FCC TEST REPORT

FCC ID: 2AEBCXPOS-I100

On Behalf of

ZHUHAI HONOR TECHNOLOGY CO.LTD

Smart handheld printer

Model No.: XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3

Prepared for	:	ZHUHAI HONOR TECHNOLOGY CO.LTD
Address	:	A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou District,Zhuhai,China

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A1907043-C01-R15
Date of Receipt	:	July 16, 2019
Date of Test	:	July 16, 2019-September 04, 2019
Date of Report	:	September 06, 2019
Version Number	:	V0

Contents

TEST REPORT DECLARATION

Applicant	:	ZHUHAI HONOR TECHNOLOGY CO.LTD
Address	:	A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou District,Zhuhai,China
Manufacturer	:	ZHUHAI HONOR TECHNOLOGY CO.LTD
Address	:	A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou District,Zhuhai,China
EUT Description	:	Smart handheld printer
(A) Model No.	:	XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3
(B) Trademark	:	N/A

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart E Section 15.407

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....: Ella Liang
Project Engineer

Approved by (name + signature).....: Simple Guan
Project Manager

Date of issue…… ……..: September 06, 2019

Revision History

Revision	Issue Date	Revisions	Revised By
V0	September 06, 2019	Initial released Issue	Simple Guan

1 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	PASS
AC Power Line Conducted Emission	15.207	PASS
Peak Transmit Power	15.407(a)(1), 15.407 (a)(3)	PASS
Power Spectral Density	15.407(a)(1) , 15.407 (a)(3)	PASS
Undesirable Emission	15.407(b)(6), 15.205/15.209	PASS
Radiated Emission	15.205/15.209	PASS
Band Edge	15.205	PASS
Frequency Stability	15.407(f)	PASS

Remark:

Pass: The EUT complies with the essential requirements in the standard.

2 General Information

2.1 General Description of EUT

Description of Device (EUT)

Description	:	Smart handheld printer
Trademark	:	N/A
Model Number	:	XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3
DIFF.	:	All model's the function, software and electric circuit are the same, except the model number difference. This report performs the model XPOS-I100.
Test Voltage	:	DC 3.8V from battery or Input DC 5V/2A
Operation Frequency	:	802.11a/n-20MHz: 5180-5240MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230MHz, 5755-5795MHz
Channel separation	:	802.11a/n-20MHz: 20MHz 802.11n-40MHz: 40MHz
Modulation technology:	:	IEEE 802.11n: OFDM (64QAM, 16QAM,QPSK,BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Type	:	PIFA antenna, Maximum Gain is 1.56dBi
Software version	:	V1.0
Hardware version	:	L5F1GB-V2

2.2 Test mode

Keep the EUT in transmitting with modulation.

EUT was test with 100% duty cycle at its maximum power control level.

Bandwidth Mode	20MHz	40MHz	80MHz
IEEE 802.11a	☑	☐	☐
IEEE 802.11n	☑	☑	☐
IEEE 802.11ac	☐	☐	☐

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961

July 15, 2019 Certificated by IC
Registration Number: CN0085

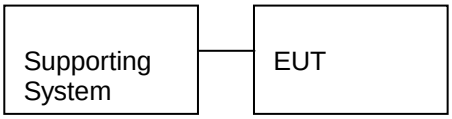
2.4 Accessories of Device (EUT)

Accessories1	:	Switching power adapter
Manufacturer	:	Shenzhen Fangxin Technology Co., Ltd.
Model	:	FX2U-050200U
Input	:	AC 100-240V, 50/60Hz, 0.4A max
Output	:	DC 5V/2A
Accessories 2	:	USB Cable
Manufacturer	:	Dongguan jiulian Electronics Co., Ltd.
Model	:	/
Ratings	:	1m
Accessories 3	:	Charging base
Manufacturer	:	ZHUHAI HONOR TECHNOLOGY CO.LTD
Model	:	XPOS-I100 Charging base
Input	:	DC 5V/2A

2.5 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or DOC
--	--	--	--	--	--

2.6 Block Diagram of connection between EUT and simulators



2.7 Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.8 Measurement Uncertainty

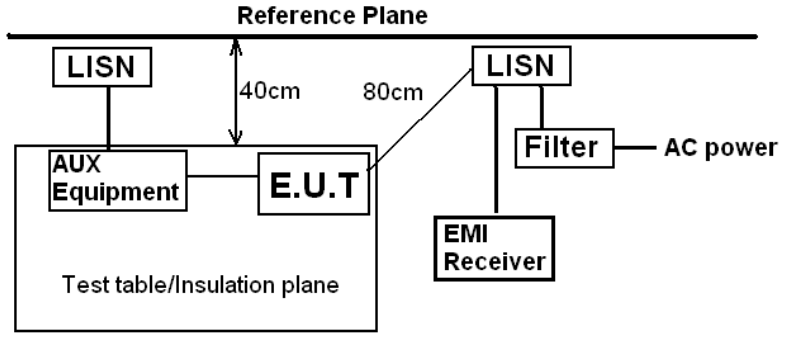
95% confidence levels, k=2)	
Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	2.74dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB(Polarize: V)
	2.57dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	4.16dB(Polarize: H)
	4.13dB(Polarize: V)
Uncertainty for radio frequency	5.4×10-8
Uncertainty for conducted RF Power	0.37dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3 Test Instruments list

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	N/A	2018.09.21	1Year
Spectrum analyzer	ROHDE&SCHWARZ	FSU	1166.1660.26	2018.09.21	1Year
Spectrum analyzer	Agilent	N9020A	MY499100060	2018.09.11	1Year
Receiver	ROHDE&SCHWARZ	ESR	1316.3003K03-102082-Wa	2018.09.21	1Year
Receiver	R&S	ESCI	101165	2018.09.21	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	2018.04.13	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	2018.04.13	2Year
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00059	2018.09.26	2Year
Cable	Resenberger	N/A	No.1	2018.09.21	1Year
Cable	Resenberger	N/A	No.2	2018.09.21	1Year
Cable	Resenberger	N/A	No.3	2018.09.21	1Year
Pre-amplifier	HP	HP8347A	2834A00455	2018.09.21	1Year
Pre-amplifier	Agilent	8449B	3008A02664	2018.09.21	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	2018.09.21	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	101043	2018.09.21	1 Year
20db Attenuator	ICPROBING	IATS1	82347	2018.09.21	1 Year
Horn Antenna	A-INFOMW	LB-180100-KF	J211020657	2018.09.21	2 Year
Preamplifier	SKET	LNPA_1840-50	SK2018101801	2018.09.21	1 Year
Power Meter	Agilent	E9300A	MY41496625	2018.09.21	1 Year
Temp. & Humid. Chamber	Weihuang	WHTH-1000-40-880	100631	2018.9.11	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	20140927-6	2018.09.11	1 Year

4 Test results and Measurement Data

4.1 Conducted Emissions

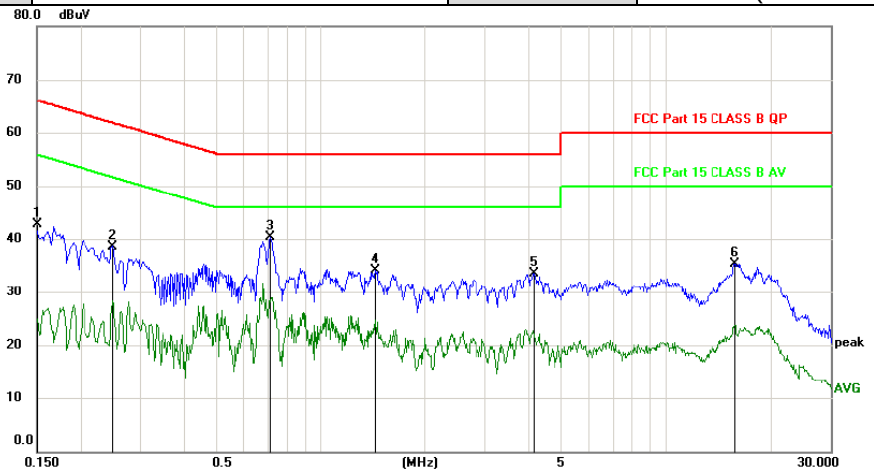
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150KHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td>Class B</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9KHz, VBW=30KHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test procedure</td><td>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. 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.</td></tr>
<tr><td>Test setup:</td><td> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

Measurement Data

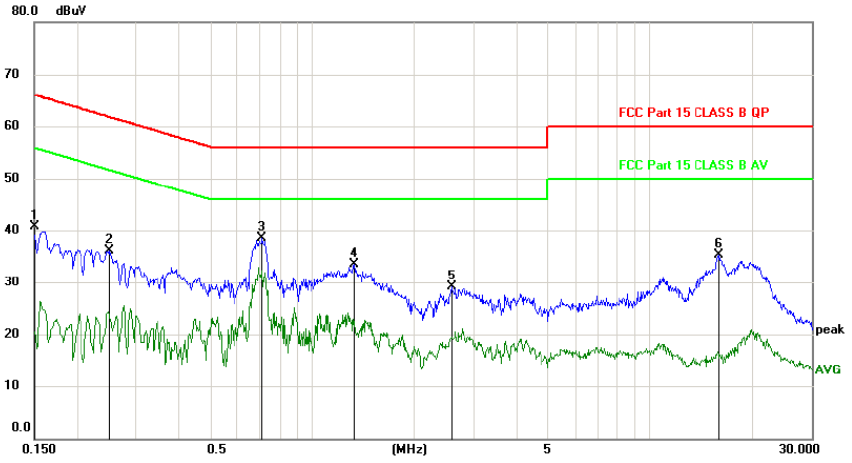
An initial pre-scan was performed on the line and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

EUT Description	Smart handheld printer	Model No.	XPOS-I100
Temperature	24℃	Humidity	56%
Pol	Line	Test date	2019/8/9
Test Voltage	AC 120V/ 60Hz	Test mode	802.11a (5785MHz)



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	33.10	9.66	42.76	66.00	-23.24	peak	
2		0.2489	28.91	9.69	38.60	61.79	-23.19	peak	
3	*	0.7137	30.66	9.74	40.40	56.00	-15.60	peak	
4		1.4369	24.38	9.81	34.19	56.00	-21.81	peak	
5		4.1490	23.46	10.10	33.56	56.00	-22.44	peak	
6		15.8216	24.90	10.44	35.34	60.00	-24.66	peak	

Pol	Neutral



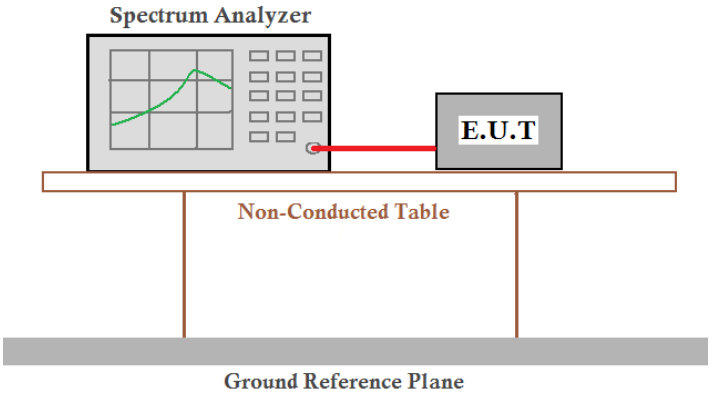
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	31.10	9.66	40.76	66.00	-25.24	peak	
2		0.2519	26.36	9.69	36.05	61.69	-25.64	peak	
3	*	0.7108	28.70	9.74	38.44	56.00	-17.56	peak	
4		1.3287	23.77	9.81	33.58	56.00	-22.42	peak	
5		2.5739	19.08	9.96	29.04	56.00	-26.96	peak	
6		15.9809	24.80	10.45	35.25	60.00	-24.75	peak	

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Remark: All modes have been tested, and only worst data of 802.11a (5785MHz) was listed in this report.

4.2 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Limit:	N/A
Test setup:	
Test procedure:	According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Test results:	Pass

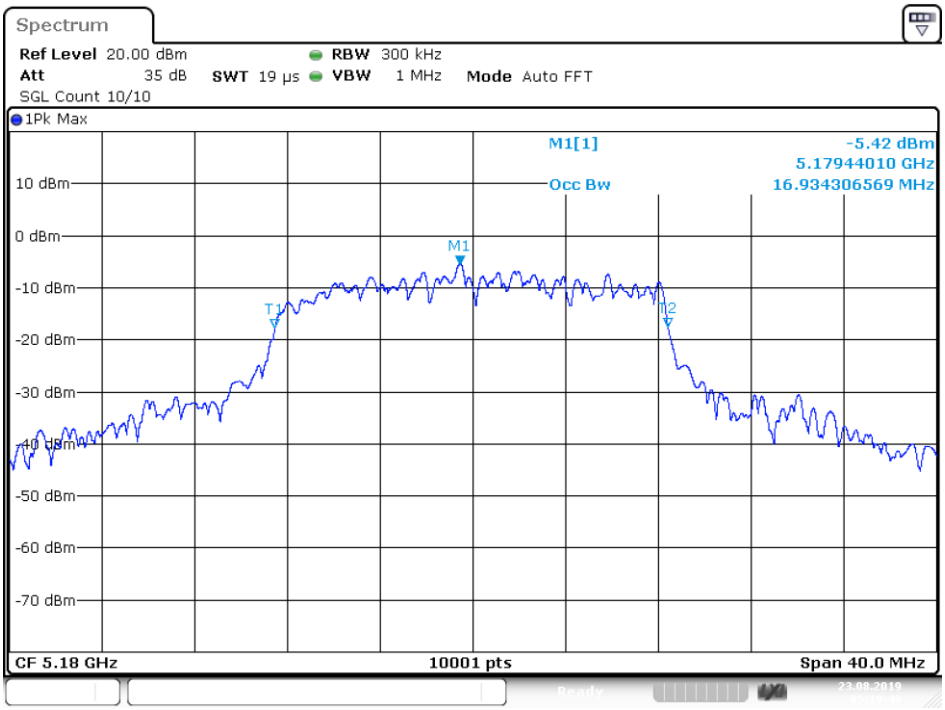
Measurement Data:

U-NII-1							
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	802.11a	5180	Ant 1	16.9343	23.08	0	Pass
NVNT	802.11a	5200	Ant 1	16.5303	25.296	0	Pass
NVNT	802.11a	5240	Ant 1	16.9423	29.548	0	Pass
NVNT	802.11n(HT20)	5180	Ant 1	17.8622	27.216	0	Pass
NVNT	802.11n(HT20)	5200	Ant 1	17.9302	29.172	0	Pass
NVNT	802.11n(HT20)	5240	Ant 1	17.8702	30.116	0	Pass
NVNT	802.11n(HT40)	5190	Ant 1	36.2524	69.52	0	Pass
NVNT	802.11n(HT40)	5230	Ant 1	36.1724	47.952	0	Pass

Test plots as followed:

