

TEST REPORT

FCC ID: 2AG87NM-DB-3-R2

Product: Wi-Fi® Radio Transceiver

Model No.: NM-DB-3-R2

Additional Model No.: NM-DB-2-R2, NO-DB-3-R2, NO-DB-2-R2

Trade Mark: N/A

Report No.: TCT200410E018

Issued Date: Jun. 18, 2020

Issued for:

Doodle Labs (SG) Pte Ltd

150 Kampong Ampat, KA Center, Suite 05-03, Singapore 368324

Issued By:

Shenzhen Tongce Testing Lab.

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1. Test Certification

Product:	Wi-Fi® Radio Transceiver
Model No.:	NM-DB-3-R2
Additional Model No.:	NM-DB-2-R2, NO-DB-3-R2, NO-DB-2-R2
Trade Mark:	N/A
Applicant:	Doodle Labs (SG) Pte Ltd
Address:	150 Kampong Ampat, KA Center, Suite 05-03, Singapore 368324
Manufacturer:	Doodle Labs (SG) Pte Ltd
Address:	150 Kampong Ampat, KA Center, Suite 05-03, Singapore 368324
Date of Test:	Apr. 12, 2020 – Jun. 17, 2020
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2016 KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General U-NII Test Procedures New Rules v02r01

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Brews Xu

Date:

Jun. 17, 2020

Reviewed By:



Beryl Zhao

Date:

Jun. 18, 2020

Approved By:



Tomsin

Date:

Jun. 18, 2020

2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(a)	PASS
26dB Emission Bandwidth & 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Restricted Bands around fundamental frequency	§15.407(a)	PASS
Radiated Emission	§15.407(a)	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

3. EUT Description

Product:	Wi-Fi® Radio Transceiver
Model No.:	NM-DB-3-R2
Additional Model No.:	NM-DB-2-R2, NO-DB-3-R2, NO-DB-2-R2
Trade Mark:	N/A
Operation Frequency:	Band 1: 5180 MHz -5240 MHz Band 2A: 5260 MHz -5320 MHz Band 2C: 5500 MHz -5700 MHz Band 3: 5745 MHz -5825 MHz
Channel Bandwidth:	802.11a: 20MHz 802.11n: 20MHz, 40MHz
Modulation Technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type:	External Antenna
Antenna Gain:	ANT0: 3dBi, ANT1: 3dBi, ANT2: 3dBi
Power Supply:	DC 3.3V
Remark:	All models above are identical in interior structure, electrical circuits and components, and just model names are different for the marketing requirement.

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

Test Frequency each of channel

Band 1

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
36	5180	38	5190
40	5200	46	5230
48	5240		

Band 2A

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
52	5260	54	5270
60	5300	62	5310
64	5320		

Band 2C

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
100	5500	102	5510
120	5600	118	5590
140	5700	134	5670

Band 3

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
149	5745	151	5755
157	5785	159	5795
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

4. General Information

4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 100%)
<p>The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p>	

<p>We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:</p>	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a(SISO)	6 Mbps
802.11n(HT20) (MIMO)	6.5 Mbps
802.11n(HT40) (MIMO)	13.5 Mbps
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Laptop	ThinkPad T430	PO1908049	/	Lenovo
AC Adapter	92P1154	11S92P1154Z1ZD XP7CL957	/	Lenovo

Setting level of test tool

802.11a		802.11n(HT20)		802.11n(HT40)	
Frequency (MHz)	Setting level	Frequency (MHz)	Setting level	Frequency (MHz)	Setting level
5180	17	5180	8	5190	8
5200	17	5200	8	5230	8
5240	18	5240	9	5270	14
5260	18	5260	14	5310	14
5300	18	5300	14	5510	15
5320	17	5320	14	5590	15
5500	19	5500	15	5670	15
5600	19	5600	15	5755	20
5700	18	5700	15	5795	20
5745	20	5745	20		
5785	20	5785	20		
5825	20	5825	20		

5. Facilities and Accreditations

5.1. Facilities

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

- FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

5.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.12\text{dB}$
3	Spurious emissions, conducted	$\pm 0.11\text{dB}$
4	All emissions, radiated(<1G)	$\pm 3.92\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^\circ\text{C}$
7	Humidity	$\pm 1.0\%$

6. Test Results and Measurement Data

6.1. Antenna requirement

Standard requirement:

FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

E.U.T Antenna:

The EUT has three external antennas, and the best case gains of each antenna is 3dBi. The antenna use a unique connector to the intentional radiator.



6.2. Conducted Emission

6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	<p><i>Remark</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test Mode:	Tx Mode														
Test Procedure:	<ol style="list-style-type: none"> The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides 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 refer 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. 														
Test Result:	PASS														

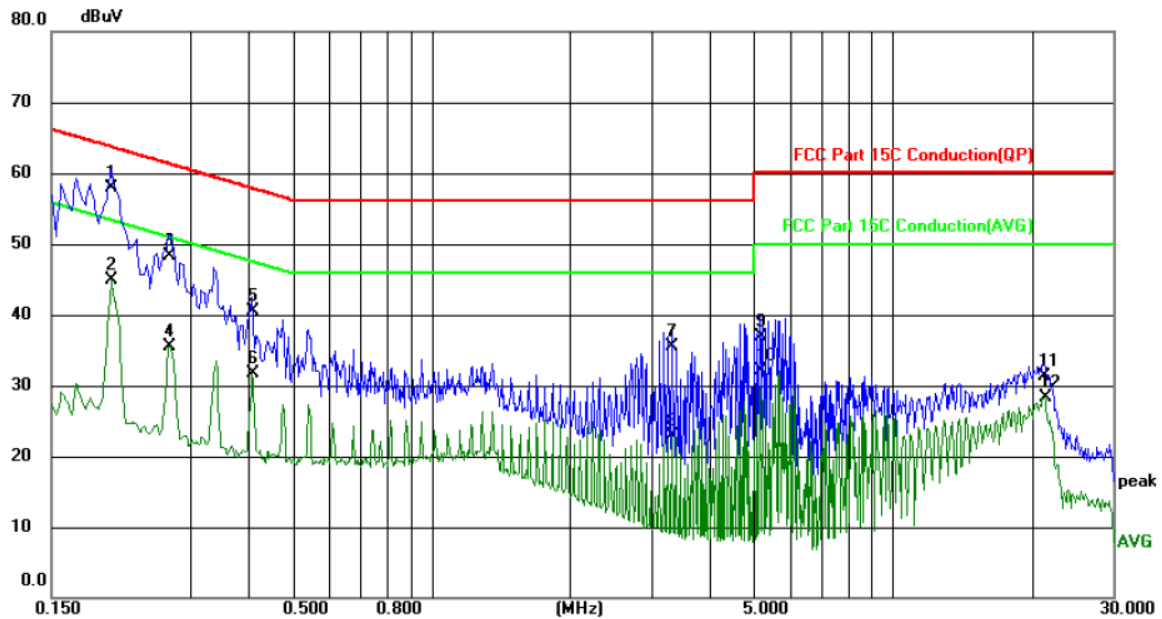
6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	R&S	ESPI	101402	Jul. 29, 2020
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 11, 2020
Coax cable (9KHz-30MHz)	TCT	CE-05	N/A	Sep. 08, 2020
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.2.3. Test data

Please refer to following diagram for individual
Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



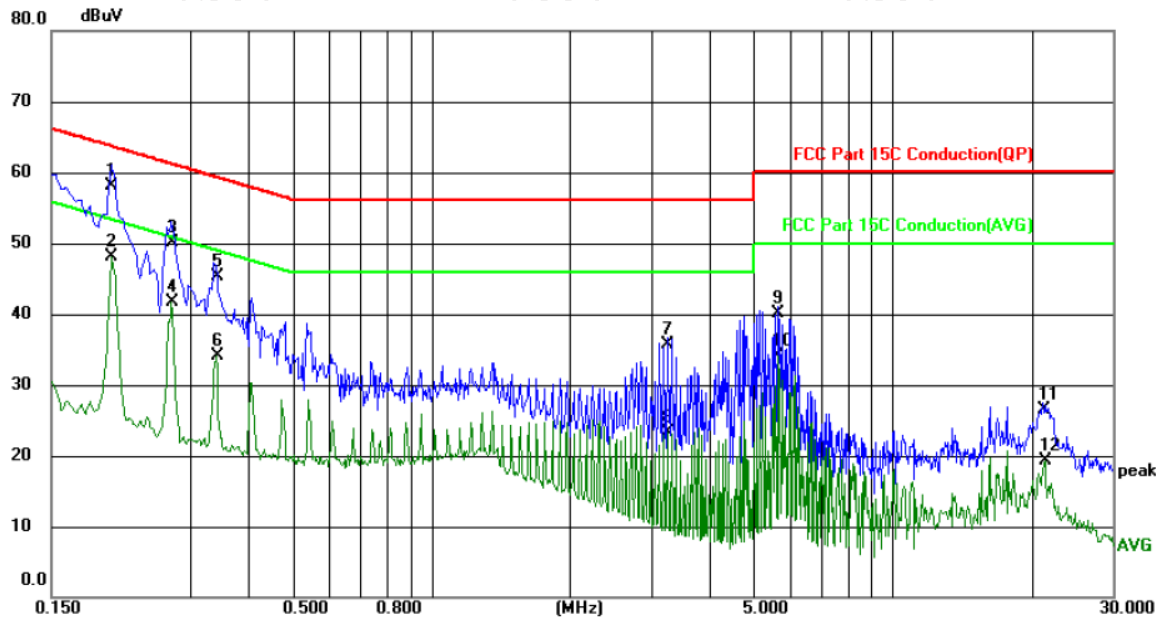
Site: Phase: **L1** Temperature: 25 (C)
Limit: FCC Part 15C Conduction(QP) Power: AC120/60Hz Humidity: 55 %RH

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.2020	47.73	10.23	57.96	63.53	-5.57	QP	
2		0.2020	34.60	10.23	44.83	53.53	-8.70	AVG	
3		0.2700	38.15	10.23	48.38	61.12	-12.74	QP	
4		0.2700	25.36	10.23	35.59	51.12	-15.53	AVG	
5		0.4100	30.29	10.22	40.51	57.65	-17.14	QP	
6		0.4100	21.48	10.22	31.70	47.65	-15.95	AVG	
7		3.3260	25.01	10.47	35.48	56.00	-20.52	QP	
8		3.3260	12.52	10.47	22.99	46.00	-23.01	AVG	
9		5.1620	26.37	10.48	36.85	60.00	-23.15	QP	
10		5.1620	21.53	10.48	32.01	50.00	-17.99	AVG	
11		21.2540	20.13	11.09	31.22	60.00	-28.78	QP	
12		21.3220	17.22	11.09	28.31	50.00	-21.69	AVG	

Note:

- Freq. = Emission frequency in MHz
- Reading level (dBuV) = Receiver reading
- Corr. Factor (dB) = LISN factor + Cable loss
- Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)
- Limit (dBuV) = Limit stated in standard
- Margin (dB) = Measurement (dBuV) – Limits (dBuV)
- Q.P. =Quasi-Peak
- AVG =average
- * is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site: Phase: **N** Temperature: 25 (C)
 Limit: FCC Part 15C Conduction(QP) Power: AC120/60Hz Humidity: 55 %RH

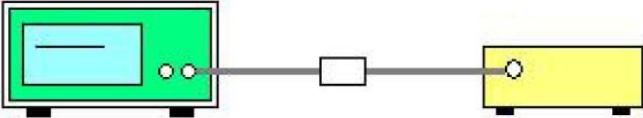
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.2020	48.00	10.13	58.13	63.53	-5.40	QP	
2		0.2020	37.99	10.13	48.12	53.53	-5.41	AVG	
3		0.2740	40.05	10.13	50.18	61.00	-10.82	QP	
4		0.2740	31.50	10.13	41.63	51.00	-9.37	AVG	
5		0.3420	35.27	10.13	45.40	59.15	-13.75	QP	
6		0.3420	23.95	10.13	34.08	49.15	-15.07	AVG	
7		3.2580	25.53	10.13	35.66	56.00	-20.34	QP	
8		3.2580	13.15	10.13	23.28	46.00	-22.72	AVG	
9		5.6340	30.03	10.13	40.16	60.00	-19.84	QP	
10		5.6340	24.05	10.13	34.18	50.00	-15.82	AVG	
11		21.2500	16.23	10.21	26.44	60.00	-33.56	QP	
12		21.3860	9.07	10.21	19.28	50.00	-30.72	AVG	

Note:

- Freq. = Emission frequency in MHz
- Reading level (dBuV) = Receiver reading
- Corr. Factor (dB) = LISN factor + Cable loss
- Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)
- Limit (dBuV) = Limit stated in standard
- Margin (dB) = Measurement (dBuV) – Limits (dBuV)
- Q.P. =Quasi-Peak
- AVG =average
- * is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

6.3. Maximum Conducted Output Power

6.3.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046										
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E										
Limit:	<table border="1"> <thead> <tr> <th>Frequency Band (MHz)</th> <th>Limit</th> </tr> </thead> <tbody> <tr> <td>5180 - 5240</td> <td>30dBm(1W)</td> </tr> <tr> <td>5260 - 5320</td> <td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td> </tr> <tr> <td>5470 - 5725</td> <td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td> </tr> <tr> <td>5745 - 5825</td> <td>30dBm(1W)</td> </tr> </tbody> </table>	Frequency Band (MHz)	Limit	5180 - 5240	30dBm(1W)	5260 - 5320	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz	5470 - 5725	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz	5745 - 5825	30dBm(1W)
Frequency Band (MHz)	Limit										
5180 - 5240	30dBm(1W)										
5260 - 5320	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz										
5470 - 5725	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz										
5745 - 5825	30dBm(1W)										
Test Setup:	 <p>The diagram illustrates the test setup. On the left is a green 'Power meter' with a screen and two ports. A cable connects one of its ports to a small white 'attenuator' box. Another cable connects the attenuator to a yellow 'EUT' (Equipment Under Test) box on the right.</p>										
Test Mode:	Transmitting mode with modulation										
Test Procedure:	<ol style="list-style-type: none"> 1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 5. Measure the conducted output power and record the results in the test report. 										
Test Result:	PASS										
Remark:	<p>Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0</p> <p>Conducted output power= measurement power</p>										

6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
Power Meter	Agilent	E4418B	GB43312526	Sep. 08, 2020
Power Sensor	Agilent	E9301A	MY41497725	Sep. 08, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.3.3. Test Data

Configuration Band 1 (5180 - 5240 MHz) / Antenna 0+Antenna 1+Antenna 2							
Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)				Limit (dBm)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH36	17.41	16.93	17.59	/	30	PASS
11a	CH40	17.07	16.60	17.45	/	30	PASS
11a	CH48	17.24	17.47	17.31	/	30	PASS
11n(HT20)	CH36	17.85	17.15	18.10	22.49	30	PASS
11n(HT20)	CH40	17.50	17.08	17.93	22.29	30	PASS
11n(HT20)	CH48	17.89	17.32	18.25	22.61	30	PASS
11n(HT40)	CH38	17.54	17.20	17.68	22.25	30	PASS
11n(HT40)	CH46	17.44	17.69	17.81	22.42	30	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Directional gain = $G_{ant} + \text{Array Gain} = 3\text{dBi}$, so limit of conducted output power is 1W(30dBm)

Configuration Band 2A (5260 - 5320 MHz) / Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)				26 dB Bandwidth (MHz)	11dBm+ 10logB (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2	Total				
11a	CH52	17.98	17.85	18.07	/	29.36	25.68	24.00	PASS
11a	CH60	17.56	18.58	18.13	/	35.72	26.53	24.00	PASS
11a	CH64	17.49	18.68	17.91	/	31.28	25.95	24.00	PASS
11n(HT20)	CH52	15.36	15.53	15.49	20.23	22.66	24.55	24.00	PASS
11n(HT20)	CH60	14.96	15.22	15.08	19.86	23.19	24.65	24.00	PASS
11n(HT20)	CH64	15.68	15.39	15.59	20.33	22.62	24.54	24.00	PASS
11n(HT40)	CH54	15.31	15.71	15.18	20.18	44.81	27.51	24.00	PASS
11n(HT40)	CH62	15.35	15.48	15.17	20.11	45.62	27.59	24.00	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Directional gain = $G_{ant} + \text{Array Gain} = 3\text{dBi}$, so limit of conducted output power is 250mW(24dBm)

Note : The maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz

Configuration Band 2C (5500 - 5720 MHz) / Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)				26 dB Bandwidth (MHz)	11dBm+ 10logB (dBm)	Limit (dBm)	Result
		Ant0	Ant1	Ant2	Total				
11a	CH100	17.72	17.25	18.01	/	27.87	25.45	24.00	PASS
11a	CH120	18.37	18.01	17.70	/	26.24	25.19	24.00	PASS
11a	CH144	18.13	17.74	17.98	/	27.07	25.32	24.00	PASS
11n(HT20)	CH100	14.94	15.15	15.21	19.87	23.61	24.73	24.00	PASS
11n(HT20)	CH120	14.85	14.91	15.16	19.75	23.38	24.69	24.00	PASS
11n(HT20)	CH144	15.32	15.84	15.35	20.28	23.01	24.62	24.00	PASS
11n(HT40)	CH102	15.30	15.37	15.14	20.04	44.98	27.53	24.00	PASS
11n(HT40)	CH118	15.14	15.07	15.14	19.89	44.12	27.45	24.00	PASS
11n(HT40)	CH142	15.43	15.56	15.35	20.22	45.01	27.53	24.00	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Directional gain = $G_{ant} + \text{Array Gain} = 3\text{dBi}$, so limit of conducted output power is 250mW(24dBm)

Note : The maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz

Configuration Band 3 (5745 - 5825 MHz) / Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)				Limit (dBm)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH149	19.55	19.23	19.53	/	30	PASS
11a	CH157	20.02	19.93	19.27	/	30	PASS
11a	CH165	18.85	18.99	18.32	/	30	PASS
11n(HT20)	CH149	19.27	19.17	19.55	24.10	30	PASS
11n(HT20)	CH157	19.43	19.69	19.21	24.22	30	PASS
11n(HT20)	CH165	18.89	18.93	18.28	23.48	30	PASS
11n(HT40)	CH151	17.97	17.98	18.83	23.05	30	PASS
11n(HT40)	CH159	18.06	18.74	18.41	23.18	30	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

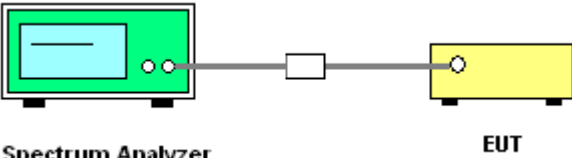
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Directional gain = $G_{ant} + \text{Array Gain} = 3\text{dBi}$, so limit of conducted output power is 1W(30dBm)

6.4. 6dB Emission Bandwidth

6.4.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)& Part 2 J Section 2.1049
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	>500kHz
Test Setup:	 <p style="text-align: center;">Spectrum Analyzer EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	PASS


6.4.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.5. 26dB Bandwidth and 99% Occupied Bandwidth

6.5.1. Test Specification

Test Requirement:	47 CFR Part 15C Section 15.407 (a)& Part 2 J Section 2.1049
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D
Limit:	No restriction limits
Test Setup:	 <p style="text-align: center;">Spectrum Analyzer EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1% to 5% of the OBW. Set the Video bandwidth (VBW) = 3 *RBW. In order to make an accurate measurement. 4. Measure and record the results in the test report.
Test Result:	PASS


6.5.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.6. Power Spectral Density

6.6.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	≤17.00dBm/MHz for Band 5150MHz - 5250MHz ≤11.00dBm/MHz for Band 5250-5350&5470 - 5725 ≤30.00dBm/500KHz for Band 5725MHz - 5850MHz
Test Setup:	 <p style="text-align: center;">Spectrum Analyzer EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS. 2. Allow the sweeps to continue until the trace stabilizes. 3. Use the peak marker function to determine the maximum amplitude level. 4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

6.6.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.6.3. Test data

Configuration Band 1 (5180 - 5240 MHz) / Antenna 0+Antenna 1+Antenna 2							
Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH36	6.33	5.87	6.59	/	15.23	PASS
11a	CH40	6.02	5.55	6.38	/	15.23	PASS
11a	CH48	6.24	6.51	6.27	/	15.23	PASS
11n(HT20)	CH36	6.24	5.61	6.63	10.95	15.23	PASS
11n(HT20)	CH40	5.98	5.71	6.55	10.87	15.23	PASS
11n(HT20)	CH48	6.47	6.03	6.85	11.23	15.23	PASS
11n(HT40)	CH38	3.02	2.89	3.45	7.90	15.23	PASS
11n(HT40)	CH46	3.10	3.59	3.52	8.18	15.23	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power spectral density (PSD) measurements on all devices,

$Array\ Gain = 10 \log(N_{ANT}/N_{SS})\ dB.$

Directional gain = $G_{ant} + Array\ Gain = 7.77\ dBi$, so limit of power spectral density is $17 - (7.77-6) = 15.23$

Configuration Band 2A (5260-5320MHz) /Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH52	6.86	6.85	6.99	/	9.23	PASS
11a	CH60	6.50	7.57	6.93	/	9.23	PASS
11a	CH64	6.40	7.74	6.90	/	9.23	PASS
11n(HT20)	CH52	3.81	4.29	4.17	8.87	9.23	PASS
11n(HT20)	CH60	3.47	4.08	3.66	8.52	9.23	PASS
11n(HT20)	CH64	4.11	4.13	4.11	8.89	9.23	PASS
11n(HT40)	CH54	0.75	1.52	0.88	5.83	9.23	PASS
11n(HT40)	CH62	0.90	1.56	0.68	5.83	9.23	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power spectral density (PSD) measurements on all devices,

$Array\ Gain = 10 \log(N_{ANT}/N_{SS})\ dB$.

Directional gain = $G_{ant} + Array\ Gain = 7.77\ dB$, so limit of power spectral density is $11 - (7.77 - 6) = 9.23$

Configuration Band 2C (5500-5720 MHz) /Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH100	6.76	6.12	6.81	/	9.23	PASS
11a	CH120	7.36	6.76	6.65	/	9.23	PASS
11a	CH144	6.91	6.67	6.82	/	9.23	PASS
11n(HT20)	CH100	3.45	3.74	3.81	8.44	9.23	PASS
11n(HT20)	CH120	3.32	3.49	3.71	8.28	9.23	PASS
11n(HT20)	CH144	3.78	4.52	4.03	8.89	9.23	PASS
11n(HT40)	CH102	0.80	0.83	0.59	5.51	9.23	PASS
11n(HT40)	CH118	0.48	0.62	0.72	5.38	9.23	PASS
11n(HT40)	CH142	0.68	1.22	0.97	5.73	9.23	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power spectral density (PSD) measurements on all devices,

$Array\ Gain = 10 \log(N_{ANT}/N_{SS})\ dB$.

Directional gain = $G_{ant} + Array\ Gain = 7.77\ dBi$, so limit of power spectral density is $11 - (7.77 - 6) = 9.23$

Configuration Band 3(5745-5825MHz) / Antenna 0+Antenna 1+Antenna 2

Mode	Test channel	Power Spectral Density				Limit (dBm/MHz)	Result
		Ant0	Ant1	Ant2	Total		
11a	CH52	5.63	5.30	5.57	/	28.23	PASS
11a	CH60	6.08	5.96	5.36	/	28.23	PASS
11a	CH64	4.91	5.09	4.31	/	28.23	PASS
11n(HT20)	CH52	5.02	4.91	5.34	9.87	28.23	PASS
11n(HT20)	CH60	5.22	5.34	5.05	9.98	28.23	PASS
11n(HT20)	CH64	4.63	4.92	4.08	9.33	28.23	PASS
11n(HT40)	CH54	0.58	1.10	1.67	5.91	28.23	PASS
11n(HT40)	CH62	0.90	1.69	1.30	6.08	28.23	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

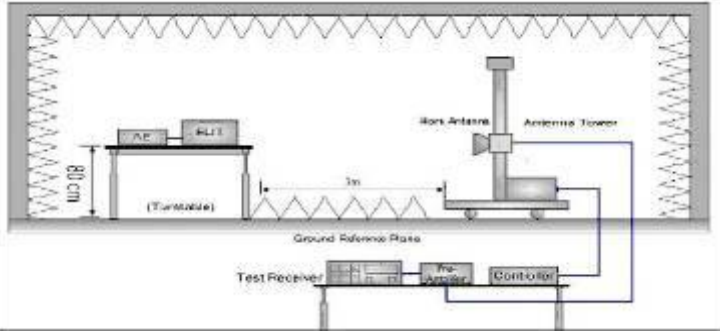
For power spectral density (PSD) measurements on all devices,

$Array\ Gain = 10 \log(N_{ANT}/N_{SS})\ dB$.

Directional gain = $G_{ant} + Array\ Gain = 7.77\ dBi$, so limit of power spectral density is $30 - (7.77-6) = 28.23$.

6.7. Band edge

6.7.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407																				
Test Method:	ANSI C63.10 2013																				
Limit:	In un-restricted band: For Band 1&2A&2C: -27dBm/MHz For Band 3:																				
	<table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>Limit (dBm/MHz)</th> <th>Frequency (MHz)</th> <th>Limit (dBm/MHz)</th> </tr> </thead> <tbody> <tr> <td>< 5650</td> <td>-27</td> <td>5850~5855</td> <td>27~15.6</td> </tr> <tr> <td>5650~5700</td> <td>-27~10</td> <td>5855~5875</td> <td>15.6~10</td> </tr> <tr> <td>5700~5720</td> <td>10~15.6</td> <td>5875~5925</td> <td>10~-27</td> </tr> <tr> <td>5720~5725</td> <td>15.6~27</td> <td>> 5925</td> <td>-27</td> </tr> </tbody> </table>	Frequency (MHz)	Limit (dBm/MHz)	Frequency (MHz)	Limit (dBm/MHz)	< 5650	-27	5850~5855	27~15.6	5650~5700	-27~10	5855~5875	15.6~10	5700~5720	10~15.6	5875~5925	10~-27	5720~5725	15.6~27	> 5925	-27
	Frequency (MHz)	Limit (dBm/MHz)	Frequency (MHz)	Limit (dBm/MHz)																	
	< 5650	-27	5850~5855	27~15.6																	
	5650~5700	-27~10	5855~5875	15.6~10																	
5700~5720	10~15.6	5875~5925	10~-27																		
5720~5725	15.6~27	> 5925	-27																		
$E[dB\mu V/m] = EIRP[dBm] + 95.2 @3m$																					
In restricted band:																					
	<table border="1"> <thead> <tr> <th>Detector</th> <th>Limit@3m</th> </tr> </thead> <tbody> <tr> <td>Peak</td> <td>74dBμV/m</td> </tr> <tr> <td>AVG</td> <td>54dBμV/m</td> </tr> </tbody> </table>	Detector	Limit@3m	Peak	74dB μ V/m	AVG	54dB μ V/m														
Detector	Limit@3m																				
Peak	74dB μ V/m																				
AVG	54dB μ V/m																				
Test Setup:	 <p>The diagram illustrates the test setup. An Under Test Equipment (EUT) is placed on a rotating table at a height of 0.8 meters. The table is positioned 3 meters away from a horn antenna mounted on an antenna tower. A ground reference plane is shown at the base. The test receiver system, including a test receiver, pre-amplifier, and controller, is connected to the antenna tower.</p>																				
Test Mode:	Transmitting mode with modulation																				
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8 meters 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 rota 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 																				

	<p>Mode.</p> <p>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, quasipeak or average method as specified and then reported in a data sheet.</p>
Test Result:	PASS

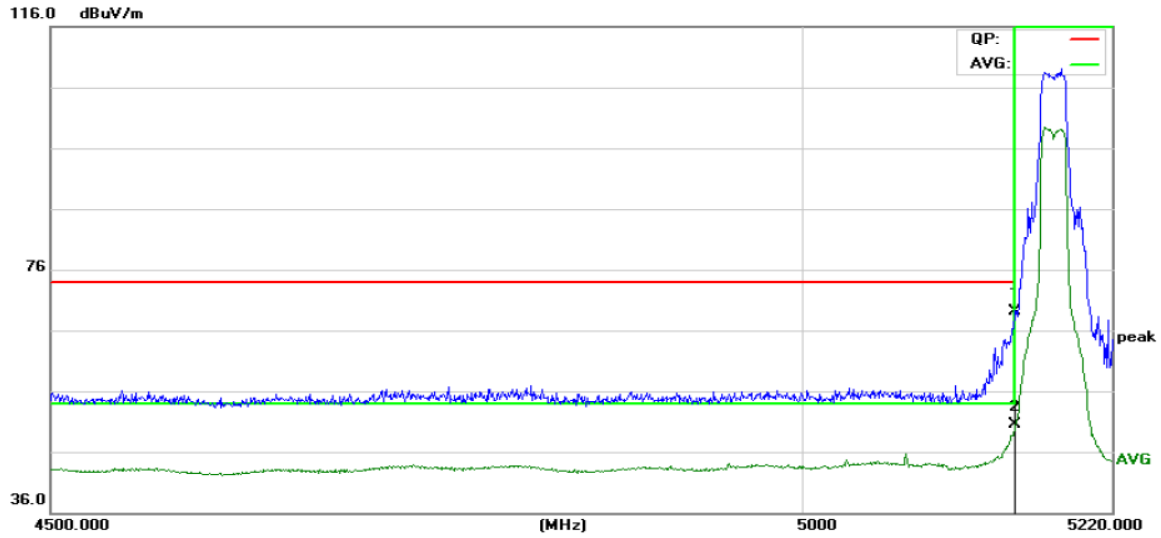
6.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	ROHDE&SCHW ARZ	ESIB7	100197	Jul. 29, 2020
Spectrum Analyzer	ROHDE&SCHW ARZ	FSQ40	200061	Sep. 11, 2020
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 08, 2020
Pre-amplifier	HP	8447D	2727A05017	Sep. 08, 2020
Loop antenna	ZHINAN	ZN30900A	12024	Oct. 27, 2020
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 06, 2020
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 06, 2020
Horn Antenna	A-INFO	LB-180400-KF	J211020657	Sep. 06, 2020
Coax cable (9KHz-40GHz)	TCT	RE-high-02	N/A	Sep. 08, 2020
Coax cable (9KHz-40GHz)	TCT	RE-high-04	N/A	Sep. 08, 2020
Antenna Mast	Keleto	CC-A-4M	N/A	N/A
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

