



# SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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Report No.: GZEM160800587101  
Page: 1 of 105  
FCC ID: 2AH7Y-101067400

## TEST REPORT

**Application No.:** GZEM1608005871CR  
**Applicant:** Happiest Baby, Inc.  
**Address of Applicant:** 1833 Centinela Avenue, Santa Monica, CA 90404, USA  
**Manufacturer:** Happiest Baby, Inc.  
**Address of Manufacturer:** 1833 Centinela Avenue, Santa Monica, CA 90404, USA  
**Factory:** Jetta (Guangzhou) Industries Co., Ltd.  
**Address of Factory:** 163 Cheng Ao Da Dao Dong Lu, Cheng jiao jie, Cong Hua Shi, Guangzhou Shi, Guangdong Province, China  
**FCC ID:** 2AH7Y-101067400  
**Product Description:** SNOO  
**Model No.:** S1000  
**Standards:** CFR 47 FCC PART 15 SUBPART C:2015 section 15.247  
**Date of Receipt:** 2016-08-19  
**Date of Test:** 2016-08-30 to 2016-09-23  
**Date of Issue:** 2016-10-12

<b>Test Result :</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.



Authorized Signature

Jerry Chan  
Manager

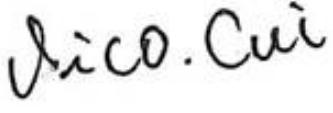
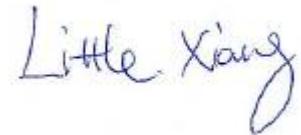
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2016-10-12		Original Report

Authorized for issue by:			
Tested By		 (Vico Cui) /Project Engineer	2016-08-30 to 2016-09-23 Date
Prepared By		 (Millie Li) / Clerk	2016-10-11 Date
Checked By		 (Little Xiang) / Reviewer	2016-10-12 Date

### 3 Test Summary

Test	Test Requirement	Test method	Result
Antenna Requirement	FCC PART 15 C section 15.247 (c) and Section 15.203	FCC PART 15 C section 15.247 (c) and Section 15.203	PASS
6 dB Bandwidth	FCC PART 15 C section 15.247 (a)(2)	ANSI C63.10: Clause 11.8	PASS
Maximum Peak Output Power	FCC PART 15 C section 15.247(b)(3)	ANSI C63.10: Clause 11.9	PASS
Peak Power Spectral Density	FCC PART 15 C section 15.247(e)	ANSI C63.10: Clause 11.10	PASS
Conducted Spurious Emission (30MHz to 25GHz)	FCC PART 15 C section 15.209 &15.247(d)	ANSI C63.10: Clause 11.11	PASS
Radiated Emissions which fall in the restricted bands	FCC PART 15 C section 15.209 &15.247(d)	ANSI C63.10: Clause 11.12,6.3,6.5 and 6.6	PASS **
Band Edges Measurement	FCC PART 15 C section 15.247 (d) &15.205	ANSI C63.10: Clause 11.13	PASS
Conducted Emissions at Mains Terminals	FCC PART 15 C section 15.207	ANSI C63.10: Clause 6.2	PASS
<b>Remark:</b> EUT: In this whole report EUT means Equipment Under Test. N/A: not applicable. Refer to the relative section for the details. Tx: In this whole report Tx (or tx) means Transmitter. Rx: In this whole report Rx (or rx) means Receiver. RF: In this whole report RF means Radio Frequency. ANSI C63.10: the detail version is ANSI C63.10:2013 in the whole report.			
**: The ETU passed Radiated Emissions which fall in the restricted bands test after modification carried out by applicant.			

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## 5 General Information

### 5.1 Details of E.U.T.

Product Description:	SNOO
Model No.:	S1000
Operating Frequency	2412 MHz to 2462 MHz for 802.11b/g/n(HT20) 2422 MHz to 2452 MHz for 802.11n(HT40)
Type of Modulation:	802.11b: DSSS (CCK/QPSK/BPSK) 802.11g: OFDM (BPSK/QPSK/16QAM/64QAM) 802.11n: OFDM (BPSK/QPSK/16QAM/64QAM) 802.11b:1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n(HT20): 7.2/14.4/21.7/28.9/43.3/57.8/65/ Mbps 802.11n(HT40): 15/30/45/60/90/120/135 Mbps
Transmit Data Rate:	11 Channels for 802.11b/g/n(HT20) 7 Channels for 802.11n(HT40)
Number of Channels	5 MHz
Channel Separation:	Integrated antenna
Antenna Type	1.0 dBi
Antenna gain:	Bassinet with Wi-Fi function
Function:	Putty_V0.63
Test Software:	AC 100-240V 50/60Hz \ DC 12V 4A (supply for AC\DC adapter)
Power Supply:	Model: YLS06511F-120400 Input: AC 100-240V 50/60Hz 1.8A Output: DC 12V, 4A
Adapter:	2 wires x about 1.2m unscreened AC input cable 2 wires x about 1.8m unscreened DC output cable (The AC\DC adapter output cable to EUT)
Cable:	

### 5.2 Description of Support Units

The EUT has been tested as an independent unit.

### 5.3 Deviation from Standards

Biconical and log periodic antennas were used instead of dipole antennas.

### 5.4 Abnormalities from Standard Conditions

The ETU passed Radiated Emissions which fall in the restricted bands test after modification.



## **5.5 Other Information Requested by the Customer**

None.

## **5.6 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,  
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,  
Guangzhou, China 510663  
Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

## 5.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

- **FCC (Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **Industry Canada (Registration No.: 4620B-1)**

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

- **VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co. Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584, G-449 and T-1179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IEC600 01 and Rules of procedure IEC600 02, and the relevant IEC600 CB-Scheme Operational documents.

## 6 Equipment List

RE in Chamber						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date (YYYY-MM-DD)	Cal.Due date (YYYY-MM-DD)
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2014-12-05	2016-12-04
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2016-02-01	2017-01-31
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	100236	2016-02-01	2017-01-31
EMC0528	RI High frequency Cable	SGS	20 m	N/A	2016-04-19	2018-04-18
EMC2025	Trilog Broadband Antenna 30-1000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9160	9160-3372	2016-09-08	2019-09-07
SEM003-18	Trilog Broadband Antenna 25-2000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	665	2016-06-29	2019-06-28
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2016-09-08	2019-09-07
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2014-05-04	2017-05-03
EMC2026	Horn Antenna 1-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	9120D-841	2016-09-09	2019-09-08
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2016-01-25	2017-01-24
EMC2065	Amplifier	HP	8447F	N/A	2016-07-04	2017-07-03
EMC2086	PRE AMPLIFIER MH648A	ANRITSU CORP	MH648A	N/A	2015-12-19	2016-12-18
EMC2063	Pre-amplifier 1GHz-26GHz	Compliance Direction Systems Lnc.	PAP-1G26-48	6279.628	2016-01-06	2017-01-05
EMC0523	Active Loop Antenna	EMCO	6502	42963	2016-02-27	2018-02-26
EMC2041	Broad-Band Horn Antenna (14)15-26.5(40)GHz	SCHWARZBECK MESS-ELEKTRONI	BBHA 9170	9170-375	2014-05-26	2017-05-25
EMC2079	High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	009	2016-01-25	2017-01-24
EMC2069	2.4GHz Filter	Micro-Tronics	BRM 50702	149	2016-01-25	2017-01-24
EMC0530	10m Semi-Anechoic Chamber	ETS	N/A	N/A	2016-04-30	2018-04-29



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Conducted Emission						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(YYYY-MM-DD)
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m <sup>3</sup>	N/A	N/A	N/A
EMC0118	Two-line v-netwok	R&S	ENV216	100359	2016-01-25	2017-01-24
EMC0102	LISN	SCHAFFNER CHASE	MN2050D/1	1421	2016-09-20	2017-09-19
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	2015-12-19	2016-12-18
EMC0107	Coaxial Cable	SGS	2m	N/A	2016-07-24	2018-07-23
EMC0106	Voltage Probe	SGS	N/A	N/A	2016-04-05	2018-04-04
EMC0120	8 Line ISN	Fischer Custom Communications	FCC-TLISN-T8-02	20550	2016-09-26	2017-09-25
EMC0121	4 Line ISN	Fischer Custom Communications	FCC-TLISN-T4-02	20549	2016-09-28	2017-09-27
EMC0122	2 Line ISN	Fischer Custom Communications	FCC-TLISN-T2-02	20548	2016-09-26	2017-09-25
EMC2047	CDN	Elektronik-Feinmechanik	L-801:AF2	2793	2015-09-19	2018-09-18
EMC2048	CDN	Elektronik-Feinmechanik	L-801:M2/M3	2738	2015-09-25	2018-09-24
EMC2062	6dB Attenuator	HP	8491A	24487	2016-04-05	2018-04-04
EMC0167	Conical metal housing	SGS-EMC	N/A	N/A	2016-04-19	2018-04-18

General used equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(YYYY-MM-DD)
EMC0006	DMM	Fluke	73	70681569	2016-09-01	2017-08-31
EMC0007	DMM	Fluke	73	70671122	2016-08-22	2017-08-21

## 7 Test Results

### 7.1 E.U.T. test conditions

<b>Test Voltage:</b>	AC 120V
<b>Temperature:</b>	20.0 -25.0 °C
<b>Humidity:</b>	38-50 % RH
<b>Atmospheric Pressure:</b>	1000 -1010 mbar
<b>Requirements:</b>	<p><b>15.31(e):</b> For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.</p> <p><b>15.32:</b> Power supplies and CPU boards used with personal computers and for which separate authorizations are required to be obtained shall be tested as follows: Testing shall be in accordance with the procedures specified in Section 15.31 of this part.</p>
<b>Test frequencies and frequency range:</b>	<p>According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:</p> <p>According to the 15.33 (a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:</p>

**Number of fundamental frequencies to be tested in EUT transmit band**

Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

**Frequency range of radiated emission measurements**

Lowest frequency generated in the device	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz, whichever is lower
At or above 10 GHz to below 30 GHz	5th harmonic of highest fundamental frequency or to 100 GHz, whichever is lower
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz, whichever is lower, unless otherwise specified

**EUT channels and frequencies list:**

1. Test frequencies are lowest channel: 2412 MHz, middle channel: 2437 MHz and highest channel: 2462 MHz for 802.11b/g/n(HT20)

Channel	Frequency (MHz)						
1	2412.00	4	2427.00	7	2442.00	10	2457.00
2	2417.00	5	2432.00	8	2447.00	11	2462.00
3	2422.00	6	2437.00	9	2452.00	12	/

2. Test frequencies are lowest channel: 2422 MHz, middle channel: 2437 MHz and highest channel: 2452 MHz for 802.11n(HT40)

Channel	Frequency (MHz)						
3	2422.00	5	2432.00	7	2442.00	9	2452.00
4	2427.00	6	2437.00	8	2447.00	10	/

3. Using the special software we can enter the product for engineer mode then we can control the EUT to select the wanted channel for test as above list.

## 7.2 Antenna Requirement

### Standard requirement

15.203 requirement:

For intentional device. 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.

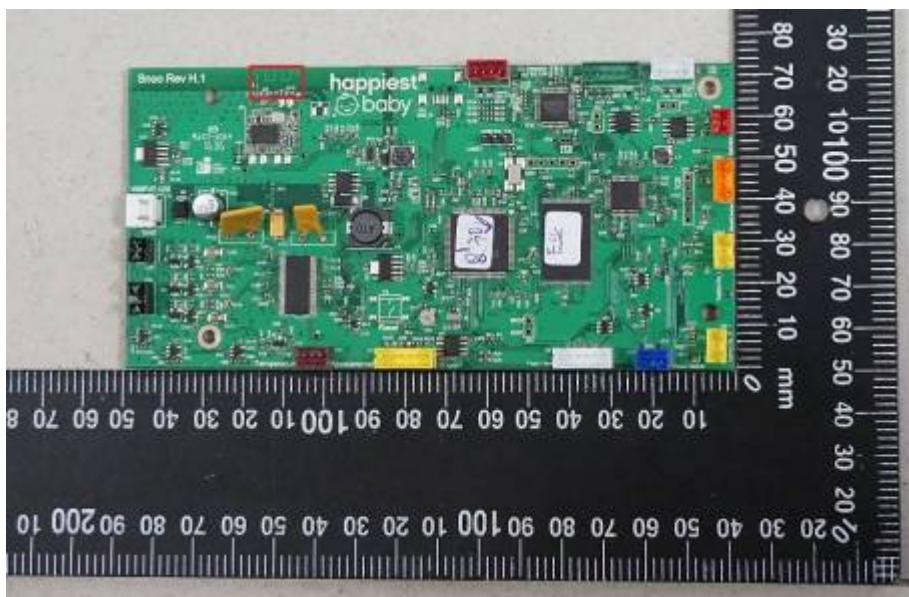
15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz bands that are used exclusively for fixed.

Point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

### EUT Antenna

The antenna is an integral and no consideration of replacement. The best case gain of the antenna is 1.0 dBi.



**Test result: The unit does meet the FCC requirements.**

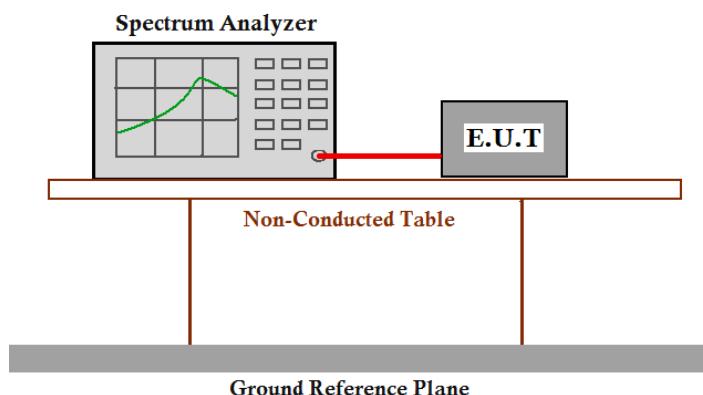
### 7.3 6 dB Bandwidth

Test Requirement: FCC Part 15 C section 15.247  
(a)(2)Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method: ANSI C63.10: Clause 11.8

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:

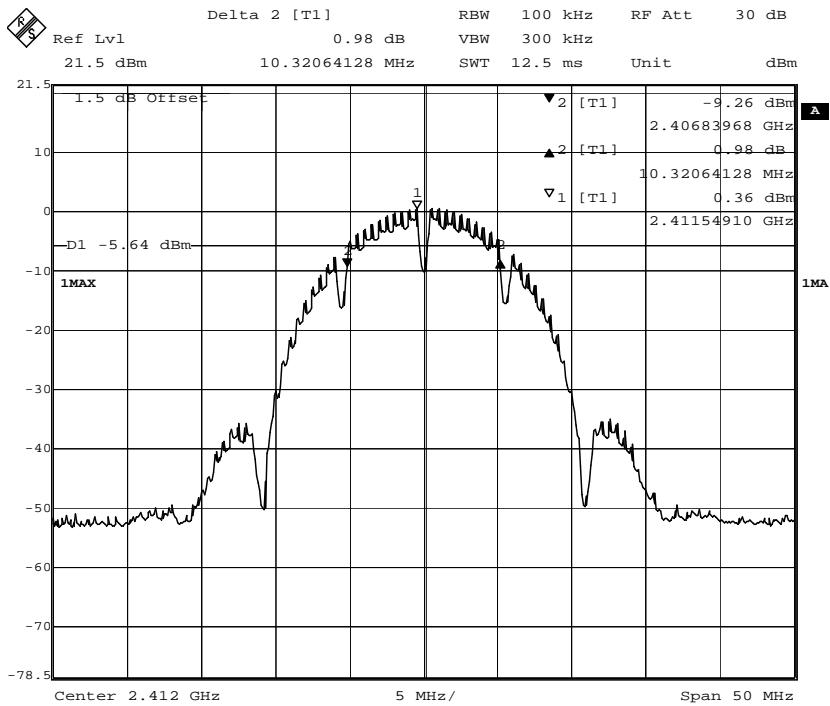
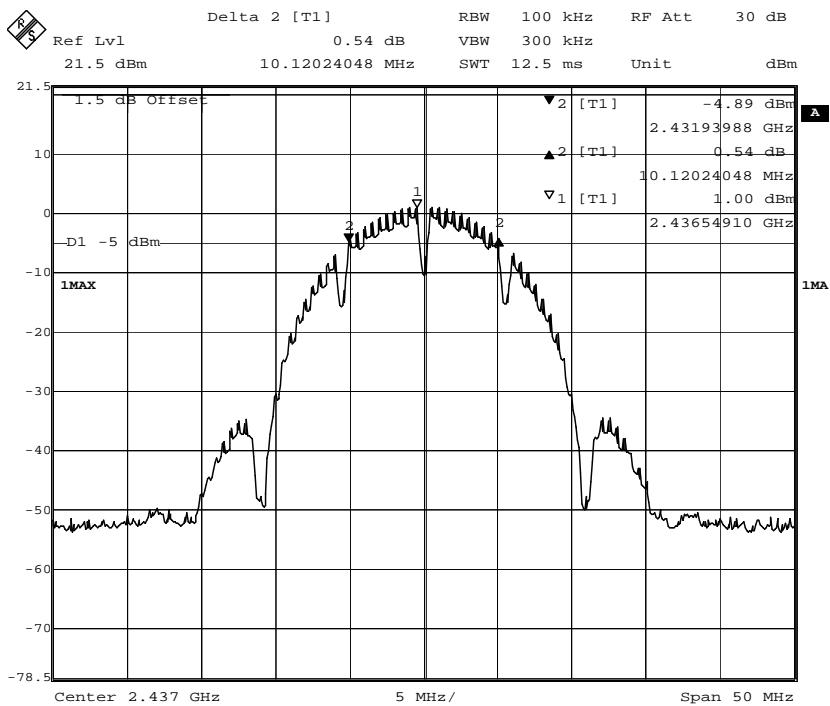


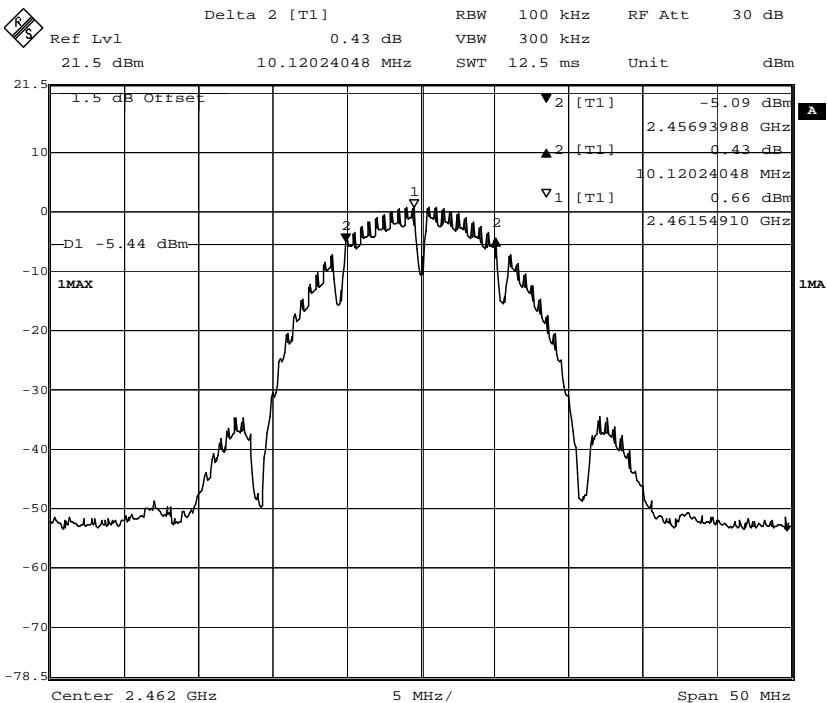
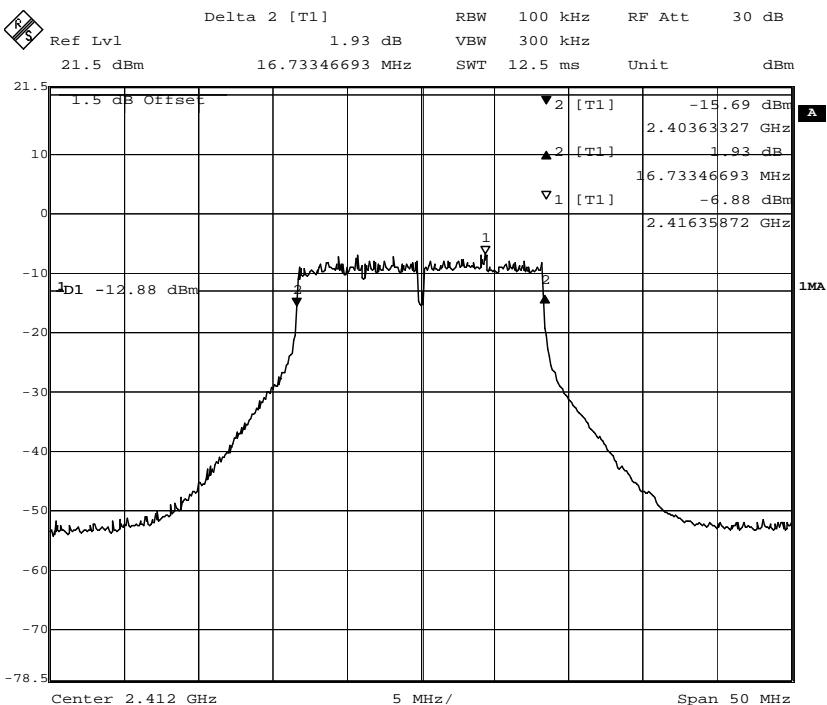
Test Procedure:

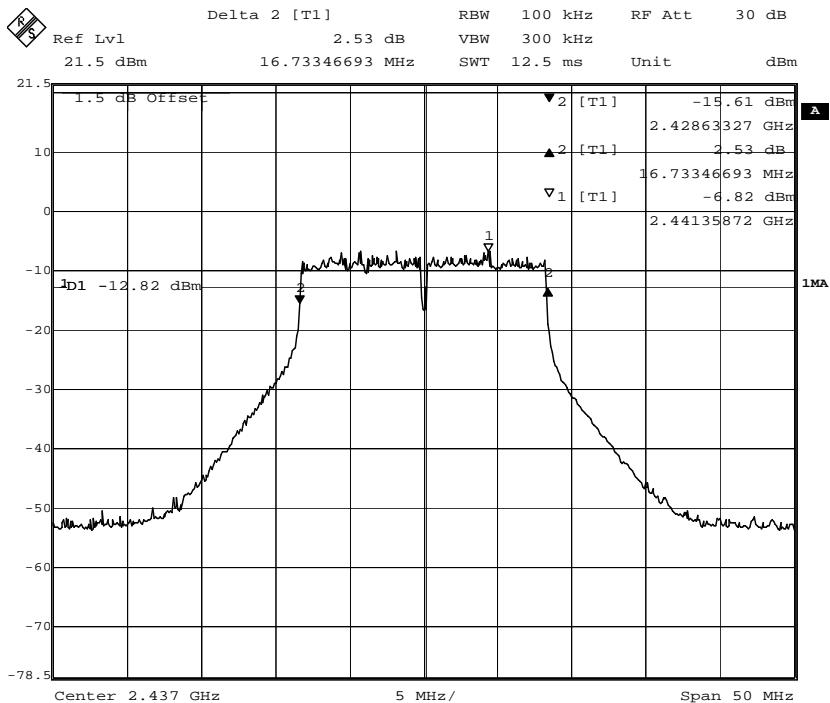
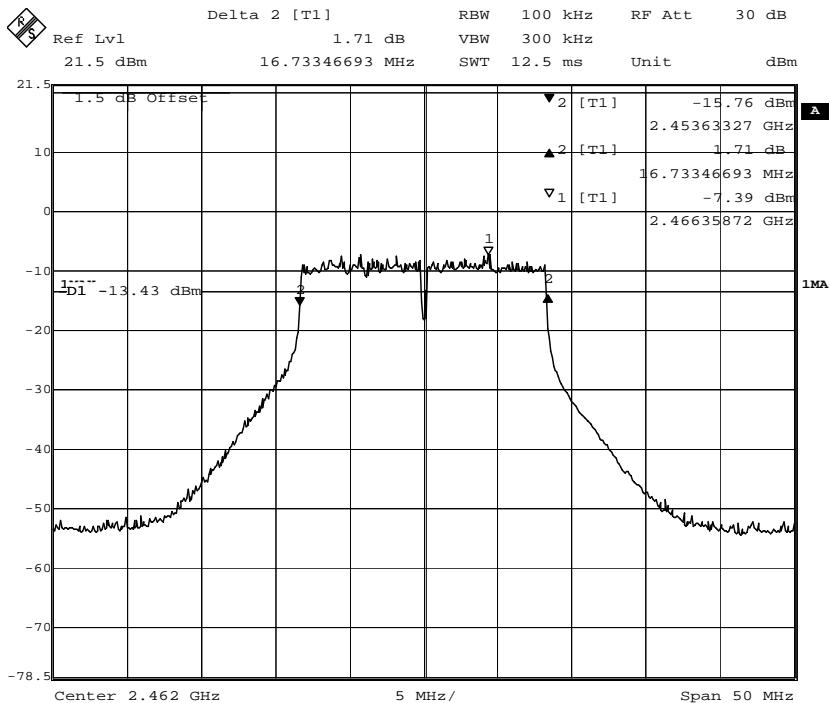
1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (cable loss =1.5dB) from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW=100 kHz. VBW = 300 kHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Set span to encompass the entire emission bandwidth of the signal..
3. Mark the peak power frequency and -6dB (upper and lower) power frequency.
4. Repeat until all the test status is investigated.
5. Report the worse case.

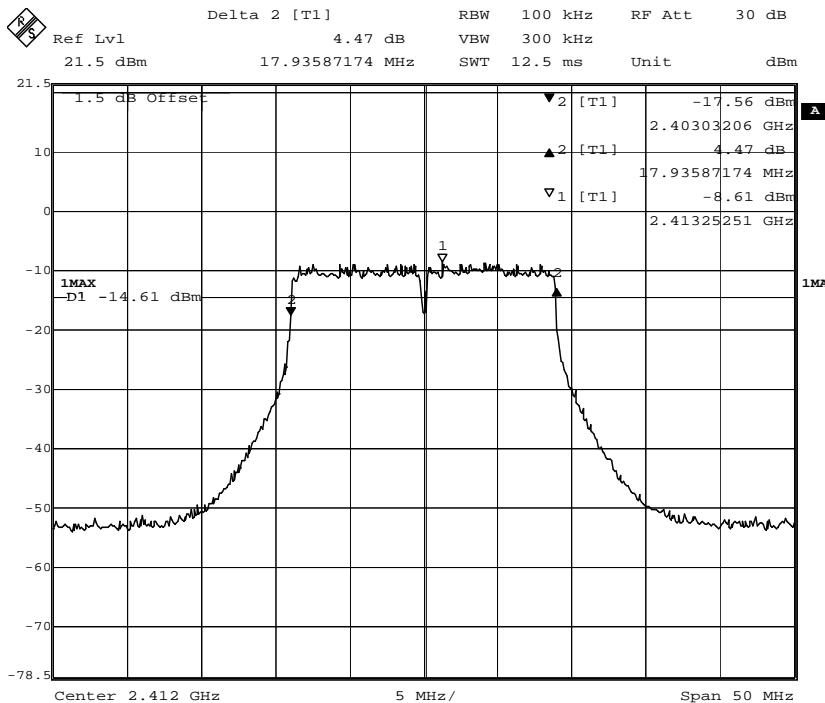
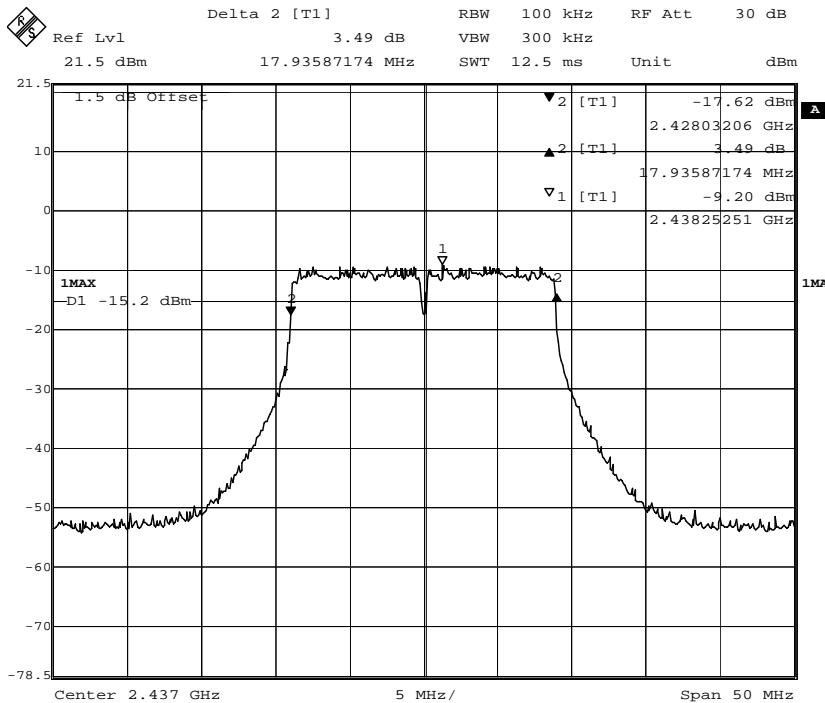
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412	802.11b	11 Mbps	10.32	≥500KHz	Pass
6	2437		11 Mbps	10.12		Pass
11	2462		11 Mbps	10.12		Pass
1	2412	802.11g	54 Mbps	16.73	≥500KHz	Pass
6	2437		54 Mbps	16.73		Pass
11	2462		54 Mbps	16.73		Pass
1	2412	802.11n (HT20)	65 Mbps	17.93	≥500KHz	Pass
6	2437		65 Mbps	17.93		Pass
11	2462		65 Mbps	17.93		Pass
3	2422	802.11n (HT40)	135Mbps	36.67	≥500KHz	Pass
6	2437		135Mbps	36.67		Pass
9	2452		135Mbps	36.67		Pass

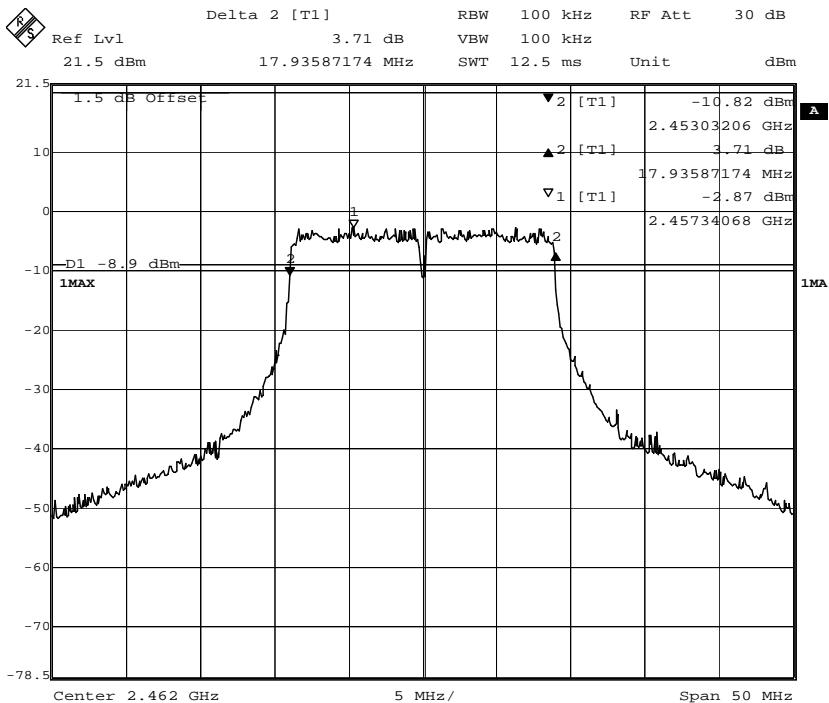
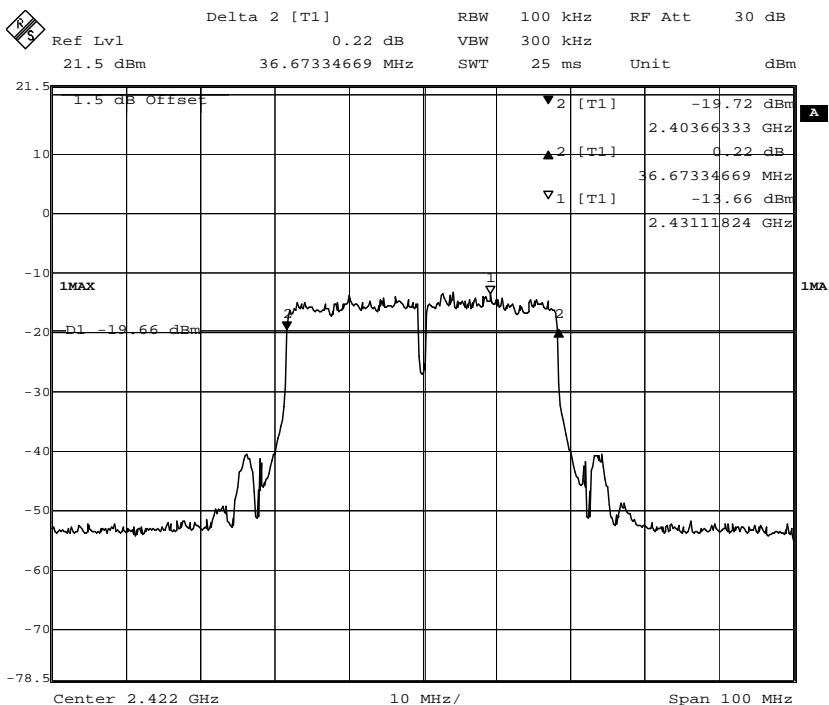
**Test result: The unit does meet the FCC requirements.**

