FCC Test Report

Product Name ： WIFI smart waterproof DVR

Model No. ： GoLife Extreme

FCC ID. ： 2AA58GOLIFEEXTREME

Applicant ： PAPAGO INC.

Address ： 4F., No.200, Gangcian Rd., Neihu District, Taipei City 11494, Taiwan, R.O.C

Date of Receipt ： 2013/12/26

Issued Date ： 2013/12/26

Report No. ： 1410009R-RFUSP25V00

Report Version ： V1.0

Test Report Certification

Issued Date : 2013/12/26
Report No. : 1410009R-RFUSP25V00

QuieTek

Product Name	:	WIFI smart waterproof DVR
Applicant	:	PAPAGO INC.
Address	:	4F., No.200, Gangcian Rd., Neihu District, Taipei City 11494, Taiwan, R.O.C
Manufacturer	:	SanJet Technology Corp.
Model No.	:	GoLife Extreme
FCC ID.	:	2AA58GOLIFEEXTREME
EUT Test Voltage	:	DC 5V
Trade Name	:	PAPAGO!
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2012 ANSI C63.4: 2009
Test Result	:	Complied

The test results relate only to the samples tested.
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Laboratory Information

We, **QuieTek Corporation**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	**:**	**TAF, Accreditation Number: 1313** **NCC, Certificate No : NCC-RCB-07**
USA	**:**	**FCC, Registration Number: 365520**
Canada	**:**	**IC, Submission No: 150981**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site:http://www.quietek.com/tw/ctg/cts/accreditations.htm
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
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1. General Information

1.1. EUT Description

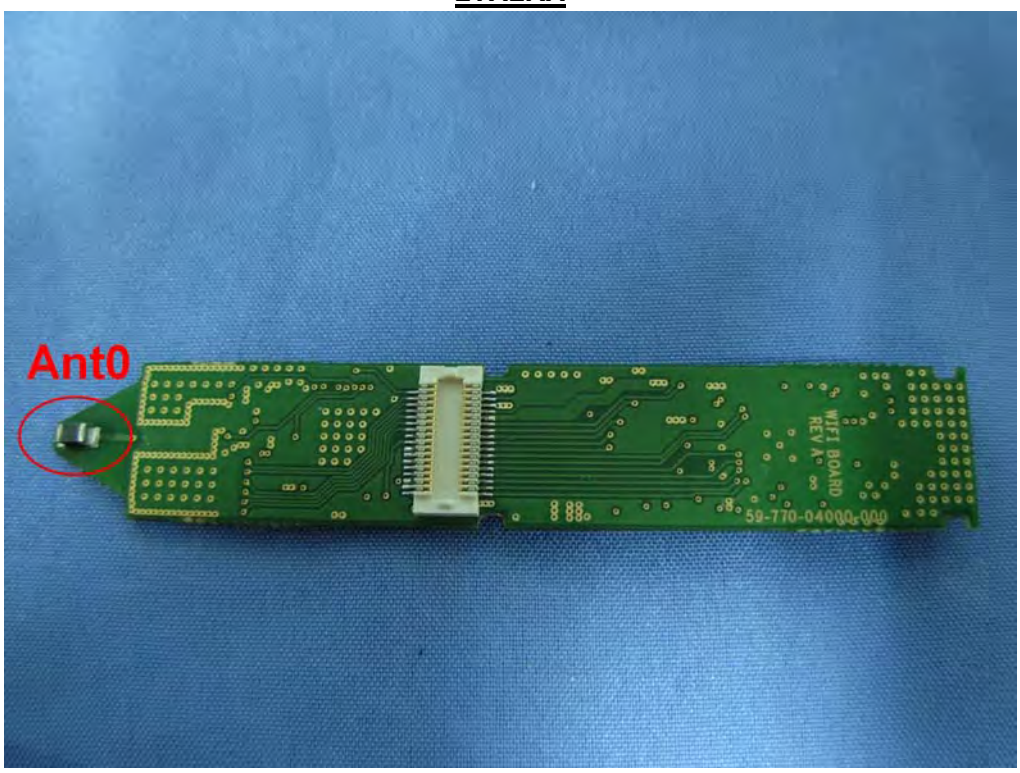
Product Name	WIFI smart waterproof DVR	
Product Type	WLAN (1TX, 1RX)	
Trade Name	PAPAGO!	
Model No.	GoLife Extreme	
Frequency Range/ Channel Number	IEEE 802.11b/g	2412~2462MHz / 11 Channels
	IEEE 802.11n (20MHz)	2412~2462MHz / 11 Channels
Type of Modulation	IEEE 802.11b	Direct Sequence Spread Spectrum
	IEEE 802.11g/n	Orthogonal Frequency Division Multiplexing
Data Speed	IEEE 802.11b	1, 2, 5.5, 11Mbps
	IEEE 802.11g	6, 9, 18, 24, 36, 48,54Mbps
	IEEE 802.11n	Support a subset of the combination of GI, MCS 0~MCS 7 and bandwidth defined in 802.11n
Antenna Gain	0dBi	
Antenna Type	Chip Antenna	

Component	
USB Cable	Shielded, 0.9m, one ferrite core bonded.
Power Adapter	DVE, DSC-5CU-05 05100 I/P: 100-240V~, 50-60Hz, 0.2A O/P: +5V⎓1A

ANT-TX / RX & Bandwidth

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

1TX1RX



IEEE 802.11n(20MHz)

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}	N_{DBPS}	Data Rate(Mb/s)	
				20MHz	20MHz	800ns GI	400ns GI
						20MHz	20MHz
0	BPSK	1/2	1	52	26	6.5	7.2
1	QPSK	1/2	2	104	52	13.0	14.4
2	QPSK	3/4	2	104	78	19.5	21.7
3	16-QAM	1/2	4	208	104	26.0	28.9
4	16-QAM	3/4	4	208	156	39.0	43.3
5	64-QAM	2/3	6	312	208	52.0	57.8
6	64-QAM	3/4	6	312	234	58.5	65.0
7	64-QAM	5/6	6	312	260	65.0	72.2
Note 1: Support of 400ns GI is optional on transmit and receive.							

Table 1 – MCS parameters for TX Antenna number = 1

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

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

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

Note:

1. This device is the WIFI smart waterproof DVR, including 2.4GHz b/g/n (1x1) transmitting and receiving function.
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 1410009R-RFUSP01V00 under Declaration of Conformity.

1.2. Operational Description

The GoLife Extreme is an IEEE 802.11b/g/n for 2.4GHz Wireless Sports CAM. Operating Frequency Ranges of the WLAN is from 2412 MHz to 2462 MHz. The Chip antenna gain is 0 dBi for 2.4GHz. The GoLife Extreme is a 1x1 device for 2.4GHz. The oscillator's frequency is 26MHz.

The Atheros AR63026-BL38 single-chip 802.11n transceiver for 2.4G. The device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps for IEEE 802.11b and eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps for IEEE 802.11g and MCS0 – MCS7 for IEEE 802.11n. The device of RF carrier is DQPSK, DBPSK and CCK. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) radio transmission for IEEE 802.11b, and 2.4GHz Orthogonal Frequency Division Multiplexing (OFDM) for IEEE 802.11g/n.

1.3. Test Mode

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

TX	Mode 1: Transmit (Power by PC) Mode 2: Transmit (Power by adapter)

Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11n(20MHz)	6	0	Complies
Peak Power Output	b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Radiated Emission	b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
RF antenna conducted test	b/g	1/ 11	0	Complies
	11n(20MHz)	1/ 11	0	Complies
Radiated Emission Band Edge	b/g	1/ 11	0	Complies
	11n(20MHz)	1/ 11	0	Complies
Occupied Bandwidth	b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Power Density	b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies

1.4. Tested System Details

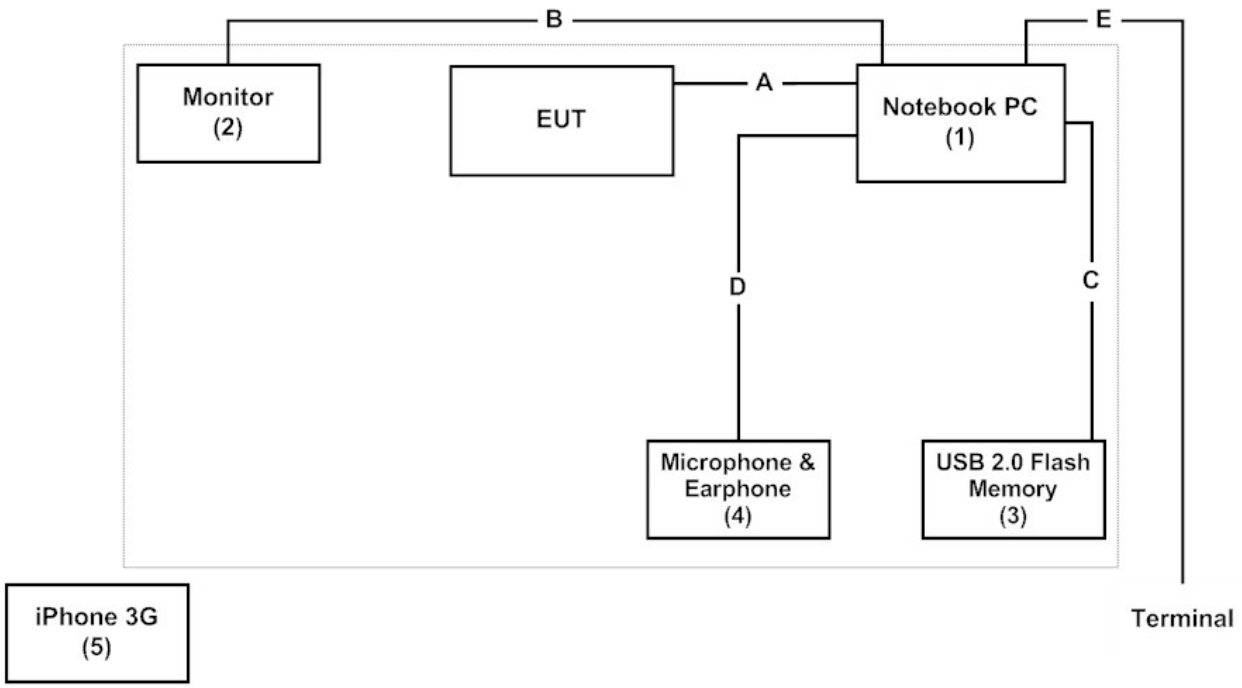
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Test Mode			Mode 1: Transmit (Power by PC)			
Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	HP	HSTNN-146C	CNU8253S1X	DoC	Non-Shielded, 1.8m
2	Monitor	DELL	U2410f	082WXD-72872-16R-0W2L	DoC	Non-Shielded, 1.8m
3	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
4	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--
5	iPhone 3G	Apple	A1241	87927AP3Y7H	DoC	--

Test Mode			Mode 2: Transmit (Power by adapter)			
Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	iPhone 3G	Apple	A1241	87927AP3Y7H	DoC	--

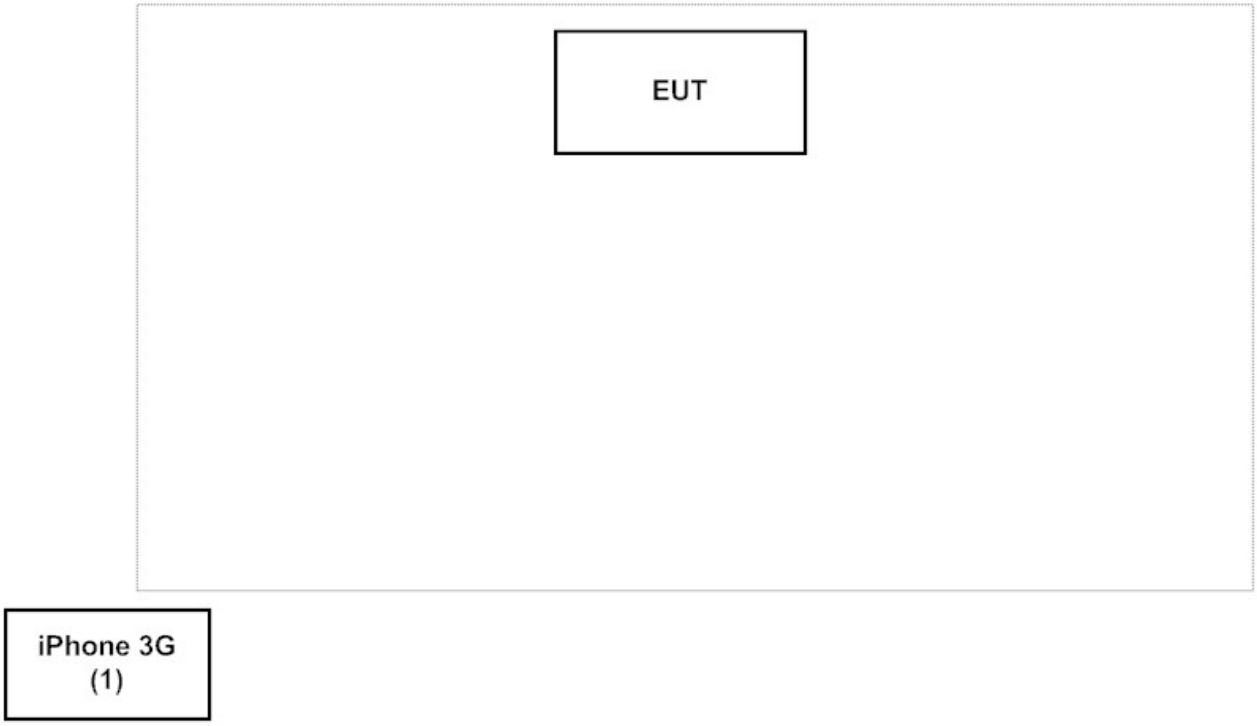
1.5. Configuration of tested System

Test Mode	Mode 1: Transmit (Power by PC)



Signal Cable Type		Signal cable Description
A	USB Cable (EUT)	Shielded, 0.9m, one ferrite core bonded.
B	VGA Cable	Shielded, 1.2m
C	USB Cable	Shielded, 0.9m
D	Microphone & Earphone Cable	Non-Shielded, 1.8m
E	LAN Cable	Non-Shielded, 3.0m

Test Mode	Mode 2: Transmit (Power by adapter)



1.6. EUT Exercise Software

Test Mode		Mode 1: Transmit (Power by PC)
1	Setup the EUT as shown in Section 1.5.	
2	Execute the program “Teknigne_rf_tester_1_2_omsi” command to control the EUT.	
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.	

Test Mode		Mode 2: Transmit (Power by adapter)
1	Test system is in accord with EUT user manual (refer to 1.5 configuration of tested system).	
2	Turn on the power of all equipment.	
3	Boot the iPhone from Hard Disk.	
4	The image data will communicate by connecting wireless of iPhone.	
5	The iPhone ‘s monitor will show the image of the camera and transmitting & receiving characteristics when the communication is success.	
6	Repeat the above procedure (4) to (5).	

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

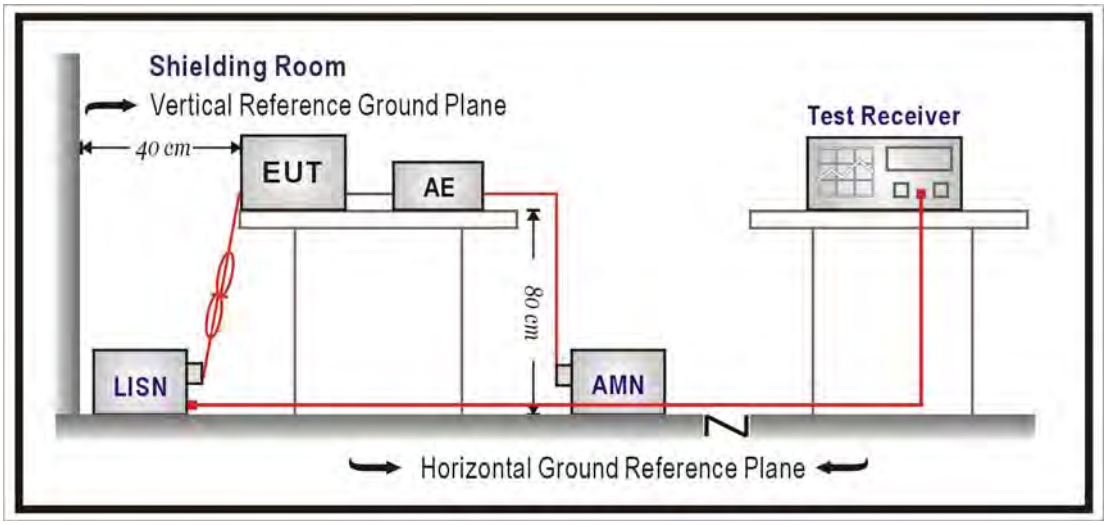
The following test equipments are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
LISN	R&S	ENV216	100096	2014/08/01
LISN	R&S	ESH3-Z5	836679/022	2014/01/20
Test Receiver	R&S	ESCS 30	825442/017	2014/01/01

Note: 1. All equipments 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 was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

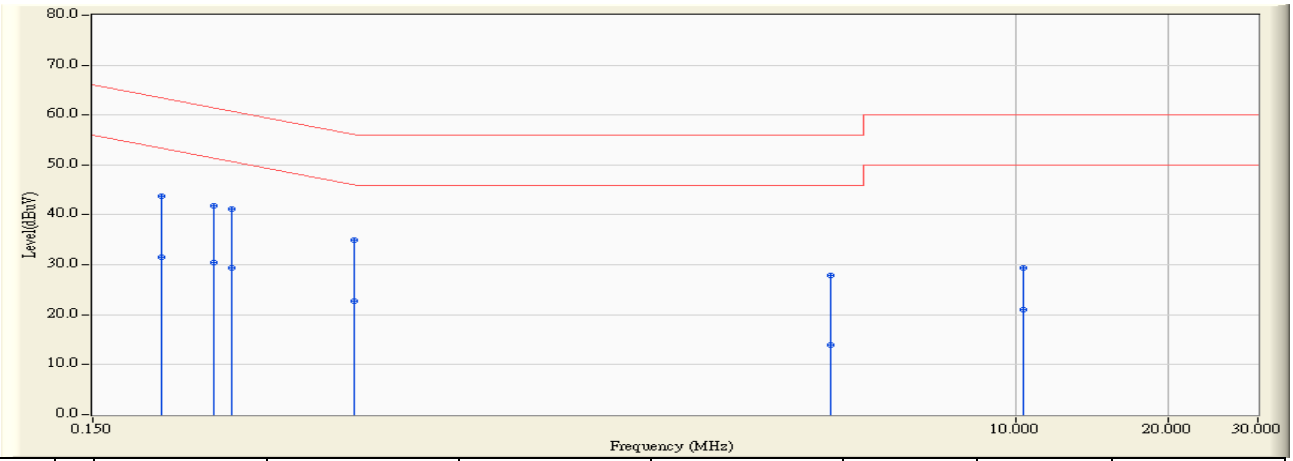
According to FCC Part 15 Subpart C Paragraph 15.207: 2012

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR3	**Time : 2013/08/28 - 14:39**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line1	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)**

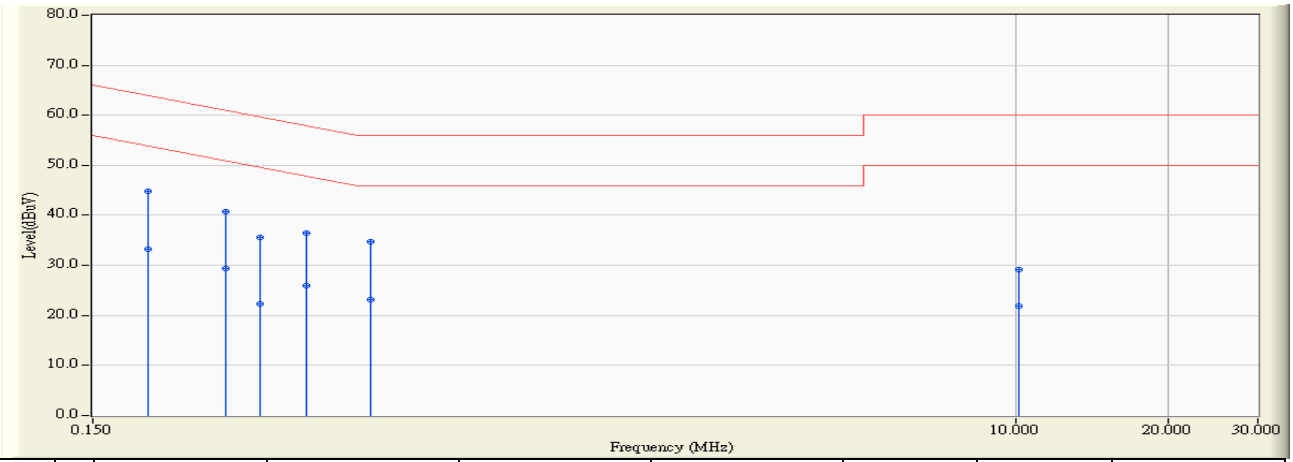


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.205	9.660	34.060	43.720	-19.698	63.418	QUASIPEAK
2		0.205	9.660	21.930	31.590	-21.828	53.418	AVERAGE
3		0.259	9.693	32.050	41.743	-19.708	61.451	QUASIPEAK
4		0.259	9.693	20.740	30.433	-21.018	51.451	AVERAGE
5	*	0.283	9.703	31.390	41.093	-19.640	60.733	QUASIPEAK
6		0.283	9.703	19.740	29.443	-21.290	50.733	AVERAGE
7		0.494	9.822	25.230	35.052	-21.053	56.104	QUASIPEAK
8		0.494	9.822	12.890	22.712	-23.393	46.104	AVERAGE
9		4.302	10.090	17.710	27.800	-28.200	56.000	QUASIPEAK
10		4.302	10.090	3.910	14.000	-32.000	46.000	AVERAGE
11		10.357	10.110	19.300	29.410	-30.590	60.000	QUASIPEAK
12		10.357	10.110	10.980	21.090	-28.910	50.000	AVERAGE

Note:

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

Site : SR3	**Time : 2013/08/28 - 14:45**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line2	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)**

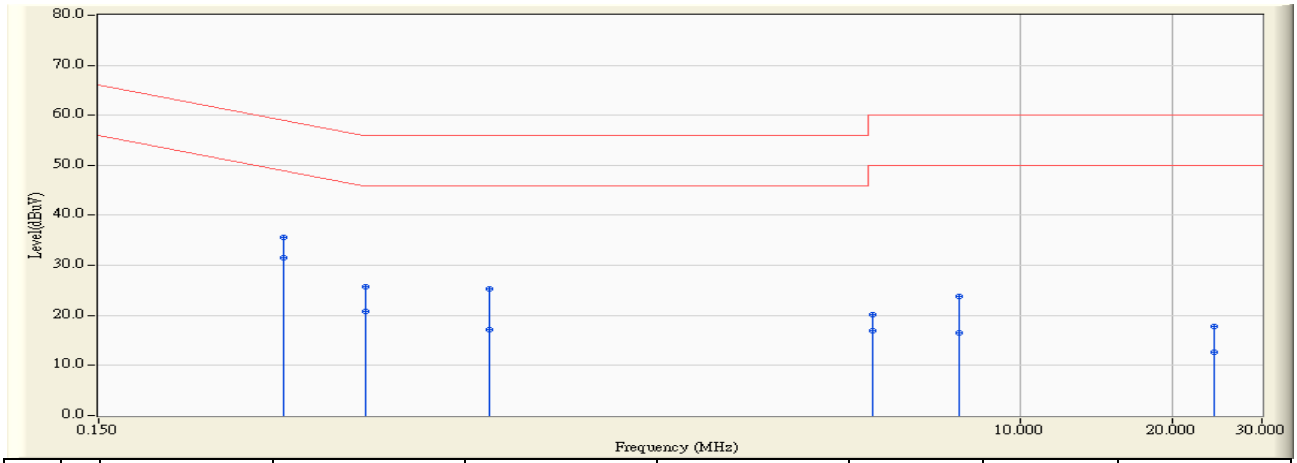


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.193	9.653	35.250	44.903	-19.005	63.908	QUASIPEAK
2		0.193	9.653	23.550	33.203	-20.705	53.908	AVERAGE
3		0.275	9.699	31.150	40.849	-20.117	60.966	QUASIPEAK
4		0.275	9.699	19.670	29.369	-21.597	50.966	AVERAGE
5		0.322	9.719	25.890	35.609	-24.050	59.658	QUASIPEAK
6		0.322	9.719	12.660	22.379	-27.280	49.658	AVERAGE
7		0.396	9.759	26.790	36.549	-21.386	57.935	QUASIPEAK
8		0.396	9.759	16.090	25.849	-22.086	47.935	AVERAGE
9		0.529	9.823	24.980	34.803	-21.197	56.000	QUASIPEAK
10		0.529	9.823	13.290	23.113	-22.887	46.000	AVERAGE
11		10.142	10.150	18.960	29.110	-30.890	60.000	QUASIPEAK
12		10.142	10.150	11.640	21.790	-28.210	50.000	AVERAGE

Note:

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

Site : SR3	**Time : 2013/09/03 - 13:58**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line1	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 2: Transmit (Power by adapter)**

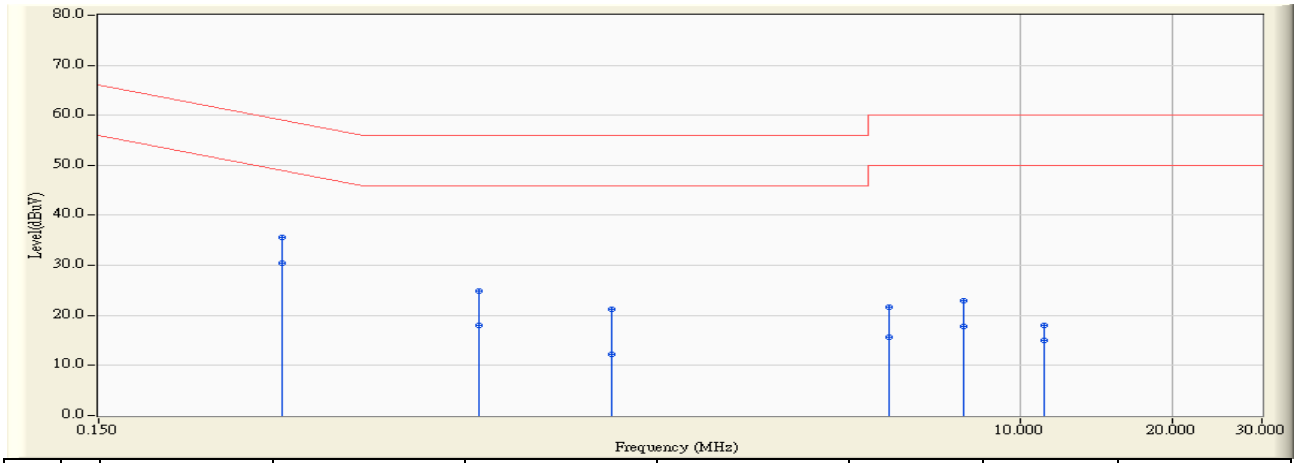


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.349	9.747	25.960	35.707	-23.274	58.981	QUASIPEAK
2	*	0.349	9.747	21.850	31.597	-17.384	48.981	AVERAGE
3		0.505	9.826	15.930	25.756	-30.244	56.000	QUASIPEAK
4		0.505	9.826	10.900	20.726	-25.274	46.000	AVERAGE
5		0.892	9.920	15.430	25.350	-30.650	56.000	QUASIPEAK
6		0.892	9.920	7.220	17.140	-28.860	46.000	AVERAGE
7		5.111	10.110	10.150	20.260	-39.740	60.000	QUASIPEAK
8		5.111	10.110	6.910	17.020	-32.980	50.000	AVERAGE
9		7.580	10.110	13.700	23.810	-36.190	60.000	QUASIPEAK
10		7.580	10.110	6.450	16.560	-33.440	50.000	AVERAGE
11		24.087	10.140	7.680	17.820	-42.180	60.000	QUASIPEAK
12		24.087	10.140	2.610	12.750	-37.250	50.000	AVERAGE

Note:

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

Site : SR3	**Time : 2013/09/03 - 14:11**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line2	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 2: Transmit (Power by adapter)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.345	9.734	25.900	35.634	-23.440	59.074	QUASIPEAK
2	*	0.345	9.734	20.820	30.554	-18.520	49.074	AVERAGE
3		0.845	9.899	15.040	24.939	-31.061	56.000	QUASIPEAK
4		0.845	9.899	8.140	18.039	-27.961	46.000	AVERAGE
5		1.552	9.940	11.240	21.180	-34.820	56.000	QUASIPEAK
6		1.552	9.940	2.180	12.120	-33.880	46.000	AVERAGE
7		5.482	10.080	11.480	21.560	-38.440	60.000	QUASIPEAK
8		5.482	10.080	5.600	15.680	-34.320	50.000	AVERAGE
9		7.709	10.120	12.930	23.050	-36.950	60.000	QUASIPEAK
10		7.709	10.120	7.680	17.800	-32.200	50.000	AVERAGE
11		11.162	10.160	7.920	18.080	-41.920	60.000	QUASIPEAK
12		11.162	10.160	4.780	14.940	-35.060	50.000	AVERAGE

Note:

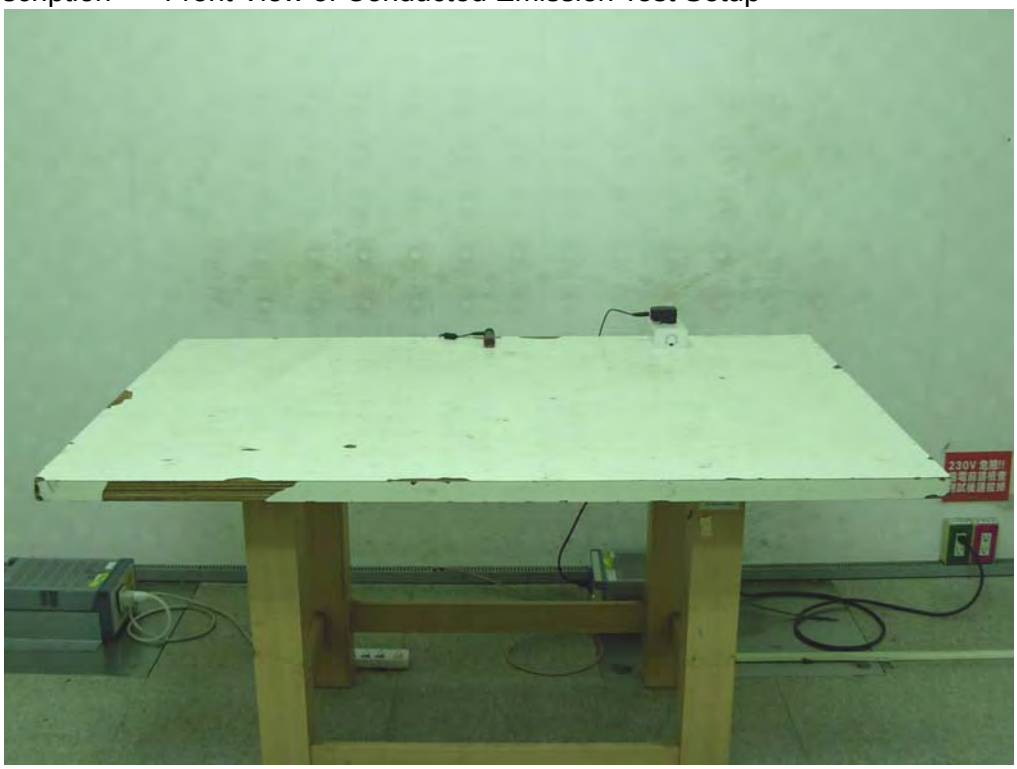
1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measure Level = Reading Level + Correct Factor。

2.8. Test Photo

Test Mode ： Mode 1: Transmit (Power by PC)
Description： Front View of Conducted Emission Test Setup

Test Mode ： Mode 1: Transmit (Power by PC)
Description： Back View of Conducted Emission Test Setup

Test Mode ： Mode 2: Transmit (Power by adapter)
Description： Front View of Conducted Emission Test Setup



Test Mode ： Mode 2: Transmit (Power by adapter)
Description： Back View of Conducted Emission Test Setup

3. Peak Power Output

3.1. Test Equipment

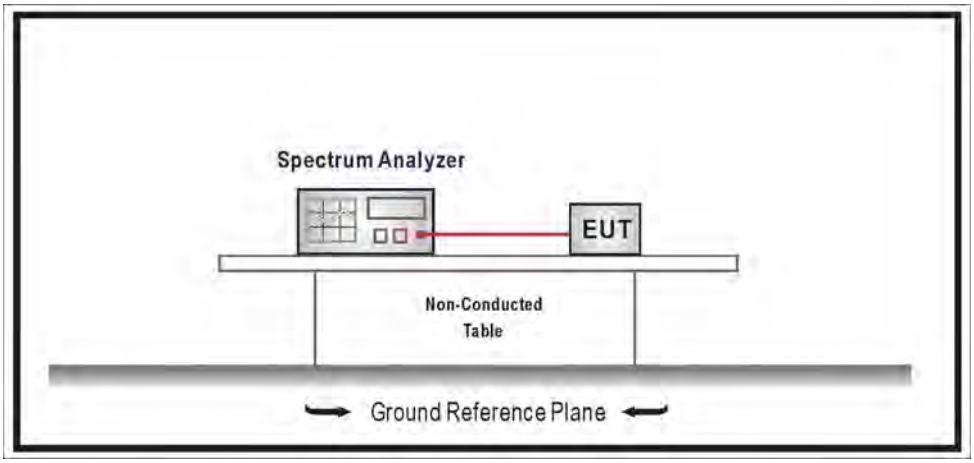
The following test equipments are used during the test:

Peak Power / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

3.2. Test Setup



3.3. Test procedures

The EUT was tested according to DTS test procedure of Jan. 2012 KDB558074, Section 5.2.1.2 Measurement Procedure PK2 for compliance to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.7. Test Result

Product	WIFI smart waterproof DVR		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

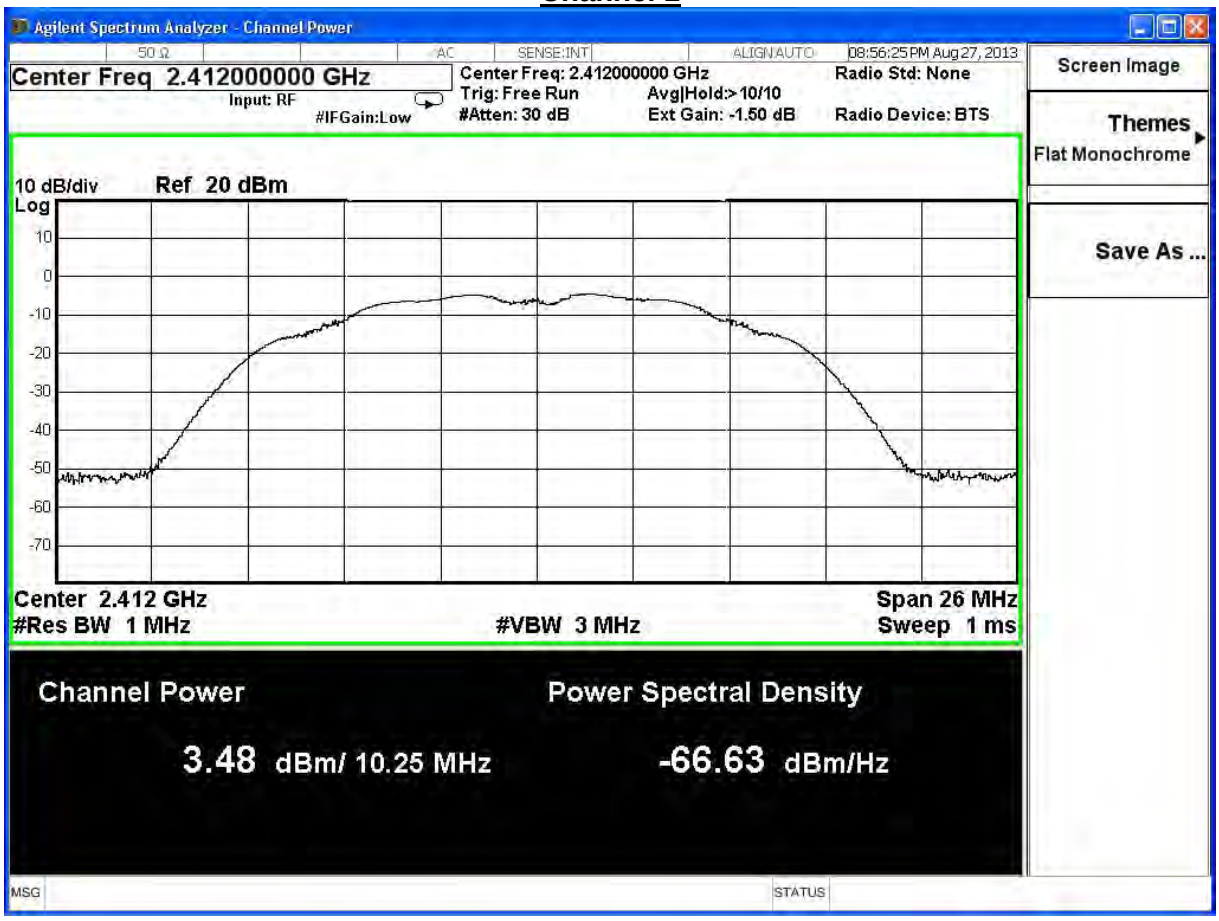
IEEE 802.11b, ANT 0				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	3.48	≦30	Pass
6	2437	4.48	≦30	Pass
11	2462	5.85	≦30	Pass

The worst emission of data rate is 1Mbps.

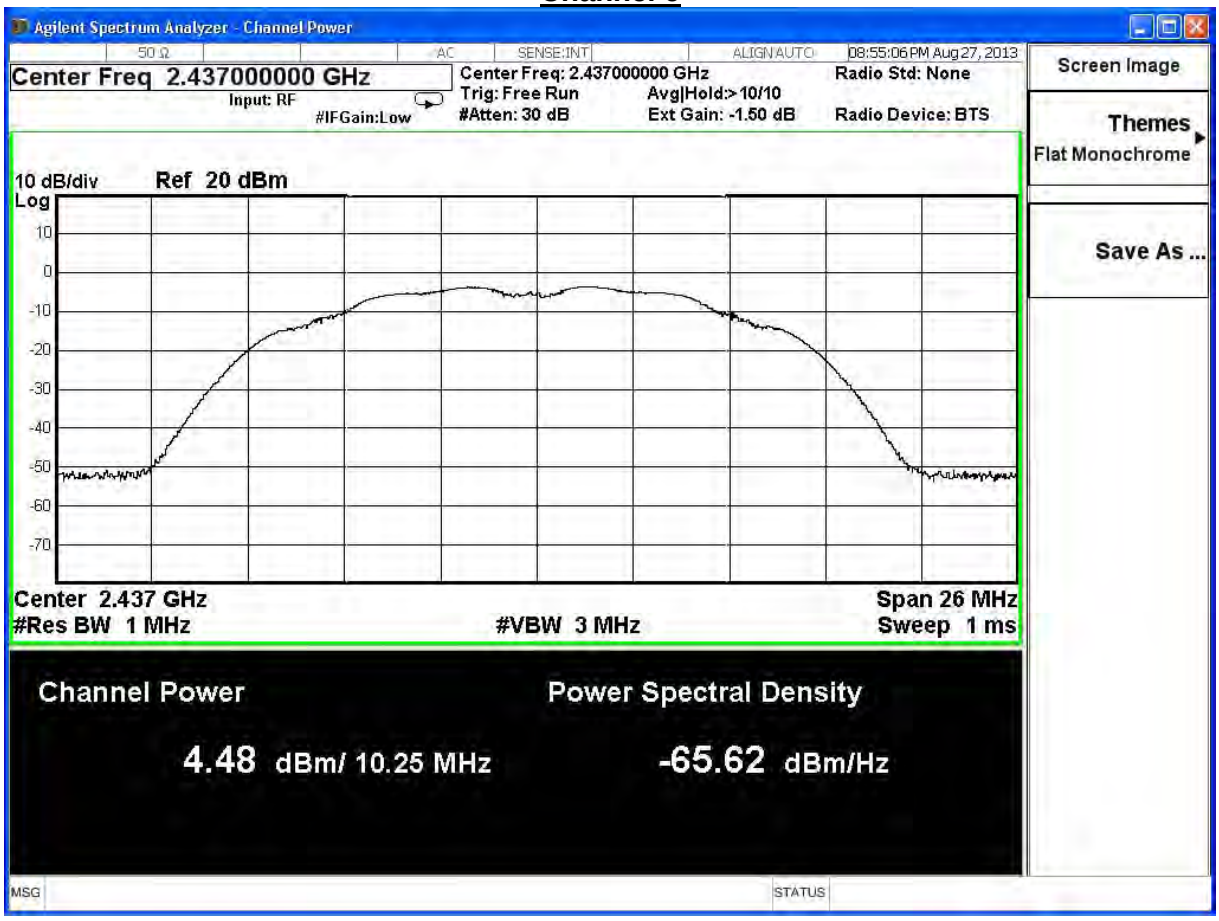
Peak Power Output Value(dBm)						
Channel No.	Frequency (MHz)	Data Rate (Mbps)				Required Limit
		1	2	5.5	11	
1	2412	3.48	--	--	--	1 Watt=30dBm
6	2437	4.48	--	--	--	1 Watt=30dBm
11	2462	5.85	5.75	5.51	5.40	1 Watt=30dBm

Note: Measure Level =Reading value + cable loss

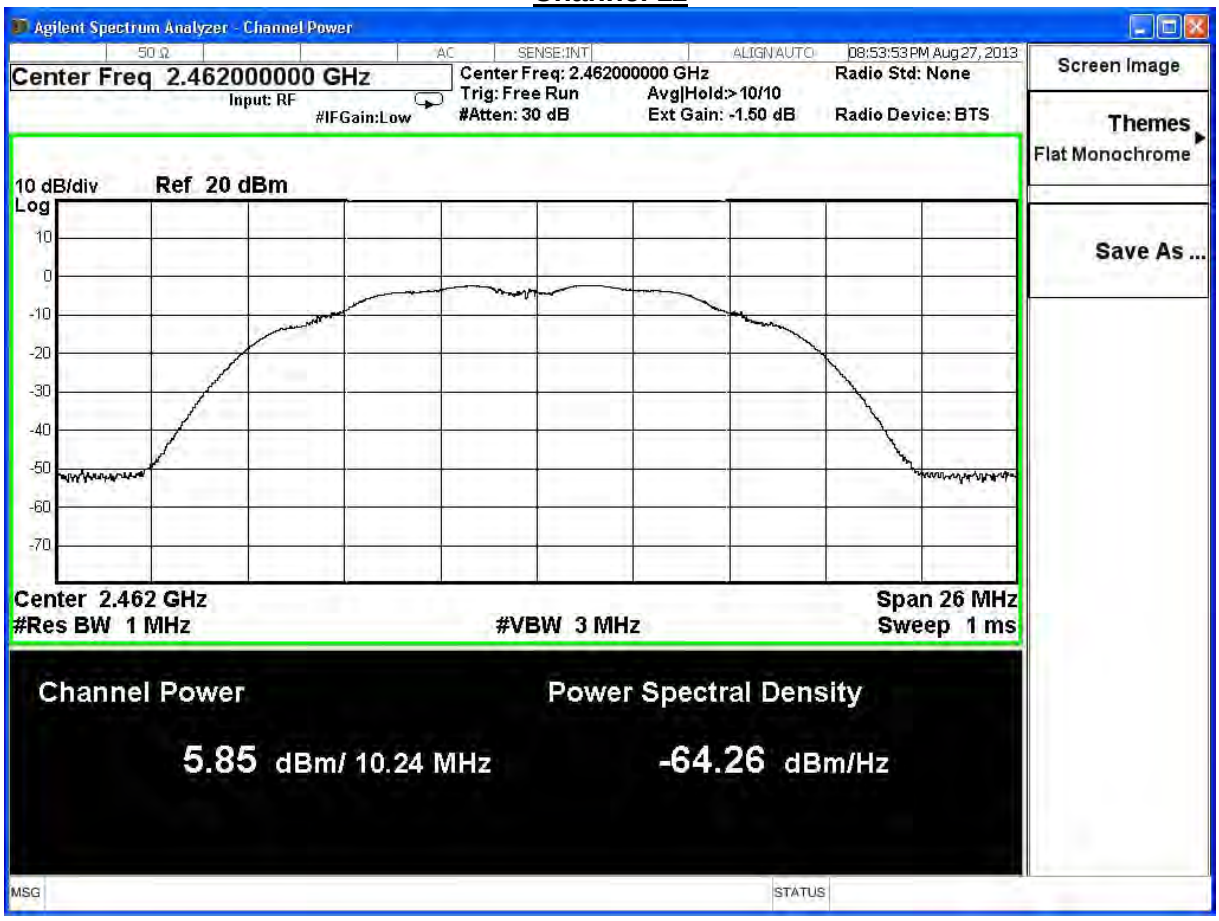
Channel 1


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:56:25 PM Aug 27, 2013
Center Freq 2.412000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
3.48 dBm/ 10.25 MHz
Power Spectral Density
-66.63 dBm/Hz
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:55:06 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
4.48 dBm/ 10.25 MHz
Power Spectral Density
-65.62 dBm/Hz
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:53:53 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
5.85 dBm/ 10.24 MHz
Power Spectral Density
-64.26 dBm/Hz
MSG
STATUS

Product	WIFI smart waterproof DVR		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

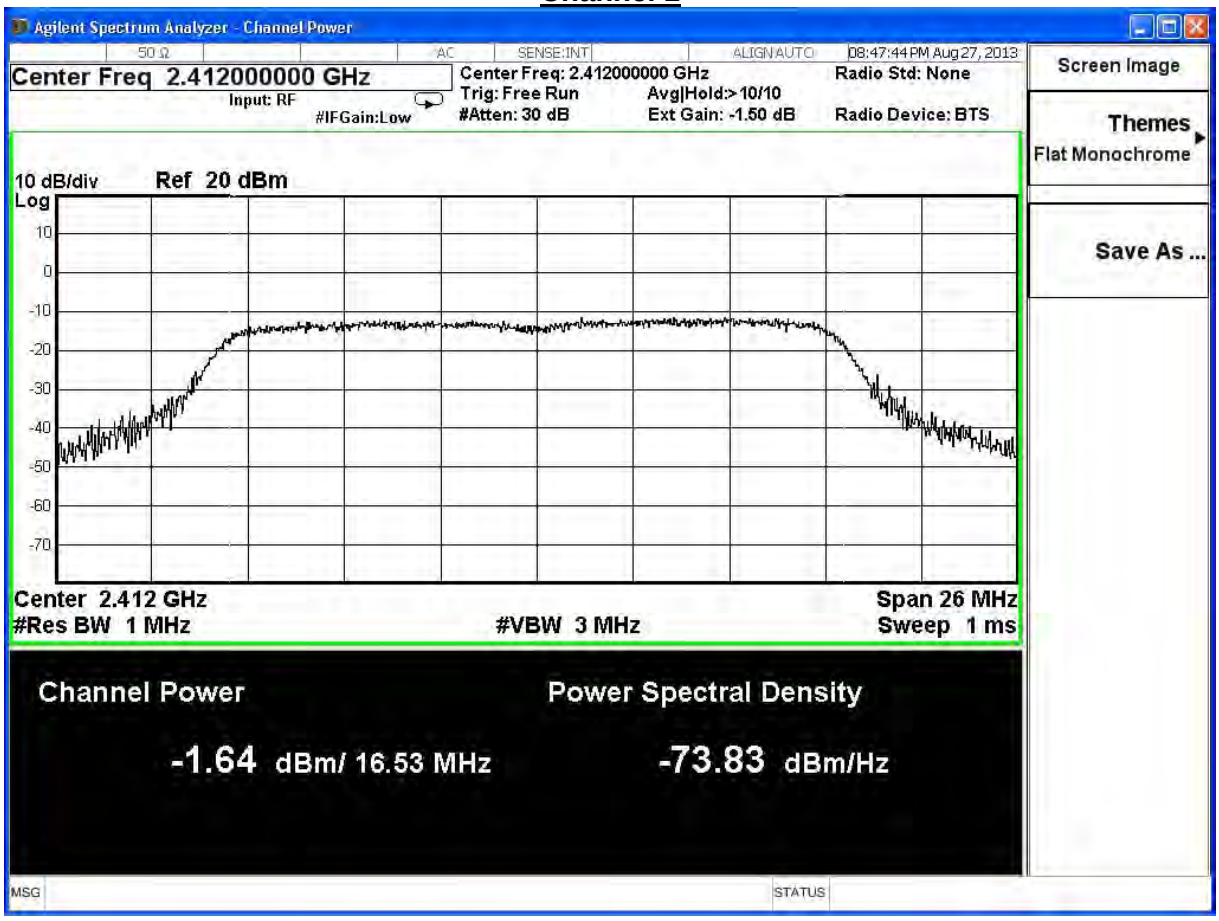
IEEE 802.11g, ANT 0				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-1.64	≦30	Pass
6	2437	-0.70	≦30	Pass
11	2462	0.53	≦30	Pass

The worst emission of data rate is 6Mbps.