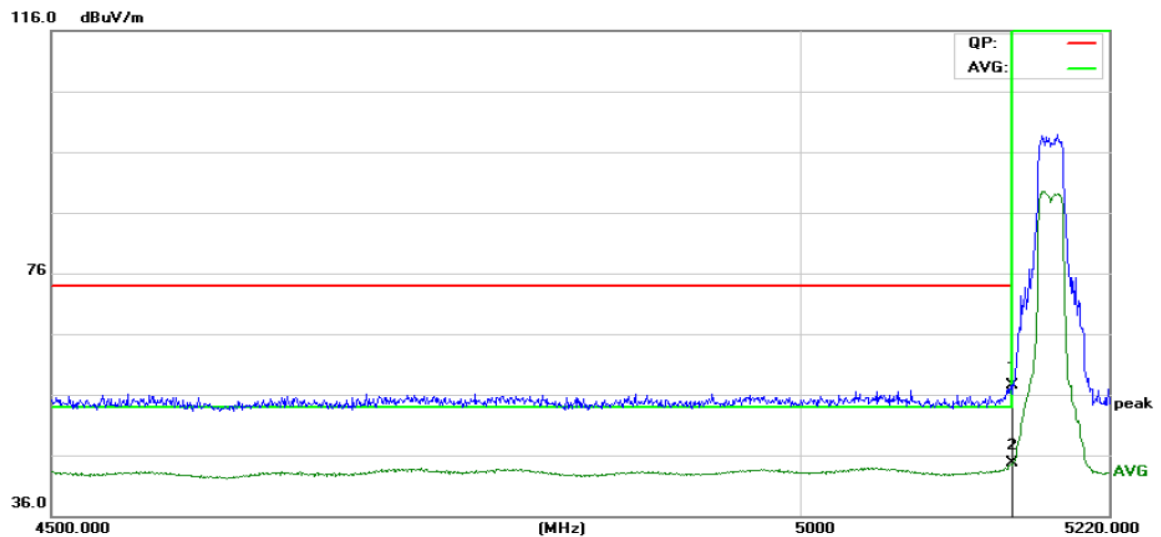
6.7.3. Test Data

A-5180



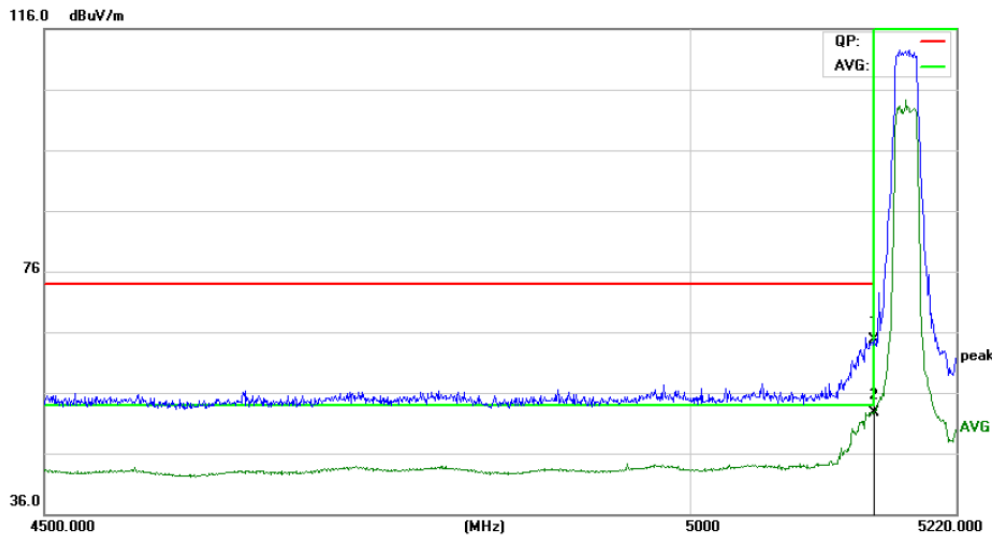
Site: Polarization: **Horizontal** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	64.17	4.98	69.15	74.00	-4.85	peak	
2	*	5150.000	45.54	4.98	50.52	54.00	-3.48	AVG	



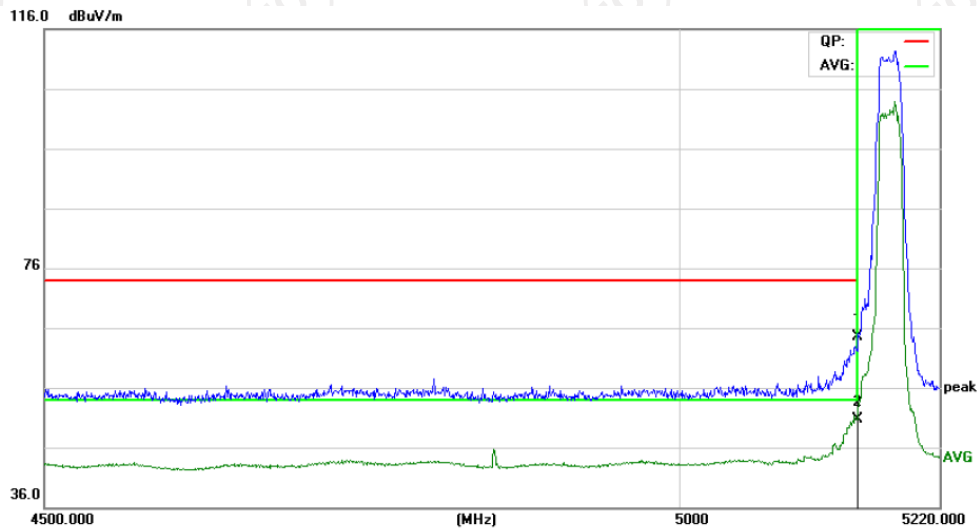
Site: Polarization: **Vertical** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	52.49	4.98	57.47	74.00	-16.53	peak	
2	*	5150.000	39.67	4.98	44.65	54.00	-9.35	AVG	



Site: _____ Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: _____ Humidity: 55 %

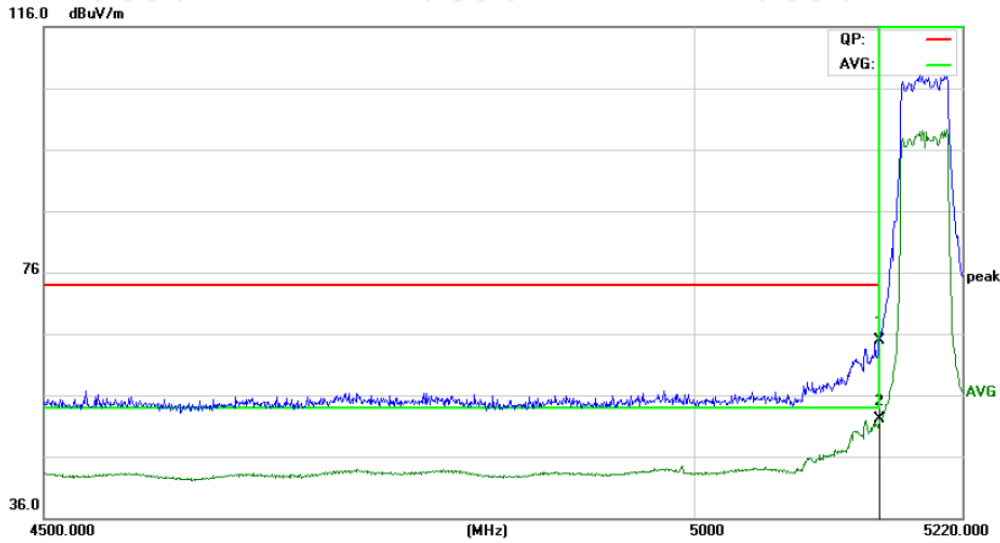
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	59.82	4.98	64.80	74.00	-9.20	peak	
2	*	5150.000	47.76	4.98	52.74	54.00	-1.26	AVG	



Site: _____ Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: _____ Humidity: 55 %

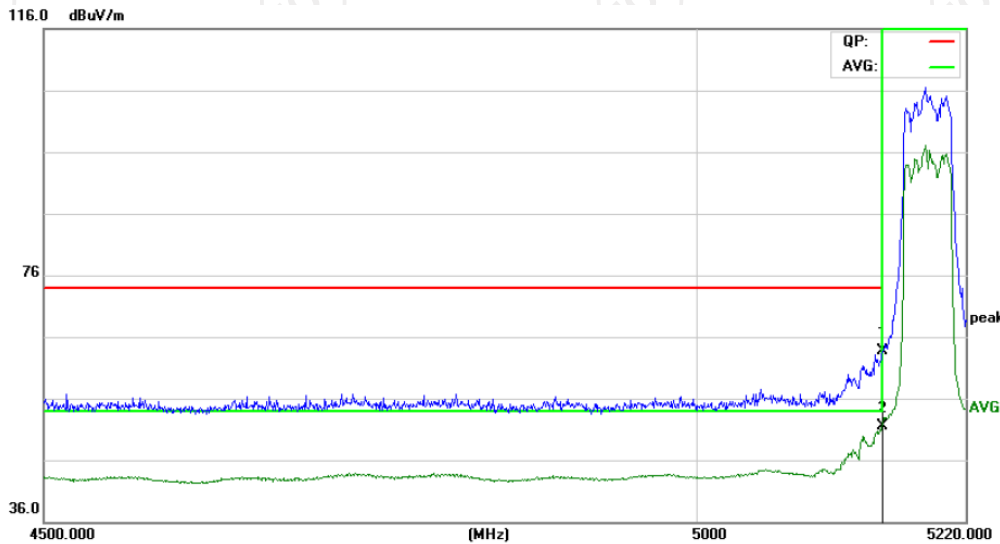
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	59.49	4.98	64.47	74.00	-9.53	peak	
2	*	5150.000	45.78	4.98	50.76	54.00	-3.24	AVG	

N40-5190



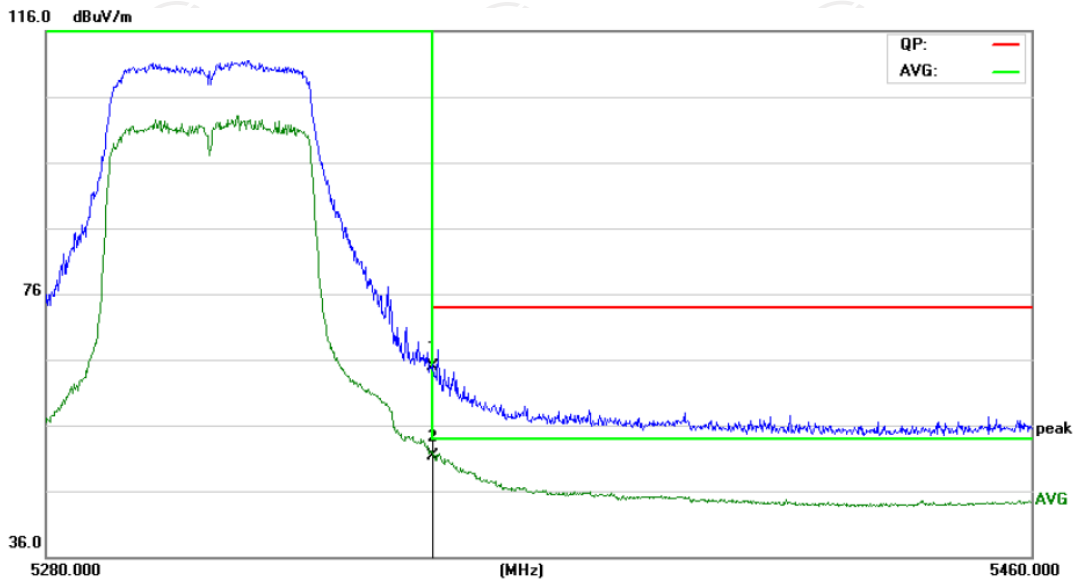
Site: Limit: FCC part 15.407 Spurious (PK) Polarization: **Horizontal** Temperature: 25 (C)
Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	60.00	4.98	64.98	74.00	-9.02	peak	
2	*	5150.000	47.17	4.98	52.15	54.00	-1.85	AVG	



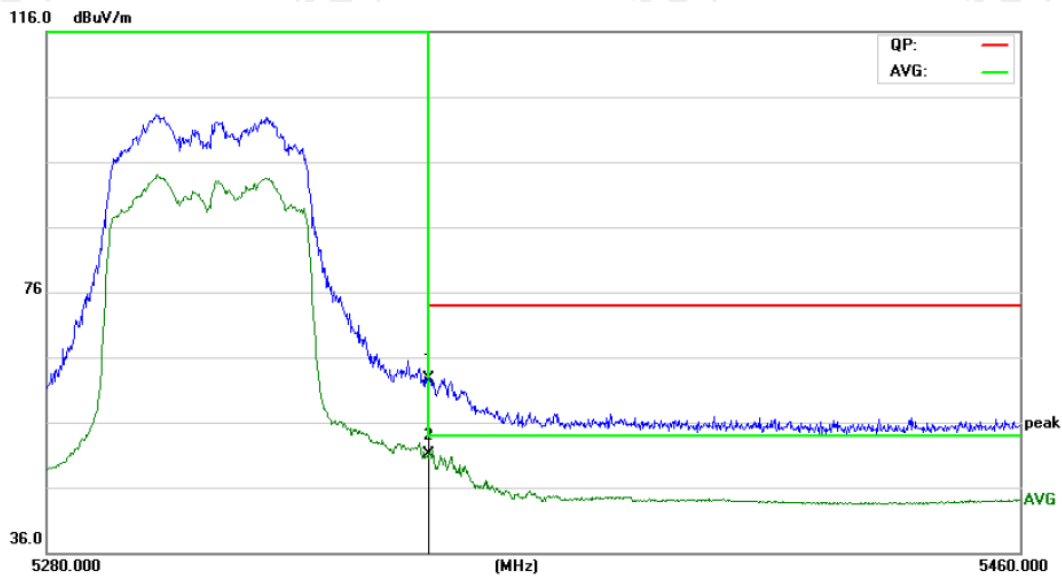
Site: Limit: FCC part 15.407 Spurious (PK) Polarization: **Vertical** Temperature: 25 (C)
Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5150.000	58.71	4.98	63.69	74.00	-10.31	peak	
2	*	5150.000	46.54	4.98	51.52	54.00	-2.48	AVG	



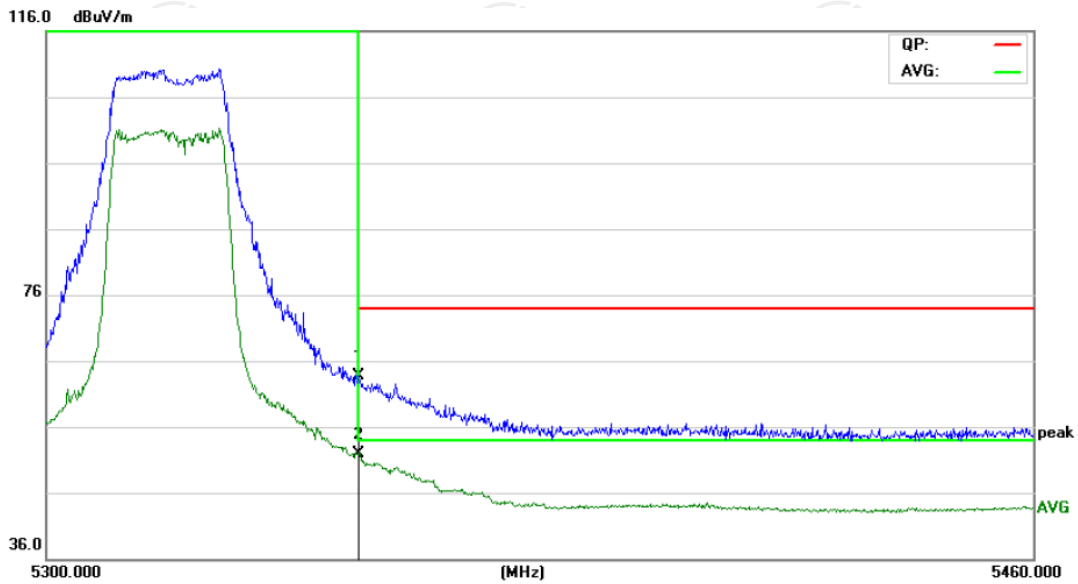
Site: Polarization: *Horizontal* Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	59.27	5.73	65.00	74.00	-9.00	peak	
2	*	5350.000	45.54	5.73	51.27	54.00	-2.73	AVG	



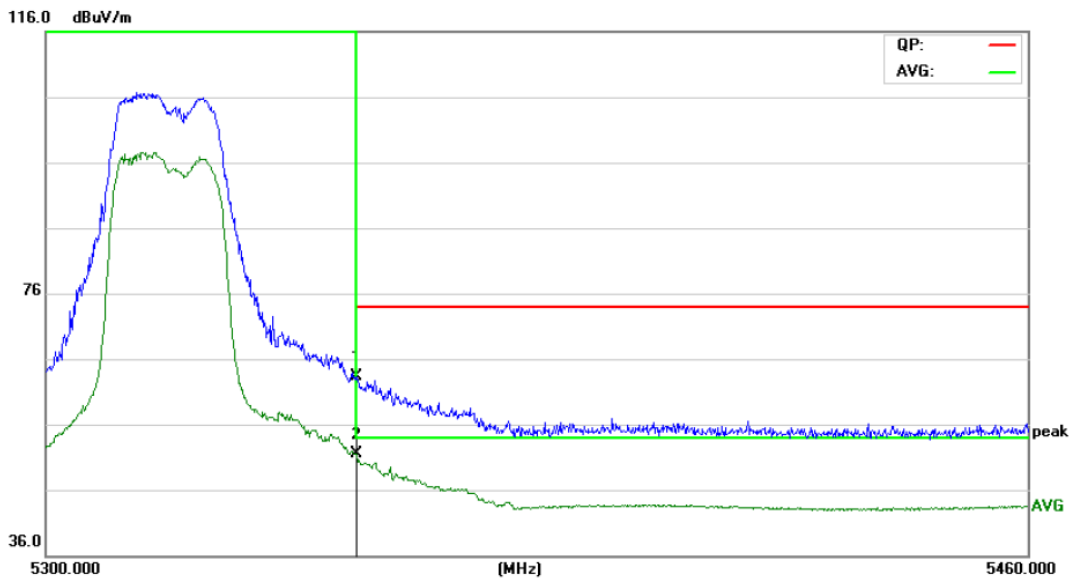
Site: Polarization: *Vertical* Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	56.93	5.73	62.66	74.00	-11.34	peak	
2	*	5350.000	45.37	5.73	51.10	54.00	-2.90	AVG	



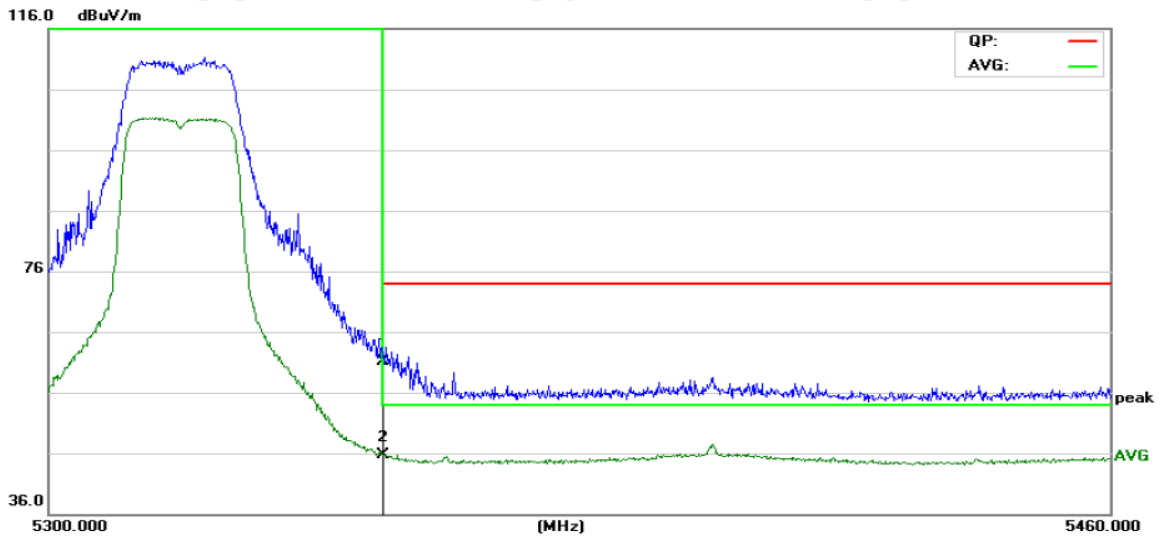
Site: _____ Polarization: **Horizontal** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: _____ Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	58.27	5.34	63.61	74.00	-10.39	peak	
2	*	5350.000	46.59	5.34	51.93	54.00	-2.07	AVG	



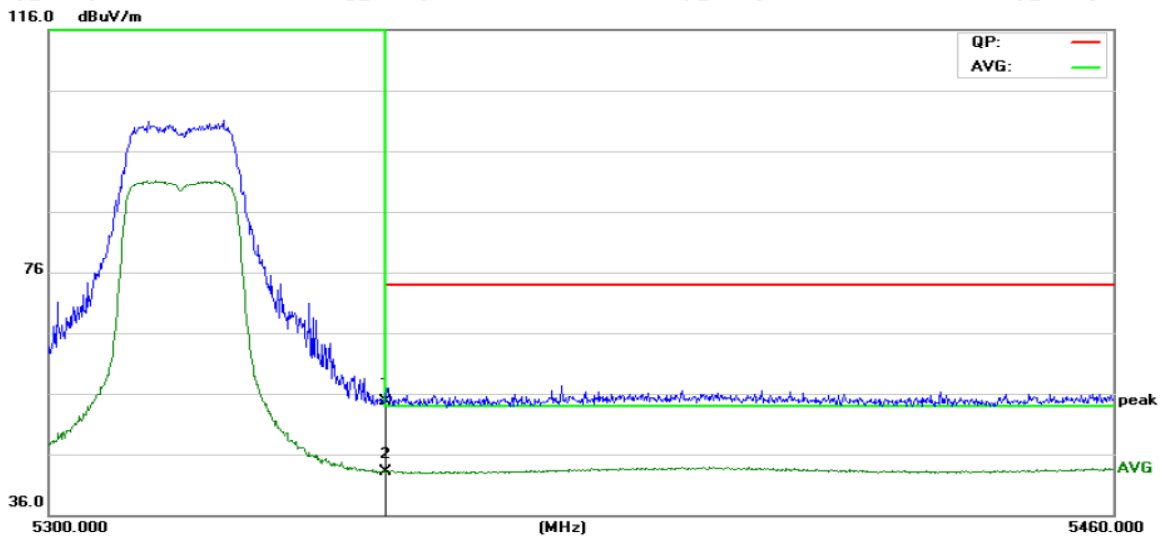
Site: _____ Polarization: **Vertical** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: _____ Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	58.02	5.34	63.36	74.00	-10.64	peak	
2	*	5350.206	46.25	5.34	51.59	54.00	-2.41	AVG	



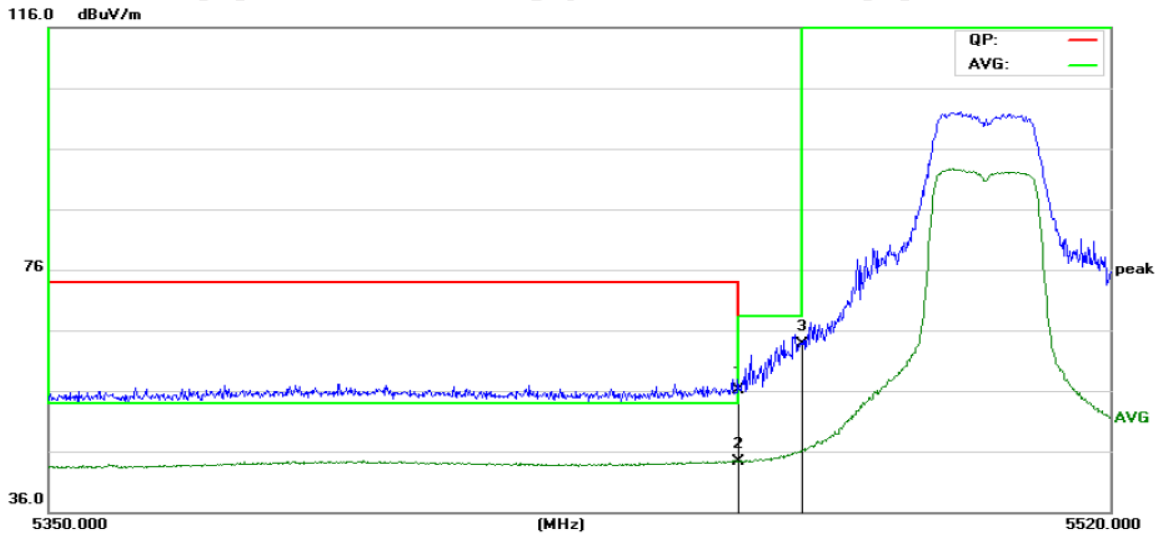
Site: Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5350.000	55.70	5.34	61.04	74.00	-12.96	peak	
2	*	5350.000	40.38	5.34	45.72	54.00	-8.28	AVG	



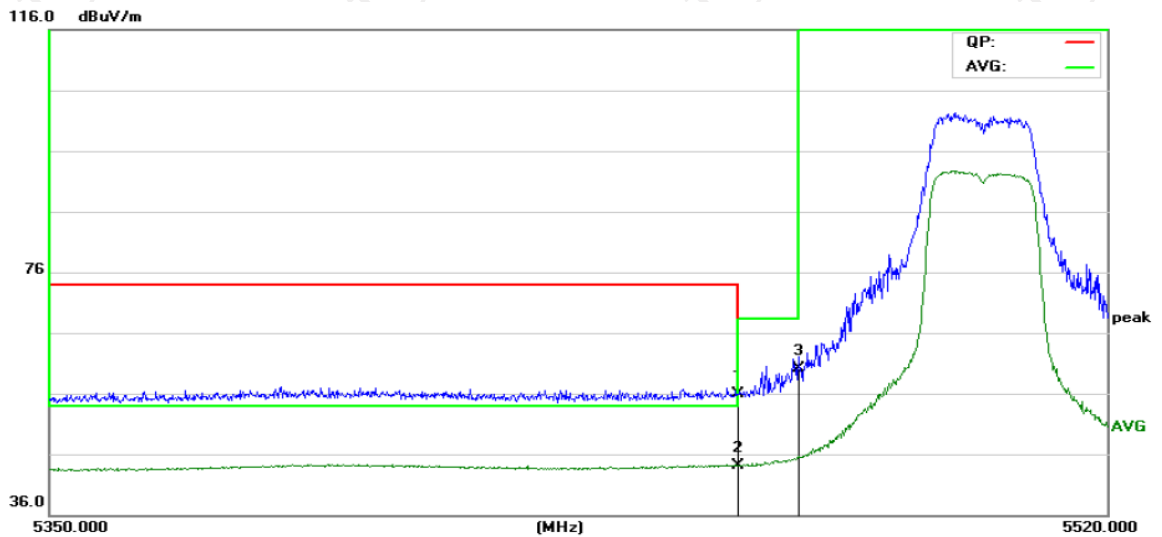
Site: Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5350.000	49.34	5.34	54.68	74.00	-19.32	peak	
2	*	5350.000	37.81	5.34	43.15	54.00	-10.85	AVG	



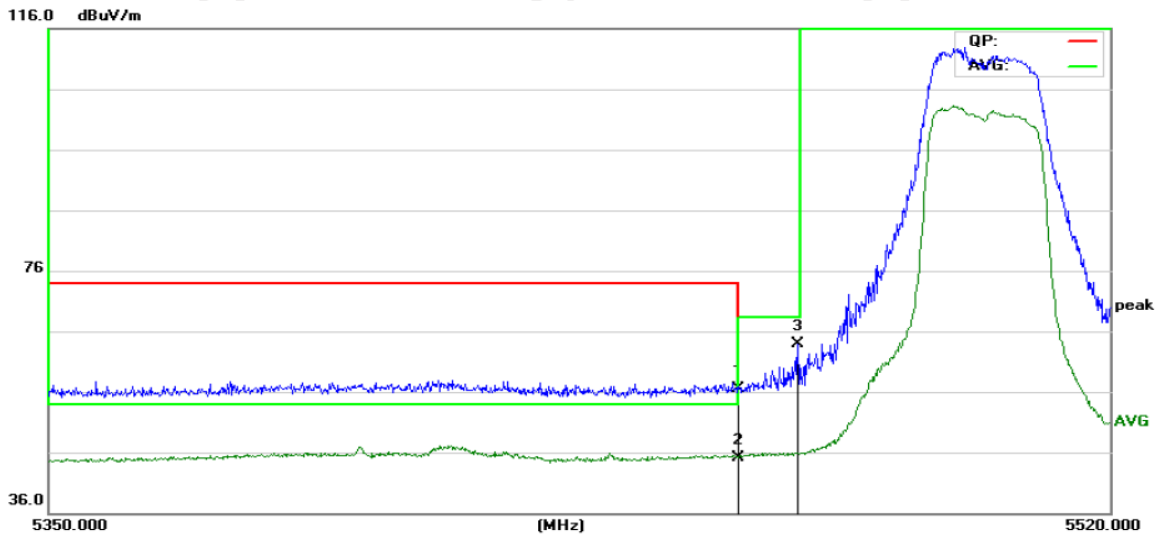
Site: Polarization: **Horizontal** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5460.000	49.94	6.07	56.01	68.20	-12.19	peak	
2		5460.000	38.20	6.07	44.27	54.00	-9.73	AVG	
3	*	5470.000	57.60	6.11	63.71	68.20	-4.49	peak	



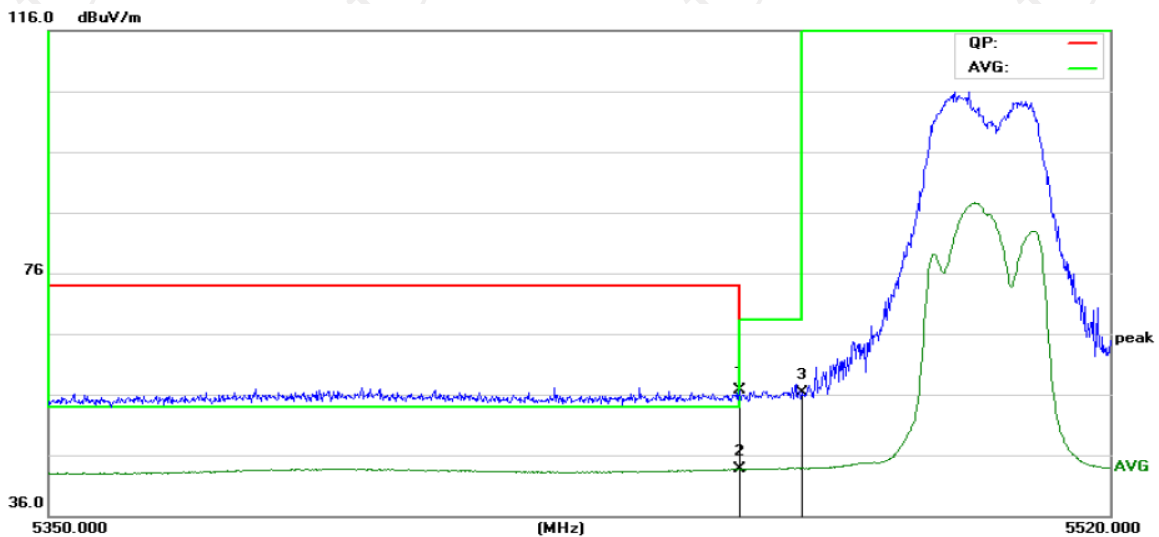
Site: Polarization: **Vertical** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5460.000	49.87	6.07	55.94	68.20	-12.26	peak	
2		5460.000	38.10	6.07	44.17	54.00	-9.83	AVG	
3	*	5470.000	53.97	6.11	60.08	68.20	-8.12	peak	