**Result plot as follows:**
**802.11b mode with 11Mbps data rate**
**Channel 1: 2.412GHz:**

**Channel 6: 2.437GHz:**


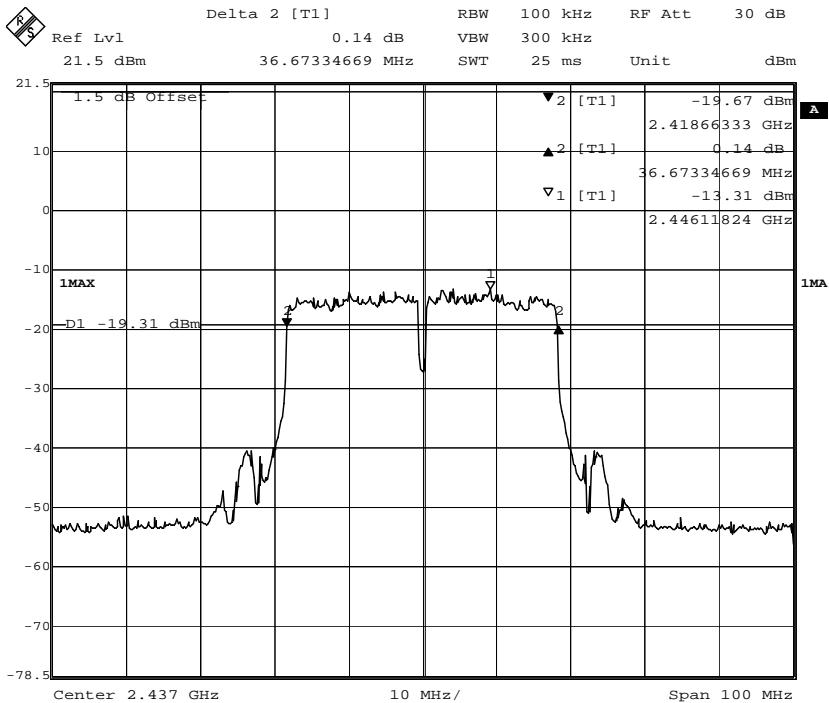
**Channel 11: 2.462GHz:**

**802.11g mode with 54Mbps data rate**
**Channel 1: 2.412GHz:**


**Channel 6: 2.437GHz:**

**Channel 11: 2.462GHz:**


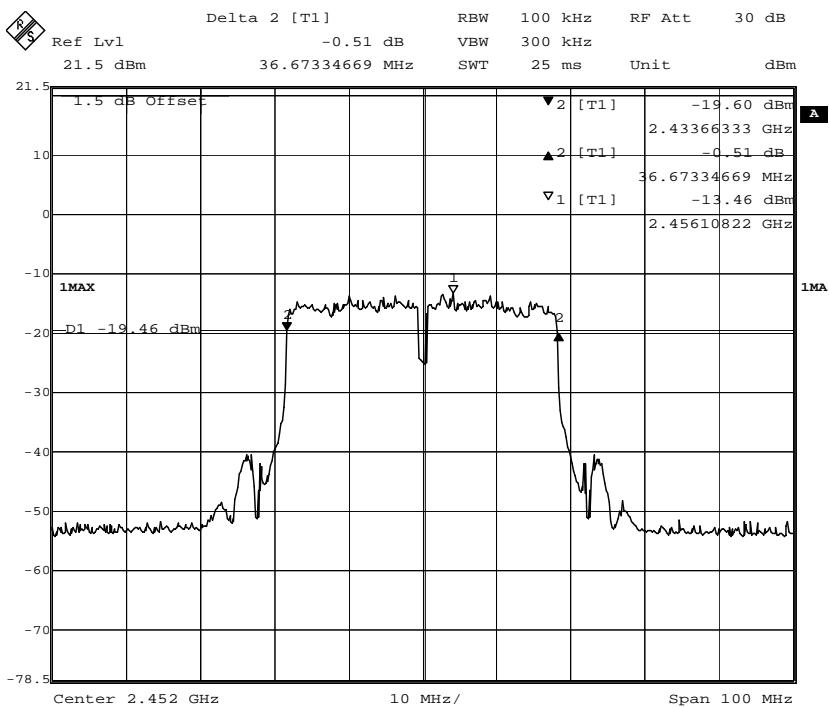
**802.11n(HT20) mode with 72.2Mbps data rate**
**Channel 1: 2.412GHz:**

**Channel 6: 2.437GHz:**


**Channel 11: 2.462GHz:**

**802.11n(HT40) mode with 150Mbps data rate**
**Channel 3: 2.422GHz:**


Channel 6: 2.437GHz:



Channel 9: 2.452GHz:



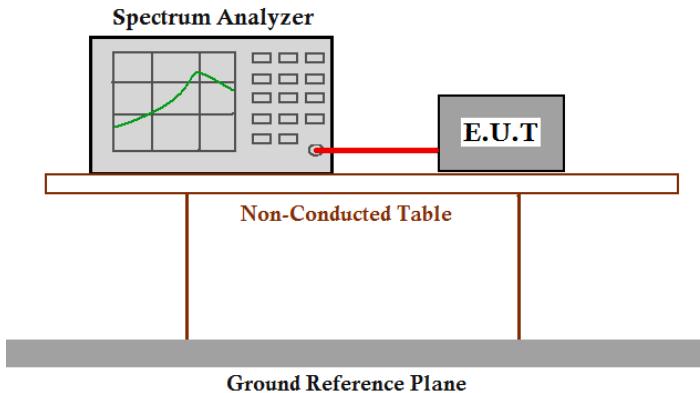
## 7.4 Maximum Peak Output Power

Test Requirement: FCC Part 15 C section 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.  
Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b) (1), (b) (2), and (b) (3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Method: ANSI C63.10: Clause 11.9

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



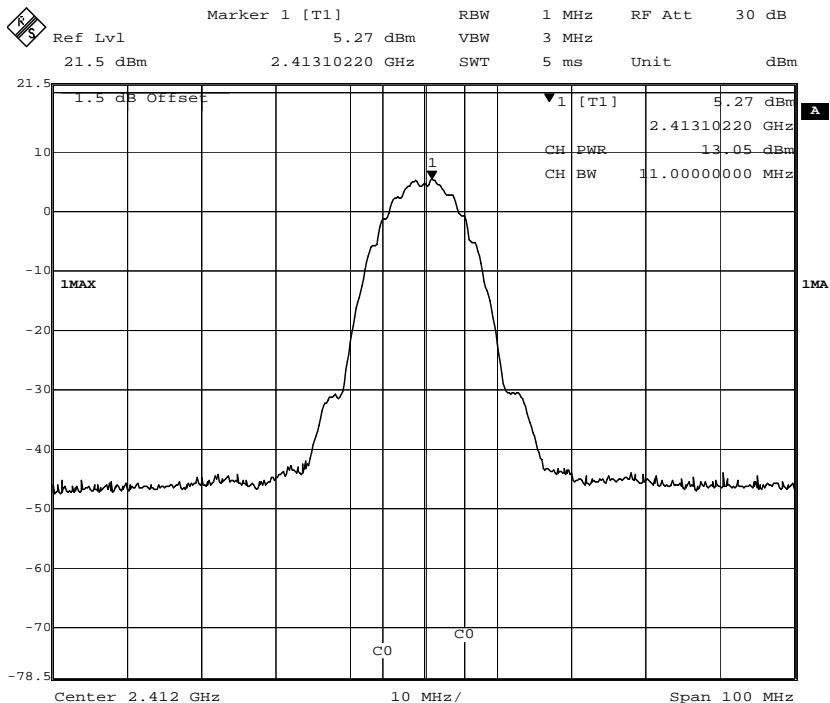
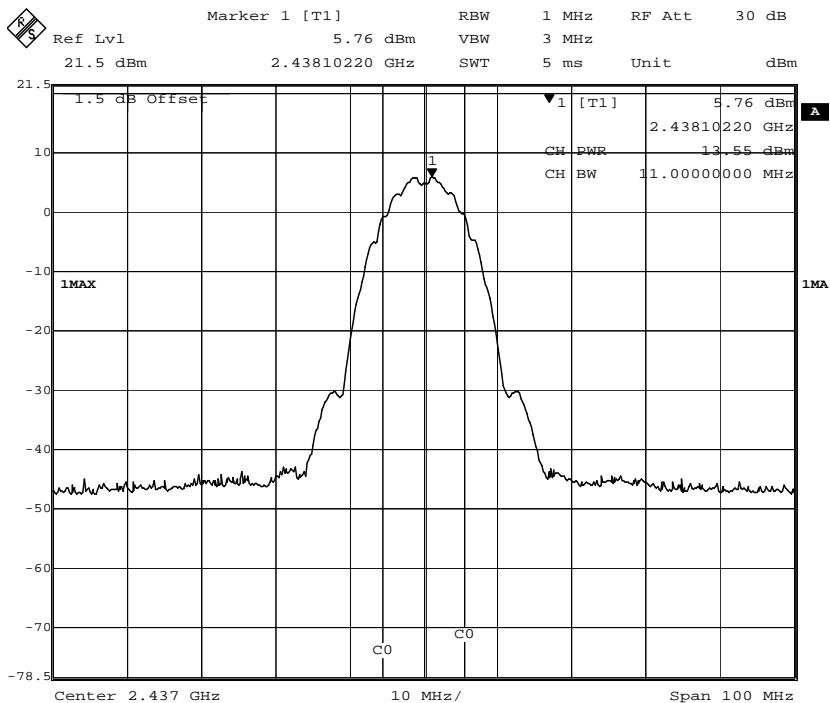
Test Procedure:

1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (Cable loss =1.5dB) from the antenna port to the spectrum.
2. Set the RBW=1MHz
3. Set the VBW  $\geq$  3 x RBW
4. Set the span  $\geq$ 1.5 x DTS bandwidth
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.
10. Measure the channel power of the test frequency with special test status.
11. Repeat until all the test status is investigated and report the worse case.

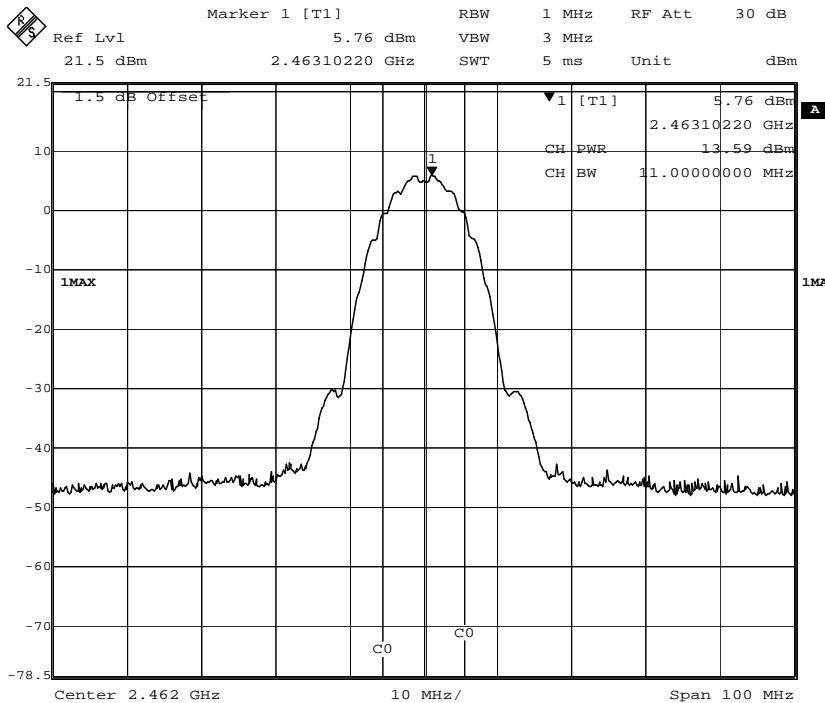
**Test result:**

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Channel Power (dBm)	Limit	Result
1	2412	802.11b	11 Mbps	13.05	1W(30dBm)	Pass
6	2437		11 Mbps	13.55		Pass
11	2462		11 Mbps	13.59		Pass
1	2412	802.11g	54 Mbps	13.20	1W(30dBm)	Pass
6	2437		54 Mbps	13.68		Pass
11	2462		54 Mbps	13.65		Pass
1	2412	802.11n (HT20)	65 Mbps	11.64	1W(30dBm)	Pass
6	2437		65 Mbps	11.83		Pass
11	2462		65 Mbps	10.22		Pass
3	2422	802.11n (HT40)	135Mbps	9.52	1W(30dBm)	Pass
7	2442		135Mbps	9.54		Pass
9	2452		135Mbps	9.48		Pass

**Remark: Level = Read Level + Cable Loss + Antenna Gain****The unit does meet the FCC requirements.**

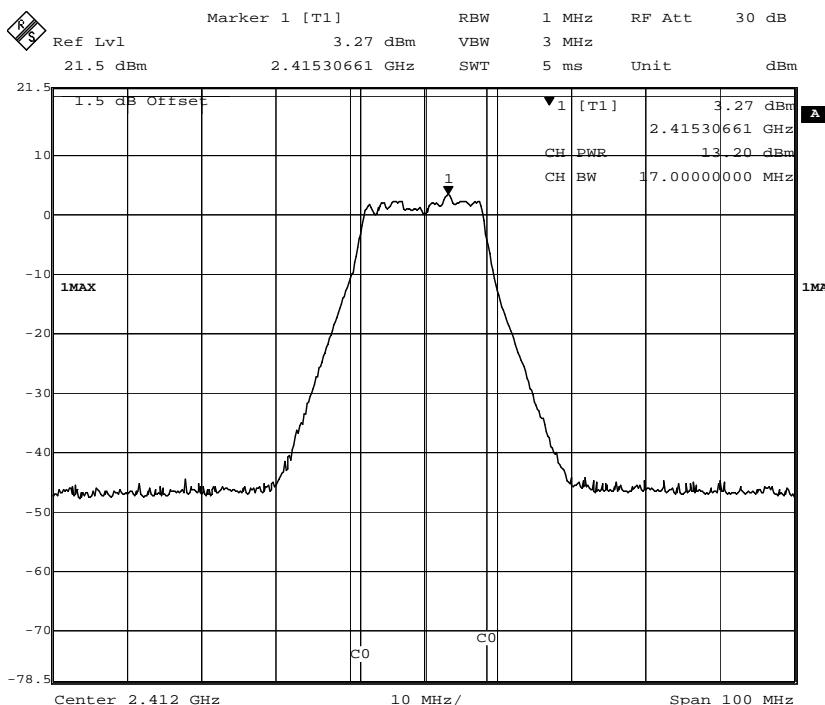
**Result plot as follows:**
**802.11b mode with 11Mbps data rate**
**Channel 1: 2.412GHz:**

**Channel 6: 2.437GHz:**


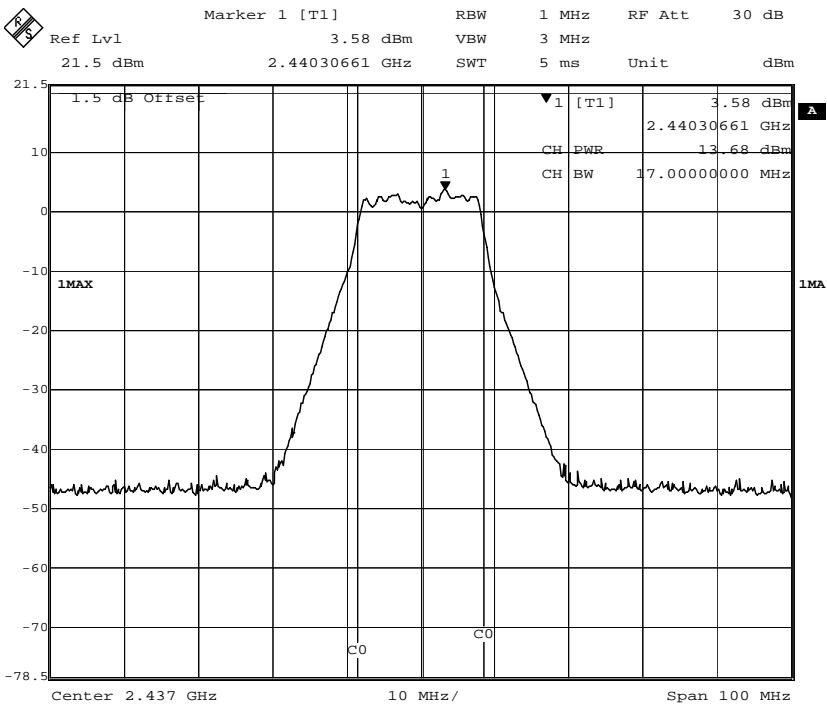
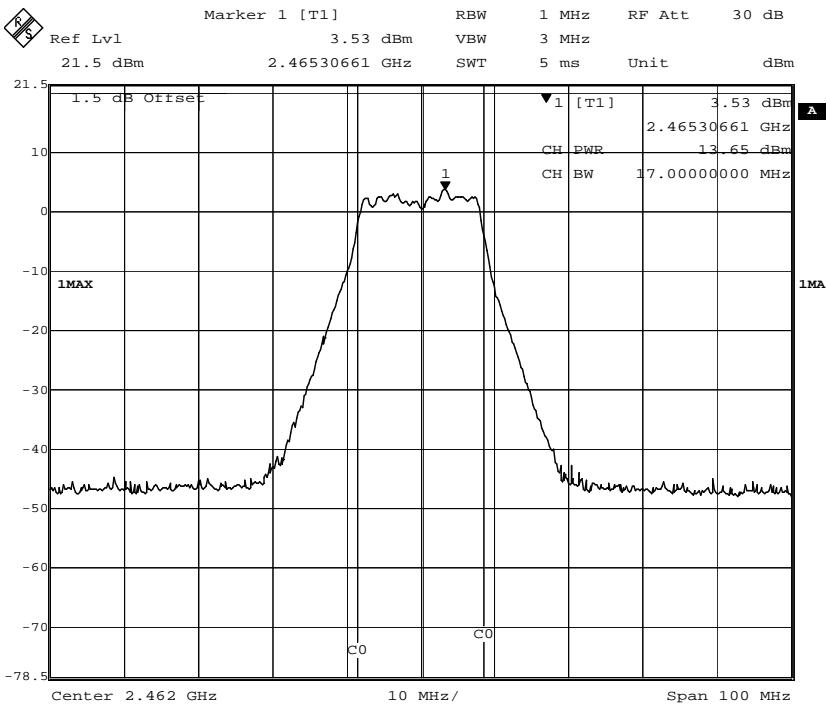
Channel 11: 2.462GHz:



### 802.11g mode with 54Mbps data rate

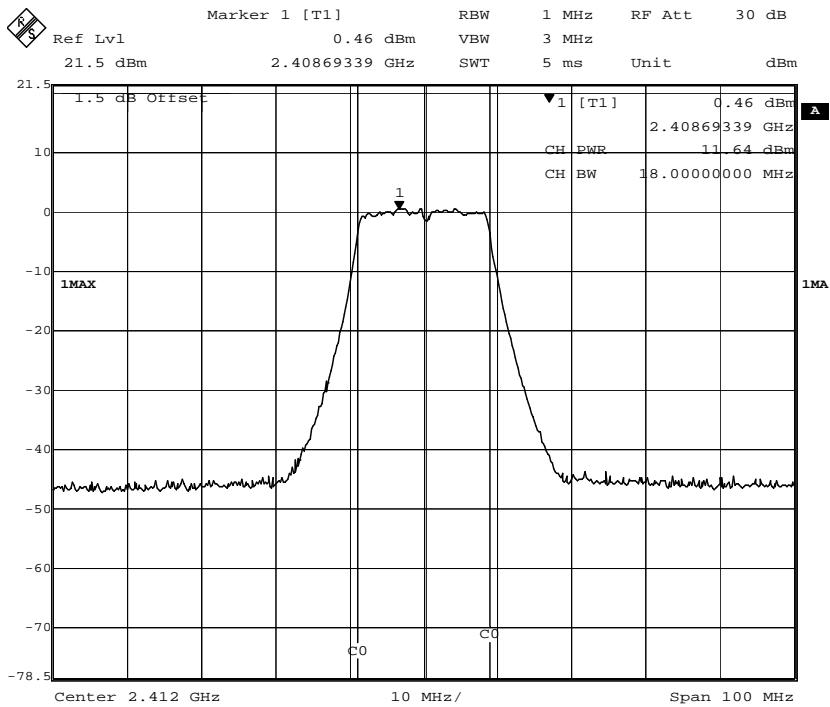
Channel 1: 2.412GHz:



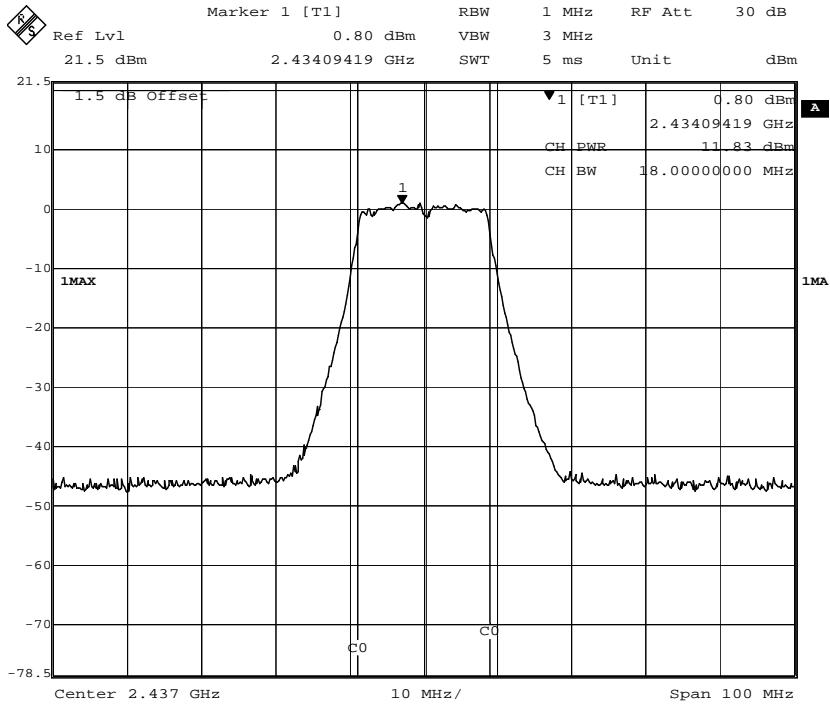
**Channel 6: 2.437GHz:**

**Channel 11: 2.462GHz:**


**802.11n(HT20) mode with 72.2Mbps data rate**

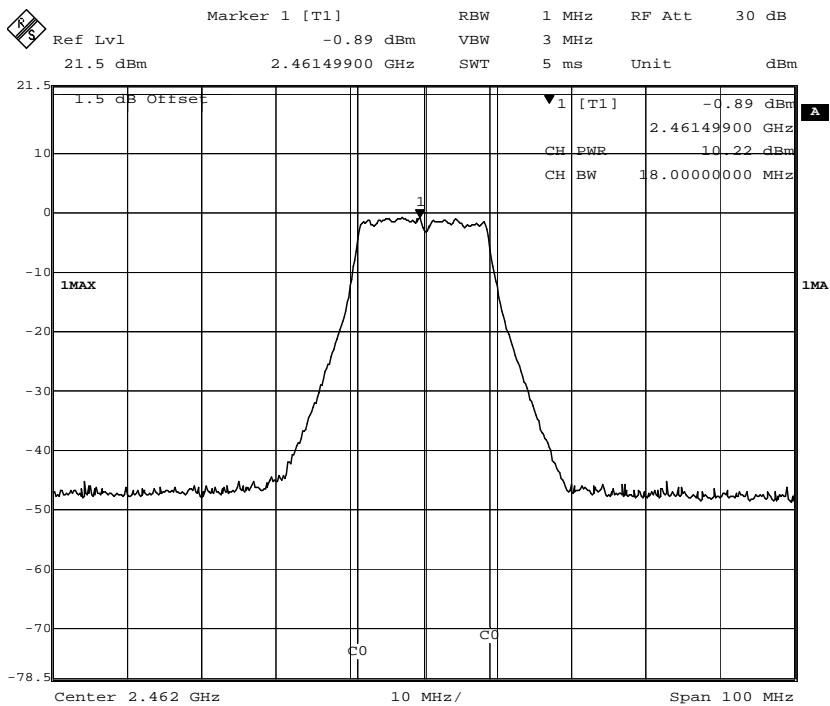
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

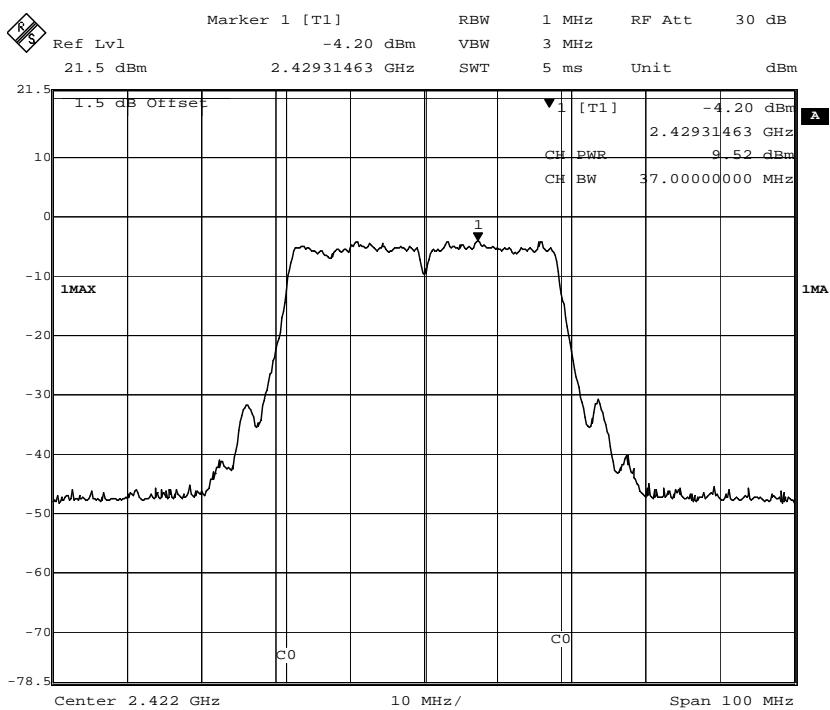


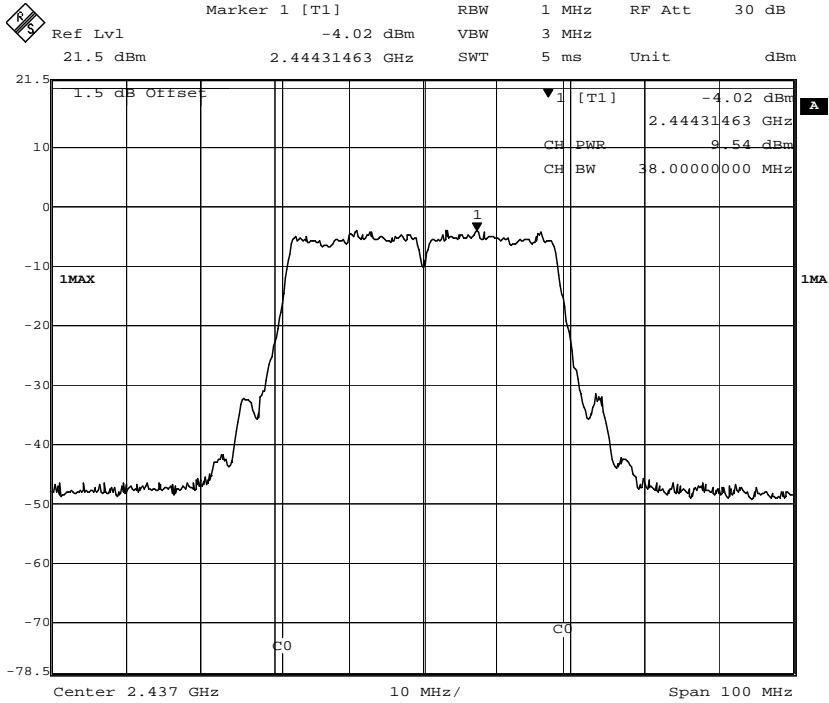
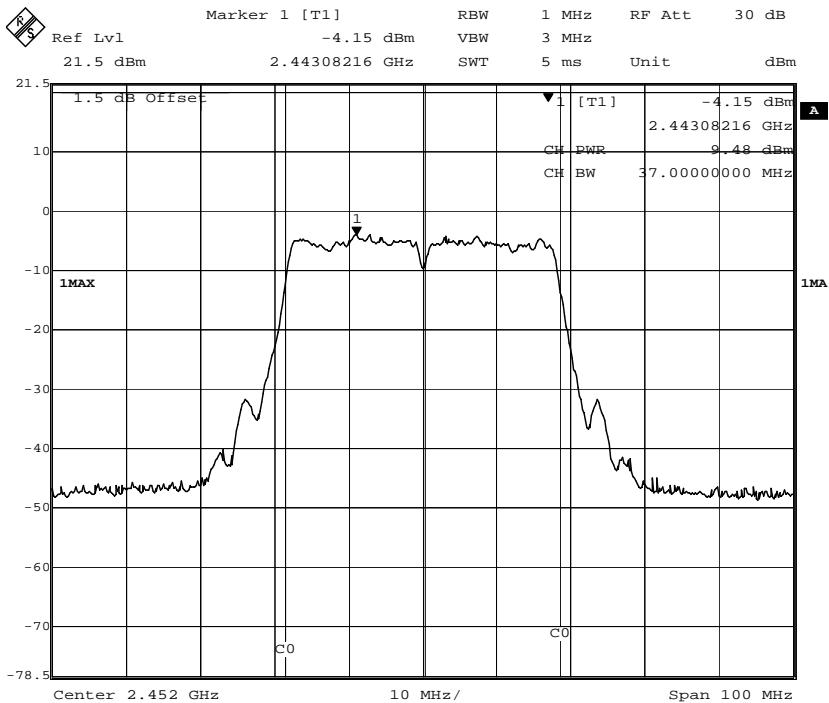
Channel 11: 2.462GHz:



**802.11n(HT40) mode with 150Mbps data rate**

Channel 3: 2.422GHz:



**Channel 6: 2.437GHz:**

**Channel 9: 2.452GHz:**


## 7.5 Peak Power Spectral Density

Test Requirement:

FCC Part 15 C section 15.247

(e) 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.

Test Method:

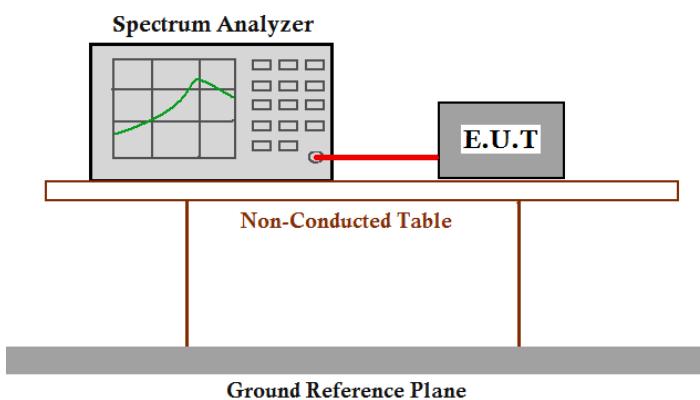
ANSI C63.10: Clause 11.10

Test Status:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (cable loss =1.5dB) from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=3 kHz. VBW = 10 kHz. Sweep=Auto; Detector Function = Peak. Trace = Max Hold, Centre = the Peak Power of the signal.
3. Measure the Power Spectral Density of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

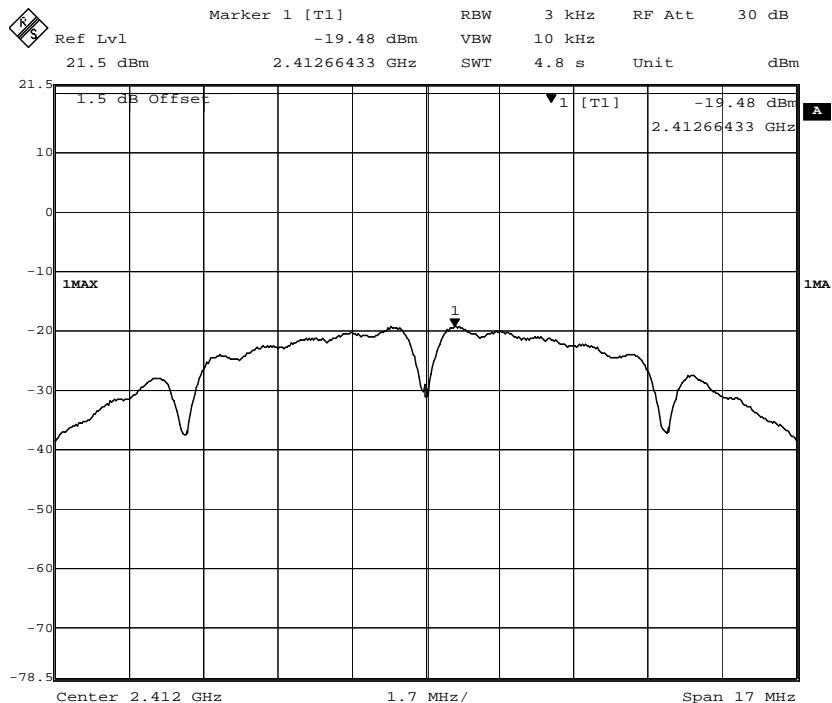
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Peak Power Spectral Density (dBm/3KHz)	Limit	Result
1	2412	802.11b	11 Mbps	-19.48	8dBm/3KHz	Pass
6	2437		11 Mbps	-18.82		Pass
11	2462		11 Mbps	-18.80		Pass
1	2412	802.11g	54 Mbps	-22.14	8dBm/3KHz	Pass
6	2437		54 Mbps	-22.02		Pass
11	2462		54 Mbps	-21.97		Pass
1	2412	802.11n (HT20)	65 Mbps	-24.06	8dBm/3KHz	Pass
6	2437		65 Mbps	-23.16		Pass
11	2462		65 Mbps	-25.01		Pass
3	2422	802.11n (HT40)	135 Mbps	-27.61	8dBm/3KHz	Pass
7	2442		135 Mbps	-27.56		Pass
9	2452		135 Mbps	-27.39		Pass

