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

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FCC ID: 2AEZACAPSULE

TEST REPORT

Application No.:	GZEM1611007752CR
Applicant:	Guangzhou Bosma Technology Co., Ltd.
Address of Applicant:	Floor 2nd, Building A5, No. 11, Kaiyuan Avenue, Science Park, Guangzhou Hi-tech Industrial Development Zone, Guangzhou City, Guangdong Province, P.R.China
Manufacturer:	The Same as Applicant
Address of Manufacturer:	The Same as Applicant
Factory:	The Same as Applicant
Address of Factory:	The Same as Applicant
Product Description:	IP Camera
FCC ID:	2AEZACAPSULE
Model No.:	CapsuleCam
Trade Mark:	BOSMA
Standards:	47 CFR PART 15, Subpart C:2016 section 15.247
Date of Receipt:	2016-11-15
Date of Test:	2016-11-17 to 2016-12-24
Date of Issue:	2017-02-15
Test Result :	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Ricky Liu
Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2017-02-15		Original Report

Authorized for issue by:				
Tested By		Vico.Cui **(Vico Cui) /Project Engineer**		2016-11-17 to 2016-12-24 **Date**
Checked By		Ricky Liu **(Ricky Liu) / Reviewer**		2017-02-15 **Date**

2 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 Spurious Emission 30 MHz to 25 GHz)	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

Remark:
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.

3 Contents

4 General Information

4.1 Details of E.U.T.

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)
Transmit Data Rate:	802.11b :1/2/5.5/11 Mbps 802.11g :6/9/12/18/24/36/48/54 Mbps 802.11n(HT20): 7.2/14.4/21.7/28.9/43.3/57.8/65/72.2 Mbps 802.11n(HT40): 15/30/45/60/90/120/135/150 Mbps
Number of Channels	11 Channels for 802.11b/g/n(HT20) 7 Channels for 802.11n(HT40)
Channel Separation:	5 MHz
Antenna Type	dedicated antenna
Antenna gain:	4.0 dBi
Function:	Camera with Wi-Fi function for remote monitor
Test Software:	MT7601 USB V1.0.1.5 debugging tool
Power Supply:	DC 5.0V 1000mA from adapter
Adapter:	Model: SAW06B-050-1000U Input: AC 100-240V 50/60Hz 0.3A Output: DC 5V 1000mA
Cable:	1.9m x 2 wires unscreened DC output mains cable

4.2 Description of Support Units

The EUT has been tested with corresponding accessories as below:

Supplied by SGS:

Description	Manufacturer	Model No.	SN/Certificate NO
NoteBook	IBM	T40	99-FBAF9 03/09

Using the special software and development board we can enter the product for engineer mode then we can control the EUT to select the wanted channel for test. The test board and PC are only to configure the engineer mode and not used to final test.

4.3 Deviation from Standards

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

4.4 Abnormalities from Standard Conditions

None.

4.5 Other Information Requested by the Customer

None.

4.6 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.

4.7 Measurement Uncertainty

No.	Item	Measurement uncertainty
1	Conducted emission	1.02dB(9kHz to 150kHz)
		1.05dB(150kHz to 30MHz)
2	Radiated emission	5.06dB(30MHz to 1GHz)
		5.06dB(1GHz to 26GHz)

4.8 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, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

5 Equipment List

Conducted Emission						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date (YYYY-MM-DD)	Cal.Due date (YYYY-MM-DD)
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m^3	N/A	N/A	N/A
EMC0118	Two-line v-netwok	R&S	ENV216	100359	2017-01-20	2018-01-19
EMC0102	LISN	SCHAFFNER CHASE	MN2050D/1	1421	2016-09-20	2017-09-19
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	2016-12-02	2017-12-01
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

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	2016-12-04	2019-12-03
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2017-01-20	2018-01-19
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	100236	2017-01-20	2018-01-19
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	2017-01-20	2018-01-19
EMC2065	Amplifier	HP	8447F	N/A	2016-07-04	2017-07-03
EMC2086	PRE AMPLIFIER MH648A	ANRITSU CORP	MH648A	N/A	2016-12-02	2017-12-01
EMC2063	Pre-amplifier 1GHz-26GHz	Compliance Direction Systems Lnc.	PAP-1G26-48	6279.628	2016-12-02	2017-12-01
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	2017-01-20	2018-01-19
EMC2069	2.4GHz Filter	Micro-Tronics	BRM 50702	149	2017-01-20	2018-01-19
EMC0530	10m Semi-Anechoic Chamber	ETS	N/A	N/A	2016-04-30	2018-04-29

General used equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date (YYYY-MM-DD)	Cal.Due date (YYYY-MM-DD)
EMC0006	DMM	Fluke	73	70681569	2015-09-17	2016-09-16
EMC0007	DMM	Fluke	73	70671122	2015-09-17	2016-09-16

6 Test Results

6.1 E.U.T. test conditions

Test Voltage:	AC 120V
Temperature:	20.0 -25.0 °C
Humidity:	38-50 % RH
Atmospheric Pressure:	1000 -1010 mbar
Requirements:	**15.31(e):** 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. **15.32:** 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.
Test frequencies and frequency range:	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: 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:

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: 2442 MHz and highest channel: 2462 MHz for 802.11b/g/n(HT20)

Channel	Frequency (MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

2. Test frequencies are lowest channel: 2422 MHz, middle channel: 2442 MHz and highest channel: 2452 MHz for 802.11n(HT40)

Channel	Frequency (MHz)
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452

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.

6.2 Antenna Requirement

Standard requirement

15.203 requirement:

For intentional device. According to 15.203. an intentional radiator shall be designed to

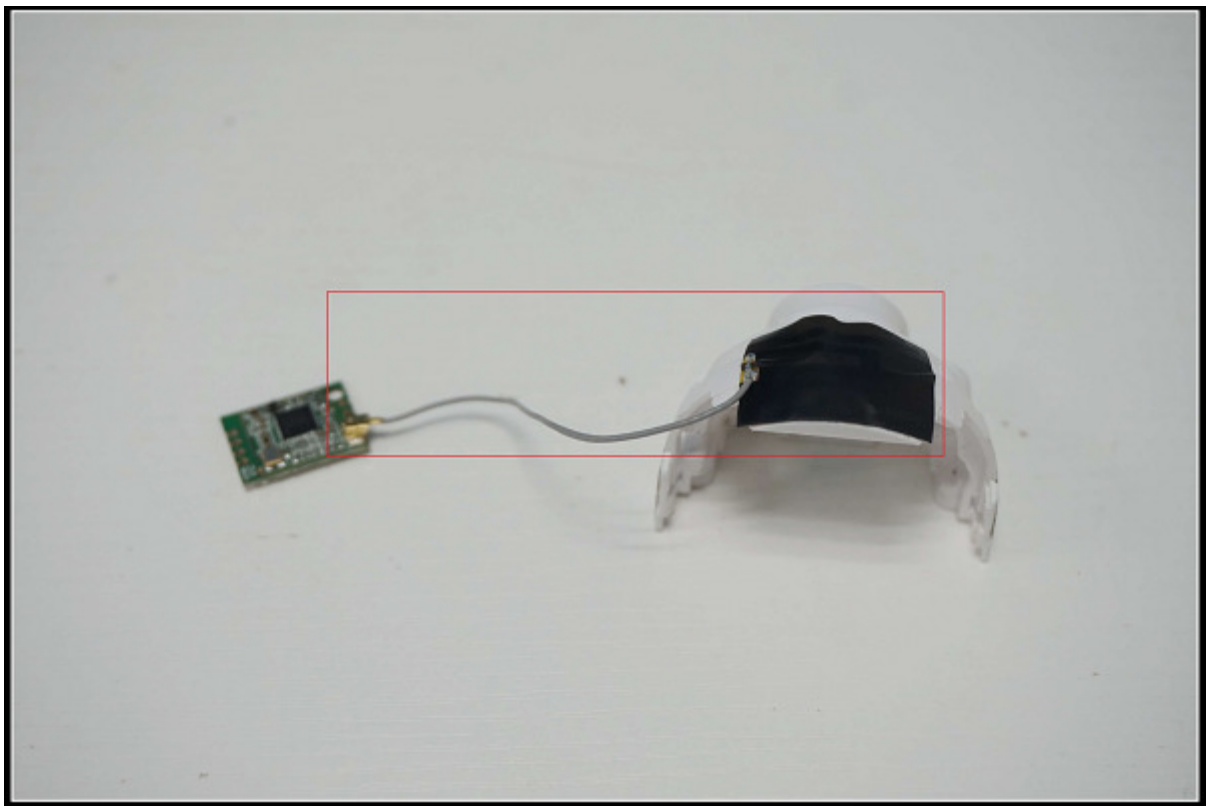
Ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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 a dedicated and fixed on the housing no consideration of replacement. The best case gain of the antenna is 4.0 dBi.



Test result: The unit does meet the FCC requirements.

6.3 6 dB Bandwidth

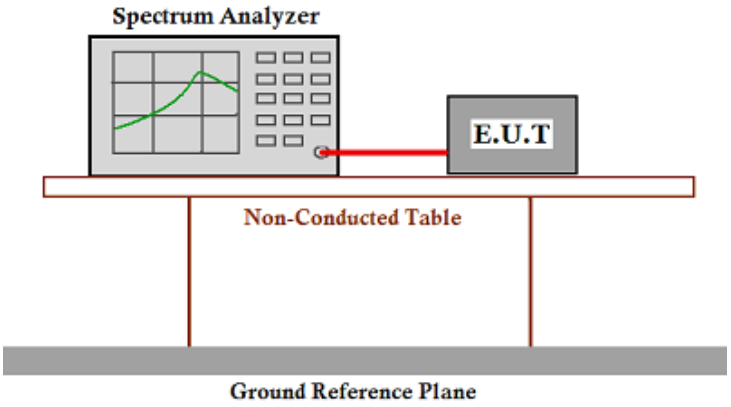
Test Requirement: FCC Part 15 C section 15.247

(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 =1.0dB) 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.

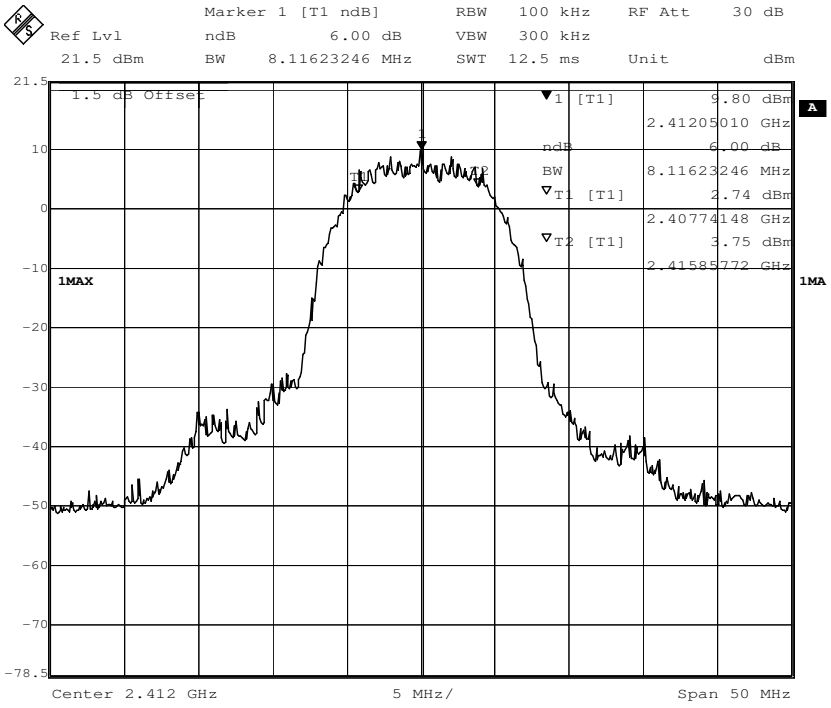
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412	802.11b	11 Mbps	8.11	≥500KHz	Pass
7	2442		11 Mbps	8.11		Pass
11	2462		11 Mbps	9.21		Pass
1	2412	802.11g	54 Mbps	16.63	≥500KHz	Pass
7	2442		54 Mbps	16.63		Pass
11	2462		54 Mbps	16.67		Pass
1	2412	802.11n (HT20)	65 Mbps	17.73	≥500KHz	Pass
7	2442		65 Mbps	17.77		Pass
11	2462		65 Mbps	17.73		Pass
3	2422	802.11n (HT40)	135Mbps	35.47	≥500KHz	Pass
7	2442		135Mbps	35.47		Pass
9	2452		135Mbps	35.47		Pass

Test result: The unit does meet the FCC requirements.

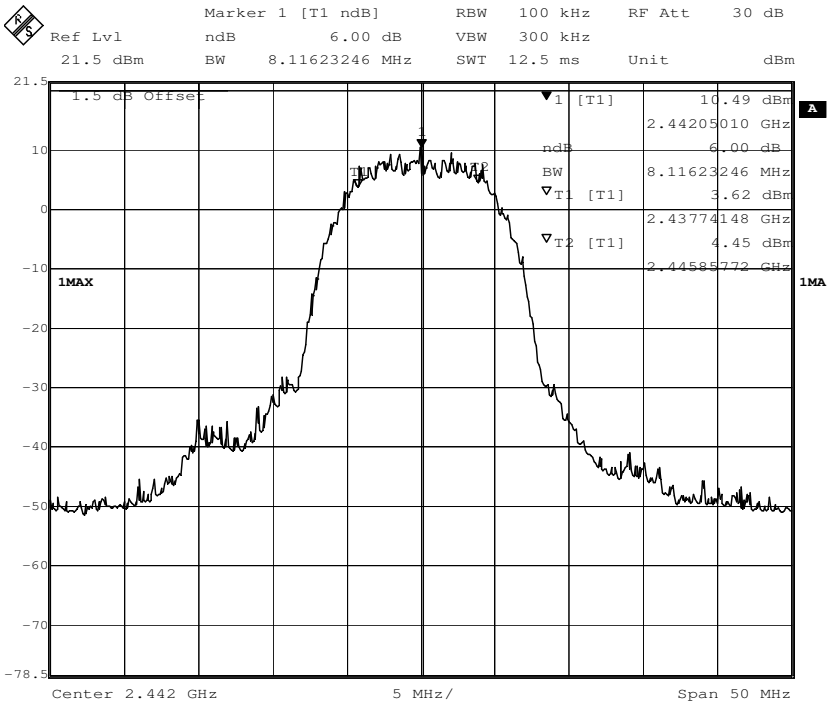
Result plot as follows:

802.11b mode with 11Mbps data rate

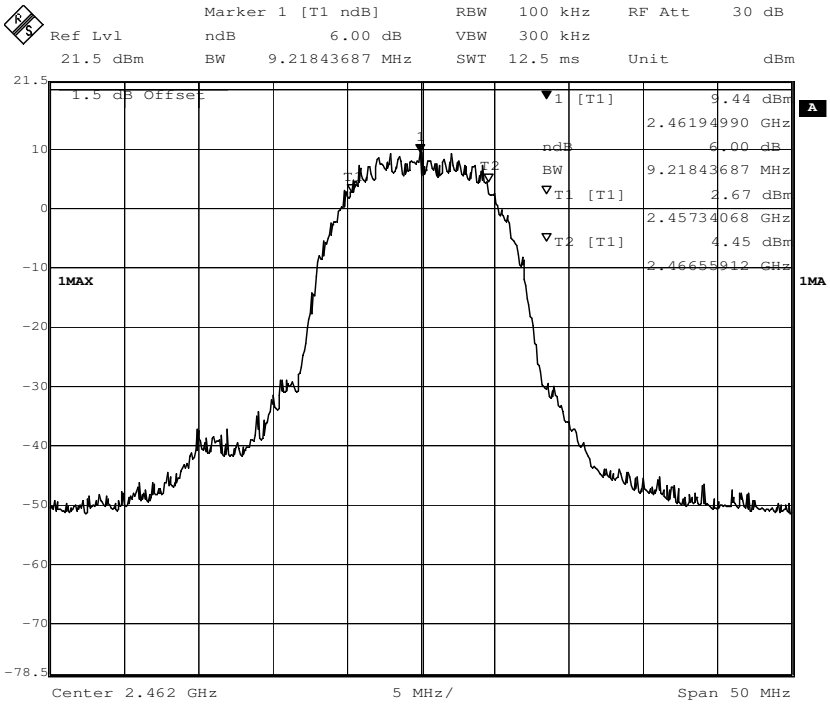
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

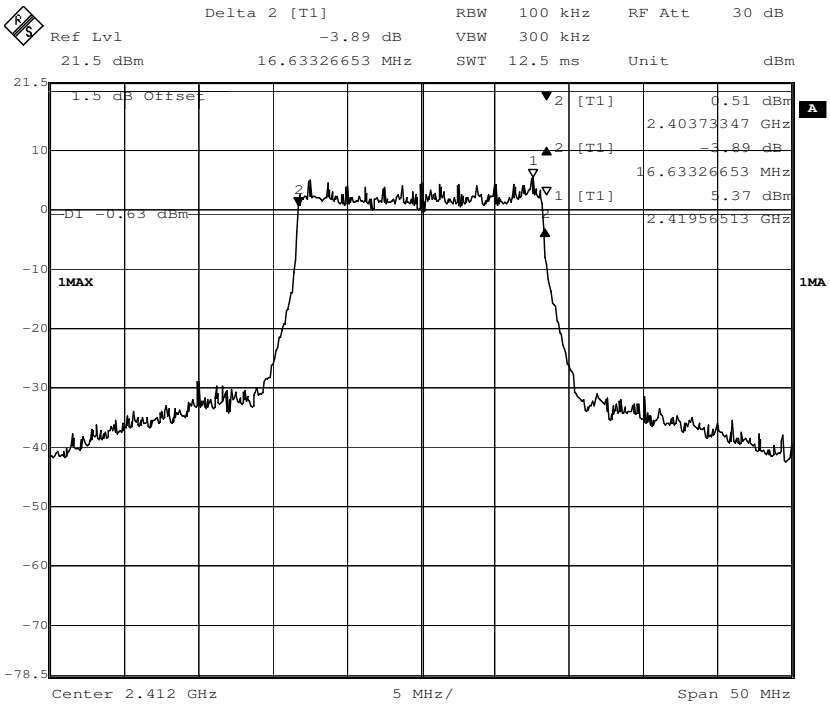


Channel 11: 2.462GHz:

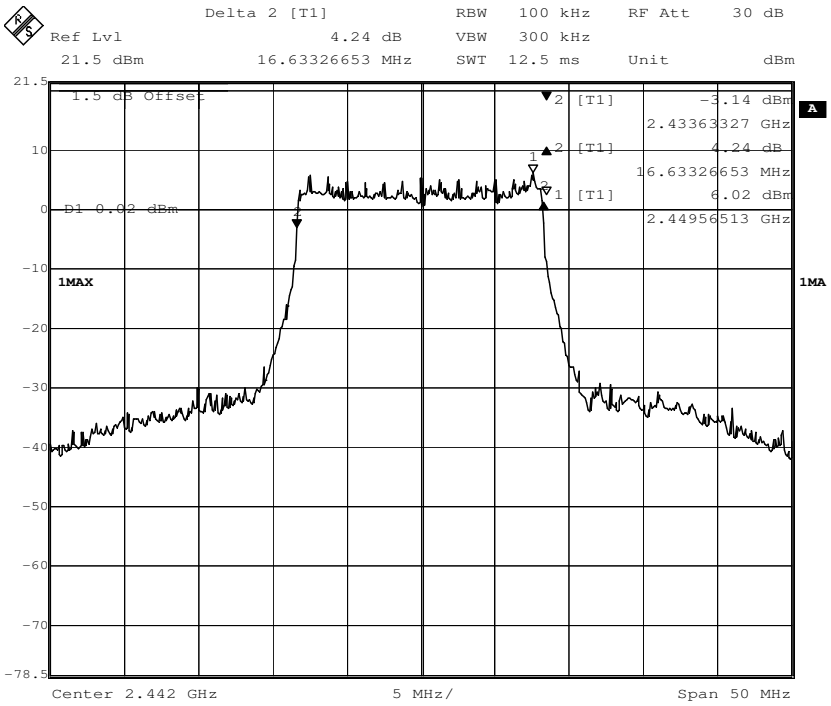


802.11g mode with 54Mbps data rate

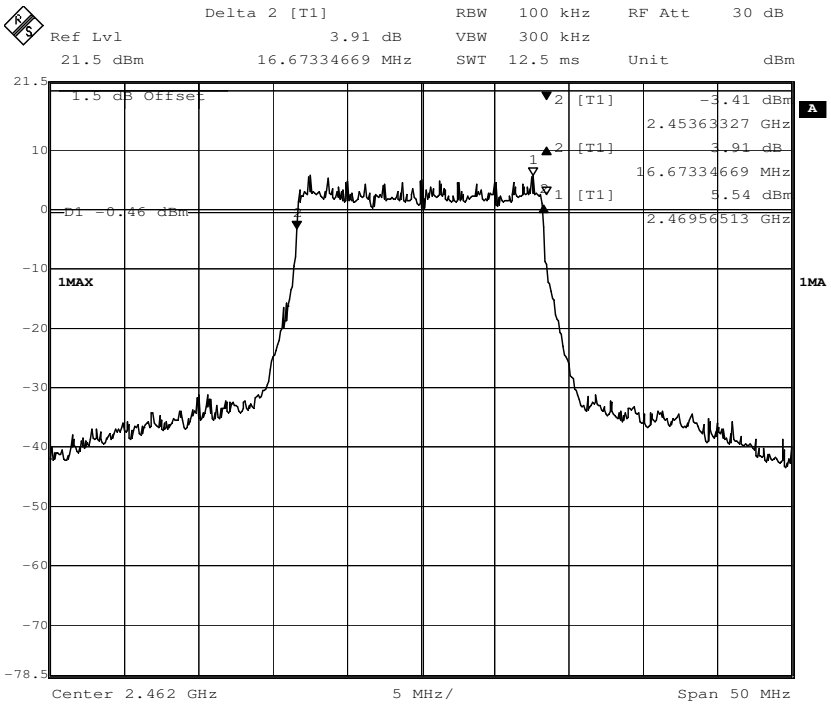
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

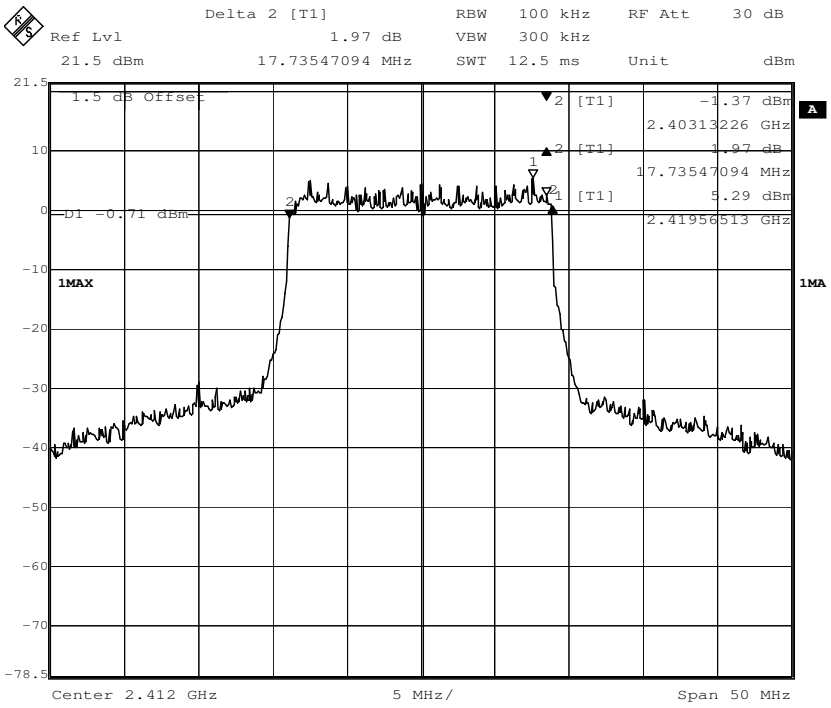


Channel 11: 2.462GHz:

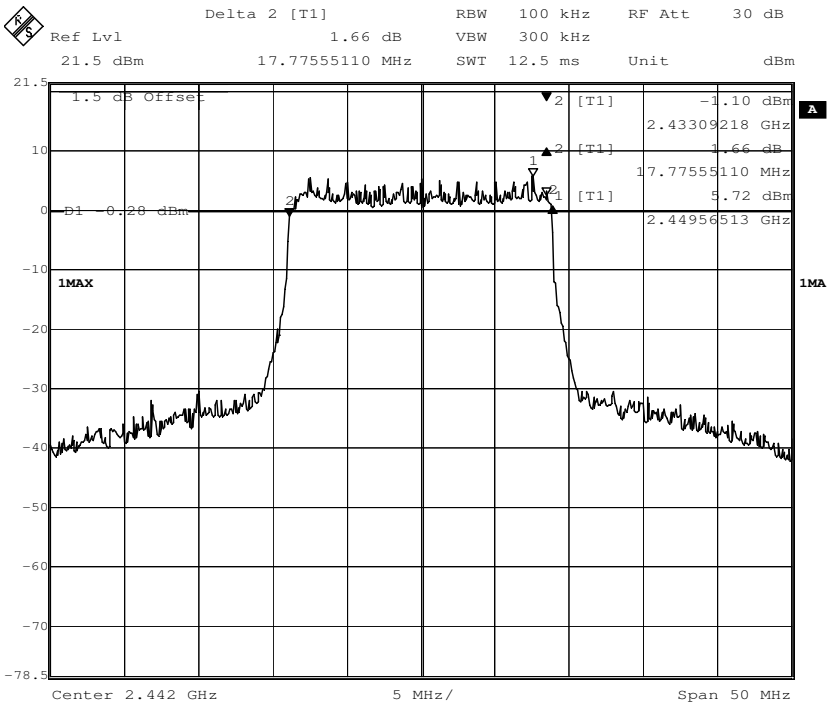


802.11n(HT20) mode with 72.2Mbps data rate

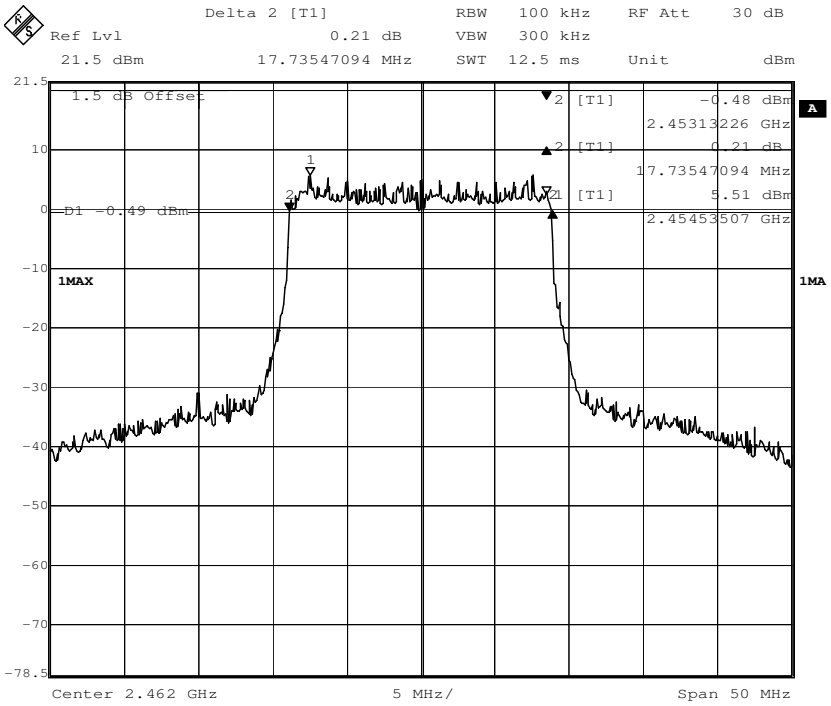
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

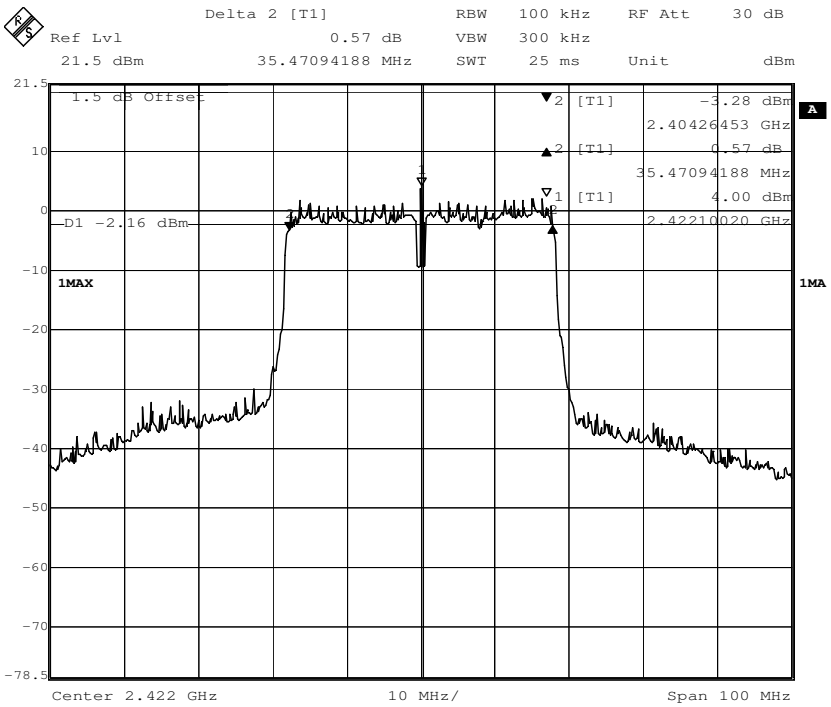


Channel 11: 2.462GHz:

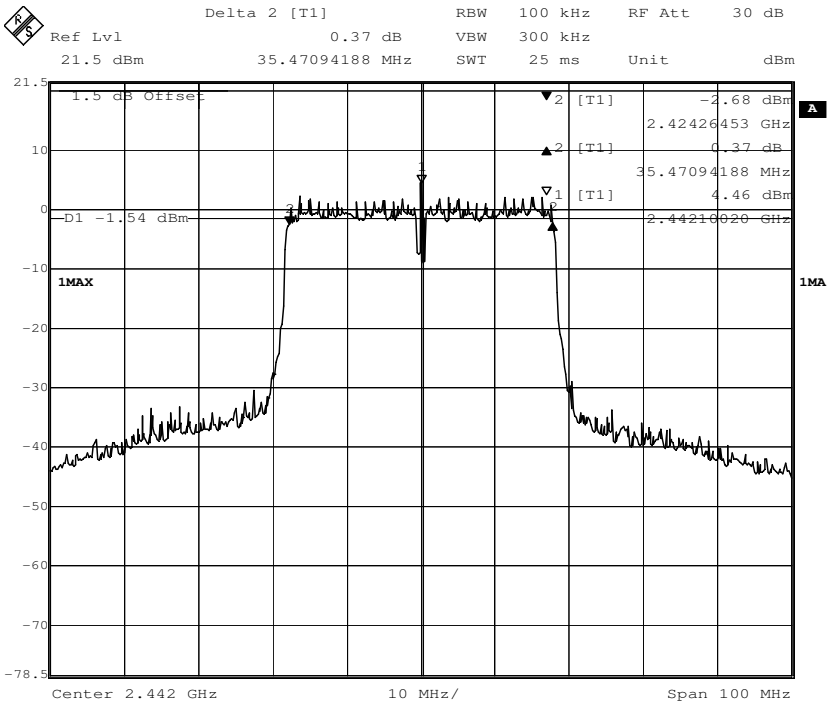


802.11n(HT40) mode with 150Mbps data rate

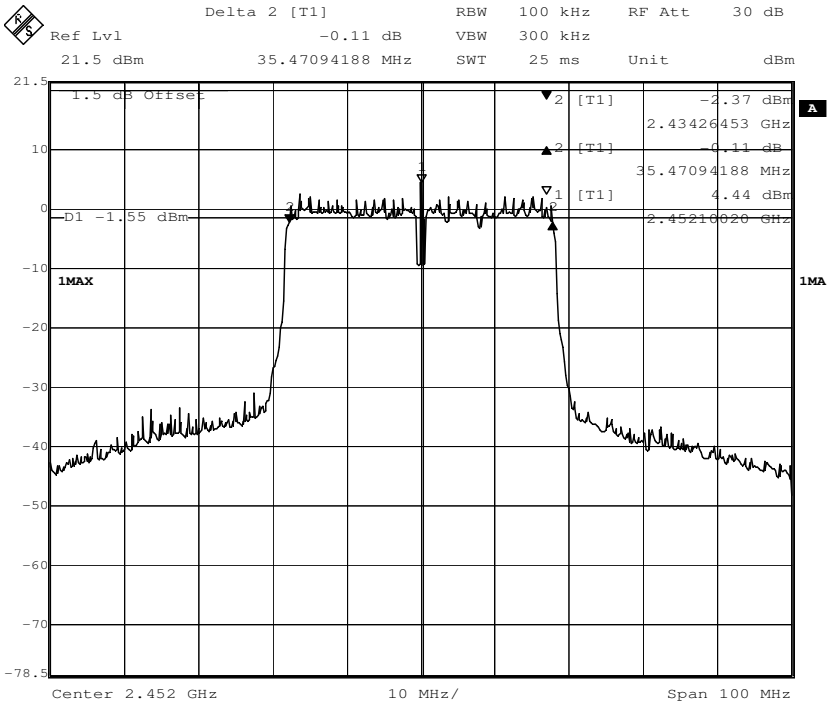
Channel 3: 2.422GHz:



Channel 7: 2.442GHz:



Channel 9: 2.452GHz:



6.4 Maximum Peak Output Power

Test Requirement: FCC Part 15 C section 15.247

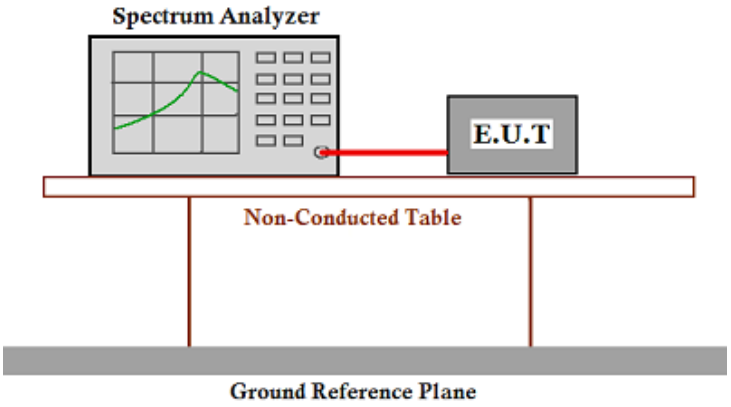
(b)(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

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 =1.0dB) from the antenna port to the spectrum.
2. Set the RBW=1MHz
3. Set the VBW ≥ 3 x RBW
4. Set the span ≥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	23.03	1W(30dBm)	Pass
7	2442		11 Mbps	24.00		Pass
11	2462		11 Mbps	23.20		Pass
1	2412	802.11g	54 Mbps	22.86		Pass
7	2442		54 Mbps	23.50		Pass
11	2462		54 Mbps	23.41		Pass
1	2412	802.11n (HT20)	65 Mbps	23.03		Pass
7	2442		65 Mbps	22.76		Pass
11	2462		65 Mbps	23.68		Pass
3	2422	802.11n (HT40)	135Mbps	22.20		Pass
7	2442		135Mbps	23.14		Pass
9	2452		135Mbps	23.38		Pass

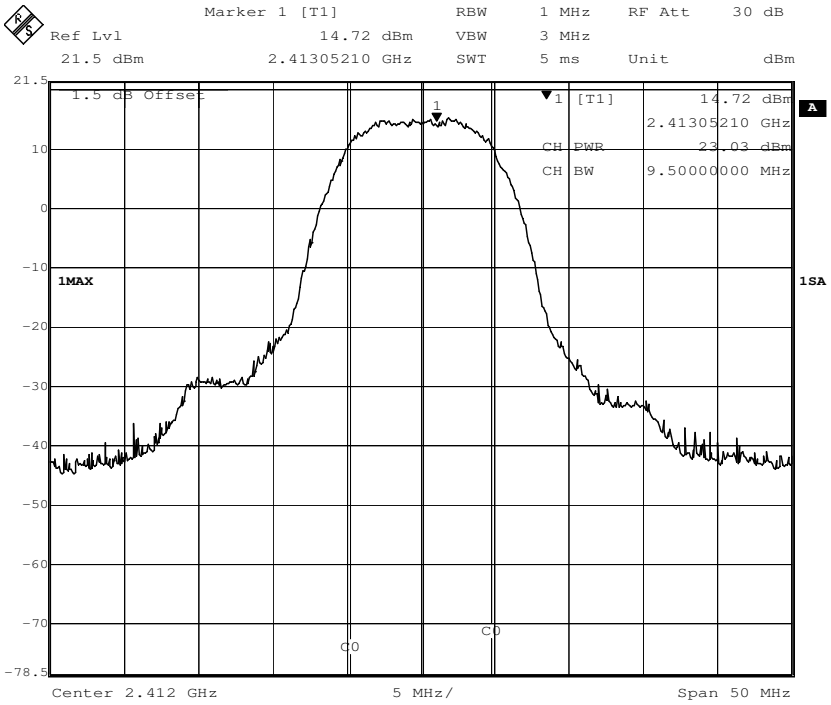
Remark: Level = Read Level + Cable Loss

The unit does meet the FCC requirements.

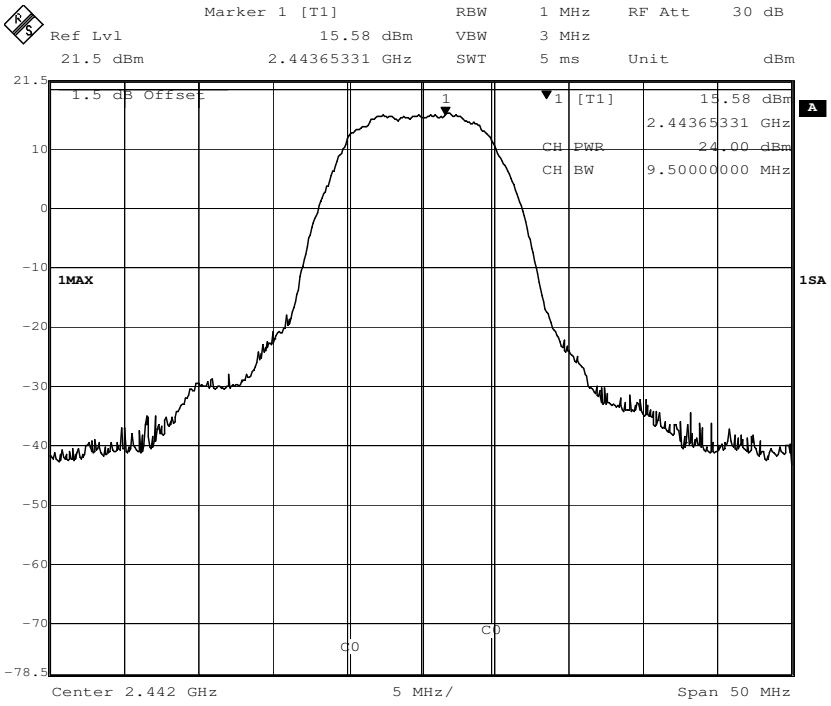
Result plot as follows:

802.11b mode with 11Mbps data rate

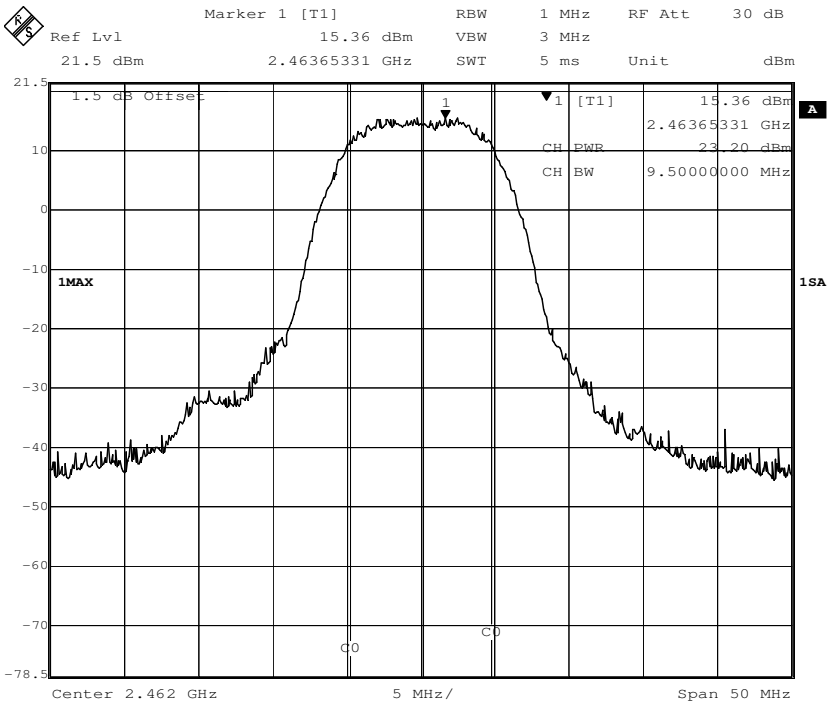
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

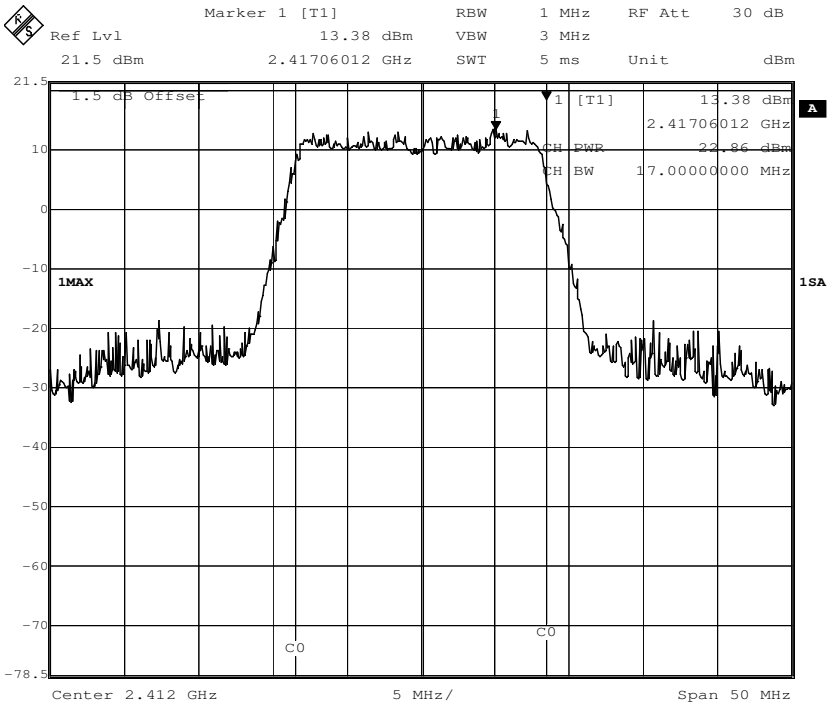


Channel 11: 2.462GHz:

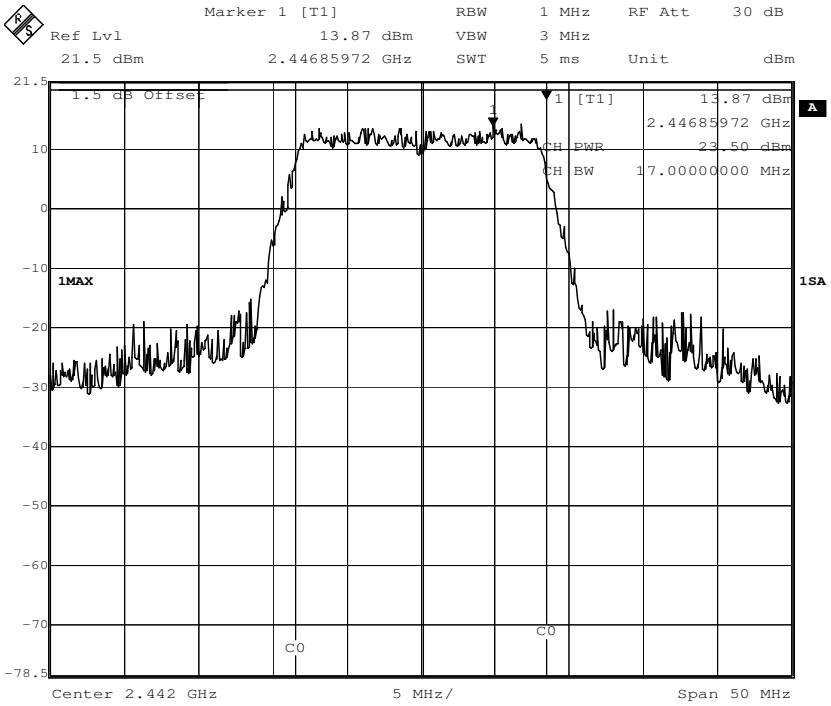


802.11g mode with 54Mbps data rate

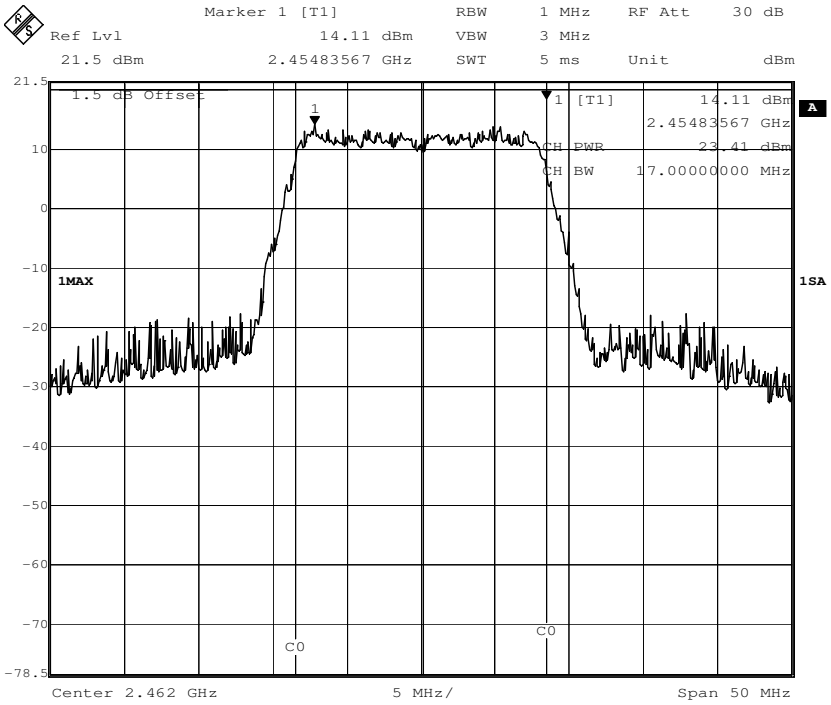
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

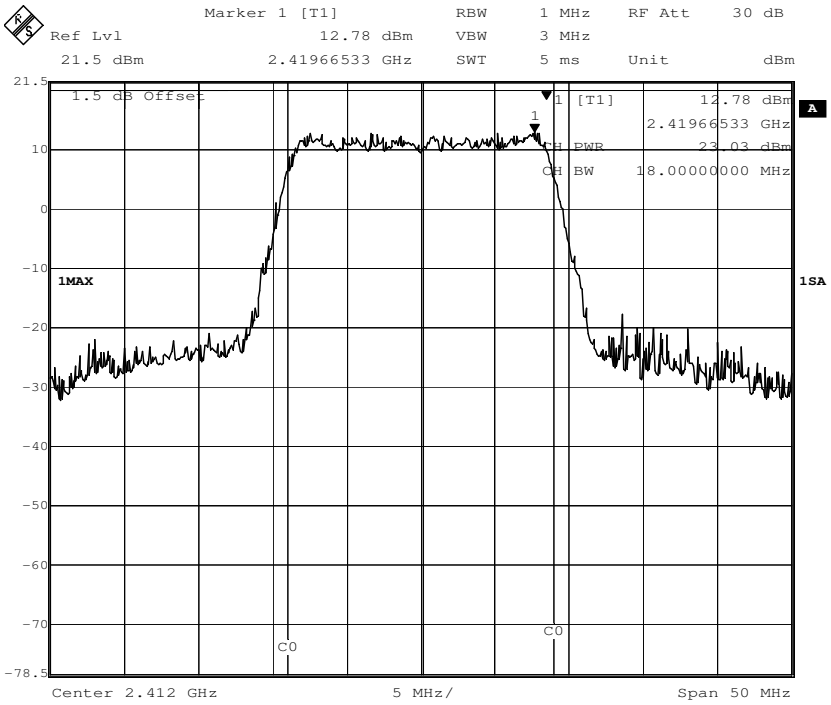


Channel 11: 2.462GHz:

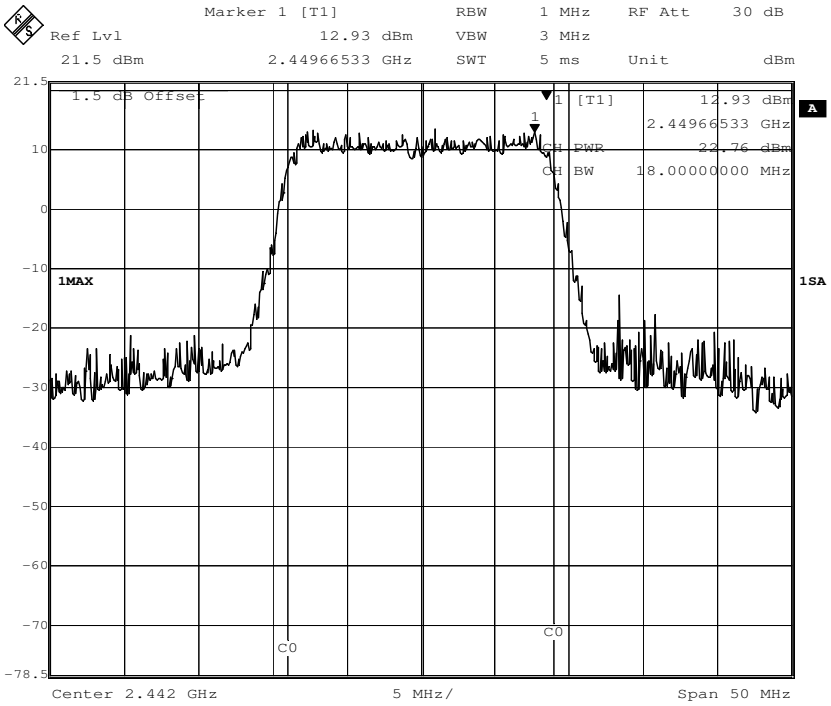


802.11n(HT20) mode with 72.2Mbps data rate

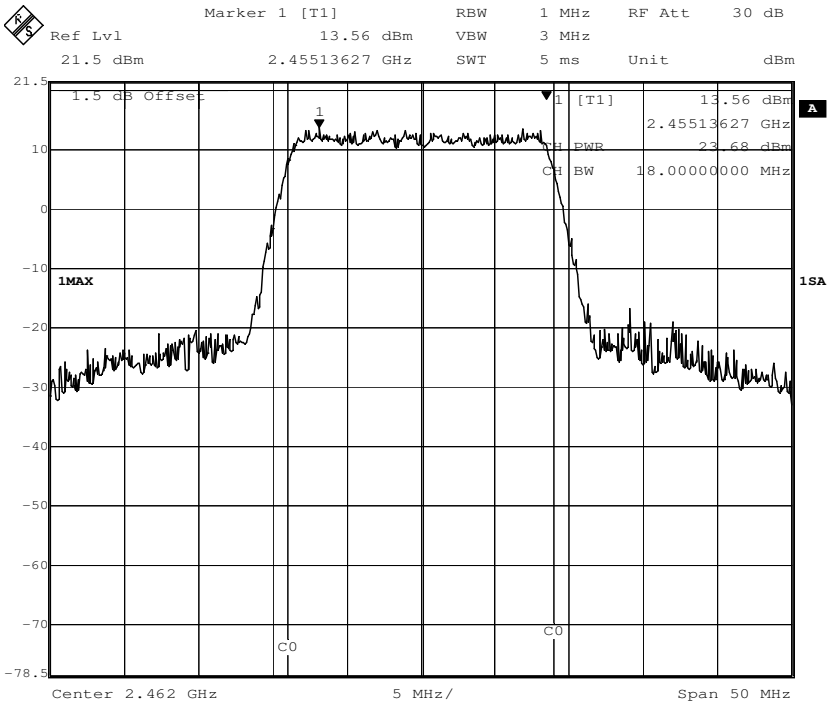
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

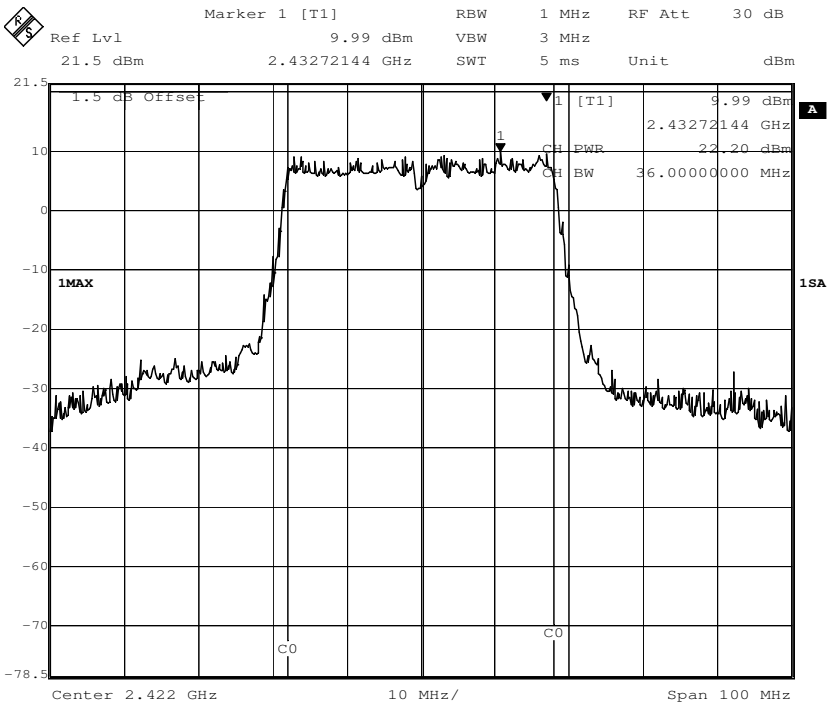


Channel 11: 2.462GHz:

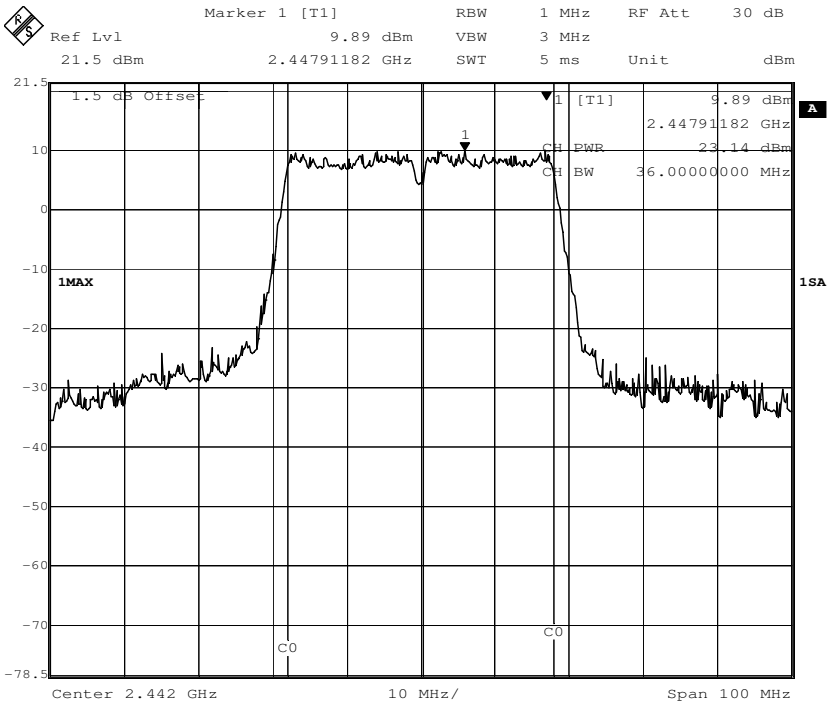


802.11n(HT40) mode with 150Mbps data rate

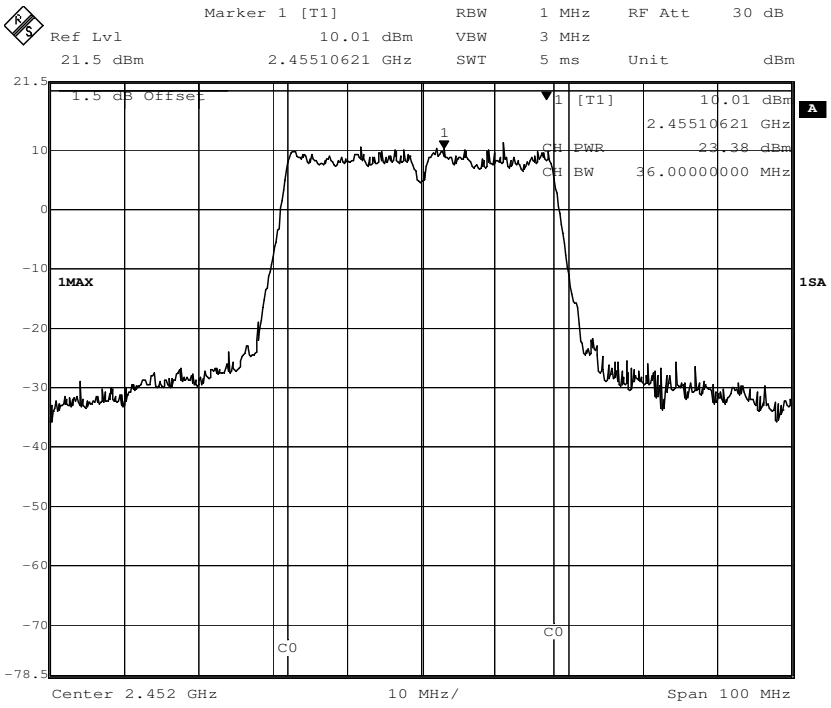
Channel 3: 2.422GHz:



Channel 7: 2.442GHz:



Channel 9: 2.452GHz:



6.5 Peak Power Spectral Density

Test Requirement: FCC Part 15 C section 15.247

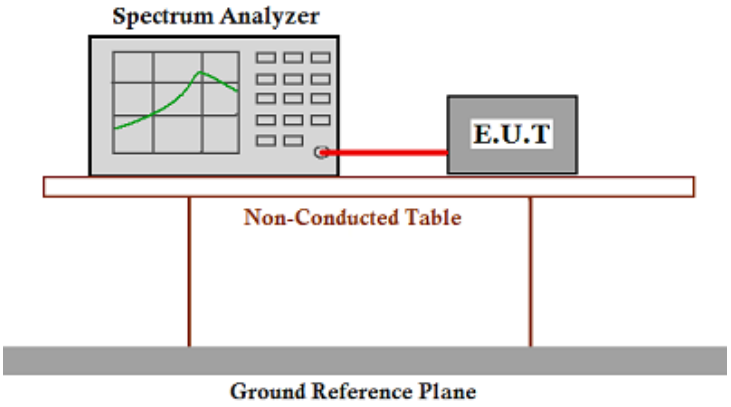
(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

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 =1.0dB) from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=3 kHz. VBW = 10 kHz. sweep= (SPAN/3 kHz); 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	1.53	8dBm/3KHz	Pass
7	2442		11 Mbps	1.87		Pass
11	2462		11 Mbps	1.69		Pass
1	2412	802.11g	54 Mbps	-1.00		Pass
7	2442		54 Mbps	-0.29		Pass
11	2462		54 Mbps	-0.56		Pass
1	2412	802.11n (HT20)	65 Mbps	-1.52		Pass
7	2442		65 Mbps	-1.05		Pass
11	2462		65 Mbps	-0.91		Pass
3	2422	802.11n (HT40)	135 Mbps	-3.91		Pass
7	2442		135 Mbps	-4.38		Pass
9	2452		135 Mbps	-3.62		Pass

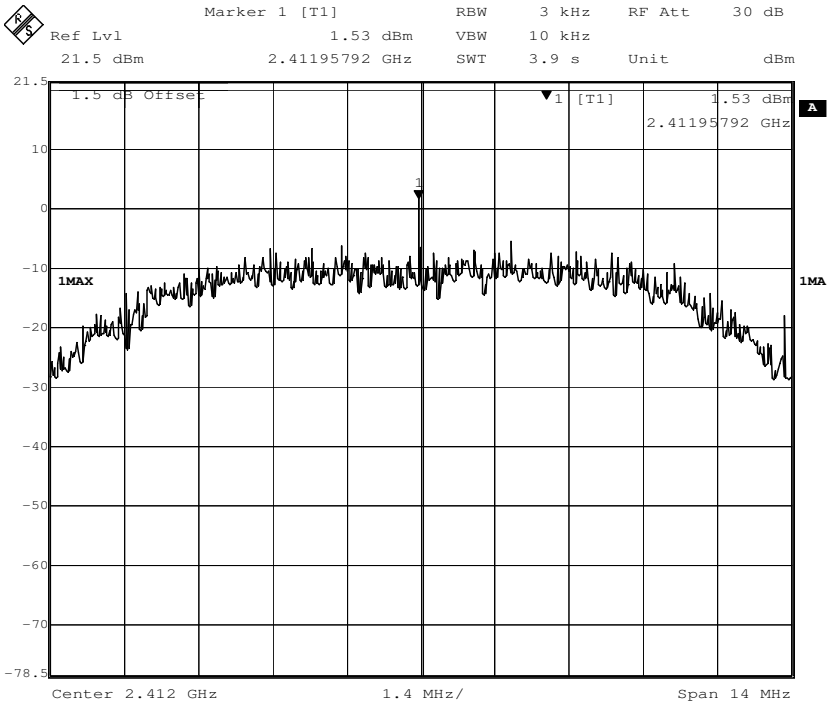
Test result: Level = Read Level + Cable Loss.

