



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

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

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

Report No.: SZEM160700630905
Page: 1 of 345

FCC REPORT

Application No: SZEM1607006309RG
Applicant: Lenovo (Shanghai) Electronics Technology Co., Ltd.
Manufacturer: Lenovo PC HK Limited
1, Longcheer Electronic (HuiZhou) Co.,Ltd
Factory: 2, Motorola (Wuhan) Mobility Technologies Commuication Co., Ltd
3, LCFC (HEFEI) ELECTRONICS TECHNOLOGY CO LTD
Product Name: Portable Tablet Computer
Model No.(EUT): Lenovo TB-8703F
Trade Mark:: Lenovo
FCC ID: O57TB8703F
Standards: 47 CFR Part 15, Subpart E (2015)
Date of Receipt: 2016-08-14
Date of Test: 2016-08-14 to 2016-08-26
Date of Issue: 2016-09-09

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

Authorized Signature:



Jack Zhang
EMC Laboratory Manager

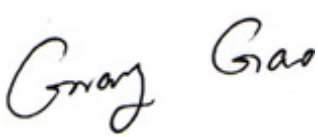
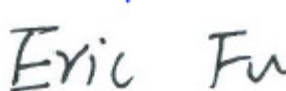
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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2016-09-09		Original

Authorized for issue by:			
Tested By			2016-08-26
	<hr/>		Date
	(Gray Gao) /Project Engineer		
Checked By			2016-09-09
	<hr/>		Date
	(Eric Fu) /Reviewer		



3 Test Summary

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



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5 General Information

5.1 Client Information

Applicant:	Lenovo (Shanghai) Electronics Technology Co., Ltd.
Address of Applicant:	NO.68 BUILDING, 199 FENJU RD, China (Shanghai) Pilot Free Trade Zone, 200131, CHINA
Manufacturer:	Lenovo PC HK Limited
Address of Manufacturer:	Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Factory:	1, Longcheer Electronic (HuiZhou) Co.,Ltd 2, Motorola (Wuhan) Mobility Technologies Commuication Co., Ltd 3, LCFC (HEFEI) ELECTRONICS TECHNOLOGY CO LTD
Address of Factory:	1, No.28, 6th Hechang Road(W), Zhongkai Hi-tech Zone, Huizhou City, Guangdong Province, China 2, No.19, Gaoxin 4th Road, Wuhan East Lake High-tech Zone, Wuhan, China 3, 3188-1 YUNQU RD ECONOMICS & TECHNOLOGY DEVELOPMENT DISTRICT HEFEI ANHUI

5.2 General Description of EUT

Product Name:	Portable Tablet Computer			
Model No.:	Lenovo TB-8703F			
Trade Mark:	Lenovo			
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
* The 5600-5650MHz can not be used.				
Type of Modulation:	IEEE 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11ac: OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)			
Sample Type:	Portable Device			
Antenna Type:	IFA			
Antenna Gain:	5.6dBi			



Power Supply	DC3.8V (1 x 3.8V Rechargeable battery) 4250mAh Battery: Charge by DC 5V
AC adaptor:	Adaptor: Model No.: C-P36 Input: AC100-240V 50/60Hz 0.3A Output:DC5.2V 2.0

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/ac 20MHz	The Lowest channel	5180
	The Middle channel	5220
	The Highest channel	5240
IEEE 802.11n/ac 40MHz	The Lowest channel	5190
	The Highest channel	5230
IEEE 802.11ac 80MHz	The Middle channel	5210

For UNII Band II-A:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5260
	The Middle channel	5280
	The Highest channel	5320
IEEE 802.11n/ac 40MHz	The Lowest channel	5270
	The Highest channel	5310
IEEE 802.11ac 80MHz	The Middle channel	5290



For UNII Band II-C:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5500
	The Middle channel	5580
	The Highest channel	5700
IEEE 802.11n/ac 40MHz	The Lowest channel	5510
	The Middle channel	5550
	The Highest channel	5670
IEEE 802.11ac 80MHz	The Middle channel	5160

For UNII Band III:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5745
	The Middle channel	5785
	The Highest channel	5825
IEEE 802.11n/ac 40MHz	The Lowest channel	5755
	The Highest channel	5795
IEEE 802.11ac 80MHz	The Middle channel	5775



5.3 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
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,
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

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

No tests were sub-contracted.

5.6 Test Facility

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

• **CNAS (No. CNAS L2929)**

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

• **A2LA (Certificate No. 3816.01)**

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

• **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and



Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None

5.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	0.75dB
2	RF power density, conducted	2.84dB
3	Spurious emissions, conducted	0.75dB
4	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-25GHz)
5	Conduct emission test	3.12 dB(9KHz- 30MHz)
6	Temperature test	1°C
7	Humidity test	3%
8	DC and low frequency voltages	0.5%

None.



5.11 Equipment List

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2016-05-13	2017-05-13
2	LISN	Rohde & Schwarz	ENV216	SEM007-01	2015-10-09	2016-10-09
3	LISN	ETS-LINDGREN	3816/2	SEM007-02	2016-04-25	2017-04-25
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	EMC0120	2015-09-28	2016-09-28
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	EMC0121	2015-09-28	2016-09-28
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2015-09-28	2016-09-28
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2016-04-25	2017-04-25
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2015-10-09	2016-10-09

RF connected test						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2015-10-09	2016-10-09
2	Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2015-10-17	2016-10-17
3	Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2016-04-25	2017-04-25
4	Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2015-10-09	2016-10-09




RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2016-05-13	2017-05-13
2	EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2015-09-16	2016-09-16
3	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2014-11-01	2017-11-01
4	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEM003-11	2015-10-17	2018-10-17
5	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEM003-12	2014-11-24	2017-11-24
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2016-04-25	2017-04-25
7	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2015-10-09	2016-10-09
9	Loop Antenna	Beijing Daze	ZN30401	SEM003-09	2015-05-13	2018-05-13

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2016-05-13	2017-05-13
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEM004-04	2016-04-25	2017-04-25
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2014-11-15	2017-11-15
4	Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2015-10-09	2016-10-09
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
6	Low Noise Amplifier	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2015-10-09	2016-10-09
7	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A

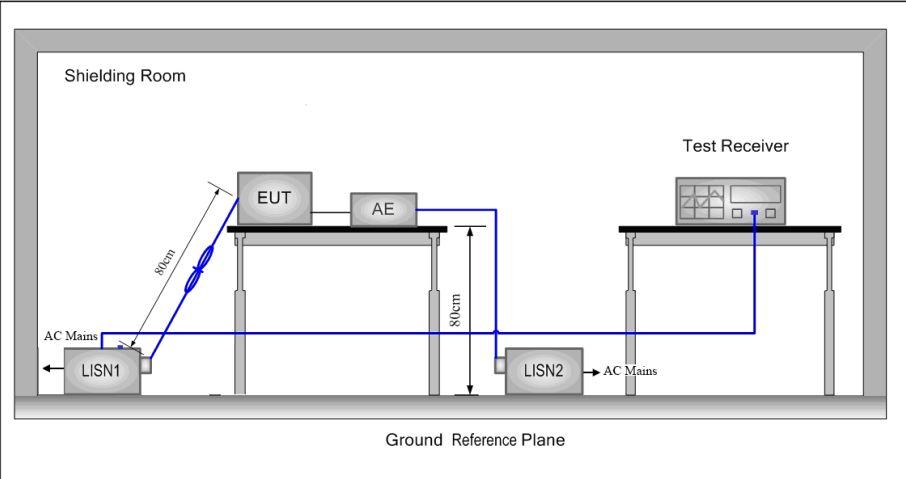
Note: The calibration interval is one year, all the instruments are valid.

6 Test results and Measurement Data

6.1 Antenna Requirement

Test Requirement:	47 CFR Part 15 Section 15.203
EUT Antenna:	
<p>The antenna is integrated antenna and no consideration of replacement. The best case gain of the antenna is 5.6dBi.</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:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	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
	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:	<ol style="list-style-type: none"> 1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 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.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

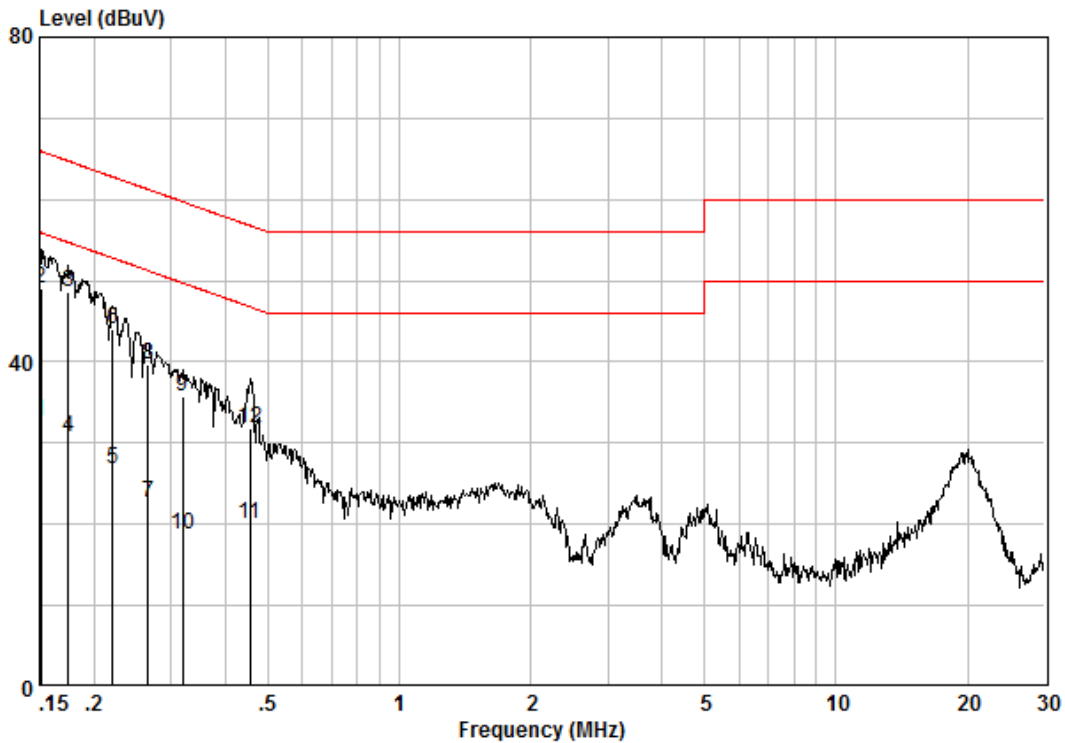
Measurement Data

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:

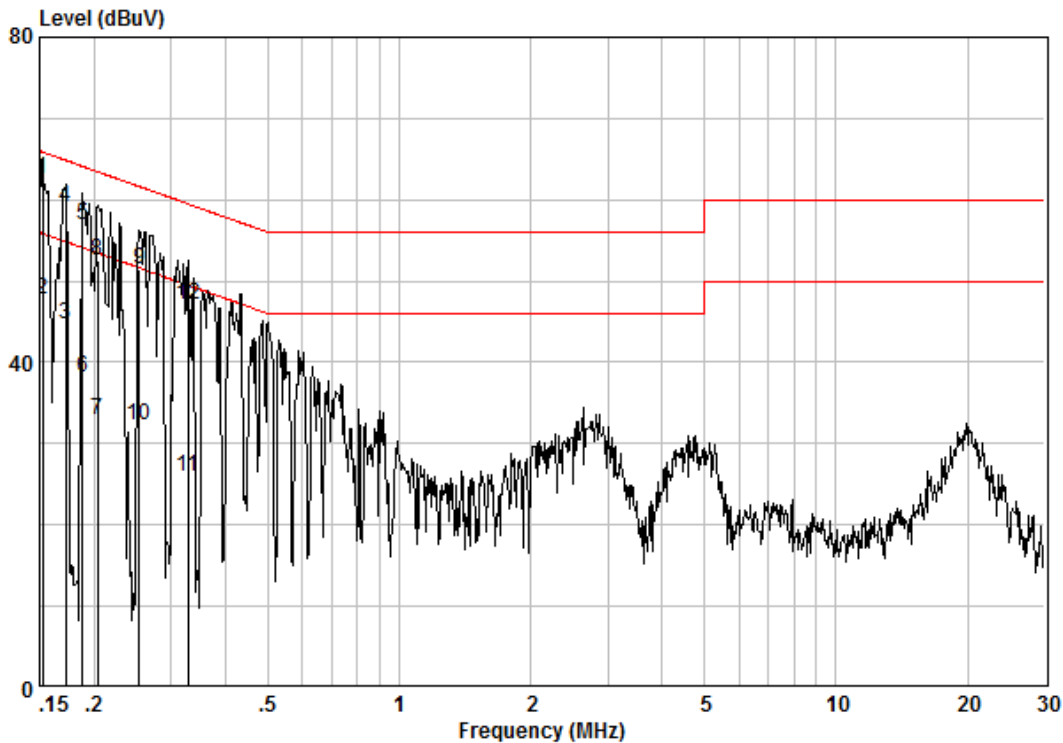


Site : Shielding Room
Condition : CE LINE
Job No. : 6309RG
Test Mode : 1

	Freq	Cable Loss	LISN Factor	Read Level	Level	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.15080	0.02	9.59	22.99	32.60	-23.36	AVERAGE
2	0.15080	0.02	9.59	39.33	48.94	-17.02	QP
3	0.17491	0.02	9.60	38.95	48.57	-16.16	QP
4	0.17491	0.02	9.60	21.03	30.65	-24.07	AVERAGE
5	0.22083	0.02	9.60	17.29	26.91	-25.88	AVERAGE
6	0.22083	0.02	9.60	34.33	43.95	-18.84	QP
7	0.26583	0.02	9.60	13.13	22.75	-28.50	AVERAGE
8	0.26583	0.02	9.60	30.09	39.71	-21.54	QP
9	0.31830	0.02	9.59	26.04	35.65	-24.10	QP
10	0.31830	0.02	9.59	9.12	18.73	-31.02	AVERAGE
11	0.45395	0.02	9.59	10.37	19.98	-26.82	AVERAGE
12	0.45395	0.02	9.59	22.28	31.90	-24.91	QP



Neutral Line:



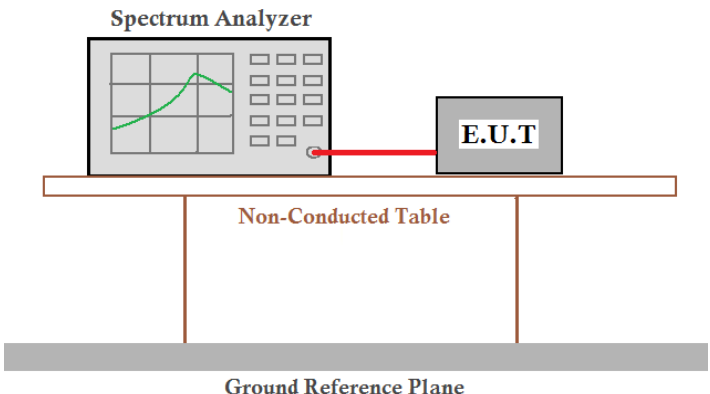
Site : Shielding Room
Condition : CE NEUTRAL
Job No. : 6309RG
Test Mode : 1

	Freq	Cable Loss	LISN Factor	Read Level	Over Level	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1 @	0.15240	0.02	9.62	52.91	62.55	-3.32	QP
2	0.15240	0.02	9.62	38.20	47.84	-8.03	AVERAGE
3	0.17215	0.02	9.60	35.03	44.65	-10.20	AVERAGE
4	0.17215	0.02	9.60	49.34	58.97	-5.89	QP
5	0.18838	0.02	9.61	47.23	56.87	-7.24	QP
6	0.18838	0.02	9.61	28.59	38.22	-15.88	AVERAGE
7	0.20396	0.02	9.62	23.36	33.00	-20.45	AVERAGE
8	0.20396	0.02	9.62	42.86	52.50	-10.95	QP
9	0.25345	0.02	9.61	41.90	51.53	-10.12	QP
10	0.25345	0.02	9.61	22.67	32.31	-19.34	AVERAGE
11	0.32858	0.02	9.62	16.32	25.96	-23.53	AVERAGE
12	0.32858	0.02	9.62	37.42	47.06	-12.42	QP

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><i>Remark:</i> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>	
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCSO of rate is the worst case of 802.11n(HT20); MCSO of rate is the worst case of 802.11n(HT40); MCSO of rate is the worst case of 802.11ac(HT20); MCSO of rate is the worst case of 802.11ac(HT40); MCSO of rate is the worst case of 802.11ac(HT80) 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:

802.11a mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	13.28	24.00	Pass
5220	13.10	24.00	Pass
5240	12.00	24.00	Pass
5260	13.29	24.00	Pass
5300	12.72	24.00	Pass
5320	12.71	24.00	Pass
5500	10.76	24.00	Pass
5580	11.85	24.00	Pass
5600	12.32	24.00	Pass
5700	10.87	24.00	Pass
5745	10.58	30.00	Pass
5785	9.78	30.00	Pass
5825	9.82	30.00	Pass

802.11n(HT20) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	11.95	24.00	Pass
5220	12.24	24.00	Pass
5240	12.37	24.00	Pass
5260	11.96	24.00	Pass
5300	12.86	24.00	Pass
5320	12.85	24.00	Pass
5500	10.92	24.00	Pass
5580	11.75	24.00	Pass
5600	12.17	24.00	Pass
5700	10.64	24.00	Pass
5745	9.77	30.00	Pass
5785	9.71	30.00	Pass
5825	9.81	30.00	Pass



802.11ac(HT20) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5180	12.04	24.00	Pass
5220	12.17	24.00	Pass
5240	12.26	24.00	Pass
5260	11.91	24.00	Pass
5300	12.56	24.00	Pass
5320	12.37	24.00	Pass
5500	10.77	24.00	Pass
5580	11.90	24.00	Pass
5600	12.30	24.00	Pass
5700	10.85	24.00	Pass
5745	9.94	30.00	Pass
5785	9.66	30.00	Pass
5825	9.80	30.00	Pass

802.11n(40) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5190	12.82	24.00	Pass
5230	13.06	24.00	Pass
5270	13.24	24.00	Pass
5310	13.88	24.00	Pass
5510	11.89	24.00	Pass
5500	12.49	24.00	Pass
5590	13.24	24.00	Pass
5670	12.84	24.00	Pass
5755	10.94	30.00	Pass
5795	10.83	30.00	Pass



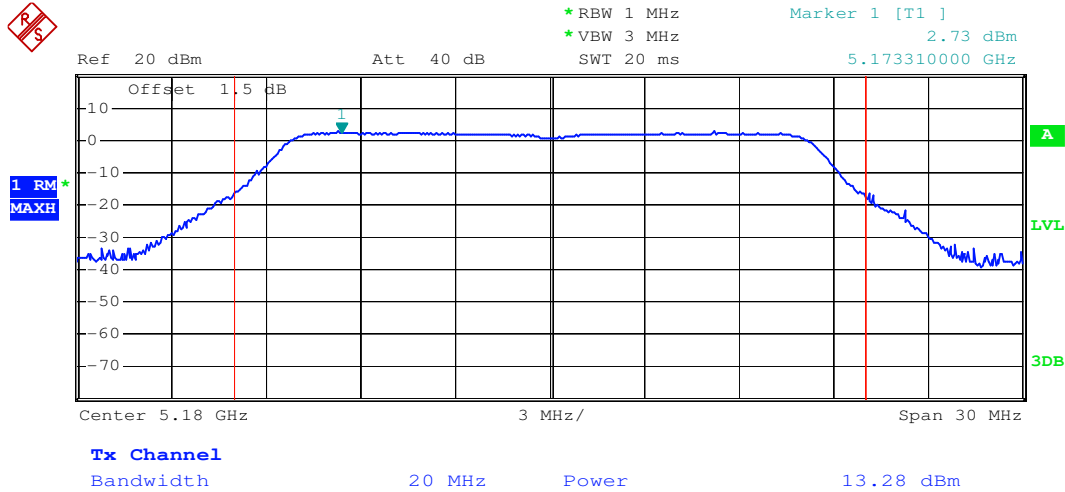
802.11ac(40) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5190	12.84	24.00	Pass
5230	12.91	24.00	Pass
5270	13.10	24.00	Pass
5310	13.64	24.00	Pass
5510	12.03	24.00	Pass
5550	12.35	24.00	Pass
5590	13.33	24.00	Pass
5670	12.95	24.00	Pass
5755	10.73	30.00	Pass
5795	10.82	30.00	Pass

802.11ac(80) mode			
Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
5120	12.06	24.00	Pass
5290	12.44	24.00	Pass
5530	11.34	24.00	Pass
5610	12.52	24.00	Pass
5775	9.72	24.00	Pass

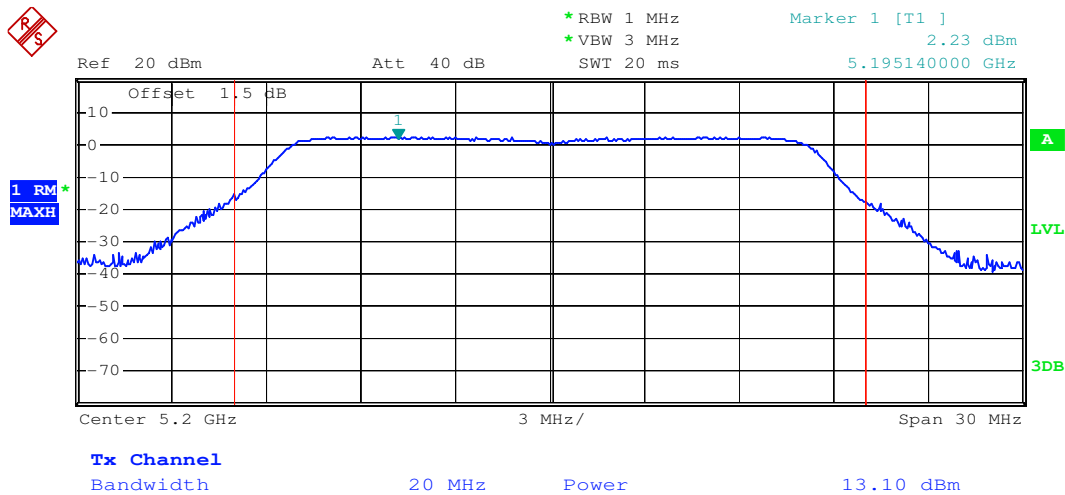


Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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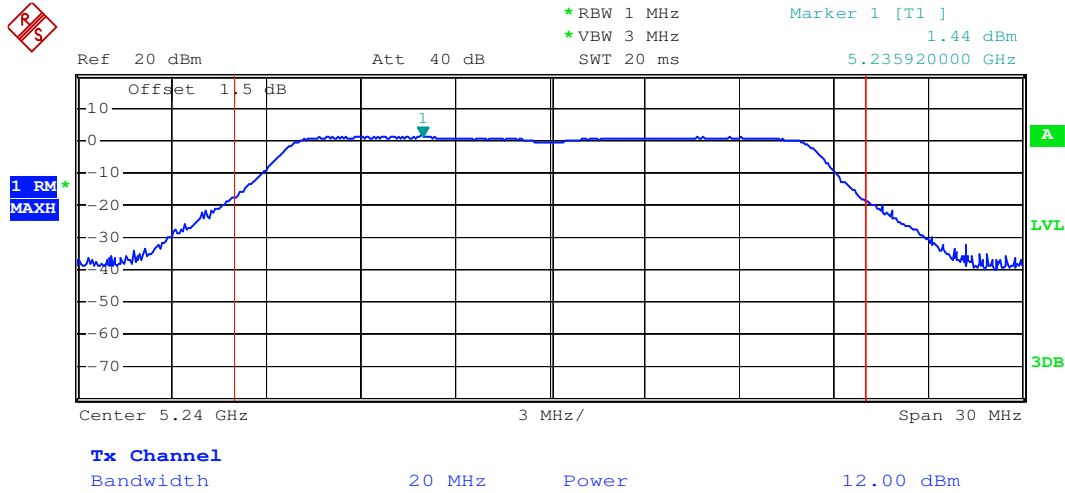


Test mode:	802.11a	Frequency(MHz):	5220
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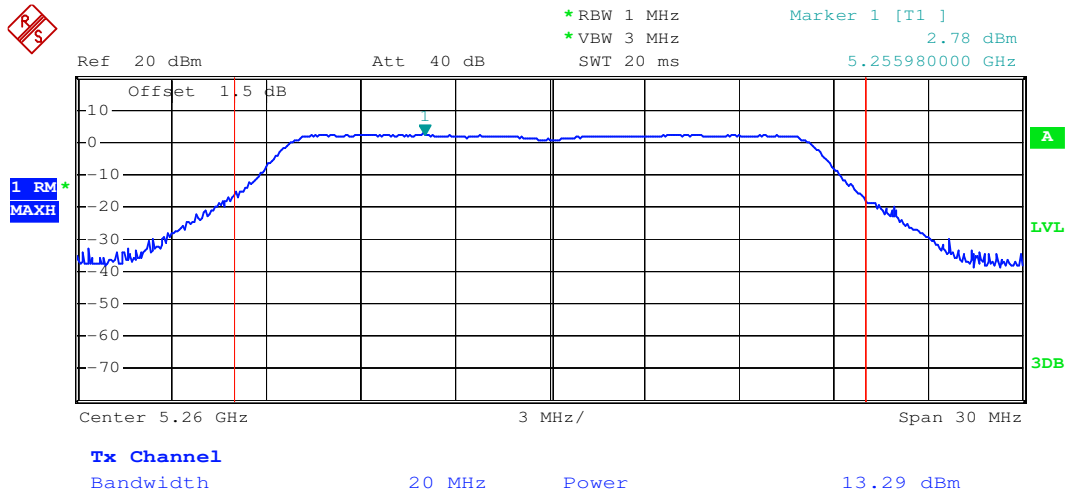




Test mode:	802.11a	Frequency(MHz):	5240
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Test mode:	802.11a	Frequency(MHz):	5260
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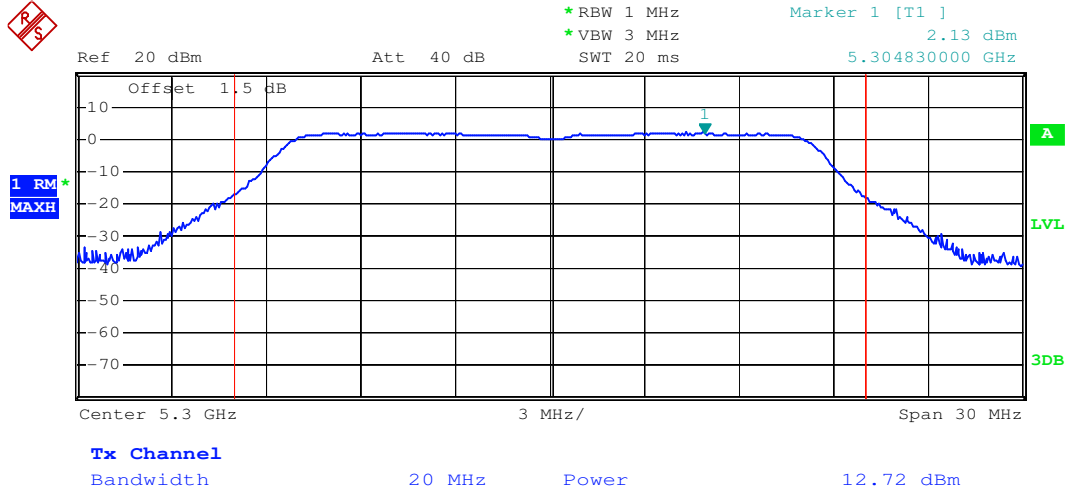


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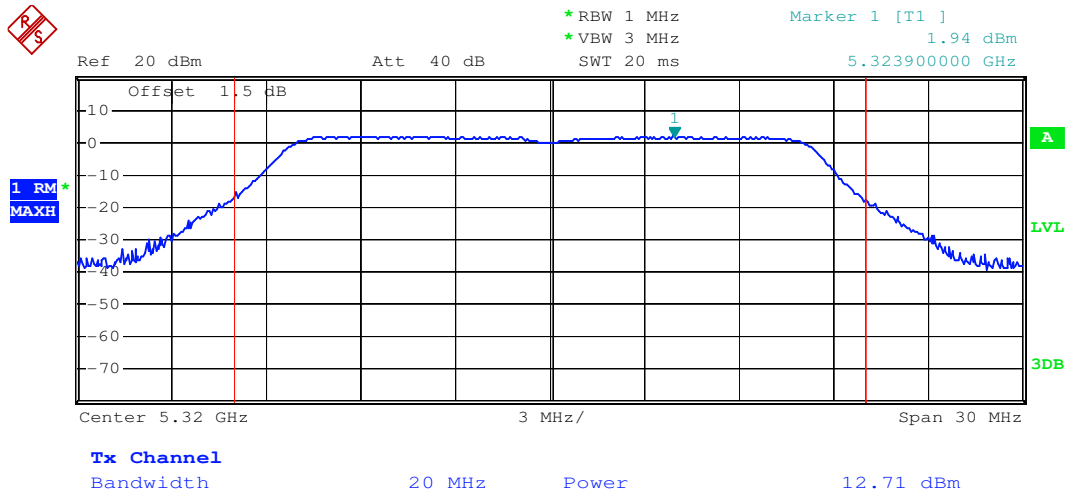
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Test mode:	802.11a	Frequency(MHz):	5300
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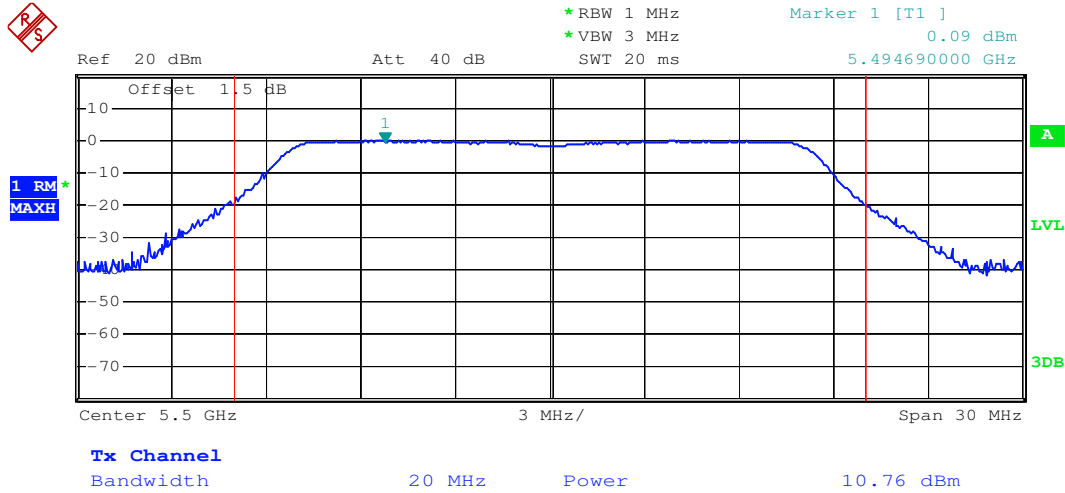


Test mode:	802.11a	Frequency(MHz):	5320
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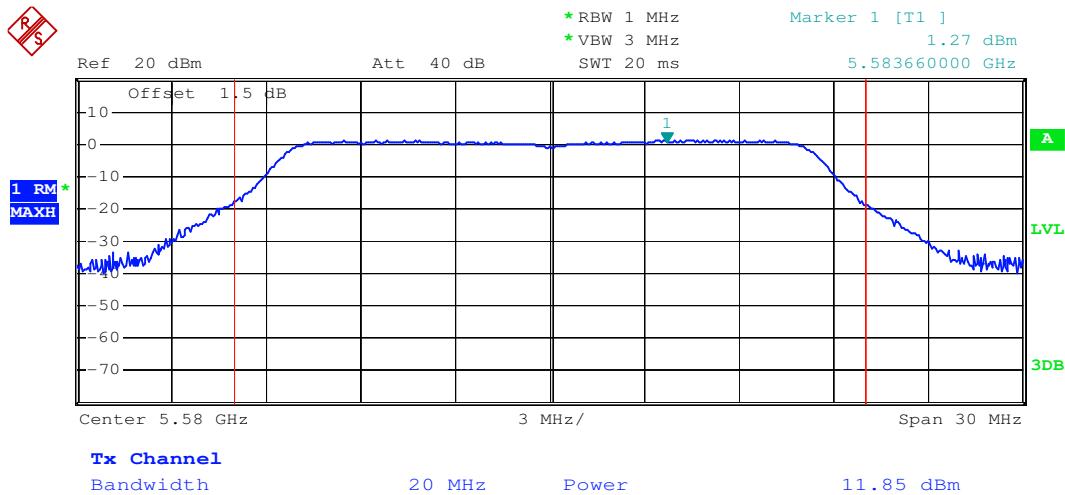




Test mode:	802.11a	Frequency(MHz):	5500
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Test mode:	802.11a	Frequency(MHz):	5580
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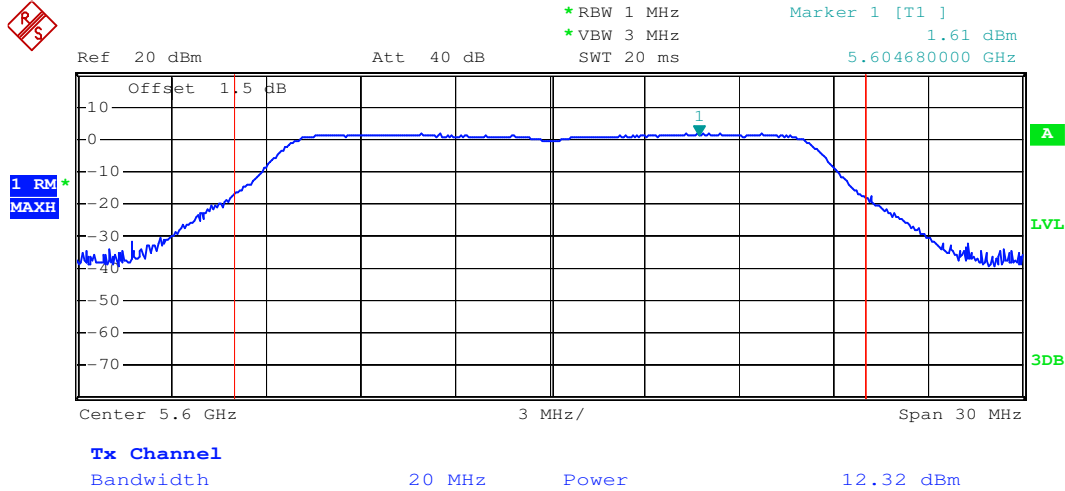


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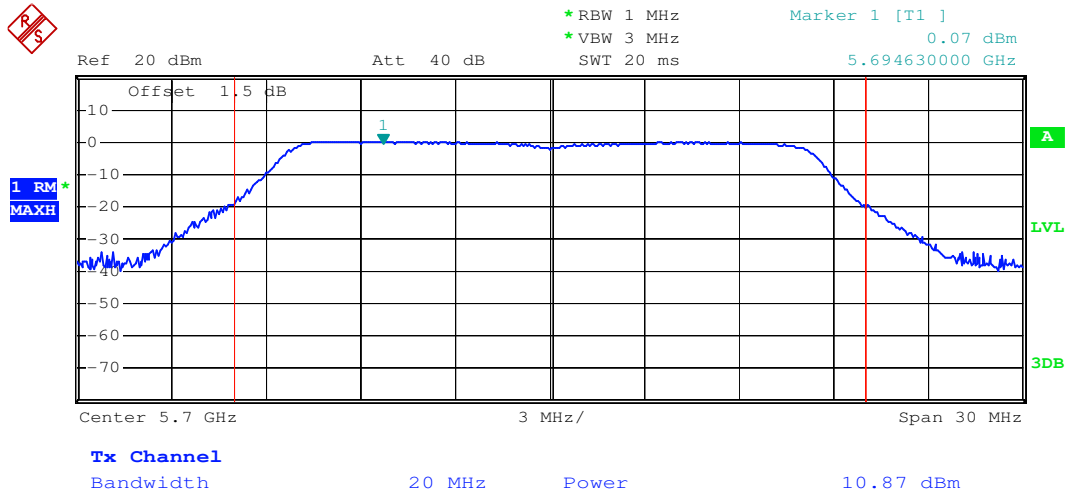
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Test mode:	802.11a	Frequency(MHz):	5600
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Test mode:	802.11a	Frequency(MHz):	5700
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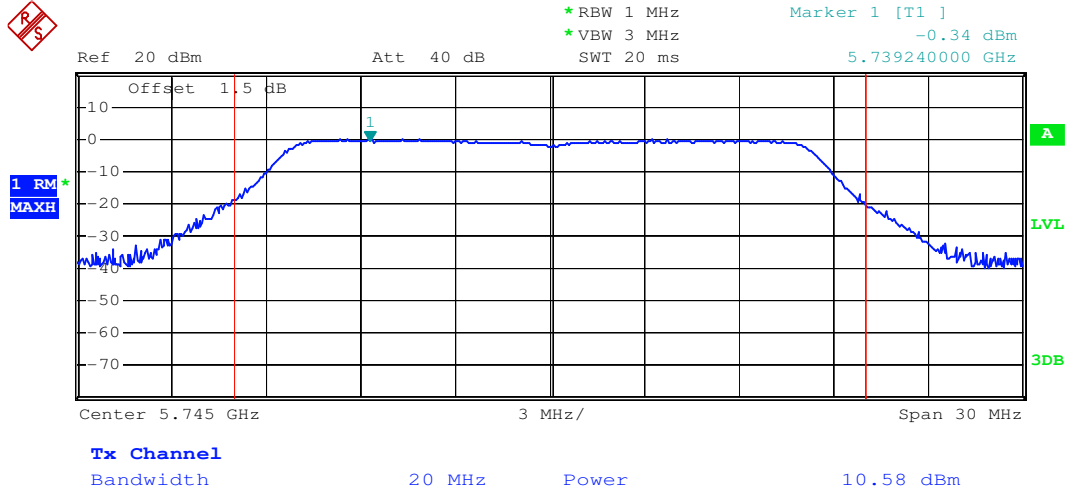


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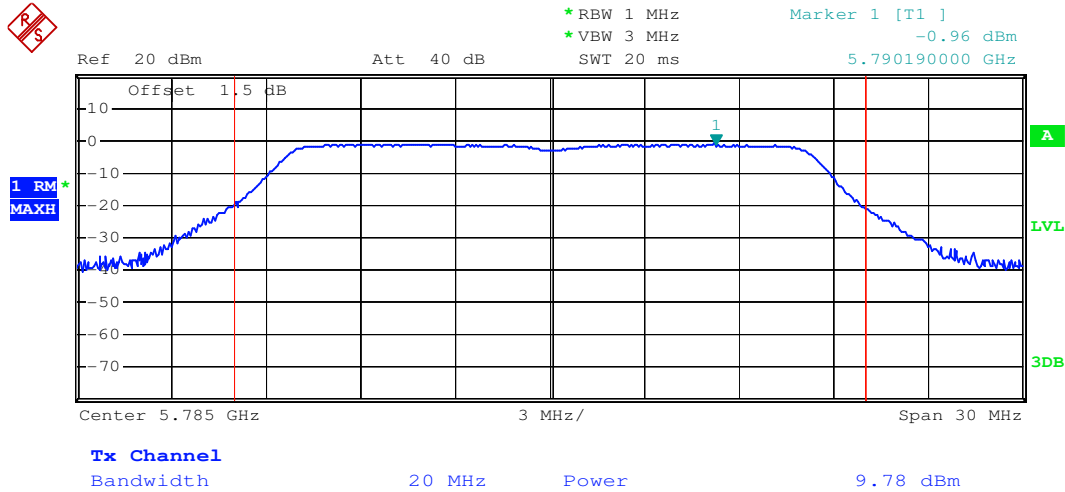
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Test mode:	802.11a	Frequency(MHz):	5745
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Test mode:	802.11a	Frequency(MHz):	5785
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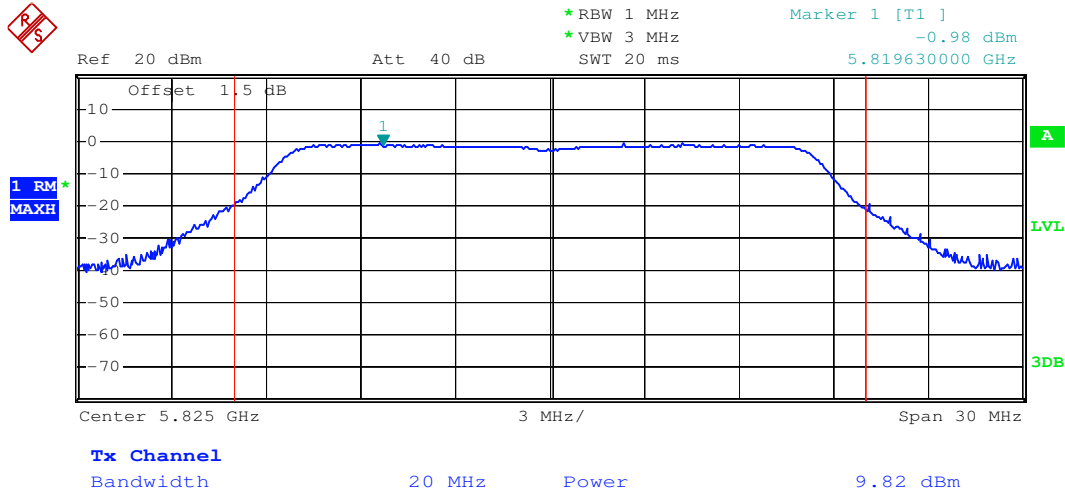


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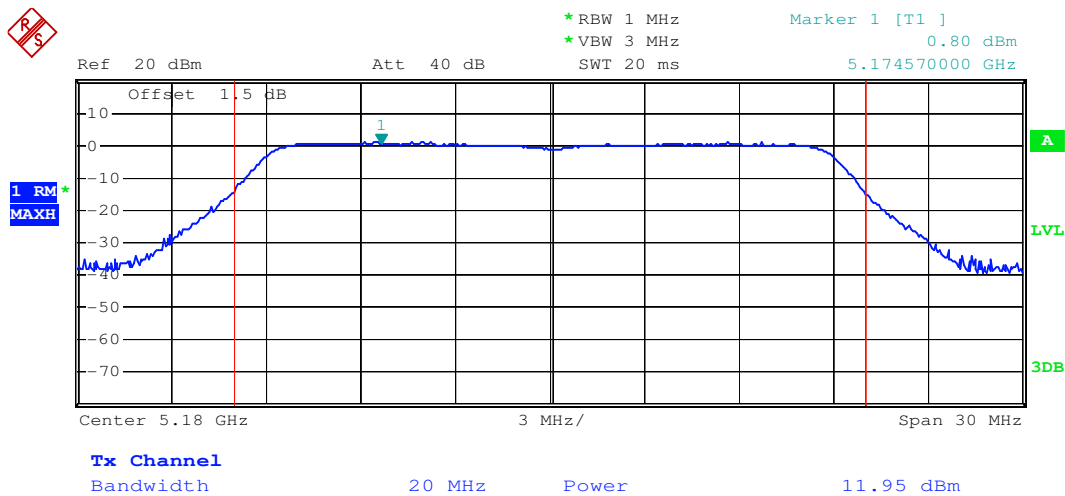
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Test mode:	802.11a	Frequency(MHz):	5825
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Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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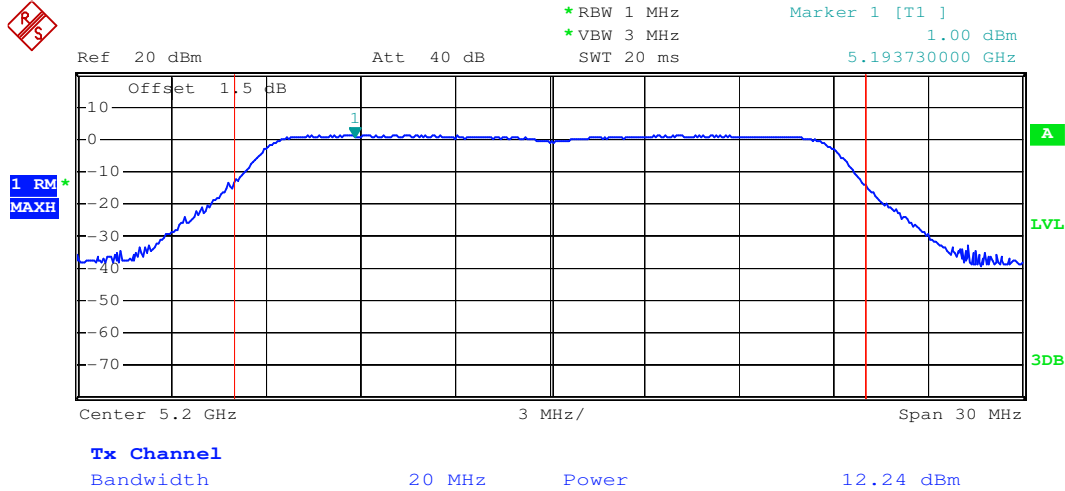


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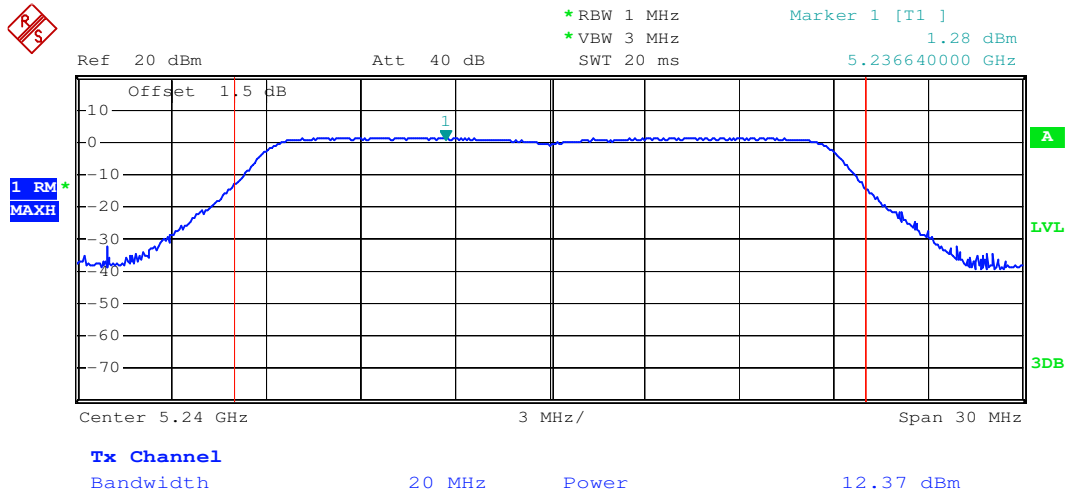
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Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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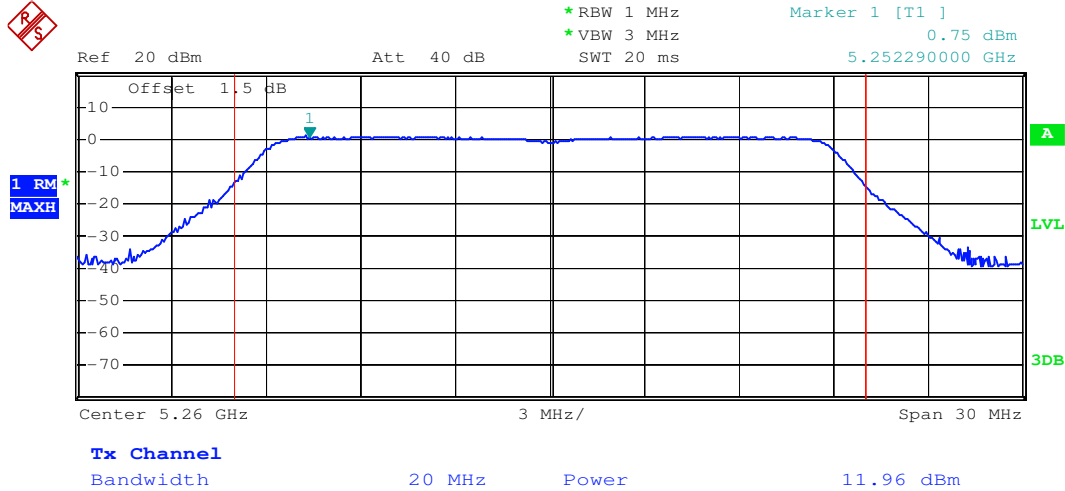


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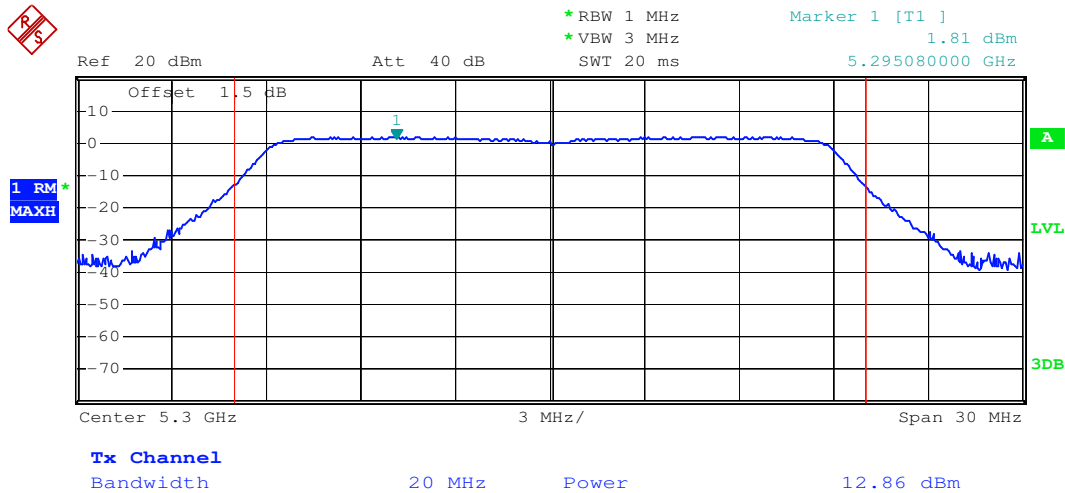
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Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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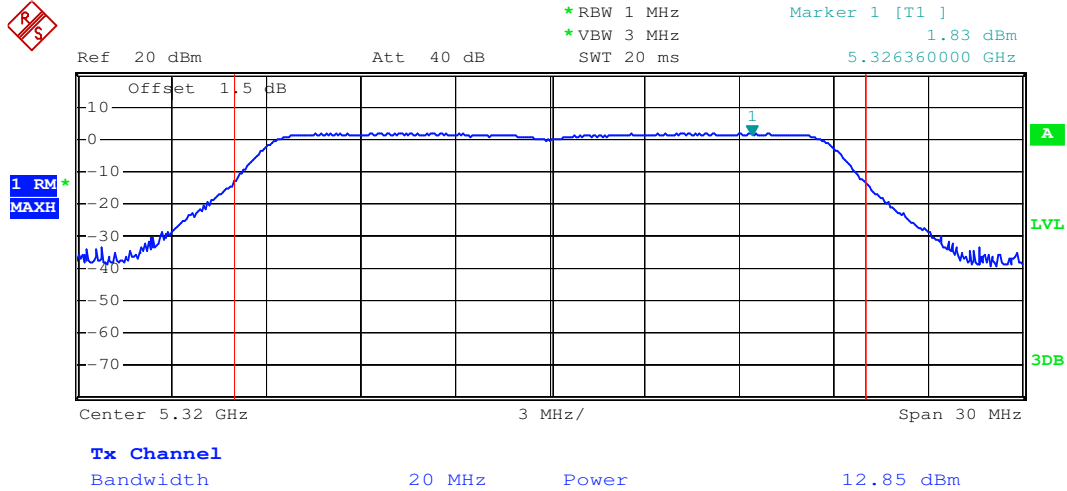


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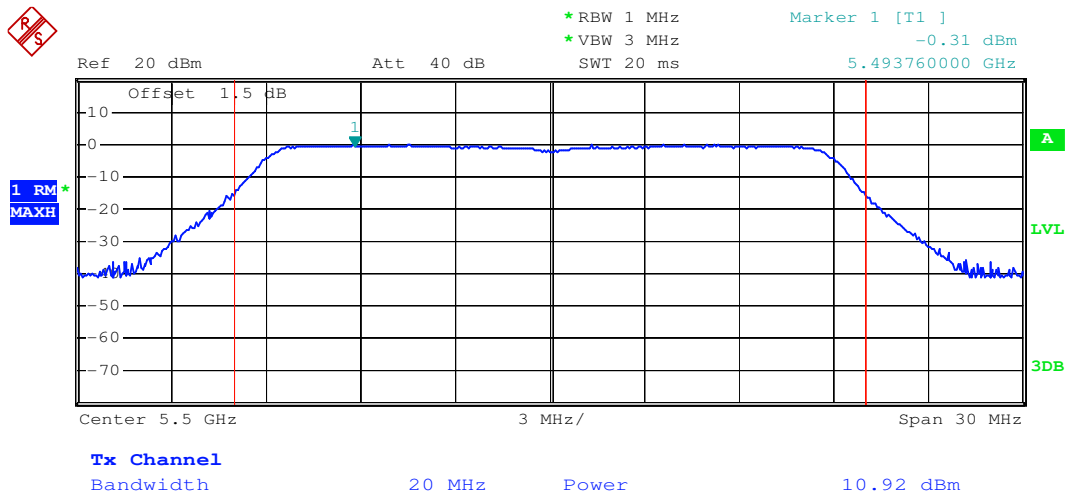
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Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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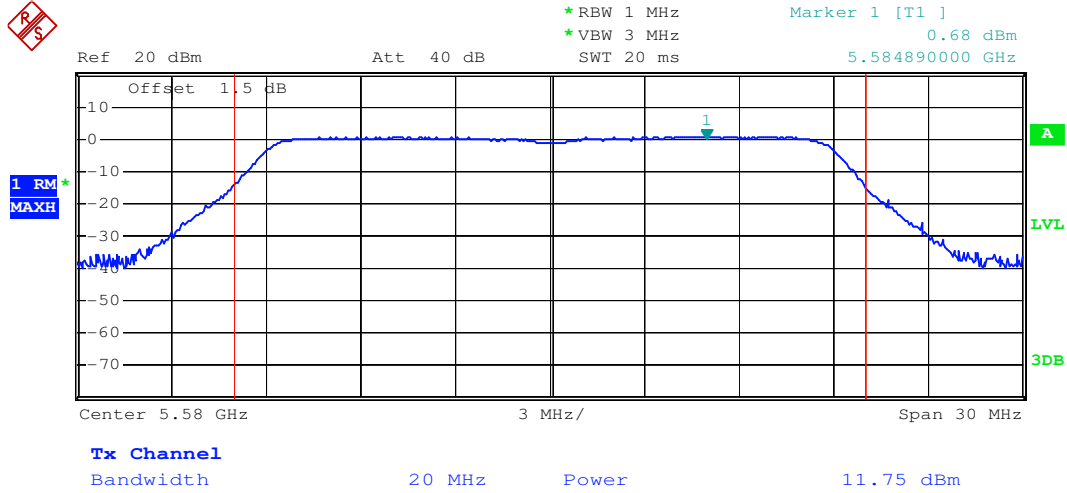


Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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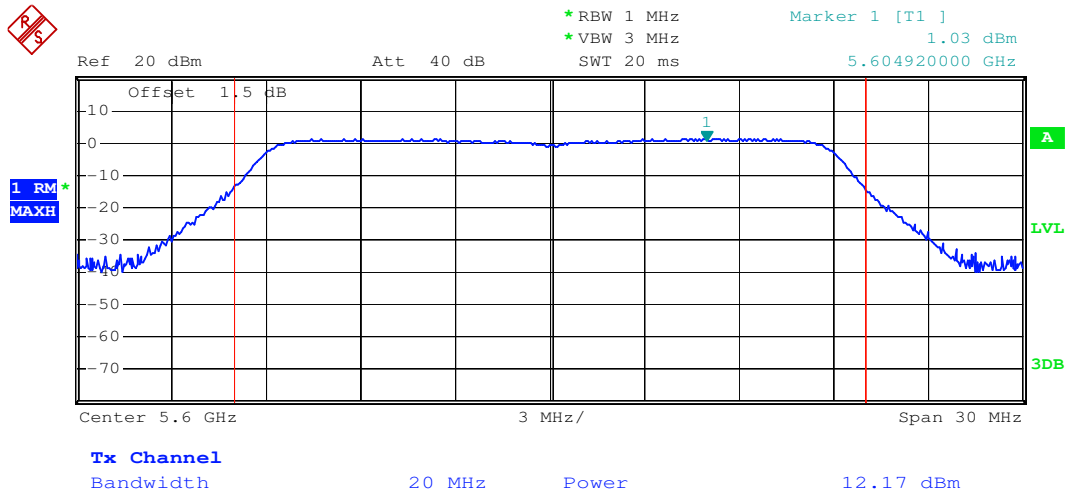




