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: ZHHFI8XXXW

April 19, 2011

This Report Concerns: Original Report	Equipment Type： Wireless IP Camera
Test Engineer:	Jack Liu
Report No.:	BST11040058Y-1ER-3
Receive EUT Date/Test Date:	April 7, 2011/ April 7-19, 2011
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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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.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

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
emitel (Shenzhen) Limited
(FCC Registered Test Site Number: 746887) on
Building 2, 171 Meihua Road, Futian District, Shenzhen, 518049 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: OFDM
Model Number	:	FI8918W, FI8601W, FI8602W, FI8605W, FI8608W, FI8618W, FI8904W, FI8905W, FI8906W, FI8907W
Antenna Type	:	Integral Antenna
Antenna gain	:	0dBi(2.4GHz)

2.2. Block Diagram of EUT Configuration

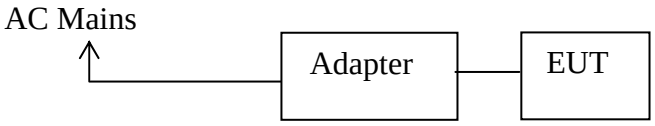


Figure 1 EUT SETUP of Wireless mode

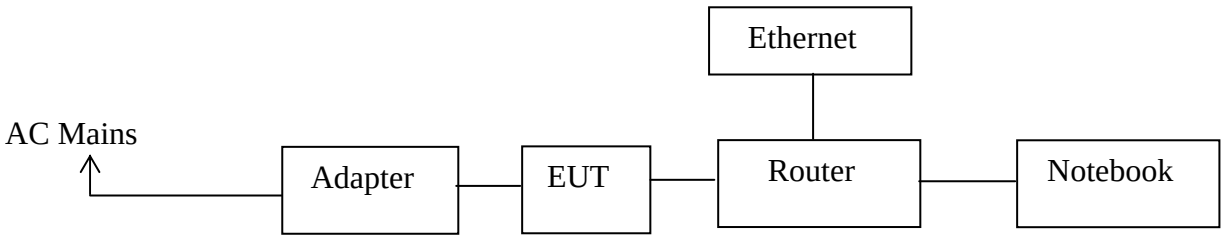


Figure 2 EUT SETUP of Wire mode

2.3. Support Equipment List

Table 2 Ancillary Equipment

Name	Model No	S/N	Manufacturer	Used "√"
AC/DC Adapter	SAW-0502000	--	--	√
Notebook	PP10L	X1247 A01	DELL	√
Router	TL-WR841ND	09789401323	TP-LINK	√

2.4. Test Conditions

Temperature: 23~25℃
Relative Humidity: 55~63 %

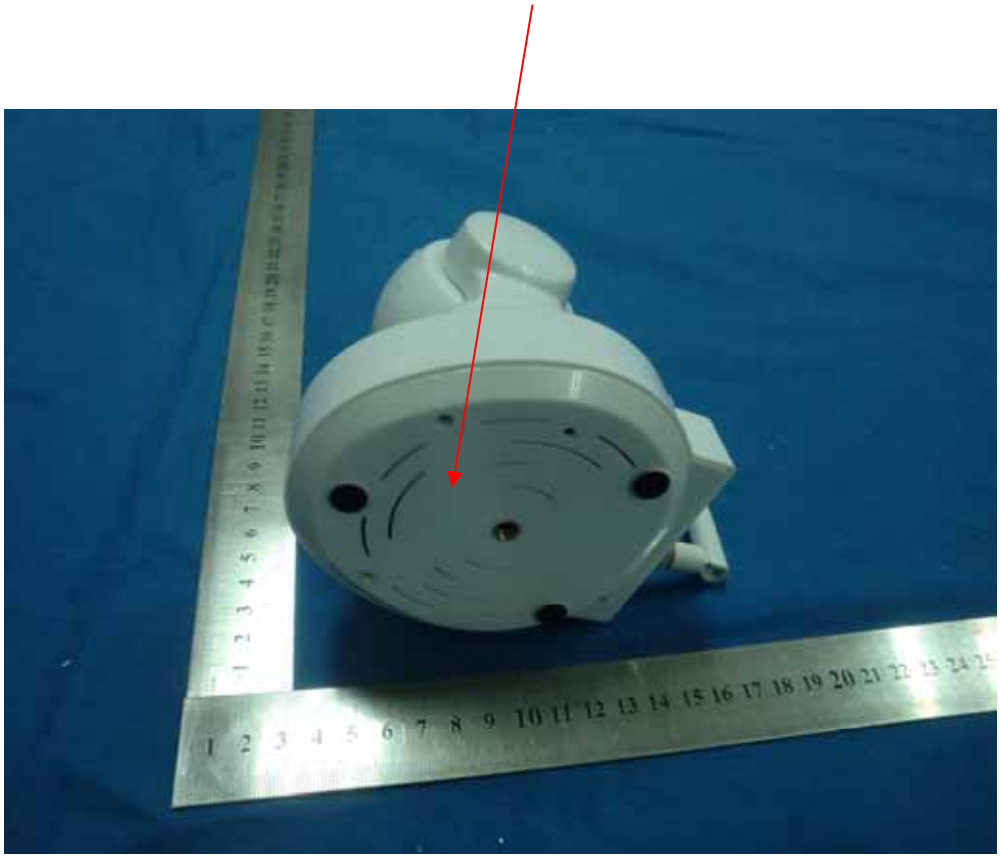
3. FCC ID LABEL

FCC ID: ZHHFI8XXXW

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 10，2011	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10，2011	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10，2011	1 Year
LISN	Rohde＆Schwarz	ESH3-Z5	100305	Mar 10，2011	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10，2011	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESP13	100180	Oct.11,2010	1 Year
Spectrum Analyzer	Rohde＆Schwarz	FSP40	100273	Sep.10,2010	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9m×6m×6m	N/A	Feb.20,2011	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2011	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2011	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2011	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2010	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2010	1 Year
Ultra Broadband Antenna	Rohde＆Schwarz	HL-562	100110	June.15,2010	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100196	Oct.11,2010	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100197	Oct.11,2010	1 Year
Pulse Limiter	Rohde＆Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde＆Schwarz	NRVD	100041	Feb.20,2011	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESCS30	100003	Feb.20,2011	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2010	1 Year
Radio Communication Test Set	Rohde＆Schwarz	CMS 54	846621/024	Feb.20,2011	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2011	1 Year
Absorbing clamp	Rohde＆Schwarz	MDS-21	N/A	Oct.11,2010	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

According to FCC Exclusion list, In the following table, f_{GHz} is mid-band frequency in GHz, and d is the distance to a person'sbody, excluding hands, wrists, feet, and ankles.

Exposure category	low threshold	high threshold
general population	$(60/f_{GHz})$ mW, $d < 2.5$ cm $(120/f_{GHz})$ mW, $d \geq 2.5$ cm	$(900/f_{GHz})$ mW, $d < 20$ cm
occupational	$(375/f_{GHz})$ mW, $d < 2.5$ cm $(900/f_{GHz})$ mW, $d \geq 2.5$ cm	$(2250/f_{GHz})$ mW, $d < 20$ cm

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

6.2. Test Result

Measurement Result:

The Max peak output power is 23.5mW<24.9mW.

The SAR measurement is not required.

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.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

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

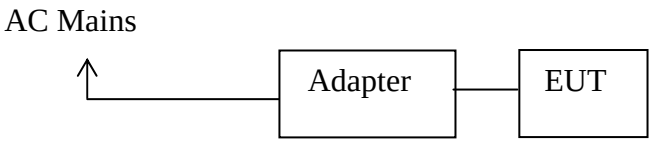


Figure 1 EUT SETUP of Wireless mode

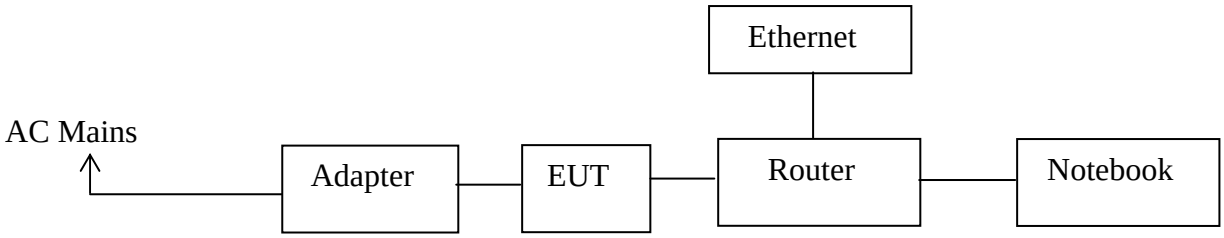
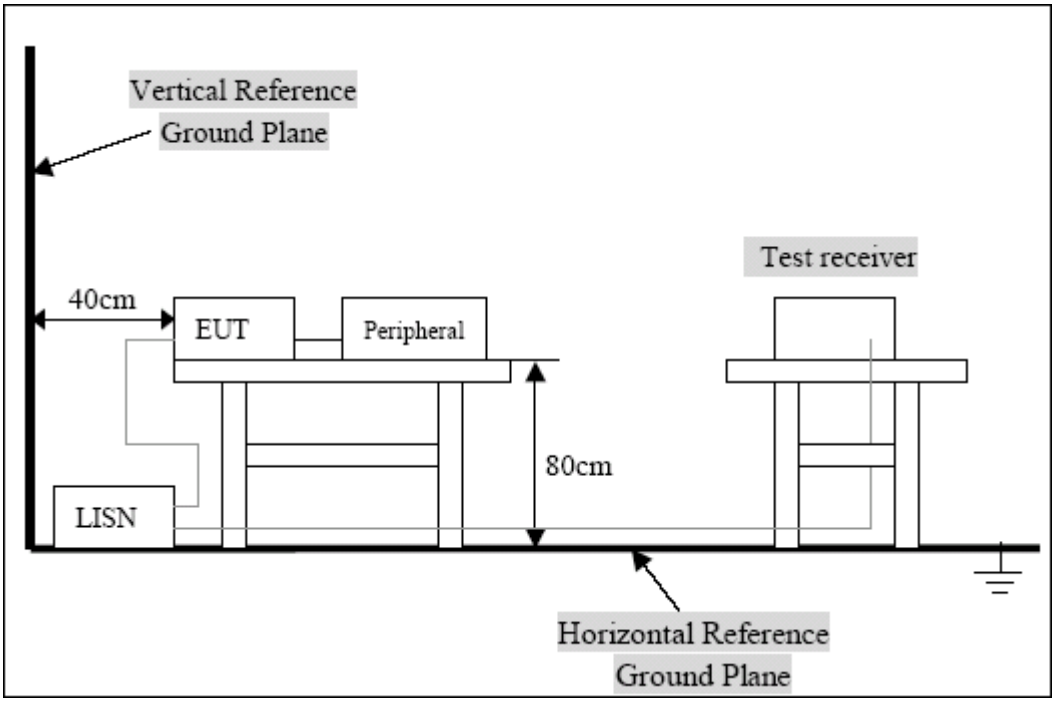


Figure 2 EUT SETUP of Wire mode

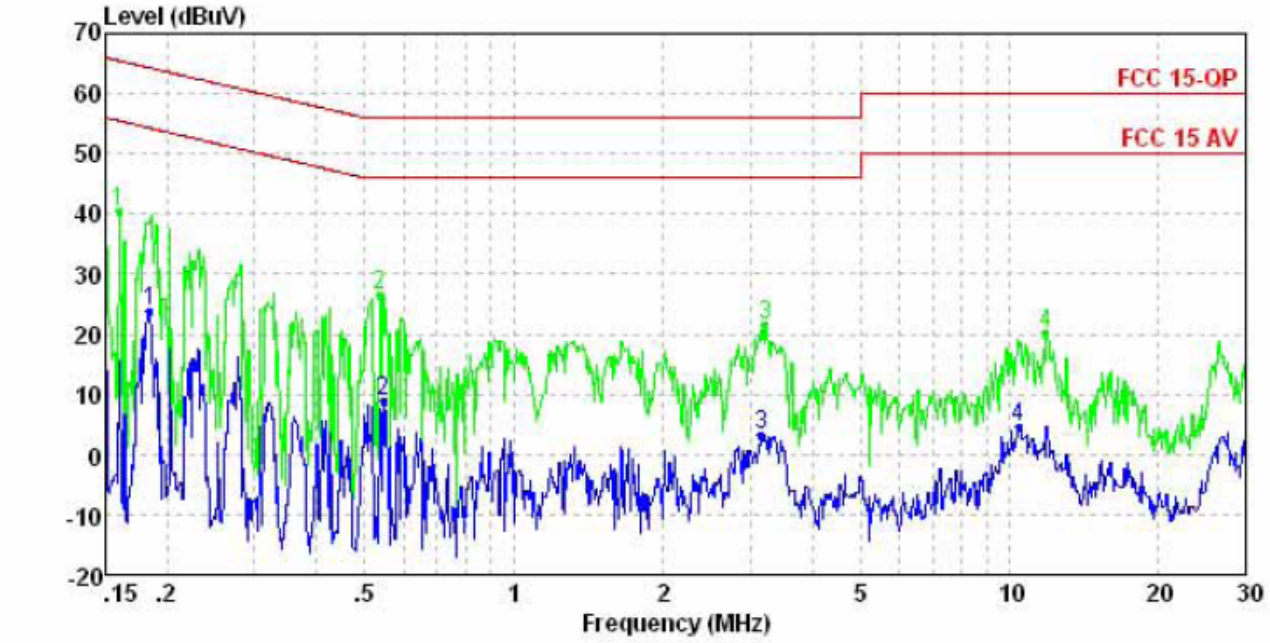
8.4.2.Test Setup Diagram



8.5. Conducted Power Line Test Result

Pass.

