

Report No.: ZR/2019/A000305-01
 Rev.: 01
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TEST REPORT

Application No.: ZR/2019/A0003
Applicant: Sony Mobile Communications INC
Address of Applicant: 4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Manufacturer: Sony Mobile Communications INC
Address of Manufacturer: 4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
EUT Description: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n, GPS and NFC
Model No.: PM-1291-BV
Trade Mark: Sony
FCC ID: PY7-50352P
Standards: FCC 47 CFR Part 2, Subpart J
 FCC 47 CFR Part 15, Subpart E
Date of Receipt: 2019/10/15
Date of Test: 2019/10/16 to 2019/12/20
 2021/12/20 to 2022/1/10(For Tianjin Dongdian Testing Service Co., Ltd.)
Date of Issue: 2022/5/7

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

Authorized Signature:



Jim Huang



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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022/4/29		Original
02		2022/5/7		Add Note On Section2

Prepared By	 <hr/> (Wick Feng) / Test Supervisor
Checked By	 <hr/> (Daniel Wang) / Reviewer

This report supersedes our previous report **ZR/2019/A000303**, issued on **2019-12-20**, which is hereby deemed null and void.



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2 Test Summary

Test Item	Band ^[1]	FCC rules No.	Test Requirements	Test Result	Result	Lab ^[2]
Antenna Requirement	--	15.203/15.407 (a)	--	Clause 4.1	PASS	--
26dB Emission Bandwidth	Band I	15.407(a)(1)	No limit.	Clause 4.5	Reporting only	A
	Band II-A	15.407(a)(2)				
	Band II-C	15.407(a)(2)				
6dB Emission Bandwidth	Band III	15.407(e)	≥ 500 kHz.	Clause 4.6	PASS	A
99% Occupied Bandwidth	Band I	KDB 789033 D02§ D	No limit.	Clause 4.7	Reporting only	A
	Band II-A					
	Band II-C					
	Band III					
Duty Cycle	Band I	--	No limit.	Clause 4.3	Reporting only	A
	Band II-A					
	Band II-C					
	Band III					
Maximum Conducted Output Power	Band I	15.407(a)	< 250mW	Clause 4.4	PASS	B
	Band II-A	15.407(a)(2)	<MIN{250mW,11dBm+10*Ig(EBW)}			
	Band II-C					
	Band III	15.407(a)(3)	< 1W			
Maximum Power Spectral Density	Band I	15.407(a)	<11dBm/MHz	Clause 4.8	PASS	A
	Band II-A	15.407(a)(2)	<11dBm/MHz			
	Band II-C					
	Band III	15.407(a)(3)	<30dBm/500KHz			
Unwanted Emissions that fall Out of the Restricted Bands (Radiated)	Band I	15.209 15.407(b)	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 4.9	PASS	B
	Band II-A	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.25-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).			
	Band II-C	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).			
	Band III	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP).			



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			<p>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).</p>			
Unwanted Emissions in the Restricted Bands (Radiated)	Band I Band II-A Band II-C Band III	15.209	---	Clause 4.10	PASS	B
AC Power Line Conducted Emissions	Band I Band II-A Band II-C Band III	15.207	---	Clause 4.2	PASS	B
Dynamic Frequency Selection	Band II-A Band II-C	15.407	Channel Move Time:10 Seconds	Clause 4.11	PASS	A
Frequency Stability	Band I Band II-A Band II-C Band III	15.407(g)	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual	Clause 4.12	PASS	A

Note^[1] :
 Band I: 5150-5250MHz, Band II-A: 5250-5350MHz, Band II-C: 5470-5725MHz, Band III: 5725-5850MHz
 Note^[2] :
 Lab A SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
 Lab B Tianjin Dongdian Testing Service Co., Ltd.
 Test data from lab A is from the original version of this report with measurements made from 2019/10/16 to 2019/12/20. The measurement data for Radiated Emissions, Restricted bands and AC Power line Conducted Emissions is from lab B and was taken from 2021/12/20 to 2022/1/10. This report also includes power verification measurements performed at lab B (refer to section 4.4) to confirm that devices tested at lab B were operating within the expected range of output powers. Refer to section 2 for full details.



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3 General Information

3.1 Details of Client

Applicant:	Sony Mobile Communications INC
Address of Applicant:	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Manufacturer:	Sony Mobile Communications INC
Address of Manufacturer:	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

3.2 Test Location

Lab A:	
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
Test engineer:	Adam Liang
Lab B:	
Company:	Tianjin Dongdian Testing Service Co., Ltd.
Address:	Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park, Development Area, Tianjin, China.
Tel:	+86-22-58038033
E-mail:	ddt@dgdtd.com, http://www.ddttest.com
Test engineer:	Sunny Zhang



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3.3 Test Facility

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

Lab A:
<ul style="list-style-type: none"> • 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. • Innovation, Science and Economic Development Canada SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier: CN0006. IC#: 4620C.
Lab B:
<p>Tianjin Dongdian Testing Service Co., Ltd.</p> <p>Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China., 300385</p> <p>Tel: +86-22-58038033, http://www.ddttest.com, Email: ddt@dgddt.com</p> <p>NVLAP (National Voluntary Laboratory Accreditation Program) CODE: 500036-0</p> <p>CNAS (China National Accreditation Service for Conformity Assessment) CODE: L13402</p> <p>FCC Designation Number: CN5004; FCC Test Firm Registration Number: 368676</p> <p>ISED (Innovation, Science and Economic Development Canada) Company Number: 27768</p> <p>Conformity Assessment Body Identifier: CN0125</p> <p>VCCI Facility Registration Number: C-20089, T-20093, R-20125, G-20122</p>



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3.4 General Description of EUT

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n, GPS and NFC				
Model No.:	PM-1291-BV				
Trade Mark:	Sony				
Hardware Version:	A				
Software Version:	0.96				
WLAN Mode Supported:	802.11a:	20 MHz channel bandwidth			
	802.11n:	20 MHz / 40 MHz channel bandwidth			
Operation Frequency:	5150MHz to 5250MHz 5250MHz to 5350MHz 5470MHz to 5725MHz 5725MHz to 5850MHz				
Modulation Type:	802.11a:	OFDM (BPSK, QPSK, 16QAM, 64QAM)			
	802.11n:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)			
Channel Spacing:	20MHz:	802.11a/n(HT20)			
	40MHz:	802.11n(HT40)			
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated				
Antenna Gain*:	<input checked="" type="checkbox"/> Provided by client				
	-0.43dBi;				
Smart System:	<input checked="" type="checkbox"/> SISO	802.11a/n			
	<input type="checkbox"/> MIMO	CDD: 802.11a/n/ac: Tx & Rx			
		STBC: 802.11n/ac: Tx & Rx			
	<input type="checkbox"/> Diversity		TXBF: 802.11n/ac: Tx & Rx		
DFS Function:	<input type="checkbox"/> Master				
	<input type="checkbox"/> Slave with radar detection		<input checked="" type="checkbox"/> Slave without radar detection		
RF Cable*:	<input checked="" type="checkbox"/> Provided by client				
	0.5dB (0.6~1GHz)	0.8dB (1.4~2GHz)	1.0dB (2.1~2.7GHz)	1.5dB (3~4GHz)	1.8dB (4.4~6GHz)

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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 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

For UNII Band II-A:

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

For UNII Band II-C:

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



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



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3.5 Test Environment and Mode

Environment Parameter	86-106 kPa Selected Values During Tests	
Relative Humidity	25-75 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	21-25	3.8
Remark: NV: Normal Voltage NT: Normal Temperature		

3.6 Description of Support Units

The EUT has been tested as an independent unit.

3.7 Worst-case configuration and mode

Low data rate was used to test on antenna port conducted tests and radiated spurious emissions since it has the highest maximum power. Following are the worst-case data rates set for test:

Modulation Type	SISO - Data Rate	MIMO - Data Rate
802.11a	6 Mbps	/
802.11n (HT 20)	MCS0 (6.5 Mbps)	/
802.11n (HT 40)	MCS0 (13.5 Mbps)	/



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4 Test results and Measurement Data

4.1 Antenna Requirement

Standard 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 -0.43dBi.	



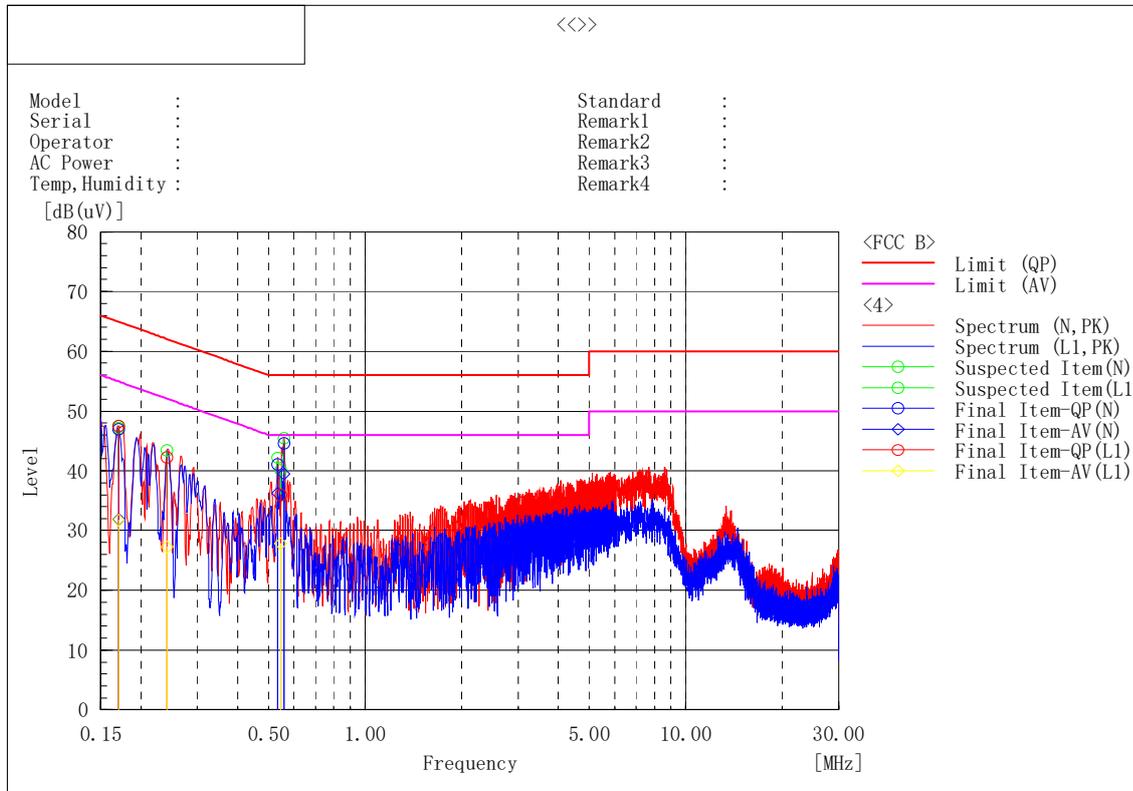
4.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30kHz		
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
Note 1: * Decreasing linearly with logarithm of frequency. Note 2: The lower limit shall apply at the transition frequencies.			
Test Procedure:	<p>The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.</p> <p>Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.</p> <p>All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.</p> <p>All support equipment power received from a second LISN.</p> <p>Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.</p> <p>The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.</p> <p>During the above scans, the emissions were maximized by cable manipulation.</p> <p>The test mode(s) described in clause 2.4 were scanned during the preliminary test.</p> <p>After the preliminary scan, we found the test mode producing the highest emission level.</p> <p>The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.</p> <p>EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.</p> <p>A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.</p> <p>Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.</p> <p>The test data of the worst-case condition(s) was recorded.</p> <p>The bandwidth of test receiver is set at 9 kHz.</p>		



<p>Test Setup:</p>	
<p>Exploratory Test Mode:</p>	<p>Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.</p>
<p>Final Test Mode:</p>	<p>Refer to section 3.7 for details. Only the worst case is recorded in the report.</p>
<p>Instruments Used:</p>	<p>Refer to section 6 for details.</p>
<p>Test Results:</p>	<p>Pass</p>
<p>Note:</p>	<p>Note1: All emissions not reported below are too low against the prescribed limits. Note2: “----” means Peak detection; “-----” means Average detection. Note3: According the pre-test, the worst case is transmitting and charging mode.</p>





Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c. f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.55826	34.9	29.7	9.7	44.6	39.4	56.0	46.0	11.4	6.6
2	0.53426	31.3	26.5	9.7	41.0	36.2	56.0	46.0	15.0	9.8
3	0.17065	37.2	22.1	9.7	46.9	31.8	64.9	54.9	18.0	23.1

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c. f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.54578	26.2	18.1	9.7	35.9	27.8	56.0	46.0	20.1	18.2
2	0.24139	32.5	17.5	9.7	42.2	27.2	62.0	52.0	19.8	24.8
3	0.17049	37.7	22.0	9.7	47.4	31.7	64.9	54.9	17.5	23.2

Note1) Level (Quasi-Peak and/or C/Average) = Meter Reading + Factor

Note2) Line = Polarity of input power (Live or Neutral)

N : Abbreviation of Neutral Polarity, L1 : Abbreviation of Live Polarity,

Note3) Factor = LISN Insertion Loss + Cable Loss

Note4) Margin = Limit – Level (Quasi-Peak and/or C/Average)

Note5) C/Average : Abbreviation of CISPR Average



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4.3 Duty Cycle

The detailed test data see: **Appendix**



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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 6 for details.																		
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates																		
Final Test Mode:	Refer to section 3.7 for details.																		
Limit:	<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="3">FCC Part15, Subpart E</th> </tr> <tr> <th>Test Item</th> <th>Limit</th> <th>Frequency Range (MHz)</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Conducted Output Power</td> <td>For FCC client devices: 250 mW (24 dBm)</td> <td>5150-5250</td> </tr> <tr> <td>For FCC: 250 mW (24 dBm) or 11 + 10 log₁₀ B</td> <td>5250-5350</td> </tr> <tr> <td>For FCC: 250 mW (24 dBm) or 11 + 10 log₁₀ B</td> <td>For FCC:5470 - 5725</td> </tr> <tr> <td>1 Watt (30 dBm)</td> <td>5725-5850</td> </tr> <tr> <td colspan="3">Note 1: B=26 bandwidth.</td> </tr> </tbody> </table>	FCC Part15, Subpart E			Test Item	Limit	Frequency Range (MHz)	Conducted Output Power	For FCC client devices: 250 mW (24 dBm)	5150-5250	For FCC: 250 mW (24 dBm) or 11 + 10 log ₁₀ B	5250-5350	For FCC: 250 mW (24 dBm) or 11 + 10 log ₁₀ B	For FCC:5470 - 5725	1 Watt (30 dBm)	5725-5850	Note 1: B=26 bandwidth.		
FCC Part15, Subpart E																			
Test Item	Limit	Frequency Range (MHz)																	
Conducted Output Power	For FCC client devices: 250 mW (24 dBm)	5150-5250																	
	For FCC: 250 mW (24 dBm) or 11 + 10 log ₁₀ B	5250-5350																	
	For FCC: 250 mW (24 dBm) or 11 + 10 log ₁₀ B	For FCC:5470 - 5725																	
	1 Watt (30 dBm)	5725-5850																	
Note 1: B=26 bandwidth.																			
Test procedure:	<p>Connect each EUT's antenna output to power sensor by RF cable and attenuator.</p> <p>Measure the PK output power of each antenna port by power sensor.</p>																		
Re-Test statement:	The EUT is operating at the same power level with the original testing of SGS-CSTC Standards Technical Services, Co., Ltd. Shenzhen Branch.																		
Test Results:	Pass																		



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Test results:

Remark:

	The Original Reports	Re-Test Reports
File name:	test report 5G WLAN	DDT-B21122006-1E05
Test location:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	Tianjin Dongdian Testing Service Co., Ltd.