**Test result: Level = Read Level + Cable Loss.****The unit does meet the FCC requirements.**

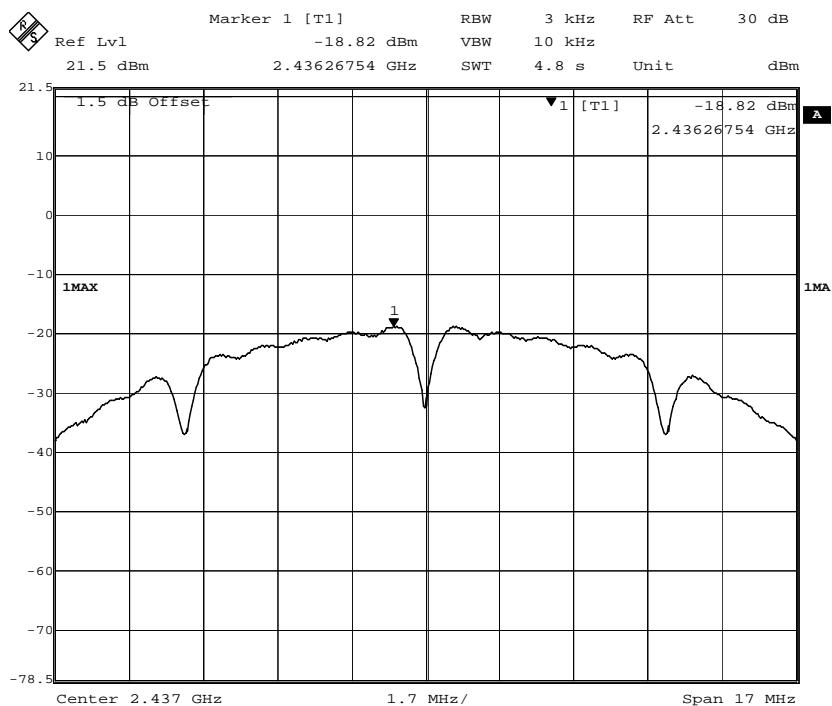
**Result plot as follows:**

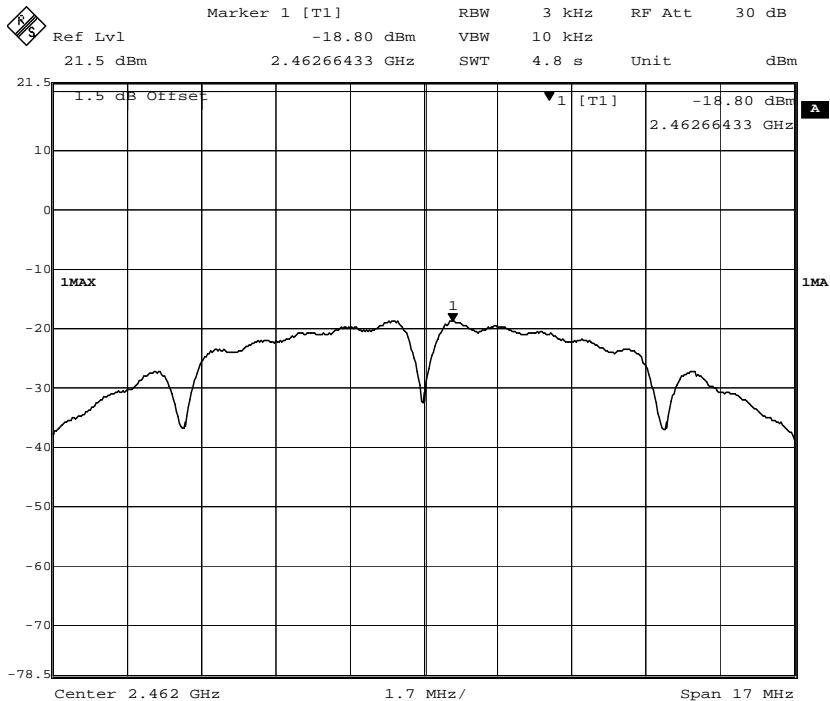
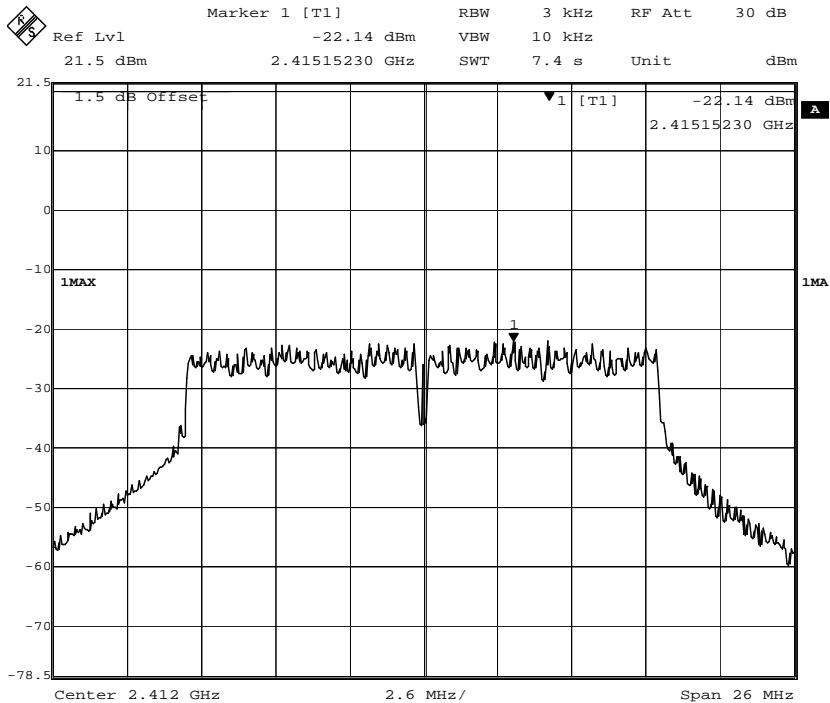
**802.11b mode with 11Mbps data rate**

Channel 1: 2.412GHz:

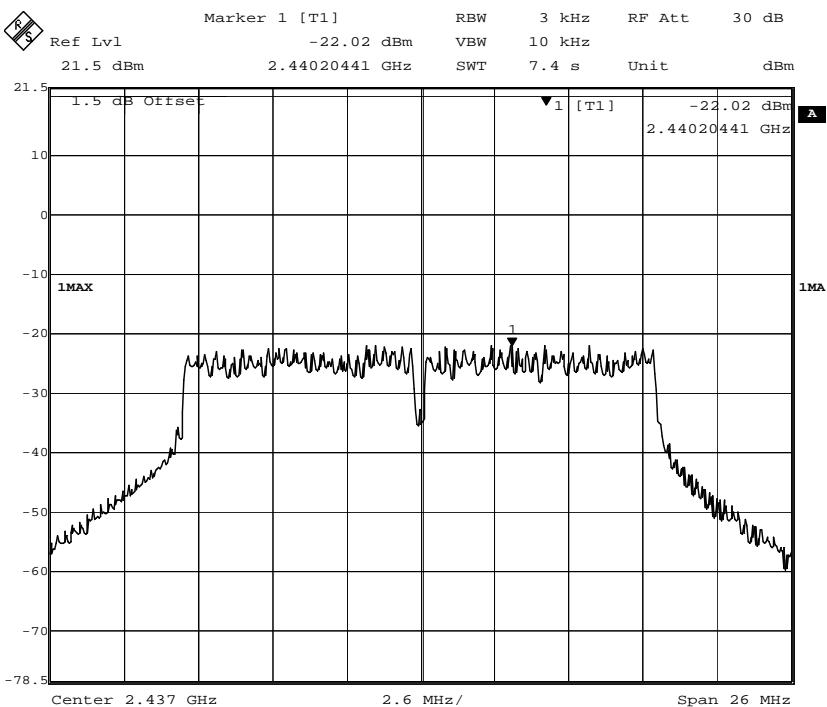


Channel 6: 2.437GHz:

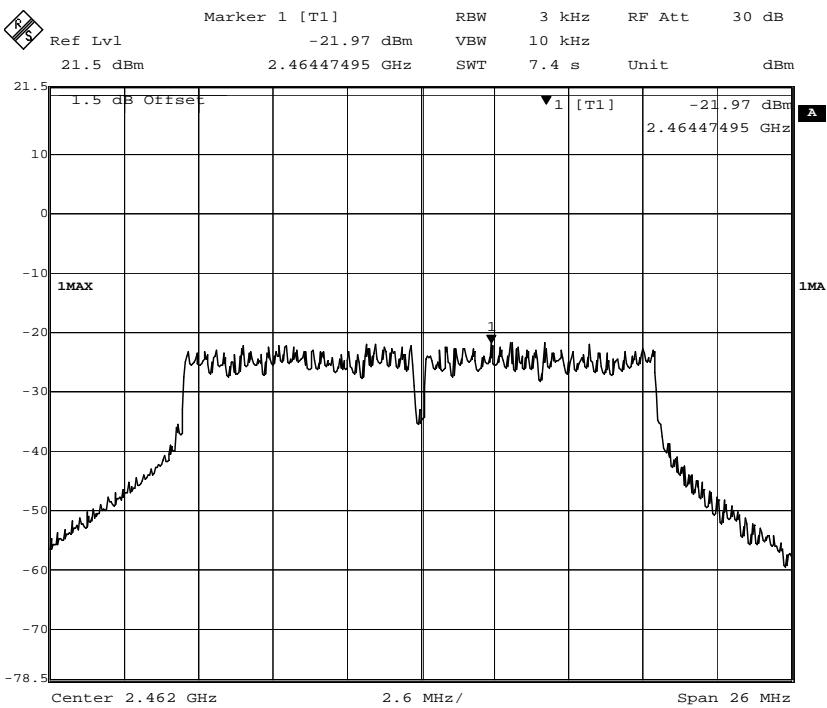


**Channel 11: 2.462GHz:**

**802.11g mode with 54Mbps data rate**
**Channel 1: 2.412GHz:**


## Channel 6: 2.437GHz:

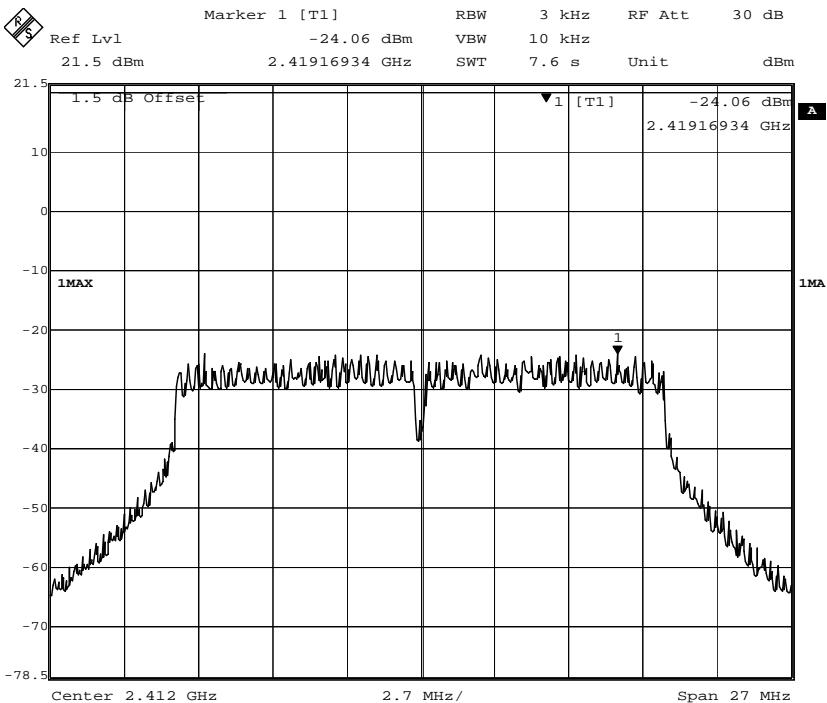


## Channel 11: 2.462GHz:

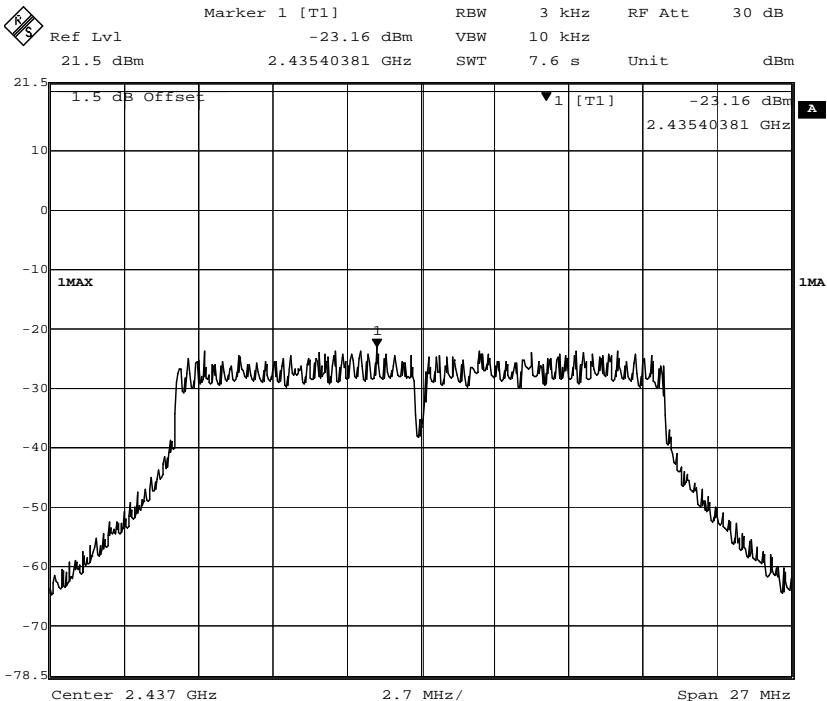


**802.11n(HT20) mode with 72.2Mbps data rate**

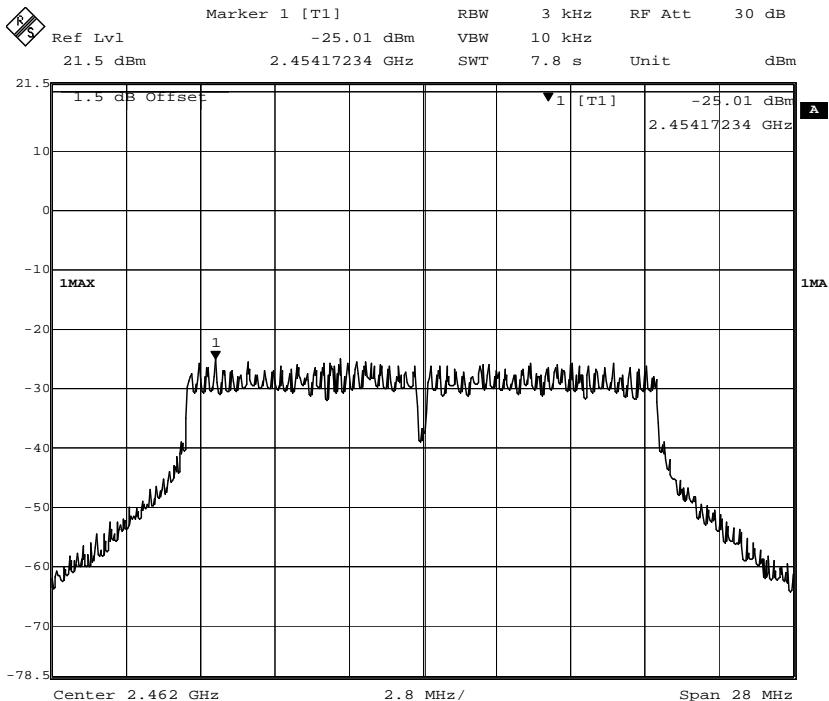
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

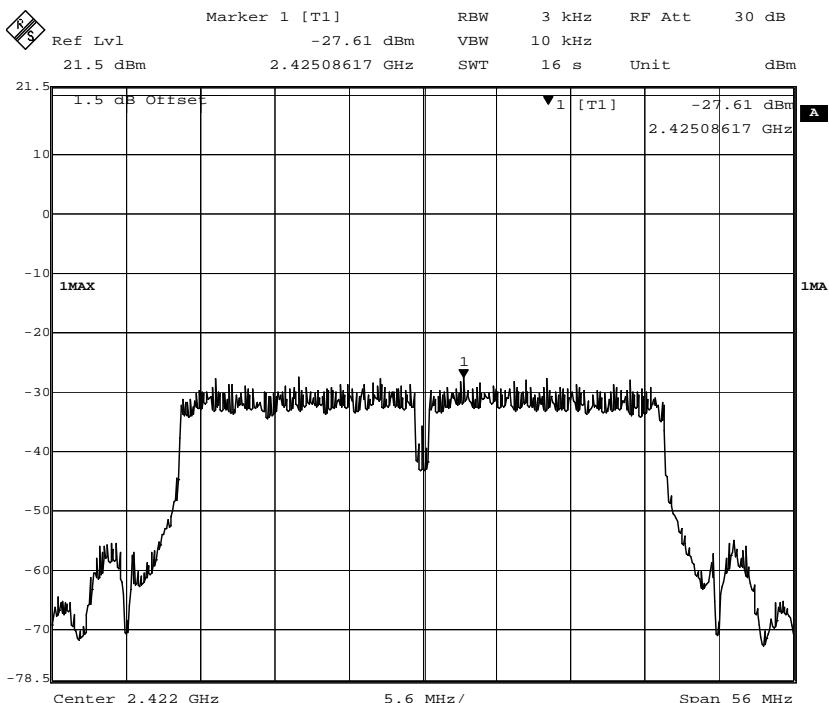


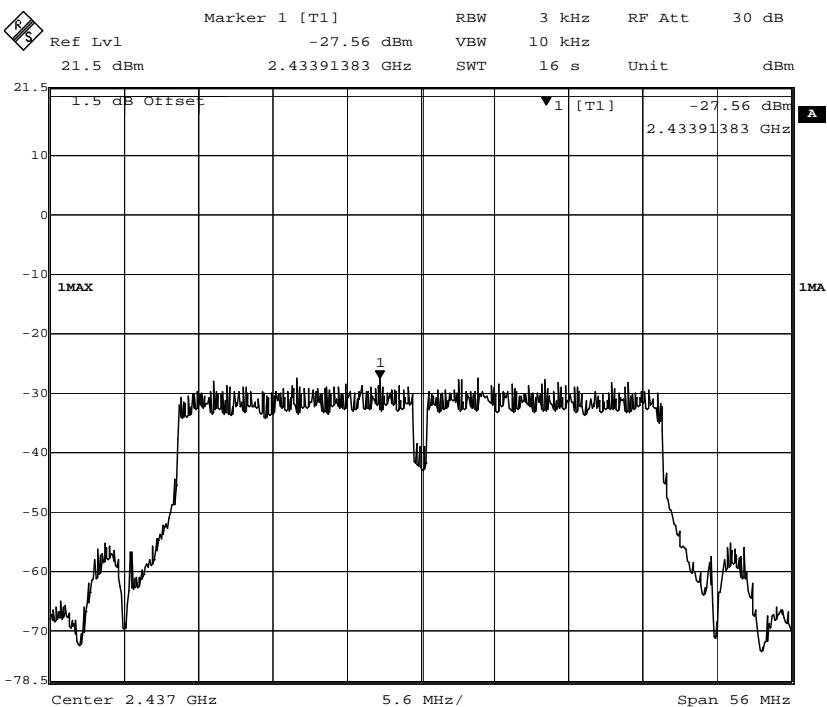
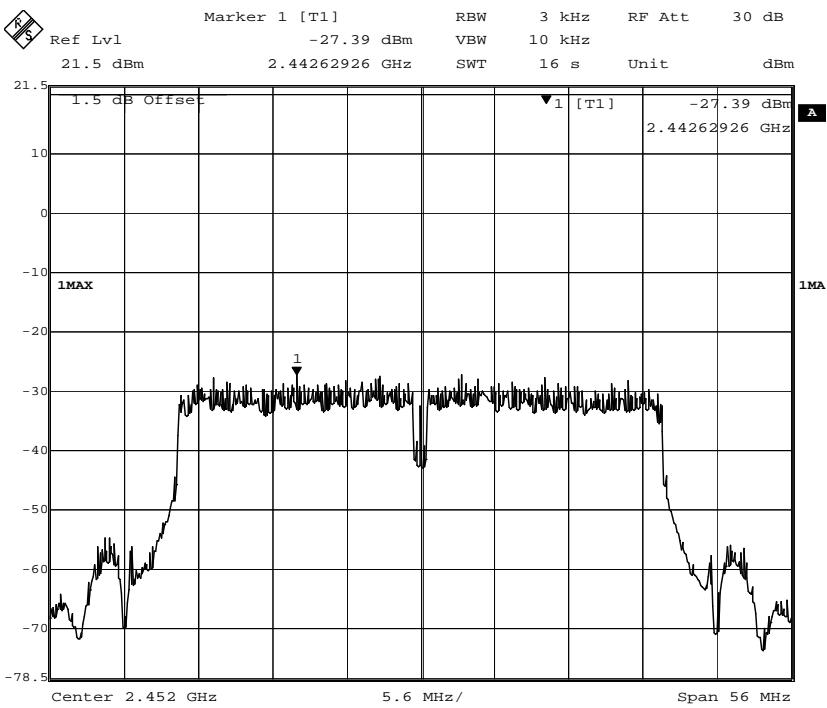
Channel 11: 2.462GHz:



**802.11n(HT40) mode with 150Mbps data rate**

Channel 3: 2.422GHz:



**Channel 6: 2.437GHz:**

**Channel 9: 2.452GHz:**


## 7.6 Conducted Spurious Emissions

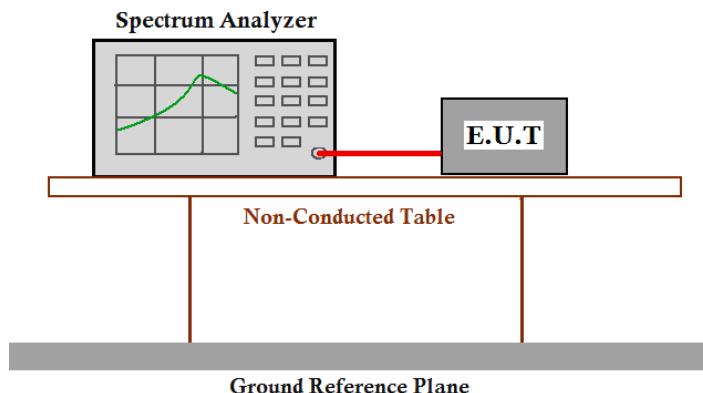
Test Requirement: FCC Part 15 C section 15.247

(d) 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.

Test Method: ANSI C63.10: Clause 11.11

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



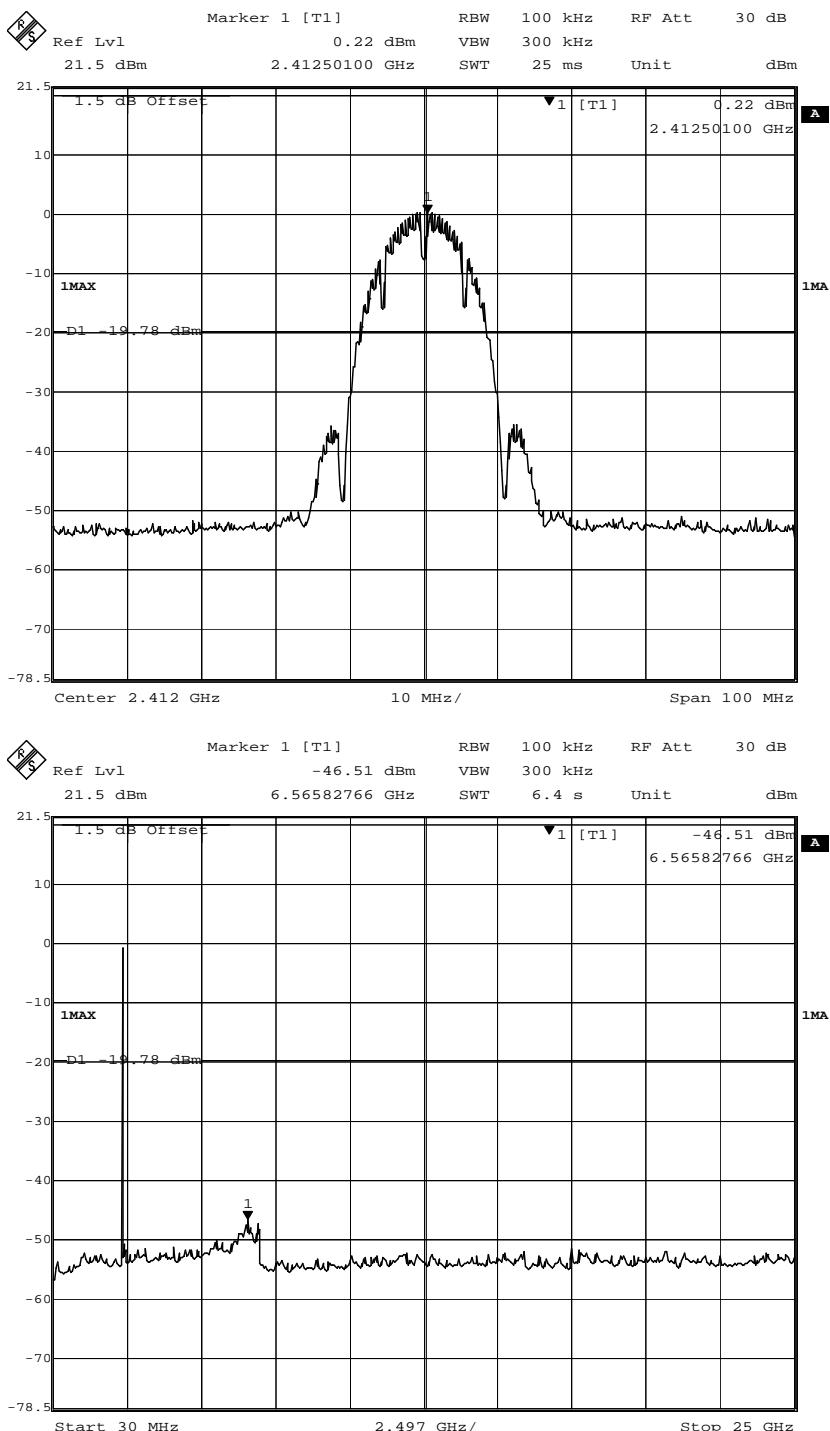
Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=100 KHz, VBW = 300KHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Scan up through 10th harmonic.
3. Measure the Conducted Spurious Emissions of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

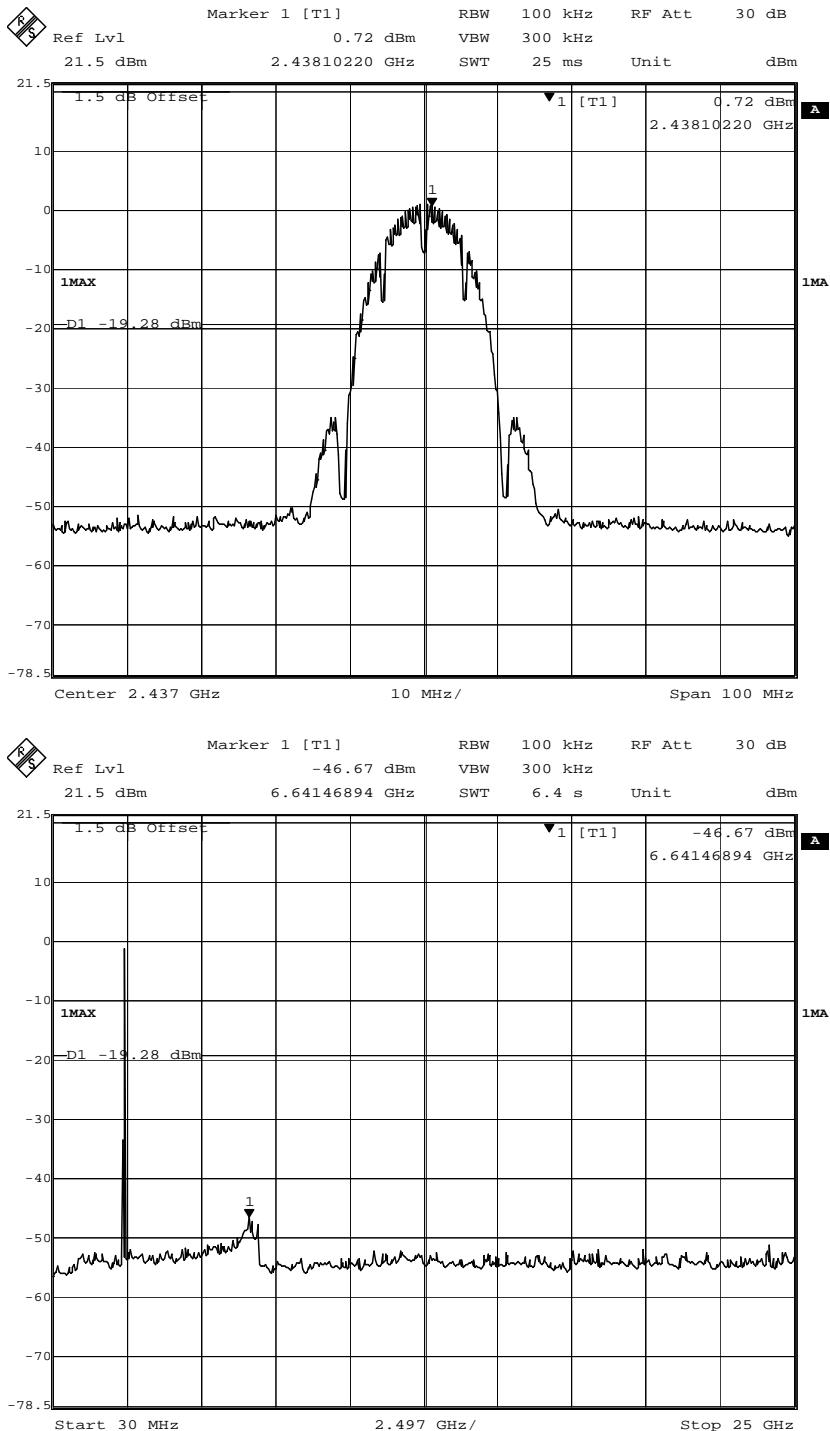
**Result plot as follows:**

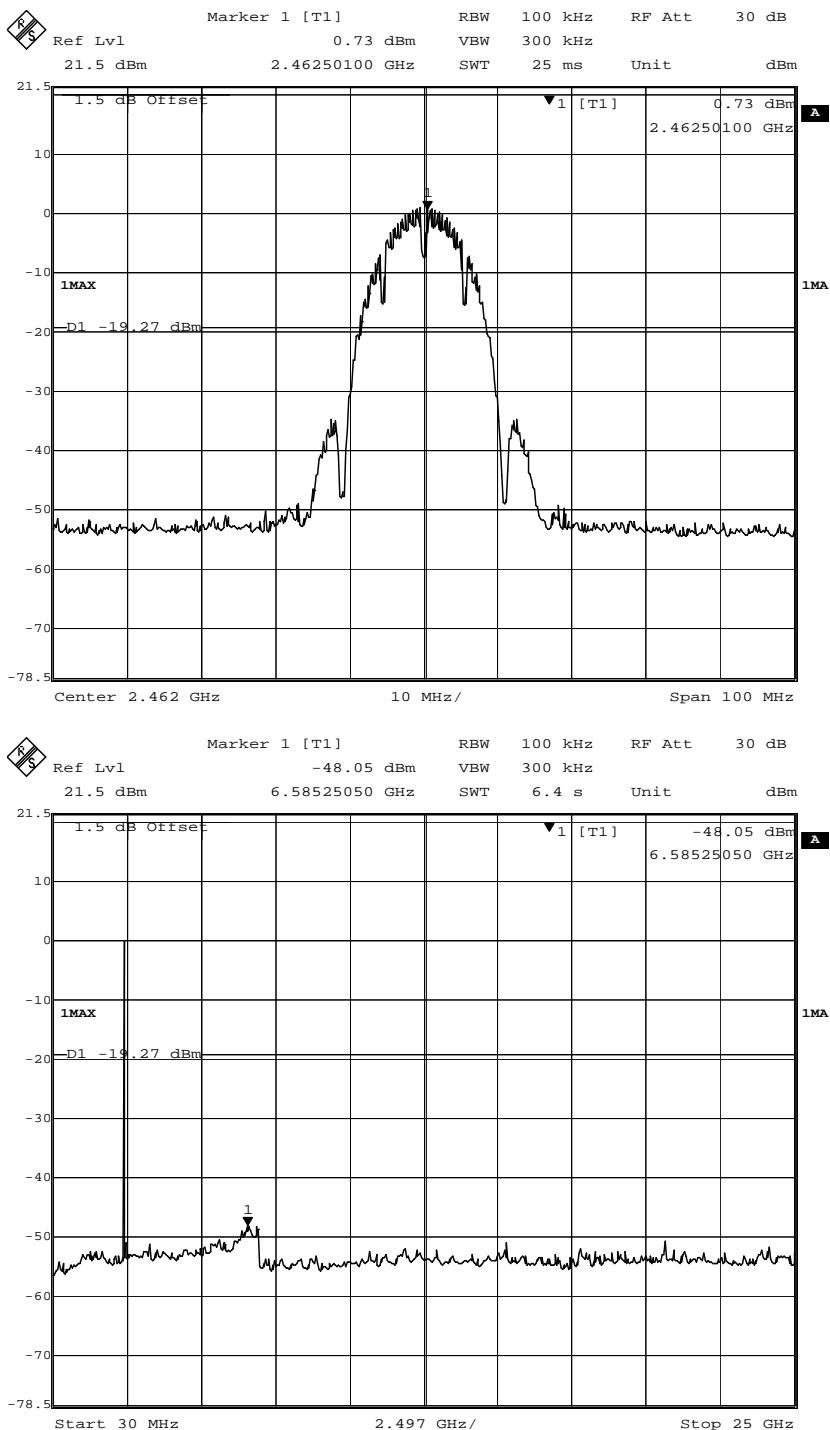
**802.11b mode with 11Mbps data rate**

Channel 1: 2.412GHz:



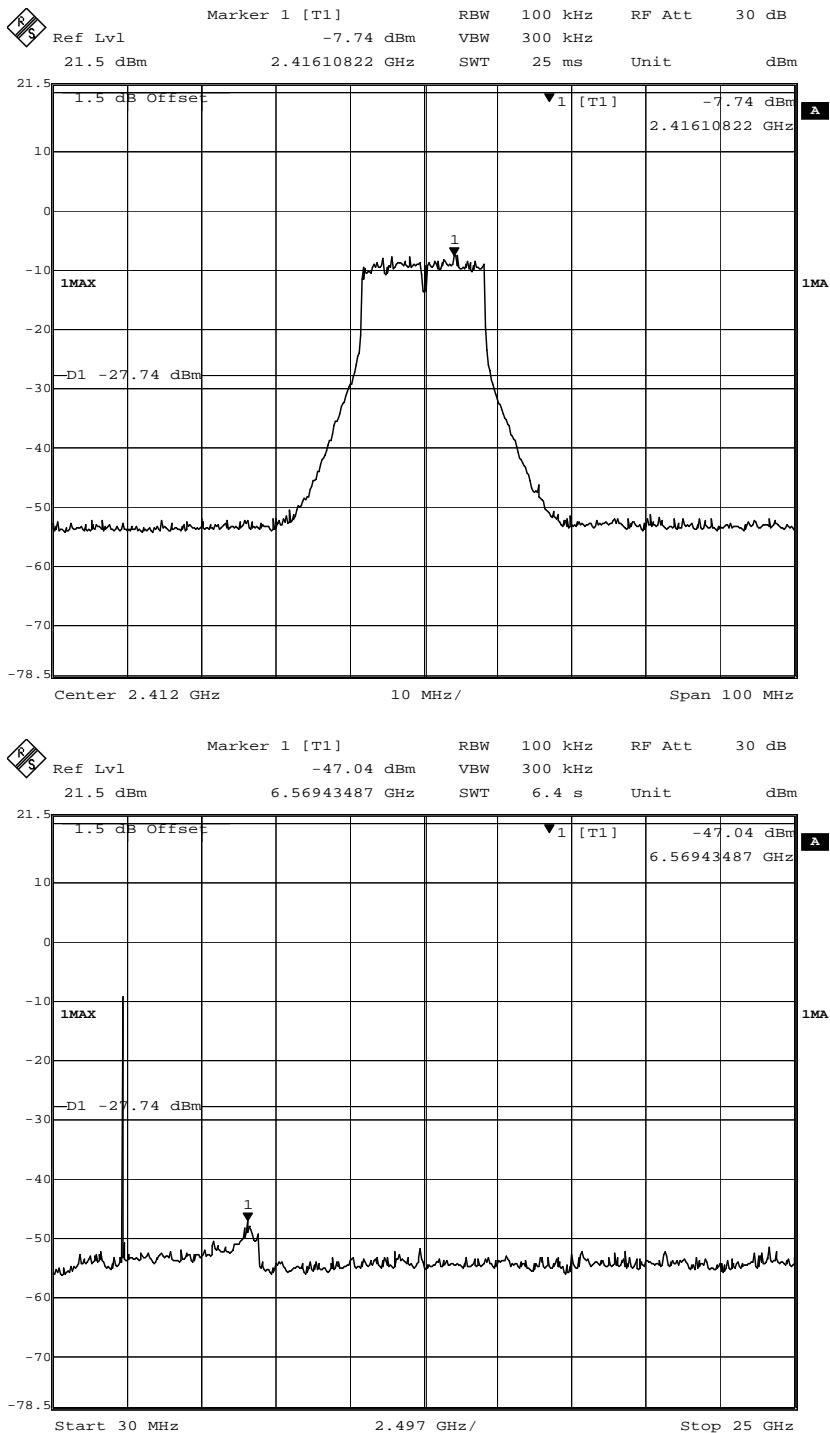
Channel 6: 2.437GHz:



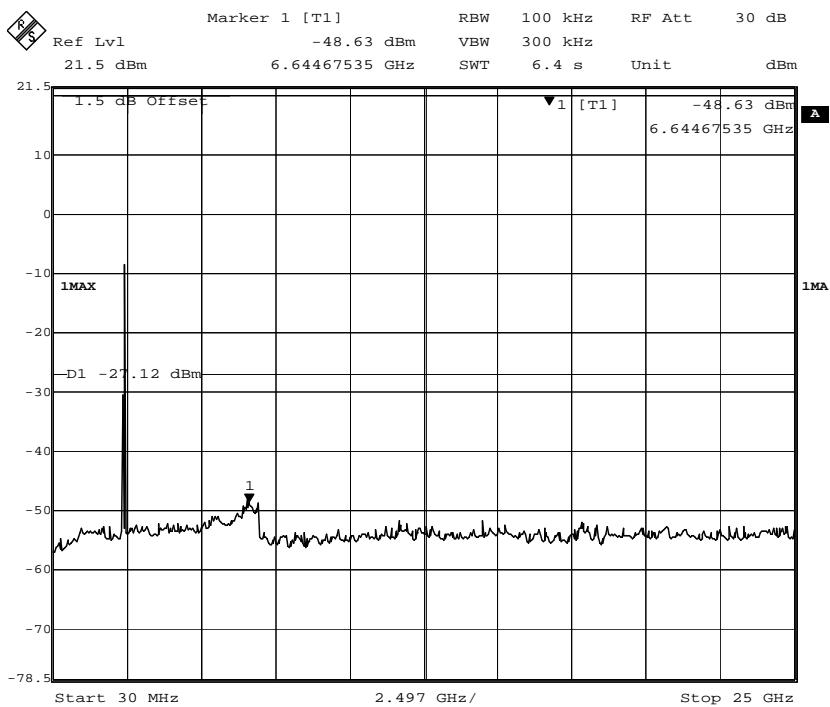
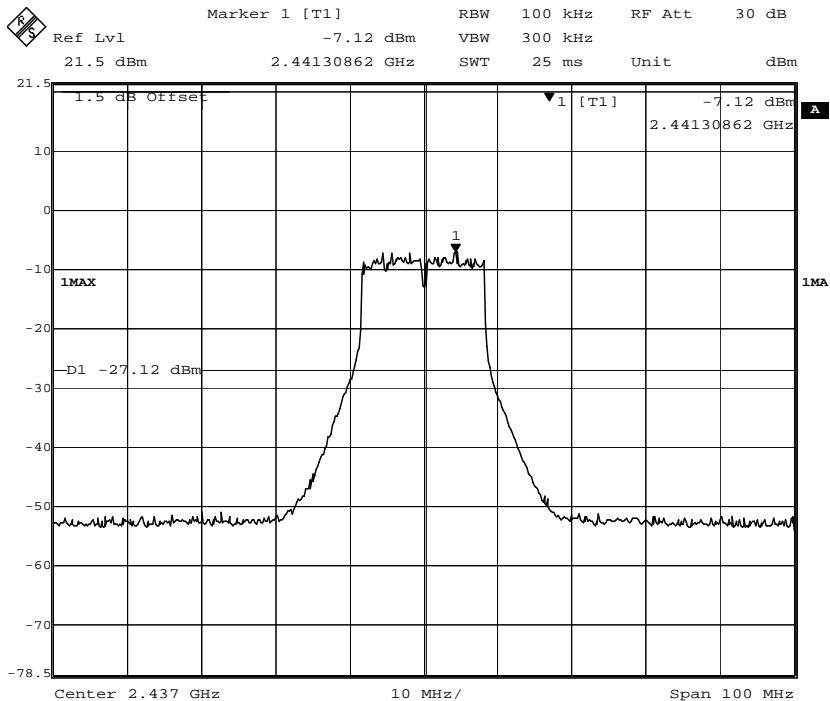
**Channel 11:2.462 GHz**


**802.11g mode with 54Mbps data rate**

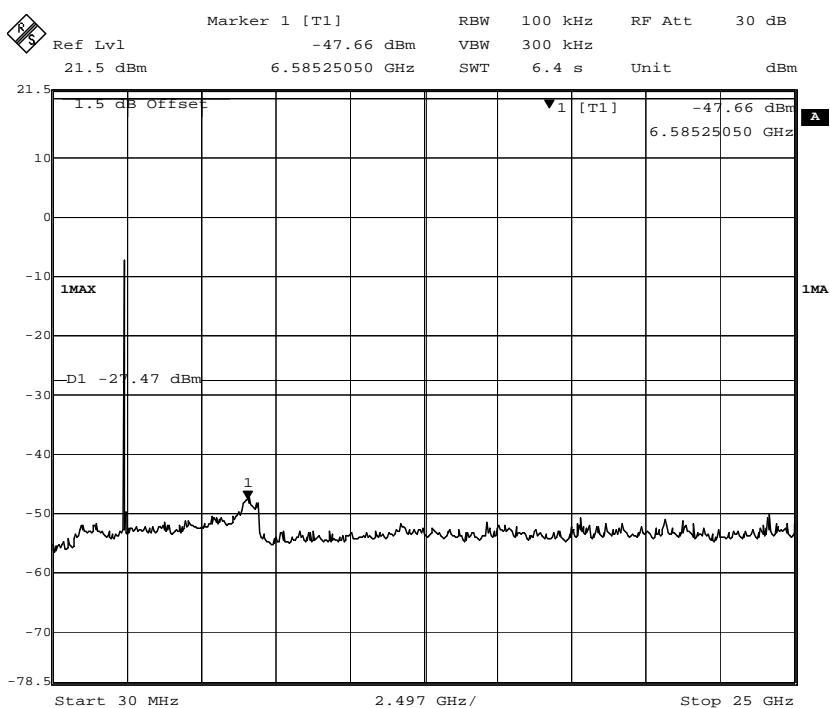
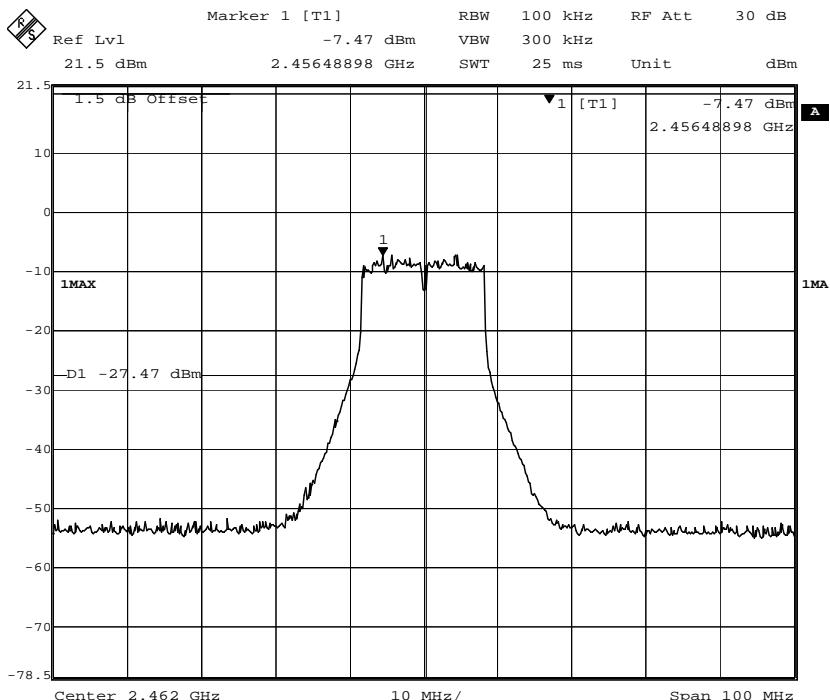
Channel 1: 2.412GHz:



Channel 6: 2.437GHz:

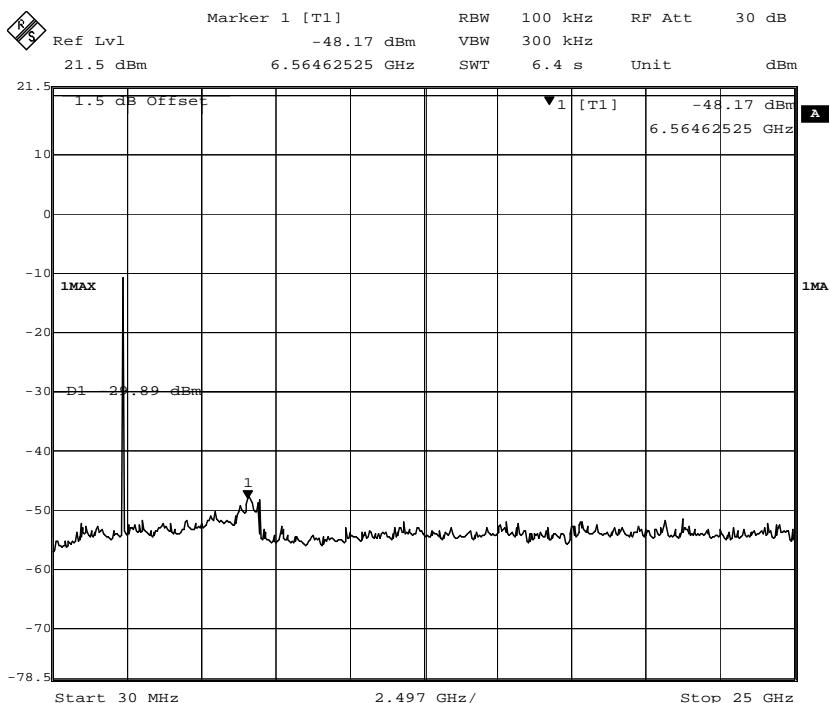
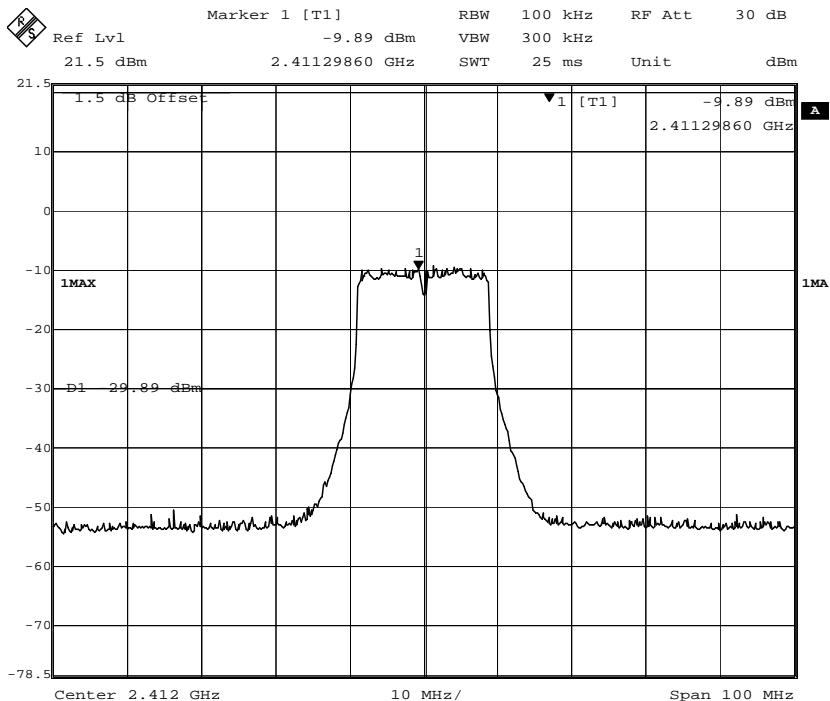


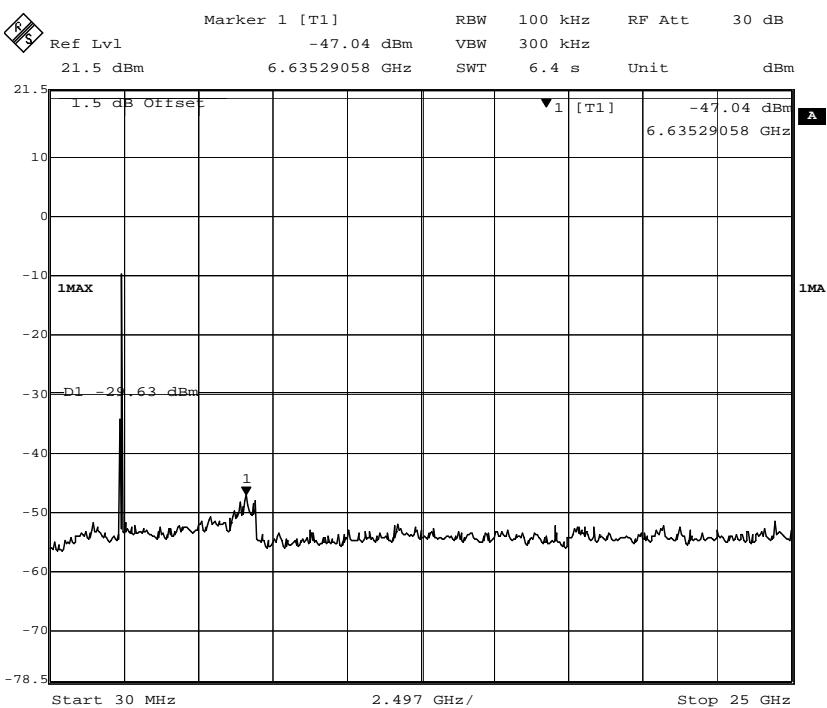
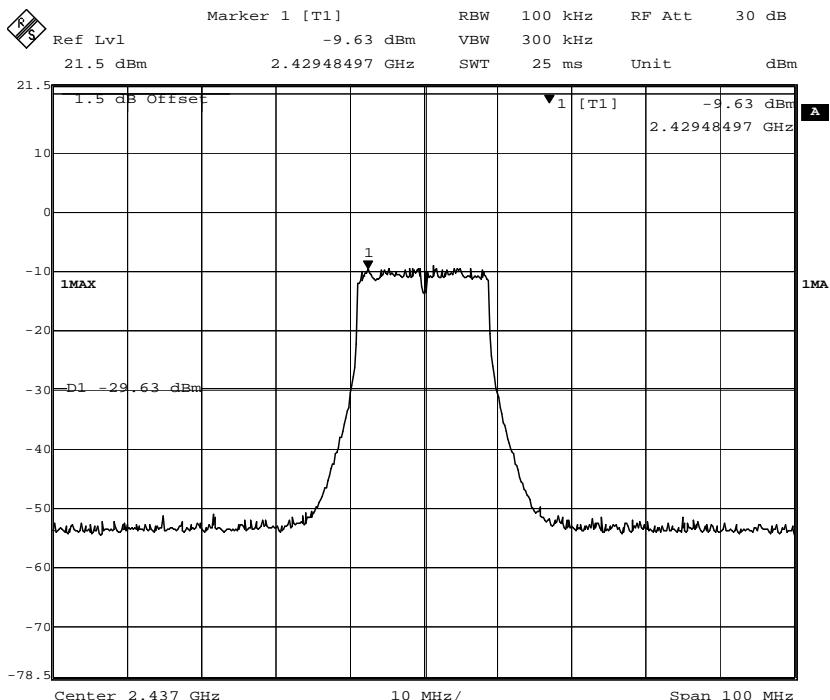
Channel 11:2.462 GHz



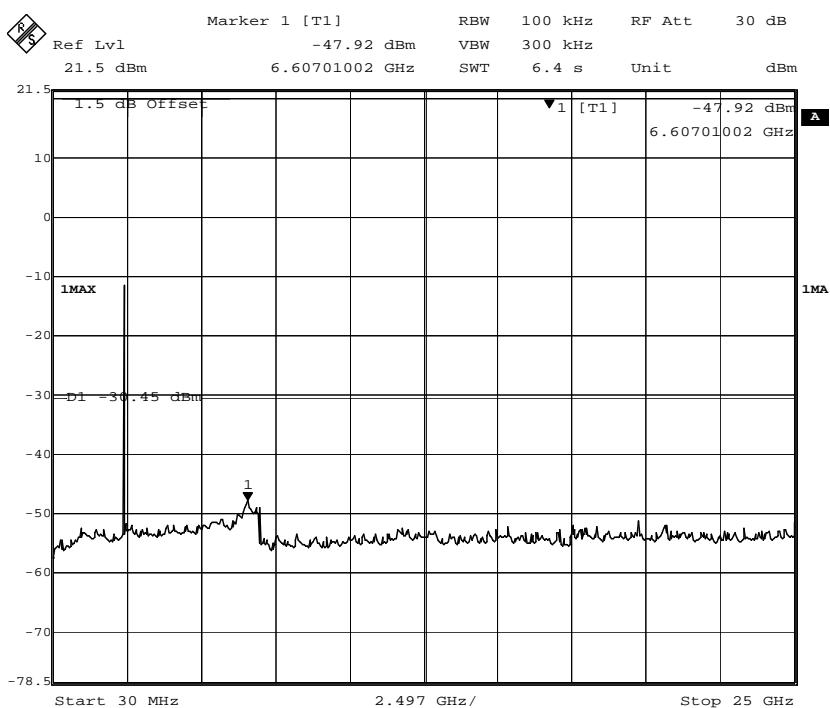
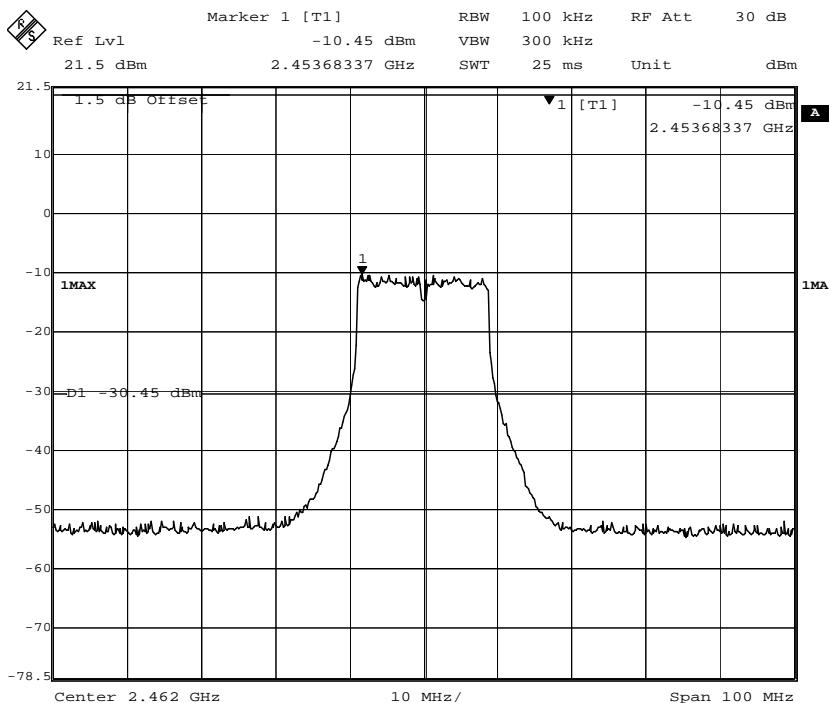
**802.11n(HT20) mode with 72.2Mbps data rate**

Channel 1: 2.412GHz:



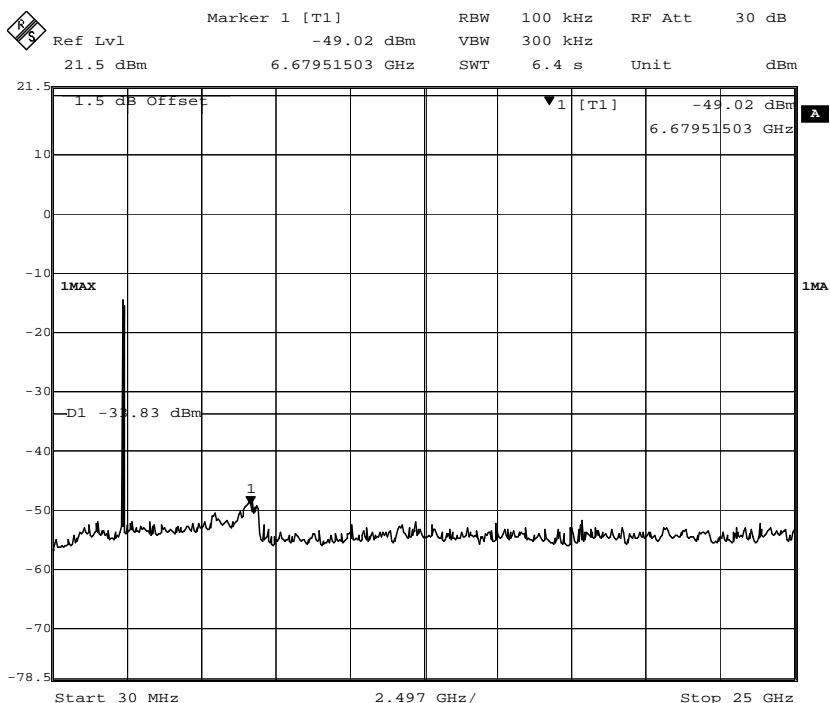
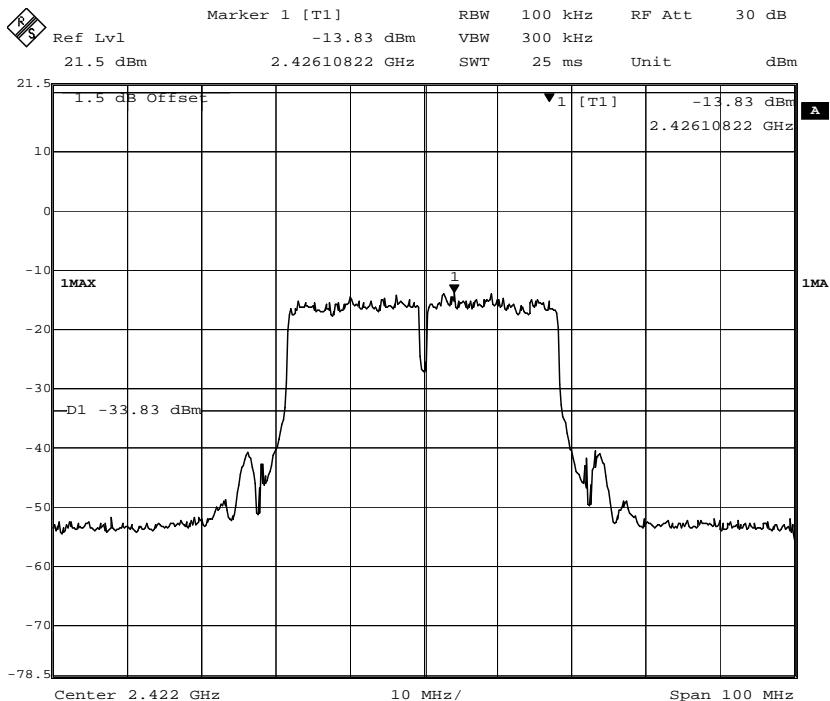
**Channel 6: 2.437GHz:**


Channel 11:2.462 GHz

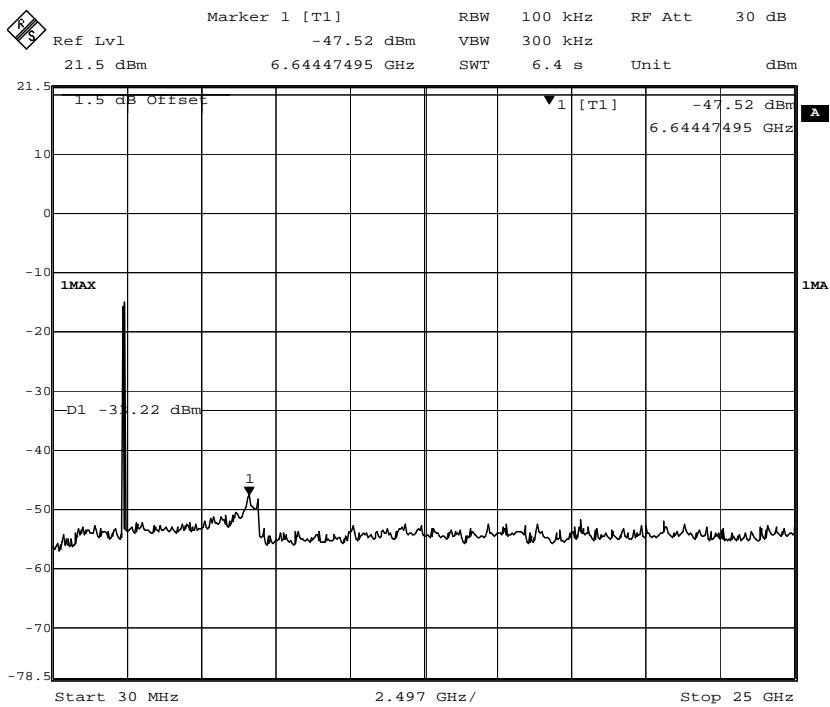
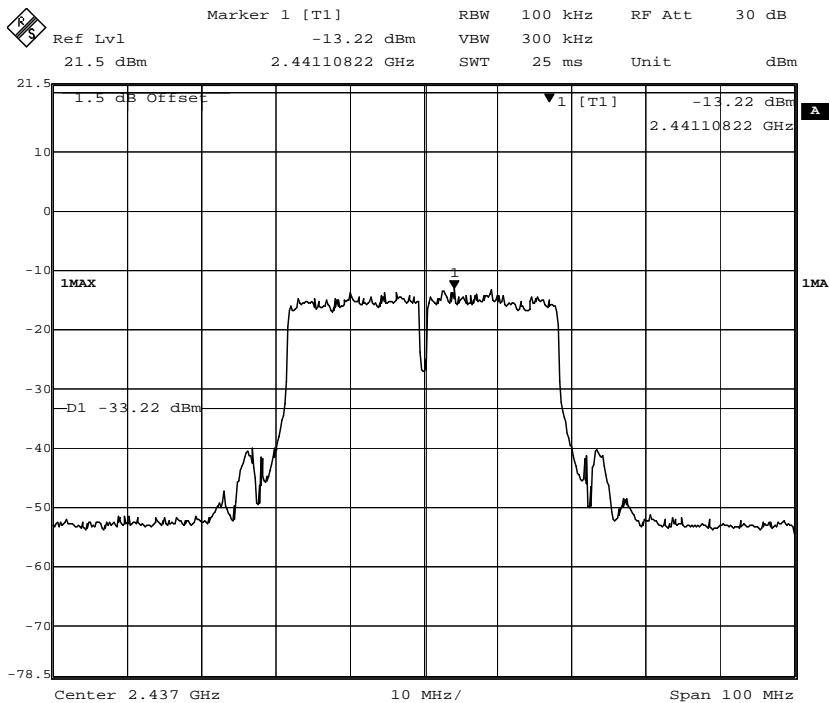


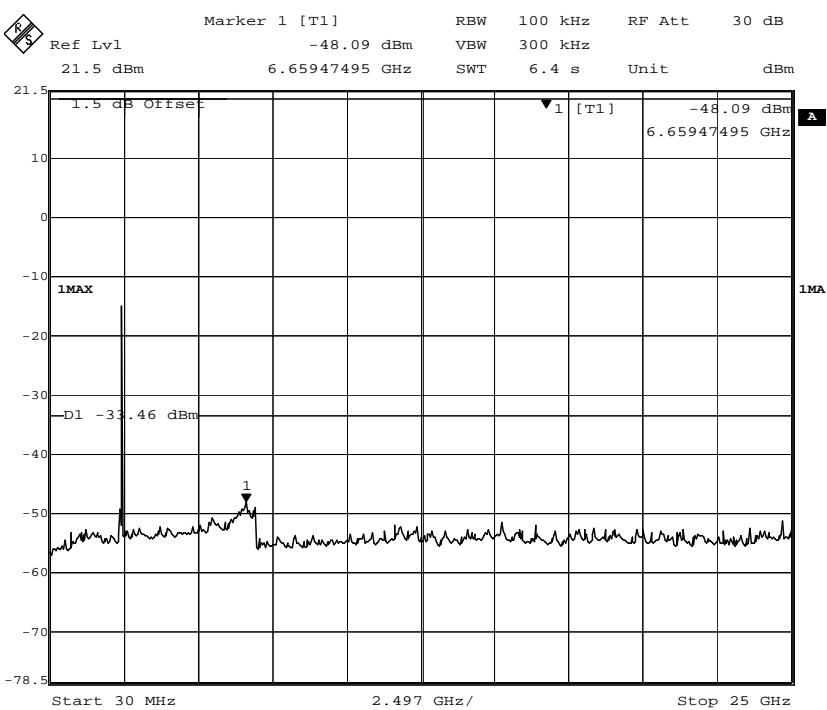
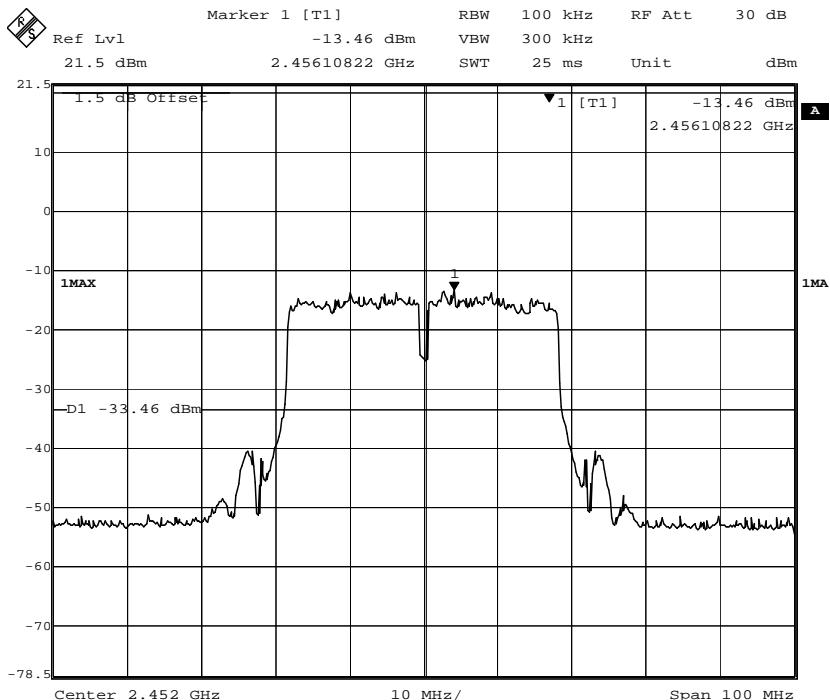
**802.11n(HT40) mode with 150Mbps data rate**

Channel 3: 2.422GHz:



Channel 6: 2.437GHz:



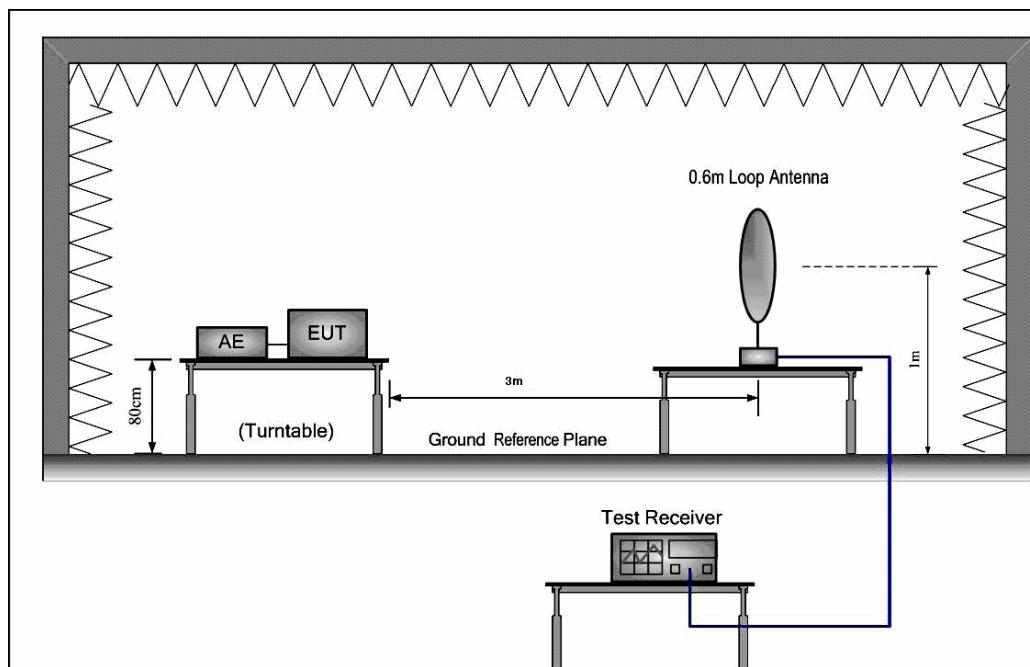
**Channel 9: 2.452GHz:**


## 7.7 Radiated Emissions which fall in the restricted bands

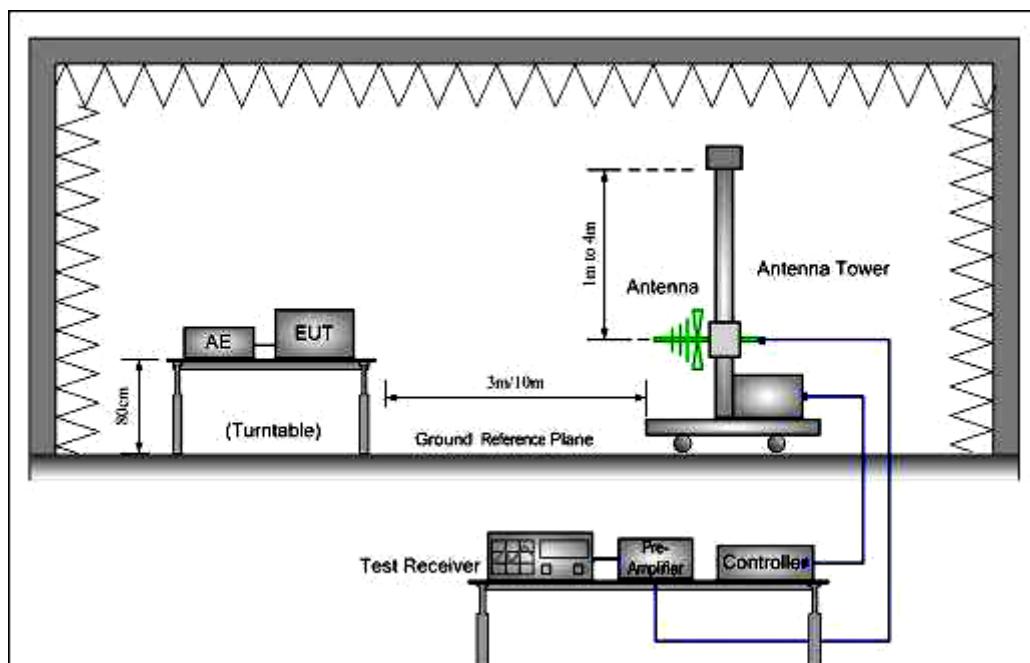
Test Requirement:	FCC Part 15 C section 15.247
	(d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method:	ANSI C63.10: Clause 11.12, 6.3, 6.5 and 6.6
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Limit:	40.0 dB $\mu$ V/m between 30MHz & 88MHz; 43.5 dB $\mu$ V/m between 88MHz & 216MHz; 46.0 dB $\mu$ V/m between 216MHz & 960MHz; 54.0 dB $\mu$ V/m above 960MHz.
Detector:	For PK value: RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz VBW $\geq$ RBW Sweep = auto Detector function = peak Trace = max hold
	For AV value: RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz VBW = 10Hz Sweep = auto Detector function = peak Trace = max hold
Test Frequency Range:	9KHz-26.5GHz

