania dike tiku oleanen (kon yapan							<b>CF Step</b> 2.497000000 GHz <u>Auto</u> Man
#Re:	t 0.03 s BW	100	kHz		#\	/BW	300 kHz					.33 ms ('	25.00 GHz 10001 pts)	Freq Offset 0 Hz
1	MODE         TR           Λ         1           Δ3         1           F         1	SC SC f	1		402 2 GHz 119.9 MHz 522 0 GHz		Y 4.283 d 50.428 -46.145 d	Bm dB	FUNCTION	FUN	CTION WIDTH			

## Channel 00 (30MHz-25GHz)- π/4-DQPSK

## Channel 39 (30MHz-25GHz)- π/4-DQPSK

🇾 Ke	ysight Spe	ctrum A	Analyzer - Sw	ept SA								
w Sta	rt Fre	<sub>R</sub> ⊧ q 30	50 Ω .00000			<b></b>	NSE:INT		ALIGN AUTO pe: Log-Pwr d:>10/10	TRAC	M Oct 12, 2017	Frequency
					PNO: Fast C IFGain:Low	#Atten: 3			n: -1.40 dB			Auto Tune
10 d	B/div	Ref	20.00	dBm					ΔΜ		9.9 MHz .858 dB	
Log	<b></b>		2Δ3									Center Freq
0.00												12.515000000 GHz
-10.0												
-20.0												Start Freq 30.000000 MHz
-30.0												
-40.0			.3									Stop Freq 25.00000000 GHz
-50.0			-		-			المتعامية والمتعالم	شەھەللىرىنىدۇنىرىنىدۇنىر		an and the second	
-60.0												CF Step 2.497000000 GHz
-70.0												<u>Auto</u> Man
	rt 0.03 :s BW				#VBI	N 300 kHz	:	:	Sweep 81		5.00 GHz 0001 pts)	Freq Offset
MKR 1	MODE TR	C SCL		X	42 1 GHz	Y 5.127 d		ICTION F	UNCTION WIDTH	FUNCT	ON VALUE	0 Hz
<mark>2</mark> 3	Δ3 1 F 1		<b>(</b> Δ)	-11	19.9 MHz (Δ 52 0 GHz		dB				=	
4 5 6												
▼		1				III	1		STATU	s	•	

🚺 Keysight Spectrum Analyzer - Swept SA					
KF 50 Ω DC     Start Freq 30.000000 MHz			ALIGN AUTO	07:45:03 PM Oct 12, 2017 TRACE 1 2 3 4 5 6	Frequency
			vg Hold:>10/10 xt Gain: -1.40 dB	TYPE WWWWW DET P NNNNN	Auto Tune
10 dB/div Ref 20.00 dBm				52.484 dB	
Log 10.02∆3					Center Freq
0.00					12.515000000 GHz
-10.0					Start Freq
-20.0					30.000000 MHz
-30.0					Stop Freq
-50.0				والمواطنة ويقالهم والمتنادين	25.000000000 GHz
-60.0		and a state of the			CF Step
-70.0					2.497000000 GHz <u>Auto</u> Man
Start 0.03 GHz #Res BW 100 kHz	#VBW 300 k		Sweep 81	Stop 25.00 GHz .33 ms (10001 pts)	Freq Offset
MKR MODE TRC SCL X	Y	FUNCTION	•	FUNCTION VALUE	0 Hz
<b>2</b> Δ3 1 f (Δ) -1 <sup>·</sup>	19.9 MHz (Δ) 52.4	dBm 84 dB		E	
3 F 1 f 2.5 4 5	99 4 GHz -47.398	aBm			
6	m			•	
MSG			STATUS		

## Channel 78 (30MHz-25GHz)- π/4-DQPSK

ΔIMR72 119.9 MHZ           10 dB/div         Ref 20.00 dBm         49.156 dB           Log         2Δ3         Center           10.0         2Δ3         10.0	
PNO: Fast         Trig: Free Run         AvglHold:>10/10         Trig: Free Run         AvglHold:>10/	ency
Log ΔΔ3 Center 10.02Δ3 Center 12.515000000	to Tune
0.00	1
-10.0 -20.0 -30.0	a <b>rt Freq</b> 000 MHz
-40.0 -50.0 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	o <b>p Freq</b> 000 GHz
-70.0 2.497000000 <u>Auto</u>	CF Step 000 GHz Man
	<b>Offset</b> 0 Hz
MKR Mode TRC Scu         X         Y         FUNCTION         FUNCTION VALUE           1         N         1         f         2.402.2 GHz         4.528 dBm            2         A3         1         f         (Δ)         119.9 MHz         (Δ)         49.156 dB            3         F         1         f         2.282.3 GHz         -44.628 dBm              4	

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

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

🊺 Ke	eysight !	Spectr	rum A	nalyzer - :	Swept SA											
₩ Sta	rt Fr	eq	RF 30		00 M	-Iz		٦		E:INT		Туре	ALIGN AUTO : Log-Pwr	TRA	PM Oct 12, 2017 ACE 1 2 3 4 5 6	Frequency
_						PNC	D:Fast ( ain:Low		g: Free ten: 30				>10/10 -1.40 dB			Auto Tune
10 d Log	B/div	,	Ref	20.00	0 dBm			-							9.9 MHZ 9.811 dB	
10.0			•	2Δ3	_											Center Freq 12.515000000 GHz
0.00 -10.0																
-20.0																Start Freq 30.000000 MHz
-40.0	)		X	, .3												<b>Stop Freq</b> 25.000000000 GHz
-60.0		<b>a</b>	, I	والبانينان	ر میں اور اور میں اور اور میں اور		un territoria	والالبحيدي	www.	ing the state	tites de la constant		يبدد البنيانيين	ininen ander		CF Step
-70.0			_													2.497000000 GHz <u>Auto</u> Man
	rt 0.0 es Bl						#VB	W 300	kHz			SI	weep 81		25.00 GHz 10001 pts)	Freq Offset
1	MODE N	TRC 1	f		>	2.442 1			/ 016 dB	m	UNCTION	FUN	CTION WIDTH	FUNCT		0 Hz
2 3 4	∆3 F	1	f	(Δ)		-119.9 2.562 0	MHz (/ GHz		9.811 d 795 dBi							
5 6 <									III			+		1	+	
MSG													STATUS			

🎉 Keysight Spectrum Analyzer - Swept SA				
X RF 50 Ω DC Start Freq 30.000000 MHz		E:INT ALIGN AUTO Avg Type: Log-Pwr	07:47:07 PM Oct 12, 2017 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast IFGain:Low #Atten: 30	dB Ext Gain: -1.40 dB	TYPE MWWWW DET P NNNNN Akr2 -119.9 MHz 51.388 dB	Auto Tune
10 dB/div Ref 20.00 dBm 10.0 2Δ3				<b>Center Freq</b> 12.515000000 GHz
-10.0				Start Freq 30.000000 MHz
-30.0				<b>Stop Freq</b> 25.00000000 GHz
-60.0				<b>CF Step</b> 2.497000000 GHz <u>Auto</u> Man
Start 0.03 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 8	Stop 25.00 GHz 1.33 ms (10001 pts)	Freq Offset 0 Hz
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	179 6 GHz 3.265 dB 19.9 MHz (Δ) 51.388 d 99 4 GHz -48.123 dB	m B		
5 6 <				
MSG		STAT	JS	

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

# 6. Band Edge

# 6.1. Test Equipment

The following test equipment are used during the test:

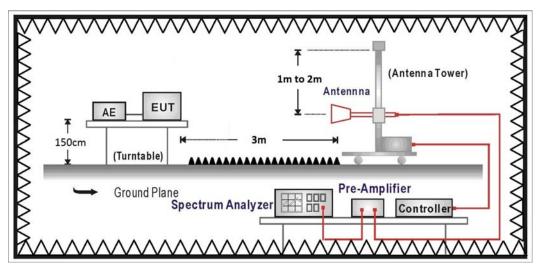
Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date	
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15	
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	

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.

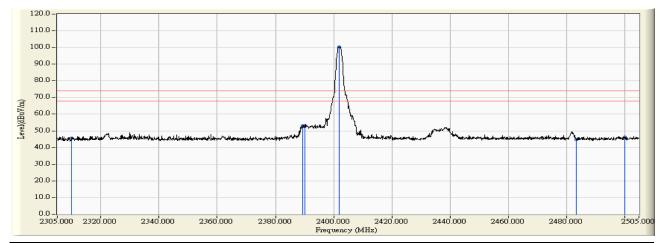
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

#### 6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

#### 6.6. Test Result

Site : CB4-H	Time : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2402MHz

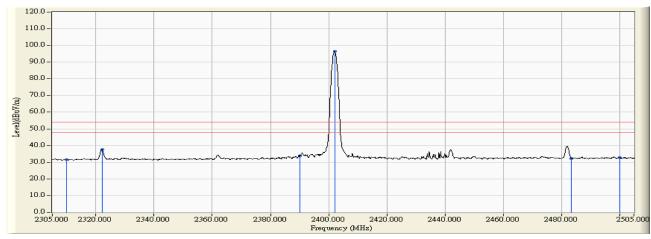


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	32.339	45.767	-28.233	74.000	PEAK
2		2389.400	13.973	38.986	52.959	-21.041	74.000	PEAK
3		2390.000	13.977	39.257	53.234	-20.766	74.000	PEAK
4	*	2401.800	14.057	86.260	100.318	26.318	74.000	PEAK
5		2483.500	14.619	30.160	44.779	-29.221	74.000	PEAK
6		2500.000	14.728	31.564	46.292	-27.708	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2402MHz

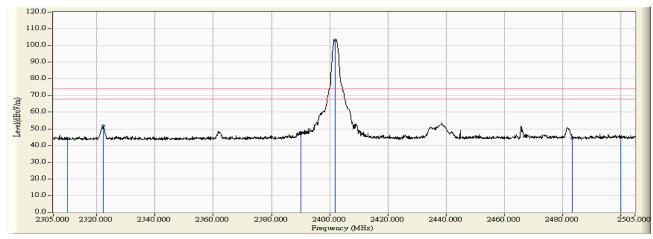


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.171	31.599	-22.401	54.000	AVERAGE
2		2322.100	13.512	24.094	37.605	-16.395	54.000	AVERAGE
3		2390.000	13.977	19.829	33.806	-20.194	54.000	AVERAGE
4	*	2402.100	14.061	82.345	96.405	42.405	54.000	AVERAGE
5		2483.500	14.619	17.543	32.162	-21.838	54.000	AVERAGE
6		2500.000	14.728	18.039	32.767	-21.233	54.000	AVERAGE

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2402MHz

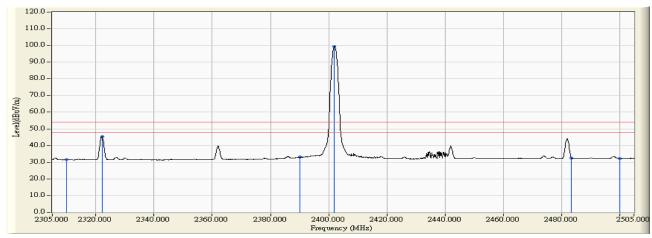


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.897	44.325	-29.675	74.000	PEAK
2		2322.100	13.512	38.156	51.667	-22.333	74.000	PEAK
3		2390.000	13.977	33.986	47.963	-26.037	74.000	PEAK
4	*	2401.900	14.059	89.197	103.256	29.256	74.000	PEAK
5		2483.500	14.619	29.891	44.510	-29.490	74.000	PEAK
6		2500.000	14.728	30.346	45.074	-28.926	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : DH5_2402MHz

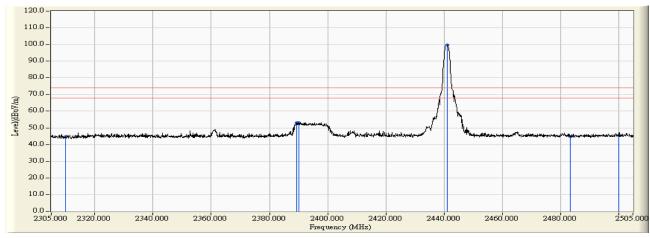


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.079	31.507	-22.493	54.000	AVERAGE
2		2322.100	13.512	31.801	45.312	-8.688	54.000	AVERAGE
3		2390.000	13.977	19.025	33.002	-20.998	54.000	AVERAGE
4	*	2402.000	14.060	85.351	99.411	45.411	54.000	AVERAGE
5		2483.500	14.619	17.926	32.545	-21.455	54.000	AVERAGE
6		2500.000	14.728	17.580	32.308	-21.692	54.000	AVERAGE

