



FCC TEST REPORT

Application No.: ZR/2020/90032

Applicant: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd

Address of Applicant: Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen

Manufacturer: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd

Address of Manufacturer: Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen

EUT Description: Mobile Hotspot

Model No.: CP337AS

Trade Mark: coolpad

FCC ID: R38YLCP337AS

Standards: 47 CFR FCC Part 2, Subpart J
47 CFR FCC Part 15, Subpart E
KDB 789033 D02 General UNII Test Procedures New Rules v02
FCC KDB 558074 D01 DTS Meas Guidance v0502

Test Method: KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices

Date of Receipt: 2020/10/8

Date of Test: 2020/10/21 to 2020/12/31

Date of Issue: 2021/1/5

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

Authorized Signature:

Derek Yang
Wireless Laboratory Manager



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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021/1/5		Original

Authorized for issue by:			
Tested By		 _____ (Mike Hu) /Project Engineer	
Checked By		 _____ (David Chen) /Reviewer	



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Contents

1	VERSION	2
2	TEST SUMMARY	4
3	GENERAL INFORMATION	7
3.1	CLIENT INFORMATION	7
3.2	TEST LOCATION	7
3.3	TEST FACILITY	7
3.4	GENERAL DESCRIPTION OF EUT	8
3.5	TEST ENVIRONMENT AND MODE	10
4	TEST RESULTS AND MEASUREMENT DATA	11
4.1	ANTENNA REQUIREMENT	11
4.2	CONDUCTED EMISSIONS	11
4.3	DUTY CYCLE	15
4.3.1	Test Results	15
4.3.1	Test Plots	15
4.4	CONDUCTED OUTPUT POWER	20
4.4.1	Test Results for Conducted Output Power	21
4.5	26dB EMISSION BANDWIDTH	22
4.5.1	Test Results for 26dB Emission Bandwidth	23
4.5.2	Plots for 26dB Emission Bandwidth	24
4.6	6dB EMISSION BANDWIDTH	37
4.6.1	Test Results for 6dB Emission Bandwidth	38
4.6.2	Plots for 6dB Emission Bandwidth	39
4.7	99% OCCUPIED BANDWIDTH	52
4.7.1	Test Results for 99% Occupied Bandwidth	53
4.7.2	Plots for 99% Occupied Bandwidth	54
4.8	POWER SPECTRAL DENSITY	82
4.8.1	Test Results For Power Density	83
4.8.2	Test plots For Power Density	84
4.9	RADIATED SPURIOUS EMISSIONS	112
4.9.1	Radiated emission below 1GHz	114
4.9.2	Transmitter emission above 1GHz	116
4.10	RESTRICTED BANDS AROUND FUNDAMENTAL FREQUENCY	172
4.10.1	Test plots	174
4.11	FREQUENCIES STABILITY	220
4.11.1	Frequency Error vs. Voltage	220
4.11.2	Frequency Error vs. Temperature	220
5	MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2)	221
6	EQUIPMENT LIST	222
7	PHOTOGRAPHS - EUT TEST SETUP DETAILS	224



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2 Test Summary

Test Item	Band	FCC Rule	Requirements	Test Result	Verdict
Emission Bandwidth	5150-5250	15.403(i) 15.407(a)(1)	No limit.	Clause 4.4 Clause 4.5	Pass
	5725-5850	15.403(i) 15.407(e)	≥ 500 kHz.		
Occupied Bandwidth	5150-5250	KDB 789033	No limit.		Pass
	5725-5850	D02§ D			
Duty Cycle	5150-5850	--	No limit.		
Maximum Conducted Output Power	5150-5250	15.407(a)(1) 15.407(a)(4)	FCC < 250mW (avg during transmission)	Clause 4.3	Pass
	5725-5850	15.407(a)(3)	< 1W (avg during transmission)		
maximum Power Spectral Density	5150-5250	15.407(a)(1) 15.407(a)(4)	<11dBm/MHz (avg during transmission)	Clause 4.6	
	5725-5850	15.407(a)(3) 15.407(a)(4)	<30dBm/500KHz (avg during transmission)		
Unwanted Emissions that fall Outside of the Restricted Bands(Radiated)	5150-5250	15.407(b)(1) 15.407(b)(6) 15.407(b)(7) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).	Clause 4.7	Pass
	5725-5850	15.407(b)(4) 15.407(b)(6) 15.407(b)(7) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP) F≥1GHz & out-restricted:(QP) a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges. F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).		
Unwanted Emissions in the Restricted Bands	5150-5250 5725-5850	15.209		Clause 4.8	Pass



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Test Item	Band	FCC Rule	Requirements	Test Result	Verdict
(Radiated)					
AC Power Line Conducted Emissions	5150-5250 5725-5850	15.207		Clause 4.2	Pass
Frequency Stability	5150-5250 5725-5850	15.209		Clause 4.9	Pass



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Remark:

The differences between Main Supply and Secondary Supply are showed in the following table.

Main Supply:

Part Name	Model Name	supplier	Remark
Battery	CPLD-440	Jiade	
Memory	FS702B2R1DH2A2KDE	FORESEE	
PCB	CP337AS MAINBOARD P3-ZH	Zhihao	

Secondary Supply:

Part Name	Model Name	supplier	Remark
Battery	CPLD-440	Ganfeng	
Memory	NM1282KSLAXAL-3B	Nanya	
PCB	CP337AS MAINBOARD P3_SUNTAK	Suntak	

Note:

According to the difference description above, only the worst case data displayed in this report.

Authorized Signature:

Derek Yang
Wireless Laboratory Manager



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3 General Information

3.1 Client Information

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address of Applicant:	Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen
Manufacturer:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address of Manufacturer:	Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Telephone:	+86 (0) 755 2601 2053
Fax:	+86 (0) 755 2671 0594
E-mail:	ee.shenzhen@sgs.com

3.3 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 17025:2017 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 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **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.



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3.4 General Description of EUT

EUT Description:	Mobile Hotspot
Model No.:	CP337AS
Trade Mark:	coolpad
Hardware Version:	P3
Software Version:	3.18.054.P3.201216.CP337AS
IEEE 802.11 WLAN Mode Supported:	☒ 802.11a (20 MHz channel bandwidth); ☒ 802.11n (20 MHz channel bandwidth); ☒ 802.11n (40 MHz channel bandwidth); ☒ 802.11ac (20 MHz channel bandwidth); ☒ 802.11ac (40 MHz channel bandwidth); ☒ 802.11ac (80 MHz channel bandwidth);
Operation Frequency:	IEEE 802.11n(HT20/40)/ ac(HT20/40/80/): 5150MHz to 5250MHz IEEE 802.11n(HT20/40)/ ac(HT20/40/80/): 5725MHz to 5850MHz
Type of Modulation:	OFDM
Sample Type:	☐ Portable Device, ☒ Module
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports	☒ Ant 1, ☐ Ant 2, ☐ Ant 3
Smart System	☒ SISO (for 802.11a/n/ac), ☐ MIMO (for 802.11n/ac), ☐ Diversity (for 802.11a) : Tx & Rx
Antenna Gain:	-3dBi,
Power Supply	☒ AC/DC Adapter; ☐ PoE;; ☐ Other:

Remark:

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	5200
	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 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



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3.5 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	55 % RH
Atmospheric Pressure:	101.32 KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.



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4 Test results and Measurement Data

4.1 Antenna Requirement

Test Requirement:	47 CFR Part 15 Section 15.203
The antenna is integrated antenna and no consideration of replacement. The best case gain of the antenna is -3dBi.	

4.2 Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 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.		



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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.

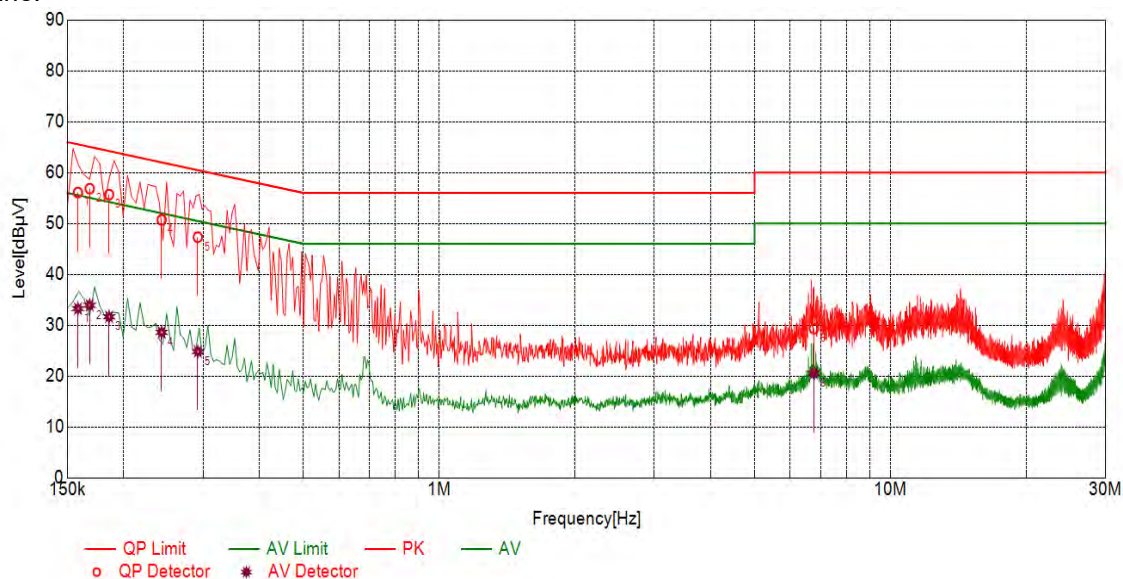
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



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Live Line:



Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value	QP Limit	QP Margin	AV Value	AV Limit	AV Margin	Type
1	0.1584	10.10	56.08	65.55	9.47	33.26	55.55	22.29	L
2	0.1682	10.10	56.85	65.05	8.20	33.91	55.05	21.14	L
3	0.1857	10.10	55.67	64.22	8.55	31.65	54.22	22.57	L
4	0.2428	10.10	50.70	62.00	11.30	28.60	52.00	23.40	L
5	0.2920	10.10	47.31	60.47	13.16	24.81	50.47	25.66	L
6	6.7693	10.10	29.30	60.00	30.70	20.56	50.00	29.44	L



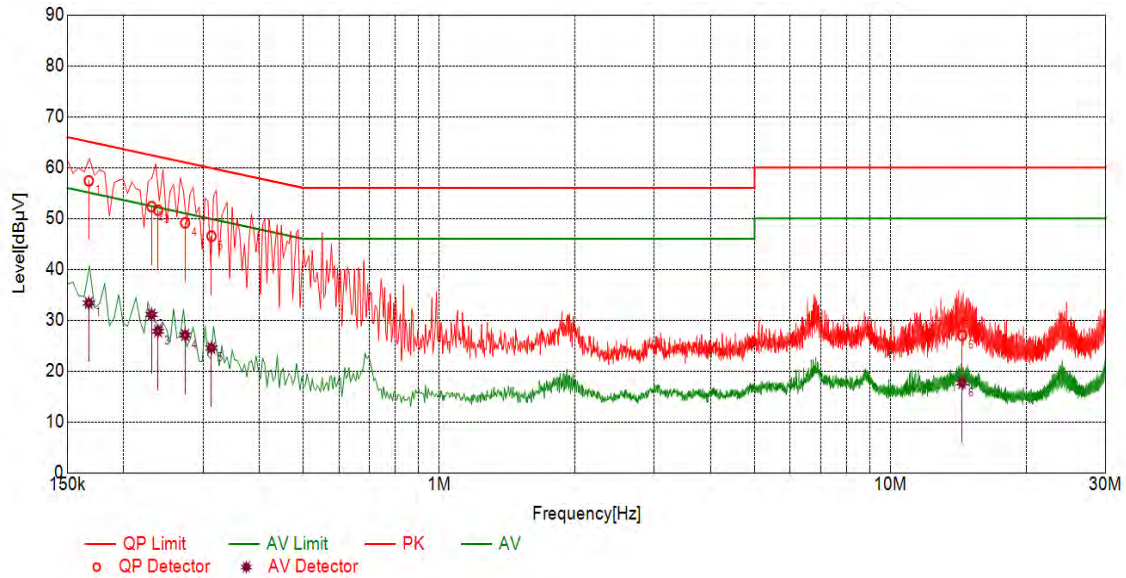
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Neutral Line:



Test Graph

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value	QP Limit	QP Margin	AV Value	AV Limit	AV Margin	Type
1	0.1674	10.10	57.39	65.09	7.70	33.37	55.09	21.72	N
2	0.2306	10.10	52.32	62.43	10.11	31.11	52.43	21.32	N
3	0.2384	10.10	51.62	62.15	10.53	27.83	52.15	24.32	N
4	0.2737	10.10	49.12	61.01	11.89	27.08	51.01	23.93	N
5	0.3130	10.10	46.50	59.89	13.39	24.53	49.89	25.36	N
6	14.4211	10.11	27.03	60.00	32.97	17.68	50.00	32.32	N

Remarks:

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



4.3 Duty Cycle

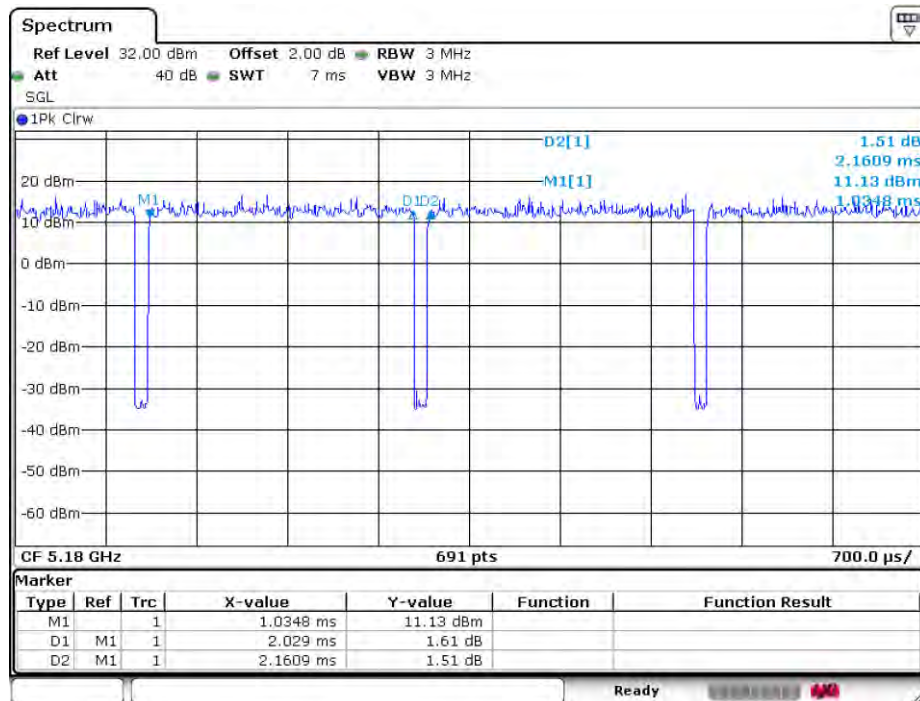
4.3.1 Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11A	Ant 1: CH149, CH157, CH165	
11N20	Ant 1: CH149, CH157, CH165	
11N40	Ant 1: CH151, CH159	
11AC20	Ant 1: CH149, CH157, CH165	
11AC40	Ant 1: CH151, CH159	
11AC80	Ant 1: CH155	

4.3.1 Test Plots

4.3.1.1 ANT1

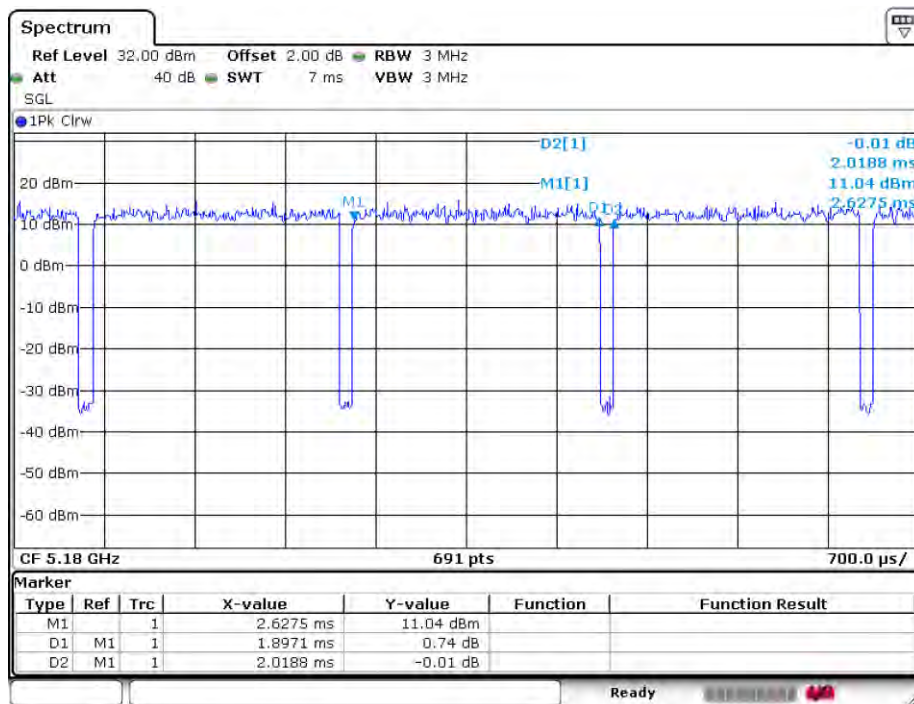
4.3.1.1.1 11A



Date: 29.SEP.2020 09:30:47



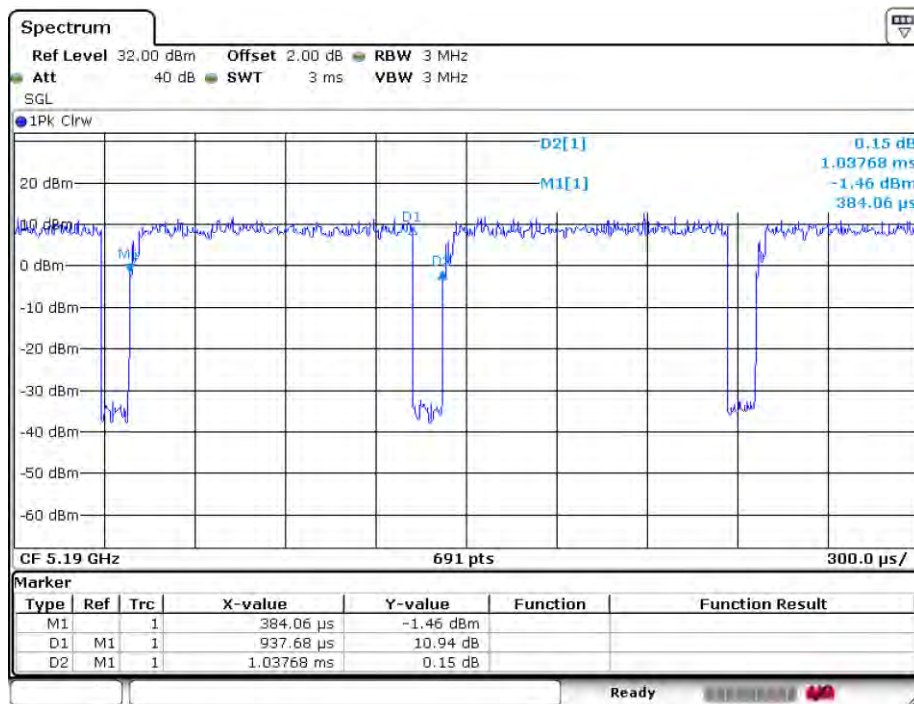
4.3.1.1.2 11N20



Date: 29 SEP 2020 09:32:57



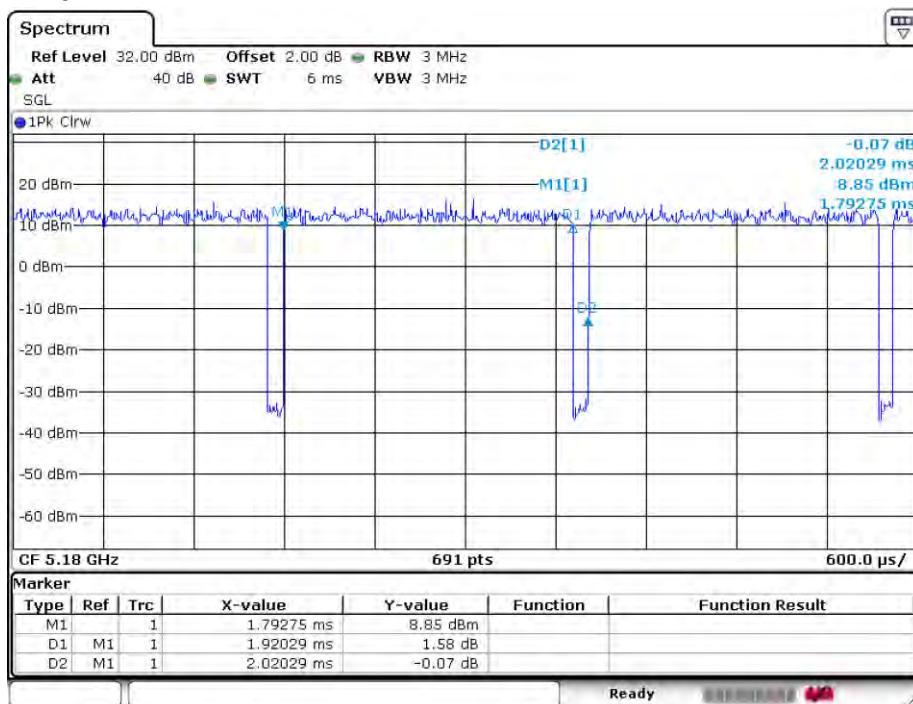
4.3.1.1.3 11N40



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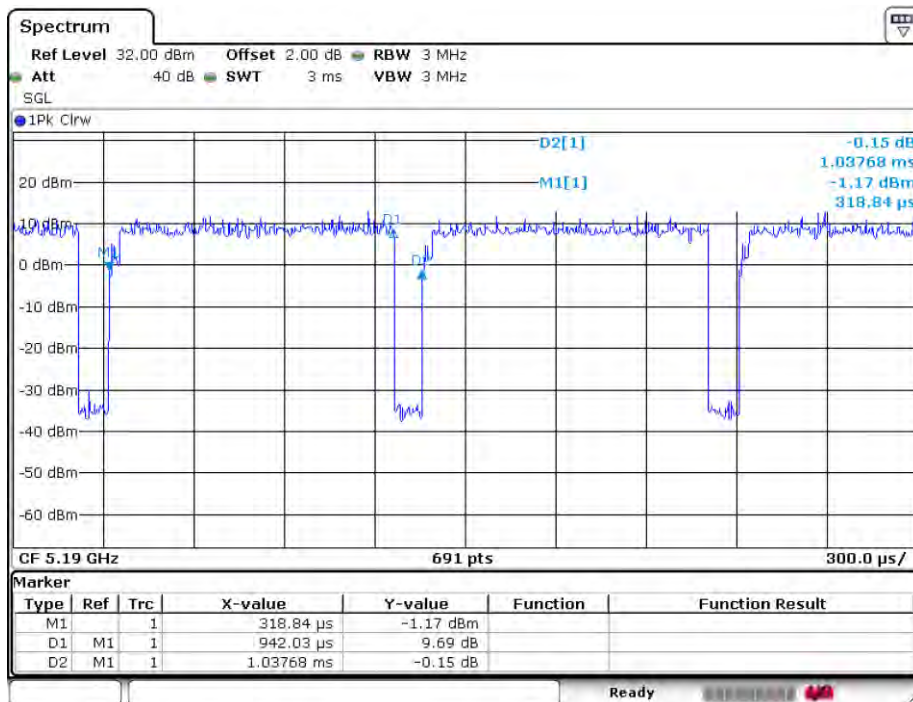


4.3.1.1.4 11AC20



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4.3.1.1.5 11AC40



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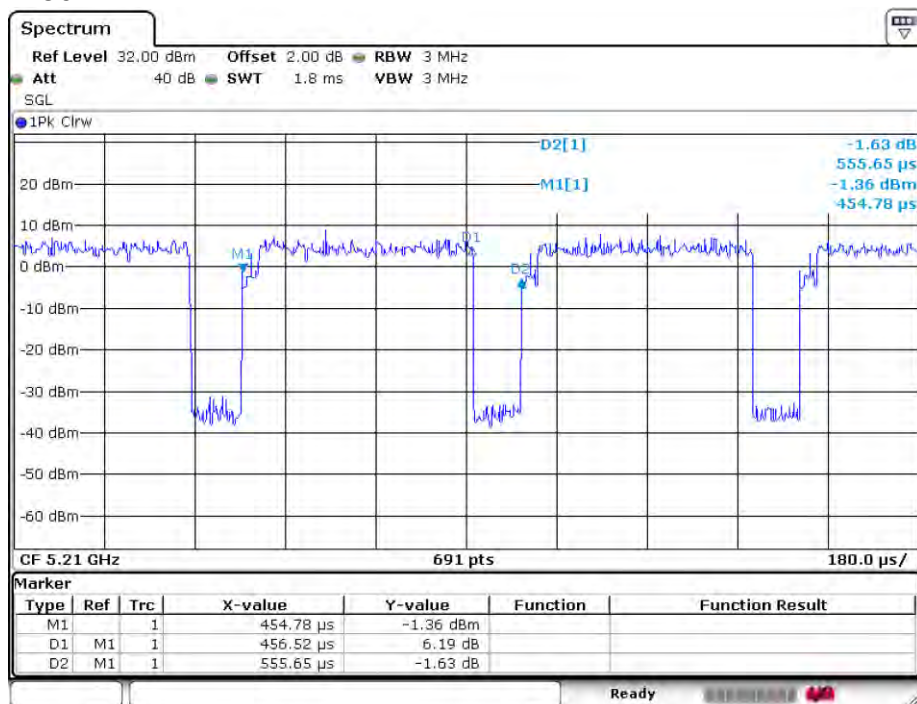
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4.3.1.1.6 11AC80

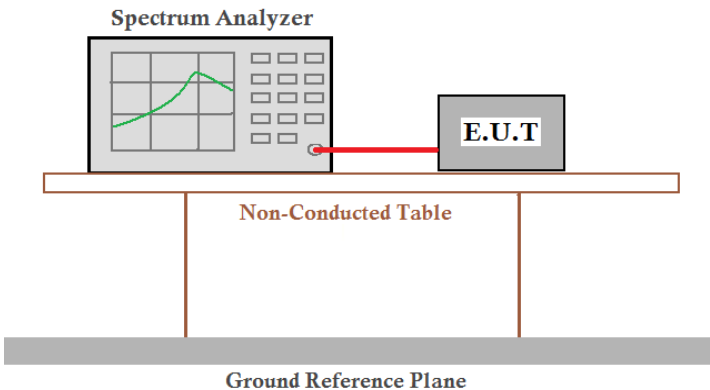


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4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
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 that 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 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)
	5725-5850MHz	Not exceed 1W(30dBm)
	*Where B is the 26dB emission bandwidth in MHz	
Test Results:	Pass	



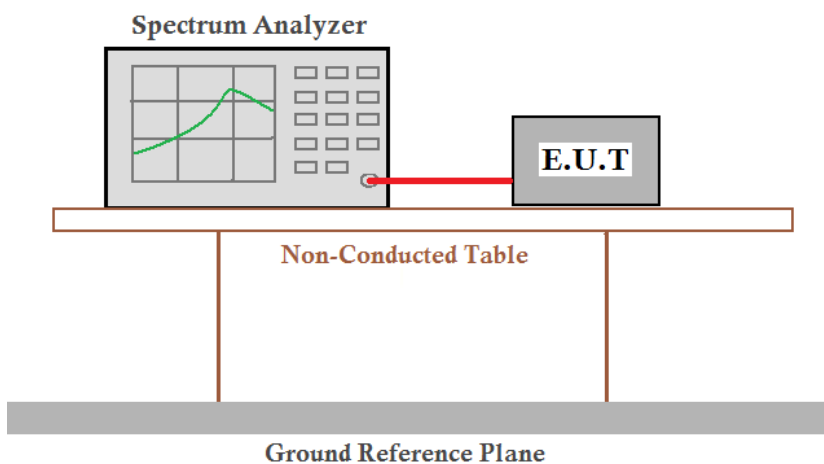


4.4.1 Test Results for Conducted Output Power

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Meas. Level (Cond.) [dBm]	Meas. Level (EIRP.) [dBm]	Verdict
11A20	36	5180	ANT 1	13.95	10.95	PASS
	44	5220	ANT 1	13.82	10.82	PASS
	48	5240	ANT 1	13.79	10.79	PASS
	149	5745	ANT 1	13.52	10.52	PASS
	157	5785	ANT 1	13.45	10.45	PASS
	165	5825	ANT 1	13.34	10.34	PASS
11N20	36	5180	ANT 1	13.72	10.72	PASS
	44	5220	ANT 1	13.56	10.56	PASS
	48	5240	ANT 1	13.54	10.54	PASS
	149	5745	ANT 1	12.24	9.24	PASS
	157	5785	ANT 1	13.18	10.18	PASS
	165	5825	ANT 1	13.07	10.07	PASS
11N40	38	5190	ANT 1	13.85	10.85	PASS
	46	5230	ANT 1	13.68	10.68	PASS
	151	5755	ANT 1	11.81	8.81	PASS
	159	5795	ANT 1	12.74	9.74	PASS
11AC20	36	5180	ANT 1	13.68	10.68	PASS
	44	5220	ANT 1	13.56	10.56	PASS
	48	5240	ANT 1	13.54	10.54	PASS
	149	5745	ANT 1	12.2	9.2	PASS
	157	5785	ANT 1	13.14	10.14	PASS
	165	5825	ANT 1	13.03	10.03	PASS
11AC40	38	5190	ANT 1	13.87	10.87	PASS
	46	5230	ANT 1	13.73	10.73	PASS
	151	5755	ANT 1	12.51	9.51	PASS
	159	5795	ANT 1	12.75	9.75	PASS
11AC80	42	5210	ANT 1	13.44	10.44	PASS
	155	5775	ANT 1	9.41	6.41	PASS



4.5 26dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(a)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 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



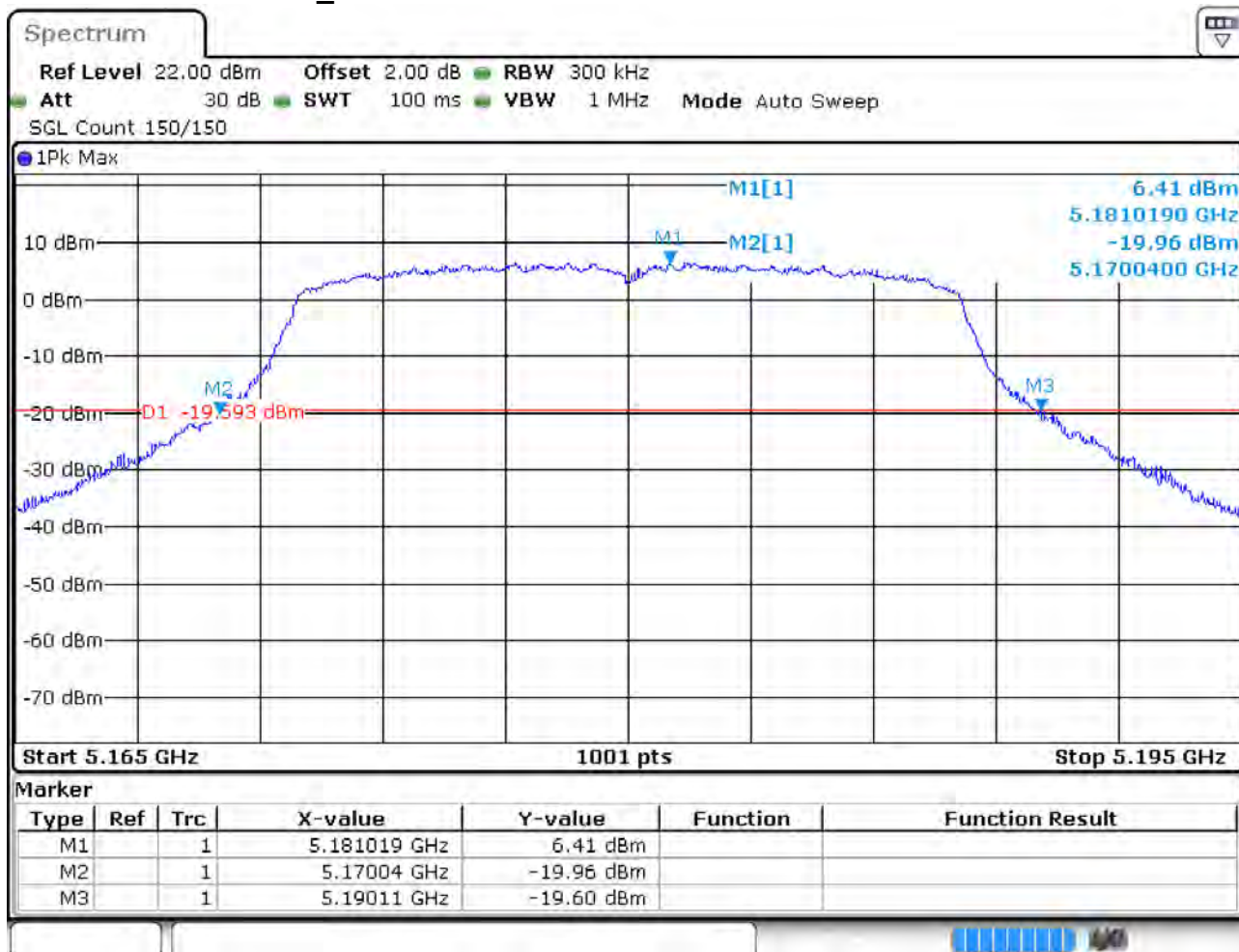
4.5.1 Test Results for 26dB Emission Bandwidth

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	26dB Emission Bandwidth [MHz]	Verdict
11A20	36	5180	ANT 1	20.07	PASS
	44	5220	ANT 1	19.95	PASS
	48	5240	ANT 1	19.95	PASS
11N20	36	5180	ANT 1	20.7	PASS
	44	5220	ANT 1	20.85	PASS
	48	5240	ANT 1	20.64	PASS
11N40	38	5190	ANT 1	40.98	PASS
	46	5230	ANT 1	41.16	PASS
11AC20	36	5180	ANT 1	20.88	PASS
	44	5220	ANT 1	20.7	PASS
	48	5240	ANT 1	21	PASS
11AC40	38	5190	ANT 1	41.04	PASS
	46	5230	ANT 1	41.28	PASS
11AC80	42	5210	ANT 1	83.68	PASS



4.5.2 Plots for 26dB Emission Bandwidth

4.5.2.1 11A20_36 ANT 1



Date: 29 SEP. 2020 10:02:32

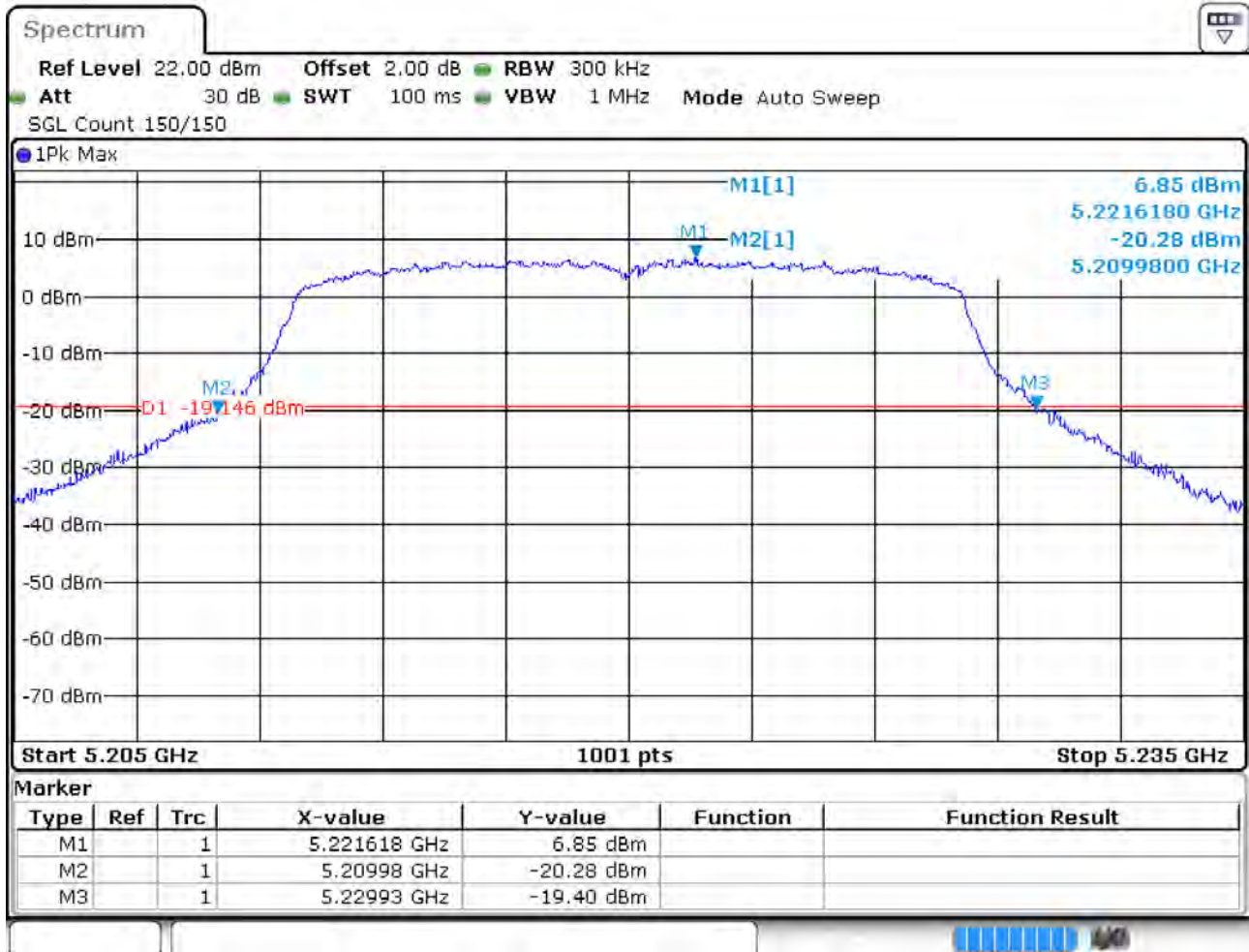


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4.5.2.2 11A20_44 ANT 1



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4.5.2.3 11A20_48 ANT 1



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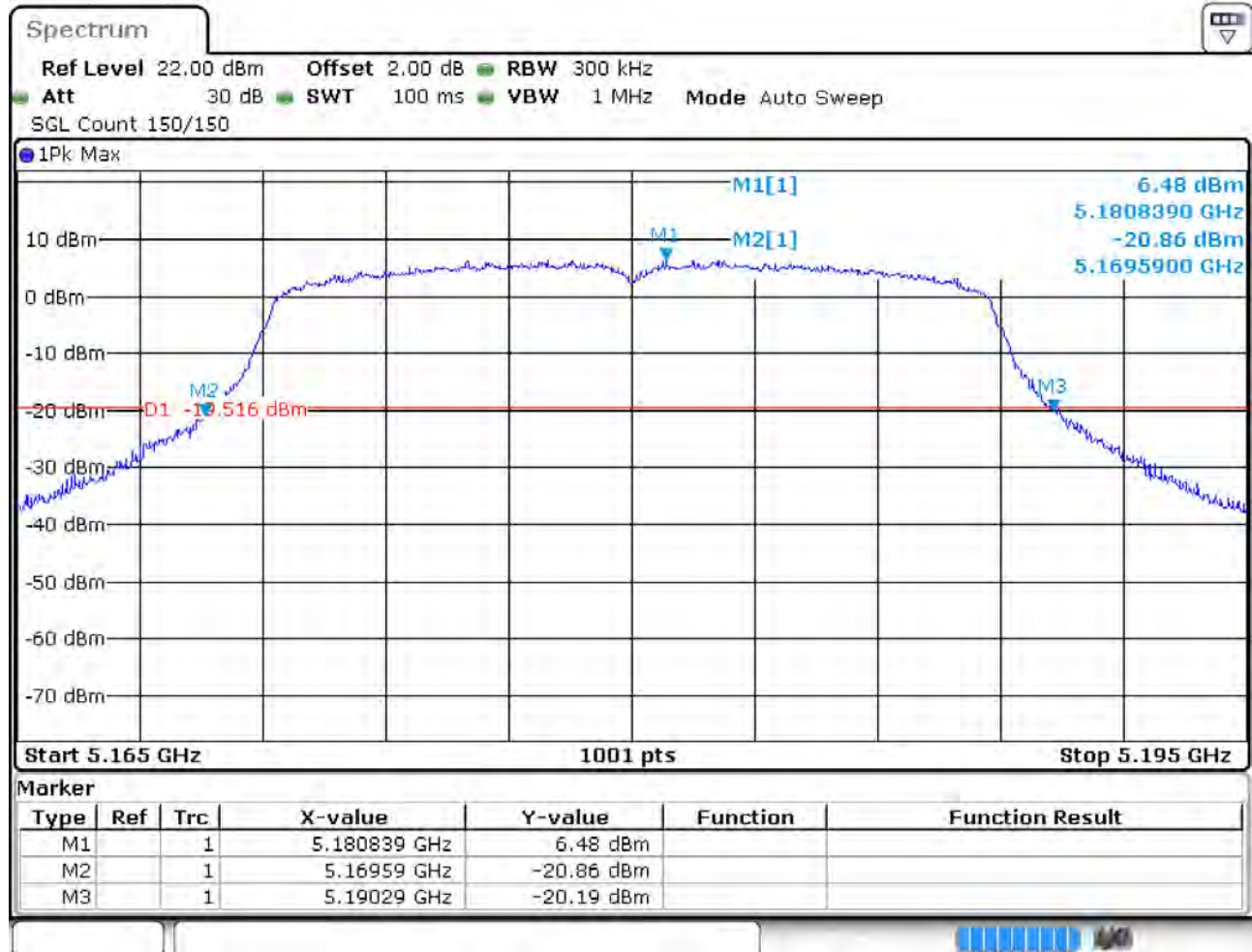


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4.5.2.4 11N20_36 ANT 1



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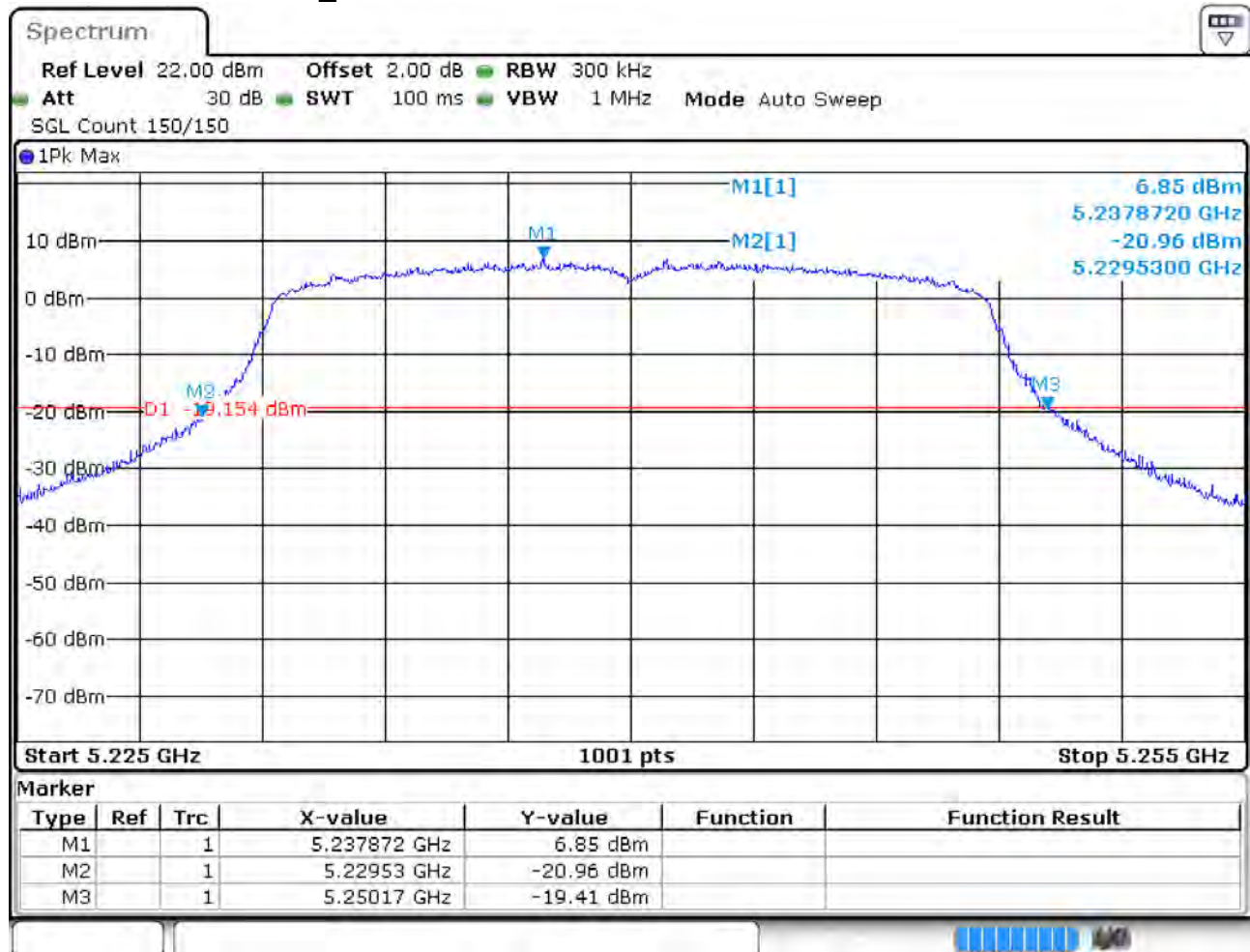


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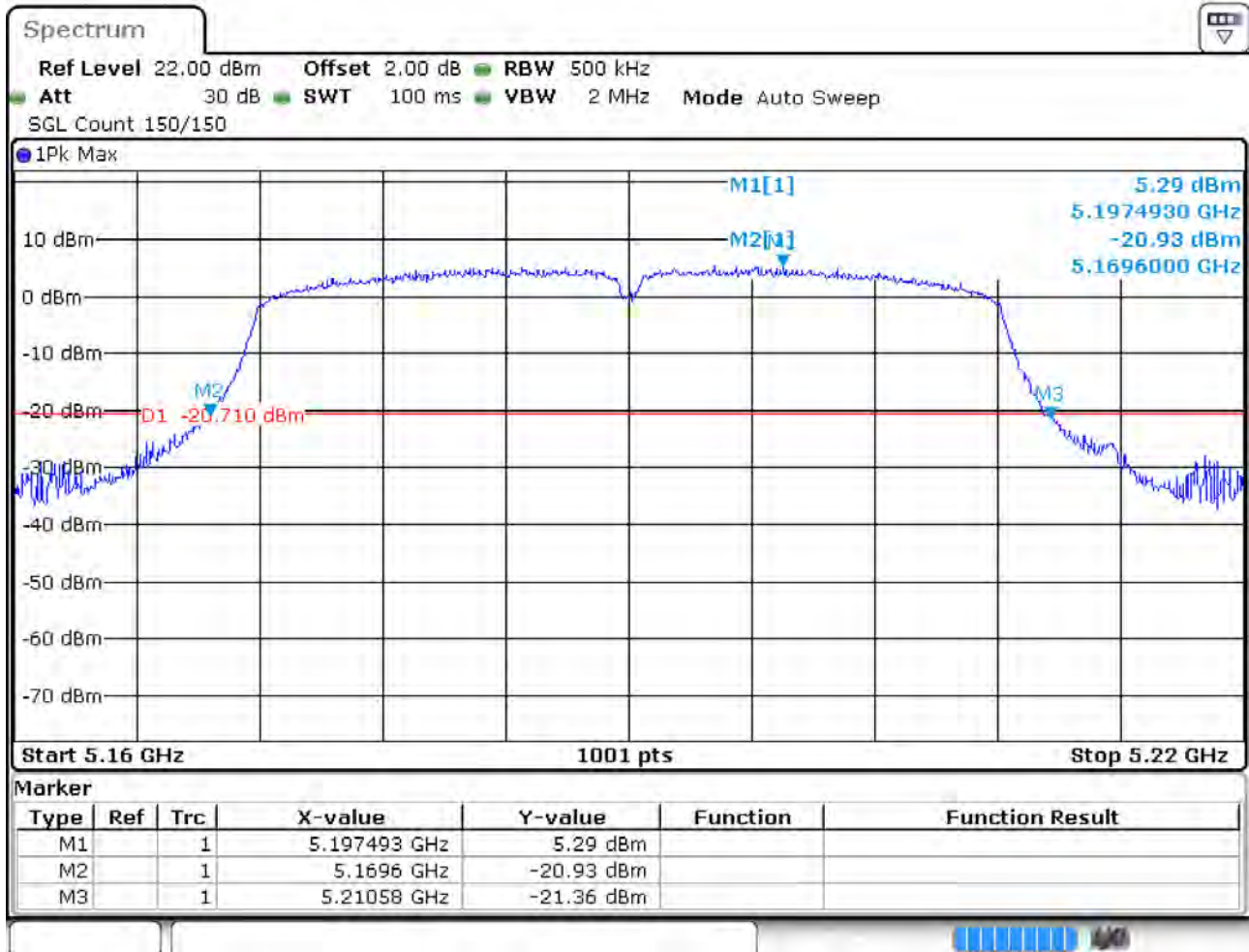
4.5.2.5 11N20_48 ANT 1