Test mode:	802.11n(HT20)	Frequency(MHz):	5580
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Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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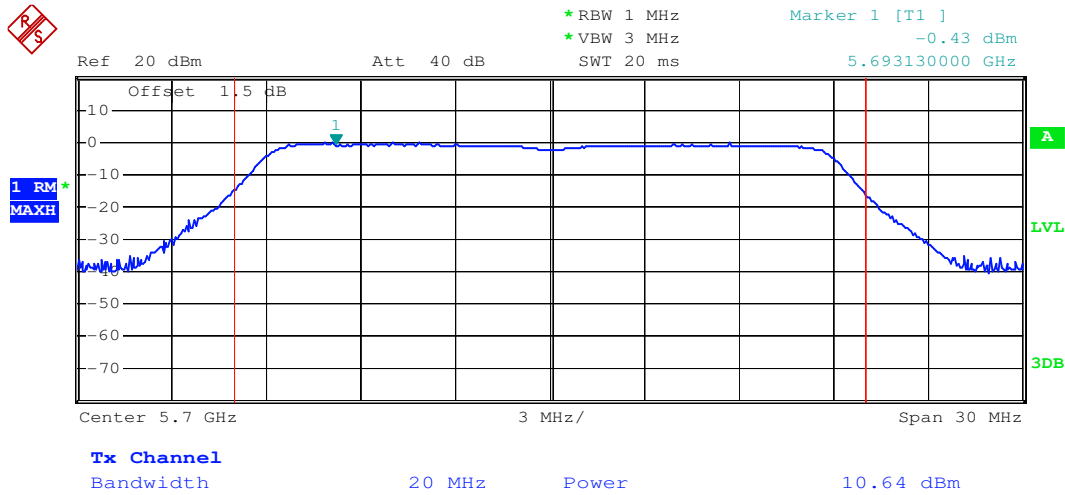


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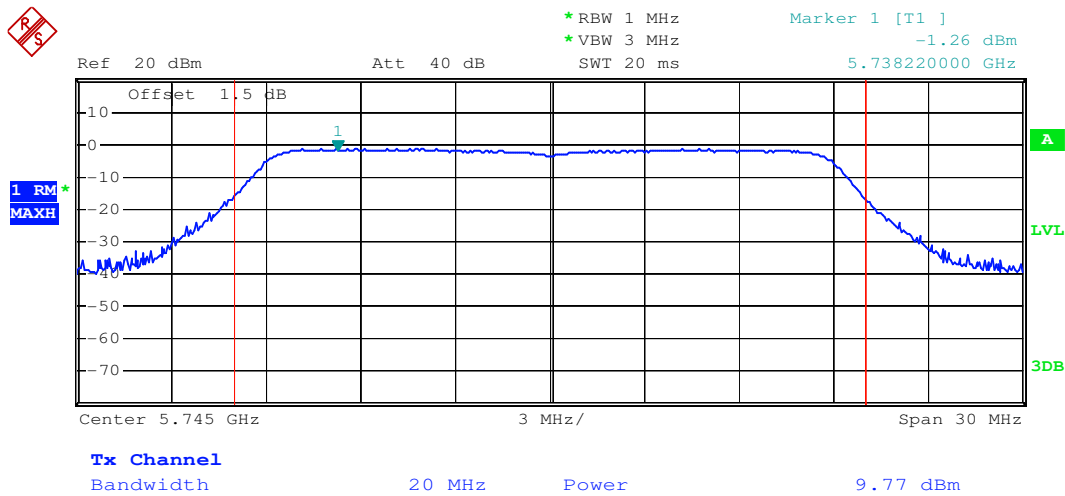
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Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Test mode:	802.11n(HT20)	Frequency(MHz):	5745
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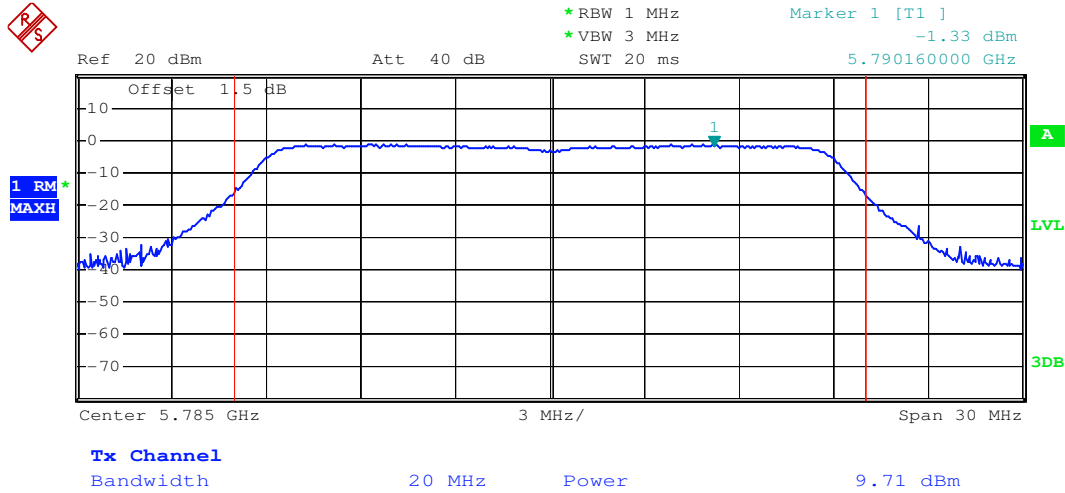


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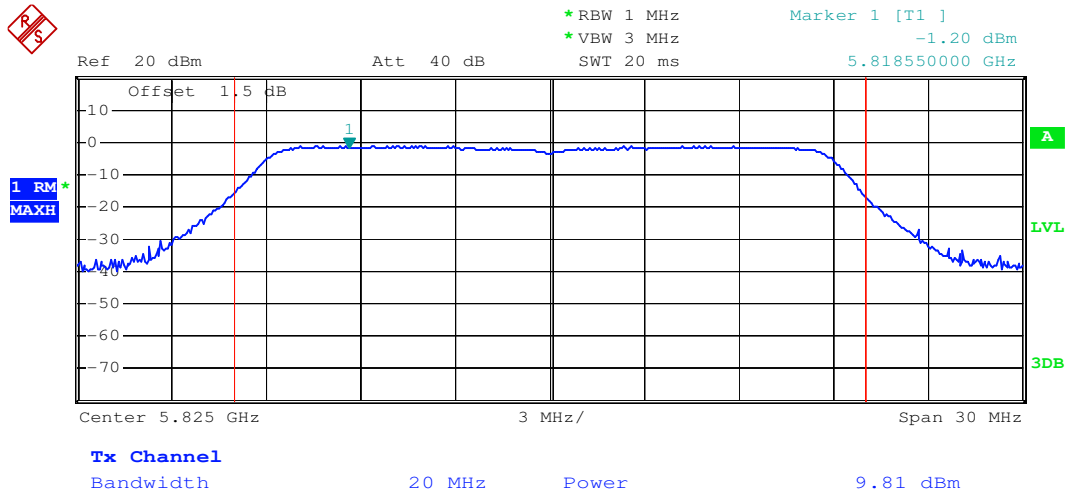
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Test mode:	802.11n(HT20)	Frequency(MHz):	5785
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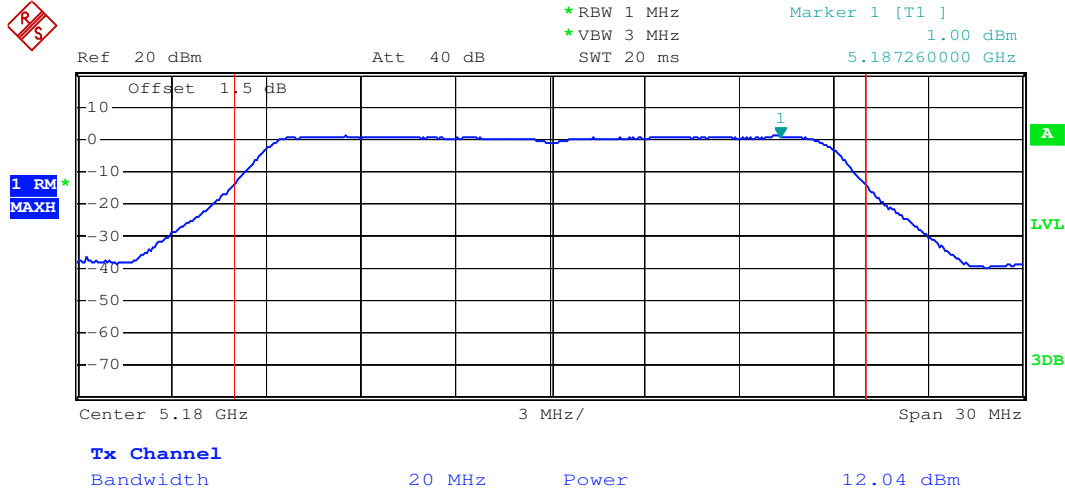


Test mode:	802.11n(HT20)	Frequency(MHz):	5825
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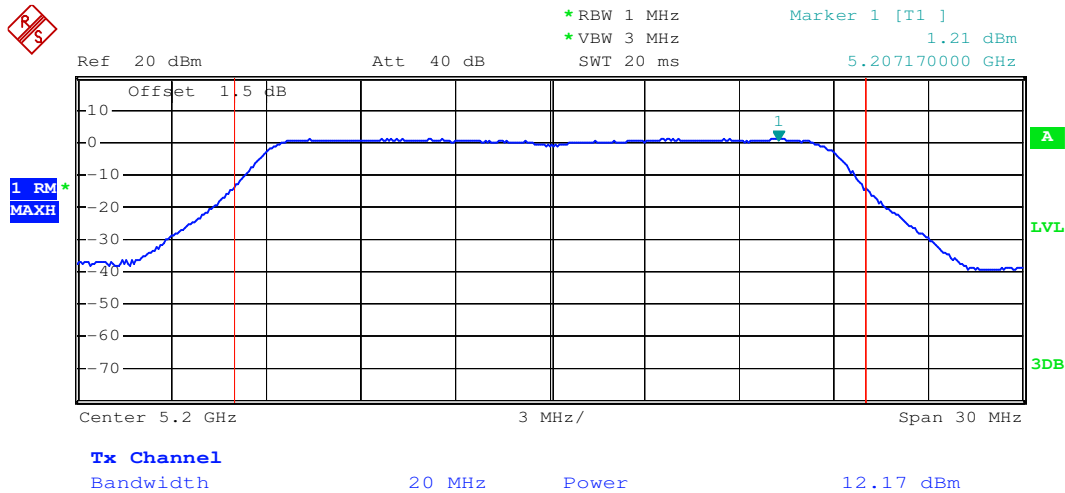




Test mode:	802.11ac(HT20)	Frequency(MHz):	5180
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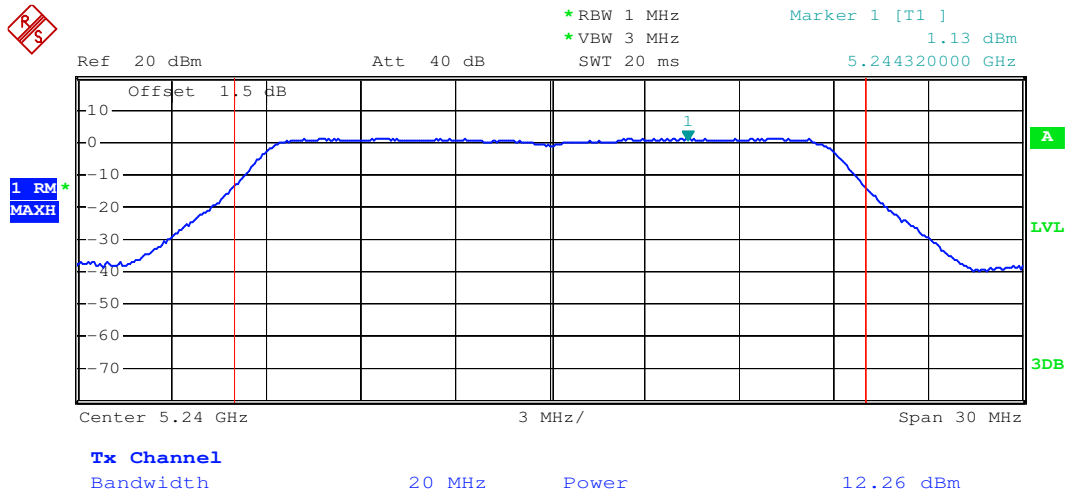


Test mode:	802.11ac(HT20)	Frequency(MHz):	5220
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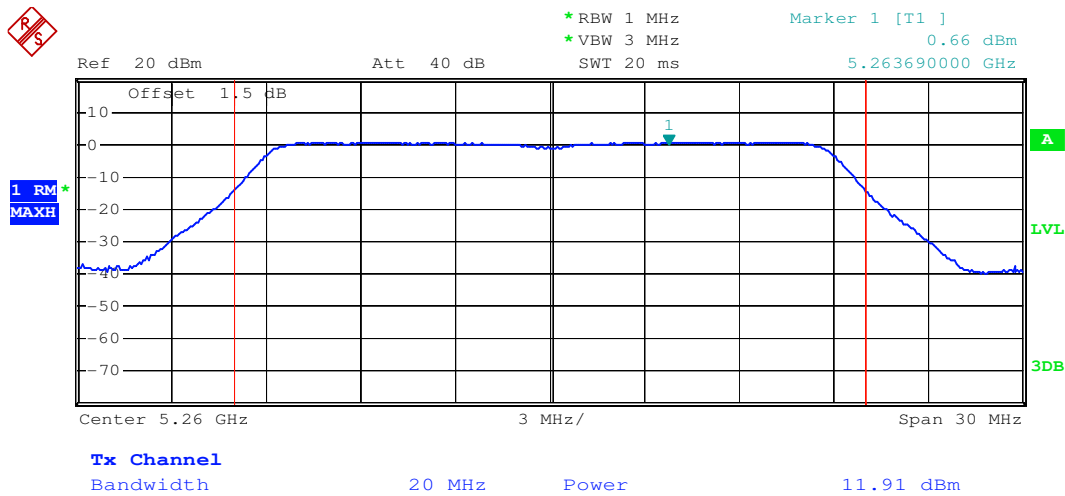




Test mode:	802.11ac(HT20)	Frequency(MHz):	5240
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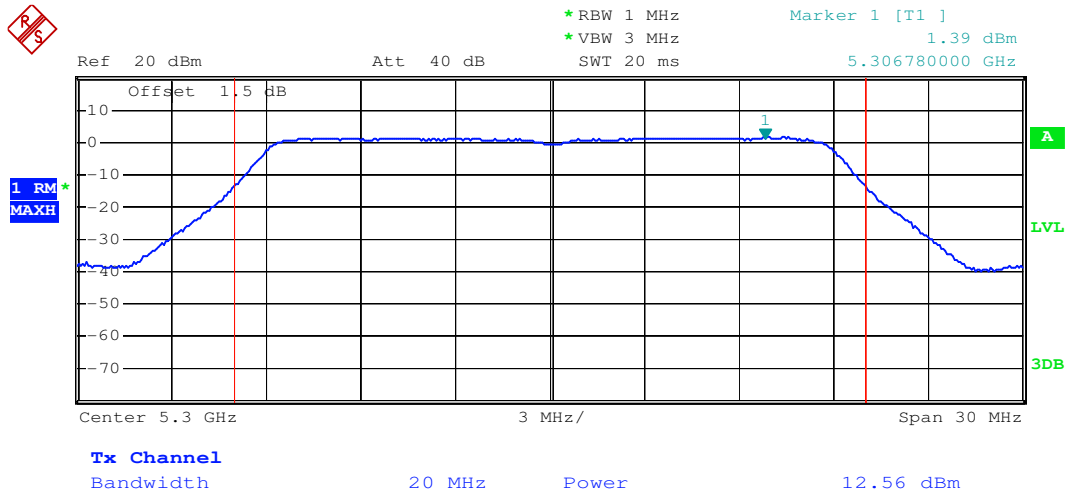


Test mode:	802.11ac(HT20)	Frequency(MHz):	5260
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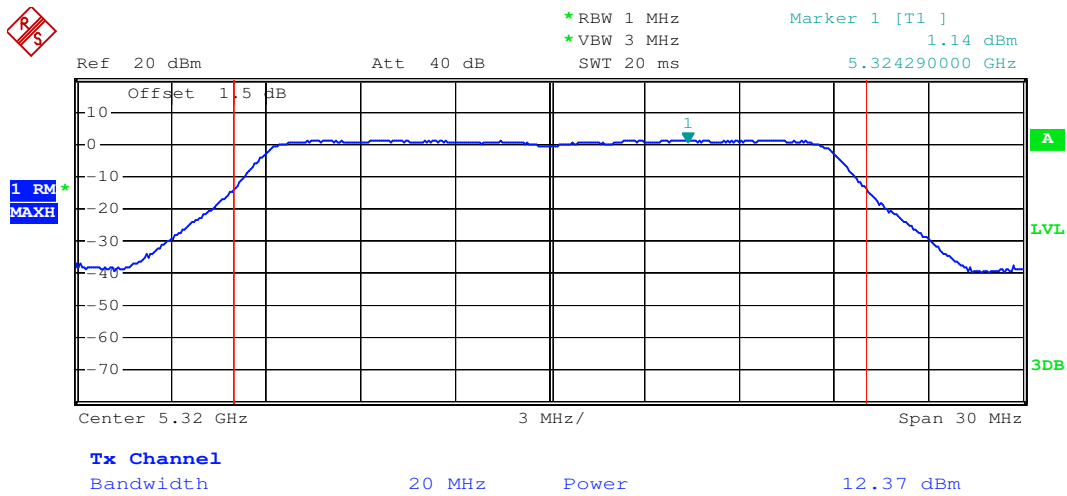




Test mode:	802.11ac(HT20)	Frequency(MHz):	5300
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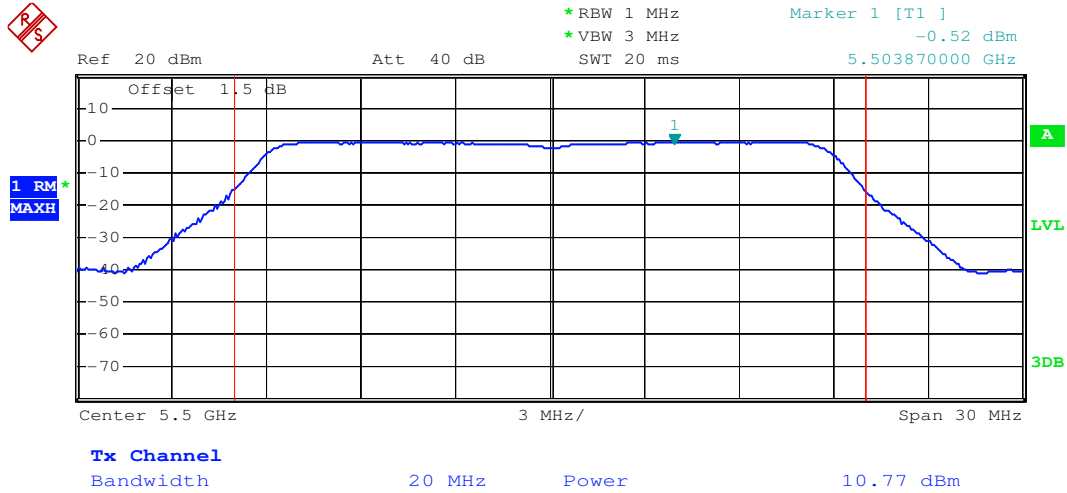


Test mode:	802.11ac(HT20)	Frequency(MHz):	5320
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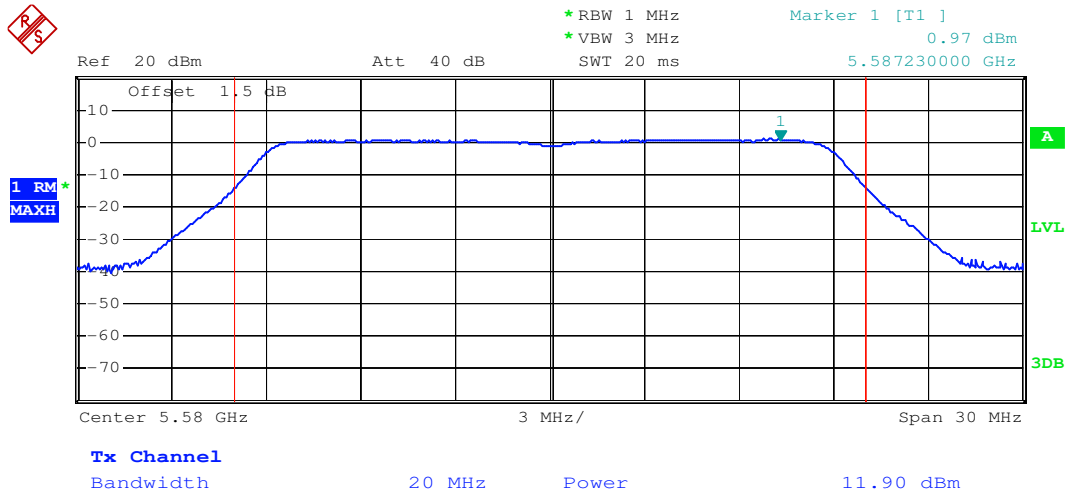




Test mode:	802.11ac(HT20)	Frequency(MHz):	5500
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5580
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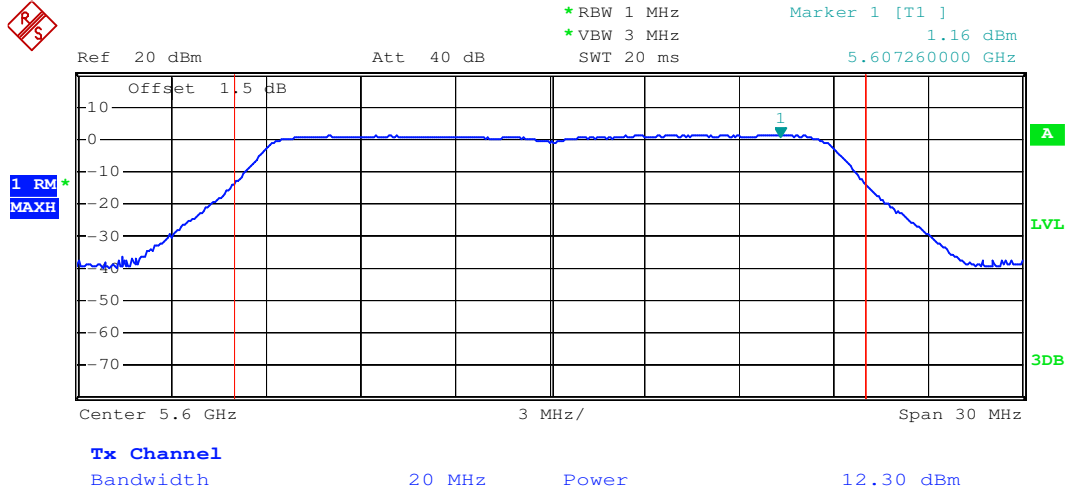


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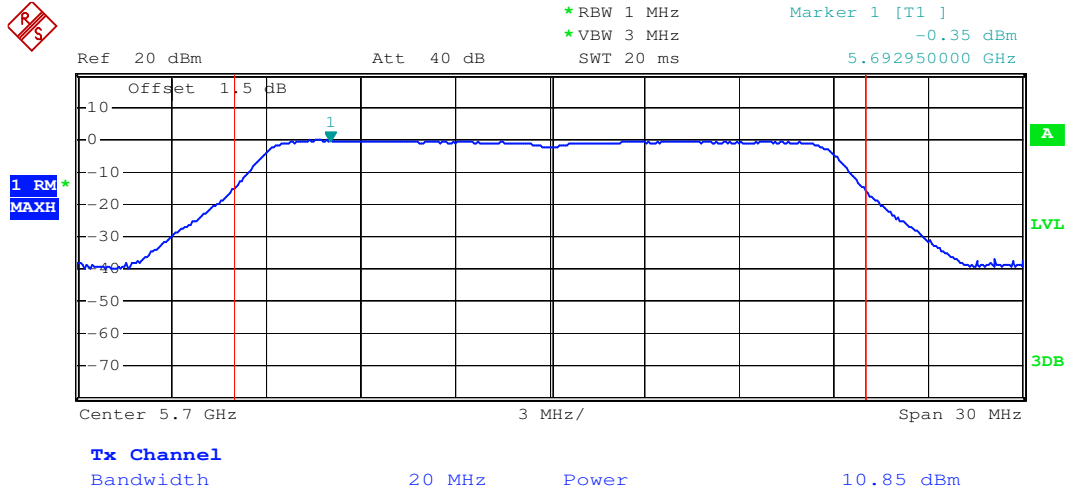
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5600
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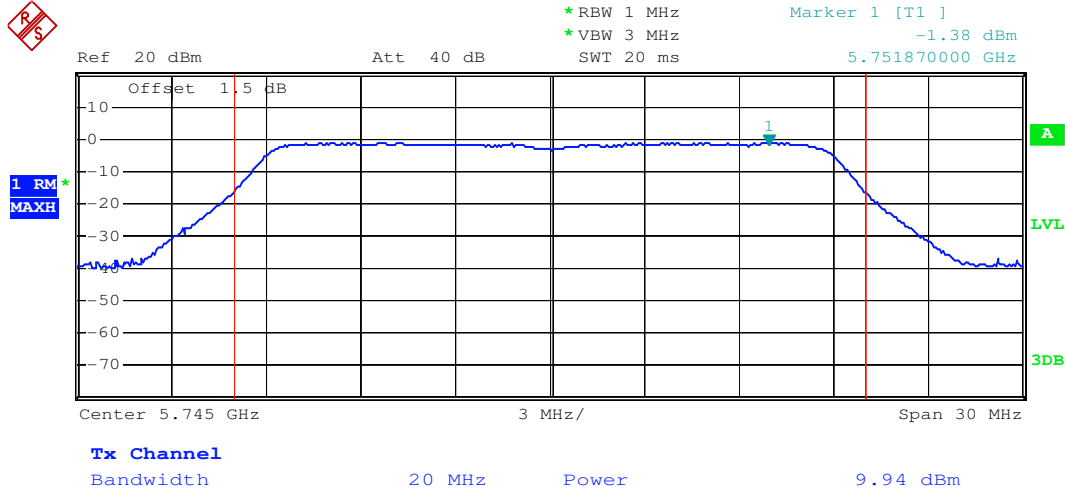


Test mode:	802.11ac(HT20)	Frequency(MHz):	5700
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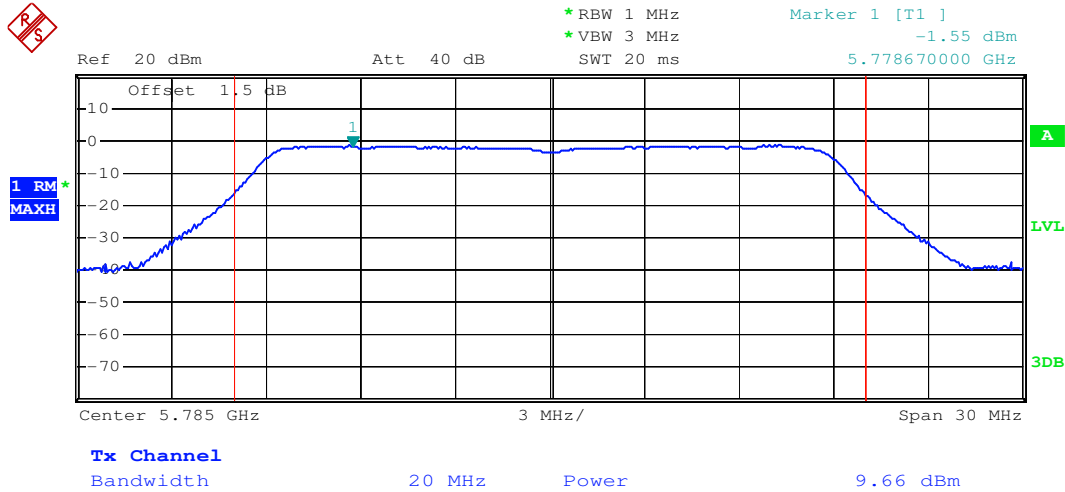




Test mode:	802.11ac(HT20)	Frequency(MHz):	5745
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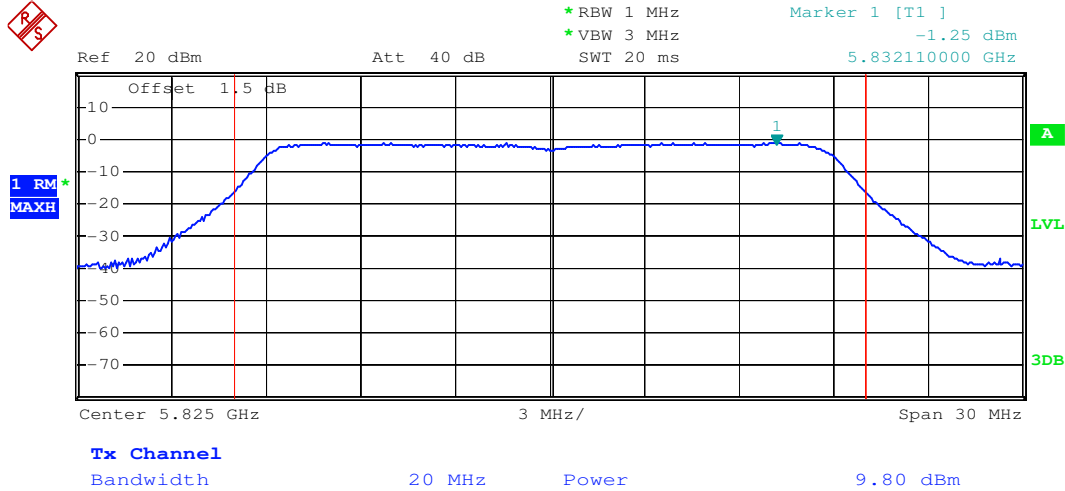


Test mode:	802.11ac(HT20)	Frequency(MHz):	5785
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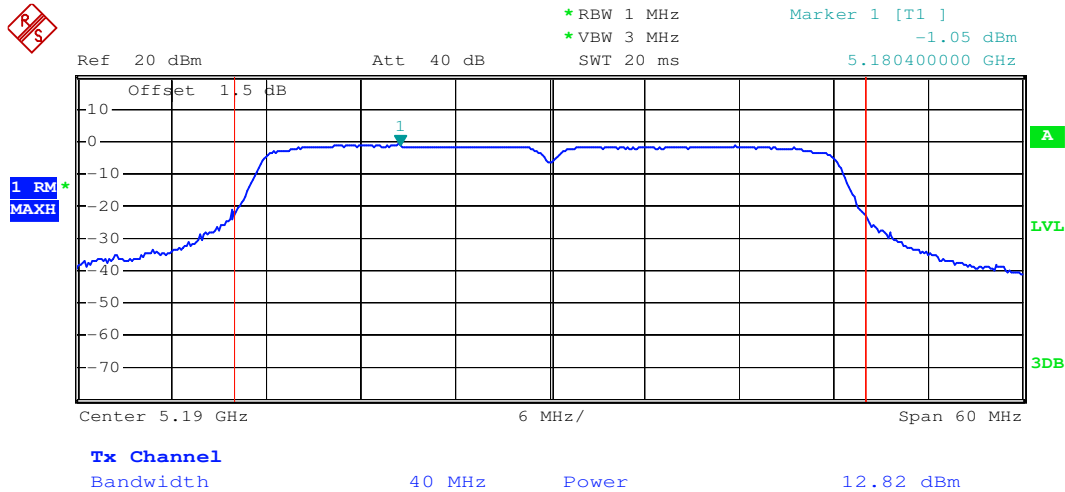




Test mode:	802.11ac(HT20)	Frequency(MHz):	5825
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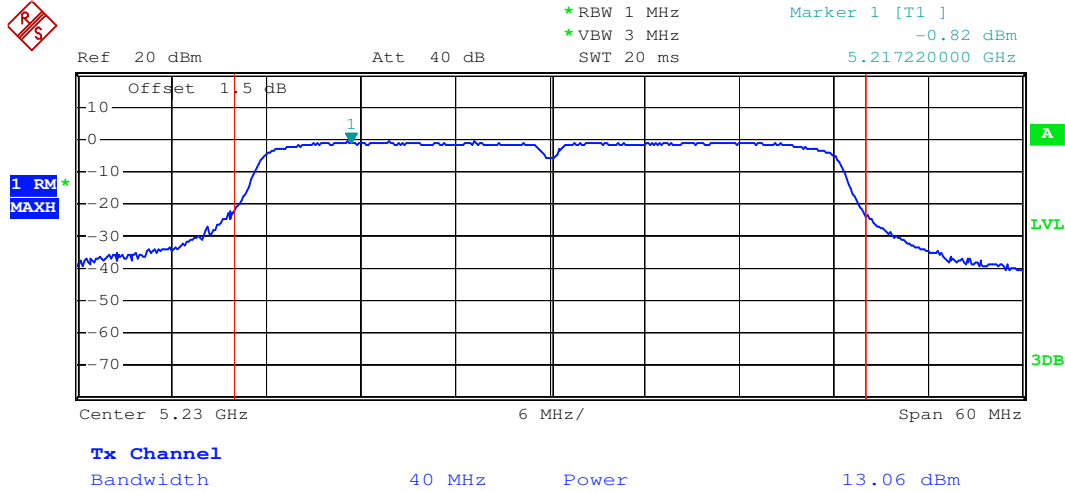


Test mode:	802.11n(HT40)	Frequency(MHz):	5190
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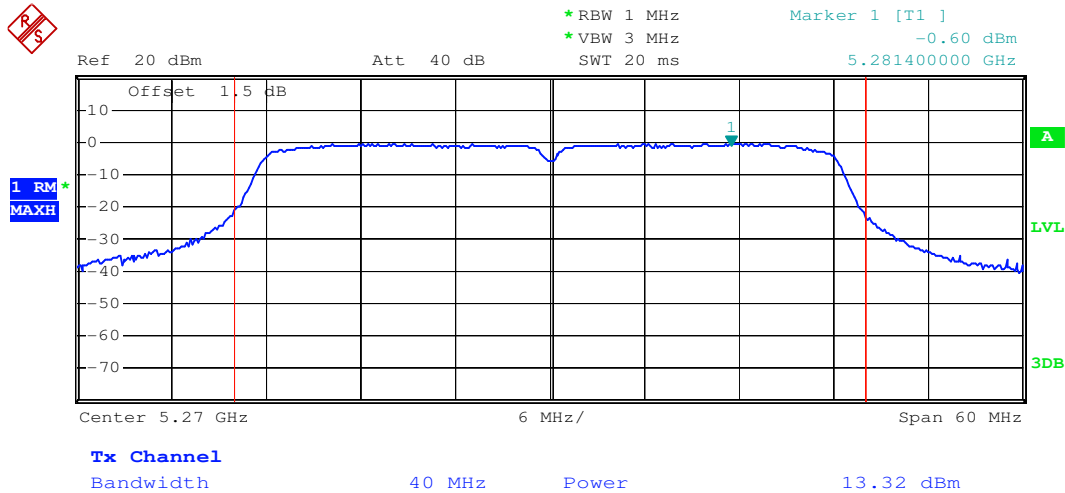




Test mode:	802.11n(HT40)	Frequency(MHz):	5230
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Test mode:	802.11n(HT40)	Frequency(MHz):	5270
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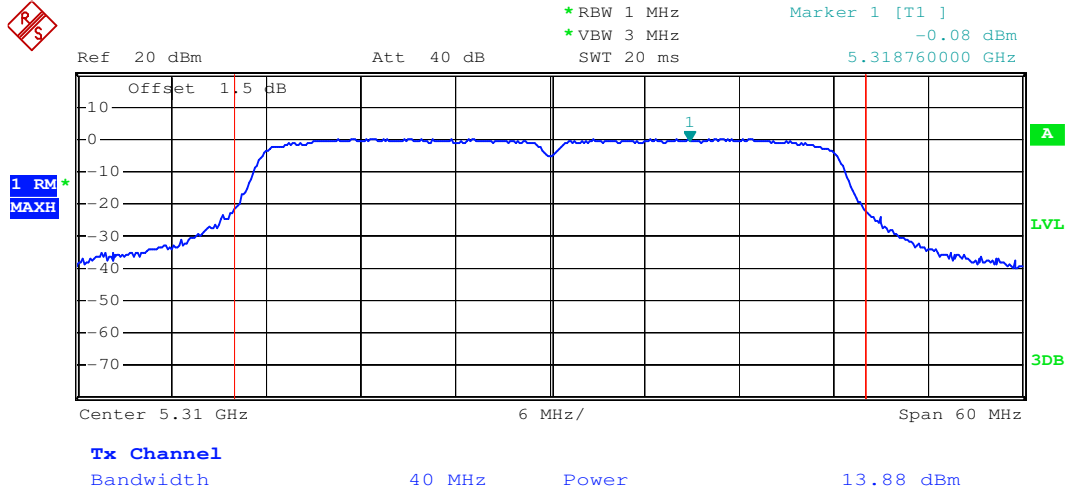


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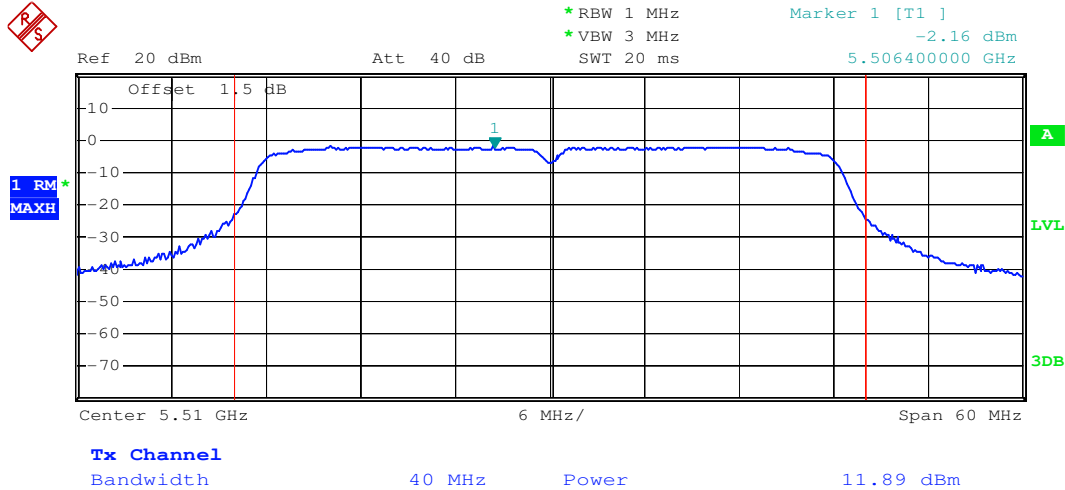
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Test mode:	802.11n(HT40)	Frequency(MHz):	5310
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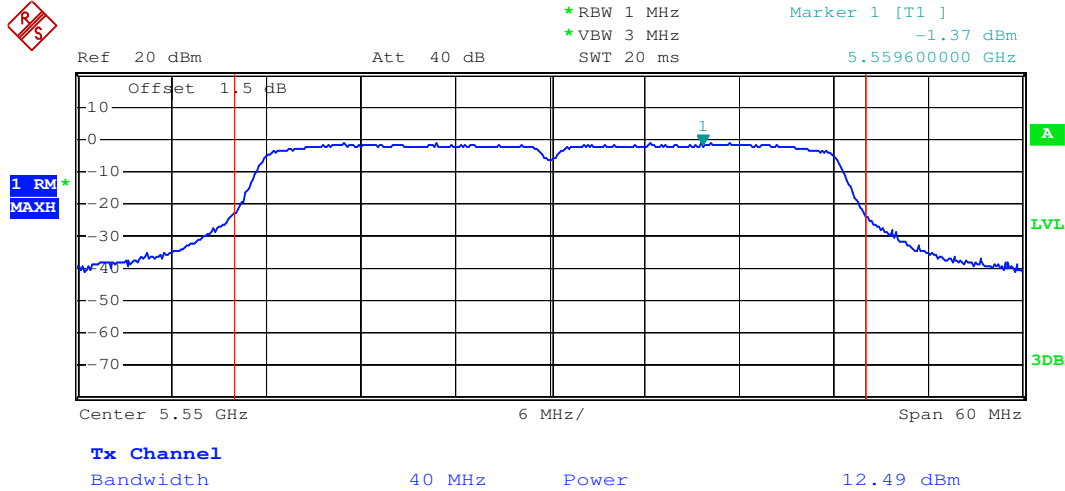


Test mode:	802.11n(HT40)	Frequency(MHz):	5510
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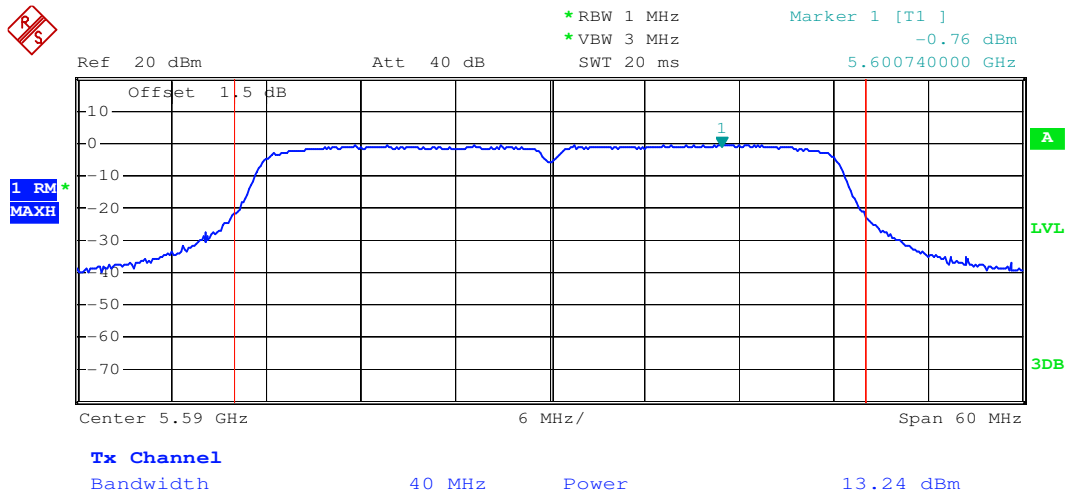




Test mode:	802.11n(HT40)	Frequency(MHz):	5550
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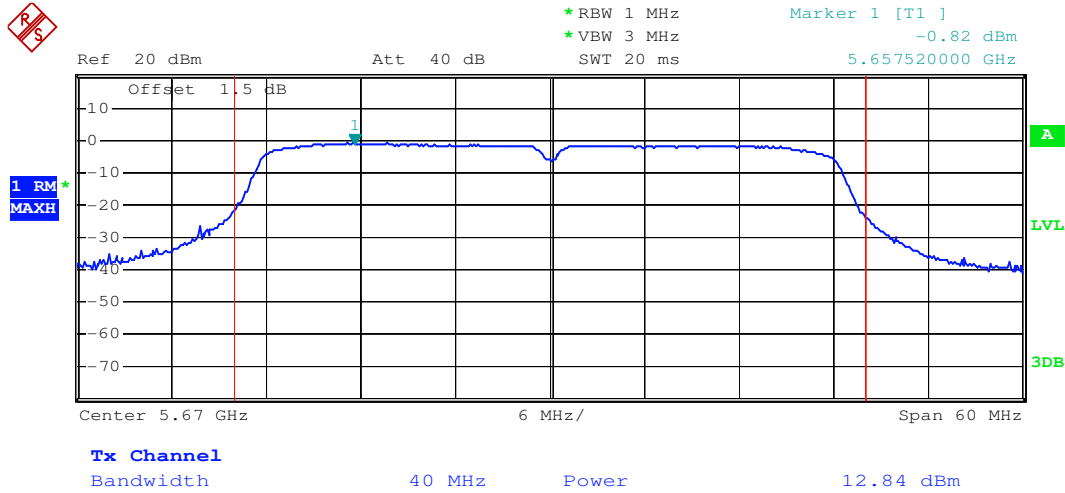


Test mode:	802.11n(HT40)	Frequency(MHz):	5590
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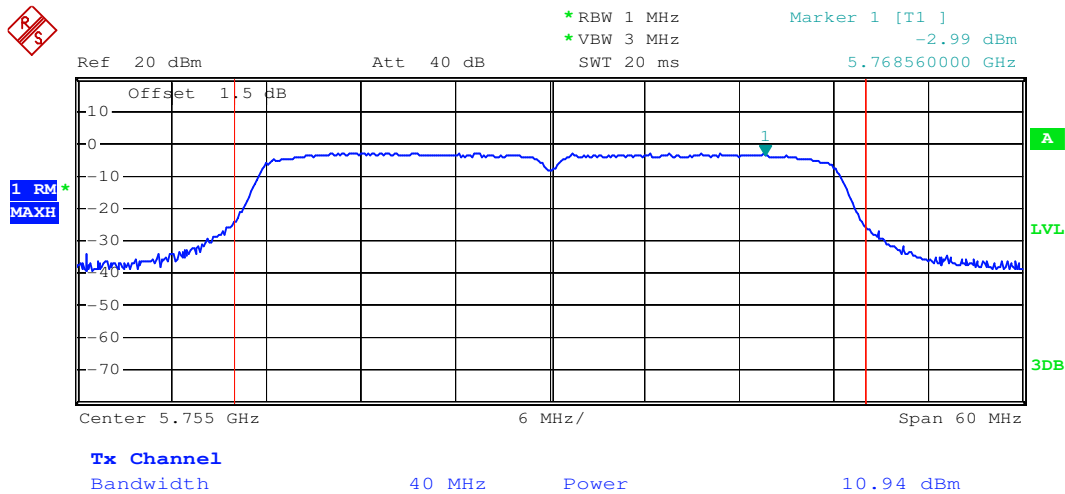




Test mode:	802.11n(HT40)	Frequency(MHz):	5670
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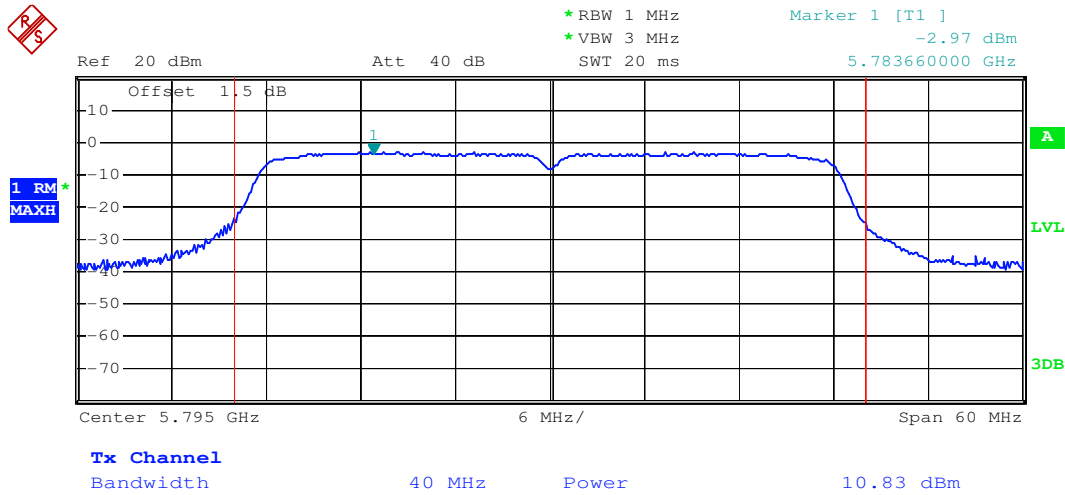


Test mode:	802.11n(HT40)	Frequency(MHz):	5755
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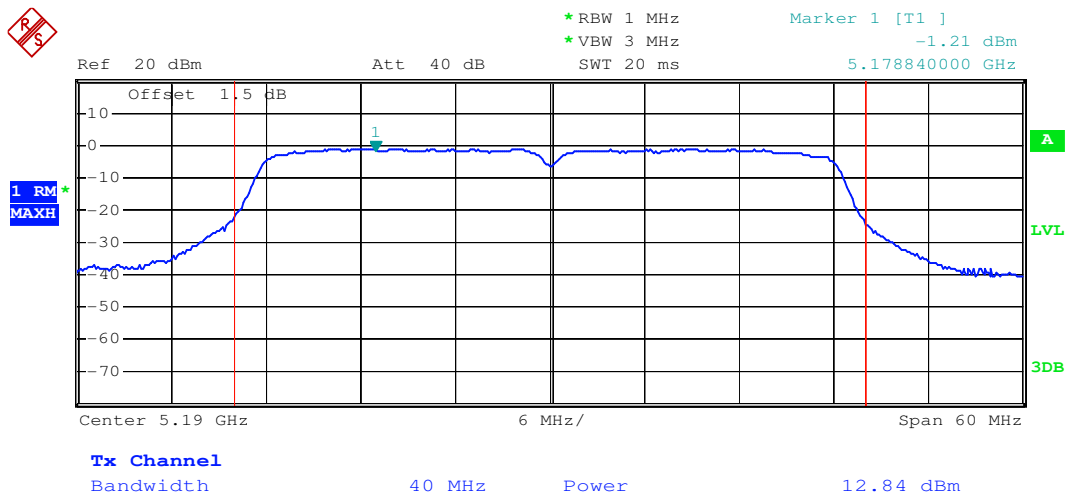




Test mode:	802.11n(HT40)	Frequency(MHz):	5795
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5190
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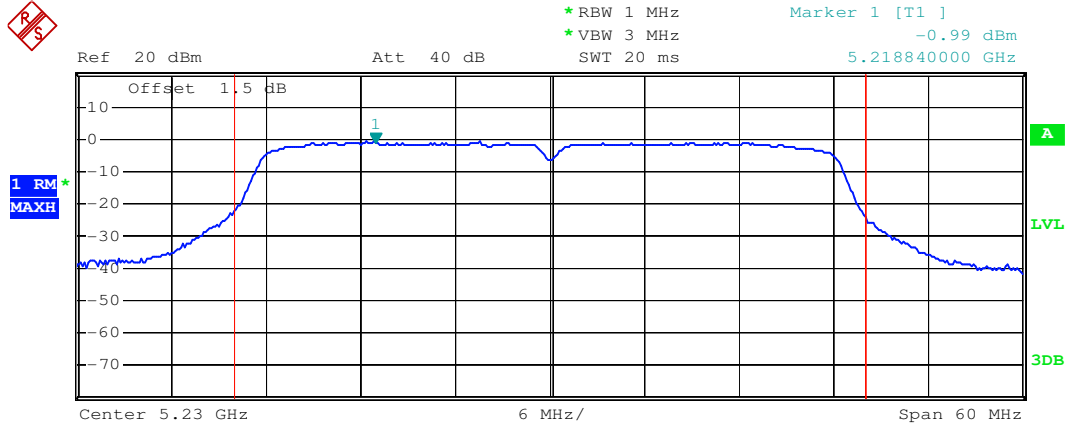


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Test mode:	802.11ac(HT40)	Frequency(MHz):	5230
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Tx Channel

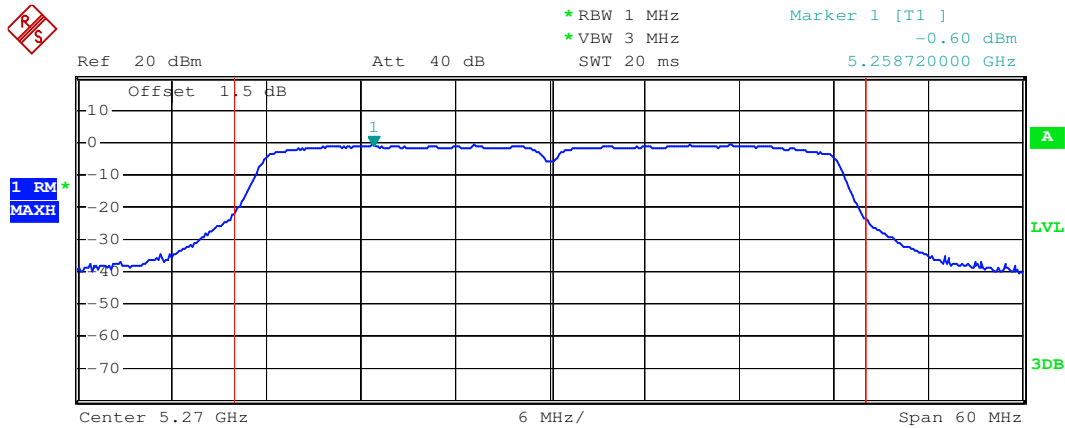
Bandwidth

40 MHz

Power

12.91 dBm

Test mode:	802.11ac(HT40)	Frequency(MHz):	5270
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Tx Channel

Bandwidth

40 MHz

Power

13.10 dBm

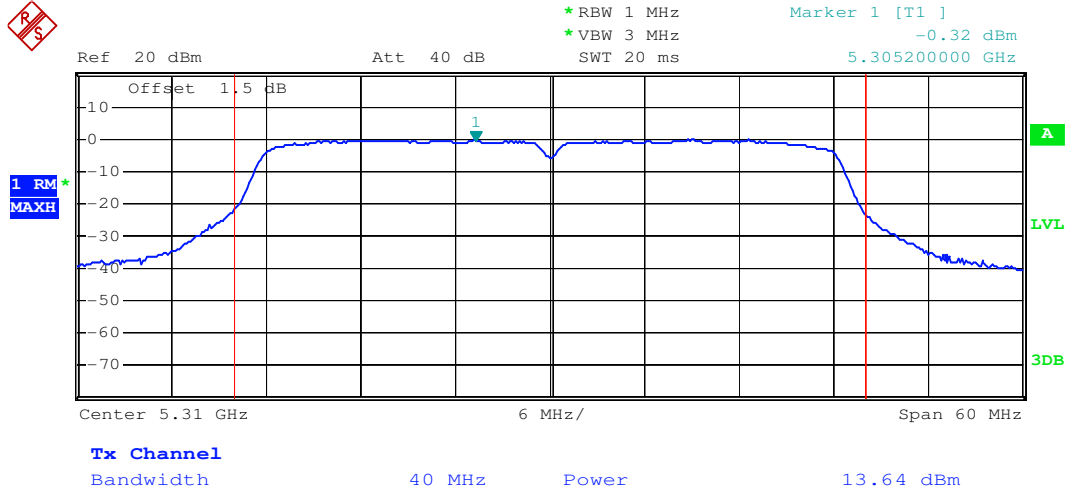


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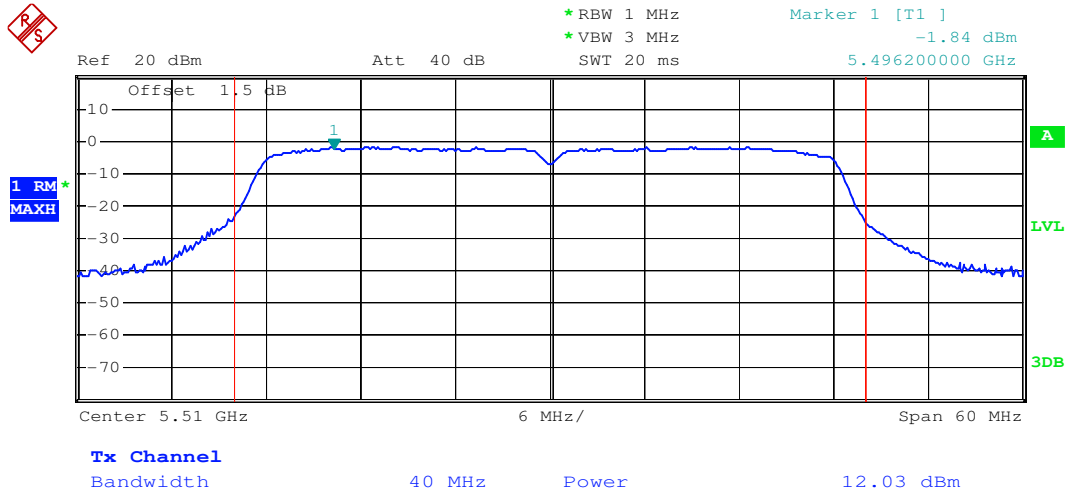
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5310
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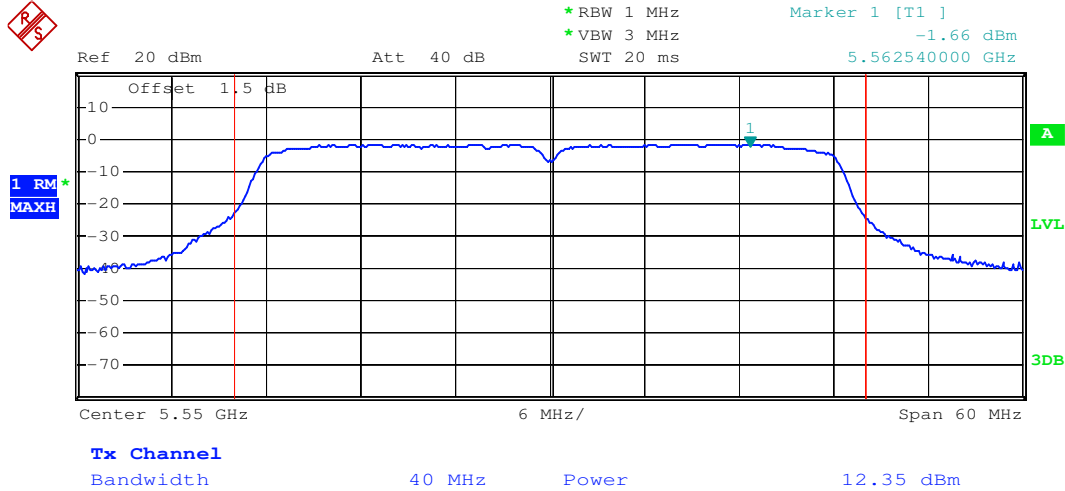