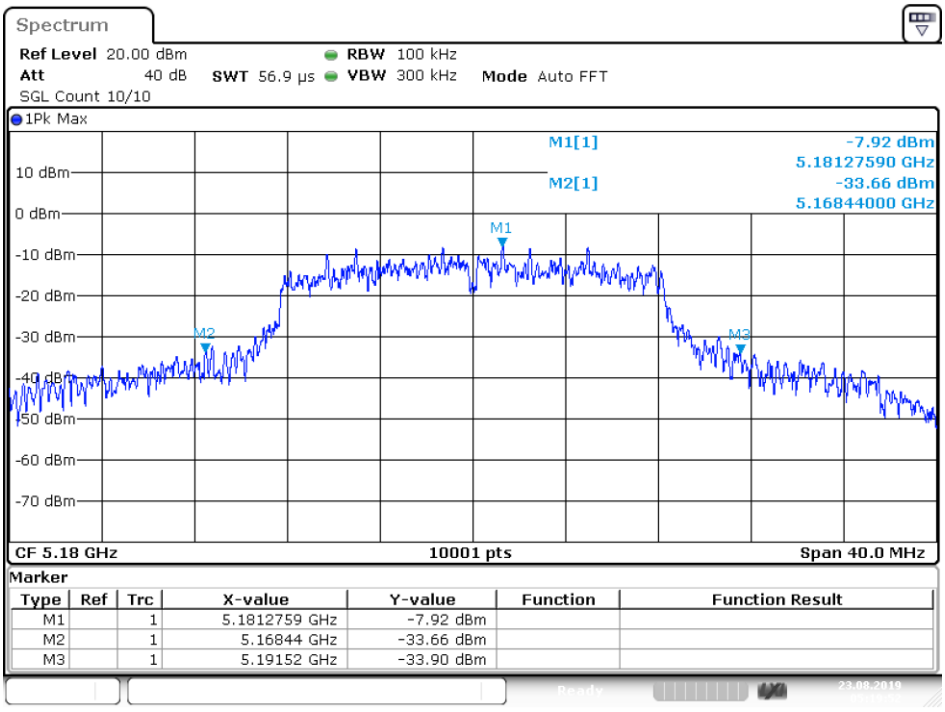
U-NII-1

OBW NVNT 802.11a 5180MHz Ant1



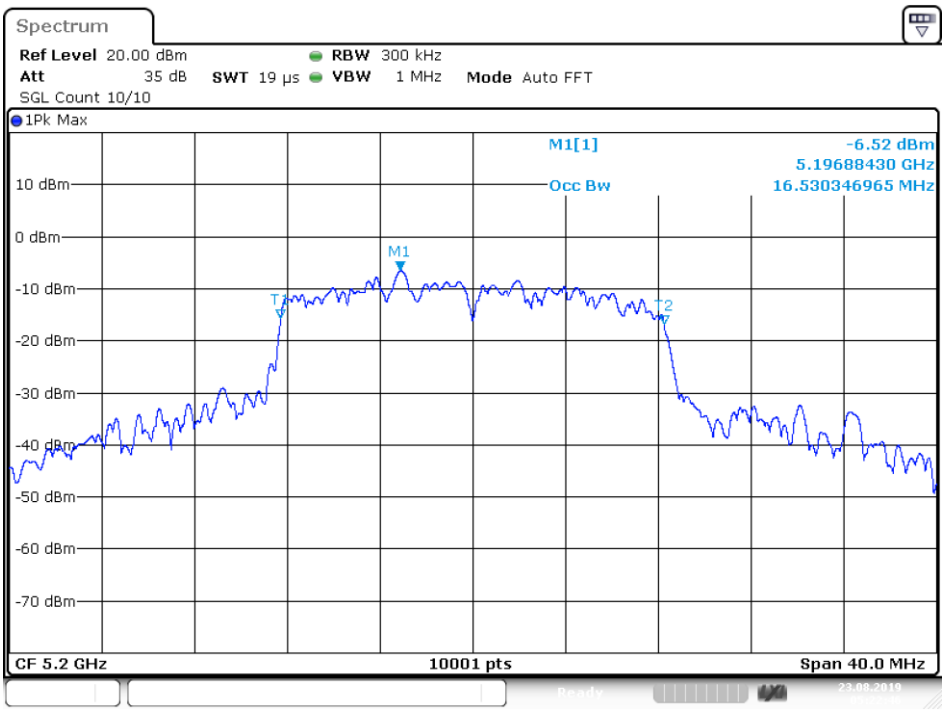
Date: 23.AUG.2019 05:19:49

-26 dB BW NVNT 802.11a 5180MHz Ant1



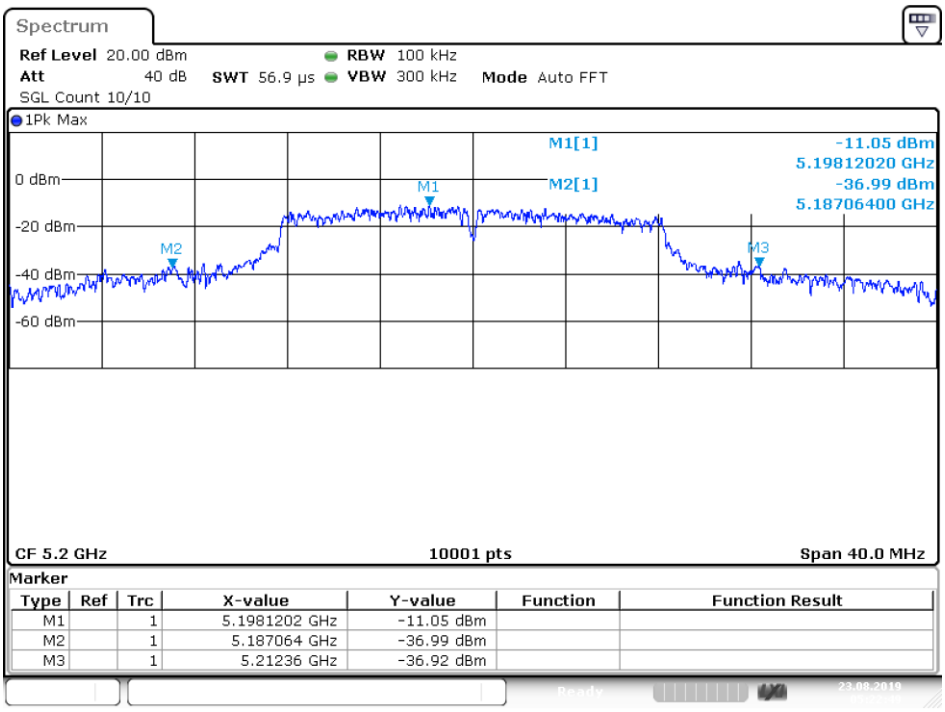
Date: 23.AUG.2019 05:19:52

OBW NVNT 802.11a 5200MHz Ant1



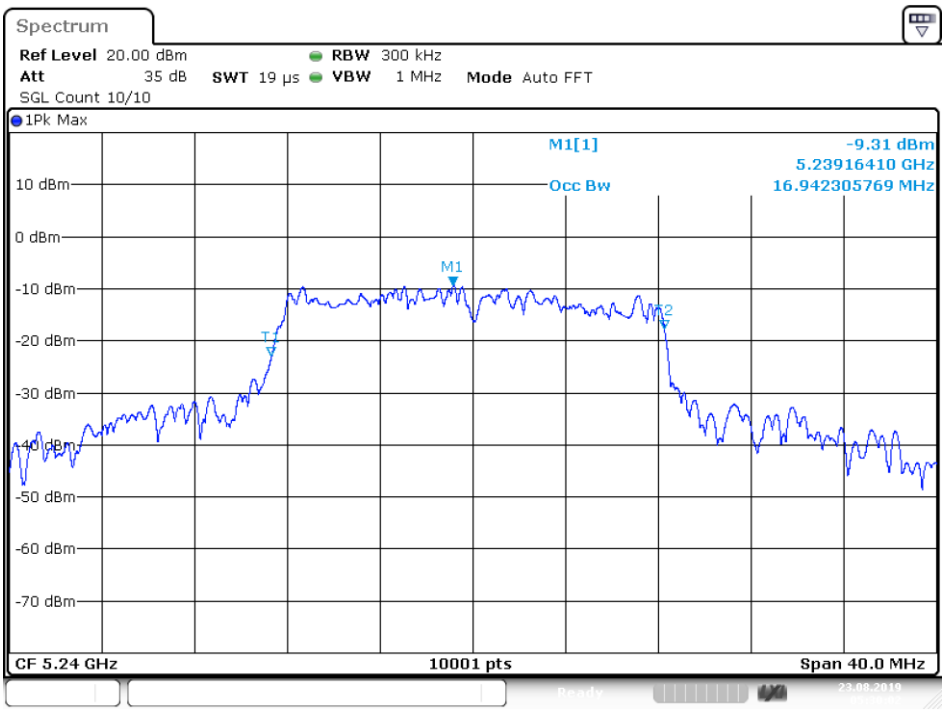
Date: 23.AUG.2019 05:22:46

-26 dB BW NVNT 802.11a 5200MHz Ant1



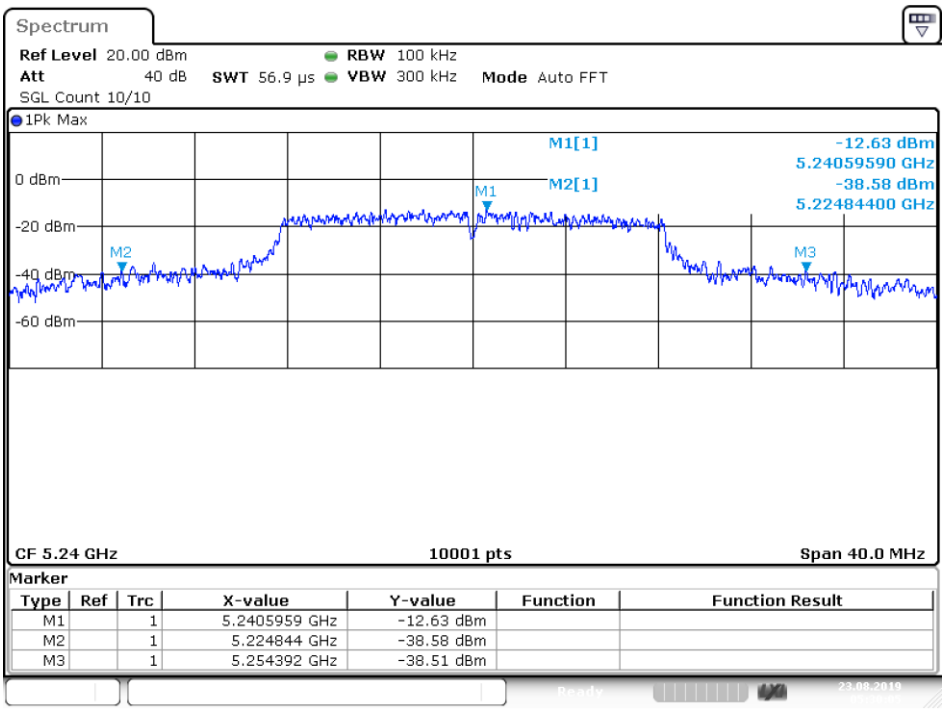
Date: 23.AUG.2019 05:22:49

OBW NVNT 802.11a 5240MHz Ant1



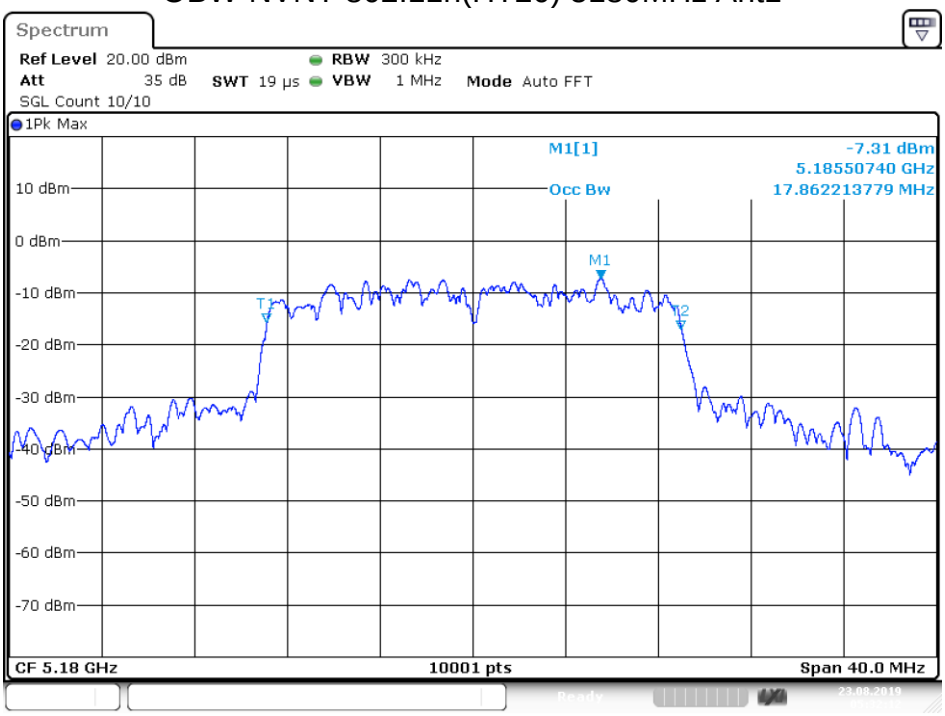
Date: 23.AUG.2019 05:30:01

-26 dB BW NVNT 802.11a 5240MHz Ant1



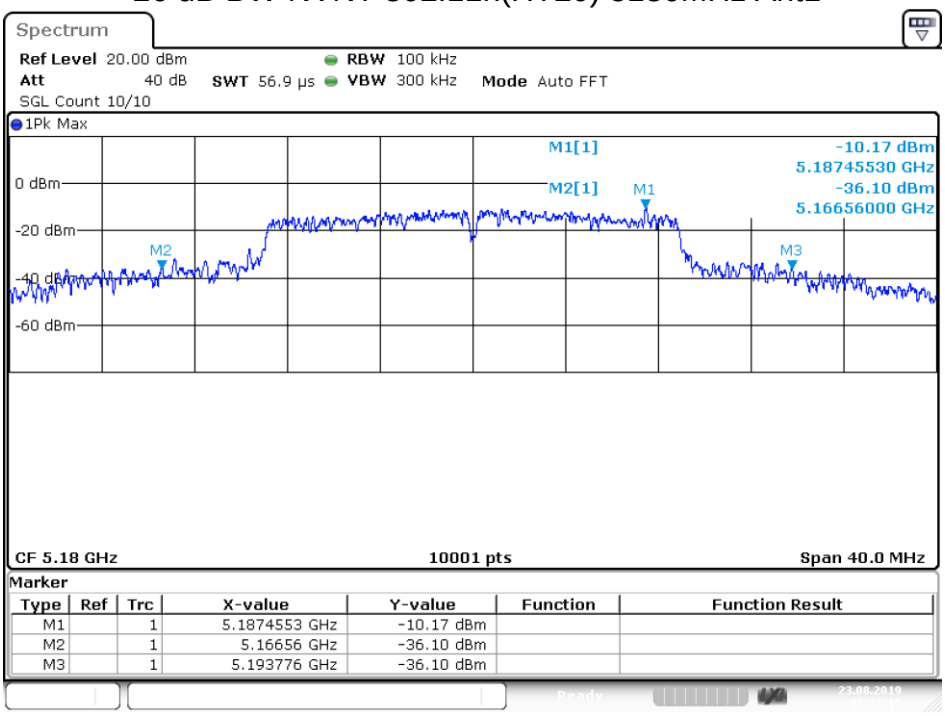
Date: 23.AUG.2019 05:30:04

OBW NVNT 802.11n(HT20) 5180MHz Ant1



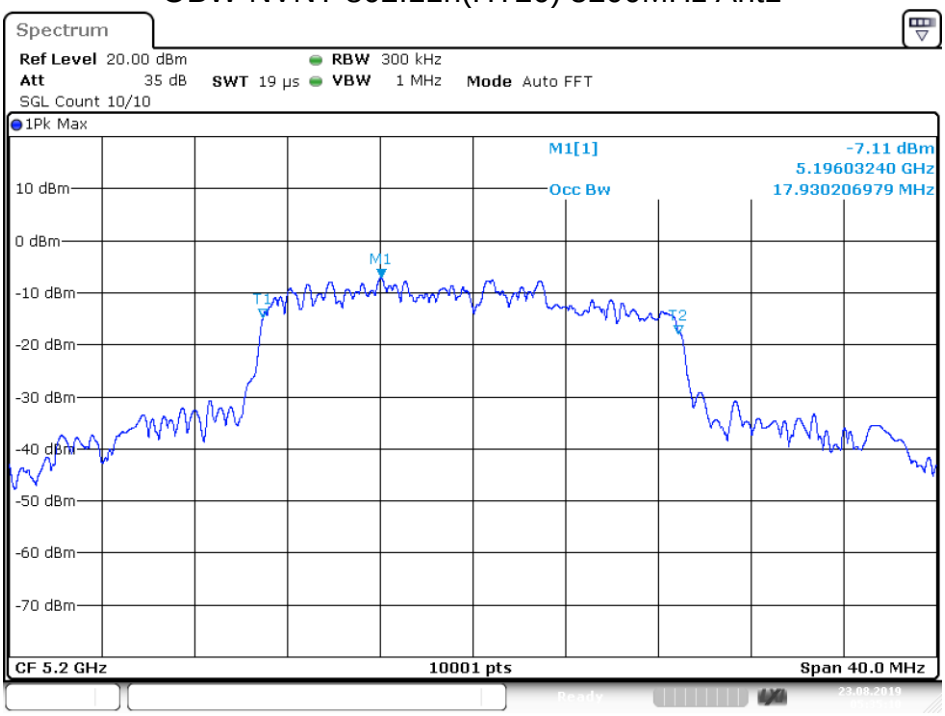
Date: 23.AUG.2019 05:32:12

-26 dB BW NVNT 802.11n(HT20) 5180MHz Ant1



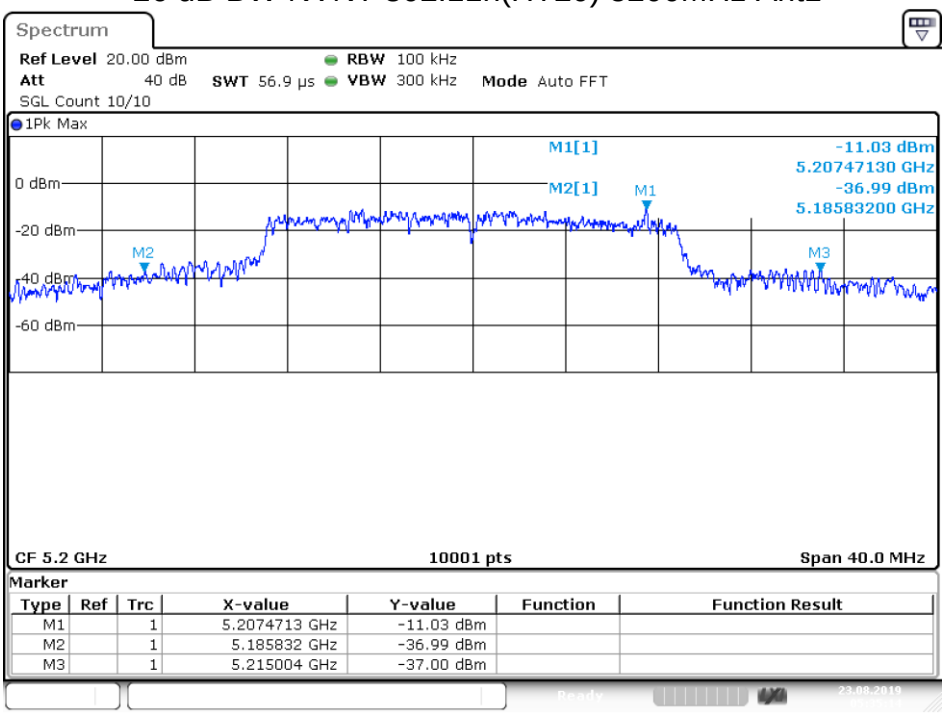
Date: 23.AUG.2019 05:32:14

OBW NVNT 802.11n(HT20) 5200MHz Ant1



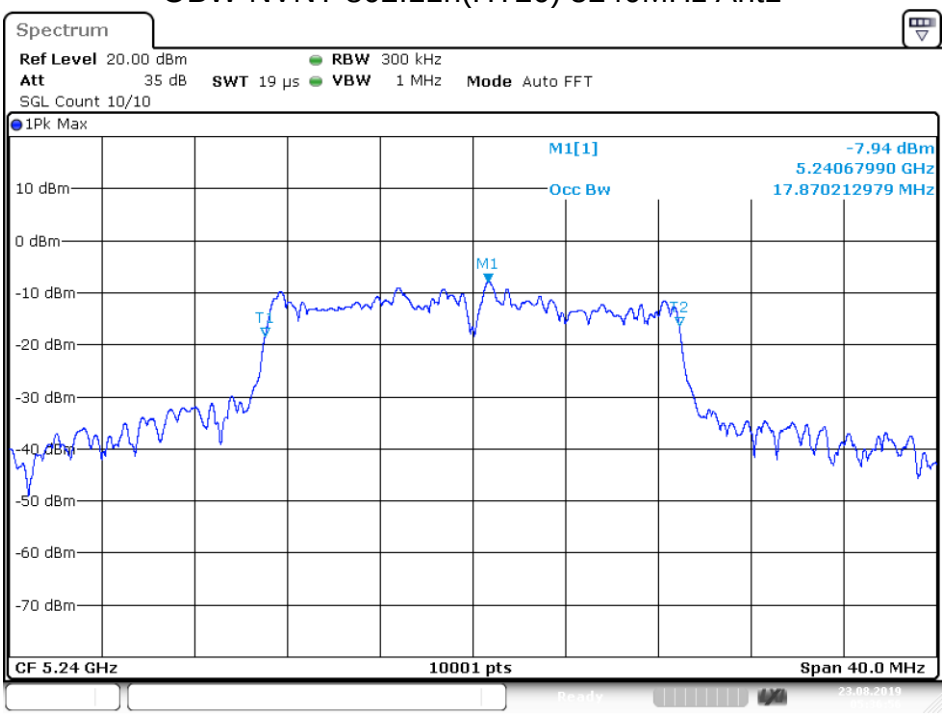
Date: 23.AUG.2019 05:35:11

-26 dB BW NVNT 802.11n(HT20) 5200MHz Ant1



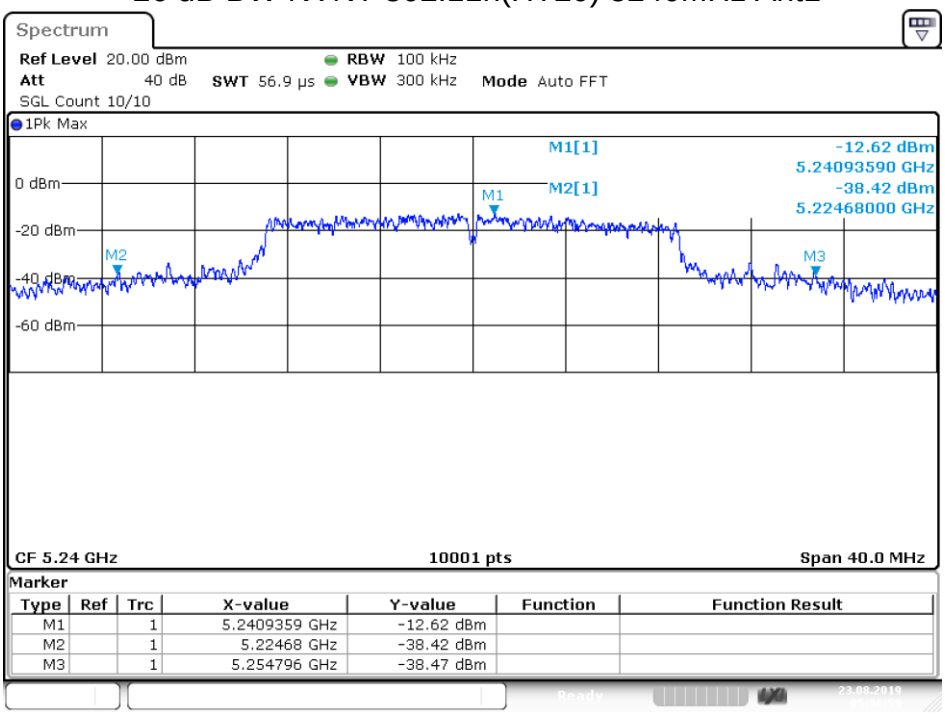
Date: 23.AUG.2019 05:35:14