**Test Configuration:**

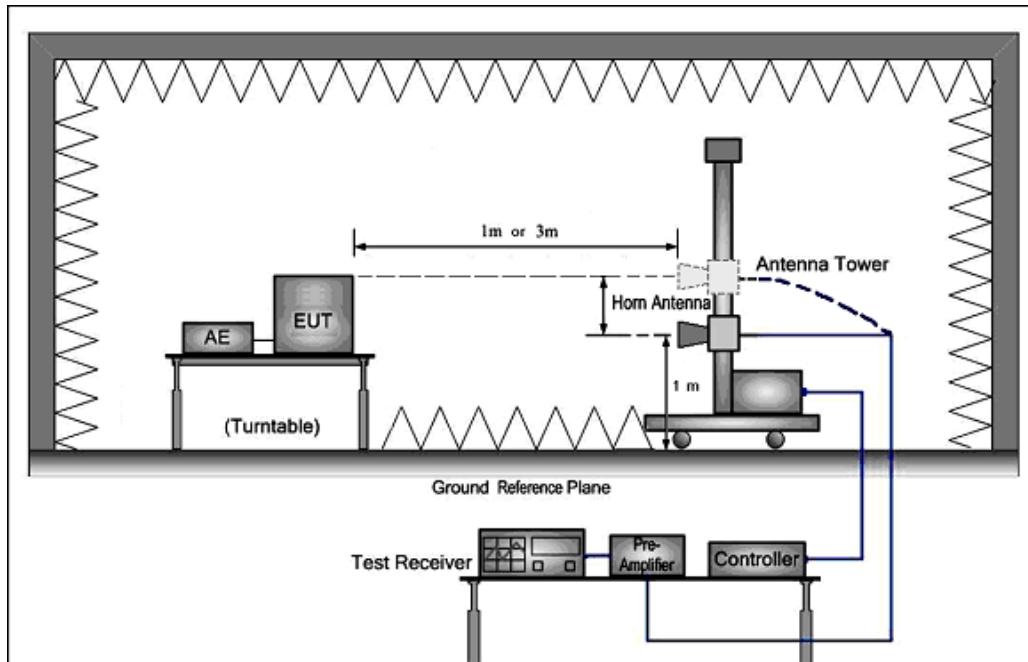
- 1) 9 kHz to 30 MHz emissions:



- 2) 30 MHz to 1 GHz emissions:



## 3) 1 GHz to 40 GHz emissions:



Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section. only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	
13.36 - 13.41	322 - 335.4		

**Test Result:****30MHz~1000 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement**

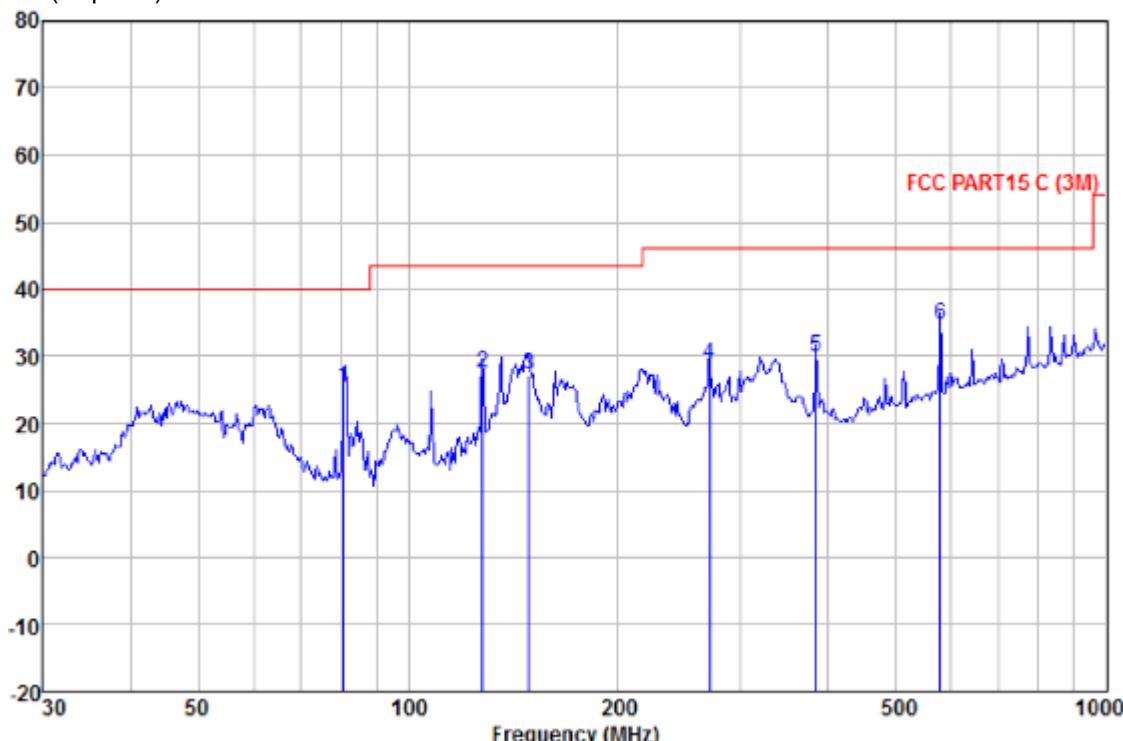
802.11b mode with 11Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

**30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement**

Vertical:

Peak scan

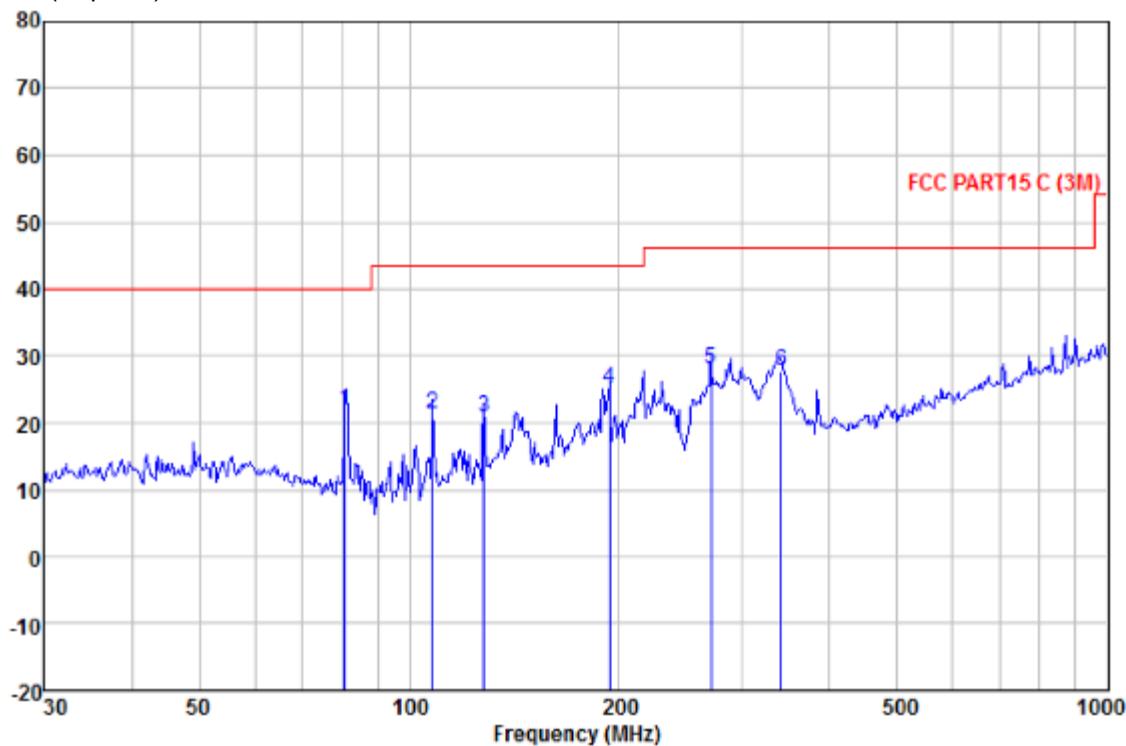
Level (dB $\mu$ V/m)

Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Over	Remark
	Level	Factor	Loss	Factor					
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	dB	
80.927	41.12	9.47	1.70	27.00	25.29	40.00	-14.71	QP	
127.665	40.60	11.71	2.14	26.88	27.57	43.50	-15.93	QP	
148.963	38.49	13.32	2.29	26.80	27.30	43.50	-16.20	QP	
270.375	38.87	13.21	3.20	26.40	28.88	46.00	-17.12	QP	
383.932	36.91	16.10	3.82	27.03	29.80	46.00	-16.20	QP	
578.670	37.90	20.02	4.73	28.00	34.65	46.00	-11.35	QP	

**Horizontal:**

Peak scan

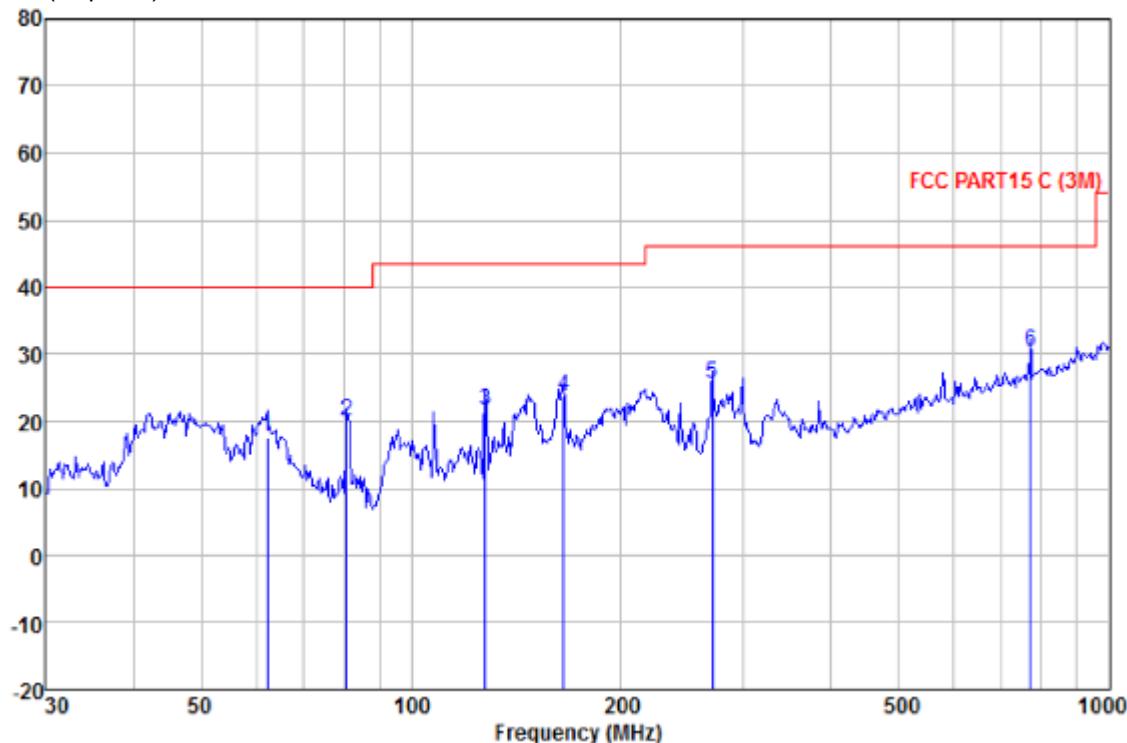
Level (dB $\mu$ V/m)

## Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	Level	Factor	Loss	Factor				Remark
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	37.69	9.47	1.70	27.00	21.86	40.00	-18.14	QP
107.888	36.53	9.86	1.90	26.90	21.39	43.50	-22.11	QP
127.665	33.83	11.71	2.14	26.88	20.80	43.50	-22.70	QP
193.095	37.41	11.62	2.66	26.61	25.08	43.50	-18.42	QP
270.375	37.99	13.21	3.20	26.40	28.00	46.00	-18.00	QP
340.782	35.89	14.80	3.63	26.66	27.66	46.00	-18.34	QP

**Test at Channel 6 (2.437 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

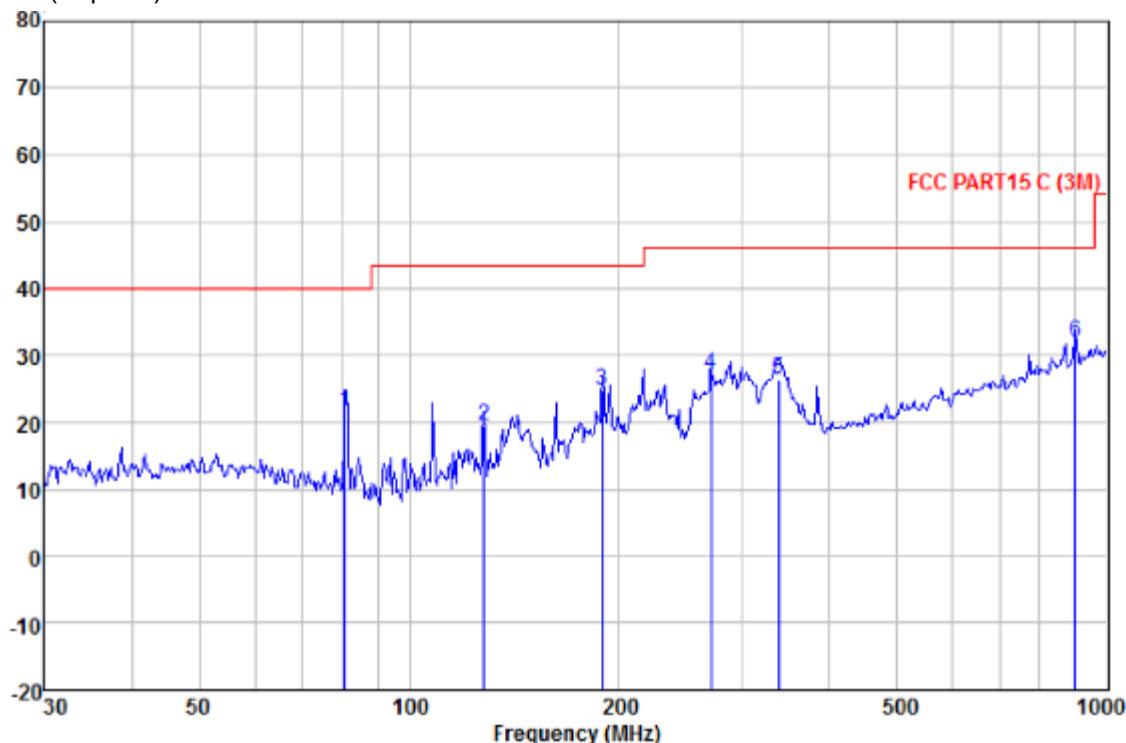
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq MHz	Read	Antenna Level dBuV	Antenna Factor	Cable Loss dB	Preamp Factor	Level dB	Limit Line dBuV/m	Over Line dB	Over Limit Remark
	Level	dB/m				dB	dBuV/m	dBuV/m	
62.213	29.22	13.87		1.44	27.00	17.53	40.00	-22.47	QP
80.927	35.80	9.47		1.70	27.00	19.97	40.00	-20.03	QP
127.665	34.55	11.71		2.14	26.88	21.52	43.50	-21.98	QP
165.487	34.58	13.47		2.41	26.75	23.71	43.50	-19.79	QP
270.375	35.52	13.21		3.20	26.40	25.53	46.00	-20.47	QP
771.449	30.60	22.18		5.50	27.99	30.29	46.00	-15.71	QP

**Horizontal:**

Peak scan

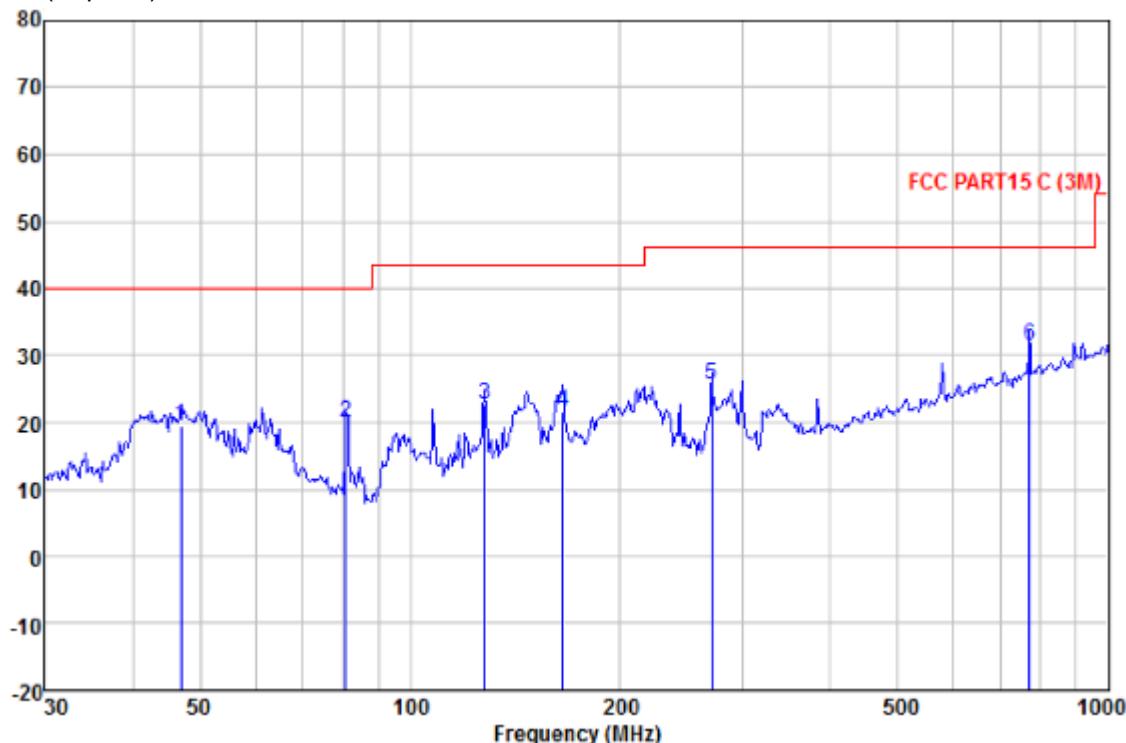
Level (dB $\mu$ V/m)

## Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Over	Remark
	Level	Factor	Loss	Factor					
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	dB	
80.927	37.51	9.47	1.70	27.00	21.68	40.00	-18.32	QP	
127.665	32.54	11.71	2.14	26.88	19.51	43.50	-23.99	QP	
189.074	36.87	12.03	2.65	26.62	24.93	43.50	-18.57	QP	
270.375	37.21	13.21	3.20	26.40	27.22	46.00	-18.78	QP	
338.400	34.76	14.71	3.63	26.65	26.45	46.00	-19.55	QP	
900.147	30.33	23.40	5.90	27.70	31.93	46.00	-14.07	QP	

**Test at Channel 11 (2.462 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

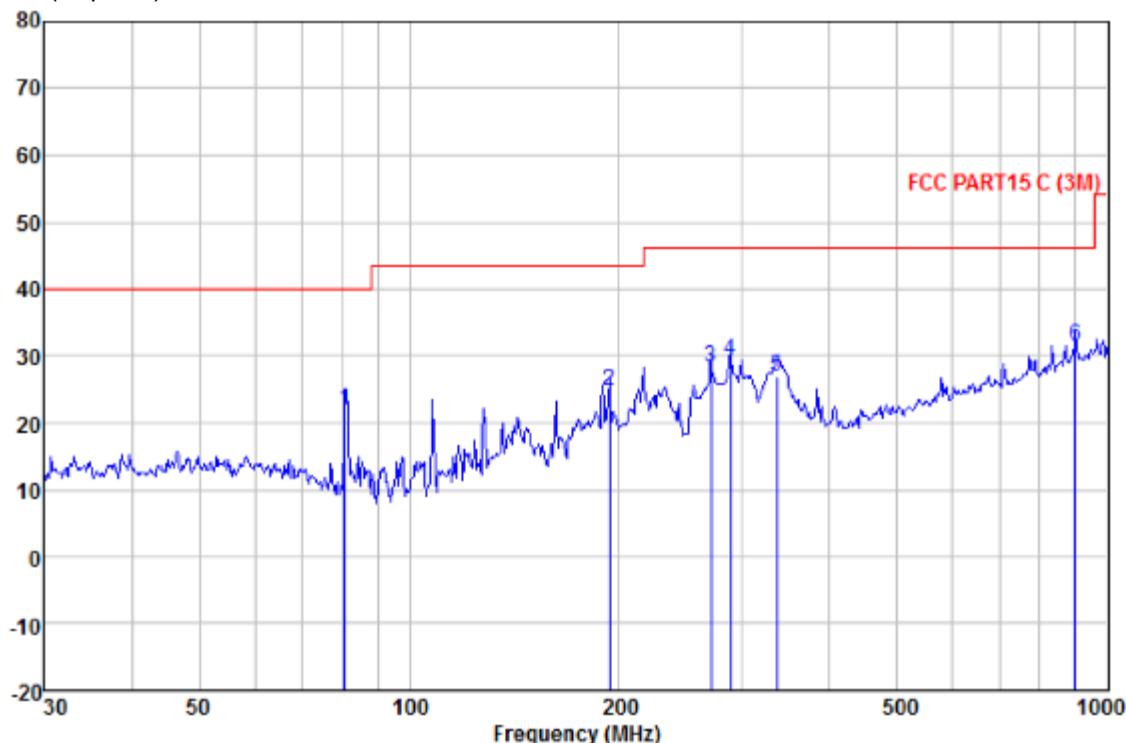
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
46.995	30.87	14.34	1.24	27.00	19.45	40.00	-20.55	QP
80.927	35.74	9.47	1.70	27.00	19.91	40.00	-20.09	QP
127.665	35.60	11.71	2.14	26.88	22.57	43.50	-20.93	QP
165.487	32.58	13.47	2.41	26.75	21.71	43.50	-21.79	QP
270.375	35.52	13.21	3.20	26.40	25.53	46.00	-20.47	QP
771.449	31.85	22.18	5.50	27.99	31.54	46.00	-14.46	QP

**Horizontal:**

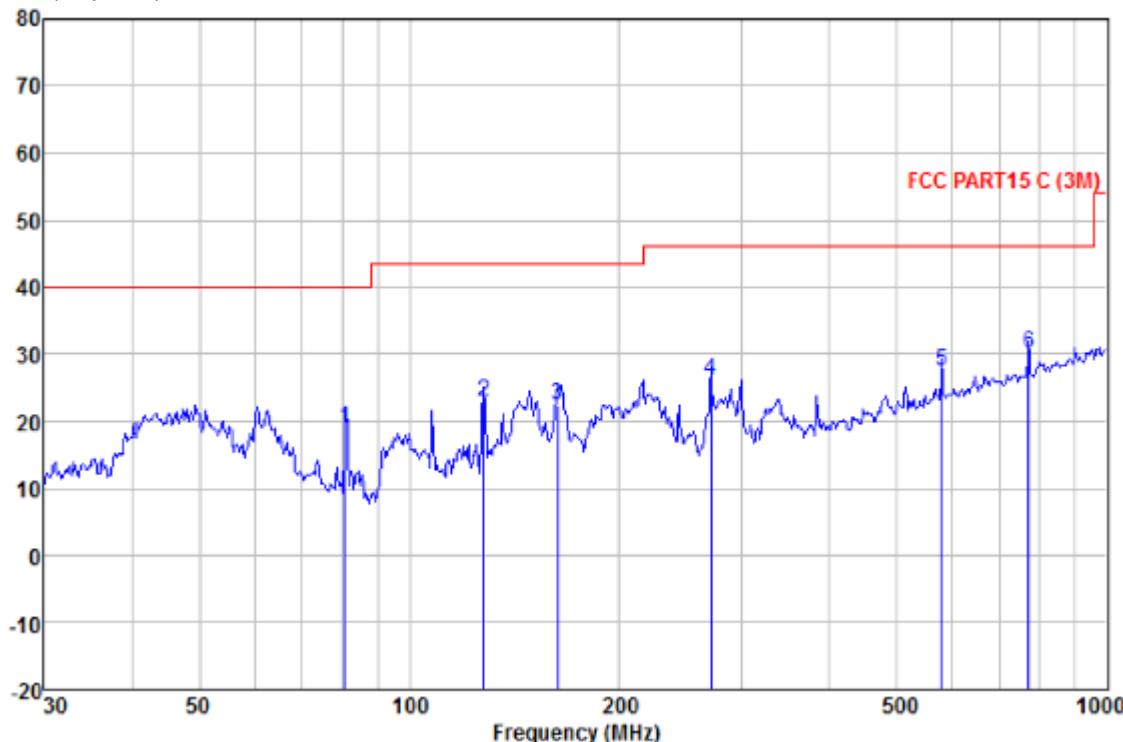
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	37.78	9.47	1.70	27.00	21.95	40.00	-18.05	QP
193.095	37.03	11.62	2.66	26.61	24.70	43.50	-18.80	QP
270.375	38.17	13.21	3.20	26.40	28.18	46.00	-17.82	QP
287.990	38.84	13.71	3.26	26.40	29.41	46.00	-16.59	QP
336.035	35.34	14.63	3.61	26.63	26.95	46.00	-19.05	QP
900.147	29.96	23.40	5.90	27.70	31.56	46.00	-14.44	QP

**802.11g mode with 54Mbps data rate****Test at Channel 1 (2.412 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

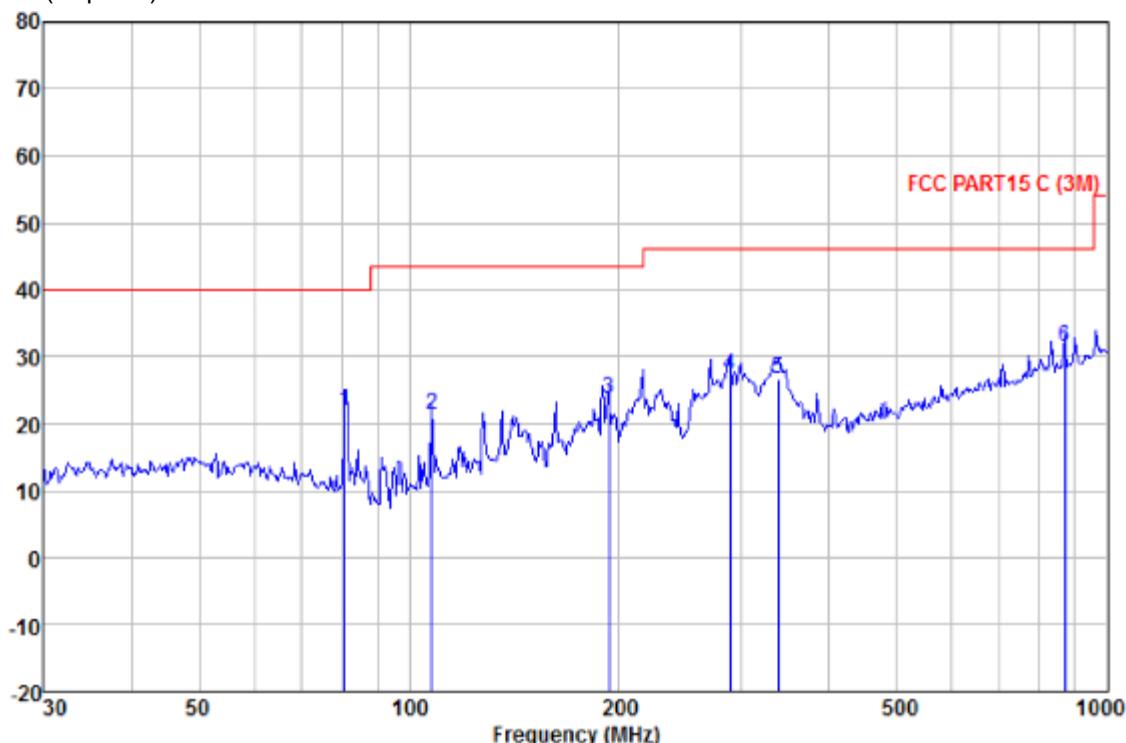
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	Level	Factor	Loss	Factor				Remark
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	34.88	9.47	1.70	27.00	19.05	40.00	-20.95	QP
127.665	35.98	11.71	2.14	26.88	22.95	43.50	-20.55	QP
163.182	33.22	13.57	2.40	26.76	22.43	43.50	-21.07	QP
270.375	36.07	13.21	3.20	26.40	26.08	46.00	-19.92	QP
578.670	30.66	20.02	4.73	28.00	27.41	46.00	-18.59	QP
771.449	30.42	22.18	5.50	27.99	30.11	46.00	-15.89	QP

**Horizontal:**

Peak scan

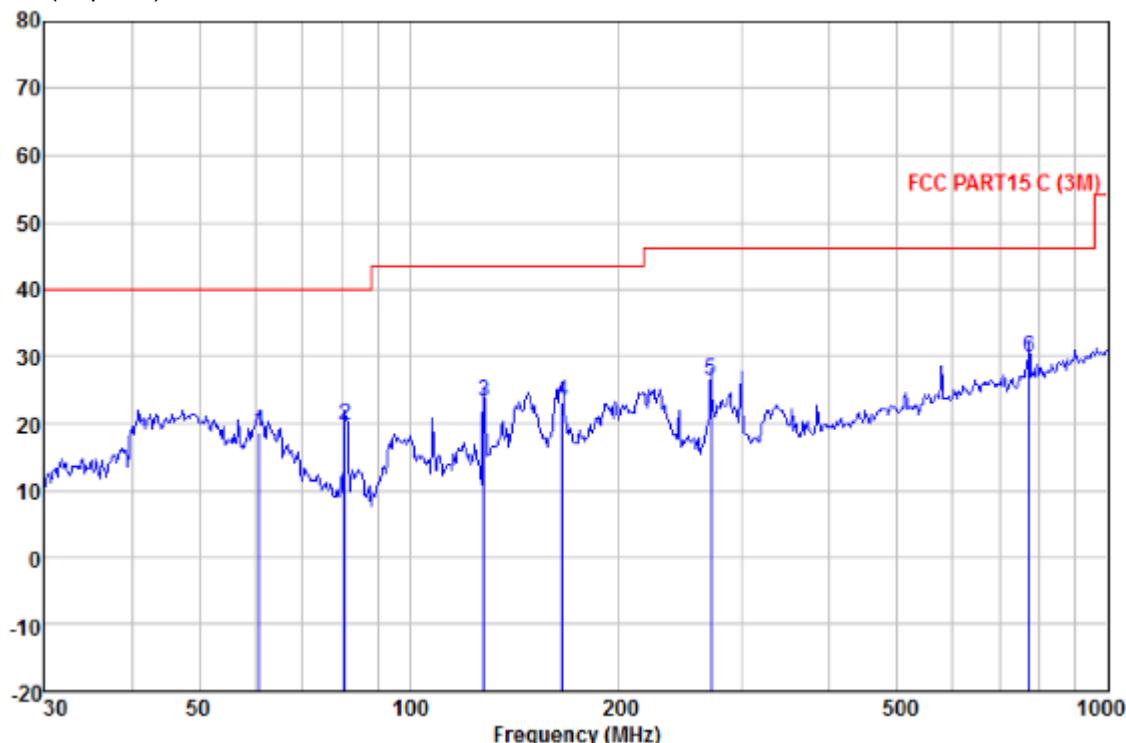
Level (dB $\mu$ V/m)

Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	37.79	9.47	1.70	27.00	21.96	40.00	-18.04	QP
107.888	36.47	9.86	1.90	26.90	21.33	43.50	-22.17	QP
193.095	36.03	11.62	2.66	26.61	23.70	43.50	-19.80	QP
287.990	36.53	13.71	3.26	26.40	27.10	46.00	-18.90	QP
338.400	34.91	14.71	3.63	26.65	26.60	46.00	-19.40	QP
869.130	30.17	23.17	5.87	27.82	31.39	46.00	-14.61	QP

**Test at Channel 6 (2.437 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

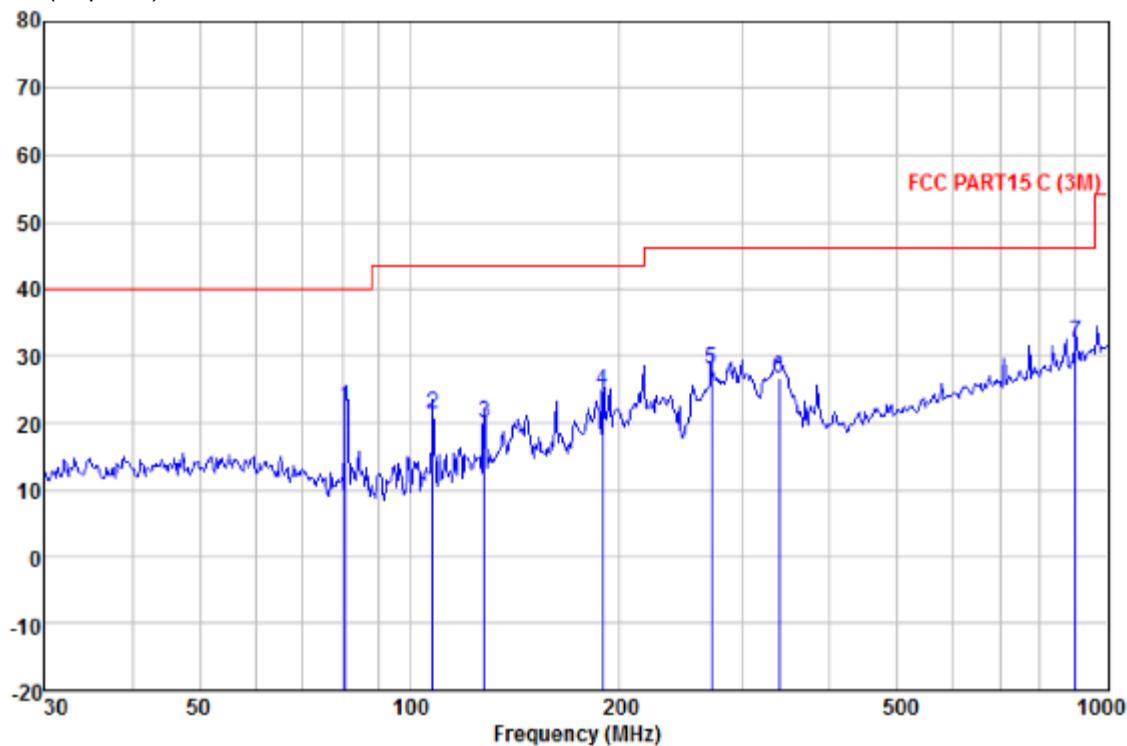
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
60.918	30.34	14.02	1.41	27.00	18.77	40.00	-21.23	QP
80.927	35.62	9.47	1.70	27.00	19.79	40.00	-20.21	QP
127.665	36.25	11.71	2.14	26.88	23.22	43.50	-20.28	QP
165.487	34.05	13.47	2.41	26.75	23.18	43.50	-20.32	QP
270.375	36.35	13.21	3.20	26.40	26.36	46.00	-19.64	QP
771.449	30.30	22.18	5.50	27.99	29.99	46.00	-16.01	QP