For Wireless mode L line



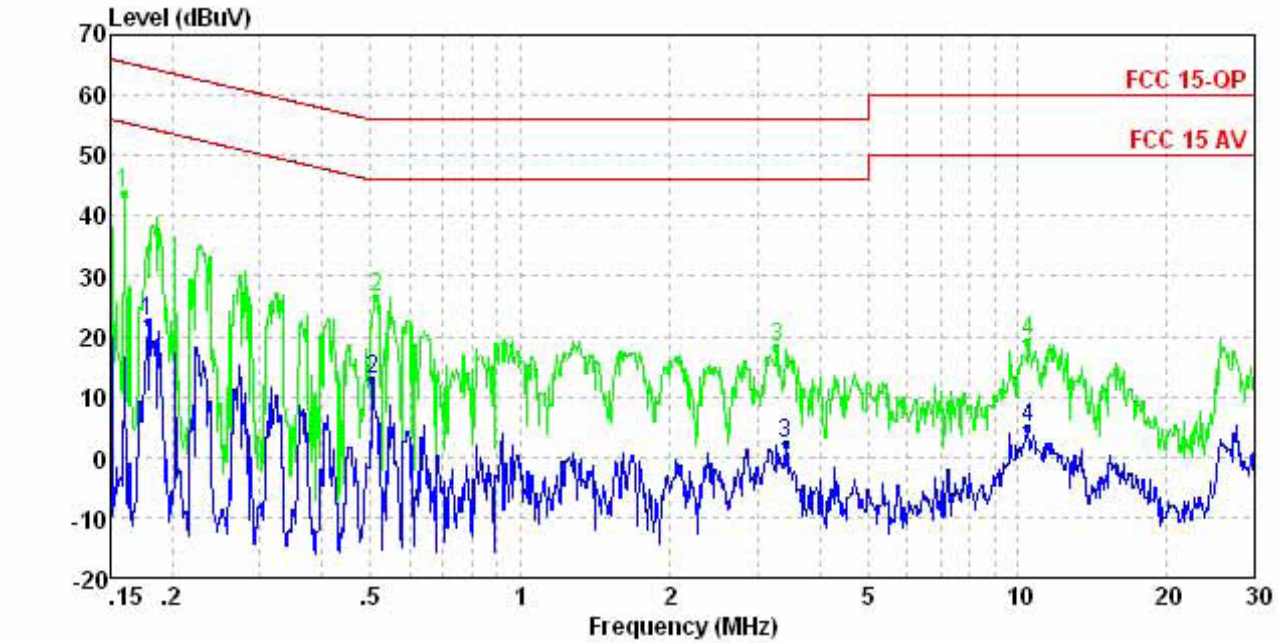
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.18	23.91	54.28	-30.37	Average	LINE
2	0.55	8.91	46.00	-37.09	Average	LINE
3	3.16	3.36	46.00	-42.64	Average	LINE
4	10.45	4.65	50.00	-45.35	Average	LINE

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.16	40.32	65.47	-25.15	Peak	LINE
2	0.53	26.47	56.00	-29.53	Peak	LINE
3	3.22	21.56	56.00	-34.44	Peak	LINE
4	11.87	20.16	60.00	-39.84	Peak	LINE

For Wireless mode N line



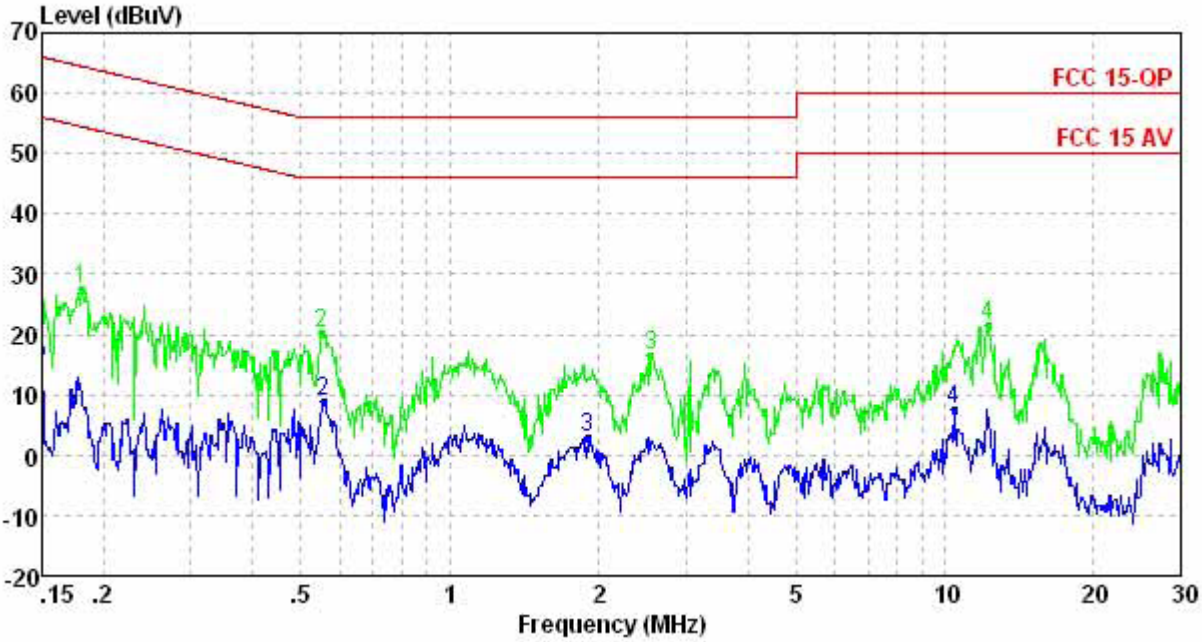
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.18	22.56	54.55	-31.99	Average	NEUTRAL
2	0.50	12.82	46.00	-33.18	Average	NEUTRAL
3	3.42	2.26	46.00	-43.74	Average	NEUTRAL
4	10.51	4.93	50.00	-45.07	Average	NEUTRAL

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.16	43.78	65.47	-21.69	Peak	NEUTRAL
2	0.51	26.47	56.00	-29.53	Peak	NEUTRAL
3	3.28	18.19	56.00	-37.81	Peak	NEUTRAL
4	10.51	19.19	60.00	-40.81	Peak	NEUTRAL

For Wire mode L line



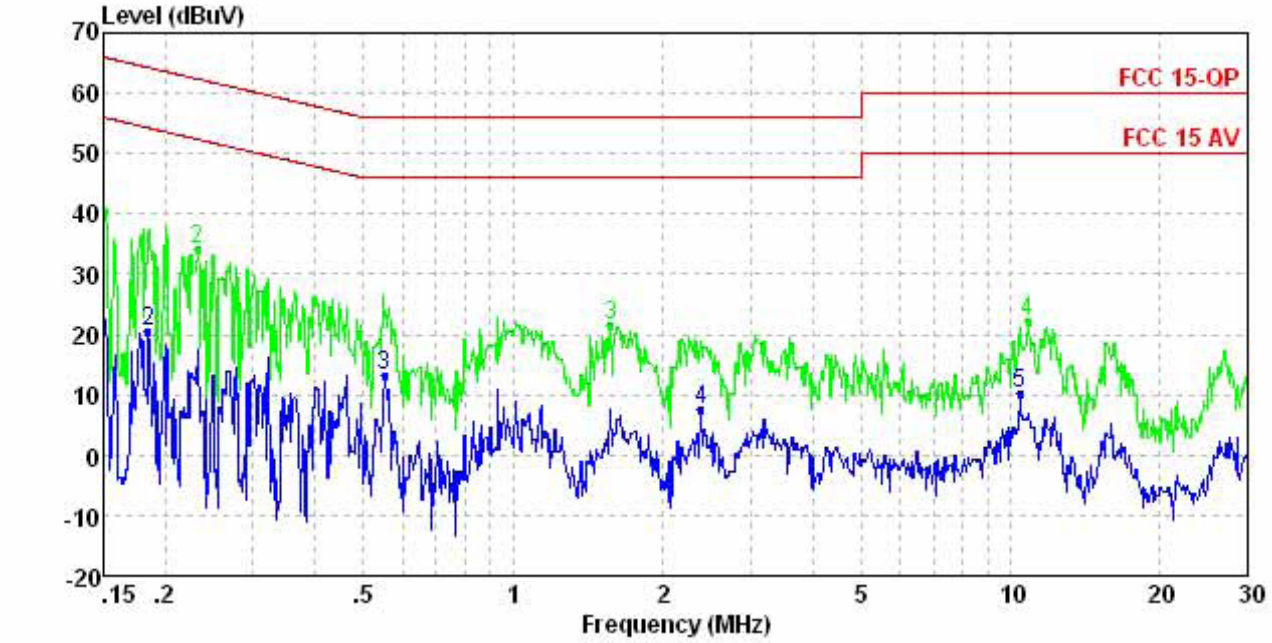
Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1	0.15	17.57	56.00	-38.43	Average	LINE
2 Max	0.56	8.83	46.00	-37.17	Average	LINE
3	1.90	2.87	46.00	-43.13	Average	LINE
4	10.45	7.49	50.00	-42.51	Average	LINE

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1	0.18	27.41	64.46	-37.05	Peak	LINE
2 Max	0.55	20.15	56.00	-35.85	Peak	LINE
3	2.55	16.39	56.00	-39.61	Peak	LINE
4	12.25	21.39	60.00	-38.61	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	0.15	22.21	56.00	-33.79	Average	NEUTRAL
2		0.18	20.63	54.28	-33.65	Average	NEUTRAL
3		0.55	13.30	46.00	-32.70	Average	NEUTRAL
4		2.38	7.50	46.00	-38.50	Average	NEUTRAL
5		10.45	10.14	50.00	-39.86	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	40.61	65.96	-25.35	Peak	NEUTRAL
2		0.23	33.99	62.39	-28.40	Peak	NEUTRAL
3		1.57	21.39	56.00	-34.61	Peak	NEUTRAL
4		10.85	22.09	60.00	-37.91	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

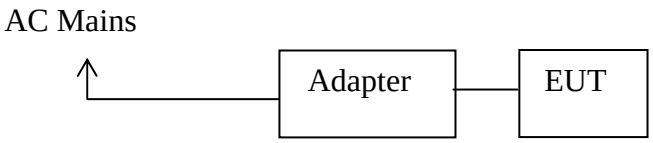


Figure 1 EUT SETUP of Wireless mode

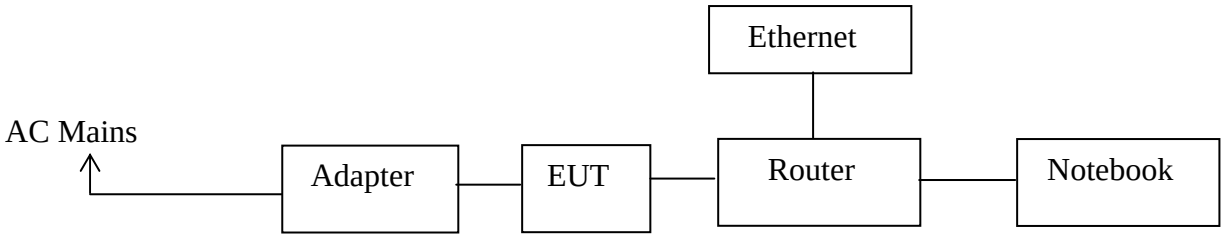
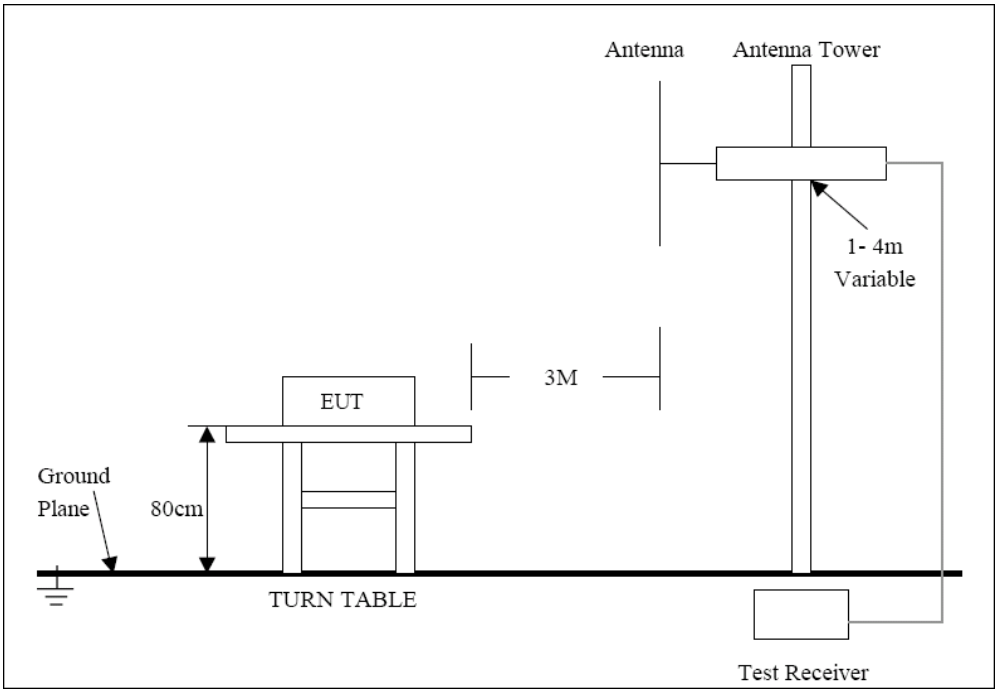


Figure 2 EUT SETUP of Wire mode

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:

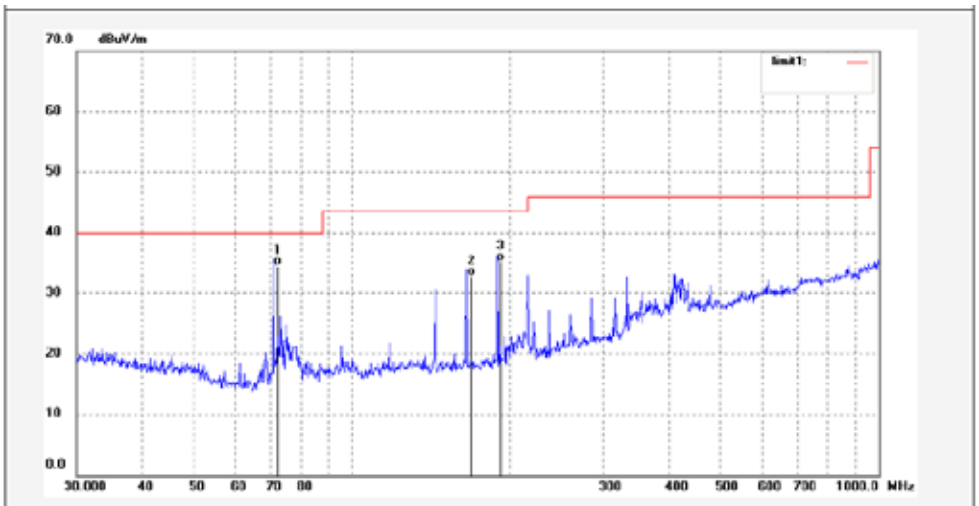
Frequency (MHz)	Distance (m)	Field Strength (dBuV/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
ABOVE 960	3	54.0

9.5. Radiated Emission Test Result

Pass.