OBW NVNT 802.11n(HT20) 5240MHz Ant1



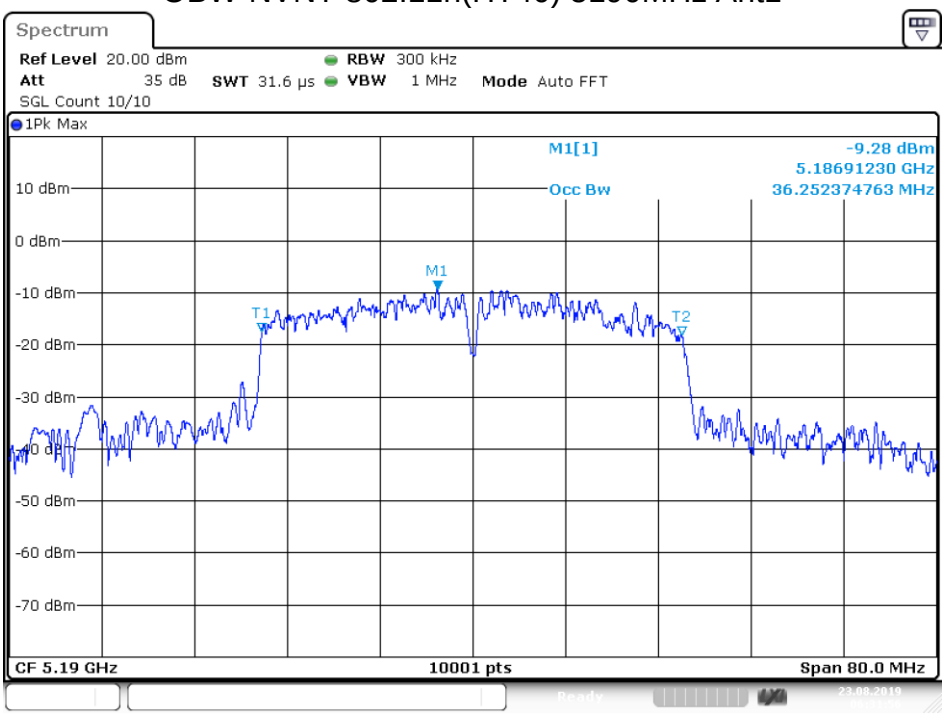
Date: 23.AUG.2019 05:36:56

-26 dB BW NVNT 802.11n(HT20) 5240MHz Ant1



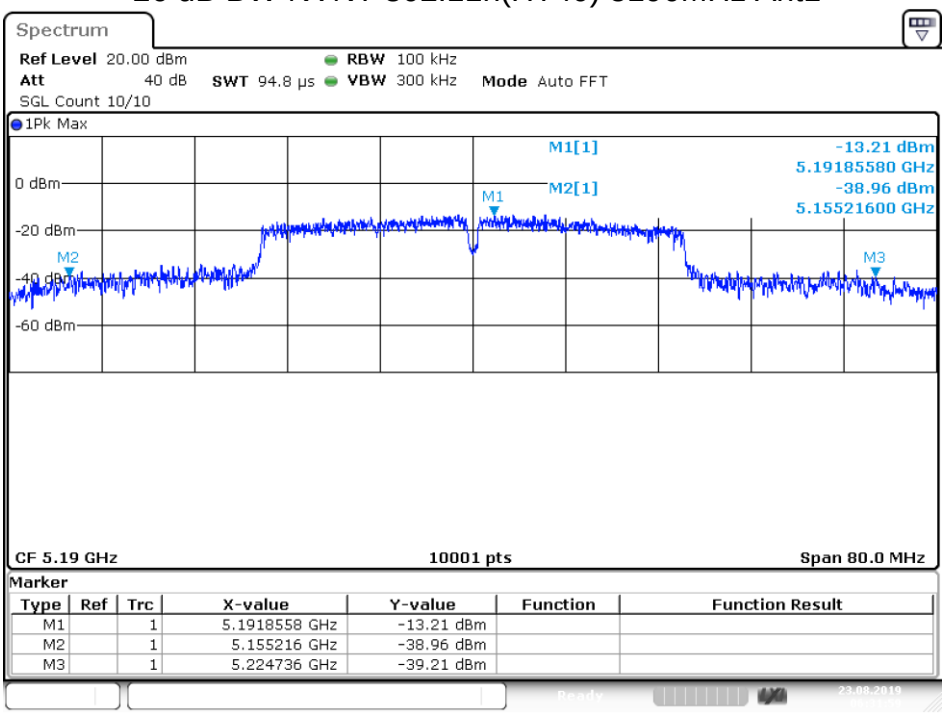
Date: 23.AUG.2019 05:36:59

OBW NVNT 802.11n(HT40) 5190MHz Ant1



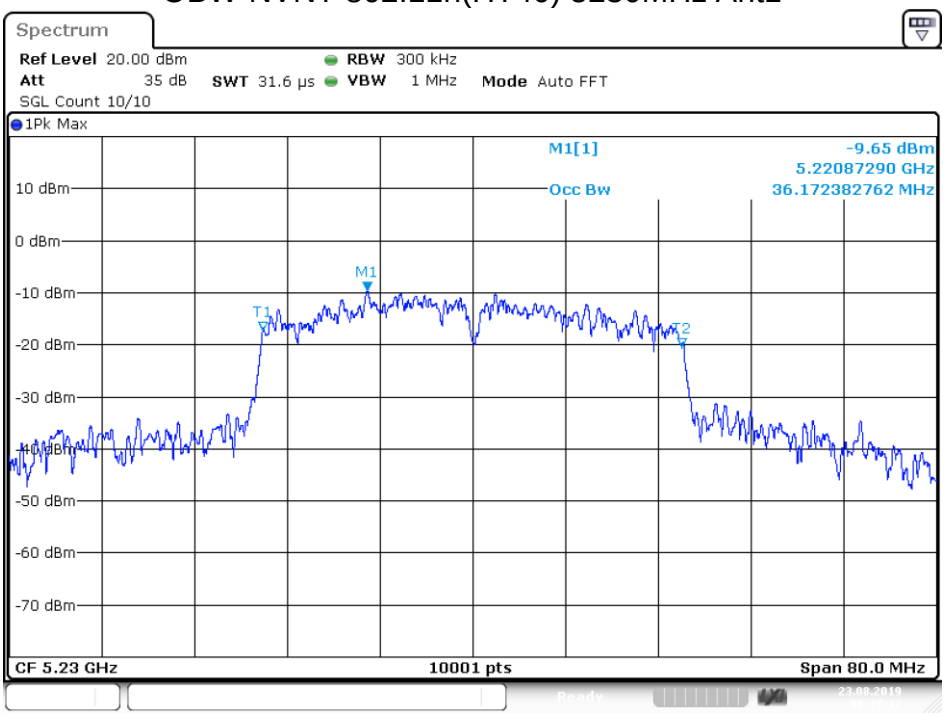
Date: 23.AUG.2019 06:31:56

-26 dB BW NVNT 802.11n(HT40) 5190MHz Ant1



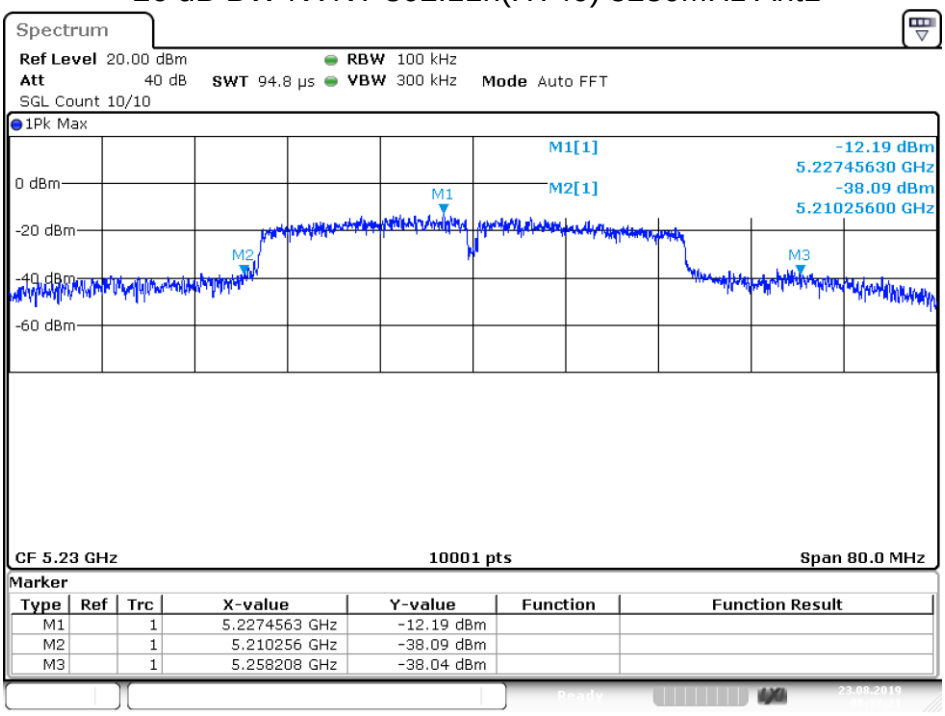
Date: 23.AUG.2019 06:31:59

OBW NVNT 802.11n(HT40) 5230MHz Ant1



Date: 23.AUG.2019 06:37:17

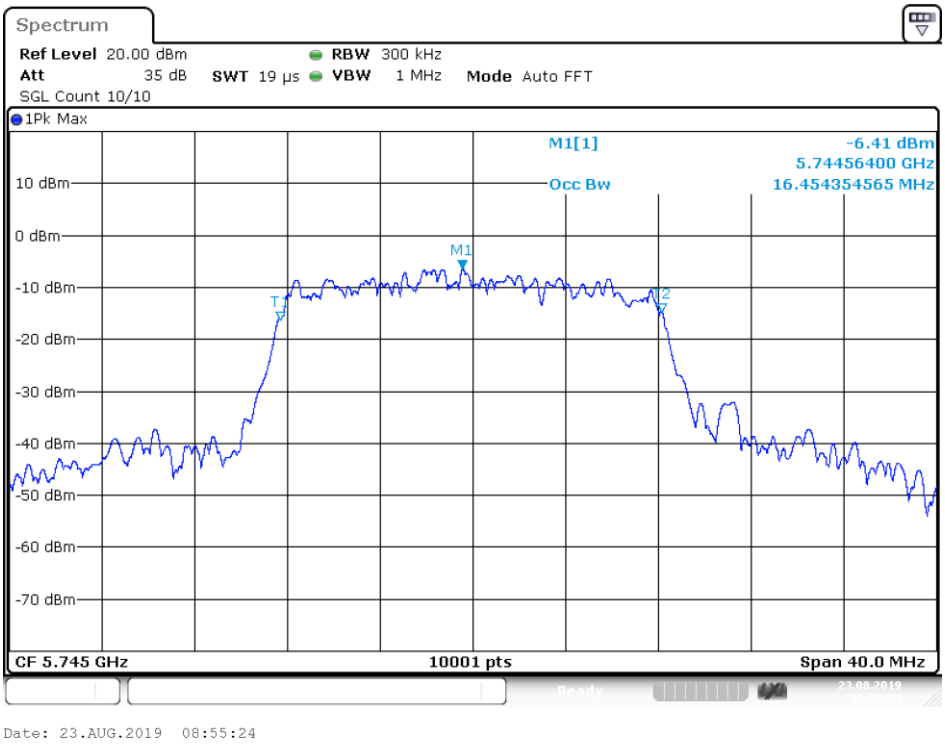
-26 dB BW NVNT 802.11n(HT40) 5230MHz Ant1



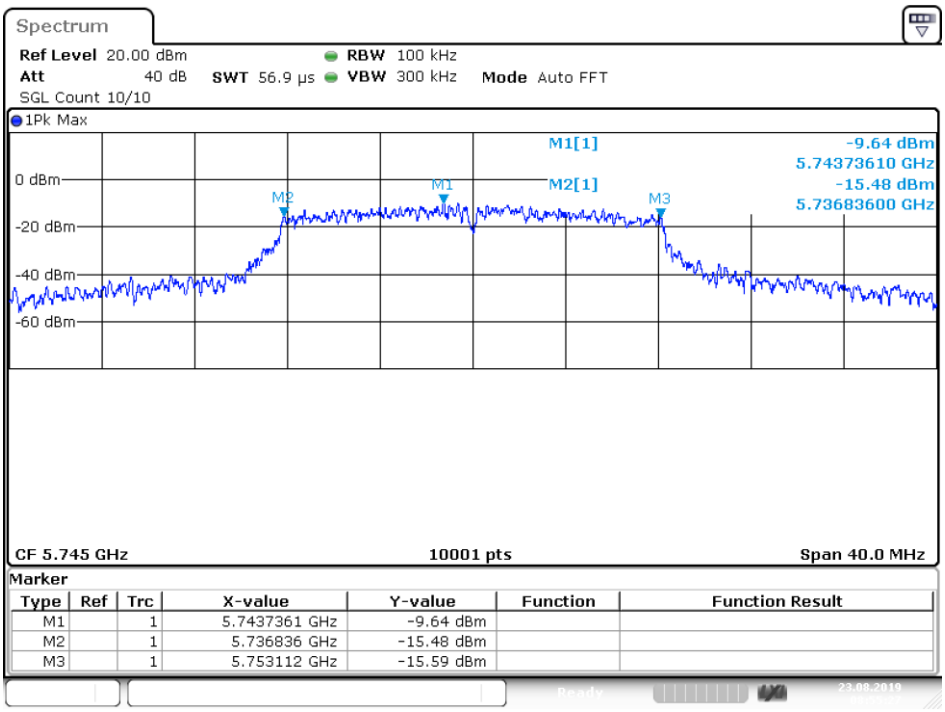
Date: 23.AUG.2019 06:37:20

U-NII-3							
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	802.11a	5745	Ant 1	16.4544	16.276	0.5	Pass
NVNT	802.11a	5785	Ant 1	16.3984	16.008	0.5	Pass
NVNT	802.11a	5825	Ant 1	16.4584	16.376	0.5	Pass
NVNT	802.11n(HT20)	5745	Ant 1	17.7062	17.164	0.5	Pass
NVNT	802.11n(HT20)	5785	Ant 1	17.7262	17.58	0.5	Pass
NVNT	802.11n(HT20)	5825	Ant 1	17.6382	17.688	0.5	Pass
NVNT	802.11n(HT40)	5755	Ant 1	36.0444	35.536	0.5	Pass
NVNT	802.11n(HT40)	5795	Ant 1	36.1964	36.336	0.5	Pass

