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Report No.: GZEM170800529302
Page: 1 of 96
FCC ID: 2AOAUCG460

TEST REPORT

Application No.: GZEM1708005293CR
Applicant: GoFish Cam, Inc.
Address of Applicant: 4600 Commanders Point Drive, Austin, TX 78734, USA
Equipment Under Test (EUT):
EUT Name: Gofish Camera
Model No.: CG460-01-01
Trade Mark: GOFISH
FCC ID: 2AOAUCG460
Standards: CFR 47 FCC PART 15 SUBPART C:2016 section 15.247
Date of Receipt: 2017-08-30
Date of Test: 2017-09-22 to 2017-10-18
Date of Issue: 2018-01-19

Test Result :	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Kobe Jian
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. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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		2018-01-19		Original

Authorized for issue by:				
Tested By				2017-09-22 to 2017-10-18
		Curry_Wu /Project Engineer		Date
Checked By				2017-10-26
		Ricky_Liu /Reviewer		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 Spurious Emissions	47 CFR Part 15C Section 15.209 and 15.205	ANSI C63.10: 2013	PASS
Radiated Emissions which fall in the restricted bands	FCC Part 15 C section 15.247	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.			



4 Contents

1	Cover Page	1
2	Version	2
3	Test Summary	3
4	Contents	4
5	General Information	5
5.1	Details of E.U.T.	5
5.2	Description of Support Units	6
5.3	Deviation from Standards	6
5.4	Abnormalities from Standard Conditions	6
5.5	Other Information Requested by the Customer	6
5.6	Test Location	6
5.7	Measurement uncertainty	6
5.8	Test Facility	7
6	Equipment List	8
7	Test Results	10
7.1	E.U.T. test conditions	10
7.2	Antenna Requirement	13
7.3	6 dB Bandwidth	14
7.4	Maximum Peak Output Power	22
7.5	Peak Power Spectral Density	31
7.6	Conducted Spurious Emissions	40
7.7	Radiated Spurious Emissions	59
7.8	Radiated Emissions which fall in the restricted bands	75
7.9	Band Edges Requirement	87
7.10	Conducted Emissions at Mains Terminals 150 kHz to 30 MHz	93



5 General Information

5.1 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: MIMO 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	integrated antenna
Antenna gain:	0 dBi
Test Software:	Secure CRT V 7.1.1.264
Power Supply:	3.8V rechargeable battery



5.2 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.

5.3 Deviation from Standards

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

5.4 Abnormalities from Standard Conditions

None.

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, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663
Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

5.7 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)



5.8 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 Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

- **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.



6 Equipment List

FCC & IC equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(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	2017-05-04	2020-05-03
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	2017-06-19	2018-06-18
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-ELEKTRONIK	BBHA 9170	9170-375	2017-05-23	2020-05-22
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
EMC2136	MI Cable	SGS	0.8m	N/A	2017-11-02	2018-11-01
EMC2137	MI Cable	SGS	0.8m	N/A	2017-11-02	2018-11-01
EMC2138	EXA Signal Analyzer	KEYSIGHT	N9010A	MY57120105	2017-11-15	2018-11-14
EMC0069	Signal Analyzer(20Hz ~ 26.5Ghz	R&S	FSIQ26	100312	2017-11-20	2018-11-19



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

Report No.: GZEM170800529302

Page: 9 of 96

Conducted Emissions at Mains Terminals (150kHz-30MHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	Zhong Yu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-line v-netwok	R&S	ENV216	EMC0118	2017-01-20	2018-01-19
LISN	SCHAFFNER CHASE	MN2050D/1	EMC0102	2017-09-20	2018-09-19
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2016-12-02	2017-12-01
Coaxial Cable	HangTianXing	2m	EMC0107	2016-07-24	2018-07-23
Voltage Probe	SGS	N/A	EMC0106	2016-04-05	2018-04-04
Conical metal housing	SGS-EMC	N/A	EMC0167	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	2017-07-26	2018-07-25
EMC0007	DMM	Fluke	73	70671122	2017-07-26	2018-07-25



7 Test Results

7.1 E.U.T. test conditions

Test Voltage: DC 3.8V

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.

7.2 Antenna Requirement

Standard requirement

15.203 requirement:

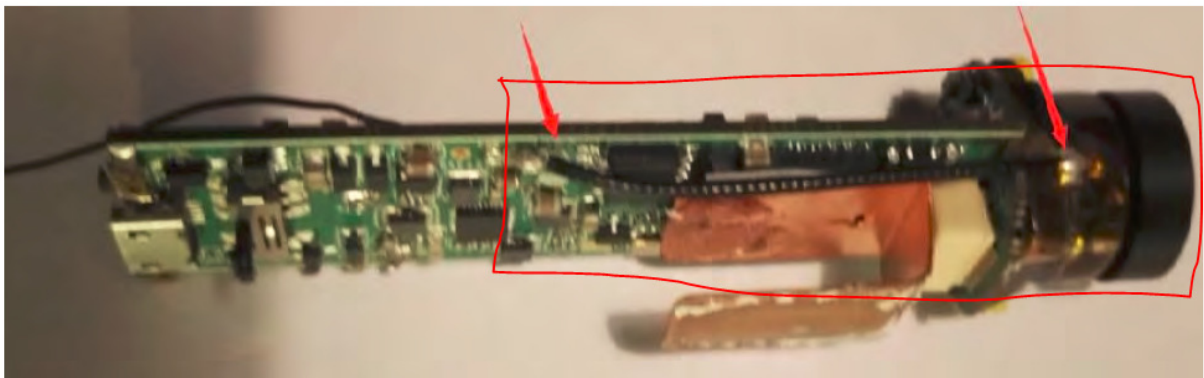
For intentional device. According to 15.203. an intentional radiator shall be designed to Ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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

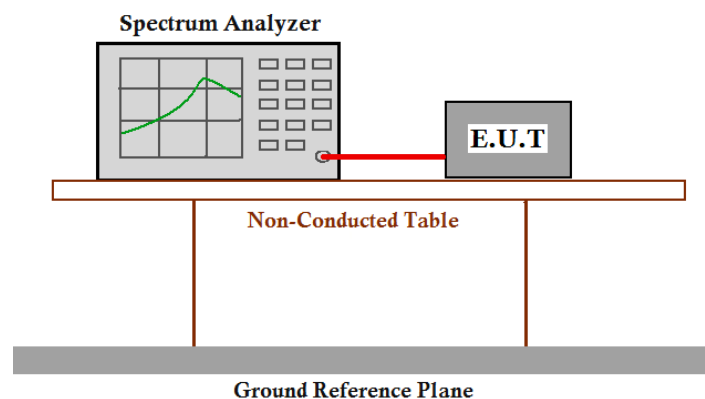
The antenna is an integral antenna and no consideration of replacement. The best case gain of the antenna is 0 dBi.



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 =1.0dB) 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.



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

Report No.: GZEM170800529302

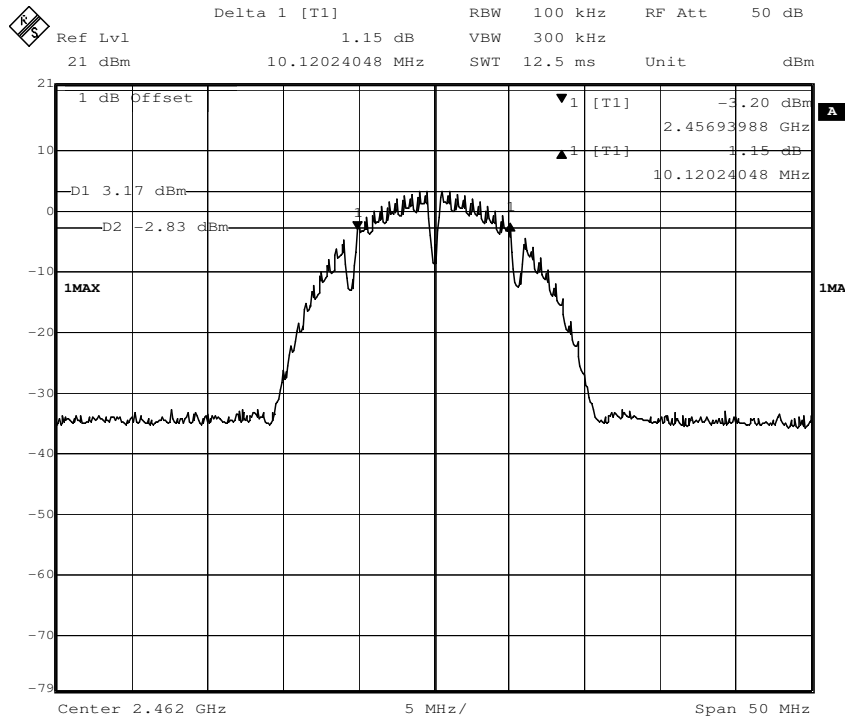
Page: 15 of 96

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412	802.11b	11 Mbps	10.12	≥500KHz	Pass
7	2442		11 Mbps	10.32		Pass
11	2462		11 Mbps	10.12		Pass
1	2412	802.11g	54 Mbps	16.73	≥500KHz	Pass
7	2442		54 Mbps	16.73		Pass
11	2462		54 Mbps	16.83		Pass
1	2412	802.11n (HT20)	65 Mbps	16.73	≥500KHz	Pass
7	2442		65 Mbps	16.73		Pass
11	2462		65 Mbps	16.94		Pass
3	2422	802.11n (HT40)	135Mbps	36.88	≥500KHz	Pass
7	2442		135Mbps	36.87		Pass
9	2452		135Mbps	37.03		Pass

Test result: The unit does meet the FCC requirements.

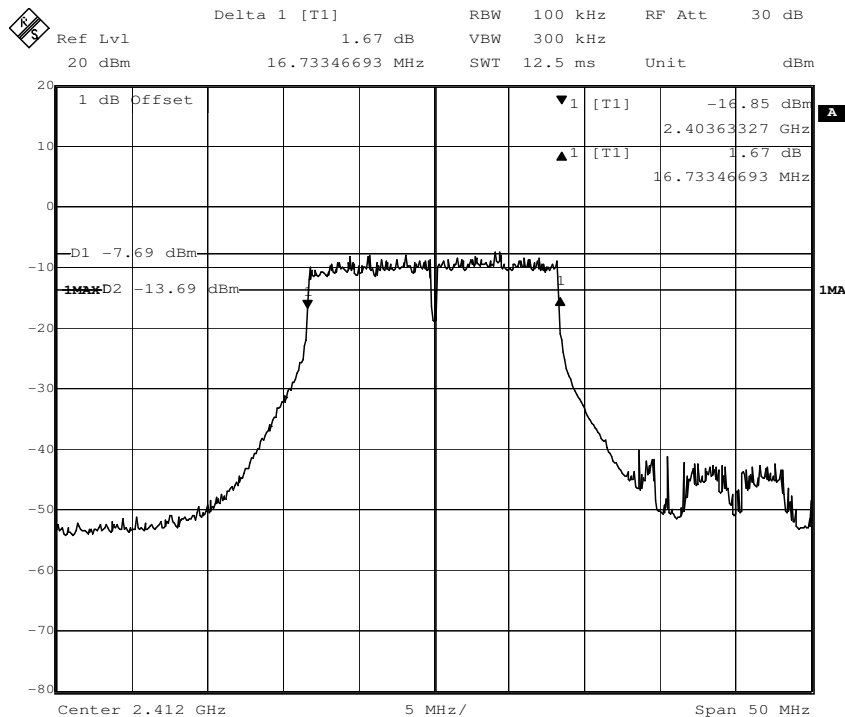


Channel 11: 2.462GHz:



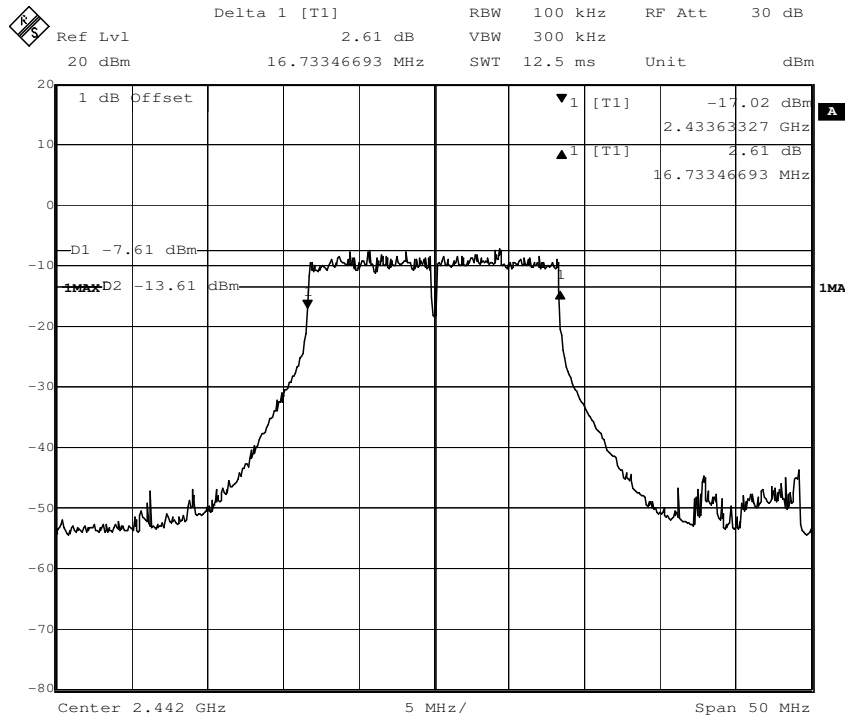
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

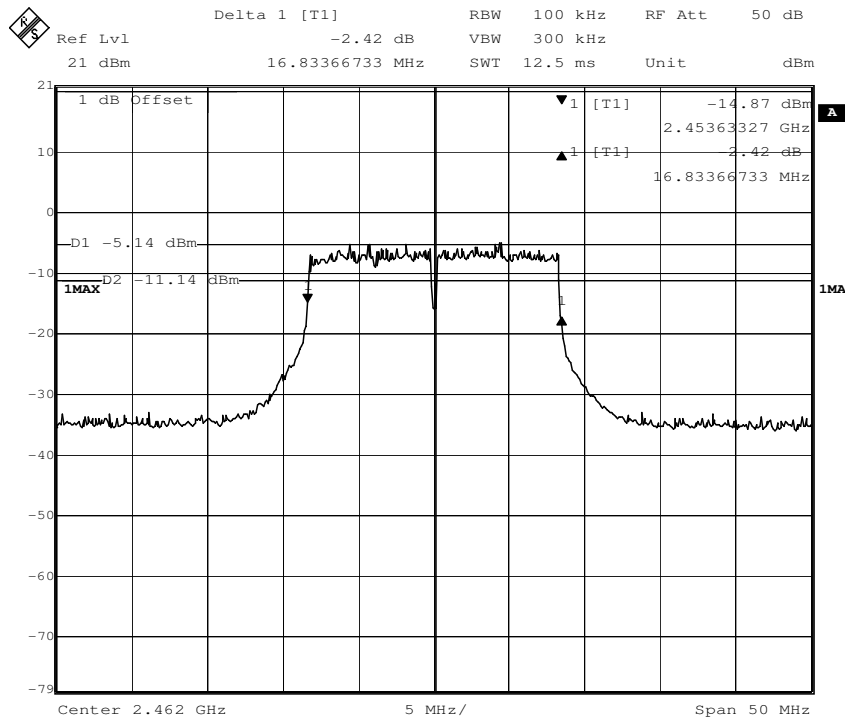




Channel 7: 2.442GHz:



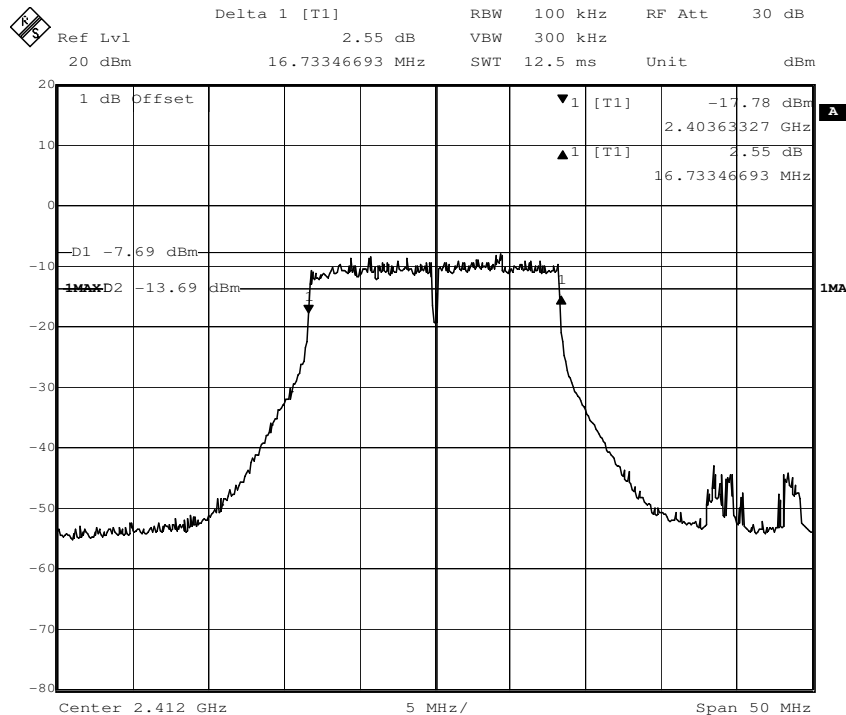
Channel 11: 2.462GHz:



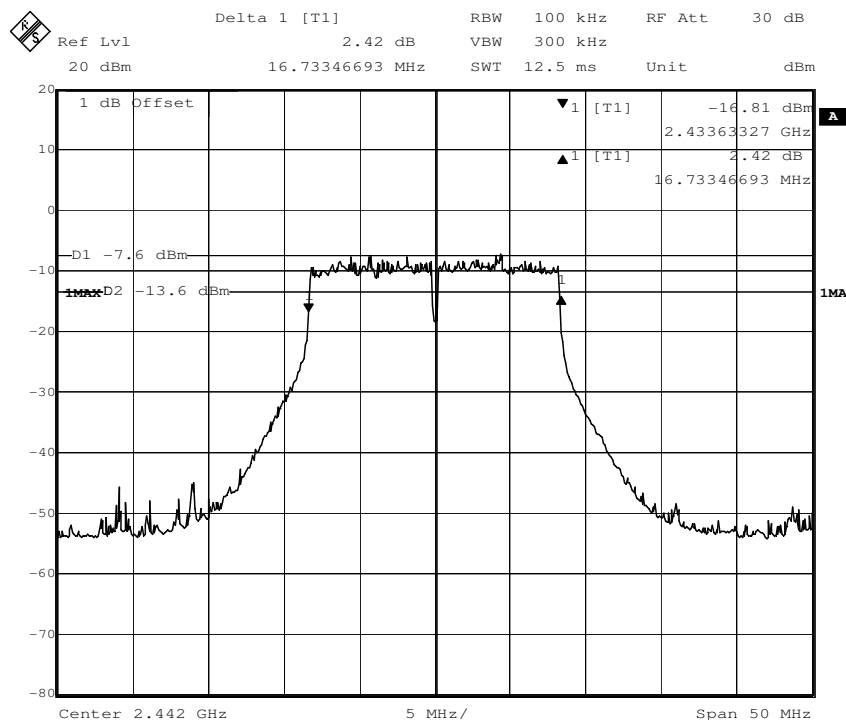


802.11n(HT20) mode with 72.2Mbps data rate

Channel 1: 2.412GHz:



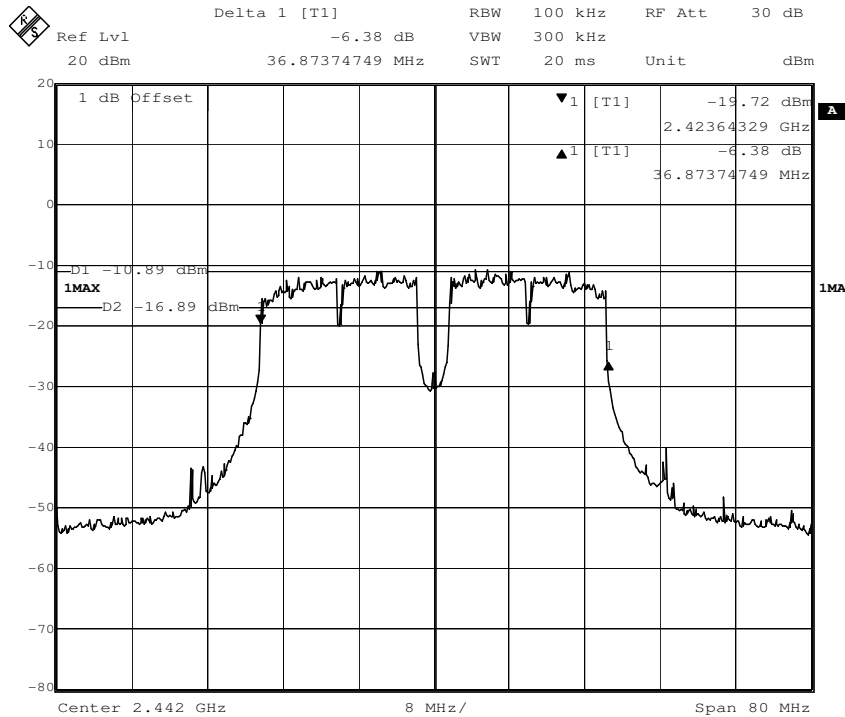
Channel 7: 2.442GHz:



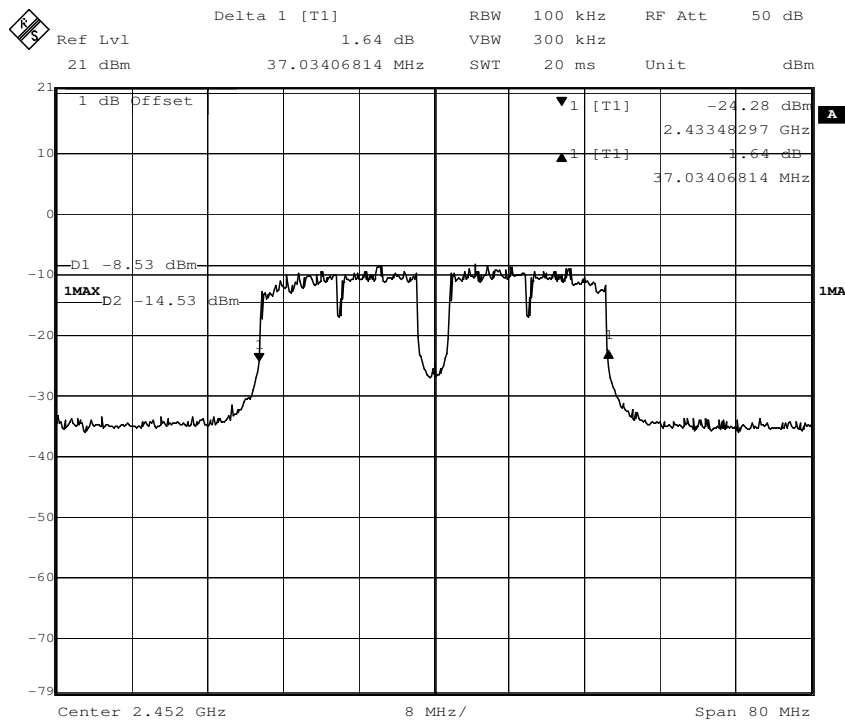




Channel 7: 2.442GHz:

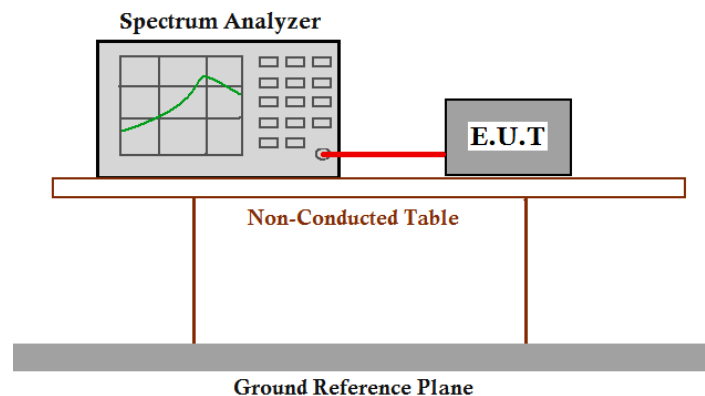


Channel 9: 2.452GHz:



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 = 1.0dB) from the antenna port to the spectrum.
2. Set the RBW=1MHz
3. Set the VBW $\geq 3 \times$ RBW
4. Set the span $\geq 1.5 \times$ 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	13.75	1W(30dBm)	Pass
7	2442		11 Mbps	13.94		Pass
11	2462		11 Mbps	13.96		Pass
1	2412	802.11g	54 Mbps	12.47		Pass
7	2442		54 Mbps	12.26		Pass
11	2462		54 Mbps	12.62		Pass
1	2412	802.11n (HT20)	65 Mbps	13.20		Pass
7	2442		65 Mbps	12.54		Pass
11	2462		65 Mbps	12.19		Pass
3	2422	802.11n (HT40)	135Mbps	11.81		Pass
7	2442		135Mbps	11.87		Pass
9	2452		135Mbps	11.67		Pass

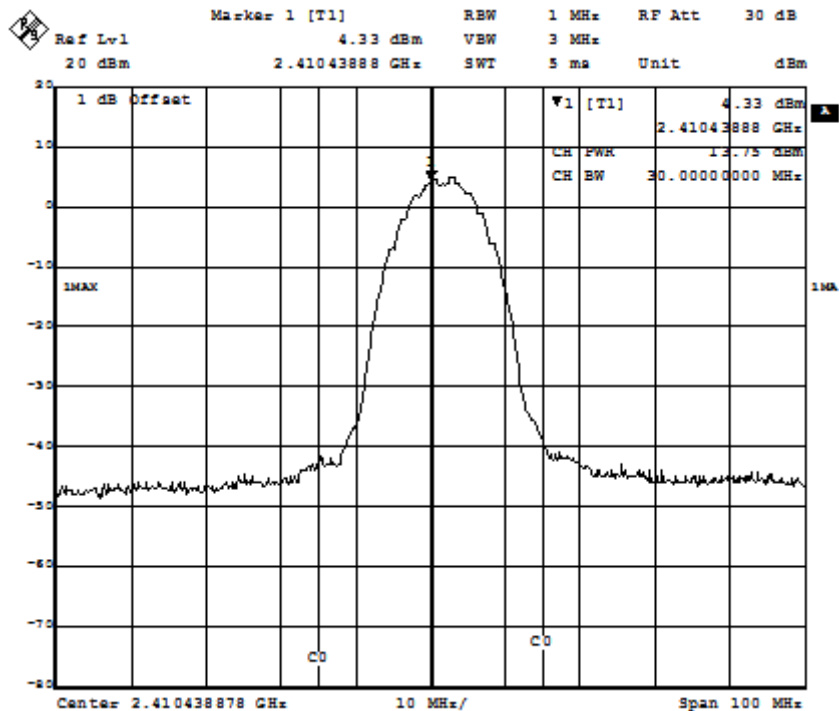
Remark: Level = Read Level + Cable Loss

The unit does meet the FCC requirements.

