



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

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan  
District, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053  
Fax: +86 (0) 755 2671 0594  
Email: ee.shenzhen@sgs.com

Report No.: SZEM150700454405  
Page: 1 of 211

# FCC REPORT

<b>Application No:</b>	SZEM1507004544CR
<b>Applicant:</b>	DEI Sales, Inc. dba Definitive Technology
<b>Manufacturer:</b>	DEI Sales, Inc. dba Definitive Technology
<b>Factory:</b>	Zhao Yang Electronic (ShenZhen) Co., Ltd.
<b>Product Name:</b>	W Studio Micro System
<b>Model No.(EUT):</b>	W STUDIO MICRO SOUNDBAR
<b>Trade Mark:</b>	Definitive Technology
<b>FCC ID:</b>	IPUSTUDIOMICRO
<b>Standards:</b>	47 CFR Part 15, Subpart E (2014)
<b>Date of Receipt:</b>	2015-07-24
<b>Date of Test:</b>	2015-08-06 to 2015-08-24
<b>Date of Issue:</b>	2015-08-26

<b>Test Result:</b>	PASS *
---------------------	--------

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

Authorized Signature:



Jack Zhang  
EMC Laboratory Manager

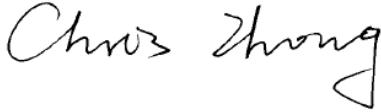
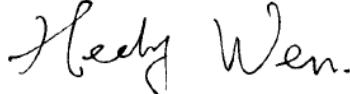
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant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

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

**2 Version**

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2015-08-26		Original

Authorized for issue by:			
			2015-08-24
Tested By		(Chris Zhong) /Project Engineer	Date
			2015-08-26
Prepared By		(Hedy Wen) /Clerk	Date
			2015-08-26
Checked By		(Eric Fu) /Reviewer	Date

### 3 Test Summary

Test Item	Test Requirement	Test method	Result
<b>Antenna Requirement</b>	47 CFR Part 15 Section 15.203	ANSI C63.10: 2013	PASS
<b>AC Power Line Conducted Emission</b>	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS
<b>Conducted Output Power</b>	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
<b>6dB Occupied Bandwidth</b>	47 CFR Part 15 Section 15.407(e)	ANSI C63.10: 2013	PASS
<b>26 dB Emission Bandwidth &amp; 99% Occupied Bandwidth</b>	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
<b>Power Spectral Density</b>	47 CFR Part 15 Section 15.407(a)	ANSI C63.10: 2013	PASS
<b>Radiated Spurious Emissions</b>	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS
<b>Restricted bands around fundamental frequency (Radiated Emission)</b>	47 CFR Part 15 Section 15.407(b)	ANSI C63.10: 2013	PASS
<b>Frequency Stability</b>	47 CFR Part 15 Section 15.407(g)	ANSI C63.10: 2013	PASS

## 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.....	8
5.4 DESCRIPTION OF SUPPORT UNITS.....	8
5.5 TEST LOCATION .....	8
5.6 TEST FACILITY .....	9
5.7 DEVIATION FROM STANDARDS .....	9
5.8 ABNORMALITIES FROM STANDARD CONDITIONS .....	9
5.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER .....	9
5.10 EQUIPMENT LIST .....	10
<b>6 TEST RESULTS AND MEASUREMENT DATA .....</b>	<b>13</b>
6.1 ANTENNA REQUIREMENT .....	13
6.2 CONDUCTED EMISSIONS .....	14
6.3 CONDUCTED OUTPUT POWER.....	18
6.4 26dB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH.....	57
6.5 6dB EMISSION BANDWIDTH .....	94
6.6 POWER SPECTRAL DENSITY .....	100
6.7 RADIATED SPURIOUS EMISSIONS .....	139
6.7.1 <i>Radiated emission below 1GHz</i> .....	141
6.7.2 <i>Transmitter emission above 1GHz</i> .....	143
6.8 RESTRICTED BANDS AROUND FUNDAMENTAL FREQUENCY .....	160
6.9 FREQUENCY STABILITY .....	198
<b>7 PHOTOGRAPHS - EUT TEST SETUP .....</b>	<b>210</b>
7.1 CONDUCTED EMISSION .....	210
7.2 RADIATED SPURIOUS EMISSION .....	210
<b>8 PHOTOGRAPHS - EUT CONSTRUCTIONAL DETAILS.....</b>	<b>211</b>

## 5 General Information

### 5.1 Client Information

Applicant:	DEI Sales, Inc. dba Definitive Technology
Address of Applicant:	1 Viper Way, Vista, CA 92081 USA
Manufacturer:	DEI Sales, Inc. dba Definitive Technology
Address of Manufacturer:	1 Viper Way, Vista, CA 92081 USA
Factory:	Zhao Yang Electronic (ShenZhen) Co., Ltd.
Address of Factory:	Section A, 4th Floor, Building 1 & Building 2, De Yong Jia Industrial Park, Guang Qiao Road, Yu Lv Community, Gong Ming Street, Guang Ming New District, Shenzhen, Guangdong, P.R.C

### 5.2 General Description of EUT

Product Name:	W Studio Micro System			
Model No.:	W STUDIO MICRO SOUNDBAR			
Trade Mark:	Definitive Technology			
Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
UNII Band I	IEEE 802.11a	5180-5240	4	
	IEEE 802.11n 20MHz	5180-5240	4	
	IEEE 802.11n 40MHz	5190-5230	2	
UNII Band II-A	IEEE 802.11a	5260-5320	4	
	IEEE 802.11n 20MHz	5260-5320	4	
	IEEE 802.11n 40MHz	5270-5310	2	
UNII Band II-C	IEEE 802.11a	5500-5700	11	
	IEEE 802.11n 20MHz	5500-5700	11	
	IEEE 802.11n 40MHz	5510-5670	5	
UNII Band III	IEEE 802.11a	5745-5825	5	
	IEEE 802.11n 20MHz	5745-5825	5	
	IEEE 802.11n 40MHz	5755-5795	2	
Type of Modulation:	IEEE 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n: OFDM(BPSK/QPSK/16QAM/64QAM)			
Sample Type:	Fixed production			
Test Power Grade:	802.11a :13 dBm@54Mbps; 802.11n20(5G) :11 dBm@MCS7; 802.11n40(5G) :11 dBm@MCS7 (manufacturer declare )			
Test Software of EUT:	teraterm.exe (manufacturer declare )			
Antenna Type:	Integral			
Antenna Gain:	3.92dBi			
Antenna Delivery:	1TX+1RX			



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

Report No.: SZEM150700454405  
Page: 6 of 211

	Remark: The antennas can not transmit simultaneously.
Power Supply:	Adapter Model: DYS902-240400W Input: AC 100-240V 50/60Hz 1.5A MAX Output: DC 24.0V 4.0A Remote control: DC 3.0V (1*3.0V "CR2032" Button Cell)

## Note:

In FCC 15.31, 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, and the selected channel to perform the test as below:

Frequency Range of Operation Operating Frequency Range (in each Band)	Number of Measurement Frequencies Required	Location of Measurement Frequency in Band of Operation
1 MHz or less	1	centre
1 MHz to 10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near centre

## For UNII Band I:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5180
	The Middle channel	5200
	The Highest channel	5240
IEEE 802.11n 40MHz	The Lowest channel	5190
	The Highest channel	5230

## For UNII Band II-A:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5260
	The Middle channel	5300
	The Highest channel	5320
IEEE 802.11n 40MHz	The Lowest channel	5270
	The Highest channel	5310

## For UNII Band II-C:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5500
	The Middle channel	5600
	The Highest channel	5700
IEEE 802.11n 40MHz	The Lowest channel	5510
	The Middle channel	5590
	The Highest channel	5670

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 7 of 211

For UNII Band III:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n 20MHz	The Lowest channel	5745
	The Middle channel	5785
	The Highest channel	5825
IEEE 802.11n 40MHz	The Lowest channel	5755
	The Highest channel	5795

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

### 5.3 Test Environment and Mode

<b>Operating Environment:</b>	
Temperature:	25.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1010 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

The EUT has been tested independent unit.

### 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.

- **VCCI**

The 10m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) 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)**

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

## 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

<b>Conducted Emission</b>					
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Due date (yyyy-mm-dd)</b>
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2016-05-13
2	LISN	Rohde & Schwarz	ENV216	SEL0152	2015-10-24
3	LISN	ETS-LINDGREN	3816/2	SEL0021	2016-05-13
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	SEL0162	2015-08-30
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	SEL0163	2015-08-30
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	SEL0164	2015-08-30
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2016-05-13
8	Coaxial Cable	SGS	N/A	SEL0025	2016-05-13
9	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
10	Humidity/ Temperature Indicator	Shanghai Qixiang	ZJ1-2B	SEL0103	2015-10-24
11	Barometer	Chang Chun	DYM3	SEL0088	2016-05-13



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

Report No.: SZEM150700454405  
Page: 11 of 211

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	Spectrum Analyzer	Rohde & Schwarz	FSU43	SEL0270	2016-04-25
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2015-10-24
5	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2015-10-24
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2015-10-24
7	Horn Antenna(26GHz-40 GHz)	A.H.Systems, inc.	SAS-573	SEL0349	2016-03-20
8	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2016-05-16
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2015-10-24
10	Pre-amplifier(26GHz -40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEL0350	2016-03-20
11	Coaxial cable	SGS	N/A	SEL0027	2016-05-29
12	Coaxial cable	SGS	N/A	SEL0189	2016-05-29
13	Coaxial cable	SGS	N/A	SEL0121	2016-05-29
14	Coaxial cable	SGS	N/A	SEL0178	2016-05-29
16	Barometer	Chang Chun	DYM3	SEL0088	2016-05-13
17	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
18	Humidity/ Temperature Indicator	Shanghai Qixiang	ZJ1-2B	SEL0103	2015-10-24
19	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2016-05-16
20	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2015-10-24
21	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2016-05-13

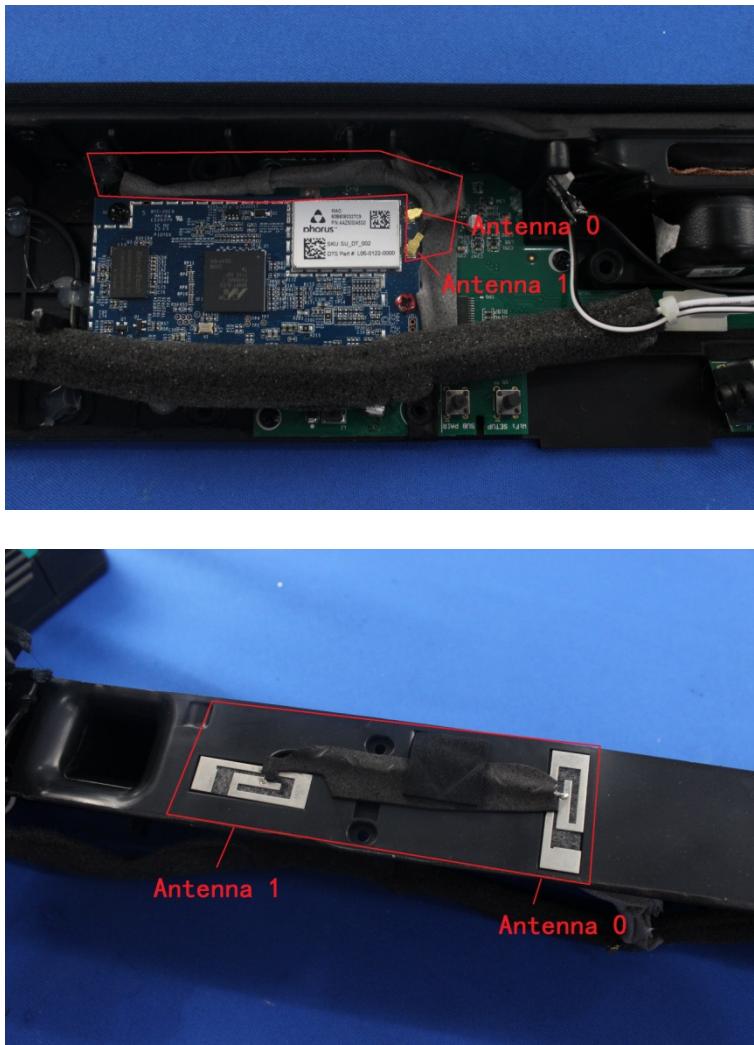
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

<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.Due date (yyyy-mm-dd)</b>
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2015-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2015-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2016-05-13
5	Coaxial cable	SGS	N/A	SEL0179	2016-05-13
6	Barometer	ChangChun	DYM3	SEL0088	2016-05-13
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2016-04-25
8	Band filter	amideon	82346	SEL0094	2016-05-13
9	POWER METER	R & S	NRVS	SEL0144	2015-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2016-04-25
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2015-10-24

Note: The calibration interval is one year, all the instruments are valid.

## 6 Test results and Measurement Data

### 6.1 Antenna Requirement

<b>Test Requirement:</b>	47 CFR Part 15 Section 15.203
<b>EUT Antenna:</b>	
<p>The antenna is integrated antenna and no consideration of replacement. The best case gain of the antenna is 3.92dBi. It support operations in 1X1 diversity , 1 X1 SISO configurations and Single-stream legacy modes .</p>	

## 6.2 Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)		Limit (dBuV)
			Quasi-peak      Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50

\* Decreases with the logarithm of the frequency.

| Test Procedure: | - 1) The mains terminal disturbance voltage test was conducted in a shielded room. - 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a  $50\Omega/50\mu\text{H} + 5\Omega$  linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. - 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. - 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. - 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement. |  |  |

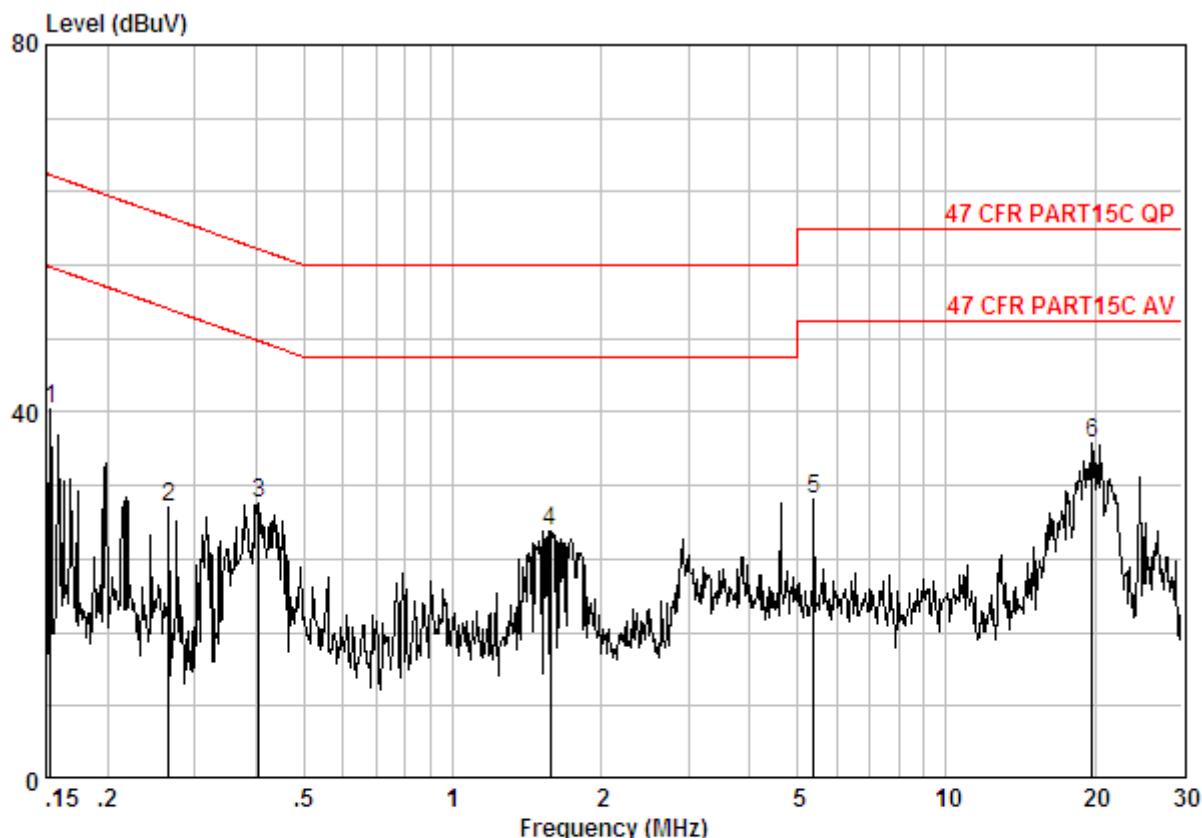
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

**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.

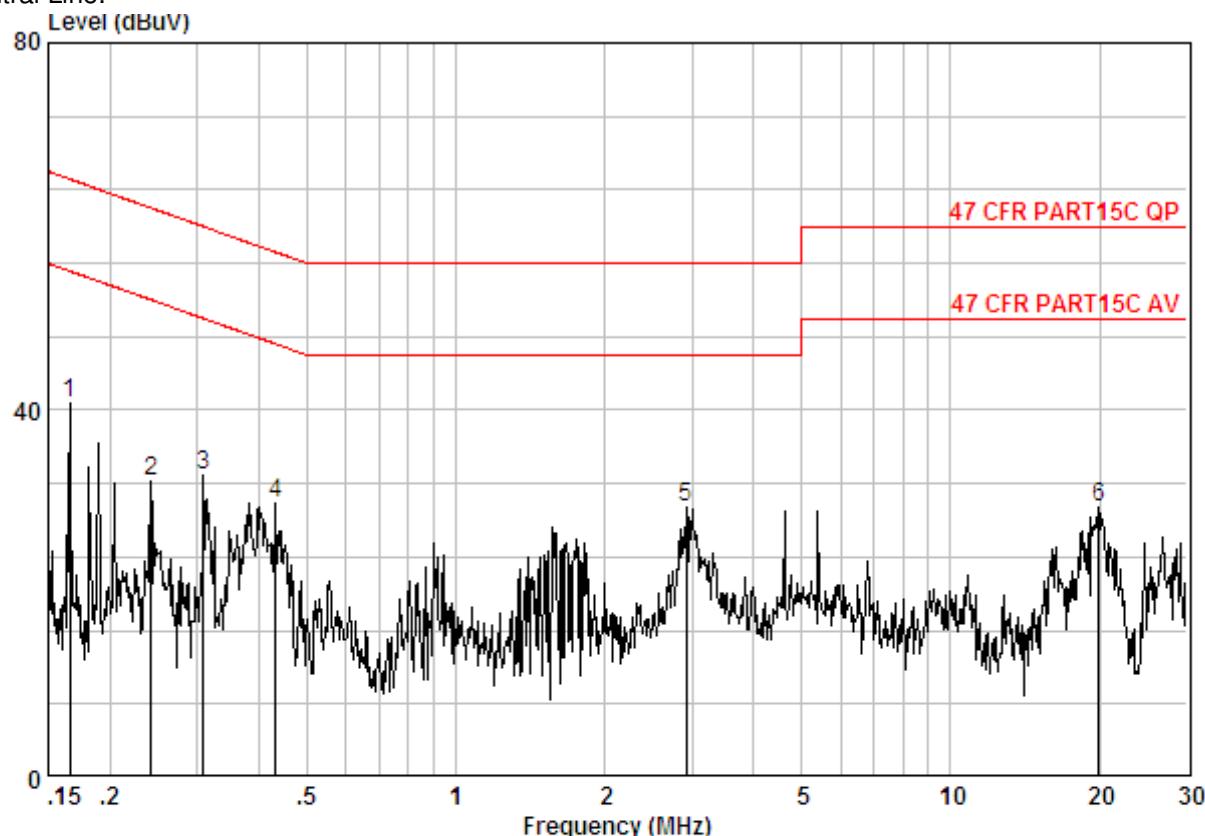
Live Line:



Site : Shielding Room  
Condition : 47 CFR PART15C AV CE LINE  
Job No. : 4544CR  
Test Mode : TX

Freq	Cable Loss	LISN Factor	Read	Limit Line	Over Limit	Remark
			Level			
1	0.15321	0.02	9.82	30.44	40.28	55.82 -15.54 Peak
2	0.26583	0.01	9.84	19.86	29.71	51.25 -21.53 Peak
3	0.40400	0.01	9.85	20.16	30.03	47.77 -17.74 Peak
4	1.577	0.02	9.93	17.12	27.07	46.00 -18.93 Peak
5	5.390	0.01	10.13	20.36	30.50	50.00 -19.50 Peak
6	19.740	0.02	10.29	26.20	36.52	50.00 -13.48 Peak

Neutral Line:



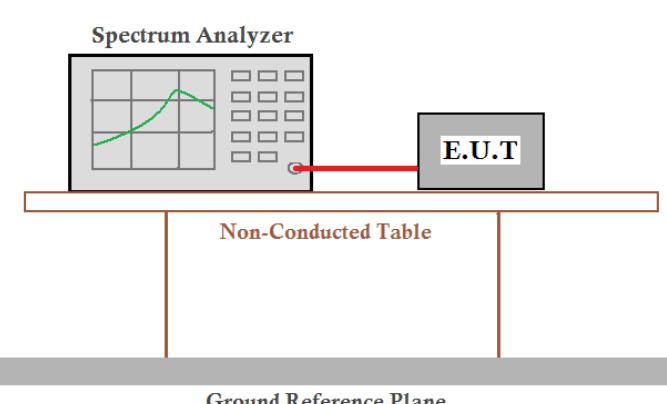
Site : Shielding Room  
 Condition : 47 CFR PART15C AV CE NEUTRAL  
 Job No. : 4544CR  
 Test Mode : TX

	Freq	Cable	LISN	Read	Limit		Over
		Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.16589	0.02	9.80	30.93	40.75	55.16	-14.41 Peak
2	0.24165	0.02	9.86	22.39	32.26	52.04	-19.78 Peak
3	0.30834	0.01	9.86	23.06	32.93	50.02	-17.08 Peak
4	0.43281	0.01	9.88	19.93	29.81	47.20	-17.39 Peak
5	2.915	0.02	10.12	19.26	29.40	46.00	-16.60 Peak
6	19.950	0.02	10.38	18.92	29.32	50.00	-20.68 Peak

## Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

### 6.3 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:	 <p><b>Spectrum Analyzer</b> E.U.T Non-Conducted Table Ground Reference Plane</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 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5150-5250MHz	Not exceed 250mW(24dBm)
	5250-5350MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
	5470-5725MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
	5725-5850MHz	Not exceed 1W(30dBm)
	*Where B is the 26dB emission bandwidth in MHz	
Test Results:	Pass	



**Measurement Data:****Antenna 0**

802.11a mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	11.48	24.00	Pass
5200	11.66	24.00	Pass
5240	11.96	24.00	Pass
5260	11.99	24.00	Pass
5300	12.54	24.00	Pass
5320	12.44	24.00	Pass
5500	11.69	24.00	Pass
5600	11.86	24.00	Pass
5700	12.72	24.00	Pass
5745	11.82	30.00	Pass
5785	10.86	30.00	Pass
5825	9.98	30.00	Pass

802.11n(HT20) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	10.06	24.00	Pass
5200	10.08	24.00	Pass
5240	10.37	24.00	Pass
5260	11.04	24.00	Pass
5300	11.77	24.00	Pass
5320	11.70	24.00	Pass
5500	10.12	24.00	Pass
5600	9.94	24.00	Pass
5700	11.17	24.00	Pass
5745	10.53	30.00	Pass
5785	9.89	30.00	Pass
5825	9.26	30.00	Pass



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

Report No.: SZEM150700454405  
Page: 20 of 211

802.11n(HT40) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5190	10.19	24.00	Pass
5230	10.25	24.00	Pass
5270	11.26	24.00	Pass
5310	11.70	24.00	Pass
5510	10.02	24.00	Pass
5590	10.12	30.00	Pass
5670	10.95	30.00	Pass
5755	10.06	24.00	Pass
5795	9.49	24.00	Pass

\*This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

## Antenna 1

802.11a mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	11.15	24.00	Pass
5200	11.53	24.00	Pass
5240	11.76	24.00	Pass
5260	11.64	24.00	Pass
5300	11.03	24.00	Pass
5320	10.80	24.00	Pass
5500	11.20	24.00	Pass
5600	11.27	24.00	Pass
5700	9.21	24.00	Pass
5745	9.99	30.00	Pass
5785	8.94	30.00	Pass
5825	8.25	30.00	Pass

802.11n(HT20) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	8.95	24.00	Pass
5200	9.39	24.00	Pass
5240	9.81	24.00	Pass
5260	9.40	24.00	Pass
5300	8.71	24.00	Pass
5320	8.22	24.00	Pass
5500	10.17	24.00	Pass
5600	10.32	24.00	Pass
5700	8.24	24.00	Pass
5745	9.62	30.00	Pass
5785	8.50	30.00	Pass
5825	7.37	30.00	Pass



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

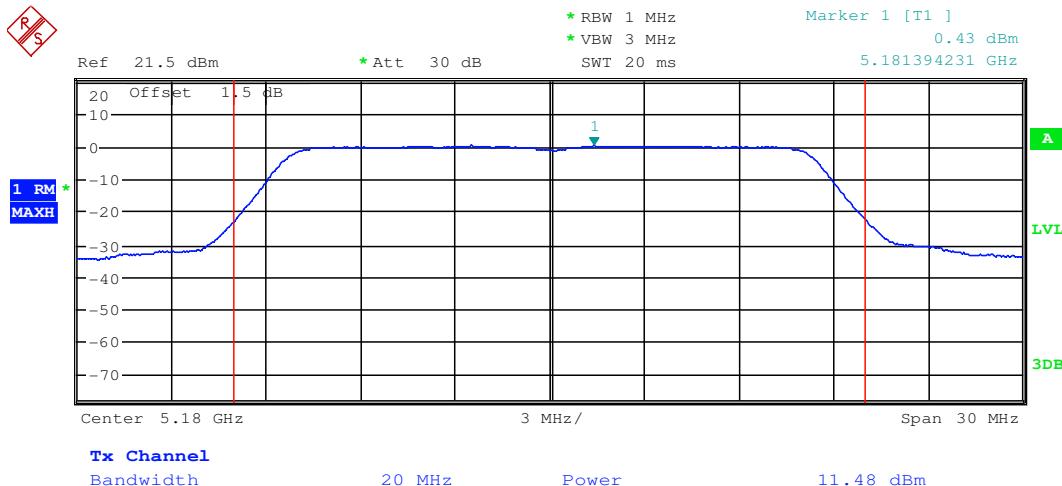
Report No.: SZEM150700454405  
Page: 22 of 211

802.11n(HT40) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5190	9.16	24.00	Pass
5230	9.52	24.00	Pass
5270	8.96	24.00	Pass
5310	8.40	24.00	Pass
5510	9.92	24.00	Pass
5590	10.38	30.00	Pass
5670	8.52	30.00	Pass
5755	9.27	24.00	Pass
5795	8.14	24.00	Pass

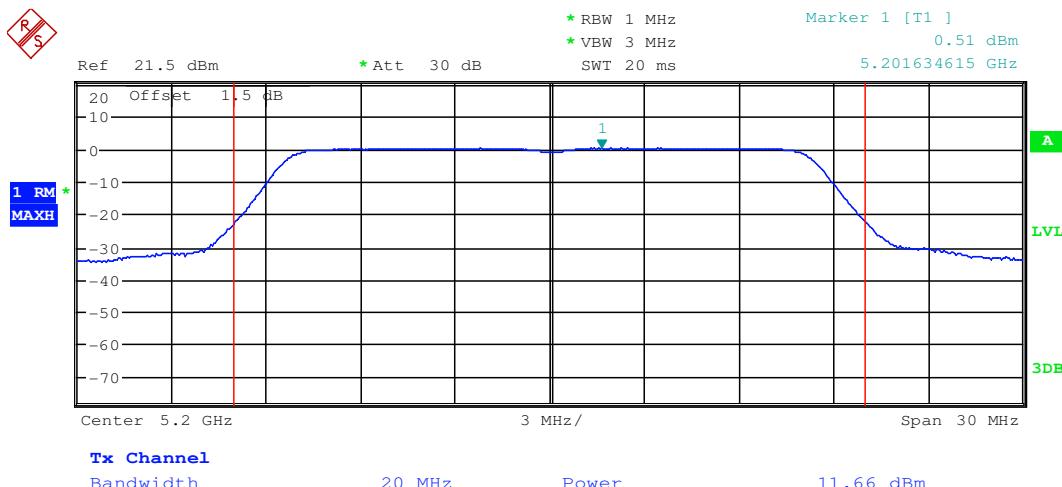
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

**Test plot as follows:**
**Antenna 0**

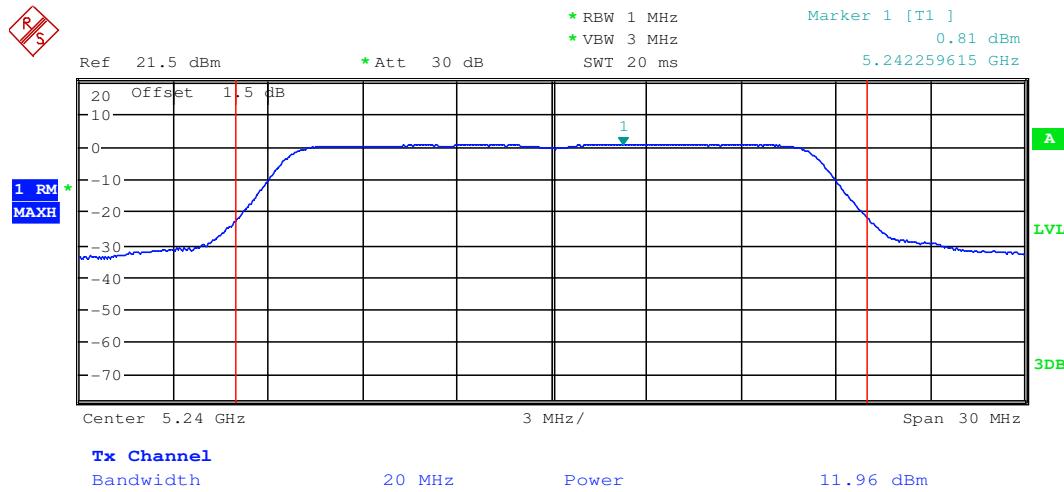
Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------



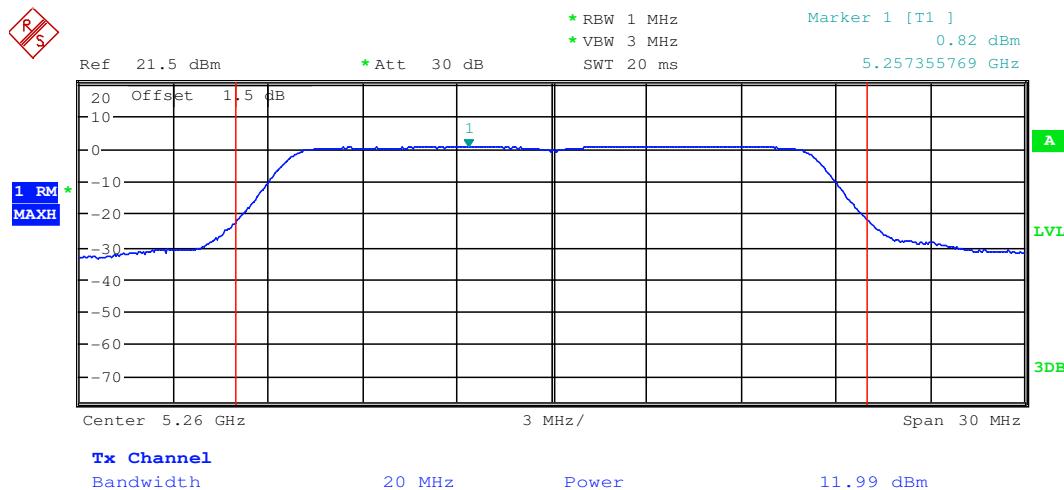
Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------



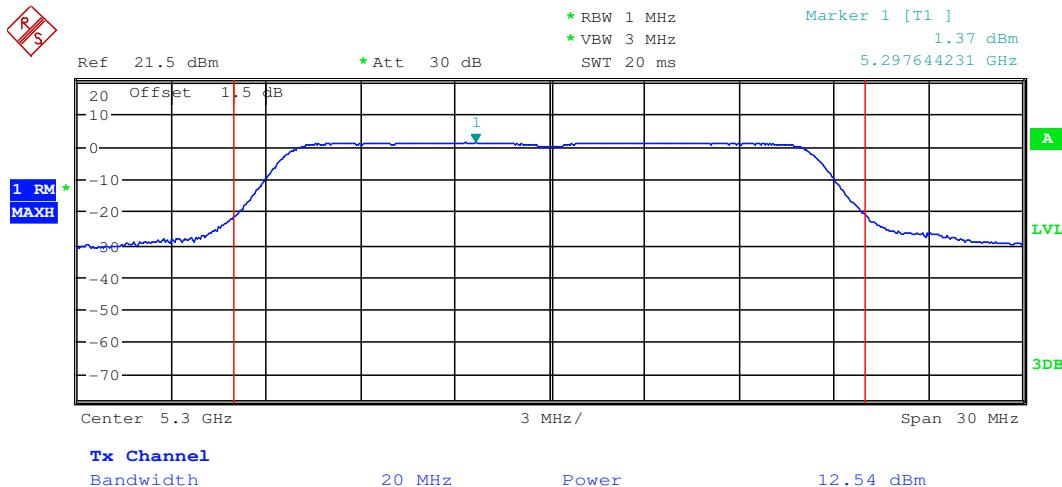
Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------



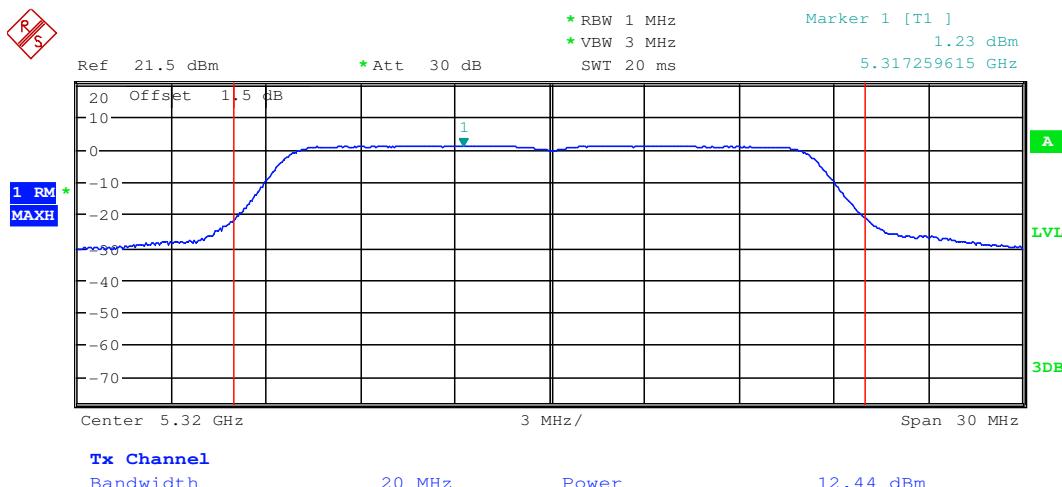
Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------



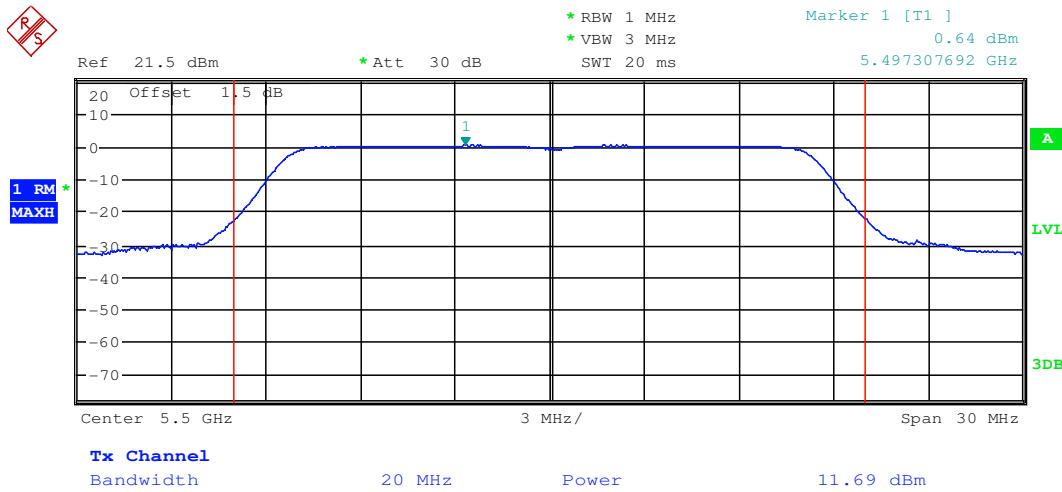
Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------



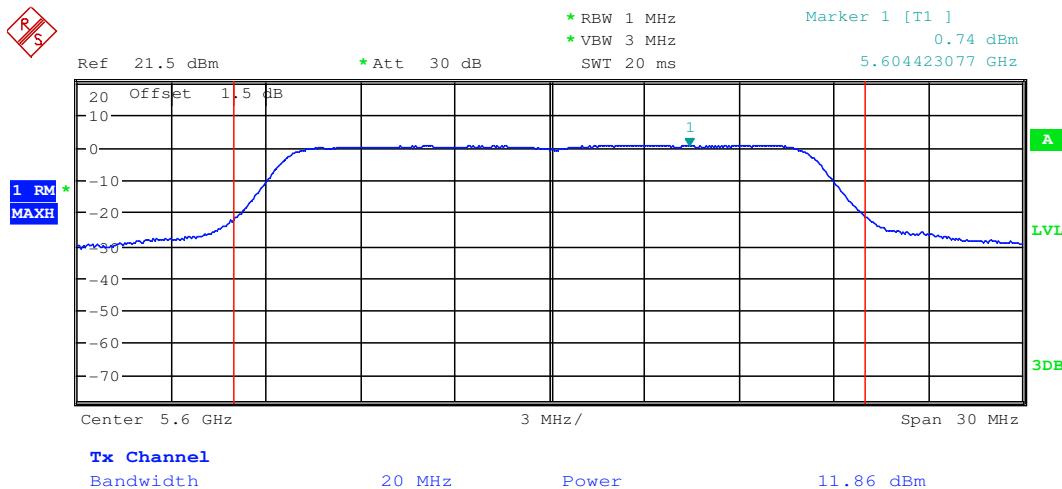
Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------



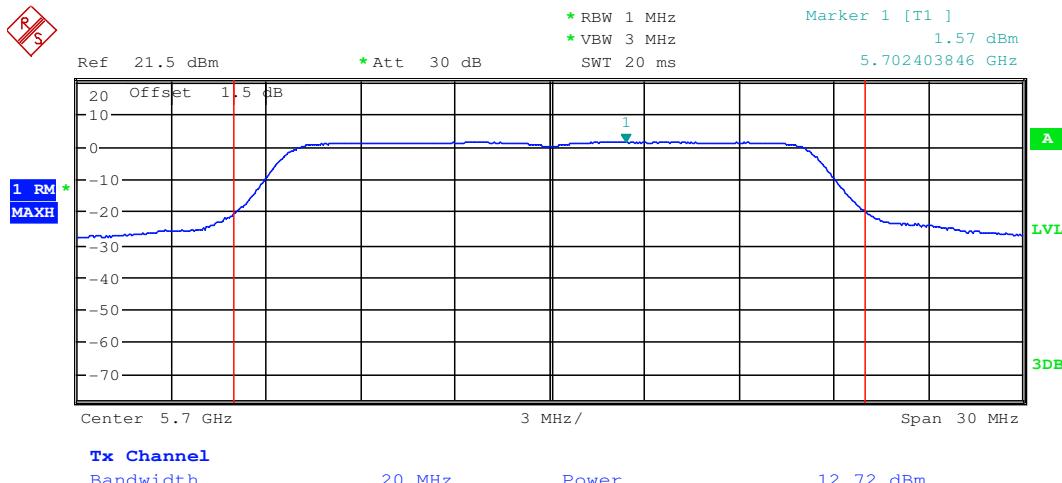
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



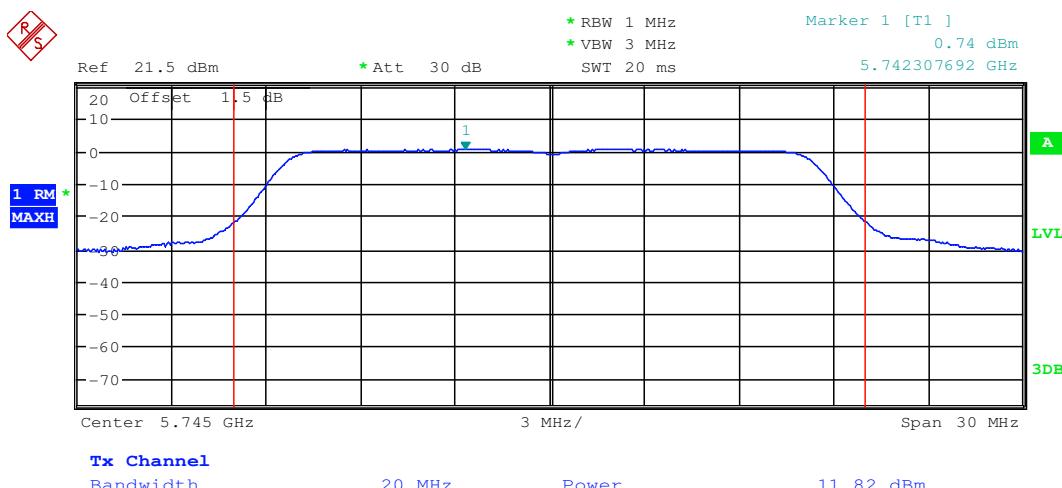
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



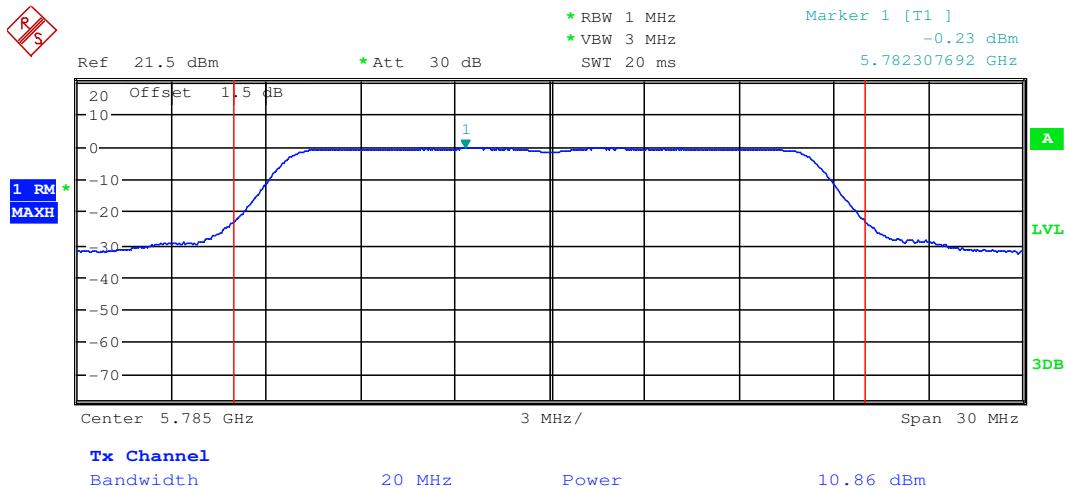
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



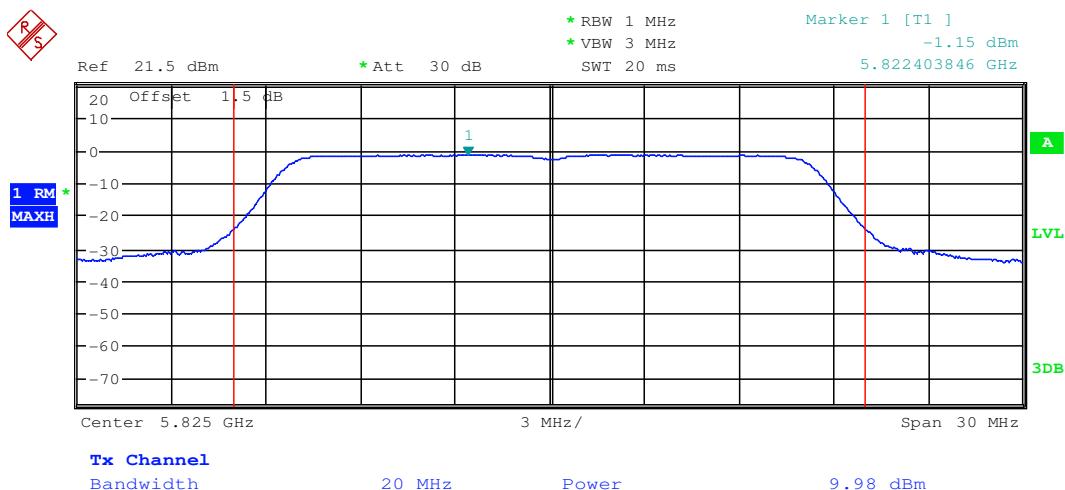
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



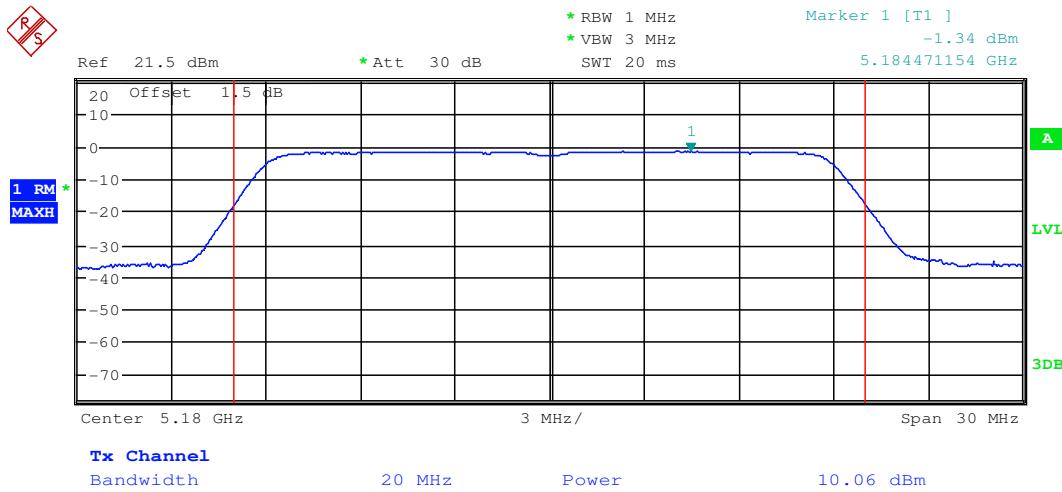
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



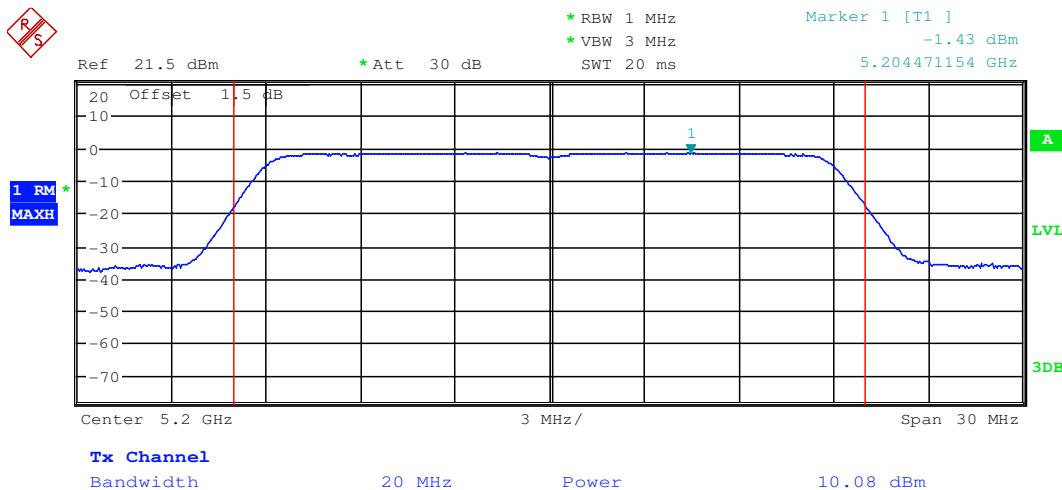
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



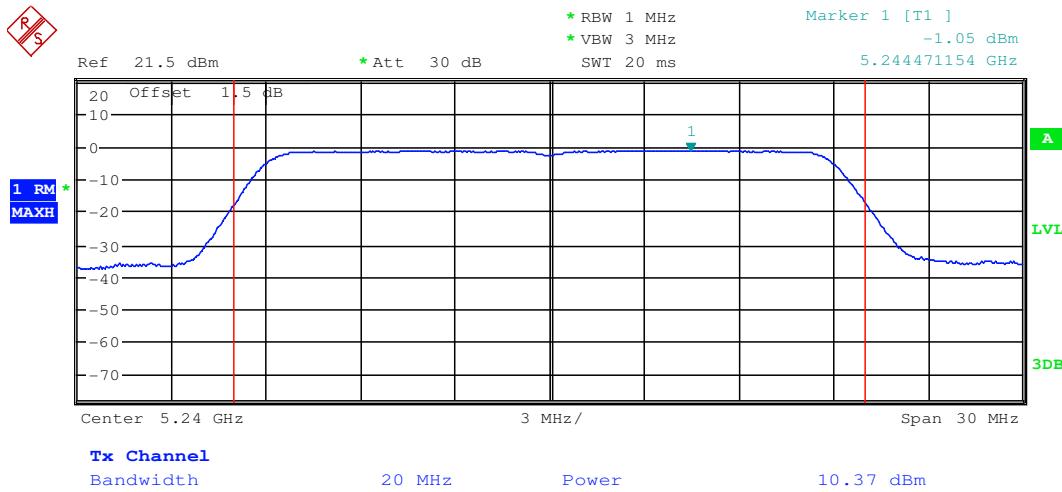
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



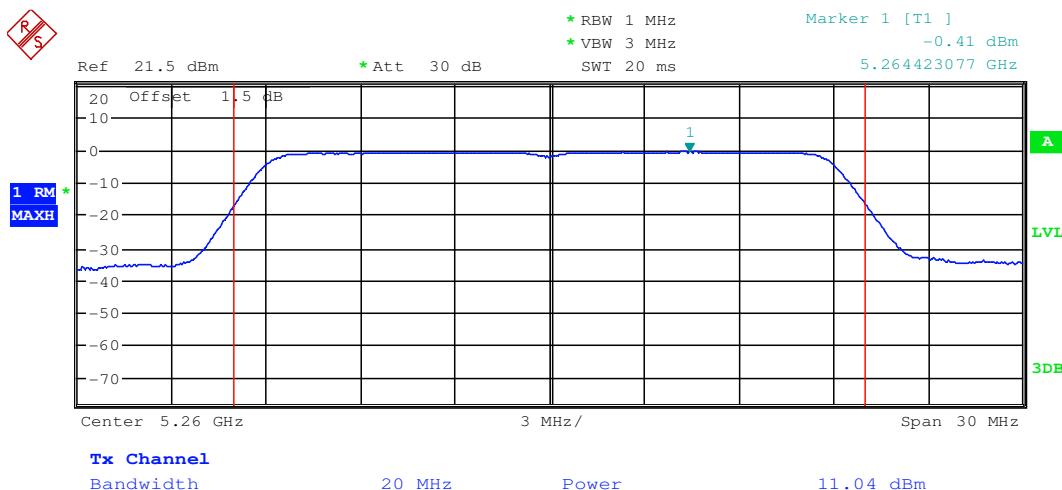
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



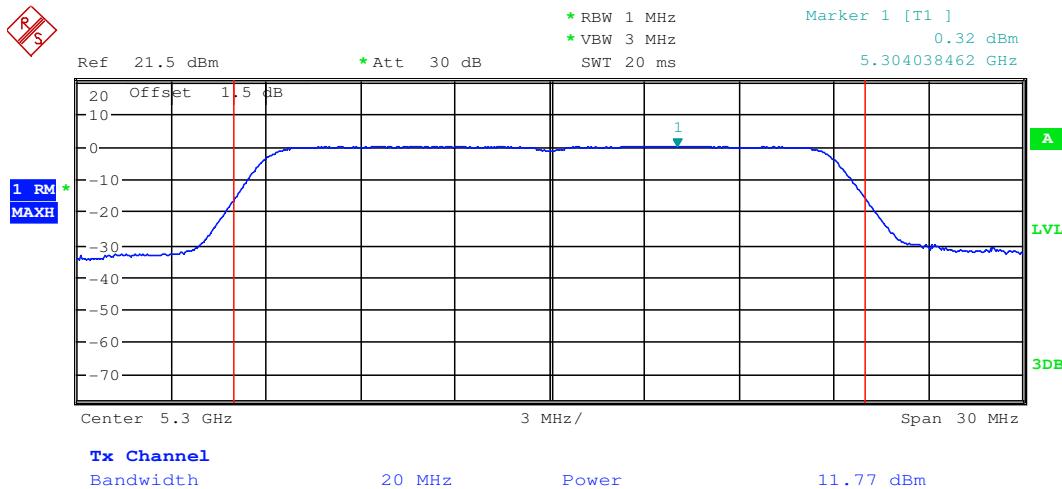
Test mode:	802.11n(HT20)	Frequency(MHz):	5240
------------	---------------	-----------------	------



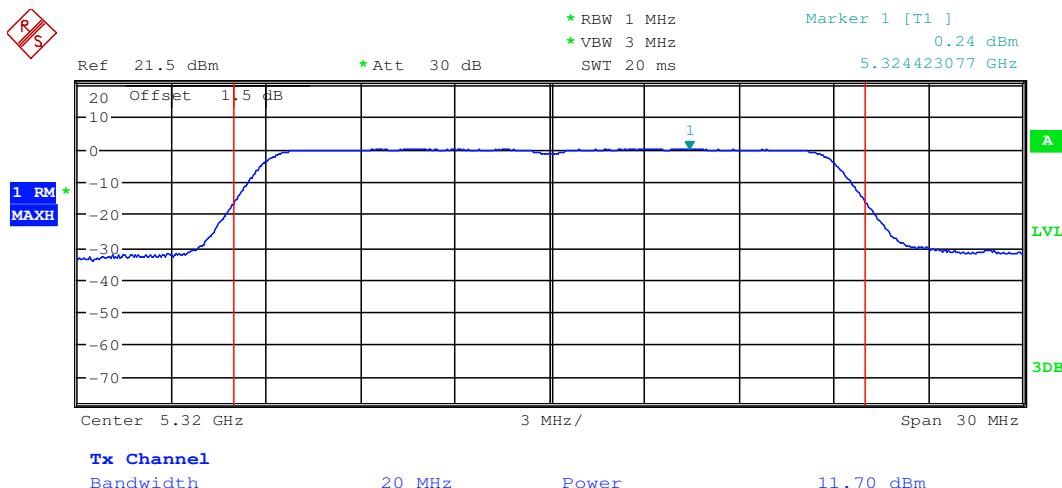
Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------



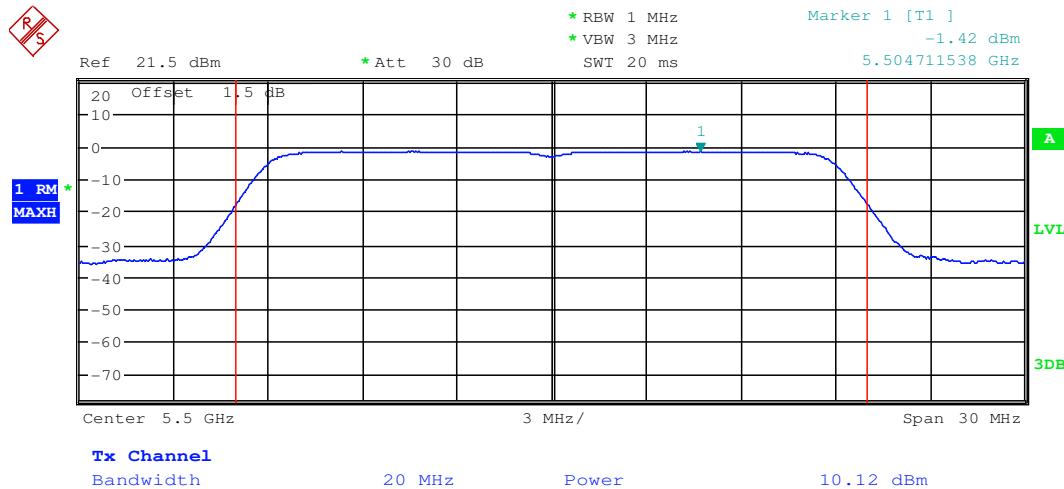
Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



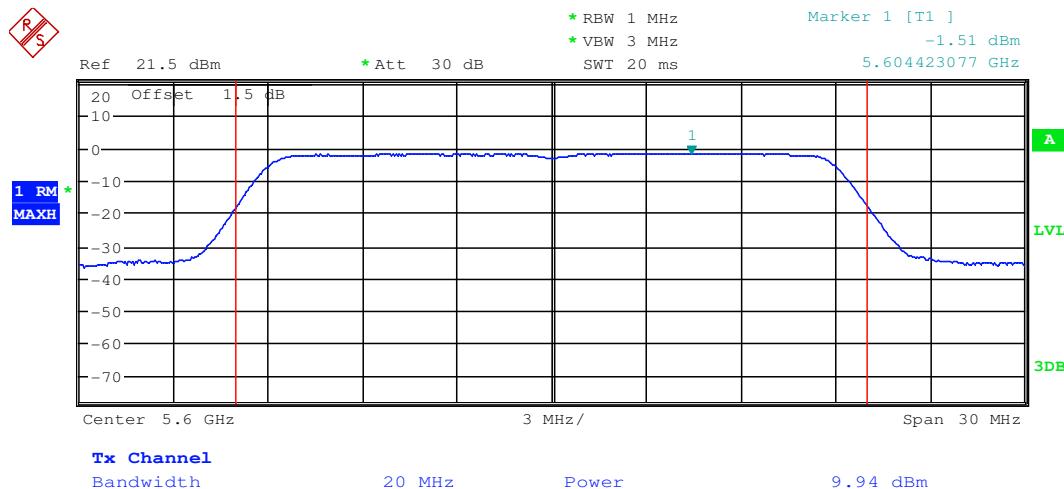
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



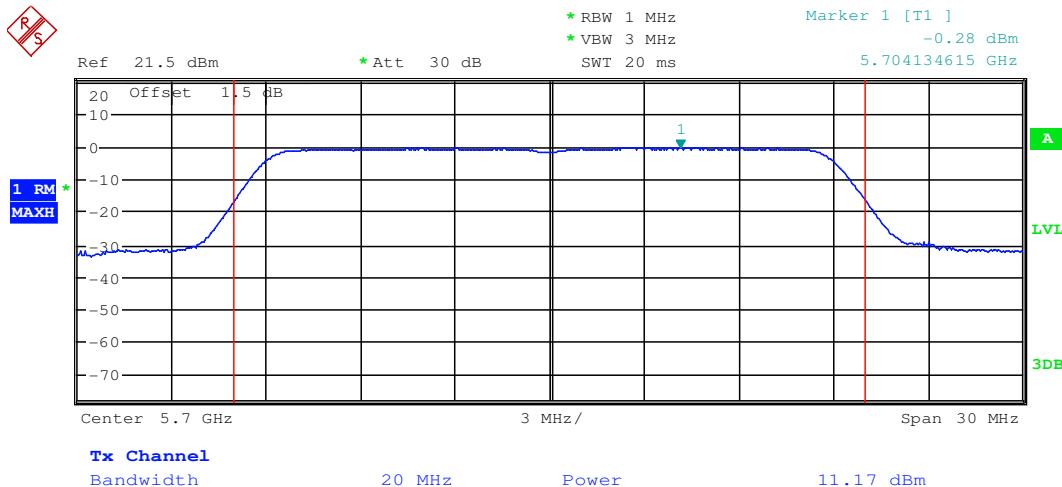
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



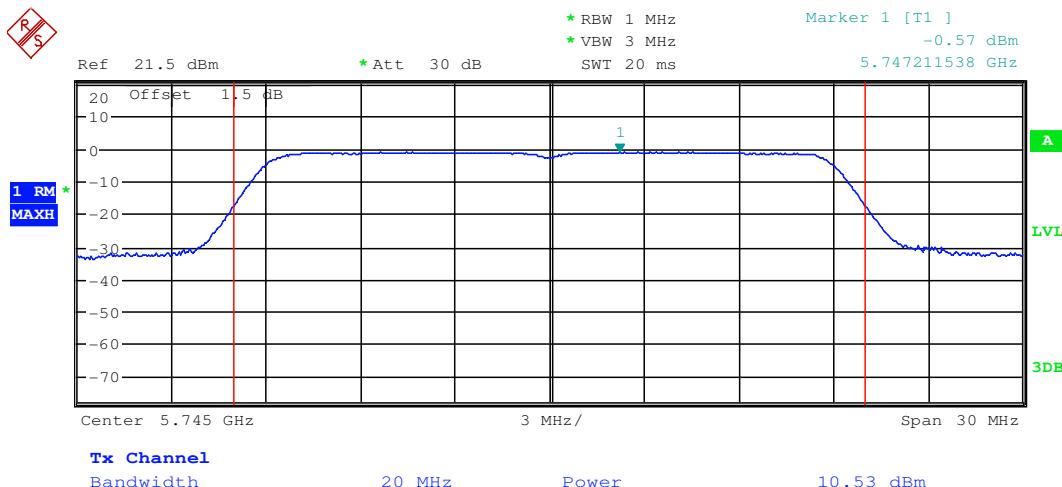
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



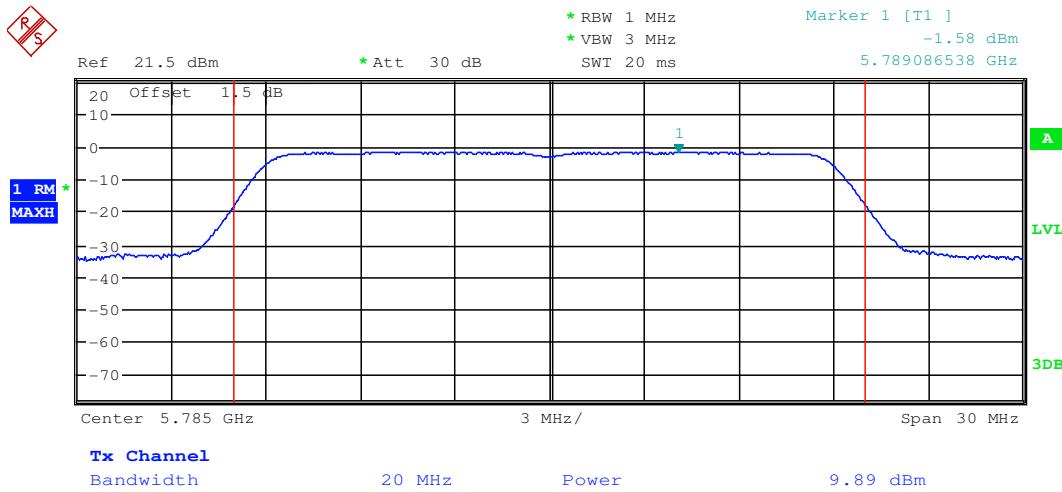
Test mode:	802.11n(HT20)	Frequency(MHz):	5700
------------	---------------	-----------------	------



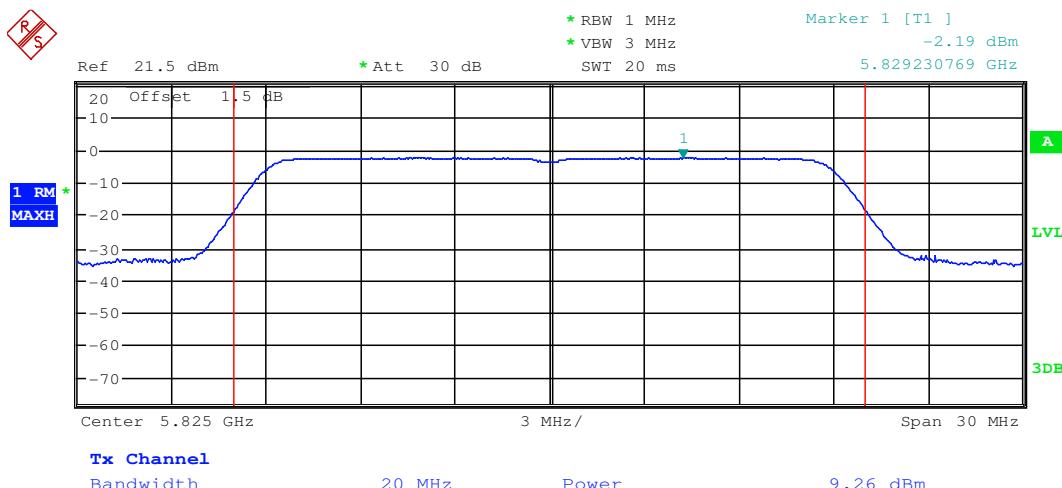
Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------



