

FCC PART 15.247
EMI MEASUREMENT AND TEST REPORT
For

Newport Wholesale
11037 warner AVE #201, Fountain valley, CA, 92708, USA

FCC ID: YNFTAB7

April 9, 2011

This Report Concerns: Original Report	Equipment Type: MID
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Report No.:	BST11040006Y-1ER-3
Receive EUT Date/Test Date:	April 1, 2011/ April 2-9, 2011
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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 : Newport Wholesale
Address : 11037 warner AVE #201, Fountain valley, CA, 92708, USA
Manufacturer : Newport Wholesale
Address : 11037 warner AVE #201, Fountain valley, CA, 92708, USA
EUT Description : MID
Trade Name : Maxwest
Modulation : 802.11b: DSSS
802.11g: OFDM
Model Number : Tab7
Antenna Type : PCB Antenna
Antenna gain : 3dBi(2.4GHz)

2.2. Block Diagram of EUT Configuration

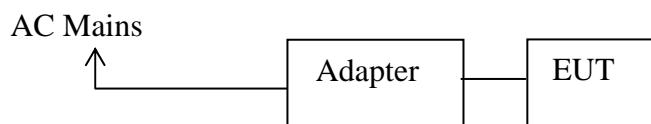


Figure 1 EUT SETUP

2.3. Support Equipment List

Table 2 Ancillary Equipment

Name	Model No	S/N	Manufacturer	Used “✓”
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2.4. Test Conditions

Temperature: 23~25°C

Relative Humidity: 55~63 %

3. FCC ID LABEL

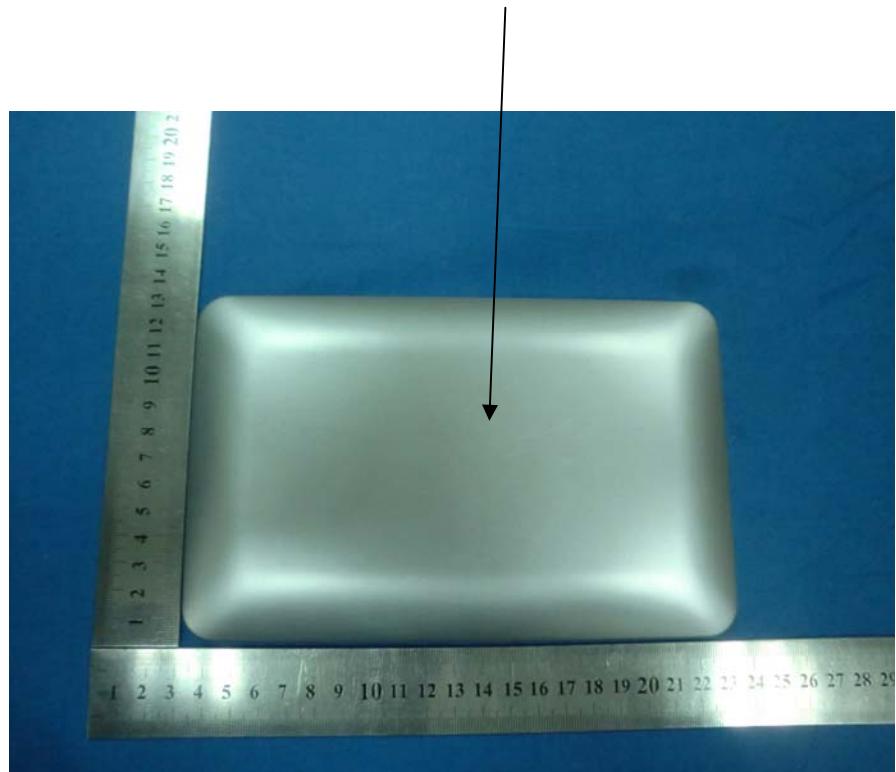
FCC ID: YNFTAB7

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
50 Ω 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	9mx6mx6m	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's body, excluding hands, wrists, feet, and ankles.

Exposure category	<u>low threshold</u>	<u>high threshold</u>
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 7.18mW<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 used in this product is PCB antenna. The antenna is permanently attached. 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

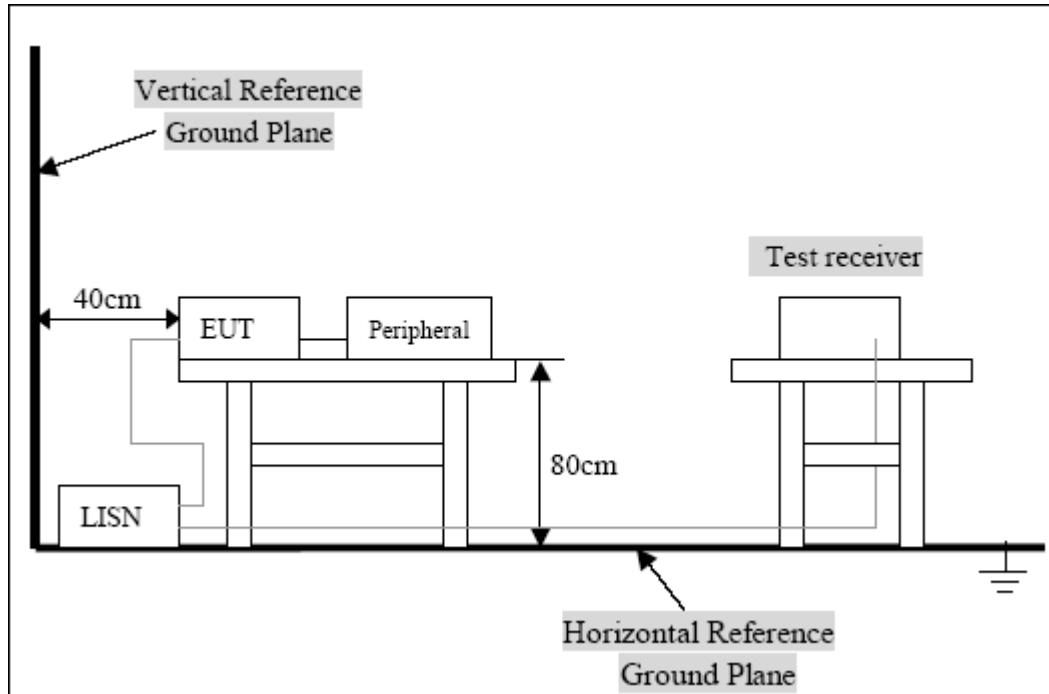
During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

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

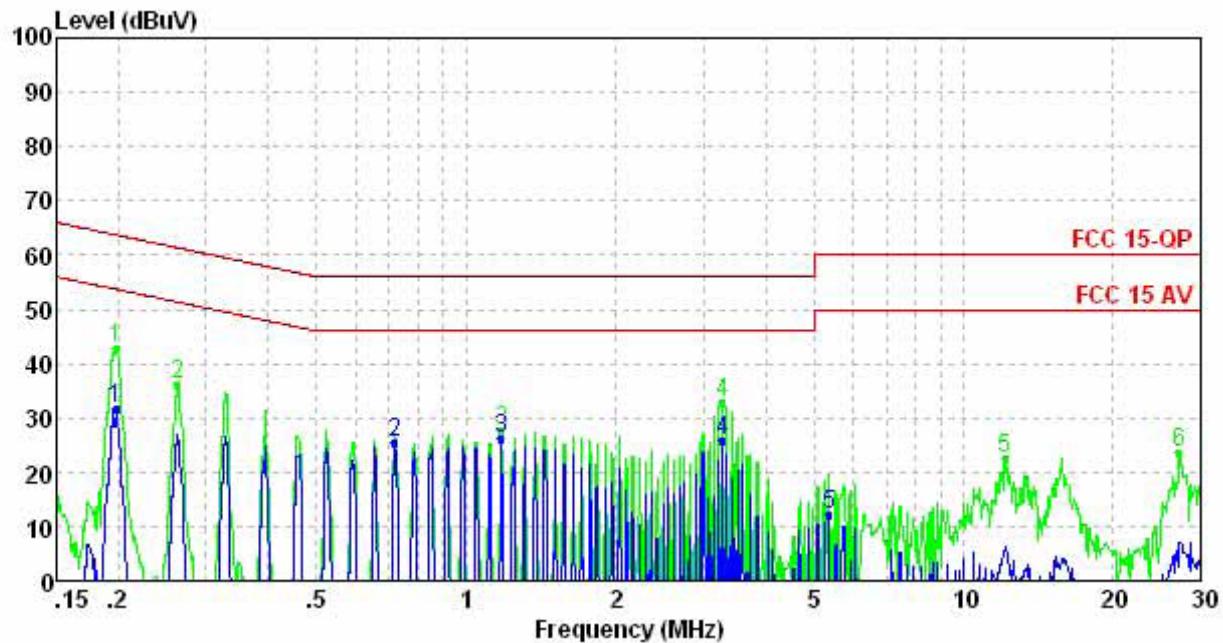
Note: In the above table, the tighter limit applies at the band edges.

8.4. Block Diagram of Test Setup



8.5. Conducted Power Line Test Result

Pass.



Condition:

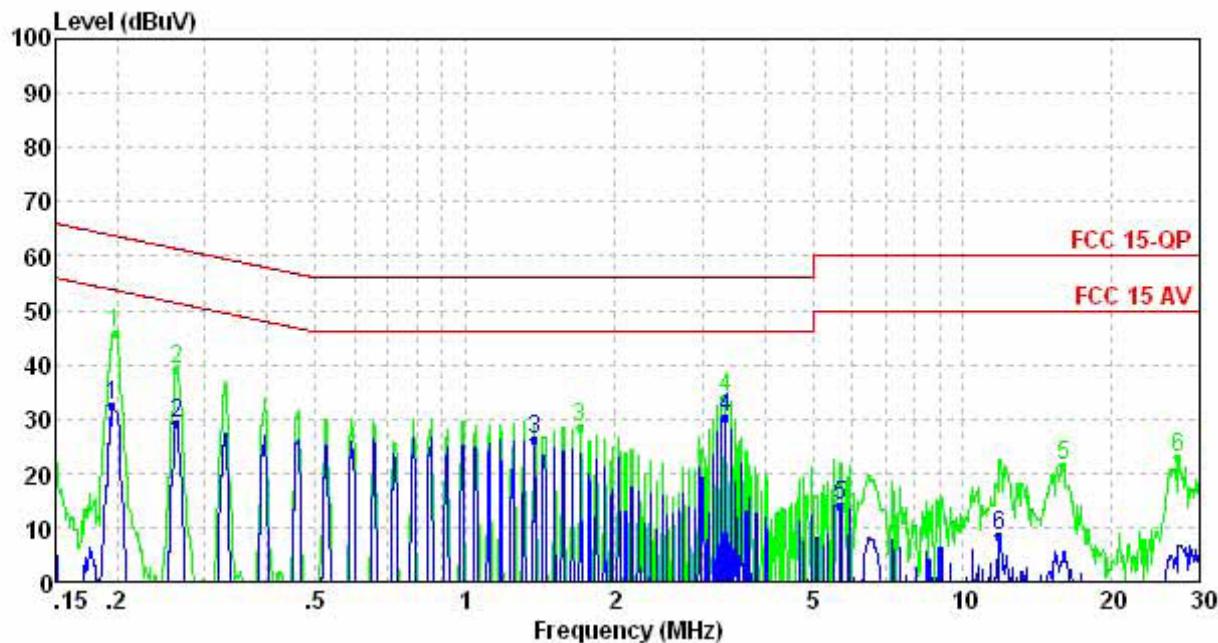
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over		
	MHz	dBuV	dBuV	dB	Limit	Remark
1 Max	0.20	31.75	53.71	-21.96	Average	LINE
2	0.72	25.33	46.00	-20.67	Average	LINE
3	1.18	26.03	46.00	-19.97	Average	LINE
4	3.28	25.85	46.00	-20.15	Average	LINE
5	5.36	12.12	50.00	-37.88	Average	LINE