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4.5.2.6 11N40_38 ANT 1



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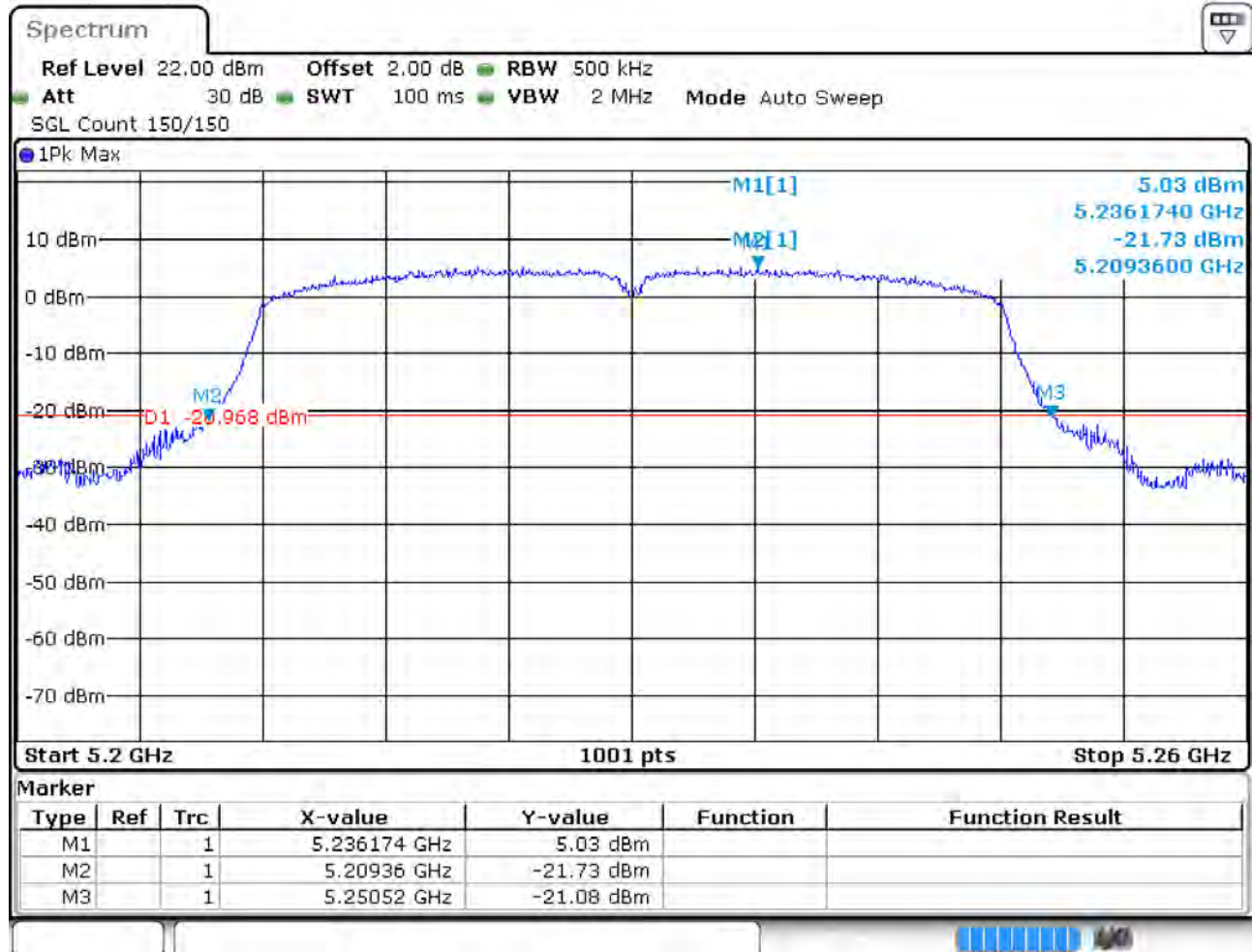


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4.5.2.7 11N40_46 ANT 1



Date: 29 SEP.2020 10:42:47

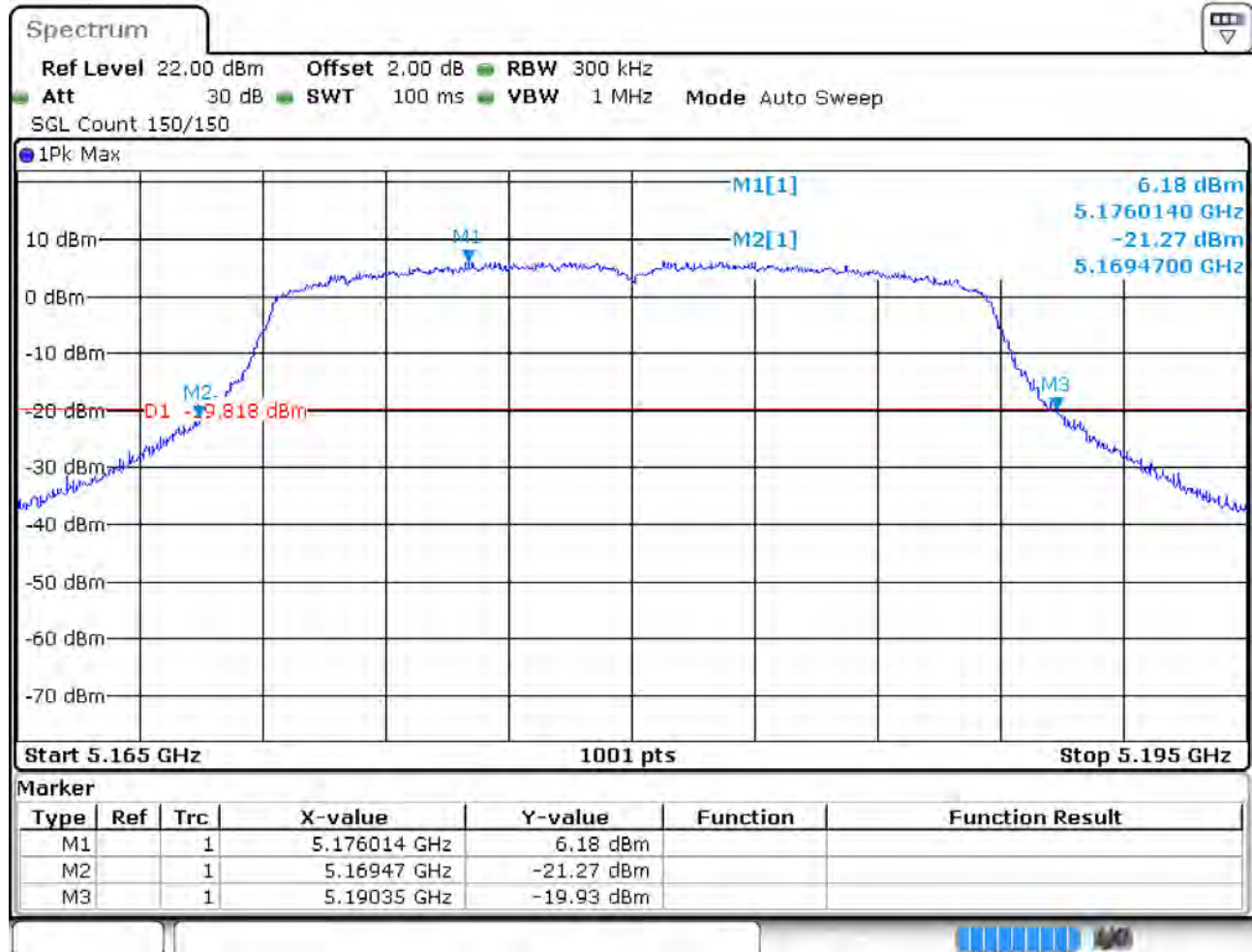


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4.5.2.8 11AC20_36 ANT 1



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4.5.2.9 11AC20_44 ANT 1



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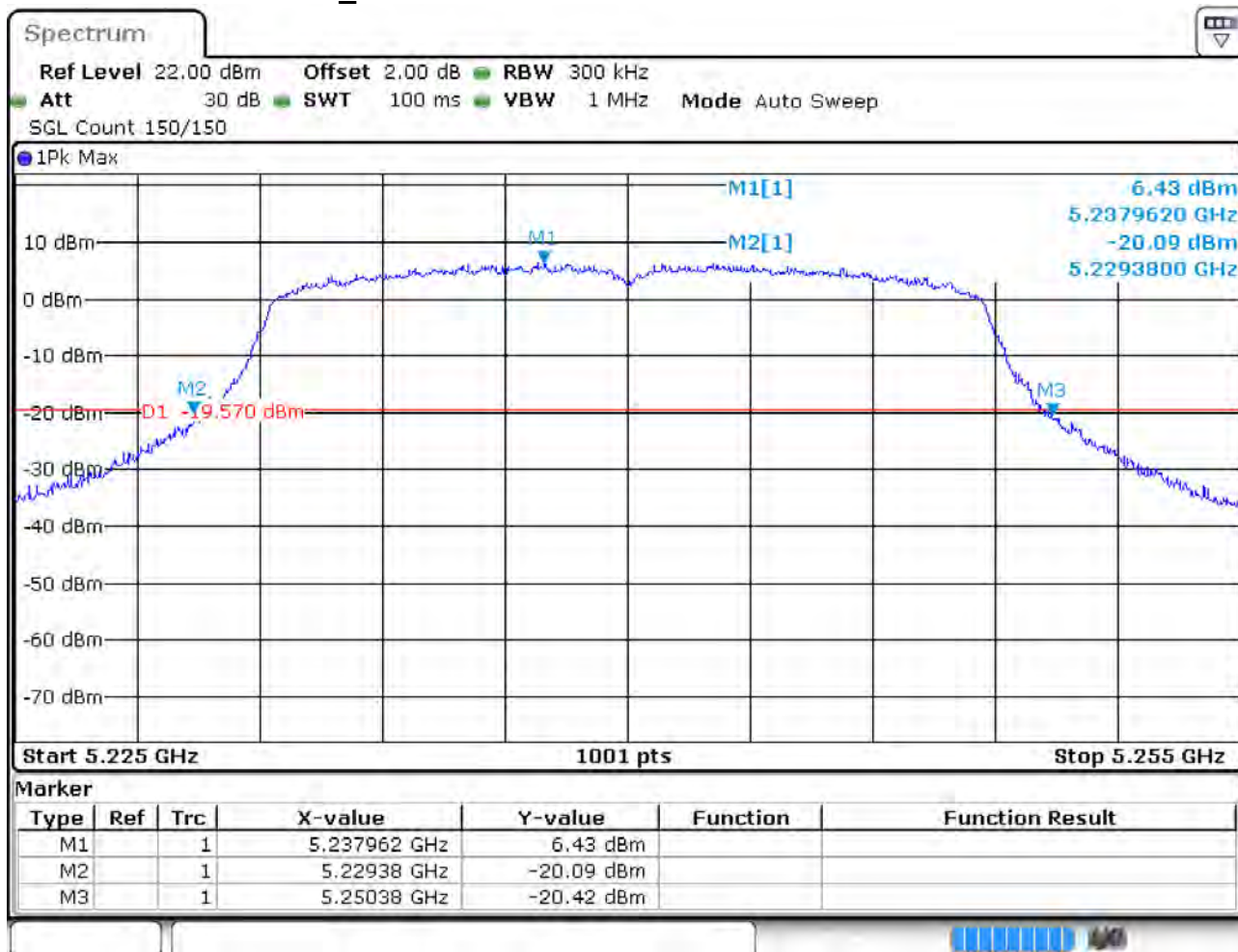


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4.5.2.10 11AC20_48 ANT 1



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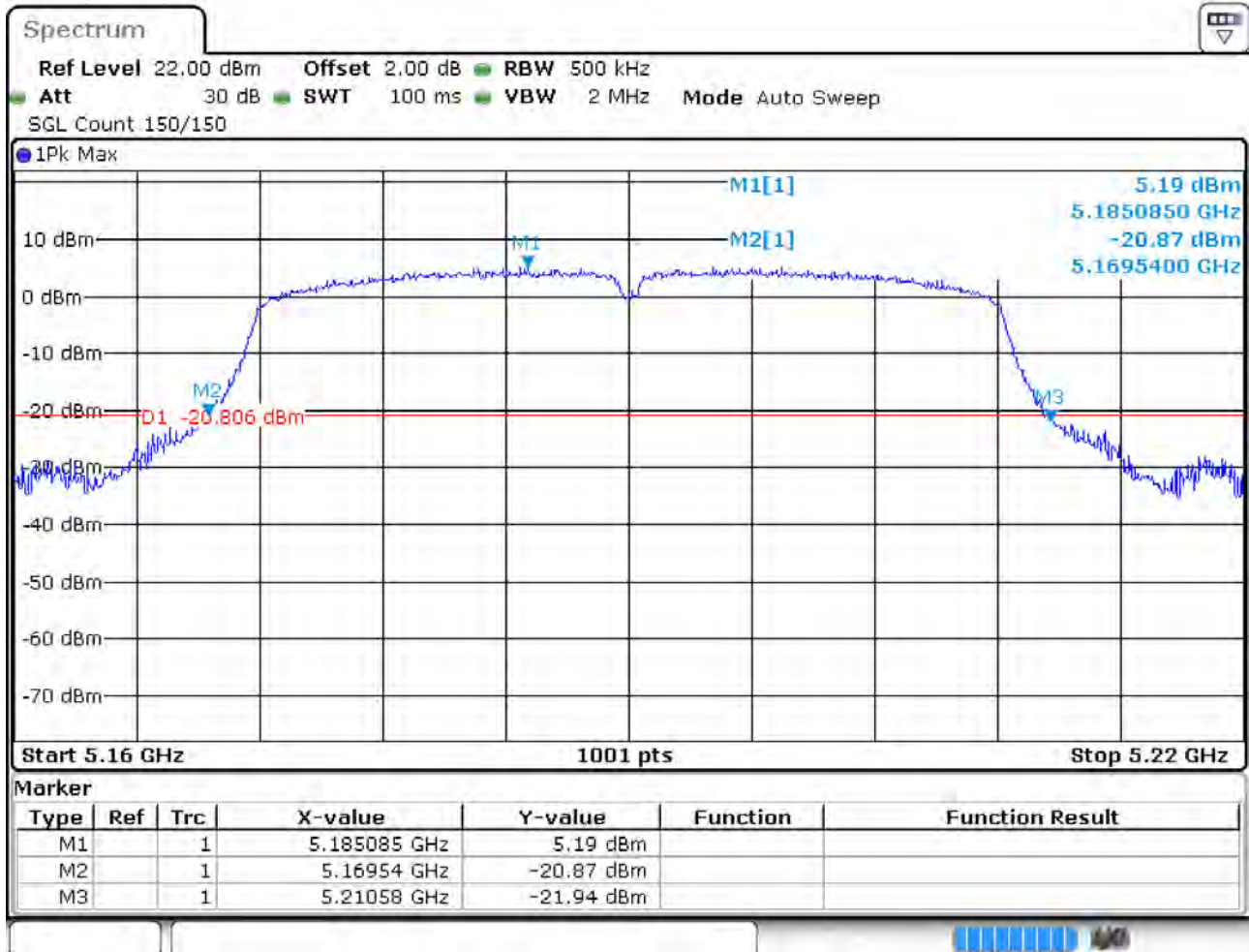


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4.5.2.11 11AC40_38 ANT 1



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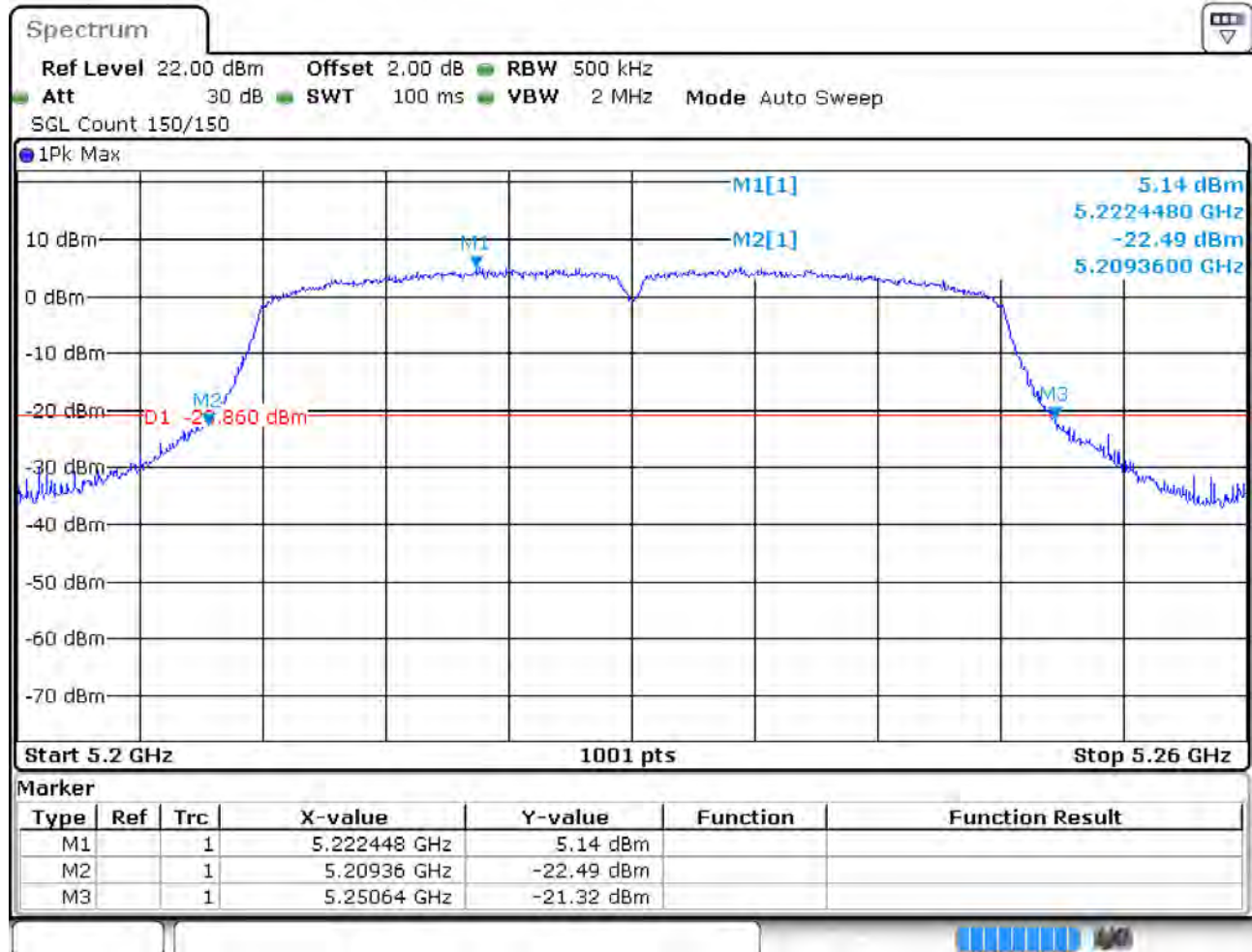


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4.5.2.12 11AC40_46 ANT 1



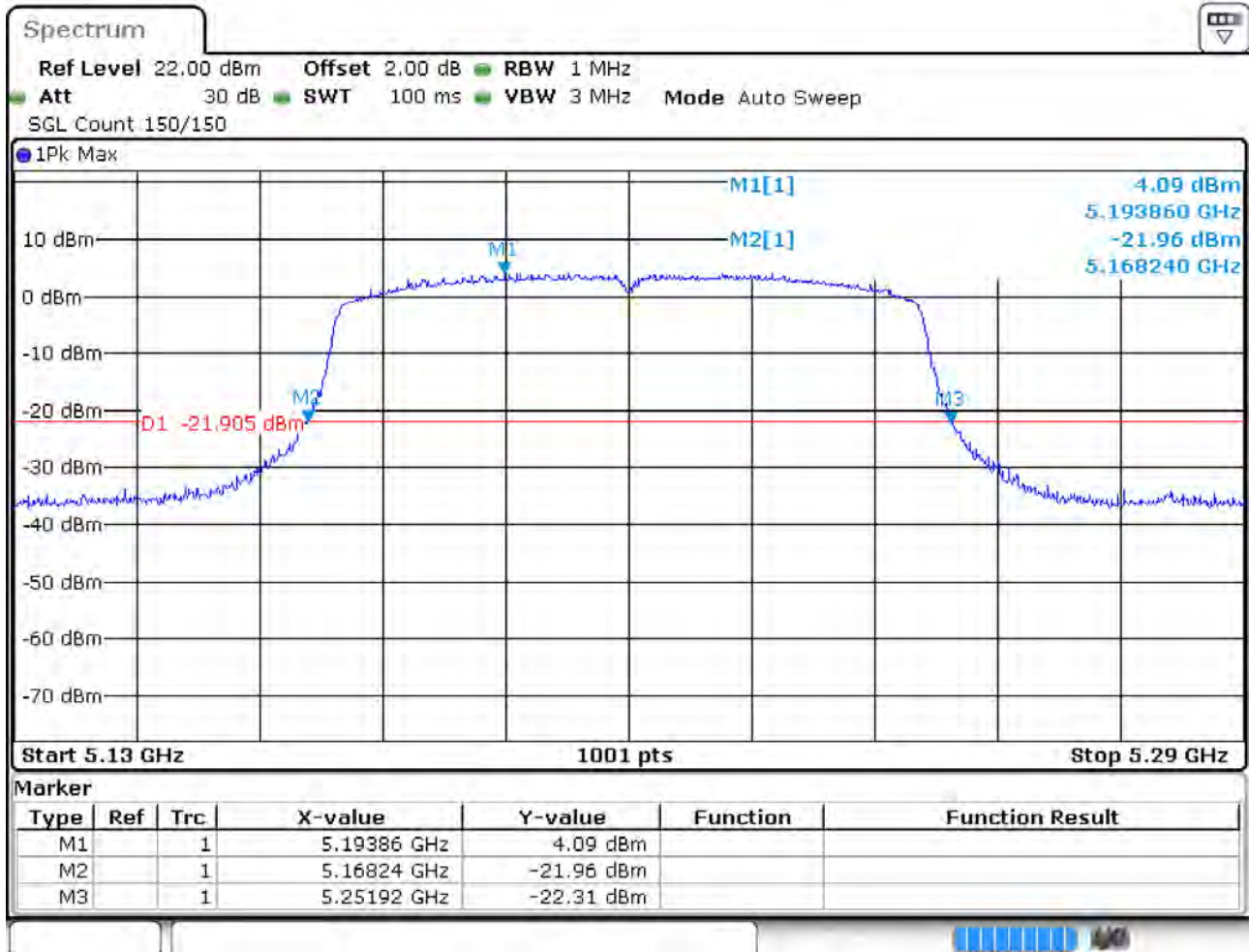
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4.5.2.13 11AC80_42 ANT 1

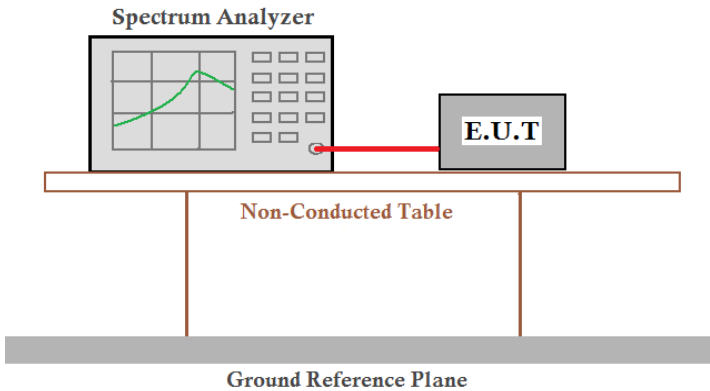


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4.6 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 of rate is the worst case of 802.11ac(HT80). Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At least 500kHz
Test Results:	Pass	



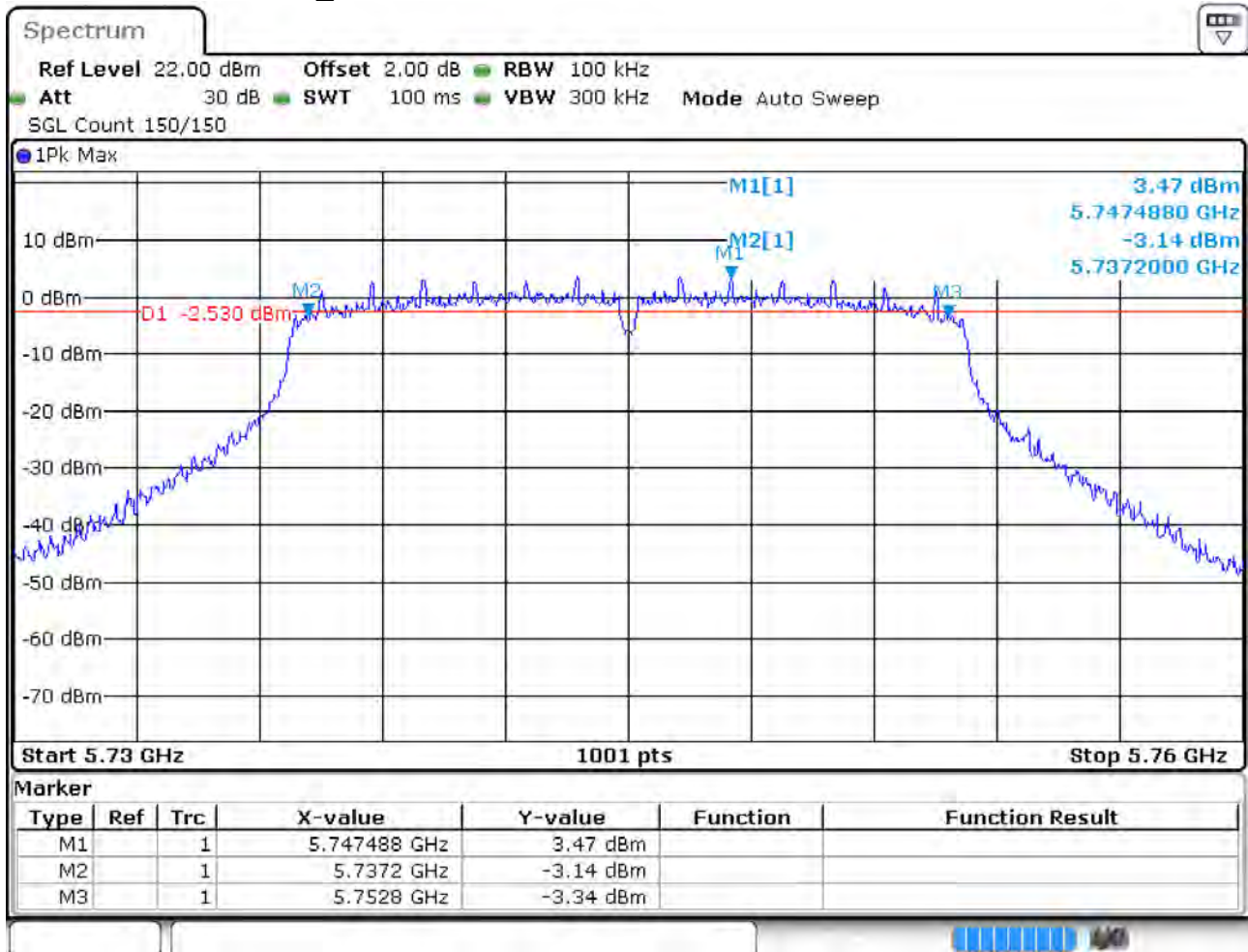
4.6.1 Test Results for 6dB Emission Bandwidth

Test Mode	Test Channel	Frequency [MHz]	ANT	6dB Emission Bandwidth [MHz]	Verdict
11A20	149	5745	ANT 1	15.6	PASS
	157	5785	ANT 1	15.6	PASS
	165	5825	ANT 1	15.6	PASS
11N20	149	5745	ANT 1	15.18	PASS
	157	5745	ANT 1	15.18	PASS
	165	5825	ANT 1	15.51	PASS
11N40	151	5755	ANT 1	35.28	PASS
	159	5795	ANT 1	35.28	PASS
11AC20	149	5745	ANT 1	15.39	PASS
	149	5785	ANT 1	15.18	PASS
	165	5825	ANT 1	15.39	PASS
11AC40	151	5755	ANT 1	35.28	PASS
	159	5795	ANT 1	35.28	PASS
11AC80	155	5775	ANT 1	75.52	PASS



4.6.2 Plots for 6dB Emission Bandwidth

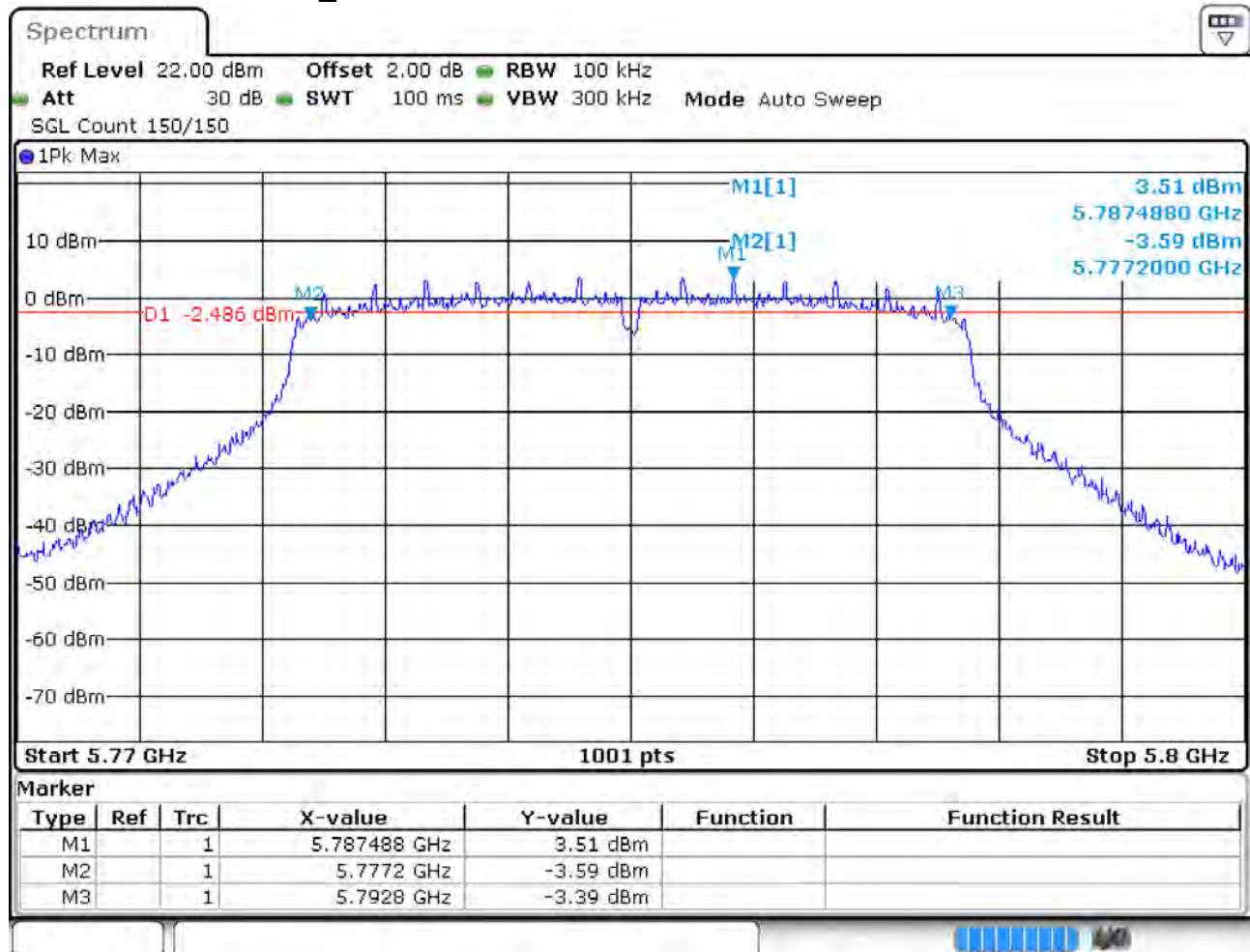
4.6.2.1 11A20_149 ANT 1



Date: 29 SEP.2020 10:24:21



4.6.2.2 11A20_157ANT 1

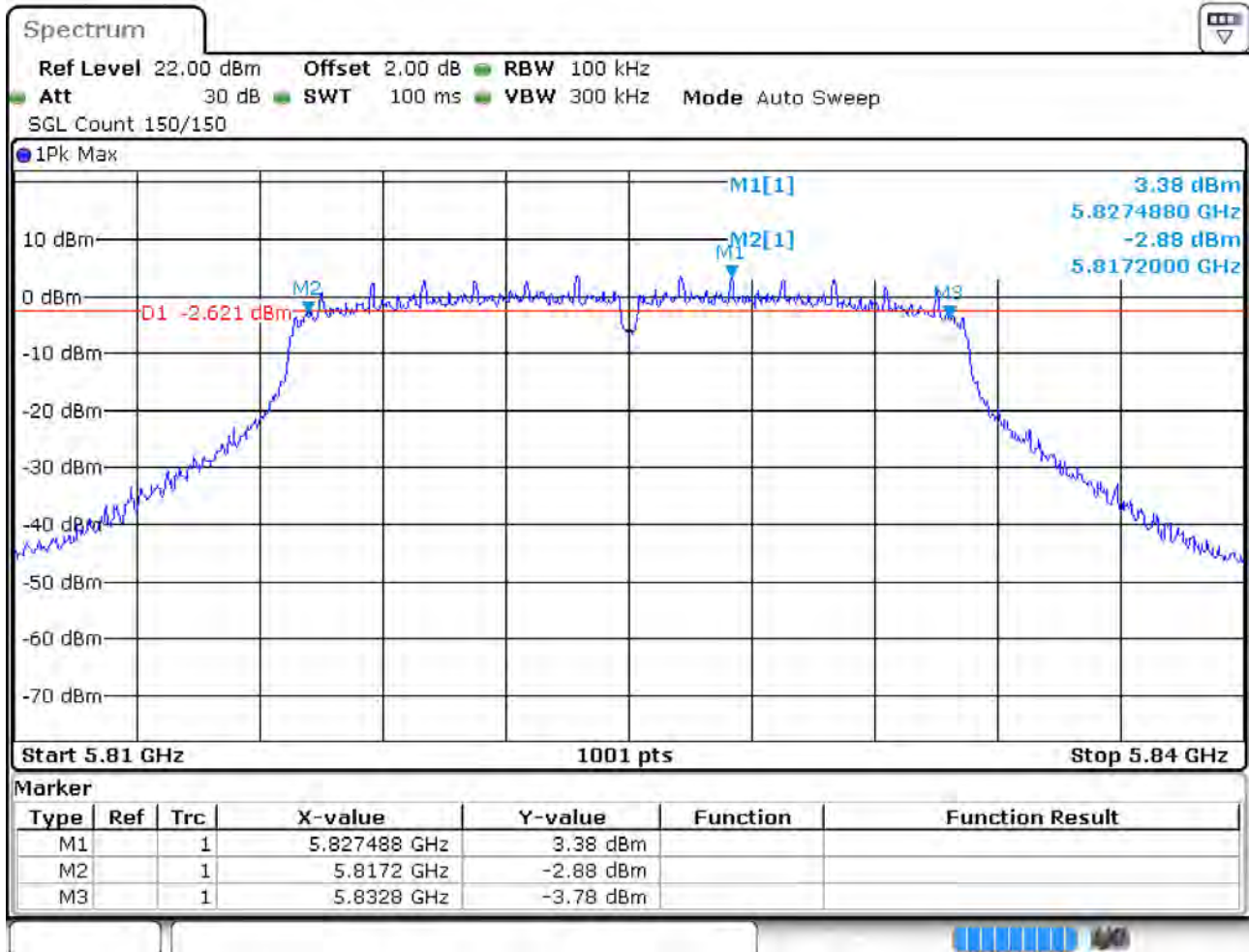


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4.6.2.3

11A20_165 ANT 1



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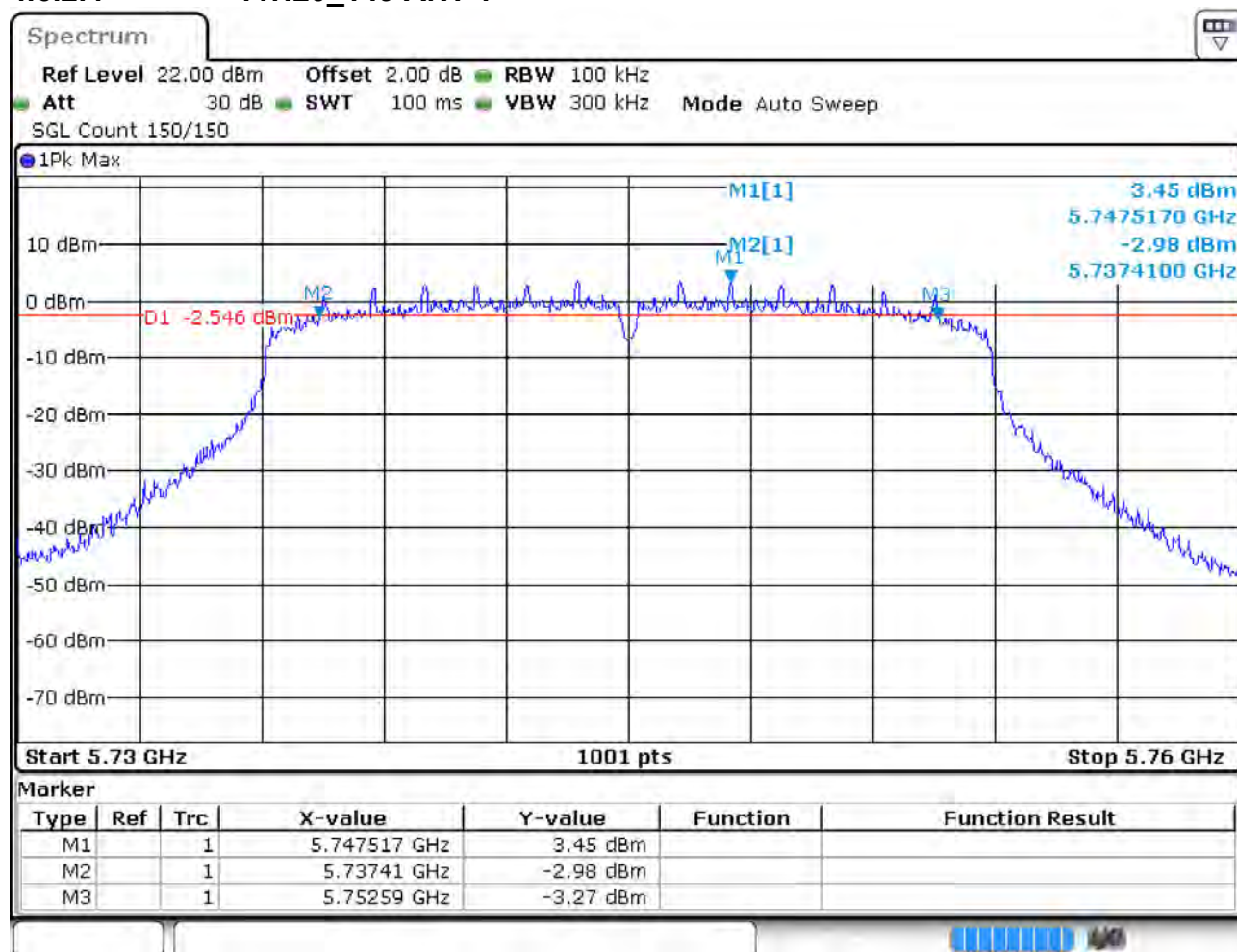


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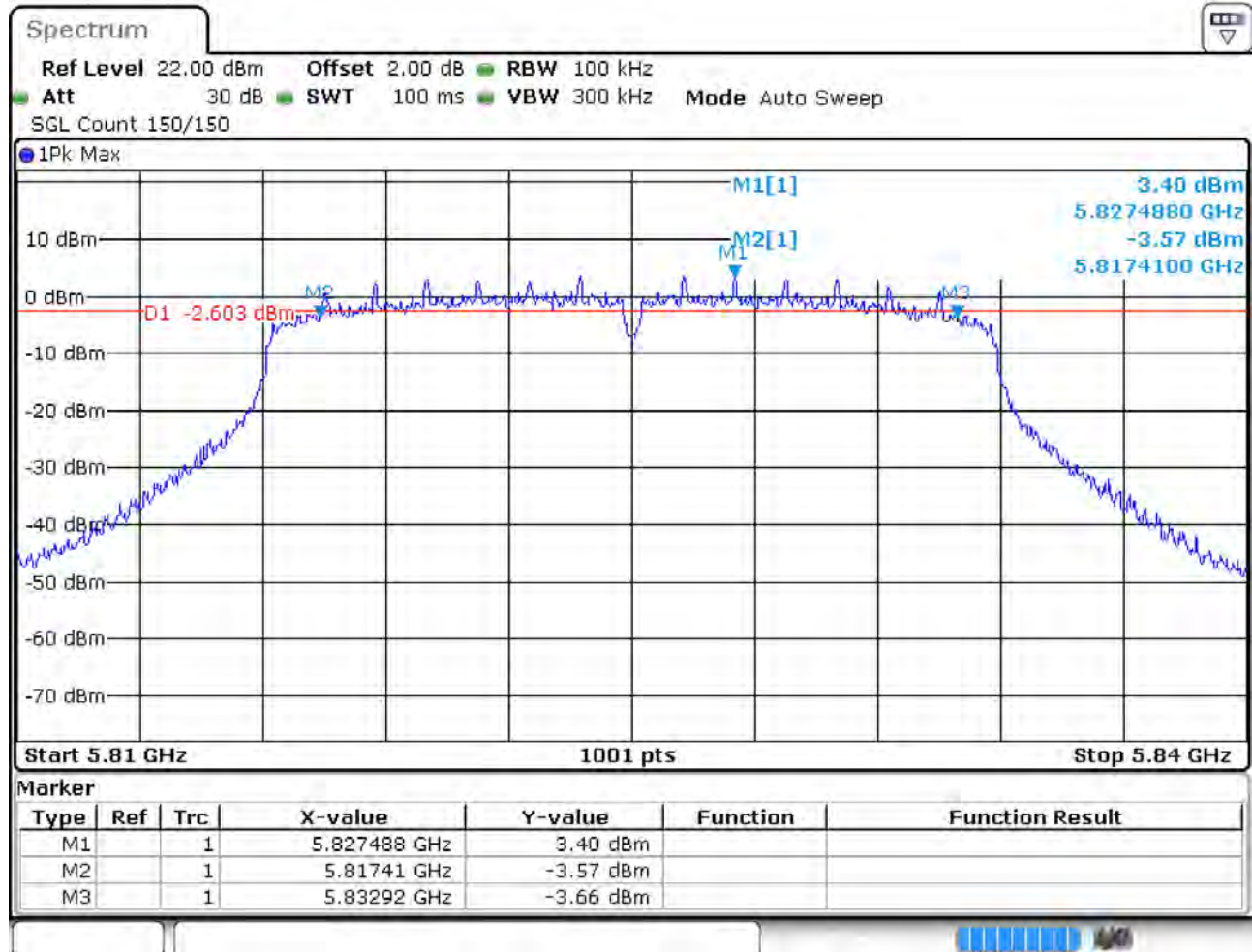
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4.6.2.5 11N20_165 ANT 1



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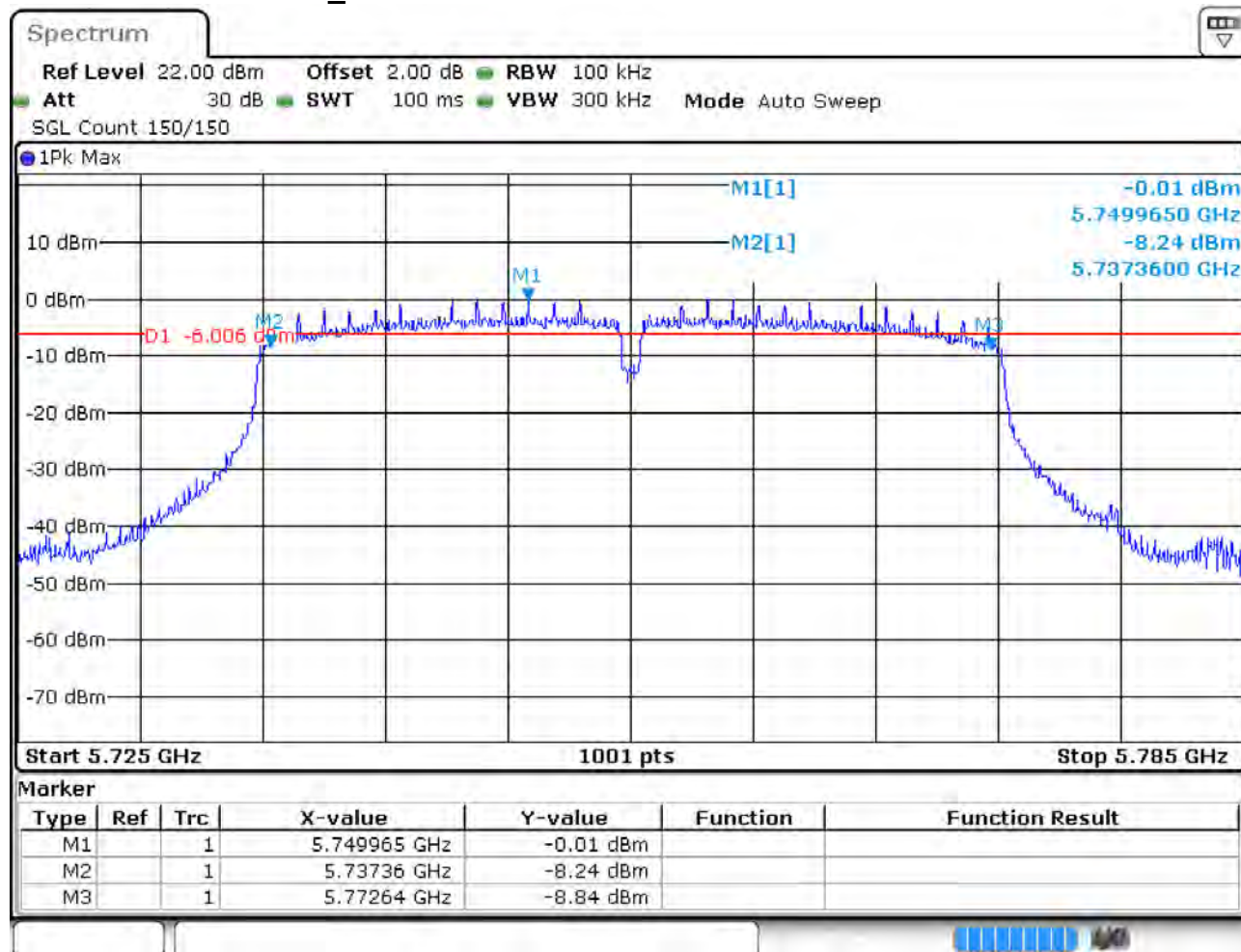


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4.6.2.6 11N40_151 ANT 1



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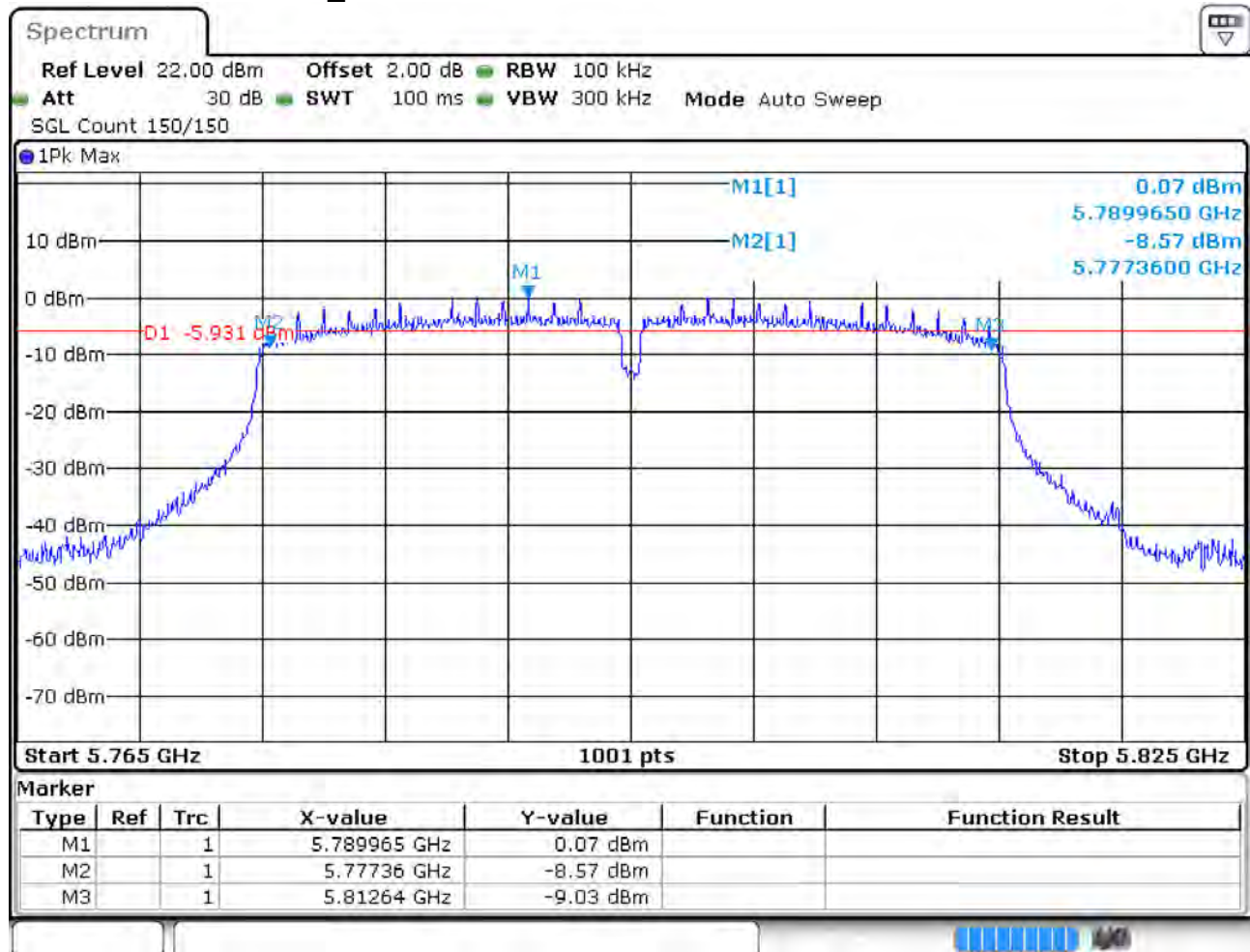