OBW NVNT 802.11a 5745MHz Ant1

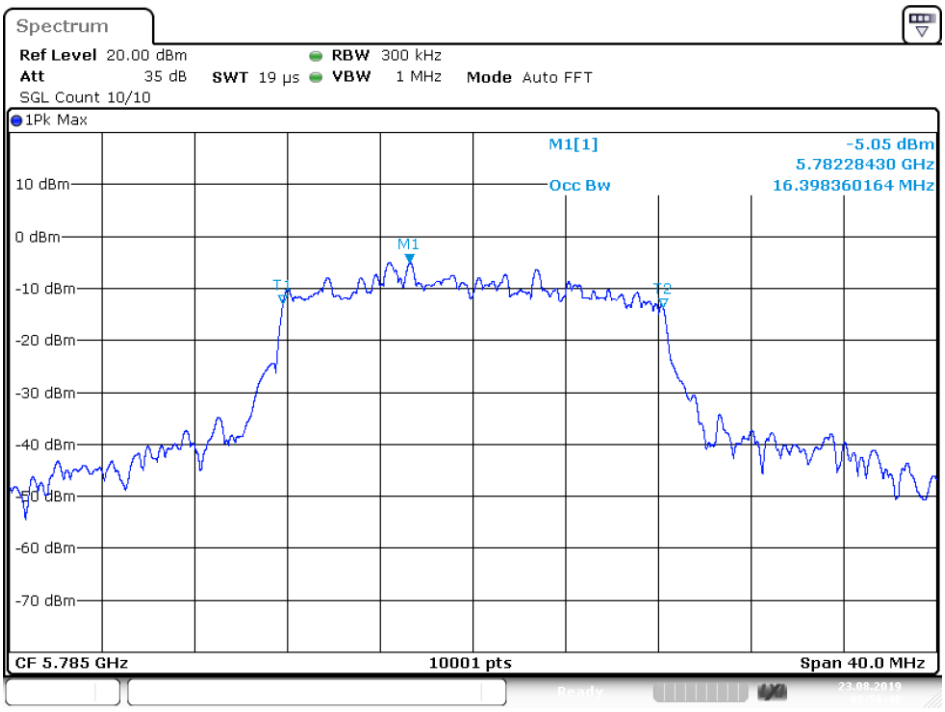


-6 dB BW NVNT 802.11a 5745MHz Ant1



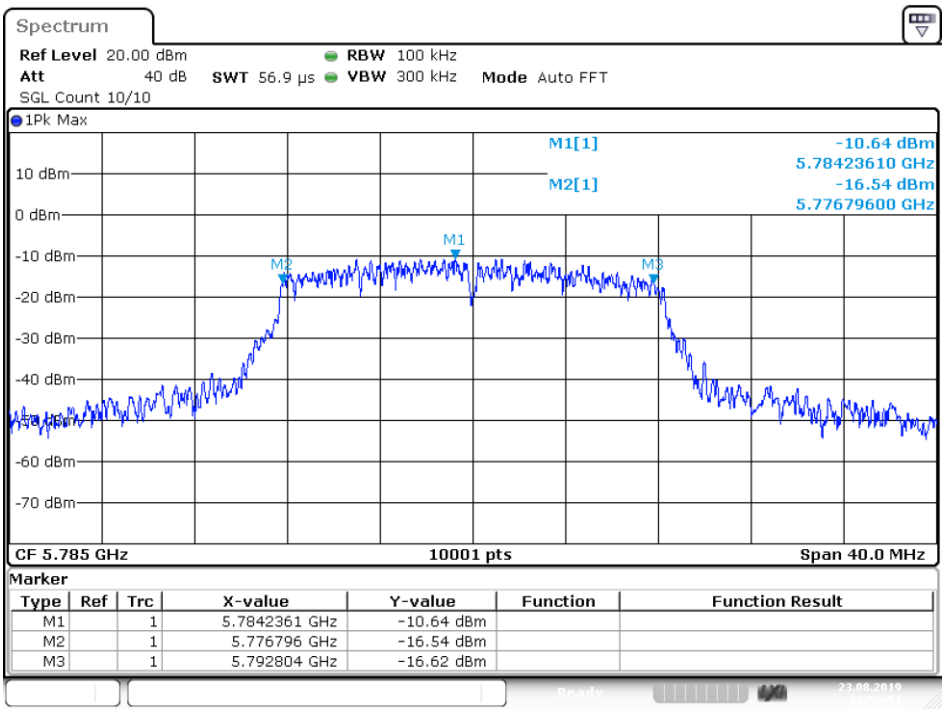
Date: 23.AUG.2019 08:55:27

OBW NVNT 802.11a 5785MHz Ant1



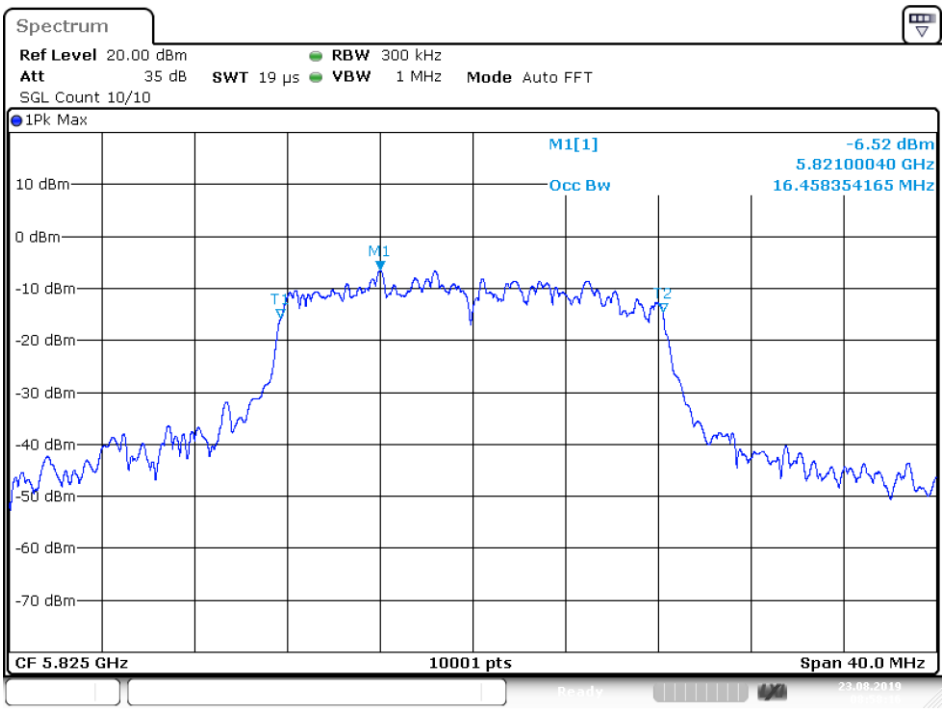
Date: 23.AUG.2019 08:56:48

-6 dB BW NVNT 802.11a 5785MHz Ant1



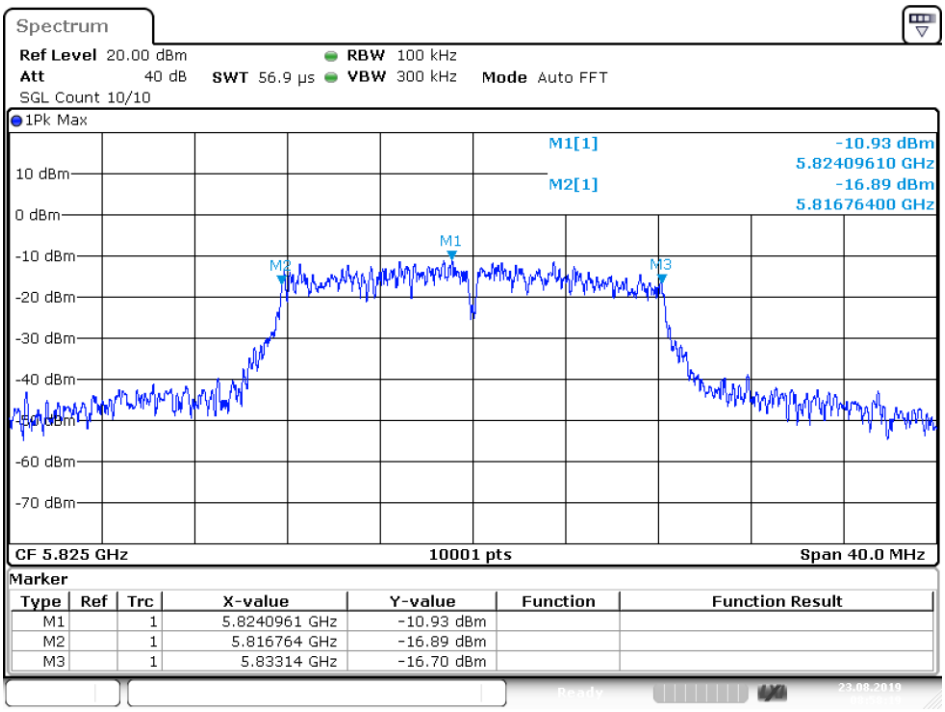
Date: 23.AUG.2019 08:56:51

OBW NVNT 802.11a 5825MHz Ant1



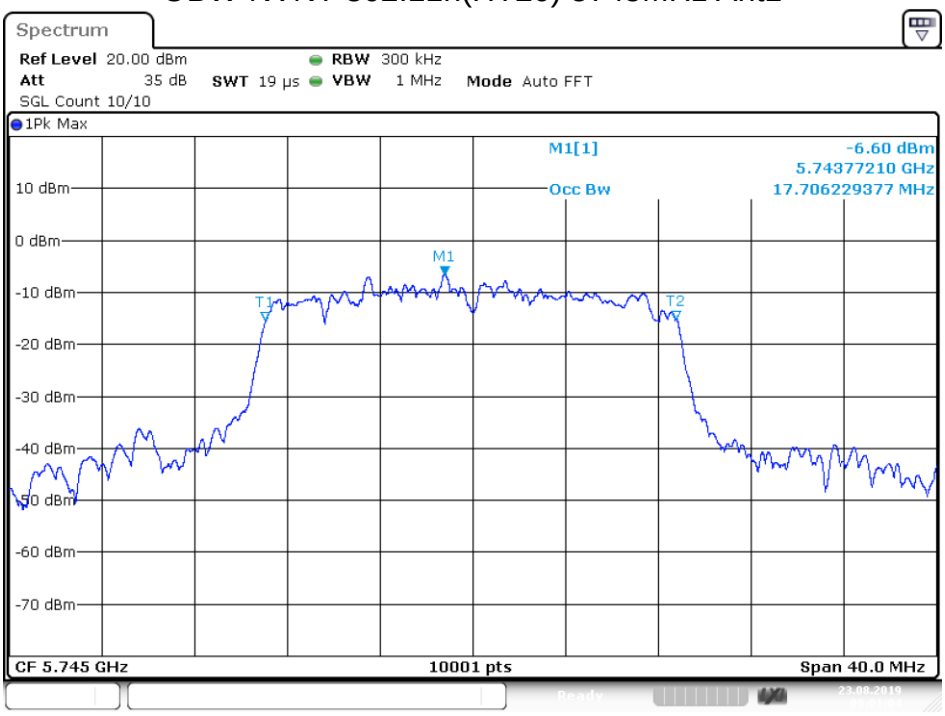
Date: 23.AUG.2019 08:58:16

-6 dB BW NVNT 802.11a 5825MHz Ant1



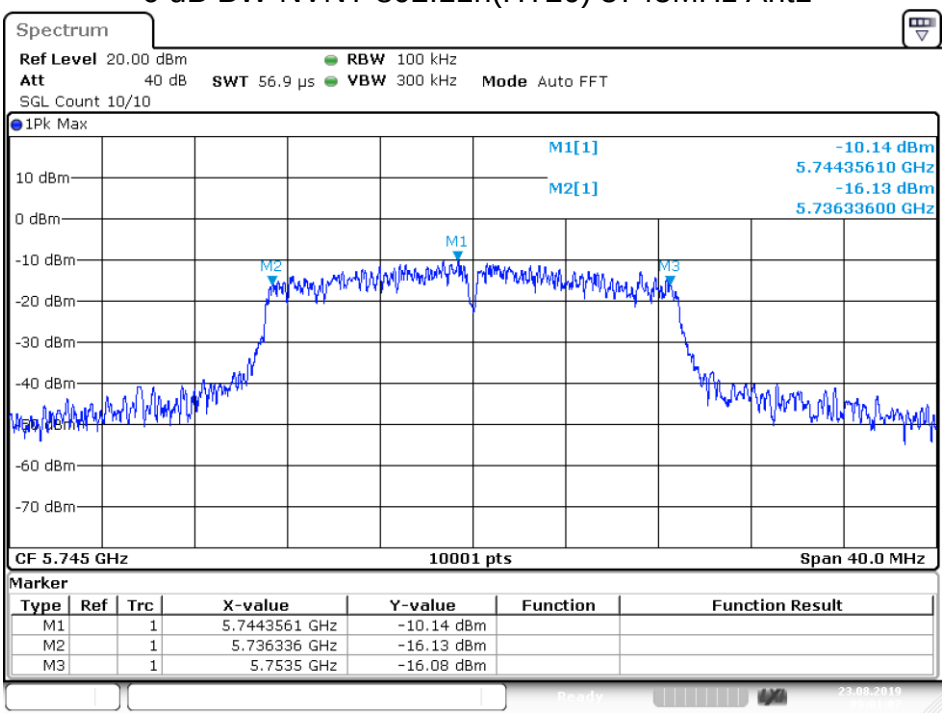
Date: 23.AUG.2019 08:58:19

OBW NVNT 802.11n(HT20) 5745MHz Ant1



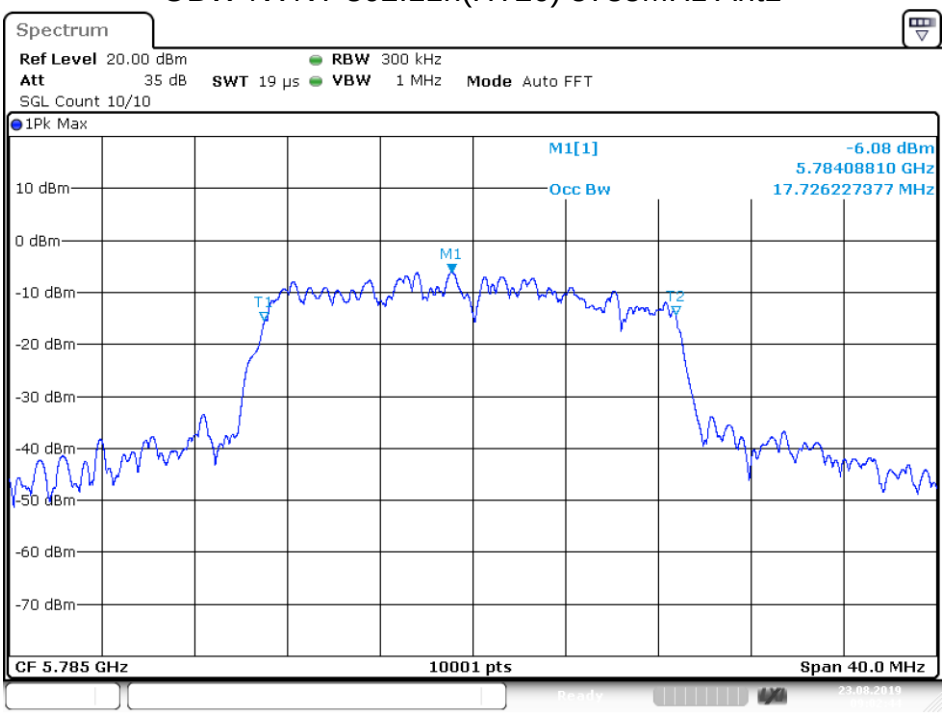
Date: 23.AUG.2019 09:01:04

-6 dB BW NVNT 802.11n(HT20) 5745MHz Ant1



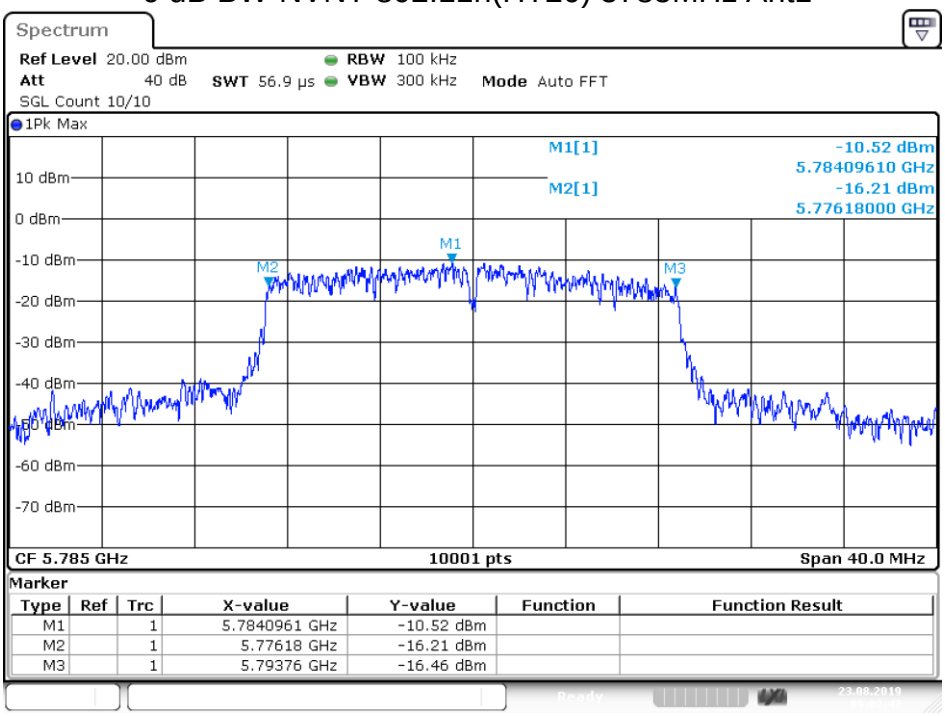
Date: 23.AUG.2019 09:01:07

OBW NVNT 802.11n(HT20) 5785MHz Ant1



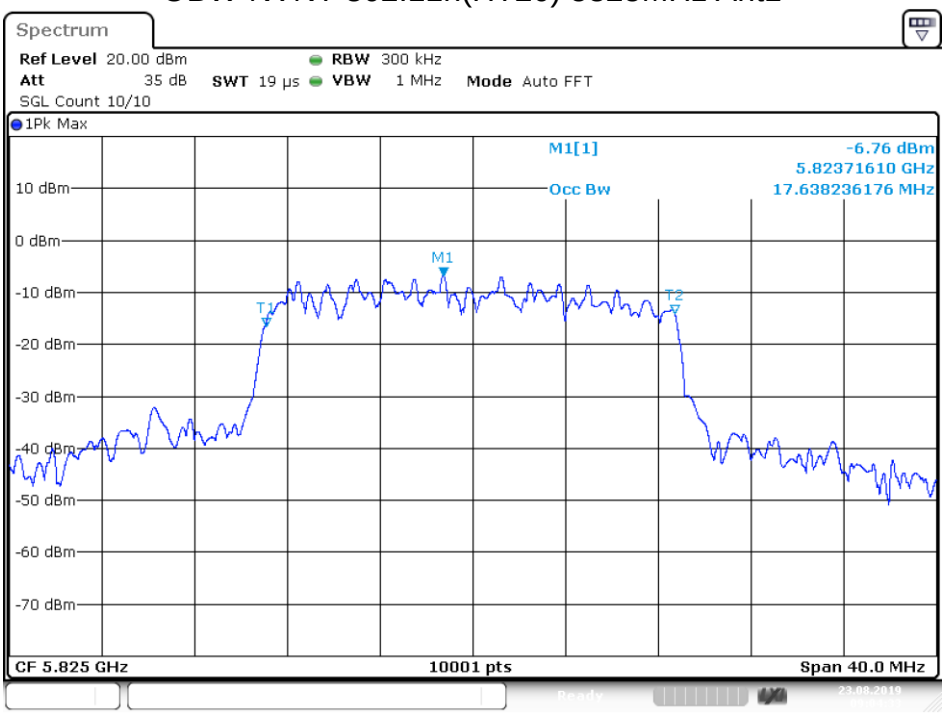
Date: 23.AUG.2019 09:02:44

-6 dB BW NVNT 802.11n(HT20) 5785MHz Ant1



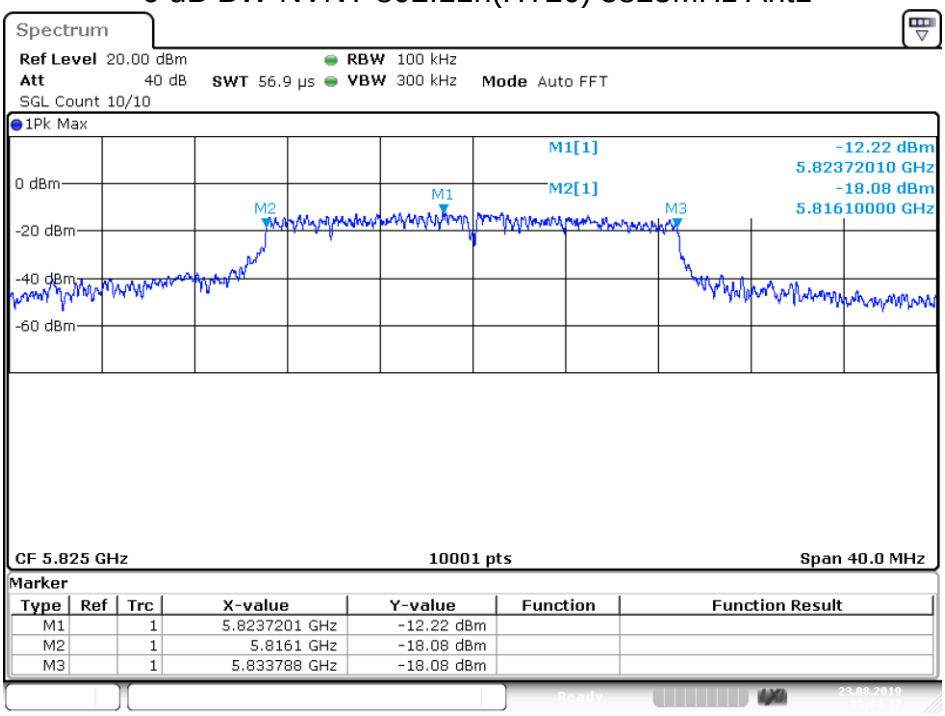
Date: 23.AUG.2019 09:02:47

OBW NVNT 802.11n(HT20) 5825MHz Ant1



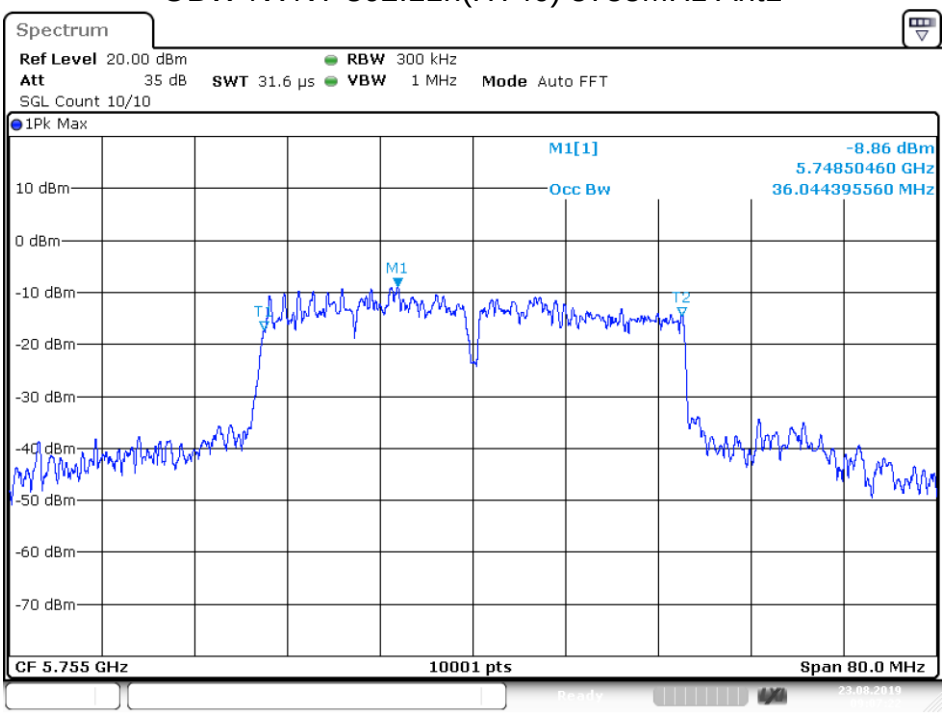
Date: 23.AUG.2019 09:04:34

-6 dB BW NVNT 802.11n(HT20) 5825MHz Ant1



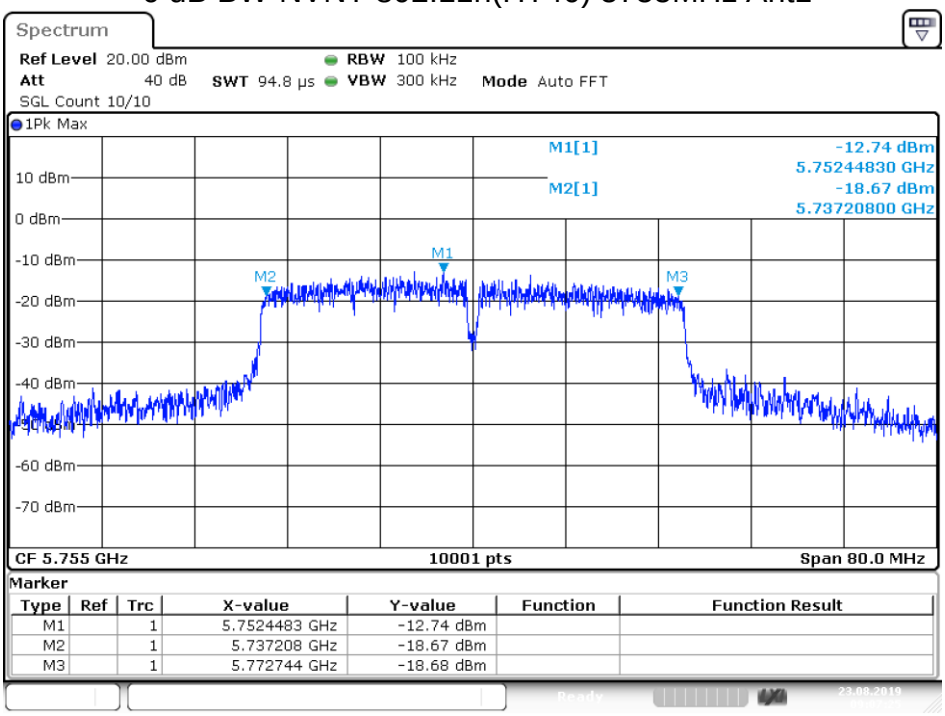
Date: 23.AUG.2019 09:04:36

OBW NVNT 802.11n(HT40) 5755MHz Ant1



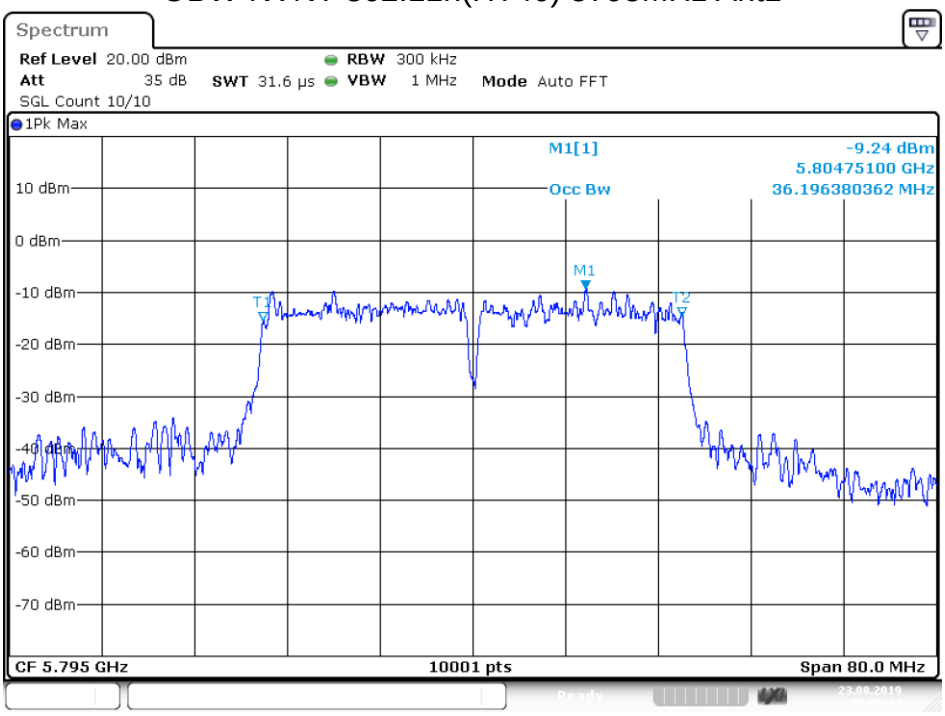
Date: 23.AUG.2019 09:07:22

-6 dB BW NVNT 802.11n(HT40) 5755MHz Ant1



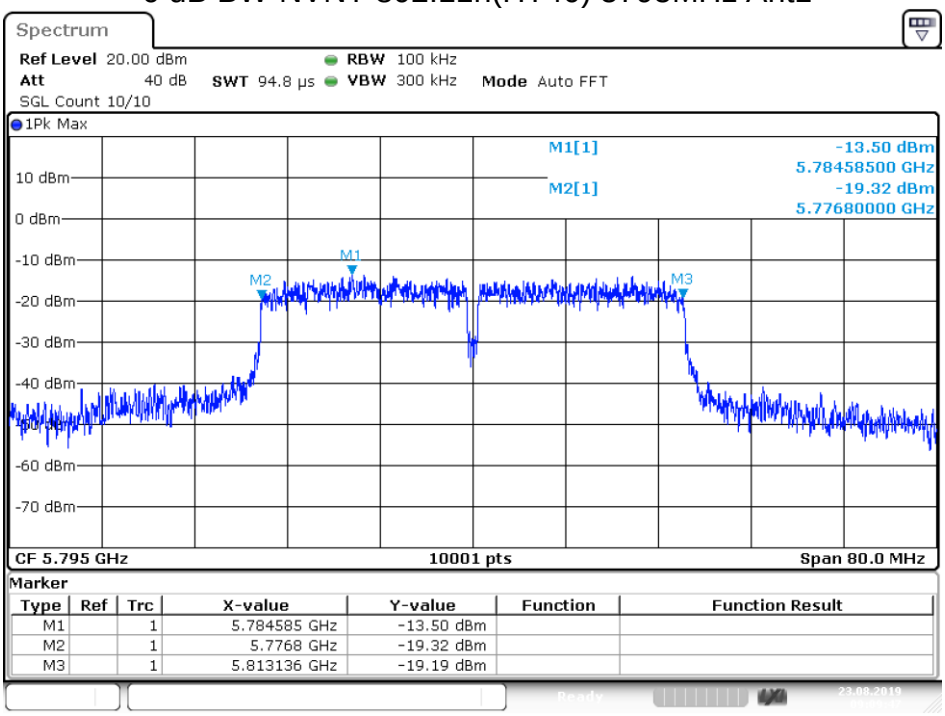
Date: 23.AUG.2019 09:07:25

OBW NVNT 802.11n(HT40) 5795MHz Ant1



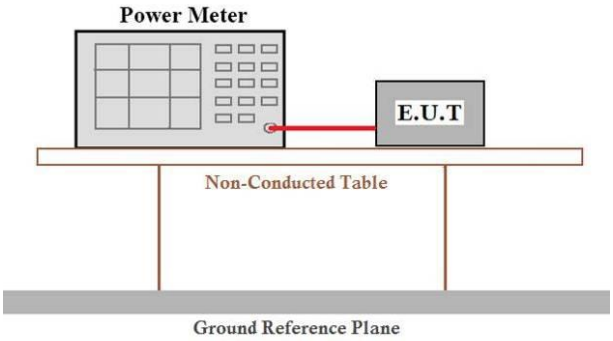
Date: 23.AUG.2019 09:09:43

-6 dB BW NVNT 802.11n(HT40) 5795MHz Ant1



Date: 23.AUG.2019 09:09:46

4.3 Peak Transmit Power

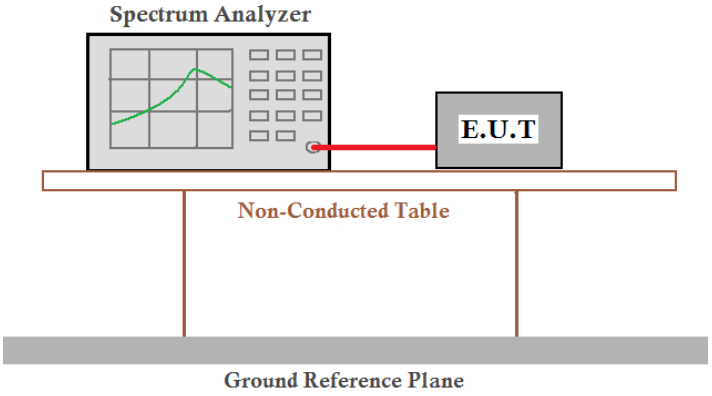
Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Limit:	For the band 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725GHz,the maximum conducted output power over the frequency bands of operation shall not exceed 250mW. For the band 5.725-5.85GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 1W.
Test setup:	
Test procedure:	**Measurement using an RF PK power meter** (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle. b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level. c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five. (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B). (iii) Measure the PK power of the transmitter. This measurement is a PK over both the on and off periods of the transmitter. (iv) Adjust the measurement in dBm by adding 10 log(1/x) where x is the duty cycle (e.g., 10log(1/0.25) if the duty cycle is 25 percent).
Test results:	Pass

Measurement Data

U-NII-1						
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5180	Ant 1	**9.259**	24	Pass