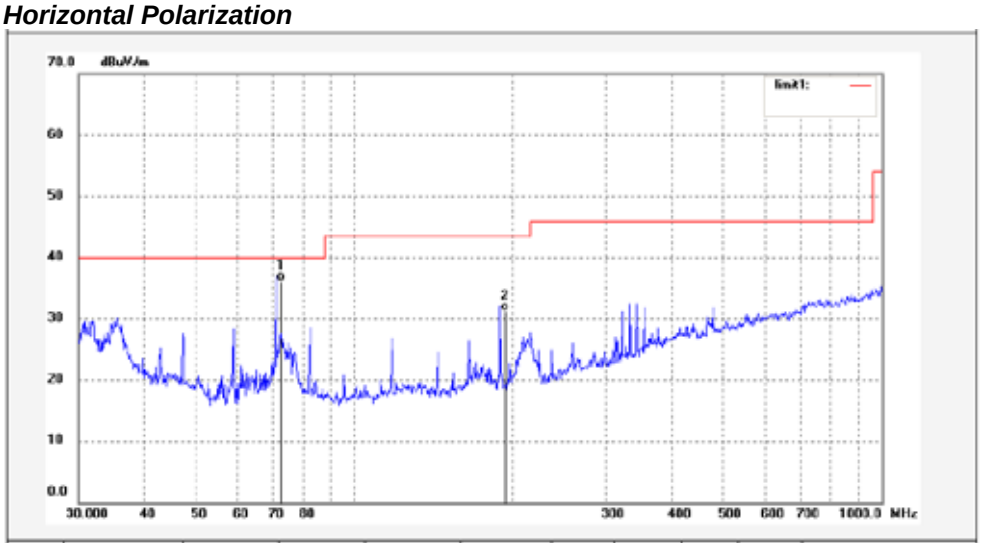
Date of Test:	April 22, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	Wire mode	Test Engineer:	Jack

Horizontal Polarization

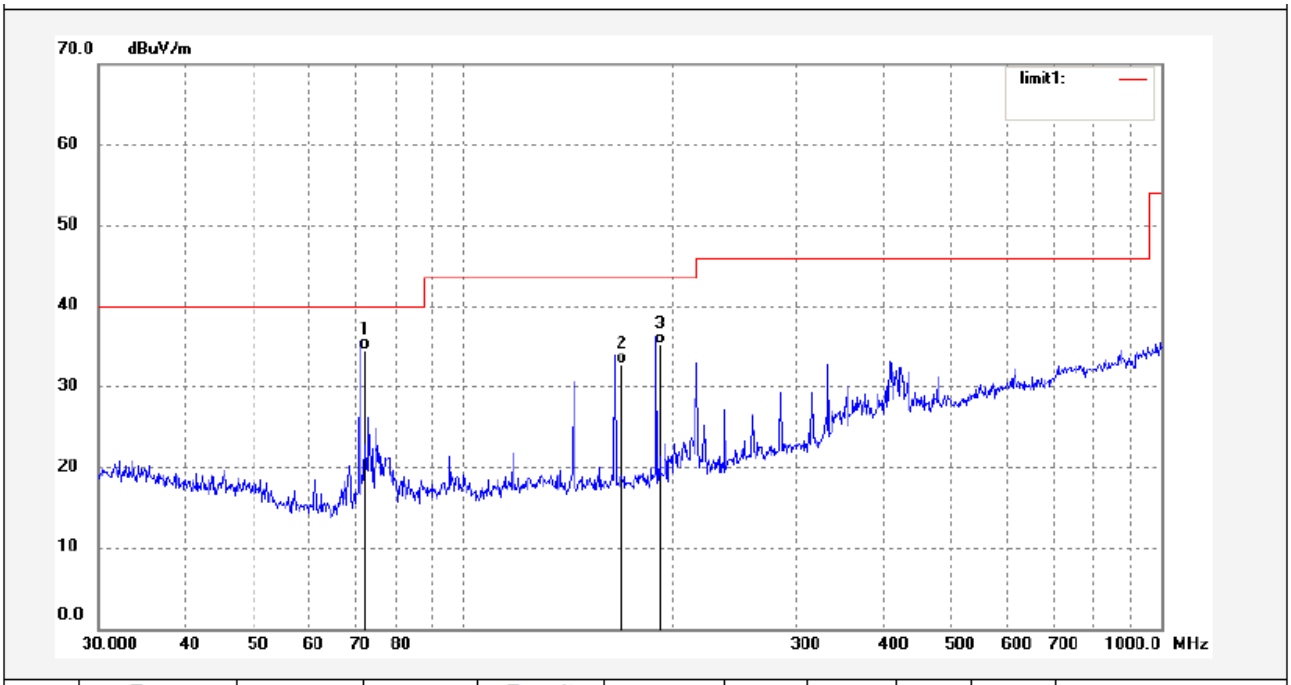


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.9990	21.61	13.02	34.63	40.00	-5.37	QP			
2	167.9960	18.17	14.70	32.87	43.50	-10.63	QP			
3	191.9970	20.44	14.89	35.33	43.50	-8.17	QP			

Horizontal Polarization



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.9990	23.07	13.02	36.09	40.00	-3.91	QP			
2	191.9970	16.27	14.89	31.16	43.50	-12.34	QP			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.9990	21.61	13.02	34.63	40.00	-5.37	QP			
2	167.9960	18.17	14.70	32.87	43.50	-10.63	QP			
3	191.9970	20.44	14.89	35.33	43.50	-8.17	QP			

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	24.01	-15.99	40	35.43	19.51	0.53	31.46	-	-	Peak
153.66	28.5	-15	43.5	47.89	10.95	1.21	31.55	-	-	Peak
208.74	28.15	-15.35	43.5	49.32	8.95	1.35	31.47	-	-	Peak
307	30.31	-15.69	46	46.18	13.67	1.79	31.33	-	-	Peak
405	31.44	-14.56	46	44.22	16.23	2.16	31.17	100	96	Peak
478.5	29.2	-16.8	46	40.17	17.72	2.37	31.06	-	-	Peak
2386.38	42.83	-11.17	54	39.39	32.13	5.46	34.15	111	327	Average
2386.38	52.24	-21.76	74	48.8	32.13	5.46	34.15	111	327	Peak
2412	99.32	-	-	95.88	32.16	5.44	34.16	111	327	Average
2412	103.02	-	-	99.58	32.16	5.44	34.16	111	327	Peak
2492	47.34	-26.66	74	43.87	32.3	5.37	34.2	111	327	Peak
2492	36.21	-17.79	54	32.74	32.3	5.37	34.2	111	327	Average
8214	54.04	-19.96	74	43.16	36	9.98	35.1	114	100	Peak
8214	42.9	-11.1	54	32.02	36	9.98	35.1	114	100	Average

Vertical Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.39	-12.61	40	38.81	19.51	0.53	31.46	-	-	Peak
91.02	25.46	-18.04	43.5	47	9.03	0.95	31.52	-	-	Peak
153.66	24.68	-18.82	43.5	44.07	10.95	1.21	31.55	-	-	Peak
307	25.28	-20.72	46	41.15	13.67	1.79	31.33	-	-	Peak
576.5	36.39	-9.61	46	45.11	19.61	2.62	30.95	148	105	Peak
626.2	35.35	-10.65	46	43.2	20.27	2.77	30.89	-	-	Peak
2386.38	42.08	-11.92	54	38.64	32.13	5.46	34.15	104	304	Average
2386.38	51.54	-22.46	74	48.1	32.13	5.46	34.15	104	304	Peak
2412	99.13	-	-	95.69	32.16	5.44	34.16	104	304	Average
2412	102.9	-	-	99.46	32.16	5.44	34.16	104	304	Peak
2494	49.95	-24.05	74	46.48	32.3	5.37	34.2	104	304	Peak
2494	39.42	-14.58	54	35.95	32.3	5.37	34.2	104	304	Average
8346	55.09	-18.91	74	44.12	36	10.07	35.1	145	78	Peak
8346	44.25	-9.75	54	33.28	36	10.07	35.1	145	78	Average

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Middle 2437MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	23.51	-16.49	40	35.48	18.95	0.54	31.46	-	-	Peak
149.61	26.68	-16.82	43.5	45.78	11.25	1.21	31.56	-	-	Peak
209.01	28.29	-15.21	43.5	49.43	8.97	1.36	31.47	-	-	Peak
307	30.61	-15.39	46	46.48	13.67	1.79	31.33	-	-	Peak
405	31.46	-14.54	46	44.24	16.23	2.16	31.17	100	214	Peak
478.5	28.81	-17.19	46	39.78	17.72	2.37	31.06	-	-	Peak
2372	48.27	-25.73	74	44.84	32.11	5.47	34.15	106	319	Peak
2372	36.23	-17.77	54	32.8	32.11	5.47	34.15	106	319	Average
2437	104.11	-	-	100.66	32.19	5.43	34.17	106	319	Peak
2437	100.49	-	-	97.03	32.22	5.41	34.17	106	319	Average
2484	49.51	-24.49	74	46.05	32.27	5.38	34.19	106	319	Peak
2484	37.54	-16.46	54	34.08	32.27	5.38	34.19	106	319	Average
8289	54.54	-19.46	74	43.6	36	10.04	35.1	100	124	Peak
8289	43.6	-10.4	54	32.66	36	10.04	35.1	100	124	Average

Vertical Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.61	-12.39	40	39.03	19.51	0.53	31.46	-	-	Peak
91.02	24.22	-19.28	43.5	45.76	9.03	0.95	31.52	-	-	Peak
153.66	25.42	-18.08	43.5	44.81	10.95	1.21	31.55	-	-	Peak
307	25.33	-20.67	46	41.2	13.67	1.79	31.33	-	-	Peak
576.5	36.72	-9.28	46	45.44	19.61	2.62	30.95	126	151	Peak
626.2	35.6	-10.4	46	43.45	20.27	2.77	30.89	-	-	Peak
2372	46.18	-27.82	74	42.75	32.11	5.47	34.15	100	304	Peak
2372	34.28	-19.72	54	30.85	32.11	5.47	34.15	100	304	Average
2437	103.09	-	-	99.63	32.22	5.41	34.17	100	304	Peak
2437	99.37	-	-	95.91	32.22	5.41	34.17	100	304	Average
2492	51.31	-22.69	74	47.84	32.3	5.37	34.2	100	304	Peak
2492	39.21	-14.79	54	35.74	32.3	5.37	34.2	100	304	Average
8490	53.82	-20.18	74	42.74	36	10.18	35.1	161	100	Peak
8490	42.59	-11.41	54	31.51	36	10.18	35.1	161	100	Average

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel High 2462MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.6	-16.4	40	35.02	19.51	0.53	31.46	-	-	Peak
149.61	27.02	-16.48	43.5	46.12	11.25	1.21	31.56	-	-	Peak
295.14	26.67	-19.33	46	42.88	13.39	1.73	31.33	-	-	Peak
307	30.4	-15.6	46	46.27	13.67	1.79	31.33	-	-	Peak
405	31.25	-14.75	46	44.03	16.23	2.16	31.17	100	196	Peak
478.5	29.24	-16.76	46	40.21	17.72	2.37	31.06	-	-	Peak
2388	47.54	-26.46	74	44.1	32.13	5.46	34.15	104	317	Peak
2388	35.46	-18.54	54	32.02	32.13	5.46	34.15	104	317	Average
2462	105.52	-	-	102.06	32.24	5.4	34.18	104	317	Peak
2462	101.93	-	-	98.47	32.24	5.4	34.18	104	317	Average
2488.22	50.38	-3.62	54	46.9	32.3	5.37	34.19	104	317	Average
2488.22	56.6	-17.4	74	53.12	32.3	5.37	34.19	104	317	Peak
8454	54.72	-19.28	74	43.68	36	10.14	35.1	133	67	Peak
8454	44.02	-9.98	54	32.98	36	10.14	35.1	133	67	Average