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : DH5_2441MHz

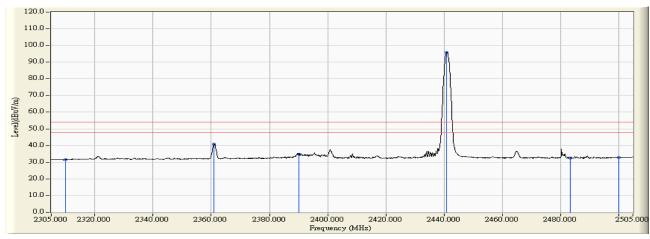


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	31.371	44.799	-29.201	74.000	PEAK
2		2389.300	13.972	39.270	53.242	-20.758	74.000	PEAK
3		2390.000	13.977	38.999	52.976	-21.024	74.000	PEAK
4	*	2441.200	14.328	85.377	99.706	25.706	74.000	PEAK
5		2483.500	14.619	30.137	44.756	-29.244	74.000	PEAK
6		2500.000	14.728	30.537	45.265	-28.735	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : DH5_2441MHz		

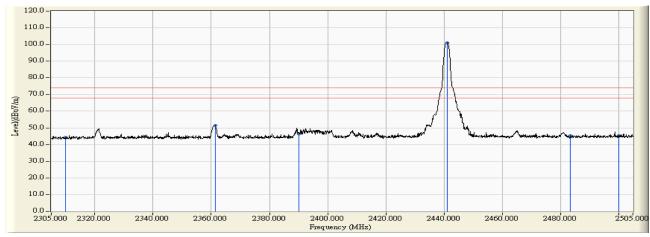


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.226	31.654	-22.346	54.000	AVERAGE
2		2360.900	13.778	26.991	40.768	-13.232	54.000	AVERAGE
3		2390.000	13.977	20.749	34.726	-19.274	54.000	AVERAGE
4	*	2441.000	14.328	81.456	95.783	41.783	54.000	AVERAGE
5		2483.500	14.619	17.924	32.543	-21.457	54.000	AVERAGE
6		2500.000	14.728	17.977	32.705	-21.295	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : DH5_2441MHz		

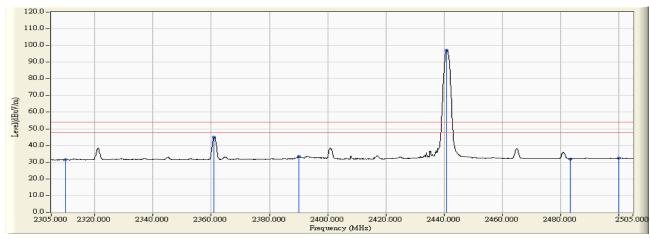


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.918	44.346	-29.654	74.000	PEAK
2		2361.300	13.780	37.562	51.342	-22.658	74.000	PEAK
3		2390.000	13.977	32.397	46.374	-27.626	74.000	PEAK
4	*	2441.200	14.328	86.786	101.115	27.115	74.000	PEAK
5		2483.500	14.619	30.837	45.456	-28.544	74.000	PEAK
6		2500.000	14.728	30.562	45.290	-28.710	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : DH5_2441MHz		



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.043	31.471	-22.529	54.000	AVERAGE
2		2360.900	13.778	31.205	44.982	-9.018	54.000	AVERAGE
3		2390.000	13.977	19.396	33.373	-20.627	54.000	AVERAGE
4	*	2441.000	14.328	82.973	97.300	43.300	54.000	AVERAGE
5		2483.500	14.619	17.359	31.978	-22.022	54.000	AVERAGE
6		2500.000	14.728	17.617	32.345	-21.655	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : DH5_2480MHz		

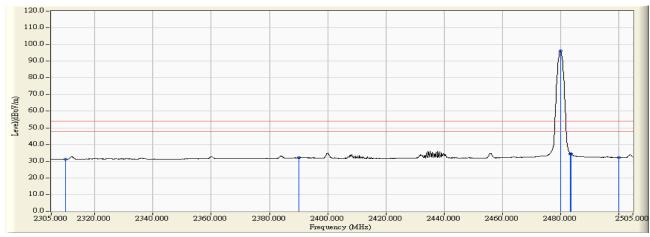


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.166	43.594	-30.406	74.000	PEAK
2		2390.000	13.977	37.830	51.807	-22.193	74.000	PEAK
3	*	2479.900	14.595	85.264	99.858	25.858	74.000	PEAK
4		2483.500	14.619	46.884	61.503	-12.497	74.000	PEAK
5		2483.600	14.619	45.729	60.349	-13.651	74.000	PEAK
6		2500.000	14.728	29.640	44.368	-29.632	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : DH5_2480MHz		

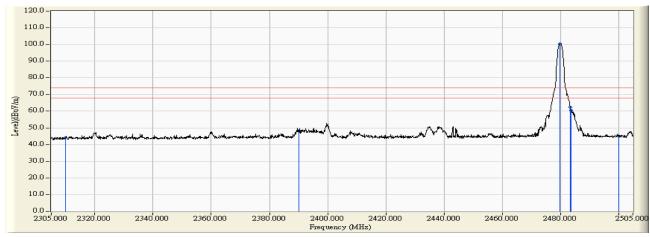


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.836	31.264	-22.736	54.000	AVERAGE
2		2390.000	13.977	18.055	32.032	-21.968	54.000	AVERAGE
3	*	2480.100	14.595	81.473	96.069	42.069	54.000	AVERAGE
4		2483.500	14.619	19.939	34.558	-19.442	54.000	AVERAGE
5		2483.600	14.619	19.709	34.329	-19.671	54.000	AVERAGE
6		2500.000	14.728	17.491	32.219	-21.781	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : DH5_2480MHz		

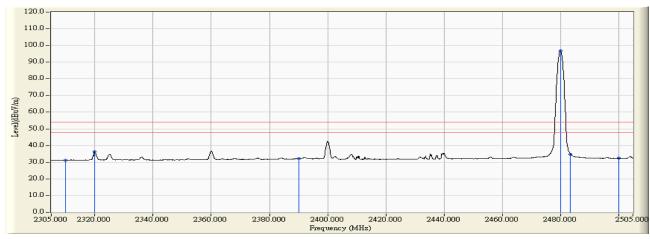


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.709	44.137	-29.863	74.000	PEAK
2		2390.000	13.977	34.263	48.240	-25.760	74.000	PEAK
3	*	2479.800	14.594	85.892	100.485	26.485	74.000	PEAK
4		2483.500	14.619	47.748	62.367	-11.633	74.000	PEAK
5		2483.600	14.619	45.706	60.326	-13.674	74.000	PEAK
6		2500.000	14.728	30.359	45.087	-28.913	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : DH5_2480MHz		

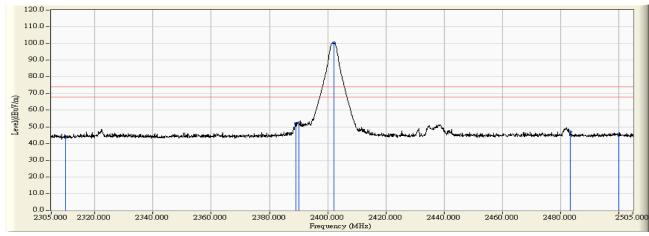


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.784	31.212	-22.788	54.000	AVERAGE
2		2319.800	13.495	22.775	36.270	-17.730	54.000	AVERAGE
3		2390.000	13.977	18.282	32.259	-21.741	54.000	AVERAGE
4	*	2480.000	14.595	82.246	96.841	42.841	54.000	AVERAGE
5		2483.500	14.619	20.287	34.906	-19.094	54.000	AVERAGE
6		2500.000	14.728	17.605	32.333	-21.667	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 2DH5_2402MHz		

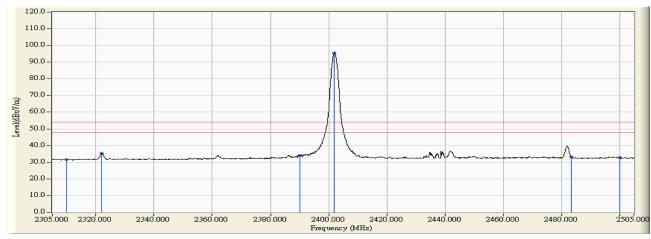


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.227	43.655	-30.345	74.000	PEAK
2		2389.000	13.970	38.289	52.259	-21.741	74.000	PEAK
3		2390.000	13.977	38.384	52.361	-21.639	74.000	PEAK
4	*	2402.100	14.061	86.200	100.260	26.260	74.000	PEAK
5		2483.500	14.619	32.446	47.065	-26.935	74.000	PEAK
6		2500.000	14.728	30.863	45.591	-28.409	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 2DH5_2402MHz		

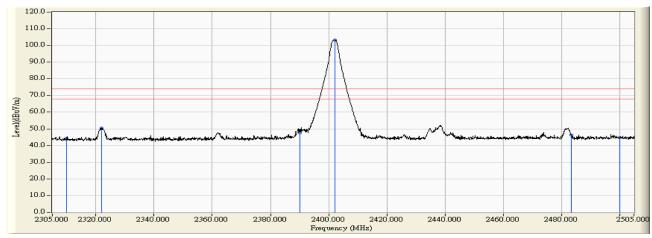


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.103	31.531	-22.469	54.000	AVERAGE
2		2321.900	13.509	21.793	35.303	-18.697	54.000	AVERAGE
3		2390.000	13.977	20.149	34.126	-19.874	54.000	AVERAGE
4	*	2402.000	14.060	81.601	95.661	41.661	54.000	AVERAGE
5		2483.500	14.619	18.417	33.036	-20.964	54.000	AVERAGE
6		2500.000	14.728	17.949	32.677	-21.323	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2402MHz		

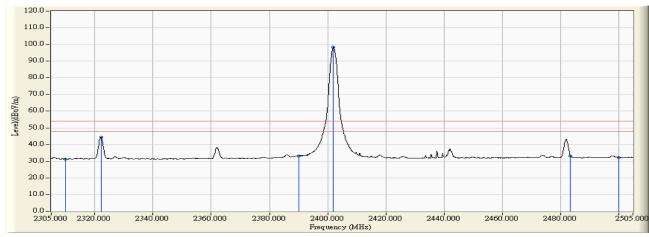


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	31.037	44.465	-29.535	74.000	PEAK
2		2321.900	13.509	36.958	50.468	-23.532	74.000	PEAK
3		2390.000	13.977	33.507	47.484	-26.516	74.000	PEAK
4	*	2402.200	14.061	89.197	103.258	29.258	74.000	PEAK
5		2483.500	14.619	31.632	46.251	-27.749	74.000	PEAK
6		2500.000	14.728	29.907	44.635	-29.365	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2402MHz		

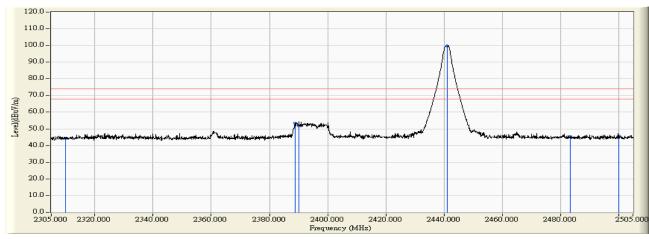


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.864	31.292	-22.708	54.000	AVERAGE
2		2322.100	13.512	30.933	44.444	-9.556	54.000	AVERAGE
3		2390.000	13.977	19.248	33.225	-20.775	54.000	AVERAGE
4	*	2402.000	14.060	84.355	98.415	44.415	54.000	AVERAGE
5		2483.500	14.619	18.550	33.169	-20.831	54.000	AVERAGE
6		2500.000	14.728	17.598	32.326	-21.674	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 2DH5_2441MHz		

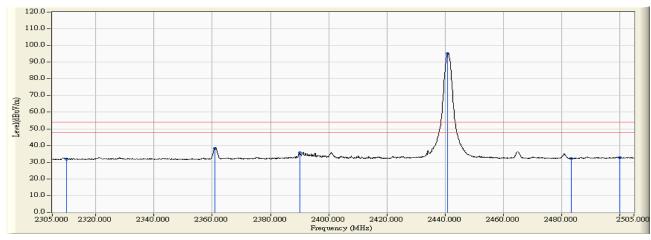


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	31.070	44.498	-29.502	74.000	PEAK
2		2388.800	13.969	39.426	53.395	-20.605	74.000	PEAK
3		2390.000	13.977	37.888	51.865	-22.135	74.000	PEAK
4	*	2441.100	14.328	85.399	99.727	25.727	74.000	PEAK
5		2483.500	14.619	30.668	45.287	-28.713	74.000	PEAK
6		2500.000	14.728	31.084	45.812	-28.188	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 2DH5_2441MHz		