Test mode:	802.11ac(HT40)	Frequency(MHz):	5510
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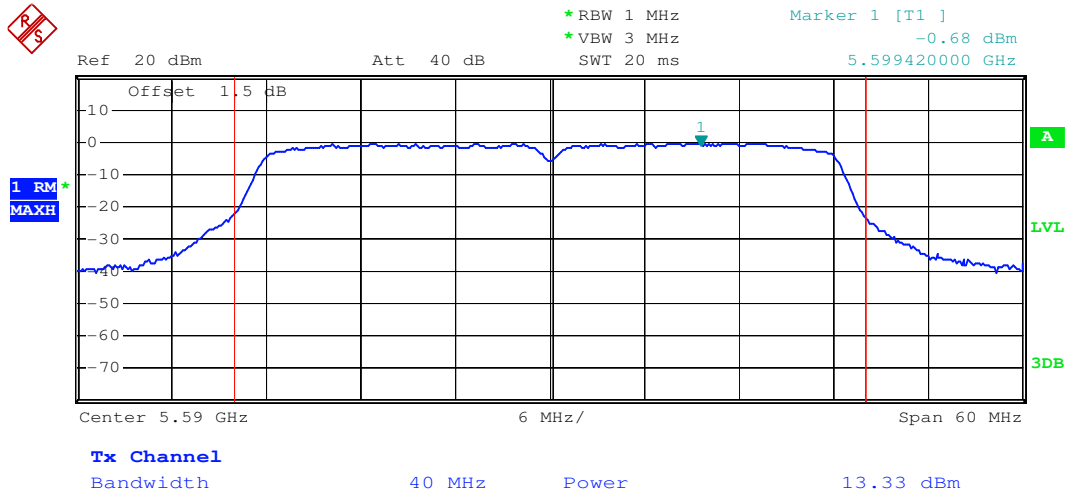




Test mode:	802.11ac(HT40)	Frequency(MHz):	5550
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5590
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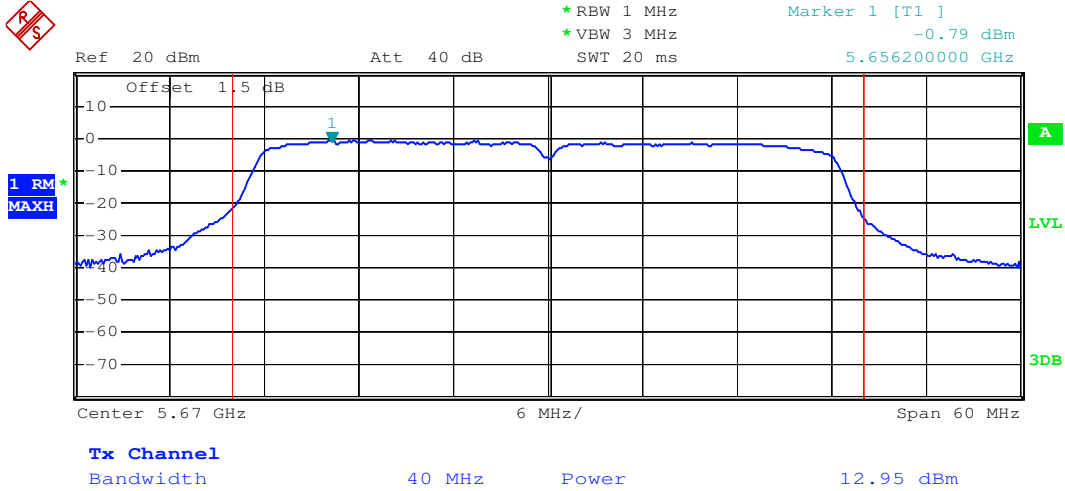


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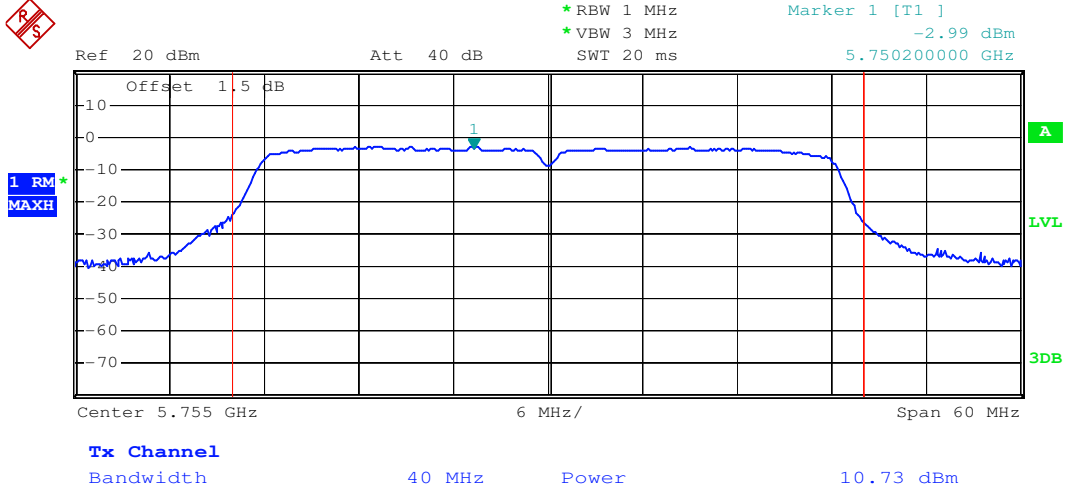
Report No.: SZEM160700630905

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Test mode:	802.11ac(HT40)	Frequency(MHz):	5670
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5755
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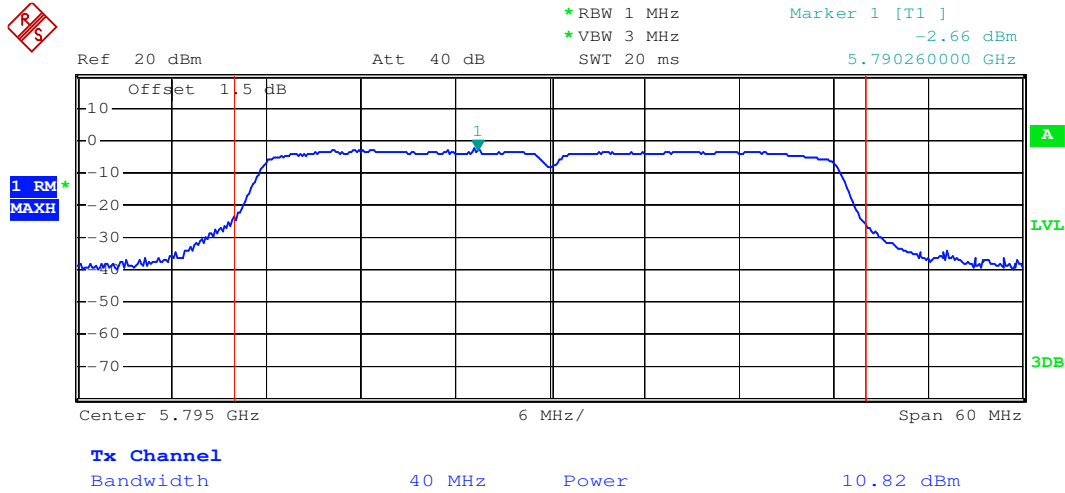


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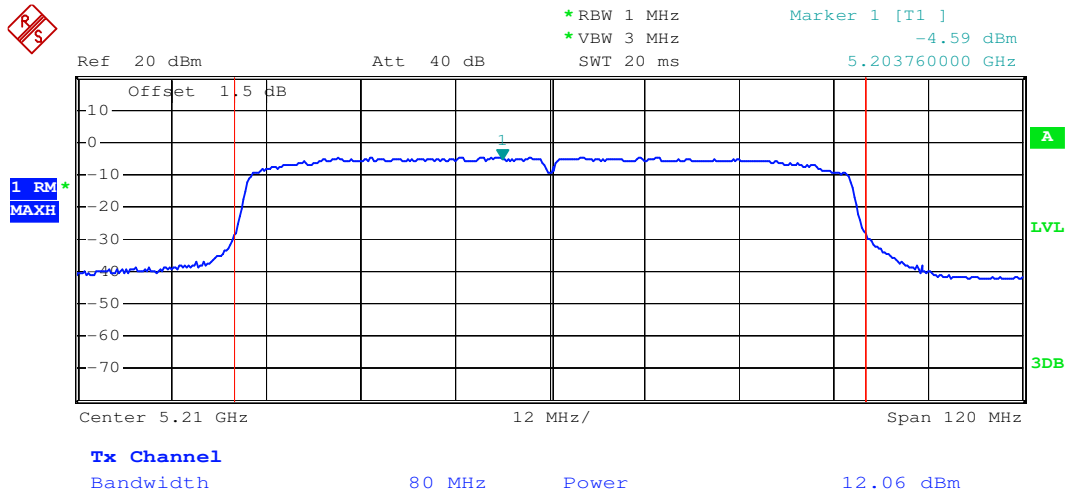
Report No.: SZEM160700630905

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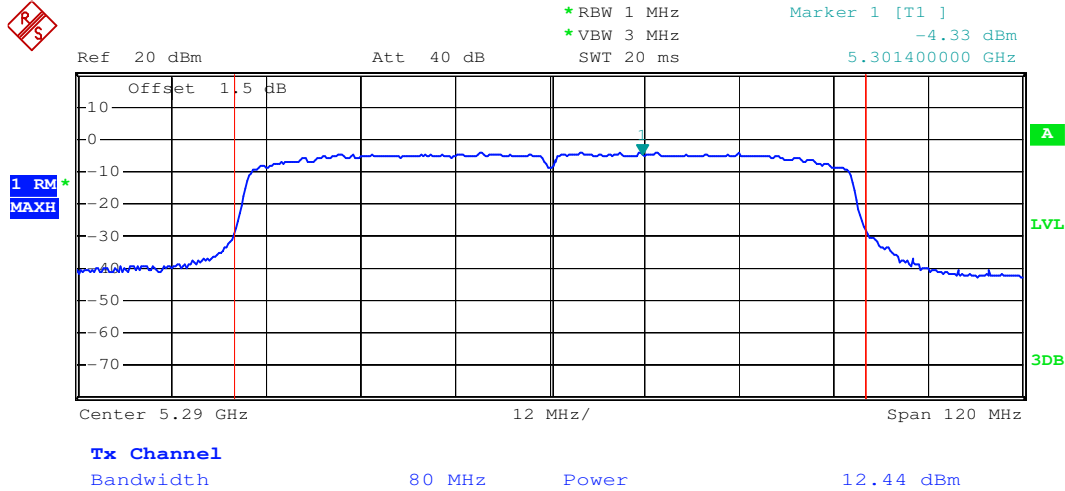


Test mode:	802.11ac(HT80)	Frequency(MHz):	5210
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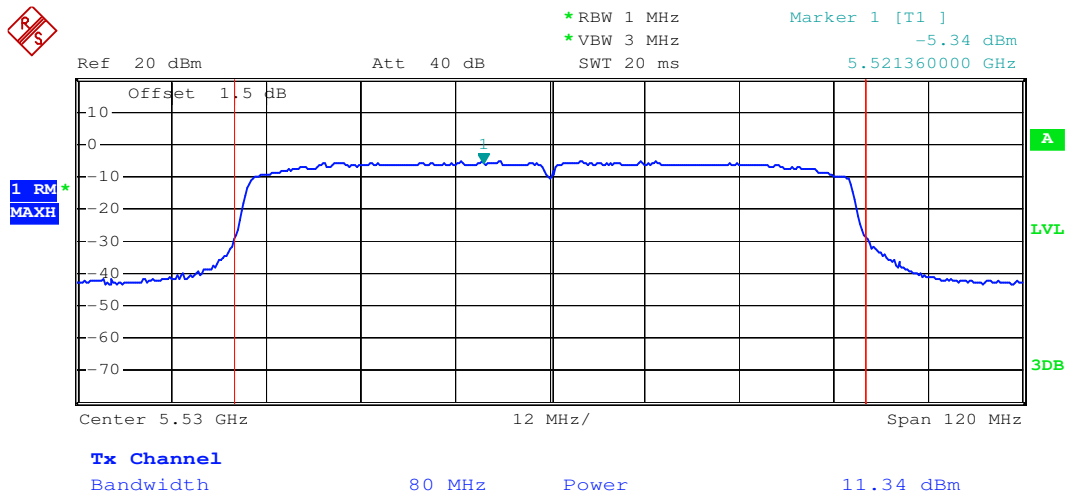




Test mode:	802.11ac(HT80)	Frequency(MHz):	5290
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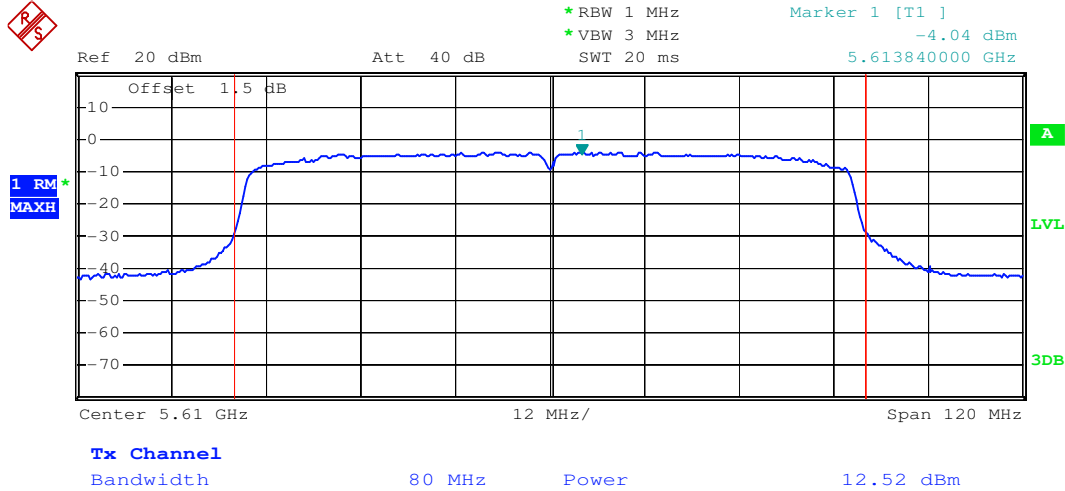


Test mode:	802.11ac(HT80)	Frequency(MHz):	5530
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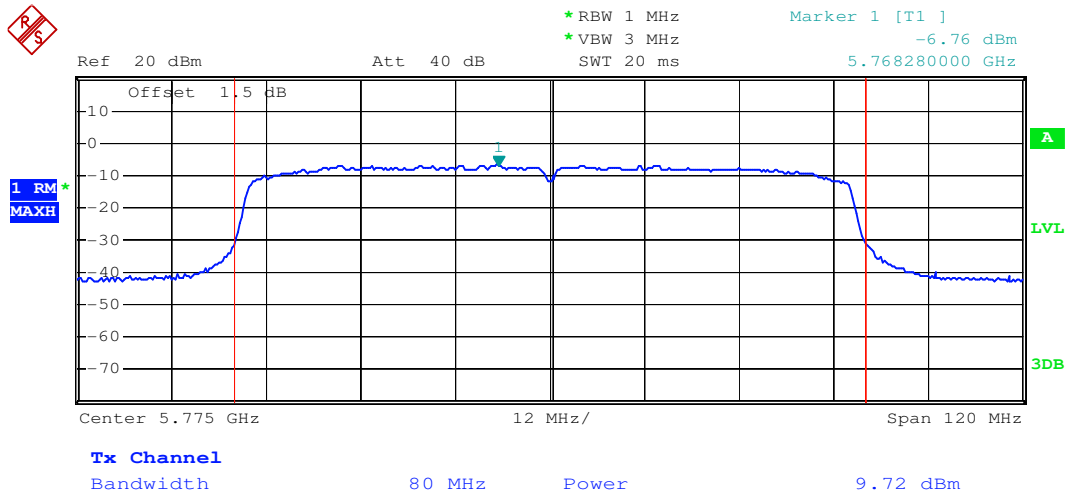




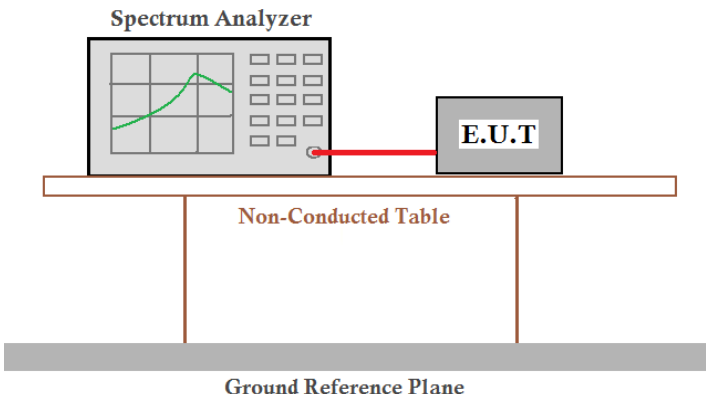
Test mode:	802.11ac(HT80)	Frequency(MHz):	5610
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5775
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6.4 Equivalent Isotropic Radiated Power (e.i.r.p.)

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:	 <p><i>Remark:</i> Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</p>	
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCSO of rate is the worst case of 802.11n(HT20); MCSO of rate is the worst case of 802.11n(HT40); MCSO of rate is the worst case of 802.11ac(HT20); MCSO of rate is the worst case of 802.11ac(HT40); MCSO of rate is the worst case of 802.11ac(HT80) Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5150-5250MHz	4W(36dBm) with 6dBi antenna
	5250-5350MHz	1W(30dBm) with 6dBi antenna
	5470-5725MHz	1W(30dBm) with 6dBi antenna
	5725-5850MHz	4W(36dBm) with 6dBi antenna
	*The limit =the maximum output conducted power limit+ actual antenna gain	
Test Results:	Pass	



Measurement Data:

802.11a mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5180	7.58	24.00	Pass
5220	7.40	24.00	Pass
5240	6.30	24.00	Pass
5260	7.59	24.00	Pass
5300	7.02	24.00	Pass
5320	7.01	24.00	Pass
5500	5.06	24.00	Pass
5580	6.15	24.00	Pass
5600	6.62	24.00	Pass
5700	5.17	24.00	Pass
5745	4.88	30.00	Pass
5785	4.08	30.00	Pass
5825	4.12	30.00	Pass

802.11n(HT20) mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5180	6.25	24.00	Pass
5220	6.54	24.00	Pass
5240	6.67	24.00	Pass
5260	6.26	24.00	Pass
5300	7.16	24.00	Pass
5320	7.15	24.00	Pass
5500	5.22	24.00	Pass
5580	6.05	24.00	Pass
5600	6.47	24.00	Pass
5700	4.76	24.00	Pass
5745	4.07	30.00	Pass
5785	4.01	30.00	Pass
5825	4.11	30.00	Pass



802.11ac(HT20) mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5180	6.34	24.00	Pass
5220	6.47	24.00	Pass
5240	6.56	24.00	Pass
5260	6.21	24.00	Pass
5300	6.86	24.00	Pass
5320	6.67	24.00	Pass
5500	5.07	24.00	Pass
5580	6.20	24.00	Pass
5600	6.60	24.00	Pass
5700	4.88	24.00	Pass
5745	4.24	30.00	Pass
5785	3.96	30.00	Pass
5825	4.10	30.00	Pass

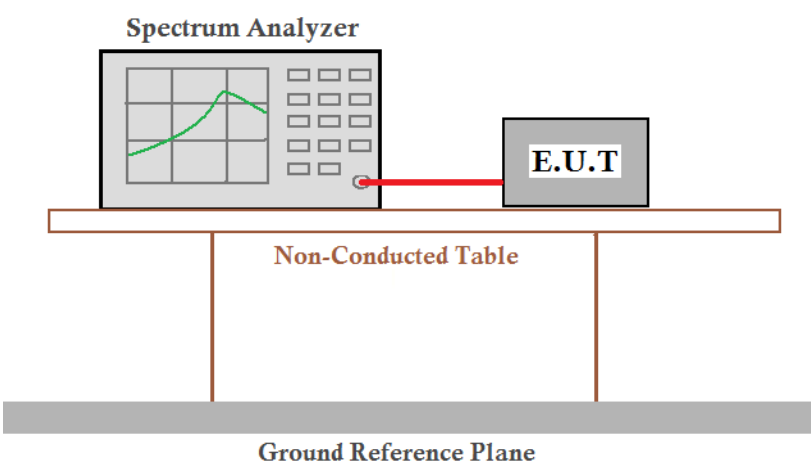
802.11n(HT40) mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5190	7.12	24.00	Pass
5230	7.36	24.00	Pass
5270	7.54	24.00	Pass
5310	8.18	24.00	Pass
5510	6.19	24.00	Pass
5500	6.79	24.00	Pass
5590	7.54	24.00	Pass
5670	7.14	24.00	Pass
5755	5.24	30.00	Pass
5795	5.13	30.00	Pass



802.11ac(HT40) mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5190	7.14	24.00	Pass
5230	7.21	24.00	Pass
5270	7.40	24.00	Pass
5310	7.94	24.00	Pass
5510	6.33	24.00	Pass
5550	6.65	24.00	Pass
5590	7.63	24.00	Pass
5670	7.25	24.00	Pass
5755	5.03	30.00	Pass
5795	5.12	30.00	Pass

802.11ac(HT80) mode			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Result
5120	6.36	24.00	Pass
5290	6.74	24.00	Pass
5530	5.64	24.00	Pass
5610	6.82	24.00	Pass
5775	4.02	24.00	Pass

6.5 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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
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; MCSO of rate is the worst case of 802.11n(HT20); MCSO of rate is the worst case of 802.11n(HT40); MCSO of rate is the worst case of 802.11ac(HT20); MCSO of rate is the worst case of 802.11ac(HT40); MCSO of rate is the worst case of 802.11ac(HT80) Only the worst case is recorded in the report.
Limit:	No restriction limits
Test Results:	Pass



Measurement Data:

802.11a mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	23.00	17.31
5220	23.12	17.31
5240	23.52	13.37
5260	22.92	17.31
5300	22.96	17.37
5320	23.00	17.40
5500	22.72	17.25
5580	23.08	17.43
5600	22.82	17.37
5700	23.52	17.37
5745	23.64	17.31
5785	23.28	17.37
5825	23.76	17.37

802.11n(HT20) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	23.32	18.27
5220	23.36	18.30
5240	23.12	18.27
5260	23.20	18.27
5300	23.16	18.27
5320	23.32	18.27
5500	23.84	18.27
5580	23.44	18.30
5600	23.24	18.27
5700	23.48	18.27
5745	23.60	18.30
5785	23.68	18.30
5825	23.44	18.27



802.11ac(HT20) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	23.12	18.21
5220	23.44	18.21
5240	23.12	18.18
5260	23.08	18.21
5300	23.44	18.30
5320	23.12	18.18
5500	23.28	18.21
5580	23.08	18.18
5600	23.32	18.18
5700	23.12	18.18
5745	23.56	18.27
5785	23.32	18.18
5825	23.40	18.18

802.11n(HT40) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	44.64	36.12
5230	44.88	36.12
5270	44.88	36.12
5310	44.56	36.12
5510	44.80	36.12
5500	44.64	36.18
5590	44.16	36.18
5670	47.36	36.18
5755	53.92	36.18
5795	47.44	36.18



802.11ac(HT40) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	44.40	36.18
5230	43.60	36.18
5270	43.92	36.12
5310	43.68	36.12
5510	44.40	36.18
5550	43.84	36.18
5590	44.48	36.12
5670	44.32	36.12
5755	58.24	36.18
5795	46.48	36.18

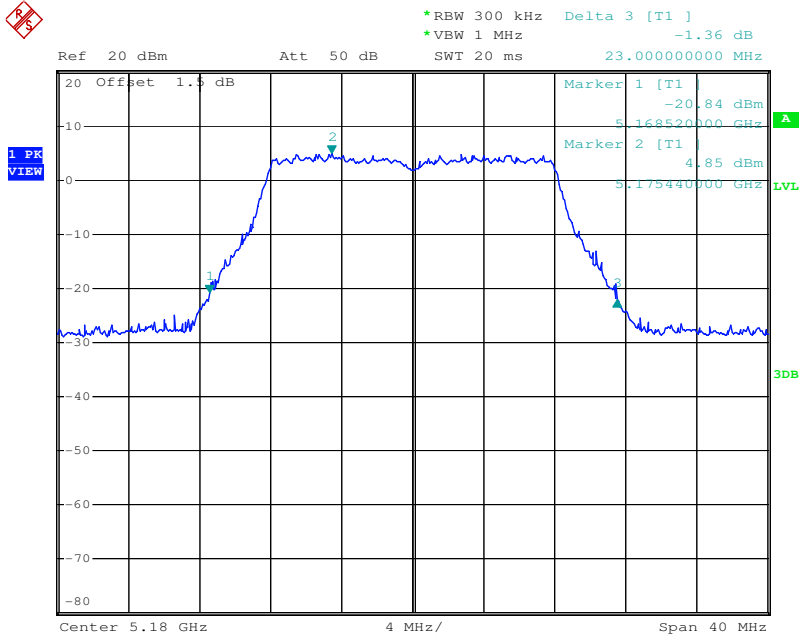
802.11ac(HT80) mode		
Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5120	159.84	75.00
5290	154.88	74.88
5530	158.08	75.00
5610	137.44	74.76
5775	160.00	75.00



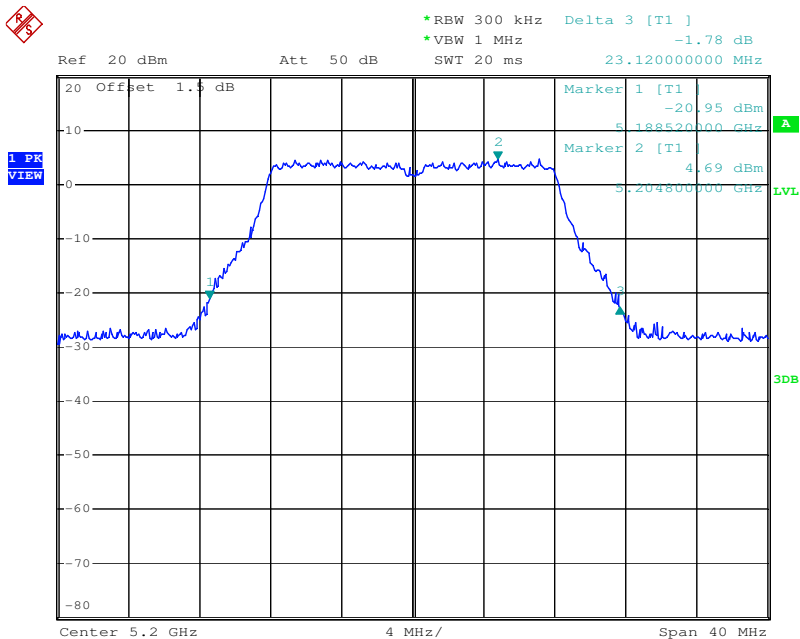
26dB Emission Bandwidth

Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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Test mode:	802.11a	Frequency(MHz):	5220
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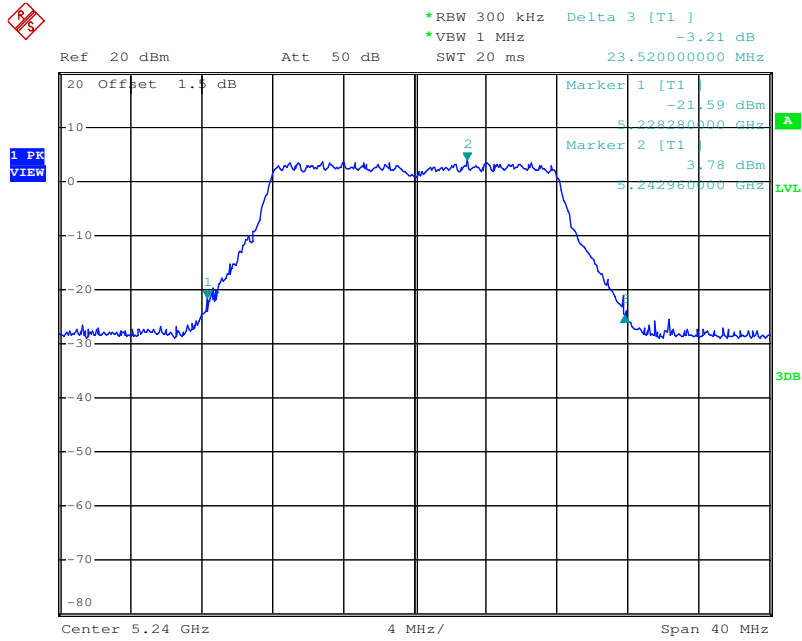


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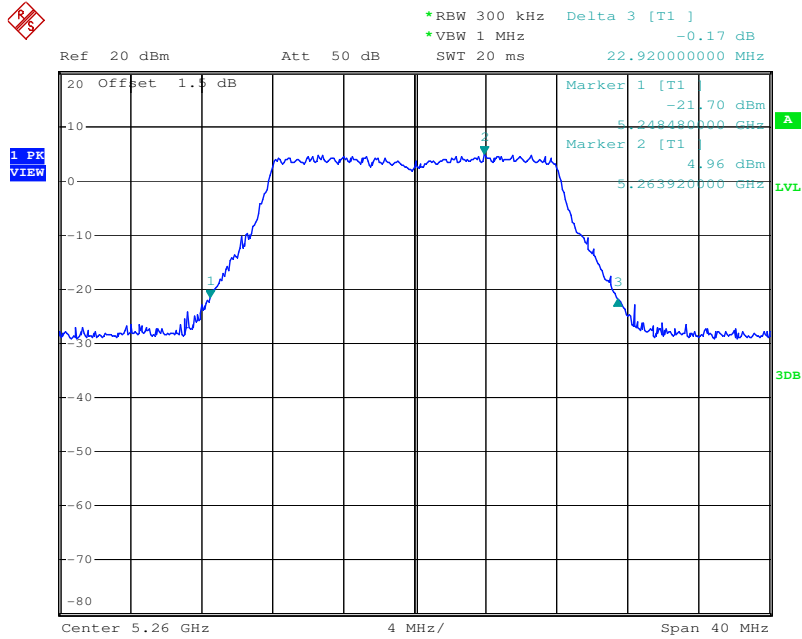
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Test mode:	802.11a	Frequency(MHz):	5240
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Test mode:	802.11a	Frequency(MHz):	5260
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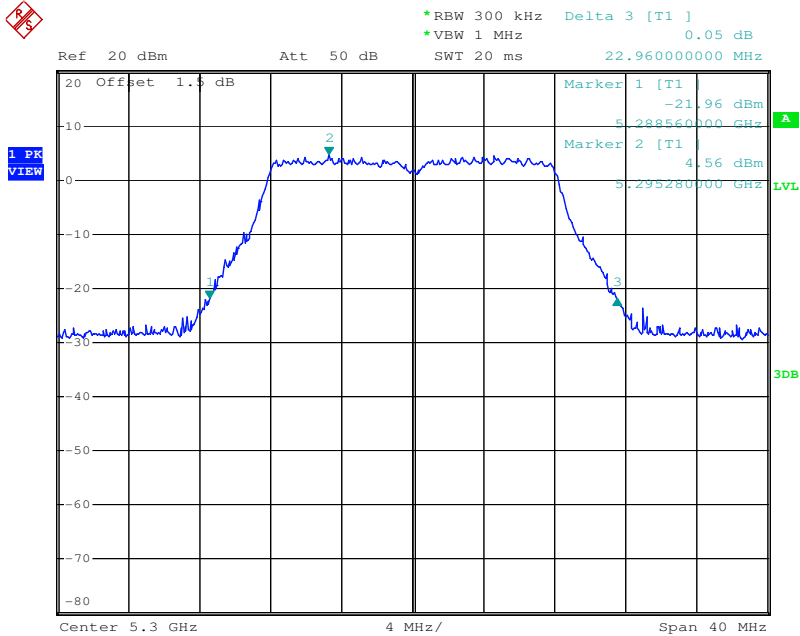


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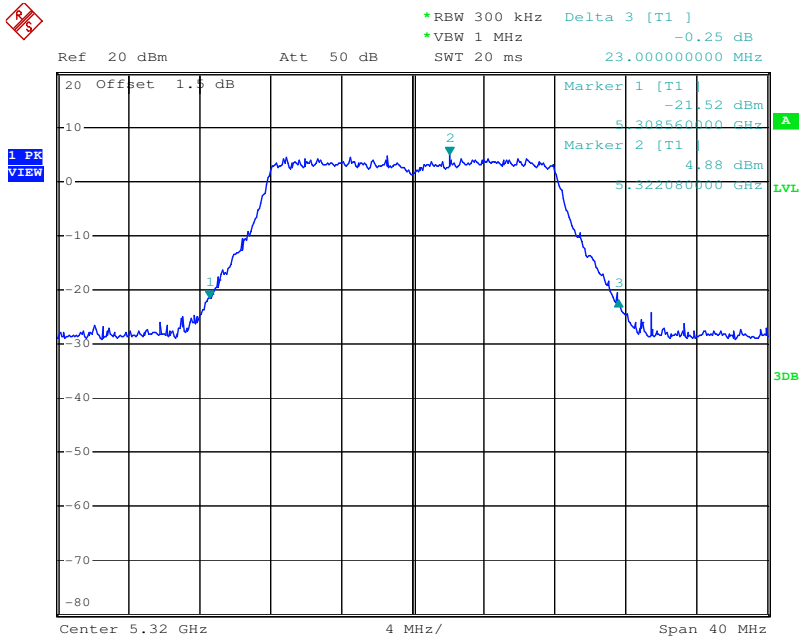
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Test mode:	802.11a	Frequency(MHz):	5300
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Test mode:	802.11a	Frequency(MHz):	5320
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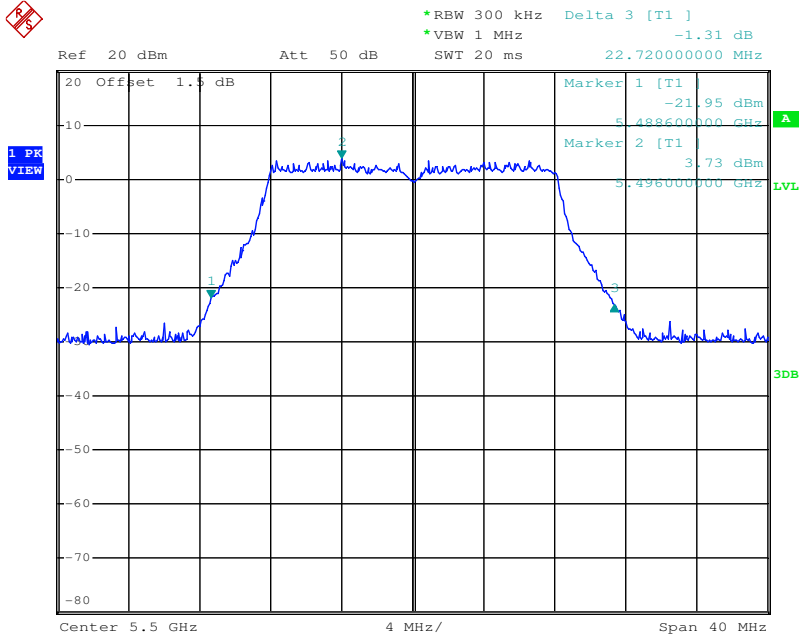


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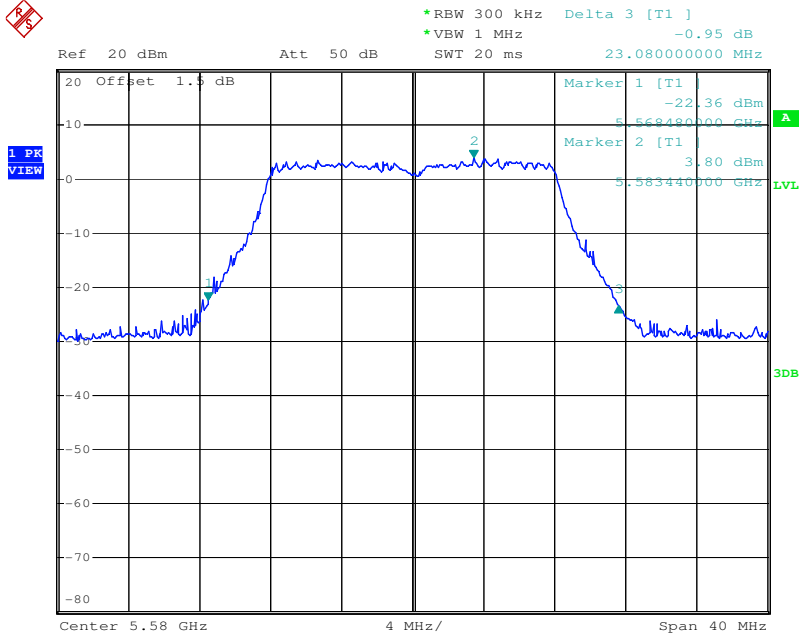
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Test mode:	802.11a	Frequency(MHz):	5500
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Test mode:	802.11a	Frequency(MHz):	5580
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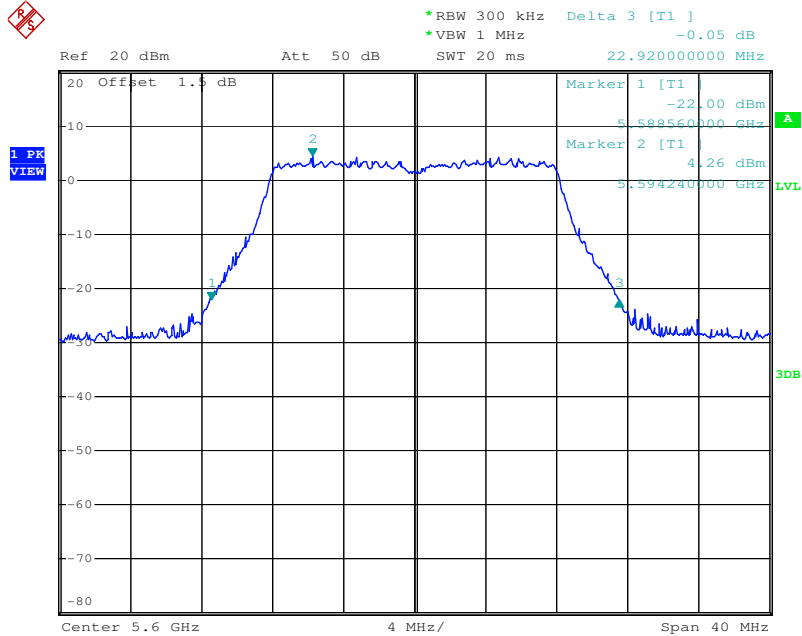


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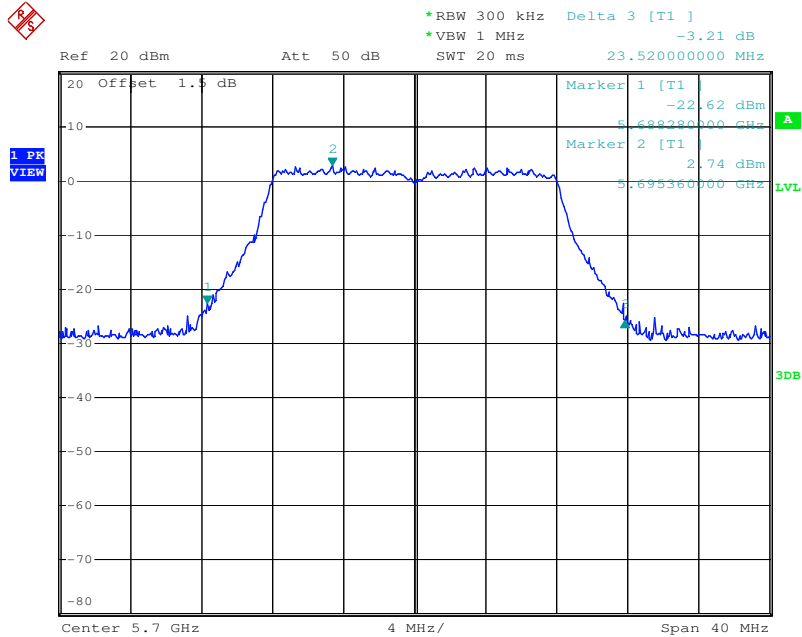
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Test mode:	802.11a	Frequency(MHz):	5600
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Test mode:	802.11a	Frequency(MHz):	5700
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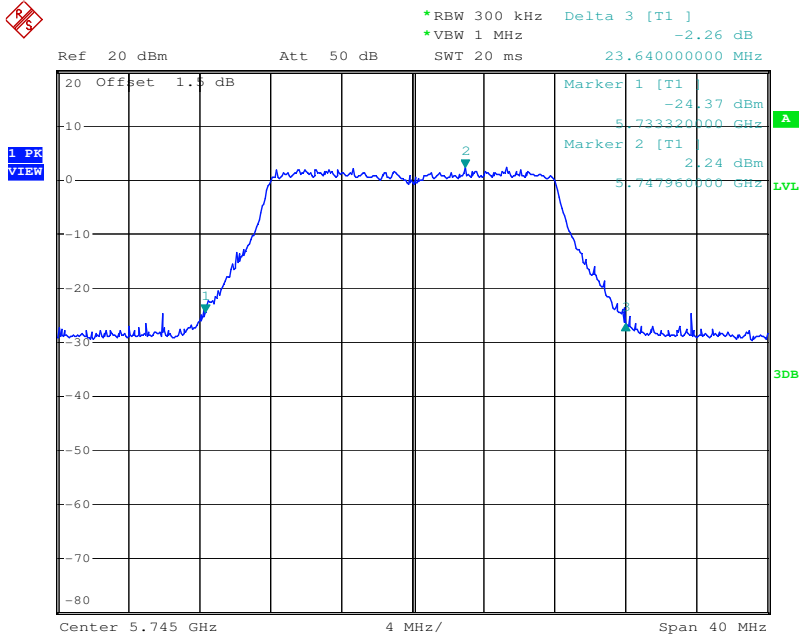


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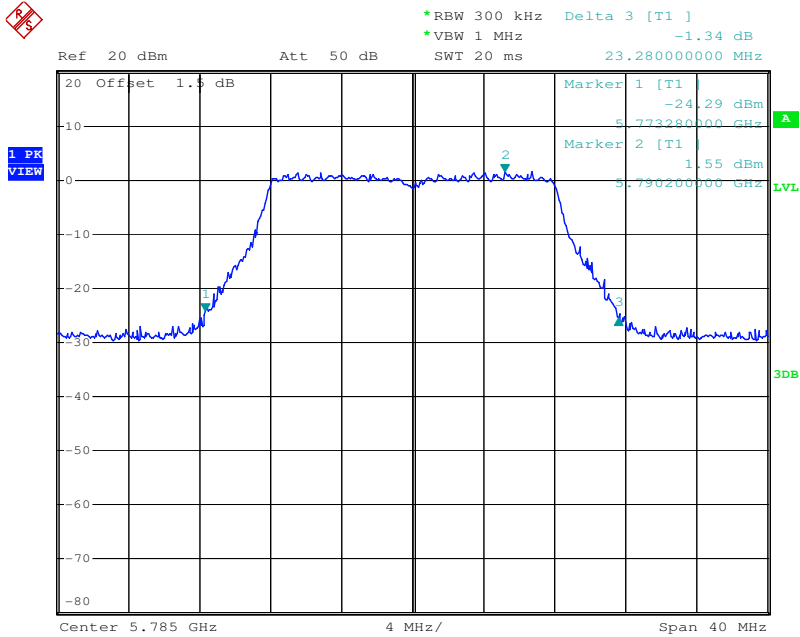
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Test mode:	802.11a	Frequency(MHz):	5745
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Test mode:	802.11a	Frequency(MHz):	5785
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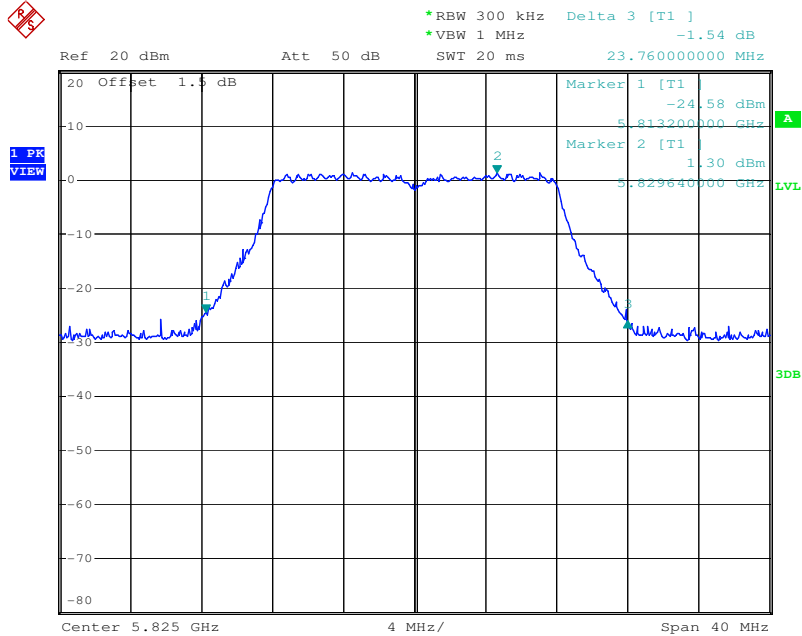


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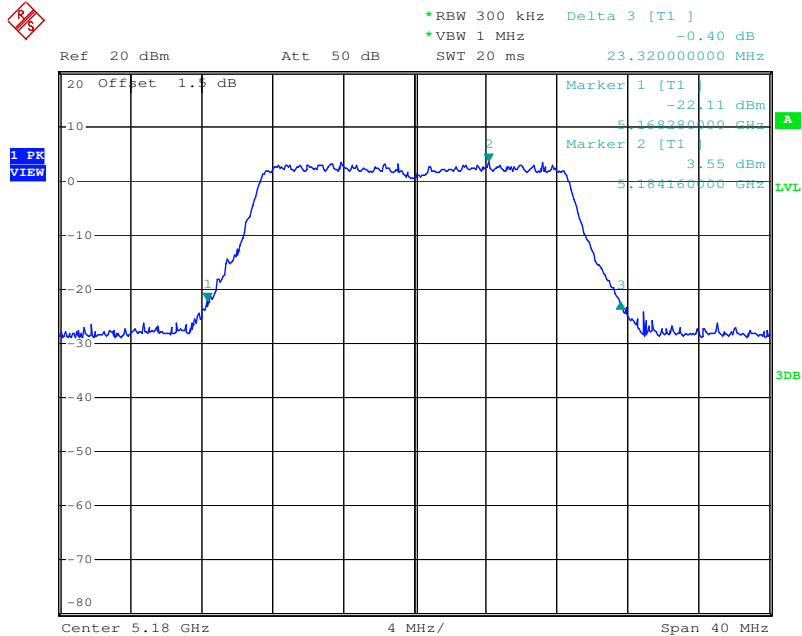
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Test mode:	802.11a	Frequency(MHz):	5825
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Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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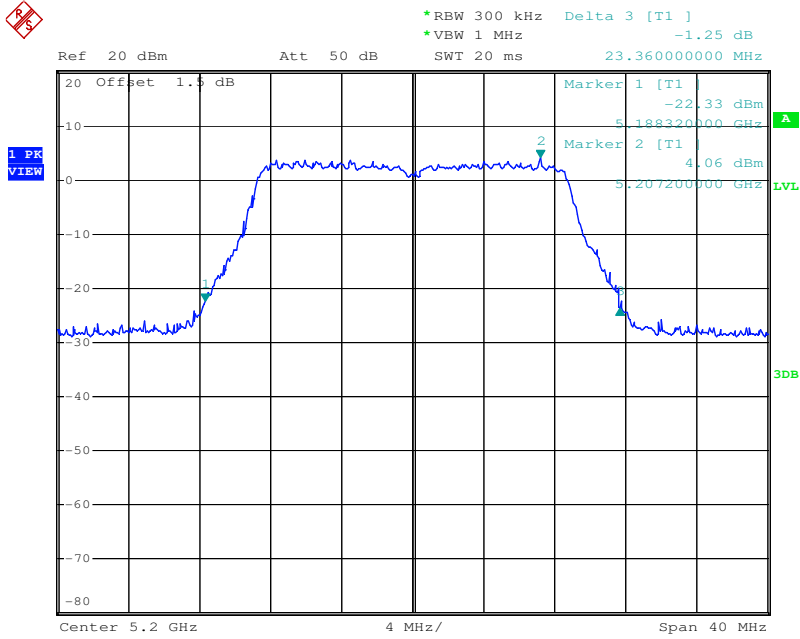


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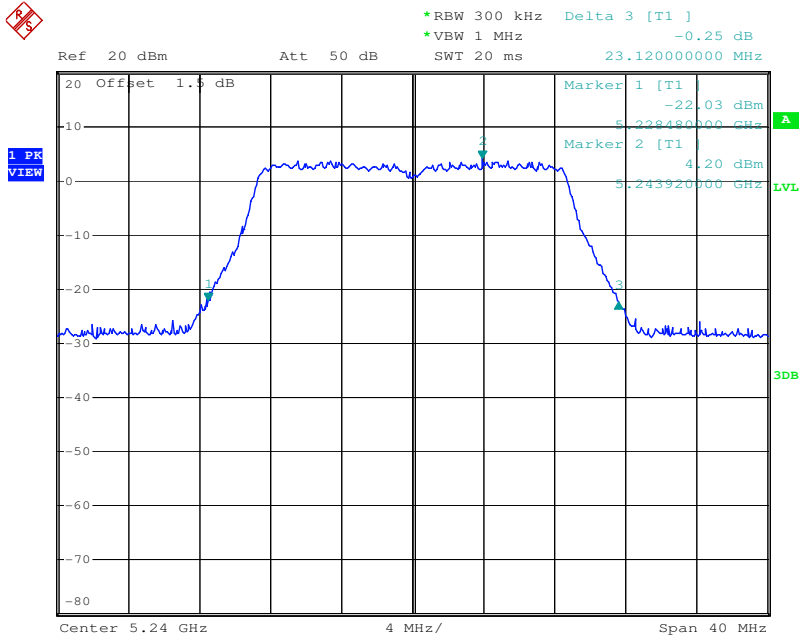
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Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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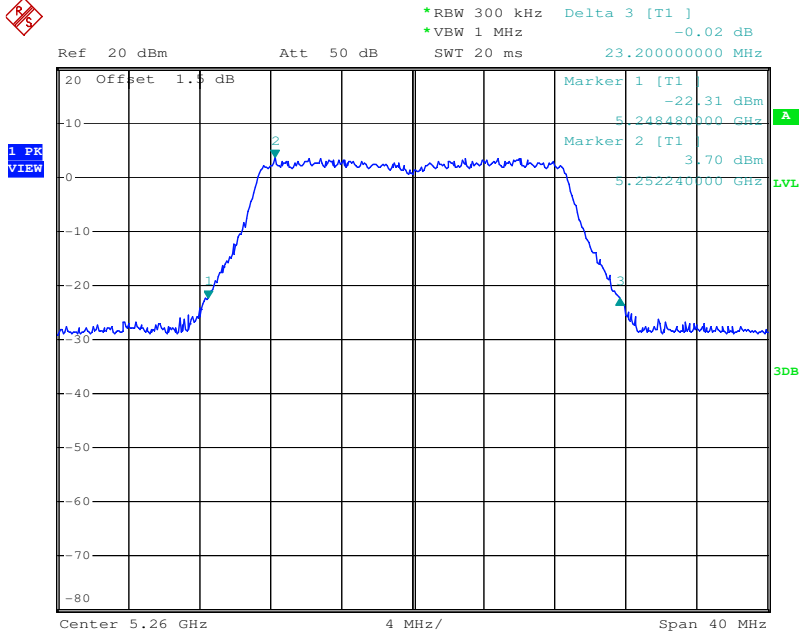


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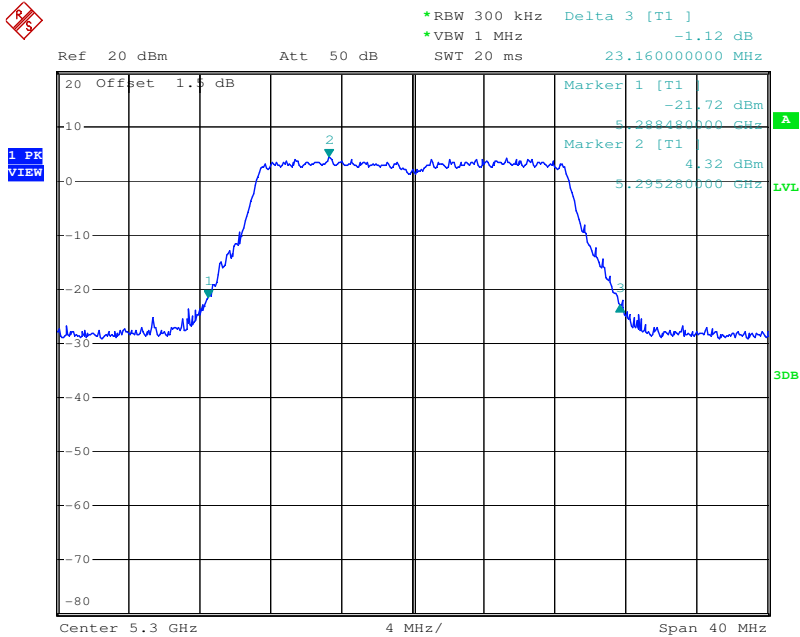
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Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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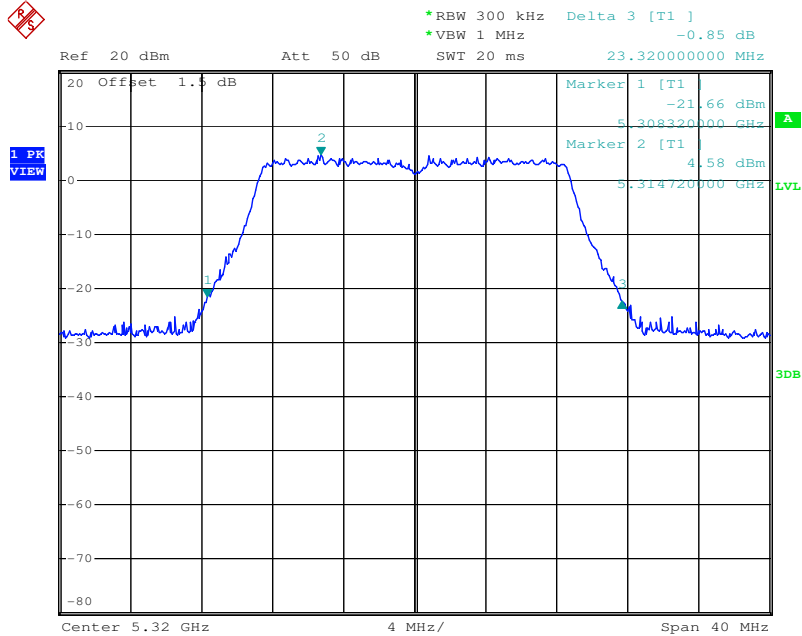


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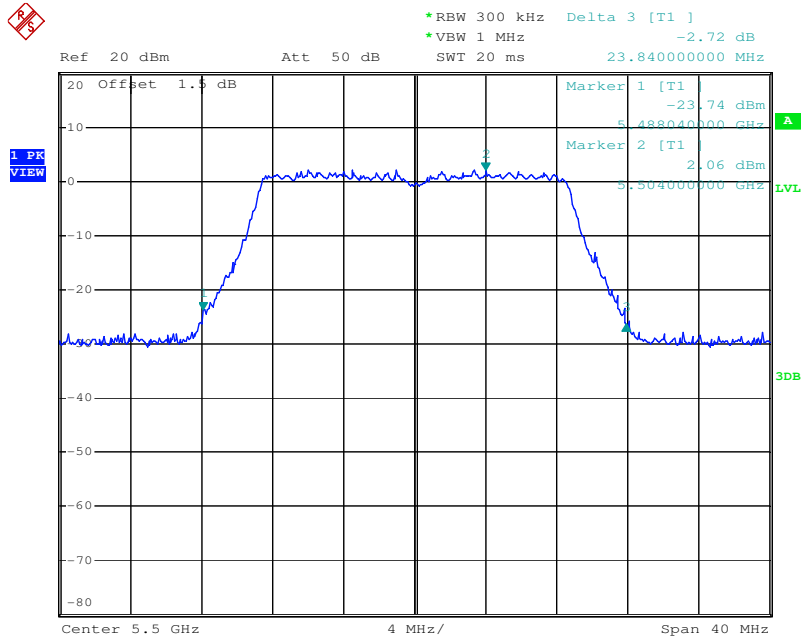
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Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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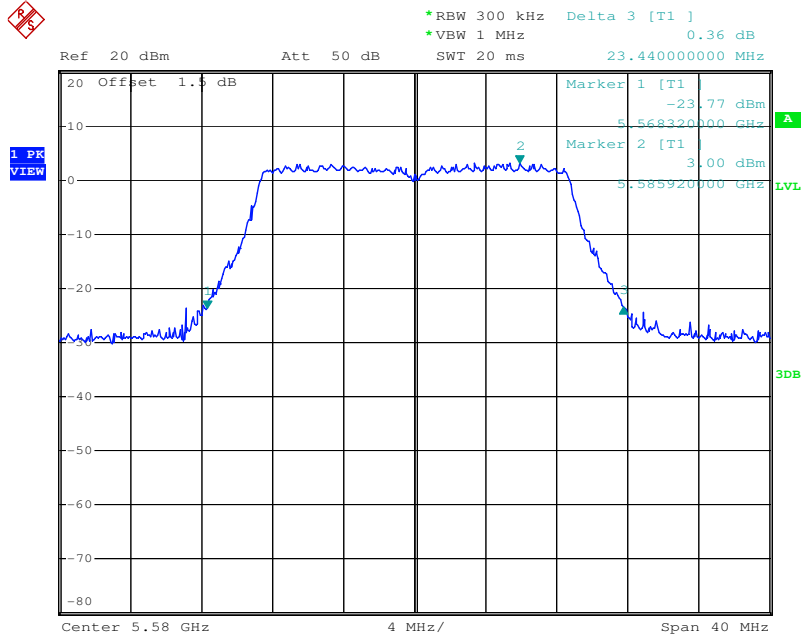