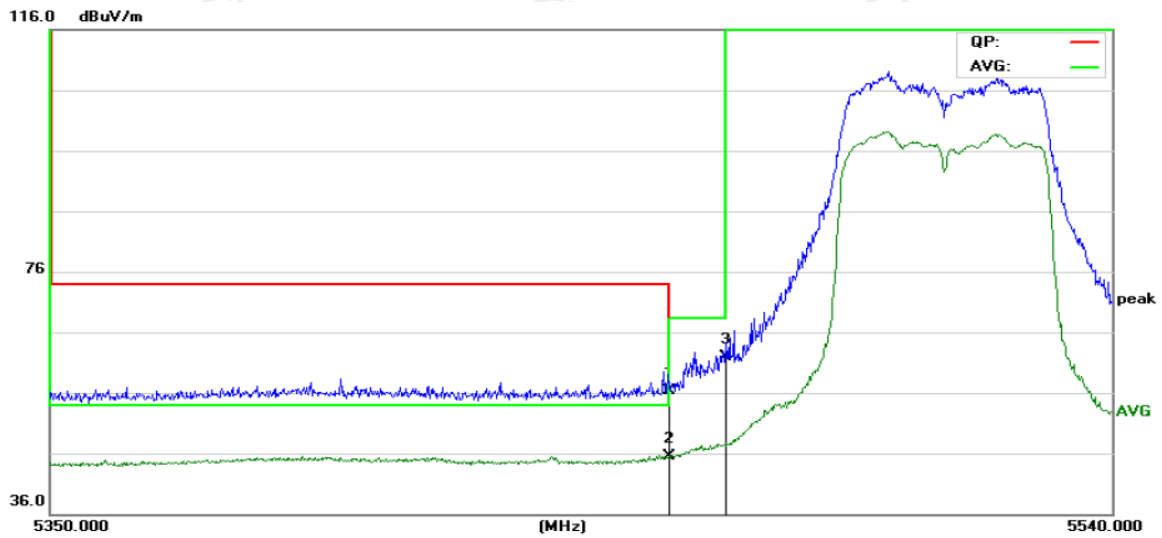
Site: Polarization: **Horizontal** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5460.000	50.35	6.07	56.42	68.20	-11.78	peak	
2		5460.000	39.10	6.07	45.17	54.00	-8.83	AVG	
3	*	5469.467	57.78	6.11	63.89	68.20	-4.31	peak	



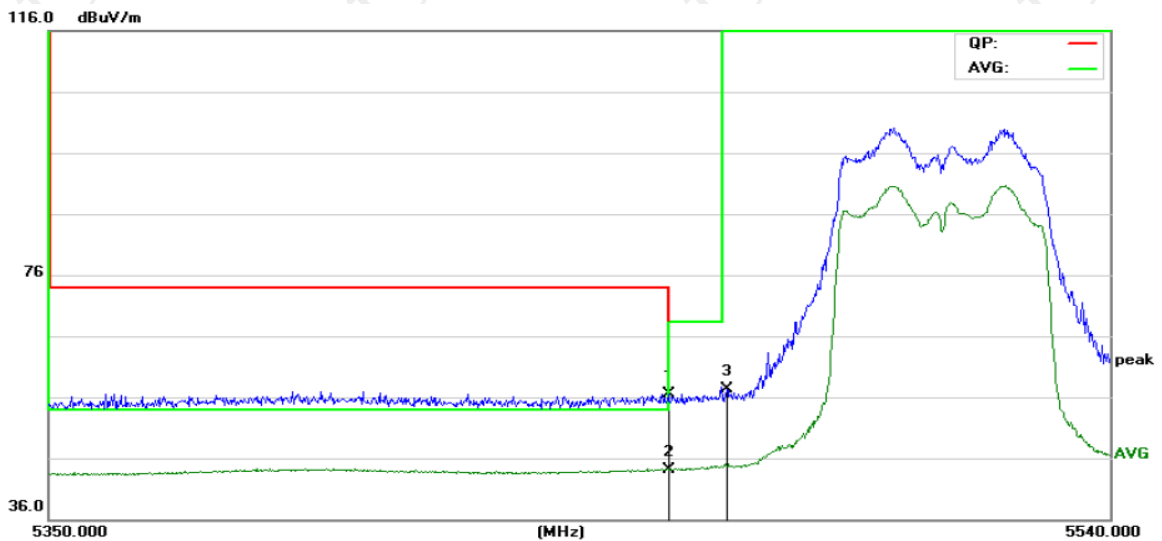
Site: Polarization: **Vertical** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5460.000	50.71	6.07	56.78	68.20	-11.42	peak	
2	*	5460.000	37.53	6.07	43.60	54.00	-10.40	AVG	
3		5470.000	50.27	6.11	56.38	68.20	-11.82	peak	



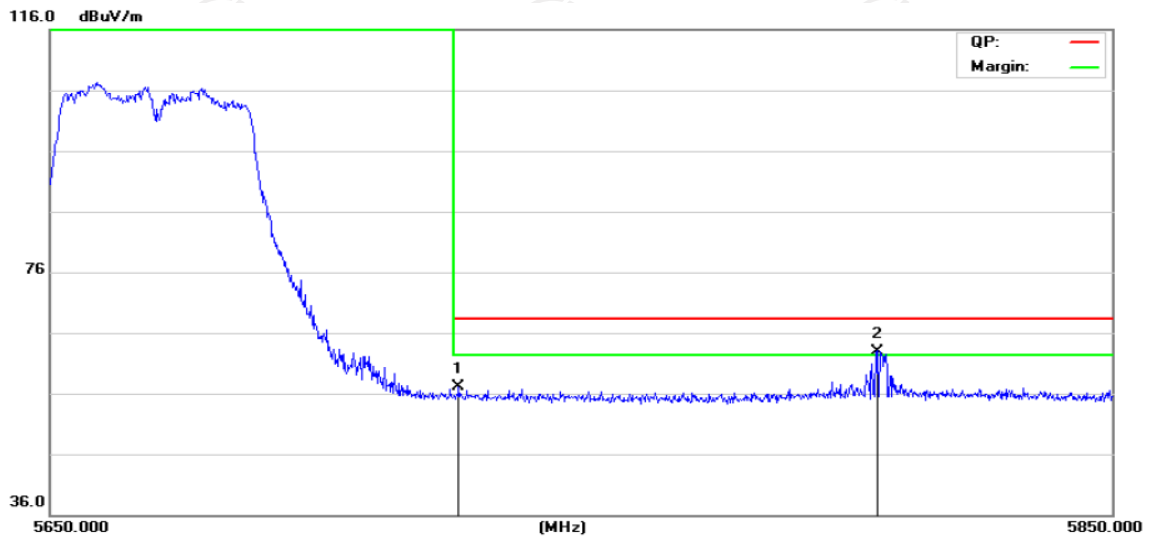
Site: Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5460.000	50.22	6.07	56.29	68.20	-11.91	peak	
2		5460.000	39.47	6.07	45.54	54.00	-8.46	AVG	
3	*	5470.000	55.79	6.11	61.90	68.20	-6.30	peak	



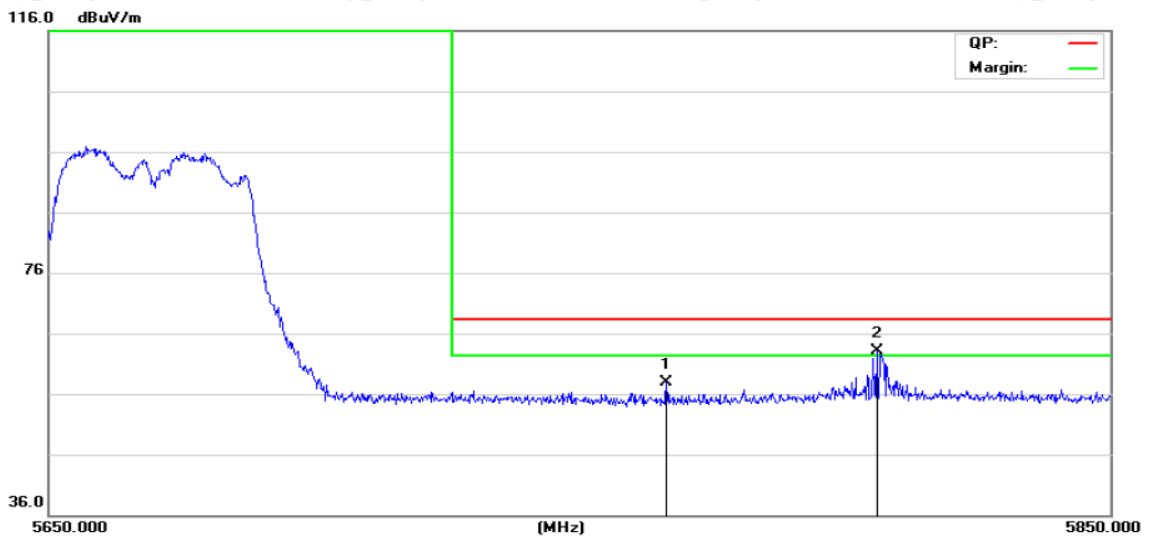
Site: Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5460.000	50.36	6.07	56.43	68.20	-11.77	peak	
2	*	5460.000	37.96	6.07	44.03	54.00	-9.97	AVG	
3		5470.546	51.18	6.11	57.29	134.0	-76.71	peak	



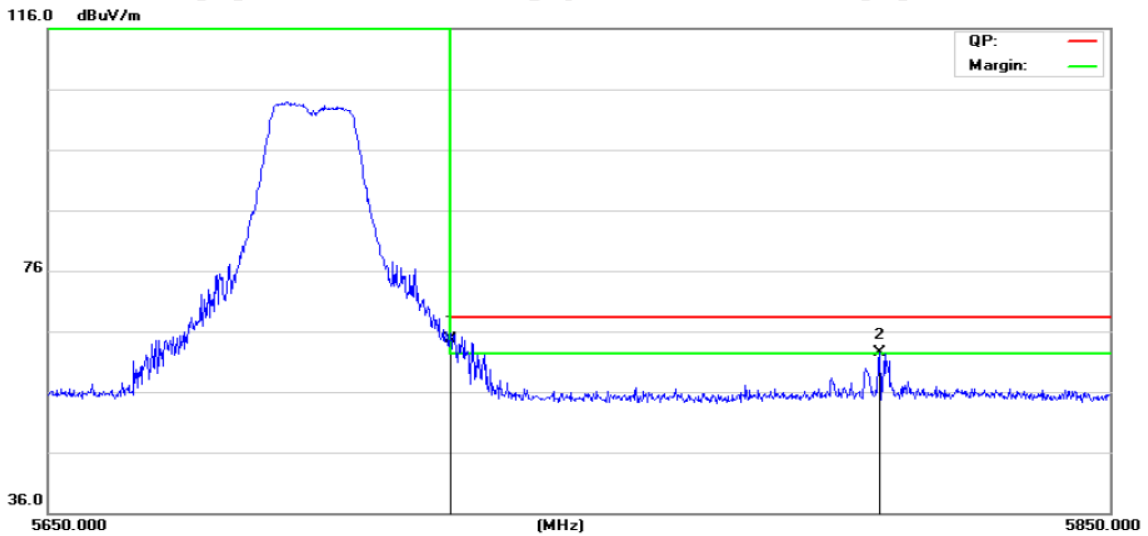
Site Polarization: *Horizontal* Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5726.177	50.91	6.10	57.01	68.20	-11.19	peak	
2	*	5805.199	56.73	6.27	63.00	68.20	-5.20	peak	



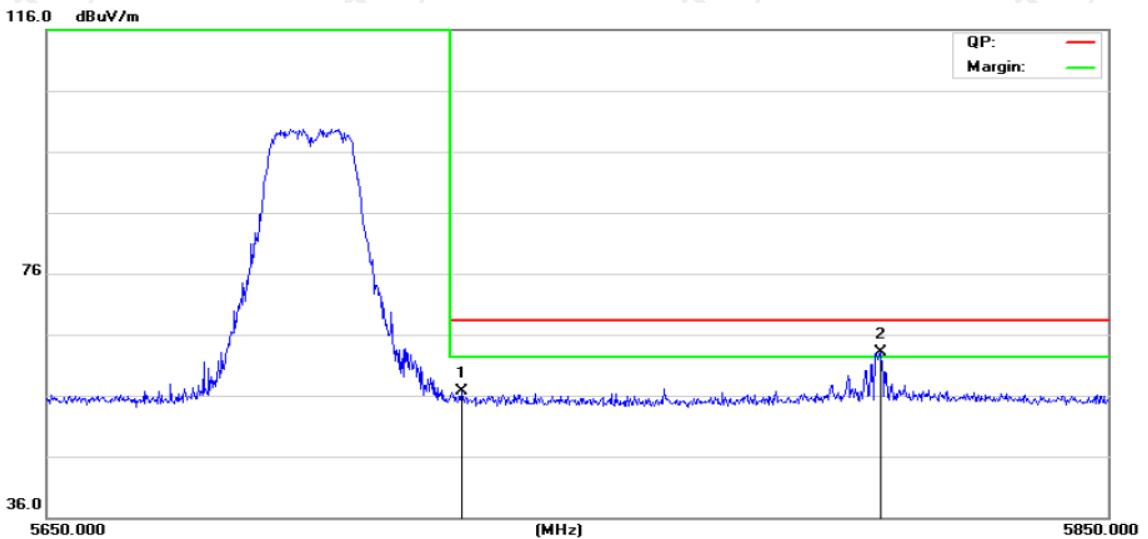
Site Polarization: *Vertical* Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5765.553	51.72	6.18	57.90	68.20	-10.30	peak	
2	*	5805.401	56.92	6.27	63.19	68.20	-5.01	peak	



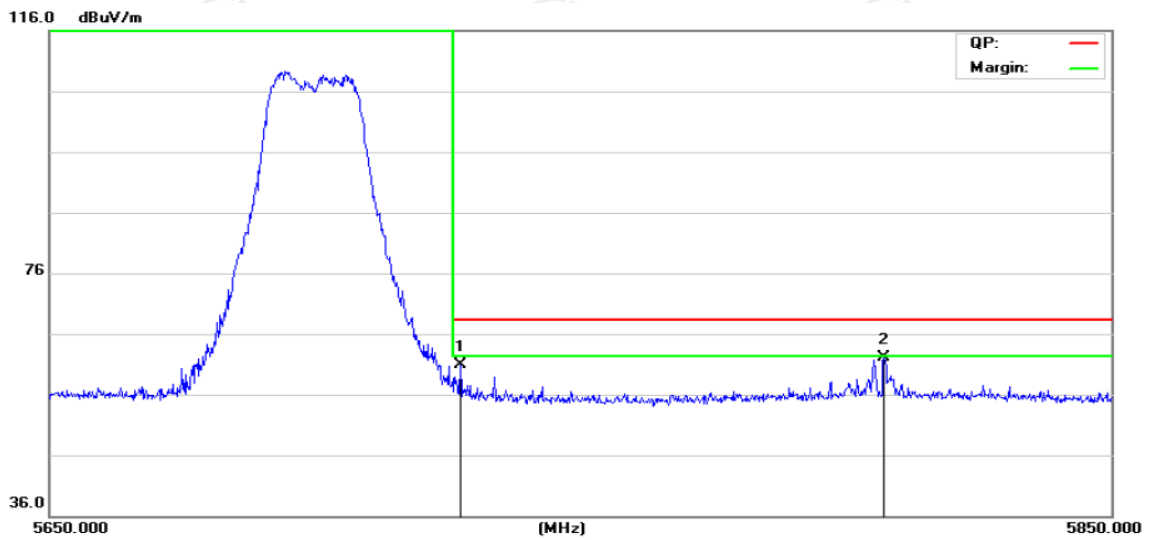
Site: Polarization: **Horizontal** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5725.000	58.54	6.09	64.63	68.20	-3.57	peak	
2	!	5806.007	56.25	6.27	62.52	68.20	-5.68	peak	



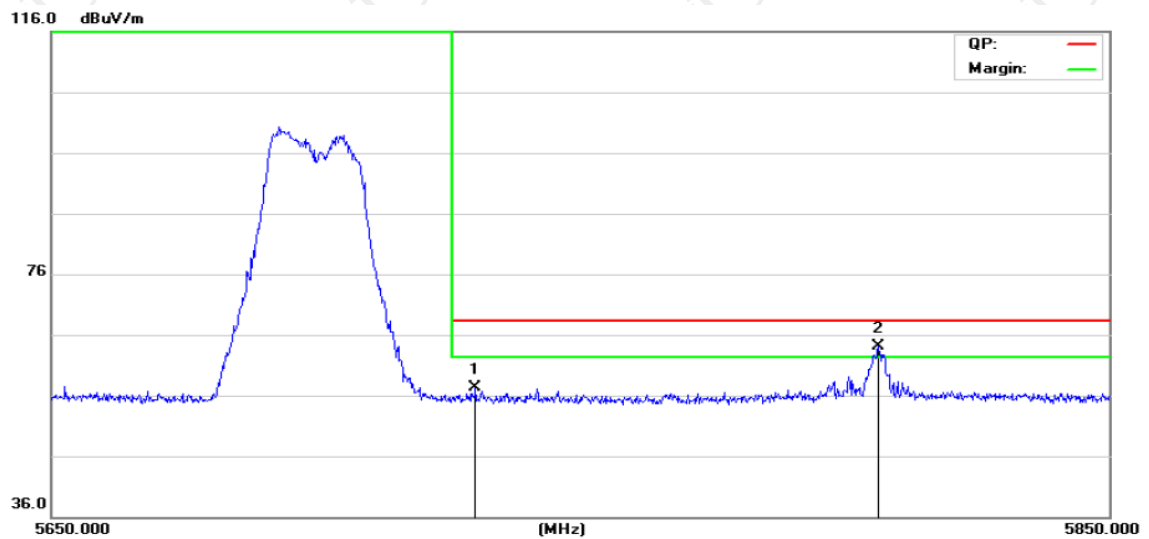
Site: Polarization: **Vertical** Temperature: 25 (C)
 Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5727.373	50.65	6.10	56.75	68.20	-11.45	peak	
2	*	5806.613	56.91	6.27	63.18	68.20	-5.02	peak	



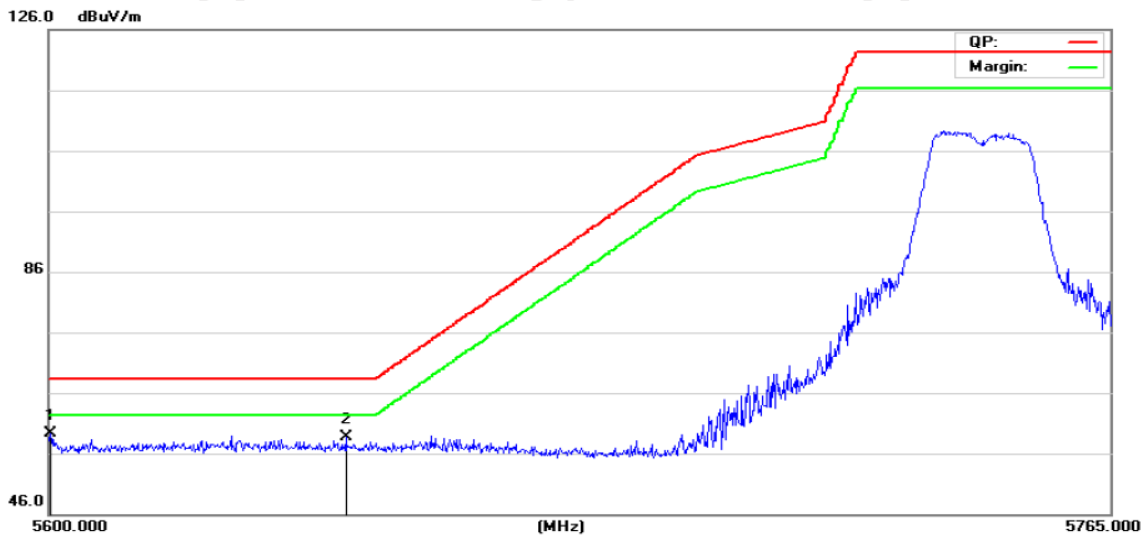
Site: Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5726.576	54.88	6.10	60.98	68.20	-7.22	peak	
2	*	5806.613	55.90	6.27	62.17	68.20	-6.03	peak	



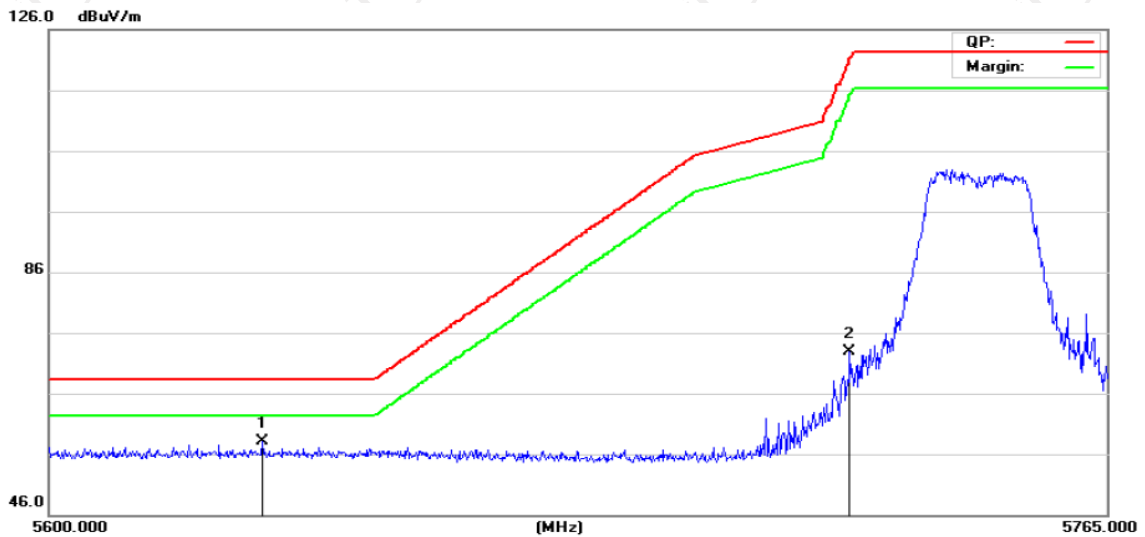
Site: Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5729.365	51.21	6.10	57.31	68.20	-10.89	peak	
2	*	5805.805	57.82	6.27	64.09	68.20	-4.11	peak	



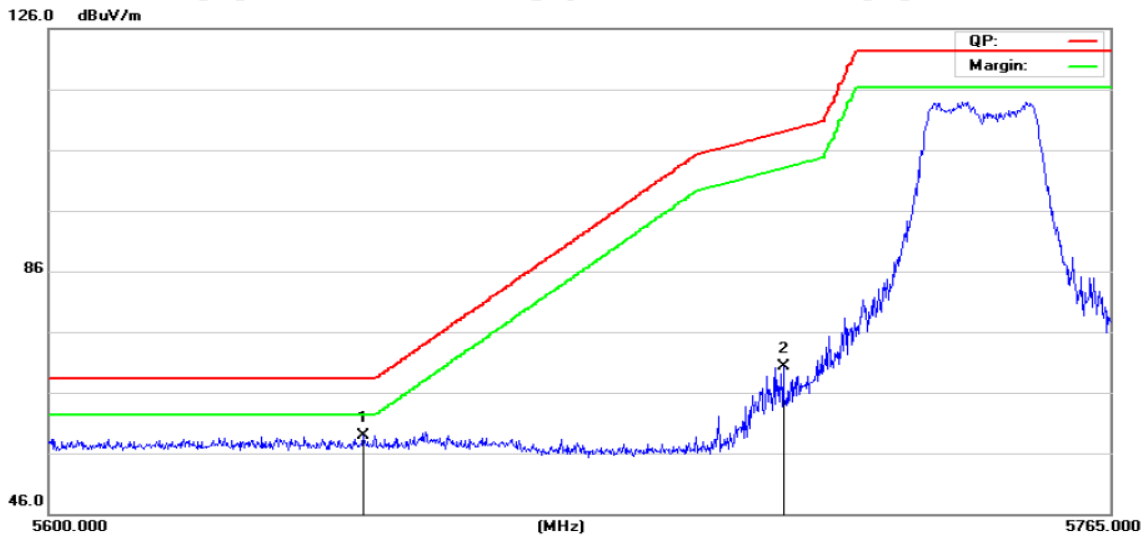
Site: Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5600.325	52.95	6.30	59.25	68.20	-8.95	peak	
2		5645.718	52.29	6.35	58.64	68.20	-9.56	peak	



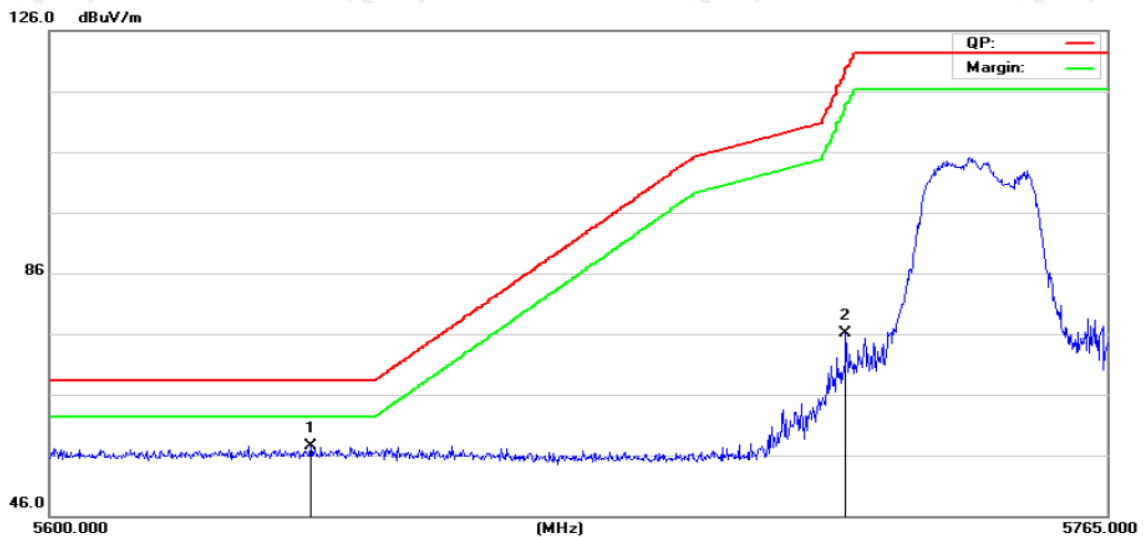
Site: Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5632.945	51.81	6.33	58.14	68.20	-10.06	peak	
2		5724.463	66.42	6.42	72.84	120.9	-48.14	peak	



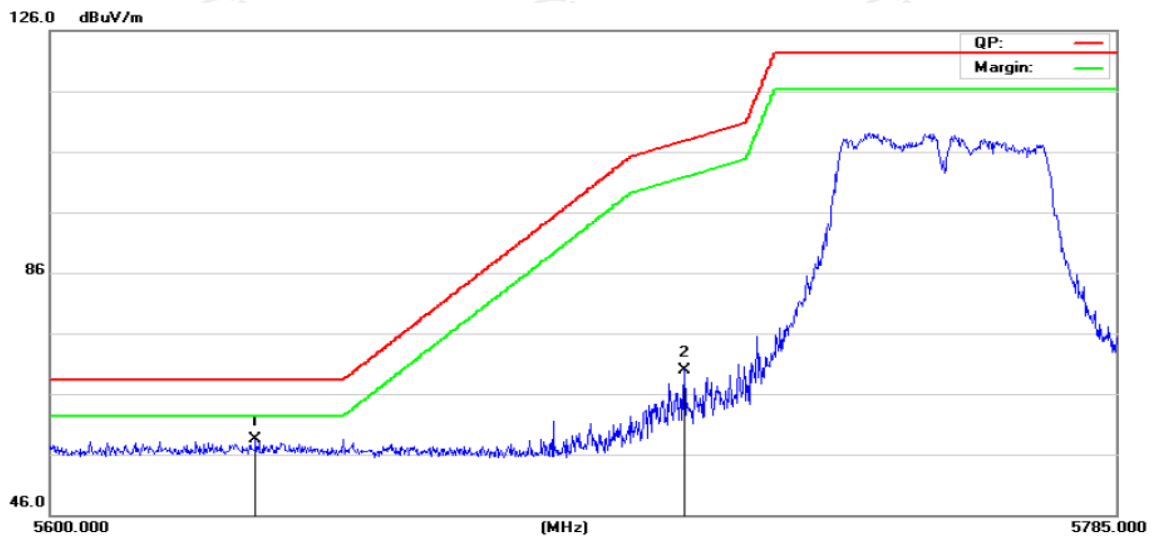
Site: Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5648.342	52.56	6.35	58.91	68.20	-9.29	peak	
2		5713.668	63.79	6.41	70.20	109.0	-38.83	peak	



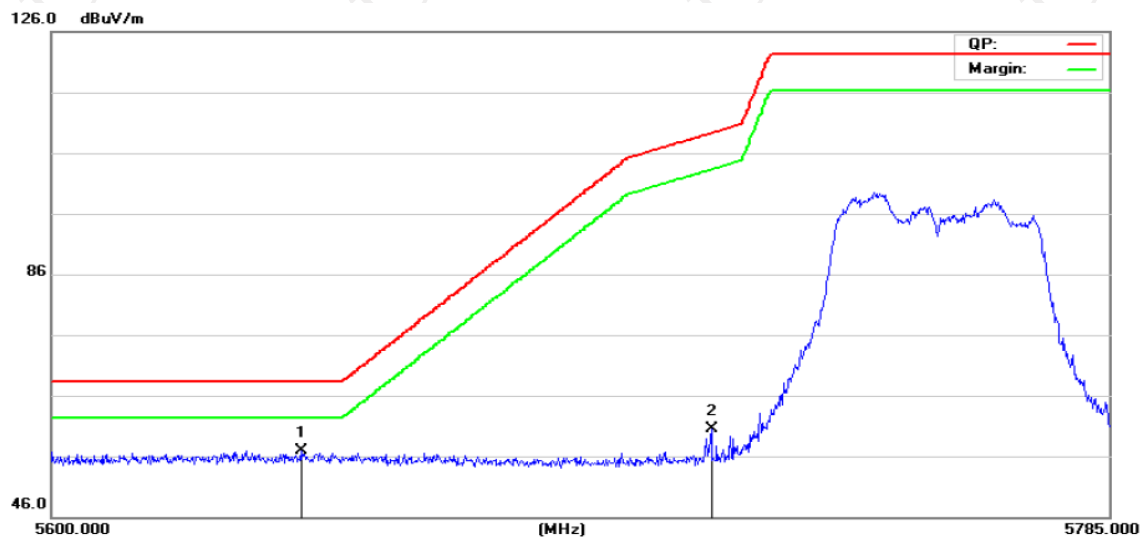
Site: Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5640.310	51.16	6.35	57.51	68.20	-10.69	peak	
2		5723.798	69.63	6.42	76.05	119.4	-43.41	peak	