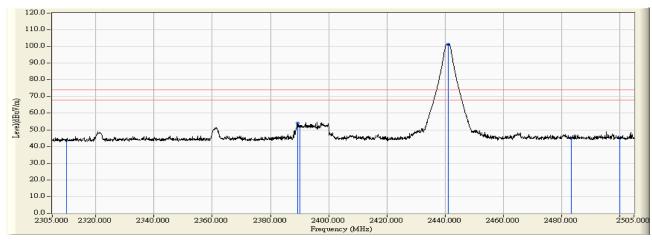


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.487	31.915	-22.085	54.000	AVERAGE
2		2360.800	13.776	24.479	38.256	-15.744	54.000	AVERAGE
3		2390.000	13.977	21.785	35.762	-18.238	54.000	AVERAGE
4	*	2441.000	14.328	80.863	95.190	41.190	54.000	AVERAGE
5		2483.500	14.619	17.671	32.290	-21.710	54.000	AVERAGE
6		2500.000	14.728	18.003	32.731	-21.269	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2441MHz		

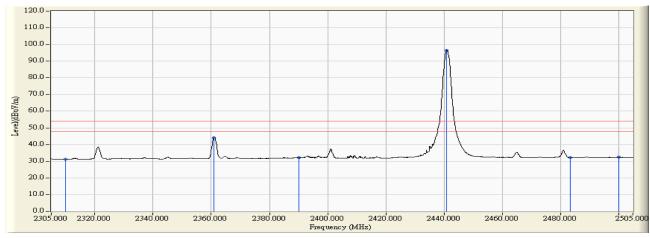


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.273	43.701	-30.299	74.000	PEAK
2		2389.400	13.973	40.124	54.097	-19.903	74.000	PEAK
3		2390.000	13.977	38.236	52.213	-21.787	74.000	PEAK
4	*	2441.100	14.328	86.867	101.195	27.195	74.000	PEAK
5		2483.500	14.619	30.271	44.890	-29.110	74.000	PEAK
6		2500.000	14.728	30.298	45.026	-28.974	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2441MHz		

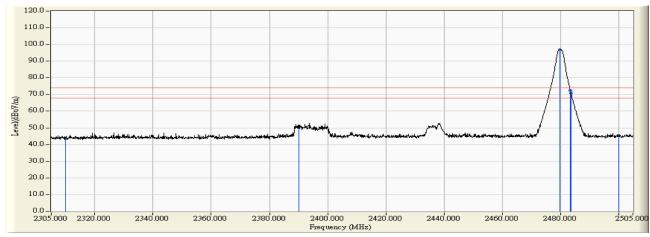


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.727	31.155	-22.845	54.000	AVERAGE
2		2360.800	13.776	30.142	43.919	-10.081	54.000	AVERAGE
3		2390.000	13.977	18.156	32.133	-21.867	54.000	AVERAGE
4	*	2441.000	14.328	82.285	96.612	42.612	54.000	AVERAGE
5		2483.500	14.619	17.623	32.242	-21.758	54.000	AVERAGE
6		2500.000	14.728	17.610	32.338	-21.662	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2480MHz		

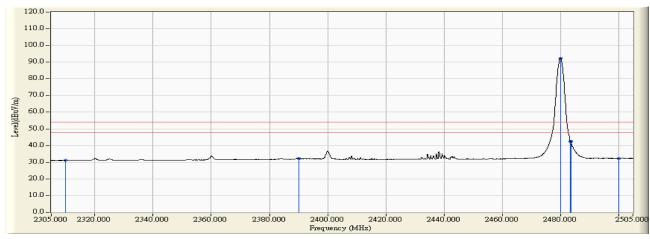


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.485	43.913	-30.087	74.000	PEAK
2		2390.000	13.977	36.990	50.967	-23.033	74.000	PEAK
3	*	2479.800	14.594	82.303	96.896	22.896	74.000	PEAK
4		2483.500	14.619	57.760	72.379	-1.621	74.000	PEAK
5		2483.700	14.620	56.246	70.866	-3.134	74.000	PEAK
6		2500.000	14.728	30.787	45.515	-28.485	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 2DH5_2480MHz		

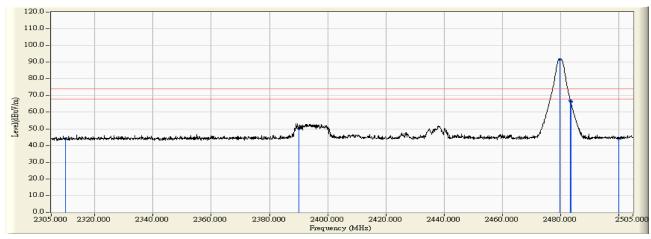


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.663	31.091	-22.909	54.000	AVERAGE
2		2390.000	13.977	18.166	32.143	-21.857	54.000	AVERAGE
3	*	2480.100	14.595	77.849	92.445	38.445	54.000	AVERAGE
4		2483.500	14.619	27.983	42.602	-11.398	54.000	AVERAGE
5		2483.600	14.619	27.802	42.422	-11.578	54.000	AVERAGE
6		2500.000	14.728	17.523	32.251	-21.749	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 2DH5_2480MHz		

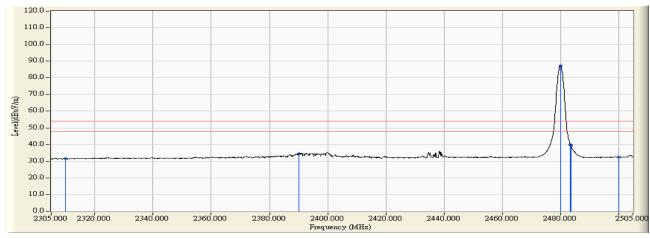


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.663	44.091	-29.909	74.000	PEAK
2		2390.000	13.977	36.186	50.163	-23.837	74.000	PEAK
3	*	2479.800	14.594	77.087	91.680	17.680	74.000	PEAK
4		2483.500	14.619	52.321	66.940	-7.060	74.000	PEAK
5		2483.600	14.619	51.538	66.158	-7.842	74.000	PEAK
6		2500.000	14.728	29.451	44.179	-29.821	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 2DH5_2480MHz

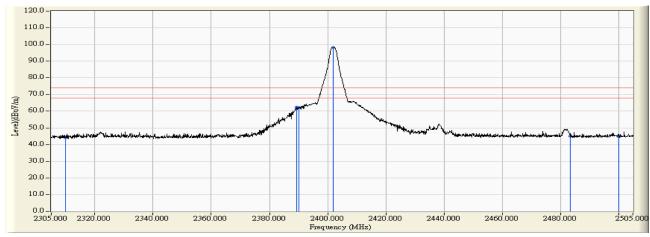


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.083	31.511	-22.489	54.000	AVERAGE
2		2390.000	13.977	20.550	34.527	-19.473	54.000	AVERAGE
3	*	2480.000	14.595	72.732	87.327	33.327	54.000	AVERAGE
4		2483.500	14.619	25.336	39.955	-14.045	54.000	AVERAGE
5		2483.600	14.619	24.812	39.432	-14.568	54.000	AVERAGE
6		2500.000	14.728	17.635	32.363	-21.637	54.000	AVERAGE

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

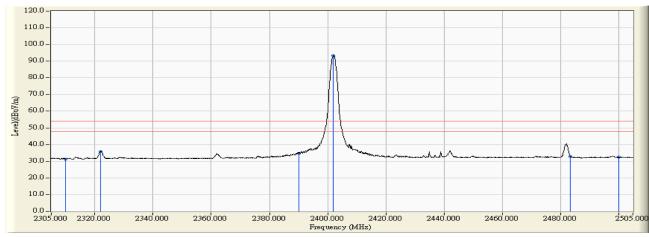


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.714	44.142	-29.858	74.000	PEAK
2		2389.300	13.972	48.520	62.492	-11.508	74.000	PEAK
3		2390.000	13.977	48.121	62.098	-11.902	74.000	PEAK
4	*	2401.900	14.059	84.189	98.248	24.248	74.000	PEAK
5		2483.500	14.619	30.501	45.120	-28.880	74.000	PEAK
6		2500.000	14.728	29.911	44.639	-29.361	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2402MHz

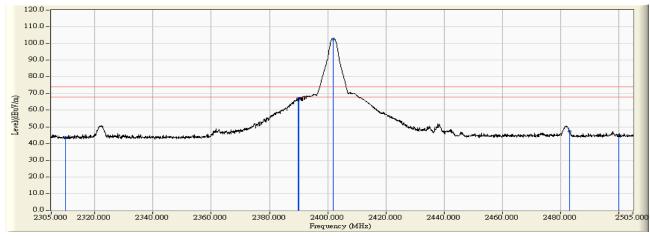


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.884	31.312	-22.688	54.000	AVERAGE
2		2321.900	13.509	22.304	35.814	-18.186	54.000	AVERAGE
3		2390.000	13.977	20.679	34.656	-19.344	54.000	AVERAGE
4	*	2402.000	14.060	79.396	93.456	19.456	74.000	AVERAGE
5		2483.500	14.619	18.221	32.840	-21.160	54.000	AVERAGE
6		2500.000	14.728	17.814	32.542	-21.458	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 3DH5_2402MHz		

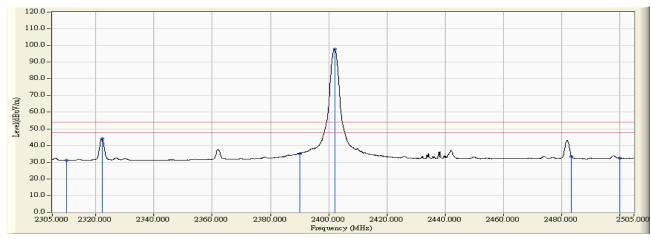


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.241	43.669	-30.331	74.000	PEAK
2		2389.900	13.977	52.797	66.773	-7.227	74.000	PEAK
3		2390.000	13.977	52.745	66.722	-7.278	74.000	PEAK
4	*	2402.000	14.060	88.728	102.788	28.788	74.000	PEAK
5		2483.250	14.618	32.646	47.263	-26.737	74.000	PEAK
6		2500.000	14.728	30.101	44.829	-29.171	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 3DH5_2402MHz		

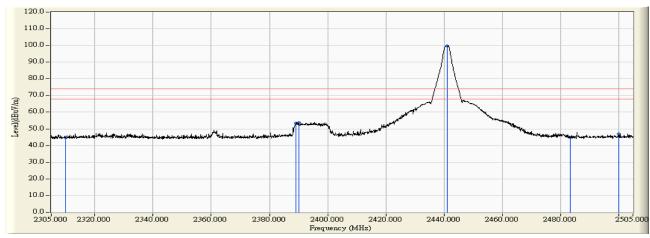


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.745	31.173	-22.827	54.000	AVERAGE
2		2322.100	13.512	30.590	44.101	-9.899	54.000	AVERAGE
3		2390.000	13.977	21.125	35.102	-18.898	54.000	AVERAGE
4	*	2402.100	14.061	83.788	97.848	43.848	54.000	AVERAGE
5		2483.500	14.619	18.710	33.329	-20.671	54.000	AVERAGE
6		2500.000	14.728	17.607	32.335	-21.665	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 3DH5_2441MHz		

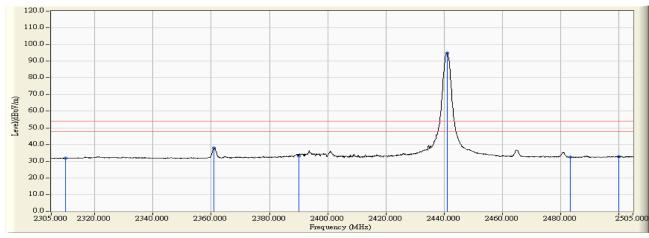


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	31.133	44.561	-29.439	74.000	PEAK
2		2389.100	13.971	39.300	53.271	-20.729	74.000	PEAK
3		2390.000	13.977	39.870	53.847	-20.153	74.000	PEAK
4	*	2441.200	14.328	85.368	99.697	25.697	74.000	PEAK
5		2483.500	14.619	30.140	44.759	-29.241	74.000	PEAK
6		2500.000	14.728	32.212	46.940	-27.060	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
HORIZONTAL			
EUT : Multimedia System	Note : 3DH5_2441MHz		