Power:

Mode	Test Channel	Frequency [MHz]	The Original Reports Level [dBm]	Re-Test Reports Level [dBm]	Power level
11a20	36	5180	14.89	14.77	15.5
	48	5240	14.47	14.20	15.5
	52	5260	14.49	14.23	15.5
	64	5320	14.93	14.16	15.5
	100	5500	14.54	14.27	15.5
	140	5700	14.56	13.98	15.5
11n20	36	5180	14.86	13.87	15.5
	48	5240	14.74	14.02	15.5
	52	5260	14.82	14.29	15.5
	64	5320	14.94	14.52	15.5
	100	5500	14.83	14.28	15.5
	140	5700	14.85	13.72	15.5
11n40	38	5190	14.84	14.62	15.5
	46	5230	14.94	14.76	15.5
	54	5270	14.46	14.28	15.5
	62	5310	14.42	14.09	15.5
	102	5510	14.96	14.84	15.5
	134	5670	14.31	14.18	15.5



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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 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	Pass
The detailed test data see: Appendix	



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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 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At least 500kHz
Test Results:	Pass	
The detailed test data see: Appendix		



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4.7 99% Occupied Bandwidth

Test Requirement:	KDB 789033 D02§ D
Test Method:	ANSI C63.10: 2013
Test Setup:	
Instruments Used:	Refer to section 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	Pass
The detailed test data see: Appendix	



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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 KDB 789033 D02 v02r01, Section F.	
Test Setup:		
Instruments Used:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 11dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than <30dBm/500KHz
Test Results:	Pass	
The detailed test data see: Appendix		



4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.205 and 15.209			
Test Method:	ANSI C63.10: 2013			
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)			
Limit:	(1) FCC 15.205 Restricted frequency band			
	MHz	MHz	MHz	GHz
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
	¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
	4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
	4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
	6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
	6.31175-6.31225	123-138	2200-2300	14.47-14.5
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
	8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
	12.57675-12.57725	322-335.4	3600-4400	(²)
	13.36-13.41			
	¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ² Above 38.6			
	(2) FCC 15.209 Limit.			
	FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
			$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
	0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
	0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
	1.705 ~ 30.0	30	30	29.54
	30 ~ 88	3	100	40.0
	88 ~ 216	3	150	43.5
	216 ~ 960	3	200	46.0
	960 ~ 1000	3	500	54.0
	Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	
	Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these			



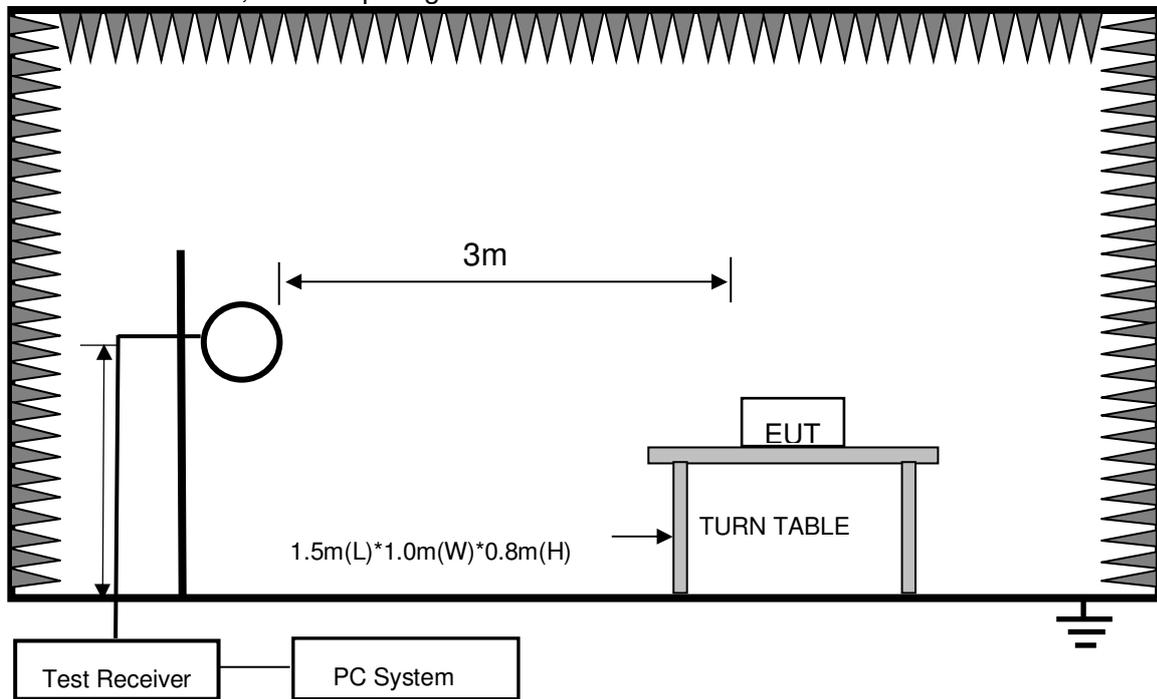
three bands are based on measurements employing an average detector.
 (2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3m}(\text{dBuV/m}) = \text{Limit}_{30m}(\text{dBuV/m}) + 40\text{Log}(30m/3m)$$

 (3) Limit for this EUT
 All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

Test Setup:

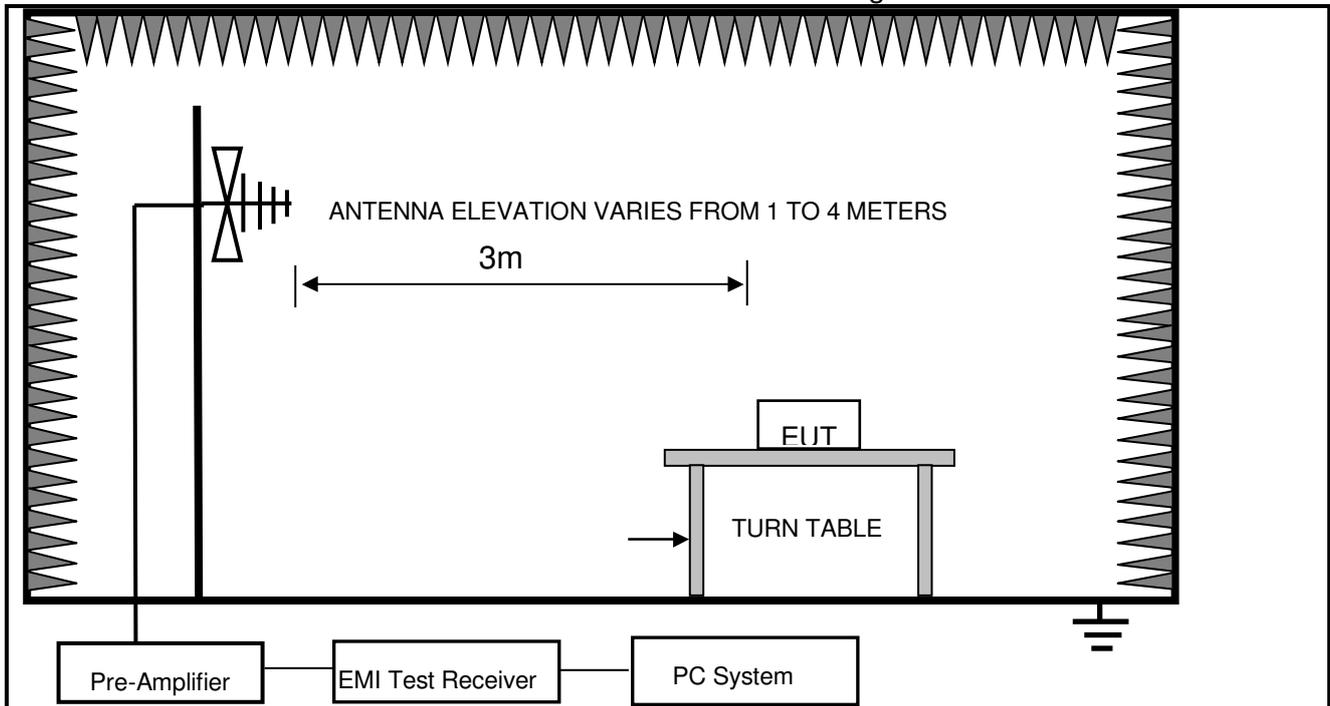
Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



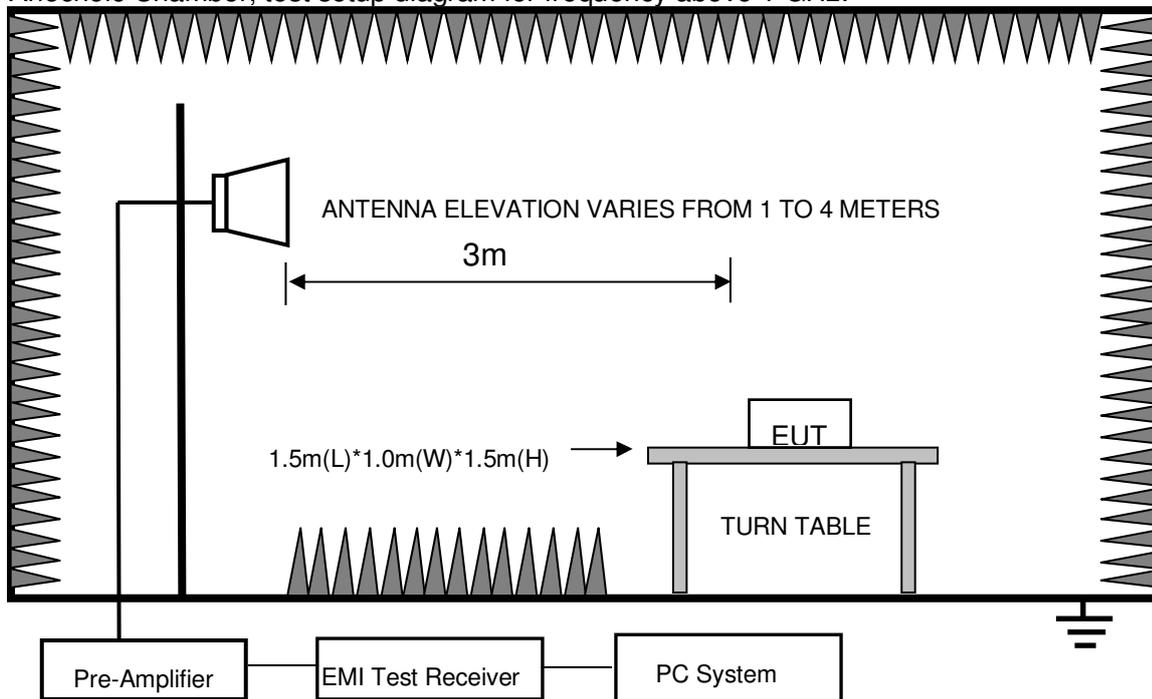
Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



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Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

Test Procedure:

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.
- (2) Test antenna was located 3 m from the EUT on an adjustable mast, and the



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antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna (1 GHz - 18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna (18 GHz - 40 GHz)	3 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6.5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also is positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. For measurement above 30 MHz, the trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 40 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 40 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so below final test was performed with frequency range from 30 MHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz



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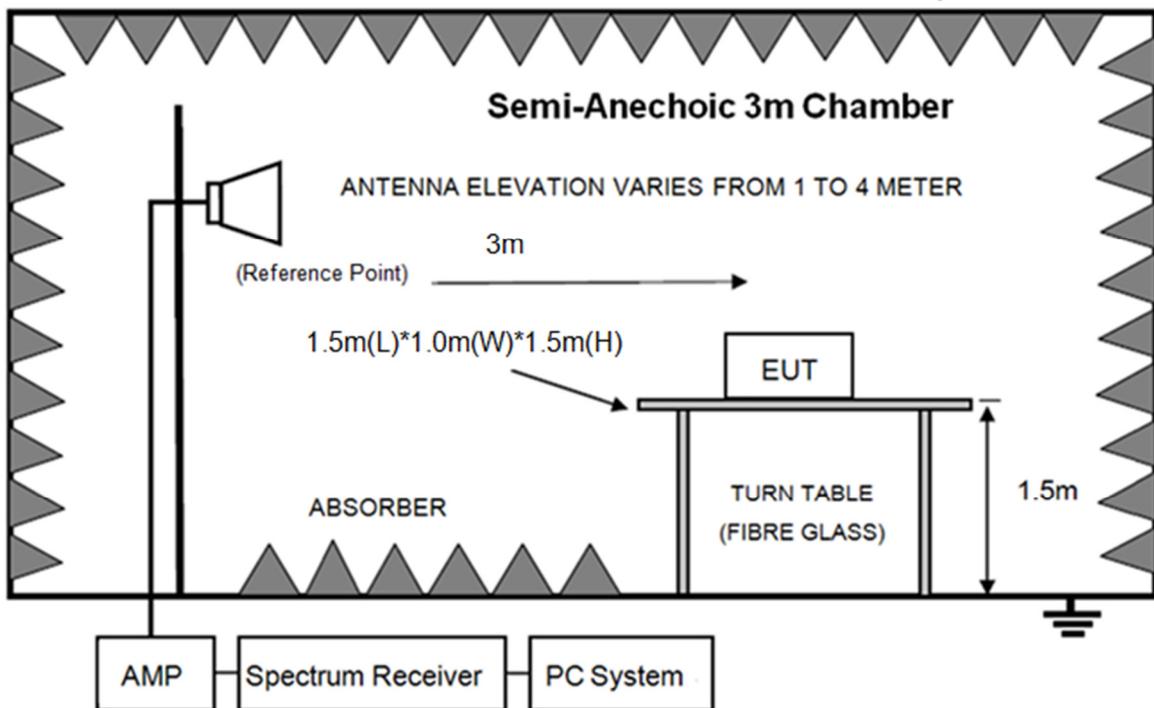
	30 MHz - 1 GHz	120 kHz
	(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure. (8) X axis, Y axis, Z axis are tested, and worse setup X axis is reported.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.	
Final Test Mode:	Refer to section 3.7 for details.	
Instruments Used:	Refer to section 6 for details.	
Test Results:	Pass	
Notes:	All the emissions except fundamental emission from 9 kHz to 40 GHz were comply with 15.209 limits. Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below. Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in transmitting and charging mode. Note3: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit. Scan with all modes, the worst case was recorded in this report.	
The detailed test data see: Appendix		



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4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15 Section 15.407(b)
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)
Limit:	<p>(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.</p> <p>(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.</p> <p>(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/ MHz.</p> <p>(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm / MHz.</p> <p>(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.</p> <p>(6) The provisions of §15.205 apply to intentional radiators operating under this section.</p> <p>-27 dBm/MHz Limit=95.2+EIRP [dBm]=95.2-27=68.2 dBμV/m</p>
Test Setup:	



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Test Procedure:	Same with clause 4.3 except change investigated frequency range. Remark: All restriction band have been tested, and only the worst case is shown in report.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Refer to section 3.7 for details.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
Note:	Note1: As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit
The detailed test data see: Appendix	



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4.11 Dynamic Frequency Selection

4.11.1 DFS Overview

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required
Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>U-NII Detection Bandwidth and Statistical Performance Check</i>	All BW modes must be tested	Not required
<i>Channel Move Time and Channel Closing Transmission Time</i>	Test using widest BW mode available	Test using the widest BW mode available for the link
<i>All other tests</i>	Any single BW mode	Not required
<p>Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.</p>		



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4.11.2 DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

4.11.3 Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
<i>U-NII Detection Bandwidth</i>	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: *Channel Move Time* and the *Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

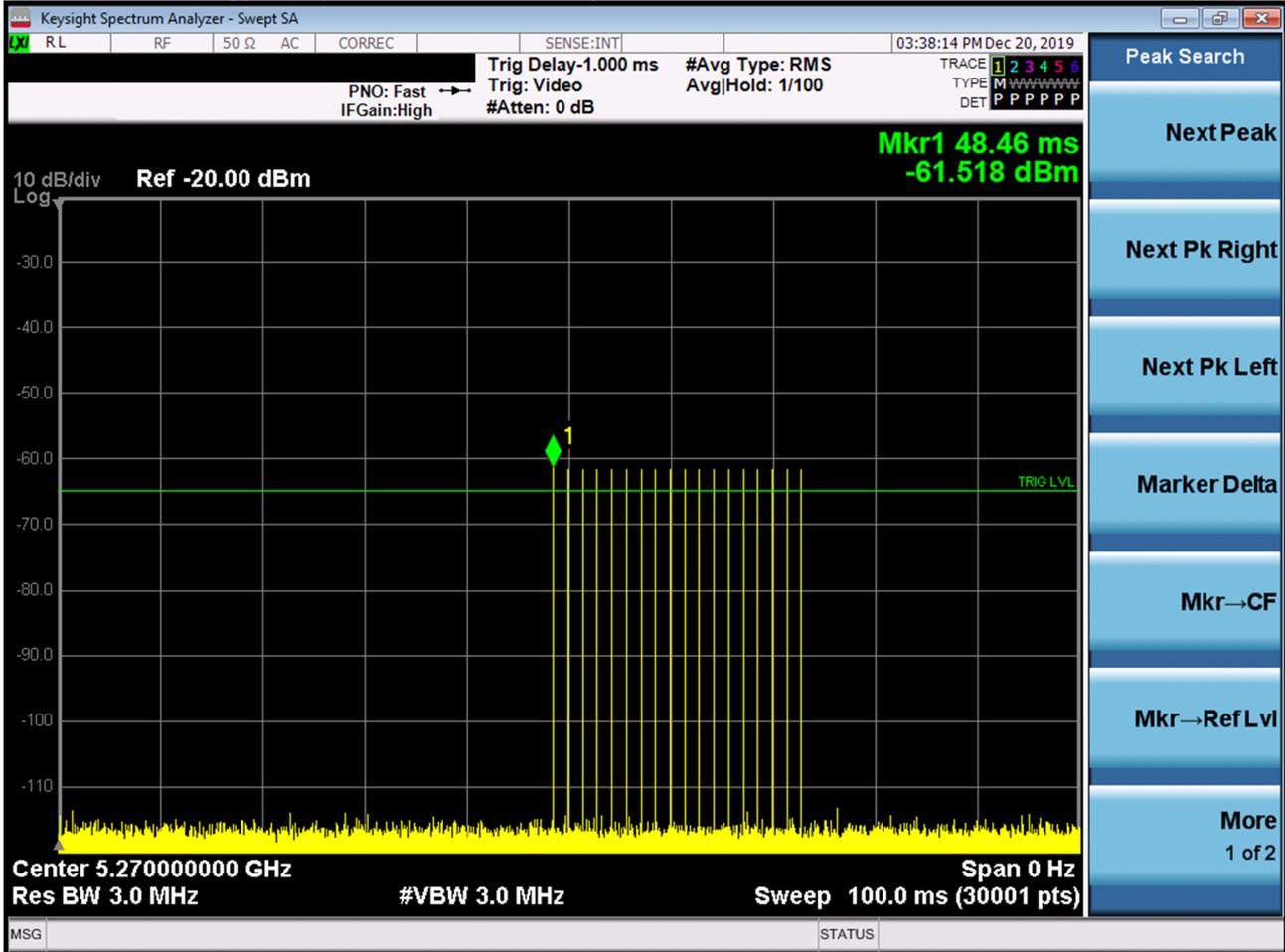


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4.11.4 Test plots

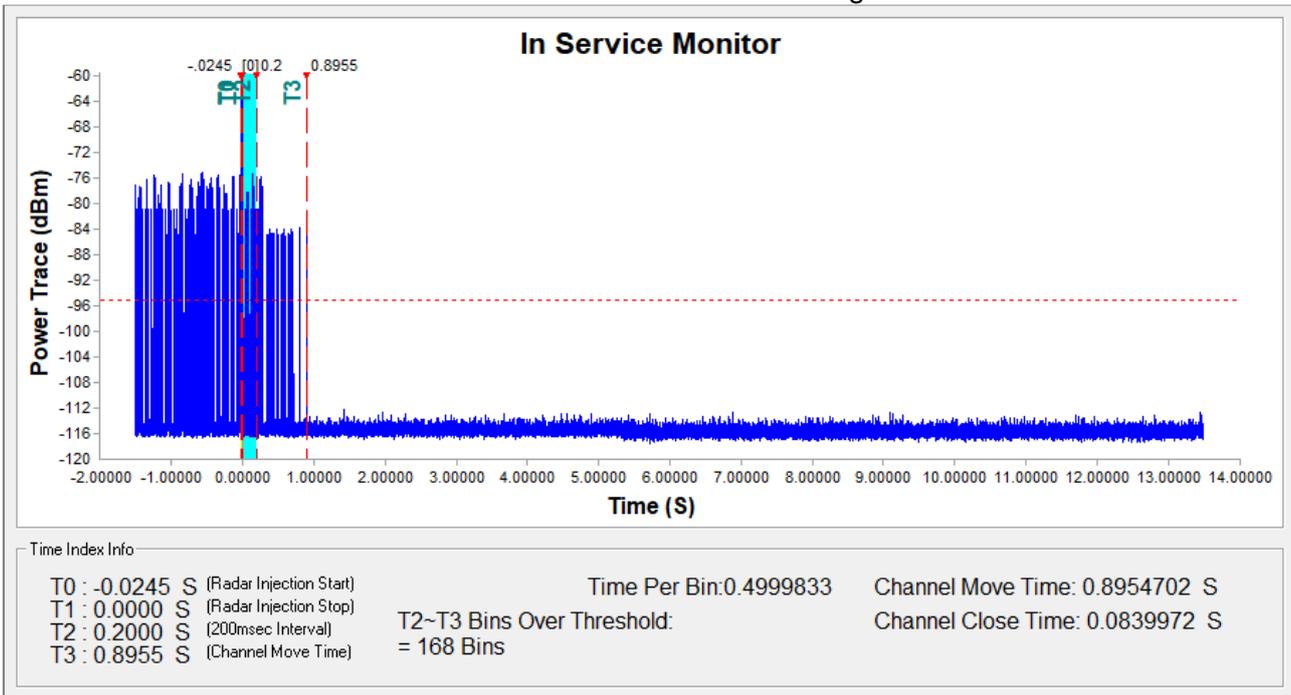
4.11.4.1 Radar Waveform Calibration Result

