

FCC PART 15E TEST REPORT FOR CERTIFICATION
On Behalf of

INMUSIC BRANDS INC

INTERNET RADIO PLAYER

Model Number: DN-350UI; DP28

FCC ID: Y4O-DP28

Prepared for:	INMUSIC BRANDS INC
	200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, RI
	02864, U.S.A.
Prepared By:	EST Technology Co., Ltd.
	San Tun Management Zone, Houjie District, Dongguan, China
	Tel: 86-769-83081888-808

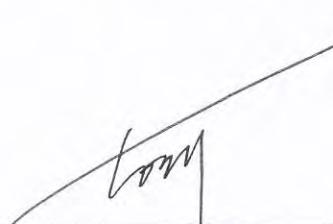
Report Number:	ESTE-R1708062
Date of Test:	May 10 ~ June 30, 2017
Date of Report:	July 03, 2017

TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
TEST REPORT VERIFICATION.....	3
1. GENERAL INFORMATION.....	5
1.1. Description of Device (EUT)	5
2. SUMMARY OF TEST	7
2.1. Test methodology	7
2.2. Summary of test result.....	7
2.3. Test Facilities	8
2.4. Measurement uncertainty for EST Technology Co., Ltd	9
2.5. Measurement uncertainty for Compliance Certification Services (Shenzhen) Inc.....	9
2.6. Assistant equipment used for test	9
2.7. Block Diagram	10
2.8. Test mode	11
2.9. Channel List	12
2.10. Test Equipment For EST Technology Co., Ltd.....	13
2.11. Test Equipment for Compliance Certification Services (Shenzhen) Inc.....	14
3. 26 DB BANDWIDTH	15
3.1. Limit	15
3.2. Test Procedure	15
3.3. Test Information	16
3.4. Test Result.....	16
3.5. Test Data	17
4. 6 DB BANDWIDTH	37
4.1. Limit	37
4.2. Test Procedure.....	37
4.3. Test Information	37
4.4. Test Result.....	37
4.5. Test Data	38
5. OUTPUT POWER	43
5.1. Limit	43
5.2. Test Procedure	44
5.3. Test Information	45
5.4. Test Result.....	45
6. PEAK POWER SPECTRAL DENSITY	46
6.1. Limit	46
6.2. Test Procedure	47
6.3. Test Information	48
6.4. Test Result.....	48
6.5. Test Data	49
7. FREQUENCY STABILITY.....	69
7.1. Limit	69
7.2. Test Procedure	69
7.3. Test Information	70
7.4. Test Result.....	70

8.	RADIATED SPURIOUS EMISSIONS	79
8.1.	Limit.....	79
8.2.	Block Diagram of Test setup.....	80
8.3.	Test Procedure.....	81
8.4.	Test Result.....	81
8.5.	Test Data	82
9.	CONDUCTED UNWANTED EMISSIONS.....	118
9.1.	Limit	118
9.2.	Test Procedure.....	118
9.3.	Test Result.....	118
9.4.	Test Data	119
10.	BAND EDGE COMPLIANCE	128
10.1.	Limit.....	128
10.2.	Block Diagram of Test setup.....	128
10.3.	Test Procedure.....	128
10.4.	Test Result.....	129
10.5.	Test Data	130
11.	POWER LINE CONDUCTED EMISSIONS	142
11.1.	Limit.....	142
11.2.	Test Procedure.....	142
12.	ANTENNA REQUIREMENTS	147
12.1.	Limit.....	147
12.2.	Result.....	147

EST Technology Co., Ltd.