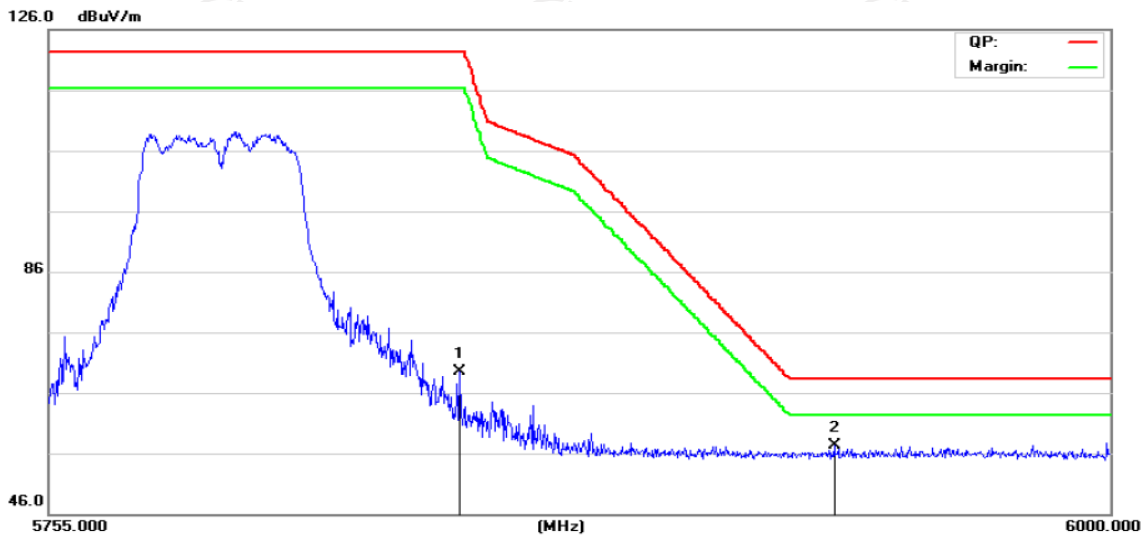
Site Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5635.238	52.53	5.89	58.42	68.20	-9.78	peak	
2		5709.350	63.95	6.05	70.00	107.8	-37.82	peak	



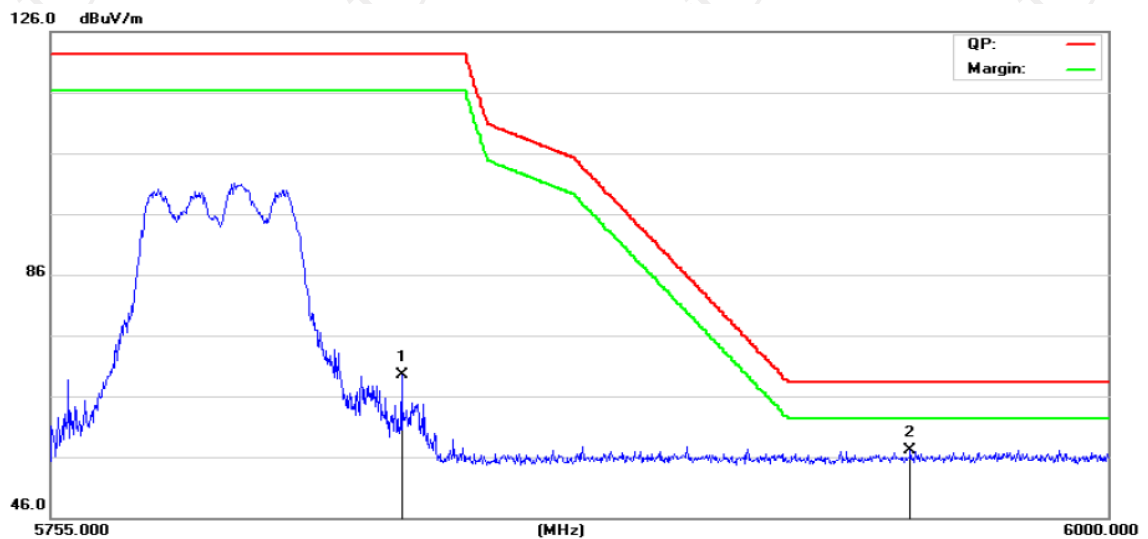
Site Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5643.119	51.01	5.92	56.93	68.20	-11.27	peak	
2		5714.734	54.34	6.07	60.41	109.3	-48.92	peak	



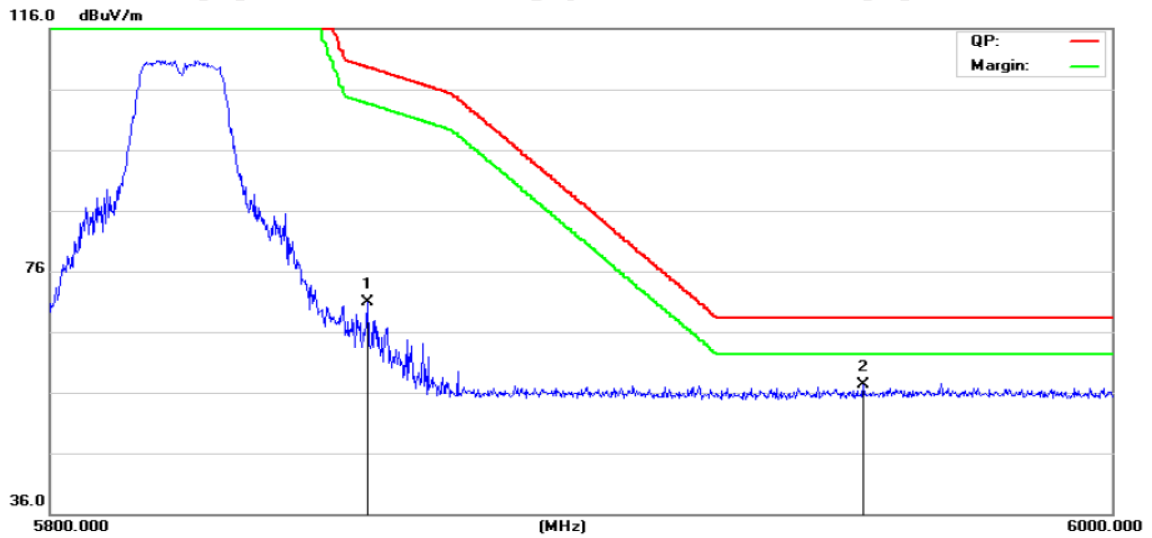
Site Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5848.605	62.98	6.54	69.52	122.2	-52.68	peak	
2	*	5935.314	50.63	6.63	57.26	68.20	-10.94	peak	



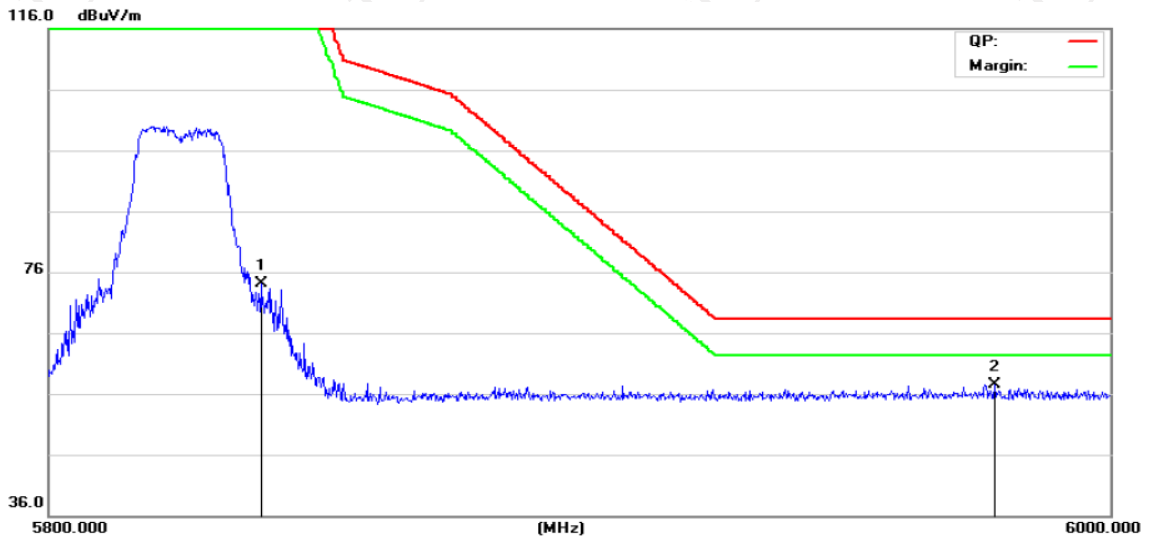
Site Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5835.210	62.89	6.53	69.42	122.2	-52.78	peak	
2	*	5953.405	50.44	6.65	57.09	68.20	-11.11	peak	



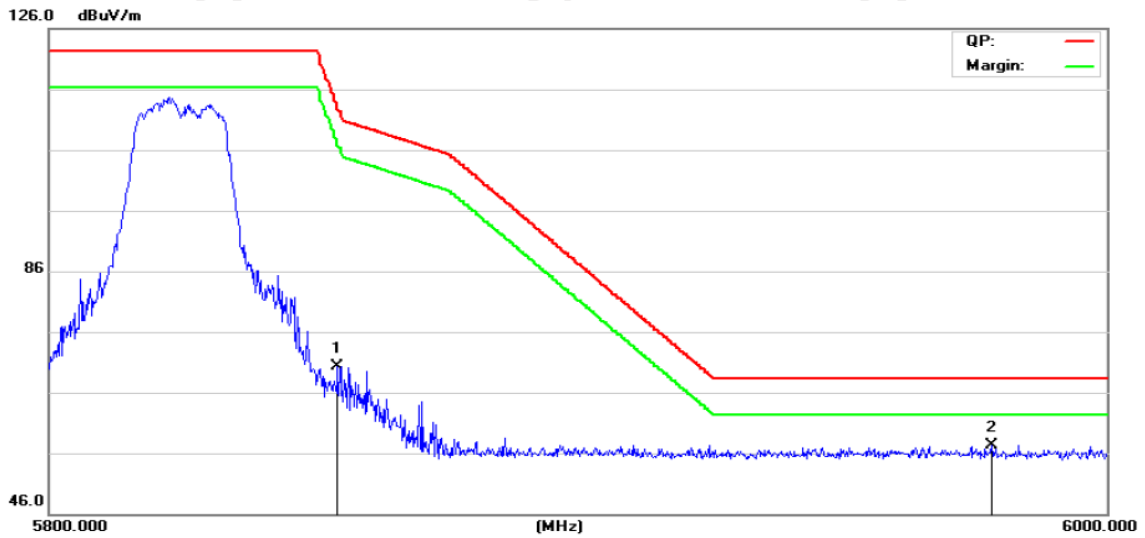
Site Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5859.091	64.47	6.38	70.85	109.6	-38.80	peak	
2	*	5952.591	50.69	6.59	57.28	68.20	-10.92	peak	



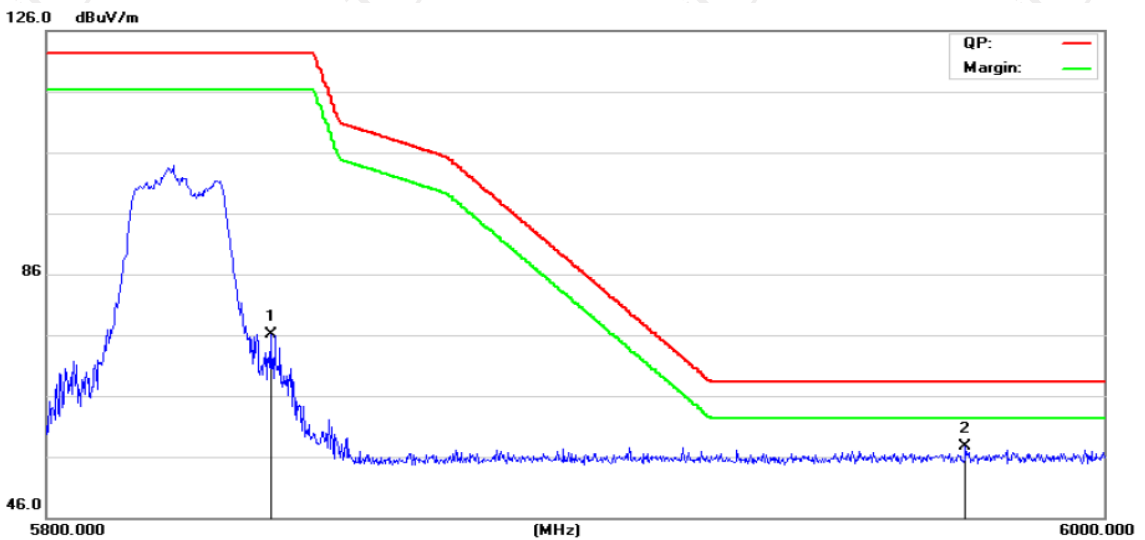
Site Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5839.459	67.70	6.35	74.05	122.2	-48.15	peak	
2	*	5977.869	50.85	6.65	57.50	68.20	-10.70	peak	



Site Polarization: **Horizontal** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5853.929	63.91	6.37	70.28	113.2	-42.96	peak	
2	*	5977.869	50.72	6.65	57.37	68.20	-10.83	peak	

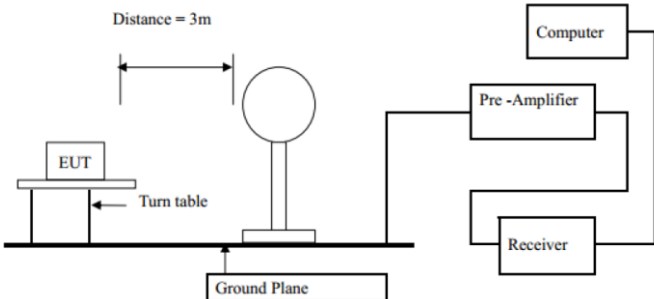


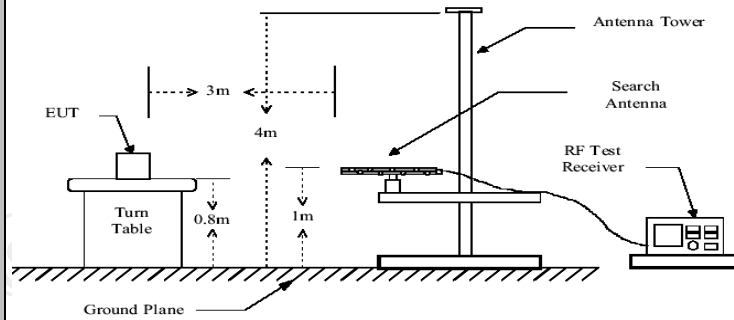
Site Polarization: **Vertical** Temperature: 25 (C)
Limit: FCC part 15.407 Spurious B3 (PK) Power: Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5841.836	69.72	6.35	76.07	122.2	-46.13	peak	
2	*	5973.413	51.12	6.63	57.75	68.20	-10.45	peak	

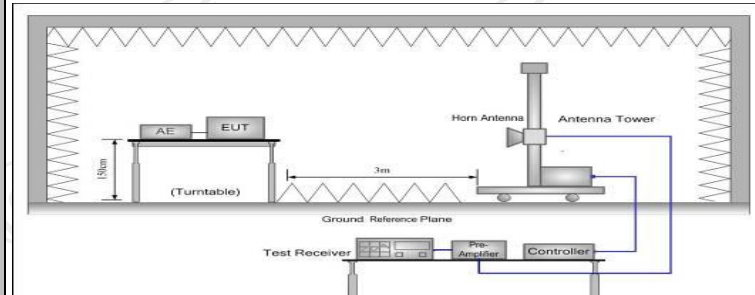
6.8. Unwanted Emissions

6.8.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table, In restricted bands:				
	Frequency	Detector	Limit@3m		
	Above 1G	Peak	74dB μ V/m		
		AVG	54dB μ V/m		
	Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)		
	0.009-0.490	2400/F(KHz)	300		
	0.490-1.705	24000/F(KHz)	30		
	1.705-30	30	30		
	30-88	100	3		
	88-216	150	3		
216-960	200	3			
Above 960	500	3			
	In un-restricted bands: 68.2dB μ V/m				
Test setup:	For radiated emissions below 30MHz				
	 <p>Distance = 3m</p> <p>EUT</p> <p>Turn table</p> <p>Ground Plane</p> <p>Computer</p> <p>Pre -Amplifier</p> <p>Receiver</p>				
	30MHz to 1GHz				



Above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters 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 rotating 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.

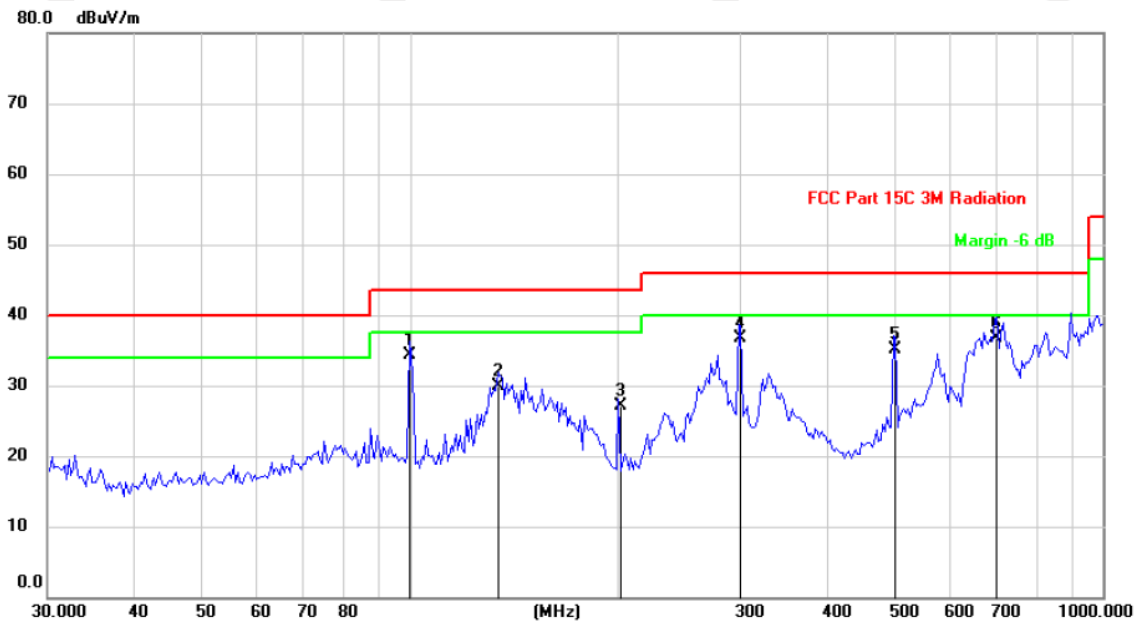
Test results:

PASS

6.8.2. Test Data

Please refer to following diagram for individual
Below 1GHz

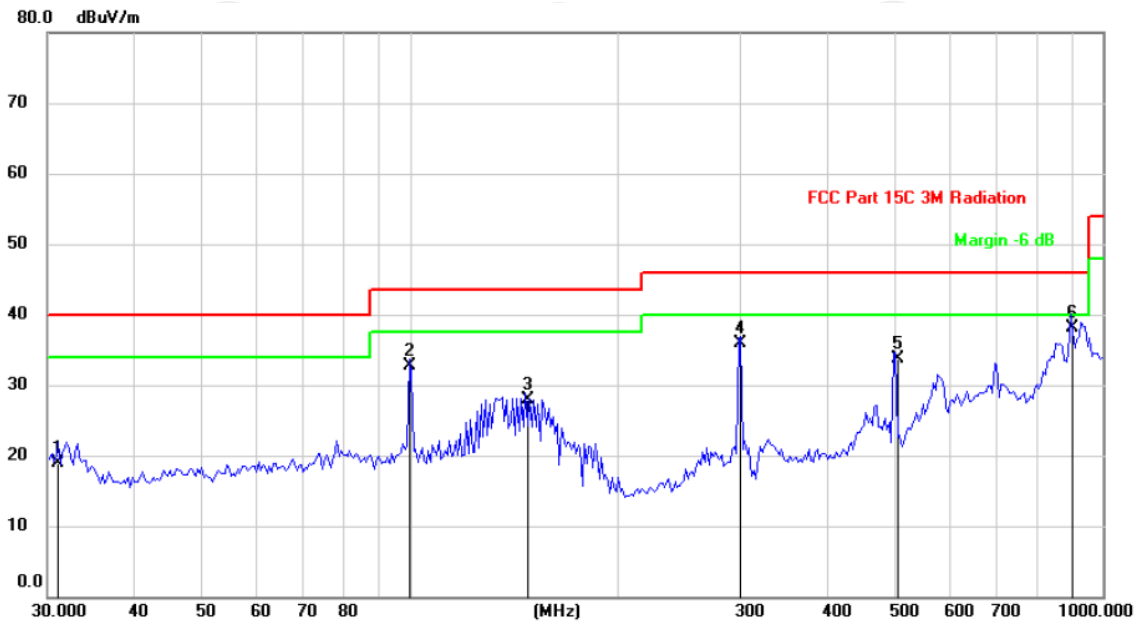
Horizontal:



Site Demo Polarization: *Horizontal* Temperature: 25
Limit: FCC Part 15C 3M Radiation Power: DC 3.3V Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	99.7676	42.76	-8.51	34.25	43.50	-9.25	QP
2		134.0194	45.98	-16.07	29.91	43.50	-13.59	QP
3		200.0432	41.32	-14.27	27.05	43.50	-16.45	QP
4		298.5932	47.77	-11.08	36.69	46.00	-9.31	QP
5		498.7303	42.31	-7.21	35.10	46.00	-10.90	QP
6		703.7314	41.60	-4.90	36.70	46.00	-9.30	QP

Vertical:



Site Demo

Polarization: *Vertical*

Temperature: 25

Limit: FCC Part 15C 3M Radiation

Power: DC 3.3V

Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		31.0728	30.08	-11.14	18.94	40.00	-21.06	QP
2		99.7676	41.25	-8.51	32.74	43.50	-10.76	QP
3		146.8392	44.49	-16.57	27.92	43.50	-15.58	QP
4		300.6988	46.92	-11.01	35.91	46.00	-10.09	QP
5		502.2473	40.85	-7.17	33.68	46.00	-12.32	QP
6	*	899.9577	40.73	-2.58	38.15	46.00	-7.85	QP

Note: 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), and the worst case Mode (Lowest channel and 11a) was submitted only.

3. Measurement (dBuV) = Reading level + Correction Factor, correction Factor = Antenna Factor + Cable loss - Pre-amplifier.

Modulation Type: Band 1									
11a CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	40.72	---	8.02	48.74	---	68.2	---	-19.46
15540	H	41.06	---	9.87	50.93	---	74	54	-3.07
---	H	---	---	---	---	---	---	---	---
10360	V	39.58	---	8.02	47.60	---	68.2	---	-20.60
15540	V	40.95	---	9.87	50.82	---	74	54	-3.18
---	V	---	---	---	---	---	---	---	---
11a CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	41.74	---	7.97	49.71	---	68.2	---	-18.49
15600	H	40.39	---	9.83	50.22	---	74	54	-3.78
---	H	---	---	---	---	---	---	---	---
10400	V	42.61	---	7.97	50.58	---	68.2	---	-17.62
15600	V	40.26	---	9.83	50.09	---	74	54	-3.91
---	V	---	---	---	---	---	---	---	---
11a CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	40.83	---	7.97	48.80	---	68.2	---	-19.40
15720	H	41.10	---	9.83	50.93	---	74	54	-3.07
---	H	---	---	---	---	---	---	---	---
10480	V	41.57	---	7.97	49.54	---	68.2	---	-18.66
15720	V	39.24	---	9.83	49.07	---	74	54	-4.93
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	43.56	---	8.02	51.58	---	68.2	---	-16.62
15540	H	42.35	---	9.87	52.22	---	74	54	-1.78
---	H	---	---	---	---	---	---	---	---
10360	V	43.24	---	8.02	51.26	---	68.2	---	-16.94
15540	V	40.96	---	9.87	50.83	---	74	54	-3.17
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	43.34	---	7.97	51.31	---	68.2	---	-16.89
15600	H	42.31	---	9.83	52.14	---	74	54	-1.86
---	H	---	---	---	---	---	---	---	---
10400	V	43.14	---	7.97	51.11	---	68.2	---	-17.09
15600	V	41.16	---	9.83	50.99	---	74	54	-3.01
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH48: 5240MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10480	H	43.67	---	7.97	51.64	---	68.2	---	-16.56
15720	H	42.26	---	9.83	52.09	---	74	54	-1.91
---	H	---	---	---	---	---	---	---	---
10480	V	42.96	---	7.97	50.93	---	68.2	---	-17.27
15720	V	41.37	---	9.83	51.2	---	74	54	-2.80
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH38: 5190MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10380	H	43.17	---	7.75	50.92	---	68.2	---	-17.28
15570	H	41.86	---	9.87	51.73	---	74	54	-2.27
---	H	---	---	---	---	---	---	---	---
10380	V	42.67	---	7.75	50.42	---	68.2	---	-17.78
15570	V	41.34	---	9.87	51.21	---	74	54	-2.79
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH46: 5230MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10460	H	43.52	---	7.97	51.49	---	68.2	---	-16.71
15690	H	42.41	---	9.83	52.24	---	74	54	-1.76
---	H	---	---	---	---	---	---	---	---
10460	V	43.67	---	7.97	51.64	---	68.2	---	-16.56
15690	V	42.21	---	9.83	52.04	---	74	54	-1.96
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dB μ V/m)-Average limit (dB μ V/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band 2A									
11a CH52: 5260MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10520	H	40.30	---	7.97	48.27	---	68.2	---	-19.93
15780	H	41.51	---	9.83	51.34	---	74	54	-2.66
---	H	---	---	---	---	---	---	---	---
10520	V	43.96	---	7.97	51.93	---	68.2	---	-16.27
15780	V	41.16	---	9.83	50.99	---	74	54	-3.01
---	V	---	---	---	---	---	---	---	---
11a CH60: 5300MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10600	H	41.24	---	7.98	49.22	---	74	54	-4.78
15900	H	40.86	---	9.85	50.71	---	74	54	-3.29
---	H	---	---	---	---	---	---	---	---
10600	V	41.87	---	7.98	49.85	---	74	54	-4.15
15900	V	40.38	---	9.85	50.23	---	74	54	-3.77
---	V	---	---	---	---	---	---	---	---
11a CH64: 5320MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10640	H	42.60	---	7.98	50.58	---	74	54	-3.42
15960	H	41.52	---	9.85	51.37	---	74	54	-2.63
---	H	---	---	---	---	---	---	---	---
10640	V	43.61	---	7.98	51.59	---	74	54	-2.41
15960	V	43.35	---	9.85	53.2	---	74	54	-0.8
---	V	---	---	---	---	---	---	---	---
11n(HT20) C52: 5260MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10520	H	42.85	---	7.97	50.82	---	68.2	---	-17.38
15780	H	41.96	---	9.83	51.79	---	74	54	-2.21
---	H	---	---	---	---	---	---	---	---
10520	V	40.64	---	7.97	48.61	---	68.2	---	-19.59
15780	V	42.32	---	9.83	52.15	---	74	54	-1.85
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH60: 5300MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10600	H	41.48	---	7.98	49.46	---	74	54	-4.54
15900	H	40.30	---	9.85	50.15	---	74	54	-3.85
---	H	---	---	---	---	---	---	---	---
10600	V	42.34	---	7.98	50.32	---	74	54	-3.68
15900	V	41.63	---	9.85	51.48	---	74	54	-2.52
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH64: 5320MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10640	H	40.55	---	7.98	48.53	---	74	54	-5.47
15960	H	41.63	---	9.85	51.48	---	74	54	-2.52
---	H	---	---	---	---	---	---	---	---
10640	V	42.05	---	7.98	50.03	---	74	54	-3.97
15960	V	40.99	---	9.85	50.84	---	74	54	-3.16
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH54: 5270MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10540	H	43.01	---	7.97	50.98	---	68.2	---	-17.22
15810	H	41.41	---	9.83	51.24	---	74	54	-2.76
---	H	---	---	---	---	---	---	---	---
10540	V	40.30	---	7.97	48.27	---	68.2	---	-19.97
15810	V	42.05	---	9.83	51.88	---	74	54	-2.12
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH62: 5310MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
10620	H	42.59	---	7.98	50.57	---	74	54	-3.43
15930	H	42.68	---	9.85	52.53	---	74	54	-1.47
---	H	---	---	---	---	---	---	---	---
10620	V	40.37	---	7.98	48.35	---	74	54	-5.65
15930	V	42.10	---	9.85	51.95	---	74	54	-2.05
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dB μ V/m)-Average limit (dB μ V/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band 2C									
11a CH100: 5500MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11000	H	40.64	---	8.03	48.67	---	74	54	-5.33
16500	H	41.79	---	9.76	51.55	---	68.2	---	-16.65
---	H	---	---	---	---	---	---	---	---
11000	V	42.97	---	8.03	51	---	74	54	-3
16500	V	41.50	---	9.76	51.26	---	68.2	---	-16.94
---	V	---	---	---	---	---	---	---	---
11a CH120: 5600MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11200	H	41.83	---	8.04	49.87	---	74	54	-4.13
16800	H	42.66	---	9.74	52.4	---	68.2	---	-15.80
---	H	---	---	---	---	---	---	---	---
11200	V	40.75	---	8.04	48.79	---	74	54	-5.21
16800	V	41.90	---	9.74	51.64	---	68.2	---	-16.56
---	V	---	---	---	---	---	---	---	---
11a CH144: 5700MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11400	H	40.59	---	8.05	48.64	---	74	54	-5.36
17100	H	42.63	---	9.72	52.35	---	68.2	---	-15.85
---	H	---	---	---	---	---	---	---	---
11400	V	41.58	---	8.05	49.63	---	74	54	-4.37
17100	V	42.26	---	9.72	51.98	---	68.2	---	-16.22
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH100: 5500MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11000	H	41.92	---	8.03	49.95	---	74	54	-4.05
16500	H	40.64	---	9.76	50.40	---	68.2	---	-3.60
---	H	---	---	---	---	---	---	---	---
11000	V	40.87	---	8.03	48.90	---	74	54	-5.10
16500	V	43.01	---	9.76	52.77	---	68.2	---	-15.43
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH120: 5600MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11200	H	41.24	---	8.04	49.28	---	74	54	-4.72
16800	H	42.81	---	9.74	52.55	---	68.2	---	-1.45
---	H	---	---	---	---	---	---	---	---
11200	V	40.83	---	8.04	48.87	---	74	54	-5.13
16800	V	41.65	---	9.74	51.39	---	68.2	---	-16.81
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH144: 5700MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11400	H	41.88	---	8.05	49.93	---	74	54	-4.07
17100	H	42.68	---	9.72	52.40	---	68.2	---	-15.80
---	H	---	---	---	---	---	---	---	---
11400	V	43.51	---	8.05	51.56	---	74	54	-2.44
17100	V	42.57	---	9.72	52.29	---	68.2	---	-15.94
---	V	---	---	---	---	---	---	---	---