Radar Type 0 (40MHz / 5270MHz)

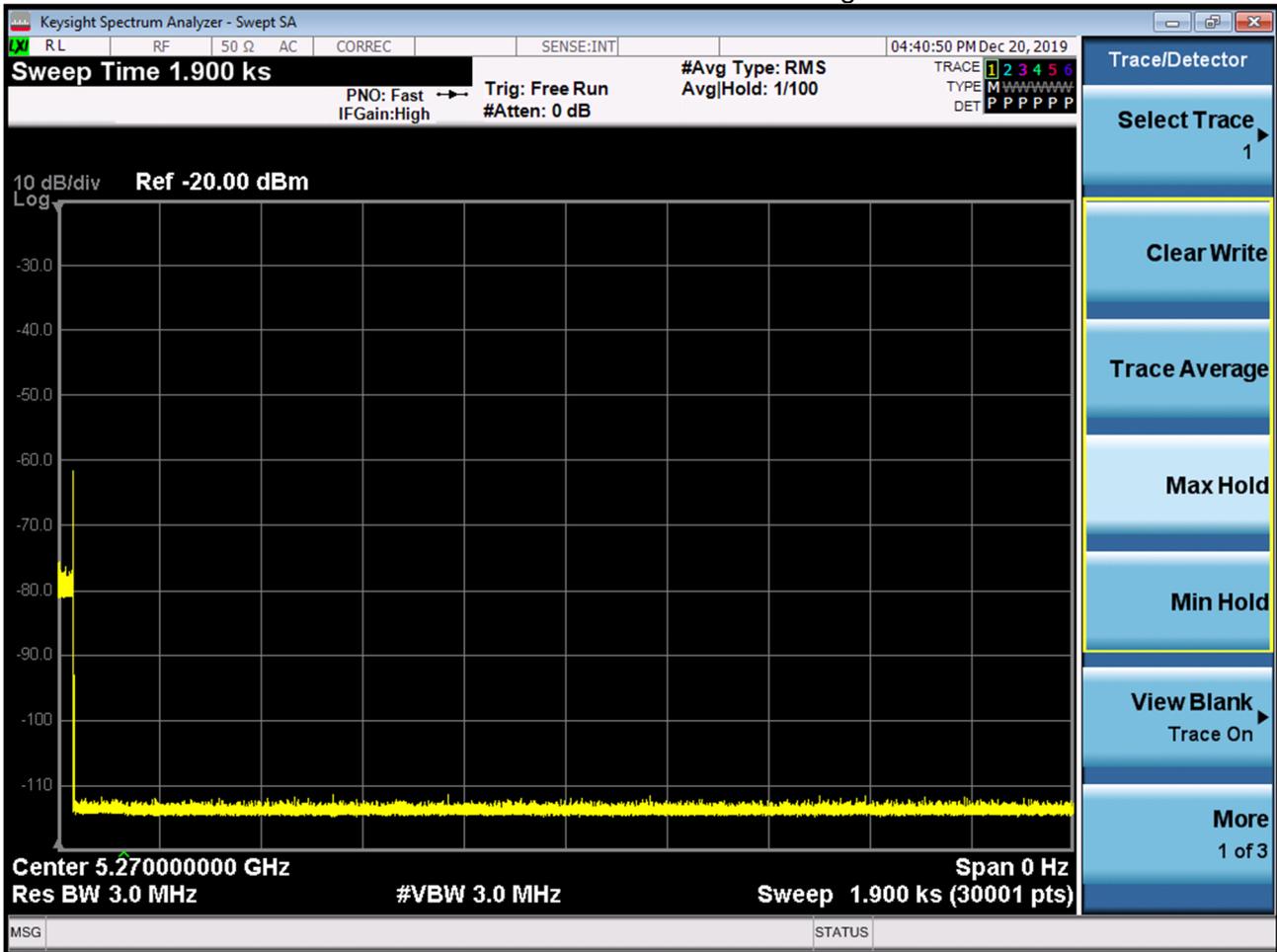


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4.12 Frequency Stability

4.12.1 Frequency Error vs. Voltage:

Test Conditions	Measured Frequency (MHz)	
	5180	5320
V nom(V)	5180.000532	5320.002029
V max(V)	5180.010343	5320.004536
V min(V)	5180.019607	5320.012416
Max. Deviation Frequency	0.019607	0.012416
Max. Frequency Error (ppm)	3.785168	2.131464

4.12.2 Frequency Error vs. Temperature:

Test Conditions(°C)	Measured Frequency (MHz)	
	5180	5320
-5	5180.004142	5320.004835
5	5180.005679	5320.009675
15	5180.012226	5320.010940
25	5180.017184	5320.014226
35	5180.022806	5320.023955
45	5180.029981	5320.030636
50	5180.038799	5320.032501
Max. Deviation Frequency	0.038799	0.032501
Max. Frequency Error (ppm)	7.490083	5.579517



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

Lab A:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.75dB
2	RF power density, conducted	±2.84dB
3	Spurious emissions, conducted	±0.75dB

Lab B:

Test Item	Uncertainty
Uncertainty for Radiation Emission Test (30 MHz - 1 GHz)	2.72 dB (Antenna Polarize: V)
	2.72 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission Test (1 GHz - 40 GHz)	2.74 dB (1 - 6 GHz)
	2.72 dB (6 GHz - 18 GHz)
	3.54 dB (18 GHz - 26 GHz)
	4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power Line Conduction Emission Test	3.40 dB (150 kHz - 30 MHz)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



6 Equipment List

Lab A:

RF conducted					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2019/4/9	2020/4/8
Signal Analyzer	Agilent	N9020A	W025-01	2019/6/25	2020/6/24
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2019/7/14	2020/7/14
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2019/7/14	2020/7/13
Humidity/ Temperature Indicator	MingGao	TH101B	W006-05	2019/6/27	2020/6/26
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2019/11/21	2020/11/20
				2018/11/28	2019/11/27
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2019/7/14	2020/7/14
Master Device	Linksys pte.Ltd	WRT32X	FCC ID:Q87-WRT3200AC M IC ID:3839A-WRT3200AC M	N/A	N/A
MXG Vector Signal Generator	KEYSIGHT	N5182A	SEM006-14	2019/4/12	2020/4/11



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Lab B:

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
RF Connected Test (MWRftest system)					
Microwave Signal Generator	R&S	SMF100A	101396	2021/05/25	1 Year
MXG Vector Signal Generator	Agilent	N5182A	MY50143288	2021/03/08	1 Year
EMI Test Receiver	R&S	ESU26	100243	2021/03/03	1 Year
Wideband Radio Communication Tester	R&S	CMW500	158800	2021/05/14	1 Year
Power Detector	MWRftest	MW100-PSB	MW201203008	2021/03/31	1 Year
DC Power Supply	inSTEK	PSP-2010	EH131319	2021/02/27	1 Year
Test Software	MWRftest	MTS8310	V03	N/A	N/A
Radiated Emission -10m EMI Chamber					
EXA Signal Analyzer	Keysight	N9010A	MY53281492	2021/03/31	1 Year
Active Loop Antenna	R&S	HFH2-Z2	100269	2021/05/08	1 Year
Double-Ridged Guide Horn Antenna	ETS-LINDGREN	3115	00102808	2021/03/16	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	2021/04/21	1 Year
Broadband Horn Antenna	TESEQ	BHA 9118	31754	2021/10/12	1 Year
Low noise amplifier	MITEQ	TPA0118-36	0914	2021/02/03	1 Year
EMI Test Receiver	R&S	ESCI	101024	2021/03/03	1 Year
EMI Test Receiver	R&S	ESCI	101030	2021/05/15	1 Year
Bilog Antenna	TESEQ	CBL6112D	29068	2020/10/12	2 Year
Bilog Antenna	TESEQ	CBL6112D	29069	2020/10/12	2 Year
Amplifier	Sonoma	310N	300913	2021/03/03	1 Year
Amplifier	Sonoma	310N	300914	2021/03/03	1 Year
Ant Mast	Innco	MA4000	N/A	N/A	N/A
Ant Mast	Innco	MA4000	N/A	N/A	N/A
Mast Controller	Innco	CO2000	N/A	N/A	N/A
Mast Controller	Innco	CO2000	N/A	N/A	N/A
RF Selector 4CH	TOYO	NS4904N	Selector1	N/A	N/A
RF Selector 4CH	TOYO	NS4904N	Selector2	N/A	N/A
Test software	TOYO	EP5/RSE	Ver 1.9.1	N/A	N/A
Test software	Audix	E3	V 6.11111b	N/A	N/A
Power Line Conducted Emissions Test					
Test Receiver	R&S	ESCI	101397	2021/03/03	1 Year
LISN	R&S	ENV216	101122	2021/03/31	1 Year
Test software	TOYO	EP5/CE	V 5.4.40	N/A	N/A



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7 Photographs – Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.



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Appendix



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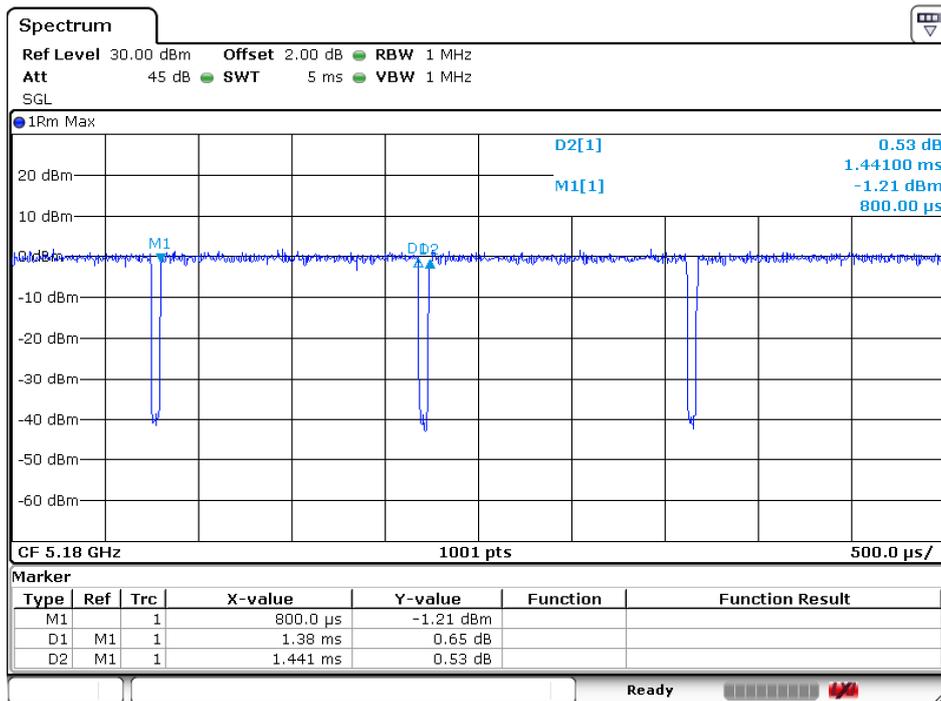
Duty Cycle

Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11A	Ant 1: CH36	95.77
11N20	Ant 1: CH36	95.47
11N40	Ant 1: CH38	88.36

Test Plots

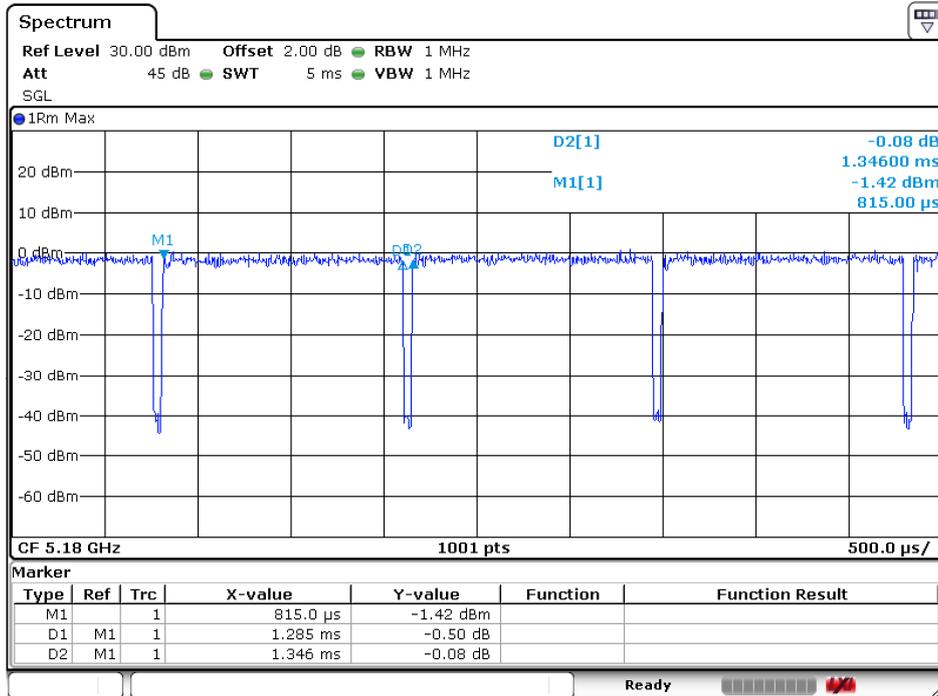
ANT1
11A



Date: 22.OCT.2019 22:16:40

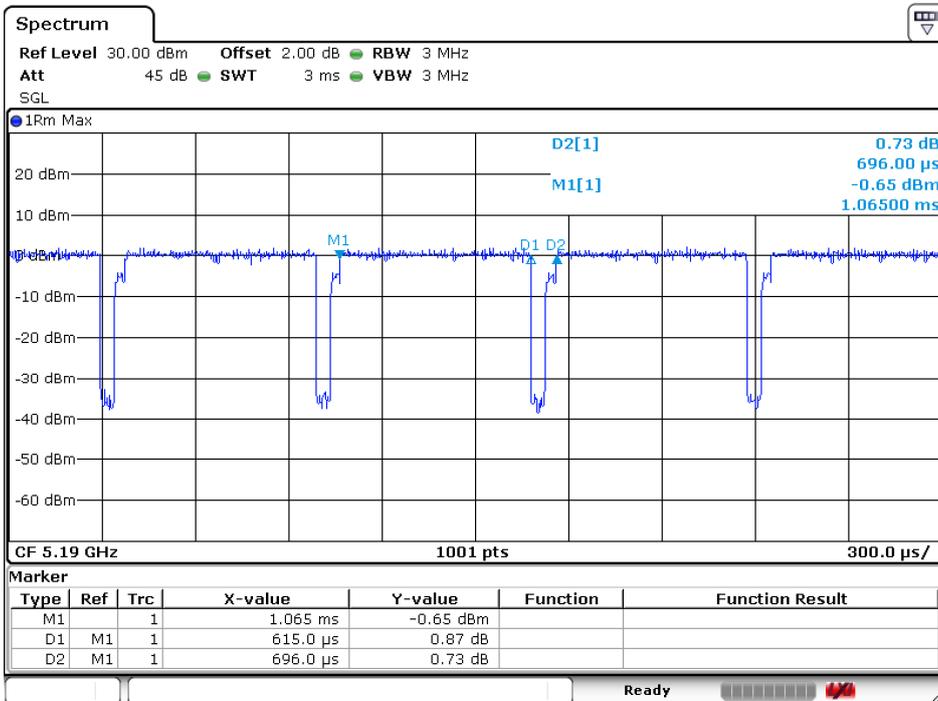


11N20



Date: 22.OCT.2019 22:15:47

11N40



Date: 22.OCT.2019 22:14:36



Maximum Conducted Output Power

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	14.89	14.46	PASS
	48	5240	ANT 1	14.47	14.04	PASS
	52	5260	ANT 1	14.49	14.06	PASS
	64	5320	ANT 1	14.93	14.50	PASS
	100	5500	ANT 1	14.54	14.11	PASS
	140	5700	ANT 1	14.56	14.13	PASS
11N20	36	5180	ANT 1	14.86	14.43	PASS
	48	5240	ANT 1	14.74	14.31	PASS
	52	5260	ANT 1	14.82	14.39	PASS
	64	5320	ANT 1	14.94	14.51	PASS
	100	5500	ANT 1	14.83	14.40	PASS
	140	5700	ANT 1	14.85	14.42	PASS
11N40	38	5190	ANT 1	14.84	14.41	PASS
	46	5230	ANT 1	14.94	14.51	PASS
	54	5270	ANT 1	14.46	14.03	PASS
	62	5310	ANT 1	14.42	13.99	PASS
	102	5510	ANT 1	14.96	14.53	PASS
	134	5670	ANT 1	14.31	13.88	PASS