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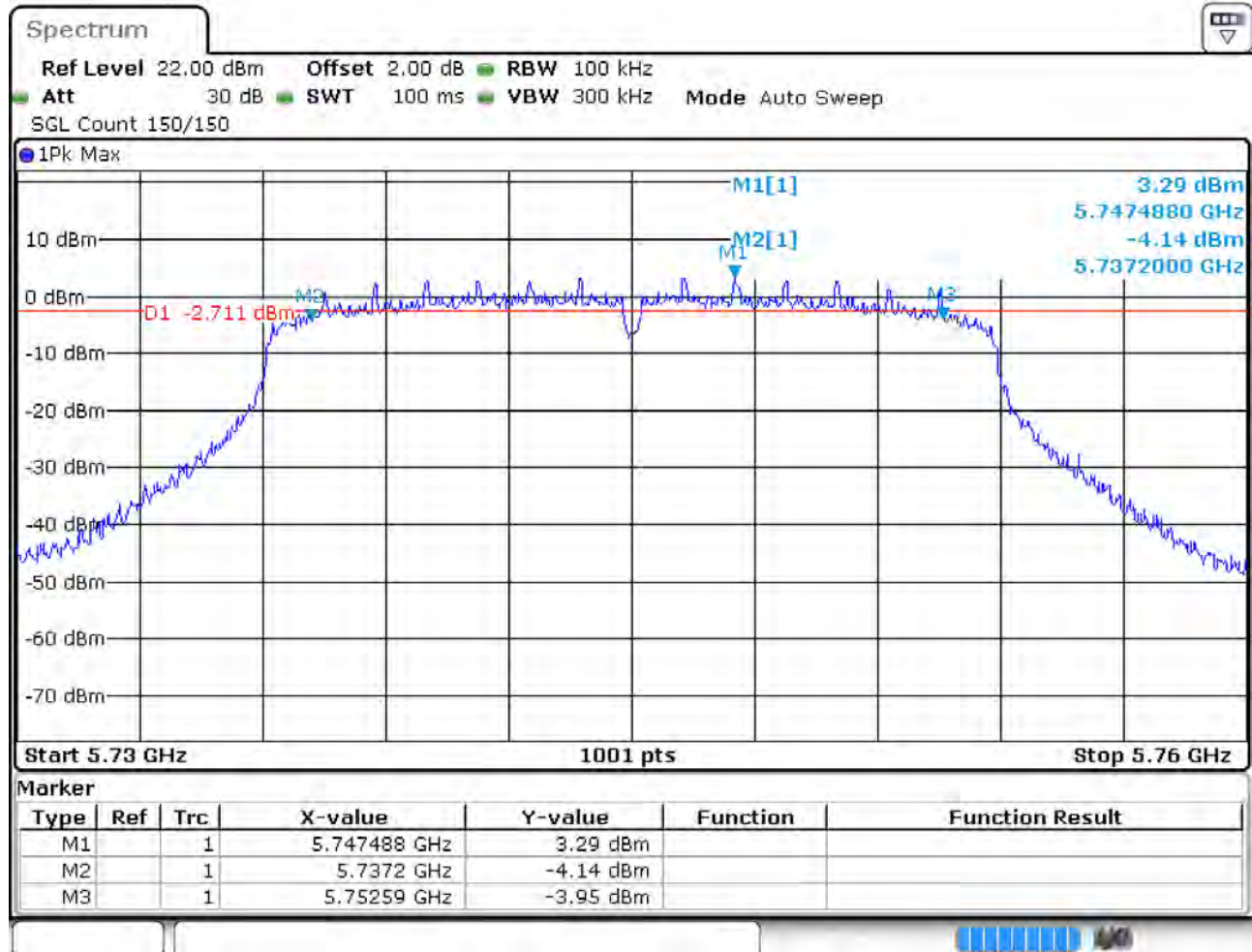


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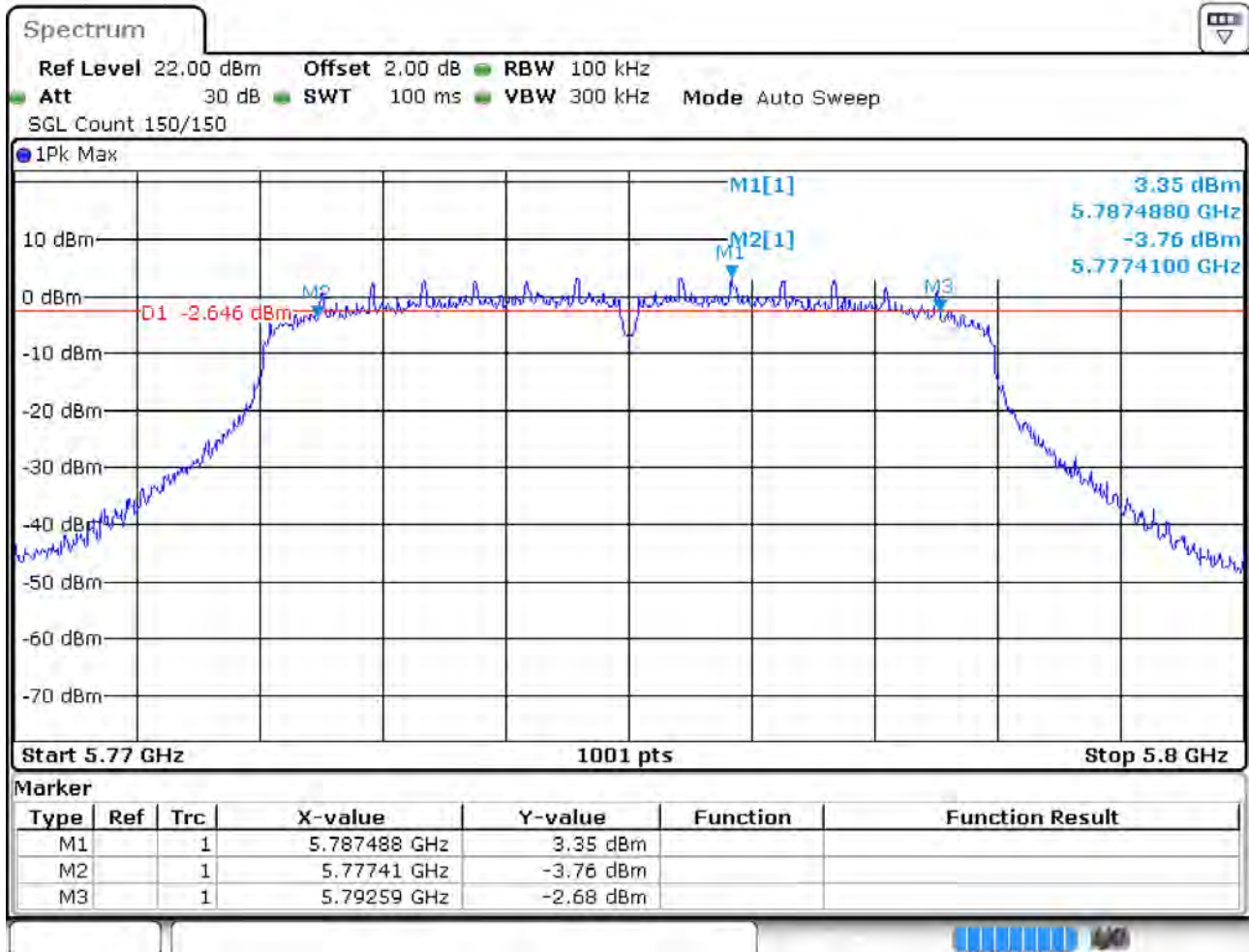
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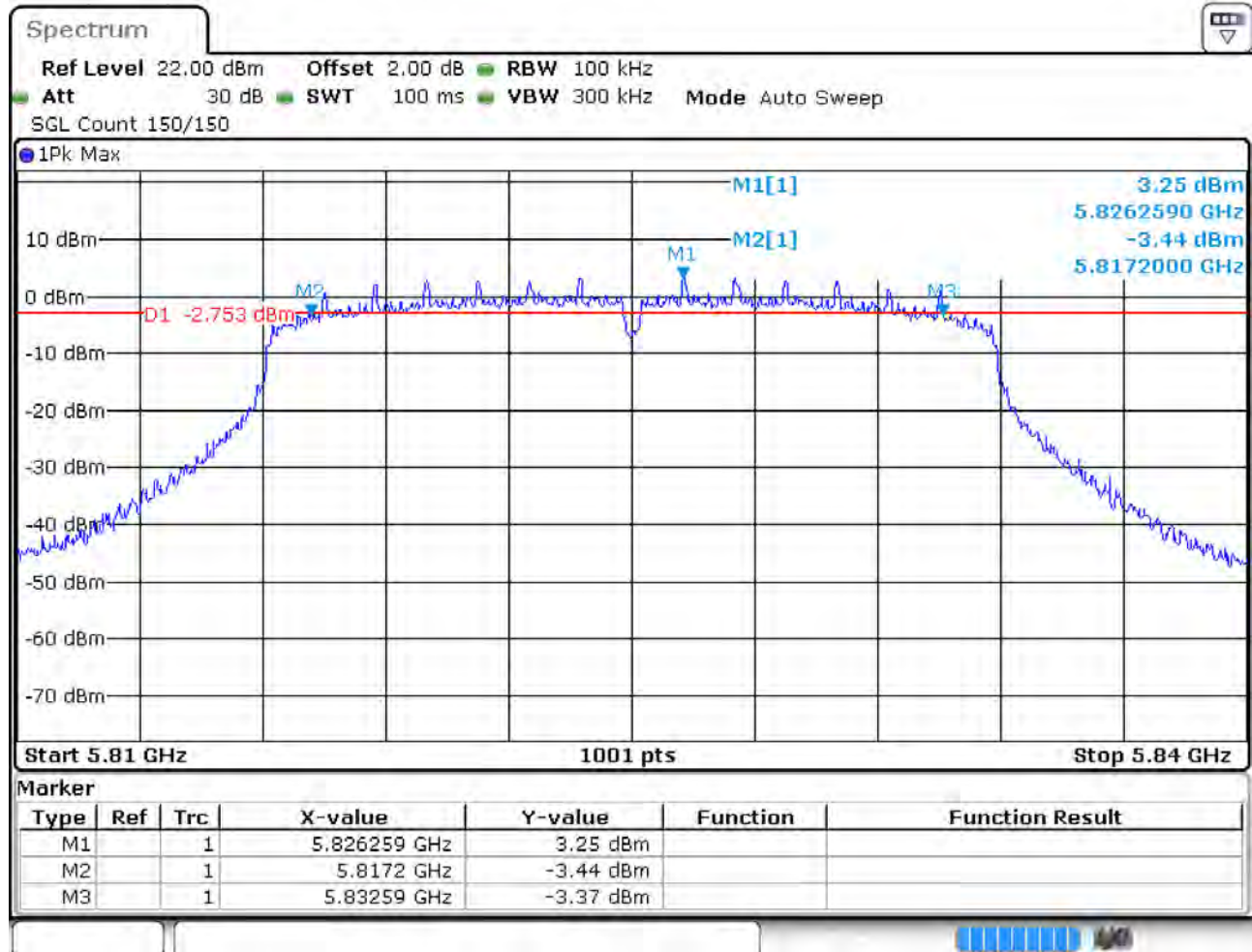
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4.6.2.10 11AC20_165 ANT 1



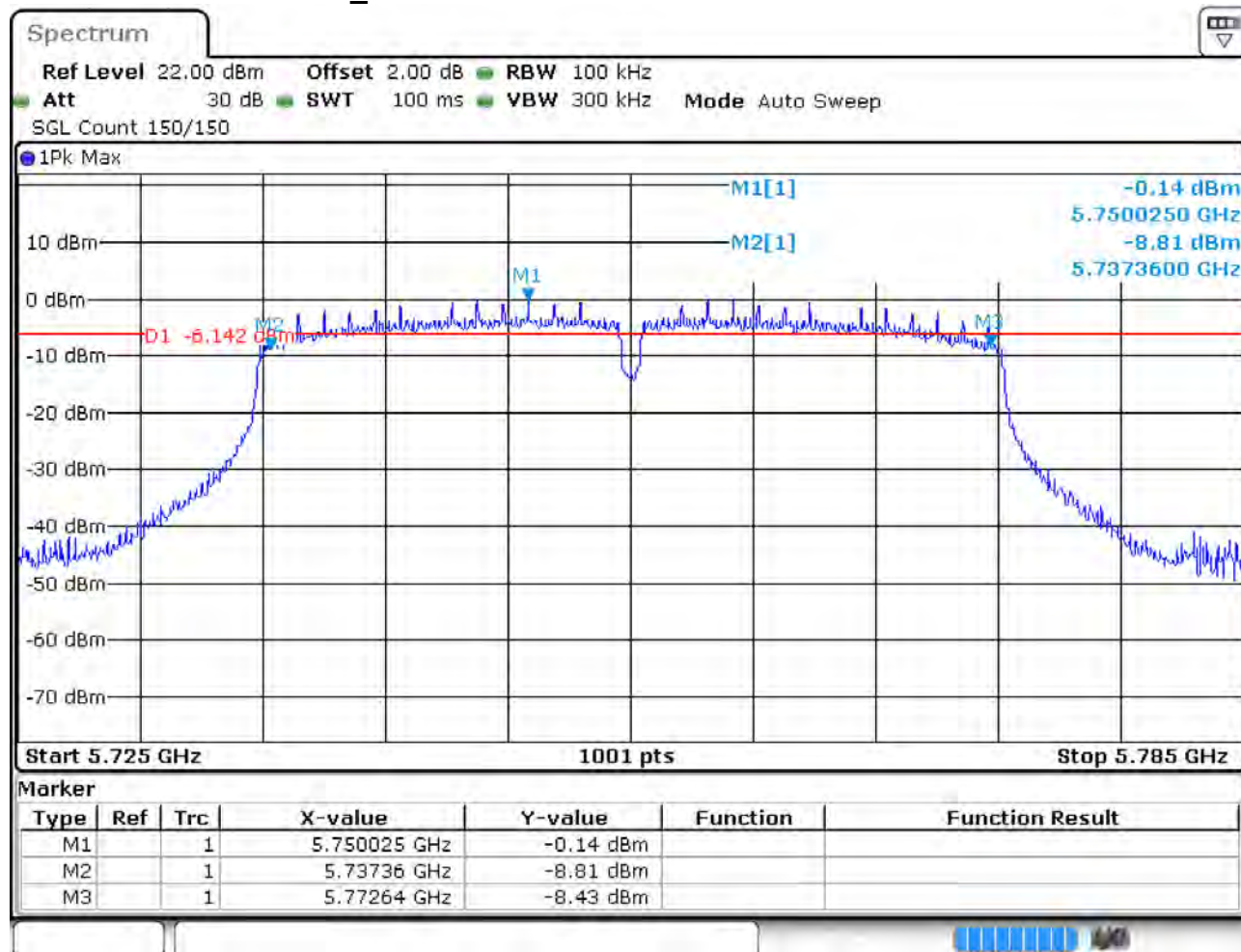
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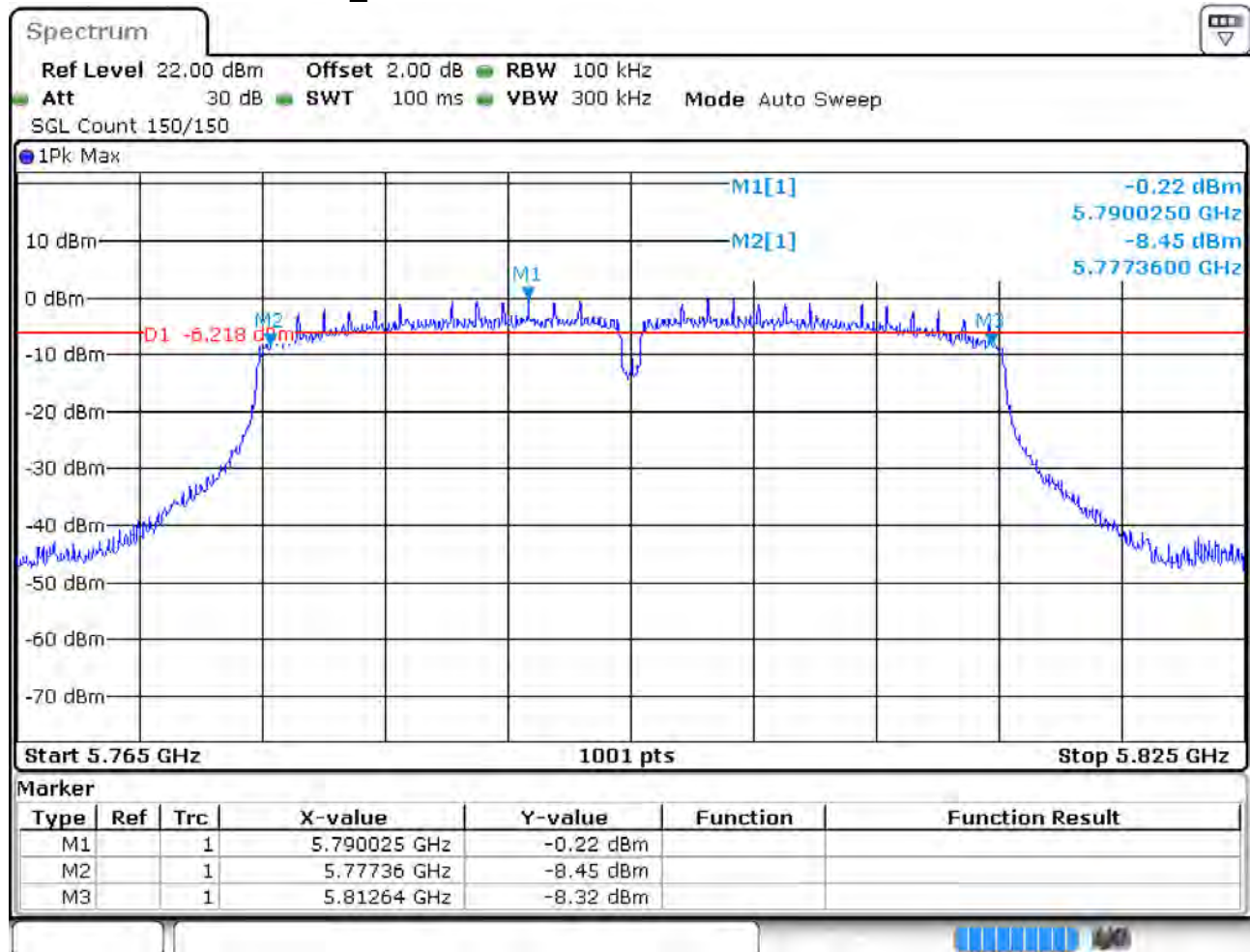
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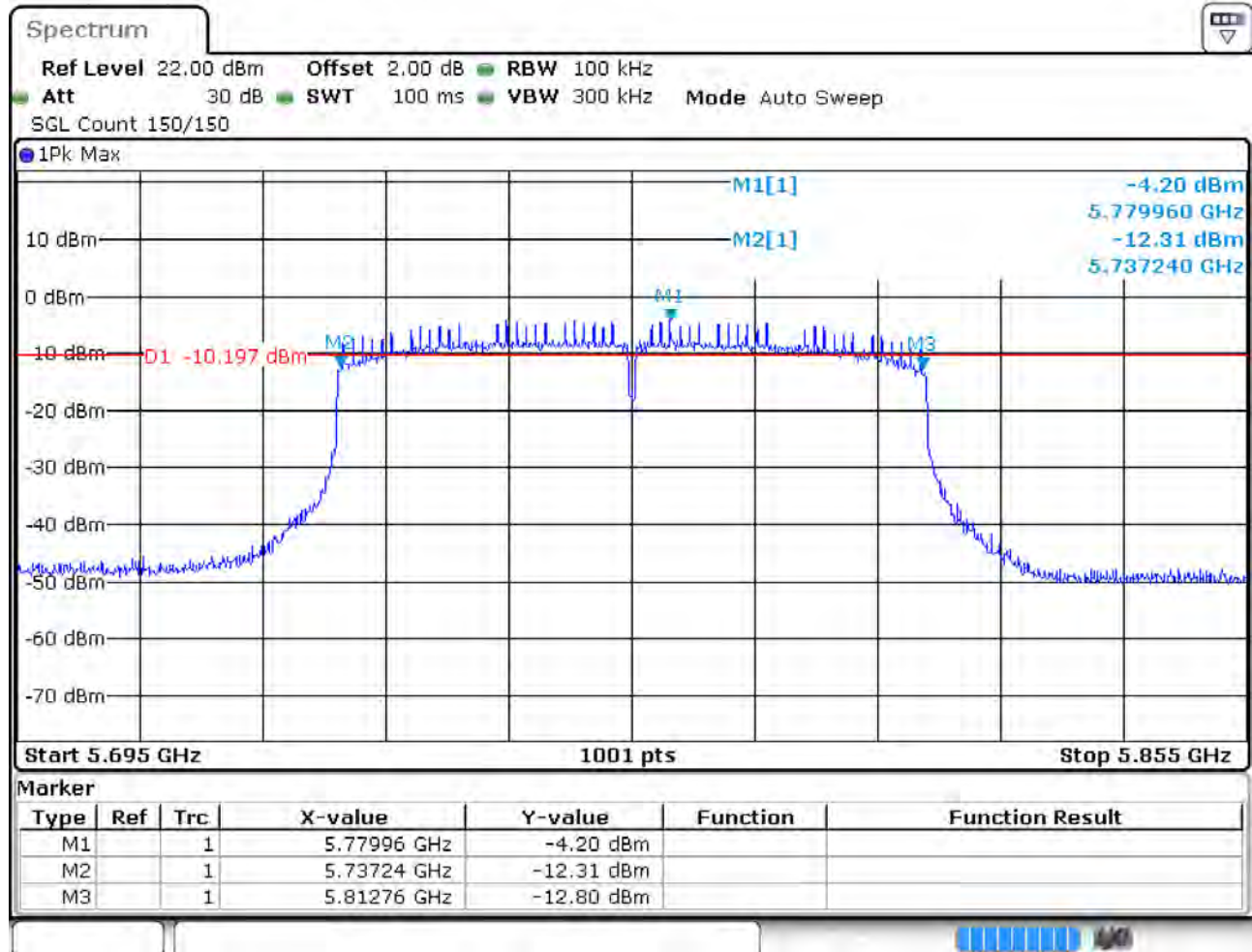


4.6.2.12 11AC40_159 ANT 1



Date: 29.SEP.2020 11:04:22

4.6.2.13 11AC80_155 ANT 1



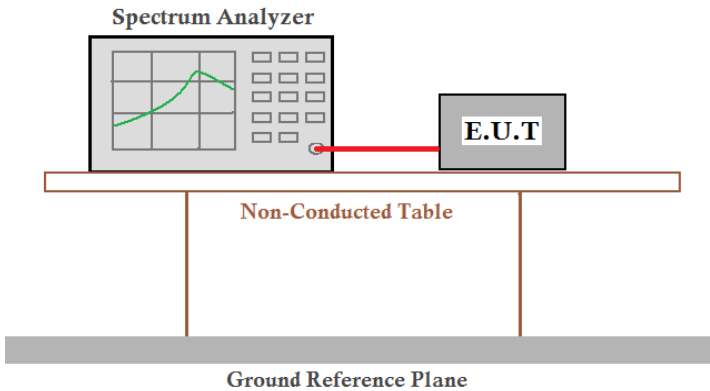
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4.7 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 of rate is the worst case of 802.11ac(HT80). Only the worst case is recorded in the report.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At least 500kHz
Test Results:	Pass	





4.7.1 Test Results for 99% Occupied Bandwidth

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Occupied Bandwidth [MHz]	Verdict
11A20	36	5180	ANT 1	16.3037	PASS
	44	5220	ANT 1	16.3037	PASS
	48	5240	ANT 1	16.3037	PASS
	149	5745	ANT 1	16.2737	PASS
	157	5785	ANT 1	16.2737	PASS
	165	5825	ANT 1	16.2737	PASS
11N20	36	5180	ANT 1	17.4126	PASS
	44	5220	ANT 1	17.4126	PASS
	48	5240	ANT 1	17.4126	PASS
	149	5745	ANT 1	17.4126	PASS
	157	5785	ANT 1	17.3826	PASS
	165	5825	ANT 1	17.3826	PASS
11N40	38	5190	ANT 1	35.9041	PASS
	46	5230	ANT 1	35.8442	PASS
	151	5755	ANT 1	35.9041	PASS
	159	5795	ANT 1	35.9041	PASS
11AC20	36	5180	ANT 1	17.4126	PASS
	44	5220	ANT 1	17.4126	PASS
	48	5240	ANT 1	17.4126	PASS
	149	5745	ANT 1	17.4126	PASS
	157	5785	ANT 1	17.3826	PASS
	165	5825	ANT 1	17.3826	PASS
11AC40	38	5190	ANT 1	35.9041	PASS
	46	5230	ANT 1	35.9041	PASS
	151	5755	ANT 1	35.9041	PASS
	159	5795	ANT 1	35.9041	PASS
11AC80	42	5210	ANT 1	75.045	PASS
	155	5775	ANT 1	75.1648	PASS

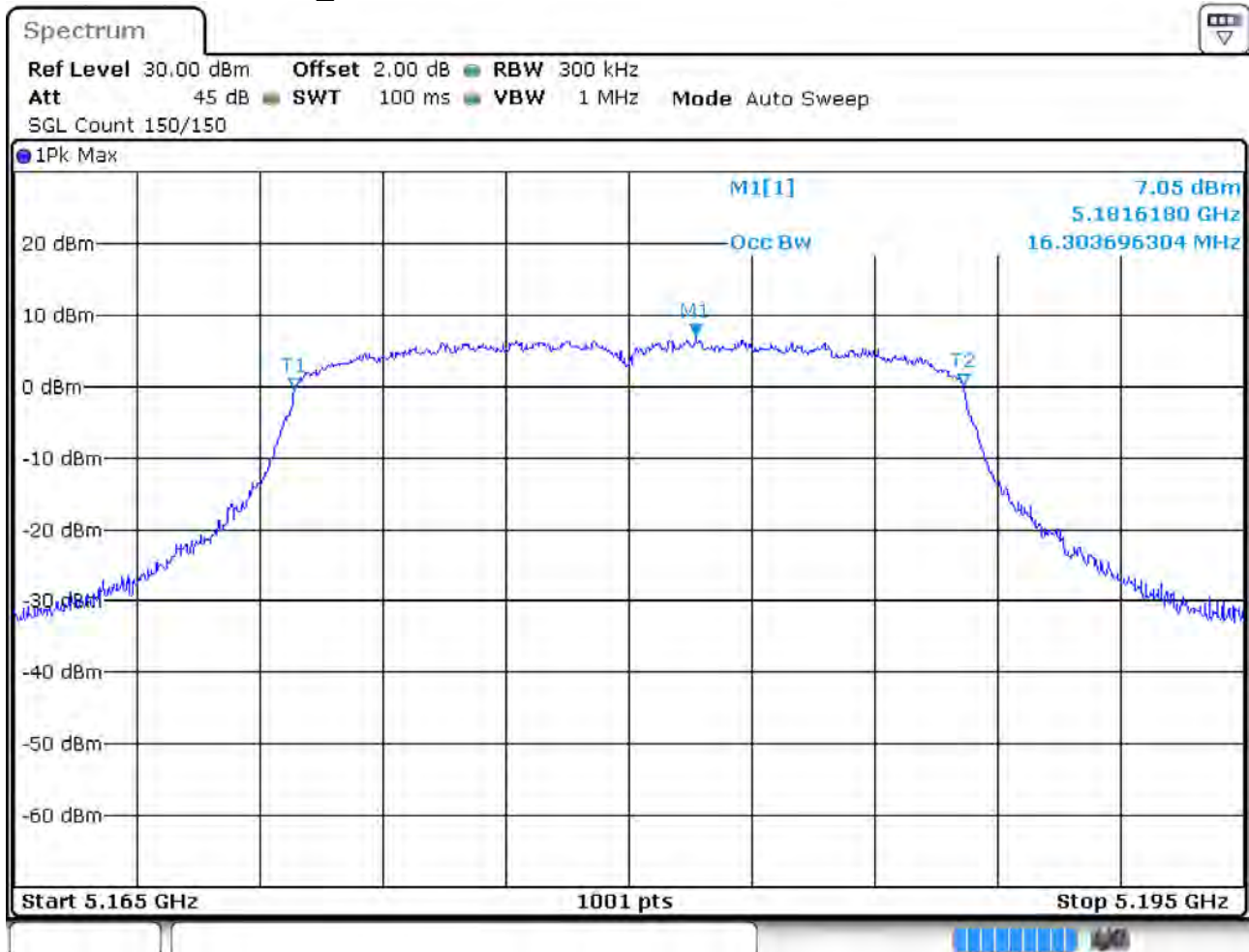


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4.7.2 Plots for 99% Occupied Bandwidth

4.7.2.1 11A20_36 ANT 1



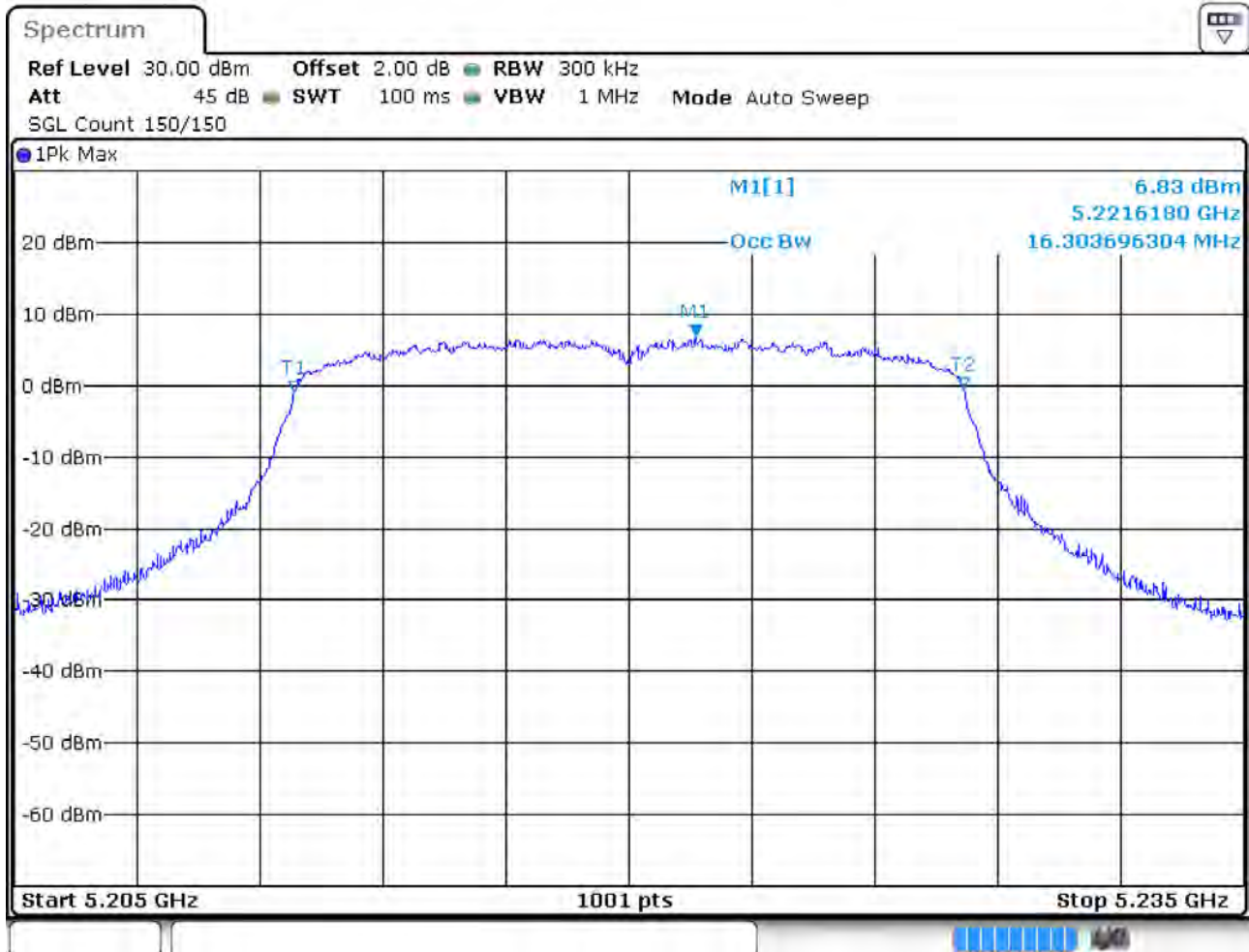
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4.7.2.2 11A20_44 ANT 1



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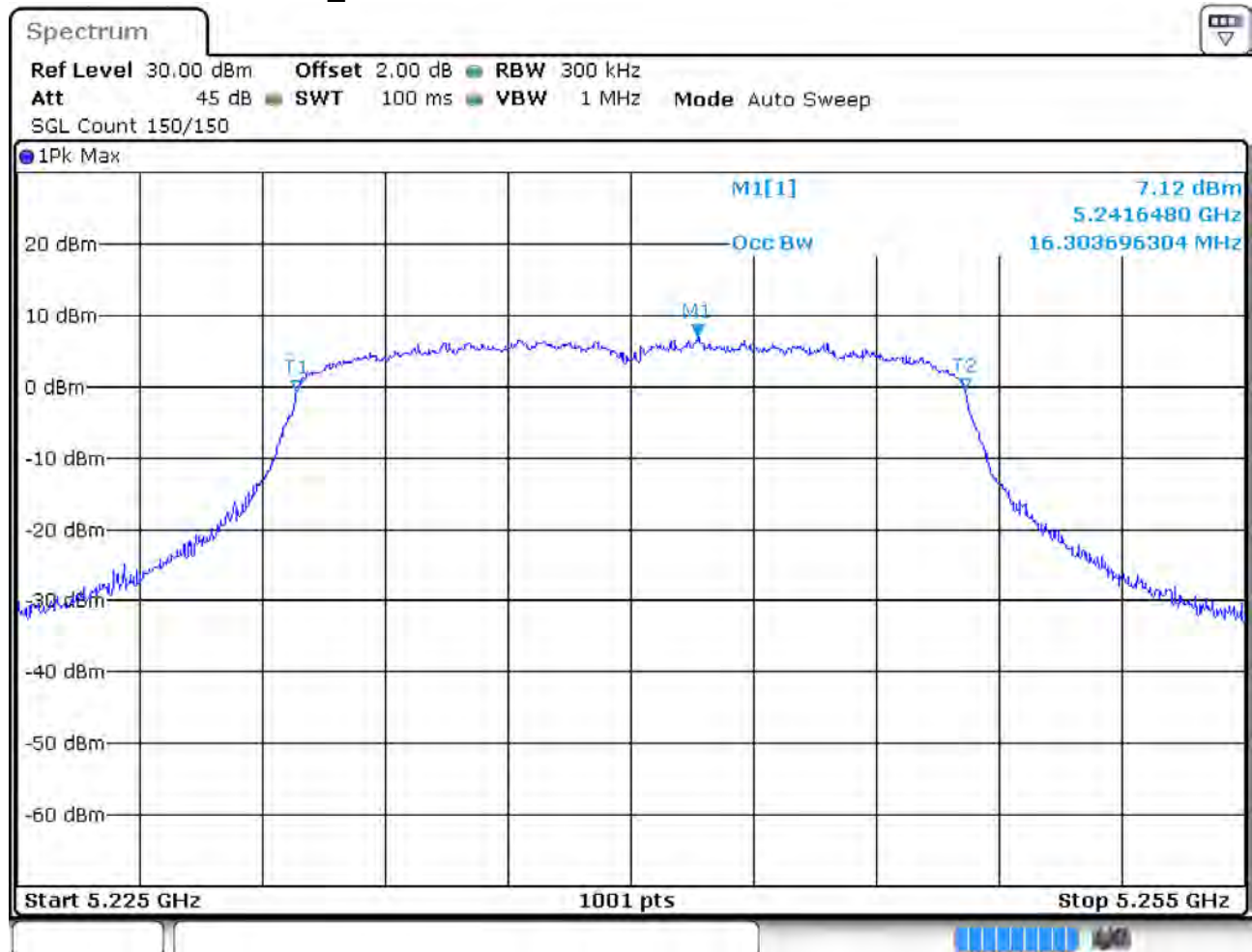


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4.7.2.3

11A20_48 ANT 1



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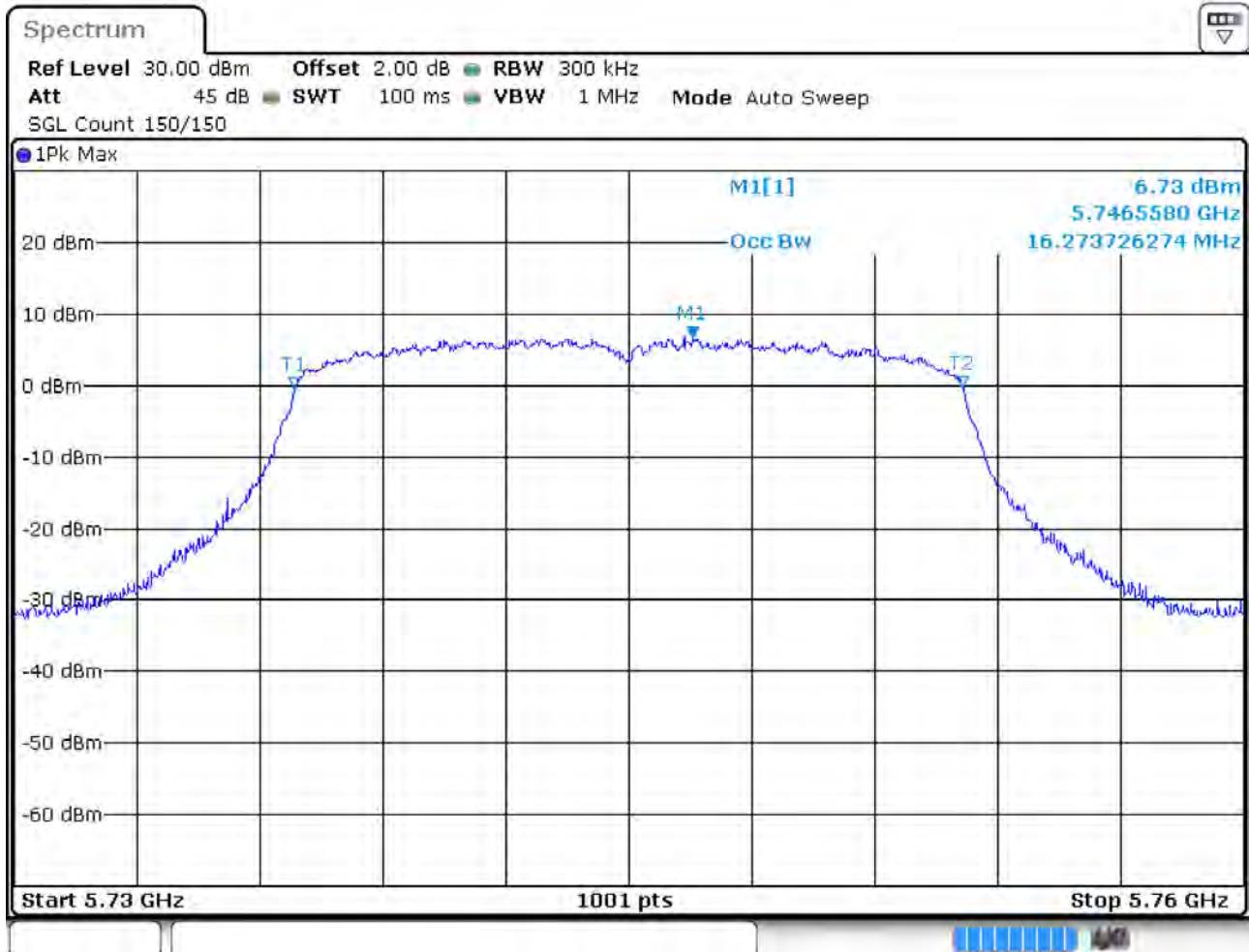


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4.7.2.4 11A20_149 ANT 1



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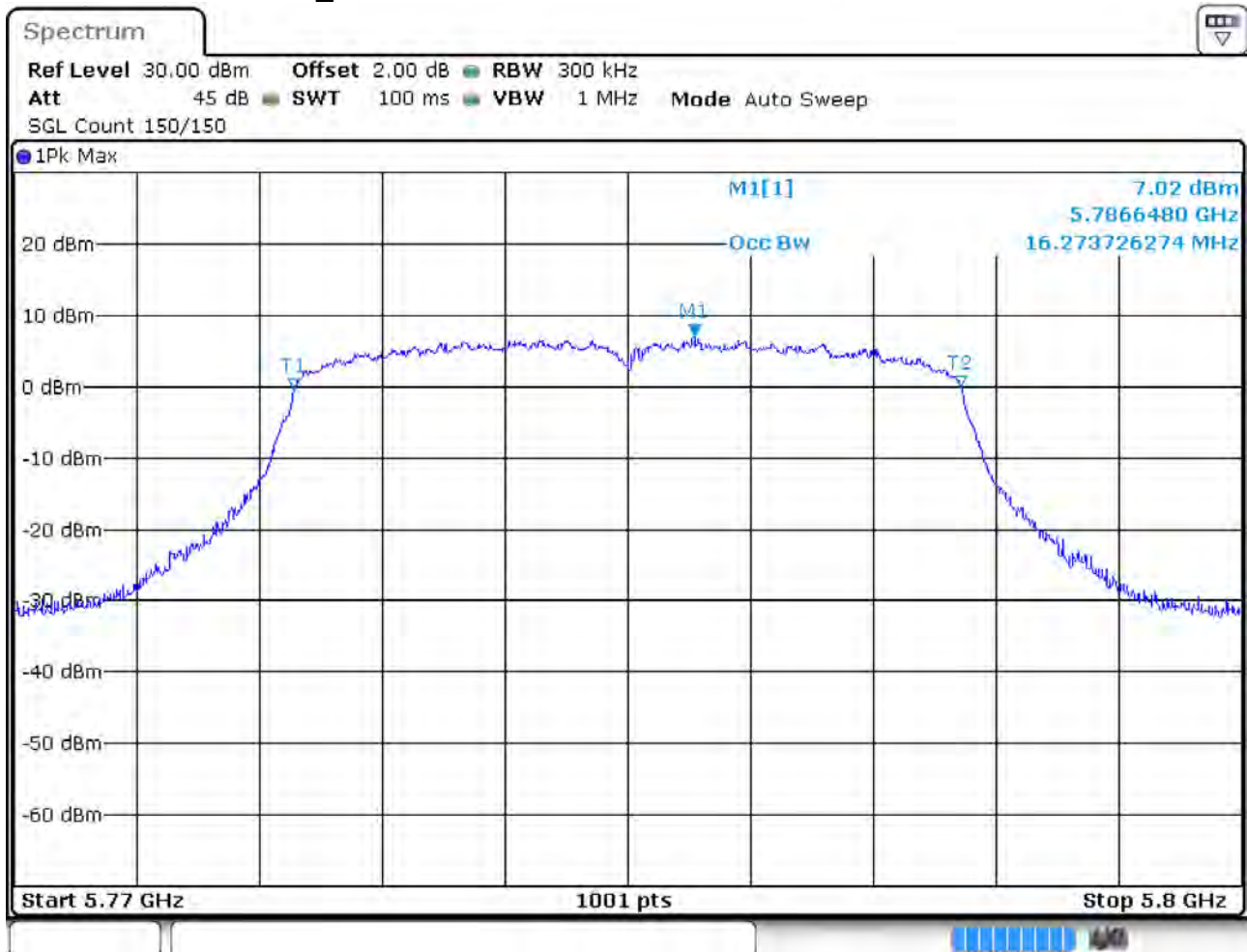


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4.7.2.5 11A20_157 ANT 1



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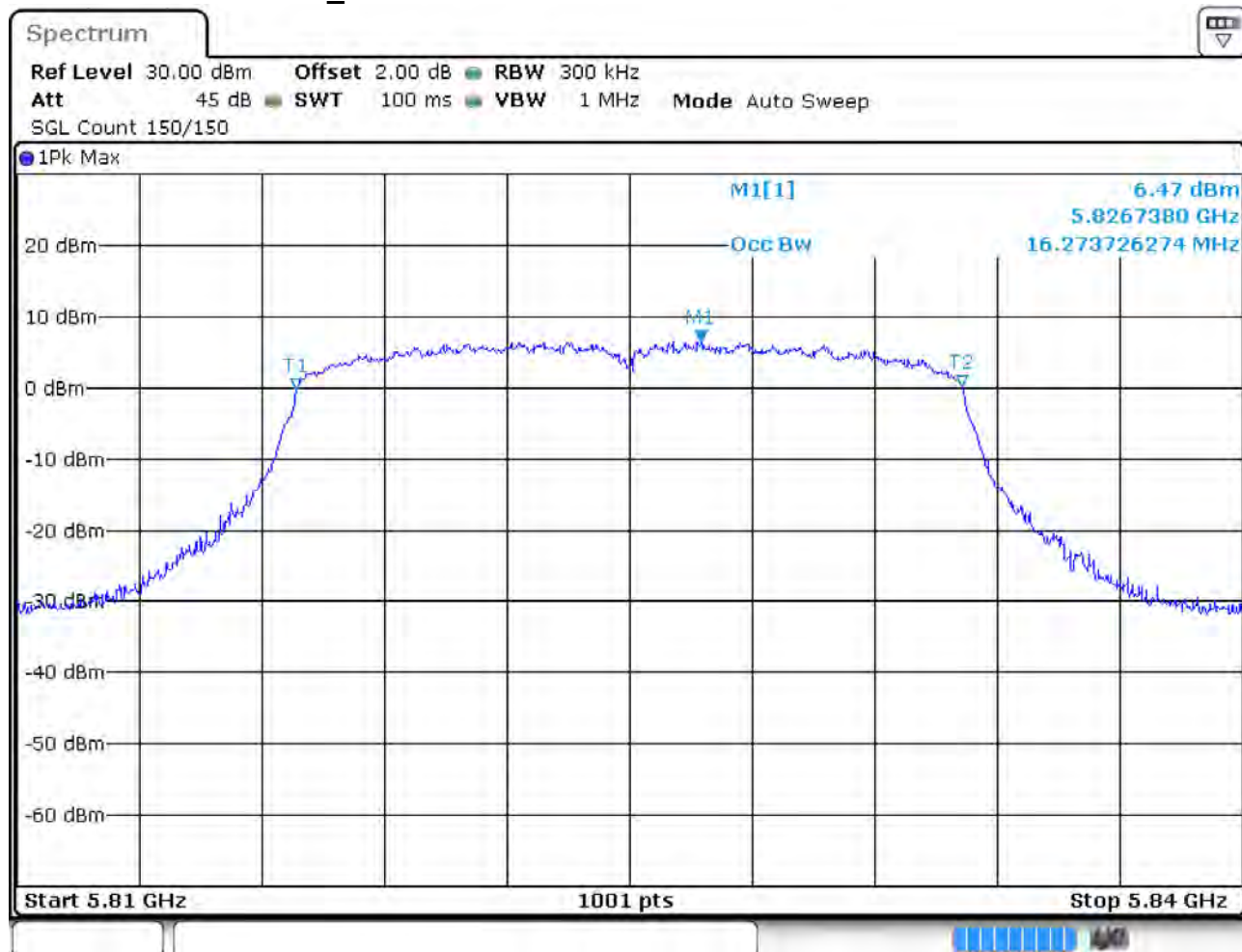