11n(HT40)CH102: 5510MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11020	H	40.43	---	8.03	48.46	---	74	54	-5.54
16530	H	42.10	---	9.76	51.86	---	68.2	---	-16.34
---	H	---	---	---	---	---	---	---	---
11020	V	41.36	---	8.03	49.39	---	74	54	-4.61
16530	V	40.29	---	9.76	50.05	---	68.2	---	-18.15
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH118: 5590MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11180	H	41.53	---	8.04	49.57	---	74	54	-4.43
16770	H	40.71	---	9.74	50.45	---	68.2	---	-17.75
---	H	---	---	---	---	---	---	---	---
11180	V	40.10	---	8.04	48.14	---	74	54	-5.86
16770	V	42.93	---	9.74	52.67	---	68.2	---	-15.53
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH142: 5710MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dB μ V)	AV reading (dB μ V)	Correction Factor (dB/m)	Emission Level		Peak limit (dB μ V/m)	AV limit (dB μ V/m)	Margin (dB)
					Peak (dB μ V/m)	AV (dB μ V/m)			
11420	H	42.44	---	8.05	50.49	---	74	54	-3.51
17130	H	43.50	---	9.72	53.22	---	68.2	---	-14.98
---	H	---	---	---	---	---	---	---	---
11420	V	41.47	---	8.05	49.52	---	74	54	-4.48
17130	V	39.85	---	9.72	49.57	---	68.2	---	-18.63
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor=Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dB μ V/m)-Average limit (dB μ V/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band 3									
11a(HT20) CH149: 5745MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	40.25	---	8.09	48.34	---	74	54	-5.66
17235	H	39.65	---	9.67	49.32	---	68.2	---	-18.88
---	H	---	---	---	---	---	---	---	---
11490	V	42.37	---	8.09	50.46	---	74	54	-3.54
17235	V	42.8	---	9.67	52.47	---	68.2	---	-15.73
---	V	---	---	---	---	---	---	---	---

11a(HT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	42.08	---	8.1	50.18	---	74	54	-3.82
17355	H	41.15	---	9.65	50.8	---	68.2	---	-17.40
---	H	---	---	---	---	---	---	---	---
11570	V	40.69	---	8.1	48.79	---	74	54	-5.21
17355	V	41.81	---	9.65	51.46	---	68.2	---	-16.74
---	V	---	---	---	---	---	---	---	---

11a(HT20) CH161: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	40.11	---	8.12	48.23	---	74	54	-5.77
17475	H	39.12	---	9.62	48.74	---	68.2	---	-17.46
---	H	---	---	---	---	---	---	---	---
11650	V	41.46	---	8.12	49.58	---	74	54	-4.42
17475	V	40.89	---	9.62	50.51	---	68.2	---	-17.69
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH151: 5745MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11510	H	41.65	---	8.09	49.74	---	74	54	-4.26
17265	H	40.51	---	9.67	50.18	---	68.2	---	-3.82
---	H	---	---	---	---	---	---	---	---
11510	V	42.16	---	8.09	50.25	---	74	54	-3.75
17265	V	40.83	---	9.67	50.50	---	68.2	---	-17.70
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	41.42	---	8.10	49.52	---	74	54	-4.48
17355	H	42.38	---	9.65	52.03	---	68.2	---	-16.17
---	H	---	---	---	---	---	---	---	---
11570	V	40.97	---	8.10	49.07	---	74	54	-4.93
17355	V	40.66	---	9.65	50.31	---	68.2	---	-17.89
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	40.78	---	8.12	48.90	---	74	54	-5.10
17475	H	39.53	---	9.62	49.15	---	68.2	---	-19.05
---	H	---	---	---	---	---	---	---	---
11650	V	43.75	---	8.12	51.87	---	74	54	-2.13
17475	V	41.67	---	9.62	51.29	---	68.2	---	-16.91
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH151: 5755MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11510	H	42.68	---	8.09	50.77	---	74	54	-3.23
17265	H	43.49	---	9.67	53.16	---	68.2	---	-15.04
---	H	---	---	---	---	---	---	---	---
11510	V	42.85	---	8.09	50.94	---	74	54	-3.06
17265	V	41.31	---	9.67	50.98	---	68.2	---	-17.22
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11590	H	41.47	---	8.10	49.57	---	74	54	-4.43
17385	H	40.65	---	9.65	50.30	---	68.2	---	-17.90
---	H	---	---	---	---	---	---	---	---
11590	V	41.16	---	8.10	49.26	---	74	54	-4.74
17385	V	39.88	---	9.65	49.53	---	68.2	---	-18.67
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown "—" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

6.9. Frequency Stability Measurement

6.9.1. Test Specification

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 45 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:	<pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] subgraph TC [Temperature Chamber] EUT end P[AC/DC Power supply] --- EUT </pre>
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.

Test plots as follows:

Test mode:		802.11n(HT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5180.0095	9500	PASS
35		5180.0061	6200	PASS
25		5179.9876	-12400	PASS
15		5179.9984	-1600	PASS
5		5180.0039	3900	PASS
0		5180.0043	4300	PASS
20		3.0	5179.9832	-16800
	3.3	5180.0037	3700	PASS
	3.6	5179.9824	-17600	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5200
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5200.0092	9200	PASS
35		5200.0086	8600	PASS
25		5200.0079	7900	PASS
15		5200.0043	4300	PASS
5		5199.9981	-1900	PASS
0		5199.9877	-12300	PASS
20		3.0	5199.9958	-4200
	3.3	5200.0030	3000	PASS
	3.6	5200.0054	5400	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5240.0041	4100	PASS
35		5240.0028	2800	PASS
25		5240.0025	2500	PASS
15		5239.9992	-800	PASS
5		5239.9984	-1600	PASS
0		5239.9978	-2200	PASS
20		3.0	5240.0036	3600
	3.3	5240.0011	1100	PASS
	3.6	5239.9984	-1600	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5745
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5745.0012	1200	PASS
35		5745.0014	1400	PASS
25		5744.9960	-4000	PASS
15		5744.9957	-4300	PASS
5		5745.0033	3300	PASS
0		5745.0041	4100	PASS
20	3.0	5745.0076	7600	PASS
	3.3	5745.0071	7100	PASS
	3.6	5745.0021	2100	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5785
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5785.0083	8300	PASS
35		5785.0030	3000	PASS
25		5785.0028	2800	PASS
15		5785.0007	700	PASS
5		5785.0026	2600	PASS
0		5785.0043	4300	PASS
20	3.0	5785.0057	5700	PASS
	3.3	5785.0024	2400	PASS
	3.6	5784.9975	-2500	PASS

Test mode:		802.11n(HT20)	Frequency(MHz):	5825
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5824.9812	-18800	PASS
35		5825.0083	8300	PASS
25		5824.9951	-4900	PASS
15		5824.9986	-1400	PASS
5		5825.0013	1300	PASS
0		5825.0049	4900	PASS
20	3.0	5825.0042	4200	PASS
	3.3	5824.9987	-1300	PASS
	3.6	5825.0024	2400	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5190.0128	12800	PASS
35		5190.0113	11300	PASS
25		5190.0102	10200	PASS
15		5190.0035	3500	PASS
5		5190.0063	6300	PASS
0		5190.0079	7900	PASS
20	3.0	5189.9910	-9000	PASS
	3.3	5189.9979	-2100	PASS
	3.6	5190.0043	4300	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5230.0129	12900	PASS
35		5230.0123	12300	PASS
25		5230.0098	9800	PASS
15		5229.9987	-1300	PASS
5		5229.9982	-1800	PASS
0		5230.0053	5300	PASS
20	3.0	5230.0041	4100	PASS
	3.3	5230.0026	2600	PASS
	3.6	5229.9979	-2100	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5755
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5755.0274	27400	PASS
35		5755.0120	12000	PASS
25		5755.0119	117900	PASS
15		5755.0097	9700	PASS
5		5755.0034	3400	PASS
0		5755.0072	7200	PASS
20	3.0	5755.0045	4500	PASS
	3.3	5755.0031	3100	PASS
	3.6	5755.0064	6400	PASS

Test mode:		802.11n(HT40)	Frequency(MHz):	5795
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5794.9803	-19700	PASS
35		5794.9844	-15600	PASS
25		5795.0046	4600	PASS
15		5795.0031	3100	PASS
5		5795.0028	2800	PASS
0		5795.0067	6700	PASS
20		3.0	5795.0050	5000
	3.3	5794.9982	-1800	PASS
	3.6	5795.0085	8500	PASS

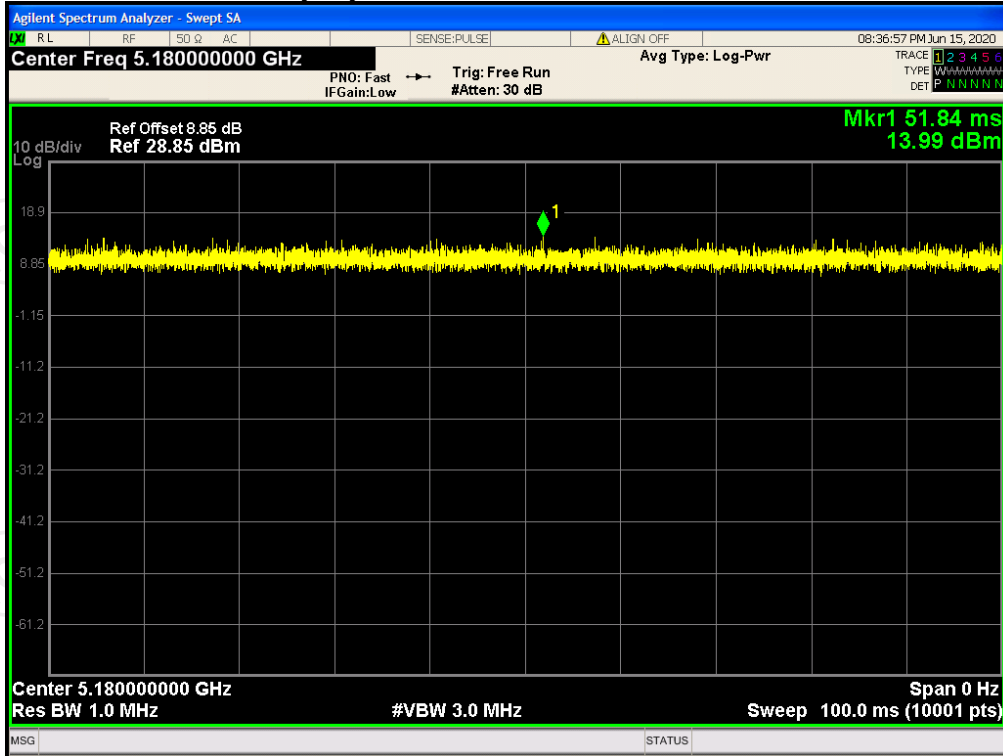
Appendix A: Test Result of Conducted Test

ANT 0

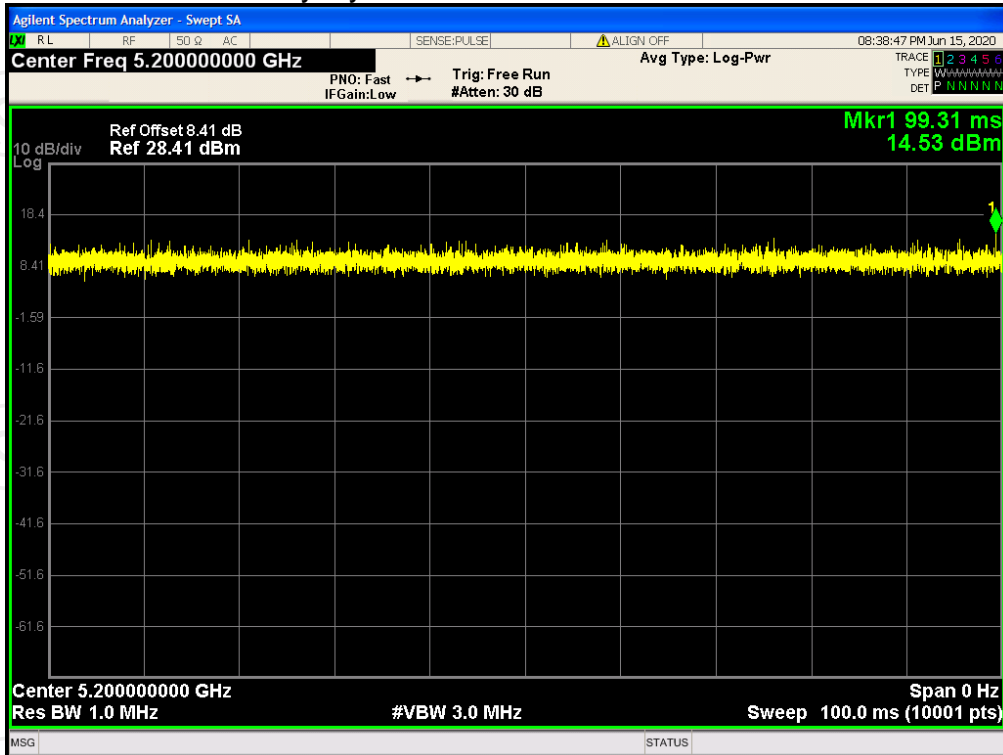
Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	802.11a	5180	100	0
NVNT	802.11a	5200	100	0
NVNT	802.11a	5240	100	0
NVNT	802.11a	5260	100	0
NVNT	802.11a	5300	100	0
NVNT	802.11a	5320	100	0
NVNT	802.11a	5500	100	0
NVNT	802.11a	5600	100	0
NVNT	802.11a	5700	100	0
NVNT	802.11a	5745	100	0
NVNT	802.11a	5785	100	0
NVNT	802.11a	5825	100	0
NVNT	802.11n(HT20)	5180	100	0
NVNT	802.11n(HT20)	5200	100	0
NVNT	802.11n(HT20)	5240	100	0
NVNT	802.11n(HT20)	5260	100	0
NVNT	802.11n(HT20)	5300	100	0
NVNT	802.11n(HT20)	5320	100	0
NVNT	802.11n(HT20)	5500	100	0
NVNT	802.11n(HT20)	5600	100	0
NVNT	802.11n(HT20)	5700	100	0
NVNT	802.11n(HT20)	5745	100	0
NVNT	802.11n(HT20)	5785	100	0
NVNT	802.11n(HT20)	5825	100	0
NVNT	802.11n(HT40)	5190	100	0
NVNT	802.11n(HT40)	5230	100	0
NVNT	802.11n(HT40)	5270	100	0
NVNT	802.11n(HT40)	5310	100	0
NVNT	802.11n(HT40)	5510	100	0
NVNT	802.11n(HT40)	5590	100	0
NVNT	802.11n(HT40)	5670	100	0
NVNT	802.11n(HT40)	5755	100	0
NVNT	802.11n(HT40)	5795	100	0

