



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

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Report No.: SZEM151000664801  
Page: 1 of 92

## FCC REPORT

**Application No:** SZEM1510006648CR  
**Applicant:** ZAGG Inc  
**Manufacturer:** ZAGG Inc  
**Factory:** Shenzhen Aoni Electronic Industry Co., Ltd  
**Product Name:** ZAGG Now Cam  
**Model No.(EUT):** ZGACTC-GY0  
**Add Model No.:** ZGACTC-WH0  
**Trade Mark:** ZAGG  
**FCC ID:** QTG-ZCAM  
**Standards:** 47 CFR Part 15, Subpart C (2014)  
**Date of Receipt:** 2015-11-12  
**Date of Test:** 2015-11-17 to 2015-12-03  
**Date of Issue:** 2015-12-04

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

Authorized Signature:



Jack Zhang  
EMC Laboratory 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		2015-12-04		Original

Authorized for issue by:			
Tested By		2015-12-03	
	(Gebin Sun) /Project Engineer	Date	
Prepared By		2015-12-04	
	(Venus Wu) /Clerk	Date	
Checked By		2015-12-04	
	(Eric Fu) /Reviewer	Date	



### 3 Test Summary

Test Item	Test Requirement	Test method	Result
<b>Antenna Requirement</b>	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 2009	PASS
<b>AC Power Line Conducted Emission</b>	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2009	PASS
<b>Conducted Peak Output Power</b>	47 CFR Part 15, Subpart C Section 15.247 (b)(3)	ANSI C63.10 2009	PASS
<b>6dB Occupied Bandwidth</b>	47 CFR Part 15, Subpart C Section 15.247 (a)(2)	ANSI C63.10 2009	PASS
<b>Power Spectral Density</b>	47 CFR Part 15, Subpart C Section 15.247 (e)	ANSI C63.10 2009	PASS
<b>Band-edge for RF Conducted Emissions</b>	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2009	PASS
<b>RF Conducted Spurious Emissions</b>	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2009	PASS
<b>Radiated Spurious Emissions</b>	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2009	PASS
<b>Restricted bands around fundamental frequency (Radiated Emission)</b>	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2009	PASS

Remark:

Model No.: ZGACTC-GY0, ZGACTC-WH0

Only the Model ZGACTC-GY0 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models. Only different on model No. and color.

## 4 Contents

	Page
<b>1 COVER PAGE .....</b>	<b>1</b>
<b>2 VERSION.....</b>	<b>2</b>
<b>3 TEST SUMMARY .....</b>	<b>3</b>
<b>4 CONTENTS .....</b>	<b>4</b>
<b>5 GENERAL INFORMATION .....</b>	<b>5</b>
5.1 CLIENT INFORMATION .....	5
5.2 GENERAL DESCRIPTION OF EUT .....	5
5.3 TEST ENVIRONMENT AND MODE .....	7
5.4 DESCRIPTION OF SUPPORT UNITS.....	7
5.5 TEST LOCATION .....	7
5.6 TEST FACILITY .....	8
5.7 DEVIATION FROM STANDARDS.....	8
5.8 ABNORMALITIES FROM STANDARD CONDITIONS .....	8
5.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	8
5.10 EQUIPMENT LIST .....	9
<b>6 TEST RESULTS AND MEASUREMENT DATA.....</b>	<b>11</b>
6.1 ANTENNA REQUIREMENT .....	11
6.2 CONDUCTED PEAK OUTPUT POWER.....	12
6.3 6dB OCCUPY BANDWIDTH .....	20
6.4 POWER SPECTRAL DENSITY .....	27
6.5 BAND-EDGE FOR RF CONDUCTED EMISSIONS.....	34
6.6 RF CONDUCTED SPURIOUS EMISSIONS.....	38
6.7 RADIATED SPURIOUS EMISSIONS .....	66
6.7.1 <i>Radiated emission below 1GHz</i> .....	69
6.7.2 <i>Transmitter emission above 1GHz</i> .....	71
6.8 RESTRICTED BANDS AROUND FUNDAMENTAL FREQUENCY .....	77
<b>7 PHOTOGRAPHS - EUT TEST SETUP .....</b>	<b>91</b>
7.1 RADIATED SPURIOUS EMISSION .....	91
<b>8 PHOTOGRAPHS - EUT CONSTRUCTIONAL DETAILS .....</b>	<b>92</b>



## 5 General Information

### 5.1 Client Information

Applicant:	ZAGG Inc
Address of Applicant:	3855 South 500 West, Suite Q Salt Lake City, Utah, 84115
Manufacturer:	ZAGG Inc
Address of Manufacturer:	3855 South 500 West, Suite Q Salt Lake City, Utah, 84115
Factory:	Shenzhen Aoni Electronic Industry Co., Ltd
Address of Factory:	No.5,Bldg.,Honghui Industrial Park, 2nd Liuxian, Xin'an, Bao'an District, SZ, China

### 5.2 General Description of EUT

Product Name:	ZAGG Now Cam
Model No.:	ZGACTC-GY0
Trade Mark:	ZAGG
Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels
Channel Separation:	5MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM, QPSK,BPSK)
Sample Type:	Portable production
Antenna Type and Gain:	Type: Integral Gain: 0.5dBi
Battery:	Lithium-ion battery:3.7V 300mAh( charge by USB)



**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 6 of 92

Operation Frequency each of channel(802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11b/g/n (HT20):

Channel	Frequency
The Lowest channel	2412MHz
The Middle channel	2437MHz
The Highest channel	2462MHz



### **5.3 Test Environment and Mode**

<b>Operating Environment:</b>	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1015 mbar
<b>Test mode:</b>	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

### **5.4 Description of Support Units**

Description	Manufacturer	Model No.	Serial No.
Test Board	Supplied by client	V1.2	N/A

Remark: The test board is only use to configure the engineering mode and it has not been used during the test.

### **5.5 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,  
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.  
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



## **5.6 Test Facility**

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

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.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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 No.: 556682.

- **Industry Canada (IC)**

The 3m Semi-anechoic chambers and the 10m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-2, 4620C-3.

## **5.7 Deviation from Standards**

None.

## **5.8 Abnormalities from Standard Conditions**

None.

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

None.



## 5.10 Equipment List

RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEL0198	2016-03-01
2	EMI Test Receiver (9k-3GHz)	Rohde & Schwarz	ESCI	SEL0175	2016-05-13
3	EMI Test software	AUDIX	E3	SEL0201	N/A
4	Coaxial cable	SGS	N/A	SEL0202	2016-03-01
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2017-11-15
6	Amplifier (0.1-1300MHz)	HP	8447D	SEL0153	2016-10-09

RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2016-05-13
2	EMI Test Receiver	Agilent Technologies	N9038A	SEL0312	2016-10-09
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2016-05-13
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	2017-11-01
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2016-05-13
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0005	2018-05-16
8	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2016-10-17
9	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2017-11-24
10	Band filter	Amindeon	Asi 3314	SEL0094	2016-05-13
11	Loop Antenna	ETS-LINDGREN	6502	SEL0802	2016-08-14



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Shenzhen Branch**

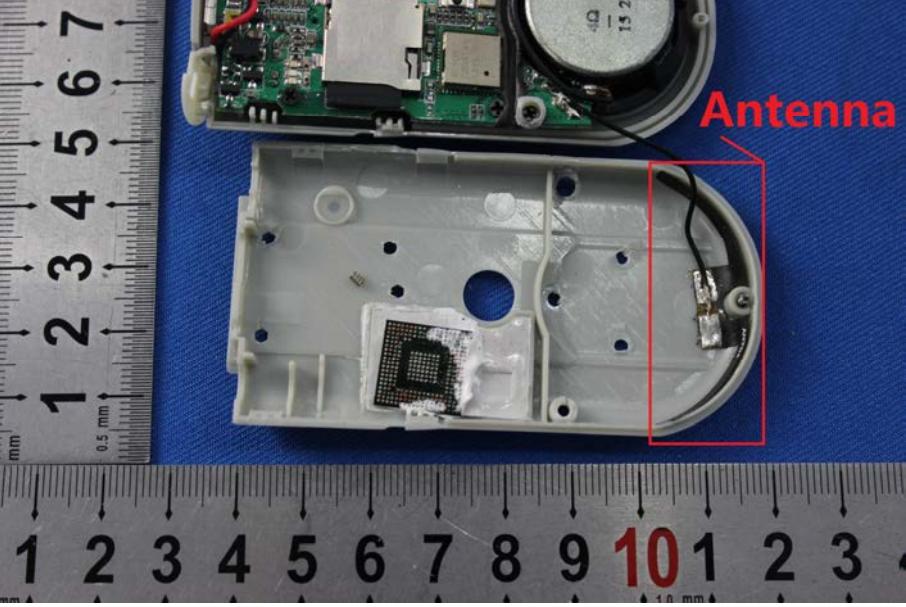
Report No.: SZEM151000664801  
Page: 10 of 92

<b>RF connected test</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal. date (yyyy-mm-dd)</b>	<b>Cal.Due date (yyyy-mm-dd)</b>
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-09	2016-10-09
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2015-10-24	2016-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2015-10-17	2016-10-17
4	Coaxial cable	SGS	N/A	SEL0178	2015-05-13	2016-05-13
5	Coaxial cable	SGS	N/A	SEL0179	2015-05-13	2016-05-13
6	Barometer	ChangChun	DYM3	SEL0088	2015-05-13	2016-05-13
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2015-04-25	2016-04-25
8	POWER METER	R & S	NRVS	SEL0144	2015-10-09	2016-10-09
9	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2015-04-25	2016-04-25

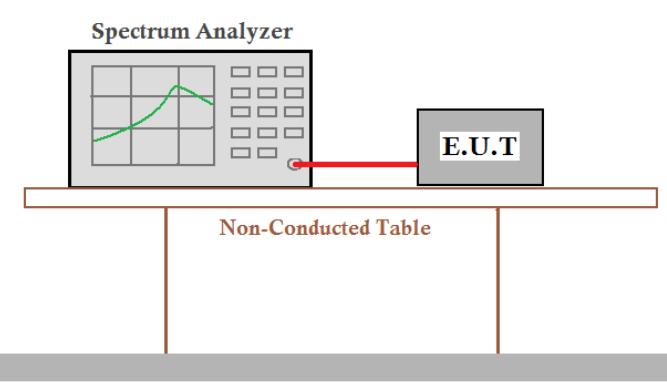
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## 6 Test results and Measurement Data

### 6.1 Antenna Requirement

<b>Standard requirement:</b>	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement:  An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	15.247(b) (4) requirement:  The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. 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.
<b>EUT Antenna:</b>	 <p>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0.5dBi.</p>

## 6.2 Conducted Peak Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 2009
Test Setup:	 <p><b>Remark:</b> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20) ;
Limit:	30dBm
Test Results:	Pass





**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 13 of 92

Pre-scan under all rate at lowest channel 1								
Mode	802.11b							
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
Power (dBm)	13.55	13.47	13.43	13.32				
Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power (dBm)	16.71	16.63	16.57	16.52	16.46	16.42	16.37	16.32
Mode	802.11n(HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Power (dBm)	15.21	15.14	15.07	15.01	14.96	14.92	14.85	14.79

Through Pre-scan, 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20);



**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 14 of 92

**Measurement Data**

802.11b mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	13.55	30.00	Pass
Middle	12.27	30.00	Pass
Highest	9.41	30.00	Pass

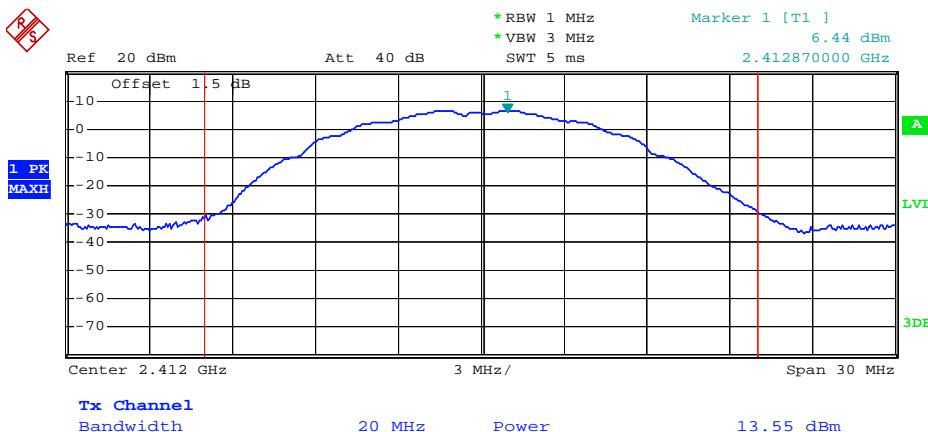
802.11g mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	16.71	30.00	Pass
Middle	15.96	30.00	Pass
Highest	13.00	30.00	Pass

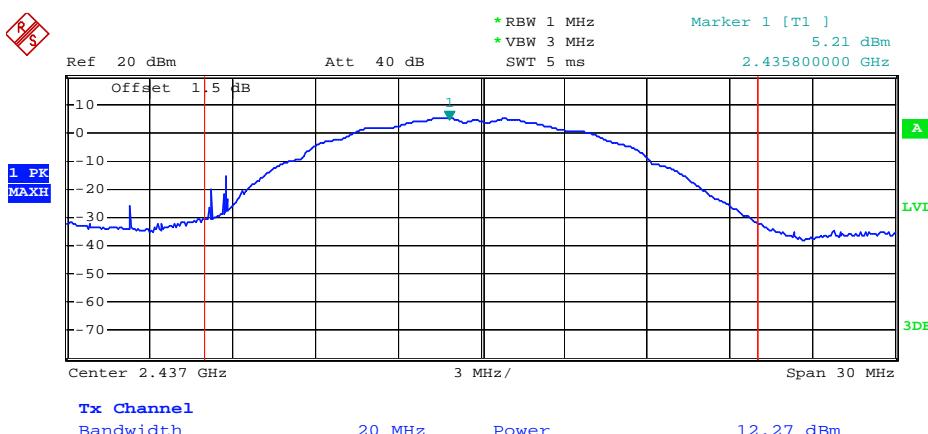
802.11n(HT20)mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	15.21	30.00	Pass
Middle	14.08	30.00	Pass
Highest	11.26	30.00	Pass

**Test plot as follows:**

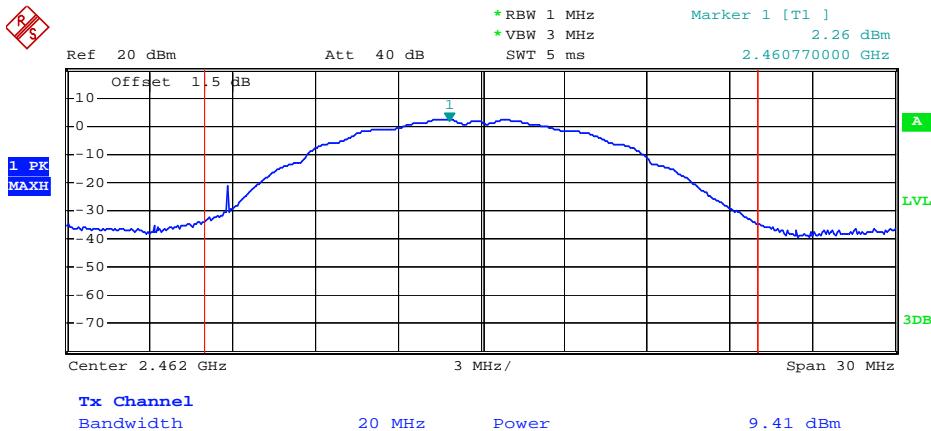
Test mode:	802.11b	Test channel:	Lowest
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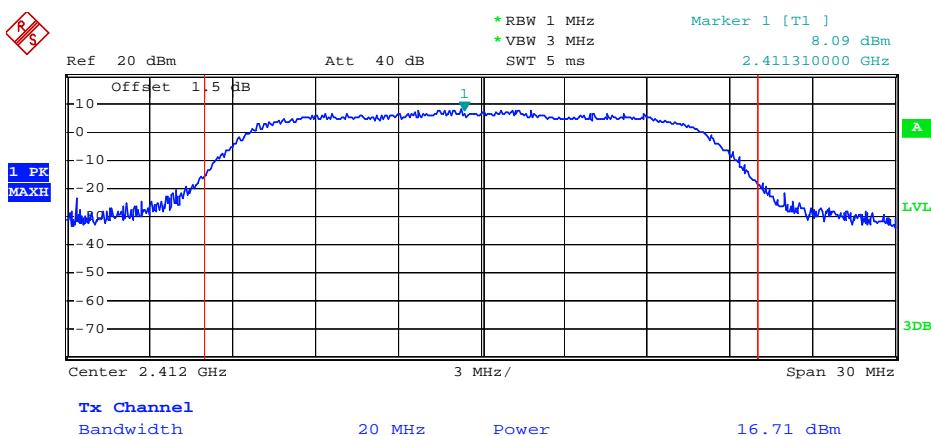
Test mode:	802.11b	Test channel:	Middle
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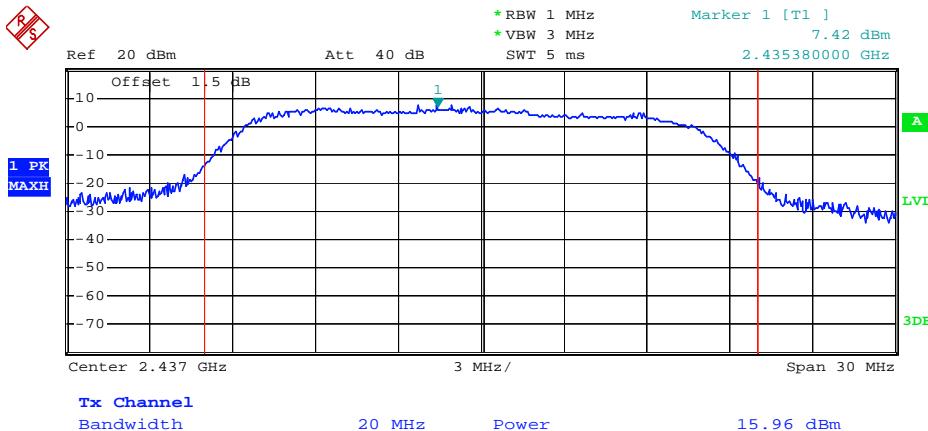
Test mode:	802.11b	Test channel:	Highest
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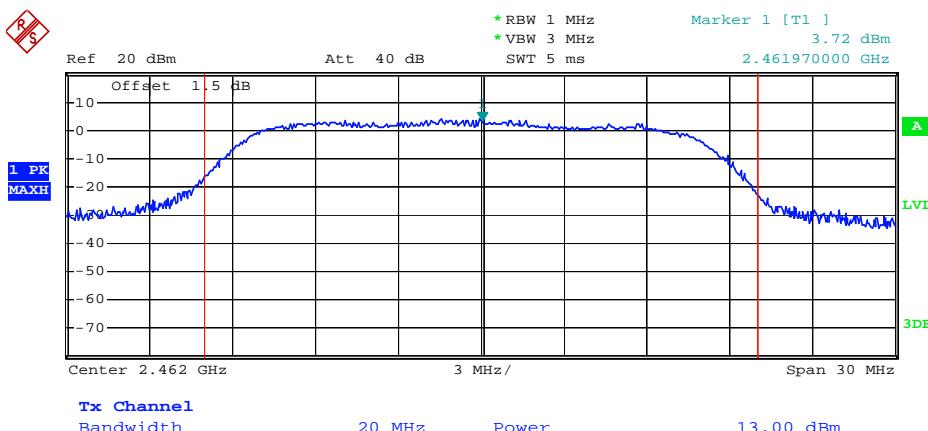
Test mode:	802.11g	Test channel:	Lowest
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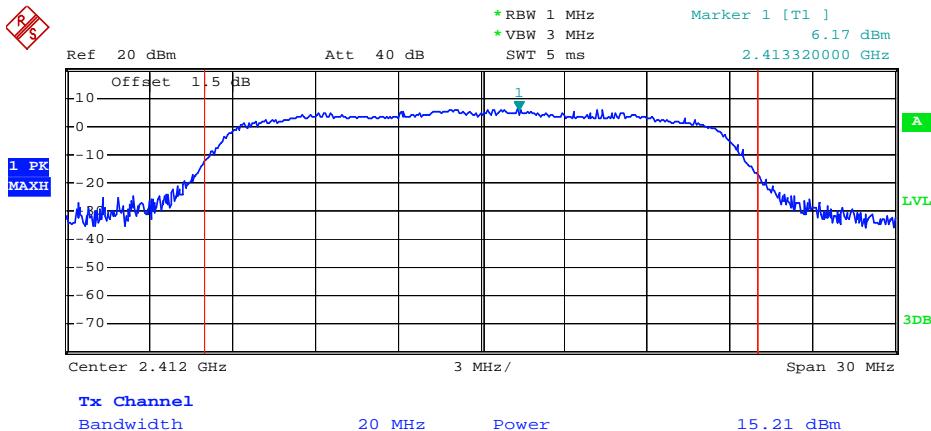
Test mode:	802.11g	Test channel:	Middle
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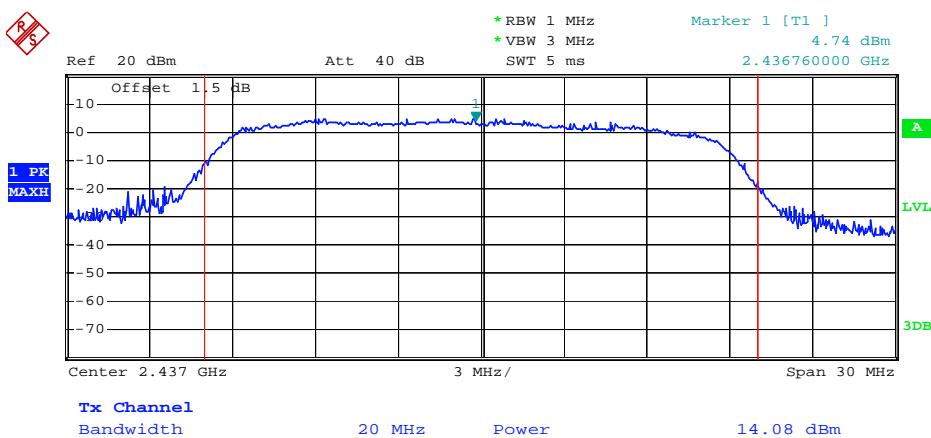
Test mode:	802.11g	Test channel:	Highest
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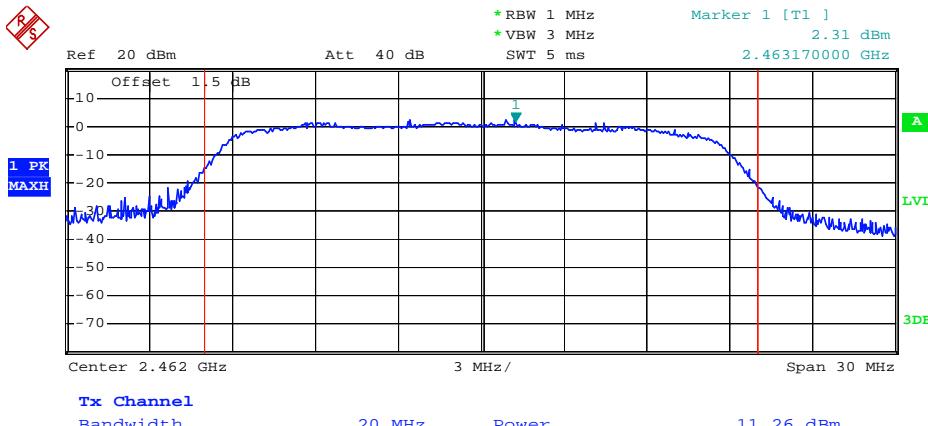
Test mode:	802.11n(HT20)	Test channel:	Lowest
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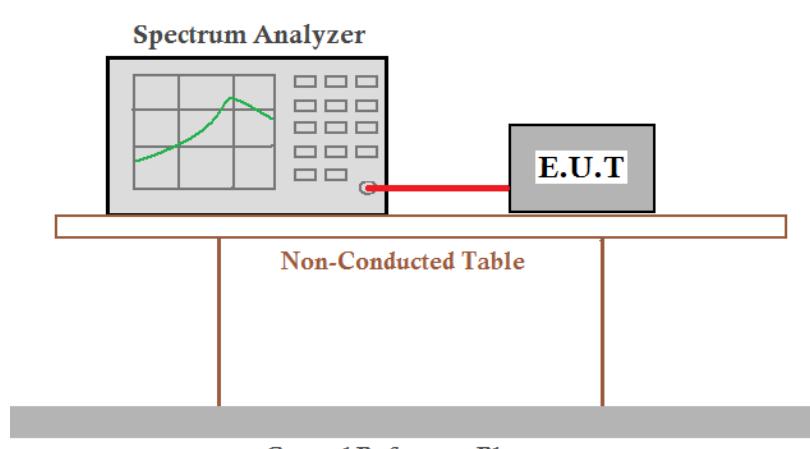
Test mode:	802.11n(HT20)	Test channel:	Middle
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Test mode:	802.11n(HT20)	Test channel:	Highest
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### 6.3 6dB Occupy Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10 2009
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20).
Limit:	$\geq 500$ kHz
Test Results:	Pass



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

Report No.: SZEM151000664801  
Page: 21 of 92

## Measurement Data

802.11b mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest	8.070	≥500	Pass
Middle	8.760	≥500	Pass
Highest	7.650	≥500	Pass

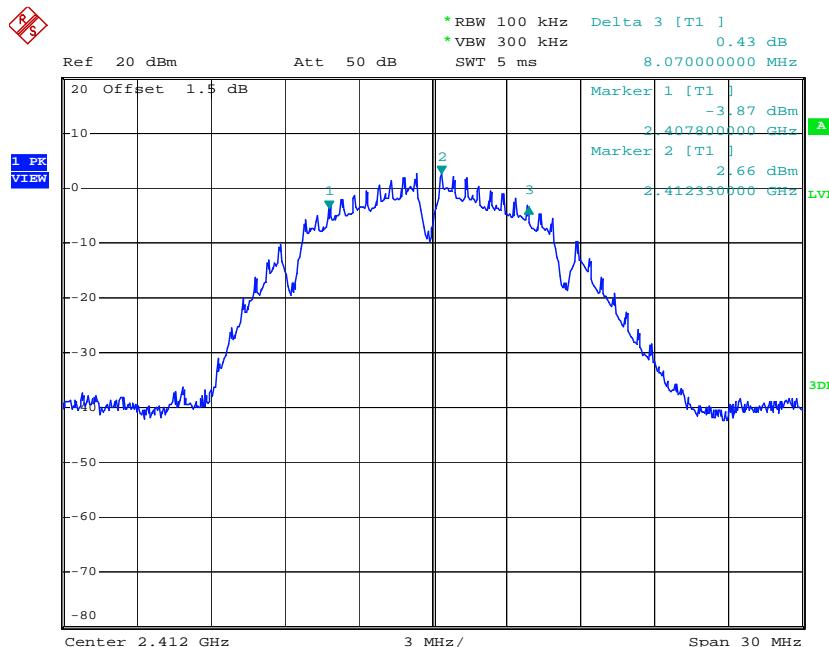
802.11g mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest	16.050	≥500	Pass
Middle	15.780	≥500	Pass
Highest	15.810	≥500	Pass