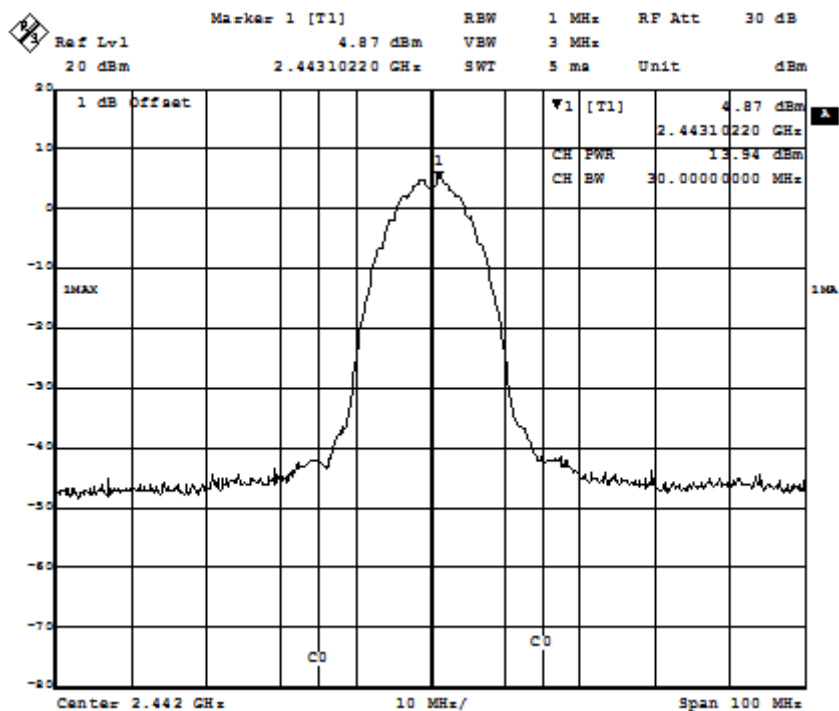
Result plot as follows:

802.11b mode with 11Mbps data rate

Channel 1: 2.412GHz:

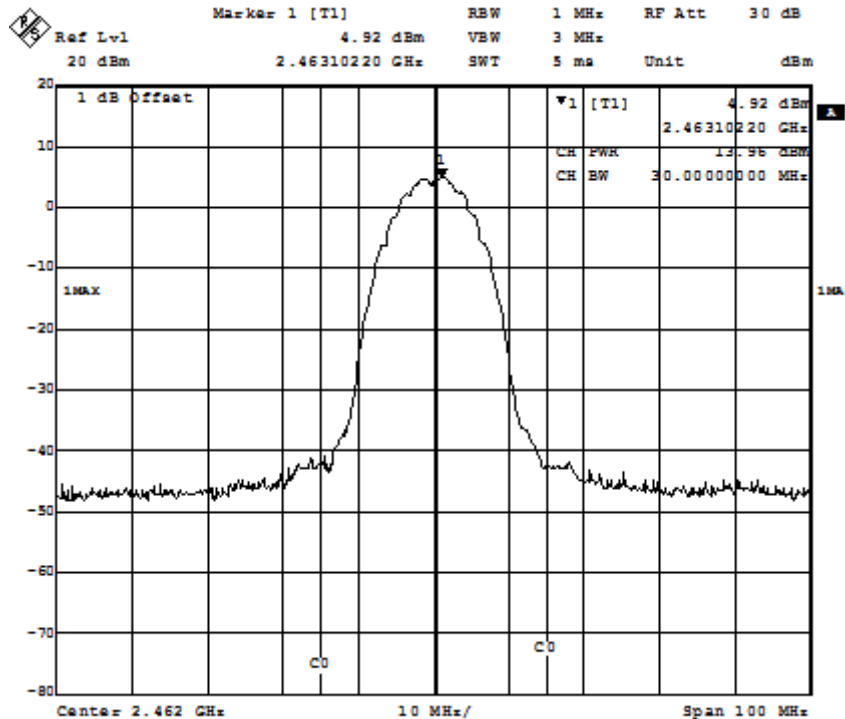


Channel 7: 2.442GHz:



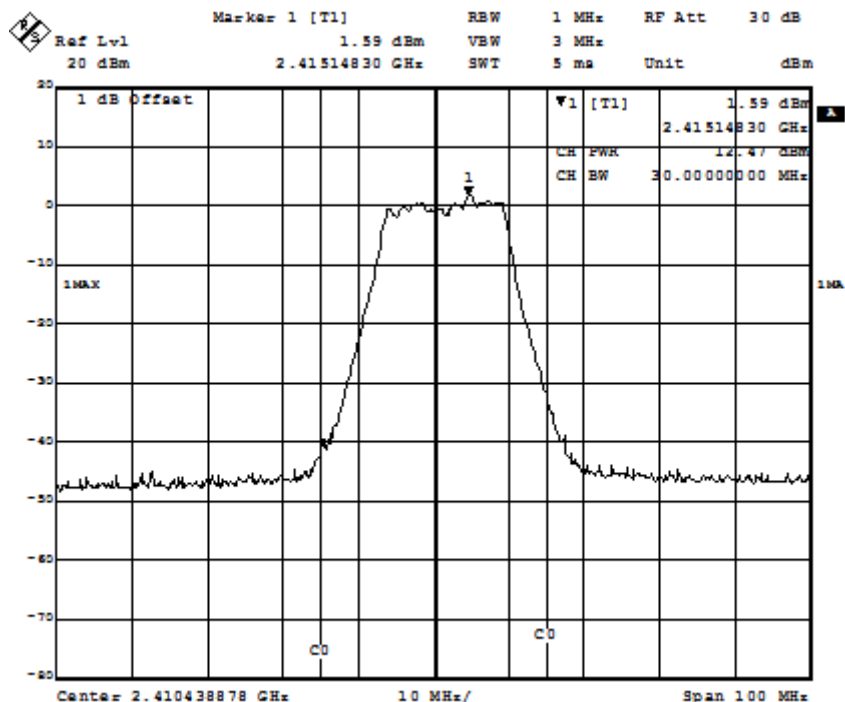


Channel 11: 2.462GHz:

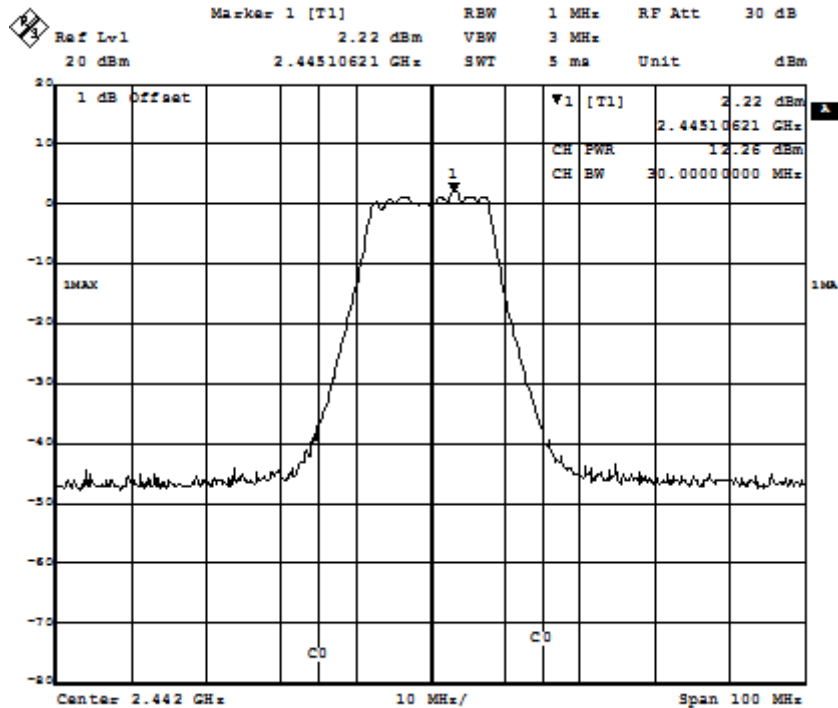


802.11g mode with 54Mbps data rate

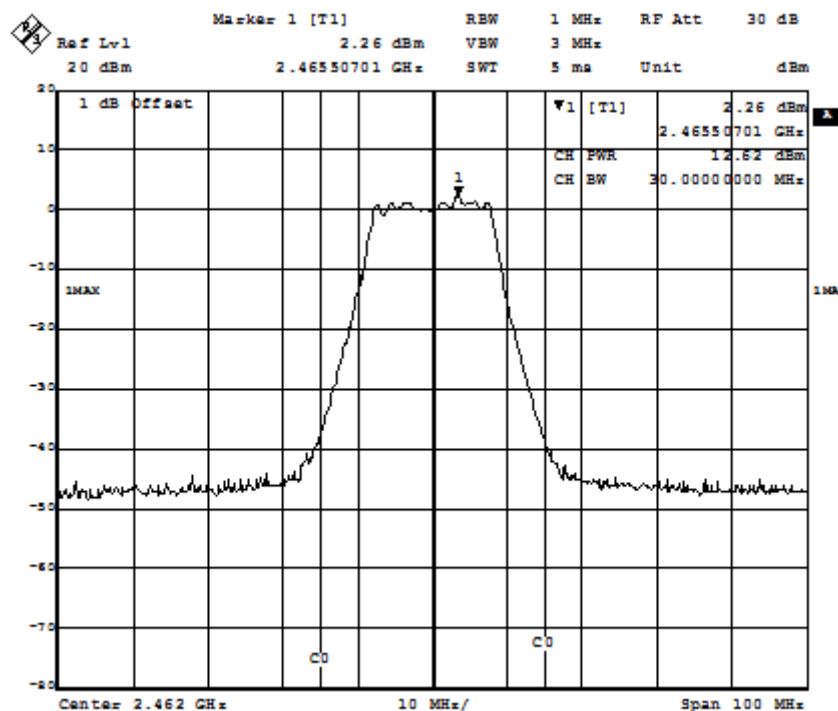
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

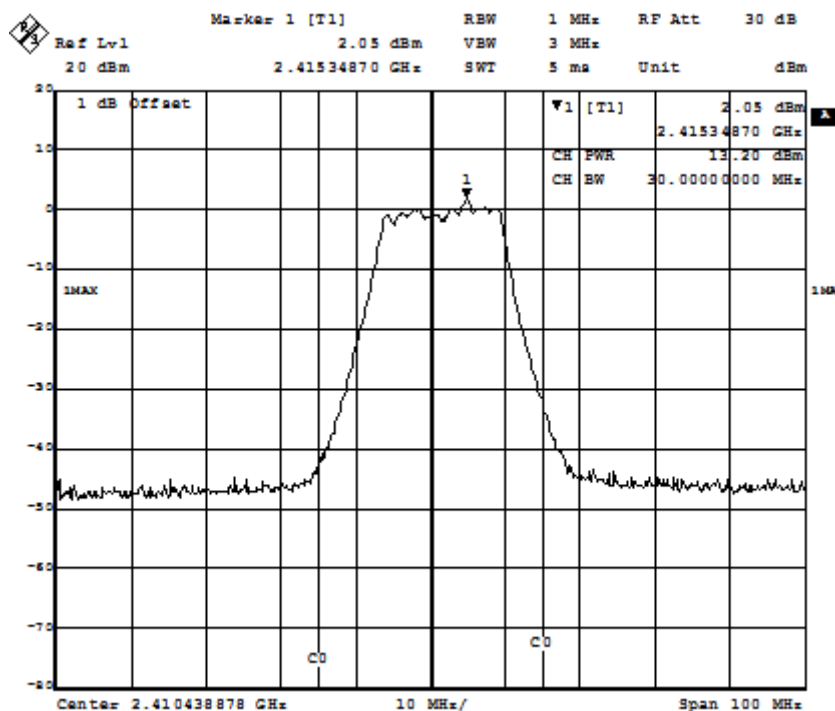


Channel 11: 2.462GHz:

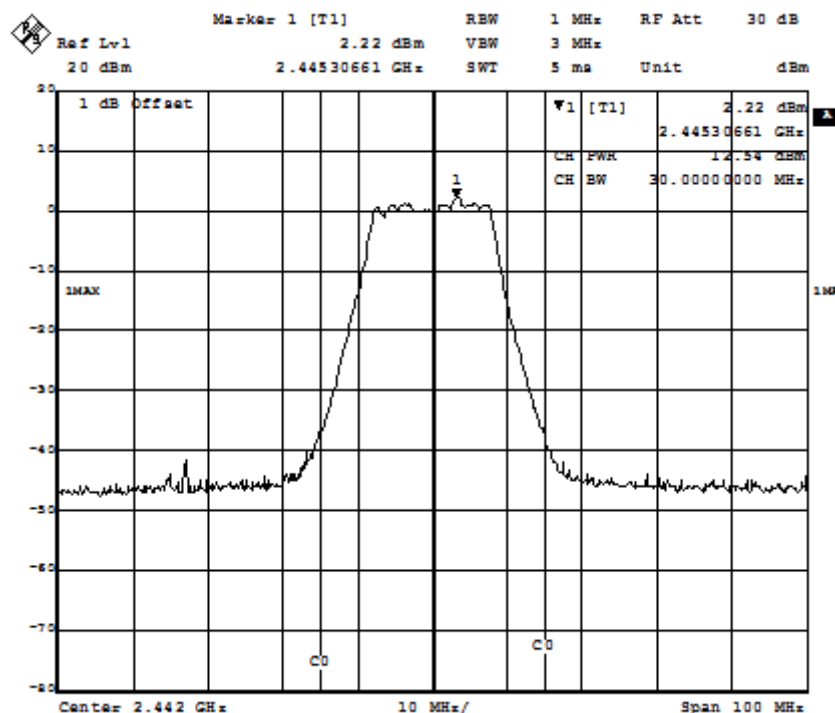


802.11n(HT20) mode with 72.2Mbps data rate

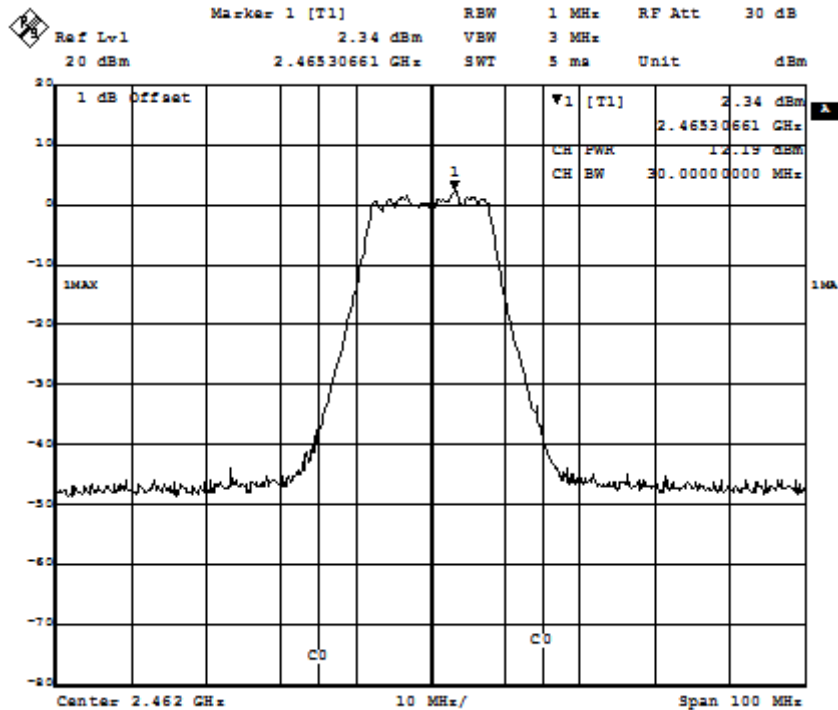
Channel 1: 2.412GHz:



Channel 7: 2.442GHz:

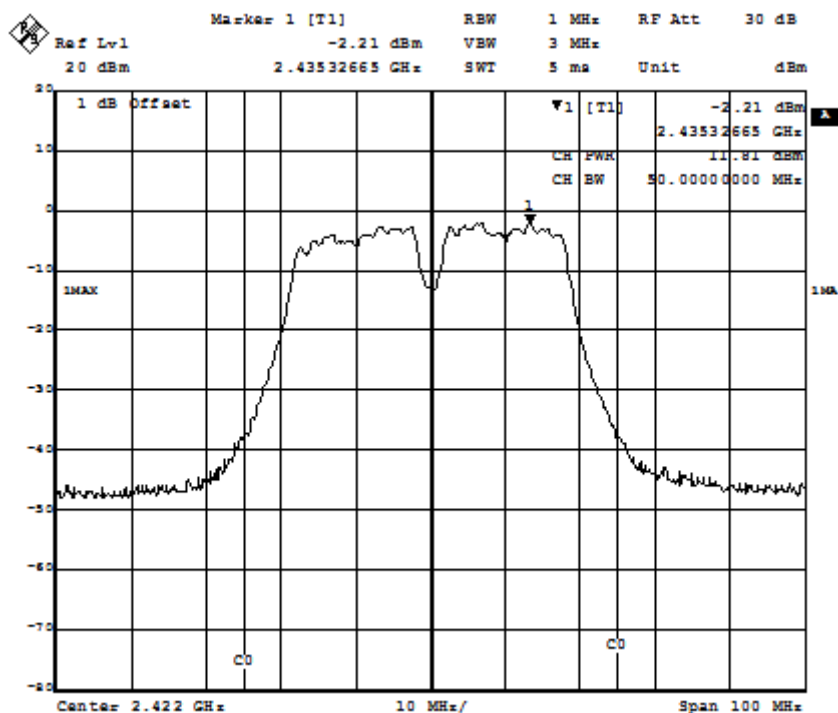


Channel 11: 2.462GHz:

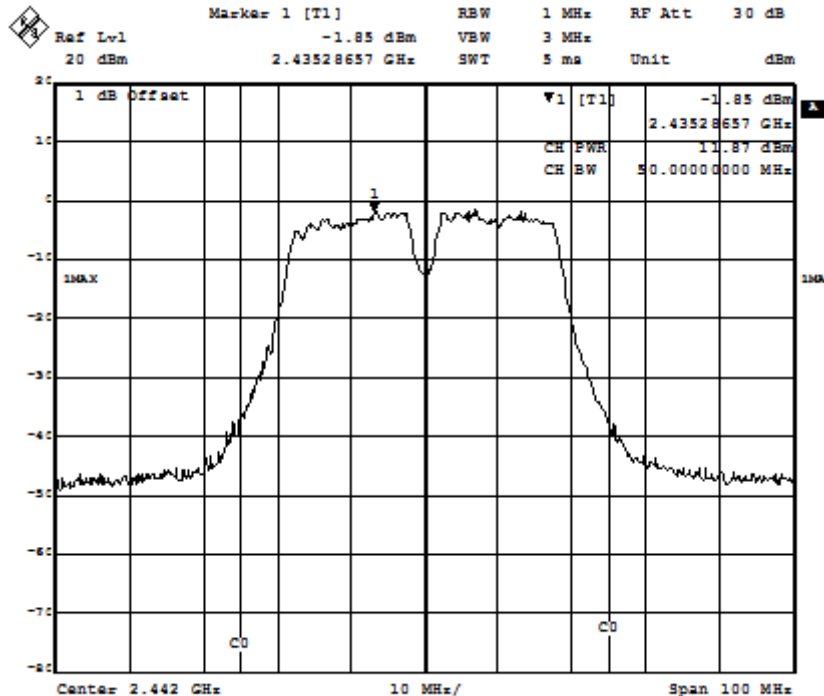


802.11n(HT40) mode with 150Mbps data rate

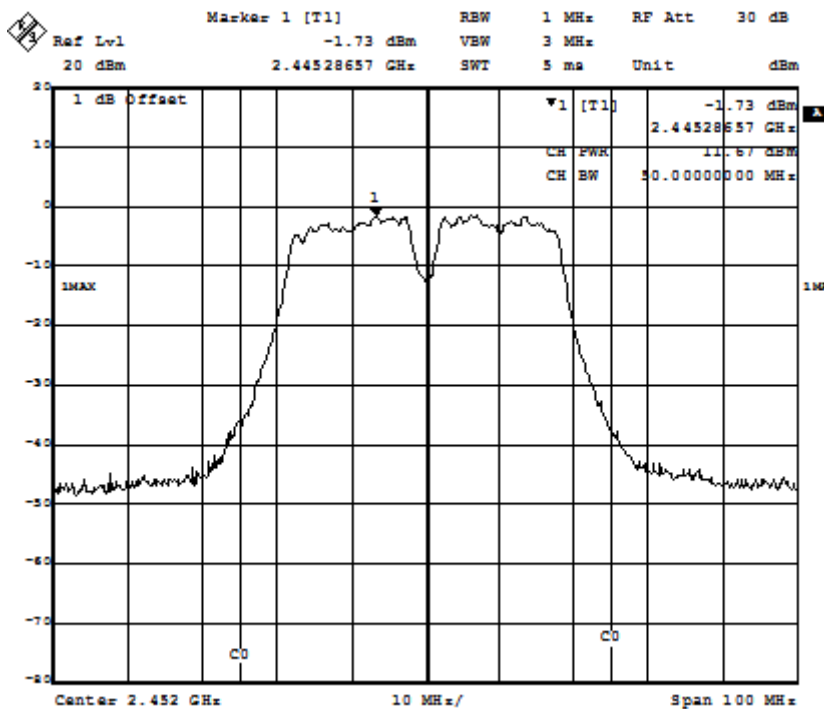
Channel 3: 2.422GHz:



Channel 7: 2.442GHz:



Channel 9: 2.452GHz:



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.

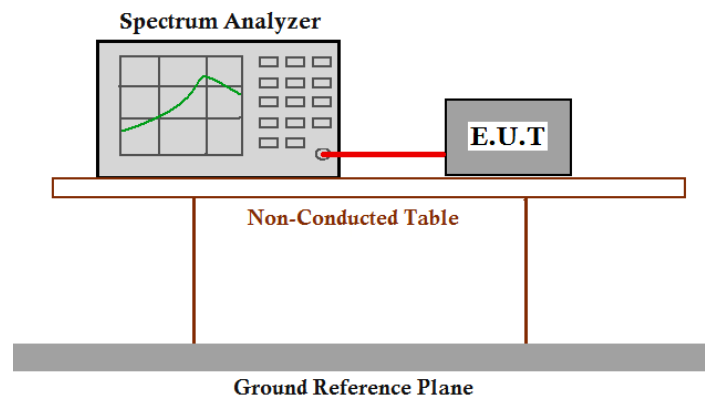
Test Method:

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 =1.0dB) 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.



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

Report No.: GZEM170800529302

Page: 33 of 96

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Peak Power Spectral Density (dBm/3KHz)	Limit	Result
1	2412	802.11b	11 Mbps	-19.52	8dBm/3KHz	Pass
7	2442		11 Mbps	-20.77		Pass
11	2462		11 Mbps	-16.48		Pass
1	2412	802.11g	54 Mbps	-24.89		Pass
7	2442		54 Mbps	-24.09		Pass
11	2462		54 Mbps	-19.74		Pass
1	2412	802.11n (HT20)	65 Mbps	-24.89		Pass
7	2442		65 Mbps	-24.18		Pass
11	2462		65 Mbps	-21.00		Pass
3	2422	802.11n (HT40)	135 Mbps	-28.12		Pass
7	2442		135 Mbps	-27.52		Pass
9	2452		135 Mbps	-23.35		Pass

Test result: Level = Read Level + Cable Loss.

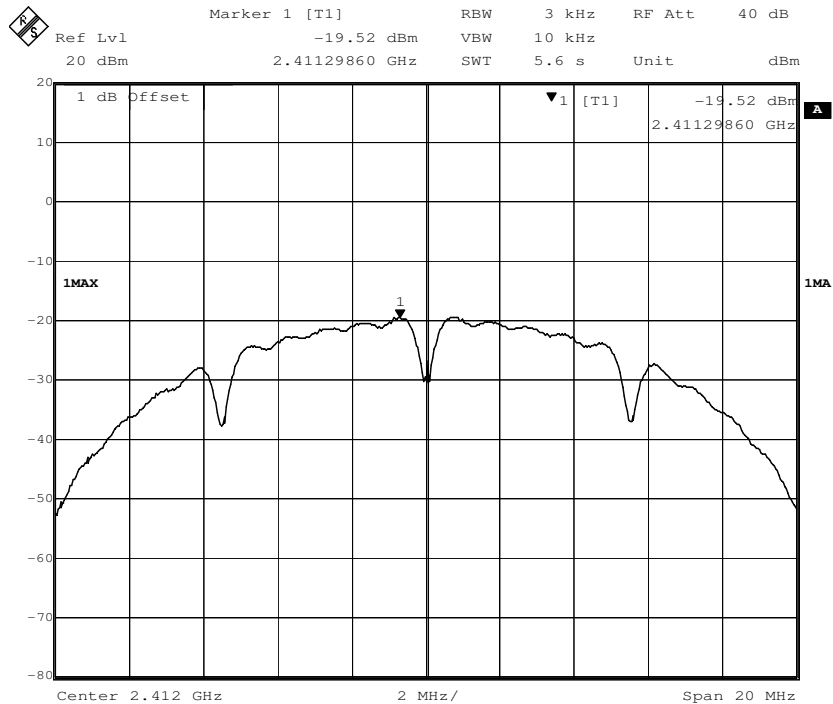
The unit does meet the FCC requirements.