NVNT	802.11a	5180	Total	9.259	24	Pass
NVNT	802.11a	5200	Ant 1	8.024	24	Pass
NVNT	802.11a	5200	Total	8.024	24	Pass
NVNT	802.11a	5240	Ant 1	6.579	24	Pass
NVNT	802.11a	5240	Total	6.579	24	Pass
NVNT	802.11n(HT20)	5180	Ant 1	8.839	24	Pass
NVNT	802.11n(HT20)	5180	Total	8.839	24	Pass
NVNT	802.11n(HT20)	5200	Ant 1	8.031	24	Pass
NVNT	802.11n(HT20)	5200	Total	8.031	24	Pass
NVNT	802.11n(HT20)	5240	Ant 1	7.058	24	Pass
NVNT	802.11n(HT20)	5240	Total	7.058	24	Pass
NVNT	802.11n(HT40)	5190	Ant 1	7.978	24	Pass
NVNT	802.11n(HT40)	5190	Total	7.978	24	Pass
NVNT	802.11n(HT40)	5230	Ant 1	6.978	24	Pass
NVNT	802.11n(HT40)	5230	Total	6.978	24	Pass

U-NII-3						
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5745	Ant 1	9.502	30	Pass
NVNT	802.11a	5745	Total	9.502	30	Pass
NVNT	802.11a	5785	Ant 1	**9.615**	30	Pass
NVNT	802.11a	5785	Total	9.615	30	Pass
NVNT	802.11a	5825	Ant 1	8.008	30	Pass
NVNT	802.11a	5825	Total	8.008	30	Pass
NVNT	802.11n(HT20)	5745	Ant 1	9.256	30	Pass
NVNT	802.11n(HT20)	5745	Total	9.256	30	Pass
NVNT	802.11n(HT20)	5785	Ant 1	8.876	30	Pass
NVNT	802.11n(HT20)	5785	Total	8.876	30	Pass
NVNT	802.11n(HT20)	5825	Ant 1	8.256	30	Pass
NVNT	802.11n(HT20)	5825	Total	8.256	30	Pass
NVNT	802.11n(HT40)	5755	Ant 1	8.067	30	Pass
NVNT	802.11n(HT40)	5755	Total	8.067	30	Pass
NVNT	802.11n(HT40)	5795	Ant 1	8.108	30	Pass
NVNT	802.11n(HT40)	5795	Total	8.108	30	Pass

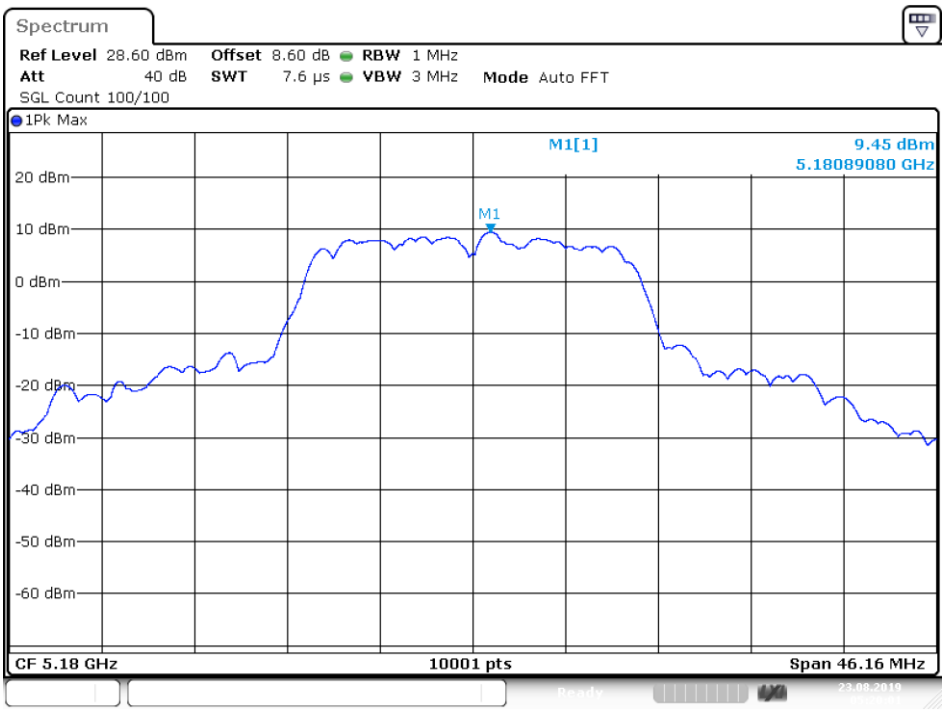
4.4 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Limit:	≤11.00dBm/MHz for 5150MHz-5250MHz, 5250-5350MHz and 5470-5725 MHz ≤30.00dBm/500KHz for 5725MHz-5850MHz
Test setup:	
Test procedure:	1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power…”. 2) Use the peak search function on the instrument to find the peak of the spectrum. 3) Make the following adjustments to the peak value of the spectrum, if applicable: a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum. b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging. 4) The result is the PSD.
Test results:	Pass

Measurement Data

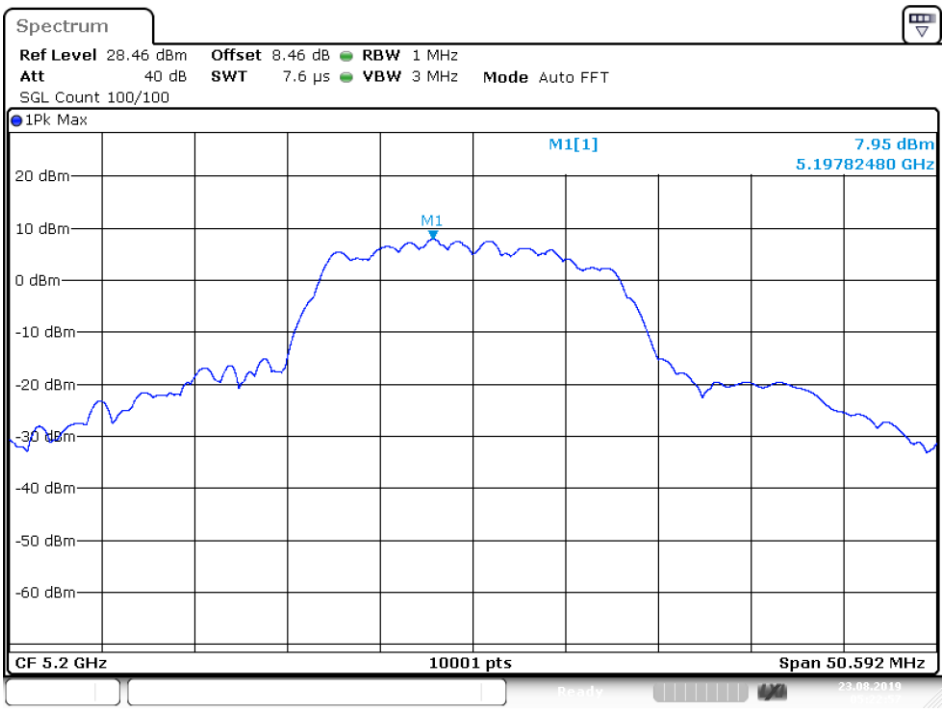
U-NII-1						
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5180	Ant 1	9.448	11	Pass
NVNT	802.11a	5180	Total	9.448	11	Pass
NVNT	802.11a	5200	Ant 1	7.952	11	Pass
NVNT	802.11a	5200	Total	7.952	11	Pass
NVNT	802.11a	5240	Ant 1	7.039	11	Pass
NVNT	802.11a	5240	Total	7.039	11	Pass
NVNT	802.11n(HT20)	5180	Ant 1	9.217	11	Pass
NVNT	802.11n(HT20)	5180	Total	9.217	11	Pass
NVNT	802.11n(HT20)	5200	Ant 1	7.375	11	Pass
NVNT	802.11n(HT20)	5200	Total	7.375	11	Pass
NVNT	802.11n(HT20)	5240	Ant 1	6.201	11	Pass
NVNT	802.11n(HT20)	5240	Total	6.201	11	Pass
NVNT	802.11n(HT40)	5190	Ant 1	6.485	11	Pass
NVNT	802.11n(HT40)	5190	Total	6.485	11	Pass
NVNT	802.11n(HT40)	5230	Ant 1	6.241	11	Pass
NVNT	802.11n(HT40)	5230	Total	6.241	11	Pass