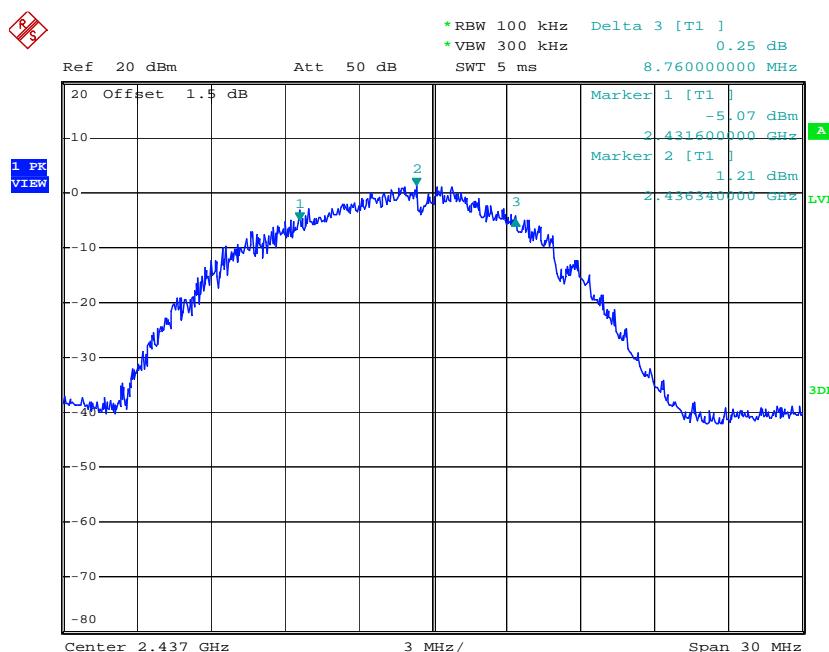
802.11n(HT20) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest	17.010	≥500	Pass
Middle	16.410	≥500	Pass
Highest	16.410	≥500	Pass

**Test plot as follows:**

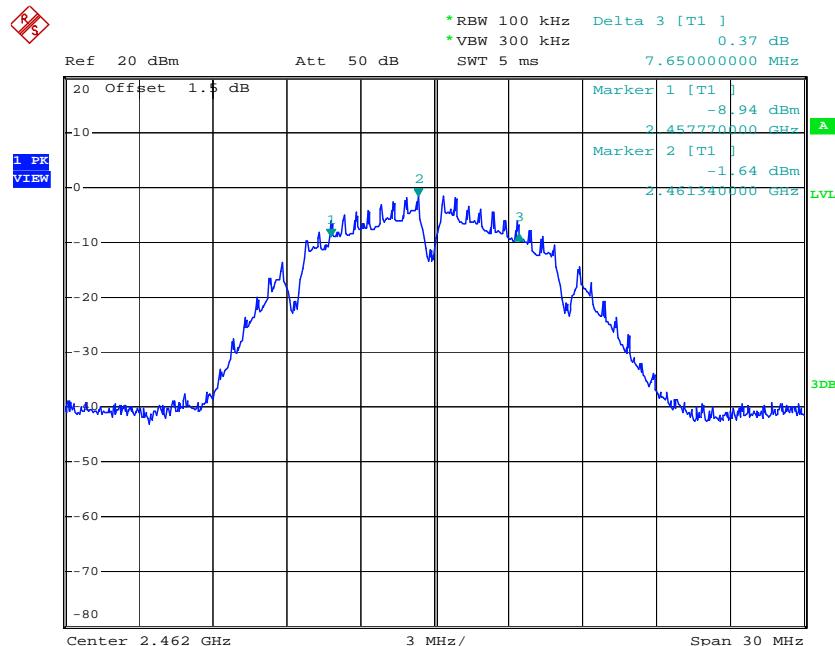
Test mode:	802.11b	Test channel:	Lowest
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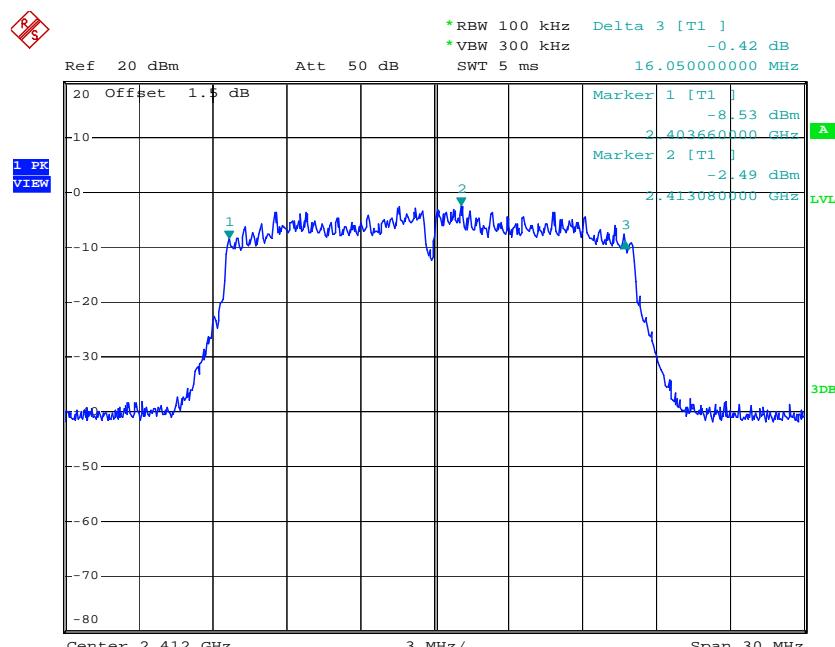
Test mode:	802.11b	Test channel:	Middle
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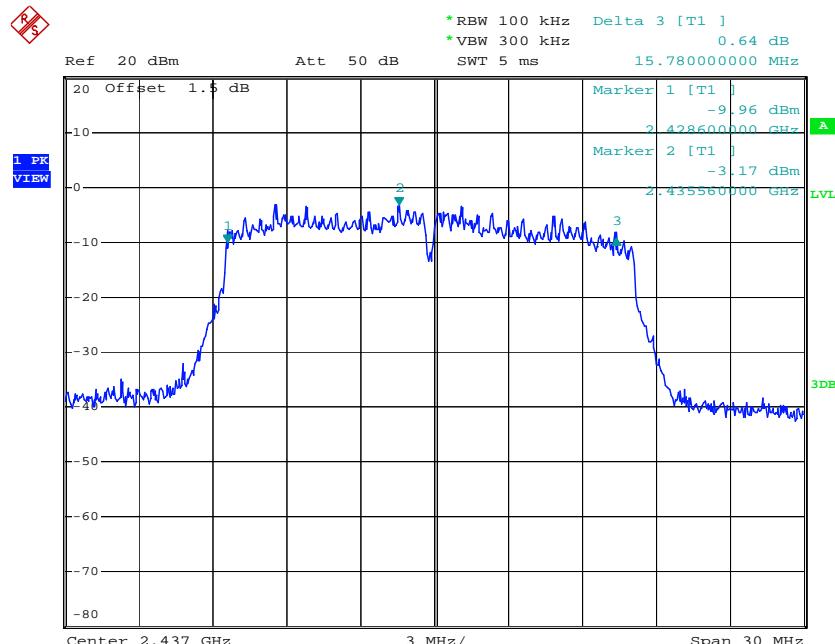
Test mode:	802.11b	Test channel:	Highest
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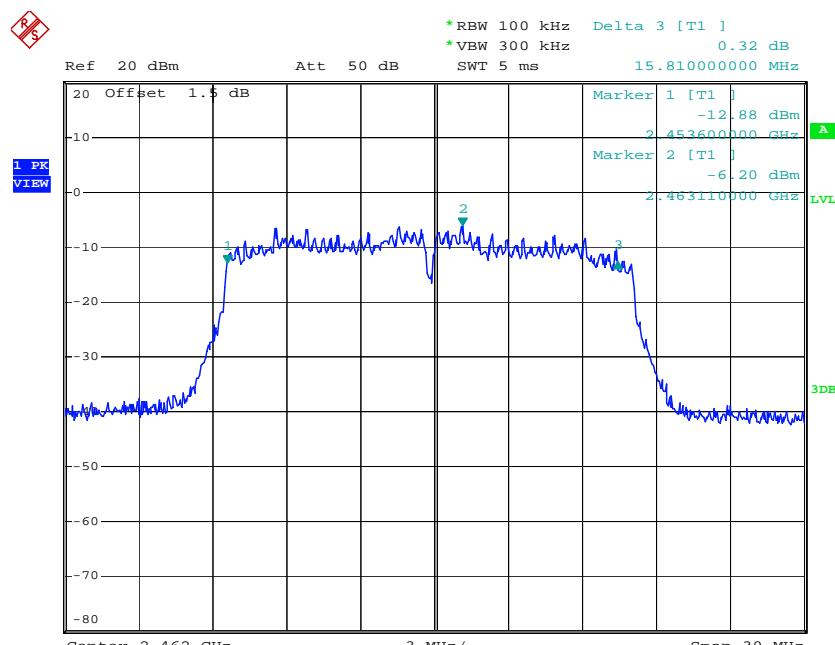
Test mode:	802.11g	Test channel:	Lowest
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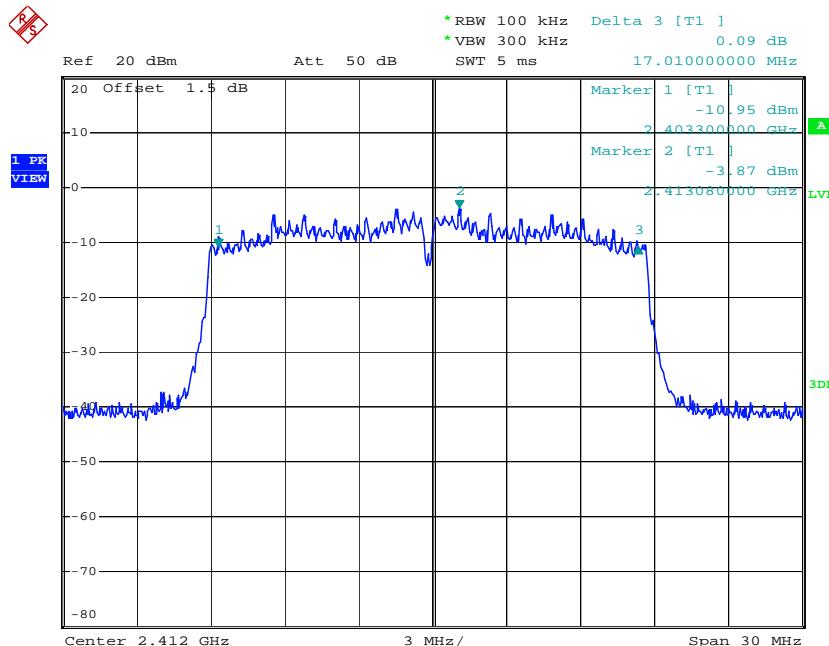
Test mode:	802.11g	Test channel:	Middle
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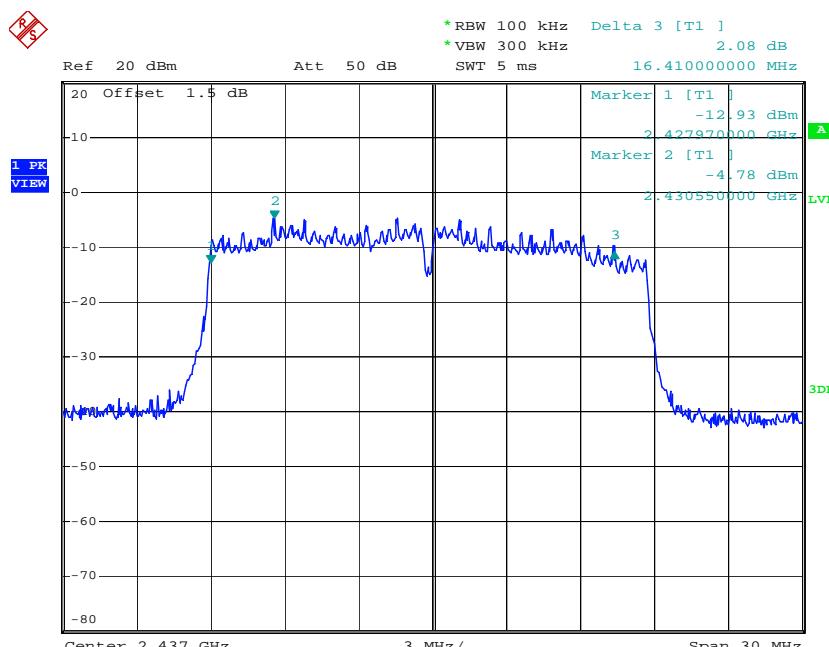
Test mode:	802.11g	Test channel:	Highest
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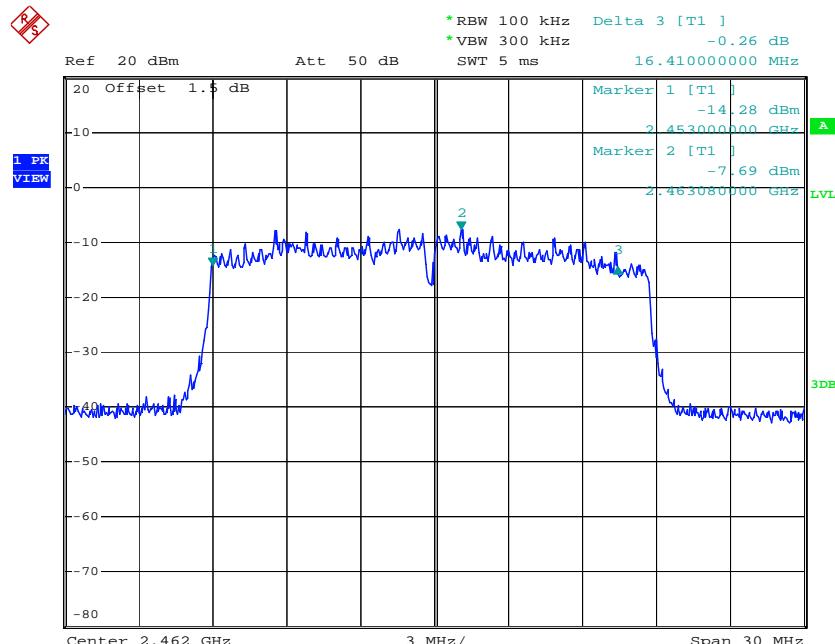
Test mode:	802.11n(HT20)	Test channel:	Lowest
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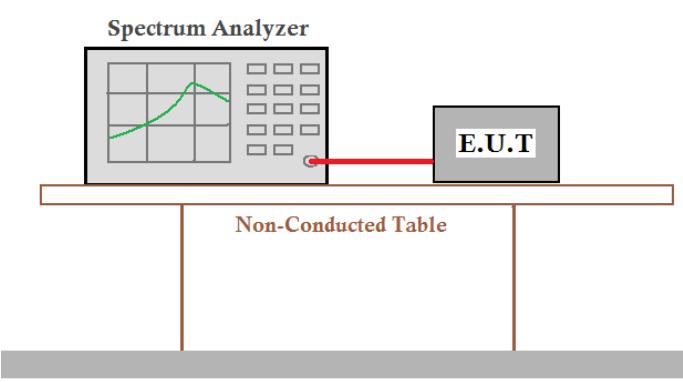
Test mode:	802.11n(HT20)	Test channel:	Middle
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Test mode:	802.11n(HT20)	Test channel:	Highest
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## 6.4 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 2009
Test Setup:	 <p><b>Spectrum Analyzer</b>  <b>E.U.T</b>  <b>Non-Conducted Table</b>  <b>Ground Reference Plane</b></p> <p><i>Remark:</i>  <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Test Instruments:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20).
Limit:	≤8.00dBm/3kHz
Test Results:	Pass



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

Report No.: SZEM151000664801  
Page: 28 of 92

## Measurement Data

802.11b mode			
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	-12.33	≤8.00	Pass
Middle	-19.50	≤8.00	Pass
Highest	-14.71	≤8.00	Pass

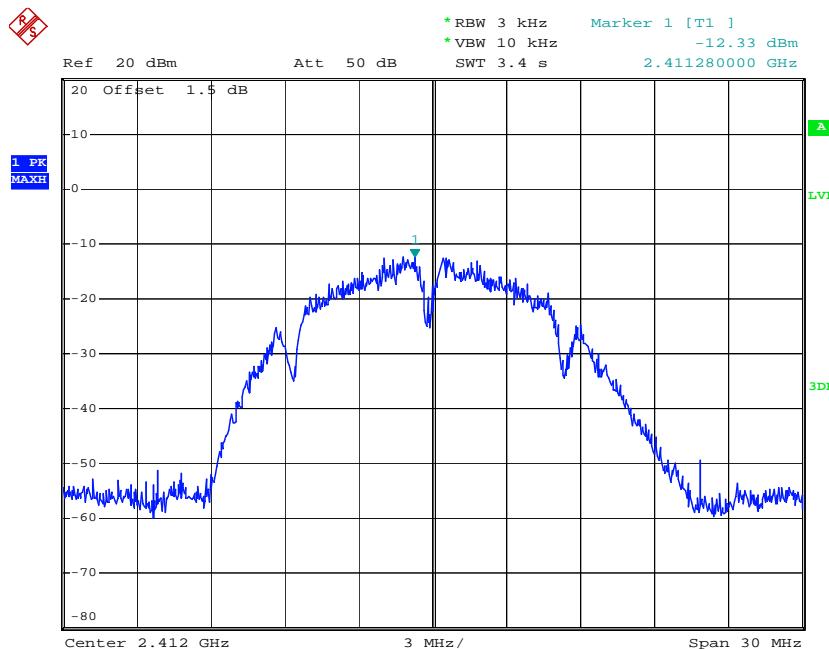
802.11g mode			
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	-16.88	≤8.00	Pass
Middle	-17.39	≤8.00	Pass
Highest	-19.37	≤8.00	Pass

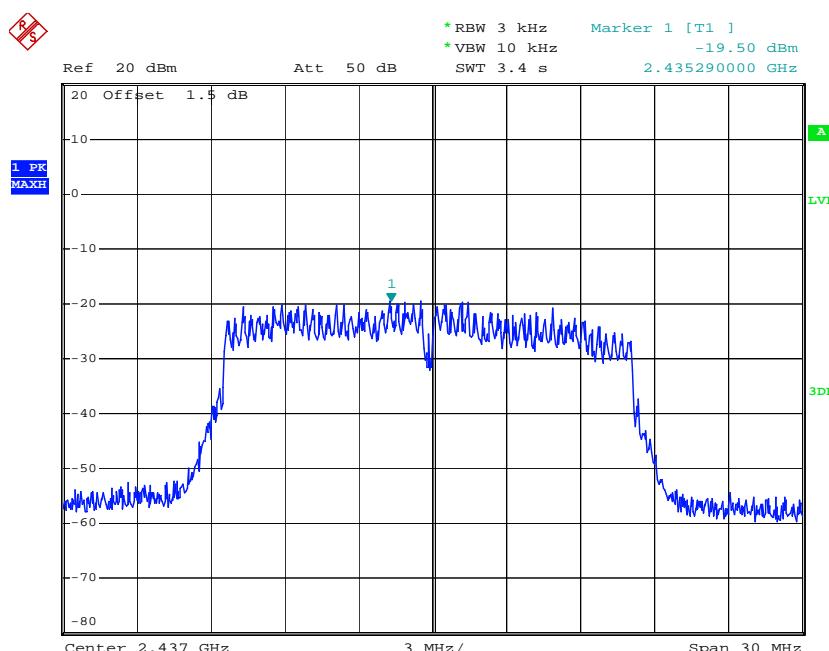
802.11n(HT20) mode			
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	-17.12	≤8.00	Pass
Middle	-18.15	≤8.00	Pass
Highest	-19.37	≤8.00	Pass

**Test plot as follows:**

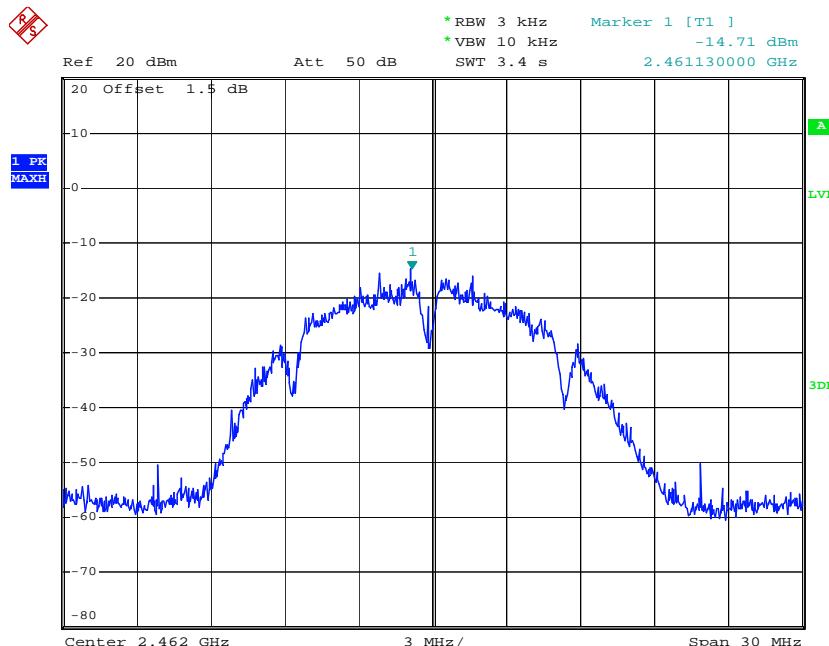
Test mode:	802.11b	Test channel:	Lowest
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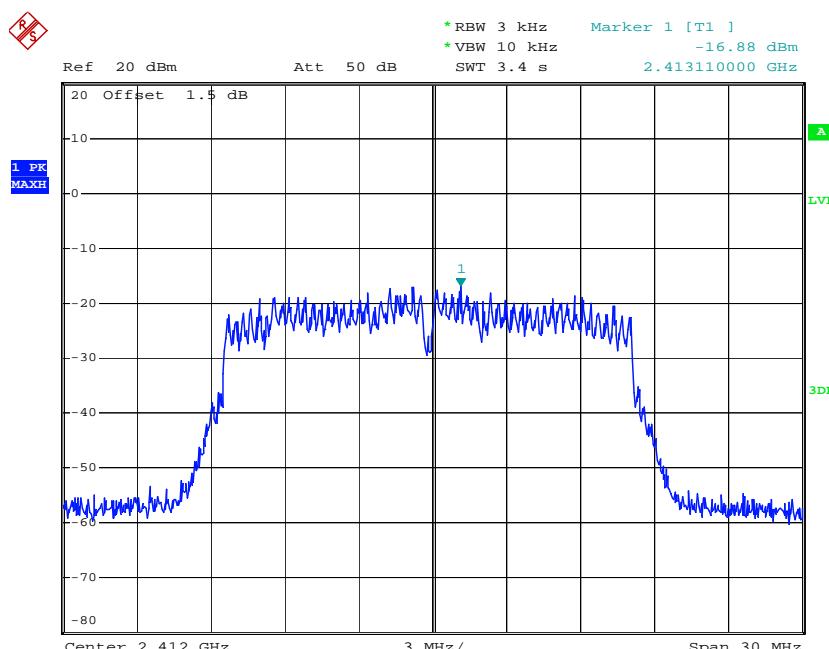
Test mode:	802.11b	Test channel:	Middle
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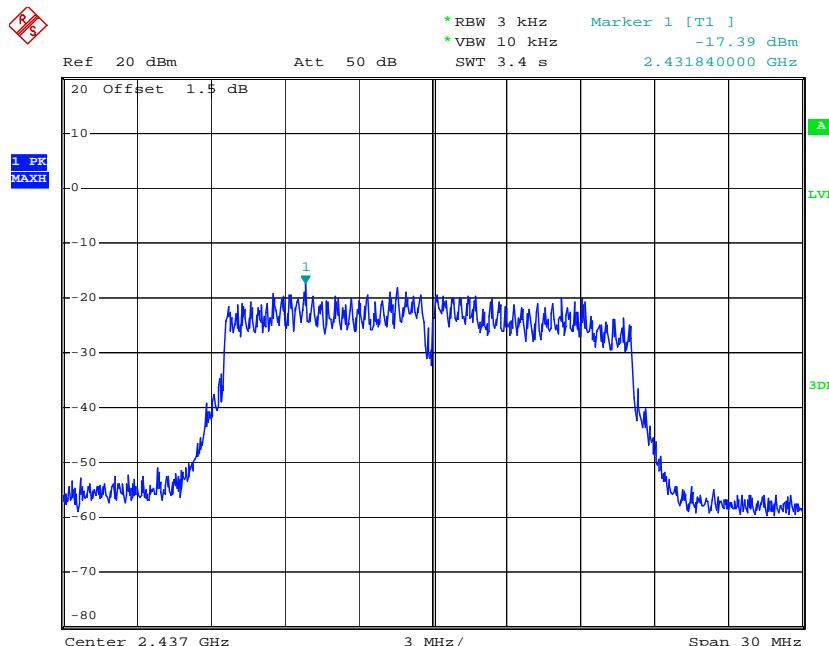
Test mode:	802.11b	Test channel:	Highest
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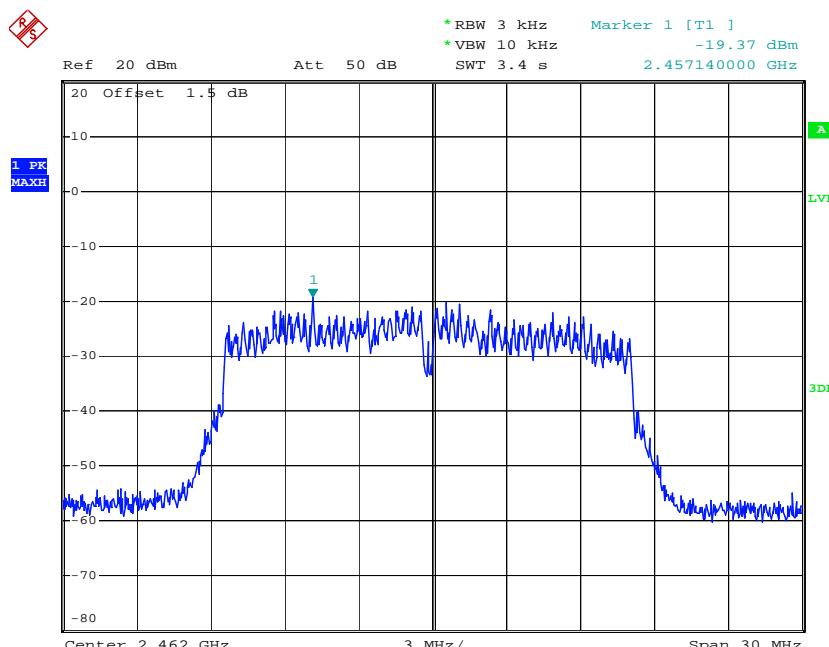
Test mode:	802.11g	Test channel:	Lowest
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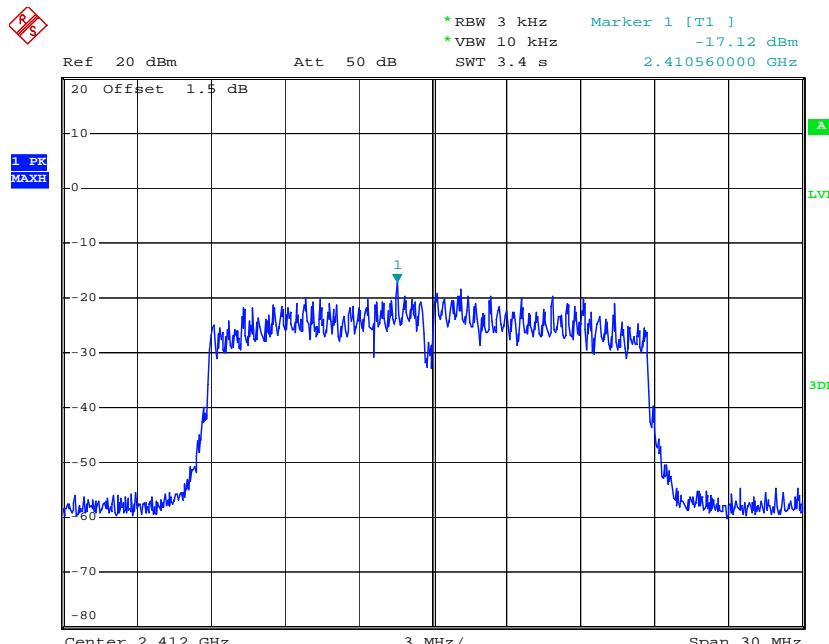
Test mode:	802.11g	Test channel:	Middle
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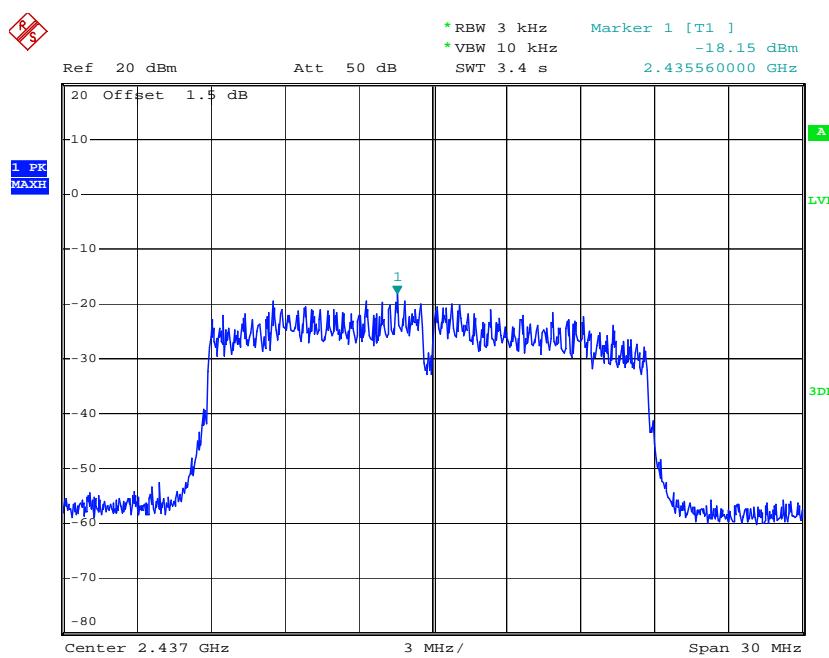
Test mode:	802.11g	Test channel:	Highest
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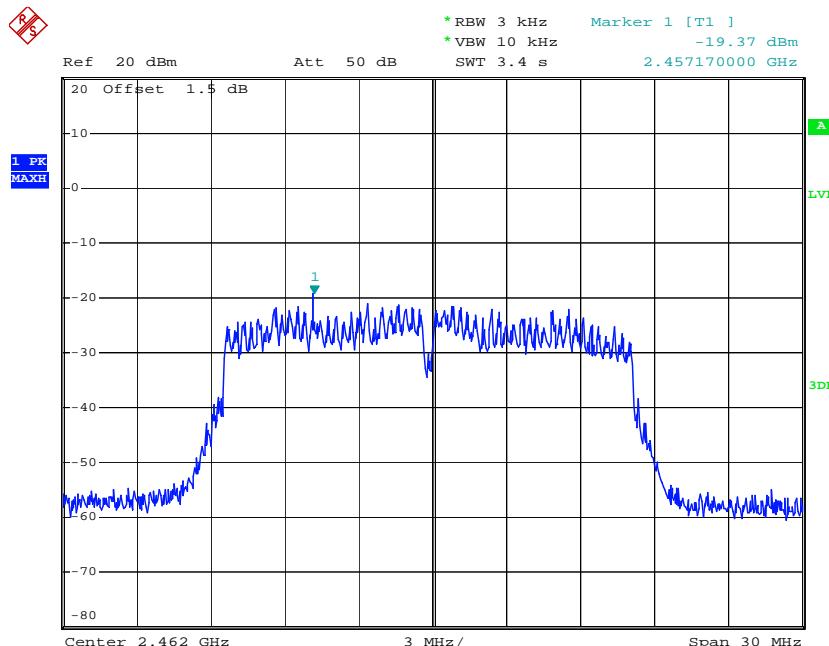
Test mode:	802.11n(HT20)	Test channel:	Lowest
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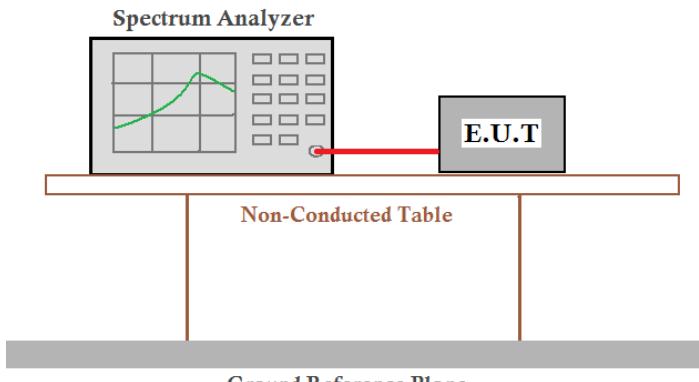
Test mode:	802.11n(HT20)	Test channel:	Middle
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Test mode:	802.11n(HT20)	Test channel:	Highest
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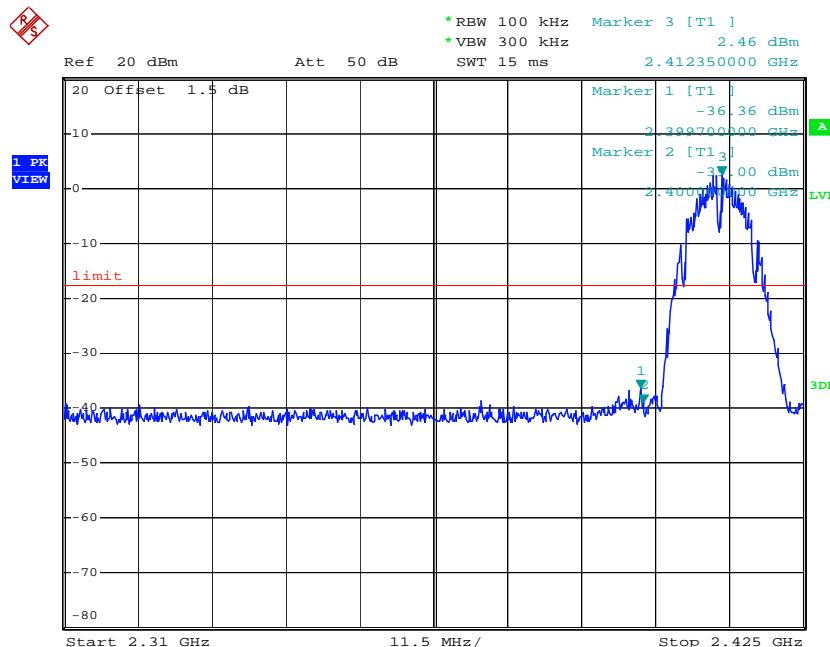