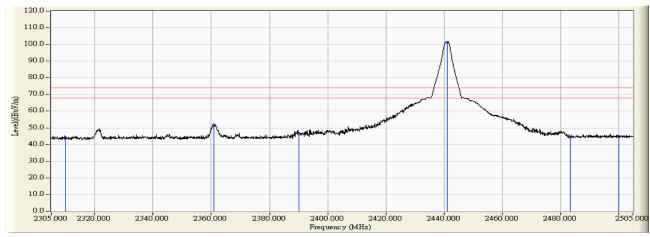


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	18.358	31.786	-22.214	54.000	AVERAGE
2		2361.000	13.779	24.065	37.843	-16.157	54.000	AVERAGE
3		2390.000	13.977	19.053	33.030	-20.970	54.000	AVERAGE
4	*	2441.100	14.328	80.454	94.782	40.782	54.000	AVERAGE
5		2483.500	14.619	17.802	32.421	-21.579	54.000	AVERAGE
6		2500.000	14.728	17.970	32.698	-21.302	54.000	AVERAGE

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 3DH5_2441MHz		

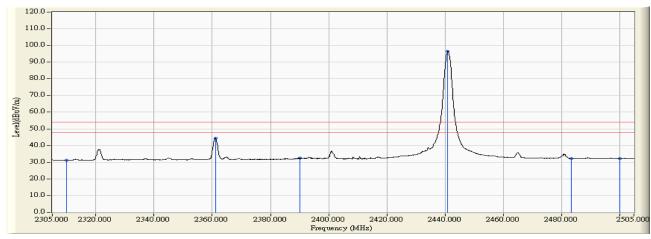


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	30.589	44.017	-29.983	74.000	PEAK
2		2361.000	13.779	38.037	51.815	-22.185	74.000	PEAK
3		2390.000	13.977	32.212	46.189	-27.811	74.000	PEAK
4	*	2441.100	14.328	86.966	101.294	27.294	74.000	PEAK
5		2483.500	14.619	29.904	44.523	-29.477	74.000	PEAK
6		2500.000	14.728	30.007	44.735	-29.265	74.000	PEAK

- 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 : 2017/09/24		
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6		
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V		
VERTICAL			
EUT : Multimedia System	Note : 3DH5_2441MHz		

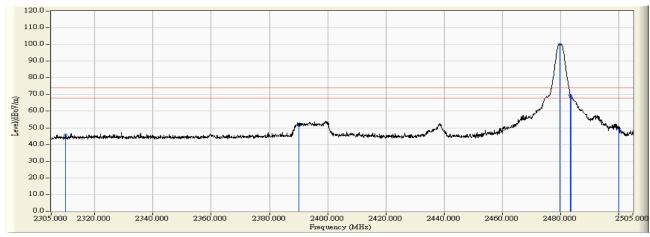


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.765	31.193	-22.807	54.000	AVERAGE
2		2361.100	13.779	30.475	44.254	-9.746	54.000	AVERAGE
3		2390.000	13.977	18.362	32.339	-21.661	54.000	AVERAGE
4	*	2441.000	14.328	82.097	96.424	42.424	54.000	AVERAGE
5		2483.500	14.619	17.562	32.181	-21.819	54.000	AVERAGE
6		2500.000	14.728	17.579	32.307	-21.693	54.000	AVERAGE

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

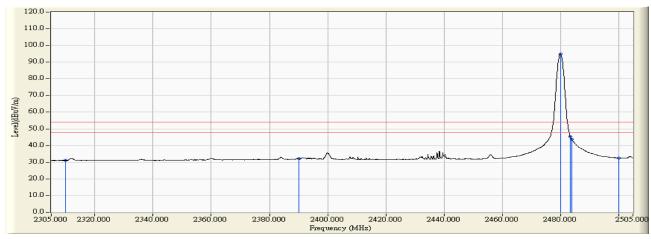


		Frequency	Frequency Correct Factor F		Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	32.110	45.538	-28.462	74.000	PEAK
2		2390.000	13.977	37.504	51.481	-22.519	74.000	PEAK
3	*	2479.900	14.595	85.470	100.064	26.064	74.000	PEAK
4		2483.500	14.619	54.852	69.471	-4.529	74.000	PEAK
5		2483.600	14.619	53.602	68.222	-5.778	74.000	PEAK
6		2500.000	14.728	34.976	49.704	-24.296	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
HORIZONTAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

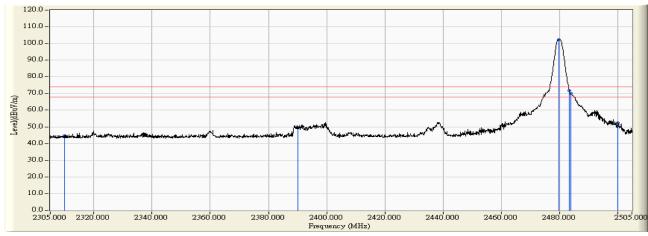


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.654	31.082	-22.918	54.000	AVERAGE
2		2390.000	13.977	18.321	32.298	-21.702	54.000	AVERAGE
3	*	2480.000	14.595	80.405	95.000	41.000	54.000	AVERAGE
4		2483.500	14.619	30.588	45.207	-8.793	54.000	AVERAGE
5		2483.900	14.622	29.227	43.849	-10.151	54.000	AVERAGE
6		2500.000	14.728	17.795	32.523	-21.477	54.000	AVERAGE

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2480MHz

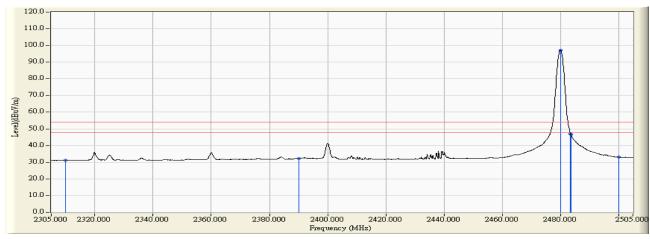


		Frequency	Correct Factor	Reading Level Measure Level		Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	31.211	44.639	-29.361	74.000	PEAK
2		2390.000	13.977	35.592	49.569	-24.431	74.000	PEAK
3	*	2479.800	14.594	87.594	102.187	28.187	74.000	PEAK
4		2483.500	14.619	57.208	71.827	-2.173	74.000	PEAK
5		2483.900	14.622	55.483	70.105	-3.895	74.000	PEAK
6		2500.000	14.728	37.632	52.360	-21.640	74.000	PEAK

- 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 : 2017/09/24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 -	Power : DC 12V
VERTICAL	
EUT : Multimedia System	Note : 3DH5_2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	13.428	17.674	31.102	-22.898	54.000	AVERAGE
2		2390.000	13.977	18.287	32.264	-21.736	54.000	AVERAGE
3	*	2480.000	14.595	82.645	97.240	43.240	54.000	AVERAGE
4		2483.500	14.619	32.243	46.862	-7.138	54.000	AVERAGE
5		2483.600	14.619	31.995	46.615	-7.385	54.000	AVERAGE
6		2500.000	14.728	18.265	32.993	-21.007	54.000	AVERAGE

- 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

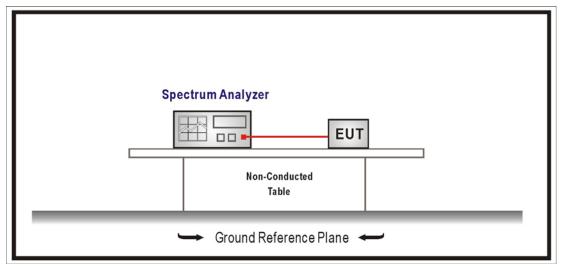
The following test equipment is used during the test:

Number of hopping frequency / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26

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 frequencies and the average time of occupancy on any frequencies and the average time of 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  $\ge$  1% of the span , VBW  $\ge$  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	Multimedia System					
Test Item	Number of hopping frequency					
Test Mode	Mode 1: Transmit					
Date of Test	2017/09/27 Test Site SR10-H					

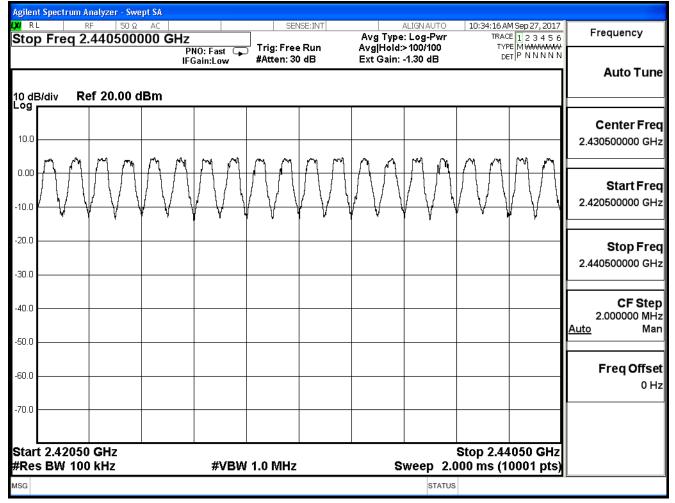
Frequency Range	Measure Level	Limit	Result
(MHz)	(Channels)	(Channels)	
2402 - 2480	79	≧ 75	Pass

## 2401.5-2420.5MHz

Agilent Spectrum A										
XI RL F Start Freq 2	RF 50Ω			7	ISE:INT	Avg Type	ALIGNAUTO : Log-Pwr	TRAC	M Sep 27, 2017 ) <sup>E</sup> 1 2 3 4 5 6	Frequency
	ef 20.00 d	P  IF(	NO: Fast 🕞 Gain:Low	┘ Trig: Free #Atten: 30		Avg Hold: Ext Gain:		TYF De	≊EM <del>WWWWW</del> TPNNNNN	Auto Tune
10.0										Center Fred 2.411000000 GHz
0.00		$\mathcal{N}$							ΜΛ	Start Fred 2.401500000 GH:
-20.0										Stop Fred 2.420500000 GH:
-40.0										<b>CF Step</b> 1.900000 MH <u>Auto</u> Mar
60.0										Freq Offse 0 H
			#VBW	1.0 MHz		s	weep 2.	Stop 2.420	)500 GHz 0001 pts)	
Start 2.40150 #Res BW 100			#VBW	1.0 MHz		s	weep 2. status	000 ms (1	)500 GHz 0001 pts)	

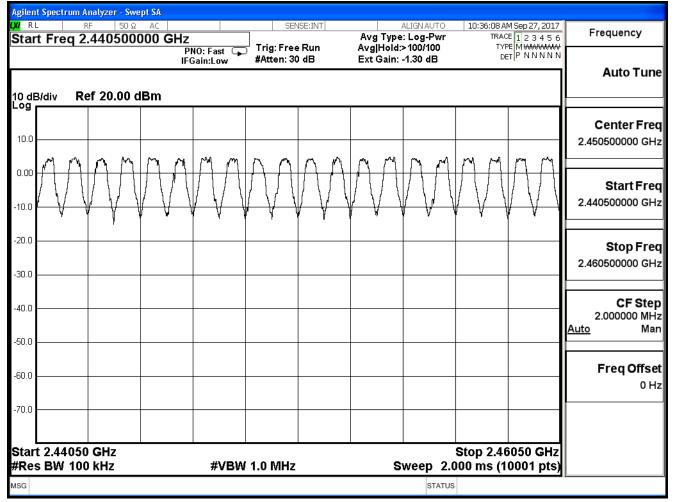


#### 2420.5-2440.5MHz

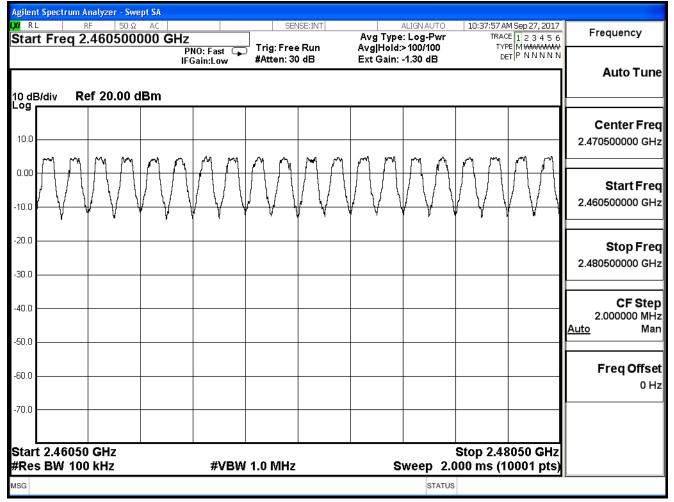




#### 2440.5-2460.5MHz



#### 2460.5-2480.5MHz



## 8. Carrier Frequency Separation

## 8.1. Test Equipment

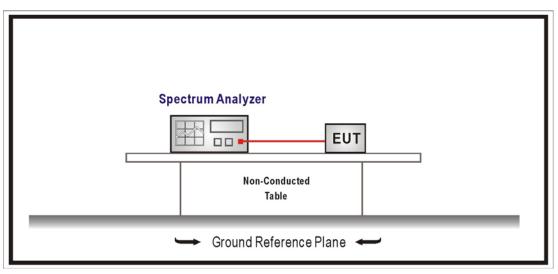
The following test equipment is used during the test:

Carrier Frequency Separation / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13
High Speed Peak Power	Anritsu	ML2496A	1602004	2017/01/20
Meter Dual Input				
Pulse Power Sensor	Anritsu	MA2411B	1531043	2017/01/20
Pulse Power Sensor	Anritsu	MA2411B	1531044	2017/01/20

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

2402

2441

2480



Pass

Pass

Pass

### 8.6. Test Result

00 39

78

Product I	Multimedia System							
Test Item	Carrier Frequency Separation							
Test Mode	Mode 1: Transmit							
Date of Test	2017/09/27	Т	est Site	SR1	0-H			
GFSK								
Charmel No	Frequency	Measure Level	Limit		Decult			
Channel No.	(MHz)	(MHz)	(MHz)		Result			

1.004

1.006

1.014

0.626

0.628

0.628

			Chan	nel 00				
Agilent Spe	ectrum Analyzer - Swe	pt SA						
wµ RL Center	RF 50 Ω	0000 GHz		Avg Type	ALIGNAUTO	TRAC	M Sep 27, 2017 E 1 2 3 4 5 6 PE MM <del>WWW</del>	Frequency
		PNO: Fast 🕞 IFGain:Low	┘ Trig: Free Run #Atten: 30 dB	Avg Hold: Ext Gain:		D		
10 dB/di	v Ref 20.00 d	Bm			ΔN		04 MHz .013 dB	Auto Tune
			1 ▲2∆1				*	Center Freq
								2.402500000 GHz
-10.0				$\backslash$				
-20.0				V				Start Freq 2.392500000 GHz
-30.0								2.392500000 GH2
-40.0								Stop Freq
-50.0	an air an tha an tha air an tha air air air air air air air air air ai		יי ווי	A III A LUMANANA				2.412500000 GHz
-60.0								CF Step
-70.0								2.000000 MHz
								<u>Auto</u> Man
	2.40250 GHz W 1.0 MHz	#VBW	1.0 MHz	S	weep 1.:		0.00 MHz 0001 pts)	Freq Offset
MKR MODE		×			NCTION WIDTH	FUNCTIO	DN VALUE	0 Hz
1 Ν 2 Δ1 3	1 f 2 f (Δ)	2.401 996 GHz 1.004 MHz (Δ)	4.284 dBm 0.013 dB				E	
4 5								
6							×	
MSG					STATUS	3		<u>  </u>



		ctrur		alyzer - Sw									
wµ Cer	ıter	Fre	RF Pq 2	50 s 2.4415	00000 G		]			ALIGN AUTO	TRA	M Sep 27, 2017 E 1 2 3 4 5 6 PE MM <del>WWWW</del>	Frequency
_						PNO: Fast 🕞 FGain:Low	#Atten: 30		Ext Gain:	-1.30 dB	D	ET P P N N N N	Auto Tune
10 d	B/div	v	Rei	f 20.00	dBm							06 MHz .001 dB	
Log 10.0								2∆1 _				*	Center Freq
0.00	)		_										2.441500000 GHz
-10.0	-												Start Freq
-20.0	-		_				all						2.431500000 GHz
-30.0							ᢔ						
-40.0		و مارد. واللا		مريد المريد			<b>p</b>	L A				النغامان مطارية	<b>Stop Freq</b> 2.451500000 GHz
-50.0			a de de de de	lan an airte	an a						ىلىنى <u>بى مەربىيە بىلەر بىل</u>	para (algérate production)	
-60.0													CF Step 2.000000 MHz
-70.0													<u>Auto</u> Man
Cer #Re				0 GHz VIHz		#VBW	/ 1.0 MHz		s	weep 1.3		0.00 MHz 0001 pts)	Freq Offset
MKR	MODE	TRC	SCL		×		Y	FUN		NCTION WIDTH		DN VALUE	0 Hz
1	Ν Δ1	1	f f	(Δ)	<u>2.440 9</u> 1.0	80 GHz 06 MHz (Δ)	<u>4.749 di</u> 0.001					=	
3													
4 5 6												~	
<		•		1		ŀ		1	1		•		
MSG										STATU	s		



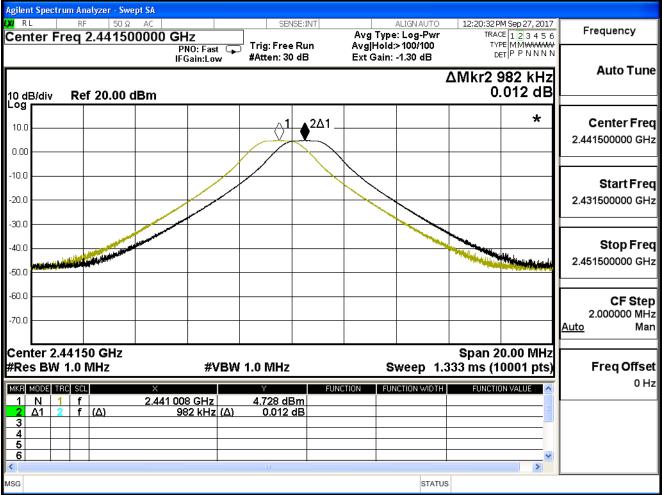
		ctrun		alyzer - Sw									
<mark>⊮</mark> ℝ Cen		Fre	RF Pq 2		00000 G				Avg Type Avg Hold	ALIGN AUTO	TRA	M Sep 27, 2017 CE 1 2 3 4 5 6 PE MM <del>WWWW</del>	Frequency
						PNO: Fast 🕞 Gain:Low	#Atten: 30		Ext Gain:	-1.30 dB	D	14 MHz	Auto Tune
10 di Log	B/div	,	Ref	f 20.00 (	dBm						0	.017 dB	
10.0							1	2∆1 _				*	Center Freq
0.00													2.479500000 GHz
-10.0													
-20.0								, '					Start Freq 2.469500000 GHz
-30.0			_										
-40.0			_				ļ″				htulat i		Stop Freq
-50.0	i seringer					<b>WANNA MILITA N</b> A KA	r					alasalah kilajaranga yan	2.489500000 GHz
-60.0			+										CF Step
-70.0			_										2.000000 MHz Auto Man
Can		2 / 7	705	0 GHz							Snan 2	0.00 MHz	
#Re						#VBW	( 1.0 MHz		S	weep 1.3		0001 pts)	Freq Offset
MKR 1	MODE N	TRC 1	SCL f		× 2.478 9		⊻ 5.001 di		CTION FUI	ICTION WIDTH	FUNCTI	DN VALUE	0 Hz
	Δ1	2	f	(Δ)	1.0	14 MHz (Δ)	0.017						
4													
6												×	
MSG										STATU	s		,



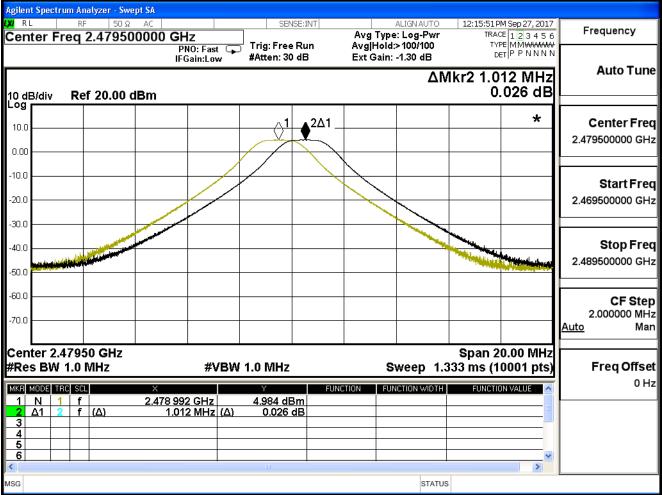
Product	Multimedia System									
Test Item	Carrier Frequency Separation									
Test Mode	Mode 1: Transmit									
Date of Test	2017/09/27 Test Site SR10-H									
π/4-DQPSK										
Channel No	Frequency	Measure Level	Limit	Decult						
Channel No.	(MHz)	(MHz)	(MHz)	Result						
00	2402	1.014	0.950	Pass						
39	2441	0.982	0.949	Pass						
78	2480	1.012	0.951	Pass						

Agilent Spectrum Analyzer - Swe					
🗶 RL   RF   50 Ω Center Freq 2.40250	0000 GHz	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	12:22:04 PM Sep 27, 2017 TRACE 1 2 3 4 5 6 TYPE MMWWWW	Frequency
10 dB/div <b>Ref 20.00 c</b>	PNO: Fast 😱 IFGain:Low	#Atten: 30 dB	Ext Gain: -1.30 dB	<sub>Det</sub> Р Р N N N N 1kr2 1.014 MHz 0.038 dB	Auto Tune
10.0		1 ●2∆1		*	Center Freq 2.402500000 GHz
-10.0					<b>Start Freq</b> 2.392500000 GHz
-30.0 -40.0 -50.0					<b>Stop Freq</b> 2.412500000 GHz
-60.0					<b>CF Step</b> 2.000000 MHz <u>Auto</u> Man
Center 2.40250 GHz #Res BW 1.0 MHz	#VBW	1.0 MHz	Sweep 1.3	Span 20.00 MHz 333 ms (10001 pts)	Freq Offset
MKB         MODE         TRC         SCL           1         N         1         f           2         Δ1         2         f         (Δ)           3         4         -         -         -           5         -         -         -         -           6         -         -         -         -	× 2.401 962 GHz 1.014 MHz (Δ)	Y FUN 4.269 dBm 0.038 dB	CTION FUNCTION WIDTH	FUNCTION VALUE	0 Hz
MSG			STATUS	•	









2480

78



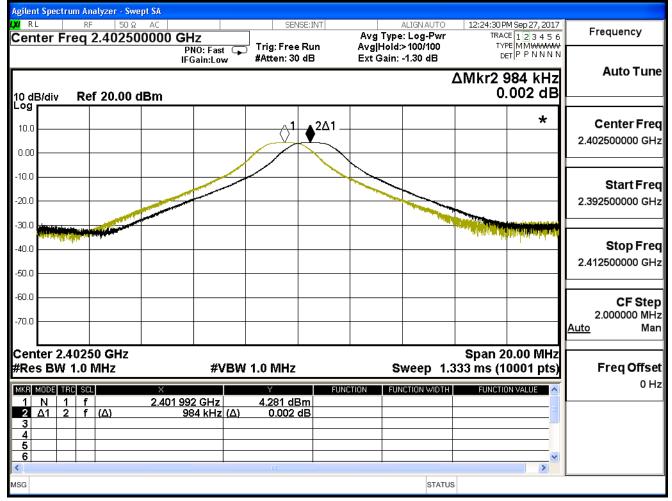
Pass

Product	Multimedia System									
Test Item	Carrier Frequency Separation									
Test Mode	Mode 1: Transmit	Node 1: Transmit								
Date of Test	2017/09/27	2017/09/27 Test Site SR10-H								
8-DPSK										
Channel No	Frequency	Measure Level	Limit	Deput						
Channel No.	(MHz)	(MHz)	(MHz)	Result						
00	2402	0.984	0.926	Pass						
39	2441	0.990	0.930	Pass						