**Horizontal:**

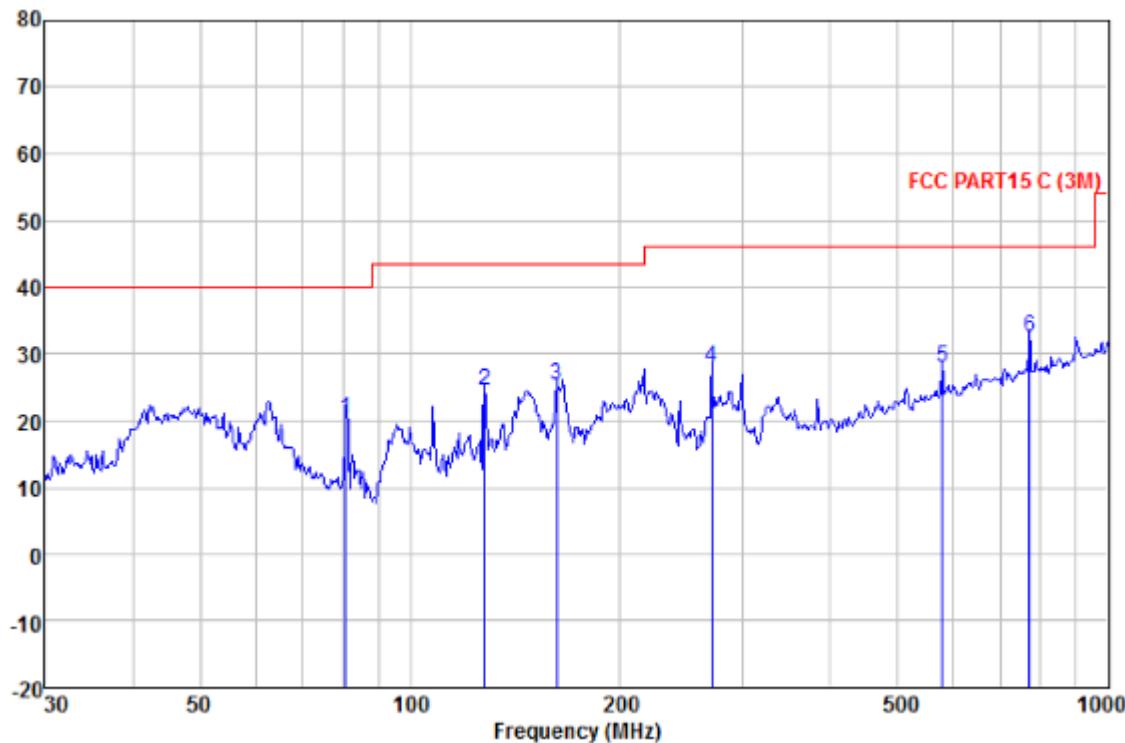
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.20	9.47	1.70	27.00	22.37	40.00	-17.63	QP
107.888	36.53	9.86	1.90	26.90	21.39	43.50	-22.11	QP
127.665	33.16	11.71	2.14	26.88	20.13	43.50	-23.37	QP
189.074	36.79	12.03	2.65	26.62	24.85	43.50	-18.65	QP
270.375	38.11	13.21	3.20	26.40	28.12	46.00	-17.88	QP
338.400	34.95	14.71	3.63	26.65	26.64	46.00	-19.36	QP
900.147	30.45	23.40	5.90	27.70	32.05	46.00	-13.95	QP

**Test at Channel 11 (2.462 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

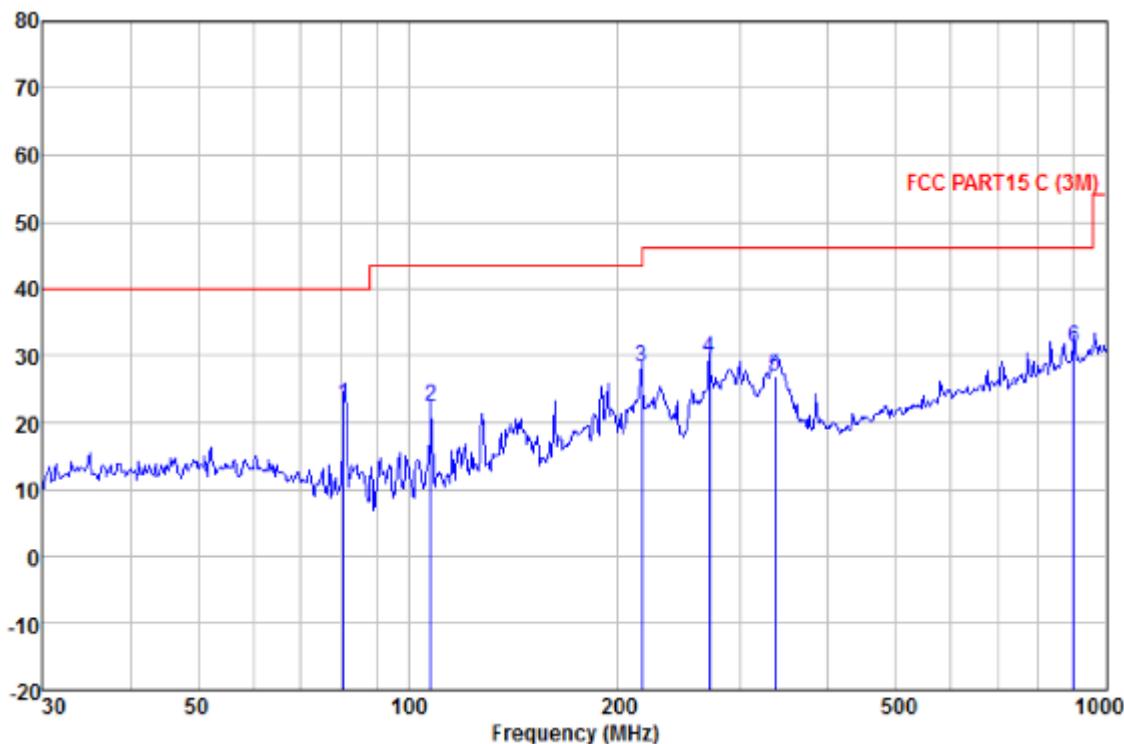
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq MHz	Read	Antenna Level	Cable Factor	Preamp Loss	Level	Limit Line	Over Limit	Over Remark
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
80.927	36.18	9.47	1.70	27.00	20.35	40.00	-19.65	QP
127.665	37.64	11.71	2.14	26.88	24.61	43.50	-18.89	QP
162.041	36.07	13.62	2.38	26.77	25.30	43.50	-18.20	QP
270.375	37.86	13.21	3.20	26.40	27.87	46.00	-18.13	QP
578.670	31.27	20.02	4.73	28.00	28.02	46.00	-17.98	QP
771.449	32.96	22.18	5.50	27.99	32.65	46.00	-13.35	QP

**Horizontal:**

Peak scan

Level (dB $\mu$ V/m)

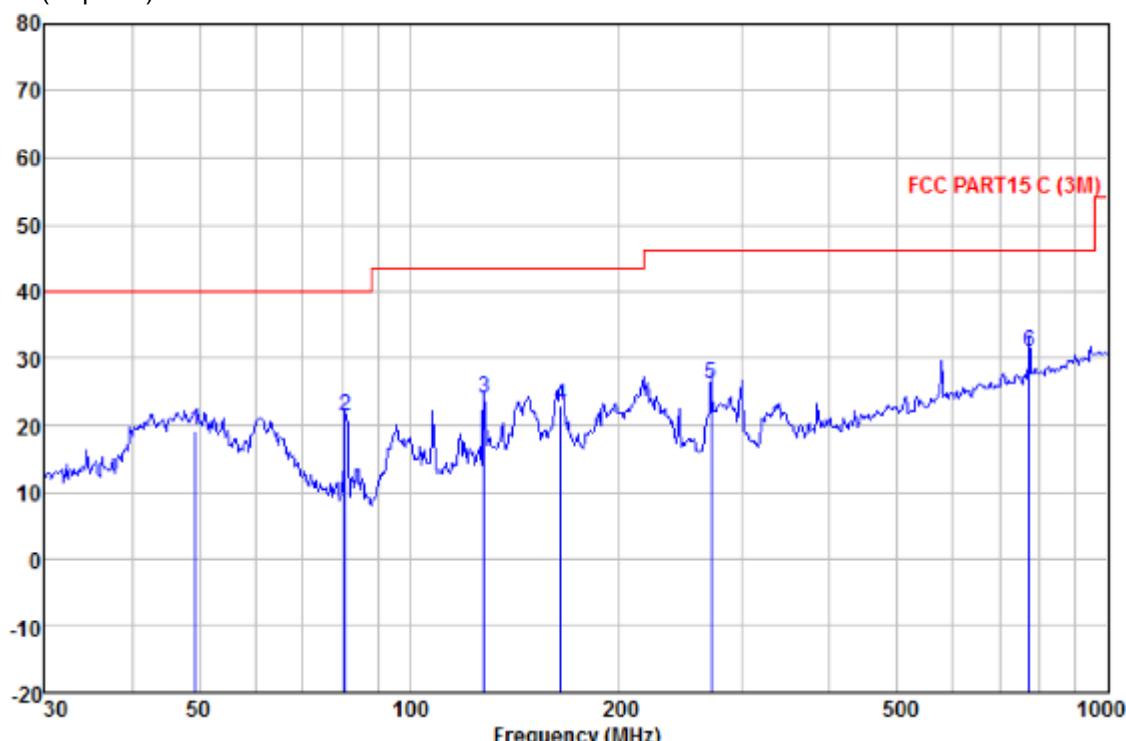
## Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.45	9.47	1.70	27.00	22.62	40.00	-17.38	QP
107.888	37.66	9.86	1.90	26.90	22.52	43.50	-20.98	QP
216.024	40.75	11.20	2.80	26.54	28.21	46.00	-17.79	QP
270.375	39.46	13.21	3.20	26.40	29.47	46.00	-16.53	QP
336.035	35.23	14.63	3.61	26.63	26.84	46.00	-19.16	QP
900.147	29.57	23.40	5.90	27.70	31.17	46.00	-14.83	QP

**802.11n(HT20) mode with 72.2Mbps data rate**  
**Test at Channel 1 (2.412 GHz) in transmitting status**

**30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

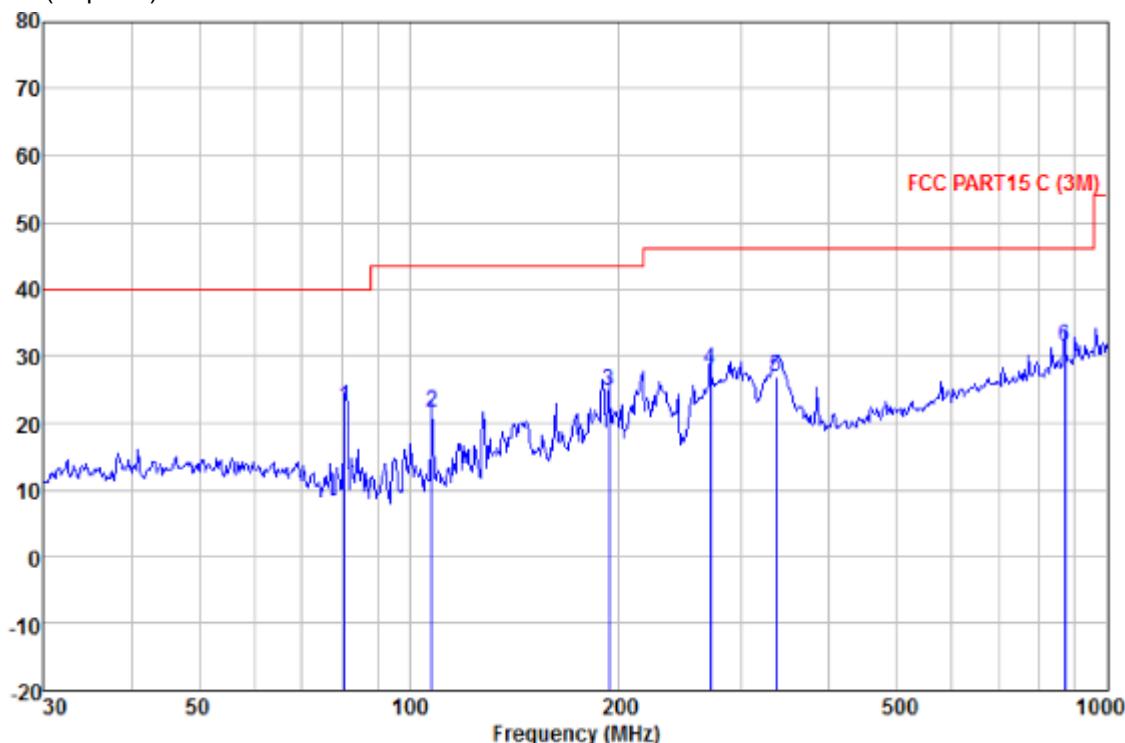
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
49.359	30.35	14.47	1.29	27.00	19.11	40.00	-20.89	QP
80.927	37.11	9.47	1.70	27.00	21.28	40.00	-18.72	QP
127.665	36.91	11.71	2.14	26.88	23.88	43.50	-19.62	QP
164.330	33.82	13.52	2.41	26.76	22.99	43.50	-20.51	QP
270.375	36.02	13.21	3.20	26.40	26.03	46.00	-19.97	QP
771.449	31.30	22.18	5.50	27.99	30.99	46.00	-15.01	QP

**Horizontal:**

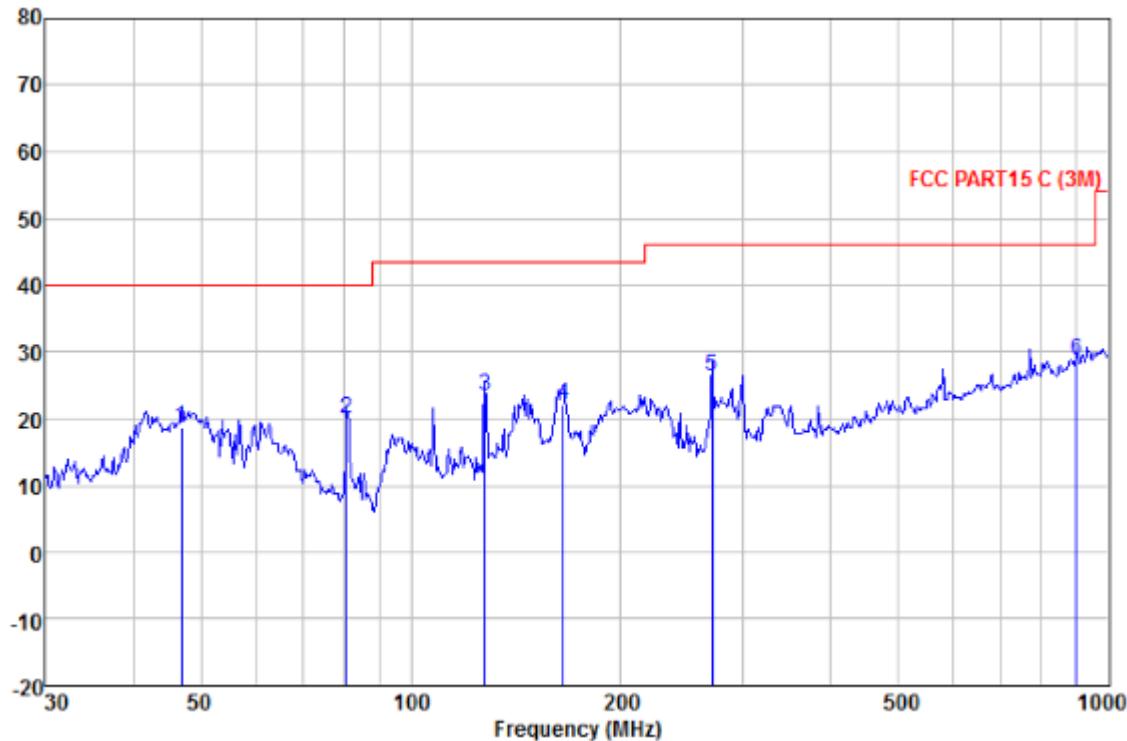
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Over	Remark
	Level	Factor	Loss	Factor					
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	dB	
80.927	38.24	9.47	1.70	27.00	22.41	40.00	-17.59	QP	
107.888	36.61	9.86	1.90	26.90	21.47	43.50	-22.03	QP	
193.095	37.09	11.62	2.66	26.61	24.76	43.50	-18.74	QP	
270.375	38.12	13.21	3.20	26.40	28.13	46.00	-17.87	QP	
336.035	35.25	14.63	3.61	26.63	26.86	46.00	-19.14	QP	
869.130	30.36	23.17	5.87	27.82	31.58	46.00	-14.42	QP	

**Test at Channel 6 (2.437 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

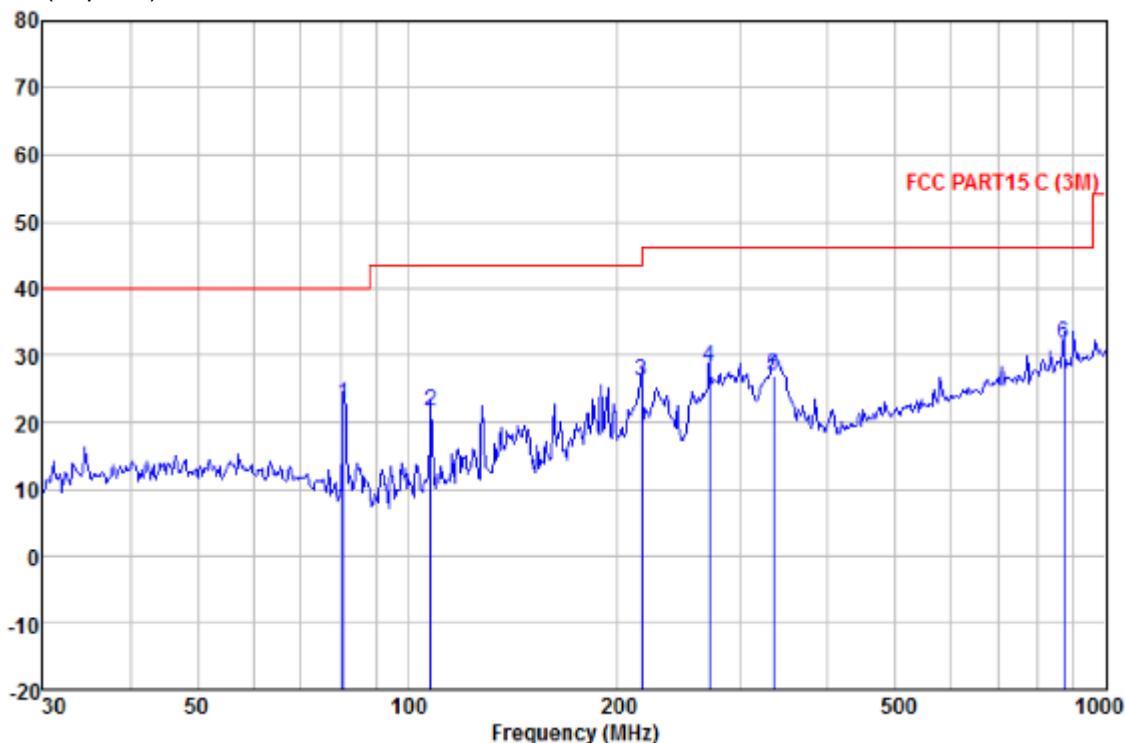
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Level	Factor	Loss	Factor					
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	dB	
46.995	30.18	14.34	1.24	27.00	18.76	40.00	-21.24	QP	
80.927	35.80	9.47	1.70	27.00	19.97	40.00	-20.03	QP	
127.665	36.51	11.71	2.14	26.88	23.48	43.50	-20.02	QP	
165.487	32.92	13.47	2.41	26.75	22.05	43.50	-21.45	QP	
270.375	36.46	13.21	3.20	26.40	26.47	46.00	-19.53	QP	
900.147	27.15	23.40	5.90	27.70	28.75	46.00	-17.25	QP	

**Horizontal:**

Peak scan

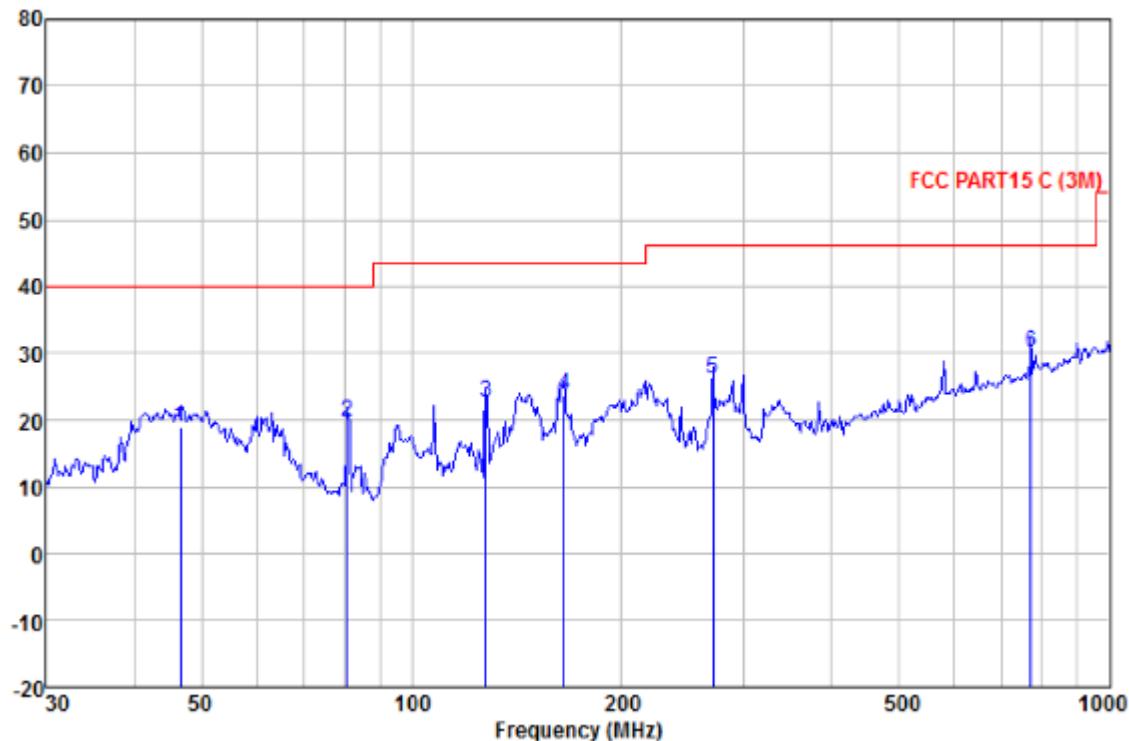
Level (dB $\mu$ V/m)

## Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.45	9.47	1.70	27.00	22.62	40.00	-17.38	QP
107.888	36.61	9.86	1.90	26.90	21.47	43.50	-22.03	QP
216.024	38.77	11.20	2.80	26.54	26.23	46.00	-19.77	QP
270.375	38.15	13.21	3.20	26.40	28.16	46.00	-17.84	QP
333.687	35.47	14.55	3.61	26.62	27.01	46.00	-18.99	QP
869.130	30.45	23.17	5.87	27.82	31.67	46.00	-14.33	QP

**Test at Channel 11 (2.462 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

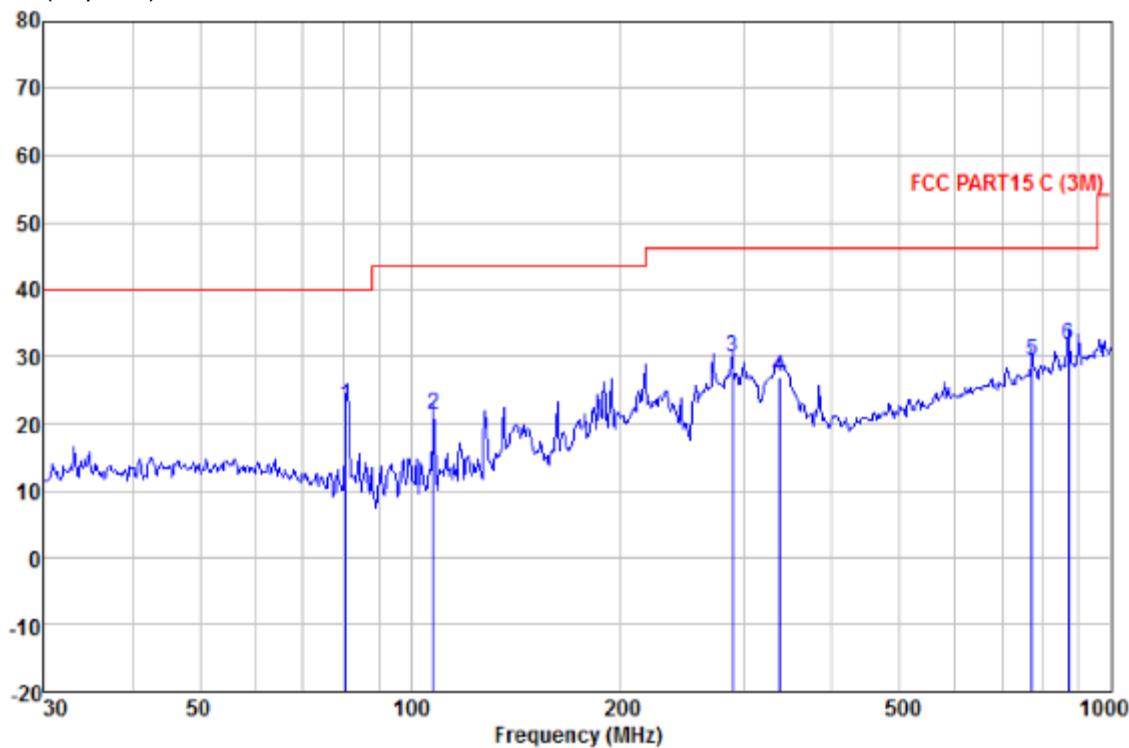
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Over	Remark
	Level	Factor	Loss	Factor					
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	dB	
46.666	30.40	14.32	1.23	27.00	18.95	40.00	-21.05	QP	
80.927	35.63	9.47	1.70	27.00	19.80	40.00	-20.20	QP	
127.665	35.68	11.71	2.14	26.88	22.65	43.50	-20.85	QP	
165.487	34.63	13.47	2.41	26.75	23.76	43.50	-19.74	QP	
270.375	36.04	13.21	3.20	26.40	26.05	46.00	-19.95	QP	
771.449	30.45	22.18	5.50	27.99	30.14	46.00	-15.86	QP	

**Horizontal:**

Peak scan

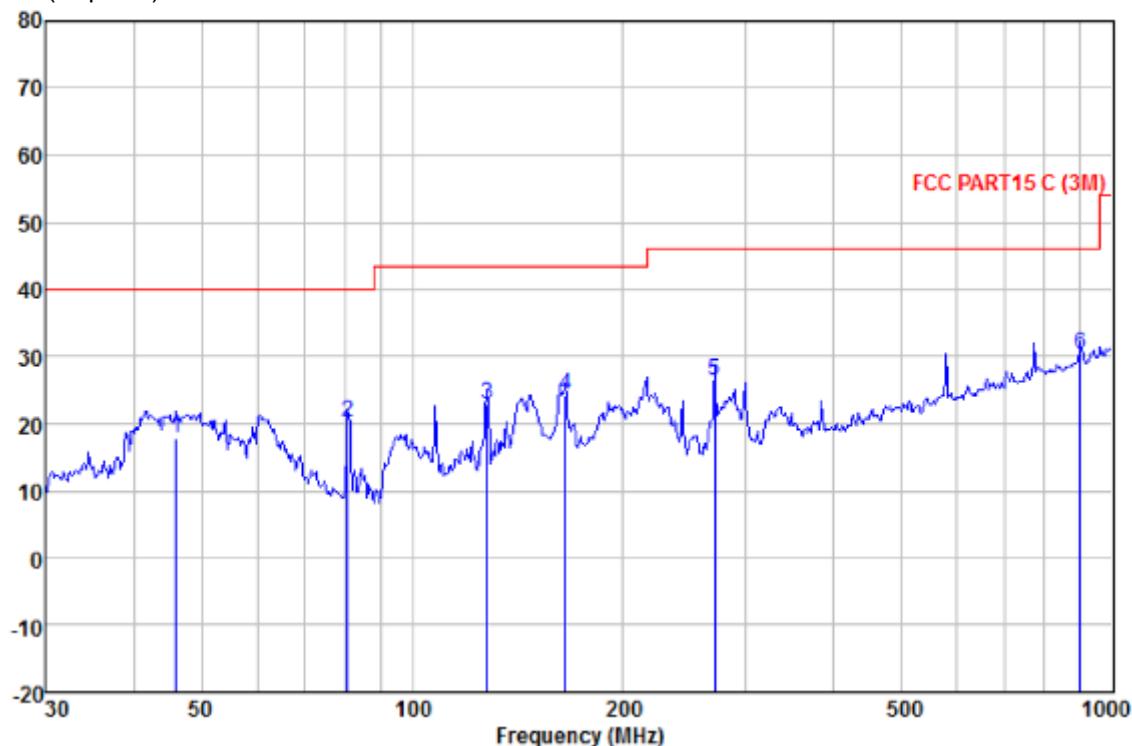
Level (dB $\mu$ V/m)

Quasi-peak measurement

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	Level	Factor	Loss	Factor				Remark
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.37	9.47	1.70	27.00	22.54	40.00	-17.46	QP
107.888	36.43	9.86	1.90	26.90	21.29	43.50	-22.21	QP
287.990	39.38	13.71	3.26	26.40	29.95	46.00	-16.05	QP
336.035	35.31	14.63	3.61	26.63	26.92	46.00	-19.08	QP
771.449	29.52	22.18	5.50	27.99	29.21	46.00	-16.79	QP
869.130	30.60	23.17	5.87	27.82	31.82	46.00	-14.18	QP

**802.11n(HT40) mode with 150Mbps data rate****Test at Channel 3 (2.422 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

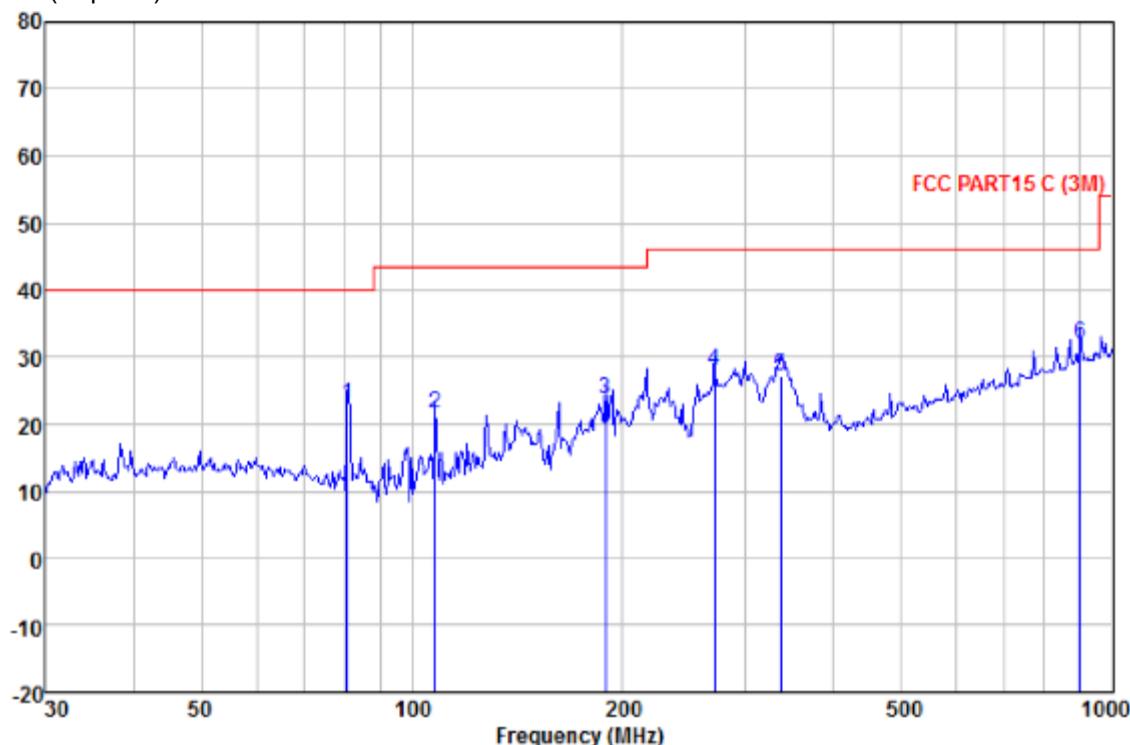
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	Level	Factor	Loss	Factor				Remark
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
46.016	29.42	14.26	1.22	27.00	17.90	40.00	-22.10	QP
80.927	36.08	9.47	1.70	27.00	20.25	40.00	-19.75	QP
127.665	35.96	11.71	2.14	26.88	22.93	43.50	-20.57	QP
165.487	35.13	13.47	2.41	26.75	24.26	43.50	-19.24	QP
270.375	36.47	13.21	3.20	26.40	26.48	46.00	-19.52	QP
900.147	28.73	23.40	5.90	27.70	30.33	46.00	-15.67	QP

**Horizontal:**

Peak scan

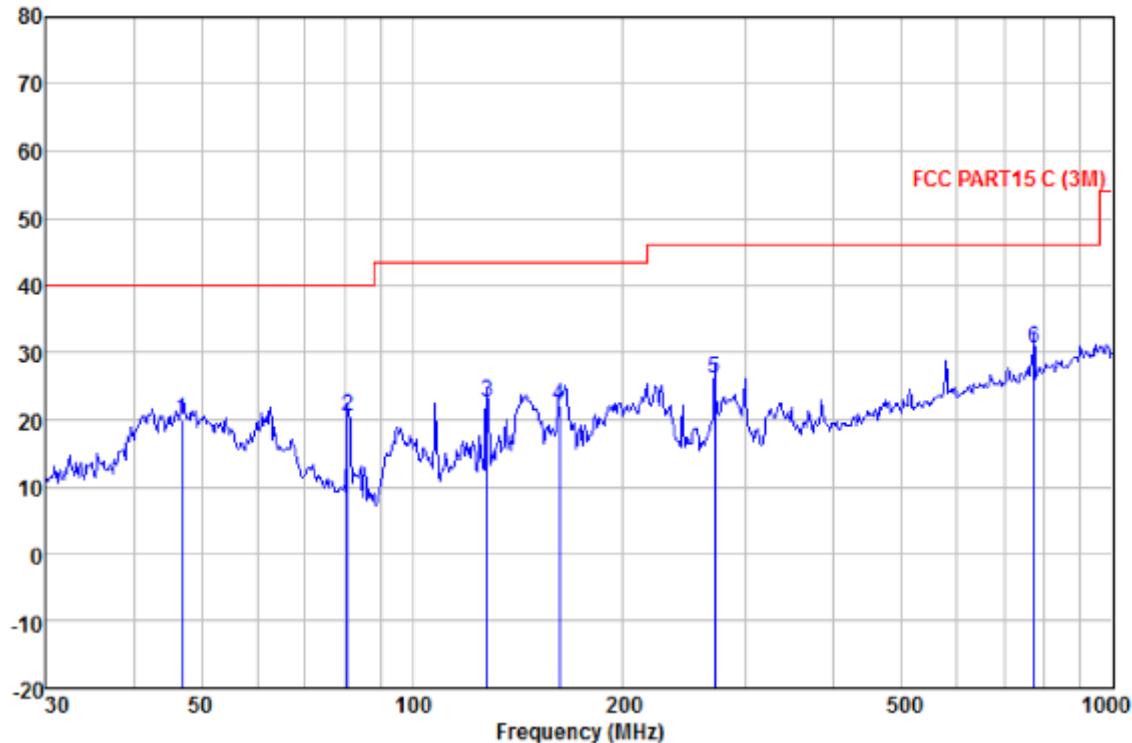
Level (dB $\mu$ V/m)