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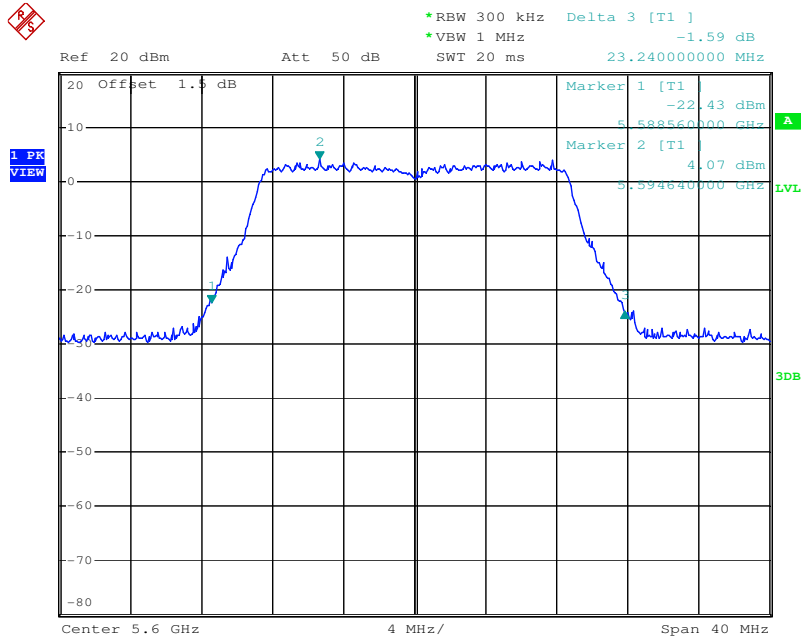
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Test mode:	802.11n(HT20)	Frequency(MHz):	5580
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Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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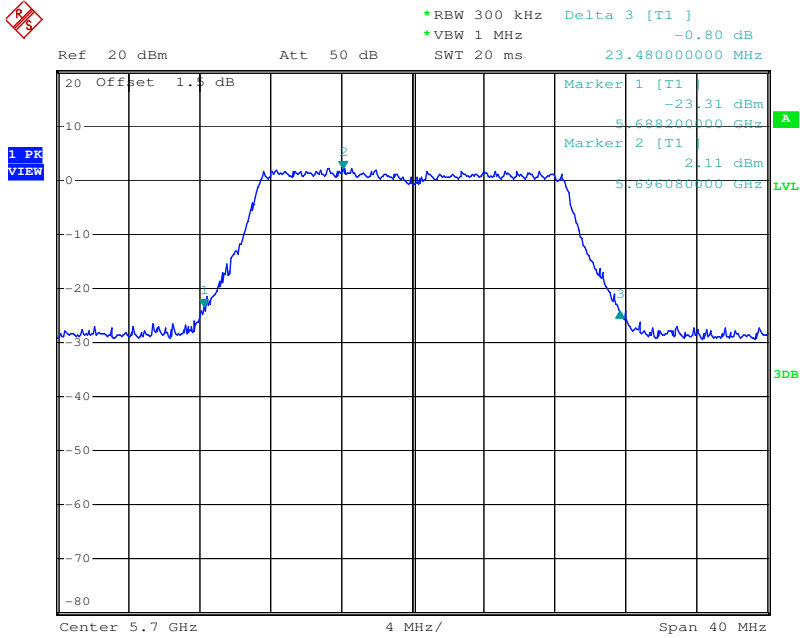


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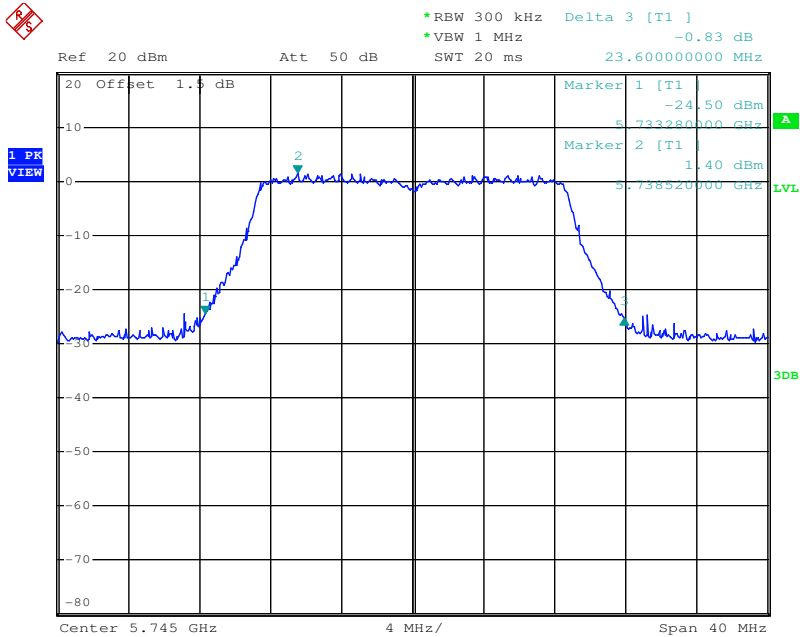
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Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Test mode:	802.11n(HT20)	Frequency(MHz):	5745
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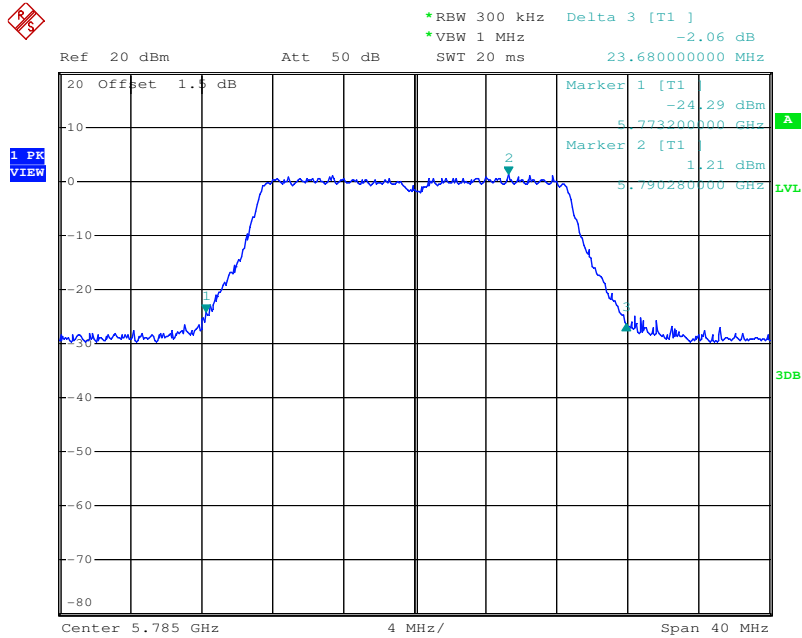


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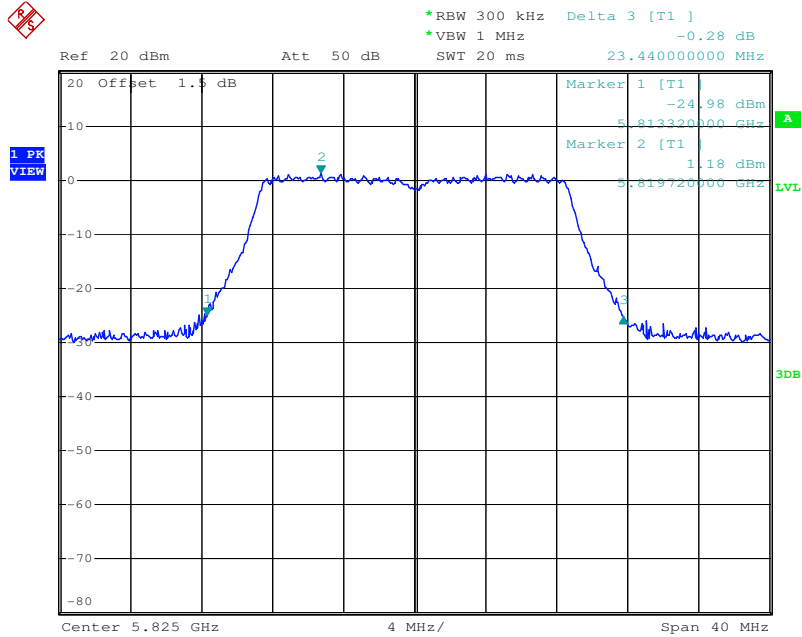
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Test mode:	802.11n(HT20)	Frequency(MHz):	5785
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Test mode:	802.11n(HT20)	Frequency(MHz):	5825
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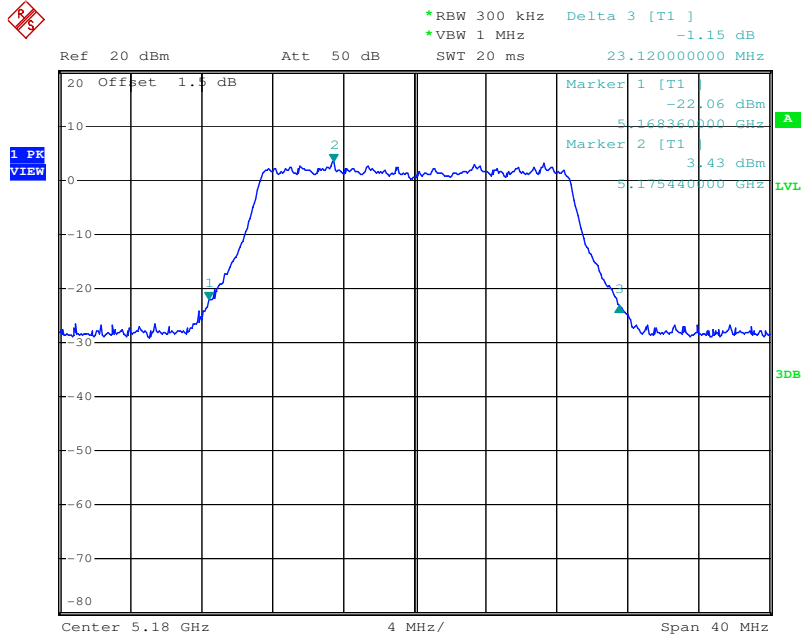


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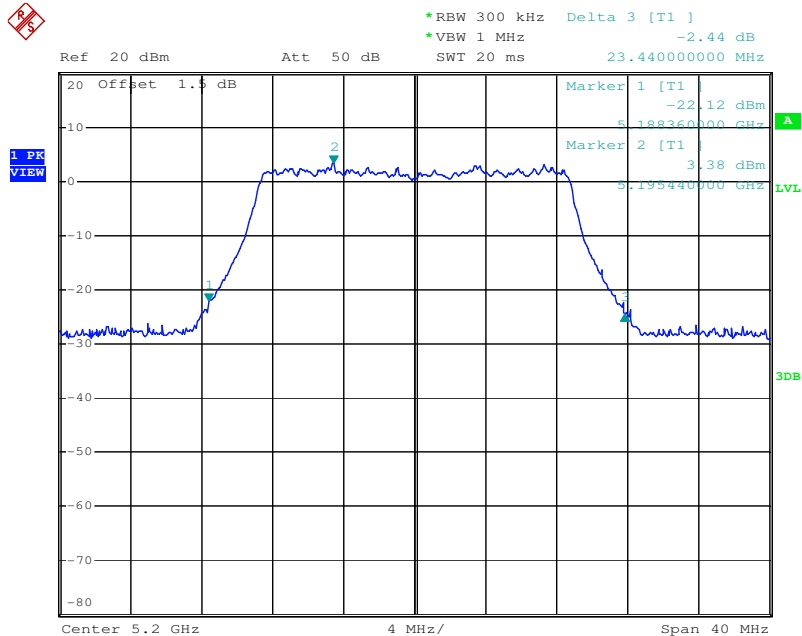
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5180
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5220
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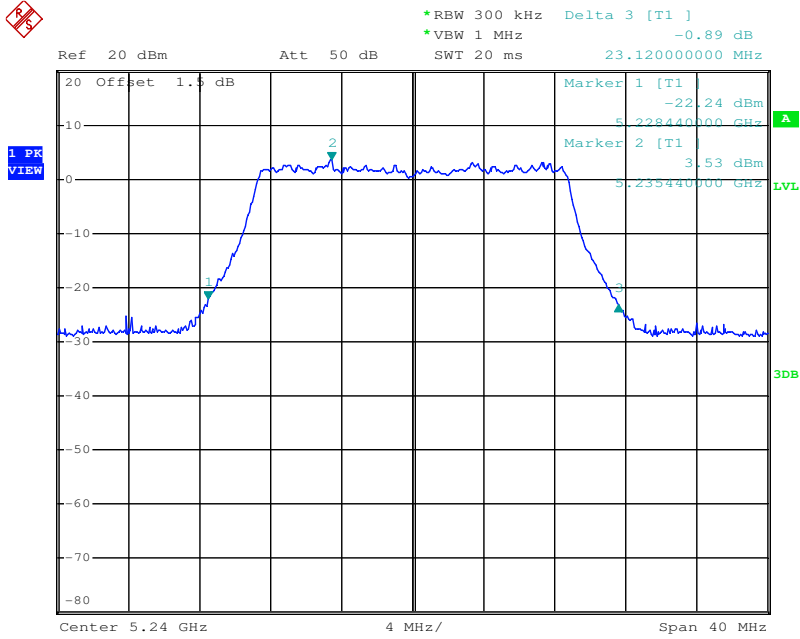


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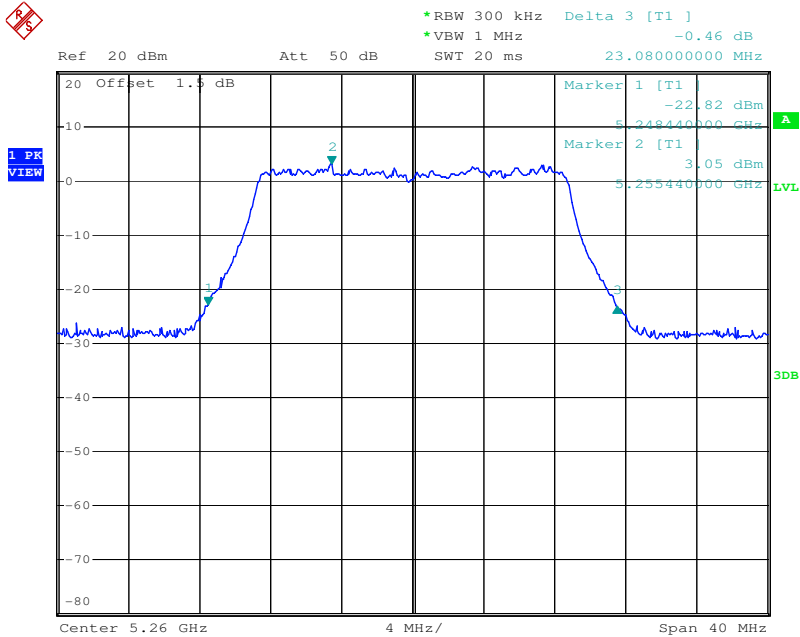
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5240
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5260
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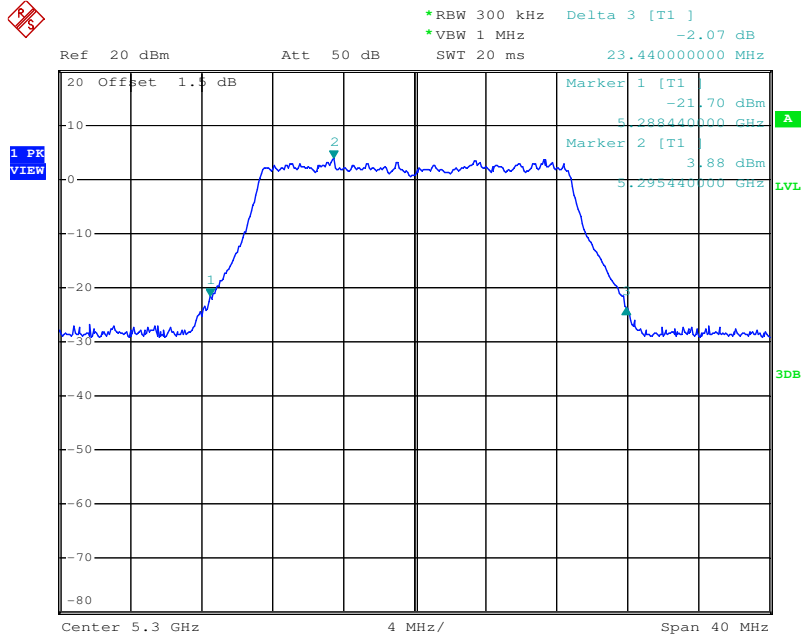


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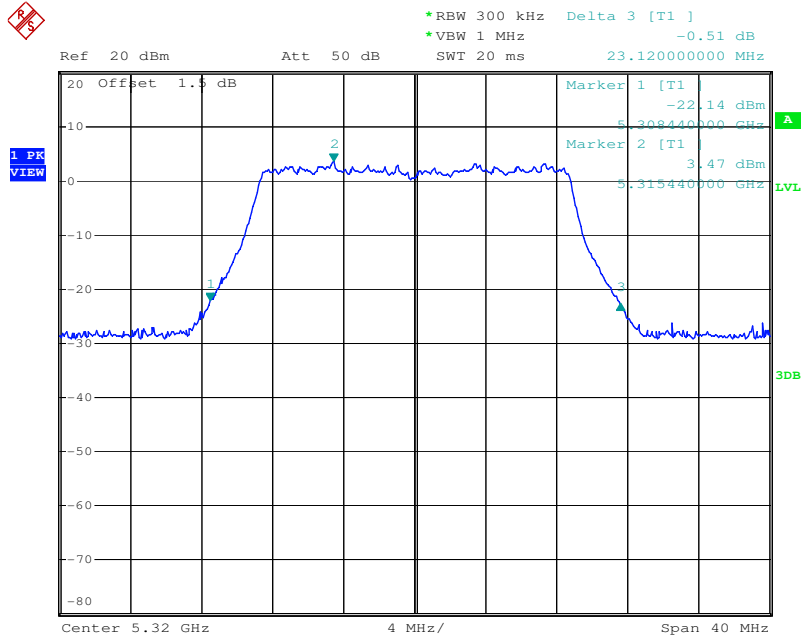
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5300
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5320
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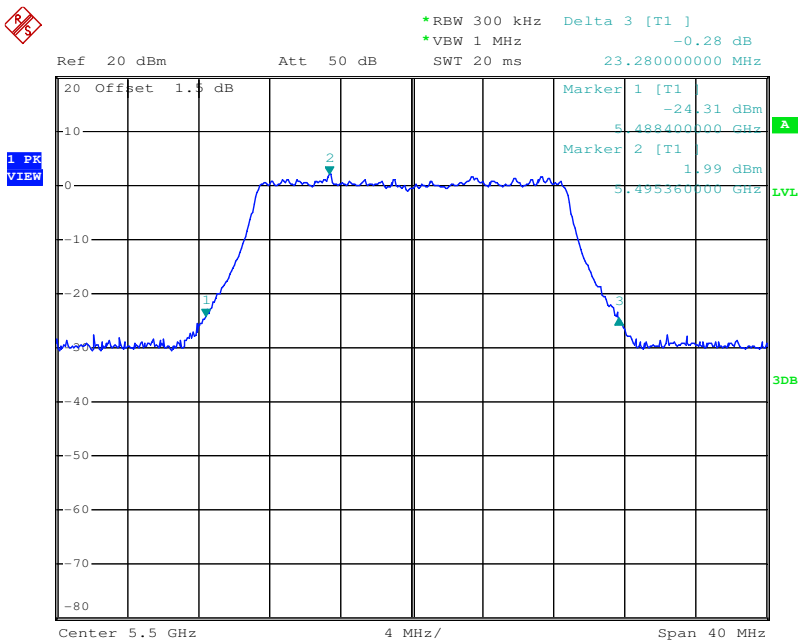


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

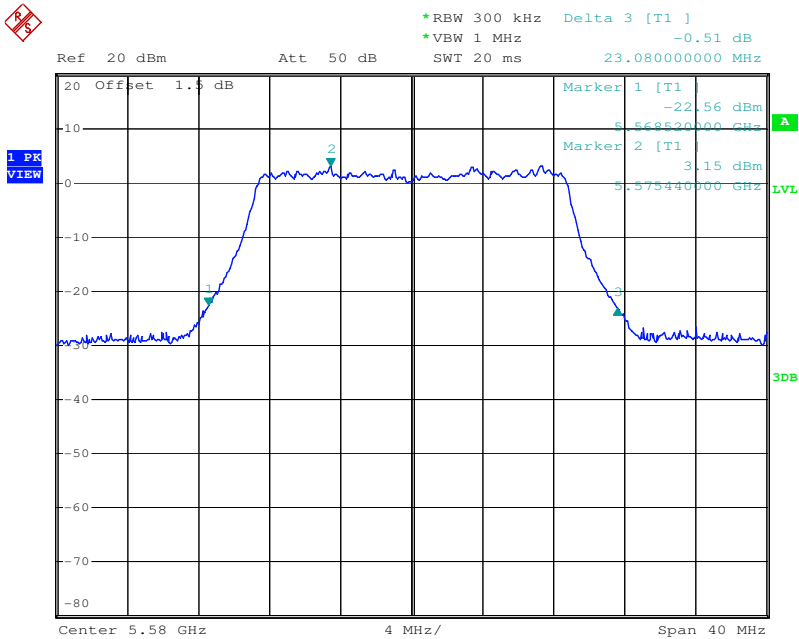
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5500
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5580
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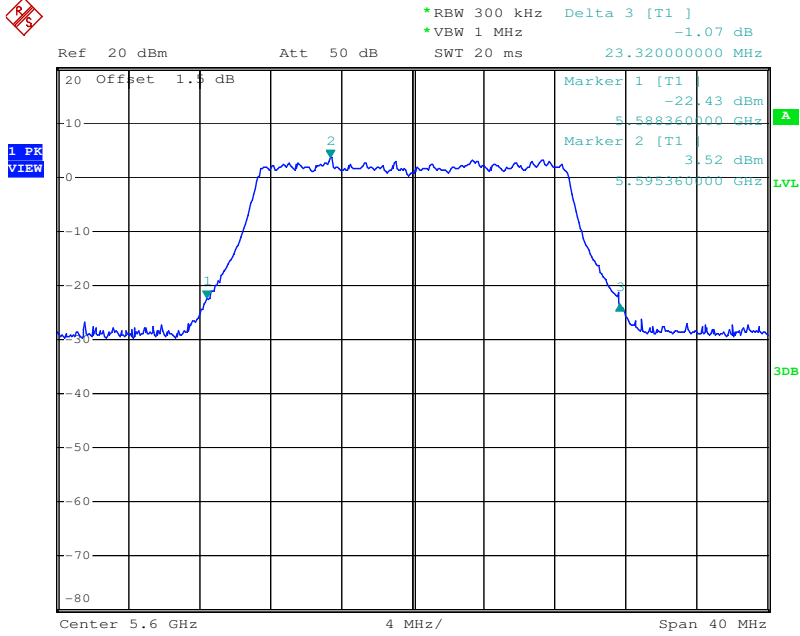


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

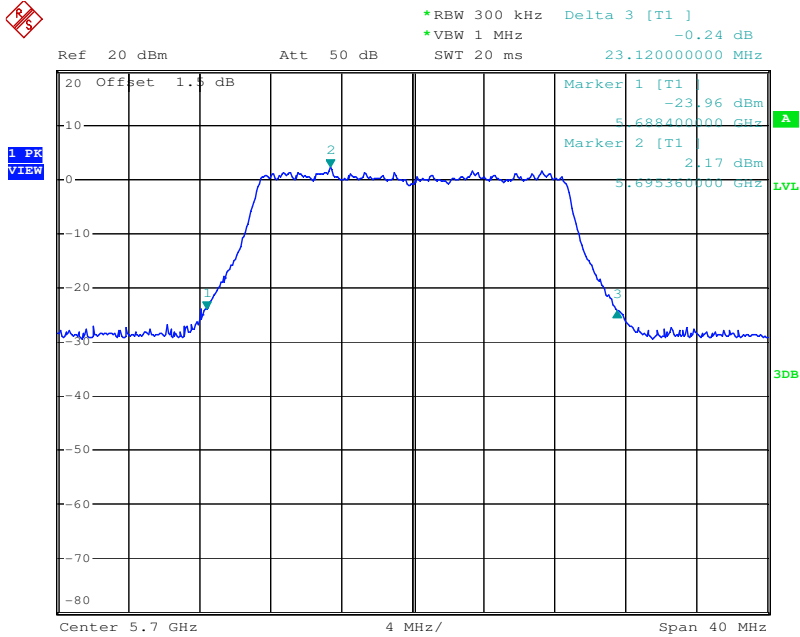
Report No.: SZEM160700630905

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Test mode:	802.11ac(HT20)	Frequency(MHz):	5600
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5700
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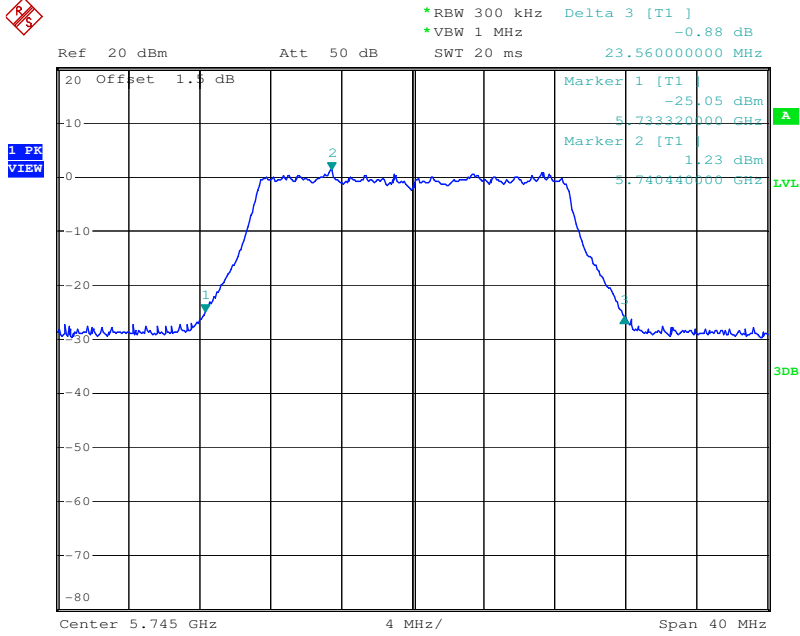


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

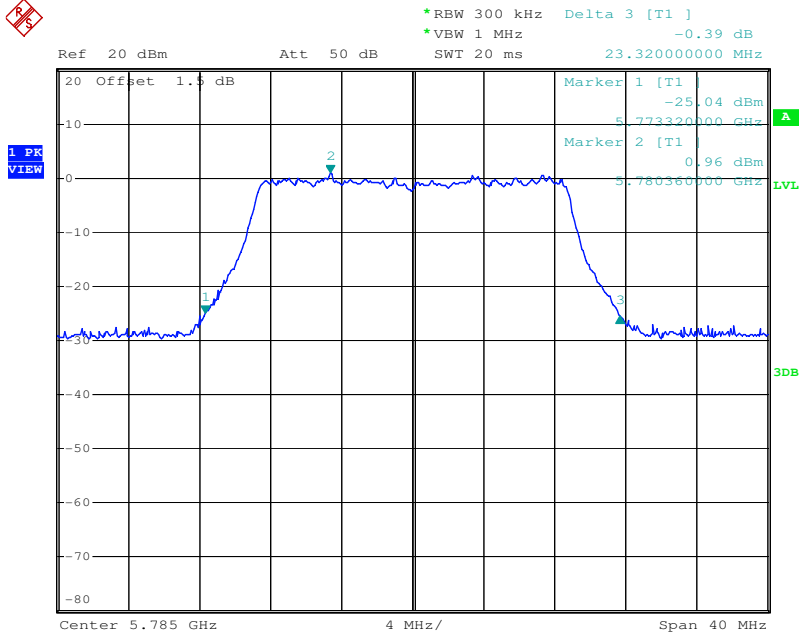
Report No.: SZEM160700630905

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Test mode:	802.11ac(HT20)	Frequency(MHz):	5745
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5785
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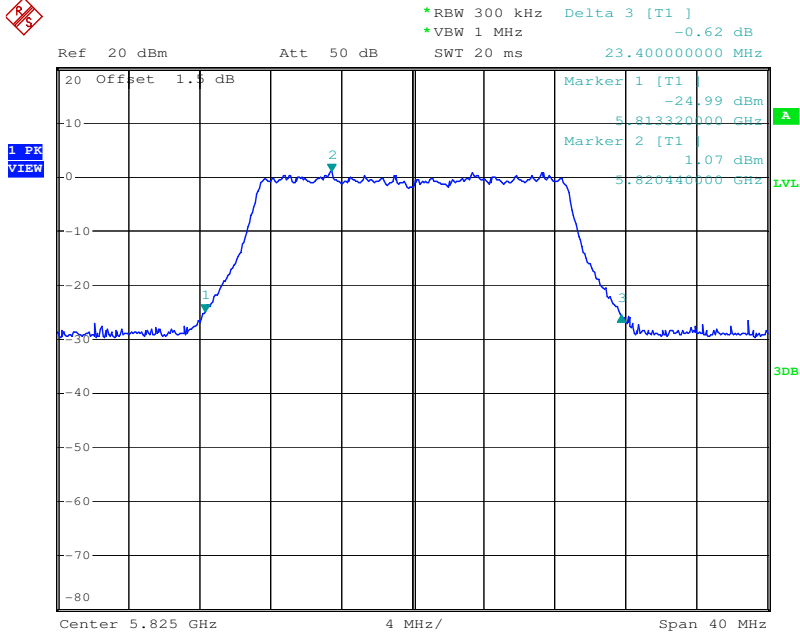


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

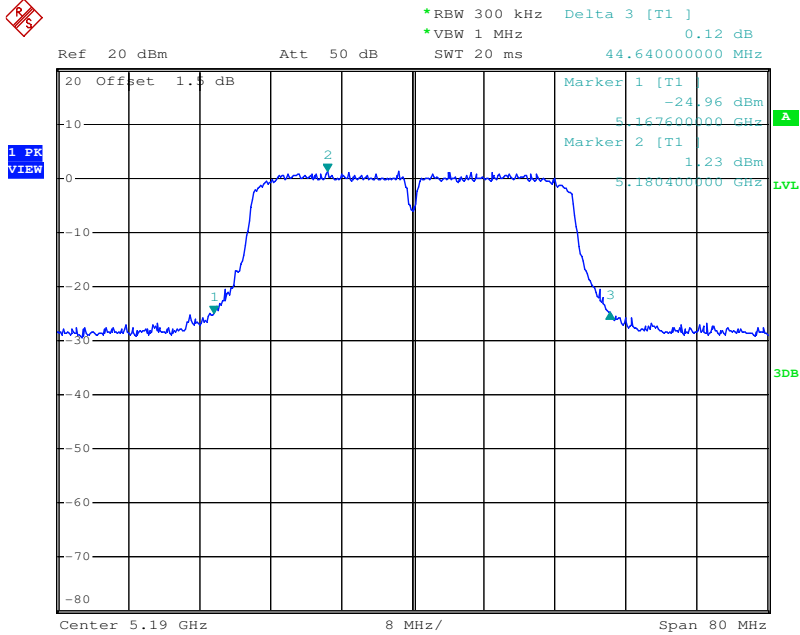
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5825
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Test mode:	802.11n(HT40)	Frequency(MHz):	5190
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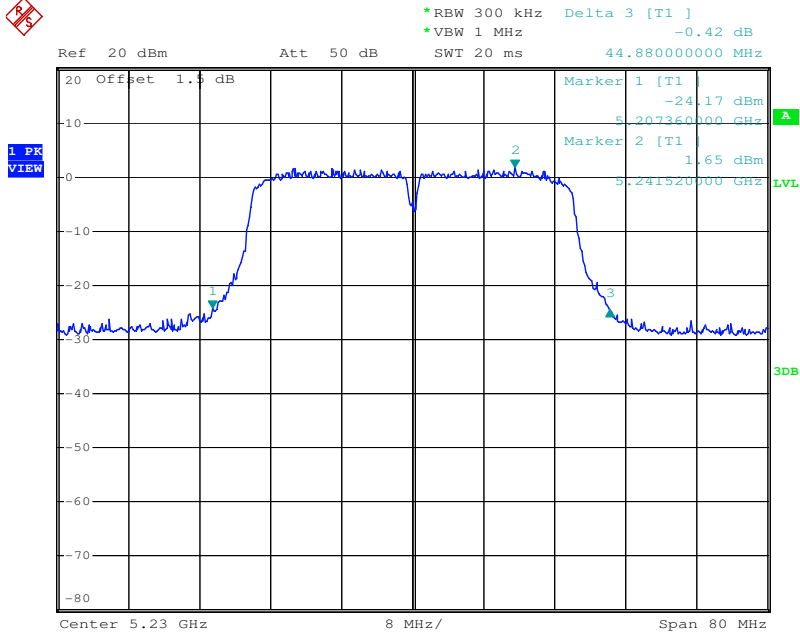


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

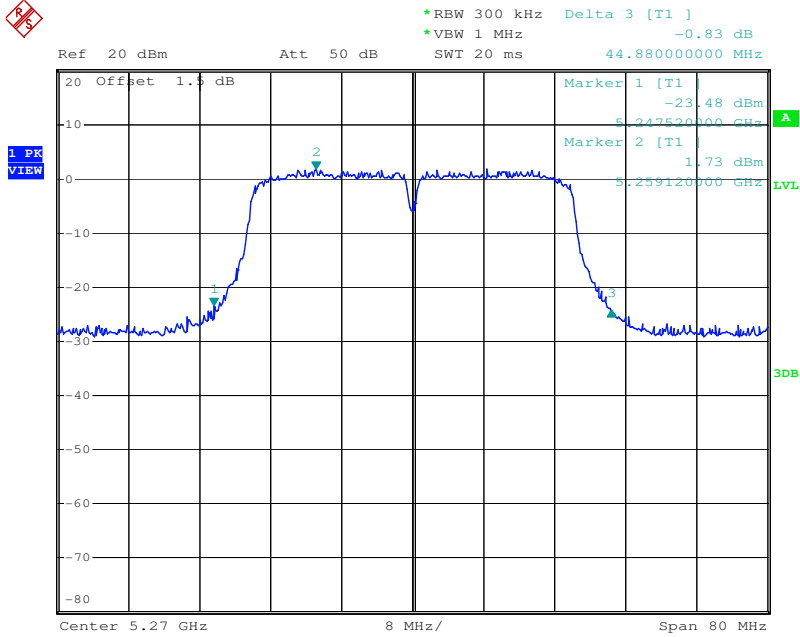
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Test mode:	802.11n(HT40)	Frequency(MHz):	5230
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Test mode:	802.11n(HT40)	Frequency(MHz):	5270
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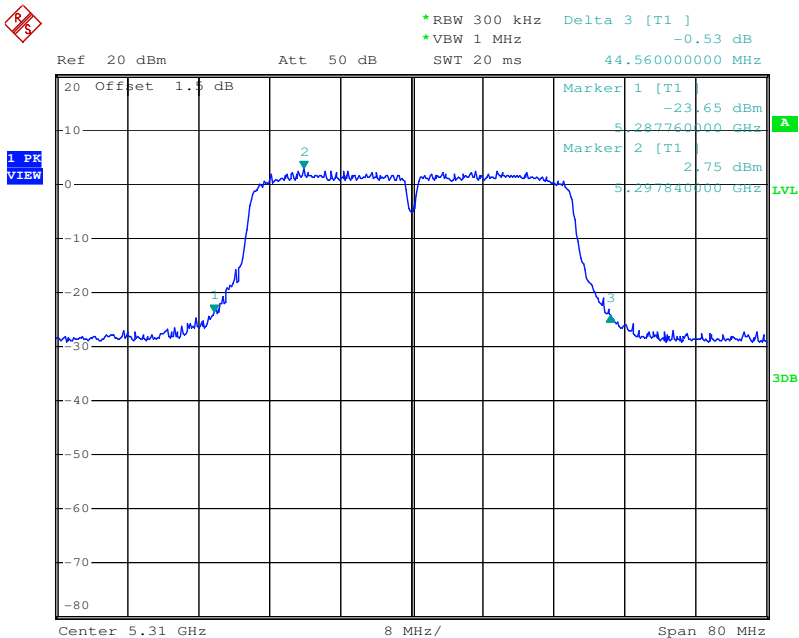


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

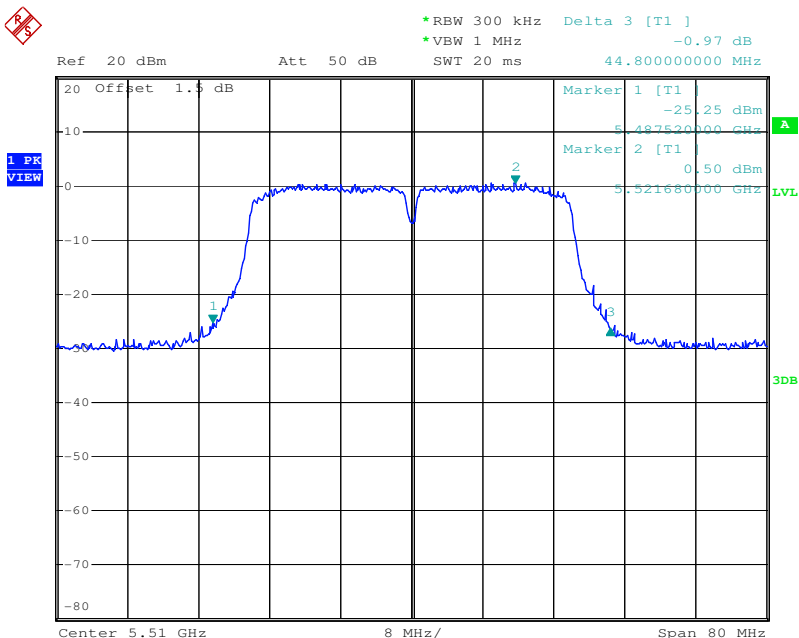
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Test mode:	802.11n(HT40)	Frequency(MHz):	5310
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Test mode:	802.11n(HT40)	Frequency(MHz):	5510
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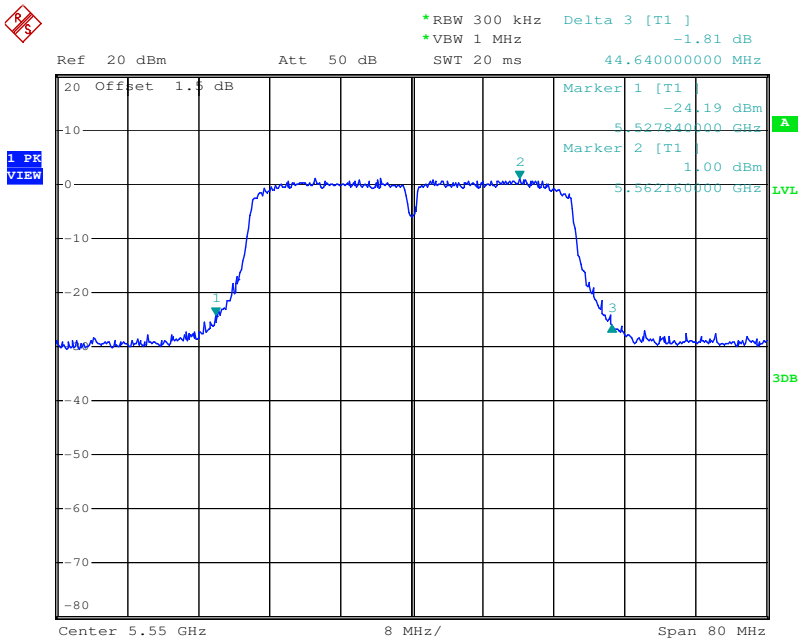


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

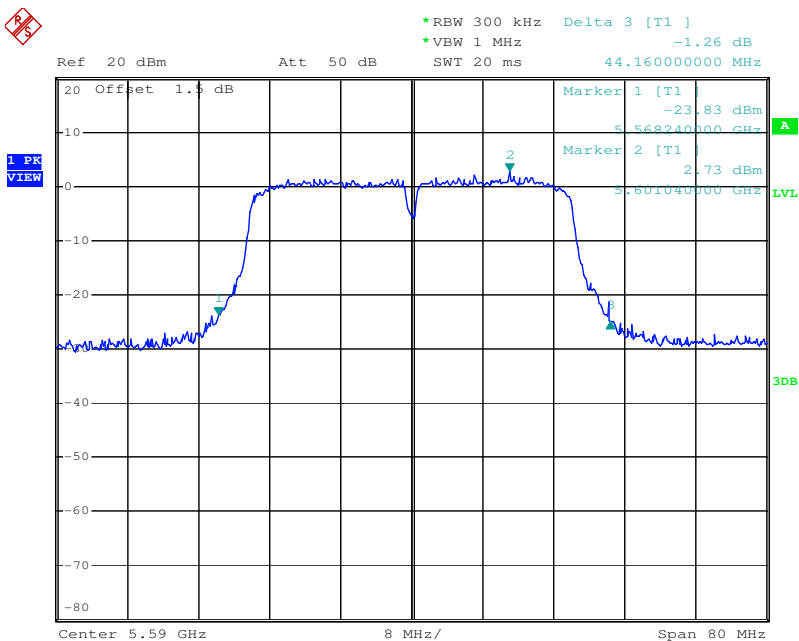
Report No.: SZEM160700630905

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Test mode:	802.11n(HT40)	Frequency(MHz):	5550
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Test mode:	802.11n(HT40)	Frequency(MHz):	5590
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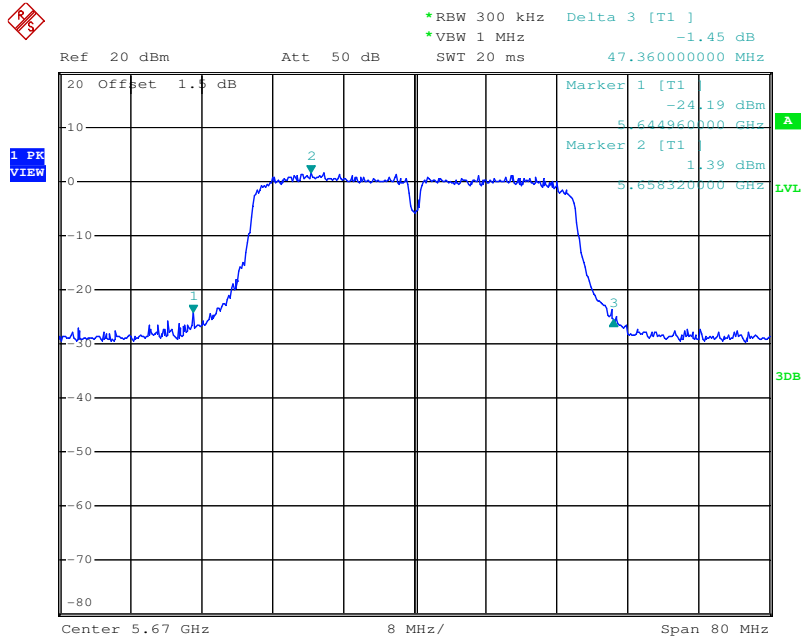


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

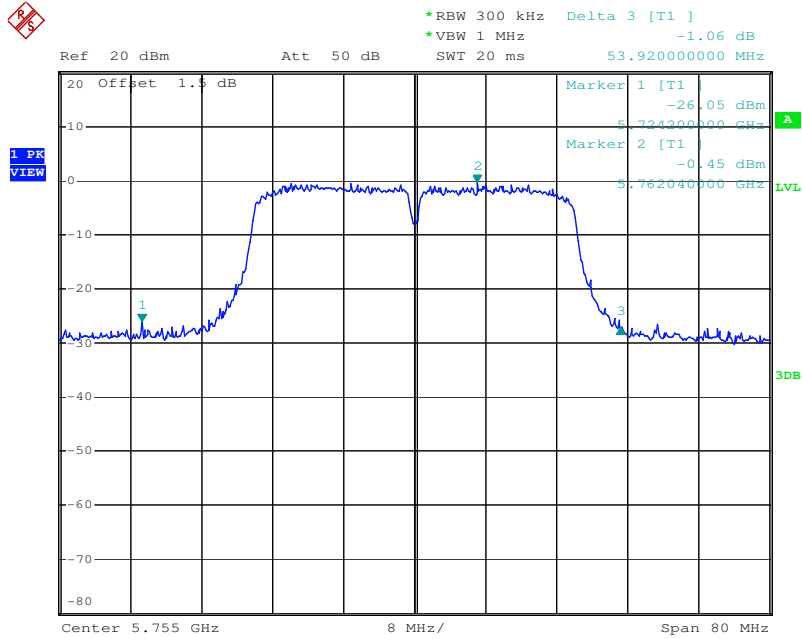
Report No.: SZEM160700630905

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Test mode:	802.11n(HT40)	Frequency(MHz):	5670
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Test mode:	802.11n(HT40)	Frequency(MHz):	5755
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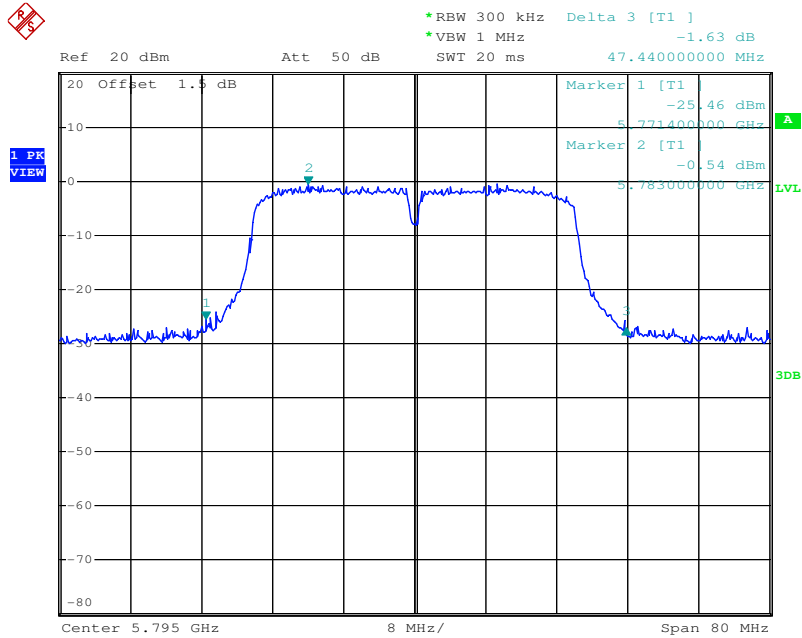


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

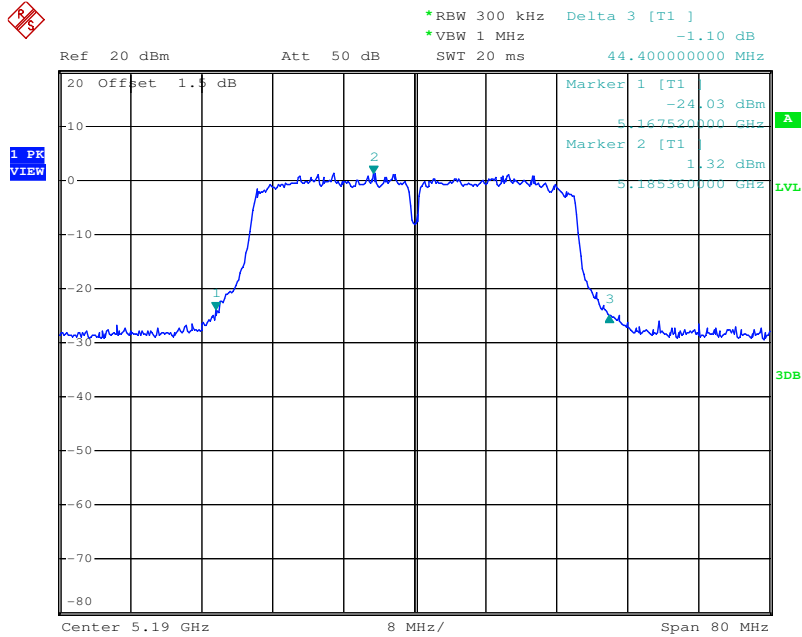
Report No.: SZEM160700630905

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Test mode:	802.11n(HT40)	Frequency(MHz):	5795
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5190
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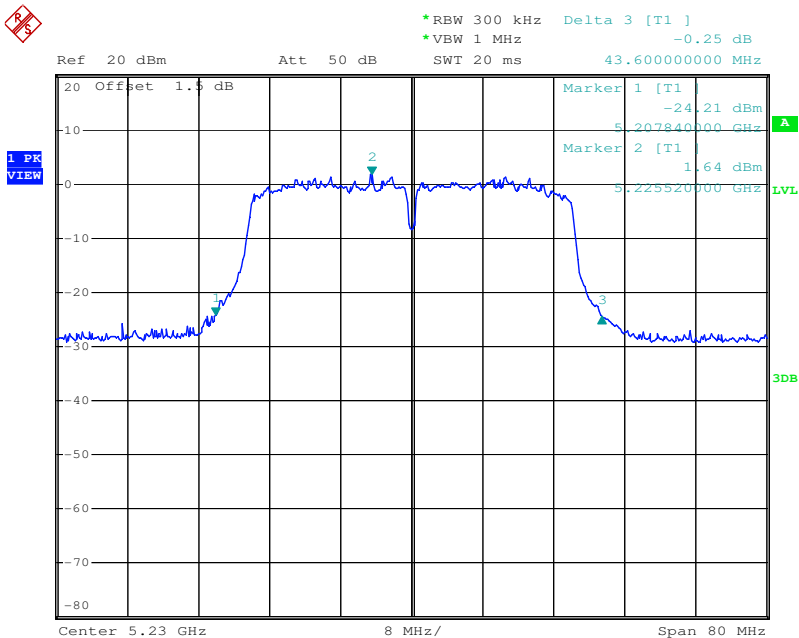


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

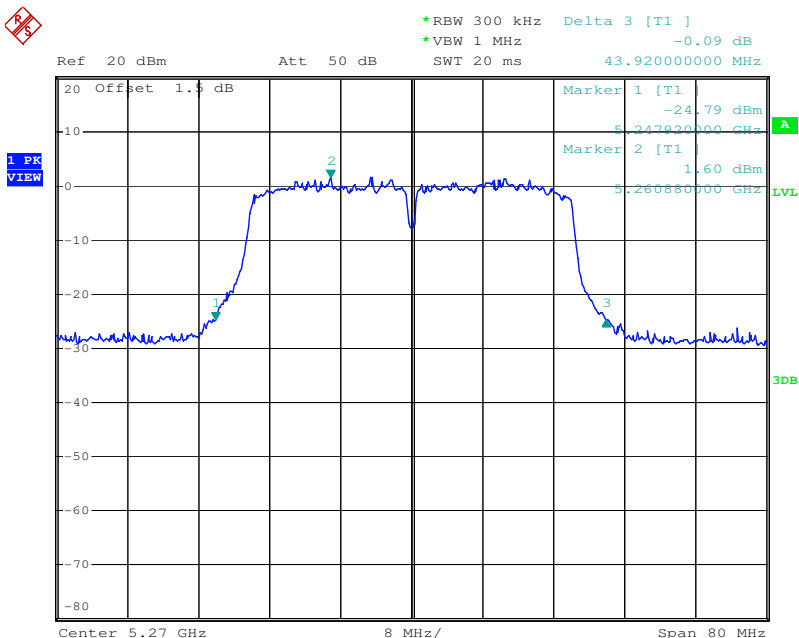
Report No.: SZEM160700630905

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Test mode:	802.11ac(HT40)	Frequency(MHz):	5230
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5270
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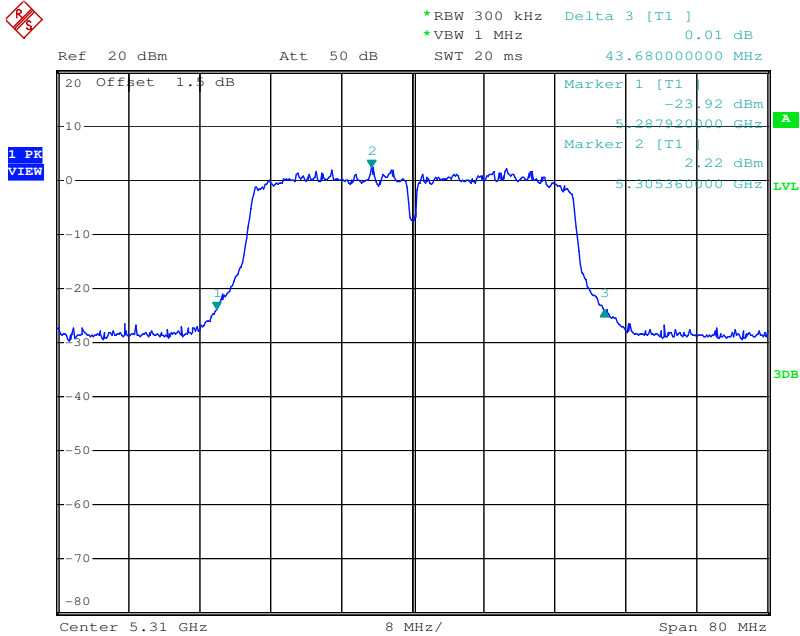


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

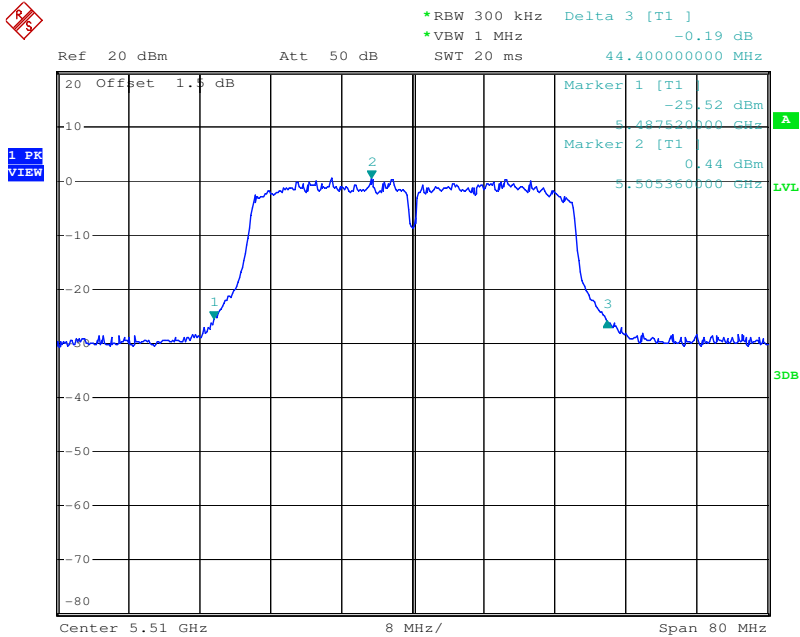
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5310
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5510
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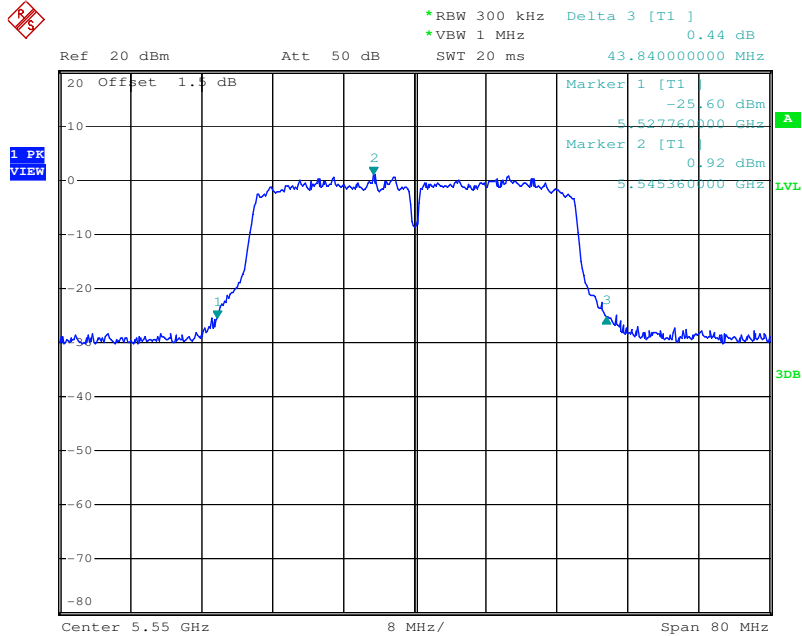