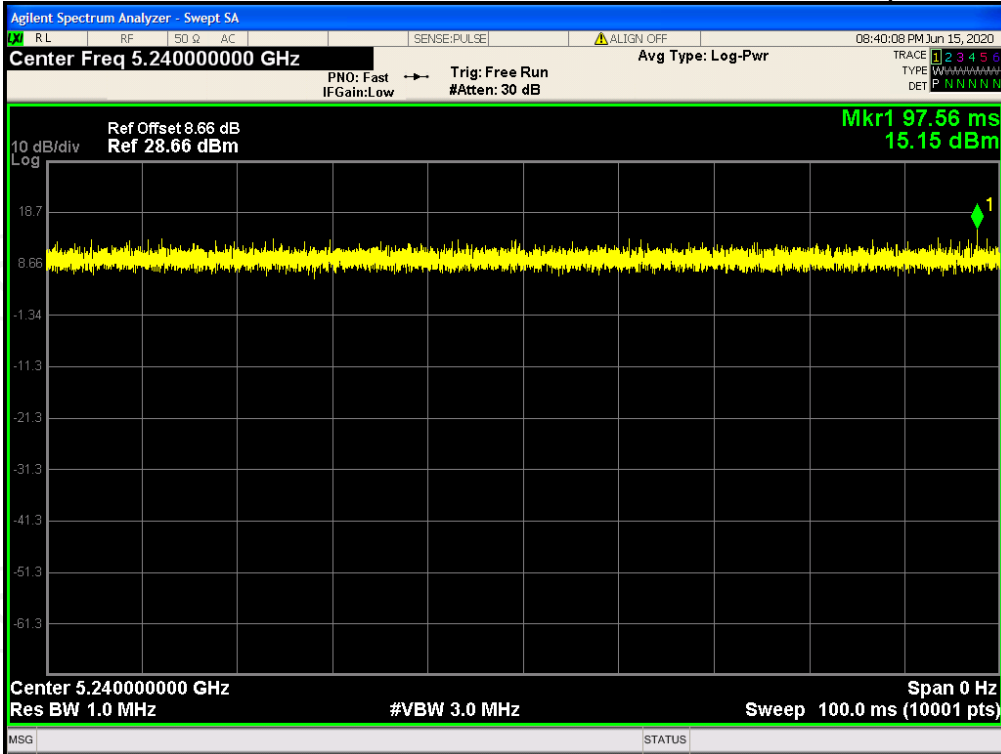
Duty Cycle NVNT 802.11a 5180MHz



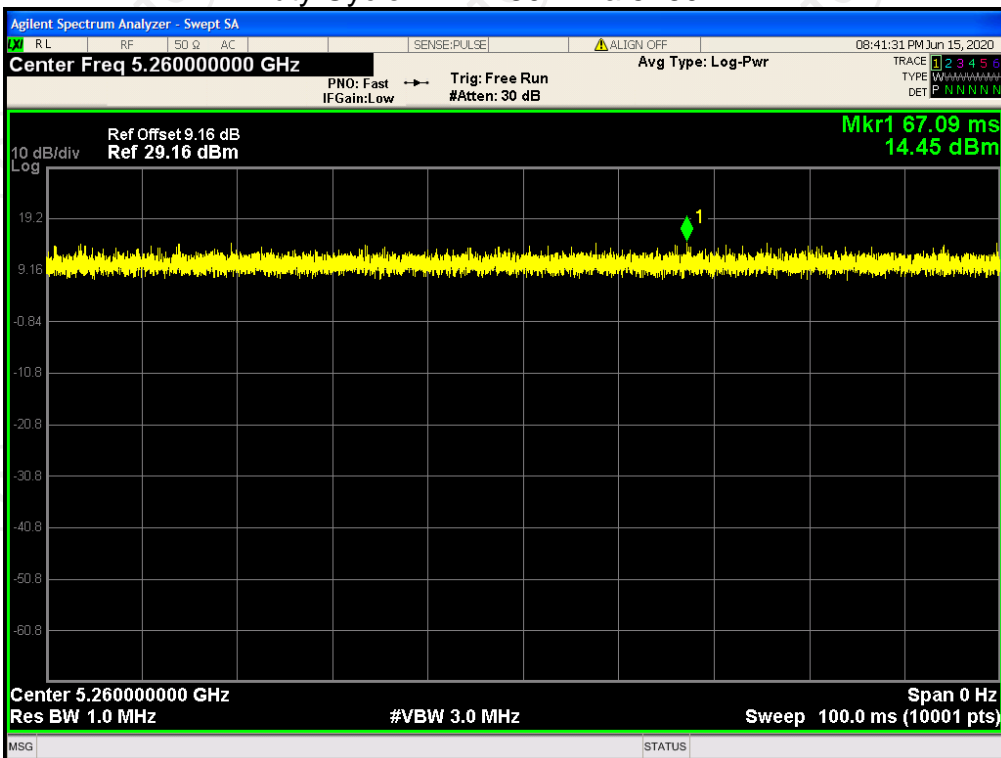
Duty Cycle NVNT 802.11a 5200MHz



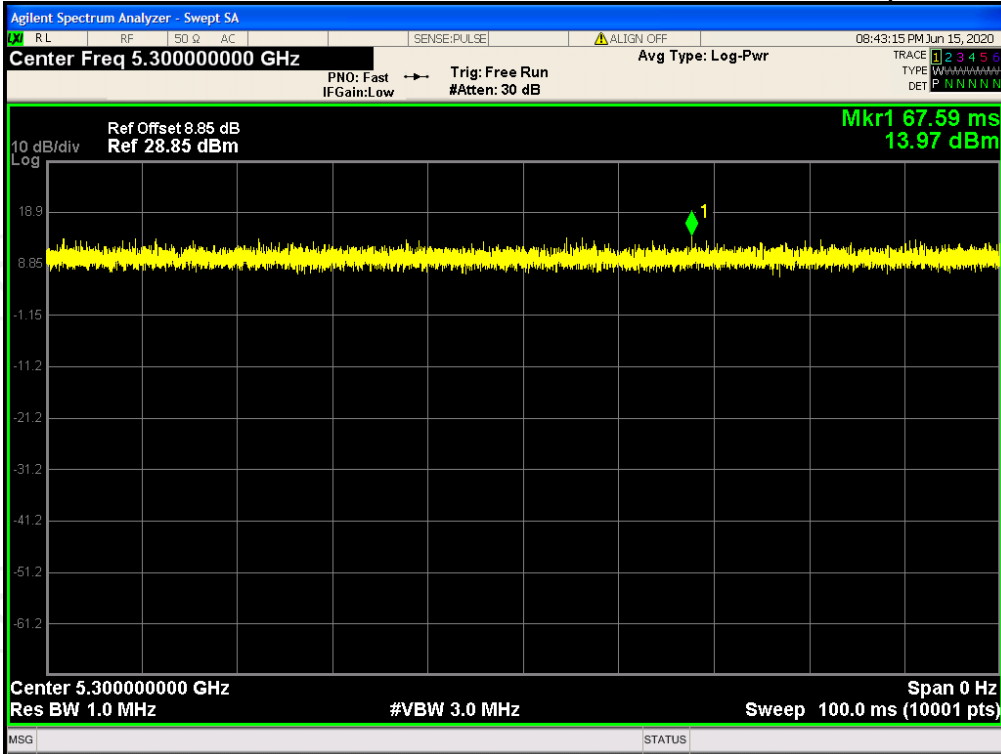
Duty Cycle NVNT 802.11a 5240MHz



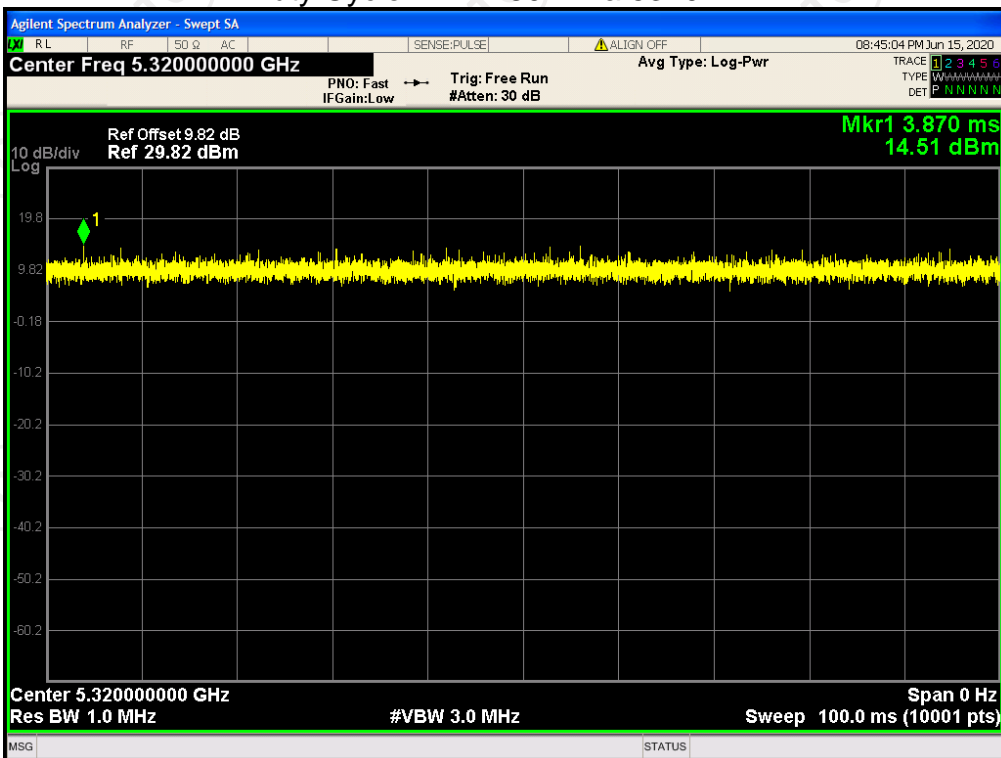
Duty Cycle NVNT 802.11a 5260MHz



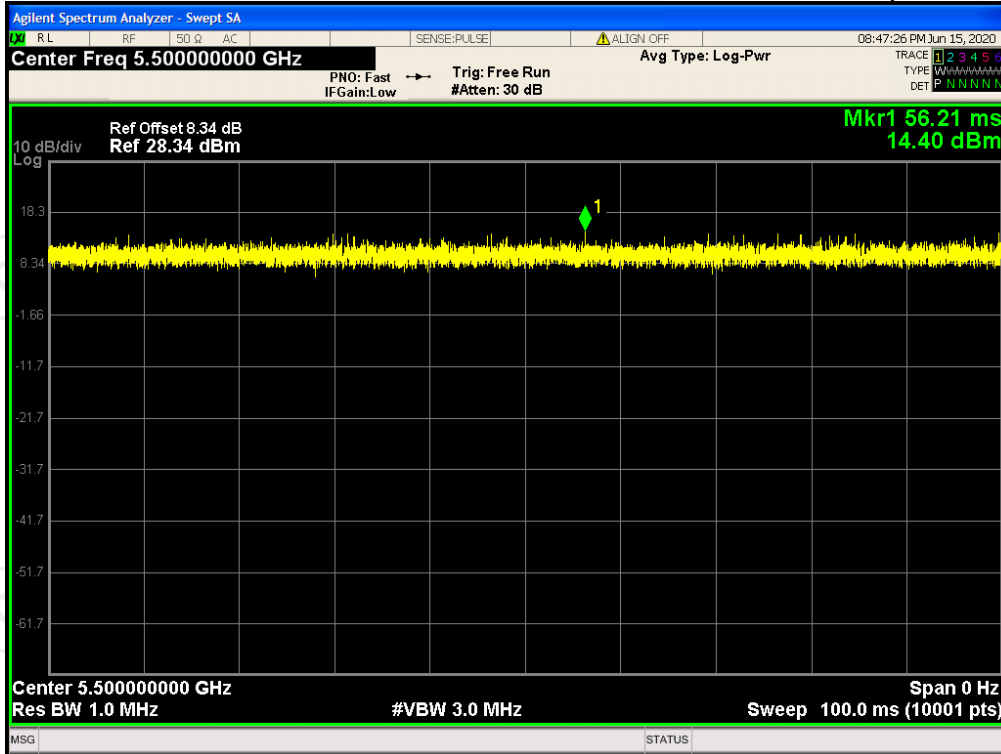
Duty Cycle NVNT 802.11a 5300MHz



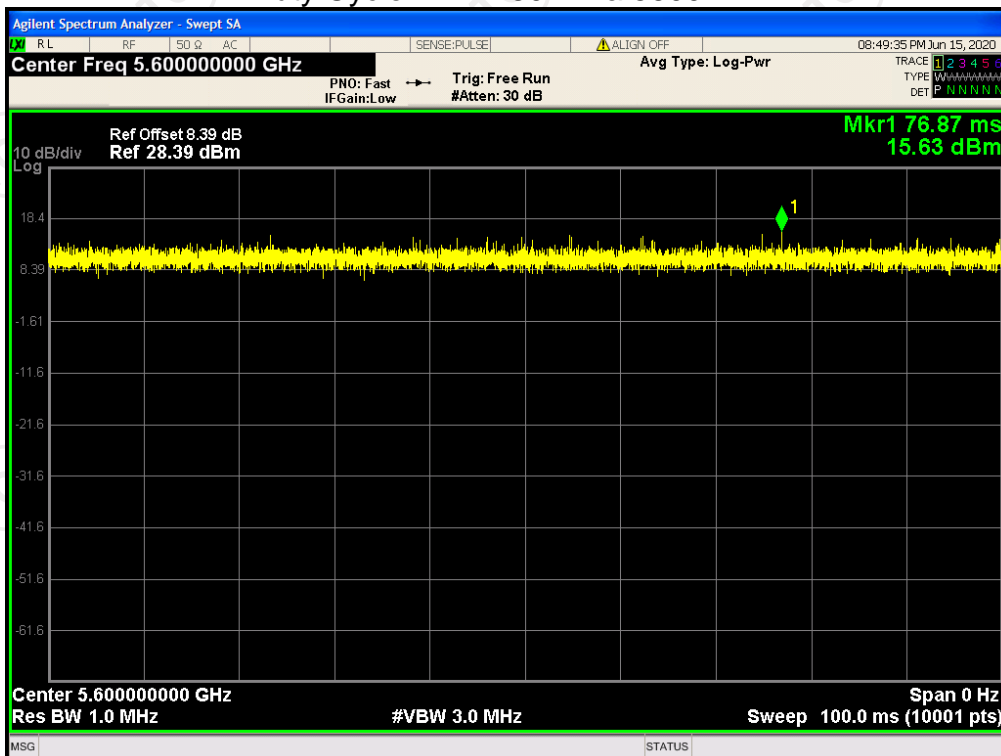
Duty Cycle NVNT 802.11a 5320MHz



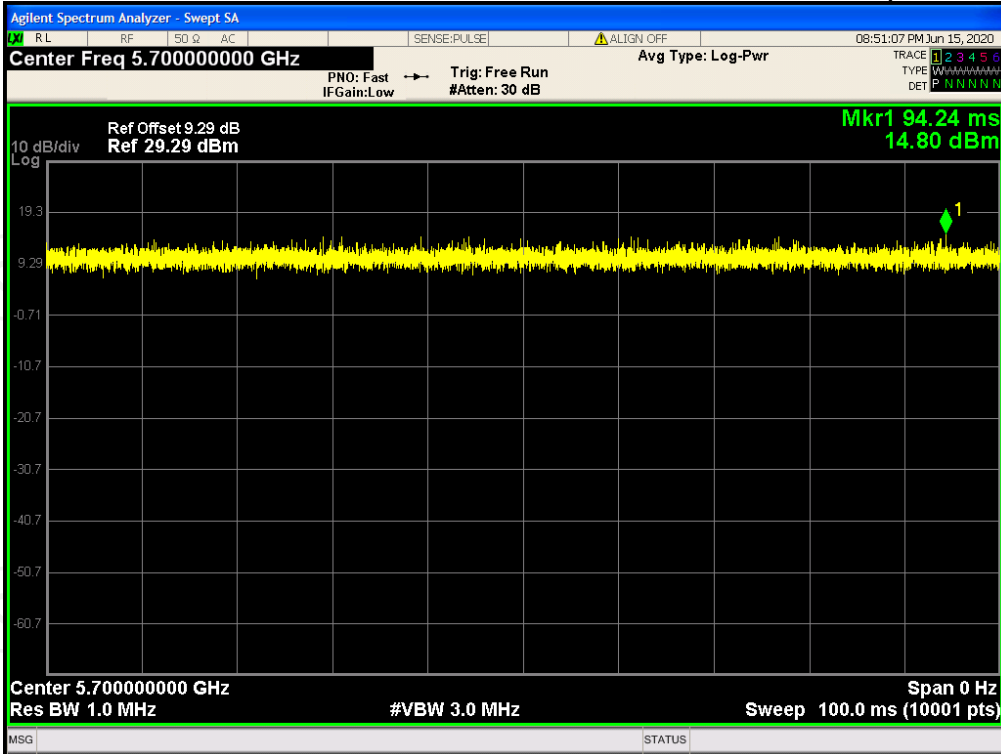
Duty Cycle NVNT 802.11a 5500MHz



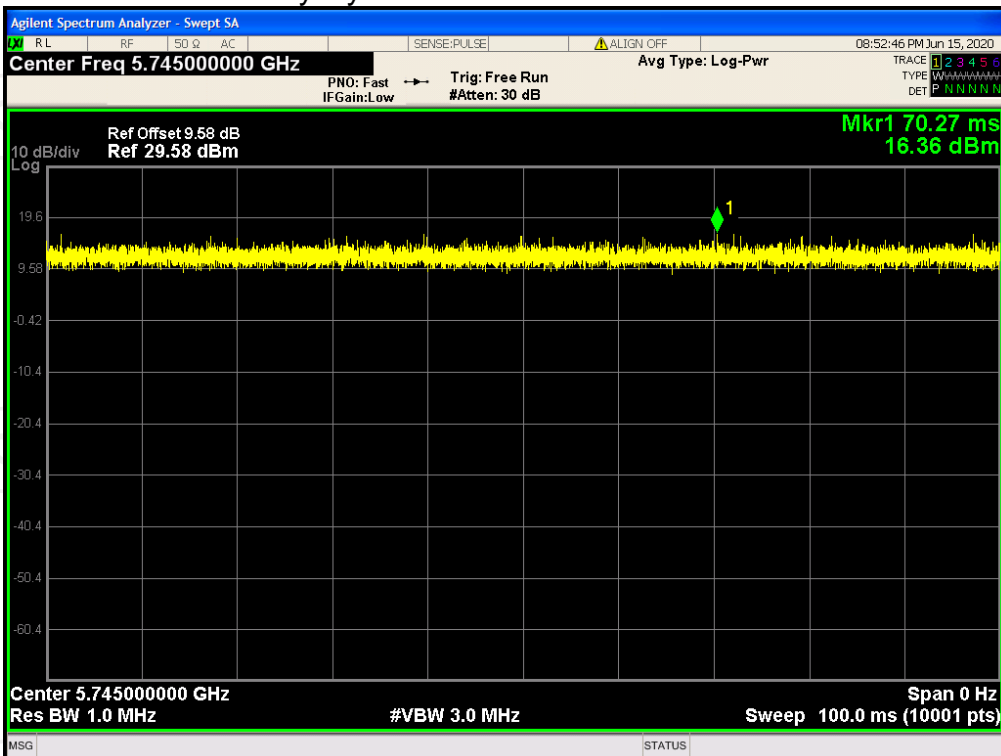
Duty Cycle NVNT 802.11a 5600MHz



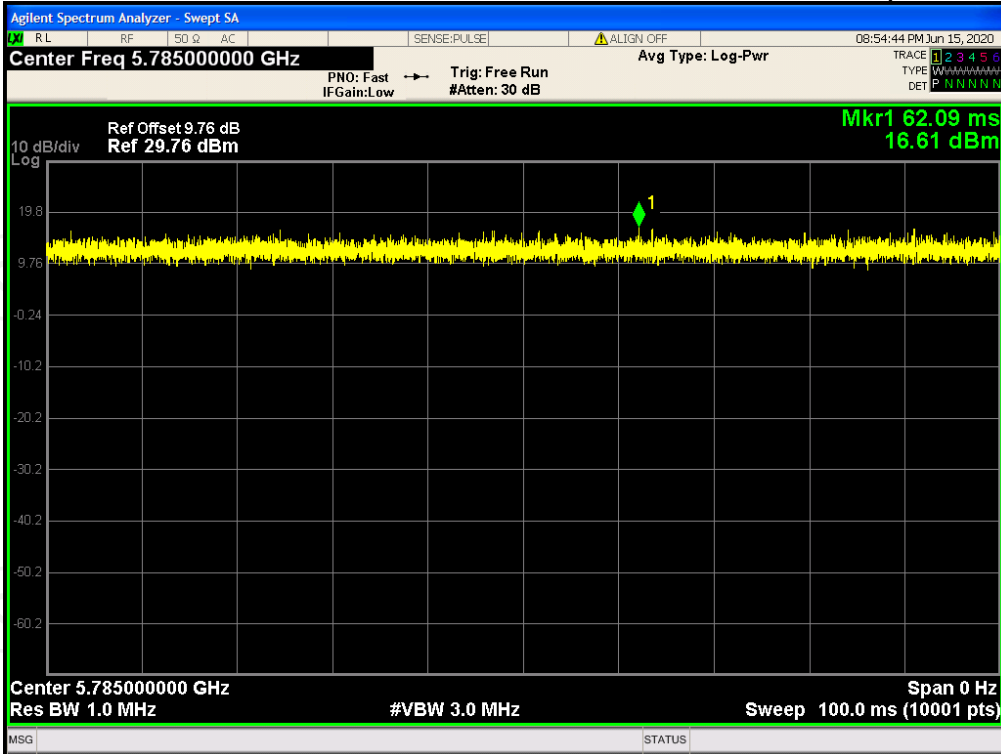
Duty Cycle NVNT 802.11a 5700MHz



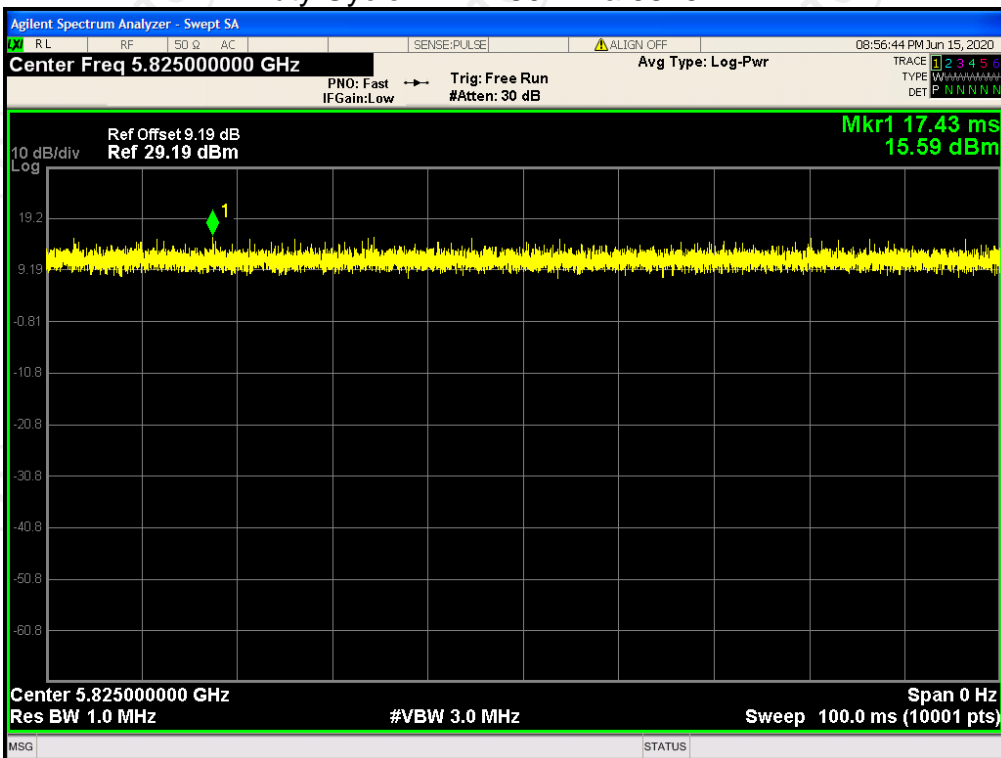
Duty Cycle NVNT 802.11a 5745MHz



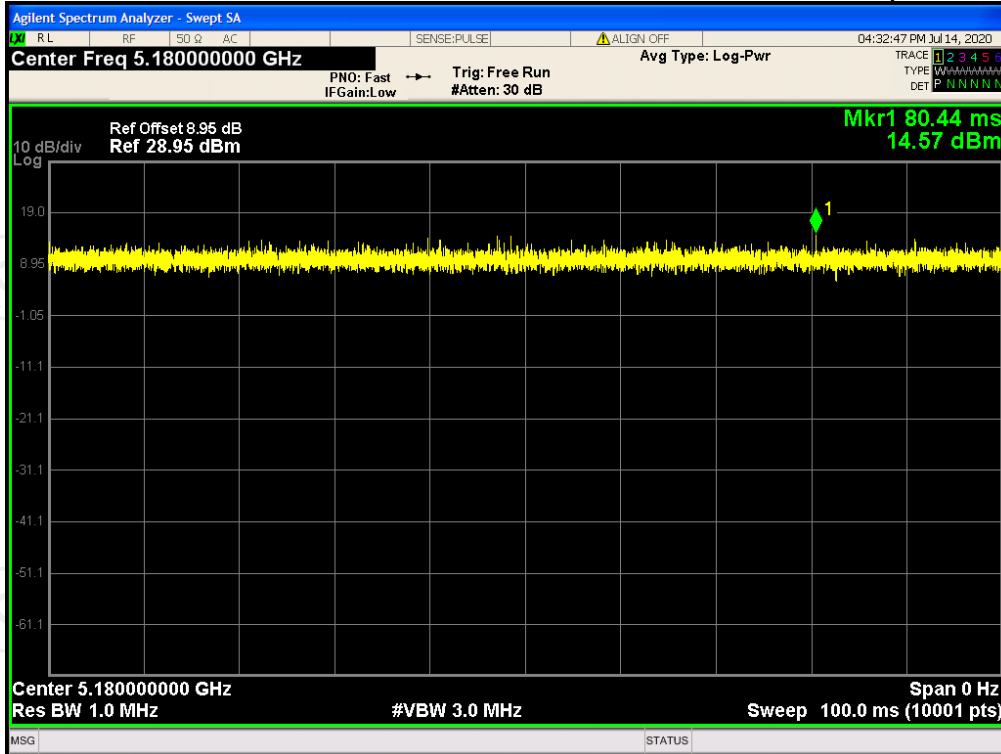
Duty Cycle NVNT 802.11a 5785MHz



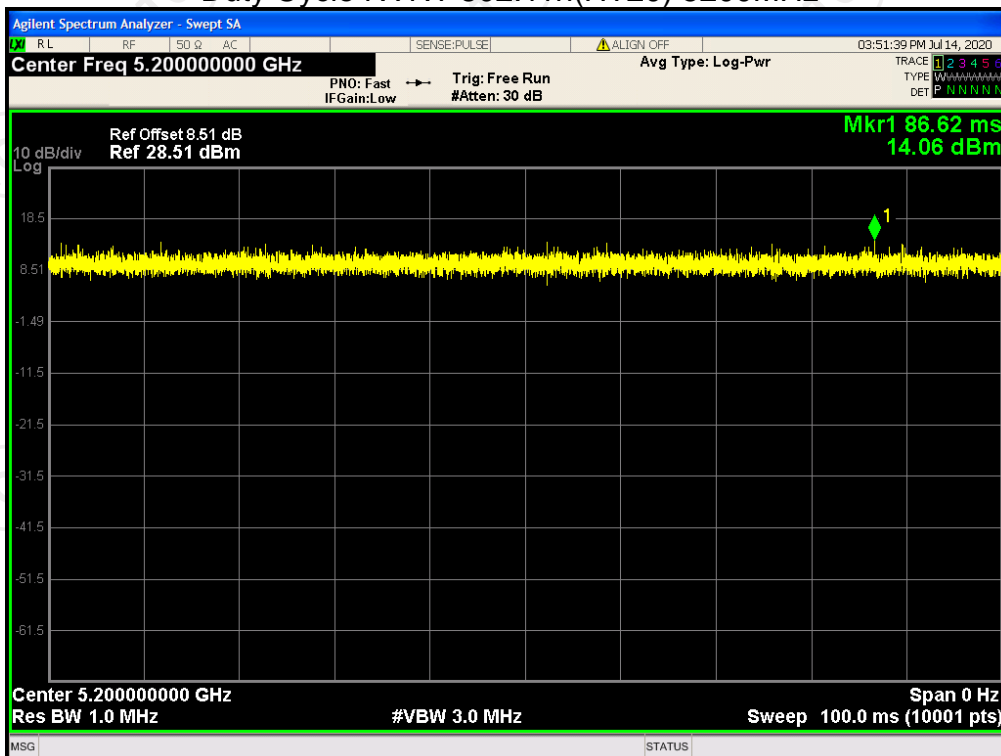
Duty Cycle NVNT 802.11a 5825MHz



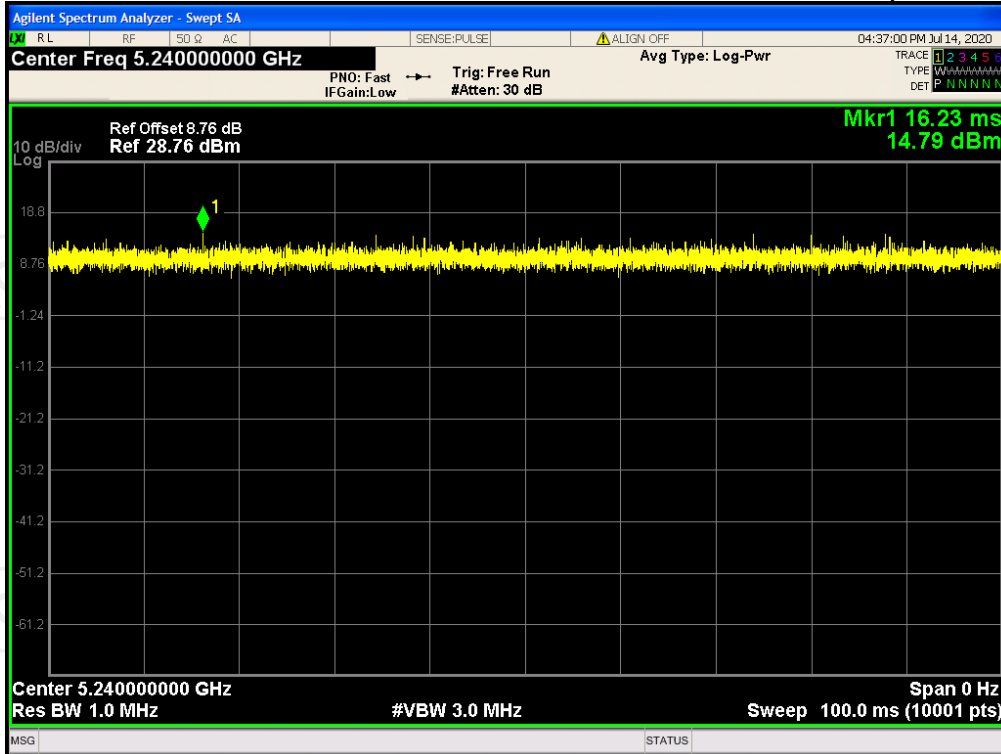
Duty Cycle NVNT 802.11n(HT20) 5180MHz



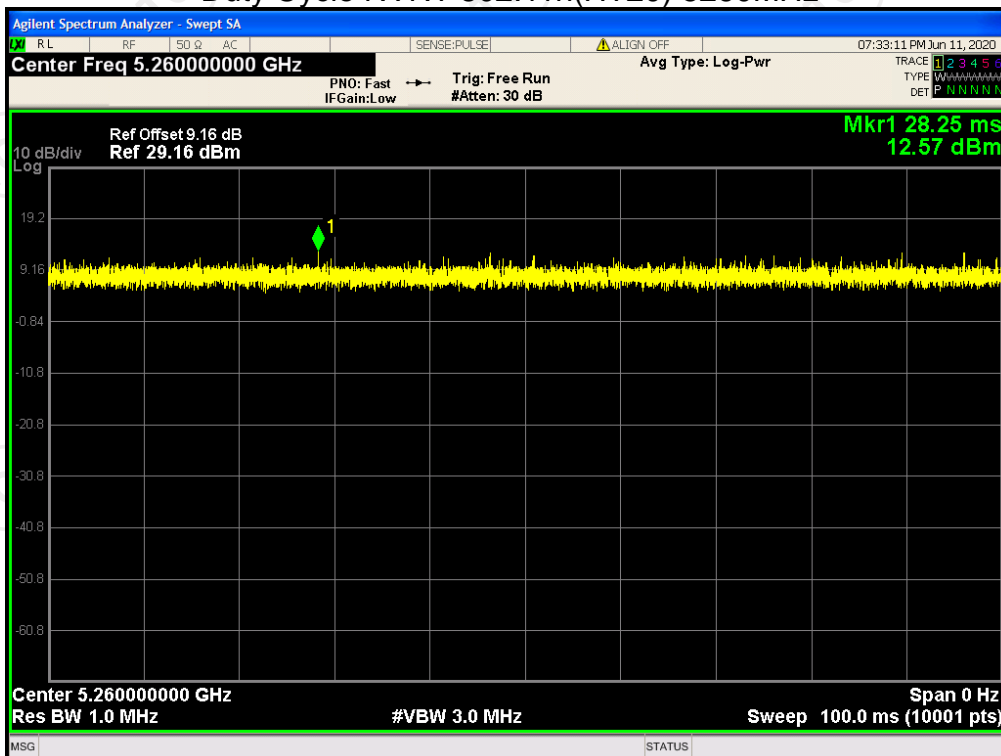
Duty Cycle NVNT 802.11n(HT20) 5200MHz



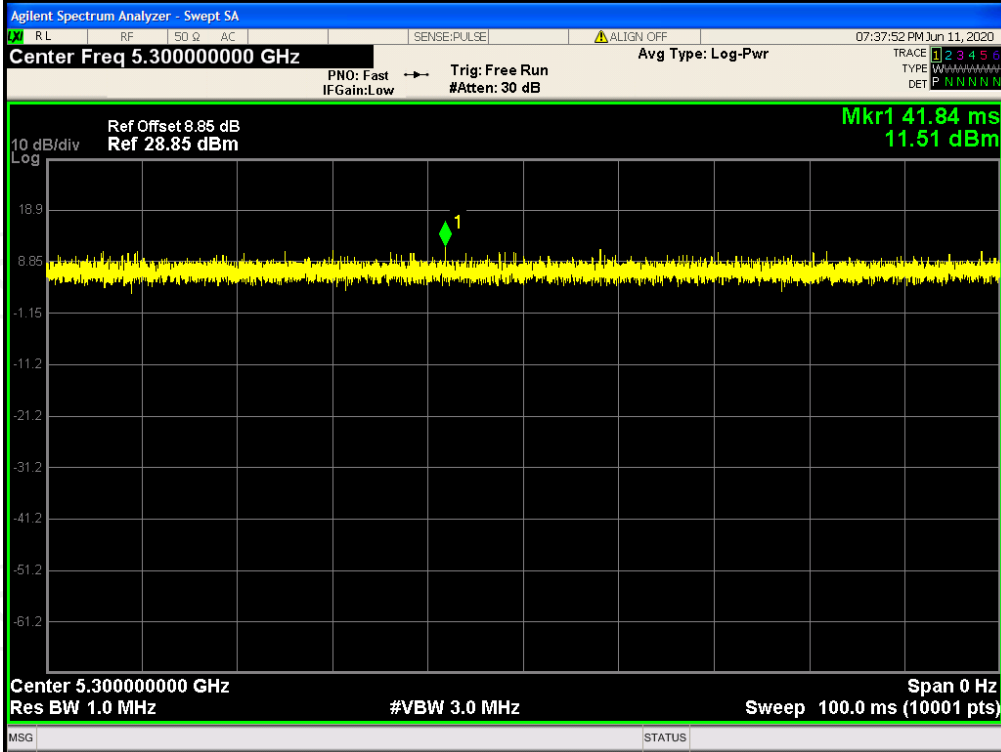
Duty Cycle NVNT 802.11n(HT20) 5240MHz



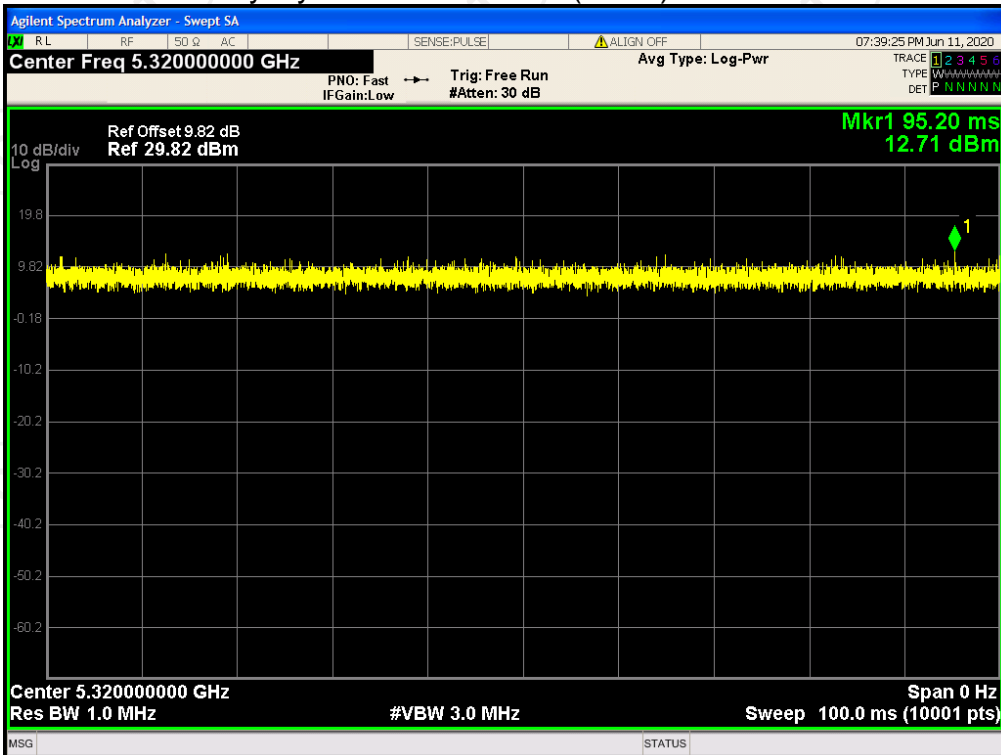