The unit does meet the FCC requirements.

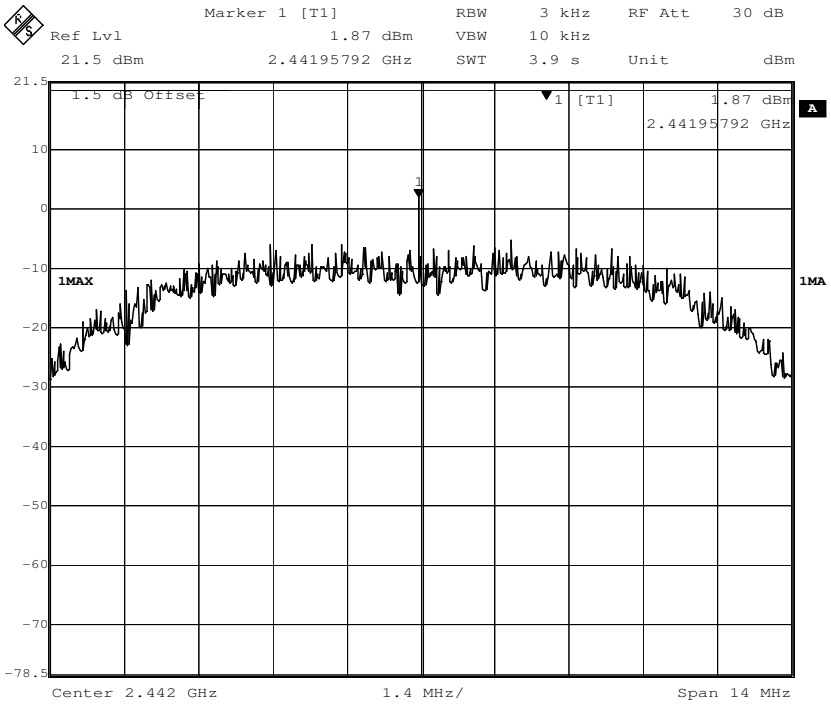
Result plot as follows:

802.11b mode with 11Mbps data rate

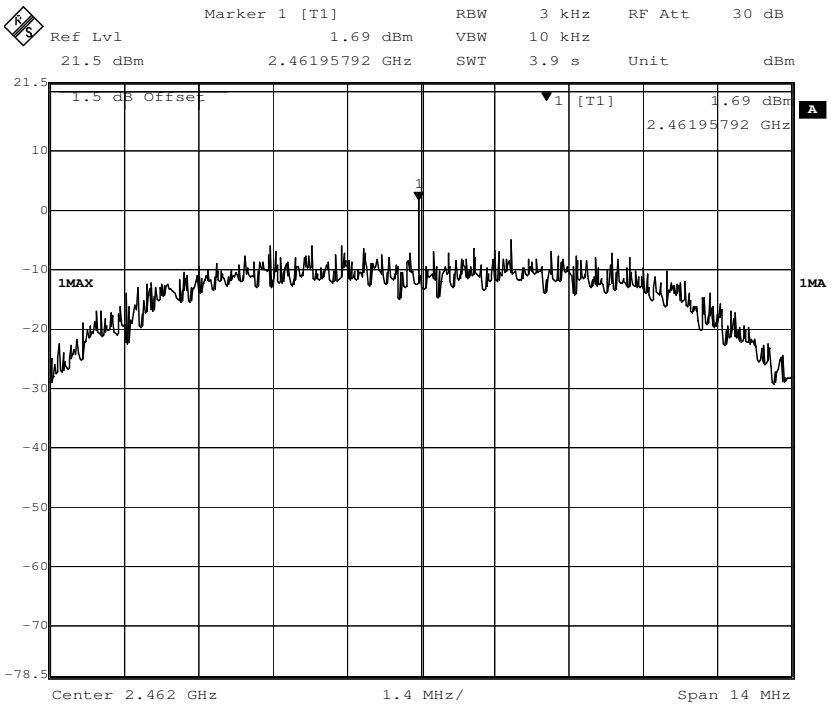
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

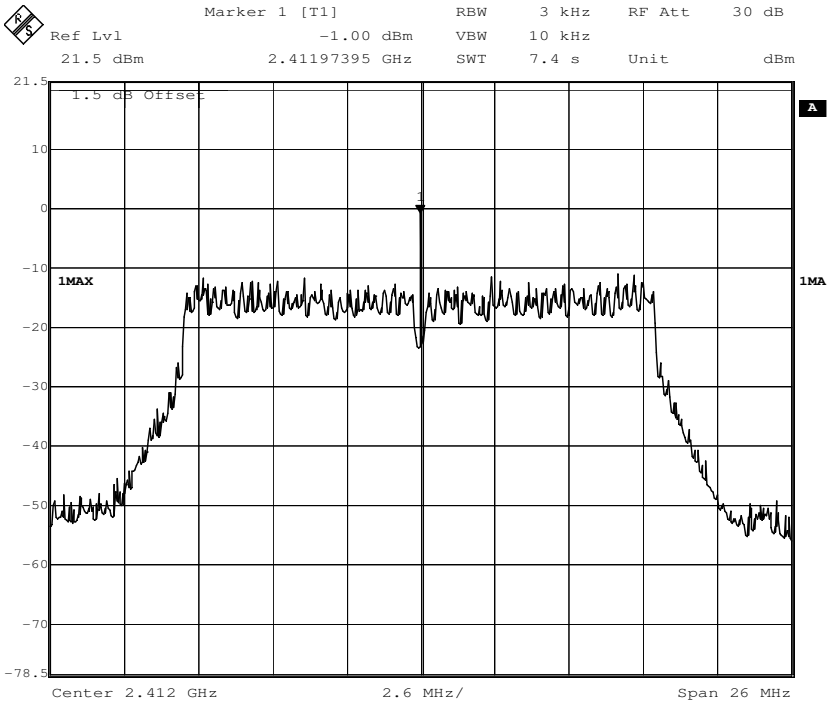


Channel 11: 2.462GHz:

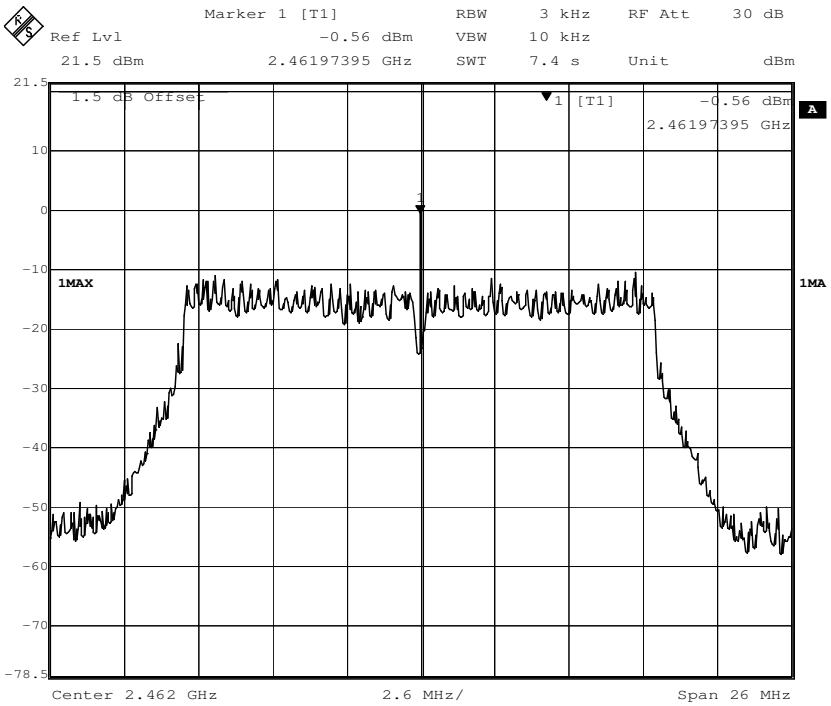


802.11g mode with 54Mbps data rate

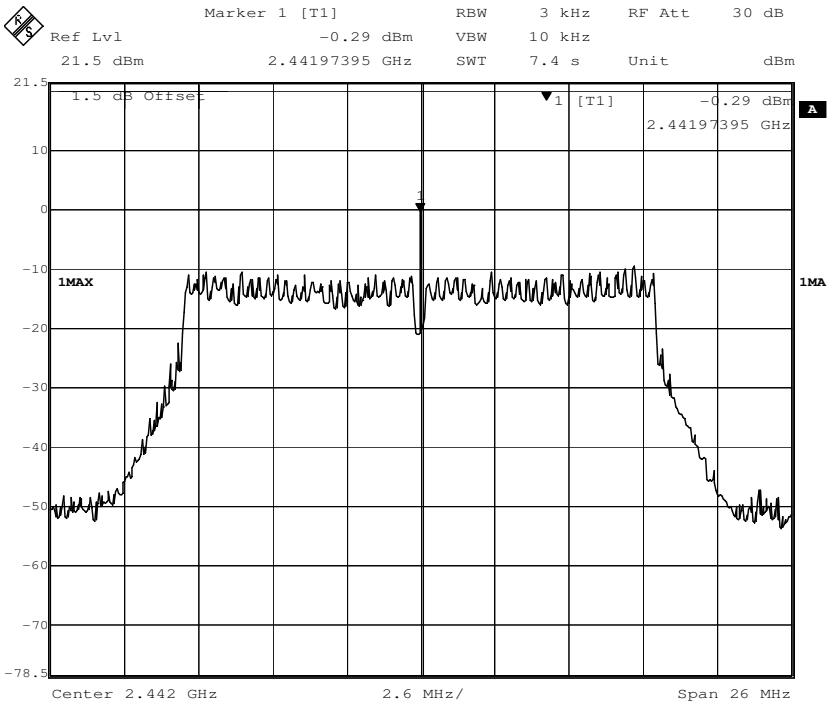
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

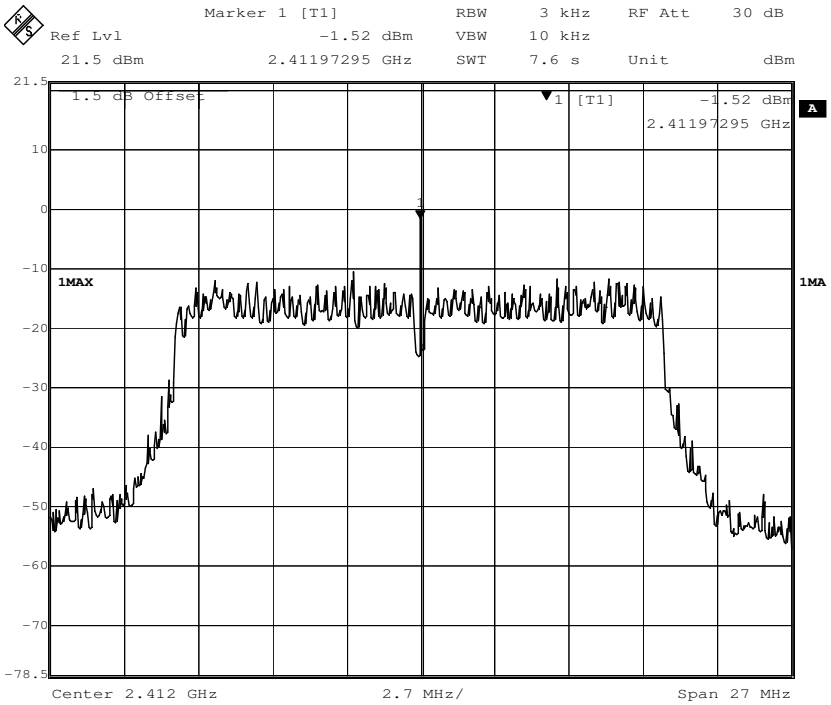


Channel 11: 2.462GHz:

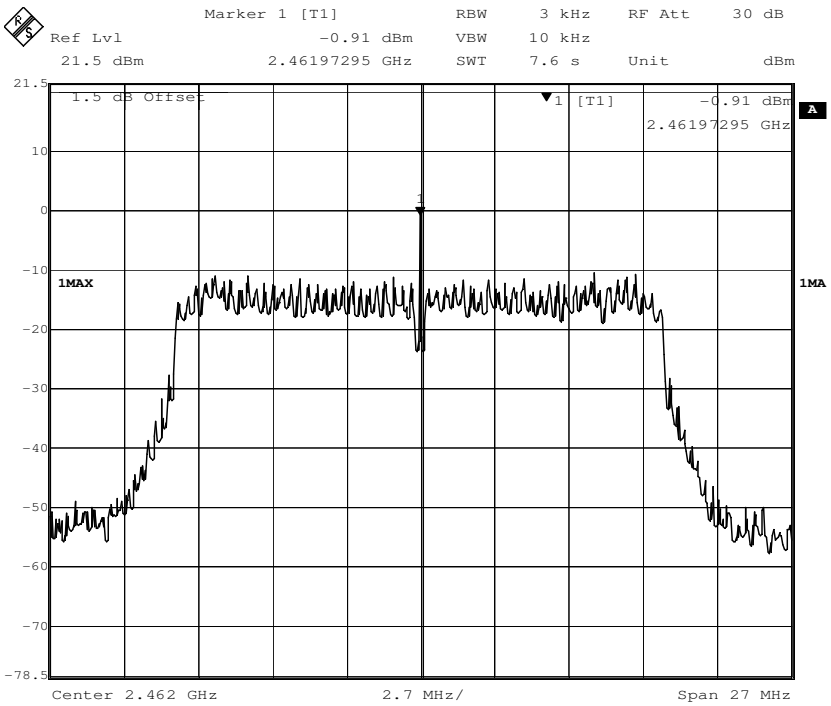


802.11n(HT20) mode with 72.2Mbps data rate

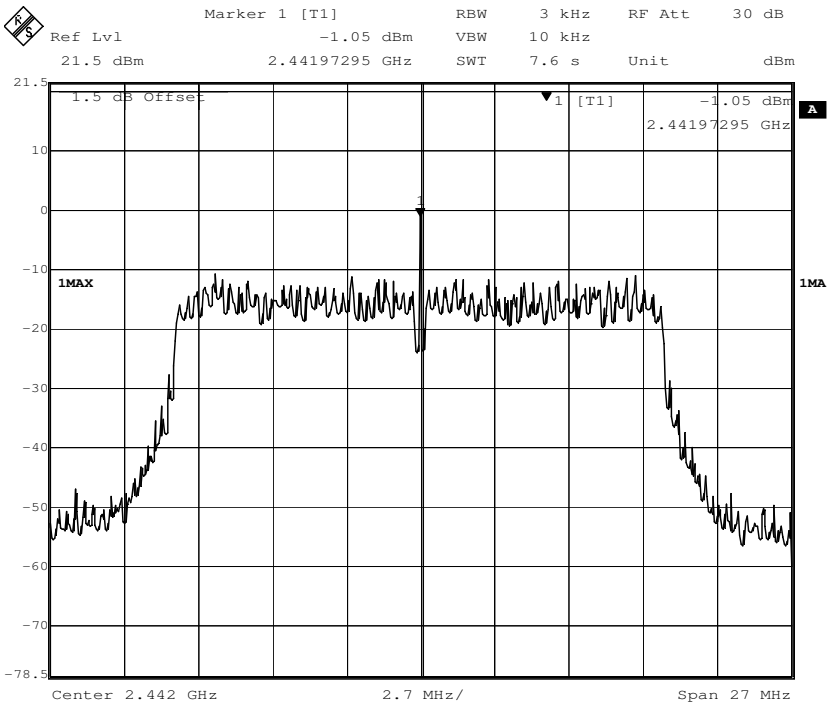
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

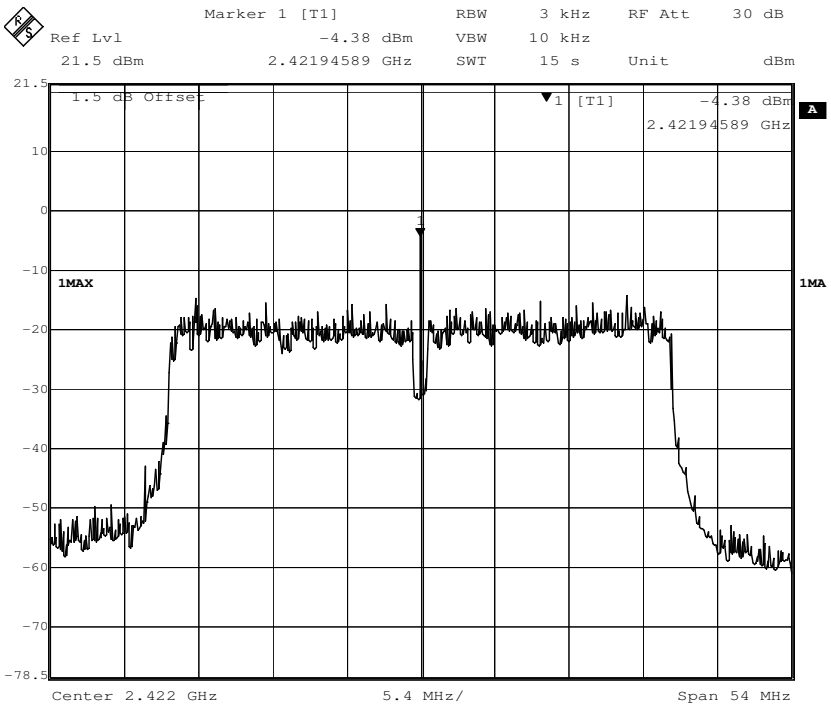


Channel 11: 2.462GHz:

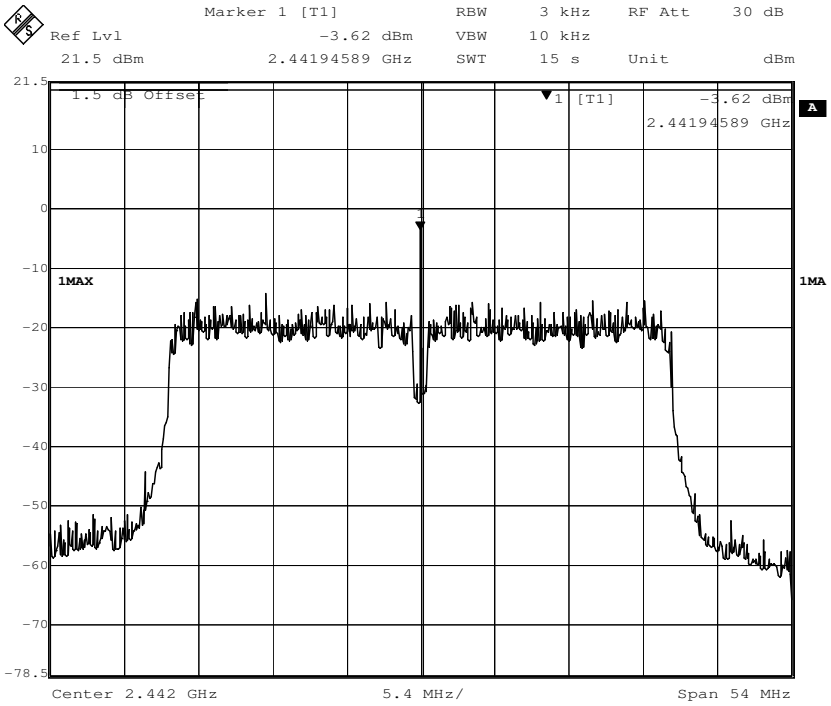


802.11n(HT40) mode with 150Mbps data rate

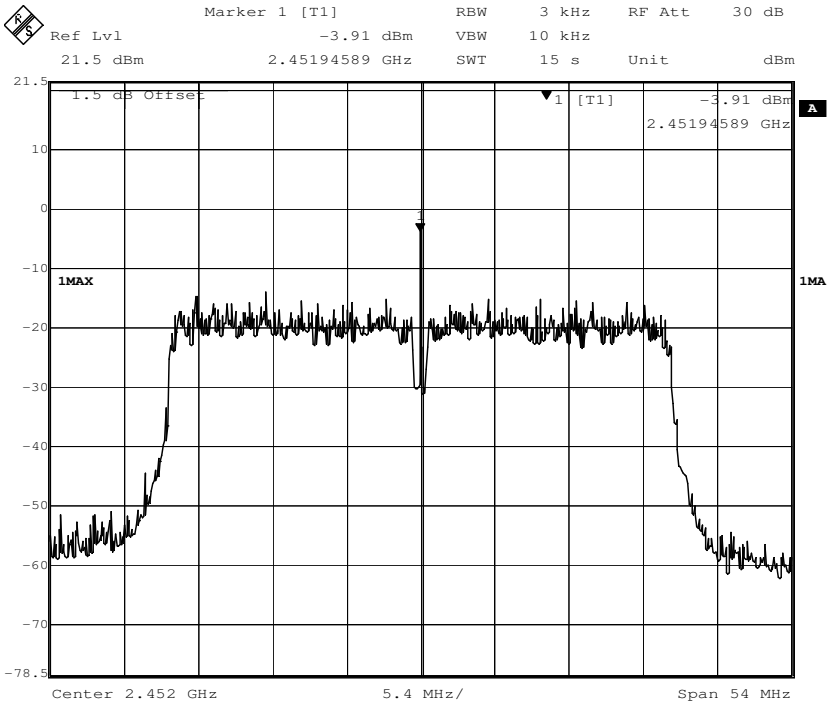
Channel 3: 2.422GHz:



Channel 7: 2.442GHz:



Channel 9: 2.452GHz:



6.6 Conducted Spurious Emissions

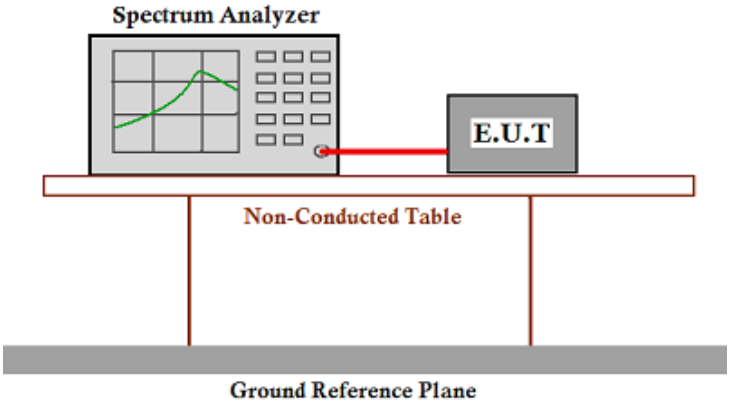
Test Requirement: FCC Part 15 C section 15.247

(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:

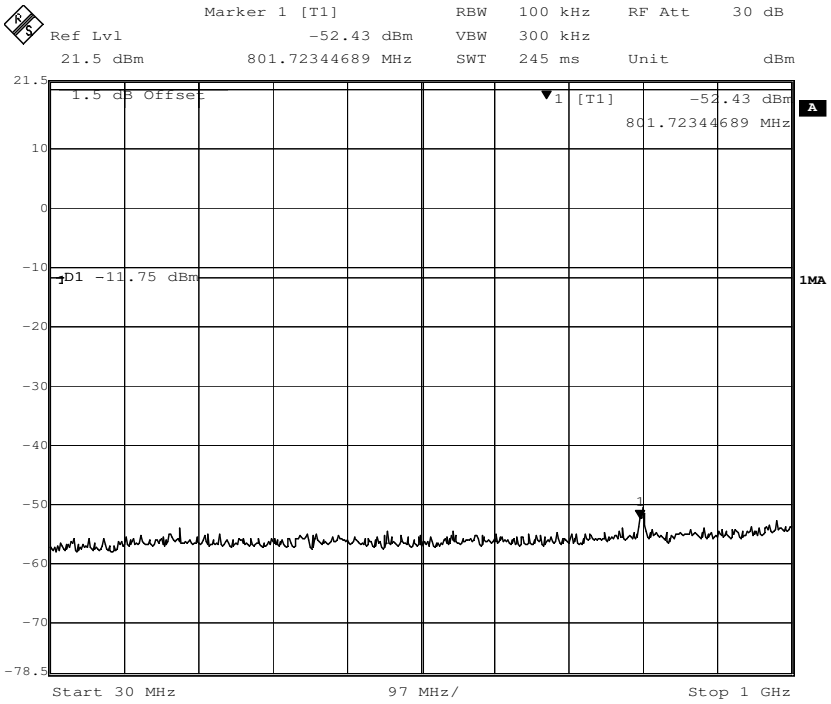
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=100 KHz, VBW = 300KHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Scan up through 10th harmonic.
3. Measure the Conducted 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:

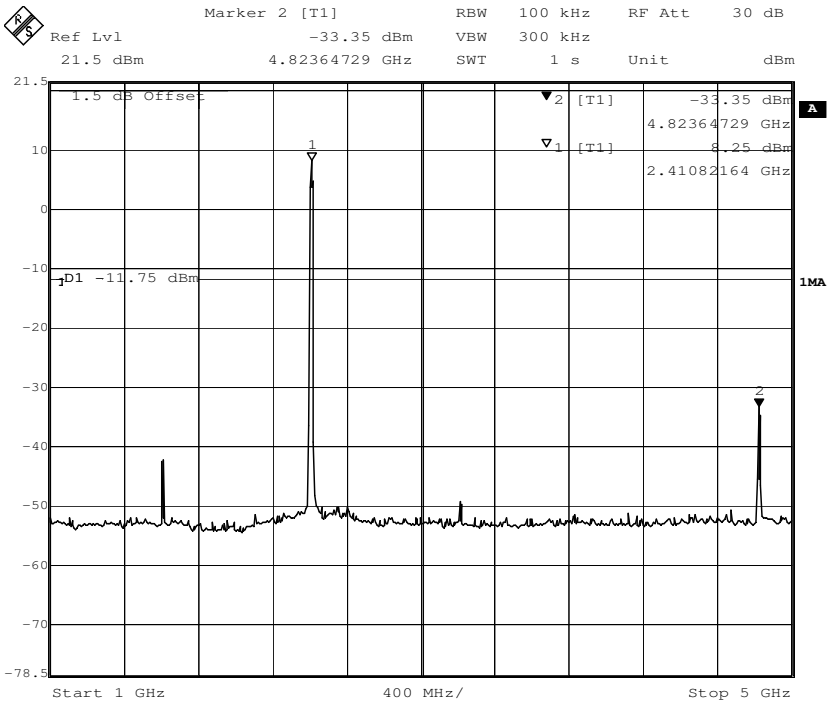
802.11b mode with 11Mbps data rate

Channel 1: 2.412GHz:

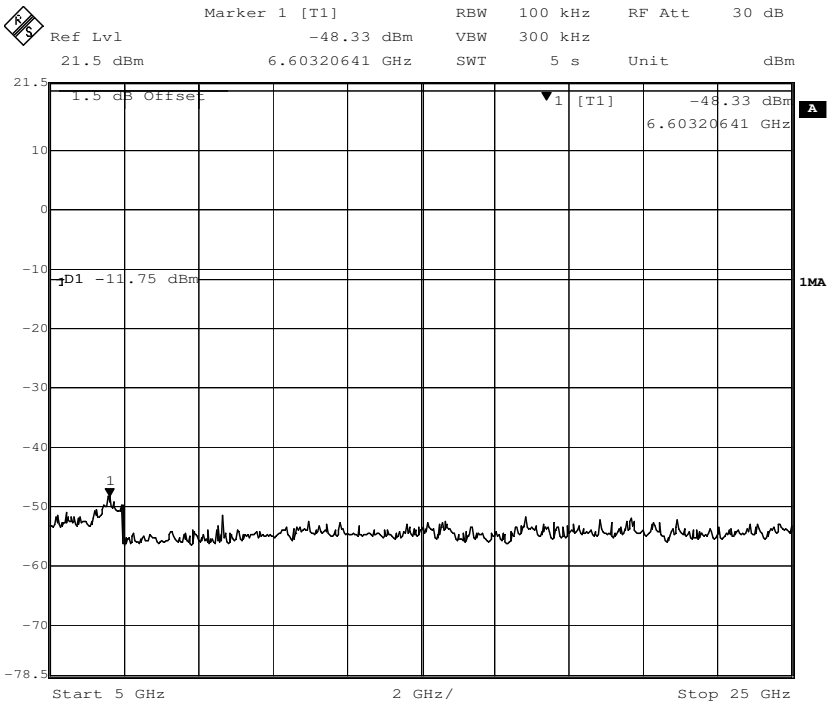
30 MHz to 1 GHz



1 G to 5 GHz

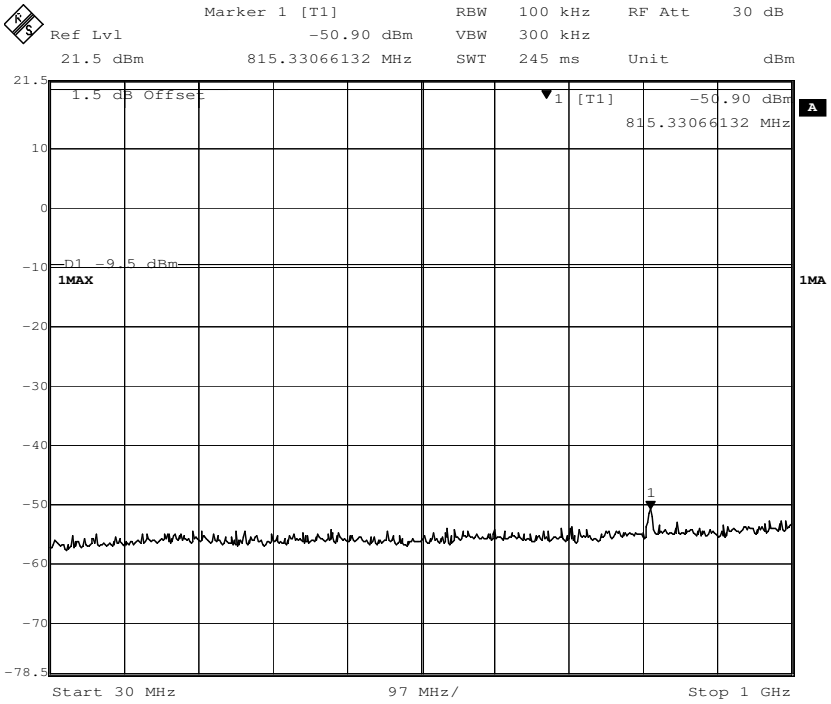


5 G to 25 GHz

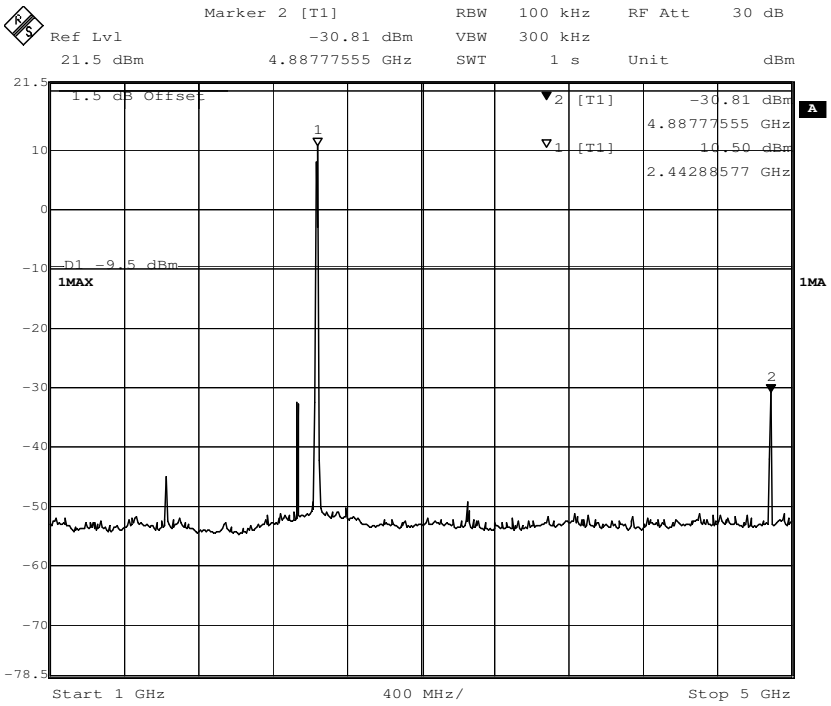


Channel 7: 2.442GHz:

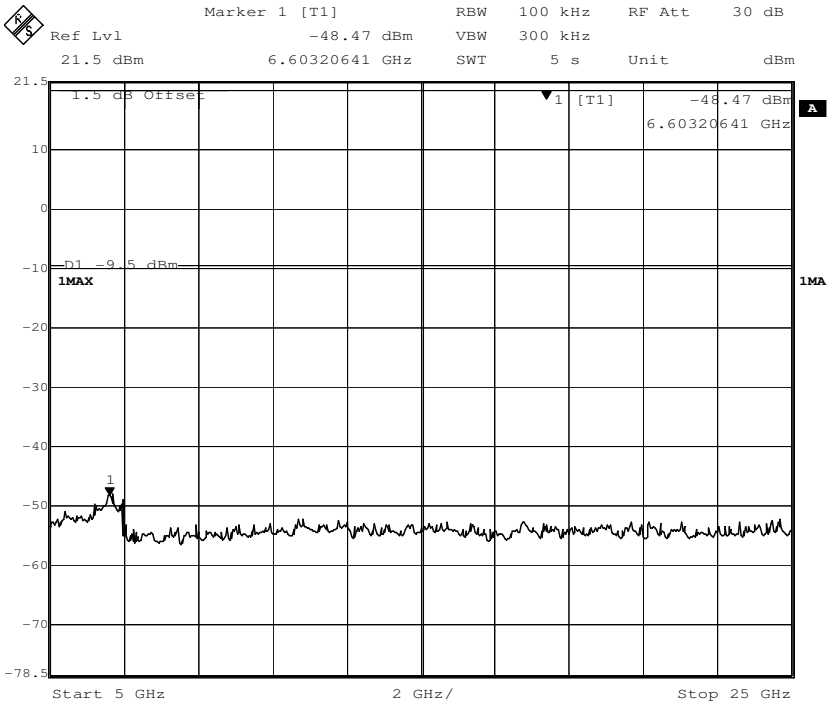
30 MHz to 1 GHz



1 G to 5 GHz

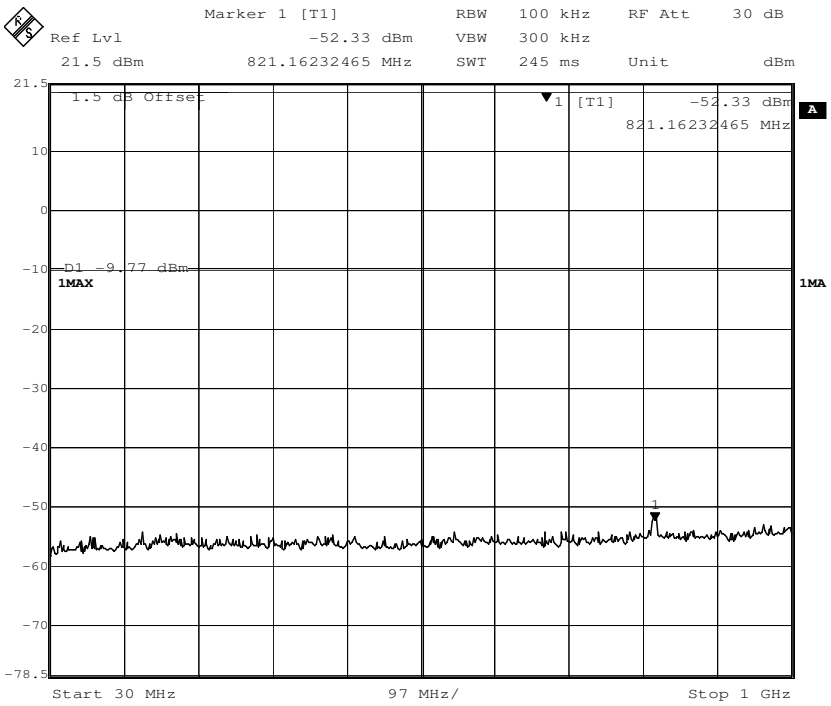


5 G to 25 GHz

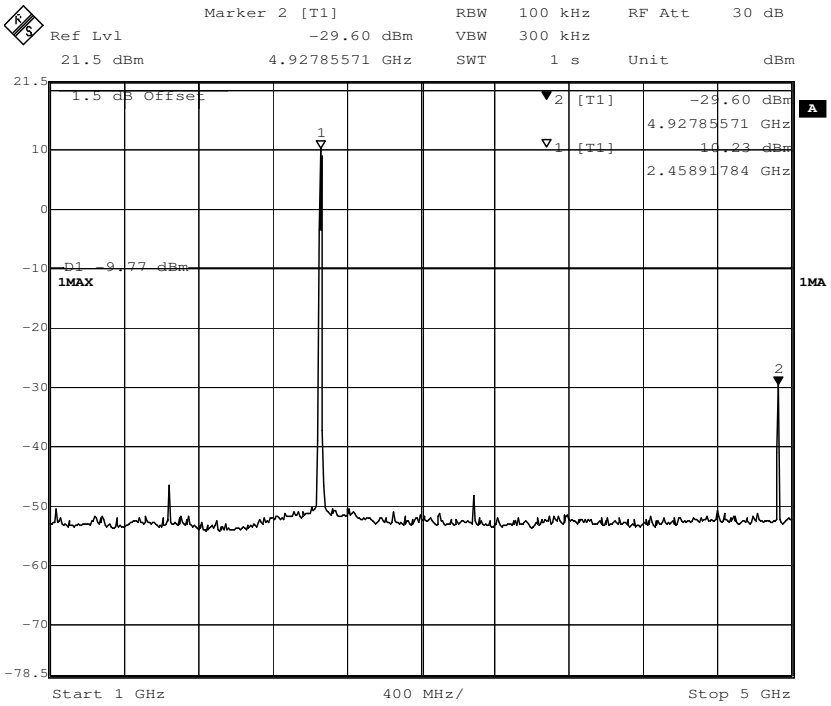


Channel 11:2.462 GHz

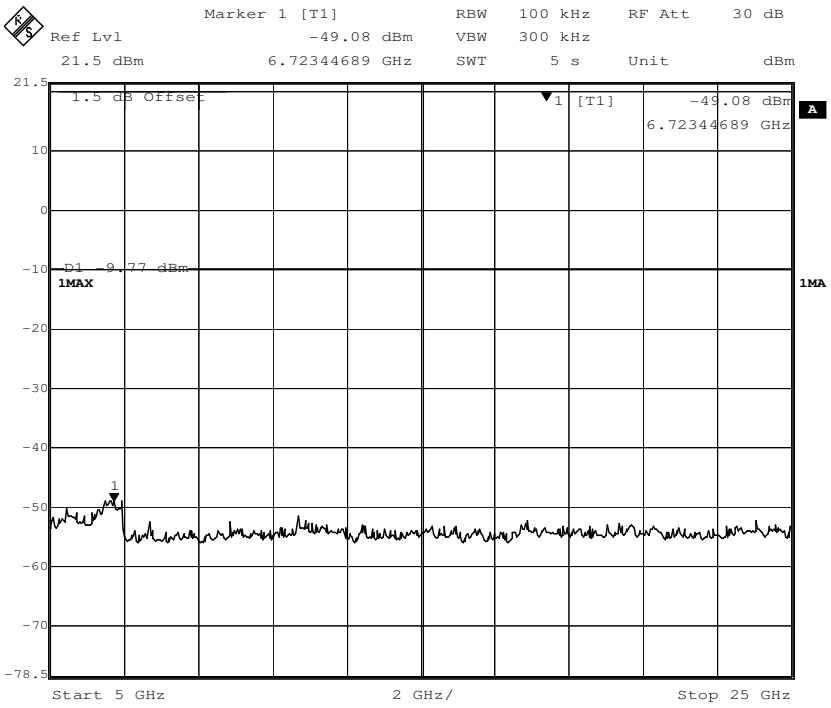
30 MHz to 1 GHz



1 G to 5 GHz



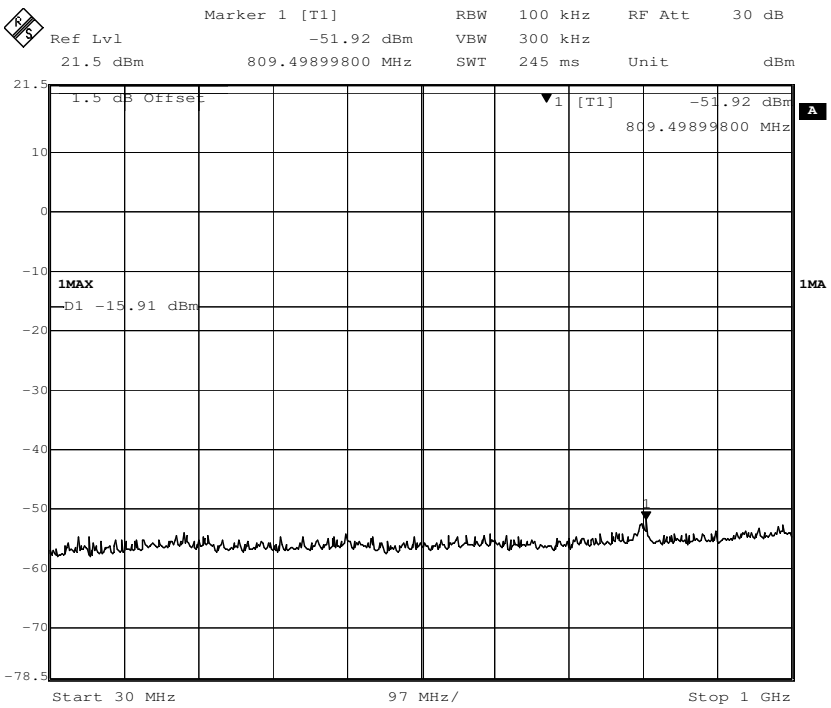
5 G to 25 GHz



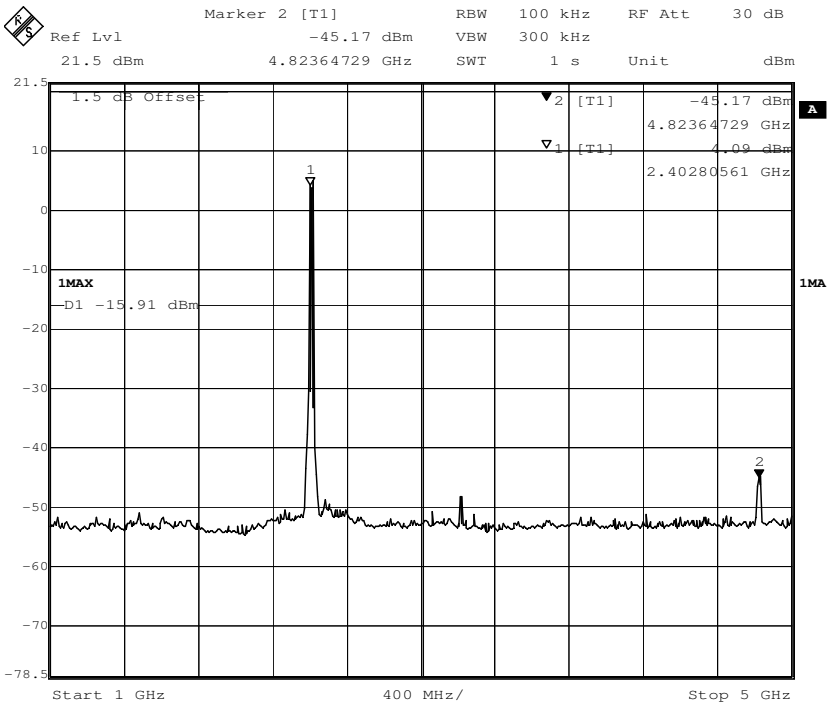
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

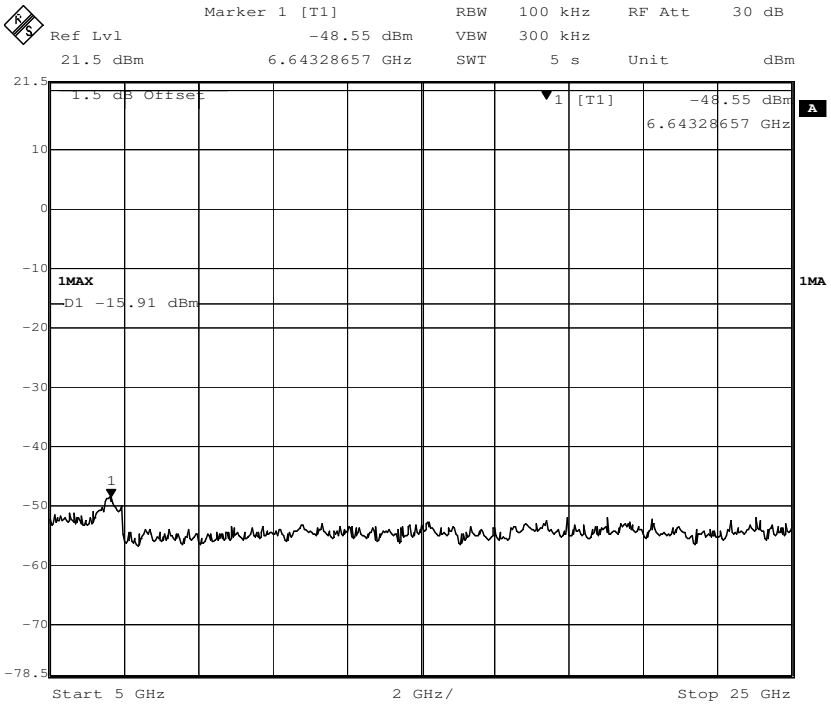
30 MHz to 1 GHz



1 G to 5 GHz

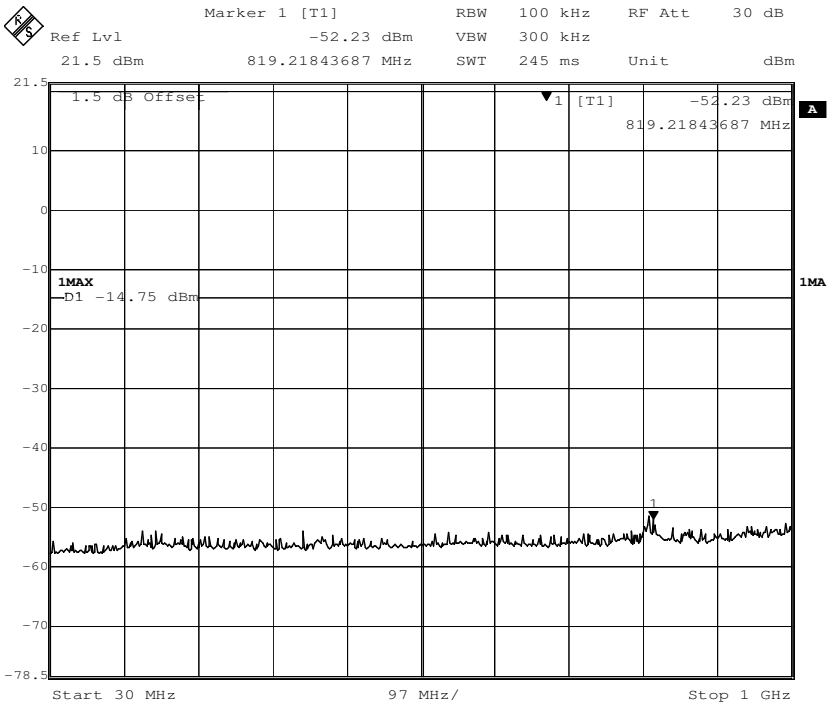


5 G to 25 GHz

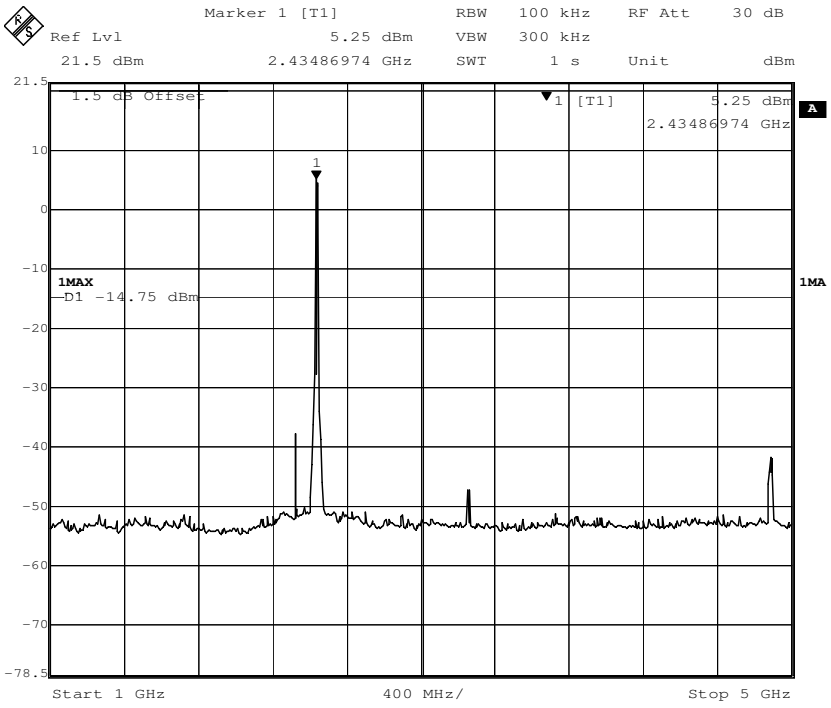


Channel 7: 2.442GHz:

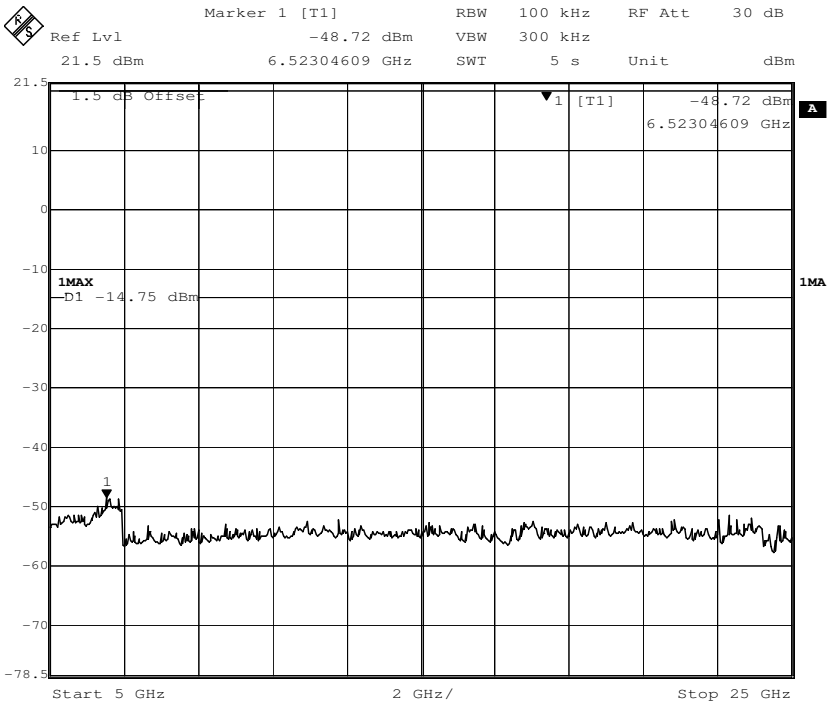
30 MHz to 1 GHz



1 G to 5 GHz

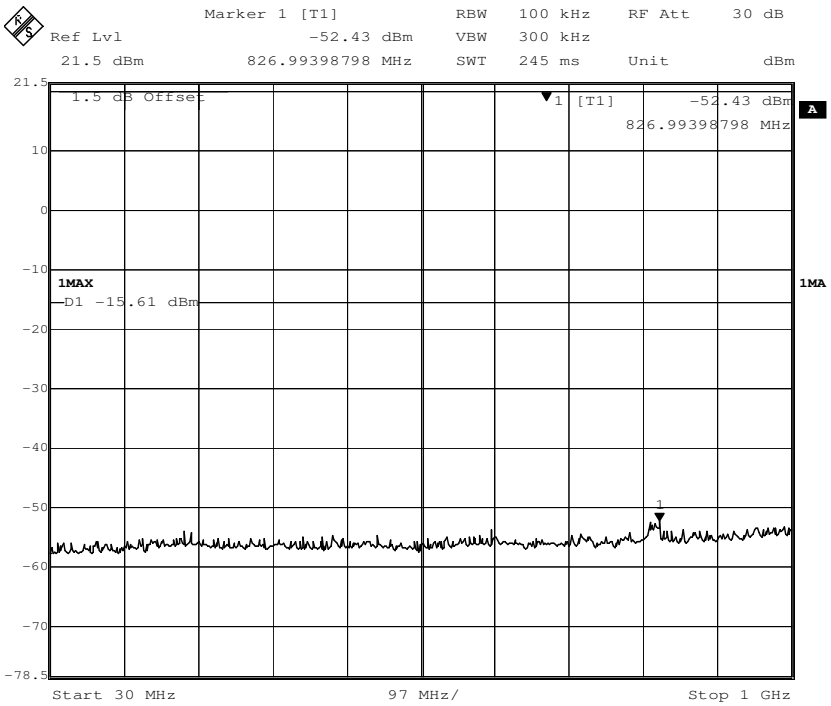


5 G to 25 GHz

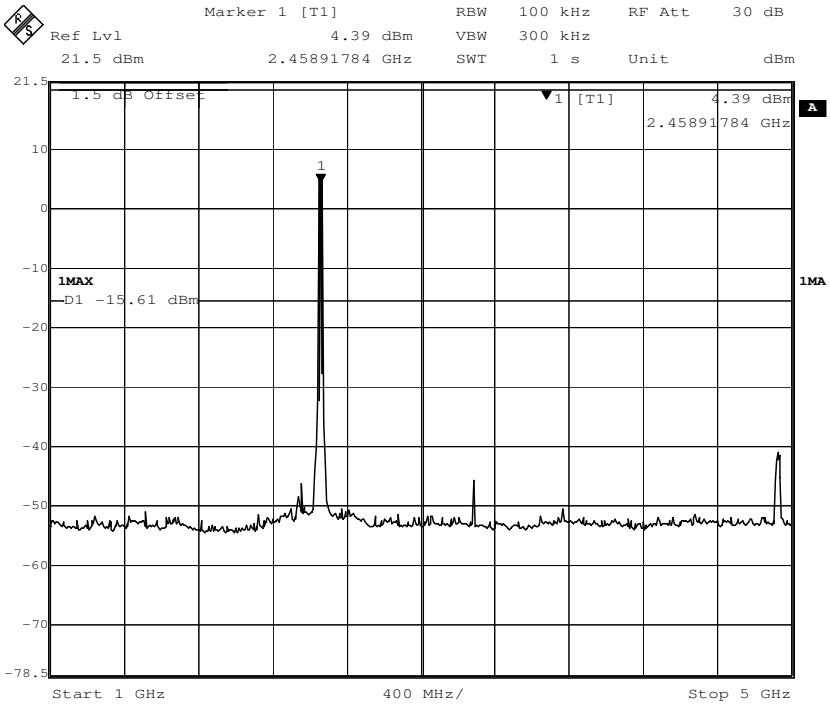


Channel 11:2.462 GHz

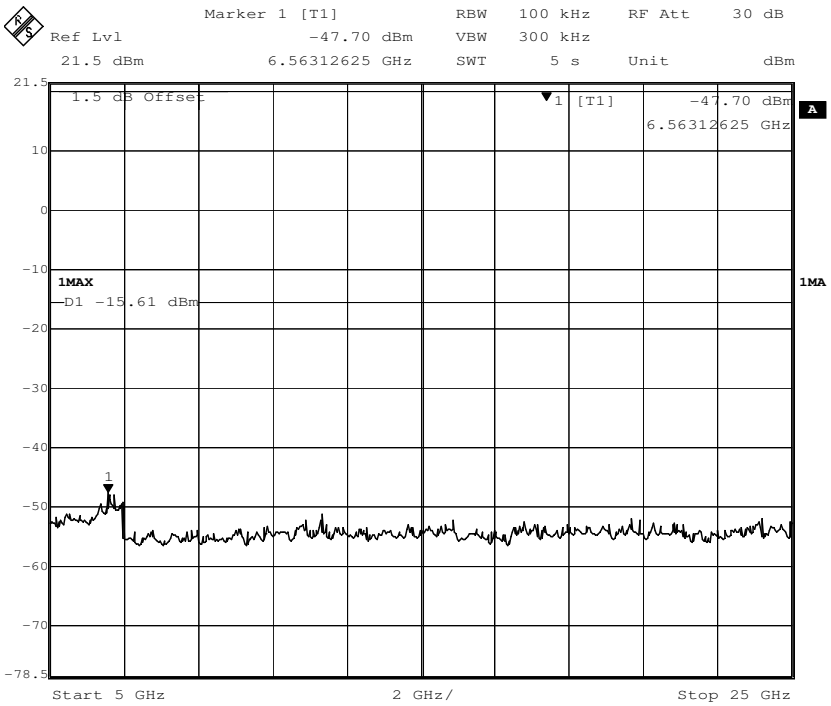
30 MHz to 1 GHz



1 G to 5 GHz



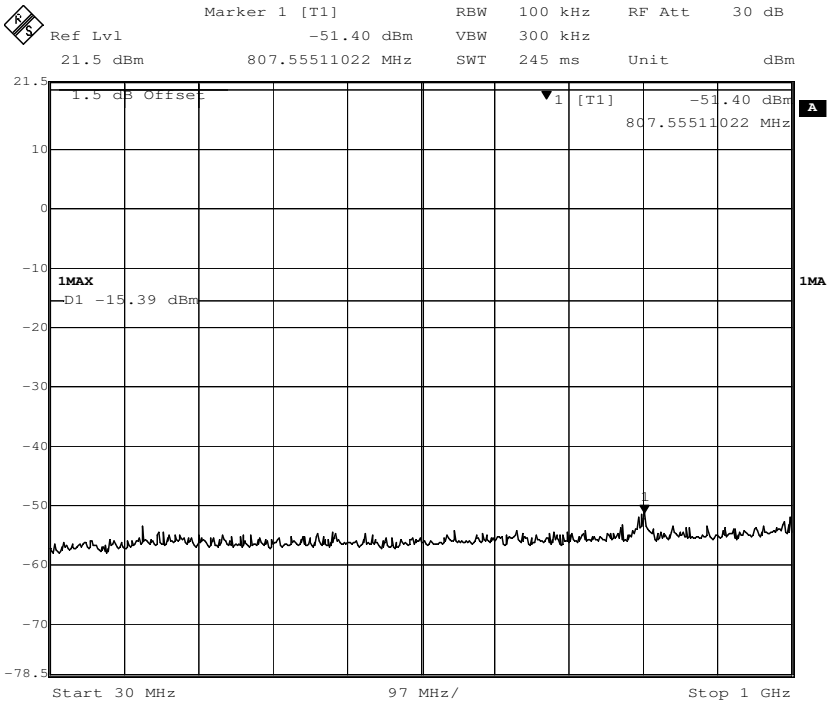
5 G to 25 GHz



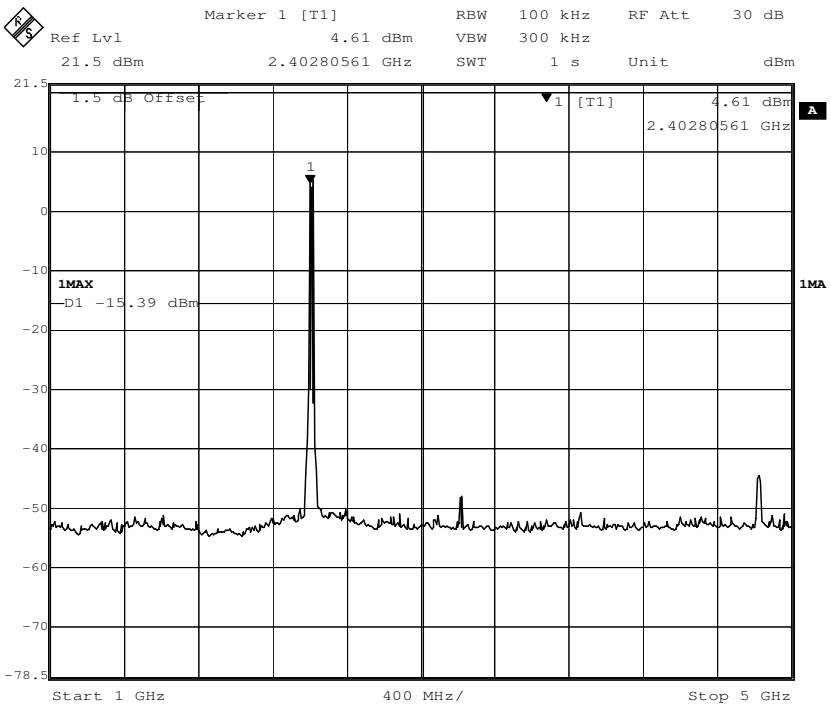
802.11n(HT20) mode with 72.2Mbps data rate