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26dB Emission Bandwidth

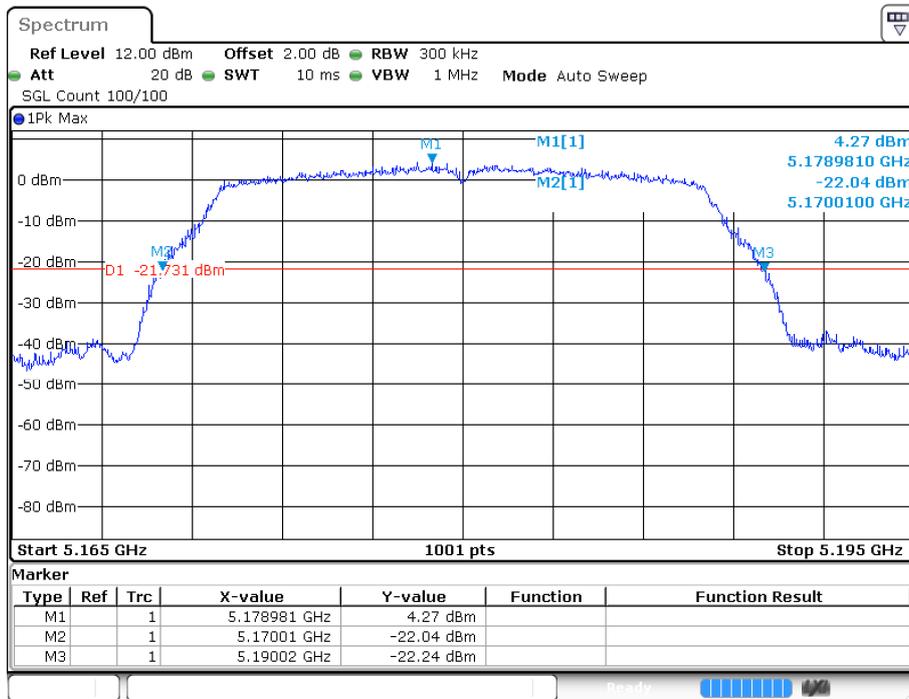
Test Results for 26dB Emission Bandwidth

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	26dB Emission Bandwidth [MHz]	Verdict
11A20	36	5180	ANT 1	20.01	PASS
	48	5240	ANT 1	20.19	PASS
	52	5260	ANT 1	20.34	PASS
	64	5320	ANT 1	20.01	PASS
	100	5500	ANT 1	20.16	PASS
	140	5700	ANT 1	20.19	PASS
11N20	36	5180	ANT 1	20.61	PASS
	48	5240	ANT 1	20.58	PASS
	52	5260	ANT 1	20.52	PASS
	64	5320	ANT 1	20.52	PASS
	100	5500	ANT 1	20.52	PASS
	140	5700	ANT 1	20.46	PASS
11N40	38	5190	ANT 1	40.44	PASS
	46	5230	ANT 1	40.8	PASS
	54	5270	ANT 1	40.8	PASS
	62	5310	ANT 1	40.98	PASS
	102	5510	ANT 1	40.74	PASS
	134	5670	ANT 1	40.74	PASS



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Plots for 26dB Emission Bandwidth
11A20_36 ANT 1



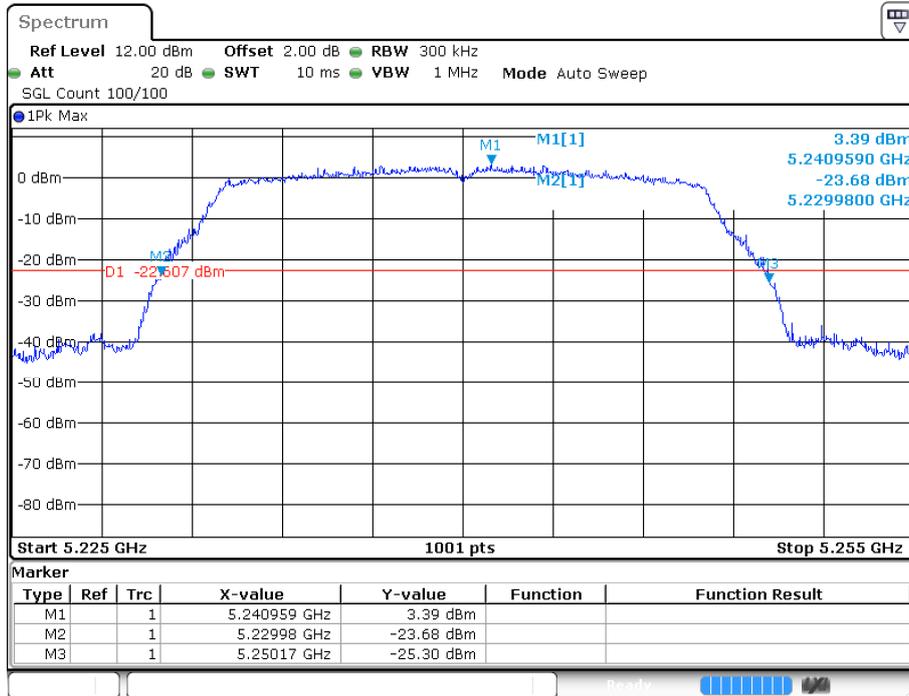
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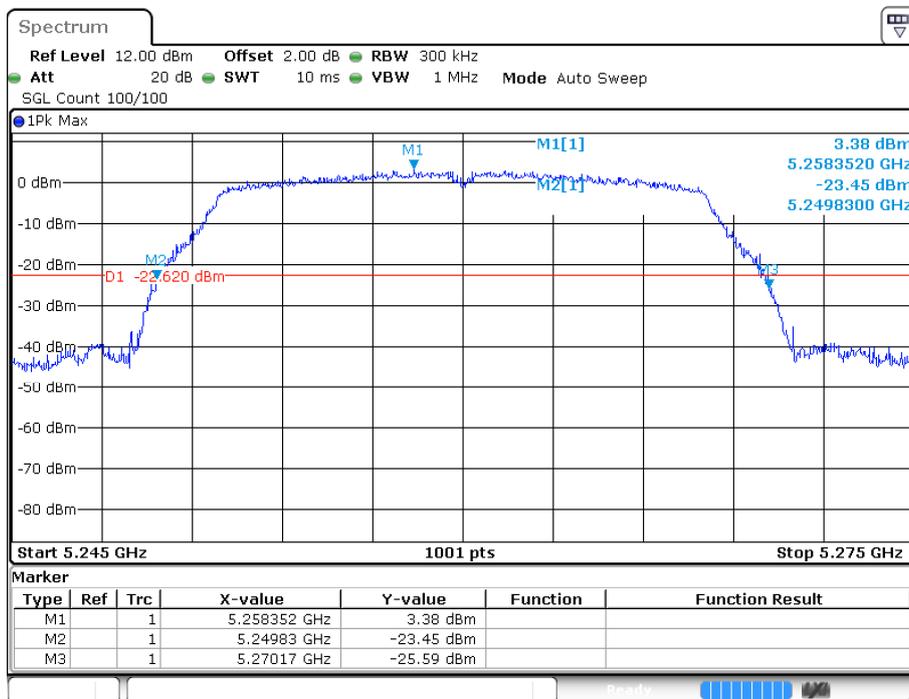
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11A20_48 ANT 1



Date: 22.OCT.2019 20:36:47

11A20_52 ANT 1



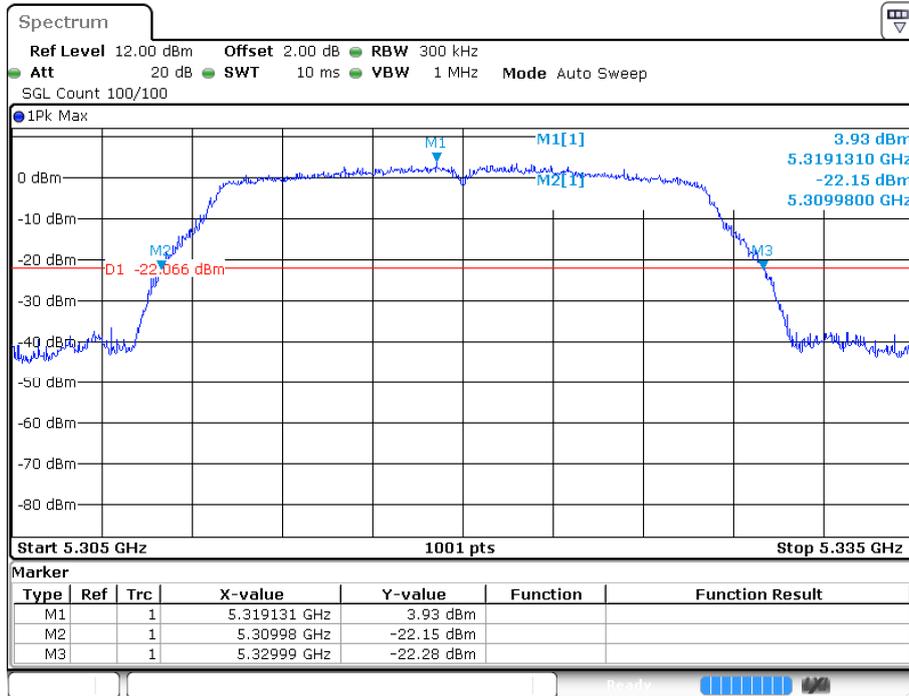
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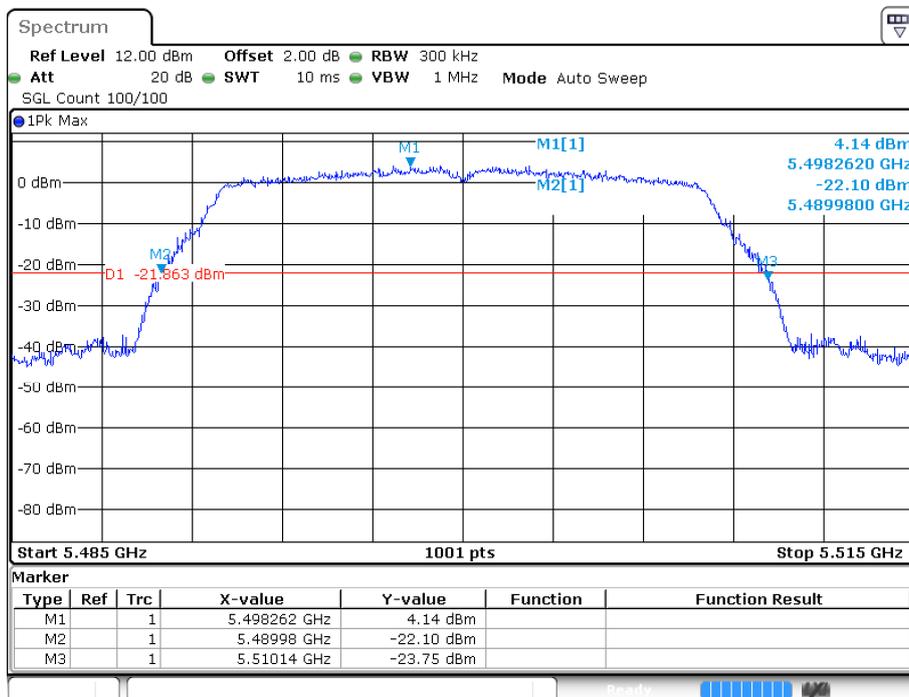
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11A20_64 ANT 1



Date: 22.OCT.2019 20:39:35

11A20_100 ANT 1



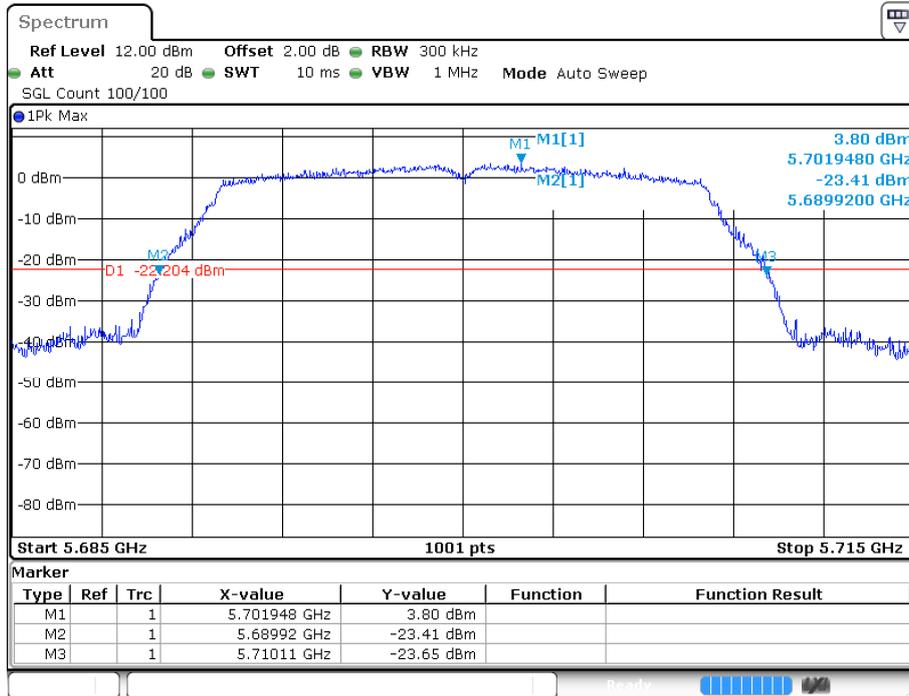
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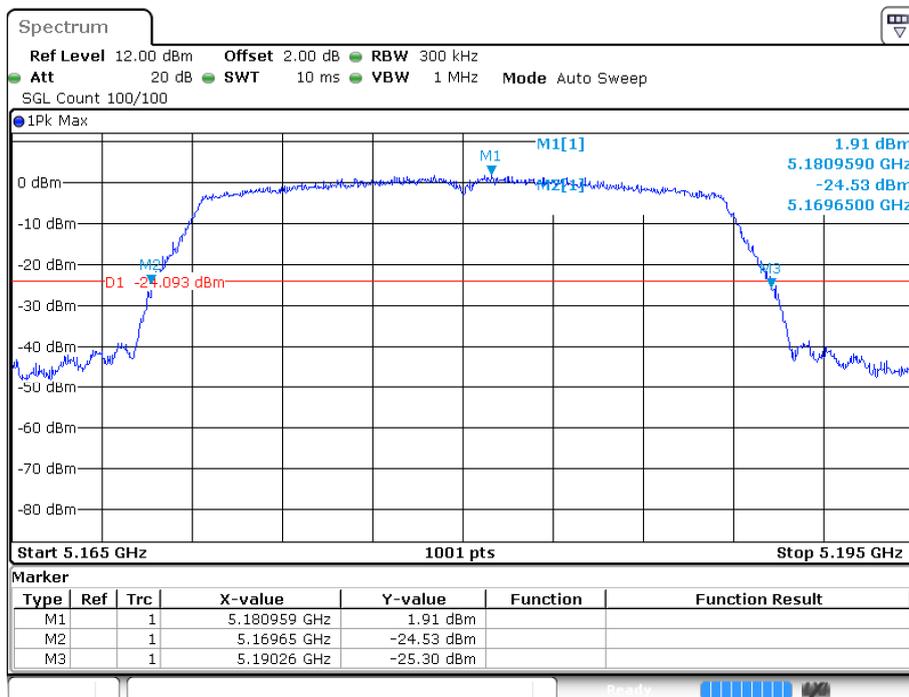
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11A20_140 ANT 1