Vertical Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.01	-12.99	40	38.43	19.51	0.53	31.46	-	-	Peak
91.02	24.43	-19.07	43.5	45.97	9.03	0.95	31.52	-	-	Peak
151.5	25.18	-18.32	43.5	44.41	11.12	1.21	31.56	-	-	Peak
307	25.8	-20.2	46	41.67	13.67	1.79	31.33	-	-	Peak
576.5	36.47	-9.53	46	45.19	19.61	2.62	30.95	127	164	Peak
626.2	35.3	-10.7	46	43.15	20.27	2.77	30.89	-	-	Peak
2340	46.12	-27.88	74	42.71	32.05	5.5	34.14	100	303	Peak
2340	33.62	-20.38	54	30.21	32.05	5.5	34.14	100	303	Average
2462	104.31	-	-	100.85	32.24	5.4	34.18	100	303	Peak
2462	100.71	-	-	97.25	32.24	5.4	34.18	100	303	Average
2488.22	50.19	-3.81	54	46.71	32.3	5.37	34.19	100	303	Average
2488.22	56.88	-17.12	74	53.4	32.3	5.37	34.19	100	303	Peak
8382	54.6	-19.4	74	43.6	36	10.1	35.1	142	112	Peak
8382	43.33	-10.67	54	32.33	36	10.1	35.1	142	112	Average

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Low 2412MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.27	-16.73	40	34.69	19.51	0.53	31.46	-	-	Peak
153.66	26.66	-16.84	43.5	46.05	10.95	1.21	31.55	-	-	Peak
209.01	27.81	-15.69	43.5	48.95	8.97	1.36	31.47	-	-	Peak
307	30.37	-15.63	46	46.24	13.67	1.79	31.33	-	-	Peak
405	31.38	-14.62	46	44.16	16.23	2.16	31.17	117	46	Peak
478.5	28.89	-17.11	46	39.86	17.72	2.37	31.06	-	-	Peak
2390	46.67	-7.33	54	43.24	32.13	5.46	34.16	104	328	Average
2390	64.33	-9.67	74	60.9	32.13	5.46	34.16	104	328	Peak
2412	92.81	-	-	89.37	32.16	5.44	34.16	104	328	Average
2412	103.37	-	-	99.93	32.16	5.44	34.16	104	328	Peak
2484	49.43	-24.57	74	45.97	32.27	5.38	34.19	104	328	Peak
2484	37.46	-16.54	54	34	32.27	5.38	34.19	104	328	Average
8346	54.37	-19.63	74	43.4	36	10.07	35.1	100	128	Peak
8346	43.75	-10.25	54	32.78	36	10.07	35.1	100	128	Average

Vertical Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.31	-12.69	40	38.73	19.51	0.53	31.46	-	-	Peak
91.02	24.44	-19.06	43.5	45.98	9.03	0.95	31.52	-	-	Peak
153.66	24.82	-18.68	43.5	44.21	10.95	1.21	31.55	-	-	Peak
307	25.56	-20.44	46	41.43	13.67	1.79	31.33	-	-	Peak
576.5	36.24	-9.76	46	44.96	19.61	2.62	30.95	120	101	Peak
626.2	35.57	-10.43	46	43.42	20.27	2.77	30.89	-	-	Peak
2390	46.47	-7.53	54	43.04	32.13	5.46	34.16	101	305	Average
2390	62.44	-11.56	74	59.01	32.13	5.46	34.16	101	305	Peak
2412	93.49	-	-	90.05	32.16	5.44	34.16	101	305	Average
2412	103.69	-	-	100.25	32.16	5.44	34.16	101	305	Peak
2486	53.2	-20.8	74	49.74	32.27	5.38	34.19	101	305	Peak
2486	41.52	-12.48	54	38.06	32.27	5.38	34.19	101	305	Average
8406	54.28	-19.72	74	43.26	36	10.12	35.1	128	81	Peak
8406	43.06	-10.94	54	32.04	36	10.12	35.1	128	81	Average

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel Middle 2437MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	22.87	-17.13	40	34.84	18.95	0.54	31.46	-	-	Peak
149.61	28.32	-15.18	43.5	47.42	11.25	1.21	31.56	-	-	Peak
153.66	26.82	-16.68	43.5	46.21	10.95	1.21	31.55	-	-	Peak
307	30.24	-15.76	46	46.11	13.67	1.79	31.33	-	-	Peak
379.8	29.57	-16.43	46	43.11	15.6	2.1	31.24	-	-	Peak
405	31.4	-14.6	46	44.18	16.23	2.16	31.17	110	147	Peak
2380	48.84	-25.16	74	45.41	32.11	5.47	34.15	105	318	Peak
2380	36.17	-17.83	54	32.74	32.11	5.47	34.15	105	318	Average
2437	103.97	-	-	100.52	32.19	5.43	34.17	105	318	Peak
2437	93.69	-	-	90.23	32.22	5.41	34.17	105	318	Average
2486	51.08	-22.92	74	47.62	32.27	5.38	34.19	105	318	Peak
2486	38.48	-15.52	54	35.02	32.27	5.38	34.19	105	318	Average
8466	54.26	-19.74	74	43.2	36	10.16	35.1	106	58	Peak
8466	44.08	-9.92	54	33.02	36	10.16	35.1	106	58	Average

Vertical Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.43	-12.57	40	38.85	19.51	0.53	31.46	-	-	Peak
91.02	25.56	-17.94	43.5	47.1	9.03	0.95	31.52	-	-	Peak
149.61	25.61	-17.89	43.5	44.71	11.25	1.21	31.56	-	-	Peak
307	25.85	-20.15	46	41.72	13.67	1.79	31.33	-	-	Peak
576.5	36.63	-9.37	46	45.35	19.61	2.62	30.95	100	241	Peak
626.2	35.74	-10.26	46	43.59	20.27	2.77	30.89	-	-	Peak
2372	47.14	-26.86	74	43.71	32.11	5.47	34.15	100	304	Peak
2372	34.65	-19.35	54	31.22	32.11	5.47	34.15	100	304	Average
2437	103.07	-	-	99.62	32.22	5.41	34.18	100	304	Peak
2437	92.85	-	-	89.39	32.22	5.41	34.17	100	304	Average
2492	51.55	-22.45	74	48.08	32.3	5.37	34.2	100	304	Peak
2492	39.92	-14.08	54	36.45	32.3	5.37	34.2	100	304	Average
8334	54.01	-19.99	74	43.05	36	10.06	35.1	100	162	Peak
8334	43.65	-10.35	54	32.69	36	10.06	35.1	100	162	Average

Date of Test:	April 18, 2011	Temperature:	25°C
EUT:	Wireless IP Camera	Humidity:	51%
Model No.:	FI8918W	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel High 2462MHz	Test Engineer:	Jack

Horizontal Polarization

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.12	-16.88	40	34.54	19.51	0.53	31.46	-	-	Peak
149.61	29.03	-14.47	43.5	48.13	11.25	1.21	31.56	-	-	Peak
295.14	26.95	-19.05	46	43.16	13.39	1.73	31.33	-	-	Peak
307	30.28	-15.72	46	46.15	13.67	1.79	31.33	-	-	Peak
405	31.66	-14.34	46	44.44	16.23	2.16	31.17	137	121	Peak
478.5	28.86	-17.14	46	39.83	17.72	2.37	31.06	-	-	Peak
2388	46.85	-27.15	74	43.41	32.13	5.46	34.15	103	318	Peak
2388	35.24	-18.76	54	31.8	32.13	5.46	34.15	103	318	Average
2462	103.82	-	-	100.36	32.24	5.4	34.18	103	318	Peak
2462	94.04	-	-	90.58	32.24	5.4	34.18	103	318	Average
2483.5	48.23	-5.77	54	44.77	32.27	5.38	34.19	103	318	Average
2483.5	68.25	-5.75	74	64.79	32.27	5.38	34.19	103	318	Peak
8298	54.68	-19.32	74	43.74	36	10.04	35.1	107	148	Peak
8298	44.43	-9.57	54	33.49	36	10.04	35.1	107	148	Average

Vertical Polarization

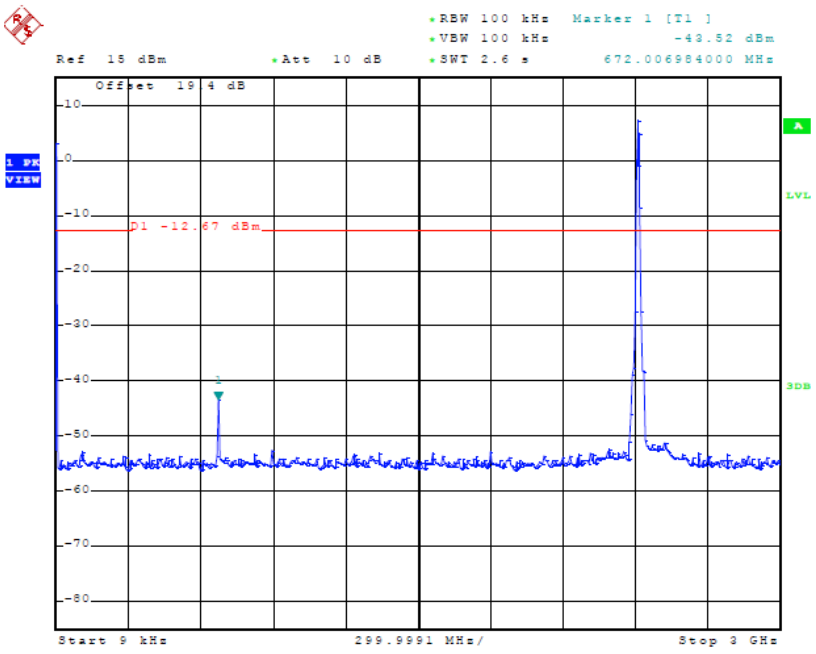
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
91.02	23.74	-19.76	43.5	45.28	9.03	0.95	31.52	-	-	Peak
91.02	23.74	-19.76	43.5	45.28	9.03	0.95	31.52	-	-	Peak
149.61	24.42	-19.08	43.5	43.52	11.25	1.21	31.56	-	-	Peak
307	25.72	-20.28	46	41.59	13.67	1.79	31.33	-	-	Peak
576.5	36.55	-9.45	46	45.27	19.61	2.62	30.95	100	144	Peak
626.2	36.47	-9.53	46	44.32	20.27	2.77	30.89	-	-	Peak
2380	46.44	-27.56	74	43.01	32.11	5.47	34.15	100	296	Peak
2380	34.99	-19.01	54	31.56	32.11	5.47	34.15	100	296	Average
2462	103.95	-	-	100.5	32.24	5.4	34.19	100	296	Peak
2462	93.89	-	-	90.43	32.24	5.4	34.18	100	296	Average
2483.5	50.92	-3.08	54	47.46	32.27	5.38	34.19	100	296	Average
2483.5	70.87	-3.13	74	67.41	32.27	5.38	34.19	100	296	Peak
8325	54.19	-19.81	74	43.23	36	10.06	35.1	130	201	Peak
8325	43.63	-10.37	54	32.67	36	10.06	35.1	130	201	Average

Antenna port conducted spurious emissions

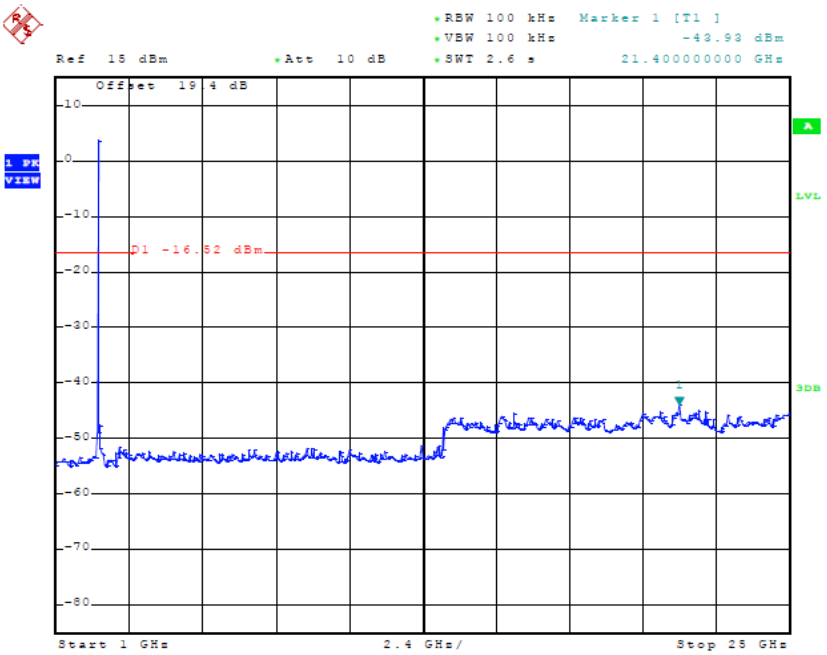
802.11b mode:

Low channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz

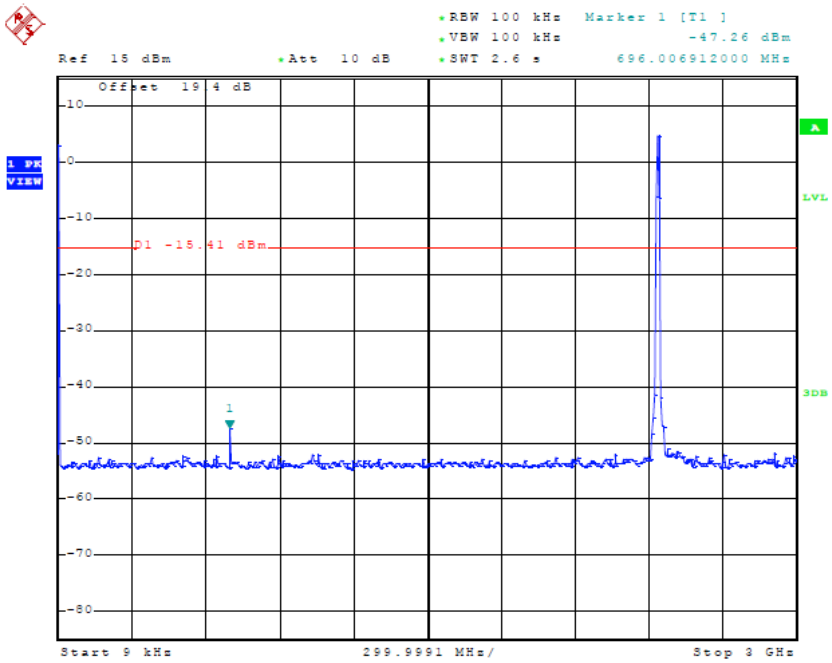


Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz

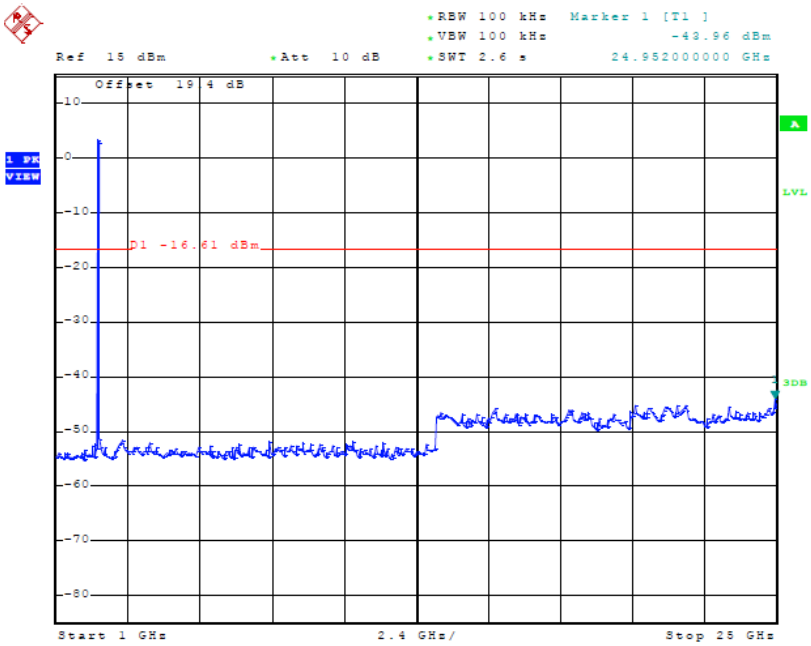


Middle channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz

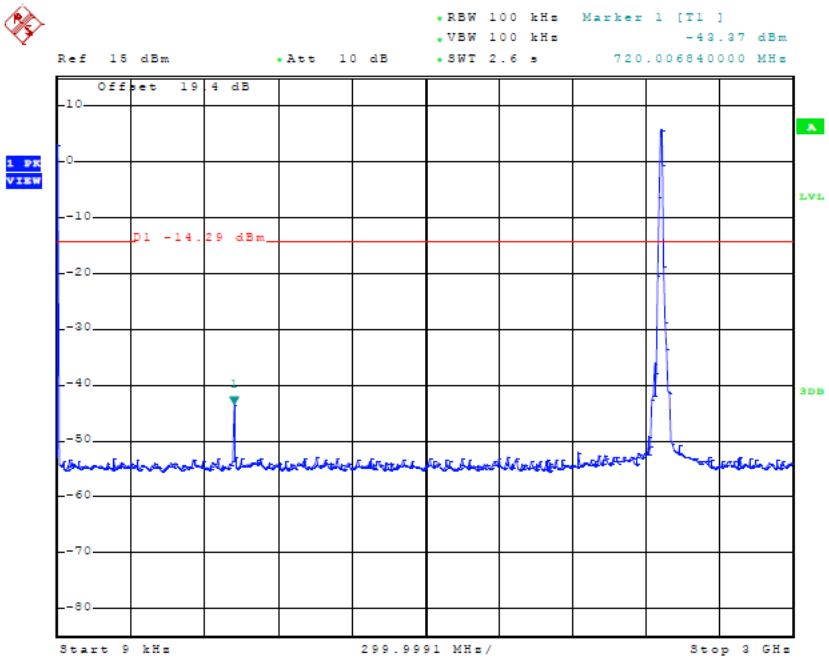


Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz

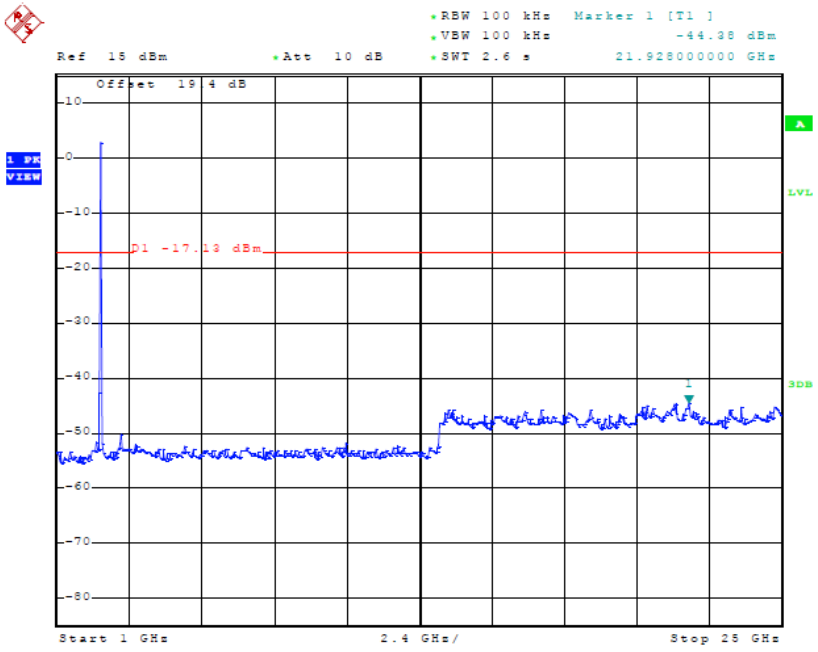


High channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



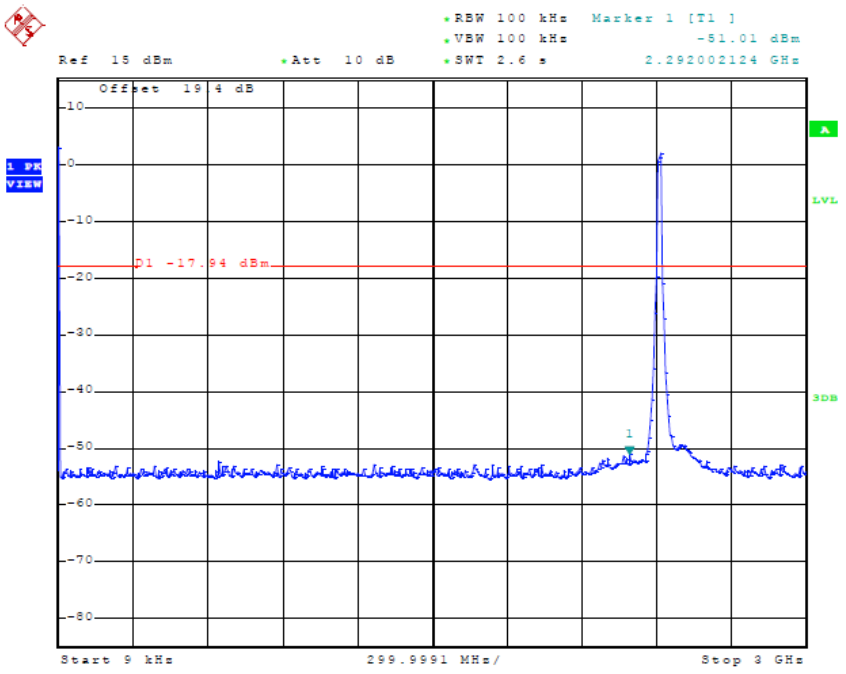
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



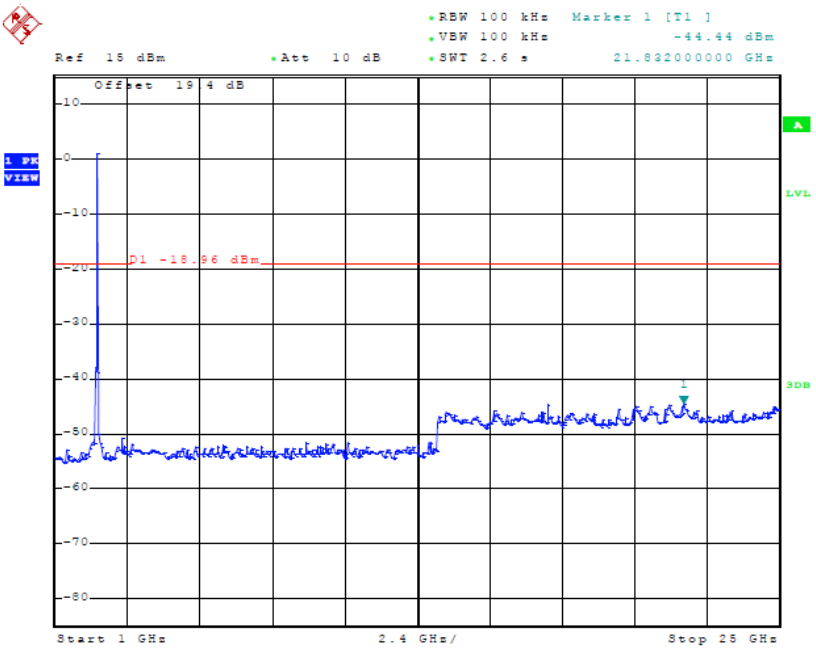
802.11g mode:

Low channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz

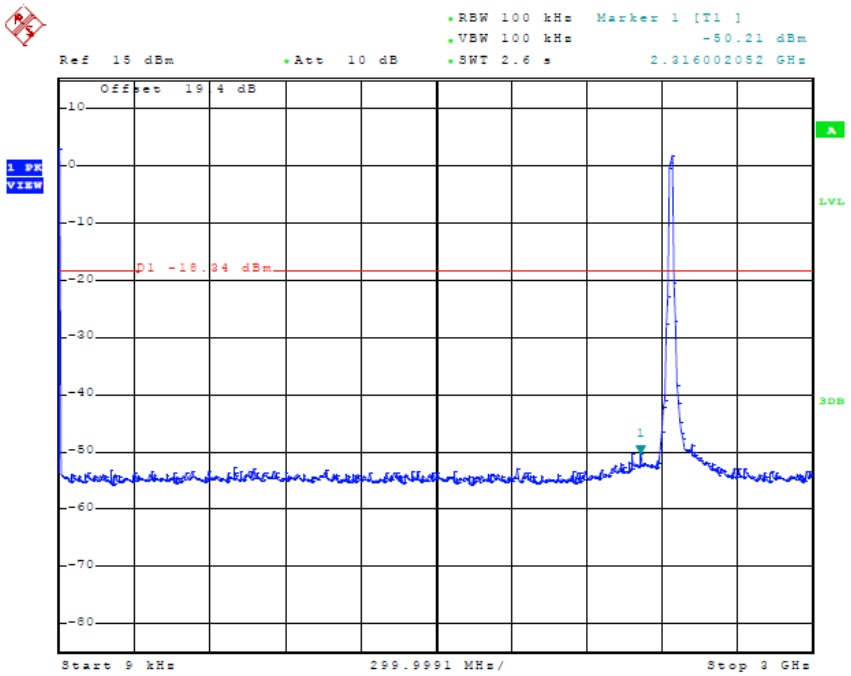


Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz

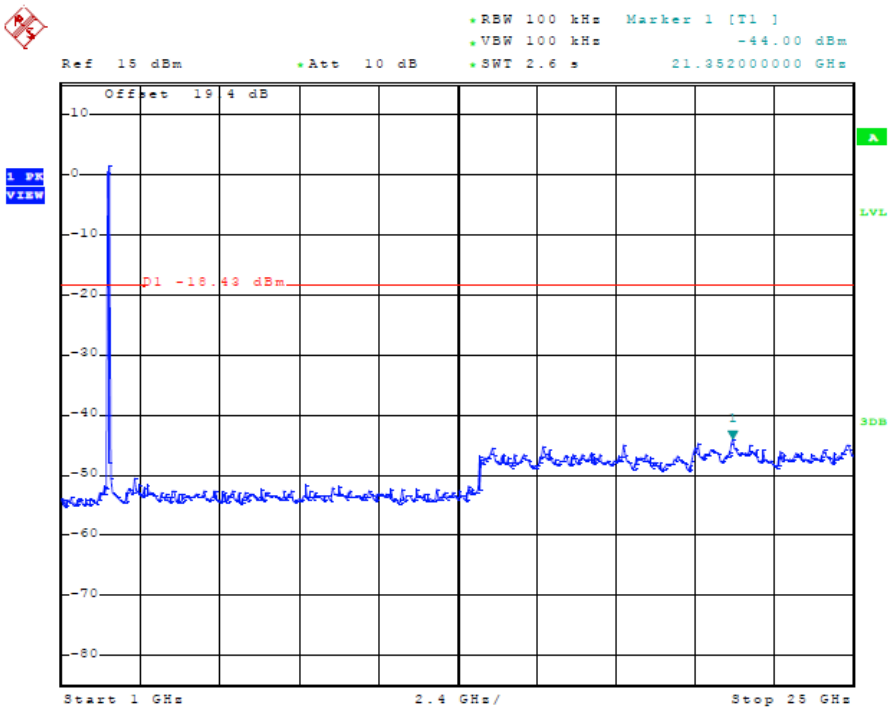


Middle channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz

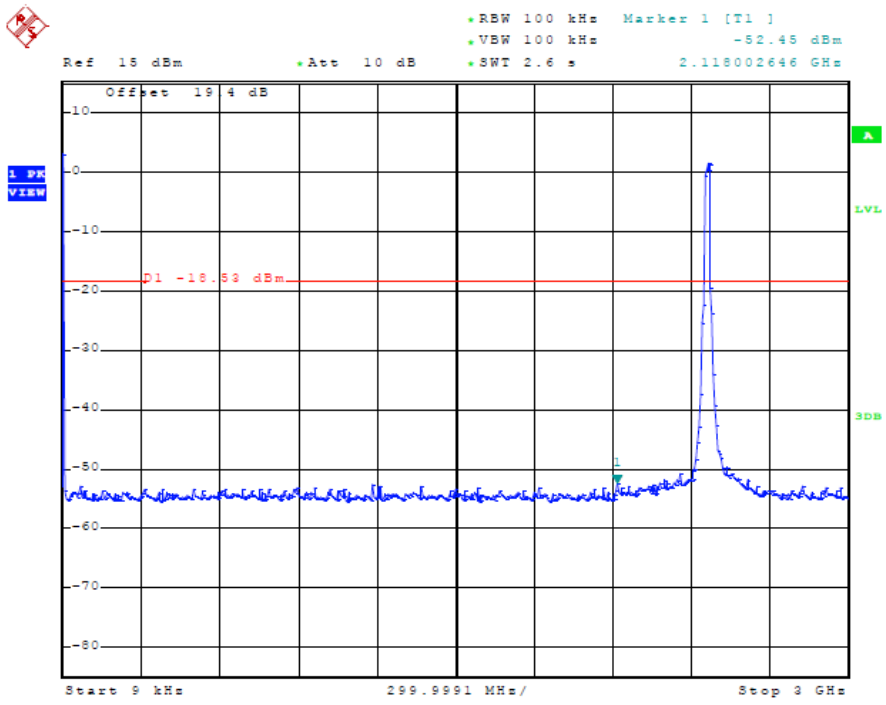


Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz

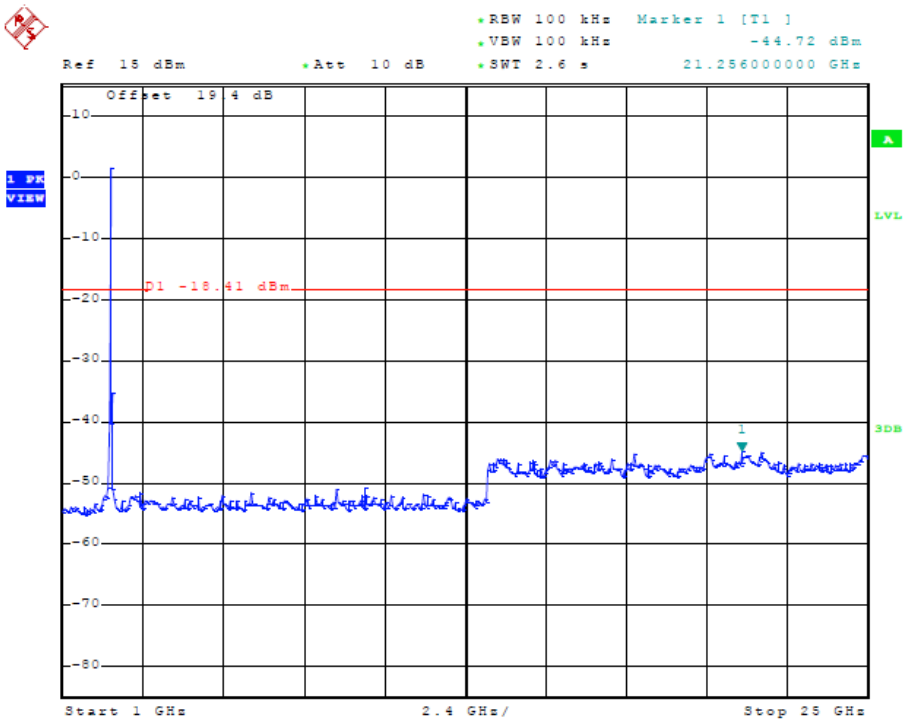


High channel

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



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=40MHz,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.

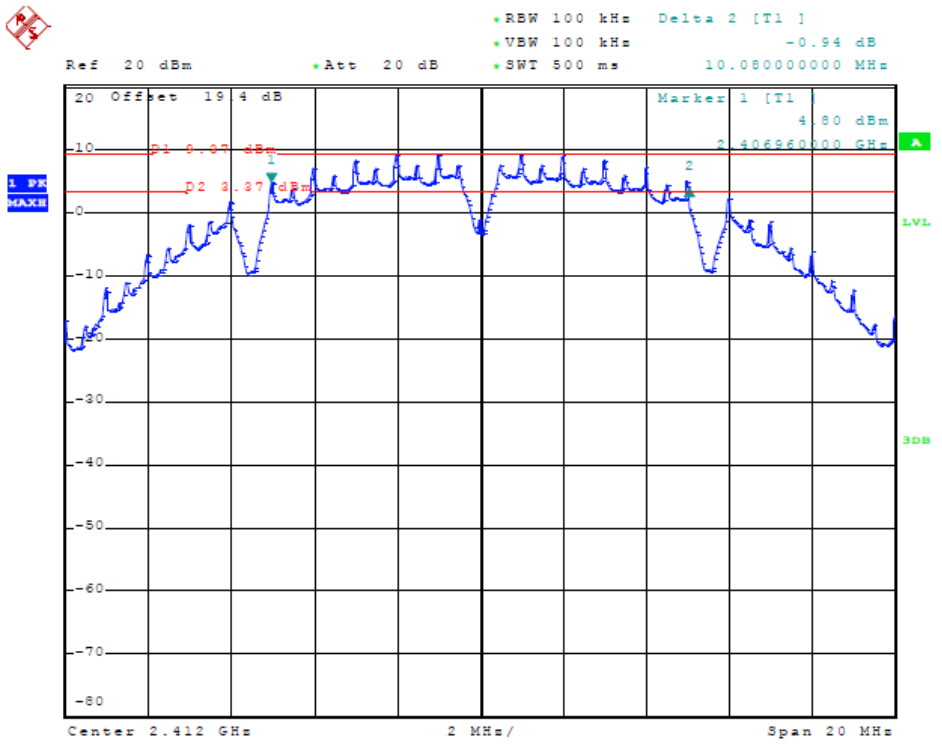
10.4.Test Result:Pass.

Please refer to the following tables

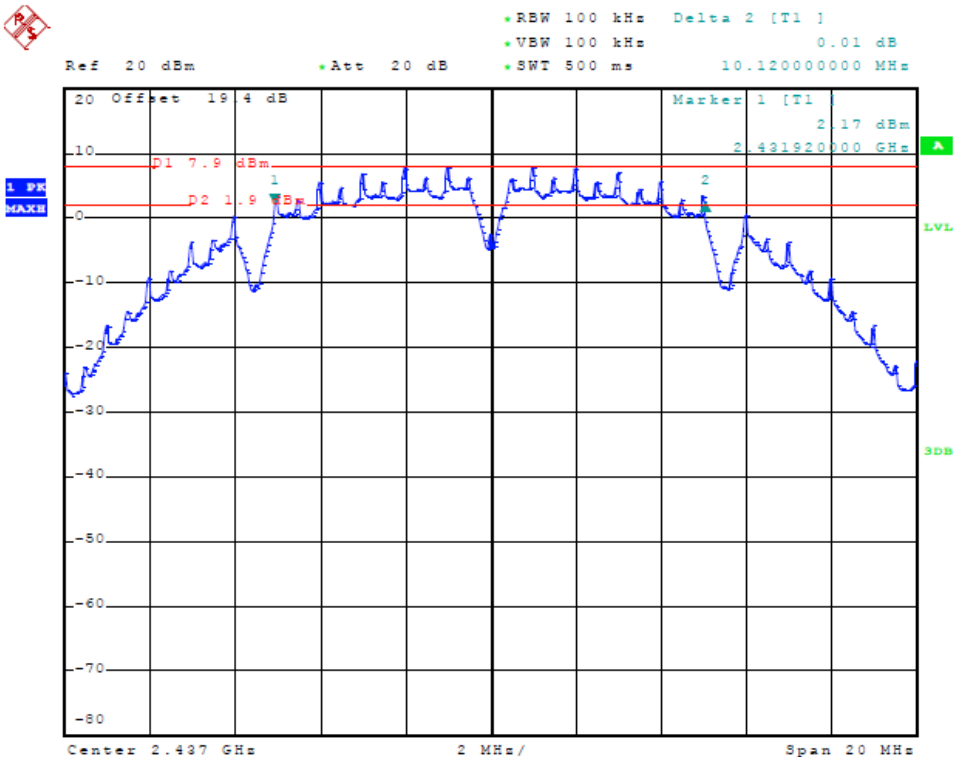
Channel Frequency (MHz)	Data Rate (Mbps)	6dB Bandwidth (kHz)	Limit (kHz)	Ref. Plot
802.11b Mode				
2412	1	10080	＞500	PLOT 1
2437	1	10120	＞500	PLOT 2
2462	1	10120	＞500	PLOT 3
802.11g Mode				
2412	6	16520	＞500	PLOT 4
2437	6	16520	＞500	PLOT 5
2462	6	16400	＞500	PLOT 6

802.11b Mode:

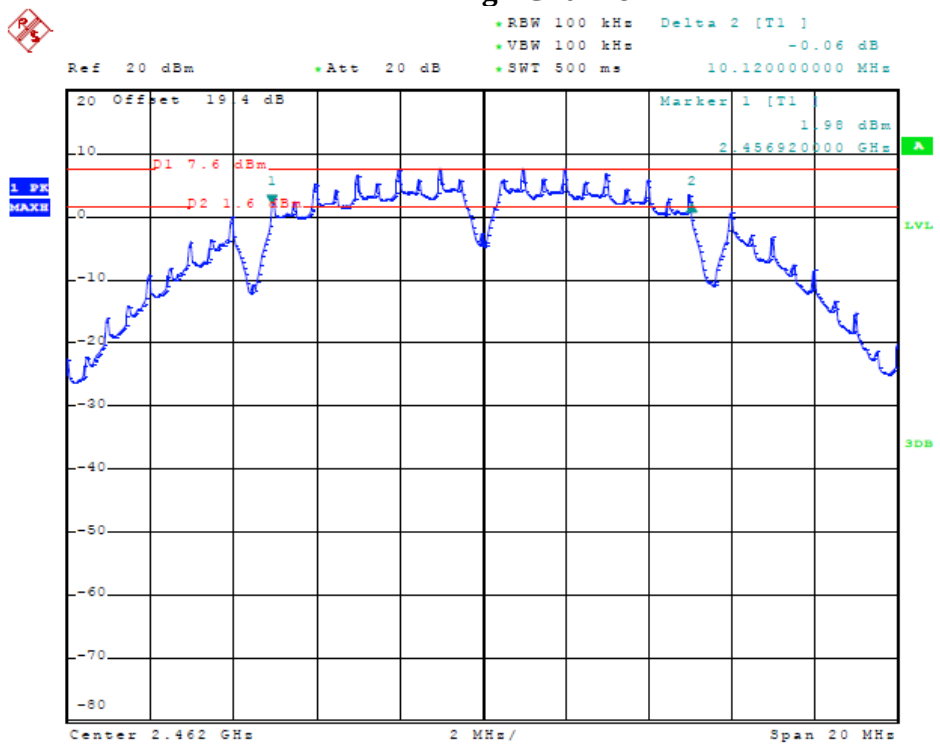
Low Channel



Middle Channel

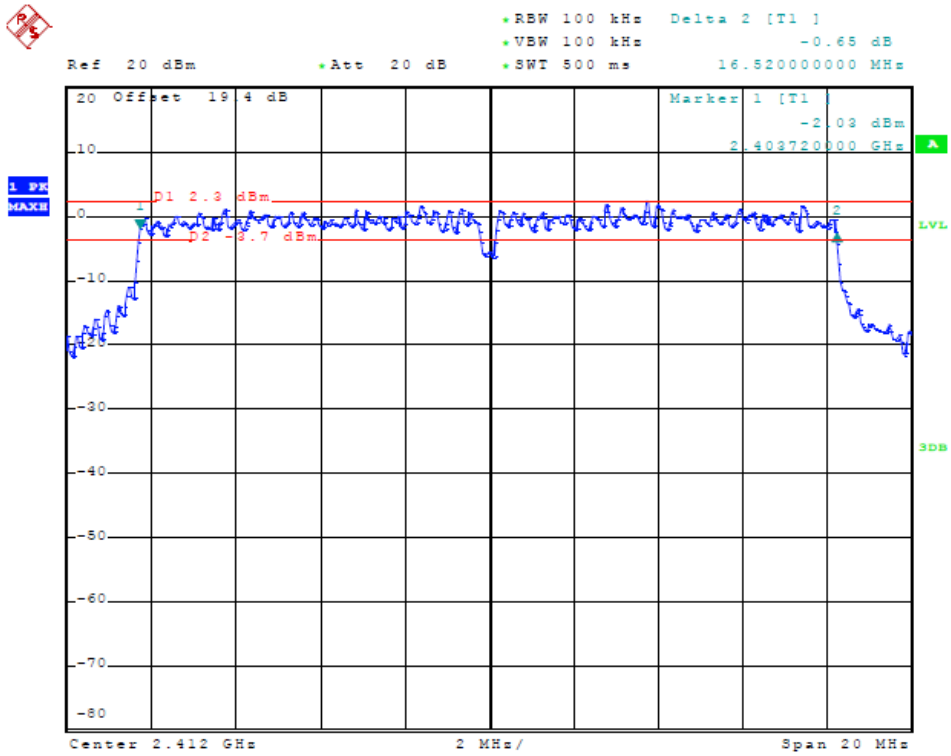


High Channel

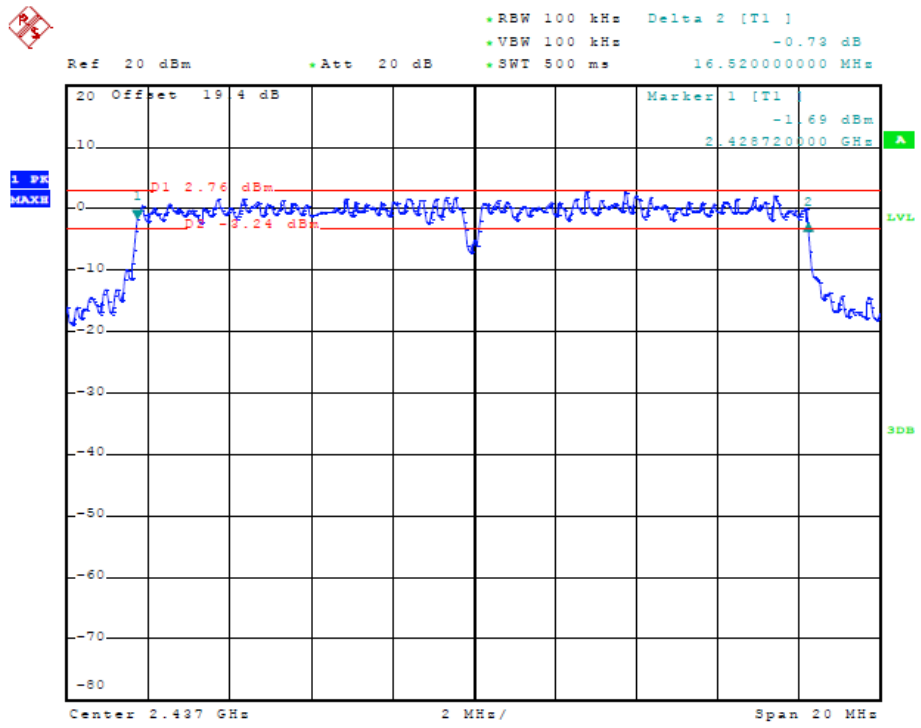


802.11g Mode:

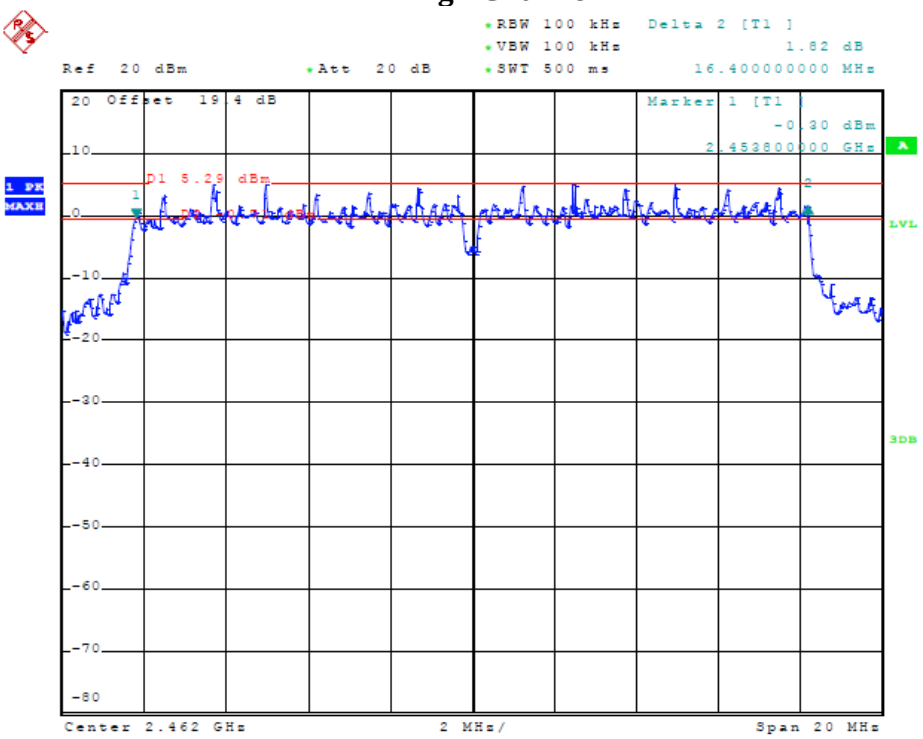
Low Channel



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	12.92	30
Mid	2437	1	13.15	30
High	2462	1	13.01	30

802.11g Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6	13.52	30
Mid	2437	6	13.71	30
High	2462	6	13.62	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.

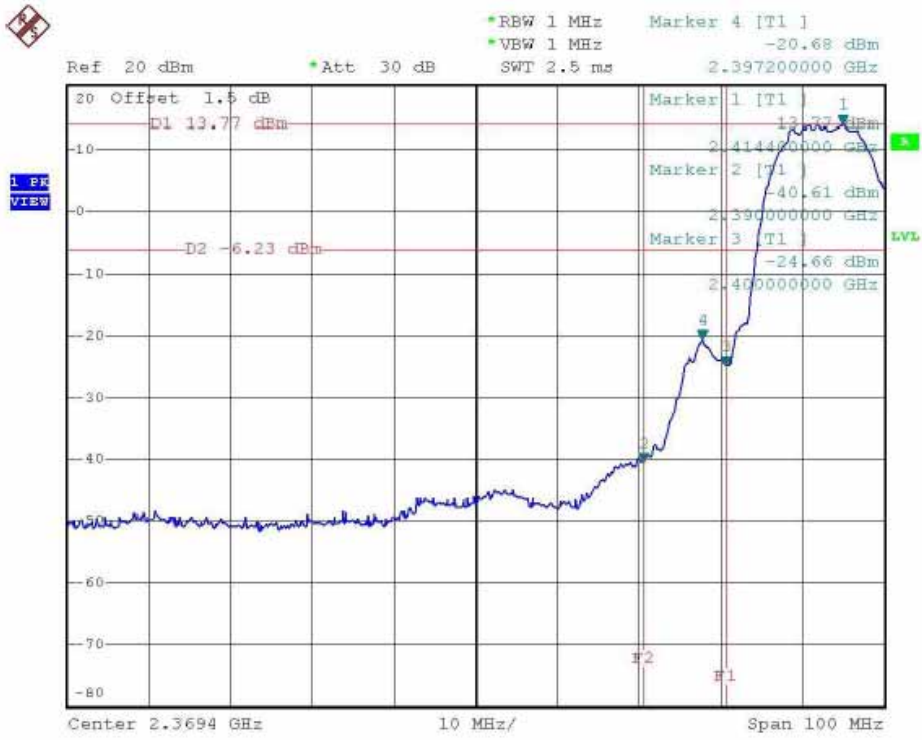
12.3.Applicable Standard

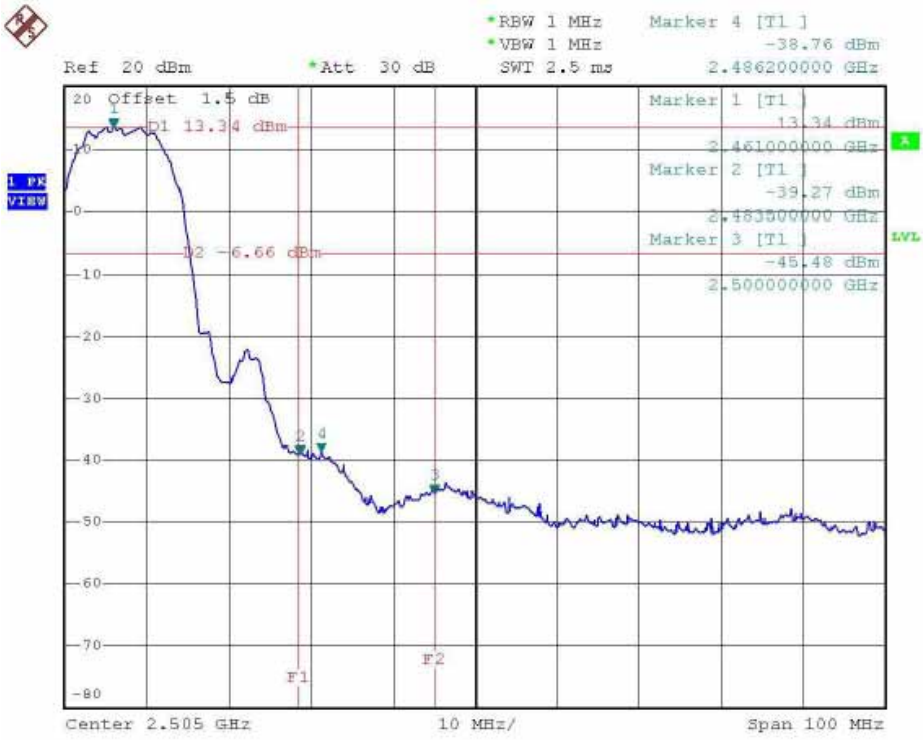
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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

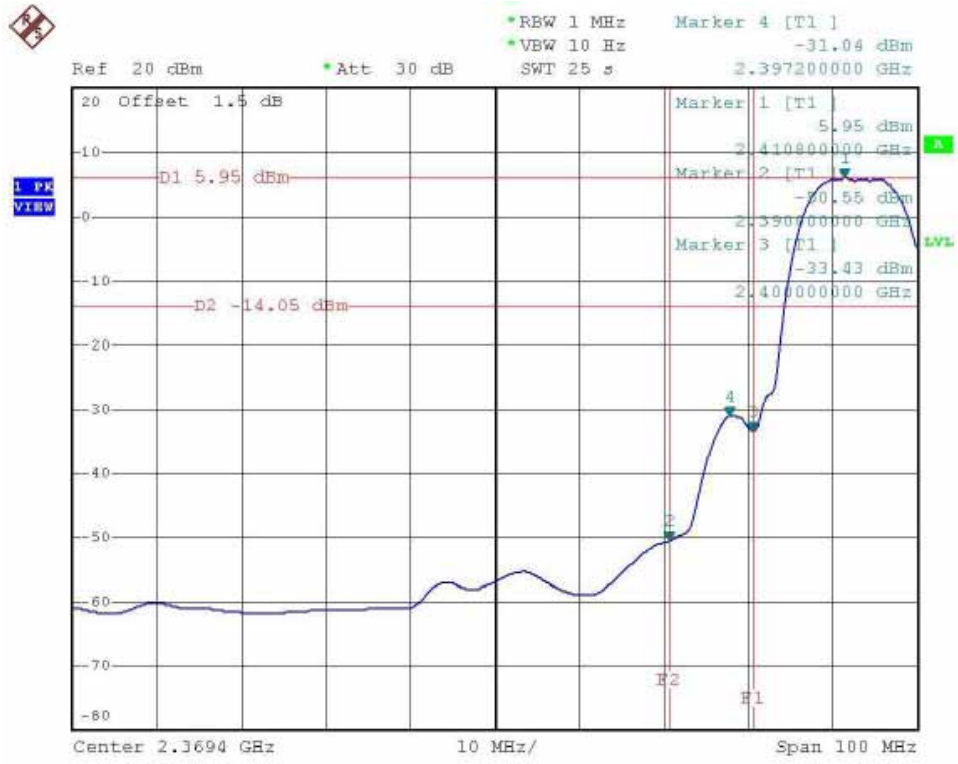
Pass.