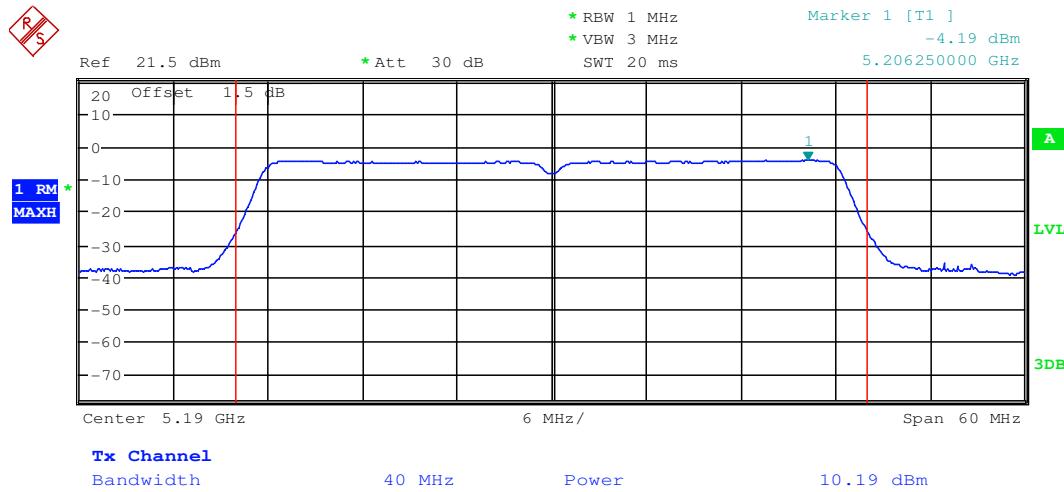
Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------



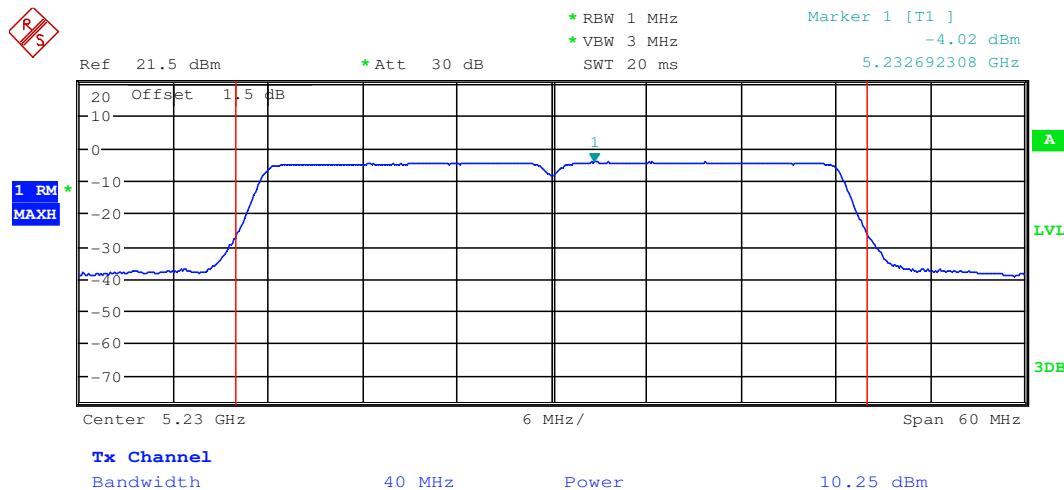
Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------



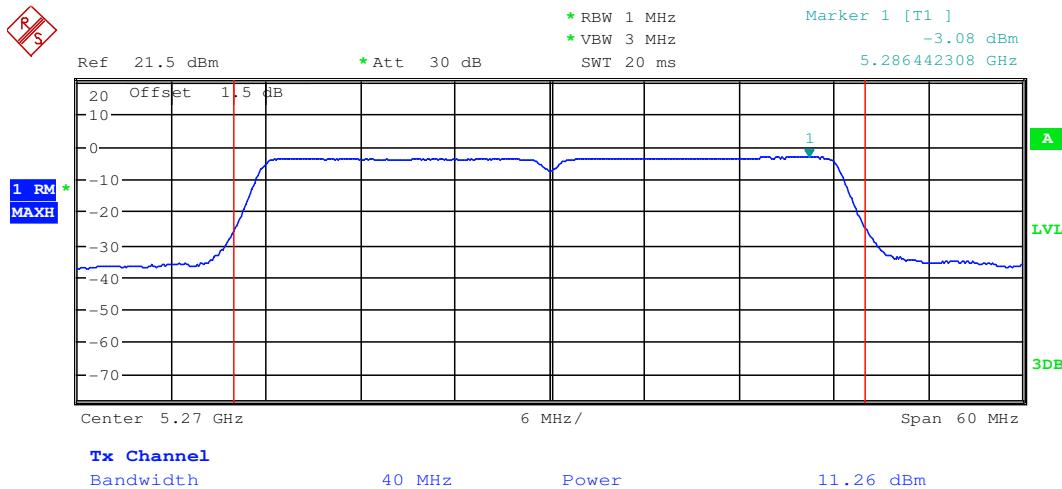
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



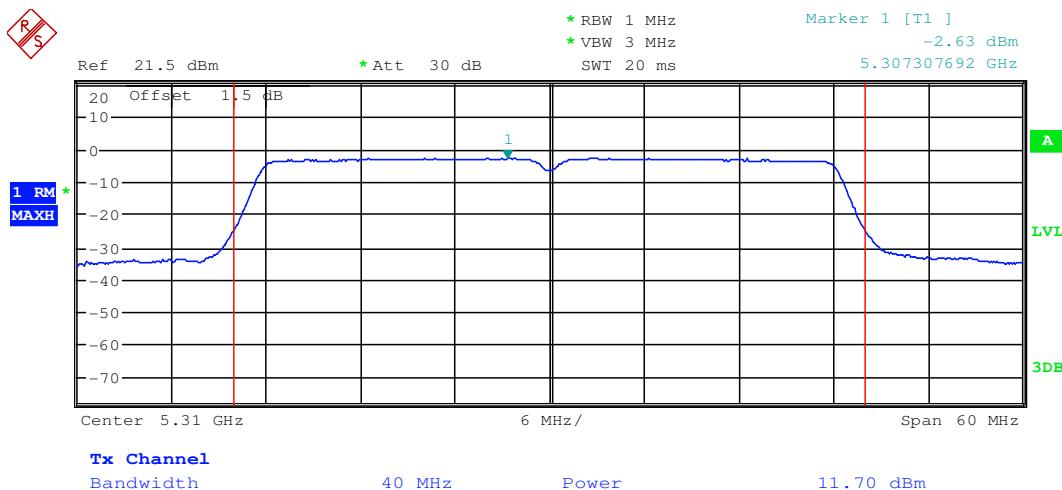
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



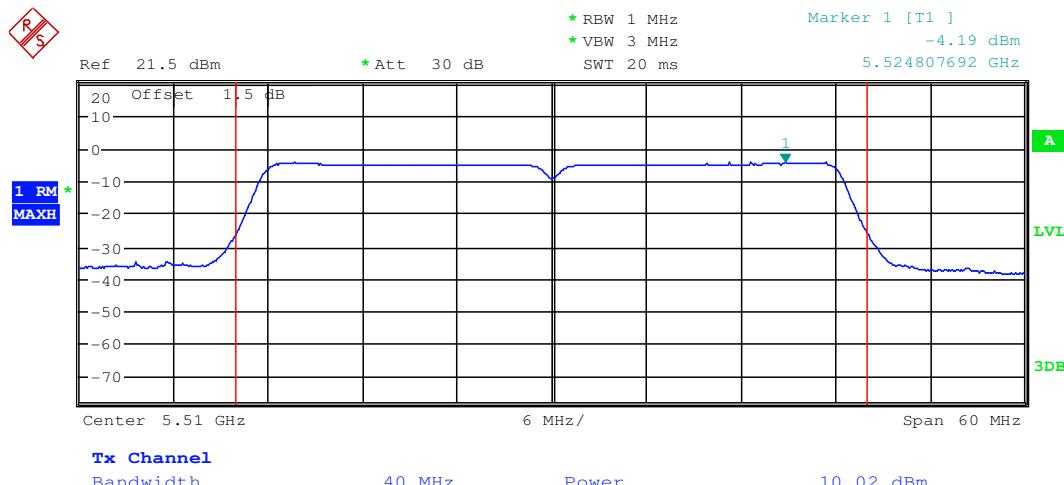
Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------



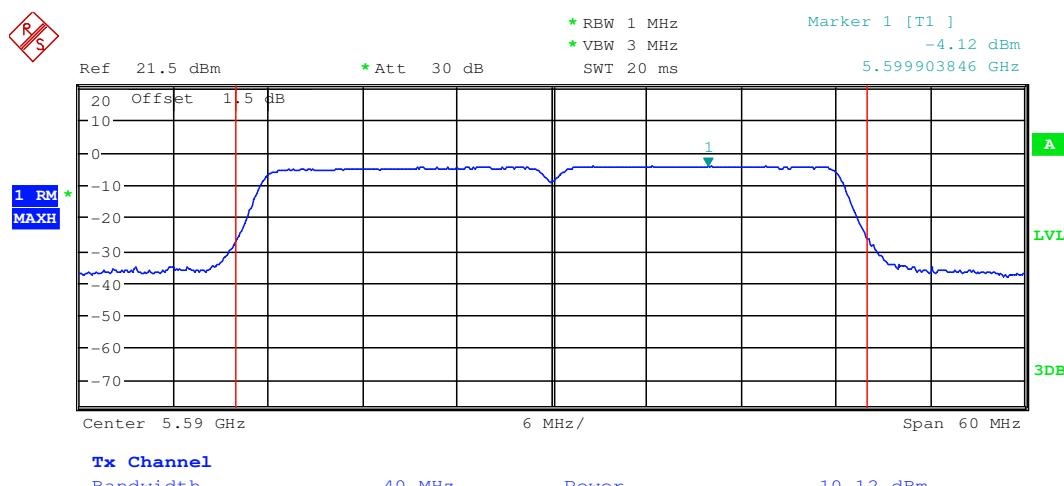
Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------



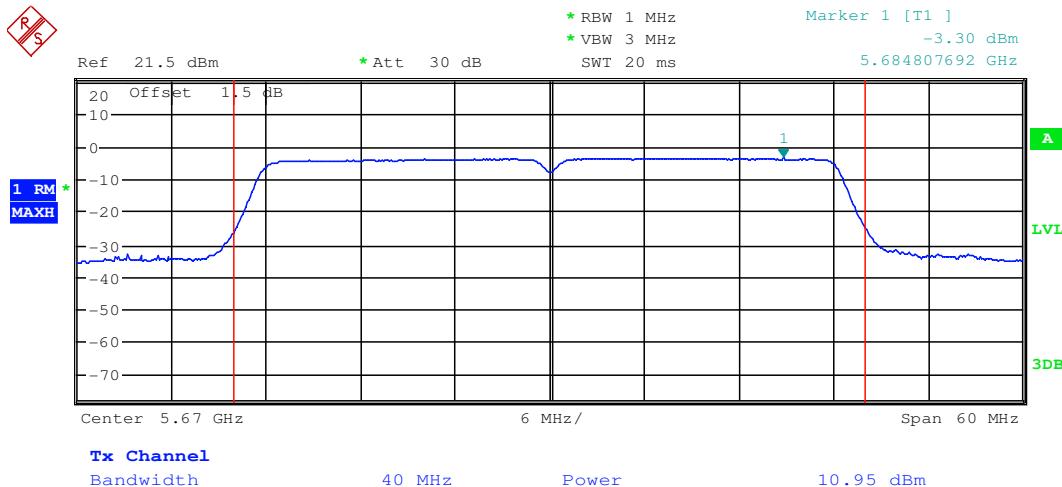
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



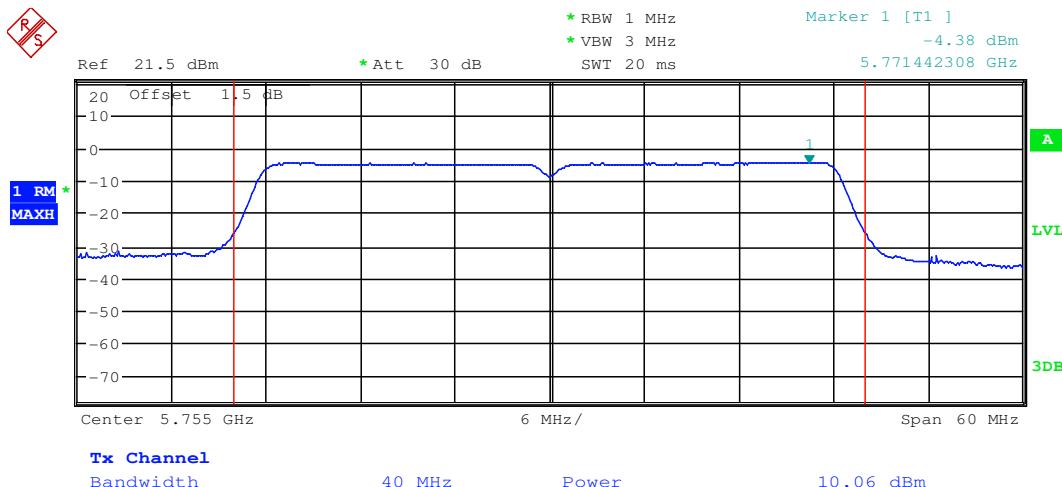
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



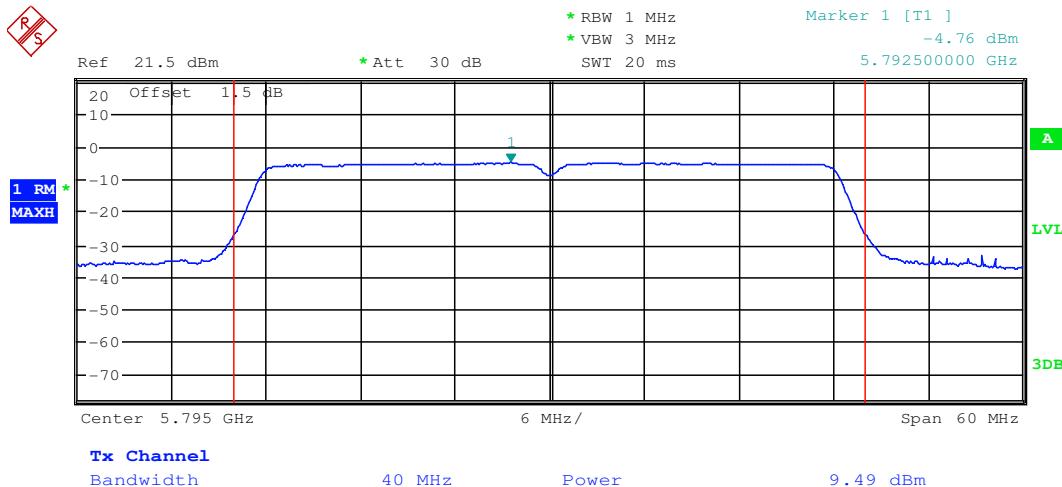
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------

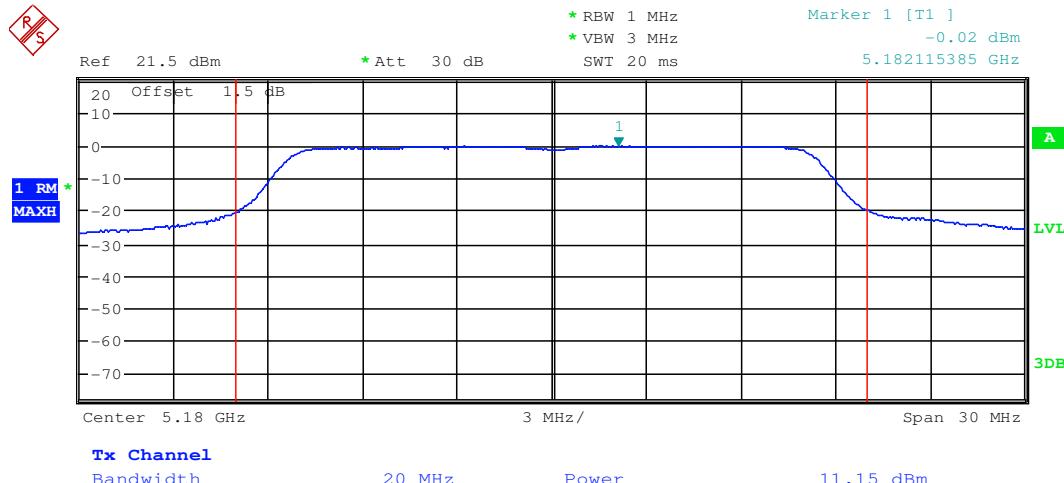


Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------

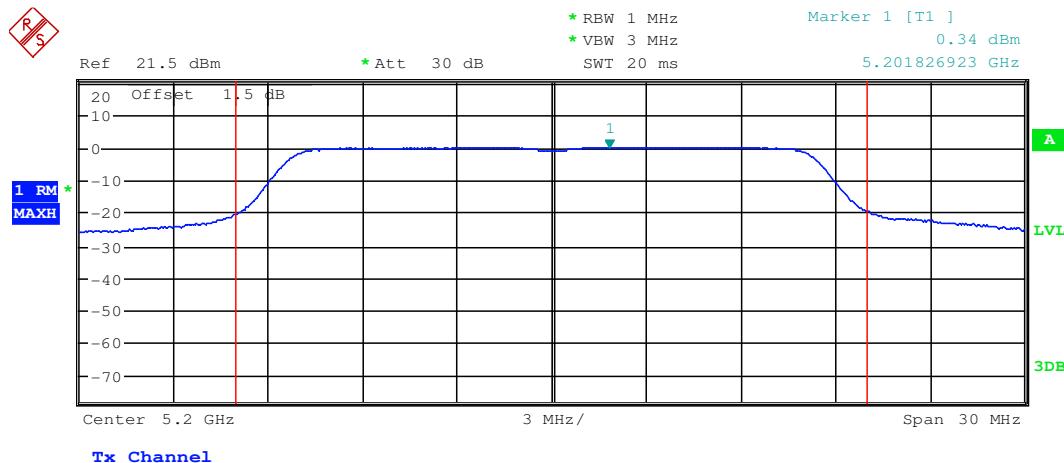


**Antenna 1**

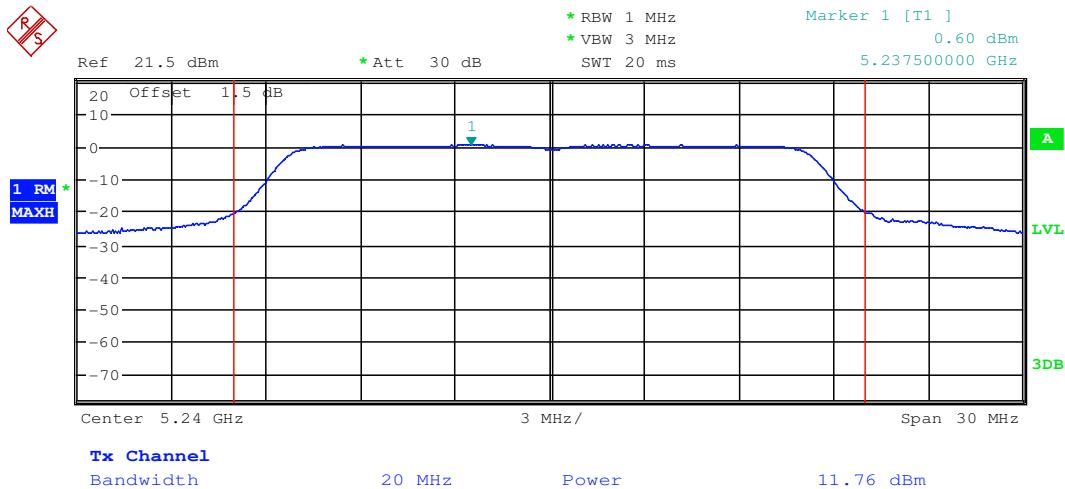
Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------



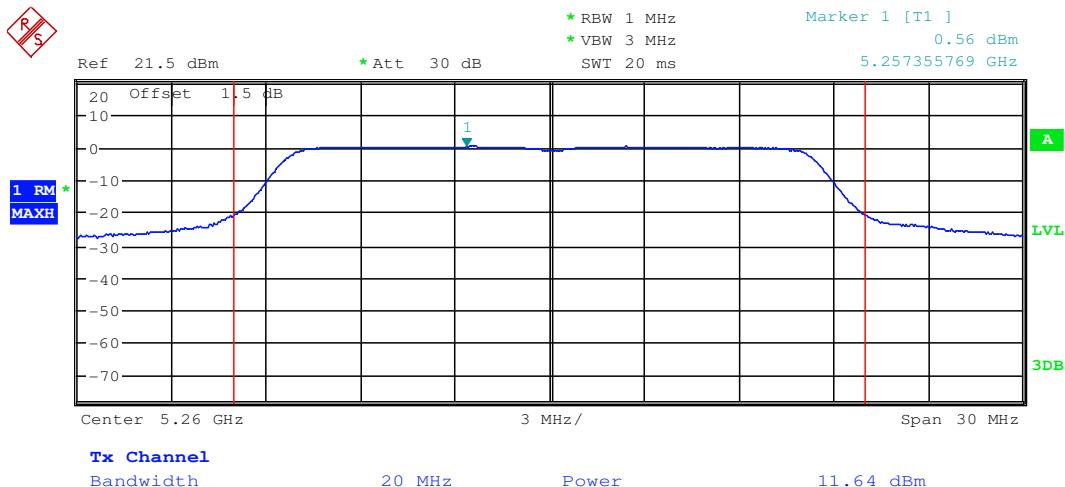
Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------



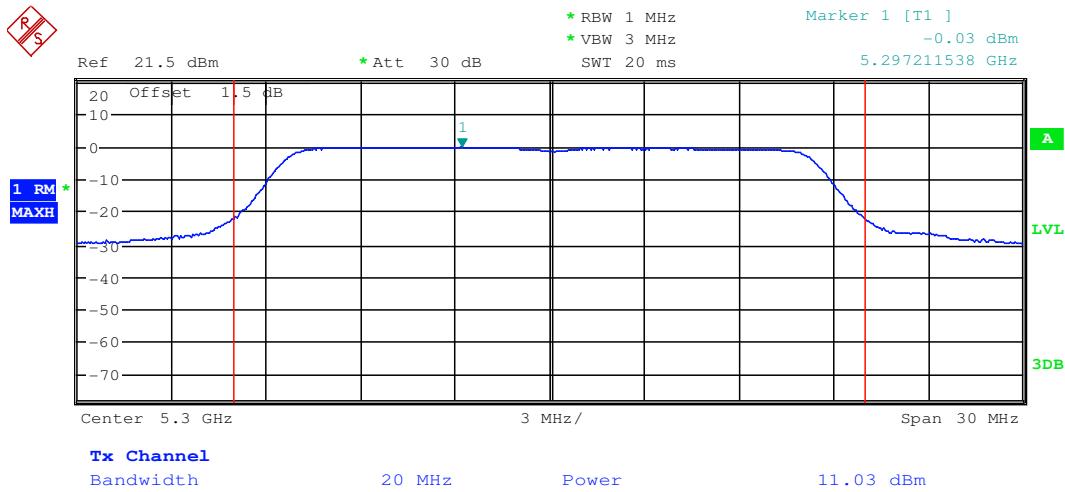
Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------



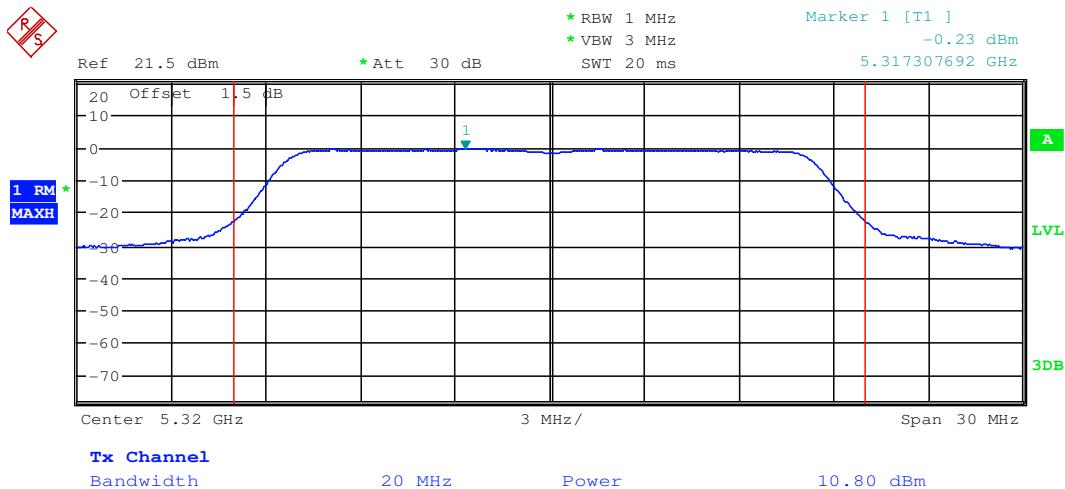
Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------



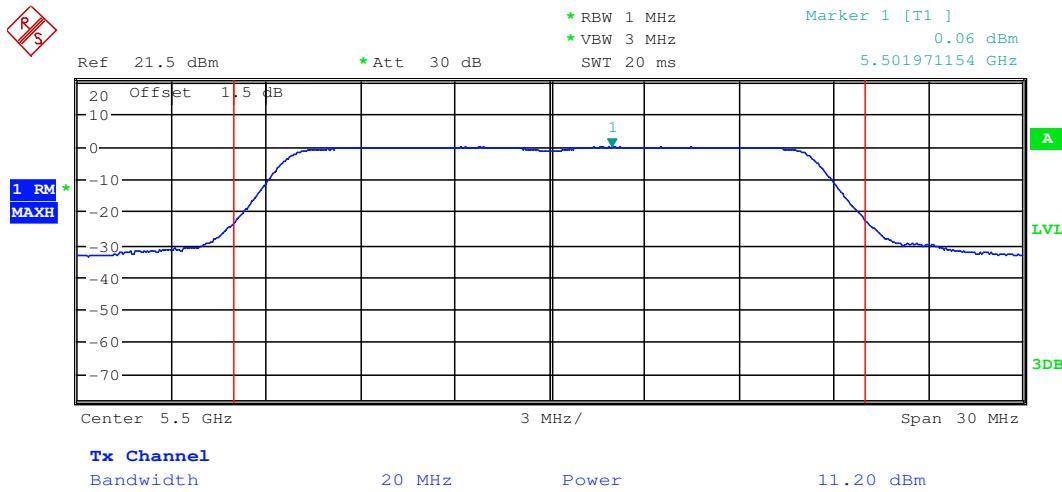
Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------



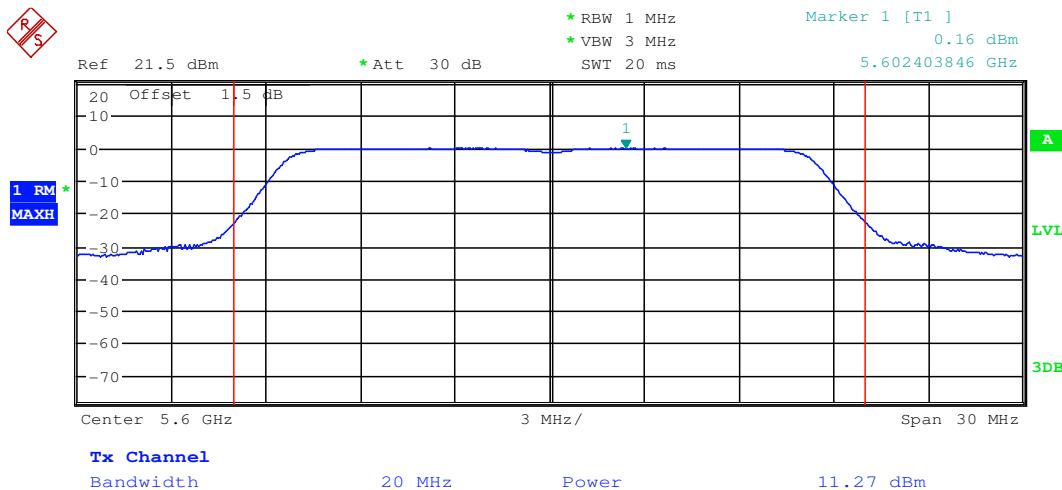
Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------



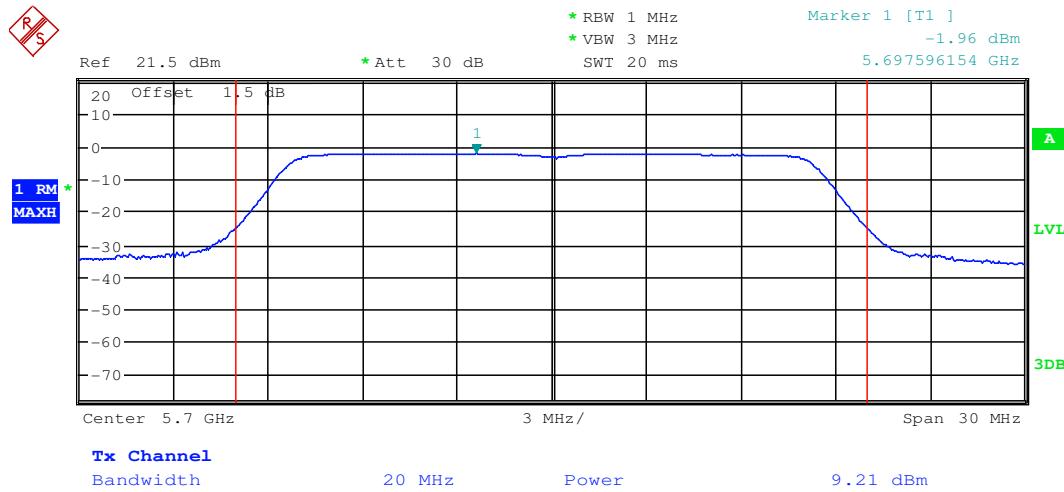
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



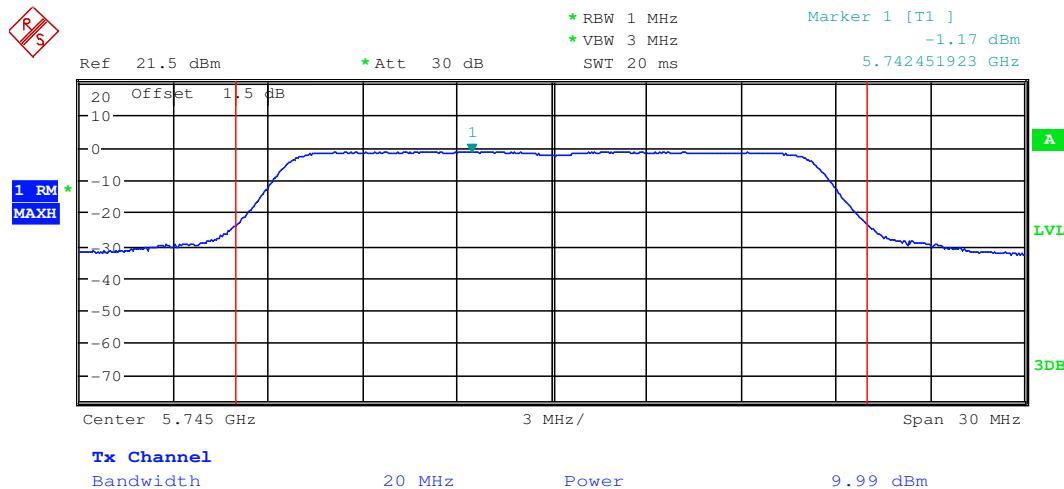
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



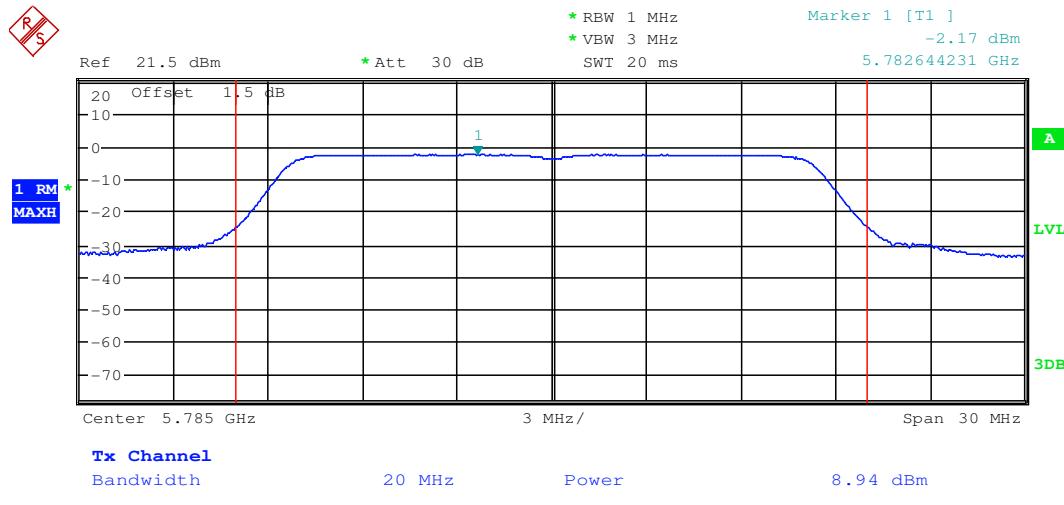
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



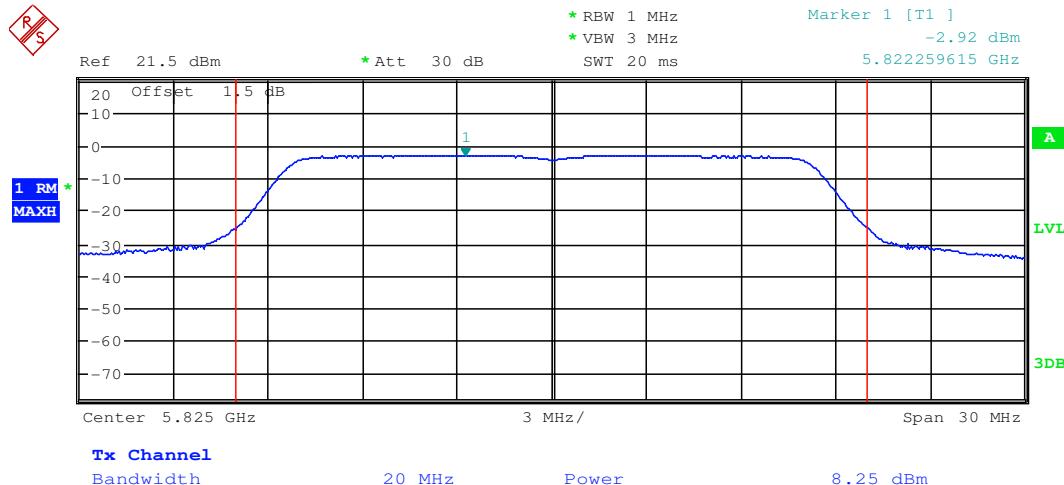
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



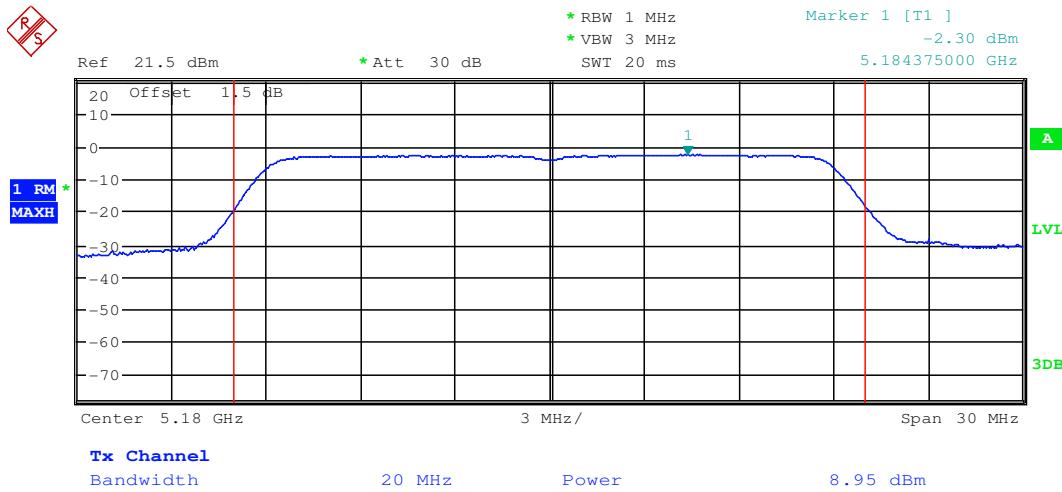
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



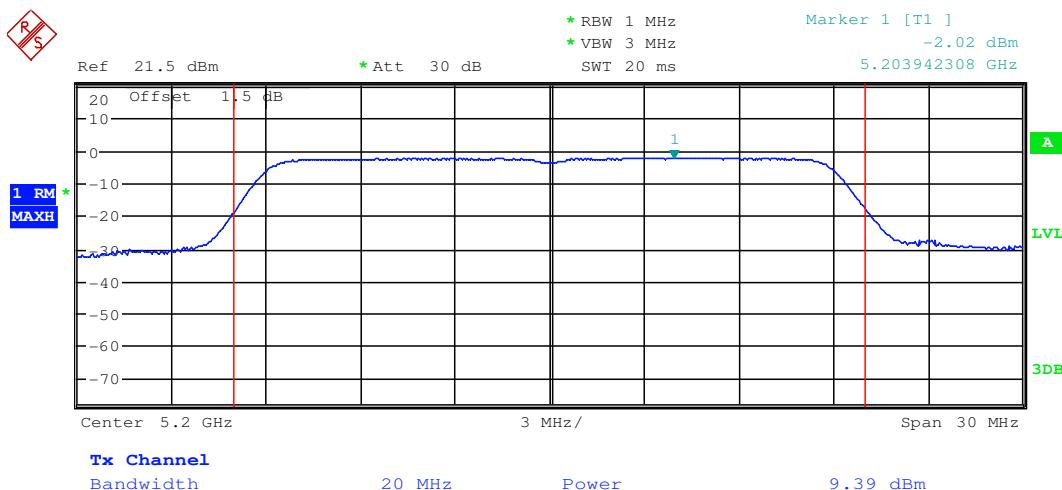
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



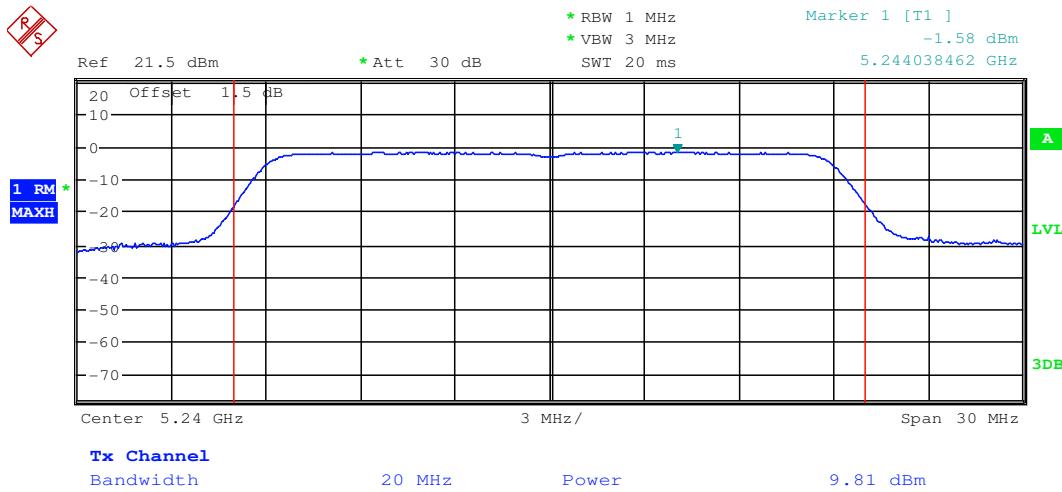
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



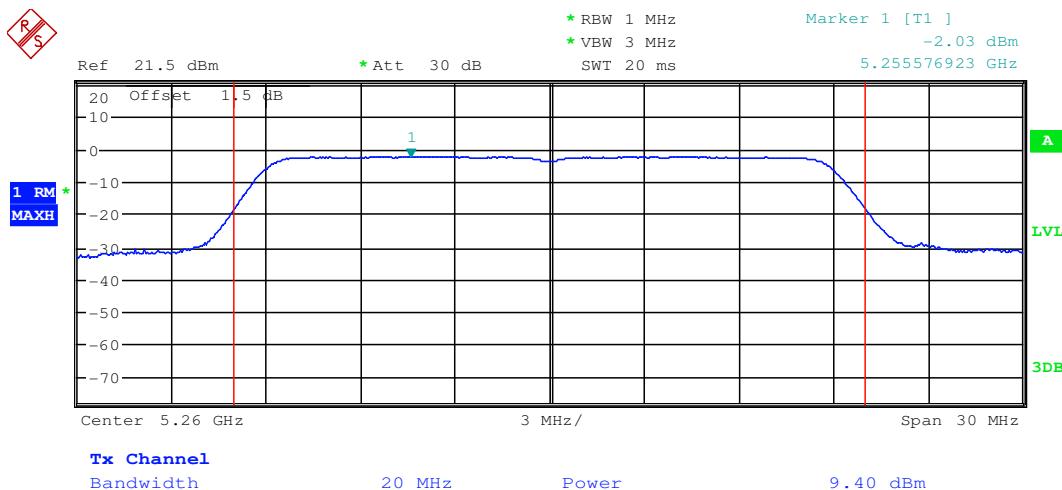
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



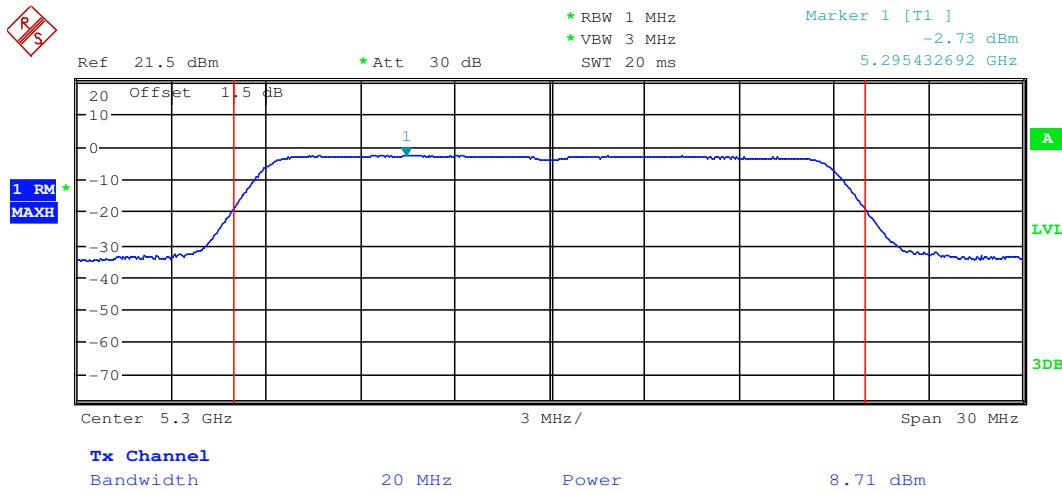
Test mode:	802.11n(HT20)	Frequency(MHz):	5240
------------	---------------	-----------------	------



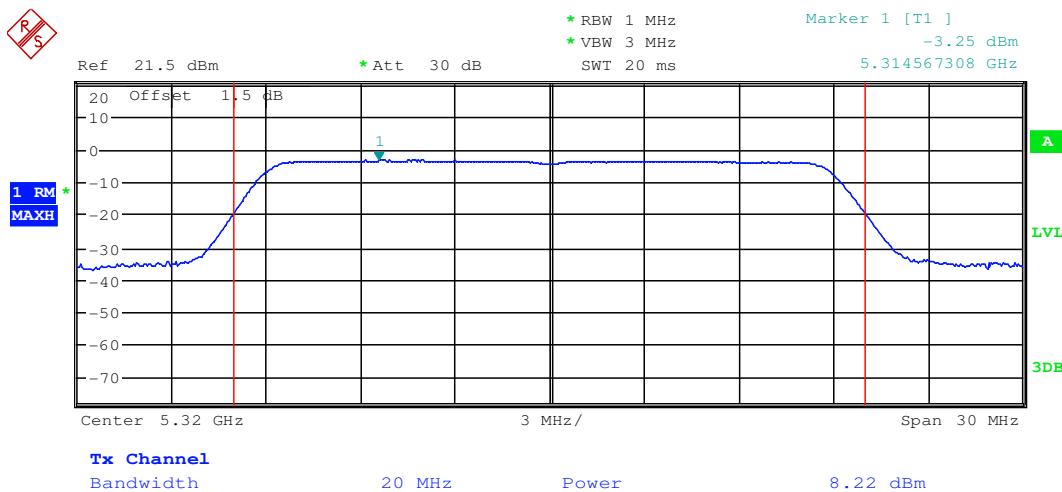
Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------



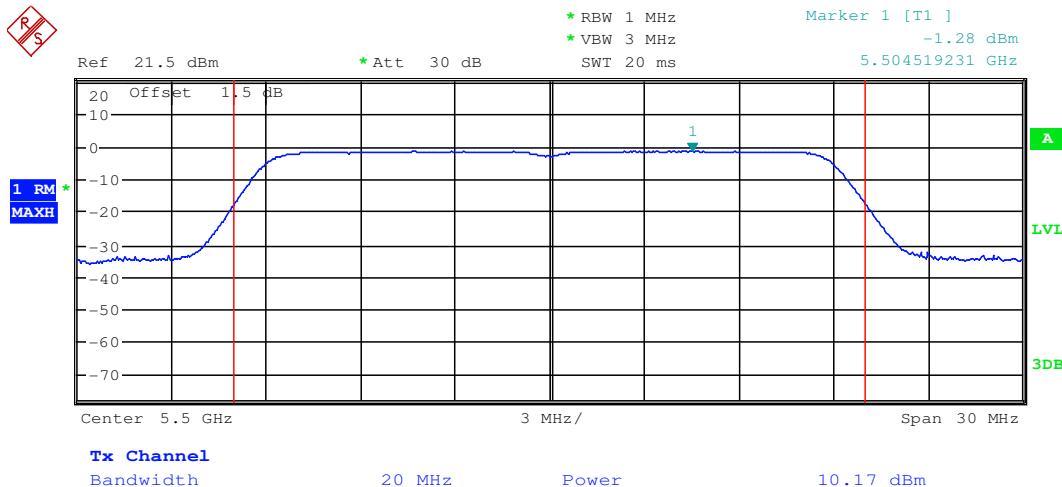
Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



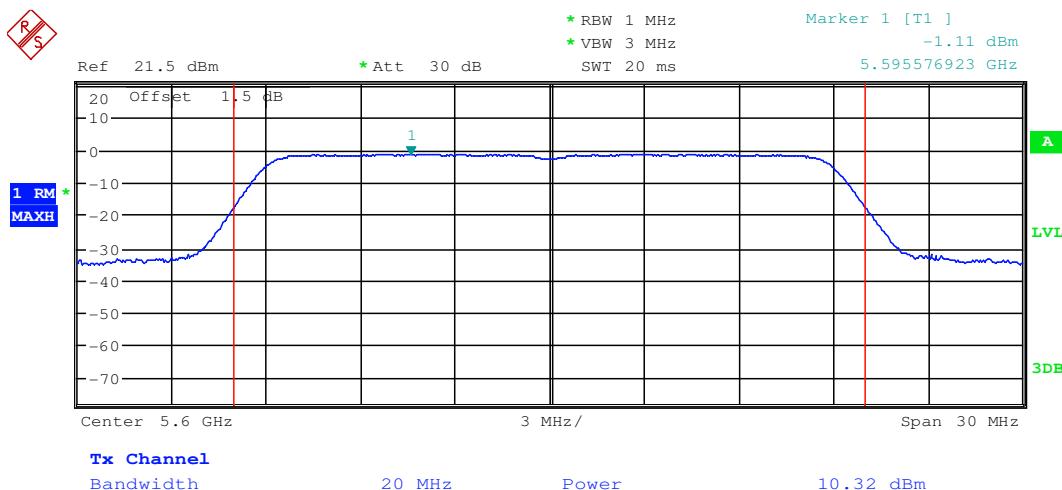
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



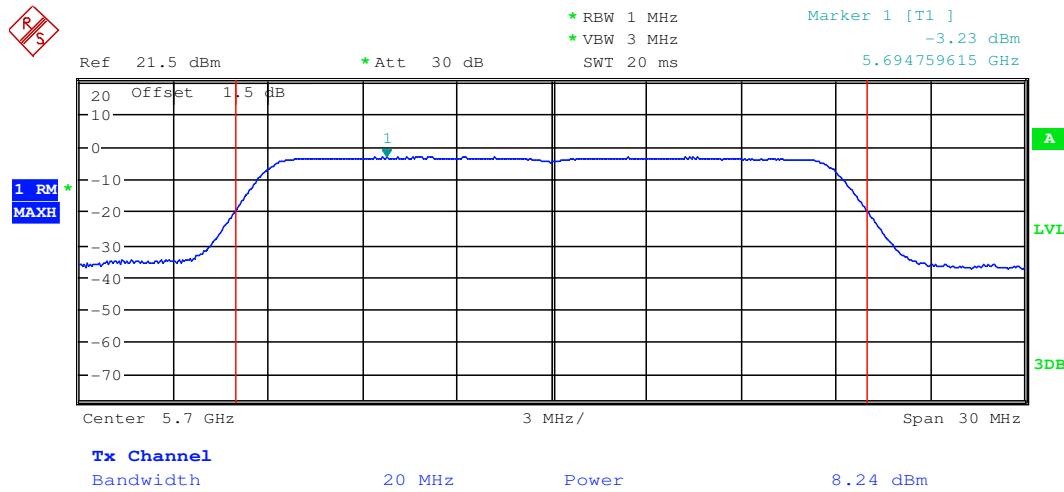
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



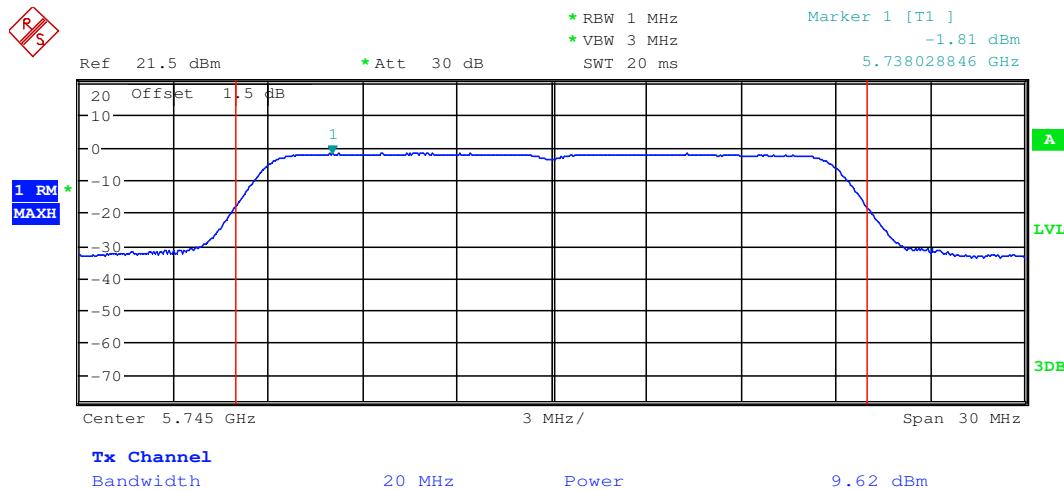
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



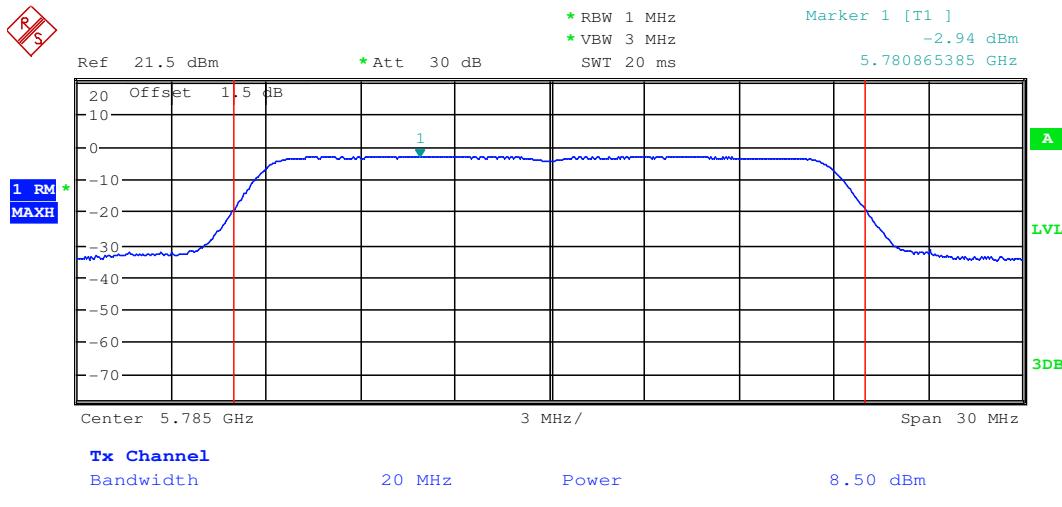
Test mode:	802.11n(HT20)	Frequency(MHz):	5700
------------	---------------	-----------------	------



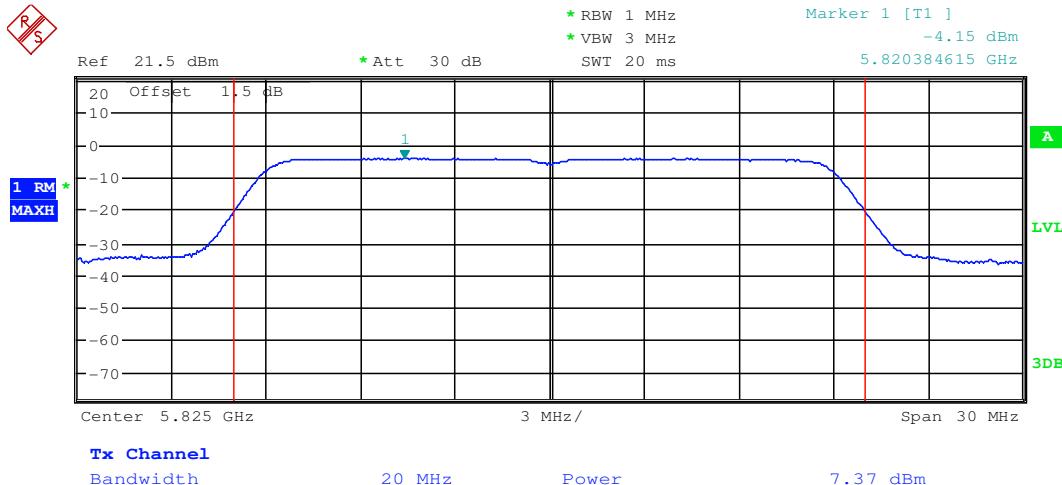
Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------



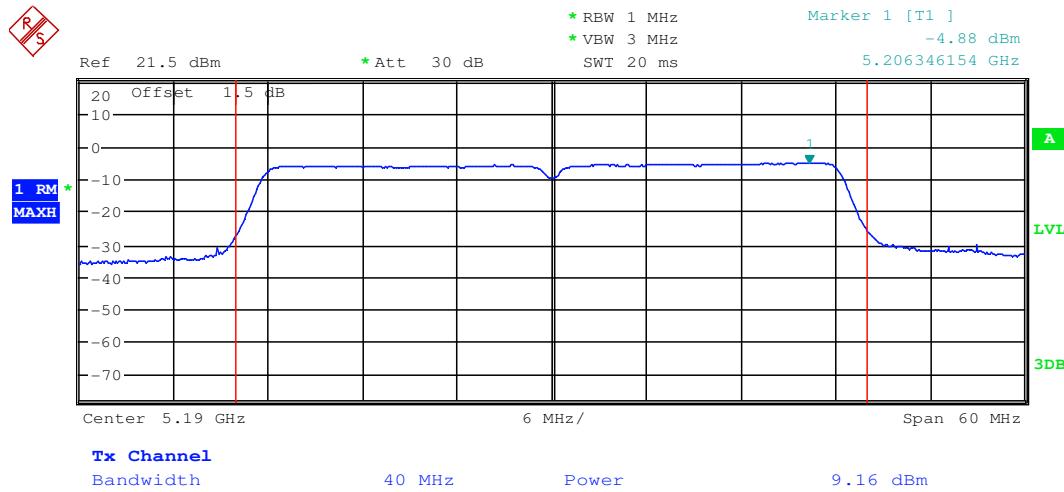
Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------



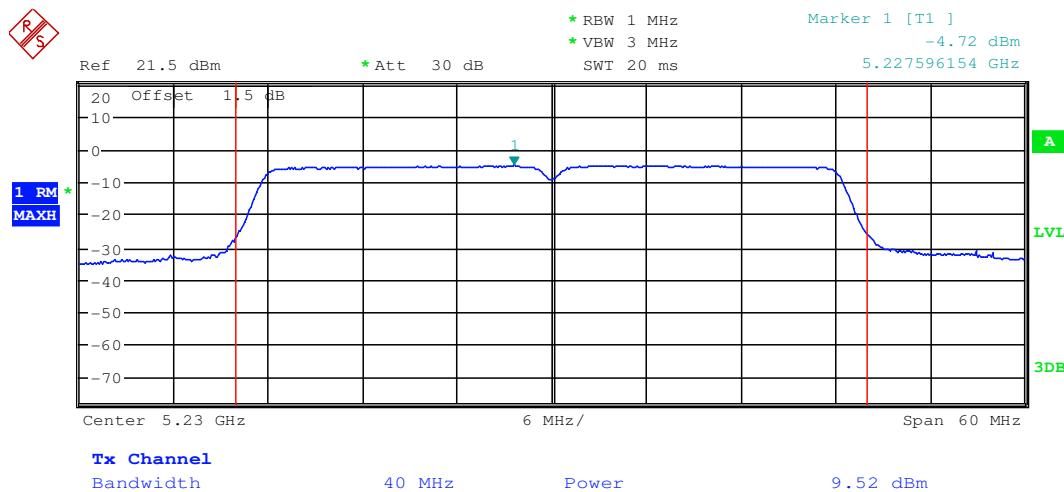
Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------



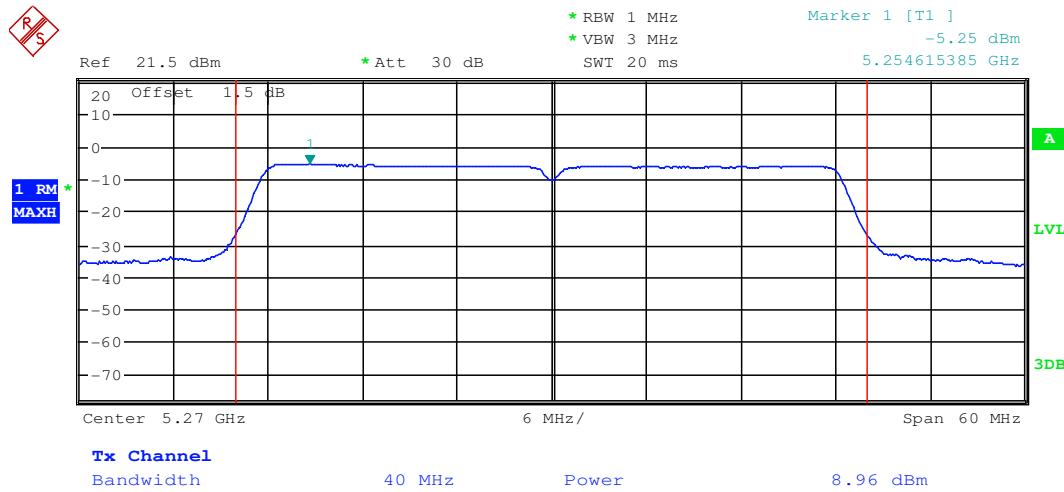
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



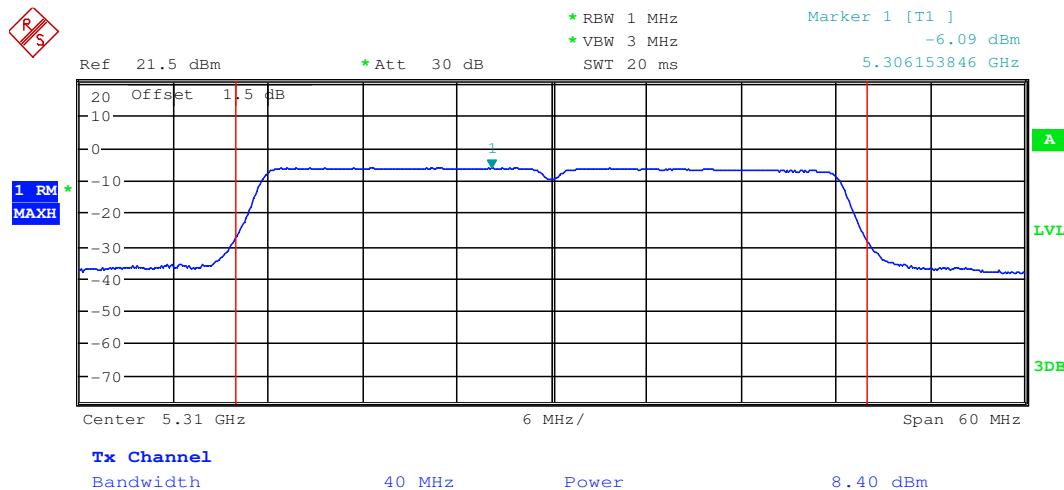
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



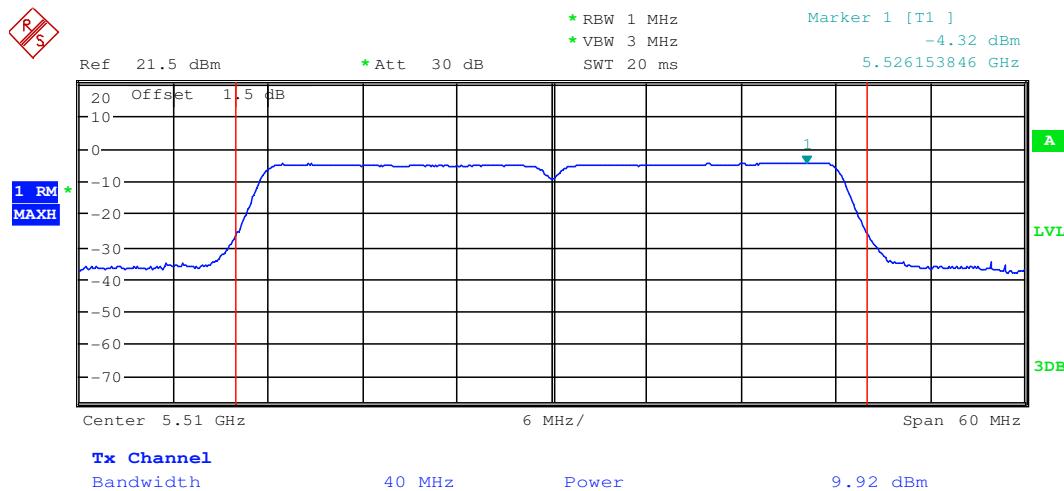
Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------



