FCC PART 15.247

EMI MEASUREMENT AND TEST REPORT

For

ShenZhen Foscam Intelligent Technology Co., Ltd.

5/F, Block 1, Vision Business Park, Nanshan District, Shenzhen, China

FCC ID: ZHHFI8910W

March 12, 2012

This Report Concerns: Original Report	Equipment Type: Wireless IP Camera
Test Engineer:	Jack Liu
Report No.:	BST12020311Y-1ER-3
Receive EUT Date/Test Date:	March 3, 2012/ March 4-10, 2012
Reviewed By:	Christina
Prepared By:	**Shenzhen BST Technology Co.,Ltd.** 3F,Weames Technology Building, No. 10 Kefa Road,Science Park, Nanshan District,Shenzhen,Guangdong,China Tel: 0755-26747751～3 Fax: 0755-26747751～3 ext.826

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TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

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Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -
The test site used to collect the radiated data is located on the address of
SinTek Laboratory Co.,Ltd.
(FCC Registered Test Site Number: 963441) on
No.7, Xinshidai Industrial, Guantian Village, Shiyan Town, Baoan District, Shenzhen, Guangdong 518108, China
The Test Site is constructed and calibrated to meet the FCC requirements.

1.2. Measurement Uncertainty

Available upon request.

2. PRODUCT DESCRIPTION

2.1. EUT Description

Applicant	:	ShenZhen Foscam Intelligent Technology Co., Ltd.
Address	:	5/F, Block 1, Vision Business Park, Nanshan District, Shenzhen, China
Manufacturer	:	ShenZhen Foscam Intelligent Technology Co., Ltd.
Address	:	5/F, Block 1, Vision Business Park, Nanshan District, Shenzhen, China
EUT Description	:	Wireless IP Camera
Trade Name	:	FOSCAM
Modulation	:	802.11b: DSSS 802.11g, n: OFDM
Model Number	:	FI8910W, FI8910W(white), FI8910W(black)
Power Supply	:	DC 5V (Powered by Adapter)
Adapter	:	Model: SAW-0502000 Input: AC 100-240V, 50-60Hz, 0.5A Output: DC 5V, 2000mA
Antenna Type	:	Integral Antenna
Antenna gain	:	0dBi(2.4GHz)

2.2. Block Diagram of EUT Configuration

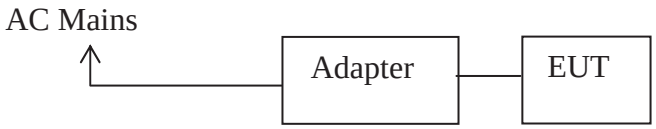


Figure 1 EUT SETUP of Wireless mode

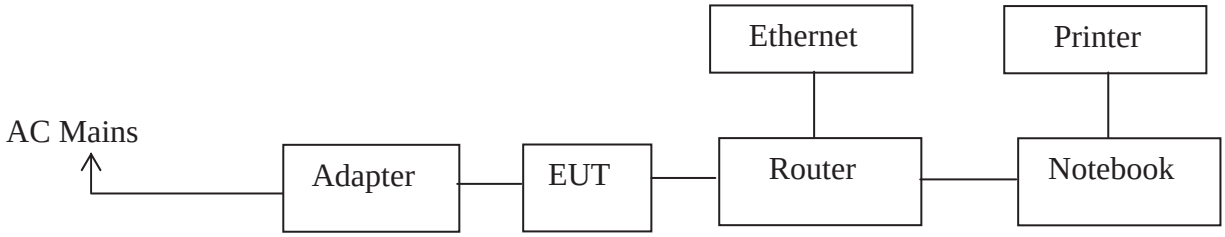


Figure 2 EUT SETUP of Wire mode

2.3. Support Equipment List

Table 2 Ancillary Equipment

Name	Model No	S/N	Manufacturer	Used "√"
Notebook	A42J	--	ASUS	√
Router	TL-R406	--	TP-LINK	√
Printer	P320A	--	HP	√

2.4. Test Conditions

Temperature: 20~25℃
Relative Humidity: 50~63 %

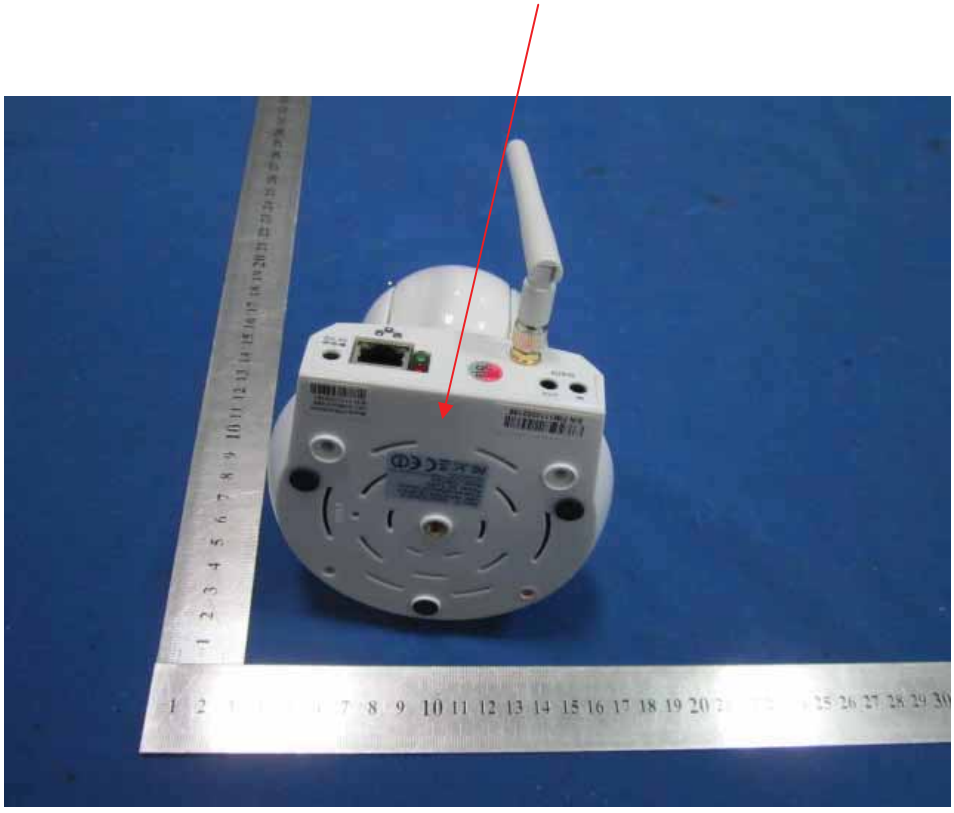
3. FCC ID LABEL

FCC ID: ZHHFI8910W

This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions:1. This device may not cause harmful interference, and 2. This device must accept any interference received,including interference that may cause undesired operation.

Label Location on EUT

EUT Bottom View/ FCC ID Label Location



4. TEST RESULTS SUMMARY

FCC 15 Subpart C,Paragraph 15.247

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247 (i) , §1.1307 (b) (1), §2.1093	RF Exposure	PASS
§15.203	Antenna Requirement	PASS
§15.207 (a)	Conducted Emissions	PASS
§15.247(d)	Spurious Emissions at Antenna Port	PASS
§15.205	Restricted Bands	PASS
§15.209, §15.205, §15.247(d)	Spurious Emissions	PASS
§15.247 (a)(2)	6 dB Bandwidth	PASS
§15.247(b)(3)	Maximum Peak Output Power	PASS
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	PASS
§15.247(e)	Power Spectral Density	PASS

Modifications

No modification was made.

5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model #	Serial no.	Date of Cal.	Cal. Interval
Cable	Resenberger	N/A	NO.1	Mar 10，2012	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10，2012	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10，2012	1 Year
LISN	Rohde＆Schwarz	ESH3-Z5	100305	Mar 10，2012	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10，2012	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESP13	100180	Oct.11,2011	1 Year
Spectrum Analyzer	Rohde＆Schwarz	FSP40	100273	Sep.10,2011	1 Year
Spectrum Analyzer	Agilent	E4446A	US44300459	Sep.10,2011	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9m×6m×6m	N/A	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2012	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2012	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2011	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2011	1 Year
Ultra Broadband Antenna	Rohde＆Schwarz	HL-562	100110	June.15,2011	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100196	Oct.11,2011	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100197	Oct.11,2011	1 Year
Pulse Limiter	Rohde＆Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde＆Schwarz	NRVD	100041	Feb.20,2012	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESCS30	100003	Feb.20,2012	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2011	1 Year
Radio Communication Test Set	Rohde＆Schwarz	CMS 54	846621/024	Feb.20,2012	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2012	1 Year
Absorbing clamp	Rohde＆Schwarz	MDS-21	N/A	Oct.11,2011	1 Year

6. §15.247 (I) AND §1.1307 (B) (1), §2.1093 – RF EXPOSURE

6.1. Standard Applicable

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3–3.0	614	1.63	*(100)	30
3.0–30	824/f	2.19/f	*(180/f2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

6.2. Test Data

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG/4\pi R^2$
S: Power density, in mW/cm^2
P: Power input to the antenna, in mW
G: numeric gain of the antenna
R: distance to the center of the antenna, in cm

Maximum peak output power at antenna input terminal (dBm):	17.58
Maximum peak output power at antenna input terminal (mW):	57.28
Prediction distance (cm):	20
Prediction frequency (MHz):	2412
Antenna Gain, typical (dBi):	0
Maximum Antenna Gain (numeric):	1
Power density at predication frequency and distance (mW/cm^2):	0.011
MPE limit for Occupational exposure at predication frequency (mW/cm^2):	1.0

6.3. Test Result

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, Human proximity to the antenna shall not be less than 20cm(8 inches) during normal operation.

7. §15.203 - ANTENNA REQUIREMENT

7.1. Standard Applicable

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.2. Antenna Connector Construction

The antenna is soldered to PCB. The antenna is permanently attached and unique antenna. Refer to the product photo.

8. §15.207 - CONDUCTED EMISSIONS

8.1. Applicable Standard

The specification used was with the FCC Part 15.207 limits.

8.2. Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

8.3. Conducted Power line Emission Limits

FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency Range (MHz)	Class A QP/AV	Class B QP/AV
0.15-0.5	79/66	65-56/56-46
0.5-5.0	73/60	56-46
5.0-3.0	73/60	60-50

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

8.4. Block Diagram of Test Setup

8.4.1. Block Diagram of connection between the EUT and the simulators

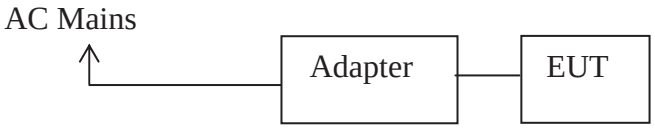


Figure 1 EUT SETUP of Wireless mode

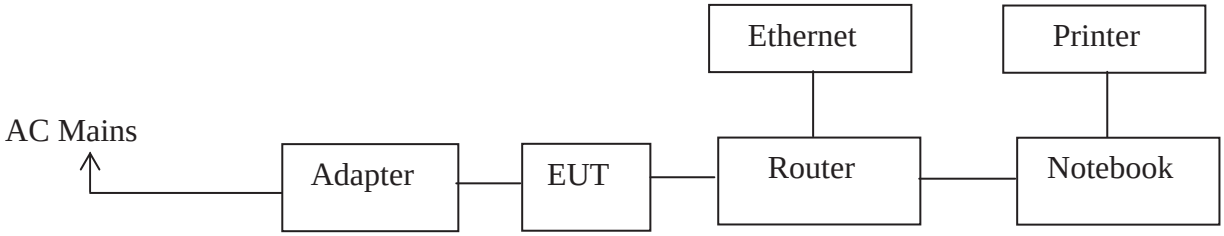
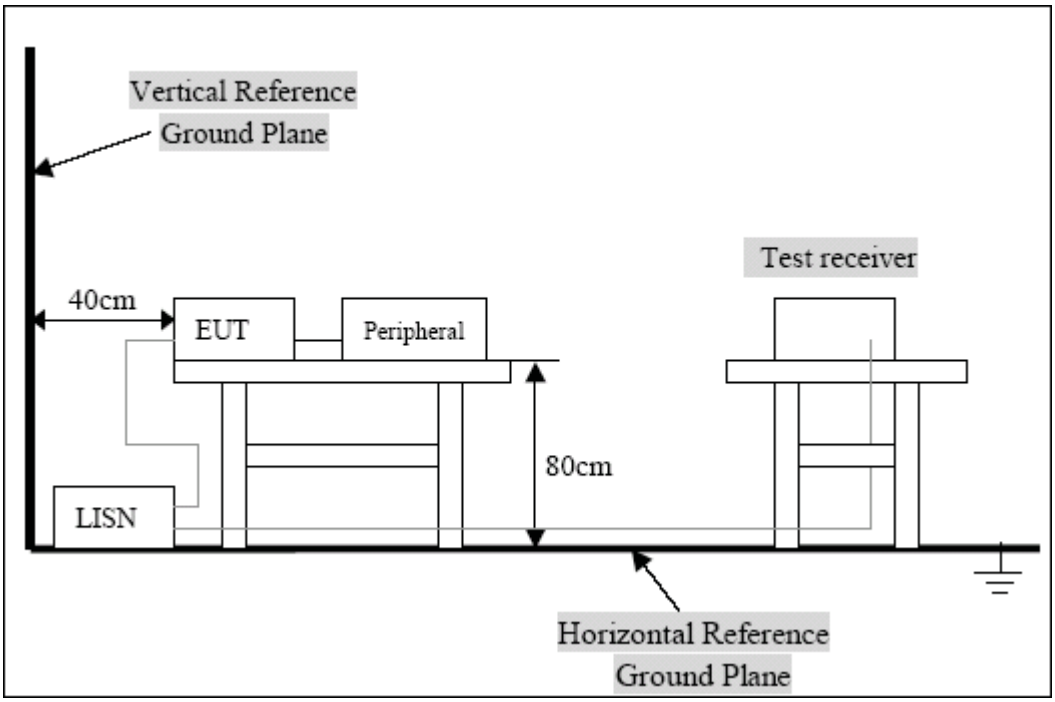


Figure 2 EUT SETUP of Wire mode

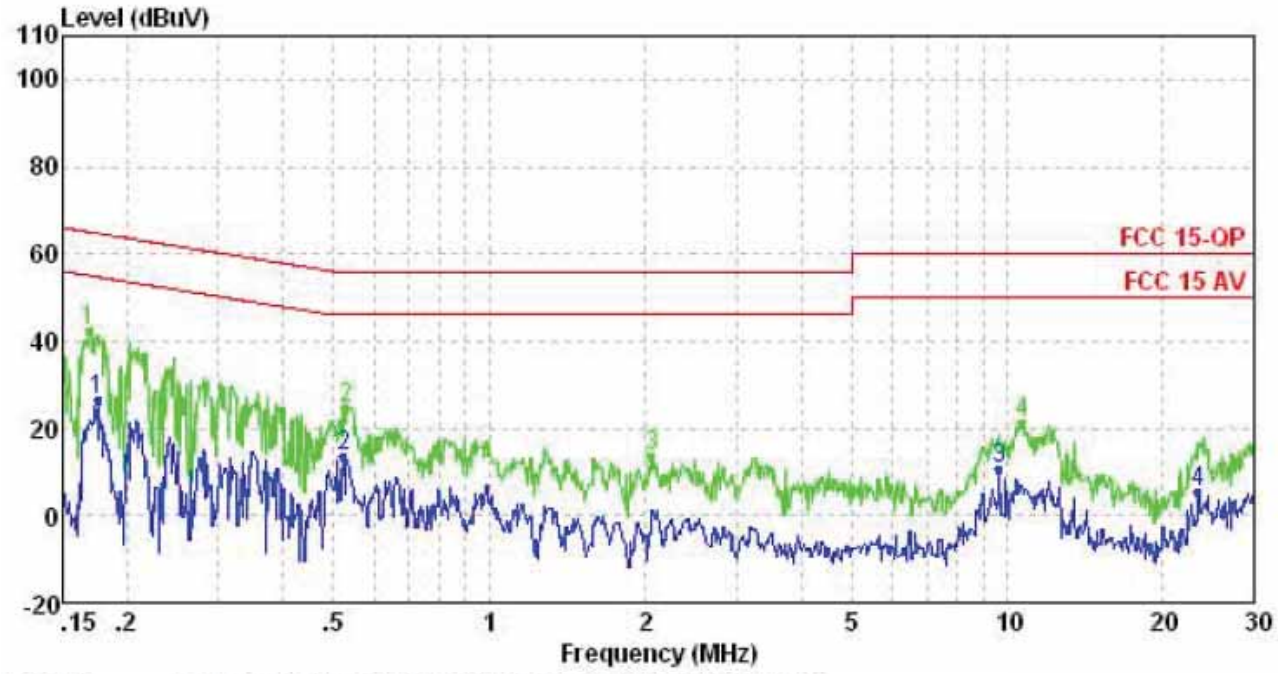
8.4.2. Test Setup Diagram



8.5. Conducted Power Line Test Result

Pass.