## 6.5 Band-edge for RF Conducted Emissions

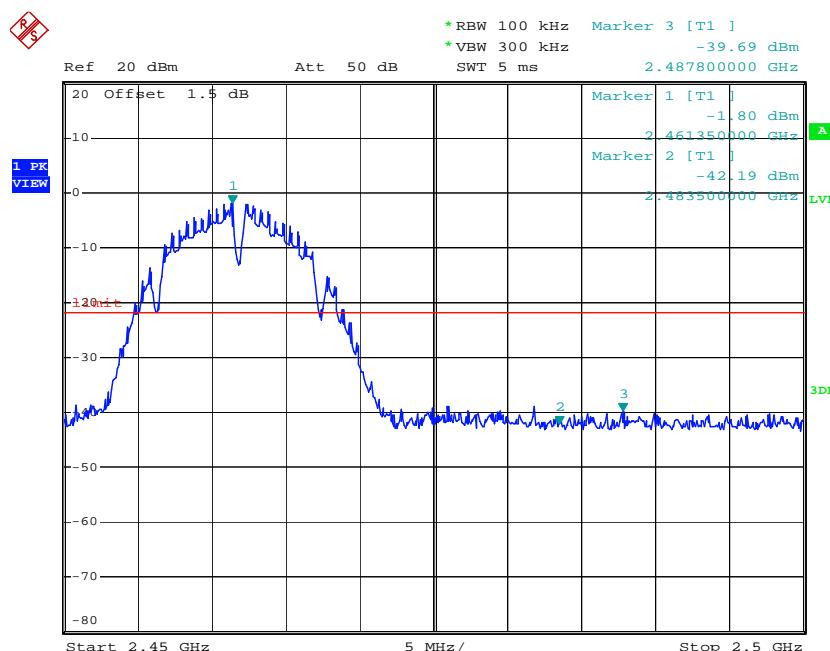
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10 2009
Test Setup:	 <p><b>Remark:</b>  <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20).
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

**Test plot as follows:**

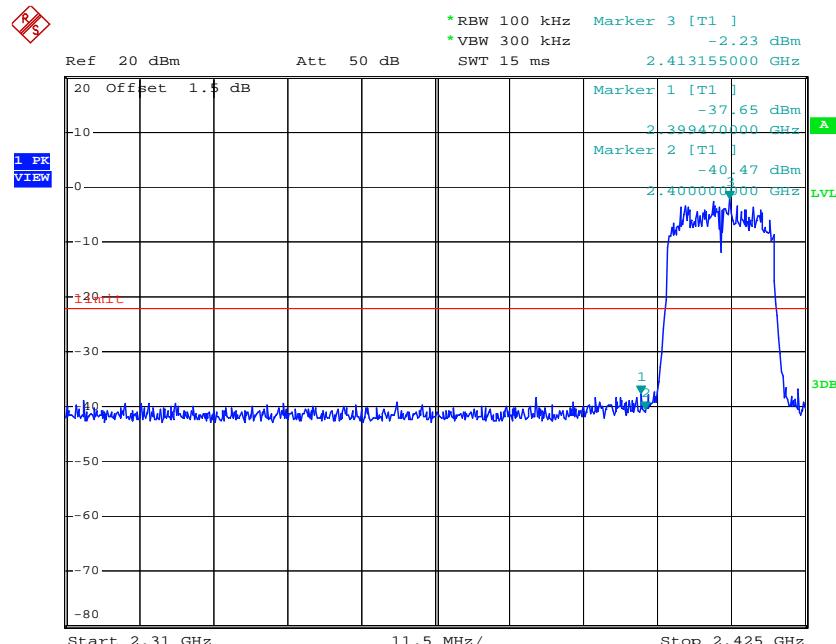
Test mode:	802.11b	Test channel:	Lowest
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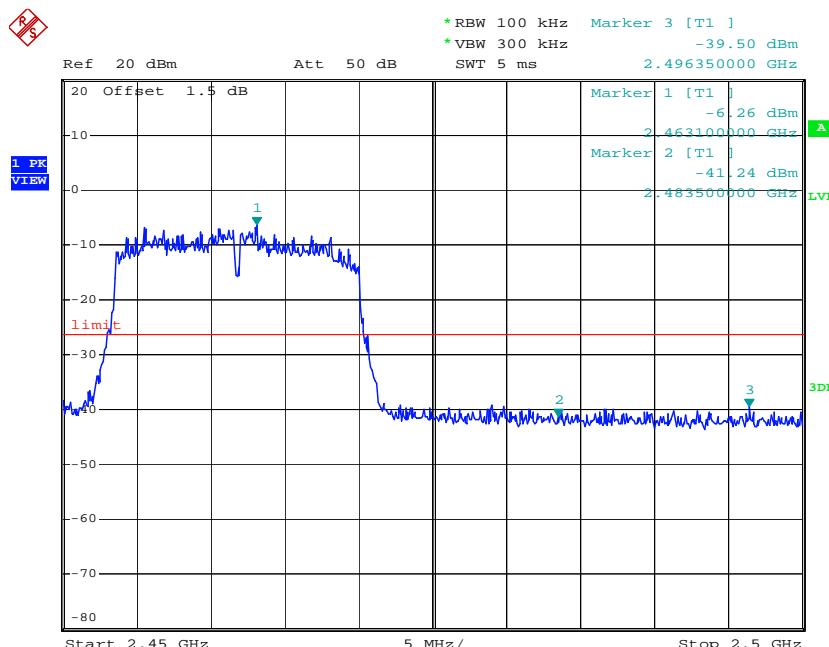
Test mode:	802.11b	Test channel:	Highest
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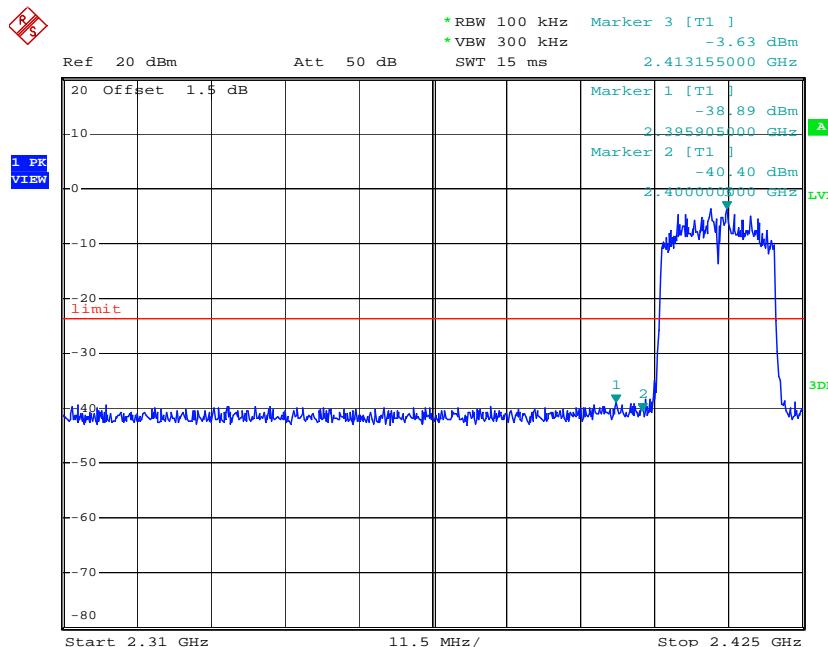
Test mode:	802.11g	Test channel:	Lowest
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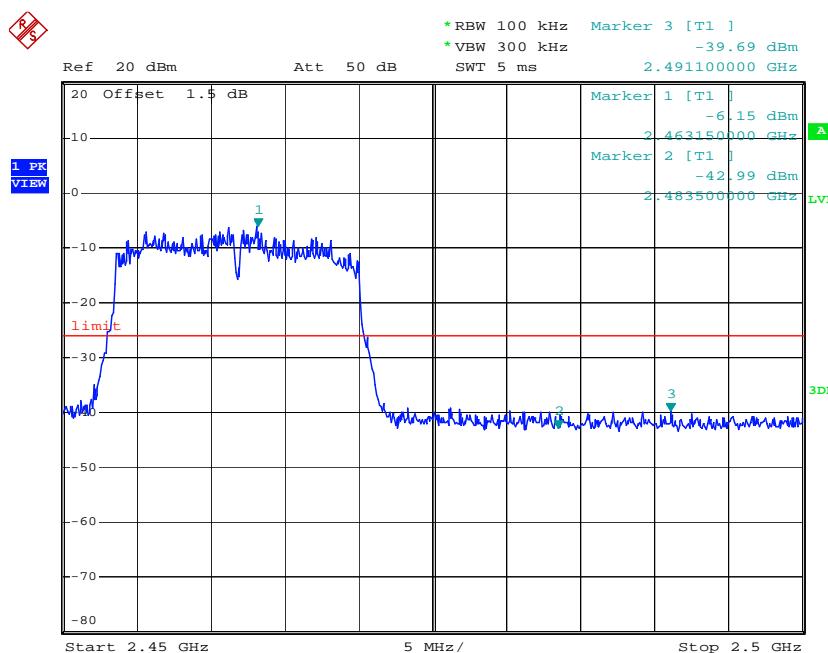
Test mode:	802.11g	Test channel:	Highest
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Test mode:	802.11n(HT20)	Test channel:	Lowest
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Test mode:	802.11n(HT20)	Test channel:	Highest
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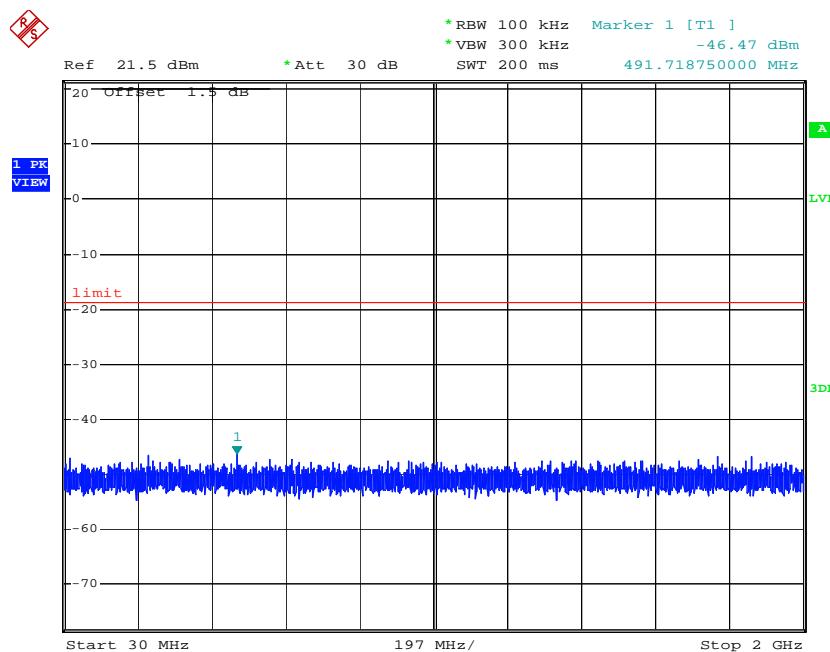
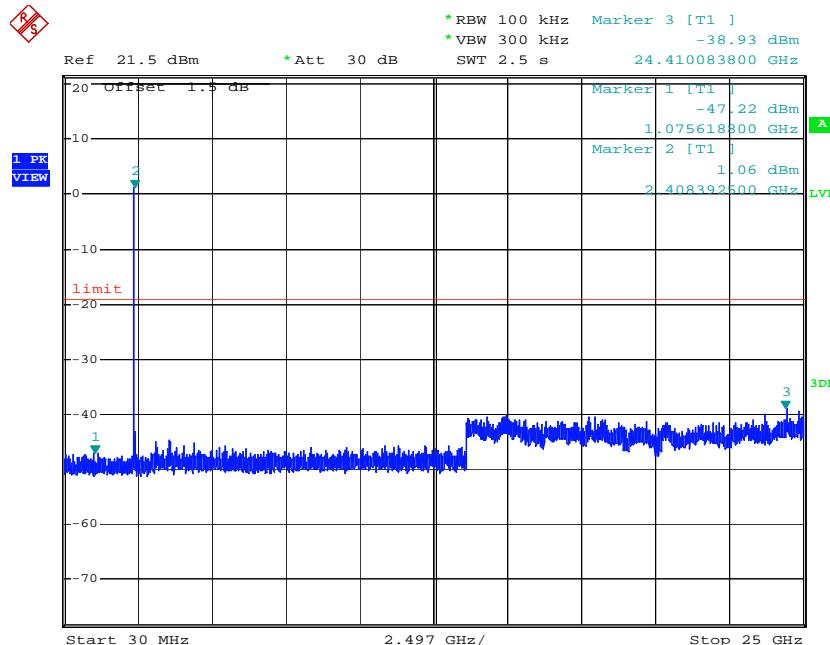


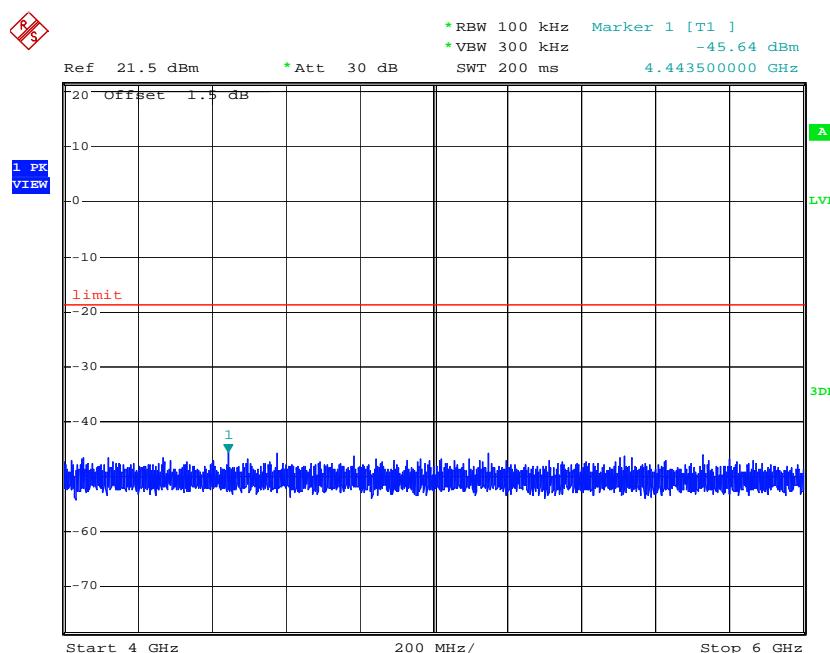
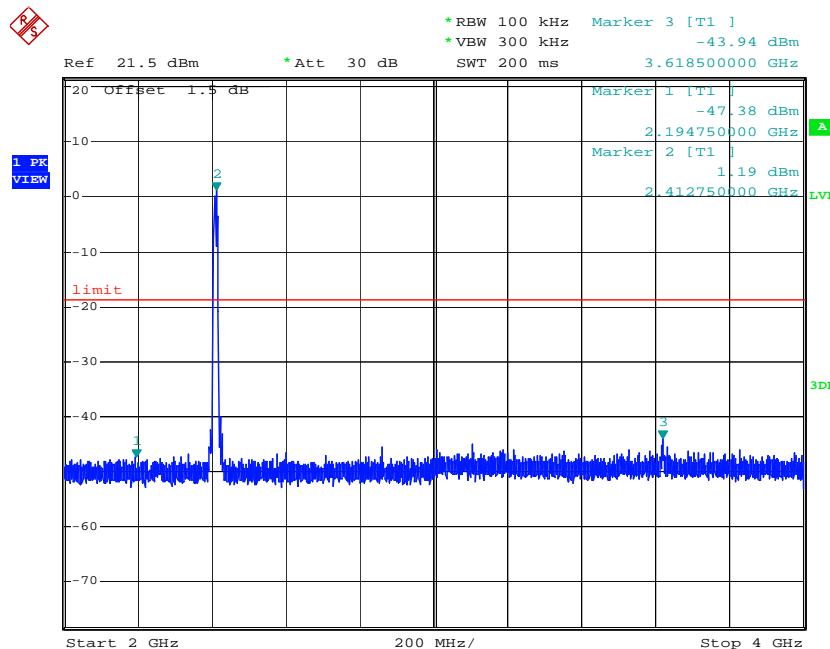
## 6.6 RF Conducted Spurious Emissions

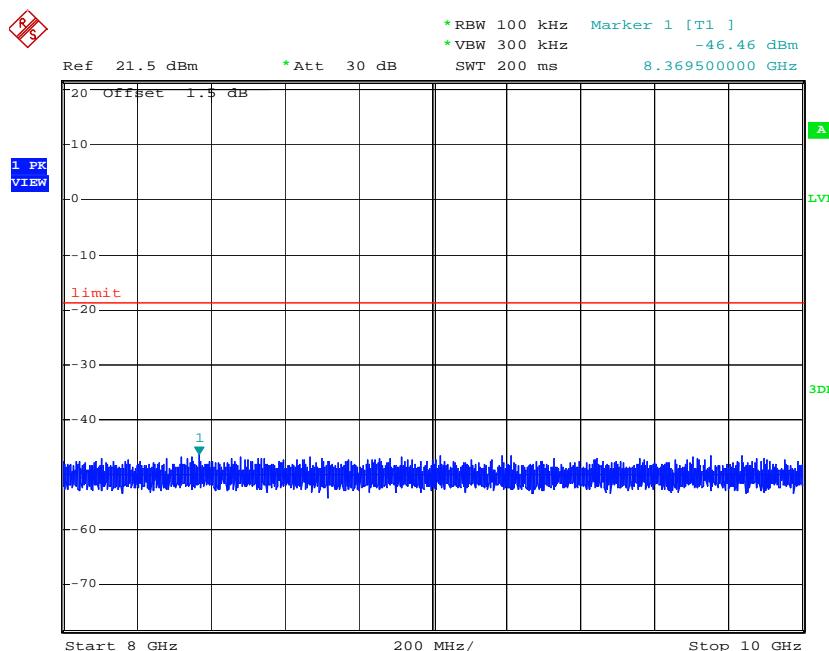
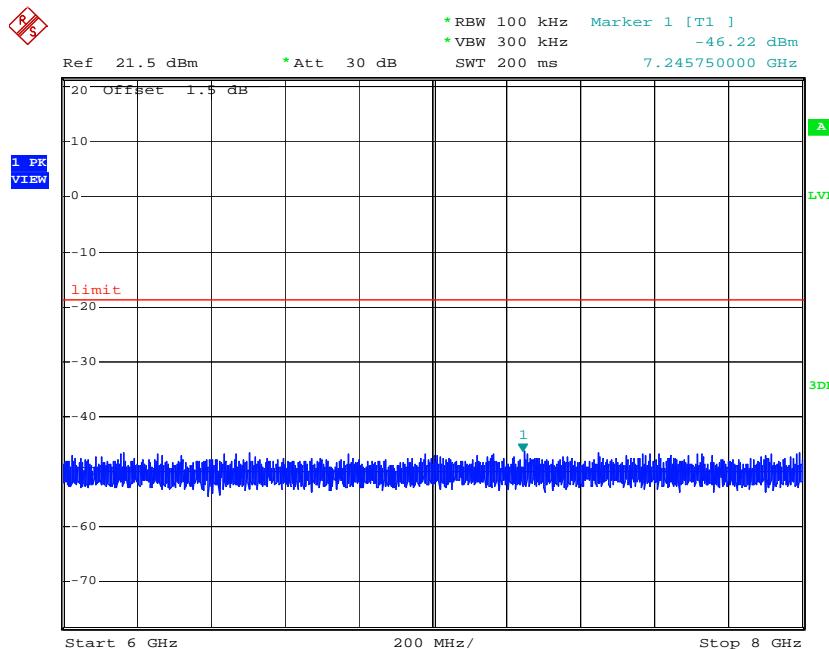
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10 2009
Test Setup:	<p style="text-align: center;"><b>Spectrum Analyzer</b>  </p> <p><b>Remark:</b>  <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20).
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