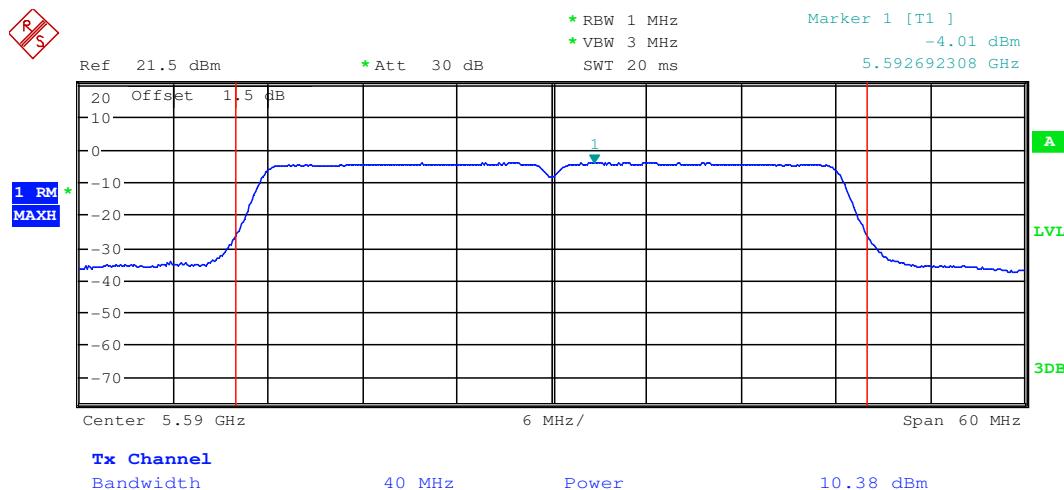
Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------



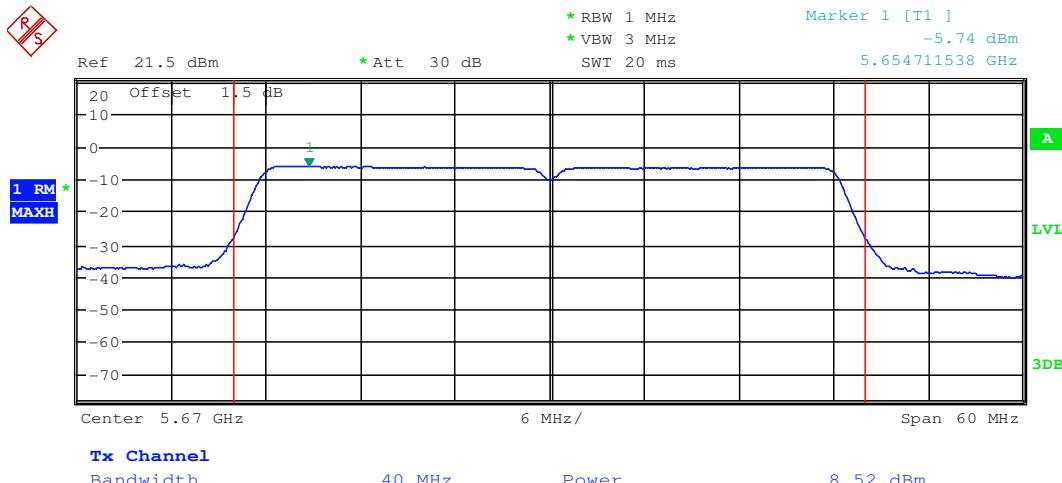
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



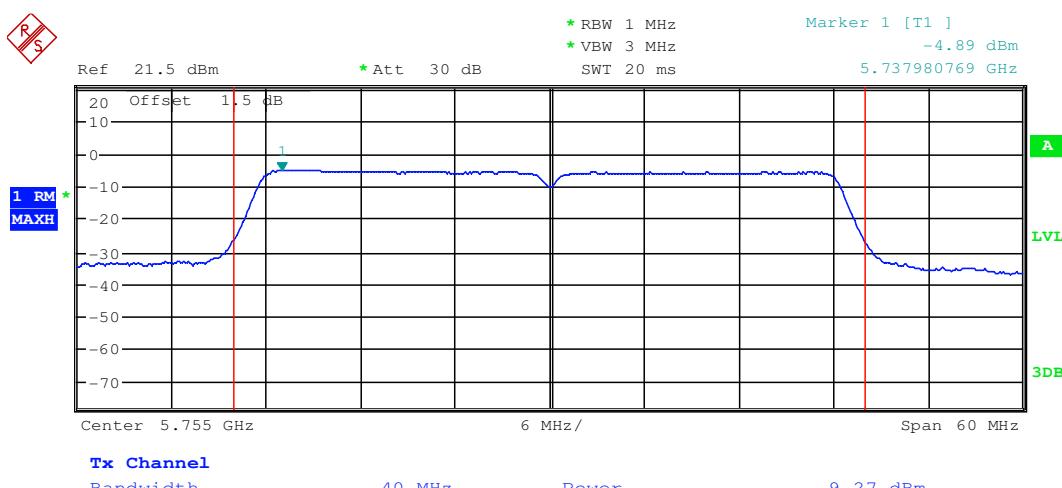
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



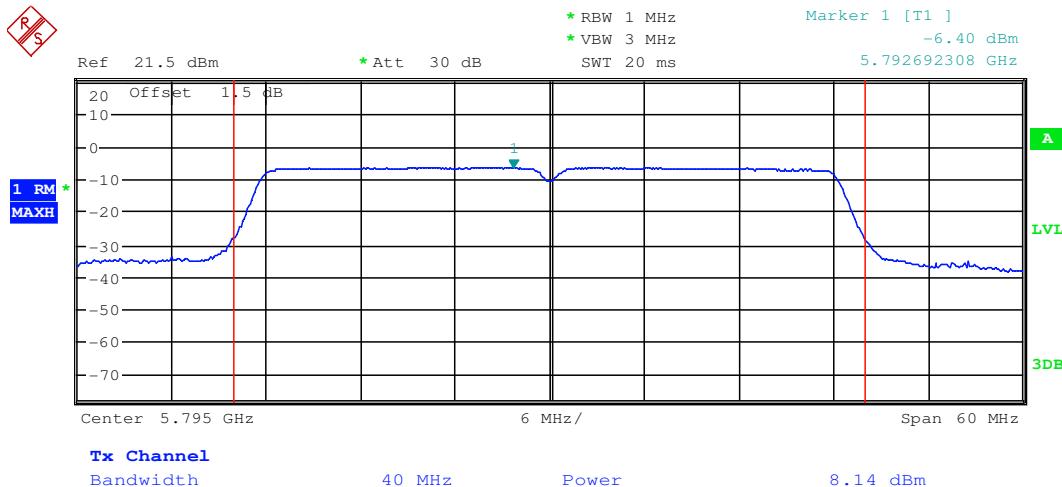
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



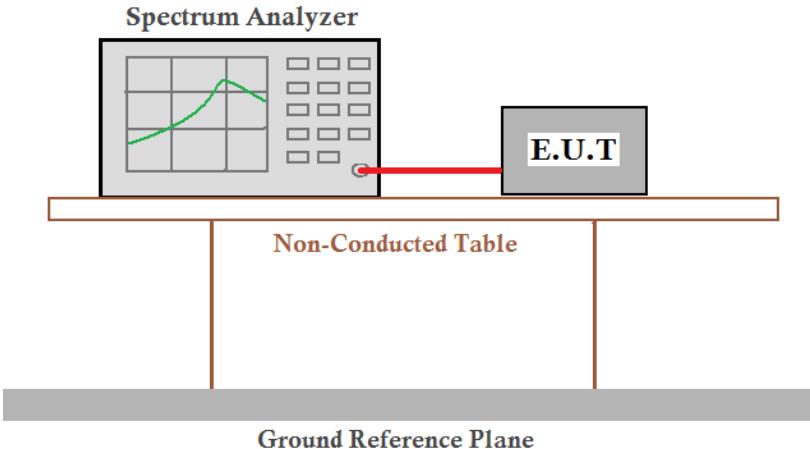
Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------



**6.4 26dB Emission Bandwidth and 99% Occupied Bandwidth**

Test Requirement:	47 CFR Part 15 Section 15.407(a)
Test Method:	ANSI C63.10: 2013
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 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this report.
Limit:	No restriction limits.
Test Results:	Pass

**Measurement Data:**

802.11a mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	20.192	16.490
5200	20.337	16.490
5240	20.385	16.490
5260	20.096	16.490
5300	20.769	16.538
5320	22.644	16.538
5500	20.288	16.538
5600	22.981	16.538
5700	27.163	16.587
5745	20.865	16.538
5785	20.240	16.538
5825	20.192	16.538

802.11n(HT20) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	20.144	17.740
5200	20.192	17.740
5240	20.288	17.740
5260	20.337	17.740
5300	20.240	17.740
5320	20.240	17.740
5500	20.337	17.740
5600	20.288	17.740
5700	20.385	17.740
5745	20.288	17.740
5785	20.192	17.740
5825	20.288	17.740





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

Report No.: SZEM150700454405

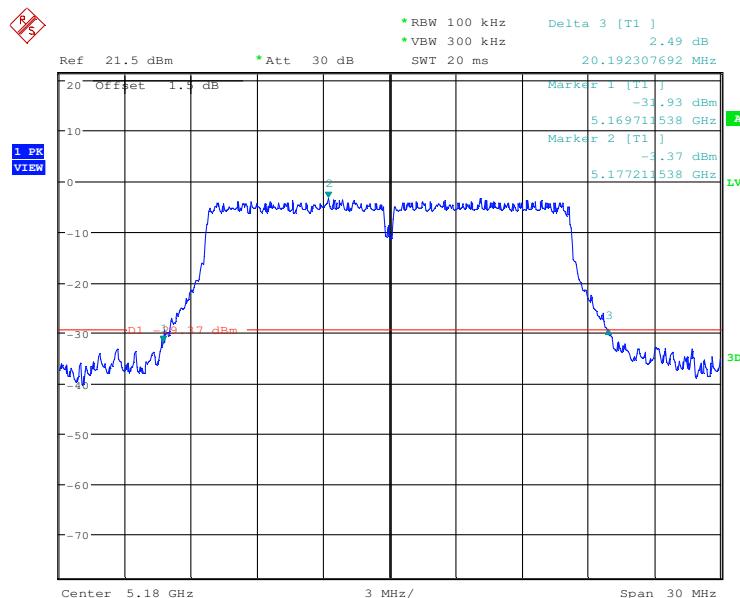
Page: 59 of 211

802.11n(HT40) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	40.385	36.346
5230	40.385	36.346
5270	40.192	36.346
5310	40.673	36.346
5510	40.385	36.346
5590	40.385	36.346
5670	42.115	36.346
5755	40.673	36.346
5795	40.962	36.346

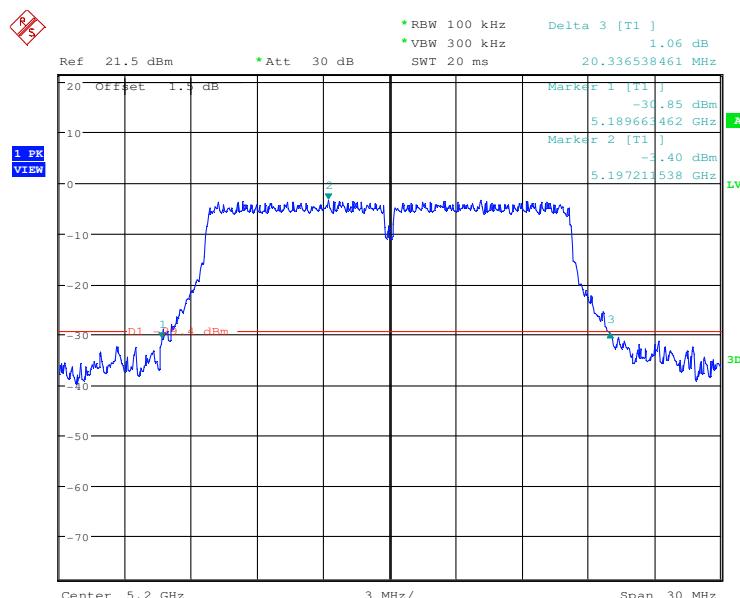
"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

**26dB Emission Bandwidth**
**Test plot as follows:**

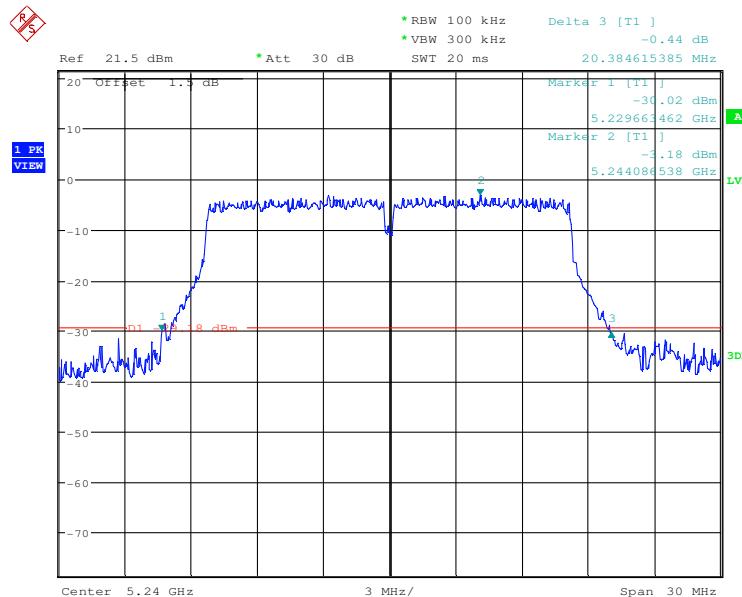
Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------



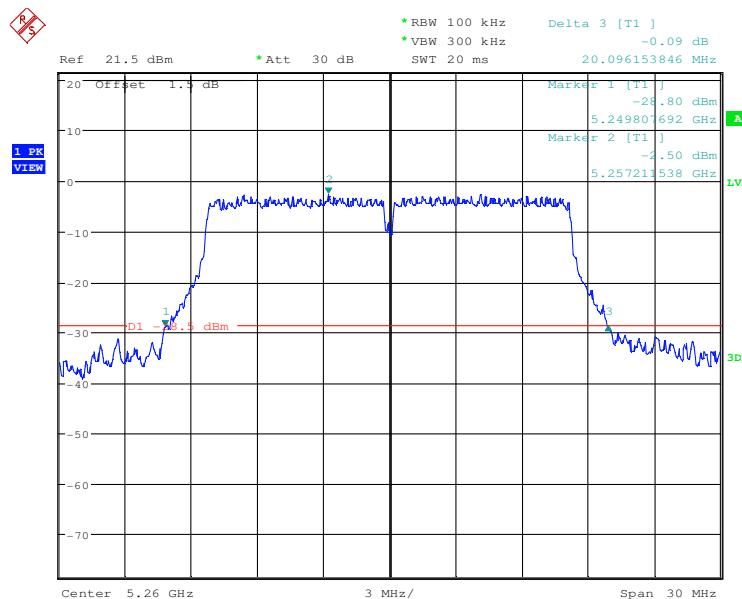
Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------



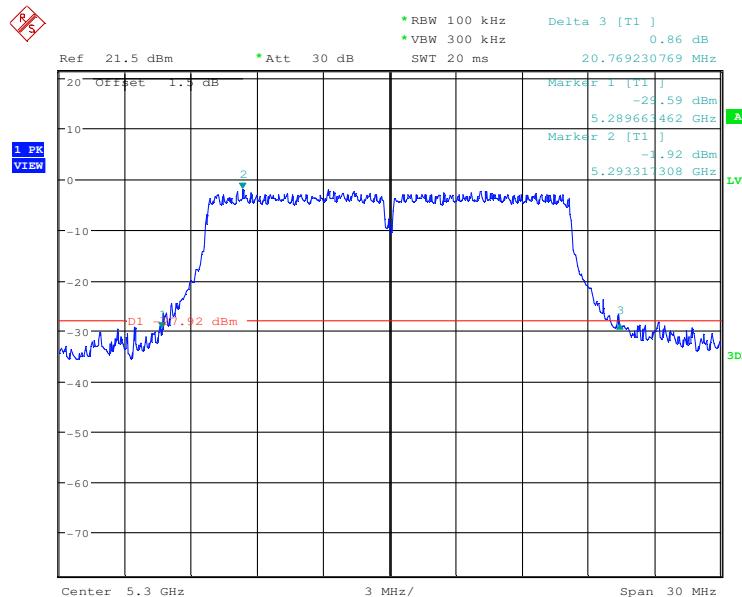
Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------



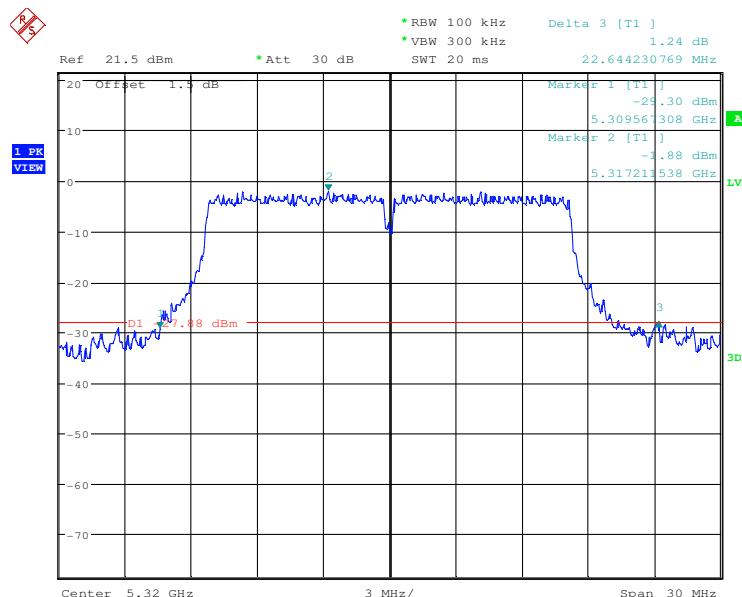
Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------



Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------

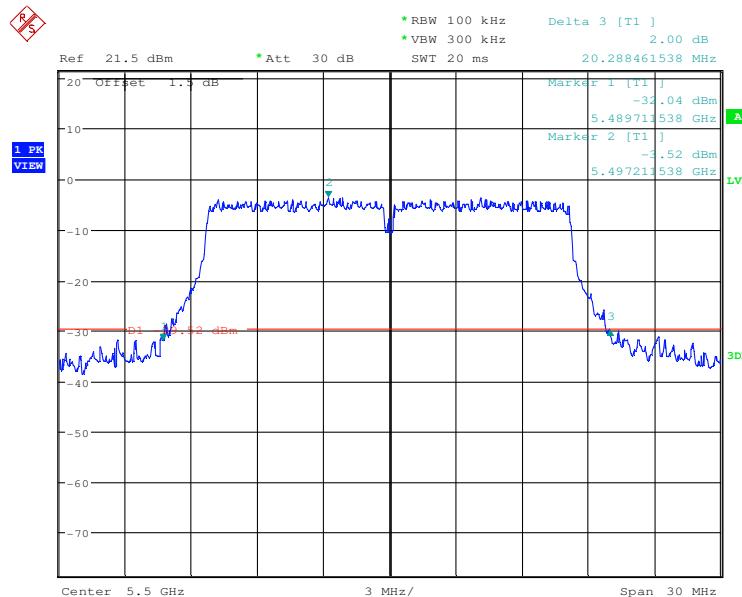


Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------

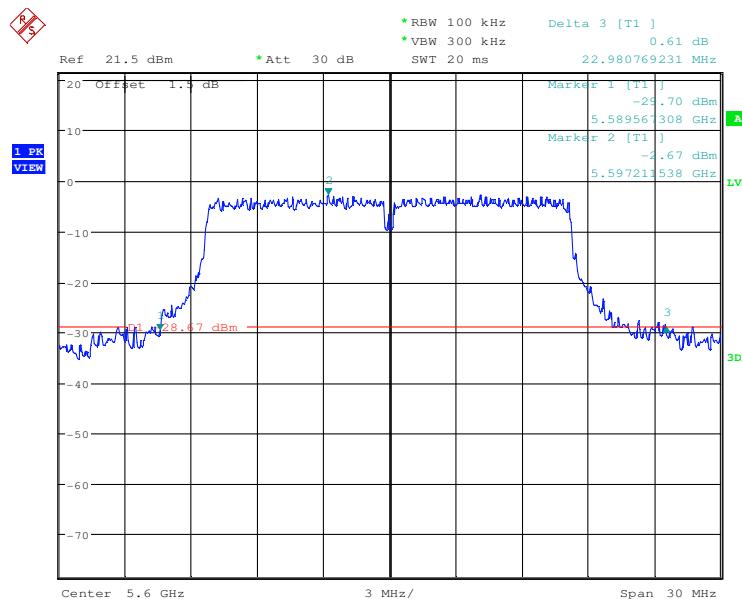


Report No.: SZEM150700454405  
Page: 63 of 211

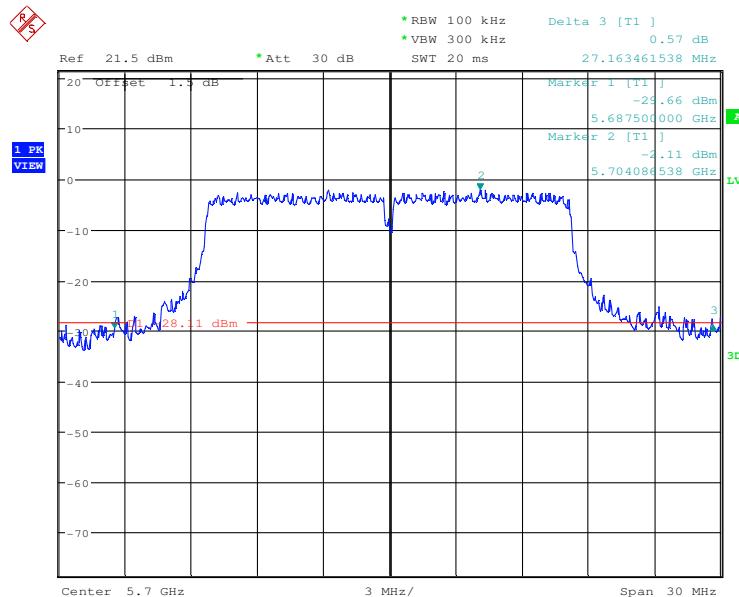
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



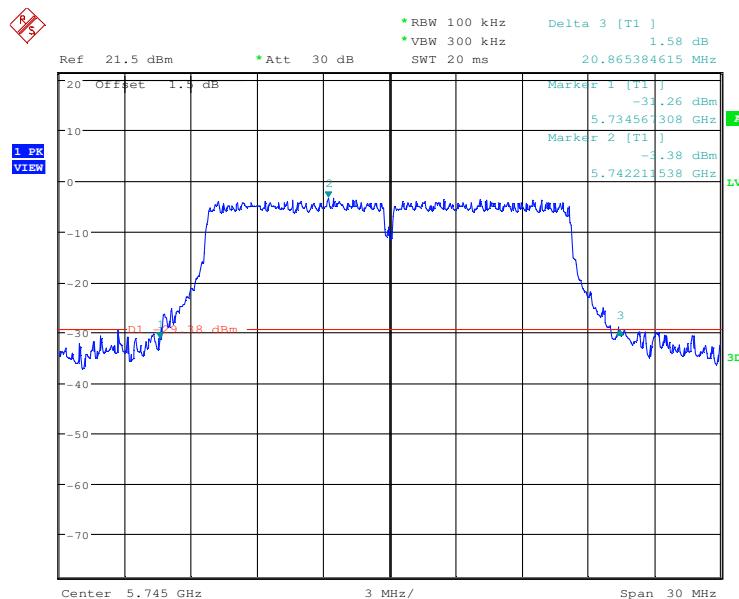
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



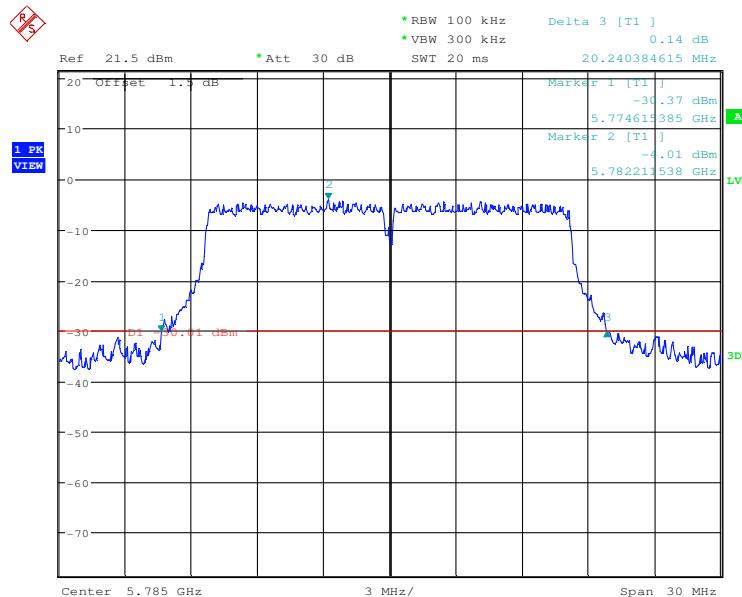
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



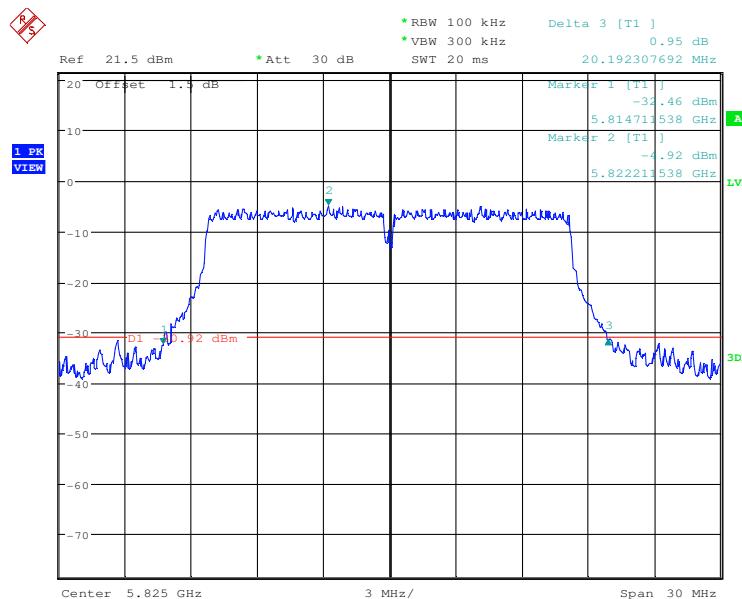
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



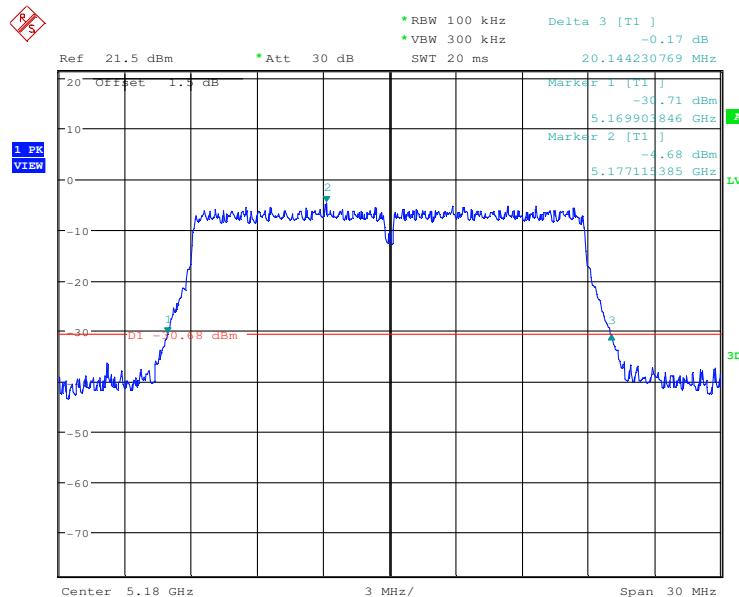
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



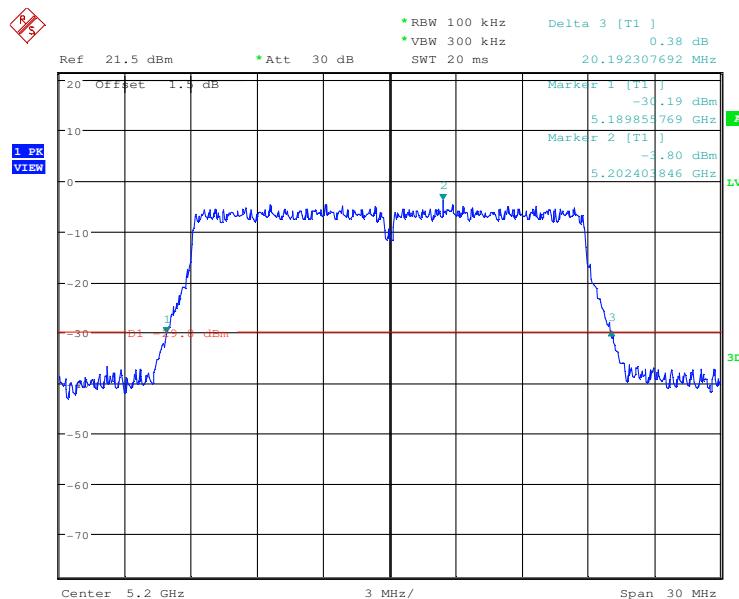
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



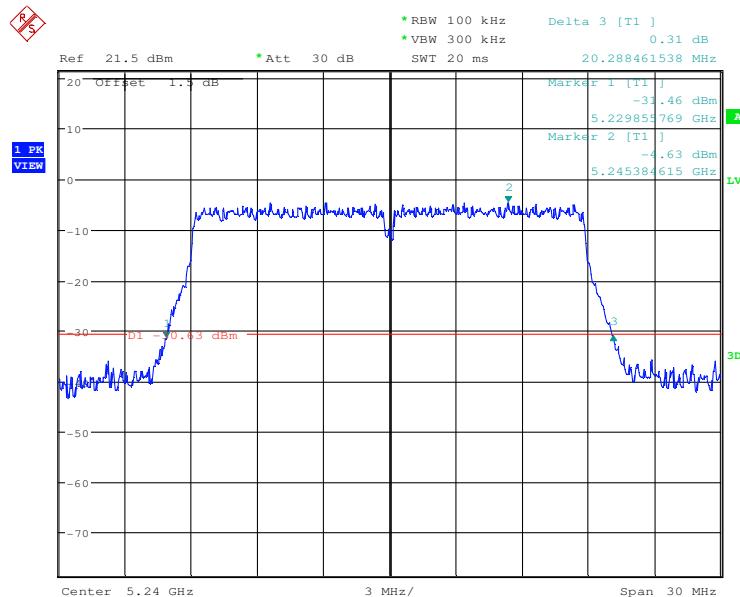
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



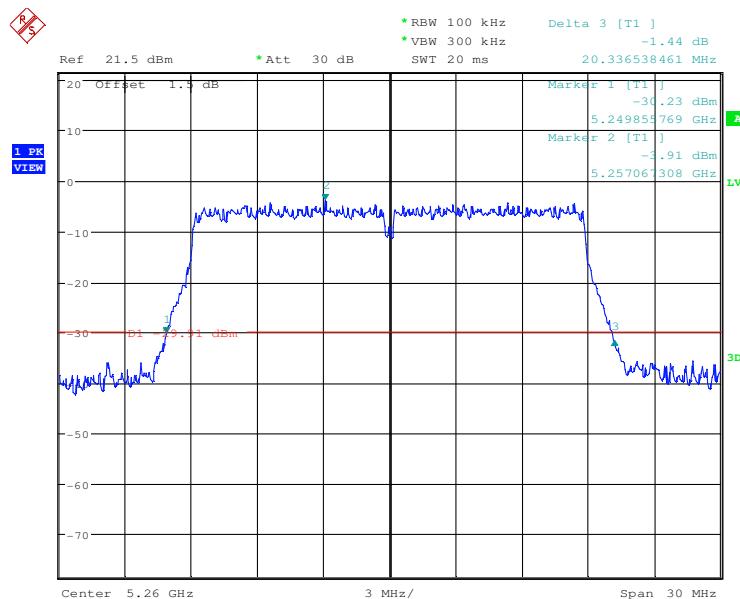
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



Test mode:	802.11n(HT20)	Frequency(MHz):	5240
------------	---------------	-----------------	------

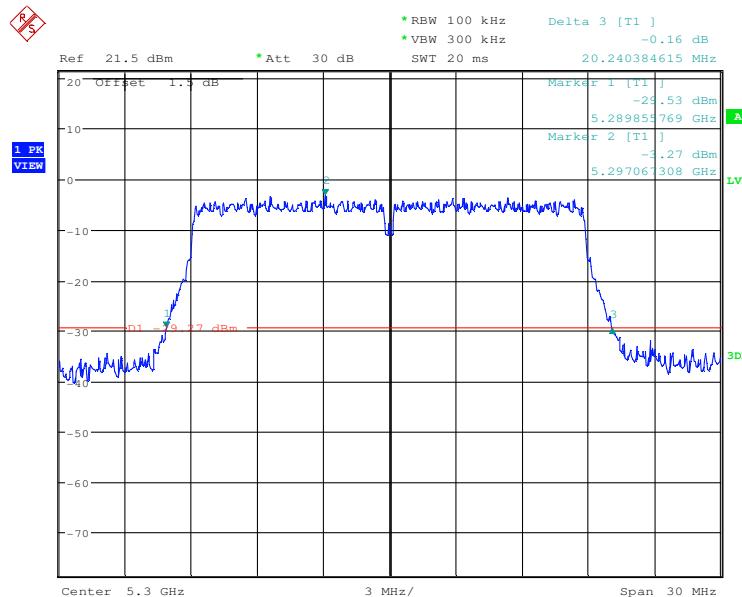


Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------

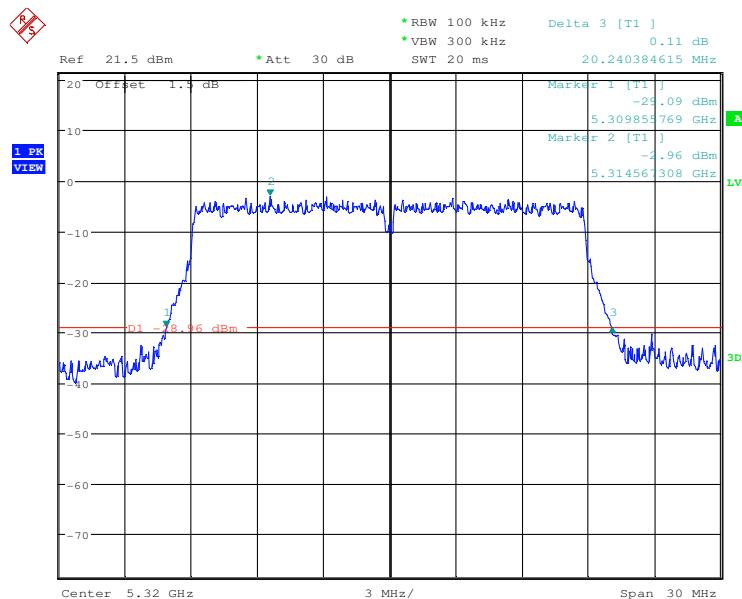


Report No.: SZEM150700454405  
Page: 68 of 211

Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



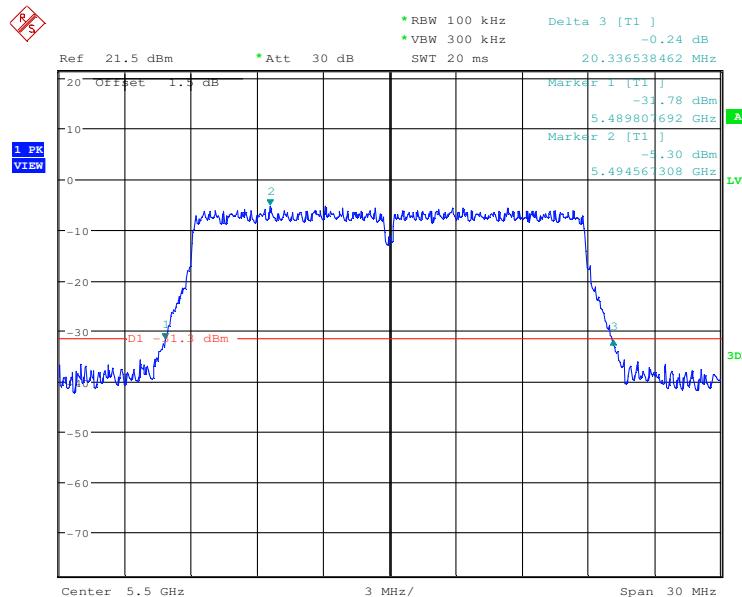
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



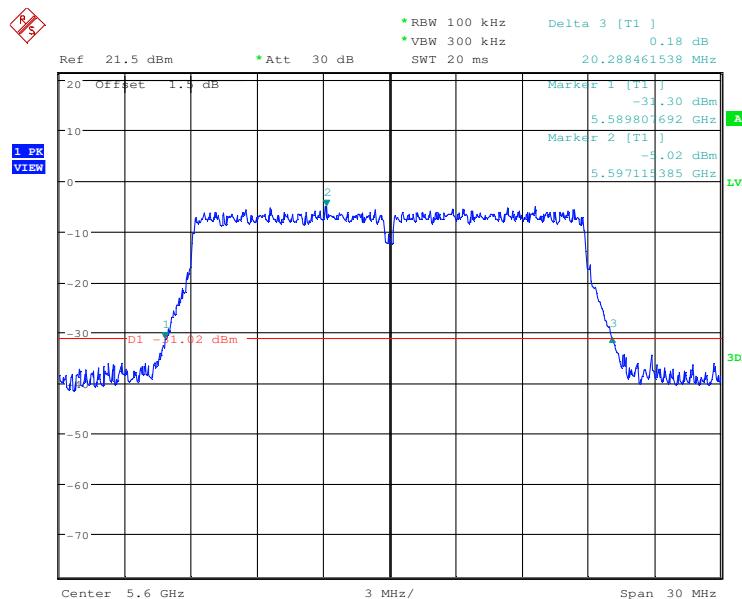
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

Report No.: SZEM150700454405  
Page: 69 of 211

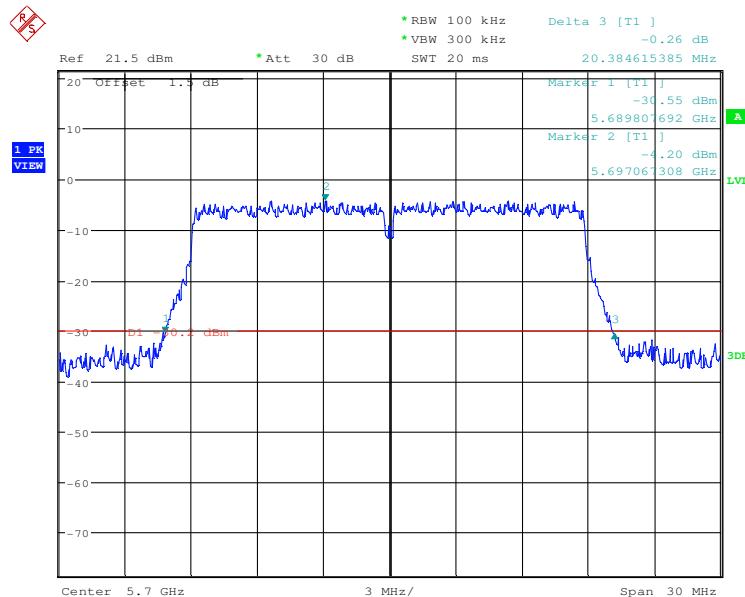
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



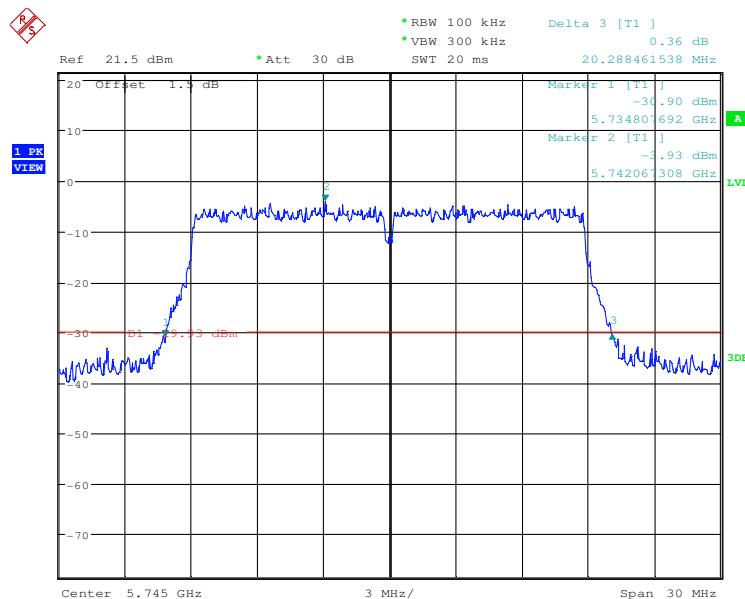
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



Test mode:	802.11n(HT20)	Frequency(MHz):	5700
------------	---------------	-----------------	------

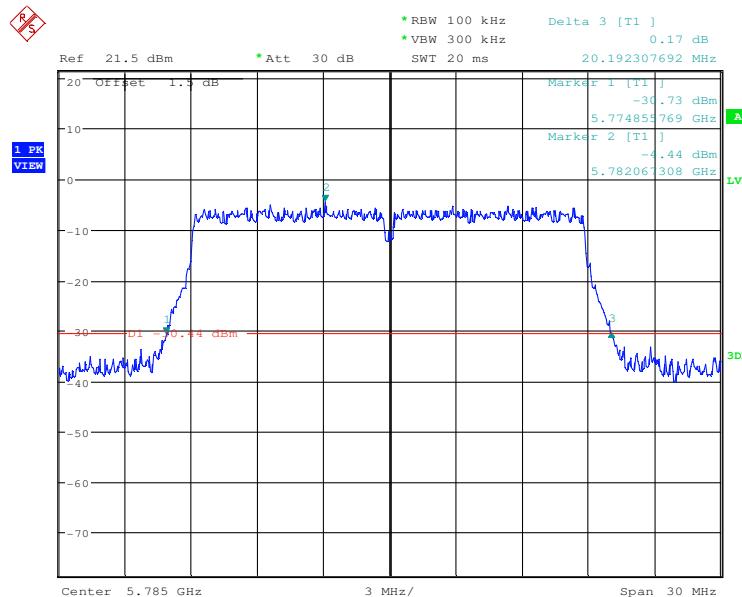


Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------

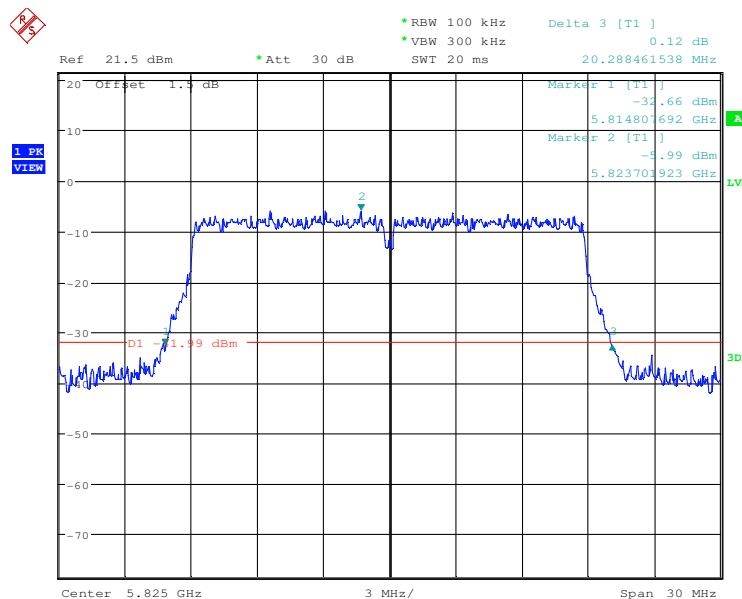


Report No.: SZEM150700454405  
Page: 71 of 211

Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------

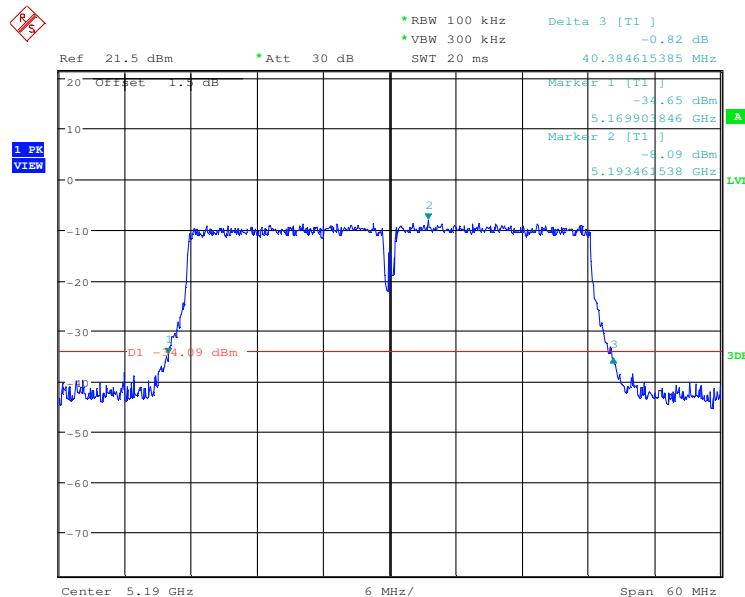


Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------

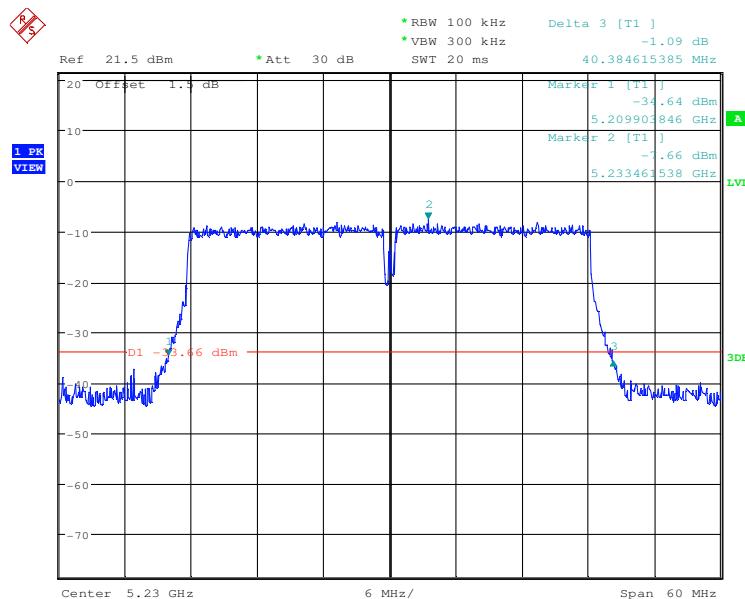


Report No.: SZEM150700454405  
Page: 72 of 211

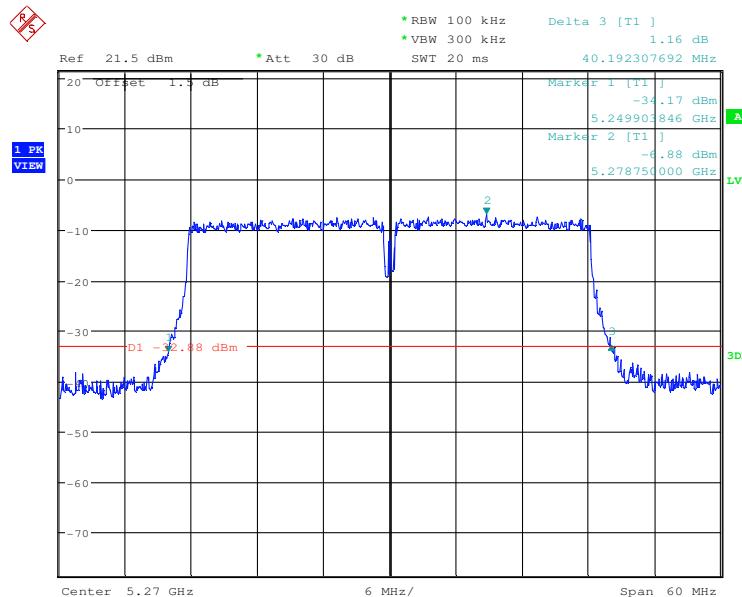
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



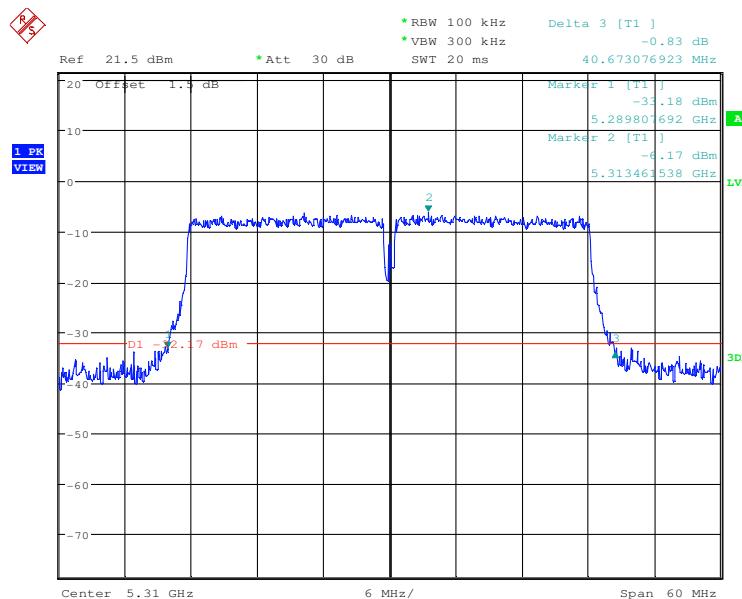
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



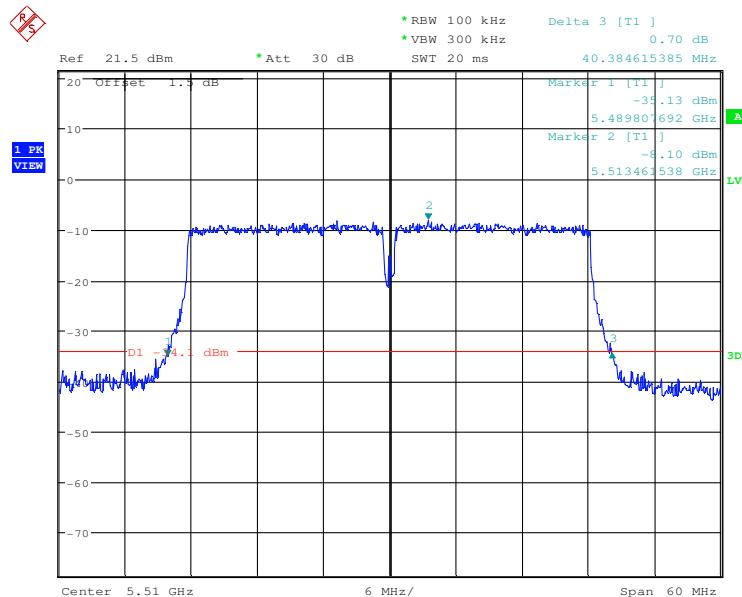
Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------



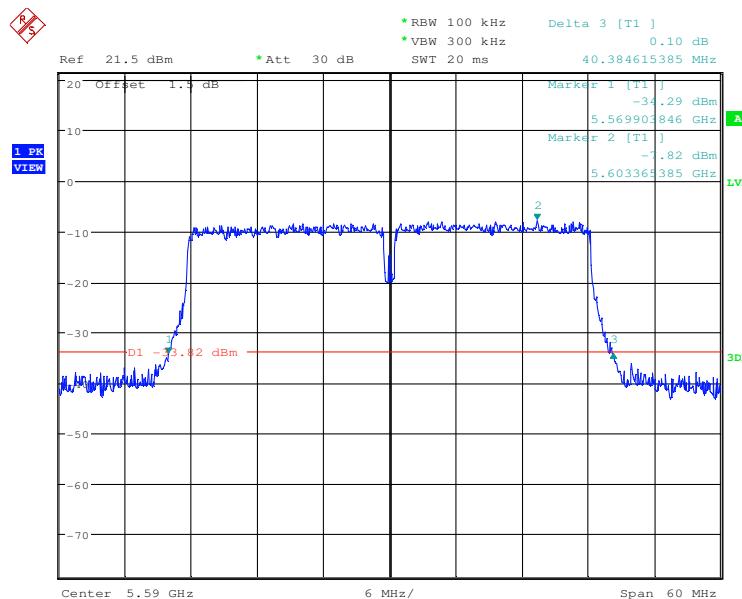
Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------



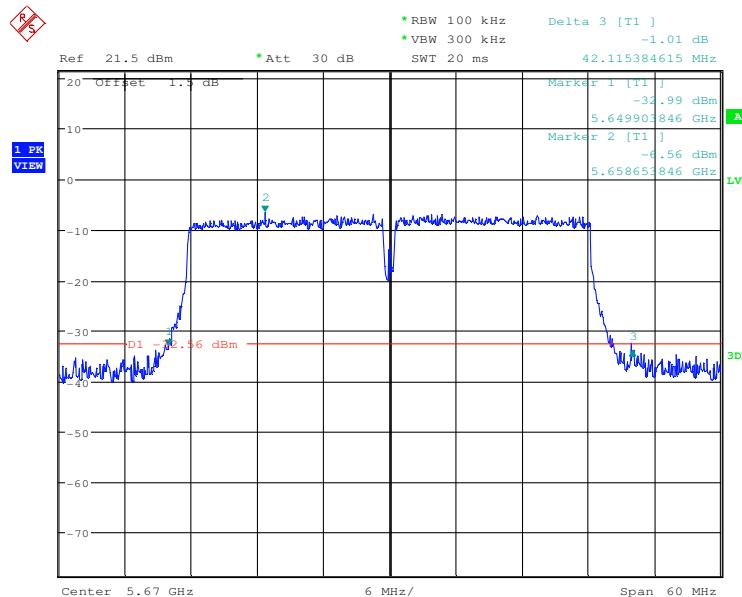
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



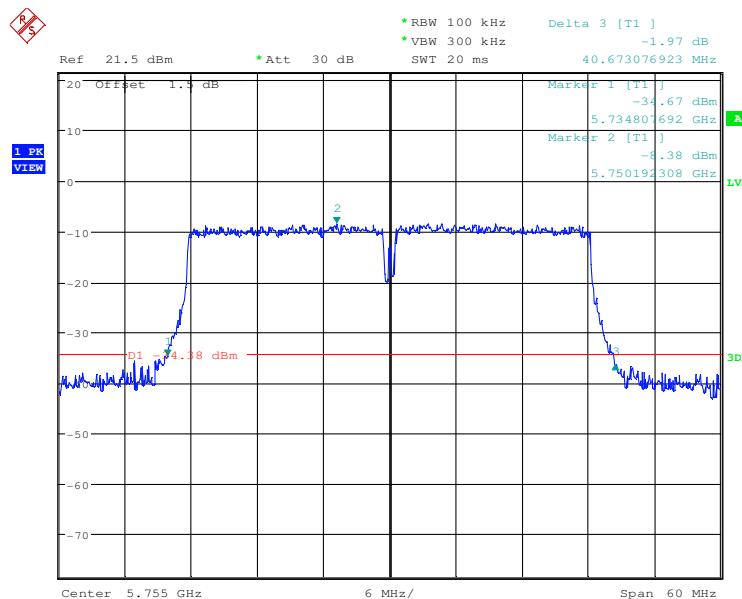
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



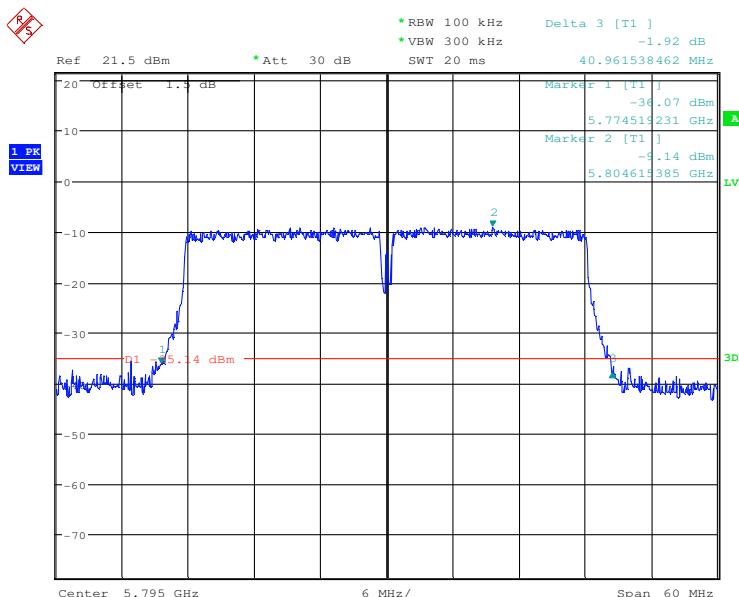
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------

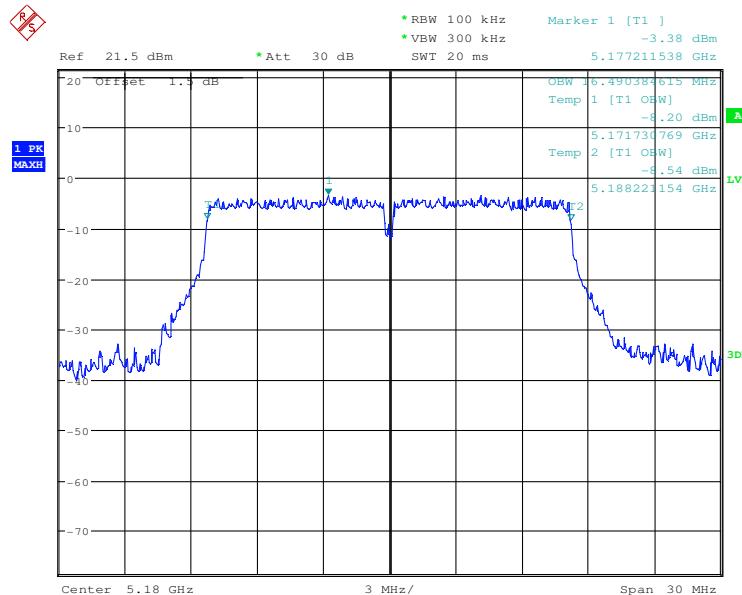


Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------

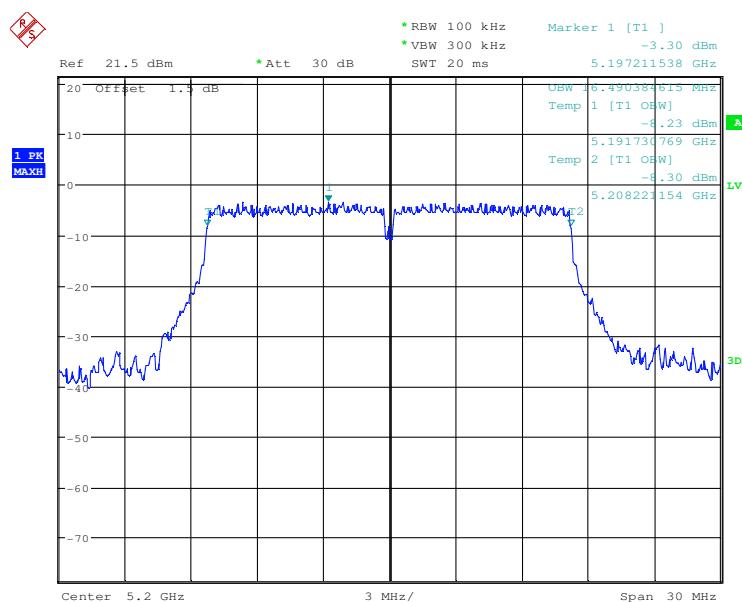


**99% occupied bandwidth**
**Test plot as follows:**

Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------

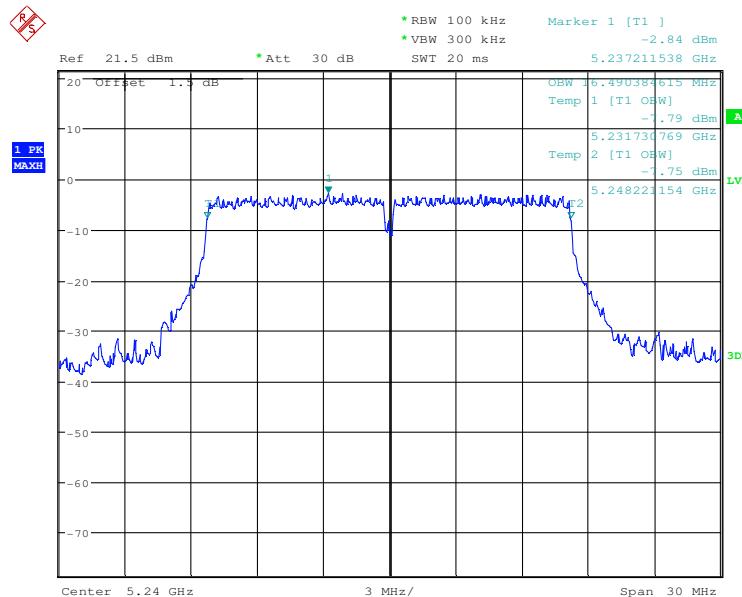


Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------

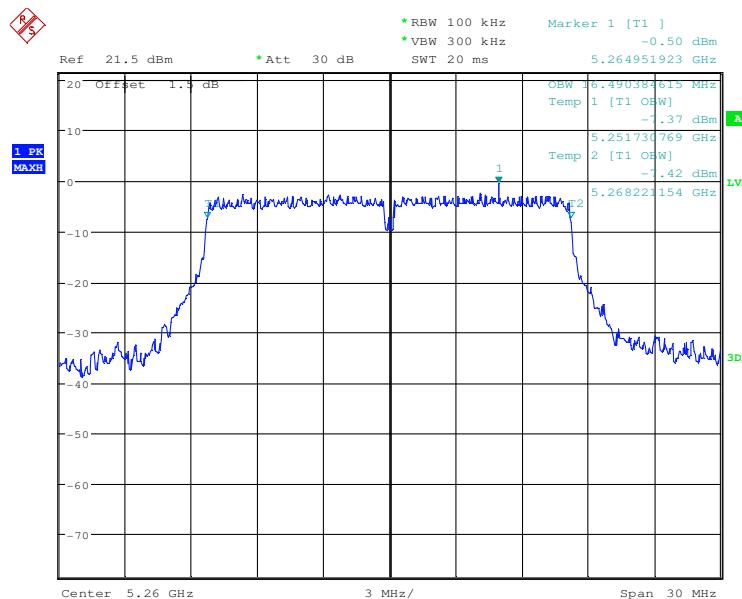


Report No.: SZEM150700454405  
Page: 78 of 211

Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------

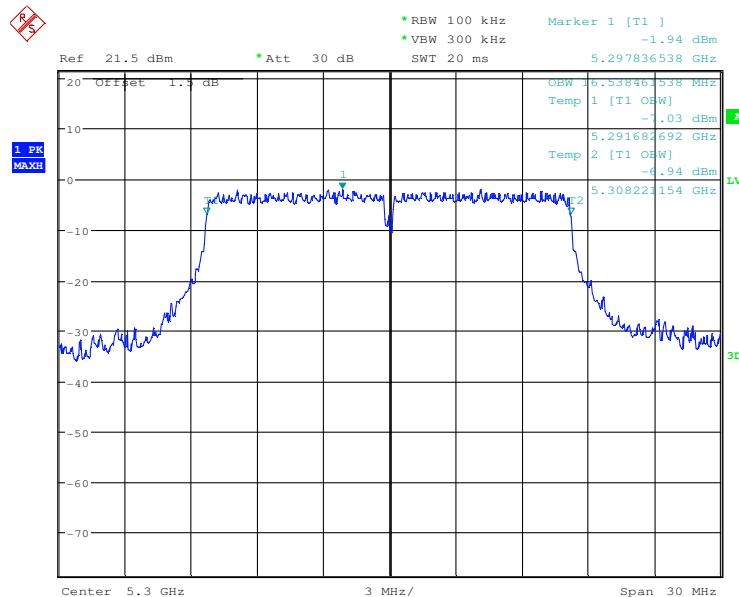


Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------

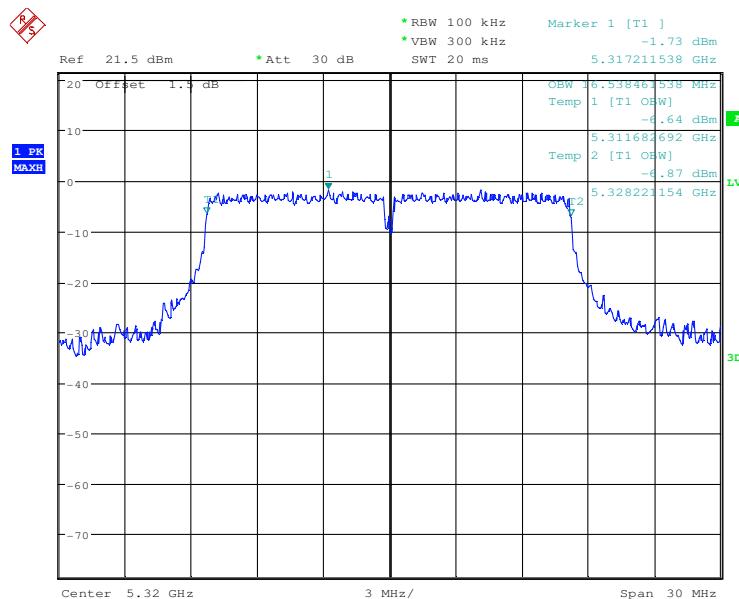


Report No.: SZEM150700454405  
Page: 79 of 211

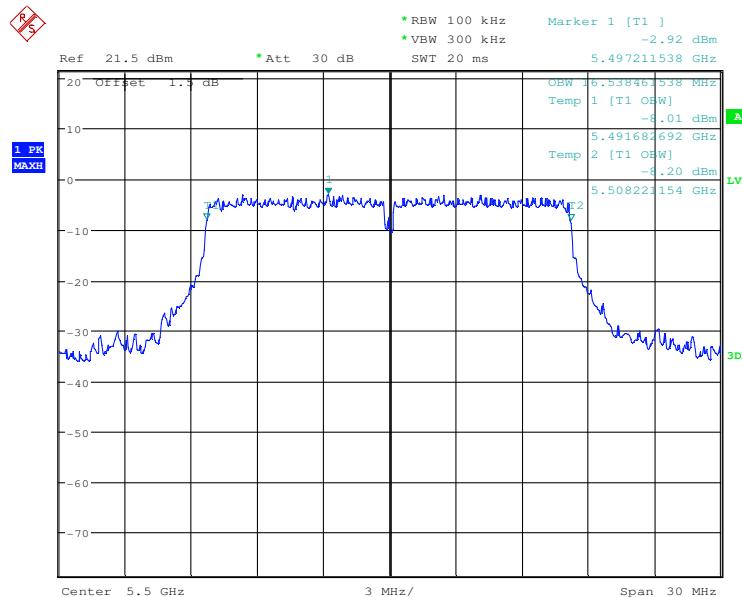
Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------