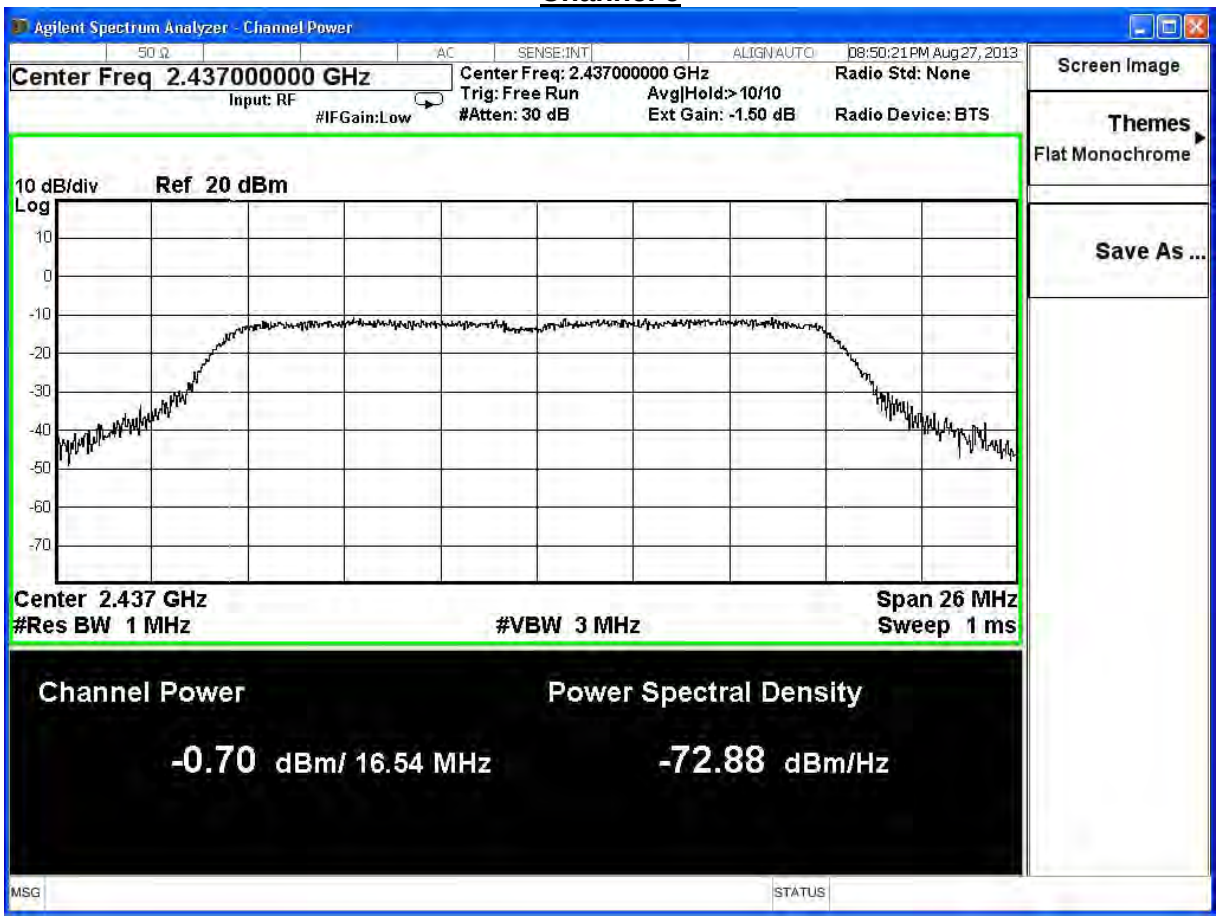
Peak Power Output Value(dBm)								
Channel No.	Frequency (MHz)	Data Rate (Mbps)						Required Limit
		12	18	24	36	48	54	
1	2412	-1.64	--	--	--	--	--	1 Watt=30dBm
6	2437	0.70	--	--	--	--	--	1 Watt=30dBm
11	2462	0.53	0.42	0.16	0.04	-0.18	-0.30	1 Watt=30dBm

Note: Measure Level =Reading value + cable loss

Channel 1


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:47:44 PM Aug 27, 2013
Center Freq 2.412000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
-1.64 dBm/ 16.53 MHz
Power Spectral Density
-73.83 dBm/Hz
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:50:21 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
-0.70 dBm/ 16.54 MHz
Power Spectral Density
-72.88 dBm/Hz
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:52:02 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
0.53 dBm/ 16.53 MHz
Power Spectral Density
-71.65 dBm/Hz
MSG
STATUS

Product	WIFI smart waterproof DVR		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

IEEE 802.11n(20MHz), ANT 0

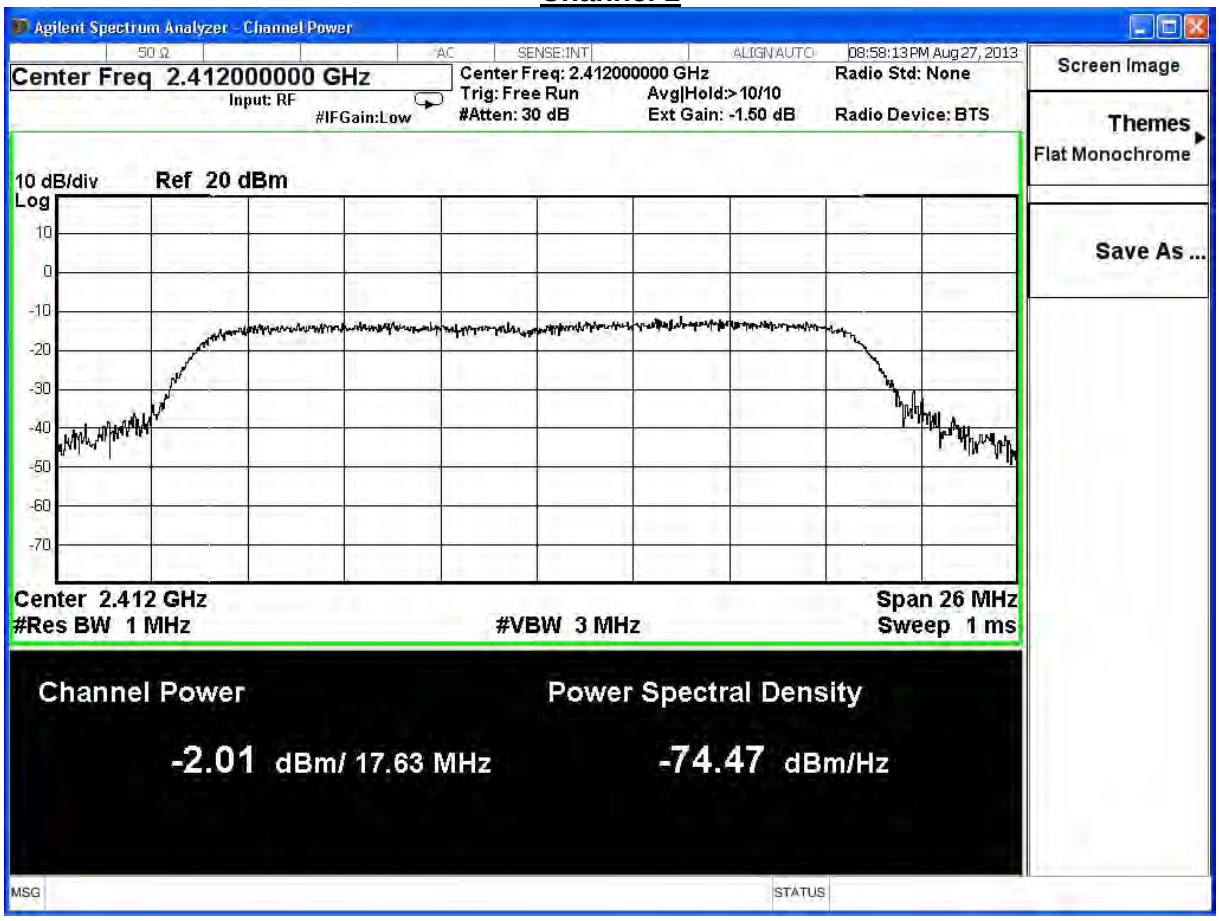
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-2.01	≦30	Pass
6	2437	-1.01	≦30	Pass
11	2462	0.24	≦30	Pass

The worst emission of data rate is 19.5 Mbps.

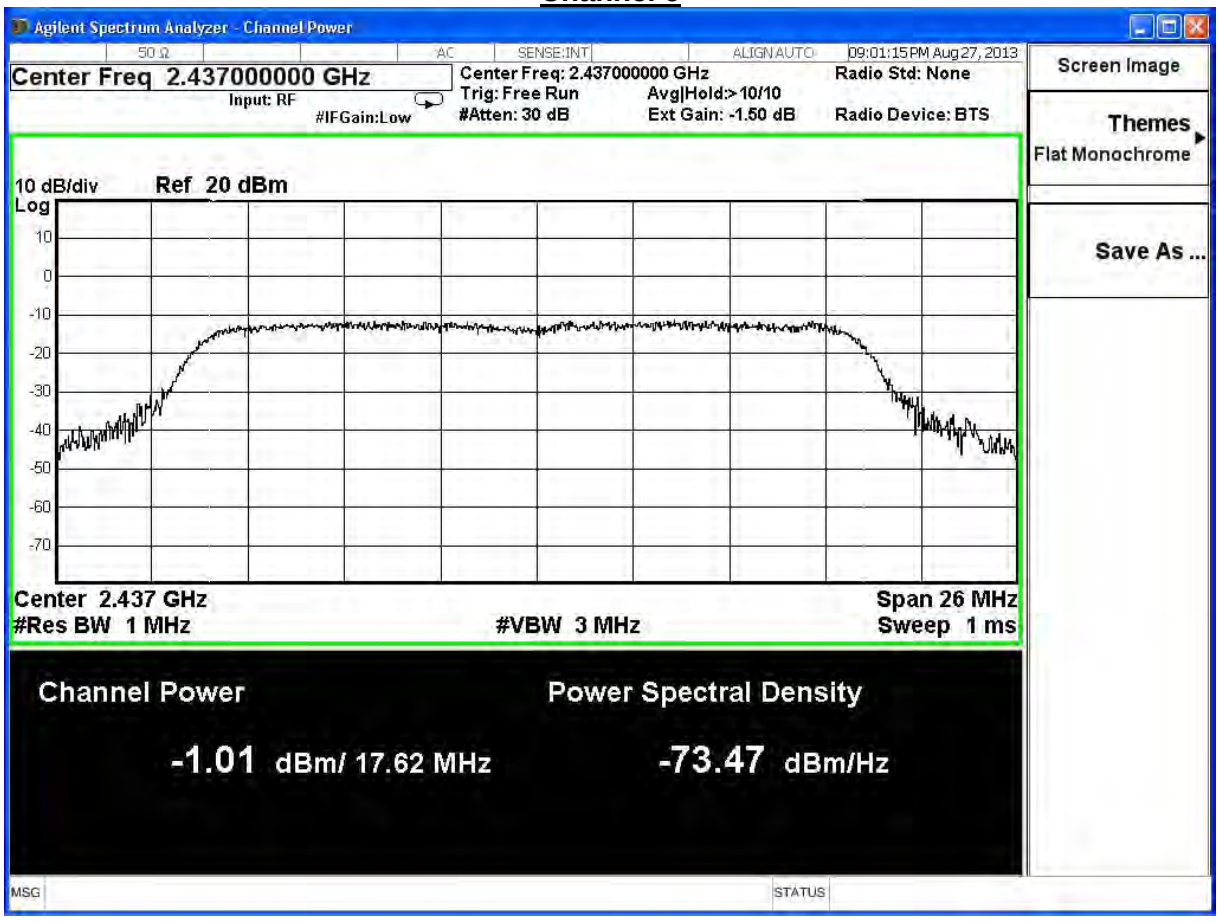
Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13.0	19.5	26.0	39.0	52.0	58.5	65.0	
1	2412	-2.01	--	--	--	--	--	--	--	1Watt=30dBm
6	2437	-1.01	--	--	--	--	--	--	--	1Watt=30dBm
11	2462	0.24	0.12	0.02	-0.20	-0.33	-0.45	-0.57	-0.68	1Watt=30dBm

Note: Measure Level =Reading value + cable loss

Channel 1


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:58:13 PM Aug 27, 2013
Center Freq 2.412000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
-2.01 dBm/ 17.63 MHz
Power Spectral Density
-74.47 dBm/Hz
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:01:15 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
-1.01 dBm/ 17.62 MHz
Power Spectral Density
-73.47 dBm/Hz
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:02:34 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 26 MHz
Sweep 1 ms
Channel Power
0.24 dBm/ 17.62 MHz
Power Spectral Density
-72.22 dBm/Hz
MSG
STATUS

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

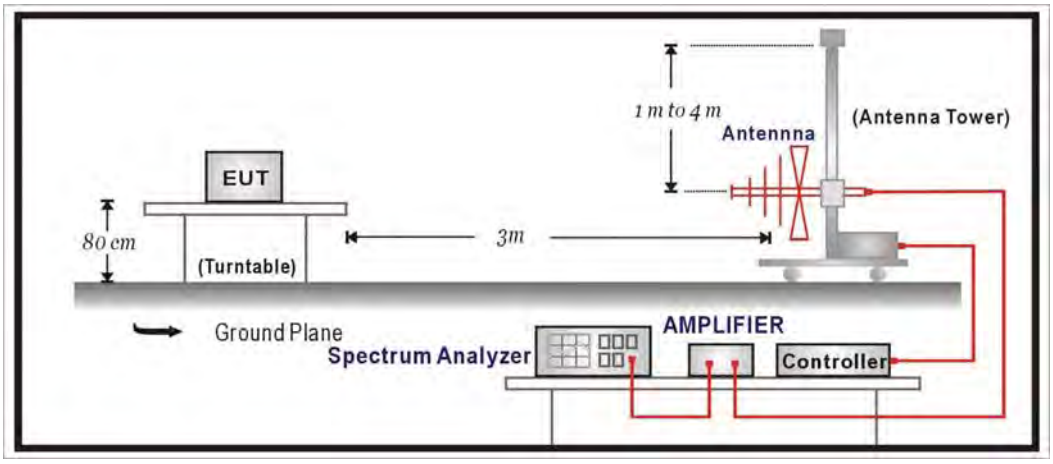
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895(CB1)	2014/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2014/02/17
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2014/06/09
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2014/02/19
Spectrum Analyzer	Agilent	E4440A	MY46187335	2014/01/27
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2014/02/21

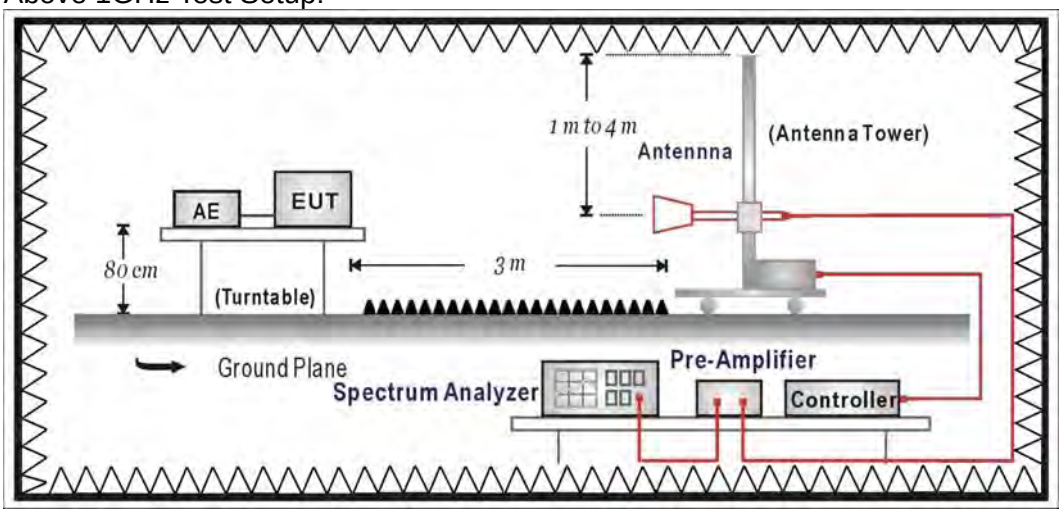
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

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	Measurement Distance(meter)
0.009-0.490	2400/F(KHz)	67.60	300
0.490-1.705	2400/F(KHz)	87.60	30
1.705-30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

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

4.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 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 C63.4: 2009 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: 2012

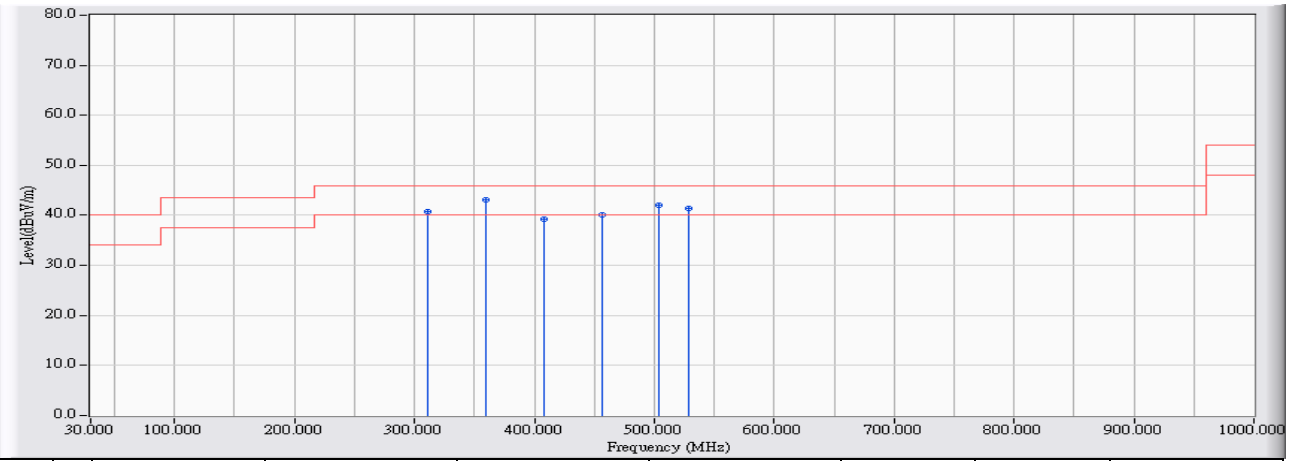
4.6. Uncertainty

The measurement uncertainty
30MHz～1GHz as ±3.43dB
1GHz～26.5Ghz as ±3.65dB

4.7. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2013/08/29 - 14:55**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2437MHz_axis-X**

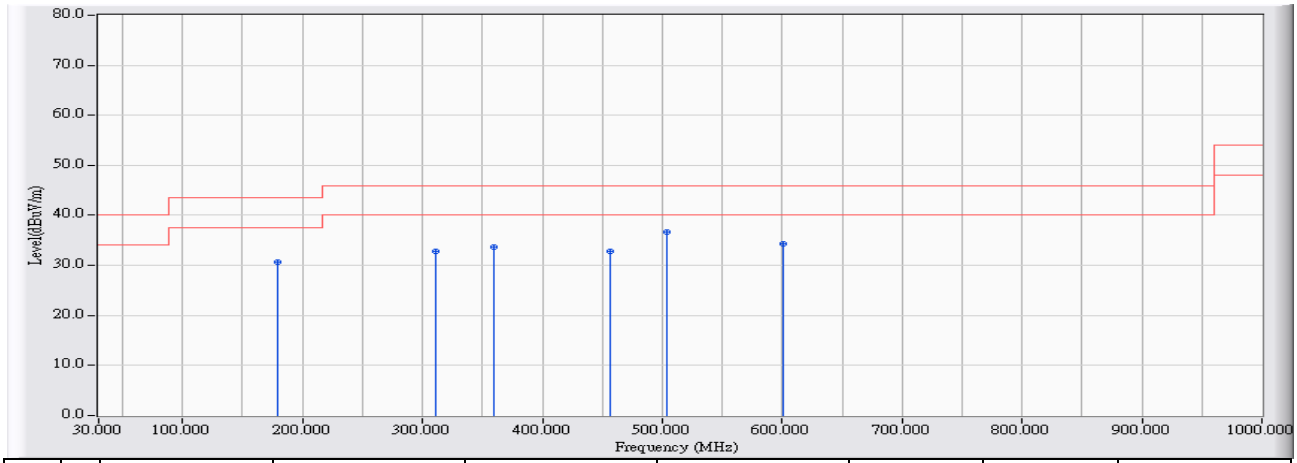


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		311.300	-19.659	60.489	40.830	-5.170	46.000	QUASIPEAK
2	*	359.800	-18.430	61.487	43.057	-2.943	46.000	QUASIPEAK
3		408.300	-17.249	56.591	39.341	-6.659	46.000	QUASIPEAK
4		456.800	-16.305	56.430	40.125	-5.875	46.000	QUASIPEAK
5		503.360	-15.458	57.572	42.114	-3.886	46.000	QUASIPEAK
6		528.580	-15.422	56.889	41.467	-4.533	46.000	QUASIPEAK

Note:

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

Site : CB1	**Time : 2013/08/29 - 14:59**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2437MHz_axis-X**

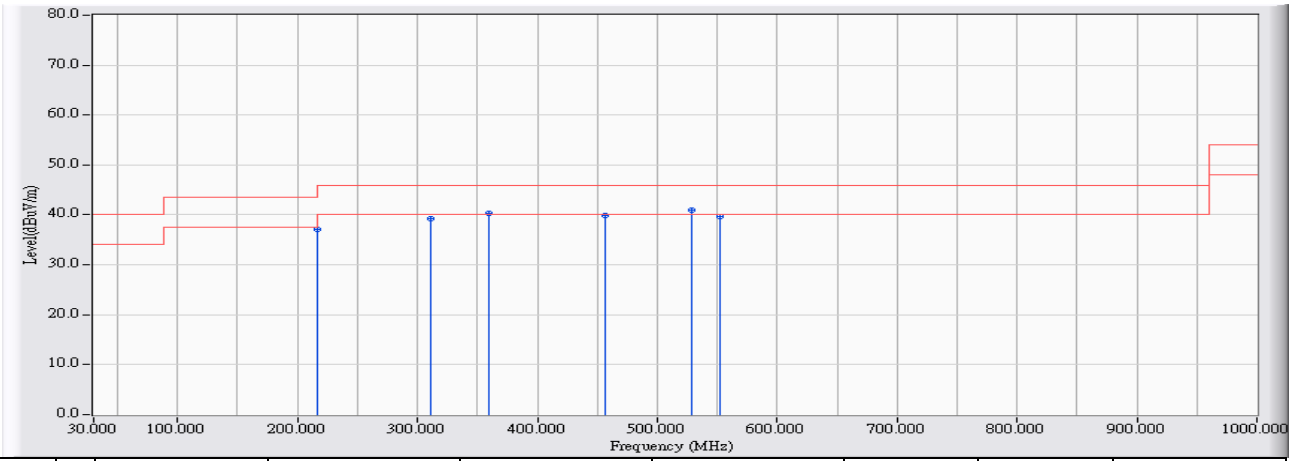


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		179.380	-24.655	55.292	30.637	-12.863	43.500	QUASIPEAK
2		311.300	-19.659	52.564	32.905	-13.095	46.000	QUASIPEAK
3		359.800	-18.430	52.168	33.738	-12.262	46.000	QUASIPEAK
4		456.800	-16.305	49.146	32.841	-13.159	46.000	QUASIPEAK
5	*	503.360	-15.458	52.165	36.707	-9.293	46.000	QUASIPEAK
6		600.360	-15.316	49.624	34.308	-11.692	46.000	QUASIPEAK

Note:

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

Site : CB1	**Time : 2013/08/29 - 15:07**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2437MHz_axis-X**

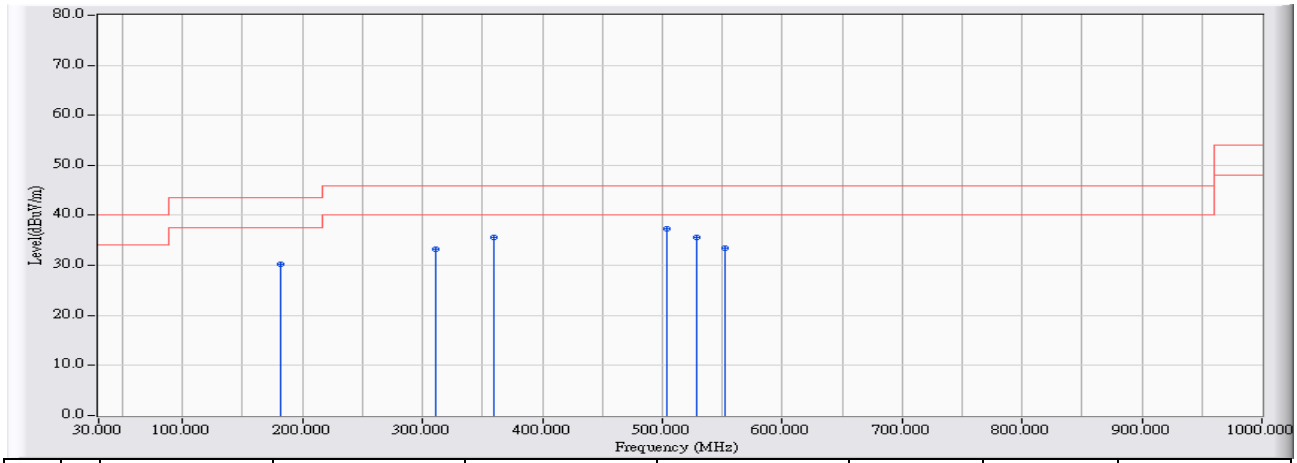


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		216.240	-23.404	60.545	37.142	-8.858	46.000	QUASIPEAK
2		311.300	-19.659	58.951	39.292	-6.708	46.000	QUASIPEAK
3		359.800	-18.430	58.815	40.385	-5.615	46.000	QUASIPEAK
4		456.800	-16.305	56.279	39.974	-6.026	46.000	QUASIPEAK
5	*	528.580	-15.422	56.332	40.910	-5.090	46.000	QUASIPEAK
6		551.860	-15.388	55.009	39.621	-6.379	46.000	QUASIPEAK

Note:

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

Site : CB1	**Time : 2013/08/29 - 15:13**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2437MHz_axis-X**

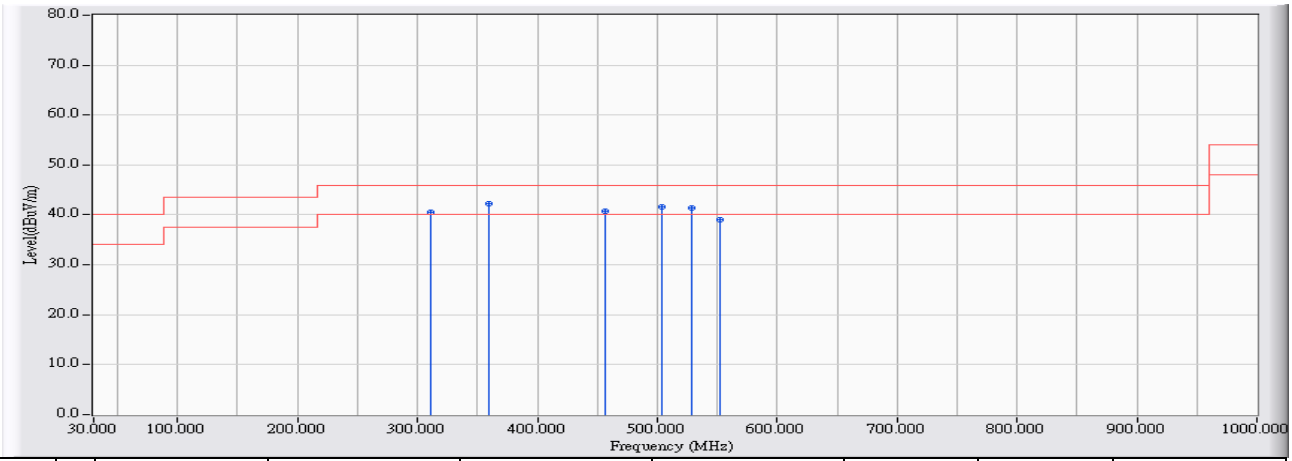


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		181.320	-24.689	54.878	30.190	-13.310	43.500	QUASIPEAK
2		311.300	-19.659	52.872	33.213	-12.787	46.000	QUASIPEAK
3		359.800	-18.430	53.994	35.564	-10.436	46.000	QUASIPEAK
4	*	503.360	-15.458	52.865	37.407	-8.593	46.000	QUASIPEAK
5		528.580	-15.422	50.984	35.562	-10.438	46.000	QUASIPEAK
6		551.860	-15.388	48.907	33.519	-12.481	46.000	QUASIPEAK

Note:

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

Site : CB1	**Time : 2013/08/29 - 15:21**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2437MHz_axis-X**

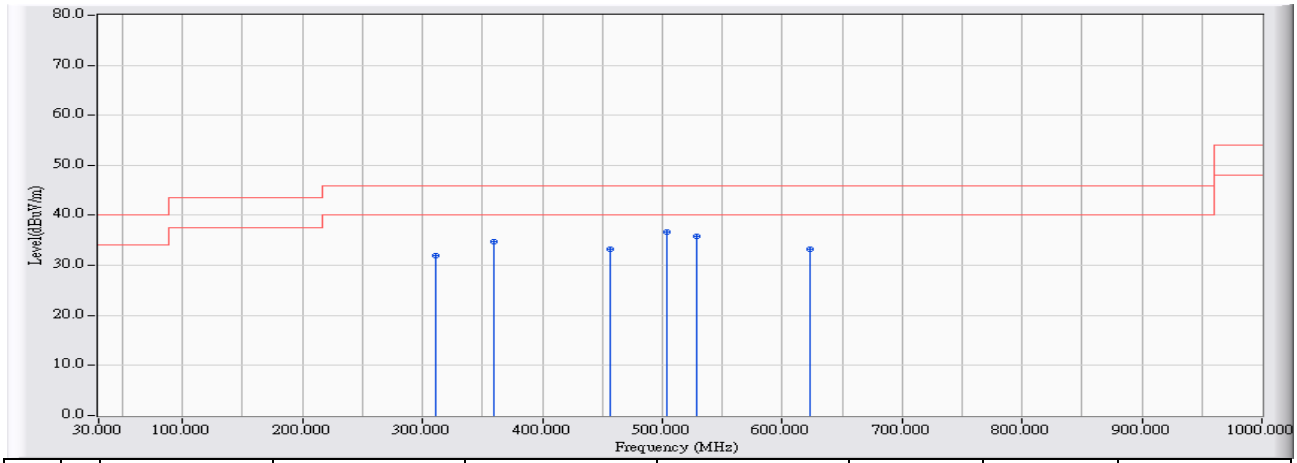


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		311.300	-19.659	60.193	40.534	-5.466	46.000	QUASIPEAK
2	*	359.800	-18.430	60.617	42.187	-3.813	46.000	QUASIPEAK
3		456.800	-16.305	57.009	40.704	-5.296	46.000	QUASIPEAK
4		503.360	-15.458	57.027	41.569	-4.431	46.000	QUASIPEAK
5		528.580	-15.422	56.751	41.329	-4.671	46.000	QUASIPEAK
6		551.860	-15.388	54.333	38.945	-7.055	46.000	QUASIPEAK

Note:

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

Site : CB1	**Time : 2013/08/29 - 15:24**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2437MHz_axis-X**



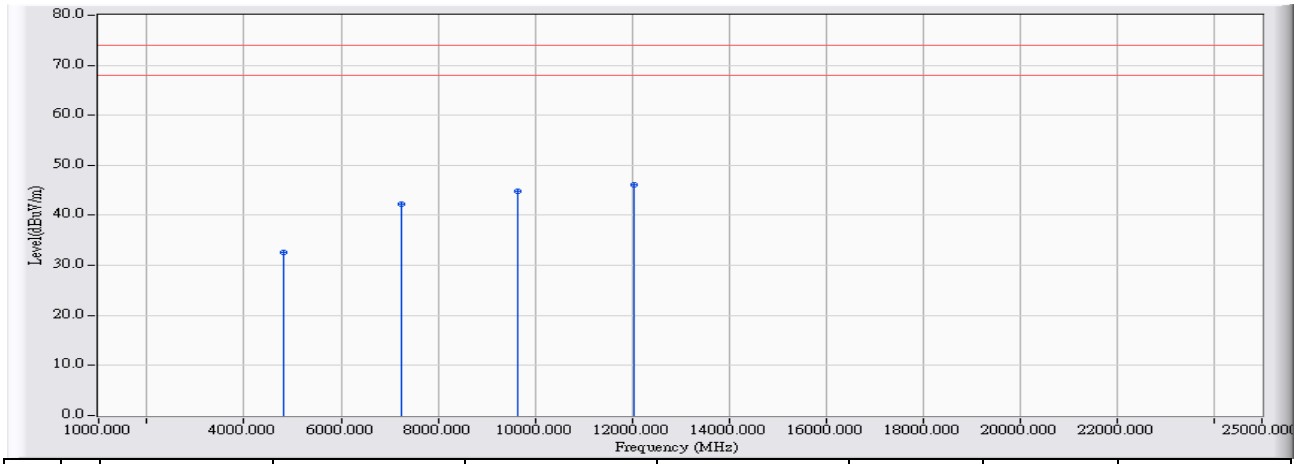
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		311.300	-19.659	51.691	32.032	-13.968	46.000	QUASIPEAK
2		359.800	-18.430	53.209	34.779	-11.221	46.000	QUASIPEAK
3		456.800	-16.305	49.507	33.202	-12.798	46.000	QUASIPEAK
4	*	503.360	-15.458	52.136	36.678	-9.322	46.000	QUASIPEAK
5		528.580	-15.422	51.178	35.756	-10.244	46.000	QUASIPEAK
6		623.640	-15.167	48.325	33.158	-12.842	46.000	QUASIPEAK

Note:

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

Above 1GHz Spurious

Site : CB1	**Time : 2013/08/27 - 17:18**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

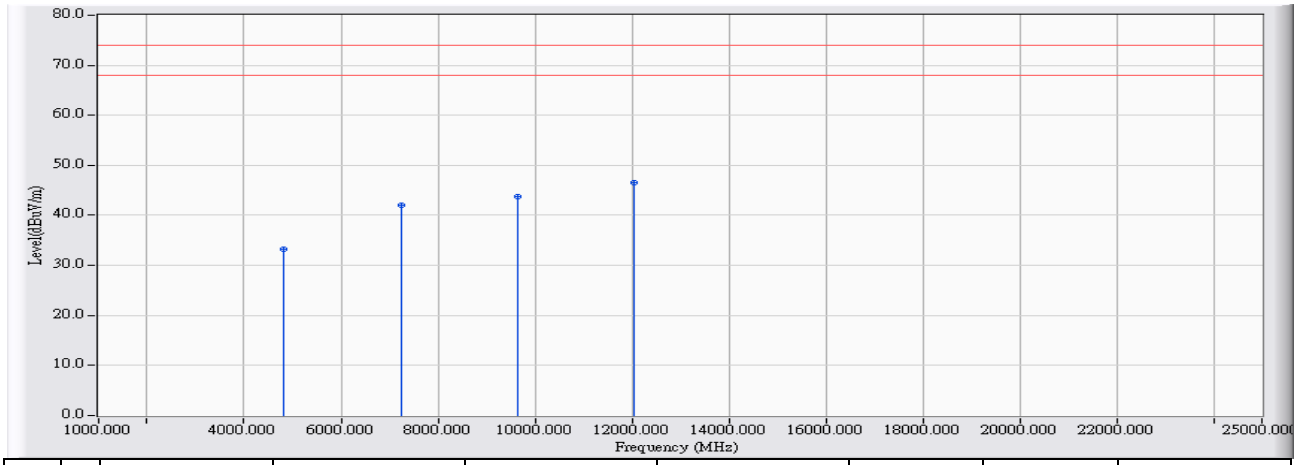


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	32.408	32.617	-41.383	74.000	PEAK
2		7236.000	7.170	34.992	42.162	-31.838	74.000	PEAK
3		9648.000	11.073	33.781	44.854	-29.146	74.000	PEAK
4	*	12060.000	13.208	32.871	46.079	-27.921	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:20**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

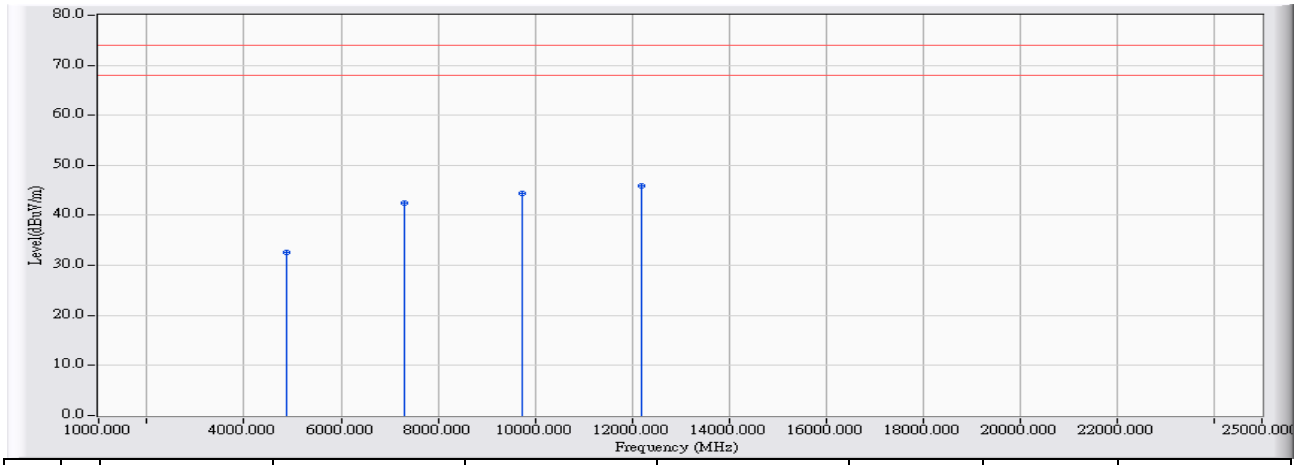


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	33.035	33.244	-40.756	74.000	PEAK
2		7236.000	7.170	34.887	42.057	-31.943	74.000	PEAK
3		9648.000	11.073	32.754	43.827	-30.173	74.000	PEAK
4	*	12060.000	13.208	33.245	46.453	-27.547	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:23**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2437MHz_axis-X**

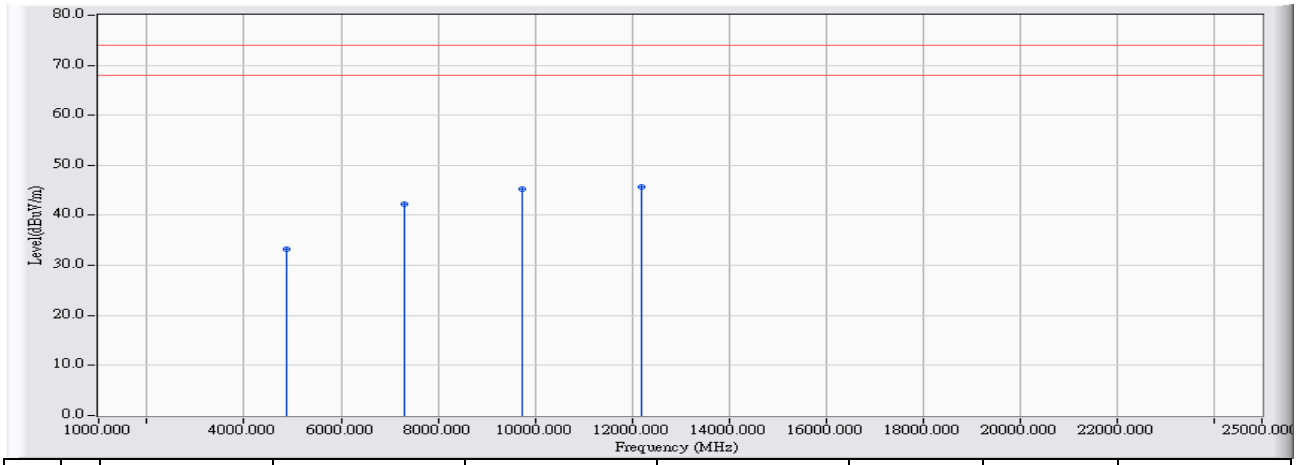


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	32.189	32.550	-41.450	74.000	PEAK
2		7311.000	7.353	35.061	42.414	-31.586	74.000	PEAK
3		9748.000	11.432	32.997	44.429	-29.571	74.000	PEAK
4	*	12185.000	13.358	32.442	45.800	-28.200	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:25**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2437MHz_axis-X**