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4.7.2.6 11A20_165 ANT 1



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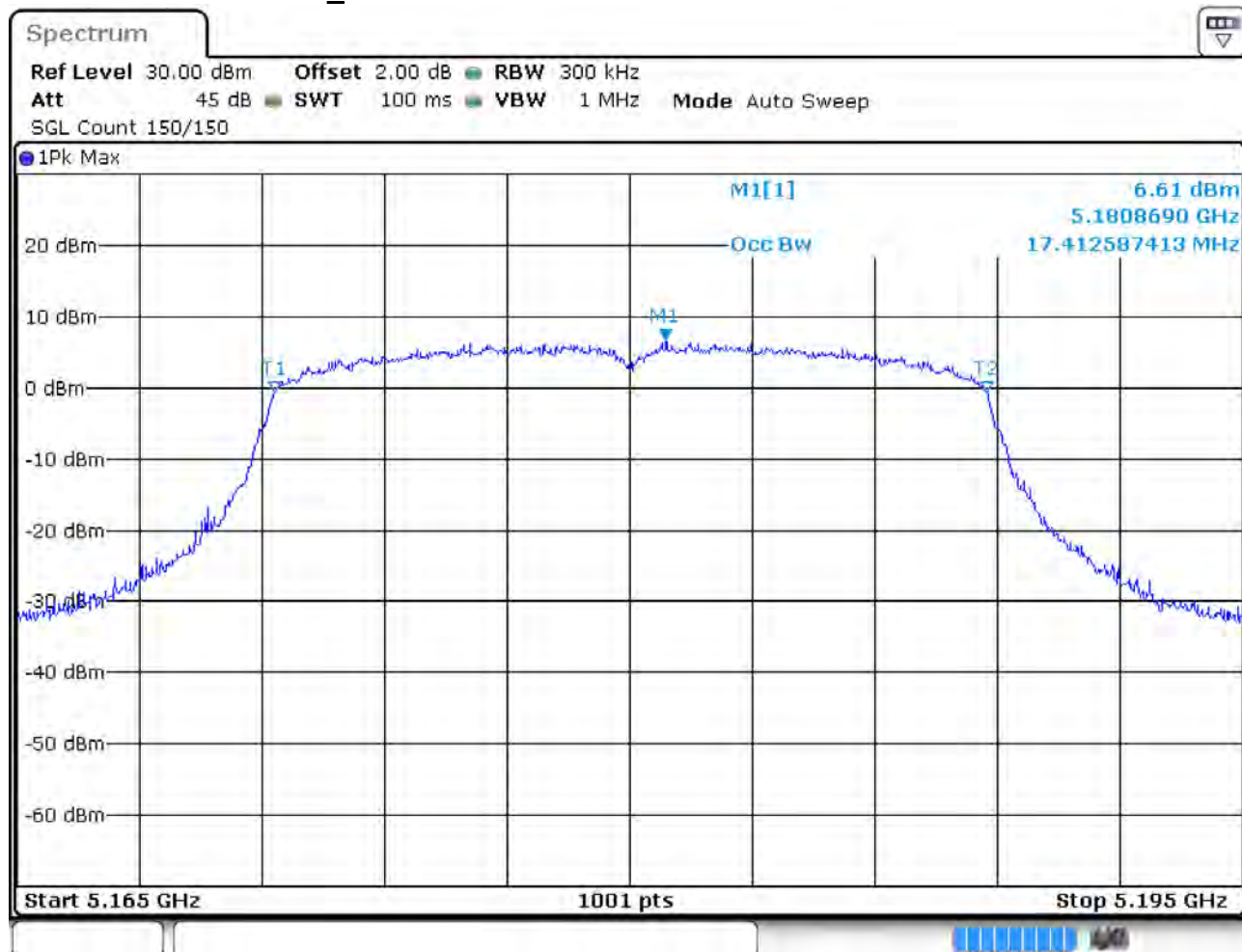
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4.7.2.7

11N20_36 ANT 1



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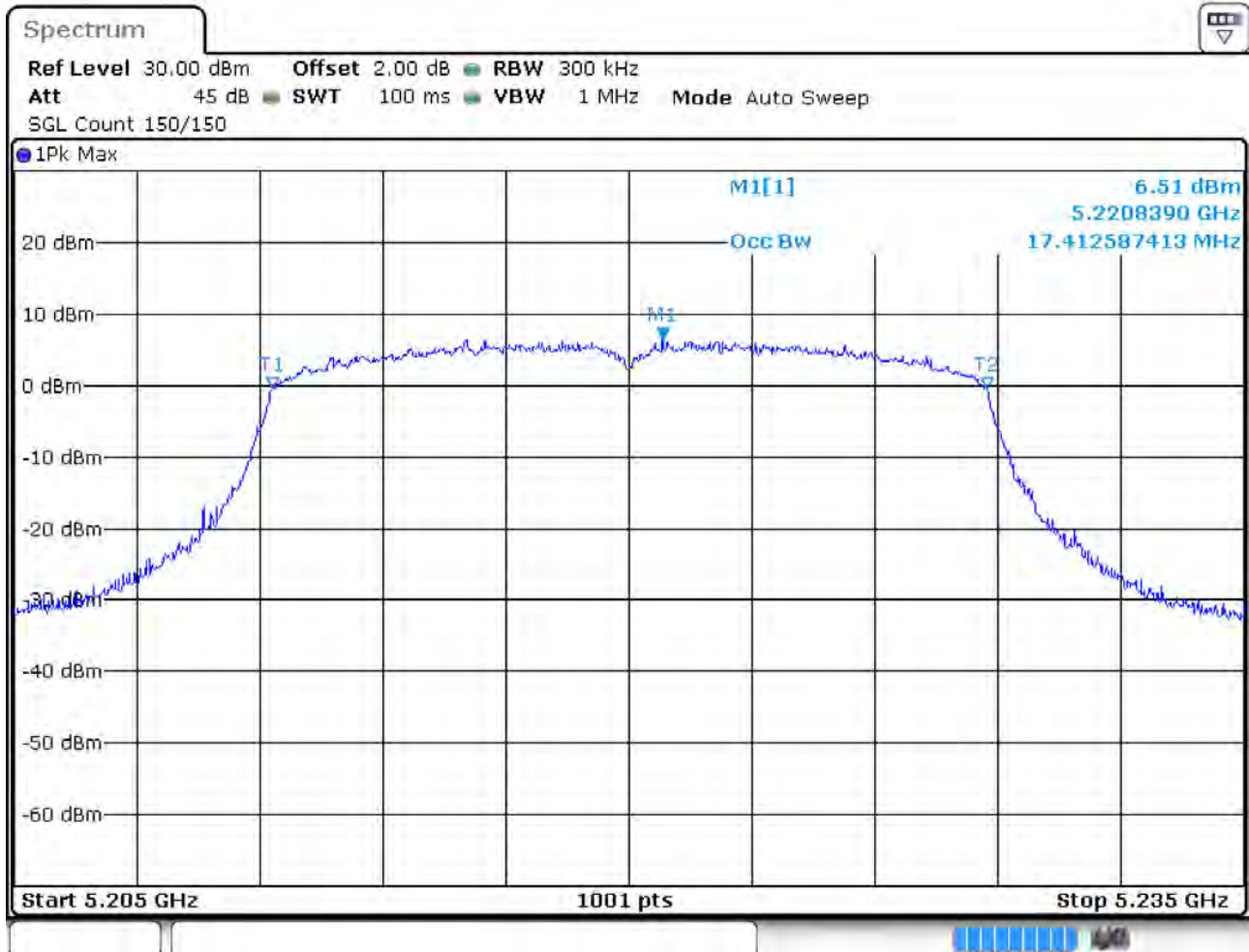


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4.7.2.8 11N20_44 ANT 1



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4.7.2.9

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4.7.2.10 11N20_149 ANT 1



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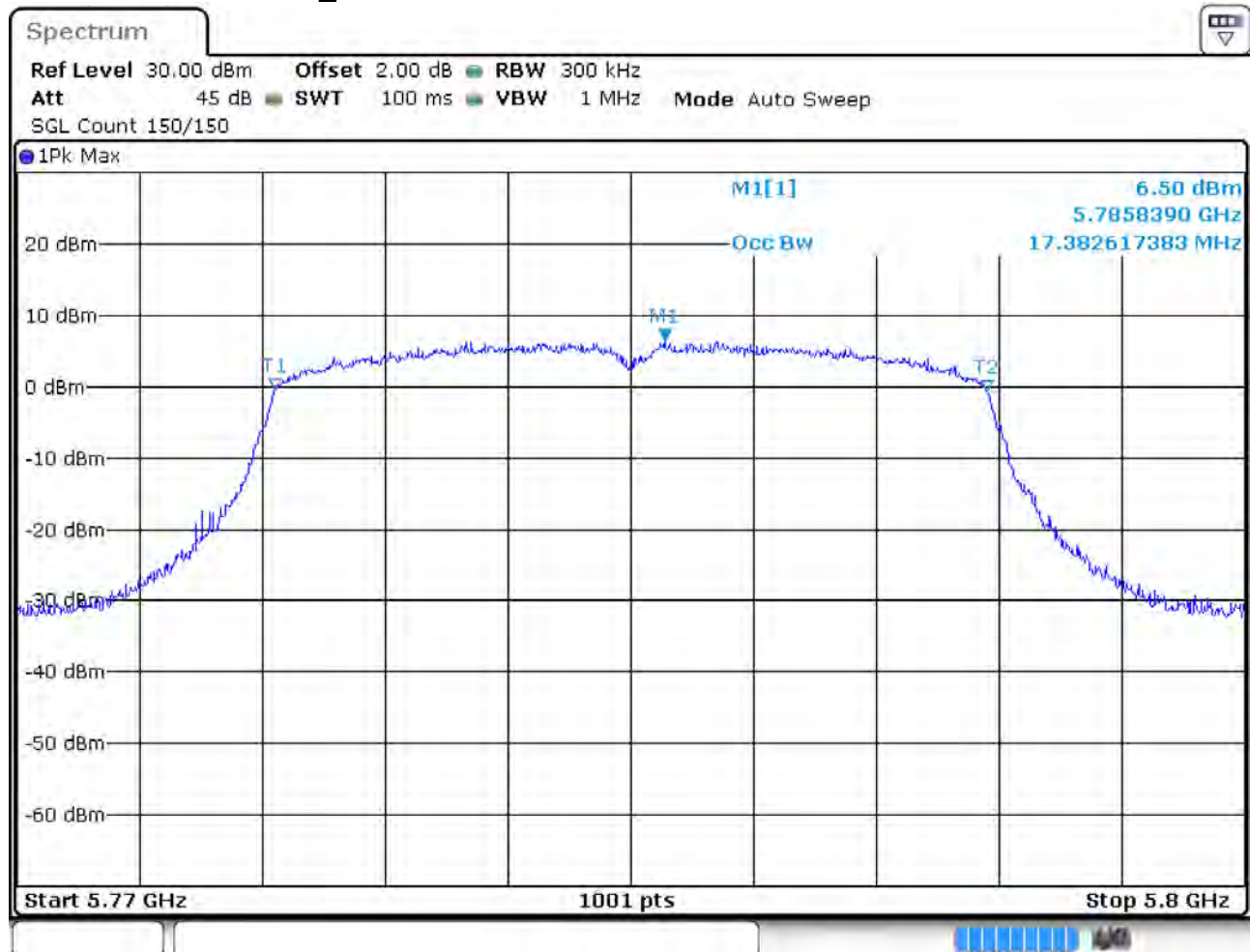


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4.7.2.11 11N20_157 ANT 1



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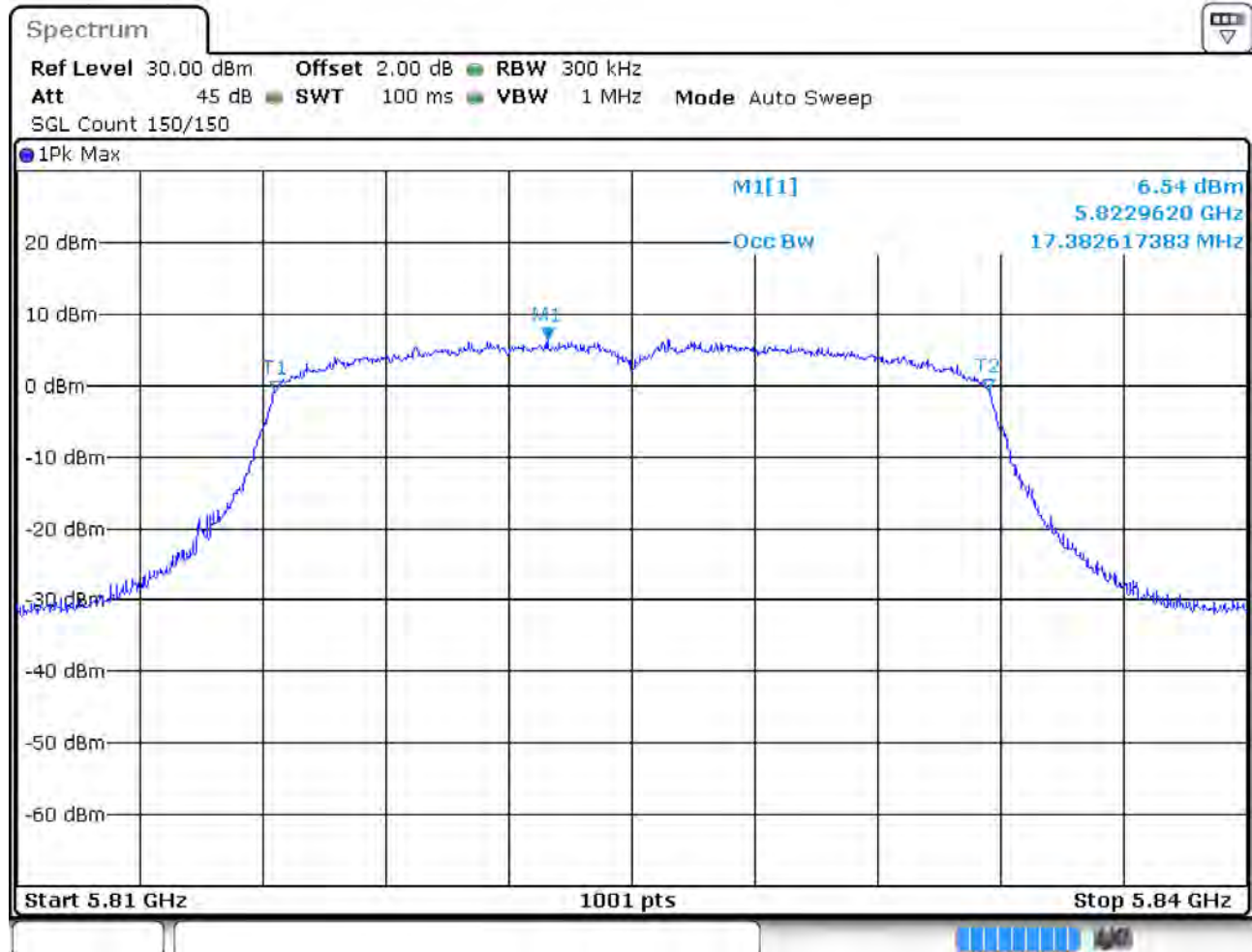


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4.7.2.12 11N20_165 ANT 1



Date: 29 SEP 2020 10:38:43

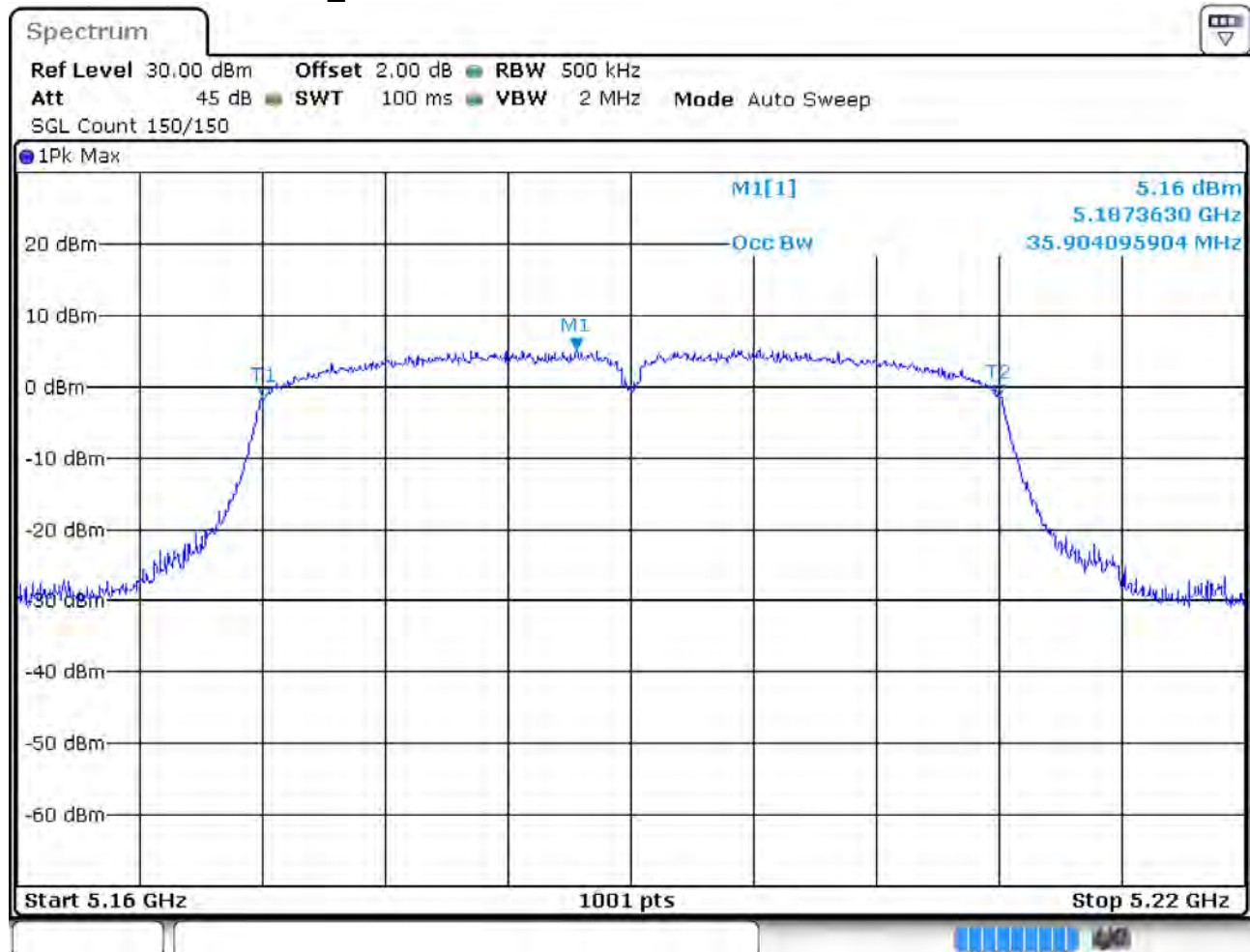


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4.7.2.13 11N40_38 ANT 1



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4.7.2.14 11N40_46 ANT 1



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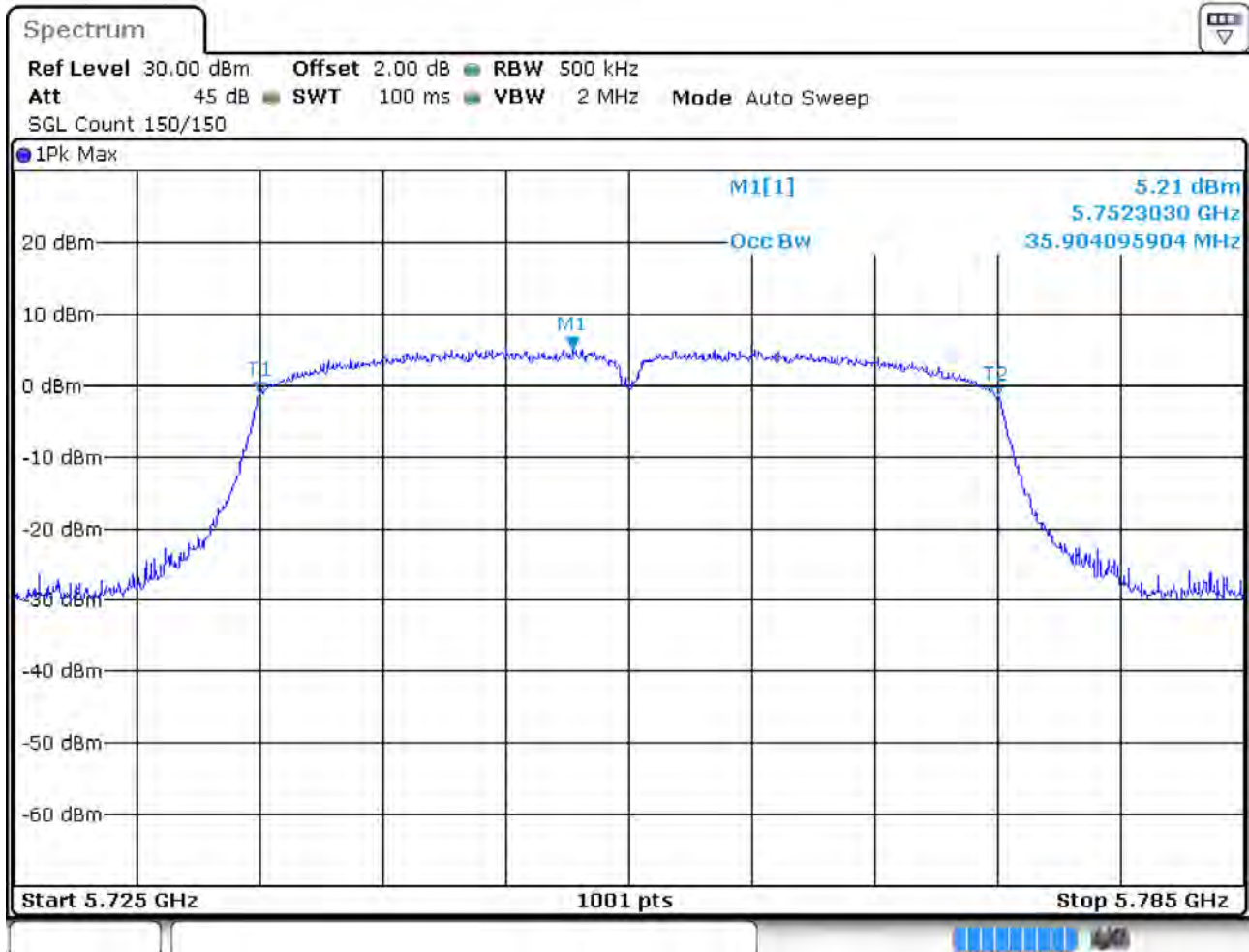


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4.7.2.15 11N40_151 ANT 1



Date: 29 SEP 2020 10:44:52

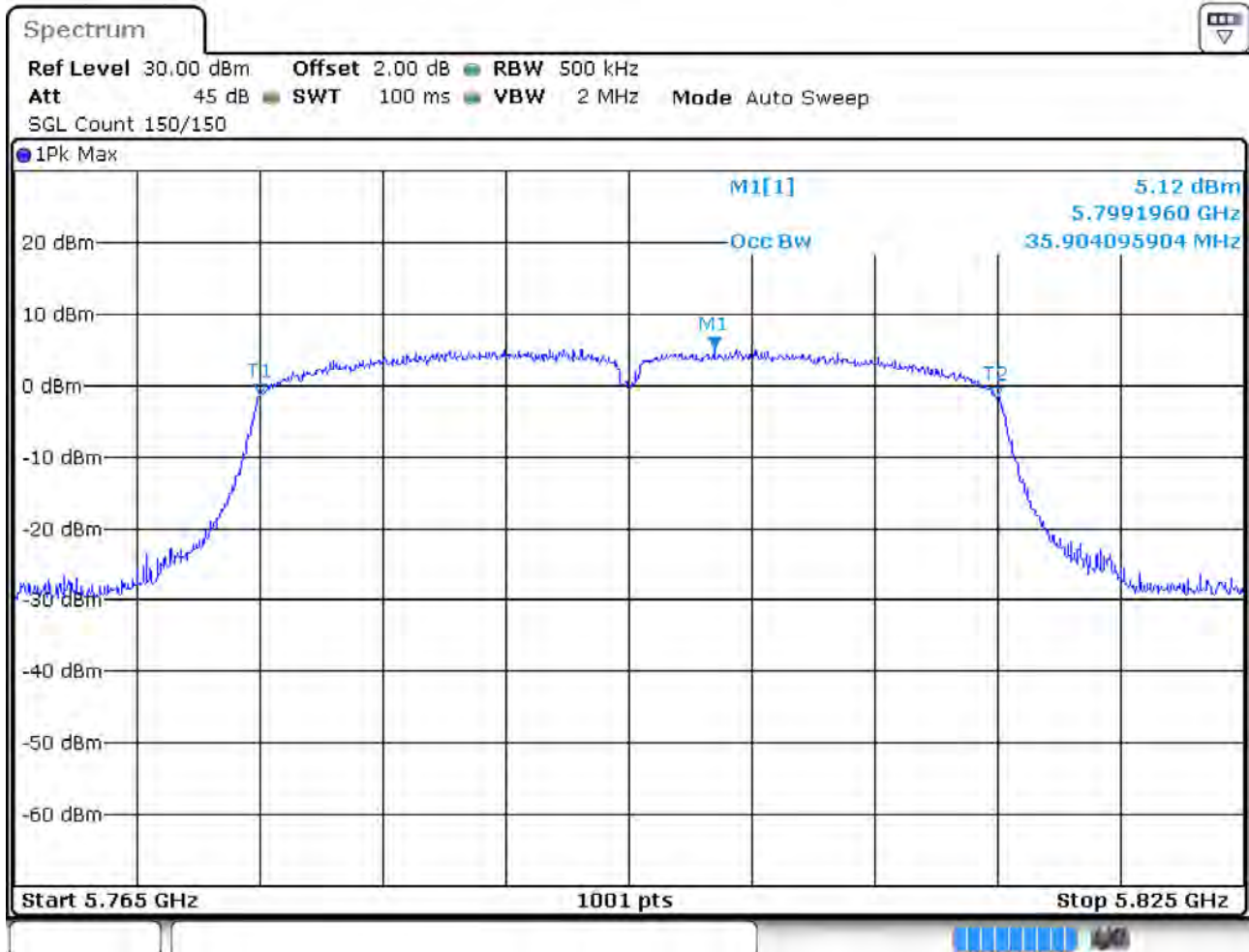
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4.7.2.16 11N40_159 ANT 1



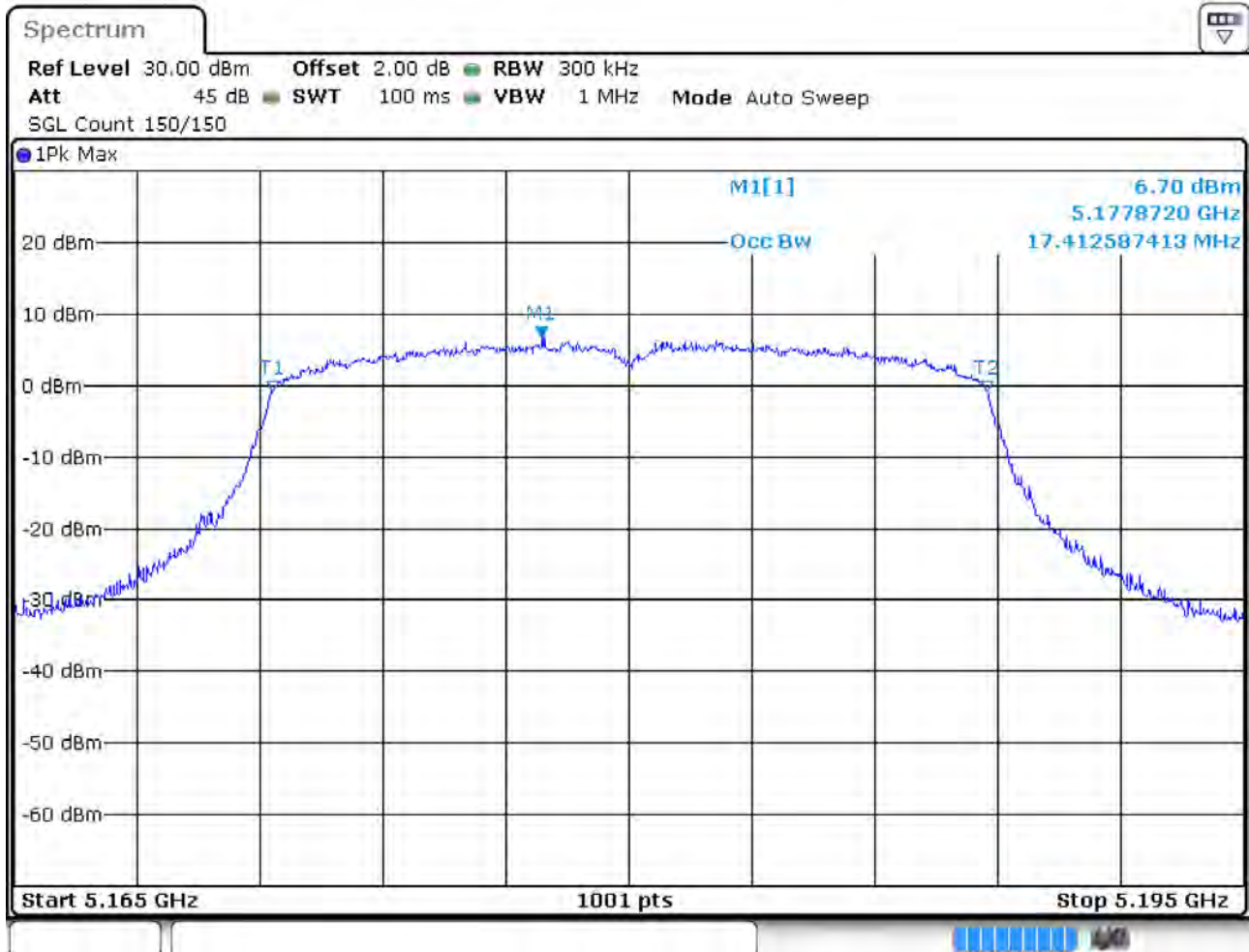
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4.7.2.17 11AC20_36 ANT 1



Date: 29 SEP 2020 10:49:02

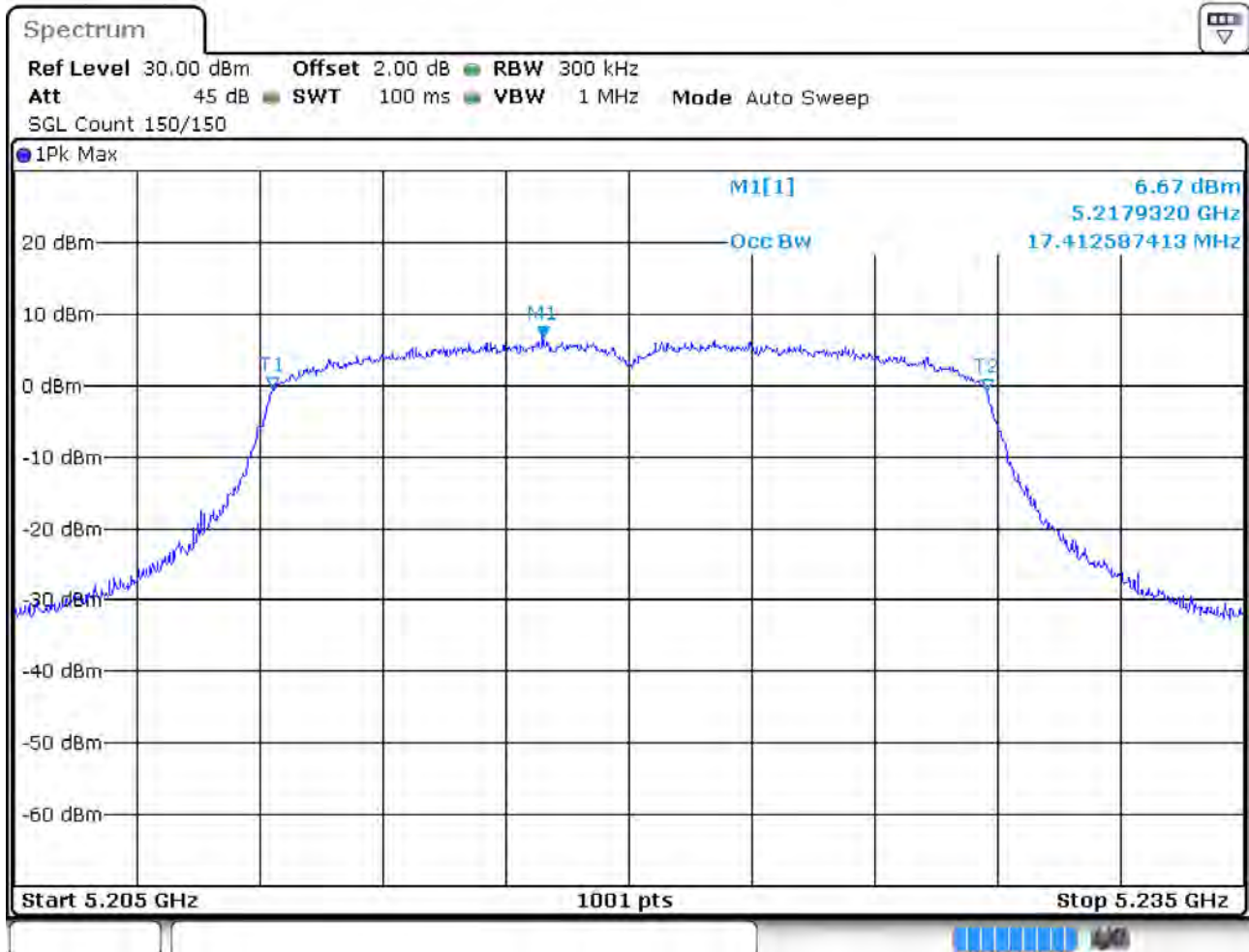


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4.7.2.18 11AC20_44 ANT 1



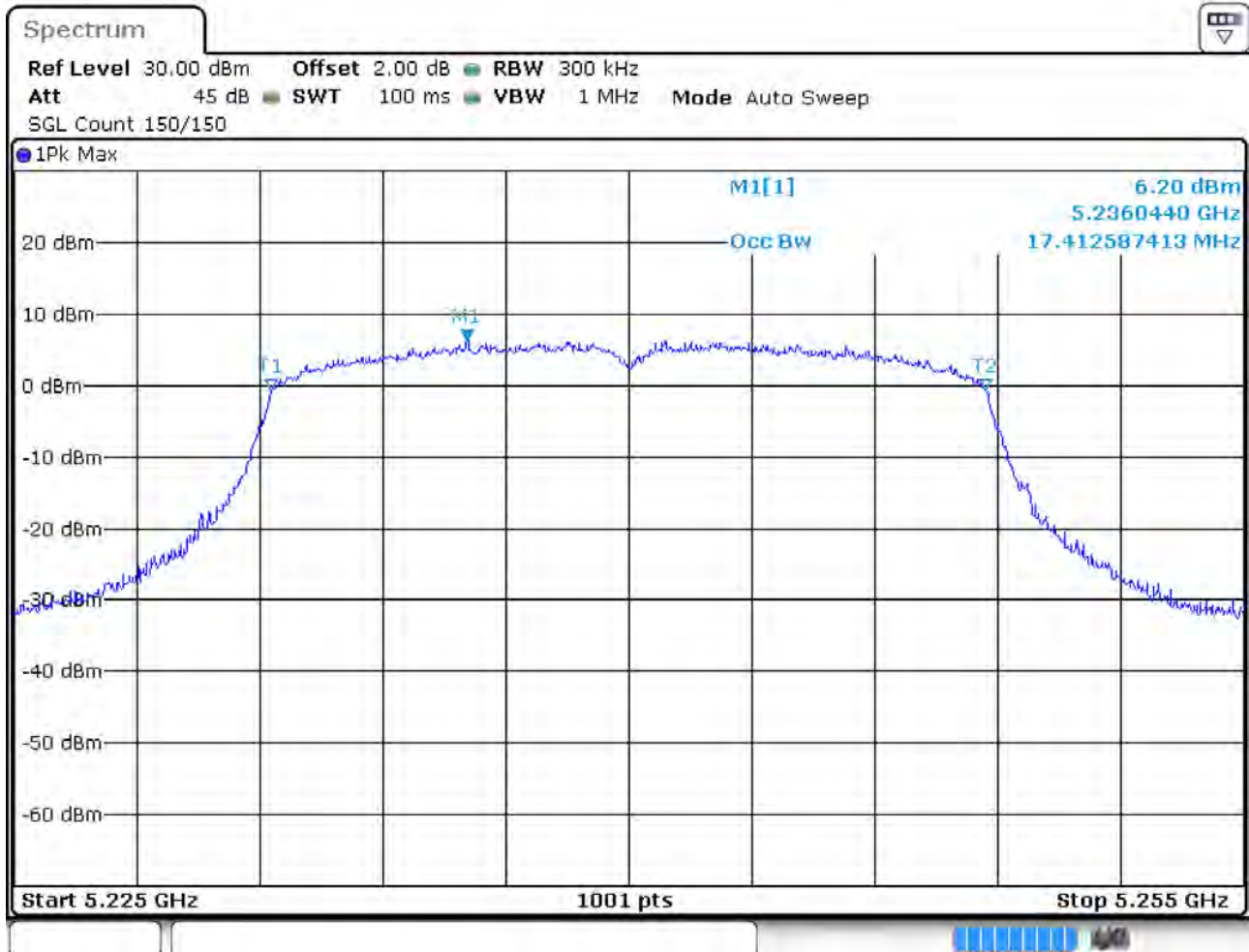
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4.7.2.19 11AC20_48 ANT 1



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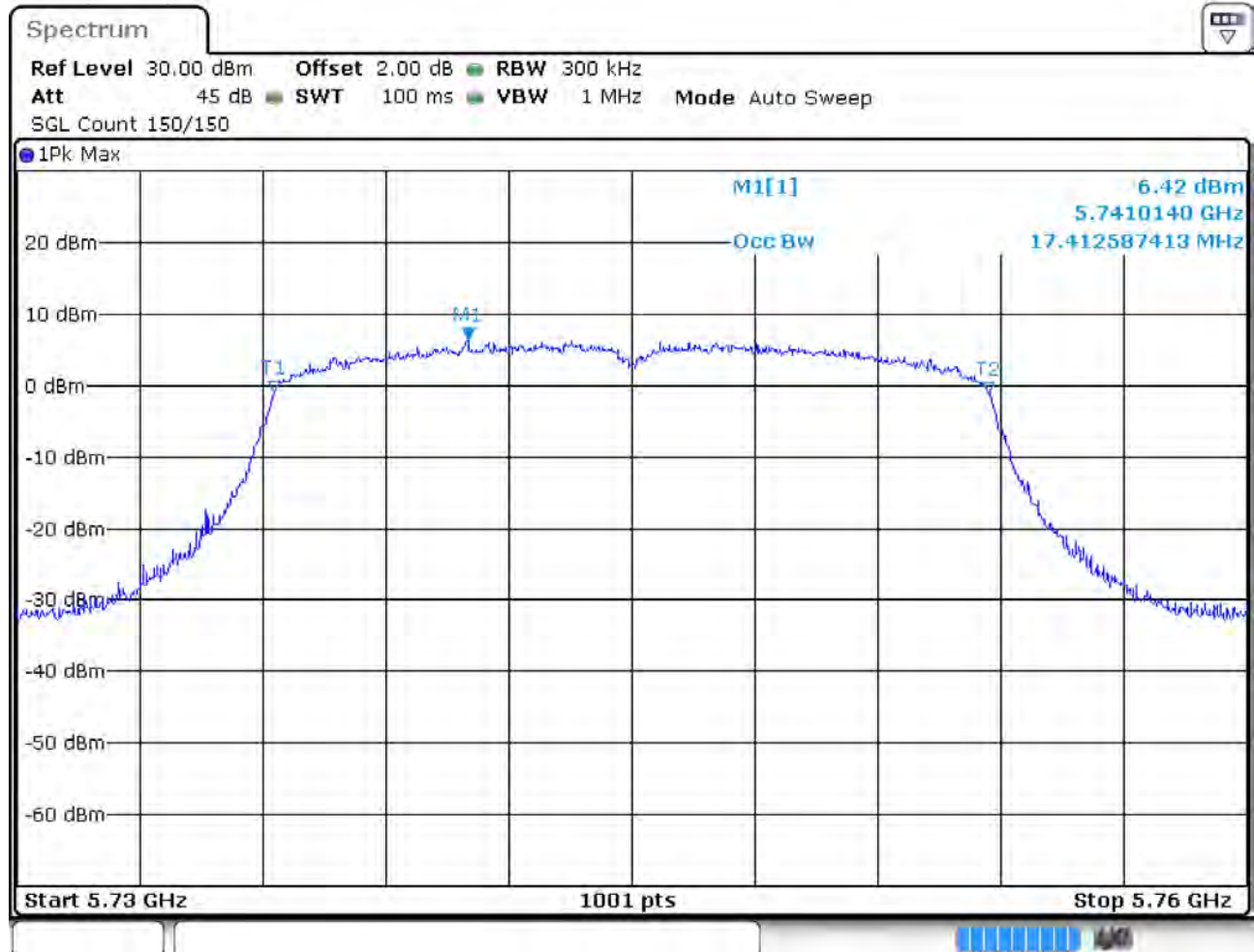


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4.7.2.20 11AC20_149 ANT 1



Date: 29 SEP 2020 10:53:53

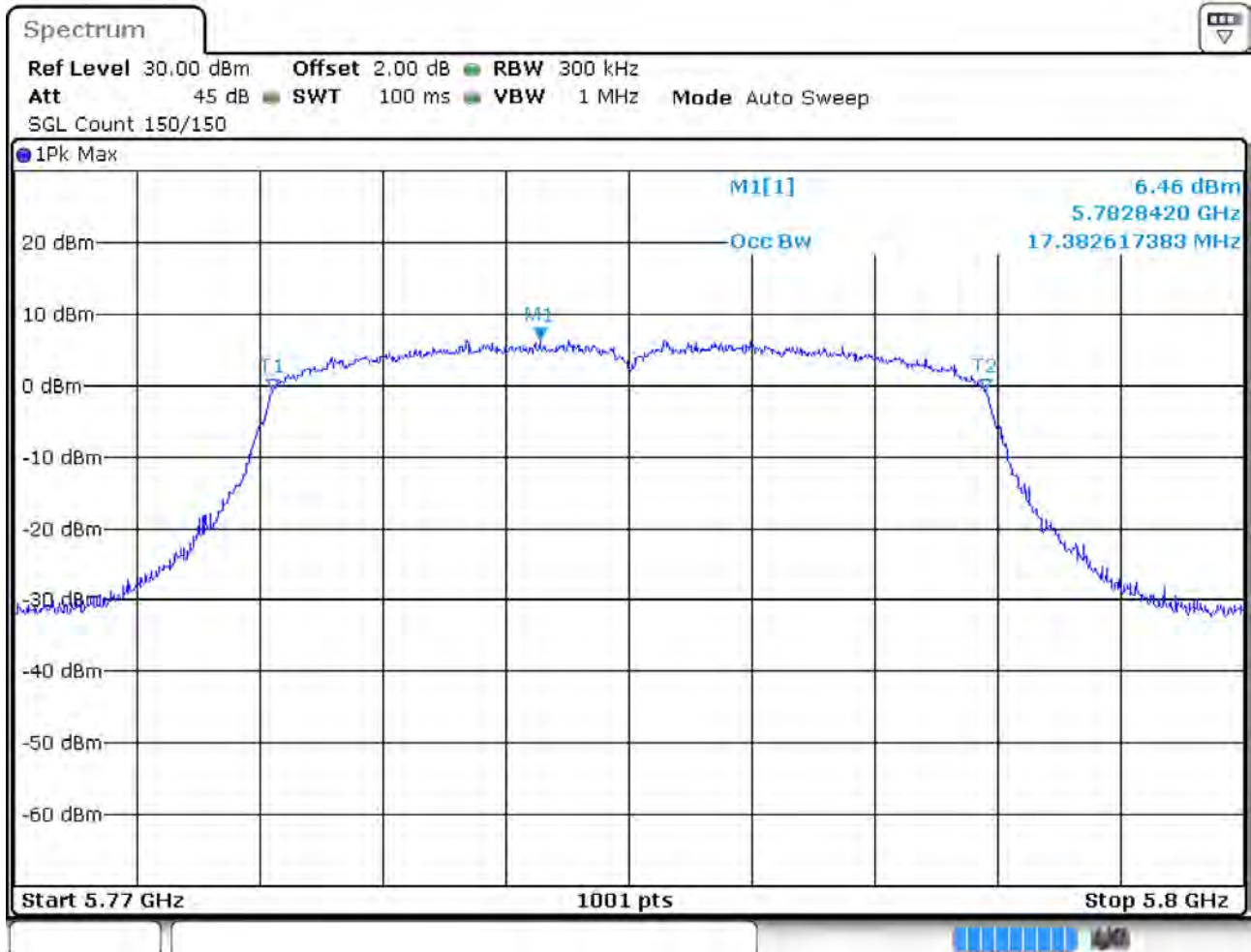


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4.7.2.21 11AC20_157 ANT 1



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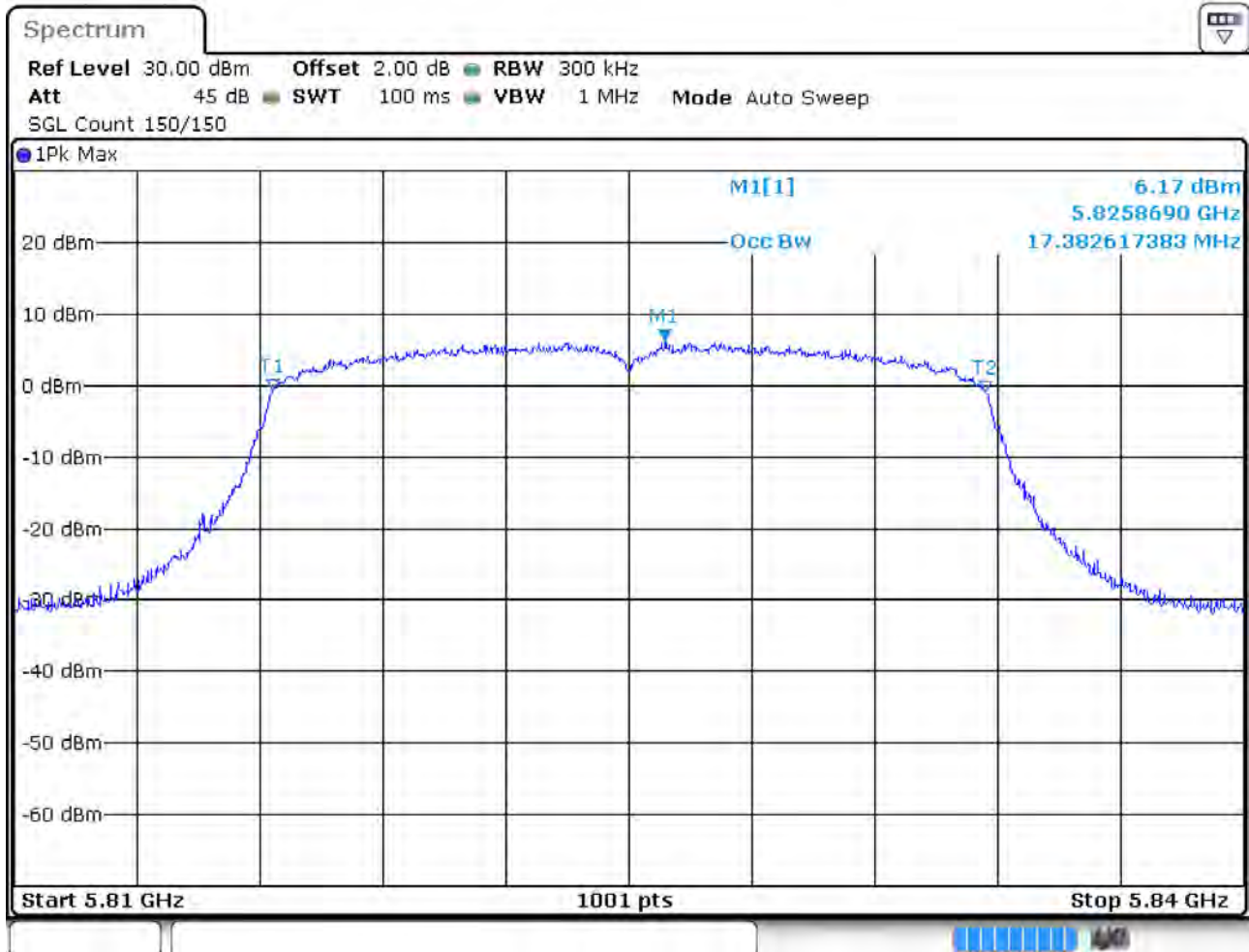