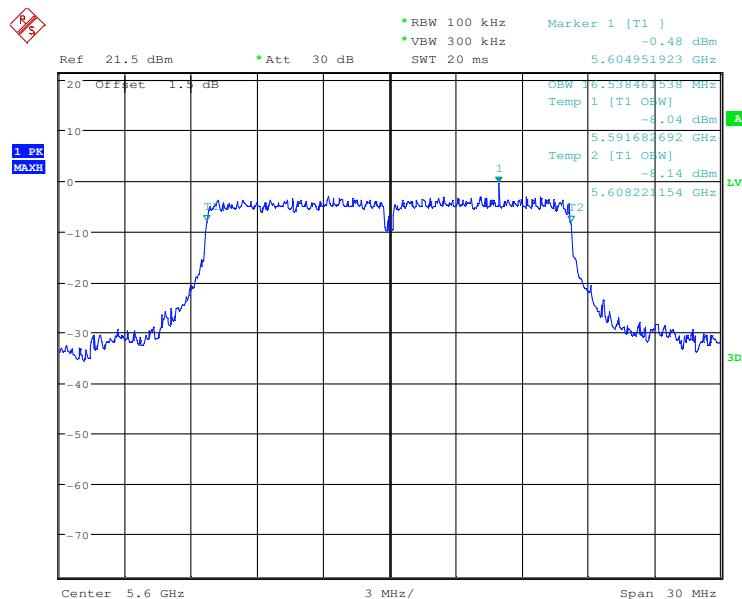
Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------



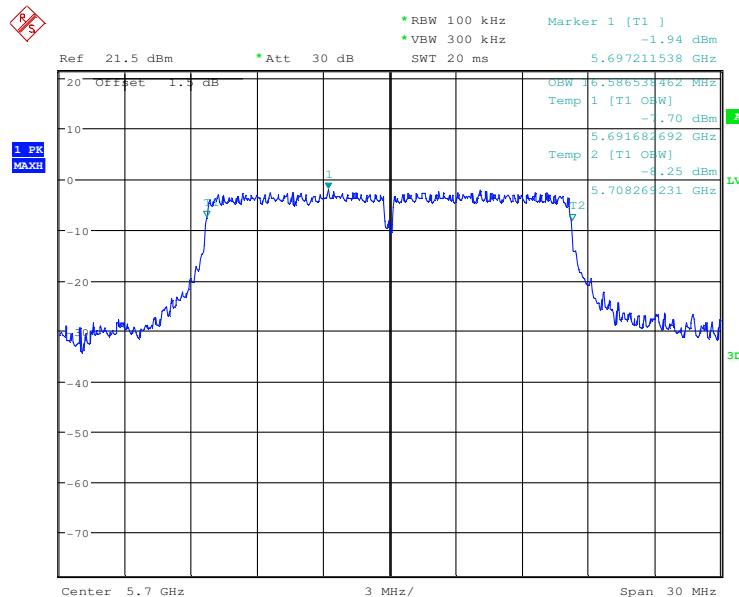
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



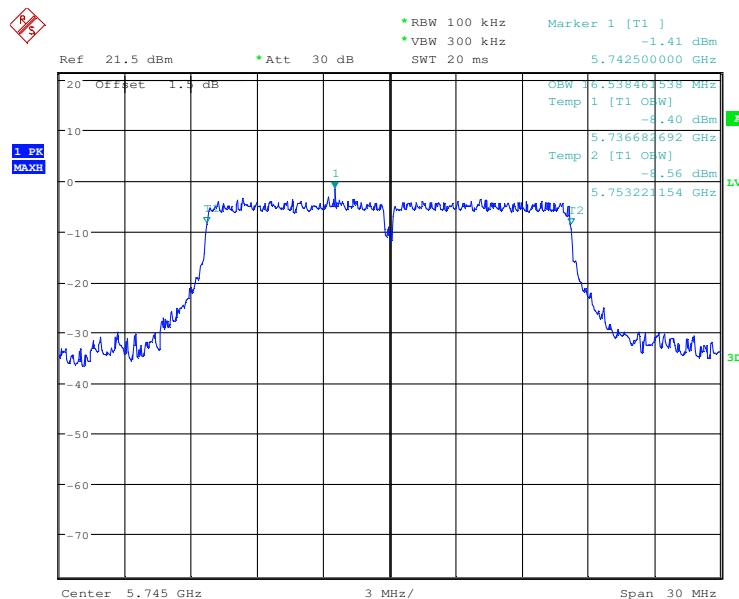
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



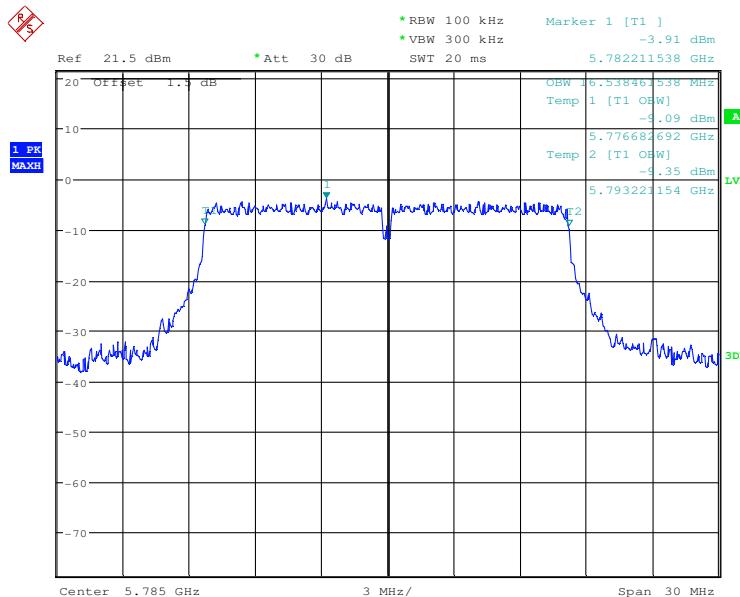
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



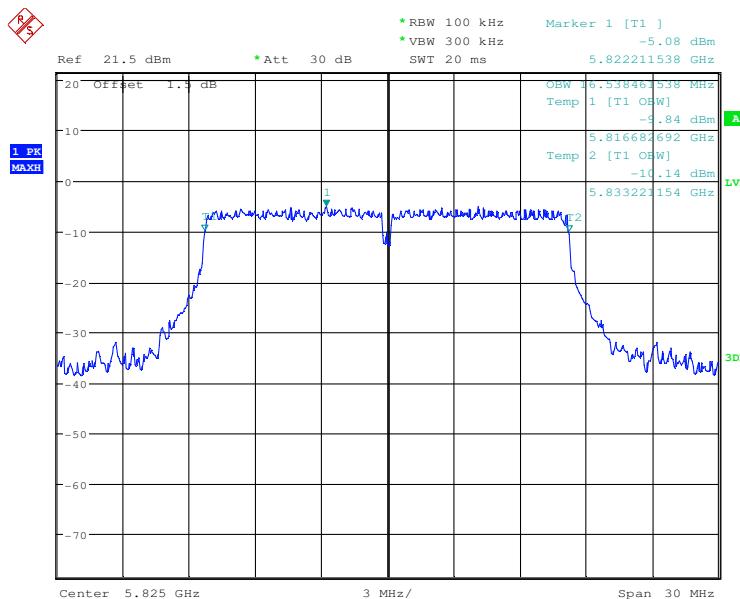
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



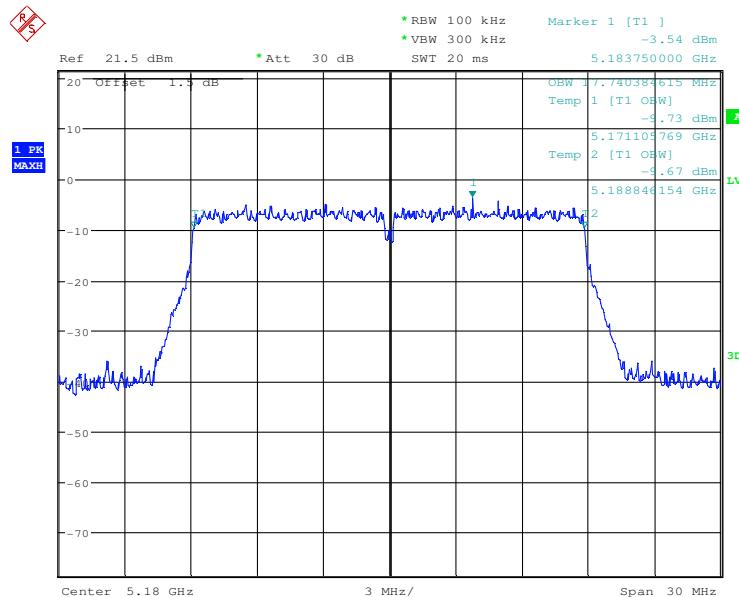
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



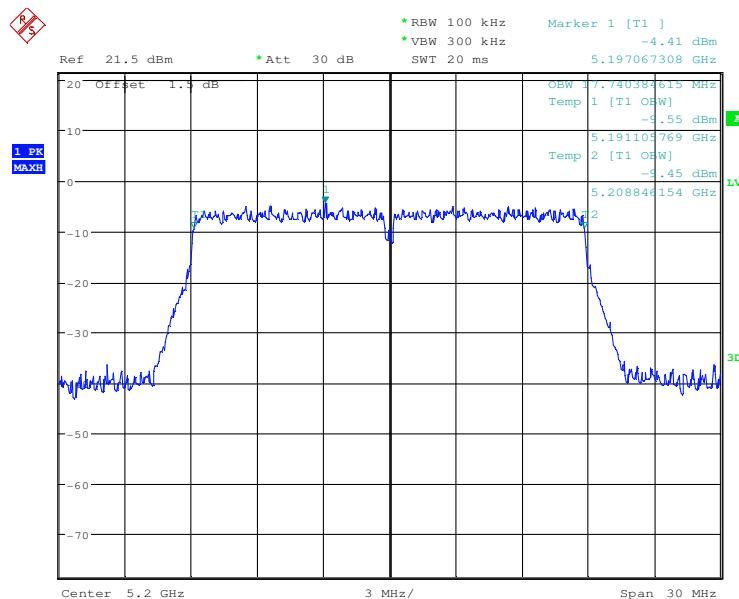
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



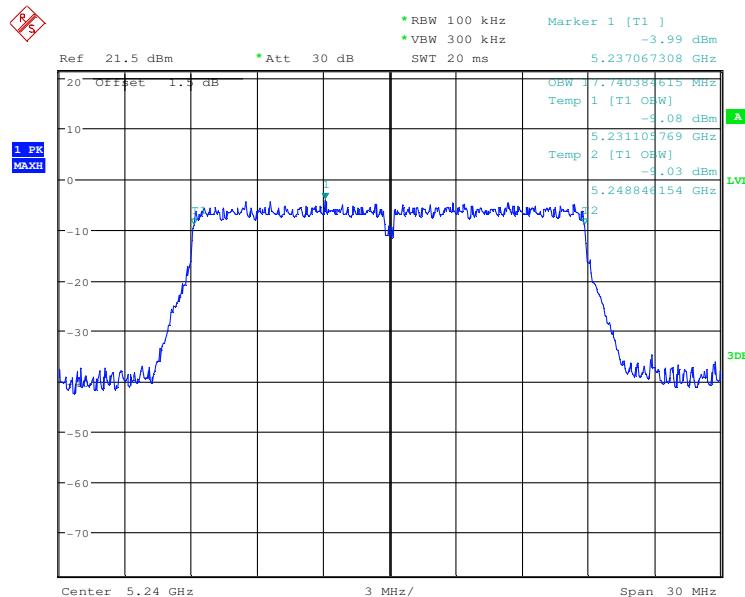
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



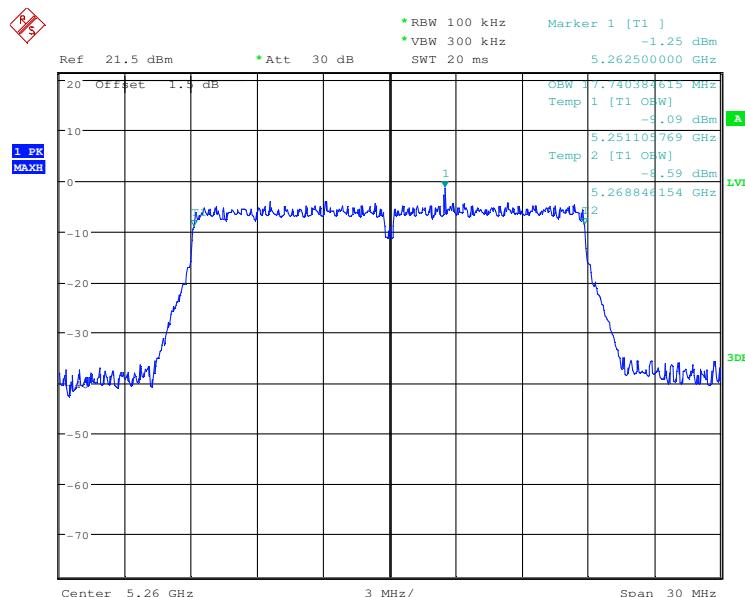
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



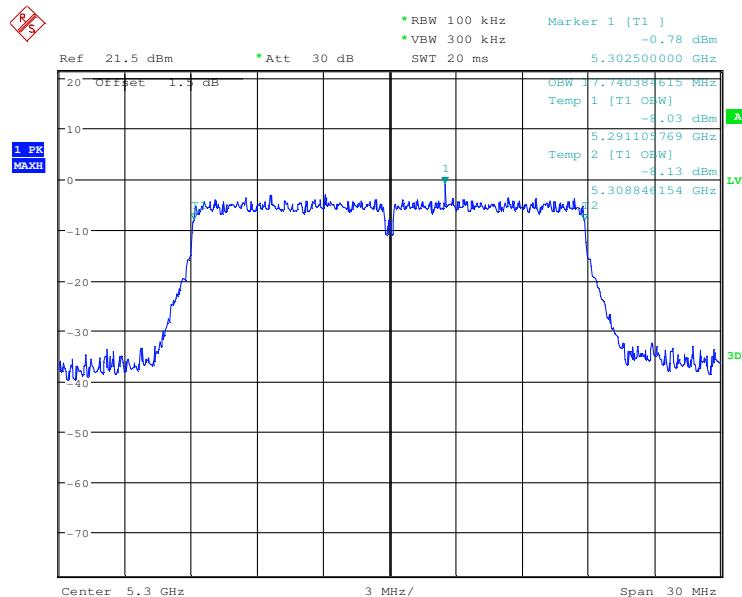
Test mode: 802.11n(HT20) Frequency(MHz): 5240



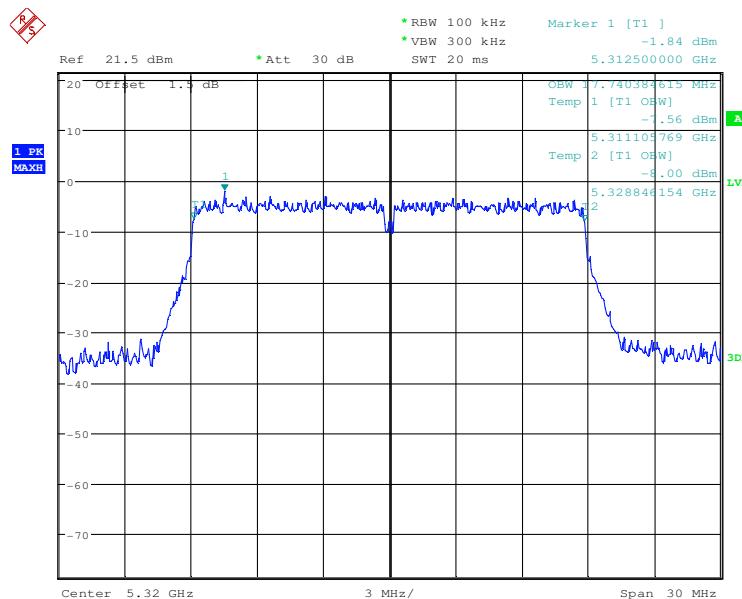
Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------



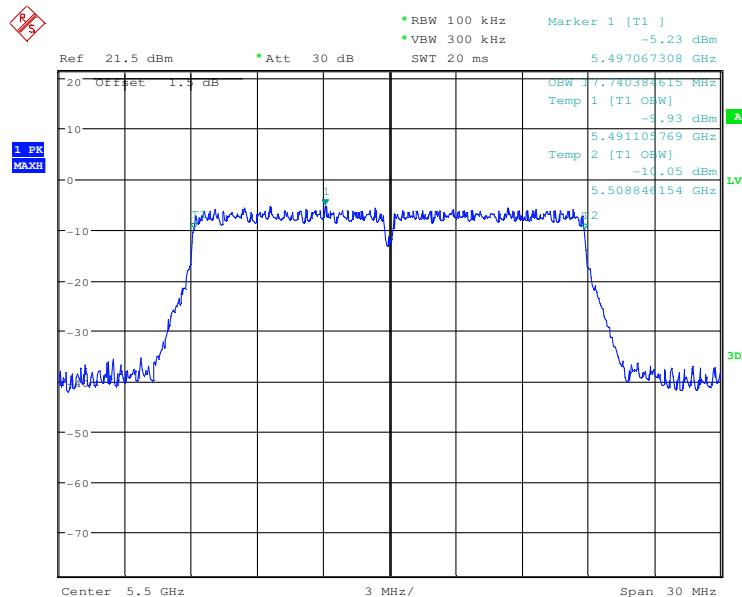
Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



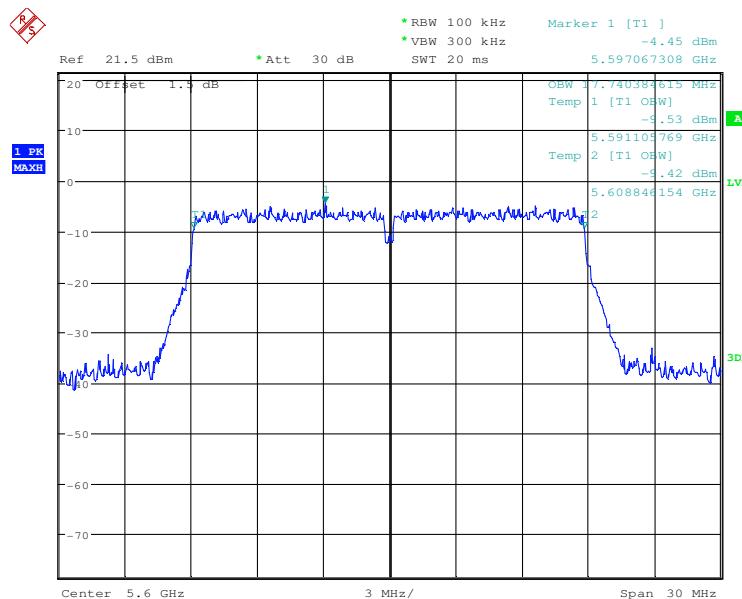
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



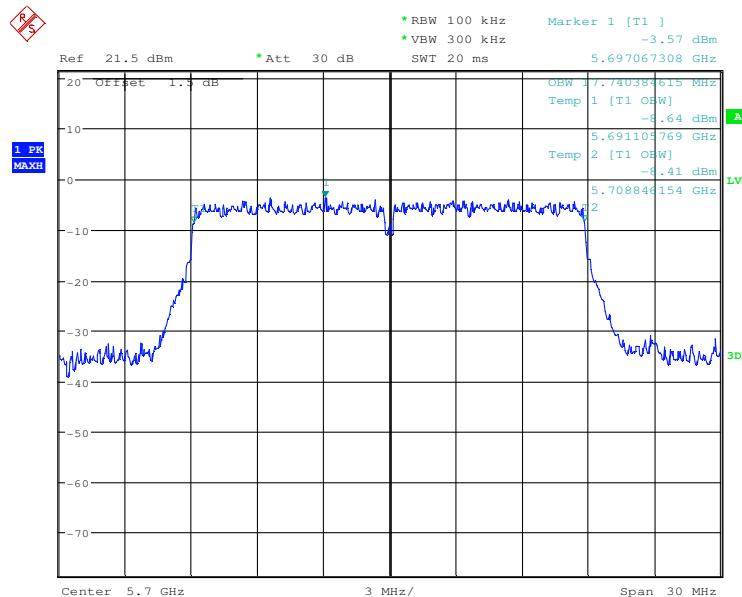
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



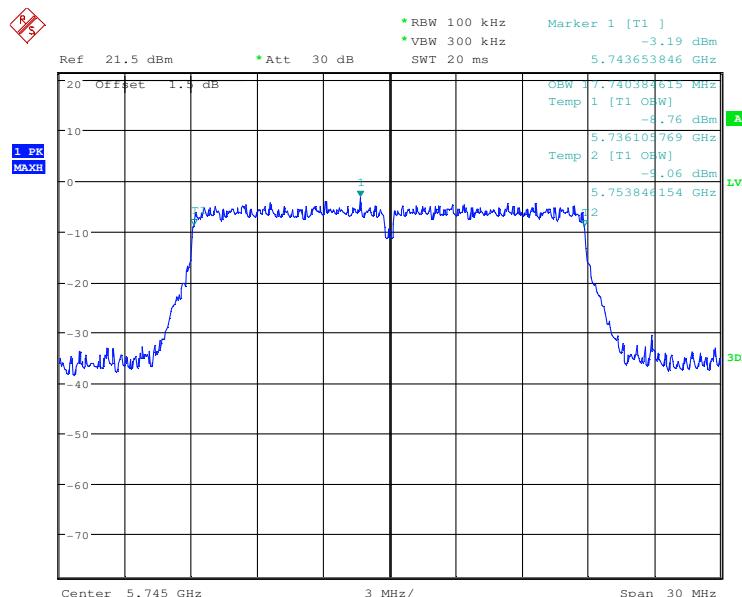
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



Test mode: 802.11n(HT20) Frequency(MHz): 5700

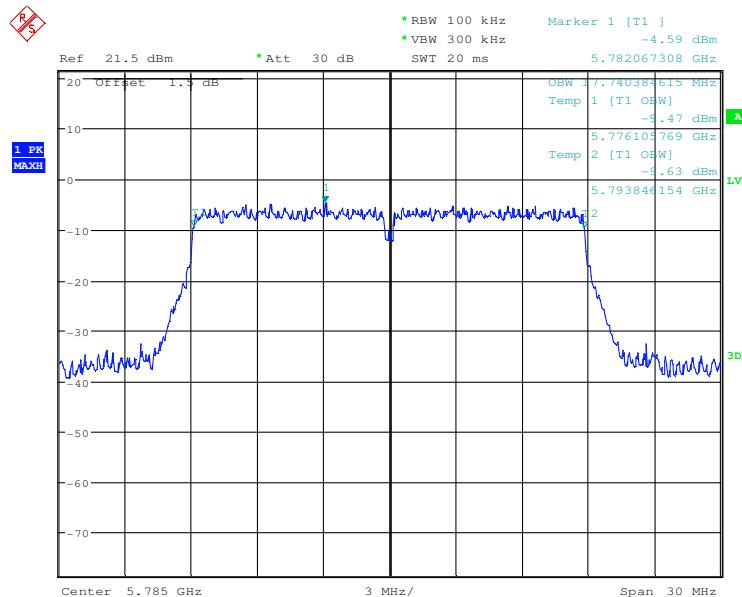


Test mode: 802.11n(HT20) Frequency(MHz): 5745

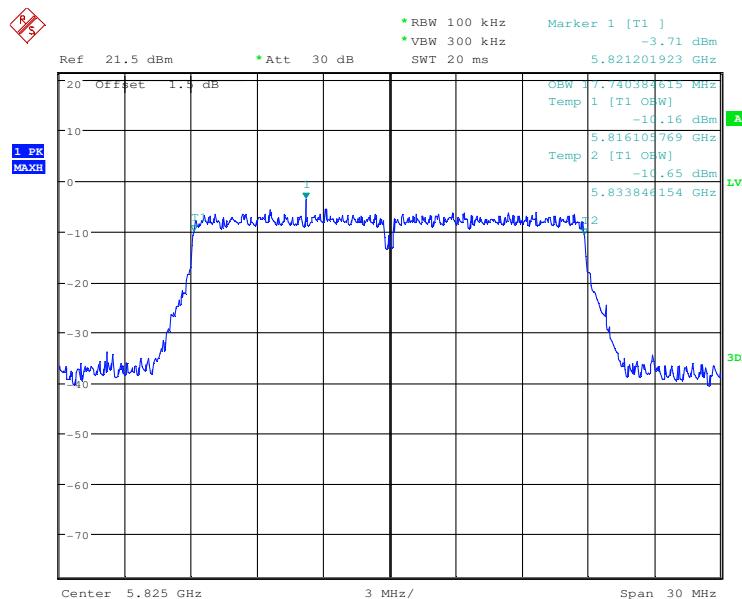


Report No.: SZEM150700454405  
Page: 88 of 211

Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------

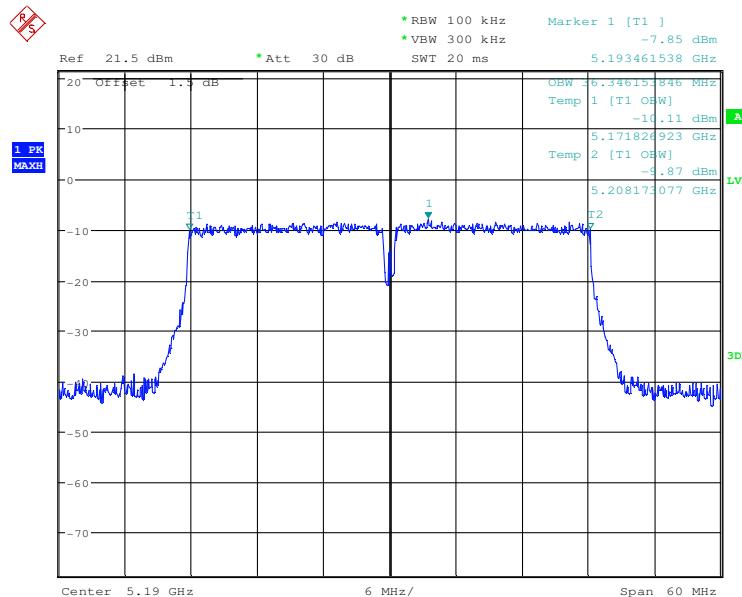


Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------

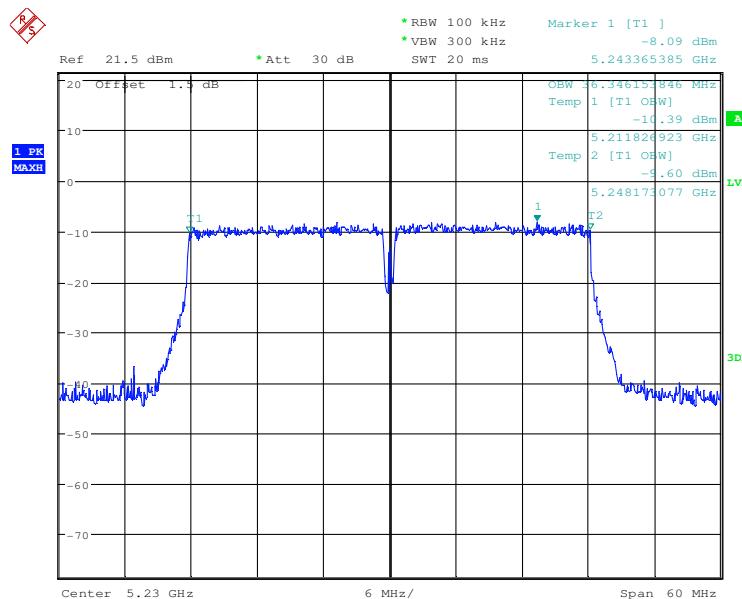


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

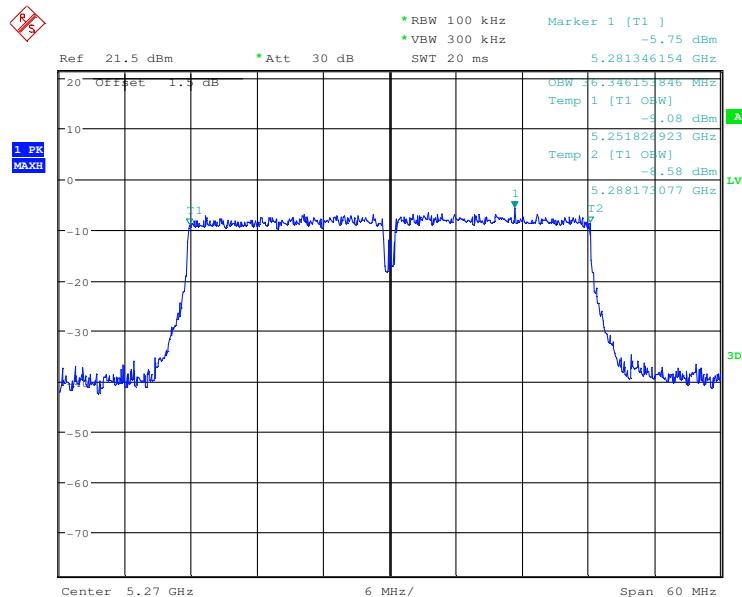
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



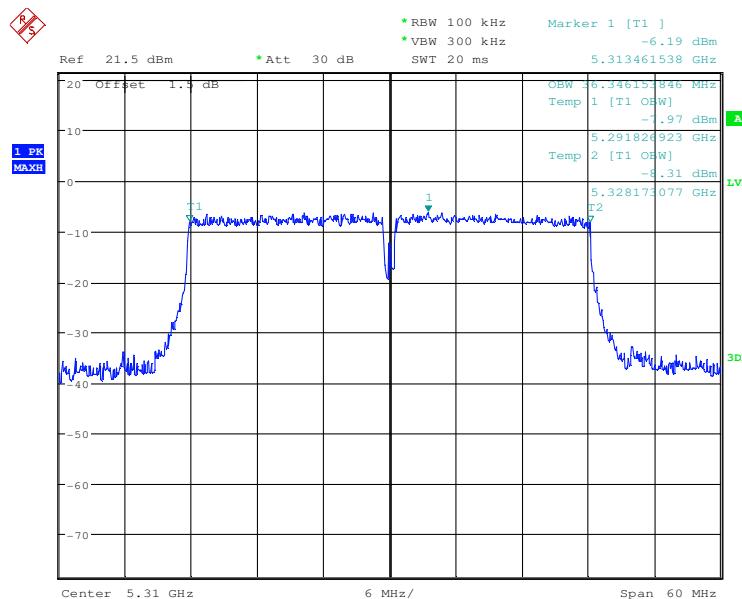
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------

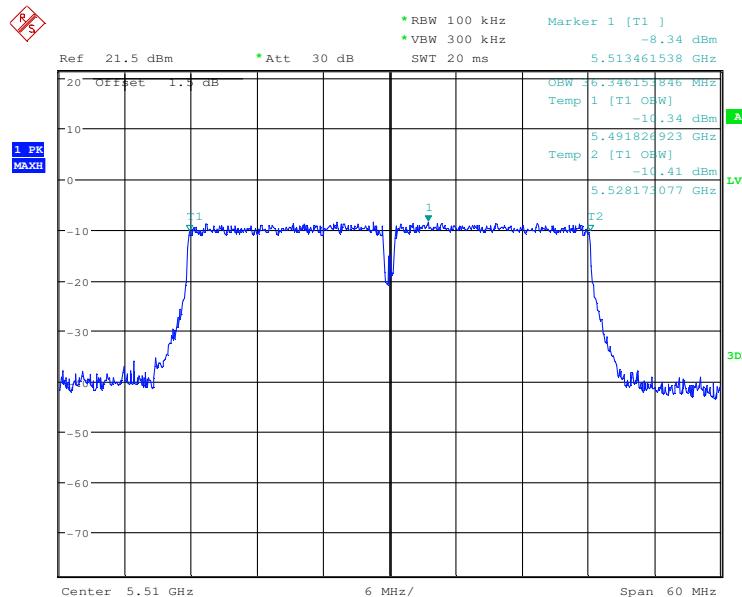


Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------

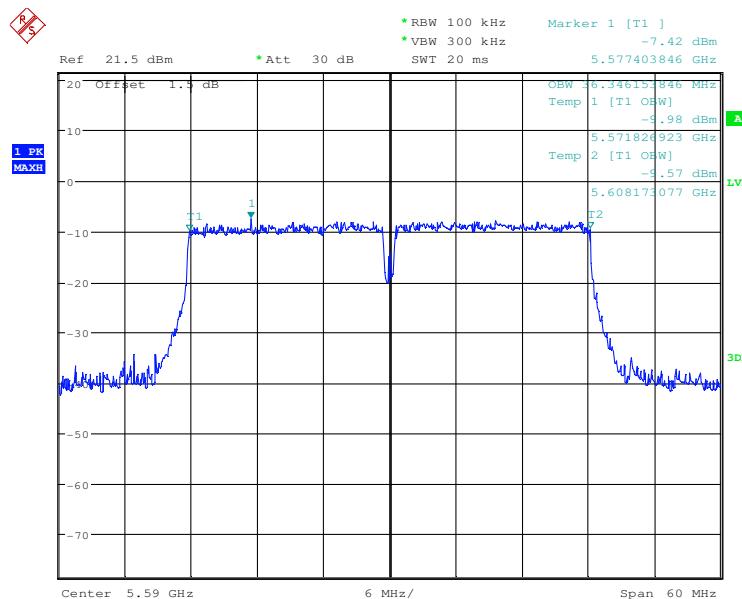


Report No.: SZEM150700454405  
Page: 91 of 211

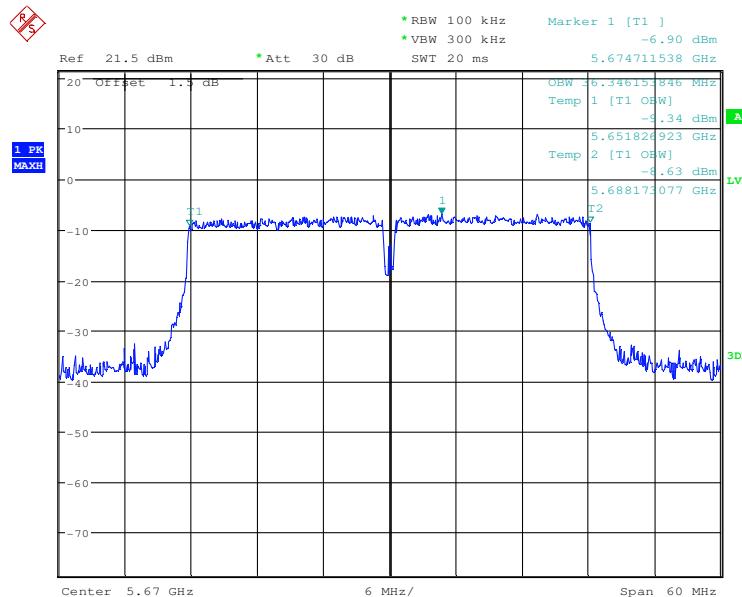
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



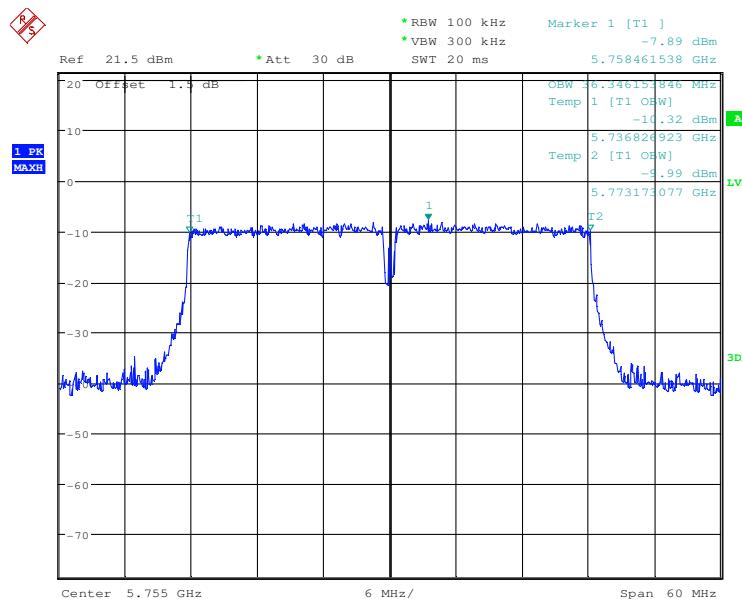
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



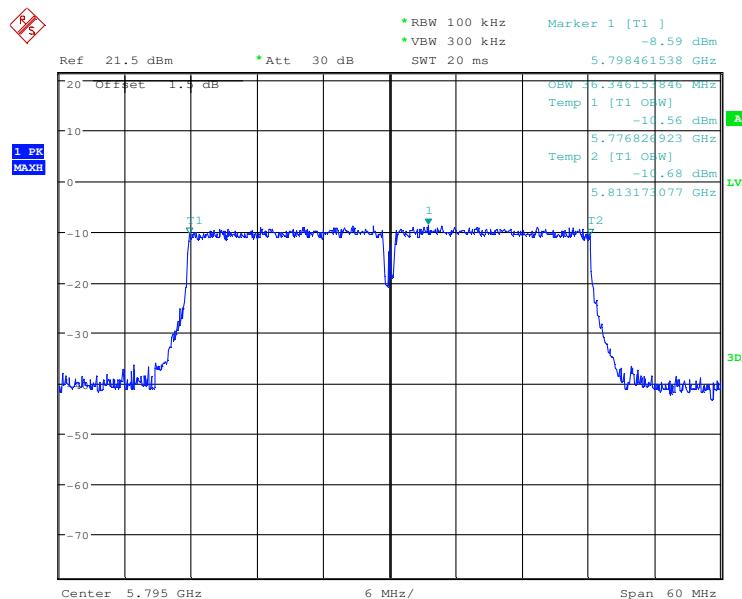
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



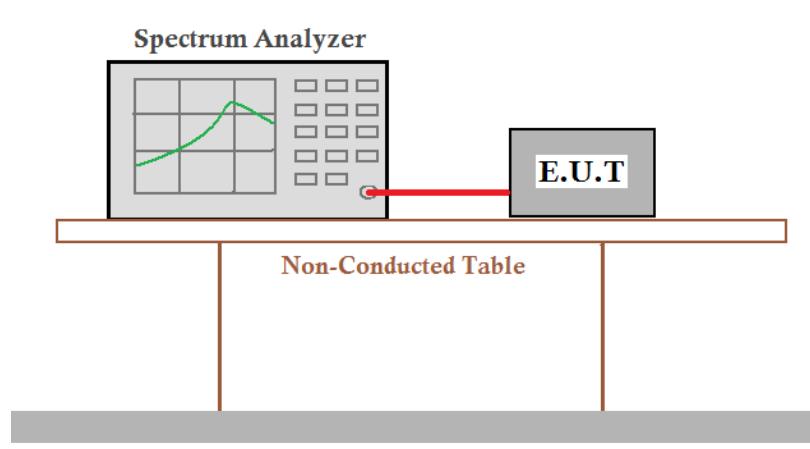
Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------



Test mode: 802.11n(HT40) Frequency(MHz): 5795



## 6.5 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10: 2013	
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 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this report.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At lease 500kHz
Test Results:	Pass	

**Measurement Data:**

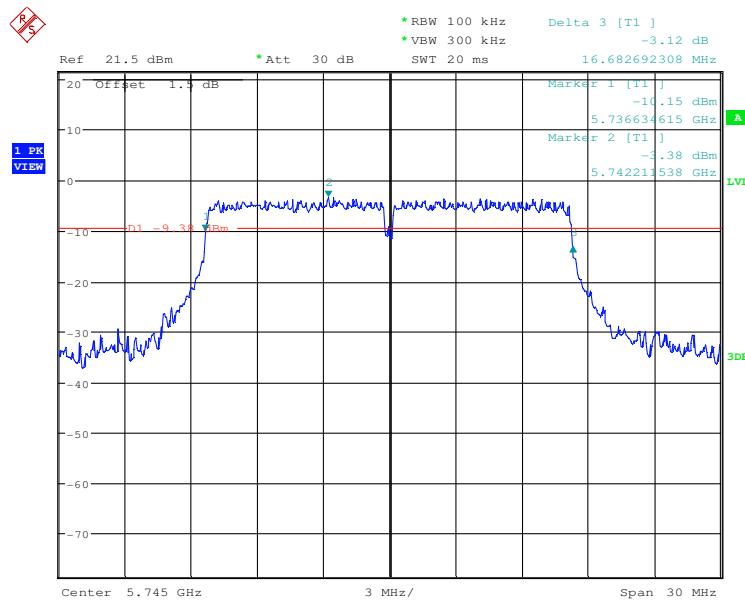
802.11a mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5745	16.683	≥500	Pass
5785	16.635	≥500	Pass
5825	16.635	≥500	Pass

802.11n(HT20) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5745	17.933	≥500	Pass
5785	17.933	≥500	Pass
5825	17.933	≥500	Pass

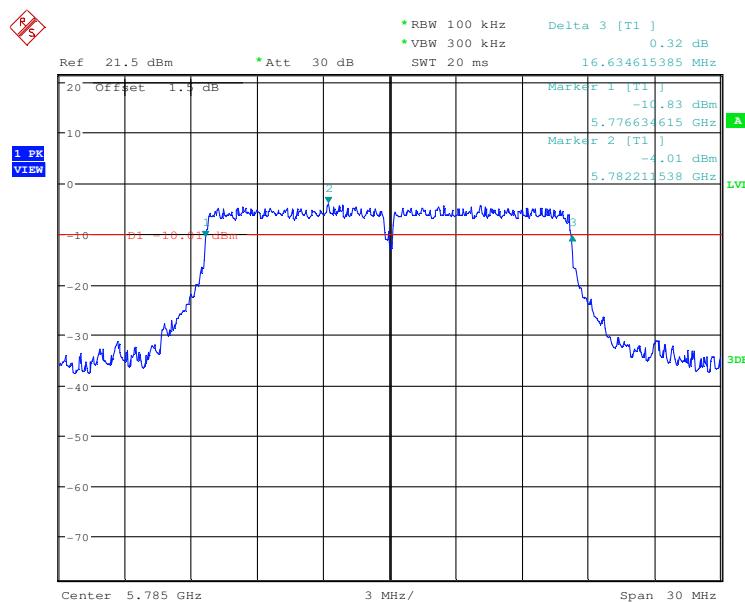
802.11n(HT40) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5755	36.827	≥500	Pass
5795	36.827	≥500	Pass

**Test plot as follows:**

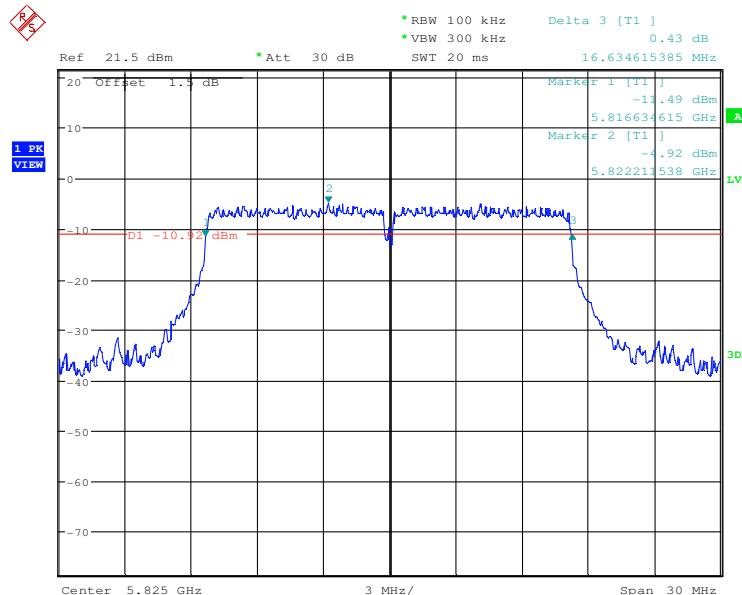
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



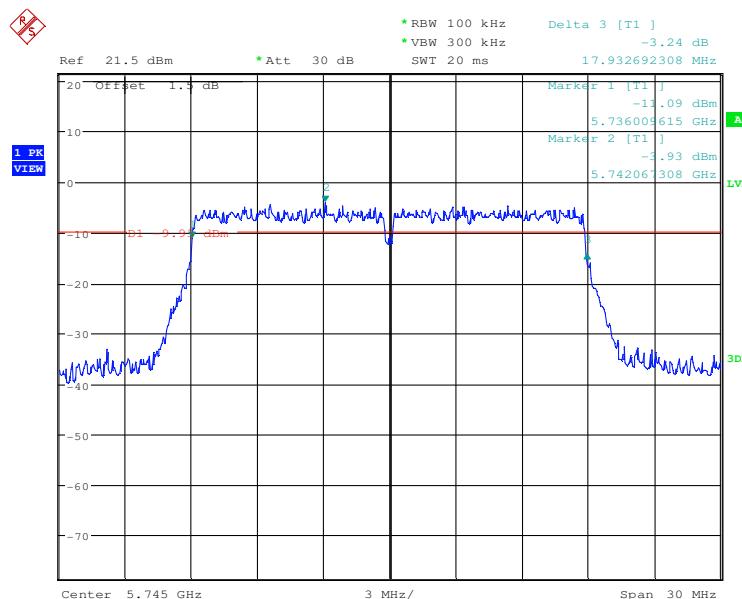
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



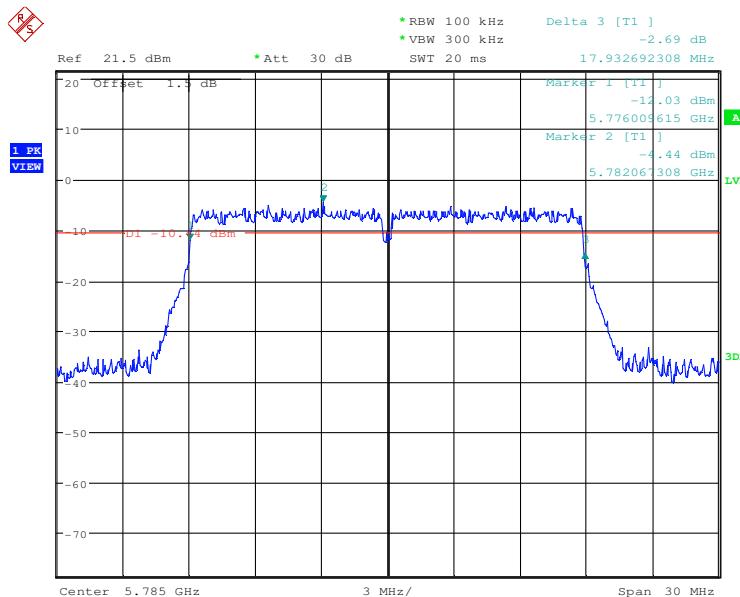
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



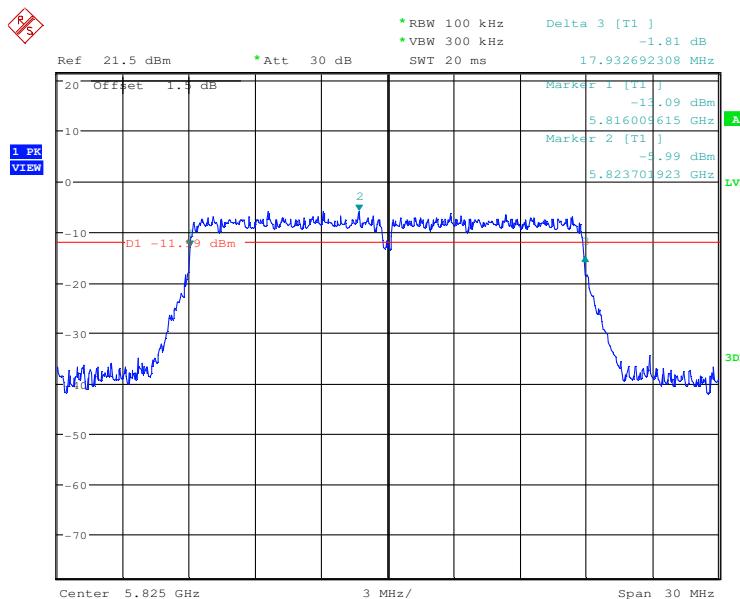
Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------



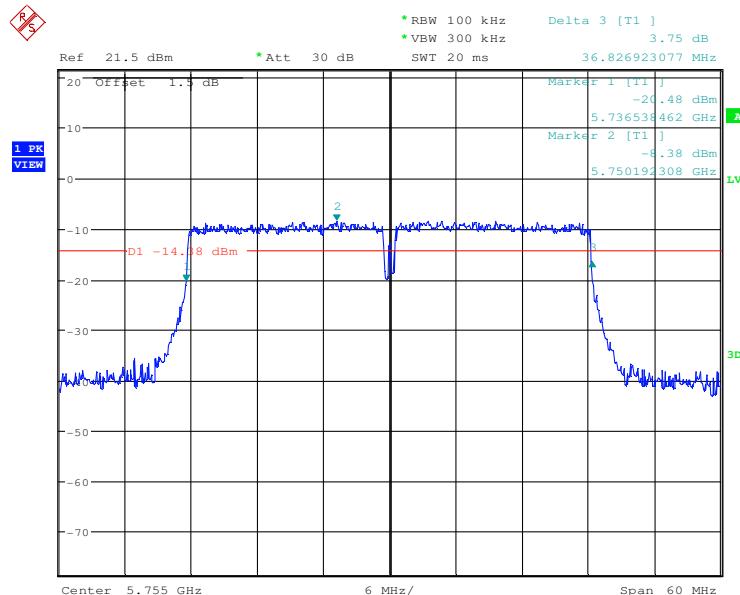
Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------



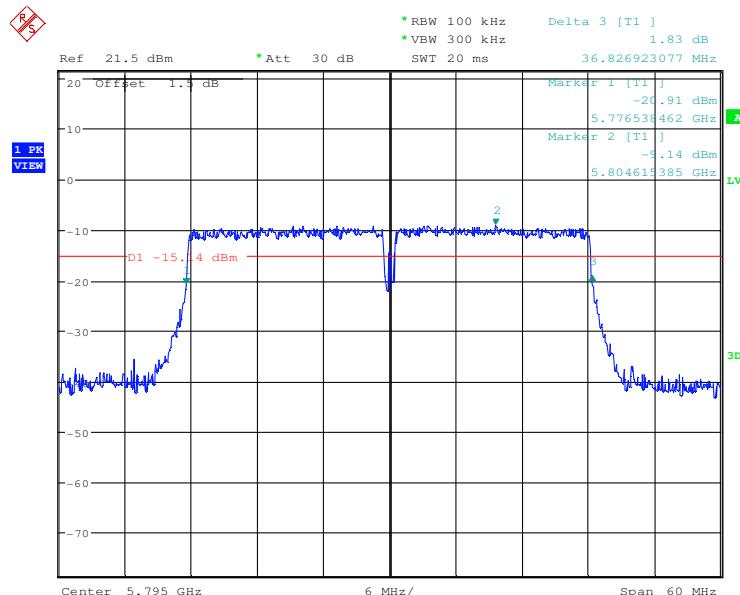
Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------



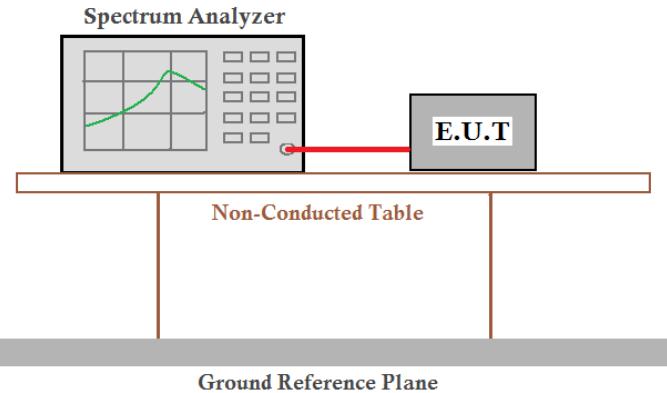
Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------



## 6.6 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:	 <p><b>Spectrum Analyzer</b> E.U.T Non-Conducted Table Ground Reference Plane</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 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 11dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than 30dBm/500kHz
	Test Results:	Pass

**Measurement Data:**

## Antenna 0

802.11a mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	0.21dBm/1MHz	≤11dBm/1MHz	Pass
5200	0.33dBm/1MHz	≤11dBm/1MHz	Pass
5240	0.78dBm/1MHz	≤11dBm/1MHz	Pass
5260	0.69dBm/1MHz	≤11dBm/1MHz	Pass
5300	1.41dBm/1MHz	≤11dBm/1MHz	Pass
5320	1.19dBm/1MHz	≤11dBm/1MHz	Pass
5500	0.42dBm/1MHz	≤11dBm/1MHz	Pass
5600	0.69dBm/1MHz	≤11dBm/1MHz	Pass
5700	1.52dBm/1MHz	≤11dBm/1MHz	Pass
5745	-1.96dBm/500kHz	≤30dBm/500kHz	Pass
5785	-3.04dBm/500kHz	≤30dBm/500kHz	Pass
5825	-3.87dBm/500kHz	≤30dBm/500kHz	Pass

802.11n(HT20) mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	-1.54dBm/1MHz	≤11dBm/1MHz	Pass
5200	-1.53dBm/1MHz	≤11dBm/1MHz	Pass
5240	-1.16dBm/1MHz	≤11dBm/1MHz	Pass
5260	-0.53dBm/1MHz	≤11dBm/1MHz	Pass
5300	0.15dBm/1MHz	≤11dBm/1MHz	Pass
5320	0.09dBm/1MHz	≤11dBm/1MHz	Pass
5500	-1.42dBm/1MHz	≤11dBm/1MHz	Pass
5600	-1.22dBm/1MHz	≤11dBm/1MHz	Pass
5700	-0.29dBm/1MHz	≤11dBm/1MHz	Pass
5745	-2.89dBm/500kHz	≤30dBm/500kHz	Pass
5785	-4.08dBm/500kHz	≤30dBm/500kHz	Pass
5825	-4.80dBm/500kHz	≤30dBm/500kHz	Pass



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

Report No.: SZEM150700454405

Page: 102 of 211

802.11n(HT40) mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5190	-4.36dBm/1MHz	≤11dBm/1MHz	Pass
5230	-4.29dBm/1MHz	≤11dBm/1MHz	Pass
5270	-2.93dBm/1MHz	≤11dBm/1MHz	Pass
5310	-2.23dBm/1MHz	≤11dBm/1MHz	Pass
5510	-4.10dBm/1MHz	≤11dBm/1MHz	Pass
5590	-4.21dBm/1MHz	≤11dBm/1MHz	Pass
5670	-3.03dBm/1MHz	≤11dBm/1MHz	Pass
5755	-6.96dBm/500kHz	≤30dBm/500kHz	Pass
5795	-6.87dBm/500kHz	≤30dBm/500kHz	Pass

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

## Antenna 1

802.11a mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	0.13dBm/1MHz	≤11dBm/1MHz	Pass
5200	0.33dBm/1MHz	≤11dBm/1MHz	Pass
5240	0.55dBm/1MHz	≤11dBm/1MHz	Pass
5260	0.45dBm/1MHz	≤11dBm/1MHz	Pass
5300	0.03dBm/1MHz	≤11dBm/1MHz	Pass
5320	-0.71dBm/1MHz	≤11dBm/1MHz	Pass
5500	0.07dBm/1MHz	≤11dBm/1MHz	Pass
5600	0.08dBm/1MHz	≤11dBm/1MHz	Pass
5700	-2.02dBm/1MHz	≤11dBm/1MHz	Pass
5745	-3.25dBm/500kHz	≤30dBm/500kHz	Pass
5785	-4.36dBm/500kHz	≤30dBm/500kHz	Pass
5825	-5.18dBm/500kHz	≤30dBm/500kHz	Pass

802.11n(HT20) mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5180	-2.58dBm/1MHz	≤11dBm/1MHz	Pass
5200	-2.19dBm/1MHz	≤11dBm/1MHz	Pass
5240	-1.83dBm/1MHz	≤11dBm/1MHz	Pass
5260	-2.13dBm/1MHz	≤11dBm/1MHz	Pass
5300	-2.66dBm/1MHz	≤11dBm/1MHz	Pass
5320	-3.28dBm/1MHz	≤11dBm/1MHz	Pass
5500	-1.38dBm/1MHz	≤11dBm/1MHz	Pass
5600	-1.20dBm/1MHz	≤11dBm/1MHz	Pass
5700	-3.07dBm/1MHz	≤11dBm/1MHz	Pass
5745	-5.44dBm/500kHz	≤30dBm/500kHz	Pass
5785	-6.82dBm/500kHz	≤30dBm/500kHz	Pass
5825	-7.53dBm/500kHz	≤30dBm/500kHz	Pass



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

Report No.: SZEM150700454405

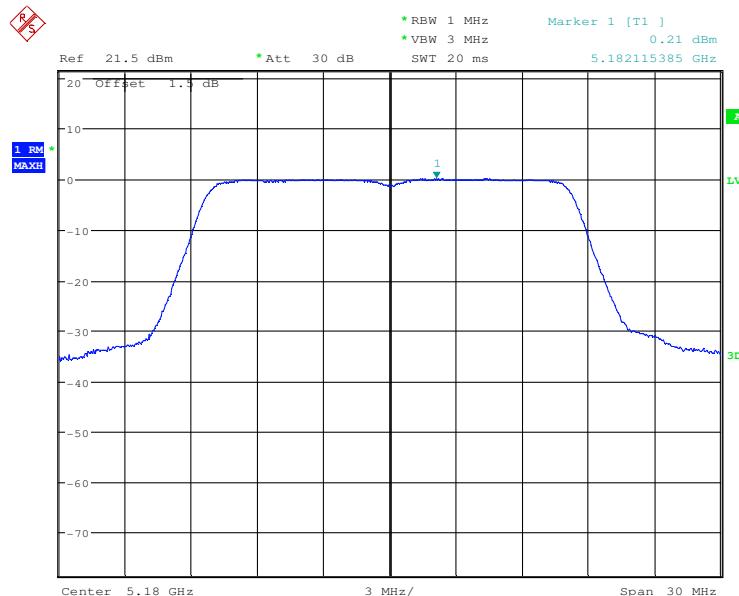
Page: 104 of 211

802.11n(HT40) mode			
Frequency (MHz)	Power Spectral Density	Limit	Result
5190	-5.10dBm/1MHz	≤11dBm/1MHz	Pass
5230	-4.93dBm/1MHz	≤11dBm/1MHz	Pass
5270	-5.24dBm/1MHz	≤11dBm/1MHz	Pass
5310	-6.05dBm/1MHz	≤11dBm/1MHz	Pass
5510	-4.31dBm/1MHz	≤11dBm/1MHz	Pass
5590	-4.20dBm/1MHz	≤11dBm/1MHz	Pass
5670	-5.93dBm/1MHz	≤11dBm/1MHz	Pass
5755	-7.81dBm/500kHz	≤30dBm/500kHz	Pass
5795	-9.78dBm/500kHz	≤30dBm/500kHz	Pass

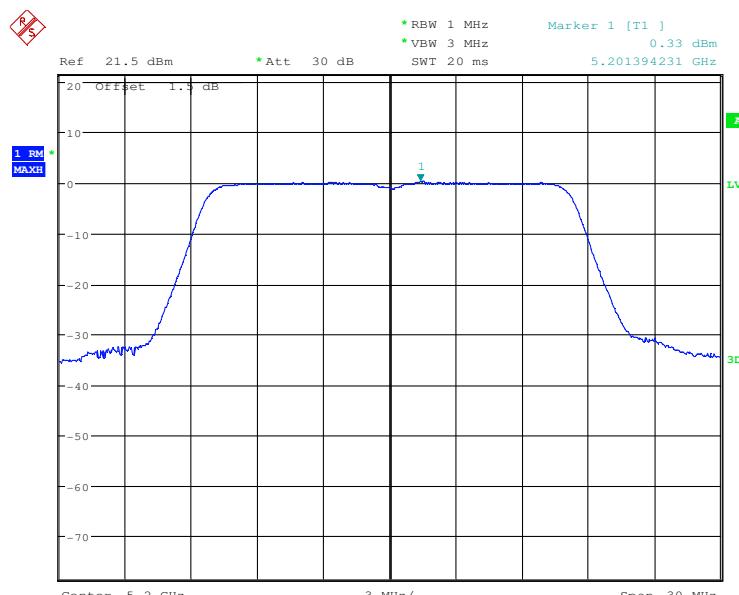
"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

**Test plot as follows:**
**Antenna 0**

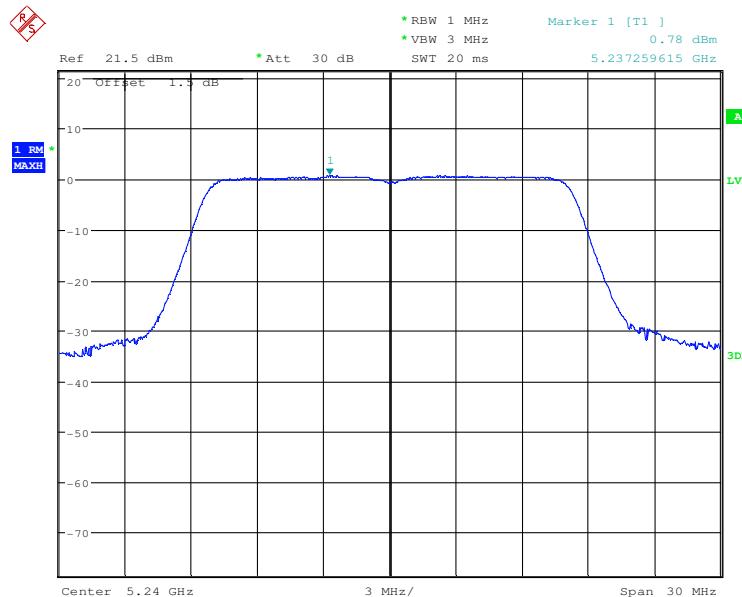
Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------