**Test plot as follows:**

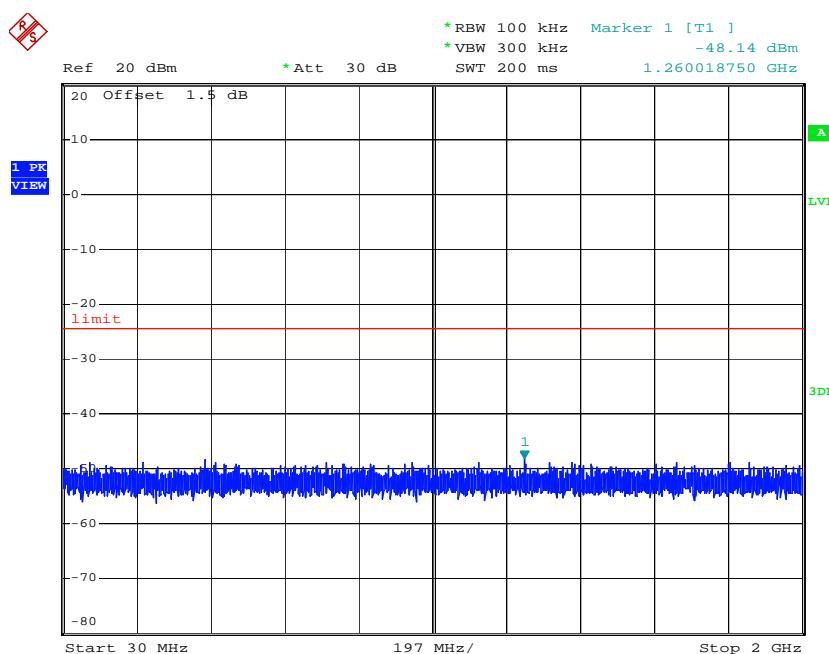
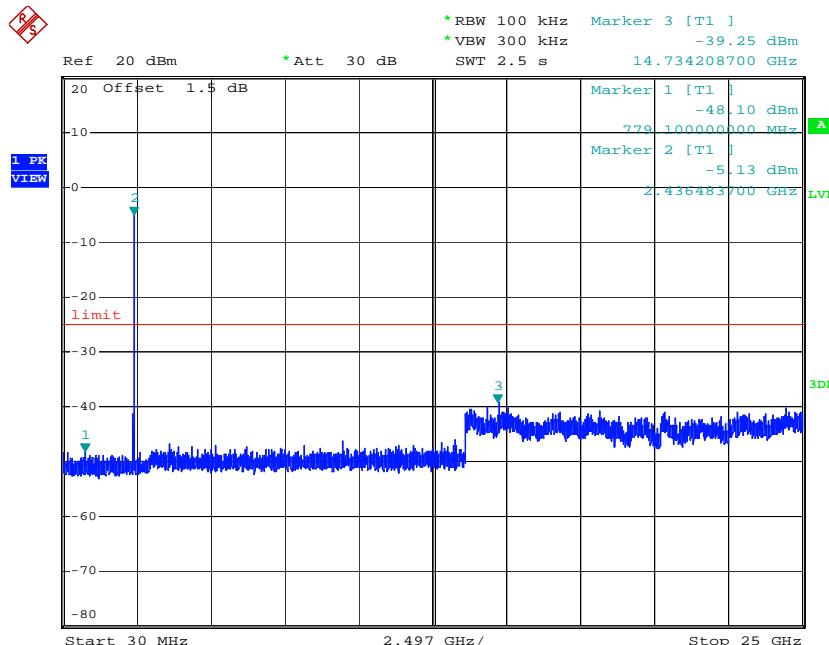
Test mode:	802.11b	Test channel:	Lowest
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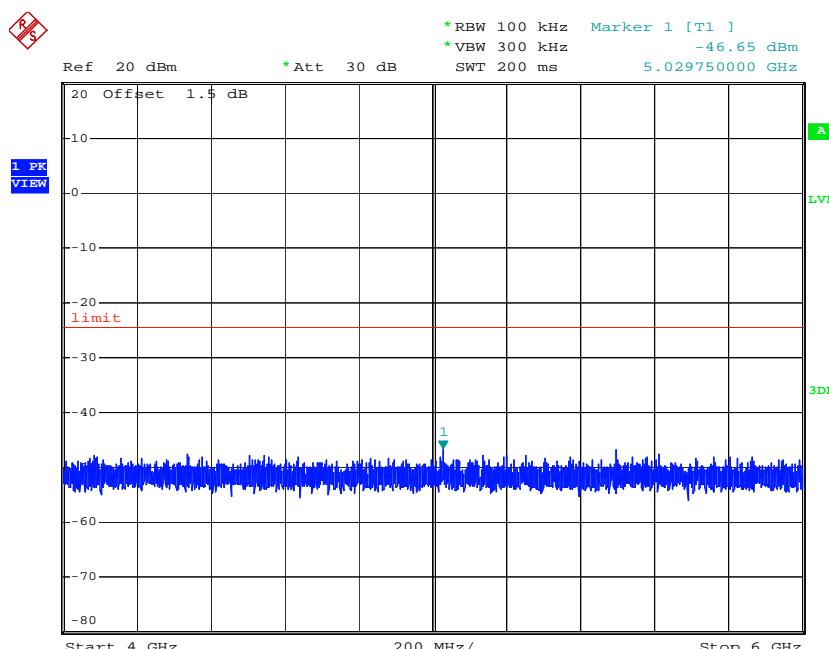
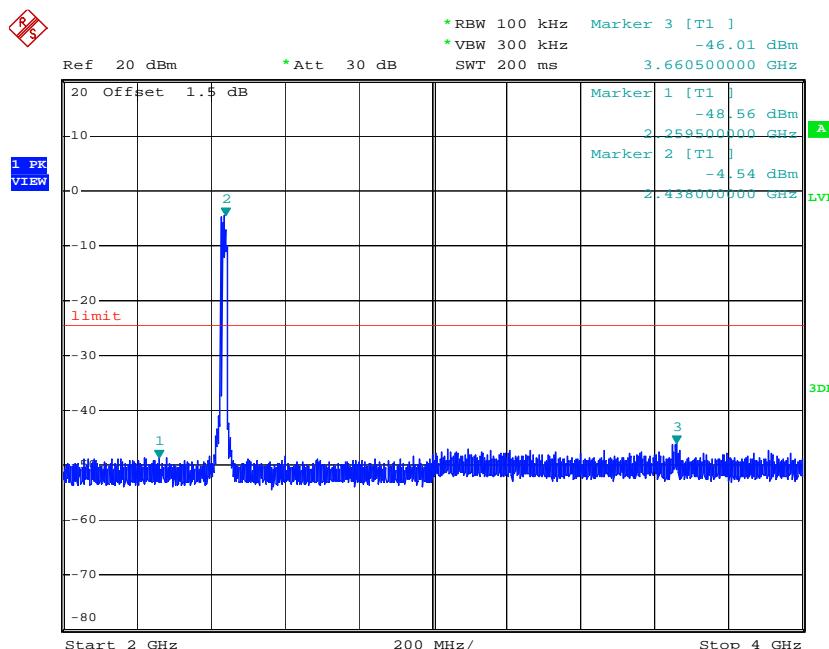


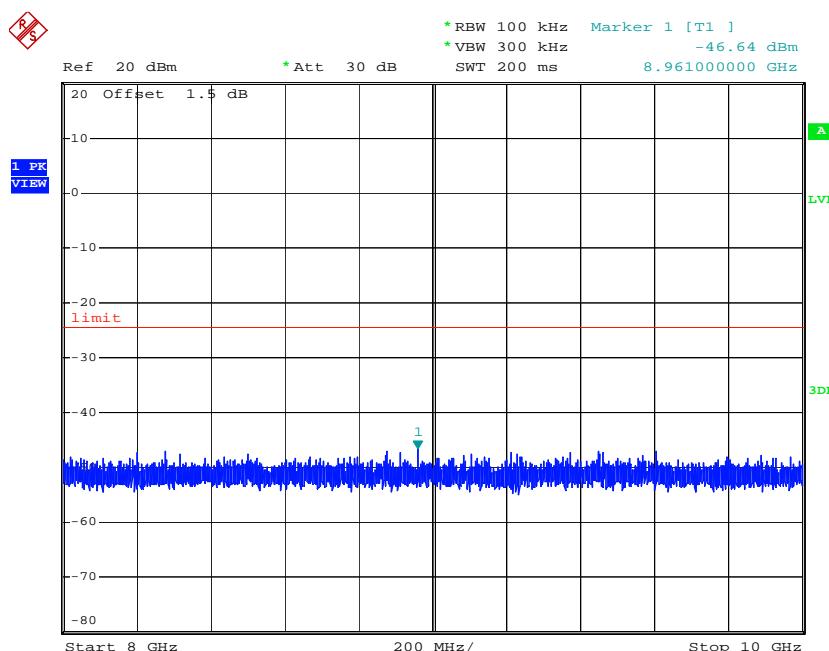
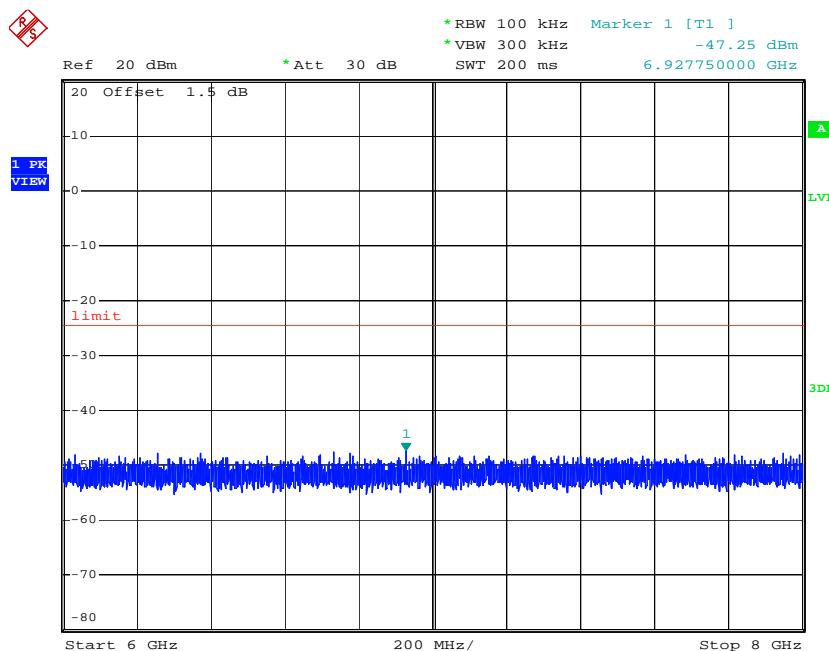




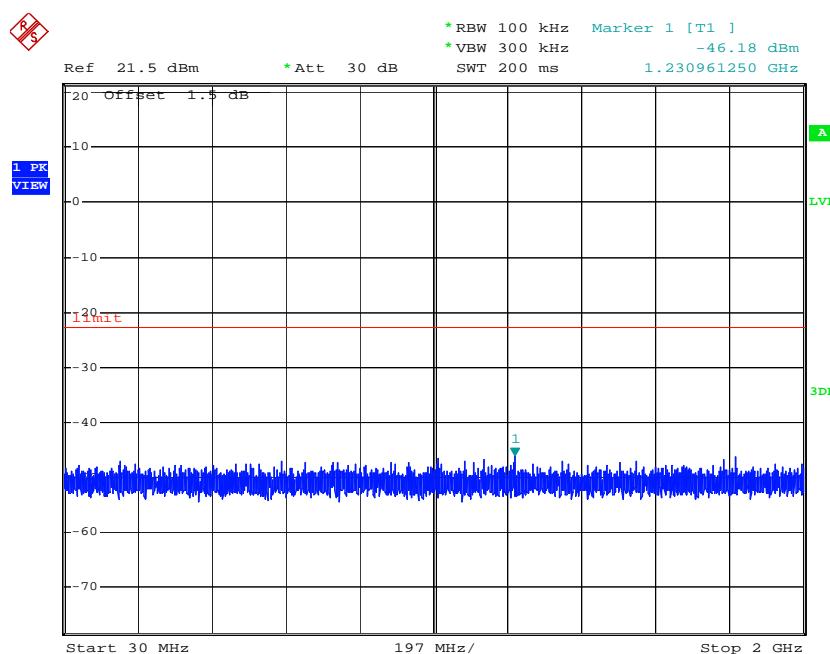
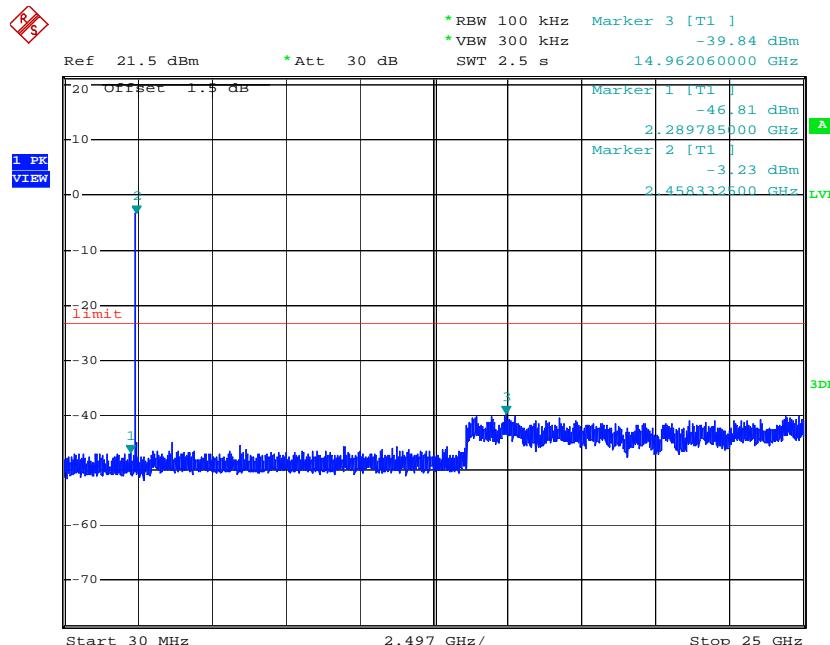
Test mode:	802.11b	Test channel:	Middle
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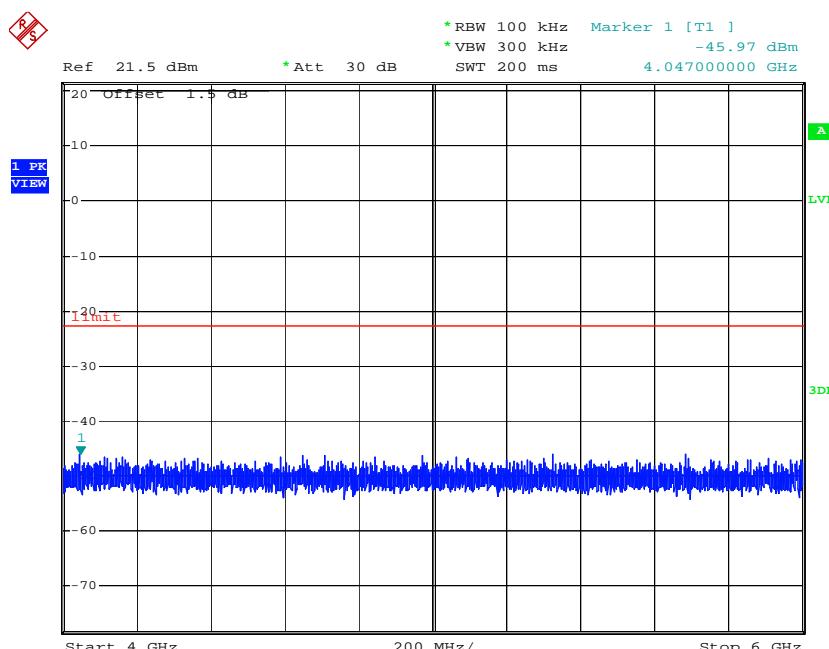
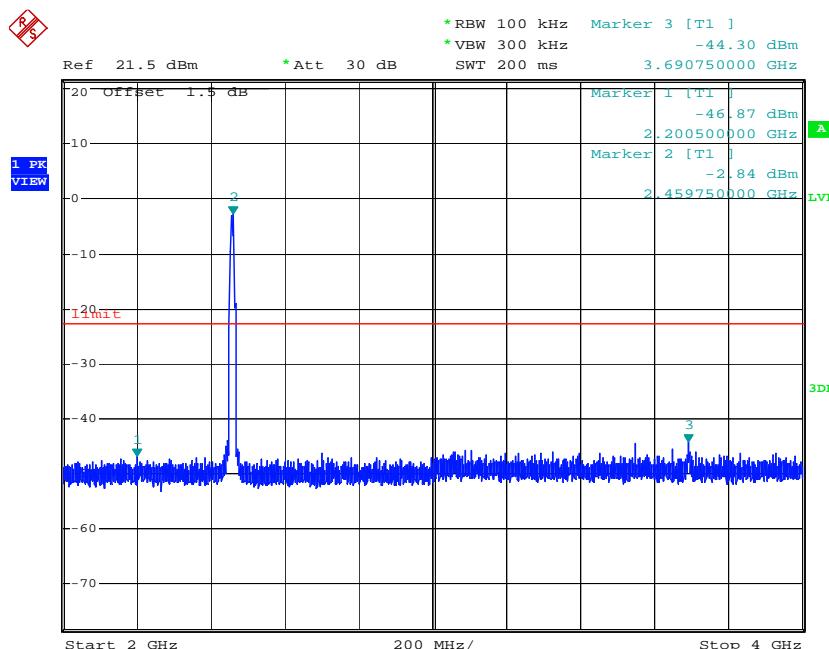


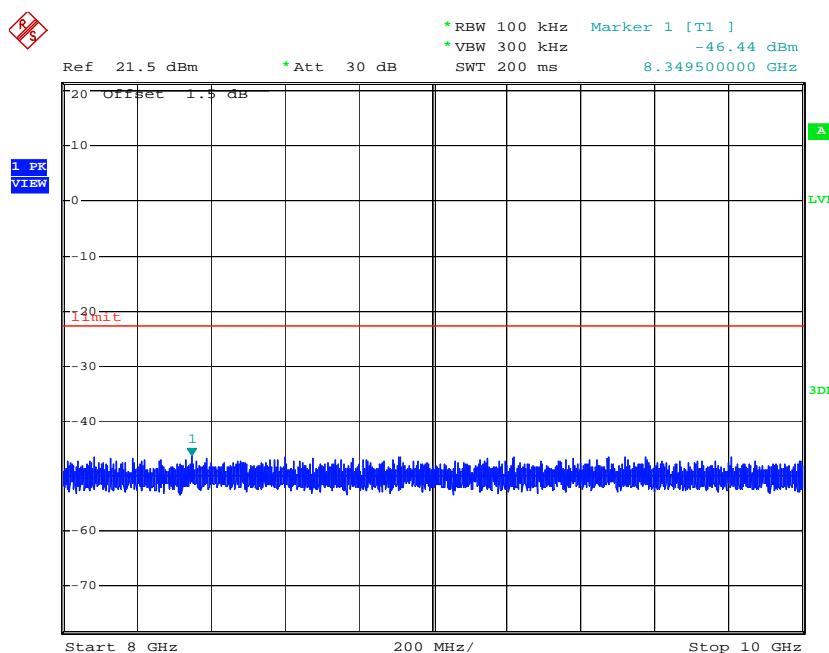
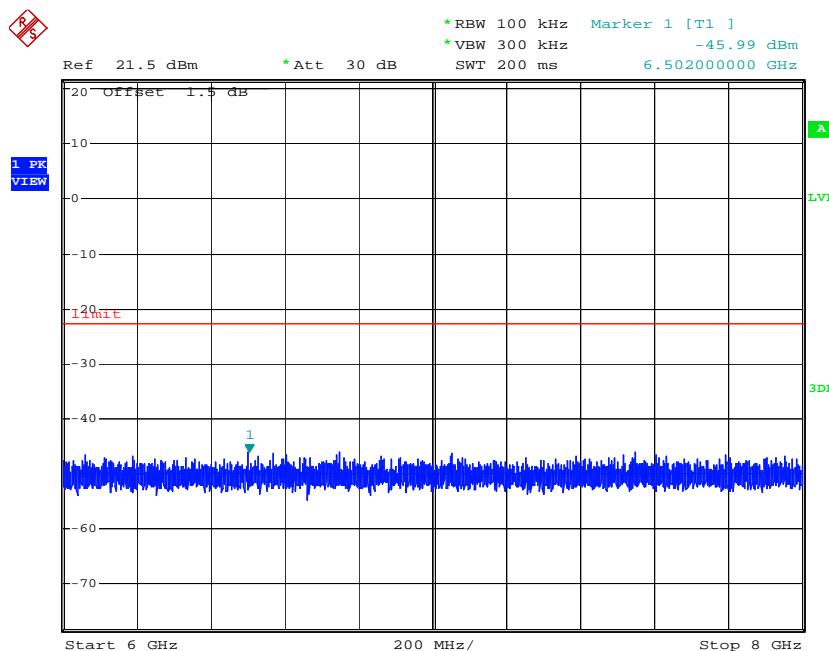




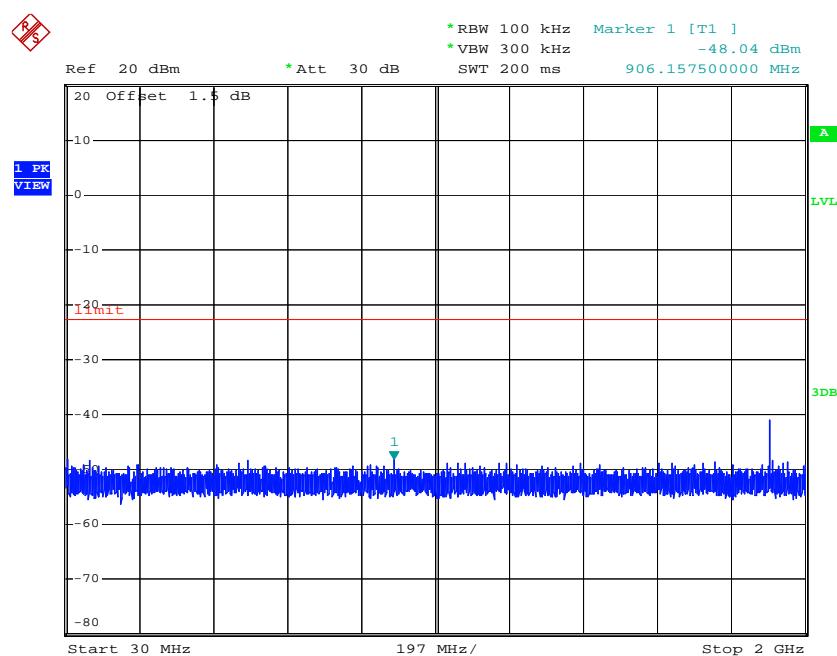
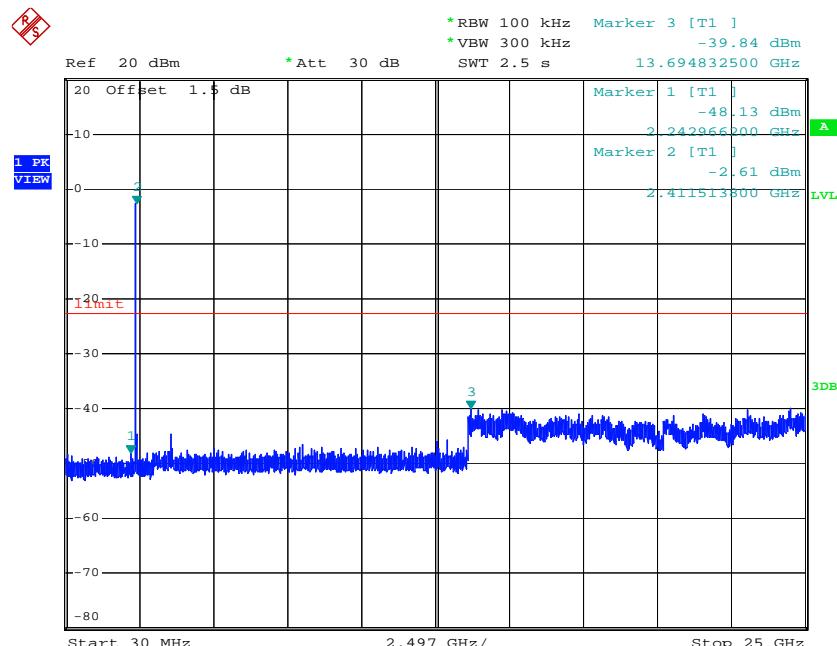
Test mode:	802.11b	Test channel:	Highest
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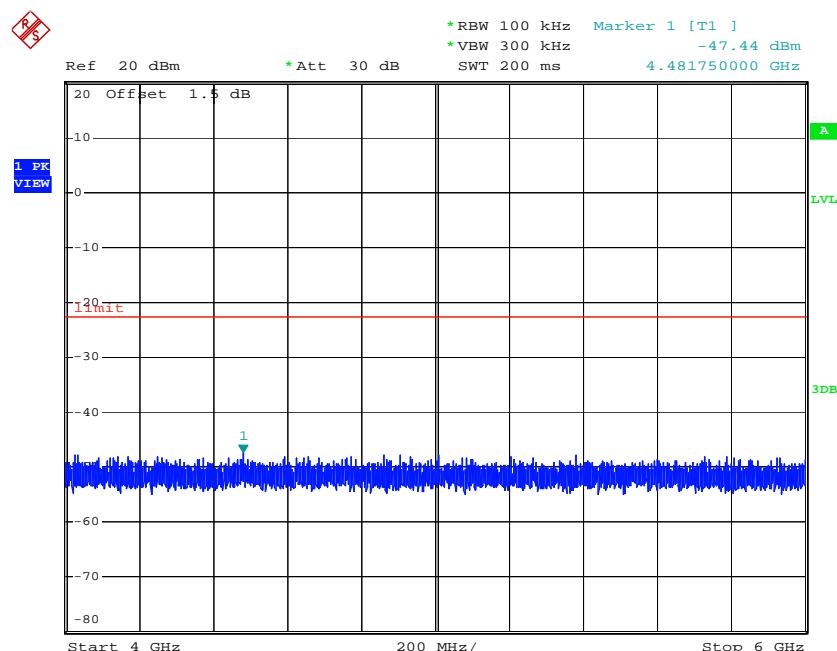
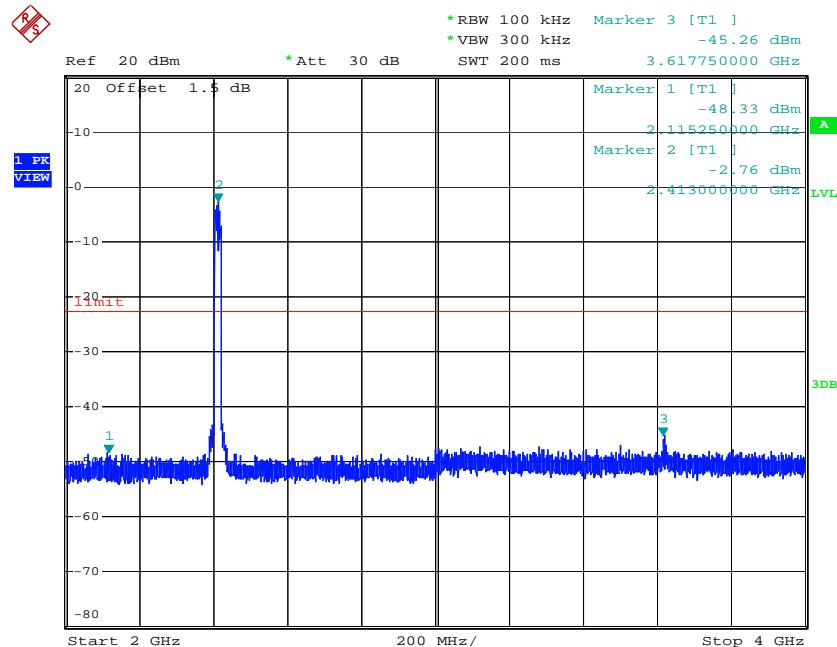