Duty Cycle NVNT 802.11n(HT20) 5260MHz



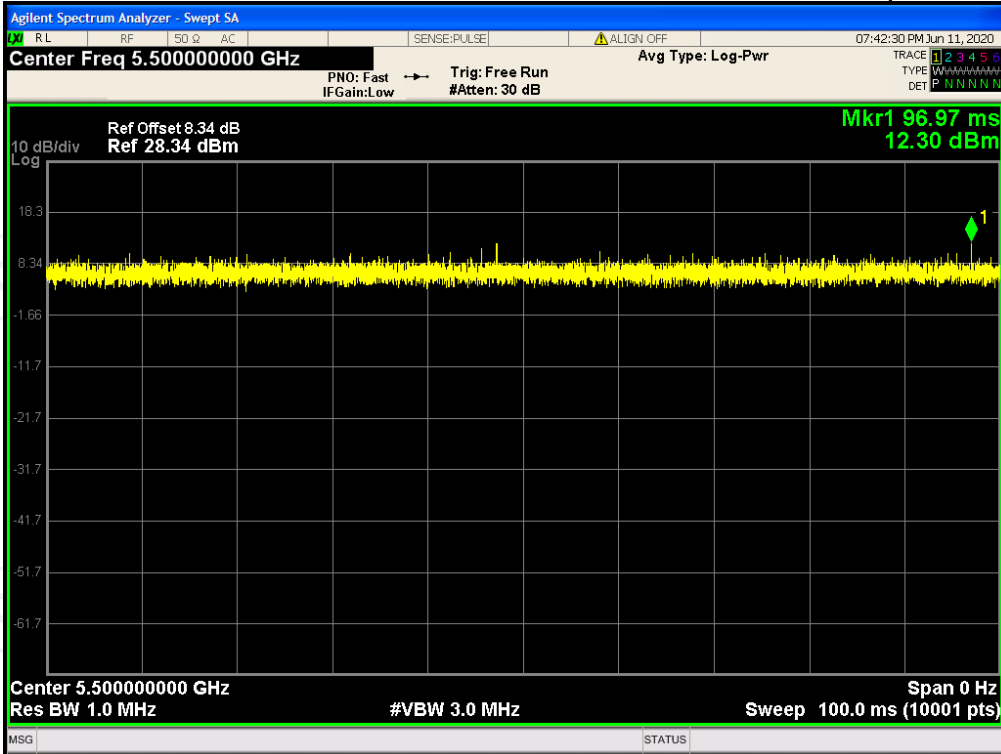
Duty Cycle NVNT 802.11n(HT20) 5300MHz



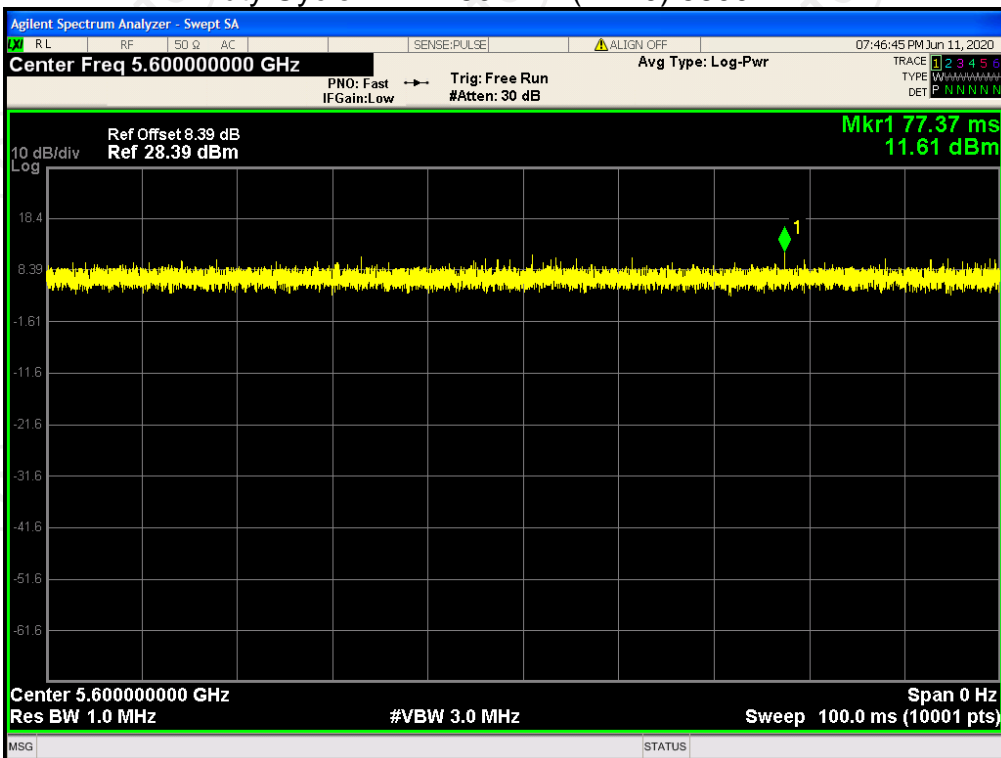
Duty Cycle NVNT 802.11n(HT20) 5320MHz



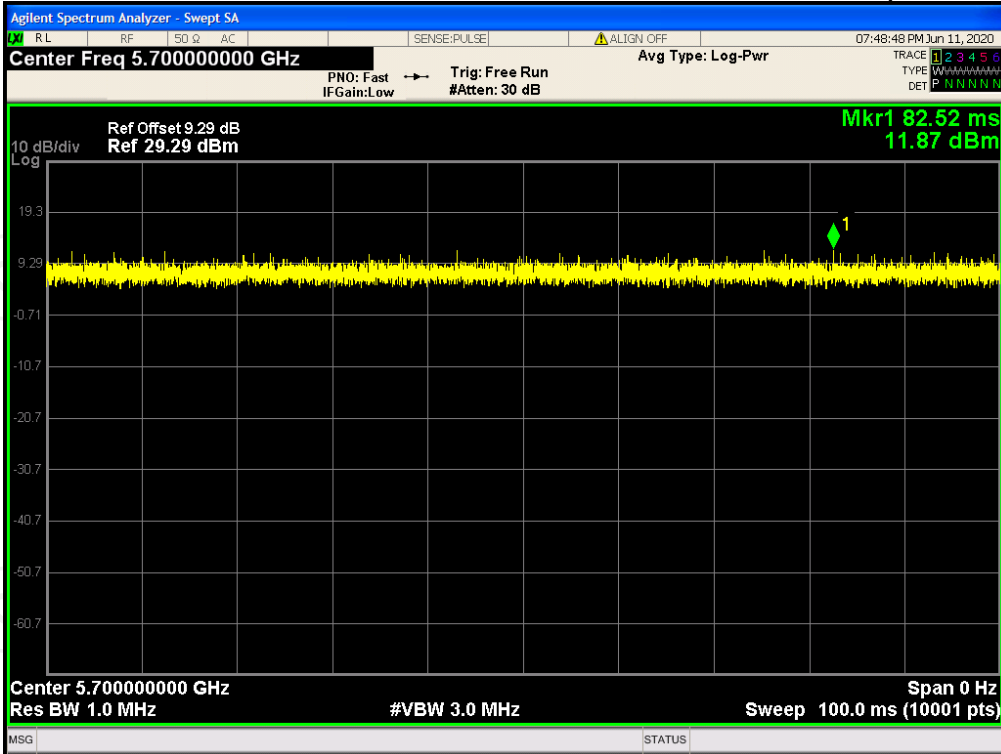
Duty Cycle NVNT 802.11n(HT20) 5500MHz



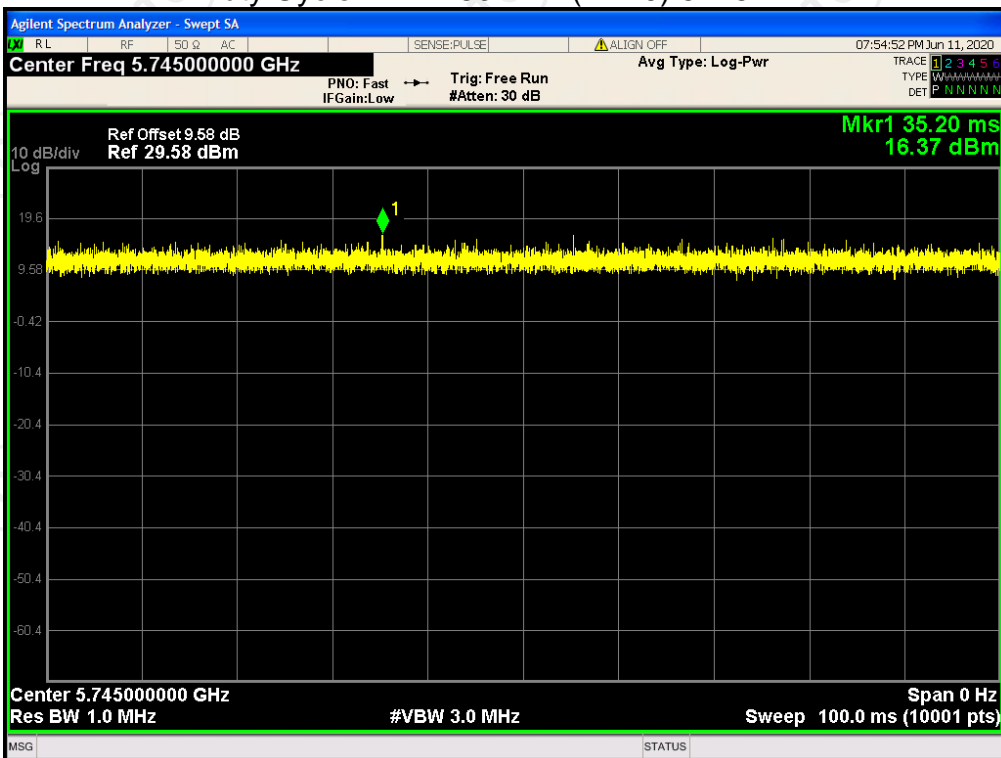
Duty Cycle NVNT 802.11n(HT20) 5600MHz



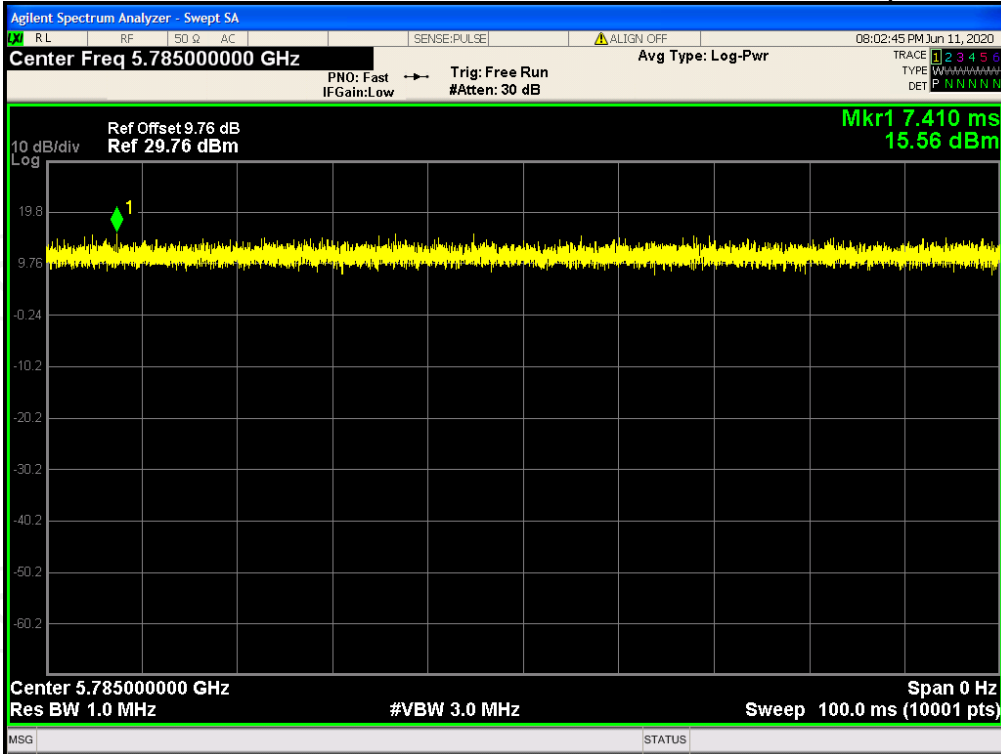
Duty Cycle NVNT 802.11n(HT20) 5700MHz



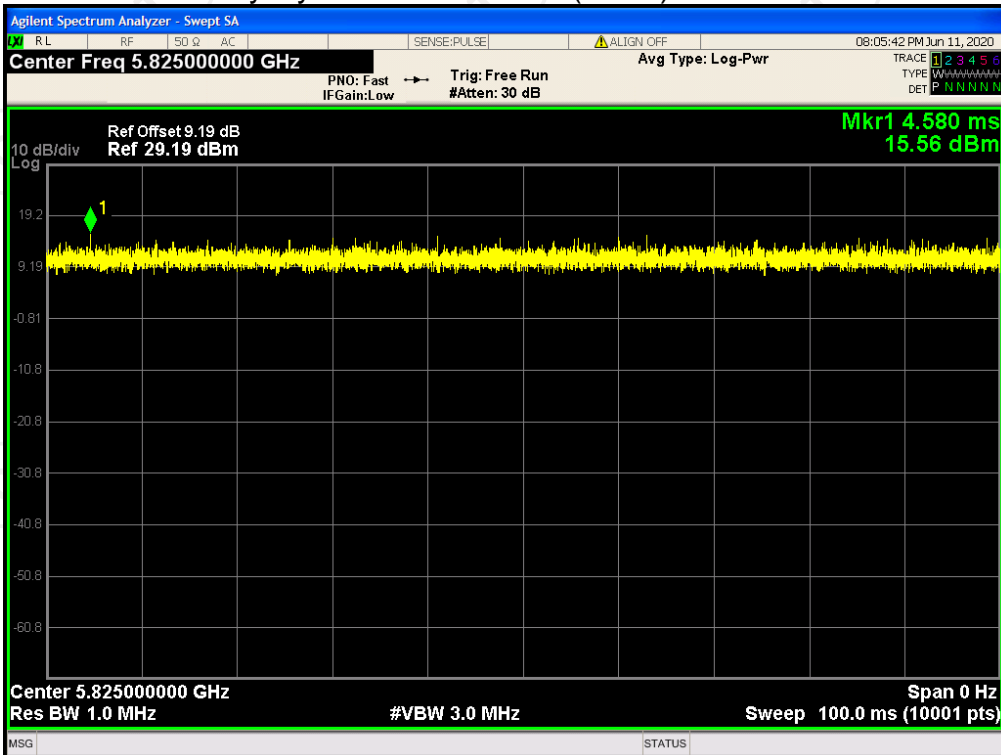
Duty Cycle NVNT 802.11n(HT20) 5745MHz



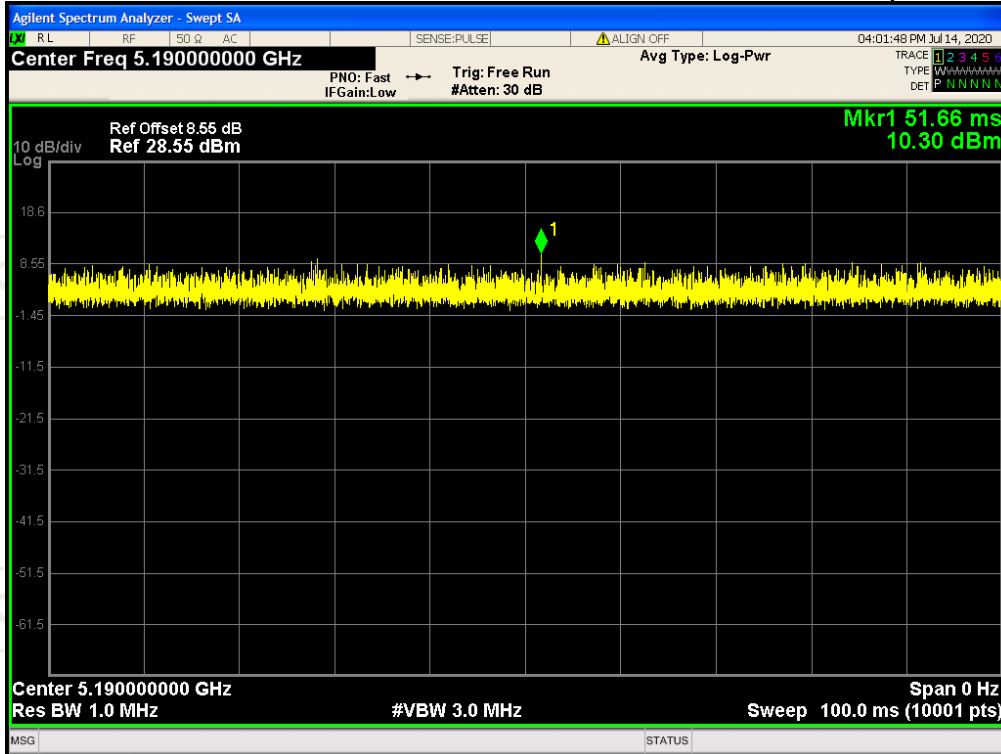
Duty Cycle NVNT 802.11n(HT20) 5785MHz



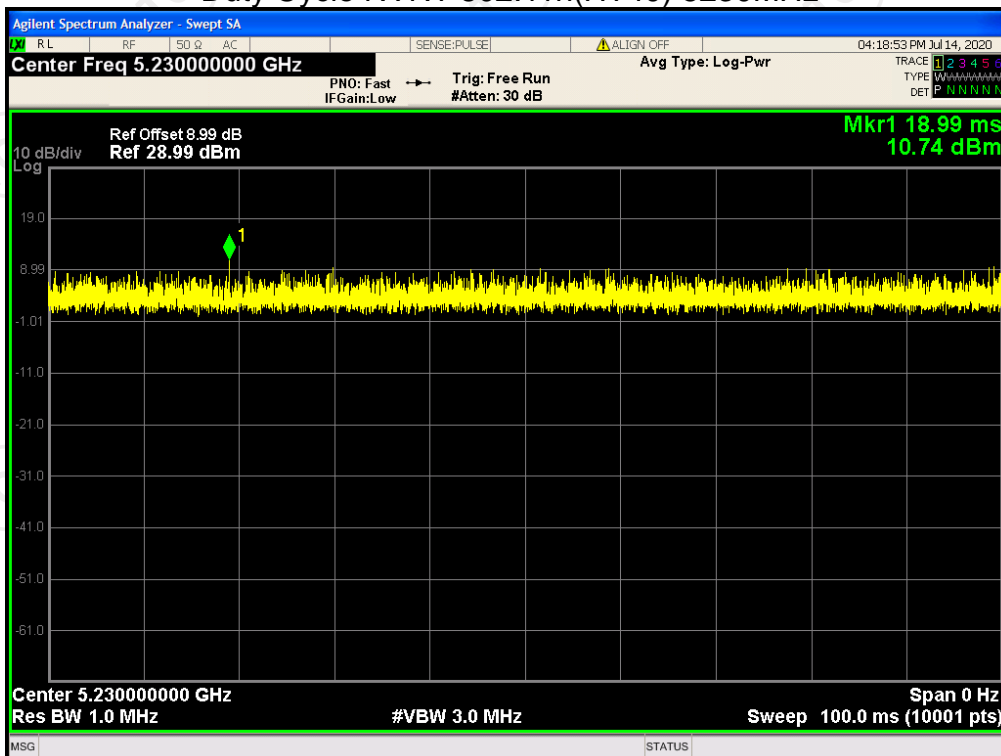
Duty Cycle NVNT 802.11n(HT20) 5825MHz



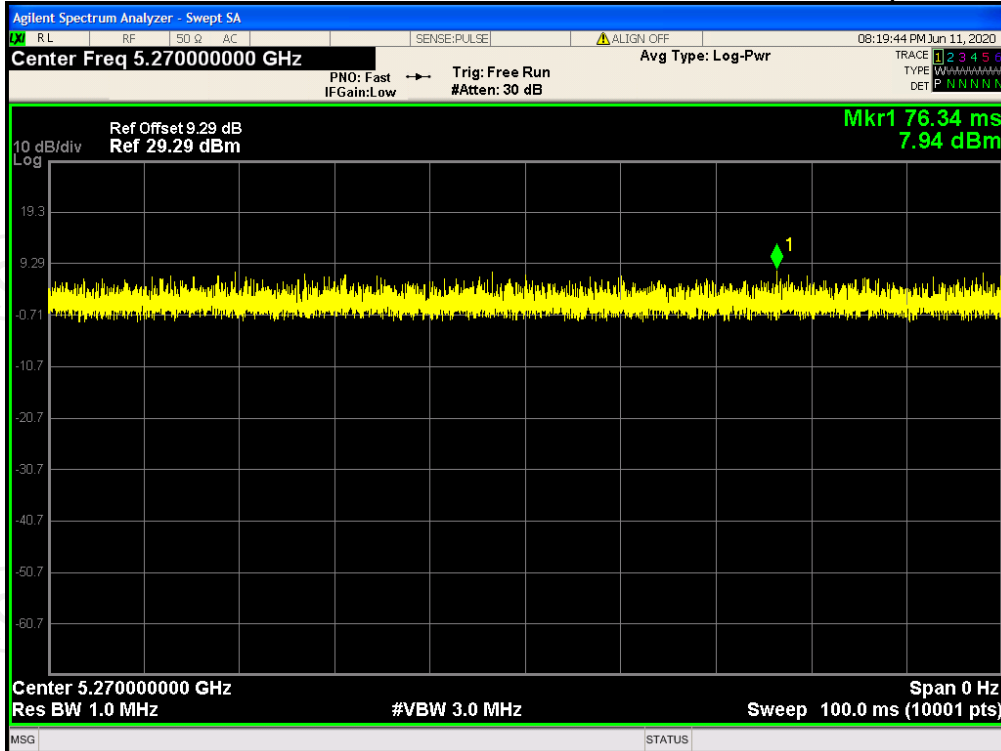
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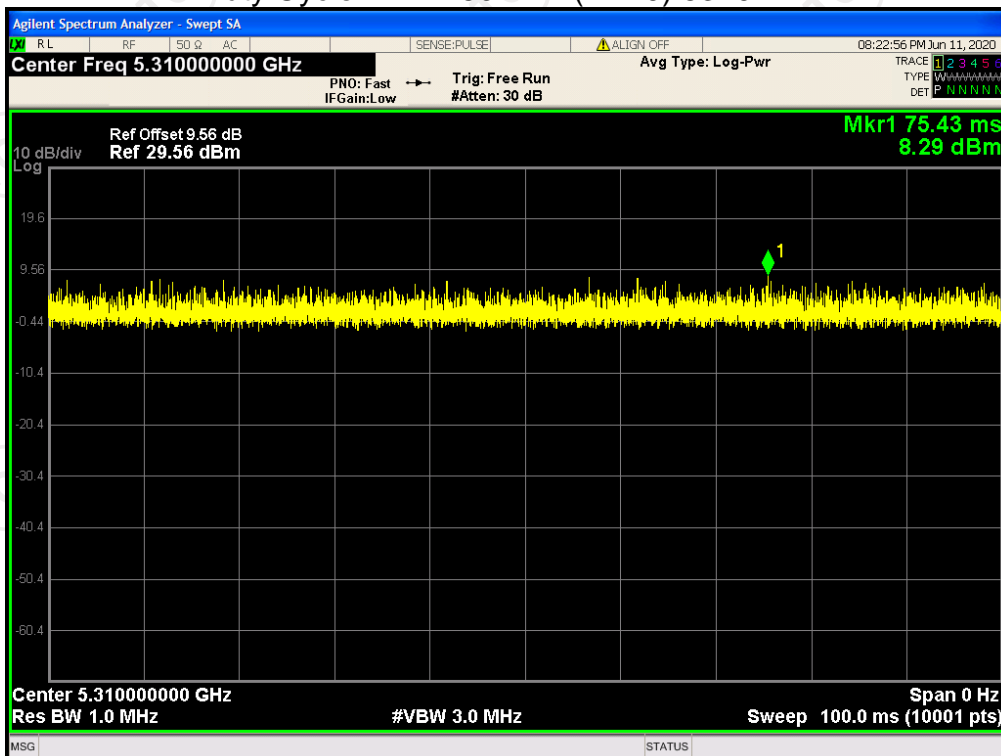
Duty Cycle NVNT 802.11n(HT40) 5230MHz



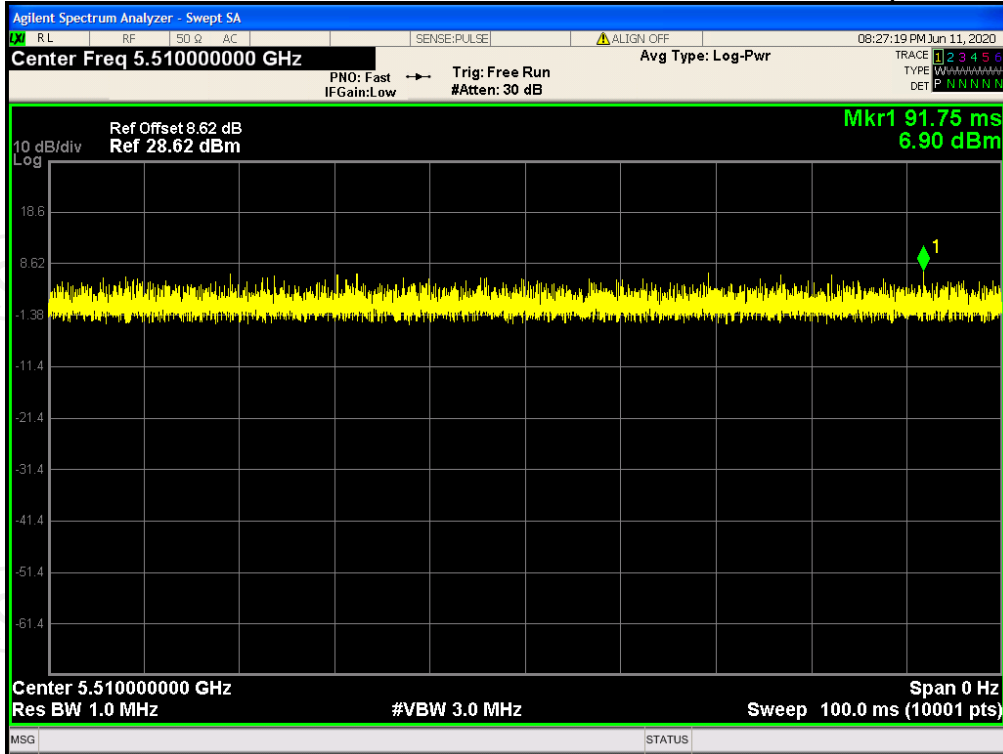
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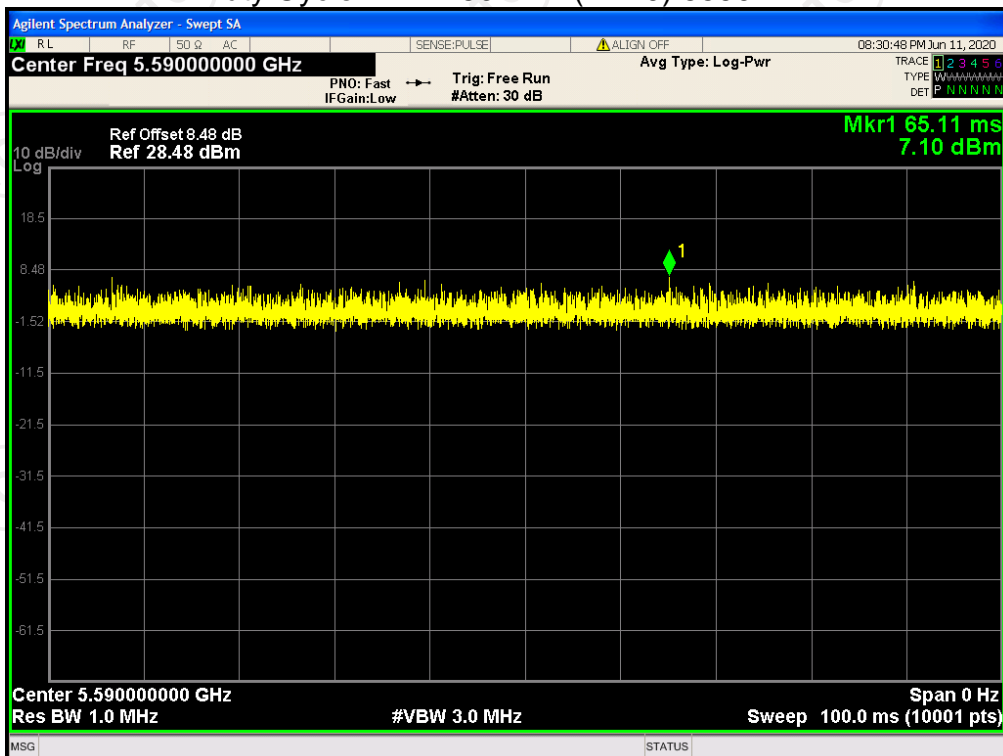
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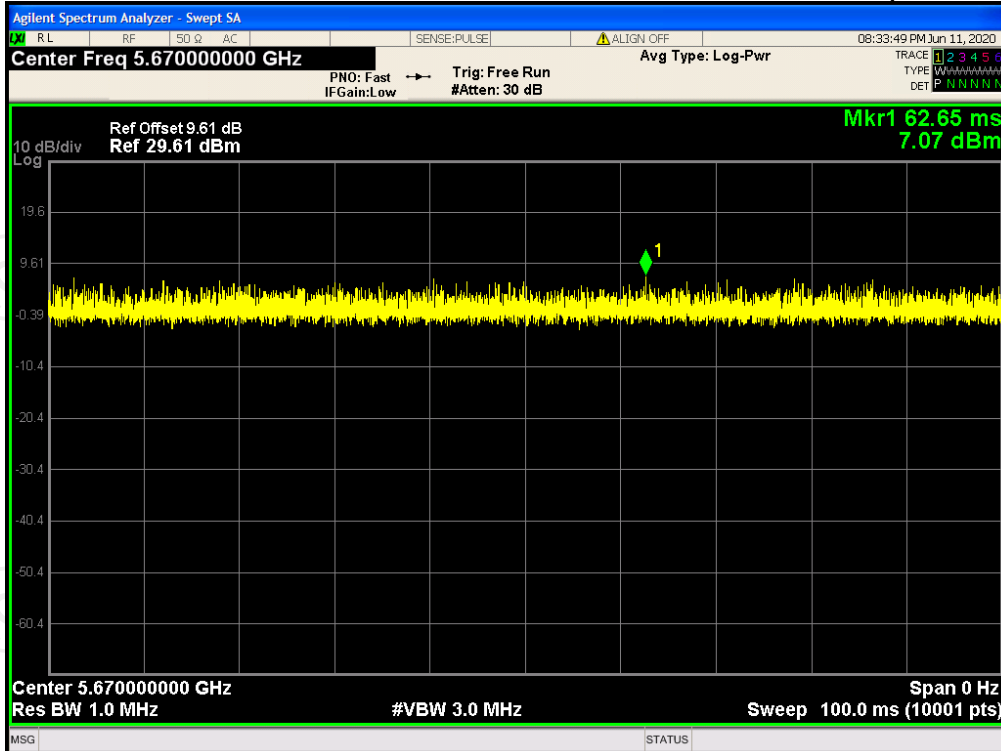
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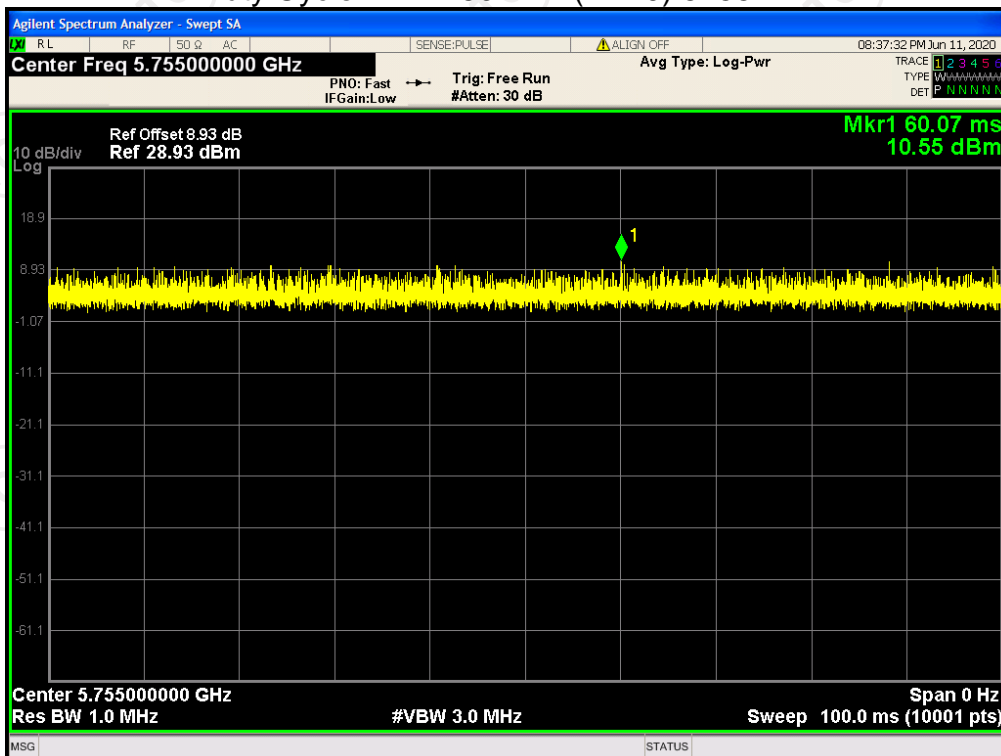
Duty Cycle NVNT 802.11n(HT40) 5590MHz