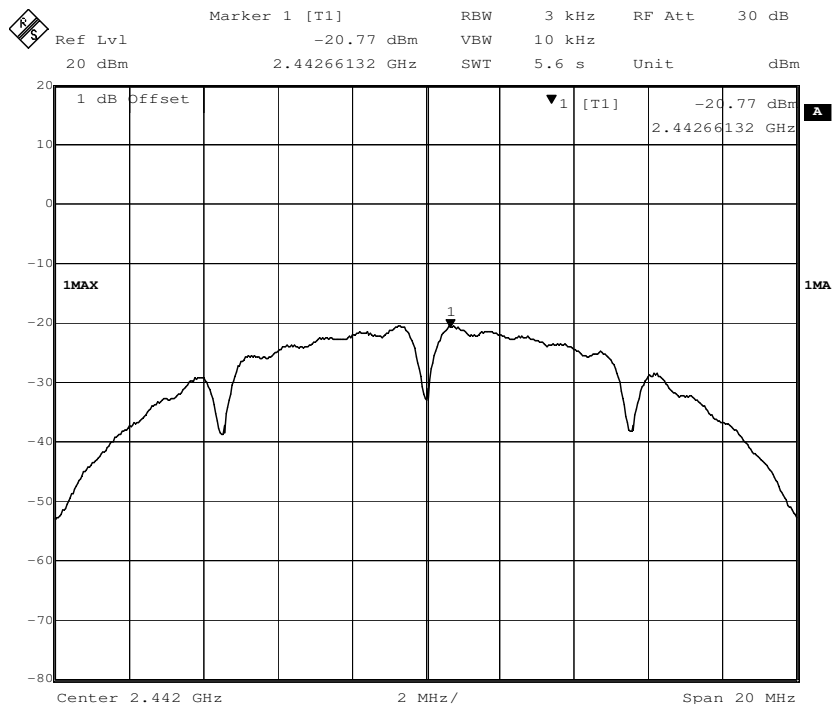
Result plot as follows:

802.11b mode with 11Mbps data rate

Channel 1: 2.412GHz:

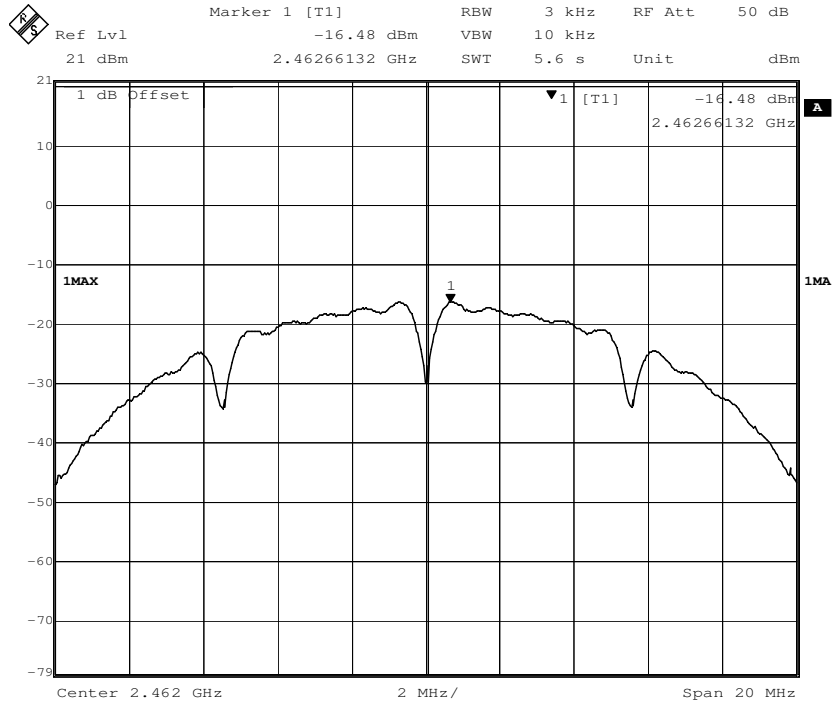


Channel 7: 2.442GHz:



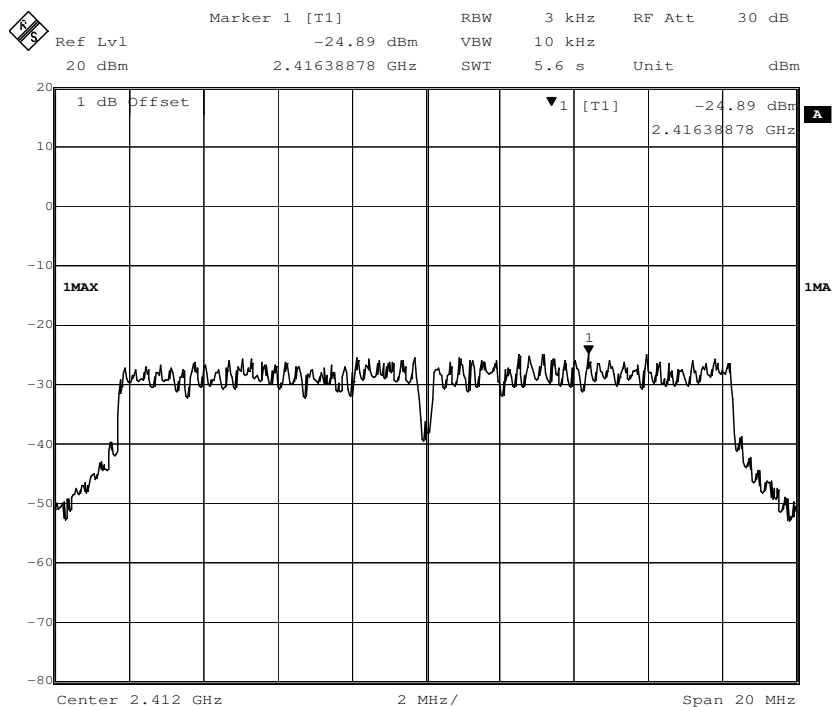


Channel 11: 2.462GHz:



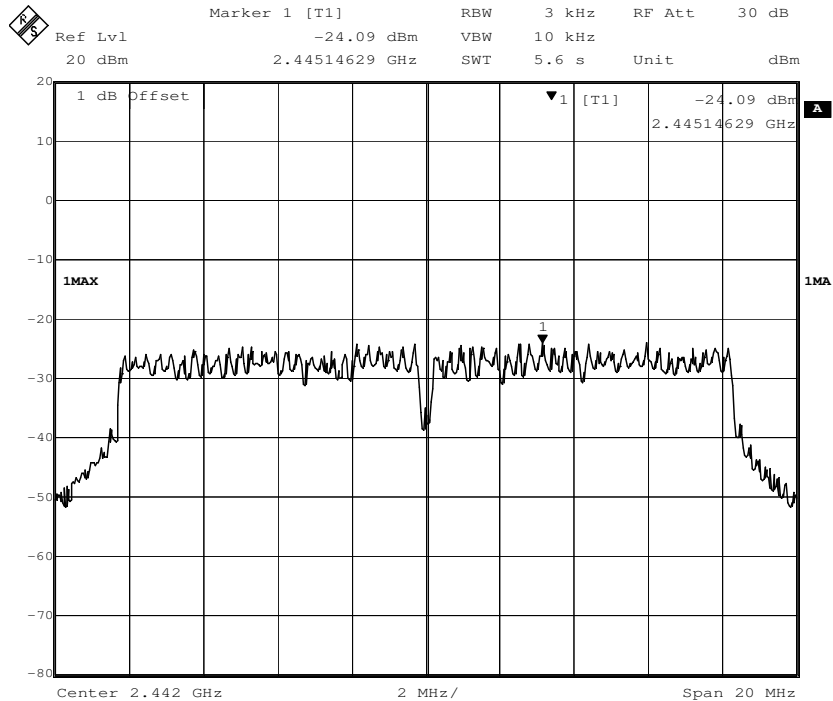
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

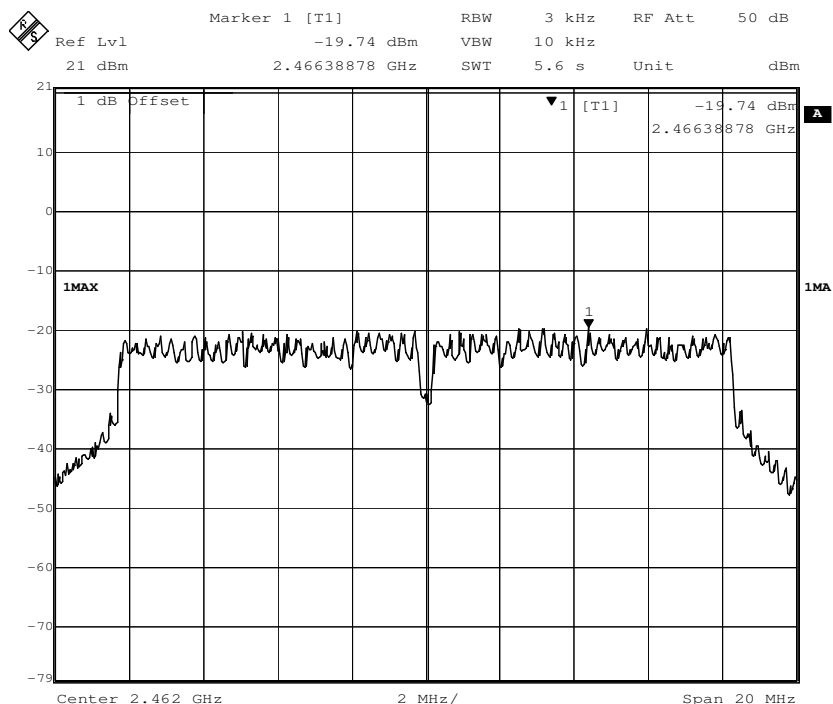




Channel 7: 2.442GHz:



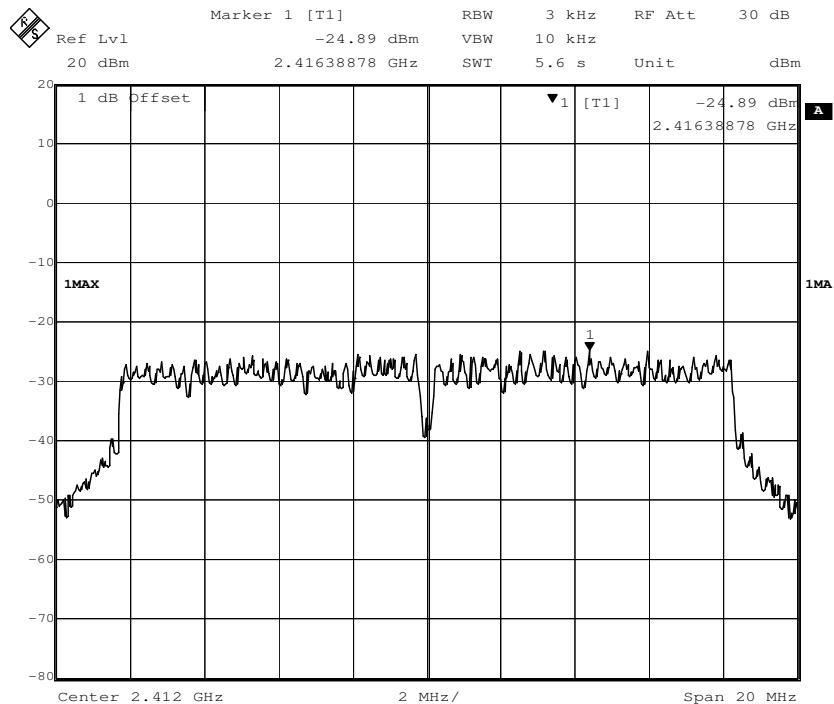
Channel 11: 2.462GHz:



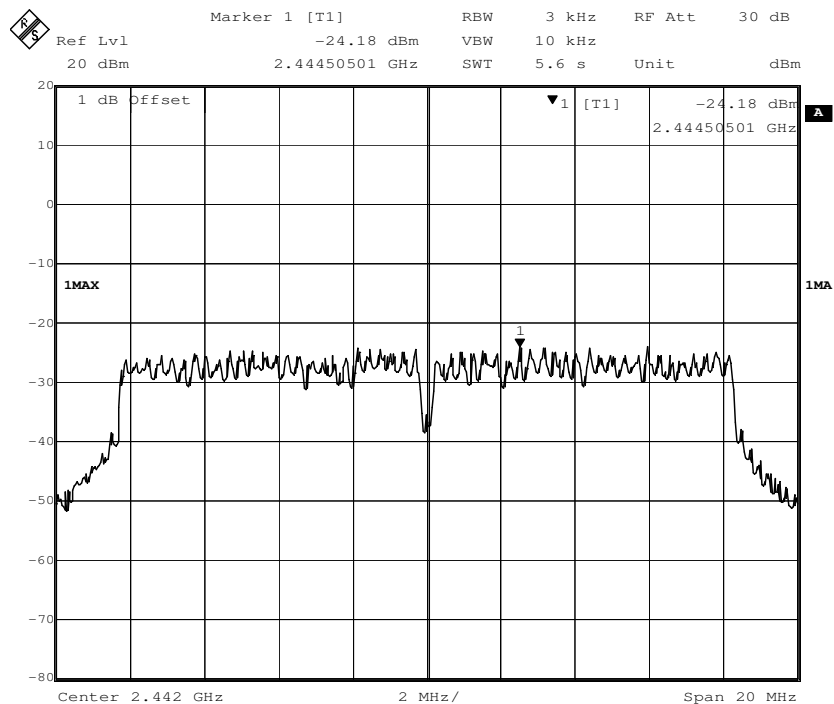


802.11n(HT20) mode with 72.2Mbps data rate

Channel 1: 2.412GHz:

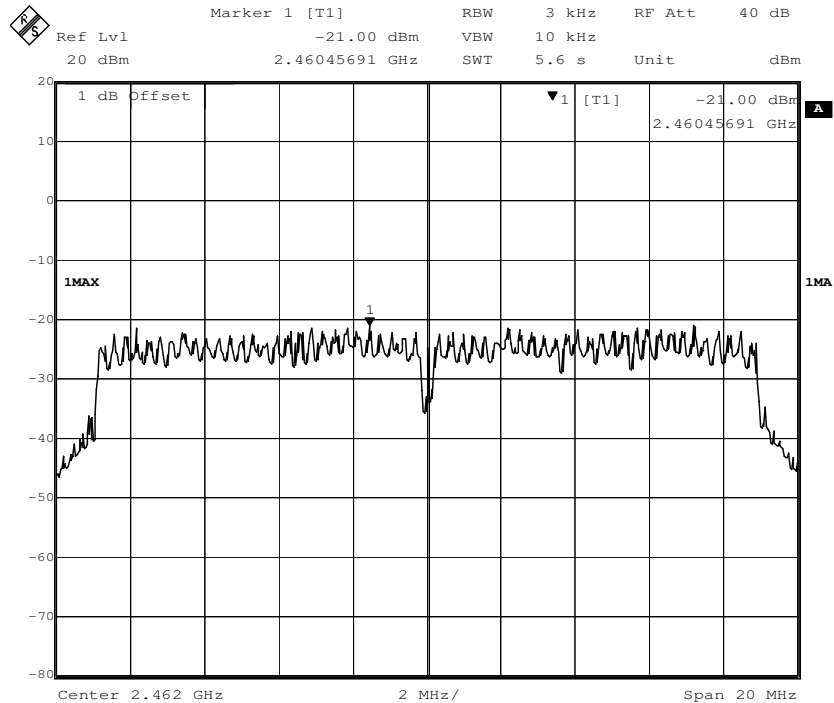


Channel 7: 2.442GHz:



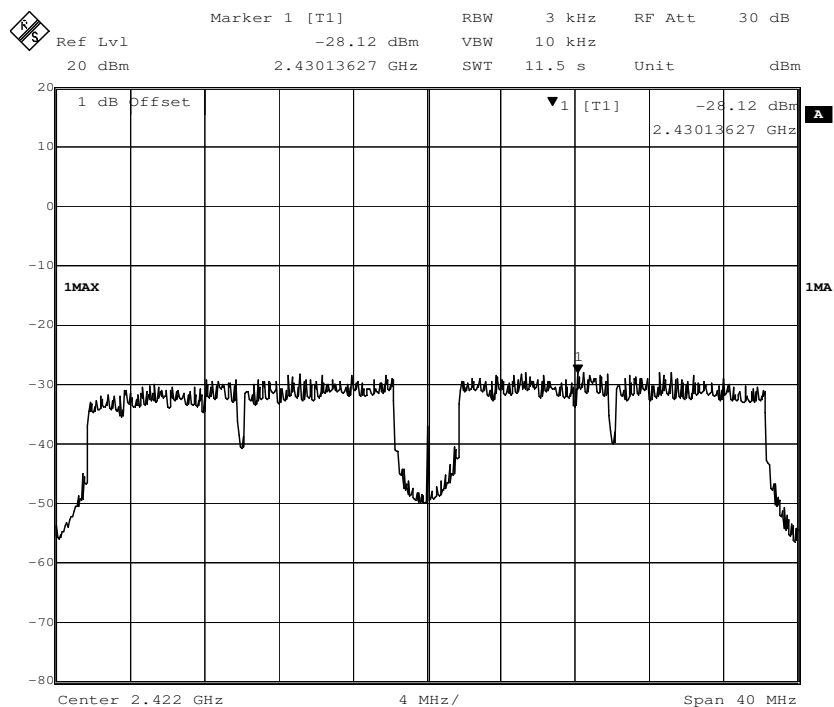


Channel 11: 2.462GHz:



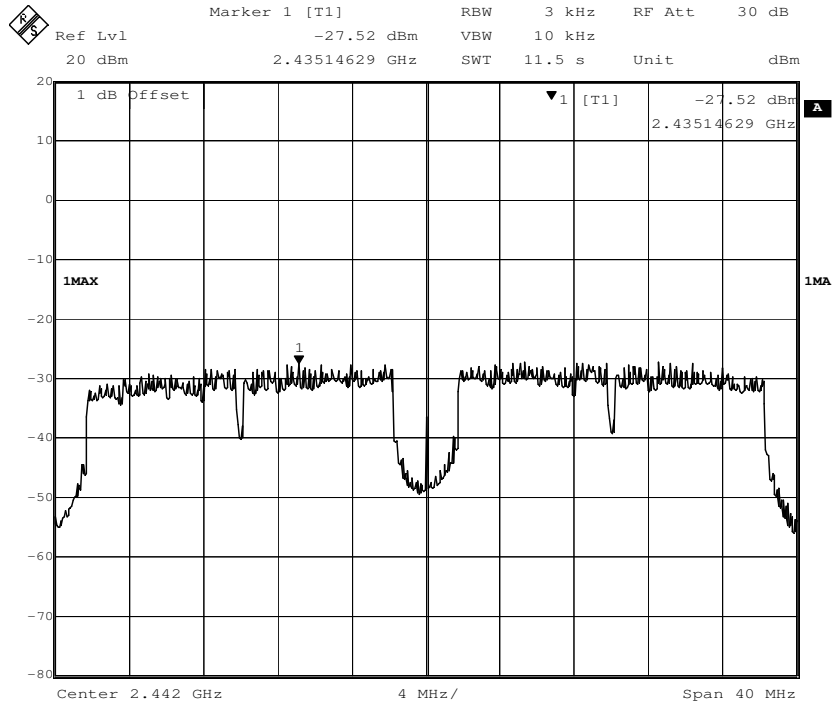
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422GHz:

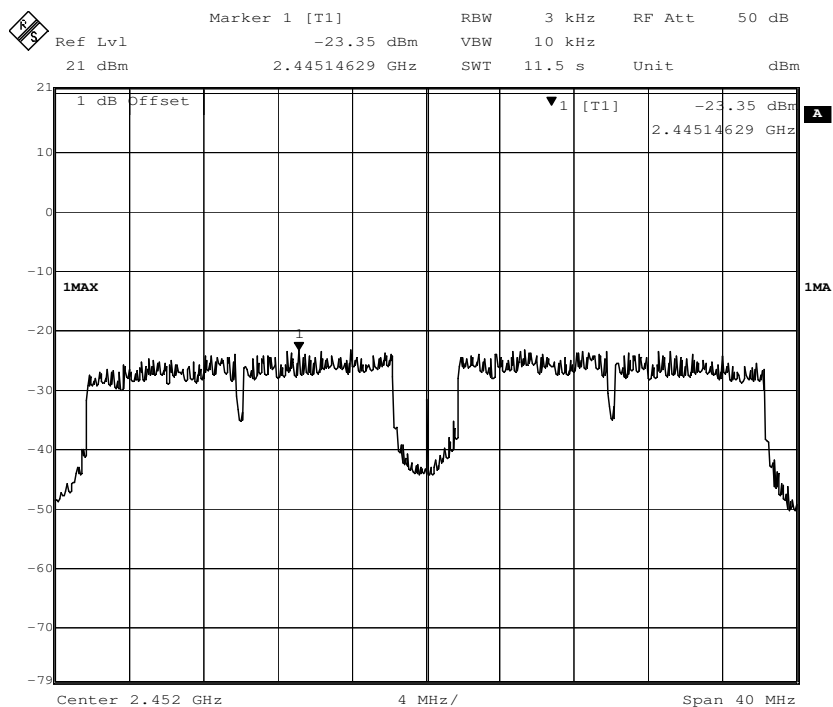




Channel 7: 2.442GHz:



Channel 9: 2.452GHz:



7.6 Conducted Spurious Emissions

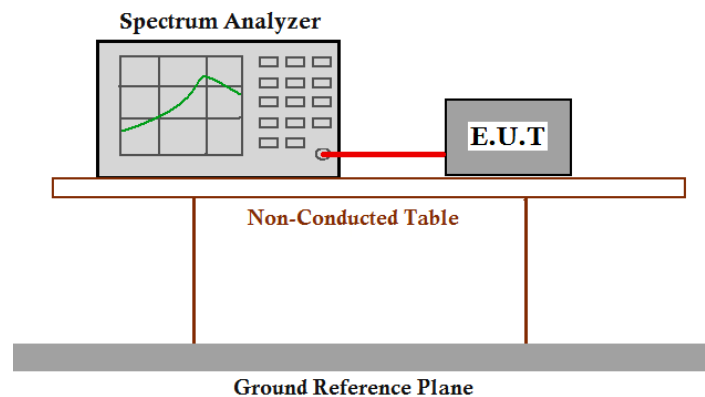
Test Requirement: FCC Part 15 C section 15.247

(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.

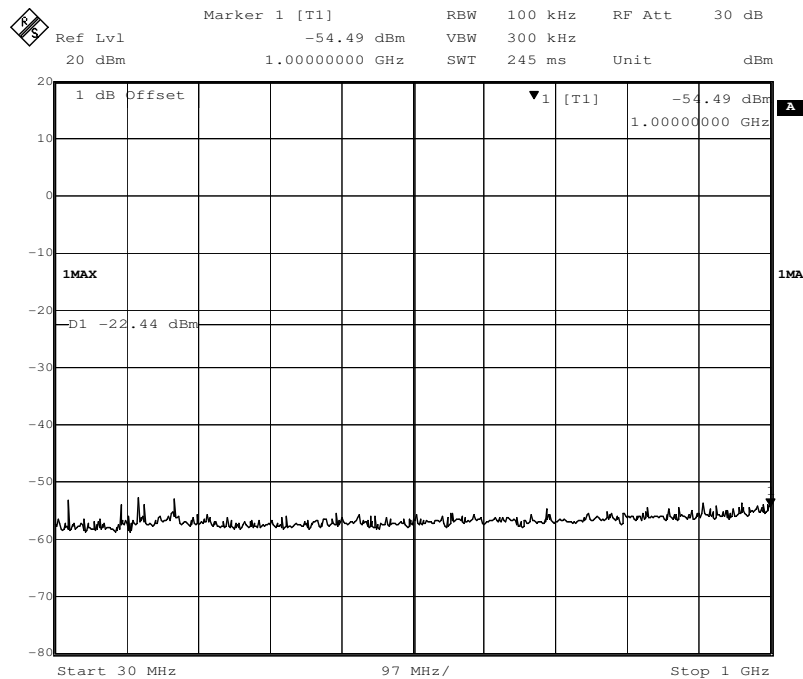


Result plot as follows:

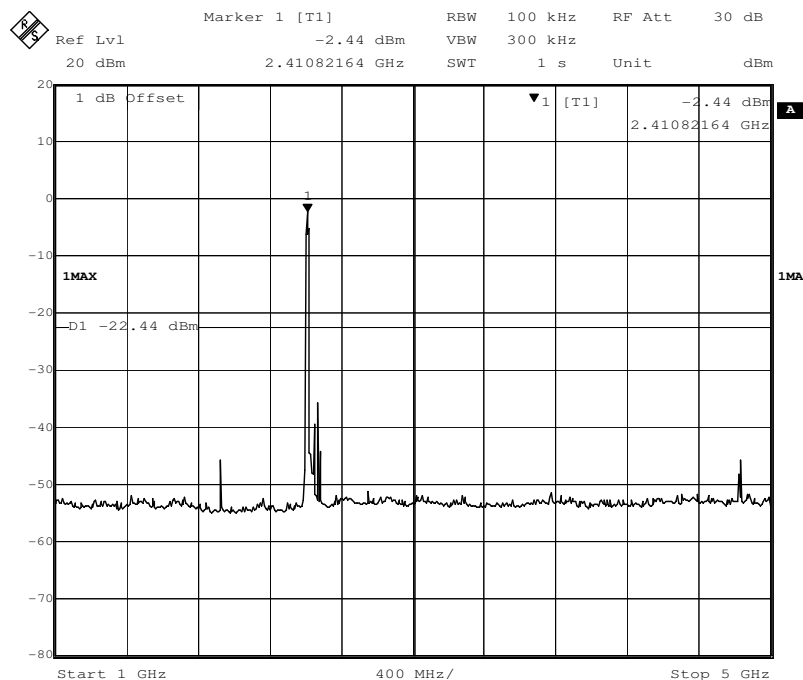
802.11b mode with 11Mbps data rate

Channel 1: 2.412GHz:

30 MHz to 1 GHz

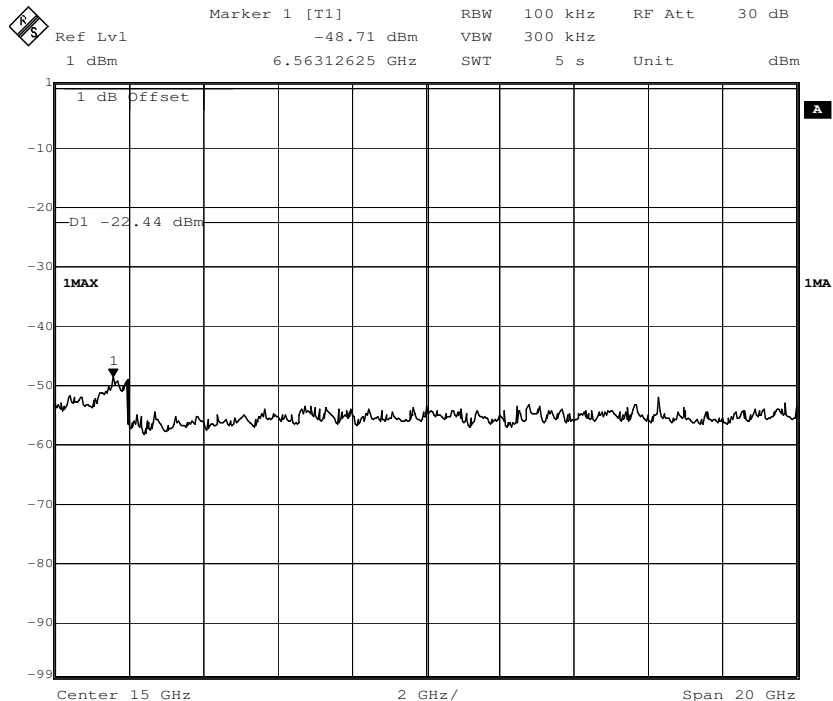


1 G to 5 GHz



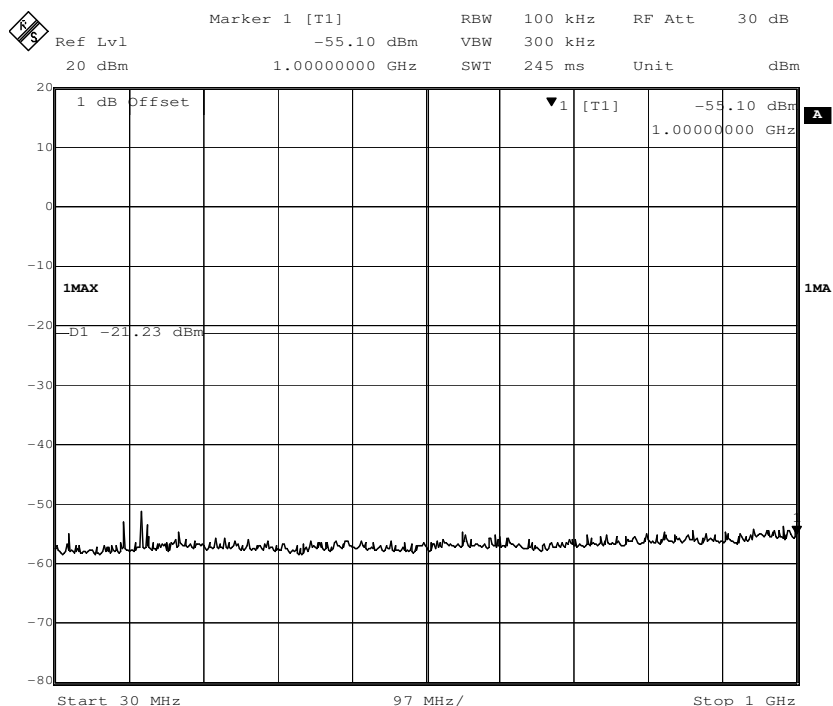


5 G to 25 GHz



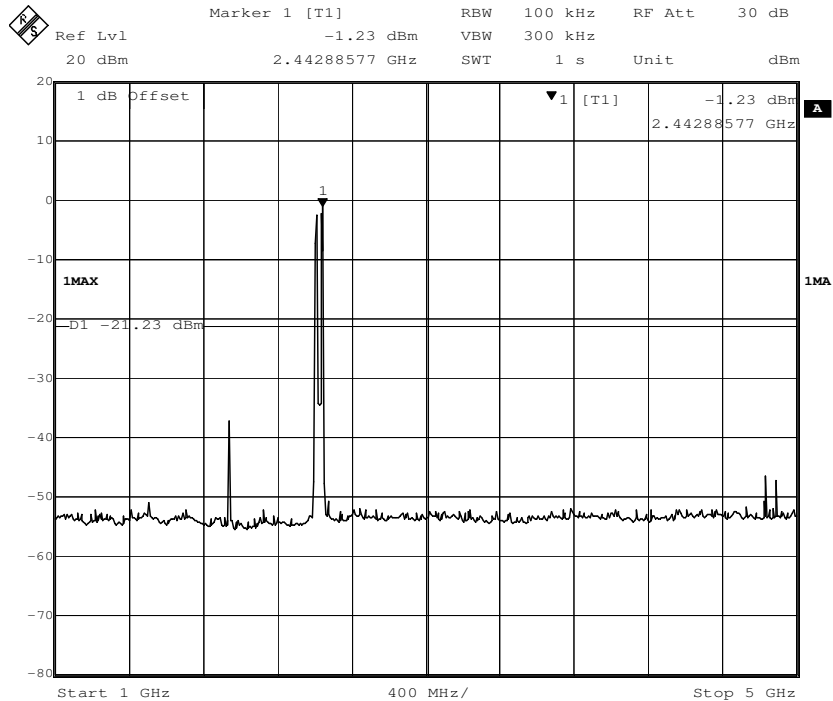
Channel 7: 2.442GHz:

30 MHz to 1 GHz

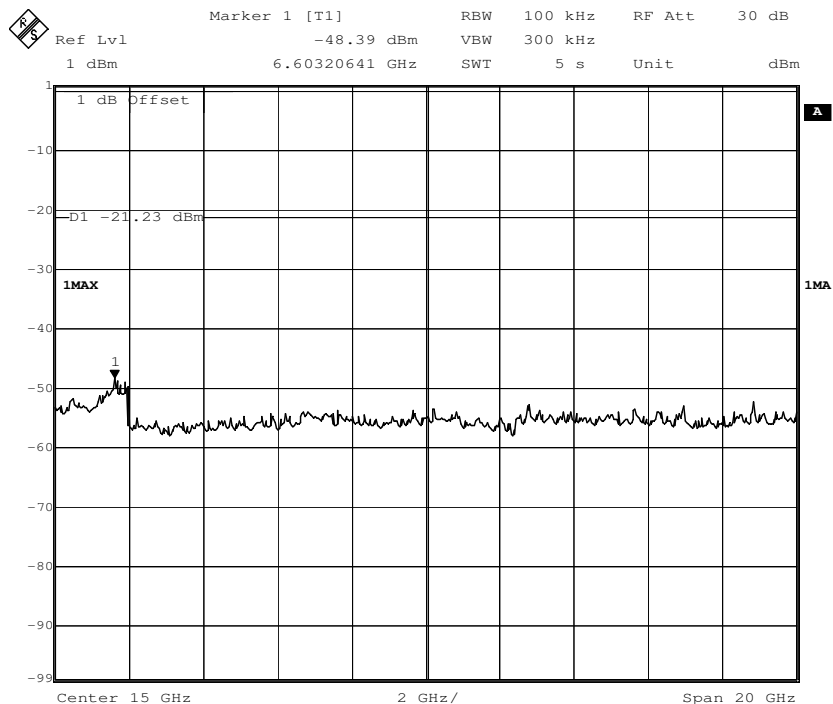




1 G to 5 GHz



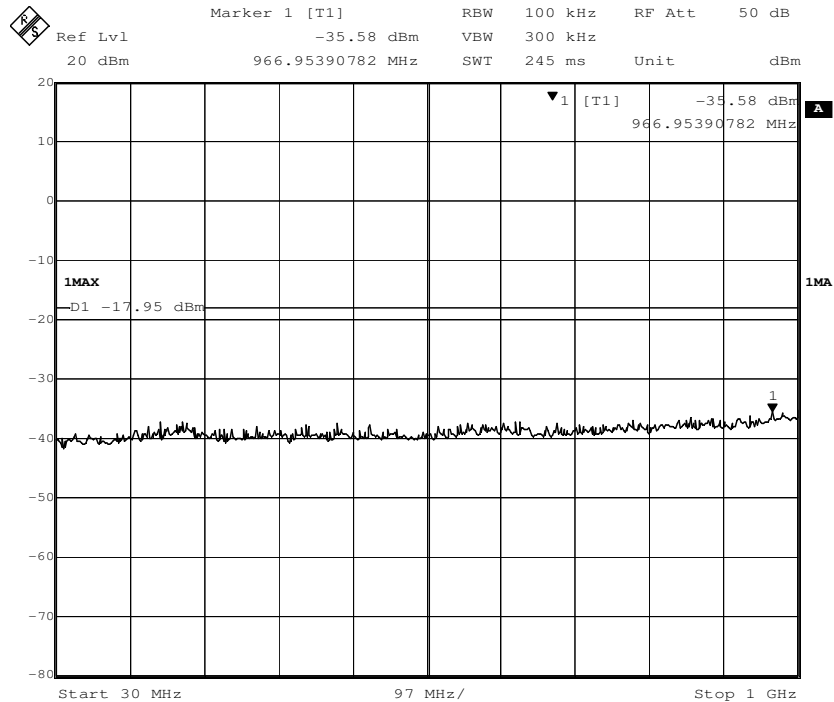
5 G to 25 GHz



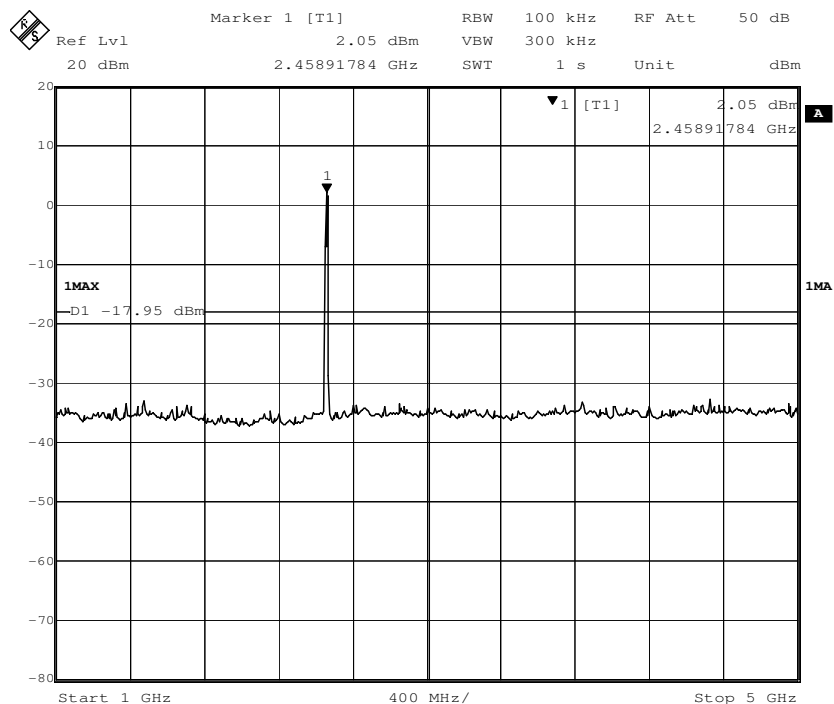


Channel 11:2.462 GHz

30 MHz to 1 GHz

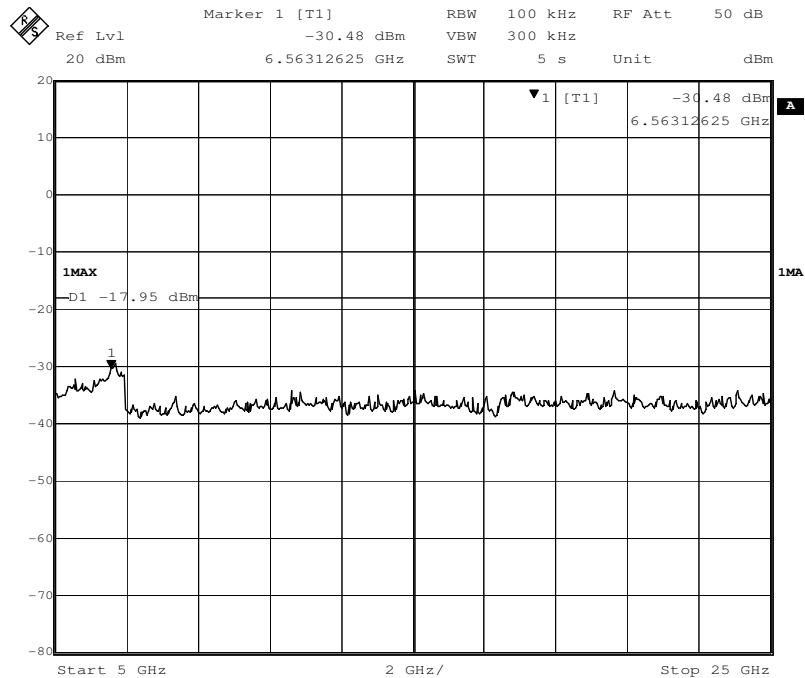


1 G to 5 GHz





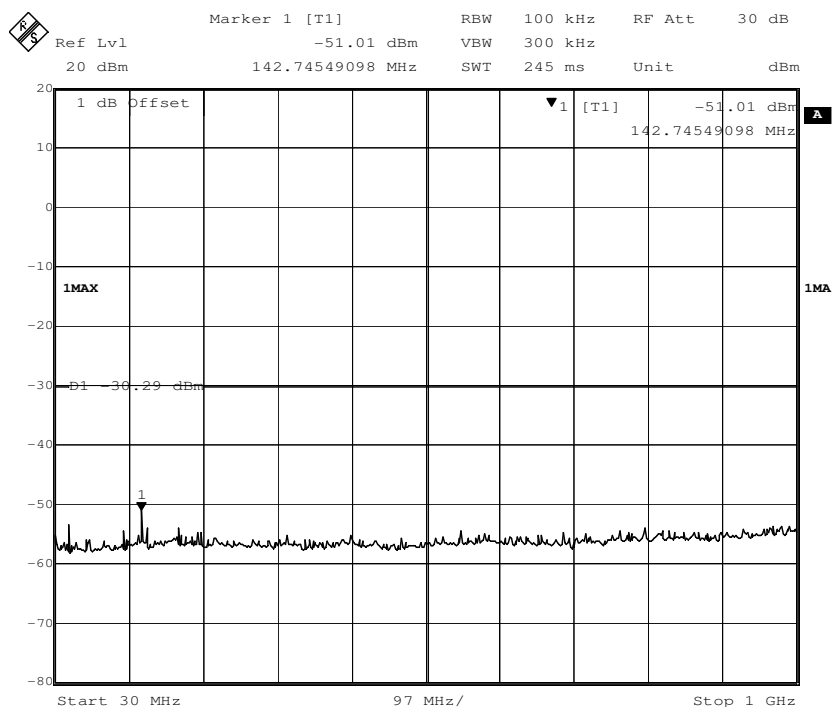
5 G to 25 GHz



802.11g mode with 54Mbps data rate

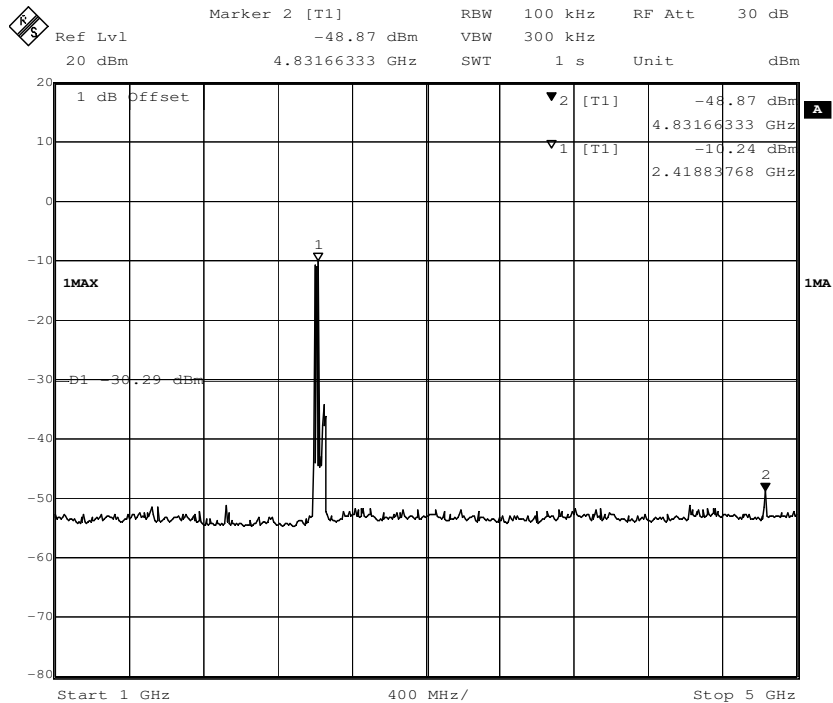
Channel 1: 2.412GHz:

30 MHz to 1 GHz

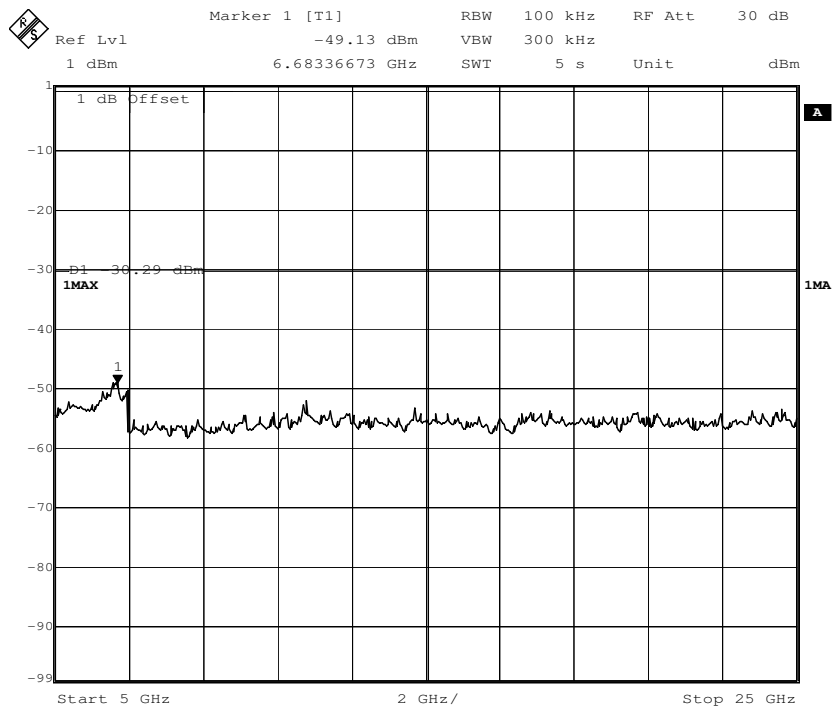




1 G to 5 GHz



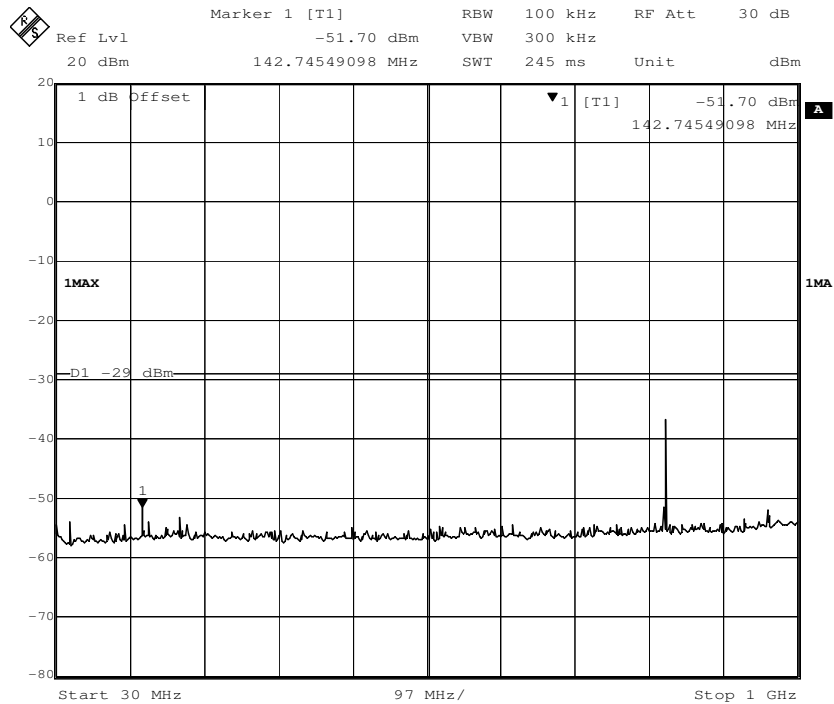
5 G to 25 GHz



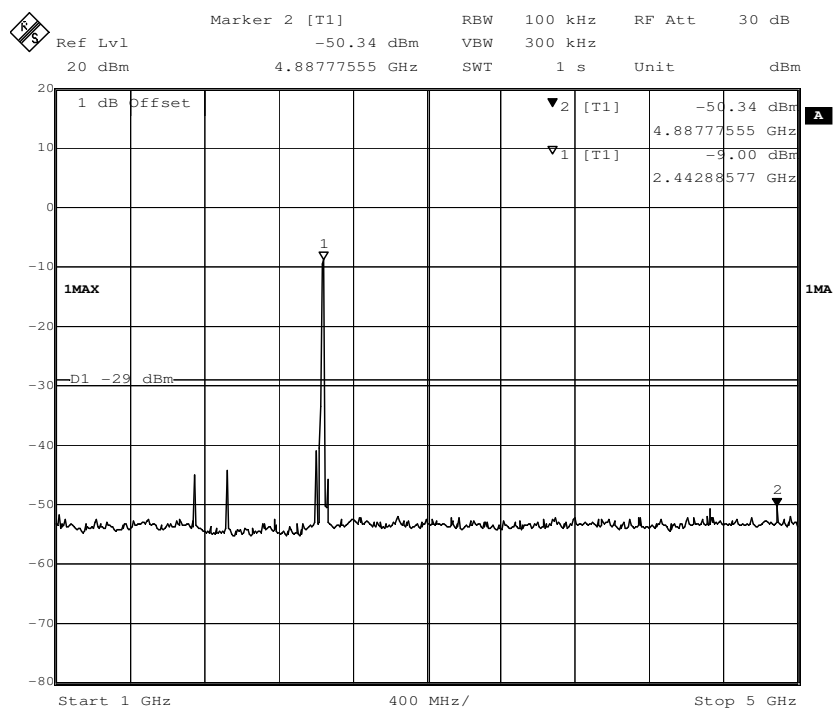


Channel 7: 2.442GHz:

30 MHz to 1 GHz

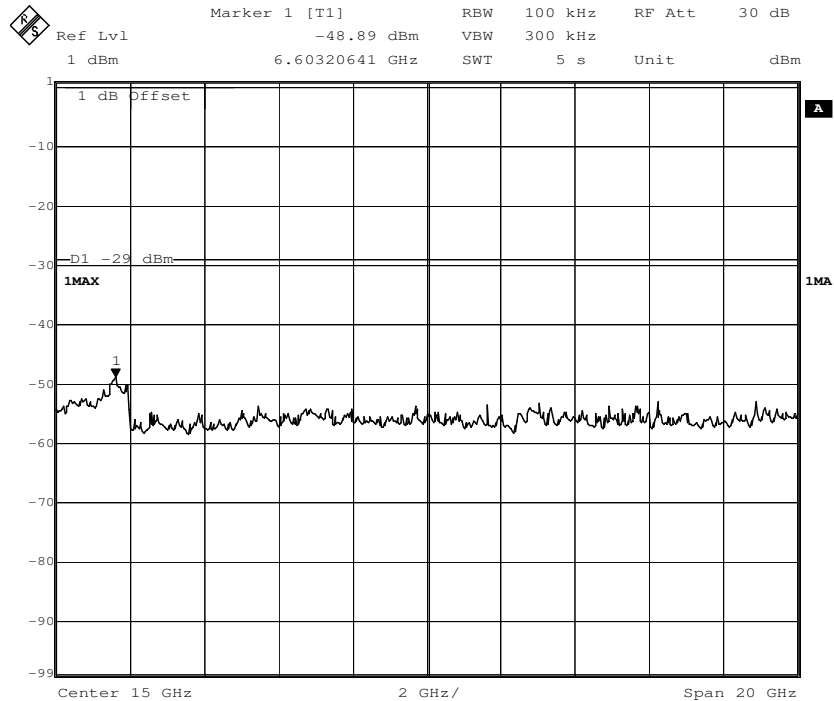


1 G to 5 GHz



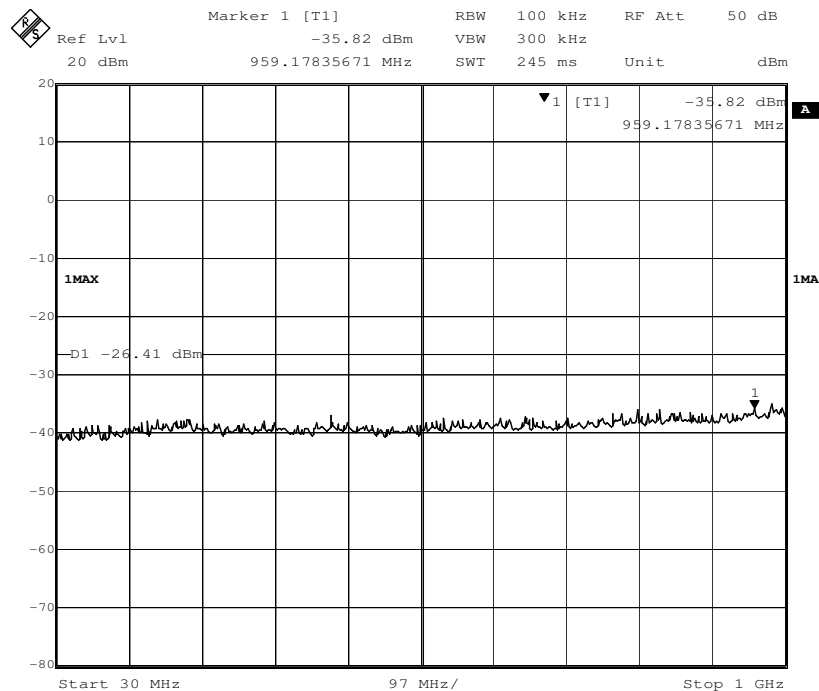


5 G to 25 GHz



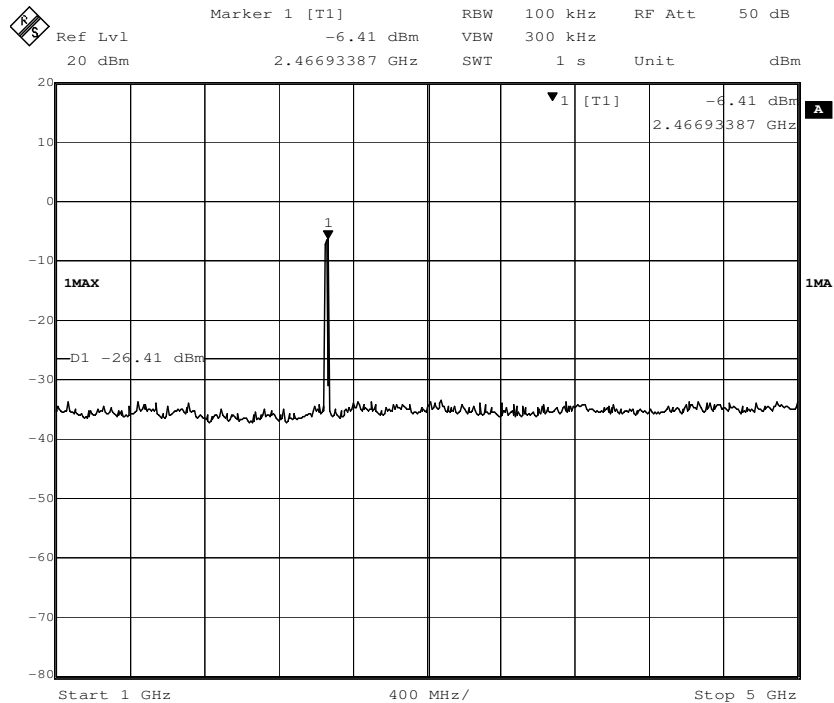
Channel 11:2.462 GHz

30 MHz to 1 GHz

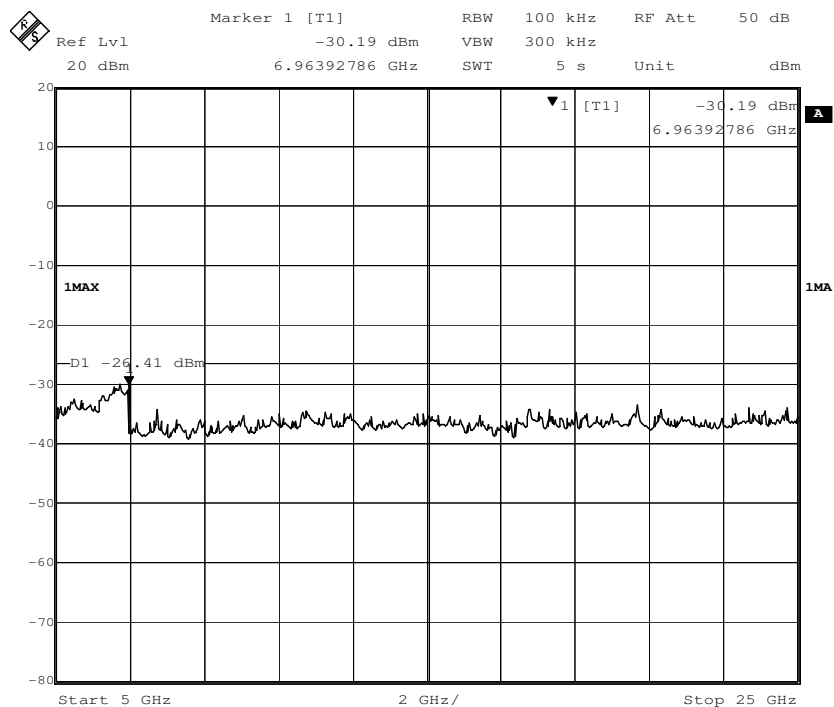




1 G to 5 GHz



5 G to 25 GHz

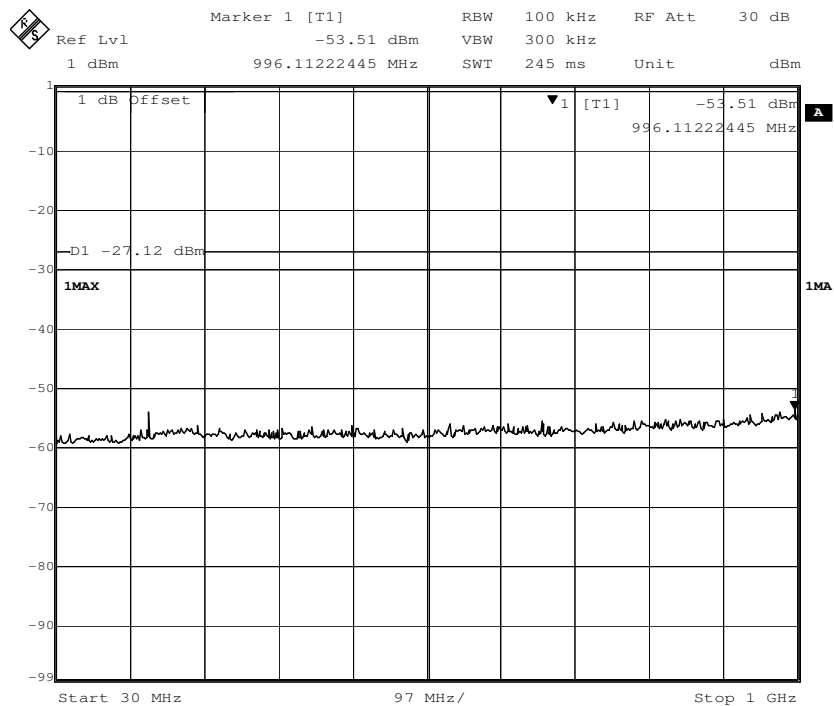




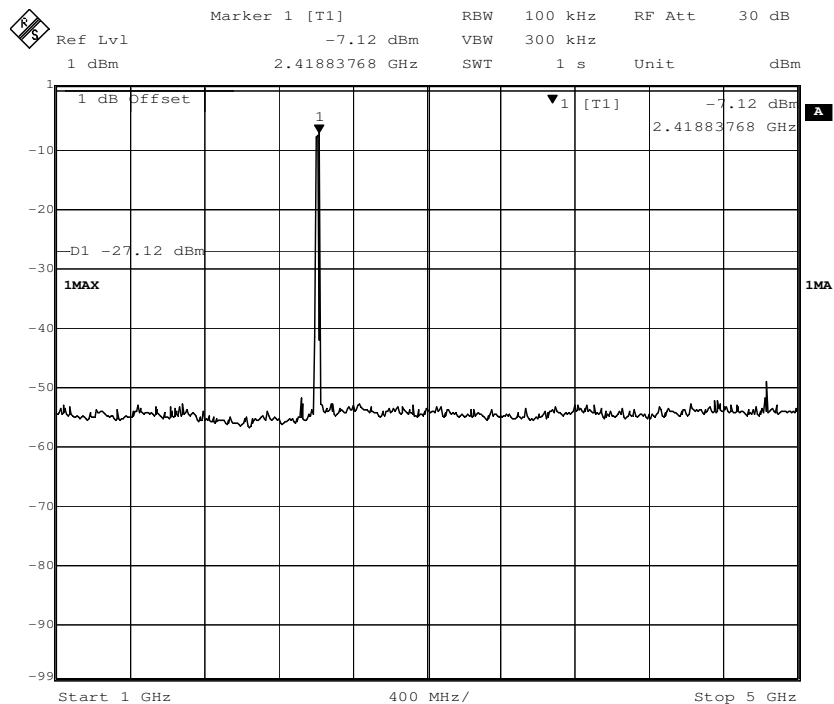
802.11n(HT20) mode with 72.2Mbps data rate