Condition:

: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit	Over		
	MHz	dBuV	dBuV	dB	Limit	Remark
1 Max	0.20	42.81	63.71	-20.90	Peak	LINE
2	0.26	36.34	61.34	-25.00	Peak	LINE
3	1.18	27.72	56.00	-28.28	Peak	LINE
4	3.28	32.84	56.00	-23.16	Peak	LINE
5	12.12	22.56	60.00	-37.44	Peak	LINE
6	27.13	23.74	60.00	-36.26	Peak	LINE



Condition:

: RBW:9.000KHz VBW:30.000KHz

Freq	Level	Limit		Remark	Pol/Phase
		Line	Over		
MHz	dBuV	dBuV	dB		
1 Max	0.20	32.42	53.80	-21.38 Average	NEUTRAL
2	0.26	29.05	51.34	-22.29 Average	NEUTRAL
3	1.38	26.31	46.00	-19.69 Average	NEUTRAL
4	3.35	30.09	46.00	-15.91 Average	NEUTRAL
5	5.68	14.17	50.00	-35.83 Average	NEUTRAL
6	11.87	8.54	50.00	-41.46 Average	NEUTRAL

Condition:

: RBW:9.000KHz VBW:30.000KHz

Freq	Level	Limit		Remark	Pol/Phase
		Line	Over		
MHz	dBuV	dBuV	dB		
1 Max	0.20	45.67	63.71	-18.04 Peak	NEUTRAL
2	0.26	39.25	61.34	-22.09 Peak	NEUTRAL
3	1.70	28.49	56.00	-27.51 Peak	NEUTRAL
4	3.35	33.84	56.00	-22.16 Peak	NEUTRAL
5	15.97	21.52	60.00	-38.48 Peak	NEUTRAL
6	27.13	22.76	60.00	-37.24 Peak	NEUTRAL

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

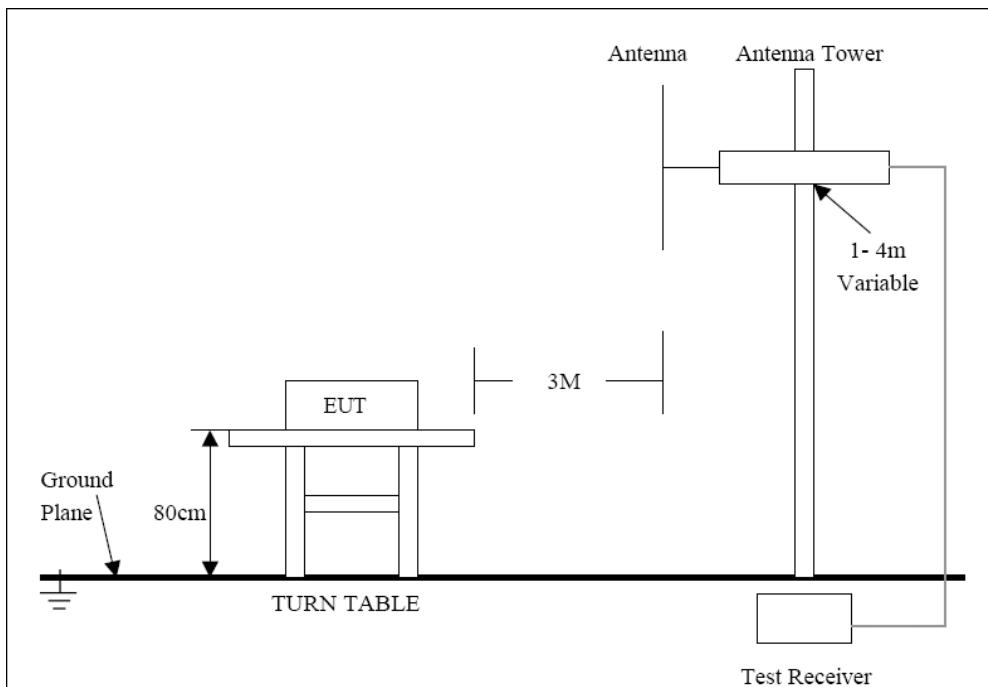
9.1. Test Equipment

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



For the accrual test configuration, please 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 8, 2011	Temperature:	25°C
EUT:	MID	Humidity:	51%
Model No.:	Tab7	Power Supply:	AC 120V/60Hz
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Jack

Horizontal Polarization

Freq	Level	Over Limit	Line	Read	Antenna	Cable	Preamp	Ant	Table	Pos	Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg			
31.08	22.46	-17.54	40.00	34.47	19.30	0.30	31.61	---	---	---	Peak	
36.48	21.86	-18.14	40.00	37.63	15.70	0.30	31.77	---	---	---	Peak	
145.83	28.13	-15.37	43.50	47.80	11.47	0.55	31.70	---	---	---	Peak	
316.80	27.39	-18.61	46.00	44.19	14.38	0.80	31.99	---	---	---	Peak	
432.30	27.35	-18.65	46.00	41.55	16.96	0.83	31.99	---	---	---	Peak	
959.40	33.17	-12.83	46.00	41.06	22.12	1.29	31.30	100	293	Peak		
2387.90	52.65	-21.35	74.00	53.03	31.98	3.92	36.28	100	4	Peak		
2387.90	40.21	-13.79	54.00	40.59	31.98	3.92	36.28	100	4	Average		
2412.00	102.82			103.15	32.00	3.95	36.28	100	4	Peak		
2412.00	99.11			99.44	32.00	3.95	36.28	100	4	Average		
2484.00	48.77	-25.23	74.00	48.93	32.08	4.05	36.30	100	4	Peak		
2484.00	35.36	-18.64	54.00	35.53	32.08	4.05	36.30	100	4	Average		
8976.00	52.85	-21.15	74.00	45.80	36.17	7.77	36.89	100	192	Peak		
8976.00	41.67	-12.33	54.00	34.62	36.17	7.77	36.89	100	192	Average		

Vertical Polarization

Freq	Level	Over Limit	Line	Read	Antenna	Cable	Preamp	Ant	Table	Pos	Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg			
30.00	23.36	-16.64	40.00	34.72	19.90	0.30	31.56	---	---	---	Peak	
54.03	26.74	-13.26	40.00	50.20	8.08	0.38	31.92	---	---	---	Peak	
147.99	29.83	-13.67	43.50	49.63	11.31	0.58	31.69	---	---	---	Peak	
344.80	21.01	-24.99	46.00	36.78	15.17	0.80	31.73	---	---	---	Peak	
488.30	22.91	-23.09	46.00	36.33	17.73	0.92	32.06	---	---	---	Peak	
959.40	34.08	-11.92	46.00	41.97	22.12	1.29	31.30	100	38	Peak		
2385.62	45.88	-28.12	74.00	46.26	31.98	3.92	36.28	102	294	Peak		
2385.62	32.70	-21.30	54.00	33.08	31.98	3.92	36.28	102	294	Average		
2412.00	95.58			95.91	32.00	3.95	36.28	102	294	Peak		
2412.00	91.68			92.01	32.00	3.95	36.28	102	294	Average		
2494.00	42.81	-31.19	74.00	42.96	32.10	4.05	36.30	102	294	Peak		
2494.00	30.63	-23.37	54.00	30.78	32.10	4.05	36.30	102	294	Average		
8961.00	52.36	-21.64	74.00	45.32	36.15	7.77	36.88	100	106	Peak		
8961.00	41.09	-12.91	54.00	34.05	36.15	7.77	36.88	100	106	Average		
9648.00	39.13	-34.87	74.00	78.54	-10.29	7.94	37.06	100	0	Peak		

Date of Test: <u>April 8, 2011</u>	Temperature: <u>25°C</u>
EUT: <u>MID</u>	Humidity: <u>51%</u>
Model No.: <u>Tab7</u>	Power Supply: <u>AC 120V/60Hz</u>
Test Mode: <u>802.11b Channel Middle 2437MHz</u>	Test Engineer: <u>Jack</u>

Horizontal Polarization

Freq	Level	Over Limit	Limit Line	Read	Antenna Level	Cable Factor	Preamp	Ant	Table Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
35.13	25.47	-14.53	40.00	40.10	16.90	0.30	31.83	100	225	Peak	
146.64	27.32	-16.18	43.50	47.04	11.42	0.56	31.70	---	---	Peak	
156.63	25.93	-17.57	43.50	46.33	10.85	0.60	31.86	---	---	Peak	
320.30	27.46	-18.54	46.00	44.16	14.47	0.80	31.96	---	---	Peak	
437.90	27.20	-18.80	46.00	41.29	17.04	0.88	32.01	---	---	Peak	
959.40	31.32	-14.68	46.00	39.21	22.12	1.29	31.30	---	---	Peak	
2388.00	48.01	-25.99	74.00	48.39	31.98	3.92	36.28	100	7	Peak	
2388.00	36.28	-17.72	54.00	36.66	31.98	3.92	36.28	100	7	Average	
2437.00	102.38			102.64	32.04	3.99	36.29	100	7	Peak	
2437.00	98.49			98.75	32.04	3.99	36.29	100	7	Average	
2484.00	48.56	-25.44	74.00	48.73	32.08	4.05	36.30	100	7	Peak	
2484.00	36.01	-17.99	54.00	36.18	32.08	4.05	36.30	100	7	Average	
8937.00	52.38	-21.62	74.00	45.37	36.13	7.74	36.87	100	162	Peak	
8937.00	41.12	-12.88	54.00	34.12	36.13	7.74	36.87	100	162	Average	