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

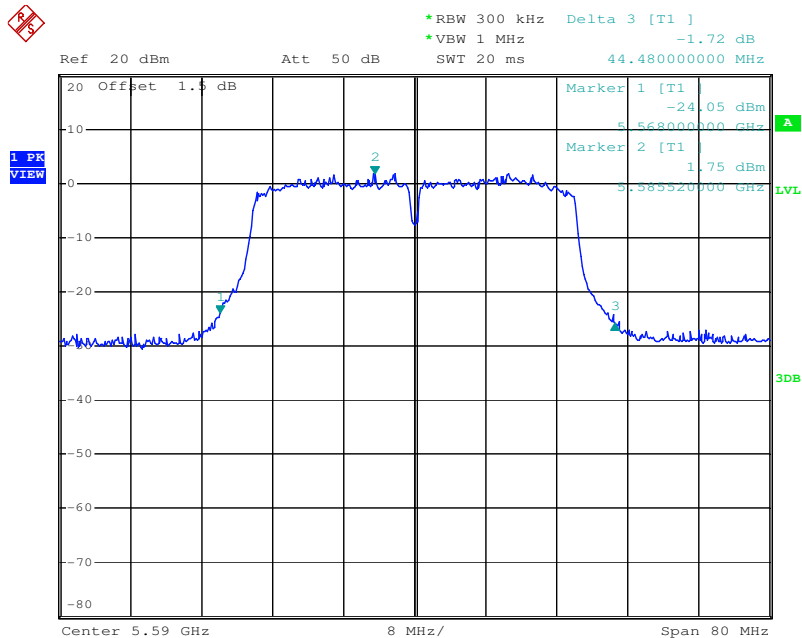
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5550
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5590
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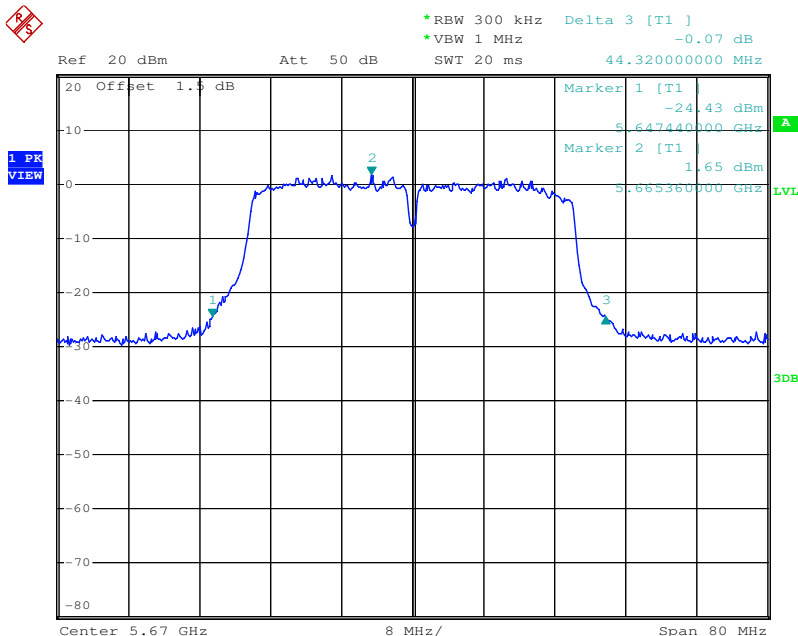


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

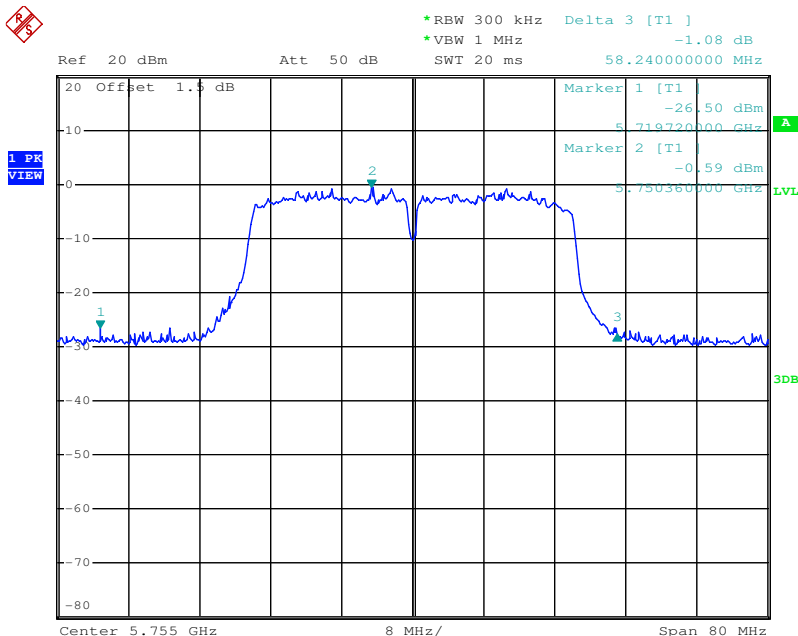
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5670
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5755
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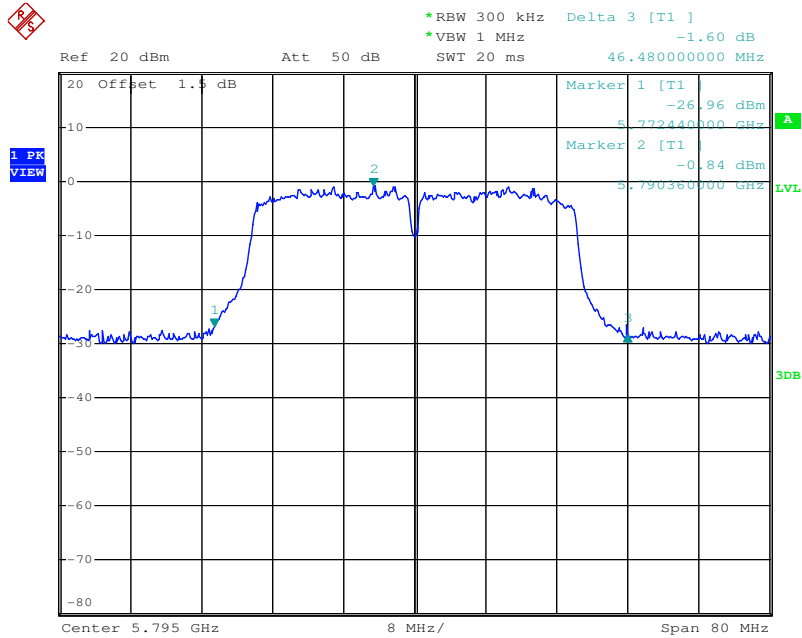


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

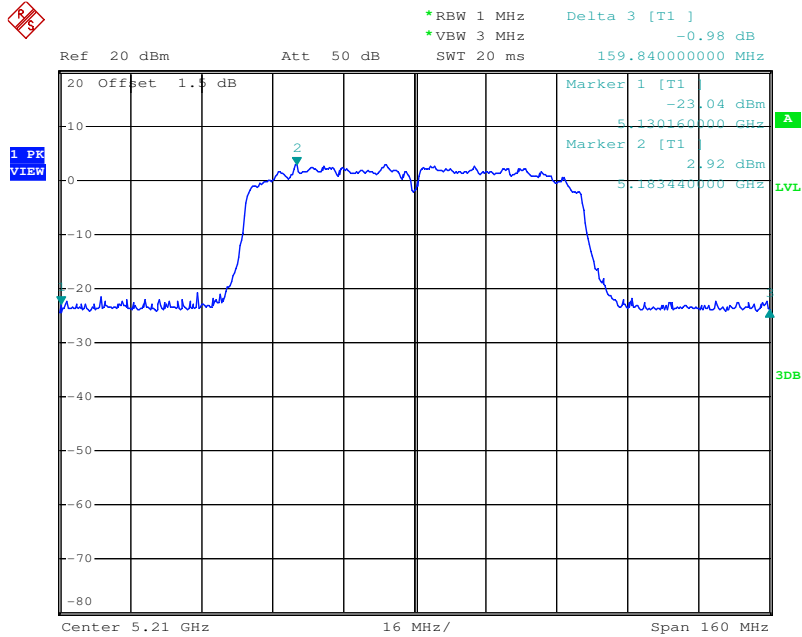
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5795
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est mode:	802.11ac(HT80)	Frequency(MHz):	5210
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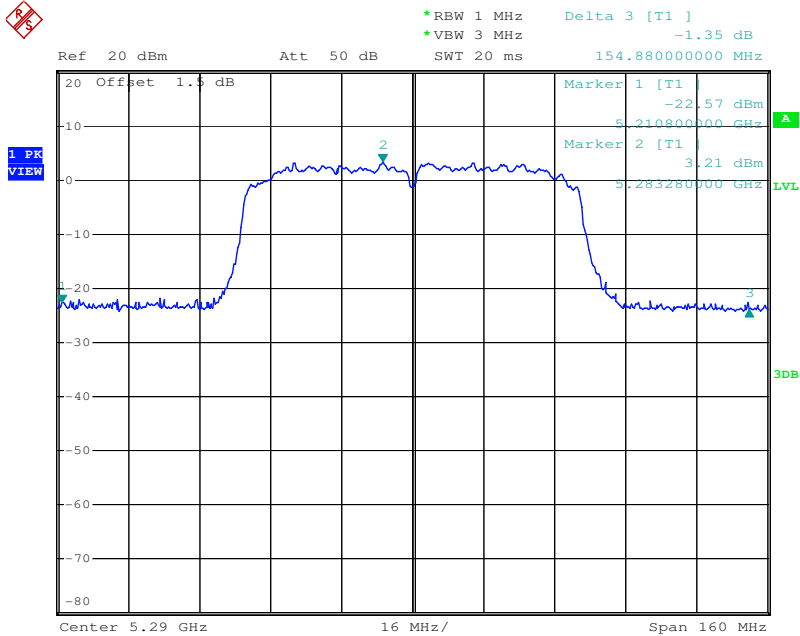


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

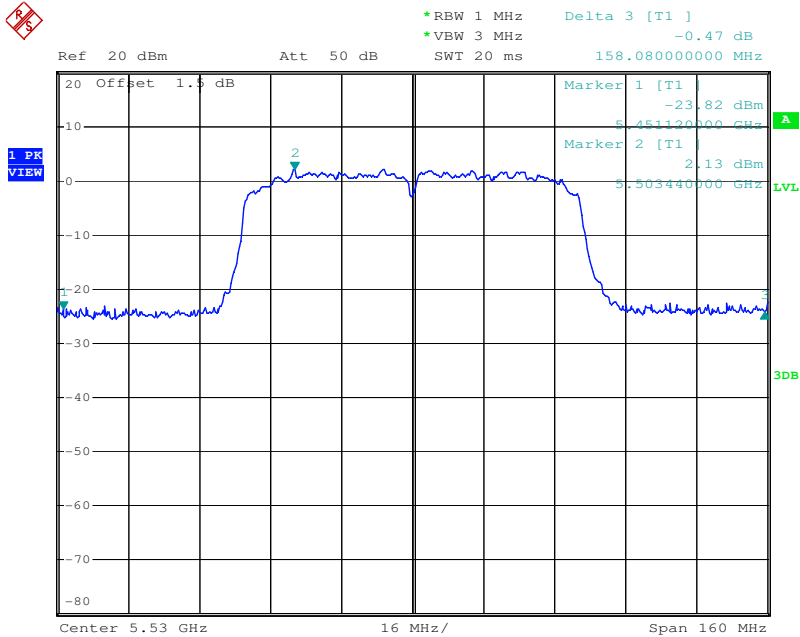
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5290
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5530
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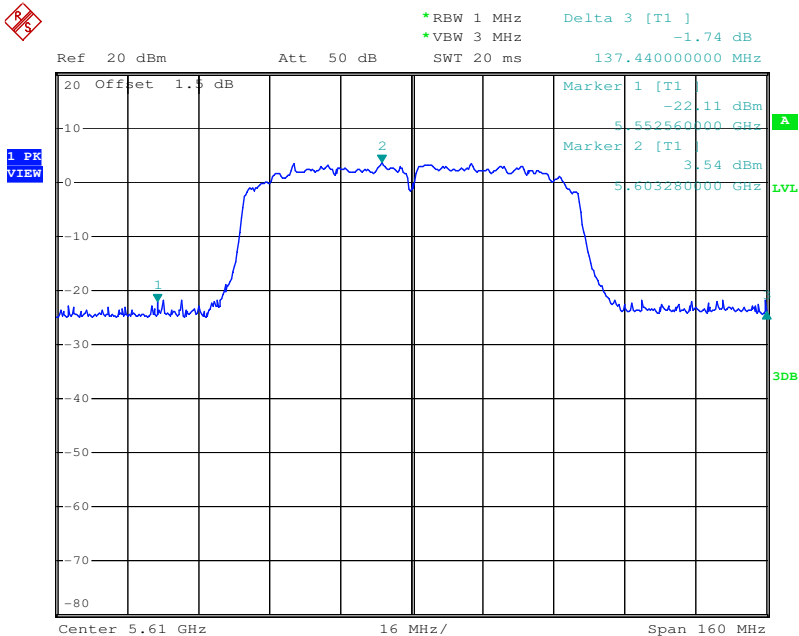


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

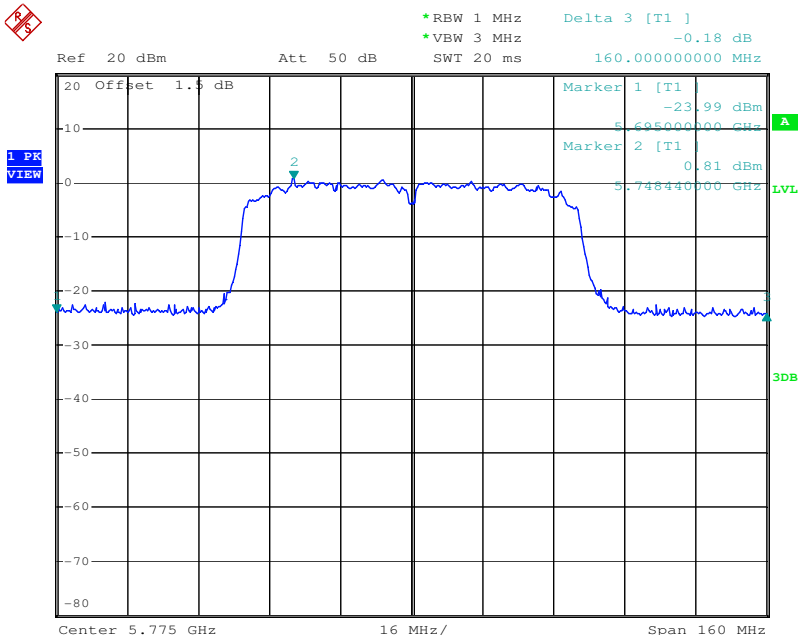
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5610
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5775
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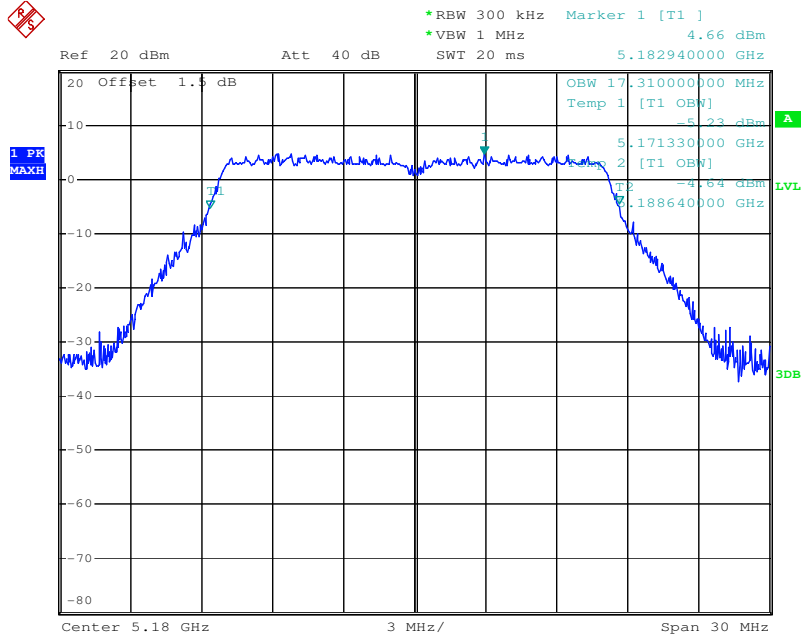




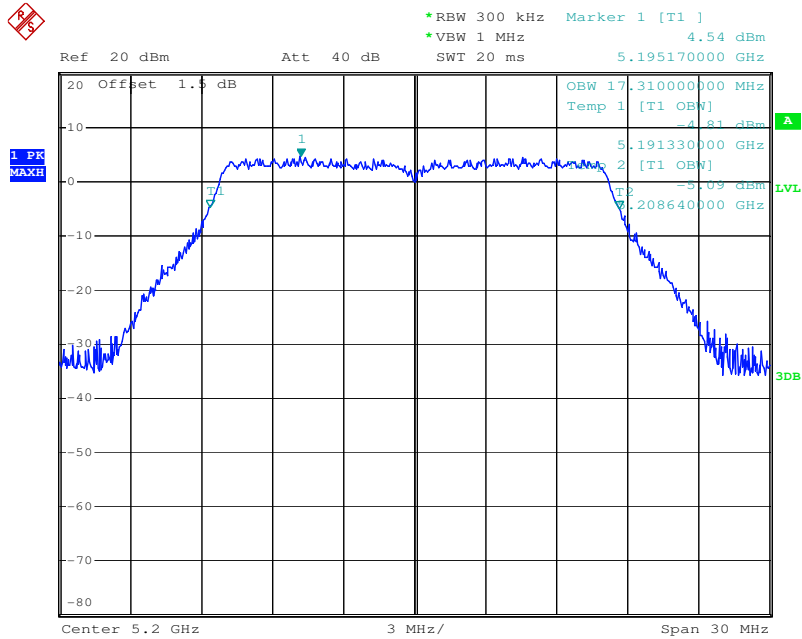
99% occupied bandwidth

Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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Test mode:	802.11a	Frequency(MHz):	5220
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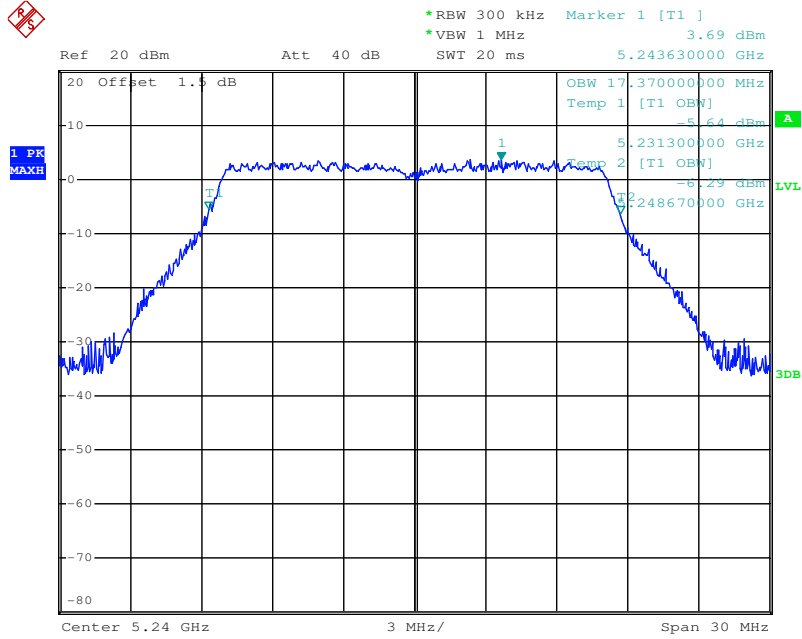


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

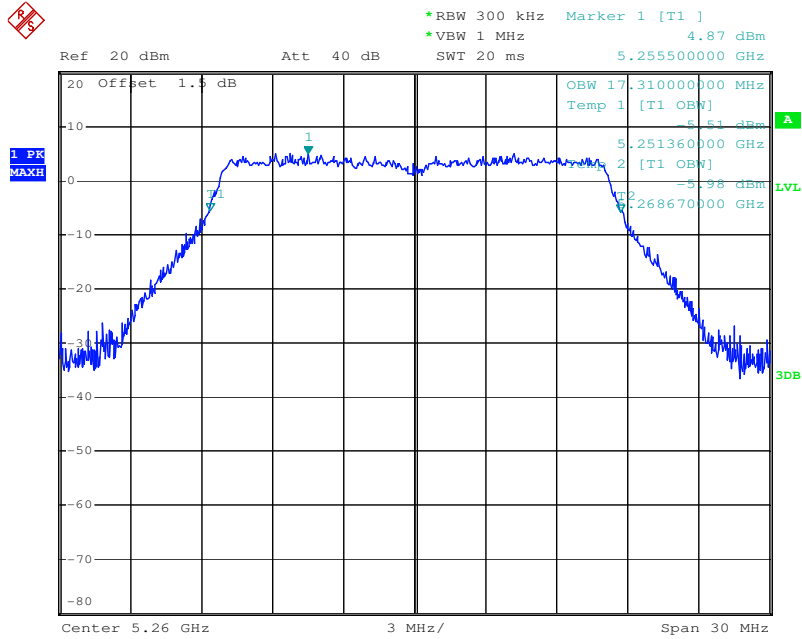
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Test mode:	802.11a	Frequency(MHz):	5240
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Test mode:	802.11a	Frequency(MHz):	5260
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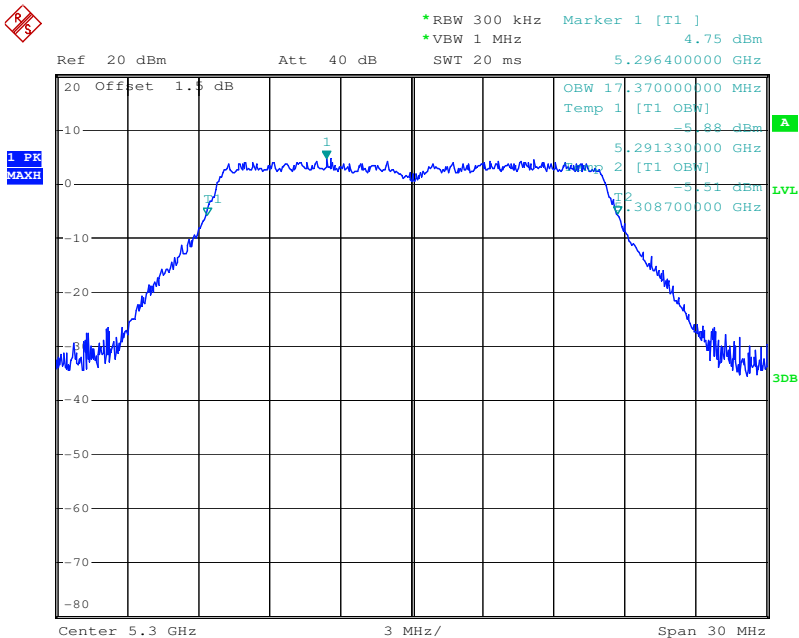


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

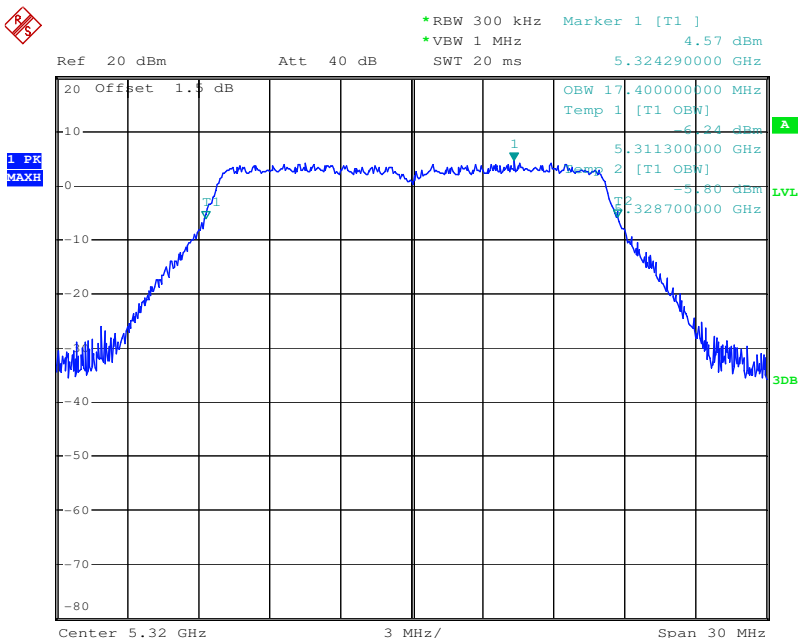
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Test mode:	802.11a	Frequency(MHz):	5300
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Test mode:	802.11a	Frequency(MHz):	5320
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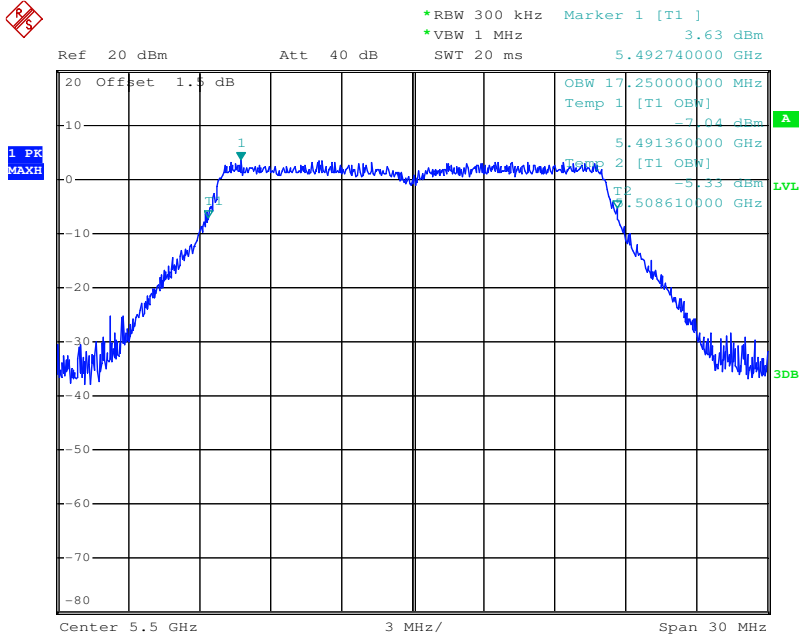


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

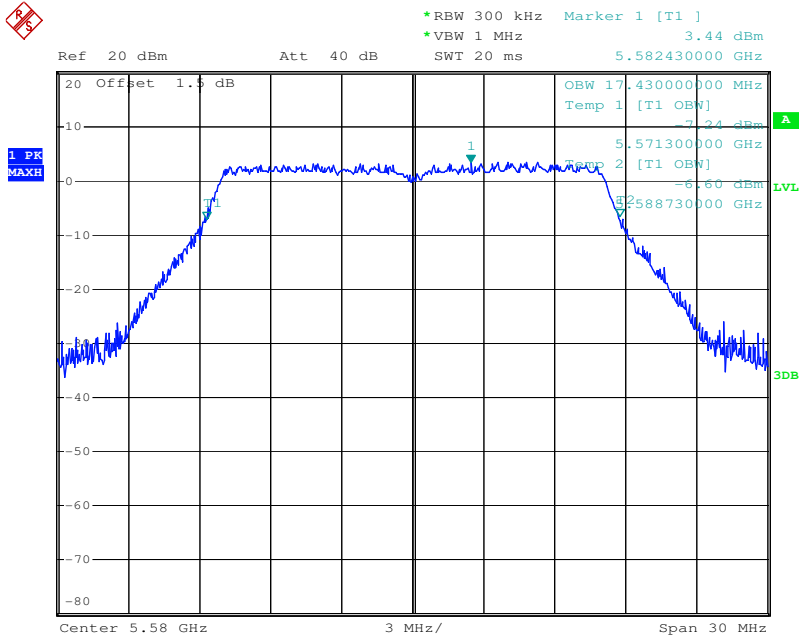
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Test mode:	802.11a	Frequency(MHz):	5500
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Test mode:	802.11a	Frequency(MHz):	5580
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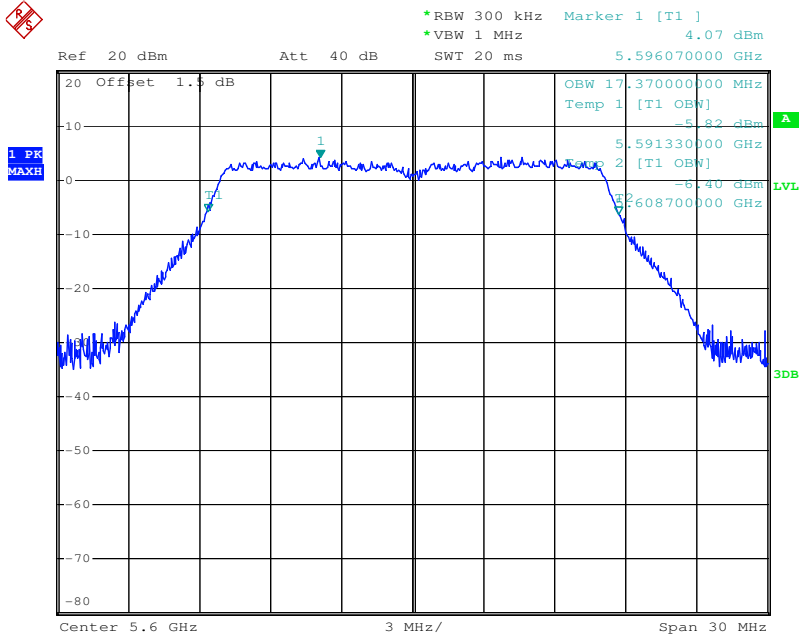


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

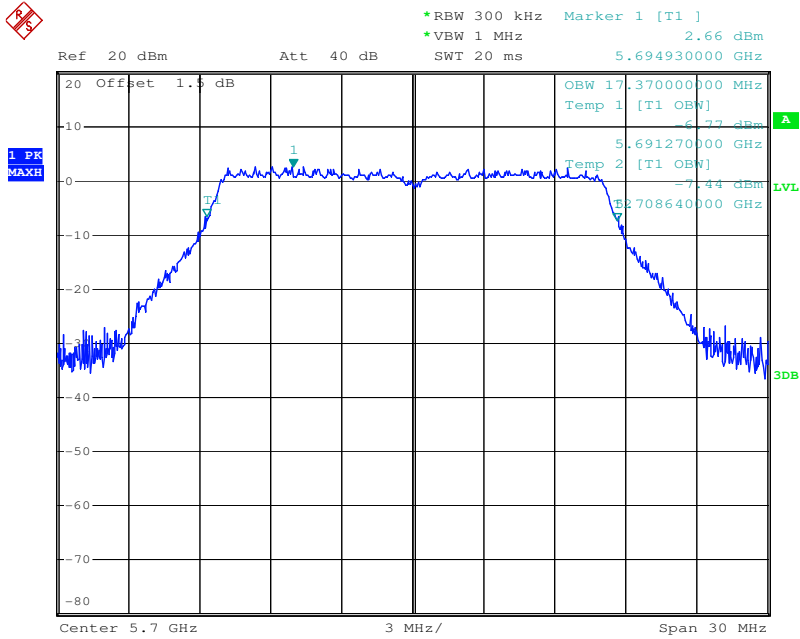
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Test mode:	802.11a	Frequency(MHz):	5600
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Test mode:	802.11a	Frequency(MHz):	5700
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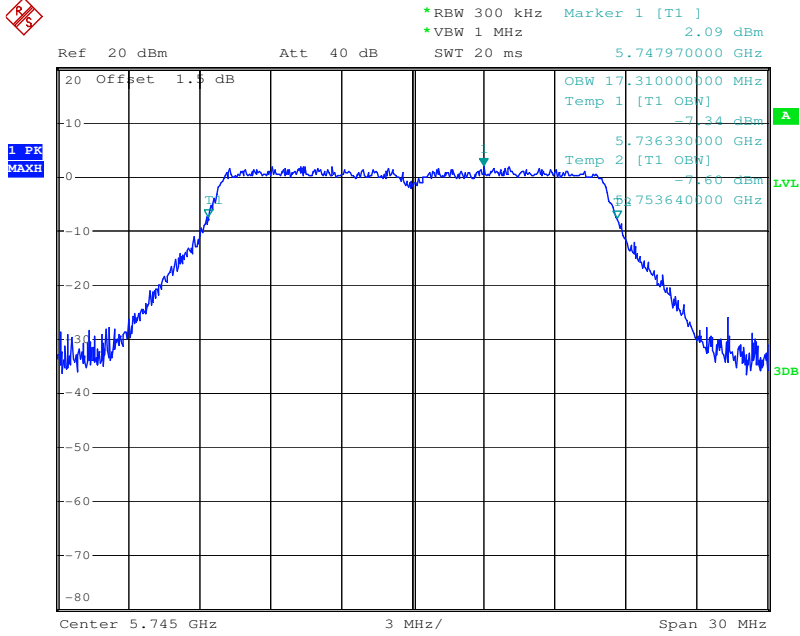


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

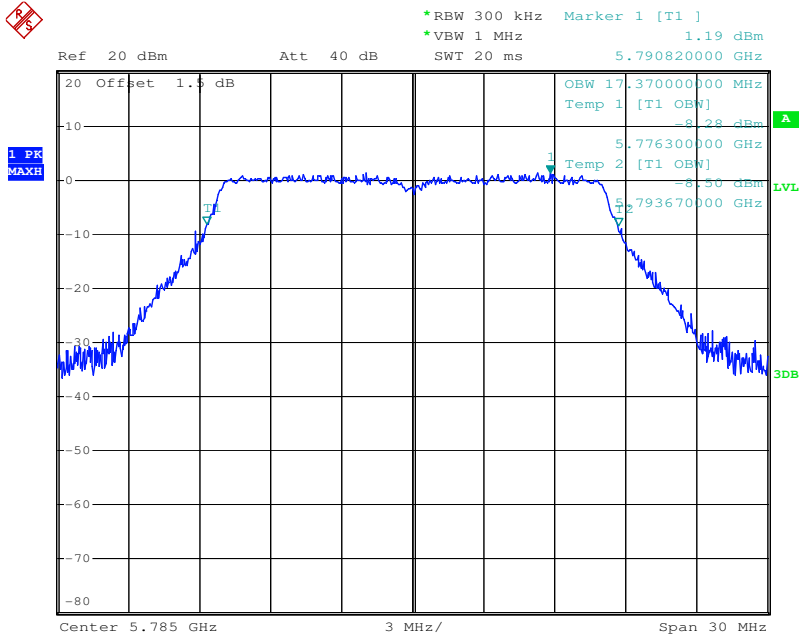
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Test mode:	802.11a	Frequency(MHz):	5745
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Test mode:	802.11a	Frequency(MHz):	5785
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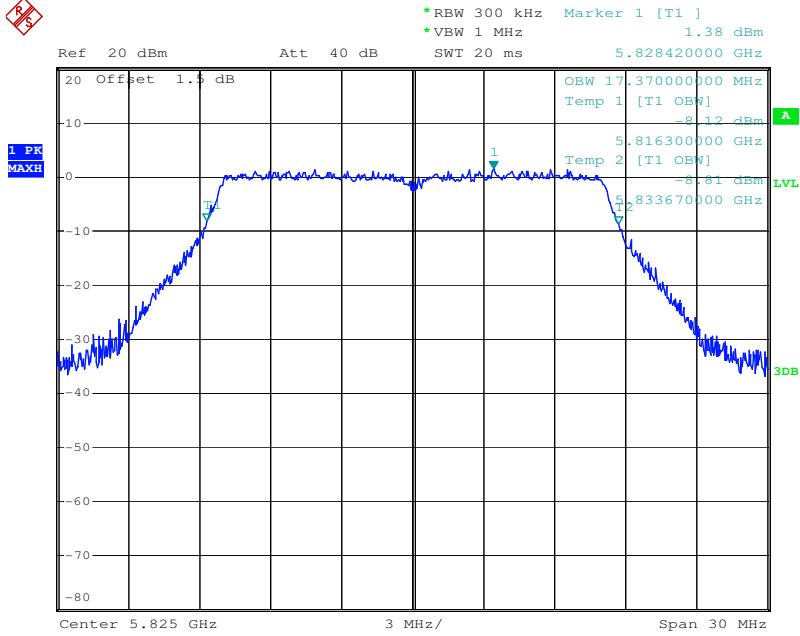


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

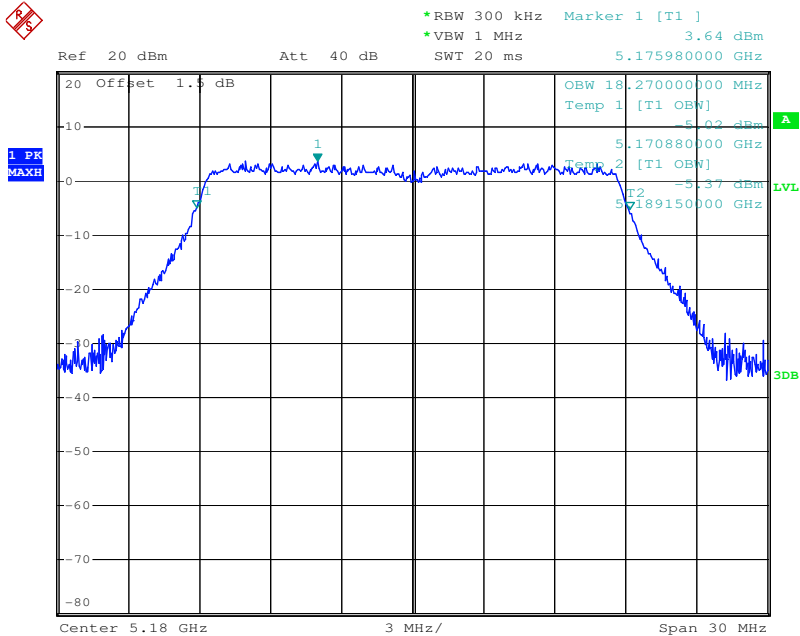
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Test mode:	802.11a	Frequency(MHz):	5825
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Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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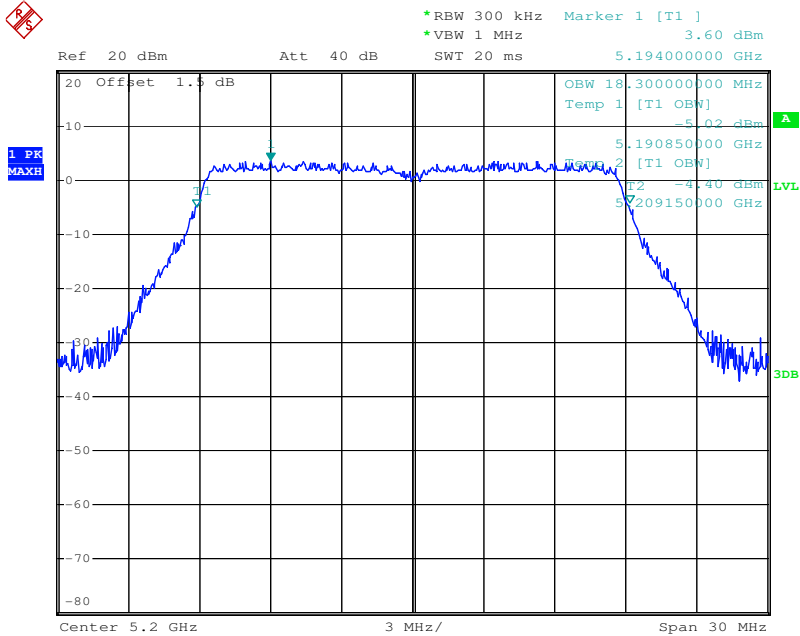


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

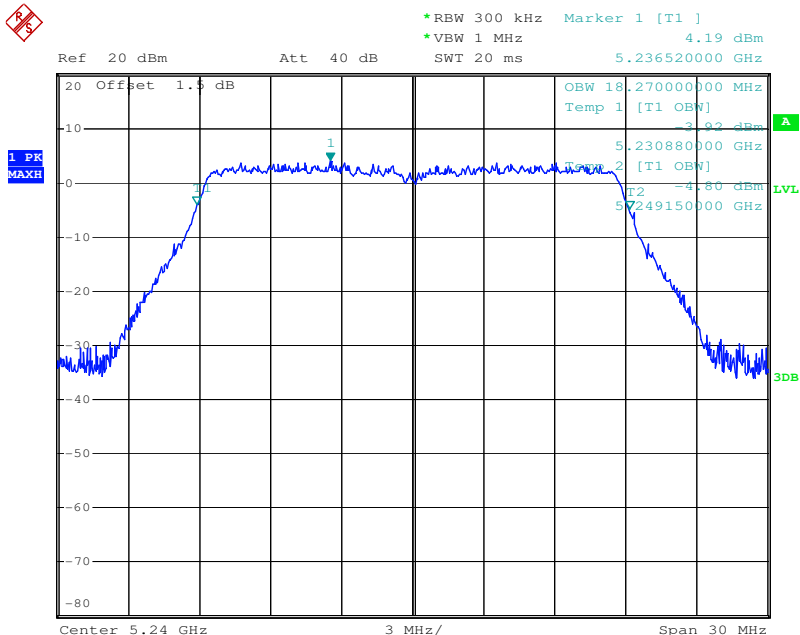
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Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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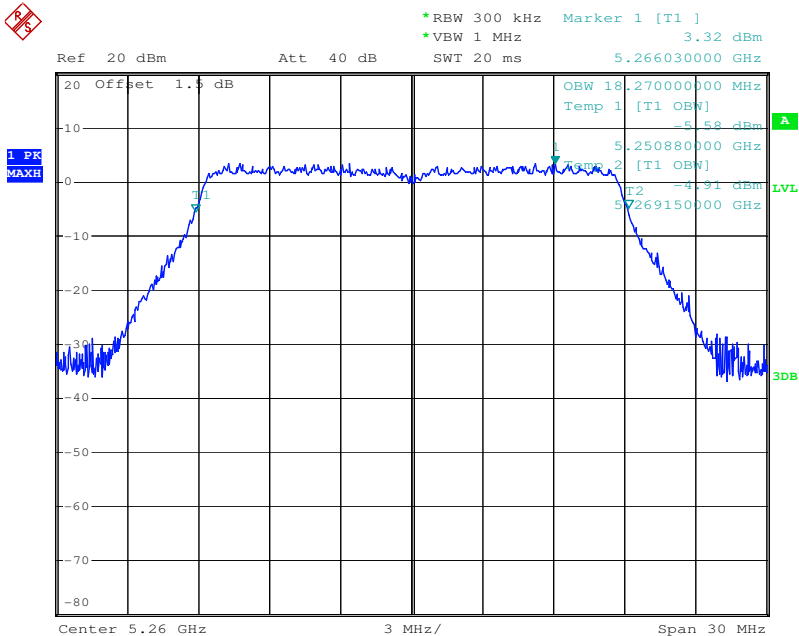


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

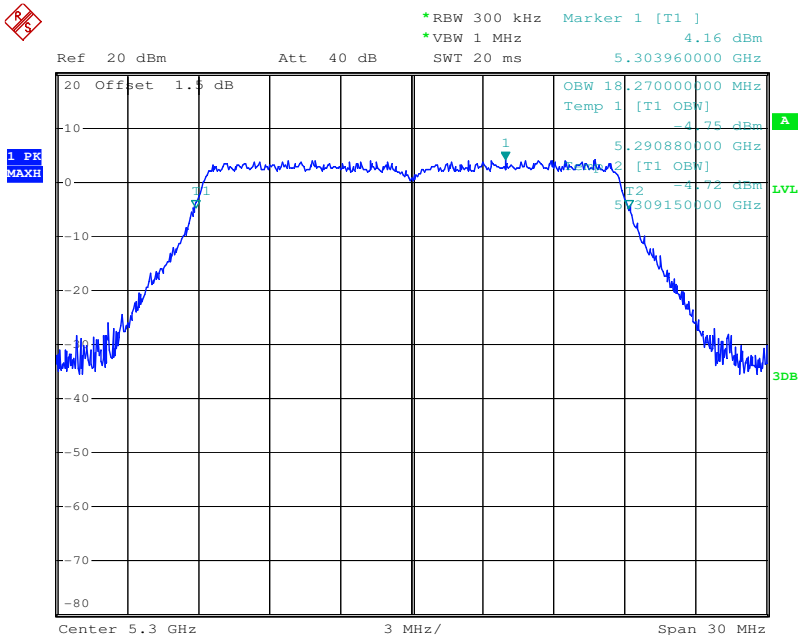
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Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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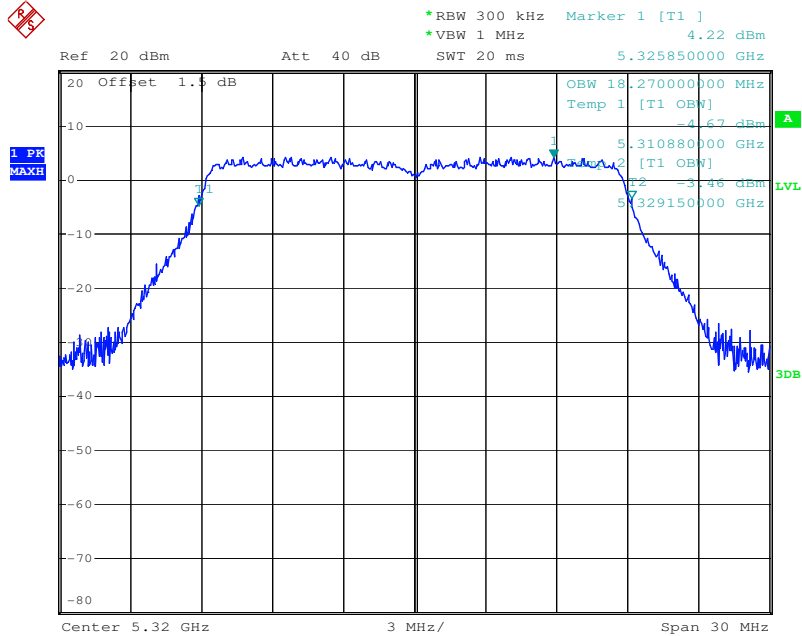


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

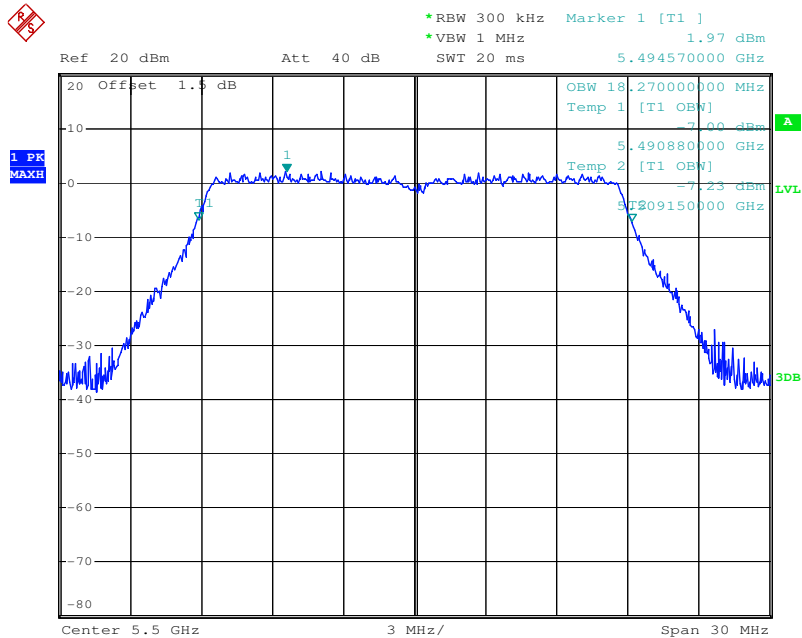
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Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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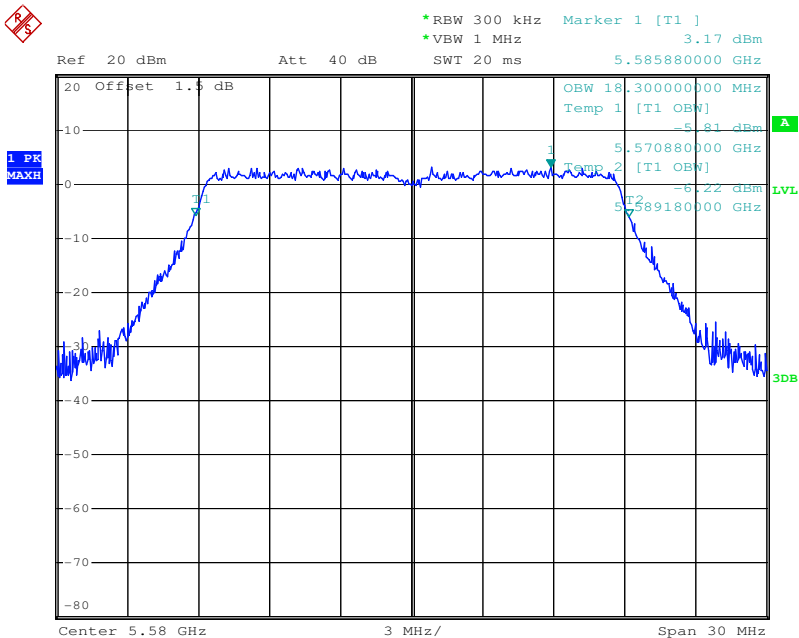


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

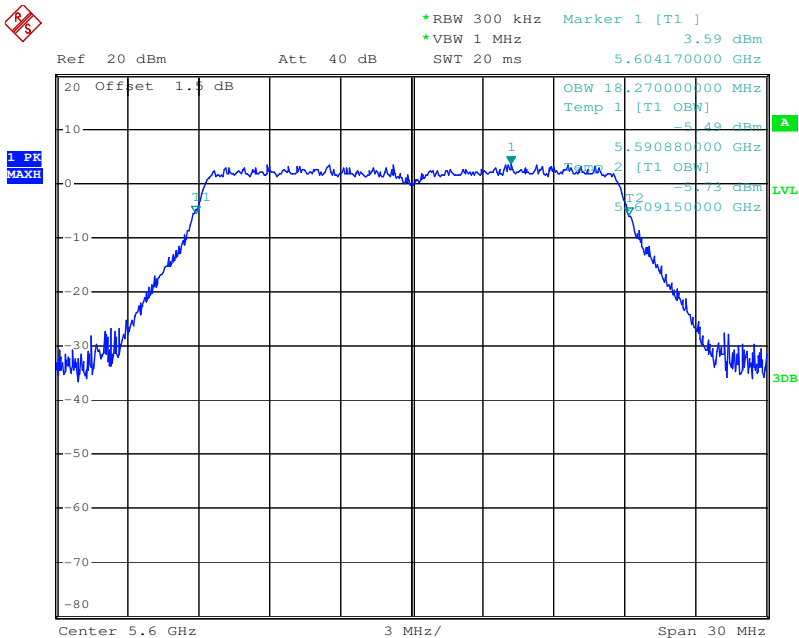
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Test mode:	802.11n(HT20)	Frequency(MHz):	5580
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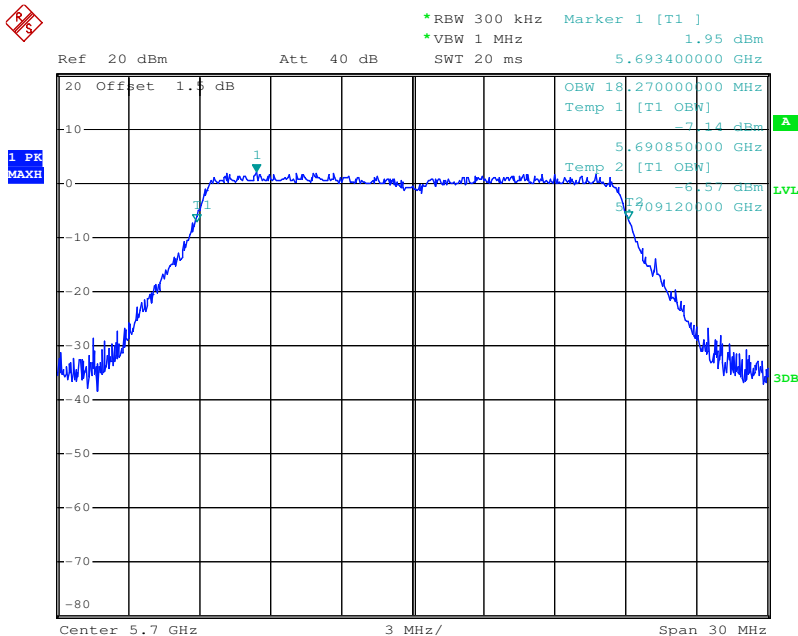


Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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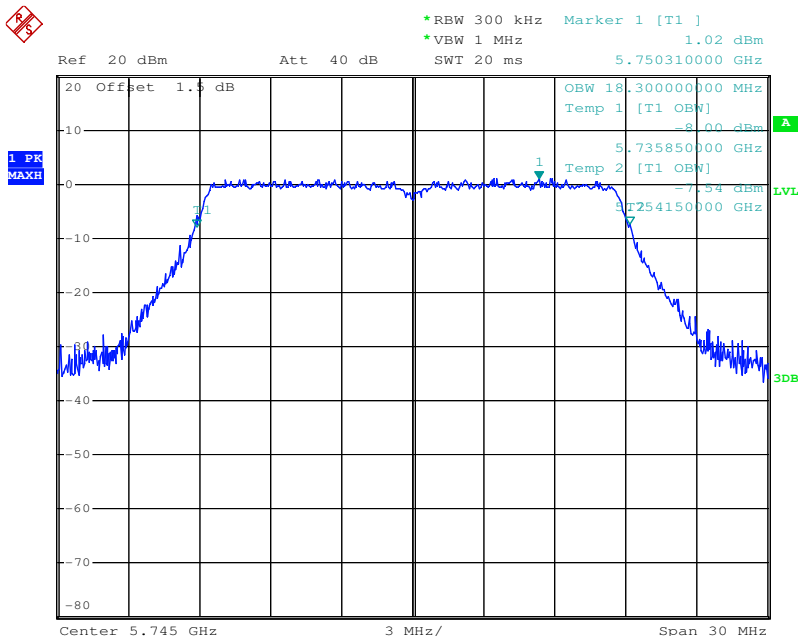




Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Test mode:	802.11n(HT20)	Frequency(MHz):	5745
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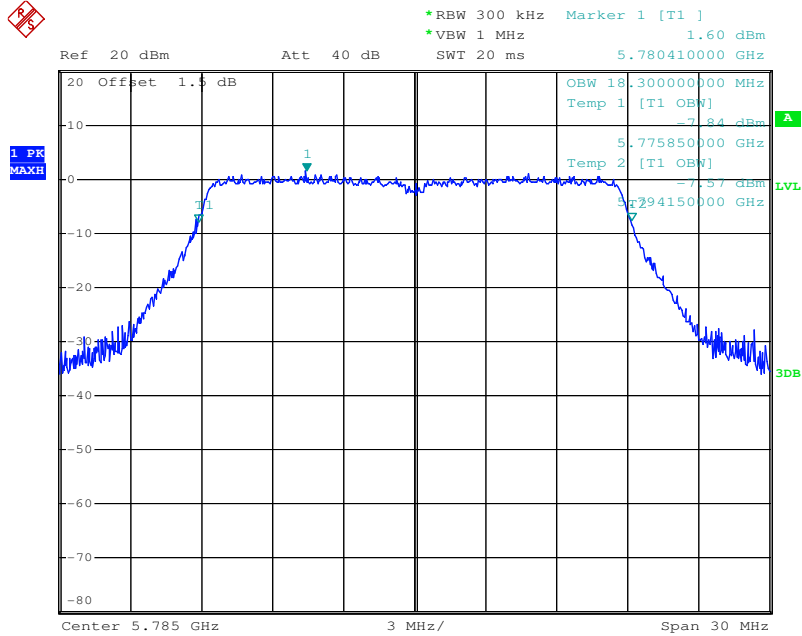