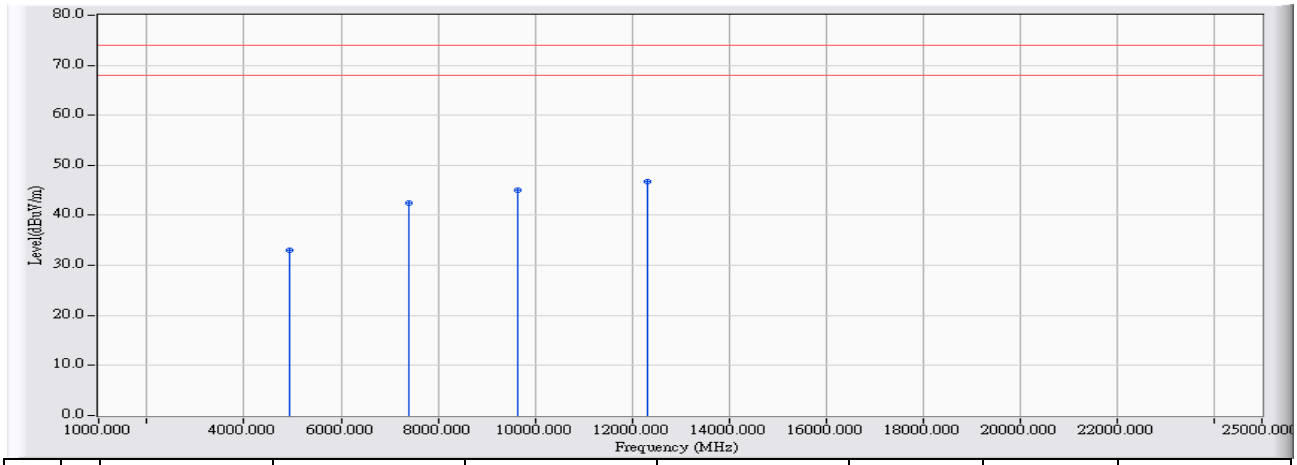


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	32.776	33.137	-40.863	74.000	PEAK
2		7311.000	7.353	34.956	42.309	-31.691	74.000	PEAK
3		9748.000	11.432	33.838	45.270	-28.730	74.000	PEAK
4	*	12185.000	13.358	32.251	45.609	-28.391	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:30**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

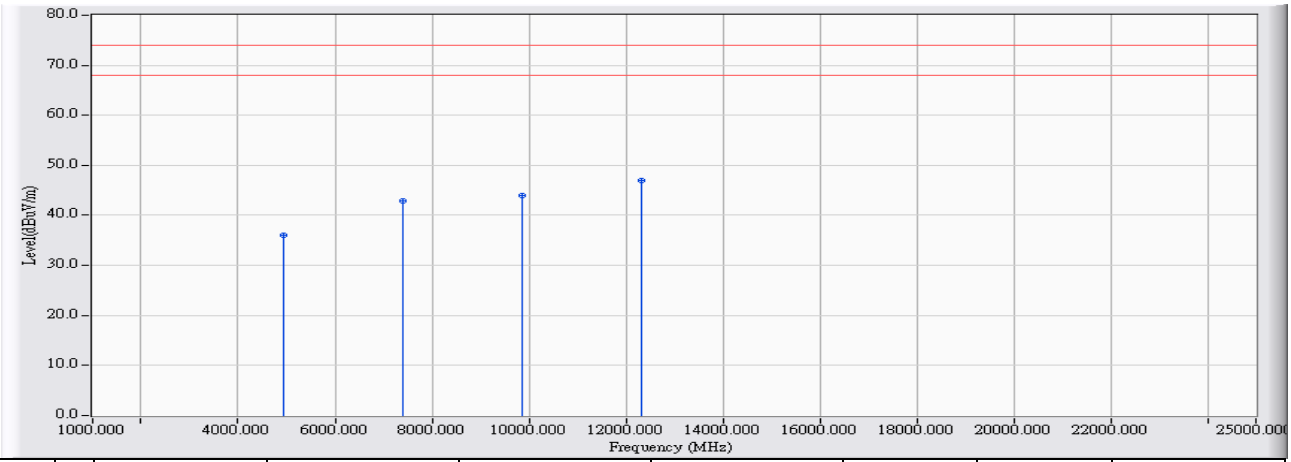


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	32.565	33.078	-40.922	74.000	PEAK
2		7386.000	7.535	35.008	42.543	-31.457	74.000	PEAK
3		9648.000	11.073	34.019	45.092	-28.908	74.000	PEAK
4	*	12310.000	13.509	33.312	46.821	-27.179	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:32**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

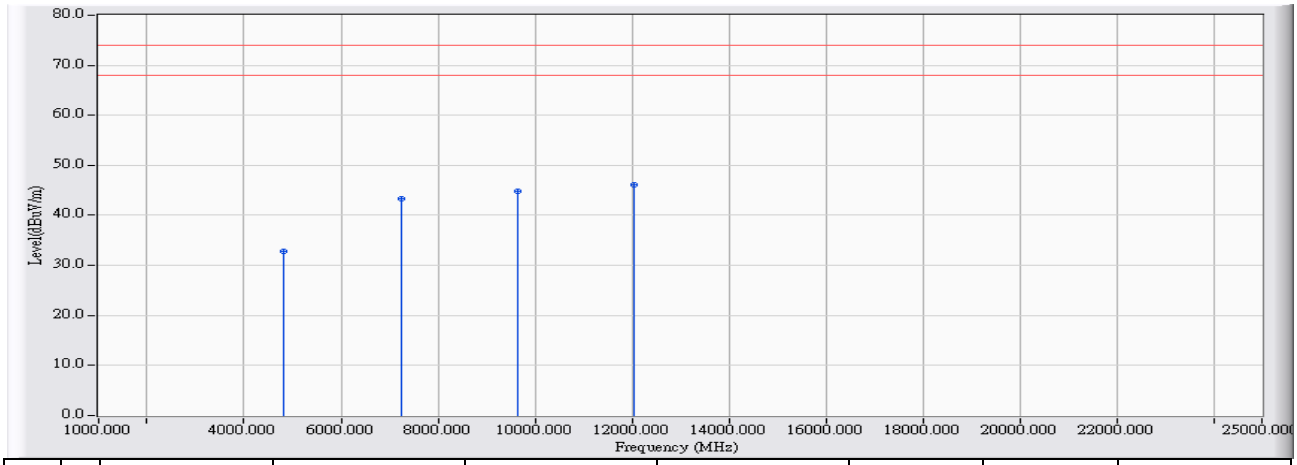


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	35.426	35.939	-38.061	74.000	PEAK
2		7386.000	7.535	35.378	42.913	-31.087	74.000	PEAK
3		9848.000	11.791	32.172	43.963	-30.037	74.000	PEAK
4	*	12310.000	13.509	33.560	47.069	-26.931	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:40**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

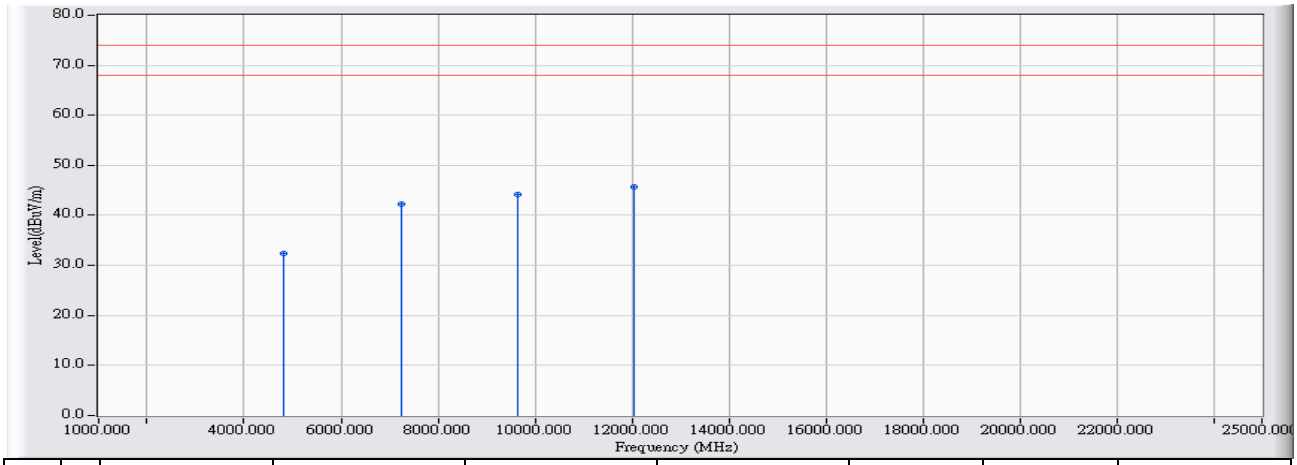


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	32.525	32.734	-41.266	74.000	PEAK
2		7236.000	7.170	36.067	43.237	-30.763	74.000	PEAK
3		9648.000	11.073	33.654	44.727	-29.273	74.000	PEAK
4	*	12060.000	13.208	32.815	46.023	-27.977	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:42**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

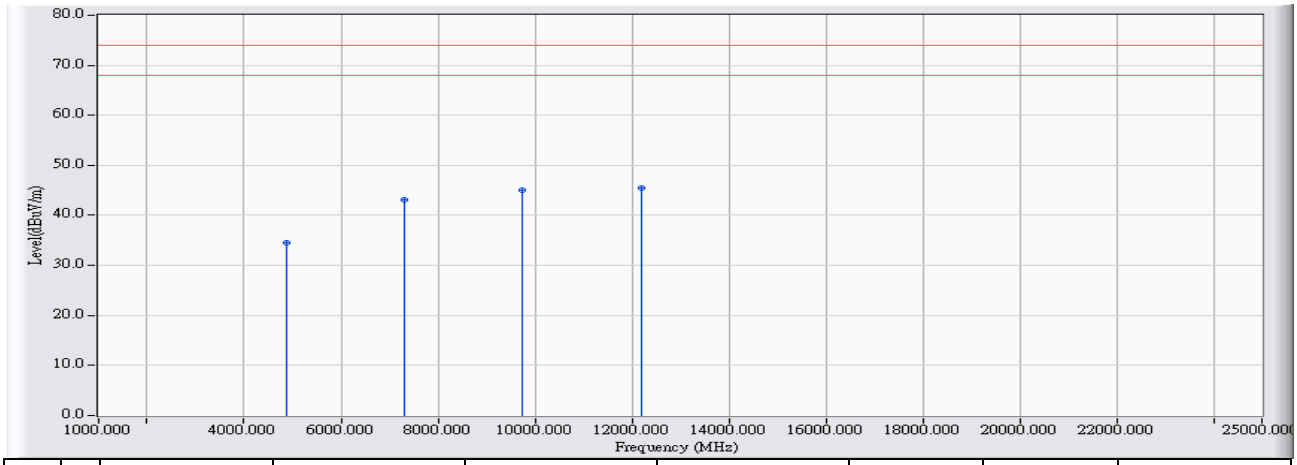


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	32.137	32.346	-41.654	74.000	PEAK
2		7236.000	7.170	35.077	42.247	-31.753	74.000	PEAK
3		9648.000	11.073	33.209	44.282	-29.718	74.000	PEAK
4	*	12060.000	13.208	32.574	45.782	-28.218	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:45**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2437MHz_axis-X**

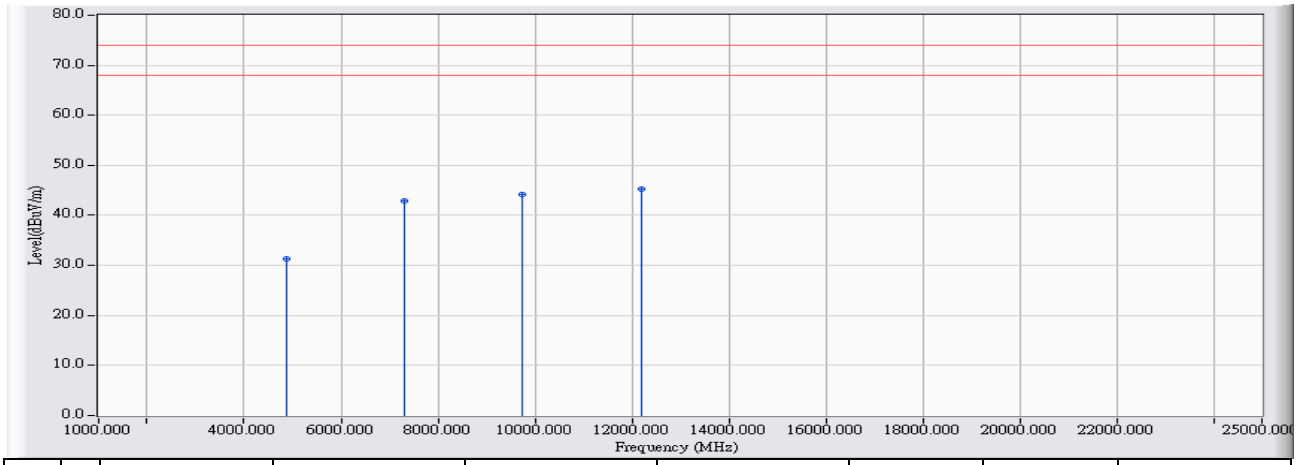


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	34.207	34.568	-39.432	74.000	PEAK
2		7311.000	7.353	35.693	43.046	-30.954	74.000	PEAK
3		9748.000	11.432	33.657	45.089	-28.911	74.000	PEAK
4	*	12185.000	13.358	32.158	45.516	-28.484	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:48**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2437MHz_axis-X**

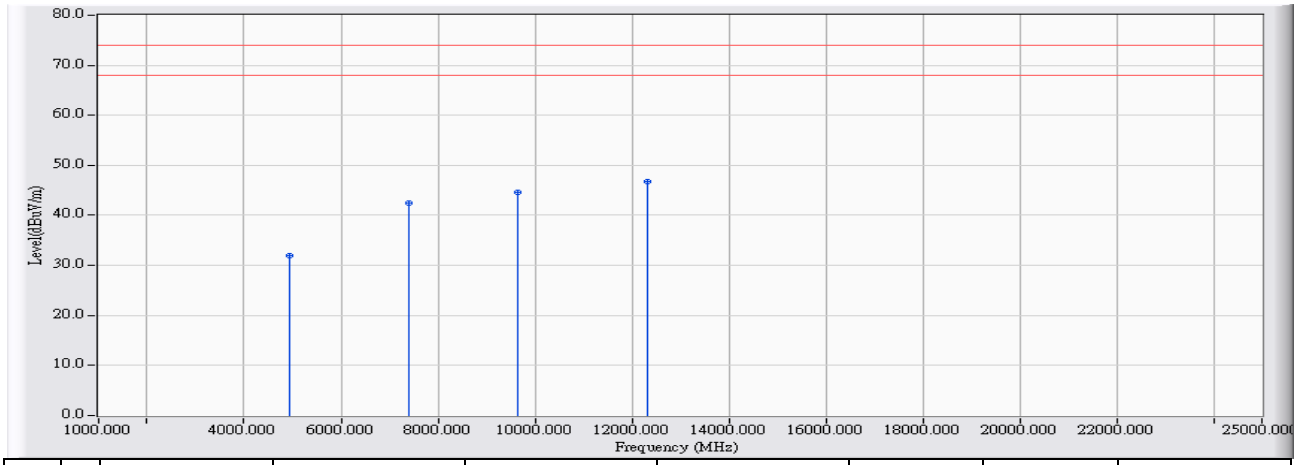


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	30.990	31.351	-42.649	74.000	PEAK
2		7311.000	7.353	35.531	42.884	-31.116	74.000	PEAK
3		9748.000	11.432	32.668	44.100	-29.900	74.000	PEAK
4	*	12185.000	13.358	31.925	45.283	-28.717	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:51**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

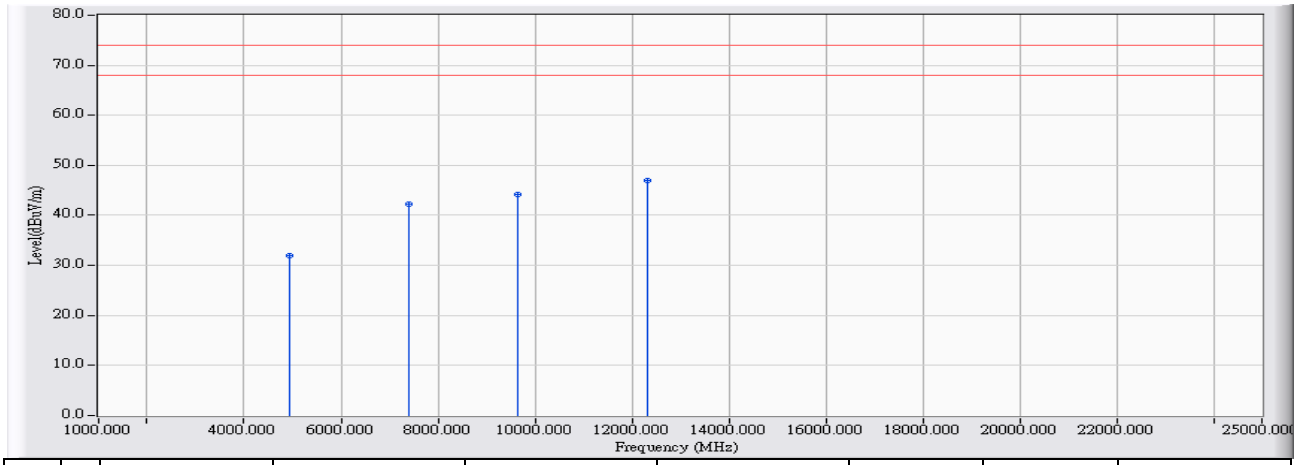


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	31.518	32.031	-41.969	74.000	PEAK
2		7386.000	7.535	34.853	42.388	-31.612	74.000	PEAK
3		9648.000	11.073	33.503	44.576	-29.424	74.000	PEAK
4	*	12310.000	13.509	33.290	46.799	-27.201	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:53**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

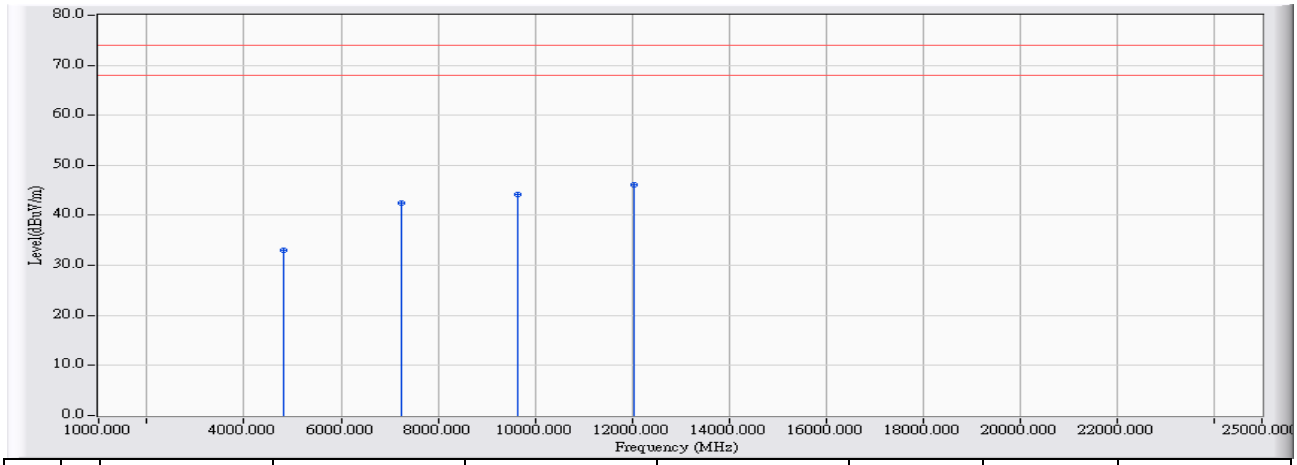


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	31.441	31.954	-42.046	74.000	PEAK
2		7386.000	7.535	34.730	42.265	-31.735	74.000	PEAK
3		9648.000	11.073	33.181	44.254	-29.746	74.000	PEAK
4	*	12310.000	13.509	33.497	47.006	-26.994	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:56**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2412MHz_axis-X**

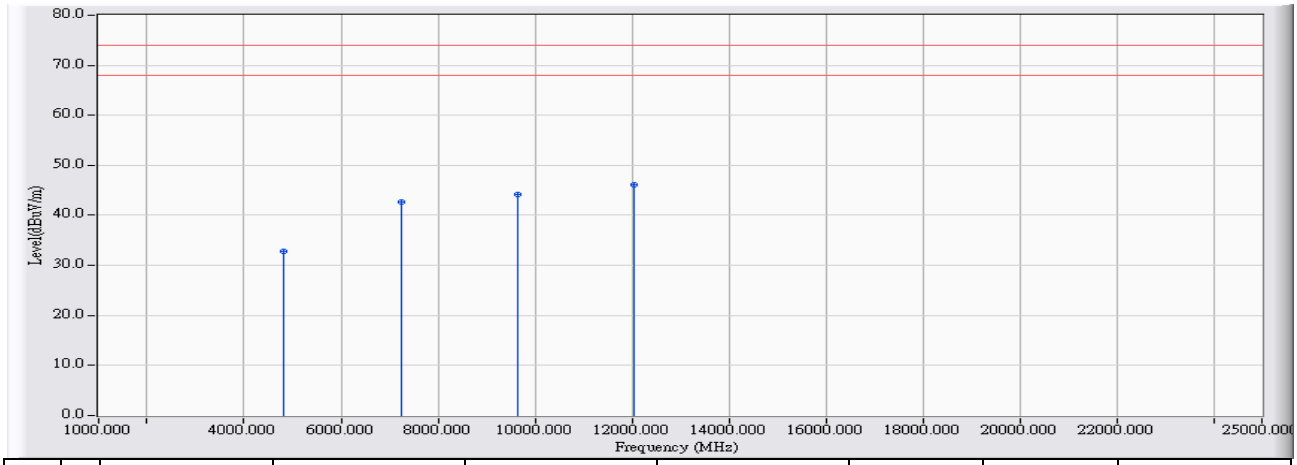


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	32.772	32.981	-41.019	74.000	PEAK
2		7236.000	7.170	35.344	42.514	-31.486	74.000	PEAK
3		9648.000	11.073	33.194	44.267	-29.733	74.000	PEAK
4	*	12060.000	13.208	32.912	46.120	-27.880	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 17:58**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2412MHz_axis-X**

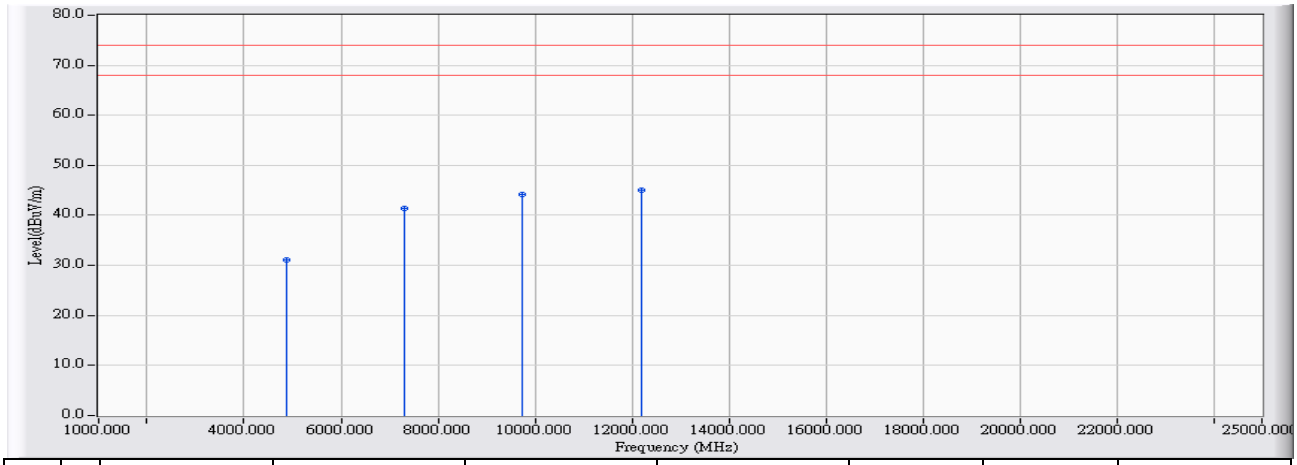


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	0.209	32.533	32.742	-41.258	74.000	PEAK
2		7236.000	7.170	35.476	42.646	-31.354	74.000	PEAK
3		9648.000	11.073	33.150	44.223	-29.777	74.000	PEAK
4	*	12060.000	13.208	32.965	46.173	-27.827	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 18:00**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2437MHz_axis-X**

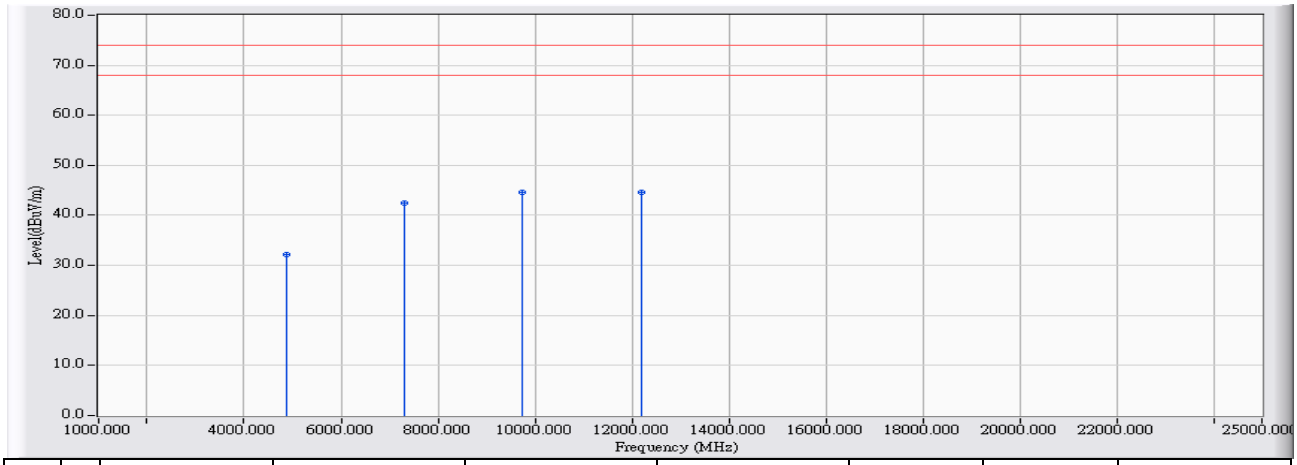


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	30.676	31.037	-42.963	74.000	PEAK
2		7311.000	7.353	34.137	41.490	-32.510	74.000	PEAK
3		9748.000	11.432	32.809	44.241	-29.759	74.000	PEAK
4	*	12185.000	13.358	31.603	44.961	-29.039	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 18:01**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2437MHz_axis-X**

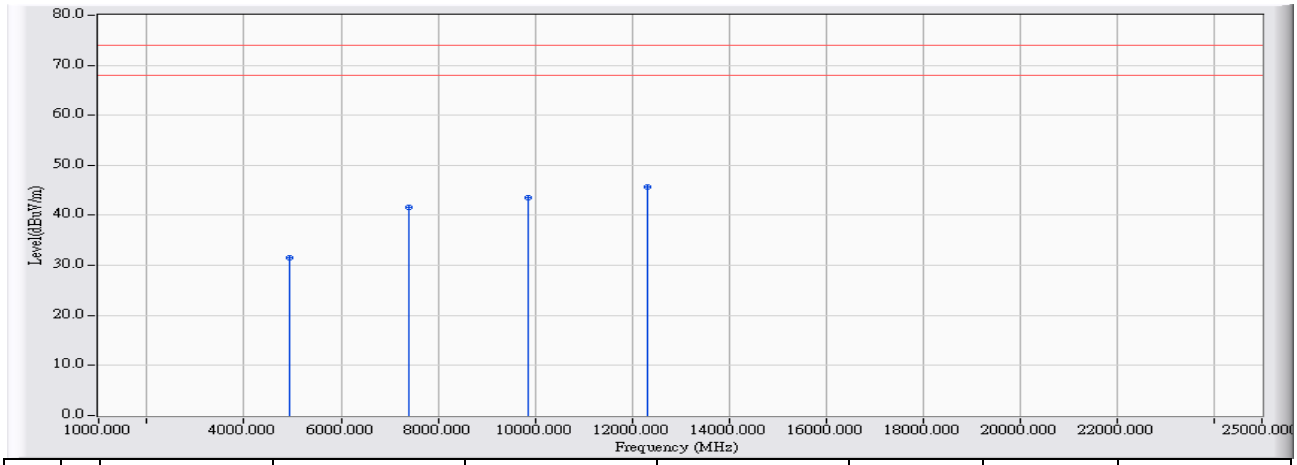


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	0.361	31.720	32.081	-41.919	74.000	PEAK
2		7311.000	7.353	35.171	42.524	-31.476	74.000	PEAK
3		9748.000	11.432	33.073	44.505	-29.495	74.000	PEAK
4	*	12185.000	13.358	31.222	44.580	-29.420	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 18:03**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2462MHz_axis-X**

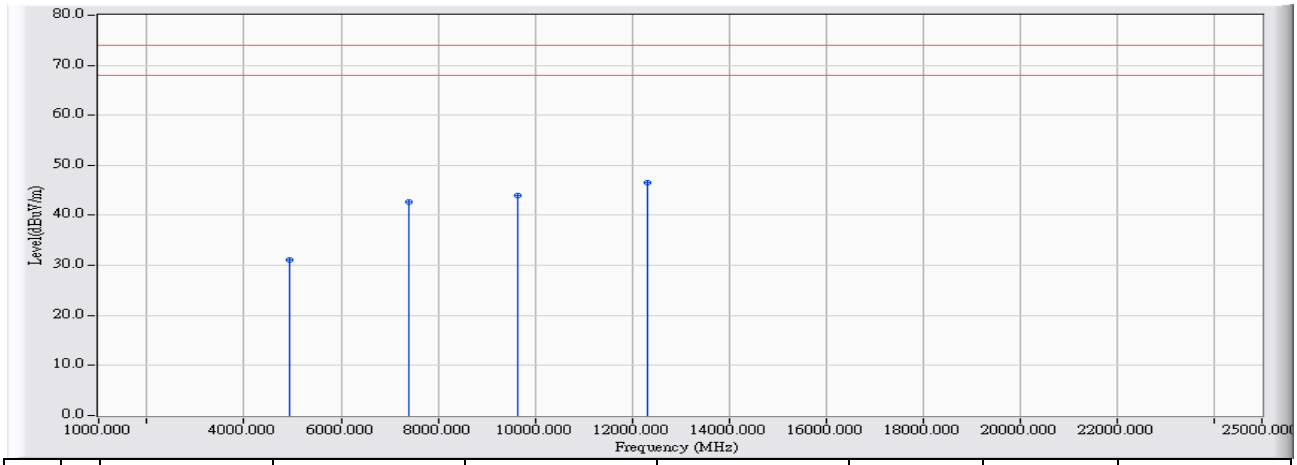


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	31.115	31.628	-42.372	74.000	PEAK
2		7386.000	7.535	34.007	41.542	-32.458	74.000	PEAK
3		9848.000	11.791	31.703	43.494	-30.506	74.000	PEAK
4	*	12310.000	13.509	32.230	45.739	-28.261	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/08/27 - 18:04**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20Mhz)_2462MHz_axis-X**



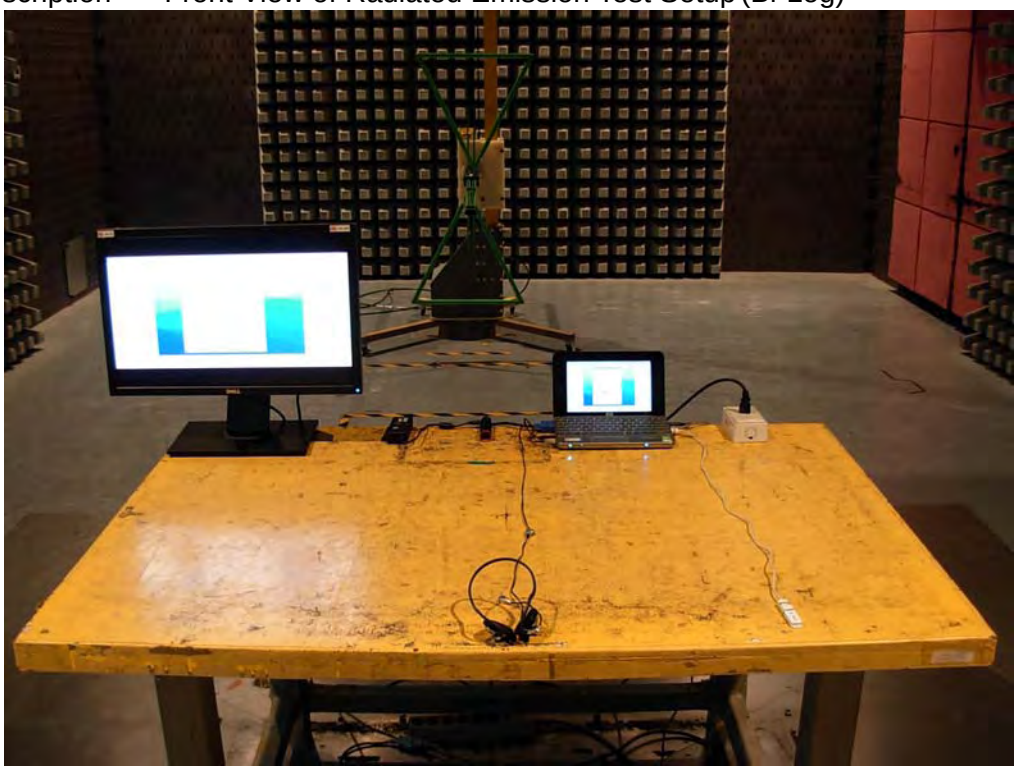
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4924.000	0.512	30.554	31.067	-42.933	74.000	PEAK
2		7386.000	7.535	35.199	42.734	-31.266	74.000	PEAK
3		9648.000	11.073	32.827	43.900	-30.100	74.000	PEAK
4	*	12310.000	13.509	32.961	46.470	-27.530	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measure Level = Reading Level + Correct Factor。
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

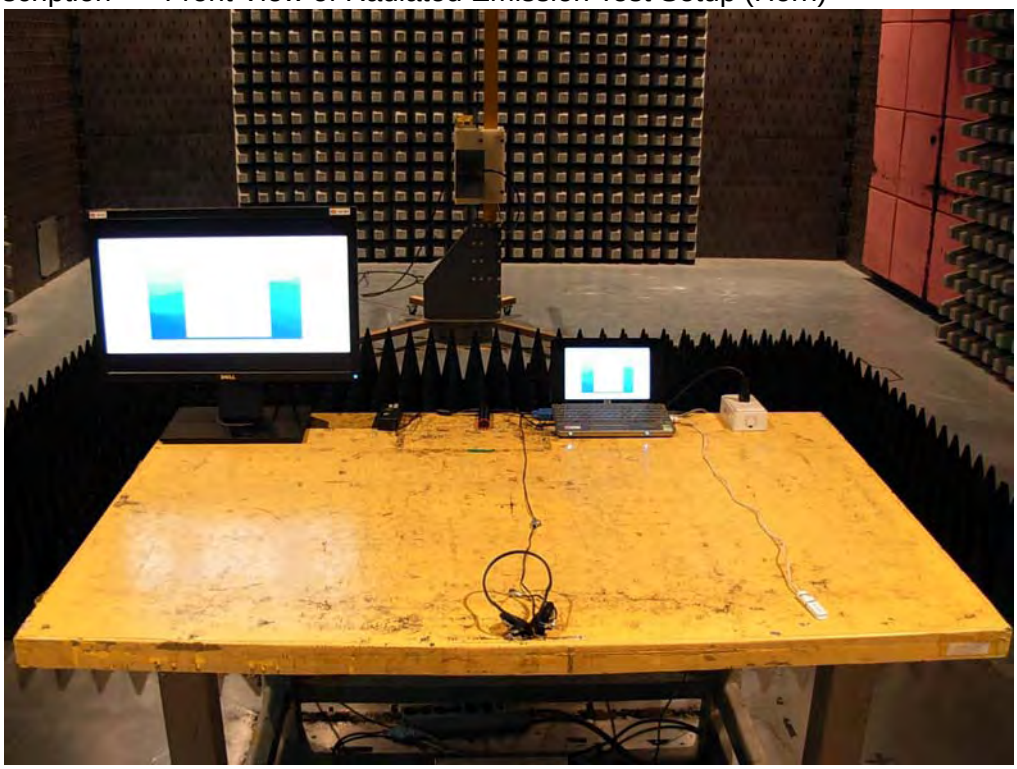
4.8. Test Photo

Test Mode ： Mode 1: Transmit (Power by PC)
Description： Front View of Radiated Emission Test Setup (Bi-Log)

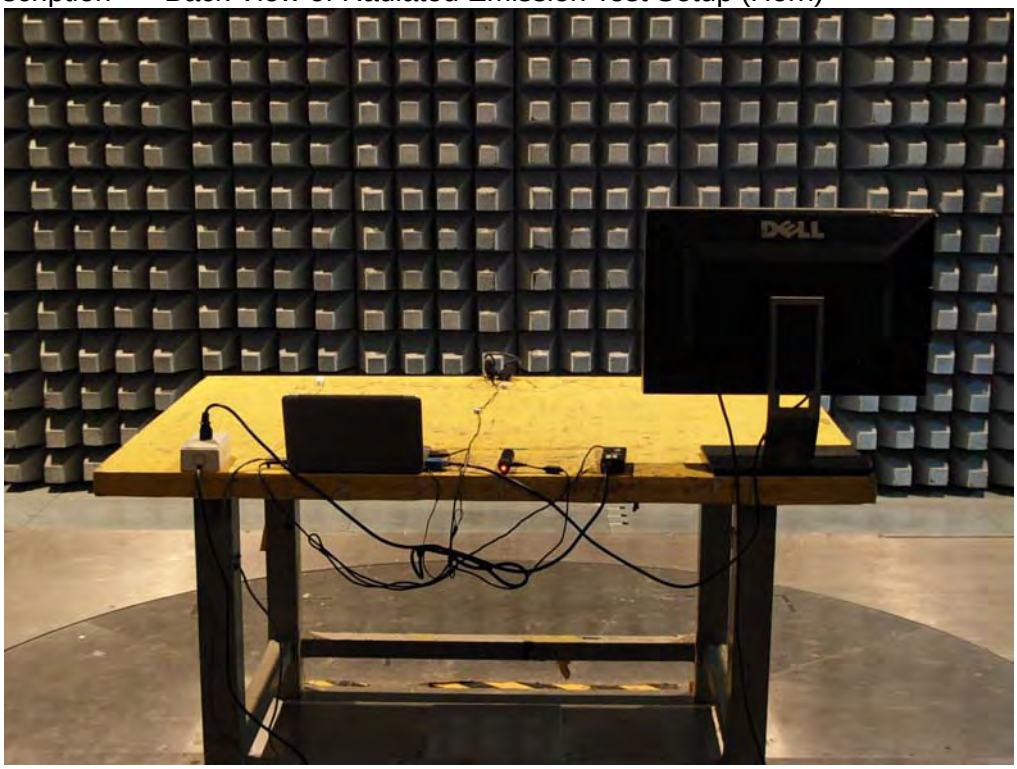


Test Mode ： Mode 1: Transmit (Power by PC)
Description： Back View of Radiated Emission Test Setup (Bi-Log)

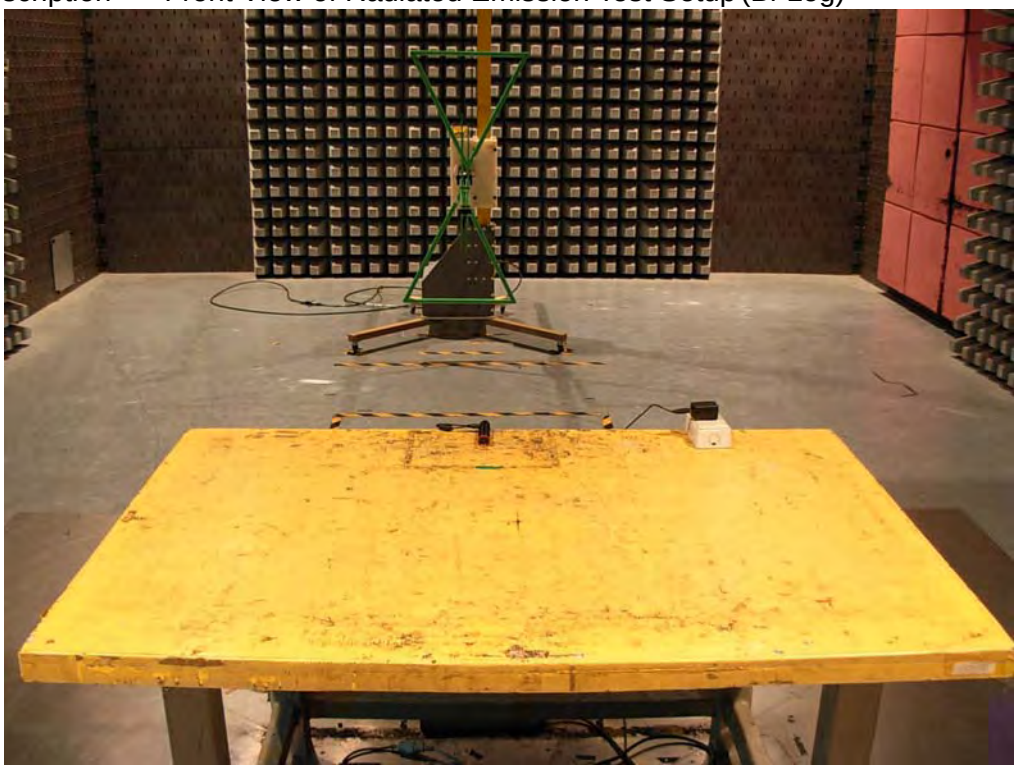
Test Mode ： Mode 1: Transmit (Power by PC)
Description： Front View of Radiated Emission Test Setup (Horn)



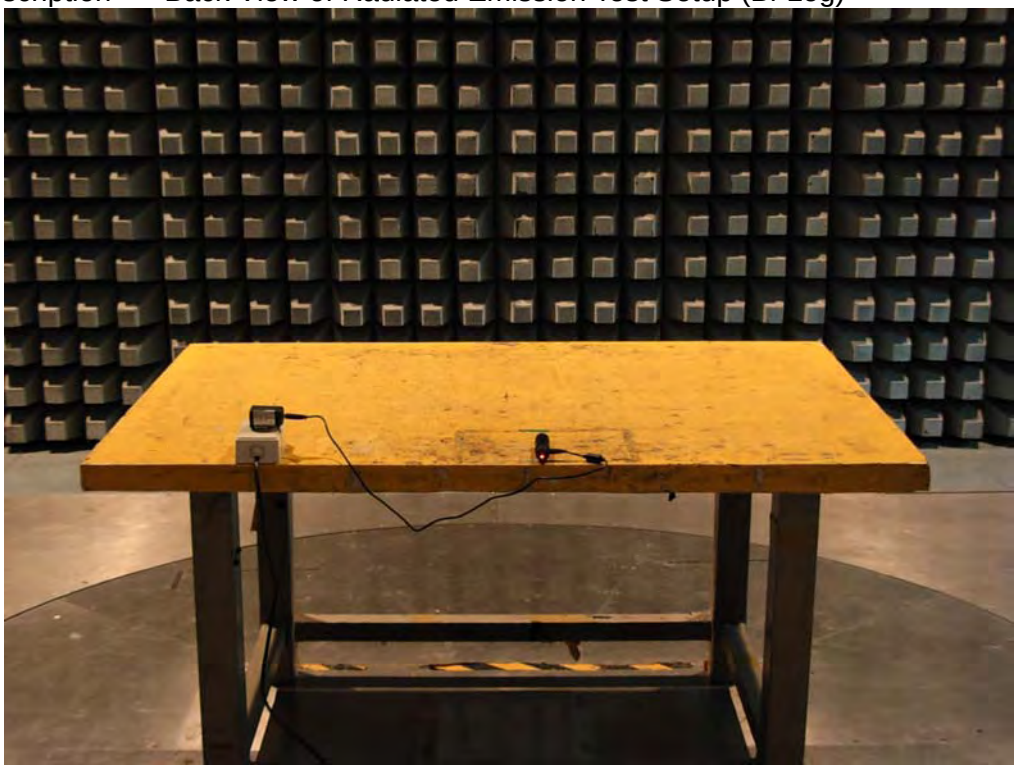
Test Mode ： Mode 1: Transmit (Power by PC)
Description： Back View of Radiated Emission Test Setup (Horn)



Test Mode ： Mode 2: Transmit (Power by adapter)
Description： Front View of Radiated Emission Test Setup (Bi-Log)



Test Mode ： Mode 2: Transmit (Power by adapter)
Description： Back View of Radiated Emission Test Setup (Bi-Log)



5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

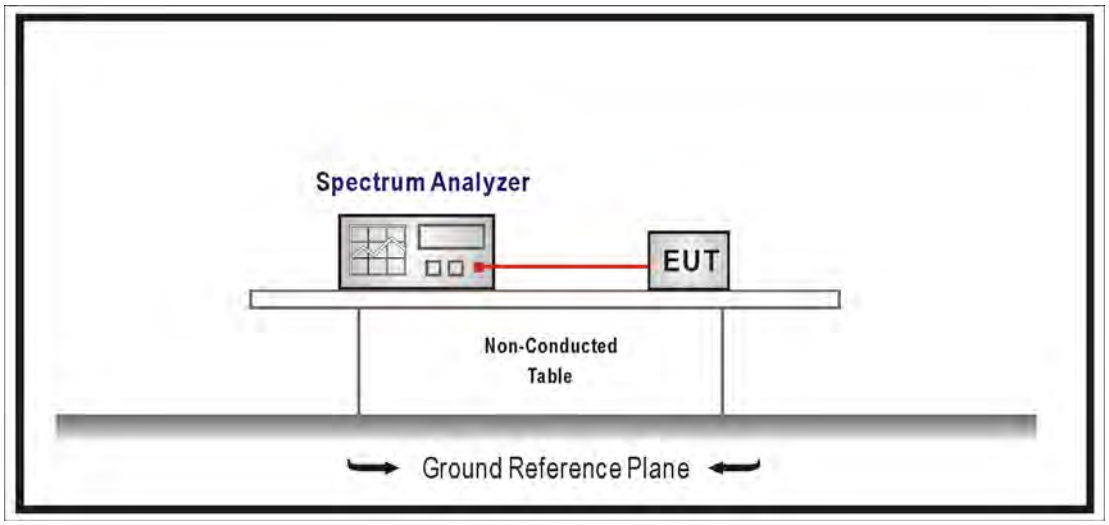
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