PSD NVNT 802.11a 5180MHz Ant1



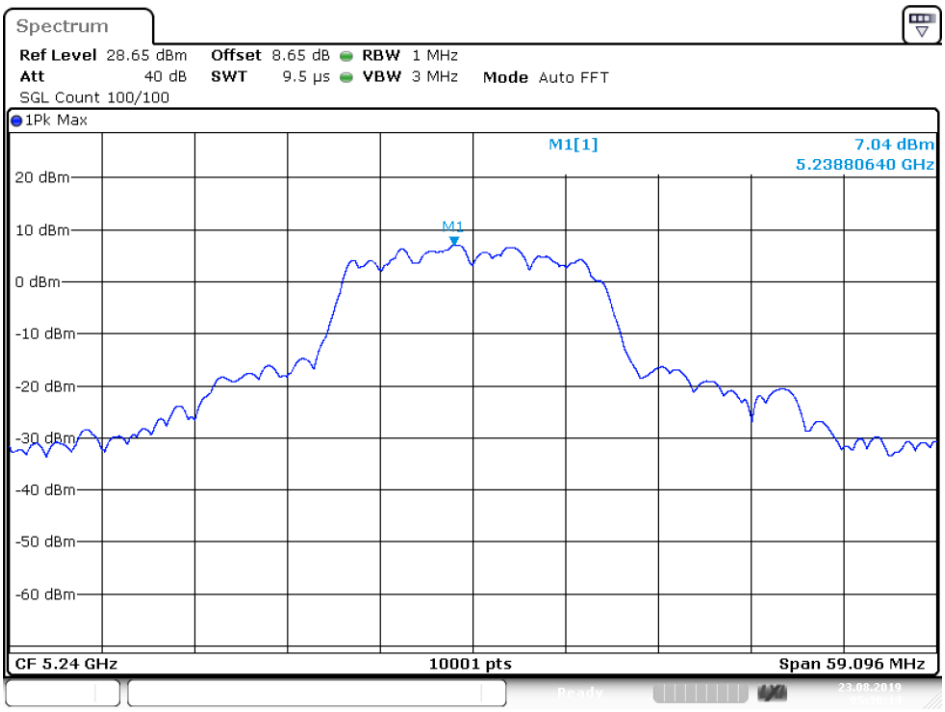
Date: 23.AUG.2019 05:20:00

PSD NVNT 802.11a 5200MHz Ant1



Date: 23.AUG.2019 05:22:58

PSD NVNT 802.11a 5240MHz Ant1



Date: 23.AUG.2019 05:30:14

PSD NVNT 802.11n(HT20) 5180MHz Ant1

Date: 23.AUG.2019 05:32:24

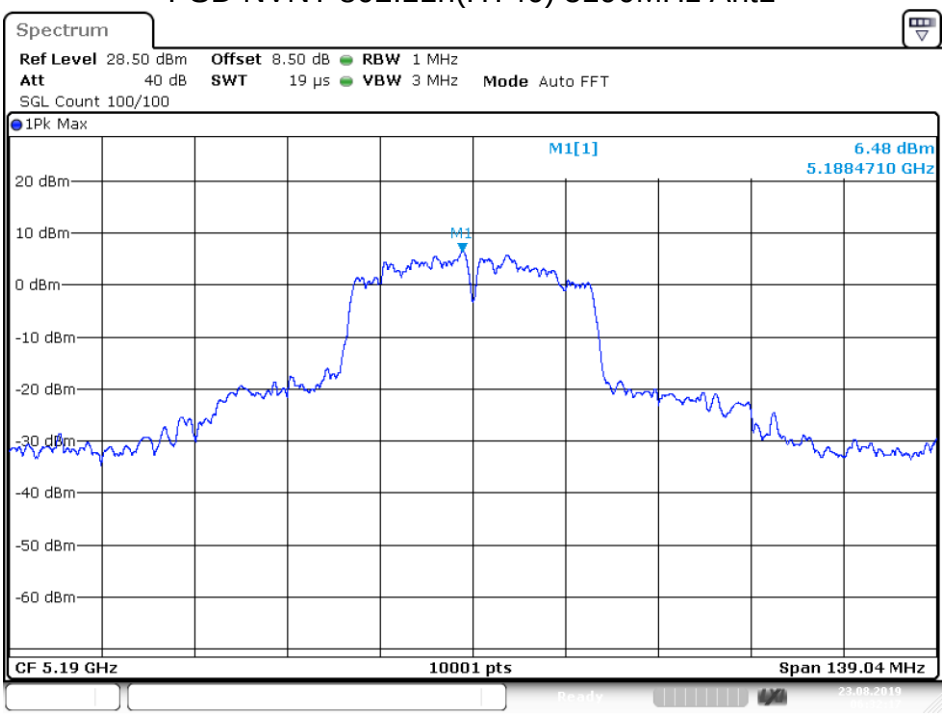
PSD NVNT 802.11n(HT20) 5200MHz Ant1

Date: 23.AUG.2019 05:35:24

PSD NVNT 802.11n(HT20) 5240MHz Ant1

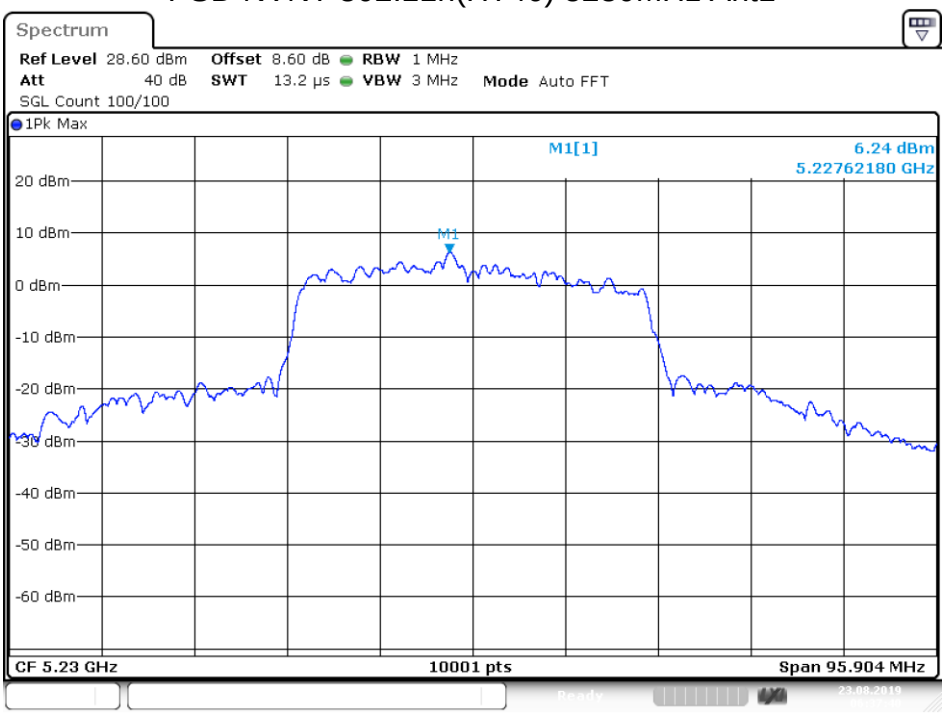
Date: 23.AUG.2019 05:37:10

PSD NVNT 802.11n(HT40) 5190MHz Ant1



Date: 23.AUG.2019 06:32:18

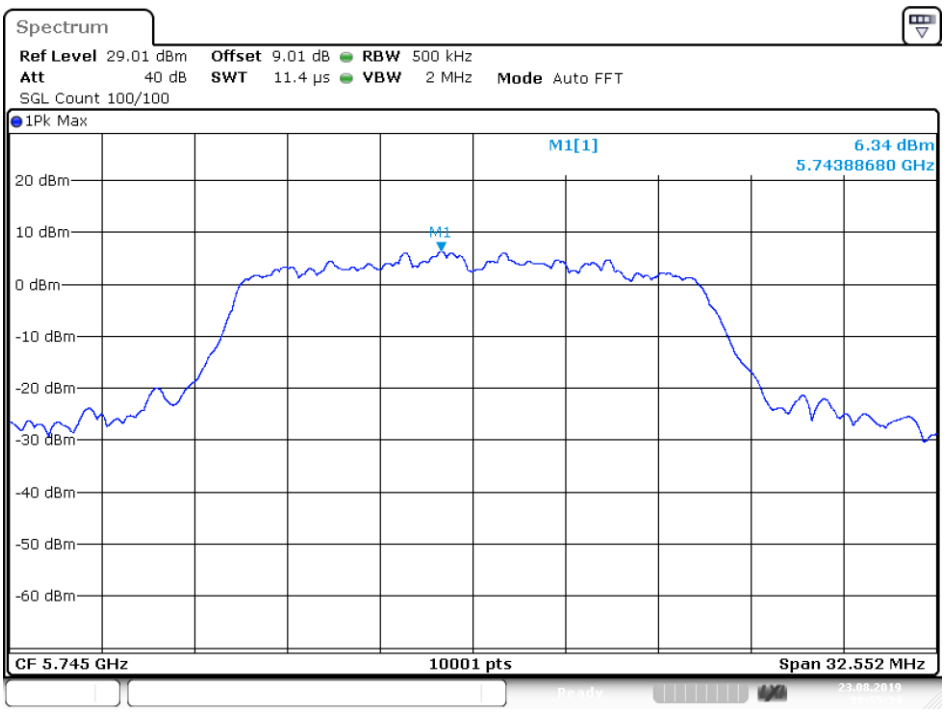
PSD NVNT 802.11n(HT40) 5230MHz Ant1



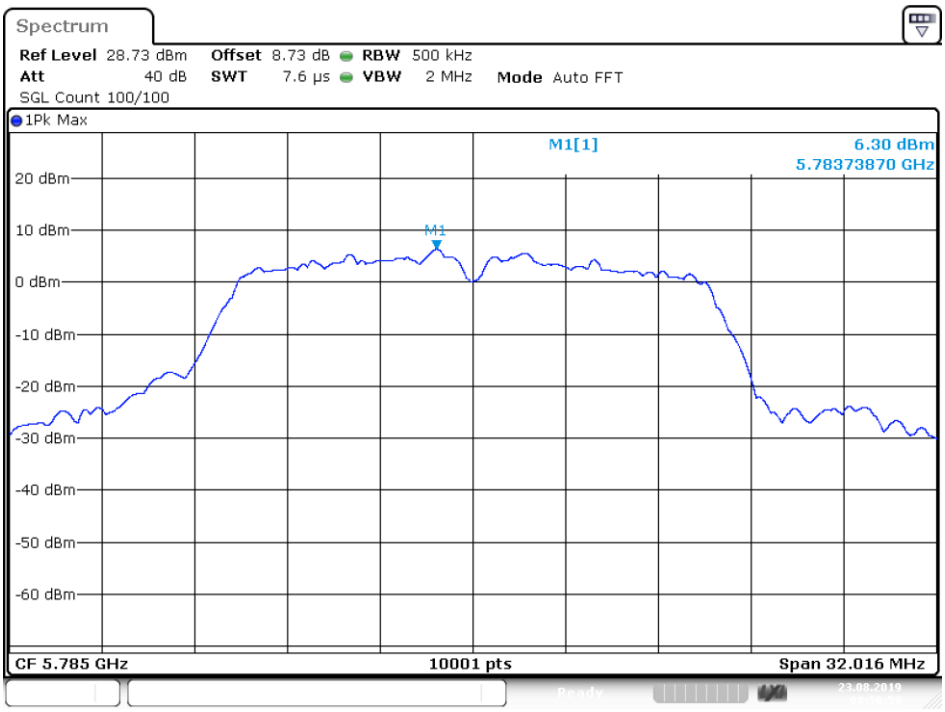
Date: 23.AUG.2019 06:37:40

U-NII-3						
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5745	Ant 1	6.34	30	Pass
NVNT	802.11a	5745	Total	6.34	30	Pass
NVNT	802.11a	5785	Ant 1	6.302	30	Pass
NVNT	802.11a	5785	Total	6.302	30	Pass
NVNT	802.11a	5825	Ant 1	5.741	30	Pass
NVNT	802.11a	5825	Total	5.741	30	Pass
NVNT	802.11n(HT20)	5745	Ant 1	5.715	30	Pass
NVNT	802.11n(HT20)	5745	Total	5.715	30	Pass
NVNT	802.11n(HT20)	5785	Ant 1	5.689	30	Pass
NVNT	802.11n(HT20)	5785	Total	5.689	30	Pass
NVNT	802.11n(HT20)	5825	Ant 1	4.313	30	Pass
NVNT	802.11n(HT20)	5825	Total	4.313	30	Pass
NVNT	802.11n(HT40)	5755	Ant 1	2.426	30	Pass
NVNT	802.11n(HT40)	5755	Total	2.426	30	Pass
NVNT	802.11n(HT40)	5795	Ant 1	2.181	30	Pass
NVNT	802.11n(HT40)	5795	Total	2.181	30	Pass