Date: 22.OCT.2019 20:43:06

11N20_36 ANT 1



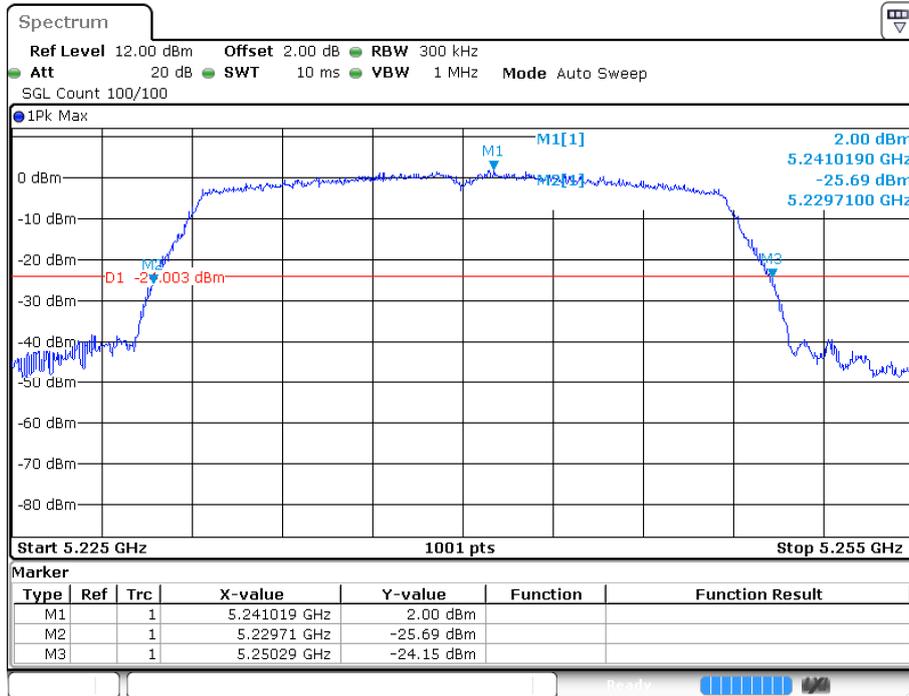
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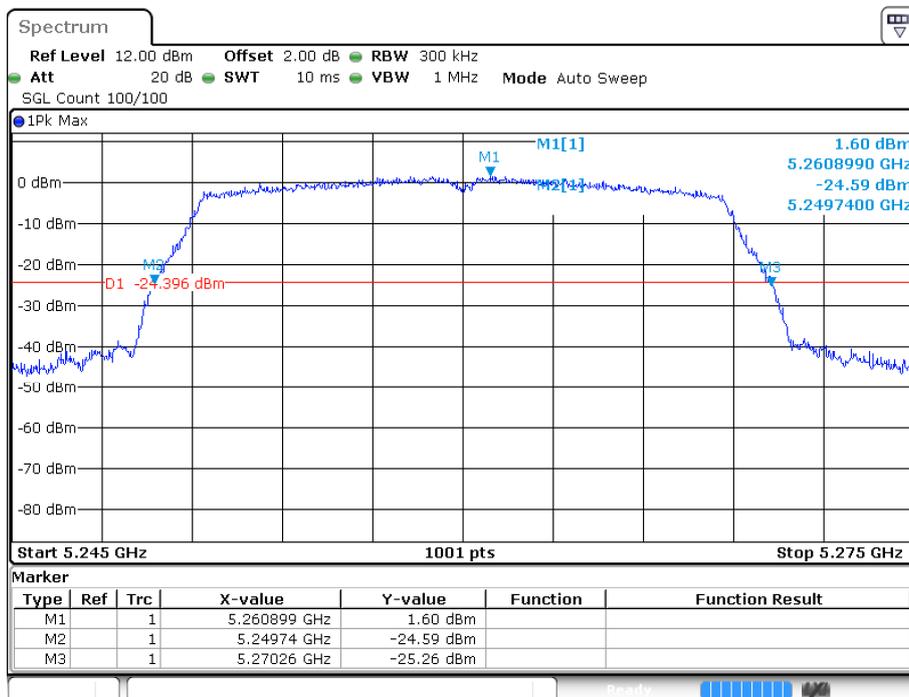
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11N20_48 ANT 1



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11N20_52 ANT 1



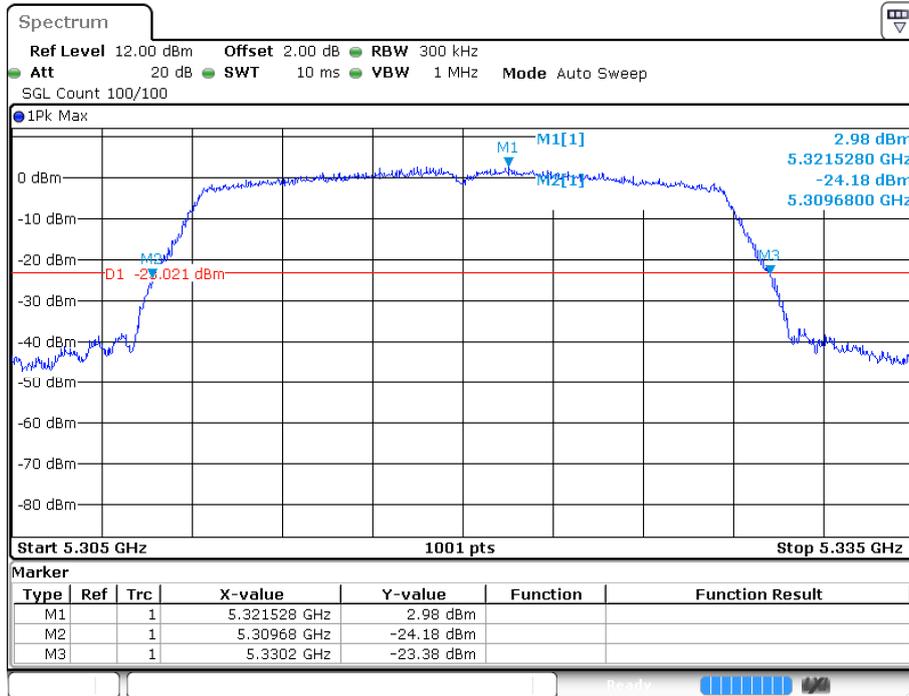
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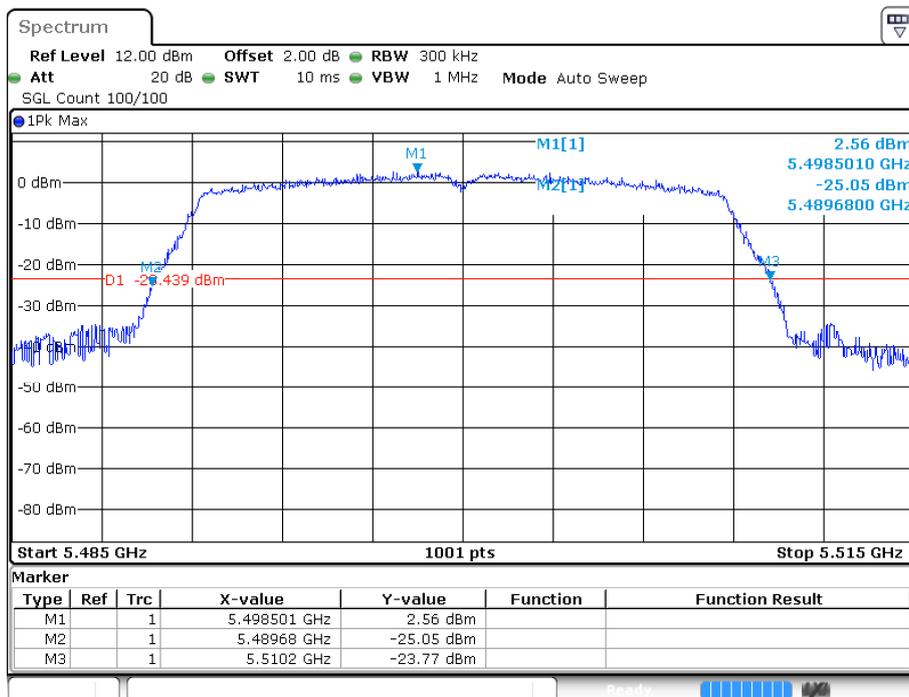
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11N20_64 ANT 1



Date: 22.OCT.2019 21:02:15

11N20_100 ANT 1



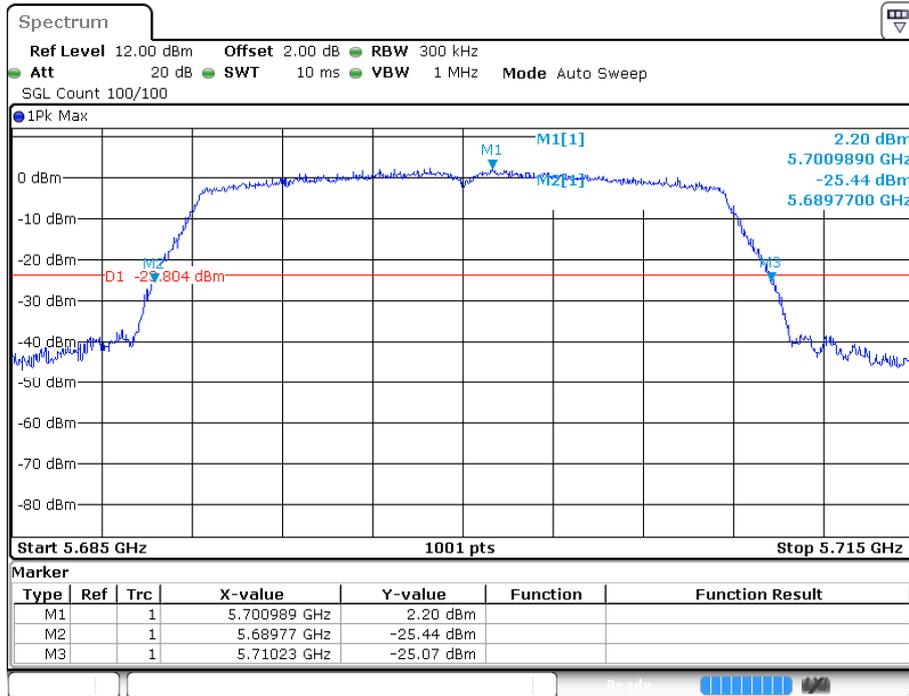
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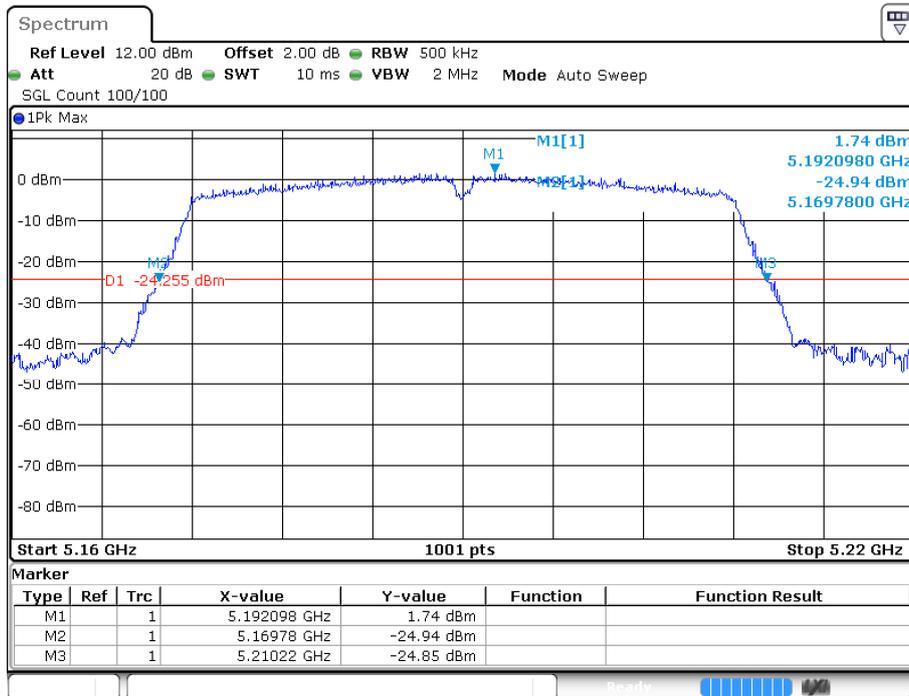
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11N20_140 ANT 1



Date: 22.OCT.2019 21:41:51

11N40_38 ANT 1



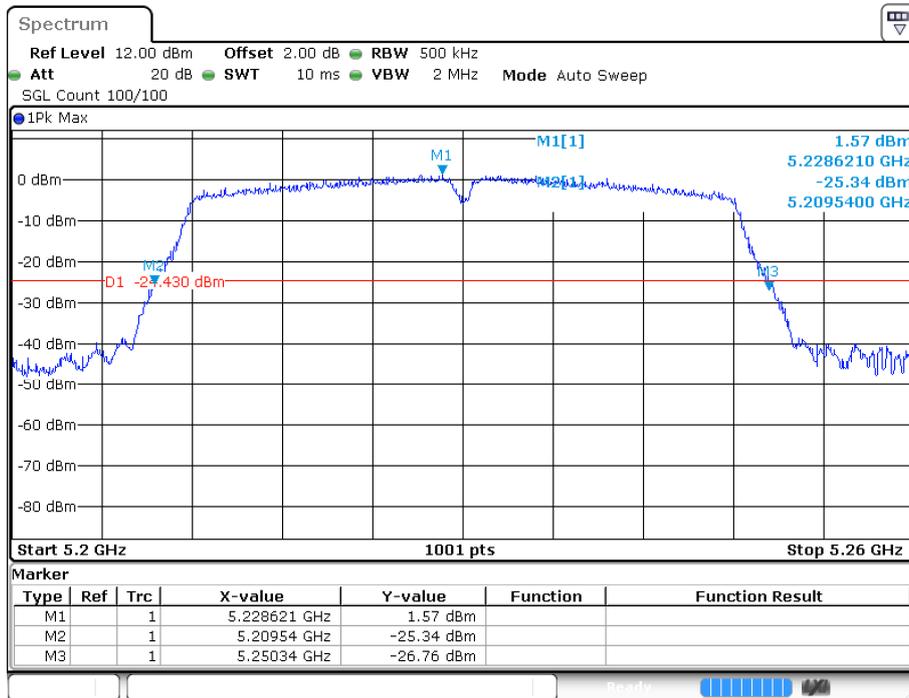
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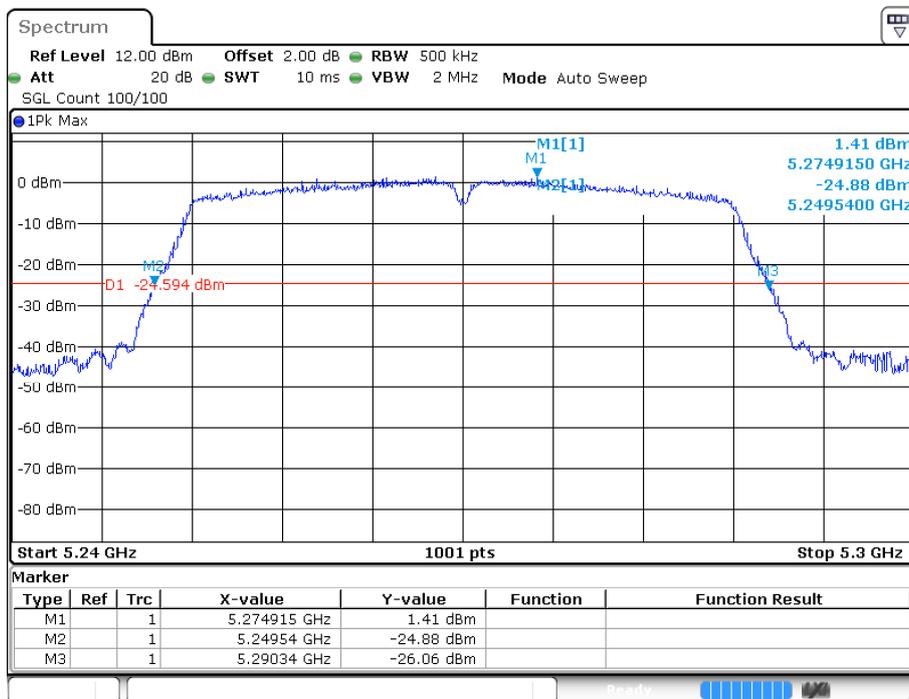
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11N40_46 ANT 1



Date: 22.OCT.2019 21:49:31

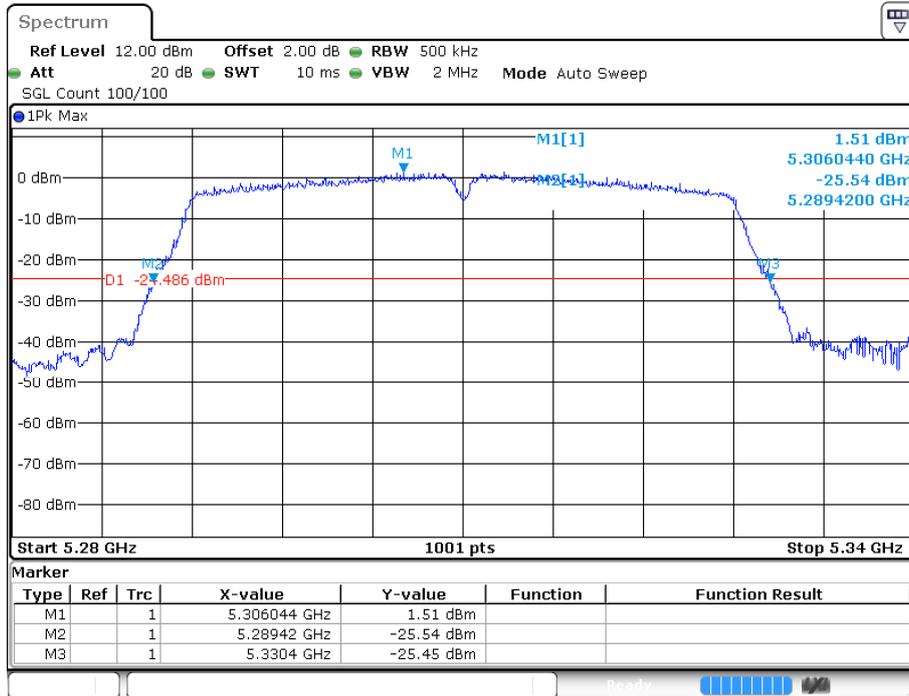
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Date: 22.OCT.2019 21:51:05