5.2. Test Setup

RF Antenna 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 C63.4: 2009 and tested according to DTS test procedure of Jan. 2012 KDB558074 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: 2012

5.6. Uncertainty

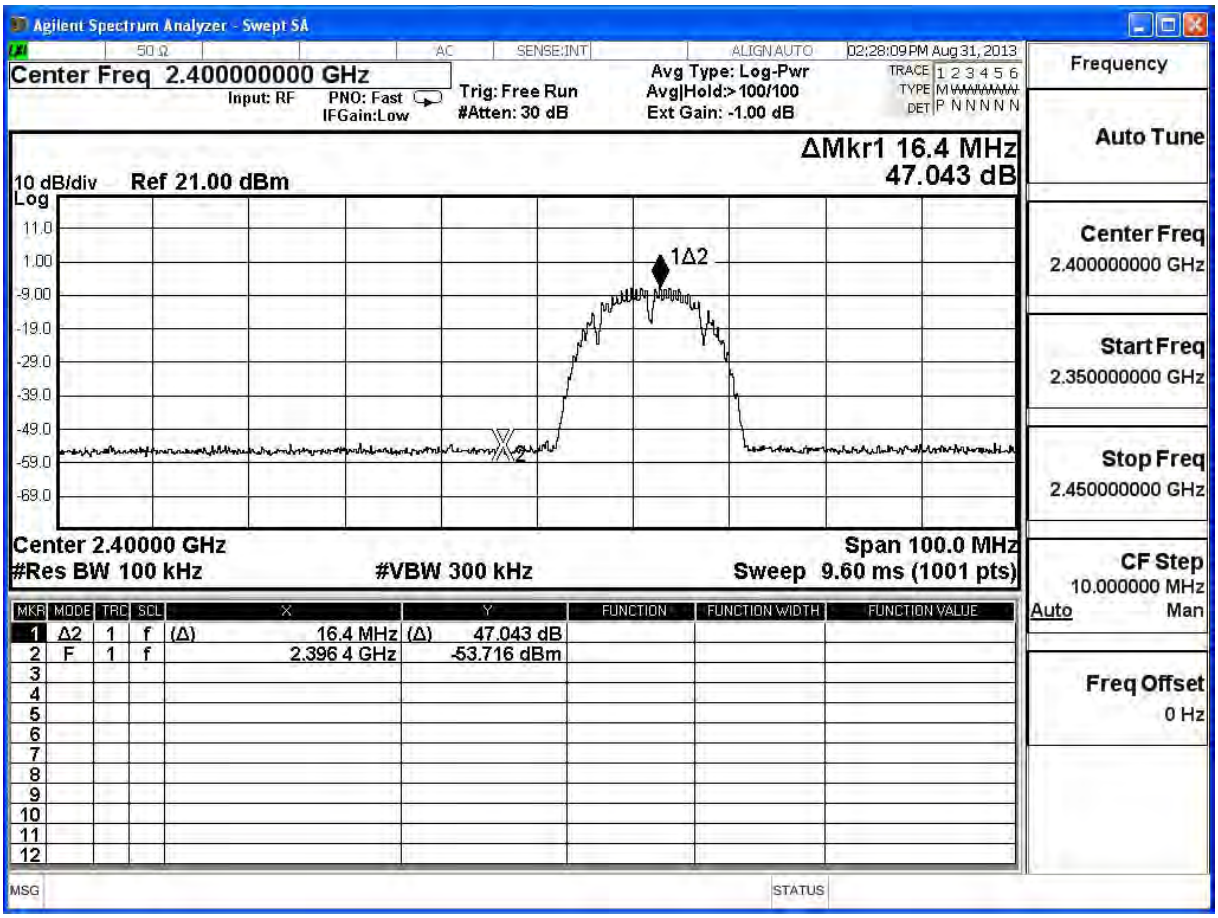
Conducted is defined as ± 1.27dB

5.7. Test Result

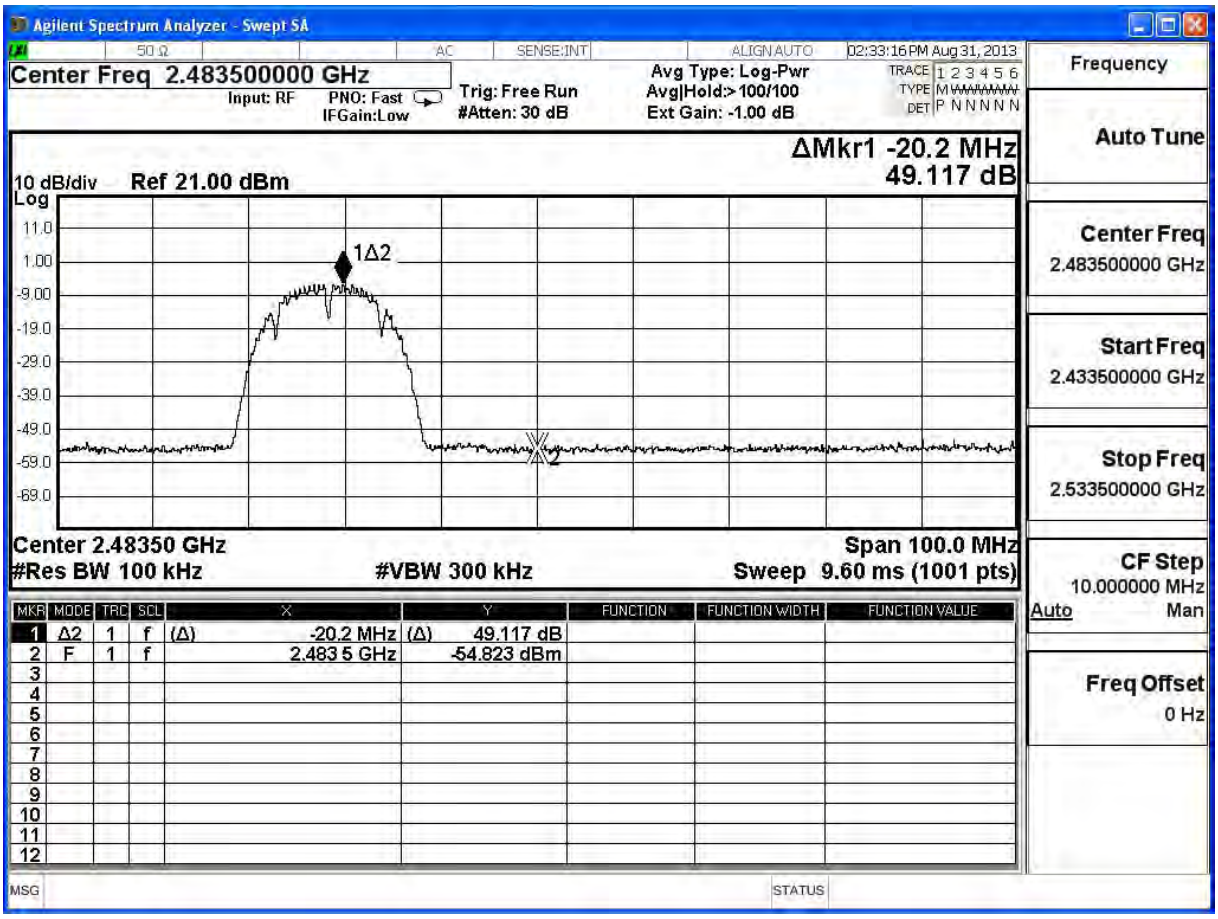
Product	WIFI smart waterproof DVR		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/31	Test Site	SR7

IEEE 802.11b, ANT 0, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	47.04	≧20	Pass
11	2462	49.12	≧20	Pass

Channel 1 (2412MHz)



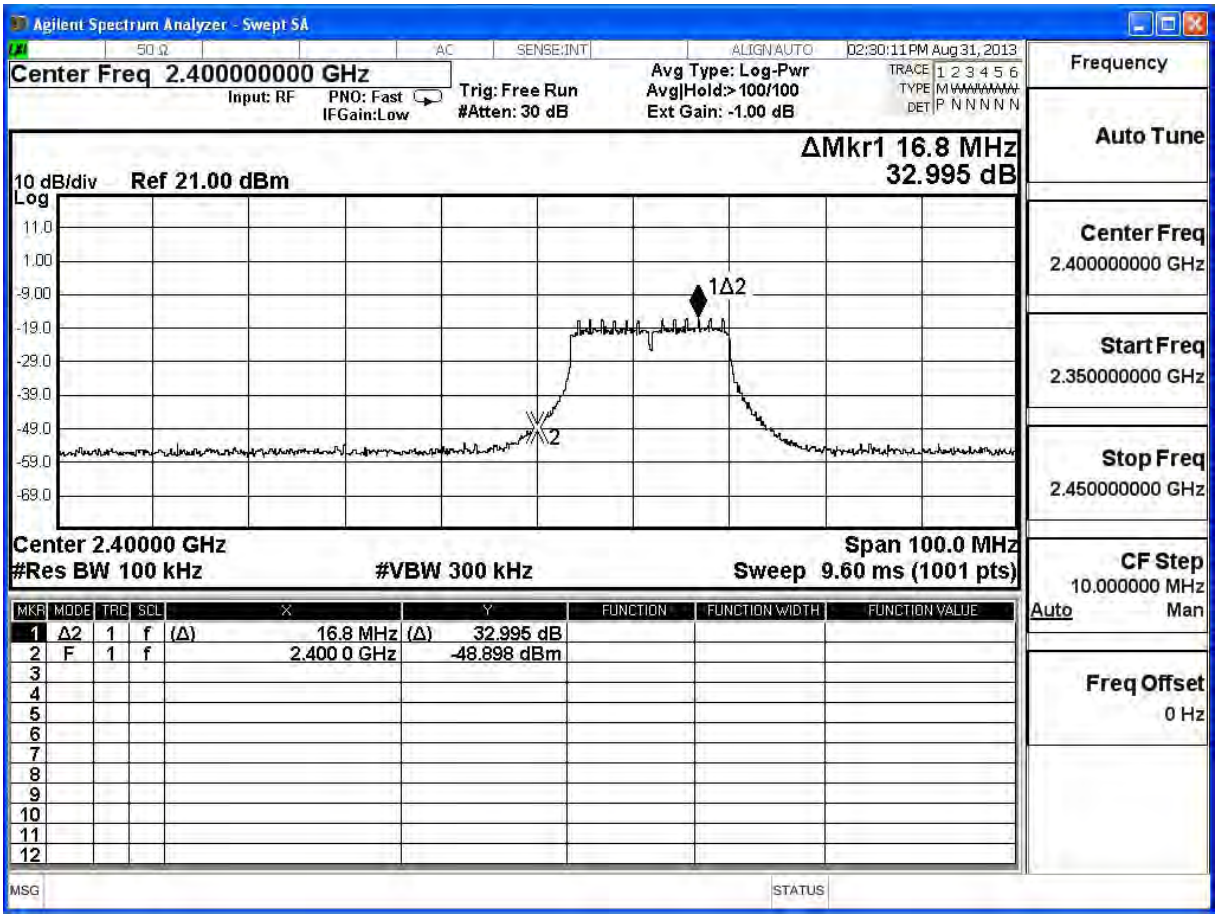
Channel 11 (2462MHz)



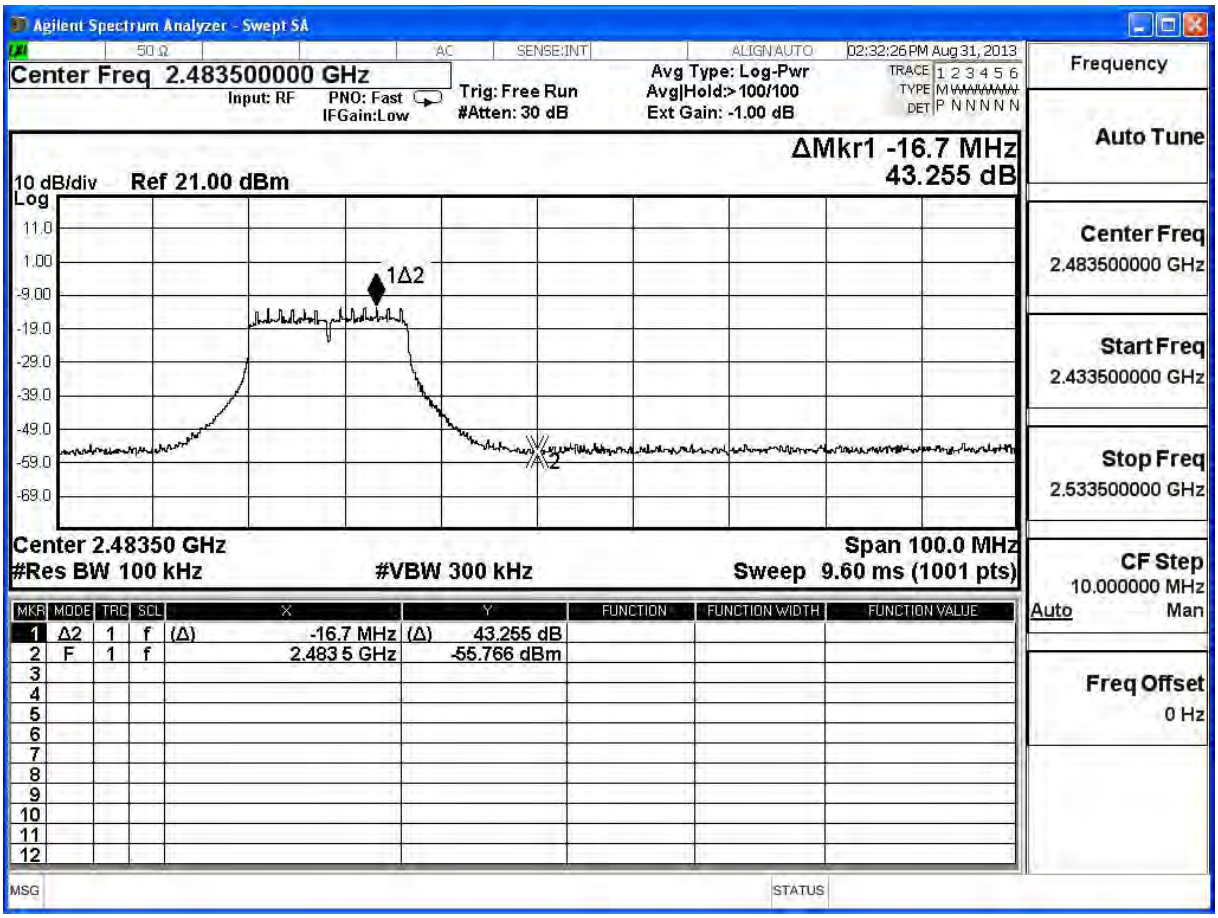
Product	WIFI smart waterproof DVR		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/31	Test Site	SR7

IEEE 802.11g, ANT 0, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	33.00	≧20	Pass
11	2462	43.26	≧20	Pass

Channel 1 (2412MHz)



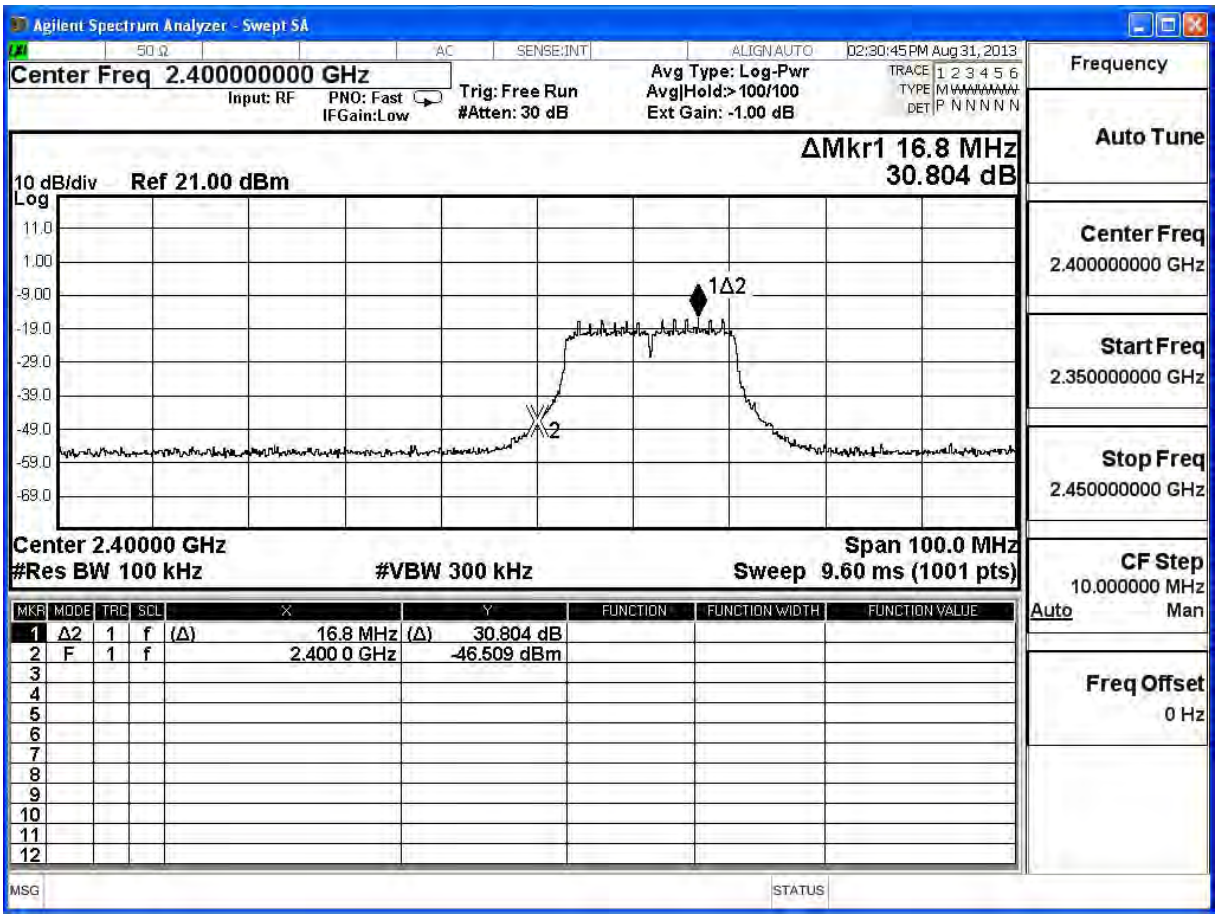
Channel 11 (2462MHz)



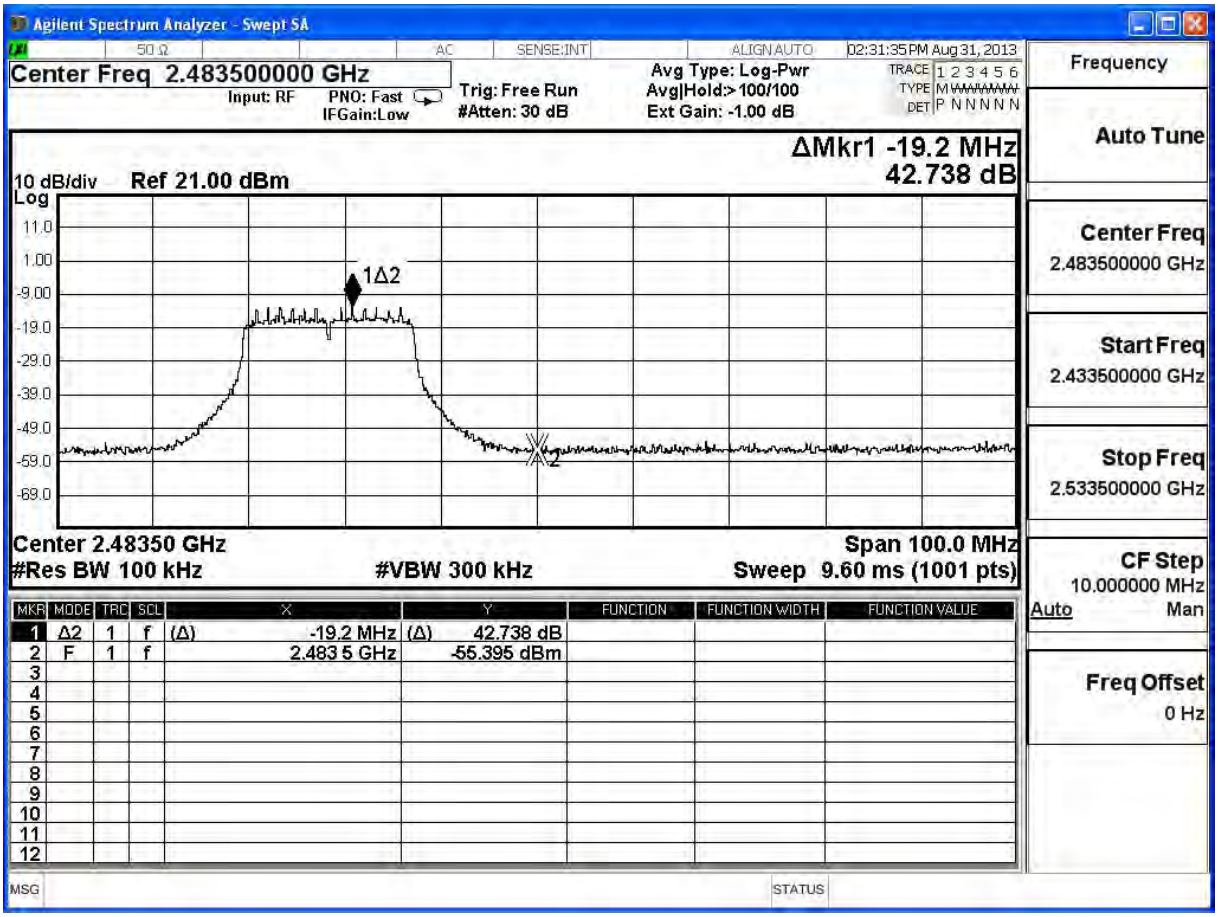
Product	WIFI smart waterproof DVR		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/31	Test Site	SR7

IEEE 802.11n (20MHz), ANT 0, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	30.80	≧20	Pass
11	2462	42.74	≧20	Pass

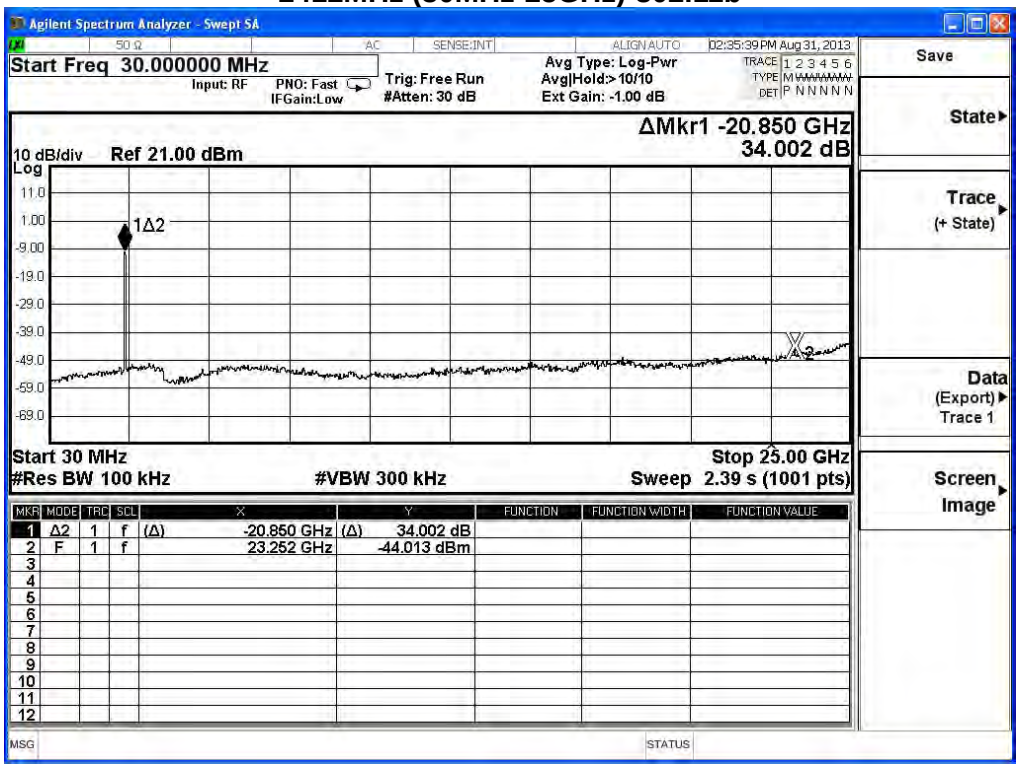
Channel 1 (2412MHz)



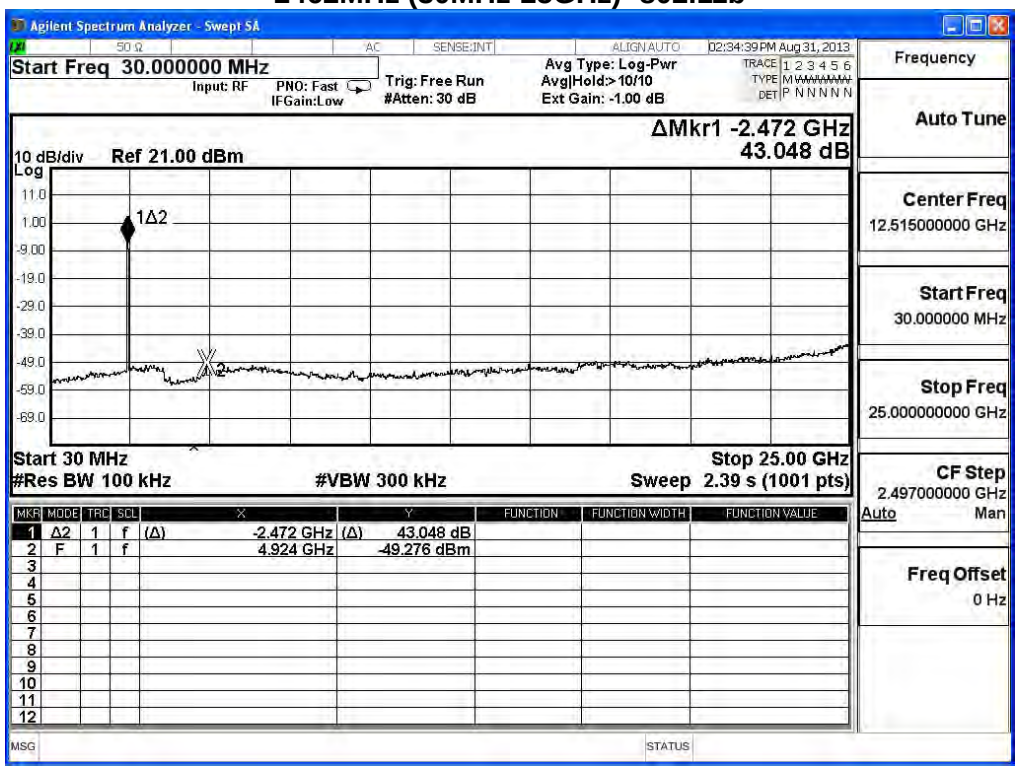
Channel 11 (2462MHz)



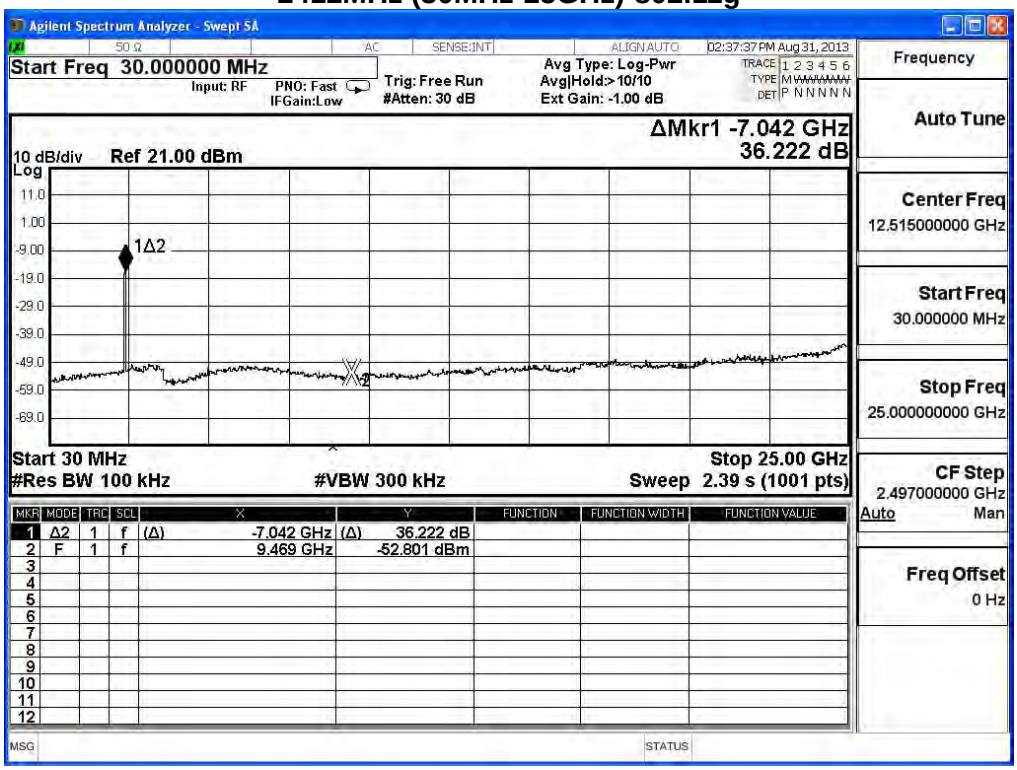
2412MHz (30MHz-25GHz)-802.11b



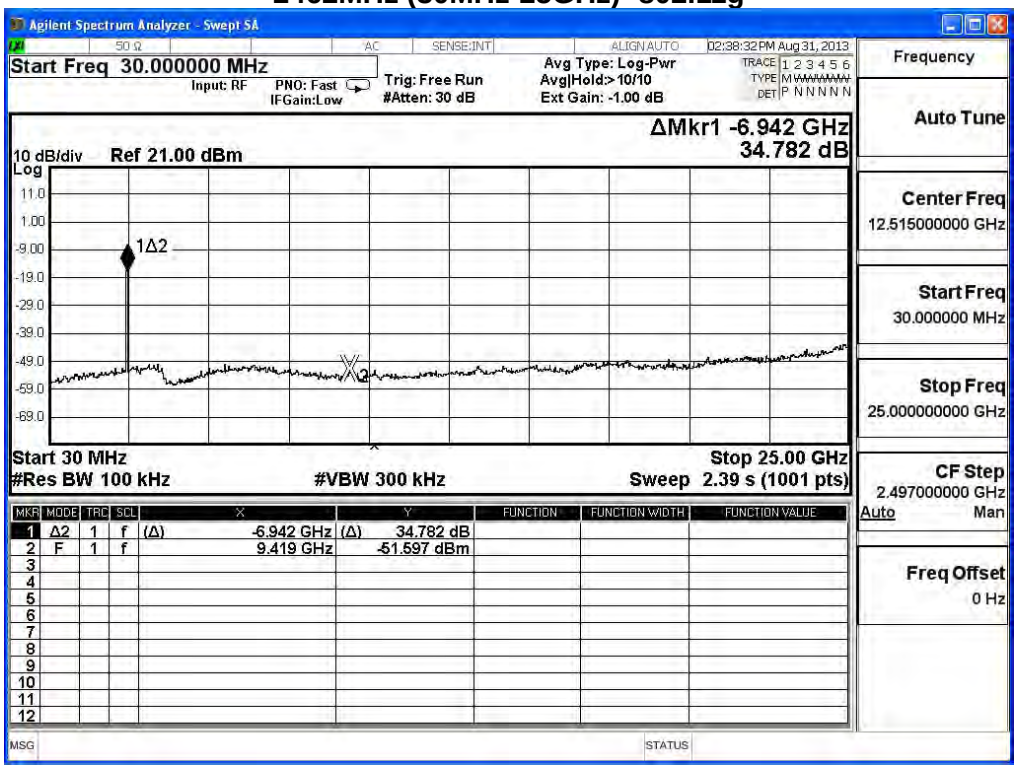
2462MHz (30MHz-25GHz) -802.11b



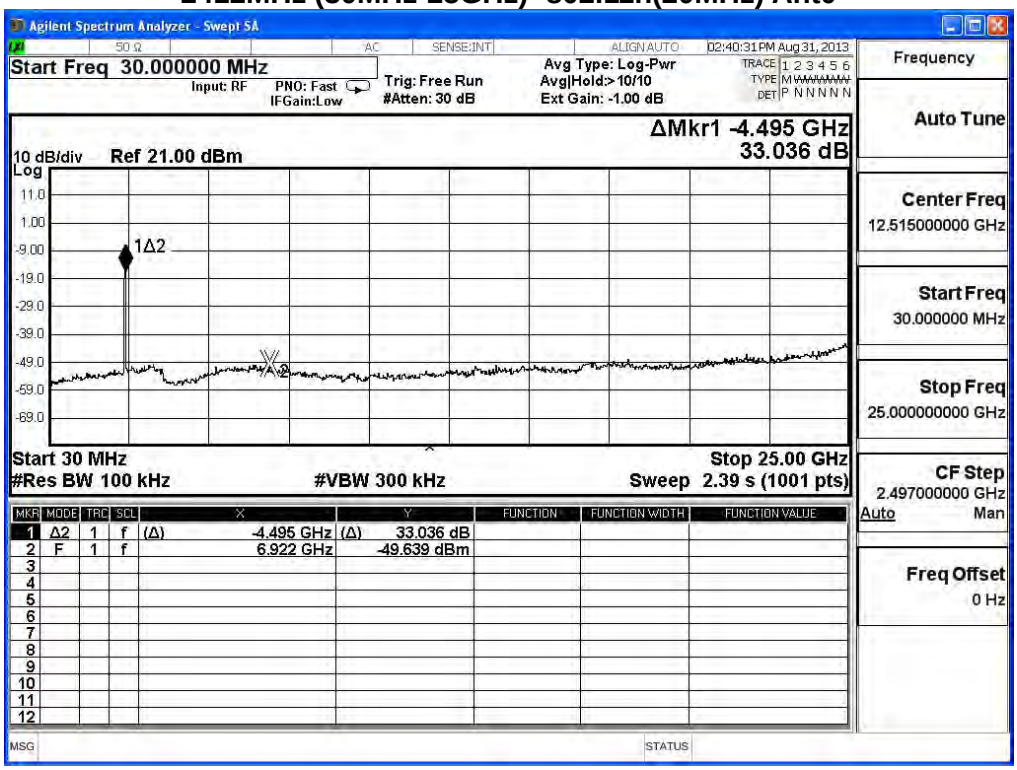
2412MHz (30MHz-25GHz)-802.11g



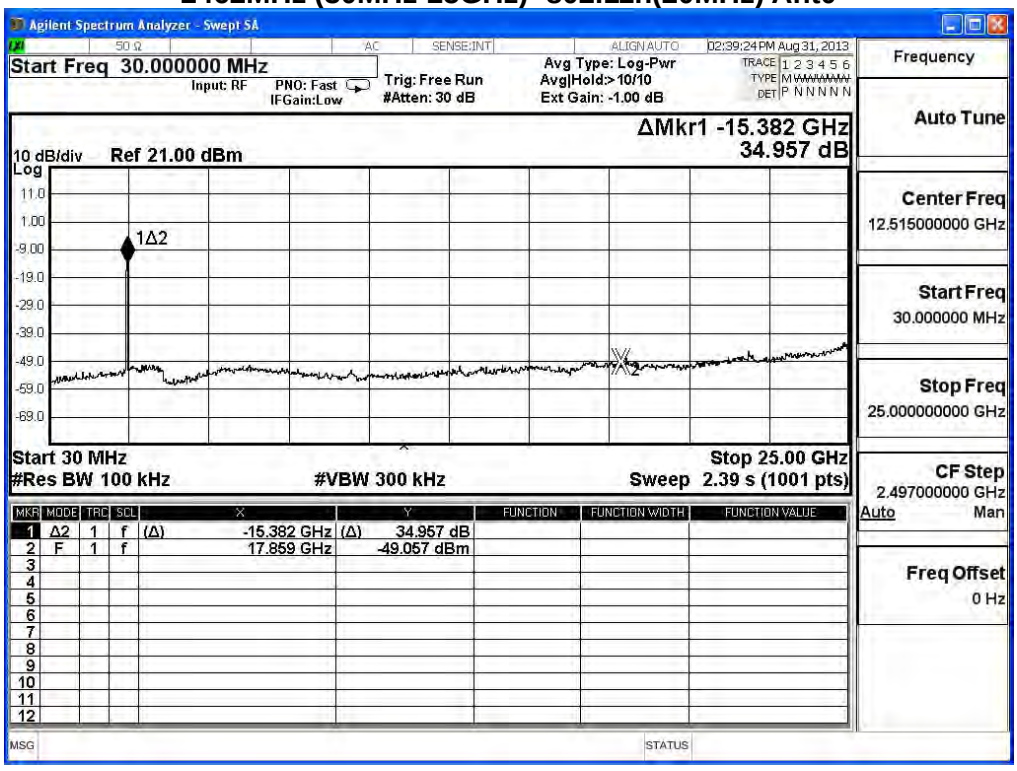
2462MHz (30MHz-25GHz) -802.11g



2412MHz (30MHz-25GHz)- 802.11n(20MHz) Ant0



2462MHz (30MHz-25GHz) -802.11n(20MHz) Ant0



6. Radiated Emission Band Edge

6.1. Test Equipment

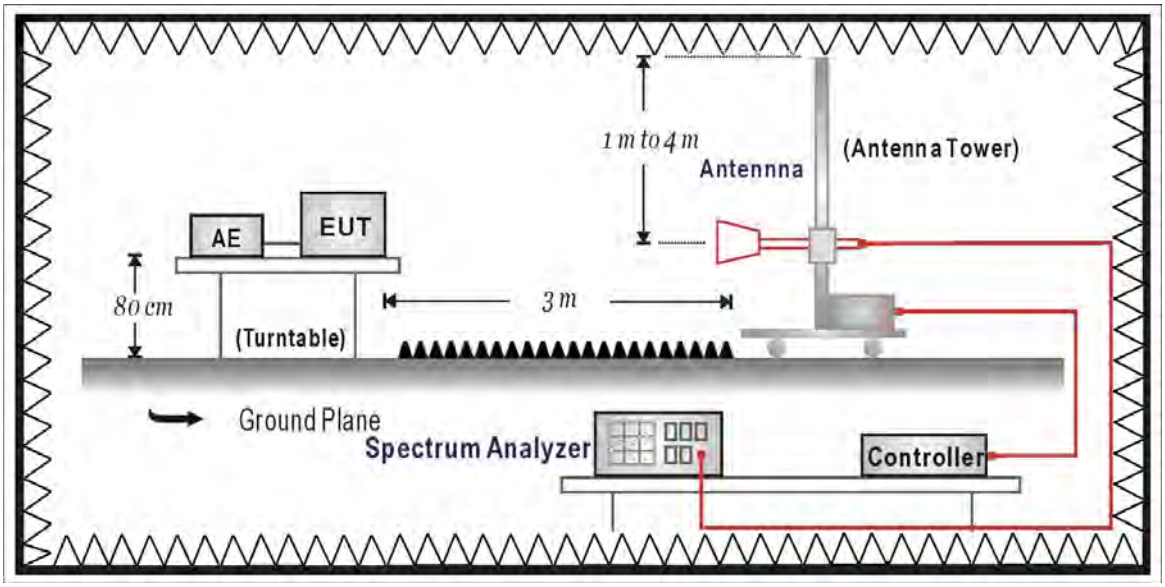
The following test equipments are used during the test:

Radiated Emission Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2014/02/17
Spectrum Analyzer	Agilent	E4440A	MY46187335	2014/01/27
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2014/02/21

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

6.2. Test Setup



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 C63.4: 2009 and tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 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 C63.4: 2009 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

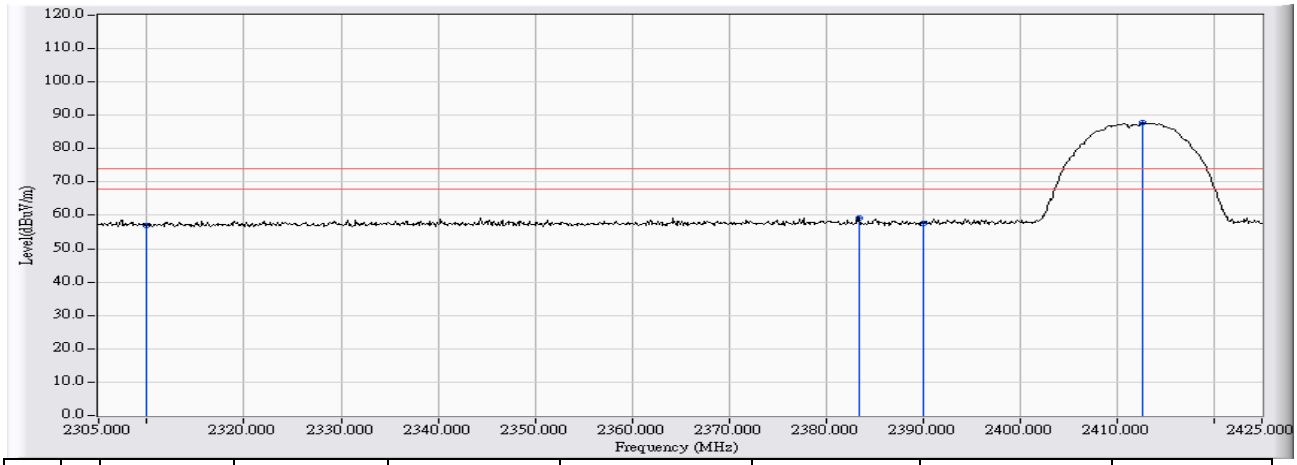
6.6. Uncertainty

The measurement uncertainty
± 3.9 dB above 1GHz

6.7. Test Result

Radiated is defined as

Site : CB1	**Time : 2013/08/27 - 15:31**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

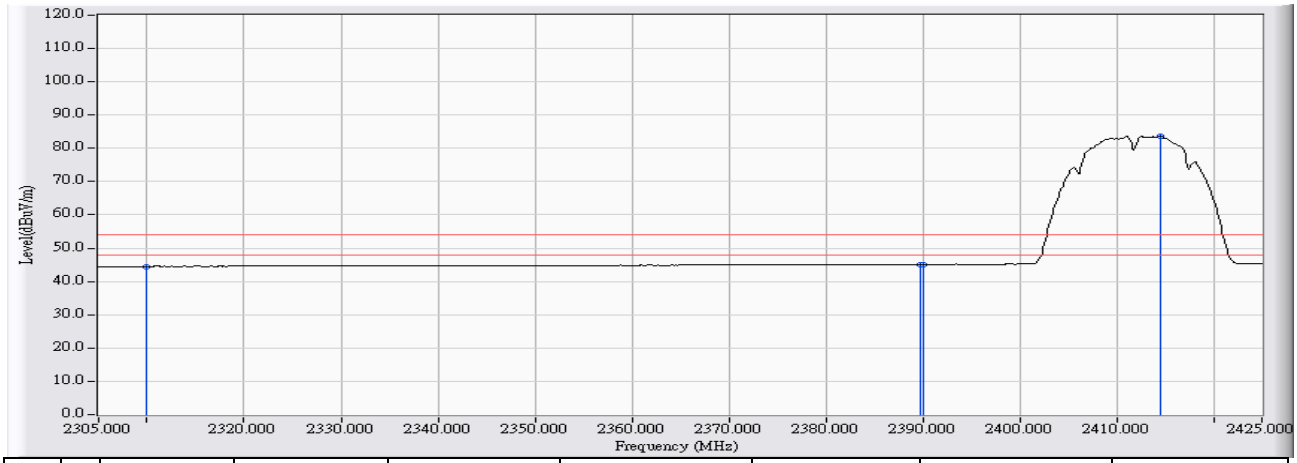


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.237	57.099	-16.901	74.000	PEAK
2		2383.480	28.052	31.025	59.077	-14.923	74.000	PEAK
3		2390.000	28.069	29.636	57.705	-16.295	74.000	PEAK
4	*	2412.760	28.128	59.592	87.720	13.720	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:32**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