For Wireless mode L line



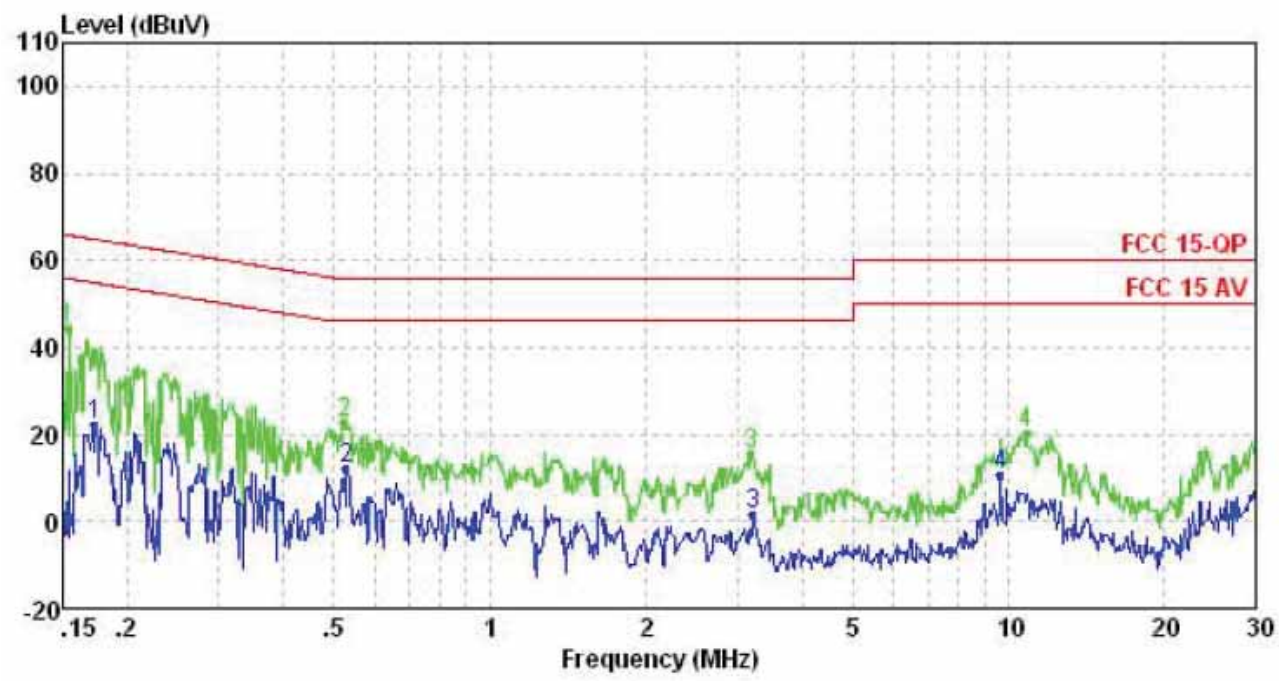
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	26.40	54.72	-28.32	Average	LINE
2	0.52	13.56	46.00	-32.44	Average	LINE
3	9.65	10.81	50.00	-39.19	Average	LINE
4	23.39	5.26	50.00	-44.74	Average	LINE

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	42.57	65.03	-22.46	Peak	LINE
2	0.53	24.80	56.00	-31.20	Peak	LINE
3	2.05	13.59	56.00	-42.41	Peak	LINE
4	10.68	21.35	60.00	-38.65	Peak	LINE

For Wireless mode N line



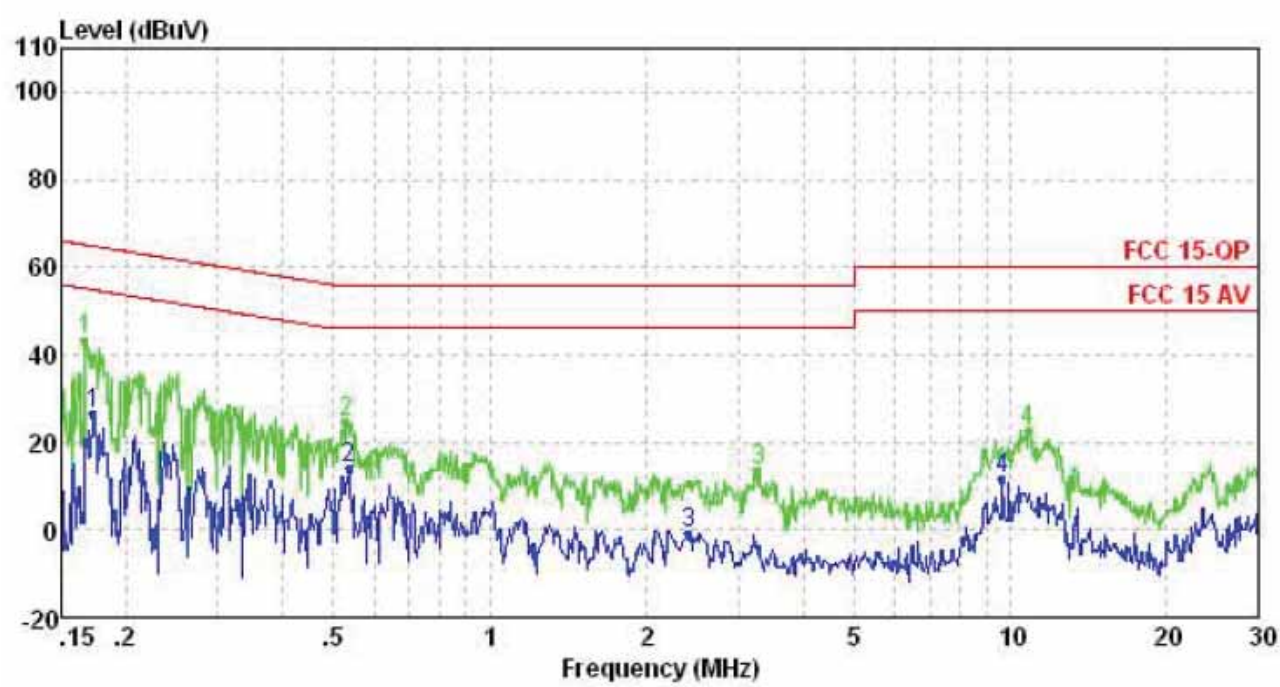
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	22.33	54.81	-32.48	Average	NEUTRAL
2	0.53	12.12	46.00	-33.88	Average	NEUTRAL
3	3.22	1.61	46.00	-44.39	Average	NEUTRAL
4	9.65	10.53	50.00	-39.47	Average	NEUTRAL

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.15	44.33	65.78	-21.45	Peak	NEUTRAL
2	0.52	22.69	56.00	-33.31	Peak	NEUTRAL
3	3.19	15.48	56.00	-40.52	Peak	NEUTRAL
4	10.85	20.41	60.00	-39.59	Peak	NEUTRAL

For Wire mode L line



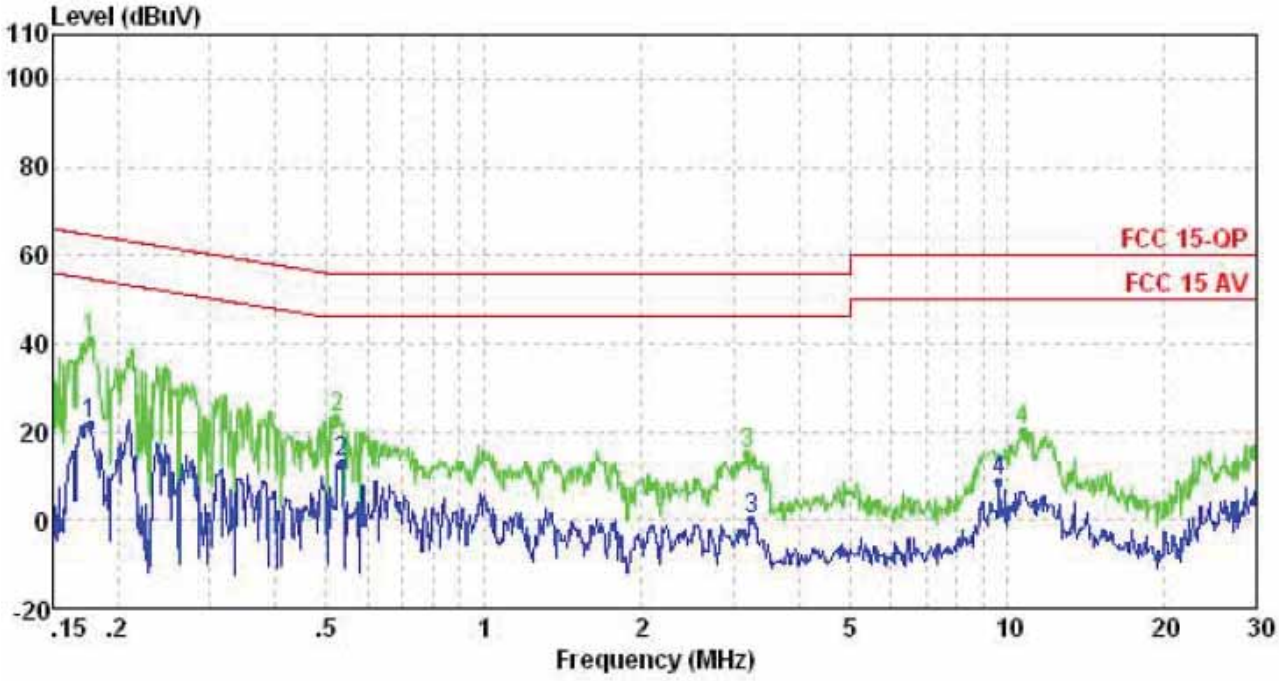
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	26.35	54.81	-28.46	Average	LINE
2	0.53	14.07	46.00	-31.93	Average	LINE
3	2.41	-0.63	46.00	-46.63	Average	LINE
4	9.65	11.49	50.00	-38.51	Average	LINE

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	43.30	65.12	-21.82	Peak	LINE
2	0.53	24.73	56.00	-31.27	Peak	LINE
3	3.28	13.56	56.00	-42.44	Peak	LINE
4	10.85	22.71	60.00	-37.29	Peak	LINE

For Wire mode N line



Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.18	21.77	54.64	-32.87	Average	NEUTRAL
2	0.53	12.90	46.00	-33.10	Average	NEUTRAL
3	3.24	0.02	46.00	-45.98	Average	NEUTRAL
4	9.65	8.86	50.00	-41.14	Average	NEUTRAL

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.18	41.06	64.64	-23.58	Peak	NEUTRAL
2	0.52	22.98	56.00	-33.02	Peak	NEUTRAL
3	3.19	15.23	56.00	-40.77	Peak	NEUTRAL
4	10.73	20.34	60.00	-39.66	Peak	NEUTRAL

9. §15.209, §15.205, §15.247(D) - Spurious Emissions

9.1. Test Equipment

Please refer to section 2 this report.

9.2. Test Procedure

The out of band emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits. The EUT was tested in 3 orthogonal planes.

9.3. Radiated Test Setup

9.3.1. Block Diagram of connection between the EUT and the simulators

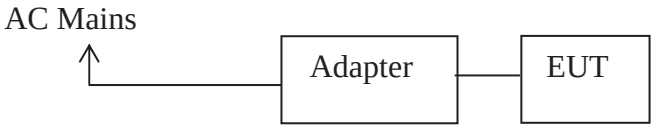


Figure 1 EUT SETUP of Wireless mode

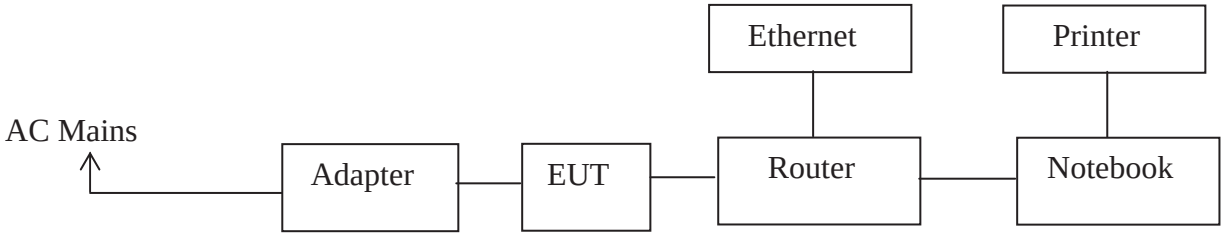
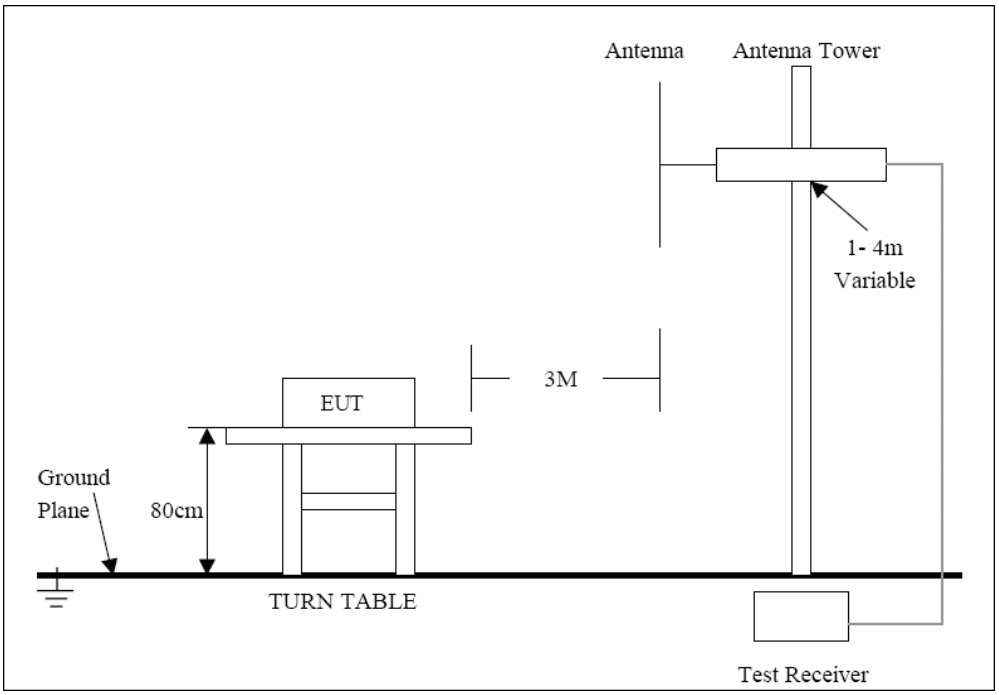


Figure 2 EUT SETUP of Wire mode

9.3.2. Test Setup Diagram



For the accrual test configuration,pleas refer to the related items-photos of Testing.

9.4. Radiated Emission Limit

CARRIER FREQUENCY WILL NOT EXCEEDS 48.0 dBuV/m AT 3M. OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

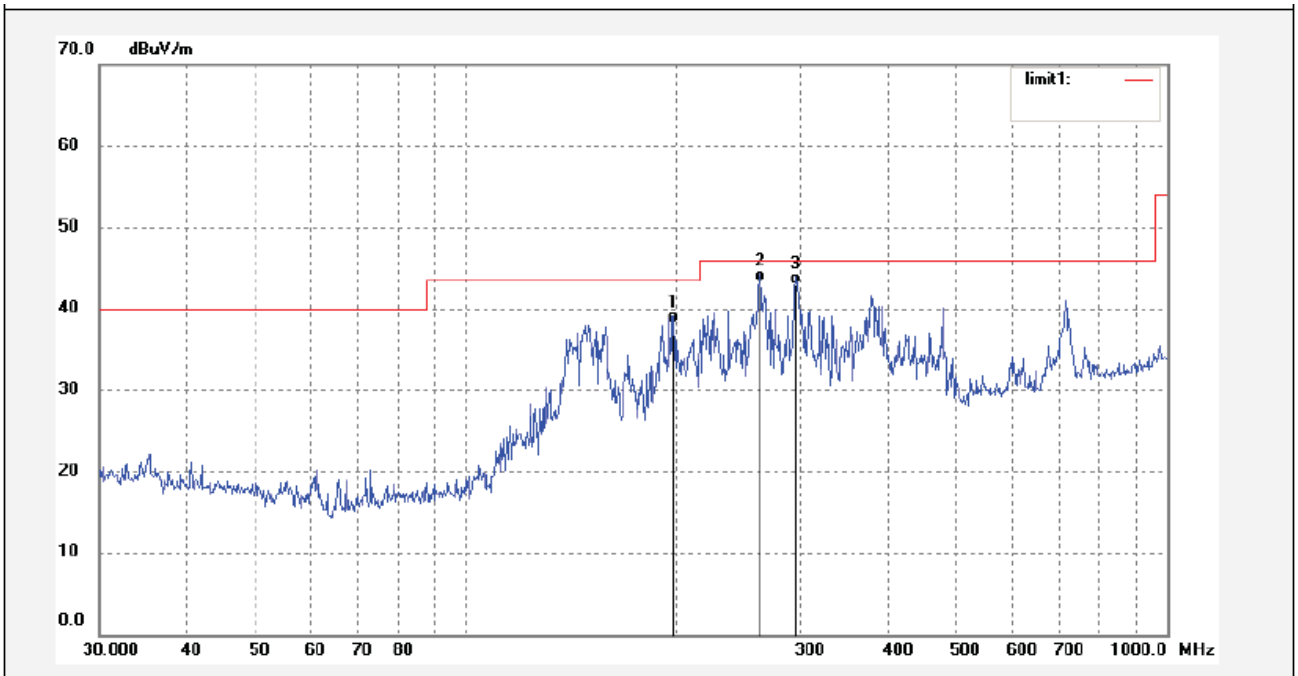
Frequency (MHz)	Distance (m)	Field Strength (dBuV/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
ABOVE 960	3	54.0

9.5. Radiated Emission Test Result

Pass.

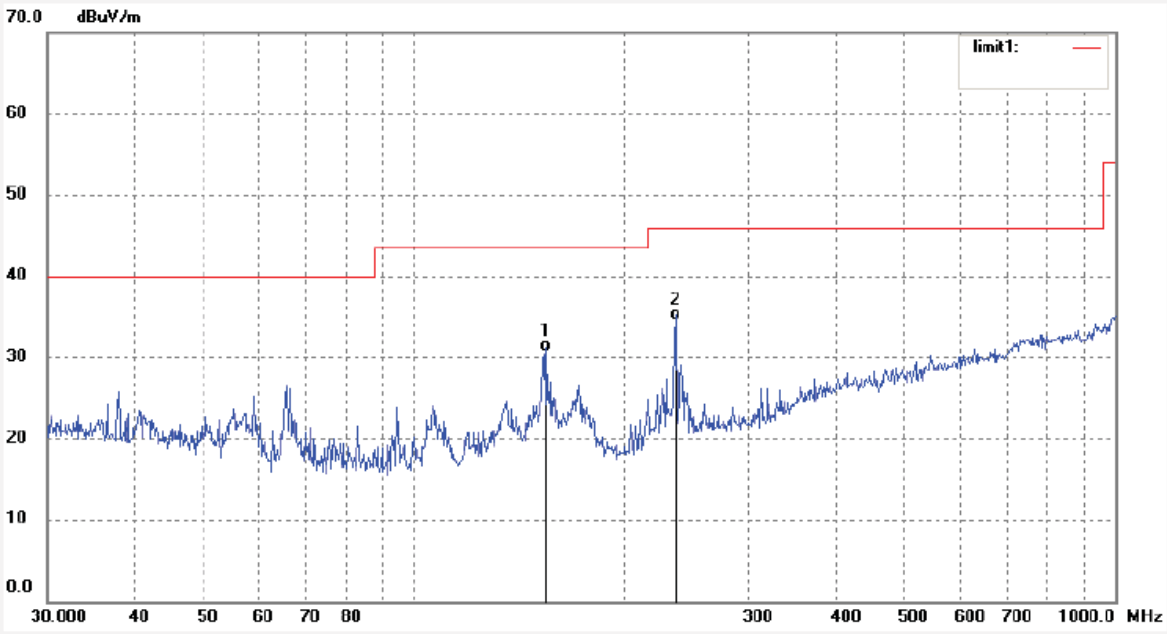
Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	**Wire mode**	Test Engineer:	Jack

Horizontal Polarization



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	199.3356	23.23	14.97	38.20	43.50	-5.30	QP	
2	264.6154	24.61	18.67	43.28	46.00	-2.72	QP	
3	297.8623	24.35	18.63	42.98	46.00	-3.02	QP	

Vertical Polarization



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	153.5564	16.09	14.55	30.64	43.50	-12.86	QP	
2	238.2927	17.86	16.64	34.50	46.00	-11.50	QP	