Applicant:	INMUSIC BRANDS INC 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, RI 02864, U.S.A.		
Manufacturer:	INMUSIC BRANDS INC 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, RI 02864, U.S.A.		
E.U.T:	INTERNET RADIO PLAYER DN-350UI; DP28		
Model Number:	Note: The two models have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, except the different model number.		
Power Supply:	AC 100-240V ~ 50/60Hz		
Test Voltage:	AC 120V/60Hz AC 240V/60Hz		
Trade Name:	DENON PROFESSIONAL	Serial No.:	-----
Date of Receipt:	May 10, 2017	Date of Test:	May 10 ~ June 30, 2017
Test Specification:	FCC Rules and Regulations Part 15 Subpart E:2016 ANSI C63.10:2013		
Test Result:	The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC Rules and Regulations Part 15 Subpart E requirements.		
This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.			
Date: July 03, 2017			
Prepared by:	Reviewed by:	Approved by:	
 Amy / Assistant	 Tony / Engineer	 Iceman (Hui) Manager	
Other Aspects: None.			
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
<i>This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.</i>			

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	INTERNET RADIO PLAYER
FCC ID	:	Y4O-DP28
Model Number	:	DN-350UI
Operation frequency	:	<p>UNII Band I: IEEE 802.11a: 5180 ~ 5240MHz; IEEE 802.11n HT20: 5180 ~ 5240MHz; IEEE 802.11n HT40: 5190 ~ 5230MHz.</p> <p>UNII Band II: IEEE 802.11a: 5260 ~ 5320MHz; IEEE 802.11n HT20: 5260 ~ 5320MHz; IEEE 802.11n HT40: 5270 ~ 5310MHz.</p> <p>UNII Band III: IEEE 802.11a: 5500 ~ 5700MHz; IEEE 802.11n HT20: 5500 ~ 5700MHz; IEEE 802.11n HT40: 5510 ~ 5670MHz.</p> <p>UNII Band IV: IEEE 802.11a: 5745 ~ 5825MHz; IEEE 802.11n HT20: 5745 ~ 5825MHz; IEEE 802.11n HT40: 5755 ~ 5795MHz.</p>
Number of channel	:	<p>UNII Band I: IEEE 802.11a: 4 Channels; IEEE 802.11n HT20: 4 Channels; IEEE 802.11n HT40: 2 Channels.</p> <p>UNII Band II: IEEE 802.11a: 4 Channels; IEEE 802.11n HT20: 4 Channels; IEEE 802.11n HT40: 2 Channels.</p> <p>UNII Band III: IEEE 802.11a: 8 Channels; IEEE 802.11n HT20: 8 Channels; IEEE 802.11n HT40: 3 Channels.</p> <p>UNII Band IV: IEEE 802.11a: 5 Channels; IEEE 802.11n HT20: 5 Channels; IEEE 802.11n HT40: 2 Channels.</p>
Modulation	:	OFDM(QPSK, BPSK, 16-QAM, 64-QAM)
Transmit Data Rate	:	IEEE 802.11a: 48, 36, 24, 18, 12, 9, 6Mbps; IEEE 802.11n HT20: MCS0 ~ MCS7; IEEE 802.11n HT40: MCS0 ~ MCS7

Channels Spacing	:	IEEE 802.11a: 20MHz; IEEE 802.11n HT20: 20MHz; IEEE 802.11n HT40: 40MHz.	
Antenna	:	External antenna	
		Frequency Range	
		2400~2483.5 MHz	Antenna 0 4.0 dBi
		5150~5875 MHz	5.5 dBi
Transmit Power	:	UNII Band I: IEEE 802.11a: 4 Channels; IEEE 802.11n HT20: 4 Channels; IEEE 802.11n HT40: 2 Channels. UNII Band II: IEEE 802.11a: 4 Channels; IEEE 802.11n HT20: 4 Channels; IEEE 802.11n HT40: 2 Channels. UNII Band III: IEEE 802.11a: 8 Channels; IEEE 802.11n HT20: 8 Channels; IEEE 802.11n HT40: 3 Channels. UNII Band IV: IEEE 802.11a: 5 Channels; IEEE 802.11n HT20: 5 Channels; IEEE 802.11n HT40: 2 Channels.	
Sample Type	:	Prototype production	

2. SUMMARY OF TEST

2.1. Test methodology.

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10. Radiated testing was performed at an antenna to EUT distance 3 meters. The tests documented in this report were performed in accordance with ANSI C63.10: 2013 and FCC CFR 47 Part 15.207, 15.209, 15.407 and FCC 14-30. Radio testing was performed according to KDB DA 02-2138、KDB 789033 D02、KDB 905462 D06.