PSD NVNT 802.11a 5745MHz Ant1

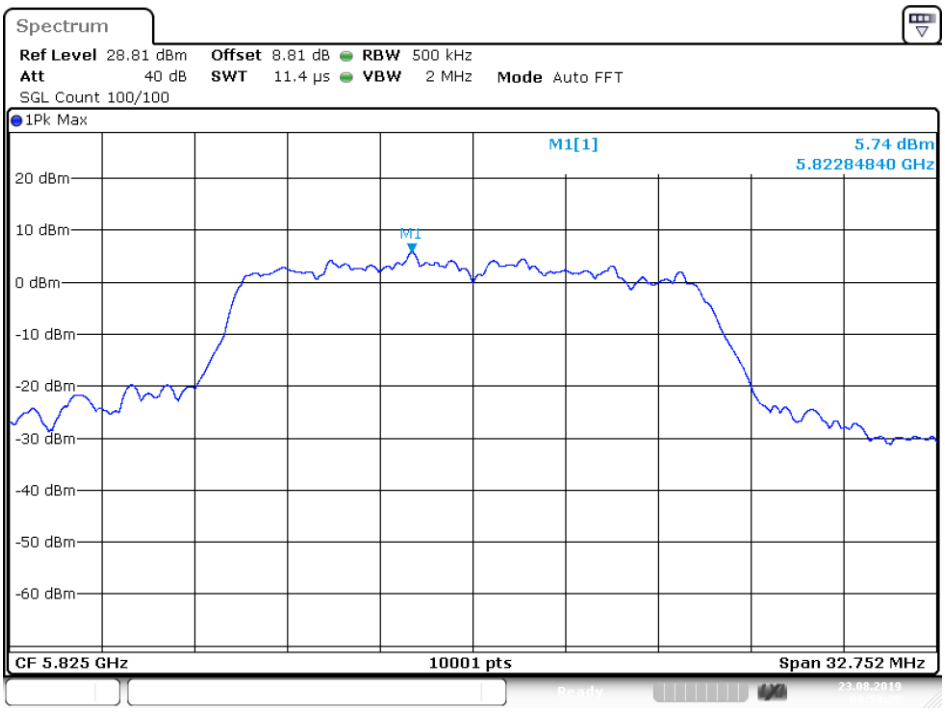


PSD NVNT 802.11a 5785MHz Ant1



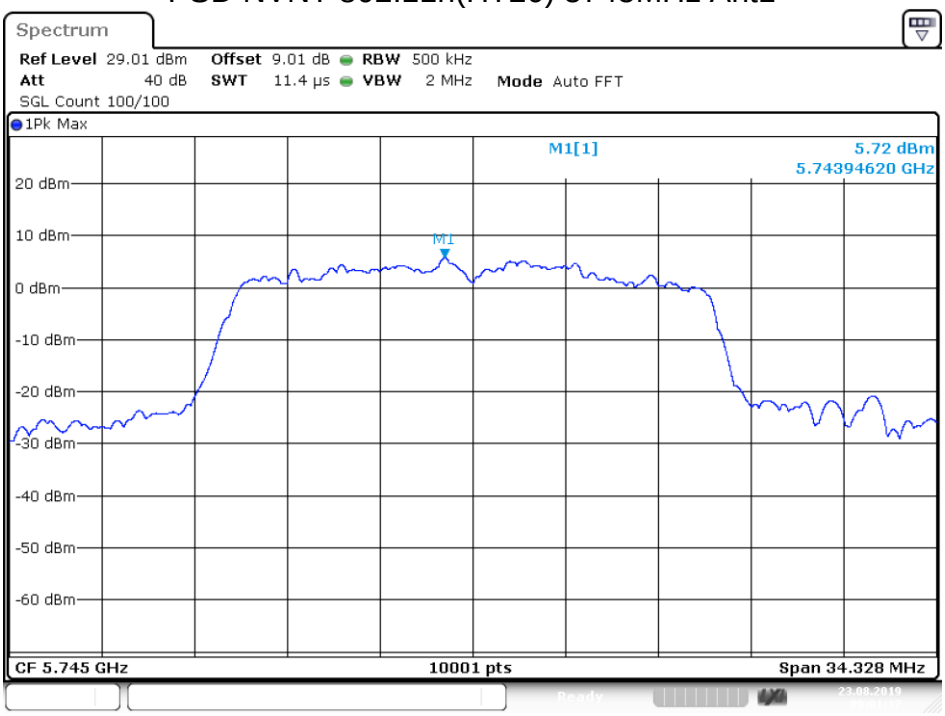
Date: 23.AUG.2019 08:56:59

PSD NVNT 802.11a 5825MHz Ant1



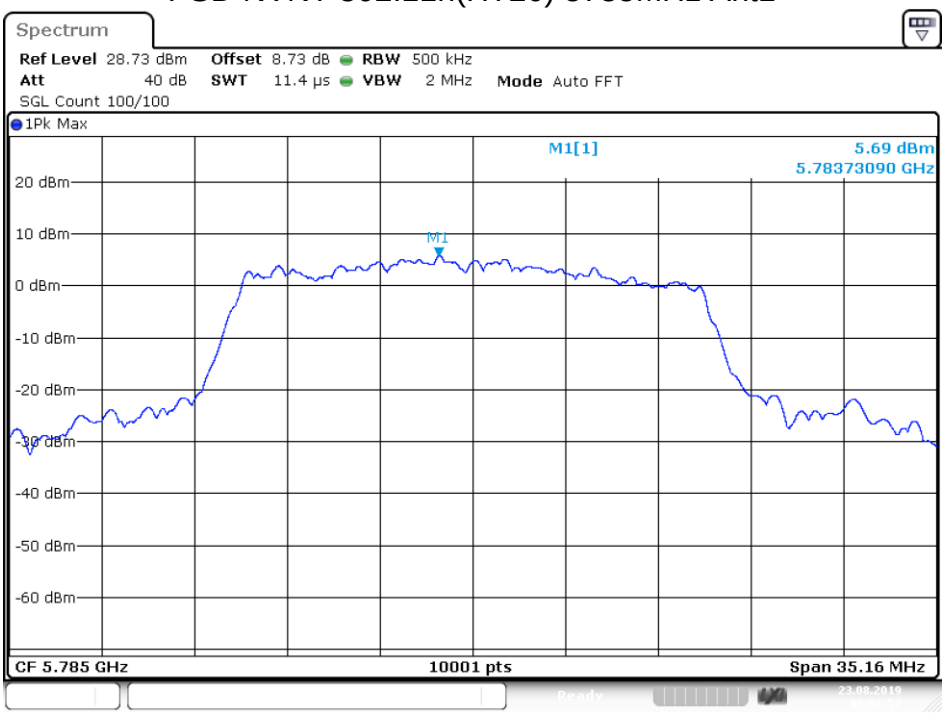
Date: 23.AUG.2019 08:58:28

PSD NVNT 802.11n(HT20) 5745MHz Ant1



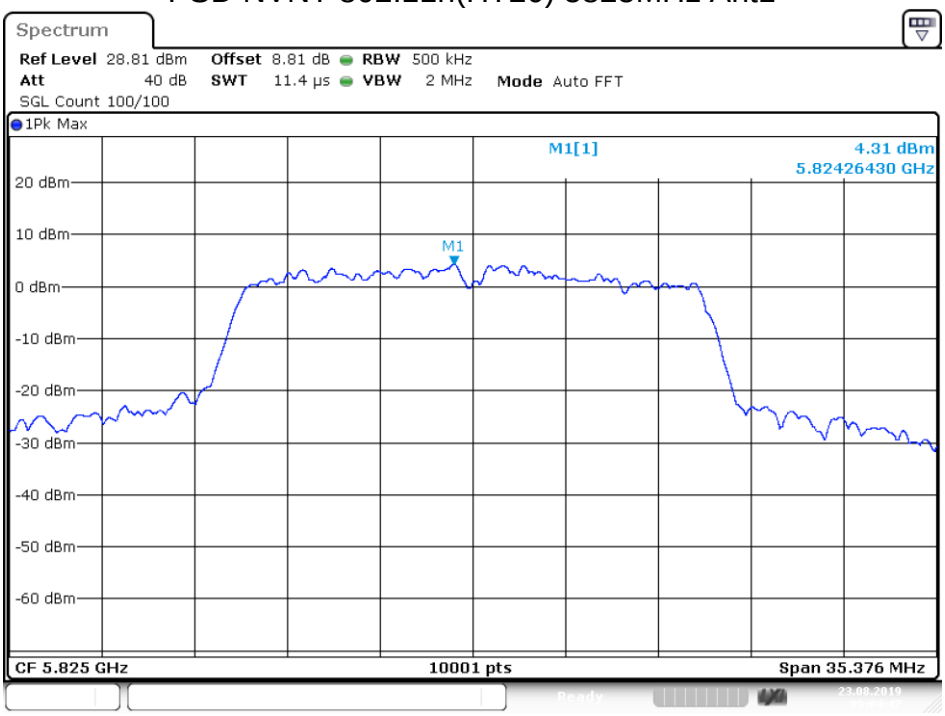
Date: 23.AUG.2019 09:01:16

PSD NVNT 802.11n(HT20) 5785MHz Ant1



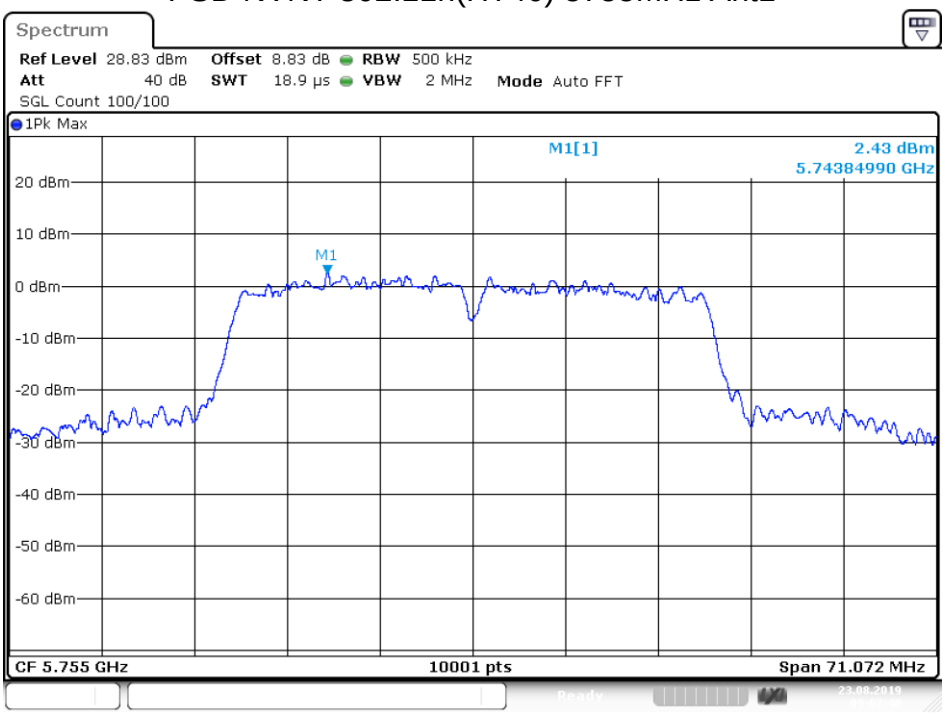
Date: 23.AUG.2019 09:02:57

PSD NVNT 802.11n(HT20) 5825MHz Ant1



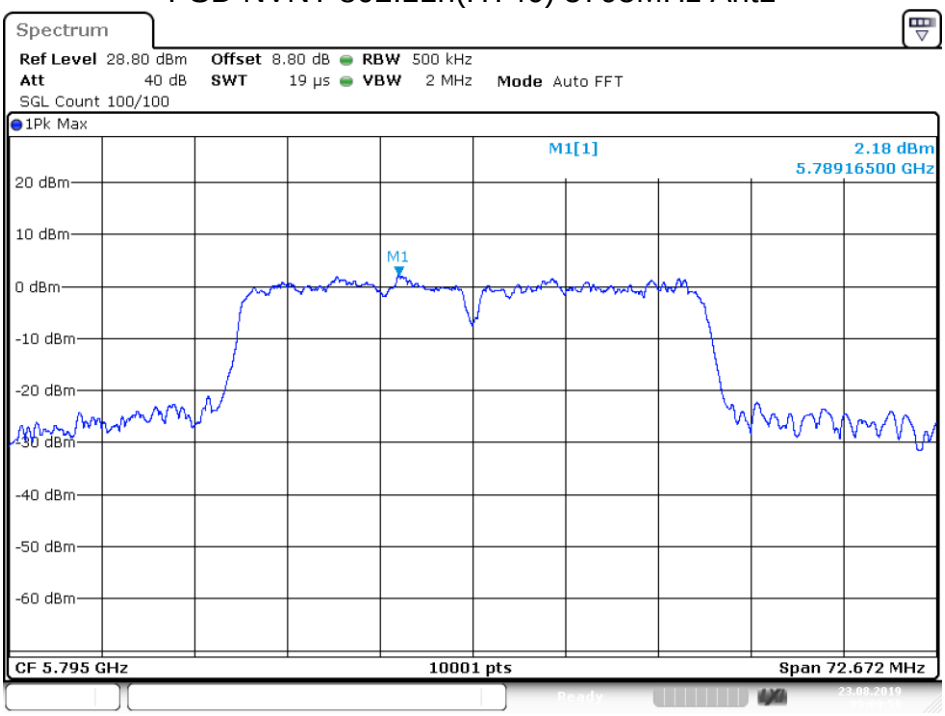
Date: 23.AUG.2019 09:04:47

PSD NVNT 802.11n(HT40) 5755MHz Ant1



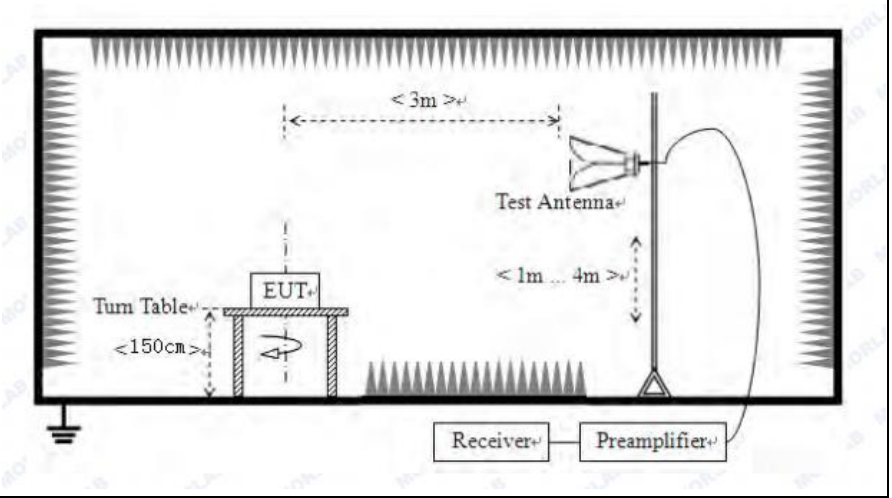
Date: 23.AUG.2019 09:07:40

PSD NVNT 802.11n(HT40) 5795MHz Ant1



4.5 Band Edge

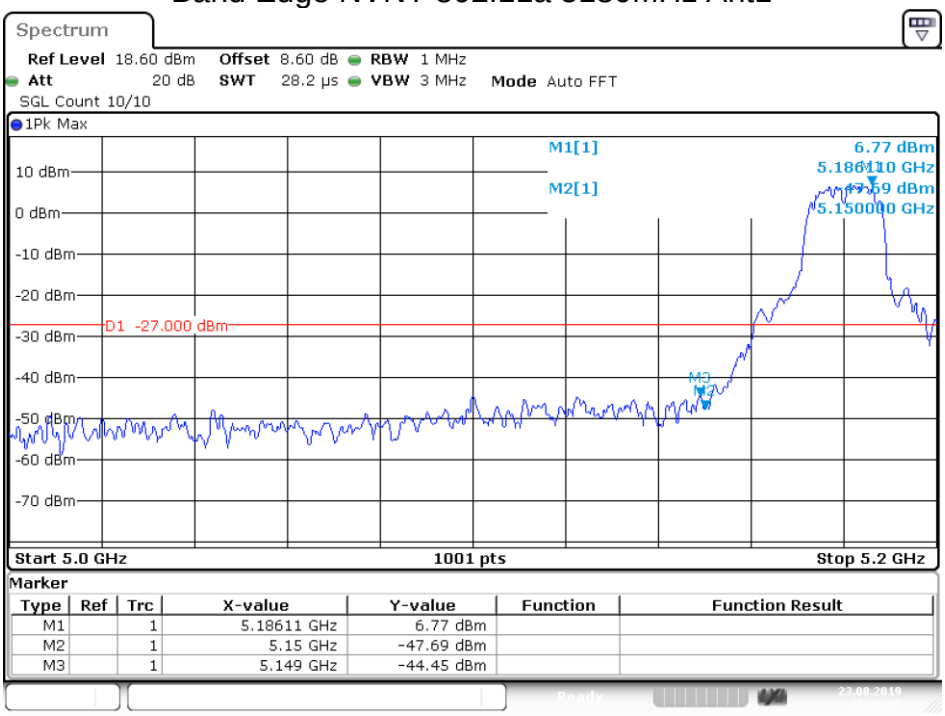
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>68.2</td><td>Peak Value</td></tr>
</table>
Undesirable emission limits:
(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 EIRP of -27 dBm/MHz.
(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 EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
(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 EIRP of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.850 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
</td></tr>
<tr><td>Test Procedure:</td><td>
a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not
</td></tr>
</table>

	have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test setup:	Above 1GHz 
Test results:	Pass

Measurement Data:

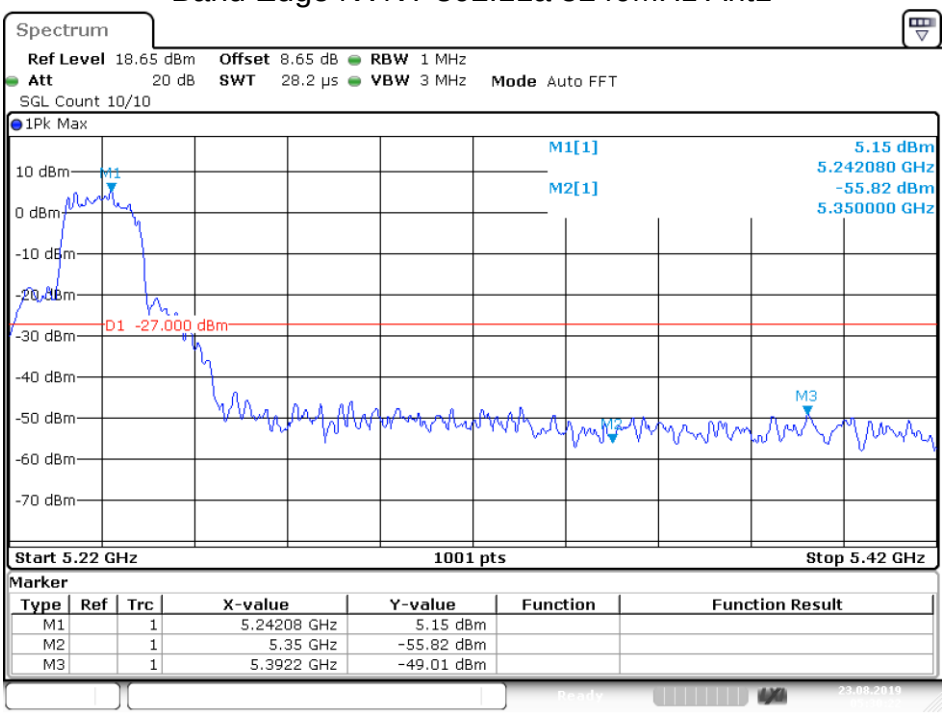
U-NII-1						
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5180	Ant 1	-44.45	-27	Pass
NVNT	802.11a	5240	Ant 1	-49.01	-27	Pass
NVNT	802.11n(HT20)	5180	Ant 1	-43.9	-27	Pass
NVNT	802.11n(HT20)	5240	Ant 1	-45.31	-27	Pass
NVNT	802.11n(HT40)	5190	Ant 1	-28.77	-27	Pass
NVNT	802.11n(HT40)	5230	Ant 1	-49.66	-27	Pass

Band Edge NVNT 802.11a 5180MHz Ant1



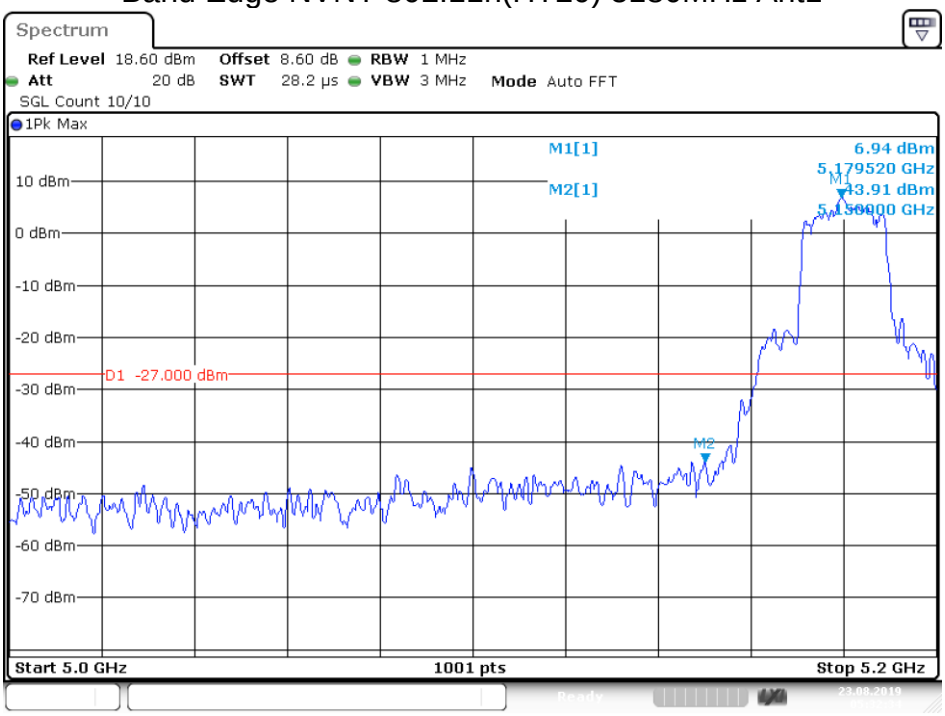
Date: 23.AUG.2019 05:20:06

Band Edge NVNT 802.11a 5240MHz Ant1



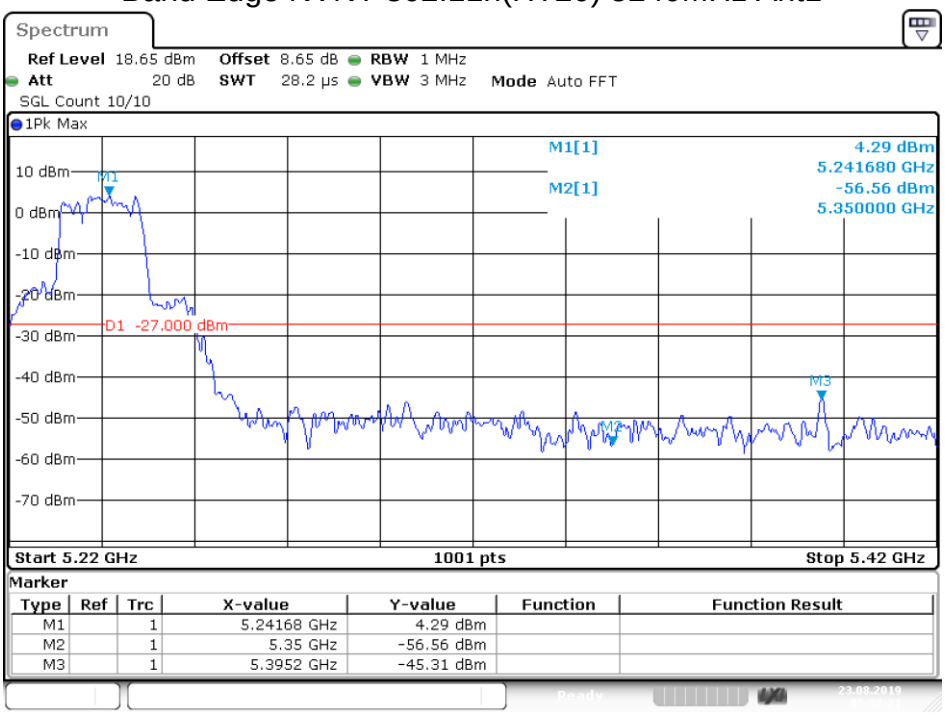
Date: 23.AUG.2019 05:30:22

Band Edge NVNT 802.11n(HT20) 5180MHz Ant1



Date: 23.AUG.2019 05:32:34

Band Edge NVNT 802.11n(HT20) 5240MHz Ant1

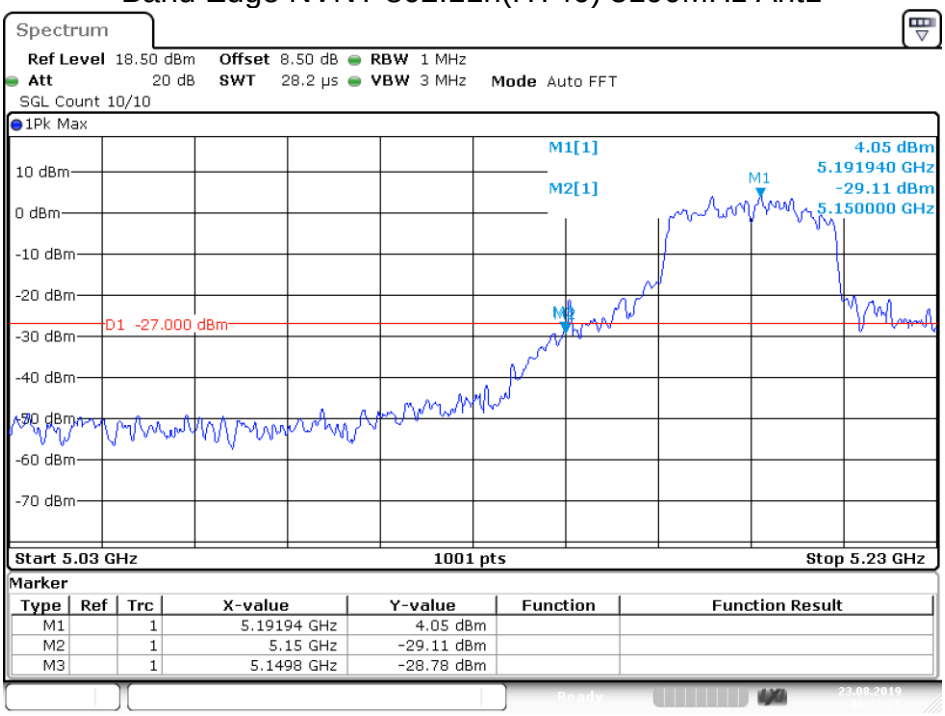


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.24168 GHz	4.29 dBm		
M2		1	5.35 GHz	-56.56 dBm		
M3		1	5.3952 GHz	-45.31 dBm		