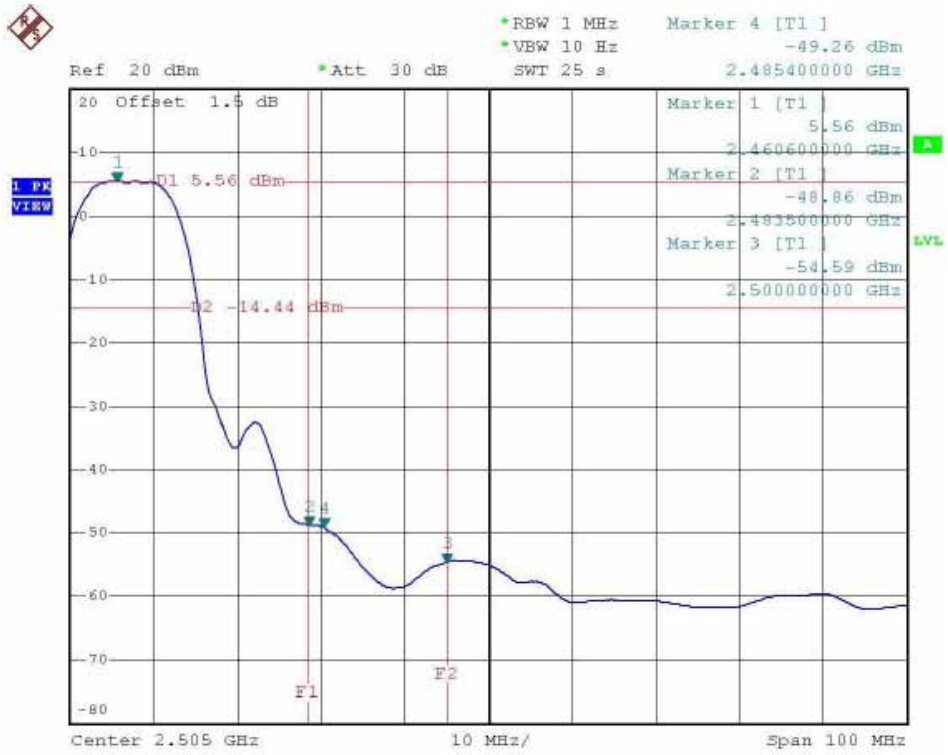
802.11b Mode:


RBW 1 MHz
VBW 1 MHz
SWT 2.5 ms
Marker 4 [T1]
-20.68 dBm
2.397200000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1.5 dB
D1 13.77 dBm
D2 -6.23 dBm
Marker 1 [T1]
13.77 dBm
2.414400000 GHz
Marker 2 [T1]
-40.61 dBm
2.390000000 GHz
Marker 3 [T1]
-24.66 dBm
2.400000000 GHz
1 PK VIEW
LVL
F1
F2
Center 2.3694 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 1 MHz
SWT 2.5 ms
Marker 4 [T1]
-38.76 dBm
2.486200000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1.5 dB
D1 13.34 dBm
D2 -6.66 dBm
Marker 1 [T1]
13.34 dBm
2.461000000 GHz
Marker 2 [T1]
-39.27 dBm
2.483500000 GHz
Marker 3 [T1]
-45.48 dBm
2.500000000 GHz
1 PK VIEW
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz

802.11g Mode:


*RBW 1 MHz
*VBW 10 Hz
Ref 20 dBm
*Att 30 dB
SWT 25 s
Marker 4 [T1]
-31.04 dBm
2.397200000 GHz
20 Offset 1.5 dB
Marker 1 [T1]
5.95 dBm
2.410000000 GHz
Marker 2 [T1]
-30.55 dBm
2.390000000 GHz
Marker 3 [T1]
-33.43 dBm
2.400000000 GHz
D1 5.95 dBm
D2 -14.05 dBm
1 PK VIEW
LVL
F2
F1
Center 2.3694 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 10 Hz
Ref 20 dBm
*Att 30 dB
SWT 25 s
Marker 4 [T1]
-49.26 dBm
2.485400000 GHz
20 Offset 1.5 dB
Marker 1 [T1]
5.56 dBm
2.460600000 GHz
Marker 2 [T1]
-48.86 dBm
2.483500000 GHz
Marker 3 [T1]
-54.59 dBm
2.500000000 GHz
D1 5.56 dBm
D2 -14.44 dBm
1 PK VIEW
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz

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.

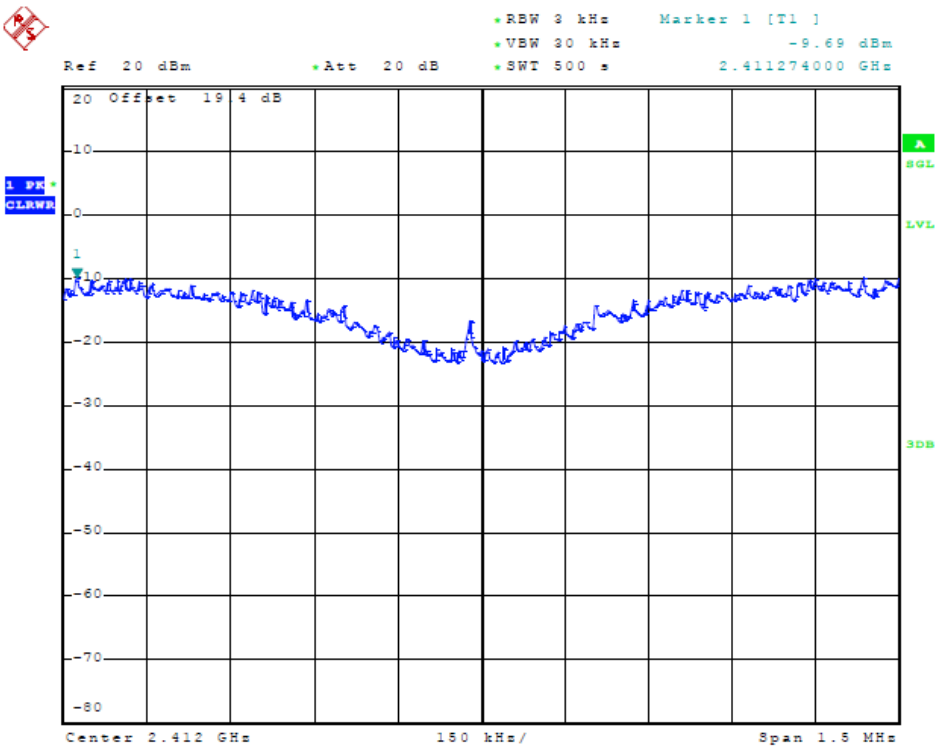
13.4.Test Result

PASS

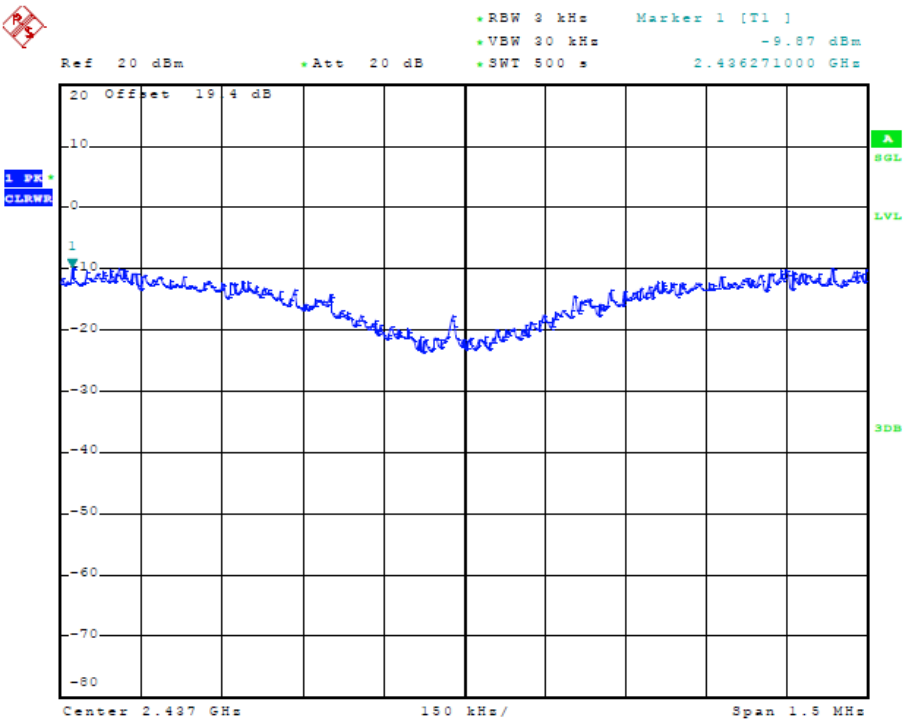
Channel Frequency (MHz)	Data Rate (Mbps)	PSD (dBm/3kHz)	Limit (dBm/3kHZ)	RESULT
802.11b Mode				
2412	1	-9.69	8	Compliant
2437	1	-9.87	8	Compliant
2462	1	-9.29	8	Compliant
802.11g Mode				
2412	6	-12.60	8	Compliant
2437	6	-13.16	8	Compliant
2462	6	-13.08	8	Compliant

802.11b Mode:

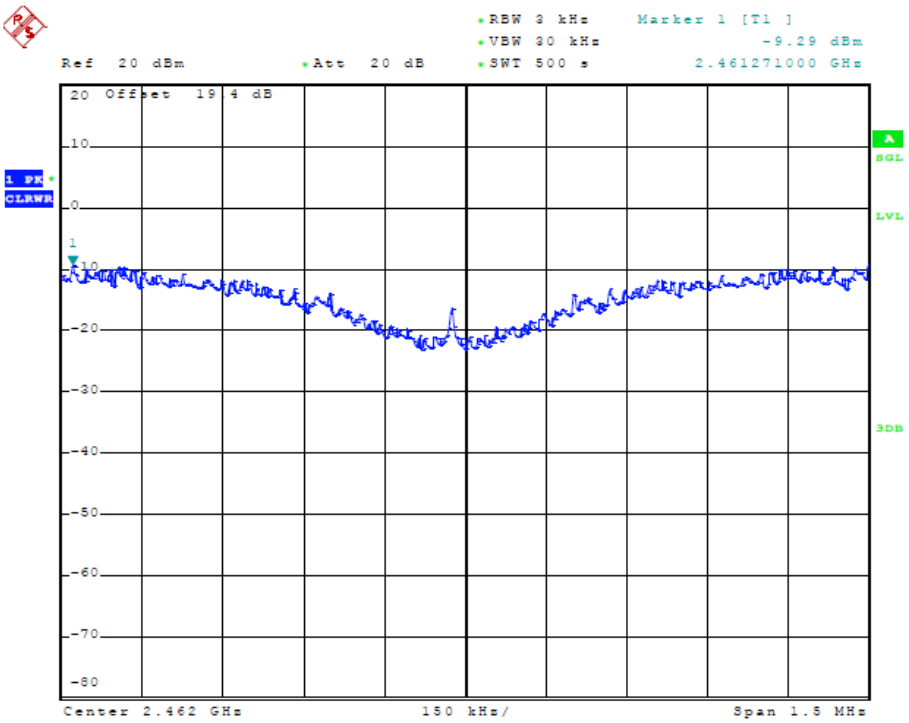
Low Channel



Middle Channel

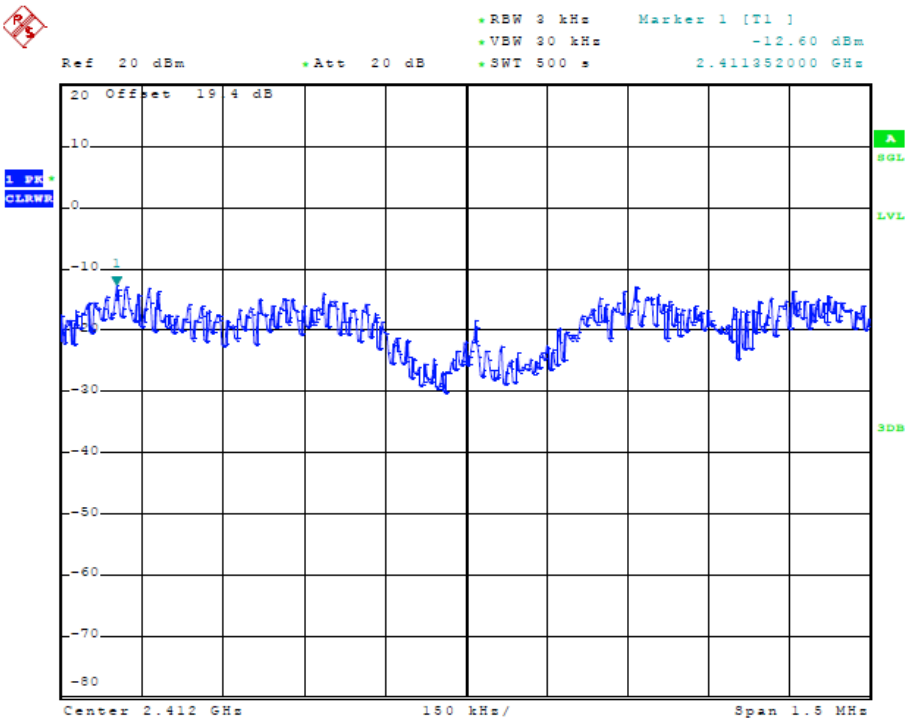


High Channel

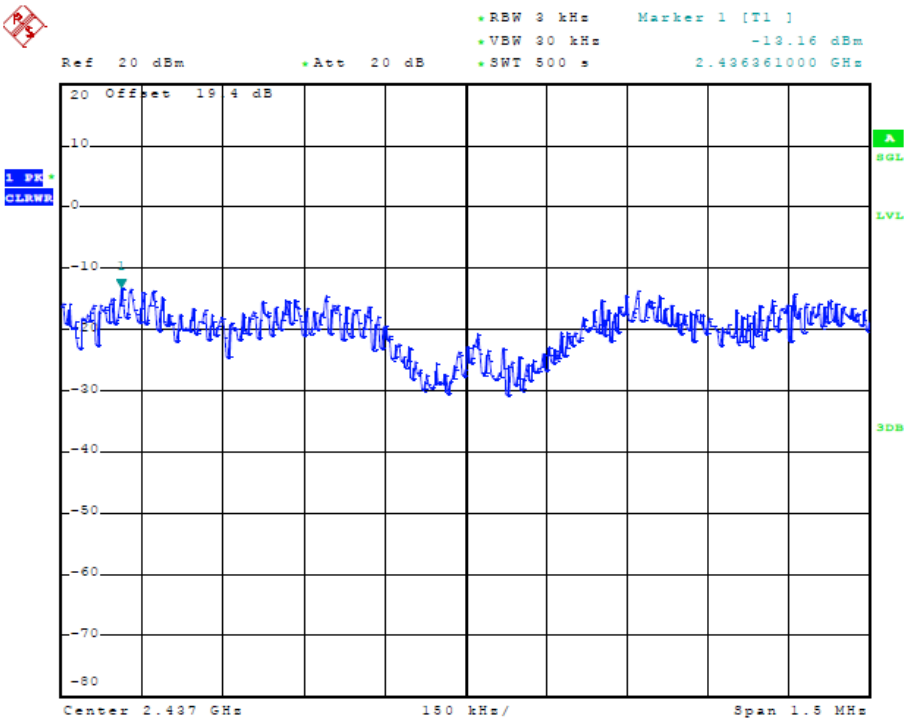


802.11g Mode:

Low Channel



Middle Channel



High Channel