Vertical Polarization

Freq	Level	Over Limit	Limit Line	Read	Antenna Level	Cable Factor	Preamp	Ant	Table Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
54.03	26.98	-13.02	40.00	50.44	8.08	0.38	31.92	---	---	Peak	
145.83	29.08	-14.42	43.50	48.75	11.47	0.55	31.70	---	---	Peak	
149.88	29.15	-14.35	43.50	49.03	11.20	0.60	31.68	---	---	Peak	
493.90	24.82	-21.18	46.00	38.14	17.81	0.94	32.07	---	---	Peak	
581.40	23.60	-22.40	46.00	35.74	19.02	1.00	32.16	---	---	Peak	
959.40	34.31	-11.69	46.00	42.20	22.12	1.29	31.30	100	268	Peak	
2390.00	43.57	-30.43	74.00	43.95	31.98	3.92	36.28	102	294	Peak	
2390.00	31.38	-22.62	54.00	31.76	31.98	3.92	36.28	102	294	Average	
2437.00	95.57			95.83	32.04	3.99	36.29	102	294	Peak	
2437.00	91.61			91.87	32.04	3.99	36.29	102	294	Average	
2484.00	43.39	-30.61	74.00	43.56	32.08	4.05	36.30	102	294	Peak	
2484.00	30.64	-23.36	54.00	30.81	32.08	4.05	36.30	102	294	Average	
8877.00	52.74	-21.26	74.00	45.87	36.07	7.65	36.85	100	272	Peak	
8877.00	41.49	-12.51	54.00	34.62	36.07	7.65	36.85	100	272	Average	

Date of Test: April 8, 2011
 EUT: MID
 Model No.: Tab7
 Test Mode: 802.11b Channel High 2462MHz

Temperature: 25°C
 Humidity: 51%
 Power Supply: AC 120V/60Hz
 Test Engineer: Jack

Horizontal Polarization

Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
31.08	21.20	-18.80	40.00	33.22	19.30	0.30	31.61	---	---	Peak
147.99	26.78	-16.72	43.50	46.58	11.31	0.58	31.69	---	---	Peak
158.79	25.80	-17.70	43.50	46.35	10.75	0.60	31.91	---	---	Peak
318.90	26.59	-19.41	46.00	43.32	14.44	0.80	31.97	---	---	Peak
376.30	27.00	-19.00	46.00	42.00	15.94	0.86	31.80	---	---	Peak
959.40	31.20	-14.80	46.00	39.08	22.12	1.29	31.30	100	360	Peak
2386.57	68.30	-5.70	74.00	68.68	31.98	3.92	36.28	100	353	Peak
2386.57	40.24	-13.76	54.00	40.62	31.98	3.92	36.28	100	353	Average
2412.00	103.65			103.98	32.00	3.95	36.28	100	353	Peak
2412.00	92.02			92.35	32.00	3.95	36.28	100	353	Average
2492.00	55.43	-18.57	74.00	55.58	32.10	4.05	36.30	100	353	Peak
2492.00	35.92	-18.08	54.00	36.07	32.10	4.05	36.30	100	353	Average
8952.00	53.53	-20.47	74.00	46.52	36.15	7.74	36.88	100	226	Peak
8952.00	42.43	-11.57	54.00	35.42	36.15	7.74	36.88	100	226	Average

Vertical Polarization

Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
55.38	25.95	-14.05	40.00	49.60	7.85	0.40	31.90	---	---	Peak
144.48	28.54	-14.96	43.50	48.17	11.53	0.55	31.71	---	---	Peak
148.53	29.72	-13.78	43.50	49.52	11.31	0.58	31.69	---	---	Peak
318.90	21.98	-24.02	46.00	38.72	14.44	0.80	31.97	---	---	Peak
607.30	22.25	-23.75	46.00	34.24	19.15	1.00	32.14	---	---	Peak
959.40	34.09	-11.91	46.00	41.98	22.12	1.29	31.30	100	225	Peak
2384.29	60.96	-13.04	74.00	61.36	31.96	3.92	36.28	100	335	Peak
2384.29	33.99	-20.01	54.00	34.39	31.96	3.92	36.28	100	335	Average
2412.00	95.98			96.31	32.00	3.95	36.28	100	335	Peak
2412.00	84.43			84.76	32.00	3.95	36.28	100	335	Average
2486.00	47.70	-26.30	74.00	47.87	32.08	4.05	36.30	100	335	Peak
2486.00	30.68	-23.32	54.00	30.85	32.08	4.05	36.30	100	335	Average
7182.00	52.83	-21.17	74.00	46.51	35.62	7.16	36.47	100	293	Peak
7182.00	41.73	-12.27	54.00	35.42	35.62	7.16	36.47	100	293	Average

Date of Test: April 8, 2011
 EUT: MID
 Model No.: Tab7
 Test Mode: 802.11g Channel Low 2412MHz

Temperature: 25°C
 Humidity: 51%
 Power Supply: AC 120V/60Hz
 Test Engineer: Jack

Horizontal Polarization

Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
31.08	21.20	-18.80	40.00	33.22	19.30	0.30	31.61	---	---	Peak
147.99	26.78	-16.72	43.50	46.58	11.31	0.58	31.69	---	---	Peak
158.79	25.80	-17.70	43.50	46.35	10.75	0.60	31.91	---	---	Peak
318.90	26.59	-19.41	46.00	43.32	14.44	0.80	31.97	---	---	Peak
376.30	27.00	-19.00	46.00	42.00	15.94	0.86	31.80	---	---	Peak
959.40	31.20	-14.80	46.00	39.08	22.12	1.29	31.30	100	360	Peak
2386.57	68.30	-5.70	74.00	68.68	31.98	3.92	36.28	100	353	Peak
2386.57	40.24	-13.76	54.00	40.62	31.98	3.92	36.28	100	353	Average
2412.00	103.65		103.98	32.00		3.95	36.28	100	353	Peak
2412.00	92.02		92.35	32.00		3.95	36.28	100	353	Average
2492.00	55.43	-18.57	74.00	55.58	32.10	4.05	36.30	100	353	Peak
2492.00	35.92	-18.08	54.00	36.07	32.10	4.05	36.30	100	353	Average
8952.00	53.53	-20.47	74.00	46.52	36.15	7.74	36.88	100	226	Peak
8952.00	42.43	-11.57	54.00	35.42	36.15	7.74	36.88	100	226	Average

Vertical Polarization

Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
55.38	25.95	-14.05	40.00	49.60	7.85	0.40	31.90	---	---	Peak
144.48	28.54	-14.98	43.50	48.17	11.53	0.55	31.71	---	---	Peak
148.53	29.72	-13.78	43.50	49.52	11.31	0.58	31.69	---	---	Peak
318.90	21.98	-24.02	46.00	38.72	14.44	0.80	31.97	---	---	Peak
607.30	22.25	-23.75	46.00	34.24	19.15	1.00	32.14	---	---	Peak
959.40	34.09	-11.91	46.00	41.98	22.12	1.29	31.30	100	225	Peak
2384.29	60.96	-13.04	74.00	61.36	31.96	3.92	36.28	100	335	Peak
2384.29	33.99	-20.01	54.00	34.39	31.96	3.92	36.28	100	335	Average
2412.00	95.98		96.31	32.00		3.95	36.28	100	335	Peak
2412.00	84.43		84.76	32.00		3.95	36.28	100	335	Average
2486.00	47.70	-26.30	74.00	47.87	32.08	4.05	36.30	100	335	Peak
2486.00	30.68	-23.32	54.00	30.85	32.08	4.05	36.30	100	335	Average
7182.00	52.83	-21.17	74.00	46.51	35.62	7.16	36.47	100	293	Peak
7182.00	41.73	-12.27	54.00	35.42	35.62	7.16	36.47	100	293	Average

Date of Test: April 8, 2011 Temperature: 25°C
 EUT: MID Humidity: 51%
 Model No.: Tab7 Power Supply: AC 120V/60Hz
 Test Mode: 802.11g Channel Middle 2437MHz Test Engineer: Jack

Horizontal Polarization

Freq	Level	Over Limit	Limit Line	Read	Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Table Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m		dB	dB	cm	deg	
36.48	20.14	-19.86	40.00	35.92	15.70	0.30	31.77	---	---	---	Peak
148.53	27.36	-16.14	43.50	47.15	11.31	0.58	31.69	---	---	---	Peak
159.33	26.77	-16.73	43.50	47.33	10.75	0.60	31.91	---	---	---	Peak
376.30	26.84	-19.16	46.00	41.84	15.94	0.86	31.80	---	---	---	Peak
491.80	26.14	-19.86	46.00	39.50	17.78	0.92	32.06	---	---	---	Peak
959.40	31.14	-14.86	46.00	39.02	22.12	1.29	31.30	100	10	10	Peak
2382.00	61.93	-12.07	74.00	62.33	31.96	3.92	36.28	103	5	5	Peak
2382.00	36.66	-17.34	54.00	37.06	31.96	3.92	36.28	103	5	5	Average
2437.00	103.60			103.88	32.02	3.99	36.29	103	5	5	Peak
2437.00	91.86			92.12	32.04	3.99	36.29	103	5	5	Average
2486.00	59.14	-14.86	74.00	59.31	32.08	4.05	36.30	103	5	5	Peak
2486.00	35.54	-18.46	54.00	35.71	32.08	4.05	36.30	103	5	5	Average
8697.00	52.61	-21.39	74.00	46.04	35.90	7.45	36.78	100	208	208	Peak
8697.00	42.13	-11.87	54.00	35.56	35.90	7.45	36.78	100	208	208	Average

Vertical Polarization

Freq	Level	Over Limit	Limit Line	Read	Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Table Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m		dB	dB	cm	deg	
54.84	26.39	-13.61	40.00	50.04	7.85	0.40	31.90	---	---	---	Peak
144.48	28.85	-14.65	43.50	48.49	11.53	0.55	31.71	---	---	---	Peak
148.53	30.18	-13.32	43.50	49.97	11.31	0.58	31.69	---	---	---	Peak
491.80	23.09	-22.91	46.00	36.45	17.78	0.92	32.06	---	---	---	Peak
607.30	23.51	-22.49	46.00	35.49	19.15	1.00	32.14	---	---	---	Peak
959.40	34.75	-11.25	46.00	42.64	22.12	1.29	31.30	100	350	350	Peak
2374.00	51.22	-22.78	74.00	51.65	31.96	3.89	36.28	100	338	338	Peak
2374.00	31.04	-22.96	54.00	31.47	31.96	3.89	36.28	100	338	338	Average
2437.00	94.99			95.27	32.02	3.99	36.29	100	338	338	Peak
2437.00	83.21			83.47	32.04	3.99	36.29	100	338	338	Average
2486.00	50.21	-23.79	74.00	50.38	32.08	4.05	36.30	100	338	338	Peak
2486.00	30.34	-23.66	54.00	30.51	32.08	4.05	36.30	100	338	338	Average
8691.00	52.64	-21.36	74.00	46.12	35.88	7.42	36.78	100	308	308	Peak
8691.00	42.20	-11.80	54.00	35.68	35.88	7.42	36.78	100	308	308	Average

Date of Test:	April 8, 2011	Temperature:	25°C
EUT:	MID	Humidity:	51%
Model No.:	Tab7	Power Supply:	AC 120V/60Hz
Test Mode:	802.11g Channel High 2462MHz	Test Engineer:	Jack