2.2. Summary of test result

Description of Test Item	Standard	Results
99%, 6dB and 26dB Bandwidth	FCC Part 15: 407(a) FCC Part 15: 407(e)	PASS ^{Note 2}
Maximum Conducted Output Power	FCC Part 15: 407(a)	PASS ^{Note 2}
Peak Power Spectral Density	FCC Part 15: 407(a)	PASS ^{Note 2}
Radiated Spurious Emissions	FCC Part 15: 407(b)	PASS ^{Note 1}
Conducted Unwanted Emissions	FCC Part 15: 407(b)	PASS ^{Note 2}
Band Edge Measurement	FCC Part 15: 407(b)	PASS ^{Note 1}
Frequency Stability	FCC Part 15: 407(g)	PASS ^{Note 2}
Power Line Conducted Emissions	FCC Part 15: 207 FCC Part 15: 407(b)(6)	PASS ^{Note 1}
Antenna requirement	FCC Part 15: 203 FCC Part 15: 407(a)	PASS

Note 1: These tests were witnessed in EST Technology Co., Ltd.
Note 2: These tests were witnessed in Compliance Certification Services (Shenzhen) Inc.

2.3. Test Facilities

EMC Lab	:	<p>Certificated by CNAS, CHINA Registration No.: L5288 Date of registration: December 07, 2015</p> <p>Certificated by FCC, USA Registration No.: 989591 Date of registration: November 15, 2016</p> <p>Certificated by Industry Canada Registration No.: 9405A-1 Date of registration: December 30, 2015</p> <p>Certificated by VCCI, Japan Registration No.: R-3663 & C-4103 Date of registration: July 25, 2014</p> <p>Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: February 07, 2015</p> <p>Certificated by TUV/PS, Shenzhen Registration No.: SCN1017 Date of registration: January 27, 2011</p> <p>Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L1-18 Date of registration: April 28, 2011</p> <p>Certificated by Siemic, Inc. Registration No.: SLCN021 Date of registration: November 8, 2011</p> <p>Certificated by Nemko, Hong Kong Registration No.: 175193 Date of registration: May 4, 2011</p>
Name of Firm	:	EST Technology Co., Ltd.
Site Location	:	San Tun Management Zone, Houjie Town, Dongguan, Guangdong, China
The Sub-contractor test site and location	:	Compliance Certification Services (Shenzhen) Inc. No.10-1 Mingkeda Logistics park, No.18, Huanguan South Rd., Guan Lan Town, Baoan District, Shenzhen, China

2.4. Measurement uncertainty for EST Technology Co., Ltd.

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.54dB
Uncertainty for Radiation Emission test (30MHz-1GHz)	3.62
Uncertainty for Radiation Emission test (1GHz to 18GHz)	4.86
Uncertainty for radio frequency	7×10-8
Uncertainty for conducted RF Power	0.20dB
Uncertainty for Power density test	0.26dB

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

2.5. Measurement uncertainty for Compliance Certification Services (Shenzhen) Inc.

Test Item	Uncertainty
RF Frequency	+/- 1 *10 ⁻⁵
RF Power Conducted	+/- 1.5 dB
RF Power Radiated	+/- 6 dB
Spurious emissions, Conducted	+/- 3 dB
Spurious emissions, Radiated	+/- 6 dB
Humidity	+/- 5%
Temperature	+/- 1 °C
Time	+/- 10%

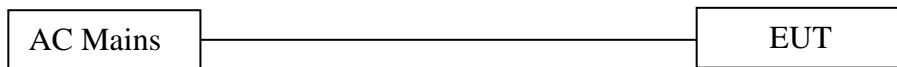
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2.6. Assistant equipment used for test

2.6.1. N/A

2.7. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 (or 1.5) meter high above ground. EUT was be set into Bluetooth test mode by software before test.