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4.7.2.22 11AC20_165 ANT 1



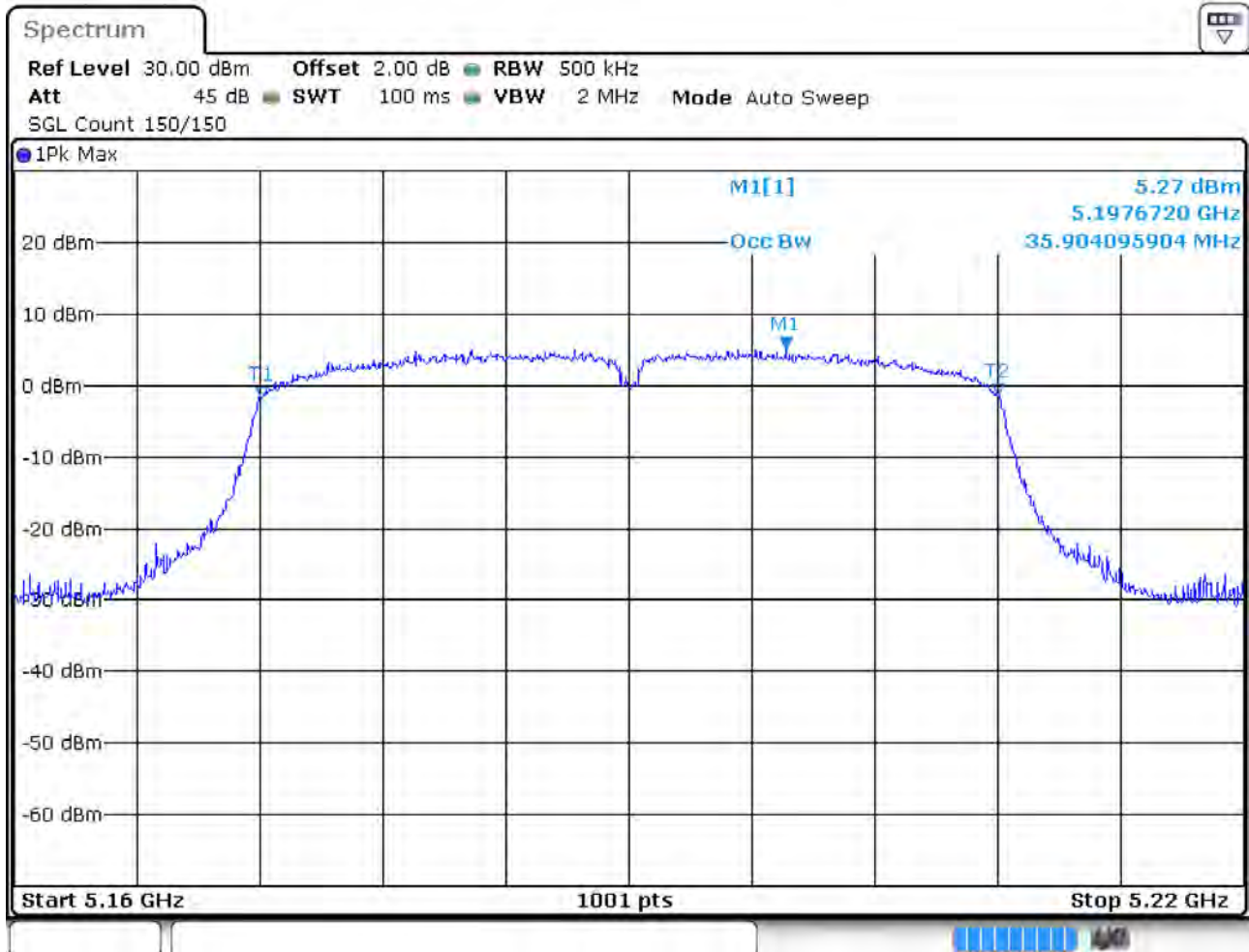
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4.7.2.23 11AC40_38 ANT 1



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4.7.2.24 11AC40_46 ANT 1



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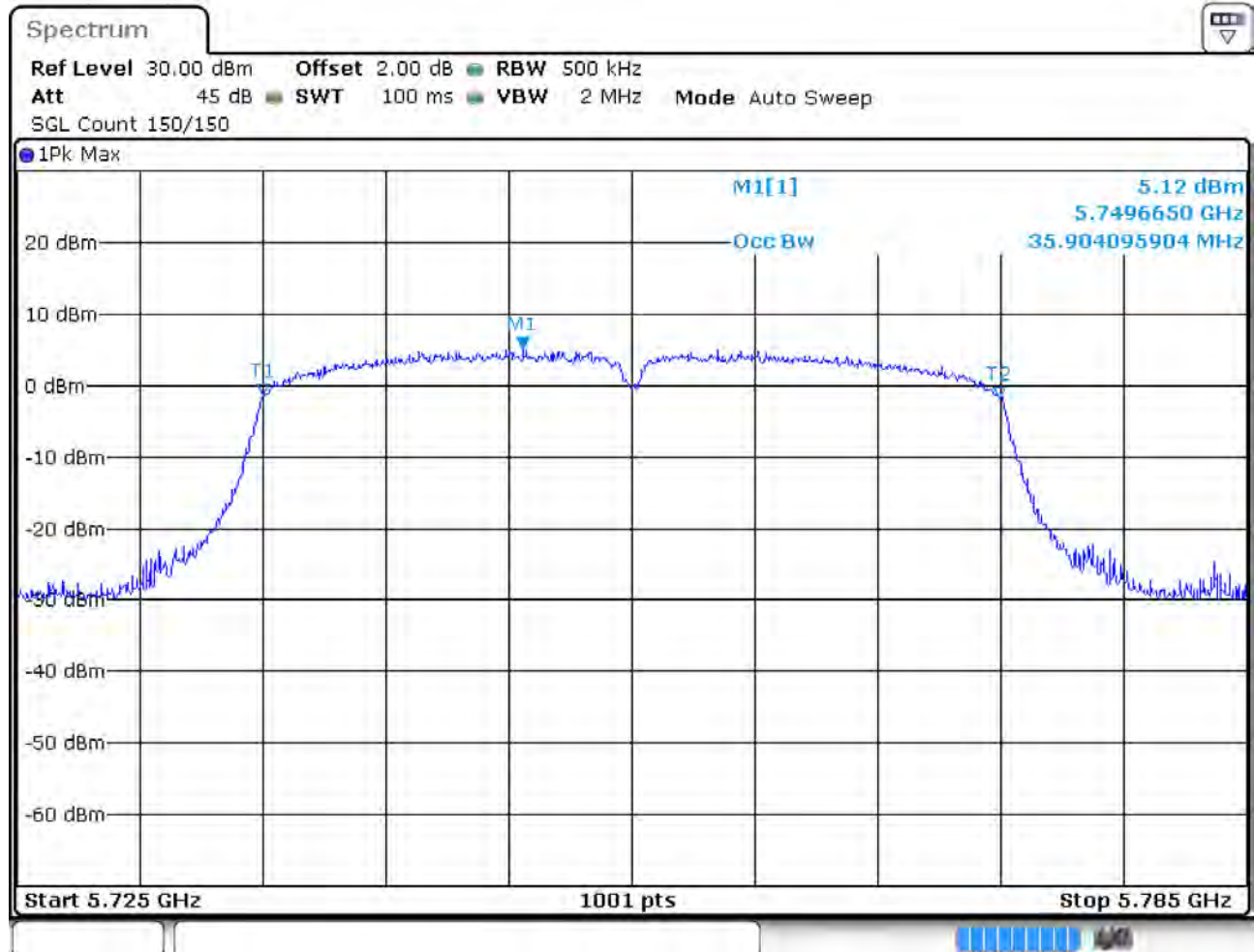


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4.7.2.25 11AC40_151 ANT 1



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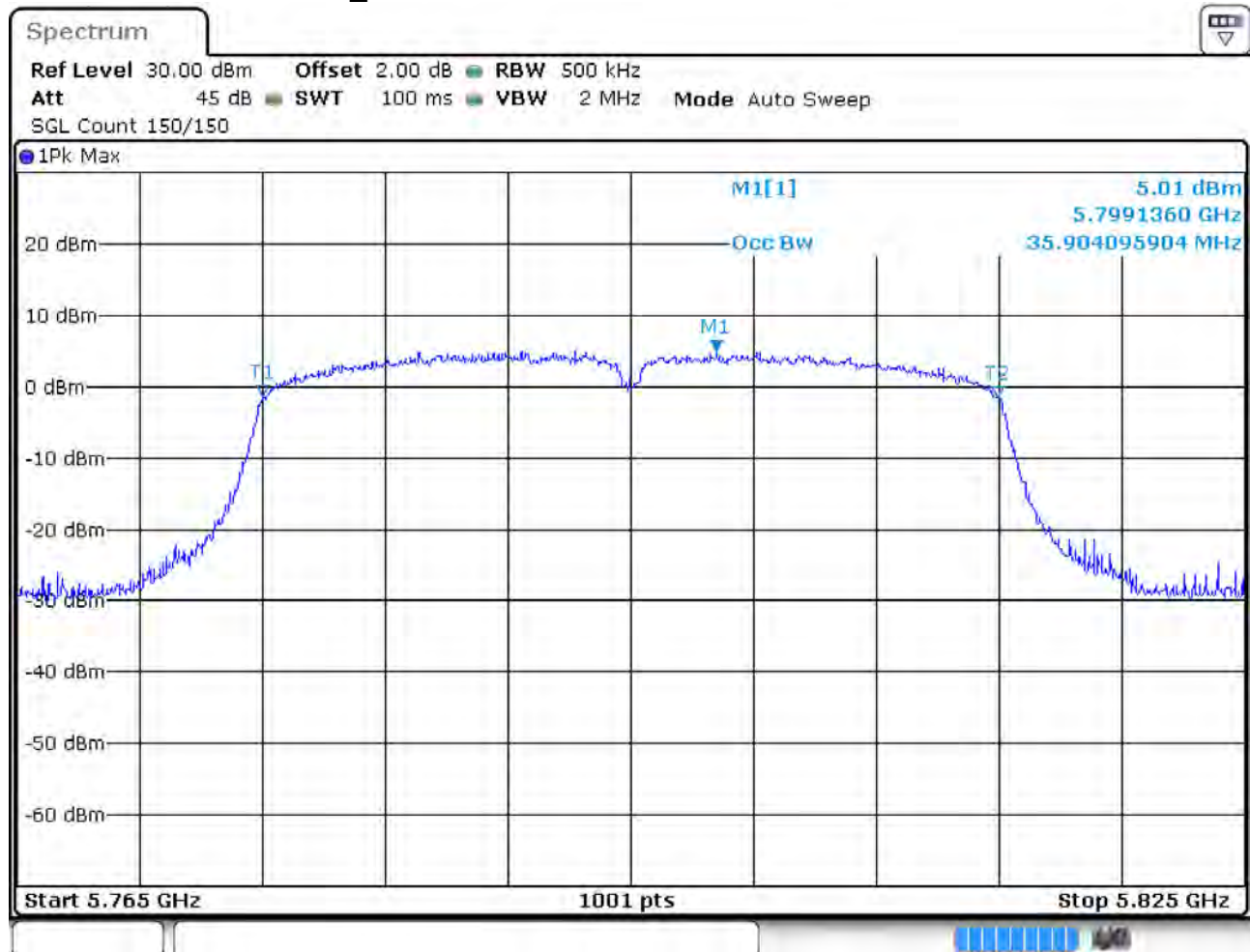


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4.7.2.26 11AC40_159 ANT 1



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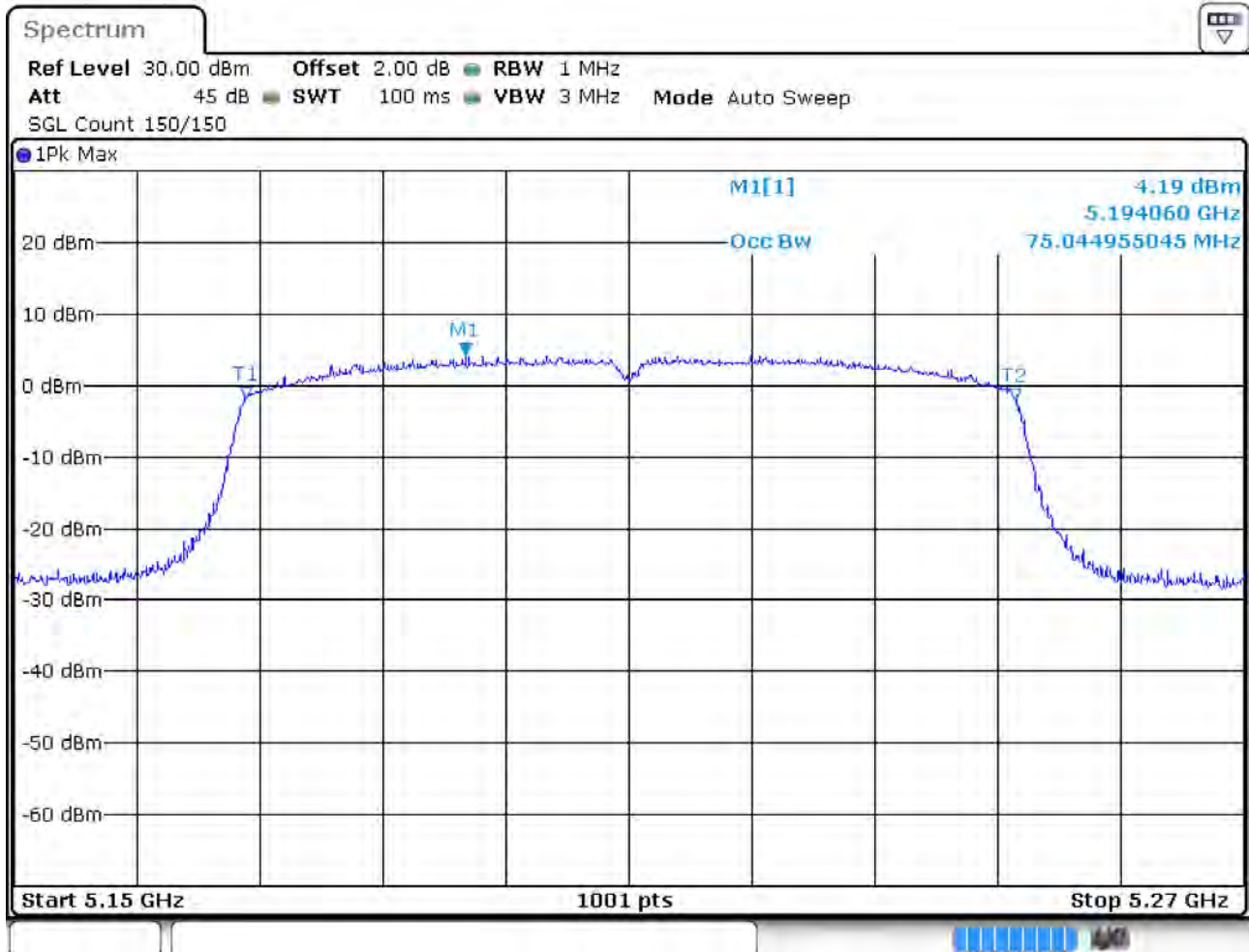


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4.7.2.27 11AC80_42 ANT 1



Date: 29, SEP, 2020 11:07:20

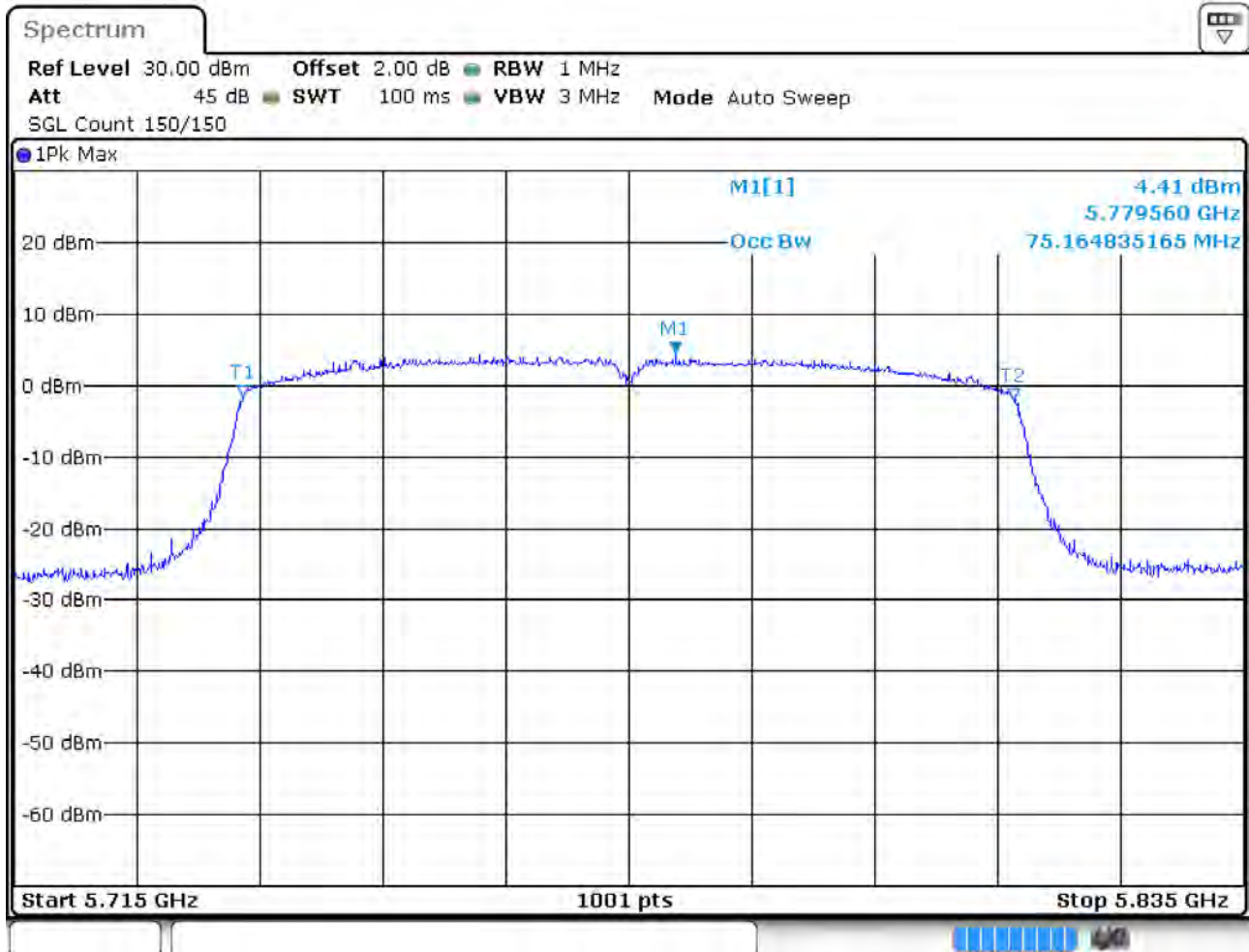


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4.7.2.28 11AC80_155 ANT 1



Date: 29 SEP.2020 11:10:20



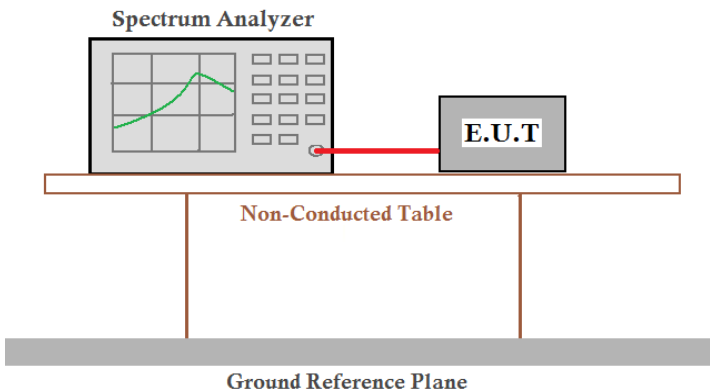
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4.8 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10: 2013	
Test Setup:		
Test Instruments:	Refer to section 5.10 for details	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 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	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than <30dBm/500KHz
Test Results:	Pass	



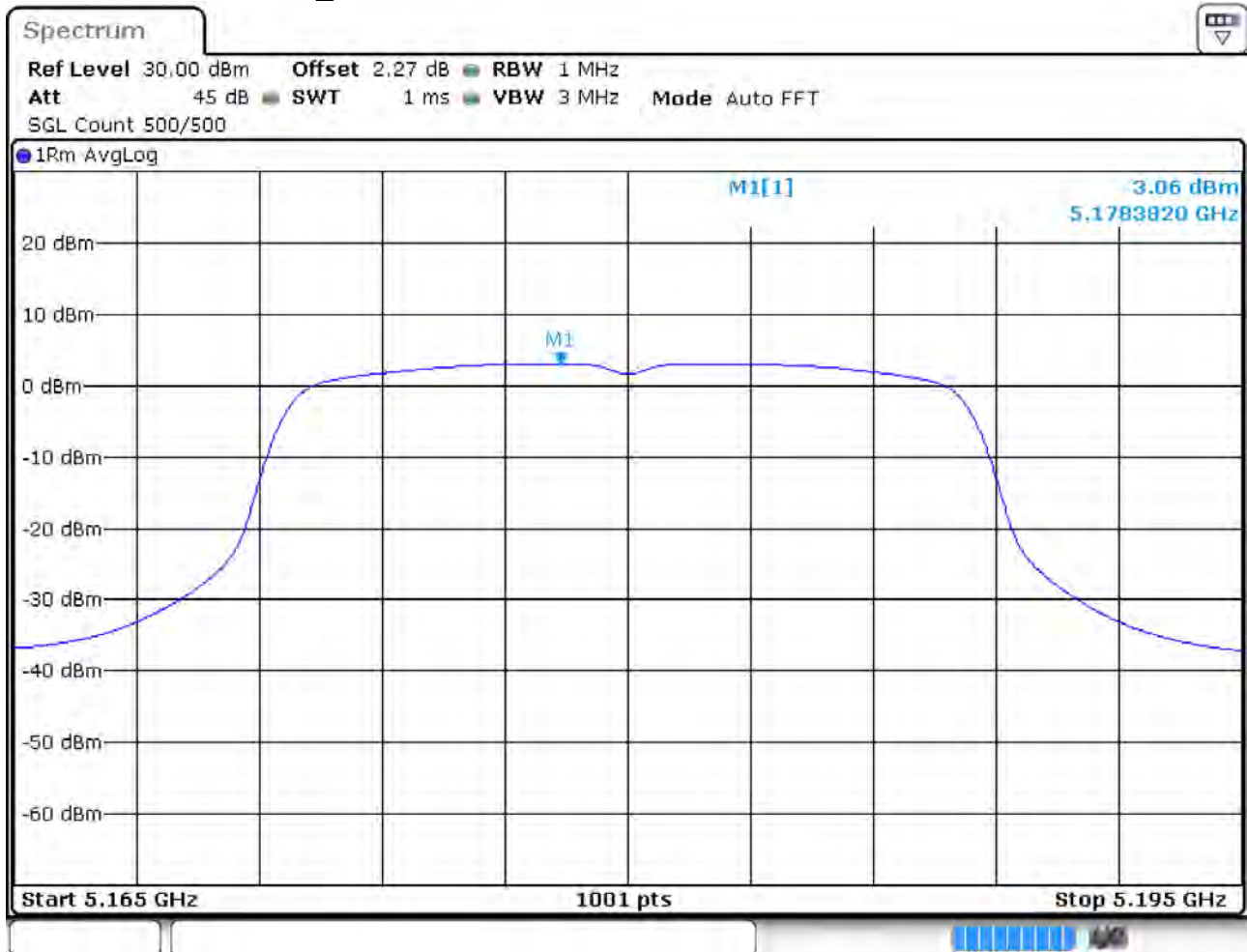
4.8.1 Test Results For Power Density

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Meas. Level (Cond.) [dBm/500KHz]	Verdict
11A20	36	5180	ANT 1	3.06	PASS
	44	5220	ANT 1	3.12	PASS
	48	5240	ANT 1	3.14	PASS
	149	5745	ANT 1	-0.04	PASS
	157	5785	ANT 1	0.23	PASS
	165	5825	ANT 1	0.13	PASS
11N20	36	5180	ANT 1	2.71	PASS
	44	5220	ANT 1	2.71	PASS
	48	5240	ANT 1	2.75	PASS
	149	5745	ANT 1	-0.21	PASS
	157	5785	ANT 1	-0.2	PASS
	165	5825	ANT 1	-0.32	PASS
11N40	38	5190	ANT 1	-0.82	PASS
	46	5230	ANT 1	-0.95	PASS
	151	5755	ANT 1	-3.77	PASS
	159	5795	ANT 1	-3.73	PASS
11AC20	36	5180	ANT 1	2.54	PASS
	44	5220	ANT 1	2.56	PASS
	48	5240	ANT 1	2.54	PASS
	149	5745	ANT 1	-0.44	PASS
	157	5785	ANT 1	-0.36	PASS
	165	5825	ANT 1	-0.5	PASS
11AC40	38	5190	ANT 1	-0.96	PASS
	46	5230	ANT 1	-1.06	PASS
	151	5755	ANT 1	-4.07	PASS
	159	5795	ANT 1	-3.95	PASS
11AC80	42	5210	ANT 1	-5.46	PASS
	155	5775	ANT 1	-8.39	PASS



4.8.2 Test plots For Power Density

4.8.2.1 11A20_36 ANT 1



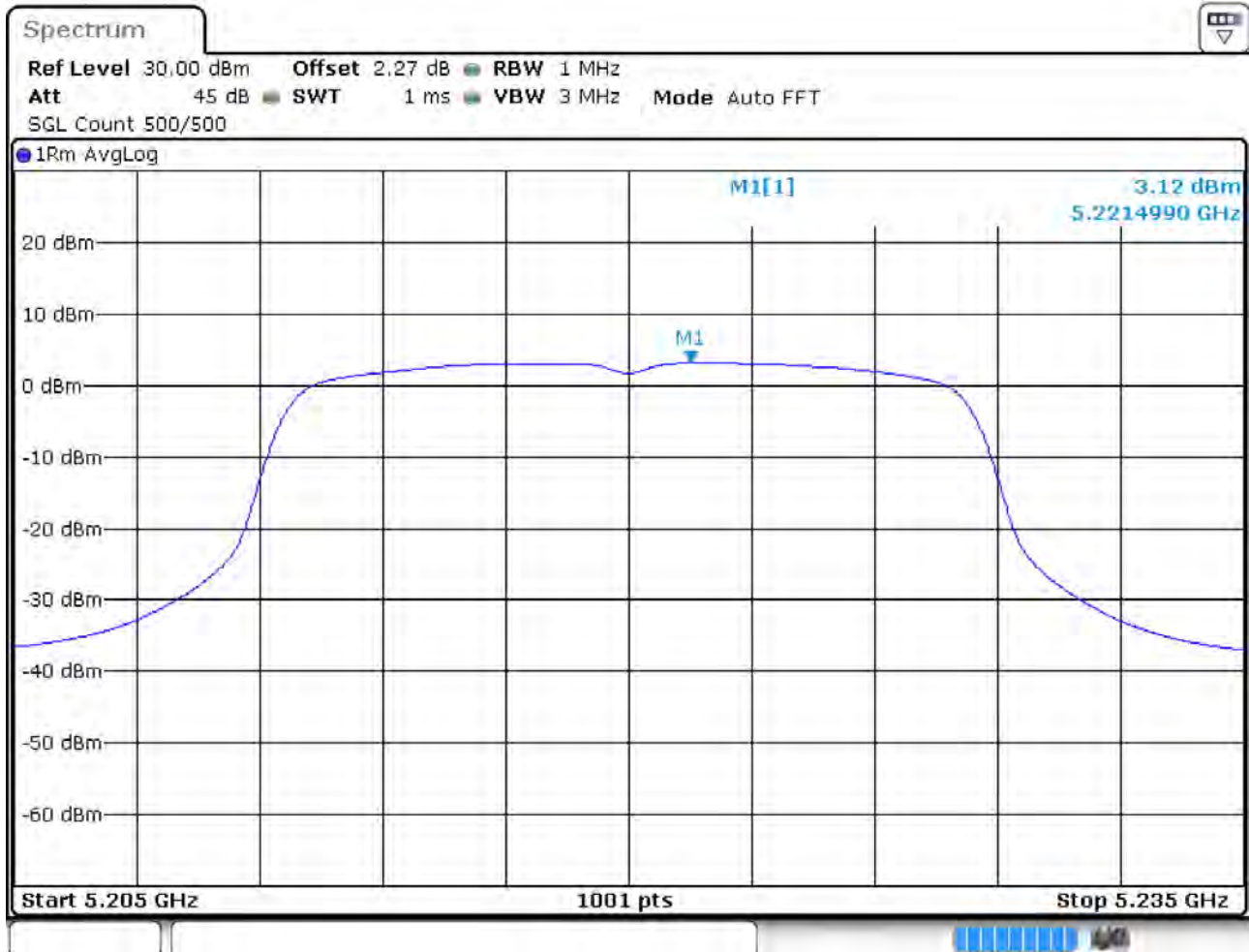
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4.8.2.2 11A20_44 ANT 1



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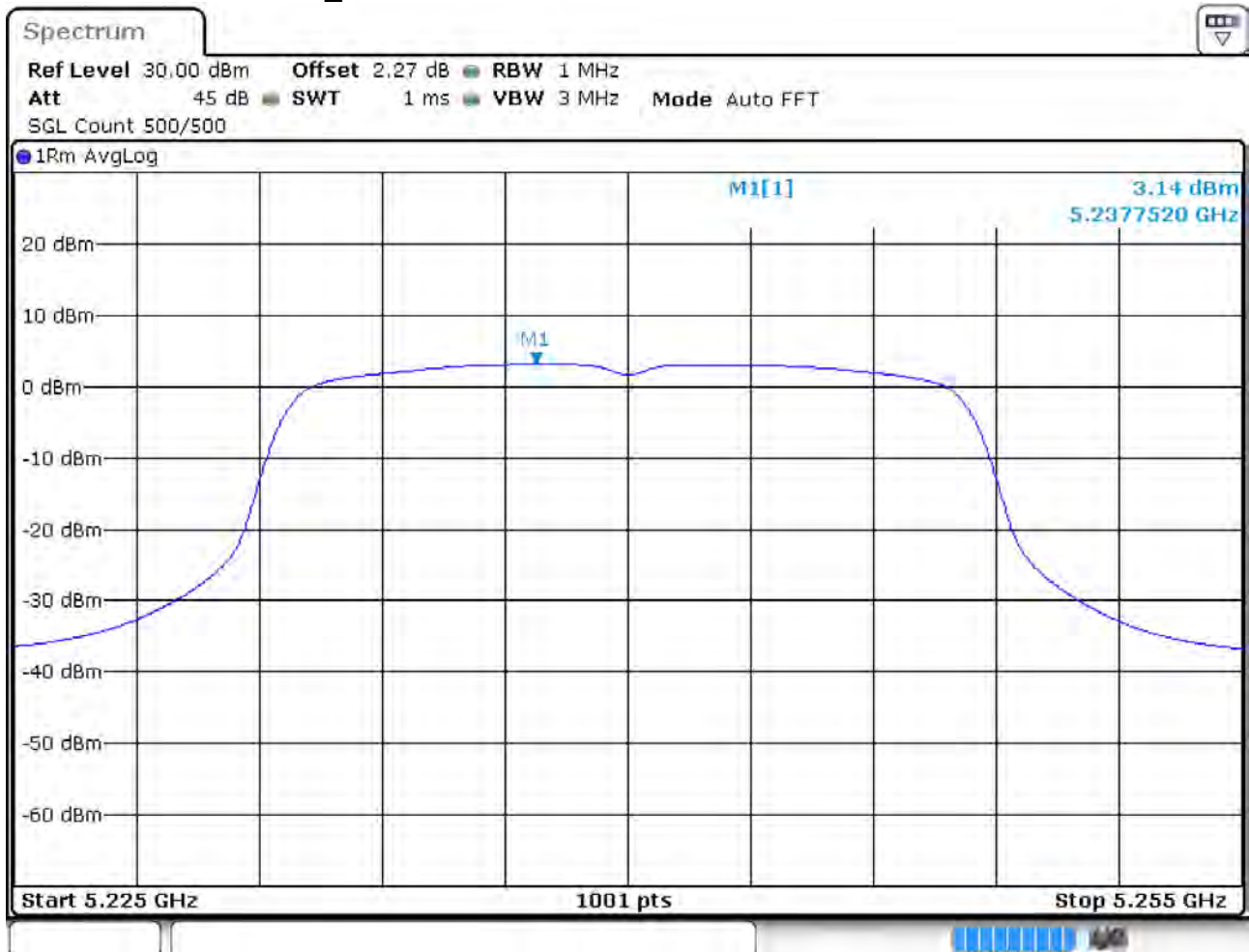
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4.8.2.3

11A20_48 ANT 1



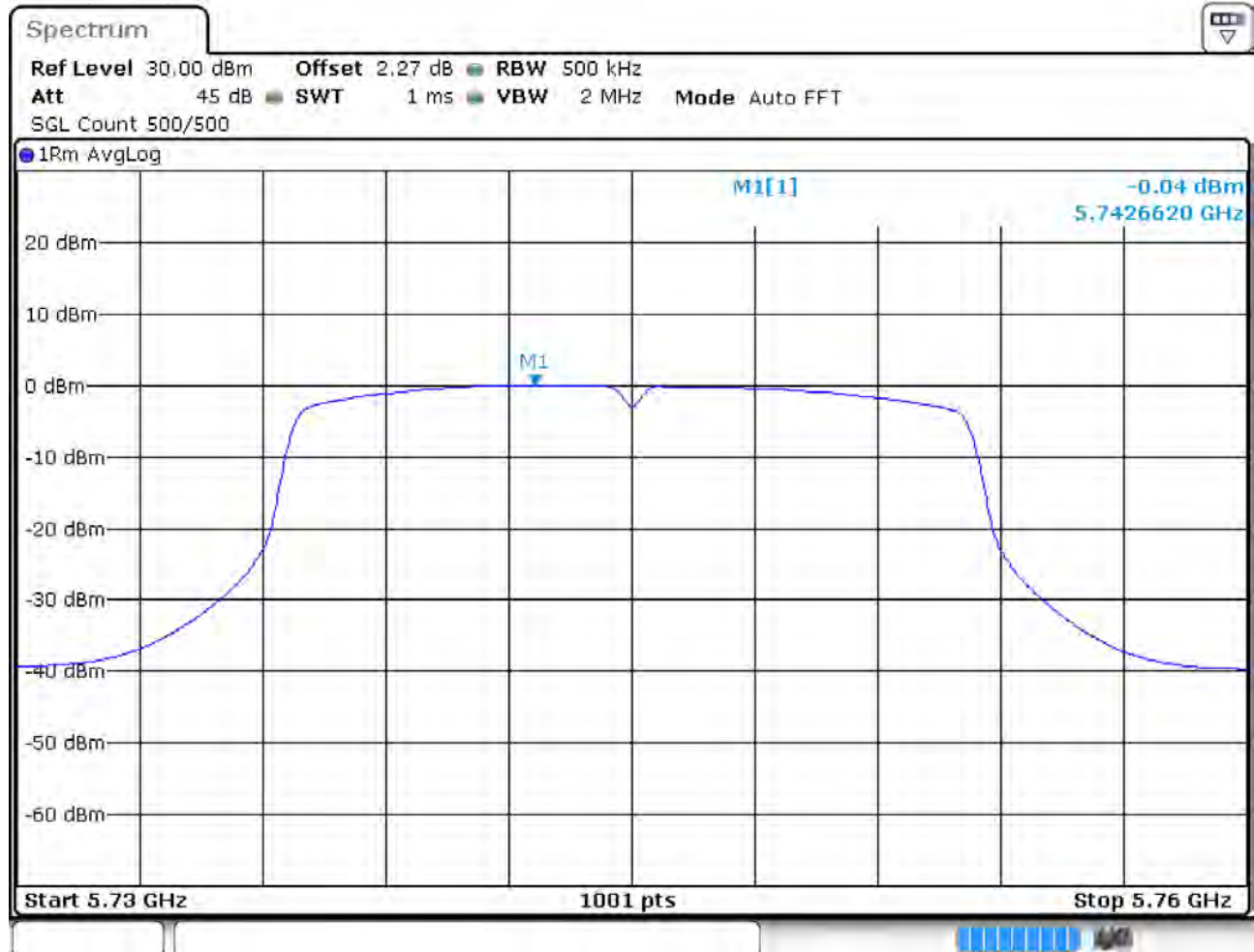
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4.8.2.4 11A20_149 ANT 1



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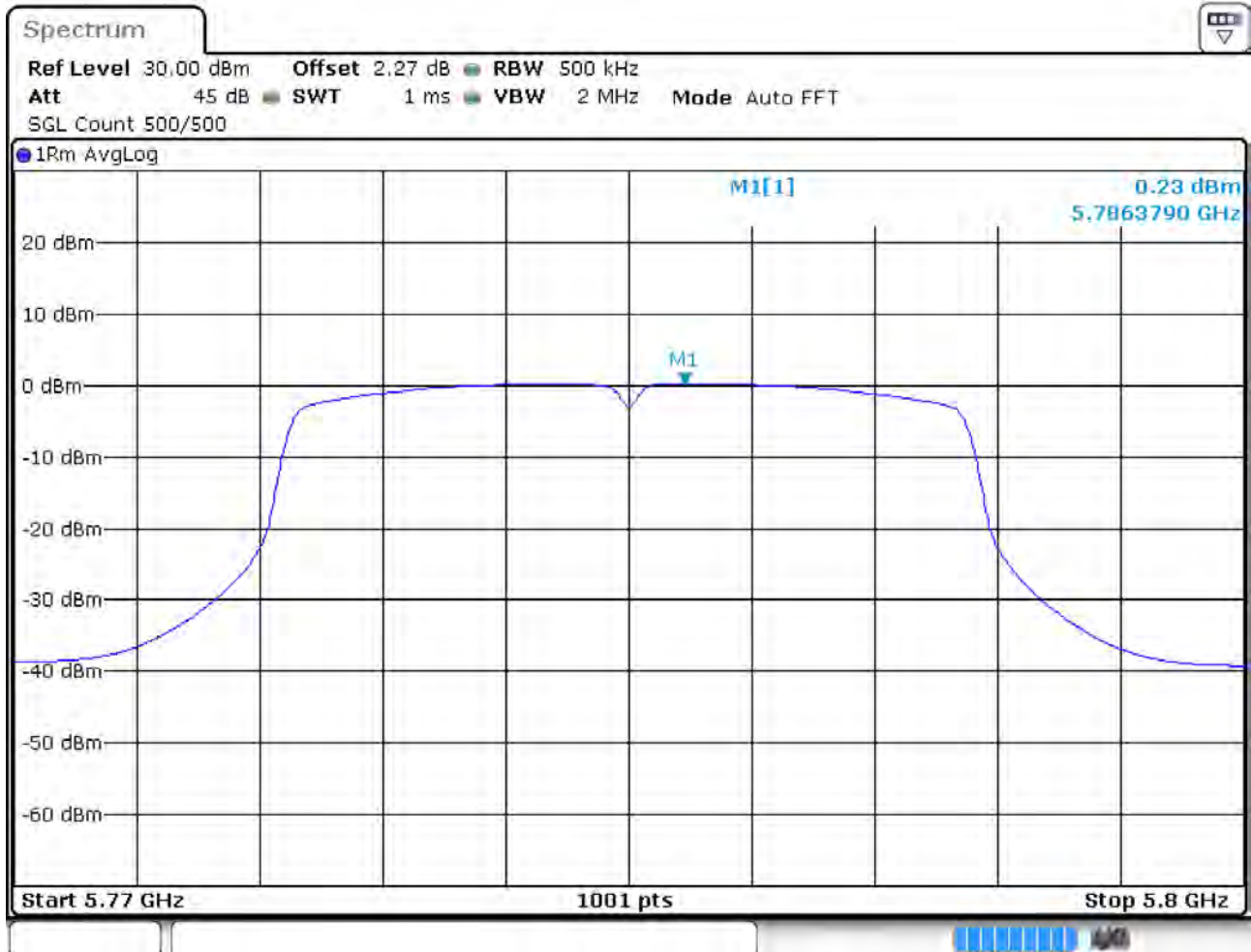


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4.8.2.5 11A20_157 ANT 1



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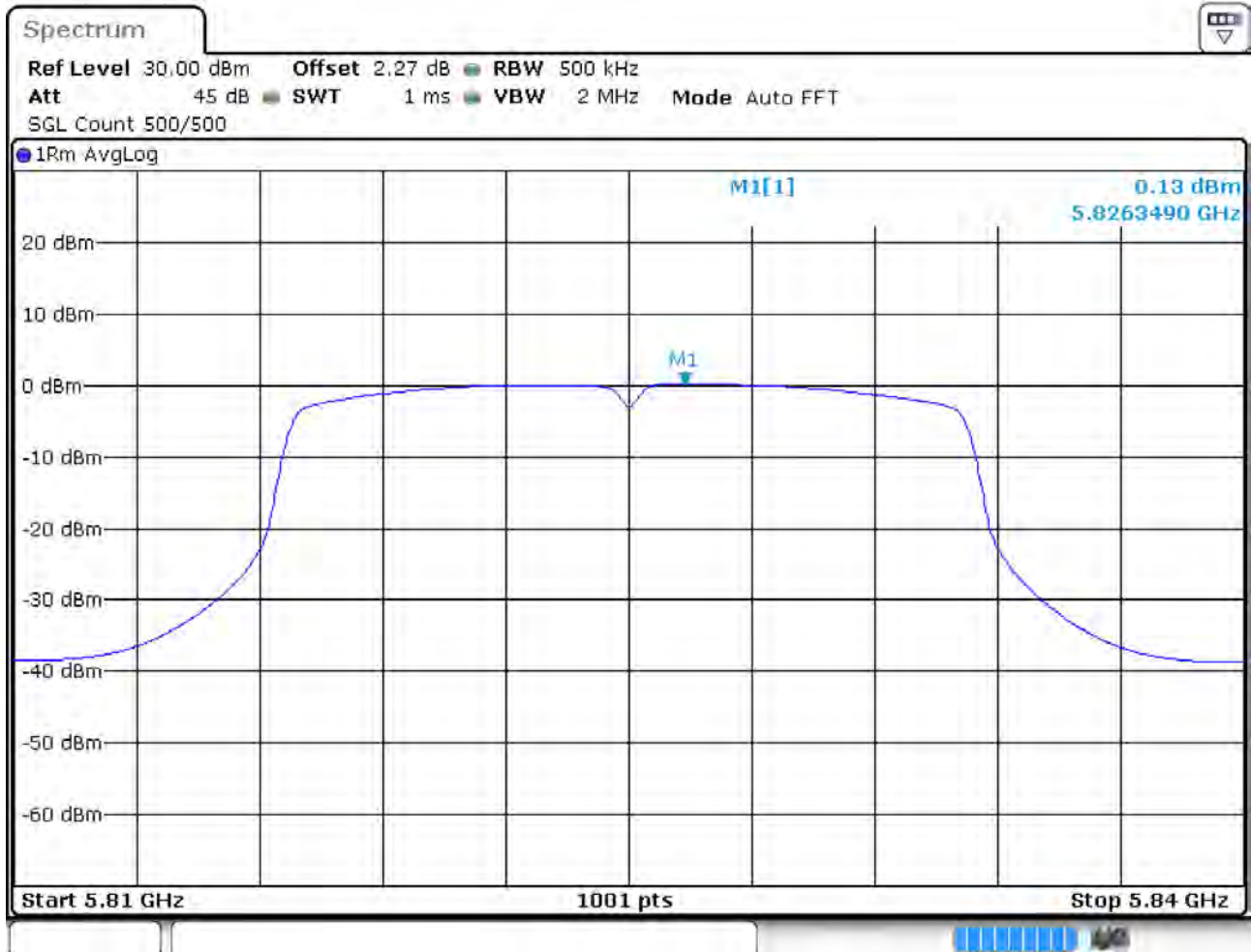


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4.8.2.6 11A20_165 ANT 1



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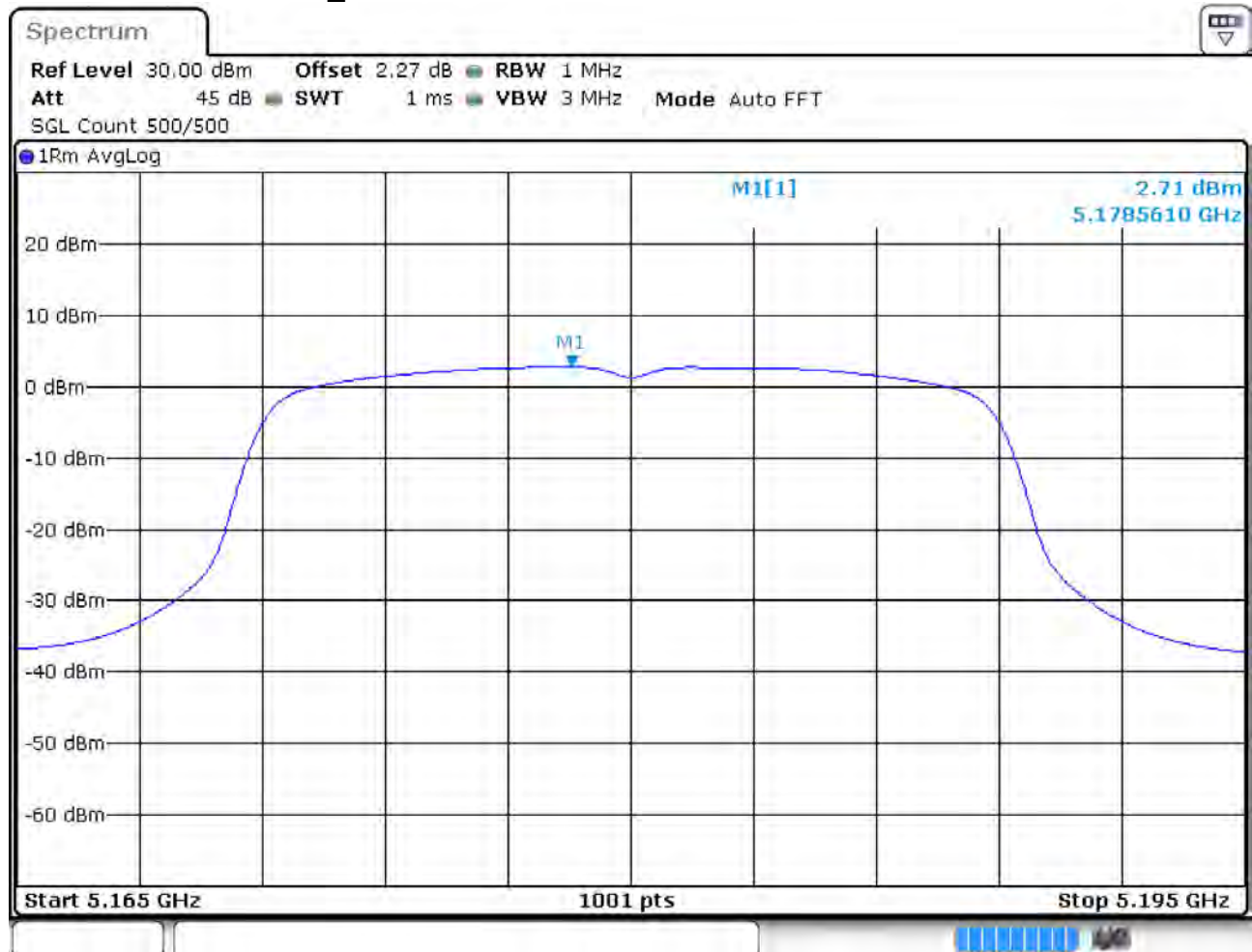
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4.8.2.7

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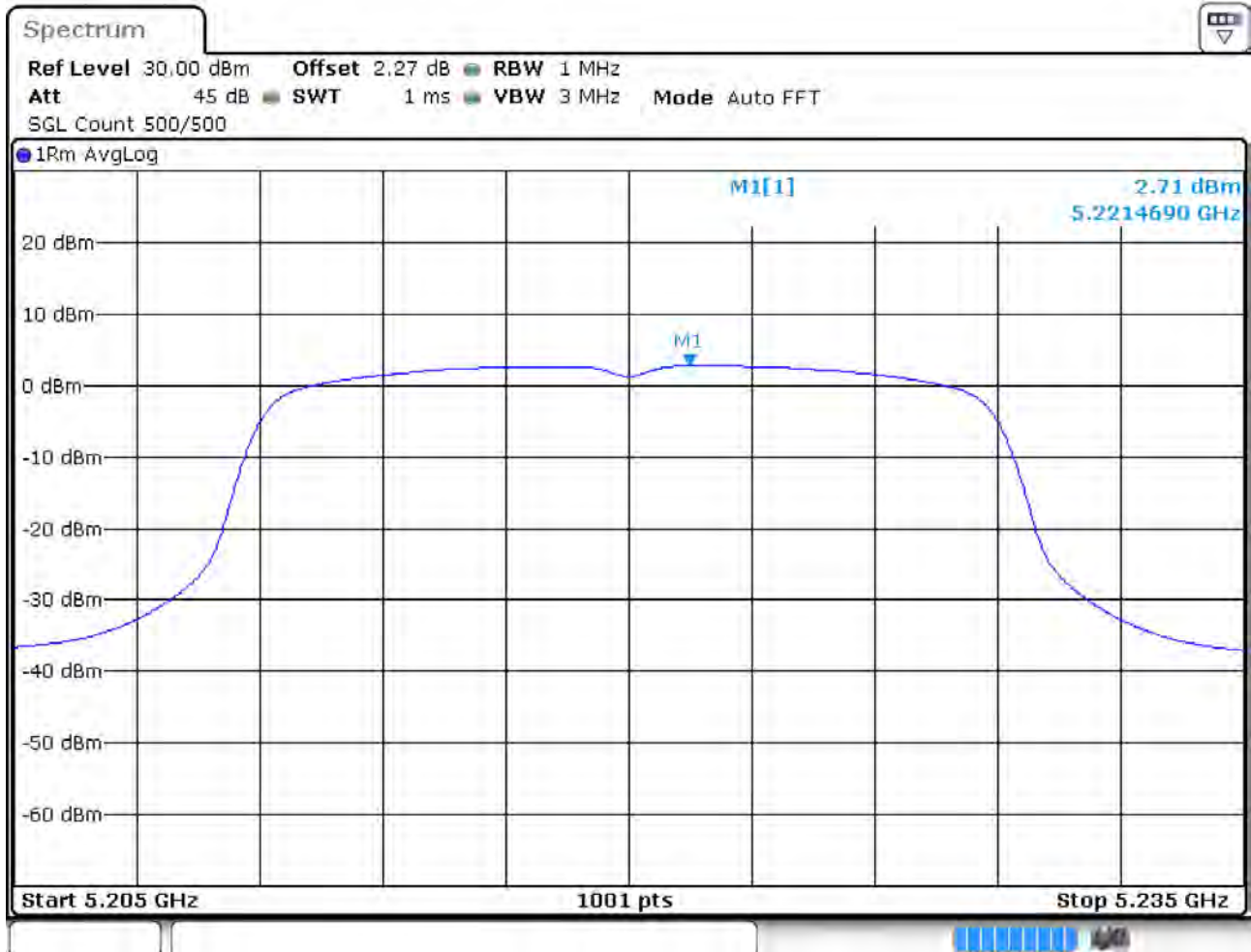