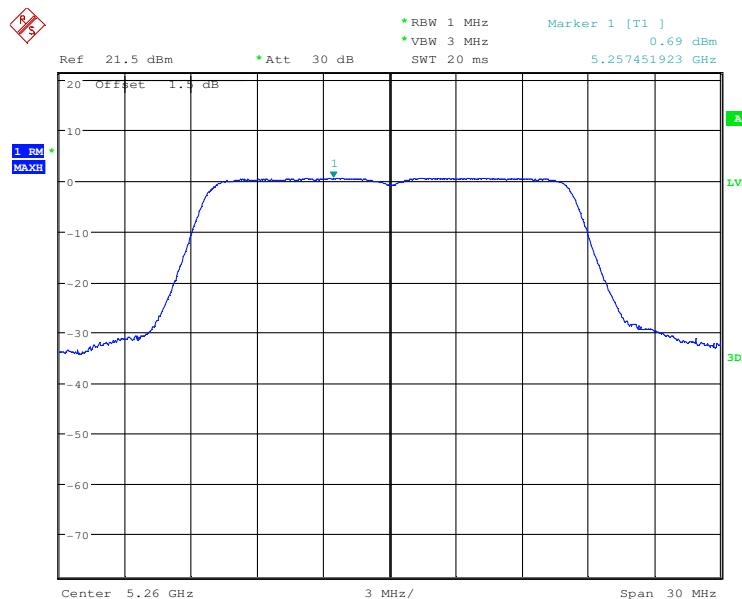
Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------



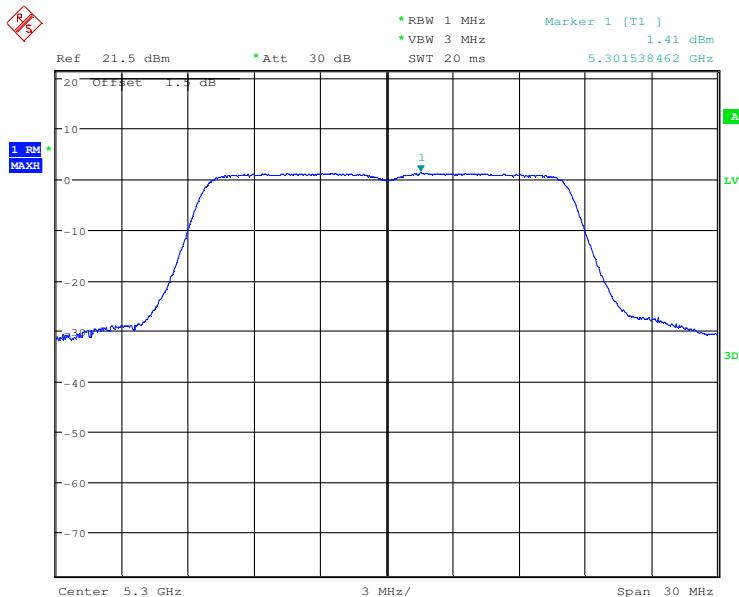
Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------



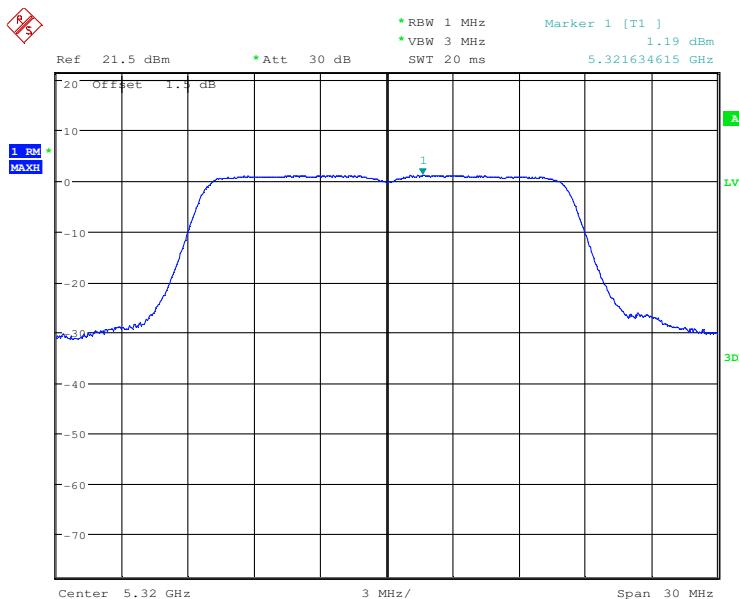
Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------



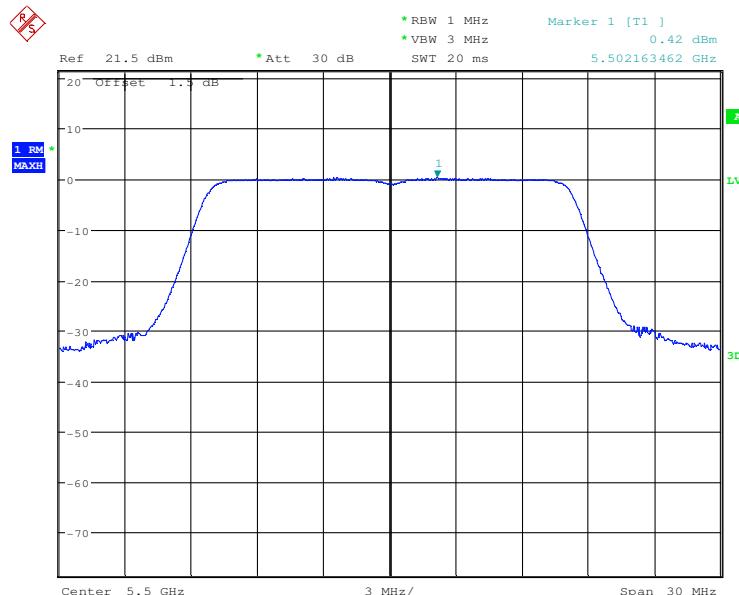
Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------



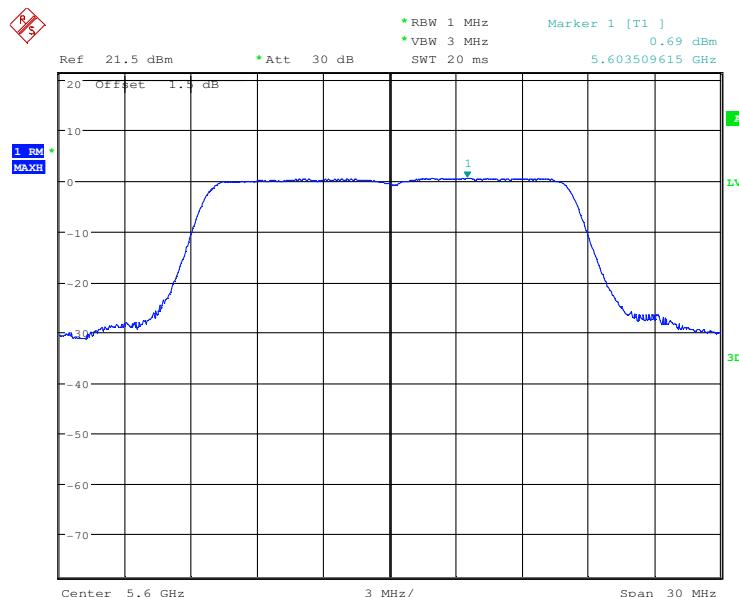
Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------



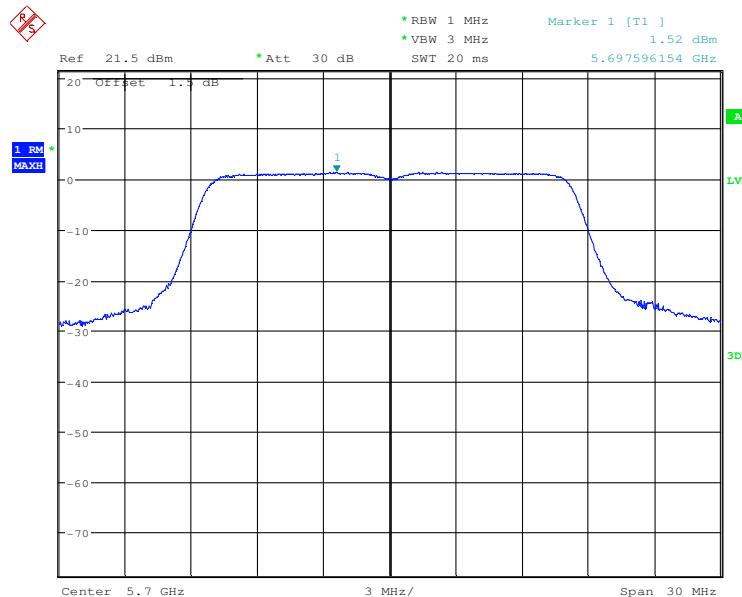
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



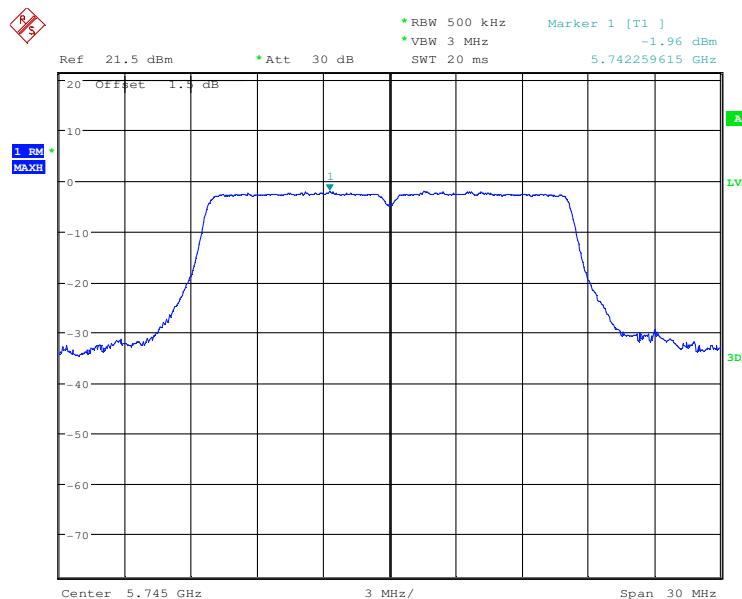
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



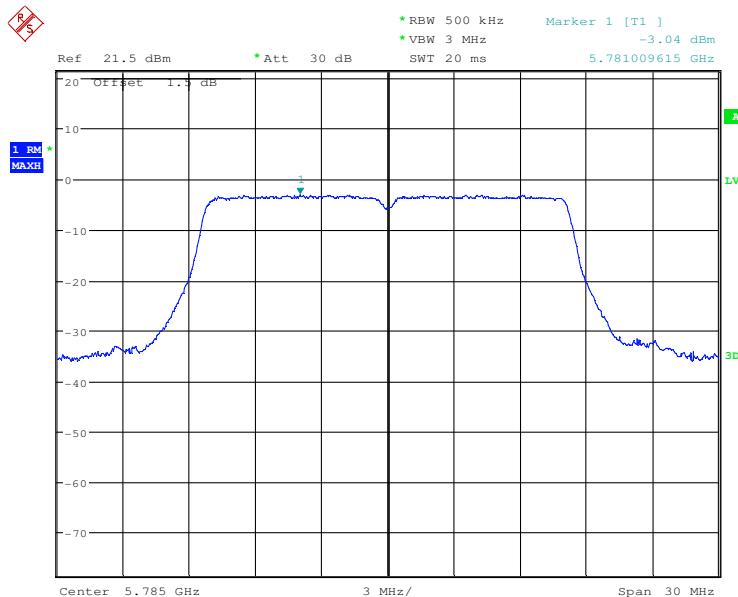
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



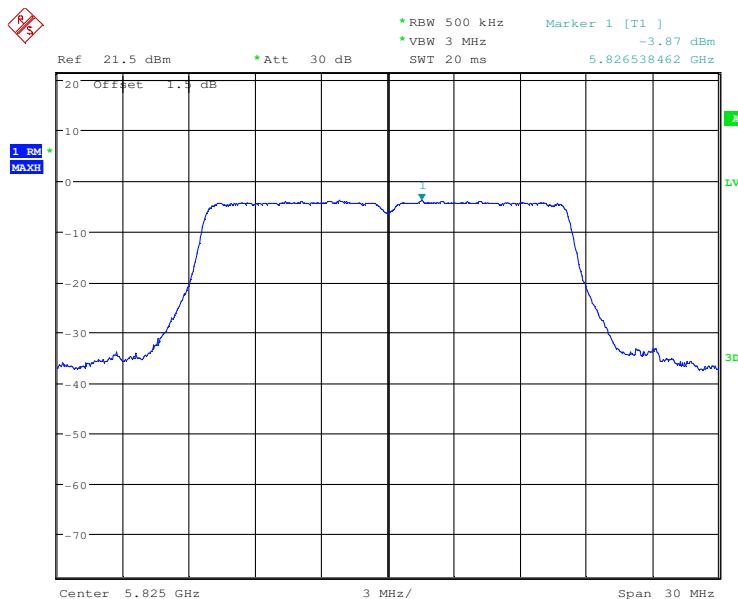
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



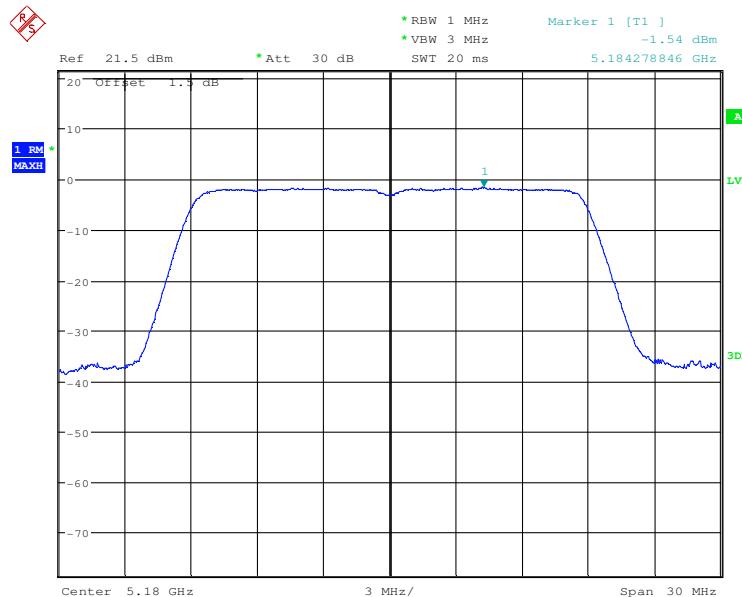
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



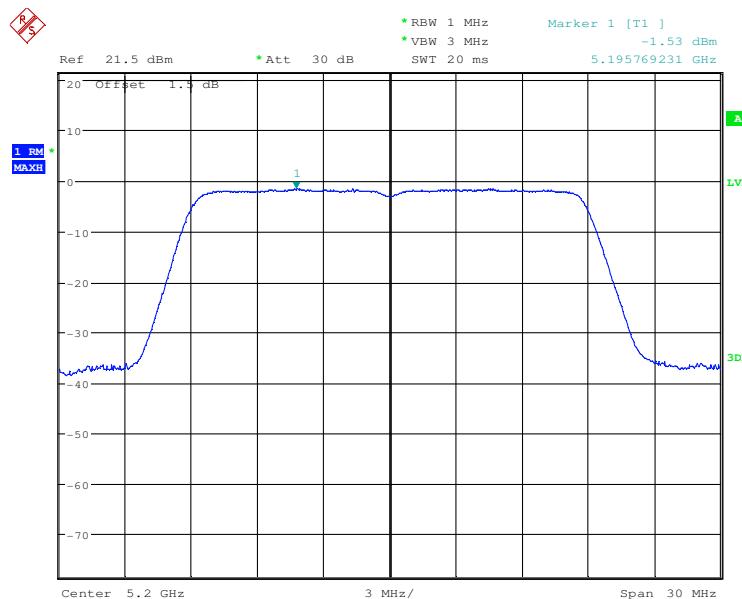
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



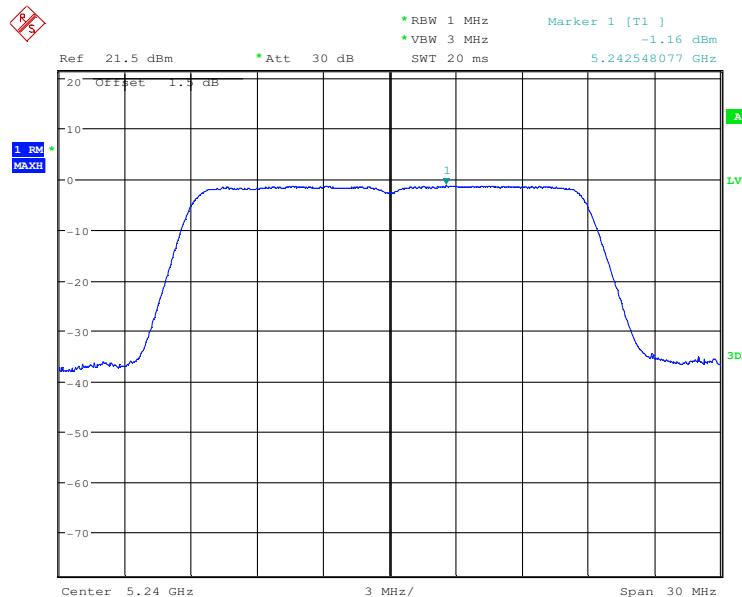
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



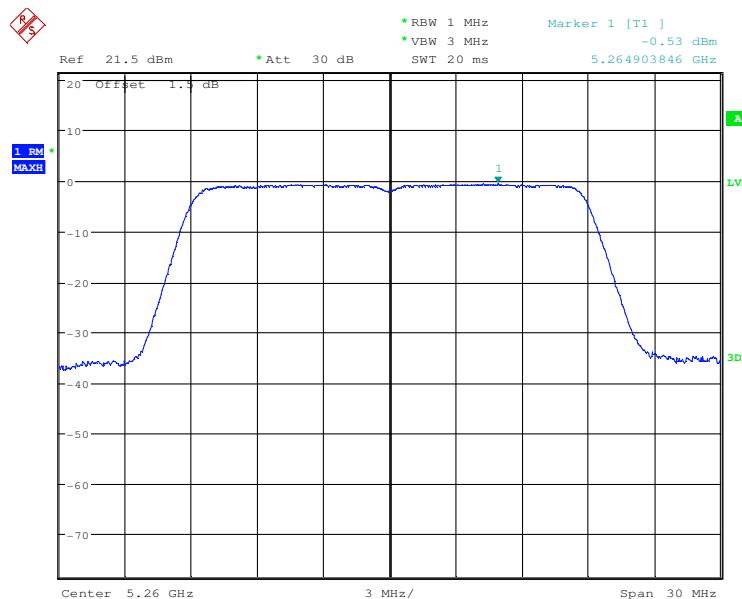
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



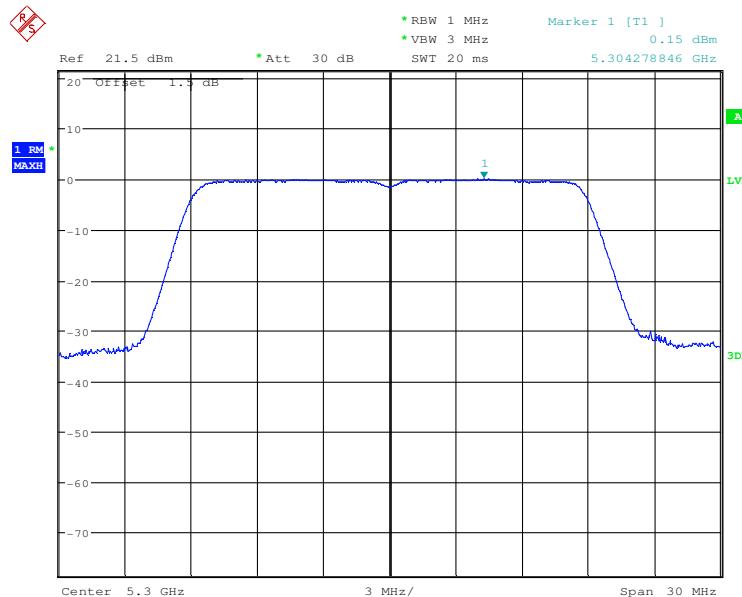
Test mode:	802.11n(HT20)	Frequency(MHz):	5240
------------	---------------	-----------------	------



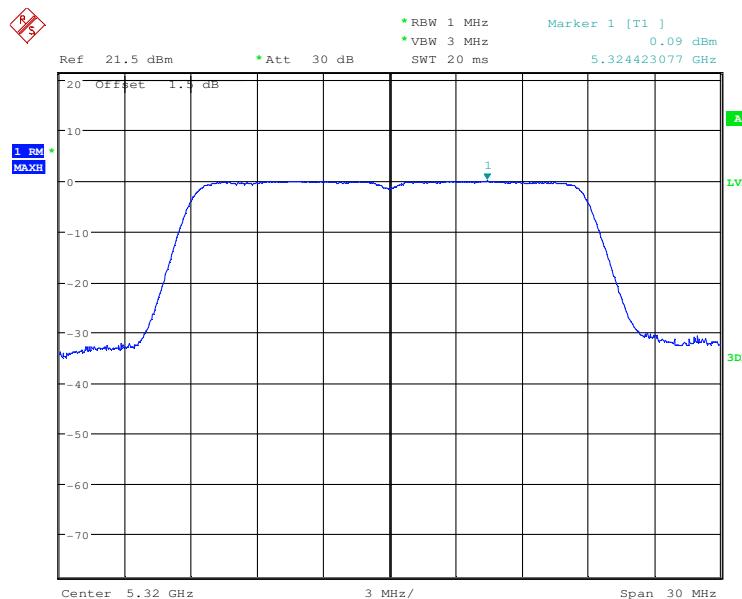
Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------



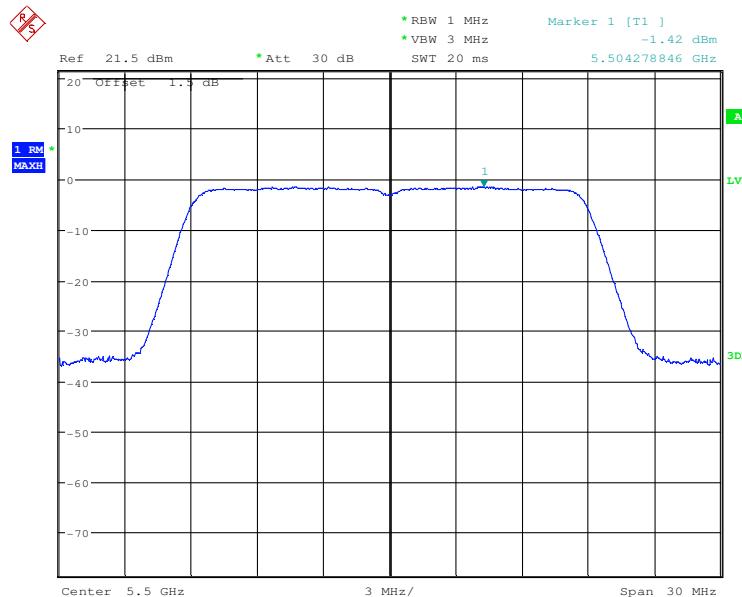
Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



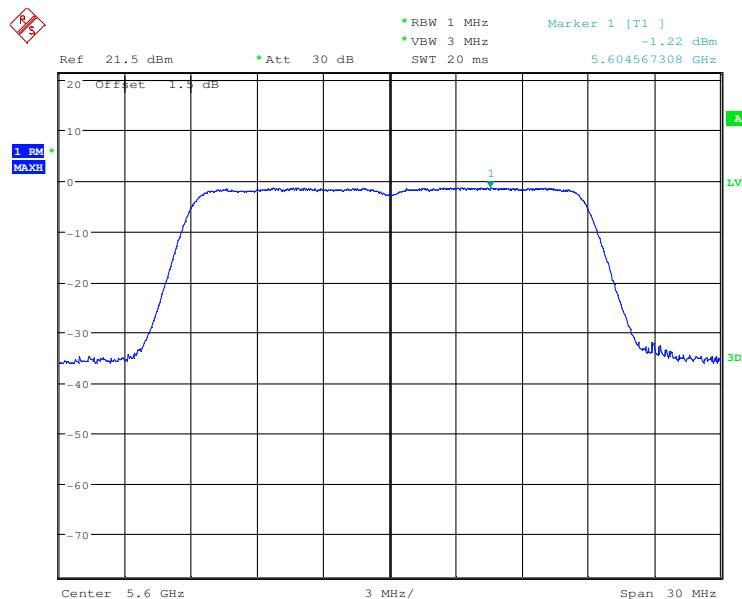
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



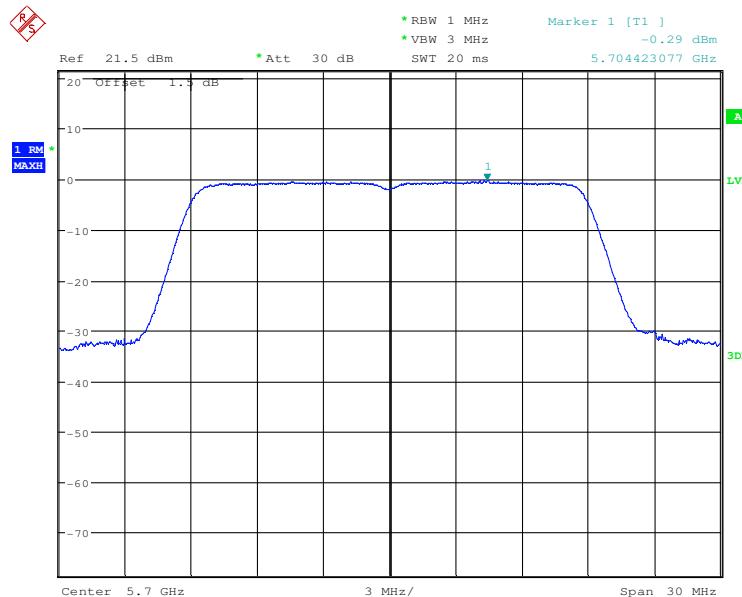
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



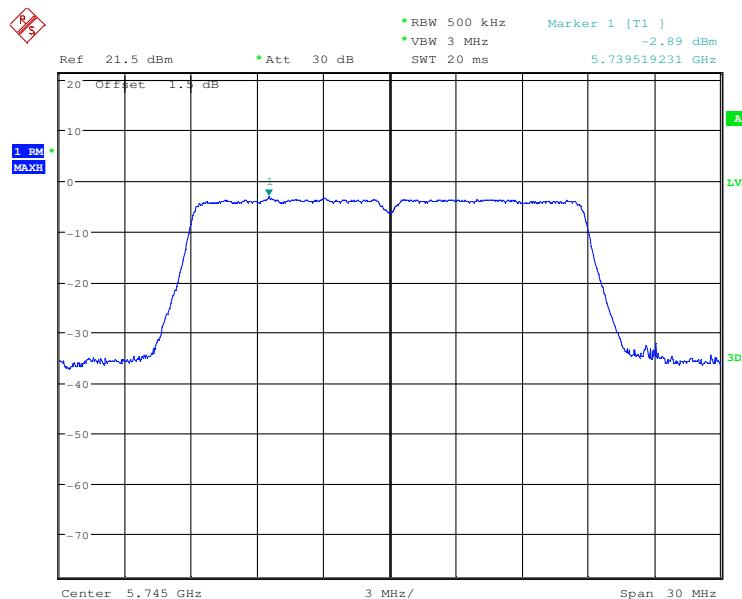
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



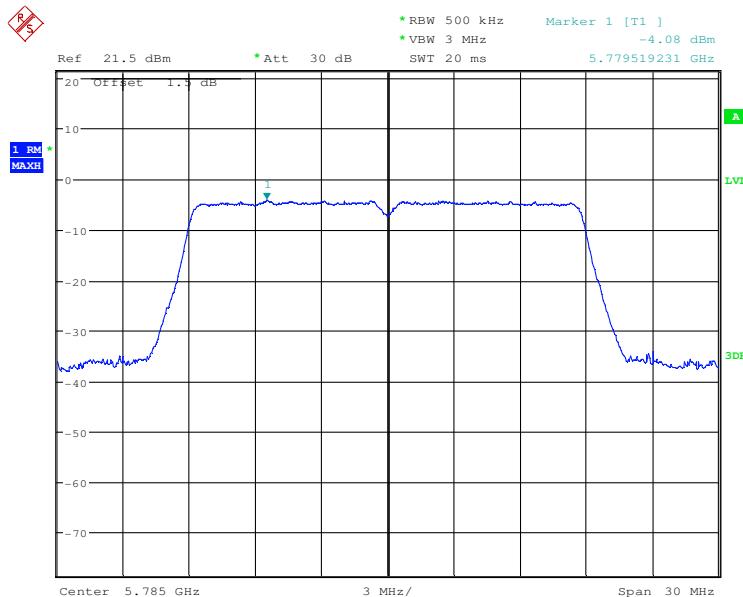
Test mode:	802.11n(HT20)	Frequency(MHz):	5700
------------	---------------	-----------------	------



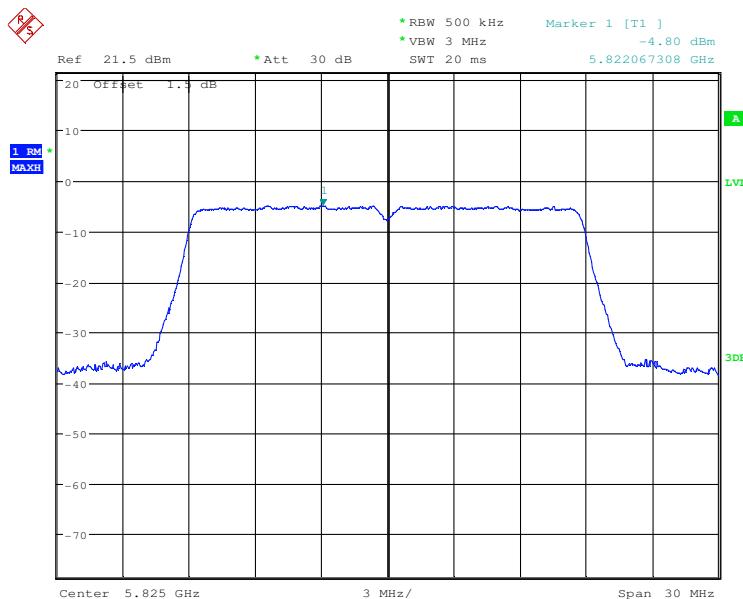
Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------



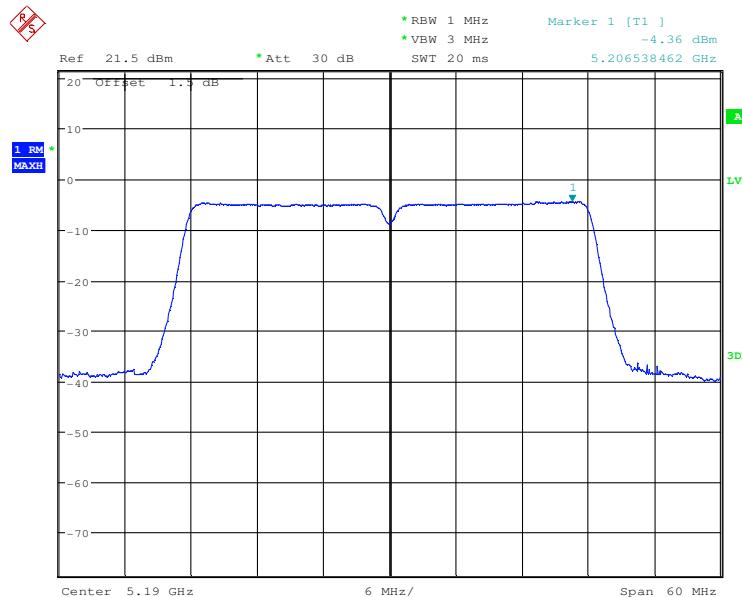
Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------



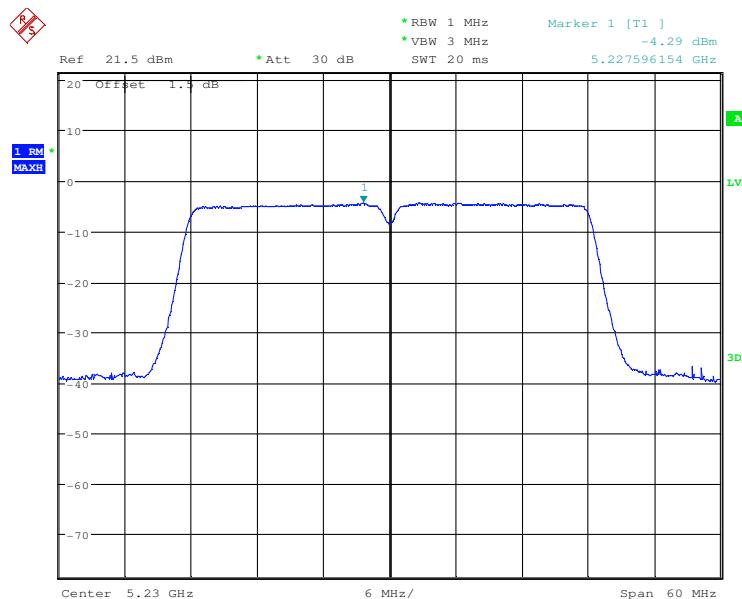
Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------



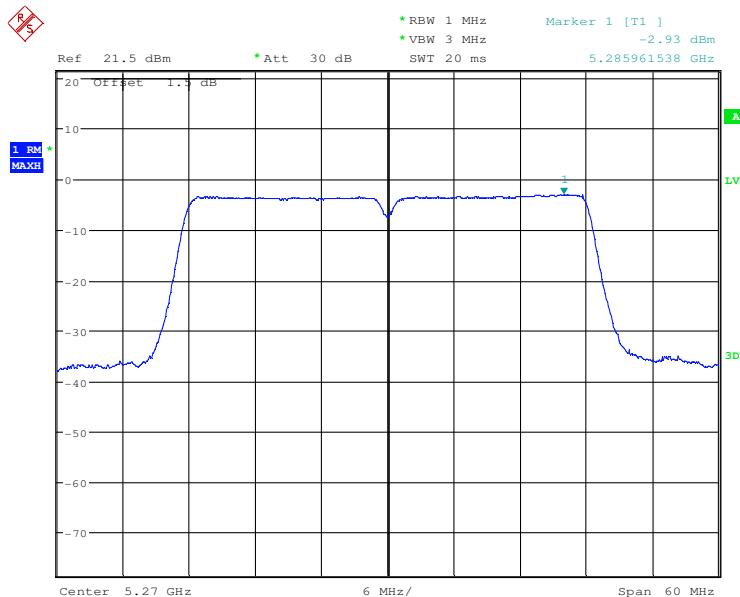
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



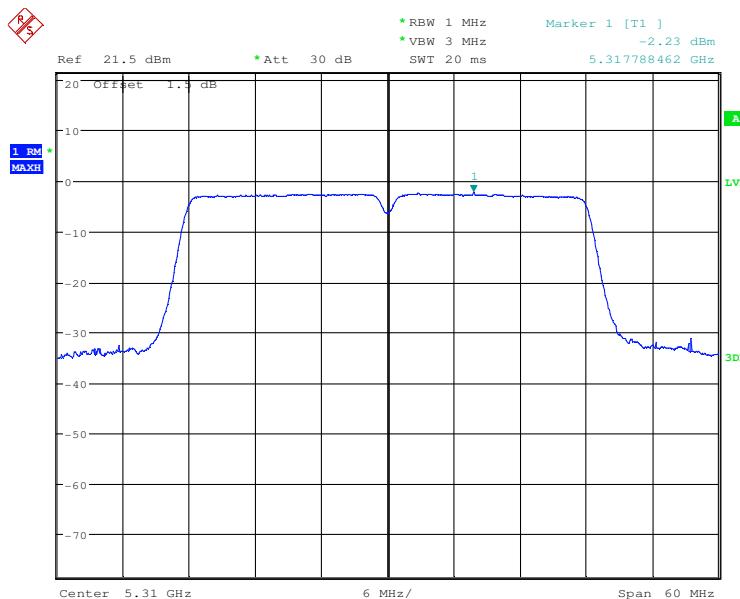
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



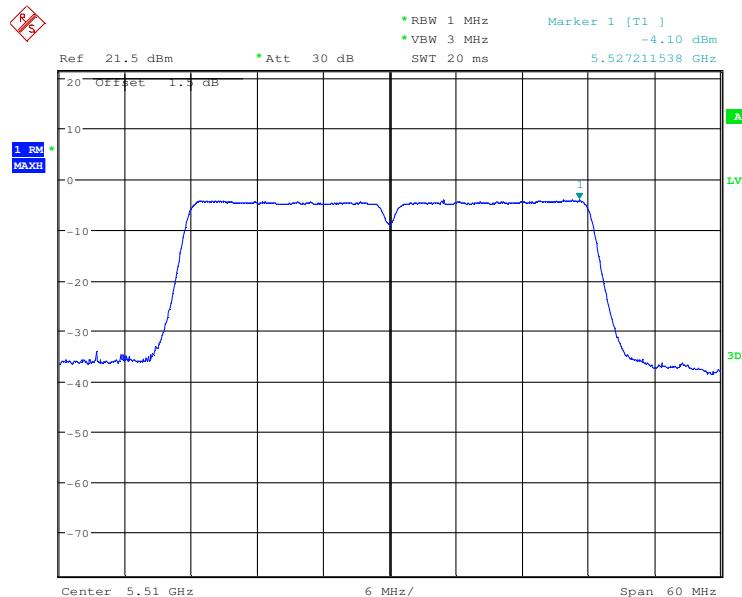
Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------



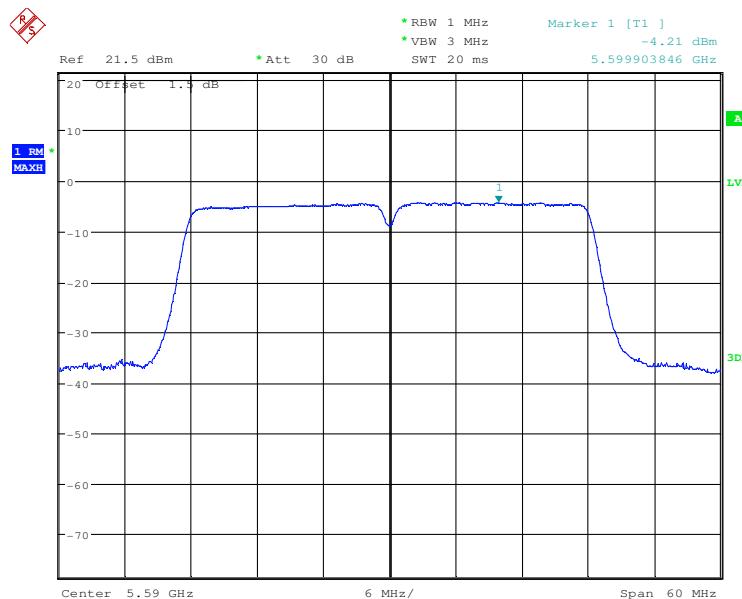
Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------



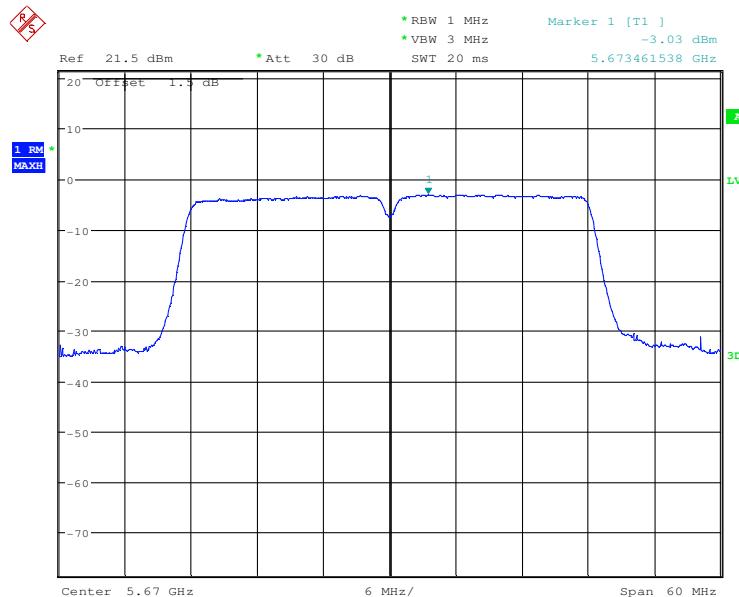
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



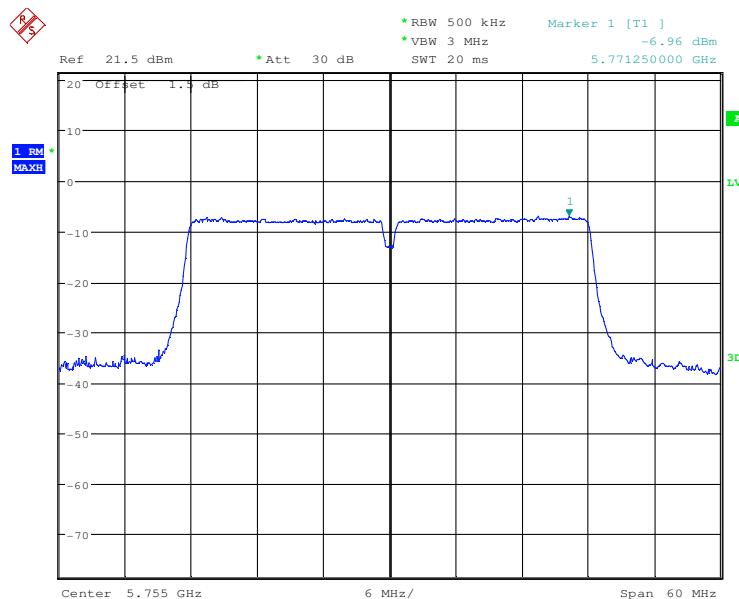
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



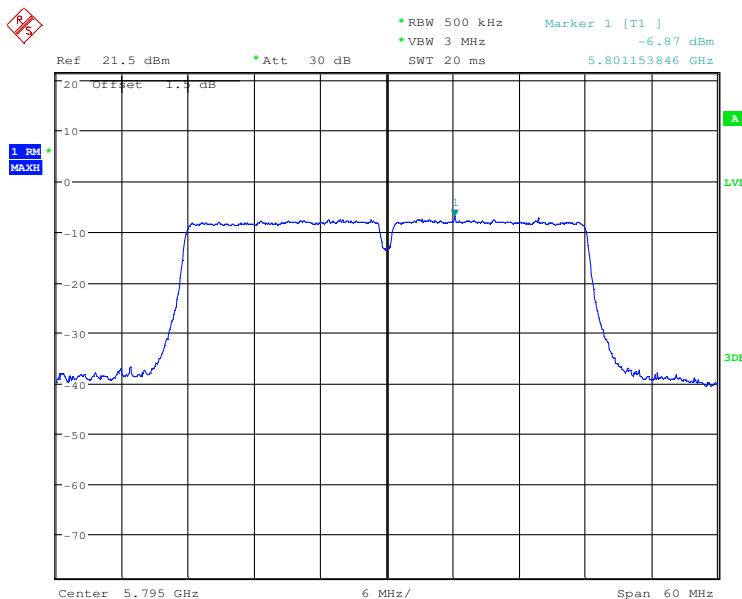
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------

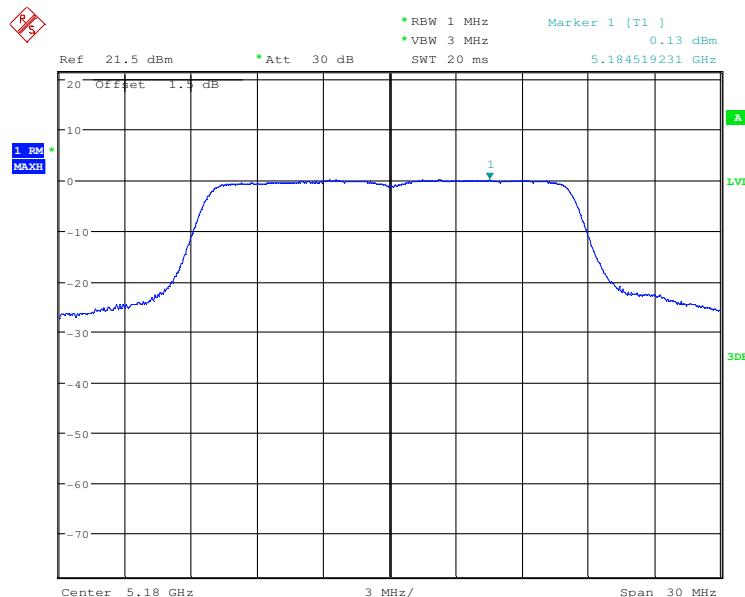


Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------

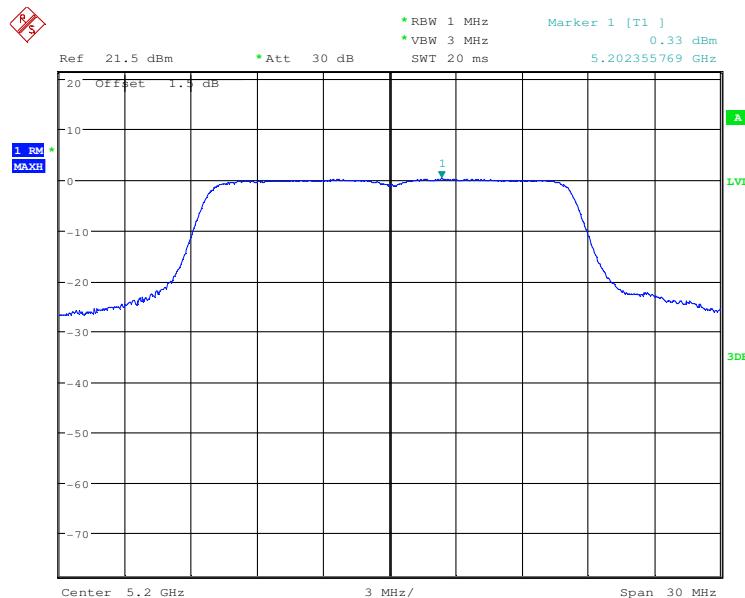


**Antenna 1**

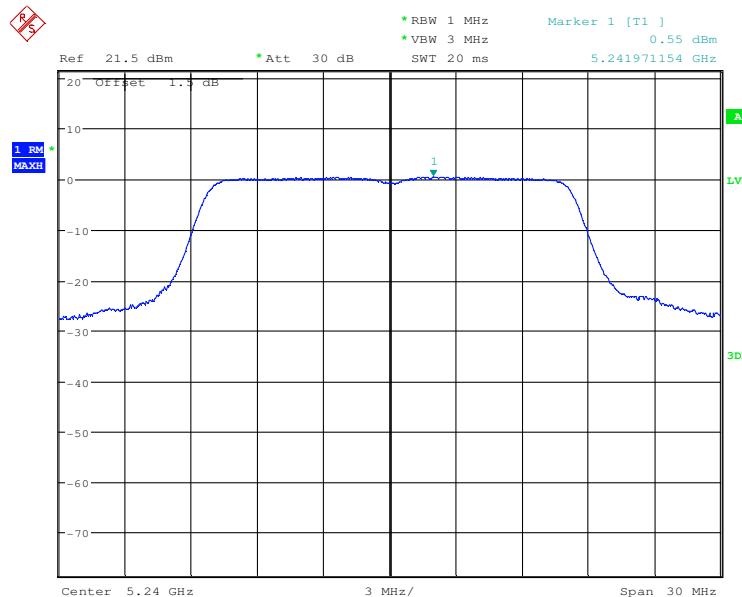
Test mode:	802.11a	Frequency(MHz):	5180
------------	---------	-----------------	------



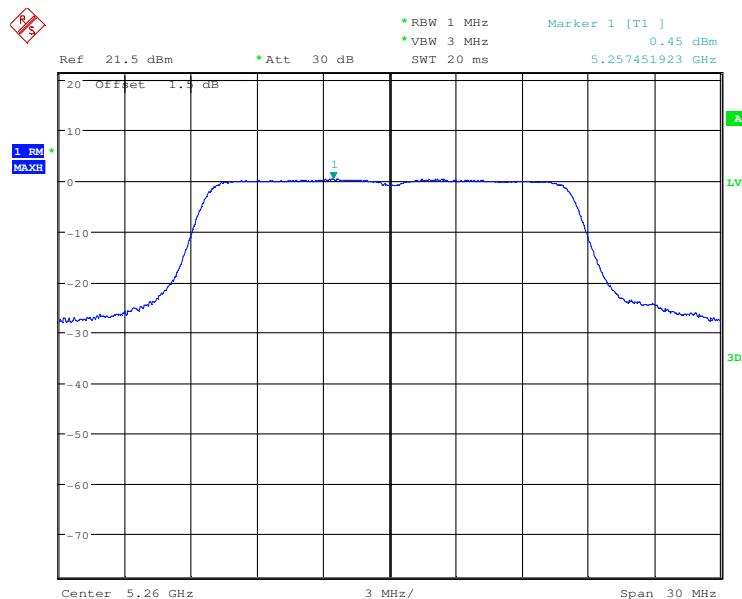
Test mode:	802.11a	Frequency(MHz):	5200
------------	---------	-----------------	------



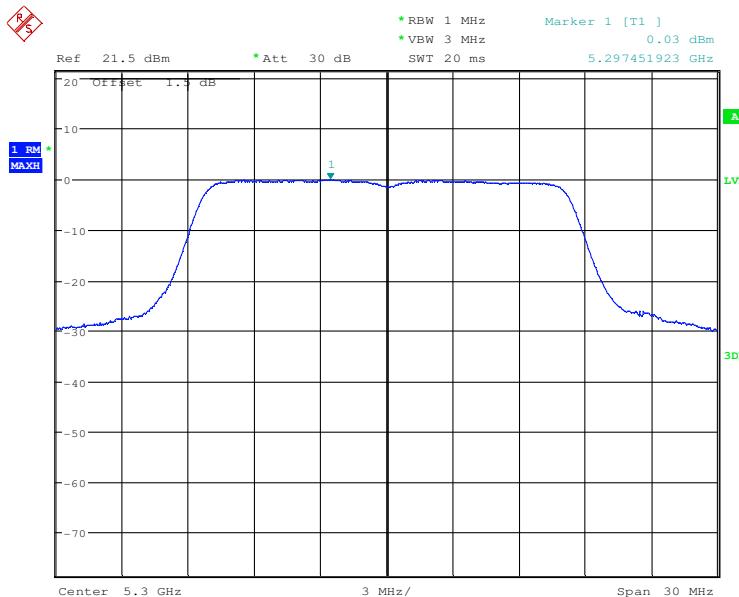
Test mode:	802.11a	Frequency(MHz):	5240
------------	---------	-----------------	------



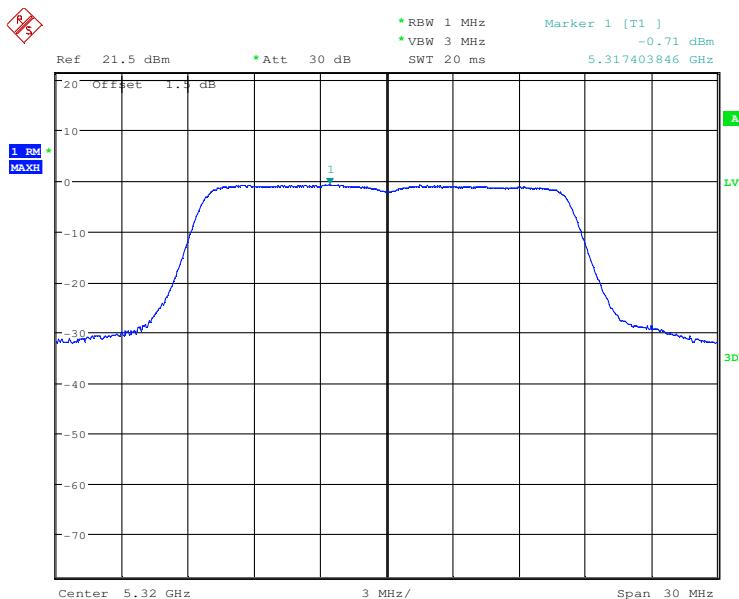
Test mode:	802.11a	Frequency(MHz):	5260
------------	---------	-----------------	------



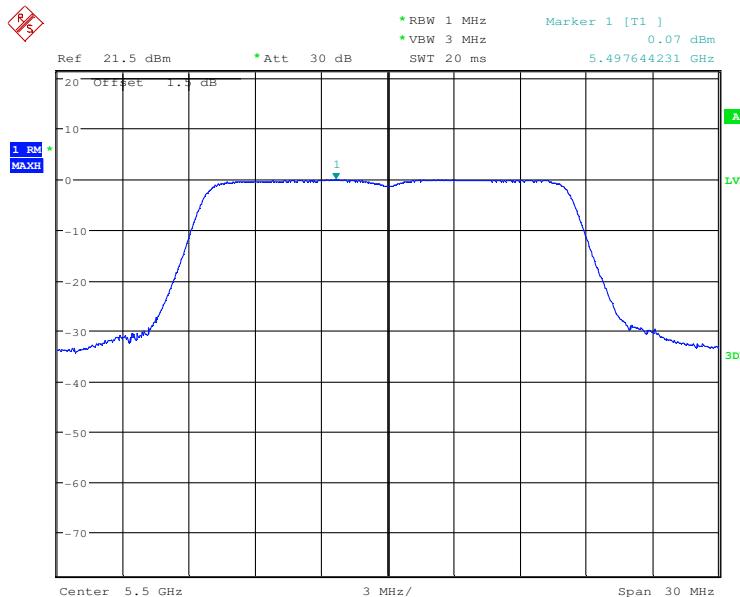
Test mode:	802.11a	Frequency(MHz):	5300
------------	---------	-----------------	------



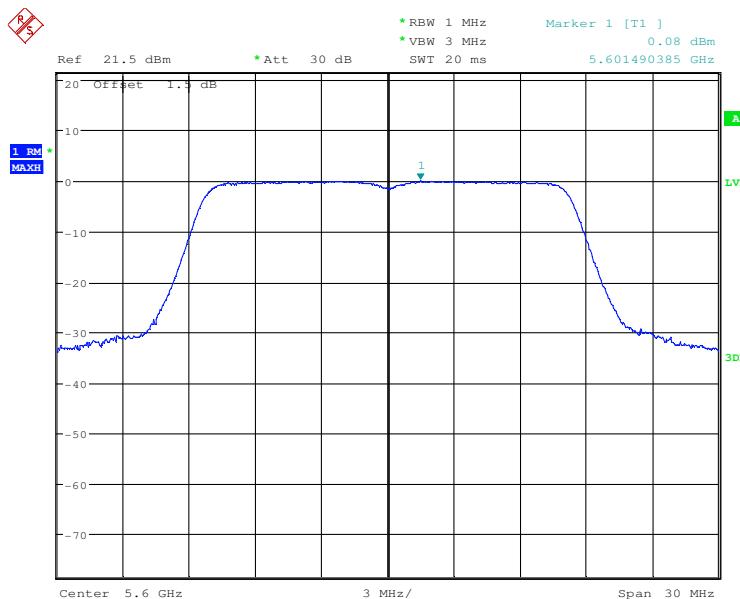
Test mode:	802.11a	Frequency(MHz):	5320
------------	---------	-----------------	------



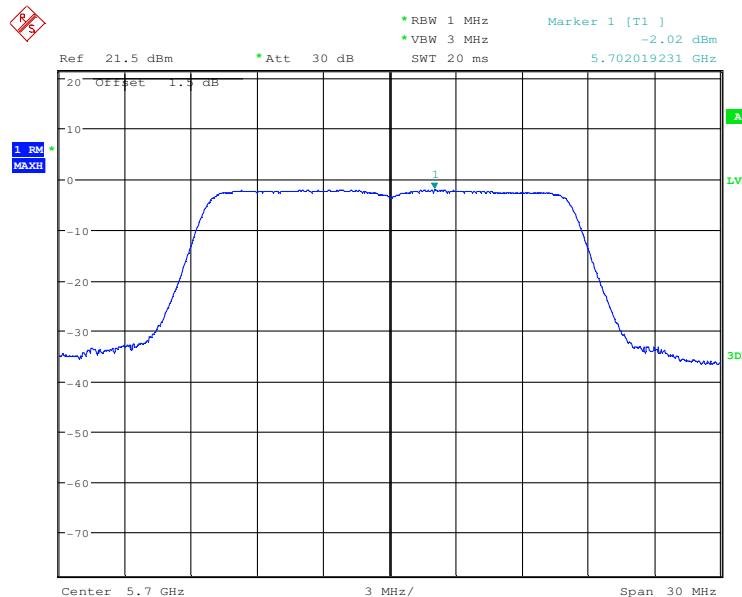
Test mode:	802.11a	Frequency(MHz):	5500
------------	---------	-----------------	------



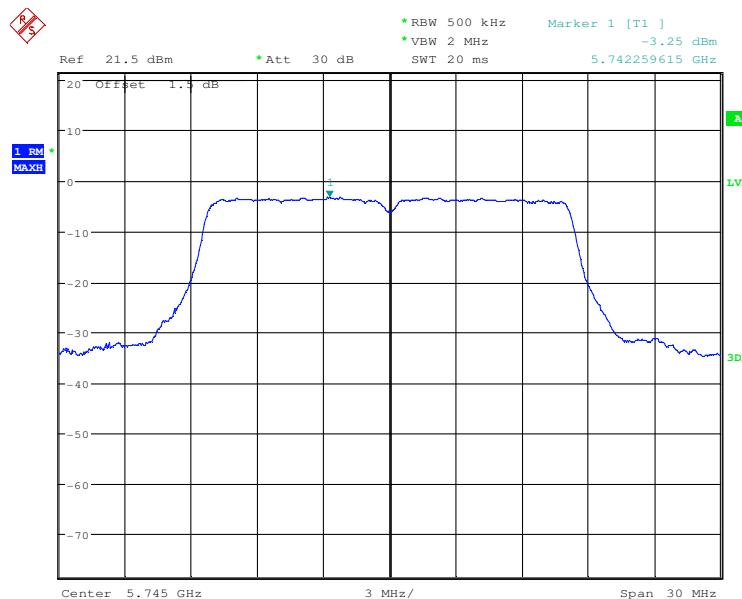
Test mode:	802.11a	Frequency(MHz):	5600
------------	---------	-----------------	------



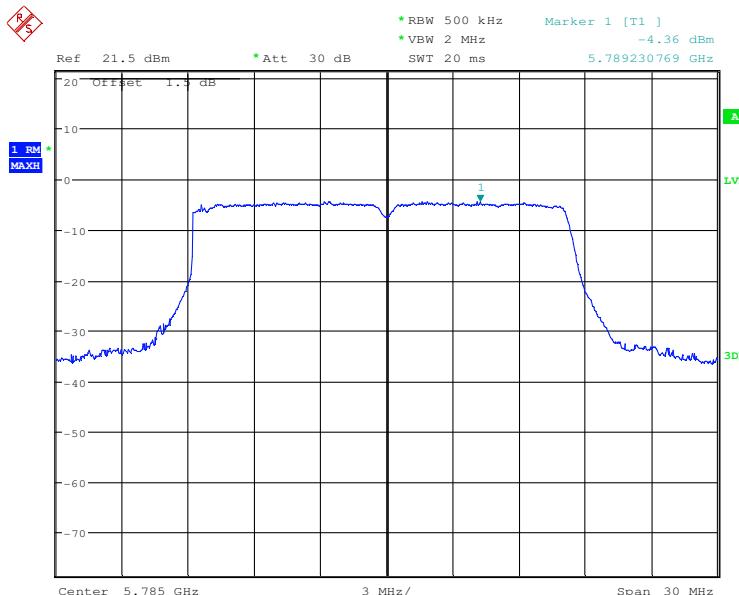
Test mode:	802.11a	Frequency(MHz):	5700
------------	---------	-----------------	------



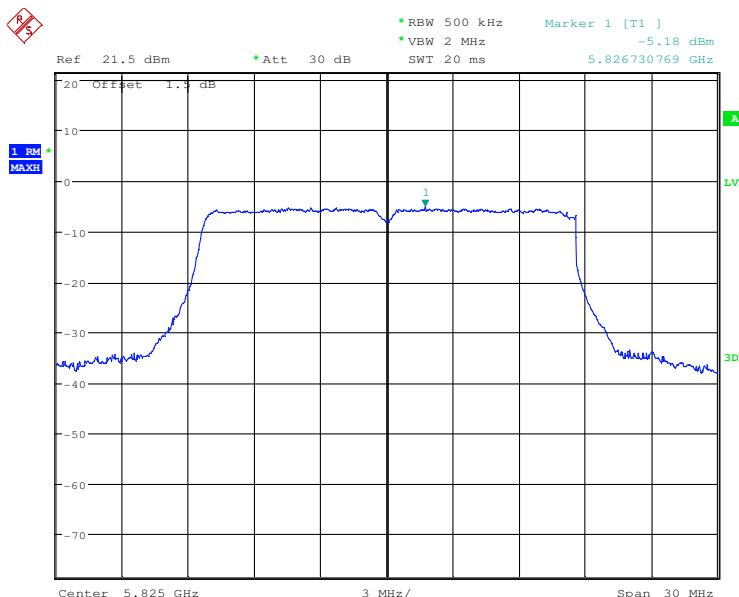
Test mode:	802.11a	Frequency(MHz):	5745
------------	---------	-----------------	------



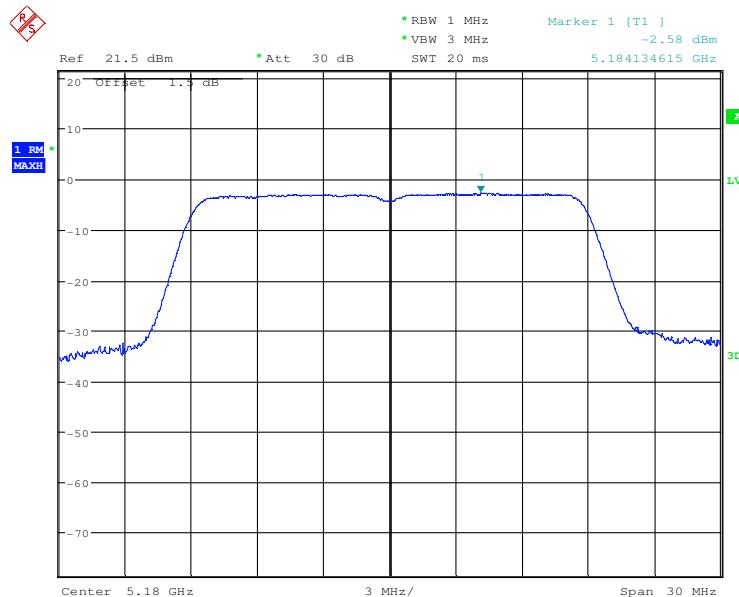
Test mode:	802.11a	Frequency(MHz):	5785
------------	---------	-----------------	------