Date: 23.AUG.2019 05:37:20

Band Edge NVNT 802.11n(HT40) 5190MHz Ant1



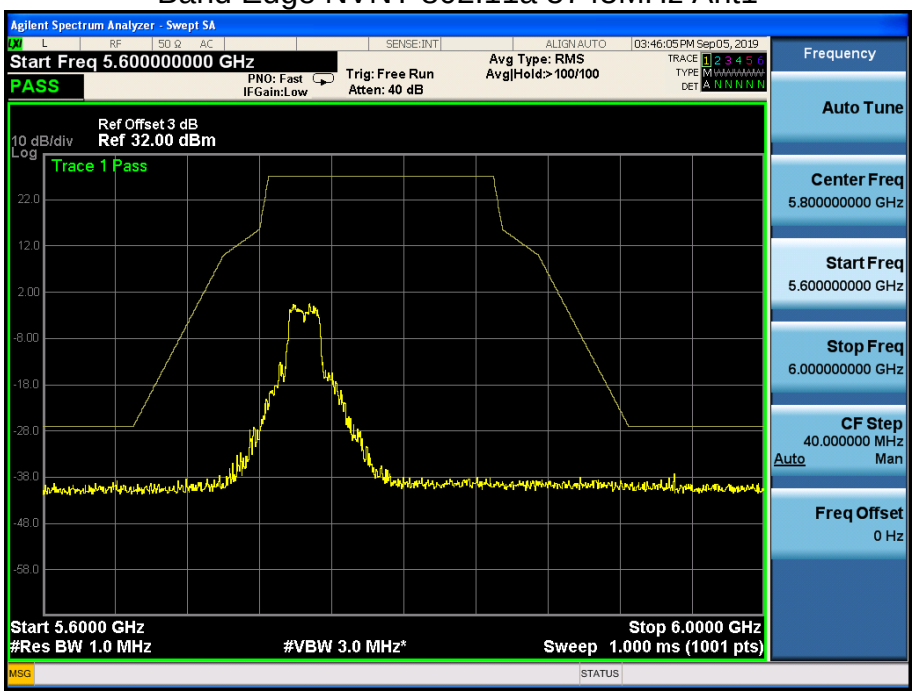
Date: 23.AUG.2019 06:32:29

Band Edge NVNT 802.11n(HT40) 5230MHz Ant1

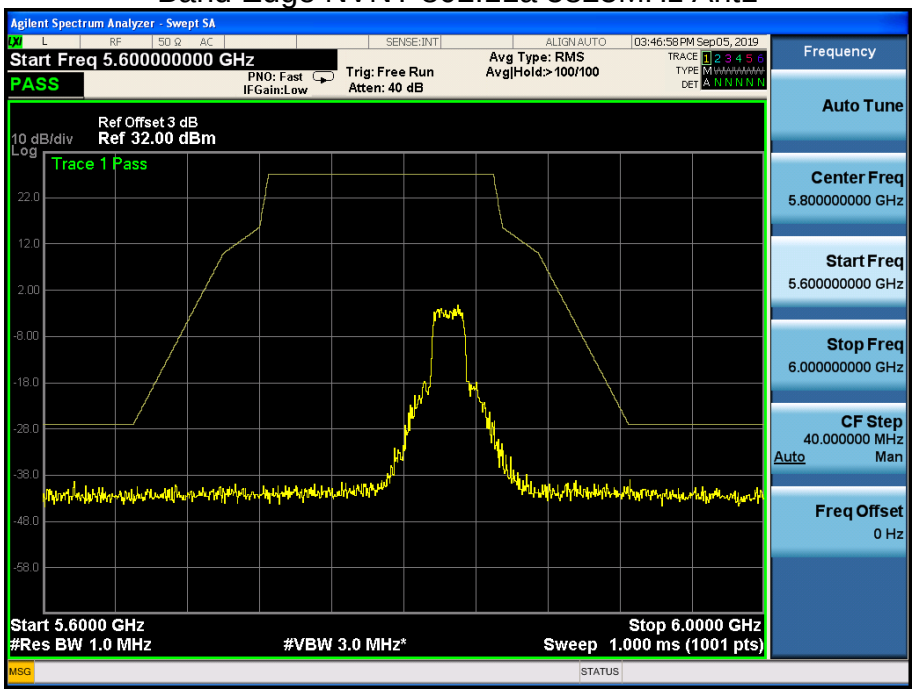
Date: 23.AUG.2019 06:37:54

U-NII-3

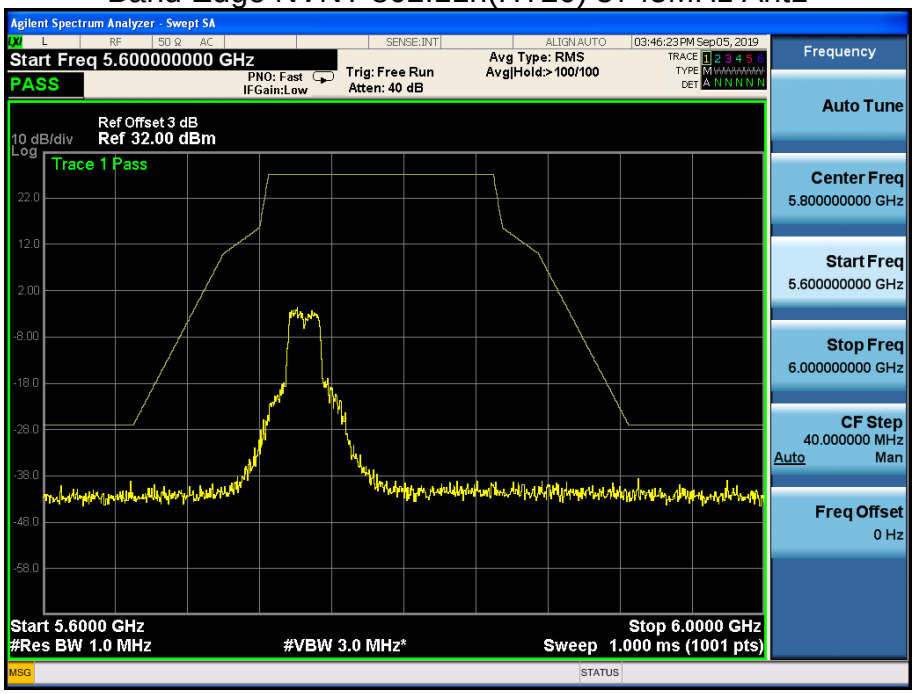
Band Edge NVNT 802.11a 5745MHz Ant1



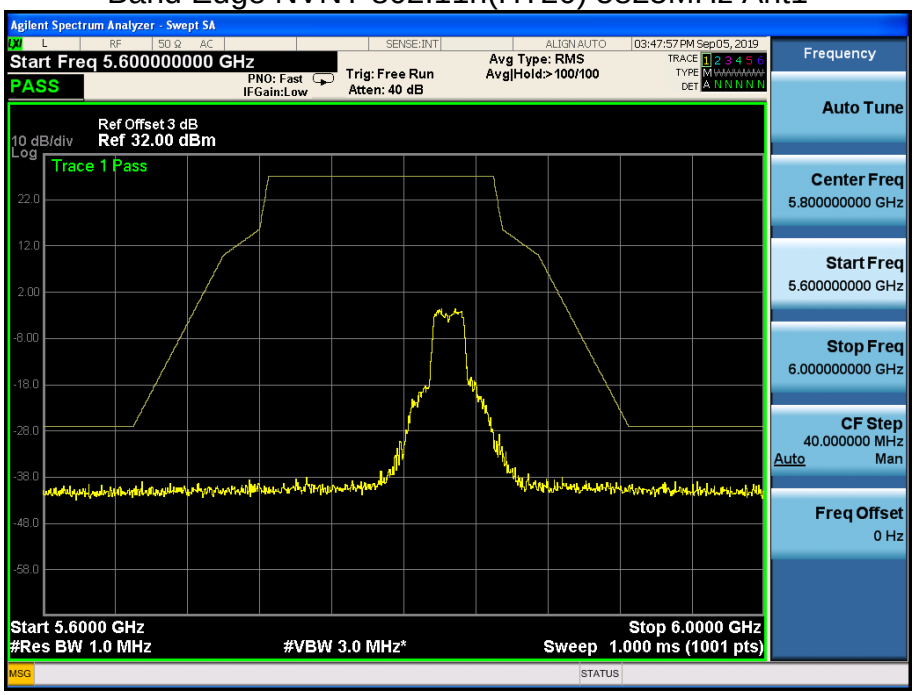
Band Edge NVNT 802.11a 5825MHz Ant1



Band Edge NVNT 802.11n(HT20) 5745MHz Ant1

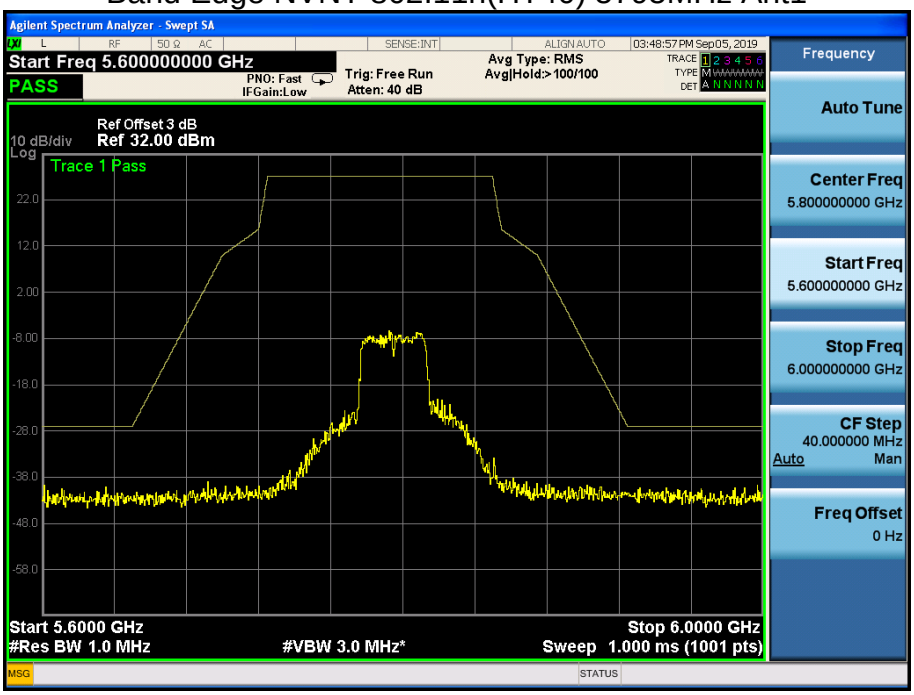


Band Edge NVNT 802.11n(HT20) 5825MHz Ant1



Band Edge NVNT 802.11n(HT40) 5755MHz Ant1

Band Edge NVNT 802.11n(HT40) 5795MHz Ant1

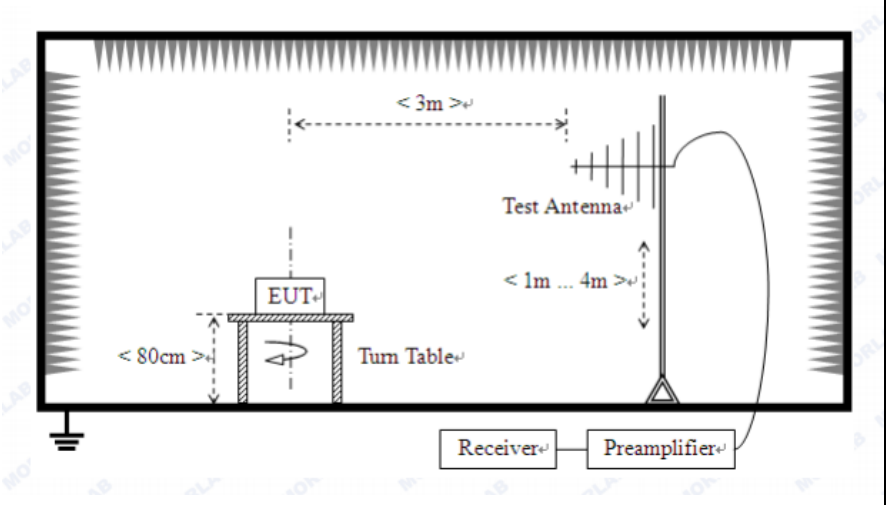


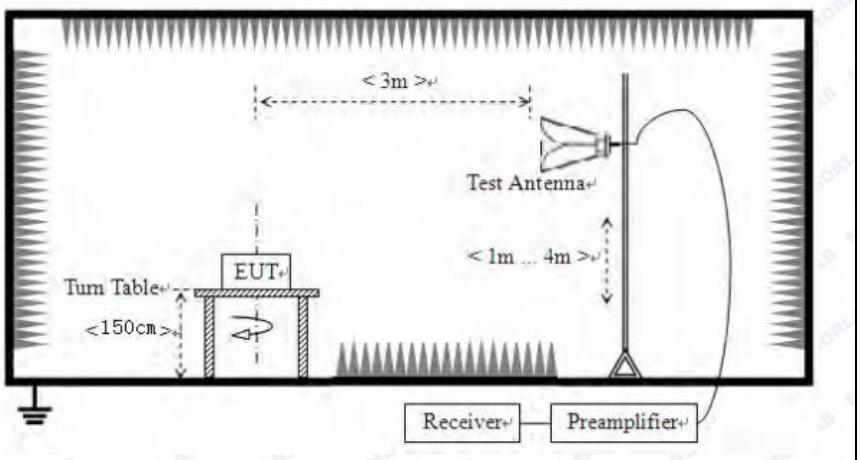
4.6 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>74.0</td><td>Peak Value</td></tr>
<tr><td>54.0</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>
Substitution method was performed to determine the actual ERP emission levels of the EUT.
The following test procedure as below:

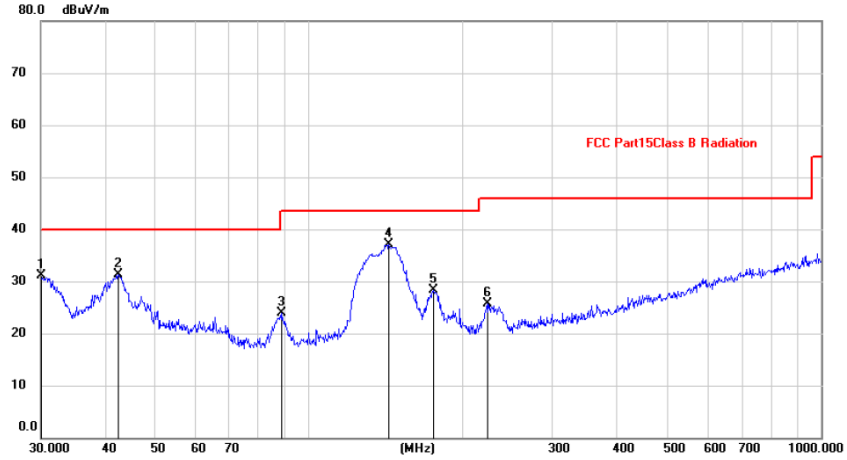
1>.Below 1GHz test procedure:
1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

2>.Above 1GHz test procedure:
1. On the test site as test setup graph above,the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.
2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver.
3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.
4. The test antenna shall be raised and lowered from 1m to 4m until a
</td></tr>
</table>

	maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi) where: Pg is the generator output power into the substitution antenna.
Test setup:	Below 1GHz  Above 1GHz

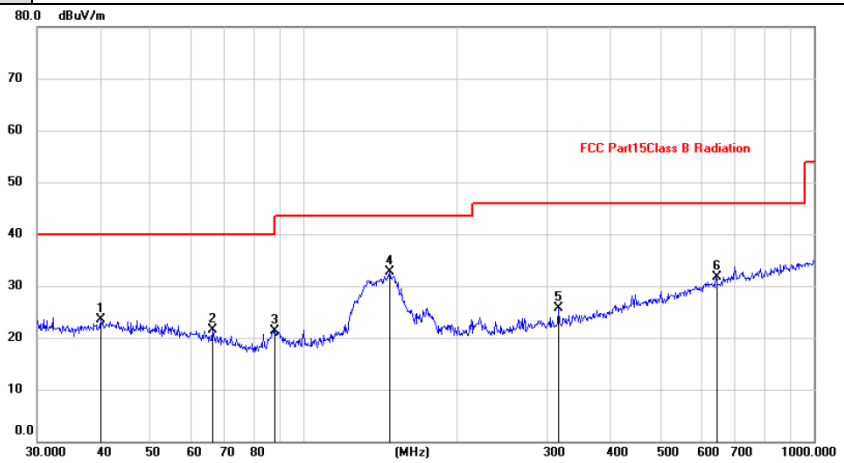
	
Test results:	Pass

From 30MHz to 1000MHz: Conclusion: PASS			
EUT Description	Smart handheld printer	**Model No.**	XPOS-I100
Temperature	24℃	**Humidity**	56%
Pol	Vertical	**Test date**	2019/7/19
Test Voltage	DC 3.8V	**Test mode**	802.11a (5785MHz)



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.0000	17.64	13.52	31.16	40.00	-8.84	peak			
2		42.4508	16.93	14.29	31.22	40.00	-8.78	peak			
3		88.9639	13.84	10.04	23.88	43.50	-19.62	peak			
4	*	143.3261	22.50	14.56	37.06	43.50	-6.44	peak			
5		175.0368	14.97	13.37	28.34	43.50	-15.16	peak			
6		222.9502	13.78	11.91	25.69	46.00	-20.31	peak			

Pol	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		39.9942	9.10	14.47	23.57	40.00	-16.43	peak			
2		66.2662	9.39	12.05	21.44	40.00	-18.56	peak			
3		87.7248	11.30	10.01	21.31	40.00	-18.69	peak			
4	*	147.4036	17.91	14.86	32.77	43.50	-10.73	peak			
5		316.5890	11.16	14.53	25.69	46.00	-20.31	peak			
6		645.1195	10.64	21.03	31.67	46.00	-14.33	peak			

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Remark: All modes have been tested, and only worst data of 802.11a (5785MHz) was listed in this report.

Above 1GHz:

802.11a 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	28.14	39.67	14.62	32.65	49.78	74.00	-24.22	Vertical
15540	30.31	38.6	17.66	34.46	52.11	74.00	-21.89	Vertical
10360	31.74	39.67	14.62	32.65	53.38	74.00	-20.62	Horizontal
15540	31.06	38.6	17.66	34.46	52.86	74.00	-21.14	Horizontal

802.11a 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	29.10	39.67	14.62	32.65	50.74	74.00	-23.26	Vertical
15600	29.82	38.6	17.66	34.46	51.62	74.00	-22.38	Vertical
10400	30.19	39.67	14.62	32.65	51.83	74.00	-22.17	Horizontal
15600	30.25	38.6	17.66	34.46	52.05	74.00	-21.95	Horizontal

802.11a 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	30.35	39.67	14.62	32.65	51.99	74.00	-22.01	Vertical
15720	29.48	38.6	17.66	34.46	51.28	74.00	-22.72	Vertical
10480	29.71	39.67	14.62	32.65	51.35	74.00	-22.65	Horizontal
15720	31.16	38.6	17.66	34.46	52.96	74.00	-21.04	Horizontal

802.11n(HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	30.22	39.67	14.62	32.65	51.86	74.00	-22.14	Vertical
15540	28.77	38.6	17.66	34.46	50.57	74.00	-23.43	Vertical
10360	31.84	39.67	14.62	32.65	53.48	74.00	-20.52	Horizontal
15540	32.60	38.6	17.66	34.46	54.40	74.00	-19.60	Horizontal

802.11n(HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	28.28	39.67	14.62	32.65	49.92	74.00	-24.08	Vertical
15600	31.60	38.6	17.66	34.46	53.40	74.00	-20.60	Vertical
10400	31.96	39.67	14.62	32.65	53.60	74.00	-20.40	Horizontal
15600	31.54	38.6	17.66	34.46	53.34	74.00	-20.66	Horizontal

802.11n(HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	31.12	39.67	14.62	32.65	52.76	74.00	-21.24	Vertical
15720	29.62	38.6	17.66	34.46	51.42	74.00	-22.58	Vertical
10480	30.80	39.67	14.62	32.65	52.44	74.00	-21.56	Horizontal
15720	29.52	38.6	17.66	34.46	51.32	74.00	-22.68	Horizontal

802.11n(HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	30.78	39.67	14.62	32.65	52.42	74.00	-21.58	Vertical
15570	31.02	38.6	17.66	34.46	52.82	74.00	-21.18	Vertical
10380	31.88	39.67	14.62	32.65	53.52	74.00	-20.48	Horizontal
15570	32.53	38.6	17.66	34.46	54.33	74.00	-19.67	Horizontal

802.11n(HT40) 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	28.24	39.67	14.62	32.65	49.88	74.00	-24.12	Vertical
15690	28.59	38.6	17.66	34.46	50.39	74.00	-23.61	Vertical
10460	31.34	39.67	14.62	32.65	52.98	74.00	-21.02	Horizontal
15690	31.02	38.6	17.66	34.46	52.82	74.00	-21.18	Horizontal

802.11ac(HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	28.13	39.67	14.62	32.65	49.77	74.00	-24.23	Vertical
15570	29.21	38.6	17.66	34.46	51.01	74.00	-22.99	Vertical
10380	31.35	39.67	14.62	32.65	52.99	74.00	-21.01	Horizontal
15570	29.36	38.6	17.66	34.46	51.16	74.00	-22.84	Horizontal

Note:

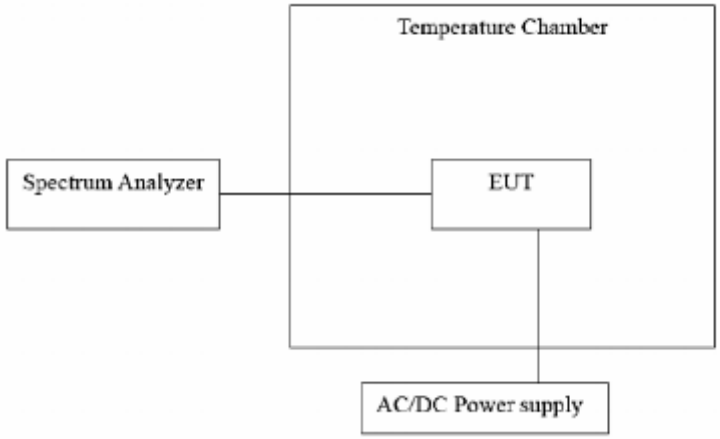
1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.

2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

4. This Report only show the test plots of the worst case (U-NII-1).

4.7 Frequency Stability Measurement

Test Requirement:	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
Test Method:	ANSI C63.10: 2013
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	
Test Procedure:	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	Pre-scan was performed at Antenna 0 and Antenna 1, the worst case was found. Only the test data of Antenna 0 was shown in this report.

Only record the worst data(IEEE 802.11a)

U-NII-1 for 802.11a Low (5180MHz)					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Fequnency (MHz)	Freq.Dev (KHz)	Deviation (ppm)
100%	3.8	-30	5179.962	34	6.48
100%		-20	5179.976	27	5.18
100%		-10	5179.970	33	6.33
100%		0	5179.972	29	5.59
100%		10	5179.970	30	5.80
100%		20	5179.967	33	6.32
100%		30	5179.973	29	5.54
100%		40	5179.981	27	5.20
100%		50	5179.978	23	4.39
Low Battery power	3.4	20	5179.978	21	3.96
High Battery power	4.3	20	5179.981	19	3.73

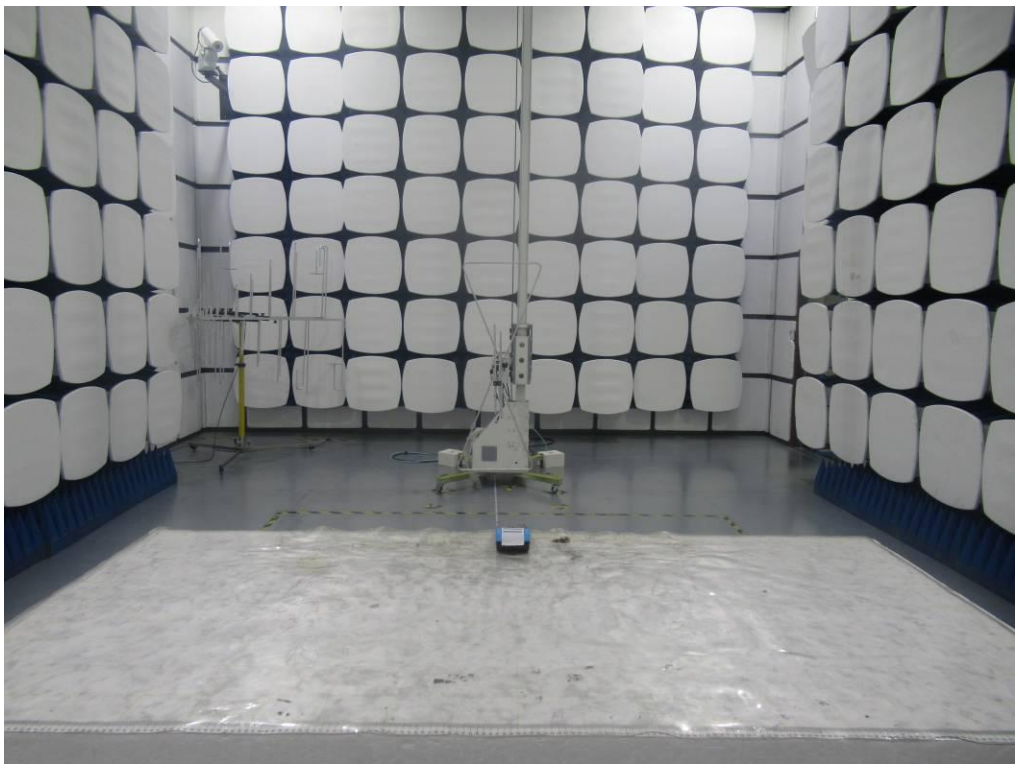
U-NII-1 for 802.11a High (5240MHz)					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Fequnency (MHz)	Freq.Dev (MHz)	Deviation (ppm)
100%	3.8	-30	5239.963	37	7.14
100%		-20	5239.965	35	6.59
100%		-10	5239.968	32	6.07
100%		0	5239.965	35	6.72
100%		10	5239.972	28	5.33
100%		20	5239.968	32	6.11
100%		30	5239.969	31	5.93
100%		40	5239.962	38	7.31
100%		50	5239.969	31	5.97
Low Battery power	3.4	20	5239.965	35	6.66
High Battery power	4.3	20	5239.968	32	6.11

U-NII-3 for 802.11a Low (5745MHz)					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Fequnency (MHz)	Freq.Dev (MHz)	Deviation (ppm)
100%	3.8	-30	5744.969	31	5.41
100%		-20	5744.974	26	4.61
100%		-10	5744.981	19	3.26
100%		0	5744.969	31	5.43
100%		10	5744.974	26	4.45
100%		20	5744.976	24	4.15
100%		30	5744.974	26	4.58
100%		40	5744.975	25	4.39
100%		50	5744.974	26	4.52
Low Battery power	3.4	20	5744.972	28	4.88
High Battery power	4.3	20	5744.966	34	5.89

U-NII-3 for 802.11a High (5825MHz)					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Fequnency (MHz)	Freq.Dev (MHz)	Deviation (ppm)
100%	3.8	-30	5824.975	25	4.33
100%		-20	5824.969	31	5.32
100%		-10	5824.979	21	3.59
100%		0	5824.978	22	3.75
100%		10	5824.978	22	3.81
100%		20	5824.969	31	5.34
100%		30	5824.972	28	4.77
100%		40	5824.974	26	4.46
100%		50	5824.978	22	3.71
Low Battery power	3.4	20	5824.973	27	4.61
High Battery power	4.3	20	5824.976	24	4.09

5 Test Setup Photo

Radiated Emission



Conducted Emission

6 EUT Constructional Details

Reference to the test report No. A1907043-C01-R11

---END---