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4.8.2.8 11N20_44 ANT 1



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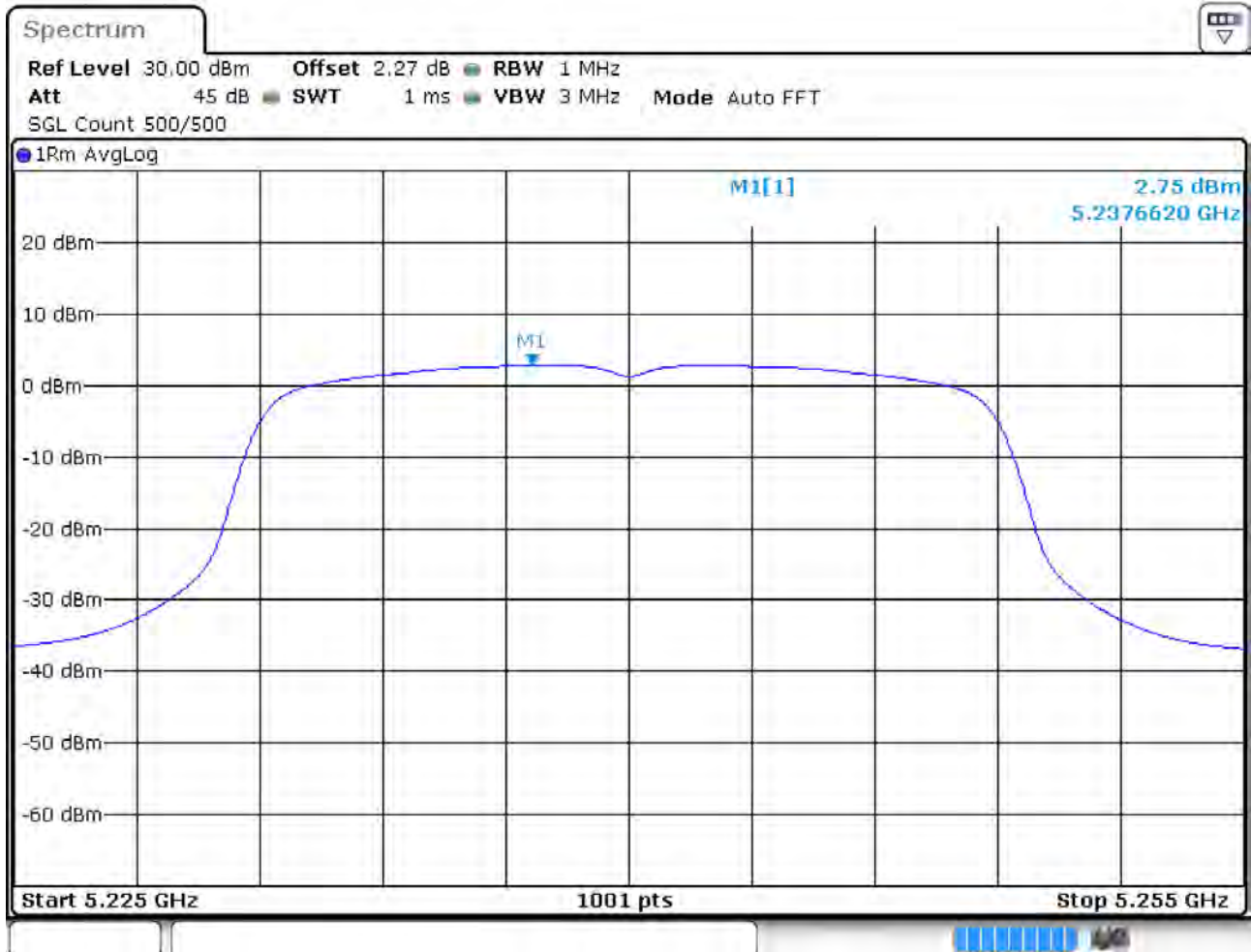


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4.8.2.9 11N20_48 ANT 1



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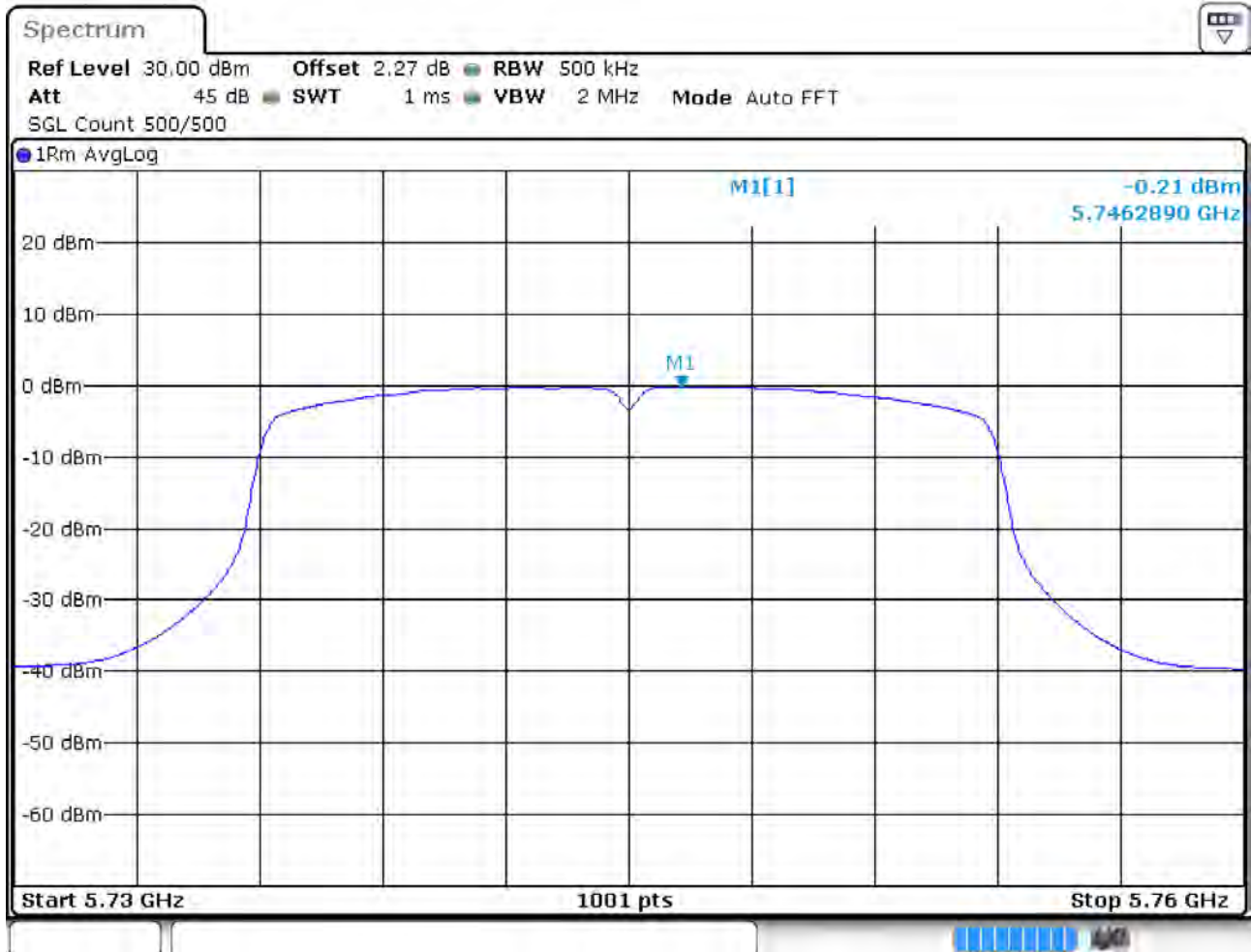


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4.8.2.10 11N20_149 ANT 1



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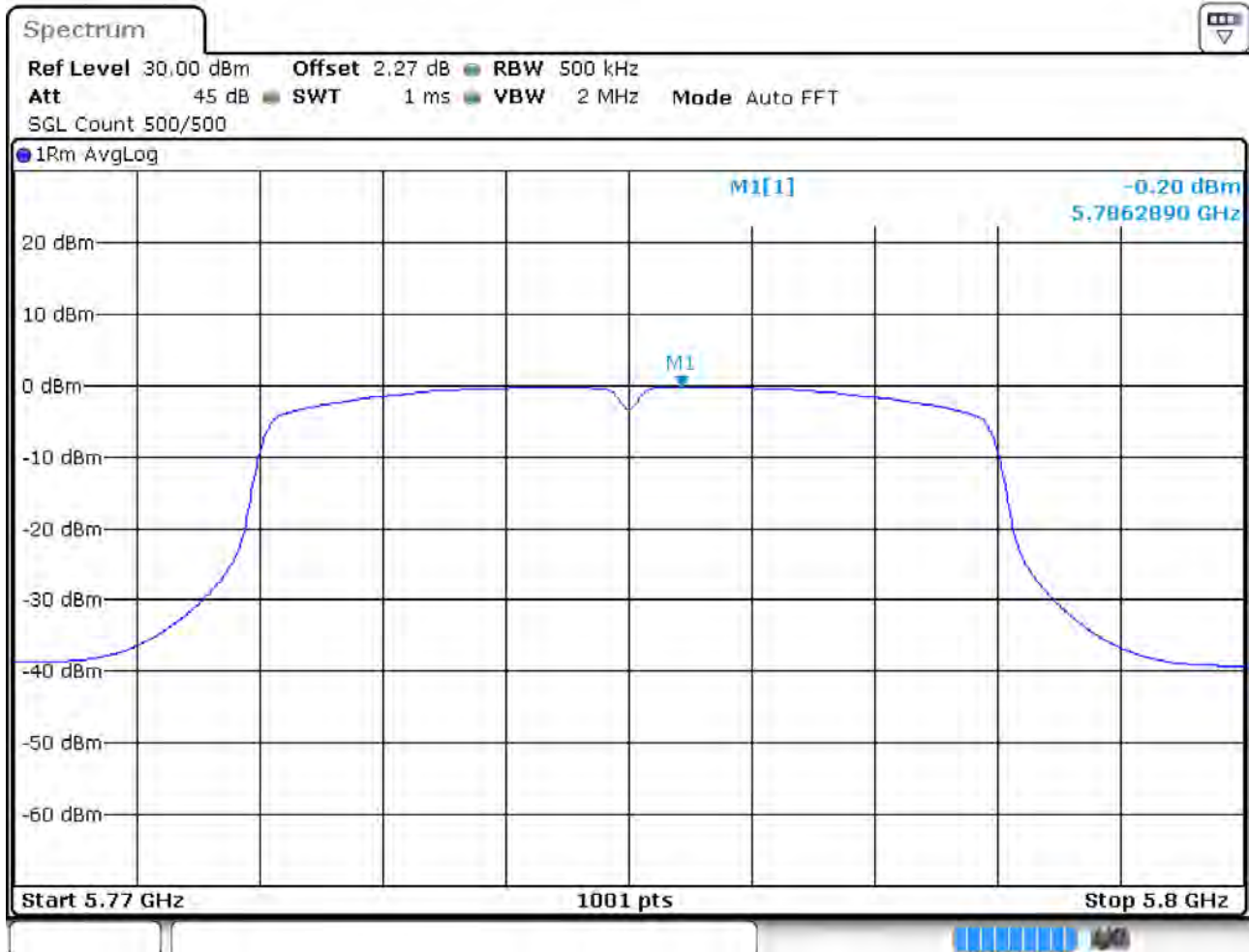


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4.8.2.11 11N20_157 ANT 1



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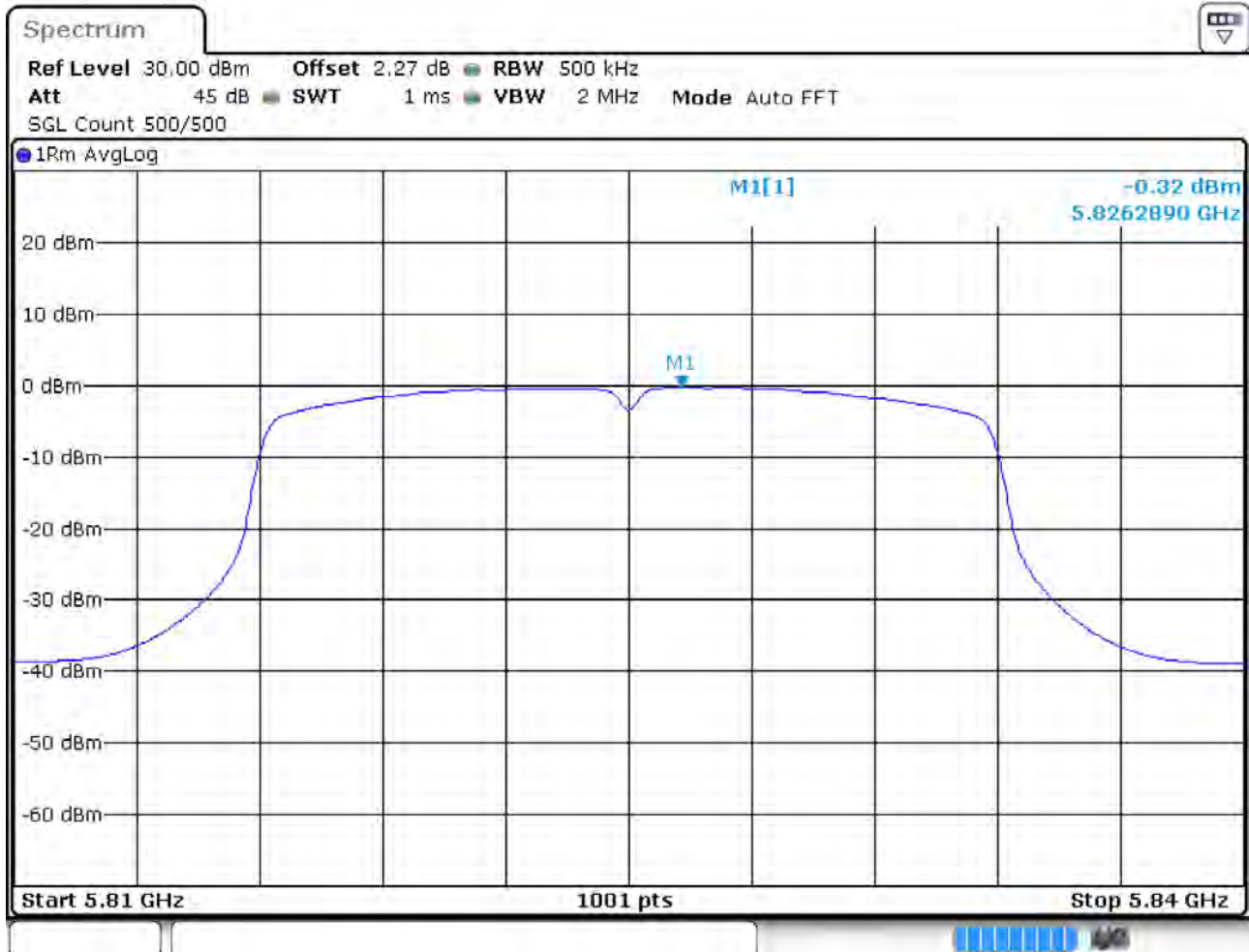


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4.8.2.12 11N20_165 ANT 1



Date: 29 SEP.2020 10:39:13



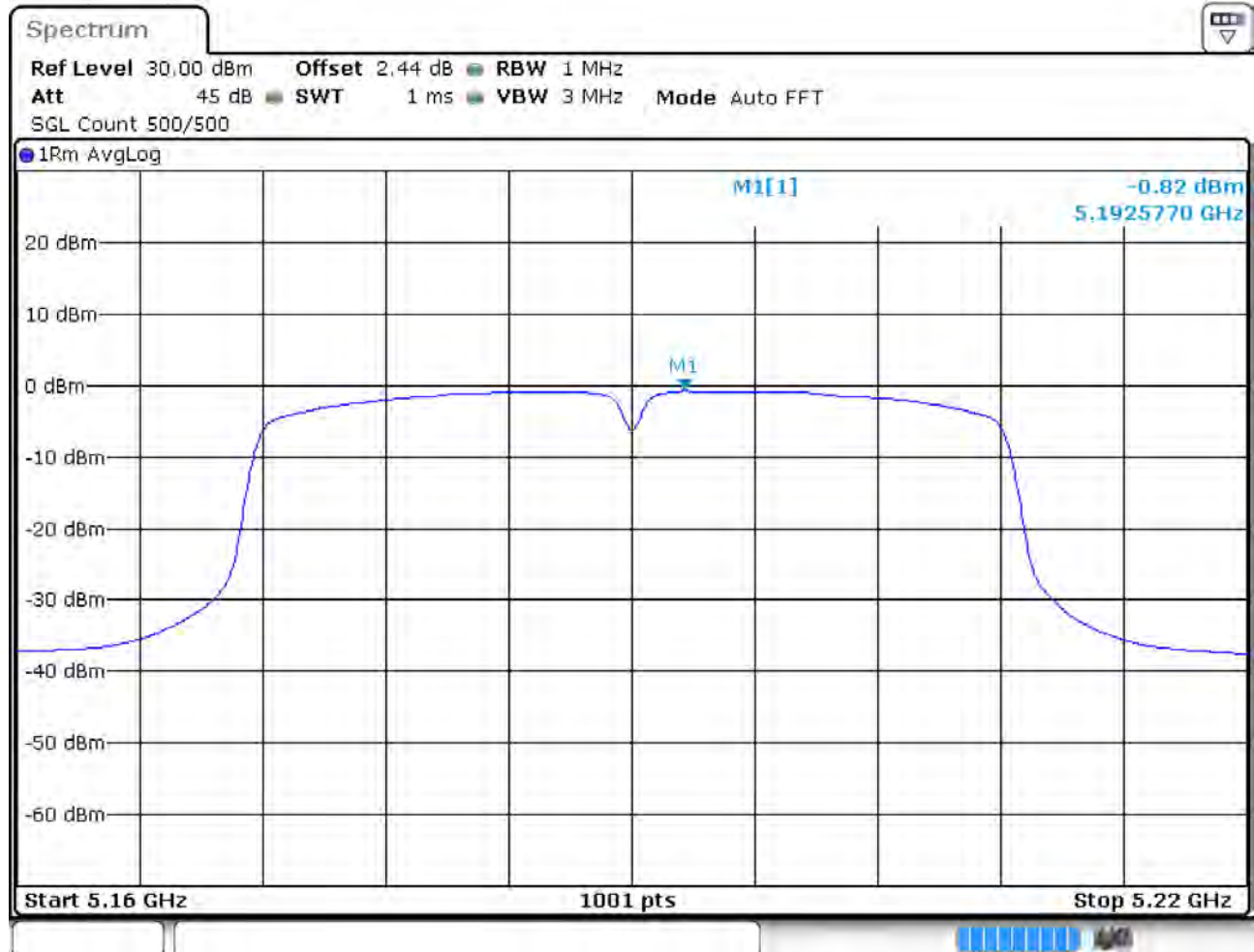
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4.8.2.13

11N40_38 ANT 1



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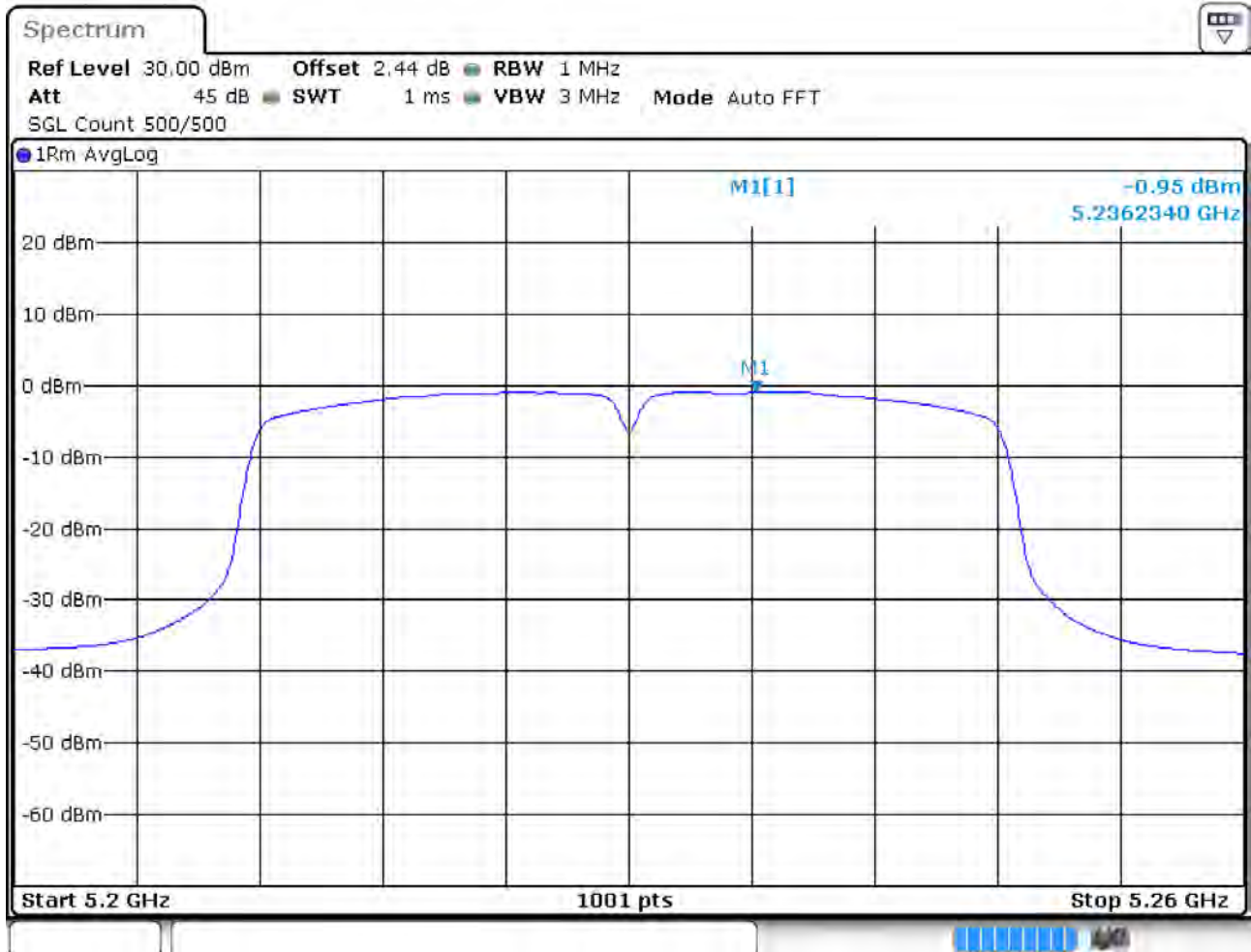
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4.8.2.14

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Date: 29 SEP.2020 10:43:34

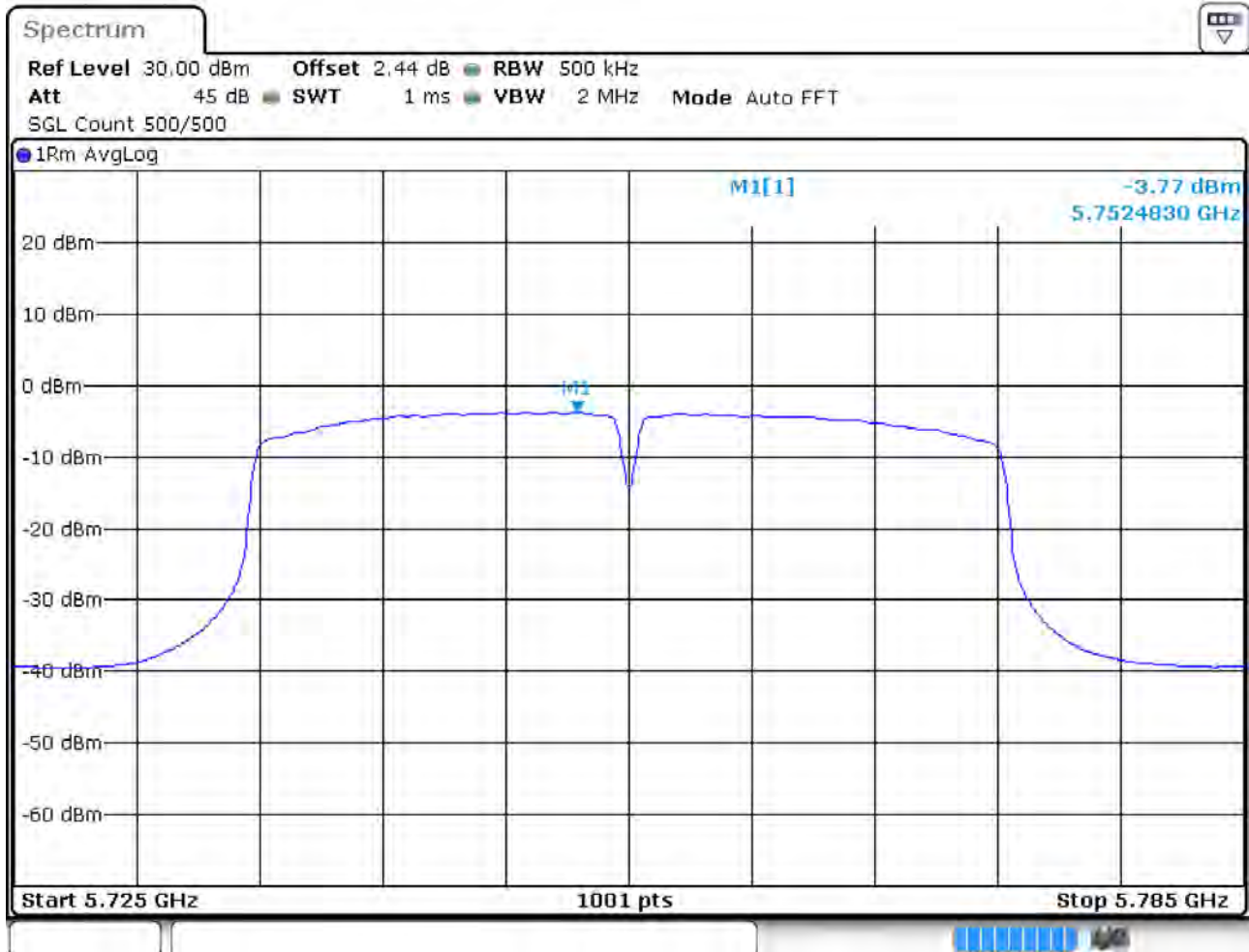


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4.8.2.15 11N40_151 ANT 1



Date: 29 SEP.2020 10:45:25



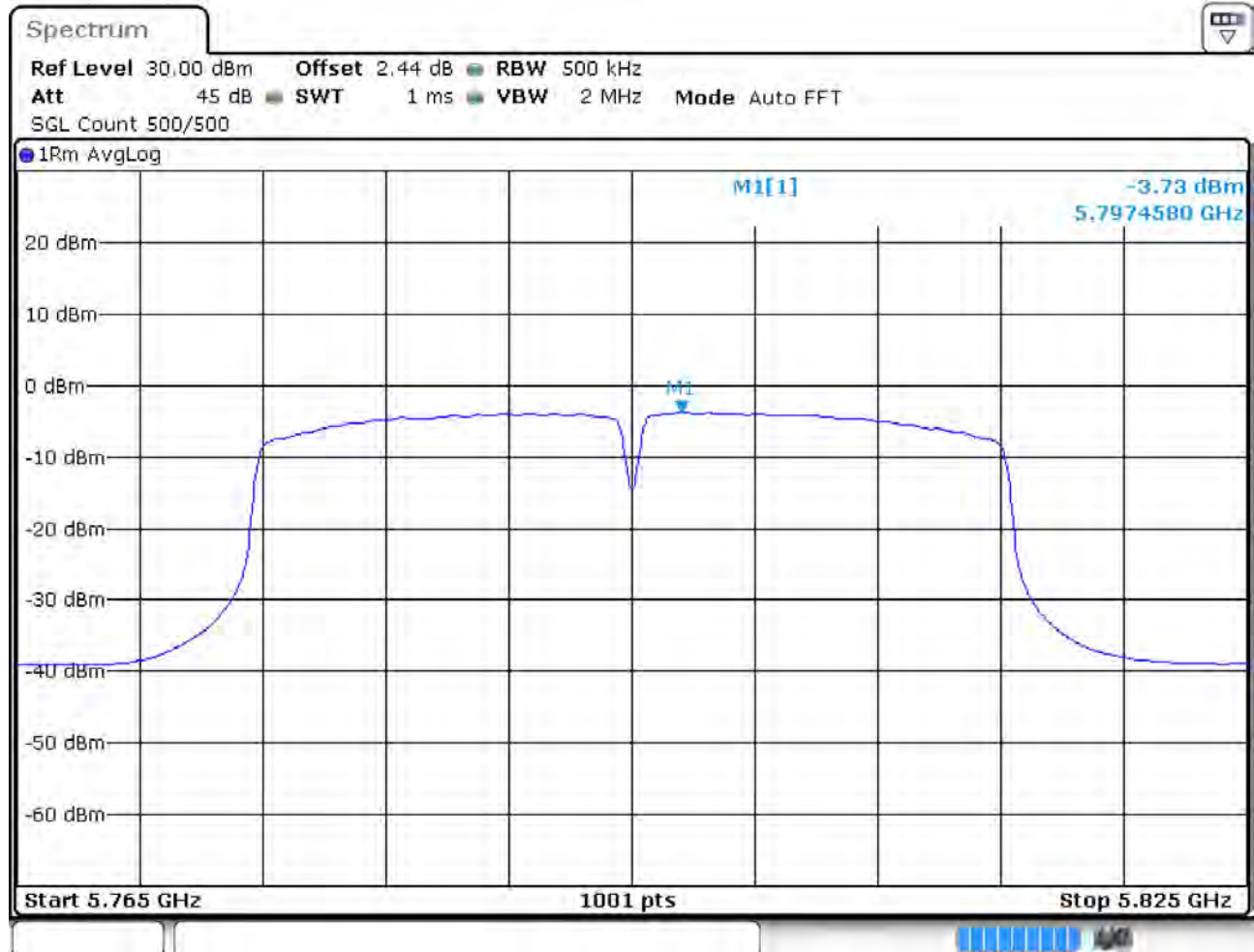
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4.8.2.16

11N40_159 ANT 1



Date: 29 SEP. 2020 10:47:03

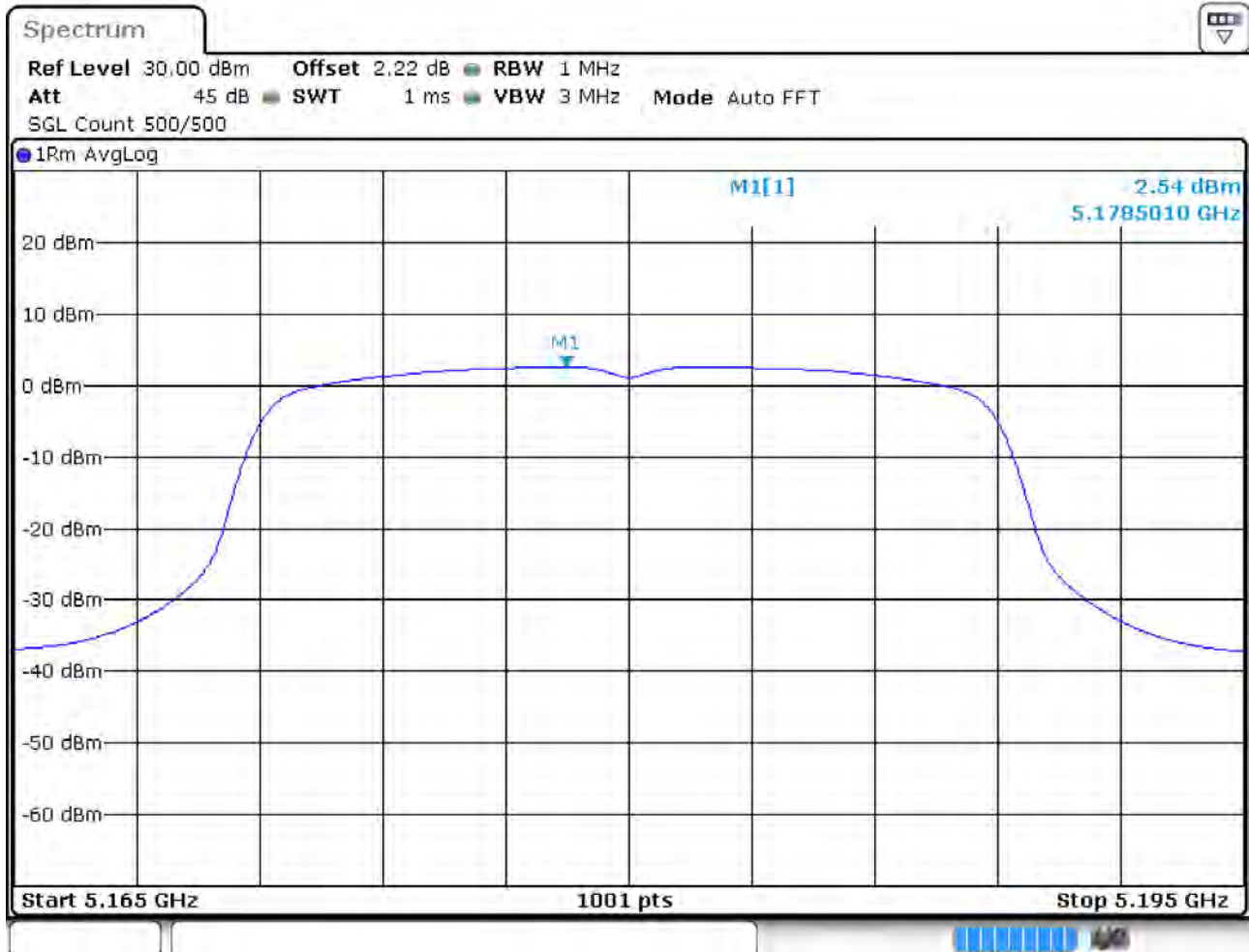


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4.8.2.17 11AC20_36 ANT 1



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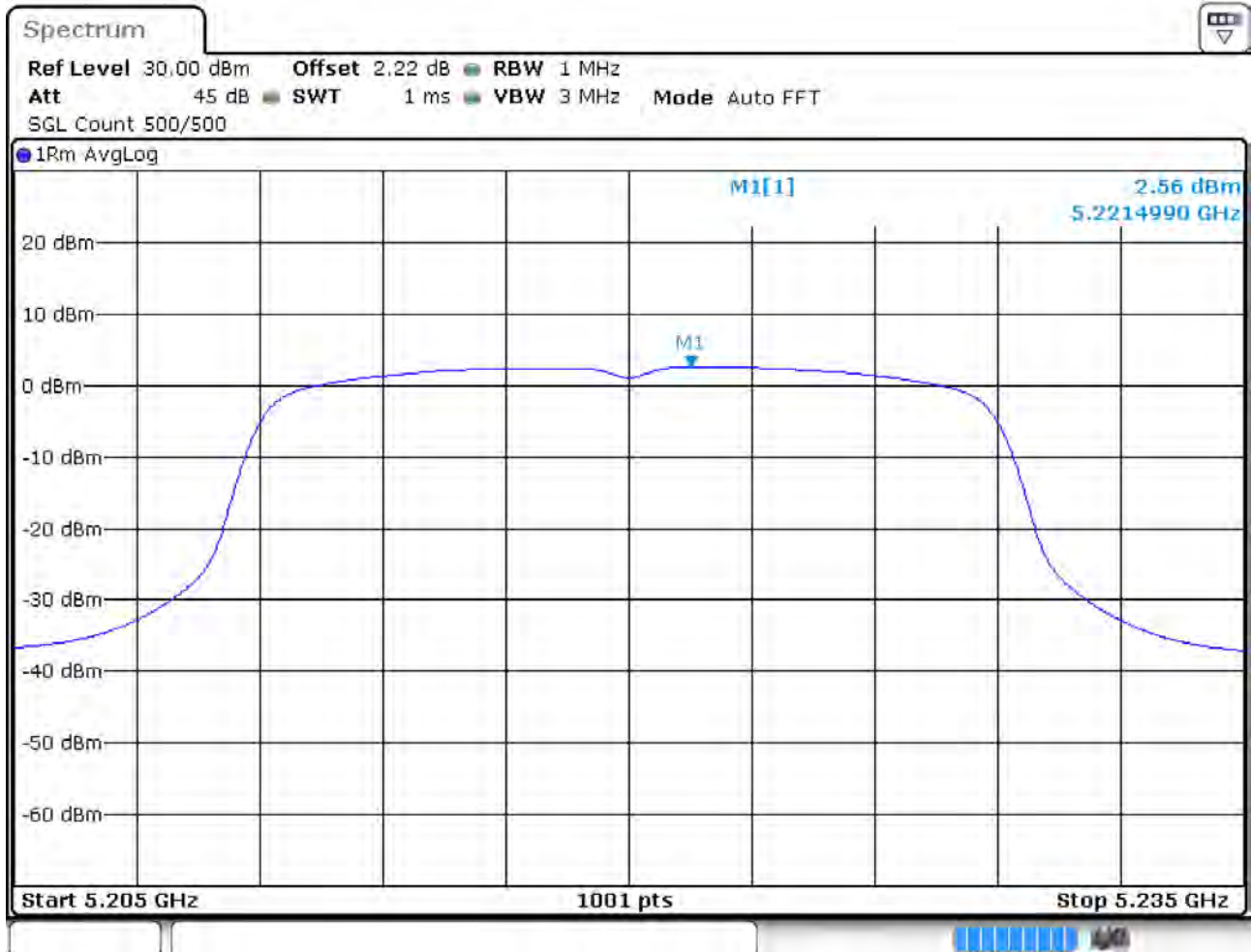
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4.8.2.18 11AC20_44 ANT 1



Date: 29 SEP. 2020 10:51:02

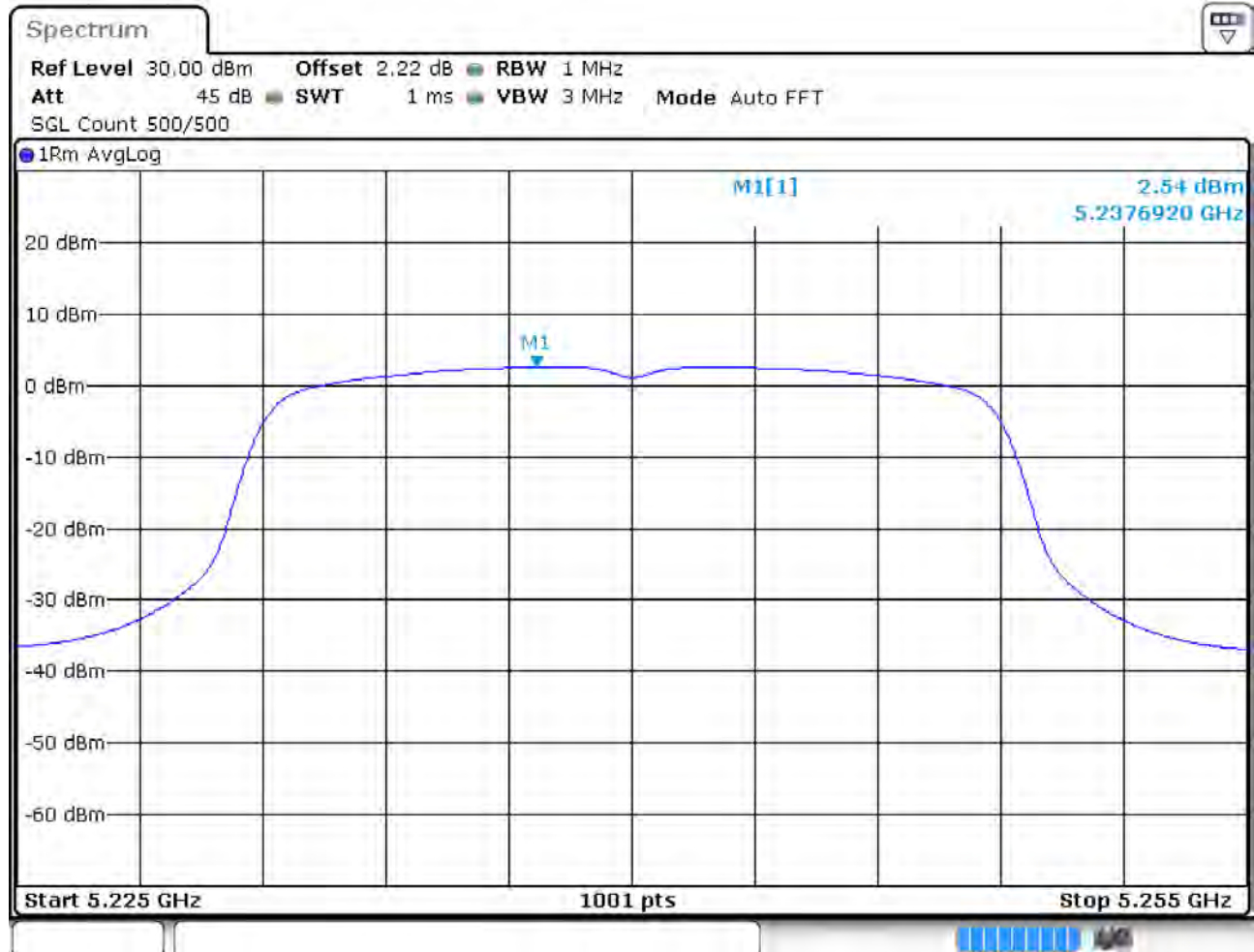


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4.8.2.19 11AC20_48 ANT 1



Date: 29 SEP. 2020 10:52:33

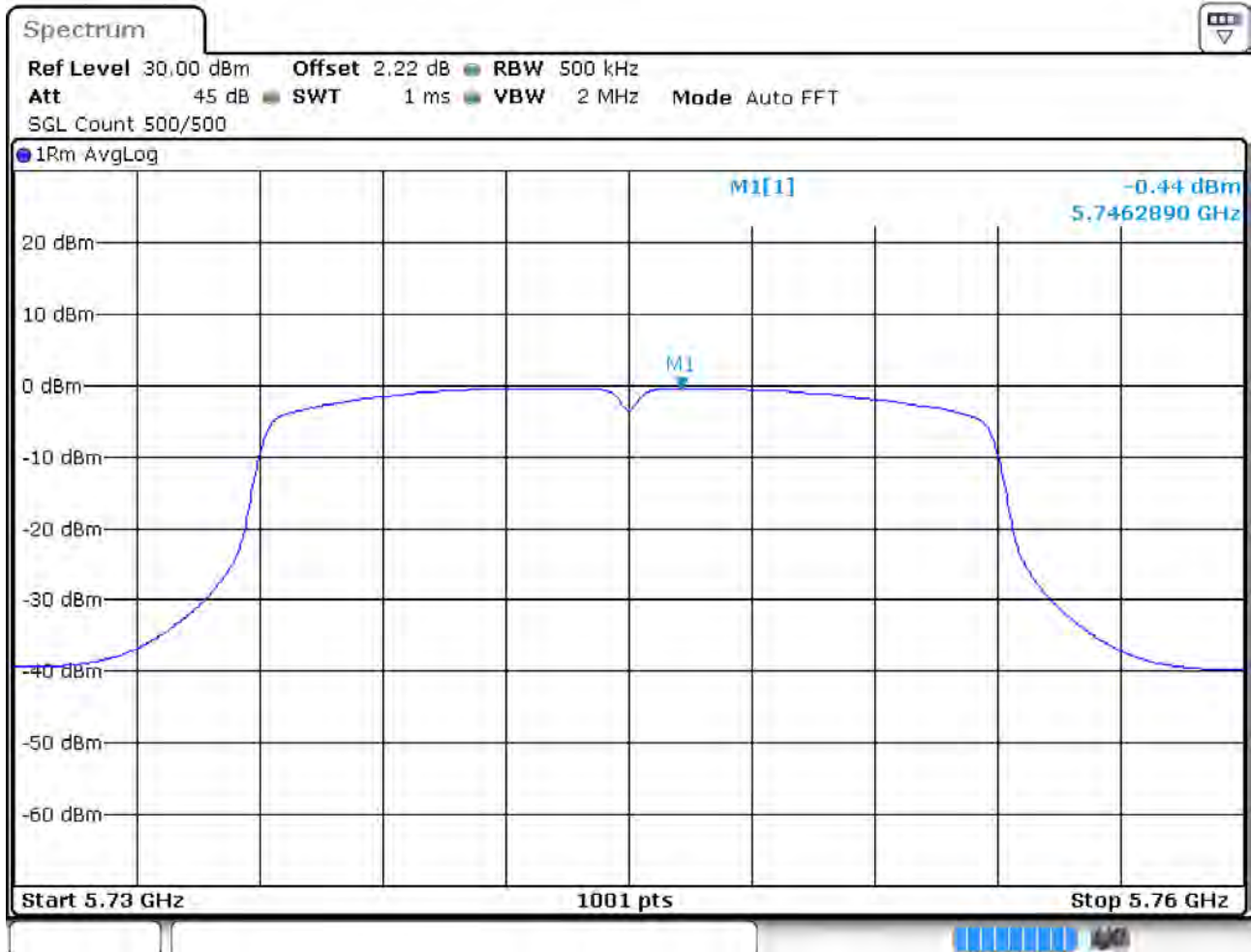


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4.8.2.20 11AC20_149 ANT 1



Date: 29.SEP.2020 10:54:23

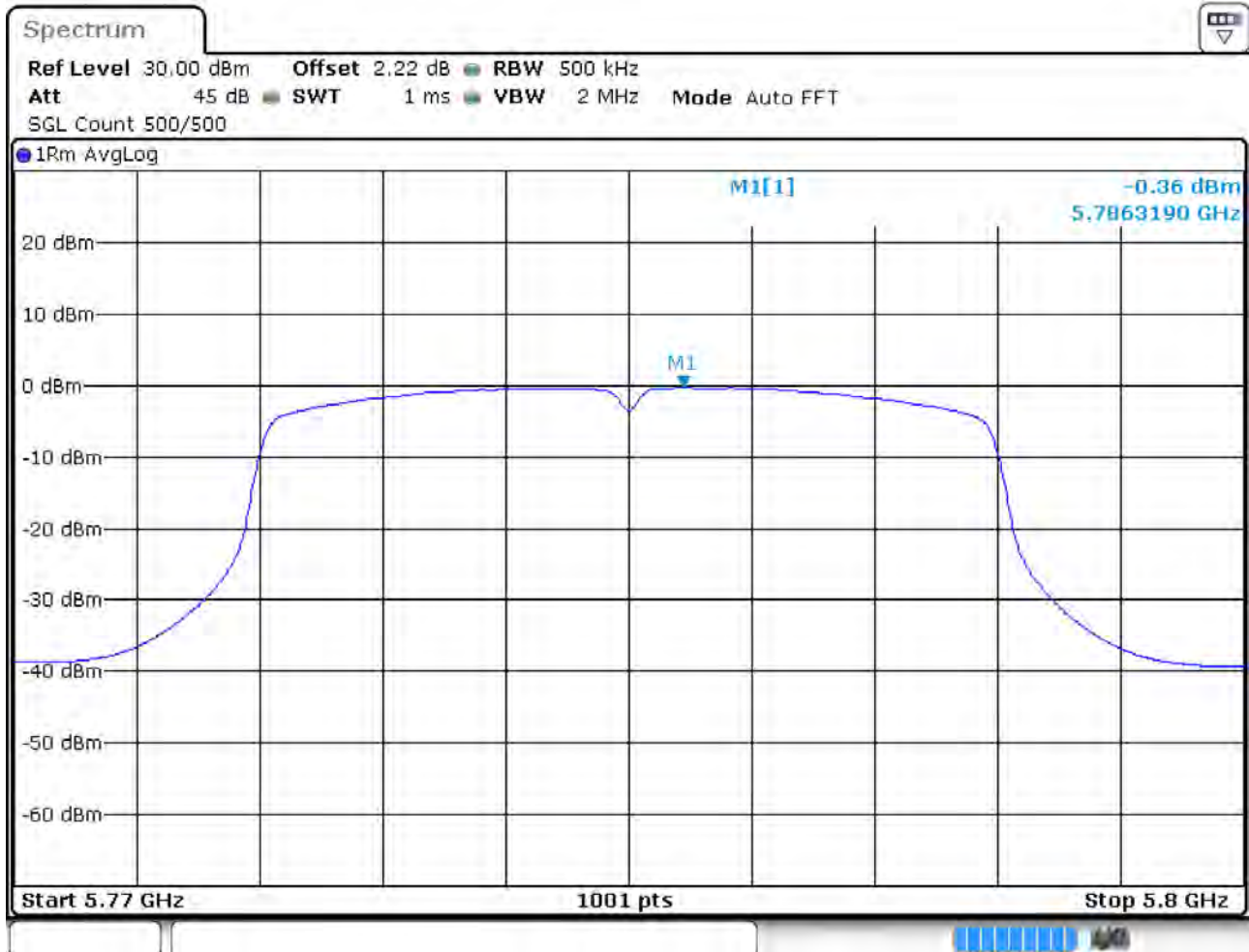


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4.8.2.21 11AC20_157 ANT 1



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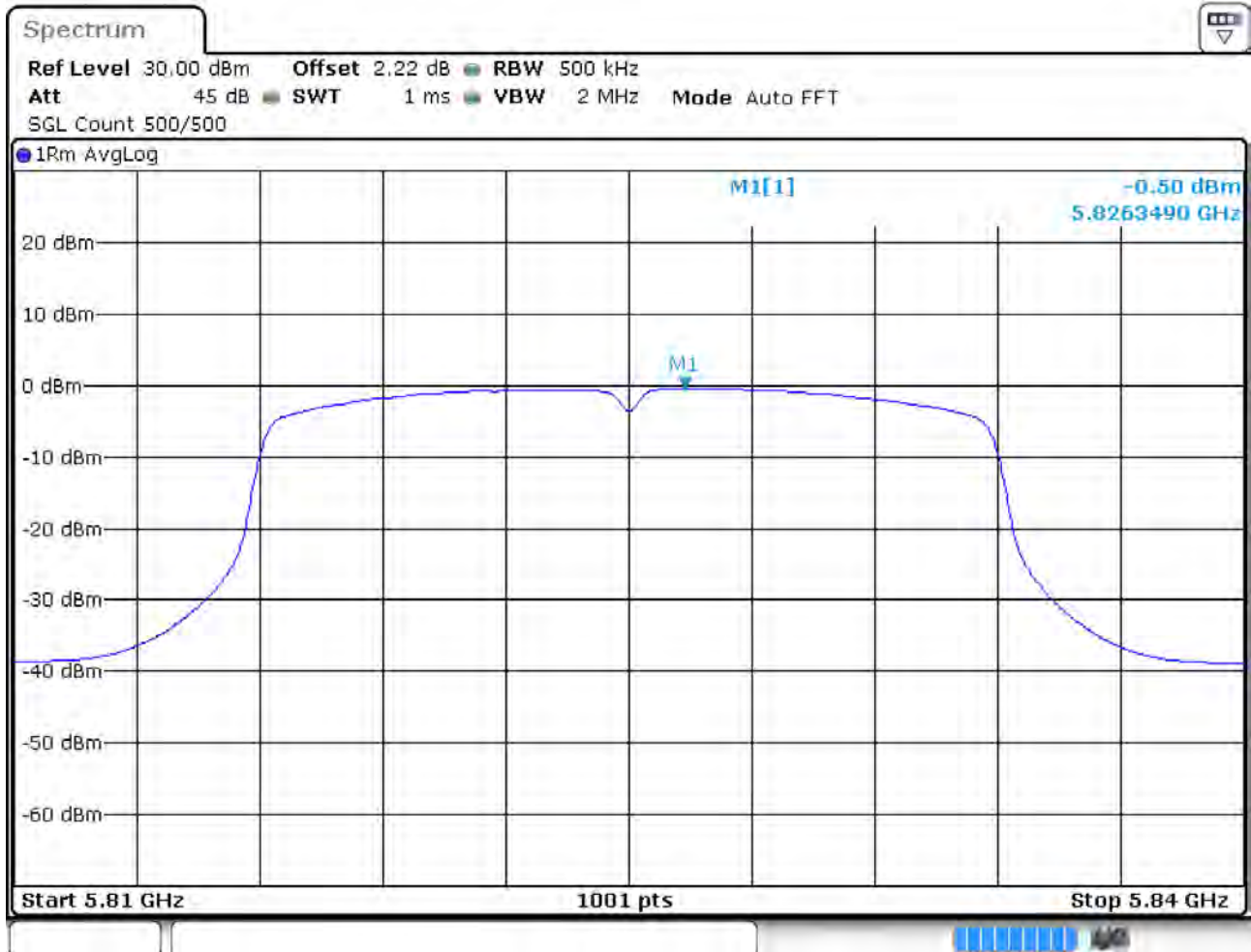