(EUT: INTERNET RADIO PLAYER)

2.8. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Band	Mode	Channel	Frequency (MHz)	Data rate
UNII Band I	IEEE 802.11a: 5180-5240MHz	Low	5180	6Mbps
		Middle	5200	6Mbps
		High	5240	6Mbps
	IEEE 802.11n HT20: 5180-5240MHz	Low	5180	MCS 0
		Middle	5200	MCS 0
		High	5240	MCS 0
	IEEE 802.11n HT40: 5190-5230MHz	Low	5190	MCS 0
		High	5230	MCS 0
UNII Band II	IEEE 802.11a: 5260-5320MHz	Low	5260	6Mbps
		Middle	5300	6Mbps
		High	5320	6Mbps
	IEEE 802.11n HT20: 5260-5320MHz	Low	5260	MCS 0
		Middle	5300	MCS 0
		High	5320	MCS 0
	IEEE 802.11n HT40: 5270-5310MHz	Low	5270	MCS 0
		High	5310	MCS 0
UNII Band III	IEEE 802.11a: 5500-5700MHz	Low	5500	6Mbps
		Middle	5580	6Mbps
		High	5700	6Mbps
	IEEE 802.11n HT20: 5500-5700MHz	Low	5500	MCS 0
		Middle	5580	MCS 0
		High	5700	MCS 0
	IEEE 802.11n HT40: 5510-5670MHz	Low	5510	MCS 0
		High	5670	MCS 0
UNII Band IV	IEEE 802.11a: 5745-5825MHz	Low	5745	6Mbps
		Middle	5785	6Mbps
		High	5825	6Mbps
	IEEE 802.11n HT20: 5745-5825MHz	Low	5745	MCS 0
		Middle	5785	MCS 0
		High	5825	MCS 0
	IEEE 802.11n HT40: 5755-5795MHz	Low	5755	MCS 0
		High	5795	MCS 0

2.9. Channel List

Band	Mode	Channel	Frequency (MHz)
UNII Band I	IEEE 802.11a, IEEE 802.11n HT20: 5180-5240MHz	36	5180
		40	5200
		44	5220
		48	5240
	IEEE 802.11n HT40: 5190-5230MHz	38	5190
		46	5230
UNII Band II	IEEE 802.11a, IEEE 802.11n HT20: 5260-5320MHz	52	5260
		56	5280
		60	5300
		64	5320
	IEEE 802.11n HT40: 5270-5310MHz	54	5270
		62	5310
UNII Band III	IEEE 802.11a, IEEE 802.11n HT20: 5500-5700MHz	100	5500
		104	5520
		108	5540
		112	5560
		116	5580
		132	5660
		136	5680
		140	5700
		102	5510
		110	5550
	IEEE 802.11n HT40: 5510-5670MHz	134	5670
UNII Band IV	IEEE 802.11a, IEEE 802.11n HT20: 5745-5825MHz	149	5745
		153	5765
		157	5785
		161	5805
		165	5825
	IEEE 802.11n HT40: 5755-5795MHz	151	5755
		159	5795

2.10. Test Equipment For EST Technology Co., Ltd.

2.10.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	June 17,17	1 Year
Artificial Mains Network	Rohde & Schwarz	ENV216	101260	June 17,17	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101100	June 17,17	1 Year

2.10.2. For radiated emission test(9 kHz-30MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI	100435	June 17,17	1 Year
Loop Antenna	ETS-LINDGREN	6502	00071730	June 08,17	1 Year
RF Cable	MIYAZAKI	5D-2W	966 Chamber No.1	June 17,17	1 Year

2.10.3. For radiated emissions test (30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESVS10	100004	June 17,17	1 Year
Spectrum Analyzer	Agilent	E4411B	MY50140697	June 17,17	1 Year
Bilog Antenna	Teseq	CBL 6111D	27090	June 08,17	1 Year
Signal Amplifier	Agilent	310N	187037	June 17,17	1 Year
RF Cable	MIYAZAKI	5D-2W	966 Chamber No.1	June 17,17	1 Year