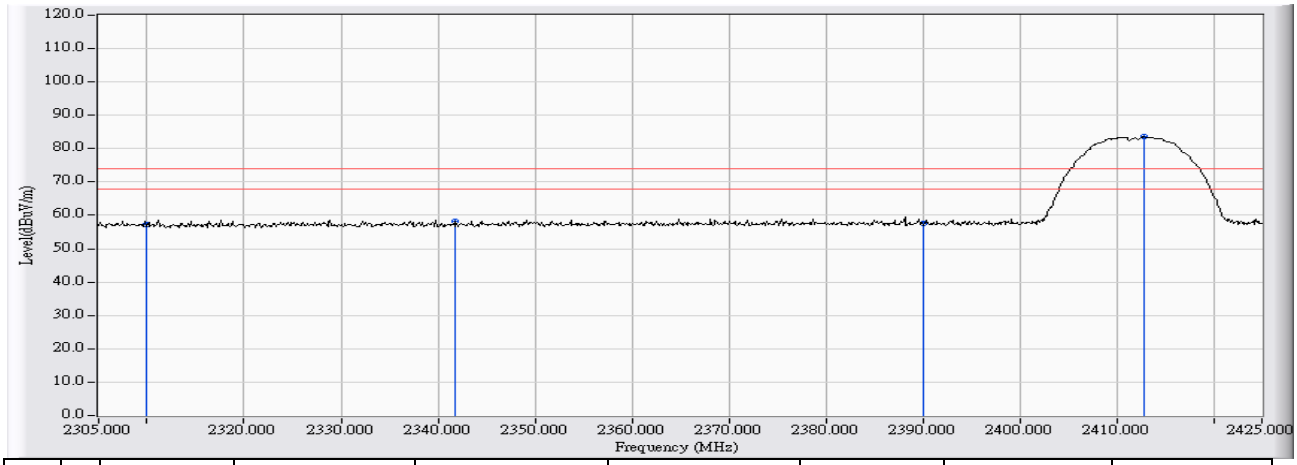


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.656	44.518	-9.482	54.000	AVERAGE
2		2389.720	28.068	17.025	45.093	-8.907	54.000	AVERAGE
3		2390.000	28.069	17.032	45.101	-8.899	54.000	AVERAGE
4	*	2414.560	28.133	55.510	83.643	29.643	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:34**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

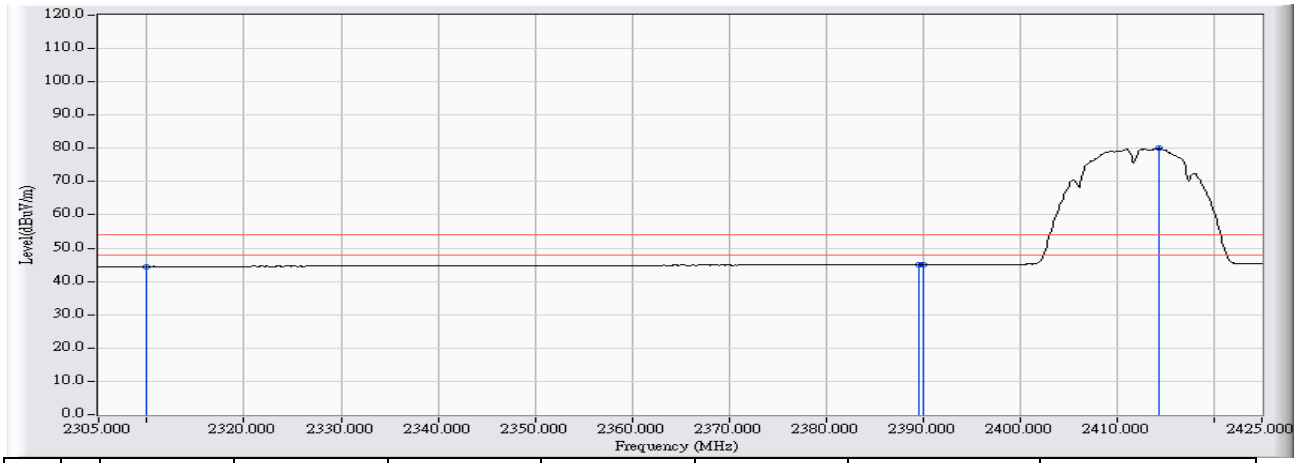


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.411	57.273	-16.727	74.000	PEAK
2		2341.720	27.944	30.432	58.376	-15.624	74.000	PEAK
3		2390.000	28.069	29.638	57.707	-16.293	74.000	PEAK
4	*	2412.880	28.128	55.396	83.524	9.524	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:35**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-X**

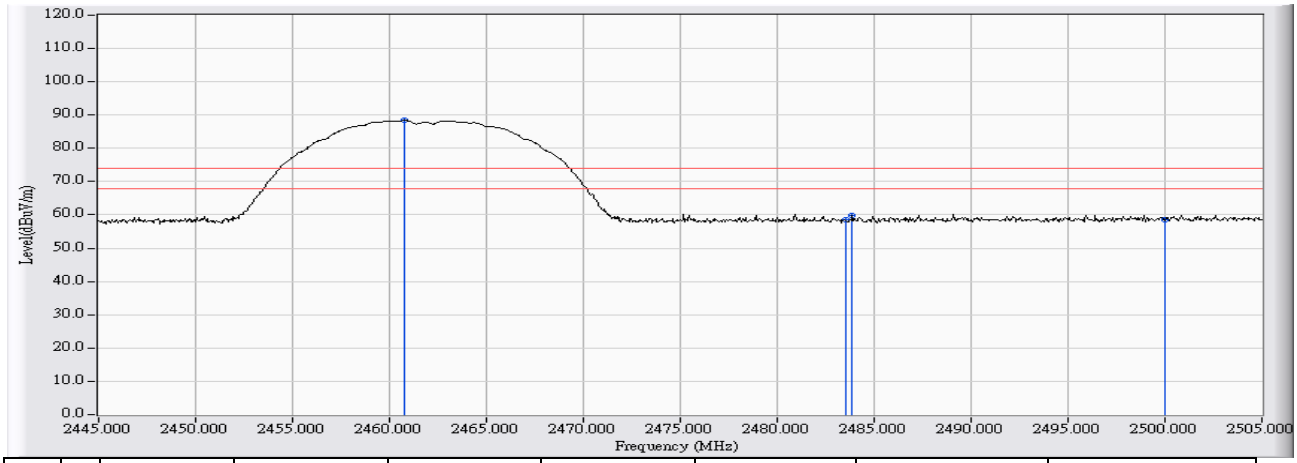


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.652	44.514	-9.486	54.000	AVERAGE
2		2389.600	28.068	17.003	45.071	-8.929	54.000	AVERAGE
3		2390.000	28.069	16.989	45.058	-8.942	54.000	AVERAGE
4	*	2414.440	28.132	51.824	79.956	25.956	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:13**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

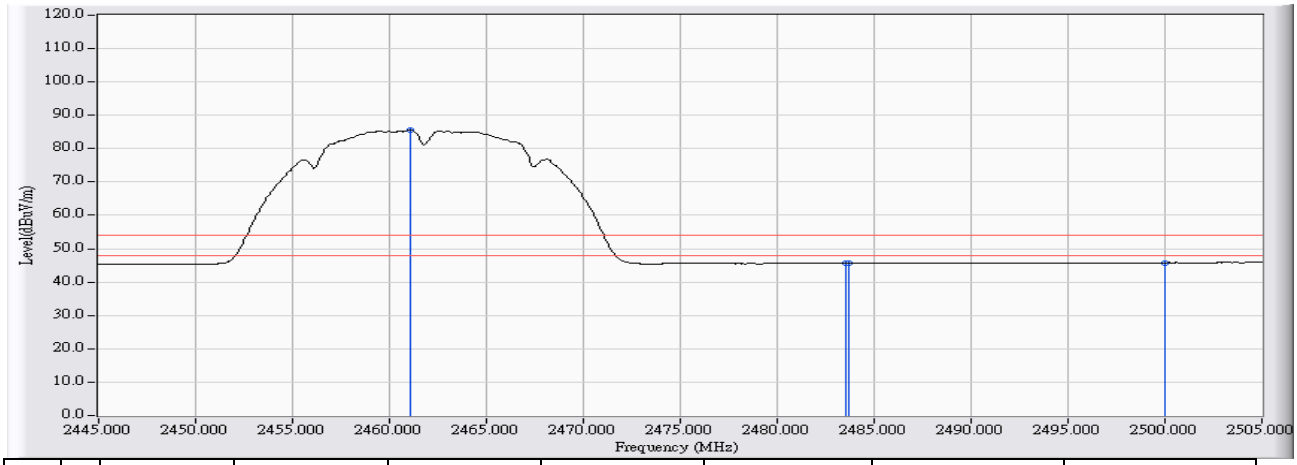


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.780	28.252	60.152	88.404	14.404	74.000	PEAK
2		2483.500	28.311	30.083	58.394	-15.606	74.000	PEAK
3		2483.880	28.311	31.471	59.783	-14.217	74.000	PEAK
4		2500.000	28.357	30.042	58.398	-15.602	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:14**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

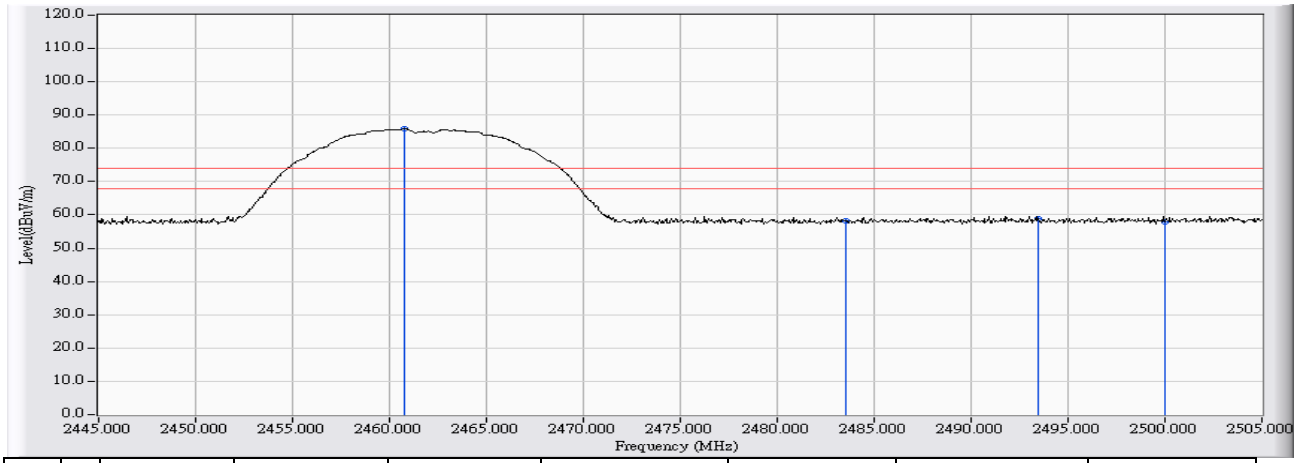


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.080	28.252	57.278	85.531	31.531	54.000	AVERAGE
2		2483.500	28.311	17.229	45.540	-8.460	54.000	AVERAGE
3		2483.700	28.312	17.270	45.581	-8.419	54.000	AVERAGE
4		2500.000	28.357	17.454	45.810	-8.190	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:16**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

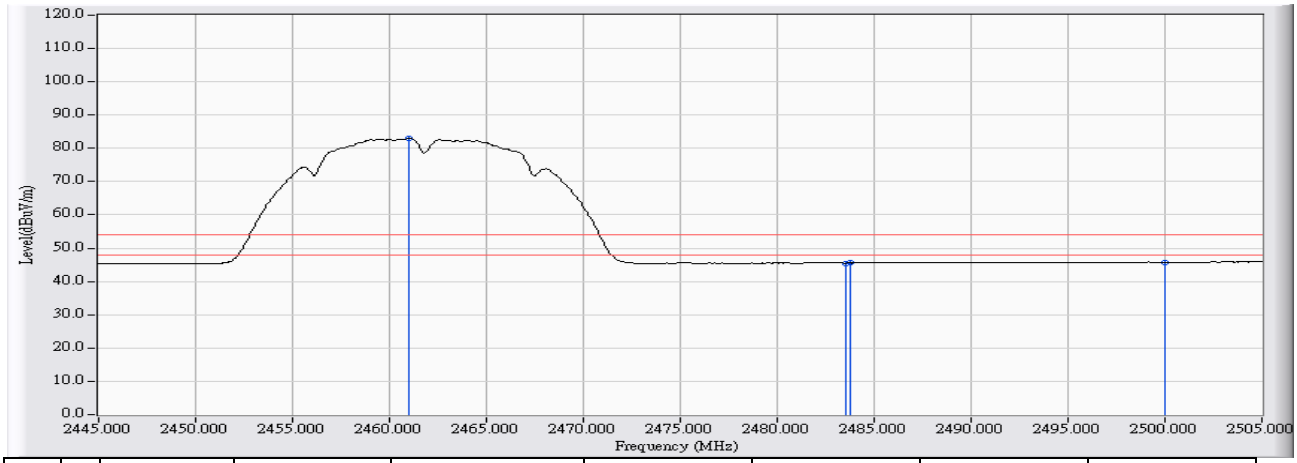


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.780	28.252	57.583	85.835	11.835	74.000	PEAK
2		2483.500	28.311	29.826	58.137	-15.863	74.000	PEAK
3		2493.480	28.337	30.493	58.830	-15.170	74.000	PEAK
4		2500.000	28.357	29.688	58.044	-15.956	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:17**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2462MHz_axis-X**

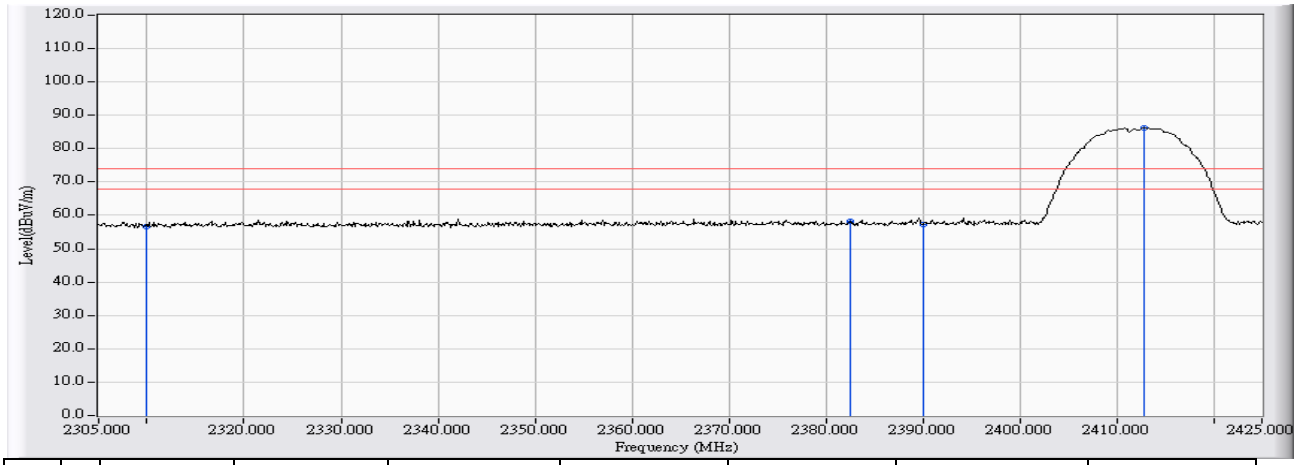


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.020	28.252	54.742	82.995	28.995	54.000	AVERAGE
2		2483.500	28.311	17.190	45.501	-8.499	54.000	AVERAGE
3		2483.760	28.311	17.224	45.536	-8.464	54.000	AVERAGE
4		2500.000	28.357	17.465	45.821	-8.179	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:45**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Y**

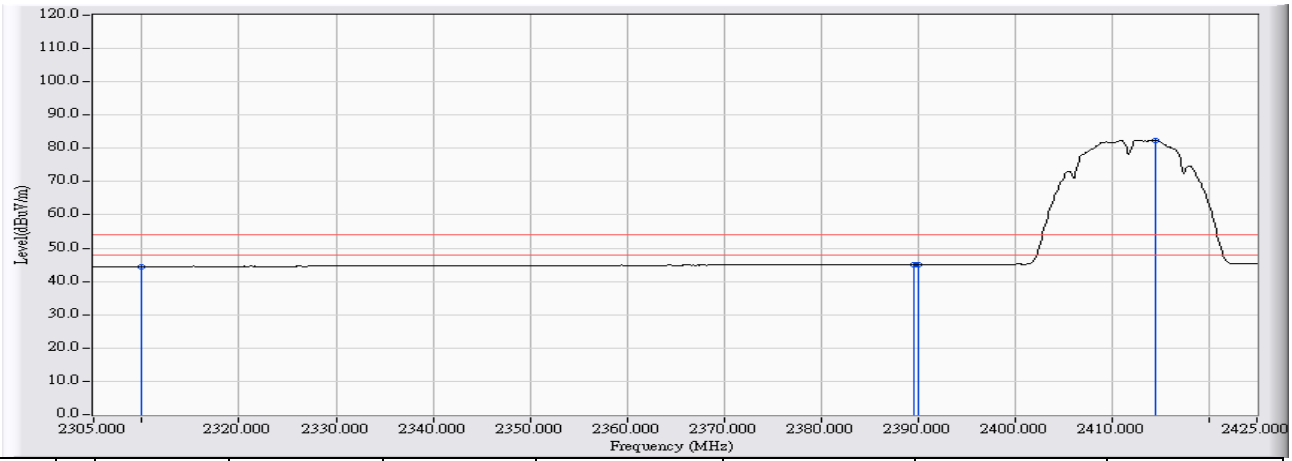


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	28.909	56.771	-17.229	74.000	PEAK
2		2382.520	28.050	30.214	58.264	-15.736	74.000	PEAK
3		2390.000	28.069	29.213	57.282	-16.718	74.000	PEAK
4	*	2412.880	28.128	58.172	86.300	12.300	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:47**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Y**

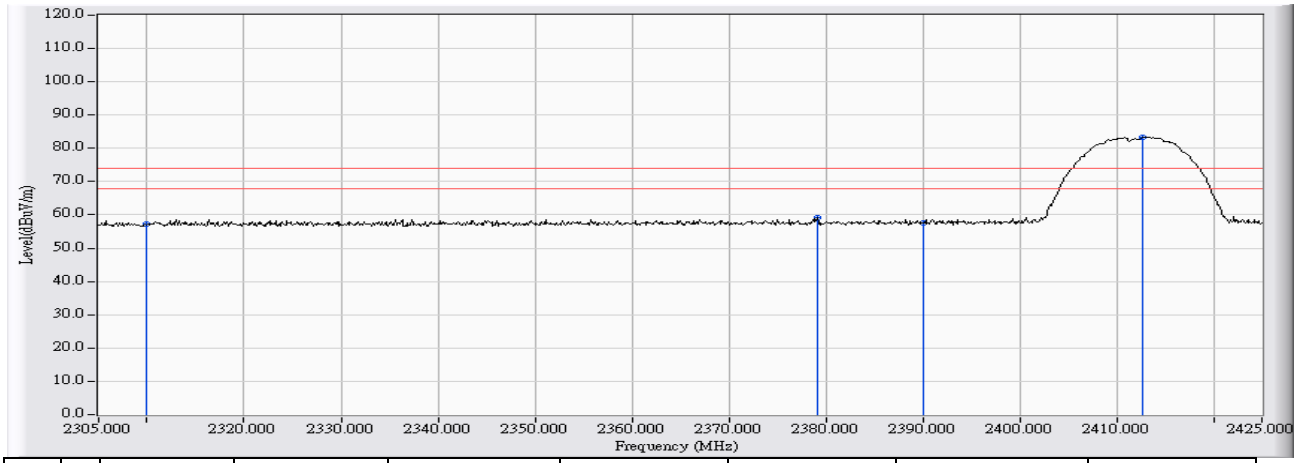


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.643	44.505	-9.495	54.000	AVERAGE
2		2389.600	28.068	17.009	45.077	-8.923	54.000	AVERAGE
3		2390.000	28.069	17.005	45.074	-8.926	54.000	AVERAGE
4	*	2414.560	28.133	54.363	82.496	28.496	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:52**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Y**

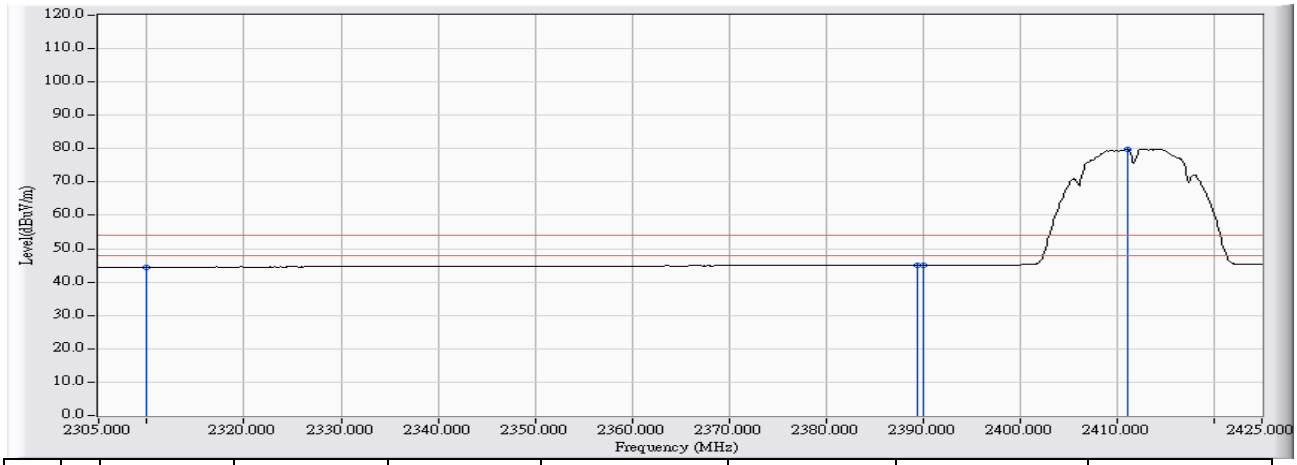


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.297	57.159	-16.841	74.000	PEAK
2		2379.160	28.041	31.276	59.317	-14.683	74.000	PEAK
3		2390.000	28.069	29.444	57.513	-16.487	74.000	PEAK
4	*	2412.760	28.128	55.276	83.404	9.404	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 15:52**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Y**

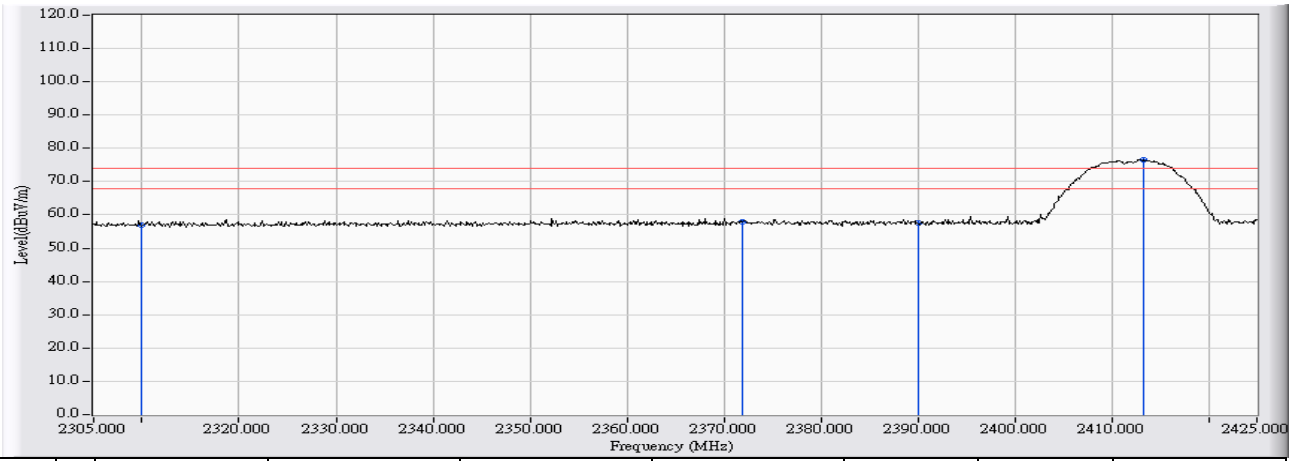


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.683	44.545	-9.455	54.000	AVERAGE
2		2389.480	28.067	16.985	45.053	-8.947	54.000	AVERAGE
3		2390.000	28.069	17.016	45.085	-8.915	54.000	AVERAGE
4	*	2411.080	28.123	51.797	79.921	25.921	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:02**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Z**

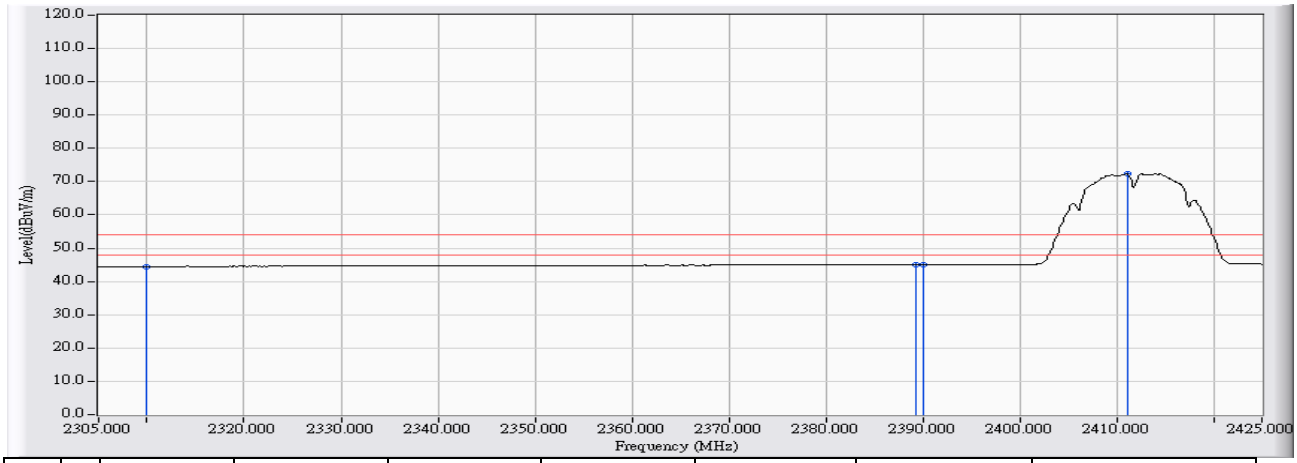


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	28.999	56.861	-17.139	74.000	PEAK
2		2371.960	28.022	29.975	57.997	-16.003	74.000	PEAK
3		2390.000	28.069	29.516	57.585	-16.415	74.000	PEAK
4	*	2413.360	28.130	48.402	76.531	2.531	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:02**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Z**

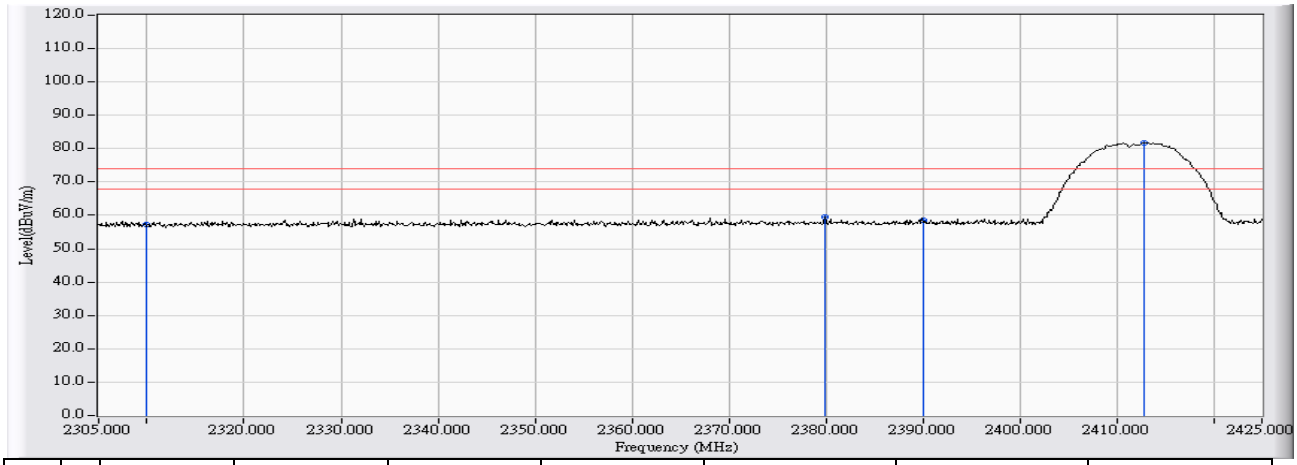


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.652	44.514	-9.486	54.000	AVERAGE
2		2389.240	28.067	16.991	45.058	-8.942	54.000	AVERAGE
3		2390.000	28.069	17.013	45.082	-8.918	54.000	AVERAGE
4	*	2411.080	28.123	44.200	72.324	18.324	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:05**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Z**

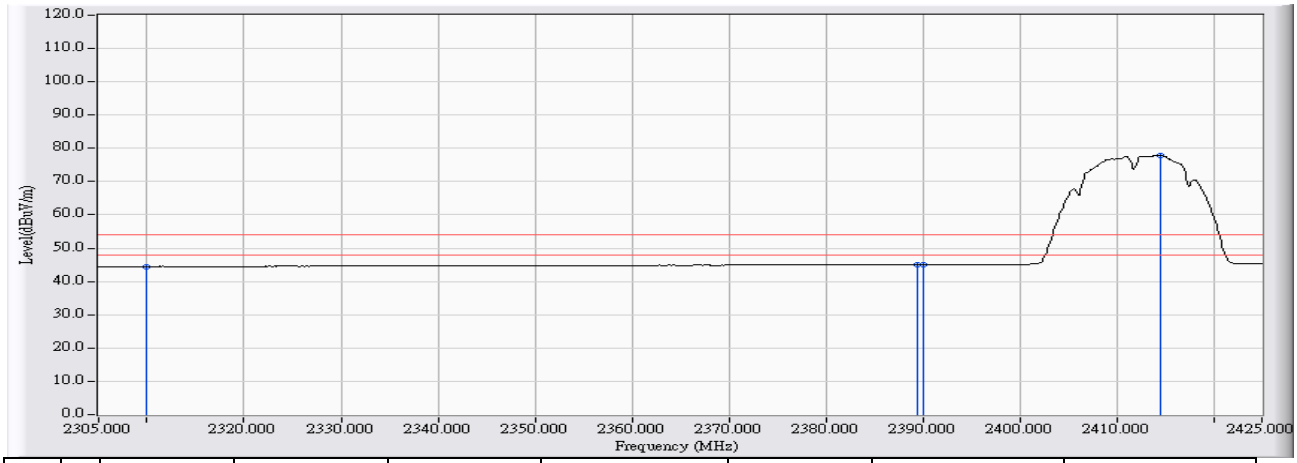


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.248	57.110	-16.890	74.000	PEAK
2		2379.880	28.043	31.459	59.502	-14.498	74.000	PEAK
3		2390.000	28.069	30.590	58.659	-15.341	74.000	PEAK
4	*	2412.880	28.128	53.657	81.785	7.785	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:06**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11b_2412MHz_axis-Z**

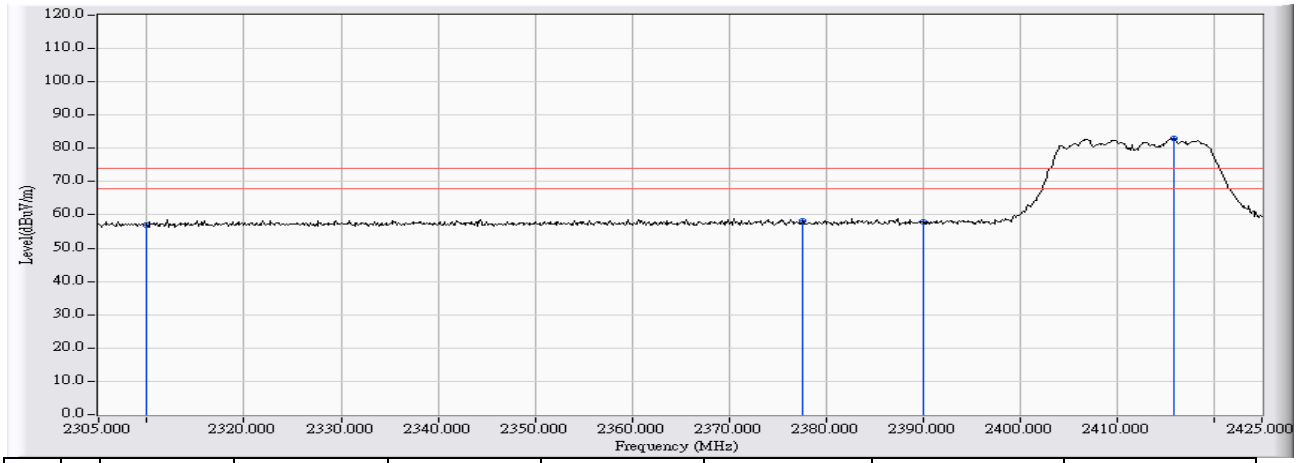


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.641	44.503	-9.497	54.000	AVERAGE
2		2389.480	28.067	17.020	45.088	-8.912	54.000	AVERAGE
3		2390.000	28.069	17.008	45.077	-8.923	54.000	AVERAGE
4	*	2414.560	28.133	49.877	78.010	24.010	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:21**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

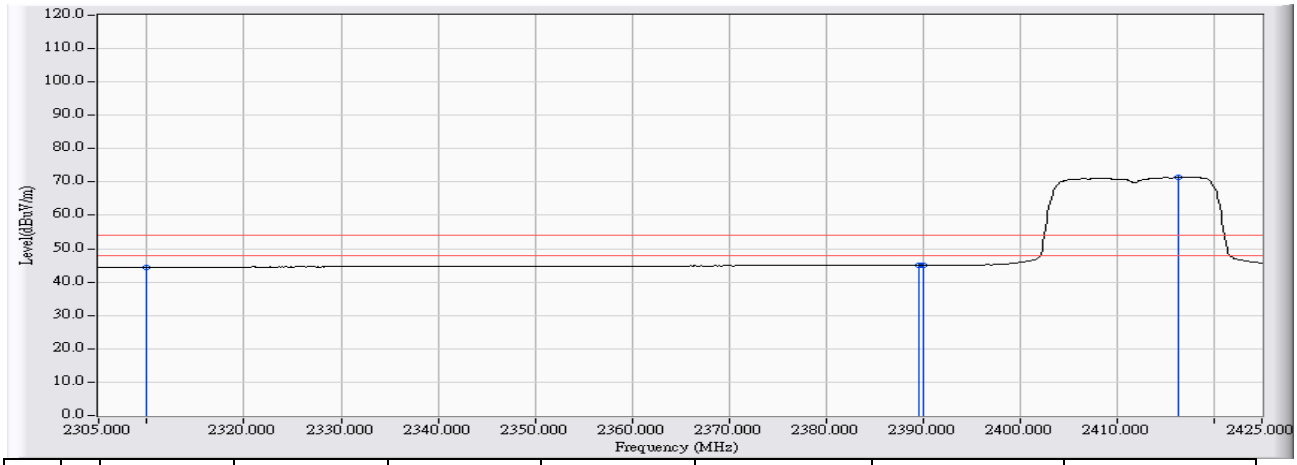


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	28.925	56.787	-17.213	74.000	PEAK
2		2377.600	28.037	30.312	58.349	-15.651	74.000	PEAK
3		2390.000	28.069	29.910	57.979	-16.021	74.000	PEAK
4	*	2415.880	28.136	54.807	82.943	8.943	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

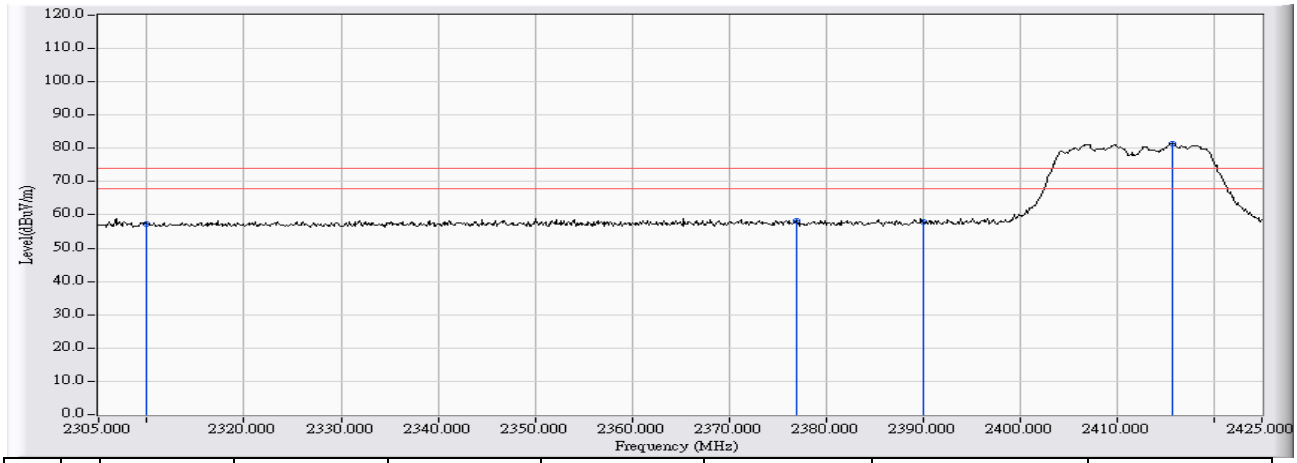


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.627	44.489	-9.511	54.000	AVERAGE
2		2389.600	28.068	16.938	45.006	-8.994	54.000	AVERAGE
3		2390.000	28.069	16.972	45.041	-8.959	54.000	AVERAGE
4	*	2416.360	28.137	43.361	71.498	17.498	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:25**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

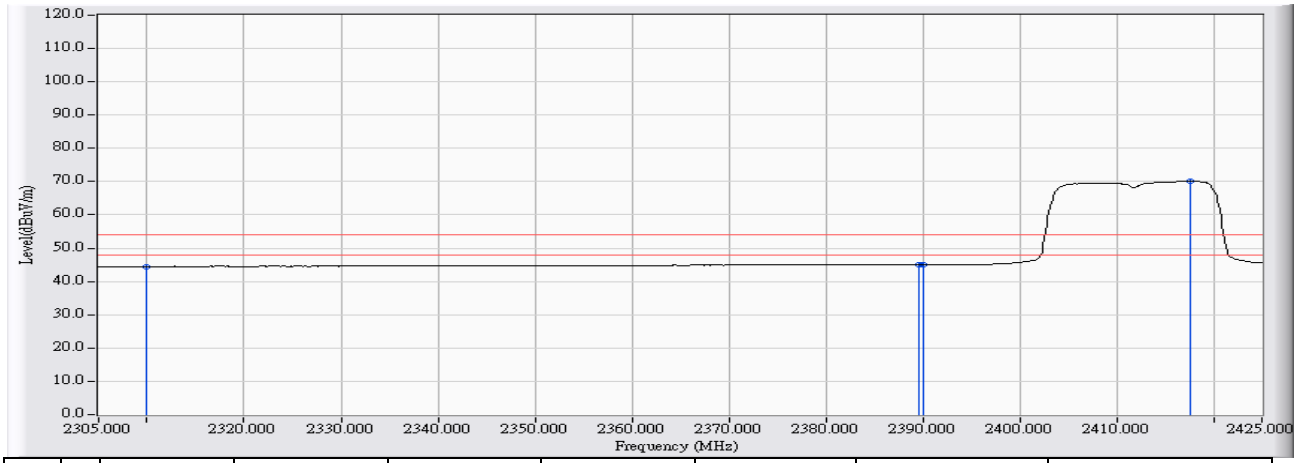


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.469	57.331	-16.669	74.000	PEAK
2		2377.000	28.035	30.251	58.286	-15.714	74.000	PEAK
3		2390.000	28.069	29.939	58.008	-15.992	74.000	PEAK
4	*	2415.760	28.135	53.328	81.464	7.464	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:25**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2412MHz_axis-X**

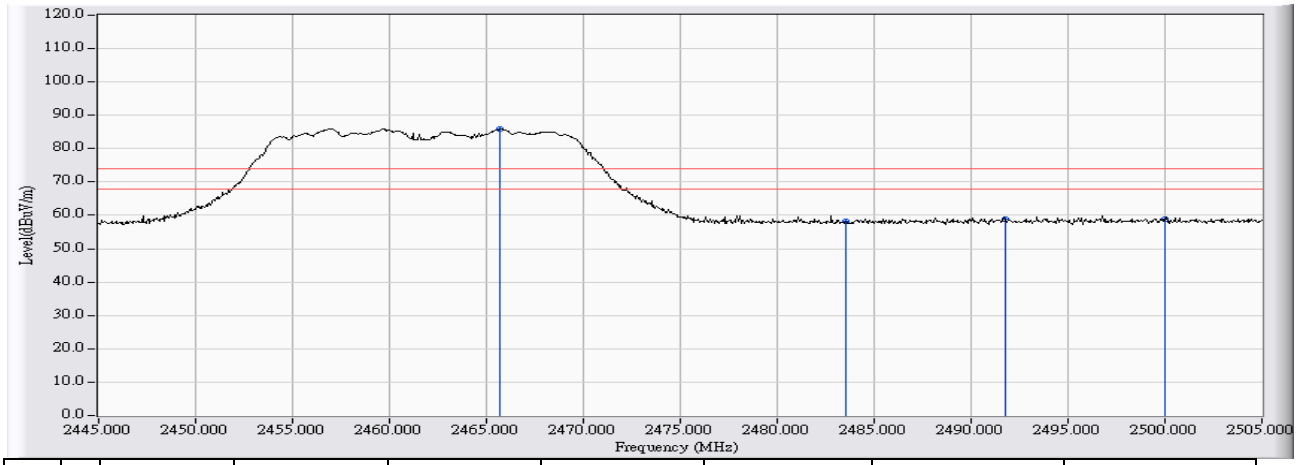


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.646	44.508	-9.492	54.000	AVERAGE
2		2389.600	28.068	17.040	45.108	-8.892	54.000	AVERAGE
3		2390.000	28.069	17.005	45.074	-8.926	54.000	AVERAGE
4	*	2417.680	28.141	41.960	70.101	16.101	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:29**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

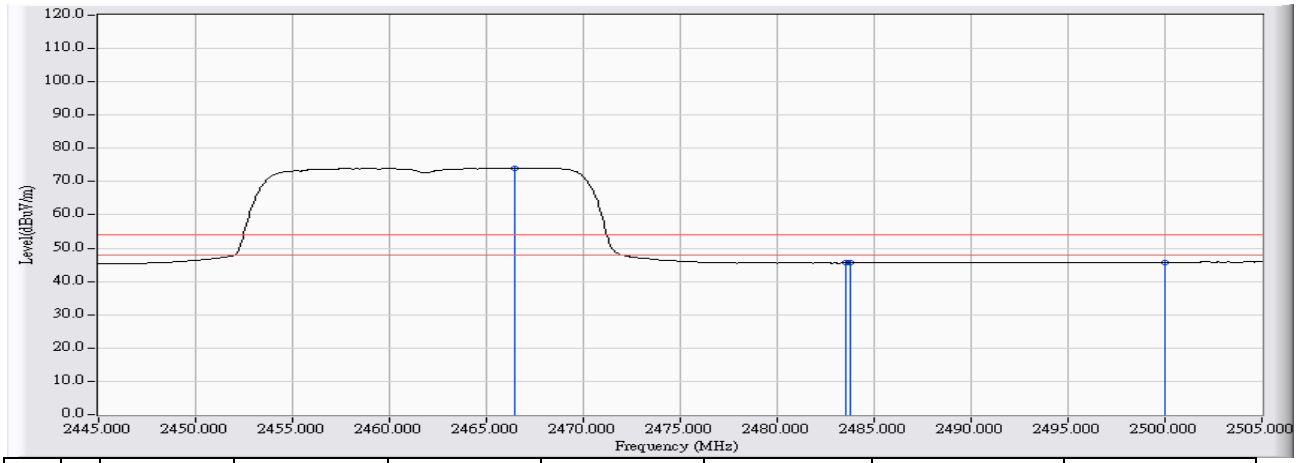


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.700	28.265	57.638	85.903	11.903	74.000	PEAK
2		2483.500	28.311	29.768	58.079	-15.921	74.000	PEAK
3		2491.740	28.333	30.684	59.016	-14.984	74.000	PEAK
4		2500.000	28.357	30.376	58.732	-15.268	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:29**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