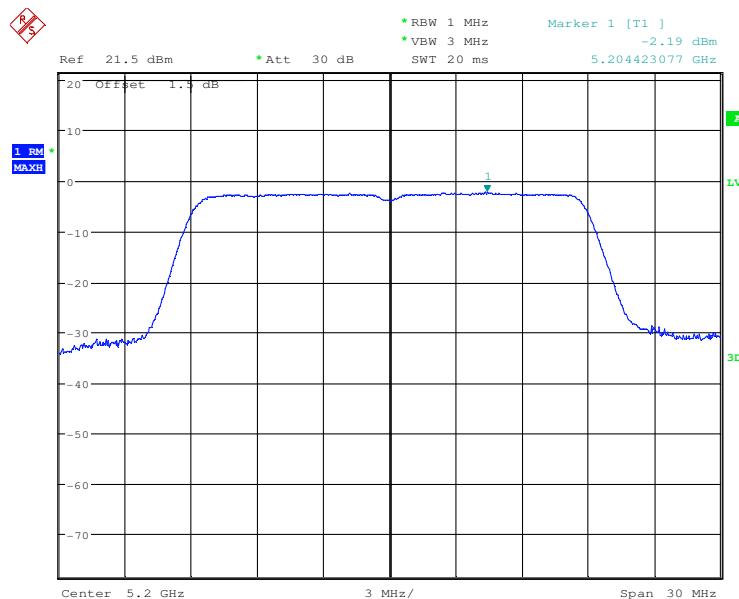
Test mode:	802.11a	Frequency(MHz):	5825
------------	---------	-----------------	------



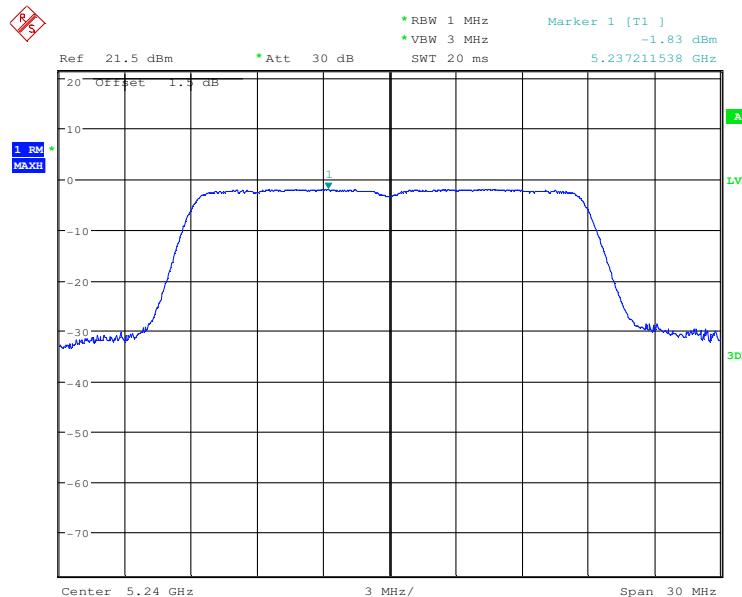
Test mode:	802.11n(HT20)	Frequency(MHz):	5180
------------	---------------	-----------------	------



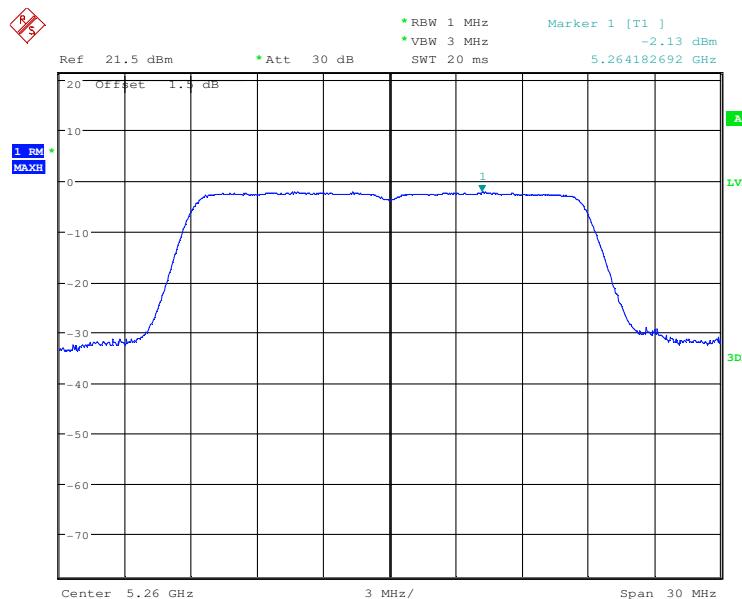
Test mode:	802.11n(HT20)	Frequency(MHz):	5200
------------	---------------	-----------------	------



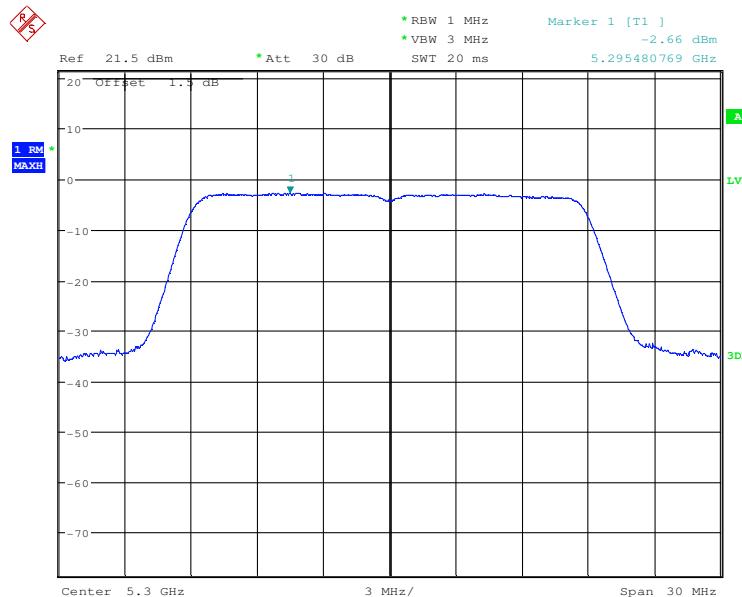
Test mode:	802.11n(HT20)	Frequency(MHz):	5240
------------	---------------	-----------------	------



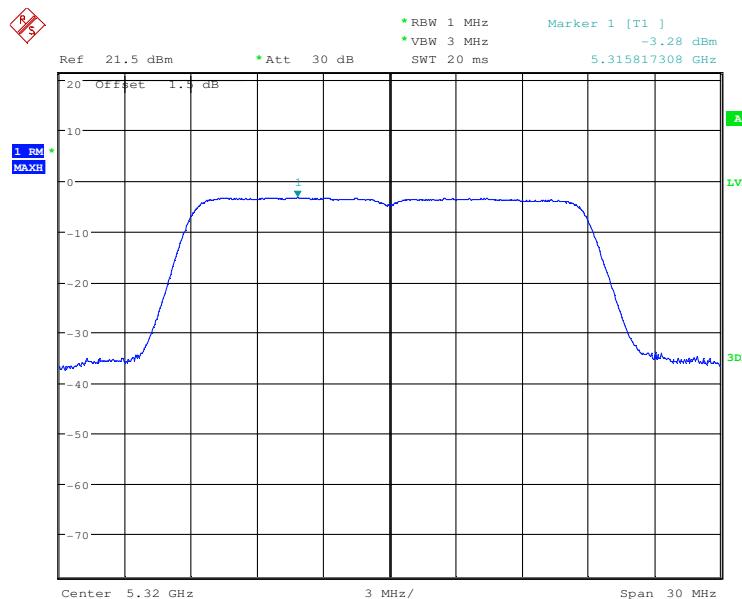
Test mode:	802.11n(HT20)	Frequency(MHz):	5260
------------	---------------	-----------------	------



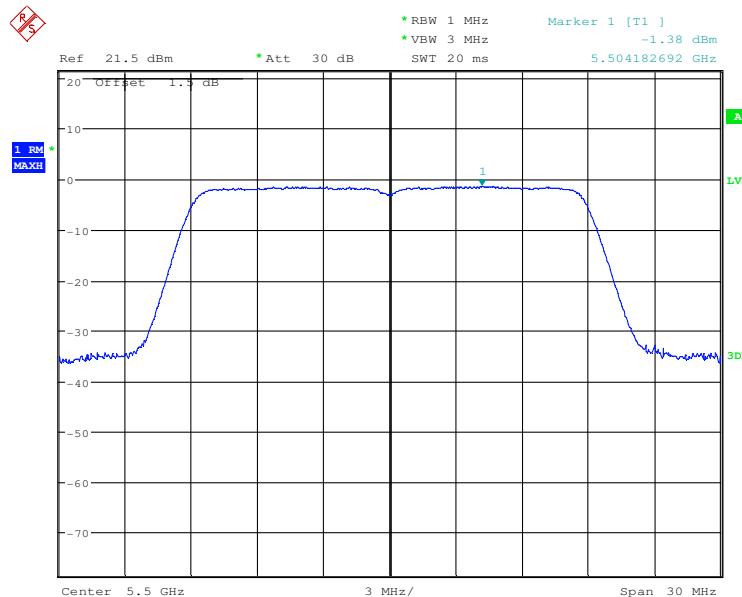
Test mode:	802.11n(HT20)	Frequency(MHz):	5300
------------	---------------	-----------------	------



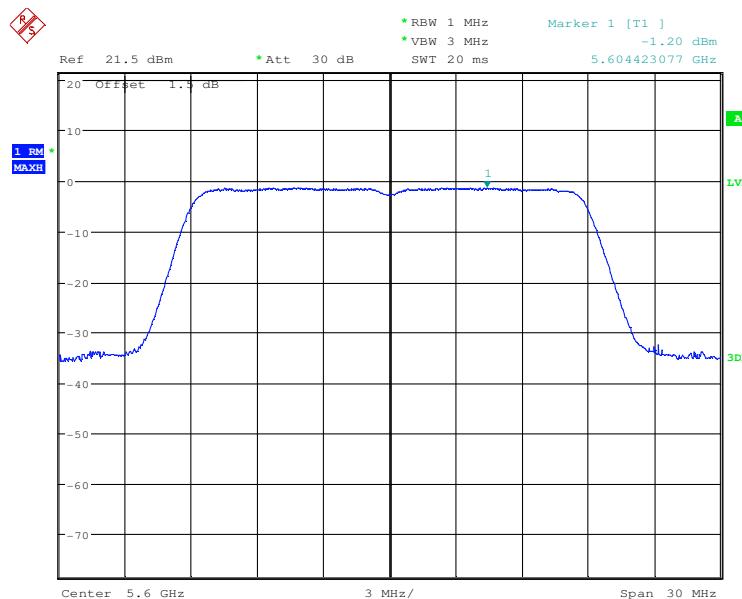
Test mode:	802.11n(HT20)	Frequency(MHz):	5320
------------	---------------	-----------------	------



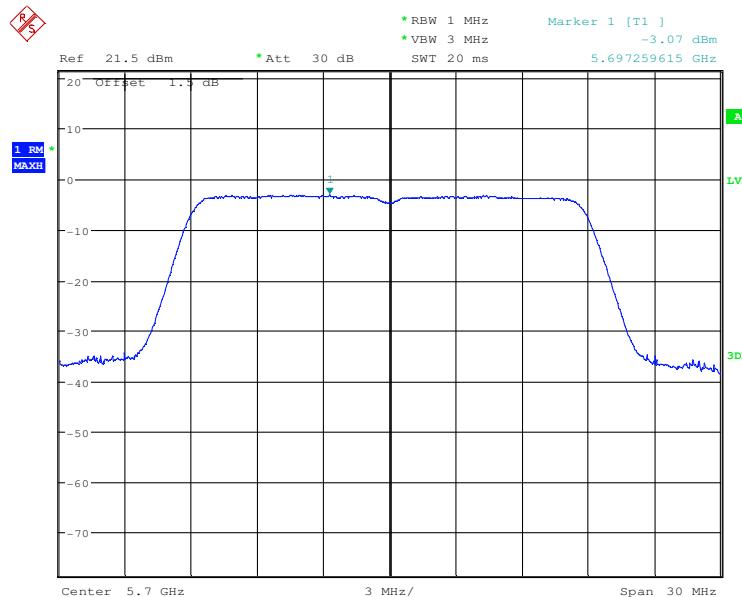
Test mode:	802.11n(HT20)	Frequency(MHz):	5500
------------	---------------	-----------------	------



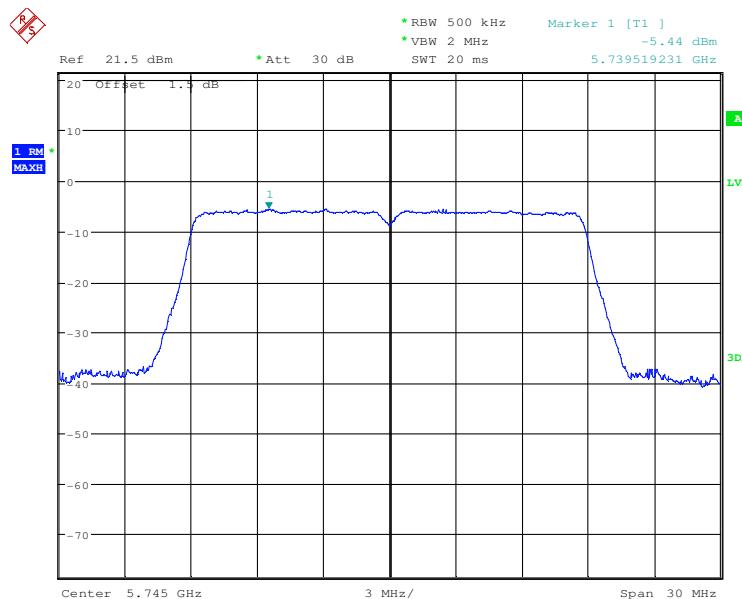
Test mode:	802.11n(HT20)	Frequency(MHz):	5600
------------	---------------	-----------------	------



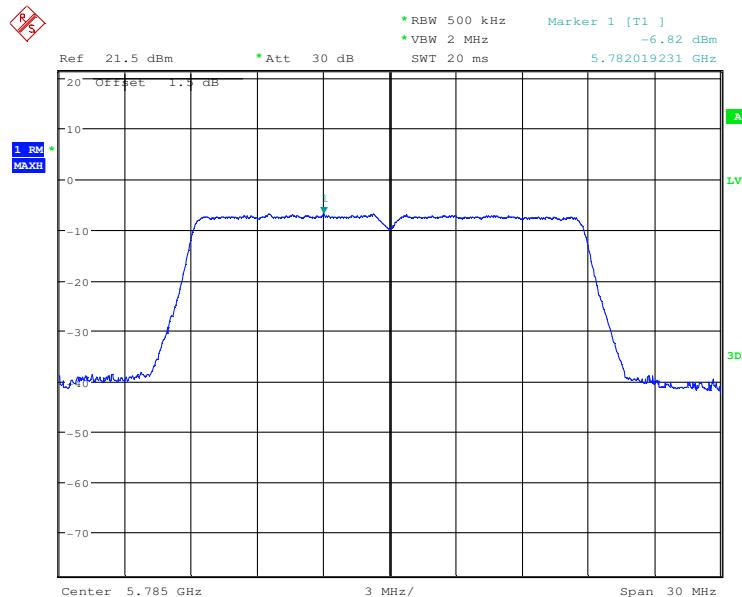
Test mode:	802.11n(HT20)	Frequency(MHz):	5700
------------	---------------	-----------------	------



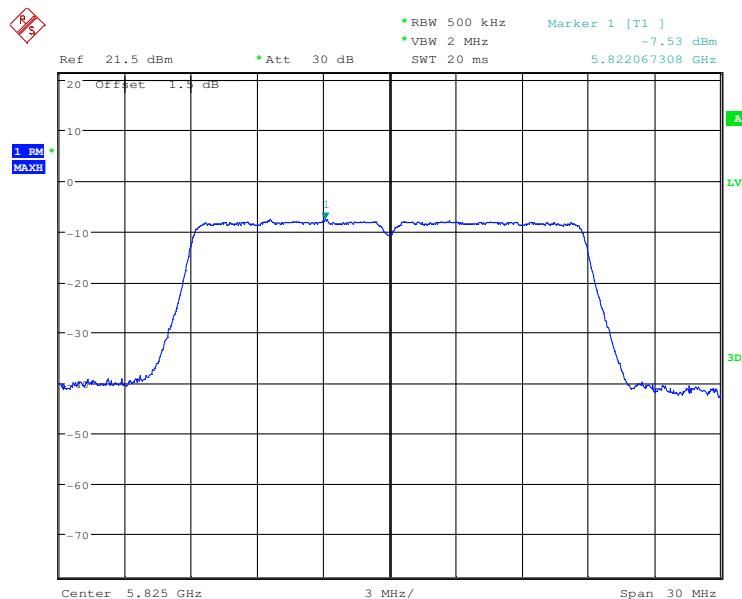
Test mode:	802.11n(HT20)	Frequency(MHz):	5745
------------	---------------	-----------------	------



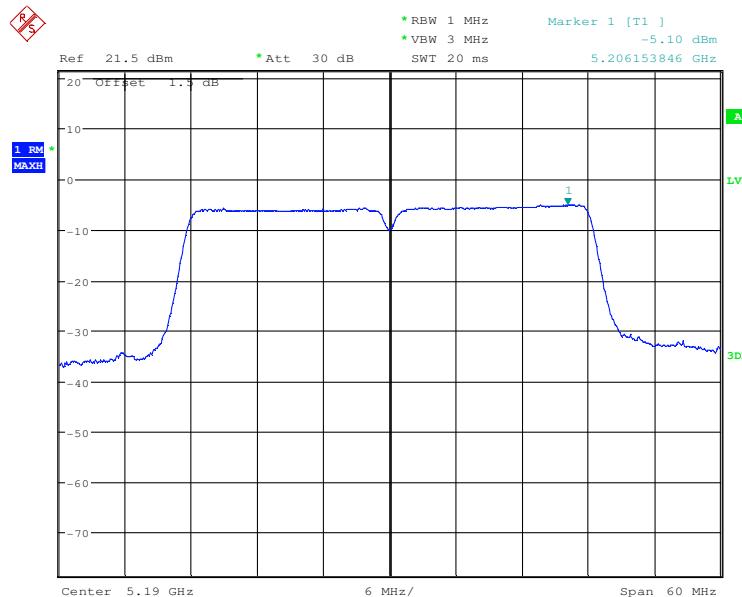
Test mode:	802.11n(HT20)	Frequency(MHz):	5785
------------	---------------	-----------------	------



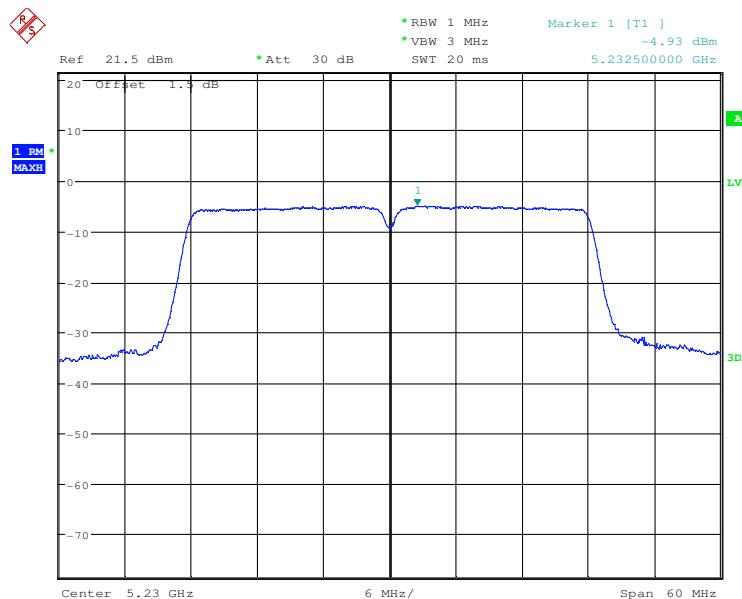
Test mode:	802.11n(HT20)	Frequency(MHz):	5825
------------	---------------	-----------------	------



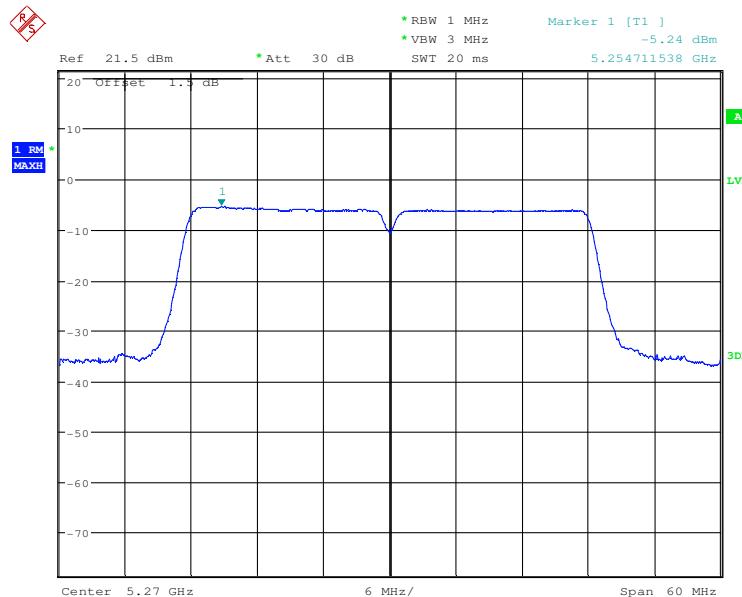
Test mode:	802.11n(HT40)	Frequency(MHz):	5190
------------	---------------	-----------------	------



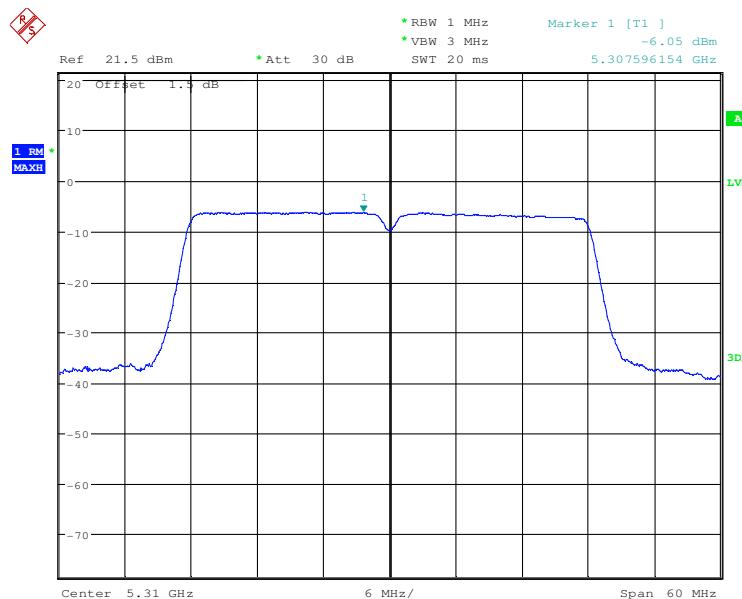
Test mode:	802.11n(HT40)	Frequency(MHz):	5230
------------	---------------	-----------------	------



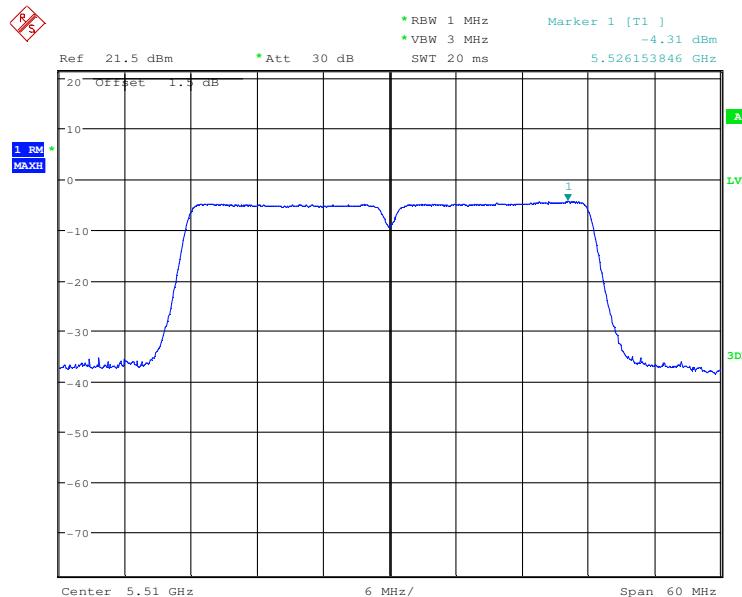
Test mode:	802.11n(HT40)	Frequency(MHz):	5270
------------	---------------	-----------------	------



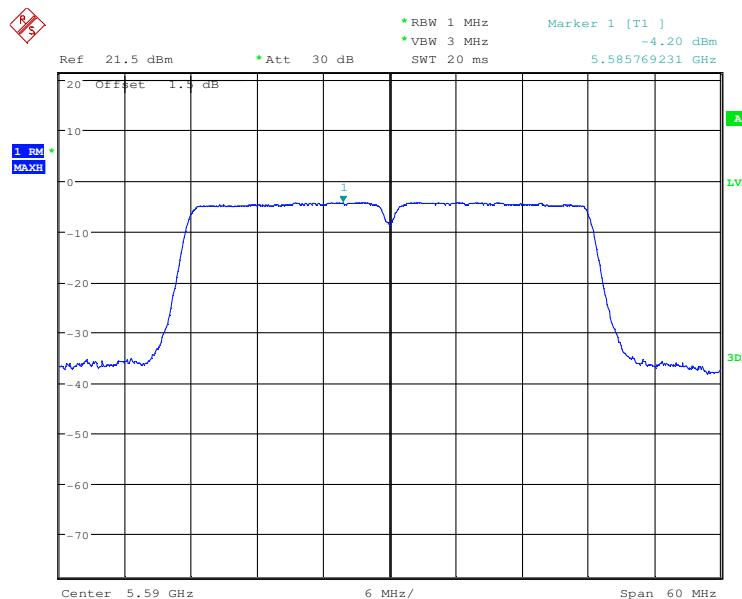
Test mode:	802.11n(HT40)	Frequency(MHz):	5310
------------	---------------	-----------------	------



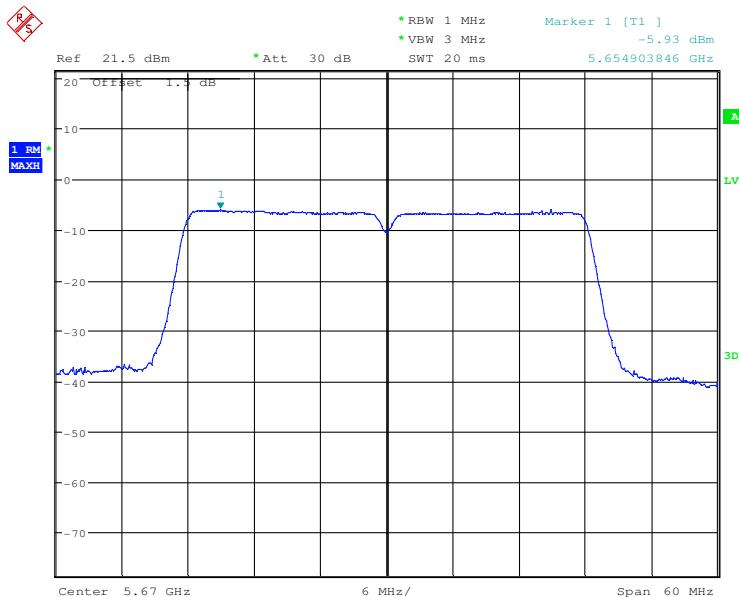
Test mode:	802.11n(HT40)	Frequency(MHz):	5510
------------	---------------	-----------------	------



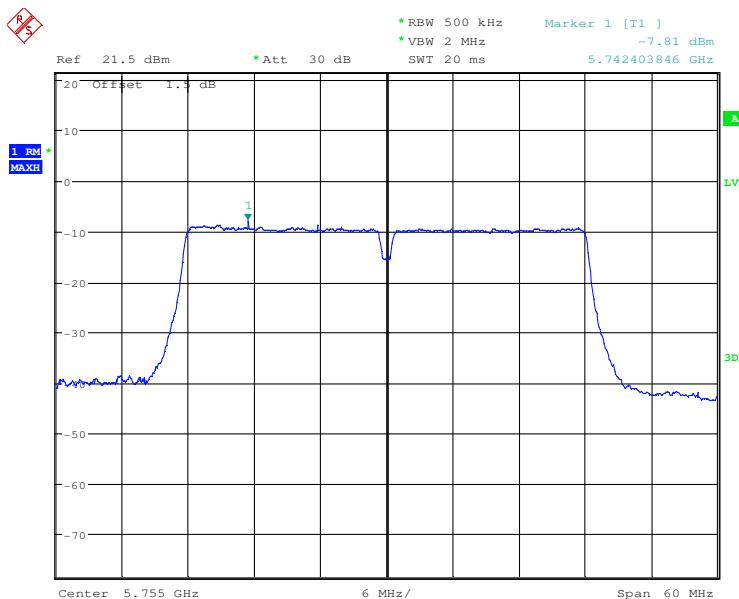
Test mode:	802.11n(HT40)	Frequency(MHz):	5590
------------	---------------	-----------------	------



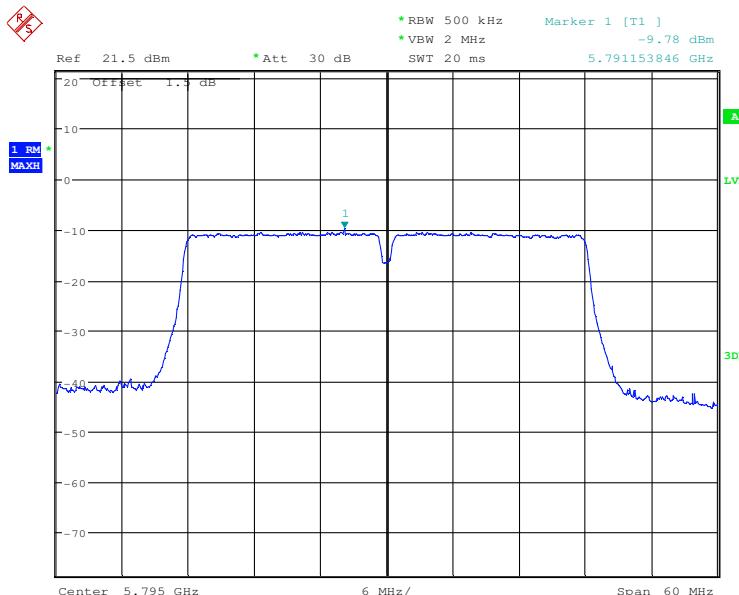
Test mode:	802.11n(HT40)	Frequency(MHz):	5670
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5755
------------	---------------	-----------------	------



Test mode:	802.11n(HT40)	Frequency(MHz):	5795
------------	---------------	-----------------	------



## 6.7 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Test Setup:	

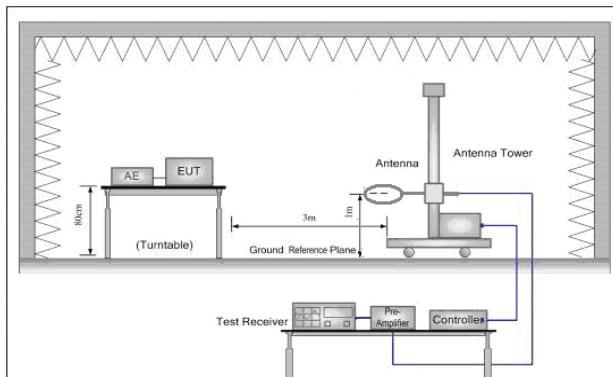


Figure 1. 30MHz to 1GHz

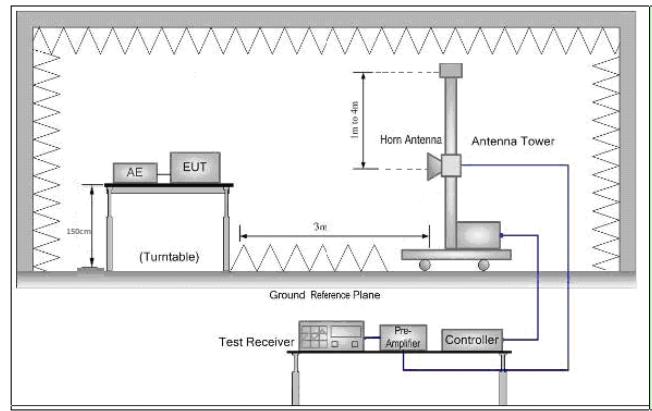


Figure 2. Above 1 GHz

Test Procedure:	<ol style="list-style-type: none"> <li>For below 1GHz test, 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>For above 1GHz test, the EUT was placed on the top of a rotating table 1.5 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 height 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 method as specified and then reported in a data sheet.</li> <li>Test the EUT in the lowest channel, the middle channel, the Highest channel.</li> <li>Repeat above procedures until all frequencies measured was complete.</li> </ol>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.



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

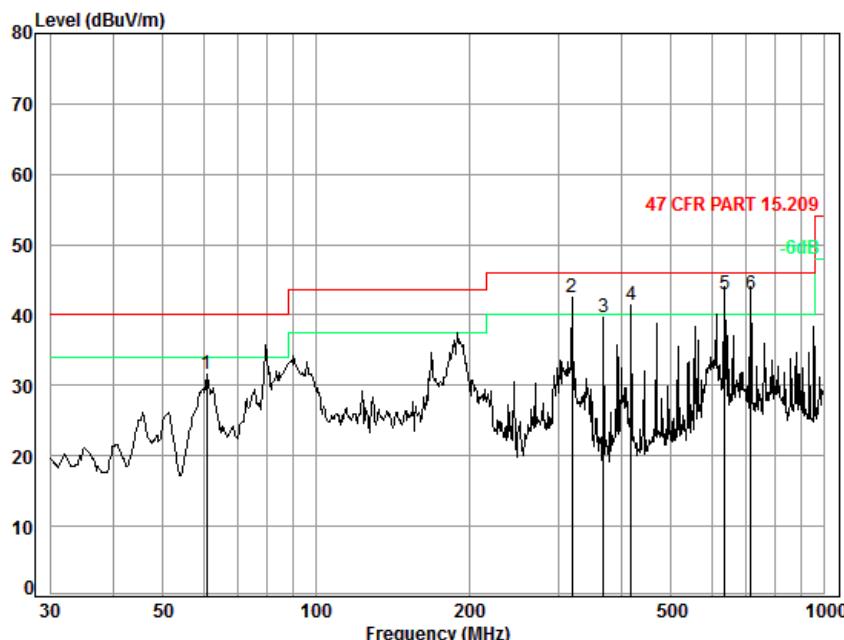
Report No.: SZEM150700454405

Page: 140 of 211

Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this 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 mode	Vertical



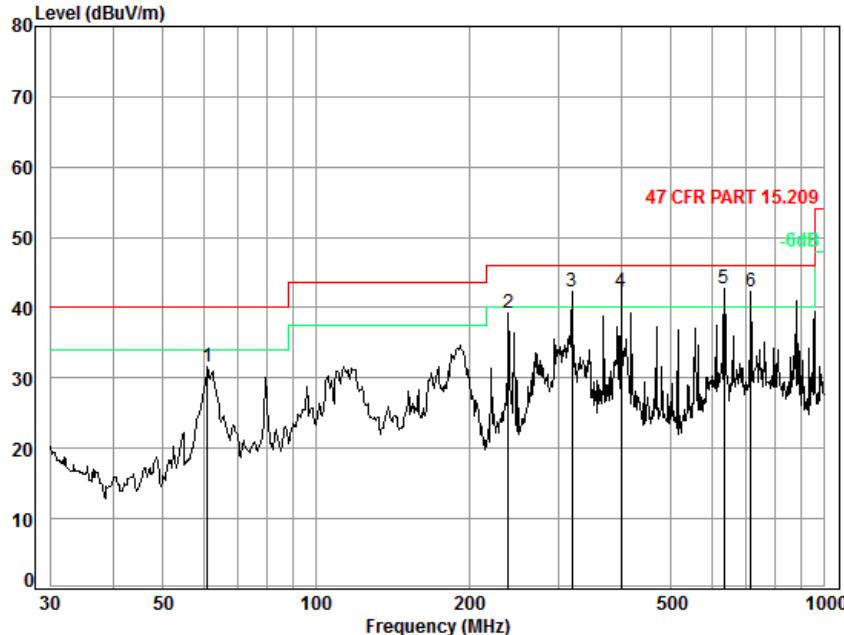
Condition: 47 CFR PART 15.209 3m 3142C Vertical

Job No. : 4544CR

Test Mode: TX

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	60.92	0.80	7.17	27.26	50.88	31.59	40.00	-8.41
2	318.82	1.96	14.58	26.54	52.46	42.46	46.00	-3.54
3	368.11	2.11	15.42	26.93	49.01	39.61	46.00	-6.39
4	417.64	2.28	16.37	27.25	50.12	41.52	46.00	-4.48
5	638.37	2.78	20.55	27.49	47.12	42.96	46.00	-3.04
6	716.68	2.96	21.60	27.39	45.83	43.00	46.00	-3.00

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



Condition: 47 CFR PART 15.209 3m 3142C Horizontal

Job No. : 4544CR

Test Mode: TX

Freq	Cable	Ant	Preamp	Read	Limit	Over	Over	
	Loss	Factor	Factor	Level				
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	61.13	0.80	7.17	27.26	50.80	31.51	40.00	-8.49
2	239.15	1.62	11.95	26.57	52.19	39.19	46.00	-6.81
3	318.82	1.96	14.58	26.54	52.21	42.21	46.00	-3.79
4	399.03	2.20	16.29	27.13	50.91	42.27	46.00	-3.73
5	636.13	2.78	20.54	27.49	46.79	42.62	46.00	-3.38
6	716.68	2.96	21.60	27.39	45.01	42.18	46.00	-3.82

### 6.7.2 Transmitter emission above 1GHz

Test plot as follows:

Test mode:		802.11a		Frequency(MHz):		5180		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		
3693.064	6.86	33.07	38.83	47.71	48.81	74.00	-25.19		Vertical		
4814.522	6.44	34.71	39.24	47.97	49.88	74.00	-24.12		Vertical		
7481.323	9.29	35.44	39.04	44.77	50.46	74.00	-23.54		Vertical		
8933.371	9.74	35.99	38.36	41.81	49.18	74.00	-24.82		Vertical		
10360.000	9.92	37.13	37.89	42.81	51.97	74.00	-22.03		Vertical		
15540.000	12.97	39.38	41.17	41.24	52.42	74.00	-21.58		Vertical		
3222.904	7.51	32.31	38.61	45.75	46.96	74.00	-27.04		Horizontal		
5228.151	7.05	34.84	39.27	48.01	50.63	74.00	-23.37		Horizontal		
7361.648	9.13	35.46	39.05	45.40	50.94	74.00	-23.06		Horizontal		
9579.950	10.00	37.26	37.95	42.80	52.11	74.00	-21.89		Horizontal		
10360.000	9.92	37.13	37.89	43.08	52.24	74.00	-21.76		Horizontal		
15540.000	12.97	39.38	41.17	41.05	52.23	74.00	-21.77		Horizontal		

Test mode:		802.11a		Frequency(MHz):		5200		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		
3537.620	6.95	32.93	38.76	47.80	48.92	74.00	-25.08		Vertical		
4945.674	6.72	34.85	39.28	49.65	51.94	74.00	-22.06		Vertical		
7866.230	9.39	35.71	39.01	43.06	49.15	74.00	-24.85		Vertical		
9443.610	10.02	37.02	38.03	43.35	52.36	74.00	-21.64		Vertical		
10400.000	9.94	37.02	37.92	42.01	51.05	74.00	-22.95		Vertical		
15600.000	12.97	39.50	41.19	40.84	52.12	74.00	-21.88		Vertical		
3352.483	7.25	32.66	38.67	46.07	47.31	74.00	-26.69		Horizontal		
4857.848	6.54	34.76	39.25	47.05	49.10	74.00	-24.90		Horizontal		
7838.091	9.39	35.69	39.01	45.01	51.08	74.00	-22.92		Horizontal		
9460.546	10.03	37.05	38.02	43.60	52.66	74.00	-21.34		Horizontal		
10400.000	9.94	37.02	37.92	44.58	53.62	74.00	-20.38		Horizontal		
15600.000	12.97	39.50	41.19	41.54	52.82	74.00	-21.18		Horizontal		



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

Report No.: SZEM150700454405  
Page: 144 of 211

Test mode:		802.11a		Frequency(MHz):		5240	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	
3679.853	6.86	33.06	38.82	47.85	48.95	74.00	-25.05	Vertical	
4814.522	6.44	34.71	39.24	48.36	50.27	74.00	-23.73	Vertical	
7880.337	9.39	35.72	39.01	43.57	49.67	74.00	-24.33	Vertical	
9562.801	10.01	37.23	37.96	42.98	52.26	74.00	-21.74	Vertical	
10480.000	9.97	37.30	37.96	42.74	52.05	74.00	-21.95	Vertical	
15720.000	12.96	39.74	41.23	41.83	53.30	74.00	-20.70	Vertical	
3443.808	7.08	32.83	38.72	46.37	47.56	74.00	-26.44	Horizontal	
4678.458	6.14	34.63	39.20	46.81	48.38	74.00	-25.62	Horizontal	
7374.850	9.15	35.45	39.05	45.12	50.67	74.00	-23.33	Horizontal	
9477.513	10.04	37.08	38.01	43.36	52.47	74.00	-21.53	Horizontal	
10480.000	9.97	37.30	37.96	43.61	52.92	74.00	-21.08	Horizontal	
15720.000	12.96	39.74	41.23	41.20	52.67	74.00	-21.33	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5260	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	
3518.655	6.96	32.91	38.75	46.62	47.74	74.00	-26.26	Vertical	
4521.868	5.78	34.46	39.14	46.14	47.24	74.00	-26.76	Vertical	
7671.363	9.35	35.54	39.03	45.30	51.16	74.00	-22.84	Vertical	
9494.509	10.05	37.11	38.00	43.15	52.31	74.00	-21.69	Vertical	
10520.000	9.94	37.02	37.92	43.08	52.12	74.00	-21.88	Vertical	
15780.000	12.97	39.50	41.19	40.89	52.17	74.00	-21.83	Vertical	
3876.117	6.76	33.29	38.90	46.90	48.05	74.00	-25.95	Horizontal	
5098.636	6.93	34.88	39.29	48.27	50.79	74.00	-23.21	Horizontal	
7616.578	9.34	35.50	39.03	44.78	50.59	74.00	-23.41	Horizontal	
9309.210	9.94	36.75	38.12	42.56	51.13	74.00	-22.87	Horizontal	
10520.000	9.94	37.02	37.92	43.35	52.39	74.00	-21.61	Horizontal	
15780.000	12.97	39.50	41.19	41.49	52.77	74.00	-21.23	Horizontal	



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

Report No.: SZEM150700454405  
Page: 145 of 211

Test mode:		802.11a		Frequency(MHz):		5300	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	
3660.126	6.88	33.05	38.81	47.59	48.71	74.00	-25.29	Vertical	
4840.471	6.50	34.74	39.25	47.46	49.45	74.00	-24.55	Vertical	
7937.019	9.41	35.76	39.01	42.17	48.33	74.00	-25.67	Vertical	
9511.536	10.04	37.14	37.99	43.76	52.95	74.00	-21.05	Vertical	
10580.000	9.92	37.13	37.89	44.24	53.40	74.00	-20.60	Vertical	
15870.000	12.97	39.38	41.17	41.60	52.78	74.00	-21.22	Vertical	
3518.655	6.96	32.91	38.75	47.37	48.49	74.00	-25.51	Horizontal	
4546.240	5.84	34.50	39.15	47.48	48.67	74.00	-25.33	Horizontal	
7824.060	9.38	35.68	39.01	45.56	51.61	74.00	-22.39	Horizontal	
9494.509	10.05	37.11	38.00	44.13	53.29	74.00	-20.71	Horizontal	
10580.000	9.92	37.13	37.89	43.36	52.52	74.00	-21.48	Horizontal	
15870.000	12.97	39.38	41.17	40.95	52.13	74.00	-21.87	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5320	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	
3506.069	6.97	32.90	38.74	46.99	48.12	74.00	-25.88	Vertical	
4771.583	6.35	34.68	39.23	47.46	49.26	74.00	-24.74	Vertical	
7824.060	9.38	35.68	39.01	45.33	51.38	74.00	-22.62	Vertical	
9143.897	9.85	36.37	38.22	44.29	52.29	74.00	-21.71	Vertical	
10640.000	9.97	37.30	37.96	42.19	51.50	74.00	-22.50	Vertical	
15960.000	12.96	39.74	41.23	41.31	52.78	74.00	-21.22	Vertical	
3543.964	6.94	32.94	38.76	47.21	48.33	74.00	-25.67	Horizontal	
4720.560	6.23	34.65	39.21	48.63	50.30	74.00	-23.70	Horizontal	
7782.116	9.37	35.64	39.02	47.19	53.18	74.00	-20.82	Horizontal	
8869.574	9.73	35.97	38.40	45.30	52.60	74.00	-21.40	Horizontal	
10640.000	9.97	37.30	37.96	43.43	52.74	74.00	-21.26	Horizontal	
15960.000	12.96	39.74	41.23	41.39	52.86	74.00	-21.14	Horizontal	



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

Report No.: SZEM150700454405  
Page: 146 of 211

Test mode:		802.11a		Frequency(MHz):		5500	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	
3666.690	6.87	33.05	38.81	46.32	47.43	74.00	-26.57	Vertical	
4670.083	6.12	34.62	39.19	48.17	49.72	74.00	-24.28	Vertical	
7852.148	9.39	35.70	39.01	43.37	49.45	74.00	-24.55	Vertical	
9494.509	10.05	37.11	38.00	42.48	51.64	74.00	-22.36	Vertical	
11000.000	10.39	38.22	38.46	42.02	52.17	74.00	-21.83	Vertical	
16500.000	16.31	41.01	41.69	37.27	52.90	74.00	-21.10	Vertical	
3640.505	6.89	33.03	38.80	46.55	47.67	74.00	-26.33	Horizontal	
4729.026	6.25	34.66	39.21	48.08	49.78	74.00	-24.22	Horizontal	
7796.073	9.38	35.66	39.02	46.33	52.35	74.00	-21.65	Horizontal	
9597.131	9.99	37.29	37.94	43.42	52.76	74.00	-21.24	Horizontal	
11000.000	10.39	38.22	38.46	41.26	51.41	74.00	-22.59	Horizontal	
16500.000	16.31	41.01	41.69	36.63	52.26	74.00	-21.74	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5600	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	
3773.328	6.81	33.13	38.86	47.25	48.33	74.00	-25.67	Vertical	
4763.041	6.33	34.68	39.22	47.19	48.98	74.00	-25.02	Vertical	
7630.237	9.34	35.51	39.03	43.88	49.70	74.00	-24.30	Vertical	
9494.509	10.05	37.11	38.00	43.28	52.44	74.00	-21.56	Vertical	
11200.000	10.42	38.28	38.50	42.52	52.72	74.00	-21.28	Vertical	
16800.000	16.08	40.96	41.72	37.26	52.58	74.00	-21.42	Vertical	
3487.273	6.99	32.88	38.74	47.33	48.46	74.00	-25.54	Horizontal	
4780.140	6.37	34.69	39.23	48.00	49.83	74.00	-24.17	Horizontal	
7335.314	9.09	35.49	39.06	47.15	52.67	74.00	-21.33	Horizontal	
9477.513	10.04	37.08	38.01	43.66	52.77	74.00	-21.23	Horizontal	
11200.000	10.42	38.28	38.50	42.98	53.18	74.00	-20.82	Horizontal	
16800.000	16.08	40.96	41.72	37.68	53.00	74.00	-21.00	Horizontal	



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

Report No.: SZEM150700454405  
Page: 147 of 211

Test mode:		802.11a		Frequency(MHz):		5700	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	
3456.171	7.05	32.84	38.72	46.25	47.42	74.00	-26.58	Vertical	
4720.560	6.23	34.65	39.21	47.69	49.36	74.00	-24.64	Vertical	
7361.648	9.13	35.46	39.05	44.45	49.99	74.00	-24.01	Vertical	
9477.513	10.04	37.08	38.01	43.43	52.54	74.00	-21.46	Vertical	
11400.000	10.46	38.35	38.54	42.17	52.44	74.00	-21.56	Vertical	
17100.000	15.86	40.91	41.75	37.54	52.56	74.00	-21.44	Vertical	
3686.453	6.86	33.07	38.82	46.84	47.95	74.00	-26.05	Horizontal	
4866.560	6.56	34.77	39.26	47.30	49.37	74.00	-24.63	Horizontal	
7754.279	9.37	35.62	39.02	46.69	52.66	74.00	-21.34	Horizontal	
9409.829	10.00	36.96	38.05	42.73	51.64	74.00	-22.36	Horizontal	
11400.000	10.46	38.35	38.54	41.95	52.22	74.00	-21.78	Horizontal	
17100.000	15.86	40.91	41.75	37.07	52.09	74.00	-21.91	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5745	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	
3449.984	7.06	32.84	38.72	48.14	49.32	74.00	-24.68	Vertical	
4620.146	6.01	34.59	39.18	48.03	49.45	74.00	-24.55	Vertical	
7866.230	9.39	35.71	39.01	42.77	48.86	74.00	-25.14	Vertical	
9477.513	10.04	37.08	38.01	43.37	52.48	74.00	-21.52	Vertical	
11490.000	10.39	38.22	38.46	42.68	52.83	74.00	-21.17	Vertical	
17235.000	16.31	41.01	41.69	38.02	53.65	74.00	-20.35	Vertical	
3706.322	6.85	33.08	38.83	47.59	48.69	74.00	-25.31	Horizontal	
4771.583	6.35	34.68	39.23	47.46	49.26	74.00	-24.74	Horizontal	
7589.333	9.33	35.48	39.03	44.26	50.04	74.00	-23.96	Horizontal	
9275.910	9.92	36.67	38.14	42.25	50.70	74.00	-23.30	Horizontal	
11490.000	10.39	38.22	38.46	42.08	52.23	74.00	-21.77	Horizontal	
17235.000	16.31	41.01	41.69	37.37	53.00	74.00	-21.00	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5785	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	
3413.093	7.13	32.79	38.70	47.22	48.44	74.00	-25.56	Vertical	
4771.583	6.35	34.68	39.23	47.18	48.98	74.00	-25.02	Vertical	
7852.148	9.39	35.70	39.01	43.37	49.45	74.00	-24.55	Vertical	
9342.630	9.96	36.82	38.10	41.75	50.43	74.00	-23.57	Vertical	
11570.000	10.42	38.28	38.50	42.50	52.70	74.00	-21.30	Vertical	
17355.000	16.08	40.96	41.72	37.79	53.11	74.00	-20.89	Vertical	
3531.287	6.95	32.93	38.76	47.37	48.49	74.00	-25.51	Horizontal	
4729.026	6.25	34.66	39.21	48.13	49.83	74.00	-24.17	Horizontal	
7908.627	9.40	35.74	39.01	43.29	49.42	74.00	-24.58	Horizontal	
9511.536	10.04	37.14	37.99	44.01	53.20	74.00	-20.80	Horizontal	
11570.000	10.42	38.28	38.50	42.18	52.38	74.00	-21.62	Horizontal	
17355.000	16.08	40.96	41.72	37.49	52.81	74.00	-21.19	Horizontal	

Test mode:		802.11a		Frequency(MHz):		5825	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	
3443.808	7.08	32.83	38.72	47.05	48.24	74.00	-25.76	Vertical	
4628.432	6.03	34.60	39.18	47.27	48.72	74.00	-25.28	Vertical	
7361.648	9.13	35.46	39.05	44.93	50.47	74.00	-23.53	Vertical	
9460.546	10.03	37.05	38.02	43.35	52.41	74.00	-21.59	Vertical	
11650.000	10.46	38.35	38.54	42.32	52.59	74.00	-21.41	Vertical	
17475.000	15.86	40.91	41.75	37.21	52.23	74.00	-21.77	Vertical	
3686.453	6.86	33.07	38.82	46.84	47.95	74.00	-26.05	Horizontal	
4645.047	6.06	34.61	39.18	47.56	49.05	74.00	-24.95	Horizontal	
7401.325	9.18	35.42	39.05	45.29	50.84	74.00	-23.16	Horizontal	
9494.509	10.05	37.11	38.00	43.28	52.44	74.00	-21.56	Horizontal	
11650.000	10.46	38.35	38.54	41.77	52.04	74.00	-21.96	Horizontal	
17475.000	15.86	40.91	41.75	38.00	53.02	74.00	-20.98	Horizontal	





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

Report No.: SZEM150700454405

Page: 149 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5180	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	
3582.269	6.92	32.98	38.78	45.73	46.85	74.00	-27.15	Vertical	
4831.806	6.48	34.73	39.25	46.90	48.86	74.00	-25.14	Vertical	
7441.216	9.23	35.43	39.05	44.84	50.45	74.00	-23.55	Vertical	
9359.385	9.97	36.85	38.09	41.58	50.31	74.00	-23.69	Vertical	
10360.000	9.92	37.13	37.89	42.45	51.61	74.00	-22.39	Vertical	
15540.000	12.97	39.38	41.17	41.73	52.91	74.00	-21.09	Vertical	
3481.030	7.01	32.87	38.73	45.89	47.04	74.00	-26.96	Horizontal	
4720.560	6.23	34.65	39.21	47.92	49.59	74.00	-24.41	Horizontal	
7838.091	9.39	35.69	39.01	44.16	50.23	74.00	-23.77	Horizontal	
9409.829	10.00	36.96	38.05	42.62	51.53	74.00	-22.47	Horizontal	
10360.000	9.92	37.13	37.89	43.04	52.20	74.00	-21.80	Horizontal	
15540.000	12.97	39.38	41.17	41.65	52.83	74.00	-21.17	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5200	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	
3382.653	7.19	32.74	38.69	45.03	46.27	74.00	-27.73	Vertical	
4595.378	5.95	34.57	39.17	45.09	46.44	74.00	-27.56	Vertical	
7427.896	9.22	35.43	39.05	43.94	49.54	74.00	-24.46	Vertical	
9562.801	10.01	37.23	37.96	43.15	52.43	74.00	-21.57	Vertical	
10400.000	9.94	37.02	37.92	43.61	52.65	74.00	-21.35	Vertical	
15600.000	12.97	39.50	41.19	42.70	53.98	74.00	-20.02	Vertical	
3425.346	7.11	32.81	38.71	46.91	48.12	74.00	-25.88	Horizontal	
4653.378	6.08	34.61	39.19	46.99	48.49	74.00	-25.51	Horizontal	
7335.314	9.09	35.49	39.06	46.53	52.05	74.00	-21.95	Horizontal	
9494.509	10.05	37.11	38.00	42.47	51.63	74.00	-22.37	Horizontal	
10400.000	9.94	37.02	37.92	43.16	52.20	74.00	-21.80	Horizontal	
15600.000	12.97	39.50	41.19	41.66	52.94	74.00	-21.06	Horizontal	



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

Report No.: SZEM150700454405

Page: 150 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5240	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	
3462.369	7.04	32.85	38.72	47.66	48.83	74.00	-25.17	Vertical	
4394.075	5.92	34.25	39.10	48.31	49.38	74.00	-24.62	Vertical	
7824.060	9.38	35.68	39.01	45.56	51.61	74.00	-22.39	Vertical	
9597.131	9.99	37.29	37.94	43.75	53.09	74.00	-20.91	Vertical	
10480.000	9.97	37.30	37.96	43.01	52.32	74.00	-21.68	Vertical	
15720.000	12.96	39.74	41.23	40.96	52.43	74.00	-21.57	Vertical	
3481.030	7.01	32.87	38.73	45.98	47.13	74.00	-26.87	Horizontal	
4746.002	6.29	34.67	39.22	46.20	47.94	74.00	-26.06	Horizontal	
7269.892	9.01	35.56	39.06	46.74	52.25	74.00	-21.75	Horizontal	
9209.667	9.88	36.53	38.18	43.75	51.98	74.00	-22.02	Horizontal	
10480.000	9.97	37.30	37.96	42.53	51.84	74.00	-22.16	Horizontal	
15720.000	12.96	39.74	41.23	41.19	52.66	74.00	-21.34	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5260	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	
3506.069	6.97	32.90	38.74	46.61	47.74	74.00	-26.26	Vertical	
4670.083	6.12	34.62	39.19	47.89	49.44	74.00	-24.56	Vertical	
7698.902	9.35	35.57	39.02	46.43	52.33	74.00	-21.67	Vertical	
9443.610	10.02	37.02	38.03	43.43	52.44	74.00	-21.56	Vertical	
10520.000	9.93	37.07	37.90	42.71	51.81	74.00	-22.19	Vertical	
15780.000	12.97	39.44	41.18	42.22	53.45	74.00	-20.55	Vertical	
3620.989	6.90	33.02	38.79	44.91	46.04	74.00	-27.96	Horizontal	
4814.522	6.44	34.71	39.24	46.33	48.24	74.00	-25.76	Horizontal	
7401.325	9.18	35.42	39.05	44.53	50.08	74.00	-23.92	Horizontal	
9193.181	9.87	36.49	38.19	43.68	51.85	74.00	-22.15	Horizontal	
10520.000	9.93	37.07	37.90	44.10	53.20	74.00	-20.80	Horizontal	
15780.000	12.97	39.44	41.18	40.91	52.14	74.00	-21.86	Horizontal	



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

Report No.: SZEM150700454405

Page: 151 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5300	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	
3588.694	6.92	32.99	38.78	44.68	45.81	74.00	-28.19	Vertical	
4831.806	6.48	34.73	39.25	46.56	48.52	74.00	-25.48	Vertical	
7754.279	9.37	35.62	39.02	45.23	51.20	74.00	-22.80	Vertical	
9193.181	9.87	36.49	38.19	42.34	50.51	74.00	-23.49	Vertical	
10580.000	9.96	37.23	37.95	41.75	50.99	74.00	-23.01	Vertical	
15870.000	12.96	39.68	41.22	40.82	52.24	74.00	-21.76	Vertical	
3582.269	6.92	32.98	38.78	45.73	46.85	74.00	-27.15	Horizontal	
4712.109	6.22	34.65	39.21	47.40	49.06	74.00	-24.94	Horizontal	
7348.469	9.11	35.48	39.05	45.21	50.75	74.00	-23.25	Horizontal	
9392.984	9.99	36.93	38.06	42.89	51.75	74.00	-22.25	Horizontal	
10580.000	9.96	37.23	37.95	43.15	52.39	74.00	-21.61	Horizontal	
15870.000	12.96	39.68	41.22	40.81	52.23	74.00	-21.77	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5320	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	
3627.482	6.89	33.02	38.80	46.58	47.69	74.00	-26.31	Vertical	
4695.254	6.18	34.64	39.20	47.38	49.00	74.00	-25.00	Vertical	
7361.648	9.13	35.46	39.05	45.40	50.94	74.00	-23.06	Vertical	
9562.801	10.01	37.23	37.96	42.71	51.99	74.00	-22.01	Vertical	
10640.000	10.39	38.23	38.47	42.60	52.75	74.00	-21.25	Vertical	
15960.000	16.25	40.99	41.69	37.36	52.91	74.00	-21.09	Vertical	
3462.369	7.04	32.85	38.72	45.68	46.85	74.00	-27.15	Horizontal	
4754.514	6.31	34.67	39.22	45.05	46.81	74.00	-27.19	Horizontal	
7374.850	9.15	35.45	39.05	43.08	48.63	74.00	-25.37	Horizontal	
9666.161	9.96	37.51	37.90	40.06	49.63	74.00	-24.37	Horizontal	
10640.000	10.39	38.23	38.47	40.13	50.28	74.00	-23.72	Horizontal	
15960.000	16.25	40.99	41.69	36.58	52.13	74.00	-21.87	Horizontal	



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

Report No.: SZEM150700454405

Page: 152 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5500	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	
3518.655	6.96	32.91	38.75	46.41	47.53	74.00	-26.47	Vertical	
4603.619	5.97	34.58	39.17	47.58	48.96	74.00	-25.04	Vertical	
7494.740	9.30	35.45	39.04	45.04	50.75	74.00	-23.25	Vertical	
9342.630	9.96	36.82	38.10	42.09	50.77	74.00	-23.23	Vertical	
11000.000	10.43	38.29	38.51	41.81	52.02	74.00	-21.98	Vertical	
16500.000	16.03	40.95	41.73	37.98	53.23	74.00	-20.77	Vertical	
3352.483	7.25	32.66	38.67	46.07	47.31	74.00	-26.69	Horizontal	
4481.539	5.76	34.39	39.13	47.81	48.83	74.00	-25.17	Horizontal	
7866.230	9.39	35.71	39.01	43.74	49.83	74.00	-24.17	Horizontal	
9259.305	9.91	36.64	38.15	43.79	52.19	74.00	-21.81	Horizontal	
11000.000	10.43	38.29	38.51	42.37	52.58	74.00	-21.42	Horizontal	
16500.000	16.03	40.95	41.73	36.93	52.18	74.00	-21.82	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5600	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	
3537.620	6.95	32.93	38.76	45.64	46.76	74.00	-27.24	Vertical	
4661.723	6.10	34.62	39.19	48.14	49.67	74.00	-24.33	Vertical	
7508.180	9.31	35.45	39.04	43.47	49.19	74.00	-24.81	Vertical	
9242.729	9.90	36.60	38.16	42.74	51.08	74.00	-22.92	Vertical	
11200.000	9.95	37.09	37.93	44.00	53.11	74.00	-20.89	Vertical	
16800.000	12.97	39.56	41.20	41.19	52.52	74.00	-21.48	Vertical	
3443.808	7.08	32.83	38.72	47.65	48.84	74.00	-25.16	Horizontal	
4814.522	6.44	34.71	39.24	47.90	49.81	74.00	-24.19	Horizontal	
7401.325	9.18	35.42	39.05	47.43	52.98	74.00	-21.02	Horizontal	
9342.630	9.96	36.82	38.10	42.17	50.85	74.00	-23.15	Horizontal	
11200.000	9.95	37.09	37.93	43.72	52.83	74.00	-21.17	Horizontal	
16800.000	12.97	39.56	41.20	41.52	52.85	74.00	-21.15	Horizontal	



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

Report No.: SZEM150700454405

Page: 153 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5700	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	
3627.482	6.89	33.02	38.80	46.26	47.37	74.00	-26.63	Vertical	
4754.514	6.31	34.67	39.22	47.12	48.88	74.00	-25.12	Vertical	
7401.325	9.18	35.42	39.05	45.52	51.07	74.00	-22.93	Vertical	
9275.910	9.92	36.67	38.14	42.94	51.39	74.00	-22.61	Vertical	
11400.000	10.41	38.26	38.49	42.10	52.28	74.00	-21.72	Vertical	
17100.000	16.14	40.97	41.71	37.32	52.72	74.00	-21.28	Vertical	
3563.065	6.93	32.96	38.77	46.65	47.77	74.00	-26.23	Horizontal	
4720.560	6.23	34.65	39.21	47.47	49.14	74.00	-24.86	Horizontal	
6493.883	7.97	35.78	39.13	47.96	52.58	74.00	-21.42	Horizontal	
9376.170	9.98	36.89	38.08	42.51	51.30	74.00	-22.70	Horizontal	
11400.000	10.41	38.26	38.49	41.90	52.08	74.00	-21.92	Horizontal	
17100.000	16.14	40.97	41.71	36.61	52.01	74.00	-21.99	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5745	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	
3493.527	6.98	32.88	38.74	46.99	48.11	74.00	-25.89	Vertical	
4754.514	6.31	34.67	39.22	47.58	49.34	74.00	-24.66	Vertical	
7616.578	9.34	35.50	39.03	44.78	50.59	74.00	-23.41	Vertical	
9193.181	9.87	36.49	38.19	43.75	51.92	74.00	-22.08	Vertical	
11490.000	10.39	38.22	38.46	41.24	51.39	74.00	-22.61	Vertical	
17235.000	16.31	41.01	41.69	36.79	52.42	74.00	-21.58	Vertical	
3499.792	6.97	32.89	38.74	46.87	47.99	74.00	-26.01	Horizontal	
4661.723	6.10	34.62	39.19	48.88	50.41	74.00	-23.59	Horizontal	
7824.060	9.38	35.68	39.01	47.36	53.41	74.00	-20.59	Horizontal	
9477.513	10.04	37.08	38.01	44.07	53.18	74.00	-20.82	Horizontal	
11490.000	10.39	38.22	38.46	42.76	52.91	74.00	-21.09	Horizontal	
17235.000	16.31	41.01	41.69	36.75	52.38	74.00	-21.62	Horizontal	