2.10.4. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	BBHA9120D1 002	June 08,17	1 Year
Board-Band Horn Antenna	SCHWARZB ECK	BBHA 9170	9170-497	June 08,17	1 Year
Signal Amplifier	SCHWARZB ECK	BBV9718	9718-212	June 17,17	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	June 17,17	1 Year
Spectrum Analyzer	Rohde &Schwarz	FSV	103173	June 17,17	1 Year
RF Cable	Hubersuhner	RG 214/U	513423	June 17,17	1 Year

2.11. Test Equipment for Compliance Certification Services (Shenzhen) Inc.

2.11.1. For Bandwidth, Power, Power Spectral Density and Frequency Stability test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	N9010A	MY52221469	Feb. 21,17	1 Year
Spectrum Analyzer	Rohde &Schwarz	ESR	100783	Feb. 21,17	1 Year
Power Meter	Anritsu	ML2495A	1204003	Feb. 21,17	1 Year
Power Sensor	Anritsu	MA2411B	1126150	Feb. 21,17	1 Year
AC POWER SOURCE	UMART	HPA1010	N/A	N.C.R	N.C.R
Temperature Chamber	TERCHY	MHG-800N	E21104	Nov. 18,16	1 Year

3. 26 DB BANDWIDTH

3.1. Limit

No Limit.

3.2. Test Procedure

- a, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- b, Place the EUT on the table and set it in the transmitting mode.
- c, Set the spectrum analyzer as RBW > 1%EBW.
- d, Set the VBW > RBW.
- e, Set the Span >26dB bandwidth.
- f, Set the Trace mode = Max hold.
- g, Set the Detector = Peak.
- h, Set the Sweep = auto.
- i, Mark the peak frequency and -26dB (upper and lower) frequency.
- j, Repeat until all the rest channels were investigated.

3.3. Test Information

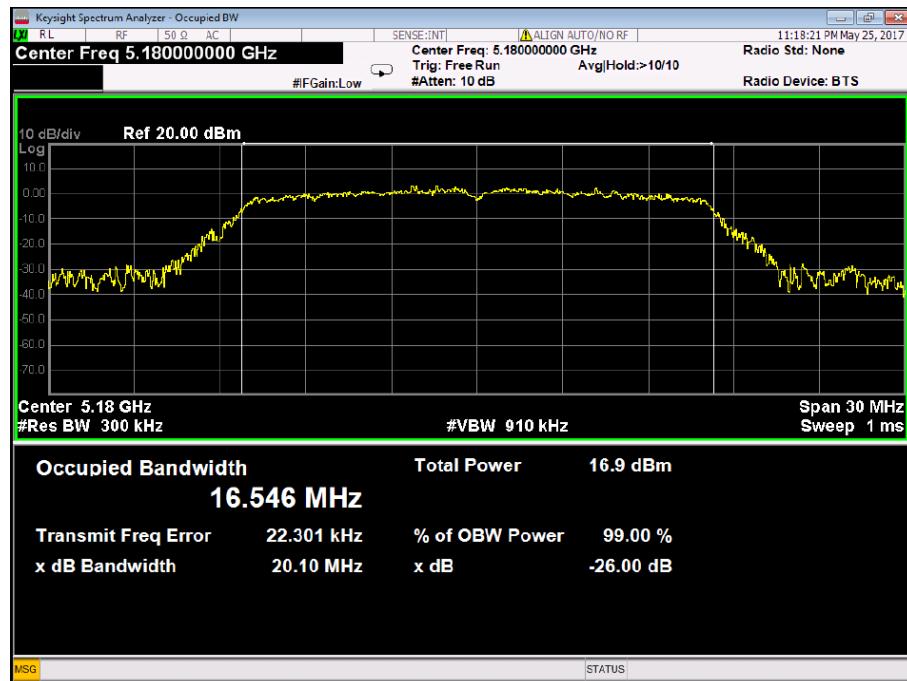
EUT: INTERNET RADIO PLAYER				
M/N: DN-350UI				
Test date: 2017-05-25		Test site: RF sit		Tested by: Sunny