Horizontal Polarization

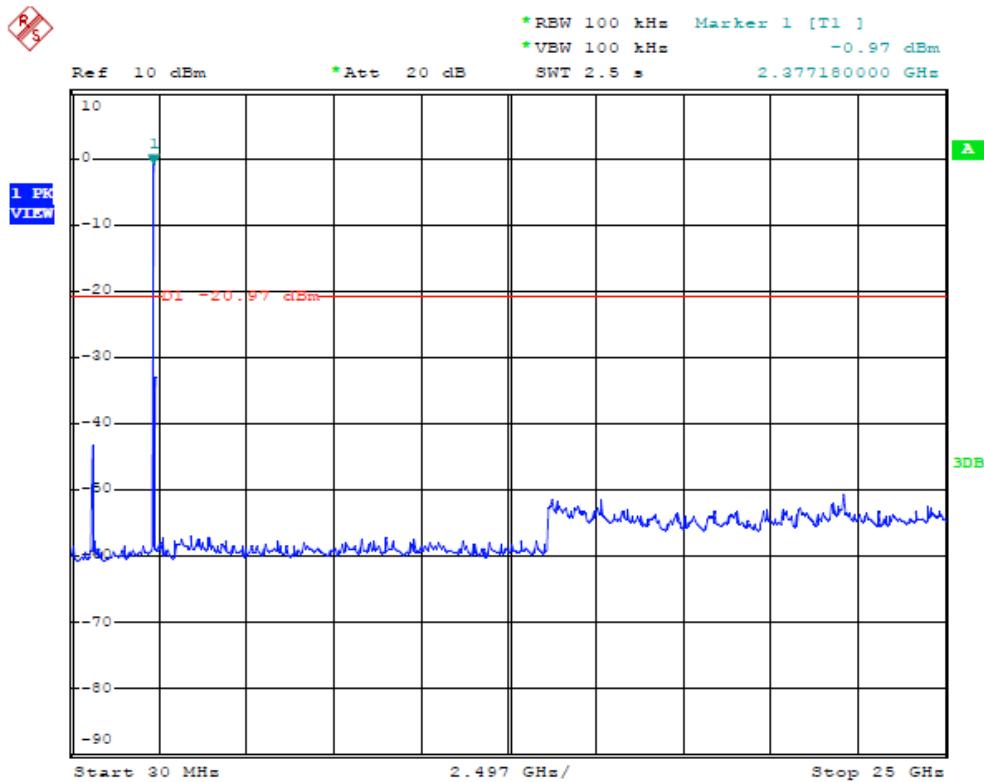
Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
37.83	24.93	-15.07	40.00	41.28	15.10	0.30	31.75	---	---	Peak
148.53	28.09	-15.41	43.50	47.88	11.31	0.58	31.69	---	---	Peak
159.33	26.51	-16.99	43.50	47.06	10.75	0.60	31.91	---	---	Peak
376.30	26.34	-19.66	46.00	41.34	15.94	0.86	31.80	---	---	Peak
434.40	26.12	-19.88	46.00	40.28	16.98	0.85	31.99	---	---	Peak
959.40	31.02	-14.98	46.00	38.91	22.12	1.29	31.30	100	12	Peak
2390.00	55.95	-18.05	74.00	56.33	31.98	3.92	36.28	100	20	Peak
2390.00	32.89	-21.11	54.00	33.27	31.98	3.92	36.28	100	20	Average
2462.00	103.68		103.89	32.06	4.02	36.29	100	20	Peak	
2462.00	92.18		92.39	32.06	4.02	36.29	100	20	Average	
2483.50	70.01	-3.99	74.00	70.18	32.08	4.05	36.30	100	20	Peak
2483.50	43.72	-10.28	54.00	43.89	32.08	4.05	36.30	100	20	Average
8877.00	52.76	-21.24	74.00	45.89	36.07	7.65	36.85	100	304	Peak
8877.00	41.59	-12.41	54.00	34.72	36.07	7.65	36.85	100	304	Average

Vertical Polarization

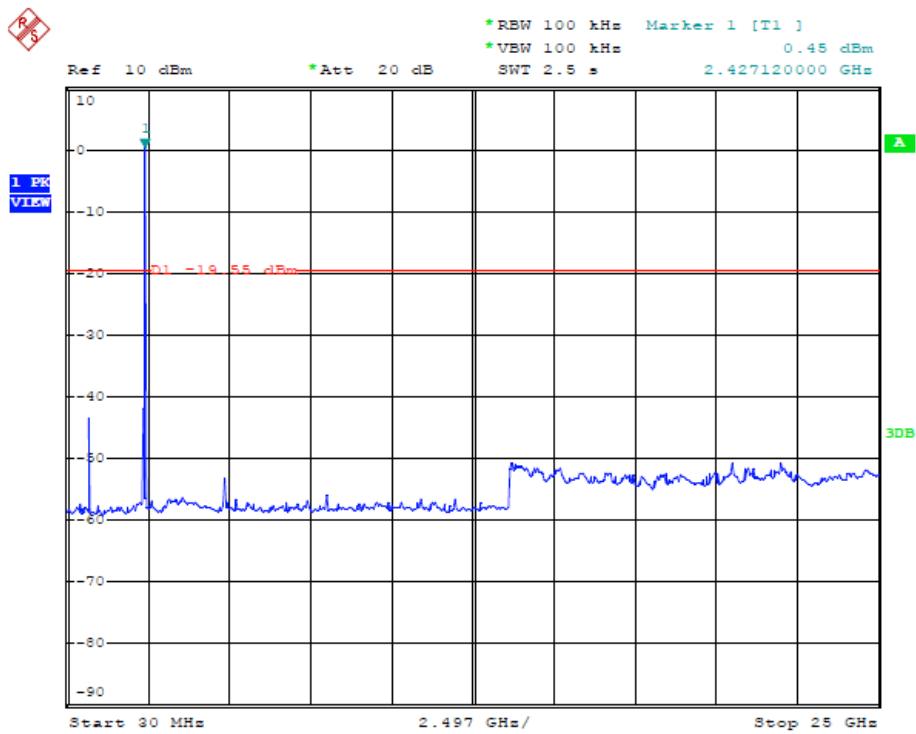
Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
54.03	26.53	-13.47	40.00	49.99	8.08	0.38	31.92	---	---	Peak
144.48	28.63	-14.87	43.50	48.26	11.53	0.55	31.71	---	---	Peak
148.53	29.93	-13.57	43.50	49.73	11.31	0.58	31.69	---	---	Peak
318.90	22.49	-23.51	46.00	39.23	14.44	0.80	31.97	---	---	Peak
759.90	22.26	-23.74	46.00	32.85	20.40	1.10	32.08	---	---	Peak
959.40	34.32	-11.68	46.00	42.21	22.12	1.29	31.30	100	352	Peak
2390.00	51.20	-22.80	74.00	51.59	31.98	3.92	36.28	100	144	Peak
2390.00	31.20	-22.80	54.00	31.58	31.98	3.92	36.28	100	144	Average
2462.00	95.19		95.41	32.06	4.02	36.29	100	144	Peak	
2462.00	83.64		83.85	32.06	4.02	36.29	100	144	Average	
2483.50	61.30	-12.70	74.00	61.47	32.08	4.05	36.30	100	144	Peak
2483.50	33.13	-20.87	54.00	33.30	32.08	4.05	36.30	100	144	Average
7797.00	52.72	-21.28	74.00	46.35	35.62	7.41	36.66	100	193	Peak
7797.00	41.49	-12.51	54.00	35.12	35.62	7.41	36.66	100	193	Average

Antenna port conducted spurious emissions
802.11b mode:

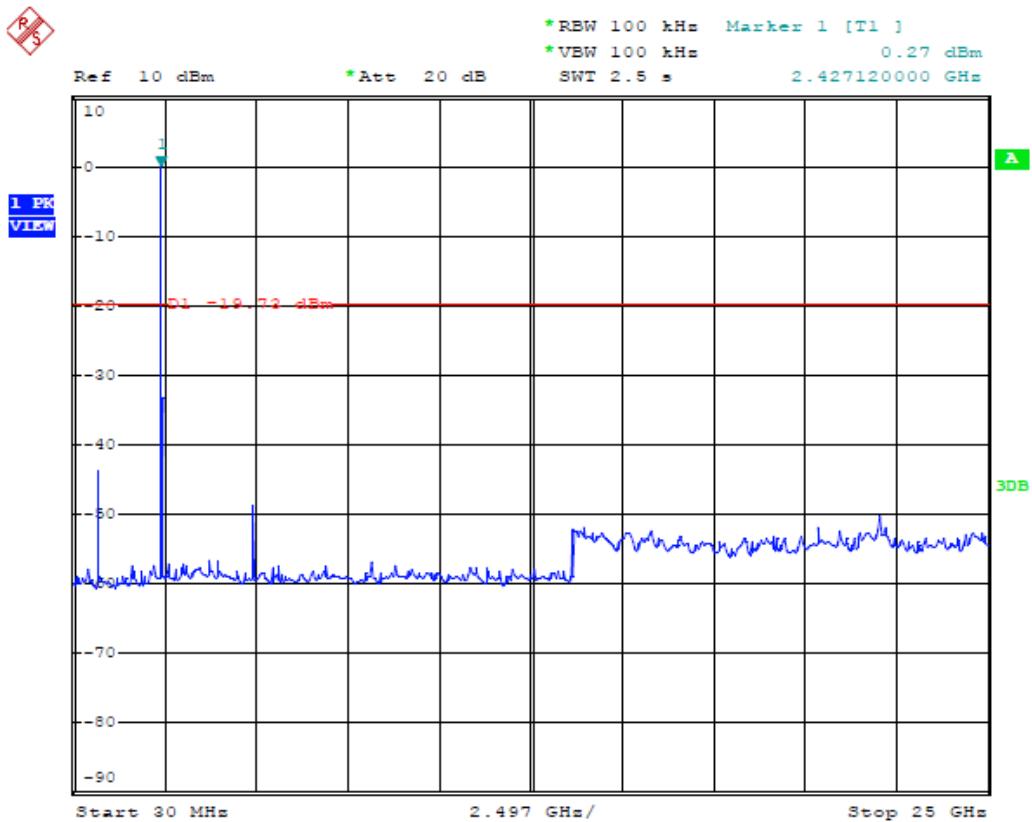
Low channel



Middle channel

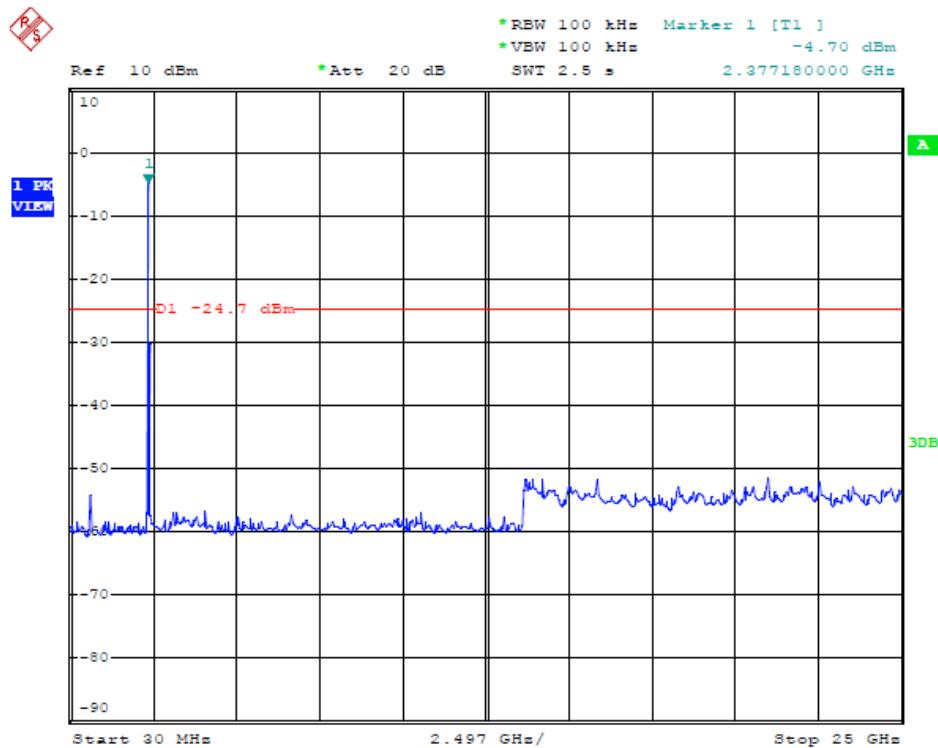


High channel

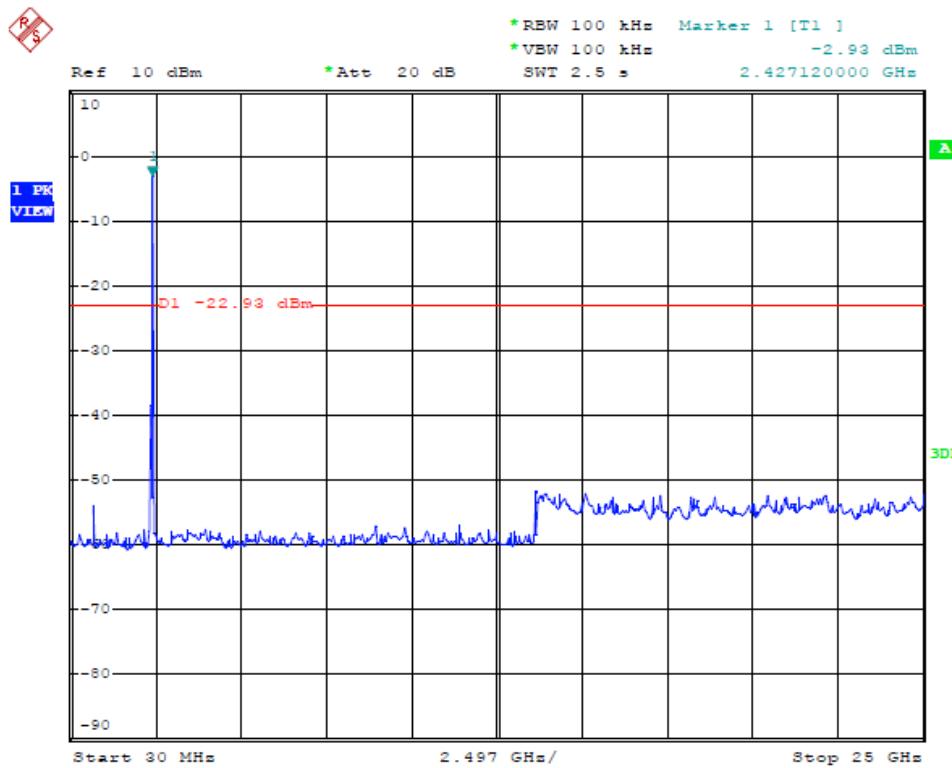


802.11g mode:

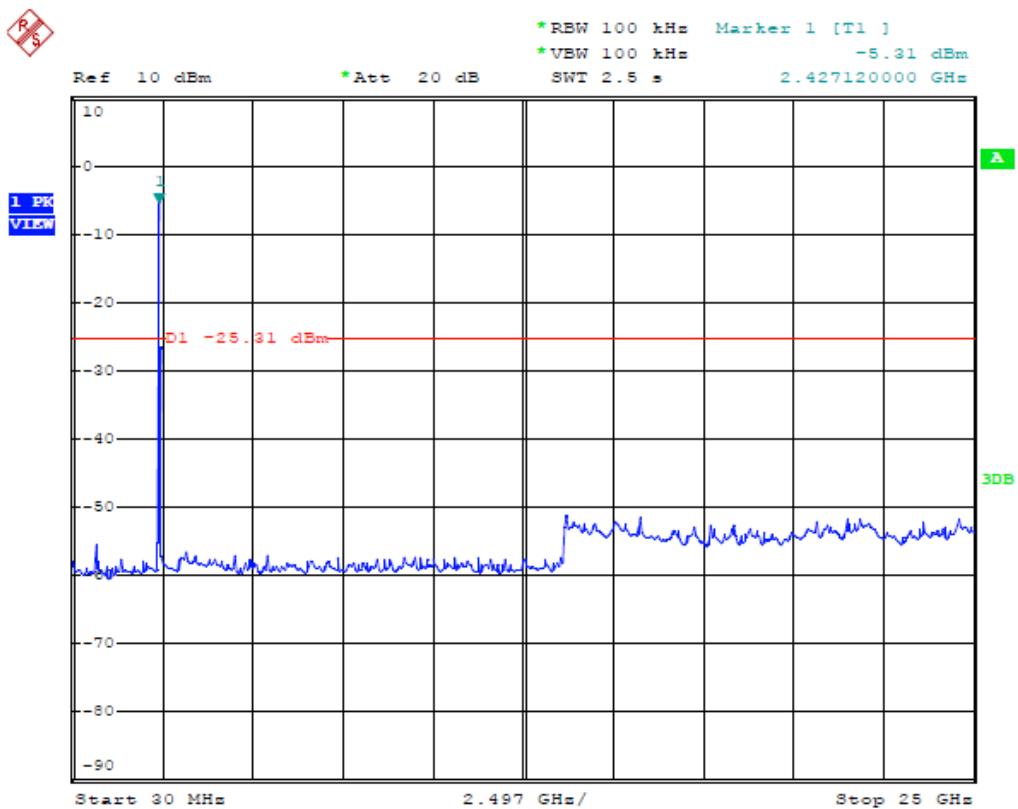
Low channel



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 $RBW=100\text{kHz}$, $VBW \geq RBW$, $Span=40\text{MHz}$, $Sweep=auto$.
4. Mark the peak frequency and -6dB (upper and lower)frequency.
5. Repeat until all the rest channels are investigated.

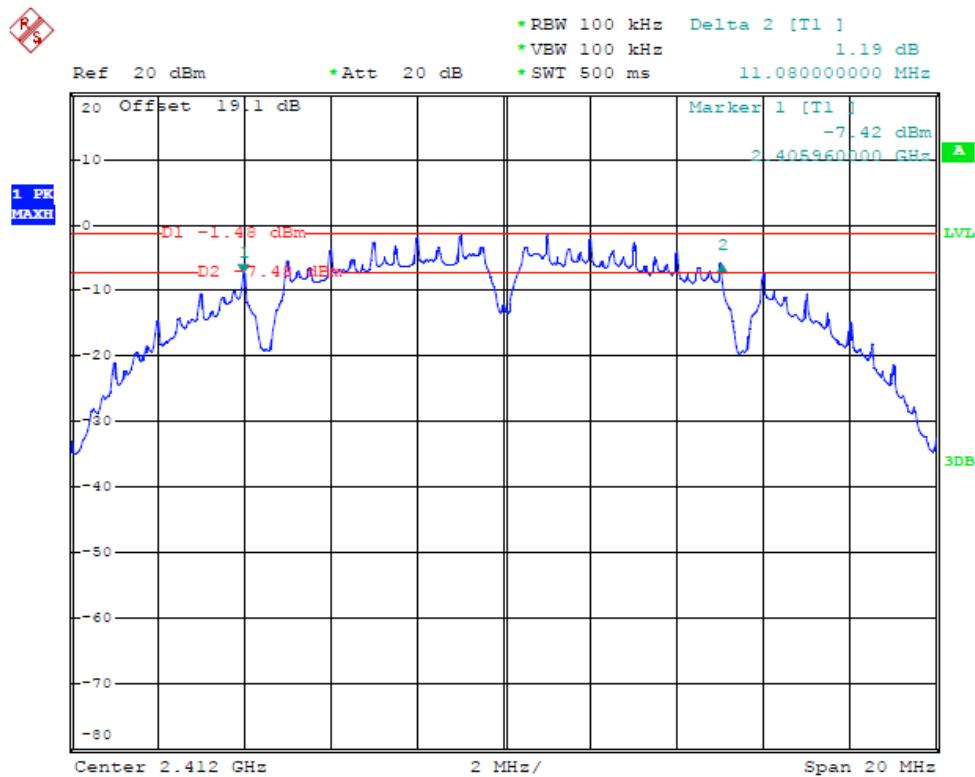
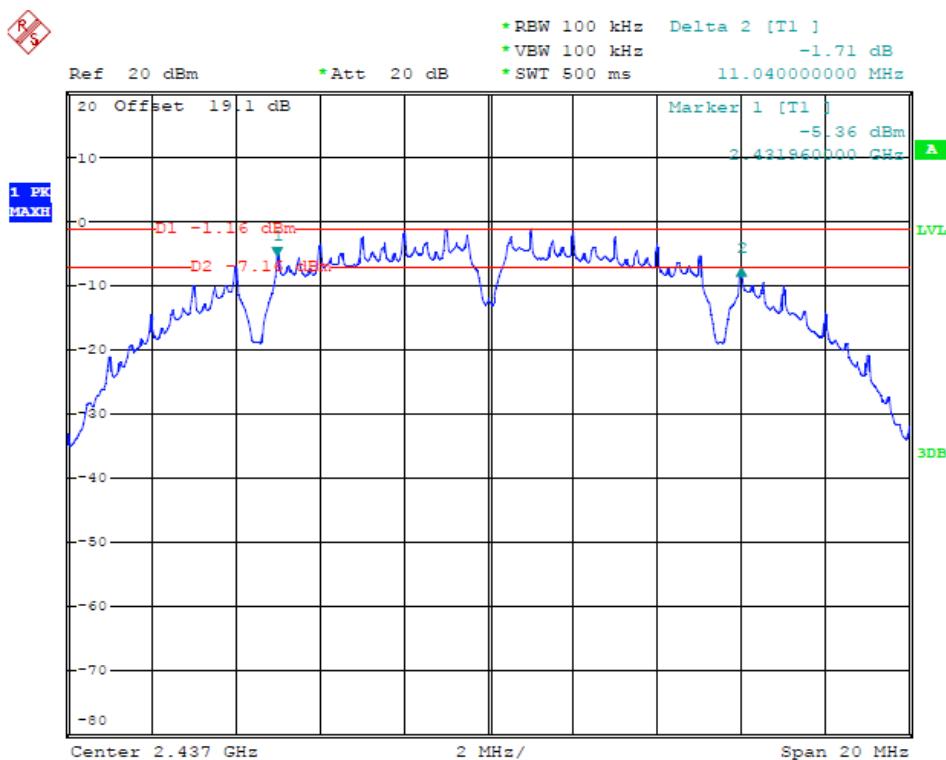
10.3. Applicable Standard