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

Report No.: SZEM150700454405  
Page: 154 of 211

Test mode:		802.11n(HT20)		Frequency(MHz):		5785	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	
3481.030	7.01	32.87	38.73	47.54	48.69	74.00	-25.31	Vertical	
4746.002	6.29	34.67	39.22	48.53	50.27	74.00	-23.73	Vertical	
7796.073	9.38	35.66	39.02	47.34	53.36	74.00	-20.64	Vertical	
9545.682	10.02	37.20	37.97	43.84	53.09	74.00	-20.91	Vertical	
11570.000	10.42	38.28	38.50	43.75	53.95	74.00	-20.05	Vertical	
17355.000	16.08	40.96	41.72	36.89	52.21	74.00	-21.79	Vertical	
3739.675	6.83	33.11	38.85	46.98	48.07	74.00	-25.93	Horizontal	
4754.514	6.31	34.67	39.22	47.38	49.14	74.00	-24.86	Horizontal	
7454.562	9.25	35.44	39.05	44.15	49.79	74.00	-24.21	Horizontal	
9477.513	10.04	37.08	38.01	43.36	52.47	74.00	-21.53	Horizontal	
11570.000	10.42	38.28	38.50	42.72	52.92	74.00	-21.08	Horizontal	
17355.000	16.08	40.96	41.72	37.37	52.69	74.00	-21.31	Horizontal	

Test mode:		802.11n(HT20)		Frequency(MHz):		5825	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	
3346.482	7.26	32.64	38.67	46.62	47.85	74.00	-26.15	Vertical	
4763.041	6.33	34.68	39.22	48.00	49.79	74.00	-24.21	Vertical	
7657.630	9.35	35.53	39.03	44.65	50.50	74.00	-23.50	Vertical	
9160.296	9.85	36.41	38.21	42.28	50.33	74.00	-23.67	Vertical	
11650.000	10.46	38.35	38.54	42.70	52.97	74.00	-21.03	Vertical	
17475.000	15.86	40.91	41.75	37.79	52.81	74.00	-21.19	Vertical	
3199.887	7.56	32.25	38.60	46.63	47.84	74.00	-26.16	Horizontal	
4678.458	6.14	34.63	39.20	48.53	50.10	74.00	-23.90	Horizontal	
7852.148	9.39	35.70	39.01	43.51	49.59	74.00	-24.41	Horizontal	
9545.682	10.02	37.20	37.97	43.59	52.84	74.00	-21.16	Horizontal	
11650.000	10.46	38.35	38.54	42.52	52.79	74.00	-21.21	Horizontal	
17475.000	15.86	40.91	41.75	37.71	52.73	74.00	-21.27	Horizontal	



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

Report No.: SZEM150700454405  
Page: 155 of 211

Test mode:		802.11n(HT40)		Frequency(MHz):		5190	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	
3550.320	6.94	32.95	38.76	46.47	47.60	74.00	-26.40	Vertical	
4578.940	5.91	34.55	39.16	47.11	48.41	74.00	-25.59	Vertical	
7698.902	9.35	35.57	39.02	46.74	52.64	74.00	-21.36	Vertical	
8806.232	9.71	35.96	38.44	42.82	50.05	74.00	-23.95	Vertical	
10380.000	9.93	37.07	37.90	43.28	52.38	74.00	-21.62	Vertical	
15570.000	12.97	39.44	41.18	41.46	52.69	74.00	-21.31	Vertical	
3627.482	6.89	33.02	38.80	46.17	47.28	74.00	-26.72	Horizontal	
4595.378	5.95	34.57	39.17	47.61	48.96	74.00	-25.04	Horizontal	
7589.333	9.33	35.48	39.03	44.27	50.05	74.00	-23.95	Horizontal	
9193.181	9.87	36.49	38.19	43.75	51.92	74.00	-22.08	Horizontal	
10380.000	9.93	37.07	37.90	43.37	52.47	74.00	-21.53	Horizontal	
15570.000	12.97	39.44	41.18	40.95	52.18	74.00	-21.82	Horizontal	

Test mode:		802.11n(HT40)		Frequency(MHz):		5230	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	
3456.171	7.05	32.84	38.72	47.63	48.80	74.00	-25.20	Vertical	
4720.560	6.23	34.65	39.21	48.48	50.15	74.00	-23.85	Vertical	
7965.512	9.41	35.78	39.00	42.54	48.73	74.00	-25.27	Vertical	
9409.829	10.00	36.96	38.05	42.28	51.19	74.00	-22.81	Vertical	
10460.000	9.96	37.23	37.95	42.95	52.19	74.00	-21.81	Vertical	
15690.000	12.96	39.68	41.22	41.49	52.91	74.00	-21.09	Vertical	
3449.984	7.06	32.84	38.72	47.78	48.96	74.00	-25.04	Horizontal	
4771.583	6.35	34.68	39.23	48.84	50.64	74.00	-23.36	Horizontal	
7852.148	9.39	35.70	39.01	44.39	50.47	74.00	-23.53	Horizontal	
9275.910	9.92	36.67	38.14	43.42	51.87	74.00	-22.13	Horizontal	
10460.000	9.96	37.23	37.95	42.91	52.15	74.00	-21.85	Horizontal	
15690.000	12.96	39.68	41.22	42.03	53.45	74.00	-20.55	Horizontal	



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

Report No.: SZEM150700454405  
Page: 156 of 211

Test mode:		802.11n(HT40)		Frequency(MHz):		5270	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	
3608.036	6.91	33.01	38.79	45.95	47.08	74.00	-26.92	Vertical	
4919.161	6.67	34.82	39.27	48.32	50.54	74.00	-23.46	Vertical	
7824.060	9.38	35.68	39.01	45.33	51.38	74.00	-22.62	Vertical	
9494.509	10.05	37.11	38.00	43.28	52.44	74.00	-21.56	Vertical	
10540.000	9.92	37.13	37.89	43.12	52.28	74.00	-21.72	Vertical	
15810.000	12.97	39.38	41.17	42.65	53.83	74.00	-20.17	Vertical	
3719.627	6.84	33.09	38.84	46.84	47.93	74.00	-26.07	Horizontal	
5303.632	7.11	34.81	39.26	48.56	51.22	74.00	-22.78	Horizontal	
7740.397	9.36	35.61	39.02	46.96	52.91	74.00	-21.09	Horizontal	
9392.984	9.99	36.93	38.06	42.60	51.46	74.00	-22.54	Horizontal	
10540.000	9.92	37.13	37.89	43.97	53.13	74.00	-20.87	Horizontal	
15810.000	12.97	39.38	41.17	42.52	53.70	74.00	-20.30	Horizontal	

Test mode:		802.11n(HT40)		Frequency(MHz):		5310	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	
3563.065	6.93	32.96	38.77	45.61	46.73	74.00	-27.27	Vertical	
4780.140	6.37	34.69	39.23	46.94	48.77	74.00	-25.23	Vertical	
7754.279	9.37	35.62	39.02	46.06	52.03	74.00	-21.97	Vertical	
9409.829	10.00	36.96	38.05	42.62	51.53	74.00	-22.47	Vertical	
10620.000	9.94	37.02	37.92	44.33	53.37	74.00	-20.63	Vertical	
15930.000	12.97	39.50	41.19	41.53	52.81	74.00	-21.19	Vertical	
3556.687	6.94	32.95	38.77	45.66	46.78	74.00	-27.22	Horizontal	
4797.300	6.40	34.70	39.24	47.08	48.94	74.00	-25.06	Horizontal	
8037.194	9.44	35.81	38.97	42.86	49.14	74.00	-24.86	Horizontal	
9562.801	10.01	37.23	37.96	43.39	52.67	74.00	-21.33	Horizontal	
10620.000	9.94	37.02	37.92	42.66	51.70	74.00	-22.30	Horizontal	
15930.000	12.97	39.50	41.19	42.04	53.32	74.00	-20.68	Horizontal	



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

Report No.: SZEM150700454405

Page: 157 of 211

Test mode:		802.11n(HT40)		Frequency(MHz):		5510	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	
3614.506	6.90	33.01	38.79	45.90	47.02	74.00	-26.98	Vertical	
5116.940	6.95	34.87	39.29	46.32	48.85	74.00	-25.15	Vertical	
7937.019	9.41	35.76	39.01	42.00	48.16	74.00	-25.84	Vertical	
9528.594	10.03	37.17	37.98	43.13	52.35	74.00	-21.65	Vertical	
11020.000	9.97	37.30	37.96	43.82	53.13	74.00	-20.87	Vertical	
16530.000	12.96	39.74	41.23	41.61	53.08	74.00	-20.92	Vertical	
3666.690	6.87	33.05	38.81	46.48	47.59	74.00	-26.41	Horizontal	
4831.806	6.48	34.73	39.25	46.90	48.86	74.00	-25.14	Horizontal	
7282.930	9.02	35.55	39.06	47.49	53.00	74.00	-21.00	Horizontal	
9528.594	10.03	37.17	37.98	43.77	52.99	74.00	-21.01	Horizontal	
11020.000	9.97	37.30	37.96	43.95	53.26	74.00	-20.74	Horizontal	
16530.000	12.96	39.74	41.23	41.98	53.45	74.00	-20.55	Horizontal	

Test mode:		802.11n(HT40)		Frequency(MHz):		5590	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	
3814.113	6.79	33.18	38.88	46.52	47.61	74.00	-26.39	Vertical	
4945.674	6.72	34.85	39.28	48.01	50.30	74.00	-23.70	Vertical	
7309.075	9.06	35.52	39.06	46.34	51.86	74.00	-22.14	Vertical	
9545.682	10.02	37.20	37.97	43.07	52.32	74.00	-21.68	Vertical	
11180.000	10.39	38.22	38.46	43.34	53.49	74.00	-20.51	Vertical	
16770.000	16.31	41.01	41.69	37.36	52.99	74.00	-21.01	Vertical	
3719.627	6.84	33.09	38.84	45.54	46.63	74.00	-27.37	Horizontal	
5053.163	6.89	34.89	39.29	46.41	48.90	74.00	-25.10	Horizontal	
7937.019	9.41	35.76	39.01	41.83	47.99	74.00	-26.01	Horizontal	
9494.509	10.05	37.11	38.00	41.67	50.83	74.00	-23.17	Horizontal	
11180.000	10.39	38.22	38.46	42.65	52.80	74.00	-21.20	Horizontal	
16770.000	16.31	41.01	41.69	37.45	53.08	74.00	-20.92	Horizontal	

Test mode:		802.11n(HT40)		Frequency(MHz):		5670	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	
3666.690	6.87	33.05	38.81	43.97	45.08	74	-28.92	Vertical	
4831.806	6.48	34.73	39.25	45.10	47.06	74	-26.94	Vertical	
7754.279	9.37	35.62	39.02	43.84	49.81	74	-24.19	Vertical	
9562.801	10.01	37.23	37.96	43.15	52.43	74	-21.57	Vertical	
11340.000	10.39	38.23	38.47	43.43	53.58	74	-20.42	Vertical	
17010.000	16.25	40.99	41.69	37.97	53.52	74	-20.48	Vertical	
3493.527	6.98	32.88	38.74	46.14	47.26	74	-26.74	Horizontal	
4720.560	6.23	34.65	39.21	47.14	48.81	74	-25.19	Horizontal	
7685.120	9.35	35.56	39.03	46.42	52.30	74	-21.70	Horizontal	
9545.682	10.02	37.20	37.97	43.10	52.35	74	-21.65	Horizontal	
11340.000	10.39	38.23	38.47	41.12	51.27	74	-22.73	Horizontal	
17010.000	16.25	40.99	41.69	36.69	52.24	74	-21.76	Horizontal	

Test mode:		802.11n(HT40)		Frequency(MHz):		5755	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	
3468.578	7.03	32.86	38.73	47.77	48.93	74.00	-25.07	Vertical	
4703.674	6.20	34.64	39.20	48.76	50.40	74.00	-23.60	Vertical	
7535.134	9.32	35.46	39.04	44.69	50.43	74.00	-23.57	Vertical	
9511.536	10.04	37.14	37.99	44.01	53.20	74.00	-20.80	Vertical	
11510.000	10.39	38.23	38.47	43.62	53.77	74.00	-20.23	Vertical	
17265.000	16.25	40.99	41.69	36.88	52.43	74.00	-21.57	Vertical	
3679.853	6.86	33.06	38.82	47.38	48.48	74.00	-25.52	Horizontal	
4823.156	6.46	34.72	39.24	47.32	49.26	74.00	-24.74	Horizontal	
8037.194	9.44	35.81	38.97	44.25	50.53	74.00	-23.47	Horizontal	
9545.682	10.02	37.20	37.97	44.29	53.54	74.00	-20.46	Horizontal	
11510.000	10.39	38.23	38.47	42.82	52.97	74.00	-21.03	Horizontal	
17265.000	16.25	40.99	41.69	37.31	52.86	74.00	-21.14	Horizontal	





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

Report No.: SZEM150700454405  
Page: 159 of 211

Test mode:		802.11n(HT40)		Frequency(MHz):		5795	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	
3304.771	7.35	32.53	38.65	45.89	47.12	74.00	-26.88	Vertical	
4653.378	6.08	34.61	39.19	47.83	49.33	74.00	-24.67	Vertical	
7348.469	9.11	35.48	39.05	45.41	50.95	74.00	-23.05	Vertical	
9460.546	10.03	37.05	38.02	43.35	52.41	74.00	-21.59	Vertical	
11590.000	10.43	38.29	38.51	42.59	52.80	74.00	-21.20	Vertical	
17385.000	16.03	40.95	41.73	37.14	52.39	74.00	-21.61	Vertical	
3449.984	7.06	32.84	38.72	46.21	47.39	74.00	-26.61	Horizontal	
4720.560	6.23	34.65	39.21	47.52	49.19	74.00	-24.81	Horizontal	
7824.060	9.38	35.68	39.01	44.33	50.38	74.00	-23.62	Horizontal	
9494.509	10.05	37.11	38.00	42.48	51.64	74.00	-22.36	Horizontal	
11590.000	10.43	38.29	38.51	42.07	52.28	74.00	-21.72	Horizontal	
17385.000	16.03	40.95	41.73	37.60	52.85	74.00	-21.15	Horizontal	

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:

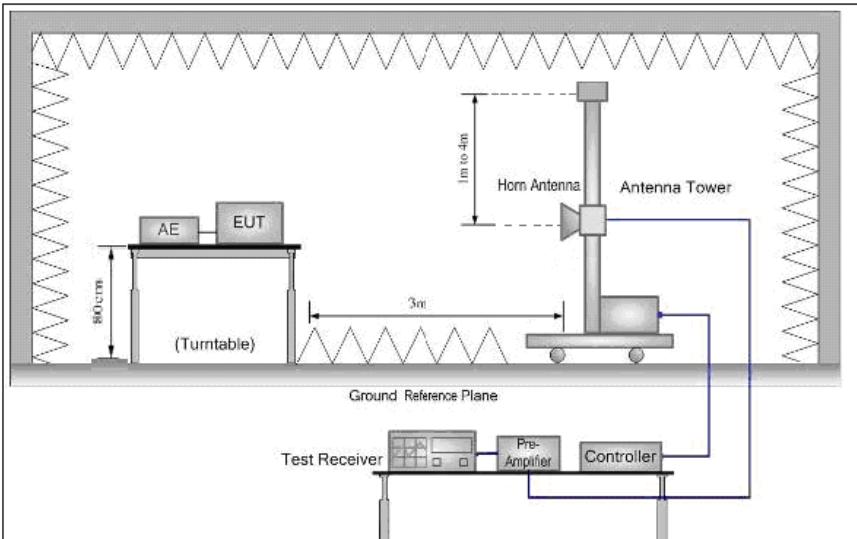
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

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.

3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

## 6.8 Restricted bands around fundamental frequency

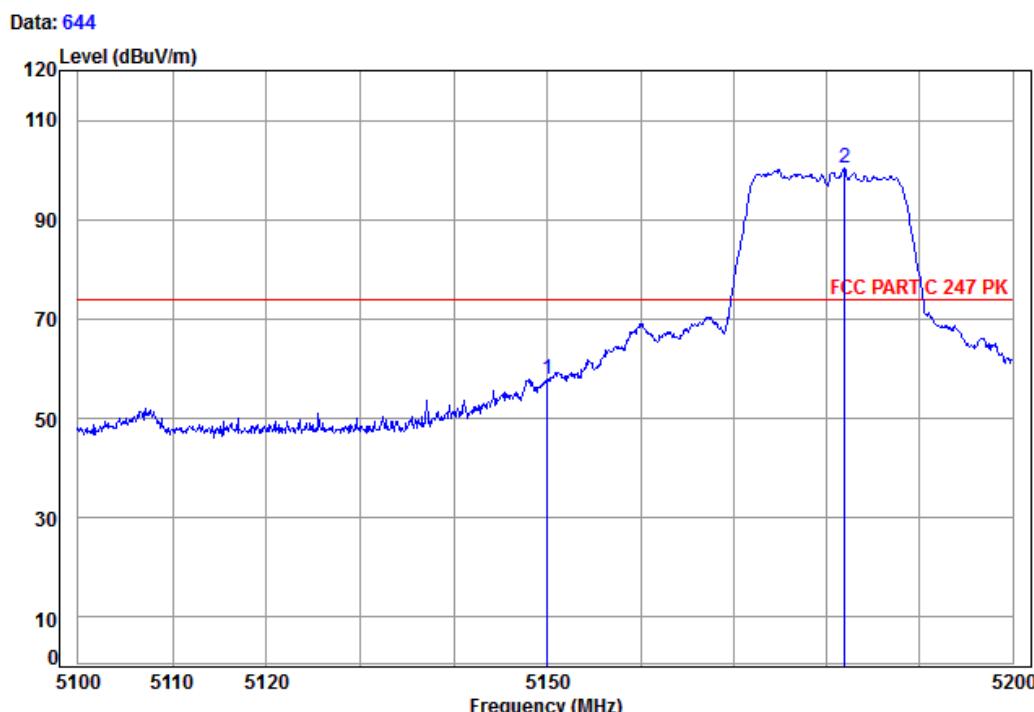
Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dB <sub>UV</sub> /m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
Test Setup:		74.0	Peak Value



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 outermost channels.</li><li>h. Repeat above procedures until all frequencies measured was complete.</li></ol>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

**Test plot as follows:**

Test mode:	802.11a	Frequency(MHz):	5180	Remark:	Peak	Vertical
------------	---------	-----------------	------	---------	------	----------

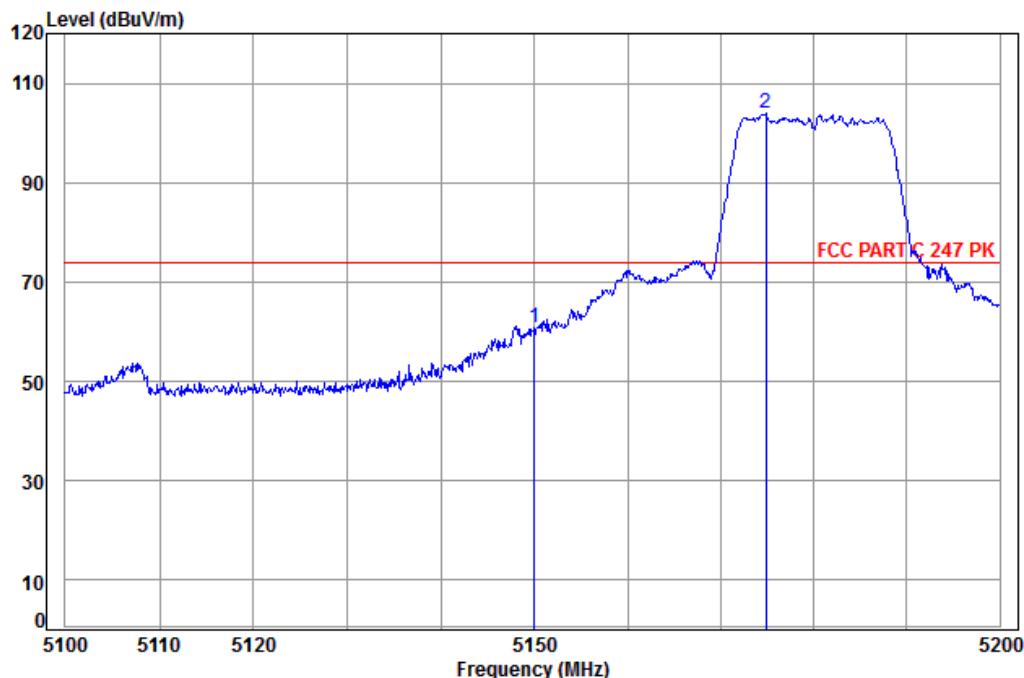


Site : chamber  
Condition: FCC PART C 247 PK 3m Vertical  
Job No: : 4544CR  
Mode: : 5180 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	56.03	57.71	74.00	-16.29
2 pp	5181.86	6.13	34.85	39.28	98.52	100.22	74.00	26.22

Test mode:	802.11a	Frequency(MHz):	5180	Remark:	Peak	Horizontal
------------	---------	-----------------	------	---------	------	------------

Data: 642



Site : chamber  
Condition: FCC PART C 247 PK 3m Horizontal

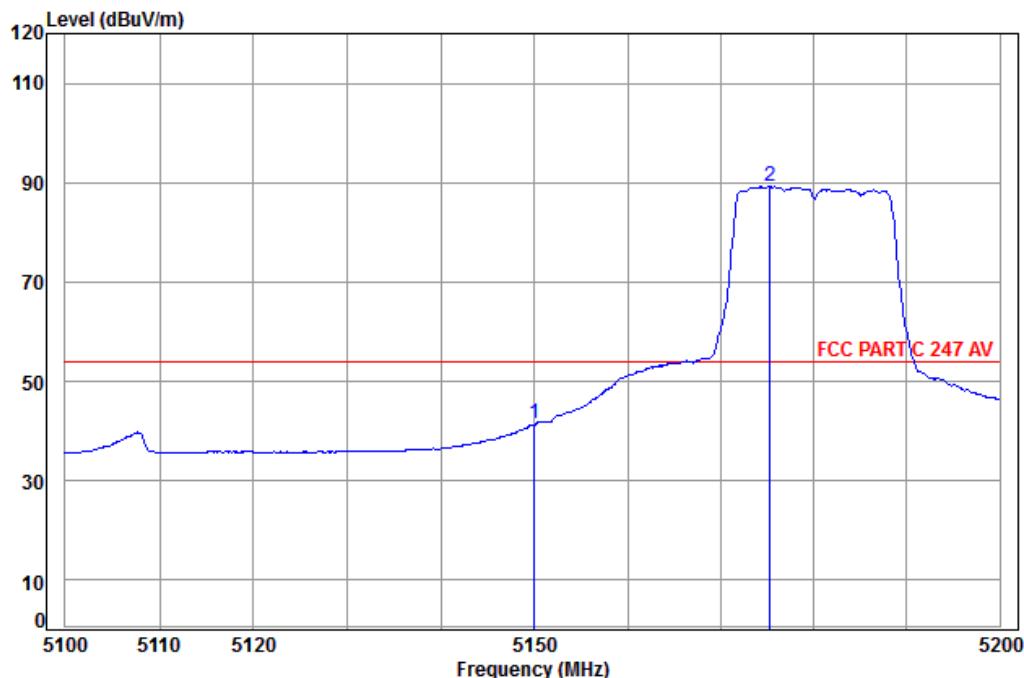
Job No: : 4544CR

Mode: : 5180 A Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	59.20	60.88	74.00 -13.12
2 pp	5174.82	6.12	34.86	39.28	102.17	103.87	74.00 29.87

Test mode:	802.11a	Frequency(MHz):	5180	Remark:	Average	Vertical
------------	---------	-----------------	------	---------	---------	----------

Data: 645



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

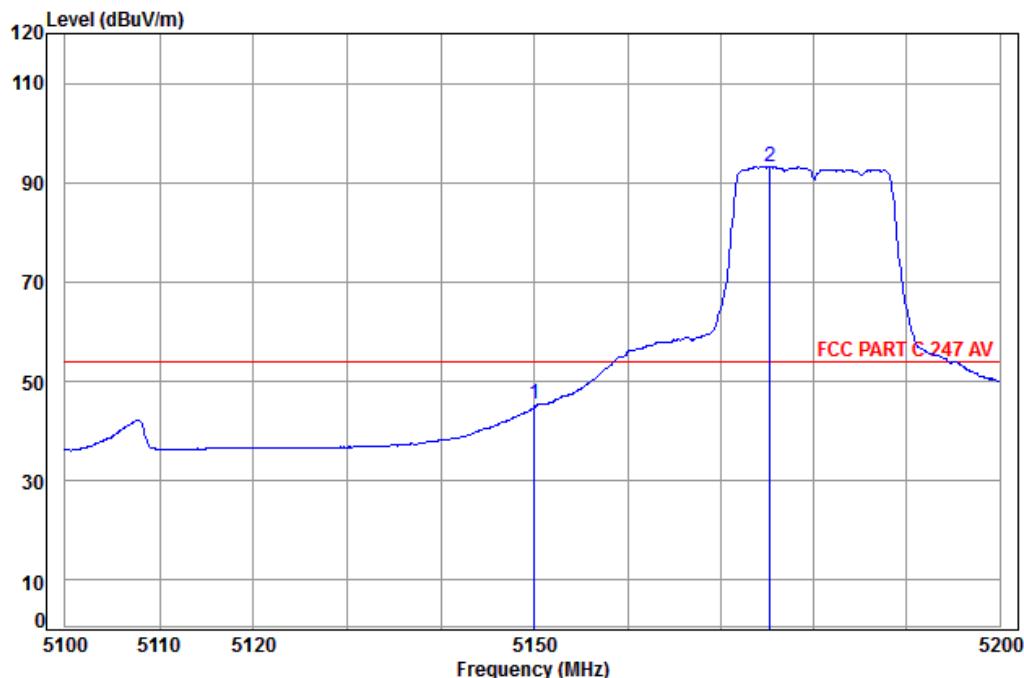
Job No: : 4544CR

Mode: : 5180 A Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	39.93	41.61	54.00 -12.39
2 pp	5175.22	6.12	34.86	39.28	87.48	89.18	54.00 35.18

Test mode:	802.11a	Frequency(MHz):	5180	Remark:	Average	Horizontal
------------	---------	-----------------	------	---------	---------	------------

Data: 643



Site : chamber

Condition: FCC PART C 247 AV 3m Horizontal

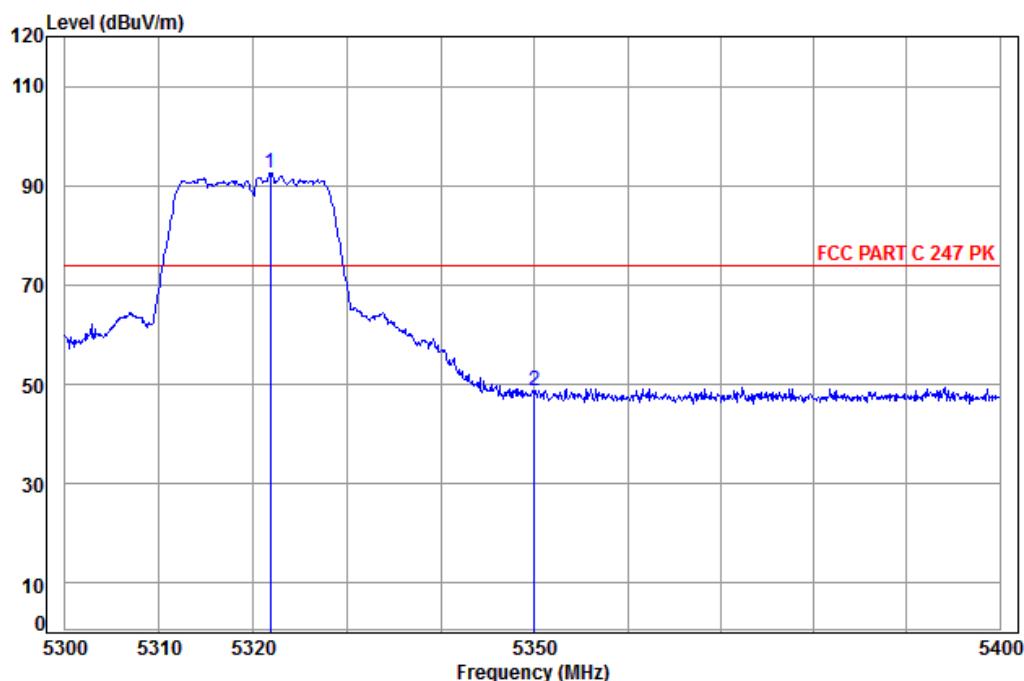
Job No: : 4544CR

Mode: : 5180 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1	5150.00	6.10	34.86	39.28	43.68	45.36	54.00	-8.64
2 pp	5175.22	6.12	34.86	39.28	91.47	93.17	54.00	39.17

Test mode:	802.11a	Frequency(MHz):	5320	Remark:	Peak	Vertical
------------	---------	-----------------	------	---------	------	----------

Data: 656



Site : chamber

Condition: FCC PART C 247 PK 3m Vertical

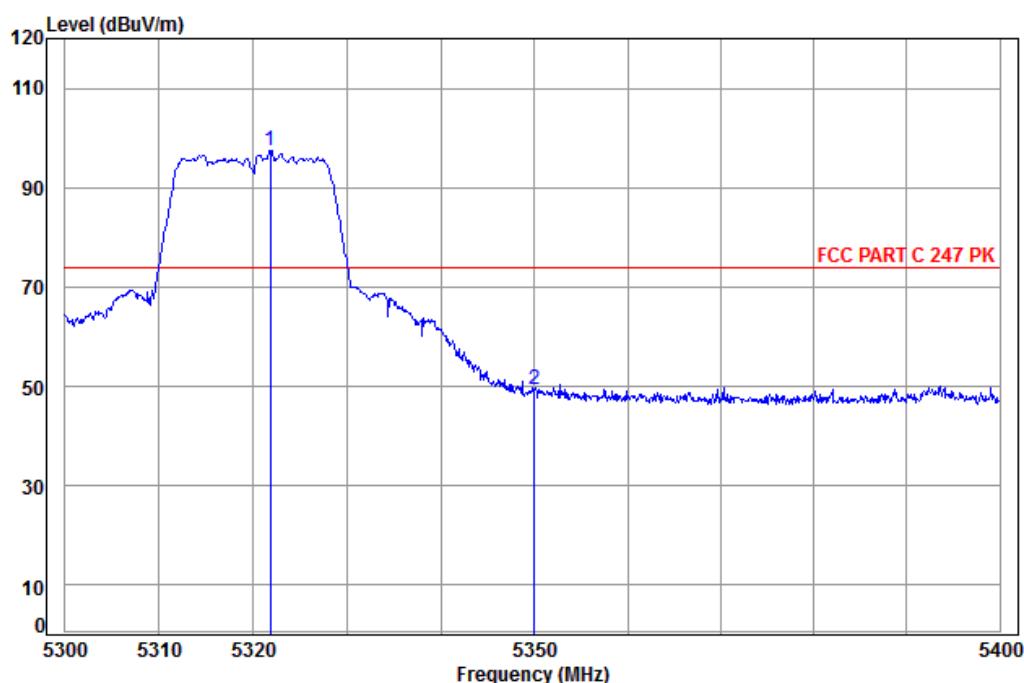
Job No: : 4544CR

Mode: : 5320 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1 pp	5321.84	6.23	34.81	39.26	90.85	92.63	74.00	18.63
2	5350.00	6.25	34.80	39.26	46.97	48.76	74.00	-25.24

Test mode:	802.11a	Frequency(MHz):	5320	Remark:	Peak	Horizontal
------------	---------	-----------------	------	---------	------	------------

Data: 654



Site : chamber

Condition: FCC PART C 247 PK 3m Horizontal

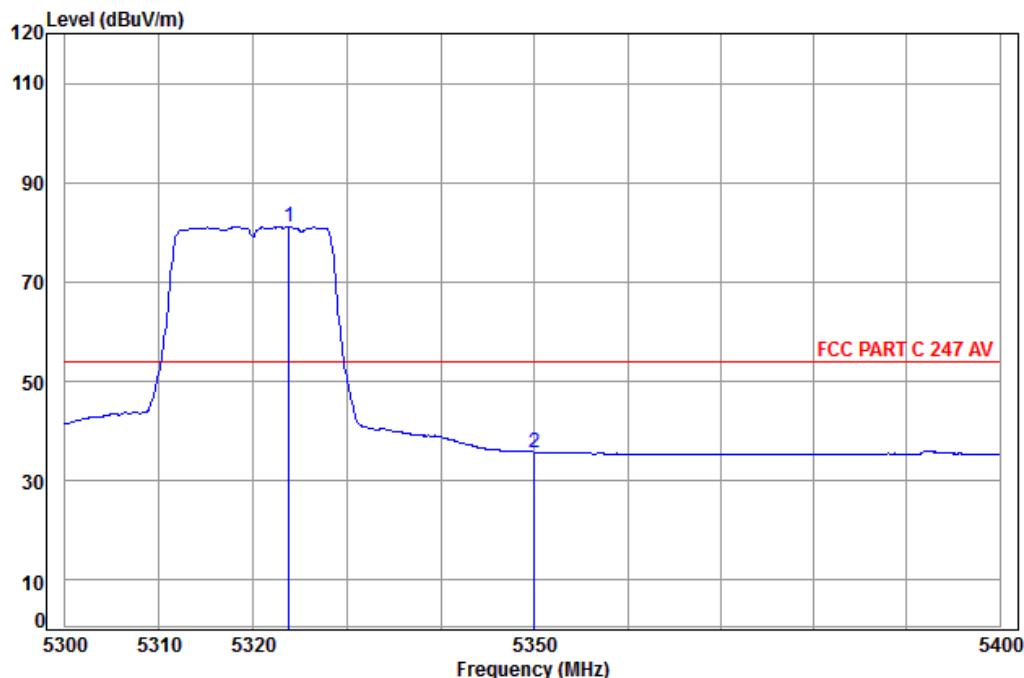
Job No: : 4544CR

Mode: : 5320 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1 pp	5321.84	6.23	34.81	39.26	95.67	97.45	74.00	23.45
2	5350.00	6.25	34.80	39.26	47.57	49.36	74.00	-24.64

Test mode:	802.11a	Frequency(MHz):	5320	Remark:	Average	Vertical
------------	---------	-----------------	------	---------	---------	----------

Data: 657



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

Job No: : 4544CR

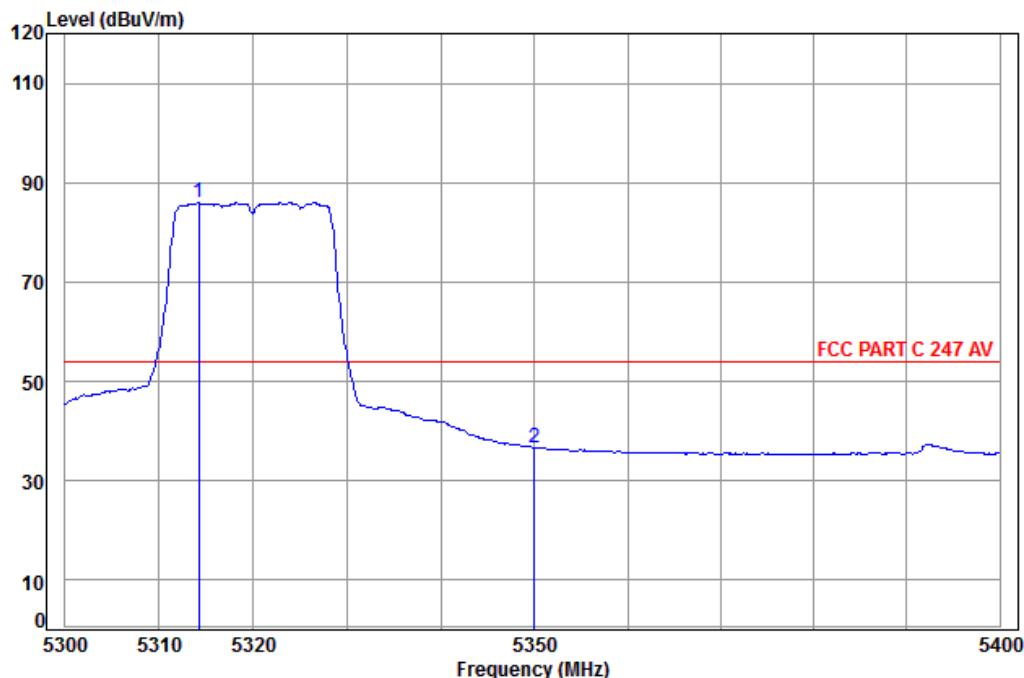
Mode: : 5320 A Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5323.83	6.23	34.81	39.26	79.35	81.13	54.00	27.13
2	5350.00	6.25	34.80	39.26	33.95	35.74	54.00	-18.26



Test mode:	802.11a	Frequency(MHz):	5320	Remark:	Average	Horizontal
------------	---------	-----------------	------	---------	---------	------------

Data: 655



Site : chamber  
Condition: FCC PART C 247 AV 3m Horizontal

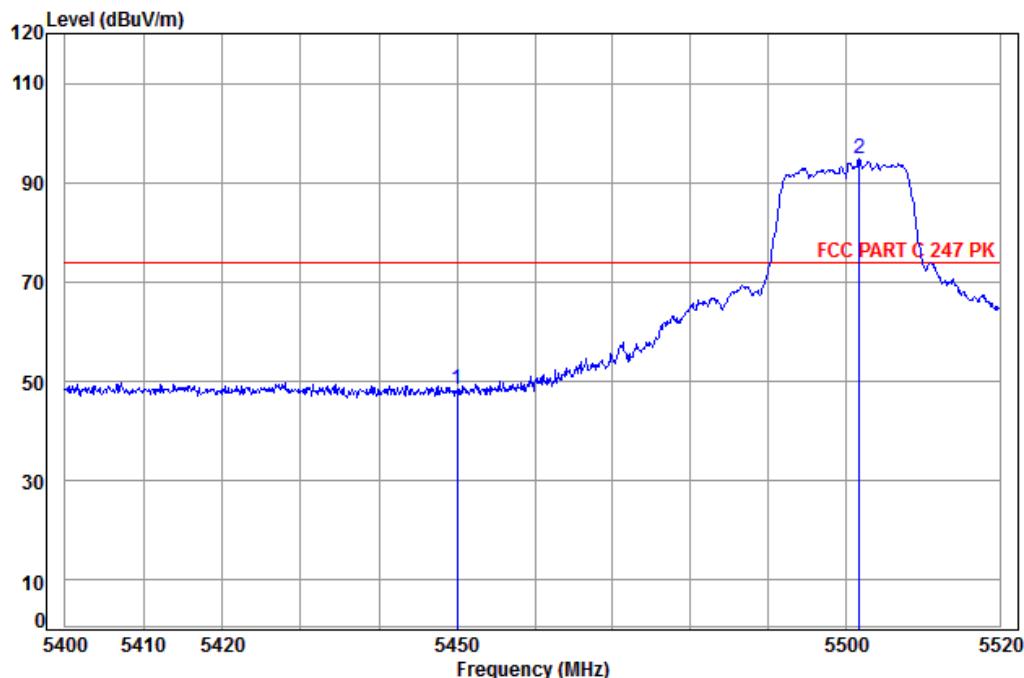
Job No: : 4544CR

Mode: : 5320 A Band edge

		Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	pp	5314.19	6.23	34.81	39.26	84.14	85.92	54.00	31.92
2		5350.00	6.25	34.80	39.26	34.96	36.75	54.00	-17.25

Test mode:	802.11a	Frequency(MHz):	5500	Remark:	Peak	Vertical
------------	---------	-----------------	------	---------	------	----------

Data: 666



Site : chamber

Condition: FCC PART C 247 PK 3m Vertical

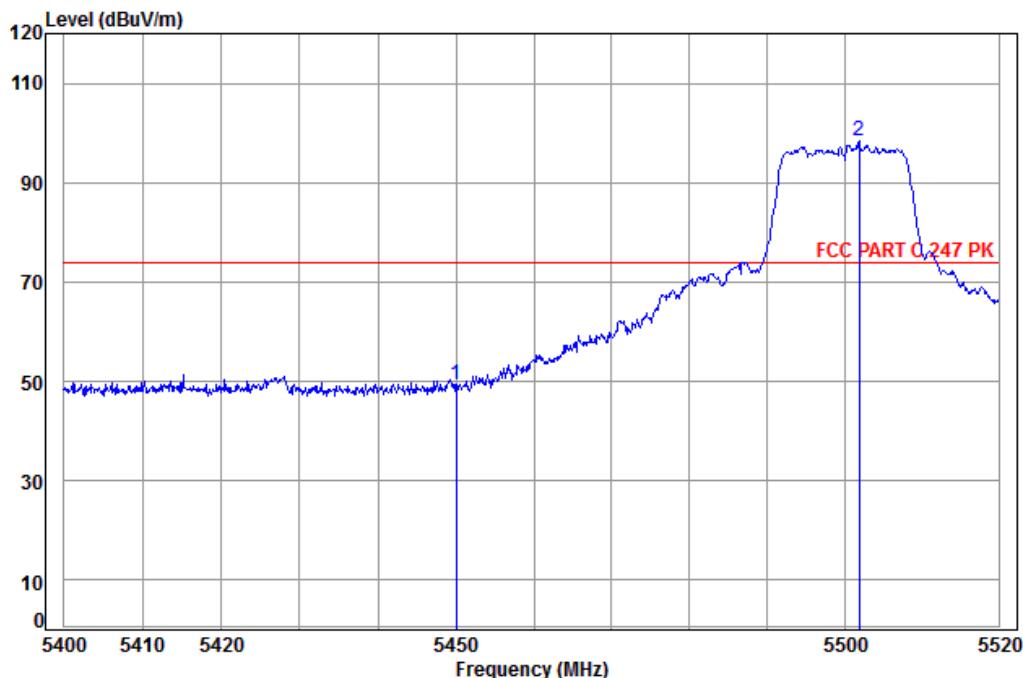
Job No: : 4544CR

Mode: : 5500 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	46.26	48.28	74.00	-25.72
2 pp	5501.83	6.36	35.11	39.24	92.71	94.94	74.00	20.94

Test mode:	802.11a	Frequency(MHz):	5500	Remark:	Peak	Horizontal
------------	---------	-----------------	------	---------	------	------------

Data: 668



Site : chamber

Condition: FCC PART C 247 PK 3m Horizontal

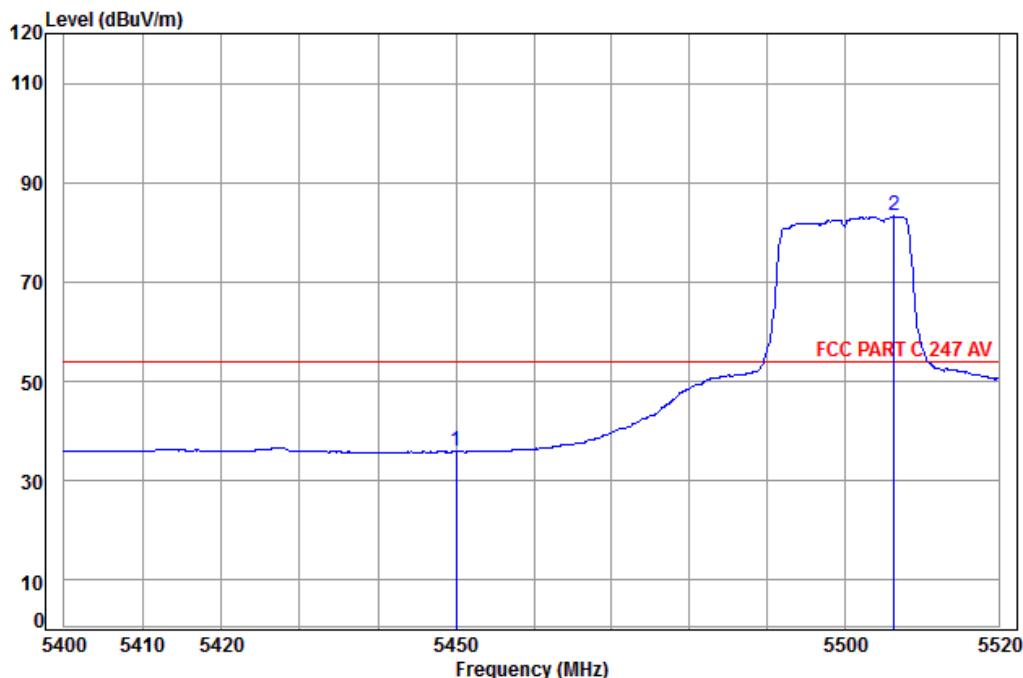
Job No: : 4544CR

Mode: : 5500 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	47.50	49.52	74.00	-24.48
2 pp	5501.95	6.36	35.11	39.24	96.04	98.27	74.00	24.27

Test mode:	802.11a	Frequency(MHz):	5500	Remark:	Average	Vertical
------------	---------	-----------------	------	---------	---------	----------

Data: 667



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

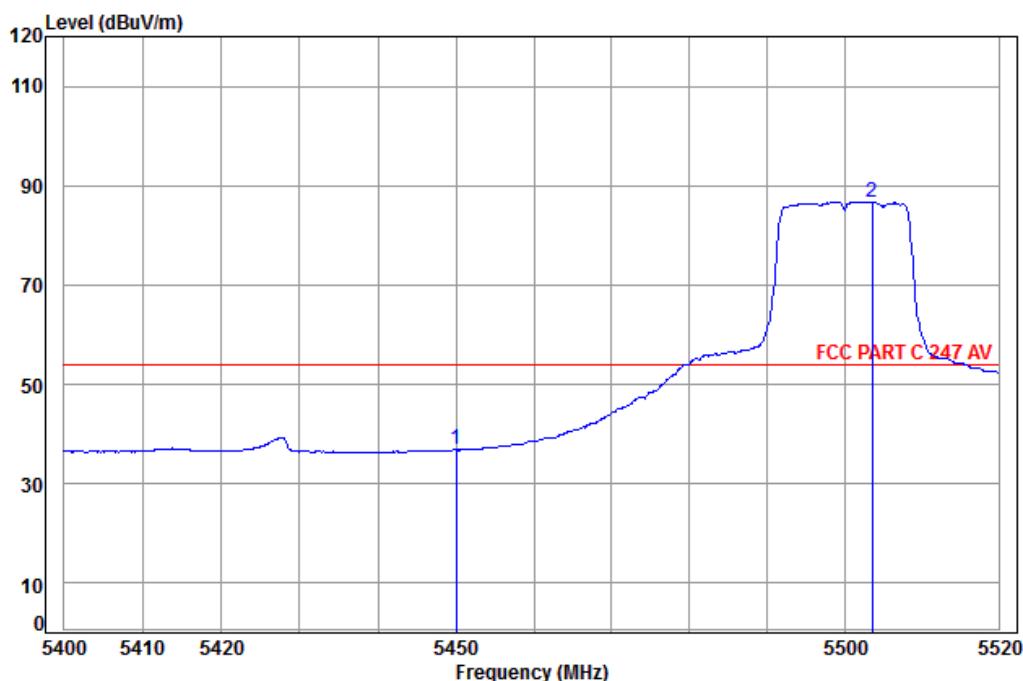
Job No: : 4544CR

Mode: : 5500 A Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1	5450.00	6.32	34.94	39.24	33.81	35.83	54.00	-18.17
2 pp	5506.43	6.38	35.12	39.24	80.96	83.22	54.00	29.22

Test mode:	802.11a	Frequency(MHz):	5500	Remark:	Average	Horizontal
------------	---------	-----------------	------	---------	---------	------------

Data: 669



Site : chamber

Condition: FCC PART C 247 AV 3m Horizontal

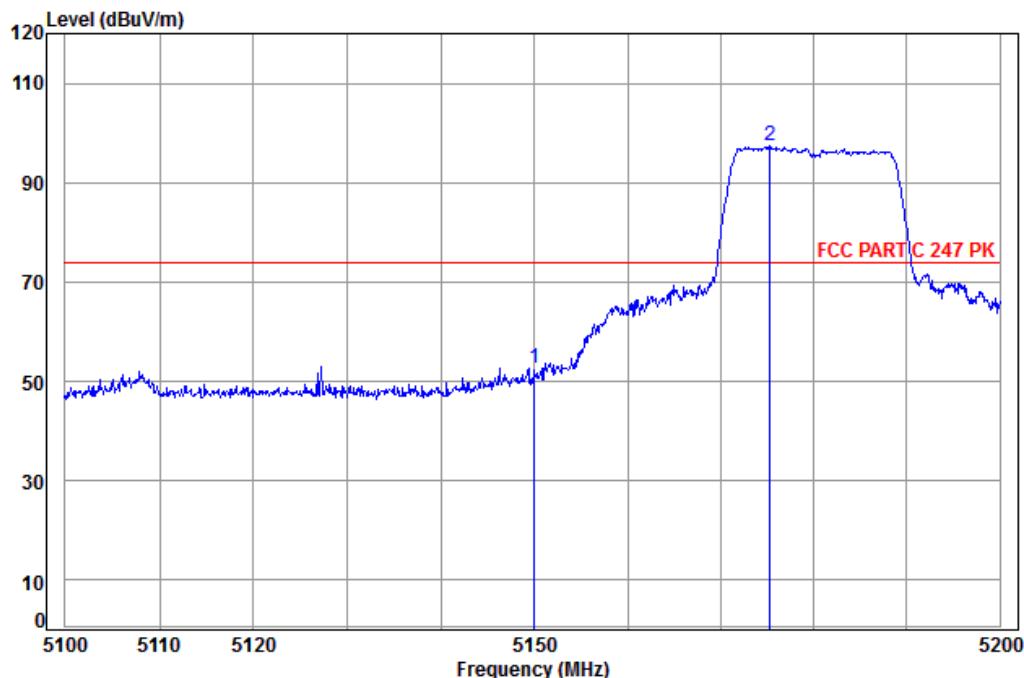
Job No: : 4544CR

Mode: : 5500 A Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	34.81	36.83	54.00 -17.17
2 pp	5503.65	6.37	35.11	39.24	84.46	86.70	54.00 32.70

Test mode:	802.11n(HT20)	Frequency(MHz):	5180	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 646

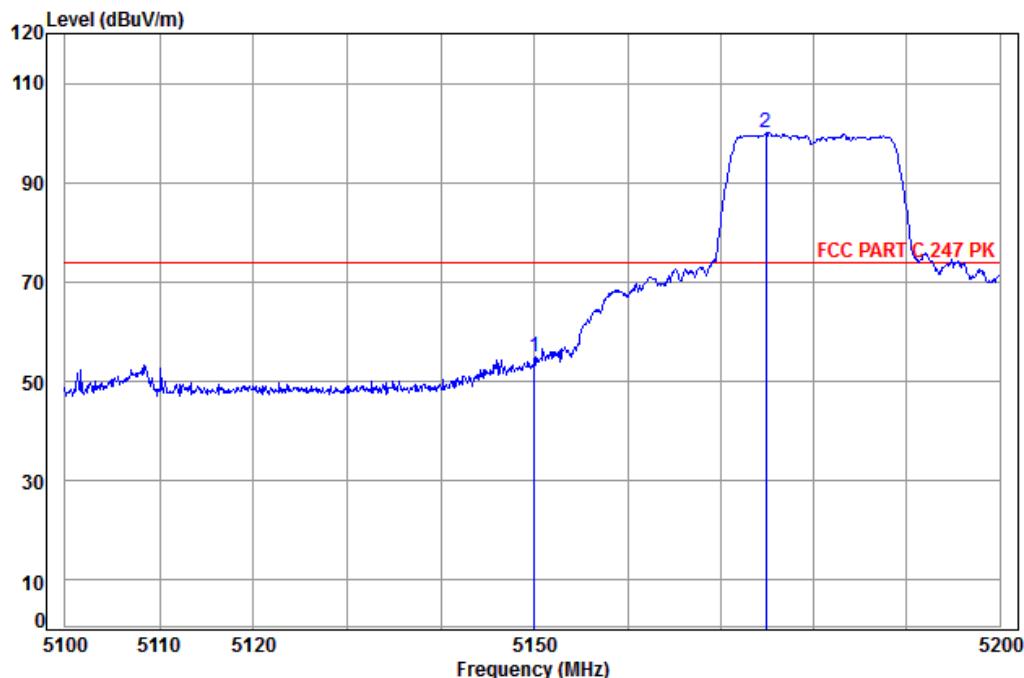


Site : chamber  
Condition: FCC PART C 247 PK 3m Vertical  
Job No: : 4544CR  
Mode: : 5180 N 20 Band edge

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit
1	5150.00	6.10	34.86	39.28	51.03	52.71	74.00 -21.29
2 pp	5175.22	6.12	34.86	39.28	95.65	97.35	74.00 23.35

Test mode:	802.11n(HT20)	Frequency(MHz):	5180	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 648

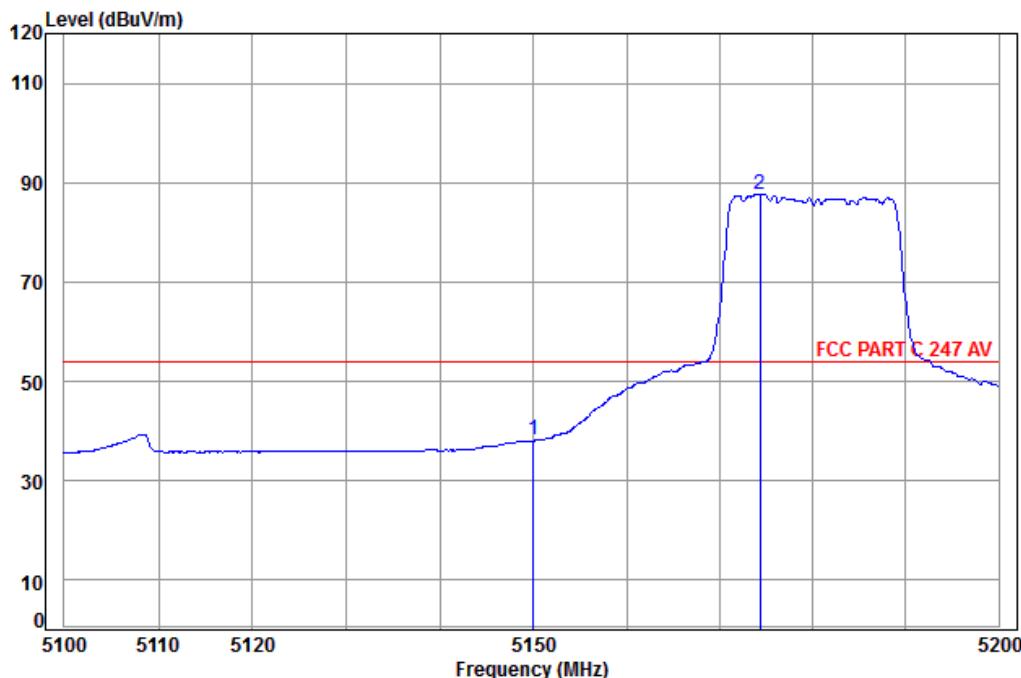


Site : chamber  
Condition: FCC PART C 247 PK 3m Vertical  
Job No: : 4544CR  
Mode: : 5180 N 20 Band edge

	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	
1	5150.00	6.10	34.86	39.28	53.10	54.78	74.00	-19.22
2 pp	5174.82	6.12	34.86	39.28	98.29	99.99	74.00	25.99

Test mode:	802.11n(HT20)	Frequency(MHz):	5180	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 647



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

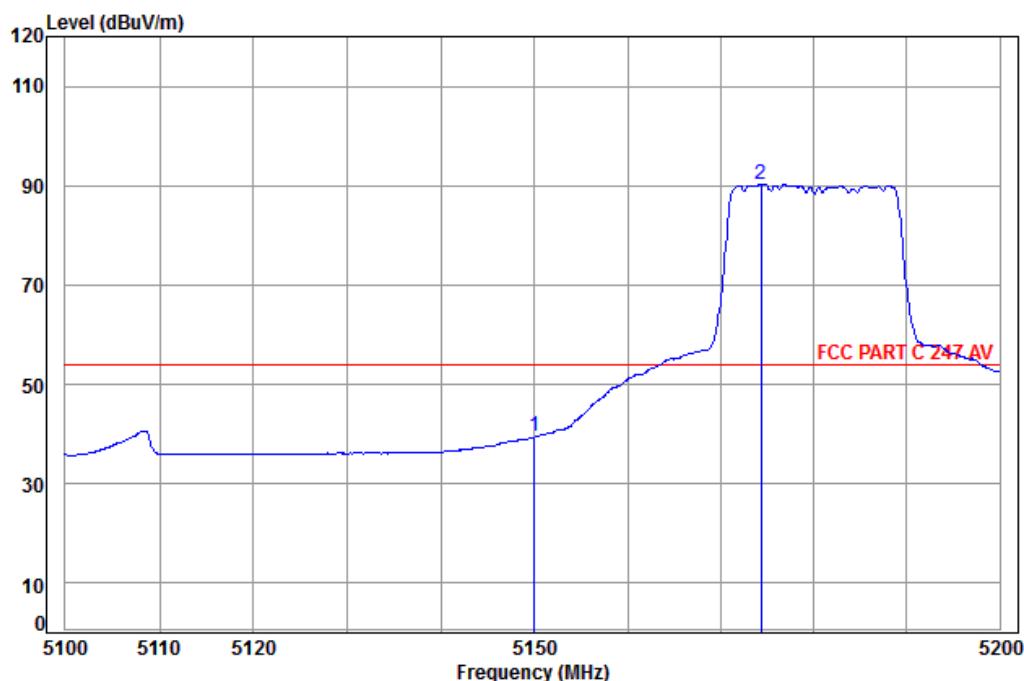
Job No: : 4544CR

Mode: : 5180 N 20 Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	36.52	38.20	54.00 -15.80
2 pp	5174.32	6.12	34.86	39.28	85.95	87.65	54.00 33.65

Test mode:	802.11n(HT20)	Frequency(MHz):	5180	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 649



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

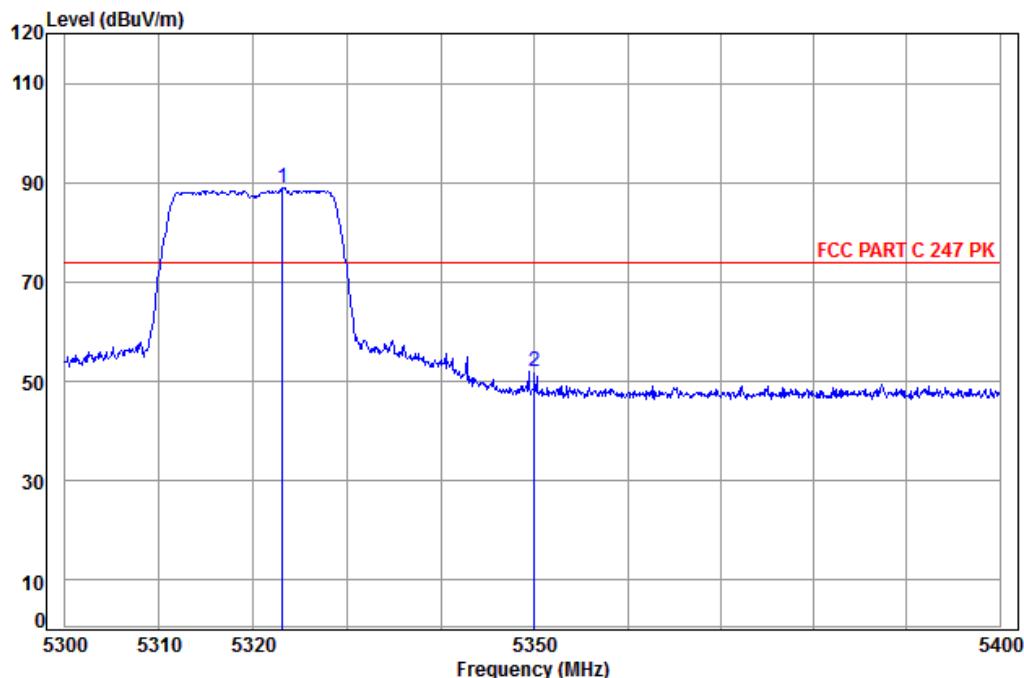
Job No: : 4544CR

Mode: : 5180 N 20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	37.93	39.61	54.00	-14.39
2 pp	5174.32	6.12	34.86	39.28	88.57	90.27	54.00	36.27

Test mode:	802.11n(HT20)	Frequency(MHz):	5320	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 658



Site : chamber

Condition: FCC PART C 247 PK 3m Vertical

Job No: : 4544CR

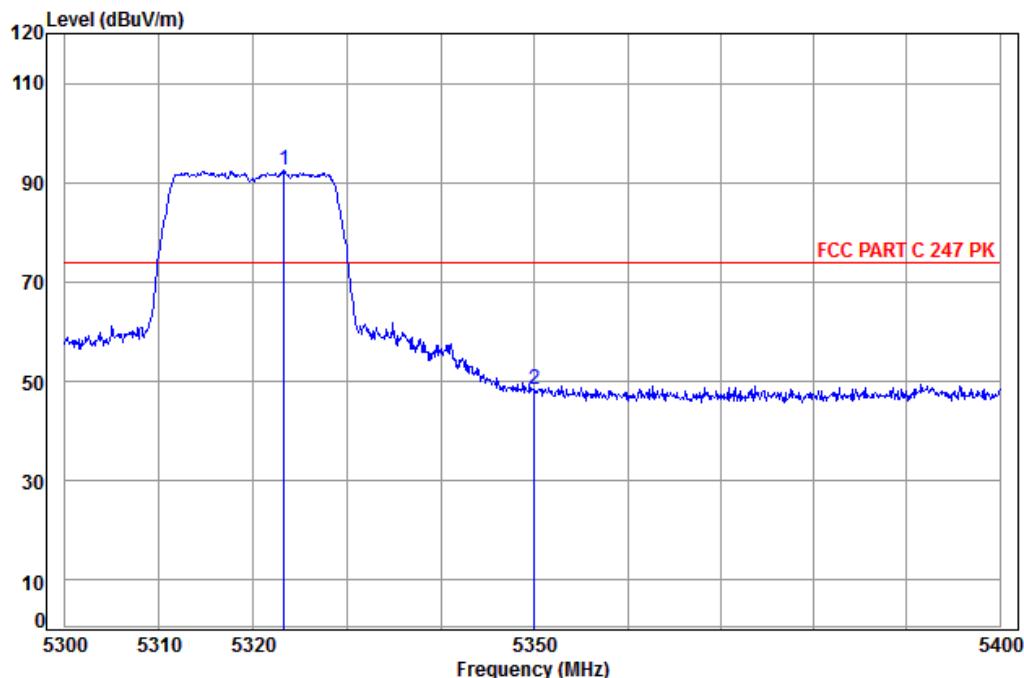
Mode: : 5320 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1 pp	5323.13	6.23	34.81	39.26	87.26	89.04	74.00	15.04
2	5350.00	6.25	34.80	39.26	50.14	51.93	74.00	-22.07



Test mode:	802.11n(HT20)	Frequency(MHz):	5320	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 660

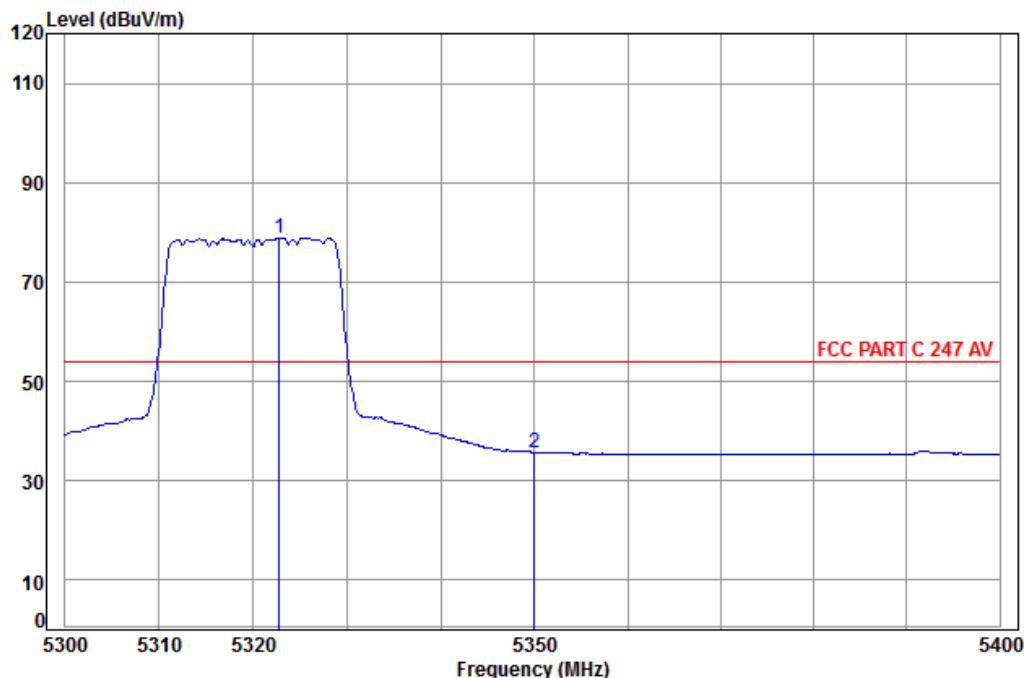


Site : chamber  
Condition: FCC PART C 247 PK 3m Horizontal  
Job No: : 4544CR  
Mode: : 5320 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1 pp	5323.23	6.23	34.81	39.26	90.76	92.54	74.00	18.54
2	5350.00	6.25	34.80	39.26	46.58	48.37	74.00	-25.63