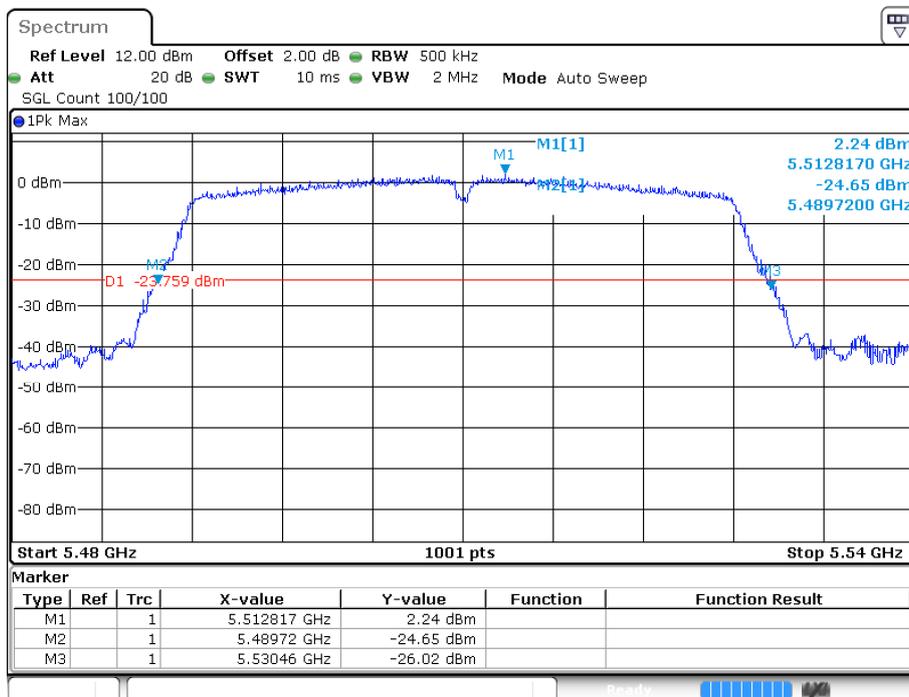


11N40_62 ANT 1



Date: 22.OCT.2019 21:51:56

11N40_102 ANT 1



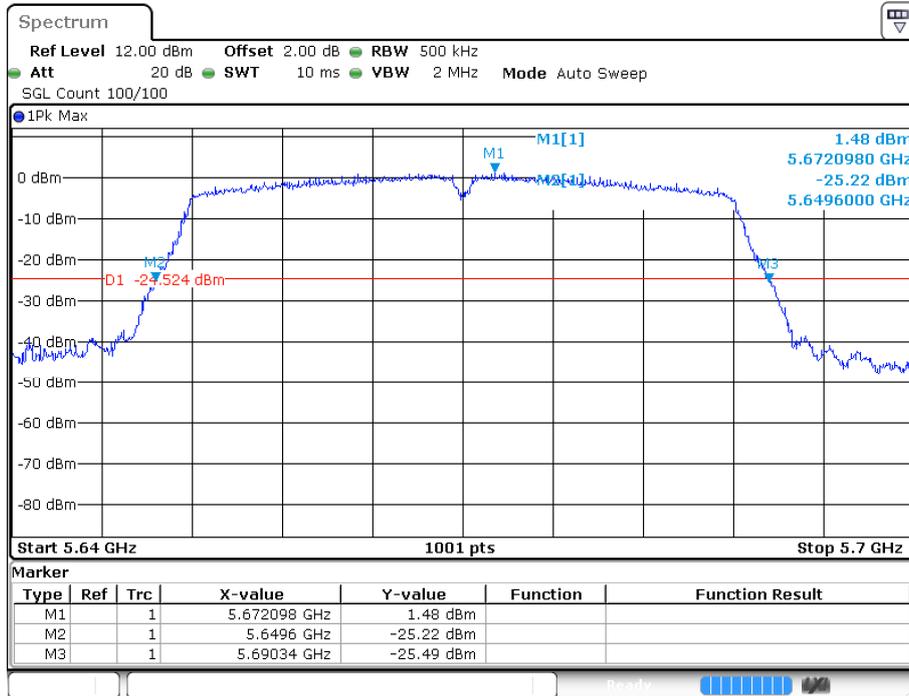
Date: 22.OCT.2019 22:07:08



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11N40_134 ANT 1



Date: 22.OCT.2019 22:08:13



99% Occupied Bandwidth

Test Results for 99% Occupied Bandwidth

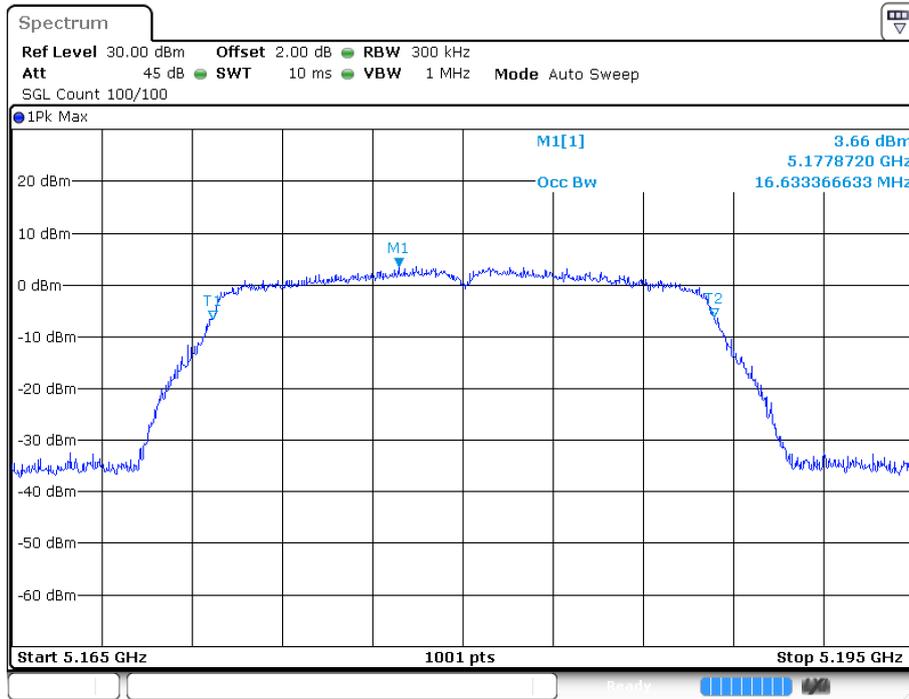
Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Occupied Bandwidth [MHz]	Verdict
11A20	36	5180	ANT 1	16.6334	PASS
	48	5240	ANT 1	16.6334	PASS
	52	5260	ANT 1	16.6633	PASS
	64	5320	ANT 1	16.6334	PASS
	100	5500	ANT 1	16.6933	PASS
	140	5700	ANT 1	16.6933	PASS
11N20	36	5180	ANT 1	17.6523	PASS
	48	5240	ANT 1	17.6523	PASS
	52	5260	ANT 1	17.6823	PASS
	64	5320	ANT 1	17.6823	PASS
	100	5500	ANT 1	17.6523	PASS
	140	5700	ANT 1	17.6823	PASS
11N40	38	5190	ANT 1	36.0839	PASS
	46	5230	ANT 1	36.1439	PASS
	54	5270	ANT 1	36.1439	PASS
	62	5310	ANT 1	36.2038	PASS
	102	5510	ANT 1	36.2038	PASS
	134	5670	ANT 1	36.1439	PASS



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Plots for 99% Occupied Bandwidth

11A20_36 ANT 1



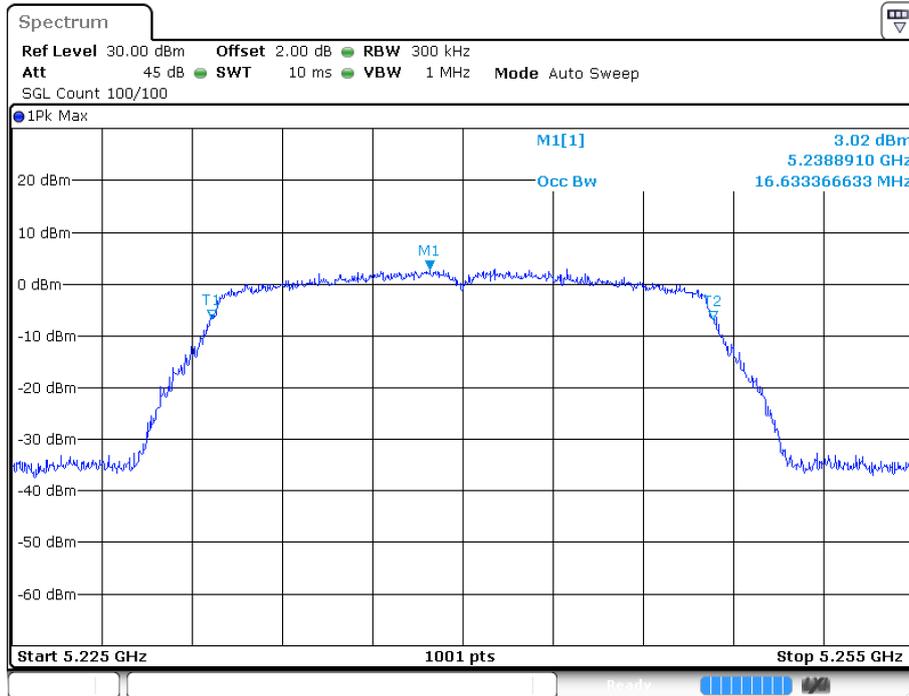
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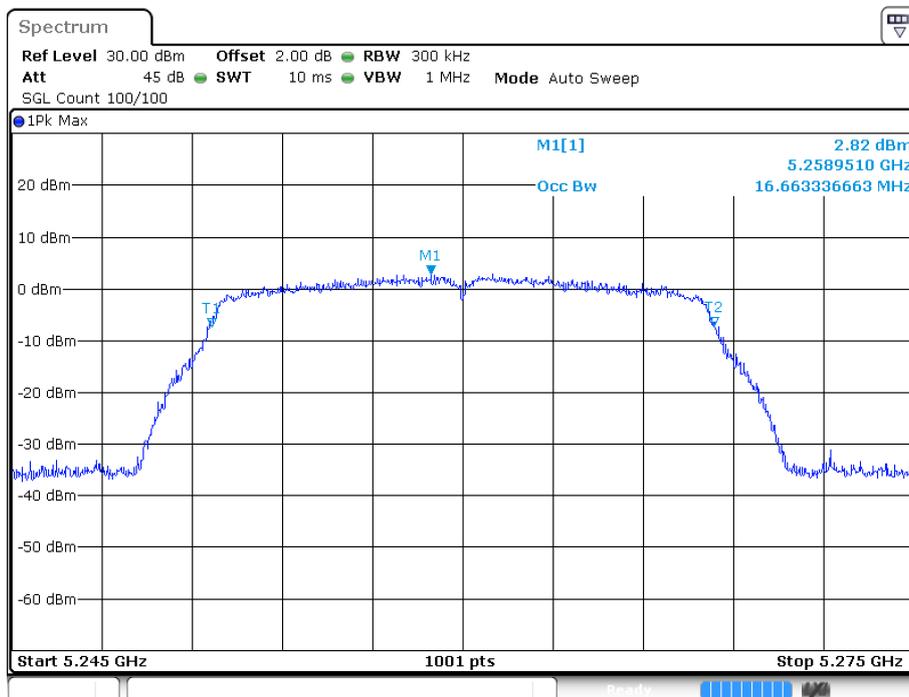
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11A20_48 ANT 1



Date: 22.OCT.2019 20:36:53

11A20_52 ANT 1



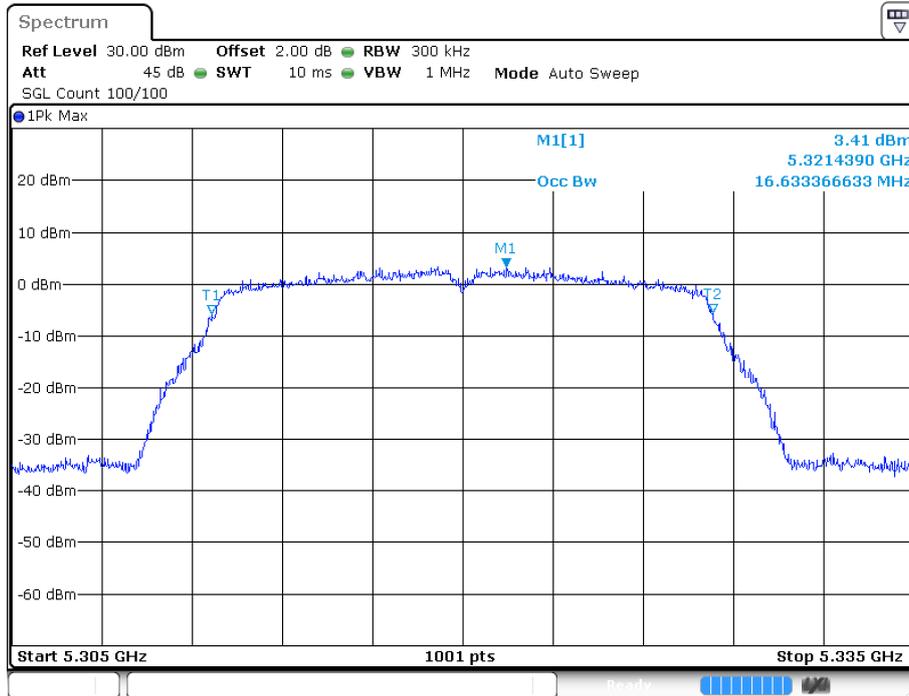
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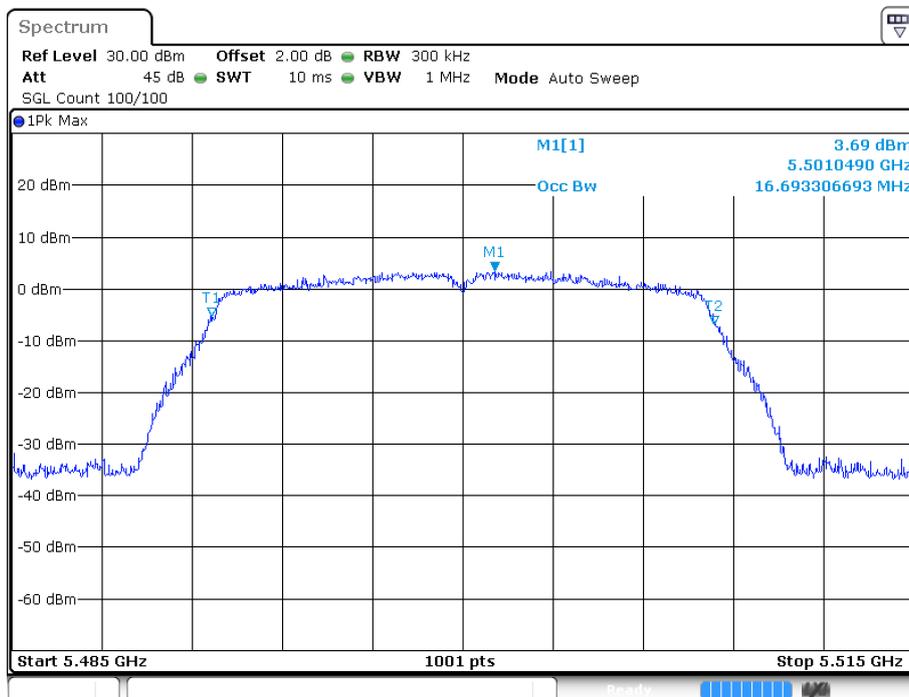
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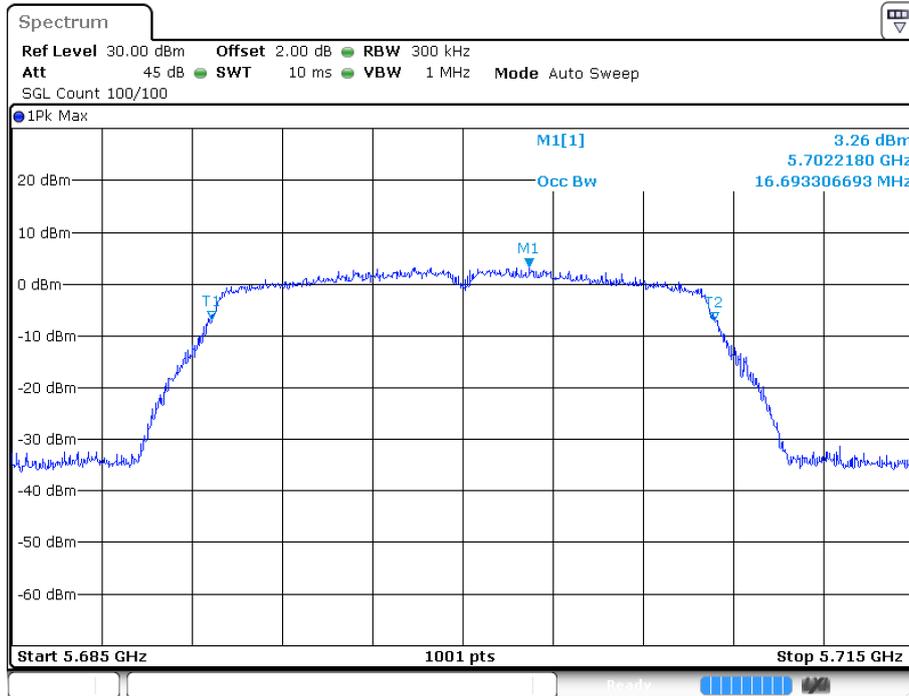
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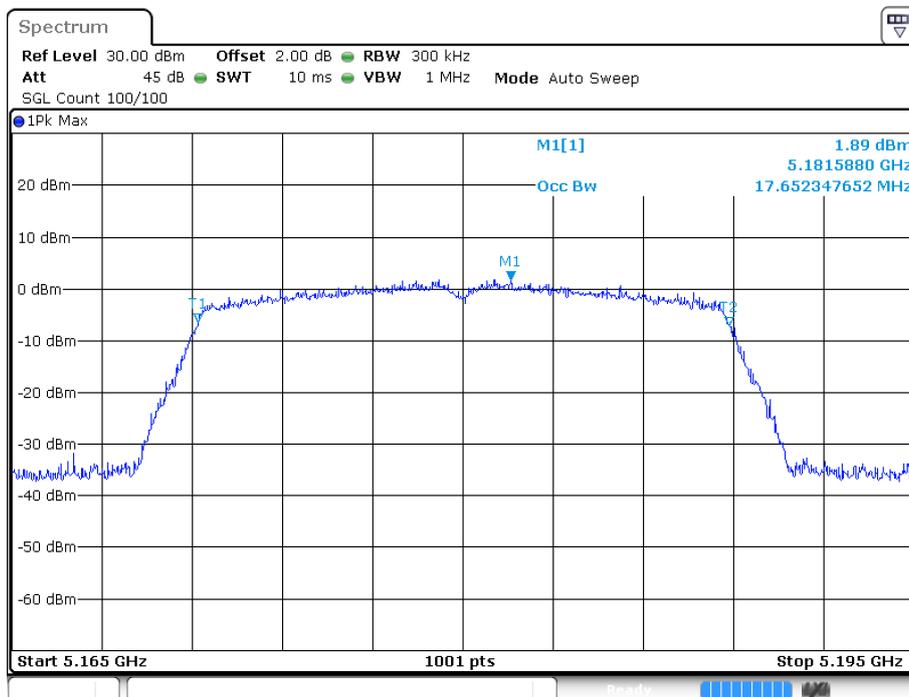