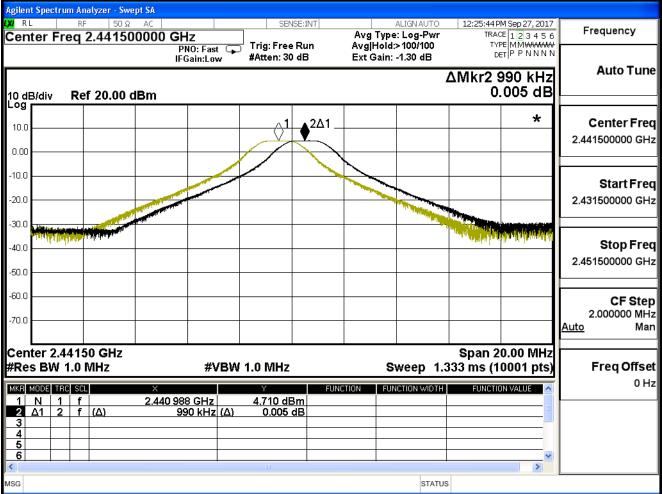
#### Channel 00

1.008

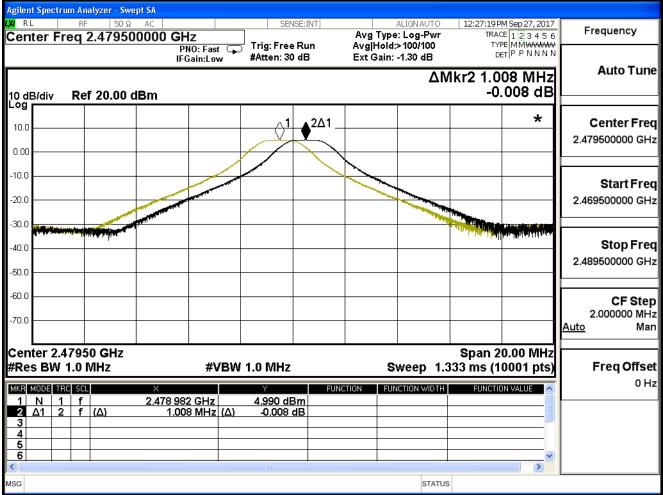
0.926











## 9. Occupied Bandwidth

## 9.1. Test Equipment

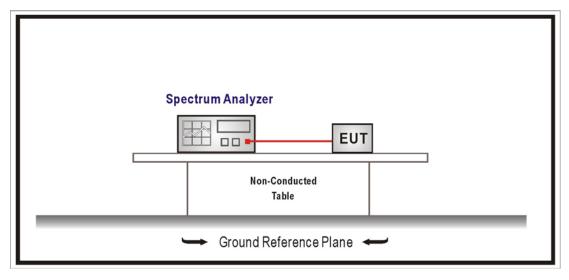
The following test equipment is used during the test:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26

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

## 9.2. Test Setup



### 9.3. Limits

N/A

### 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

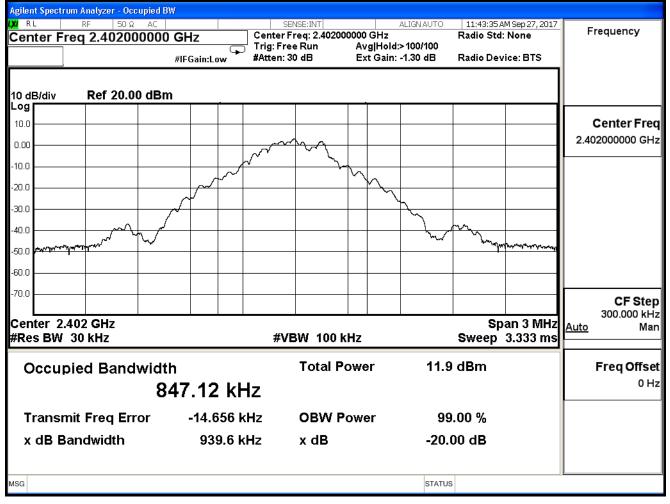


### 9.6. Test Result

Product	Multimedia System					
Test Item	Occupied Bandwidth					
Test Mode	Mode 1: Transmit					
Date of Test	2017/09/27	Test Site	SR10-H			

### GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	0.940		Pass
39	2441	0.943		Pass
78	2480	0.942		Pass





Channel 39

	um Analyzer - Occupied	BW							
Center F	RF 50Ω AC	0 GHz	Center	ENSE:INT Freq: 2.44100			11:44:35 Radio Sto	AM Sep 27, 2017 <b>I: None</b>	Frequency
		( #IFGain:Low	Trig: Fro #Atten: 3		Ext Gain:	l:>100/100 : -1.30 dB	Radio De	vice: BTS	
10 dB/div	Ref 20.00 dB	m .							
Log 10.0									Center Freq
0.00			~~~~	-					2.441000000 GHz
-10.0		~~~	$\bigwedge$	<u> </u>	$\overline{\mathbf{M}}$				
-20.0						5			
-30.0							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
-50.0 <b>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</b>	man had						Lawer Lawer	A the second second second	
-60.0									
-70.0									CF Step
Center 2. #Res BW			#V	BW 100 kHz Swe			Sı Sweep	oan 3 MHz 3.333 ms	300.000 kHz <u>Auto</u> Man
Occur	oied Bandwid	th		Total Po	ower	12.4	dBm		Freq Offset
	8	353.28 k	κHz						0 Hz
Transr	Transmit Freq Error -15.310 kHz			OBW Power 99		99	99.00 %		
x dB B	x dB Bandwidth 942.5 k			x dB		-20.	00 dB		
MSG						STATUS	s		



Channel 78

	rum Analyzer - Occupied								
(X) RL	RF 50Ω AC req 2.48000000			INSE:INT Freq: 2.48000	0000 GHz	ALIGN AUTO	11:45:26 Radio Ste	AM Sep 27, 2017 d: None	Frequency
	1eq 2.4000000	G	🚽 Trig: Fre	e Run	Avg Hol	d:>100/100			
		#IFGain:Low	#Atten: 3	30 dB	Ext Gair	n: -1.30 dB	Radio De	vice: BTS	
10 dB/div	Ref 20.00 dE	m							
Log	Rei 20.00 dE								
10.0									Center Freq
0.00				$\gamma \sim \gamma$					2.480000000 GHz
-10.0			$\swarrow$						
-20.0		~~~~~~			ľh				
-30.0						$\mathcal{V}$			
						2			
-40.0						- hur	1 mm		
-50.0 mmm	hearth a factor of						,	Alexandrown and the state	
-60.0									
-70.0									CF Step
									300 000 kHz
Center 2 #Res BW			#V	BW 100 k	Hz		Sweep	pan 3 MHz 3.333 ms	<u>Auto</u> Man
Occu	pied Bandwic	lth		Total P	ower	12.7	7 dBm		Freq Offset
	1	850.29 k	Hz						0 Hz
Transı	mit Freq Error	-15.518	kHz	OBW P	ower	99	9.00 %		
	Bandwidth	941.7				-20.00 dB			
		341.7	NI 12			-20.			
MSG						STATU	6		
						SIAIO	~		



Product	Multimedia System						
Test Item	Occupied Bandwidth						
Test Mode	Mode 1: Transmit						
Date of Test	2017/09/27	Test Site	SR10-H				

### π/4-DQPSK

Channel No.	Frequency	Measure Level	Limit	Result
Channel No.	(MHz)	(MHz)	(MHz)	Result
00	2402	1.425		Pass
39	2441	1.424		Pass
78	2480	1.426		Pass

	um Analyzer - Occupi							
	RF 50 Ω A req 2.4020000		Trig: Free Ru	2.402000000 GHz in Avg Ho	ld:>100/100	Radio Sto		Frequency
		#IFGain:Low	#Atten: 30 dE	B Ext Gai	in: -1.30 dB	Radio De	vice: BTS	
10 dB/div	Ref 20.00 d	IBm						
Log 10.0								Center Freq
0.00			~ m/V	-0				2.402000000 GHz
-10.0			mmlv	Loten and				
-20.0		mont		- Www	m			
-30.0	m	γ.				har - Controm	um mon	
-40.0 <del>v v v</del>							· · · · · · · · · · · · · · · · · · ·	
-50.0								
-70.0								05.04.0
						_		CF Step 600.000 kHz
Center 2. #Res BW			#VBW	100 kHz		Si Sweep	oan 6 MHz 6.667 ms	<u>Auto</u> Man
Occup	oied Bandwi	idth	Т	otal Power	12.1	l dBm		Freq Offset
		2.6360 MI	Ηz					0 Hz
Transn	nit Freq Error	-15.896 I	(Hz O	BW Power	99	9.00 %		
x dB B	andwidth	1.425 N	1Hz x	dB	-20.	00 dB		
MSG					STATU	S		

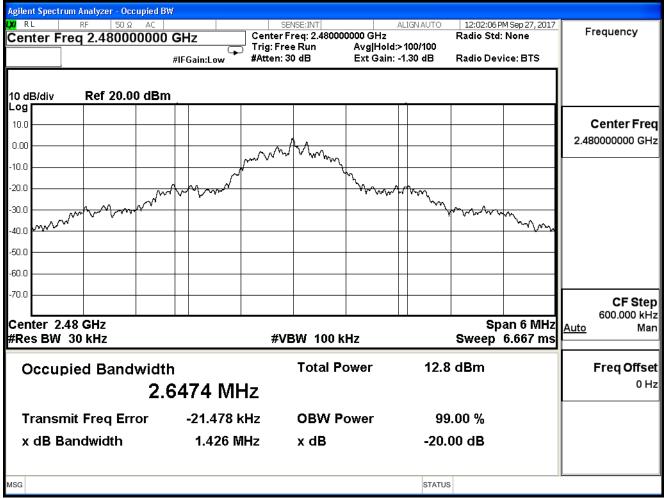


Channel 39

	um Analyzer - Occup								
Center Fi	req 2.4410000		Center	SENSE:INT Freq: 2.44100 ree Run 30 dB	Avg Hole	ALIGN AUTO d:>100/100 i: -1.30 dB	Radio St	AM Sep 27, 2017 d: None evice: BTS	Frequency
10 dB/div Log	Ref 20.00 d	dBm			1		1		
10.0				AA					Center Freq 2.441000000 GHz
-10.0		m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		WWWWWWWWWWWW	Antwo			
-30.0 -40.0	Mar Martin	√ <sup>4</sup>					ᢦᠬᢧᠵᢑ᠕ᢦ	un ma	
-50.0 -60.0									
-70.0 Center 2.	441 GHz						s	pan 6 MHz	CF Step 600.000 kHz Auto Man
#Res BW	30 kHz		#\	/BW 100 k	Hz		Sweep	6.667 ms	
Occup	bied Bandw	idth 2.6535 N	1Hz	Total P	ower	12.5	i dBm		Freq Offset 0 Hz
Transn	nit Freq Error	- <b>18.5</b> 4	1 kHz	OBW P	ower	99	0.00 %		
x dB B	andwidth	1.424	MHz	x dB		-20.	00 dB		
MSG						STATU	3		<u>.                                    </u>



Channel 78





Product	Multimedia System						
Test Item	Occupied Bandwidth						
Test Mode	Mode 1: Transmit						
Date of Test	2017/09/27	Test Site	SR10-H				

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.389		Pass
39	2441	1.395		Pass
78	2480	1.389		Pass

Agilent Spec	trum Analyze RF					CENICE INT			11,50,51	AM Core 27, 2017	[
	⊥	50Ω A 020000		Hz	Center	SENSE:INT		ALIGNAUTO	Radio Ste	AM Sep 27, 2017 d: None	Frequency
				- Gain:Low	Trig: Fi #Atten:	ree Run 30 dB		l:>100/100 : -1.30 dB	Radio De	vice: BTS	
	_										
10 dB/div Log	Ref	20.00 d	Bm					-, -,			
10.0											Center Fre
0.00					A	<u>_</u>					2.402000000 GH
10.0					www	when you was a series of the s	<u>_</u>				
20.0					Λ		h				
30.0			v v v v	m			~~~~	T. CWW	m	~~~	
40.0 MW	~~~ ·	· · · ·								- Ward	
50.0											
60.0											
70.0											
70.0											CF Ste 600.000 kH
	2.402 GH V 30 kHz				#\	/BW 100	kHz		S  Sweep	pan 6 MHz 6.667 ms	Auto Ma
Occu	unied B	andwi	dth			Total	Power	12.0	6 dBm		Freq Offse
0000	Occupied Bandwidth Total Power 12.6 dBm 2.7563 MHz								он		
Trans	mit Free	q Error		-90	65 Hz	OBW Power 99.00 %					
x dB	Bandwic	İth		1.389	MHz	x dB		-20.	00 dB		
ISG								STATU	s		Ľ