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

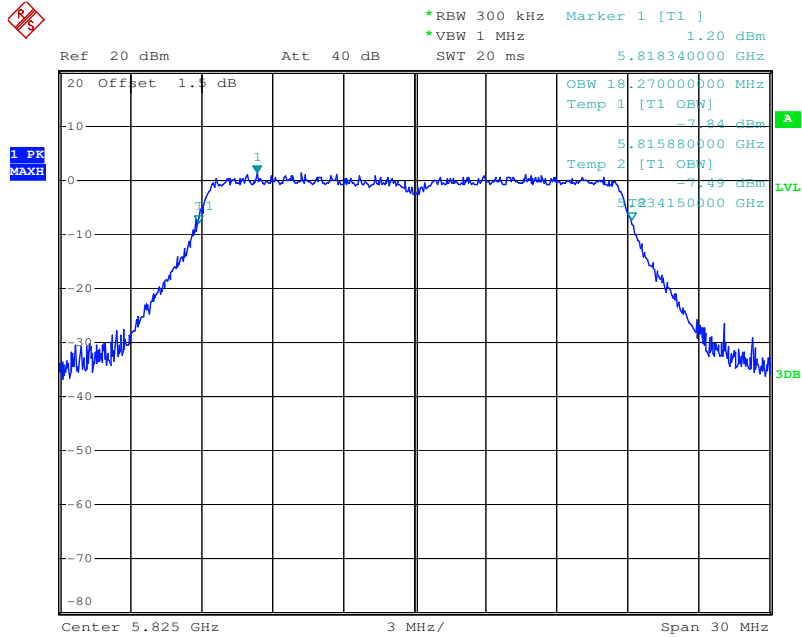
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Test mode:	802.11n(HT20)	Frequency(MHz):	5785
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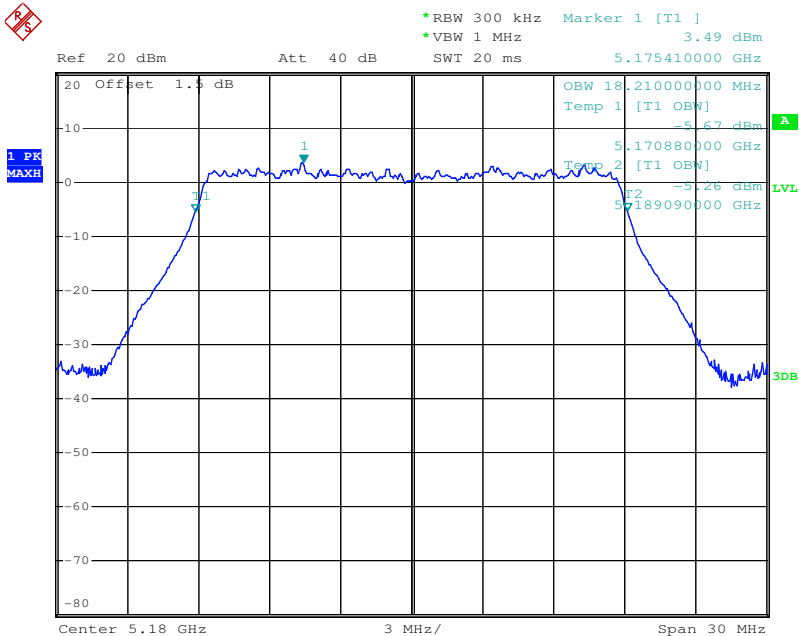


Test mode:	802.11n(HT20)	Frequency(MHz):	5825
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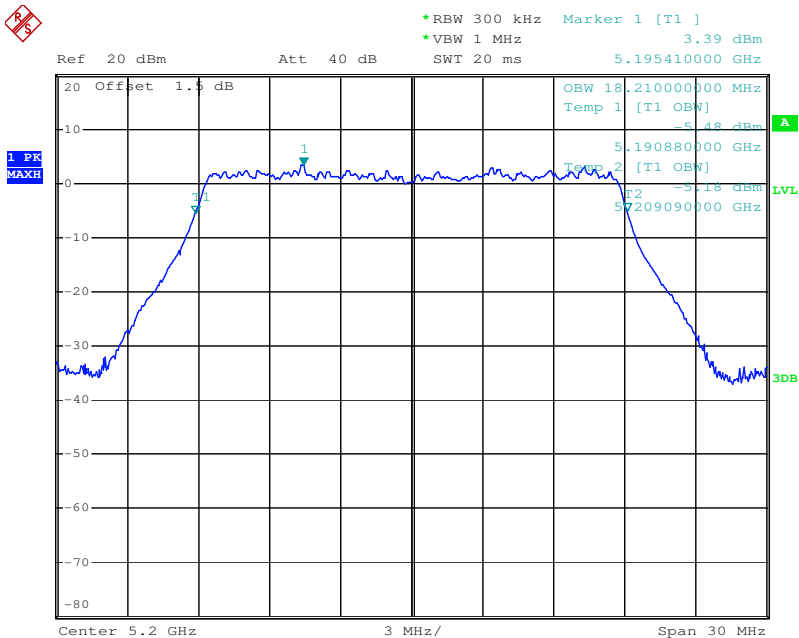




Test mode:	802.11ac(HT20)	Frequency(MHz):	5180
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5220
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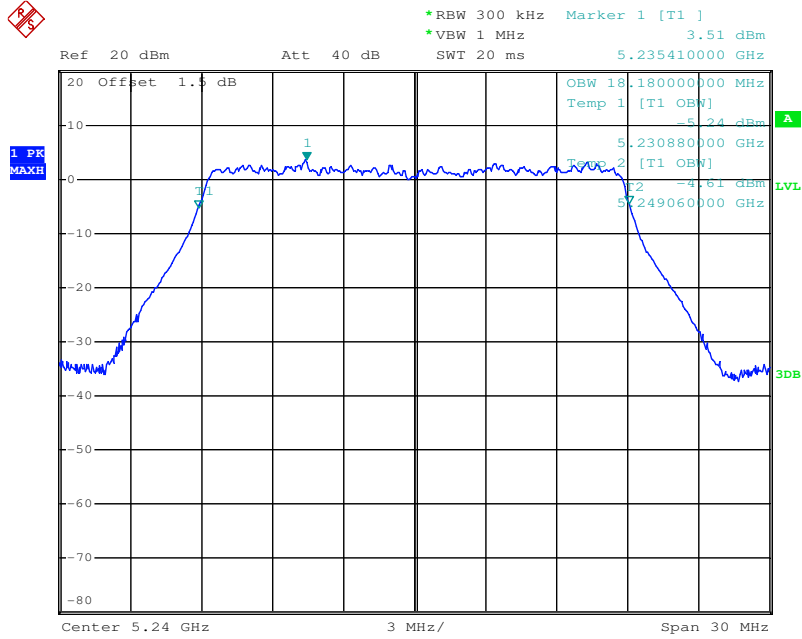


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

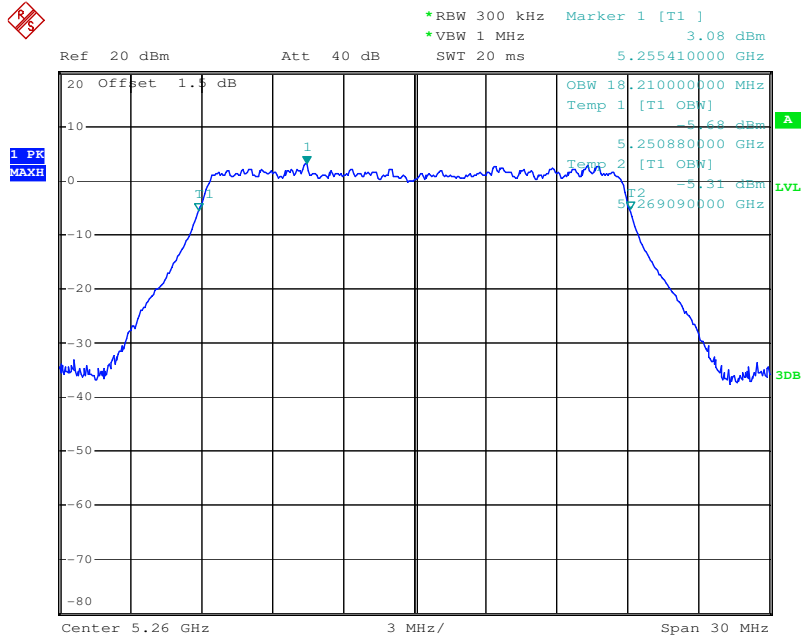
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5240
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5260
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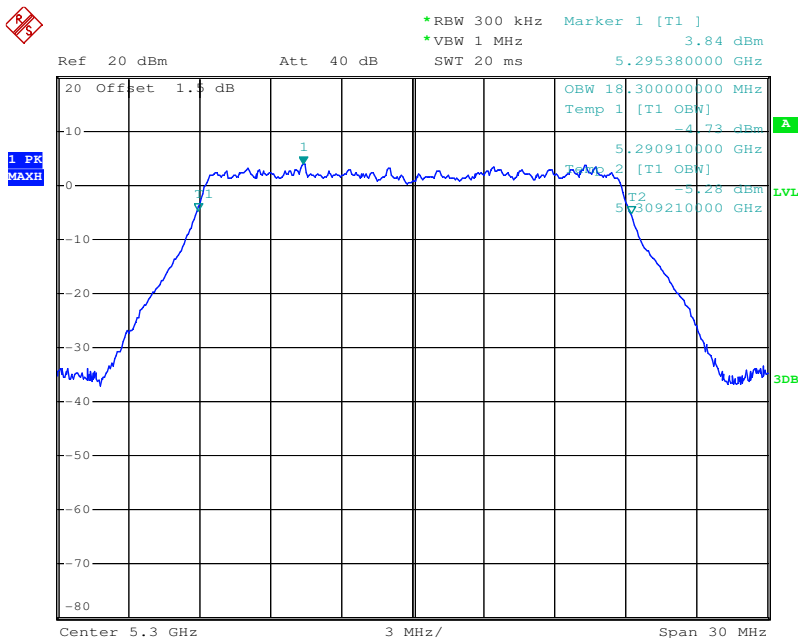


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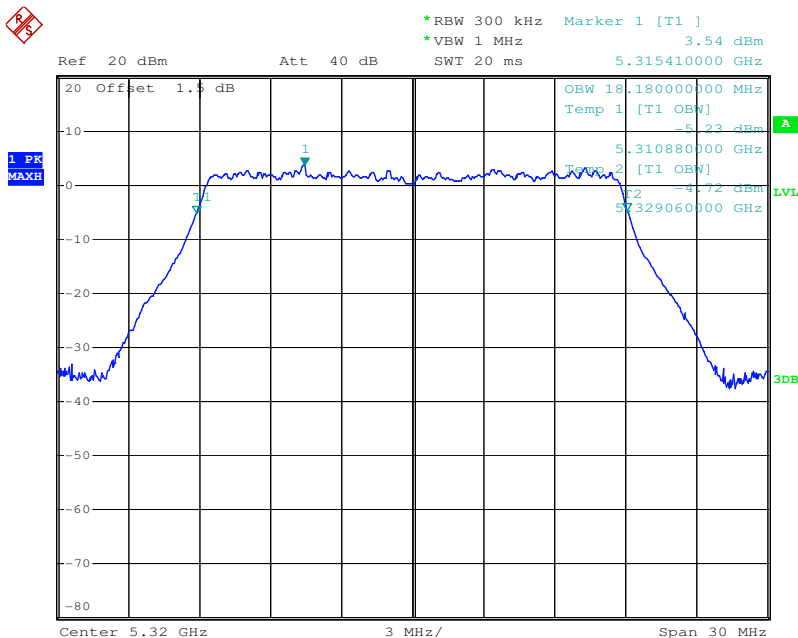
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5300
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5320
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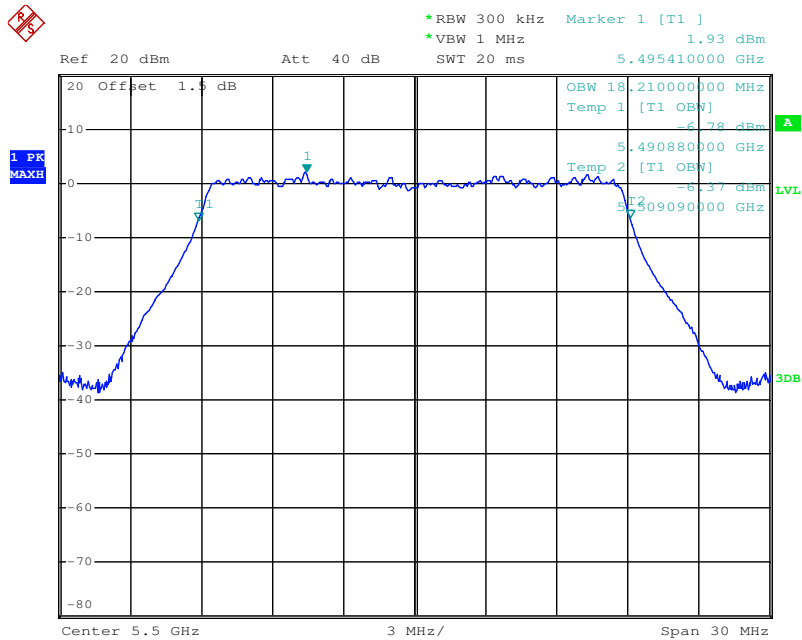


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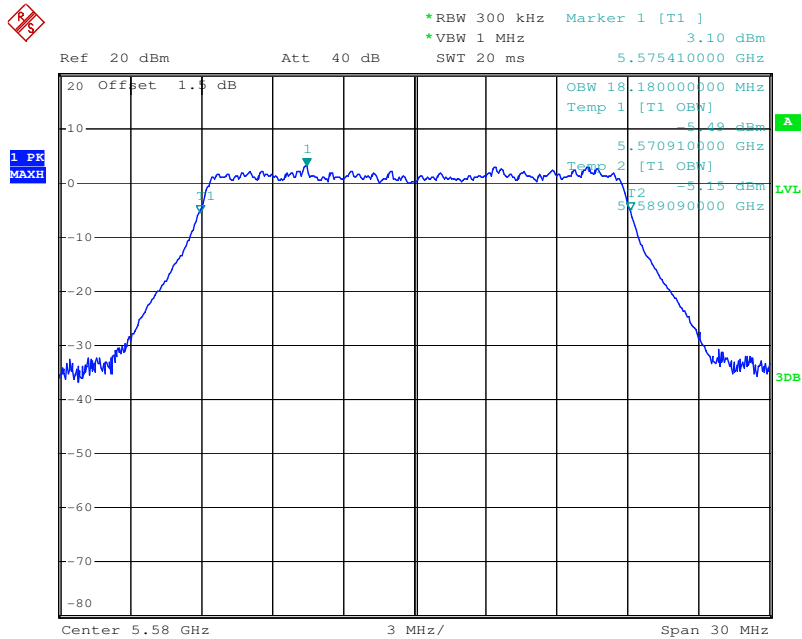
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5500
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5580
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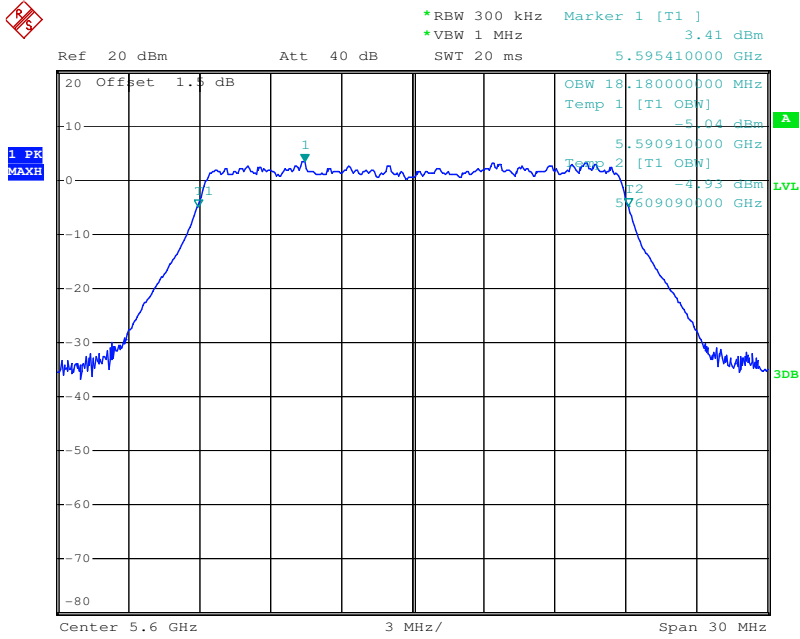


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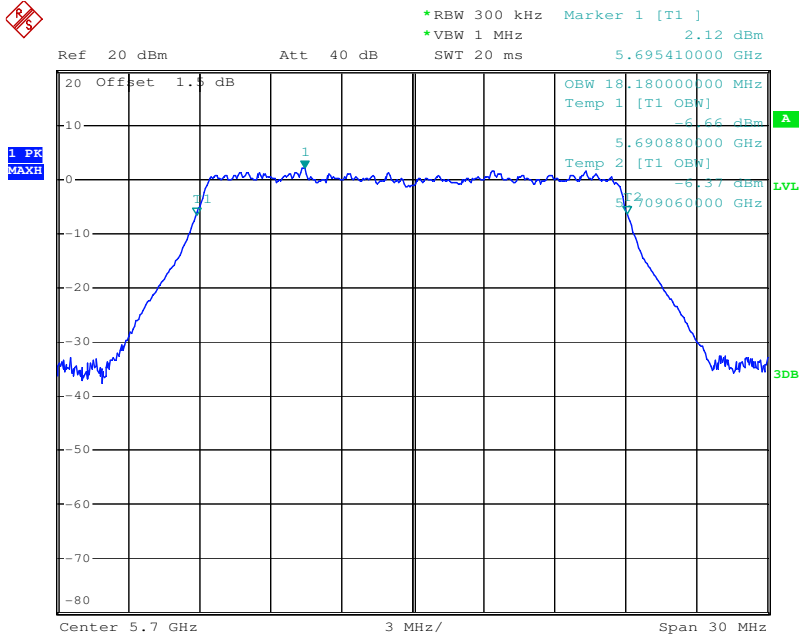
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5600
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5700
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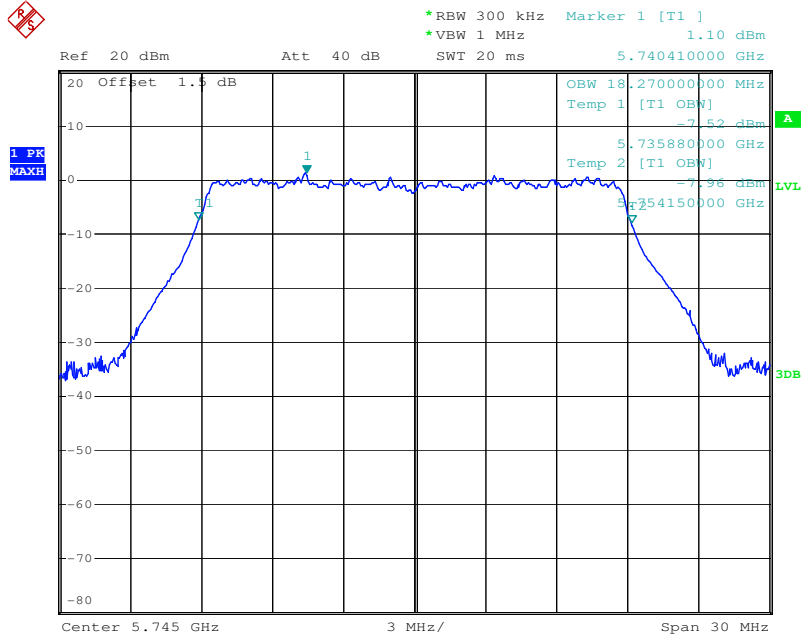


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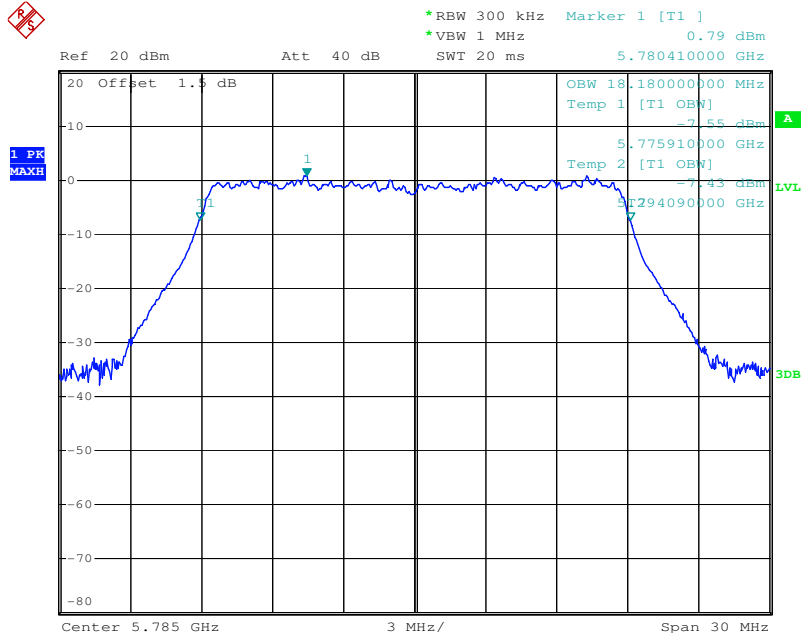
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5745
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5785
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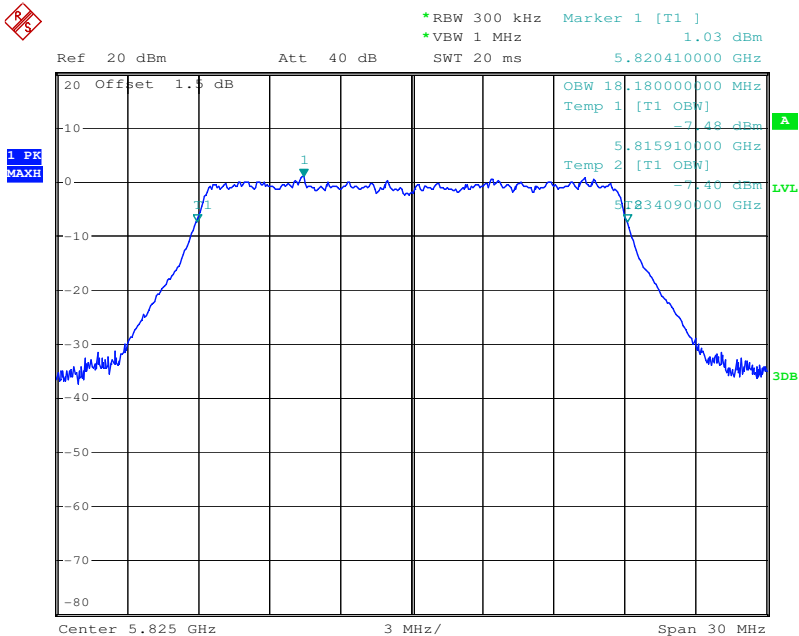


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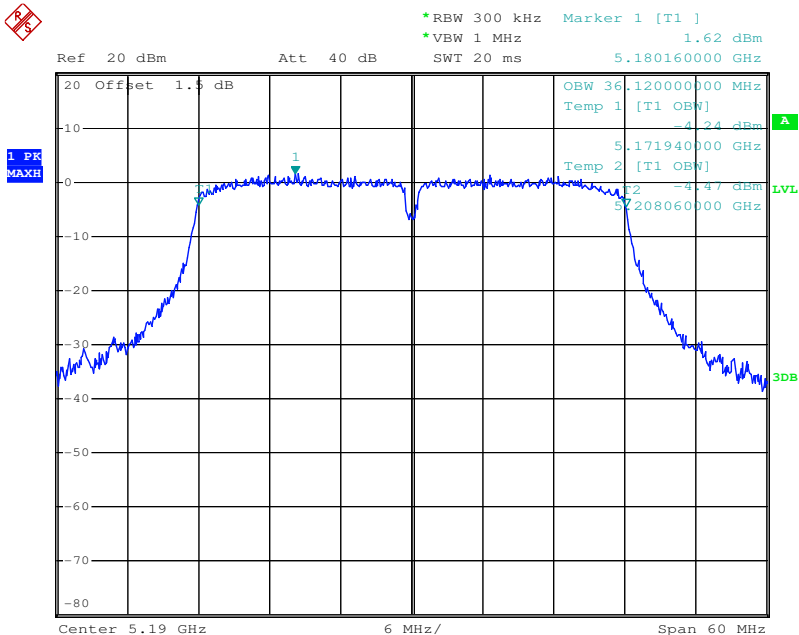
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5825
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Test mode:	802.11n(HT40)	Frequency(MHz):	5190
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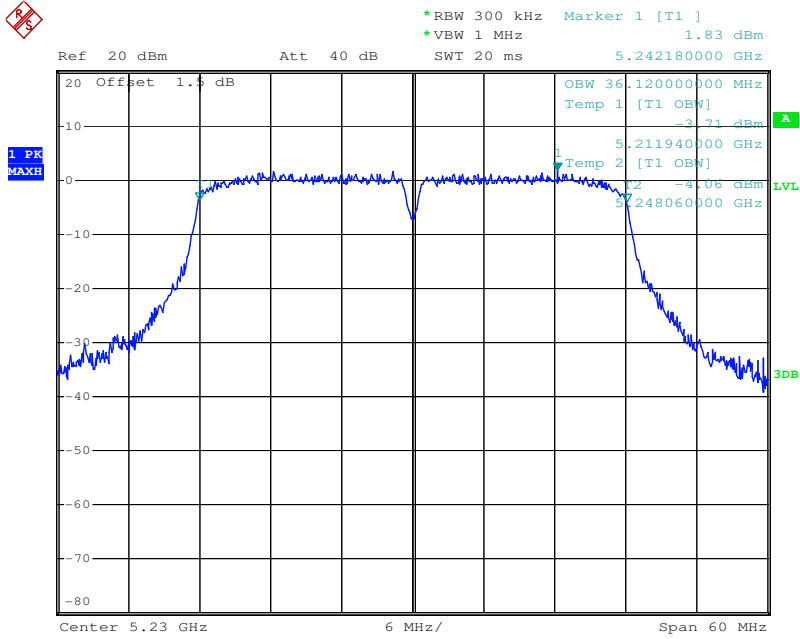


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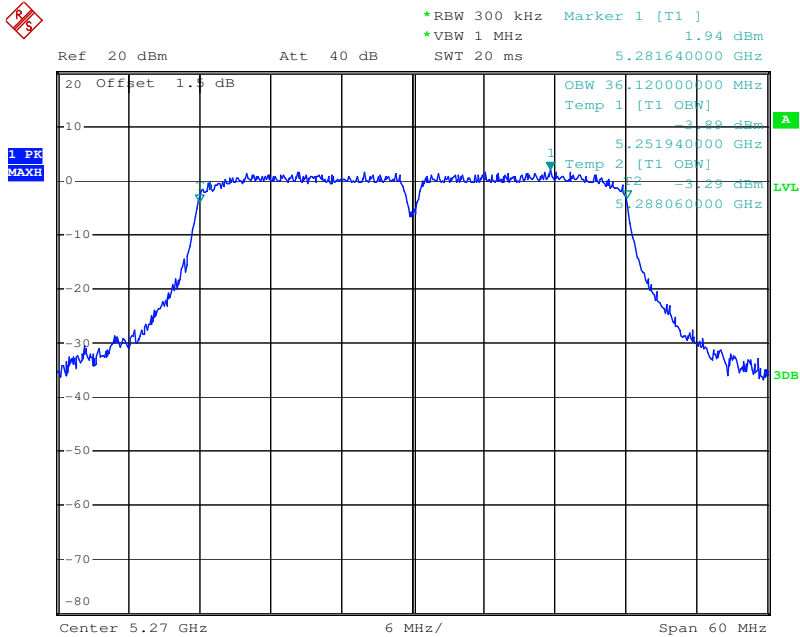
Report No.: SZEM160700630905

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Test mode:	802.11n(HT40)	Frequency(MHz):	5230
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Test mode:	802.11n(HT40)	Frequency(MHz):	5270
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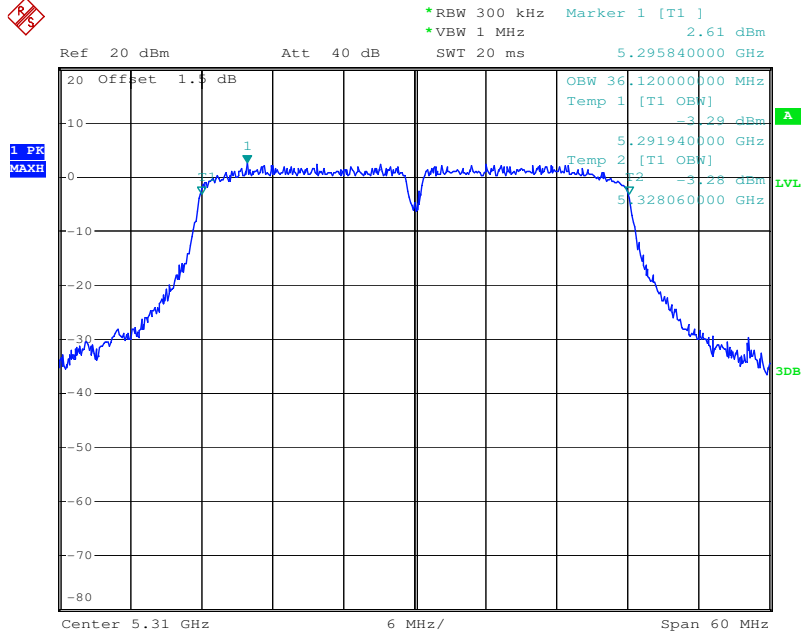


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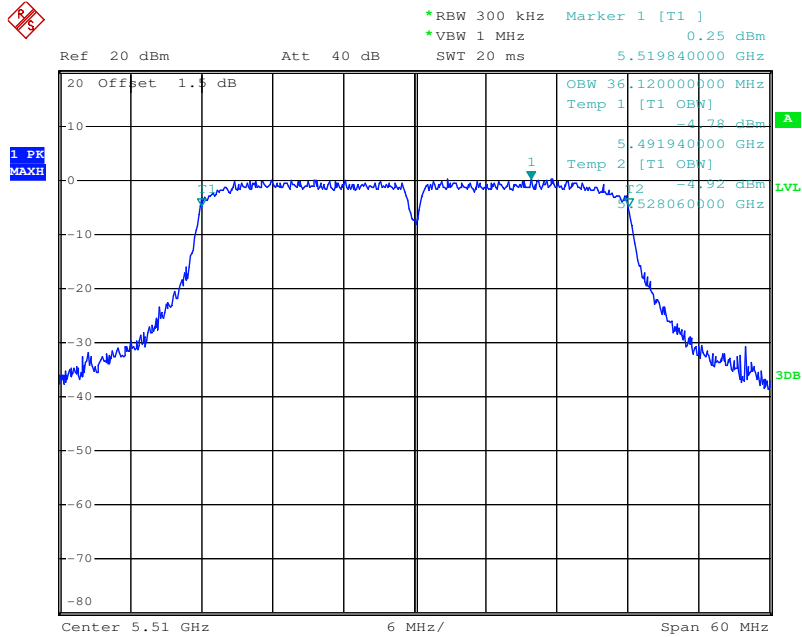
Report No.: SZEM160700630905

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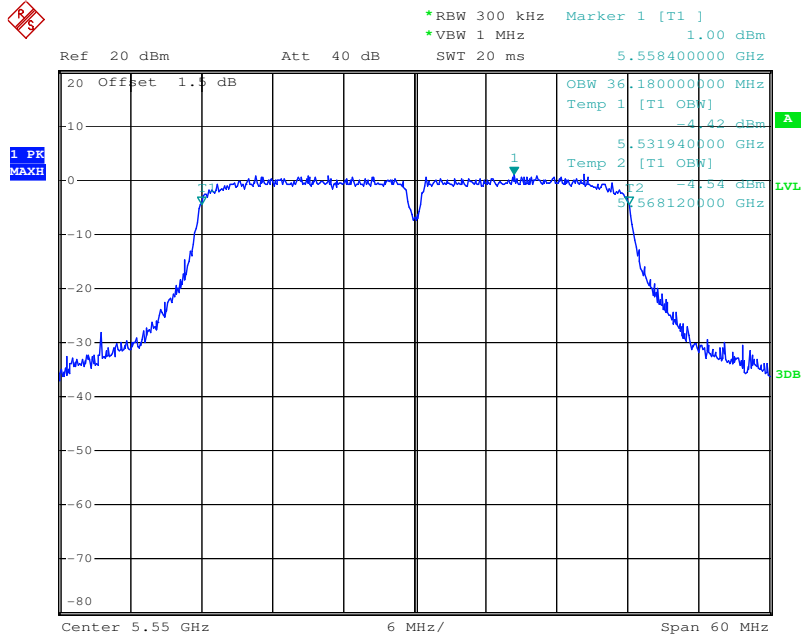


Test mode:	802.11n(HT40)	Frequency(MHz):	5510
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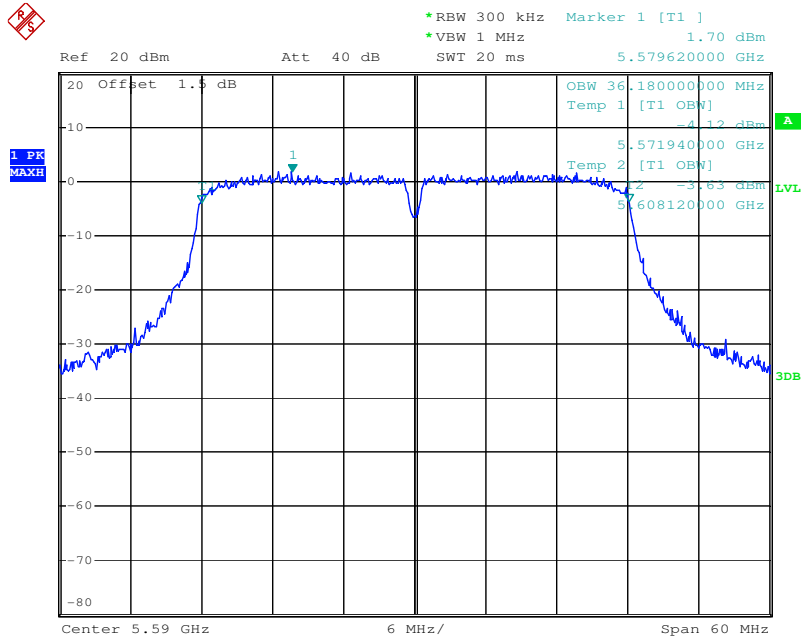




Test mode:	802.11n(HT40)	Frequency(MHz):	5550
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Test mode:	802.11n(HT40)	Frequency(MHz):	5590
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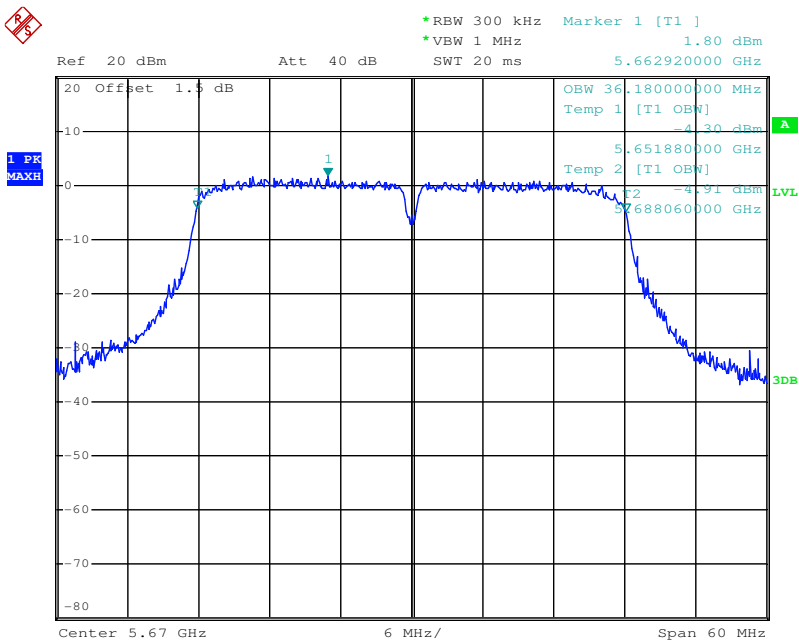


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

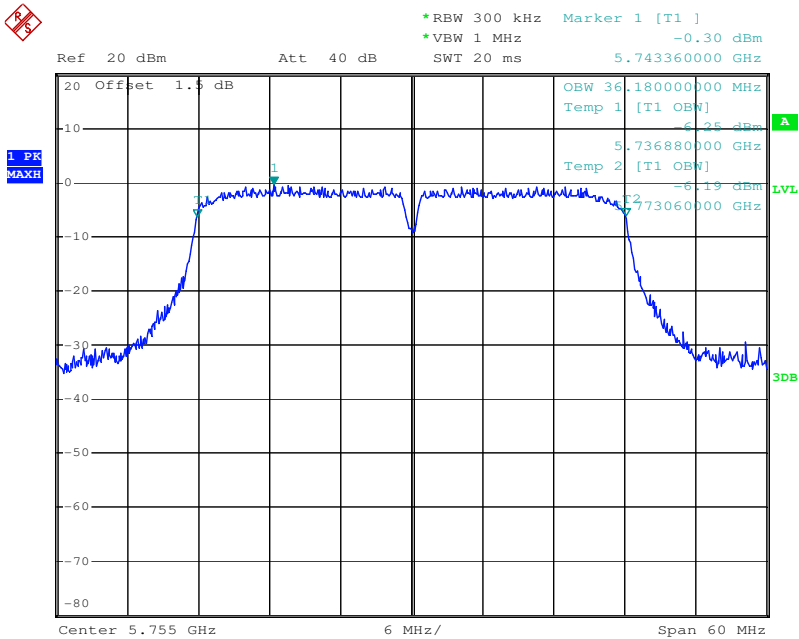
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Test mode:	802.11n(HT40)	Frequency(MHz):	5670
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Test mode:	802.11n(HT40)	Frequency(MHz):	5755
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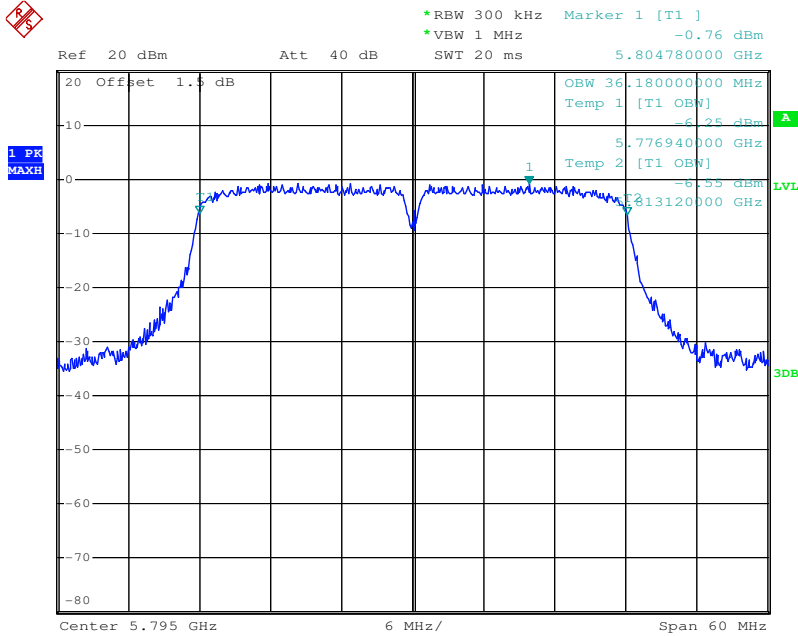


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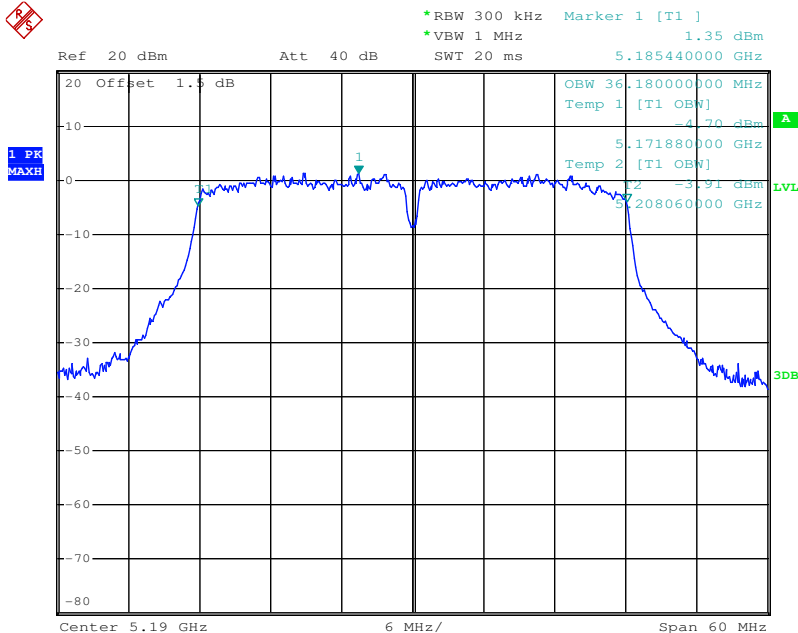
Report No.: SZEM160700630905

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Test mode:	802.11n(HT40)	Frequency(MHz):	5795
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5190
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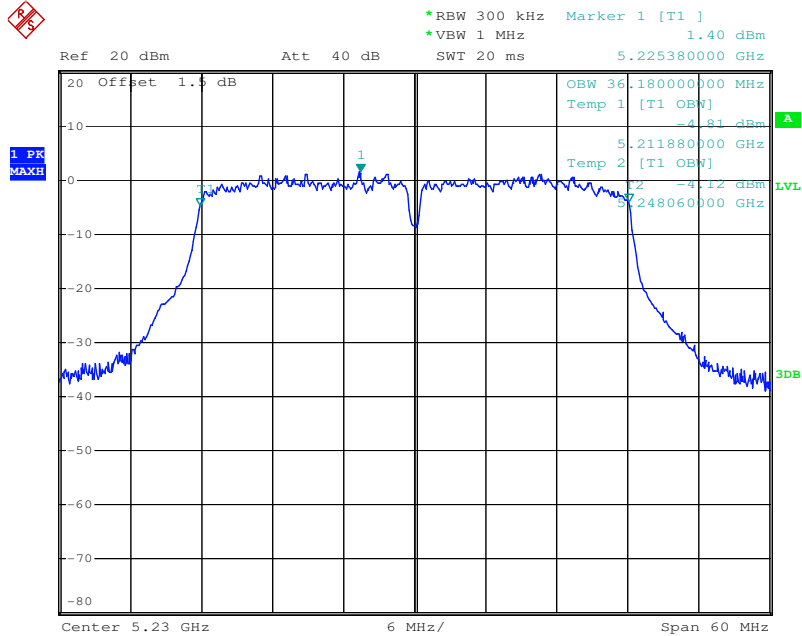


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

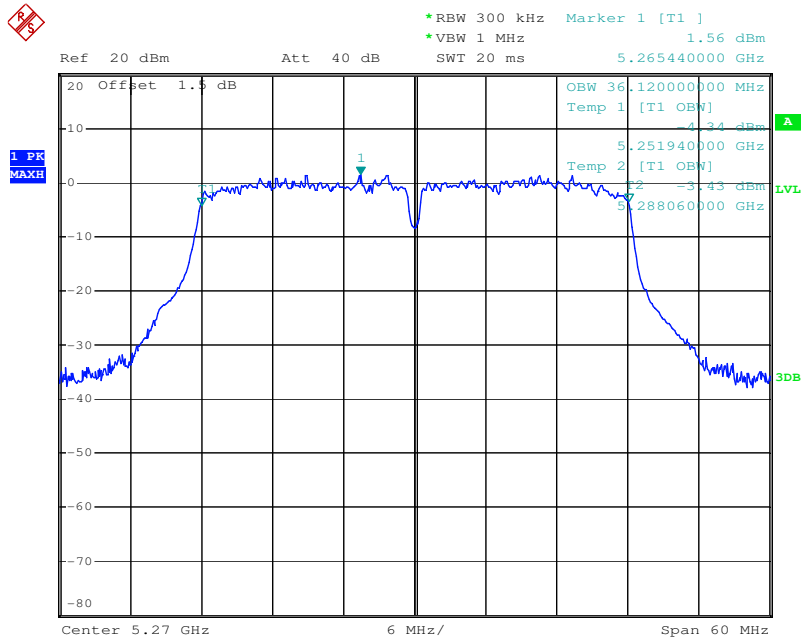
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5230
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5270
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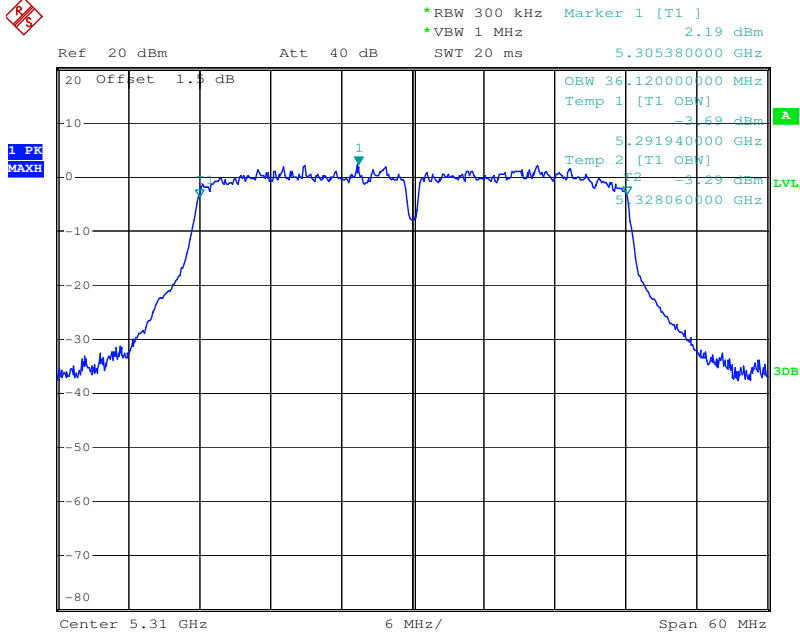


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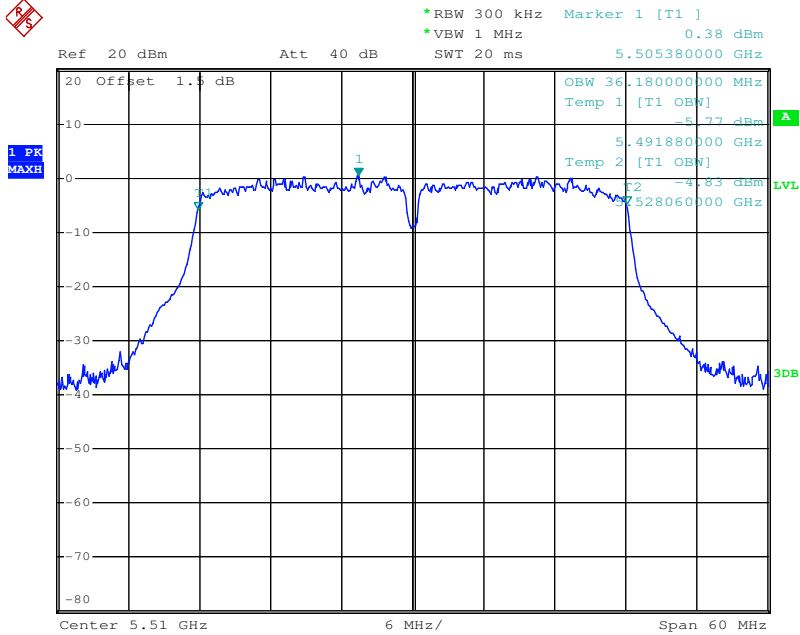
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5310
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5510
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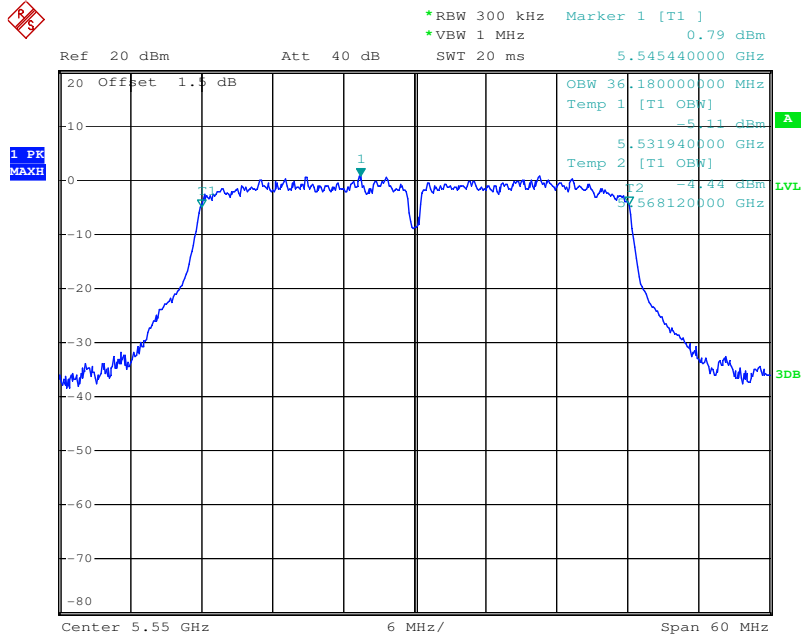


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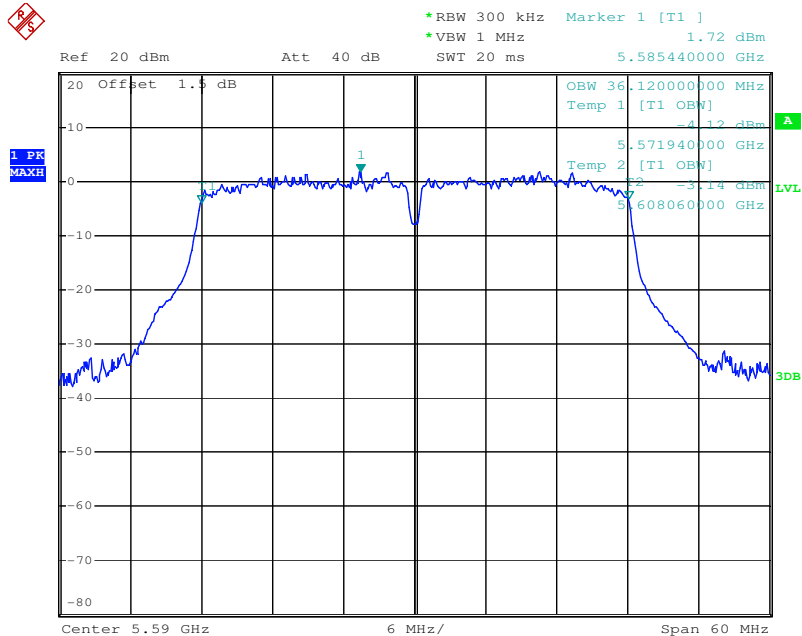
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5550
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5590
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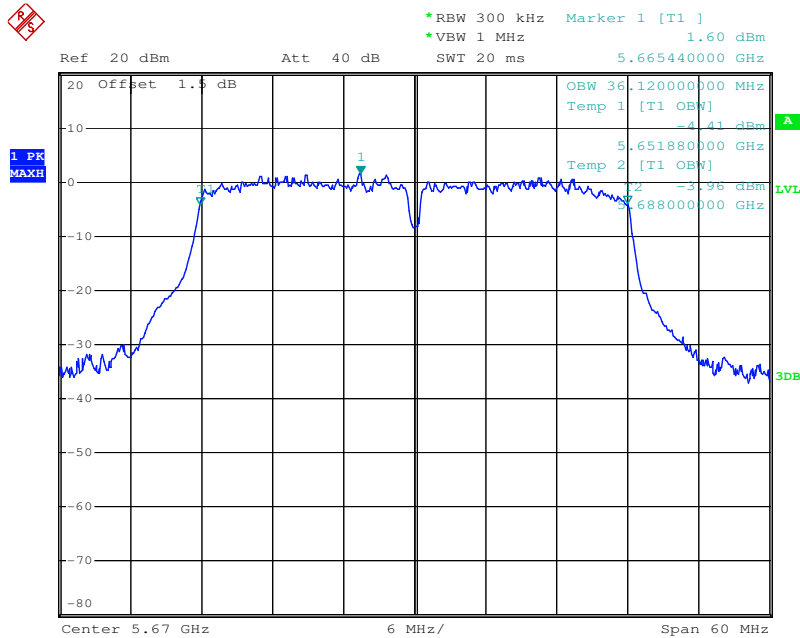


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

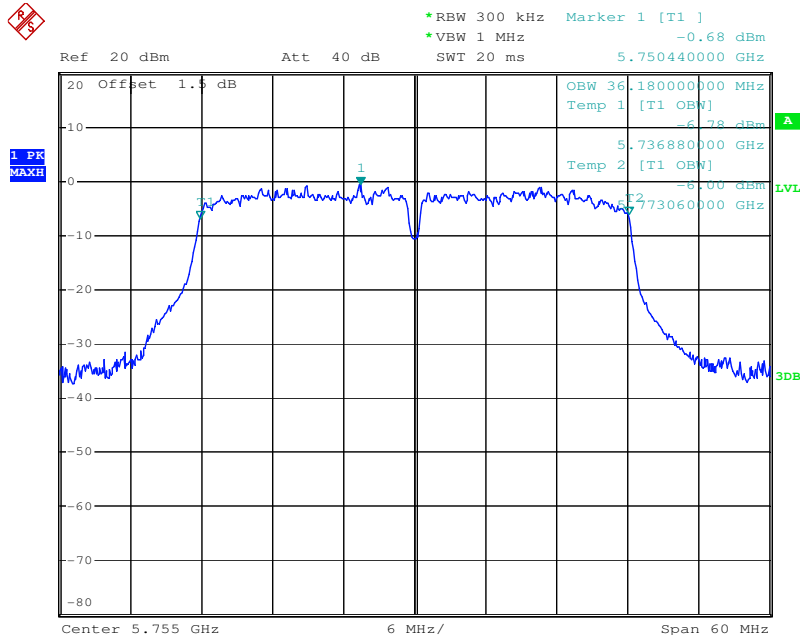
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5670
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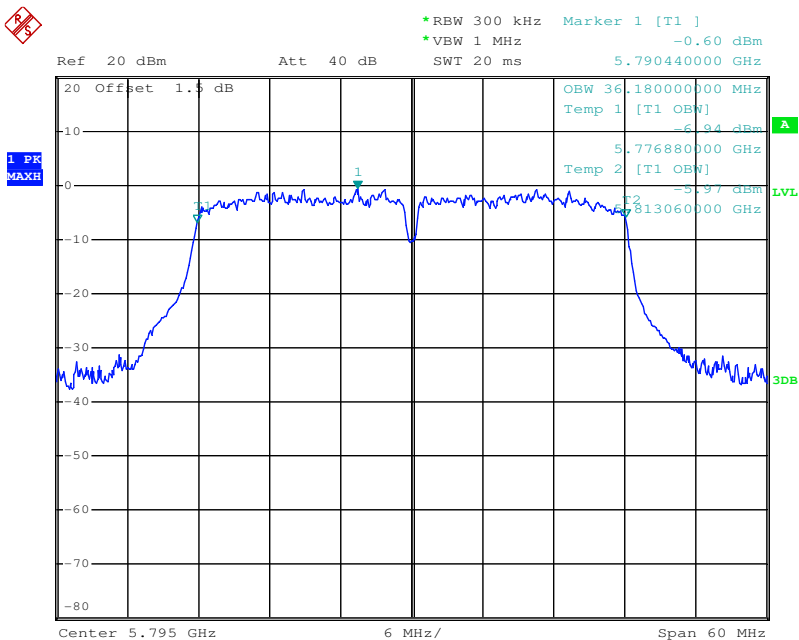


Test mode:	802.11ac(HT40)	Frequency(MHz):	5755
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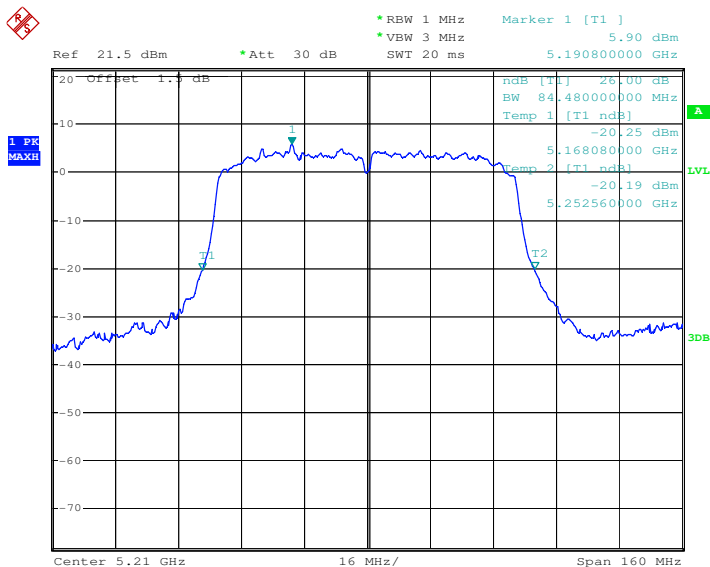




Test mode:	802.11ac(HT40)	Frequency(MHz):	5795
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5210
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Date: 13.SEP.2016 07:11:13