## Quasi-peak measurement

Freq MHz	Read Level dB $\mu$ V	Antenna Factor dB/m	Cable Loss dB	Preamp Factor dB	Line Level dB	Line Limit dB $\mu$ V/m	Over Limit dB	Over Limit Remark
	MHz	dB $\mu$ V	dB/m	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.83	9.47	1.70	27.00	23.00	40.00	-17.00	QP
107.888	36.68	9.86	1.90	26.90	21.54	43.50	-21.96	QP
189.074	35.66	12.03	2.65	26.62	23.72	43.50	-19.78	QP
270.375	38.05	13.21	3.20	26.40	28.06	46.00	-17.94	QP
336.035	35.51	14.63	3.61	26.63	27.12	46.00	-18.88	QP
900.147	30.48	23.40	5.90	27.70	32.08	46.00	-13.92	QP

**Test at Channel 6 (2.437 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

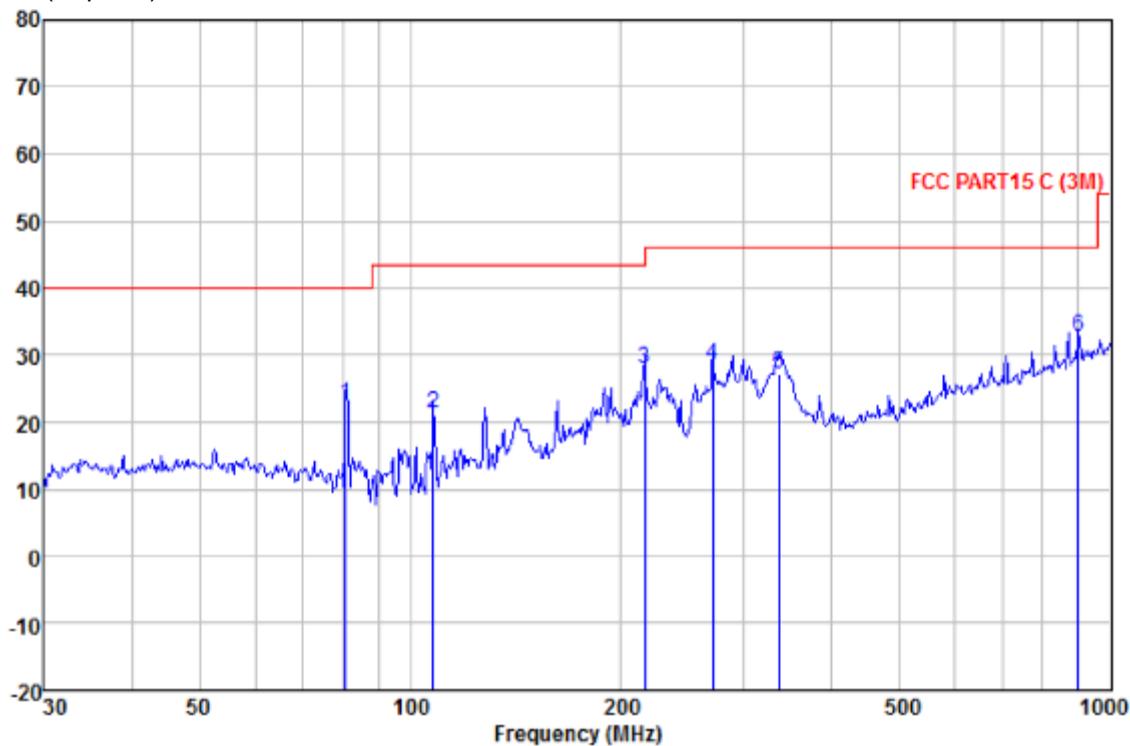
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq MHz	Read	Antenna Level	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Over Remark
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
46.995	31.52	14.34	1.24	27.00	20.10	40.00	-19.90	QP
80.927	36.27	9.47	1.70	27.00	20.44	40.00	-19.56	QP
127.665	35.59	11.71	2.14	26.88	22.56	43.50	-20.94	QP
162.041	33.00	13.62	2.38	26.77	22.23	43.50	-21.27	QP
270.375	36.13	13.21	3.20	26.40	26.14	46.00	-19.86	QP
771.449	31.02	22.18	5.50	27.99	30.71	46.00	-15.29	QP

**Horizontal:**

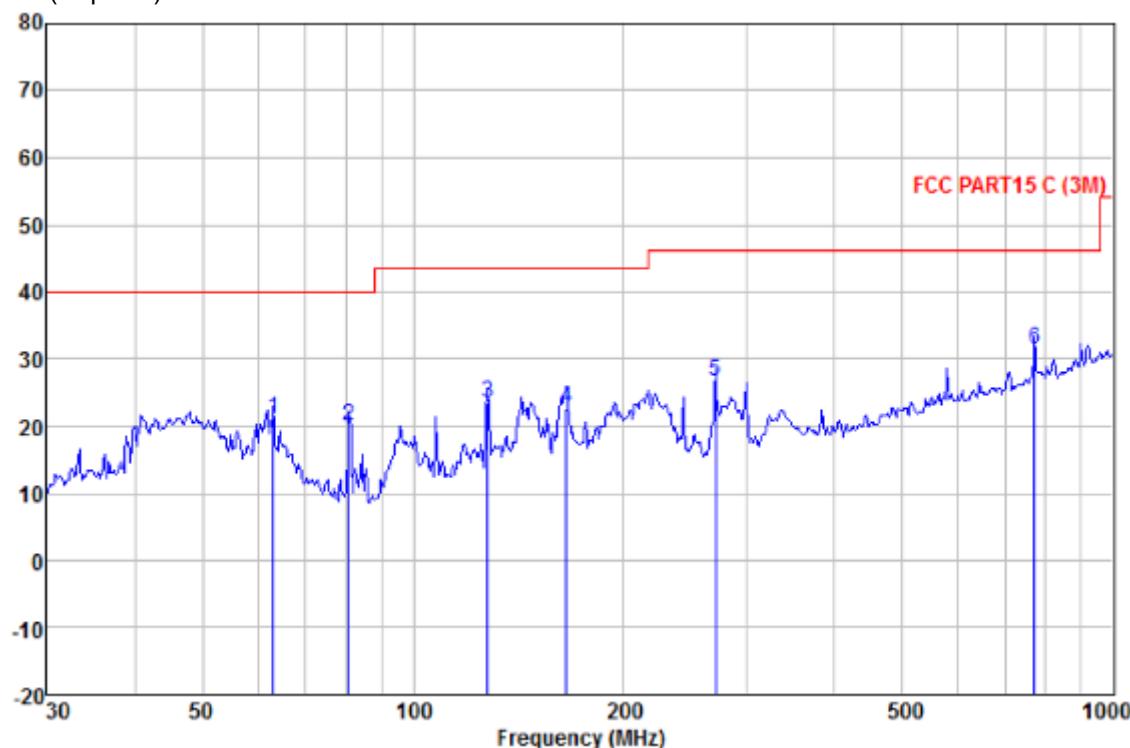
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.61	9.47	1.70	27.00	22.78	40.00	-17.22	QP
107.888	36.42	9.86	1.90	26.90	21.28	43.50	-22.22	QP
216.024	40.47	11.20	2.80	26.54	27.93	46.00	-18.07	QP
270.375	38.63	13.21	3.20	26.40	28.64	46.00	-17.36	QP
336.035	35.47	14.63	3.61	26.63	27.08	46.00	-18.92	QP
900.147	31.20	23.40	5.90	27.70	32.80	46.00	-13.20	QP

**Test at Channel 9 (2.452 GHz) in transmitting status****30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement****Vertical:**

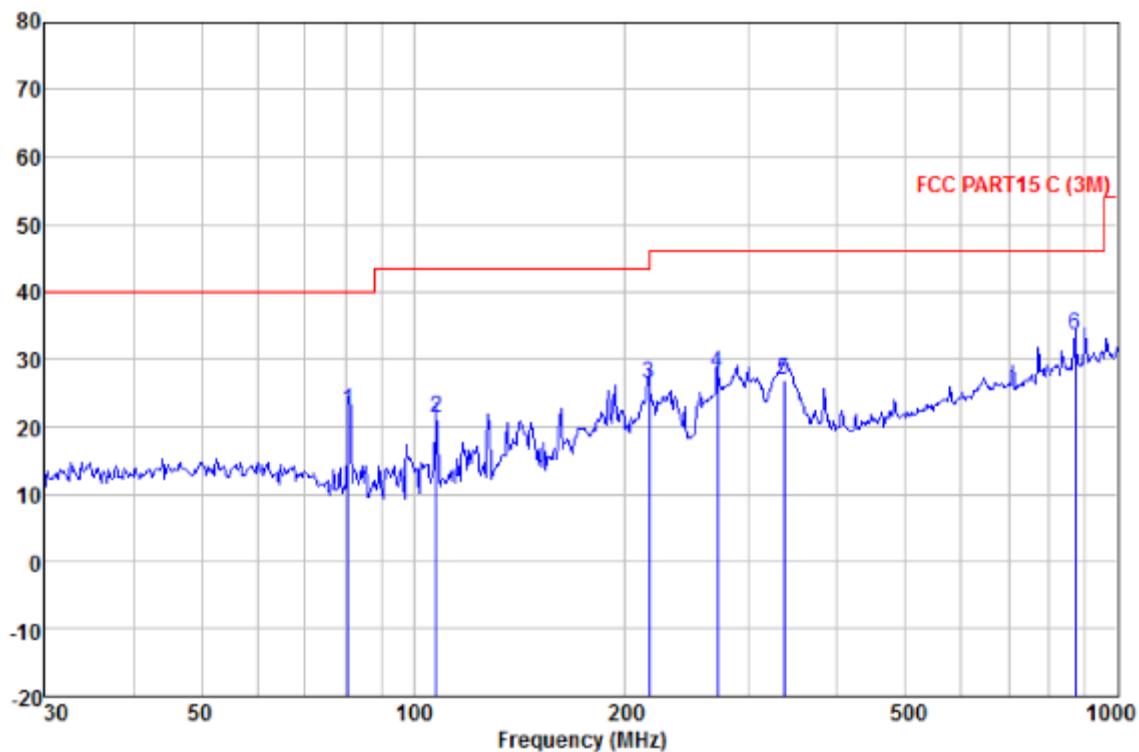
Peak scan

Level (dB $\mu$ V/m)**Quasi-peak measurement**

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
63.092	32.79	13.75	1.45	27.00	20.99	40.00	-19.01	QP
80.927	35.96	9.47	1.70	27.00	20.13	40.00	-19.87	QP
127.665	36.51	11.71	2.14	26.88	23.48	43.50	-20.02	QP
165.487	33.65	13.47	2.41	26.75	22.78	43.50	-20.72	QP
270.375	36.61	13.21	3.20	26.40	26.62	46.00	-19.38	QP
771.449	31.66	22.18	5.50	27.99	31.35	46.00	-14.65	QP

**Horizontal:**

Peak scan

Level (dB $\mu$ V/m)

## Quasi-peak measurement

Freq MHz	Read	Antenna	Cable	Preamp	Limit Level dB $\mu$ V/m	Line dB $\mu$ V/m	Over Limit dB	Remark
	Level	Factor	Loss	Factor				
MHz	dB $\mu$ V	dB/m	dB	dB	dB $\mu$ V/m	dB $\mu$ V/m	dB	
80.927	38.33	9.47	1.70	27.00	22.50	40.00	-17.50	QP
107.888	36.49	9.86	1.90	26.90	21.35	43.50	-22.15	QP
216.024	39.03	11.20	2.80	26.54	26.49	46.00	-19.51	QP
270.375	38.06	13.21	3.20	26.40	28.07	46.00	-17.93	QP
336.035	35.20	14.63	3.61	26.63	26.81	46.00	-19.19	QP
869.130	32.38	23.17	5.87	27.82	33.60	46.00	-12.40	QP

**Above 1GHz Field Strength of Unwanted Emissions. Peak and Average Measurement****802.11b mode with 11Mbps data rate****Test at Channel 1 (2.412 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	40.53	28.00	6.80	39.07	36.26	74.00	Vertical
2390.000	40.11	28.15	6.87	39.10	36.03	74.00	V
2483.500	40.22	28.28	7.07	39.14	36.43	74.00	V
2500.000	40.55	28.30	7.10	39.14	36.81	74.00	V
2310.000	39.62	28.00	6.80	39.07	35.35	74.00	Horizontal
2390.000	39.60	28.15	6.87	39.10	35.52	74.00	H
2483.500	40.74	28.28	7.07	39.14	36.95	74.00	H
2500.000	39.71	28.30	7.10	39.14	35.97	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	26.13	28.00	6.80	39.07	21.86	54.00	Vertical
2390.000	26.33	28.15	6.87	39.10	22.25	54.00	V
2483.500	27.77	28.28	7.07	39.14	23.98	54.00	V
2500.000	27.05	28.30	7.10	39.14	23.31	54.00	V
2310.000	27.14	28.00	6.80	39.07	22.87	54.00	Horizontal
2390.000	27.94	28.15	6.87	39.10	23.86	54.00	H
2483.500	28.77	28.28	7.07	39.14	24.98	54.00	H
2500.000	27.46	28.30	7.10	39.14	23.72	54.00	H

**Test at Channel 6 (2.437 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	39.60	28.00	6.80	39.07	35.33	74.00	Vertical
2390.000	40.02	28.15	6.87	39.10	35.94	74.00	V
2483.500	40.33	28.28	7.07	39.14	36.54	74.00	V
2500.000	39.95	28.30	7.10	39.14	36.21	74.00	V
2310.000	40.10	28.00	6.80	39.07	35.83	74.00	Horizontal
2390.000	39.58	28.15	6.87	39.10	35.50	74.00	H
2483.500	39.78	28.28	7.07	39.14	35.99	74.00	H
2500.000	39.71	28.30	7.10	39.14	35.97	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	28.34	28.00	6.80	39.07	24.07	54.00	Vertical
2390.000	29.20	28.15	6.87	39.10	25.12	54.00	V
2483.500	29.70	28.28	7.07	39.14	25.91	54.00	V
2500.000	28.70	28.30	7.10	39.14	24.96	54.00	V
2310.000	27.43	28.00	6.80	39.07	23.16	54.00	Horizontal
2390.000	28.64	28.15	6.87	39.10	24.56	54.00	H
2483.500	27.00	28.28	7.07	39.14	23.21	54.00	H
2500.000	28.08	28.30	7.10	39.14	24.34	54.00	H

**Test at Channel 11 (2.462 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	41.49	28.00	6.80	39.07	37.22	74.00	Vertical
2390.000	41.44	28.15	6.87	39.10	37.36	74.00	V
2483.500	41.10	28.28	7.07	39.14	37.31	74.00	V
2500.000	40.11	28.30	7.10	39.14	36.37	74.00	V
2310.000	40.86	28.00	6.80	39.07	36.59	74.00	Horizontal
2390.000	39.77	28.15	6.87	39.10	35.69	74.00	H
2483.500	40.16	28.28	7.07	39.14	36.37	74.00	H
2500.000	40.07	28.30	7.10	39.14	36.33	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	26.63	28.00	6.80	39.07	22.36	54.00	Vertical
2390.000	27.13	28.15	6.87	39.10	23.05	54.00	V
2483.500	27.25	28.28	7.07	39.14	23.46	54.00	V
2500.000	27.30	28.30	7.10	39.14	23.56	54.00	V
2310.000	27.79	28.00	6.80	39.07	23.52	54.00	Horizontal
2390.000	29.08	28.15	6.87	39.10	25.00	54.00	H
2483.500	27.81	28.28	7.07	39.14	24.02	54.00	H
2500.000	27.47	28.30	7.10	39.14	23.73	54.00	H

**802.11g mode with 54Mbps data rate**

**Test at Channel 1 (2.412 GHz) in transmitting status**

**Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	39.61	28.00	6.80	39.07	35.34	74.00	Vertical
2390.000	39.33	28.15	6.87	39.10	35.25	74.00	V
2483.500	40.31	28.28	7.07	39.14	36.52	74.00	V
2500.000	40.84	28.30	7.10	39.14	37.10	74.00	V
2310.000	40.23	28.00	6.80	39.07	35.96	74.00	Horizontal
2390.000	39.60	28.15	6.87	39.10	35.52	74.00	H
2483.500	40.80	28.28	7.07	39.14	37.01	74.00	H
2500.000	39.13	28.30	7.10	39.14	35.39	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	27.46	28.00	6.80	39.07	23.19	54.00	Vertical
2390.000	27.83	28.15	6.87	39.10	23.75	54.00	V
2483.500	28.57	28.28	7.07	39.14	24.78	54.00	V
2500.000	28.96	28.30	7.10	39.14	25.22	54.00	V
2310.000	26.57	28.00	6.80	39.07	22.30	54.00	Horizontal
2390.000	27.56	28.15	6.87	39.10	23.48	54.00	H
2483.500	28.44	28.28	7.07	39.14	24.65	54.00	H
2500.000	29.10	28.30	7.10	39.14	25.36	54.00	H

**Test at Channel 6 (2.437 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	40.30	28.00	6.80	39.07	36.03	74.00	Vertical
2390.000	41.32	28.15	6.87	39.10	37.24	74.00	V
2483.500	39.89	28.28	7.07	39.14	36.10	74.00	V
2500.000	40.02	28.30	7.10	39.14	36.28	74.00	V
2310.000	40.08	28.00	6.80	39.07	35.81	74.00	Horizontal
2390.000	40.81	28.15	6.87	39.10	36.73	74.00	H
2483.500	39.57	28.28	7.07	39.14	35.78	74.00	H
2500.000	40.13	28.30	7.10	39.14	36.39	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	26.31	28.00	6.80	39.07	22.04	54.00	Vertical
2390.000	27.50	28.15	6.87	39.10	23.42	54.00	V
2483.500	27.85	28.28	7.07	39.14	24.06	54.00	V
2500.000	26.24	28.30	7.10	39.14	22.50	54.00	V
2310.000	26.93	28.00	6.80	39.07	22.66	54.00	Horizontal
2390.000	27.67	28.15	6.87	39.10	23.59	54.00	H
2483.500	28.49	28.28	7.07	39.14	24.70	54.00	H
2500.000	28.13	28.30	7.10	39.14	24.39	54.00	H

**Test at Channel 11 (2.462 GHz) in transmitting status**

**Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	39.47	28.00	6.80	39.07	35.20	74.00	Vertical
2390.000	39.95	28.15	6.87	39.10	35.87	74.00	V
2483.500	39.95	28.28	7.07	39.14	36.16	74.00	V
2500.000	39.66	28.30	7.10	39.14	35.92	74.00	V
2310.000	41.21	28.00	6.80	39.07	36.94	74.00	Horizontal
2390.000	40.25	28.15	6.87	39.10	36.17	74.00	H
2483.500	39.65	28.28	7.07	39.14	35.86	74.00	H
2500.000	39.32	28.30	7.10	39.14	35.58	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	27.54	28.00	6.80	39.07	23.27	54.00	Vertical
2390.000	29.01	28.15	6.87	39.10	24.93	54.00	V
2483.500	28.85	28.28	7.07	39.14	25.06	54.00	V
2500.000	27.87	28.30	7.10	39.14	24.13	54.00	V
2310.000	26.68	28.00	6.80	39.07	22.41	54.00	Horizontal
2390.000	27.17	28.15	6.87	39.10	23.09	54.00	H
2483.500	27.44	28.28	7.07	39.14	23.65	54.00	H
2500.000	28.29	28.30	7.10	39.14	24.55	54.00	H

**802.11n(HT20) mode with 72.2Mbps data rate**

**Test at Channel 1 (2.412 GHz) in transmitting status**

**Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	39.93	28.00	6.80	39.07	35.66	74.00	Vertical
2390.000	39.84	28.15	6.87	39.10	35.76	74.00	V
2483.500	40.26	28.28	7.07	39.14	36.47	74.00	V
2500.000	39.04	28.30	7.10	39.14	35.30	74.00	V
2310.000	39.91	28.00	6.80	39.07	35.64	74.00	Horizontal
2390.000	39.58	28.15	6.87	39.10	35.50	74.00	H
2483.500	41.15	28.28	7.07	39.14	37.36	74.00	H
2500.000	40.42	28.30	7.10	39.14	36.68	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	27.32	28.00	6.80	39.07	23.05	54.00	Vertical
2390.000	27.64	28.15	6.87	39.10	23.56	54.00	V
2483.500	28.03	28.28	7.07	39.14	24.24	54.00	V
2500.000	27.08	28.30	7.10	39.14	23.34	54.00	V
2310.000	27.41	28.00	6.80	39.07	23.14	54.00	Horizontal
2390.000	28.24	28.15	6.87	39.10	24.16	54.00	H
2483.500	28.68	28.28	7.07	39.14	24.89	54.00	H
2500.000	27.93	28.30	7.10	39.14	24.19	54.00	H

**Test at Channel 6 (2.437 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	40.60	28.00	6.80	39.07	36.33	74.00	Vertical
2390.000	40.99	28.15	6.87	39.10	36.91	74.00	V
2483.500	39.95	28.28	7.07	39.14	36.16	74.00	V
2500.000	40.51	28.30	7.10	39.14	36.77	74.00	V
2310.000	40.36	28.00	6.80	39.07	36.09	74.00	Horizontal
2390.000	40.22	28.15	6.87	39.10	36.14	74.00	H
2483.500	41.31	28.28	7.07	39.14	37.52	74.00	H
2500.000	40.39	28.30	7.10	39.14	36.65	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	26.32	28.00	6.80	39.07	22.05	54.00	Vertical
2390.000	27.74	28.15	6.87	39.10	23.66	54.00	V
2483.500	27.80	28.28	7.07	39.14	24.01	54.00	V
2500.000	26.19	28.30	7.10	39.14	22.45	54.00	V
2310.000	25.51	28.00	6.80	39.07	21.24	54.00	Horizontal
2390.000	26.63	28.15	6.87	39.10	22.55	54.00	H
2483.500	27.60	28.28	7.07	39.14	23.81	54.00	H
2500.000	28.17	28.30	7.10	39.14	24.43	54.00	H

**Test at Channel 11 (2.462 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	39.90	28.00	6.80	39.07	35.63	74.00	Vertical
2390.000	41.12	28.15	6.87	39.10	37.04	74.00	V
2483.500	40.35	28.28	7.07	39.14	36.56	74.00	V
2500.000	40.82	28.30	7.10	39.14	37.08	74.00	V
2310.000	40.03	28.00	6.80	39.07	35.76	74.00	Horizontal
2390.000	39.73	28.15	6.87	39.10	35.65	74.00	H
2483.500	39.57	28.28	7.07	39.14	35.78	74.00	H
2500.000	39.32	28.30	7.10	39.14	35.58	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	26.43	28.00	6.80	39.07	22.16	54.00	Vertical
2390.000	28.39	28.15	6.87	39.10	24.31	54.00	V
2483.500	28.27	28.28	7.07	39.14	24.48	54.00	V
2500.000	28.76	28.30	7.10	39.14	25.02	54.00	V
2310.000	25.81	28.00	6.80	39.07	21.54	54.00	Horizontal
2390.000	26.95	28.15	6.87	39.10	22.87	54.00	H
2483.500	27.22	28.28	7.07	39.14	23.43	54.00	H
2500.000	27.40	28.30	7.10	39.14	23.66	54.00	H

**802.11n(HT40) mode with 150Mbps data rate****Test at Channel 3 (2.422 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	46.69	28.00	6.80	39.07	42.42	74.00	Vertical
2390.000	44.62	28.15	6.87	39.10	40.54	74.00	V
2483.500	40.86	28.28	7.07	39.14	37.07	74.00	V
2500.000	43.98	28.30	7.10	39.14	40.24	74.00	V
2310.000	39.78	28.00	6.80	39.07	35.51	74.00	Horizontal
2390.000	41.81	28.15	6.87	39.10	37.73	74.00	H
2483.500	42.94	28.28	7.07	39.14	39.15	74.00	H
2500.000	40.95	28.30	7.10	39.14	37.21	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	31.69	28.00	6.80	39.07	27.42	54.00	Vertical
2390.000	33.32	28.15	6.87	39.10	29.24	54.00	V
2483.500	30.70	28.28	7.07	39.14	26.91	54.00	V
2500.000	31.89	28.30	7.10	39.14	28.15	54.00	V
2310.000	26.45	28.00	6.80	39.07	22.18	54.00	Horizontal
2390.000	28.79	28.15	6.87	39.10	24.71	54.00	H
2483.500	29.88	28.28	7.07	39.14	26.09	54.00	H
2500.000	28.81	28.30	7.10	39.14	25.07	54.00	H

**Test at Channel 6 (2.437 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	41.07	28.00	6.80	39.07	36.80	74.00	Vertical
2390.000	40.94	28.15	6.87	39.10	36.86	74.00	V
2483.500	40.33	28.28	7.07	39.14	36.54	74.00	V
2500.000	39.91	28.30	7.10	39.14	36.17	74.00	V
2310.000	40.08	28.00	6.80	39.07	35.81	74.00	Horizontal
2390.000	40.94	28.15	6.87	39.10	36.86	74.00	H
2483.500	39.21	28.28	7.07	39.14	35.42	74.00	H
2500.000	40.01	28.30	7.10	39.14	36.27	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	29.30	28.00	6.80	39.07	25.03	54.00	Vertical
2390.000	30.41	28.15	6.87	39.10	26.33	54.00	V
2483.500	27.87	28.28	7.07	39.14	24.08	54.00	V
2500.000	29.46	28.30	7.10	39.14	25.72	54.00	V
2310.000	26.38	28.00	6.80	39.07	22.11	54.00	Horizontal
2390.000	27.22	28.15	6.87	39.10	23.14	54.00	H
2483.500	27.77	28.28	7.07	39.14	23.98	54.00	H
2500.000	29.24	28.30	7.10	39.14	25.50	54.00	H

**Test at Channel 9 (2.452 GHz) in transmitting status****Peak Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	49.32	28.00	6.80	39.07	45.05	74.00	Vertical
2390.000	45.67	28.15	6.87	39.10	41.59	74.00	V
2483.500	44.65	28.28	7.07	39.14	40.86	74.00	V
2500.000	45.37	28.30	7.10	39.14	41.63	74.00	V
2310.000	42.00	28.00	6.80	39.07	37.73	74.00	Horizontal
2390.000	45.65	28.15	6.87	39.10	41.57	74.00	H
2483.500	43.39	28.28	7.07	39.14	39.60	74.00	H
2500.000	43.84	28.30	7.10	39.14	40.10	74.00	H

**Average Measurement:**

Frequency (MHz)	Reading Level (dB $\mu$ V)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Antenna polarization
2310.000	31.54	28.00	6.80	39.07	27.27	54.00	Vertical
2390.000	32.38	28.15	6.87	39.10	28.30	54.00	V
2483.500	32.56	28.28	7.07	39.14	28.77	54.00	V
2500.000	33.59	28.30	7.10	39.14	29.85	54.00	V
2310.000	29.62	28.00	6.80	39.07	25.35	54.00	Horizontal
2390.000	30.33	28.15	6.87	39.10	26.25	54.00	H
2483.500	31.64	28.28	7.07	39.14	27.85	54.00	H
2500.000	32.86	28.30	7.10	39.14	29.12	54.00	H

## 7.8 Band Edges Requirement

Test Requirement: FCC Part 15 C section 15.247

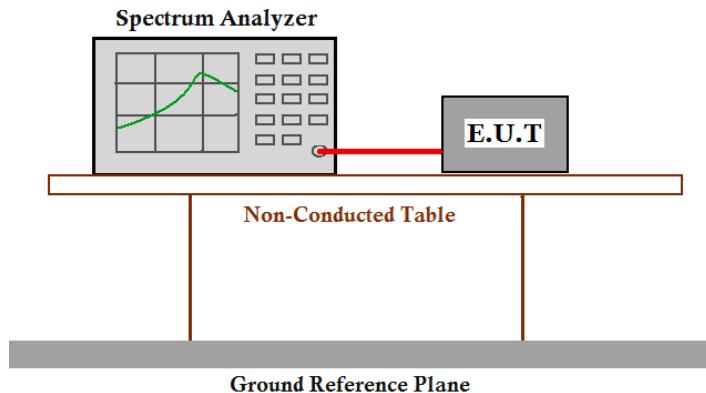
(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating. The radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains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

Frequency Band: 2400 MHz to 2483.5 MHz

Test Method: ANSI C63.10: Clause 11.13

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set instrument center frequency to the frequency of the emission to be measured(must be within 2MHz of the authorized band edge).
3. Set span to 2MHz,
4. RBW=100kHz,
5.  $VBW \geq 3 \times RBW$
6. Detector=peak
7. Sweep time =auto,
8. Trace mode=max hold.
9. Allow sweep to continue until the trace stabilizes(required measurement time may increase for low duty cycle applications)
10. Compute the power by integrating the spectrum over 1MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency( $f_{\text{emission}}$ ) $\pm 0.5\text{MHz}$ .If the instrument does not have a band power function,the sum the amplitude levels(in power units) at 100kHz intervals extending across the 1MHz spectrum defined by  $f_{\text{emission}}\pm 0.5\text{MHz}$ .

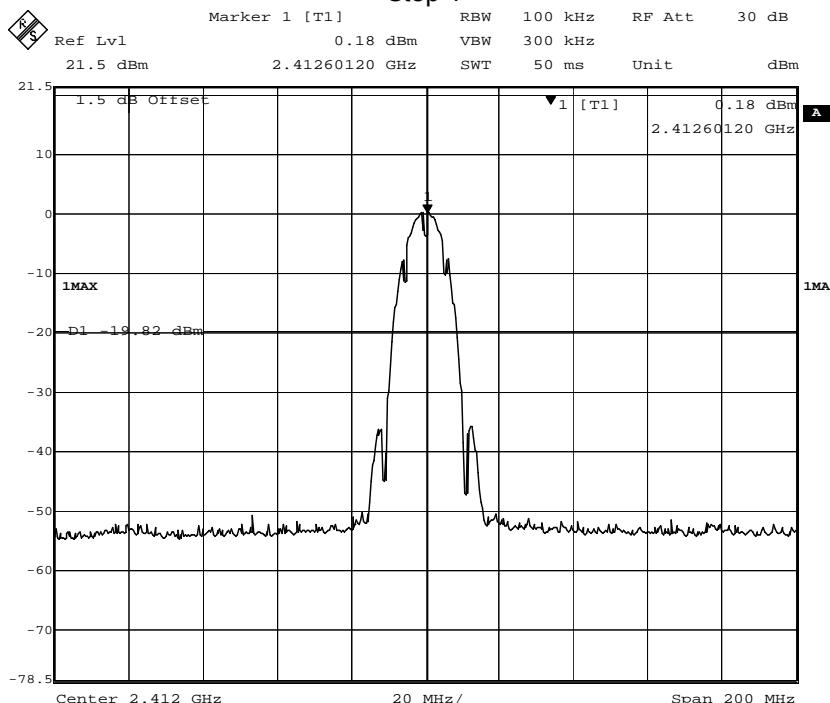
**Test result with plots as follows:**

Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 20dB  
 Compare with the output power of the highest frequency, the Upper Edges attenuated more than 20dB.