Channel 1: 2.412GHz:

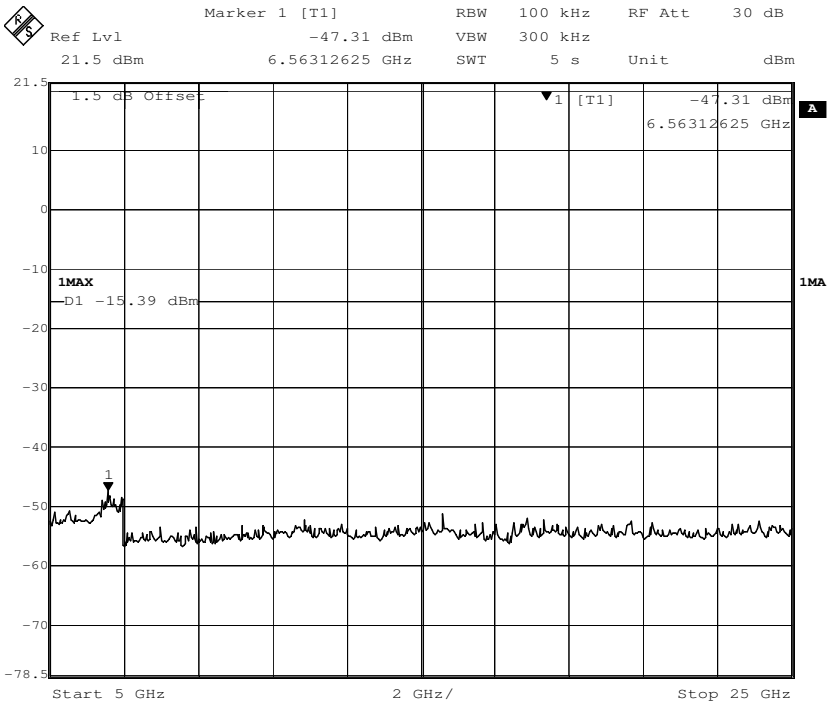
30 MHz to 1 GHz



1 G to 5 GHz

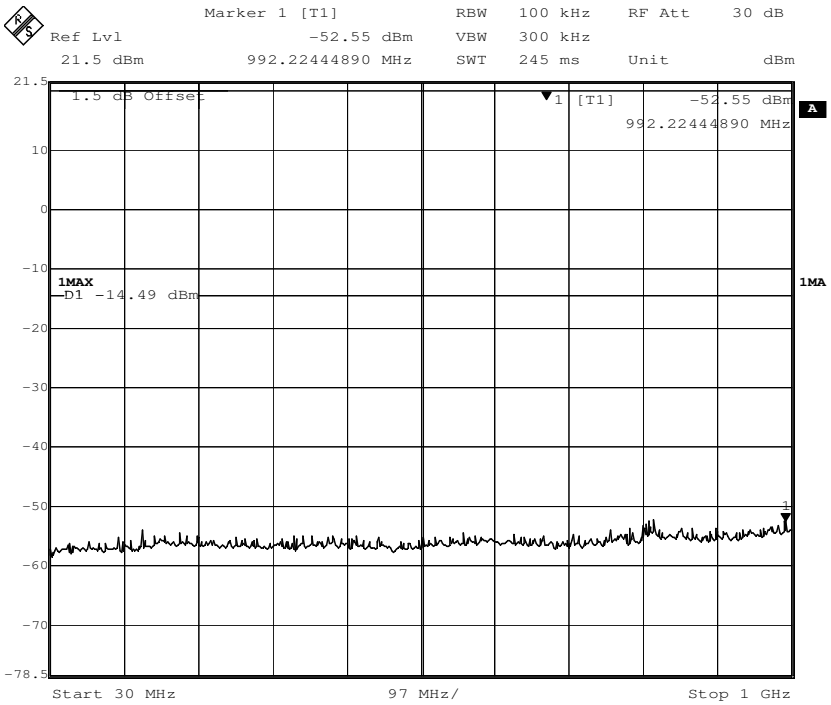


5 G to 25 GHz

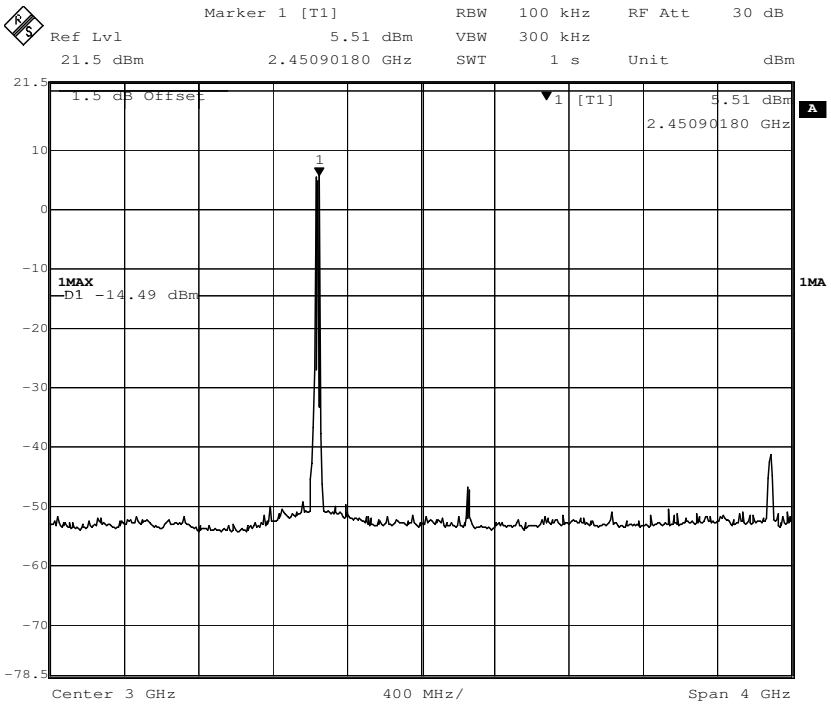


Channel 7: 2.442GHz:

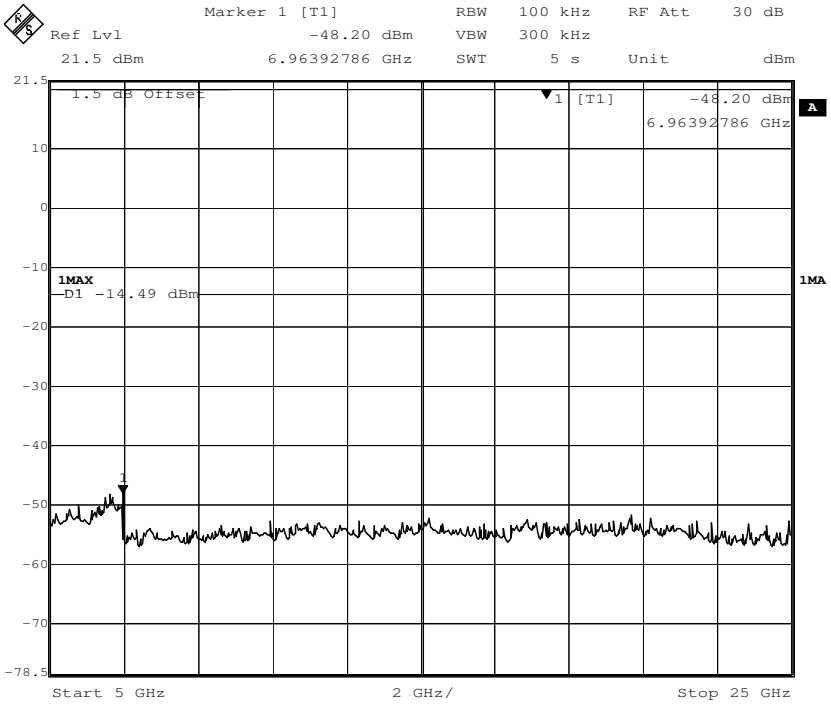
30 MHz to 1 GHz



1 G to 5 GHz

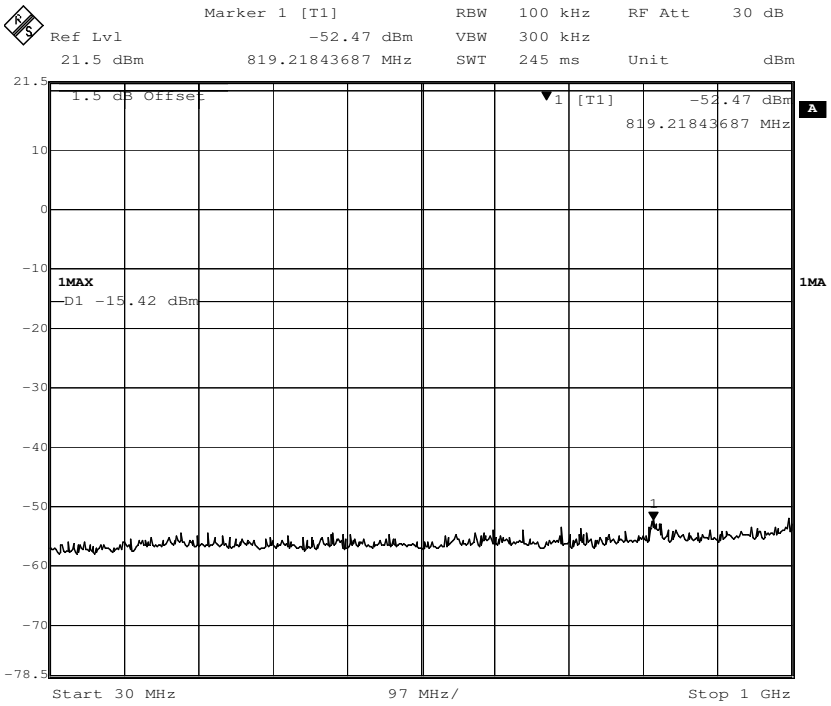


5 G to 25 GHz

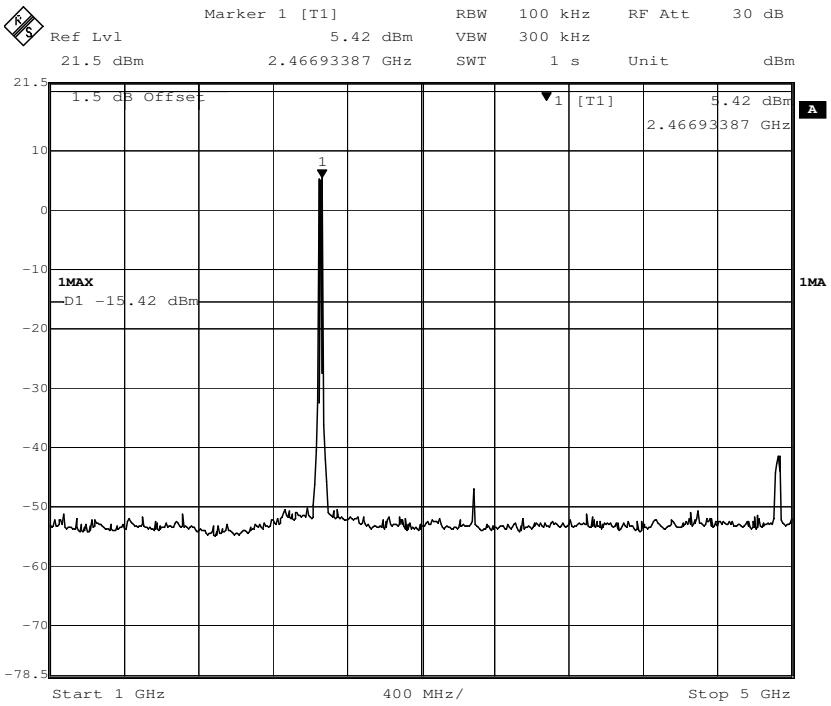


Channel 11:2.462 GHz

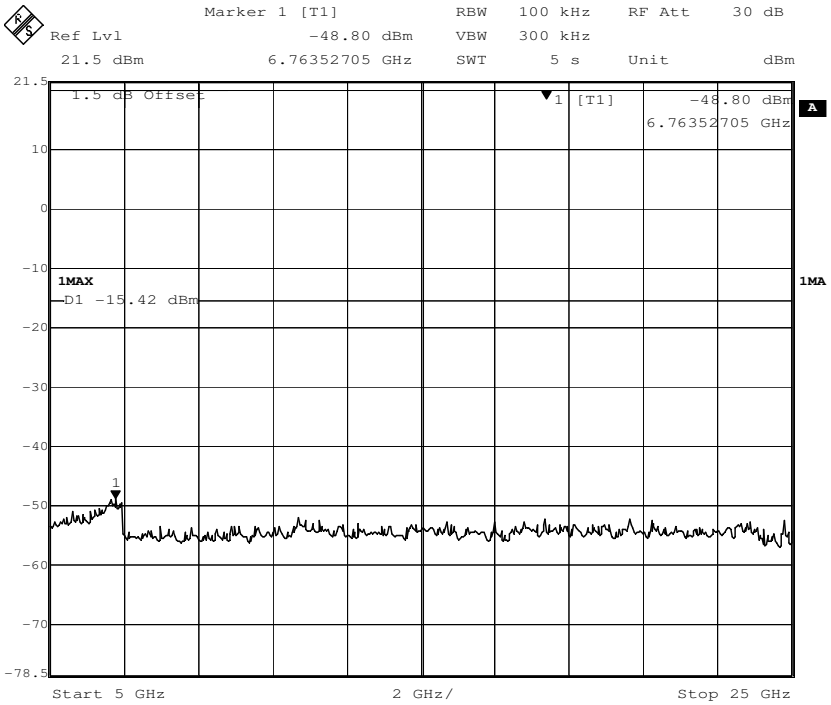
30 MHz to 1 GHz



1 G to 5 GHz



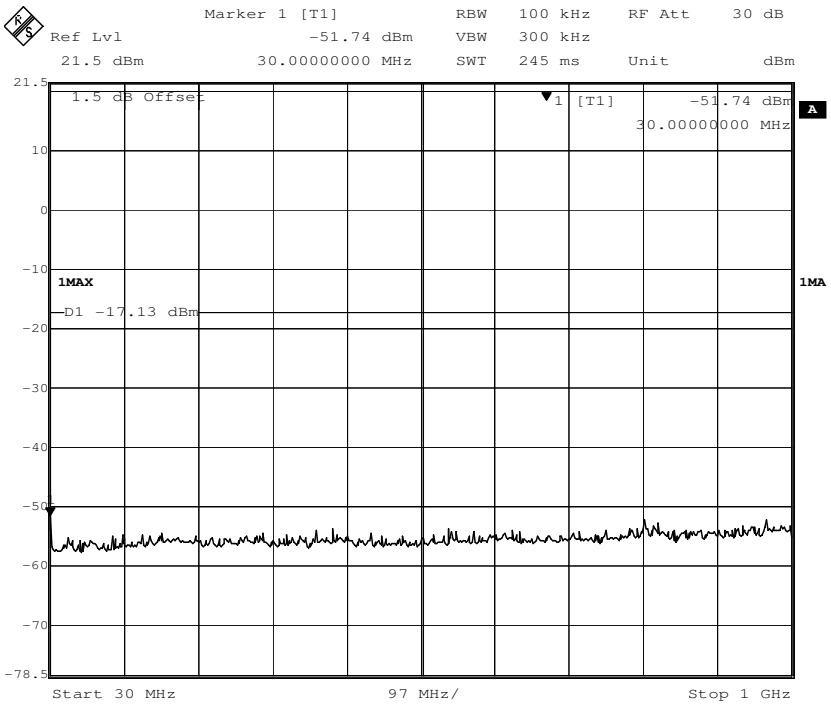
5 G to 25 GHz



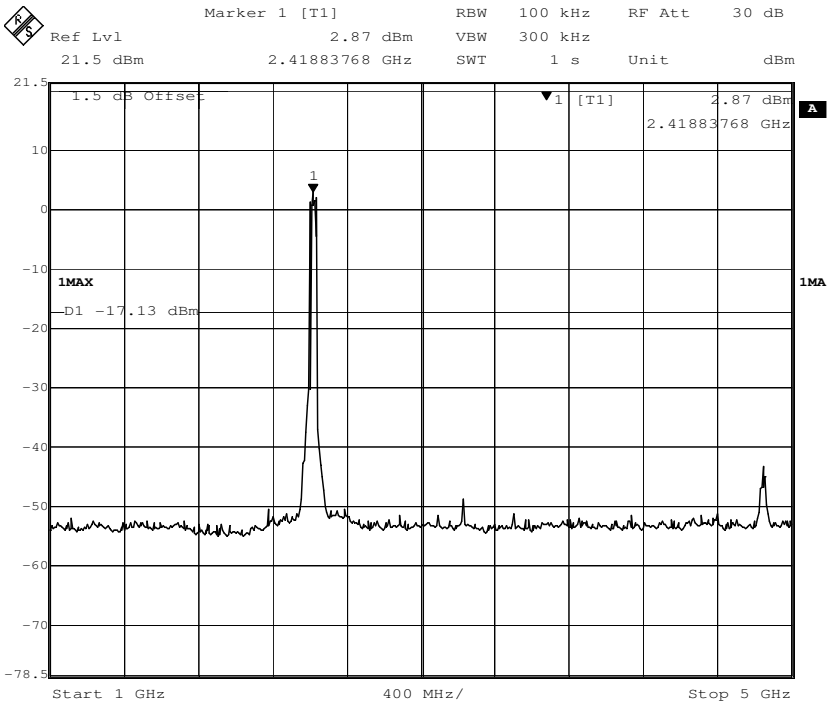
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422GHz:

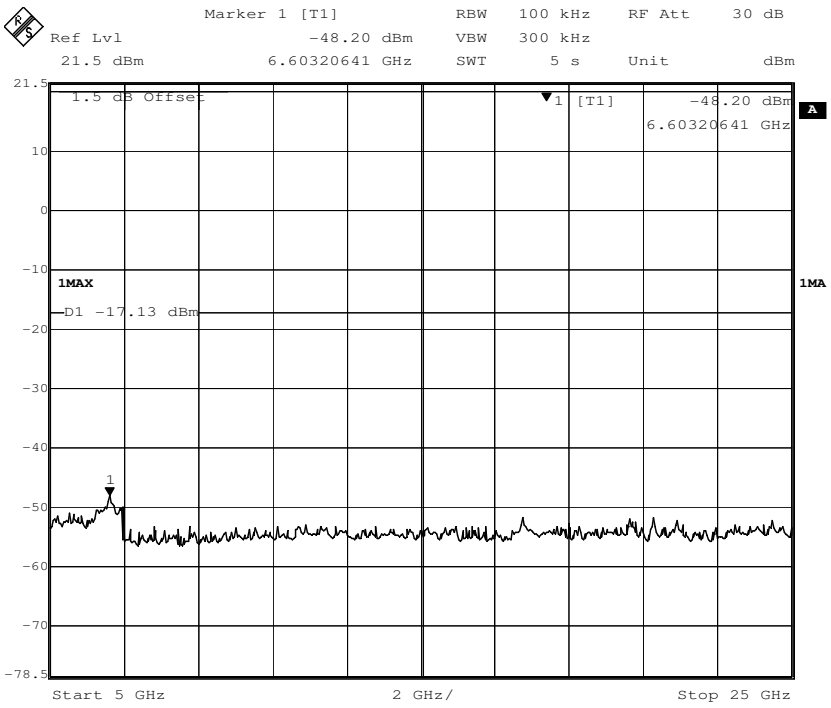
30 MHz to 1 GHz



1 G to 5 GHz

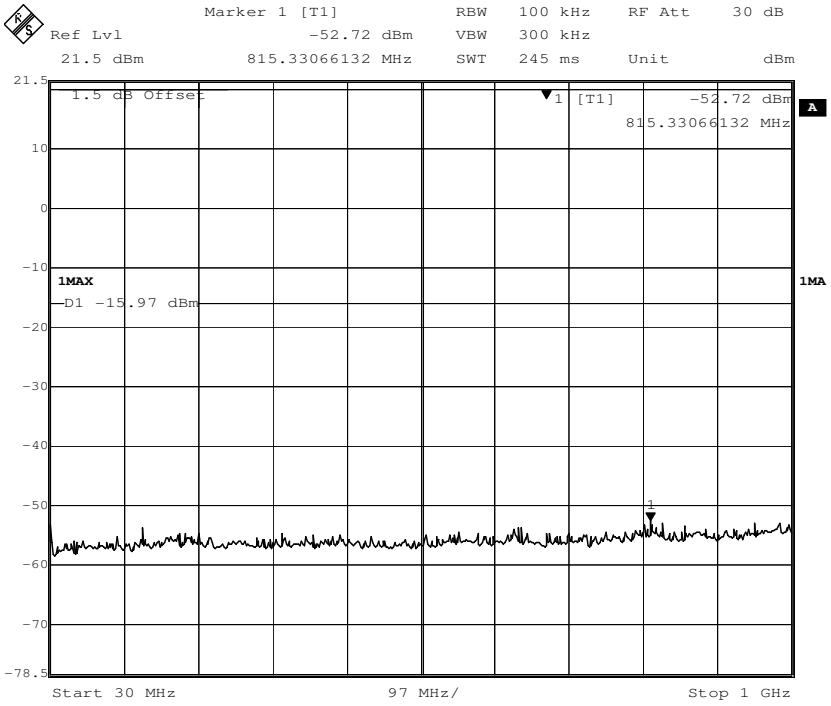


5 G to 25 GHz

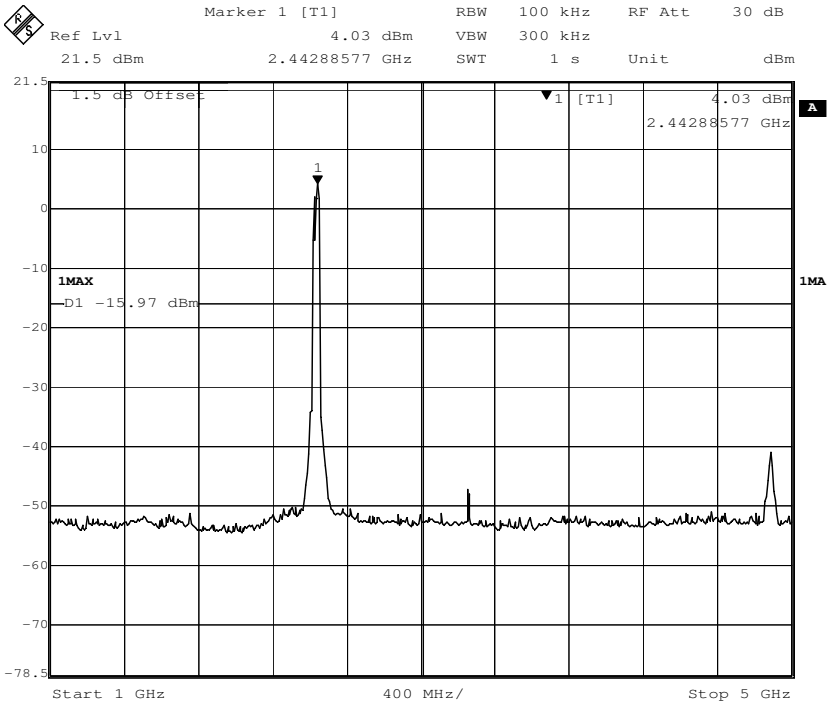


Channel 7: 2.442GHz:

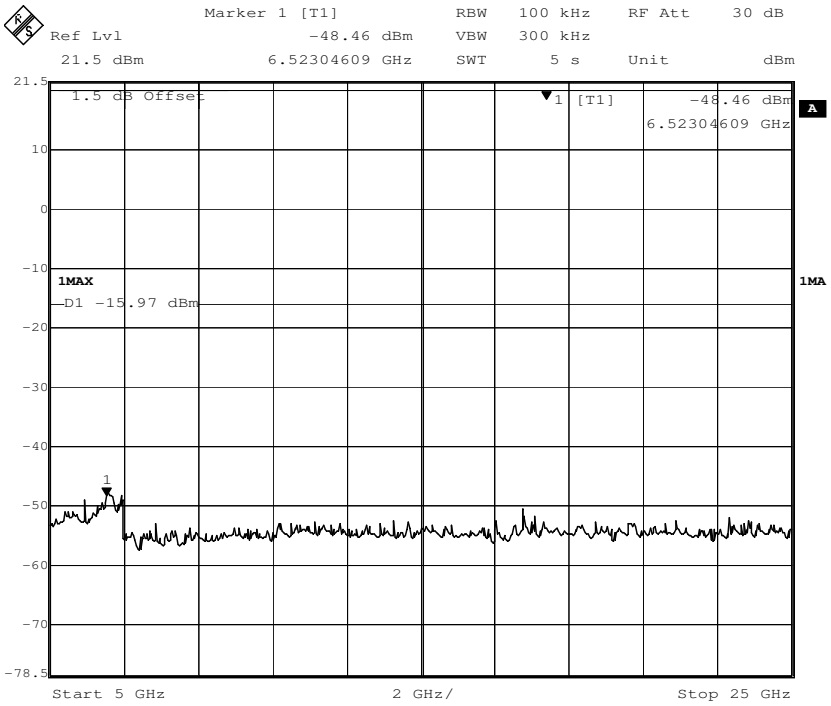
30 MHz to 1 GHz



1 G to 5 GHz

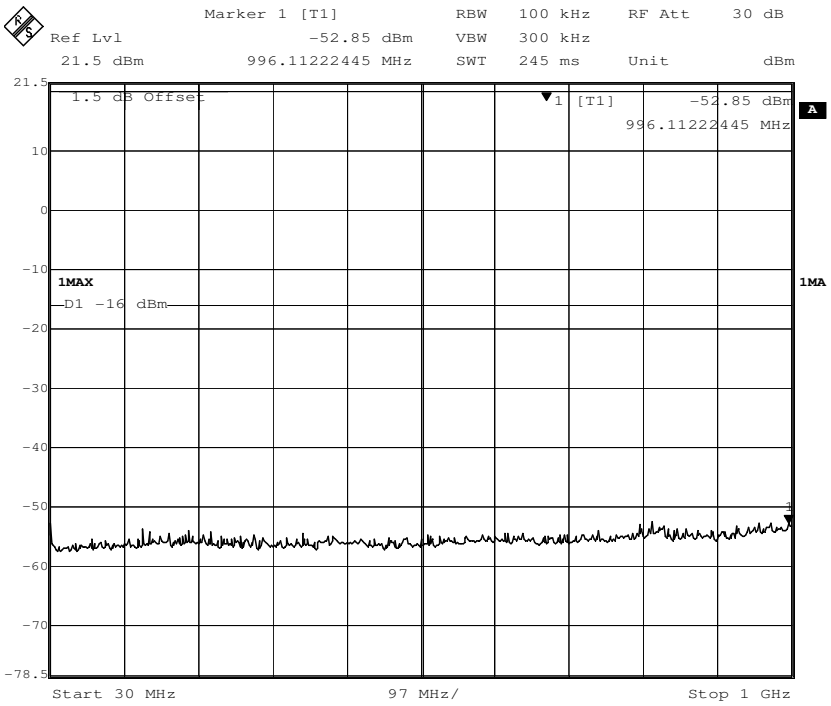


5 G to 25 GHz

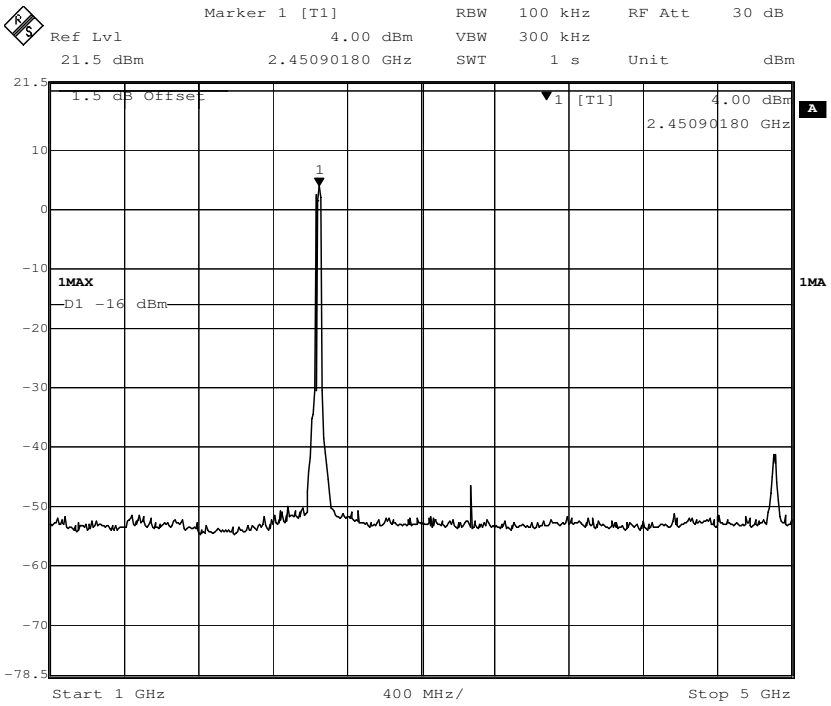


Channel 9:2.452 GHz

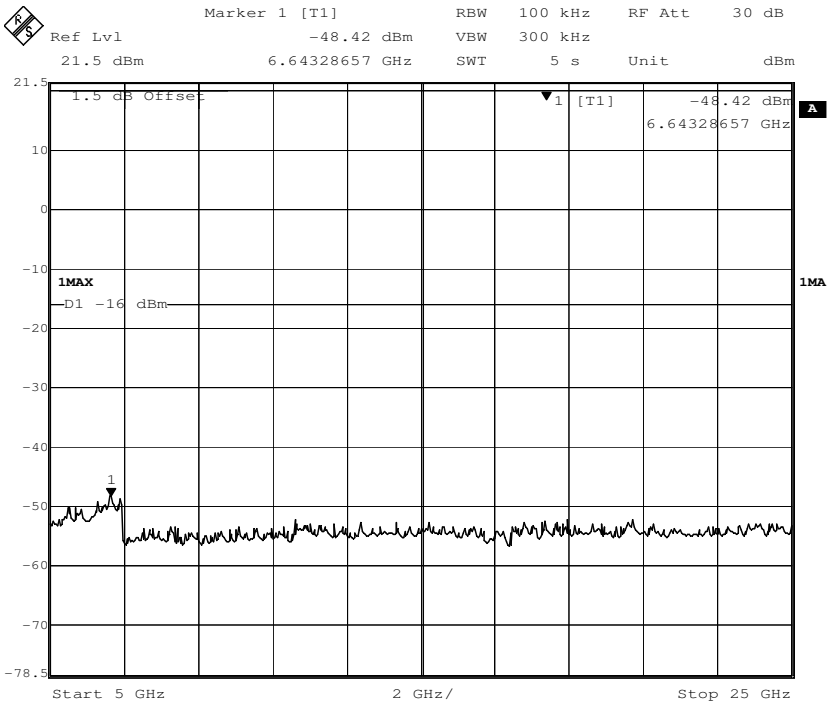
30 MHz to 1 GHz



1 G to 5 GHz



5 G to 25 GHz

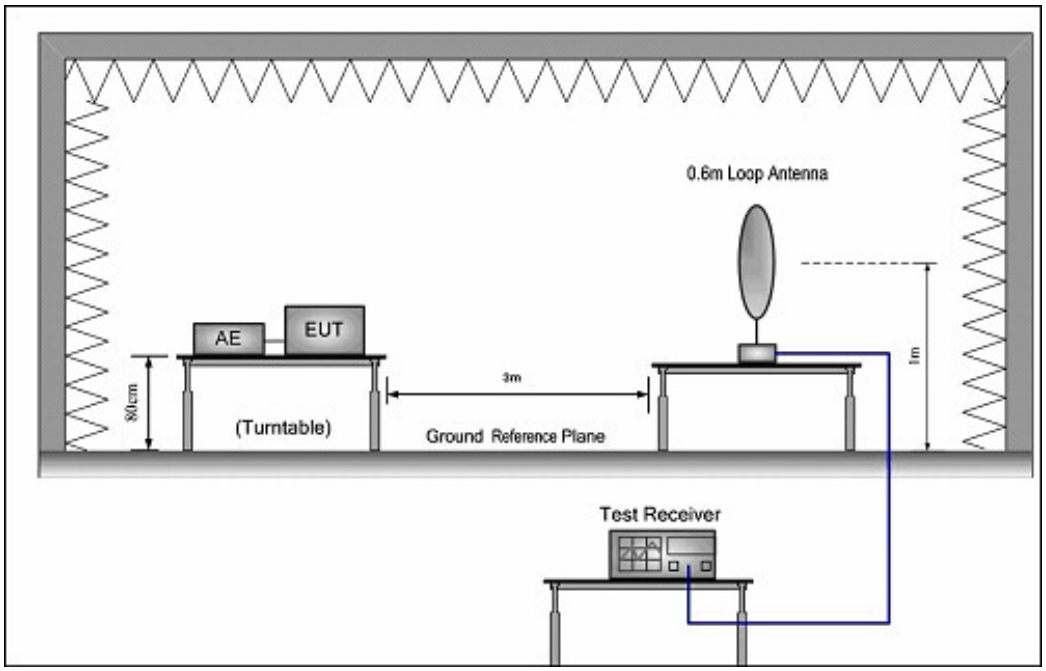


6.7 Radiated Emissions which fall in the restricted bands

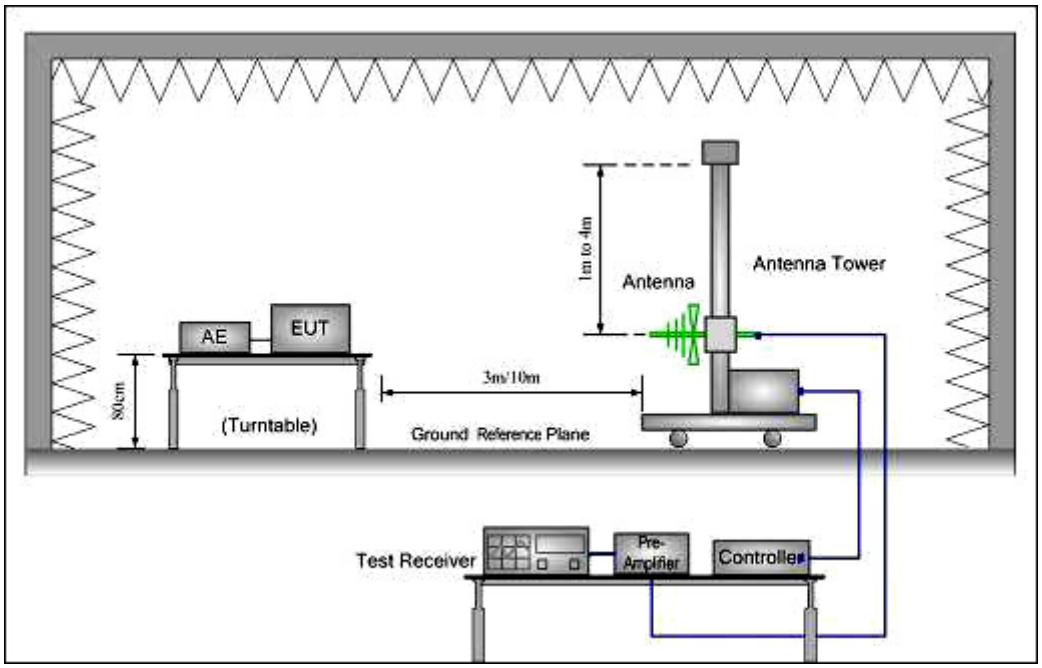
Test Requirement:	FCC Part 15 C section 15.247 (d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method:	ANSI C63.10: Clause 11.12, 6.3, 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 dBμV/m between 30MHz & 88MHz; 43.5 dBμV/m between 88MHz & 216MHz; 46.0 dBμV/m between 216MHz & 960MHz; 54.0 dBμV/m above 960MHz.
Detector:	For PK value: RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz VBW ≥ RBW Sweep = auto Detector function = peak Trace = max hold For AV value: RBW = 1 MHz for f ≥ 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:

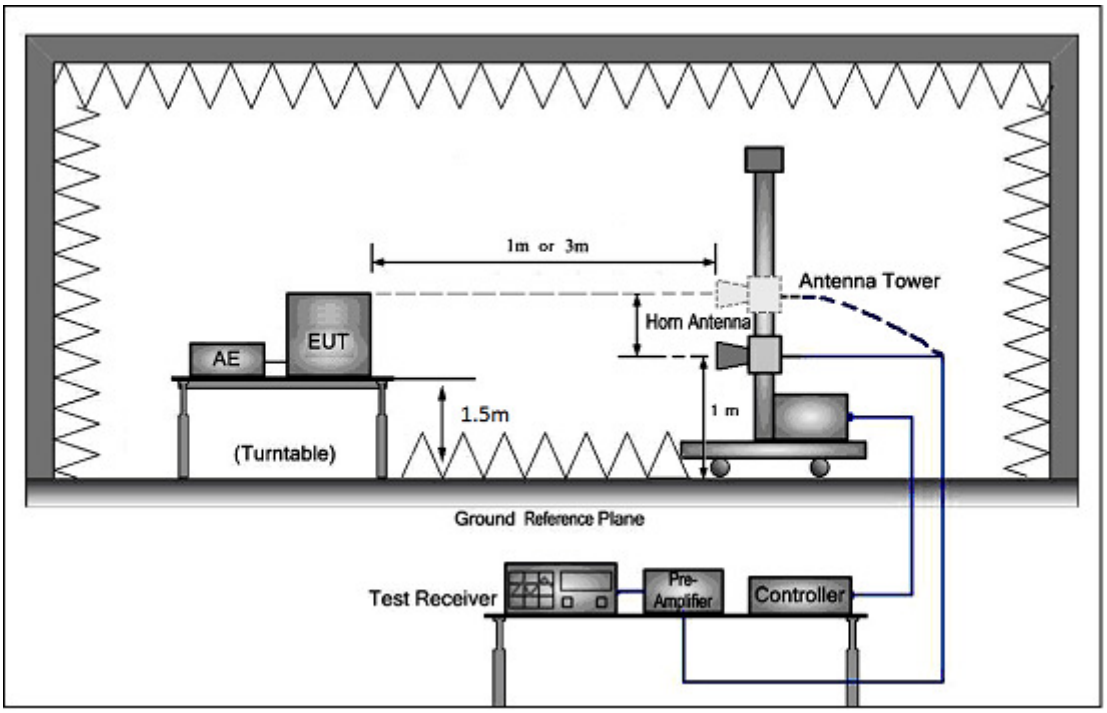
1) 9k to 30MHz emissions:



2). 30 MHz to 1 GHz emissions:



3). 1 GHz to 40 GHz emissions:



Test Procedure:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2010 was used to perform radiated emission test above 1 GHz.

The receiver scanned from the lowest frequency generated within the EUT to 25GHz.When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. 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. The worst case emissions were reported.

From 30MHz to 1GHz, read the Quasi-Peak field strength of the emissions with receiver QP detector RBW=120KHz.

Above 1GHz, read the Peak field strength and Average field strength.

Read the Peak field strength through RBW=1MHz,VBW=3MHz in spectrum analyzer setting;

Read the Average field strength through RBW=1MHz,VBW=10Hz in spectrum analyzer setting;

While maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the average field strength reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit.

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
[1]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:

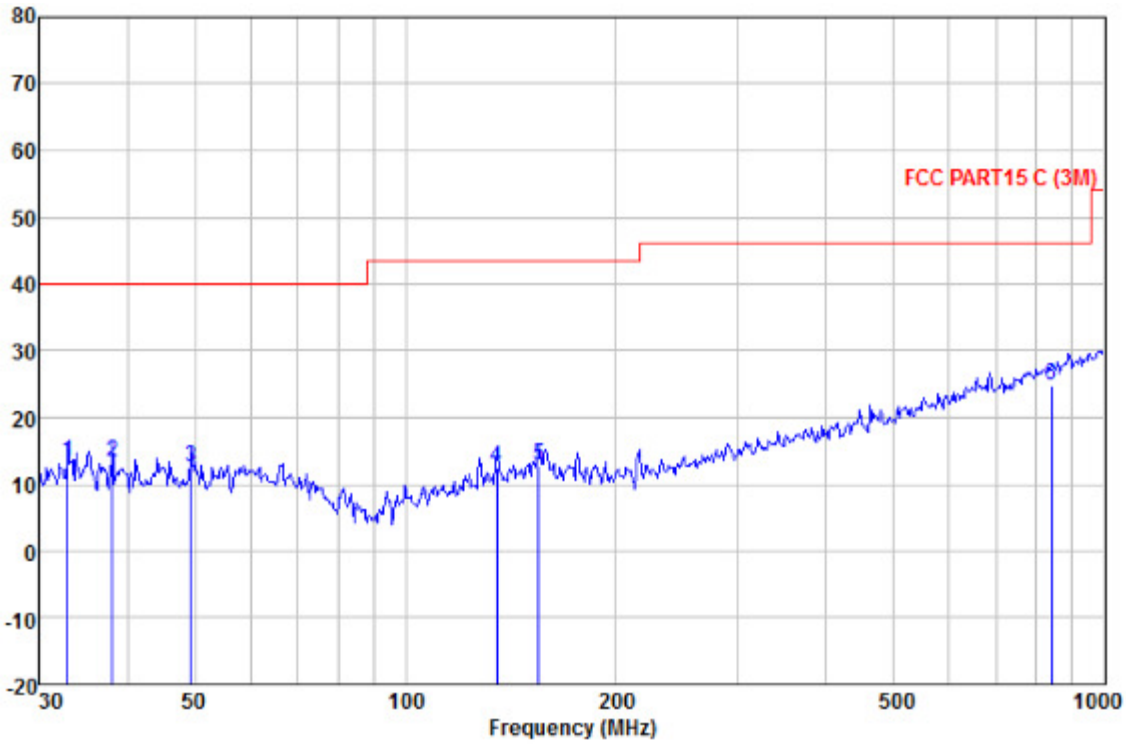
6.7.1 30 MHz~1 GHz Spurious Emissions. Quasi-Peak Measurement

Pre-test all modes with the according rate, the worst case is 802.11n (HT40) with 150Mbps, so the final compliance test result is recorded in 802.11n (HT40) with 150Mbps mode at lowest channel.

Vertical:

Peak scan

Level (dBμV/m)



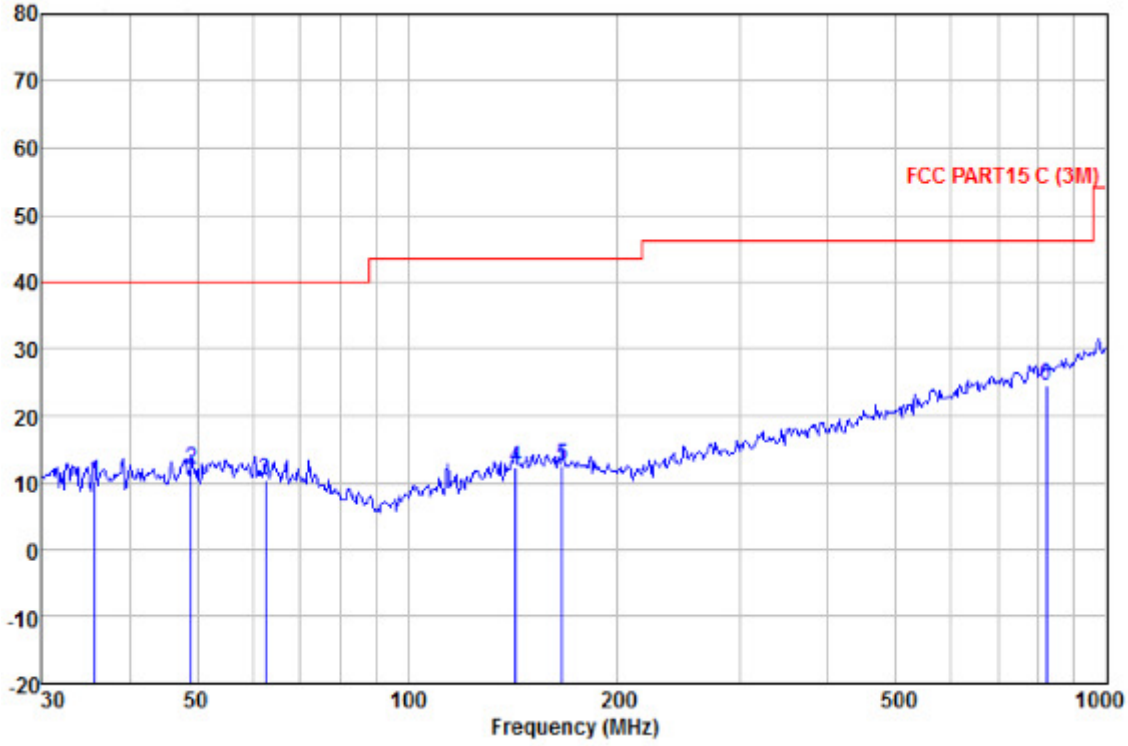
Quasi-peak measurement

Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
32.864	25.27	14.01	1.10	27.10	13.28	40.00	-26.72	QP
38.078	25.56	13.74	1.10	27.00	13.40	40.00	-26.60	QP
49.359	23.71	14.47	1.29	27.00	12.47	40.00	-27.53	QP
135.032	24.51	12.68	2.20	26.84	12.55	43.50	-30.95	QP
155.364	23.76	13.59	2.34	26.79	12.90	43.50	-30.60	QP
839.182	24.06	22.77	5.75	27.89	24.69	46.00	-21.31	QP

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
35.749	22.18	13.82	1.00	27.00	10.00	40.00	-30.00	QP
49.014	23.27	14.46	1.28	27.00	12.01	40.00	-27.99	QP
62.651	22.01	13.82	1.45	27.00	10.28	40.00	-29.72	QP
142.824	23.75	13.08	2.25	26.81	12.27	43.50	-31.23	QP
166.651	23.52	13.40	2.43	26.75	12.60	43.50	-30.90	QP
821.710	24.28	22.58	5.67	27.90	24.63	46.00	-21.37	QP

6.7.2 Above 1GHz Field Strength of Unwanted Emissions. Peak and Average Measurement

6.7.2.1 802.11b mode with 11Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	68.75	26.25	6.80	39.07	62.73	74.00	Vertical
2390.000	66.63	26.43	6.87	39.10	60.83	74.00	V
2483.500	68.13	26.58	7.07	39.14	62.64	74.00	V
2500.000	68.05	26.60	7.10	39.14	62.61	74.00	V
3186.869	42.51	27.90	7.99	39.63	38.77	74.00	V
4824.070	49.08	30.82	9.96	40.21	49.65	74.00	V
6659.763	41.02	34.53	11.93	39.45	48.03	74.00	V
7236.090	38.72	35.55	12.80	39.25	47.82	74.00	V
9648.010	33.96	37.54	14.48	37.95	48.03	74.00	V
12060.050	30.42	39.46	15.83	38.09	47.62	74.00	V
2310.000	69.16	26.25	6.80	39.07	63.14	74.00	Horizontal
2390.000	69.85	26.43	6.87	39.10	64.05	74.00	H
2483.500	70.27	26.58	7.07	39.14	64.78	74.00	H
2500.000	68.70	26.60	7.10	39.14	63.26	74.00	H
4824.030	50.42	30.82	9.96	40.21	50.99	74.00	H
6001.626	40.81	32.30	11.10	39.88	44.33	74.00	H
6717.762	42.95	34.65	12.05	39.41	50.24	74.00	H
7236.010	39.28	35.55	12.80	39.25	48.38	74.00	H
9648.040	34.79	37.54	14.48	37.95	48.86	74.00	H
12060.020	32.04	39.46	15.83	38.09	49.24	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	52.14	26.25	6.80	39.07	46.12	54.00	Vertical
2390.000	52.63	26.43	6.87	39.10	46.83	54.00	V
2483.500	50.34	26.58	7.07	39.14	44.85	54.00	V
2500.000	50.08	26.60	7.10	39.14	44.64	54.00	V
3186.869	34.37	27.90	7.99	39.63	30.63	54.00	V
4824.070	32.78	30.82	9.96	40.21	33.35	54.00	V
6659.763	31.35	34.53	11.93	39.45	38.36	54.00	V
7236.090	27.07	35.55	12.80	39.25	36.17	54.00	V
9648.100	24.80	37.54	14.48	37.95	38.87	54.00	V
12060.050	22.64	39.46	15.83	38.09	39.84	54.00	V
2310.000	51.11	26.25	6.80	39.07	45.09	54.00	Horizontal
2390.000	51.85	26.43	6.87	39.10	46.05	54.00	H
2483.500	47.53	26.58	7.07	39.14	42.04	54.00	H
2500.000	47.45	26.60	7.10	39.14	42.01	54.00	H
4824.030	39.35	30.82	9.96	40.21	39.92	54.00	H
6001.626	32.08	32.30	11.10	39.88	35.60	54.00	H
6717.762	32.38	34.65	12.05	39.41	39.67	54.00	H
7236.010	30.89	35.55	12.80	39.25	39.99	54.00	H
9648.040	27.90	37.54	14.48	37.95	41.97	54.00	H
12060.020	21.21	39.46	15.83	38.09	38.41	54.00	H

Test at Channel 7 (2.442 GHz) in transmitting status,

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1587.975	47.64	25.02	5.54	38.95	39.25	74.00	Vertical
2201.352	50.34	25.72	6.50	39.04	43.52	74.00	V
3114.025	44.77	27.90	7.92	39.53	41.06	74.00	V
4884.020	50.33	30.95	10.02	40.22	51.08	74.00	V
7200.309	41.07	35.45	12.73	39.26	49.99	74.00	V
10760.540	33.41	39.50	14.90	37.91	49.90	74.00	V
1587.975	44.71	25.02	5.54	38.95	36.32	74.00	Horizontal
2101.866	46.23	25.40	6.48	39.01	39.10	74.00	H
4884.020	49.53	30.95	10.02	40.22	50.28	74.00	H
6640.542	41.30	34.49	11.89	39.45	48.23	74.00	H
7200.309	40.44	35.45	12.73	39.26	49.36	74.00	H
10822.920	34.00	39.66	14.93	37.93	50.66	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1587.975	37.59	25.02	5.54	38.95	29.20	54.00	Vertical
2201.352	39.74	25.72	6.50	39.04	32.92	54.00	V
3114.025	36.57	27.90	7.92	39.53	32.86	54.00	V
4884.020	36.36	30.95	10.02	40.22	37.11	54.00	V
7200.309	31.34	35.45	12.73	39.26	40.26	54.00	V
10760.540	24.40	39.50	14.90	37.91	40.89	54.00	V
1587.975	34.36	25.02	5.54	38.95	25.97	54.00	Horizontal
2101.866	35.64	25.40	6.48	39.01	28.51	54.00	H
4884.020	38.53	30.95	10.02	40.22	39.28	54.00	H
6640.542	31.64	34.49	11.89	39.45	38.57	54.00	H
7200.309	31.25	35.45	12.73	39.26	40.17	54.00	H
10822.920	26.52	39.66	14.93	37.93	43.18	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	69.54	26.25	6.80	39.07	63.52	74.00	Vertical
2390.000	69.47	26.43	6.87	39.10	63.67	74.00	V
2483.500	68.82	26.58	7.07	39.14	63.33	74.00	V
2500.000	68.84	26.60	7.10	39.14	63.40	74.00	V
1845.516	45.34	25.16	6.00	38.97	37.53	74.00	V
2201.352	50.34	25.72	6.50	39.04	43.52	74.00	V
3114.025	44.77	27.90	7.92	39.53	41.06	74.00	V
4924.060	51.54	31.01	10.06	40.22	52.39	74.00	V
7200.309	40.07	35.45	12.73	39.26	48.99	74.00	V
11076.100	32.92	39.91	15.08	37.97	49.94	74.00	V
2310.000	69.55	26.25	6.80	39.07	63.53	74.00	Horizontal
2390.000	69.00	26.43	6.87	39.10	63.20	74.00	H
2483.500	69.87	26.58	7.07	39.14	64.38	74.00	H
2500.000	69.36	26.60	7.10	39.14	63.92	74.00	H
2101.866	46.23	25.40	6.48	39.01	39.10	74.00	H
3415.787	42.20	27.90	8.24	39.85	38.49	74.00	H
4924.060	49.97	31.01	10.06	40.22	50.82	74.00	H
6640.542	41.30	34.49	11.89	39.45	48.23	74.00	H
7200.309	40.44	35.45	12.73	39.26	49.36	74.00	H
10822.920	34.00	39.66	14.93	37.93	50.66	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	49.73	26.25	6.80	39.07	43.71	54.00	Vertical
2390.000	49.71	26.43	6.87	39.10	43.91	54.00	V
2483.500	47.82	26.58	7.07	39.14	42.33	54.00	V
2500.000	51.00	26.60	7.10	39.14	45.56	54.00	V
1845.516	38.37	25.16	6.00	38.97	30.56	54.00	V
2201.352	39.35	25.72	6.50	39.04	32.53	54.00	V
3114.025	35.39	27.90	7.92	39.53	31.68	54.00	V
4924.060	40.39	31.01	10.06	40.22	41.24	54.00	V
7200.309	28.21	35.45	12.73	39.26	37.13	54.00	V
11076.100	23.37	39.91	15.08	37.97	40.39	54.00	V
2310.000	48.55	26.25	6.80	39.07	42.53	54.00	Horizontal
2390.000	50.73	26.43	6.87	39.10	44.93	54.00	H
2483.500	49.13	26.58	7.07	39.14	43.64	54.00	H
2500.000	48.77	26.60	7.10	39.14	43.33	54.00	H
2101.866	35.56	25.40	6.48	39.01	28.43	54.00	H
3415.787	33.35	27.90	8.24	39.85	29.64	54.00	H
4924.060	40.25	31.01	10.06	40.22	41.10	54.00	H
6640.542	33.06	34.49	11.89	39.45	39.99	54.00	H
7200.309	29.37	35.45	12.73	39.26	38.29	54.00	H
10822.920	23.59	39.66	14.93	37.93	40.25	54.00	H

6.7.2.2 802.11g mode with 54Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	68.49	26.25	6.80	39.07	62.47	74.00	Vertical
2390.000	69.55	26.43	6.87	39.10	63.75	74.00	V
2483.500	68.92	26.58	7.07	39.14	63.43	74.00	V
2500.000	68.22	26.60	7.10	39.14	62.78	74.00	V
1587.975	47.07	25.02	5.54	38.95	38.68	74.00	V
2138.635	45.17	25.49	6.50	39.02	38.14	74.00	V
4824.070	48.75	30.82	9.96	40.21	49.32	74.00	V
6679.040	41.40	34.57	11.97	39.43	48.51	74.00	V
7762.260	37.13	36.28	13.33	39.13	47.61	74.00	V
11667.600	33.34	39.23	15.80	38.05	50.32	74.00	V
2310.000	68.44	26.25	6.80	39.07	62.42	74.00	Horizontal
2390.000	69.18	26.43	6.87	39.10	63.38	74.00	H
2483.500	68.07	26.58	7.07	39.14	62.58	74.00	H
2500.000	68.09	26.60	7.10	39.14	62.65	74.00	H
1583.392	42.82	25.02	5.52	38.95	34.41	74.00	H
2990.531	42.56	27.89	7.70	39.41	38.74	74.00	H
4824.030	50.43	30.82	9.96	40.21	51.00	74.00	H
6717.762	42.95	34.65	12.05	39.41	50.24	74.00	H
7762.260	37.78	36.28	13.33	39.13	48.26	74.00	H
11012.250	33.58	40.00	15.00	37.96	50.62	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	53.01	26.25	6.80	39.07	46.99	54.00	Vertical
2390.000	54.87	26.43	6.87	39.10	49.07	54.00	V
2483.500	54.91	26.58	7.07	39.14	49.42	54.00	V
2500.000	52.12	26.60	7.10	39.14	46.68	54.00	V
1587.975	37.53	25.02	5.54	38.95	29.14	54.00	V
2138.635	36.37	25.49	6.50	39.02	29.34	54.00	V
4824.070	37.35	30.82	9.96	40.21	37.92	54.00	V
6679.040	32.32	34.57	11.97	39.43	39.43	54.00	V
7762.260	28.12	36.28	13.33	39.13	38.60	54.00	V
11667.600	25.25	39.23	15.80	38.05	42.23	54.00	V
2310.000	54.85	26.25	6.80	39.07	48.83	54.00	Horizontal
2390.000	53.64	26.43	6.87	39.10	47.84	54.00	H
2483.500	53.28	26.58	7.07	39.14	47.79	54.00	H
2500.000	53.08	26.60	7.10	39.14	47.64	54.00	H
1583.392	33.62	25.02	5.52	38.95	25.21	54.00	H
2990.531	33.30	27.89	7.70	39.41	29.48	54.00	H
4824.030	40.61	30.82	9.96	40.21	41.18	54.00	H
6717.762	33.07	34.65	12.05	39.41	40.36	54.00	H
7762.260	26.78	36.28	13.33	39.13	37.26	54.00	H
11012.250	21.35	40.00	15.00	37.96	38.39	54.00	H
1583.392	33.62	25.02	5.52	38.95	25.21	54.00	H