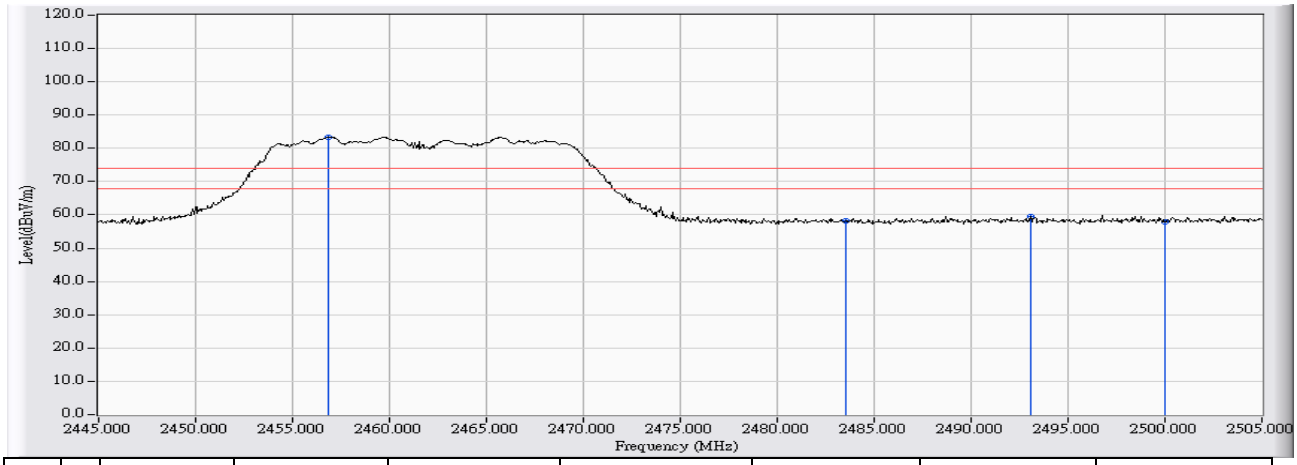


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.480	28.267	45.887	74.154	20.154	54.000	AVERAGE
2		2483.500	28.311	17.270	45.581	-8.419	54.000	AVERAGE
3		2483.760	28.311	17.250	45.562	-8.438	54.000	AVERAGE
4		2500.000	28.357	17.442	45.798	-8.202	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:32**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

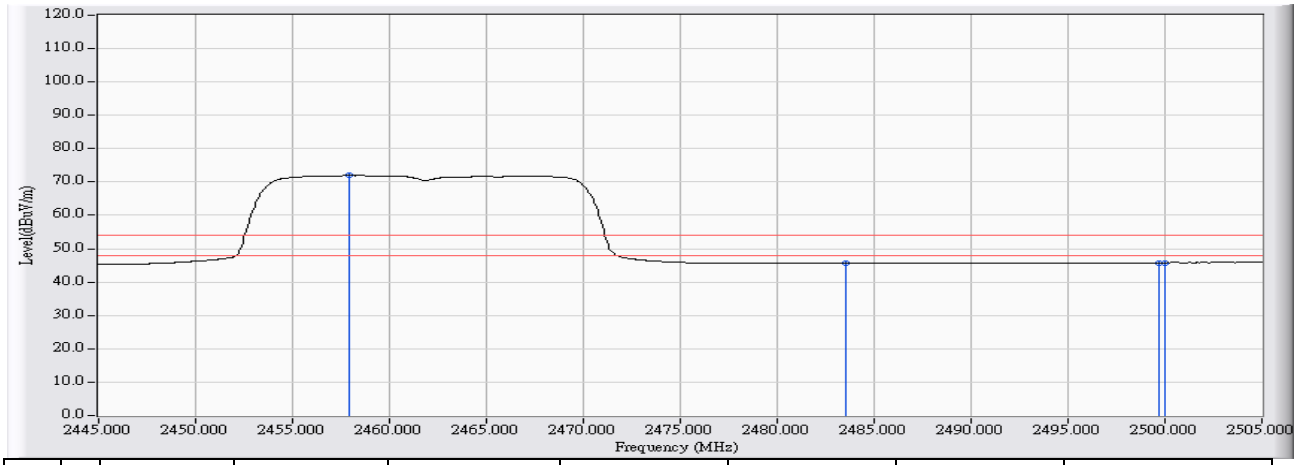


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.880	28.242	55.233	83.475	9.475	74.000	PEAK
2		2483.500	28.311	29.813	58.124	-15.876	74.000	PEAK
3		2493.060	28.336	31.065	59.401	-14.599	74.000	PEAK
4		2500.000	28.357	29.618	57.974	-16.026	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:32**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11g_2462MHz_axis-X**

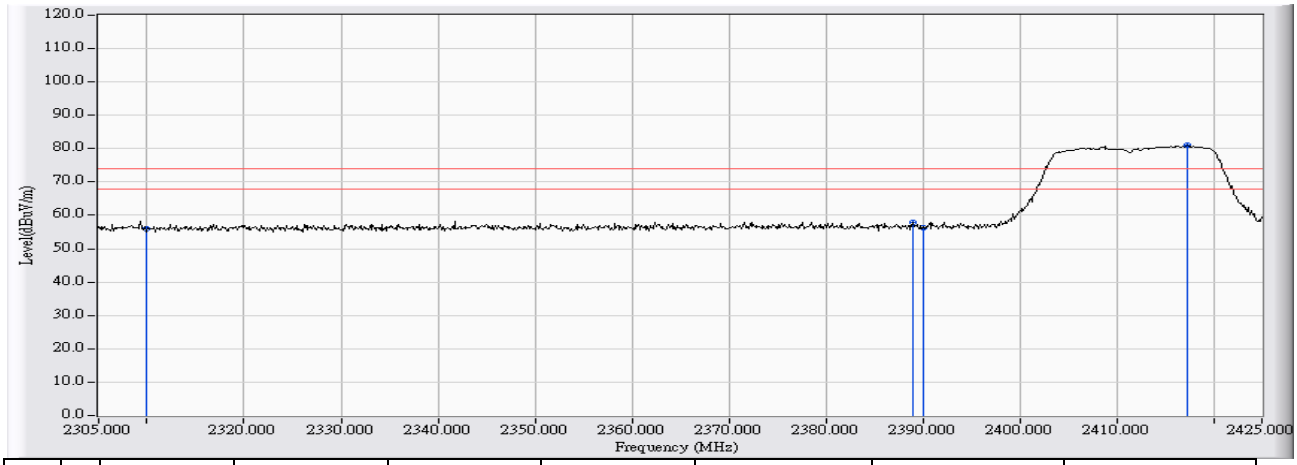


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2457.900	28.244	43.703	71.948	17.948	54.000	AVERAGE
2		2483.500	28.311	17.283	45.594	-8.406	54.000	AVERAGE
3		2499.720	28.355	17.464	45.819	-8.181	54.000	AVERAGE
4		2500.000	28.357	17.468	45.824	-8.176	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:37**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2412MHz_axis-X**

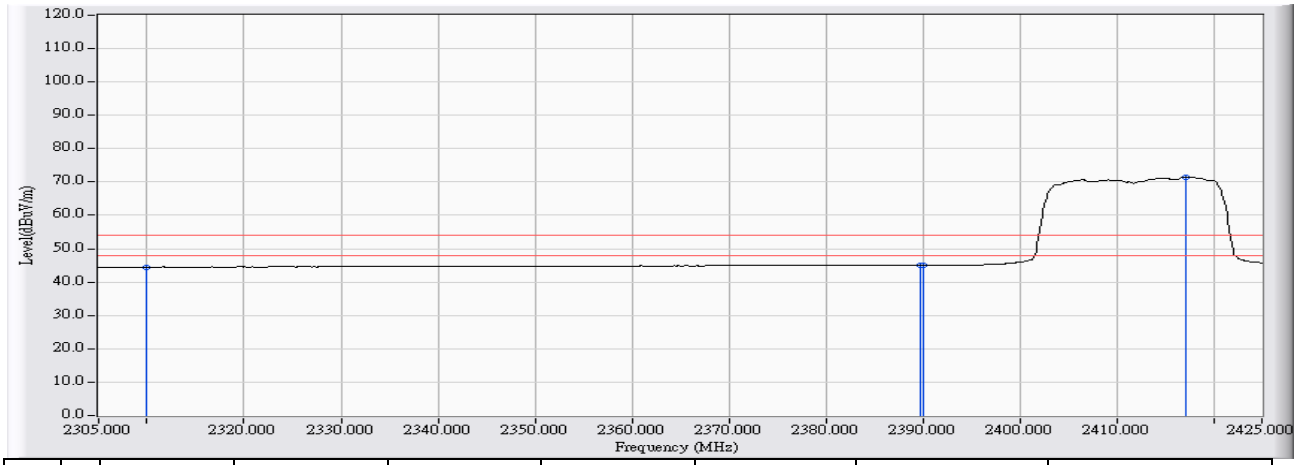


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	28.064	55.926	-18.074	74.000	PEAK
2		2389.000	28.067	29.717	57.783	-16.217	74.000	PEAK
3		2390.000	28.069	28.135	56.204	-17.796	74.000	PEAK
4	*	2417.320	28.139	52.804	80.944	6.944	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:38**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2412MHz_axis-X**

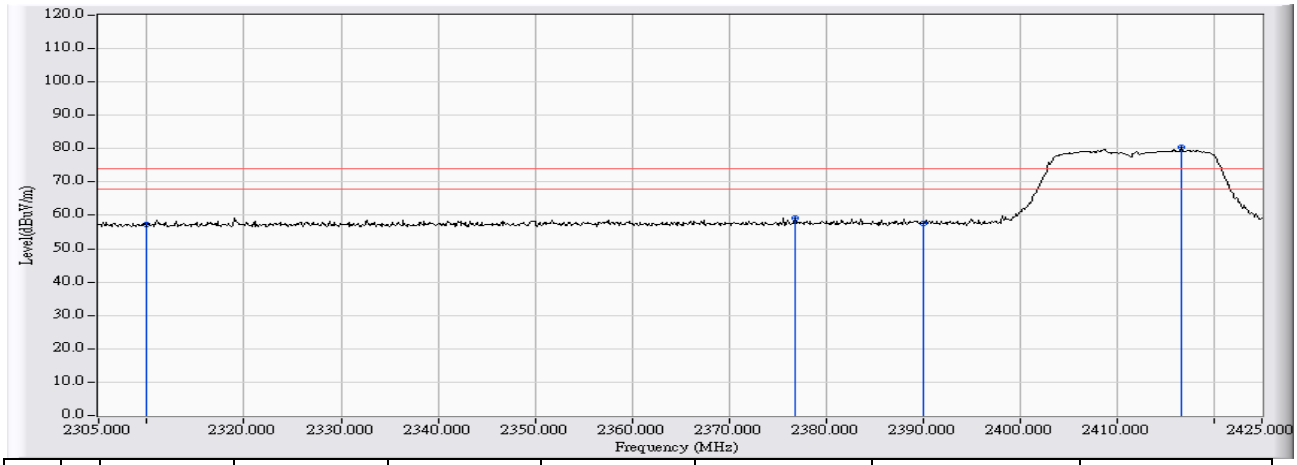


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.636	44.498	-9.502	54.000	AVERAGE
2		2389.720	28.068	17.042	45.110	-8.890	54.000	AVERAGE
3		2390.000	28.069	17.008	45.077	-8.923	54.000	AVERAGE
4	*	2417.200	28.139	43.405	71.544	17.544	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:42**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2412MHz_axis-X**

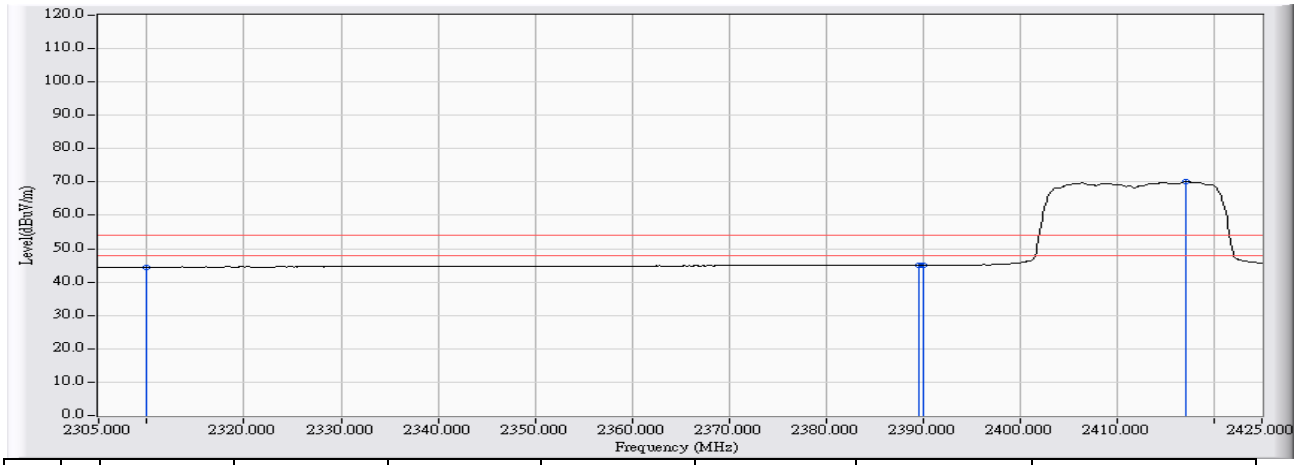


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	29.513	57.375	-16.625	74.000	PEAK
2		2376.880	28.035	31.253	59.288	-14.712	74.000	PEAK
3		2390.000	28.069	29.572	57.641	-16.359	74.000	PEAK
4	*	2416.720	28.139	52.347	80.485	6.485	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:43**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2412MHz_axis-X**

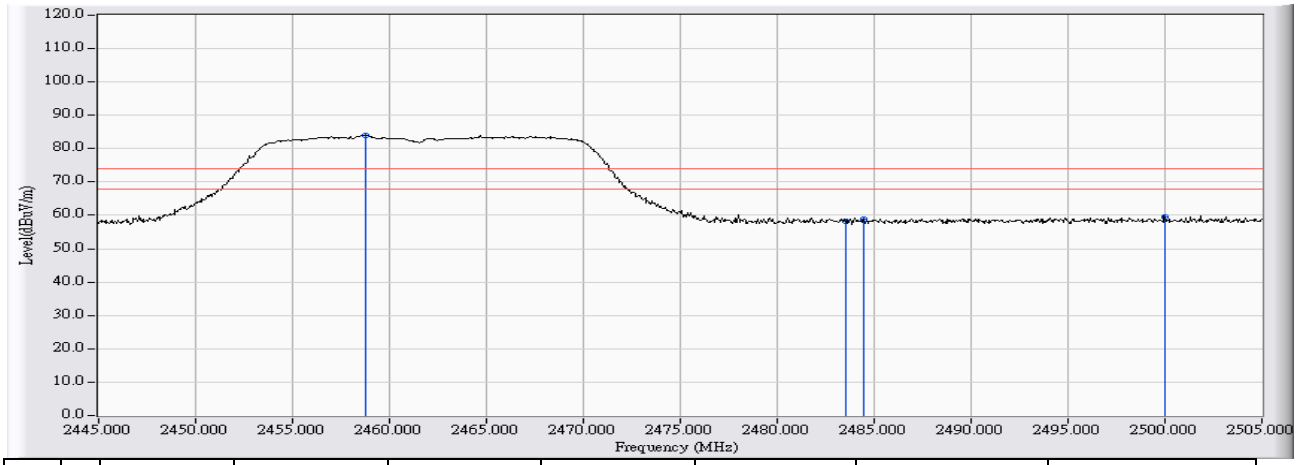


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.862	16.632	44.494	-9.506	54.000	AVERAGE
2		2389.600	28.068	17.027	45.095	-8.905	54.000	AVERAGE
3		2390.000	28.069	17.009	45.078	-8.922	54.000	AVERAGE
4	*	2417.200	28.139	41.913	70.052	16.052	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:49**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2462MHz_axis-X**

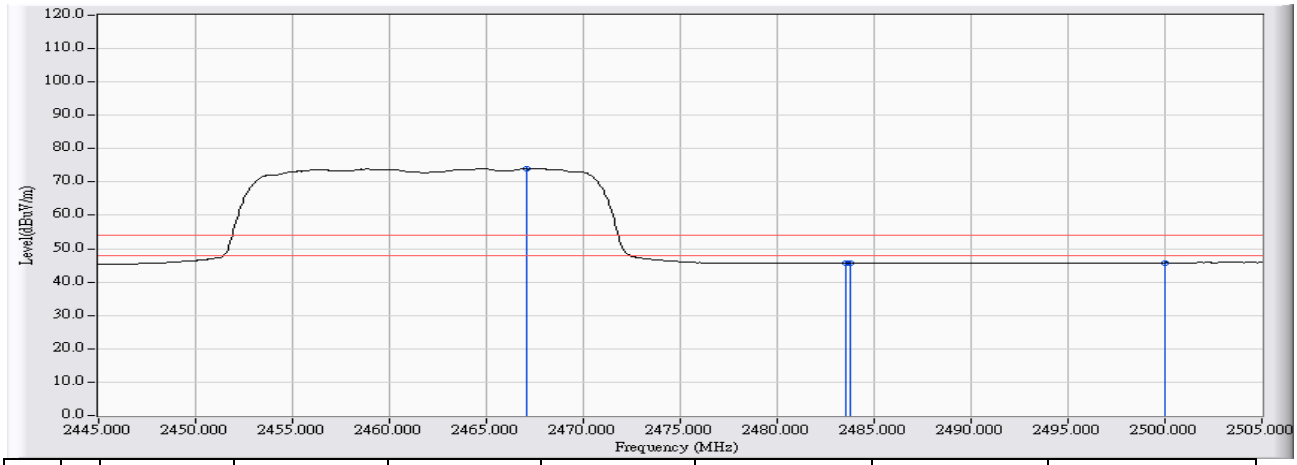


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2458.740	28.247	55.808	84.055	10.055	74.000	PEAK
2		2483.500	28.311	29.951	58.262	-15.738	74.000	PEAK
3		2484.480	28.313	30.401	58.714	-15.286	74.000	PEAK
4		2500.000	28.357	31.176	59.532	-14.468	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:50**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2462MHz_axis-X**

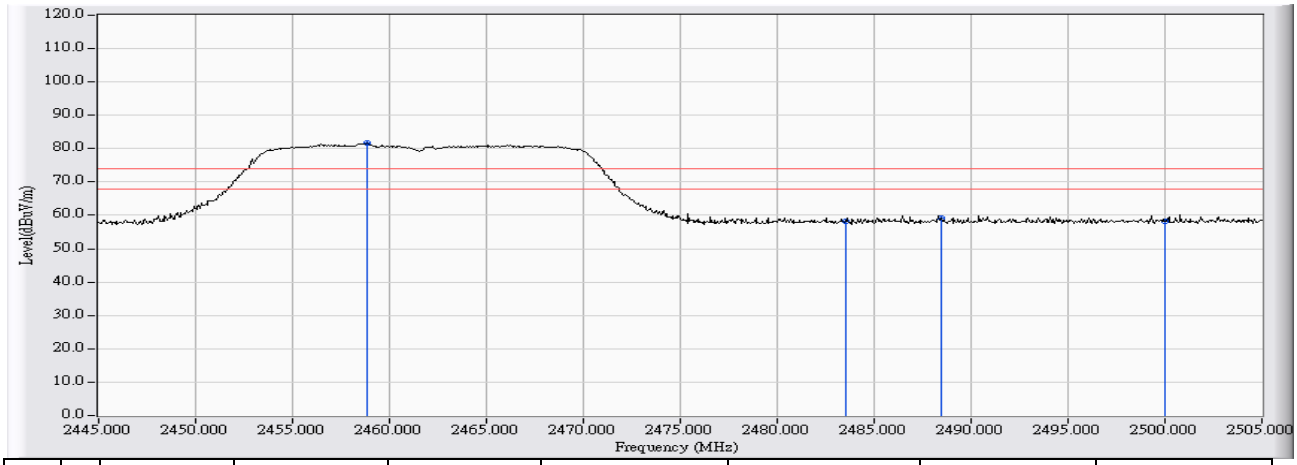


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.080	28.269	45.814	74.082	20.082	54.000	AVERAGE
2		2483.500	28.311	17.286	45.597	-8.403	54.000	AVERAGE
3		2483.760	28.311	17.287	45.599	-8.401	54.000	AVERAGE
4		2500.000	28.357	17.467	45.823	-8.177	54.000	AVERAGE

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:52**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2462MHz_axis-X**

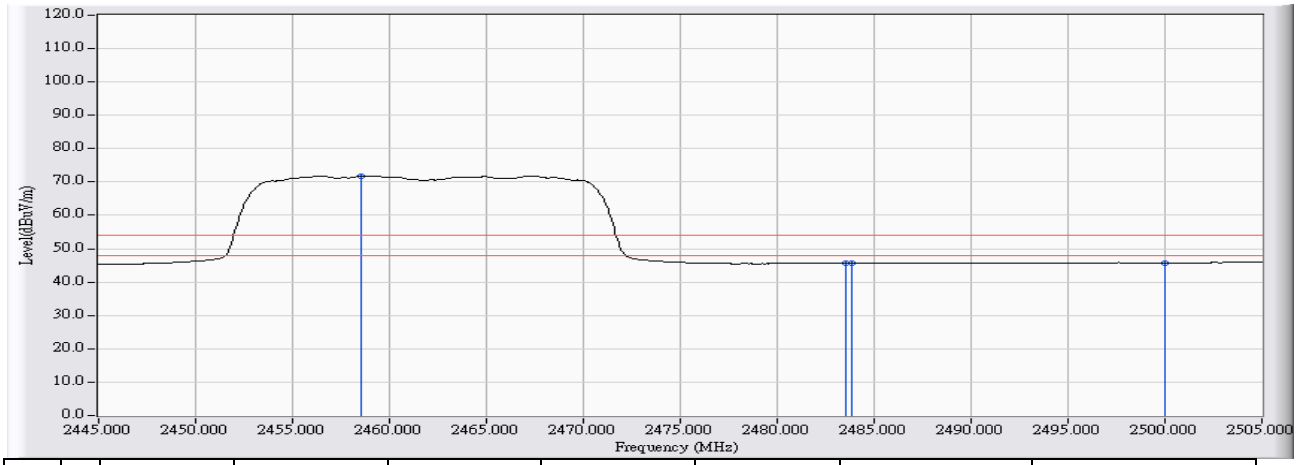


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2458.860	28.247	53.379	81.626	7.626	74.000	PEAK
2		2483.500	28.311	29.819	58.130	-15.870	74.000	PEAK
3		2488.440	28.324	31.014	59.338	-14.662	74.000	PEAK
4		2500.000	28.357	29.886	58.242	-15.758	74.000	PEAK

Note:

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

Site : CB1	**Time : 2013/08/27 - 16:54**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V**
EUT : WIFI smart waterproof DVR	**Note : Mode 1: Transmit (Power by PC)** **802.11n(20MHz)_2462MHz_axis-X**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2458.500	28.246	43.491	71.737	17.737	54.000	AVERAGE
2		2483.500	28.311	17.233	45.544	-8.456	54.000	AVERAGE
3		2483.820	28.311	17.267	45.579	-8.421	54.000	AVERAGE
4		2500.000	28.357	17.457	45.813	-8.187	54.000	AVERAGE

Note:

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

7. Occupied Bandwidth

7.1. Test Equipment

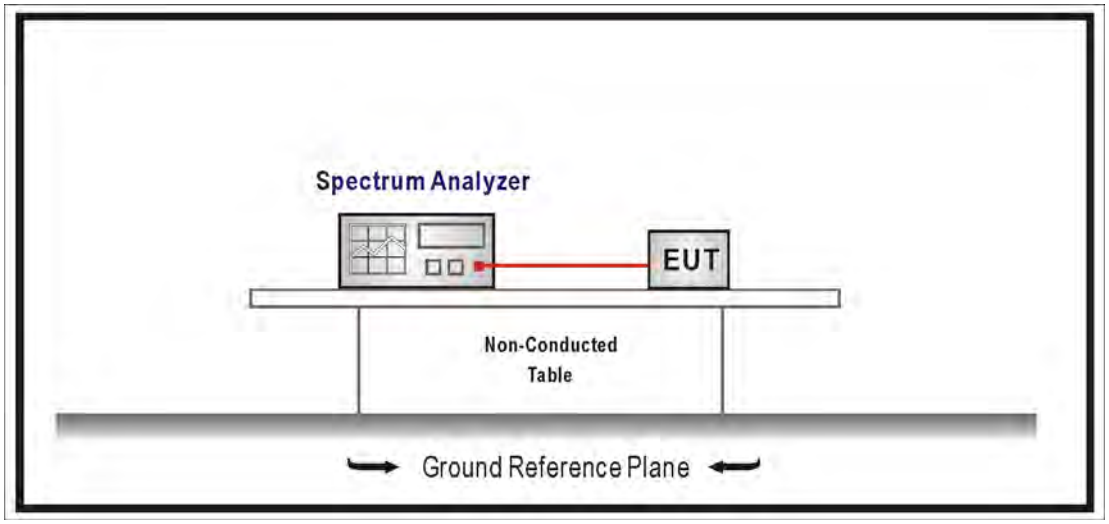
The following test equipments are used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 1% of EBW, Span greater than RBW.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

7.6. Uncertainty

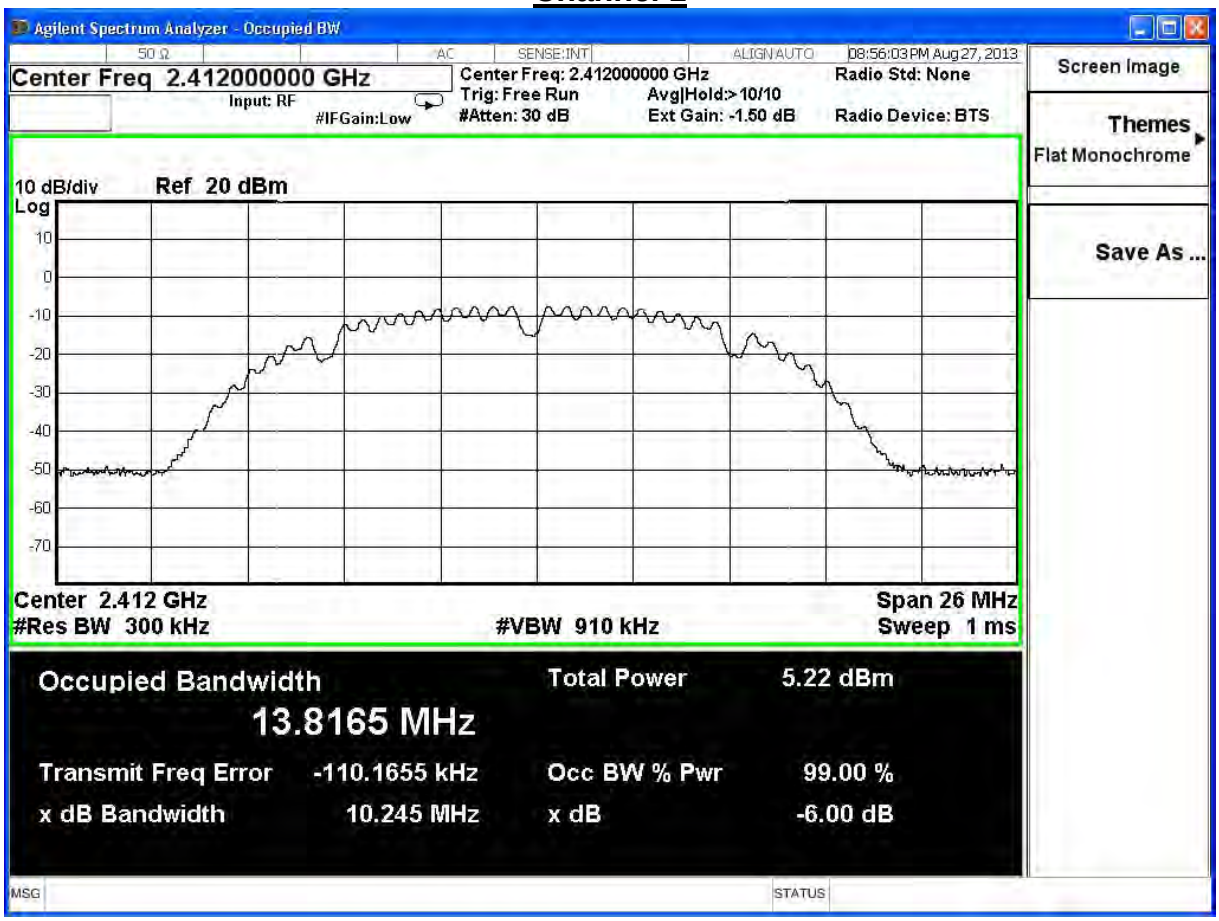
The measurement uncertainty is defined as ±150Hz

7.7. Test Result

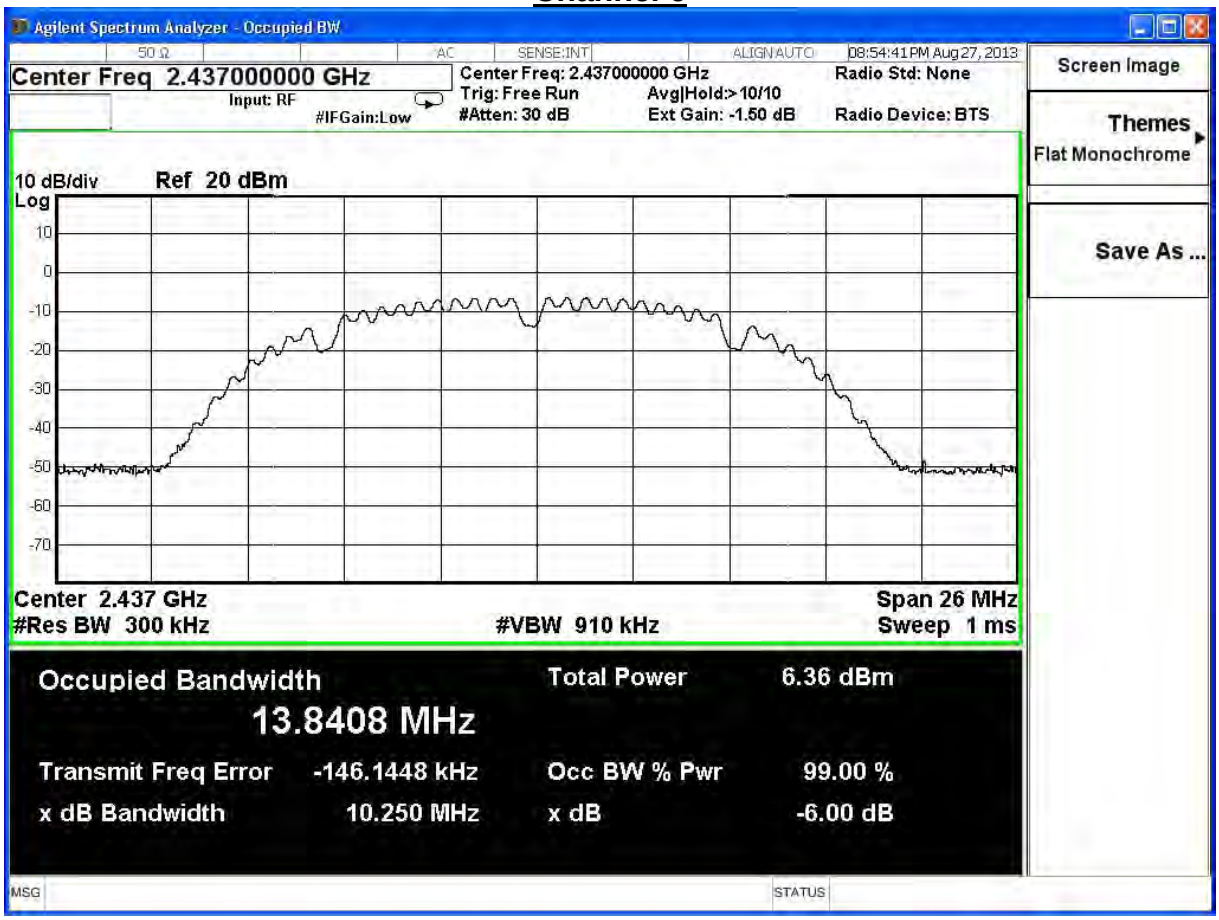
Product	WIFI smart waterproof DVR		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

802.11 b, ANT 0				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Required Limit (MHz)	Result
1	2412	10.25	≧0.5	Pass
6	2437	10.25	≧0.5	Pass
11	2462	10.24	≧0.5	Pass

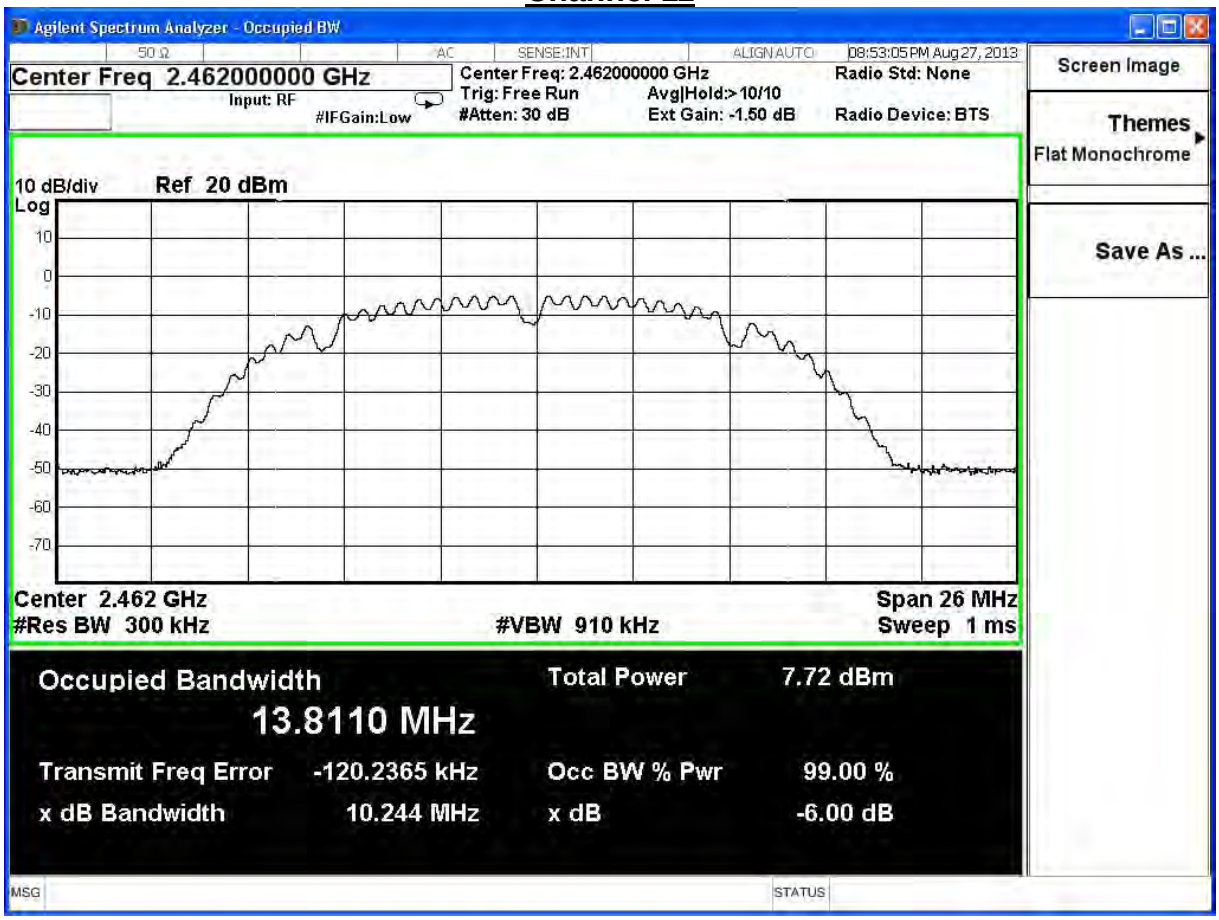
Channel 1



Channel 6


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:54:41 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
13.8408 MHz
Total Power
6.36 dBm
Transmit Freq Error
-146.1448 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
10.250 MHz
x dB
-6.00 dB
MSG
STATUS

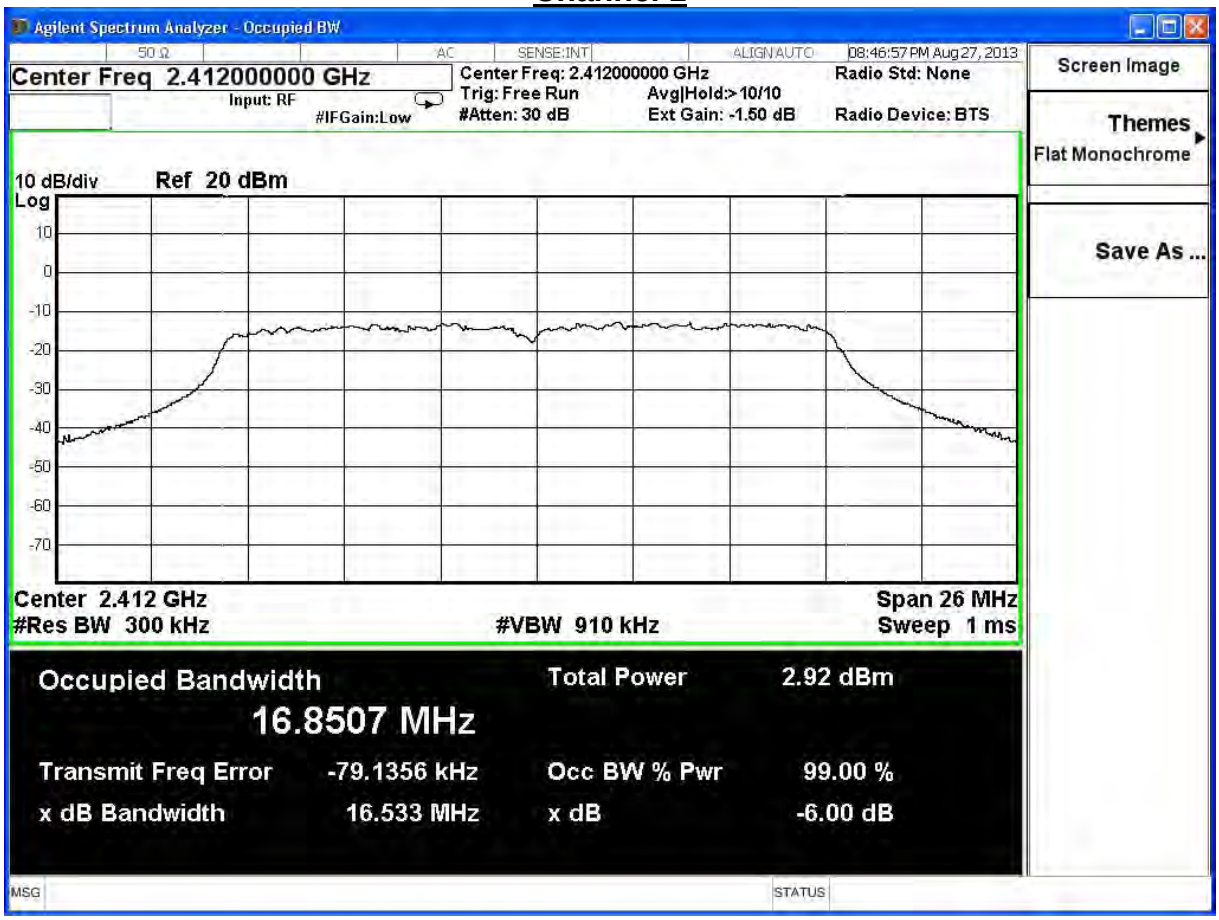
Channel 11


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:53:05 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
13.8110 MHz
Total Power
7.72 dBm
Transmit Freq Error
-120.2365 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
10.244 MHz
x dB
-6.00 dB
MSG
STATUS

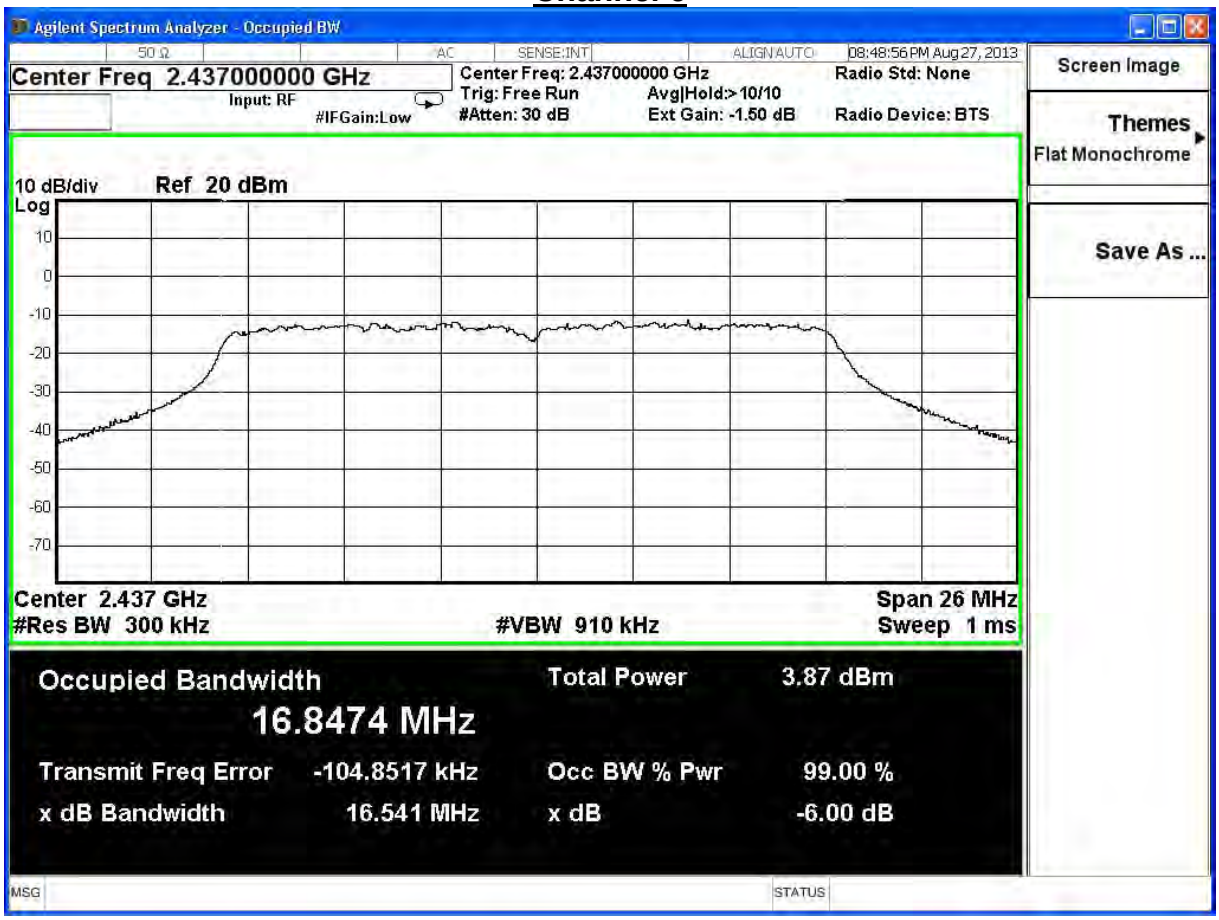
Product	WIFI smart waterproof DVR		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

IEEE 802.11g, ANT 0				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Required Limit (MHz)	Result
1	2412	16.53	≧0.5	Pass
6	2437	16.54	≧0.5	Pass
11	2462	16.53	≧0.5	Pass

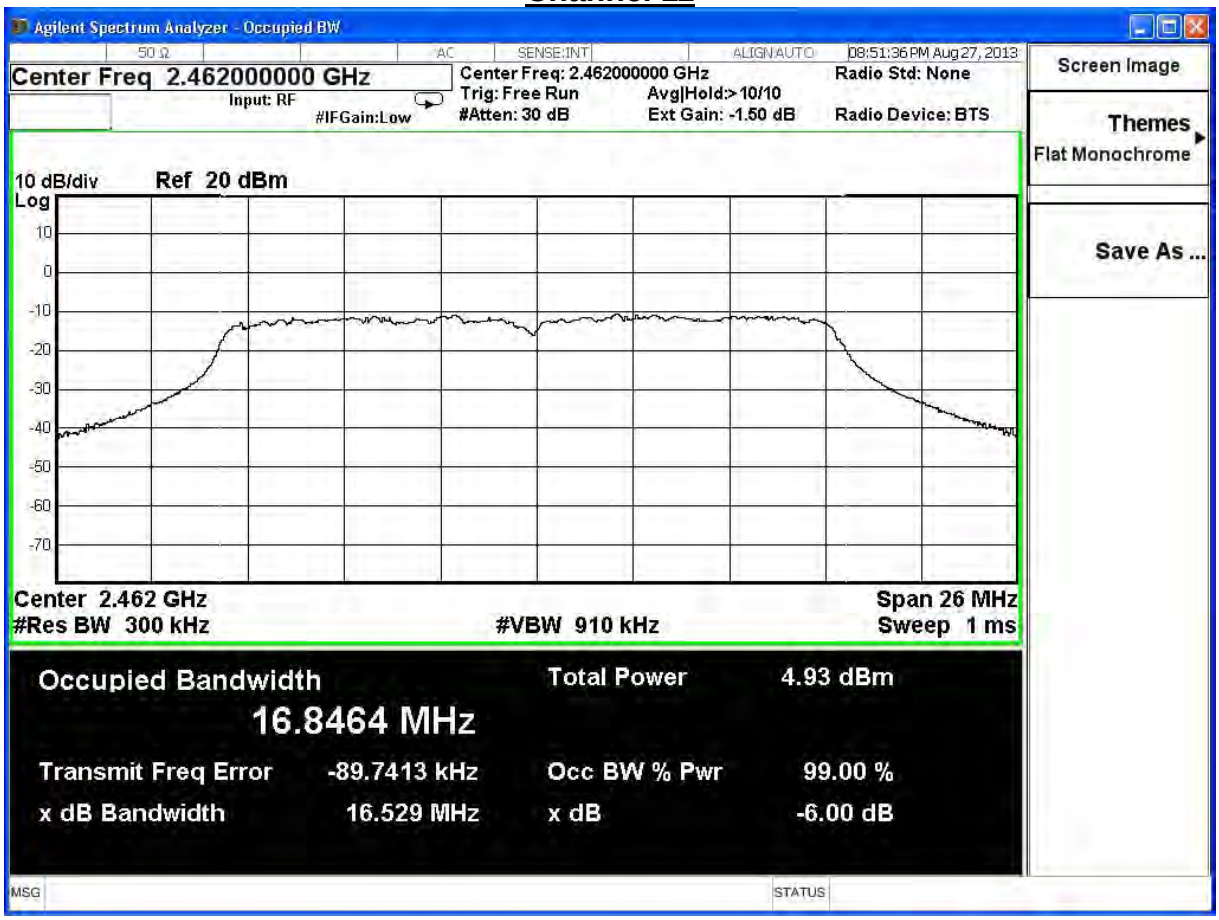
Channel 1



Channel 6


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:48:56 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
16.8474 MHz
Total Power
3.87 dBm
Transmit Freq Error
-104.8517 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
16.541 MHz
x dB
-6.00 dB
MSG
STATUS