Channel 1: 2.412GHz:

30 MHz to 1 GHz

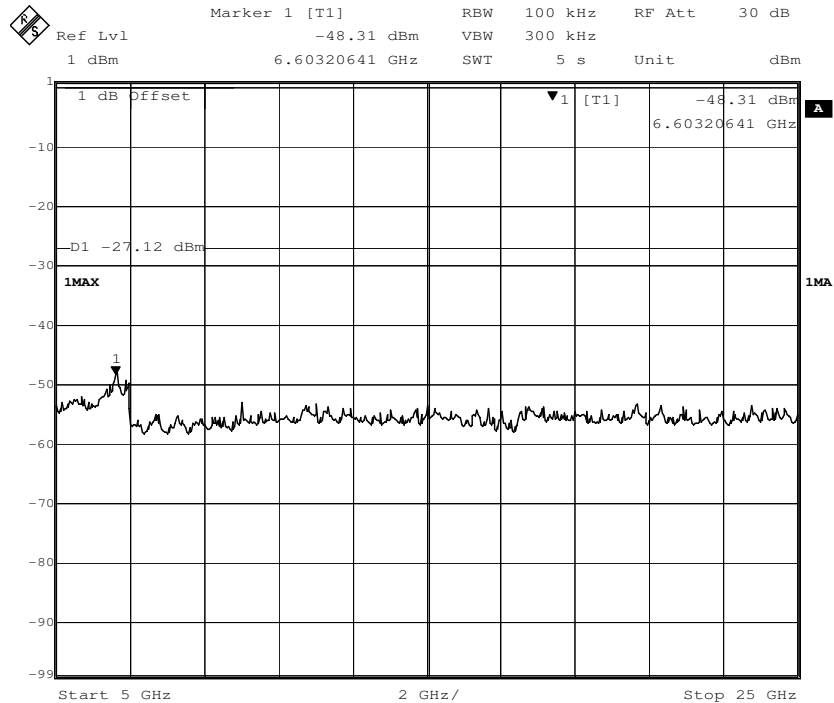


1 G to 5 GHz



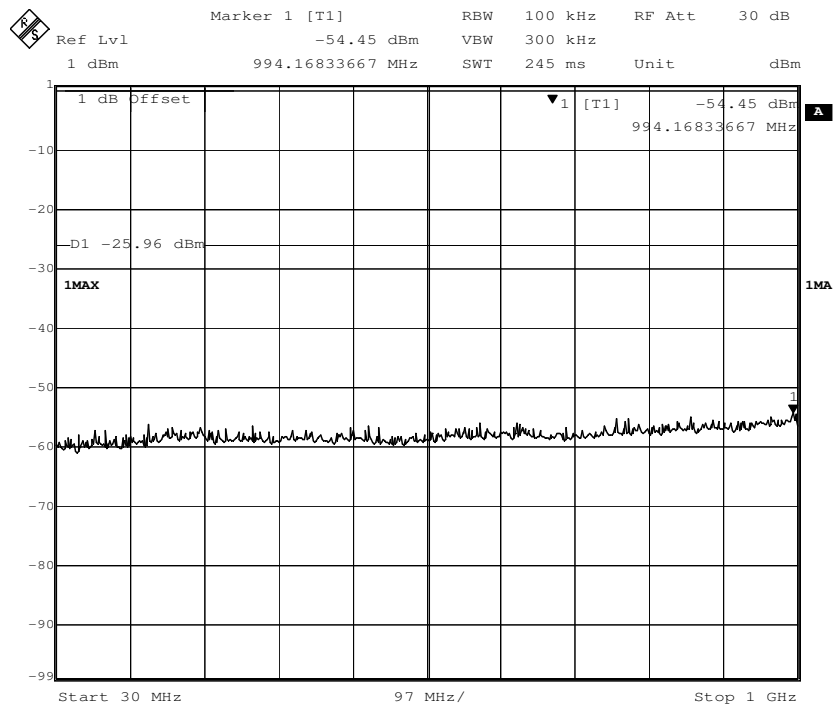


5 G to 25 GHz



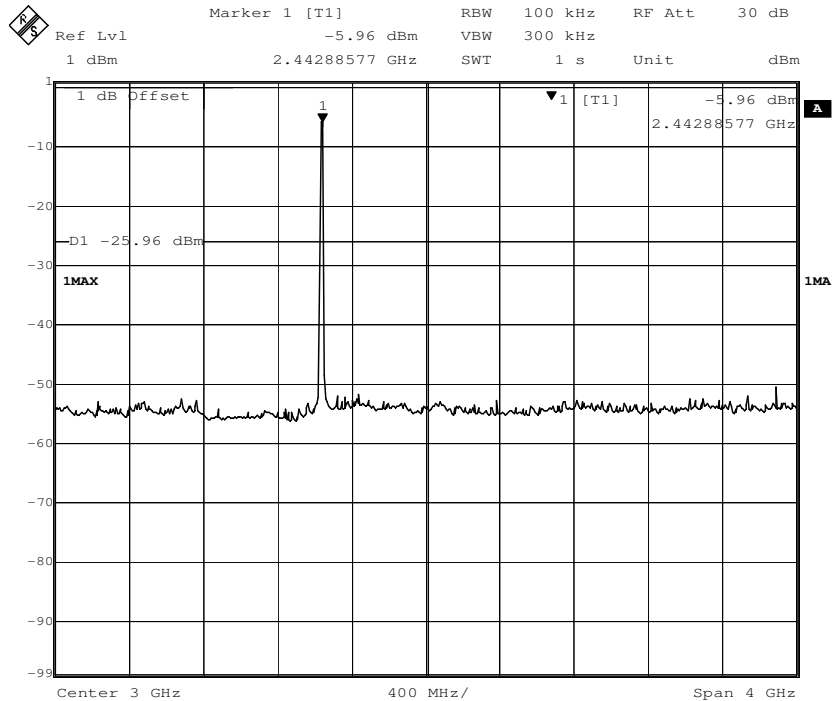
Channel 7: 2.442GHz:

30 MHz to 1 GHz

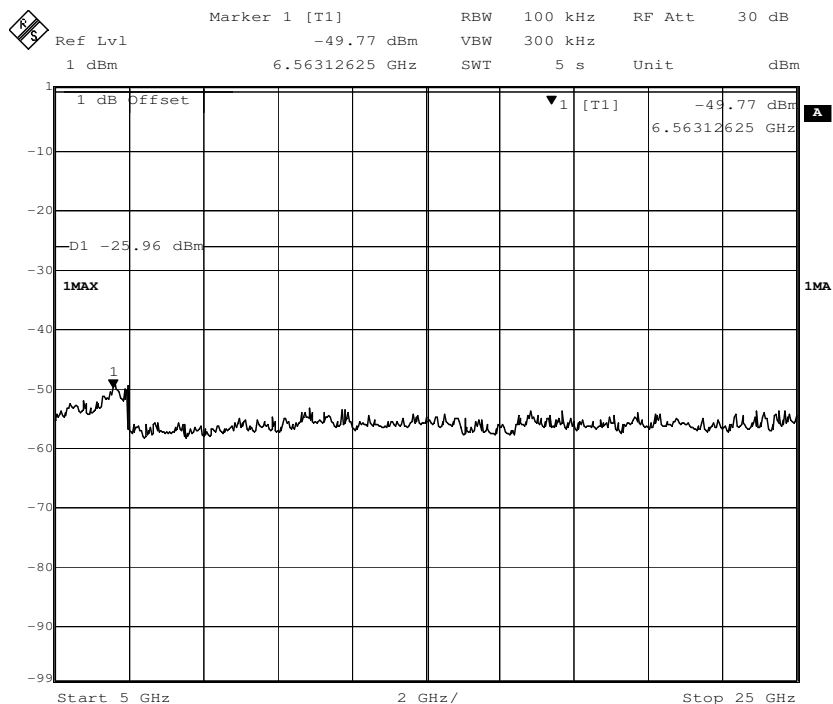




1 G to 5 GHz



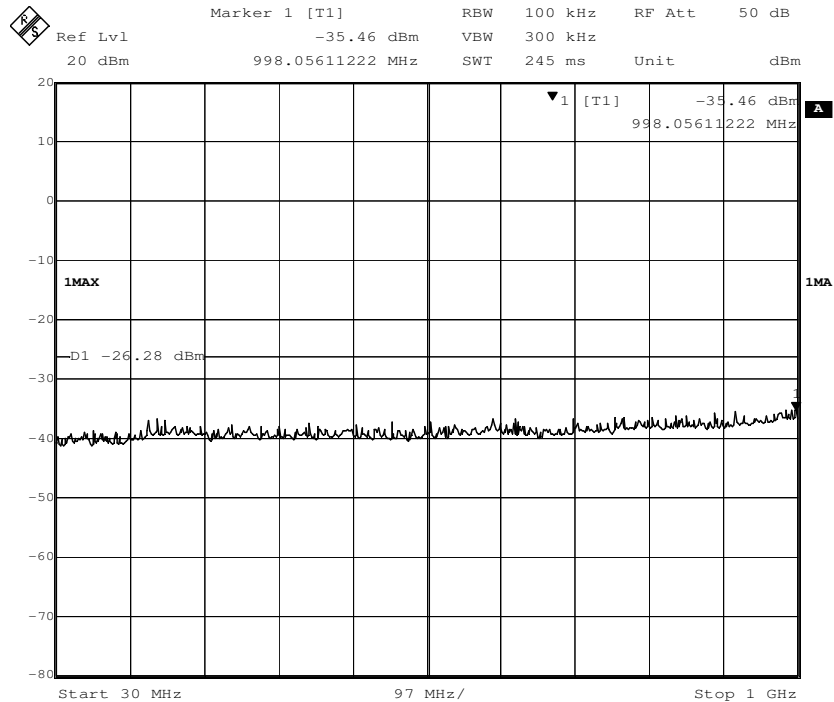
5 G to 25 GHz



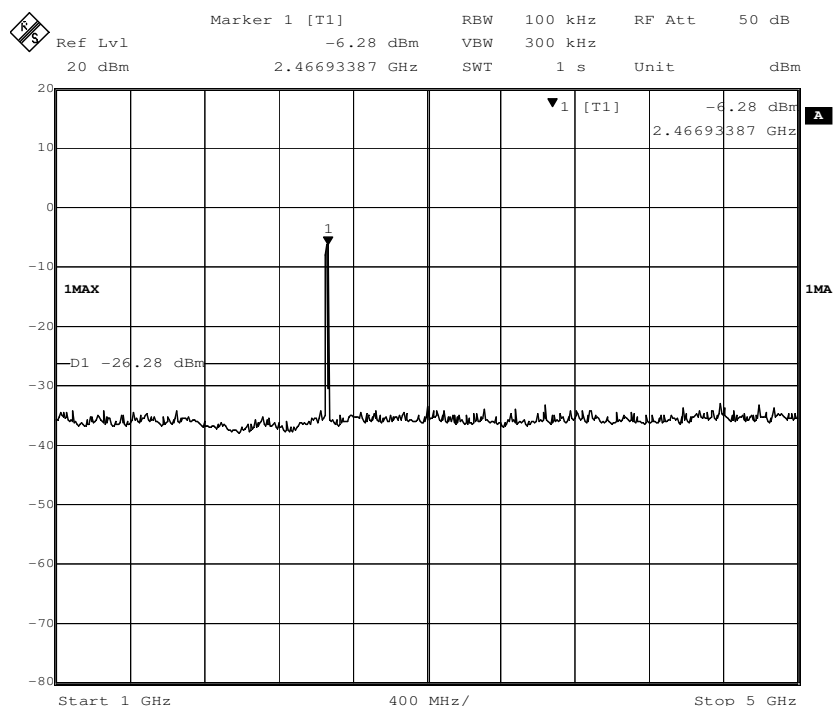


Channel 11:2.462 GHz

30 MHz to 1 GHz

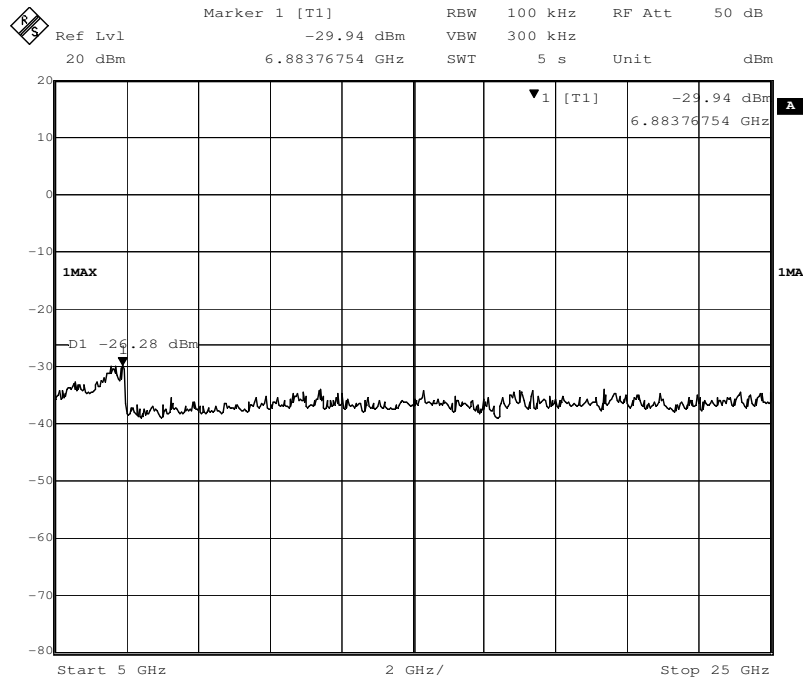


1 G to 5 GHz





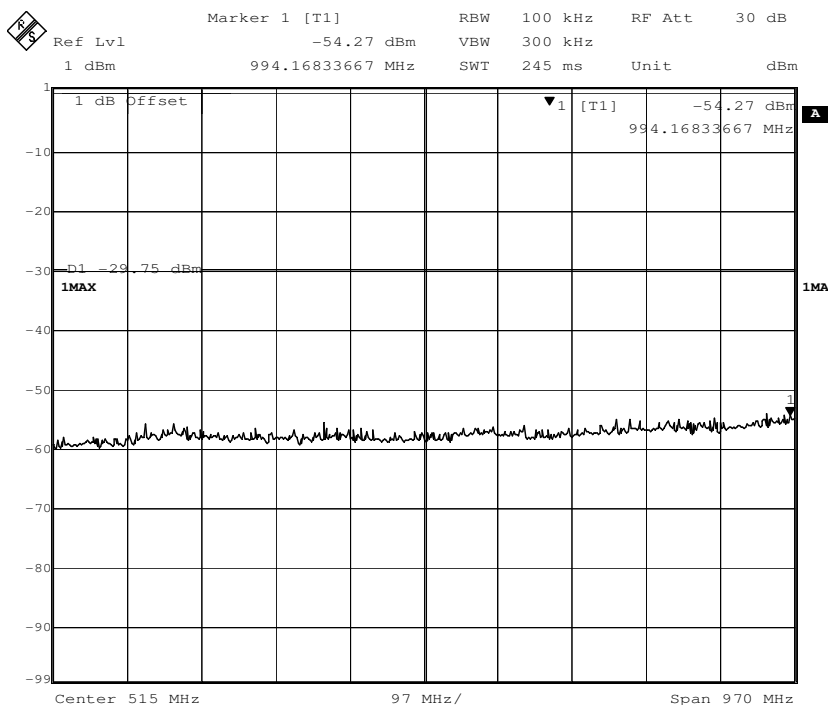
5 G to 25 GHz



802.11n(HT40) mode with 150Mbps data rate

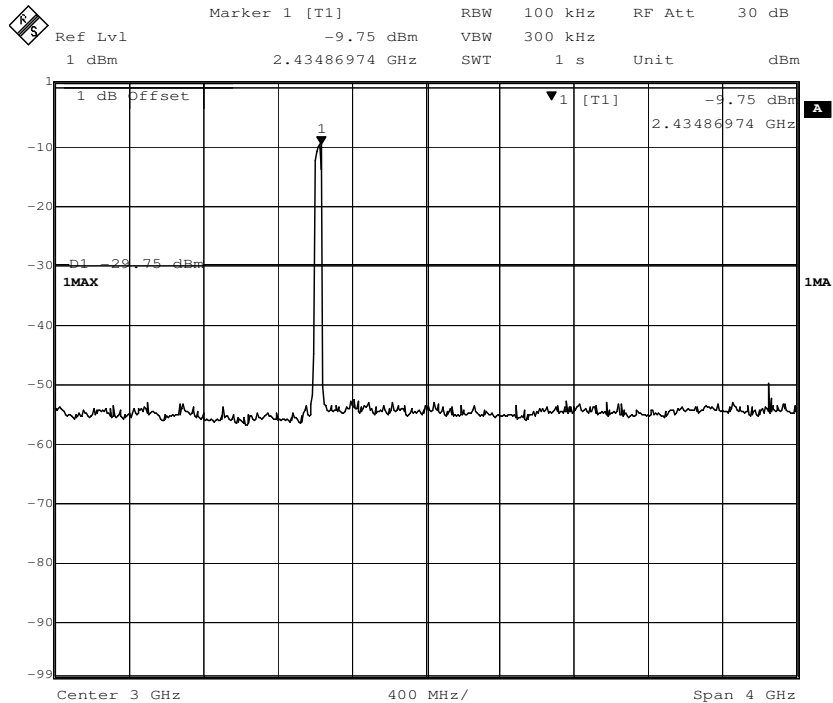
Channel 3: 2.422GHz:

30 MHz to 1 GHz

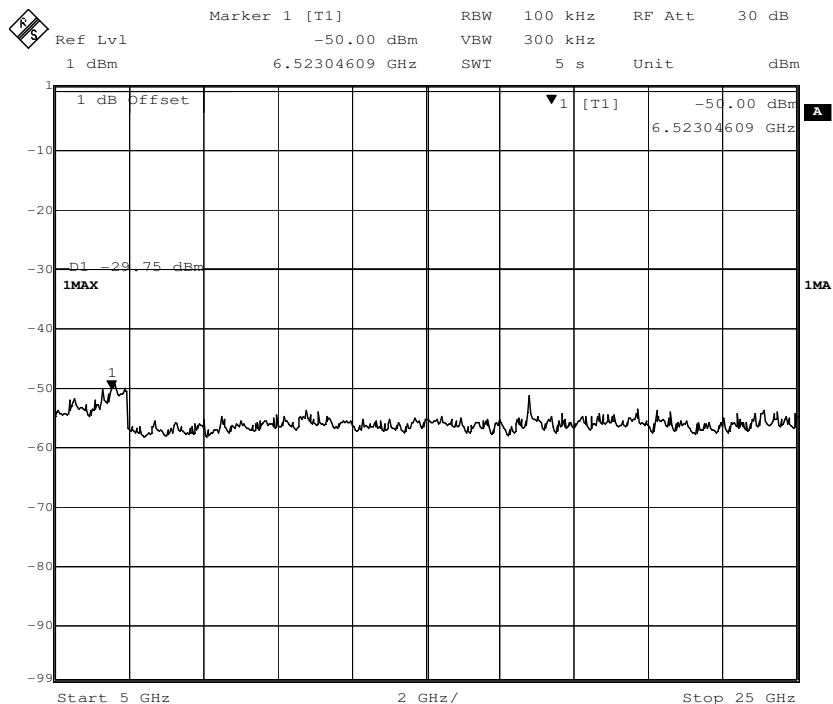




1 G to 5 GHz



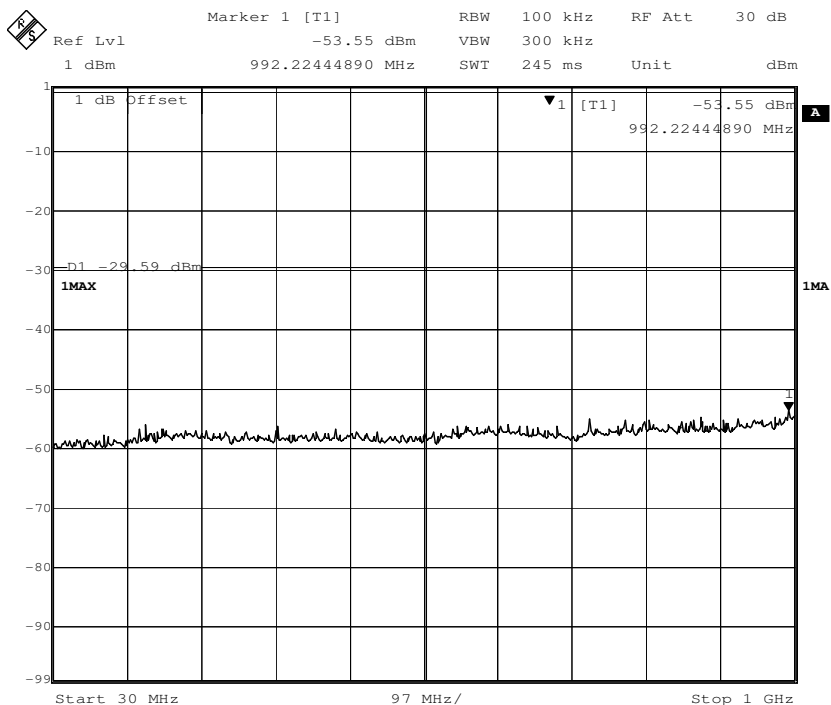
5 G to 25 GHz



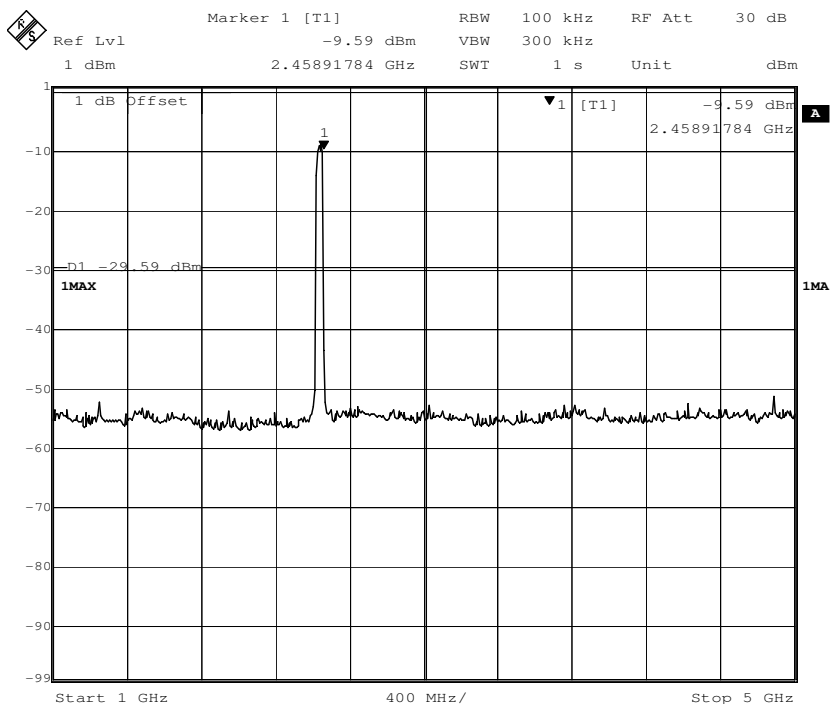


Channel 7: 2.442GHz:

30 MHz to 1 GHz

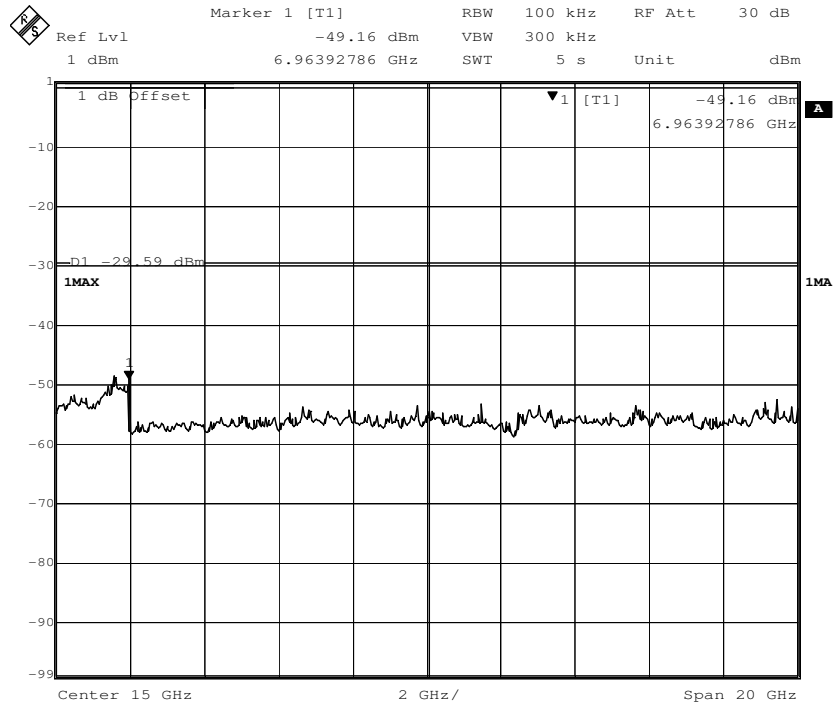


1 G to 5 GHz



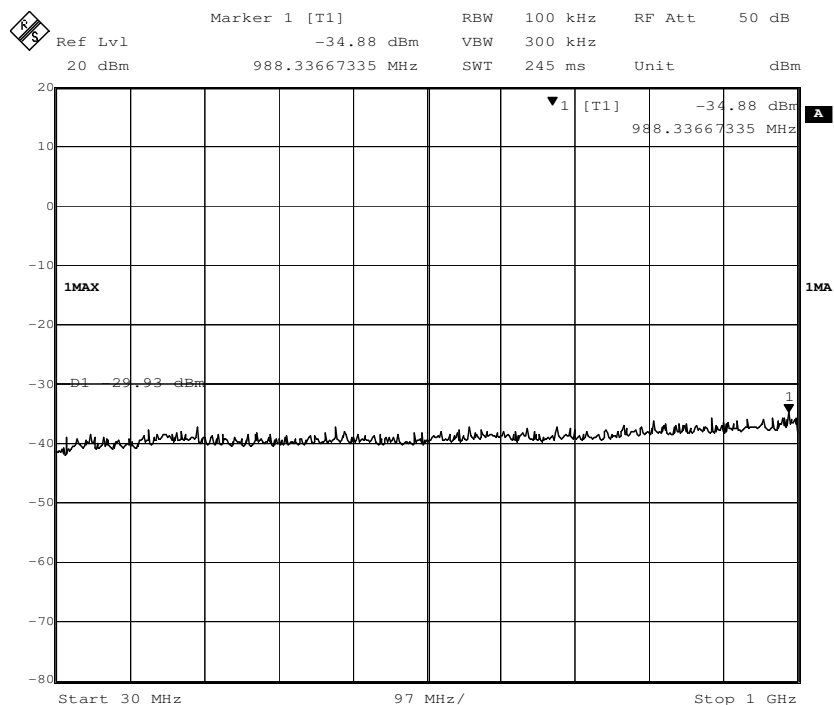


5 G to 25 GHz



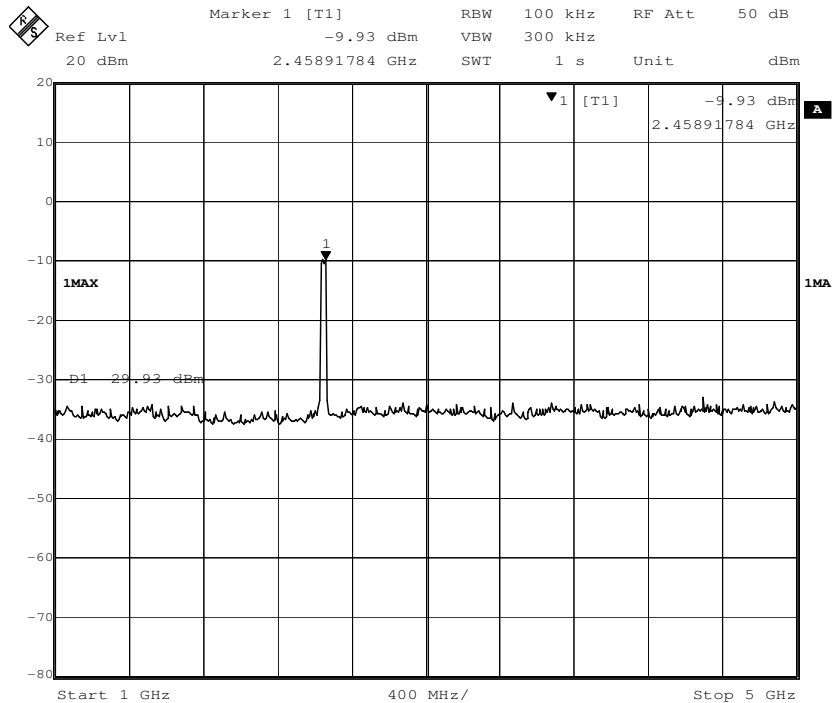
Channel 9:2.452 GHz

30 MHz to 1 GHz

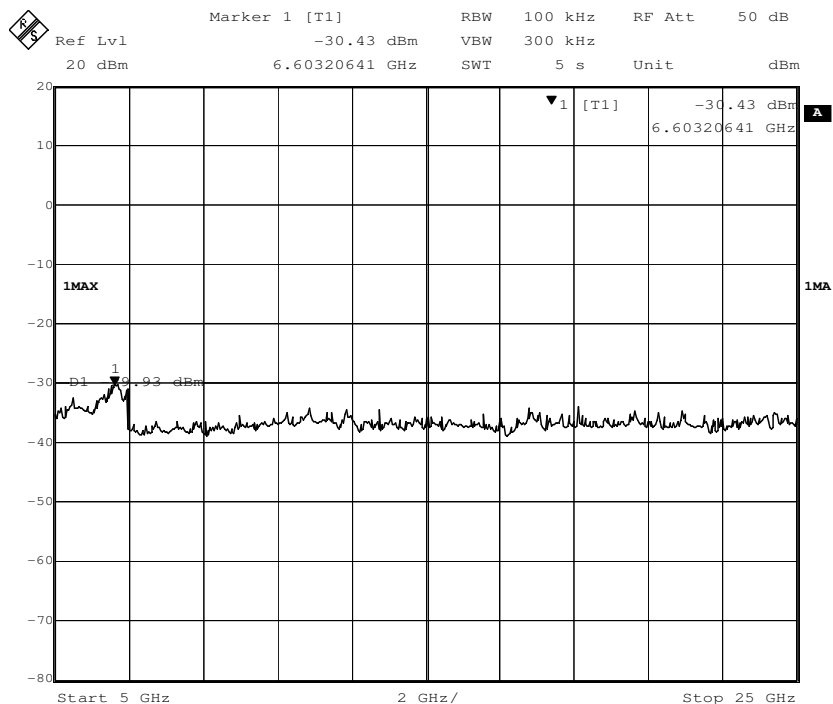




1 G to 5 GHz



5 G to 25 GHz





7.7 Radiated Spurious Emissions

Test Requirement: 47 CFR Part 15C Section 15.209 and 15.205

Test Method: ANSI C63.10: 2013

Test Site: Measurement Distance: 3m

(Semi-Anechoic Chamber below 1GHz, Full Anechoic Chamber above 1GHz)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Setup:

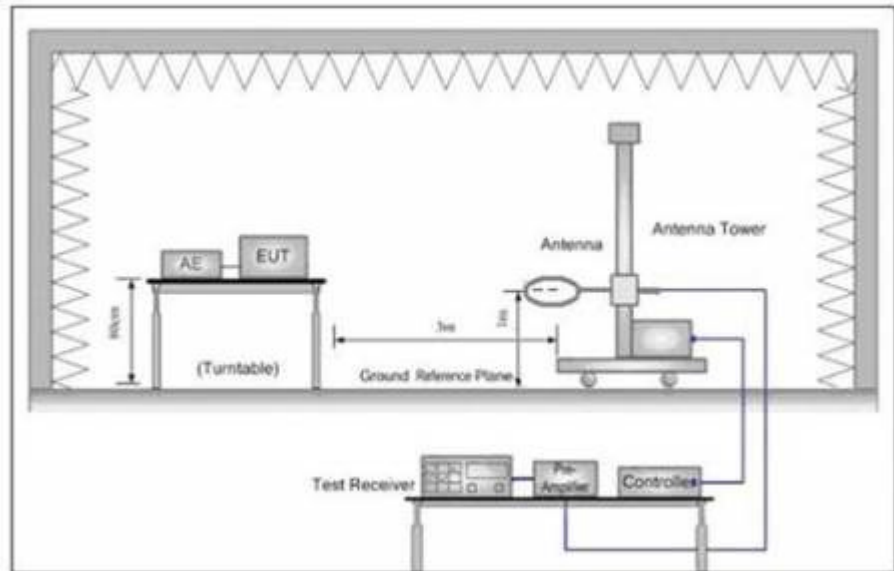


Figure 1. Below 30MHz

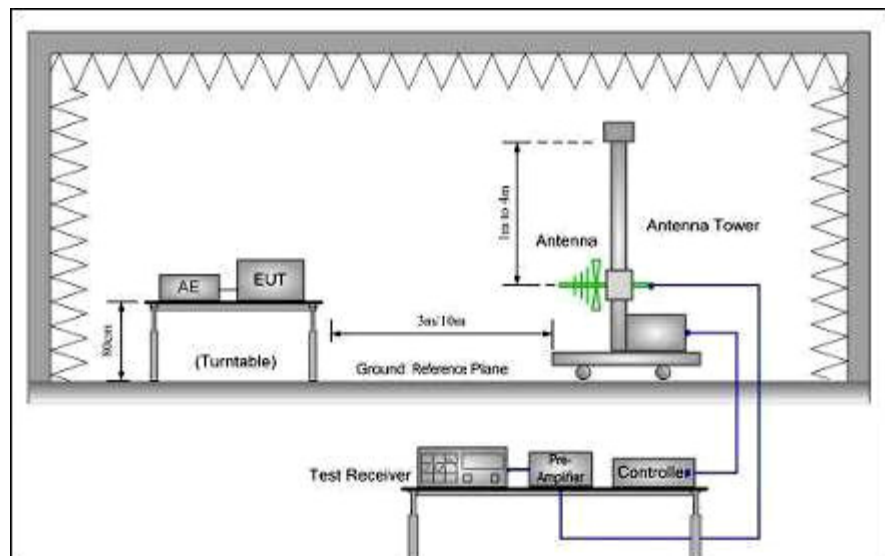


Figure 2. 30MHz to 1GHz

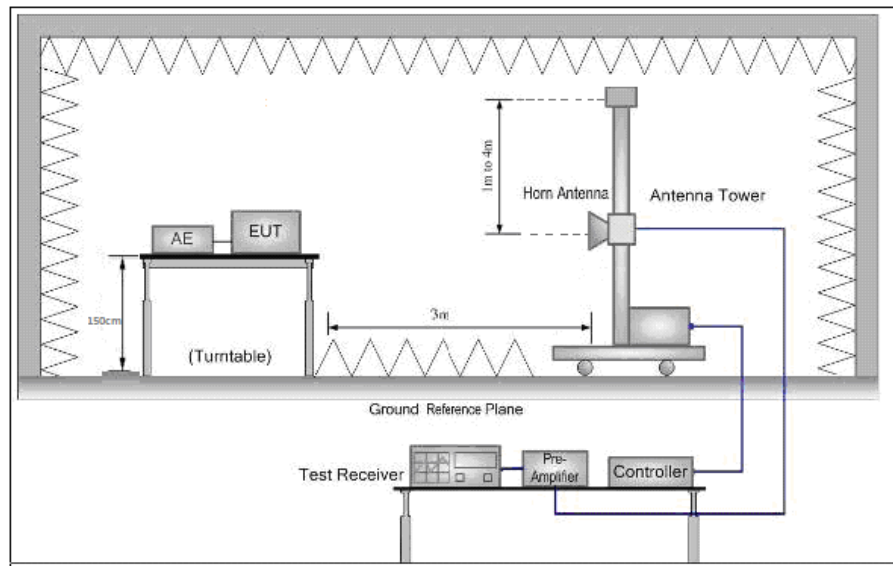


Figure 3. Above 1 GHz

Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 and 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter full-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degree to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.



Exploratory Test a. Charge + Transmitting mode.
Mode: b. Transmitting mode.
Final Test Mode: For below 1GHz part, through pre-scan, the worst case is the lowest channel
 Transmitting mode.
 Only the worst case is recorded in the report.
Instruments Used: Refer to section 6 for details
Test Results: Pass

Test Result:

9KHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

The measurements with Loop antenna and the amplitude of spurious emissions from the radiator are attenuated more than 20dB below the limit, so the test data were not recorded in the test report.



30MHz~1GHz 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

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	34.037	24.59	13.95	0.60	27.00	12.14	40.00	-27.86	HORIZONTAL QP
2	45.375	22.82	14.19	0.70	27.00	10.71	40.00	-29.29	HORIZONTAL QP
3	63.092	23.22	13.75	0.80	27.00	10.77	40.00	-29.23	HORIZONTAL QP
4	128.563	22.91	11.84	1.22	26.88	9.09	43.50	-34.41	HORIZONTAL QP
5	163.182	24.19	13.57	1.35	26.73	12.38	43.50	-31.12	HORIZONTAL QP
6	750.108	26.18	21.90	2.90	27.92	23.06	46.00	-22.94	HORIZONTAL QP

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	32.634	22.92	14.02	0.60	27.00	10.54	40.00	-29.46	VERTICAL QP
2	42.900	24.41	13.88	0.66	27.00	11.95	40.00	-28.05	VERTICAL QP
3	63.092	25.07	13.75	0.80	27.00	12.62	40.00	-27.38	VERTICAL QP
4	119.856	23.21	11.00	1.20	26.90	8.51	43.50	-34.99	VERTICAL QP
5	163.182	24.79	13.57	1.35	26.73	12.98	43.50	-30.52	VERTICAL QP
6	760.704	25.73	22.06	2.90	27.90	22.79	46.00	-23.21	VERTICAL QP



802.11g mode with 54Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	34.517	21.49	13.91	0.60	27.00	9.00	40.00	-31.00	HORIZONTAL	QP
2	46.666	21.29	14.32	0.70	27.00	9.31	40.00	-30.69	HORIZONTAL	QP
3	61.778	22.45	13.93	0.80	27.00	10.18	40.00	-29.82	HORIZONTAL	QP
4	127.665	22.98	11.71	1.22	26.88	9.03	43.50	-34.47	HORIZONTAL	QP
5	172.599	22.17	13.00	1.40	26.71	9.86	43.50	-33.64	HORIZONTAL	QP
6	766.057	25.89	22.12	2.90	27.88	23.03	46.00	-22.97	HORIZONTAL	QP

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	34.517	21.49	13.91	0.60	27.00	9.00	40.00	-31.00	HORIZONTAL	QP
2	46.666	21.29	14.32	0.70	27.00	9.31	40.00	-30.69	HORIZONTAL	QP
3	61.778	22.45	13.93	0.80	27.00	10.18	40.00	-29.82	HORIZONTAL	QP
4	127.665	22.98	11.71	1.22	26.88	9.03	43.50	-34.47	HORIZONTAL	QP
5	172.599	22.17	13.00	1.40	26.71	9.86	43.50	-33.64	HORIZONTAL	QP
6	766.057	25.89	22.12	2.90	27.88	23.03	46.00	-22.97	HORIZONTAL	QP



802.11n(HT20) mode with 72.2Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	35.005	21.11	13.87	0.60	27.00	8.58	40.00	-31.42	HORIZONTAL	QP
2	52.575	21.25	14.42	0.75	27.00	9.42	40.00	-30.58	HORIZONTAL	QP
3	68.151	23.40	12.87	0.87	27.00	10.14	40.00	-29.86	HORIZONTAL	QP
4	135.032	22.40	12.68	1.25	26.86	9.47	43.50	-34.03	HORIZONTAL	QP
5	162.041	20.36	13.62	1.34	26.73	8.59	43.50	-34.91	HORIZONTAL	QP
6	570.610	24.43	19.88	2.55	27.99	18.87	46.00	-27.13	HORIZONTAL	QP

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamplifier Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	34.760	22.99	13.89	0.60	27.00	10.48	40.00	-29.52	VERTICAL	QP
2	42.007	20.92	13.81	0.64	27.00	8.37	40.00	-31.63	VERTICAL	QP
3	63.092	22.82	13.75	0.80	27.00	10.37	40.00	-29.63	VERTICAL	QP
4	133.151	21.12	12.51	1.24	26.87	8.00	43.50	-35.50	VERTICAL	QP
5	165.487	21.54	13.47	1.36	26.72	9.65	43.50	-33.85	VERTICAL	QP
6	755.387	24.66	21.99	2.90	27.91	21.64	46.00	-24.36	VERTICAL	QP



802.11n(HT40) mode with 150Mbps data rate

Test at Channel 3 (2.422 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	40.702	24.53	13.74	0.61	27.00	11.88	40.00	-28.12	HORIZONTAL	QP
2	51.121	22.20	14.47	0.72	27.00	10.39	40.00	-29.61	HORIZONTAL	QP
3	70.090	25.39	12.70	0.90	27.00	11.99	40.00	-28.01	HORIZONTAL	QP
4	131.297	24.24	12.29	1.23	26.87	10.89	43.50	-32.61	HORIZONTAL	QP
5	177.509	23.44	12.78	1.42	26.70	10.94	43.50	-32.56	HORIZONTAL	QP
6	793.396	26.04	22.36	2.97	27.76	23.61	46.00	-22.39	HORIZONTAL	QP

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	35.005	25.73	13.87	0.60	27.00	13.20	40.00	-26.80	VERTICAL	QP
2	49.707	26.41	14.49	0.70	27.00	14.60	40.00	-25.40	VERTICAL	QP
3	63.092	27.56	13.75	0.80	27.00	15.11	40.00	-24.89	VERTICAL	QP
4	136.939	24.07	12.82	1.26	26.86	11.29	40.00	-28.71	VERTICAL	QP
5	177.509	24.68	12.78	1.42	26.70	12.18	40.00	-27.82	VERTICAL	QP
6	758.041	26.61	22.02	2.90	27.90	23.63	47.00	-23.37	VERTICAL	QP



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

802.11b mode with 11Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna		Cable Preamp		Level	Limit	Over	Pol/Phase	Remark
		Level	Factor	Loss	Factor	Level	Line	Limit		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3619.064	29.16	28.20	8.52	39.95	25.93	54.00	-28.07	HORIZONTAL	Average
2	3619.064	41.84	28.20	8.52	39.95	38.61	74.00	-35.39	HORIZONTAL	Peak
3	4824.110	33.32	30.82	9.96	40.21	33.89	54.00	-20.11	HORIZONTAL	Average
4	4824.110	44.49	30.82	9.96	40.21	45.06	74.00	-28.94	HORIZONTAL	Peak
5	5915.516	31.19	32.25	11.03	39.94	34.53	54.00	-19.47	HORIZONTAL	Average
6	5915.516	41.50	32.25	11.03	39.94	44.84	74.00	-29.16	HORIZONTAL	Peak
7	7326.260	27.01	35.74	12.93	39.22	36.46	54.00	-17.54	HORIZONTAL	Average
8	7326.260	37.38	35.74	12.93	39.22	46.83	74.00	-27.17	HORIZONTAL	Peak
9	9648.684	22.59	37.54	14.48	37.95	36.66	54.00	-17.34	HORIZONTAL	Average
10	9648.684	34.21	37.54	14.48	37.95	48.28	74.00	-25.72	HORIZONTAL	Peak
11	12060.250	21.04	39.46	15.83	38.09	38.24	54.00	-15.76	HORIZONTAL	Average
12	12060.250	33.28	39.46	15.83	38.09	50.48	74.00	-23.52	HORIZONTAL	Peak

	Freq	ReadAntenna		Cable Preamp		Level	Limit	Over	Pol/Phase	Remark
		Level	Factor	Loss	Factor	Level	Line	Limit		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3682.374	30.73	28.43	8.58	39.97	27.77	54.00	-26.23	VERTICAL	Average
2	3682.374	41.53	28.43	8.58	39.97	38.57	74.00	-35.43	VERTICAL	Peak
3	4824.110	36.23	30.82	9.96	40.21	36.80	54.00	-17.20	VERTICAL	Average
4	4824.110	48.58	30.82	9.96	40.21	49.15	74.00	-24.85	VERTICAL	Peak
5	5949.811	28.03	32.27	11.06	39.92	31.44	54.00	-22.56	VERTICAL	Average
6	5949.811	41.23	32.27	11.06	39.92	44.64	74.00	-29.36	VERTICAL	Peak
7	7236.114	24.50	35.55	12.80	39.25	33.60	54.00	-20.40	VERTICAL	Average
8	7236.114	37.62	35.55	12.80	39.25	46.72	74.00	-27.28	VERTICAL	Peak
9	9648.789	22.62	37.54	14.48	37.95	36.69	54.00	-17.31	VERTICAL	Average
10	9648.789	34.83	37.54	14.48	37.95	48.90	74.00	-25.10	VERTICAL	Peak
11	12060.850	20.13	39.46	15.83	38.09	37.33	54.00	-16.67	VERTICAL	Average
12	12060.850	33.50	39.46	15.83	38.09	50.70	74.00	-23.30	VERTICAL	Peak



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Guangzhou Branch

Report No.: GZEM170800529302

Page: 68 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3661.149	30.78	28.34	8.56	39.97	27.71	54.00	-26.29	HORIZONTAL	Average
2	3661.149	42.11	28.34	8.56	39.97	39.04	74.00	-34.96	HORIZONTAL	Peak
3	4904.490	29.03	30.97	10.04	40.22	29.82	54.00	-24.18	HORIZONTAL	Average
4	4904.490	41.58	30.97	10.04	40.22	42.37	74.00	-31.63	HORIZONTAL	Peak
5	6267.553	29.01	33.41	11.43	39.70	34.15	54.00	-19.85	HORIZONTAL	Average
6	6267.553	39.85	33.41	11.43	39.70	44.99	74.00	-29.01	HORIZONTAL	Peak
7	7356.260	25.03	35.78	12.95	39.22	34.54	54.00	-19.46	HORIZONTAL	Average
8	7356.260	37.45	35.78	12.95	39.22	46.96	74.00	-27.04	HORIZONTAL	Peak
9	9808.789	24.37	37.79	14.44	37.88	38.72	54.00	-15.28	HORIZONTAL	Average
10	9808.789	34.05	37.79	14.44	37.88	48.40	74.00	-25.60	HORIZONTAL	Peak
11	12260.700	23.50	39.15	16.10	38.11	40.64	54.00	-13.36	HORIZONTAL	Average
12	12260.700	33.19	39.15	16.10	38.11	50.33	74.00	-23.67	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4904.490	33.02	30.97	10.04	40.22	33.81	54.00	-20.19	VERTICAL	Average
2	4904.490	45.15	30.97	10.04	40.22	45.94	74.00	-28.06	VERTICAL	Peak
3	5984.305	31.08	32.29	11.09	39.90	34.56	54.00	-19.44	VERTICAL	Average
4	5984.305	40.81	32.29	11.09	39.90	44.29	74.00	-29.71	VERTICAL	Peak
5	7356.429	25.27	35.78	12.95	39.22	34.78	54.00	-19.22	VERTICAL	Average
6	7356.429	37.84	35.78	12.95	39.22	47.35	74.00	-26.65	VERTICAL	Peak
7	8368.069	24.17	36.18	13.74	38.92	35.17	54.00	-18.83	VERTICAL	Average
8	8368.069	34.46	36.18	13.74	38.92	45.46	74.00	-28.54	VERTICAL	Peak
9	9808.684	21.24	37.79	14.44	37.88	35.59	54.00	-18.41	VERTICAL	Average
10	9808.684	34.21	37.79	14.44	37.88	48.56	74.00	-25.44	VERTICAL	Peak
11	12260.950	19.21	39.15	16.10	38.11	36.35	54.00	-17.65	VERTICAL	Average
12	12260.950	33.28	39.15	16.10	38.11	50.42	74.00	-23.58	VERTICAL	Peak



802.11g mode with 54Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3856.668	29.07	29.19	8.82	40.03	27.05	54.00	-26.95	HORIZONTAL	Average
2	3856.668	40.64	29.19	8.82	40.03	38.62	74.00	-35.38	HORIZONTAL	Peak
3	4824.962	30.44	30.82	9.96	40.21	31.01	54.00	-22.99	HORIZONTAL	Average
4	4824.962	42.18	30.82	9.96	40.21	42.75	74.00	-31.25	HORIZONTAL	Peak
5	6377.195	27.47	33.91	11.58	39.60	33.36	54.00	-20.64	HORIZONTAL	Average
6	6377.195	39.55	33.91	11.58	39.60	45.44	74.00	-28.56	HORIZONTAL	Peak
7	7326.584	24.04	35.74	12.93	39.22	33.49	54.00	-20.51	HORIZONTAL	Average
8	7326.584	35.83	35.74	12.93	39.22	45.28	74.00	-28.72	HORIZONTAL	Peak
9	9648.580	21.96	37.54	14.48	37.95	36.03	54.00	-17.97	HORIZONTAL	Average
10	9648.580	33.97	37.54	14.48	37.95	48.04	74.00	-25.96	HORIZONTAL	Peak
11	12060.440	19.84	39.46	15.83	38.09	37.04	54.00	-16.96	HORIZONTAL	Average
12	12060.440	32.29	39.46	15.83	38.09	49.49	74.00	-24.51	HORIZONTAL	Peak

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3598.203	32.01	28.14	8.50	39.94	28.71	54.00	-25.29	VERTICAL	Average
2	3598.203	42.48	28.14	8.50	39.94	39.18	74.00	-34.82	VERTICAL	Peak
3	4824.962	37.70	30.82	9.96	40.21	38.27	54.00	-15.73	VERTICAL	Average
4	4824.962	47.34	30.82	9.96	40.21	47.91	74.00	-26.09	VERTICAL	Peak
5	7236.646	28.43	35.55	12.80	39.25	37.53	54.00	-16.47	VERTICAL	Average
6	7236.646	37.05	35.55	12.80	39.25	46.15	74.00	-27.85	VERTICAL	Peak
7	8047.272	23.21	36.47	13.52	39.08	34.12	54.00	-19.88	VERTICAL	Average
8	8047.272	34.60	36.47	13.52	39.08	45.51	74.00	-28.49	VERTICAL	Peak
9	9648.991	21.76	37.54	14.48	37.95	35.83	54.00	-18.17	VERTICAL	Average
10	9648.991	33.58	37.54	14.48	37.95	47.65	74.00	-26.35	VERTICAL	Peak
11	12060.700	18.49	39.46	15.83	38.09	35.69	54.00	-18.31	VERTICAL	Average
12	12060.700	32.13	39.46	15.83	38.09	49.33	74.00	-24.67	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 70 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4015.929	30.38	29.51	9.01	40.07	28.83	54.00	-25.17	HORIZONTAL	Average
2	4015.929	41.66	29.51	9.01	40.07	40.11	74.00	-33.89	HORIZONTAL	Peak
3	4904.662	32.64	30.97	10.04	40.22	33.43	54.00	-20.57	HORIZONTAL	Average
4	4904.662	43.61	30.97	10.04	40.22	44.40	74.00	-29.60	HORIZONTAL	Peak
5	7356.518	27.54	35.78	12.95	39.22	37.05	54.00	-16.95	HORIZONTAL	Average
6	7356.518	38.45	35.78	12.95	39.22	47.96	74.00	-26.04	HORIZONTAL	Peak
7	8891.725	22.00	36.44	14.14	38.52	34.06	54.00	-19.94	HORIZONTAL	Average
8	8891.725	33.88	36.44	14.14	38.52	45.94	74.00	-28.06	HORIZONTAL	Peak
9	9808.257	21.80	37.79	14.44	37.88	36.15	54.00	-17.85	HORIZONTAL	Average
10	9808.257	34.18	37.79	14.44	37.88	48.53	74.00	-25.47	HORIZONTAL	Peak
11	12260.190	21.37	39.15	16.10	38.11	38.51	54.00	-15.49	HORIZONTAL	Average
12	12260.190	33.36	39.15	16.10	38.11	50.50	74.00	-23.50	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2990.531	43.38	27.89	7.70	39.41	39.56	54.00	-14.44	VERTICAL	Average
2	2990.531	54.67	27.89	7.70	39.41	50.85	74.00	-23.15	VERTICAL	Peak
3	4904.662	39.49	30.97	10.04	40.22	40.28	54.00	-13.72	VERTICAL	Average
4	4904.662	49.22	30.97	10.04	40.22	50.01	74.00	-23.99	VERTICAL	Peak
5	6340.436	28.77	33.76	11.54	39.63	34.44	54.00	-19.56	VERTICAL	Average
6	6340.436	40.90	33.76	11.54	39.63	46.57	74.00	-27.43	VERTICAL	Peak
7	7356.260	28.11	35.78	12.95	39.22	37.62	54.00	-16.38	VERTICAL	Average
8	7356.260	37.83	35.78	12.95	39.22	47.34	74.00	-26.66	VERTICAL	Peak
9	9808.991	24.66	37.79	14.44	37.88	39.01	54.00	-14.99	VERTICAL	Average
10	9808.991	34.20	37.79	14.44	37.88	48.55	74.00	-25.45	VERTICAL	Peak
11	12260.240	22.05	39.15	16.10	38.11	39.19	54.00	-14.81	VERTICAL	Average
12	12260.240	33.11	39.15	16.10	38.11	50.25	74.00	-23.75	VERTICAL	Peak