Channel 39

	n Analyzer - Occupied I	BW							
Center Fre	RF 50 Ω AC eq 2.441000000	) GHz #IFGain:Low			Avg Hold	ALIGN AUTO d:>100/100 : -1.30 dB	Radio St	d: None d: None vice: BTS	Frequency
10 dB/div	Ref 20.00 dBr	n							
10.0 0.00			m	<b>h</b>					Center Freq 2.441000000 GHz
-10.0		mmw	put .		h	man m	hplann	20	
-30.0 -40.0 -50.0	V Manana Maria						+ v ⊷v-1·	- Www	
-60.0 -70.0									CF Step
Center 2.44 #Res BW 3			#VE	BW 100 k	Hz		S Sweep	pan 6 MHz 6.667 ms	600.000 kHz <u>Auto</u> Man
Occupi	ed Bandwidt 2.	<sup>th</sup> 7606 MH	Ηz	Total P	ower	13.0	) dBm		Freq Offset 0 Hz
Transmi x dB Ba	it Freq Error ndwidth	-3.468 k 1.395 M		OBW P x dB	ower		9.00 % 00 dB		
MSG						STATU			



Channel 78

	um Analyzer - Occupied I	3W							
Center F	RF 50 Ω AC req 2.48000000	) GHz #IFGain:Low					12:00:39 Radio Sto Radio De		Frequency
10 dB/div	Ref 20.00 dBi	n							
Log 10.0 0.00			mm	W.					Center Freq 2.480000000 GHz
-10.0 -20.0 -30.0	, Marina Marina	- warne ward			Marra	ward white	man	2n	
-40.0								• ₩	
-60.0									CF Step 600.000 kHz
Center 2. #Res BW			#VE	W 100 k	Hz		Sweep	oan 6 MHz 6.667 ms	<u>Auto</u> Man
Occut	bied Bandwidt 2.	<sup>th</sup> .7312 MF	Ηz	Total Po	ower	13.4	dBm		<b>Freq Offset</b> 0 Hz
Transr	nit Freq Error	-4.981 k	Hz	OBW P	ower	99	.00 %		
x dB B	andwidth	1.389 M	IHz	x dB		-20.0	00 dB		
MSG						STATUS			۲ <u>ــــــــــــــــــــــــــــــــــــ</u>

## 10. Dwell Time

## 10.1. Test Equipment

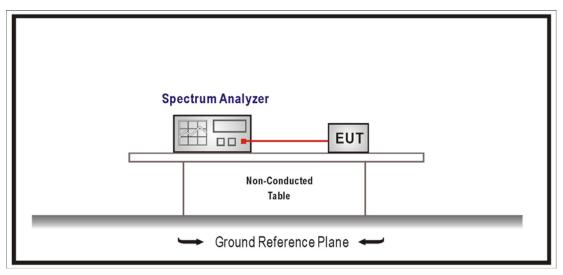
The following test equipment is used during the test:

Dwell Time / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum	R&S	FSV40	101049	2017/01/23
Analyzer				
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13

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 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  $\ge$  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	Multimedia System		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

GFSK, DH5

Occupancy Time of Frequency Hopping System

- A) 2402MHz Test Time Period: 0.4\*79=31.60sec , Time slot length : <u>2.894</u> ms = <u>0.002894</u> sec Dwell Time : <u>0.002894</u> \*(266.67/79)\* 31.60= <u>0.3087</u> sec 。
- B) 2441MHz Test Time Period: 0.4\*79=31.60sec <sup>→</sup> Time slot length : <u>2.896</u> ms = <u>0.002896</u> sec Dwell Time : <u>0.002896</u> \*(266.67/79)\* 31.60= <u>0.3089</u> sec <sup>→</sup>
- C) 2480MHz Test Time Period: 0.4\*79=31.60sec <sup>→</sup> Time slot length : <u>2.893</u> ms = <u>0.002893</u> sec Dwell Time : <u>0.002893</u> \*(266.67/79)\* 31.60= <u>0.3086</u> sec <sup>→</sup>

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

Agilen	nt Spect	trum	Ana	lyzer - Sv	vept SA									
L <b>XI</b> RI	L		RF	50 9	Ω AC	0 GHz	SEI	VSE:INT		AL	IGN AUTO	12:57	:29 PM Sep 27, 2017	<b>–</b>
Cen	iter F	Fred	a 2	.4020	0000	0 GHz			Avg	Type: I	Log-Pwr		TRACE 123456	Frequency
						PNO: Fast ↔ IFGain:Low	, Trig: Fre #Atten: 30		Ext G	ain: -1	.30 dB	Mkr2		Auto Tune
10 di	B/div	F	Ref	20.00	dBm								14.11 dB	
Log 10.0		u												Center Freq 2.402000000 GHz
0.00			_											
-10.0			-					▲2∆1						Start Freq
-20.0			+											2.402000000 GHz
-30.0			+		<b>∦</b> ↓¹									
-40.0			_		_   ľ									Stop Freq
-50.0														2.402000000 GHz
-60.0					L L									
-70.0												, <b>H</b> u		<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man
Cen	ter 2	.402	200	00000	GHz	·							Span 0 Hz	
	BW					#VBM	/ 1.0 MHz			Sw	eep 10	.00 ms	(10001 pts)	Freq Offset
											-		· · · ·	0 Hz
	MODE				×		Y		UNCTION	FUNCT	TION WIDTH	FUI	ICTION VALUE	0112
1 2	<u>Ν</u> Δ1		t t	(Δ)		2.273 ms 2.894 ms (Δ)	<u>-36.50 di</u> 14.11	<u>3m</u>					=	
3		-	<u> </u>	(8)		2.034 ma ( <u>A</u> )	14.11							
4														
4 5 6		_	_											
<										I			×	
MSG											STATUS			L
											onnioc			



### Hop rate-2441MHz

Agile	nt Spe	ctrum	i Ana	ilyzer - S	Swept SA										
L <b>XI</b> F	۱L		RF	50	Ω AC		SEI	VSE:INT			ALIGN AUTO	12		M Sep 27, 2017	
Cer	nter	Fre	q 2	2.441	Ω AC	) GHz	]	_	Avg	Туре	: Log-Pwr			CE123456	Frequency
						PNO: Fast ↔ IFGain:Low	↓ Trig: Fre #Atten: 3		Ext G	ain: ·	-1.30 dB	Mk	D	PE WHWWWW ET P P N N N N .896 ms	Auto Tune
10 c	B/div	, 1	Ref	20.00	) dBm									8.76 dB	
Log															
10.0															Center Freq
												L	·		2.441000000 GHz
0.0	) — I		+												
													Í		
-10.0															Start Freq
-20.0															2.441000000 GHz
20.0								▲2∆1							2.441000000 0112
-30.0	) — I		_					<b>.</b>	_						
															Oton Eror
-40.0	) — (		+												Stop Freq
-50.0												u			2.441000000 GHz
-50.0	1				n du i			r di							
-60.0	)								_						OF Oton
					'							'			CF Step 1.000000 MHz
-70.0	) — I		+					1	_						Auto Man
Cer	nter :	2.44	10	00000	GHz								S	span 0 Hz	
	s BW					#VBW	1.0 MHz			SI	weep 10	.00 I		0001 pts)	Freq Offset
											<u> </u>		<u>`</u>	<u> </u>	0 Hz
MKR	MODE N		sci t		×	2.246 ms	-2.89 dl		NCTION	FUN	CTION WIDTH		FUNCTI	DN VALUE	
2		1	ť	(Δ)		2.246 ms 2.896 ms (Δ)	- <u>2.89 u</u> -28.76							=	
3															
4															
4 5 6			_											~	
<						•	1111								
MSG											STATUS	;			<u></u>
1.1															



# Hop rate-2480MHz

Agilent				r - Swep	ot SA												
LXI RL		RF		50 Ω	AC			SEN	SE:INT			LIGN AUTO	12:5		M Sep 27, 2017	Frequency	
Cent	ter Fi	req	2.48	30000	0000	) GHz			_	Avg '	Type:	Log-Pwr			E123456		
						PNO: Fas IFGain:Lo		Trig: Free #Atten: 30		Ext G	iain: -	1.30 dB		DE	EWMWWWW TPPNNNN	Auto Tu	-
												Δ	۱Mkr		893 ms		ne
10 dE	3/div	Re	f 20.	.00 d	Bm									1:	2.81 dB		
Log																	_
10.0																Center Fr	ea
10.0																2.480000000 G	- 1
0.00									2Δ1 -							2.4800000000	112
-10.0					-				[				+++				
					<b>∆1</b>											Start Fr	- 1
-20.0					¥—											2.480000000 G	Hz
-30.0																	_
-30.0																	
-40.0																Stop Fr	eq
																2.480000000 G	Hz
-50.0																	
-60.0				- 'T	<del>ا</del>				<b>n</b> '							CF St	ep
-70.0																1.000000 M	iHz
-70.0																<u>Auto</u> M	lan
	ter 2.4			00 GI	Hz										pan 0 Hz		
Res	BW 1	.0 N	1Hz			#\	/BW	1.0 MHz			Sw	veep 10	).00 m	ns (1)	0001 pts)	Freq Offs	set
MKBLA	10DE TF	ert sei			X			V		FUNCTION	ELING	TION WIDTH		писти	IN VALUE	0	Hz
	N 1	t			~	2.132 ms		-20.62 dE			TONC			oneric			
2	Δ1 1	t	(Δ)			2.893 ms	(Δ)	12.81							=		
3																	
4		_							_								
6															~		
<	-	'					•	Ш							>		
MSG												STATU	s			-	

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



Product	Multimedia System		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

π/4-DQPSK, 2DH5

Occupancy Time of Frequency Hopping System

- A) 2402MHz Test Time Period: 0.4\*79=31.60sec , Time slot length : <u>2.904</u> ms = <u>0.002904</u> sec Dwell Time : <u>0.002904</u>\*(266.67/79)\* 31.60= <u>0.3098</u> sec 。
- B) 2441MHz Test Time Period: 0.4\*79=31.60sec <sup>→</sup> Time slot length : <u>2.901</u> ms = <u>0.002901</u> sec Dwell Time : <u>0.002901</u>\*(266.67/79)\* 31.60= <u>0.3094</u> sec <sup>→</sup>
- C) 2480MHz Test Time Period: 0.4\*79=31.60sec , Time slot length : 2.903 ms = <u>0.002903</u> sec Dwell Time : <u>0.002903</u>\*(266.67/79)\* 31.60= <u>0.3097</u> 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