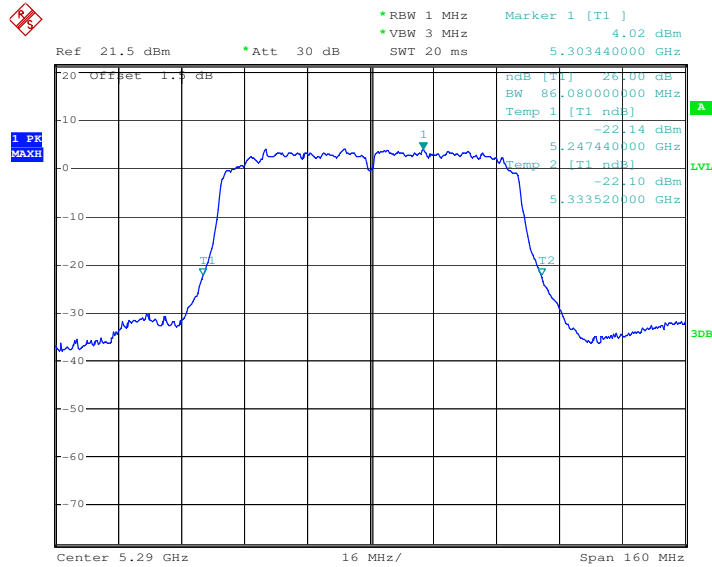


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM160700630905

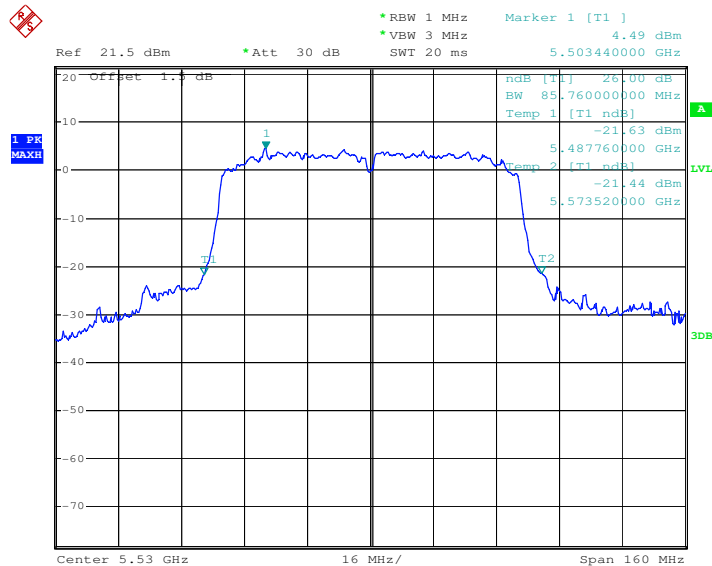
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5290
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Date: 13.SEP.2016 07:09:43

Test mode:	802.11ac(HT80)	Frequency(MHz):	5530
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Date: 13.SEP.2016 07:12:20

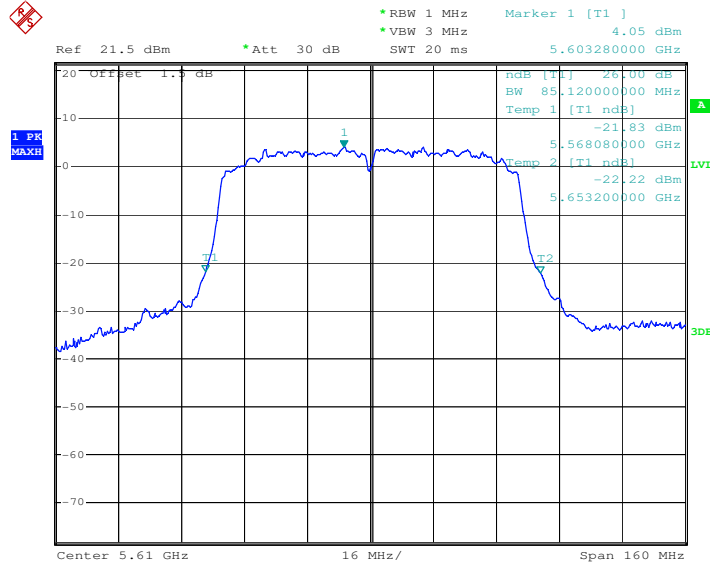


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Report No.: SZEM160700630905

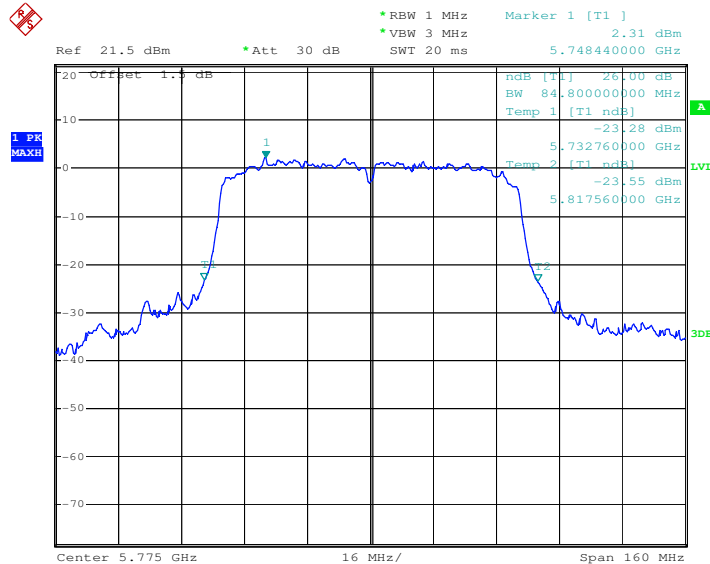
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5610
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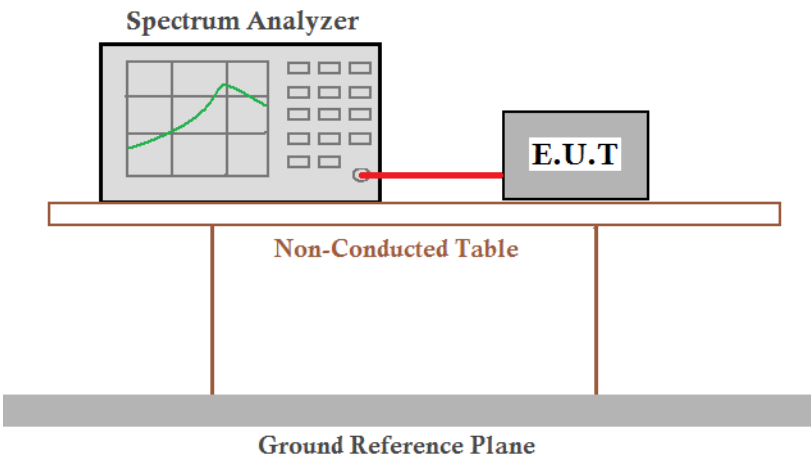
Date: 13.SEP.2016 07:13:07

Test mode:	802.11ac(HT80)	Frequency(MHz):	5775
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Date: 13.SEP.2016 07:14:05

6.6 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10: 2013	
Test Setup:	 <p>The diagram shows a Spectrum Analyzer on the left and an E.U.T. on the right, connected by a red cable. They are both on a table labeled 'Non-Conducted Table'. Below the table is a thick grey bar labeled 'Ground Reference Plane'.</p>	
Instruments Used:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	<p>Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCSO of rate is the worst case of 802.11n(HT20); MCSO of rate is the worst case of 802.11n(HT40); MCSO of rate is the worst case of 802.11ac(HT20); MCSO of rate is the worst case of 802.11ac(HT40); MCSO of rate is the worst case of 802.11ac(HT80)</p> <p>Only the worst case is recorded in the report.</p>	
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
5180	16.41	≥500	Pass
5220	16.41	≥500	Pass
5240	16.44	≥500	Pass
5260	16.44	≥500	Pass
5300	16.41	≥500	Pass
5320	16.41	≥500	Pass
5500	16.44	≥500	Pass
5580	16.41	≥500	Pass
5600	16.41	≥500	Pass
5700	16.41	≥500	Pass
5745	16.41	≥500	Pass
5785	16.41	≥500	Pass
5825	16.41	≥500	Pass

802.11n(HT20) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5180	17.67	≥500	Pass
5220	17.64	≥500	Pass
5240	17.67	≥500	Pass
5260	17.67	≥500	Pass
5300	17.67	≥500	Pass
5320	17.67	≥500	Pass
5500	17.64	≥500	Pass
5580	17.67	≥500	Pass
5600	17.67	≥500	Pass
5700	17.67	≥500	Pass
5745	17.67	≥500	Pass
5785	17.67	≥500	Pass
5825	17.67	≥500	Pass



802.11ac(HT20) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5180	17.64	≥500	Pass
5220	17.64	≥500	Pass
5240	17.64	≥500	Pass
5260	17.64	≥500	Pass
5300	17.67	≥500	Pass
5320	17.64	≥500	Pass
5500	17.64	≥500	Pass
5580	17.64	≥500	Pass
5600	17.67	≥500	Pass
5700	17.67	≥500	Pass
5745	17.67	≥500	Pass
5785	17.67	≥500	Pass
5825	17.67	≥500	Pass

802.11n(HT40) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5190	35.46	≥500	Pass
5230	35.28	≥500	Pass
5270	35.46	≥500	Pass
5310	35.34	≥500	Pass
5510	35.34	≥500	Pass
5500	35.64	≥500	Pass
5590	35.28	≥500	Pass
5670	35.46	≥500	Pass
5755	35.28	≥500	Pass
5795	35.46	≥500	Pass



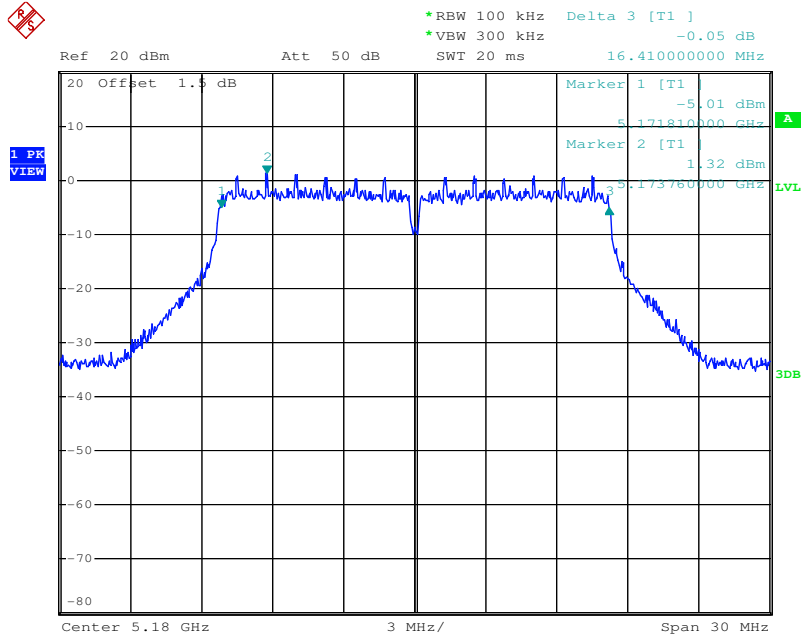
802.11ac(HT40) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5190	35.52	≥500	Pass
5230	35.34	≥500	Pass
5270	35.52	≥500	Pass
5310	35.34	≥500	Pass
5510	35.34	≥500	Pass
5500	35.34	≥500	Pass
5590	35.28	≥500	Pass
5670	35.46	≥500	Pass
5755	35.28	≥500	Pass
5795	35.28	≥500	Pass

802.11ac(HT80) mode			
Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
5120	75.36	≥500	Pass
5290	78.48	≥500	Pass
5530	75.48	≥500	Pass
5610	75.36	≥500	Pass
5775	75.36	≥500	Pass

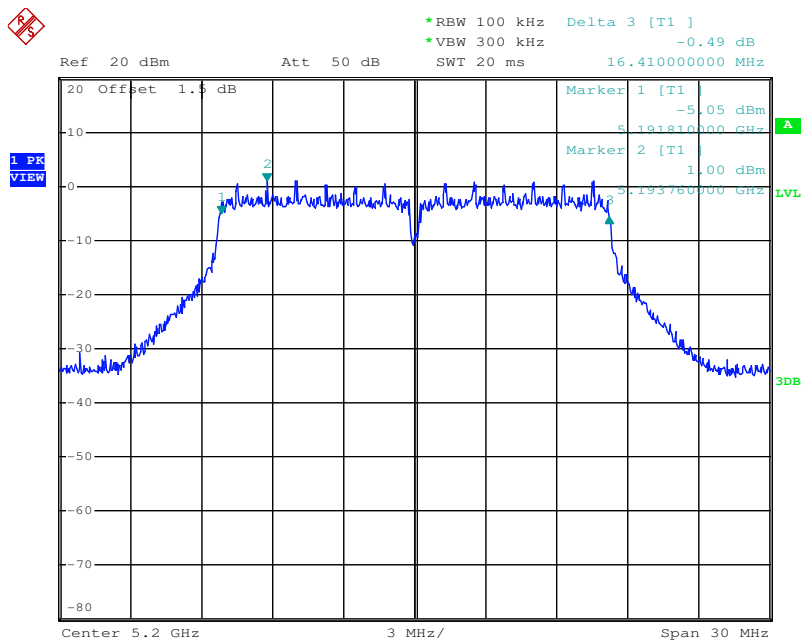


Test plot as follows:

Test mode:	802.11a	Frequency(MHz):	5180
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Test mode:	802.11a	Frequency(MHz):	5220
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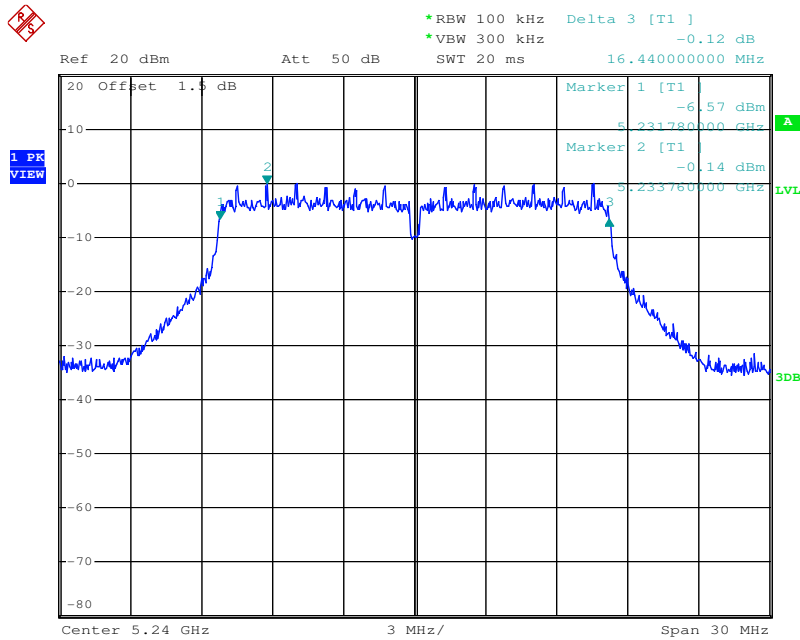


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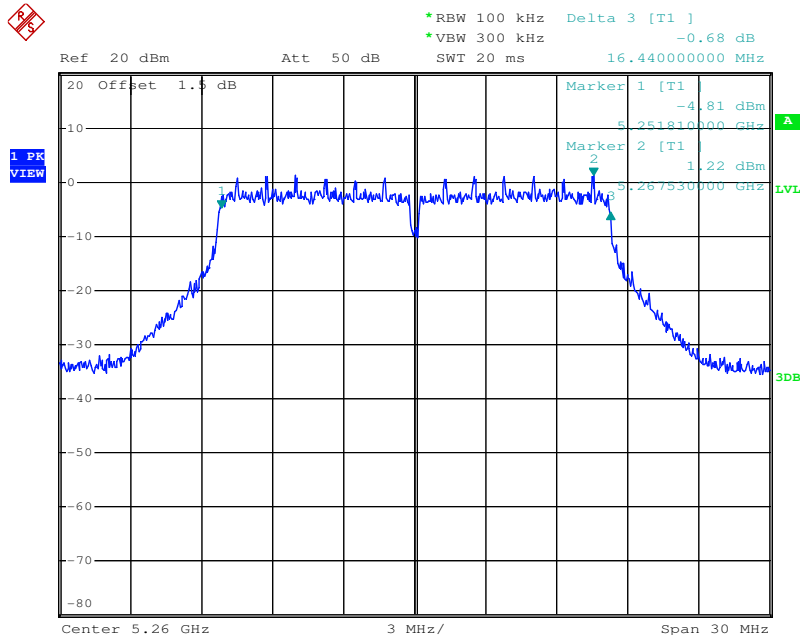
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Test mode:	802.11a	Frequency(MHz):	5240
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Test mode:	802.11a	Frequency(MHz):	5260
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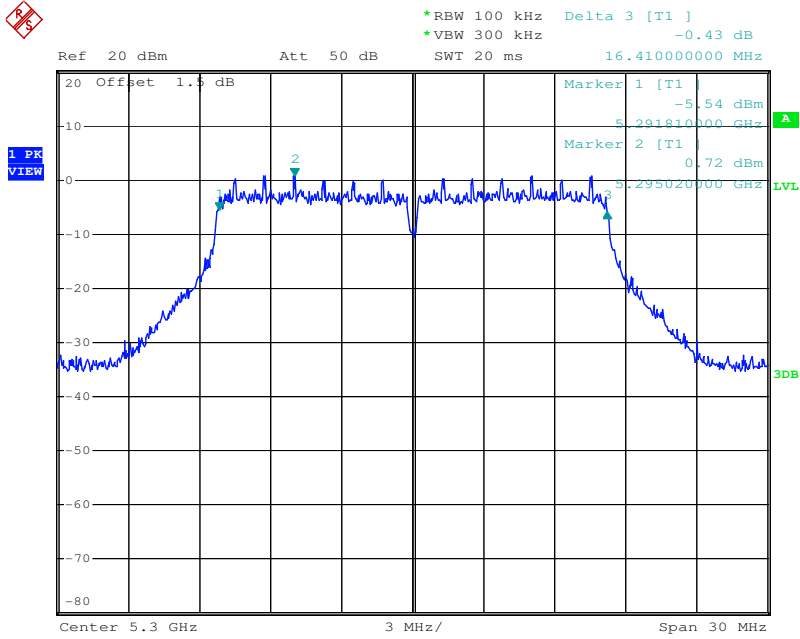


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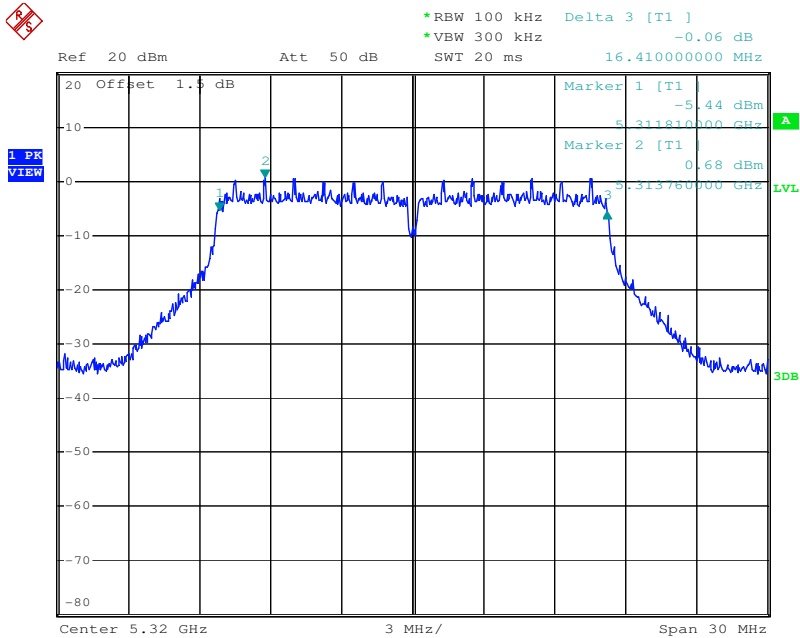
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Test mode:	802.11a	Frequency(MHz):	5300
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Test mode:	802.11a	Frequency(MHz):	5320
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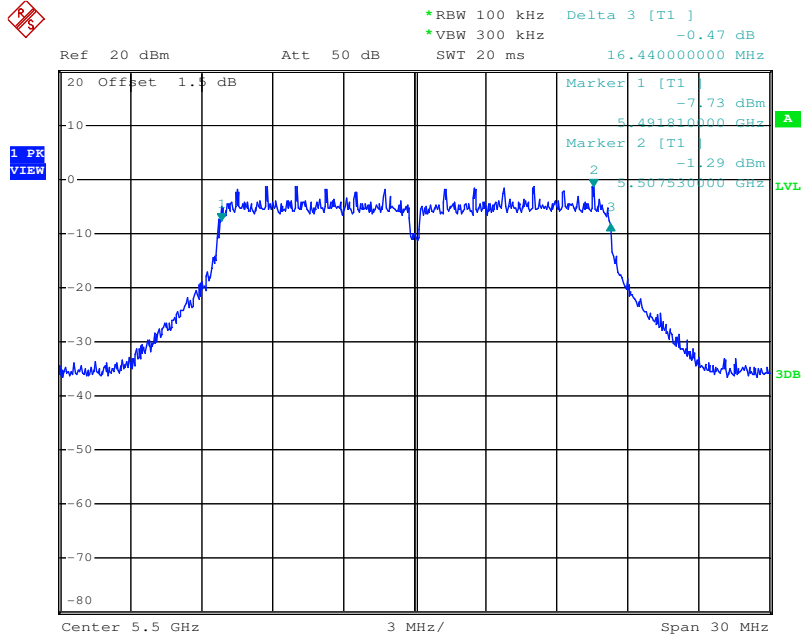


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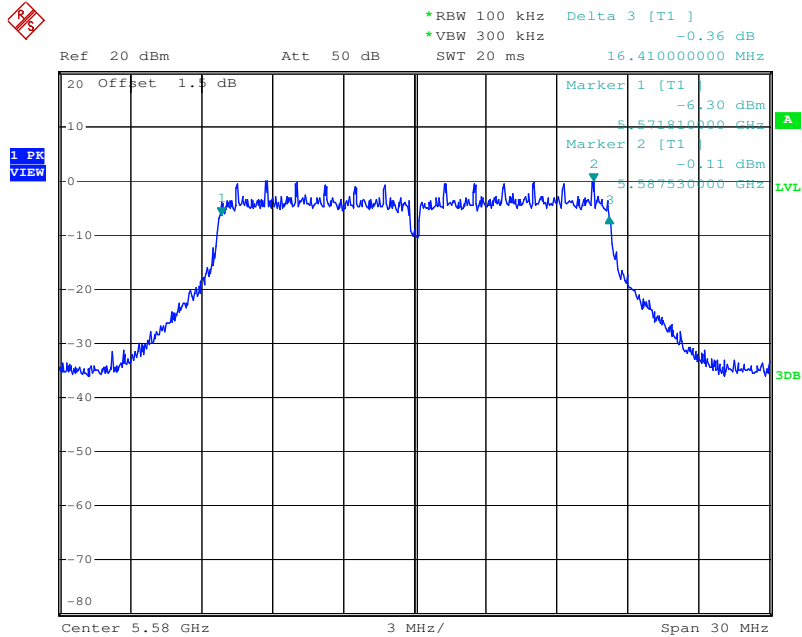
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Test mode:	802.11a	Frequency(MHz):	5500
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Test mode:	802.11a	Frequency(MHz):	5580
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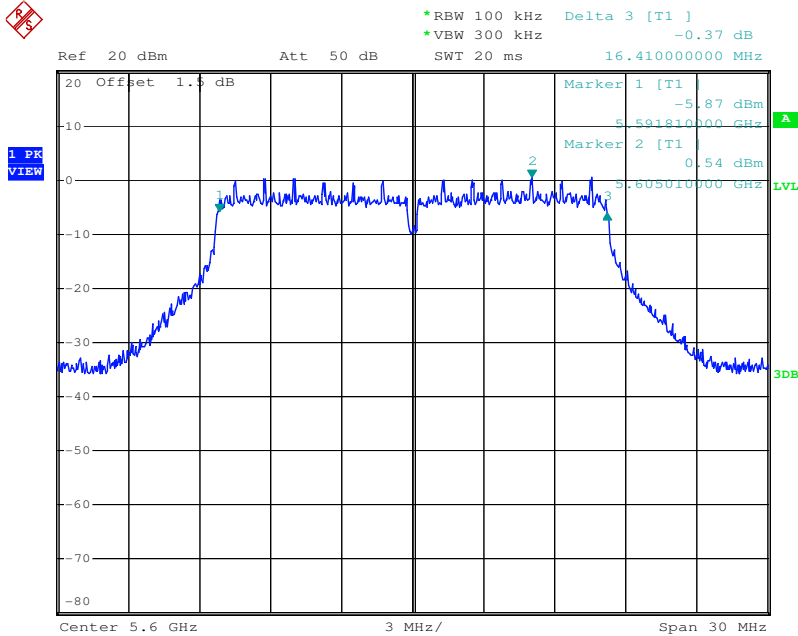


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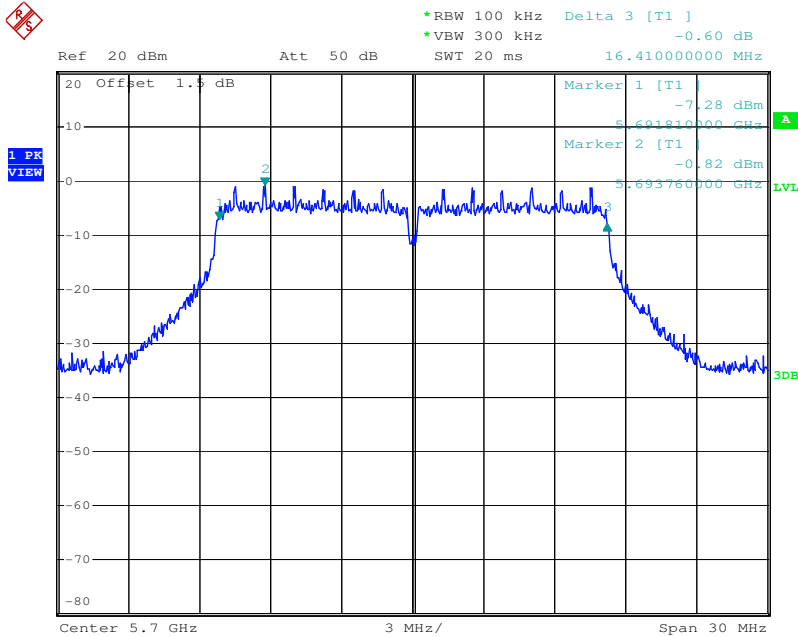
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Test mode:	802.11a	Frequency(MHz):	5600
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Test mode:	802.11a	Frequency(MHz):	5700
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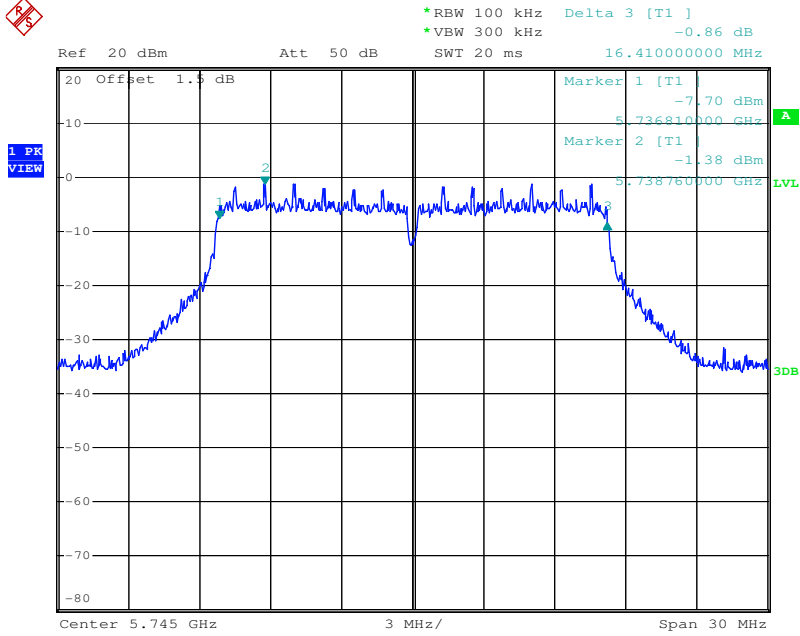


SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

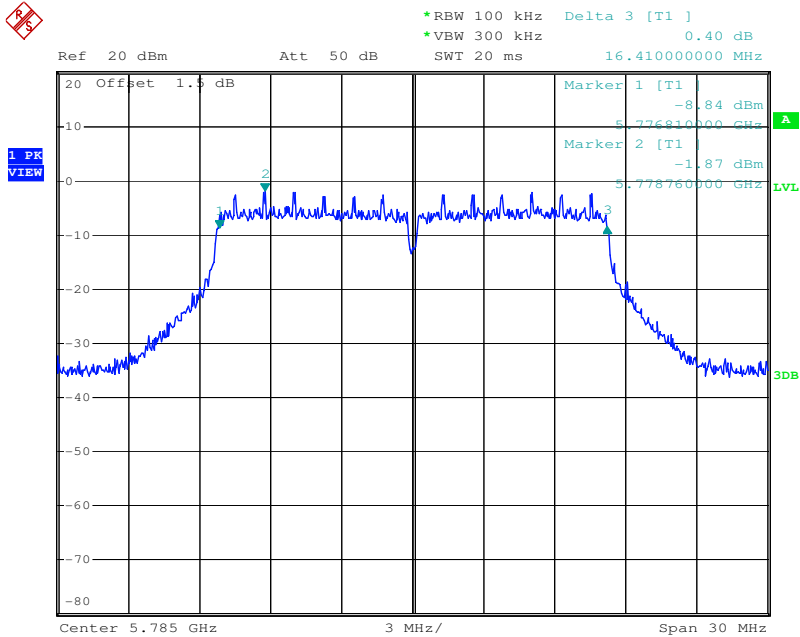
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Test mode:	802.11a	Frequency(MHz):	5745
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Test mode:	802.11a	Frequency(MHz):	5785
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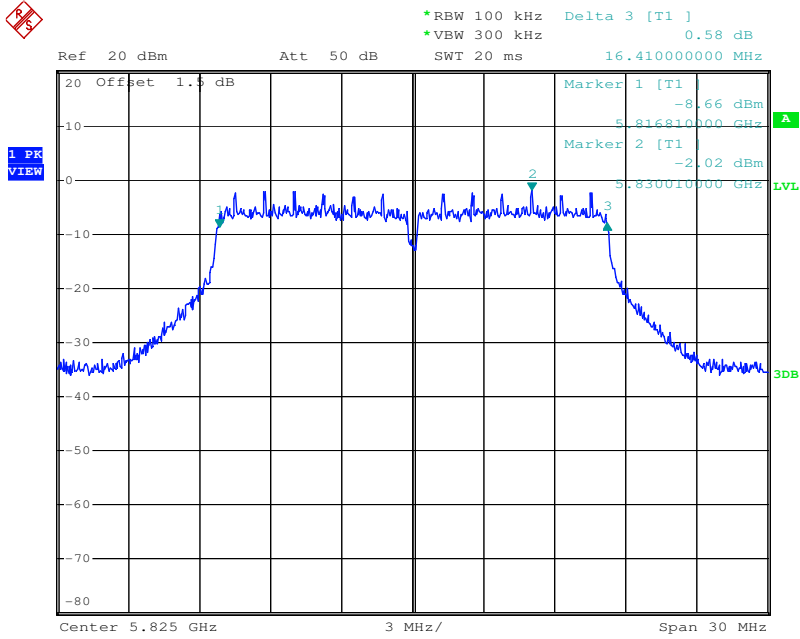


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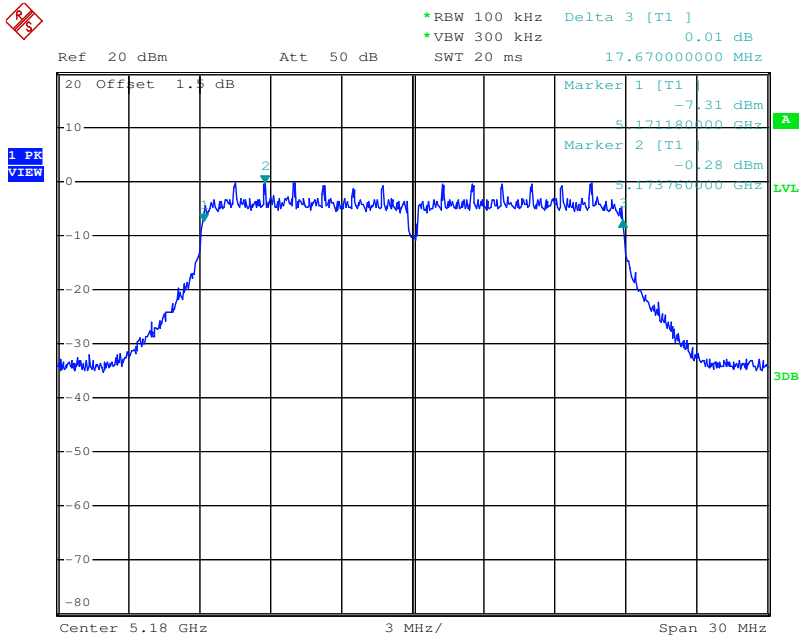
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Test mode:	802.11a	Frequency(MHz):	5825
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Test mode:	802.11n(HT20)	Frequency(MHz):	5180
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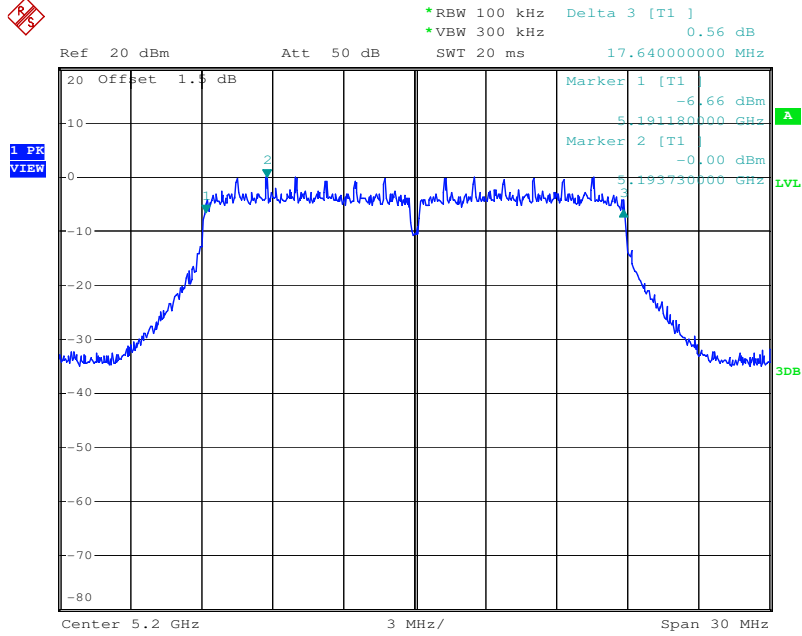


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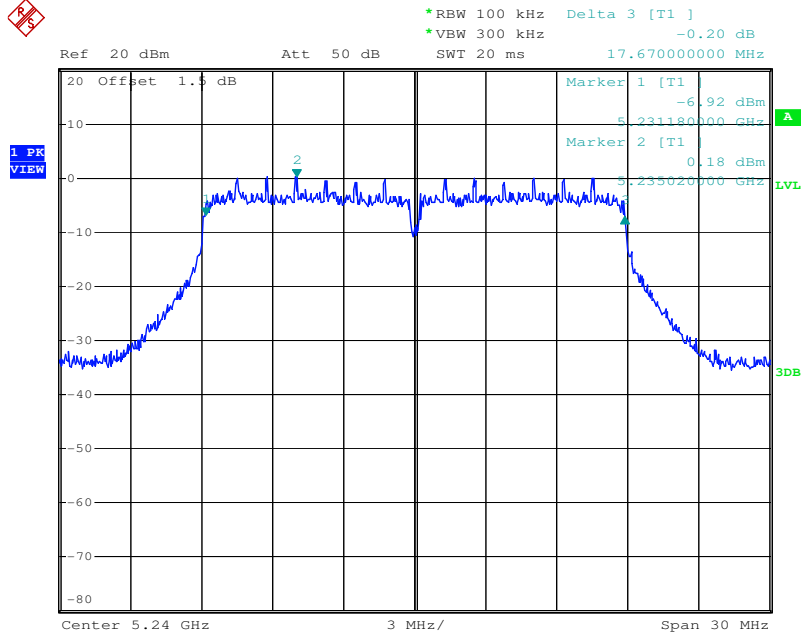
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Test mode:	802.11n(HT20)	Frequency(MHz):	5220
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Test mode:	802.11n(HT20)	Frequency(MHz):	5240
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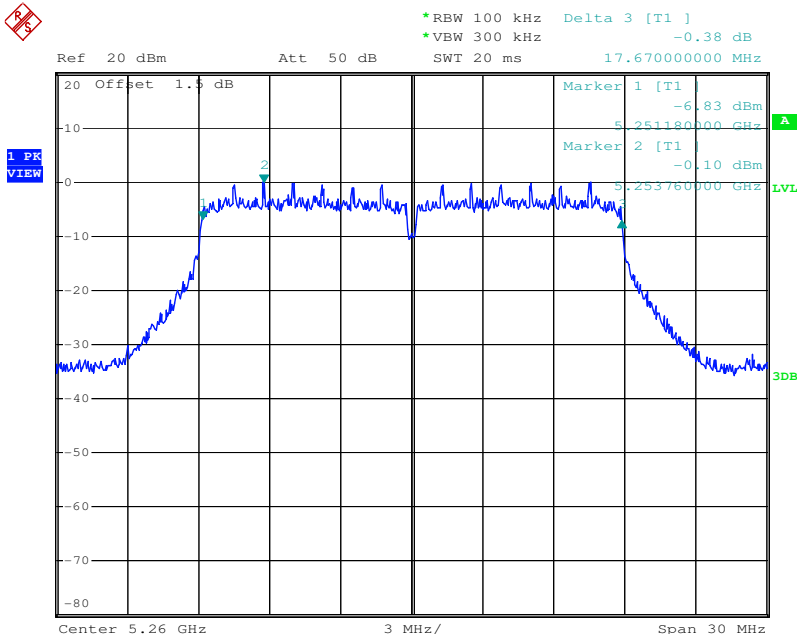


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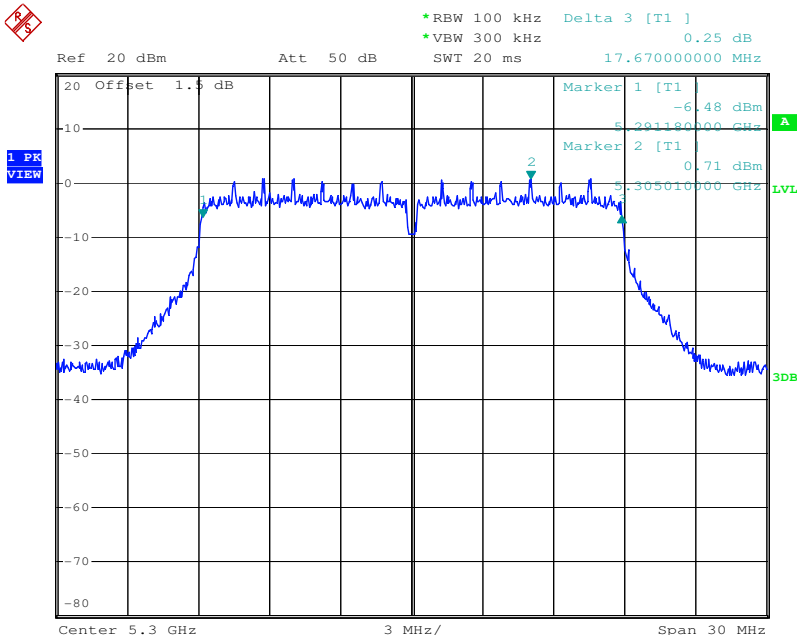
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Test mode:	802.11n(HT20)	Frequency(MHz):	5260
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Test mode:	802.11n(HT20)	Frequency(MHz):	5300
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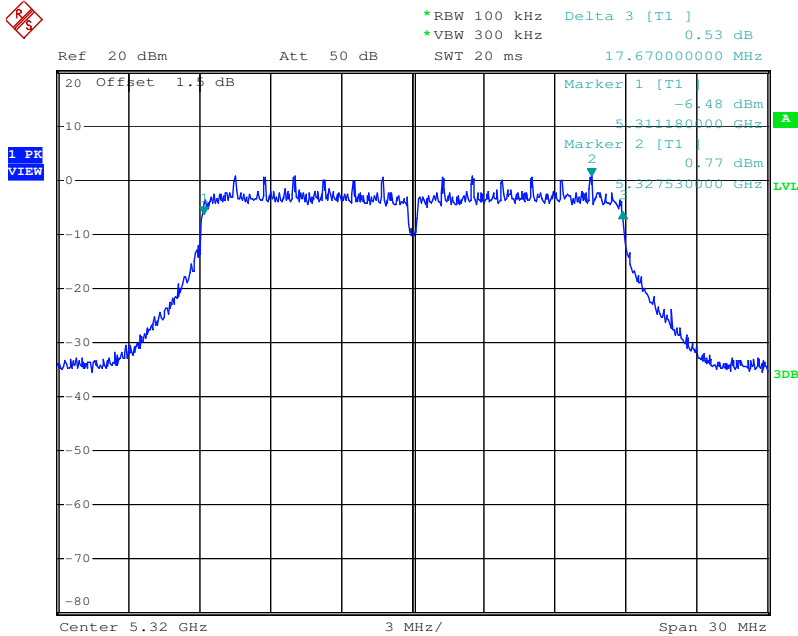


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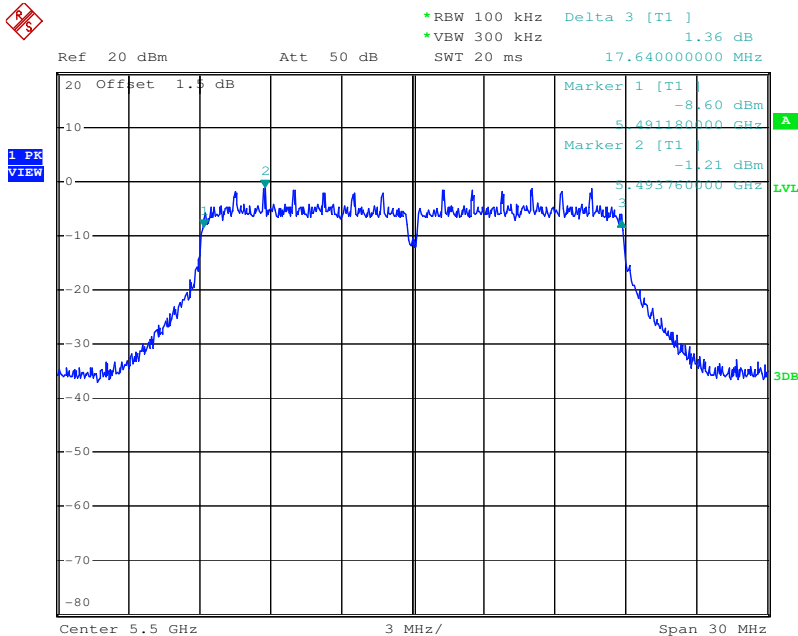
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Test mode:	802.11n(HT20)	Frequency(MHz):	5320
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Test mode:	802.11n(HT20)	Frequency(MHz):	5500
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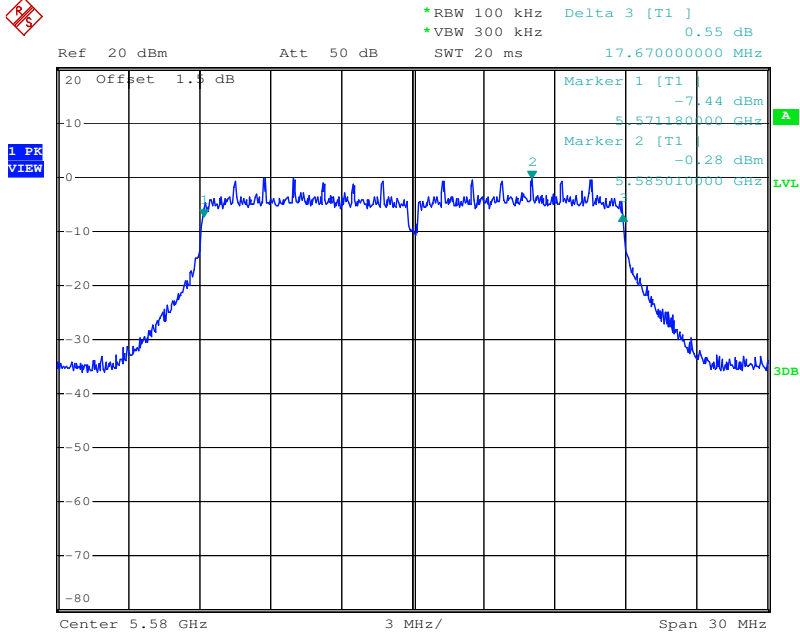


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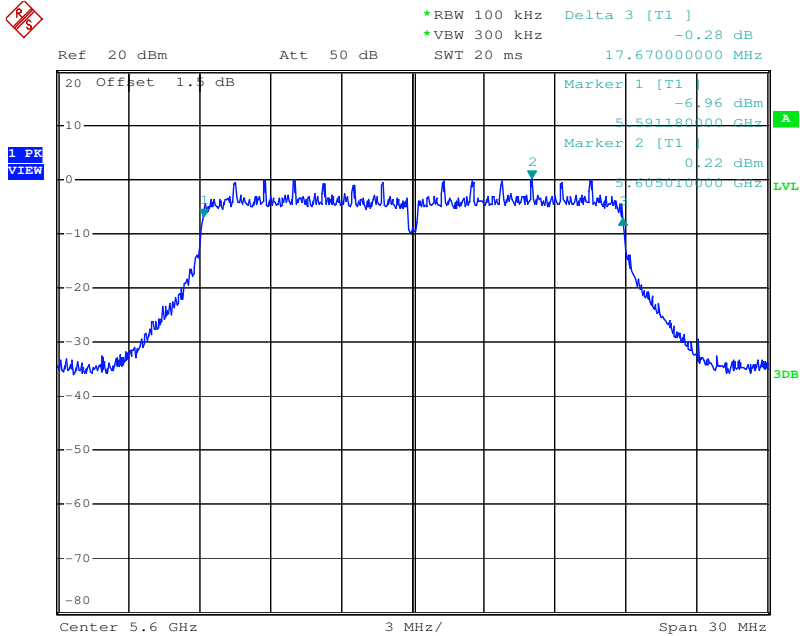
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Test mode:	802.11n(HT20)	Frequency(MHz):	5580
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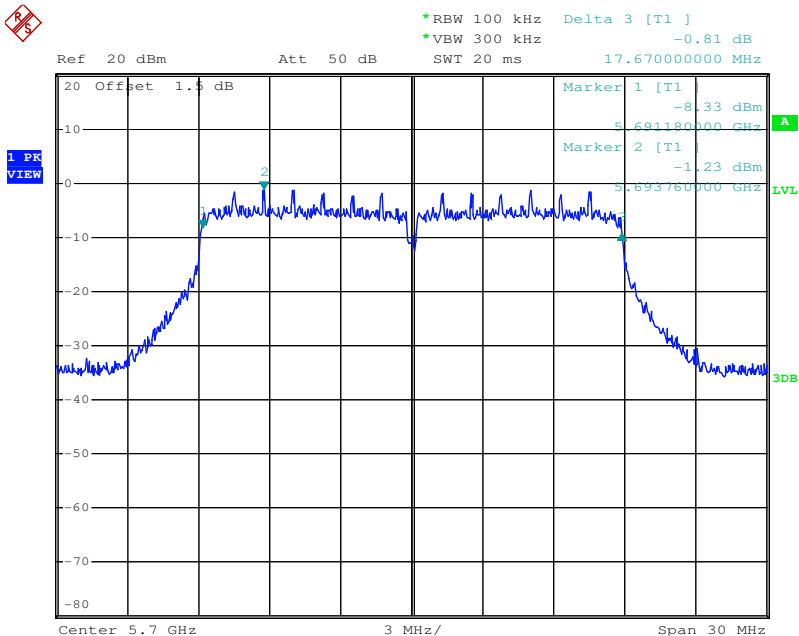


Test mode:	802.11n(HT20)	Frequency(MHz):	5600
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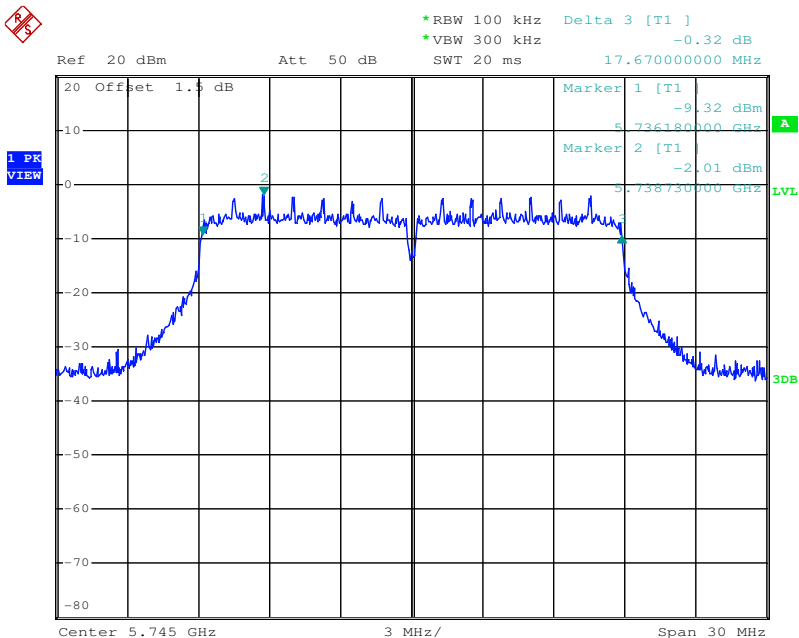




Test mode:	802.11n(HT20)	Frequency(MHz):	5700
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Test mode:	802.11n(HT20)	Frequency(MHz):	5745
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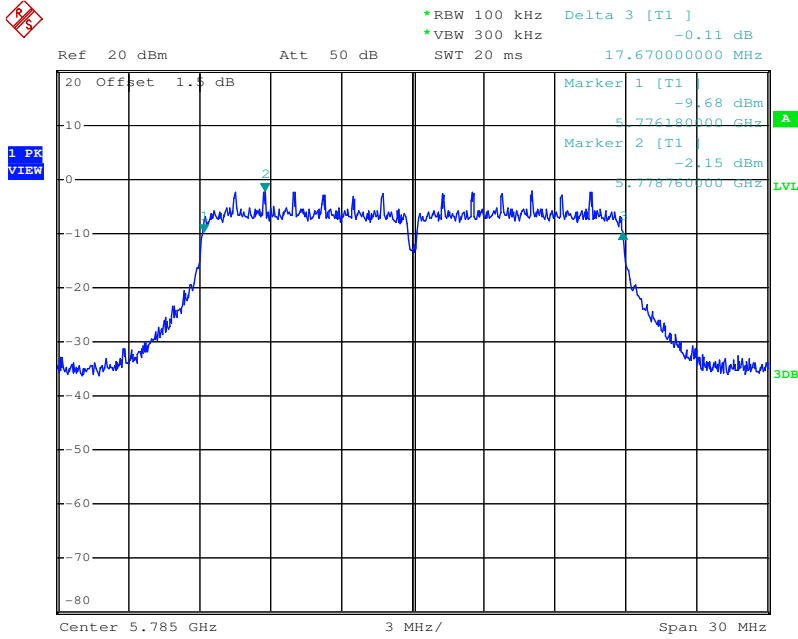


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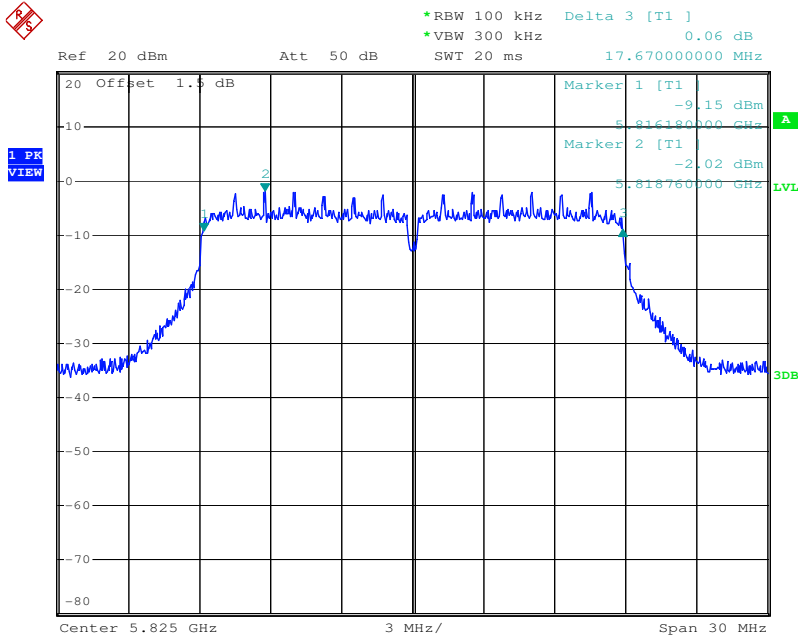
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Test mode:	802.11n(HT20)	Frequency(MHz):	5785
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Test mode:	802.11n(HT20)	Frequency(MHz):	5825
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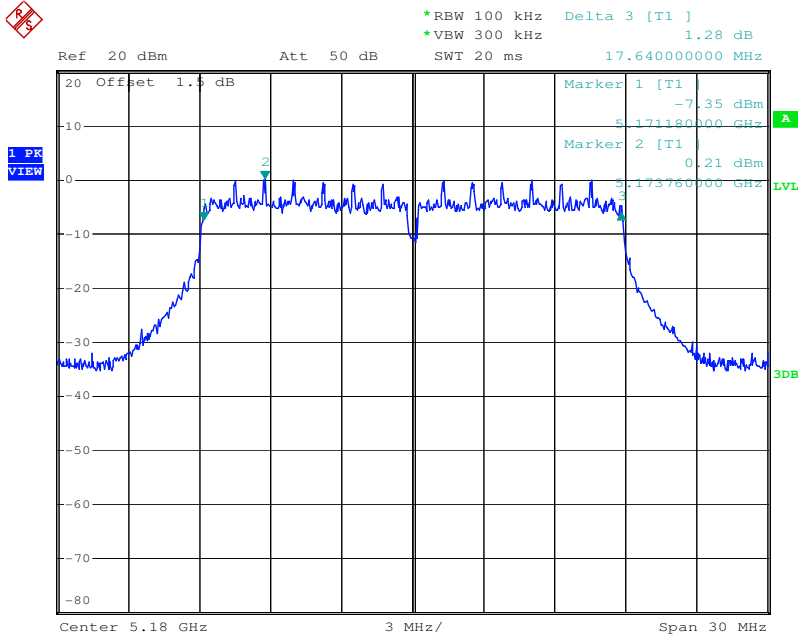


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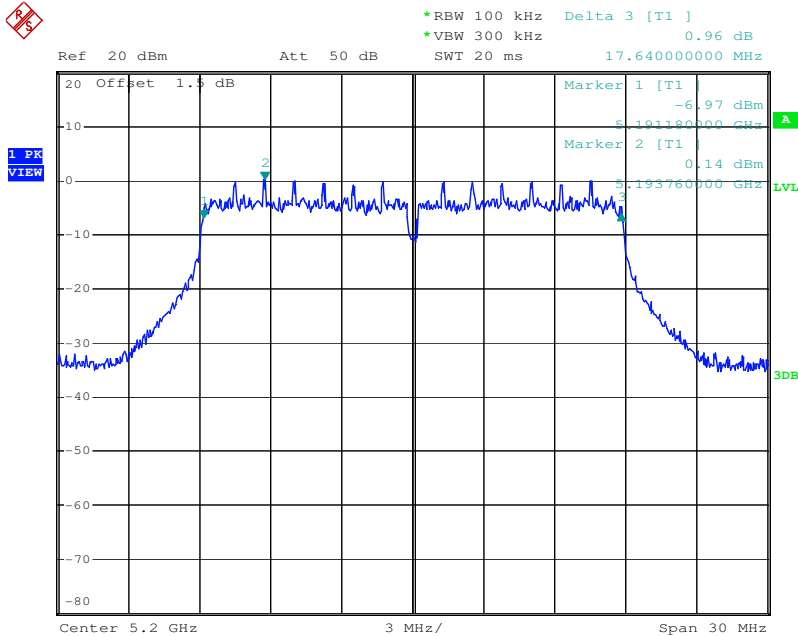
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5180
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5220
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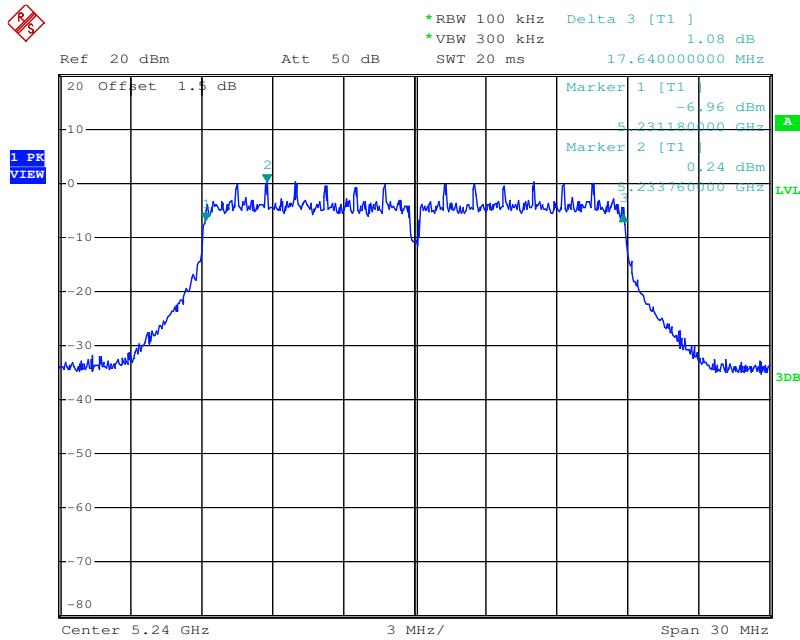