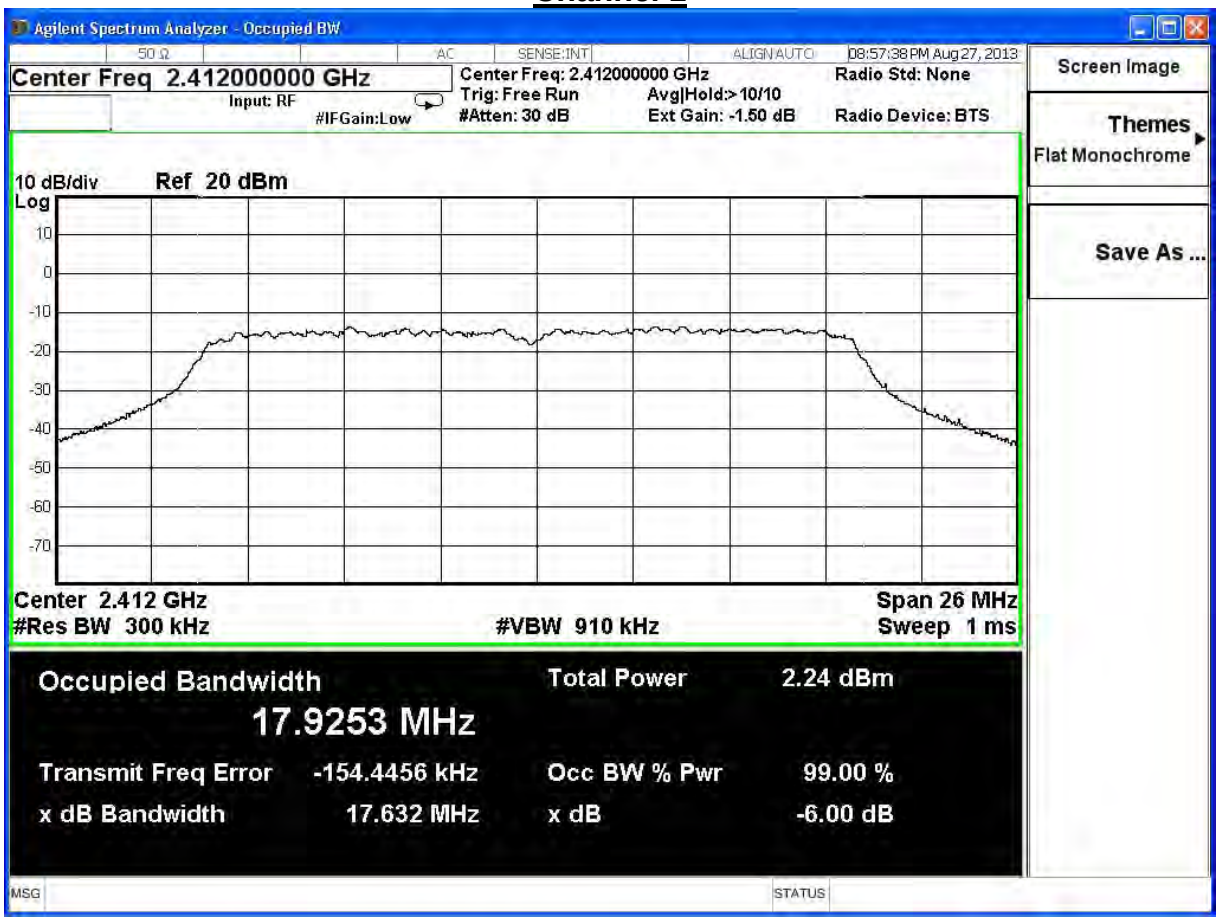
Channel 11


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:51:36 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
16.8464 MHz
Total Power
4.93 dBm
Transmit Freq Error
-89.7413 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
16.529 MHz
x dB
-6.00 dB
MSG
STATUS

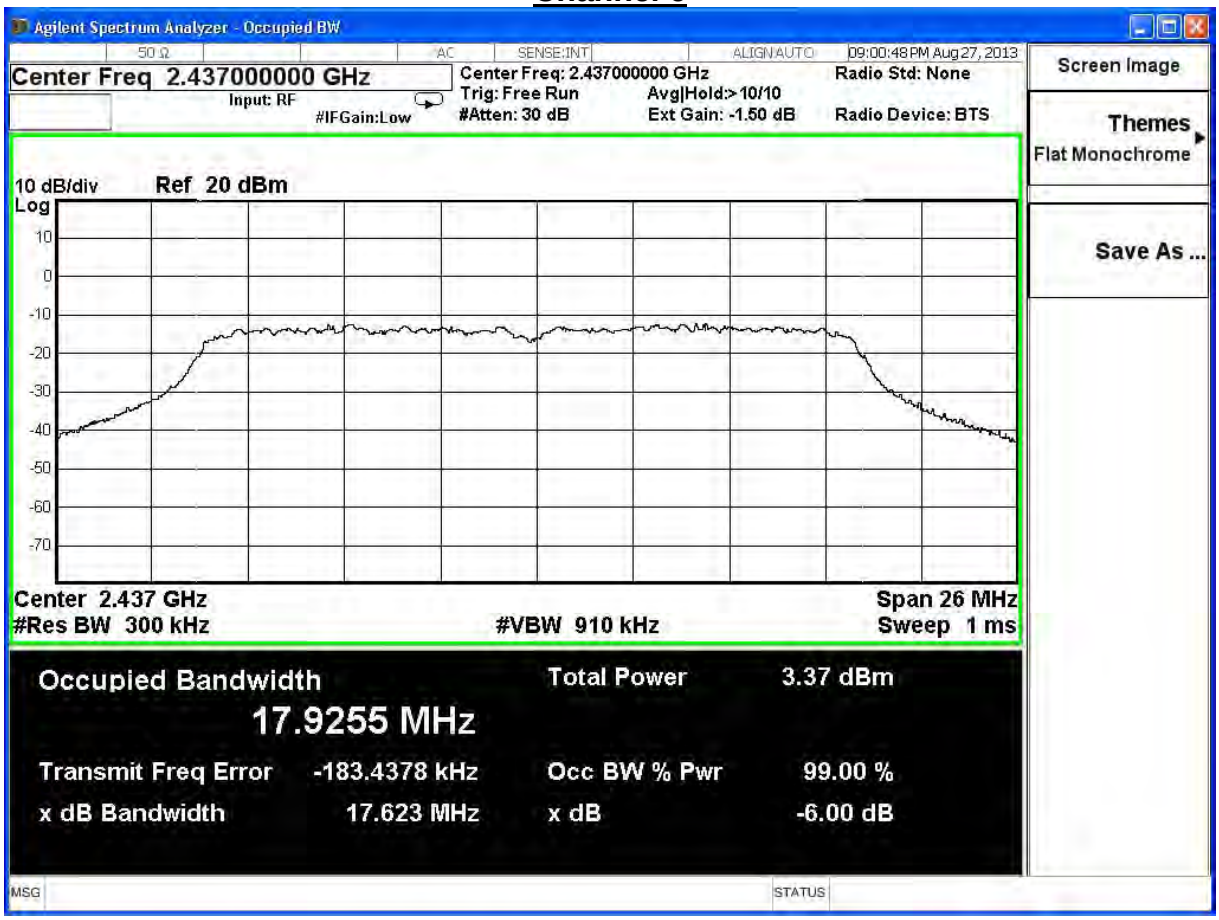
Product	WIFI smart waterproof DVR		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

IEEE 802.11n (20MHz), ANT 0				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Required Limit (MHz)	Result
1	2412	17.63	≧0.5	Pass
6	2437	17.62	≧0.5	Pass
11	2462	17.62	≧0.5	Pass

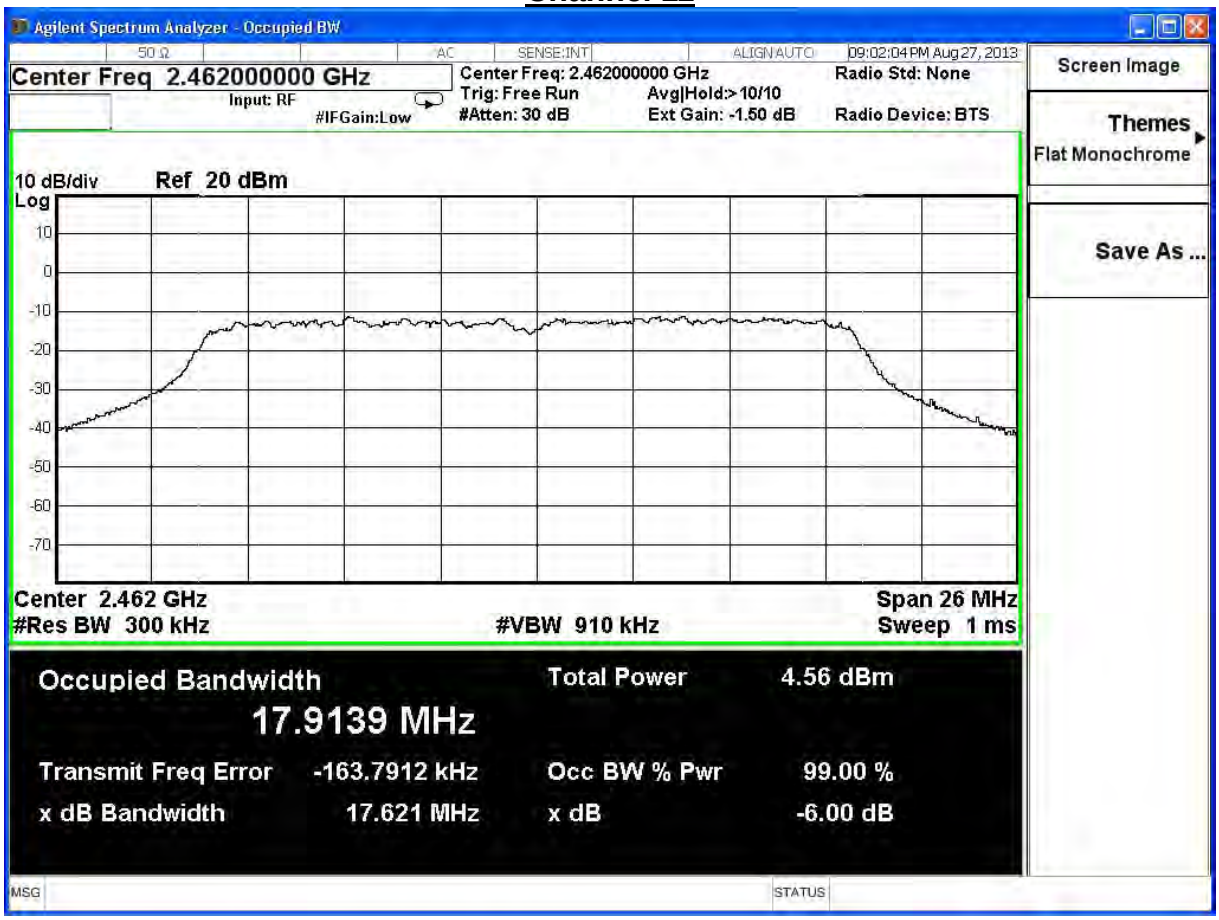
Channel 1



Channel 6


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:00:48 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
17.9255 MHz
Total Power
3.37 dBm
Transmit Freq Error
-183.4378 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
17.623 MHz
x dB
-6.00 dB
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Occupied BW
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:02:04 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Screen Image
Themes
Flat Monochrome
Save As ...
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 300 kHz
#VBW 910 kHz
Span 26 MHz
Sweep 1 ms
Occupied Bandwidth
17.9139 MHz
Total Power
4.56 dBm
Transmit Freq Error
-163.7912 kHz
Occ BW % Pwr
99.00 %
x dB Bandwidth
17.621 MHz
x dB
-6.00 dB
MSG
STATUS

8. Power Density

8.1. Test Equipment

The following test equipment is used during the test:

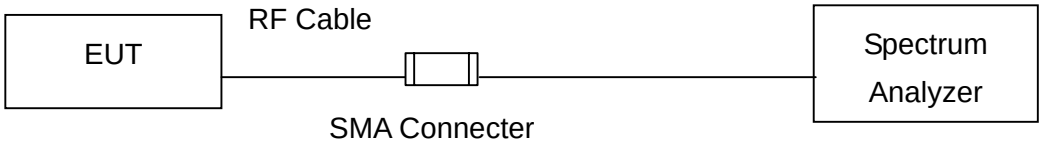
Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

8.2. Test Setup

IEEE 802.11 b / g / n (20M) MODE



8.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

8.4. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW= 100 kHz, Set VBW= 300 kHz, Sweep time=Auto, Set detector=Peak detector

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

8.6. Uncertainty

The measurement uncertainty is defined as ±1.27dB.

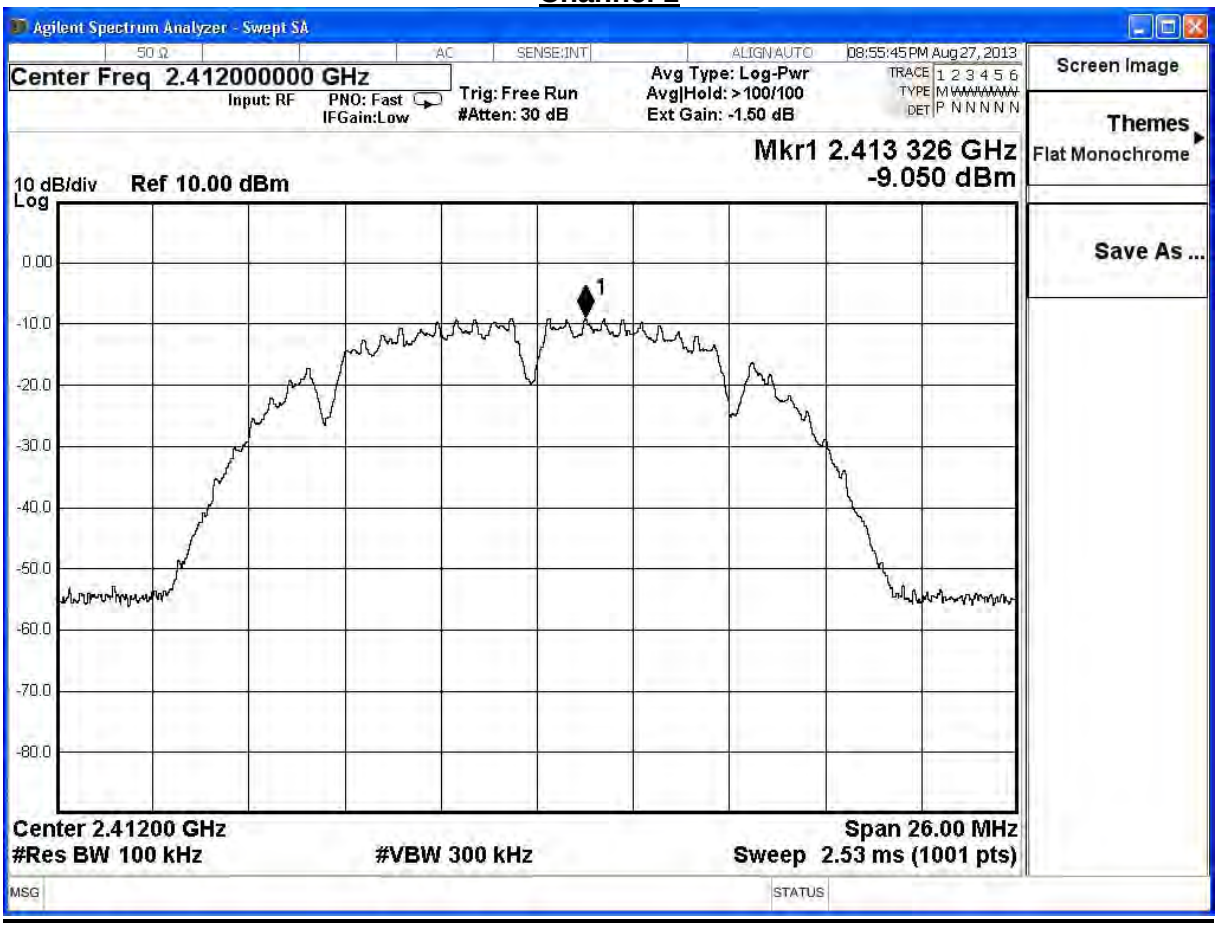
8.7. Test Result

Product	WIFI smart waterproof DVR		
Test Item	Power Density		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

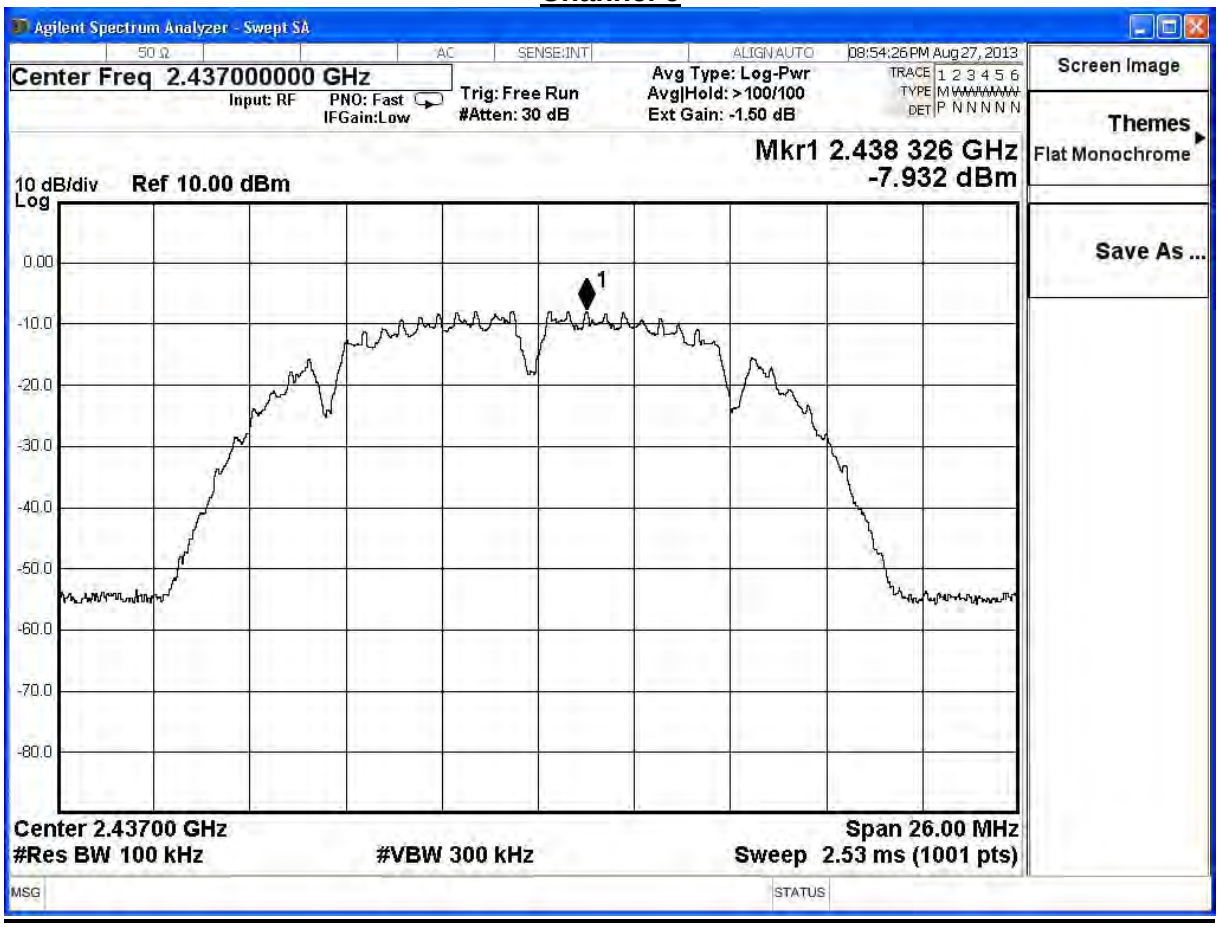
IEEE 802.11b, ANT 0					
Channel No.	Frequency (MHz)	Reading Level (dBm)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-9.05	-24.25	≦8	Pass
6	2437	-7.93	-23.13	≦8	Pass
11	2462	-6.22	-21.42	≦8	Pass

Note: Measure Level = Reading level + BWCF = Reading level -15.2 dB
Bandwidth correction factor (BWCF) = 10log (3 kHz/100kHz)

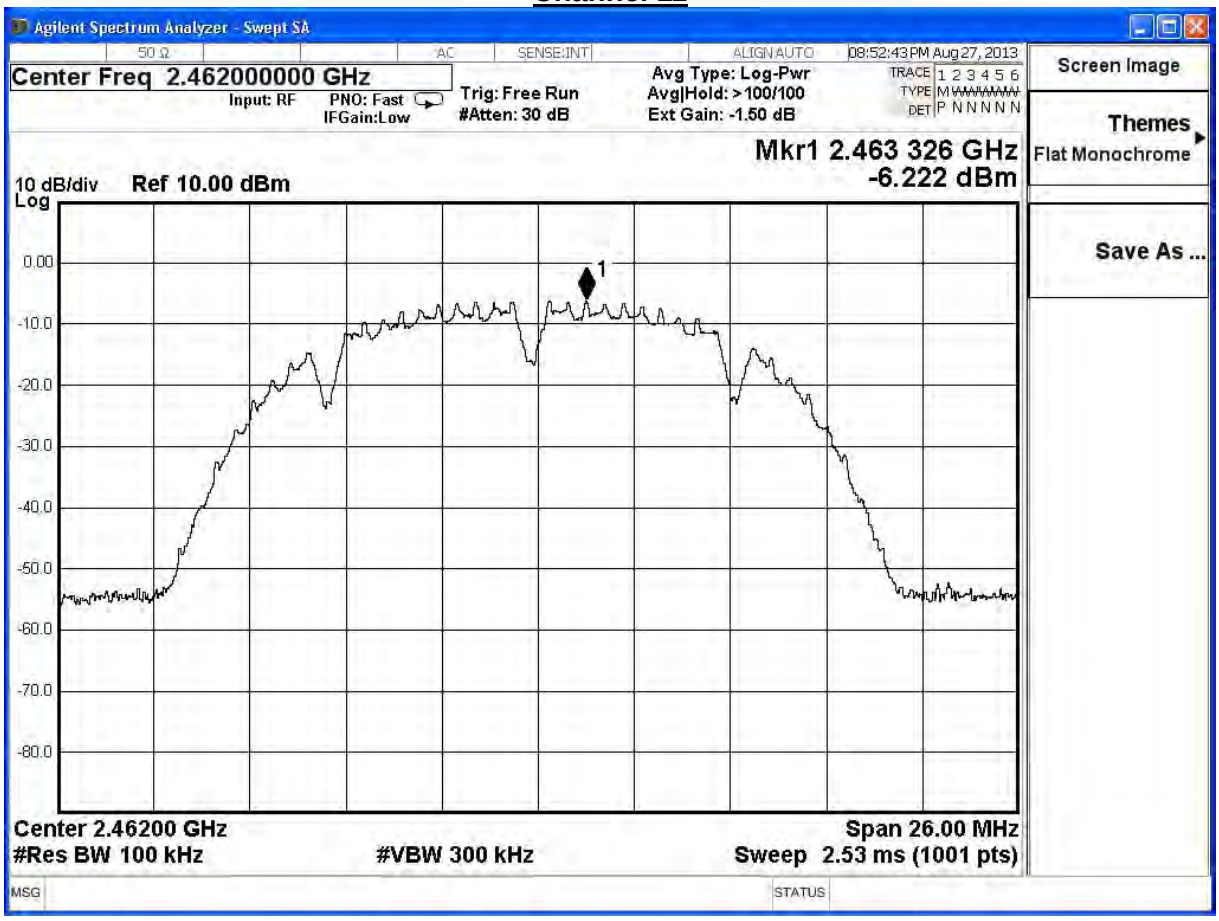
Channel 1



Channel 6


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:54:26 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.438 326 GHz
-7.932 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.43700 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

Channel 11

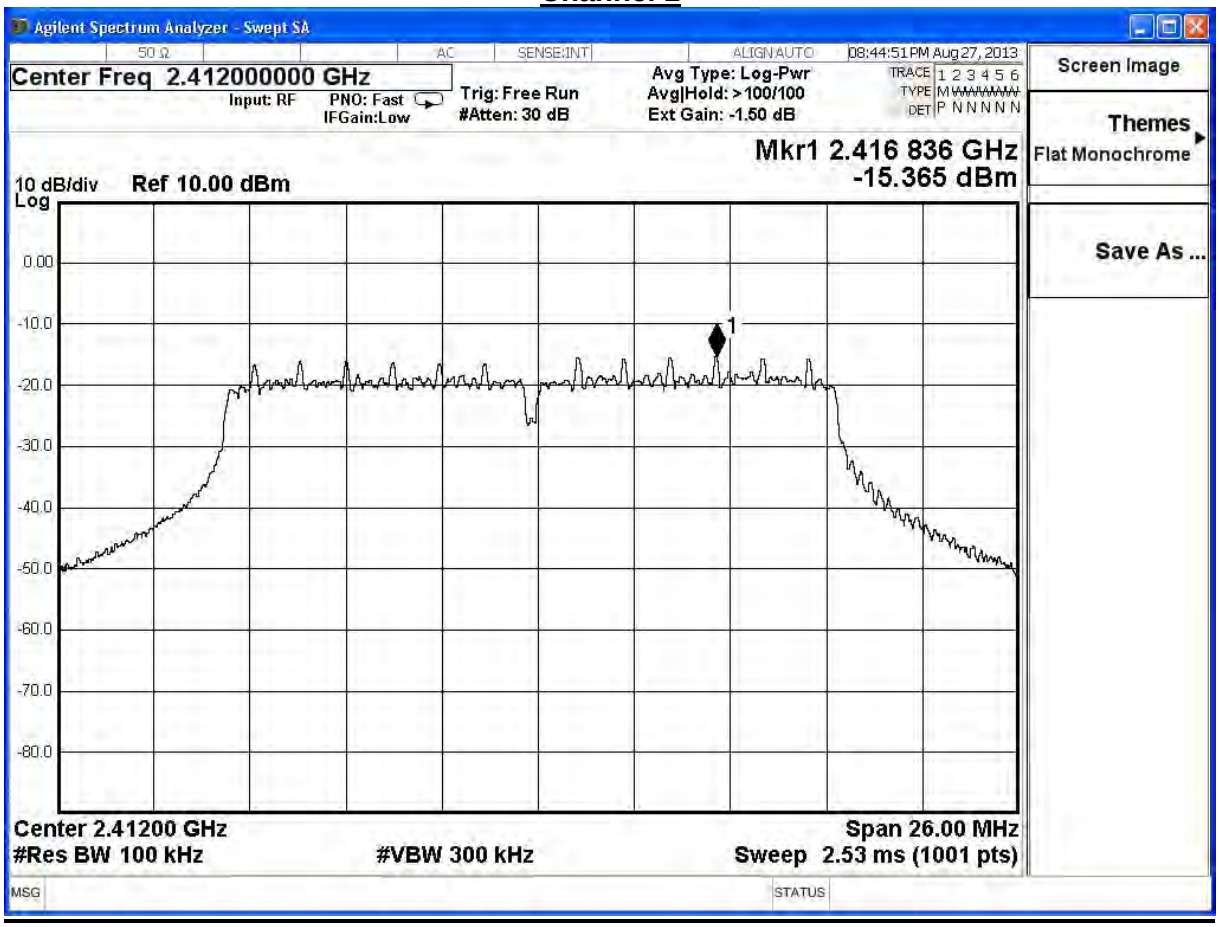

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:52:43 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.463 326 GHz
-6.222 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
1
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

Product	WIFI smart waterproof DVR		
Test Item	Power Density		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

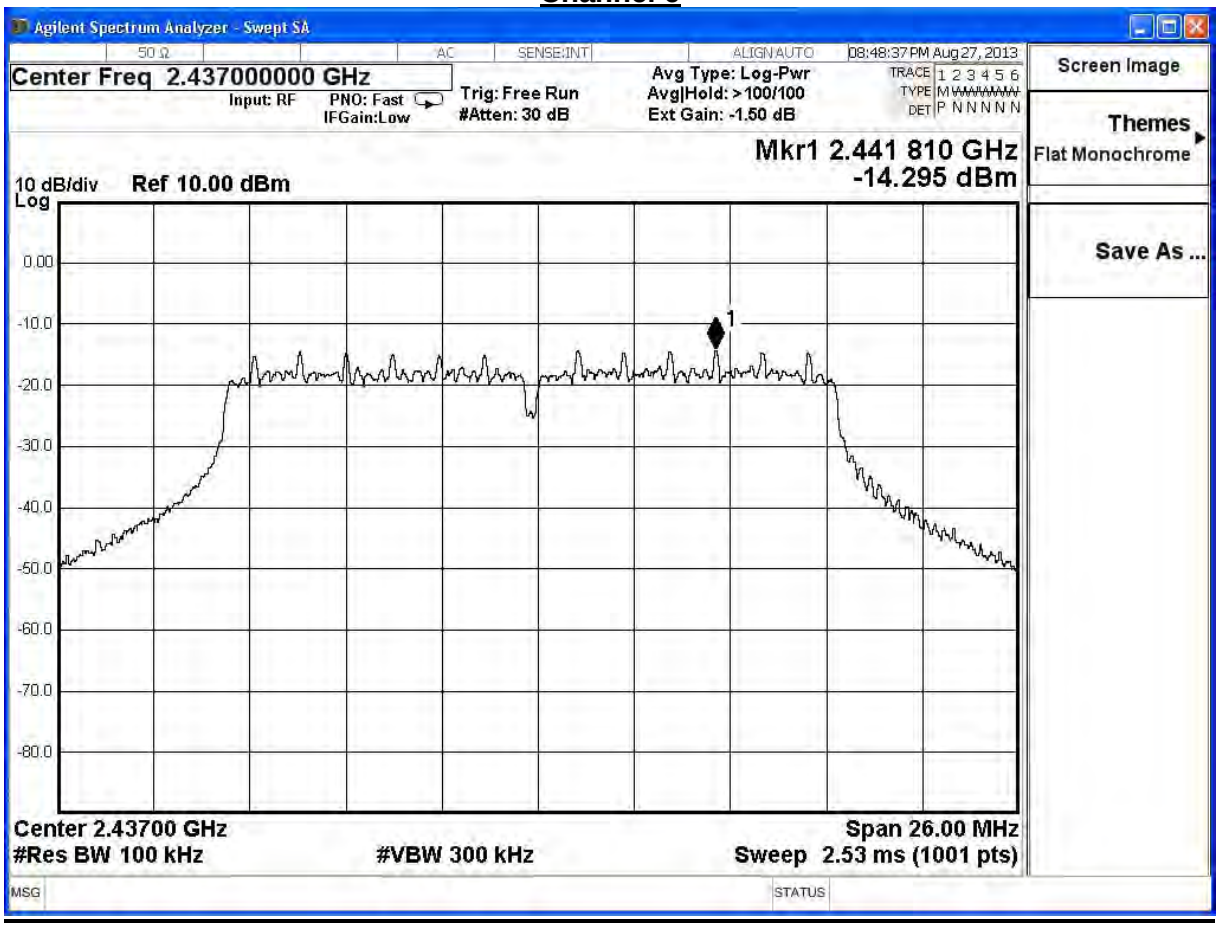
IEEE 802.11g, ANT 0					
Channel No.	Frequency (MHz)	Reading Level (dBm)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-15.36	-30.56	≦8	Pass
6	2437	-14.29	-29.49	≦8	Pass
11	2462	-13.11	-28.31	≦8	Pass

Note: Measure Level = Reading level + BWCF = Reading level -15.2 dB
Bandwidth correction factor (BWCF) = 10log (3 kHz/100kHz)

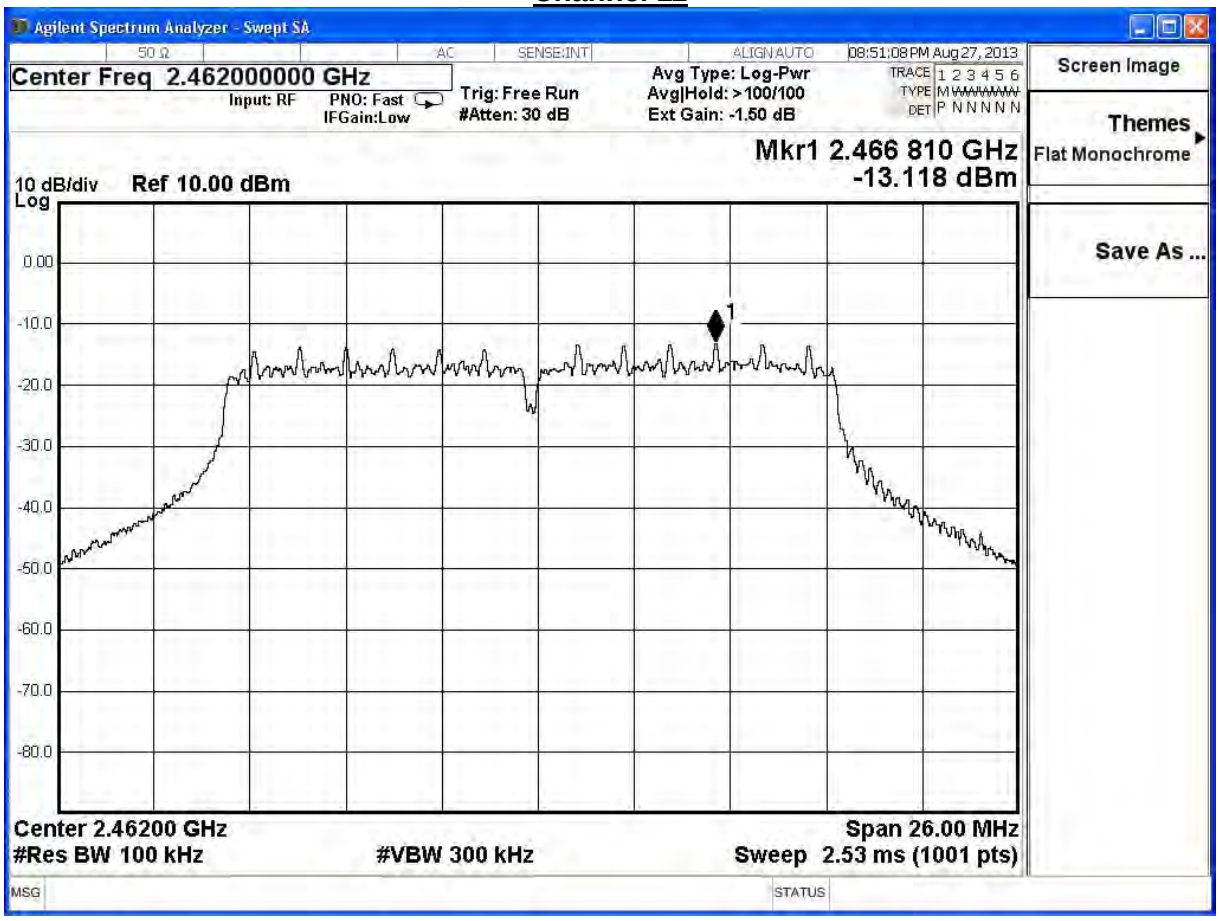
Channel 1



Channel 6


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:48:37 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.441 810 GHz
-14.295 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.43700 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

Channel 11

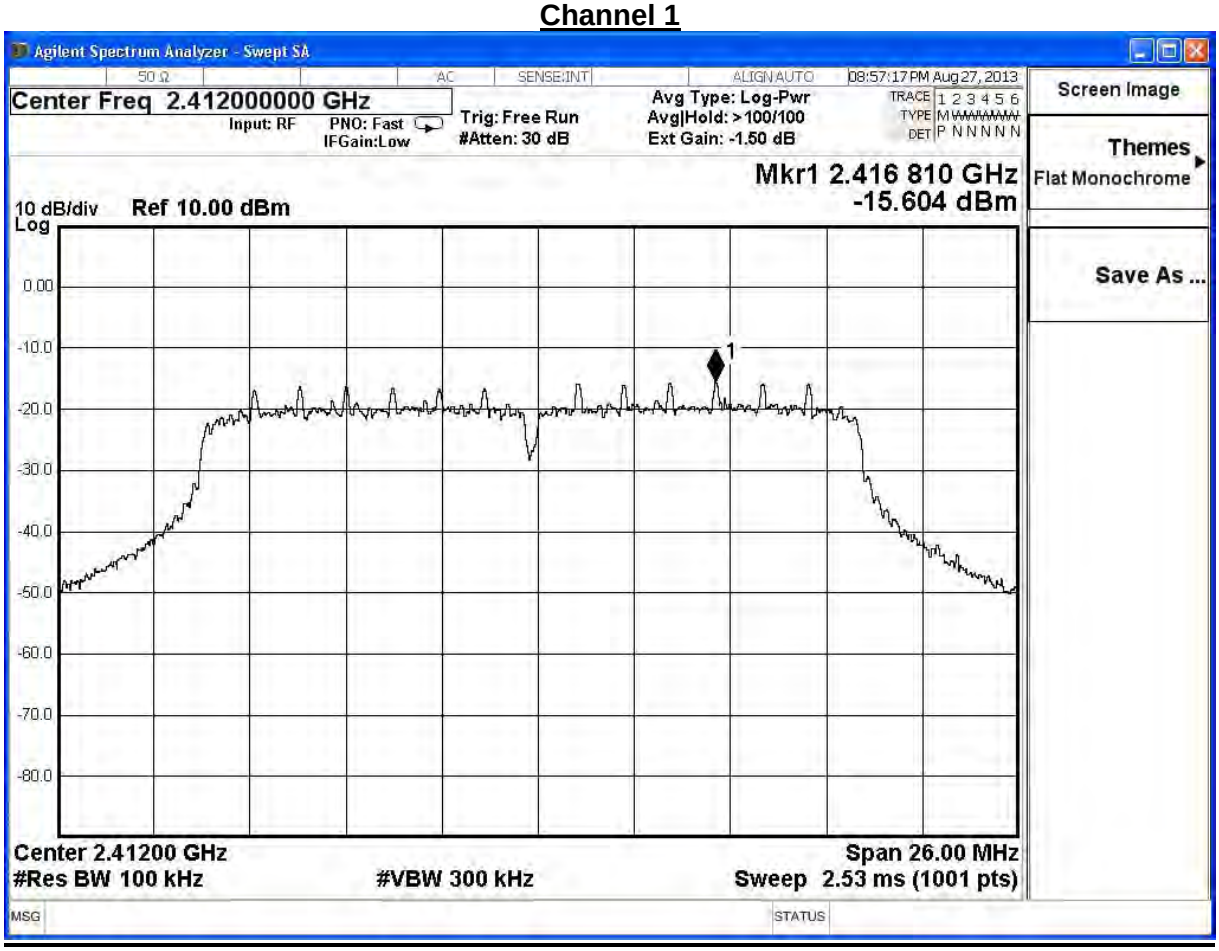

Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
08:51:08 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.466 810 GHz
-13.118 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

Product	WIFI smart waterproof DVR		
Test Item	Power Density		
Test Mode	Mode 1: Transmit (Power by PC)		
Date of Test	2013/08/27	Test Site	SR7

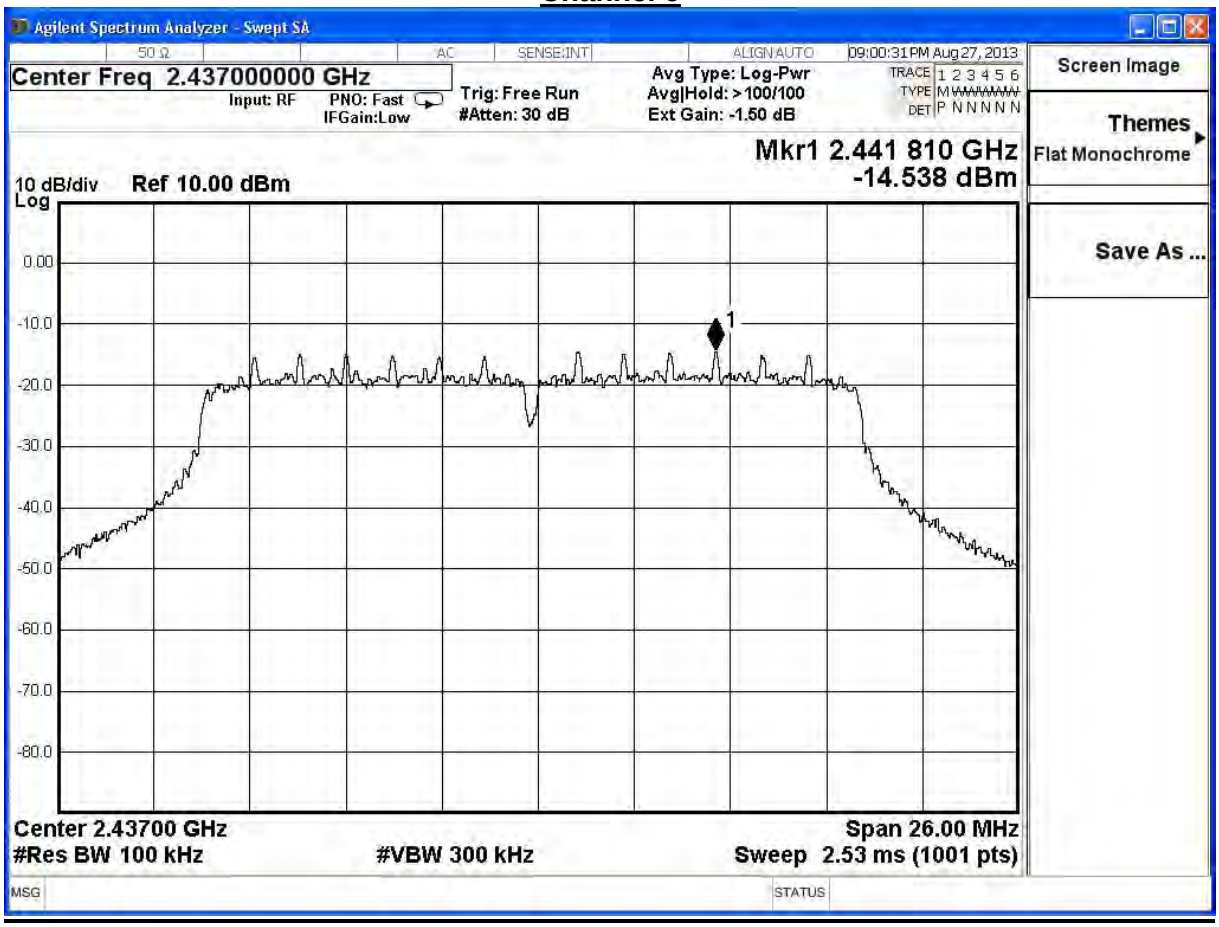
IEEE802.11n_20MHz, ANT 0					
Channel No.	Frequency (MHz)	Reading Level (dBm)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-15.60	-30.80	≦8	Pass
6	2437	-14.53	-29.73	≦8	Pass
11	2462	-13.35	-28.55	≦8	Pass

Note: Measure Level = Reading level + BWCF = Reading level -15.2 dB
Bandwidth correction factor (BWCF) = 10log (3 kHz/100kHz)

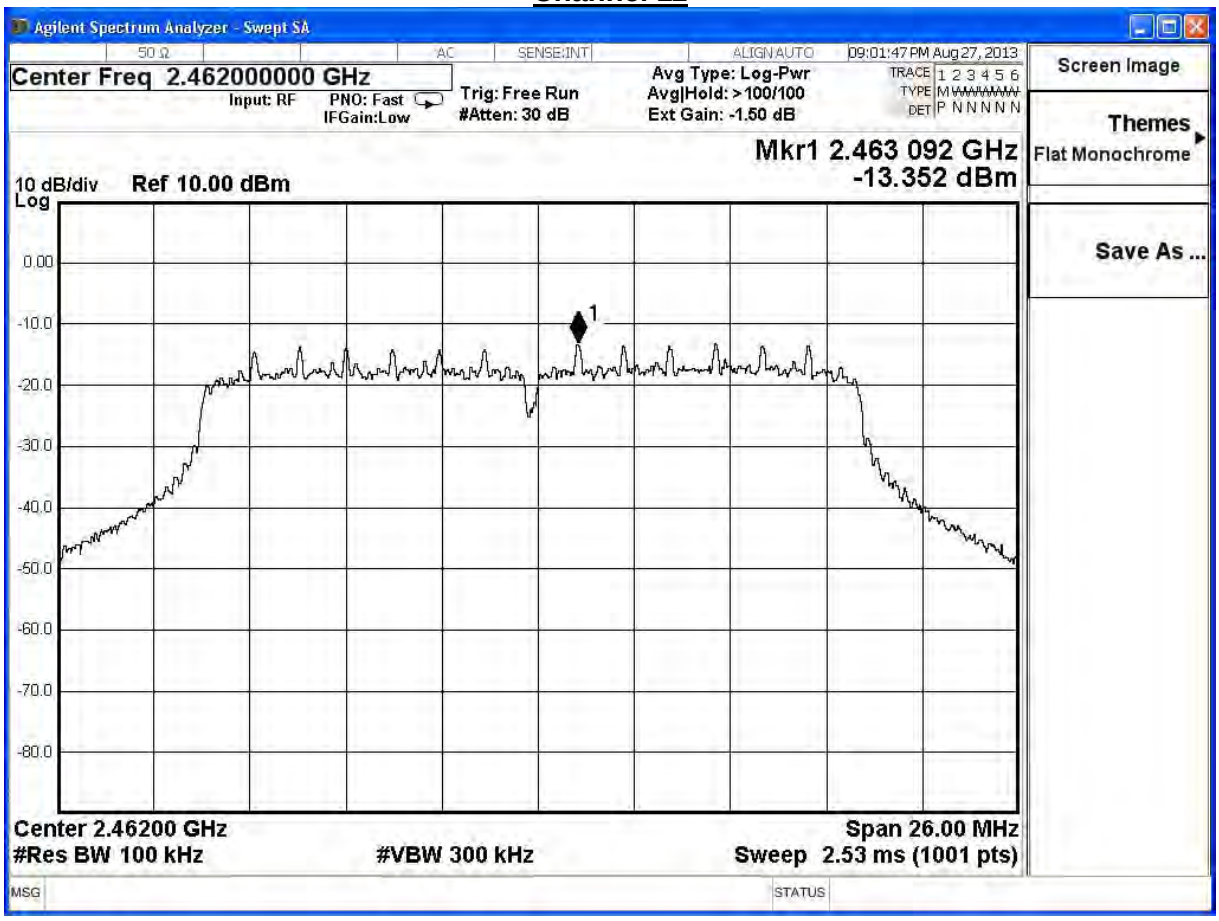
Channel 1



Channel 6


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:00:31 PM Aug 27, 2013
Center Freq 2.437000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.441 810 GHz
-14.538 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
1
Center 2.43700 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

Channel 11


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:01:47 PM Aug 27, 2013
Center Freq 2.462000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: >100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 2.463 092 GHz
-13.352 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.46200 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 26.00 MHz
Sweep 2.53 ms (1001 pts)
MSG
STATUS
Screen Image
Themes
Flat Monochrome
Save As ...