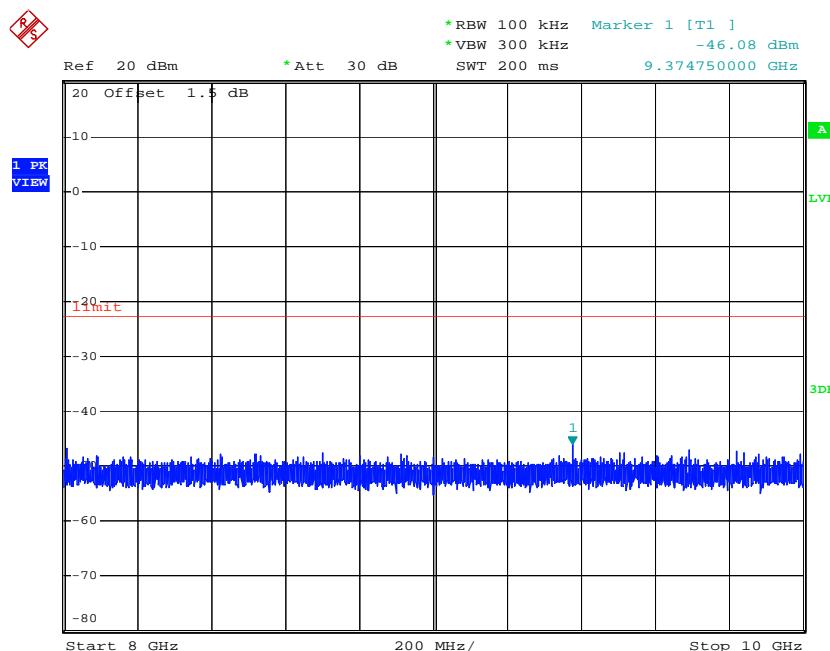
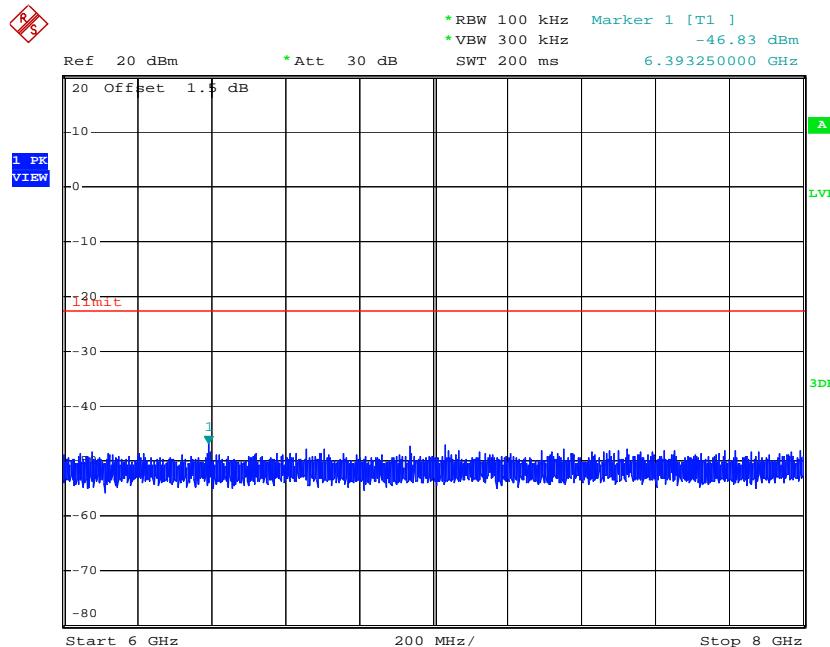




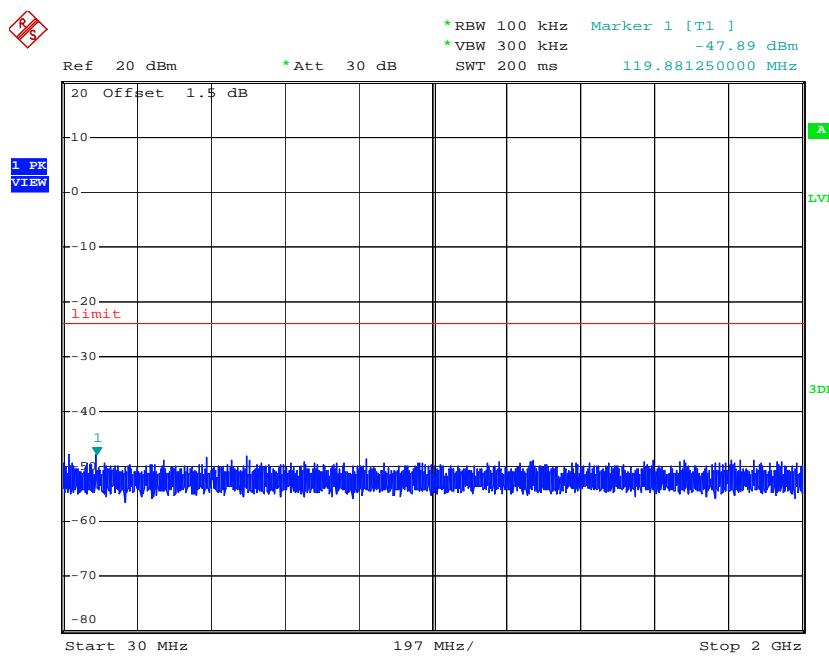
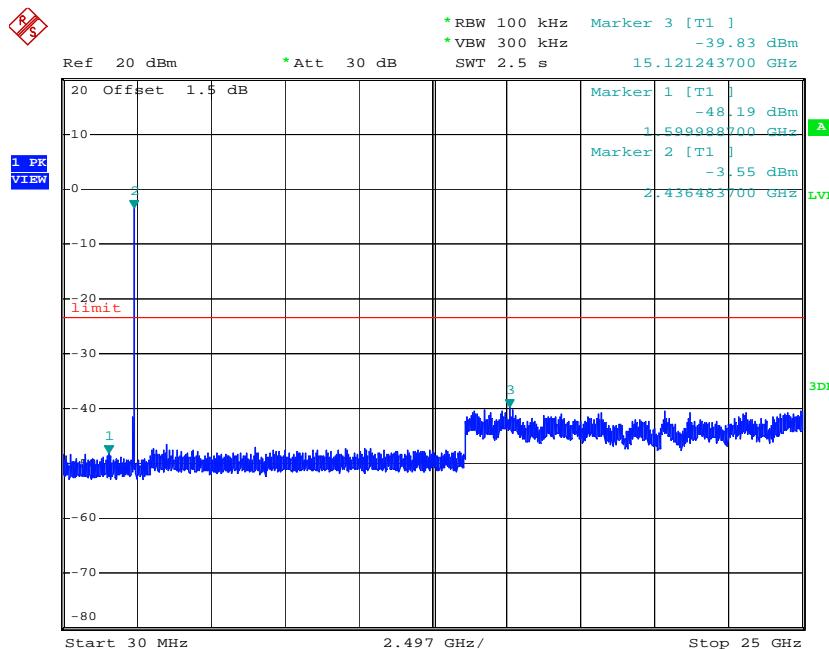
Test mode:	802.11g	Test channel:	Lowest
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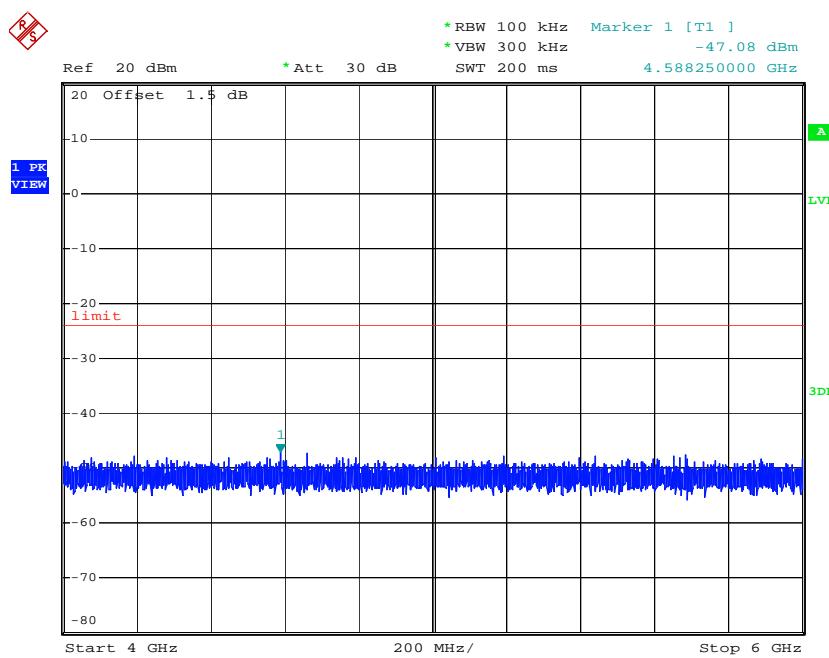
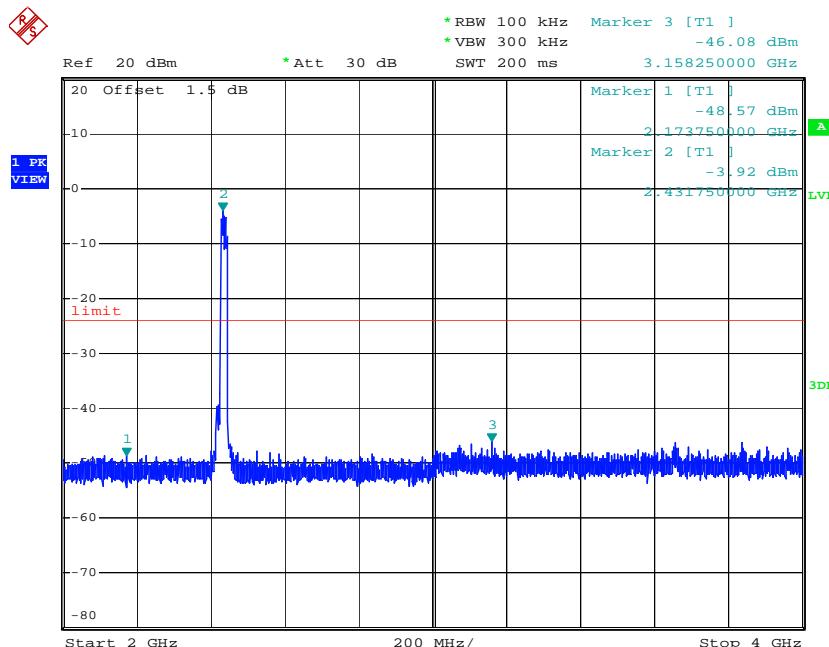


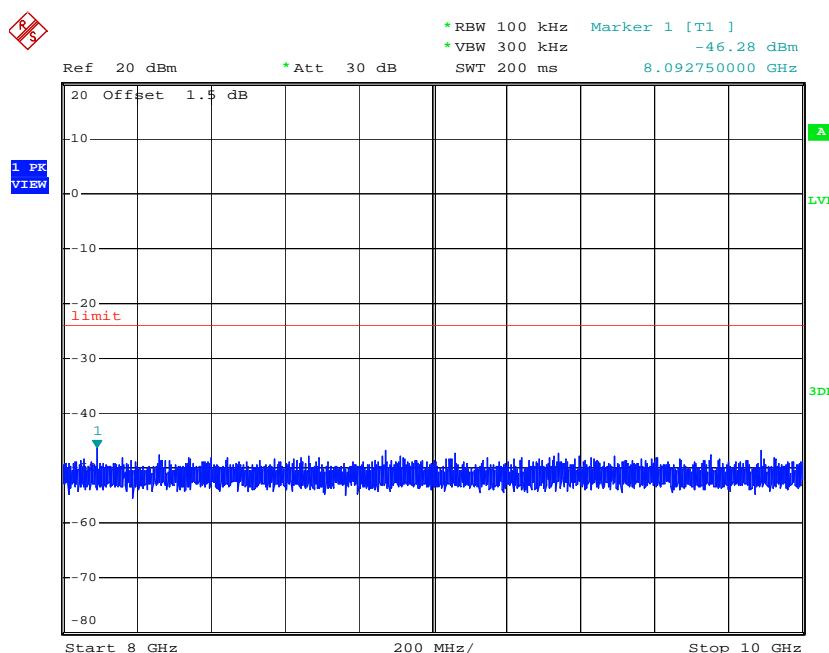
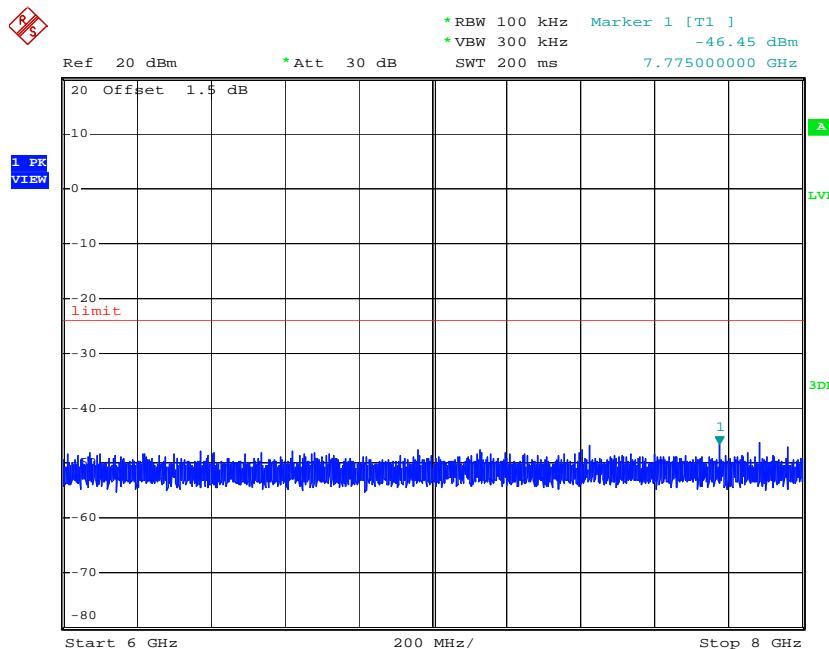




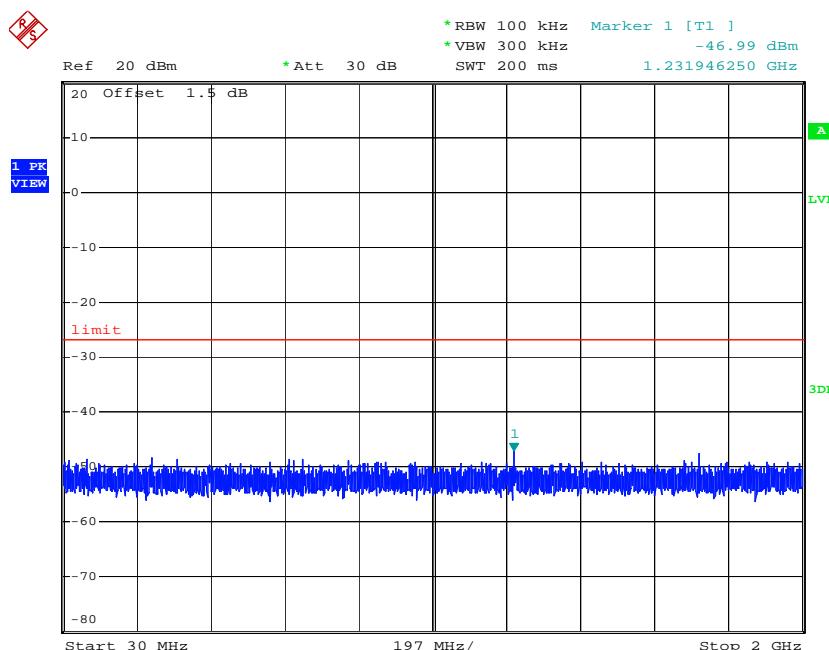
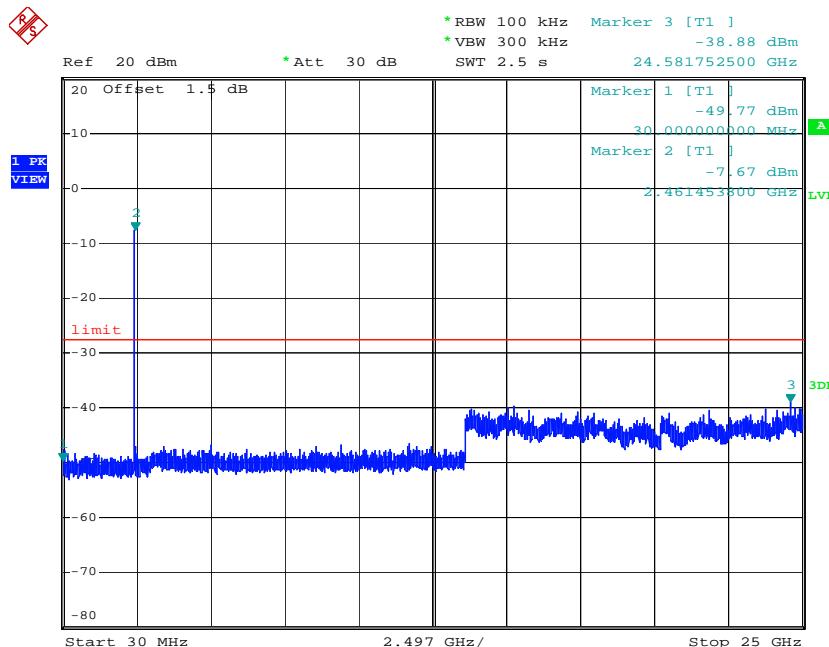
Test mode:	802.11g	Test channel:	Middle
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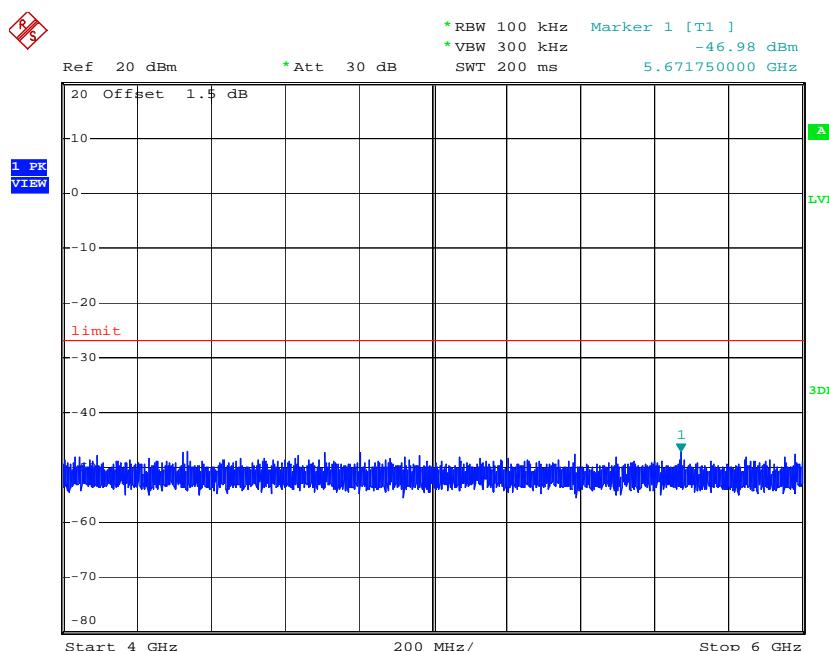
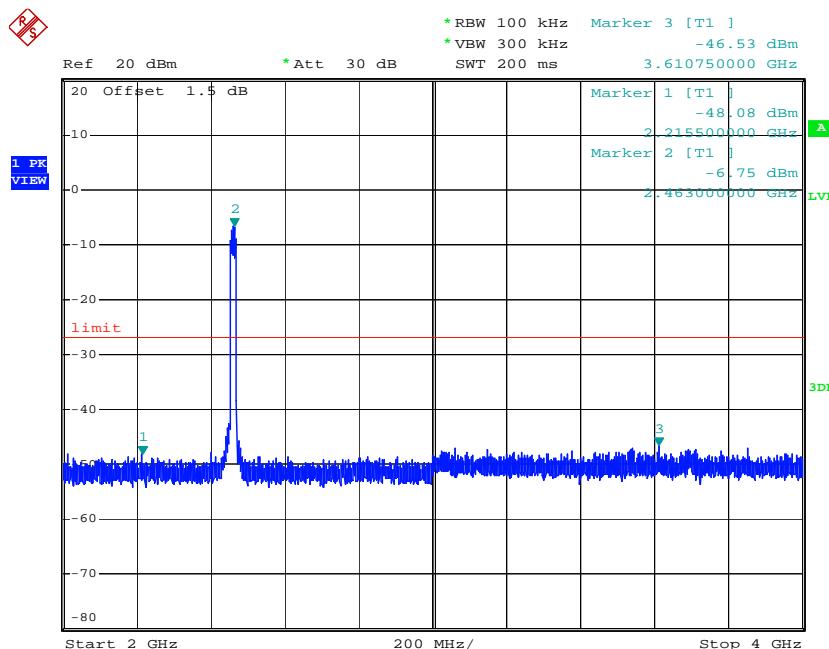


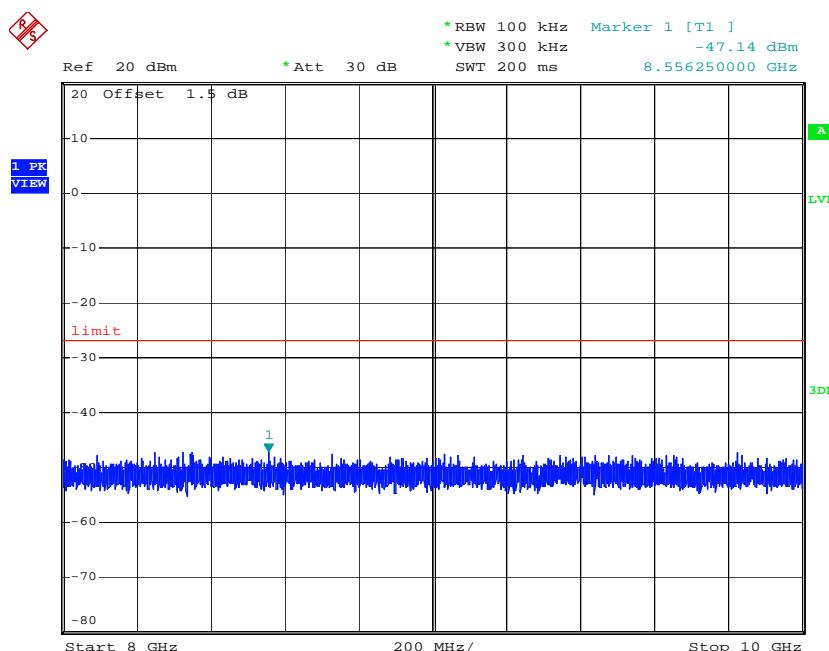
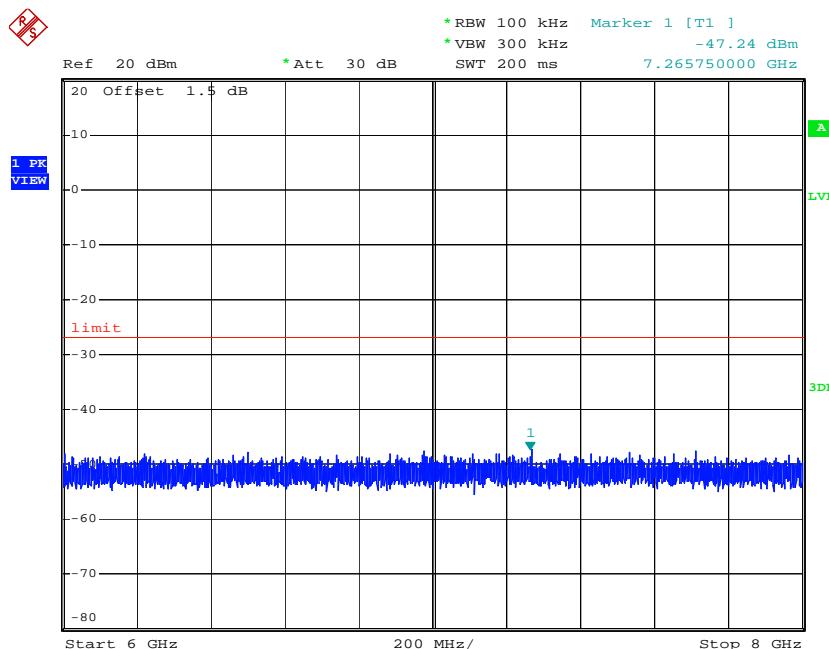




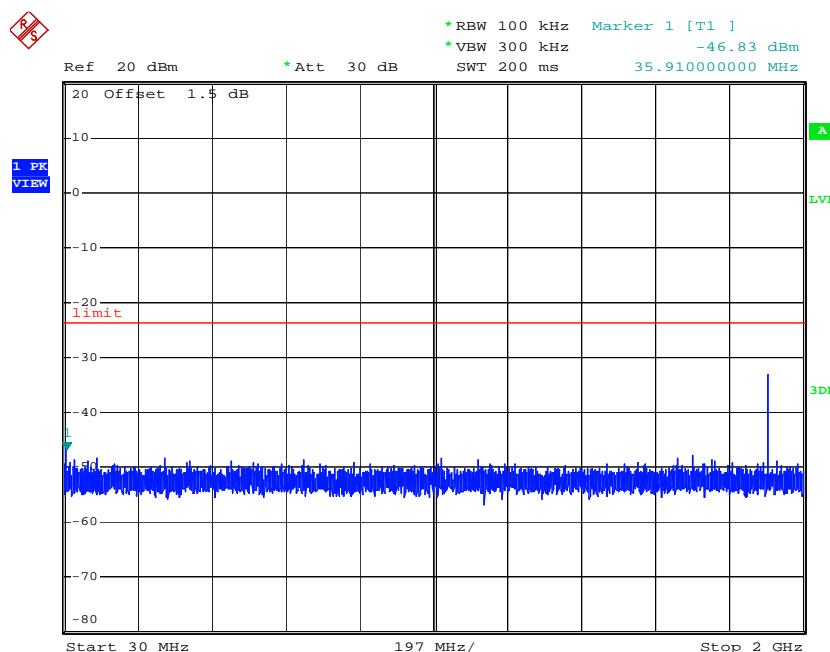
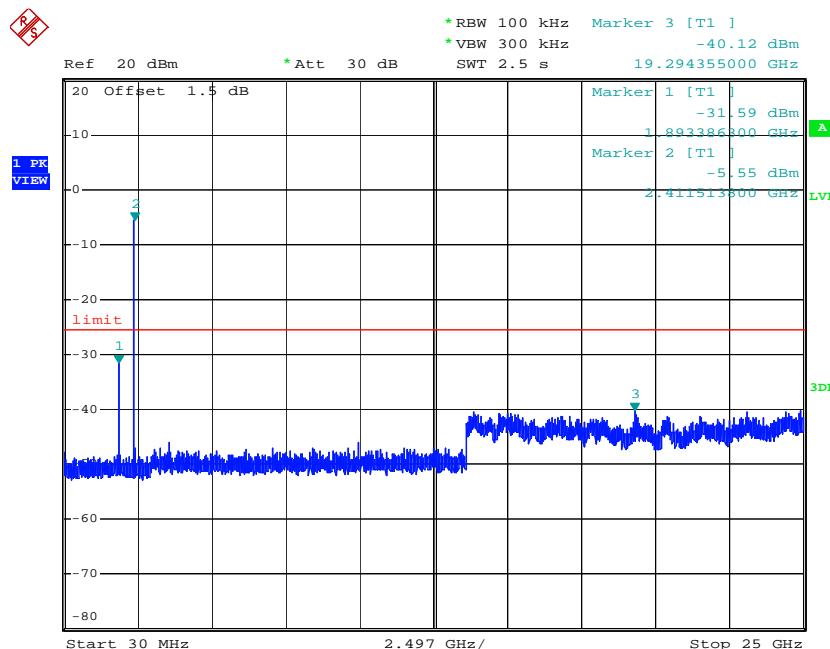
Test mode:	802.11g	Test channel:	Highest
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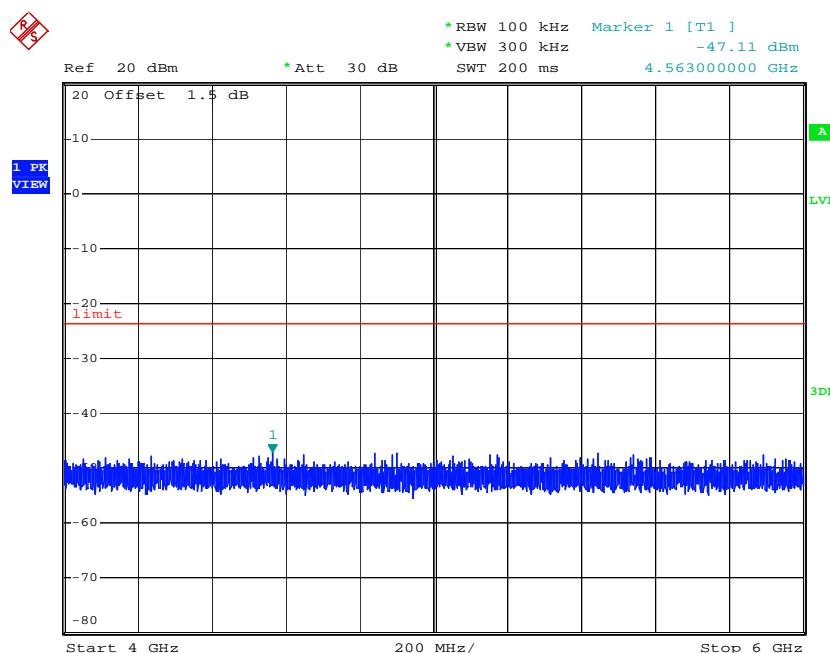
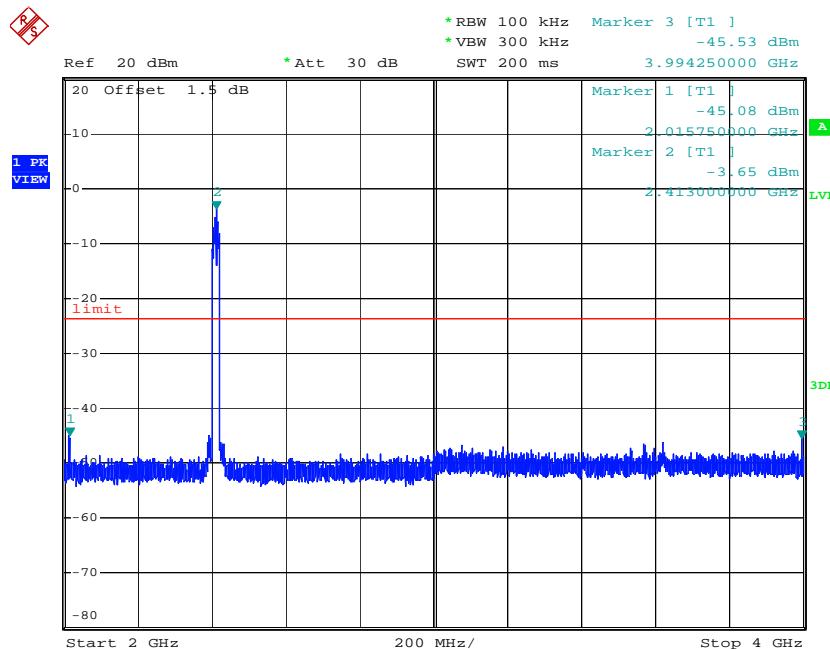