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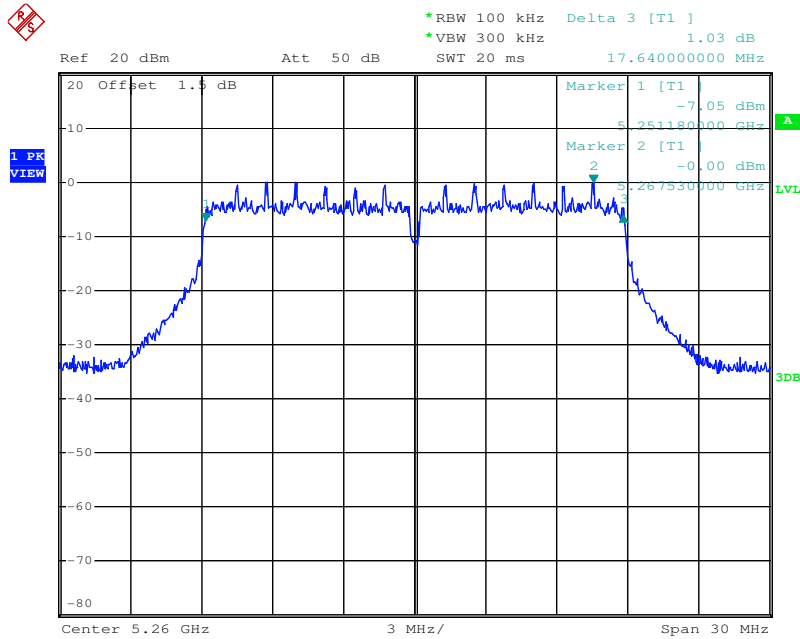
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5240
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5260
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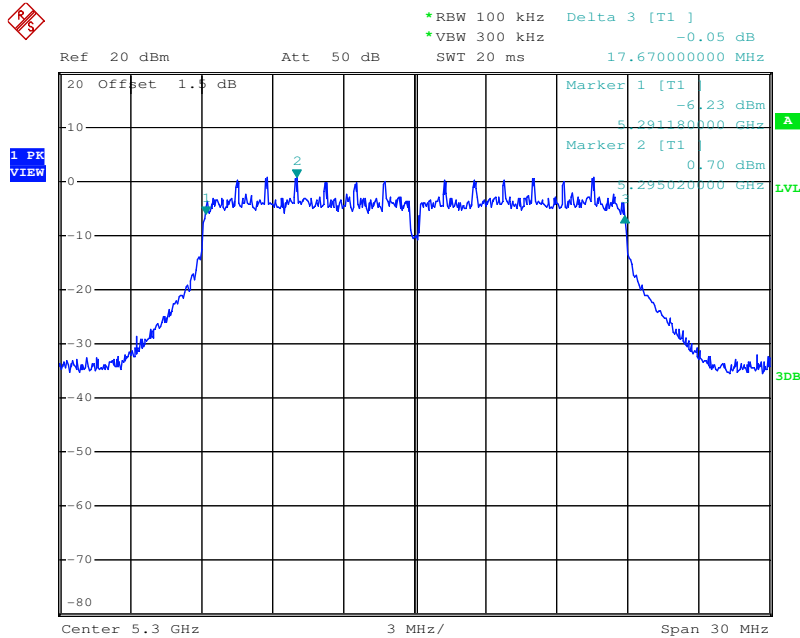


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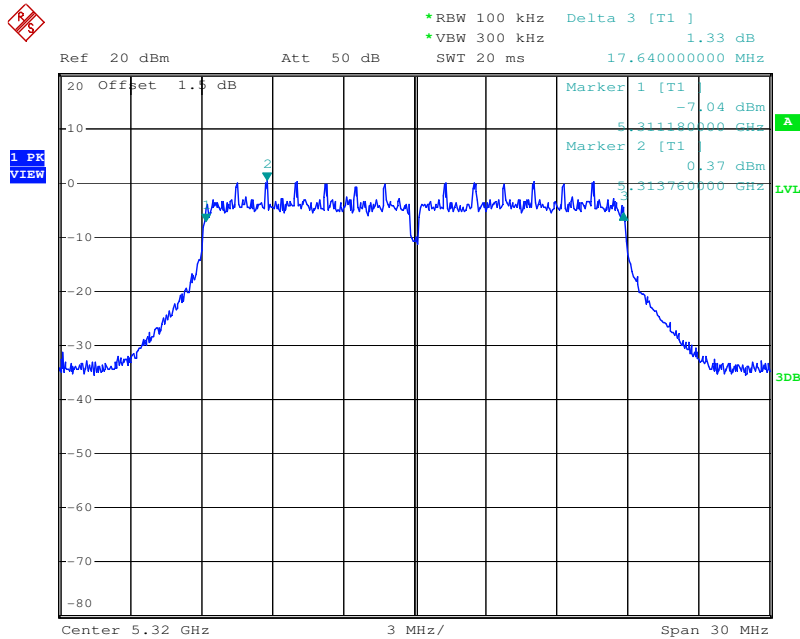
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5300
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5320
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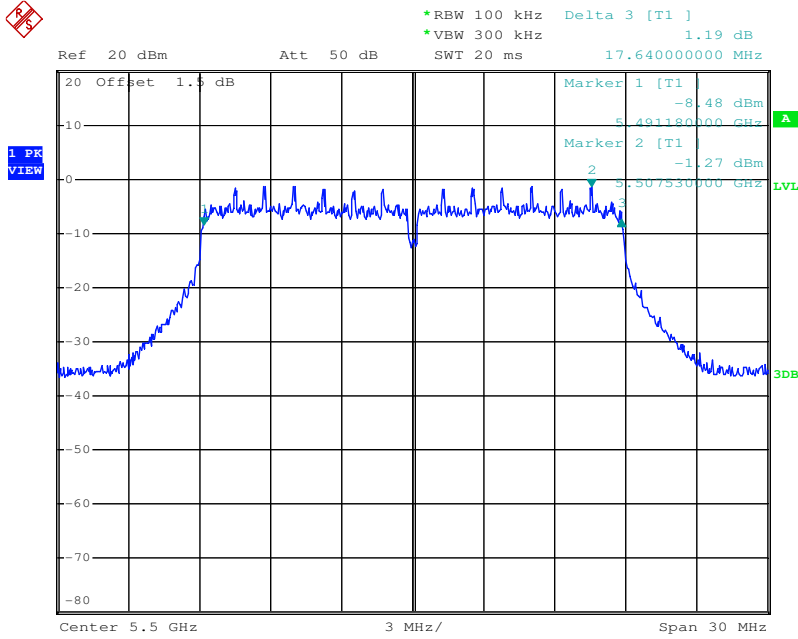


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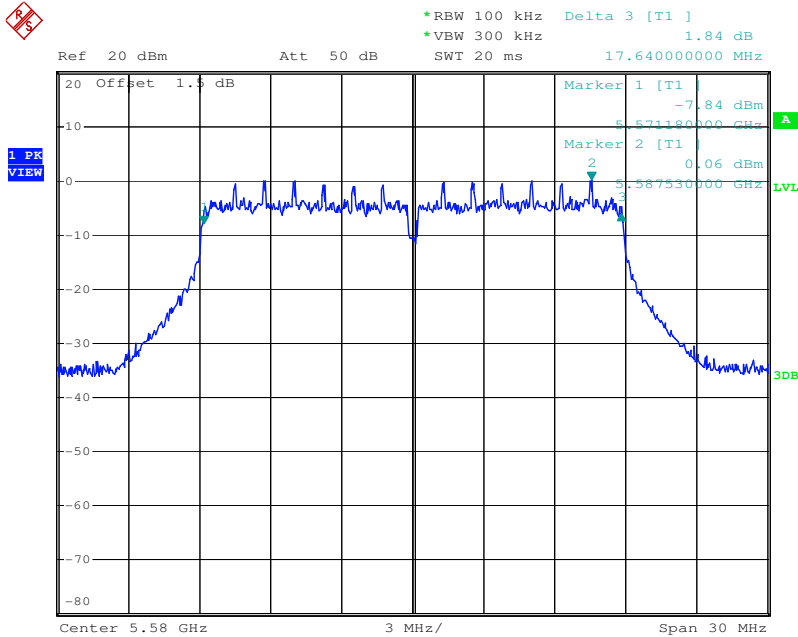
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5500
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5580
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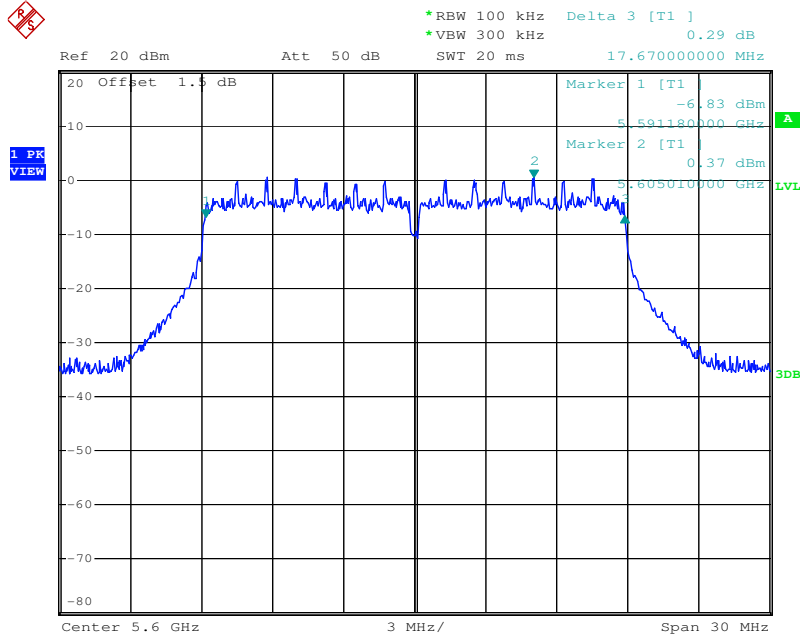


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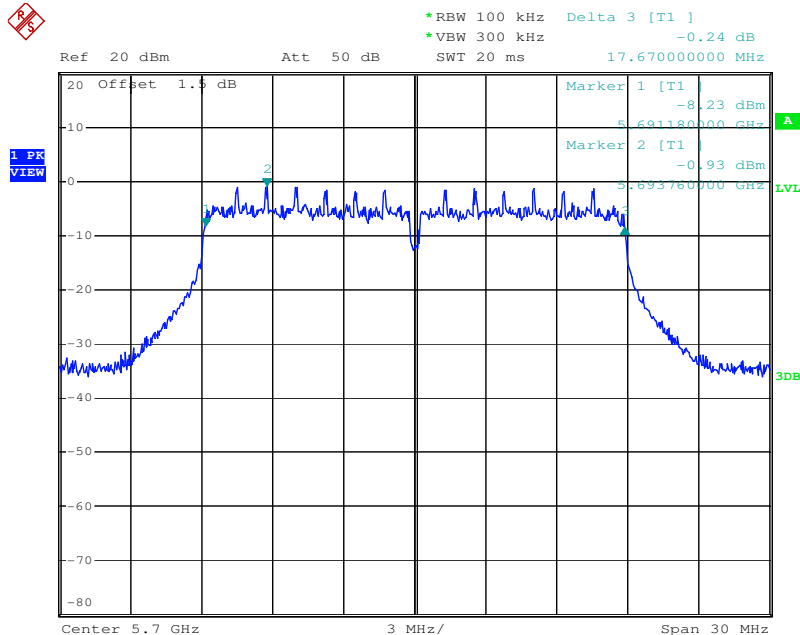
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5600
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5700
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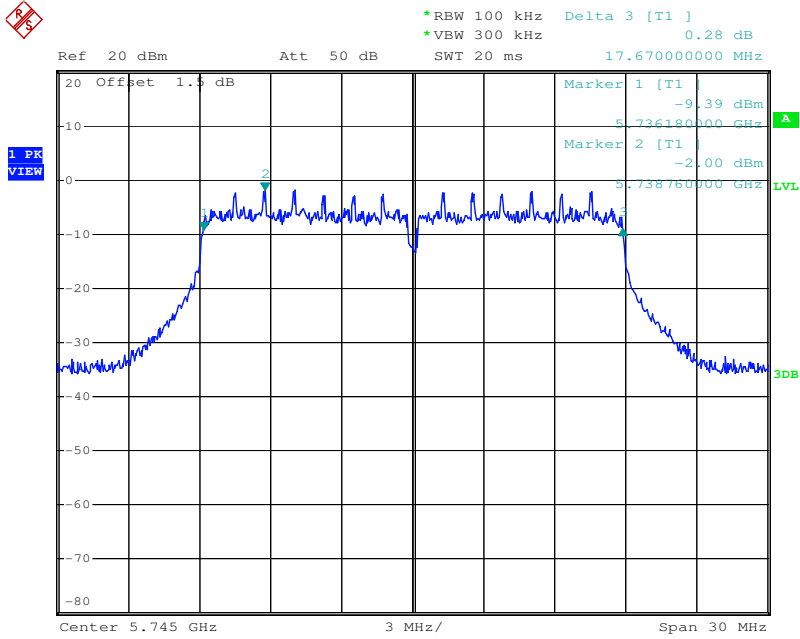


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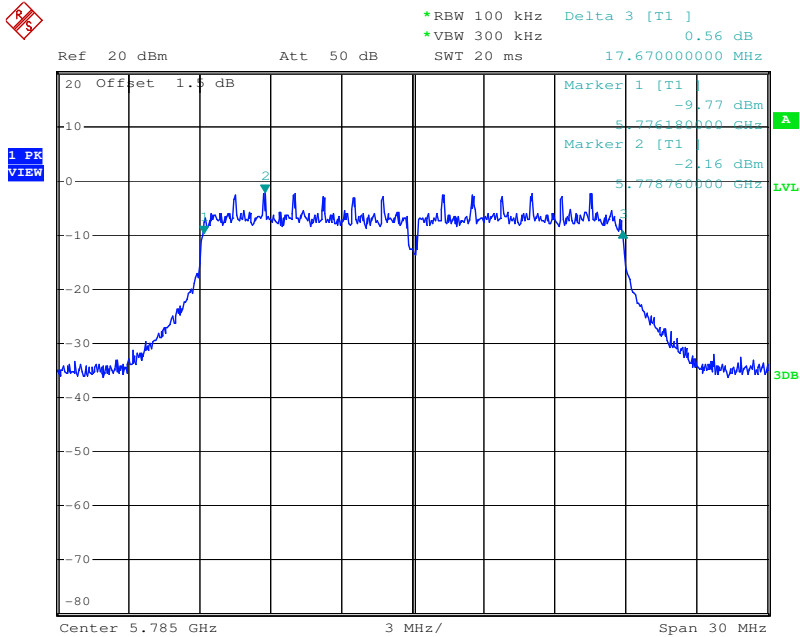
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5745
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5785
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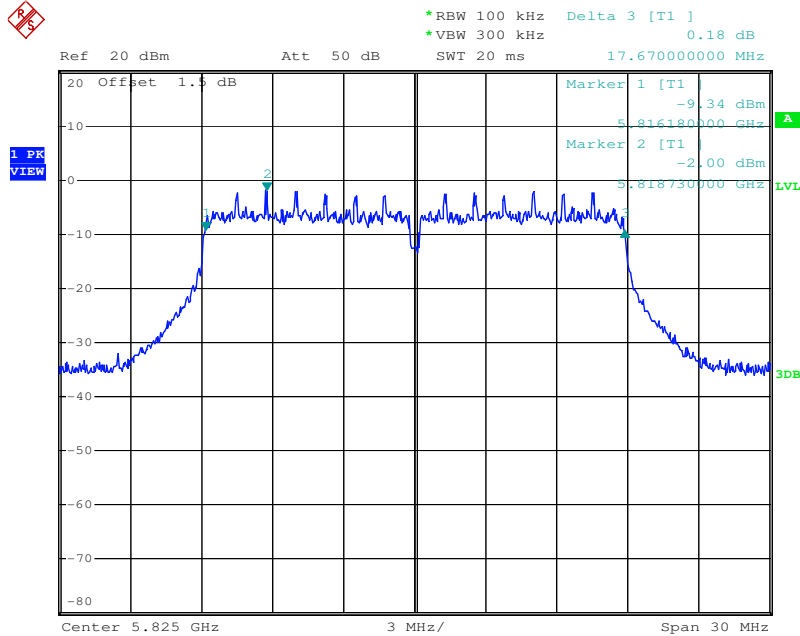


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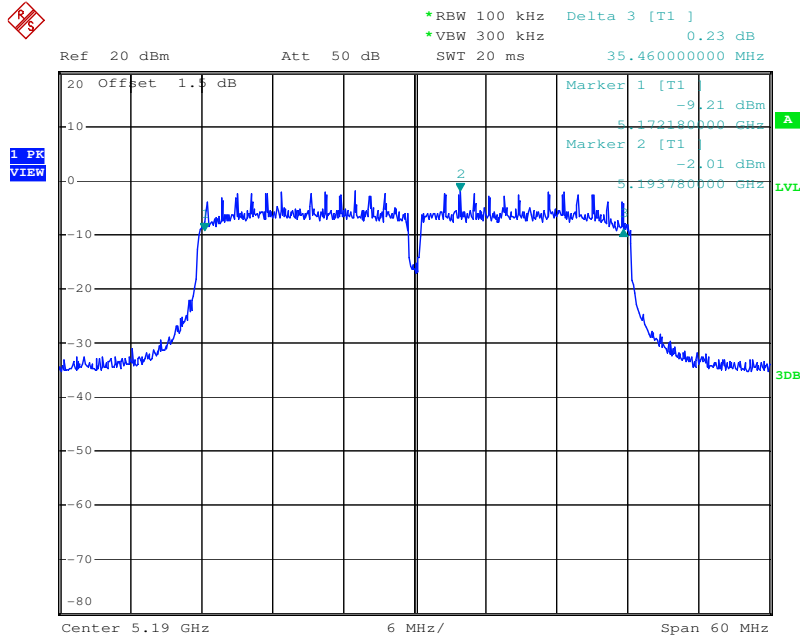
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Test mode:	802.11ac(HT20)	Frequency(MHz):	5825
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Test mode:	802.11n(HT40)	Frequency(MHz):	5190
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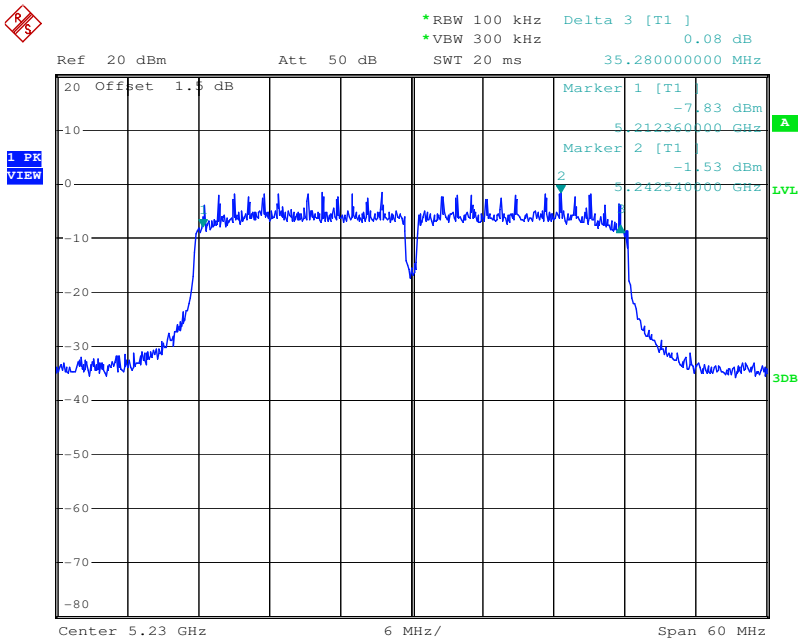


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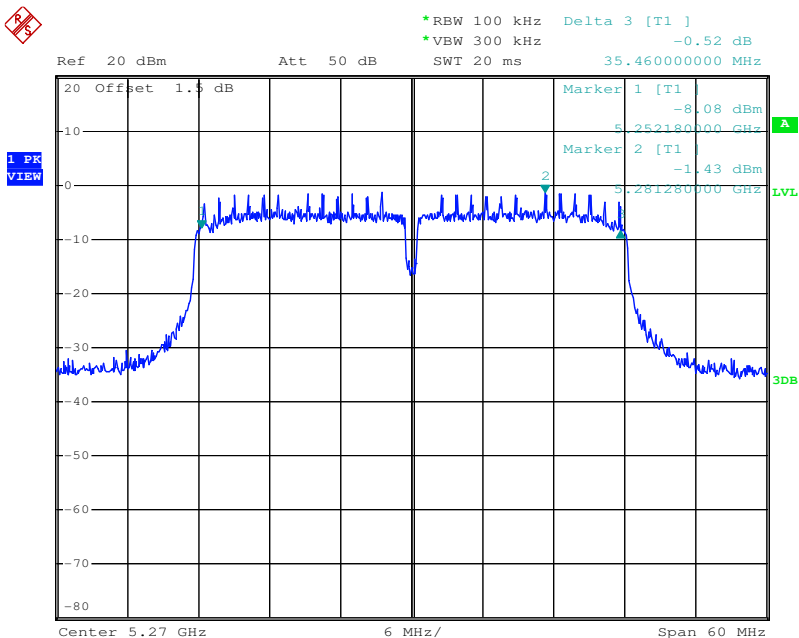
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Test mode:	802.11n(HT40)	Frequency(MHz):	5230
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Test mode:	802.11n(HT40)	Frequency(MHz):	5270
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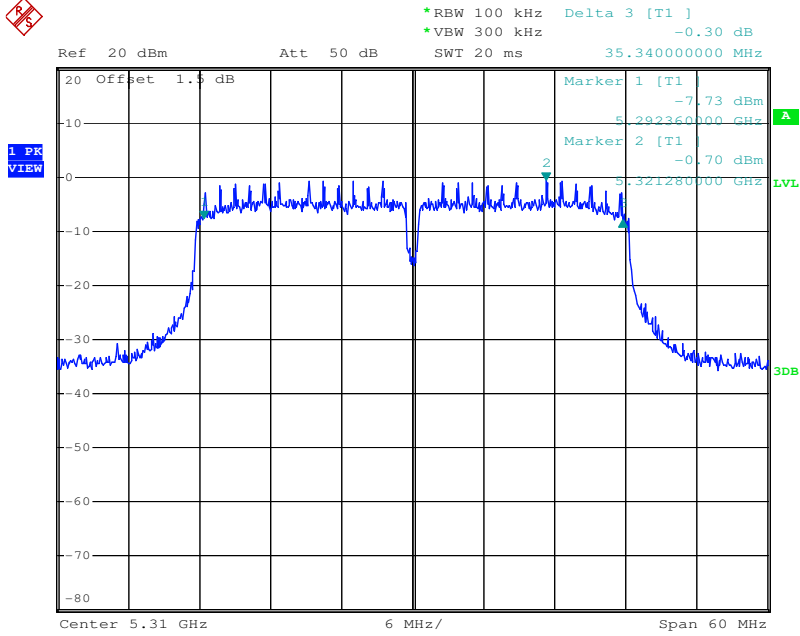


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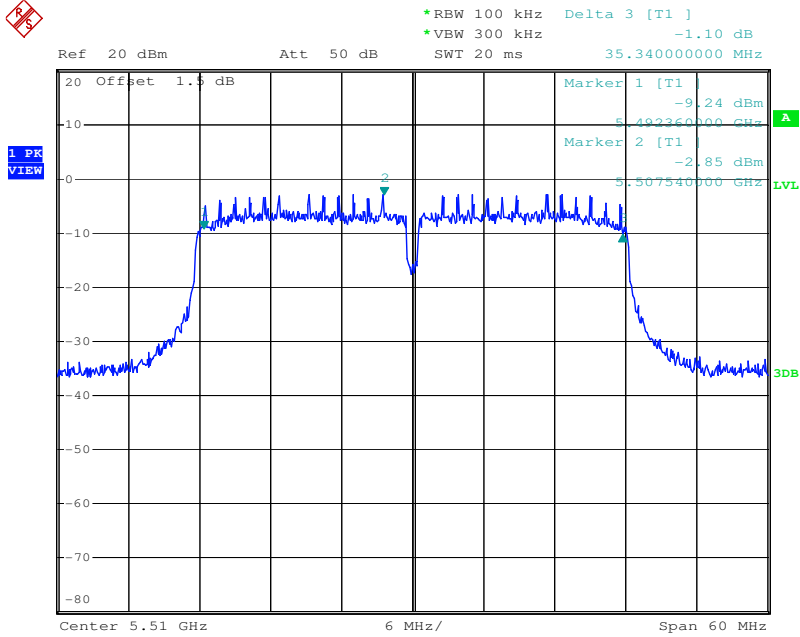
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Test mode:	802.11n(HT40)	Frequency(MHz):	5310
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Test mode:	802.11n(HT40)	Frequency(MHz):	5510
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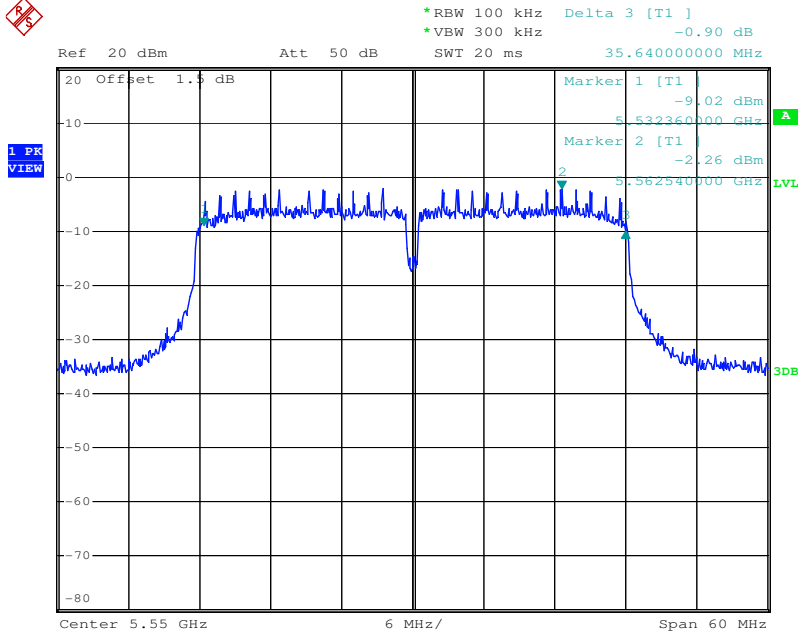


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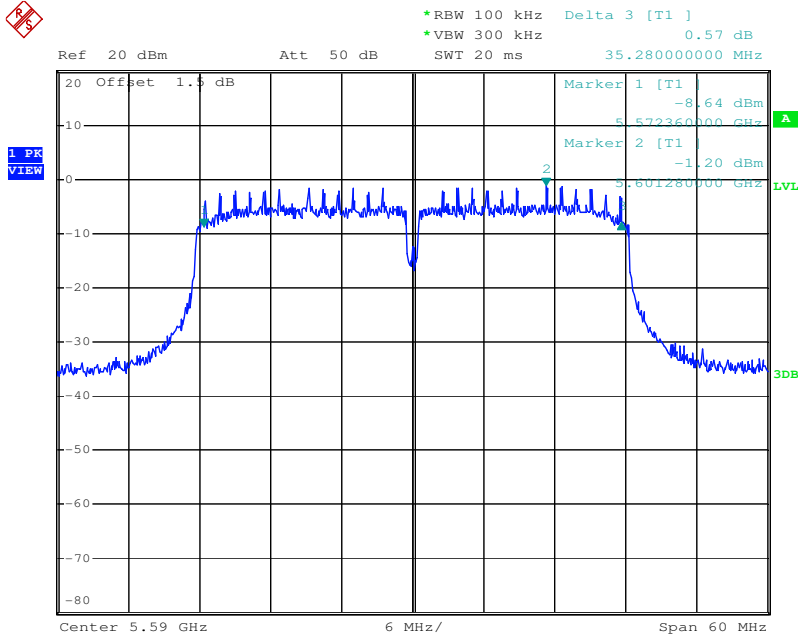
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Test mode:	802.11n(HT40)	Frequency(MHz):	5550
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Test mode:	802.11n(HT40)	Frequency(MHz):	5590
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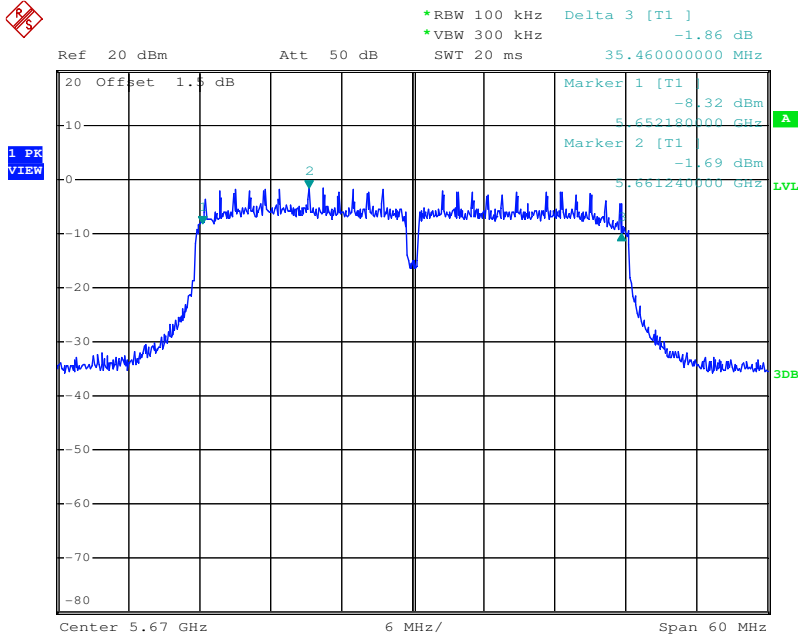


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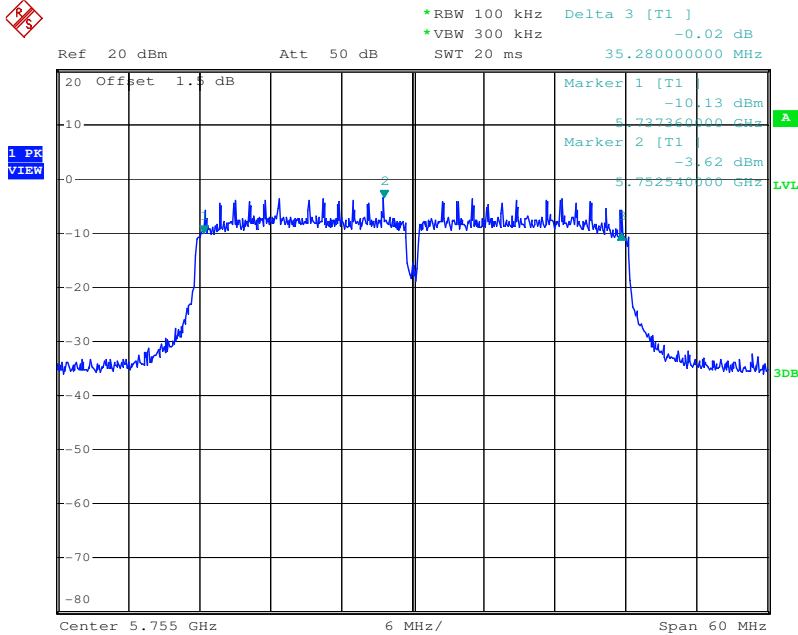
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Test mode:	802.11n(HT40)	Frequency(MHz):	5670
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Test mode:	802.11n(HT40)	Frequency(MHz):	5755
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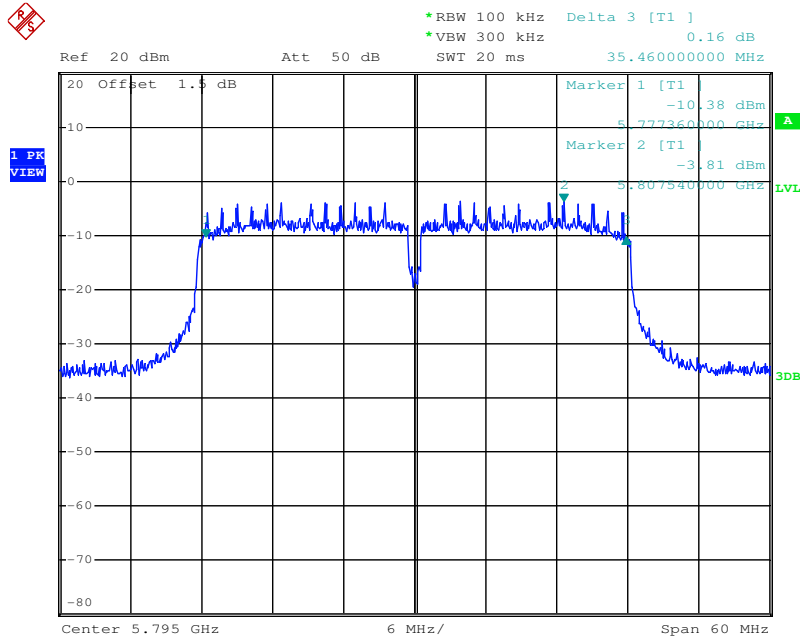


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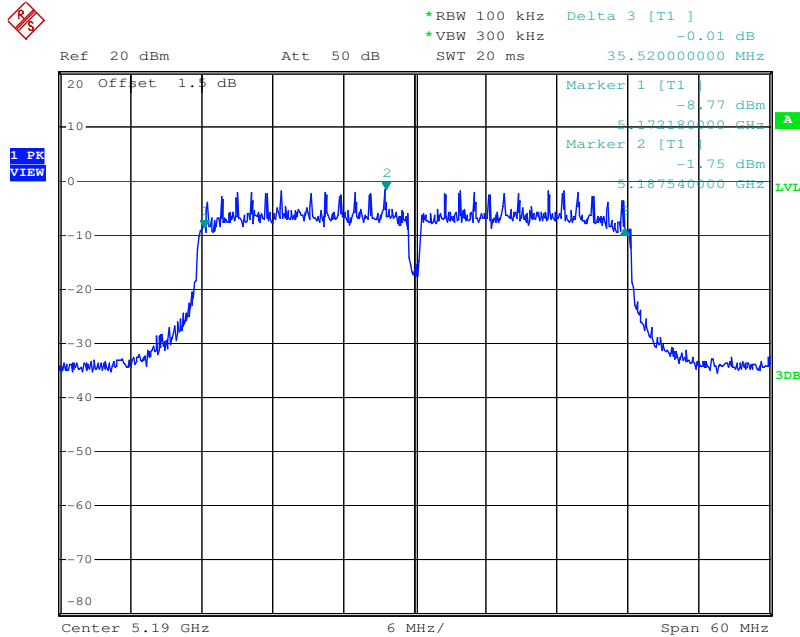
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Test mode:	802.11n(HT40)	Frequency(MHz):	5795
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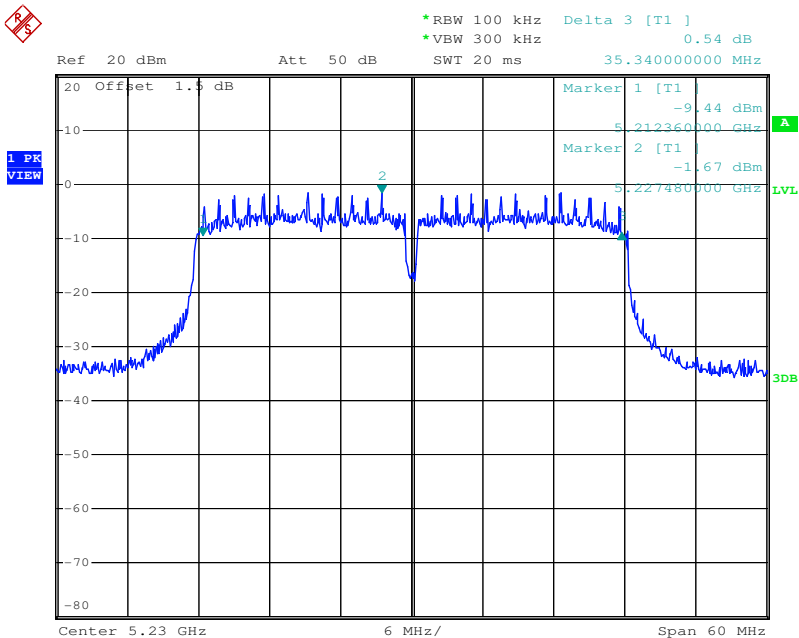


Test mode:	802.11ac(HT40)	Frequency(MHz):	5190
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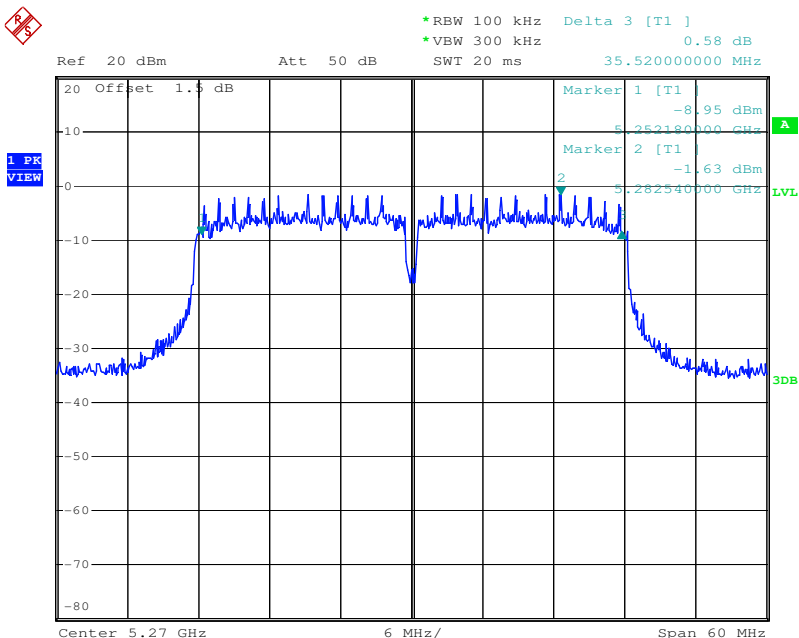




Test mode:	802.11ac(HT40)	Frequency(MHz):	5230
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5270
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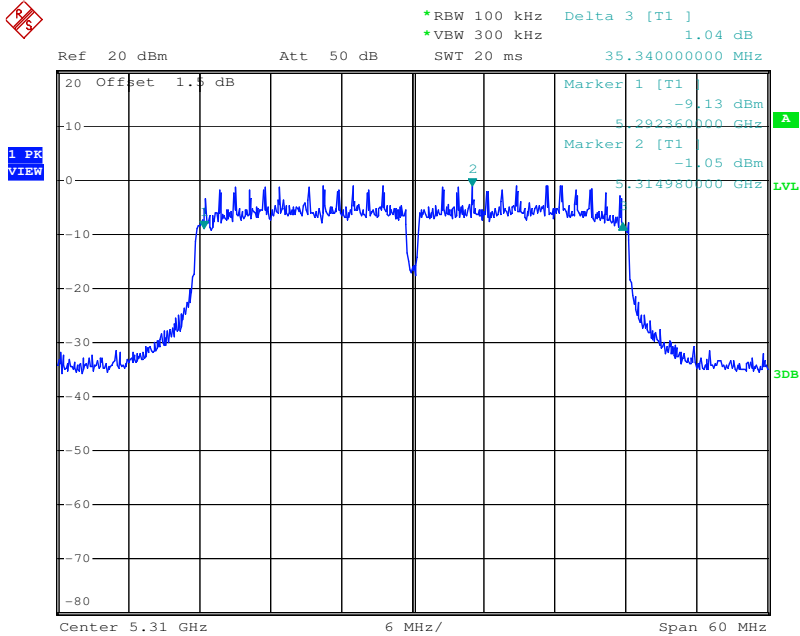


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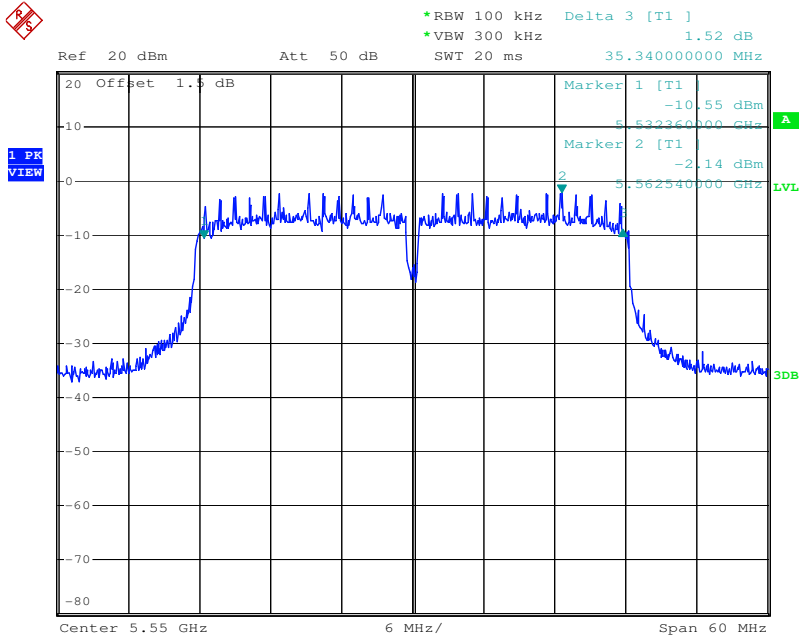
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5310
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5510
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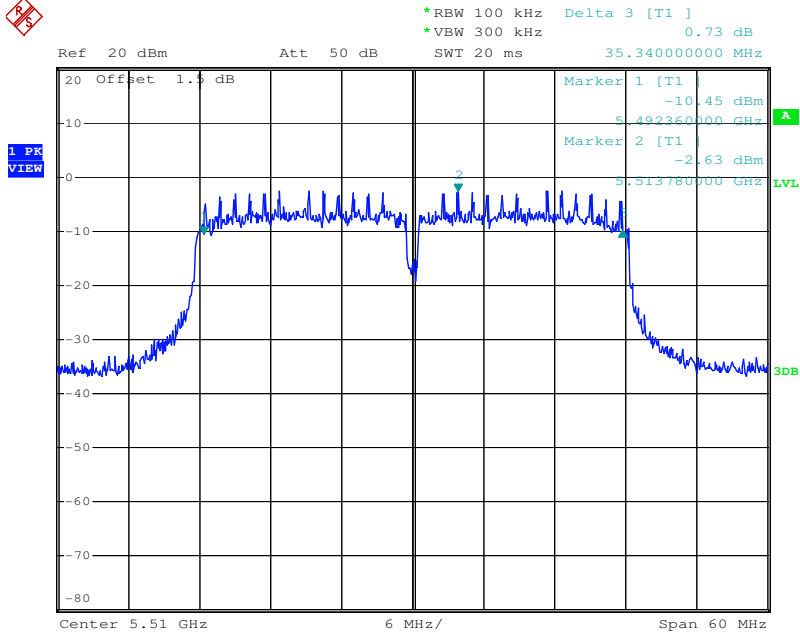


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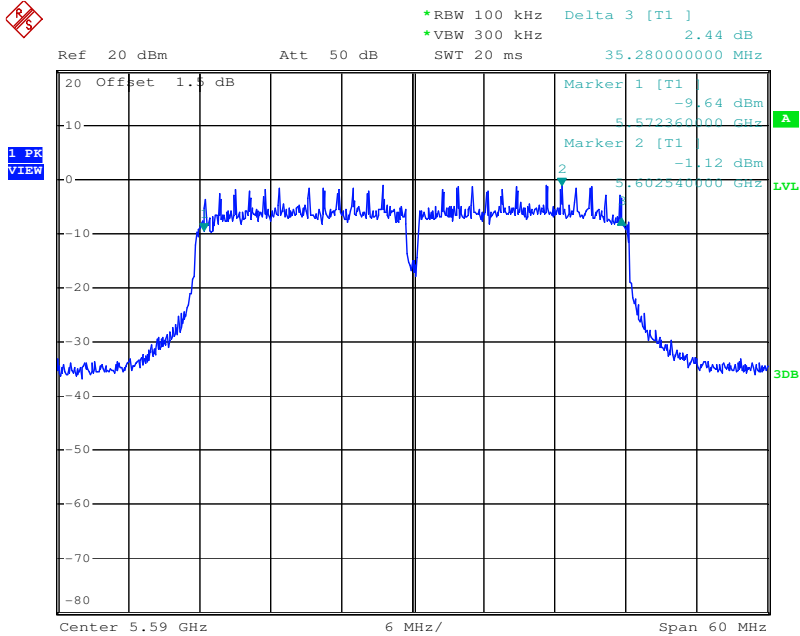
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5550
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5590
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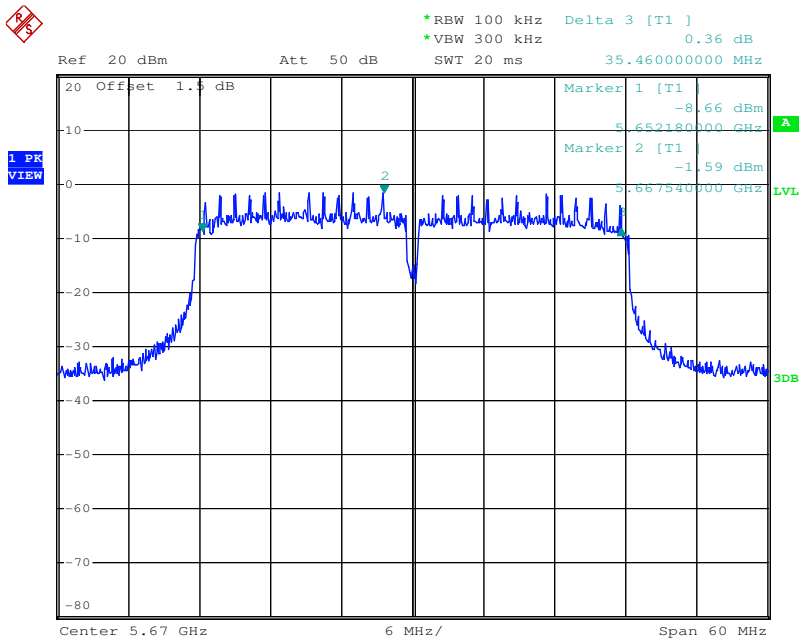


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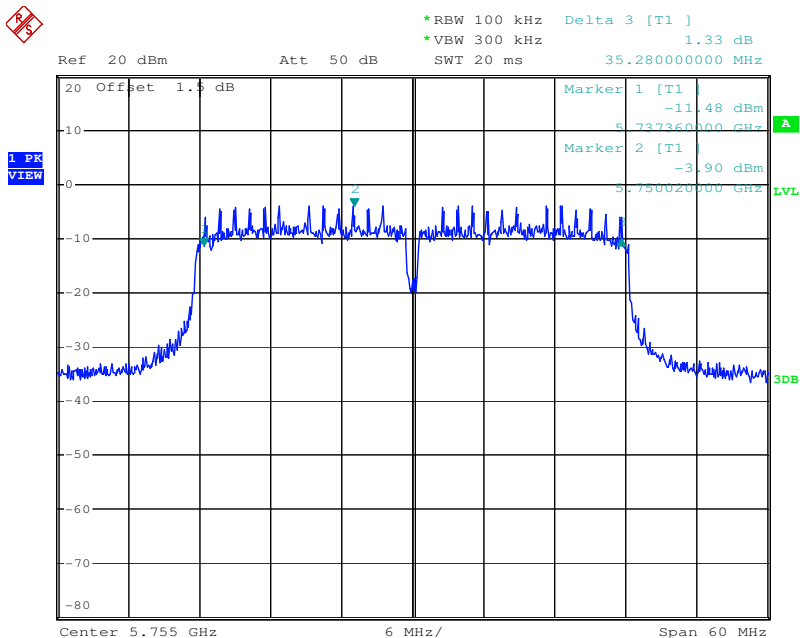
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5670
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5755
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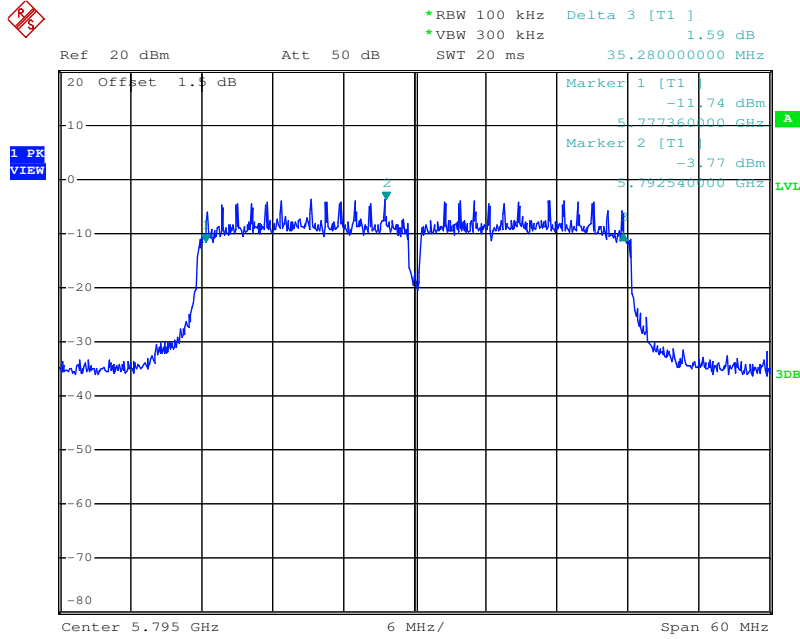


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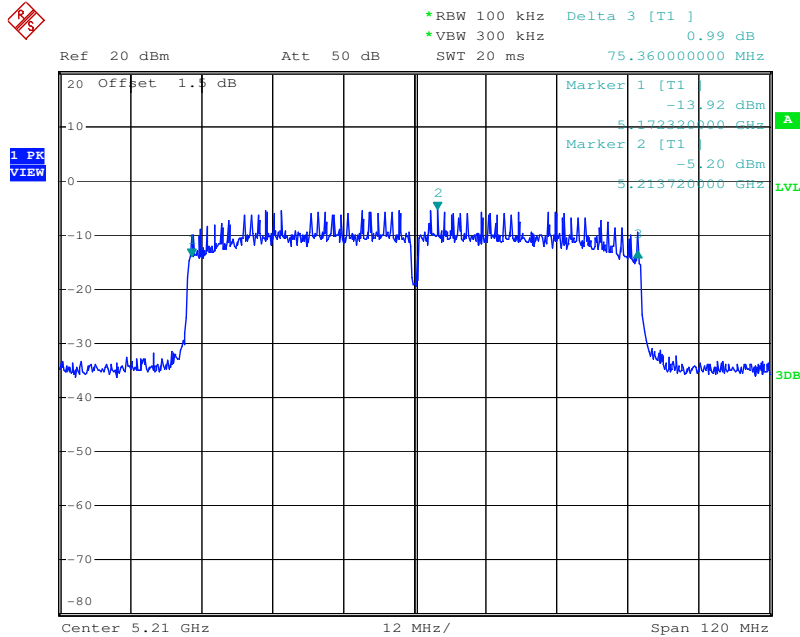
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Test mode:	802.11ac(HT40)	Frequency(MHz):	5795
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est mode:	802.11ac(HT80)	Frequency(MHz):	5210
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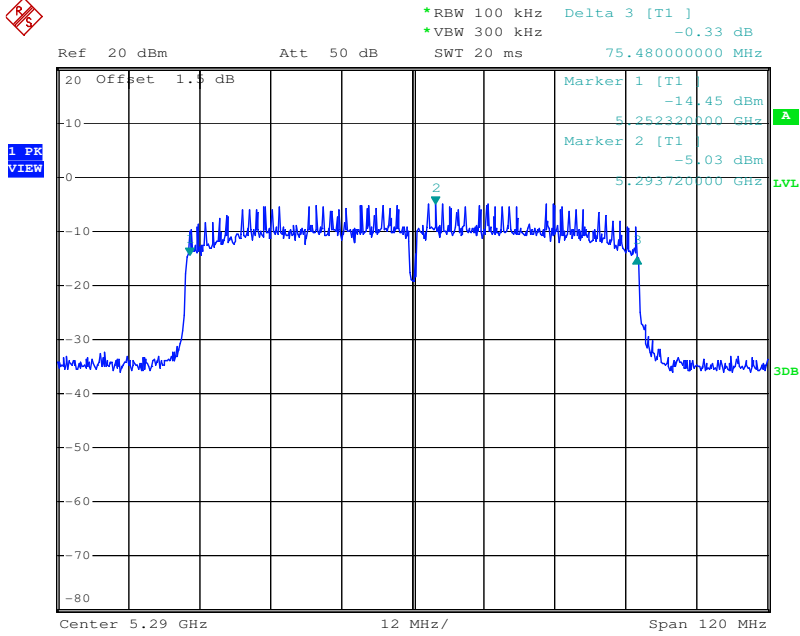


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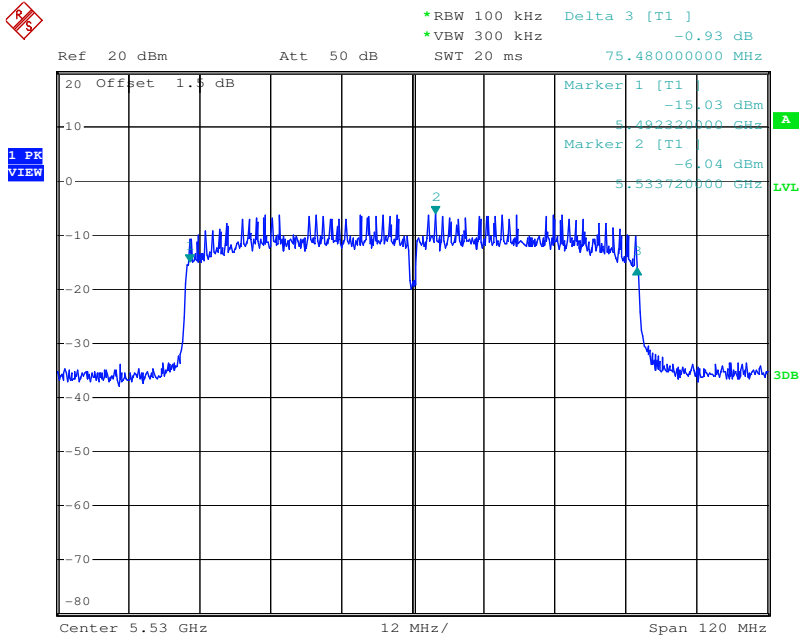
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5290
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5530
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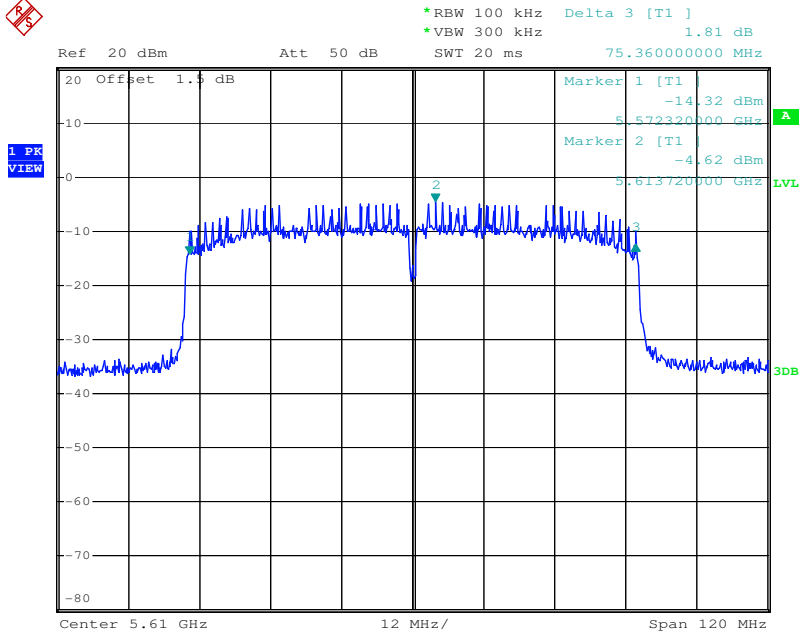


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Test mode:	802.11ac(HT80)	Frequency(MHz):	5610
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Test mode:	802.11ac(HT80)	Frequency(MHz):	5775
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