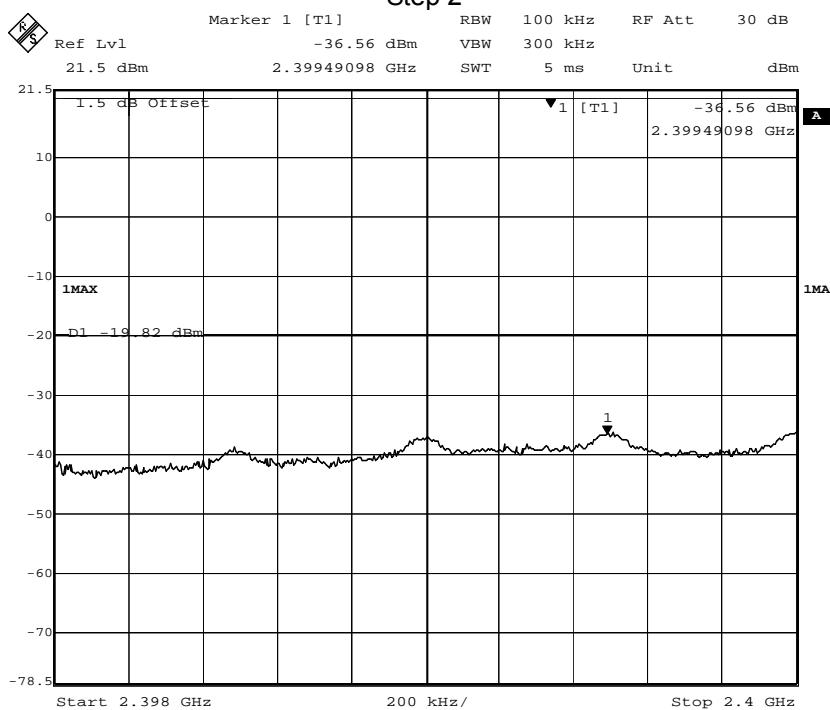
**802.11b mode with 11 Mbps data rate**

Channel1: 2.412 GHz

**Step 1**



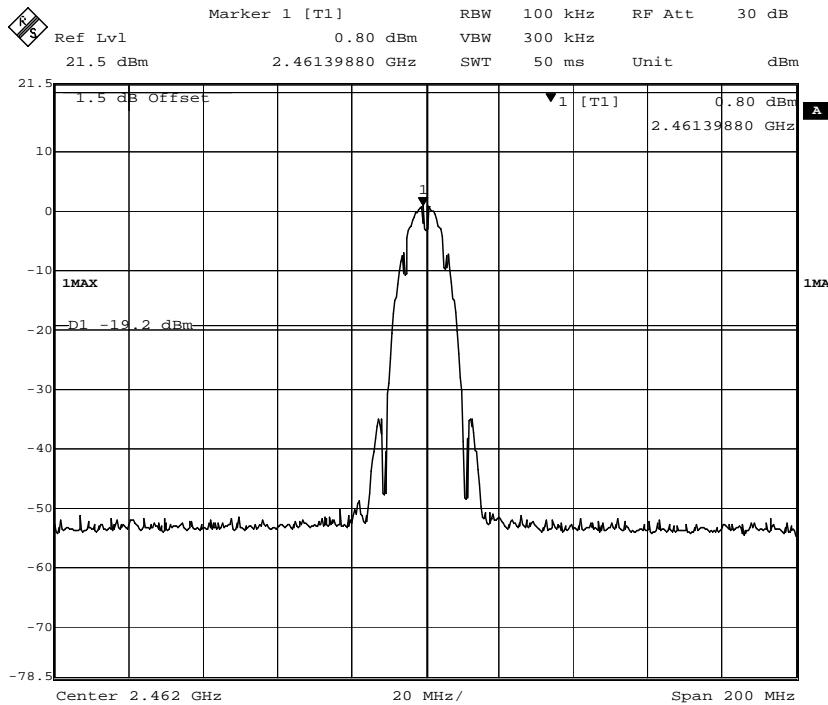
**Step 2**



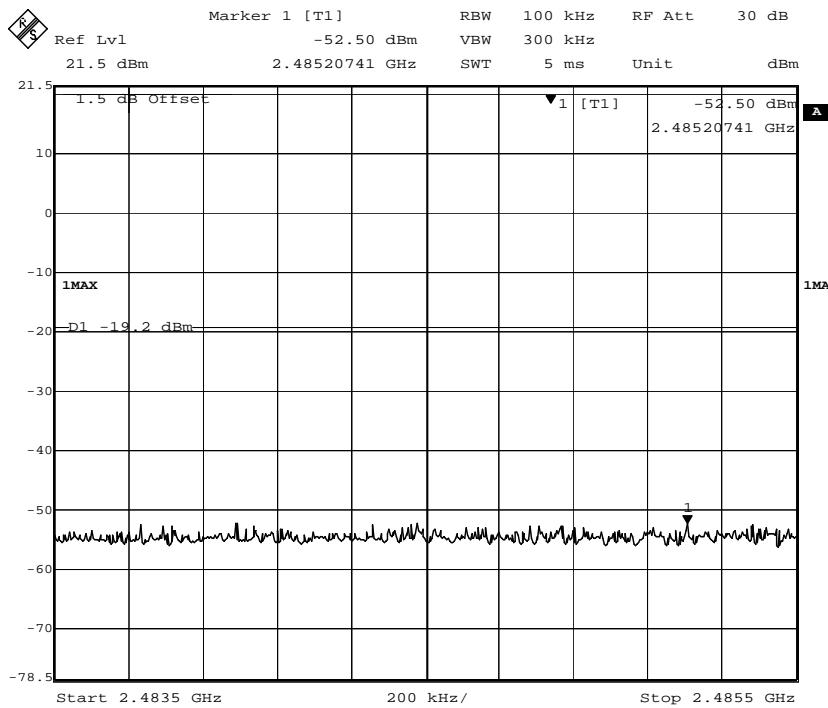
**802.11b mode with 11 Mbps data rate**

Channel11: 2.462 GHz

**Step 1**



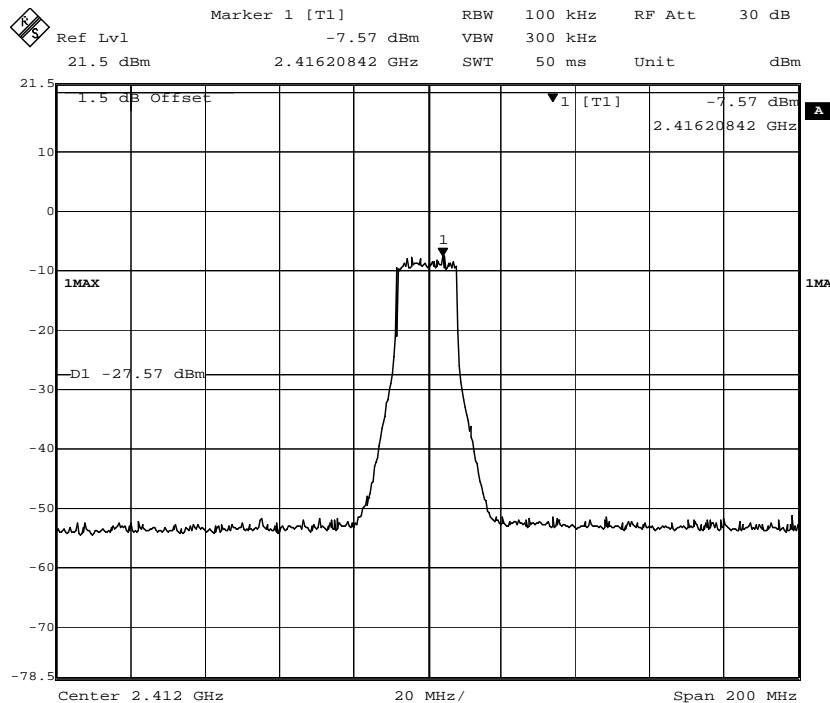
**Step 2**



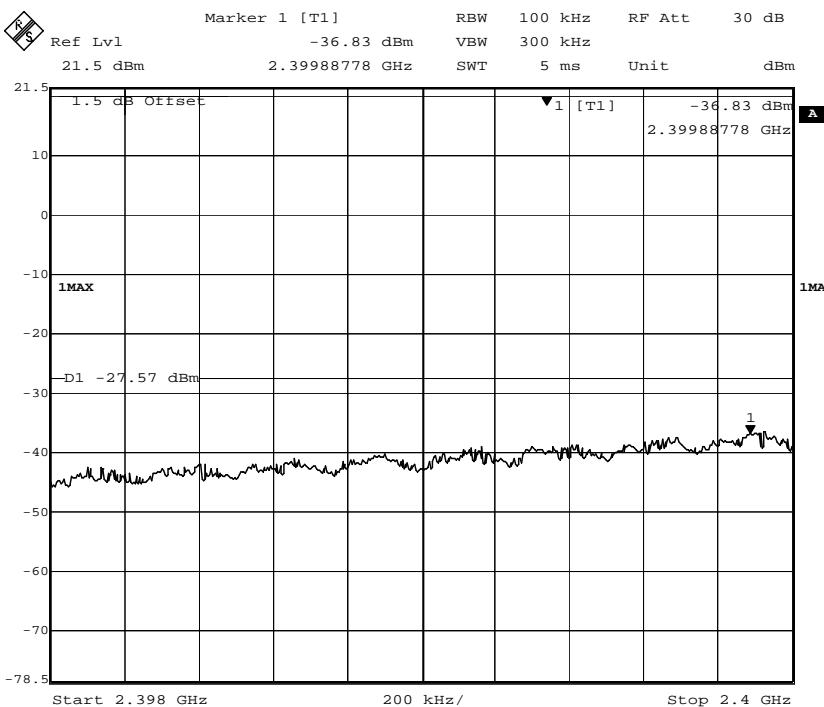
**802.11g mode with 54 Mbps data rate**

Channel11: 2.462 GHz

**Step 1**



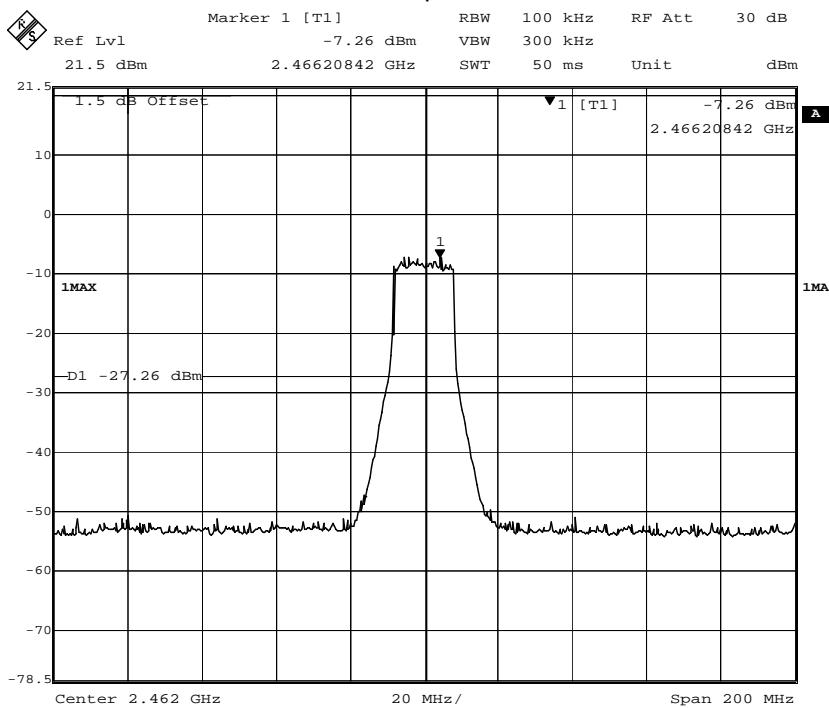
**Step 2**



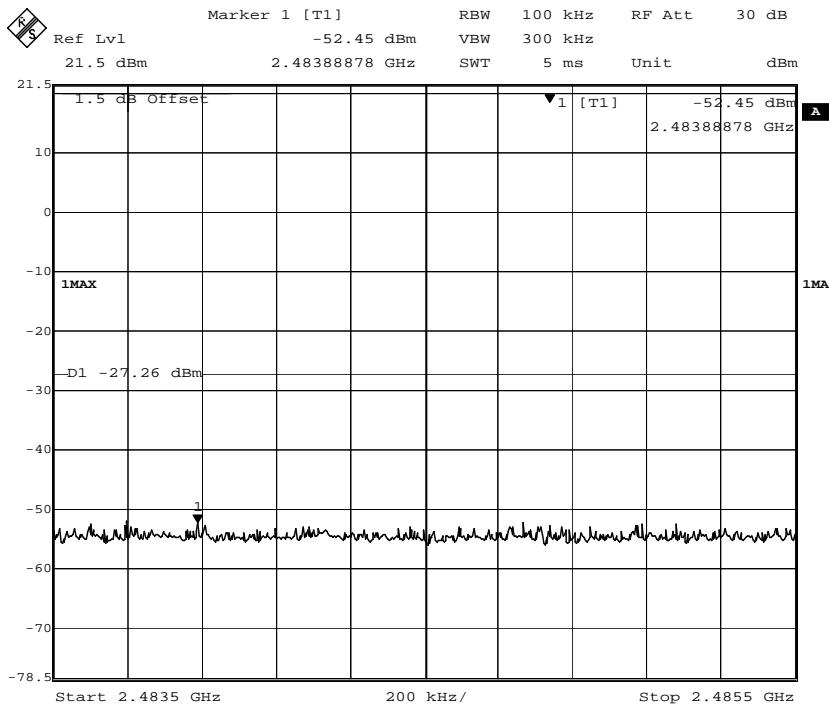
**802.11g mode with 54 Mbps data rate**

Channel11: 2.462 GHz

**Step 1**



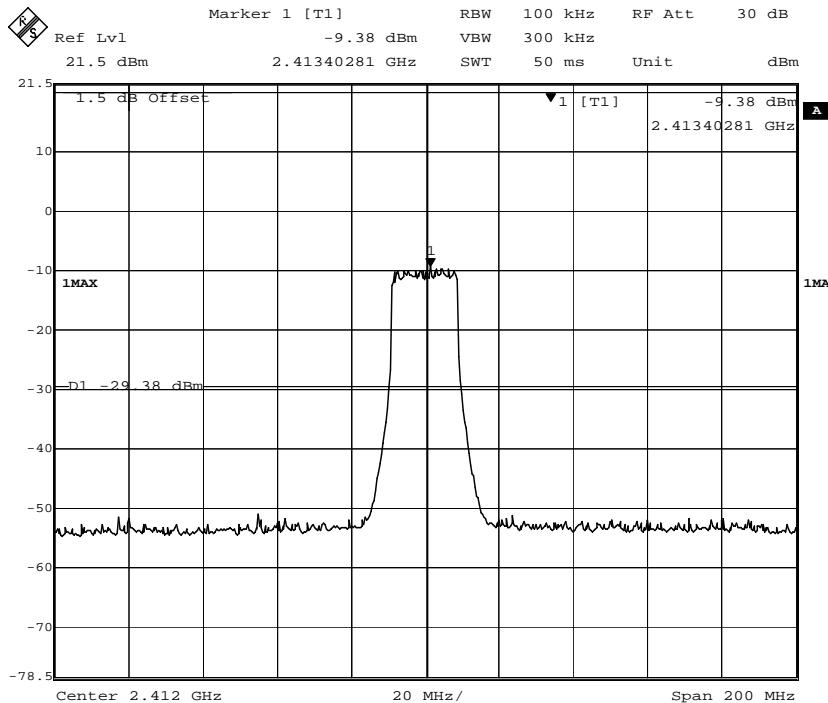
**Step 2**



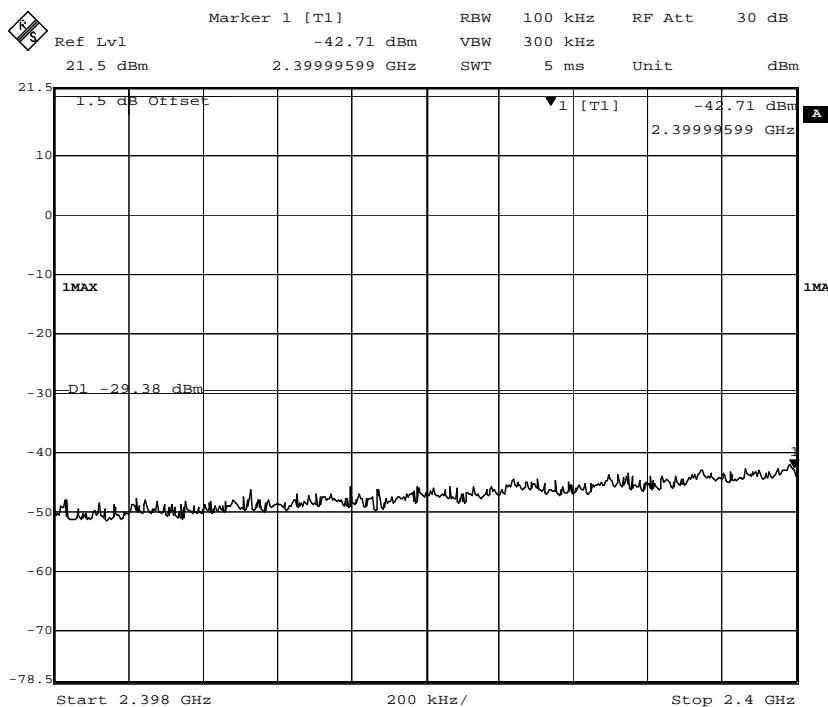
**802.11n(HT20) mode with 72.2Mbps data rate**

Channel1: 2.412 GHz

**Step 1**

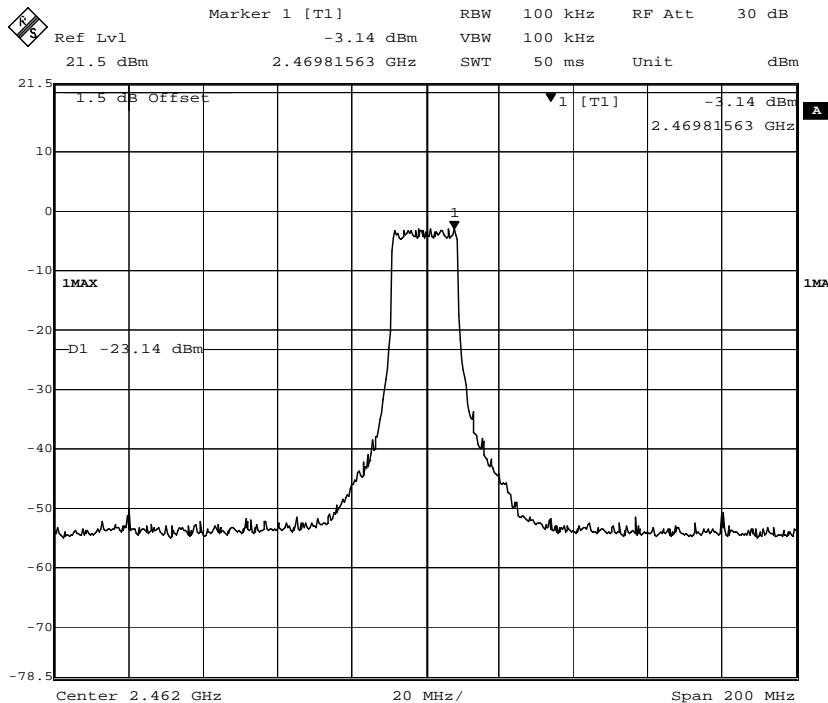
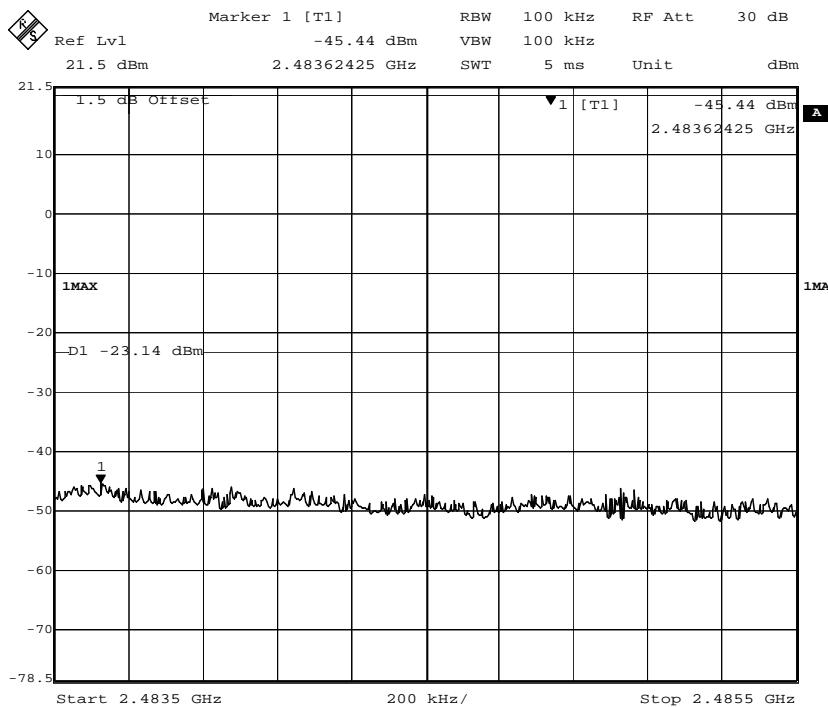


**Step 2**



**802.11n(HT20) mode with 72.2Mbps data rate**

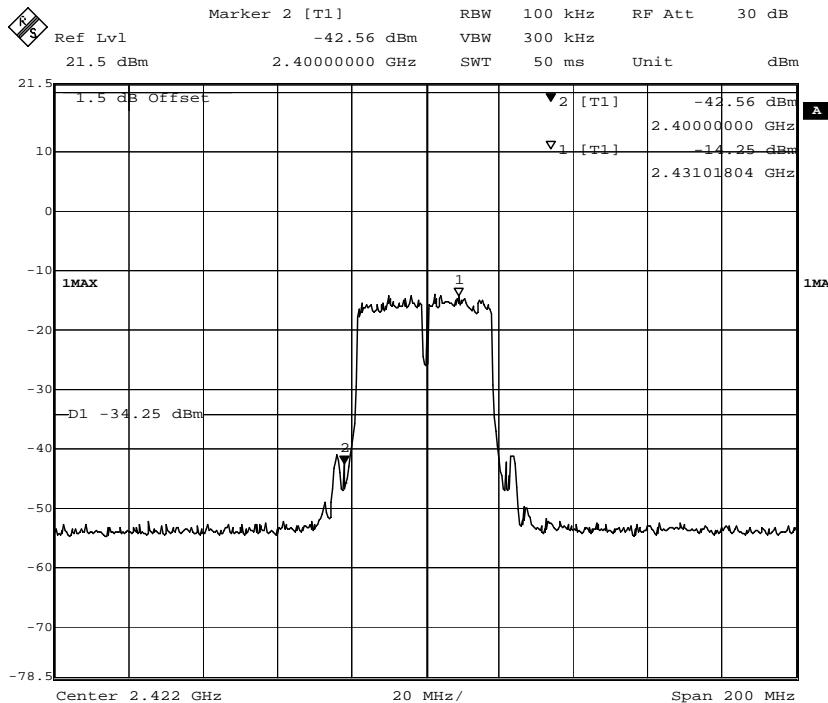
Channel11: 2.462 GHz

**Step 1****Step 2**

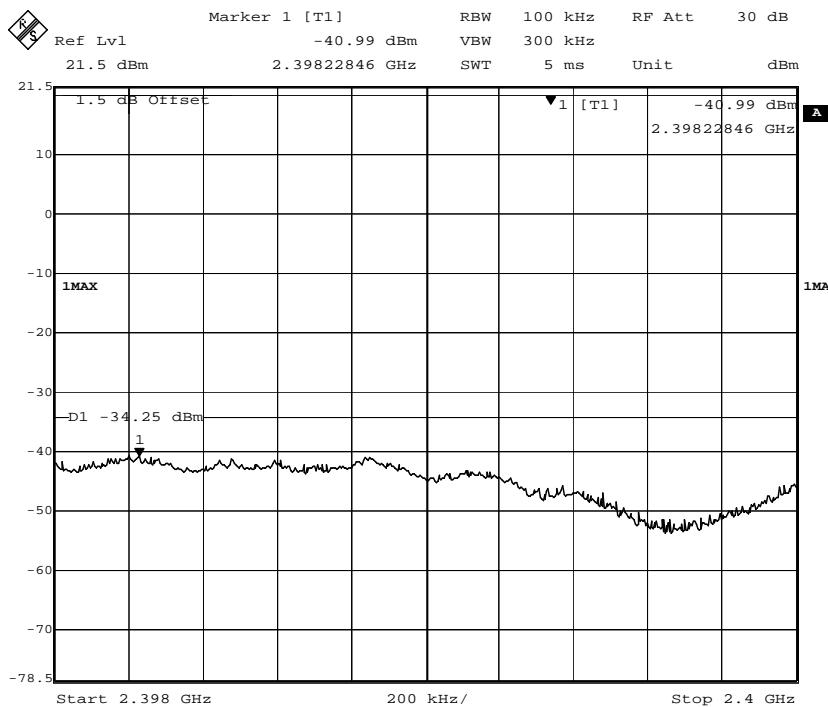
**802.11n(HT40) mode with 150Mbps data rate**

Channel 3: 2.422 GHz

**Step 1**



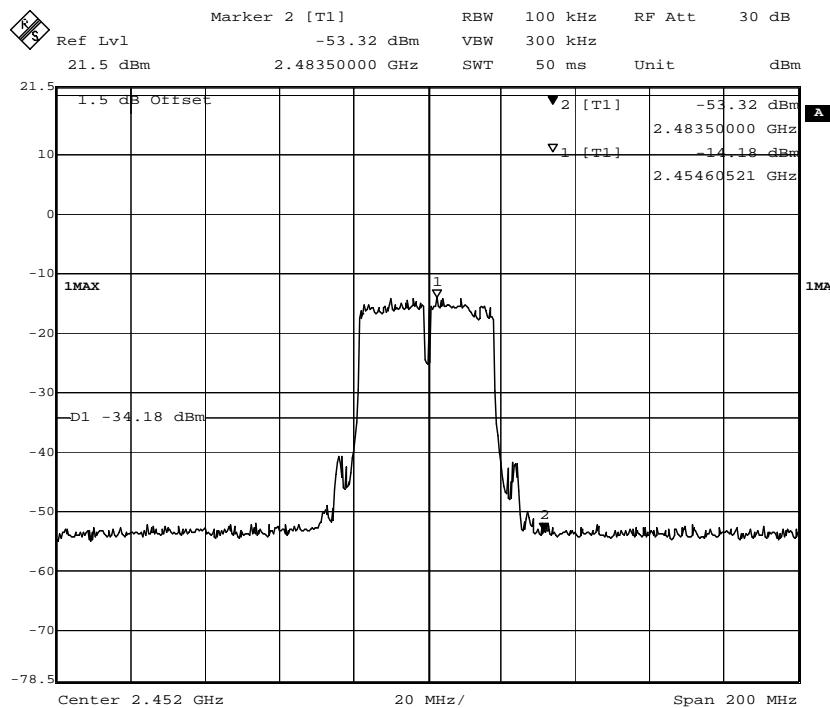
**Step 2**



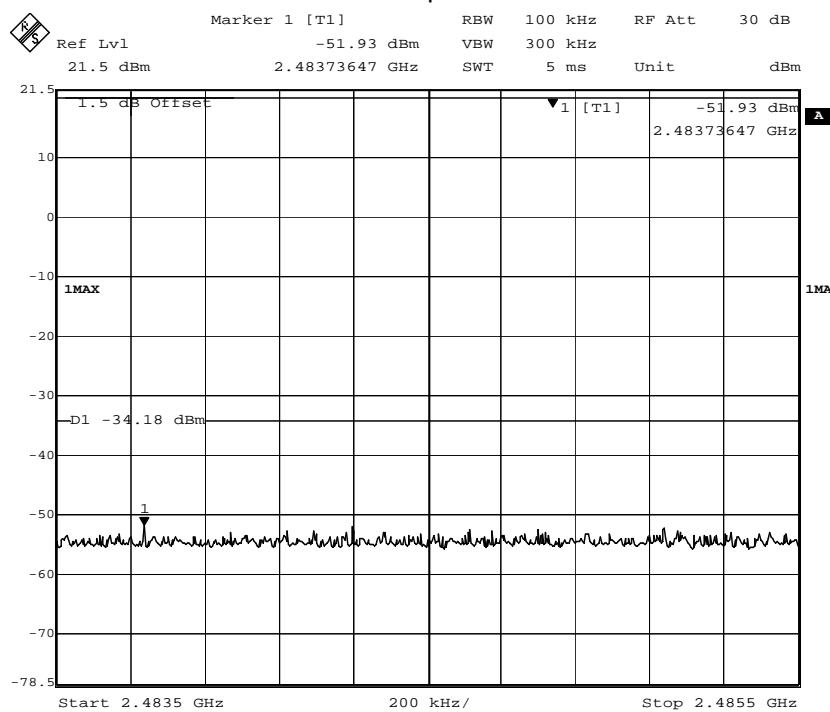
**802.11n(HT40) mode with 150Mbps data rate**

Channel 9: 2.452 GHz

**Step 1**



**Step 2**



## 7.1 Conducted Emissions at Mains Terminals 150 kHz to 30MHz

**Test Requirement:** FCC Part 15 C section 15.207  
**Test Method:** ANSI C63.10: Clause 6.2  
**Frequency Range:** 150 kHz to 30 MHz  
**Detector:** Peak for pre-scan (9kHz Resolution Bandwidth)

### Test Limit

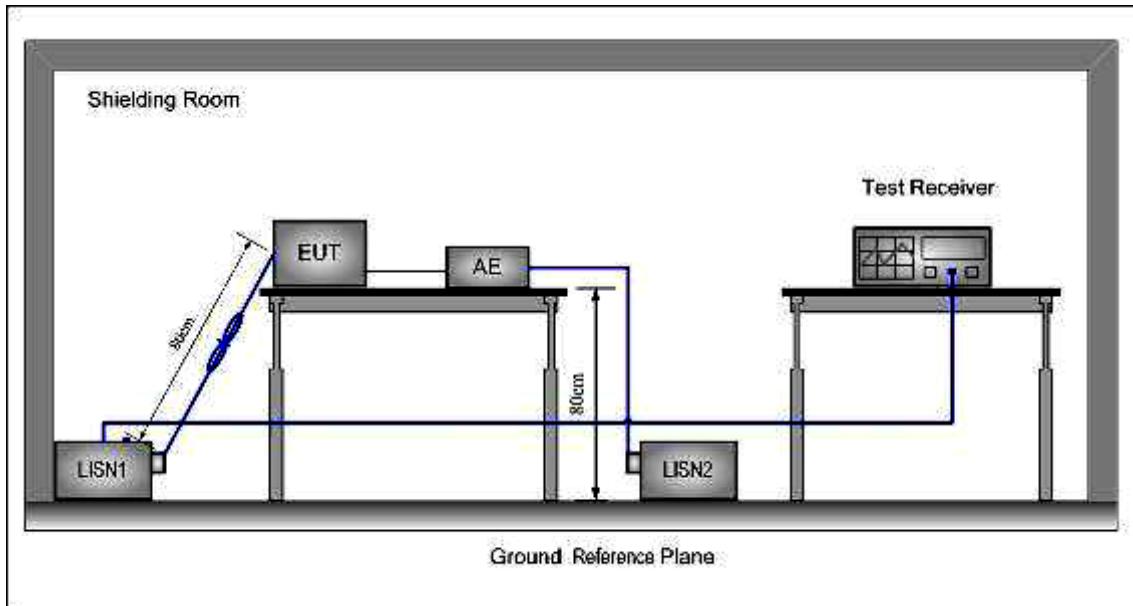
#### Limits for conducted disturbance at the mains ports of class B

Frequency Range (MHz)	Class B Limit (dBuV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

NOTE 1 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

**EUT Operation:** Test in normal operating mode. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.  
Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

## Test Configuration:



### Test procedure:

1. The mains terminal disturbance voltage test was conducted in a shielded room.
2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a  $50\Omega/50\mu\text{H} + 5\Omega$  linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

### 7.1.1 Measurement Data

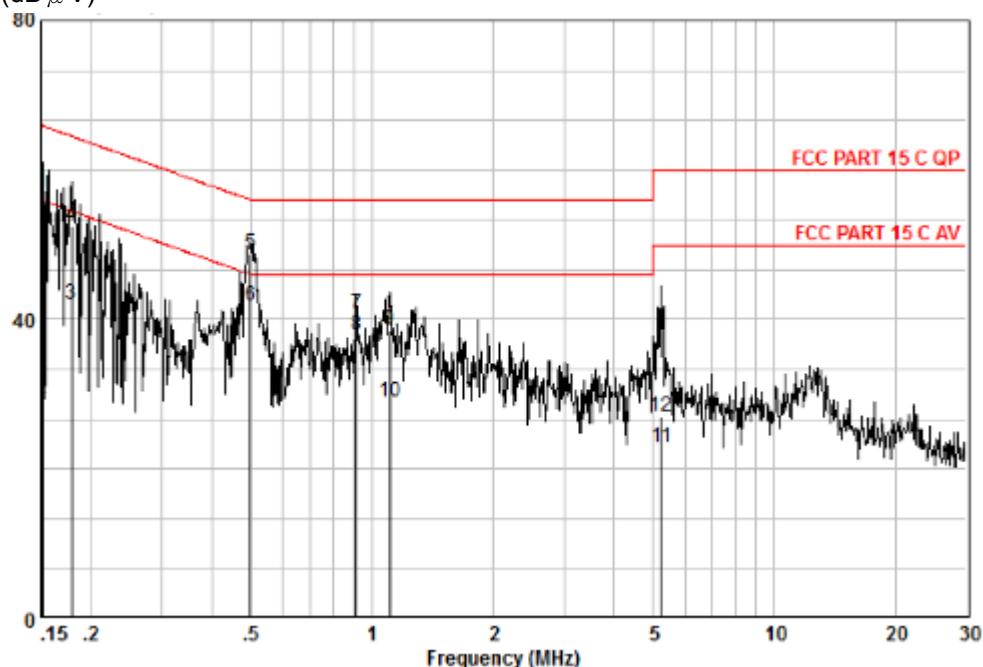
An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected. For EUT the communicating was worst case mode.

**The following Quasi-Peak and Average measurements were performed on the EUT:**

Live Line

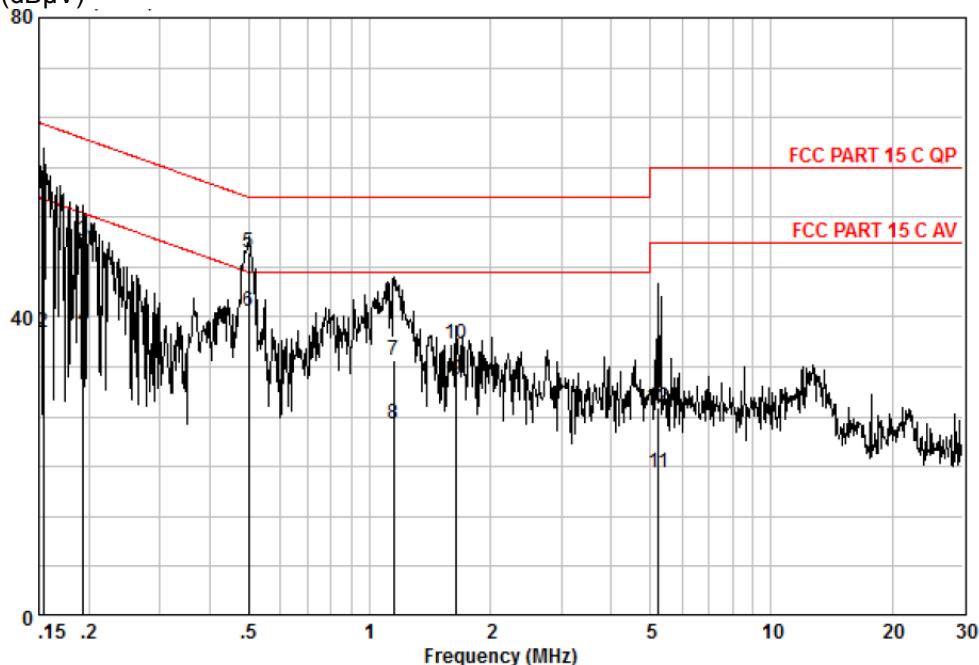
Level(dB  $\mu$  V)



Measure data:

Freq	Read	Cable	LISN	Limit	Over	Remark
	Level	Loss	Factor			
MHz	dB $\mu$ V	dB	dB	dB $\mu$ V	dB $\mu$ V	dB
0.151	47.30	0.10	9.70	57.10	65.96	-8.86 QP
0.151	19.55	0.10	9.70	29.35	55.96	-26.61 AVERAGE
0.179	32.26	0.10	9.69	42.05	54.55	-12.50 AVERAGE
0.179	42.78	0.10	9.69	52.57	64.55	-11.98 QP
0.497	38.87	0.20	9.71	48.78	56.05	-7.28 QP
0.497	31.84	0.20	9.71	41.75	46.05	-4.31 AVERAGE
0.914	30.71	0.29	9.70	40.70	56.00	-15.30 QP
0.914	27.91	0.29	9.70	37.90	46.00	-8.10 AVERAGE
1.106	28.46	0.30	9.71	38.47	56.00	-17.53 QP
1.106	19.01	0.30	9.71	29.02	46.00	-16.98 AVERAGE
5.249	12.42	0.69	9.76	22.88	50.00	-27.12 AVERAGE
5.249	16.60	0.69	9.76	27.06	60.00	-32.94 QP

Neutral Line

Level(dB $\mu$ V)

Measure data:

Freq MHz	Read Level dB $\mu$ V	Cable Loss dB	LISN Factor dB	Level dB $\mu$ V	Limit Line dB $\mu$ V	Over Limit dB	Remark
	Freq MHz	Read Level dB $\mu$ V	Cable Loss dB		Limit Line dB $\mu$ V	Over Limit dB	
0.154	47.30	0.10	9.56	56.96	65.78	-8.82	QP
0.154	28.25	0.10	9.56	37.91	55.78	-17.87	AVERAGE
0.193	40.56	0.10	9.57	50.23	63.89	-13.66	QP
0.193	28.89	0.10	9.57	38.56	53.89	-15.33	AVERAGE
0.499	38.91	0.20	9.54	48.65	56.01	-7.36	QP
0.499	30.98	0.20	9.54	40.72	46.01	-5.29	AVERAGE
1.147	24.42	0.30	9.57	34.29	56.00	-21.71	QP
1.147	15.78	0.30	9.57	25.65	46.00	-20.35	AVERAGE
1.645	21.72	0.33	9.56	31.61	46.00	-14.39	AVERAGE
1.645	26.41	0.33	9.56	36.30	56.00	-19.70	QP
5.249	8.95	0.69	9.63	19.27	50.00	-30.73	AVERAGE
5.249	17.66	0.69	9.63	27.98	60.00	-32.02	QP

--End of Report--