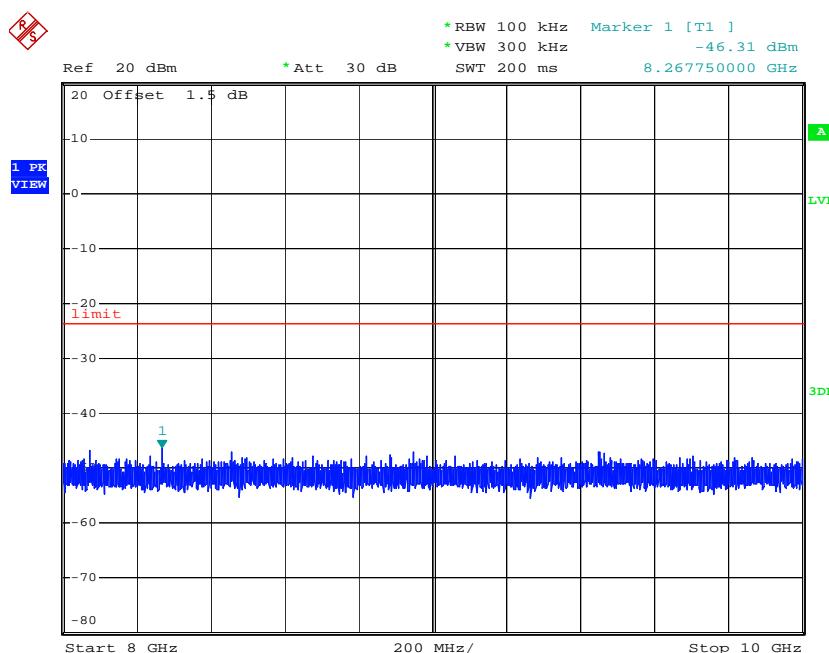
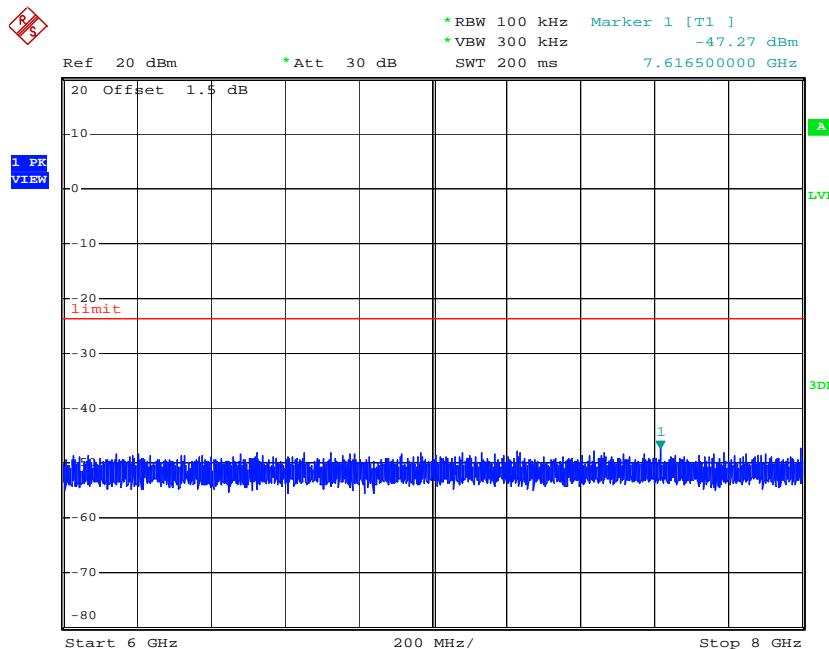




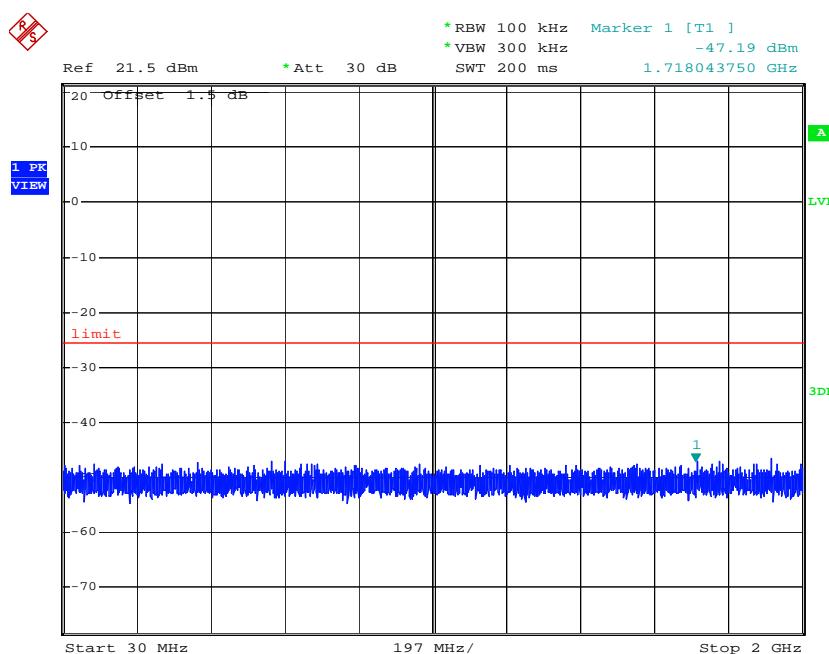
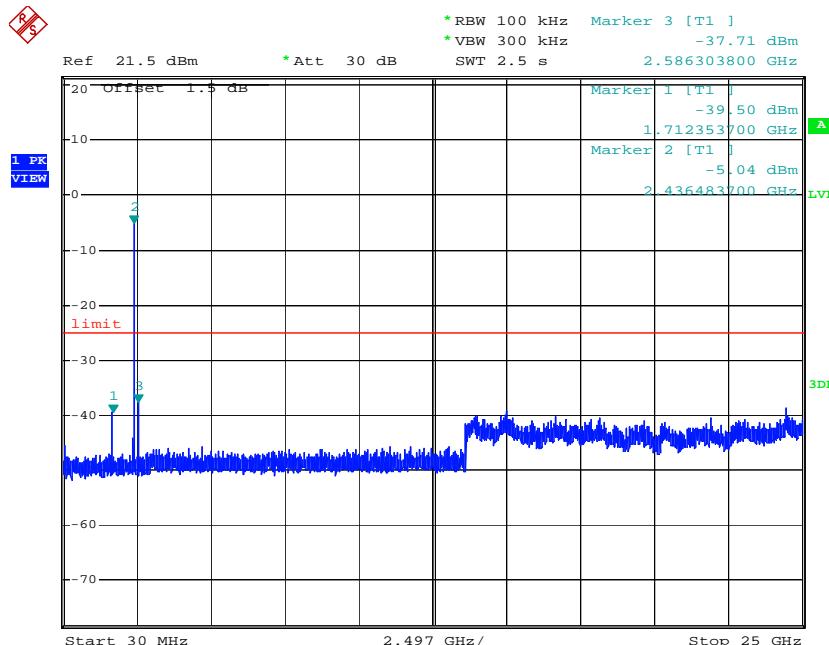
Test mode:	802.11n(HT20)	Test channel:	Lowest
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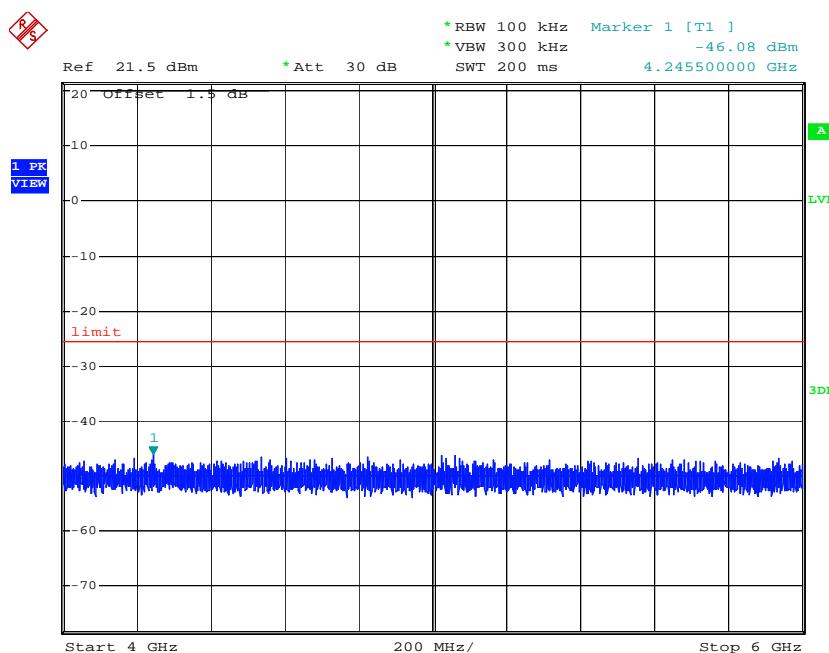
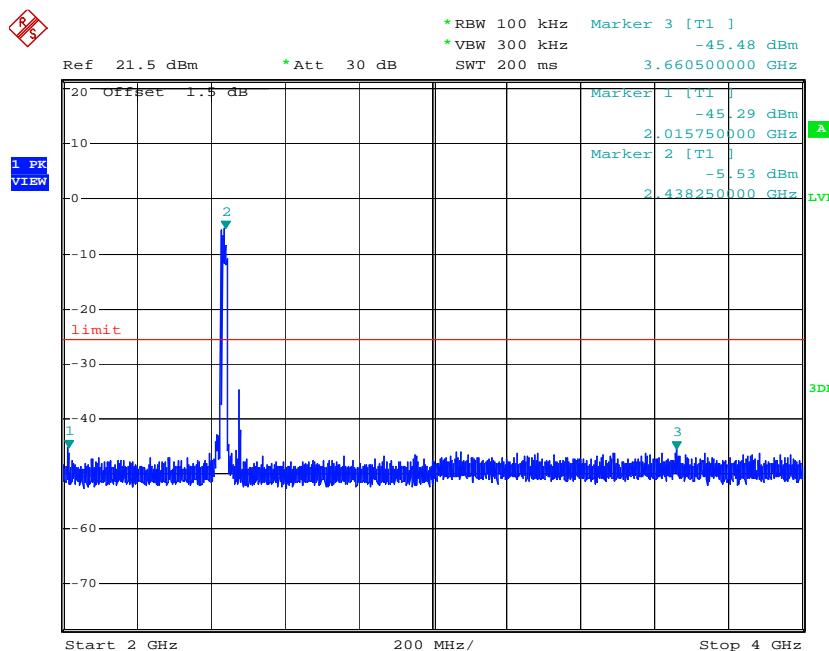


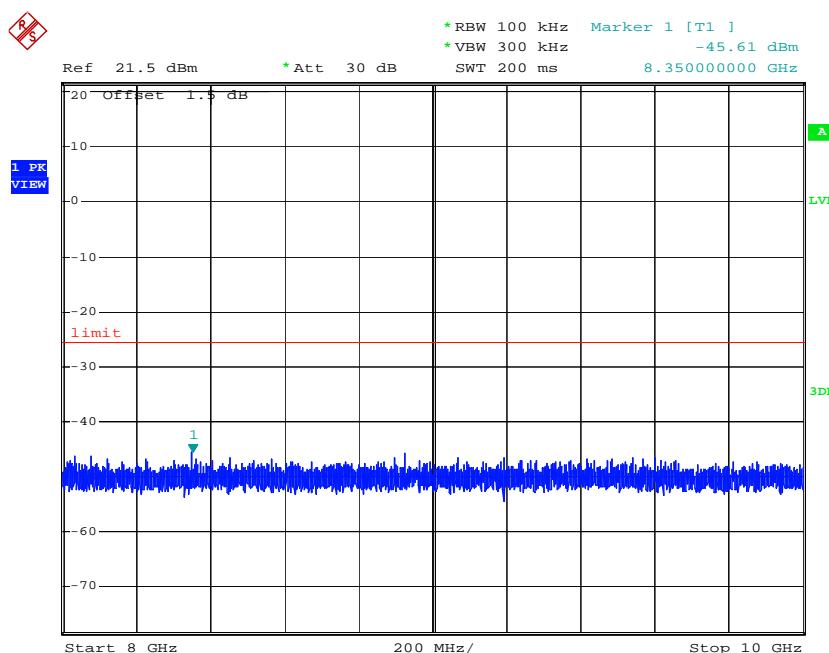
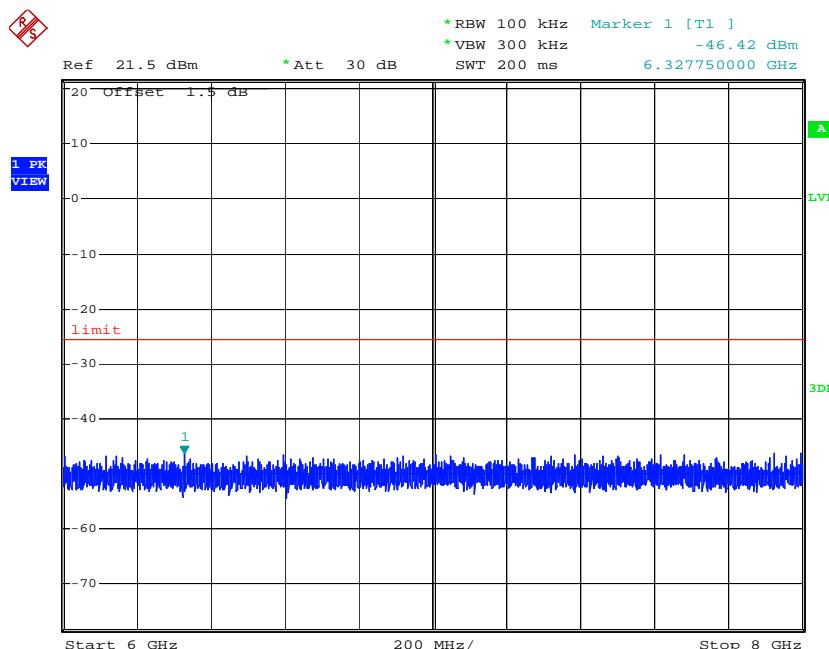




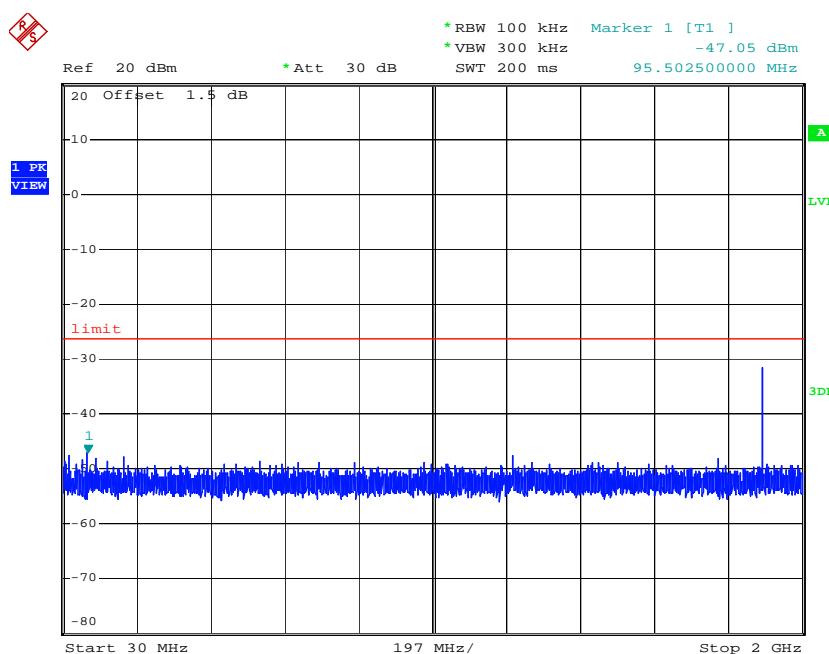
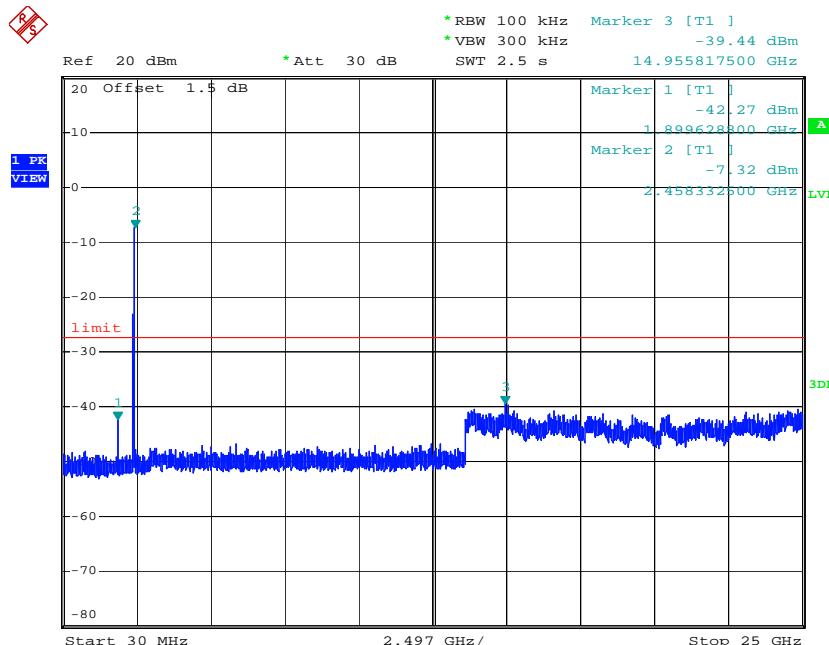
Test mode:	802.11n(HT20)	Test channel:	Middle
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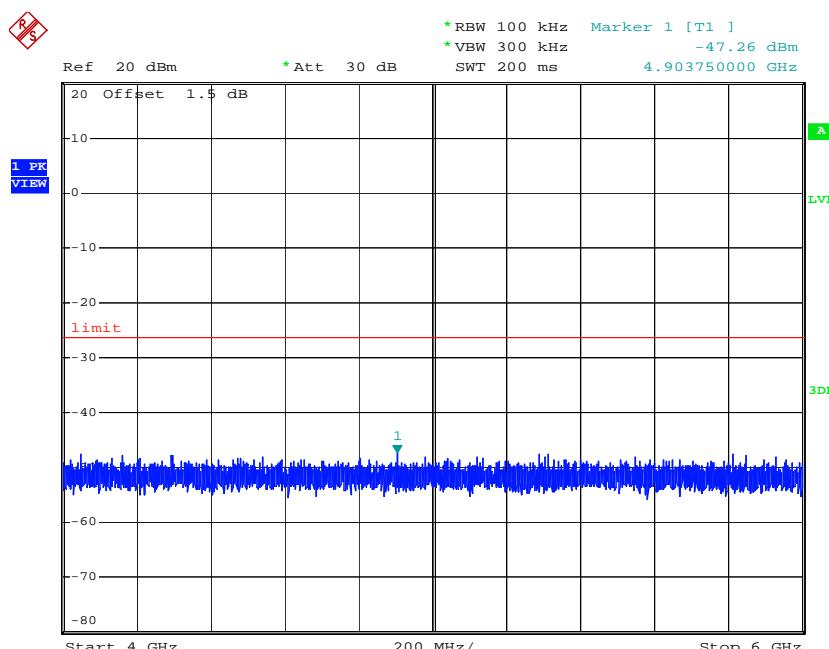
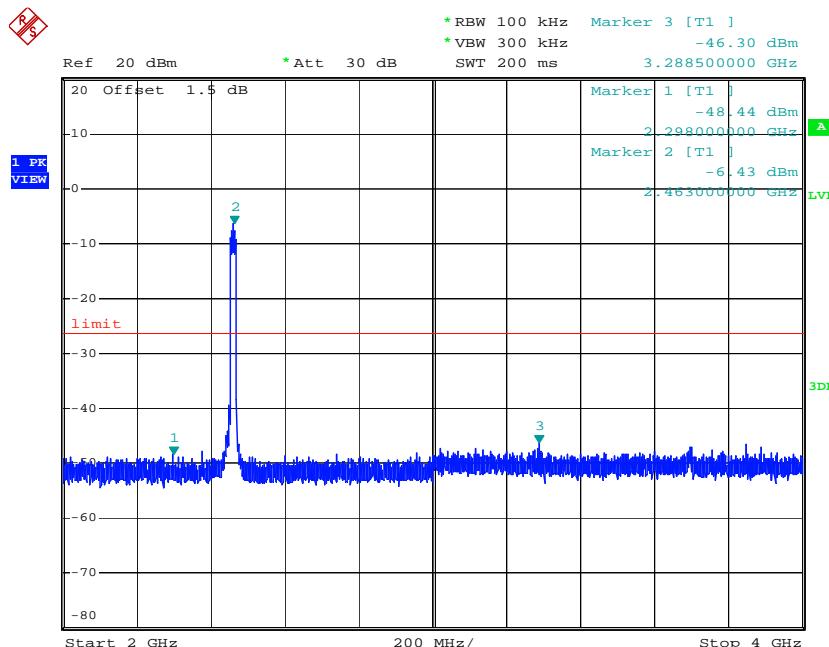


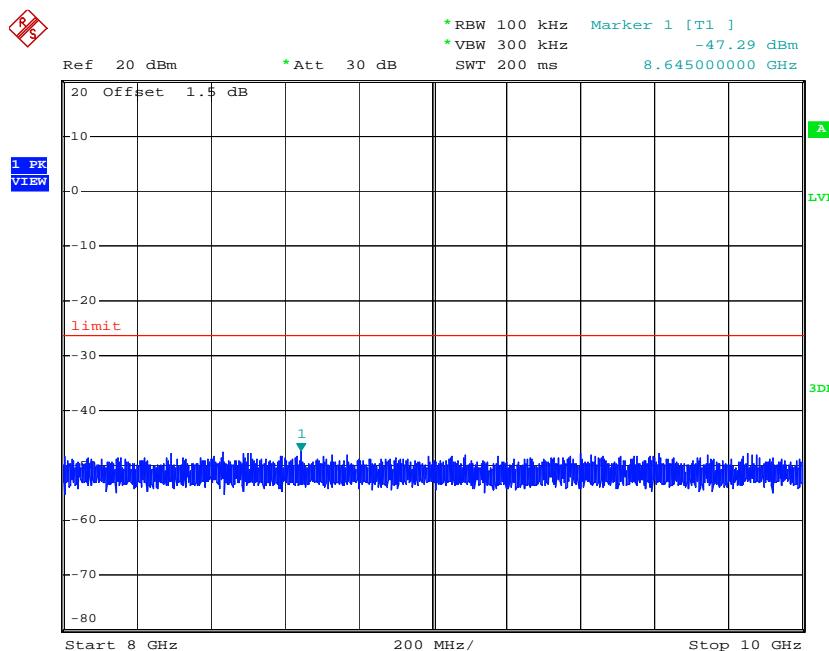
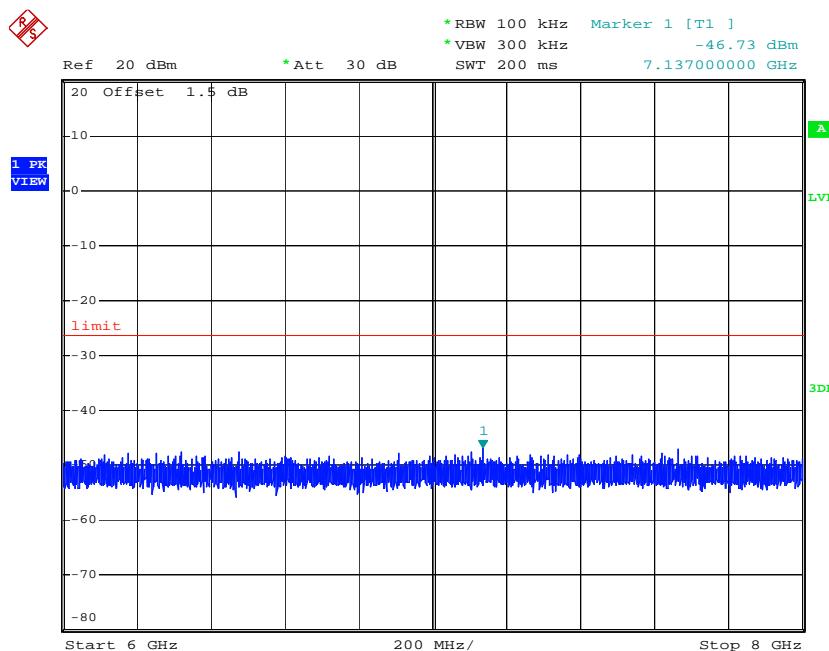




Test mode:	802.11n(HT20)	Test channel:	Highest
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**Remark:**

Pretest 9kHz to 25GHz, find the highest point when testing, so only the worst data were shown in the test report. Per FCC Part 15.33 (a) and 15.31 (o) ,The amplitude of spurious emissions from intentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.