802.11n(HT20) mode with 72.2Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4824.962	31.60	30.82	9.96	40.21	32.17	54.00	-21.83	HORIZONTAL	Average
2	4824.962	42.22	30.82	9.96	40.21	42.79	74.00	-31.21	HORIZONTAL	Peak
3	5746.982	30.04	32.10	10.80	40.01	32.93	54.00	-21.07	HORIZONTAL	Average
4	5746.982	40.30	32.10	10.80	40.01	43.19	74.00	-30.81	HORIZONTAL	Peak
5	7236.260	27.14	35.55	12.80	39.25	36.24	54.00	-17.76	HORIZONTAL	Average
6	7236.260	37.42	35.55	12.80	39.25	46.52	74.00	-27.48	HORIZONTAL	Peak
7	8995.123	22.97	36.50	14.20	38.40	35.27	54.00	-18.73	HORIZONTAL	Average
8	8995.123	33.88	36.50	14.20	38.40	46.18	74.00	-27.82	HORIZONTAL	Peak
9	9648.717	20.44	37.54	14.48	37.95	34.51	54.00	-19.49	HORIZONTAL	Average
10	9648.717	33.04	37.54	14.48	37.95	47.11	74.00	-26.89	HORIZONTAL	Peak
11	12060.600	21.42	39.46	15.83	38.09	38.62	54.00	-15.38	HORIZONTAL	Average
12	12060.600	32.84	39.46	15.83	38.09	50.04	74.00	-23.96	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2973.293	40.54	27.87	7.70	39.40	36.71	54.00	-17.29	VERTICAL	Average
2	2973.293	53.85	27.87	7.70	39.40	50.02	74.00	-23.98	VERTICAL	Peak
3	4824.662	40.37	30.82	9.96	40.21	40.94	54.00	-13.06	VERTICAL	Average
4	4824.662	51.11	30.82	9.96	40.21	51.68	74.00	-22.32	VERTICAL	Peak
5	6231.427	30.27	33.19	11.37	39.73	35.10	54.00	-18.90	VERTICAL	Average
6	6231.427	40.54	33.19	11.37	39.73	45.37	74.00	-28.63	VERTICAL	Peak
7	7236.260	27.75	35.55	12.80	39.25	36.85	54.00	-17.15	VERTICAL	Average
8	7236.260	38.17	35.55	12.80	39.25	47.27	74.00	-26.73	VERTICAL	Peak
9	9648.991	23.03	37.54	14.48	37.95	37.10	54.00	-16.90	VERTICAL	Average
10	9648.991	34.28	37.54	14.48	37.95	48.35	74.00	-25.65	VERTICAL	Peak
11	12060.850	23.08	39.46	15.83	38.09	40.28	54.00	-13.72	VERTICAL	Average
12	12060.850	33.41	39.46	15.83	38.09	50.61	74.00	-23.39	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 72 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3856.668	31.31	29.19	8.82	40.03	29.29	54.00	-24.71	HORIZONTAL Average
2	3856.668	41.46	29.19	8.82	40.03	39.44	74.00	-34.56	HORIZONTAL Peak
3	4904.962	31.06	30.97	10.04	40.22	31.85	54.00	-22.15	HORIZONTAL Average
4	4904.962	41.22	30.97	10.04	40.22	42.01	74.00	-31.99	HORIZONTAL Peak
5	5949.811	29.61	32.27	11.06	39.92	33.02	54.00	-20.98	HORIZONTAL Average
6	5949.811	40.22	32.27	11.06	39.92	43.63	74.00	-30.37	HORIZONTAL Peak
7	7356.260	24.72	35.78	12.95	39.22	34.23	54.00	-19.77	HORIZONTAL Average
8	7356.260	37.41	35.78	12.95	39.22	46.92	74.00	-27.08	HORIZONTAL Peak
9	9808.684	22.53	37.79	14.44	37.88	36.88	54.00	-17.12	HORIZONTAL Average
10	9808.684	33.14	37.79	14.44	37.88	47.49	74.00	-26.51	HORIZONTAL Peak
11	12260.250	20.51	39.15	16.10	38.11	37.65	54.00	-16.35	HORIZONTAL Average
12	12260.250	32.86	39.15	16.10	38.11	50.00	74.00	-24.00	HORIZONTAL Peak

	Freq	ReadAntenna	Cable	Preamp		Limit	Over		
	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2973.293	38.40	27.87	7.70	39.40	34.57	54.00	-19.43	VERTICAL Average
2	2973.293	47.04	27.87	7.70	39.40	43.21	74.00	-30.79	VERTICAL Peak
3	4904.662	37.14	30.97	10.04	40.22	37.93	54.00	-16.07	VERTICAL Average
4	4904.662	48.45	30.97	10.04	40.22	49.24	74.00	-24.76	VERTICAL Peak
5	6053.894	29.08	32.45	11.15	39.87	32.81	54.00	-21.19	VERTICAL Average
6	6053.894	40.40	32.45	11.15	39.87	44.13	74.00	-29.87	VERTICAL Peak
7	7356.836	25.17	35.78	12.95	39.22	34.68	54.00	-19.32	VERTICAL Average
8	7356.836	36.45	35.78	12.95	39.22	45.96	74.00	-28.04	VERTICAL Peak
9	9808.800	21.75	37.79	14.44	37.88	36.10	54.00	-17.90	VERTICAL Average
10	9808.800	32.21	37.79	14.44	37.88	46.56	74.00	-27.44	VERTICAL Peak
11	12260.700	22.34	39.15	16.10	38.11	39.48	54.00	-14.52	VERTICAL Average
12	12260.700	32.58	39.15	16.10	38.11	49.72	74.00	-24.28	VERTICAL Peak



802.11n(HT40) mode with 150Mbps data rate

Test at Channel 3 (2.422 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2990.531	37.73	27.89	7.70	39.41	33.91	54.00	-20.09	HORIZONTAL	Average
2	2990.531	49.31	27.89	7.70	39.41	45.49	74.00	-28.51	HORIZONTAL	Peak
3	4944.662	35.24	31.03	10.07	40.22	36.12	54.00	-17.88	HORIZONTAL	Average
4	4944.662	45.58	31.03	10.07	40.22	46.46	74.00	-27.54	HORIZONTAL	Peak
5	6377.195	32.01	33.91	11.58	39.60	37.90	54.00	-16.10	HORIZONTAL	Average
6	6377.195	40.74	33.91	11.58	39.60	46.63	74.00	-27.37	HORIZONTAL	Peak
7	7266.069	29.51	35.60	12.84	39.24	38.71	54.00	-15.29	HORIZONTAL	Average
8	7266.069	38.69	35.60	12.84	39.24	47.89	74.00	-26.11	HORIZONTAL	Peak
9	9688.525	25.41	37.61	14.46	37.93	39.55	54.00	-14.45	HORIZONTAL	Average
10	9688.525	34.56	37.61	14.46	37.93	48.70	74.00	-25.30	HORIZONTAL	Peak
11	12110.350	21.28	39.37	15.91	38.09	38.47	54.00	-15.53	HORIZONTAL	Average
12	12110.350	32.82	39.37	15.91	38.09	50.01	74.00	-23.99	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2990.531	47.44	27.89	7.70	39.41	43.62	54.00	-10.38	VERTICAL	Average
2	2990.531	56.76	27.89	7.70	39.41	52.94	74.00	-21.06	VERTICAL	Peak
3	4844.662	39.37	30.88	9.99	40.21	40.03	54.00	-13.97	VERTICAL	Average
4	4844.662	51.03	30.88	9.99	40.21	51.69	74.00	-22.31	VERTICAL	Peak
5	5984.305	30.26	32.29	11.09	39.90	33.74	54.00	-20.26	VERTICAL	Average
6	5984.305	41.81	32.29	11.09	39.90	45.29	74.00	-28.71	VERTICAL	Peak
7	7266.461	27.24	35.60	12.84	39.24	36.44	54.00	-17.56	VERTICAL	Average
8	7266.461	37.52	35.60	12.84	39.24	46.72	74.00	-27.28	VERTICAL	Peak
9	9688.684	23.77	37.61	14.46	37.93	37.91	54.00	-16.09	VERTICAL	Average
10	9688.684	33.50	37.61	14.46	37.93	47.64	74.00	-26.36	VERTICAL	Peak
11	12110.100	22.90	39.37	15.91	38.09	40.09	54.00	-13.91	VERTICAL	Average
12	12110.100	32.75	39.37	15.91	38.09	49.94	74.00	-24.06	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 74 of 96

Test at Channel 9 (2.452 GHz) in transmitting status

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3547.396	33.41	28.01	8.45	39.92	29.95	54.00	-24.05	HORIZONTAL	Average
2	3547.396	44.13	28.01	8.45	39.92	40.67	74.00	-33.33	HORIZONTAL	Peak
3	4904.631	30.38	30.97	10.04	40.22	31.17	54.00	-22.83	HORIZONTAL	Average
4	4904.631	42.63	30.97	10.04	40.22	43.42	74.00	-30.58	HORIZONTAL	Peak
5	7356.542	25.07	35.78	12.95	39.22	34.58	54.00	-19.42	HORIZONTAL	Average
6	7356.542	37.38	35.78	12.95	39.22	46.89	74.00	-27.11	HORIZONTAL	Peak
7	8224.200	24.08	36.33	13.63	38.99	35.05	54.00	-18.95	HORIZONTAL	Average
8	8224.200	34.26	36.33	13.63	38.99	45.23	74.00	-28.77	HORIZONTAL	Peak
9	9808.991	23.90	37.79	14.44	37.88	38.25	54.00	-15.75	HORIZONTAL	Average
10	9808.991	33.41	37.79	14.44	37.88	47.76	74.00	-26.24	HORIZONTAL	Peak
11	12260.390	20.52	39.15	16.10	38.11	37.66	54.00	-16.34	HORIZONTAL	Average
12	12260.390	32.94	39.15	16.10	38.11	50.08	74.00	-23.92	HORIZONTAL	Peak

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4904.888	31.31	30.97	10.04	40.22	32.10	54.00	-21.90	VERTICAL	Average
2	4904.888	40.65	30.97	10.04	40.22	41.44	74.00	-32.56	VERTICAL	Peak
3	6330.928	29.31	33.68	11.52	39.67	34.84	54.00	-19.16	VERTICAL	Average
4	6330.928	38.42	33.68	11.52	39.67	43.95	74.00	-30.05	VERTICAL	Peak
5	7356.833	26.17	35.78	12.95	39.22	35.68	54.00	-18.32	VERTICAL	Average
6	7356.833	36.86	35.78	12.95	39.22	46.37	74.00	-27.63	VERTICAL	Peak
7	9808.432	22.40	37.79	14.44	37.88	36.75	54.00	-17.25	VERTICAL	Average
8	9808.432	33.71	37.79	14.44	37.88	48.06	74.00	-25.94	VERTICAL	Peak
9	10760.540	23.50	39.50	14.90	37.91	39.99	54.00	-14.01	VERTICAL	Average
10	10760.540	32.74	39.50	14.90	37.91	49.23	74.00	-24.77	VERTICAL	Peak
11	12260.700	22.03	39.15	16.10	38.11	39.17	54.00	-14.83	VERTICAL	Average
12	12260.700	31.85	39.15	16.10	38.11	48.99	74.00	-25.01	VERTICAL	Peak

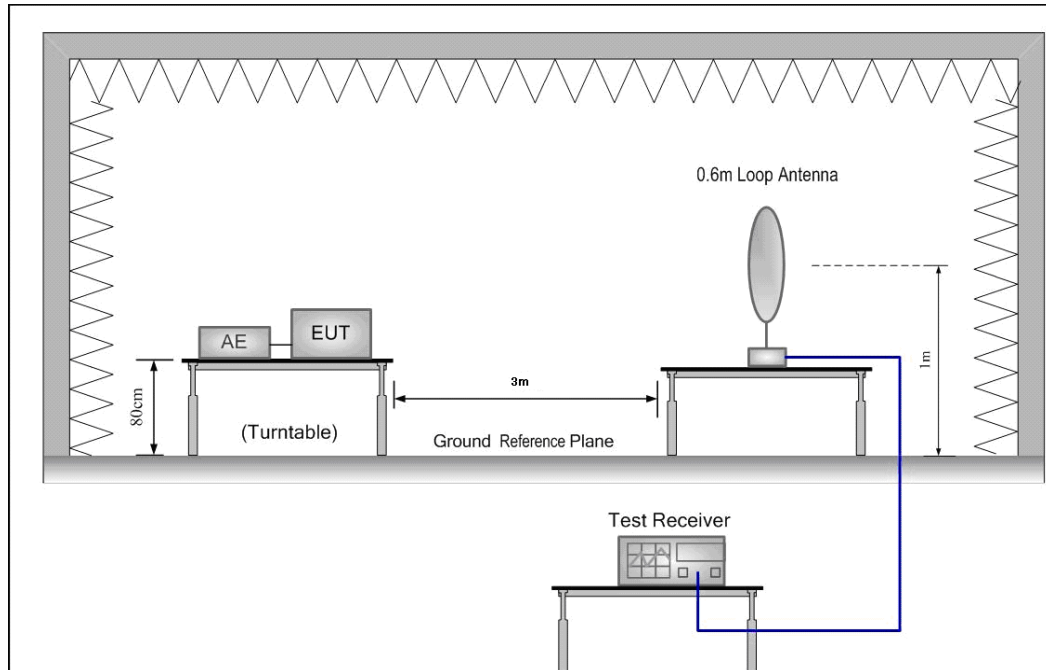


7.8 Radiated Emissions which fall in the restricted bands

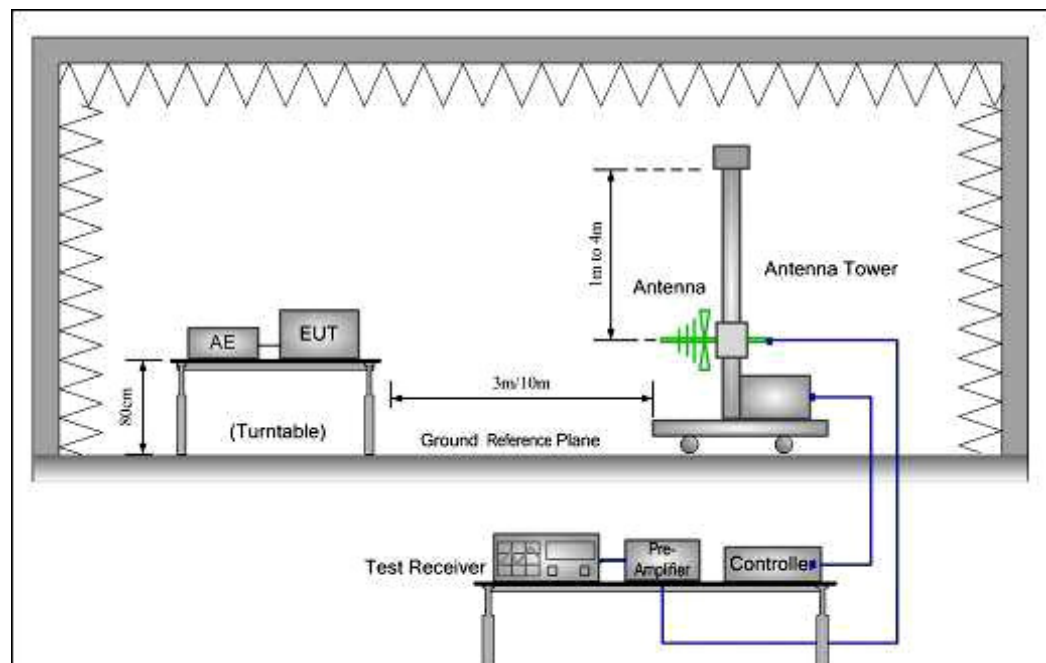
Test Requirement:	FCC Part 15 C section 15.247 (d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method:	ANSI C63.10: Clause 11.12, 6.3, 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 μ V/m between 30MHz & 88MHz; 43.5 dB μ V/m between 88MHz & 216MHz; 46.0 dB μ V/m between 216MHz & 960MHz; 54.0 dB μ 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:

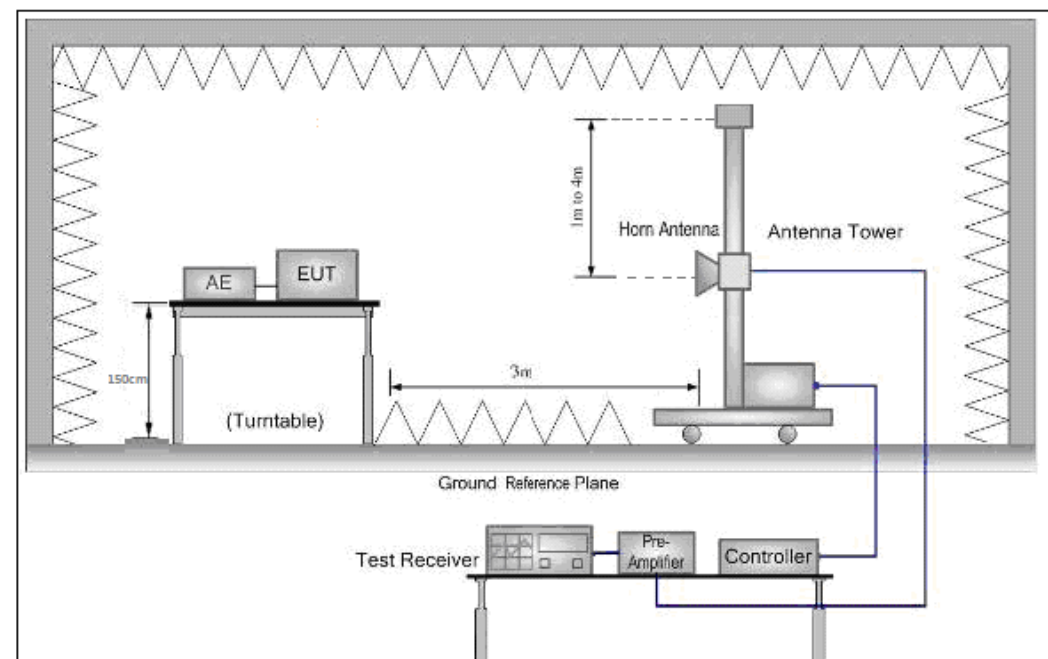
- 1) 9k to 30MHz emissions:



- 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 $20\log(\text{dwell time}/100 \text{ ms})$, 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
10.495 - 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:

9KHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

The measurements with Loop antenna and the amplitude of spurious emissions from the radiator are attenuated more than 20dB below the limit, so the test data were not recorded in the test report.

**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

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	27.89	26.25	6.80	39.07	21.87	54.00	-32.13	HORIZONTAL	Average
2	2310.000	40.17	26.25	6.80	39.07	34.15	74.00	-39.85	HORIZONTAL	Peak
3	2390.000	32.56	26.43	6.87	39.10	26.76	54.00	-27.24	HORIZONTAL	Average
4	2390.000	42.84	26.43	6.87	39.10	37.04	74.00	-36.96	HORIZONTAL	Peak
5	2483.500	44.88	26.58	7.07	39.14	39.39	54.00	-14.61	HORIZONTAL	Average
6	2483.500	56.69	26.58	7.07	39.14	51.20	74.00	-22.80	HORIZONTAL	Peak
7	2500.000	35.26	26.60	7.10	39.14	29.82	54.00	-24.18	HORIZONTAL	Average
8	2500.000	45.29	26.60	7.10	39.14	39.85	74.00	-34.15	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	31.23	26.25	6.80	39.07	25.21	54.00	-28.79	VERTICAL	Average
2	2310.000	41.06	26.25	6.80	39.07	35.04	74.00	-38.96	VERTICAL	Peak
3	2390.000	32.49	26.43	6.87	39.10	26.69	54.00	-27.31	VERTICAL	Average
4	2390.000	43.71	26.43	6.87	39.10	37.91	74.00	-36.09	VERTICAL	Peak
5	2483.500	52.26	26.58	7.07	39.14	46.77	54.00	-7.23	VERTICAL	Average
6	2483.500	64.01	26.58	7.07	39.14	58.52	74.00	-15.48	VERTICAL	Peak
7	2500.000	34.59	26.60	7.10	39.14	29.15	54.00	-24.85	VERTICAL	Average
8	2500.000	48.13	26.60	7.10	39.14	42.69	74.00	-31.31	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 80 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.74	26.25	6.80	39.07	23.72	54.00	-30.28	HORIZONTAL	Average
2	2310.000	40.67	26.25	6.80	39.07	34.65	74.00	-39.35	HORIZONTAL	Peak
3	2390.000	36.28	26.43	6.87	39.10	30.48	54.00	-23.52	HORIZONTAL	Average
4	2390.000	47.71	26.43	6.87	39.10	41.91	74.00	-32.09	HORIZONTAL	Peak
5	2483.500	35.60	26.58	7.07	39.14	30.11	54.00	-23.89	HORIZONTAL	Average
6	2483.500	47.84	26.58	7.07	39.14	42.35	74.00	-31.65	HORIZONTAL	Peak
7	2500.000	34.97	26.60	7.10	39.14	29.53	54.00	-24.47	HORIZONTAL	Average
8	2500.000	47.41	26.60	7.10	39.14	41.97	74.00	-32.03	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.15	26.25	6.80	39.07	23.13	54.00	-30.87	VERTICAL	Average
2	2310.000	41.30	26.25	6.80	39.07	35.28	74.00	-38.72	VERTICAL	Peak
3	2390.000	39.69	26.43	6.87	39.10	33.89	54.00	-20.11	VERTICAL	Average
4	2390.000	52.03	26.43	6.87	39.10	46.23	74.00	-27.77	VERTICAL	Peak
5	2483.500	46.11	26.58	7.07	39.14	40.62	54.00	-13.38	VERTICAL	Average
6	2483.500	57.71	26.58	7.07	39.14	52.22	74.00	-21.78	VERTICAL	Peak
7	2500.000	40.19	26.60	7.10	39.14	34.75	54.00	-19.25	VERTICAL	Average
8	2500.000	52.04	26.60	7.10	39.14	46.60	74.00	-27.40	VERTICAL	Peak



802.11g mode with 54Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	30.10	26.25	6.80	39.07	24.08	54.00	-29.92	HORIZONTAL	Average
2	2310.000	41.02	26.25	6.80	39.07	35.00	74.00	-39.00	HORIZONTAL	Peak
3	2390.000	46.64	26.43	6.87	39.10	40.84	54.00	-13.16	HORIZONTAL	Average
4	2390.000	57.32	26.43	6.87	39.10	51.52	74.00	-22.48	HORIZONTAL	Peak
5	2483.500	35.27	26.58	7.07	39.14	29.78	54.00	-24.22	HORIZONTAL	Average
6	2483.500	46.55	26.58	7.07	39.14	41.06	74.00	-32.94	HORIZONTAL	Peak
7	2500.000	36.34	26.60	7.10	39.14	30.90	54.00	-23.10	HORIZONTAL	Average
8	2500.000	48.42	26.60	7.10	39.14	42.98	74.00	-31.02	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	31.30	26.25	6.80	39.07	25.28	54.00	-28.72	VERTICAL	Average
2	2310.000	41.43	26.25	6.80	39.07	35.41	74.00	-38.59	VERTICAL	Peak
3	2390.000	52.62	26.43	6.87	39.10	46.82	54.00	-7.18	VERTICAL	Average
4	2390.000	65.24	26.43	6.87	39.10	59.44	74.00	-14.56	VERTICAL	Peak
5	2483.500	37.71	26.58	7.07	39.14	32.22	54.00	-21.78	VERTICAL	Average
6	2483.500	49.47	26.58	7.07	39.14	43.98	74.00	-30.02	VERTICAL	Peak
7	2500.000	37.47	26.60	7.10	39.14	32.03	54.00	-21.97	VERTICAL	Average
8	2500.000	49.18	26.60	7.10	39.14	43.74	74.00	-30.26	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 82 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.58	26.25	6.80	39.07	23.56	54.00	-30.44	HORIZONTAL	Average
2	2310.000	41.04	26.25	6.80	39.07	35.02	74.00	-38.98	HORIZONTAL	Peak
3	2390.000	32.22	26.43	6.87	39.10	26.42	54.00	-27.58	HORIZONTAL	Average
4	2390.000	44.04	26.43	6.87	39.10	38.24	74.00	-35.76	HORIZONTAL	Peak
5	2483.500	52.06	26.58	7.07	39.14	46.57	54.00	-7.43	HORIZONTAL	Average
6	2483.500	65.74	26.58	7.07	39.14	60.25	74.00	-13.75	HORIZONTAL	Peak
7	2500.000	38.10	26.60	7.10	39.14	32.66	54.00	-21.34	HORIZONTAL	Average
8	2500.000	49.16	26.60	7.10	39.14	43.72	74.00	-30.28	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	30.30	26.25	6.80	39.07	24.28	54.00	-29.72	VERTICAL	Average
2	2310.000	41.15	26.25	6.80	39.07	35.13	74.00	-38.87	VERTICAL	Peak
3	2390.000	32.94	26.43	6.87	39.10	27.14	54.00	-26.86	VERTICAL	Average
4	2390.000	44.35	26.43	6.87	39.10	38.55	74.00	-35.45	VERTICAL	Peak
5	2483.500	55.31	26.58	7.07	39.14	49.82	54.00	-4.18	VERTICAL	Average
6	2483.500	71.07	26.58	7.07	39.14	65.58	74.00	-8.42	VERTICAL	Peak
7	2500.000	38.72	26.60	7.10	39.14	33.28	54.00	-20.72	VERTICAL	Average
8	2500.000	50.58	26.60	7.10	39.14	45.14	74.00	-28.86	VERTICAL	Peak



802.11n(HT20) mode with 72.2Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	30.19	26.25	6.80	39.07	24.17	54.00	-29.83	HORIZONTAL	Average
2	2310.000	41.11	26.25	6.80	39.07	35.09	74.00	-38.91	HORIZONTAL	Peak
3	2390.000	43.50	26.43	6.87	39.10	37.70	54.00	-16.30	HORIZONTAL	Average
4	2390.000	55.04	26.43	6.87	39.10	49.24	74.00	-24.76	HORIZONTAL	Peak
5	2483.500	36.13	26.58	7.07	39.14	30.64	54.00	-23.36	HORIZONTAL	Average
6	2483.500	48.37	26.58	7.07	39.14	42.88	74.00	-31.12	HORIZONTAL	Peak
7	2500.000	35.64	26.60	7.10	39.14	30.20	54.00	-23.80	HORIZONTAL	Average
8	2500.000	47.78	26.60	7.10	39.14	42.34	74.00	-31.66	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.24	26.25	6.80	39.07	23.22	54.00	-30.78	VERTICAL	Average
2	2310.000	41.40	26.25	6.80	39.07	35.38	74.00	-38.62	VERTICAL	Peak
3	2390.000	49.75	26.43	6.87	39.10	43.95	54.00	-10.05	VERTICAL	Average
4	2390.000	61.54	26.43	6.87	39.10	55.74	74.00	-18.26	VERTICAL	Peak
5	2483.500	36.67	26.58	7.07	39.14	31.18	54.00	-22.82	VERTICAL	Average
6	2483.500	48.22	26.58	7.07	39.14	42.73	74.00	-31.27	VERTICAL	Peak
7	2500.000	35.90	26.60	7.10	39.14	30.46	54.00	-23.54	VERTICAL	Average
8	2500.000	48.59	26.60	7.10	39.14	43.15	74.00	-30.85	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 84 of 96

Test at Channel 11 (2.462 GHz) in transmitting status

	Freq	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	30.88	26.25	6.80	39.07	24.86	54.00	-29.14	HORIZONTAL Average
2	2310.000	41.12	26.25	6.80	39.07	35.10	74.00	-38.90	HORIZONTAL Peak
3	2390.000	31.51	26.43	6.87	39.10	25.71	54.00	-28.29	HORIZONTAL Average
4	2390.000	43.18	26.43	6.87	39.10	37.38	74.00	-36.62	HORIZONTAL Peak
5	2483.500	52.50	26.58	7.07	39.14	47.01	54.00	-6.99	HORIZONTAL Average
6	2483.500	64.76	26.58	7.07	39.14	59.27	74.00	-14.73	HORIZONTAL Peak
7	2500.000	38.29	26.60	7.10	39.14	32.85	54.00	-21.15	HORIZONTAL Average
8	2500.000	50.33	26.60	7.10	39.14	44.89	74.00	-29.11	HORIZONTAL Peak

	Freq	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2310.000	30.56	26.25	6.80	39.07	24.54	54.00	-29.46	VERTICAL Average
2	2310.000	40.76	26.25	6.80	39.07	34.74	74.00	-39.26	VERTICAL Peak
3	2390.000	31.97	26.43	6.87	39.10	26.17	54.00	-27.83	VERTICAL Average
4	2390.000	44.25	26.43	6.87	39.10	38.45	74.00	-35.55	VERTICAL Peak
5	2483.500	53.54	26.58	7.07	39.14	48.05	54.00	-5.95	VERTICAL Average
6	2483.500	68.99	26.58	7.07	39.14	63.50	74.00	-10.50	VERTICAL Peak
7	2500.000	39.75	26.60	7.10	39.14	34.31	54.00	-19.69	VERTICAL Average
8	2500.000	51.00	26.60	7.10	39.14	45.56	74.00	-28.44	VERTICAL Peak