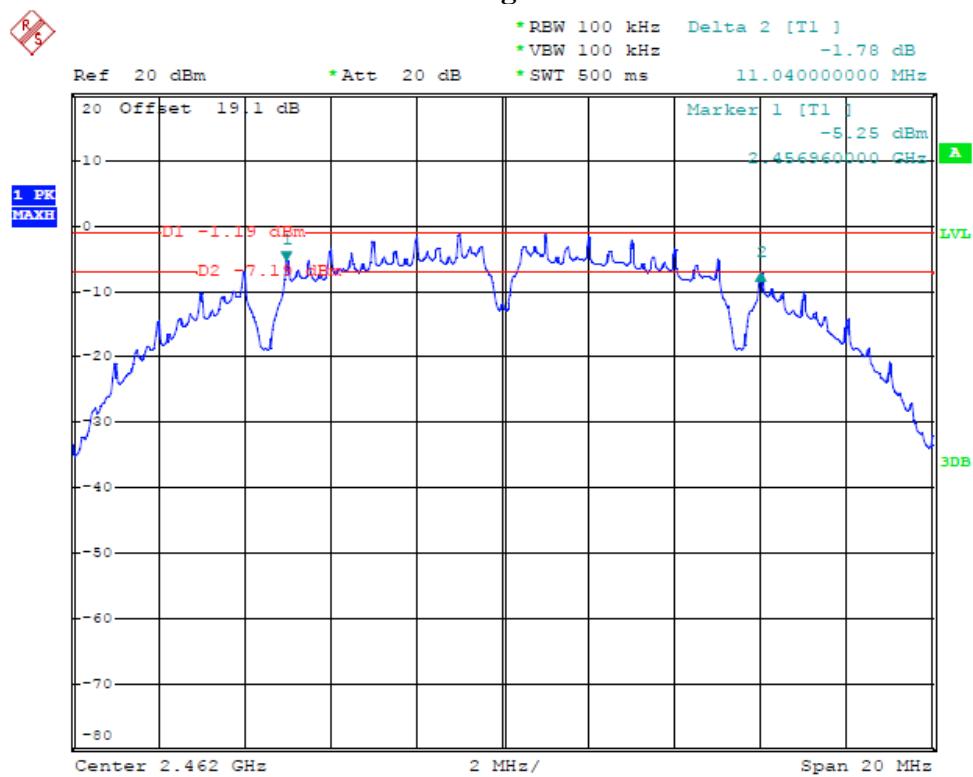
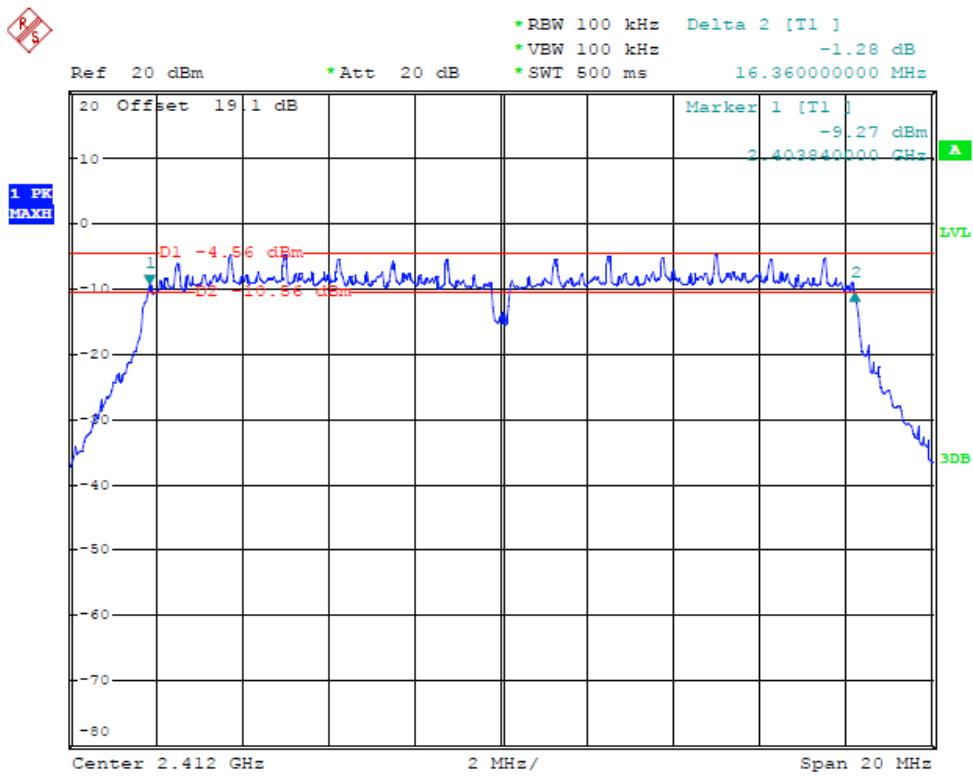
Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

10.4. Test Result: Pass.

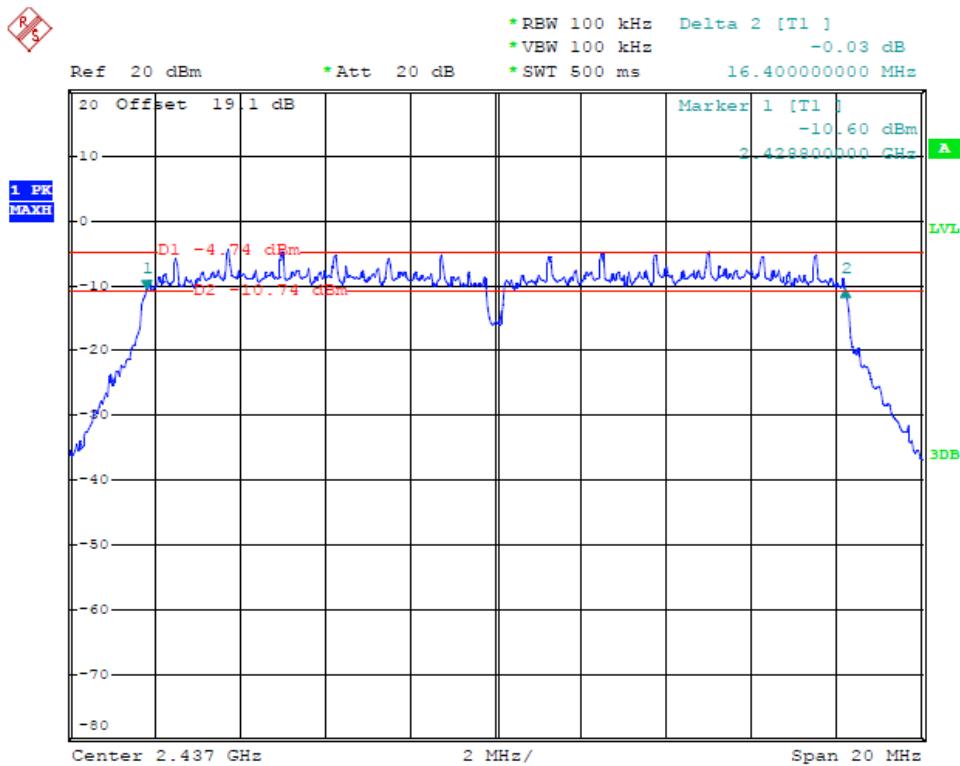
Please refer to the following tables

Channel Frequency (MHz)	Data Rate (Mbps)	6dB Bandwidth (kHz)	Limit (kHz)	Ref. Plot
802.11b Mode				
2412	1	11080	>500	PLOT 1
2437	1	11040	>500	PLOT 2
2462	1	11040	>500	PLOT 3
802.11g Mode				
2412	6	16360	>500	PLOT 4
2437	6	16400	>500	PLOT 5
2462	6	16400	>500	PLOT 6

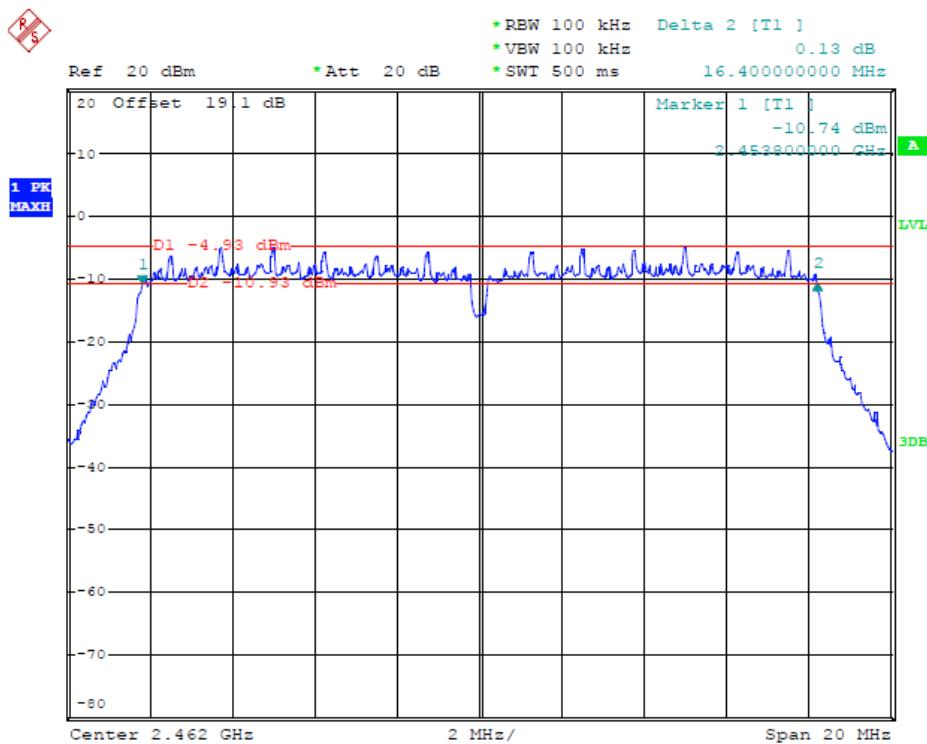
802.11b Mode:**Low Channel****Middle Channel**

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	8.49	30
Mid	2437	1	8.48	30
High	2462	1	8.56	30

802.11g Mode:

Channel	Frequency (MHz)	Data Rate (Mbps)	Conducted Power (dBm)	Limit (dBm)
Low	2412	6	8.31	30
Mid	2437	6	8.12	30
High	2462	6	8.23	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 Restricted 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.