ΔMVR/Z 2.904 ms       -10.66 dB         10 dB/div       Ref 20.00 dBm       -10.66 dB         0.00       -10.66 dB       -10.66 dB         10 dB/div       Ref 20.00 dBm       -10.66 dB         10 dB/div       1       -10.66 dB         10 dB/div       1       -10.66 dB         2.40200000 GHz       2Δ1       -10.66 dB         40.0       -10.66 dB       -10.66 dB         40.0       -10.66 dB       -10.00 ms (1000 Hz)         70.0       -10.06 dB       -10.00 ms (1000 Hz)         70.0       -10.66 dB       -10.06 dB         10 M1z       #VBW 1.0 MHz       Sweep 10.00 ms (1000 Hz)         10 M12       -22.11 dBm       -22.11 dBm       -22.11 dBm         11 N 1 t       1.858 ms       -22.11 dBm       -22.11 dBm         31 1       1       1.00.66 dB       -10.06 dB       -10.06 dB         31 1       1       1.00.66 dB       -10.06 dB       -10.06 dB         31 1       1       1       -10.66 dB       -10.06 dB       -10.	Agilent Spect	rum Analyzer - Swept SA					
PN0: Fast         Tig: Free Kun #Atten: 30 dB         Ext Gain: -1.30 dB         Auto Tune           10 dB/div         Ref 20.00 dBm         -10.66 dB         -	LX/IRL	RF 50 Ω AC		SENSE:INT			Energy and
PN0: Fast         Tig: Free Kun #Atten: 30 dB         Ext Gain: -1.30 dB         Auto Tune           10 dB/div         Ref 20.00 dBm         -10.66 dB         -	Center F	req 2.40200000	) GHz		Avg Type: Log-Pwr		Frequency
Log         Center Freq           10.0         10.0           10.0         10.0           10.0         10.0           10.0         10.0           10.0         10.0           20.0         10.0           30.0         2Δ1           40.0         2Δ1           40.0         10.0           40		•	PNO: Fast +			Mkr2 2.904 ms	Auto Tune
Log         Center Free           10.0         20.0           10.0         20.0           20.0         20.1           30.0         20.1           40.0         20.0           50.0         1           60.0         1           70.0	10 dB/div	Ref 20.00 dBm				-10.66 dB	
0.00         1 <td>Log</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Log						
0.00       1 <td>10.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Center Freq</td>	10.0						Center Freq
20.0       20.1       2Δ1       1       2.40200000 GHz         30.0       2.40.0       2.40200000 GHz       Stop Free       2.40200000 GHz         40.0       1	0.00				a personal da fala fala da fala A fala da fala d	ار این میرود در میرود در میرود در میرود این میرود ا این میرود این میرود ای این میرود این میرود ای	2.402000000 GHz
20.0       20.1       2Δ1       1       2.40200000 GHz         30.0       2.40.0       2.40200000 GHz       Stop Free       2.40200000 GHz         40.0       1	-10.0						
-30.0     -2Δ1     -40.0       -40.0     -40.0       -60.0     -40.0       -60.0     -40.0       -70.0     -40.0       -60.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -40.0       -70.0     -70.0       -70.0       -70.0							Start Freq
-30.0       -40.0 <t< td=""><td>-20.0</td><td></td><td></td><td>241</td><td></td><td></td><td>2.402000000 GHz</td></t<>	-20.0			241			2.402000000 GHz
-50.0       -60.0       -70.0 <t< td=""><td>-30.0</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	-30.0						
-50.0       -70.0 <t< td=""><td>-40.0</td><td></td><td></td><td></td><td></td><td></td><td>Stop Freq</td></t<>	-40.0						Stop Freq
-60.0       Image: Constraint of the sector o							2.402000000 GHz
-70.0     -70.0	-50.0			15			
-70.0	-60.0				<b>[</b>		CF Step
Center 2.402000000 GHz         Span 0 Hz           Res BW 1.0 MHz         #VBW 1.0 MHz         Sweep 10.00 ms (10001 pts)           MSS MODE         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VALUE         0 Hz           1         N         1         t         1.858 ms         -22.11 dBm         0 Hz         FUNCTION VALUE         0 Hz           2         Δ1         1         t         0.00 ms (Δ)         -10.66 dB         0 Hz         0 Hz           3         4         0	-70.0						1.000000 MHz
Res BW 1.0 MHz         #VBW 1.0 MHz         Sweep 10.00 ms (10001 pts)         Freq Offset           MK8 MODE         TFO         SCL         ×         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VALUE         0 Hz           1         N         1         t         1.858 ms         -22.11 dBm         -         -         0 Hz           2         Δ1         1         t         (Δ)         -10.66 dB         - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>Auto</u> Man</td>							<u>Auto</u> Man
MKR         MODE         TRC         SCL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VALUE         O         H:           1         N         1         t         1.858 ms         -22.11 dBm         -						Span 0 Hz	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Res BW	1.0 MHz	#VBW	1.0 MHz	Sweep 10	.00 ms (10001 pts)	
2       Δ1       1       t       (Δ)       2.904 ms       (Δ)       -10.66 dB         3       4       5       5       6       5 </td <td></td> <td></td> <td></td> <td></td> <td>FUNCTION FUNCTION WIDTH</td> <td>FUNCTION VALUE</td> <td>0 Hz</td>					FUNCTION FUNCTION WIDTH	FUNCTION VALUE	0 Hz
3 4 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2 <b>Δ1</b>		<u>1.858 ms</u> 2.904 ms (Δ)			=	
	3						
	5						
	6 <		I			×	
MSG STATUS					STATUS	3	<u>[]</u>



### Hop rate-2441MHz

Agilent Spectr	rum Analyzer - Swept SA					
LXI RL	RF 50 Ω AC		SENSE:INT	ALIGN AUTO	01:02:57 PM Sep 27, 2017	
Center F	req 2.44100000	0 GHz	]	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
	·	PNO: Fast ↔↔ IFGain:Low	<sup>1</sup> Trig: Free Run #Atten: 30 dB	Ext Gain: -1.30 dB		Auto Tune
10 dB/div	Ref 20.00 dBm			4	Mkr2 2.901 ms -25.17 dB	
10.0						Center Freq
0.00		ya aka ya shu ya ka ya ka ya ki kuya shi kuya shu ya shu ya				2.441000000 GHz
-10.0						Start Freq
-20.0			2∆1			2.441000000 GHz
-30.0			<b>₹</b>			Stop Frog
-40.0						<b>Stop Freq</b> 2.441000000 GHz
-50.0						05.04.4
-70.0			Υ II	P		<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man
						Adto Mari
Center 2. Res BW 1	441000000 GHz 1.0 MHz	#VBW	1.0 MHz	Sweep 10	Span 0 Hz .00 ms (10001 pts)	Freq Offset
MKR MODE T	RC SCL X	1.868 ms	7 -7.49 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	0 Hz
2 Δ1 1 3	t (Δ)	2.901 ms (Δ)	-25.17 dB			
4 5						
6					×	
MSG				STATUS	3	



# Hop rate-2480MHz

	um Analyzer - Swept SA							
LXIRL	RF 50 Ω AC		SENSE:INT	Avg Type:			M Sep 27, 2017 E 1 2 3 4 5 6	Frequency
Center F	req 2.48000000	PNO: Fast +	Trig: Free Run	• //	•	TYP	EW <del>MWWWW</del>	
		IFGain:Low	#Atten: 30 dB	Ext Gain: -				Auto Tune
					Δ	Mkr2 2.		Auto Tunc
10 dB/div Log	Ref 20.00 dBm					-22	2.47 dB	
								Center Freq
								2.480000000 GHz
0.00								
-10.0	Ψ]							
20.0								Start Freq
-20.0			▲2∆1					2.480000000 GHz
-30.0			♥					
-40.0								Stop Freq
-50.0			hal.					2.480000000 GHz
-50.0								
-60.0						P		CF Step
-70.0								1.000000 MHz Auto Man
								<u>Auto</u> Man
	480000000 GHz			_			pan 0 Hz	
Res BW 1	I.0 MHz	#VBW	1.0 MHz	Sv	veep 10	.00 ms (1	0001 pts)	Freq Offset
MKR MODE T	RC SCL X	1.812 ms	Y FU -9.76 dBm	NCTION FUNC	CTION WIDTH	FUNCTIO	N VALUE	0 Hz
<b>2</b> Δ1 1	t (Δ)	2.903 ms (Δ)	-9.76 dBm -22.47 dB				=	
3 4								
5								
<		I					>	
MSG					STATUS	3		

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



Product	Multimedia System		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

8-DPSK, 3DH5

Occupancy Time of Frequency Hopping System

- A) 2402MHz Test Time Period: 0.4\*79=31.60sec , Time slot length : 2.902ms = <u>0.002902</u> sec Dwell Time : <u>0.002902</u>\*(266.67/79)\* 31.60=<u>0.3096</u> sec 。
- B) 2441MHz Test Time Period: 0.4\*79=31.60sec <sup>→</sup> Time slot length : 2.904 ms = <u>0.002904</u> sec Dwell Time : <u>0.002904</u>\*(266.67/79)\* 31.60=<u>0.3098</u> sec <sup>→</sup>
- C) 2480MHz Test Time Period: 0.4\*79=31.60sec , Time slot length : 2.904 ms = <u>0.002904</u> sec Dwell Time : <u>0.002904</u>\*(266.67/79)\* 31.60=<u>0.3098</u> 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

			alyzer -	Swept S	SA .												
L <b>XI</b> RI	L	RF		iOΩ A	C		SE	NSE:INT	-			GN AUTO			M Sep 27, 2017	E	
Cen	ter F	req	2.402	20000	00 GH	z				Avg Ty	ype: L	.og-Pwr		TRA	足123456	Frequenc	у
					PN IFG	O: Fast ↔ ain:Low	, Trig: Fre #Atten: 3			Ext Ga	uin: -1.		<u>v</u> M	□ Ikr2 2.	902 ms 6.29 dB	Auto	Tune
10 d Log	B/div	Re	f 20.0	in aBi	m									-1	0.23 UD		
10.0													-			Center	-1
0.00			na an a	┥╢╼╸		, and the provide state of the second state of the second state of the second state of the second state of the	2		· · · · · · · · · · · · · · · · · · ·	1	1.4						
-10.0				1									+			Start	Freq
-20.0				-									$\parallel$			2,40200000	- 1
-30.0							<b>│</b>	2∆1 ├──									
-40.0																Stop	Freq
-50.0																2.40200000	0 GHz
-60.0													հես				
-50.0				- <b>H</b>								ľ				CF 1.000000 Auto	Step MHz Man
Res	BW <sup>·</sup>	1.0 №		0 GHz	2	#VBV	V 1.0 MHz	<u>.</u>				•		S 0 ms (1	pan 0 Hz 0001 pts)	Freq C	Offset
1	MODE T				X	_	Y		FUNC	TION	FUNCT	ION WIDTH		FUNCTIO	IN VALUE		0 112
1 2	<u>Ν</u> / Δ1 /	1 t 1 t	(Δ)			<u>3 ms</u> 12 ms (Δ)	<u>-14.96 d</u> 16.29-								=		
3	-		<u>,</u> /		2.00		10.20										
4																	
4 5 6			-										-		~		
<			+							-			-				
MSG												STATUS	s				



### Hop rate-2441MHz

Agile	nt Spec	:trum	Ana	lyzer - S	wept SA										
<b>l,Xi</b> R	L		RF	50	Ω AC	0 GHz	SEN	ISE:INT			ALIGN AUTO	01	:05:18 F	M Sep 27, 2017	<b>F</b>
Cer	nter	Fre	a 2	2.4410	00000	0 GHz	7		Avg 1	Type:	: Log-Pwr			E123456	Frequency
						PNO: Fast ↔ IFGain:Low	Trig: Free #Atten: 30		Ext G	ain: -	1.30 dB	Mk	⊳ r2 2.	904 ms	Auto Tune
10 0	10 dB/div Ref 20.00 dBm -19.01 dB														
Log				20.00								1			
10.0			_												Center Freq
		· · · · · · · · · · · · · · · · · · ·					in the second in the second					<b>h</b> /~			2.441000000 GHz
0.00	/														
-10.0					1										
					IN										Start Freq
-20.0	) —		+												2.441000000 GHz
								2∆1							
-30.0	)		-												
-40.0															Stop Freq
-40.0	,														2.441000000 GHz
-50.0									_						2.441000000 GH2
-60.0	) —		+					707							CF Step
												·			1.000000 MHz
-70.0			+												Auto Man
Cer	nter 2	2.44	10	00000	GHz								S	pan 0 Hz	
Res	s BW	1.0	MI	Hz		#VBW	1.0 MHz			Sv	veep 10	.00 r		0001 pts)	Freq Offset
		TDO	001-						NETION		-		` 		0 Hz
	MODE		t		×	2.075 ms	-13.73 dE		NCTION	FUNI	CTION WIDTH		FUNCTI	N VALUE	
2		1	t	(Δ)		2.904 ms (Δ)	-19.01							<b>=</b>	
3		_		/											
4															
4 5 6														~	
<			- 1			I								>	
MSG											STATUS	5			Ľ]
											0				



# Hop rate-2480MHz

	trum Analyzer - S	wept SA										
LXIRL Comton F	RF 50			SENSE:	INT		ALIGN AUTO		OM Sep 27, 2017 CE 1 2 3 4 5 6	Frequency		
Center F	req 2.4800	F	⊓Z PNO: Fast ↔ Gain:Low	Trig: Free Run #Atten: 30 dB		Ext Gain:	-	TYPE W <del>MWWWW</del> DET P P N N N I		Auto Tune		
10 dB/div	ΔMkr2 2.904 ms -20.12 dB -99											
						العربية والمراجعة وا	and here a first a start of the set of the set		· · · · · · · · · · · · · · · · · · ·	Center Freq 2.48000000 GHz		
-10.0		1			2Δ1					Start Freq 2.48000000 GHz		
-30.0 -40.0 -50.0				•••••						<b>Stop Freq</b> 2.48000000 GHz		
-60.0					Pi					<b>CF Step</b> 1.000000 MHz <u>Auto</u> Man		
Res BW			#VBW	1.0 MHz			-	.00 ms (1	Span 0 Hz 10001 pts)	Freq Offset 0 Hz		
MKE MODE 1 N 2 △1 3 4 5 6 <	I         t           1         t           1         t		272 ms 904 ms (Δ)	Y -12.40 dBm -20.12 dB	FUNC					0 112		
MSG							STATUS					

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