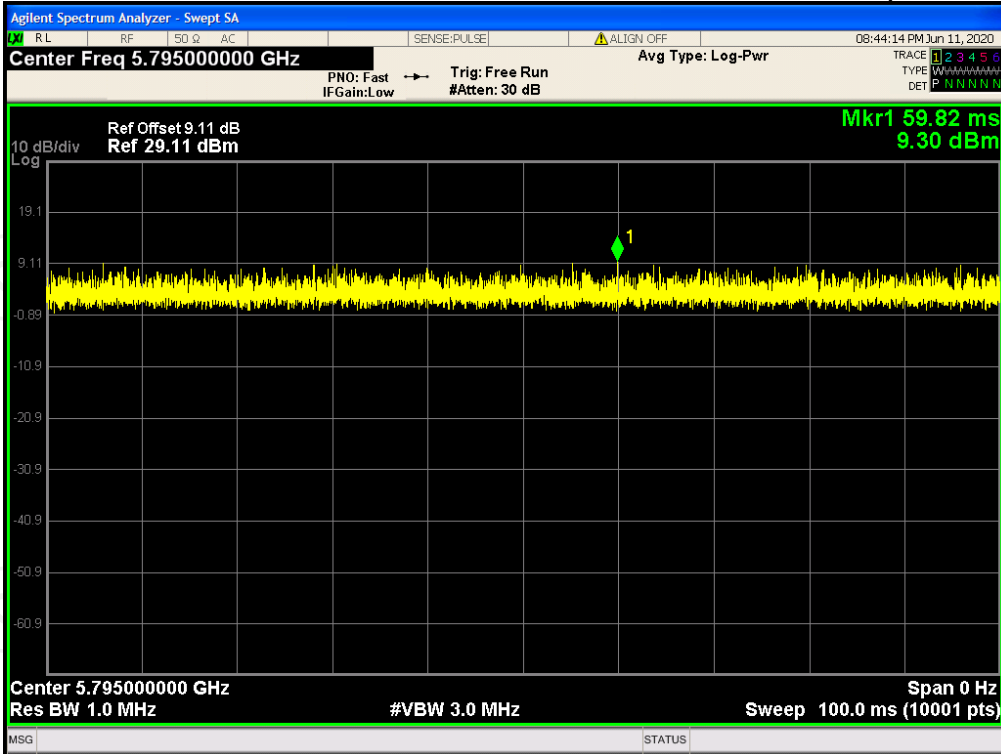
Duty Cycle NVNT 802.11n(HT40) 5670MHz



Duty Cycle NVNT 802.11n(HT40) 5755MHz



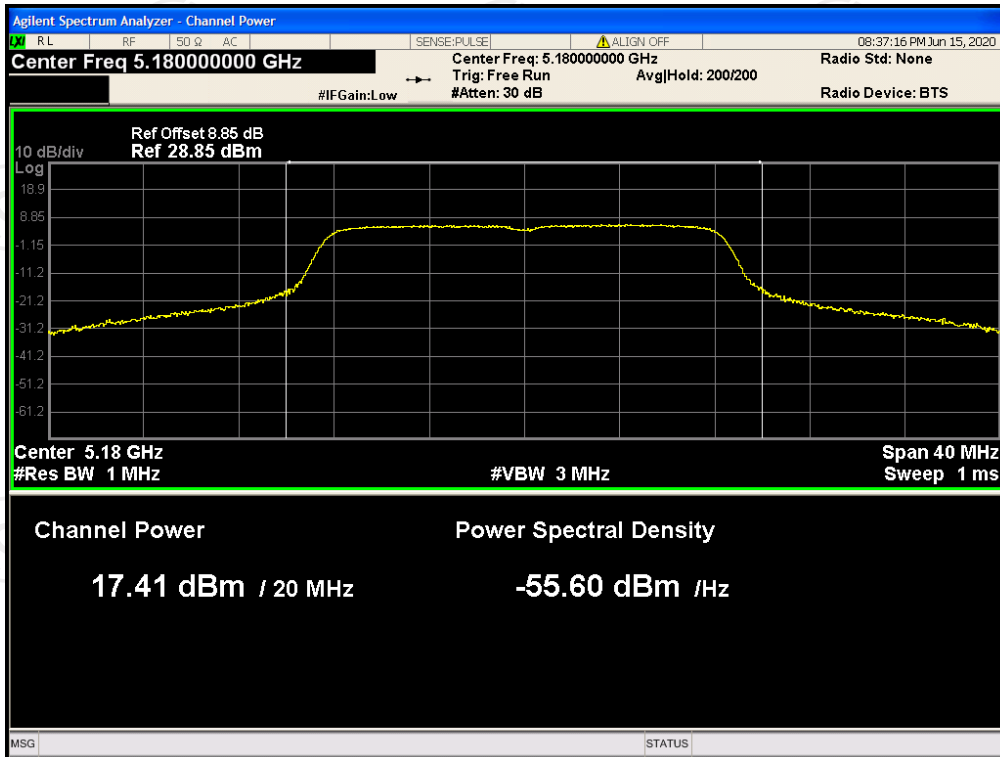
Duty Cycle NVNT 802.11n(HT40) 5795MHz



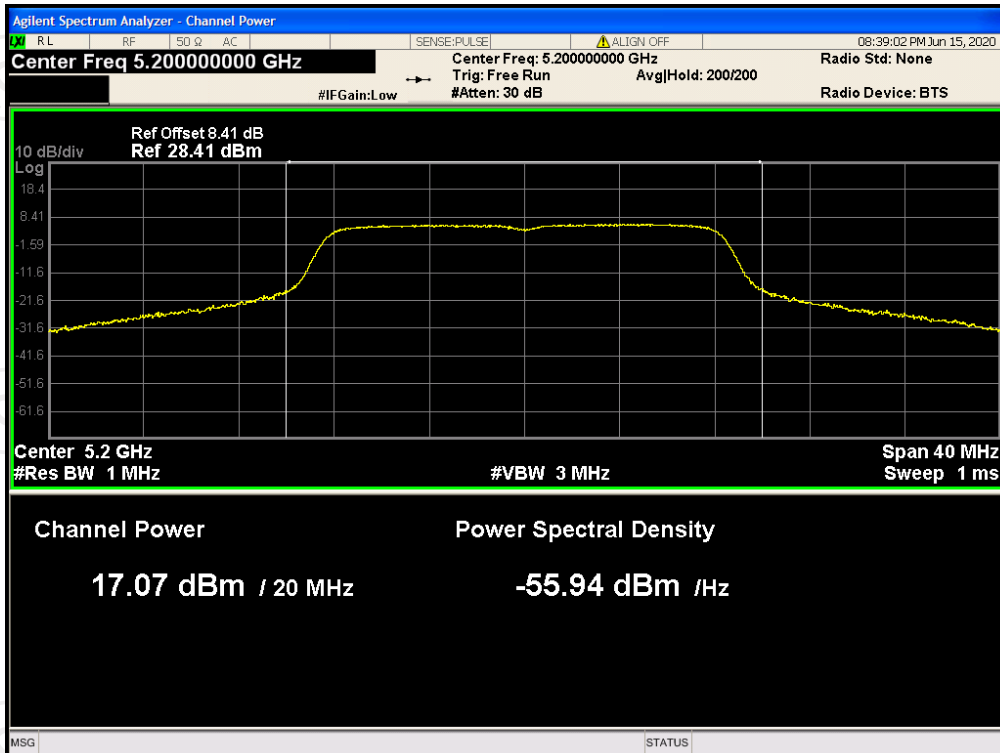
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5180	Ant0	17.41	0	17.41	30	Pass
NVNT	802.11a	5200	Ant0	17.07	0	17.07	30	Pass
NVNT	802.11a	5240	Ant0	17.24	0	17.24	30	Pass
NVNT	802.11a	5260	Ant0	17.98	0	17.98	24	Pass
NVNT	802.11a	5300	Ant0	17.56	0	17.56	24	Pass
NVNT	802.11a	5320	Ant0	17.49	0	17.49	24	Pass
NVNT	802.11a	5500	Ant0	17.72	0	17.72	24	Pass
NVNT	802.11a	5600	Ant0	18.37	0	18.37	24	Pass
NVNT	802.11a	5700	Ant0	18.13	0	18.13	24	Pass
NVNT	802.11a	5745	Ant0	19.55	0	19.55	30	Pass
NVNT	802.11a	5785	Ant0	20.02	0	20.02	30	Pass
NVNT	802.11a	5825	Ant0	18.85	0	18.85	30	Pass
NVNT	802.11n(HT20)	5180	Ant0	17.85	0	17.85	30	Pass
NVNT	802.11n(HT20)	5200	Ant0	17.50	0	17.50	30	Pass
NVNT	802.11n(HT20)	5240	Ant0	17.89	0	17.89	30	Pass
NVNT	802.11n(HT20)	5260	Ant0	15.36	0	15.36	24	Pass
NVNT	802.11n(HT20)	5300	Ant0	14.96	0	14.96	24	Pass
NVNT	802.11n(HT20)	5320	Ant0	15.68	0	15.68	24	Pass
NVNT	802.11n(HT20)	5500	Ant0	14.94	0	14.94	24	Pass
NVNT	802.11n(HT20)	5600	Ant0	14.85	0	14.85	24	Pass
NVNT	802.11n(HT20)	5700	Ant0	15.32	0	15.32	24	Pass
NVNT	802.11n(HT20)	5745	Ant0	19.27	0	19.27	30	Pass
NVNT	802.11n(HT20)	5785	Ant0	19.43	0	19.43	30	Pass
NVNT	802.11n(HT20)	5825	Ant0	18.89	0	18.89	30	Pass
NVNT	802.11n(HT40)	5190	Ant0	17.54	0	17.54	30	Pass
NVNT	802.11n(HT40)	5230	Ant0	17.44	0	17.44	30	Pass
NVNT	802.11n(HT40)	5270	Ant0	15.31	0	15.31	24	Pass
NVNT	802.11n(HT40)	5310	Ant0	15.35	0	15.35	24	Pass
NVNT	802.11n(HT40)	5510	Ant0	15.30	0	15.30	24	Pass
NVNT	802.11n(HT40)	5590	Ant0	15.14	0	15.14	24	Pass
NVNT	802.11n(HT40)	5670	Ant0	15.43	0	15.43	24	Pass
NVNT	802.11n(HT40)	5755	Ant0	17.97	0	17.97	30	Pass
NVNT	802.11n(HT40)	5795	Ant0	18.06	0	18.06	30	Pass

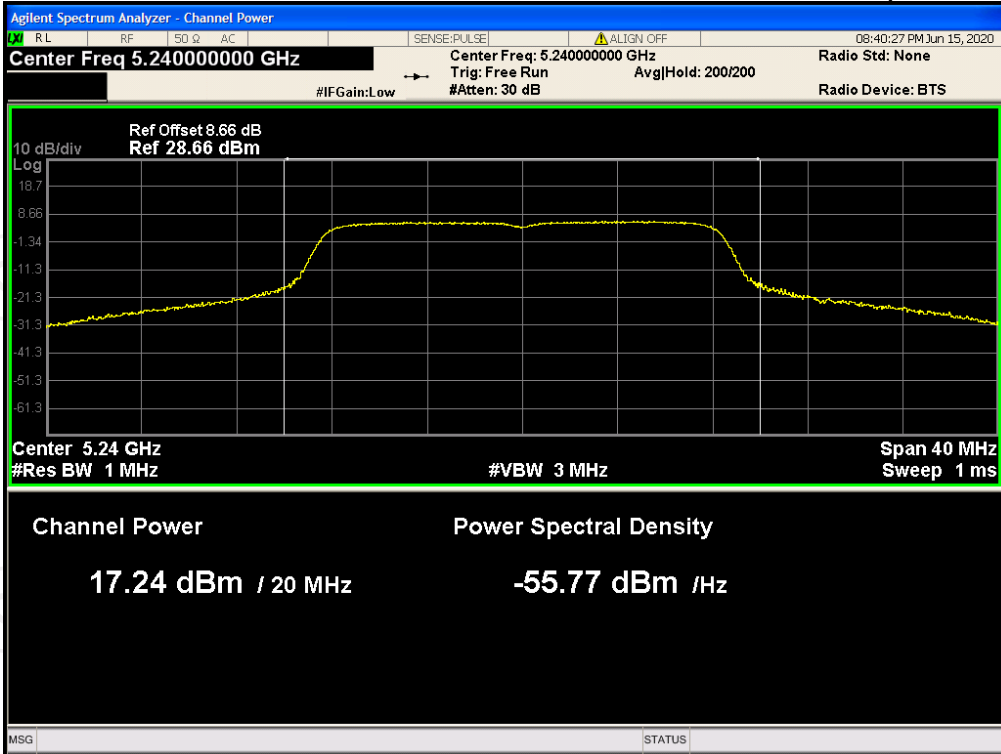
Power NVNT 802.11a 5180MHz Ant0



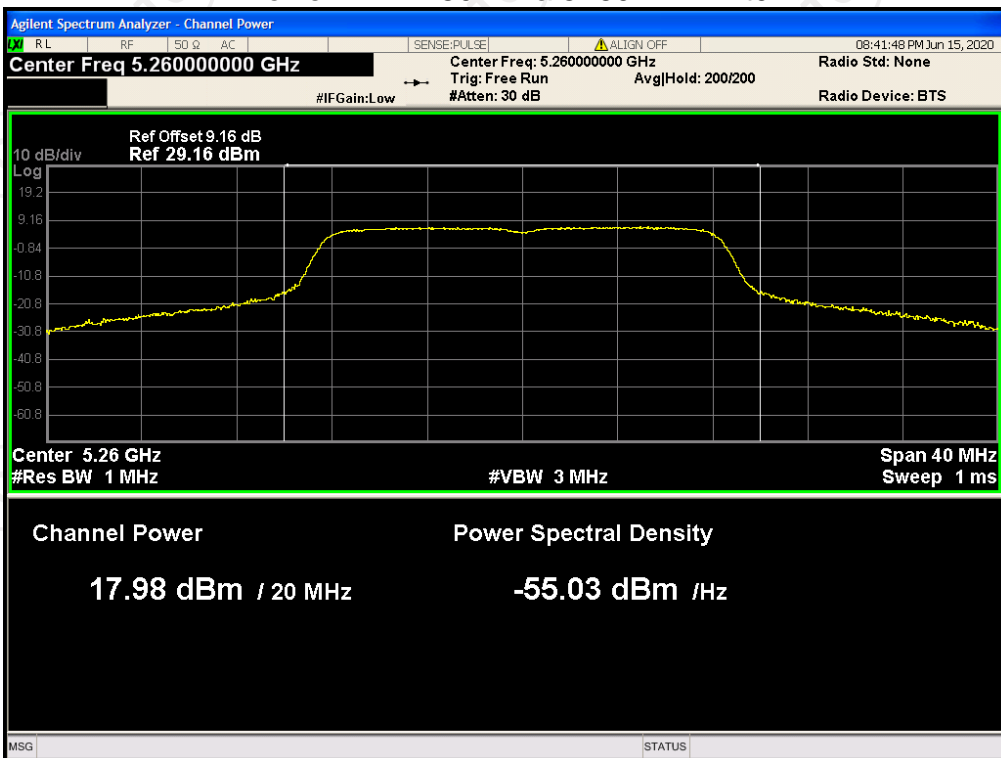
Power NVNT 802.11a 5200MHz Ant0



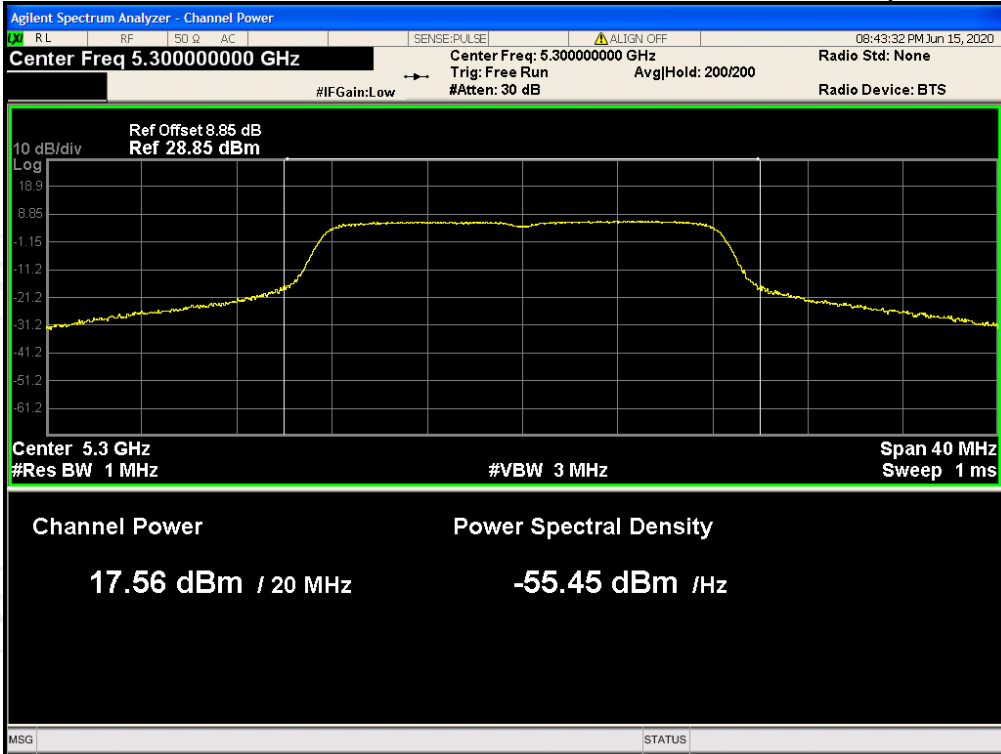
Power NVNT 802.11a 5240MHz Ant0



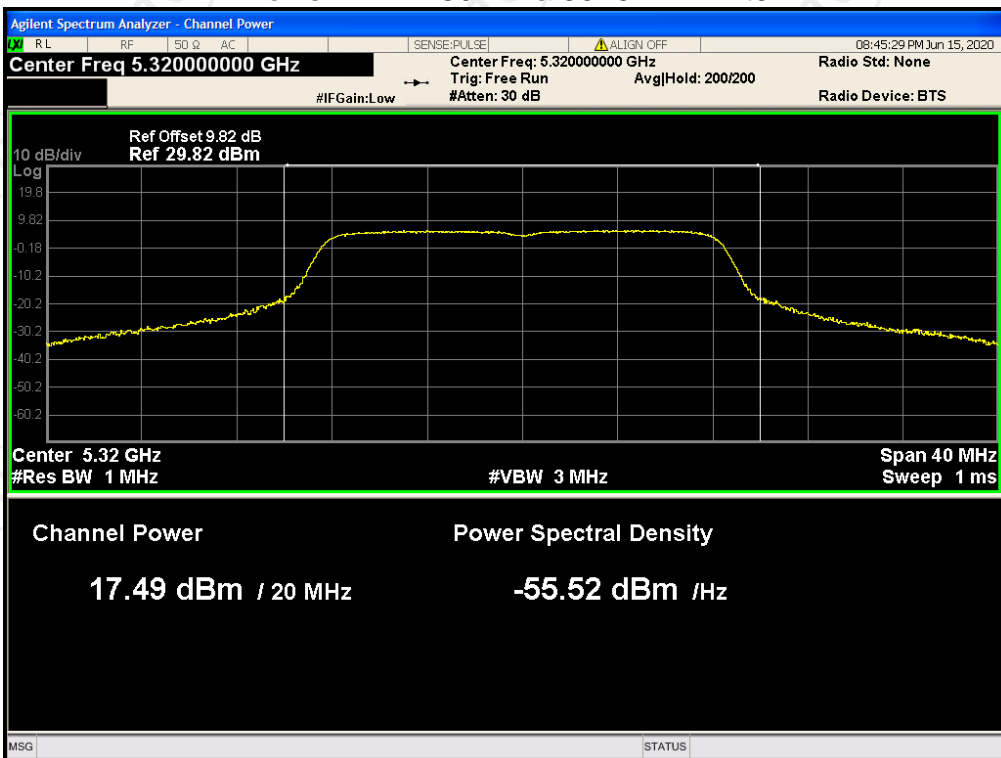
Power NVNT 802.11a 5260MHz Ant0



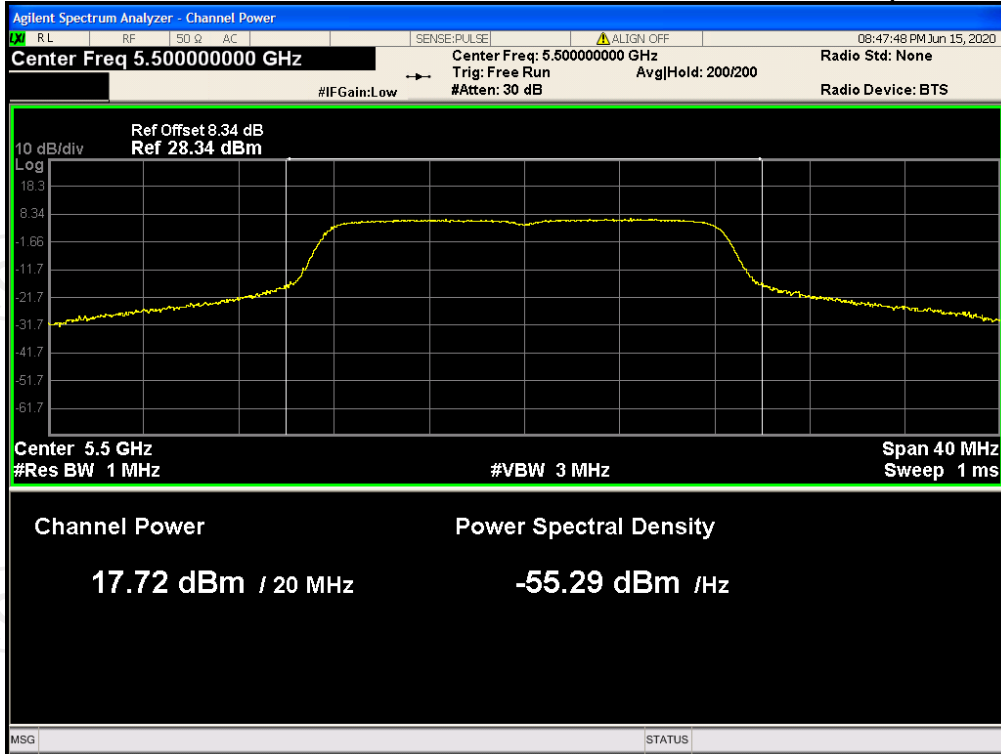
Power NVNT 802.11a 5300MHz Ant0



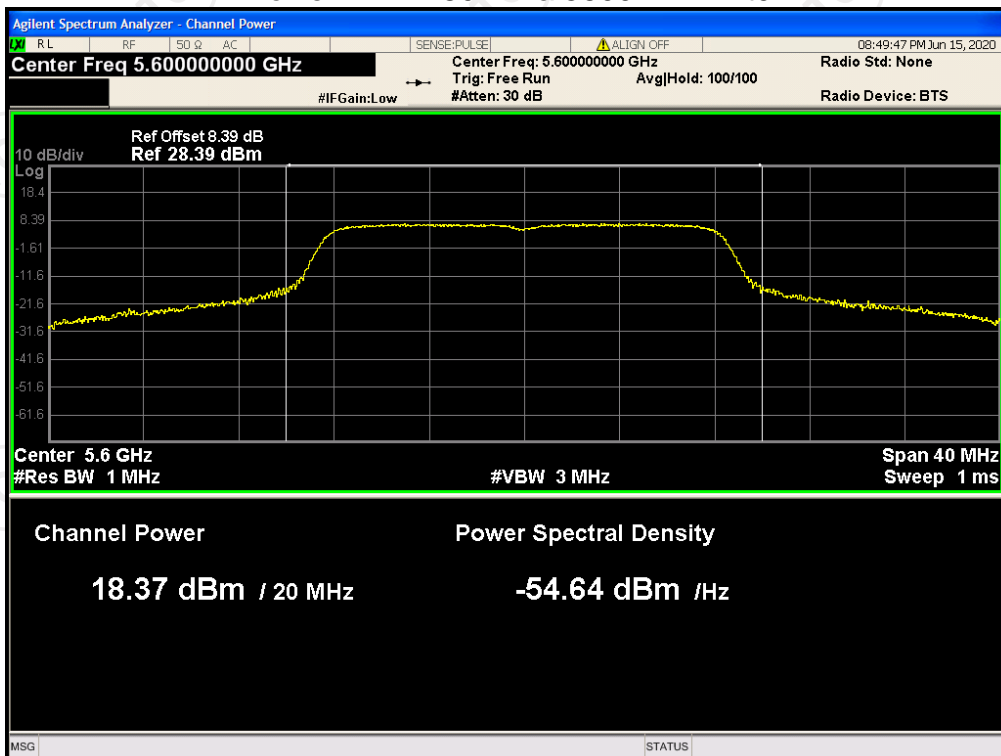
Power NVNT 802.11a 5320MHz Ant0



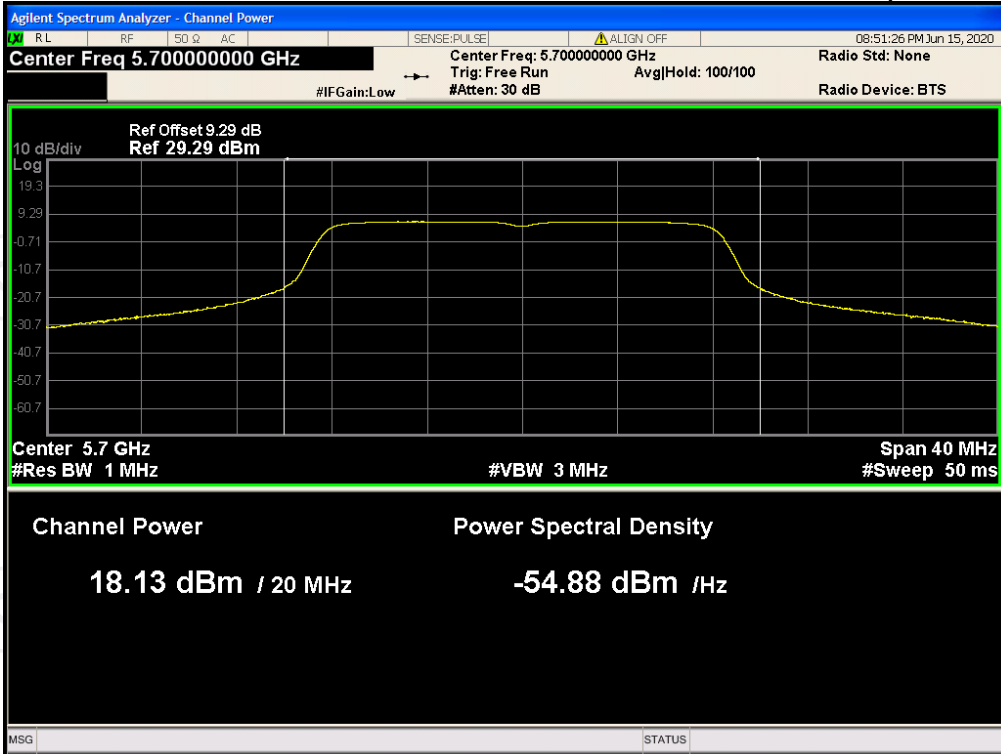
Power NVNT 802.11a 5500MHz Ant0



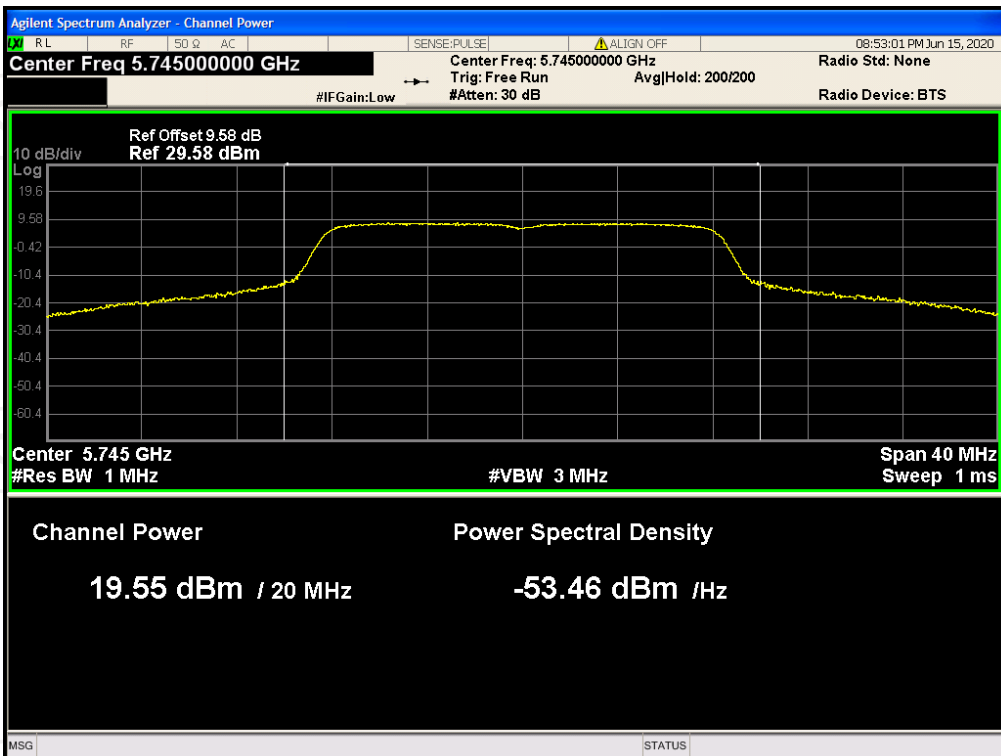
Power NVNT 802.11a 5600MHz Ant0



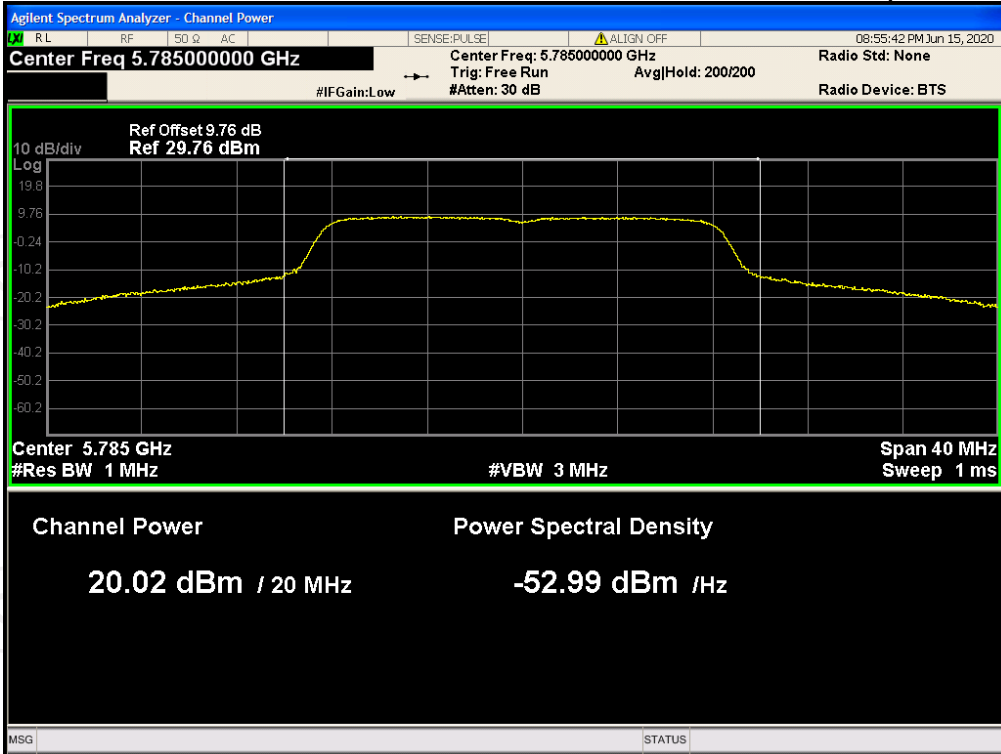
Power NVNT 802.11a 5700MHz Ant0



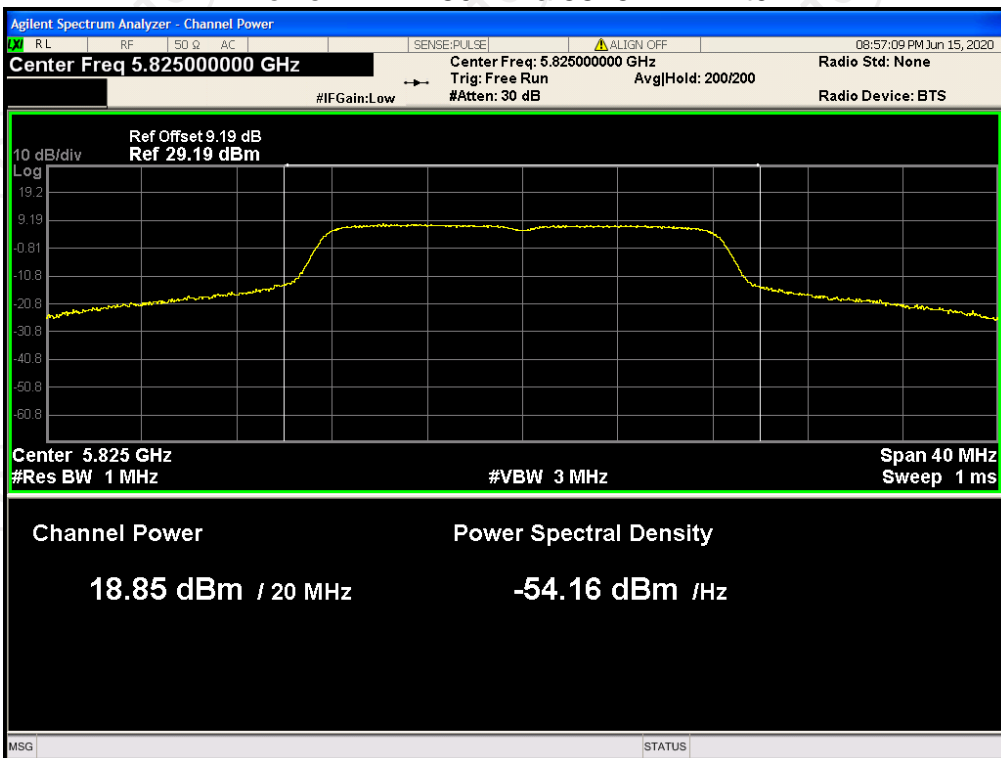
Power NVNT 802.11a 5745MHz Ant0



Power NVNT 802.11a 5785MHz Ant0



Power NVNT 802.11a 5825MHz Ant0



Power NVNT 802.11n(HT20) 5180MHz Ant0