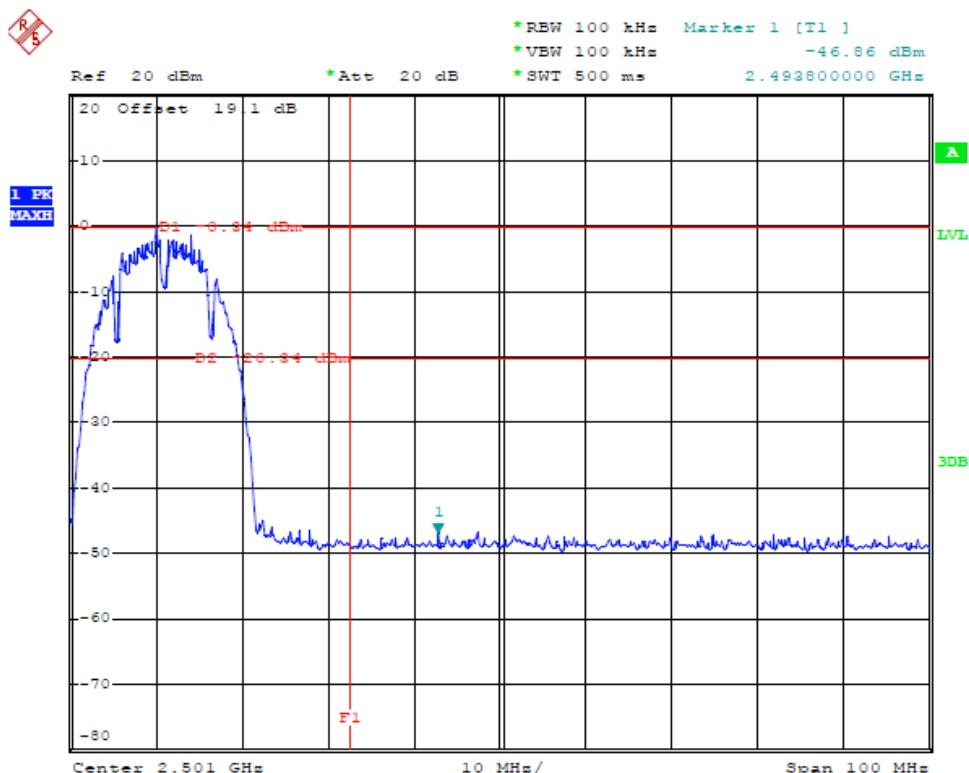
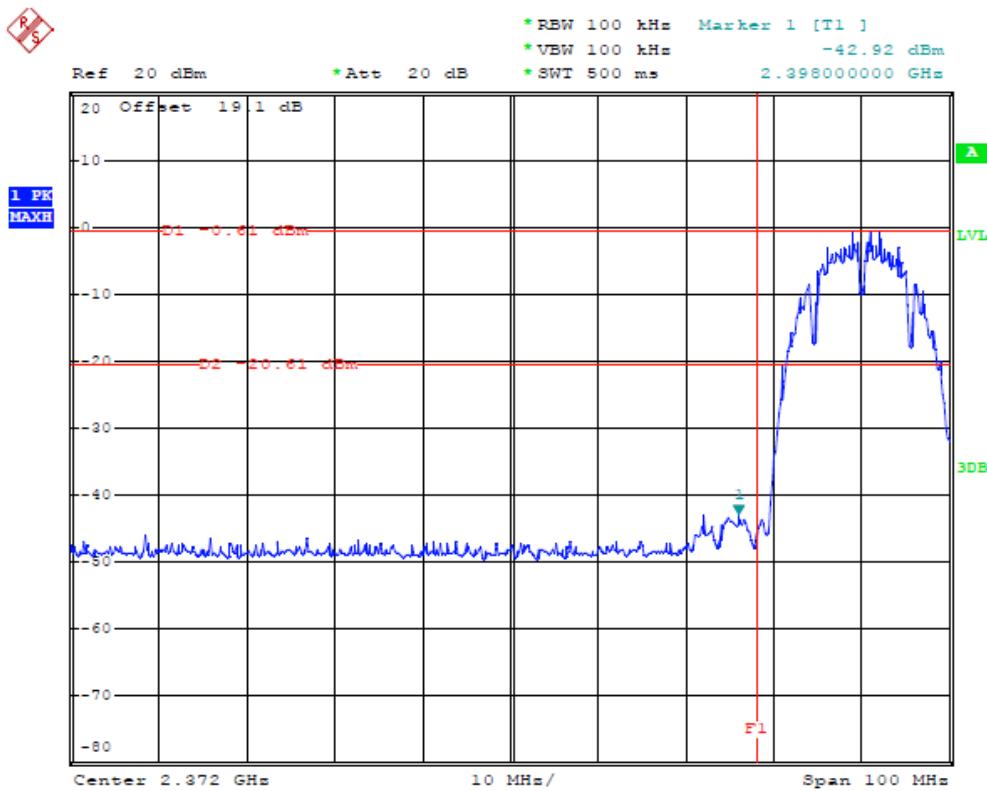
12.3. Applicable Standard

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)).

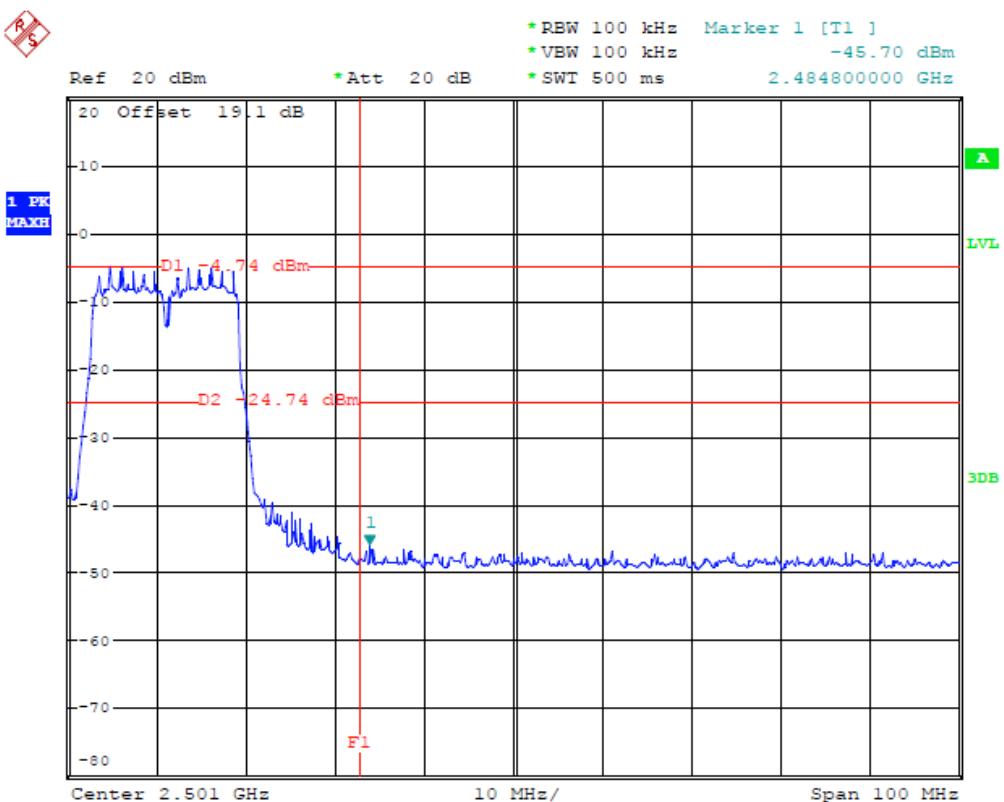
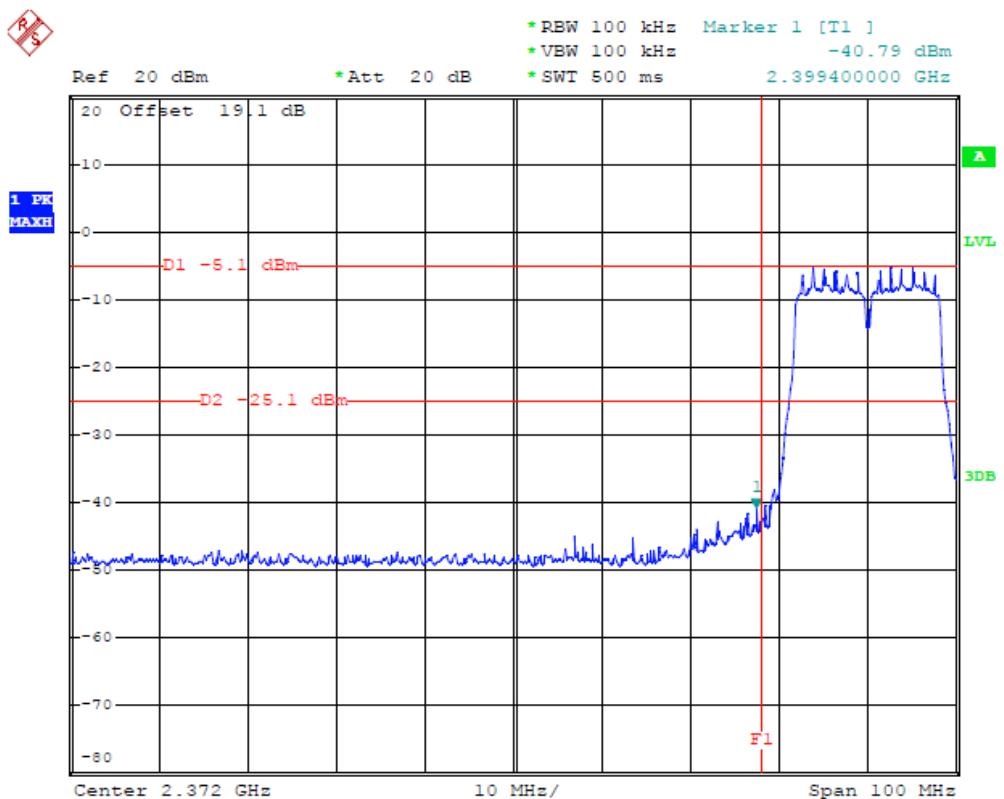
12.4. Test Result

Pass.

802.11b Mode:



802.11g Mode:



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.