Wireless Mode

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.080	3.402	43.380	46.782	-27.218	74.000	54.00	PEAK
2		7240.900	9.905	41.490	51.395	-22.605	74.000	54.00	PEAK
3	*	9648.100	13.813	41.510	55.323	-18.677	74.000	54.00	PEAK
4		12056.000	18.636	33.820	52.455	-21.545	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9647.940	13.813	32.990	46.803	-7.197	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.000	5.539	43.380	48.919	-25.081	74.000	54.00	PEAK
2		7239.700	9.465	42.130	51.596	-22.404	74.000	54.00	PEAK
3	*	9648.100	13.813	39.840	53.653	-20.347	74.000	54.00	PEAK
4		12060.400	17.351	40.400	57.751	-16.249	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		9648.000	13.918	29.270	43.188	-10.812	74.000	54.00	AVERAGE
2	*	12057.200	17.357	29.840	47.198	-6.802	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Middle 2437MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.960	3.531	42.850	46.380	-27.620	74.000	54.00	PEAK
2		7311.040	10.227	36.690	46.917	-27.083	74.000	54.00	PEAK
3	*	9747.880	14.220	41.590	55.810	-18.190	74.000	54.00	PEAK
4		12184.800	18.123	34.170	52.292	-21.708	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9748.000	14.220	31.510	45.730	-8.270	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.960	5.577	42.820	48.397	-25.603	74.000	54.00	PEAK
2		7301.000	9.584	37.780	47.365	-26.635	74.000	54.00	PEAK
3		9747.880	14.419	41.680	56.099	-17.901	74.000	54.00	PEAK
4	*	12183.200	17.130	39.180	56.309	-17.691	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9747.960	14.420	31.700	46.120	-7.880	74.000	54.00	AVERAGE
2		12183.400	17.129	26.430	43.559	-10.441	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel High 2462MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.030	3.668	41.670	45.338	-28.662	74.000	54.00	PEAK
2		7386.040	10.582	40.420	51.002	-22.998	74.000	54.00	PEAK
3		9848.030	14.618	37.460	52.078	-21.922	74.000	54.00	PEAK
4	*	12310.050	17.632	35.080	52.712	-21.288	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.050	5.605	42.460	48.065	-25.935	74.000	54.00	PEAK
2		7386.050	9.760	41.790	51.550	-22.450	74.000	54.00	PEAK
3		9848.040	14.922	37.090	52.012	-21.988	74.000	54.00	PEAK
4	*	12310.050	16.892	35.840	52.732	-21.268	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Low 2412MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.010	3.402	38.440	41.842	-32.158	74.000	54.00	PEAK
2	*	7236.020	9.883	43.420	53.303	-20.697	74.000	54.00	PEAK
3		9648.000	13.813	37.960	51.773	-22.227	74.000	54.00	PEAK
4		12310.030	17.633	34.718	52.350	-21.650	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7240.600	9.904	25.860	35.764	-18.236	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.000	5.539	38.020	43.559	-30.441	74.000	54.00	PEAK
2		7236.000	9.458	39.270	48.728	-25.272	74.000	54.00	PEAK
3		9648.000	13.918	38.050	51.968	-22.032	74.000	54.00	PEAK
4	*	12060.003	17.353	35.320	52.672	-21.328	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Middle 2437MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.000	3.531	38.600	42.130	-31.870	74.000	54.00	PEAK
2	*	7311.030	10.227	46.280	56.507	-17.493	74.000	54.00	PEAK
3		9748.040	14.220	38.230	52.450	-21.550	74.000	54.00	PEAK
4		12185.030	18.121	34.329	52.450	-21.550	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7310.000	10.223	27.550	37.773	-16.227	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.040	5.577	39.730	45.307	-28.693	74.000	54.00	PEAK
2	*	7311.020	9.604	44.550	54.154	-19.846	74.000	54.00	PEAK
3		9748.080	14.420	37.950	52.370	-21.630	74.000	54.00	PEAK
4		12185.060	17.127	34.509	51.636	-22.364	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7309.400	9.601	26.140	35.741	-18.259	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel High 2462MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.030	3.668	38.760	42.428	-31.572	74.000	54.00	PEAK
2	*	7386.200	10.582	45.960	56.542	-17.458	74.000	54.00	PEAK
3		9848.040	14.618	38.220	52.838	-21.162	74.000	54.00	PEAK
4		12310.050	17.632	34.838	52.470	-21.530	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7391.200	10.605	26.720	37.325	-16.675	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.040	5.605	38.730	44.335	-29.665	74.000	54.00	PEAK
2	*	7386.050	9.760	45.030	54.790	-19.210	74.000	54.00	PEAK
3		9848.020	14.922	37.930	52.852	-21.148	74.000	54.00	PEAK
4		12310.050	16.892	35.958	52.850	-21.150	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7385.420	9.759	27.140	36.899	-17.101	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(20M) Channel Low 2412MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.000	3.402	38.510	41.912	-32.088	74.000	54.00	PEAK
2		7236.300	9.885	37.480	47.364	-26.636	74.000	54.00	PEAK
3		9648.400	13.815	38.240	52.055	-21.945	74.000	54.00	PEAK
4	*	12060.050	18.620	33.660	52.279	-21.721	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4824.000	5.539	38.570	44.109	-29.891	74.000	54.00	PEAK
2		7212.700	9.413	38.910	48.323	-25.677	74.000	54.00	PEAK
3		9648.000	13.918	36.450	50.368	-23.632	74.000	54.00	PEAK
4	*	12059.800	17.353	34.560	51.913	-22.087	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(20M) Channel Mid 2437MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.020	3.531	38.960	42.491	-31.509	74.000	54.00	PEAK
2	*	7311.050	10.224	44.020	54.245	-19.755	74.000	54.00	PEAK
3		9748.040	14.220	38.040	52.260	-21.740	74.000	54.00	PEAK
4		12185.000	18.115	34.235	52.350	-21.650	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7310.000	10.220	27.450	37.670	-16.330	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.050	5.577	38.700	44.277	-29.723	74.000	54.00	PEAK
2	*	7311.050	9.601	43.320	52.922	-21.078	74.000	54.00	PEAK
3		9748.050	14.420	37.670	52.090	-21.910	74.000	54.00	PEAK
4		12185.000	17.121	35.350	52.470	-21.530	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(20M) Channel High 2462MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4924.200	3.668	38.600	42.268	-31.732	74.000	54.00	PEAK
2		7386.200	10.582	37.550	48.132	-25.868	74.000	54.00	PEAK
3	*	9847.600	14.615	38.380	52.996	-21.004	74.000	54.00	PEAK
4		12310.200	17.631	34.990	52.622	-21.378	74.000	54.00	PEAK

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4923.600	5.604	38.900	44.504	-29.496	74.000	54.00	PEAK
2		7386.500	9.761	38.300	48.061	-25.939	74.000	54.00	PEAK
3	*	9848.000	14.922	37.540	52.461	-21.539	74.000	54.00	PEAK
4		12310.400	16.891	35.480	52.371	-21.629	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(40M) Channel Low 2422MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4828.000	3.412	38.900	42.312	-31.688	74.000	54.00	PEAK
2		7268.800	10.033	38.430	48.463	-25.537	74.000	54.00	PEAK
3	*	9687.600	13.968	39.430	53.398	-20.602	74.000	54.00	PEAK
4		12110.020	18.425	34.266	52.690	-21.310	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9755.200	14.250	25.690	39.940	-14.060	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4844.800	5.557	38.100	43.657	-30.343	74.000	54.00	PEAK
2		7265.200	9.515	38.170	47.685	-26.315	74.000	54.00	PEAK
3	*	9685.200	14.106	39.550	53.656	-20.344	74.000	54.00	PEAK
4		12110.030	17.261	35.320	52.580	-21.420	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9755.200	14.455	25.720	40.175	-13.825	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(40M) Channel Mid 2437MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4868.000	3.516	39.090	42.606	-31.394	74.000	54.00	PEAK
2		7138.000	9.423	39.090	48.513	-25.487	74.000	54.00	PEAK
3	*	9750.000	14.229	39.630	53.859	-20.141	74.000	54.00	PEAK
4		12185.020	18.121	34.749	52.870	-21.130	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9750.000	14.229	25.760	39.989	-14.011	74.000	54.00	AVERAGE

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4876.000	5.579	38.800	44.379	-29.621	74.000	54.00	PEAK
2		7312.000	9.606	37.630	47.236	-26.764	74.000	54.00	PEAK
3	*	9763.000	14.492	39.360	53.852	-20.148	74.000	54.00	PEAK
4		12185.000	17.127	35.323	52.450	-21.550	74.000	54.00	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9750.000	14.430	25.990	40.420	-13.580	74.000	54.00	AVERAGE

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:	March 8, 2012	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8910W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11n(40M) Channel High 2452MHz	Test Engineer:	Jack

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m) QP	Factor Corr. (dB)	Result (dBμV/m) QP	Limit (dBμV/m) QP	Margin (dB) QP	Polarization
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

For 1GHz-25GHz

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4904.200	3.619	38.460	42.079	-31.921	74.000	54.00	PEAK
2		7356.400	10.442	39.940	50.383	-23.617	74.000	54.00	PEAK
3	*	9807.800	14.460	38.440	52.900	-21.100	74.000	54.00	PEAK
4		12260.030	17.832	34.628	52.460	-21.540	74.000	54.00	PEAK

Vertical

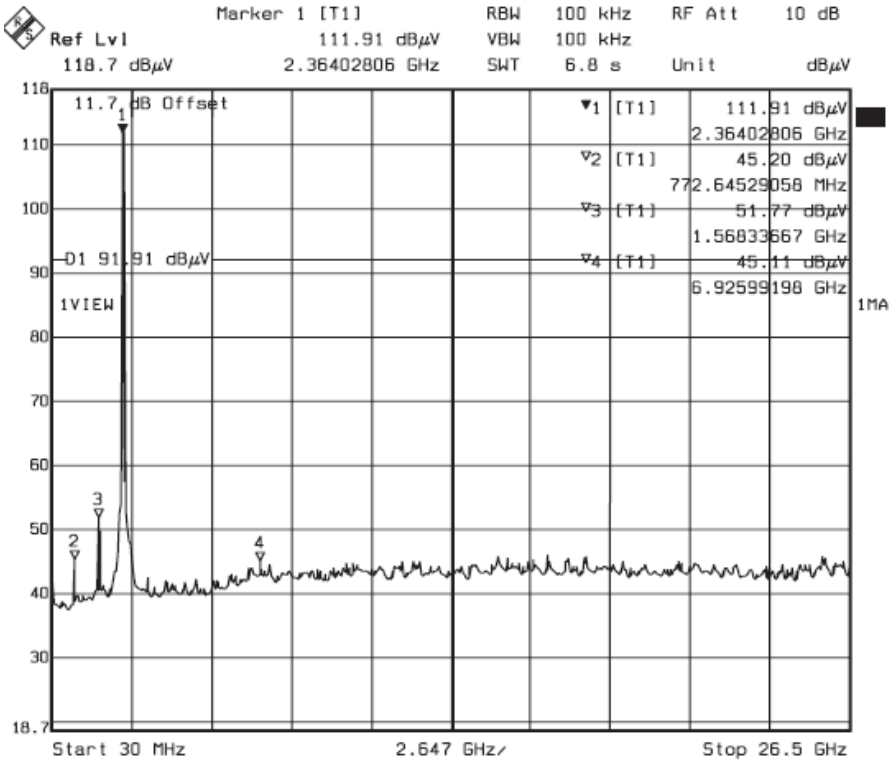
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4904.200	5.590	38.360	43.950	-30.050	74.000	54.00	PEAK
2		7356.400	9.689	38.000	47.690	-26.310	74.000	54.00	PEAK
3	*	9807.800	14.718	38.270	52.988	-21.012	74.000	54.00	PEAK
4		12260.200	16.988	35.352	52.340	-21.660	74.000	54.00	PEAK

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

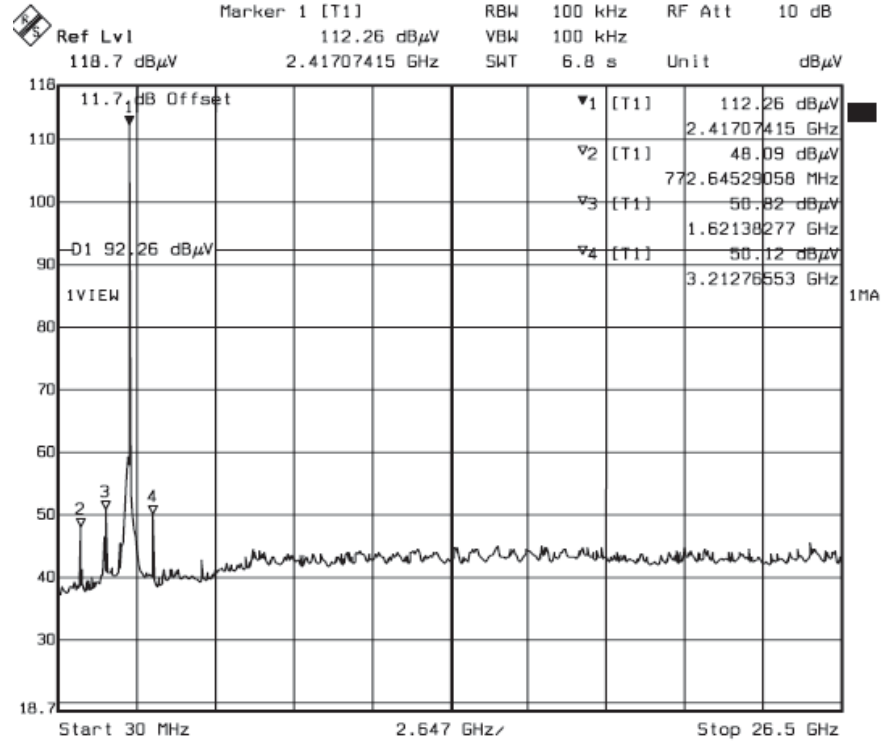
Antenna port conducted spurious emissions

802.11b mode:

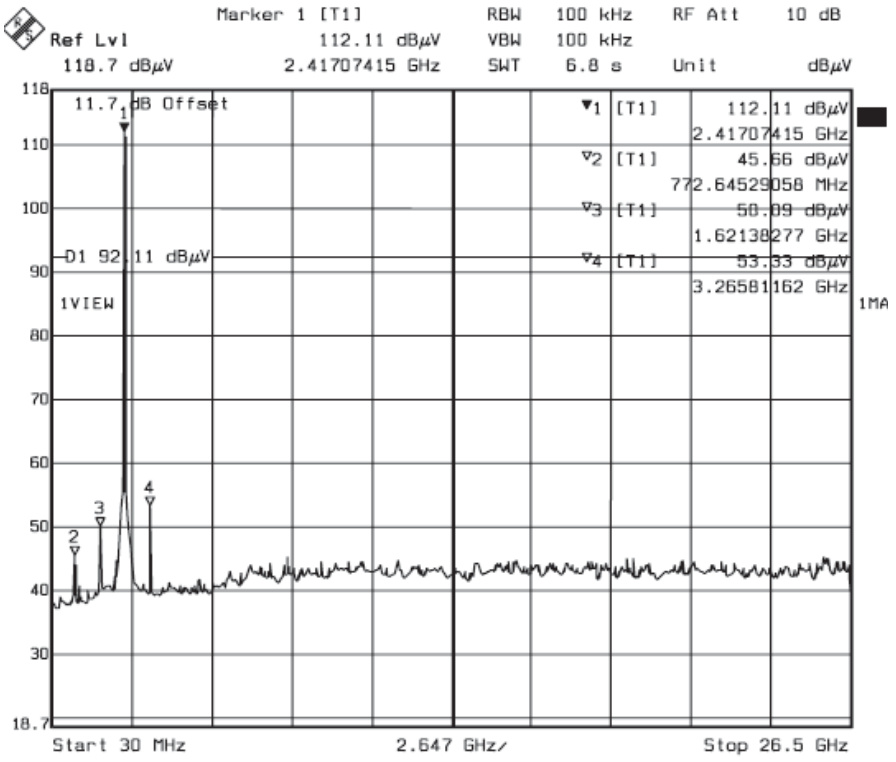
Low channel



Middle channel

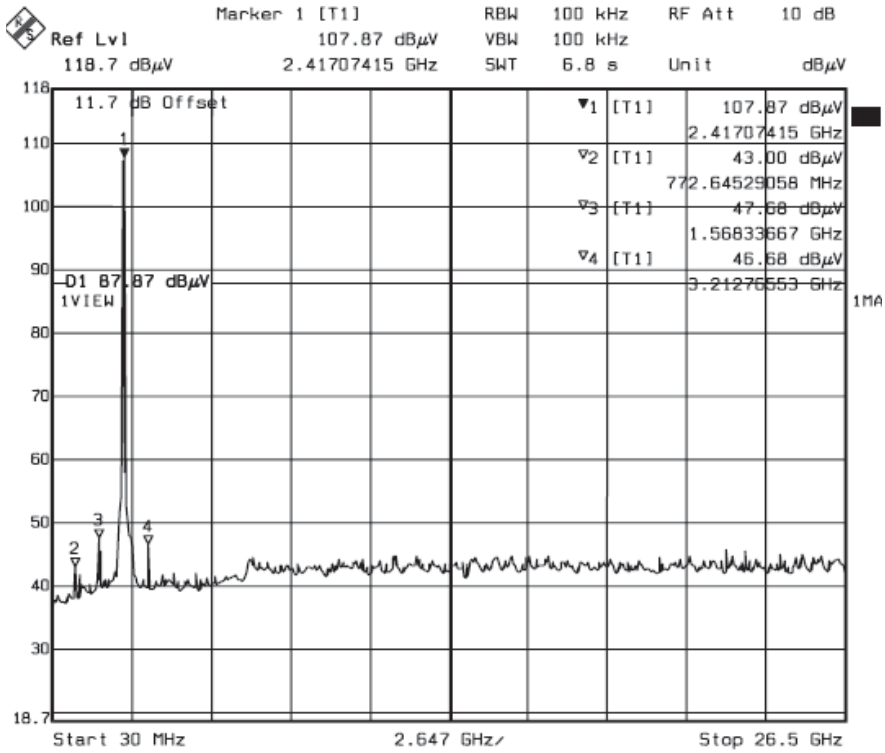


High channel

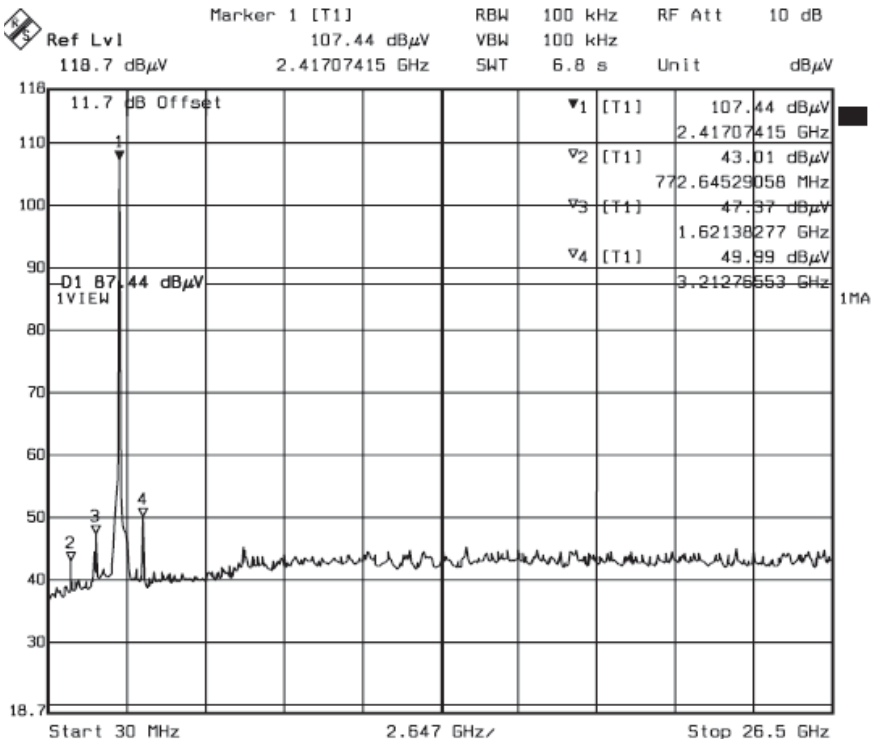


802.11g mode:

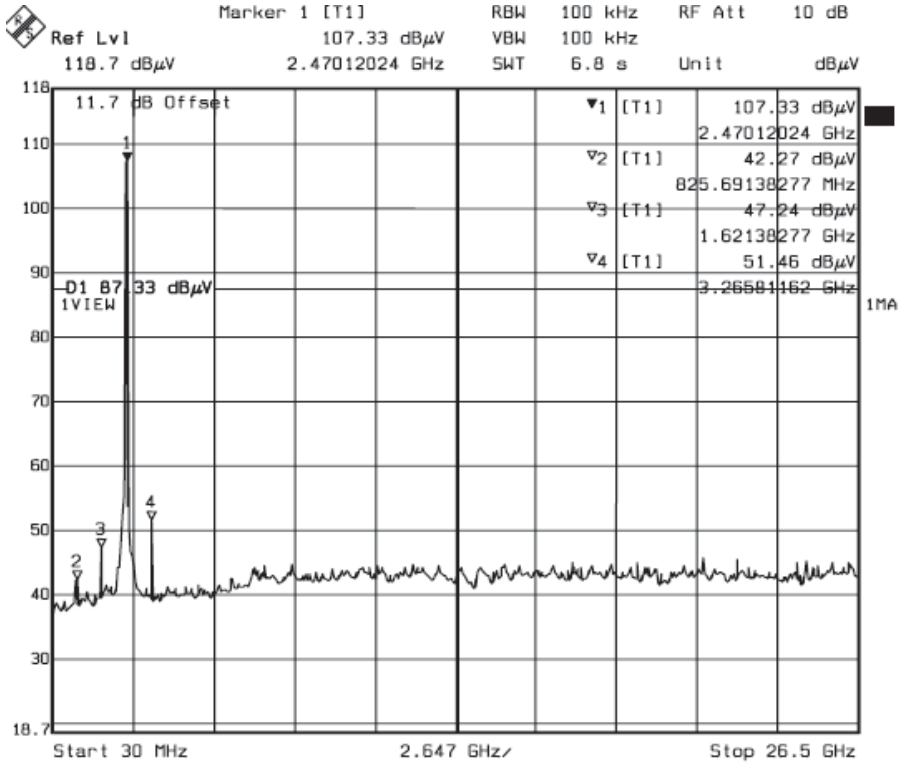
Low channel



Middle channel

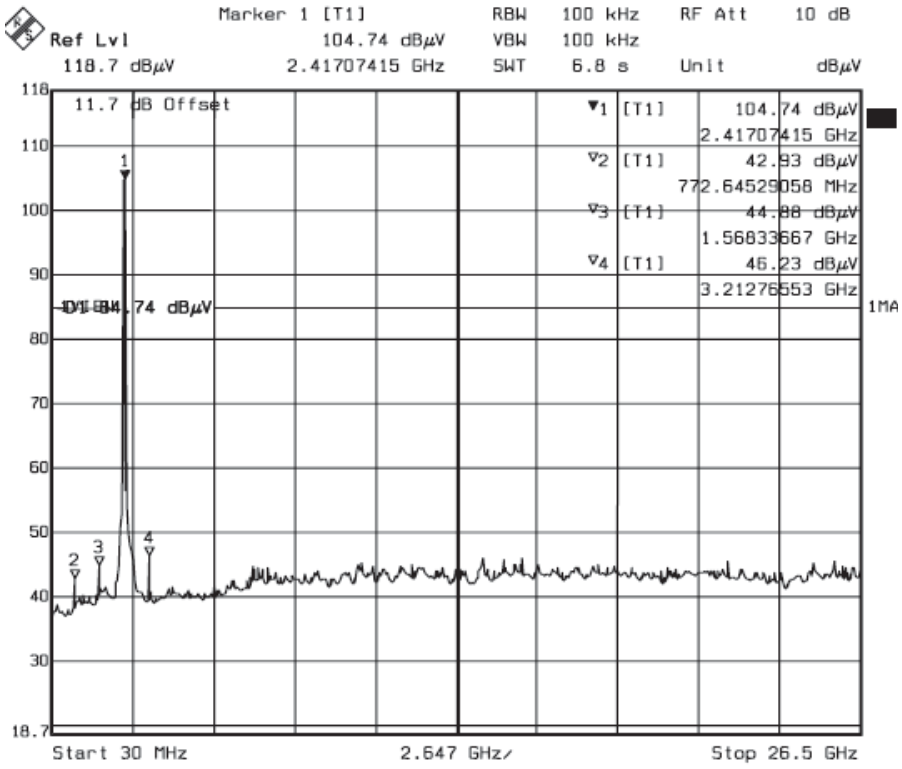


High channel

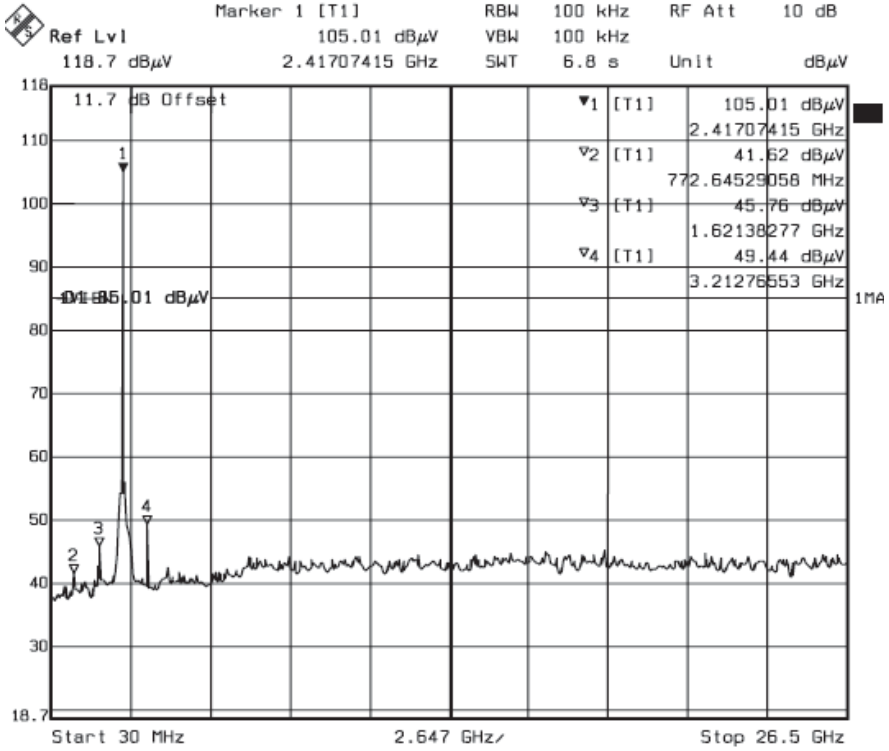


802.11n (20M) mode:

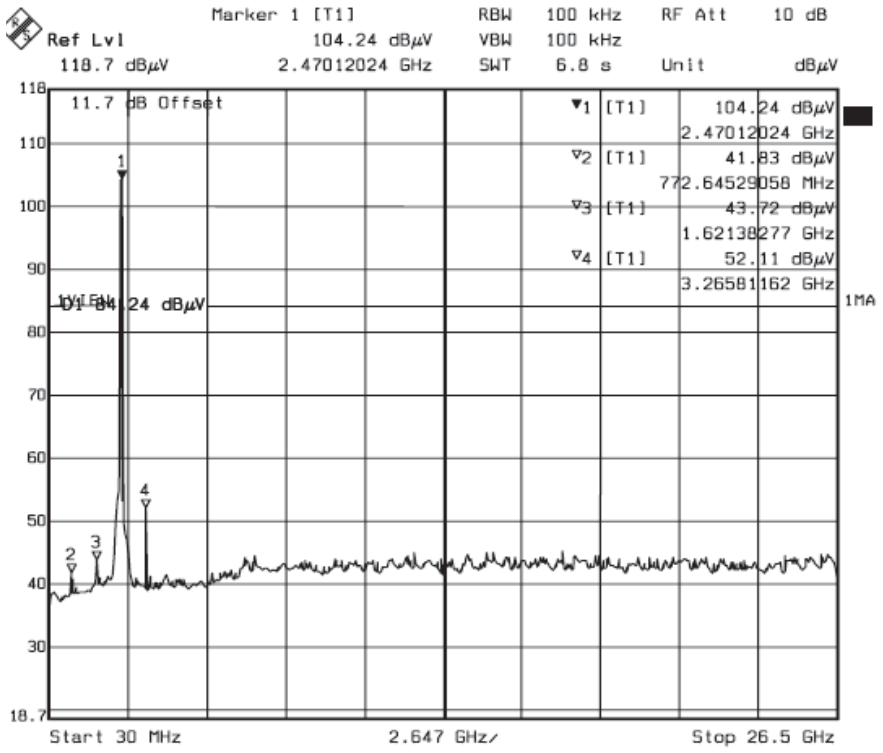
Low channel



Middle channel

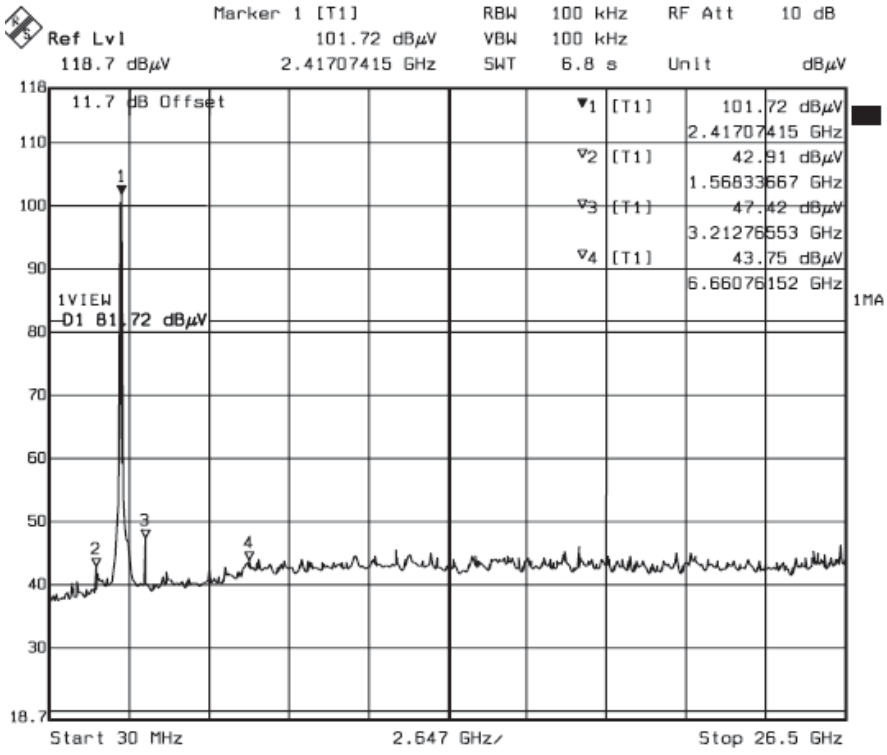


High channel

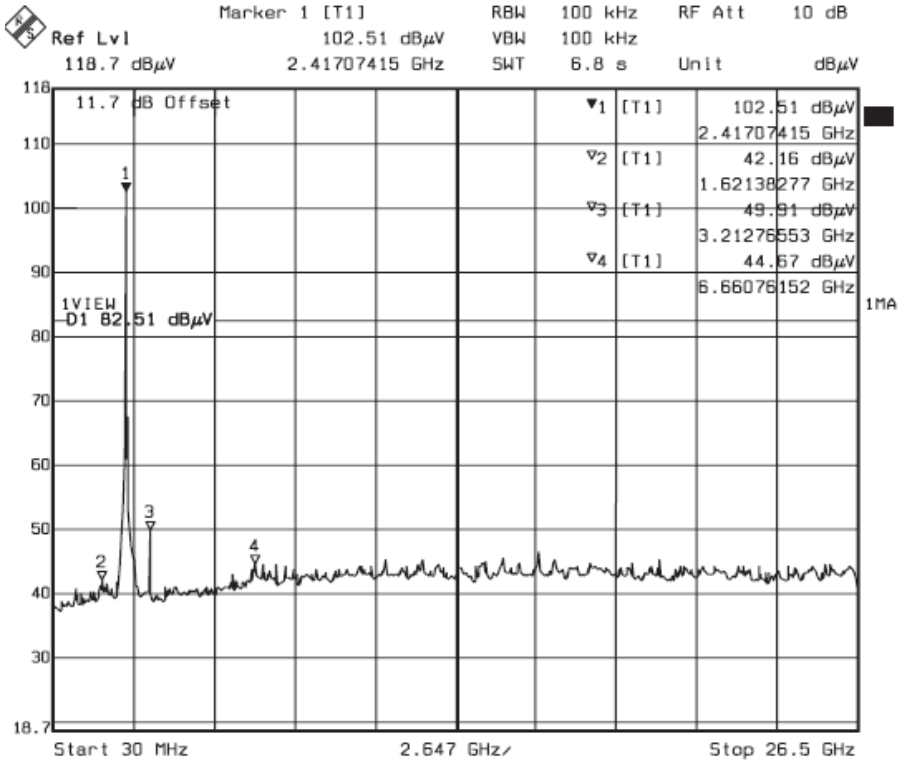


802.11n (40M) mode:

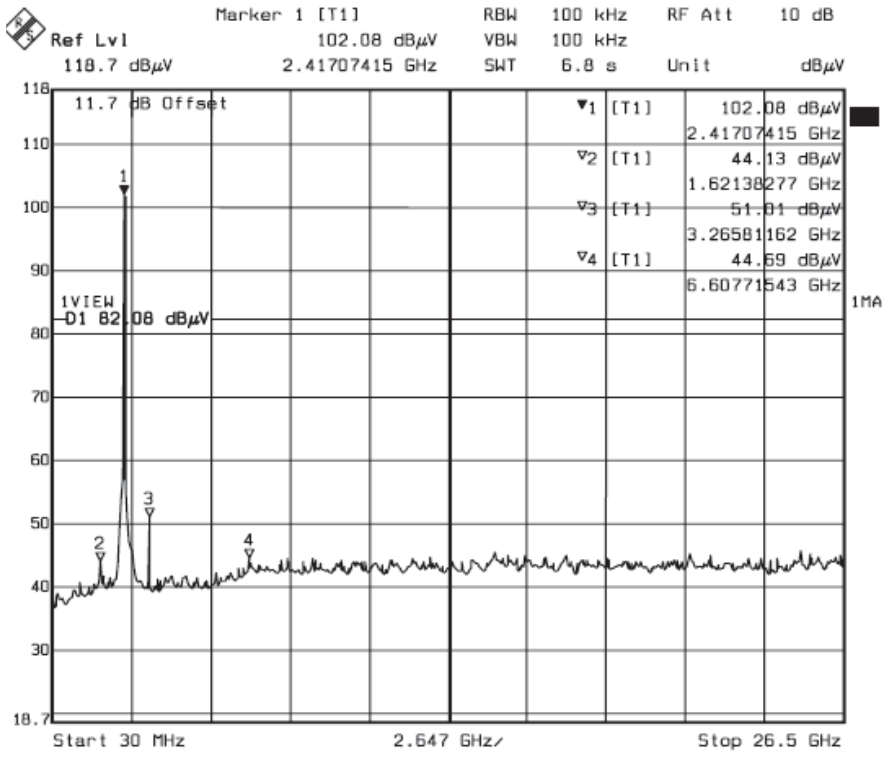
Low channel



Middle channel



High channel



10. §15.247(A) (2) – 6DB BANDWIDTH TESTING

10.1. Test Equipment

Please refer to Section 4 this report.

10.2.Test Procedure

1. Set EUT in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=100KHz,VBW≥RBW,Span=50MHz,Sweep=auto.
4. Mark the peak frequency and -6dB(upper and lower)frequency.
5. Repeat until all the rest channels are investigated.

10.3.Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

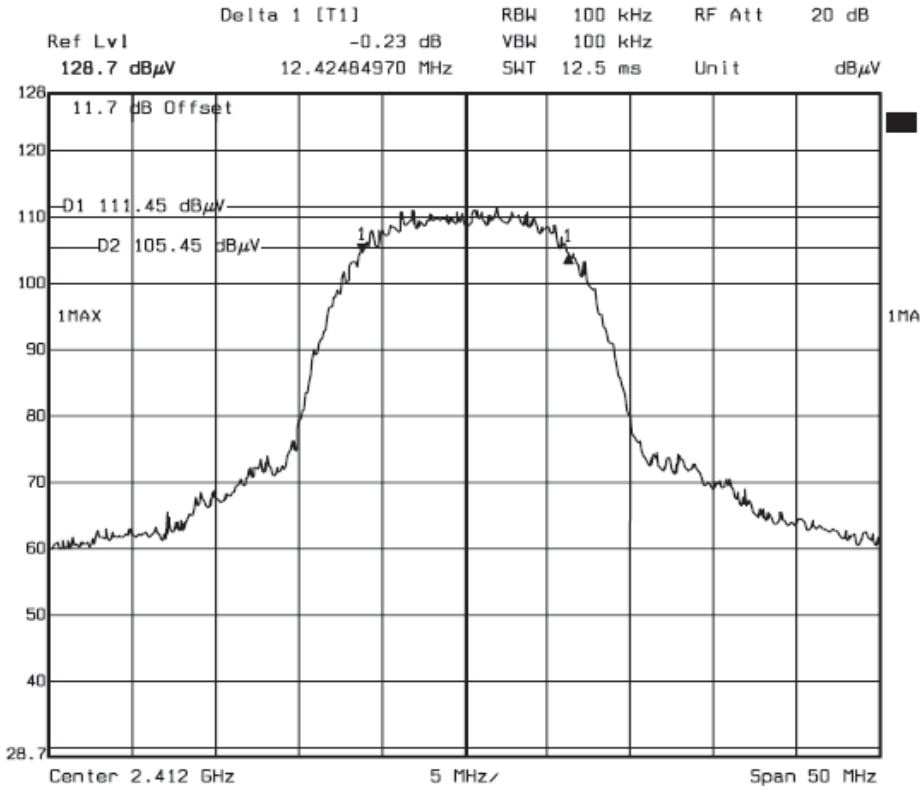
10.4.Test Result:Pass.