Test mode:	802.11n(HT20)	Frequency(MHz):	5320	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 659



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

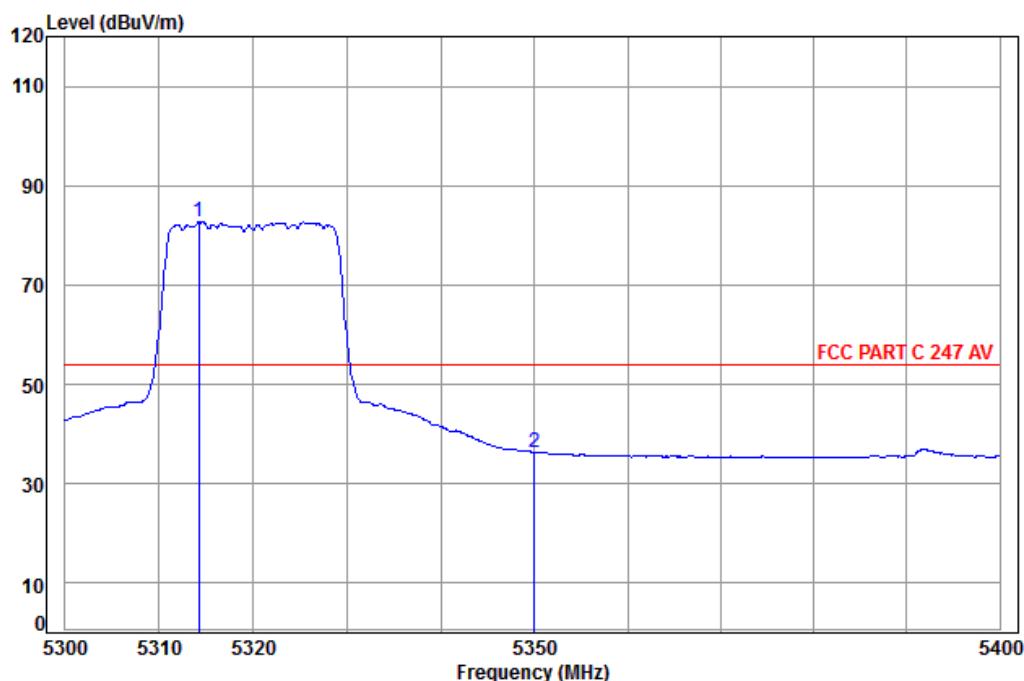
Job No: : 4544CR

Mode: : 5320 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1 pp	5322.74	6.23	34.81	39.26	77.12	78.90	54.00	24.90
2	5350.00	6.25	34.80	39.26	33.90	35.69	54.00	-18.31

Test mode:	802.11n(HT20)	Frequency(MHz):	5320	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 661

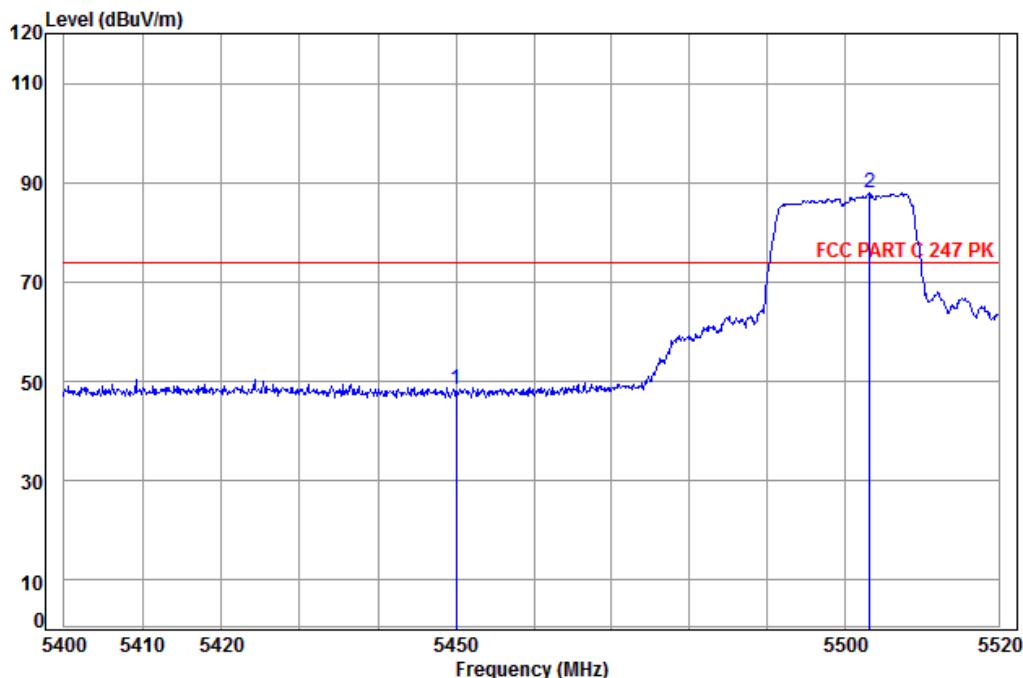


Site : chamber  
 Condition: FCC PART C 247 AV 3m Horizontal  
 Job No: : 4544CR  
 Mode: : 5320 N20 Band edge

	Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit
1 pp	5314.19	6.23	34.81	39.26	80.85	82.63	54.00 28.63
2	5350.00	6.25	34.80	39.26	34.52	36.31	54.00 -17.69

Test mode:	802.11n(HT20)	Frequency(MHz):	5500	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 672

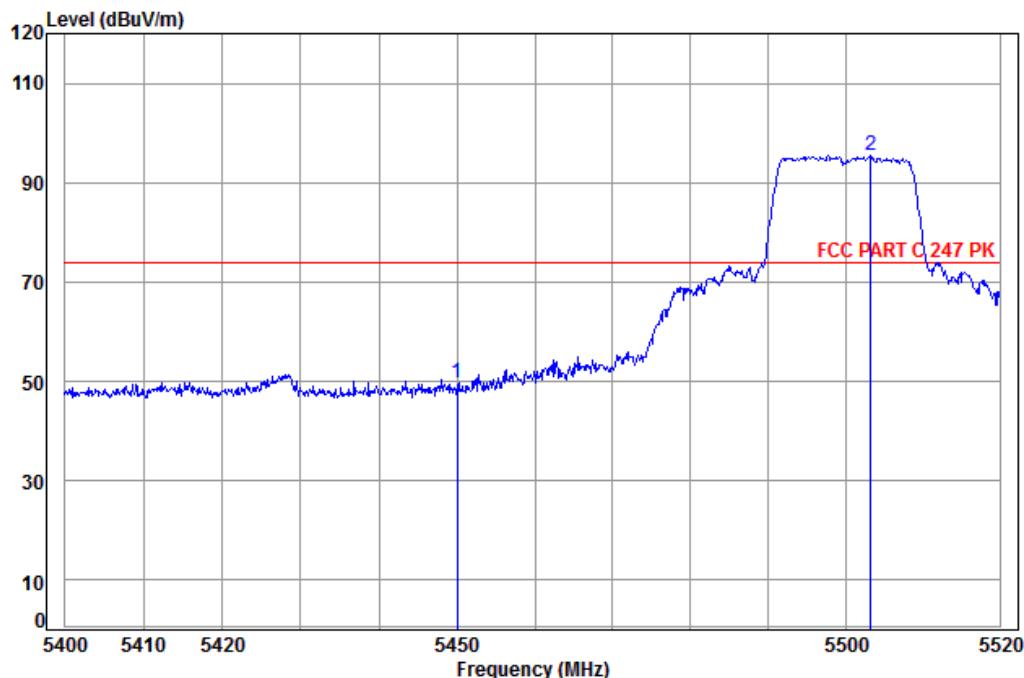


Site : chamber  
Condition: FCC PART C 247 PK 3m Vertical  
Job No: : 4544CR  
Mode: : 5500 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	46.28	48.30	74.00	-25.70
2 pp	5503.28	6.37	35.11	39.24	85.65	87.89	74.00	13.89

Test mode:	802.11n(HT20)	Frequency(MHz):	5500	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 670

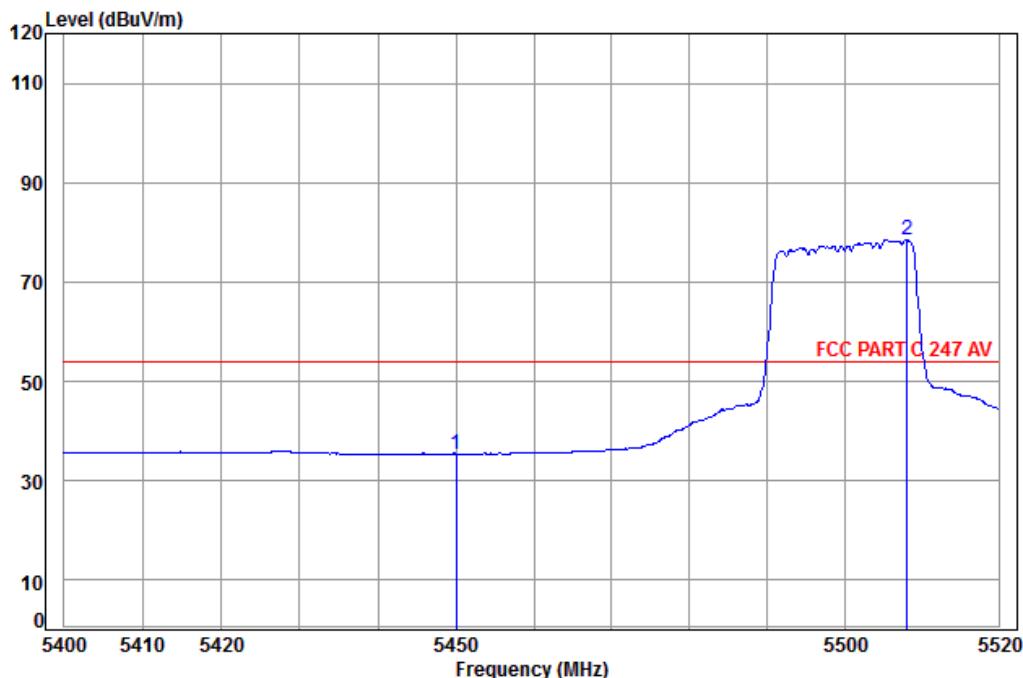


Site : chamber  
Condition: FCC PART C 247 PK 3m Horizontal  
Job No: : 4544CR  
Mode: : 5500 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	47.62	49.64	74.00	-24.36
2 pp	5503.28	6.37	35.11	39.24	93.25	95.49	74.00	21.49

Test mode:	802.11n(HT20)	Frequency(MHz):	5500	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 673



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

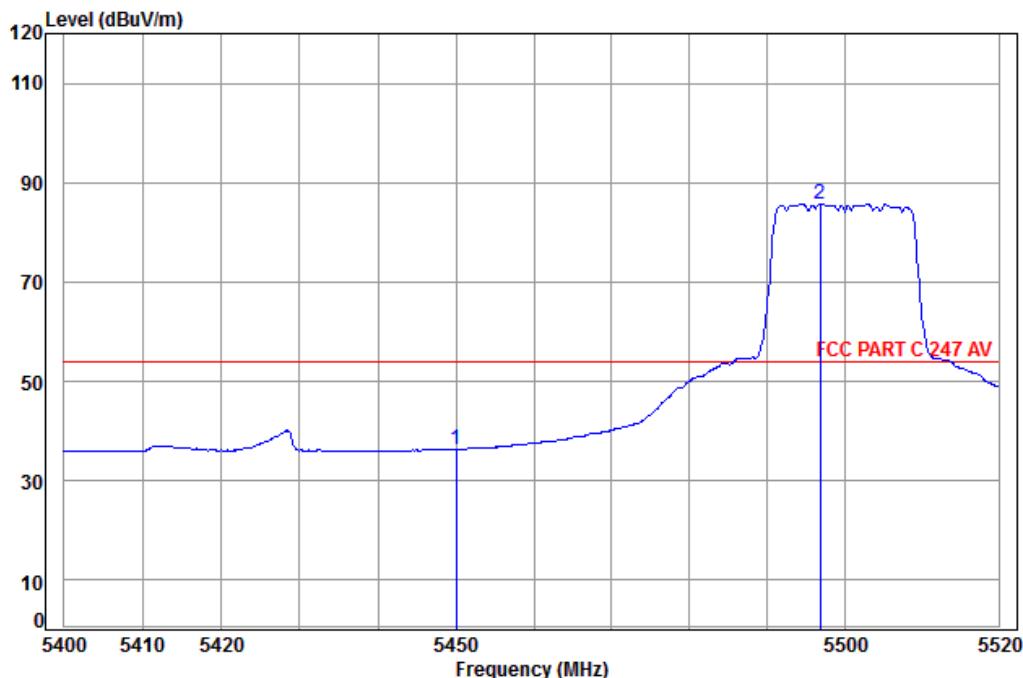
Job No: : 4544CR

Mode: : 5500 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	33.43	35.45	54.00	-18.55
2 pp	5508.12	6.38	35.13	39.24	76.20	78.47	54.00	24.47

Test mode:	802.11n(HT20)	Frequency(MHz):	5500	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 671



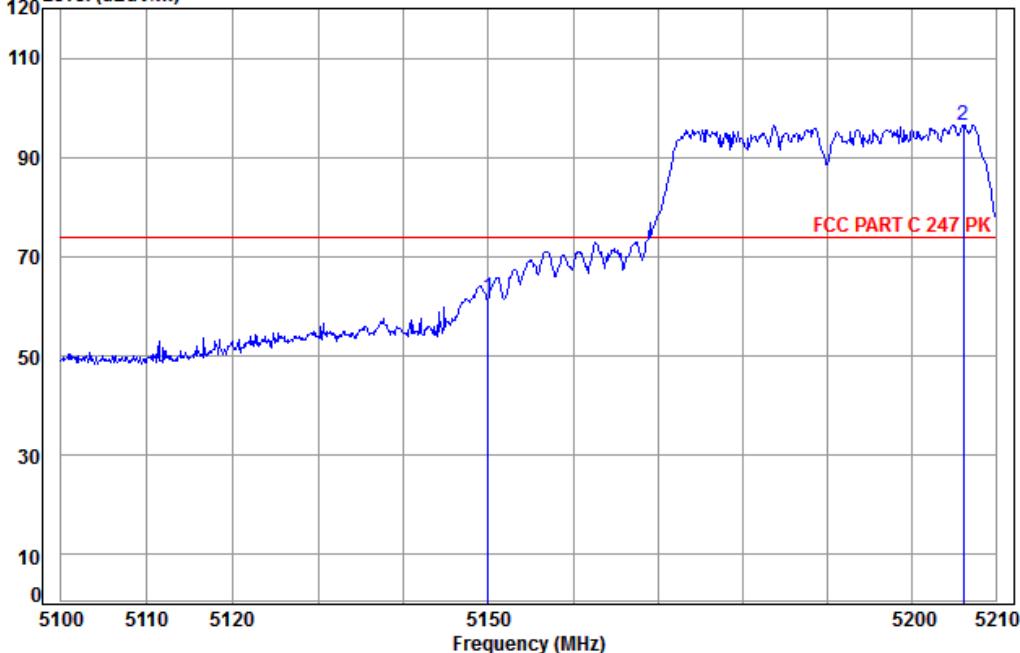
Site : chamber  
Condition: FCC PART C 247 AV 3m Horizontal  
Job No: : 4544CR  
Mode: : 5500 N20 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1	5450.00	6.32	34.94	39.24	34.35	36.37	54.00	-17.63
2 pp	5496.88	6.36	35.09	39.24	83.53	85.74	54.00	31.74

Test mode:	802.11n(HT40)	Frequency(MHz):	5190	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 650

Level (dBuV/m)



Site : chamber

Condition: FCC PART C 247 PK 3m Vertical

Job No: : 4544CR

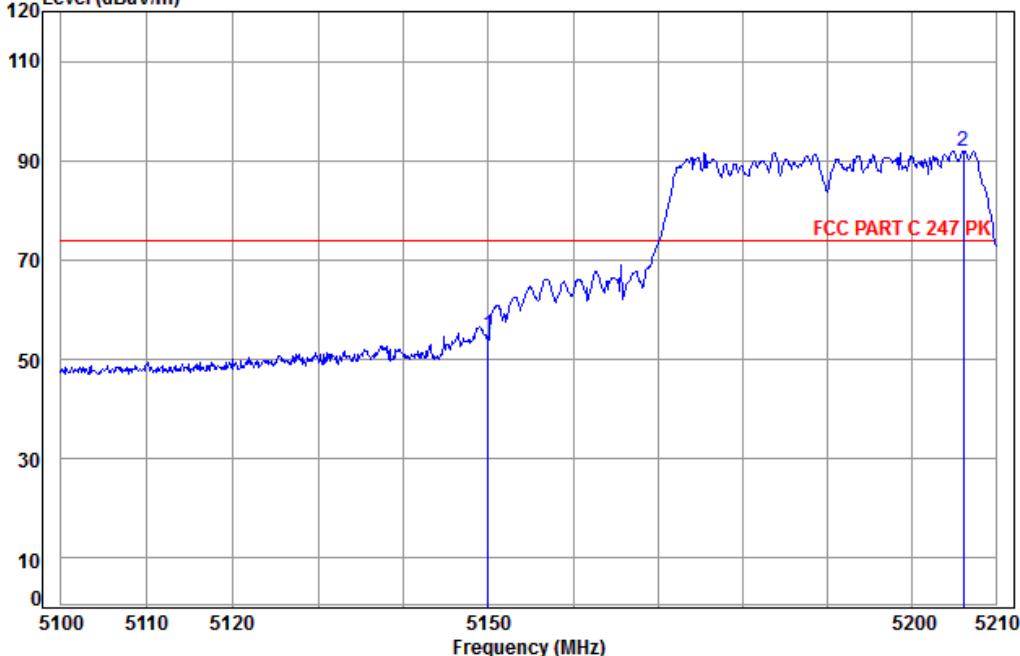
Mode: : 5190 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	60.17	61.85	74.00	-12.15
2 pp	5206.22	6.15	34.85	39.27	94.78	96.51	74.00	22.51

Test mode:	802.11n(HT40)	Frequency(MHz):	5190	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 652

Level (dBuV/m)



Site : chamber

Condition: FCC PART C 247 PK 3m Horizontal

Job No: : 4544CR

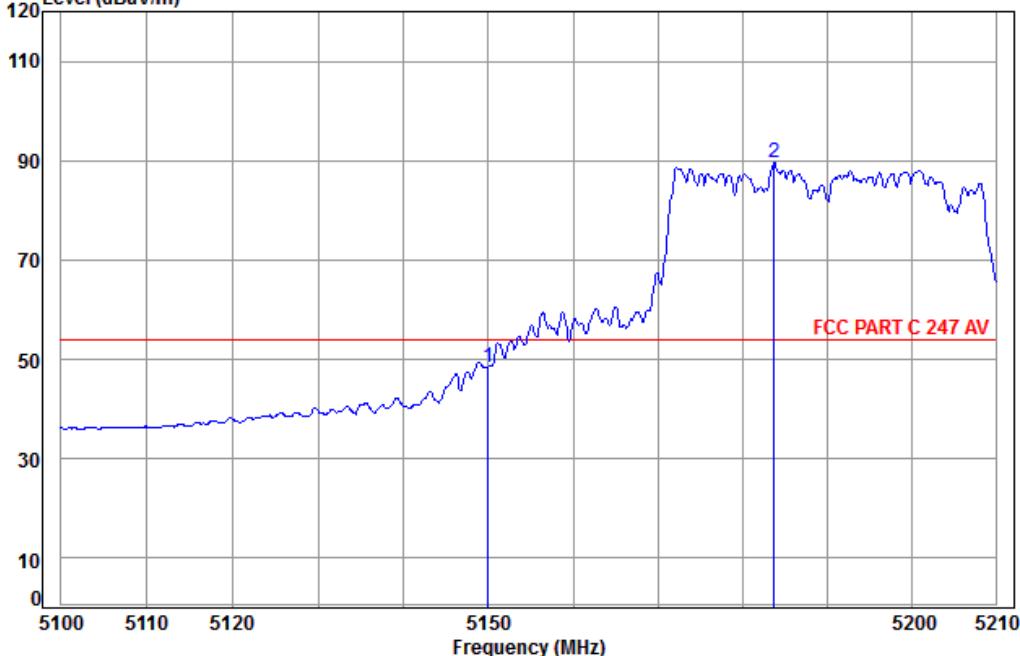
Mode: : 5190 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	53.22	54.90	74.00	-19.10
2 pp	5206.22	6.15	34.85	39.27	90.16	91.89	74.00	17.89

Test mode:	802.11n(HT40)	Frequency(MHz):	5190	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 651

Level (dBuV/m)



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

Job No: : 4544CR

Mode: : 5190 N40 Band edge

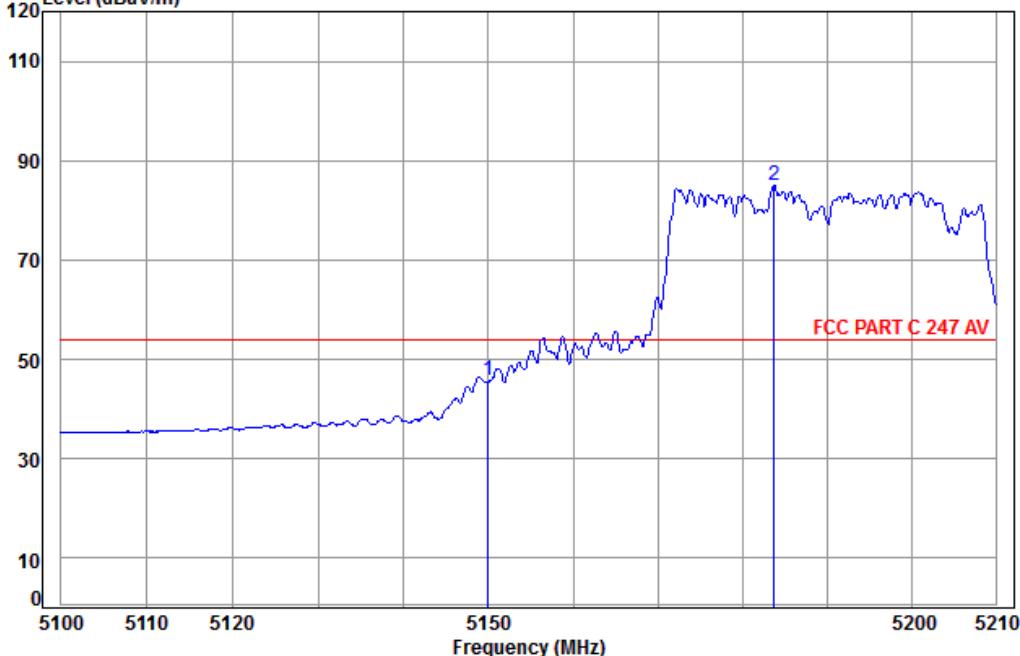
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5150.00	6.10	34.86	39.28	46.72	48.40	54.00	-5.60
2 pp	5183.72	6.13	34.85	39.28	87.85	89.55	54.00	35.55



Test mode:	802.11n(HT40)	Frequency(MHz):	5190	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 653

Level (dBuV/m)



Site : chamber

Condition: FCC PART C 247 AV 3m Horizontal

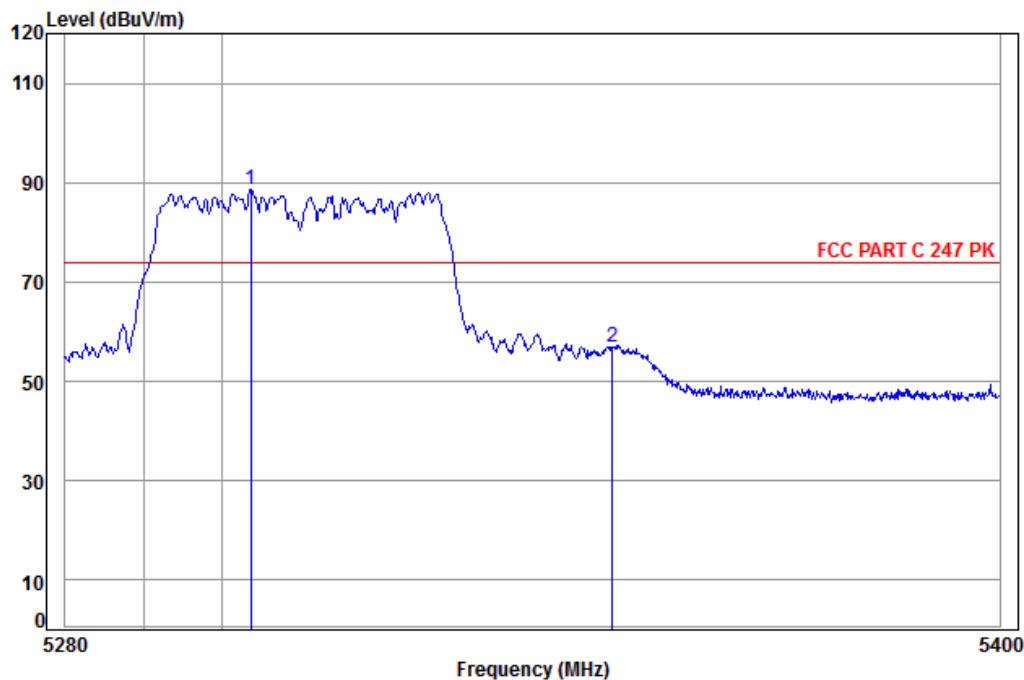
Job No: : 4544CR

Mode: : 5190 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1	5150.00	6.10	34.86	39.28	44.12	45.80	54.00	-8.20
2 pp	5183.72	6.13	34.85	39.28	83.47	85.17	54.00	31.17

Test mode:	802.11n(HT40)	Frequency(MHz):	5310	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 664



Site : chamber

Condition: FCC PART C 247 PK 3m Vertical

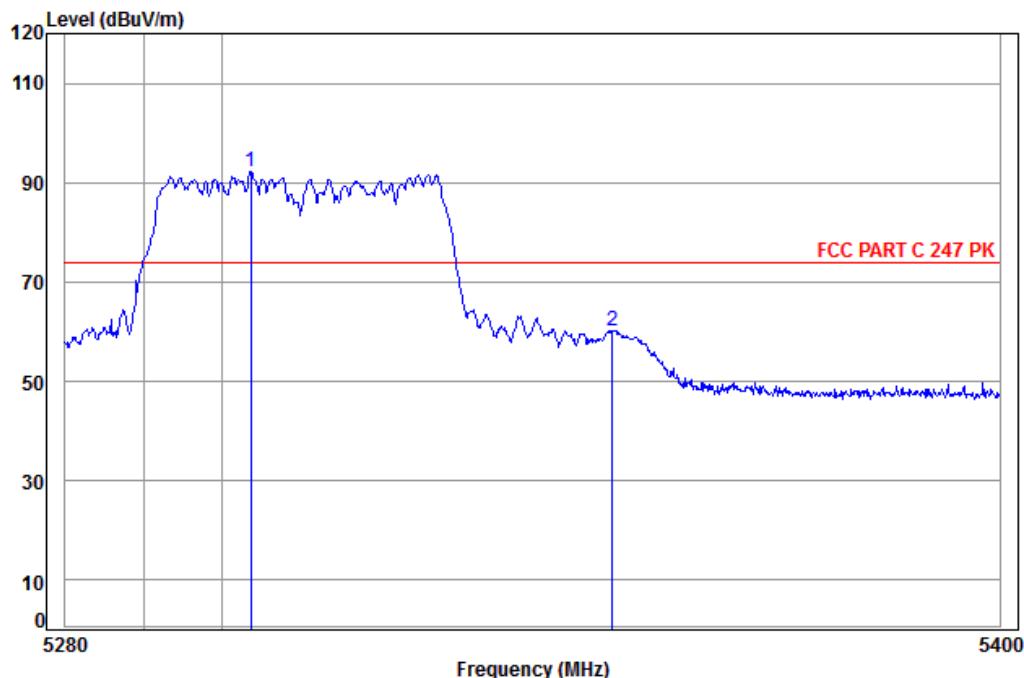
Job No: : 4544CR

Mode: : 5310 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dB <sub>uV</sub>	dB <sub>uV/m</sub>	dB <sub>uV/m</sub>	dB
1 pp	5303.67	6.22	34.81	39.26	86.84	88.61	74.00	14.61
2	5350.00	6.25	34.80	39.26	54.97	56.76	74.00	-17.24

Test mode:	802.11n(HT40)	Frequency(MHz):	5310	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 662



Site : chamber

Condition: FCC PART C 247 PK 3m Horizontal

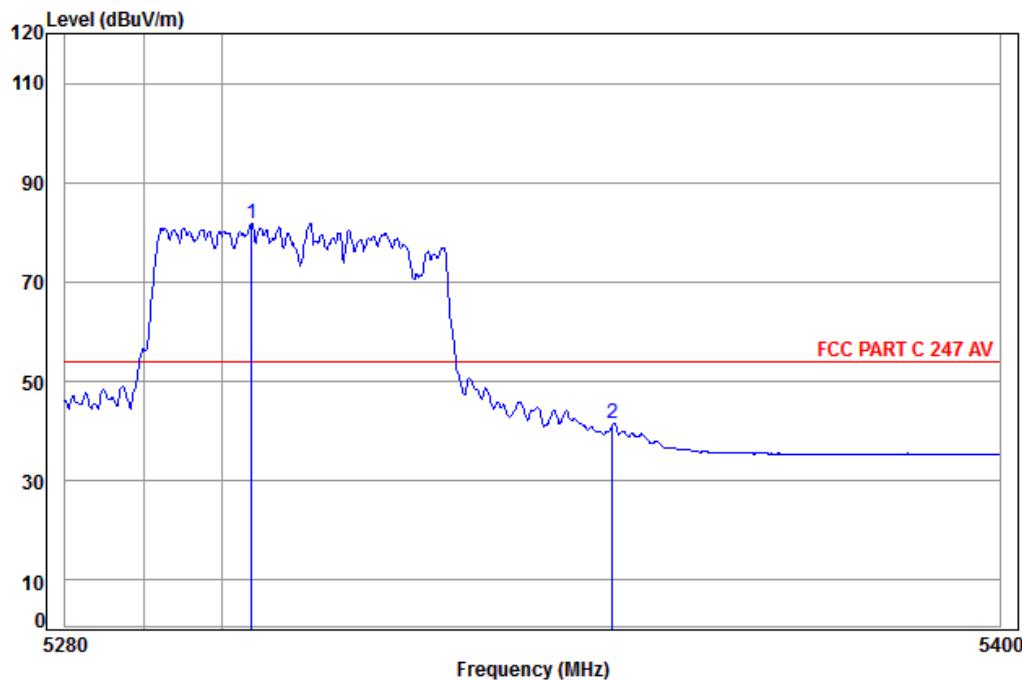
Job No: : 4544CR

Mode: : 5310 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1 pp	5303.67	6.22	34.81	39.26	90.38	92.15	74.00	18.15
2	5350.00	6.25	34.80	39.26	58.41	60.20	74.00	-13.80

Test mode:	802.11n(HT40)	Frequency(MHz):	5310	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 665



Site : chamber

Condition: FCC PART C 247 AV 3m Vertical

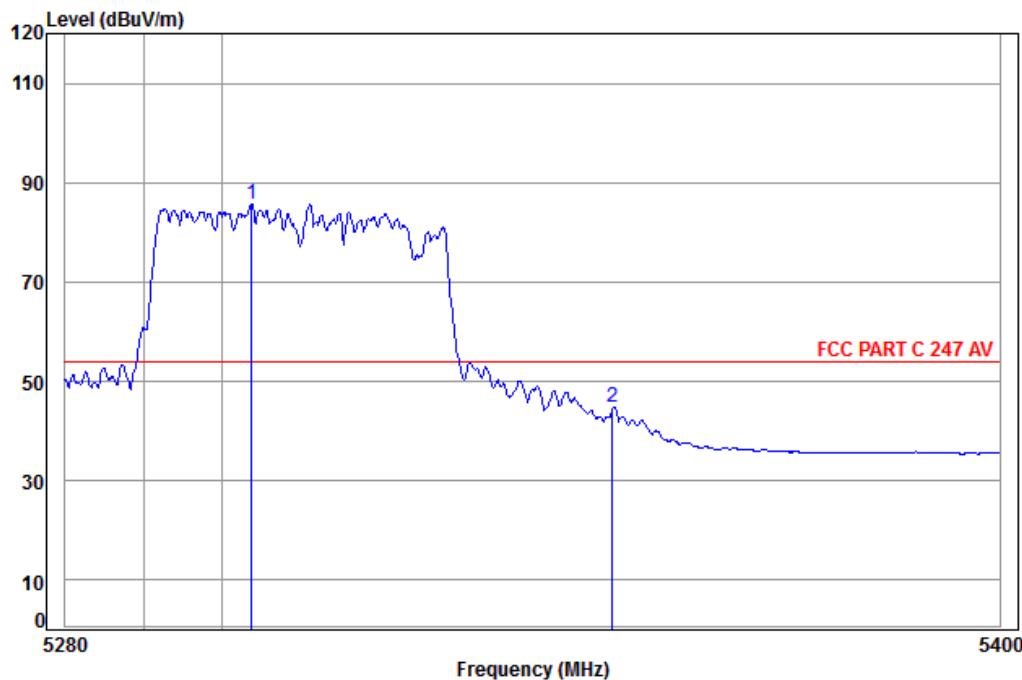
Job No: : 4544CR

Mode: : 5310 N40 Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 pp	5303.79	6.22	34.81	39.26	80.13	81.90	54.00 27.90
2	5350.00	6.25	34.80	39.26	39.61	41.40	54.00 -12.60

Test mode:	802.11n(HT40)	Frequency(MHz):	5310	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 663



Site : chamber

Condition: FCC PART C 247 AV 3m Horizontal

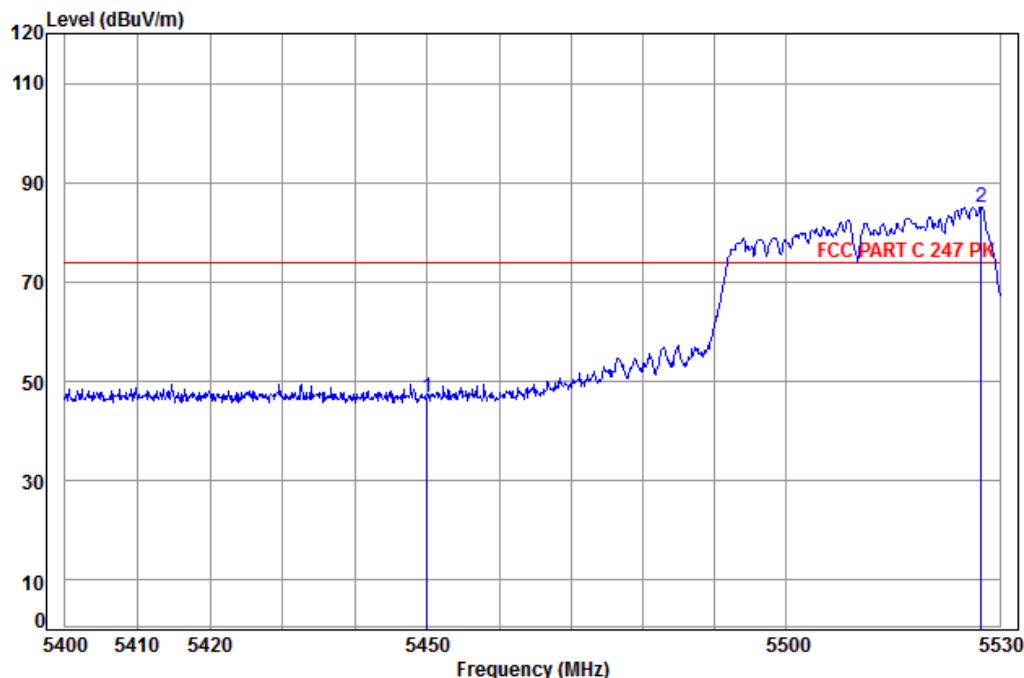
Job No: : 4544CR

Mode: : 5310 N40 Band edge

	Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit
1 pp	5303.79	6.22	34.81	39.26	83.98	85.75	54.00 31.75
2	5350.00	6.25	34.80	39.26	43.02	44.81	54.00 -9.19

Test mode:	802.11n(HT40)	Frequency(MHz):	5510	Remark:	Peak	Vertical
------------	---------------	-----------------	------	---------	------	----------

Data: 674

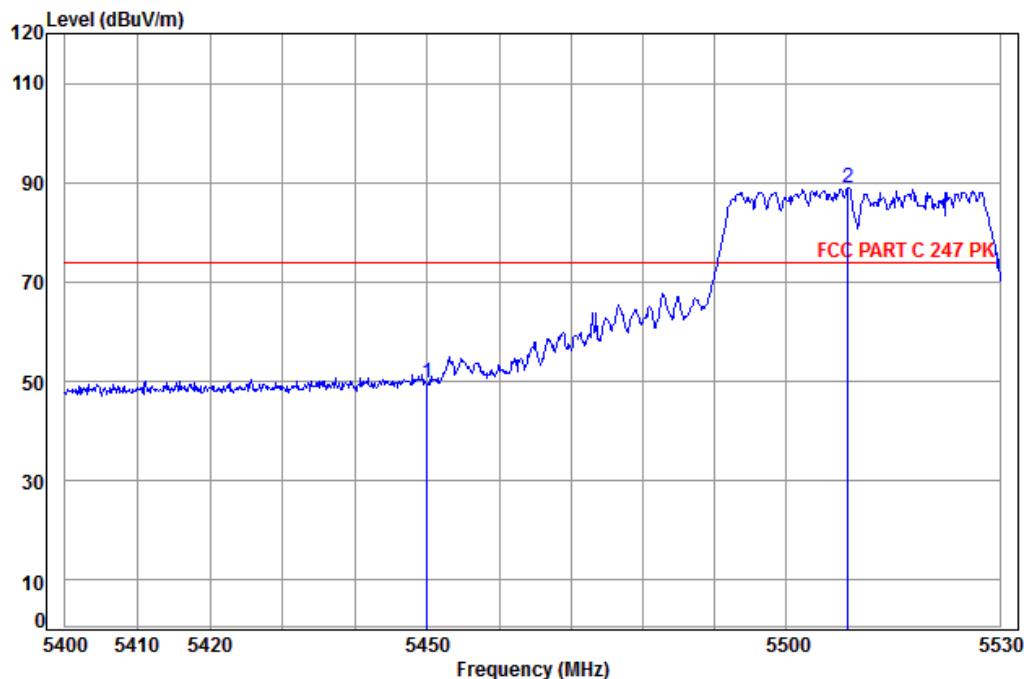


Site : chamber  
Condition: FCC PART C 247 PK 3m Vertical  
Job No: : 4544CR  
Mode: : 5510 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
1	5450.00	6.32	34.94	39.24	44.58	46.60	74.00	-27.40
2 pp	5527.37	6.43	35.19	39.24	82.76	85.14	74.00	11.14

Test mode:	802.11n(HT40)	Frequency(MHz):	5510	Remark:	Peak	Horizontal
------------	---------------	-----------------	------	---------	------	------------

Data: 676



Site : chamber

Condition: FCC PART C 247 PK 3m Horizontal

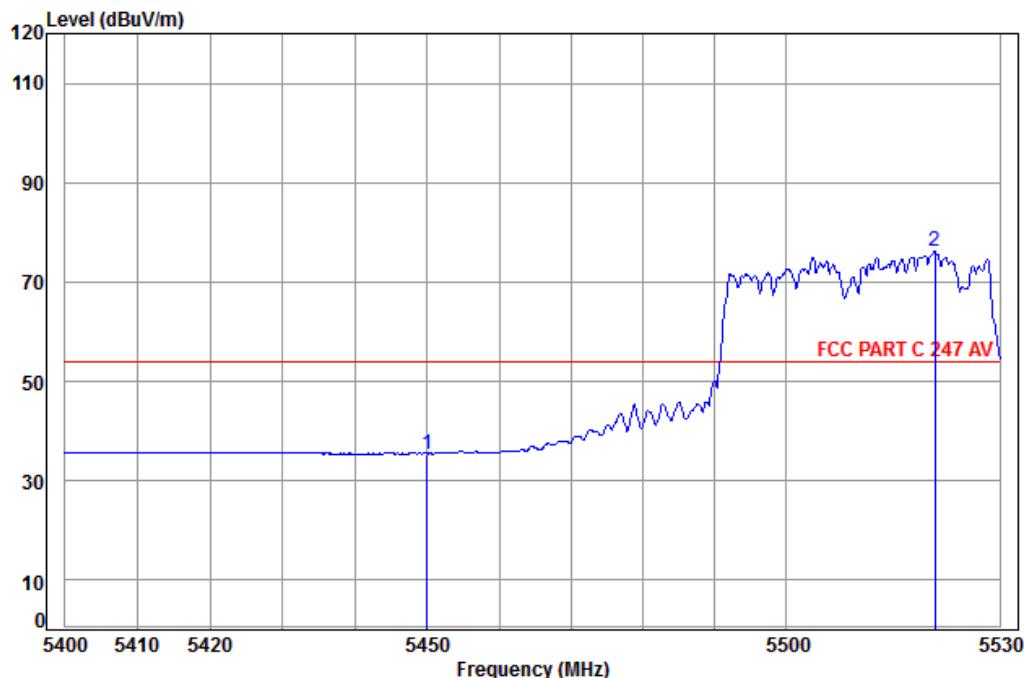
Job No: : 4544CR

Mode: : 5510 N40 Band edge

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	47.57	49.59	74.00	-24.41
2 pp	5508.73	6.38	35.13	39.24	86.81	89.08	74.00	15.08

Test mode:	802.11n(HT40)	Frequency(MHz):	5510	Remark:	Average	Vertical
------------	---------------	-----------------	------	---------	---------	----------

Data: 675



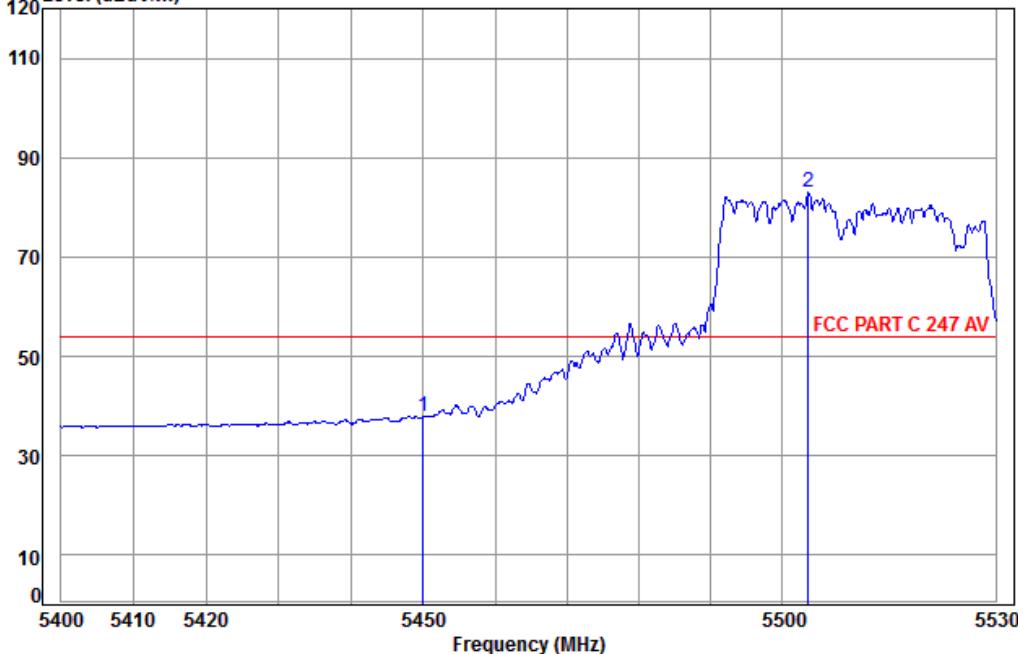
Site : chamber  
Condition: FCC PART C 247 AV 3m Vertical  
Job No: : 4544CR  
Mode: : 5510 N40 Band edge

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m		dBuV	dBuV/m	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	33.45	35.47	54.00	-18.53
2 pp	5520.93	6.41	35.17	39.24	73.95	76.29	54.00	22.29

Test mode:	802.11n(HT40)	Frequency(MHz):	5510	Remark:	Average	Horizontal
------------	---------------	-----------------	------	---------	---------	------------

Data: 677

Level (dBuV/m)



Site : chamber

Condition: FCC PART C 247 AV 3m Horizontal

Job No: : 4544CR

Mode: : 5510 N40 Band edge

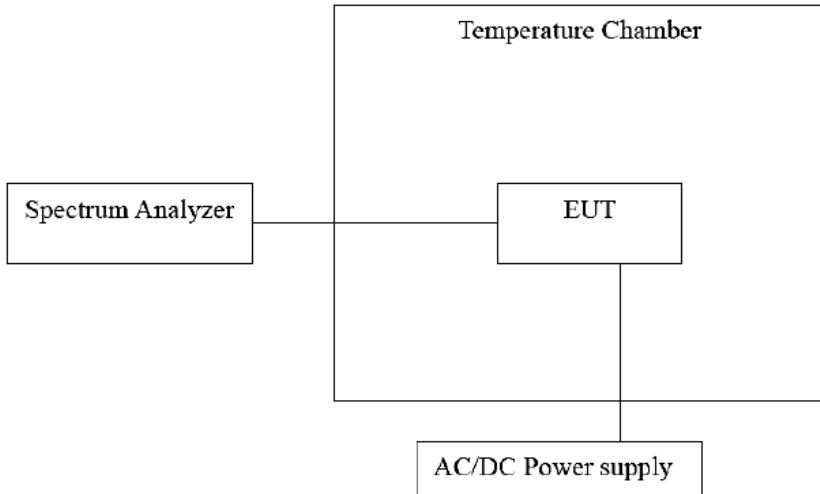
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5450.00	6.32	34.94	39.24	35.75	37.77	54.00 -16.23
2 pp	5503.75	6.37	35.11	39.24	80.66	82.90	54.00 28.90

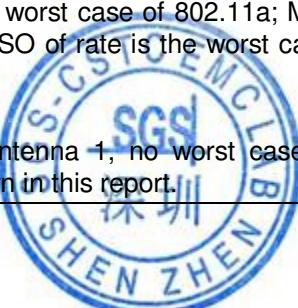
**Note:**

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

## 6.9 Frequency Stability

Test Requirement:	47 CFR Part 15 Section 15.407(g)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Procedure:	<ol style="list-style-type: none"><li>The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage.</li><li>Turn the EUT on and couple its output to a spectrum analyzer.</li><li>Turn the EUT off and set the chamber to the highest temperature specified.</li><li>Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize.</li><li>Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.</li><li>The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.</li></ol>
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report. Pre-scan was performed at Antenna 0 and Antenna 1, no worst case was found. Only the test data of Antenna 0 was shown in this report.





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

Report No.: SZEM150700454405  
Page: 199 of 211

## Test plot as follows:

Test mode:		802.11a	Frequency(MHz):	5180
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5180.0063	6300	Pass
35		5180.0065	6500	Pass
25		5179.9877	-12300	Pass
15		5179.9888	-11200	Pass
5		5180.0039	3900	Pass
0		5180.0041	4100	Pass
20	138	5179.9833	-16700	Pass
	120	5180.0035	3500	Pass
	102	5179.9826	-17400	Pass

Test mode:		802.11a	Frequency(MHz):	5200
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5200.0087	8700	Pass
35		5200.0088	8800	Pass
25		5200.0072	7200	Pass
15		5200.0041	4100	Pass
5		5199.9980	-2000	Pass
0		5199.9877	-12300	Pass
20	138	5199.9967	-3300	Pass
	120	5200.0033	3300	Pass
	102	5200.0055	5500	Pass

Test mode:		802.11a	Frequency(MHz):	5240
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5240.0021	2100	Pass
35		5240.0033	3300	Pass
25		5240.0012	1200	Pass
15		5239.9988	-1200	Pass
5		5239.9984	-1600	Pass
0		5239.9977	-2300	Pass
20	138	5240.0034	3400	Pass
	120	5240.0010	1000	Pass
	102	5239.9982	-1800	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 200 of 211

Test mode:		802.11a	Frequency(MHz):	5260
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5259.9999	-100	Pass
35		5259.9984	-1600	Pass
25		5259.9981	-1900	Pass
15		5259.9992	-800	Pass
5		5260.0011	1100	Pass
0		5260.0021	2100	Pass
20	138	5260.0042	4200	Pass
	120	5260.0005	500	Pass
	102	5259.9987	-1300	Pass

Test mode:		802.11a	Frequency(MHz):	5300
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5300.0021	2100	Pass
35		5300.0024	2400	Pass
25		5300.0014	1400	Pass
15		5300.0011	1100	Pass
5		5299.9984	-1600	Pass
0		5299.9984	-1600	Pass
20	138	5300.0024	2400	Pass
	120	5300.0012	1200	Pass
	102	5300.0020	2000	Pass

Test mode:		802.11a	Frequency(MHz):	5320
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5320.0011	1100	Pass
35		5320.0044	4400	Pass
25		5320.0032	3200	Pass
15		5320.0016	1600	Pass
5		5320.0022	2200	Pass
0		5319.9989	-1100	Pass
20	138	5320.0011	1100	Pass
	120	5320.0010	1000	Pass
	102	5320.0031	3100	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 201 of 211

Test mode:		802.11a	Frequency(MHz):	5500
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5500.0022	2200	Pass
35		5500.0032	3200	Pass
25		5500.0033	3300	Pass
15		5500.0021	2100	Pass
5		5499.9984	-1600	Pass
0		5500.0033	3300	Pass
20	138	5500.0027	2700	Pass
	120	5500.0011	1100	Pass
	102	5500.0023	2300	Pass

Test mode:		802.11a	Frequency(MHz):	5600
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5599.9995	-500	Pass
35		5599.9945	-5500	Pass
25		5599.9943	-5700	Pass
15		5599.9979	-2100	Pass
5		5599.9985	-1500	Pass
0		5600.0031	3100	Pass
20	138	5600.0022	2200	Pass
	120	5600.0012	1200	Pass
	102	5600.0032	3200	Pass

Test mode:		802.11a	Frequency(MHz):	5700
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
35	120	5700.0053	5300	Pass
25		5700.0035	3500	Pass
15		5700.0013	1300	Pass
5		5699.9982	-1800	Pass
0		5700.0042	4200	Pass
20	138	5700.0042	4200	Pass
	120	5700.0014	1400	Pass
	102	5699.9988	-1200	Pass



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

Report No.: SZEM150700454405  
Page: 202 of 211

Test mode:		802.11a	Frequency(MHz):	5745
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5745.0032	3200	Pass
35		5745.0055	5500	Pass
25		5745.0045	4500	Pass
15		5745.0031	3100	Pass
5		5744.9967	-3300	Pass
0		5744.9978	-2200	Pass
20	138	5745.0011	1100	Pass
	120	5745.0014	1400	Pass
	102	5745.0025	2500	Pass

Test mode:		802.11a	Frequency(MHz):	5785
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5785.0021	2100	Pass
35		5785.0029	2900	Pass
25		5785.0021	2100	Pass
15		5785.0009	900	Pass
5		5785.0028	2800	Pass
0		5785.0037	3700	Pass
20	138	5785.0032	3200	Pass
	120	5785.0014	1400	Pass
	102	5784.9976	-2400	Pass

Test mode:		802.11a	Frequency(MHz):	5825
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5825.0011	1100	Pass
35		5825.0033	3300	Pass
25		5825.0021	2100	Pass
15		5824.9989	-1100	Pass
5		5824.9988	-1200	Pass
0		5824.9978	-2200	Pass
20	138	5825.0033	3300	Pass
	120	5825.0013	1300	Pass
	102	5825.0022	2200	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 203 of 211

Test mode:		802.11n(HT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5180.0033	3300	Pass
35		5180.0024	2400	Pass
25		5179.9988	-1200	Pass
15		5179.9996	-400	Pass
5		5180.0021	2100	Pass
0		5180.0022	2200	Pass
20	138	5180.0021	2100	Pass
	120	5179.9993	-700	Pass
	102	5179.9993	-700	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5200
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5200.0033	3300	Pass
35		5200.0022	2200	Pass
25		5200.0025	2500	Pass
15		5200.0015	1500	Pass
5		5200.0022	2200	Pass
0		5200.0033	3300	Pass
20	138	5199.9975	-2500	Pass
	120	5199.9991	-900	Pass
	102	5200.0032	3200	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5240.0021	2100	Pass
35		5240.0020	2000	Pass
25		5240.0027	2700	Pass
15		5240.0016	1600	Pass
5		5240.0033	3300	Pass
0		5240.0035	3500	Pass
20	138	5240.0031	3100	Pass
	120	5239.9991	-900	Pass
	102	5239.9988	-1200	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 204 of 211

Test mode:		802.11n(HT20)	Frequency(MHz):	5260
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5260.0033	3300	Pass
35		5260.0022	2200	Pass
25		5260.0021	2100	Pass
15		5259.9983	-1700	Pass
5		5259.9974	-2600	Pass
0		5260.0032	3200	Pass
20	138	5260.0022	2200	Pass
	120	5260.0024	2400	Pass
	102	5260.0032	3200	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5300
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5300.0022	2200	Pass
35		5300.0041	4100	Pass
25		5299.9983	-1700	Pass
15		5300.0015	1500	Pass
5		5299.9977	-2300	Pass
0		5299.9955	-4500	Pass
20	138	5299.9967	-2300	Pass
	120	5300.0011	1100	Pass
	102	5300.0022	2200	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5320
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5320.0011	1100	Pass
35		5320.0033	3300	Pass
25		5320.0021	2100	Pass
15		5320.0033	3300	Pass
5		5320.0031	3100	Pass
0		5319.9988	-1200	Pass
20	138	5319.9988	-1200	Pass
	120	5319.9988	-1200	Pass
	102	5319.9977	-2300	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 205 of 211

Test mode:		802.11n(HT20)	Frequency(MHz):	5500
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5500.0053	5300	Pass
35		5500.0033	300	Pass
25		5500.0025	2500	Pass
15		5500.0027	2700	Pass
5		5500.0044	4400	Pass
0		5499.9977	-2300	Pass
20	138	5500.0044	4400	Pass
	120	5500.0033	3300	Pass
	102	5500.0015	1500	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5600
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5600.0022	2200	Pass
35		5600.0026	2600	Pass
25		5600.0042	4200	Pass
15		5600.0016	1600	Pass
5		5600.0038	3800	Pass
0		5600.0045	4500	Pass
20	138	5599.9966	-3400	Pass
	120	5599.9992	-800	Pass
	102	5599.9969	-3100	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5700
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5700.0046	4600	Pass
35		5700.0034	3400	Pass
25		5699.9983	-1700	Pass
15		5700.0012	1200	Pass
5		5700.0042	4200	Pass
0		5699.9935	-6500	Pass
20	138	5699.9992	-800	Pass
	120	5700.0023	2300	Pass
	102	5700.0032	3200	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 206 of 211

Test mode:		802.11n(HT20)	Frequency(MHz):	5745
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5745.0022	2200	Pass
35		5745.0028	2800	Pass
25		5745.0031	3100	Pass
15		5745.0024	2400	Pass
5		5745.0013	1300	Pass
0		5745.0034	3400	Pass
20	138	5745.0042	4200	Pass
	120	5744.9988	-1200	Pass
	102	5745.0023	2300	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5785
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5785.0033	3300	Pass
35		5785.0048	4800	Pass
25		5785.0022	2200	Pass
15		5784.9987	-1300	Pass
5		5784.9966	-3400	Pass
0		5785.0024	2400	Pass
20	138	5785.0031	3100	Pass
	120	5785.0020	2000	Pass
	102	5785.0033	3300	Pass

Test mode:		802.11n(HT20)	Frequency(MHz):	5825
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5824.9993	-700	Pass
35		5824.9977	-2300	Pass
25		5824.9966	-3400	Pass
15		5824.9985	-1500	Pass
5		5825.0015	1500	Pass
0		5825.0022	2200	Pass
20	138	5825.0035	3500	Pass
	120	5824.9987	-1300	Pass
	102	5825.0024	2400	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



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

Report No.: SZEM150700454405  
Page: 207 of 211

Test mode:		802.11n(HT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5190.0088	1200	Pass
35		5190.0077	2300	Pass
25		5190.0085	1500	Pass
15		5190.0032	3200	Pass
5		5190.0022	2200	Pass
0		5190.0034	3400	Pass
20	138	5189.9910	-9000	Pass
	120	5189.9978	-2200	Pass
	102	5190.0032	3200	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5230.0045	4500	Pass
35		5230.0056	5600	Pass
25		5230.0033	3300	Pass
15		5229.9988	-1200	Pass
5		5229.9985	-1500	Pass
0		5230.0022	2200	Pass
20	138	5230.0043	4300	Pass
	120	5230.0023	2300	Pass
	102	5229.9978	-2200	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5270
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5270.0022	2200	Pass
35		5270.0032	3200	Pass
25		5269.9965	-3500	Pass
15		5269.9988	-1200	Pass
5		5270.0032	3200	Pass
0		5270.0024	2400	Pass
20	138	5270.0025	2500	Pass
	120	5270.0033	3300	Pass
	102	5270.0026	2600	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

Test mode:		802.11n(HT40)	Frequency(MHz):	5310
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5310.0032	3200	Pass
35		5310.0033	3300	Pass
25		5310.0025	2500	Pass
15		5310.0021	2100	Pass
5		5310.0018	1800	Pass
0		5310.0032	3200	Pass
20	138	5309.9978	-2200	Pass
	120	5310.0019	1900	Pass
	102	5310.0026	2600	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5510
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5510.0022	2200	Pass
35		5510.0032	3200	Pass
25		5510.0026	2600	Pass
15		5510.0035	3500	Pass
5		5510.0023	2300	Pass
0		5510.0022	2200	Pass
20	138	5510.0032	3200	Pass
	120	5509.9987	-1300	Pass
	102	5510.0028	2800	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5590
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5590.0044	4400	Pass
35		5590.0033	3300	Pass
25		5590.0026	2600	Pass
15		5590.0035	3500	Pass
5		5590.0032	3200	Pass
0		5590.0028	2800	Pass
20	138	5589.9988	-1200	Pass
	120	5589.9983	-1700	Pass
	102	5590.0036	3600	Pass



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

Report No.: SZEM150700454405  
Page: 209 of 211

Test mode:		802.11n(HT40)	Frequency(MHz):	5670
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5670.0035	3500	Pass
35		5670.0037	3700	Pass
25		5670.0026	2600	Pass
15		5670.0036	3600	Pass
5		5669.9966	-3400	Pass
0		5670.0029	2900	Pass
20	138	5670.0019	1900	Pass
	120	5670.0033	3300	Pass
	102	5670.0022	2200	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5755
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5755.0033	3300	Pass
35		5755.0029	2900	Pass
25		5755.0026	2600	Pass
15		5755.0055	5500	Pass
5		5755.0035	3500	Pass
0		5755.0044	4400	Pass
20	138	5755.0042	4200	Pass
	120	5755.0032	3200	Pass
	102	5755.0037	3700	Pass

Test mode:		802.11n(HT40)	Frequency(MHz):	5795
Temperature (°C)	Voltage(VAC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120	5794.9982	-1800	Pass
35		5794.9978	-2200	Pass
25		5795.0041	4100	Pass
15		5795.0032	3200	Pass
5		5795.0025	2500	Pass
0		5795.0044	4400	Pass
20	138	5795.0026	2600	Pass
	120	5794.9983	-1700	Pass
	102	5794.9967	-3300	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

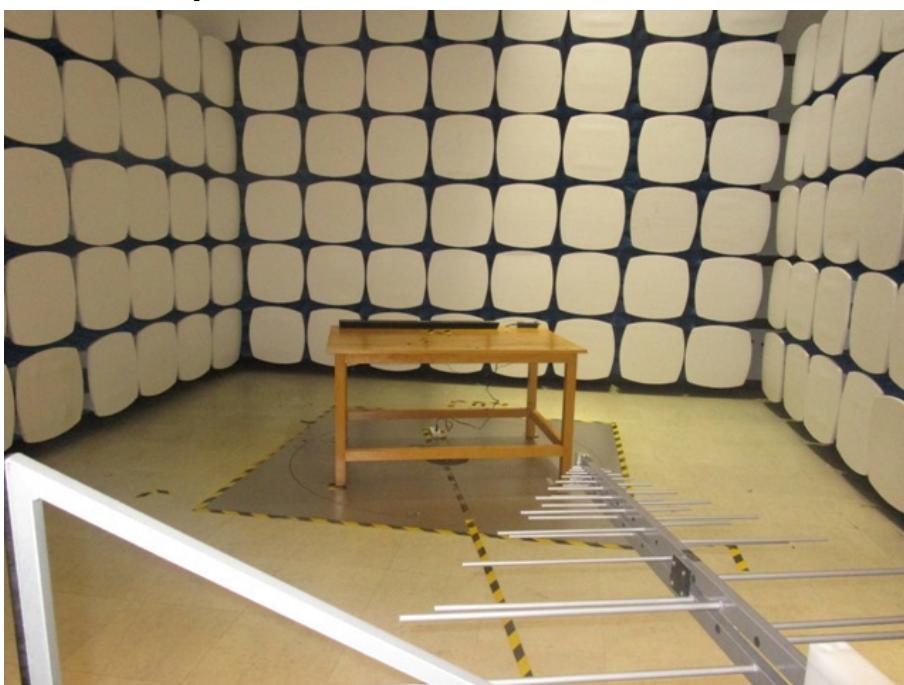
## 7 Photographs - EUT Test Setup

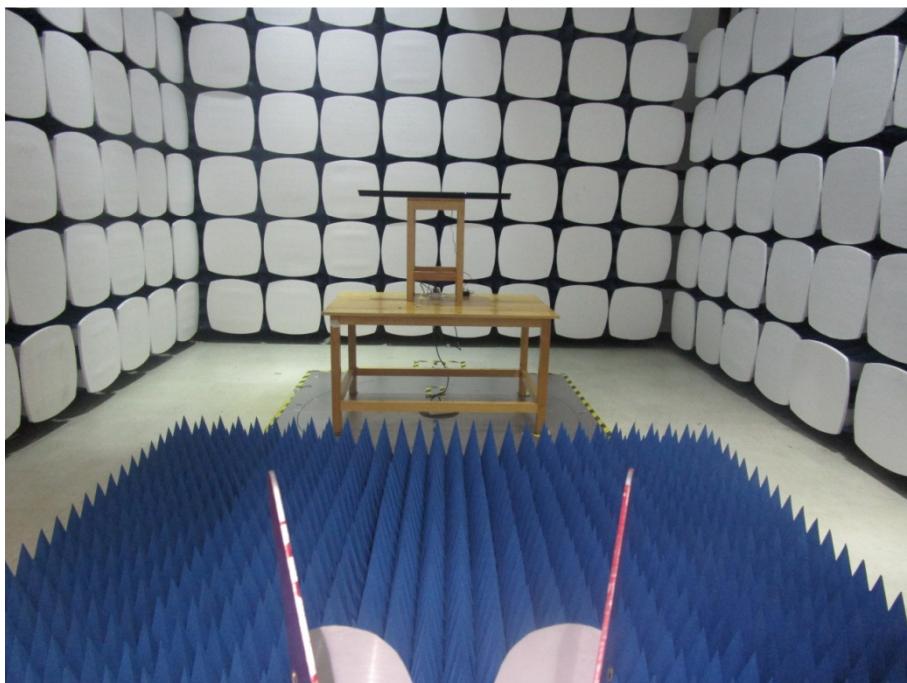
Test model No.: W STUDIO MICRO SOUNDBAR

### 7.1 Conducted Emission



### 7.2 Radiated Spurious Emission





## 8 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1507004544CR.