Test at Channel 7 (2.442 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1587.975	50.64	25.02	5.54	38.95	42.25	74.00	Vertical
2201.352	50.34	25.72	6.50	39.04	43.52	74.00	V
3114.025	44.77	27.90	7.92	39.53	41.06	74.00	V
4884.060	50.64	30.95	10.02	40.22	51.39	74.00	V
7200.309	41.07	35.45	12.73	39.26	49.99	74.00	V
11076.100	32.92	39.91	15.08	37.97	49.94	74.00	V
2101.866	46.23	25.40	6.48	39.01	39.10	74.00	Horizontal
2239.861	45.40	25.94	6.73	39.05	39.02	74.00	H
4776.419	51.39	30.72	9.91	40.20	51.82	74.00	H
6640.542	41.30	34.49	11.89	39.45	48.23	74.00	H
7200.309	39.44	35.45	12.73	39.26	48.36	74.00	H
10822.920	34.00	39.66	14.93	37.93	50.66	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1587.975	39.27	25.02	5.54	38.95	30.88	54.00	Vertical
2201.352	40.57	25.72	6.50	39.04	33.75	54.00	V
3114.025	35.02	27.90	7.92	39.53	31.31	54.00	V
4884.060	40.68	30.95	10.02	40.22	41.43	54.00	V
7200.309	32.10	35.45	12.73	39.26	41.02	54.00	V
11076.100	24.36	39.91	15.08	37.97	41.38	54.00	V
2101.866	38.34	25.40	6.48	39.01	31.21	54.00	Horizontal
2239.861	34.59	25.94	6.73	39.05	28.21	54.00	H
4884.060	40.38	30.95	10.02	40.22	41.13	54.00	H
6640.542	31.33	34.49	11.89	39.45	38.26	54.00	H
7200.309	30.31	35.45	12.73	39.26	39.23	54.00	H
10822.920	21.96	39.66	14.93	37.93	38.62	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	68.68	26.25	6.80	39.07	62.66	74.00	Vertical
2390.000	68.72	26.43	6.87	39.10	62.92	74.00	V
2483.500	69.02	26.58	7.07	39.14	63.53	74.00	V
2500.000	69.15	26.60	7.10	39.14	63.71	74.00	V
1245.663	46.25	24.65	4.89	38.87	36.92	74.00	V
2126.308	48.15	25.46	6.50	39.02	41.09	74.00	V
3114.025	44.77	27.90	7.92	39.53	41.06	74.00	V
4924.070	49.11	31.01	10.06	40.22	49.96	74.00	V
6954.852	40.65	35.06	12.46	39.32	48.85	74.00	V
12290.700	33.32	39.09	16.15	38.11	50.45	74.00	V
2310.000	67.98	26.25	6.80	39.07	61.96	74.00	Horizontal
2390.000	68.46	26.43	6.87	39.10	62.66	74.00	H
2483.500	69.04	26.58	7.07	39.14	63.55	74.00	H
2500.000	68.95	26.60	7.10	39.14	63.51	74.00	H
1592.571	43.09	25.02	5.56	38.95	34.72	74.00	H
2006.877	45.13	25.21	6.30	38.98	37.66	74.00	H
3159.355	40.33	27.90	7.97	39.60	36.60	74.00	H
4924.060	49.97	31.01	10.06	40.22	50.82	74.00	H
6679.040	40.76	34.57	11.97	39.43	47.87	74.00	H
7158.806	38.70	35.36	12.67	39.27	47.46	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	54.28	26.25	6.80	39.07	48.26	54.00	Vertical
2390.000	54.73	26.43	6.87	39.10	48.93	54.00	V
2483.500	52.84	26.58	7.07	39.14	47.35	54.00	V
2500.000	54.11	26.60	7.10	39.14	48.67	54.00	V
1245.663	37.31	24.65	4.89	38.87	27.98	54.00	V
2126.308	39.62	25.46	6.50	39.02	32.56	54.00	V
3114.025	33.36	27.90	7.92	39.53	29.65	54.00	V
4924.070	37.25	31.01	10.06	40.22	38.10	54.00	V
6954.852	30.37	35.06	12.46	39.32	38.57	54.00	V
12290.700	21.27	39.09	16.15	38.11	38.40	54.00	V
2310.000	53.61	26.25	6.80	39.07	47.59	54.00	Horizontal
2390.000	53.88	26.43	6.87	39.10	48.08	54.00	H
2483.500	52.62	26.58	7.07	39.14	47.13	54.00	H
2500.000	53.97	26.60	7.10	39.14	48.53	54.00	H
1592.571	34.07	25.02	5.56	38.95	25.70	54.00	H
2006.877	35.96	25.21	6.30	38.98	28.49	54.00	H
3159.355	33.64	27.90	7.97	39.60	29.91	54.00	H
4924.060	36.94	31.01	10.06	40.22	37.79	54.00	H
6679.040	32.27	34.57	11.97	39.43	39.38	54.00	H
7158.806	29.62	35.36	12.67	39.27	38.38	54.00	H

6.7.2.3 802.11n(HT20) mode with 72.2Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	70.42	26.25	6.80	39.07	64.40	74.00	Vertical
2390.000	71.72	26.43	6.87	39.10	65.92	74.00	V
2483.500	70.12	26.58	7.07	39.14	64.63	74.00	V
2500.000	69.65	26.60	7.10	39.14	64.21	74.00	V
1606.441	42.72	25.03	5.61	38.95	34.41	74.00	V
2132.462	44.54	25.47	6.50	39.02	37.49	74.00	V
3034.063	41.31	27.90	7.76	39.46	37.51	74.00	V
4824.030	49.75	30.82	9.96	40.21	50.32	74.00	V
6855.063	39.63	34.93	12.33	39.35	47.54	74.00	V
10980.470	32.24	39.95	14.99	37.95	49.23	74.00	V
2310.000	69.72	26.25	6.80	39.07	63.70	74.00	Horizontal
2390.000	71.42	26.43	6.87	39.10	65.62	74.00	H
2483.500	69.15	26.58	7.07	39.14	63.66	74.00	H
2500.000	68.21	26.60	7.10	39.14	62.77	74.00	H
1819.036	42.22	25.16	6.00	38.97	34.41	74.00	H
2101.866	41.92	25.40	6.48	39.01	34.79	74.00	H
3495.691	41.07	27.90	8.40	39.89	37.48	74.00	H
3935.493	40.80	29.37	8.93	40.05	39.05	74.00	H
4824.070	50.43	30.82	9.96	40.21	51.00	74.00	H
6698.373	41.77	34.61	12.01	39.41	48.98	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	49.17	26.25	6.80	39.07	43.15	54.00	Vertical
2390.000	52.93	26.43	6.87	39.10	47.13	54.00	V
2483.500	51.35	26.58	7.07	39.14	45.86	54.00	V
2500.000	50.53	26.60	7.10	39.14	45.09	54.00	V
1606.441	35.52	25.03	5.61	38.95	27.21	54.00	V
2132.462	35.71	25.47	6.50	39.02	28.66	54.00	V
3034.063	32.35	27.90	7.76	39.46	28.55	54.00	V
4824.030	39.31	30.82	9.96	40.21	39.88	54.00	V
6855.063	30.49	34.93	12.33	39.35	38.40	54.00	V
10980.470	22.31	39.95	14.99	37.95	39.30	54.00	V
2310.000	52.26	26.25	6.80	39.07	46.24	54.00	Horizontal
2390.000	52.74	26.43	6.87	39.10	46.94	54.00	H
2483.500	49.19	26.58	7.07	39.14	43.70	54.00	H
2500.000	46.53	26.60	7.10	39.14	41.09	54.00	H
1819.036	34.27	25.16	6.00	38.97	26.46	54.00	H
2101.866	33.61	25.40	6.48	39.01	26.48	54.00	H
3495.691	34.68	27.90	8.40	39.89	31.09	54.00	H
3935.493	32.37	29.37	8.93	40.05	30.62	54.00	H
4824.070	40.38	30.82	9.96	40.21	40.95	54.00	H
6698.373	30.96	34.61	12.01	39.41	38.17	54.00	H

Test at Channel 7 (2.442 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1242.068	44.14	24.64	4.89	38.87	34.80	74.00	Vertical
2089.751	47.33	25.37	6.44	39.01	40.13	74.00	V
3105.037	43.55	27.90	7.91	39.53	39.83	74.00	V
4884.060	51.64	30.95	10.02	40.22	52.39	74.00	V
6894.806	39.53	34.98	12.38	39.34	47.55	74.00	V
10822.920	32.23	39.66	14.93	37.93	48.89	74.00	V
1592.571	43.31	25.02	5.56	38.95	34.94	74.00	Horizontal
2107.950	44.72	25.41	6.50	39.01	37.62	74.00	H
4884.010	49.45	30.95	10.02	40.22	50.20	74.00	H
6621.375	40.88	34.46	11.86	39.46	47.74	74.00	H
7221.150	39.09	35.50	12.76	39.25	48.10	74.00	H
10885.670	32.01	39.79	14.96	37.94	48.82	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1242.068	35.60	24.64	4.89	38.87	26.26	54.00	Vertical
2089.751	38.40	25.37	6.44	39.01	31.20	54.00	V
3105.037	33.37	27.90	7.91	39.53	29.65	54.00	V
4884.060	39.34	30.95	10.02	40.22	40.09	54.00	V
6894.806	31.65	34.98	12.38	39.34	39.67	54.00	V
10822.920	24.48	39.66	14.93	37.93	41.14	54.00	V
1592.571	34.93	25.02	5.56	38.95	26.56	54.00	Horizontal
2107.950	34.70	25.41	6.50	39.01	27.60	54.00	H
4884.010	41.14	30.95	10.02	40.22	41.89	54.00	H
6621.375	34.25	34.46	11.86	39.46	41.11	54.00	H
7221.150	32.31	35.50	12.76	39.25	41.32	54.00	H
10885.670	24.72	39.79	14.96	37.94	41.53	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	69.55	26.25	6.80	39.07	63.53	74.00	Vertical
2390.000	69.14	26.43	6.87	39.10	63.34	74.00	V
2483.500	70.04	26.58	7.07	39.14	64.55	74.00	V
2500.000	69.73	26.60	7.10	39.14	64.29	74.00	V
1485.841	42.17	24.99	5.48	38.93	33.71	74.00	V
1955.344	45.67	25.19	6.30	38.98	38.18	74.00	V
3132.079	42.09	27.90	7.94	39.55	38.38	74.00	V
4924.070	50.15	31.01	10.06	40.22	51.00	74.00	V
7739.857	36.87	36.25	13.30	39.14	47.28	74.00	V
12433.620	32.82	38.88	16.33	38.12	49.91	74.00	V
2310.000	69.56	26.25	6.80	39.07	63.54	74.00	Horizontal
2390.000	69.04	26.43	6.87	39.10	63.24	74.00	H
2483.500	70.29	26.58	7.07	39.14	64.80	74.00	H
2500.000	68.78	26.60	7.10	39.14	63.34	74.00	H
1583.392	43.22	25.02	5.52	38.95	34.81	74.00	H
1955.344	43.99	25.19	6.30	38.98	36.50	74.00	H
3087.140	41.69	27.90	7.88	39.51	37.96	74.00	H
4924.020	49.35	31.01	10.06	40.22	50.20	74.00	H
6815.551	39.81	34.86	12.26	39.36	47.57	74.00	H
11044.130	32.33	39.96	15.04	37.96	49.37	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	50.37	26.25	6.80	39.07	44.35	54.00	Vertical
2390.000	51.77	26.43	6.87	39.10	45.97	54.00	V
2483.500	49.92	26.58	7.07	39.14	44.43	54.00	V
2500.000	51.92	26.60	7.10	39.14	46.48	54.00	V
1485.841	35.39	24.99	5.48	38.93	26.93	54.00	V
1955.344	36.69	25.19	6.30	38.98	29.20	54.00	V
3132.079	33.32	27.90	7.94	39.55	29.61	54.00	V
4924.070	38.84	31.01	10.06	40.22	39.69	54.00	V
7739.857	26.34	36.25	13.30	39.14	36.75	54.00	V
12433.620	23.63	38.88	16.33	38.12	40.72	54.00	V
2310.000	47.38	26.25	6.80	39.07	41.36	54.00	Horizontal
2390.000	48.47	26.43	6.87	39.10	42.67	54.00	H
2483.500	50.75	26.58	7.07	39.14	45.26	54.00	H
2500.000	50.74	26.60	7.10	39.14	45.30	54.00	H
1583.392	35.61	25.02	5.52	38.95	27.20	54.00	H
1955.344	33.64	25.19	6.30	38.98	26.15	54.00	H
3087.140	34.40	27.90	7.88	39.51	30.67	54.00	H
4924.020	37.51	31.01	10.06	40.22	38.36	54.00	H
6815.551	30.93	34.86	12.26	39.36	38.69	54.00	H
11044.130	22.20	39.96	15.04	37.96	39.24	54.00	H

6.7.2.4 802.11n(HT40) mode with 150Mbps data rate

Test at Channel 3 (2.422 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	69.41	26.25	6.80	39.07	63.39	74.00	Vertical
2390.000	70.49	26.43	6.87	39.10	64.69	74.00	V
2483.500	69.64	26.58	7.07	39.14	64.15	74.00	V
2500.000	69.27	26.60	7.10	39.14	63.83	74.00	V
1168.920	43.09	24.34	4.78	38.86	33.35	74.00	V
2151.034	42.48	25.53	6.50	39.02	35.49	74.00	V
2913.740	41.29	27.78	7.63	39.35	37.35	74.00	V
4254.921	41.11	29.83	9.33	40.12	40.15	74.00	V
4824.060	49.84	30.82	9.96	40.21	50.41	74.00	V
6602.265	40.14	34.43	11.83	39.46	46.94	74.00	V
2310.000	69.20	26.25	6.80	39.07	63.18	74.00	Horizontal
2390.000	71.08	26.43	6.87	39.10	65.28	74.00	H
2483.500	69.90	26.58	7.07	39.14	64.41	74.00	H
2500.000	68.84	26.60	7.10	39.14	63.40	74.00	H
2188.663	42.53	25.66	6.50	39.03	35.66	74.00	H
3007.868	41.59	27.90	7.71	39.42	37.78	74.00	H
4824.050	49.77	30.82	9.96	40.21	50.34	74.00	H
6001.626	40.81	32.30	11.10	39.88	44.33	74.00	H
7497.646	37.81	36.00	13.10	39.18	47.73	74.00	H
11467.000	31.75	39.15	15.75	38.03	48.62	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	50.32	26.25	6.80	39.07	44.30	54.00	Vertical
2390.000	53.53	26.43	6.87	39.10	47.73	54.00	V
2483.500	49.60	26.58	7.07	39.14	44.11	54.00	V
2500.000	50.12	26.60	7.10	39.14	44.68	54.00	V
1168.920	32.59	24.34	4.78	38.86	22.85	54.00	V
2151.034	32.96	25.53	6.50	39.02	25.97	54.00	V
2913.740	32.99	27.78	7.63	39.35	29.05	54.00	V
4254.921	31.51	29.83	9.33	40.12	30.55	54.00	V
4824.060	38.63	30.82	9.96	40.21	39.20	54.00	V
6602.265	29.73	34.43	11.83	39.46	36.53	54.00	V
2310.000	50.80	26.25	6.80	39.07	44.78	54.00	Horizontal
2390.000	53.27	26.43	6.87	39.10	47.47	54.00	H
2483.500	52.88	26.58	7.07	39.14	47.39	54.00	H
2500.000	47.59	26.60	7.10	39.14	42.15	54.00	H
2188.663	32.35	25.66	6.50	39.03	25.48	54.00	H
3007.868	29.72	27.90	7.71	39.42	25.91	54.00	H
4824.050	39.83	30.82	9.96	40.21	40.40	54.00	H
6001.626	30.85	32.30	11.10	39.88	34.37	54.00	H
7497.646	29.55	36.00	13.10	39.18	39.47	54.00	H
11467.000	23.10	39.15	15.75	38.03	39.97	54.00	H
2188.663	32.35	25.66	6.50	39.03	25.48	54.00	H

Test at Channel 7 (2.442 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1168.920	45.12	24.34	4.78	38.86	35.38	74.00	Vertical
2053.822	46.56	25.29	6.32	39.00	39.17	74.00	V
3087.140	43.27	27.90	7.88	39.51	39.54	74.00	V
4884.060	52.64	30.95	10.02	40.22	53.39	74.00	V
6934.778	40.31	35.03	12.43	39.32	48.45	74.00	V
12761.300	32.48	38.80	16.81	38.16	49.93	74.00	V
1829.582	42.34	25.16	6.00	38.97	34.53	74.00	Horizontal
2990.531	40.89	27.89	7.70	39.41	37.07	74.00	H
4884.070	47.83	30.95	10.02	40.22	48.58	74.00	H
6974.982	38.81	35.08	12.48	39.31	47.06	74.00	H
10453.970	33.20	38.90	14.76	37.87	48.99	74.00	H
12835.290	32.00	38.80	16.92	38.17	49.55	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
1168.920	35.87	24.34	4.78	38.86	26.13	54.00	Vertical
2053.822	37.43	25.29	6.32	39.00	30.04	54.00	V
3087.140	32.69	27.90	7.88	39.51	28.96	54.00	V
4884.060	39.89	30.95	10.02	40.22	40.64	54.00	V
6934.778	29.43	35.03	12.43	39.32	37.57	54.00	V
12761.300	22.19	38.80	16.81	38.16	39.64	54.00	V
1829.582	34.63	25.16	6.00	38.97	26.82	54.00	Horizontal
2990.531	31.53	27.89	7.70	39.41	27.71	54.00	H
4884.070	38.10	30.95	10.02	40.22	38.85	54.00	H
6974.982	30.26	35.08	12.48	39.31	38.51	54.00	H
10453.970	24.49	38.90	14.76	37.87	40.28	54.00	H
12835.290	22.29	38.80	16.92	38.17	39.84	54.00	H

Test at Channel 9 (2.452 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	69.07	26.25	6.80	39.07	63.05	74.00	Vertical
2390.000	68.73	26.43	6.87	39.10	62.93	74.00	V
2483.500	71.49	26.58	7.07	39.14	66.00	74.00	V
2500.000	69.32	26.60	7.10	39.14	63.88	74.00	V
1845.516	45.34	25.16	6.00	38.97	37.53	74.00	V
3123.039	43.44	27.90	7.93	39.55	39.72	74.00	V
4924.070	50.54	31.01	10.06	40.22	51.39	74.00	V
6564.209	40.11	34.37	11.77	39.48	46.77	74.00	V
7562.942	36.61	36.05	13.14	39.17	46.63	74.00	V
11368.000	32.09	39.33	15.60	38.01	49.01	74.00	V
2310.000	68.83	26.25	6.80	39.07	62.81	74.00	Horizontal
2390.000	70.46	26.43	6.87	39.10	64.66	74.00	H
2483.500	71.61	26.58	7.07	39.14	66.12	74.00	H
2500.000	70.93	26.60	7.10	39.14	65.49	74.00	H
1944.073	41.47	25.19	6.28	38.98	33.96	74.00	H
2595.613	41.49	26.78	7.19	39.18	36.28	74.00	H
4218.186	41.17	29.75	9.25	40.12	40.05	74.00	H
4924.020	50.97	31.01	10.06	40.22	51.82	74.00	H
6213.441	40.09	33.09	11.34	39.75	44.77	74.00	H
10948.780	33.00	39.90	14.98	37.95	49.93	74.00	H

Average Measurement:

Frequency (MHz)	Reading Level (dBμV)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	51.13	26.25	6.80	39.07	45.11	54.00	Vertical
2390.270	50.84	26.43	6.87	39.10	45.04	54.00	V
2483.500	52.07	26.58	7.07	39.14	46.58	54.00	V
2500.000	51.65	26.60	7.10	39.14	46.21	54.00	V
1845.516	38.21	25.16	6.00	38.97	30.40	54.00	V
3123.039	33.12	27.90	7.93	39.55	29.40	54.00	V
4924.070	38.60	31.01	10.06	40.22	39.45	54.00	V
6564.209	31.54	34.37	11.77	39.48	38.20	54.00	V
7562.942	27.74	36.05	13.14	39.17	37.76	54.00	V
11368.000	22.12	39.33	15.60	38.01	39.04	54.00	V
2310.000	50.88	26.25	6.80	39.07	44.86	54.00	Horizontal
2390.000	52.53	26.43	6.87	39.10	46.73	54.00	H
2483.500	53.27	26.58	7.07	39.14	47.78	54.00	H
2500.000	53.09	26.60	7.10	39.14	47.65	54.00	H
1944.073	33.32	25.19	6.28	38.98	25.81	54.00	H
2595.613	30.56	26.78	7.19	39.18	25.35	54.00	H
4218.186	32.30	29.75	9.25	40.12	31.18	54.00	H
4924.020	37.36	31.01	10.06	40.22	38.21	54.00	H
6213.441	30.42	33.09	11.34	39.75	35.10	54.00	H
10948.780	22.67	39.90	14.98	37.95	39.60	54.00	H

6.8 Band Edges Requirement

Test Requirement: FCC Part 15 C section 15.247

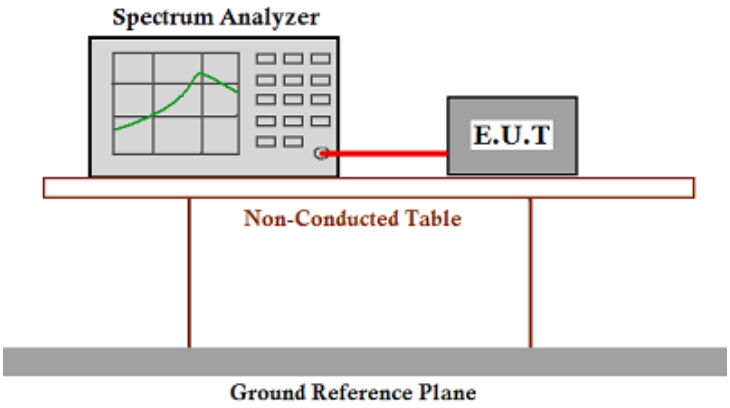
(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating. The radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains 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≥3×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($f_{emission}$)±0.5MHz.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 femission±0.5MHz.

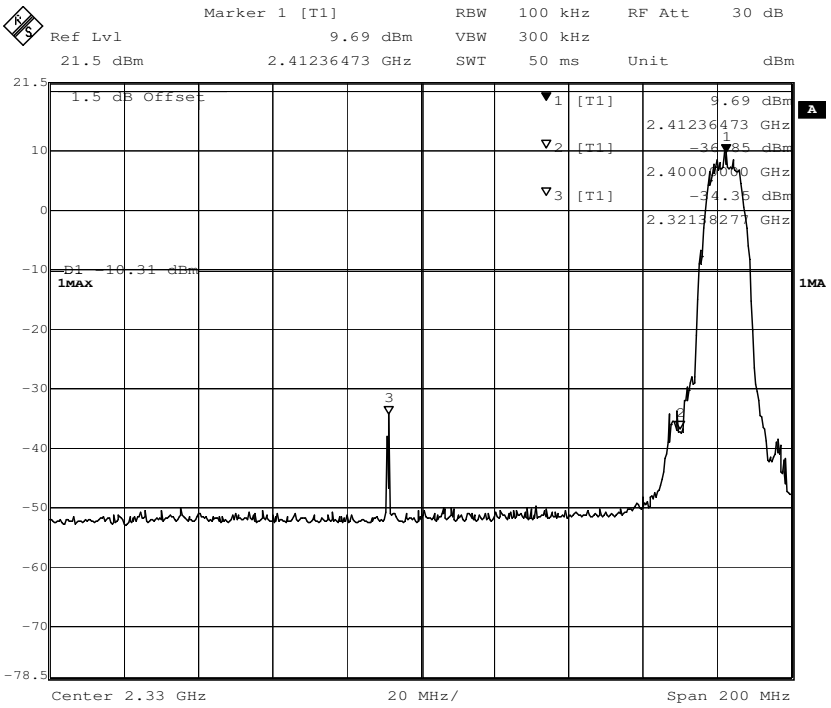
Test result with plots as follows:

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.