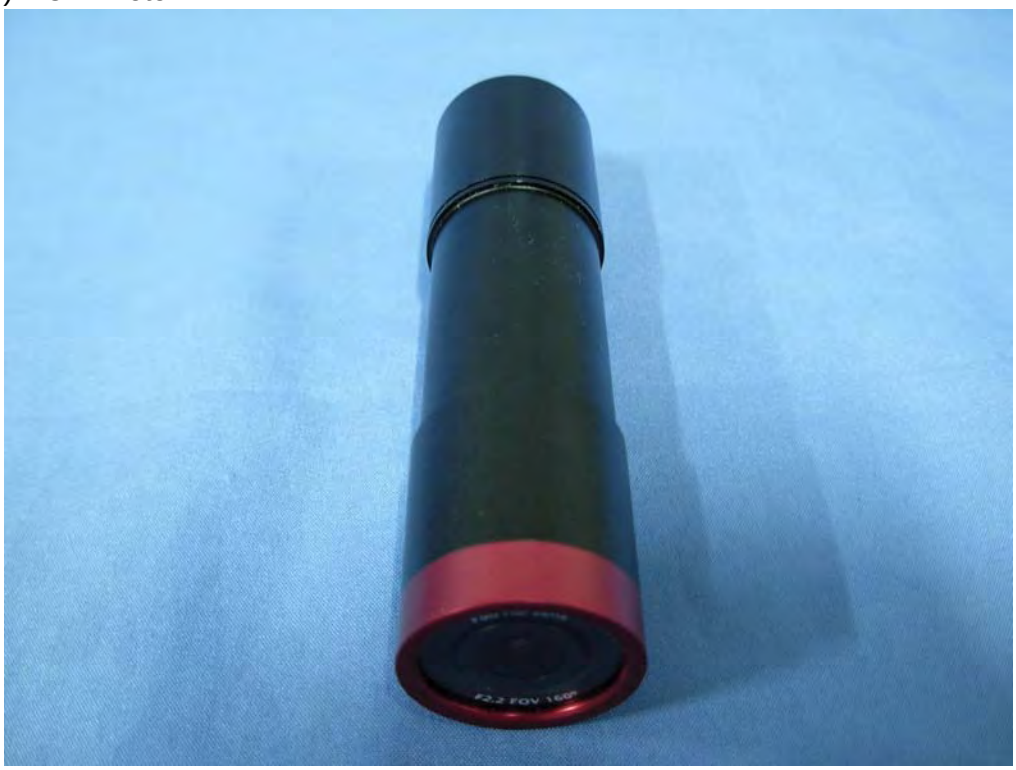
Attachement

➢ EUT Photograph

(1) EUT Photo

(2) EUT Photo

(3) EUT Photo

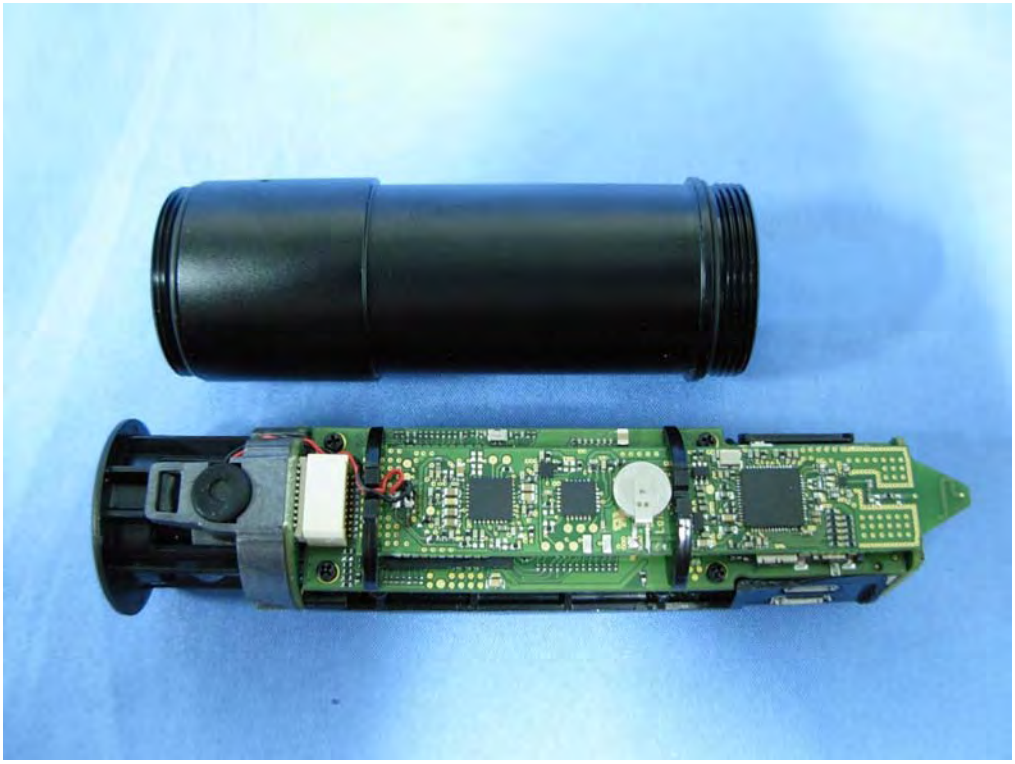


(4) EUT Photo

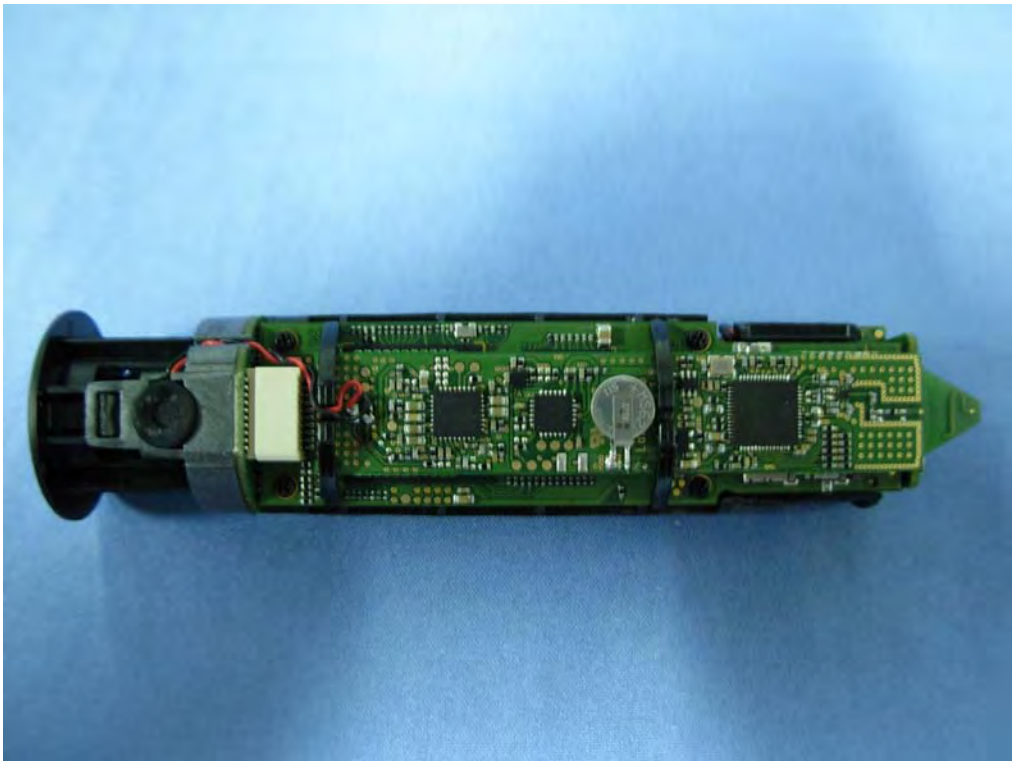
(5) EUT Photo

(6) EUT Photo

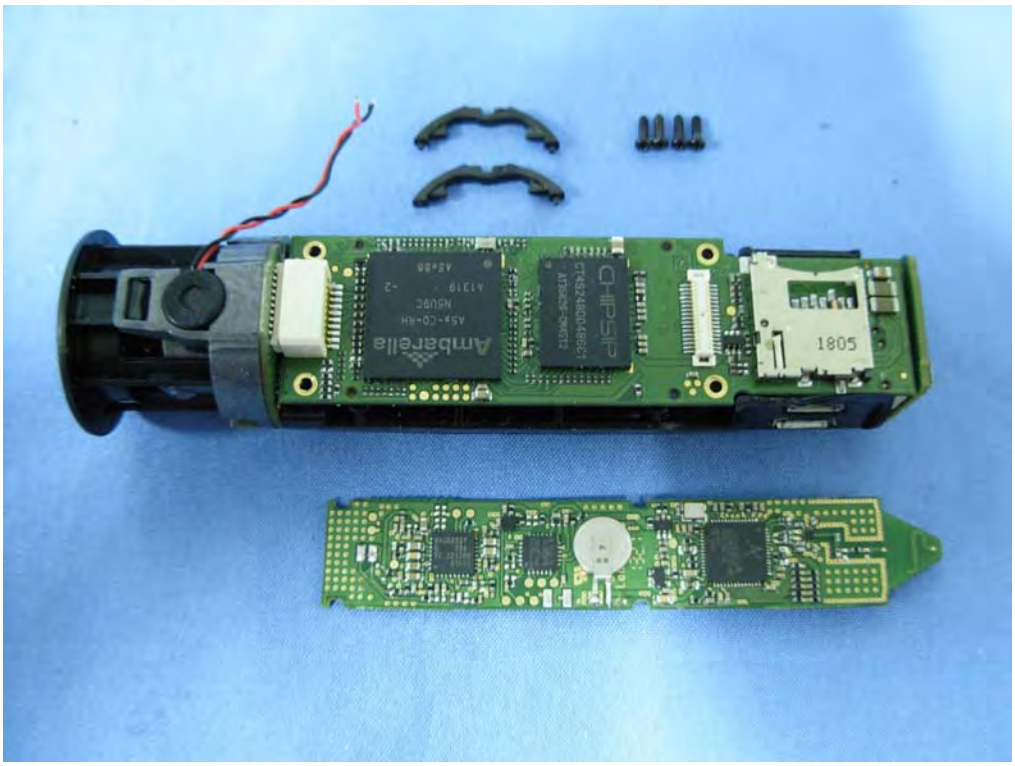
(7) EUT Photo



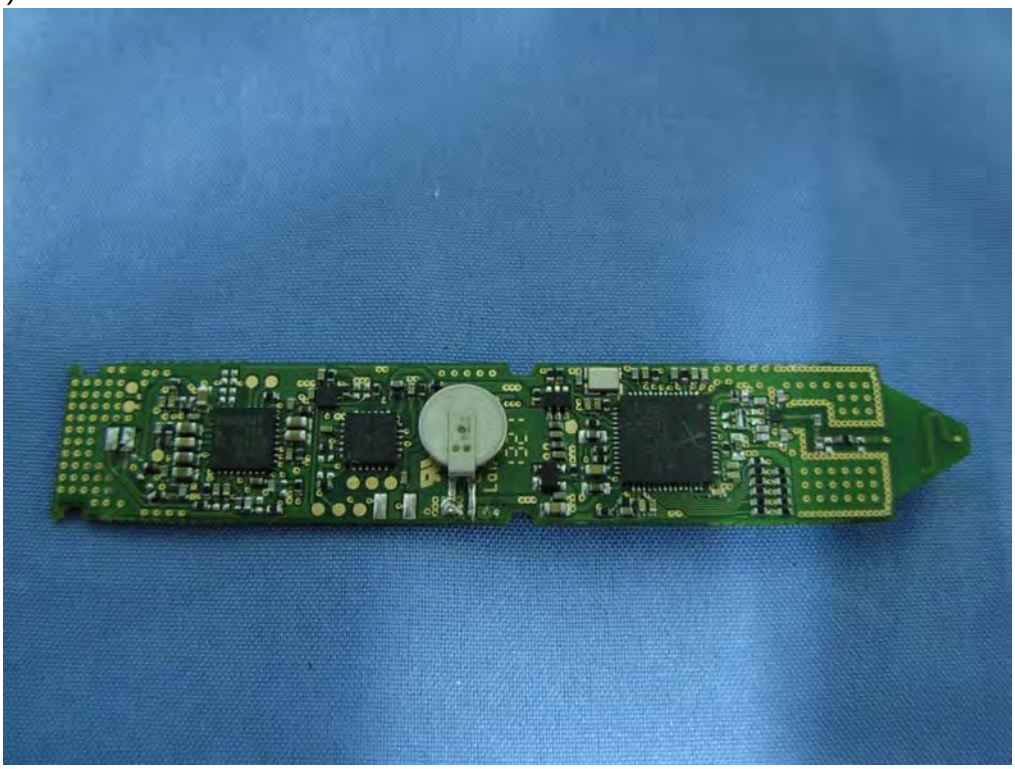
(8) EUT Photo



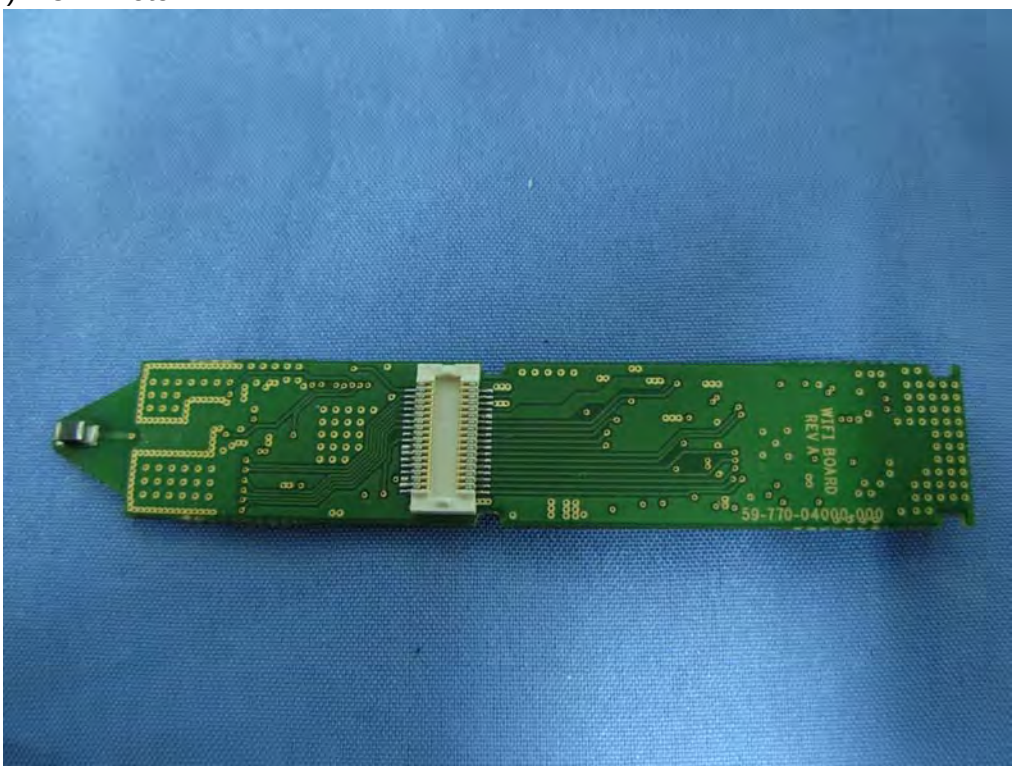
(9) EUT Photo



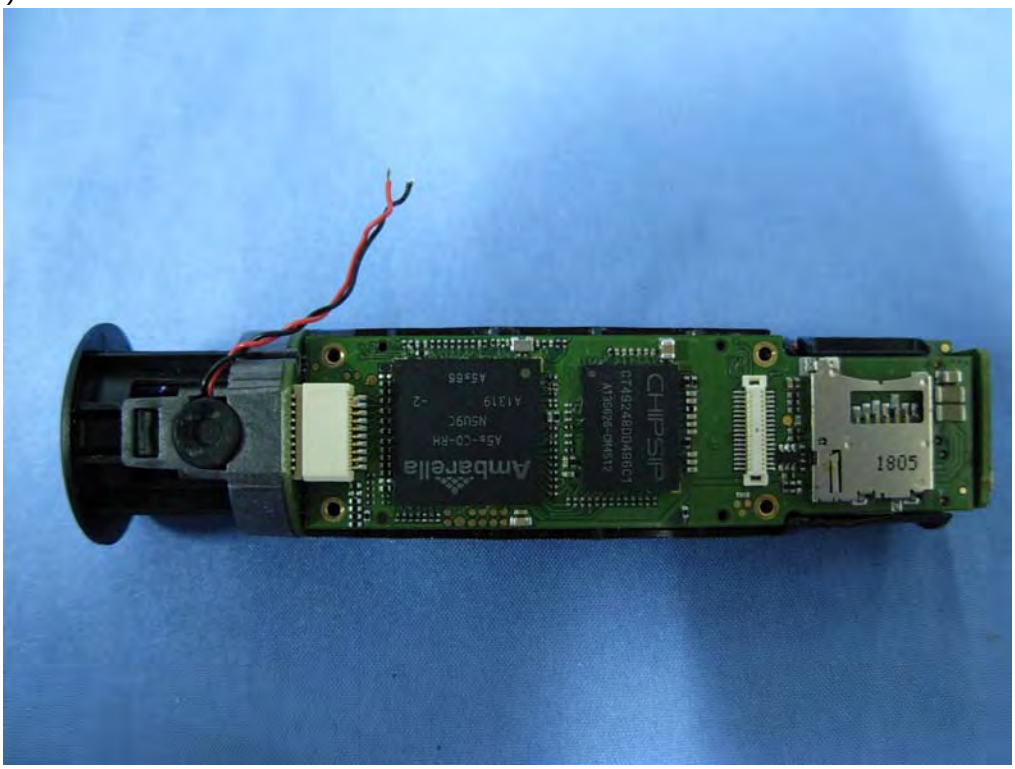
(10) EUT Photo



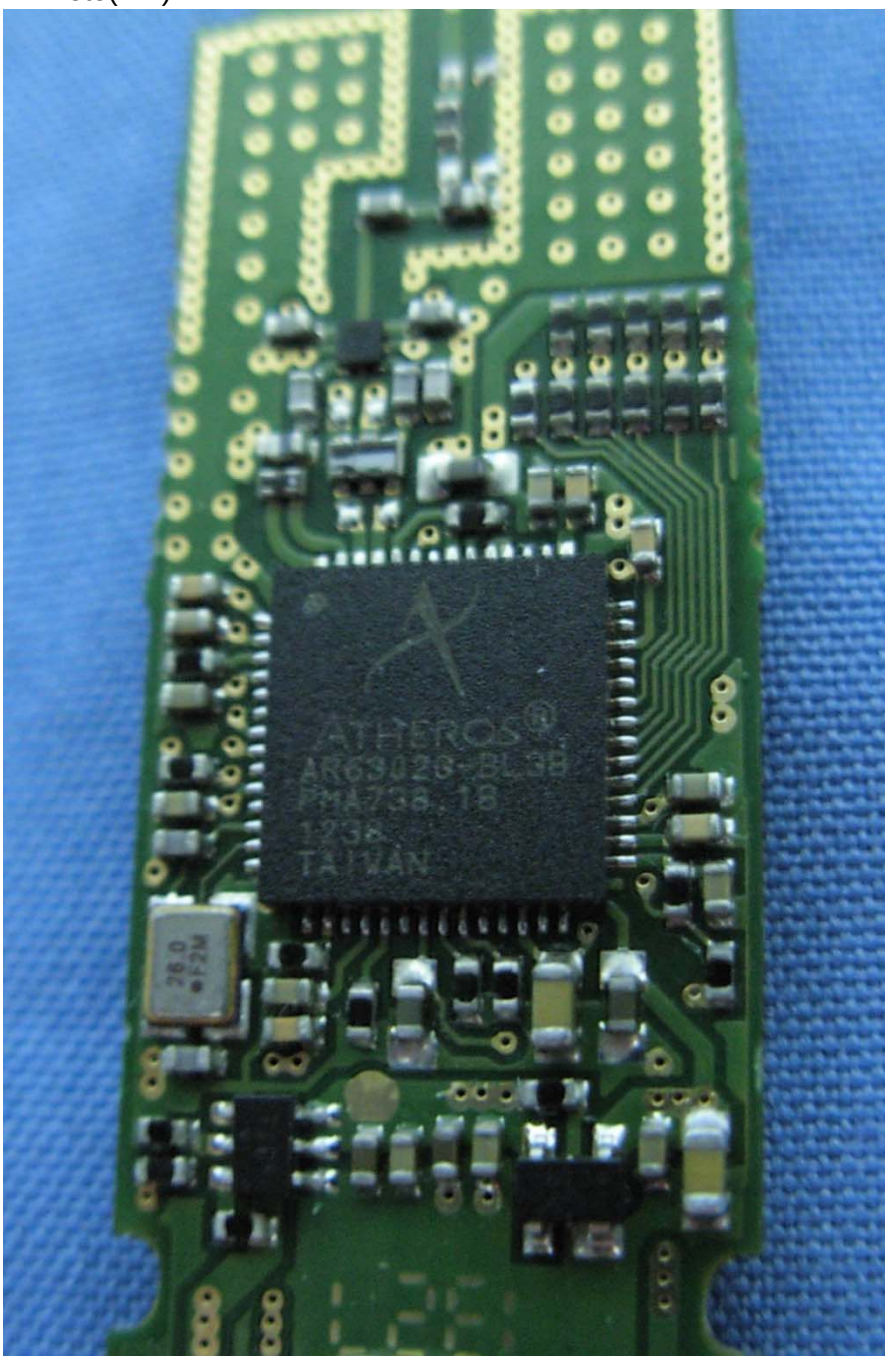
(11) EUT Photo



(12) EUT Photo



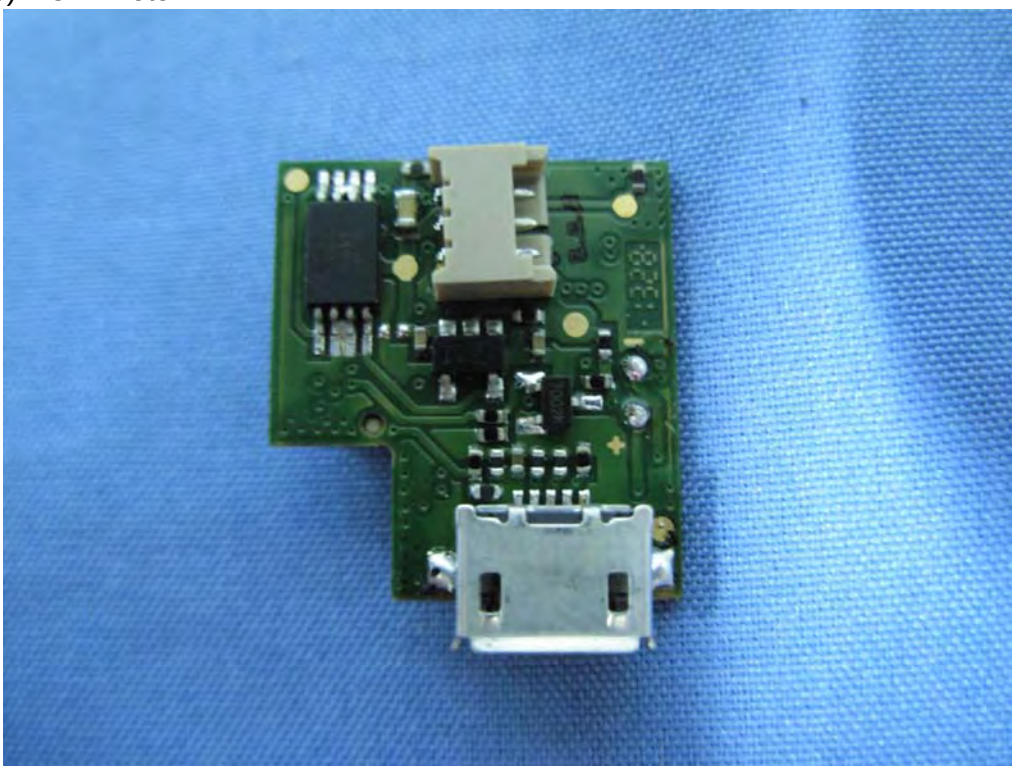
(13) EUT Photo(MB)



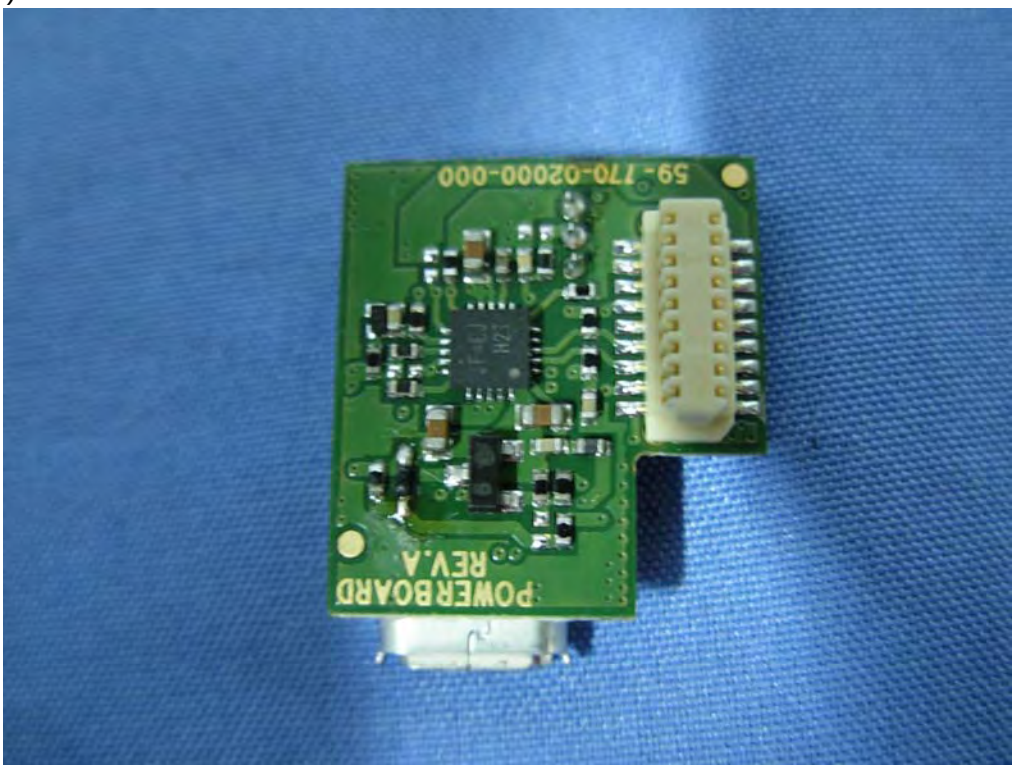
(14) EUT Photo

(15) EUT Photo

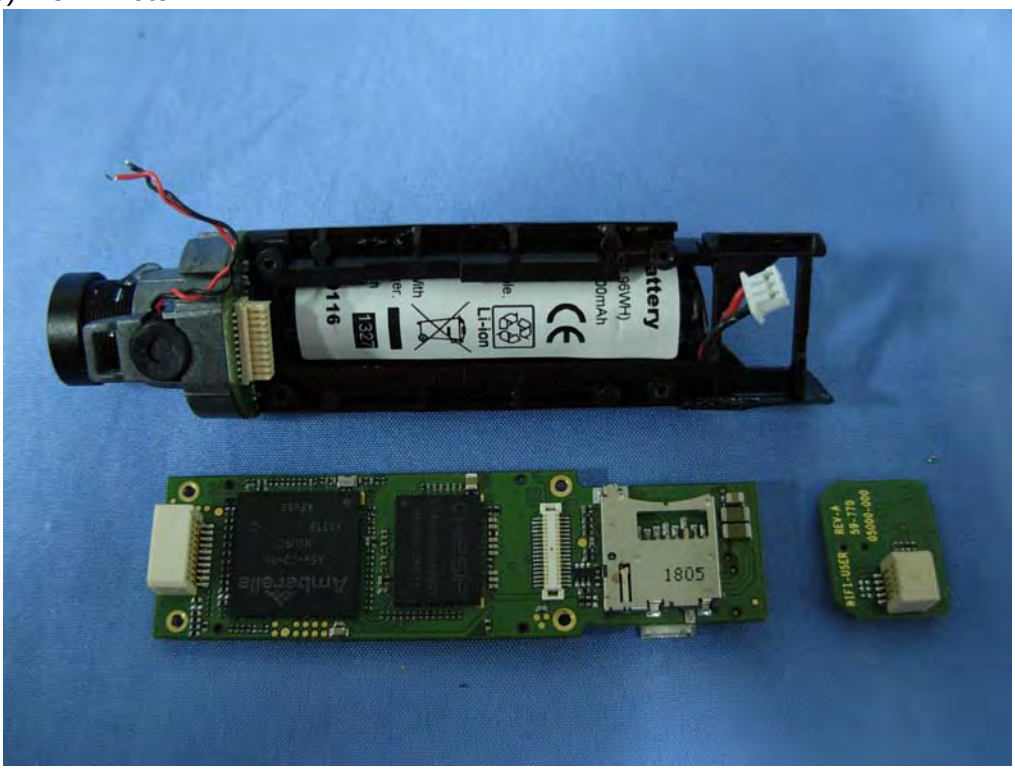
(16) EUT Photo



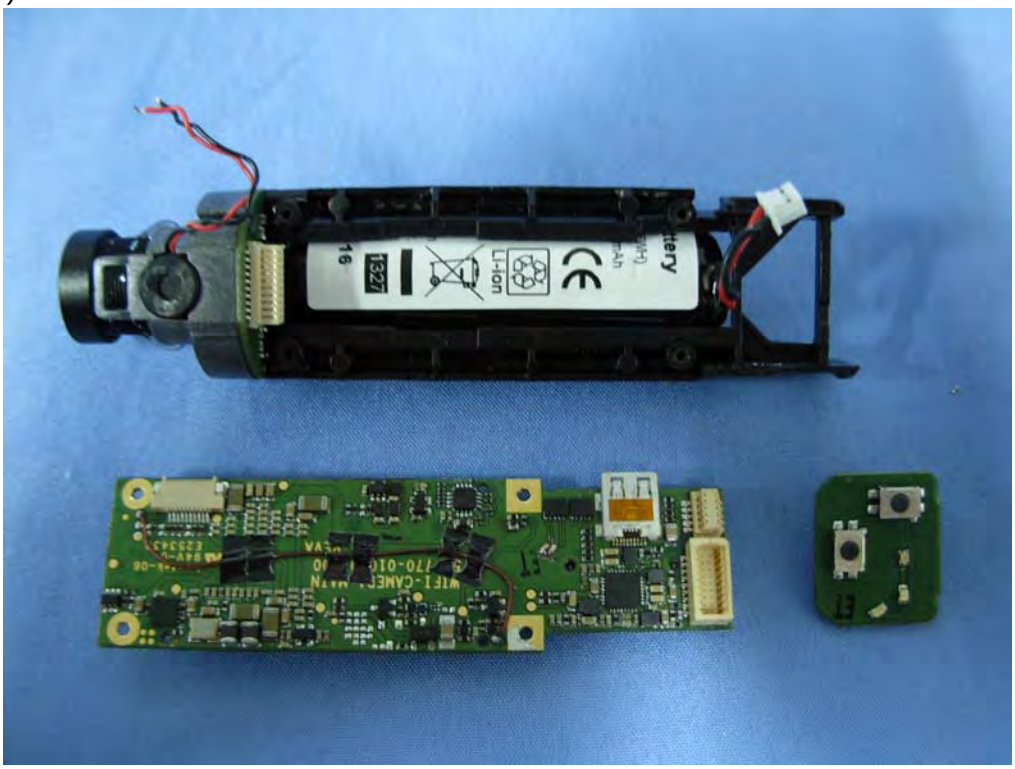
(17) EUT Photo



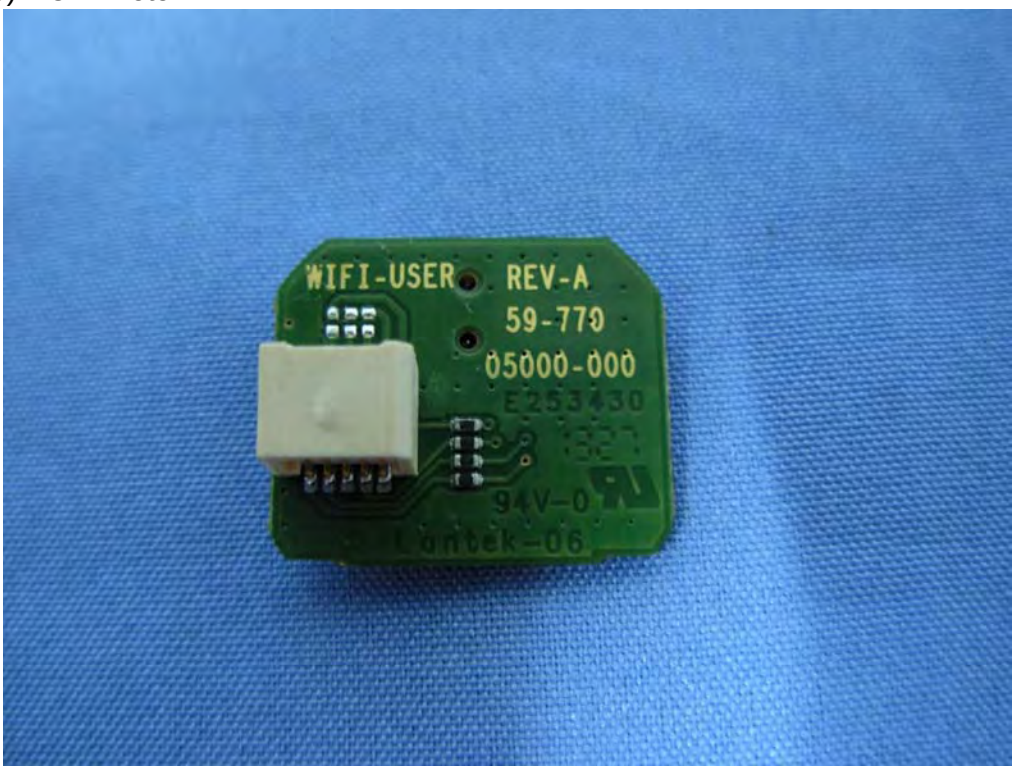
(18) EUT Photo



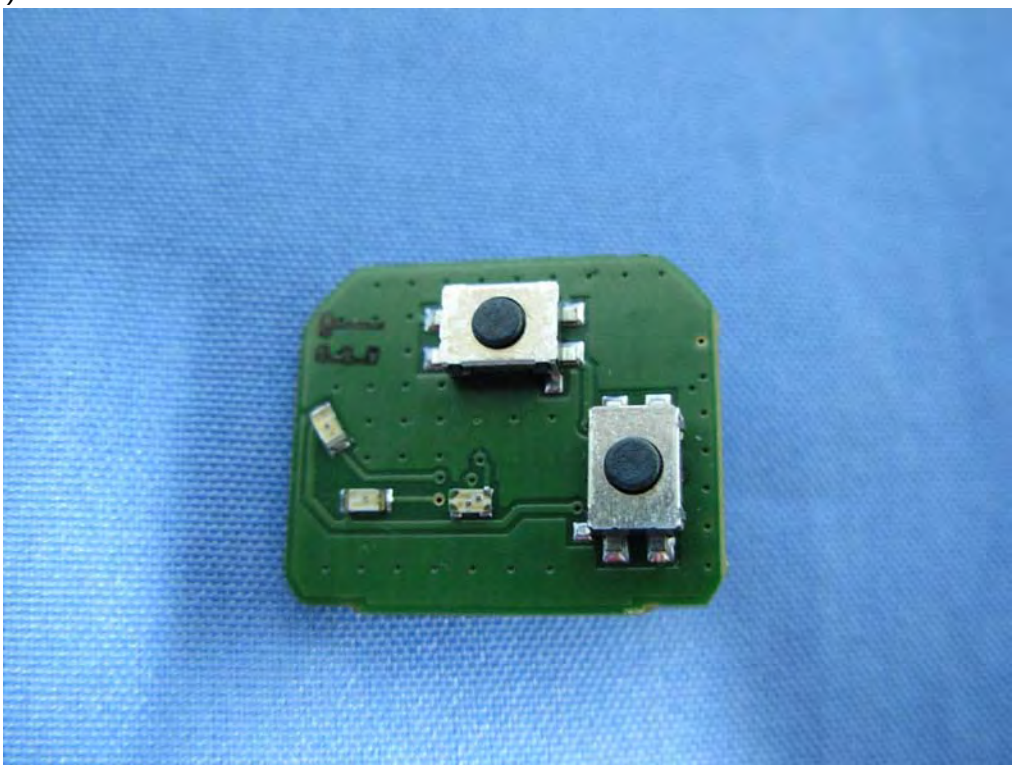
(19) EUT Photo



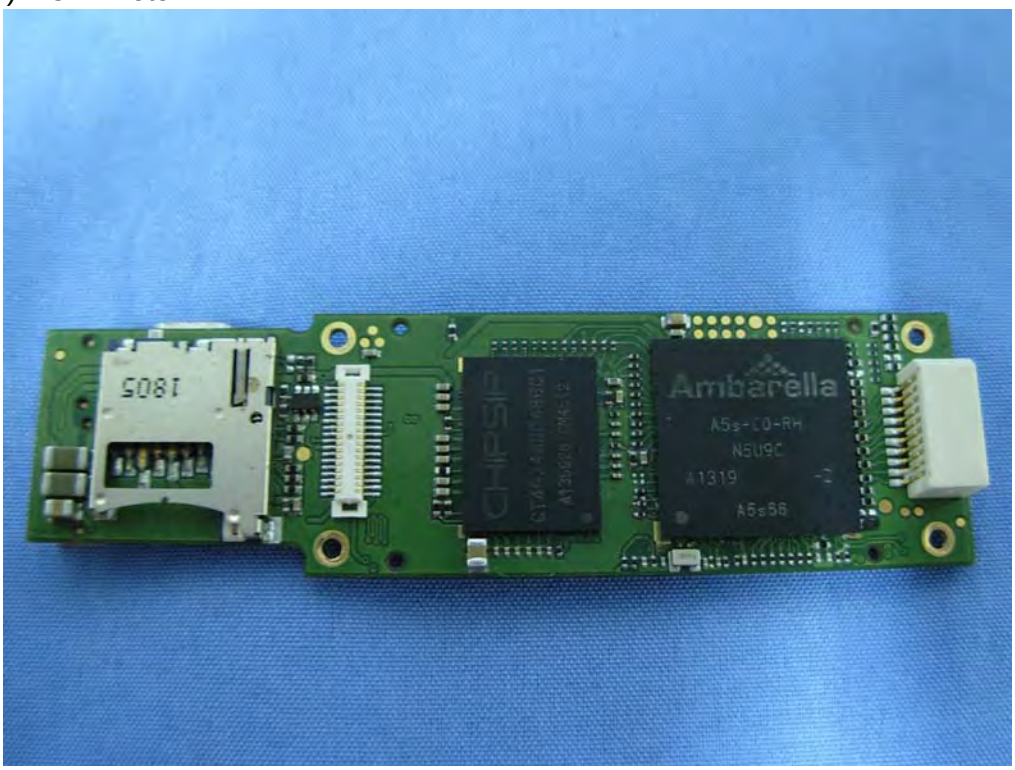
(20) EUT Photo



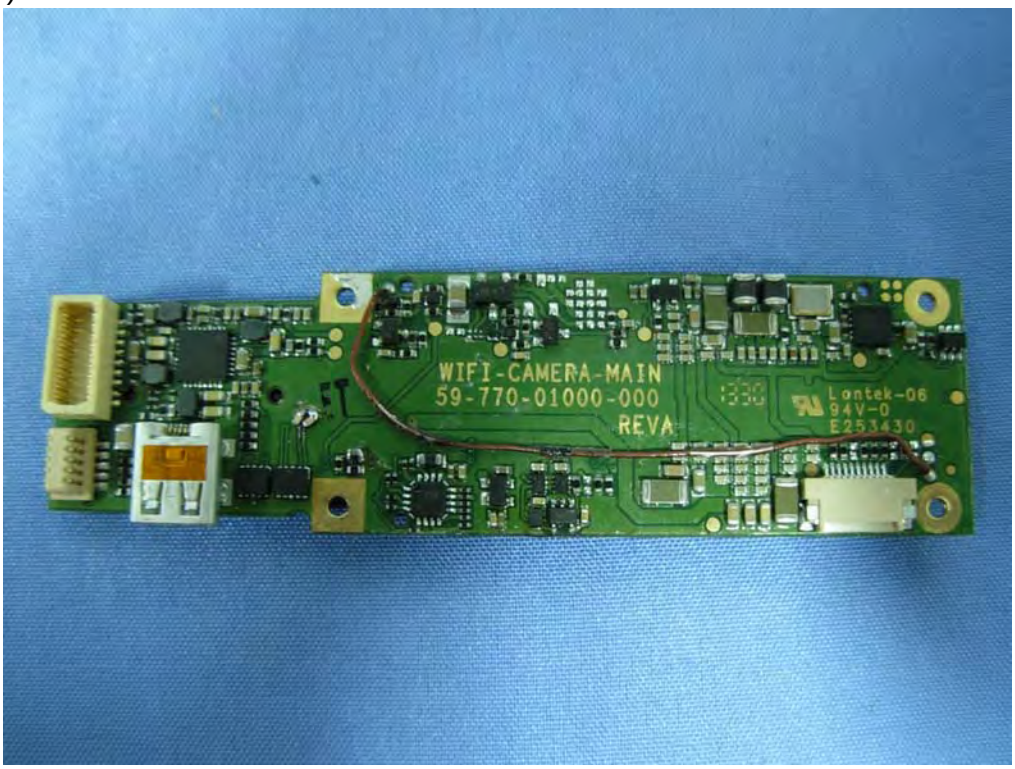
(21) EUT Photo



(22) EUT Photo



(23) EUT Photo



(24) EUT Photo

(25) EUT Photo (Battery)

(26) EUT Photo (Adapter)

(27) EUT Photo (Antenna)