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4.8.2.22 11AC20_165 ANT 1



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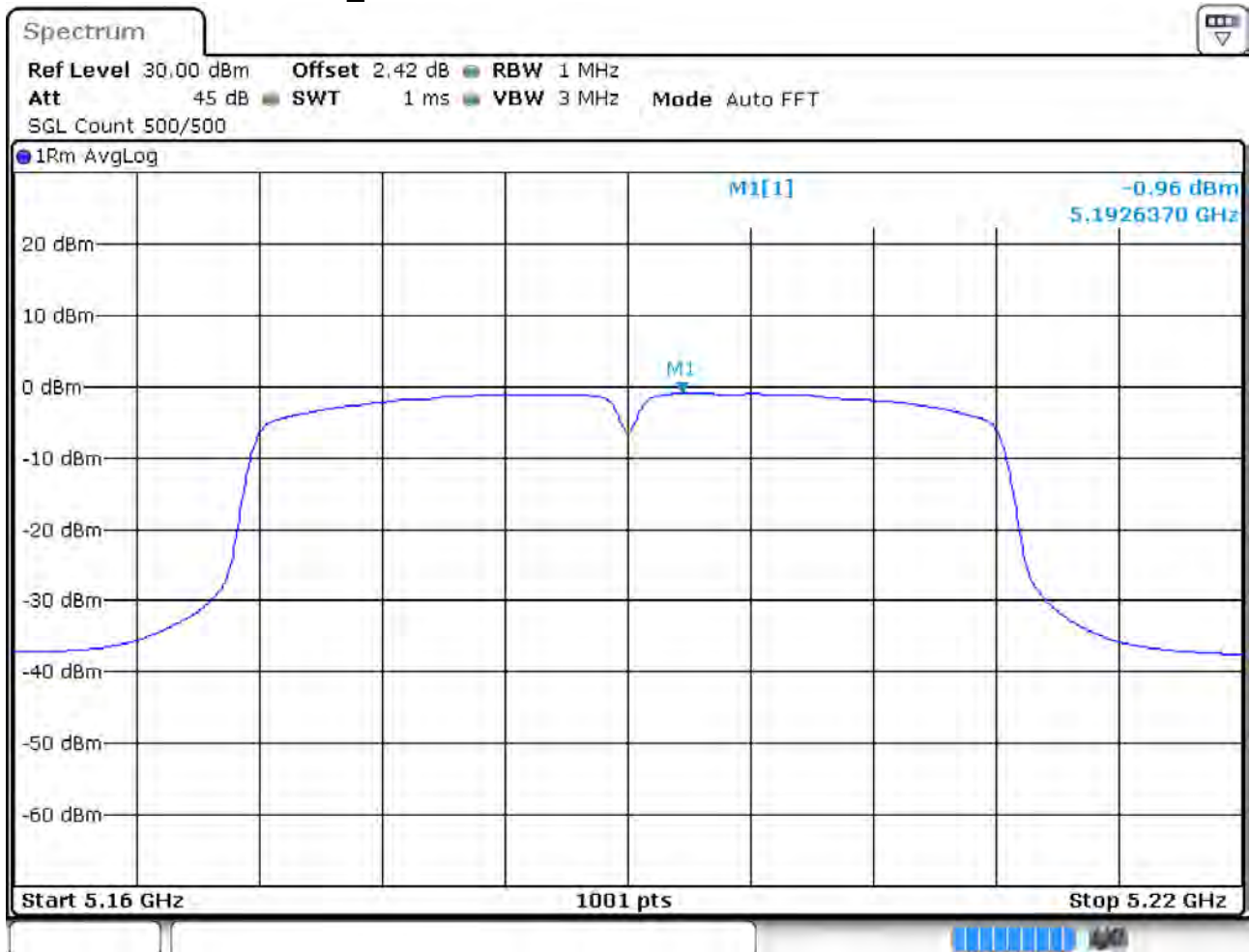
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11AC40_38 ANT 1



Date: 29 SEP. 2020 10:59:42

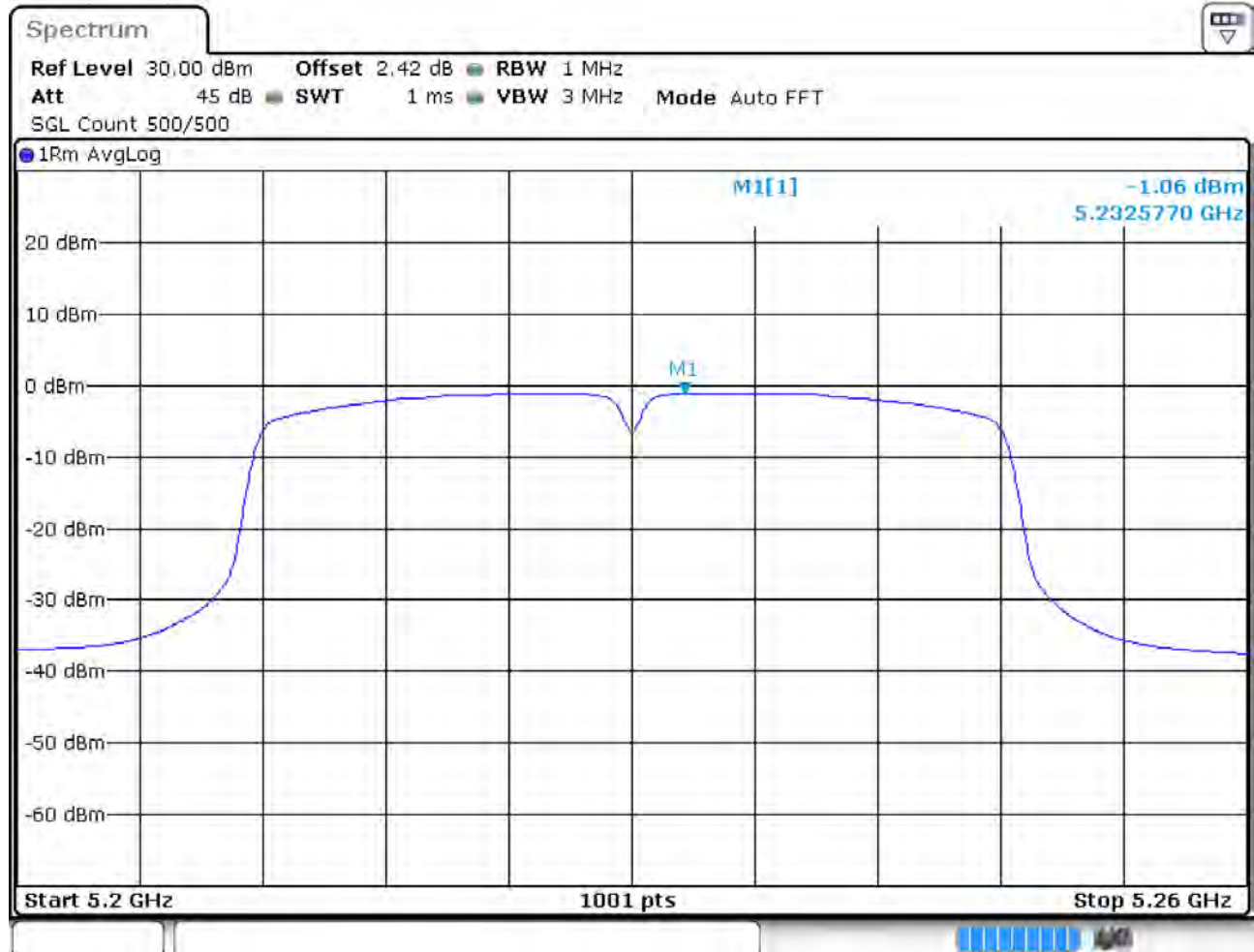


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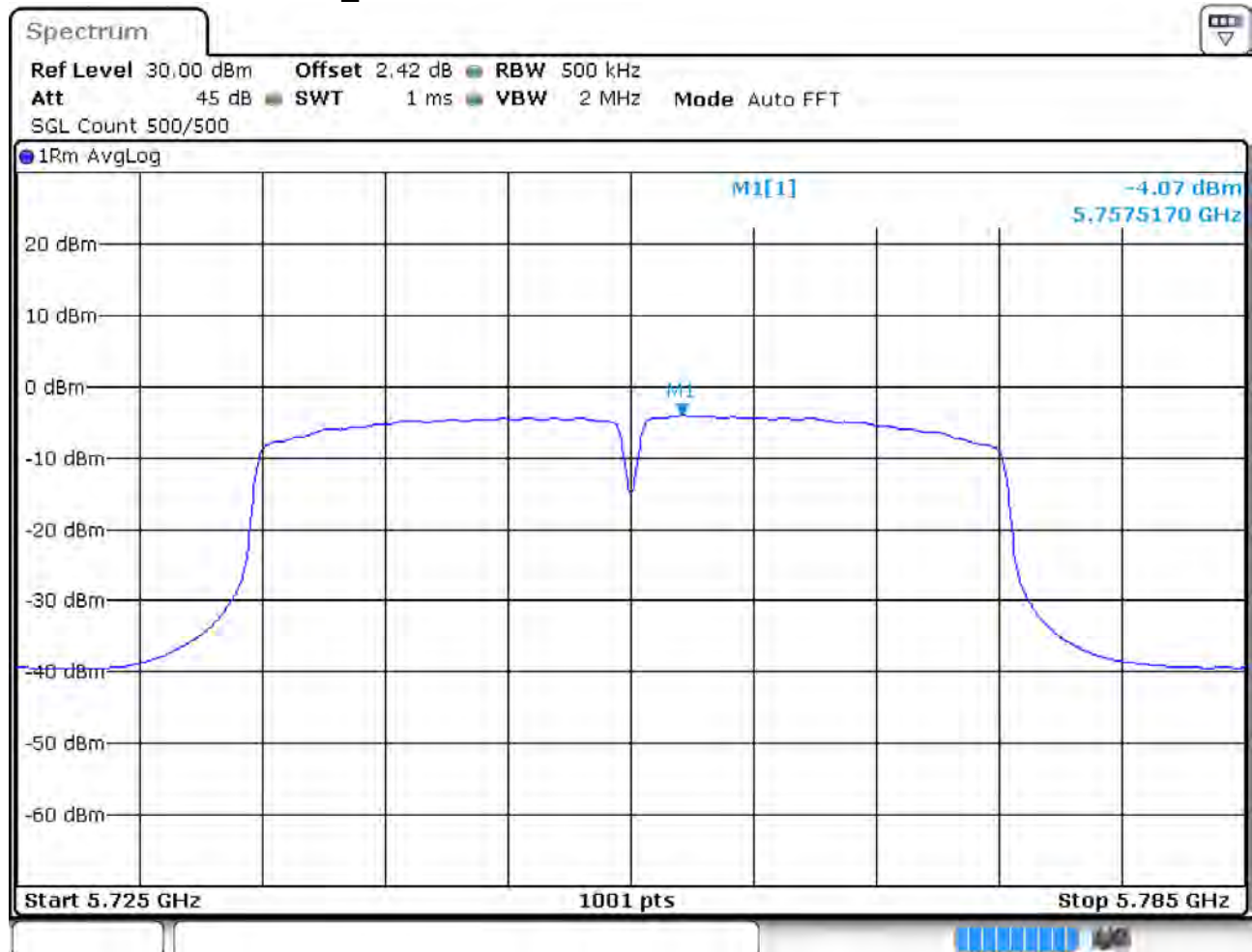


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4.8.2.25 11AC40_151 ANT 1



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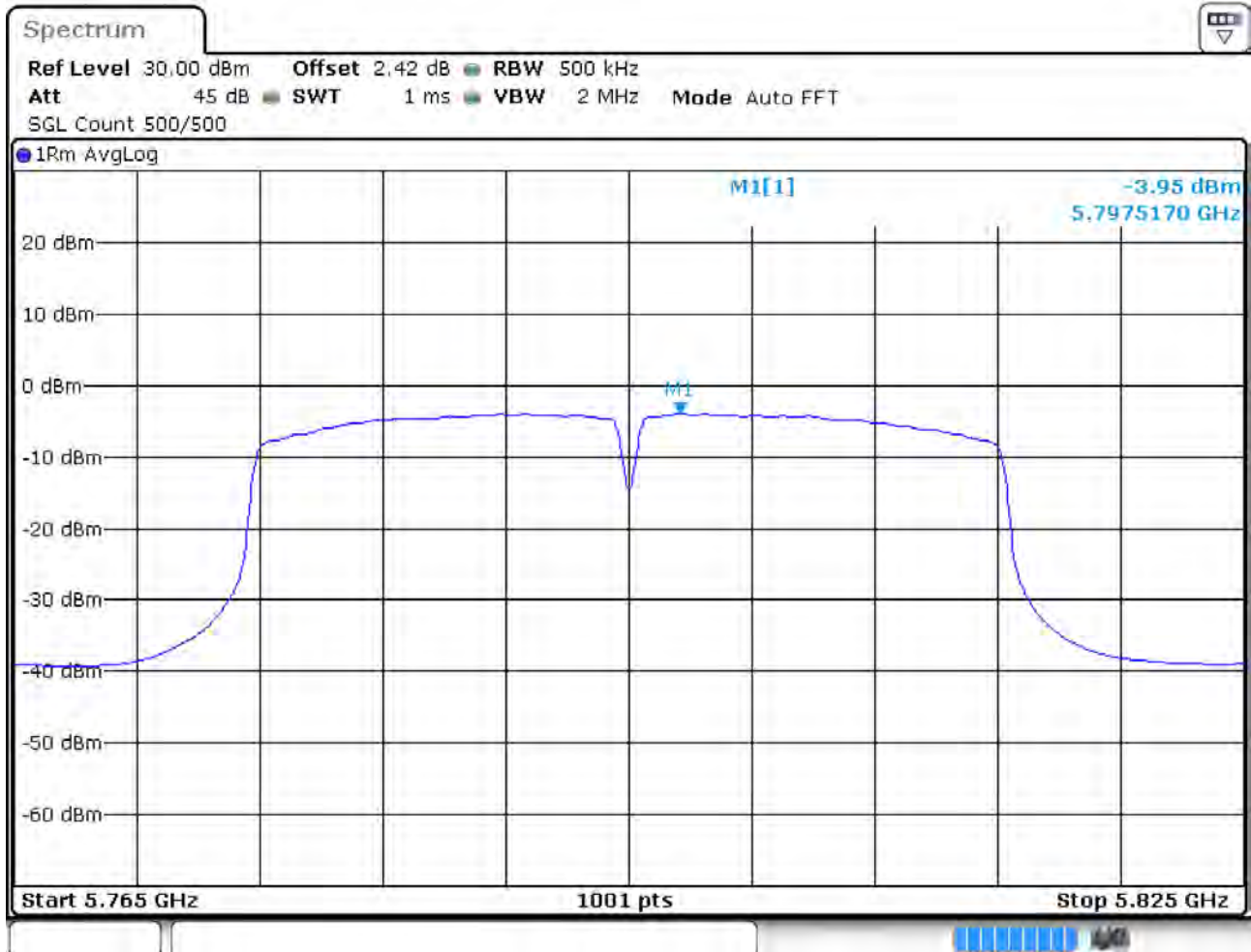


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4.8.2.26 11AC40_159 ANT 1



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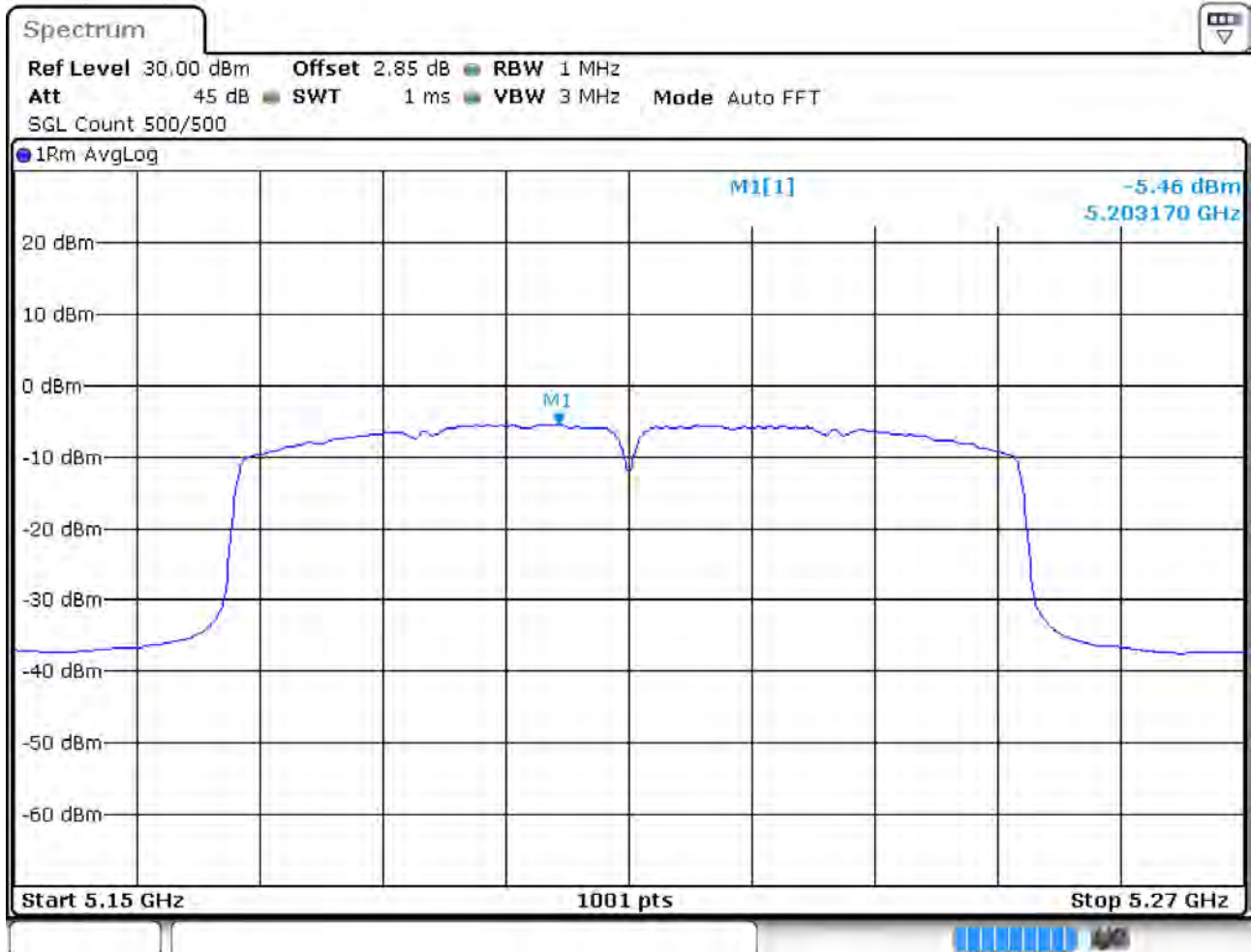


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4.8.2.27 11AC80_42 ANT 1



Date: 29 SEP.2020 11:07:48

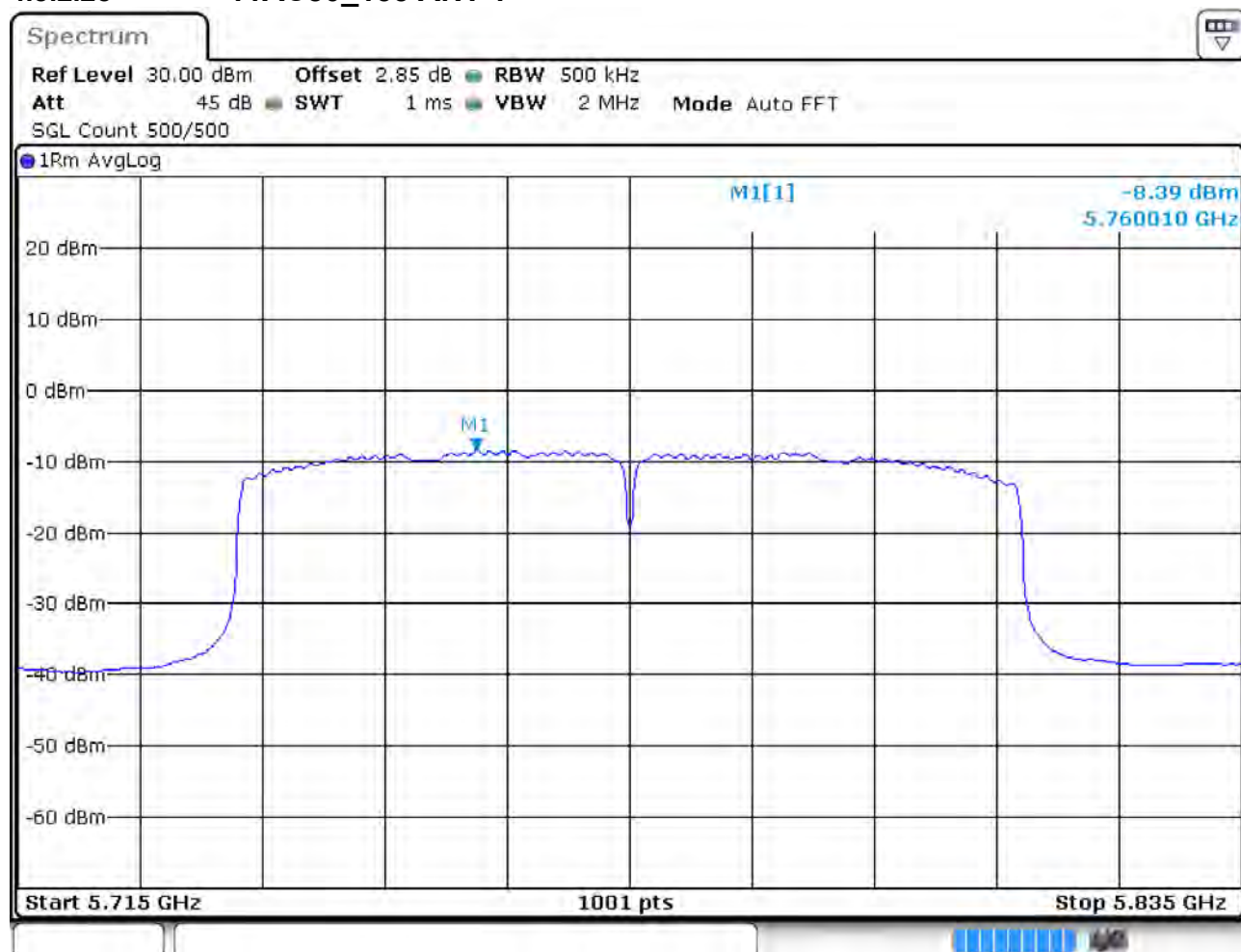


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4.8.2.28 11AC80_155 ANT 1



Date: 29.SEP.2020 11:10:58



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4.9 Radiated Spurious Emissions

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

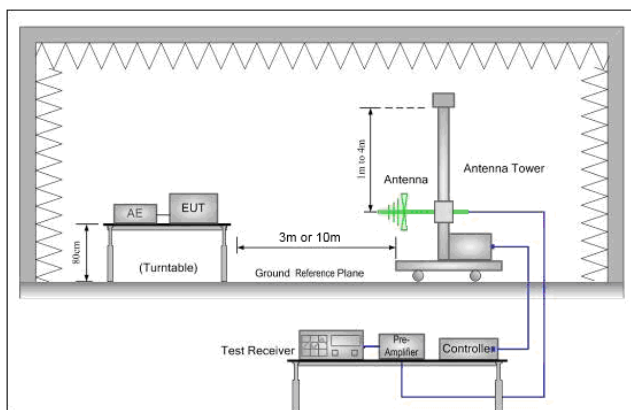


Figure 1. 30MHz to 1GHz

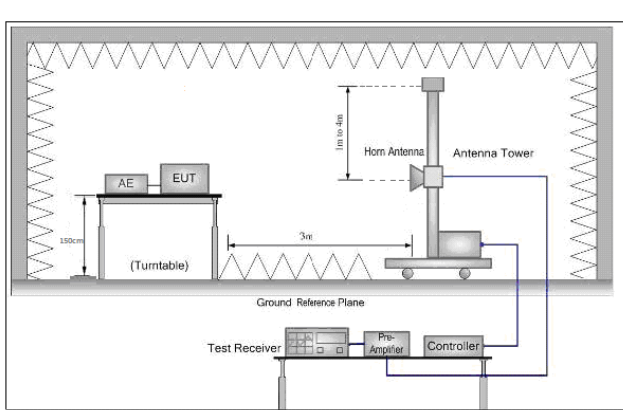


Figure 2. Above 1 GHz

Test Procedure:	a. For below 1GHz test, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz test, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Test the EUT in the outermost channels. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
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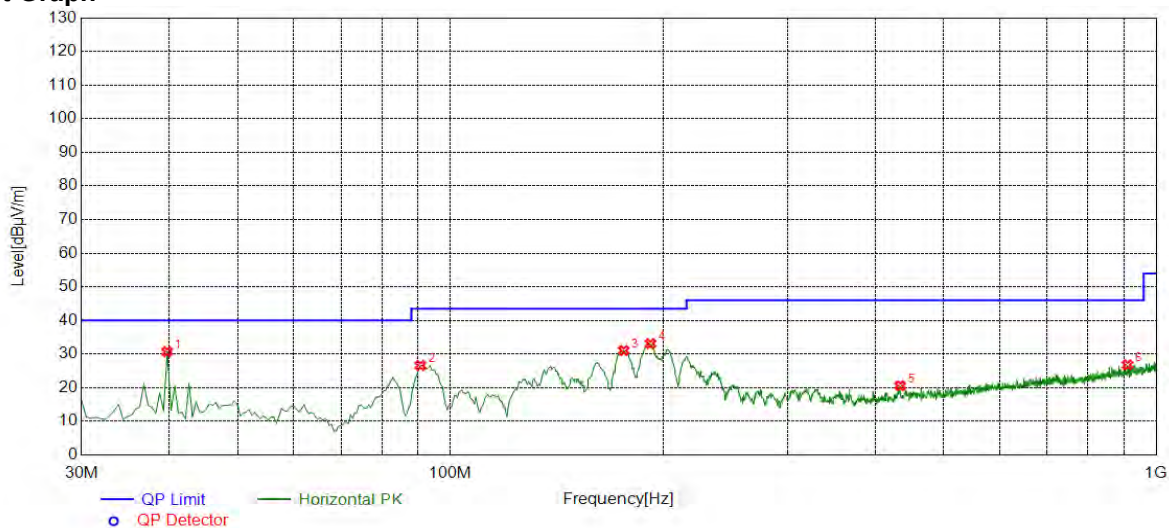


	i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; MCS0 of rate is the worst case of 802.11n(HT20); MCS0 of rate is the worst case of 802.11n(HT40); MCS0 of rate is the worst case of 802.11ac(HT20); MCS0 of rate is the worst case of 802.11ac(HT40); MCS0 of rate is the worst case of 802.11ac(HT80) For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



4.9.1 Radiated emission below 1GHz

Test Graph



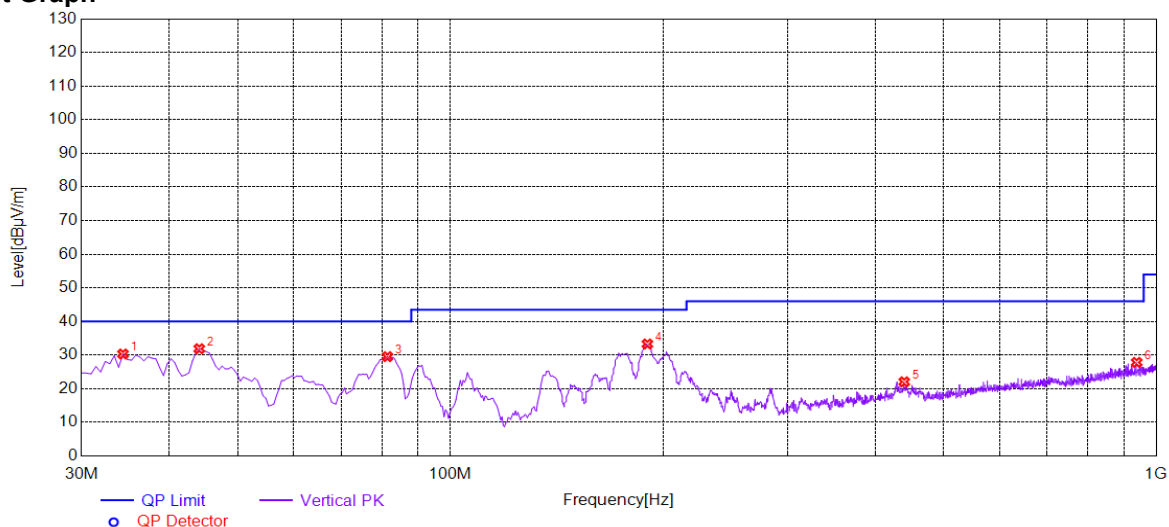
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	39.7049	30.73	-28.44	40.00	9.27	100	346	Horizontal
2	90.6553	26.63	-33.60	43.50	16.87	100	4	Horizontal
3	176.058	31.06	-33.59	43.50	12.44	100	72	Horizontal
4	192.071	33.12	-32.03	43.50	10.38	100	272	Horizontal
5	433.721	20.61	-24.74	46.00	25.39	100	224	Horizontal
6	910.715	26.81	-15.91	46.00	19.19	100	197	Horizontal

Final Data List



Test Graph



Suspected List

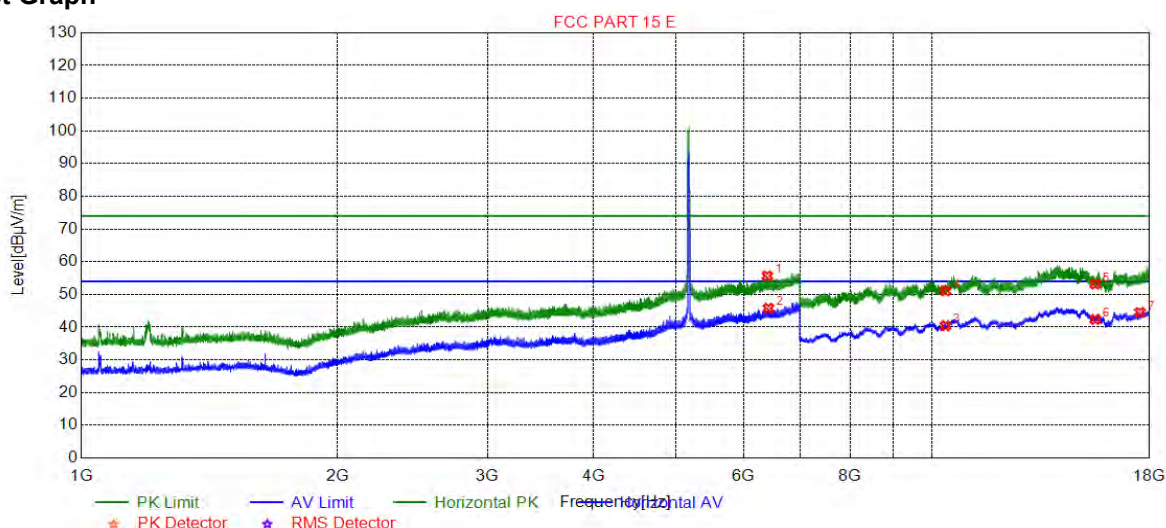
Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	34.3672	30.34	-29.98	40.00	9.66	100	83	Vertical
2	44.0720	31.90	-30.04	40.00	8.10	100	312	Vertical
3	81.4357	29.56	-35.80	40.00	10.44	100	258	Vertical
4	190.130	33.32	-32.24	43.50	10.18	100	168	Vertical
5	439.544	22.07	-24.55	46.00	23.93	100	163	Vertical
6	938.374	27.85	-15.61	46.00	18.15	100	327	Vertical

Final Data List



4.9.2 Transmitter emission above 1GHz
4.9.2.1 802.11A_Channel 36

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6398.16	55.71	19.37	74.00	18.29	150	0	Horizontal
2	6417.97	45.78	19.42	54.00	8.22	150	240	Horizontal
3	10360.0	40.45	-3.63	54.00	13.55	150	342	Horizontal
4	10360.0	51.11	-3.63	74.00	22.89	150	342	Horizontal
5	15540.0	53.17	0.46	74.00	20.83	150	42	Horizontal
6	15540.0	42.37	0.46	54.00	11.63	150	0	Horizontal
7	17527.5	44.53	-0.97	54.00	9.47	150	0	Horizontal

Final Data List

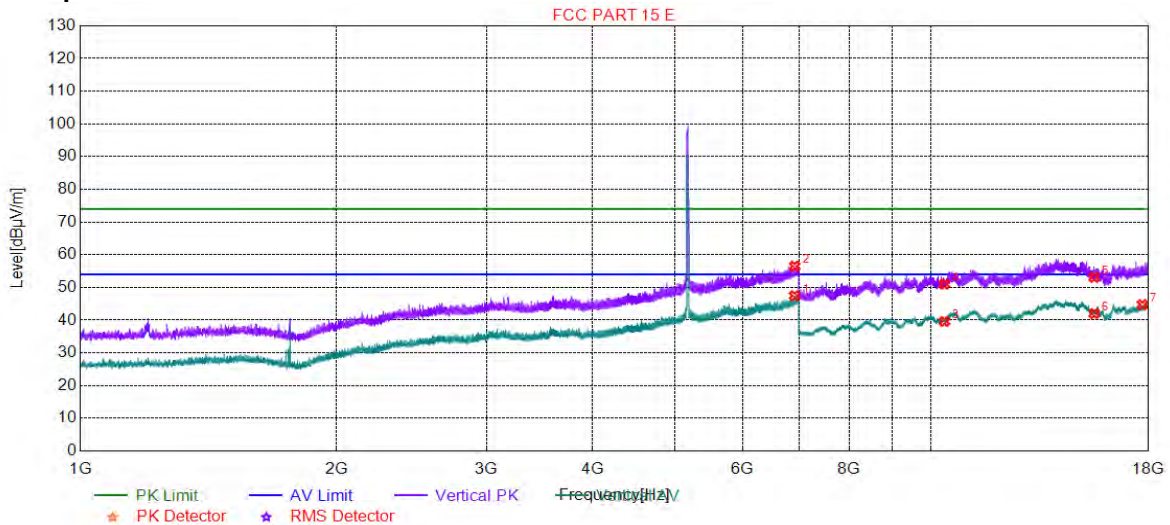


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4.9.2.2 802.11A_Channel 36

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6906.69	47.48	20.87	54.00	6.52	150	18	Vertical
2	6907.89	56.51	20.88	74.00	17.49	150	270	Vertical
3	10360.0	39.63	-3.63	54.00	14.37	150	18	Vertical
4	10360.0	51.02	-3.63	74.00	22.98	150	69	Vertical
5	15540.0	53.07	0.46	74.00	20.93	150	268	Vertical
6	15540.0	42.00	0.46	54.00	12.00	150	319	Vertical
7	17701.3	44.76	-0.67	54.00	9.24	150	360	Vertical

Final Data List

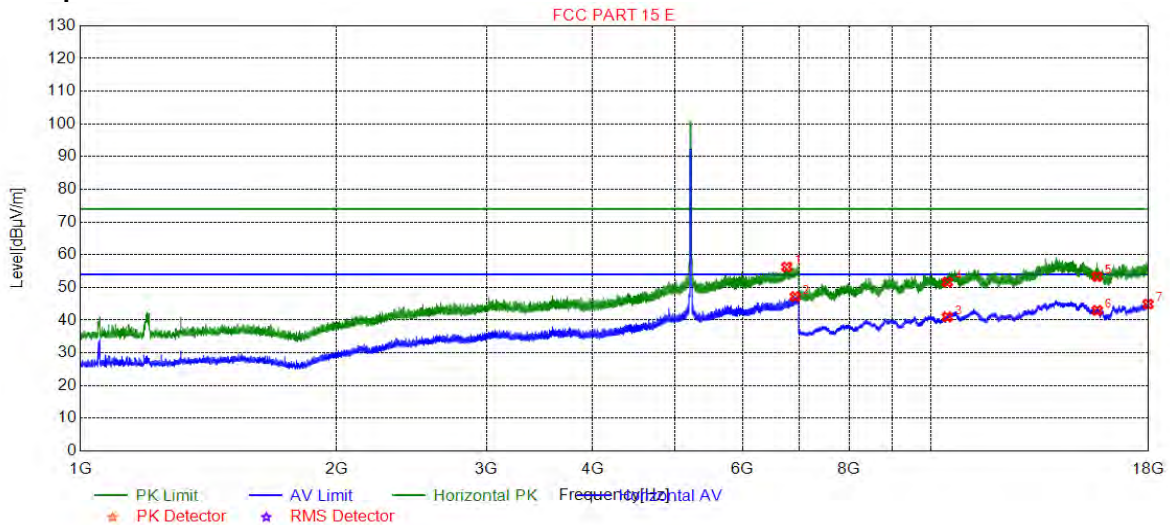


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4.9.2.3 802.11A_Channel 44

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6762.98	56.27	20.58	74.00	17.73	150	241	Horizontal
2	6918.09	47.22	20.97	54.00	6.78	150	191	Horizontal
3	10440.0	40.98	-3.24	54.00	13.02	150	143	Horizontal
4	10440.0	51.64	-3.24	74.00	22.36	150	93	Horizontal
5	15660.0	53.31	0.43	74.00	20.69	150	192	Horizontal
6	15660.0	42.99	0.43	54.00	11.01	150	243	Horizontal
7	17972.4	44.91	-1.29	54.00	9.09	150	143	Horizontal

Final Data List



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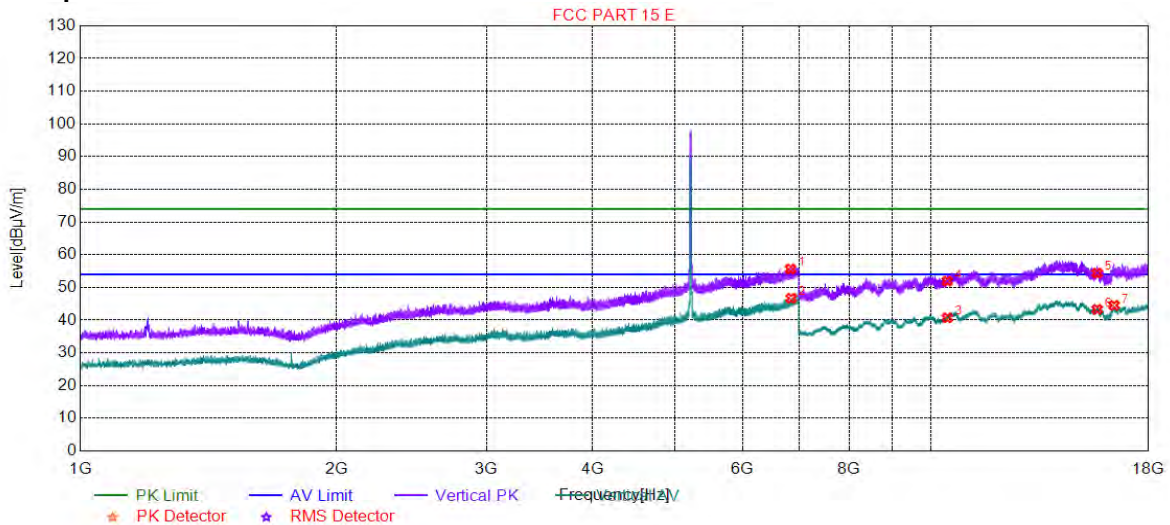
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4.9.2.4 802.11A_Channel 44

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6830.79	55.66	20.70	74.00	18.34	150	169	Vertical
2	6845.79	46.72	20.84	54.00	7.28	150	69	Vertical
3	10440.0	40.72	-3.24	54.00	13.28	150	218	Vertical
4	10440.0	51.94	-3.24	74.00	22.06	150	218	Vertical
5	15660.0	54.40	0.43	74.00	19.60	150	168	Vertical
6	15660.0	43.31	0.43	54.00	10.69	150	68	Vertical
7	16395.0	44.53	-1.12	54.00	9.47	150	360	Vertical

Final Data List

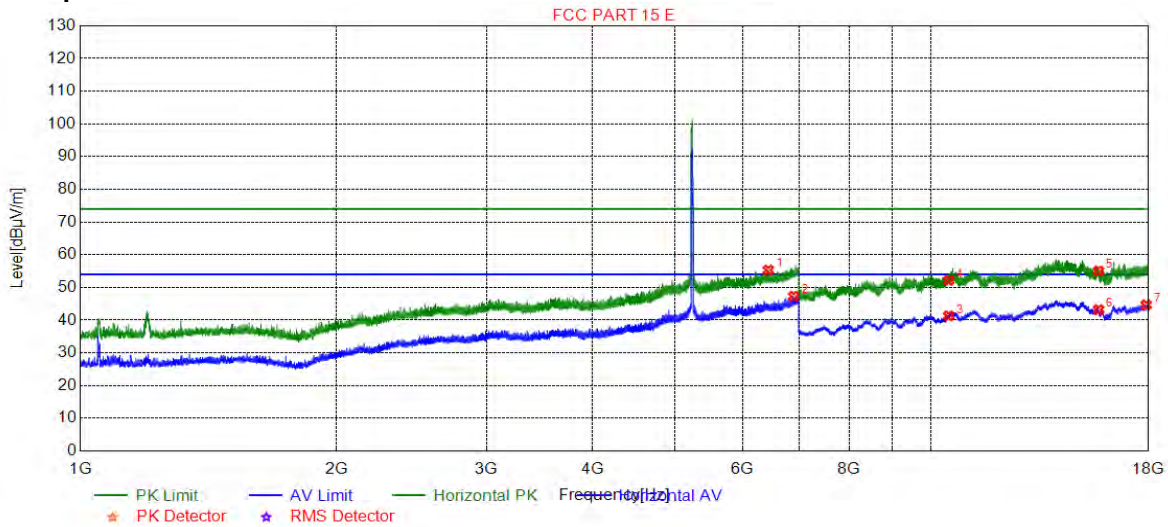


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4.9.2.5 802.11A_Channel 48

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6434.17	55.33	19.47	74.00	18.67	150	243	Horizontal
2	6890.49	47.32	20.82	54.00	6.68	150	41	Horizontal
3	10480.0	41.31	-2.94	54.00	12.69	150	141	Horizontal
4	10480.0	52.15	-2.94	74.00	21.85	150	42	Horizontal
5	15720.0	55.07	0.29	74.00	18.93	150	191	Horizontal
6	15720.0	43.22	0.29	54.00	10.78	150	0	Horizontal
7	17876.2	44.69	-1.62	54.00	9.31	150	241	Horizontal

Final Data List

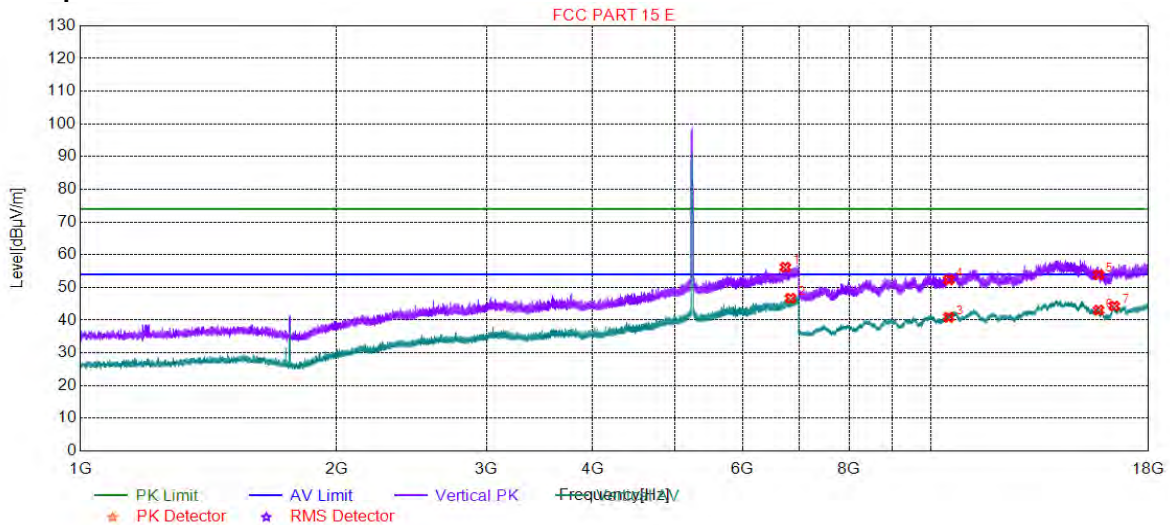


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4.9.2.6 802.11A_Channel 48

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6736.88	56.19	20.41	74.00	17.81	150	360	Vertical
2	6832.29	46.71	20.71	54.00	7.29	150	220	Vertical
3	10480.0	40.90	-2.94	54.00	13.10	150	18	Vertical
4	10480.0	52.33	-2.94	74.00	21.67	150	68	Vertical
5	15720.0	53.89	0.29	74.00	20.11	150	18	Vertical
6	15720.0	43.07	0.29	54.00	10.93	150	118	Vertical
7	16402.1	44.31	-1.12	54.00	9.69	150	168	Vertical