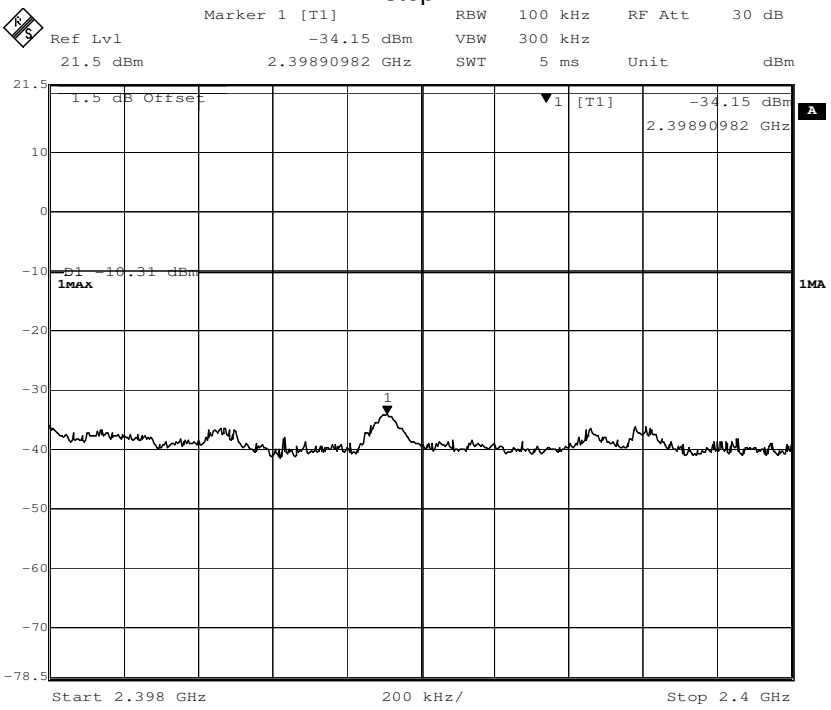
802.11b mode with 11 Mbps data rate

Channel1: 2.412 GHz

Step 1



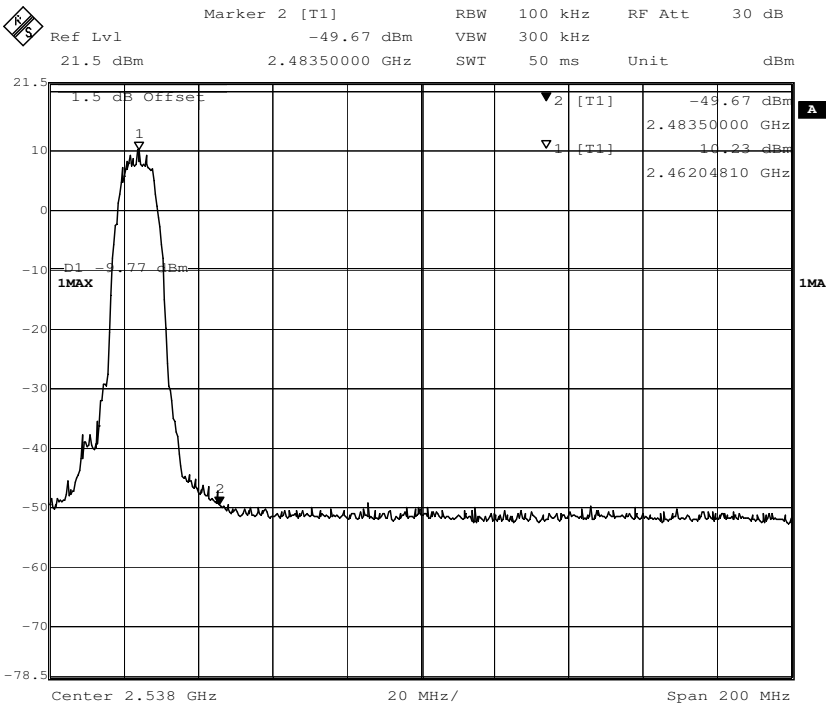
Step 2



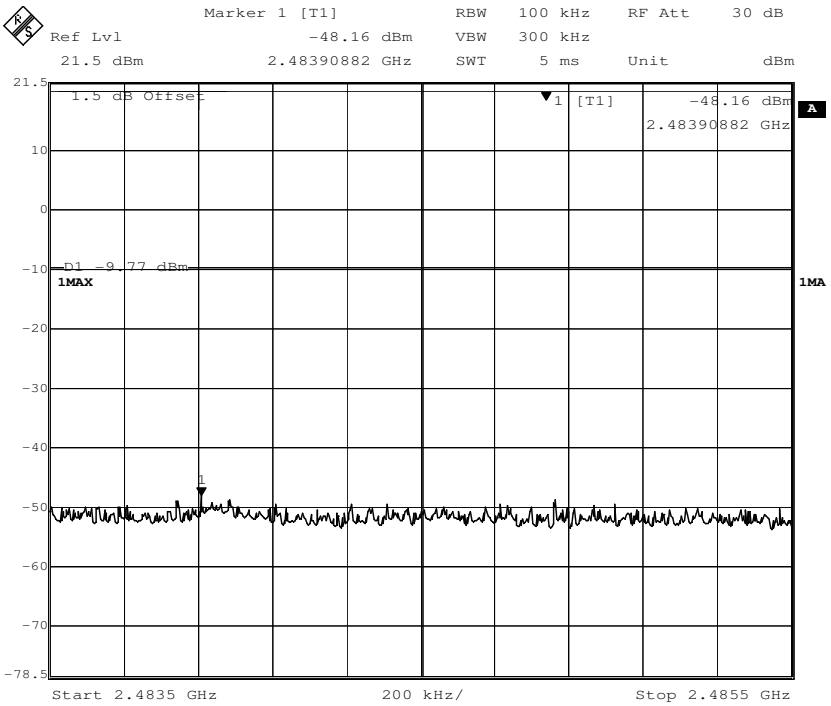
802.11b mode with 11 Mbps data rate

Channel11: 2.462 GHz

Step 1



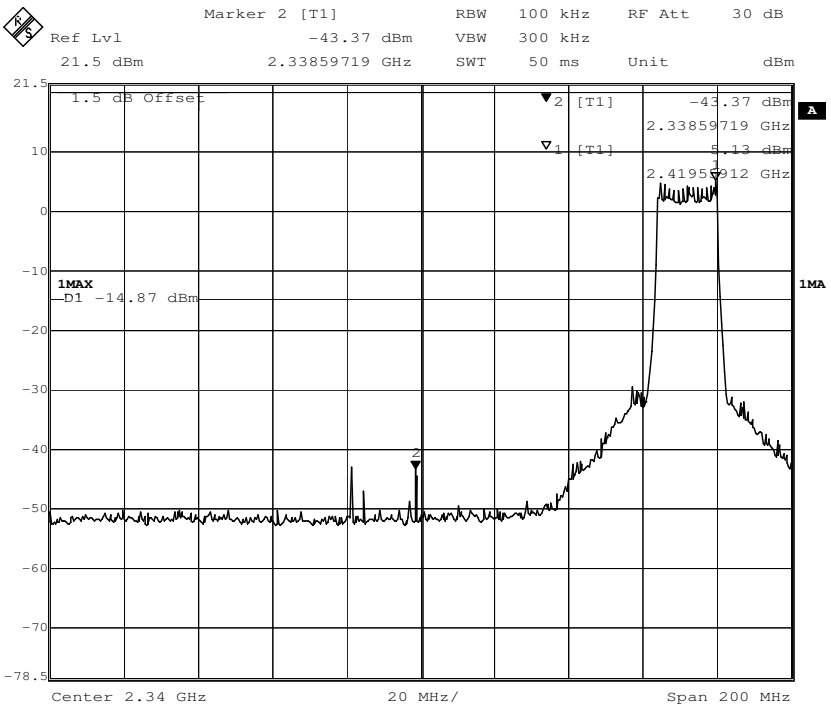
Step 2



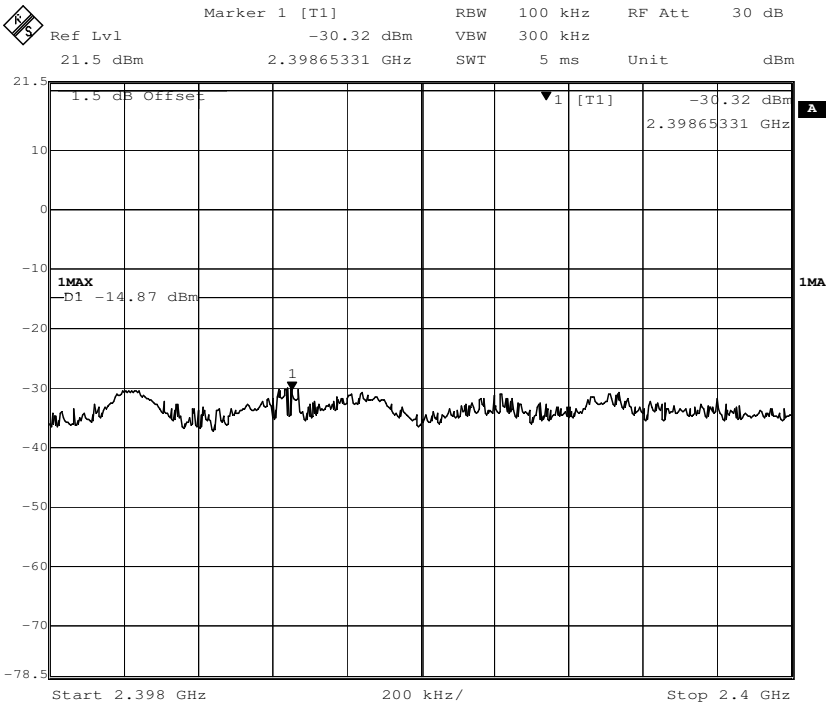
802.11g mode with 54 Mbps data rate

Channel11: 2.462 GHz

Step 1



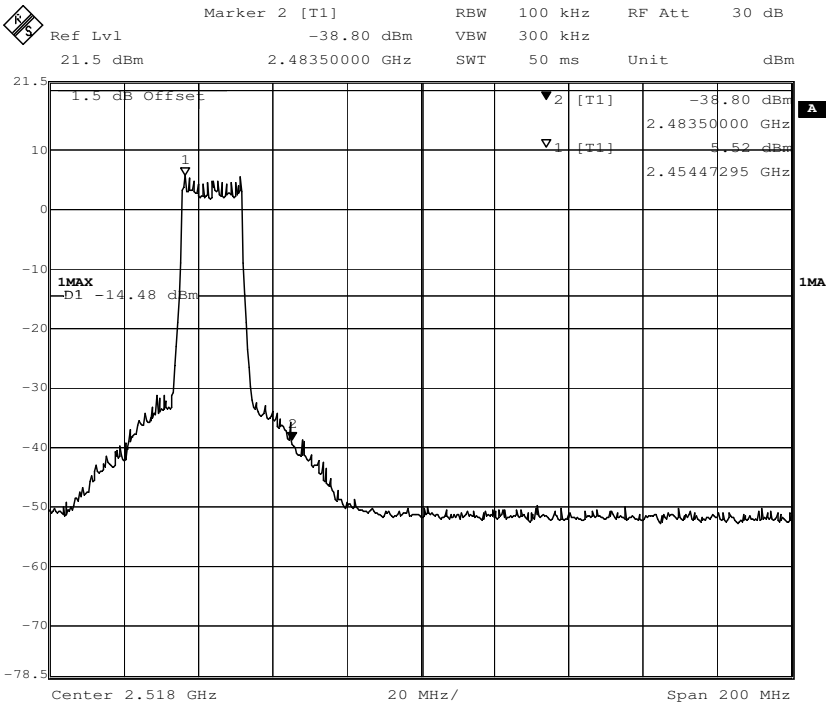
Step 2



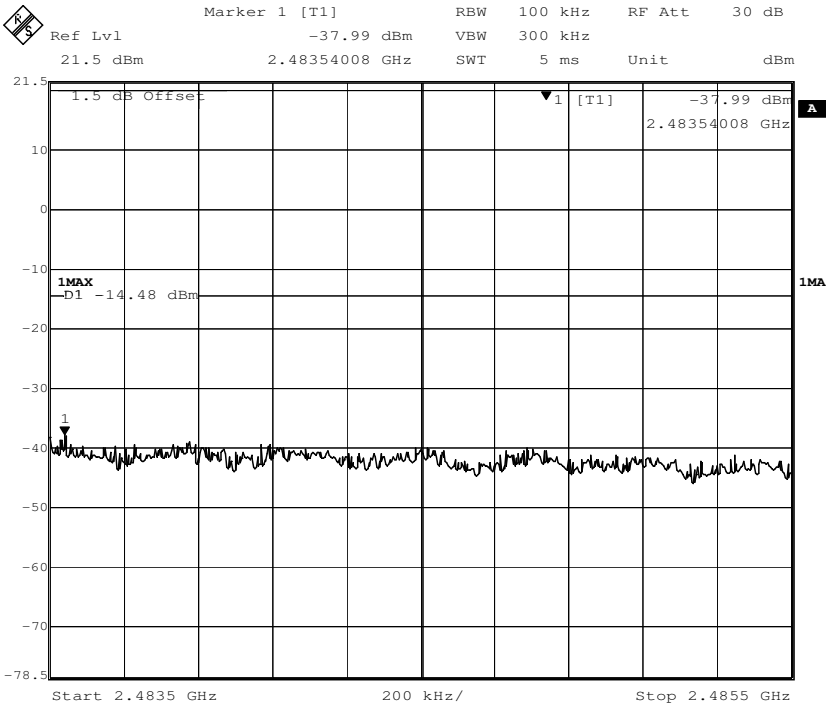
802.11g mode with 54 Mbps data rate

Channel11: 2.462 GHz

Step 1



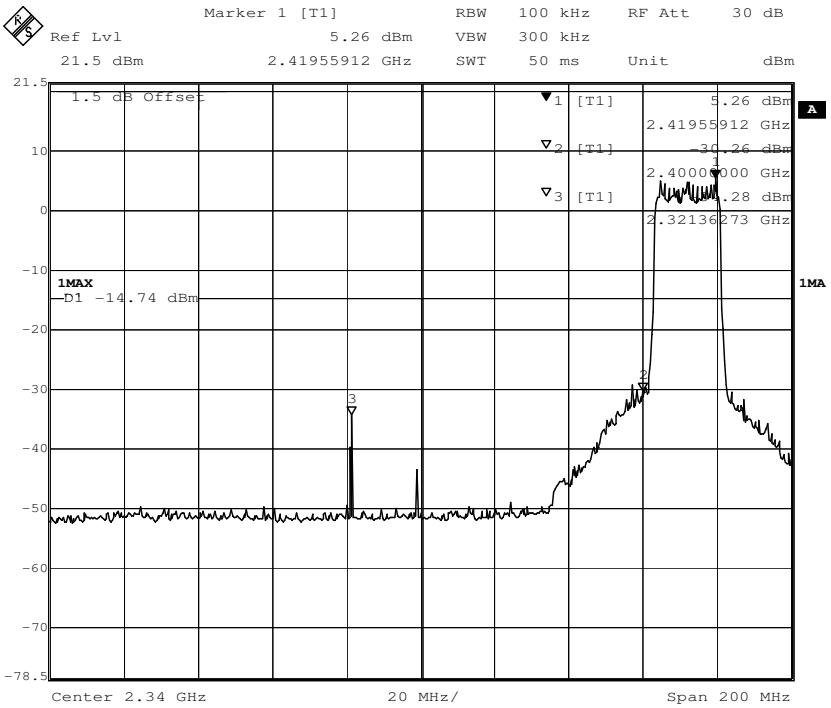
Step 2



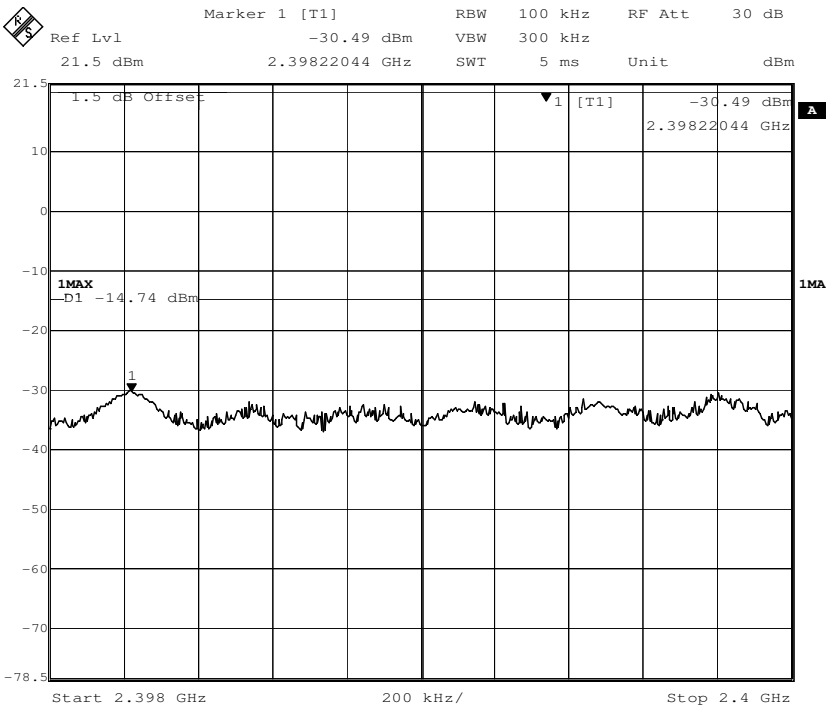
802.11n(HT20) mode with 72.2Mbps data rate

Channel1: 2.412 GHz

Step 1



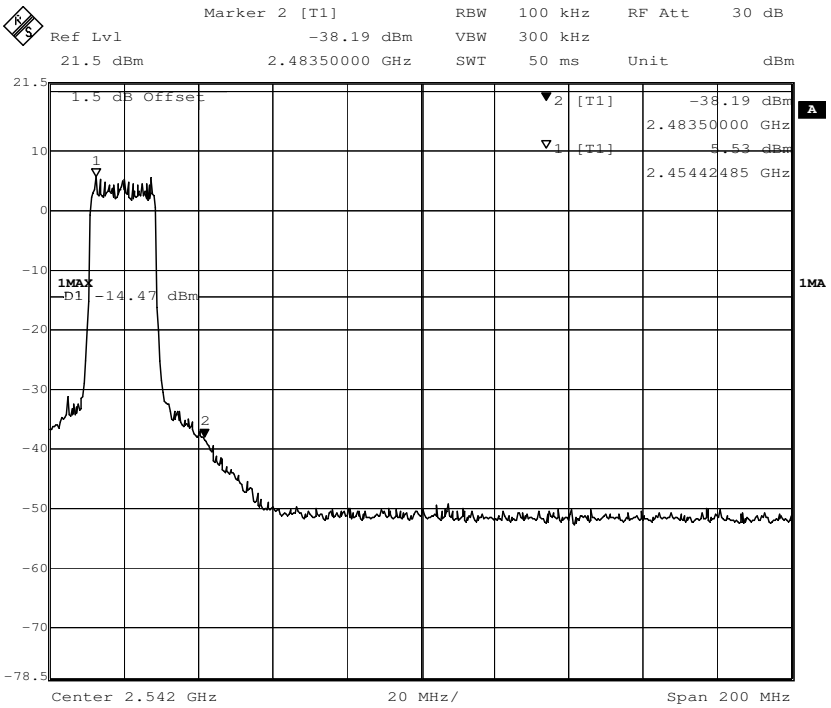
Step 2



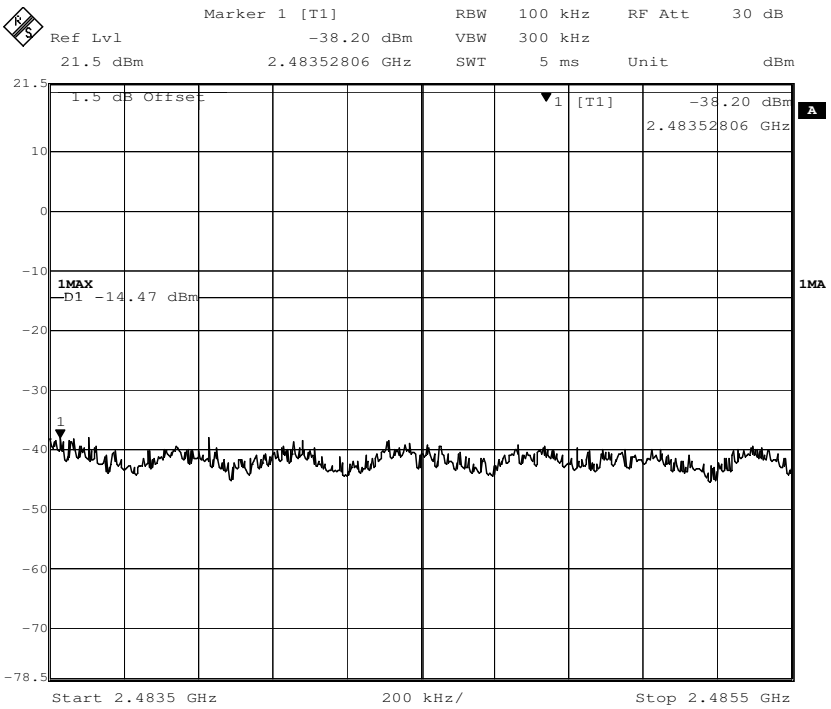
802.11n(HT20) mode with 72.2Mbps data rate

Channel11: 2.462 GHz

Step 1



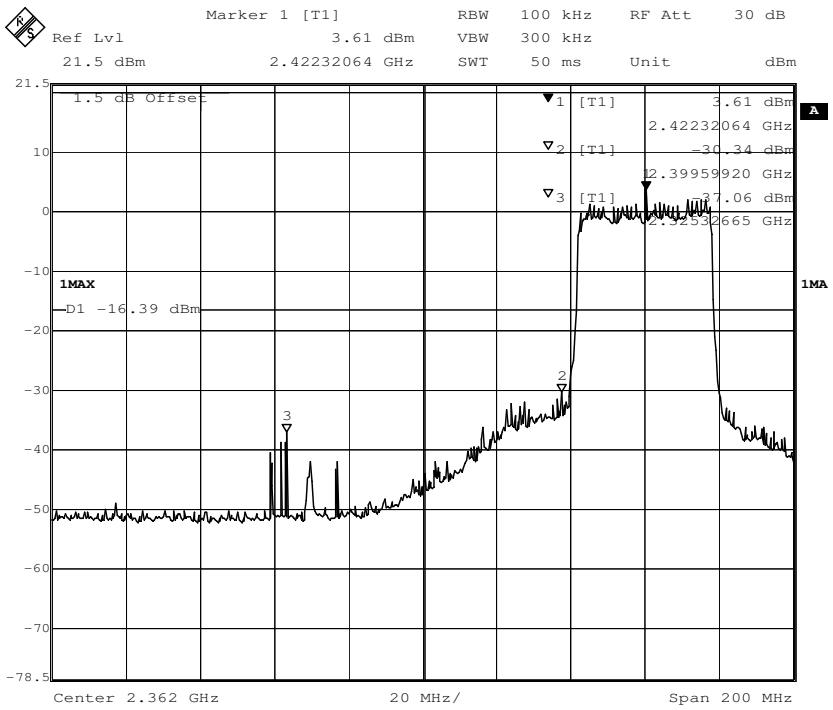
Step 2



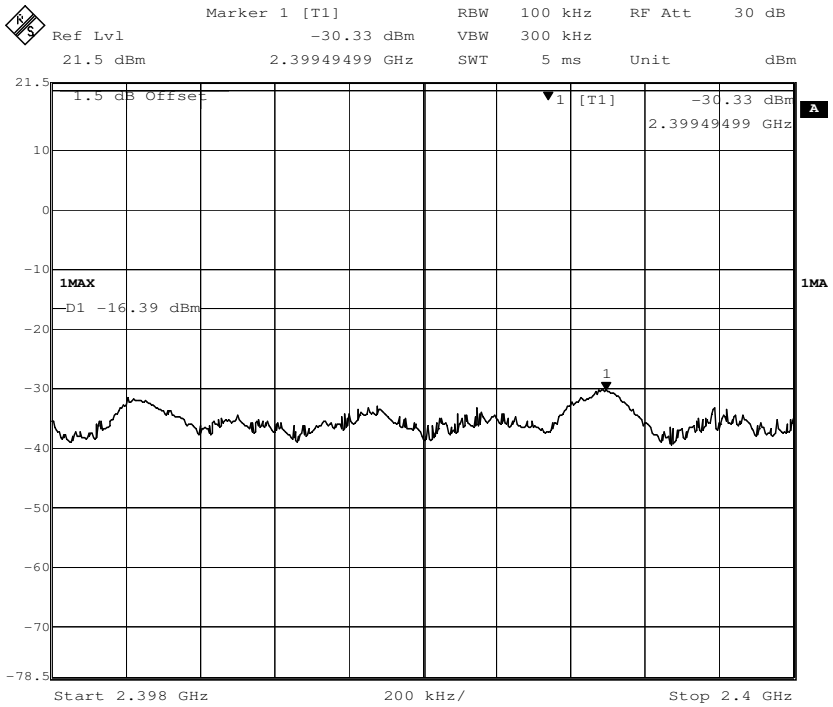
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz

Step 1



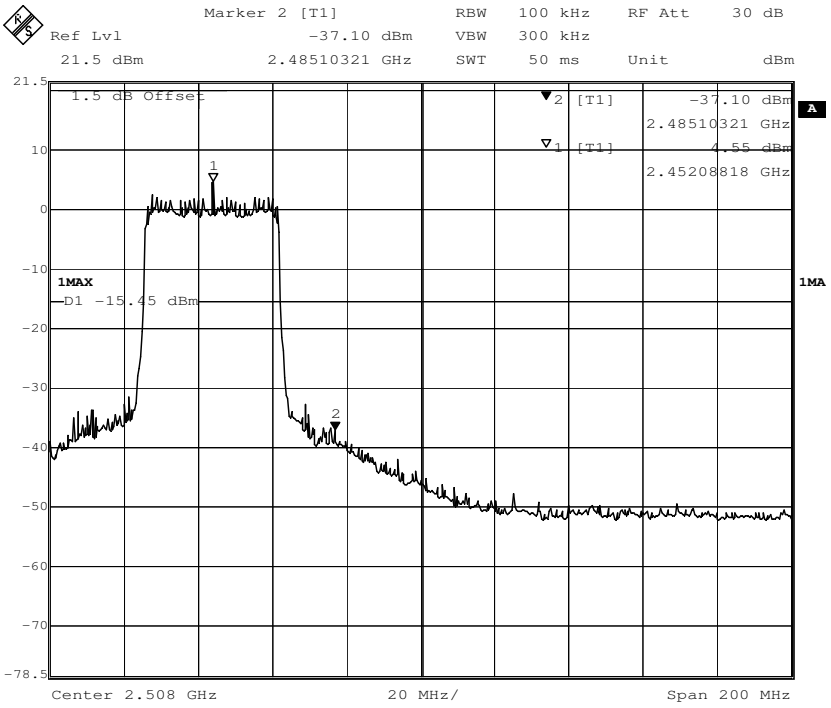
Step 2



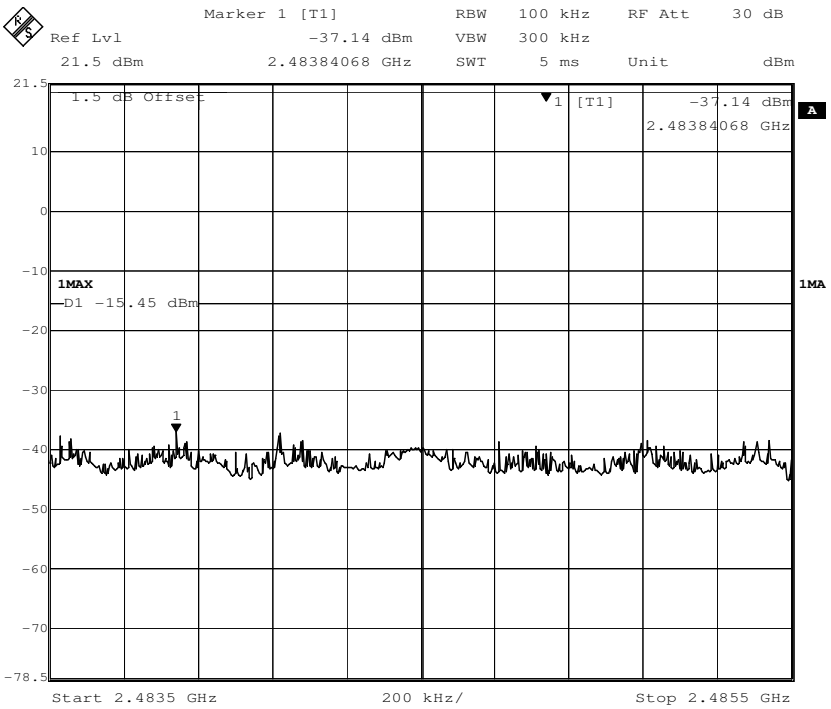
802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz

Step 1



Step 2



6.9 Conducted Emissions at Mains Terminals 150 kHz to 30 MHz

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 (9 kHz Resolution Bandwidth)

Test Limit

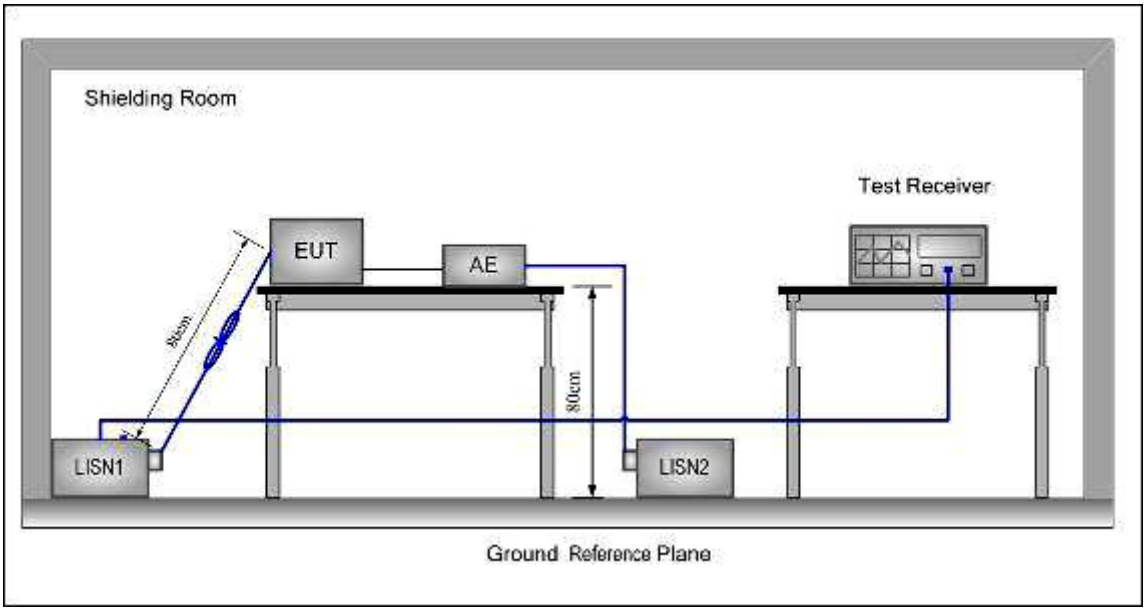
Limits for conducted disturbance at the mains ports of class B

Frequency Range (MHz)	Class B Limit dB(μV)	
	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 50Ω/50μH + 5Ω 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.

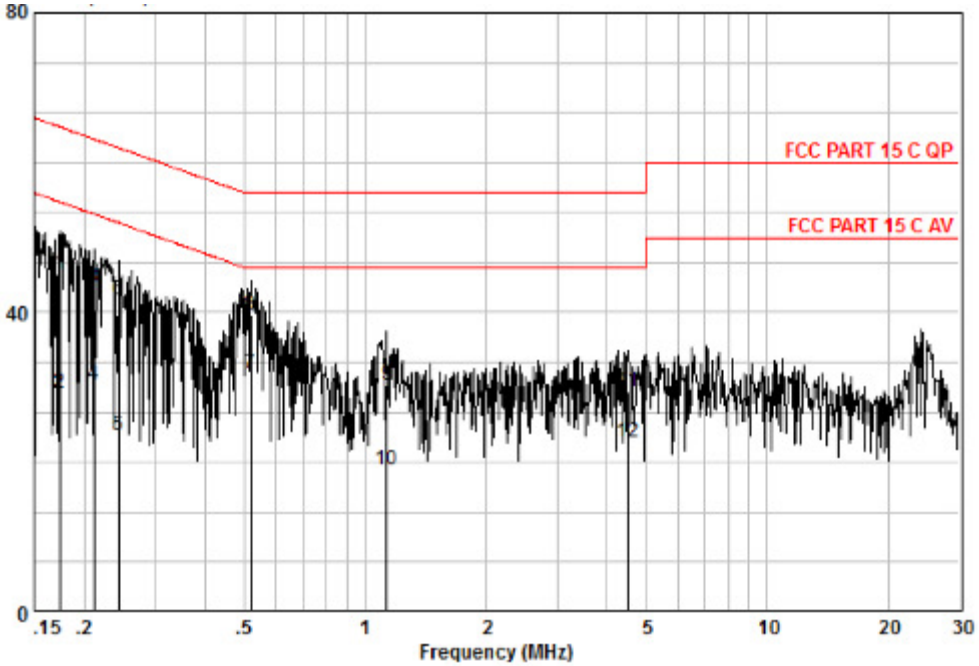
Measurement Data

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:

Neutral Line

Level(dBµV)

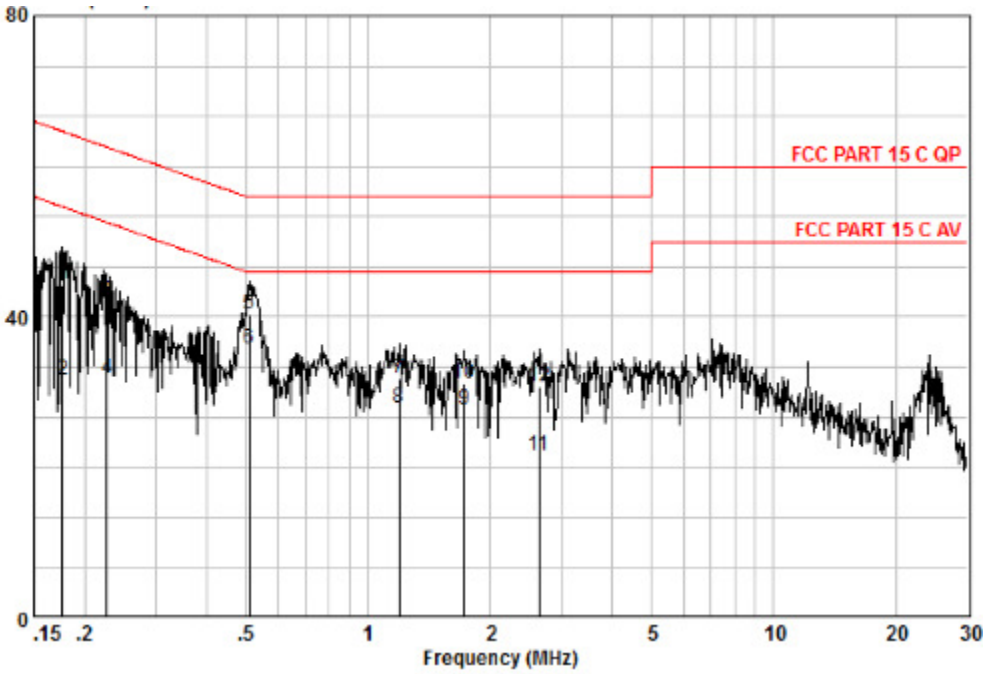


Measure data:

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.174	35.41	0.10	9.55	45.06	64.77	-19.70	QP
0.174	19.49	0.10	9.55	29.14	54.77	-25.62	AVERAGE
0.212	33.81	0.11	9.57	43.48	63.14	-19.66	QP
0.212	20.57	0.11	9.57	30.24	53.14	-22.90	AVERAGE
0.243	13.94	0.12	9.55	23.61	52.00	-28.38	AVERAGE
0.243	32.05	0.12	9.55	41.72	62.00	-20.27	QP
0.518	22.10	0.21	9.54	31.85	46.00	-14.15	AVERAGE
0.518	29.93	0.21	9.54	39.68	56.00	-16.32	QP
1.129	20.52	0.30	9.56	30.38	56.00	-25.62	QP
1.129	9.13	0.30	9.56	18.99	46.00	-27.01	AVERAGE
4.501	19.11	0.67	9.61	29.38	56.00	-26.62	QP
4.501	12.41	0.67	9.61	22.68	46.00	-23.32	AVERAGE

Live Line

Level(dBμV)



Measure data:

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0,176	34,55	0,10	9,69	44,34	64,68	-20,34	QP
0,176	21,85	0,10	9,69	31,64	54,68	-23,04	AVERAGE
0,227	32,31	0,11	9,70	42,12	62,57	-20,45	QP
0,227	22,06	0,11	9,70	31,87	52,57	-20,70	AVERAGE
0,510	30,49	0,20	9,71	40,40	56,00	-15,60	QP
0,510	25,73	0,20	9,71	35,64	46,00	-10,36	AVERAGE
1,191	21,75	0,30	9,71	31,76	56,00	-24,24	QP
1,191	17,79	0,30	9,71	27,80	46,00	-18,20	AVERAGE
1,725	17,70	0,35	9,70	27,75	46,00	-18,25	AVERAGE
1,725	21,13	0,35	9,70	31,18	56,00	-24,82	QP
2,636	11,30	0,49	9,73	21,52	46,00	-24,48	AVERAGE
2,636	20,43	0,49	9,73	30,65	56,00	-25,35	QP

--End of Report--