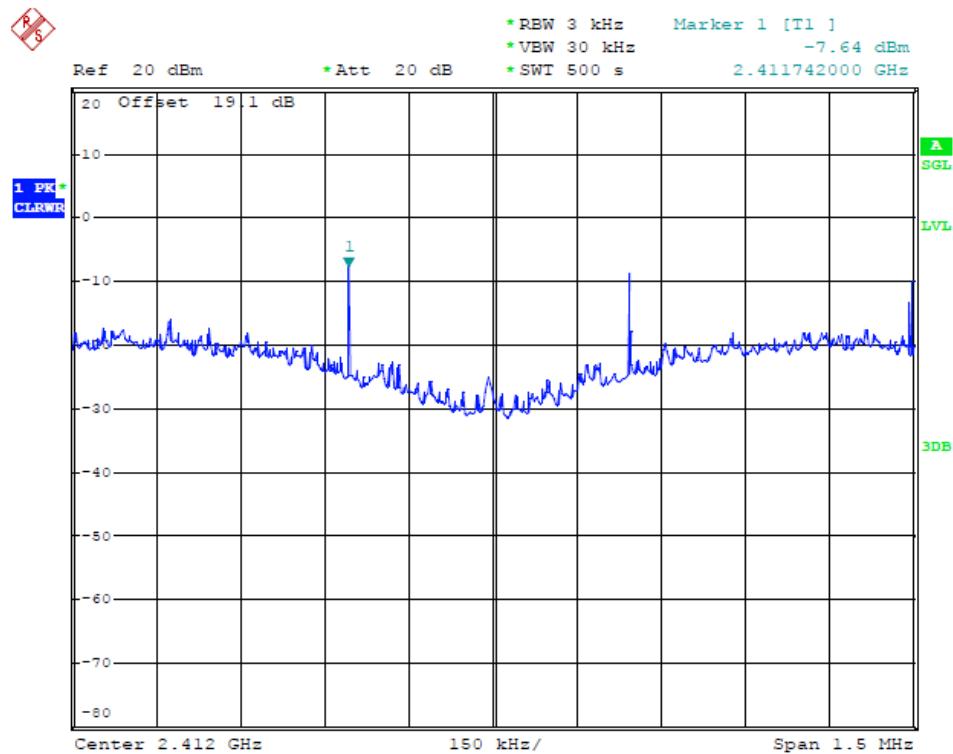
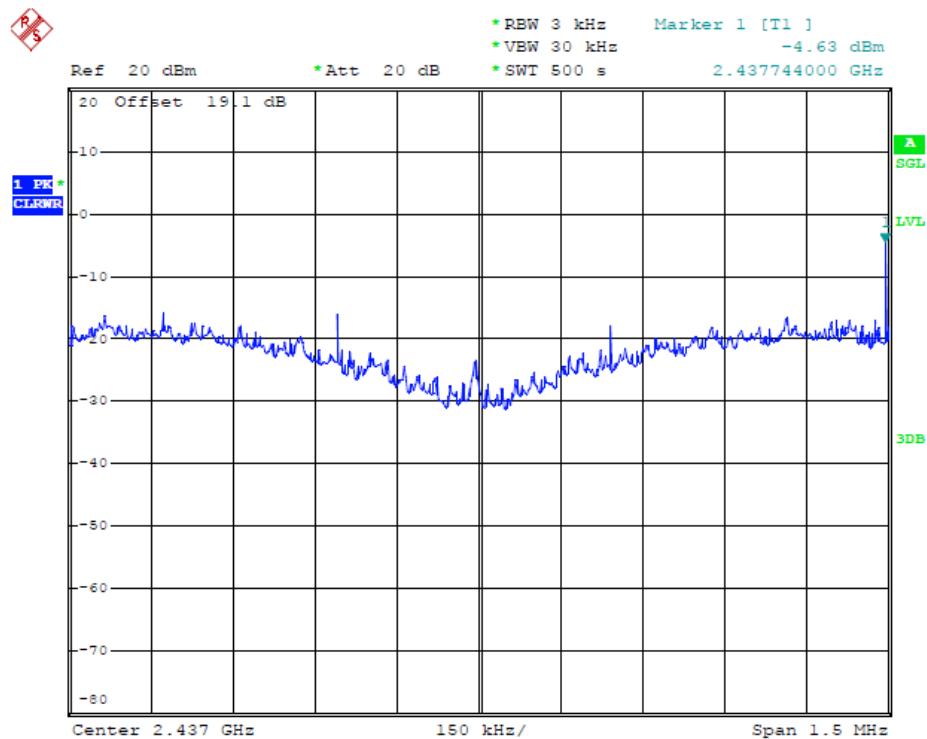
13.3. Applicable Standard

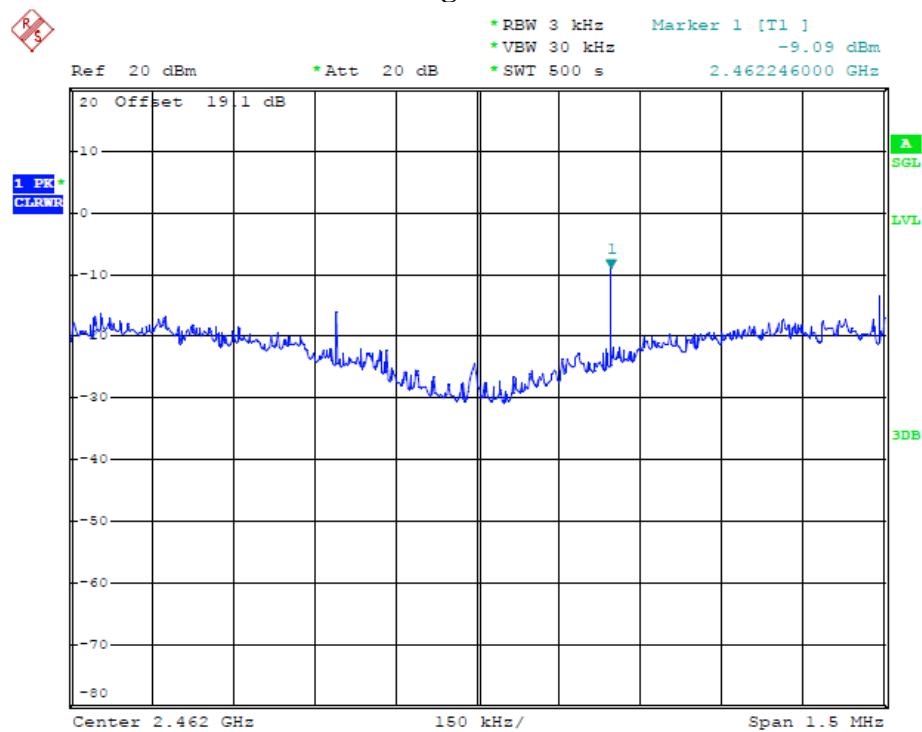
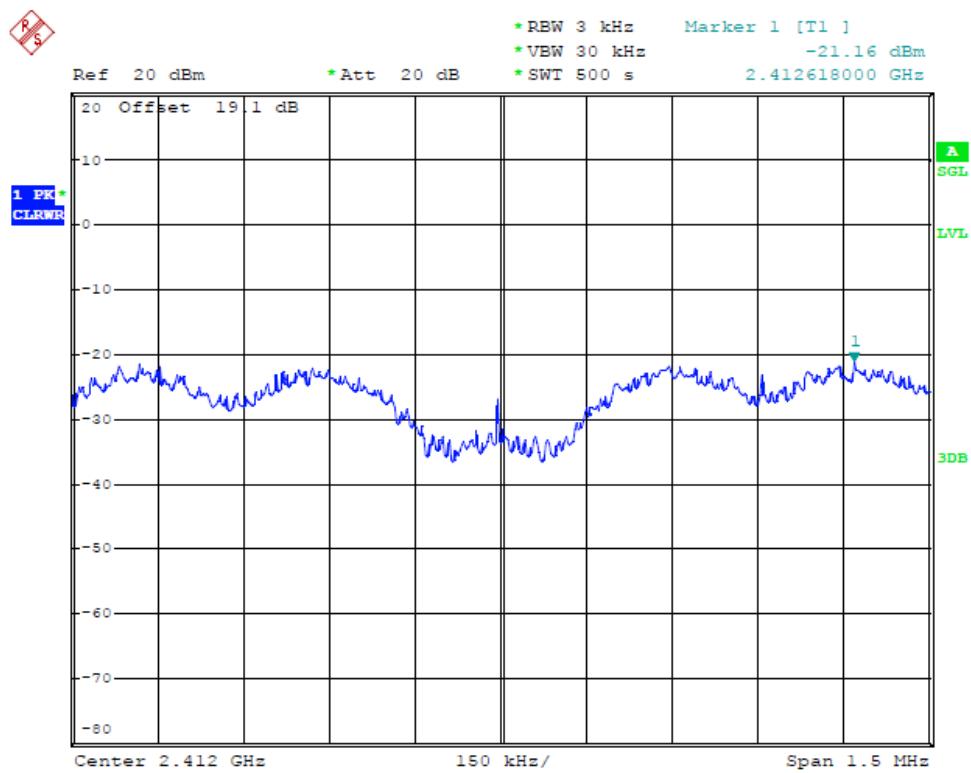
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of 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

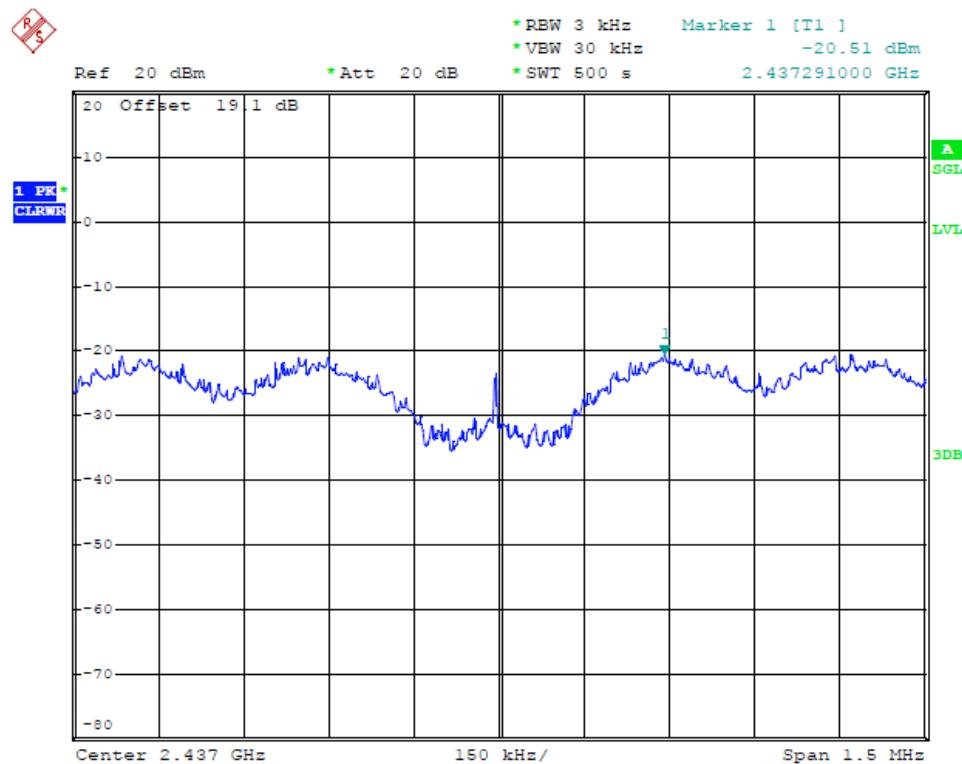
PASS

Channel Frequency (MHz)	Data Rate (Mbps)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	RESULT
802.11b Mode				
2412	1	-7.64	8	Compliant
2437	1	-4.63	8	Compliant
2462	1	-9.09	8	Compliant
802.11g Mode				
2412	6	-21.16	8	Compliant
2437	6	-20.51	8	Compliant
2462	6	-20.24	8	Compliant

802.11b Mode:**Low Channel****Middle Channel**

High Channel**802.11g Mode:****Low Channel**

Middle Channel



High Channel