3.4. Test Result

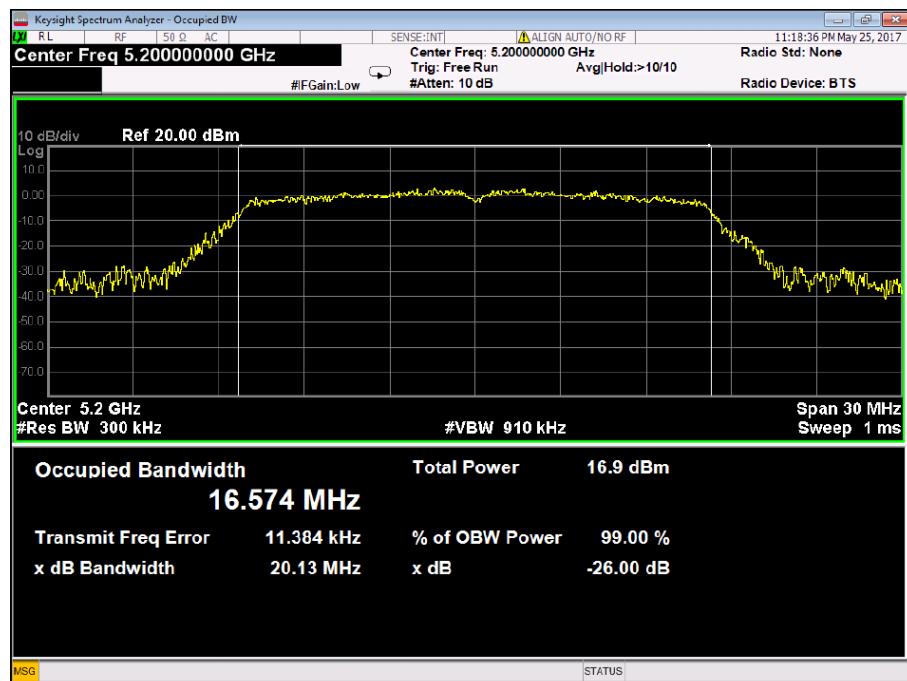
Band	Mode	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
UNII Band I	IEEE 802.11a: 5180-5240MHz	Low	5180	20.10
		Middle	5200	20.13
		High	5240	20.11
	IEEE 802.11n HT20: 5180-5240MHz	Low	5180	20.17
		Middle	5200	20.32
		High	5240	20.28
	IEEE 802.11n HT40: 5190-5230MHz	Low	5190	40.60
		High	5230	40.75
	IEEE 802.11a: 5260-5320MHz	Low	5260	20.20
		Middle	5300	20.33
		High	5320	20.20
	IEEE 802.11n HT20: 5260-5320MHz	Low	5260	20.29
		Middle	5300	20.56
		High	5320	20.22
	IEEE 802.11n HT40: 5270-5310MHz	Low	5270	39.97
		High	5310	40.56
UNII Band III	IEEE 802.11a: 5500-5700MHz	Low	5500	20.13
		Middle	5580	20.18
		High	5700	20.14
	IEEE 802.11n HT20: 5500-5700MHz	Low	5500	20.28
		Middle	5580	20.29
		High	5700	20.44
	IEEE 802.11n HT40: 5510-5670MHz	Low	5510	40.14
		High	5670	40.37
UNII Band IV	IEEE 802.11a: 5745-5785MHz	Low	5745	19.97
		Middle	5785	20.02
		High	5825	20.32
	IEEE 802.11n HT20: 5745-5785MHz	Low	5745	20.34
		Middle	5785	20.33
		High	5825	20.44
	IEEE 802.11n HT40: 5755-5795MHz	Low	5755	40.30
		High	5795	40.72