802.11n(HT40) mode with 150Mbps data rate

Test at Channel 3 (2.422 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.84	26.25	6.80	39.07	23.82	54.00	-30.18	HORIZONTAL	Average
2	2310.000	40.85	26.25	6.80	39.07	34.83	74.00	-39.17	HORIZONTAL	Peak
3	2390.000	51.37	26.43	6.87	39.10	45.57	54.00	-8.43	HORIZONTAL	Average
4	2390.000	65.37	26.43	6.87	39.10	59.57	74.00	-14.43	HORIZONTAL	Peak
5	2483.500	37.72	26.58	7.07	39.14	32.23	54.00	-21.77	HORIZONTAL	Average
6	2483.500	49.26	26.58	7.07	39.14	43.77	74.00	-30.23	HORIZONTAL	Peak
7	2500.000	35.32	26.60	7.10	39.14	29.88	54.00	-24.12	HORIZONTAL	Average
8	2500.000	46.56	26.60	7.10	39.14	41.12	74.00	-32.88	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.70	26.25	6.80	39.07	23.68	54.00	-30.32	VERTICAL	Average
2	2310.000	40.80	26.25	6.80	39.07	34.78	74.00	-39.22	VERTICAL	Peak
3	2390.000	56.49	26.43	6.87	39.10	50.69	54.00	-3.31	VERTICAL	Average
4	2390.000	70.11	26.43	6.87	39.10	64.31	74.00	-9.69	VERTICAL	Peak
5	2483.500	39.83	26.58	7.07	39.14	34.34	54.00	-19.66	VERTICAL	Average
6	2483.500	50.32	26.58	7.07	39.14	44.83	74.00	-29.17	VERTICAL	Peak
7	2500.000	36.97	26.60	7.10	39.14	31.53	54.00	-22.47	VERTICAL	Average
8	2500.000	49.25	26.60	7.10	39.14	43.81	74.00	-30.19	VERTICAL	Peak



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

Report No.: GZEM170800529302

Page: 86 of 96

Test at Channel 9 (2.452 GHz) in transmitting status

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.20	26.25	6.80	39.07	23.18	54.00	-30.82	HORIZONTAL	Average
2	2310.000	41.59	26.25	6.80	39.07	35.57	74.00	-38.43	HORIZONTAL	Peak
3	2390.000	44.47	26.43	6.87	39.10	38.67	54.00	-15.33	HORIZONTAL	Average
4	2390.000	32.02	26.43	6.87	39.10	26.22	74.00	-47.78	HORIZONTAL	Peak
5	2483.500	54.86	26.58	7.07	39.14	49.37	54.00	-4.63	HORIZONTAL	Average
6	2483.500	68.76	26.58	7.07	39.14	63.27	74.00	-10.73	HORIZONTAL	Peak
7	2500.000	43.84	26.60	7.10	39.14	38.40	54.00	-15.60	HORIZONTAL	Average
8	2500.000	57.23	26.60	7.10	39.14	51.79	74.00	-22.21	HORIZONTAL	Peak

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2310.000	29.82	26.25	6.80	39.07	23.80	54.00	-30.20	VERTICAL	Average
2	2310.000	40.44	26.25	6.80	39.07	34.42	74.00	-39.58	VERTICAL	Peak
3	2390.000	33.99	26.43	6.87	39.10	28.19	54.00	-25.81	VERTICAL	Average
4	2390.000	47.32	26.43	6.87	39.10	41.52	74.00	-32.48	VERTICAL	Peak
5	2483.500	55.52	26.58	7.07	39.14	50.03	54.00	-3.97	VERTICAL	Average
6	2483.500	72.33	26.58	7.07	39.14	66.84	74.00	-7.16	VERTICAL	Peak
7	2500.000	46.51	26.60	7.10	39.14	41.07	54.00	-12.93	VERTICAL	Average
8	2500.000	58.07	26.60	7.10	39.14	52.63	74.00	-21.37	VERTICAL	Peak

7.9 Band Edges Requirement

Test Requirement: FCC Part 15 C section 15.247

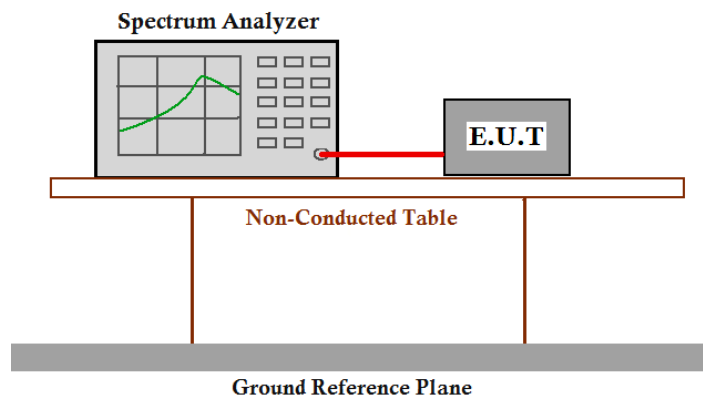
(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating. The radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains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

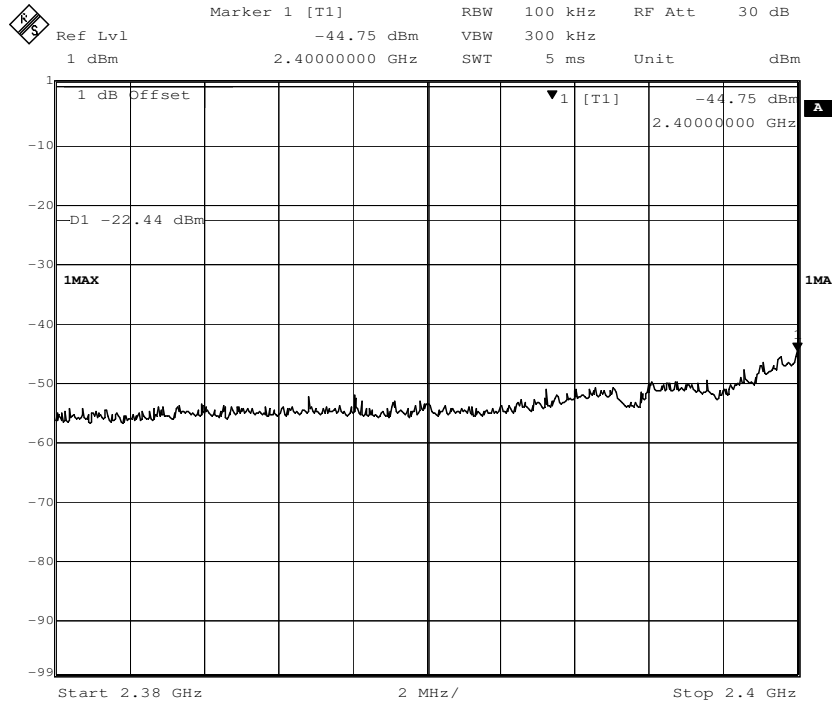


Test result with plots as follows:

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.

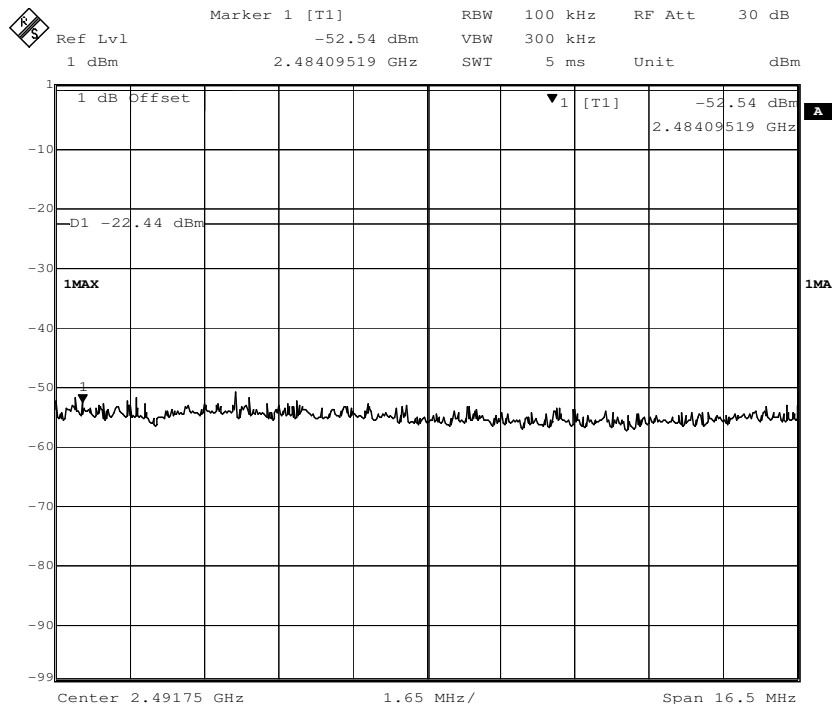
802.11b mode with 11 Mbps data rate

Channel1: 2.412 GHz



802.11b mode with 11 Mbps data rate

Channel11: 2.462 GHz

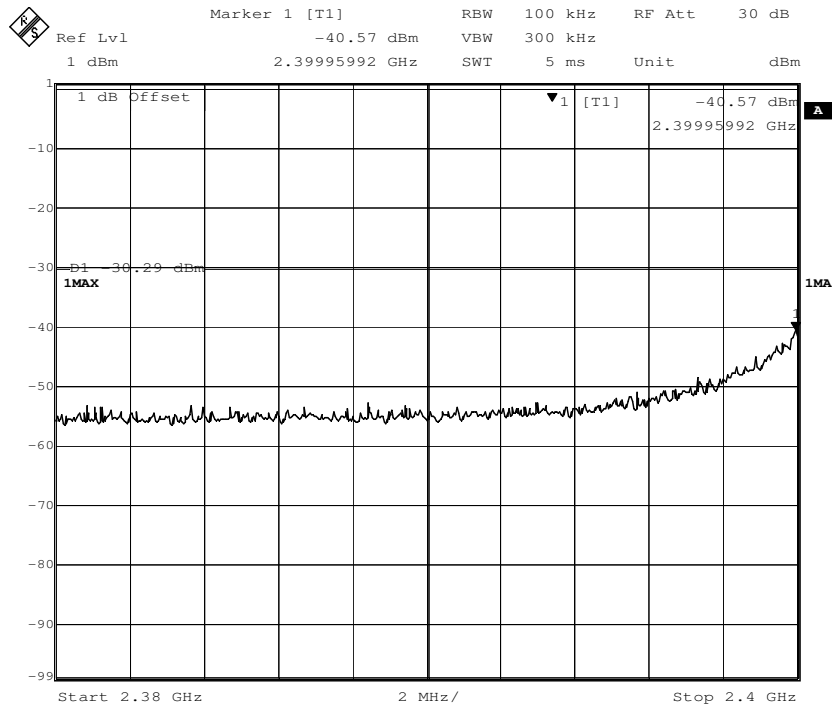




802.11g mode with 54 Mbps data rate

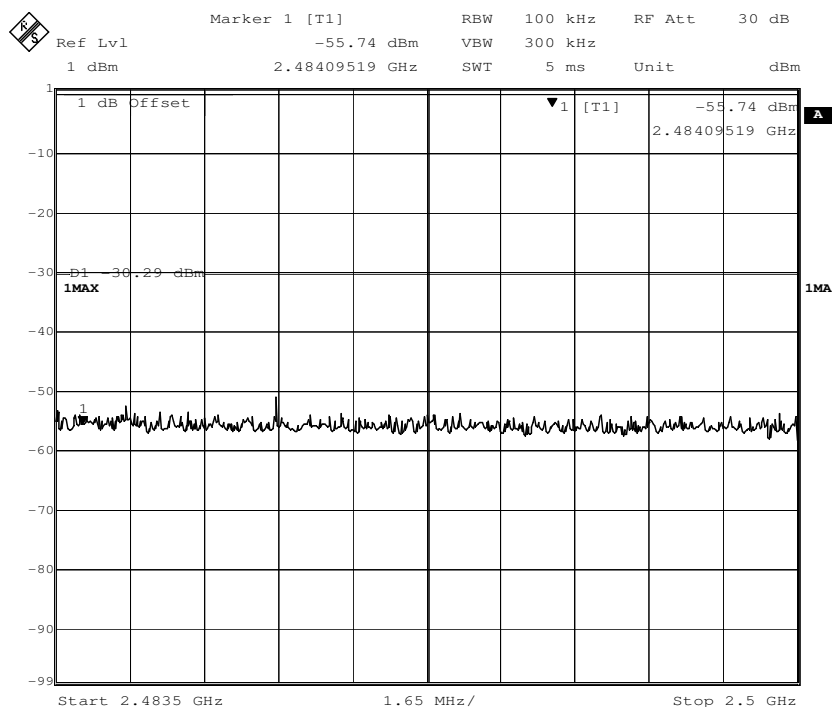
Channel11: 2.412 GHz

Step 1



802.11g mode with 54 Mbps data rate

Channel11: 2.462 GHz

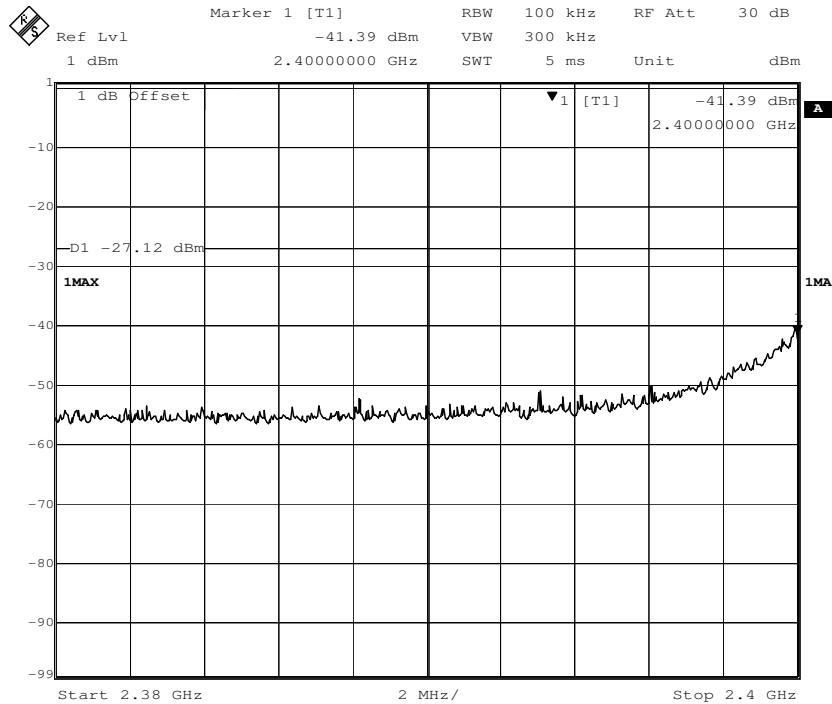




802.11n(HT20) mode with 72.2Mbps data rate

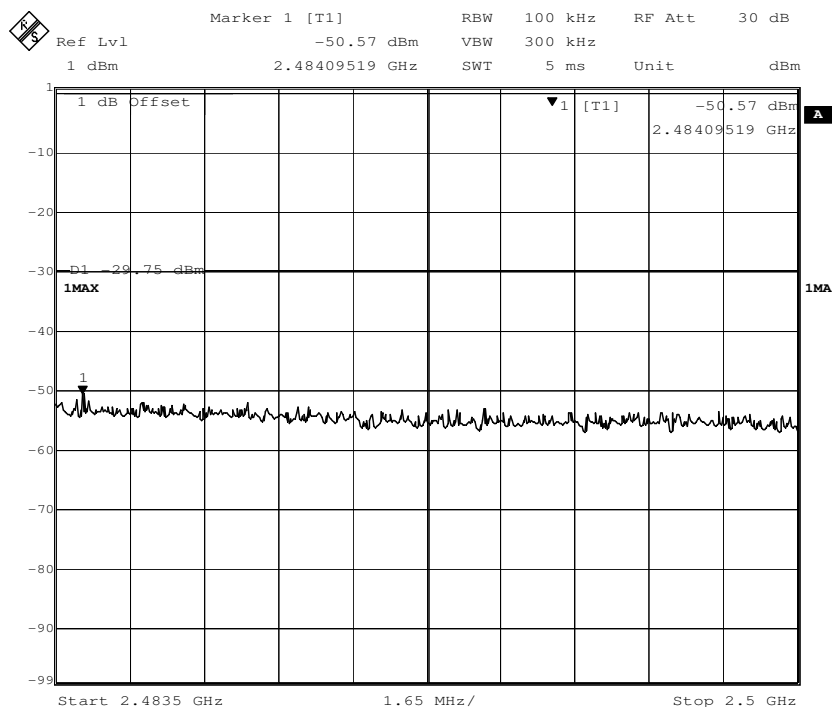
Channel1: 2.412 GHz

Step 1



802.11n(HT20) mode with 72.2Mbps data rate

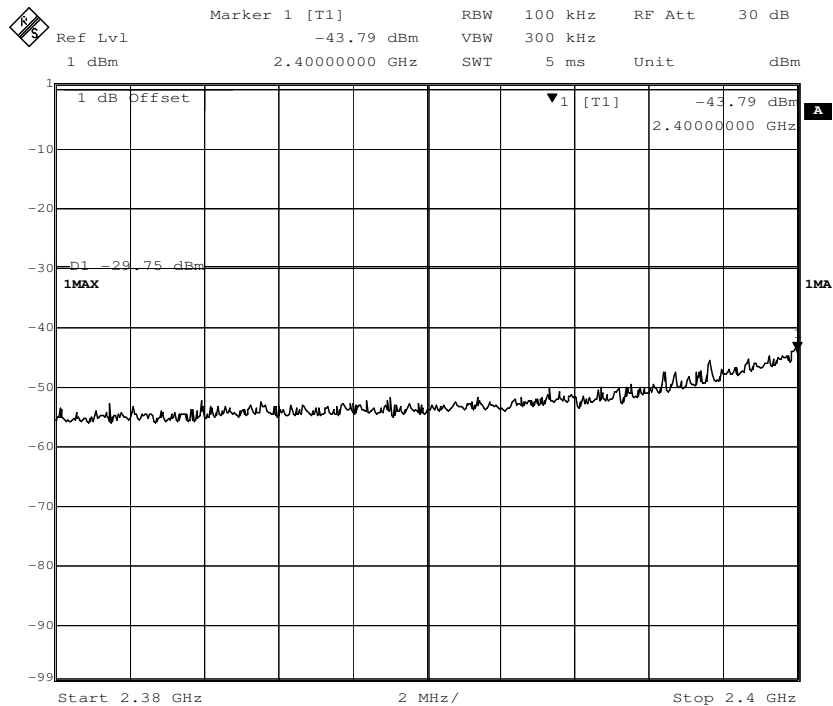
Channel11: 2.462 GHz





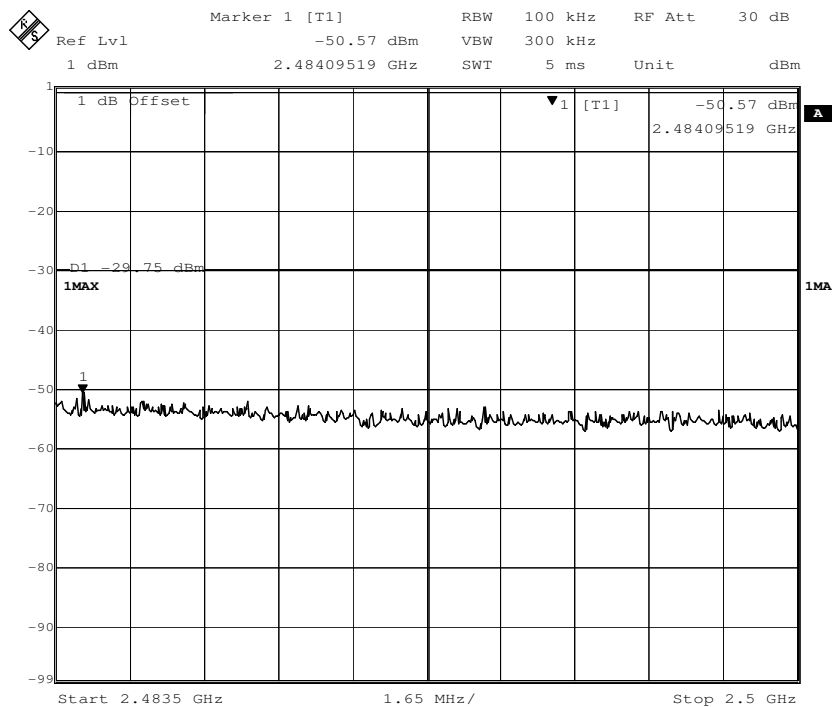
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422 GHz



802.11n(HT40) mode with 150Mbps data rate

Channel 9: 2.452 GHz





7.10 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).

7.10.1 Measurement Data

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

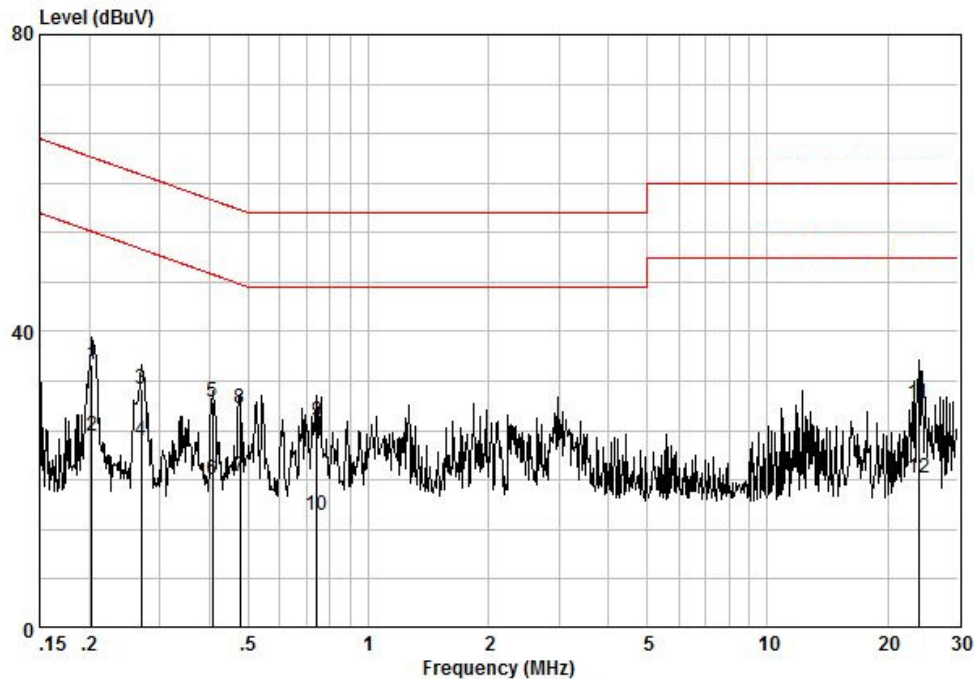
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected. For EUT the Data transmitting mode keep data writing and reading from computer was worst case mode.

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

Test Result:

1. Neutral Line

Level(dBμV)

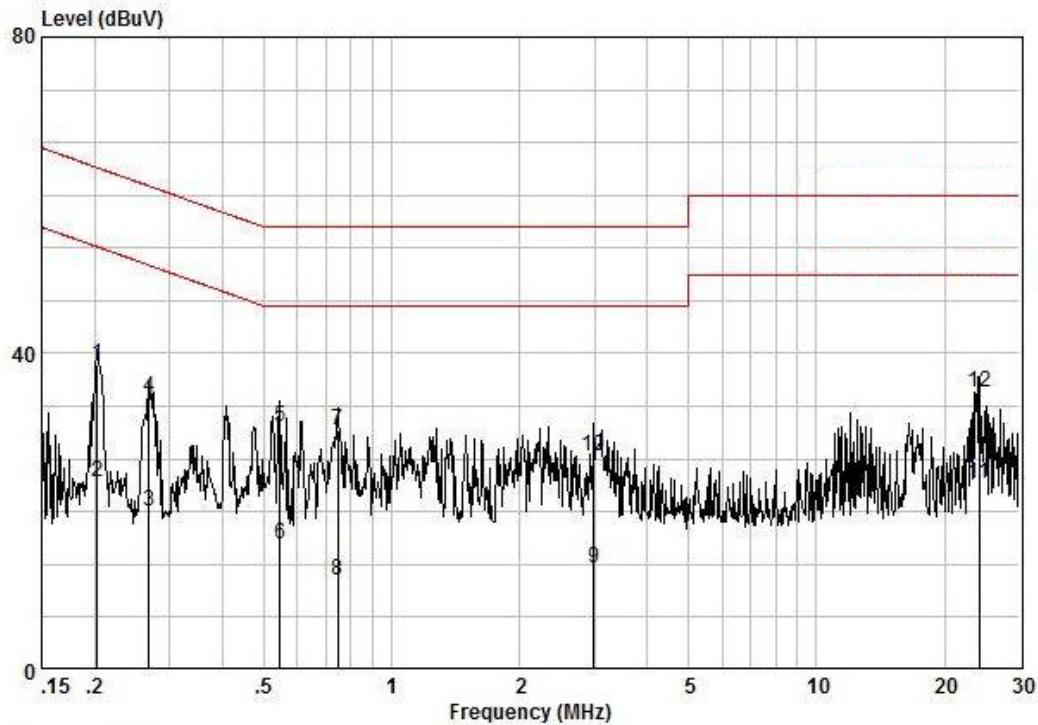


Pol : NEUTRAL
 No :
 Model :

Frequency MHz	read level dBμV	Cable Loss dB	LISN Factor dB	Measured level dBμV	Limit Line dBμV	Over limit dB	Remark
0,20	25,63	0,10	9,67	35,60	63,49	-27,89	QP
0,20	16,09	0,10	9,67	25,86	53,49	-27,63	AVERAGE
0,27	22,41	0,13	9,66	32,20	61,12	-28,92	QP
0,27	15,49	0,13	9,66	25,28	51,12	-25,84	AVERAGE
0,41	20,59	0,18	9,67	30,44	57,73	-27,29	QP
0,41	10,28	0,18	9,67	20,13	47,73	-27,60	AVERAGE
0,48	10,72	0,19	9,67	20,58	46,41	-25,83	AVERAGE
0,48	19,80	0,19	9,67	29,66	56,41	-26,75	QP
0,74	18,03	0,26	9,67	27,96	56,00	-28,04	QP
0,74	5,33	0,26	9,67	15,26	46,00	-30,74	AVERAGE
23,89	19,20	0,70	10,36	30,26	60,00	-29,74	QP
23,89	9,15	0,70	10,36	20,21	50,00	-29,79	AVERAGE

Live Line

Level(dBμV)



Pol : LIVE
 No :
 Model :

Frequency MHz	read level dBμV	Cable Loss dB	LISN Factor dB	Measured level dBμV	Limit Line dBμV	Over limit dB	Remark
0,20	28,86	0,10	9,64	38,60	63,49	-24,89	QP
0,20	14,11	0,10	9,64	23,85	53,49	-29,64	AVERAGE
0,27	10,31	0,13	9,64	20,08	51,16	-31,08	AVERAGE
0,27	24,57	0,13	9,64	34,34	61,16	-26,82	QP
0,55	20,89	0,21	9,64	30,74	56,00	-25,26	QP
0,55	6,06	0,21	9,64	15,91	46,00	-30,09	AVERAGE
0,75	20,31	0,26	9,65	30,22	56,00	-25,78	QP
0,75	1,43	0,26	9,65	11,34	46,00	-34,66	AVERAGE
2,99	2,55	0,53	9,68	12,76	46,00	-33,24	AVERAGE
2,99	16,89	0,53	9,68	27,10	56,00	-28,90	QP
24,14	12,54	0,69	10,22	23,45	50,00	-26,55	AVERAGE
24,14	24,19	0,69	10,22	35,10	60,00	-24,90	QP

--End of Report--