Please refer to the following tables

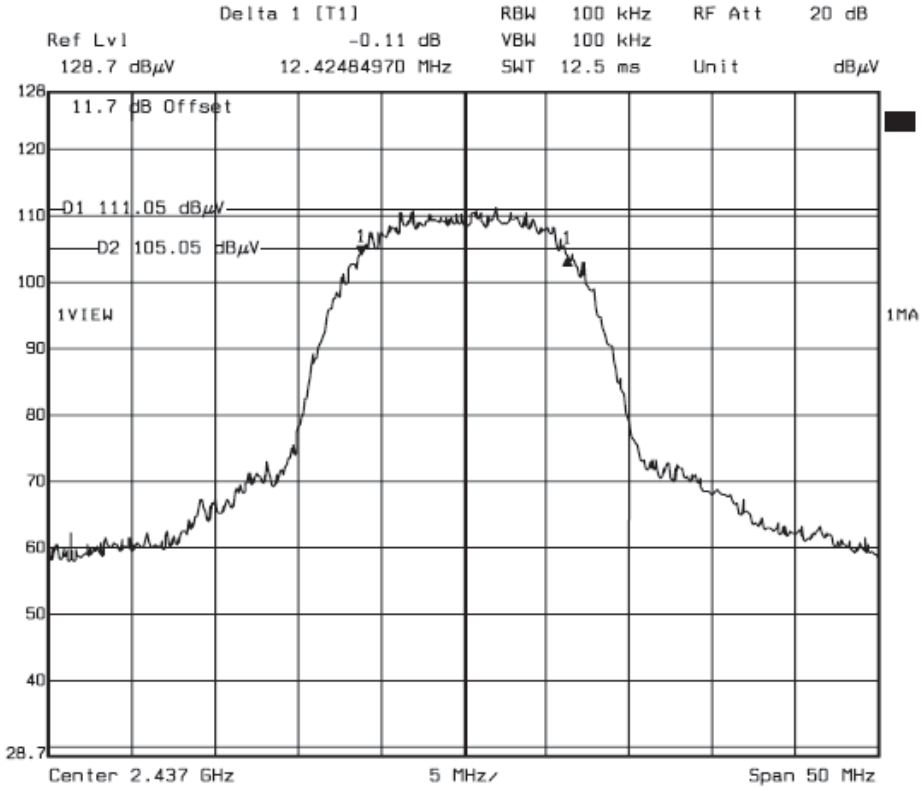
Channel Frequency (MHz)	Data Rate (Mbps)	6dB Bandwidth (kHz)	Limit (kHz)	Result
802.11b Mode				
2412	1	12424	＞500	Pass
2437	1	12424	＞500	Pass
2462	1	12424	＞500	Pass
802.11g Mode				
2412	6	16833	＞500	Pass
2437	6	16833	＞500	Pass
2462	6	16833	＞500	Pass
802.11n (20M) Mode				
2412	1	18036	＞500	Pass
2437	1	18036	＞500	Pass
2462	1	18036	＞500	Pass
802.11n (40M) Mode				
2412	6	36673	＞500	Pass
2437	6	36673	＞500	Pass
2462	6	36673	＞500	Pass

802.11b Mode:

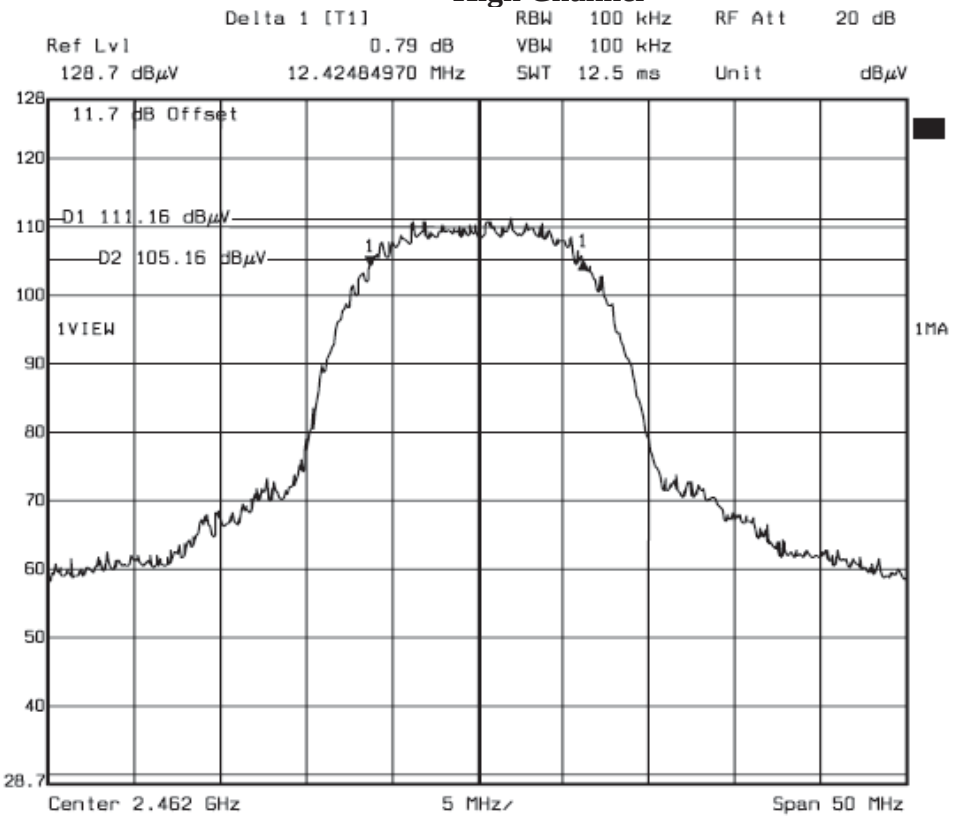
Low Channel



Middle Channel

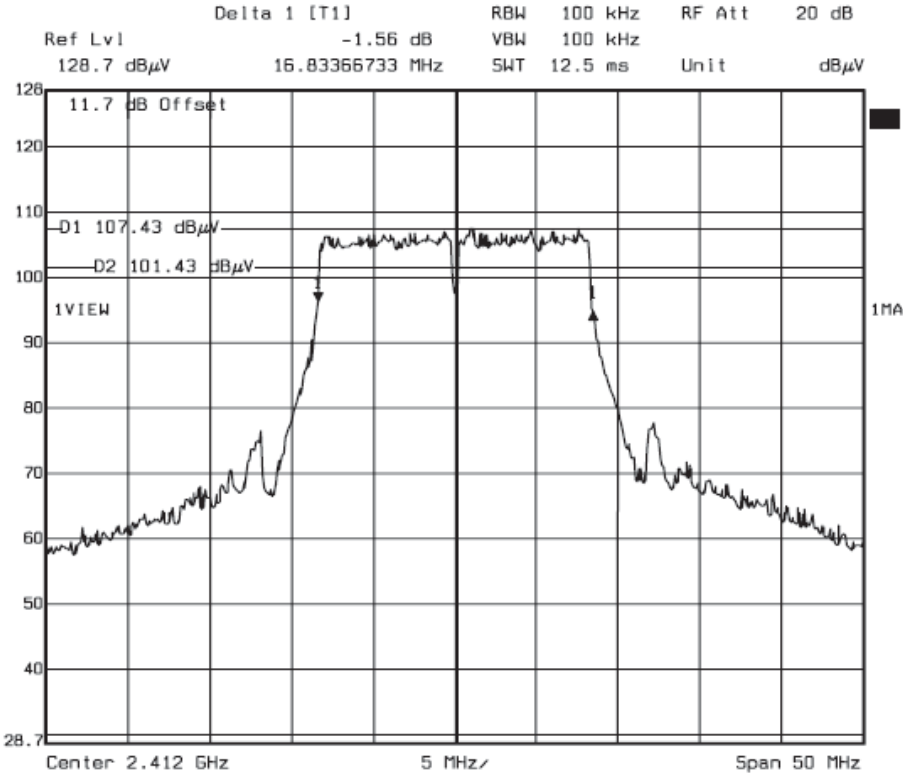


High Channel

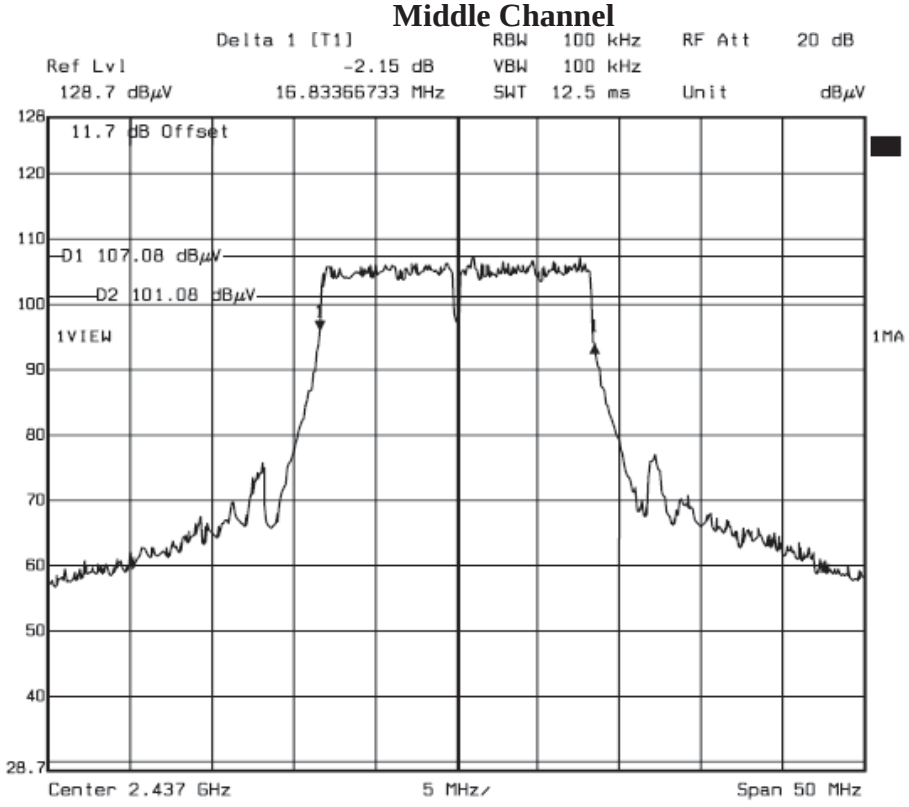


802.11g Mode:

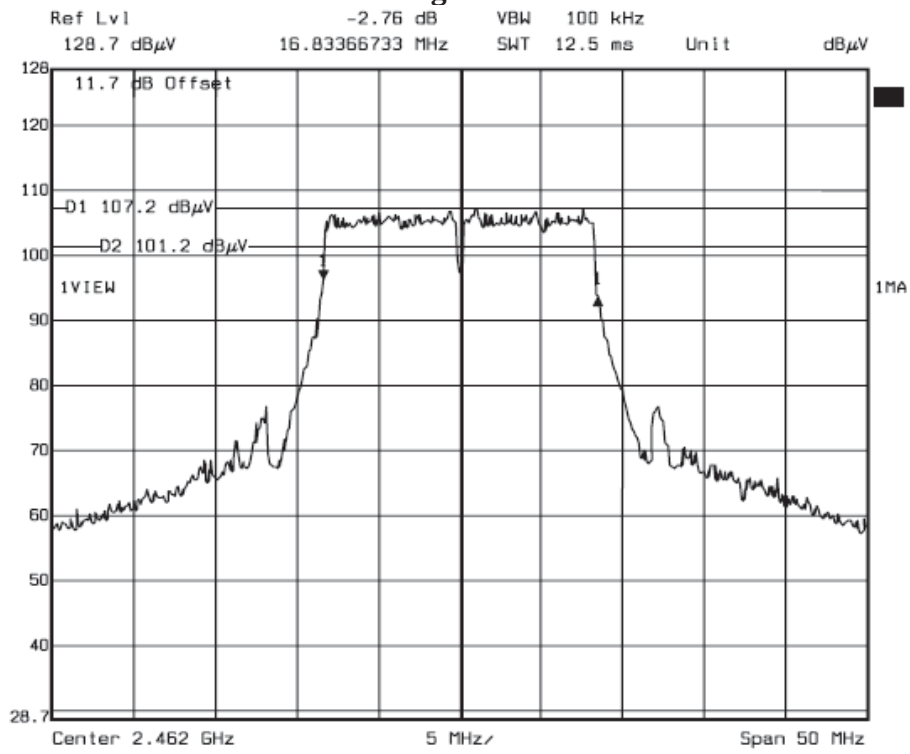
Low Channel



Middle Channel

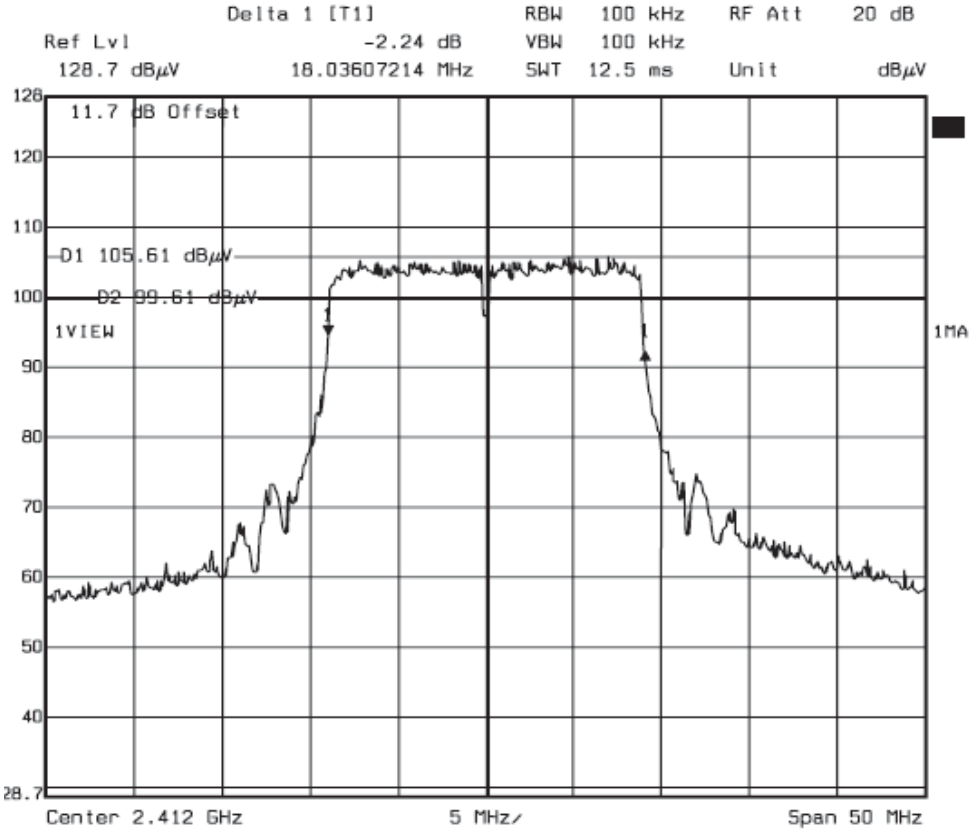


High Channel

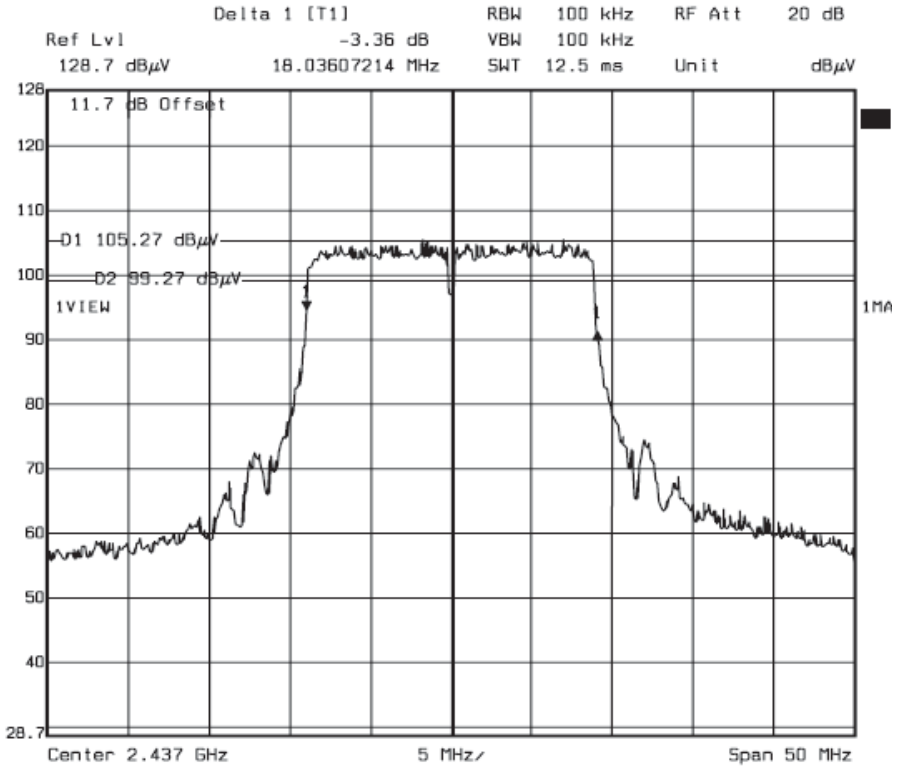


802.11n (20M) Mode:

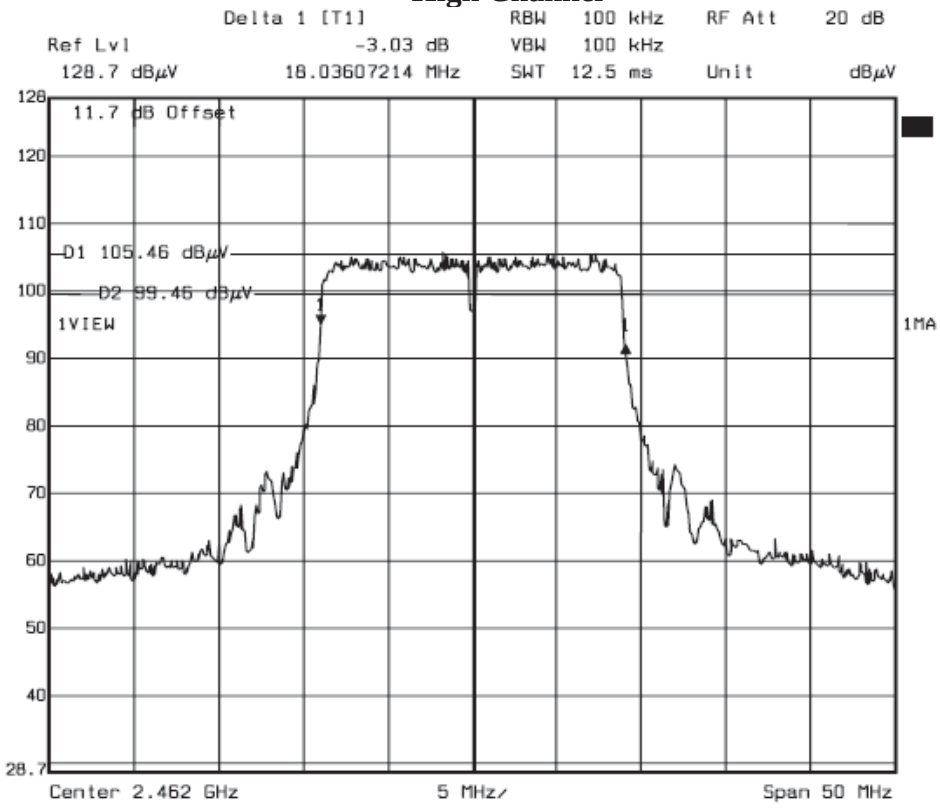
Low Channel



Middle Channel

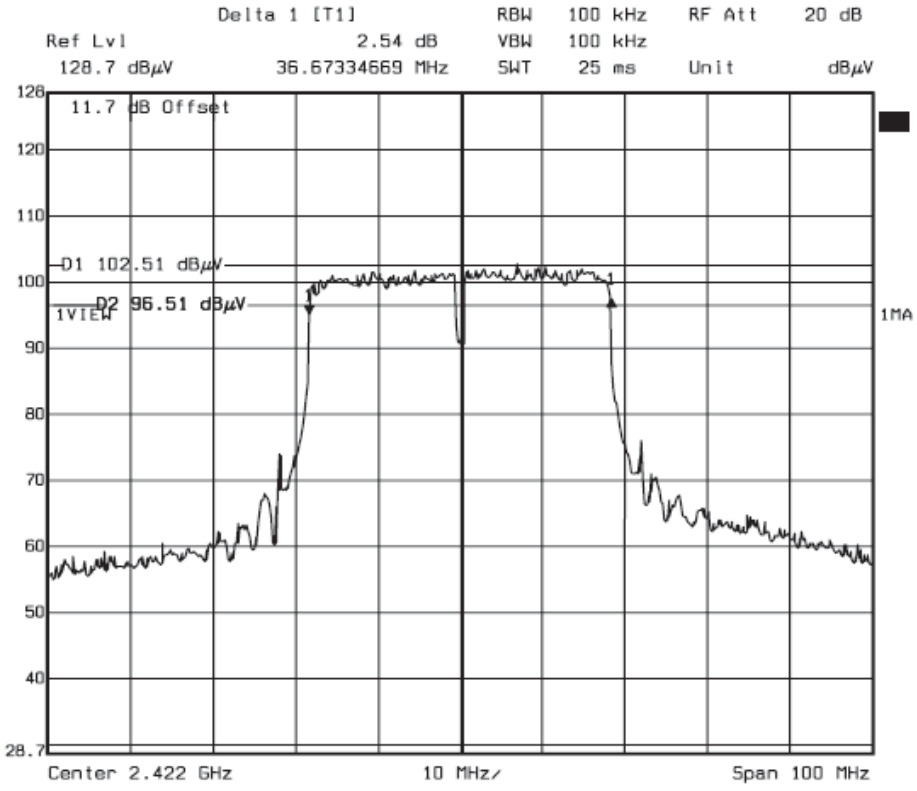


High Channel

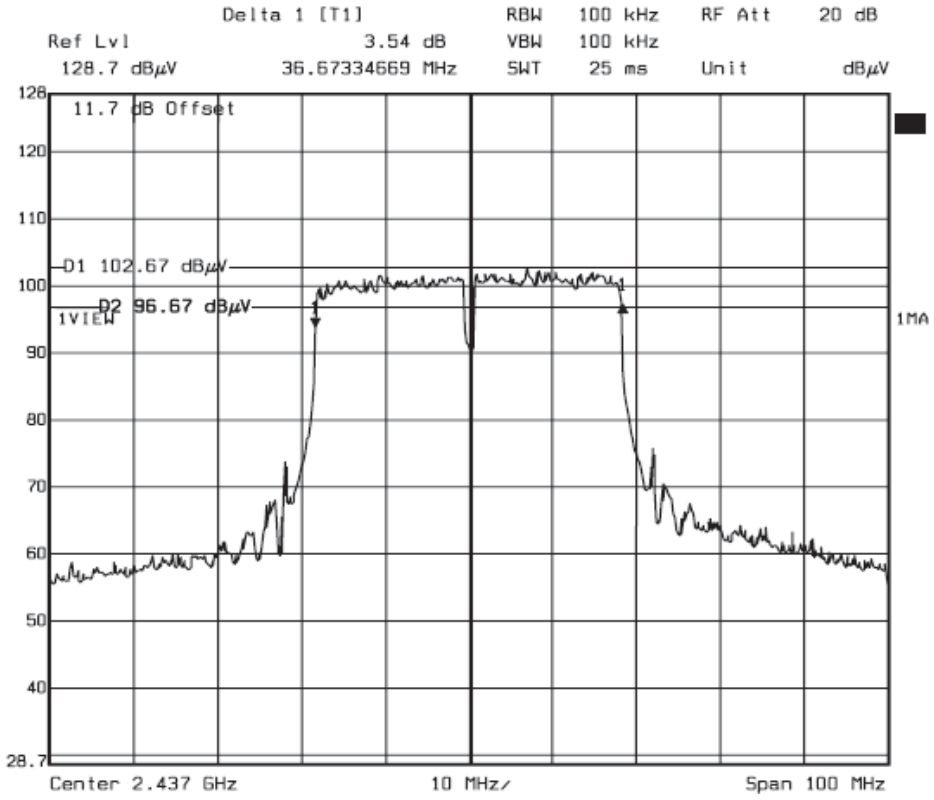


802.11n (40M) Mode:

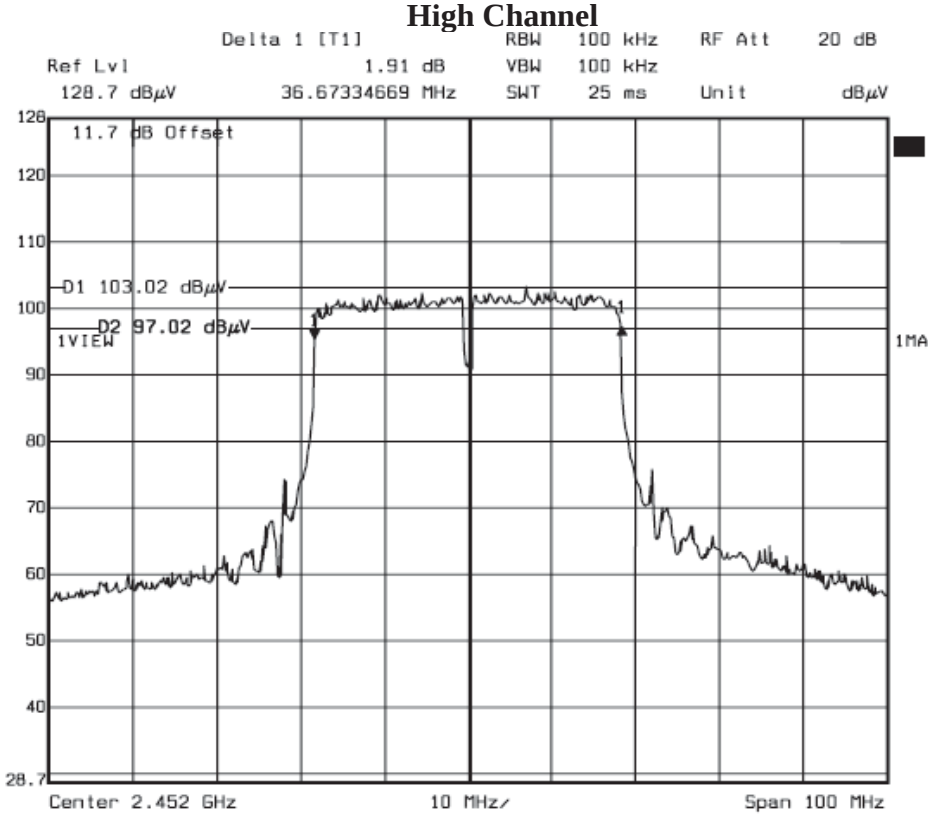
Low Channel



Middle Channel



High Channel



11. §15.247(B) (3) - Maximum Peak Output Power

11.1. Test Equipment

Please refer to Section 4 this report.

11.2.Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz.
3. Set VBW≥3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

11.3.Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

11.4. Test Result

Pass

802.11b Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	1	17.58	30
Mid	2437	1	17.23	30
High	2462	1	17.34	30

802.11g Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6	13.76	30
Mid	2437	6	13.45	30
High	2462	6	13.68	30

802.11n (20M) Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6.5	13.17	30
Mid	2437	6.5	13.28	30
High	2462	6.5	13.31	30

802.11n (40M) Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2422	13.5	13.22	30
Mid	2437	13.5	12.97	30
High	2452	13.5	13.16	30

12. §15.247(D) – 100 KHZ Bandwidth of Frequency Band Edge

12.1.Test Equipment

Please refer to Section 4 this report.

12.2.Test Procedure

1, Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2, Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3,Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
Note: For Rdstricted Band
RBW=1MHz
VBW=1 MHz
4, Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5,Repeat above procedures until all measured frequencies were complete.

12.3.Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

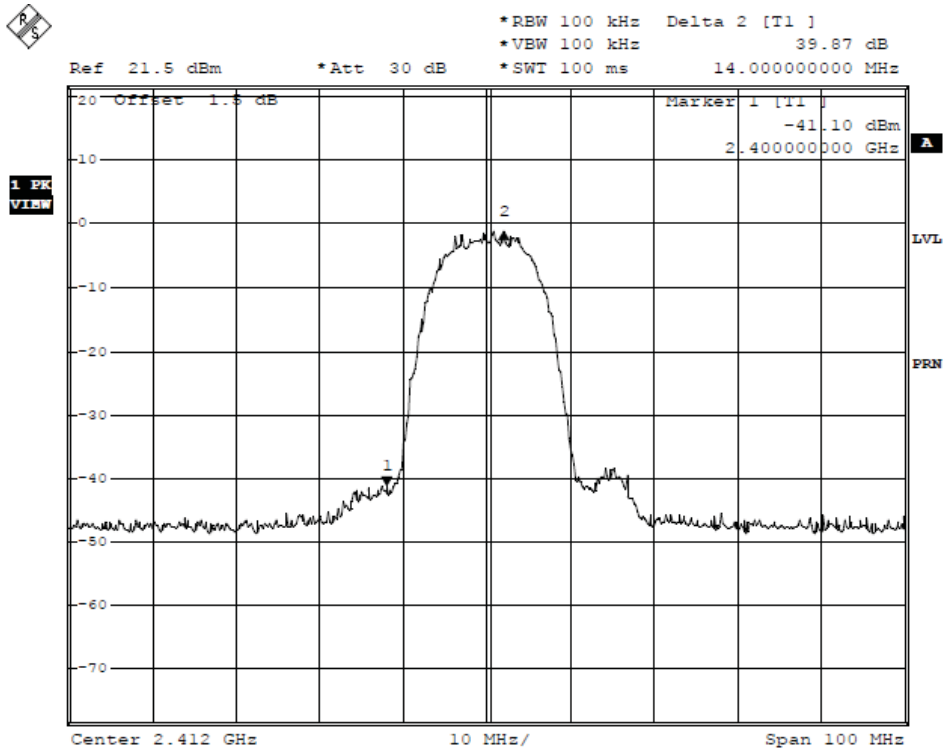
12.4.Test Result

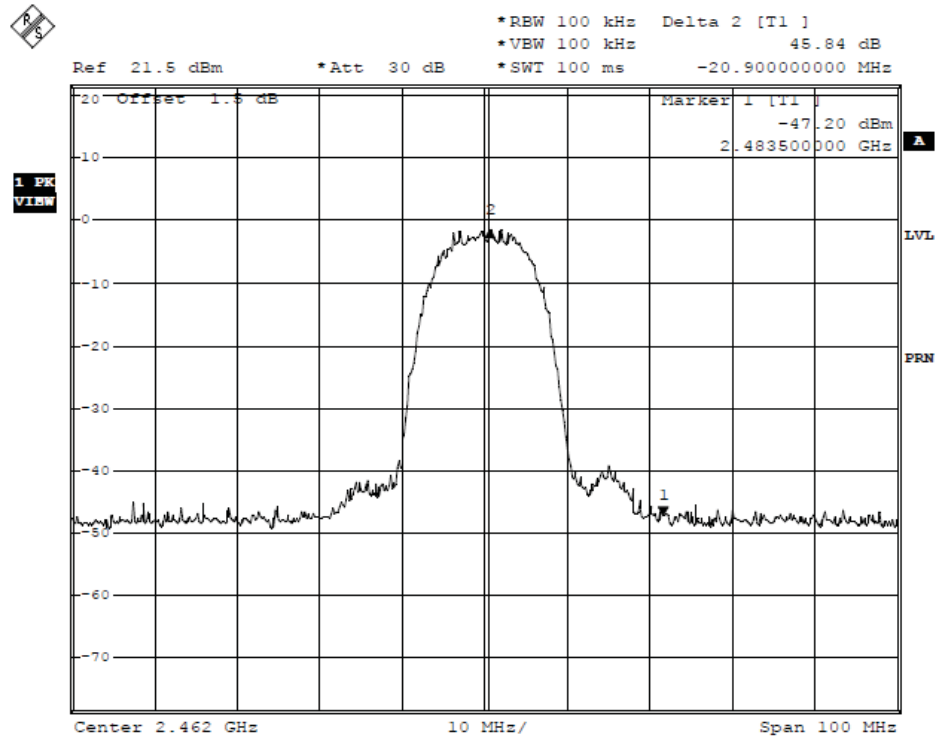
Pass.

Conducted test

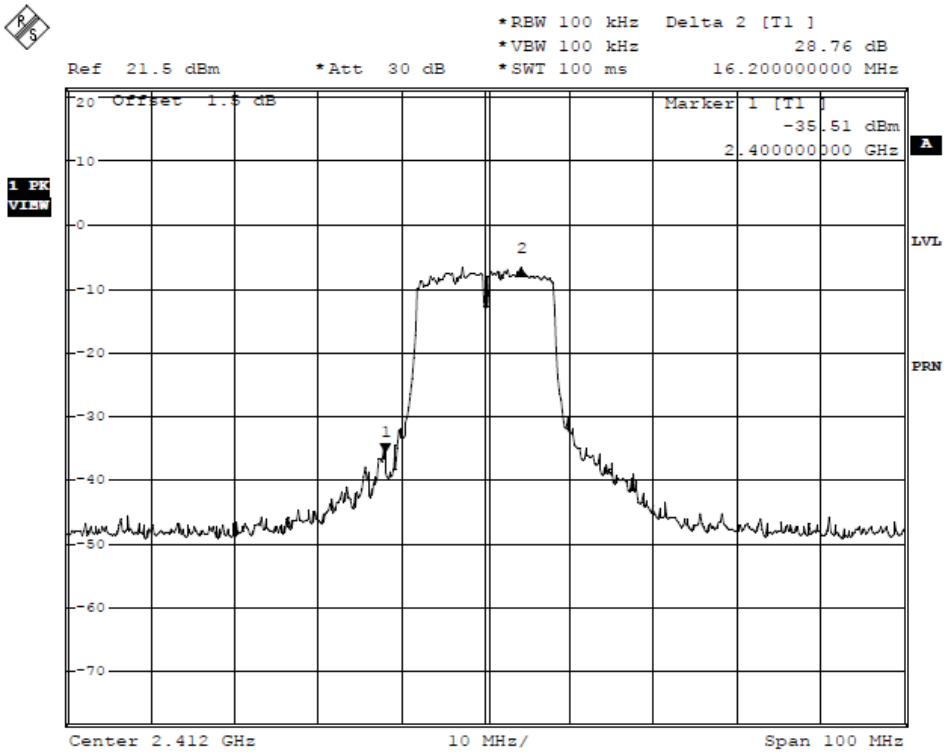
Chain 1

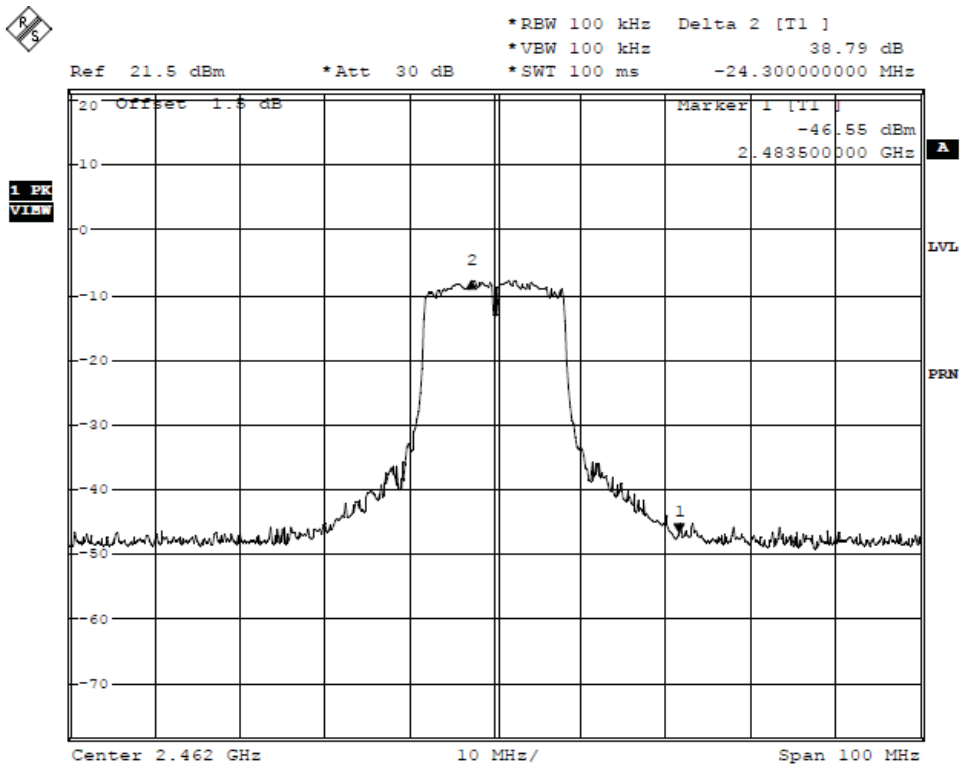
802.11b Mode:



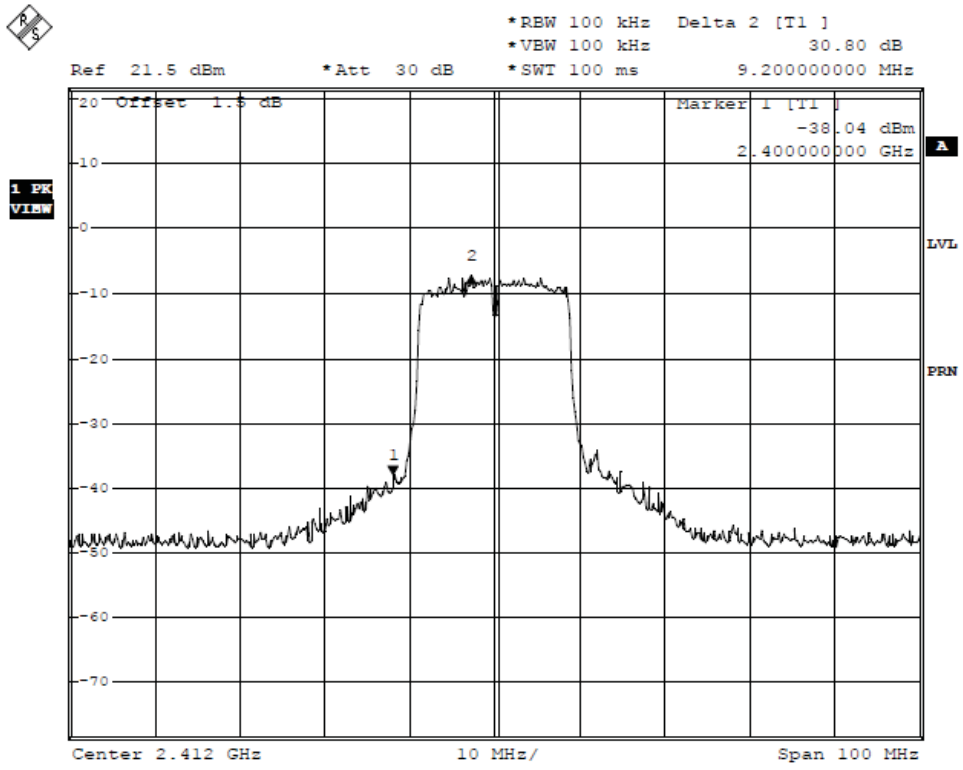


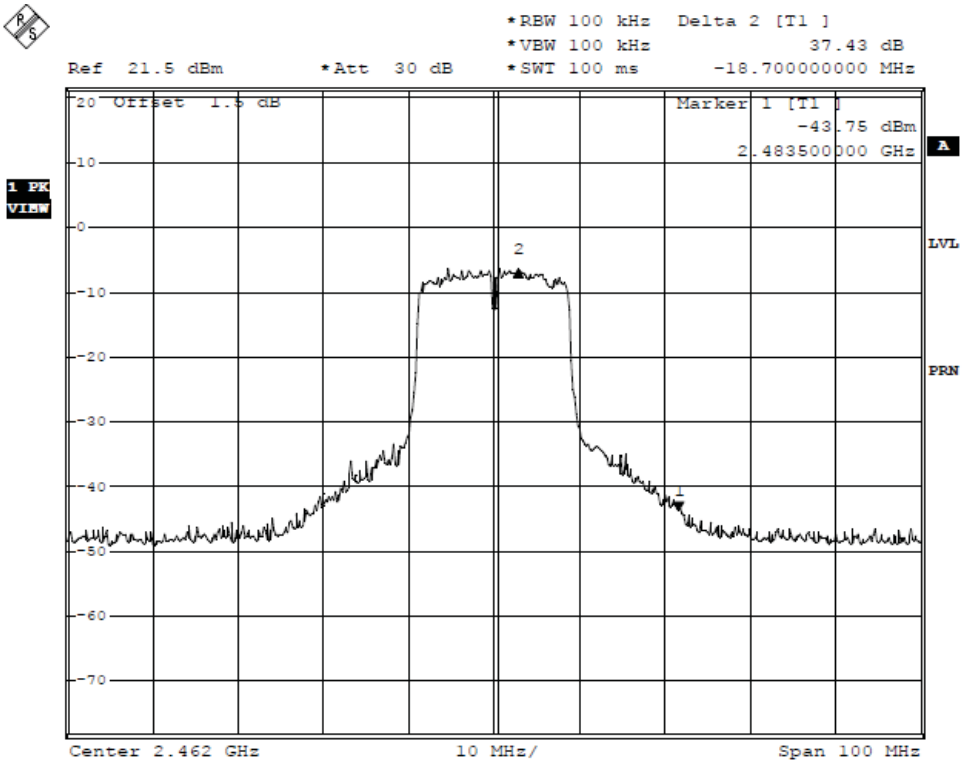
802.11g Mode:


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Delta 2 [T1]
28.76 dB
16.200000000 MHz
Ref 21.5 dBm
*Att 30 dB
Offset 1.5 dB
Marker 1 [T1]
-35.51 dBm
2.400000000 GHz
1 PK
VIEW
A
LVL
PRN
Center 2.412 GHz
10 MHz/
Span 100 MHz

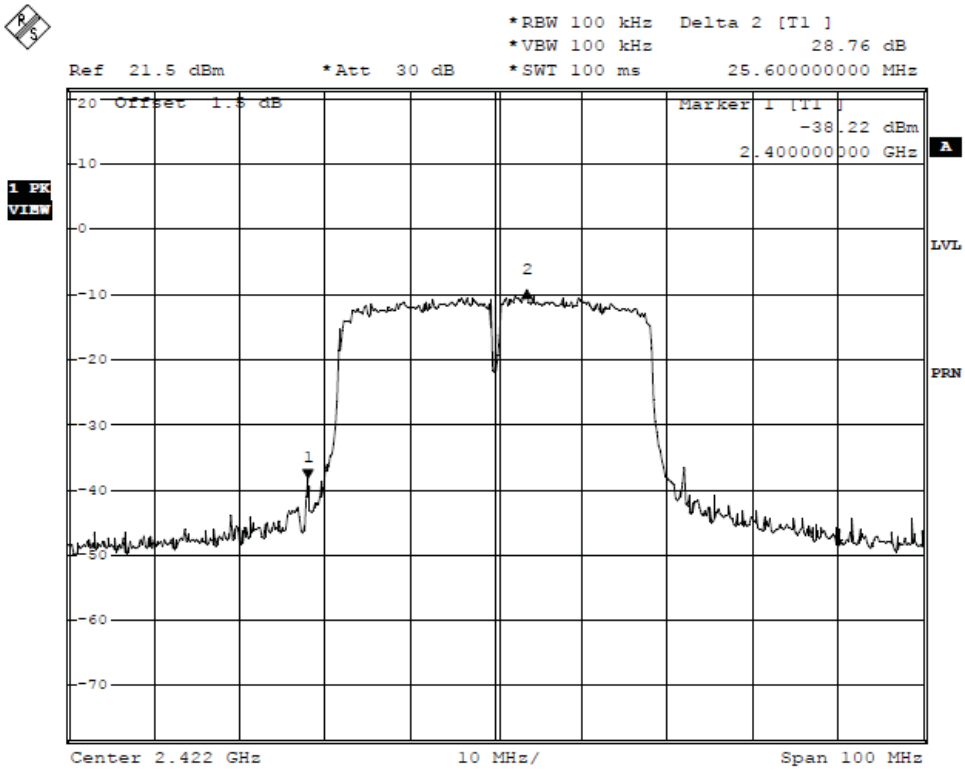

*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Delta 2 [T1]
38.79 dB
-24.300000000 MHz
Ref 21.5 dBm
*Att 30 dB
Offset 1.5 dB
Marker 1 [T1]
-46.55 dBm
2.483500000 GHz
1 PK
VIEW
A
LVL
PRN
Center 2.462 GHz
10 MHz/
Span 100 MHz

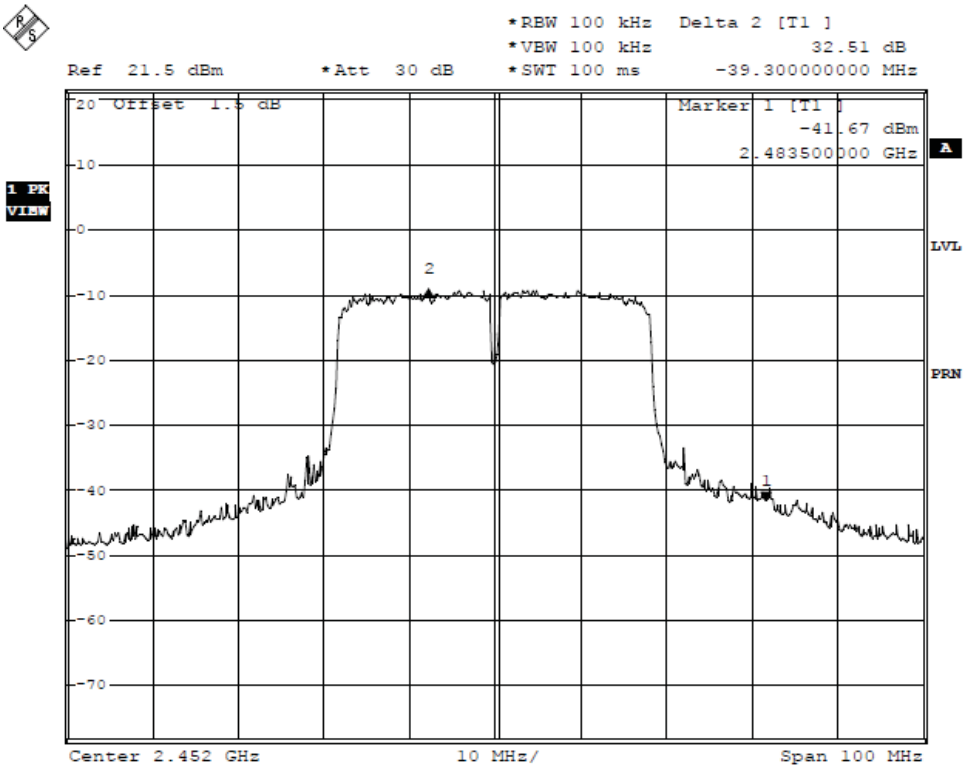
802.11n (20M) Mode:





802.11n (40M) Mode:





Radiated test

802.11b_Channel Low_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	24.839	56.496	-17.504	74.000	PEAK
2	*	2385.400	32.014	27.252	59.266	-14.734	74.000	PEAK
3		2390.000	32.036	27.229	59.265	-14.735	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	13.709	45.366	-8.634	54.000	AVERAGE
2		2385.400	32.014	14.948	46.962	-7.038	54.000	AVERAGE
3	*	2387.080	32.022	16.258	48.280	-5.720	54.000	AVERAGE
4		2390.000	32.036	15.692	47.728	-6.272	54.000	AVERAGE

802.11b_Channel Low_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	30.271	59.008	-14.992	74.000	PEAK
2	*	2386.100	28.482	32.668	61.150	-12.850	74.000	PEAK
3		2390.000	28.470	32.101	60.571	-13.429	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	17.483	46.220	-7.780	54.000	AVERAGE
2		2320.020	28.699	19.829	48.528	-5.472	54.000	AVERAGE
3	*	2390.000	28.470	20.368	48.838	-5.162	54.000	AVERAGE

802.11b_Channel High_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	27.352	59.832	-14.168	74.000	PEAK
2		2500.000	32.557	26.412	58.970	-15.030	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	15.409	47.889	-6.111	54.000	AVERAGE
2		2500.000	32.557	14.895	47.453	-6.547	54.000	AVERAGE

802.11b_Channel High_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	26.097	54.252	-19.748	74.000	PEAK
2		2500.000	28.142	25.999	54.141	-19.859	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	14.653	42.808	-11.192	54.000	AVERAGE
2		2500.000	28.142	14.208	42.350	-11.650	54.000	AVERAGE

802.11g_Channel Low_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	23.553	55.210	-18.790	74.000	PEAK
2	*	2390.000	32.036	29.149	61.185	-12.815	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	13.584	45.241	-8.759	54.000	AVERAGE
2		2360.200	31.891	16.082	47.973	-6.027	54.000	AVERAGE
3	*	2390.000	32.036	16.079	48.115	-5.885	54.000	AVERAGE

802.11g_Channel Low_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	24.804	53.541	-20.459	74.000	PEAK
2	*	2389.040	28.473	28.574	57.047	-16.953	74.000	PEAK
3		2390.000	28.470	27.628	56.098	-17.902	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	13.271	42.008	-11.992	54.000	AVERAGE
2		2389.040	28.473	14.395	42.868	-11.132	54.000	AVERAGE
3	*	2390.000	28.470	14.820	43.290	-10.710	54.000	AVERAGE

802.11g_Channel High_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	31.658	64.138	-9.862	74.000	PEAK
2		2500.000	32.557	25.605	58.163	-15.837	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	15.949	48.429	-5.571	54.000	AVERAGE
2		2500.000	32.557	14.314	46.872	-7.128	54.000	AVERAGE

802.11g_Channel High_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	30.785	58.940	-15.060	74.000	PEAK
2		2500.000	28.142	25.495	53.637	-20.363	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	15.111	43.266	-10.734	54.000	AVERAGE
2		2500.000	28.142	13.854	41.996	-12.004	54.000	AVERAGE

802.11n (20M)_Channel Low_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	24.065	55.722	-18.278	74.000	PEAK
2	*	2390.000	32.036	35.865	67.901	-6.099	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2390.000	32.036	18.961	50.997	-3.003	54.000	AVERAGE

802.11n (20M)_Channel Low_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	24.191	52.928	-21.072	74.000	PEAK
2	*	2390.000	28.470	33.967	62.437	-11.563	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	13.212	41.949	-12.051	54.000	AVERAGE
2	*	2390.000	28.470	17.495	45.965	-8.035	54.000	AVERAGE

802.11n (20M)_Channel High_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	35.215	67.695	-6.305	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	32.480	17.933	50.413	-3.587	54.000	AVERAGE

802.11n(20M)_Channel High_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	35.206	63.361	-10.639	74.000	PEAK
2		2500.000	28.142	24.454	52.596	-21.404	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	17.536	45.691	-8.309	54.000	AVERAGE
2		2500.000	28.142	11.864	40.006	-13.994	54.000	AVERAGE

802.11n (40M)_Channel Low_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	24.755	56.412	-17.588	74.000	PEAK
2	*	2386.100	32.017	34.669	66.686	-7.314	74.000	PEAK
3		2390.000	32.036	32.164	64.200	-9.800	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	31.658	13.708	45.365	-8.635	54.000	AVERAGE
2	*	2390.000	32.036	18.453	50.489	-3.511	54.000	AVERAGE

802.11n (40M)_Channel Low_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	25.250	53.987	-20.013	74.000	PEAK
2	*	2386.100	28.482	32.914	61.396	-12.604	74.000	PEAK
3		2390.000	28.470	31.791	60.261	-13.739	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.738	13.340	42.077	-11.923	54.000	AVERAGE
2		2386.100	28.482	16.970	45.452	-8.548	54.000	AVERAGE
3	*	2390.000	28.470	18.143	46.613	-7.387	54.000	AVERAGE

802.11n (40M)_Channel High_Hor

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	32.480	34.937	67.417	-6.583	74.000	PEAK
2	*	2487.400	32.499	37.107	69.606	-4.394	74.000	PEAK
3		2500.000	32.557	29.895	62.453	-11.547	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	32.480	17.741	50.221	-3.779	54.000	AVERAGE
2	*	2484.200	32.483	17.845	50.328	-3.672	54.000	AVERAGE
3		2500.000	32.557	13.991	46.549	-7.451	54.000	AVERAGE

802.11n(40M)_Channel High_Ver

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	28.156	30.303	58.458	-15.542	74.000	PEAK
2	*	2484.800	28.150	32.521	60.671	-13.329	74.000	PEAK
3		2500.000	28.142	25.160	53.302	-20.698	74.000	PEAK

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	28.156	16.690	44.845	-9.155	54.000	AVERAGE
2		2484.800	28.150	16.555	44.705	-9.295	54.000	AVERAGE
3		2500.000	28.142	13.621	41.763	-12.237	54.000	AVERAGE

13. §15.247(E) - Power Spectral Density

13.1. Test Equipment

Please refer to Section 4 this report.

13.2.Test Procedure

1,Set EUT in the transmitting mode.
2,Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3,Set the spectrum analyzer as RBW=3KHz,VBW=10KHz,Span=1.5MHz,Sweep=500S.
4,Record the max.reading
5, Repeat the above procedure until the measurements for all frequencies are completed.

13.3.Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

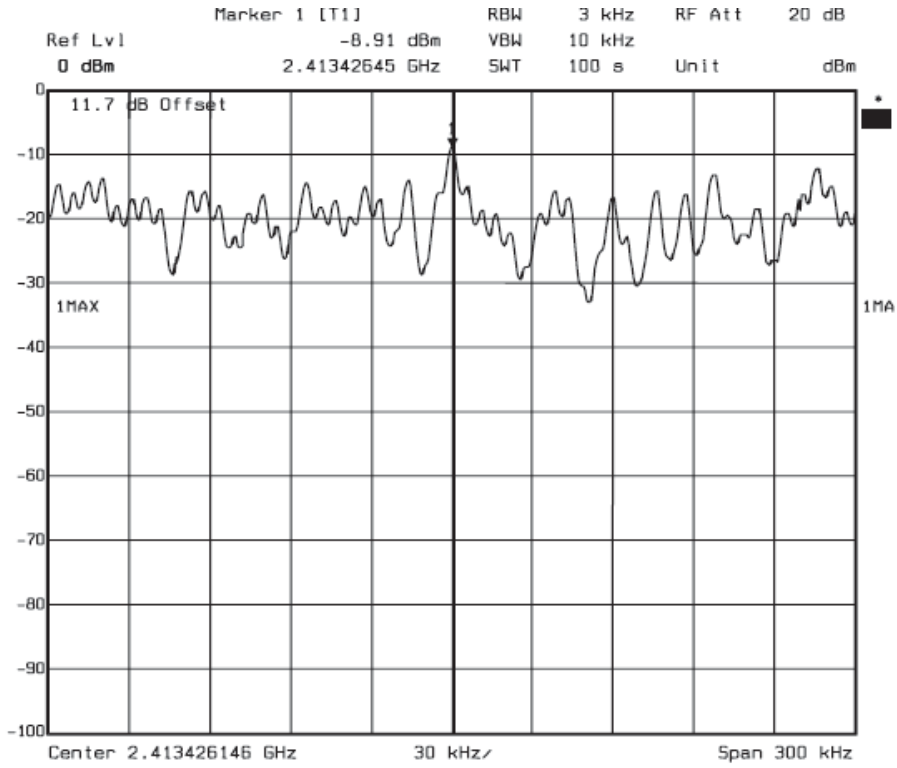
13.4.Test Result

PASS

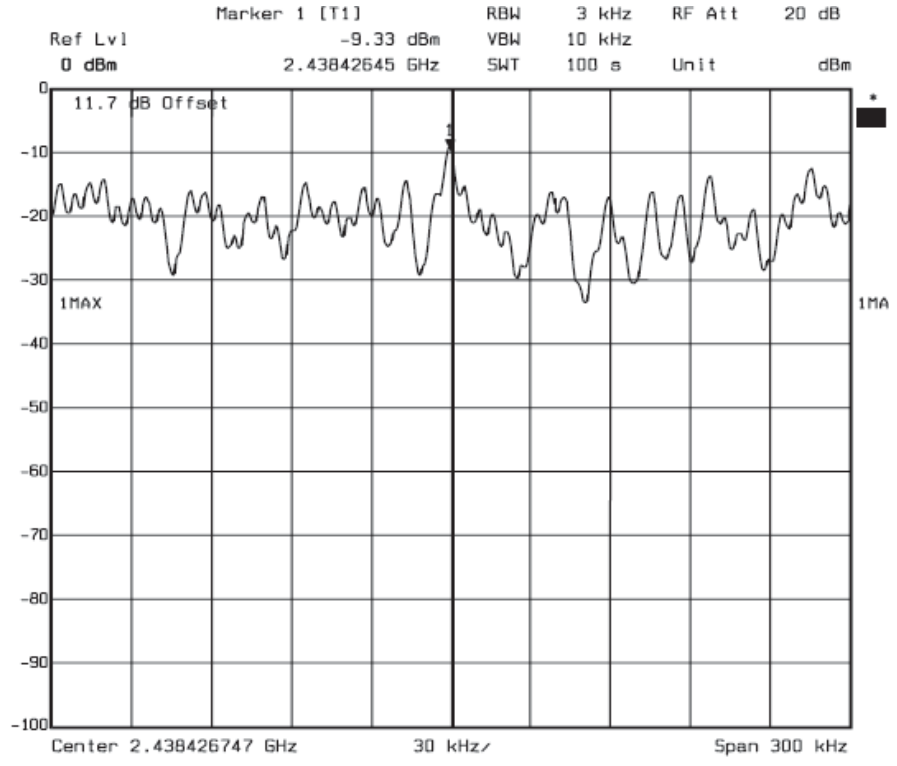
Channel Frequency (MHz)	Data Rate (Mbps)	PSD (dBm/3kHz)	Limit (dBm/3kHZ)	RESULT
802.11b Mode				
2412	1	-8.91	8	Compliant
2437	1	-9.33	8	Compliant
2462	1	-10.22	8	Compliant
802.11g Mode				
2412	6	-13.63	8	Compliant
2437	6	-14.30	8	Compliant
2462	6	-13.52	8	Compliant
802.11n (20M) Mode				
2412	6	-17.58	8	Compliant
2437	6	-16.58	8	Compliant
2462	6	-16.97	8	Compliant
802.11n (40M) Mode				
2412	6	-18.87	8	Compliant
2437	6	-19.60	8	Compliant
2462	6	-19.55	8	Compliant

802.11b Mode:

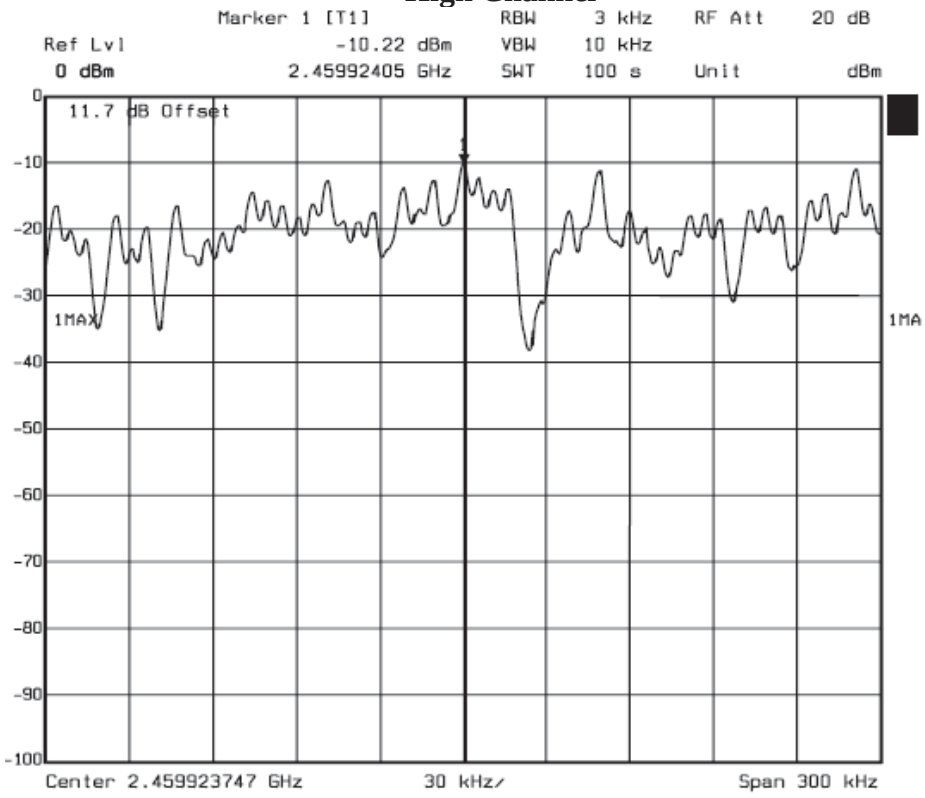
Low Channel



Middle Channel

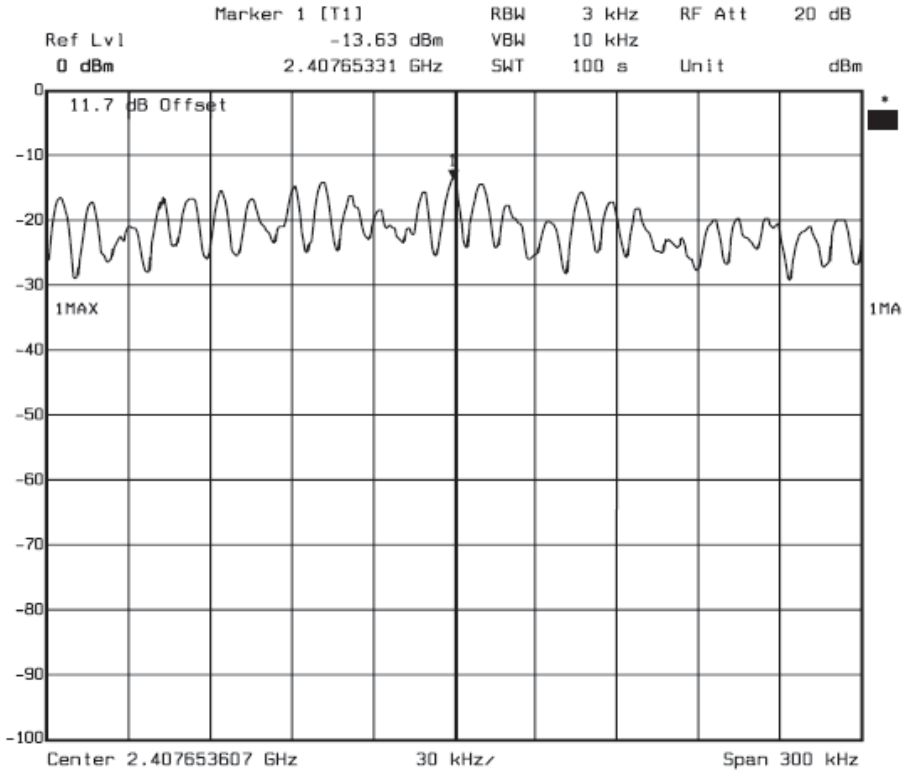


High Channel

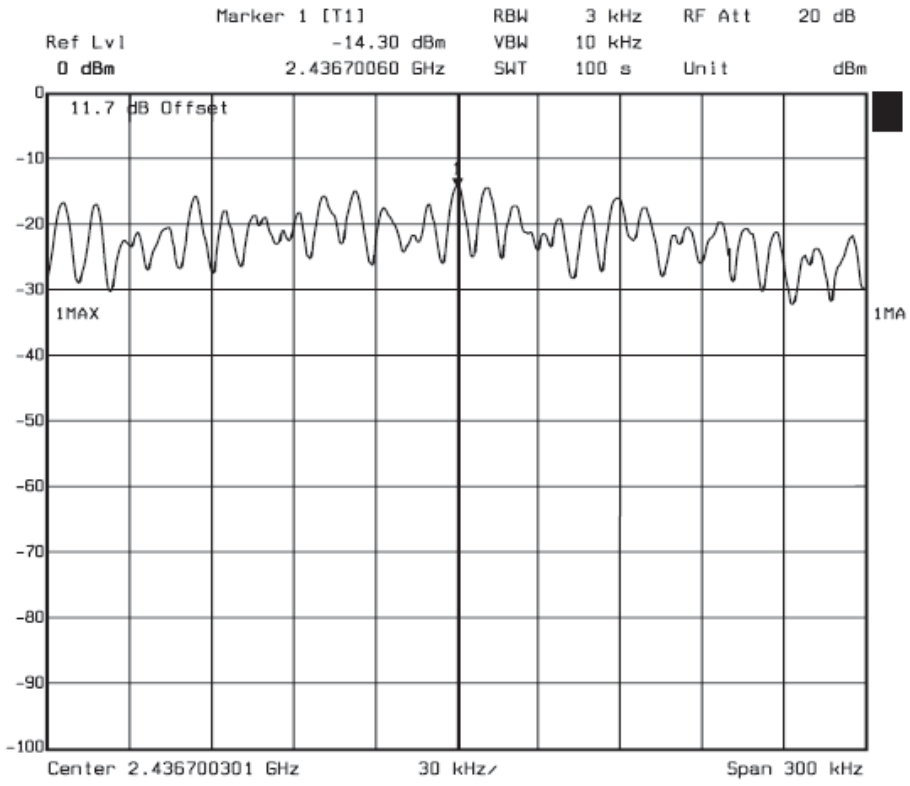


802.11g Mode:

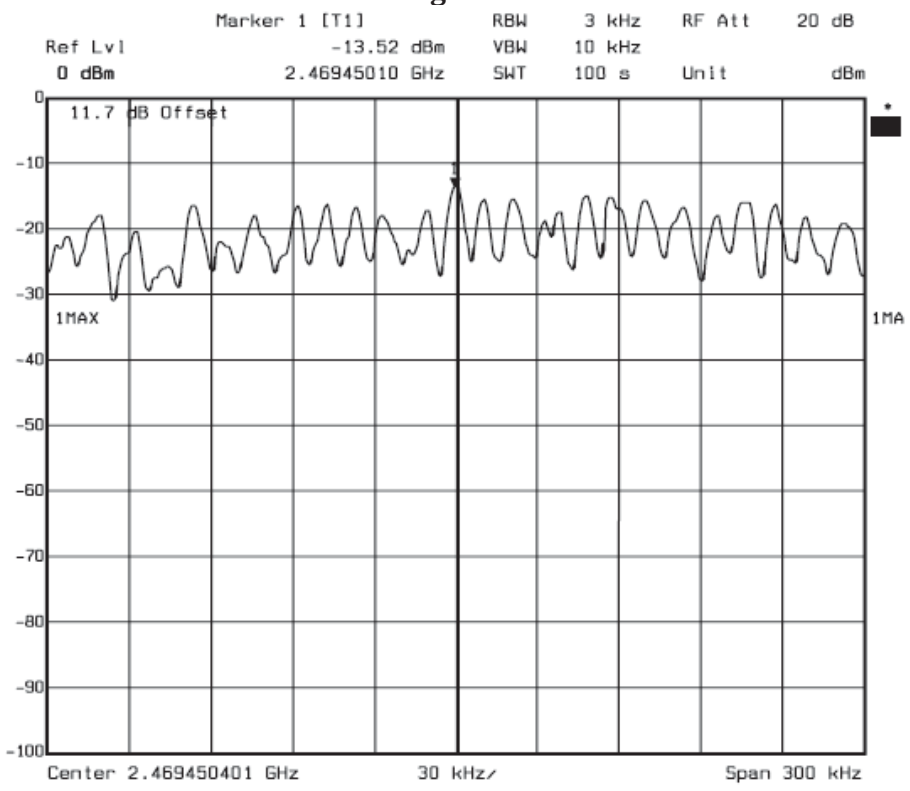
Low Channel



Middle Channel

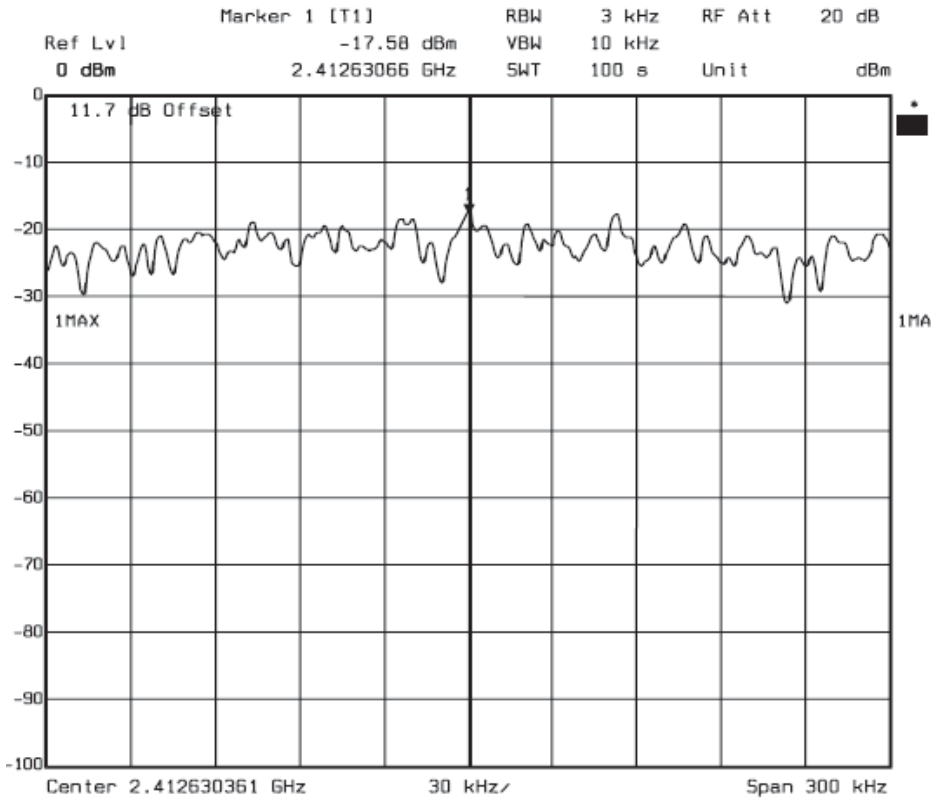


High Channel

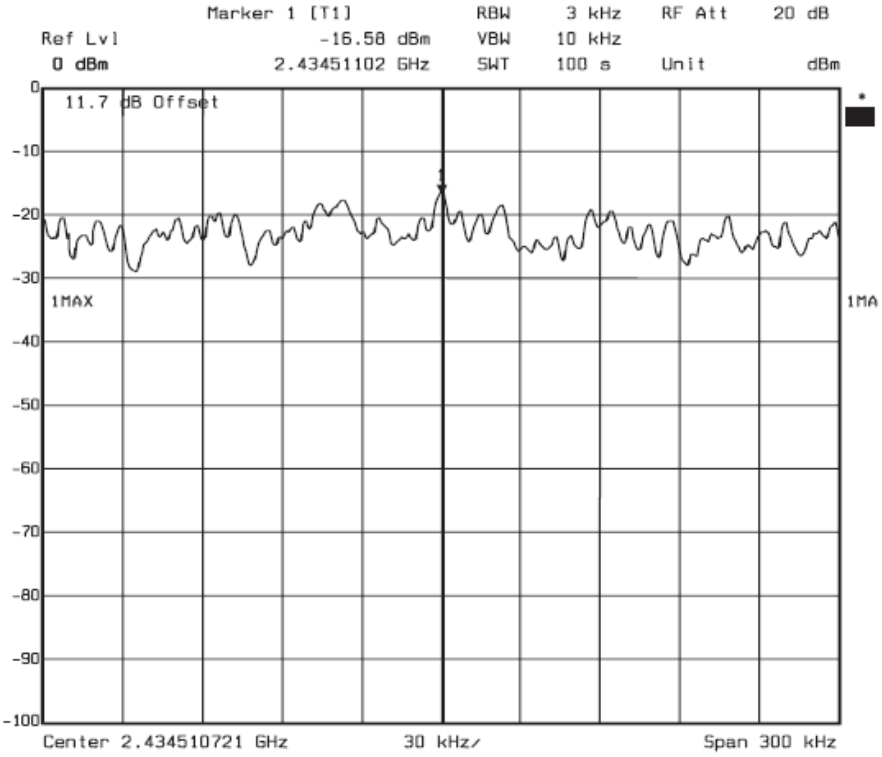


802.11n (20M) Mode:

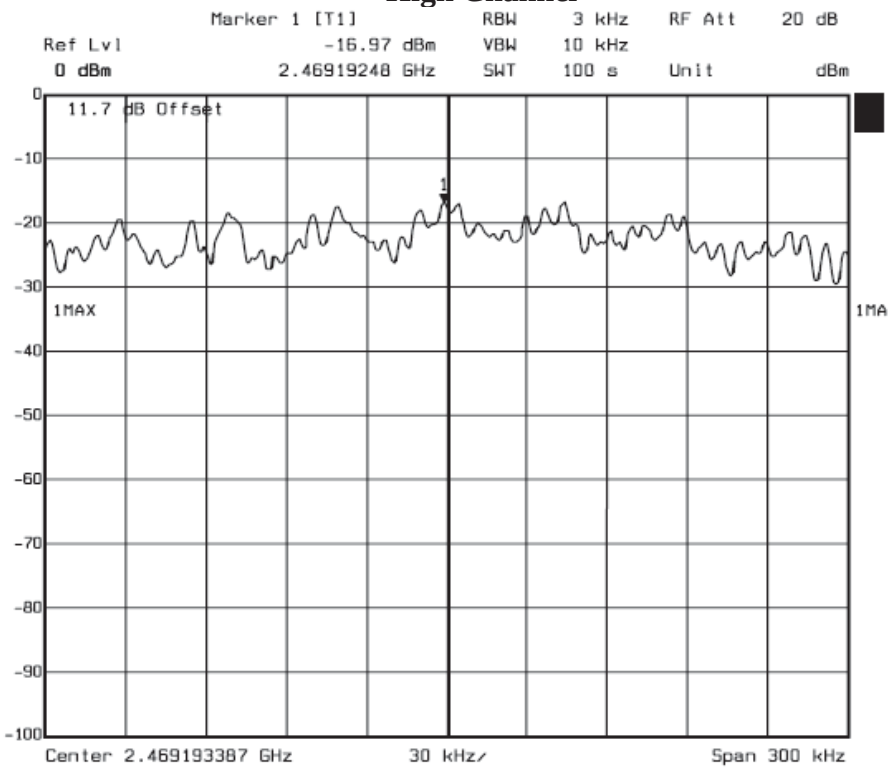
Low Channel



Middle Channel

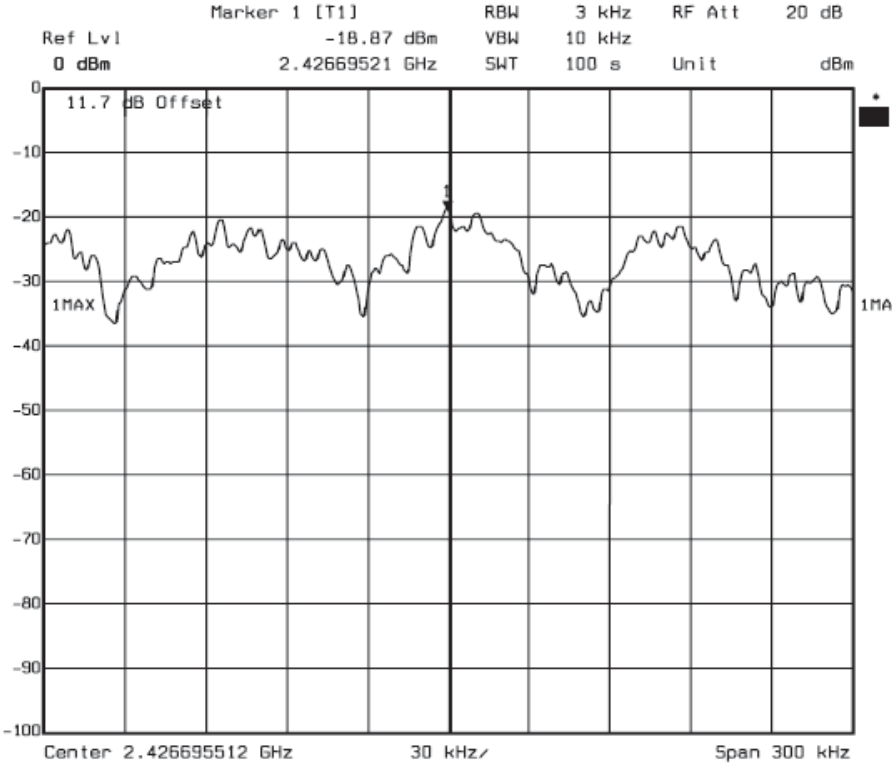


High Channel

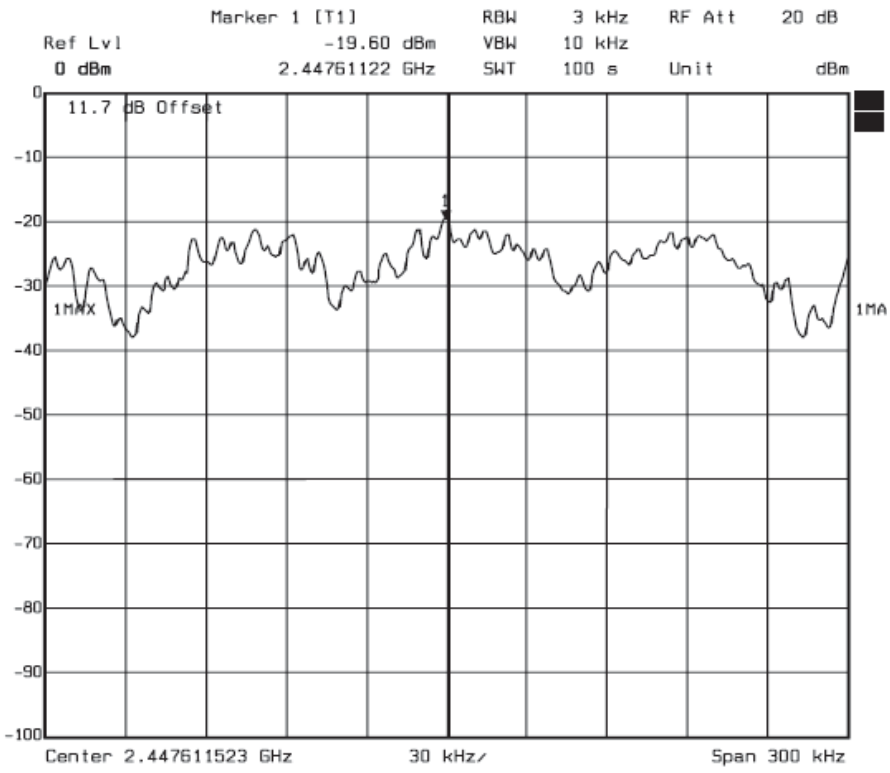


802.11n (40M) Mode:

Low Channel



Middle Channel



High Channel