## 6.7 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 2009				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
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:	
Test Procedure:	<ol style="list-style-type: none"> <li>The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>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.</li> <li>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 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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</li> </ol>



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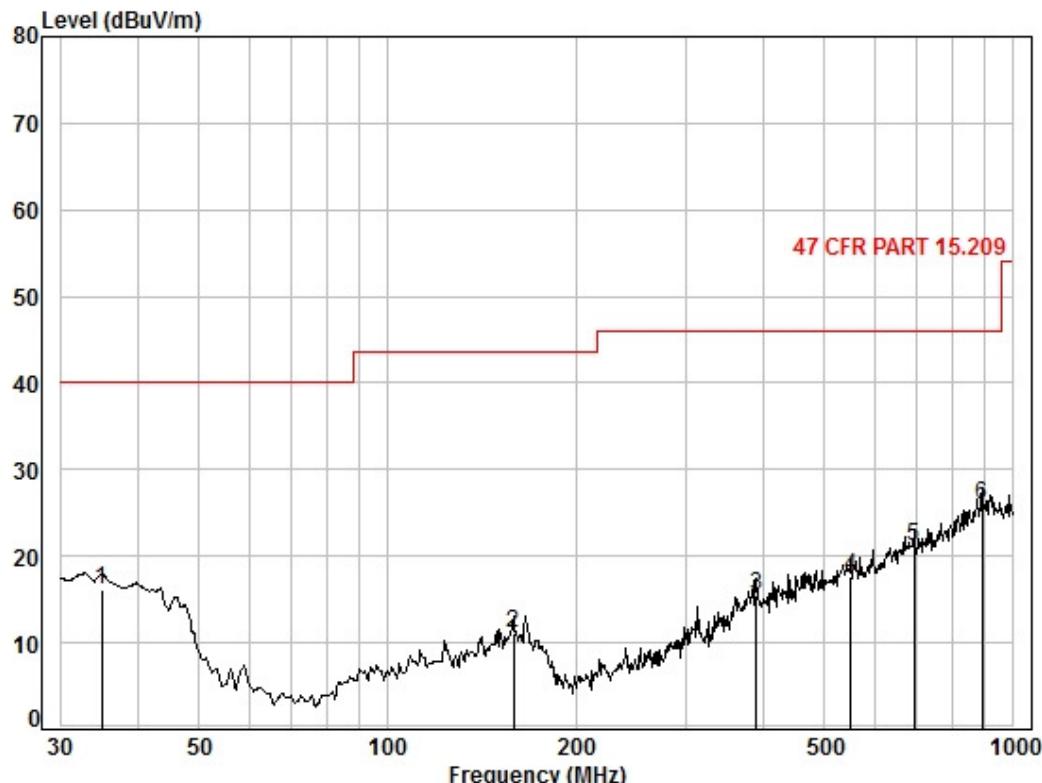
Report No.: SZEM151000664801

Page: 68 of 92

	method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel ,the middle channel ,the Highest channel h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode.
Final Test Mode:	Pretest the EUT at Transmitting mode, found the Transmitting mode which it is worse case Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20). For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11b at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

**6.7.1 Radiated emission below 1GHz**

30MHz~1GHz (QP)		
Test mode:	Transmitting	Vertical



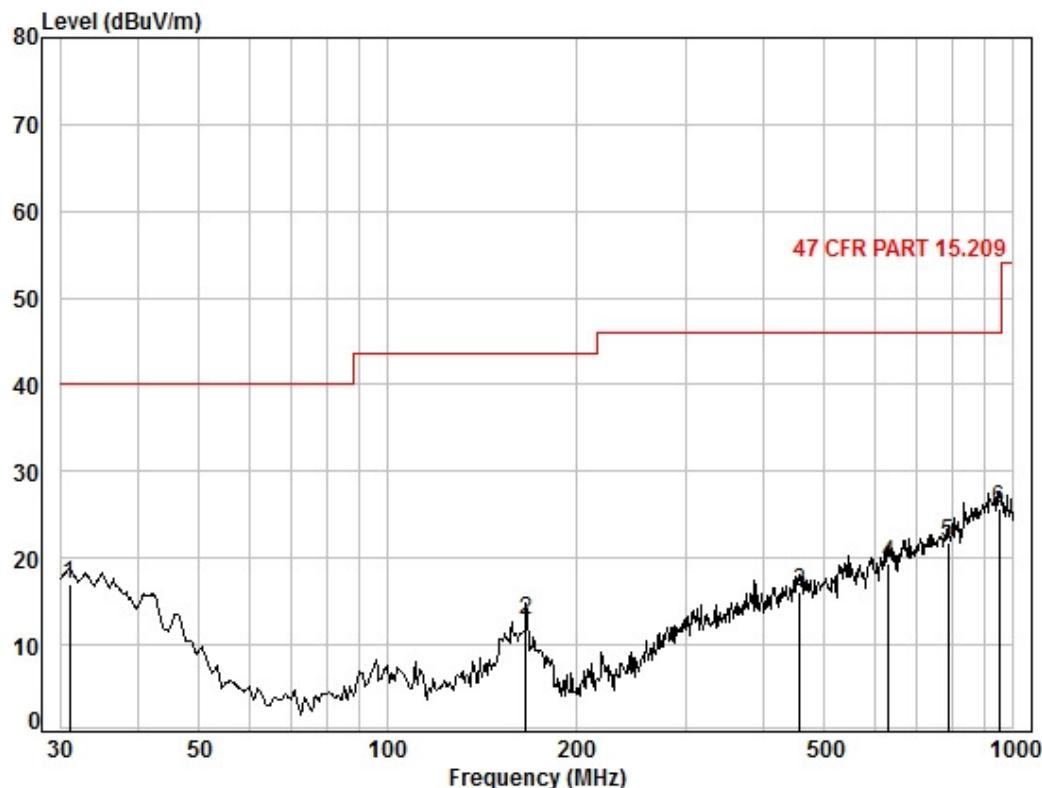
Condition: 47 CFR PART 15.209 3m 3142C 2015 Vertical

Job No. : 6648CR

Mode : TX

Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level		Limit Line	Over Limit
				Level	Level		
1	34.88	0.60	17.28	25.99	24.22	16.11	40.00 -23.89
2	159.23	1.33	10.24	25.82	25.30	11.05	43.50 -32.45
3	389.35	2.17	12.81	25.66	26.13	15.45	46.00 -30.55
4	550.95	2.65	14.89	25.61	25.77	17.70	46.00 -28.30
5	694.42	2.89	17.82	25.70	26.12	21.13	46.00 -24.87
6	893.86	3.58	21.44	25.10	26.04	25.96	46.00 -20.04

Test mode:	Transmitting	Horizontal
------------	--------------	------------



Condition: 47 CFR PART 15.209 3m 3142C 2015 Horizontal

Job No. : 6648CR

Mode : TX

Freq	Cable	Ant	Preamp	Read	Limit	Over	Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m		
1	30.96	0.60	17.60	26.00	24.71	16.91	40.00	-23.09
2	166.65	1.35	9.83	25.81	27.50	12.87	43.50	-30.63
3	455.91	2.43	13.76	25.64	25.65	16.20	46.00	-29.80
4	633.91	2.77	16.70	25.64	25.49	19.32	46.00	-26.68
5	787.85	3.17	19.06	25.79	25.32	21.76	46.00	-24.24
6	952.09	3.65	22.32	24.71	24.37	25.63	46.00	-20.37



### 6.7.2 Transmitter emission above 1GHz

Test mode:		802.11b		Test channel:		Lowest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)		Polarization	
3750.000	-31.10	32.90	0.00	45.50	47.30	74	-26.70		Vertical	
4824.000	-30.40	34.40	0.00	39.90	43.90	74	-30.10		Vertical	
6135.000	-29.30	35.00	0.00	40.30	46.00	74	-28.00		Vertical	
7236.000	-27.90	35.80	0.00	37.70	45.60	74	-28.40		Vertical	
9648.000	-25.00	37.20	0.00	34.30	46.50	74	-27.50		Vertical	
12645.000	-23.10	38.10	0.00	35.00	50.00	74	-24.00		Vertical	
3615.000	-31.20	32.40	0.00	49.20	50.40	74	-23.60		Horizontal	
4824.000	-30.40	34.40	0.00	40.30	44.30	74	-29.70		Horizontal	
5940.000	-29.10	34.70	0.00	39.90	45.50	74	-28.50		Horizontal	
7236.000	-27.90	35.80	0.00	37.20	45.10	74	-28.90		Horizontal	
9648.000	-25.00	37.20	0.00	36.30	48.50	74	-25.50		Horizontal	
12645.000	-23.10	38.10	0.00	34.60	49.60	74	-24.40		Horizontal	

Test mode:		802.11b		Test channel:		Middle		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)		Polarization	
3655.000	-31.20	32.60	0.00	54.40	55.80	74	-18.20		Vertical	
4874.000	-30.40	34.50	0.00	39.90	44.00	74	-30.00		Vertical	
6105.000	-29.20	35.00	0.00	39.50	45.30	74	-28.70		Vertical	
7311.000	-27.90	35.70	0.00	38.10	45.90	74	-28.10		Vertical	
9748.000	-25.00	37.30	0.00	35.20	47.50	74	-26.50		Vertical	
12660.000	-23.20	38.10	0.00	35.50	50.40	74	-23.60		Vertical	
3655.000	-31.20	32.60	0.00	56.10	57.50	74	-16.50		Horizontal	
4874.000	-30.40	34.50	0.00	42.20	46.30	74	-27.70		Horizontal	
5895.000	-29.20	34.60	0.00	39.50	44.90	74	-29.10		Horizontal	
7311.000	-27.90	35.70	0.00	37.60	45.40	74	-28.60		Horizontal	
9748.000	-25.00	37.30	0.00	34.70	47.00	74	-27.00		Horizontal	
12660.000	-23.20	38.10	0.00	35.30	50.20	74	-23.80		Horizontal	



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

Report No.: SZEM151000664801  
Page: 72 of 92

Test mode:		802.11b		Test channel:		Middle		Remark:		Average
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
3655.000	-31.20	32.60	0.00	43.00	44.40	54	-9.60	Vertical		
3655.000	-31.20	32.60	0.00	46.20	47.60	54	-6.40	Horizontal		

Test mode:		802.11b		Test channel:		Highest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
3750.000	-31.10	32.90	0.00	47.00	48.80	74	-25.20	Vertical		
4924.000	-30.30	34.60	0.00	40.10	44.40	74	29.60	Vertical		
6135.000	-29.30	35.00	0.00	39.10	44.80	74	-29.20	Vertical		
7386.000	-27.90	35.70	0.00	38.80	46.60	74	-27.40	Vertical		
9848.000	-24.20	37.30	0.00	35.50	48.60	74	-25.40	Vertical		
12630.000	-23.00	38.10	0.00	34.90	50.00	74	-24.00	Vertical		
3690.000	-31.10	32.70	0.00	51.70	53.30	74	-20.70	Horizontal		
4924.000	-30.30	34.60	0.00	41.20	45.50	74	-28.50	Horizontal		
6045.000	-29.00	35.00	0.00	39.30	45.30	74	-28.70	Horizontal		
7386.000	-27.90	35.70	0.00	38.10	45.90	74	-28.10	Horizontal		
9848.000	-24.20	37.30	0.00	34.60	47.70	74	-26.30	Horizontal		
12645.000	-23.10	38.10	0.00	35.60	50.60	74	-23.40	Horizontal		



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**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 73 of 92

Test mode:		802.11g		Test channel:	Lowest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
3750.000	-31.10	32.90	0.00	40.30	42.10	74	-31.90	Vertical	
4824.000	-30.40	34.40	0.00	39.20	43.20	74	-30.80	Vertical	
5910.000	-29.20	34.60	0.00	39.00	44.40	74	-29.60	Vertical	
7236.000	-27.90	35.80	0.00	38.30	46.20	74	-27.80	Vertical	
9648.000	-25.00	37.20	0.00	34.50	46.70	74	-27.30	Vertical	
12645.000	-23.10	38.10	0.00	34.20	49.20	74	-24.80	Vertical	
3825.000	-31.20	33.20	0.00	39.80	41.80	74	-32.20	Horizontal	
4824.000	-30.40	34.40	0.00	41.00	45.00	74	-29.00	Horizontal	
6000.000	-28.80	34.90	0.00	39.10	45.20	74	-28.80	Horizontal	
7236.000	-27.90	35.80	0.00	36.80	44.70	74	-29.30	Horizontal	
9648.000	-25.00	37.20	0.00	34.60	46.80	74	-27.20	Horizontal	
12645.000	-23.10	38.10	0.00	34.50	49.50	74	-24.50	Horizontal	

Test mode:		802.11g		Test channel:	Middle		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
3840.000	-31.20	33.30	0.00	40.90	43.00	74	-31.00	Vertical	
4874.000	-30.40	34.50	0.00	40.20	44.30	74	-29.70	Vertical	
6000.000	-28.80	34.90	0.00	38.50	44.60	74	-29.40	Vertical	
7311.000	-27.90	35.70	0.00	38.20	46.00	74	-28.00	Vertical	
9748.000	-25.00	37.30	0.00	35.90	48.20	74	-25.80	Vertical	
12645.000	-23.10	38.10	0.00	34.60	49.60	74	-24.40	Vertical	
3810.000	-31.20	33.10	0.00	39.60	41.50	74	-32.50	Horizontal	
4874.000	-30.40	34.50	0.00	40.60	44.70	74	-29.30	Horizontal	
6120.000	-29.20	35.00	0.00	39.30	45.10	74	-28.90	Horizontal	
7311.000	-27.90	35.70	0.00	37.80	45.60	74	-28.40	Horizontal	
9748.000	-25.00	37.30	0.00	35.60	47.90	74	-26.10	Horizontal	
12660.000	-23.20	38.10	0.00	35.00	49.90	74	-24.10	Horizontal	



**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 74 of 92

Test mode:		802.11g		Test channel:	Highest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
3690.000	-31.10	32.70	0.00	39.50	41.10	74	-32.90	Vertical	
4924.000	-30.30	34.60	0.00	39.20	43.50	74	-30.50	Vertical	
5985.000	-28.90	34.80	0.00	41.90	47.80	74	-26.20	Vertical	
7386.000	-27.90	35.70	0.00	37.50	45.30	74	-28.70	Vertical	
9848.000	-24.20	37.30	0.00	35.50	48.60	74	-25.40	Vertical	
12660.000	-23.20	38.10	0.00	34.90	49.80	74	-24.20	Vertical	
3840.000	-31.20	33.30	0.00	39.20	41.30	74	-32.70	Horizontal	
4924.000	-30.30	34.60	0.00	39.50	43.80	74	-30.20	Horizontal	
6030.000	-28.90	34.90	0.00	38.60	44.60	74	-29.40	Horizontal	
7386.000	-27.90	35.70	0.00	38.10	45.90	74	-28.10	Horizontal	
9848.000	-24.20	37.30	0.00	34.90	48.00	74	-26.00	Horizontal	
12660.000	-23.20	38.10	0.00	35.20	50.10	74	-23.90	Horizontal	

Test mode:		802.11n(HT20)		Test channel:	Lowest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
3900.000	-31.30	33.20	0.00	39.90	41.80	74	-32.20	Vertical	
4824.000	-30.40	34.40	0.00	39.70	43.70	74	-30.30	Vertical	
6030.000	-28.90	34.90	0.00	39.10	45.10	74	-28.90	Vertical	
7236.000	-27.90	35.80	0.00	36.80	44.70	74	-29.30	Vertical	
9648.000	-25.00	37.20	0.00	35.30	47.50	74	-26.50	Vertical	
12600.000	-22.80	38.10	0.00	35.10	50.40	74	23.60	Vertical	
3885.000	-31.30	33.20	0.00	39.70	41.60	74	-32.40	Horizontal	
4824.000	-30.40	34.40	0.00	40.60	44.60	74	-29.40	Horizontal	
6090.000	-29.10	35.00	0.00	39.00	44.90	74	-29.10	Horizontal	
7236.000	-27.90	35.80	0.00	37.90	45.80	74	-28.20	Horizontal	
9648.000	-25.00	37.20	0.00	34.60	46.80	74	-27.20	Horizontal	
12630.000	-23.00	38.10	0.00	35.30	50.40	74	-23.60	Horizontal	



**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

Report No.: SZEM151000664801  
Page: 75 of 92

Test mode:		802.11n(HT20)		Test channel:		Middle		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
3990.000	-30.90	33.20	0.00	39.50	41.80	74	-32.20	Vertical		
4874.000	-30.40	34.50	0.00	39.60	43.70	74	-30.30	Vertical		
6090.000	-29.10	35.00	0.00	39.20	45.10	74	-28.90	Vertical		
7311.000	-27.90	35.70	0.00	36.90	44.70	74	-29.30	Vertical		
9748.000	-25.00	37.30	0.00	35.20	47.50	74	-26.50	Vertical		
12660.000	-23.20	38.10	0.00	35.50	50.40	74	23.60	Vertical		
3825.000	-31.20	33.20	0.00	39.60	41.60	74	-32.40	Horizontal		
4874.000	-30.40	34.50	0.00	40.50	44.60	74	-29.40	Horizontal		
6225.000	-29.10	34.90	0.00	39.10	44.90	74	-29.10	Horizontal		
7311.000	-27.90	35.70	0.00	38.00	45.80	74	-28.20	Horizontal		
9748.000	-25.00	37.30	0.00	34.50	46.80	74	-27.20	Horizontal		
12630.000	-23.00	38.10	0.00	35.30	50.40	74	-23.60	Horizontal		

Test mode:		802.11n(HT20)		Test channel:		Highest		Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization		
3825.000	-31.20	33.20	0.00	40.20	42.20	74	-31.80	Vertical		
4924.000	-30.30	34.60	0.00	39.30	43.60	74	-30.40	Vertical		
6000.000	-28.80	34.90	0.00	38.80	44.90	74	-29.10	Vertical		
7386.000	-27.90	35.70	0.00	37.60	45.40	74	-28.60	Vertical		
9748.000	-25.00	37.30	0.00	35.30	47.60	74	-26.40	Vertical		
12660.000	-23.20	38.10	0.00	34.70	49.60	74	-24.40	Vertical		
3960.000	-31.00	33.10	0.00	39.70	41.80	74	-32.20	Horizontal		
4924.000	-30.30	34.60	0.00	40.00	44.30	74	-29.70	Horizontal		
5985.000	-28.90	34.80	0.00	39.40	45.30	74	-28.70	Horizontal		
7386.000	-27.90	35.70	0.00	37.80	45.60	74	-28.40	Horizontal		
9848.000	-24.20	37.30	0.00	35.00	48.10	74	-25.90	Horizontal		
12525.000	-22.90	38.00	0.00	34.10	49.20	74	-24.80	Horizontal		



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

Report No.: SZEM151000664801

Page: 76 of 92

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

- 2) Scan from 9kHz to 25GHz, The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .

## 6.8 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10 2009		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

### Test Setup:

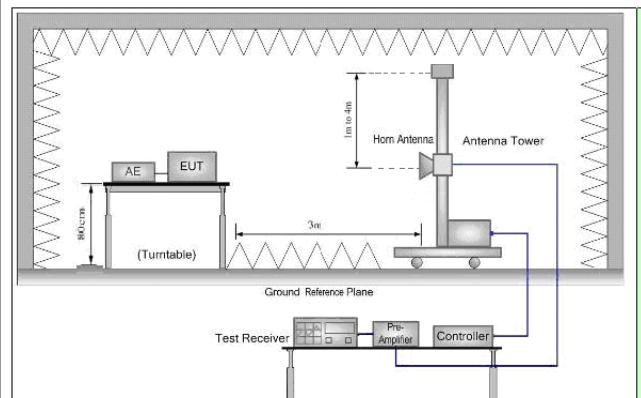
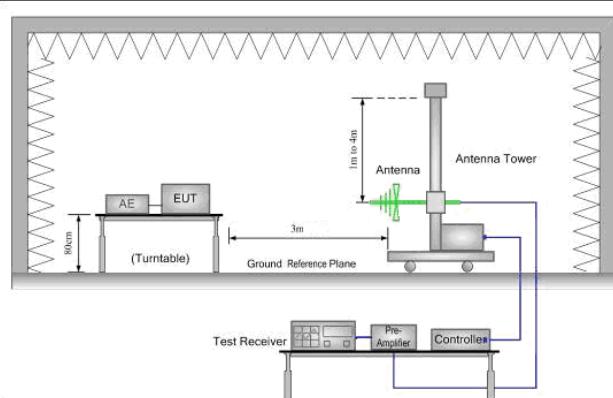


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

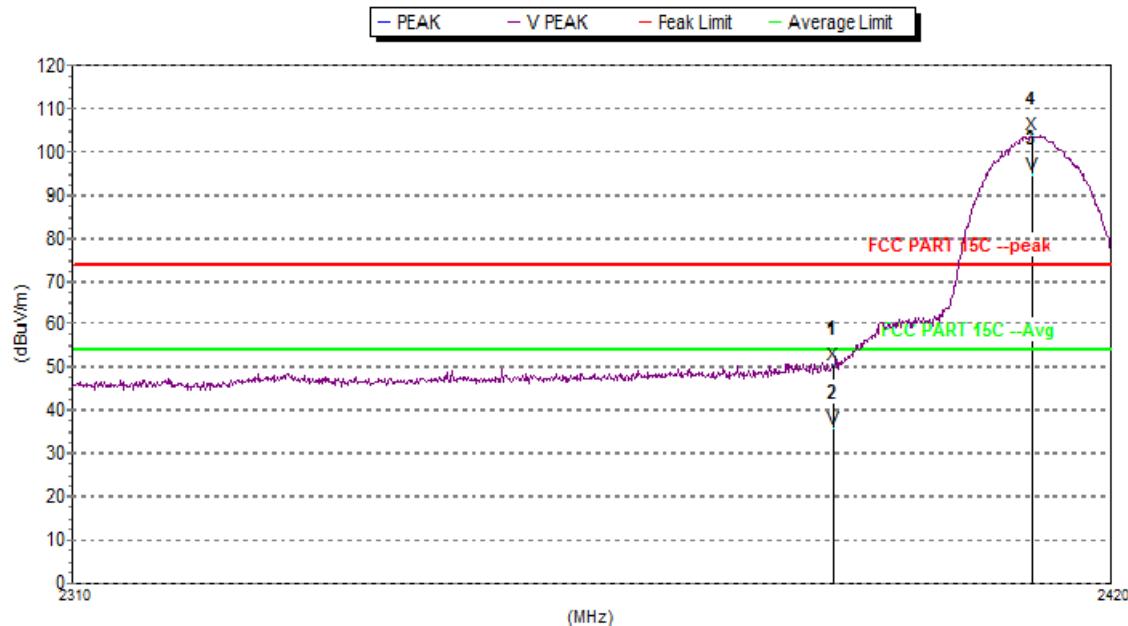


# SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

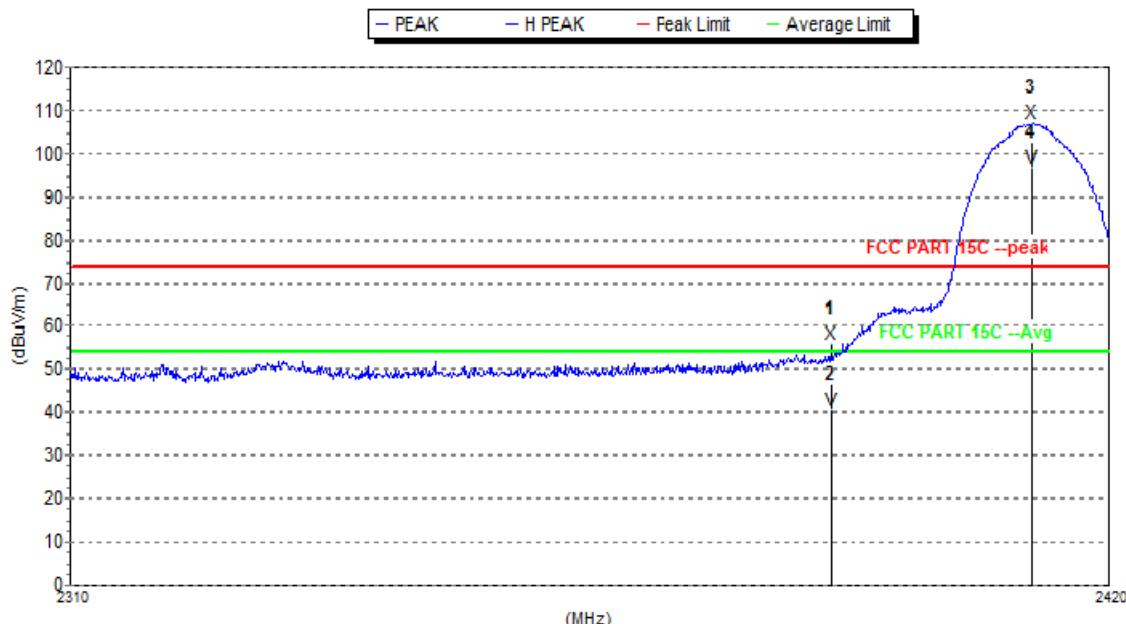
Report No.: SZEM151000664801  
Page: 78 of 92

Test Procedure:	<ol style="list-style-type: none"><li>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li><li>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li><li>c. 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.</li><li>d. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li><li>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li><li>f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li><li>g. Test the EUT in the lowest channel , the Highest channel</li><li>h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case.</li><li>i. Repeat above procedures until all frequencies measured was complete.</li></ol>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode.
Final Test Mode:	Pretest the EUT at Transmitting mode, found the Transmitting mode which it is worse case Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20) . Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

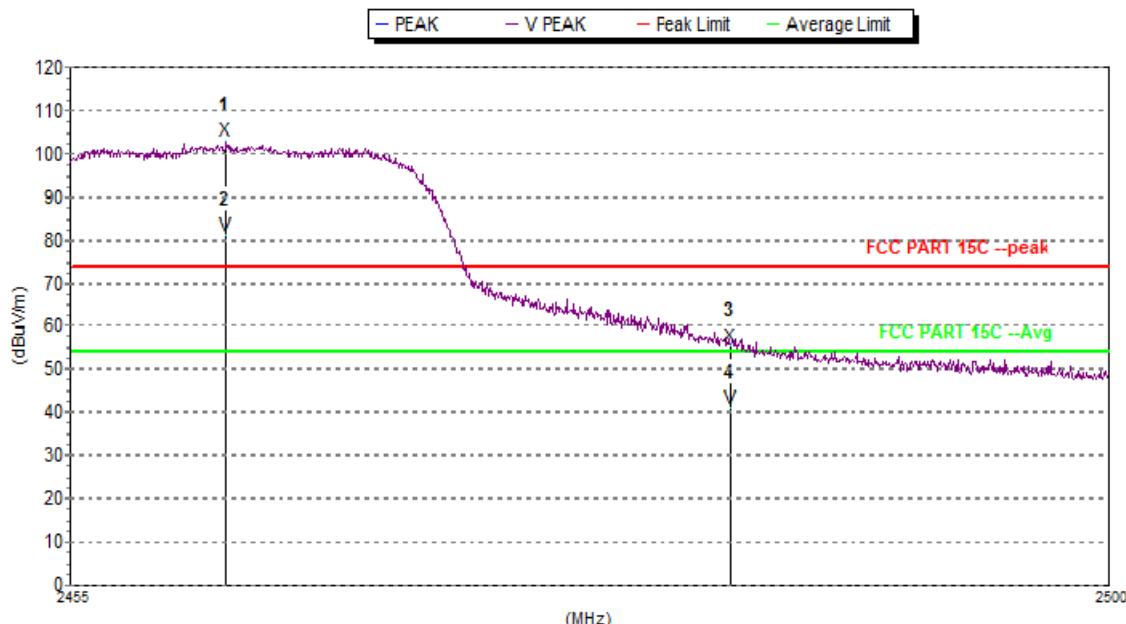
Test plot as follows:



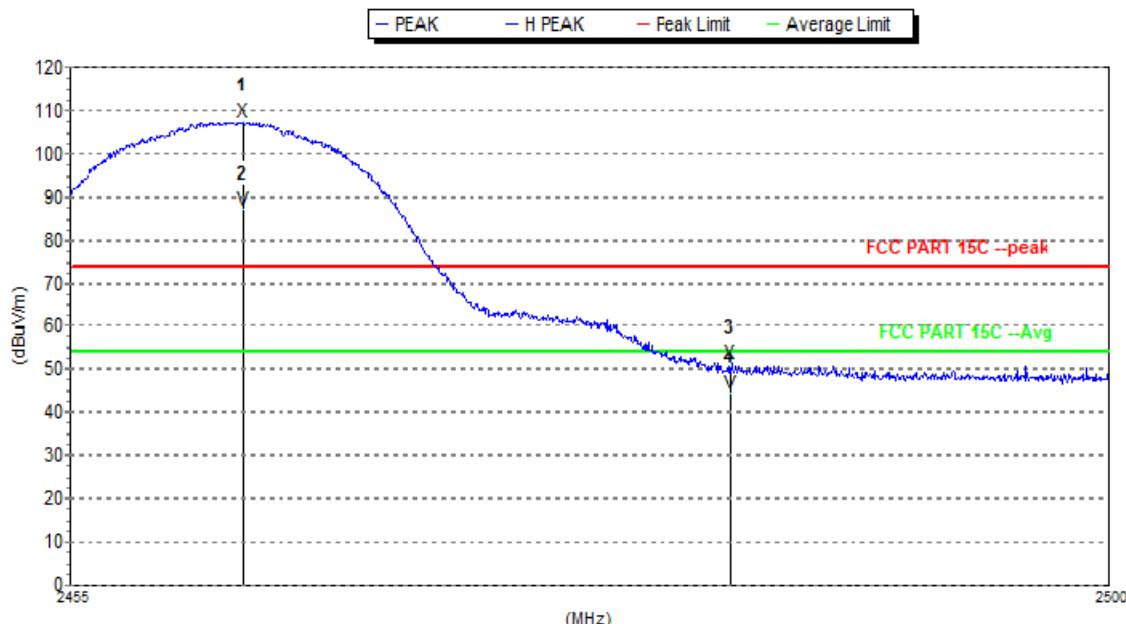
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	50.5	74.0	23.5	32.5	0.0	-19.3	V
2F	2411.340	103.9	74.0	-29.9	32.6	0.0	-19.3	V
Avg								
1	2390	35.6	54.0	18.4	32.5	0.0	-19.3	V
2F	2411.340	94.6	54.0	-40.6	32.6	0.0	-19.3	V



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	55.7	74.0	18.3	32.5	0.0	-19.3	H
2 F	2411.640	107.3	74.0	-33.3	32.6	0.0	-19.3	H
Avg								
1	2390	40.4	54.0	13.6	32.5	0.0	-19.3	H
2 F	2411.640	96.9	54.0	-42.9	32.6	0.0	-19.3	H

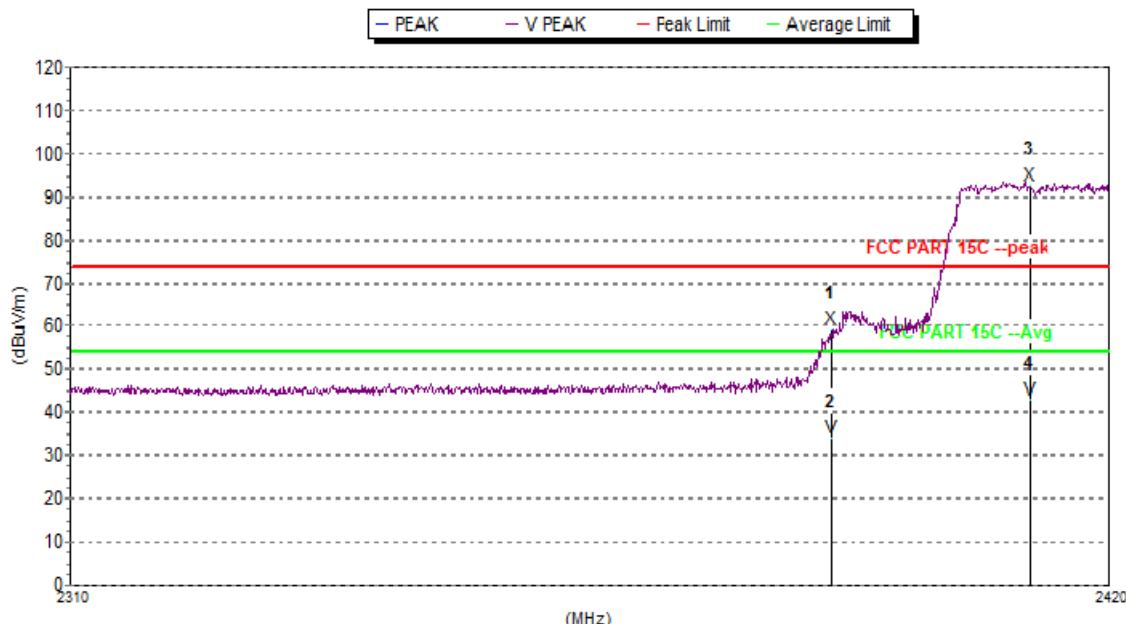


Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2461.705	103.0	74.0	-29.0	32.5	0.0	-19.2	V
2	2483.5	55.2	74.0	18.8	32.5	0.0	-19.1	V
Avg								
1 F	2461.705	81.2	54.0	-27.2	32.5	0.0	-19.2	V
2	2483.5	40.9	54.0	13.1	32.5	0.0	-19.1	V

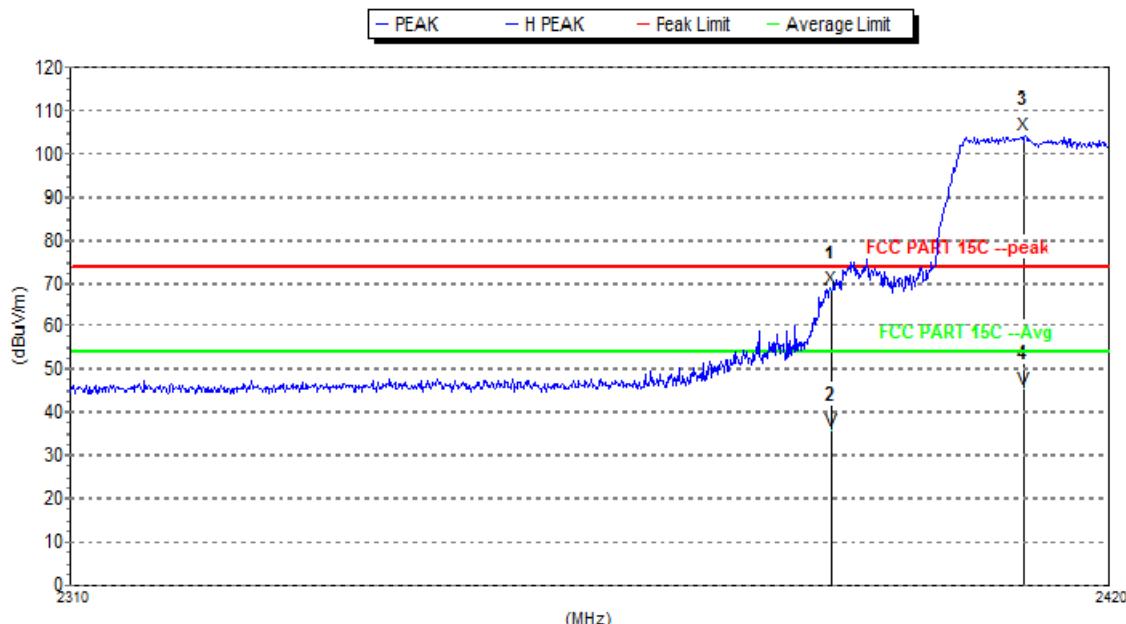


Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2462.470	107.4	74.0	-33.4	32.5	0.0	-19.2	H
2	2483.5	51.4	74.0	22.6	32.5	0.0	-19.1	H
Avg								
1 F	2462.470	87.2	54.0	-33.2	32.5	0.0	-19.2	H
2	2483.5	44.6	54.0	9.4	32.5	0.0	-19.1	H

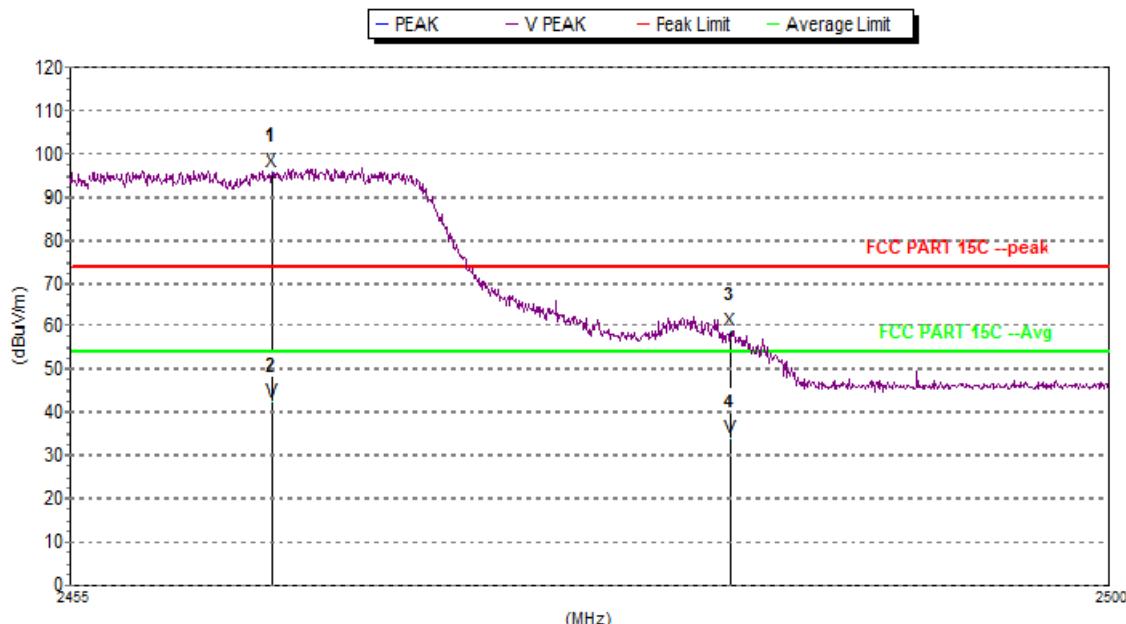




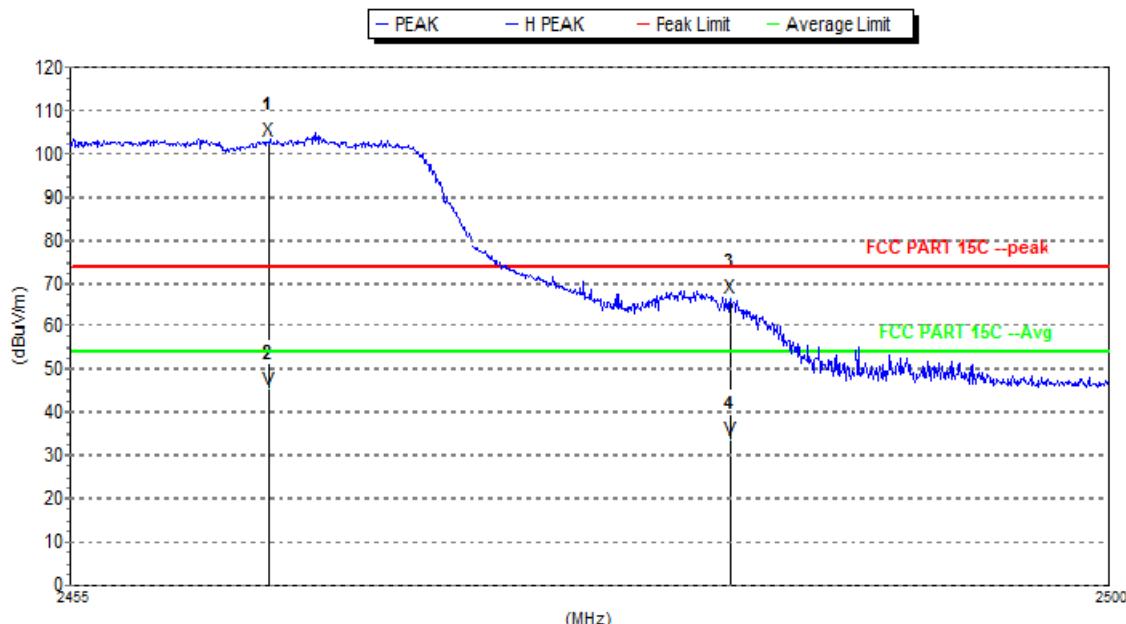
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	59.5	74.0	14.5	32.5	0.0	-19.3	V
2 F	2411.420	92.8	74.0	-18.8	32.6	0.0	-19.3	V
Avg								
1	2390	34.0	54.0	20.0	32.5	0.0	-19.3	V
2	2411.420	42.9	54.0	11.1	32.6	0.0	-19.3	V



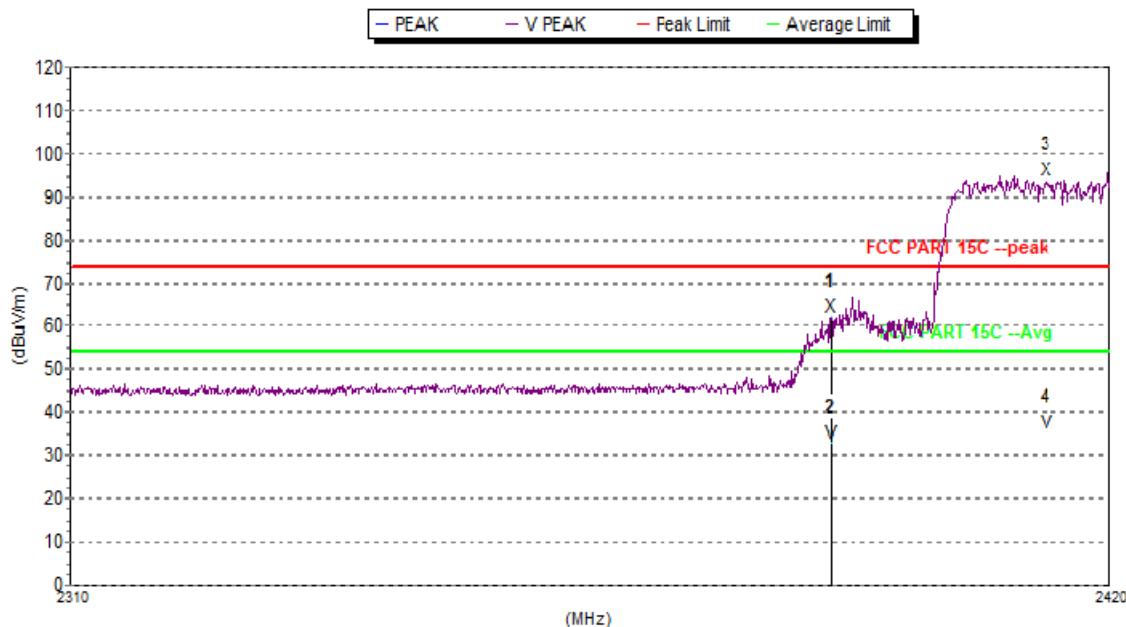
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	68.5	74.0	5.5	32.5	0.0	-19.3	H
2 F	2410.760	104.4	74.0	-30.4	32.6	0.0	-19.3	H
Avg								
1	2390	35.9	54.0	18.1	32.5	0.0	-19.3	H
2	2410.760	45.2	54.0	8.8	32.6	0.0	-19.3	H



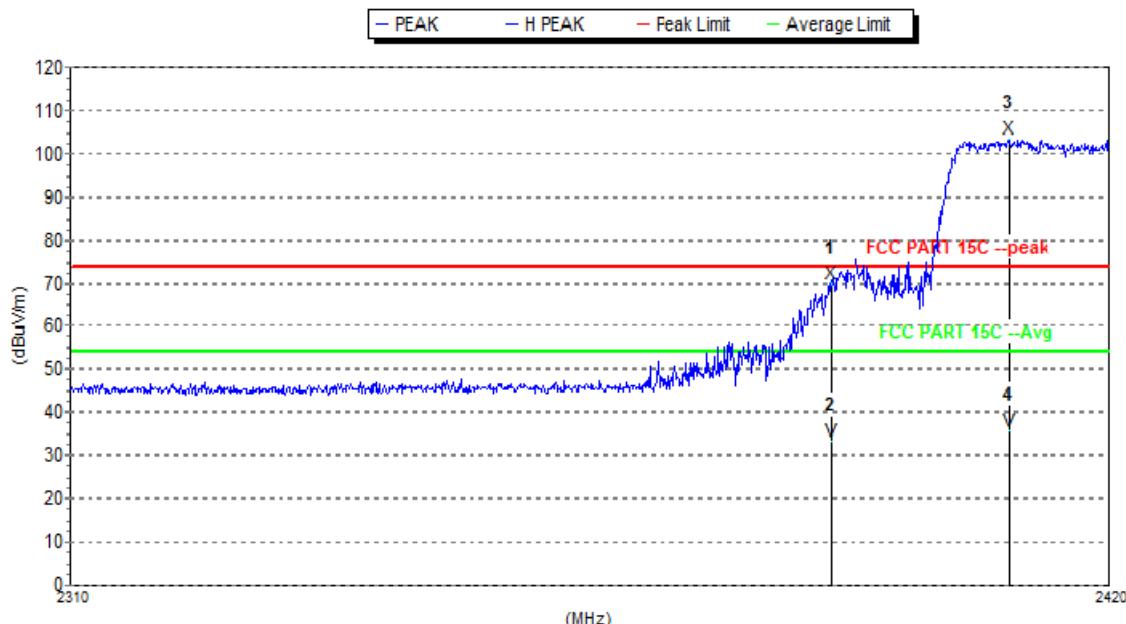
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2463.685	95.9	74.0	-21.9	32.5	0.0	-19.2	V
2	2483.5	59.1	74.0	14.9	32.5	0.0	-19.1	V
Avg								
1	2463.685	42.6	54.0	11.4	32.5	0.0	-19.2	V
2	2483.5	34.1	54.0	19.9	32.5	0.0	-19.1	V



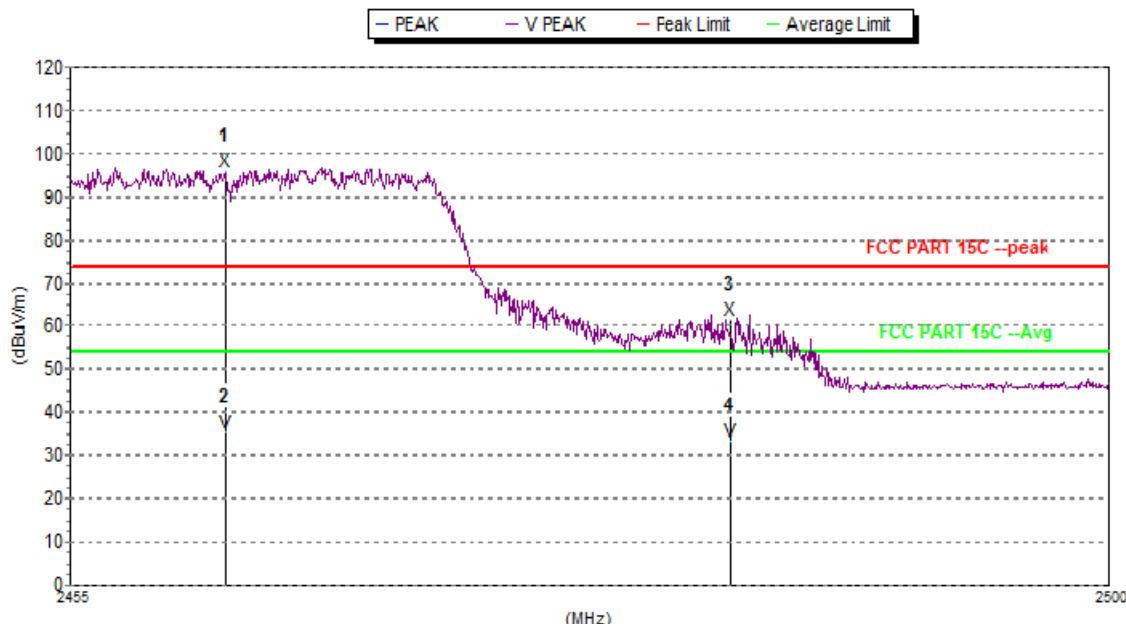
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2463.550	103.2	74.0	-29.2	32.5	0.0	-19.2	H
2	2483.5	66.5	74.0	7.5	32.5	0.0	-19.1	H
Avg								
1	2463.550	45.3	54.0	8.7	32.5	0.0	-19.2	H
2	2483.5	33.8	54.0	20.2	32.5	0.0	-19.1	H



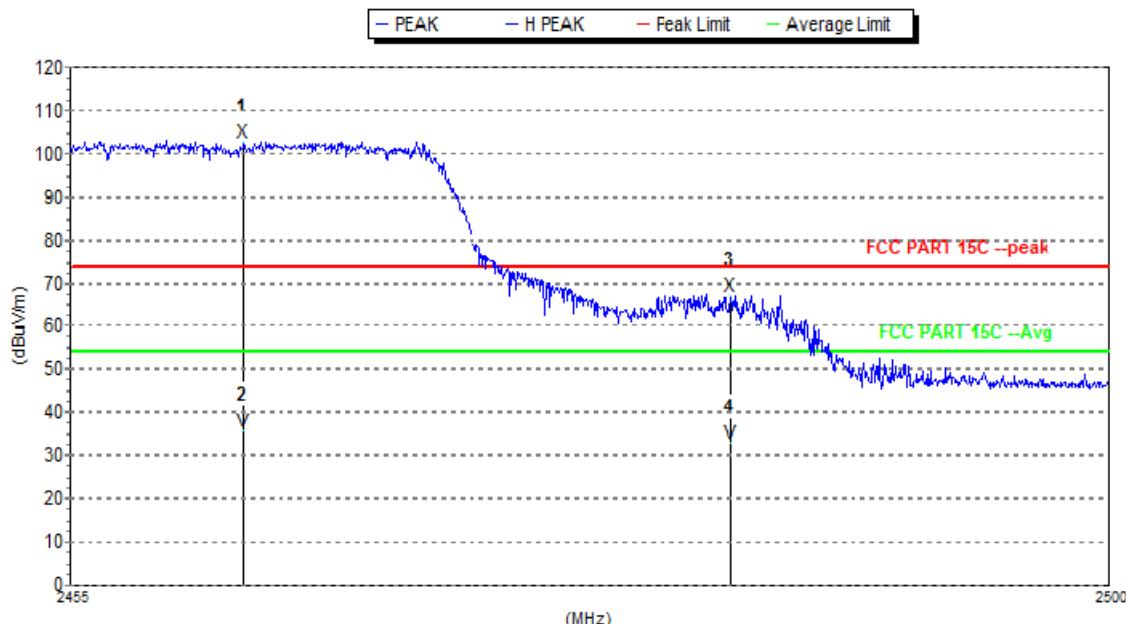
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	62.4	74.0	11.6	32.5	0.0	-19.3	V
2 F	2413.290	93.9	74.0	-19.9	32.6	0.0	-19.3	V
Avg								
1	2390	32.9	54.0	21.1	32.5	0.0	-19.3	V
2	2413.290	35.2	54.0	18.8	32.6	0.0	-19.3	V



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	2390	69.8	74.0	4.2	32.5	0.0	-19.3	H
2 F	2409.110	103.5	74.0	-29.5	32.6	0.0	-19.3	H
Avg								
1	2390	33.3	54.0	20.7	32.5	0.0	-19.3	H
2	2409.110	35.8	54.0	18.2	32.6	0.0	-19.3	H



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2461.705	96.0	74.0	-22.0	32.5	0.0	-19.2	V
2	2483.5	61.3	74.0	12.7	32.5	0.0	-19.1	V
Avg								
1	2461.705	35.5	54.0	18.5	32.5	0.0	-19.2	V
2	2483.5	33.2	54.0	20.8	32.5	0.0	-19.1	V



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1 F	2462.470	102.6	74.0	-28.6	32.5	0.0	-19.2	H
2	2483.5	67.2	74.0	6.8	32.5	0.0	-19.1	H
Avg								
1	2462.470	35.9	54.0	18.1	32.5	0.0	-19.2	H
2	2483.5	33.1	54.0	20.9	32.5	0.0	-19.1	H

**Note:**

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

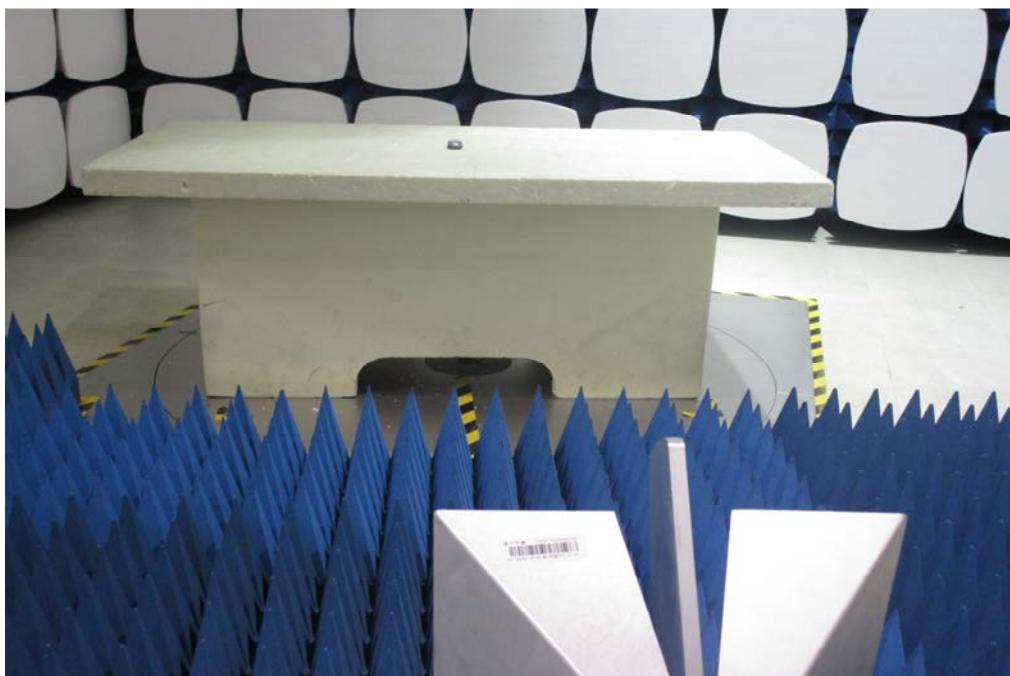
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

## 7 Photographs - EUT Test Setup

Test model No.: ZGACTC-GY0

### 7.1 Radiated Spurious Emission





## **8 Photographs - EUT Constructional Details**

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1510006648CR.