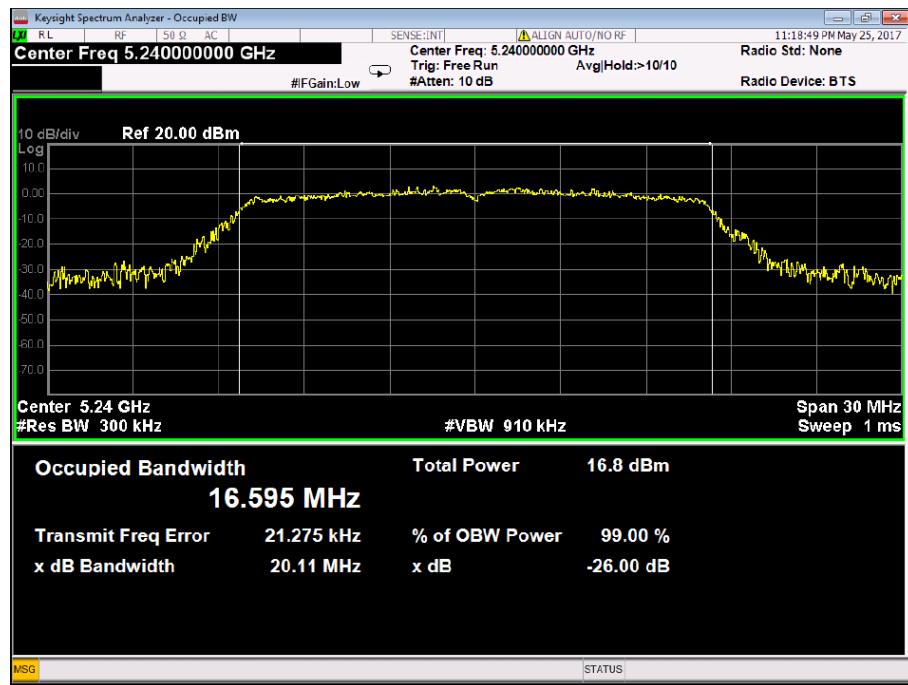
3.5. Test Data

UNII Band I IEEE 802.11a 5180 MHz

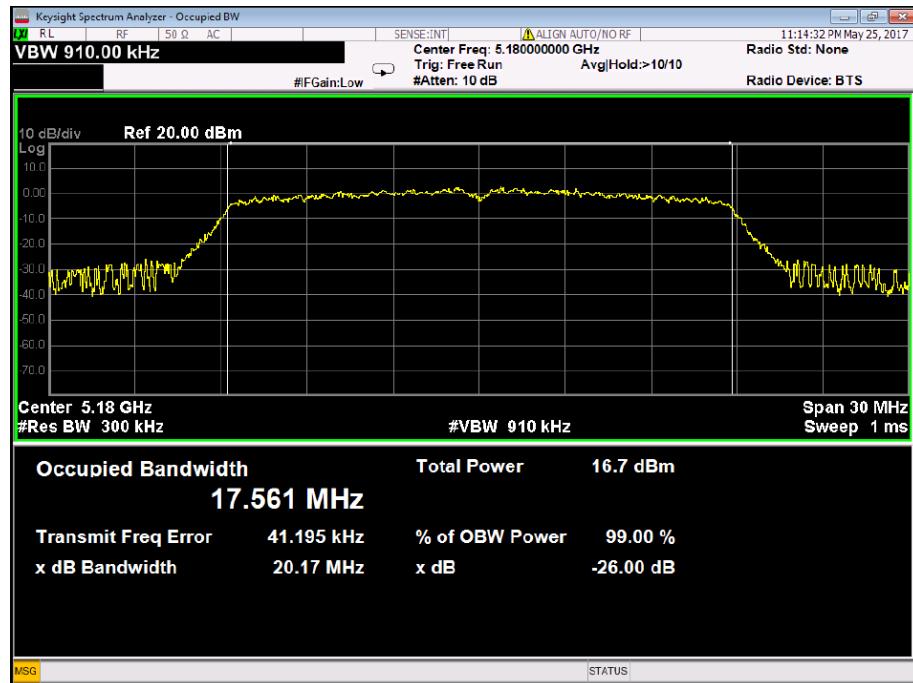


IEEE 802.11a 5200 MHz