Final Data List

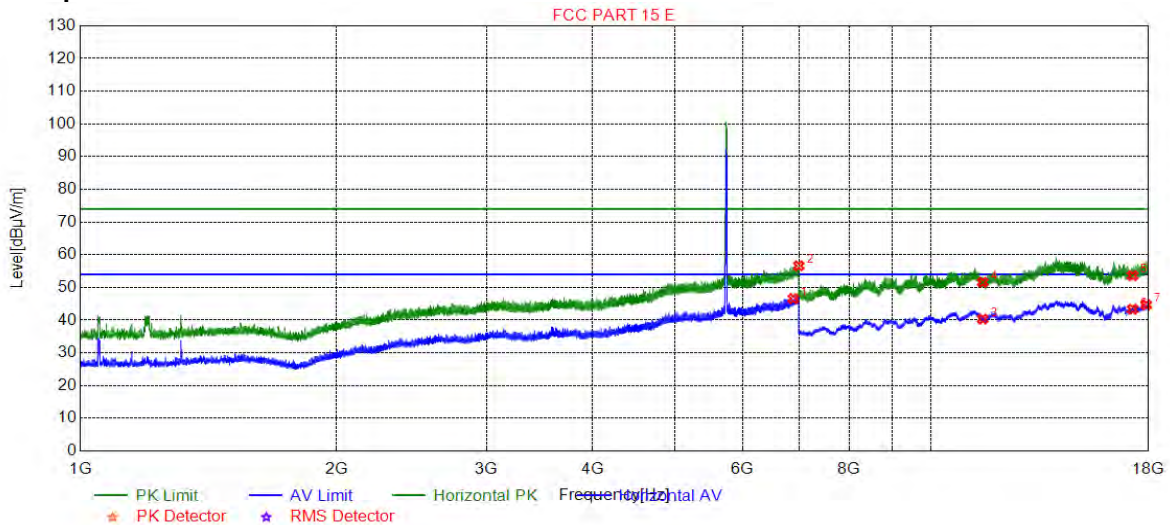


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4.9.2.7 802.11A_Channel 149

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6883.59	46.59	20.83	54.00	7.41	150	292	Horizontal
2	6984.39	56.62	21.27	74.00	17.38	150	92	Horizontal
3	11490.0	40.34	-2.03	54.00	13.66	150	92	Horizontal
4	11490.0	51.61	-2.03	74.00	22.39	150	192	Horizontal
5	17235.0	53.60	-2.67	74.00	20.40	150	92	Horizontal
6	17235.0	43.35	-2.67	54.00	10.65	150	292	Horizontal
7	17883.3	44.70	-1.53	54.00	9.30	150	142	Horizontal

Final Data List



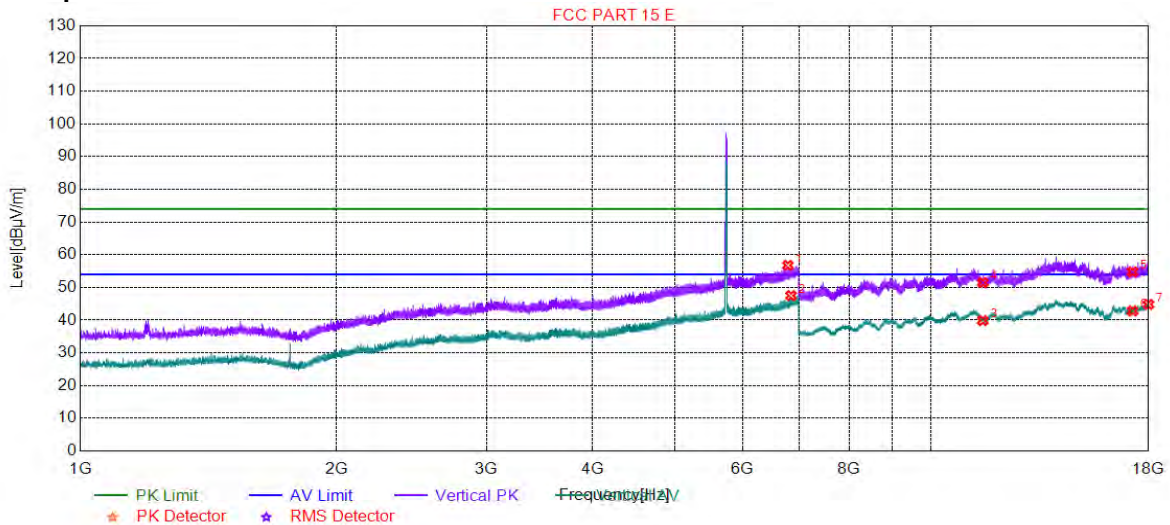
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4.9.2.8 802.11A_Channel 149

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6783.38	56.77	20.48	74.00	17.23	150	320	Vertical
2	6841.29	47.50	20.80	54.00	6.50	150	18	Vertical
3	11490.0	39.88	-2.03	54.00	14.12	150	18	Vertical
4	11490.0	51.49	-2.03	74.00	22.51	150	320	Vertical
5	17235.0	54.78	-2.67	74.00	19.22	150	320	Vertical
6	17235.0	42.82	-2.67	54.00	11.18	150	360	Vertical
7	17995.5	44.81	-1.28	54.00	9.19	150	18	Vertical

Final Data List

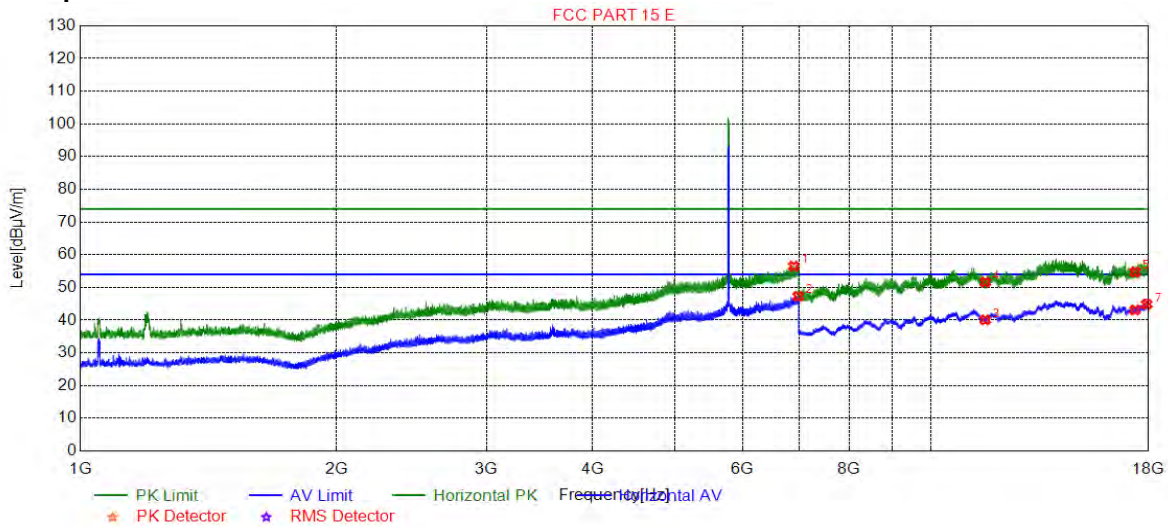


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4.9.2.9 802.11A_Channel 157

Test Graph



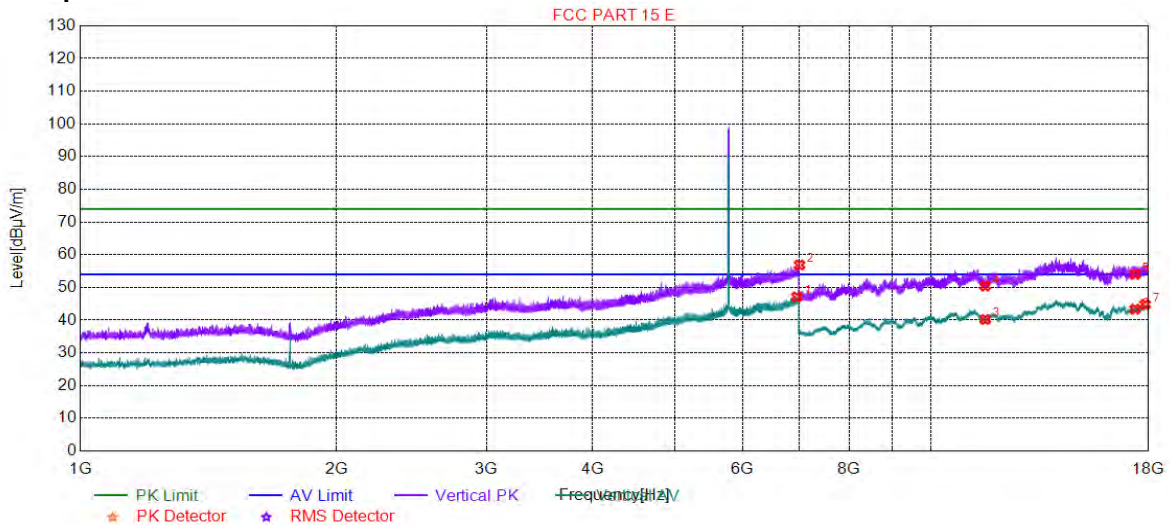
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6891.69	56.49	20.82	74.00	17.51	150	240	Horizontal
2	6974.79	47.28	21.26	54.00	6.72	150	290	Horizontal
3	11570.0	40.09	-2.39	54.00	13.91	150	41	Horizontal
4	11570.0	51.62	-2.39	74.00	22.38	150	342	Horizontal
5	17355.0	54.74	-1.94	74.00	19.26	150	41	Horizontal
6	17355.0	43.09	-1.94	54.00	10.91	150	0	Horizontal
7	17909.7	44.88	-1.31	54.00	9.12	150	342	Horizontal

Final Data List

4.9.2.10 802.11A_Channel 157

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6948.39	47.14	21.24	54.00	6.86	150	170	Vertical
2	6999.40	56.88	21.27	74.00	17.12	150	69	Vertical
3	11570.0	40.24	-2.39	54.00	13.76	150	69	Vertical
4	11570.0	50.43	-2.39	74.00	23.57	150	219	Vertical
5	17355.0	54.03	-1.94	74.00	19.97	150	119	Vertical
6	17355.0	43.38	-1.94	54.00	10.62	150	219	Vertical
7	17831.1	44.79	-2.22	54.00	9.21	150	360	Vertical

Final Data List



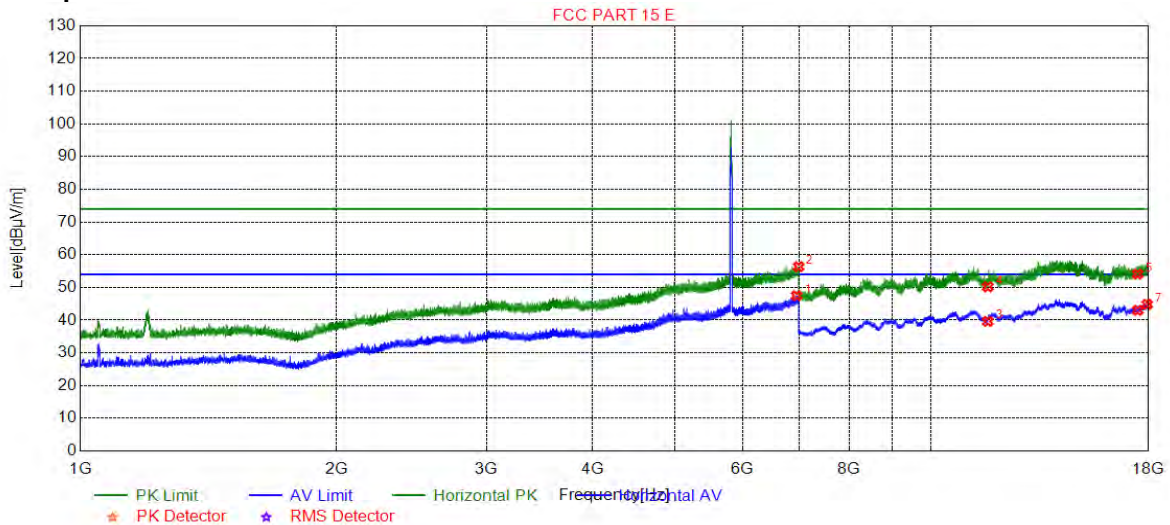
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4.9.2.11 802.11A_Channel 165

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6944.49	47.50	21.21	54.00	6.50	150	141	Horizontal
2	6982.29	56.36	21.26	74.00	17.64	150	242	Horizontal
3	11650.0	39.61	-2.49	54.00	14.39	150	193	Horizontal
4	11650.0	50.18	-2.49	74.00	23.82	150	292	Horizontal
5	17475.0	54.10	-1.24	74.00	19.90	150	92	Horizontal
6	17475.0	43.02	-1.24	54.00	10.98	150	342	Horizontal
7	17925.1	44.81	-1.30	54.00	9.19	150	193	Horizontal

Final Data List



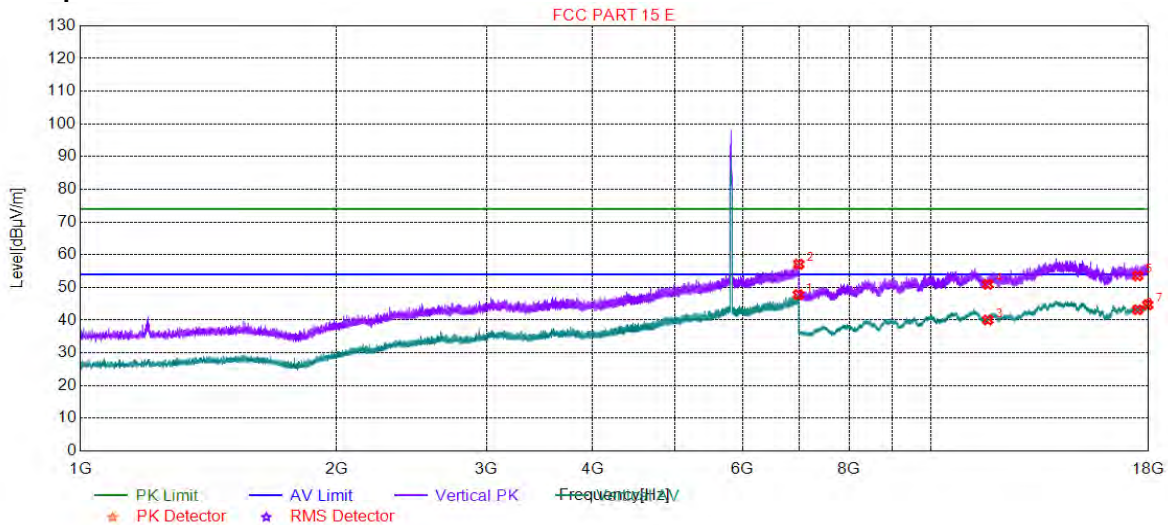
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4.9.2.12 802.11A_Channel 165

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6977.19	47.79	21.26	54.00	6.21	150	18	Vertical
2	6983.19	57.12	21.26	74.00	16.88	150	318	Vertical
3	11650.0	40.06	-2.49	54.00	13.94	150	360	Vertical
4	11650.0	50.97	-2.49	74.00	23.03	150	119	Vertical
5	17475.0	53.55	-1.24	74.00	20.45	150	169	Vertical
6	17475.0	43.19	-1.24	54.00	10.81	150	69	Vertical
7	17957.0	44.68	-1.29	54.00	9.32	150	219	Vertical

Final Data List

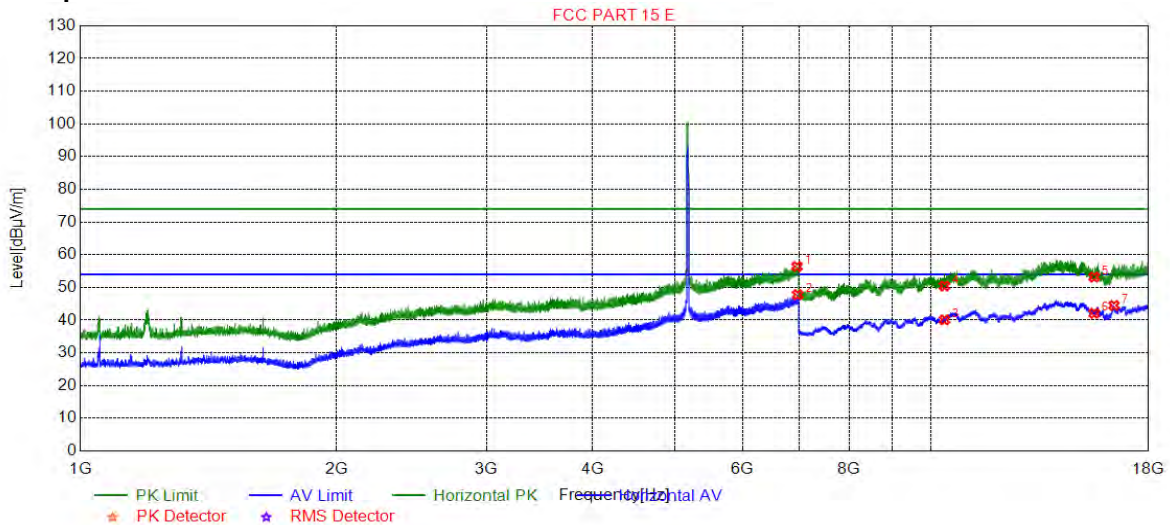


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4.9.2.13 802.11N20_Channel 36

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6951.99	56.41	21.26	74.00	17.59	150	342	Horizontal
2	6965.19	47.77	21.26	54.00	6.23	150	241	Horizontal
3	10360.0	40.10	-3.63	54.00	13.90	150	41	Horizontal
4	10360.0	50.45	-3.63	74.00	23.55	150	292	Horizontal
5	15540.0	53.17	0.46	74.00	20.83	150	242	Horizontal
6	15540.0	42.10	0.46	54.00	11.90	150	91	Horizontal
7	16390.6	44.51	-1.13	54.00	9.49	150	0	Horizontal

Final Data List



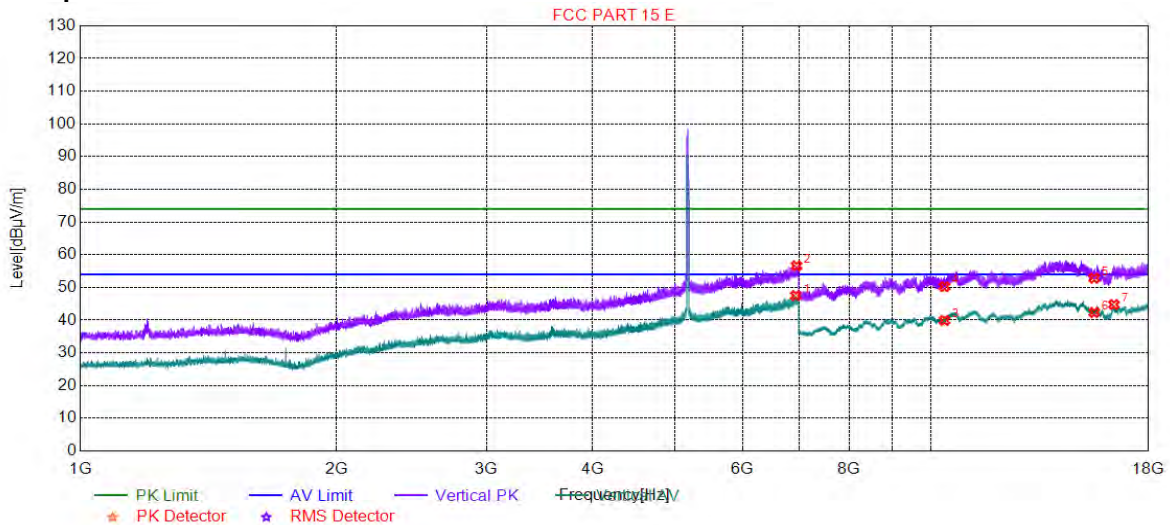
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4.9.2.14 802.11N20_Channel 36

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6930.09	47.53	21.08	54.00	6.47	150	173	Vertical
2	6942.69	56.61	21.19	74.00	17.39	150	326	Vertical
3	10360.0	39.92	-3.63	54.00	14.08	150	69	Vertical
4	10360.0	50.24	-3.63	74.00	23.76	150	320	Vertical
5	15540.0	52.84	0.46	74.00	21.16	150	119	Vertical
6	15540.0	42.35	0.46	54.00	11.65	150	18	Vertical
7	16387.3	44.78	-1.13	54.00	9.22	150	119	Vertical

Final Data List



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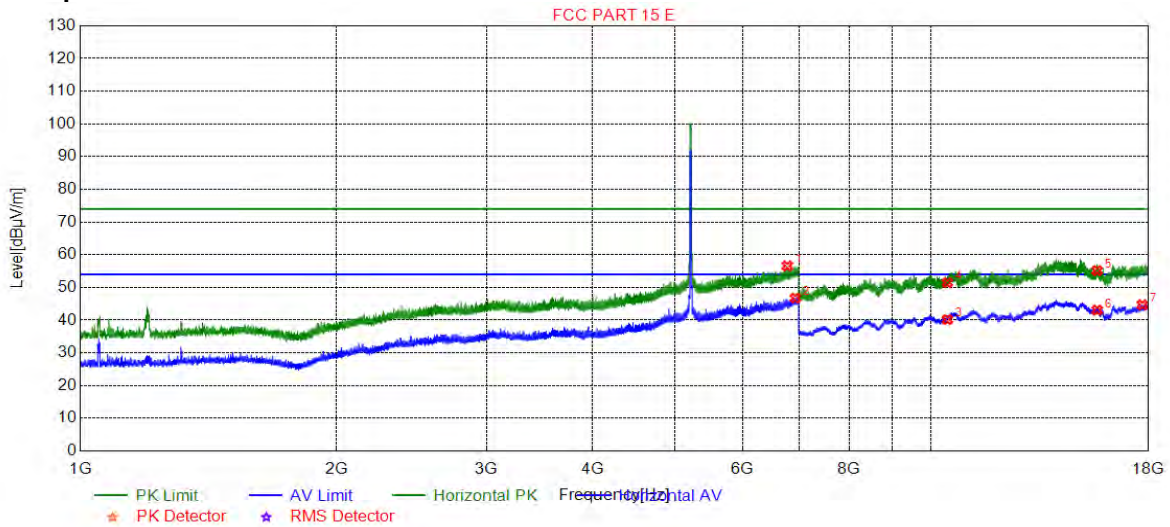
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4.9.2.15 802.11N20_Channel 44

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6772.88	56.58	20.53	74.00	17.42	150	140	Horizontal
2	6922.59	46.78	21.01	54.00	7.22	150	90	Horizontal
3	10440.0	40.18	-3.24	54.00	13.82	150	40	Horizontal
4	10440.0	51.46	-3.24	74.00	22.54	150	90	Horizontal
5	15660.0	55.18	0.43	74.00	18.82	150	0	Horizontal
6	15660.0	43.08	0.43	54.00	10.92	150	190	Horizontal
7	17701.3	44.69	-0.67	54.00	9.31	150	241	Horizontal

Final Data List

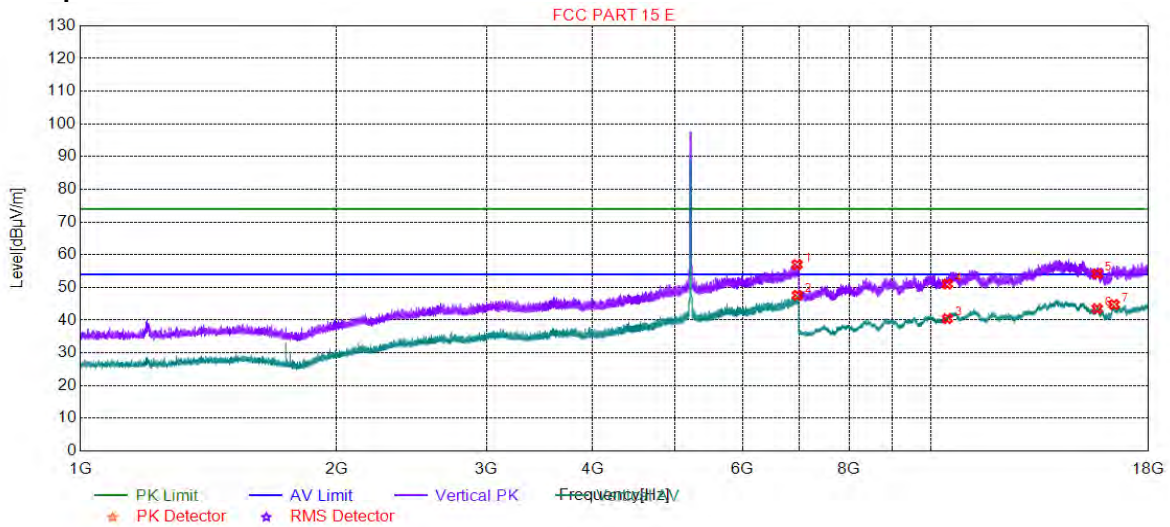


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4.9.2.16 802.11N20_Channel 44

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6953.19	57.02	21.26	74.00	16.98	150	18	Vertical
2	6960.09	47.60	21.26	54.00	6.40	150	323	Vertical
3	10440.0	40.48	-3.24	54.00	13.52	150	270	Vertical
4	10440.0	51.07	-3.24	74.00	22.93	150	270	Vertical
5	15660.0	54.21	0.43	74.00	19.79	150	68	Vertical
6	15660.0	43.51	0.43	54.00	10.49	150	270	Vertical
7	16392.8	44.78	-1.12	54.00	9.22	150	68	Vertical

Final Data List



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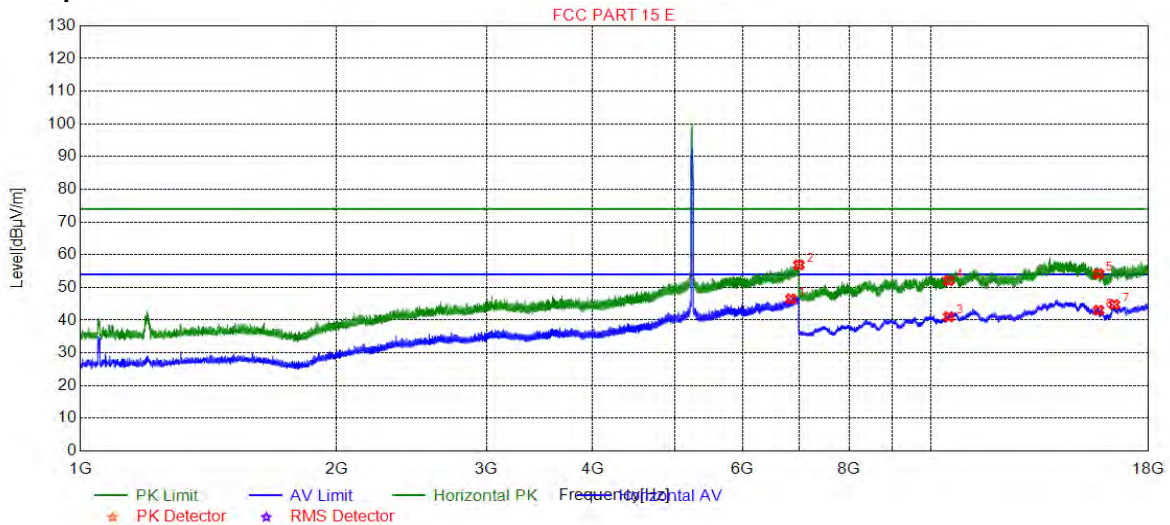
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4.9.2.17 802.11N20_Channel 48

Test Graph



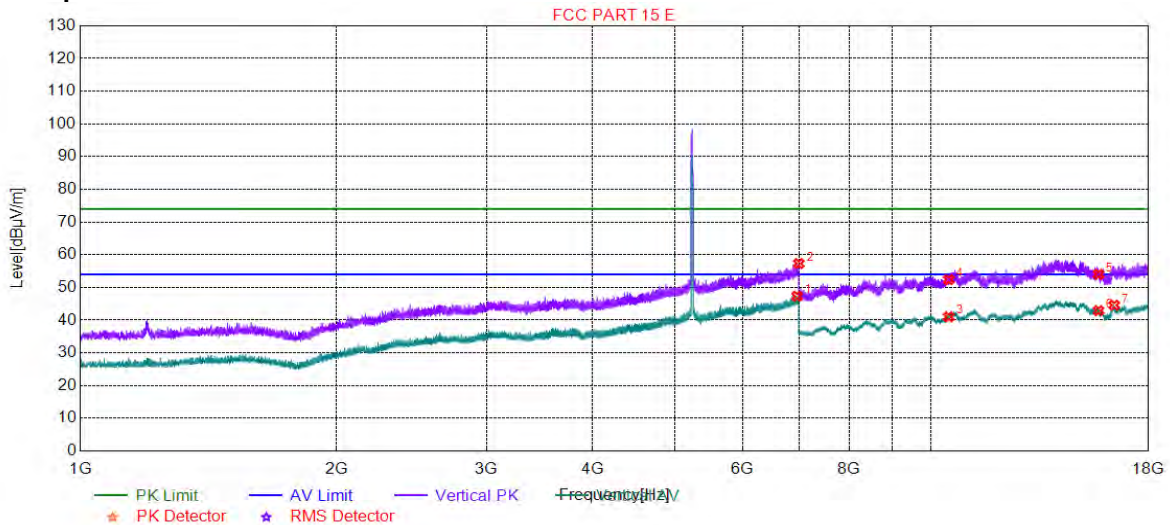
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6840.09	46.52	20.79	54.00	7.48	150	342	Horizontal
2	6986.49	56.91	21.27	74.00	17.09	150	140	Horizontal
3	10480.0	41.05	-2.94	54.00	12.95	150	92	Horizontal
4	10480.0	52.08	-2.94	74.00	21.92	150	241	Horizontal
5	15720.0	54.16	0.29	74.00	19.84	150	241	Horizontal
6	15720.0	43.04	0.29	54.00	10.96	150	292	Horizontal
7	16403.2	44.79	-1.12	54.00	9.21	150	191	Horizontal

Final Data List

4.9.2.18 802.11N20_Channel 48

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6953.49	47.36	21.26	54.00	6.64	150	219	Vertical
2	6985.29	57.31	21.27	74.00	16.69	150	360	Vertical
3	10480.0	41.02	-2.94	54.00	12.98	150	119	Vertical
4	10480.0	52.38	-2.94	74.00	21.62	150	360	Vertical
5	15720.0	54.04	0.29	74.00	19.96	150	69	Vertical
6	15720.0	42.92	0.29	54.00	11.08	150	169	Vertical
7	16399.9	44.58	-1.12	54.00	9.42	150	269	Vertical

Final Data List

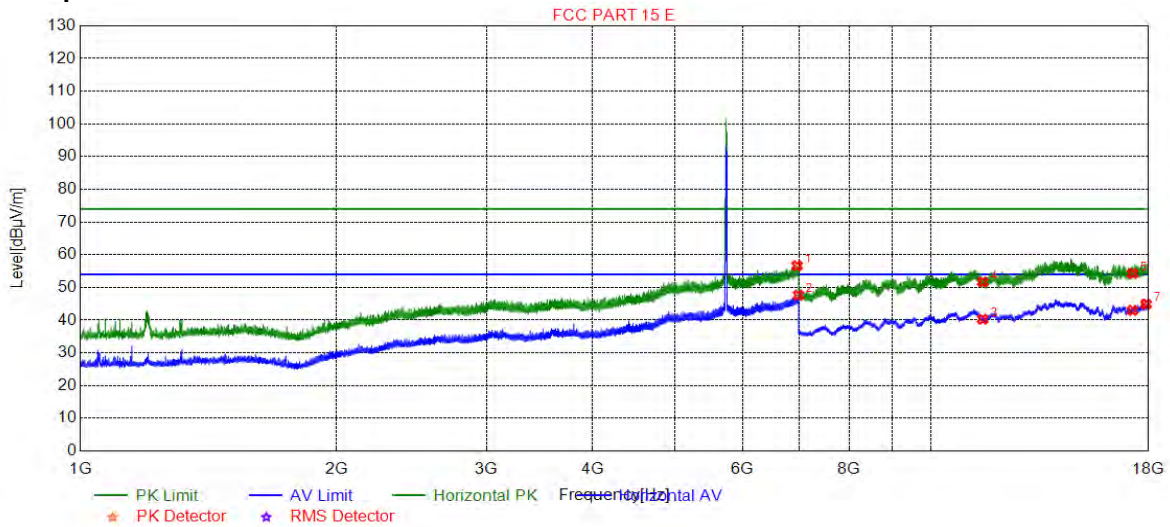


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4.9.2.19 802.11N20_Channel 149

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6953.19	56.64	21.26	74.00	17.36	150	41	Horizontal
2	6978.99	47.63	21.26	54.00	6.37	150	292	Horizontal
3	11490.0	40.29	-2.03	54.00	13.71	150	241	Horizontal
4	11490.0	51.70	-2.03	74.00	22.30	150	190	Horizontal
5	17235.0	54.28	-2.67	74.00	19.72	150	0	Horizontal
6	17235.0	43.02	-2.67	54.00	10.98	150	140	Horizontal
7	17882.2	44.90	-1.54	54.00	9.10	150	342	Horizontal

Final Data List



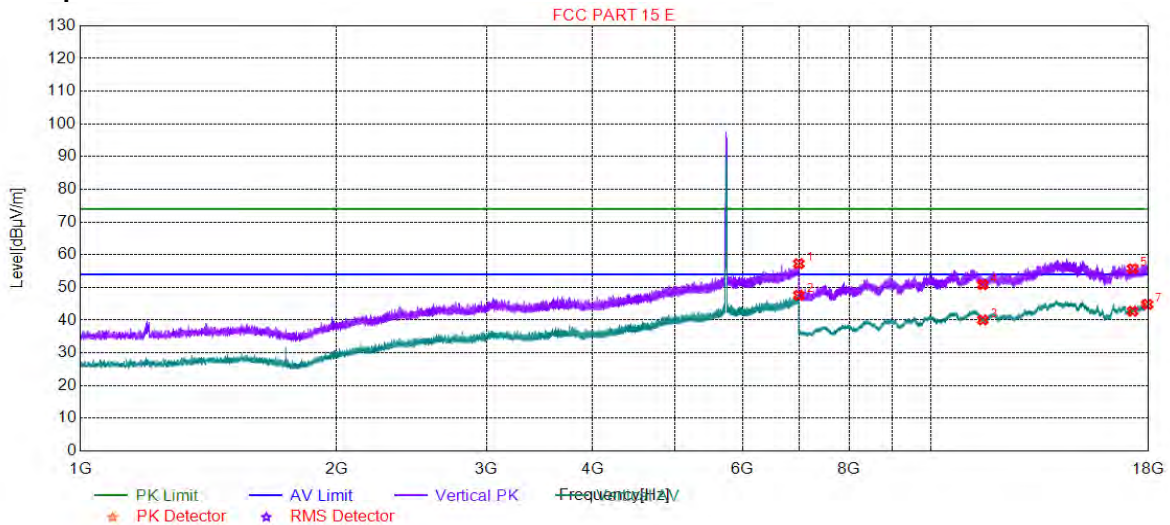
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4.9.2.20 802.11N20_Channel 149

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6985.59	57.28	21.27	74.00	16.72	150	168	Vertical
2	6985.59	47.61	21.27	54.00	6.39	150	18	Vertical
3	11490.0	40.07	-2.03	54.00	13.93	150	169	Vertical
4	11490.0	50.83	-2.03	74.00	23.17	150	18	Vertical
5	17235.0	55.75	-2.67	74.00	18.25	150	119	Vertical
6	17235.0	42.75	-2.67	54.00	11.25	150	270	Vertical
7	17951.0	44.83	-1.29	54.00	9.17	150	360	Vertical

Final Data List



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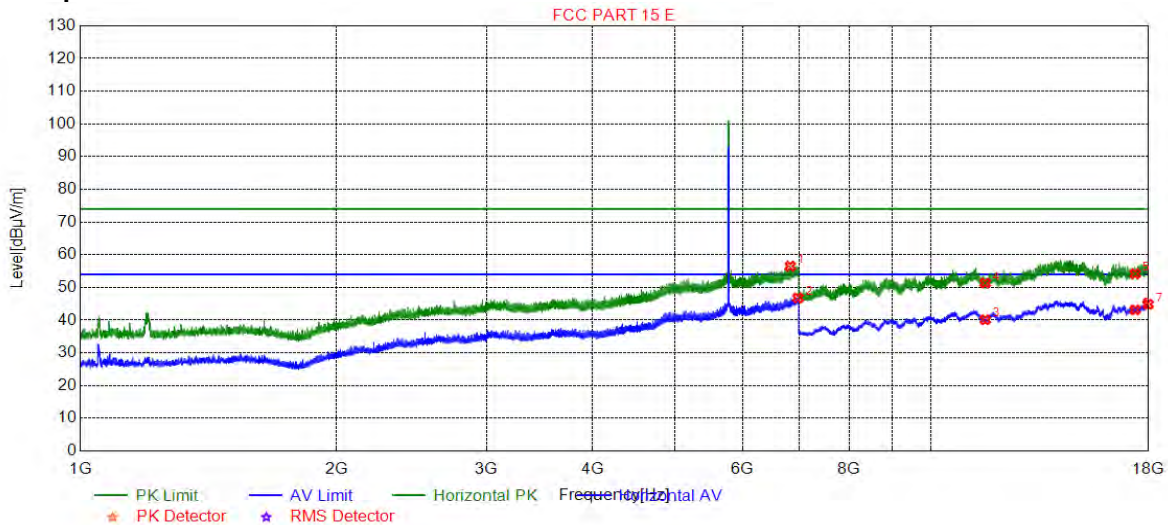
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4.9.2.21 802.11N20_Channel 157

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6826.59	56.51	20.66	74.00	17.49	150	41	Horizontal
2	6968.79	46.81	21.26	54.00	7.19	150	242	Horizontal
3	11570.0	40.13	-2.39	54.00	13.87	150	92	Horizontal
4	11570.0	51.35	-2.39	74.00	22.65	150	142	Horizontal
5	17355.0	54.20	-1.94	74.00	19.80	150	142	Horizontal
6	17355.0	43.15	-1.94	54.00	10.85	150	41	Horizontal
7	17973.0	44.87	-1.29	54.00	9.13	150	41	Horizontal

Final Data List

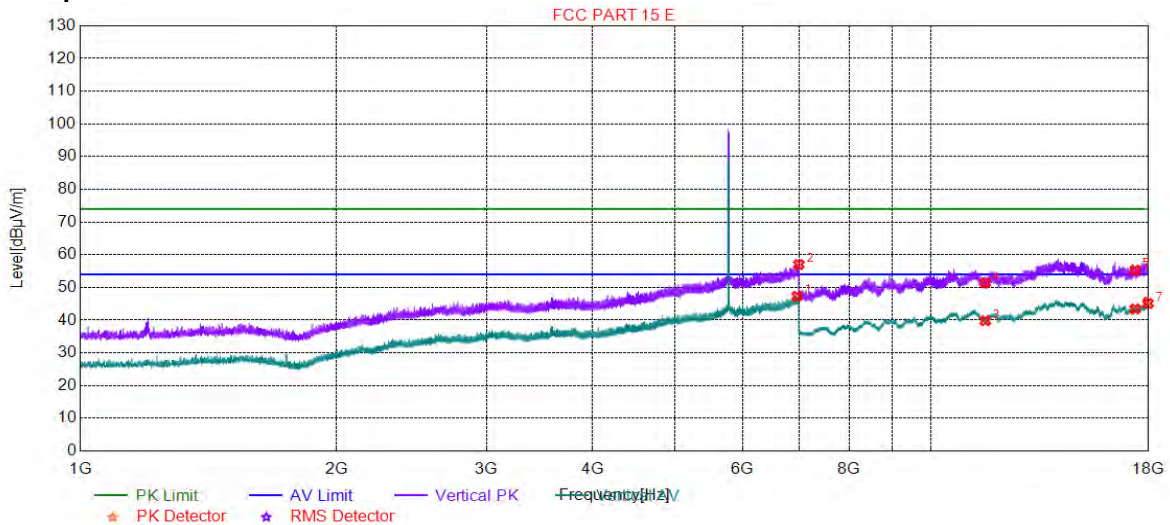


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4.9.2.22 802.11N20_Channel 157

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6952.59	47.31	21.26	54.00	6.69	150	170	Vertical
2	6985.89	57.02	21.27	74.00	16.98	150	360	Vertical
3	11570.0	39.82	-2.39	54.00	14.18	150	18	Vertical
4	11570.0	51.41	-2.39	74.00	22.59	150	169	Vertical
5	17355.0	55.31	-1.94	74.00	18.69	150	319	Vertical
6	17355.0	43.42	-1.94	54.00	10.58	150	18	Vertical
7	17971.9	45.11	-1.29	54.00	8.89	150	319	Vertical

Final Data List

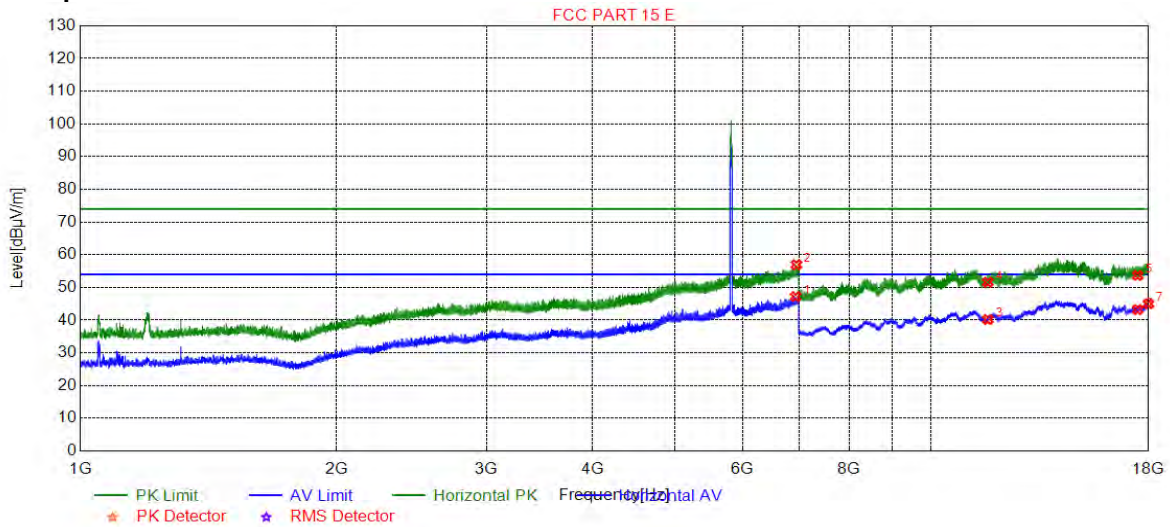


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4.9.2.23 802.11N20_Channel 165

Test Graph



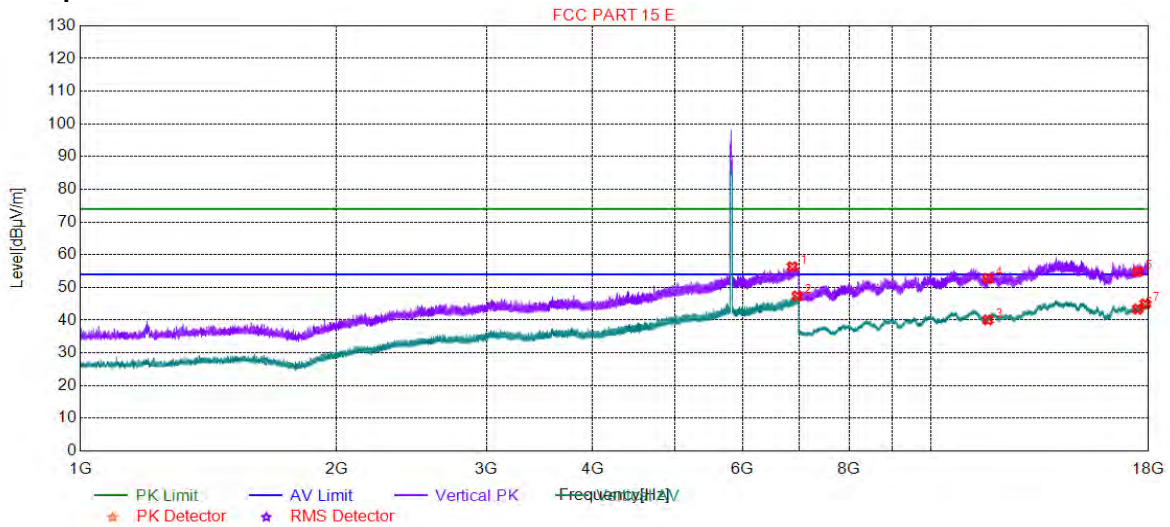
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6926.79	47.20	21.05	54.00	6.80	150	241	Horizontal
2	6940.59	56.98	21.17	74.00	17.02	150	140	Horizontal
3	11650.0	40.20	-2.49	54.00	13.80	150	0	Horizontal
4	11650.0	51.62	-2.49	74.00	22.38	150	342	Horizontal
5	17475.0	53.67	-1.24	74.00	20.33	150	141	Horizontal
6	17475.0	43.25	-1.24	54.00	10.75	150	40	Horizontal
7	17995.0	45.01	-1.28	54.00	8.99	150	342	Horizontal

Final Data List

4.9.2.24 802.11N20_Channel 165

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6865.59	56.33	20.86	74.00	17.67	150	68	Vertical
2	6956.49	47.40	21.26	54.00	6.60	150	319	Vertical
3	11650.0	40.10	-2.49	54.00	13.90	150	269	Vertical
4	11650.0	52.77	-2.49	74.00	21.23	150	169	Vertical
5	17475.0	54.78	-1.24	74.00	19.22	150	319	Vertical
6	17475.0	43.40	-1.24	54.00	10.60	150	18	Vertical
7	17837.1	44.97	-2.14	54.00	9.03	150	220	Vertical

Final Data List

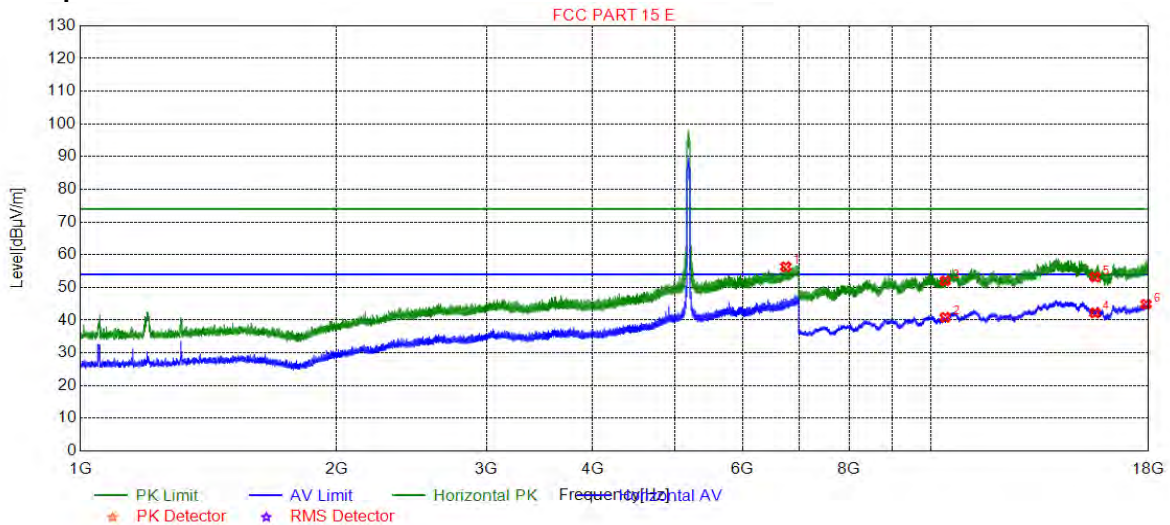


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4.9.2.25 802.11N40_Channel 38

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6744.38	56.33	20.54	74.00	17.67	150	138	Horizontal
2	10380.0	40.87	-3.60	54.00	13.13	150	292	Horizontal
3	10380.0	52.02	-3.60	74.00	21.98	150	241	Horizontal
4	15570.0	42.24	0.29	54.00	11.76	150	292	Horizontal
5	15570.0	53.18	0.29	74.00	20.82	150	0	Horizontal
6	17872.3	44.88	-1.67	54.00	9.12	150	241	Horizontal

Final Data List



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