11A20_140 ANT 1



Date: 22.OCT.2019 20:43:12

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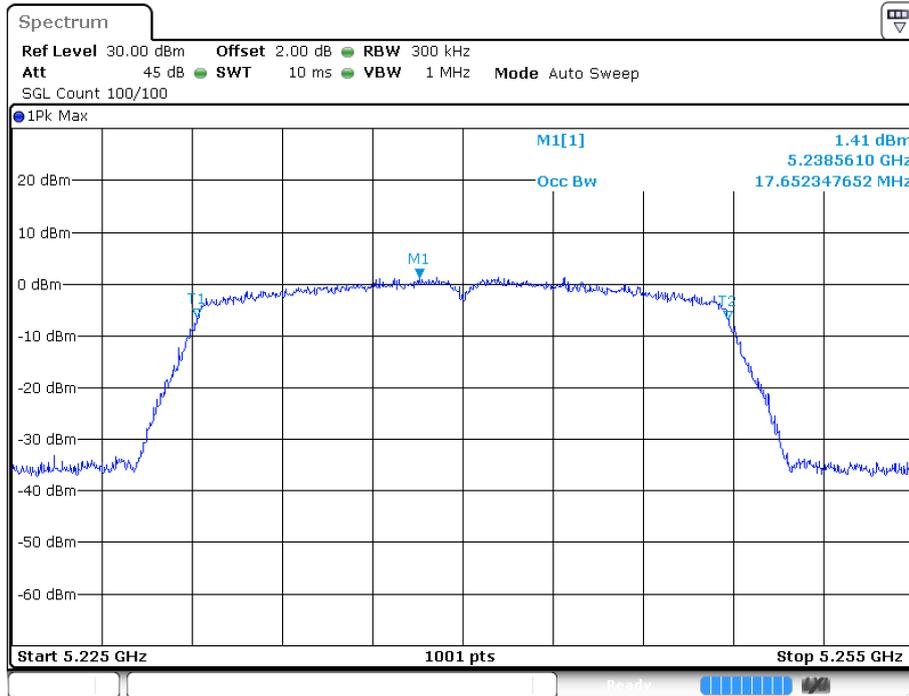
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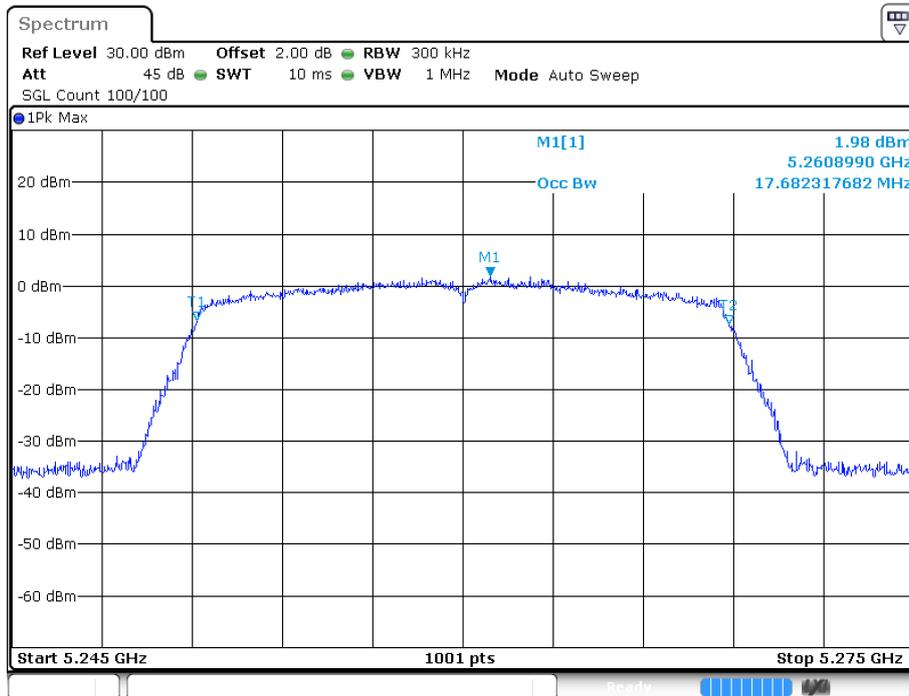
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11N20_52 ANT 1



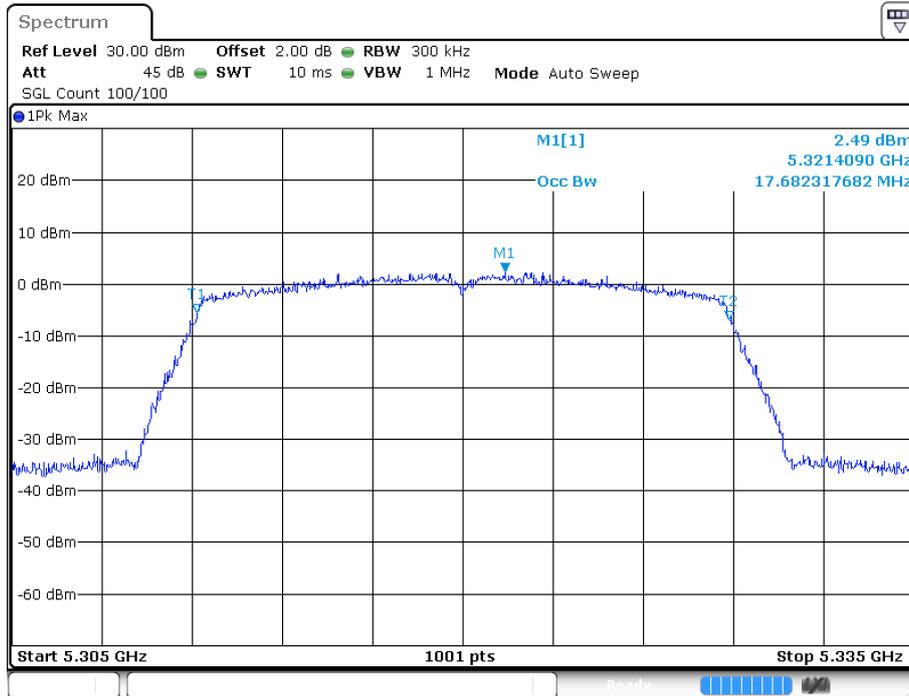
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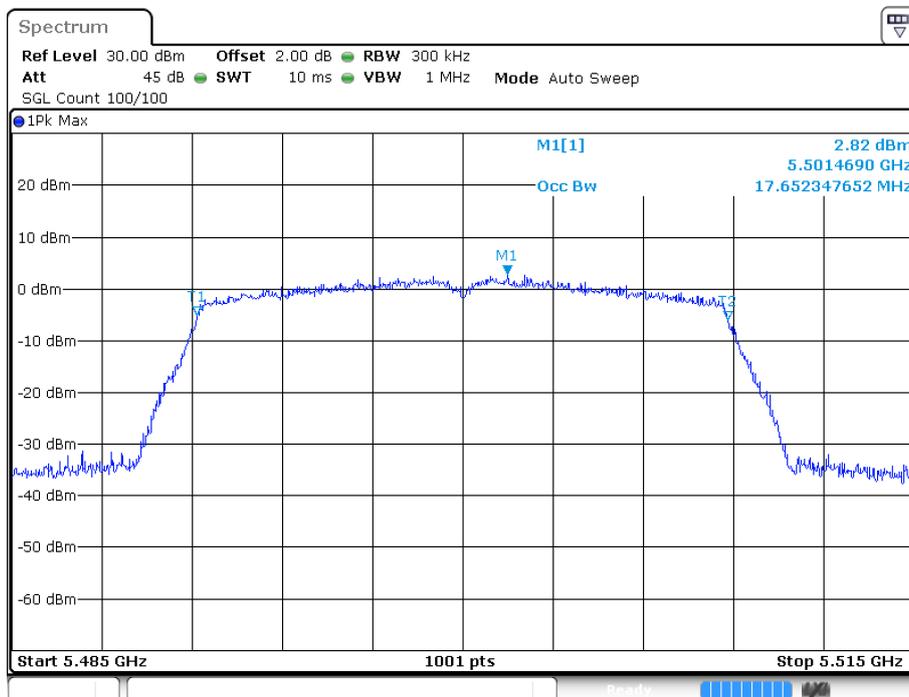
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11N20_64 ANT 1



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11N20_100 ANT 1



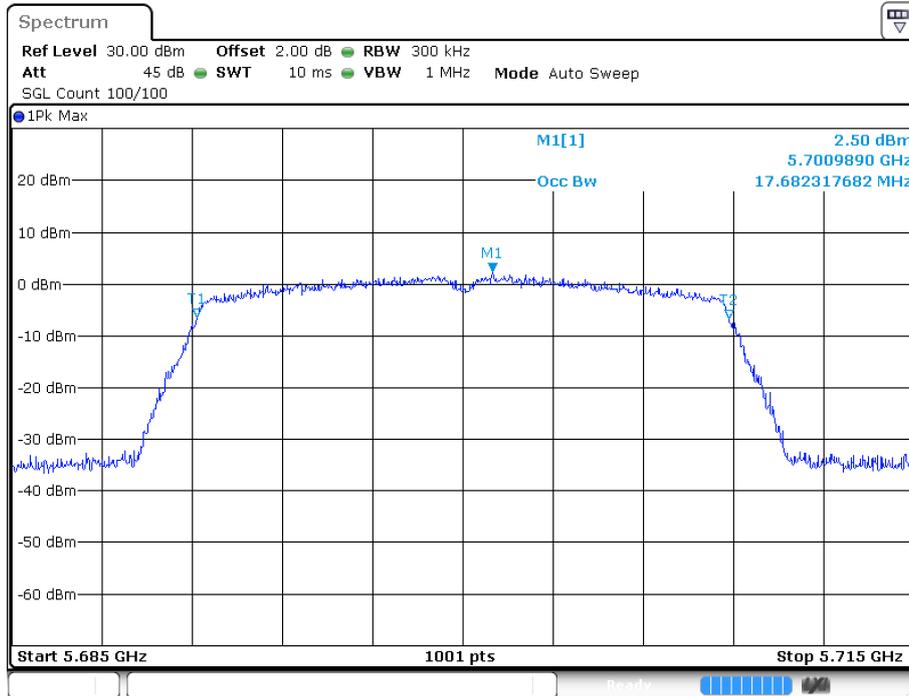
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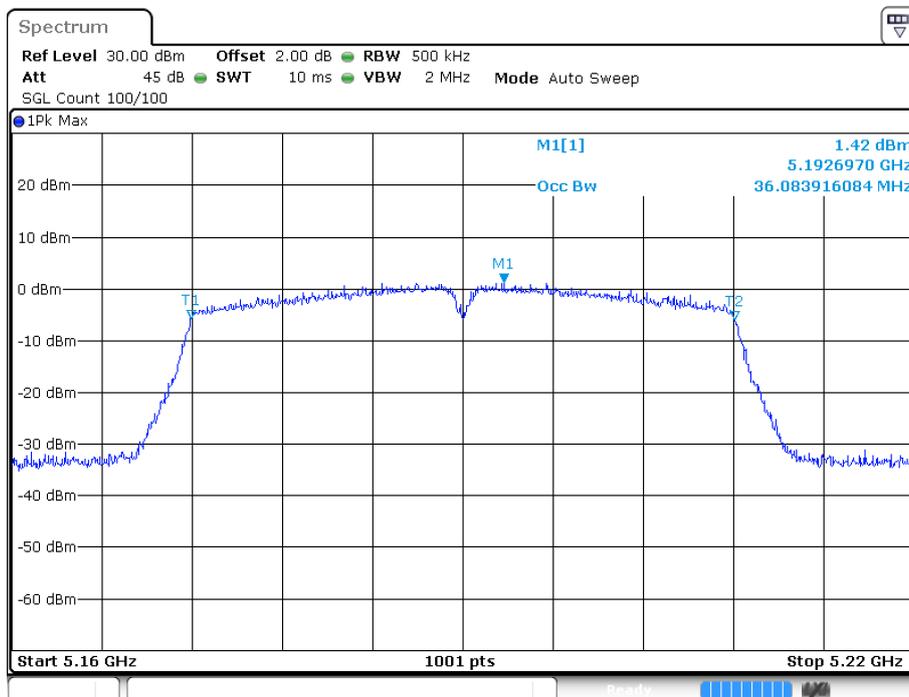
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11N20_140 ANT 1



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11N40_38 ANT 1



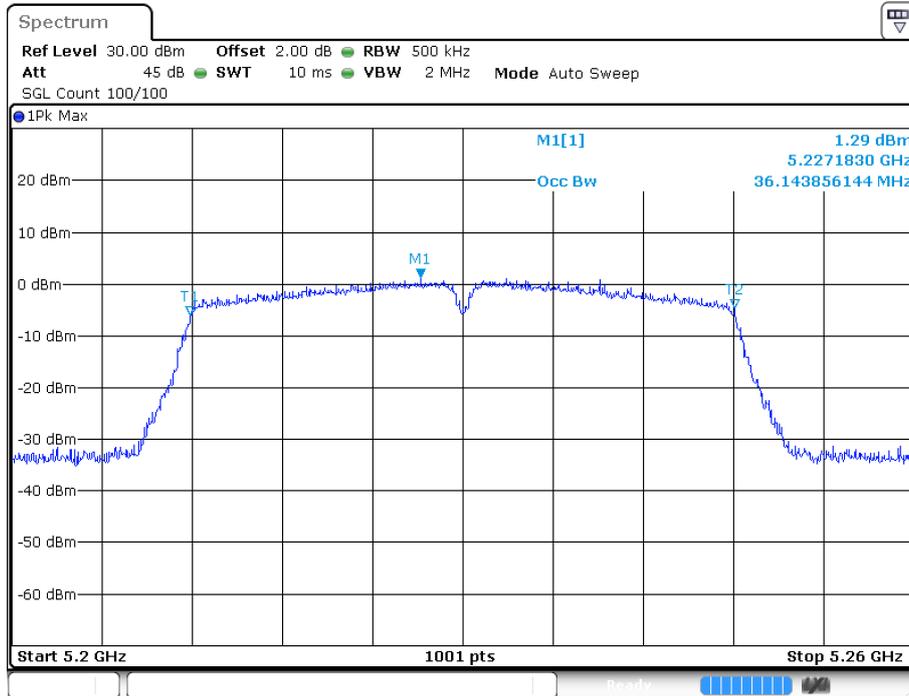
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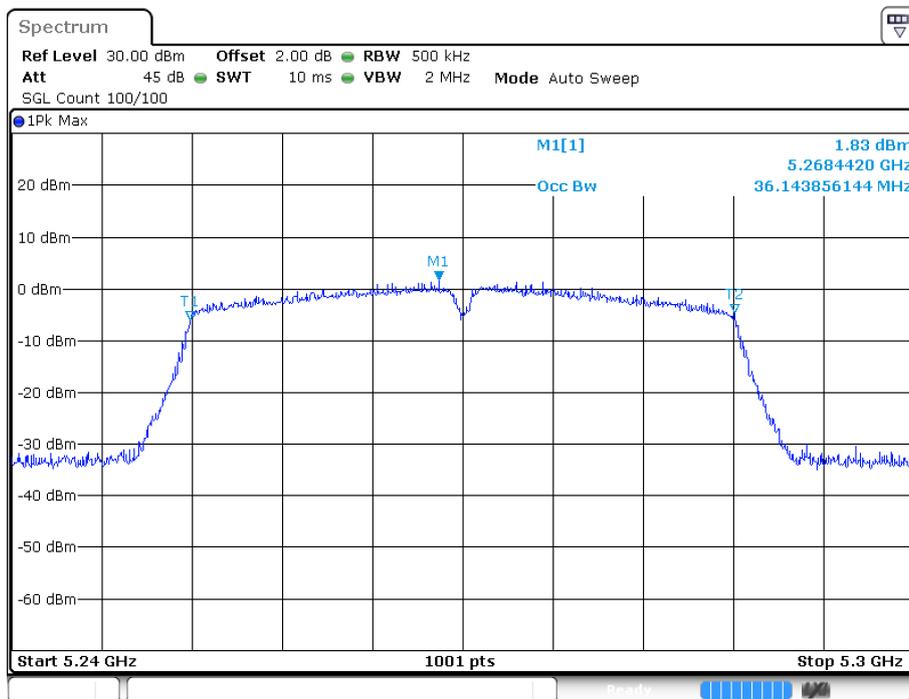
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11N40_54 ANT 1



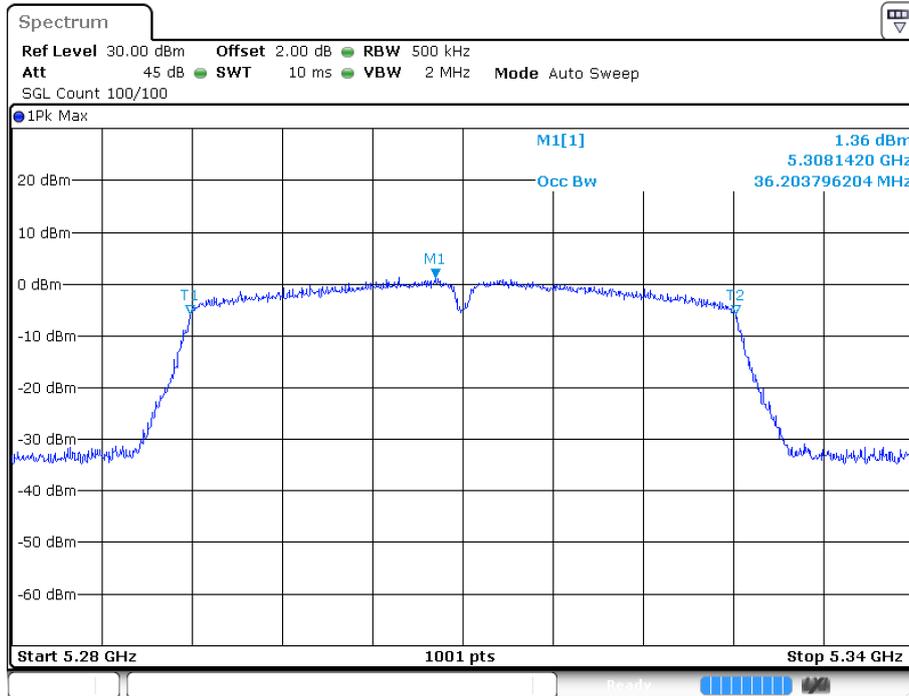
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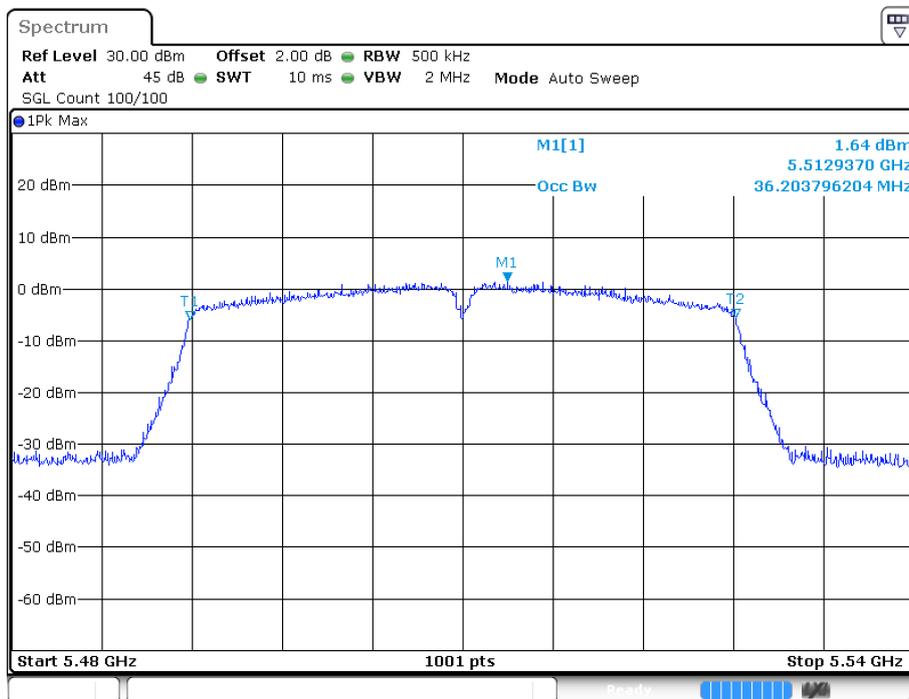
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11N40_62 ANT 1



Date: 22.OCT.2019 21:52:02

11N40_102 ANT 1



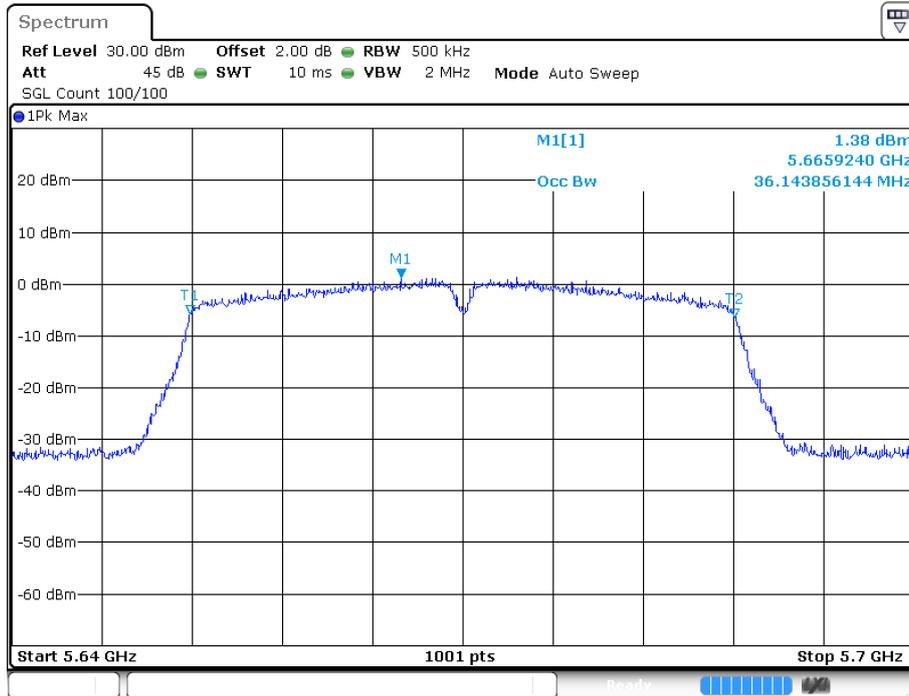
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Maximum Power Spectral Density

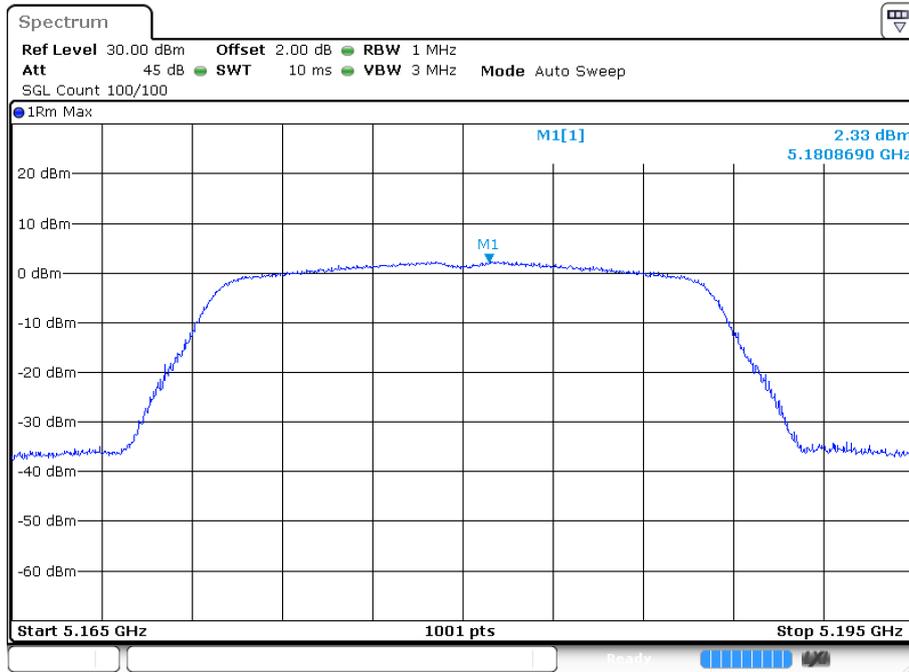
Test Results For Power Density

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Meas. Level (Cond.)	Unit	Verdict
11A20	36	5180	ANT 1	2.33	dBm/MHz	PASS
	48	5240	ANT 1	2.16	dBm/MHz	PASS
	52	5260	ANT 1	1.92	dBm/MHz	PASS
	64	5320	ANT 1	2.23	dBm/MHz	PASS
	100	5500	ANT 1	2.70	dBm/MHz	PASS
	140	5700	ANT 1	1.83	dBm/MHz	PASS
11N20	36	5180	ANT 1	0.47	dBm/MHz	PASS
	48	5240	ANT 1	0.36	dBm/MHz	PASS
	52	5260	ANT 1	0.60	dBm/MHz	PASS
	64	5320	ANT 1	1.58	dBm/MHz	PASS
	100	5500	ANT 1	1.02	dBm/MHz	PASS
	140	5700	ANT 1	1.32	dBm/MHz	PASS
11N40	38	5190	ANT 1	-1.72	dBm/MHz	PASS
	46	5230	ANT 1	-2.18	dBm/MHz	PASS
	54	5270	ANT 1	-2.06	dBm/MHz	PASS
	62	5310	ANT 1	-1.93	dBm/MHz	PASS
	102	5510	ANT 1	-1.95	dBm/MHz	PASS
	134	5670	ANT 1	-2.24	dBm/MHz	PASS



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Test plots For Power Density
11A20_36 ANT 1



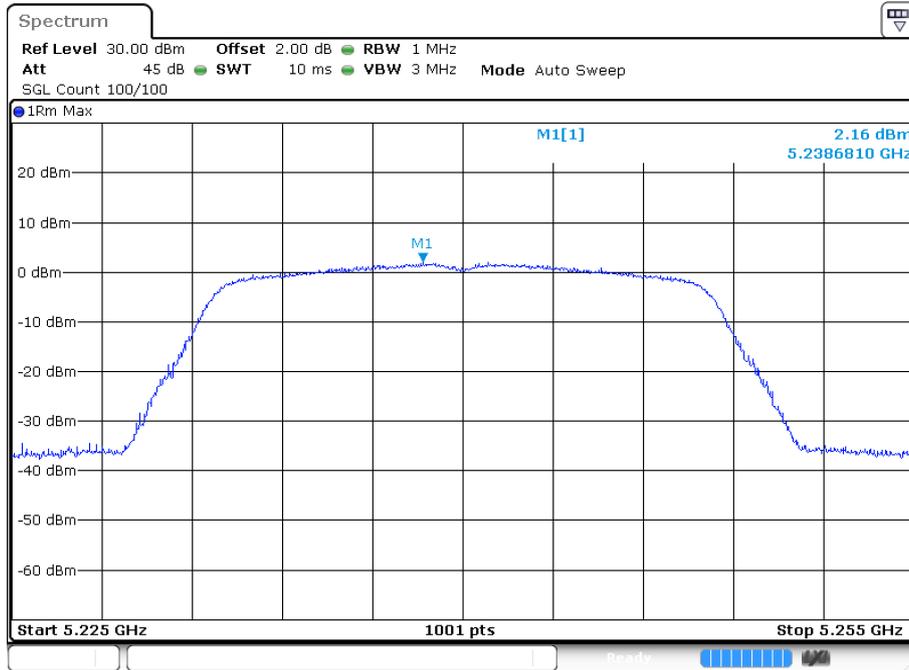
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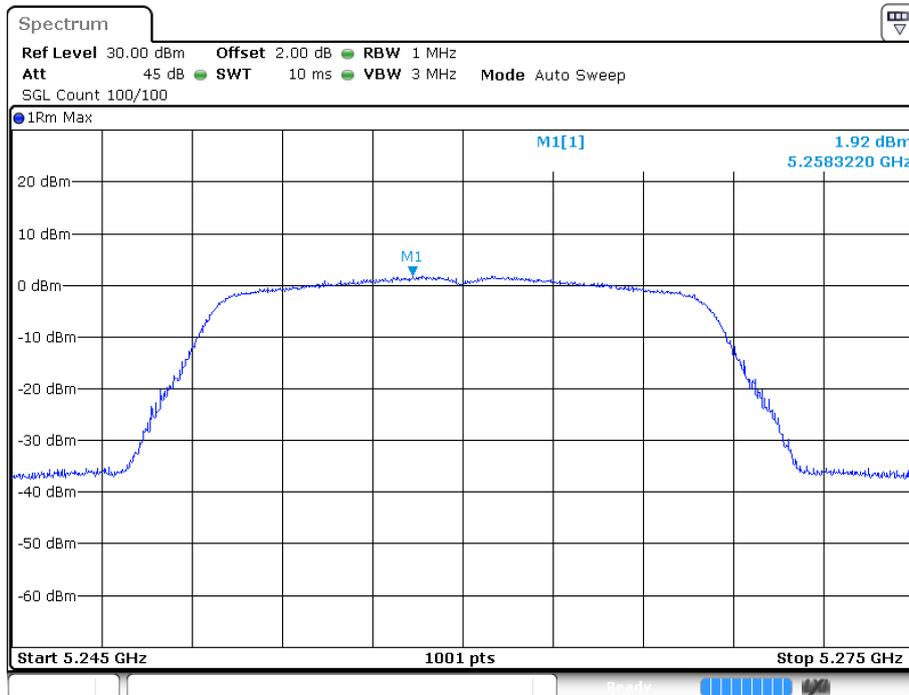
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11A20_52 ANT 1



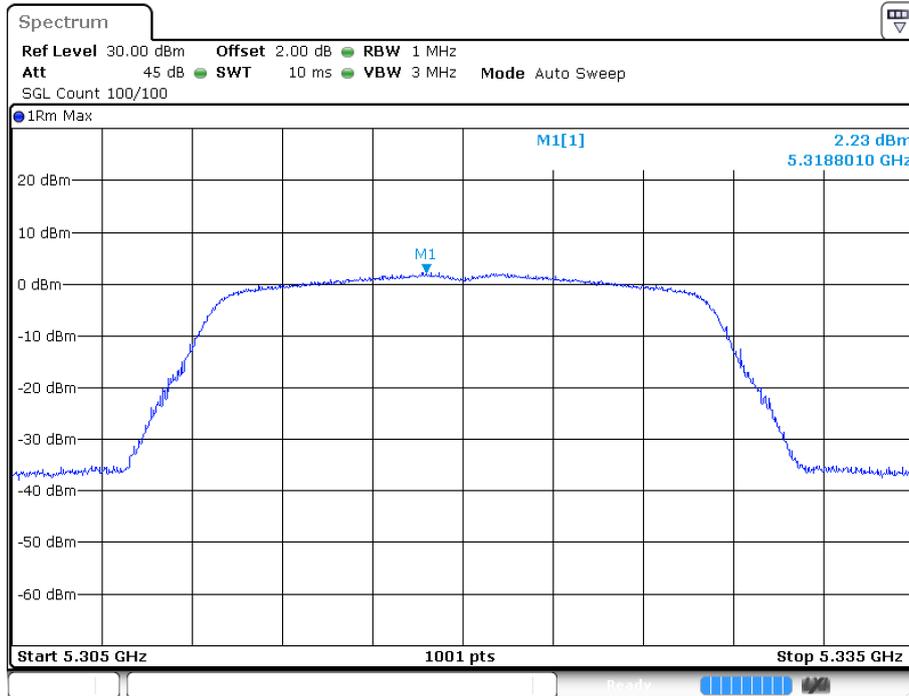
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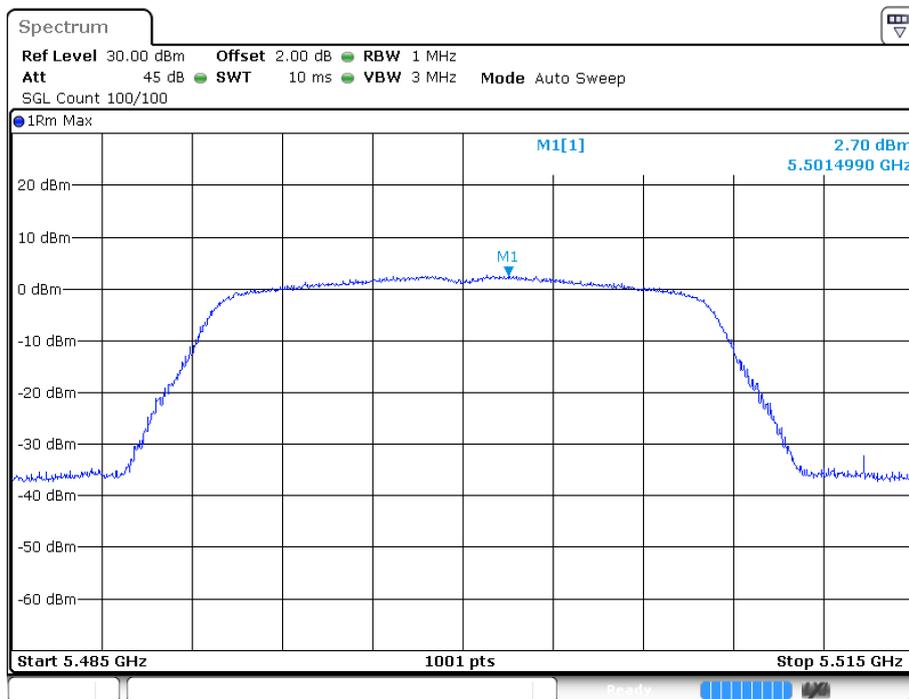
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11A20_100 ANT 1



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