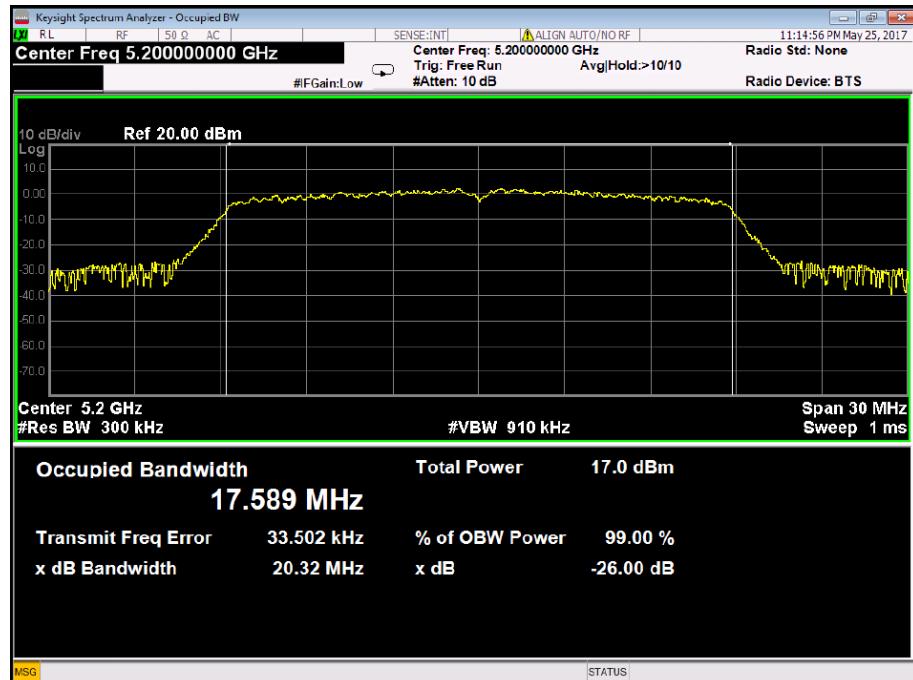


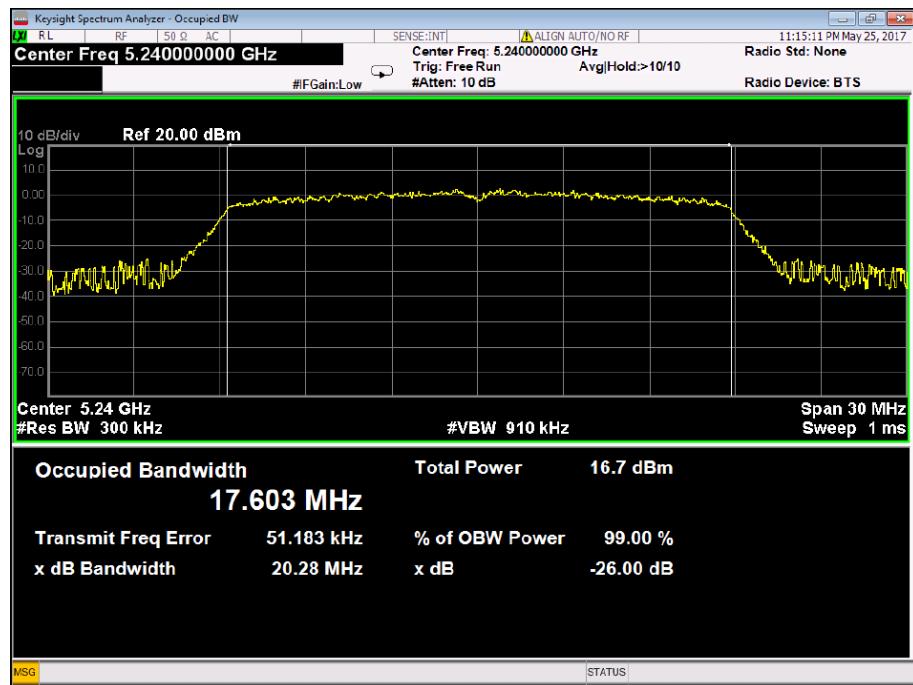
IEEE 802.11a 5240 MHz

UNII Band I
IEEE 802.11n HT20 5180 MHz

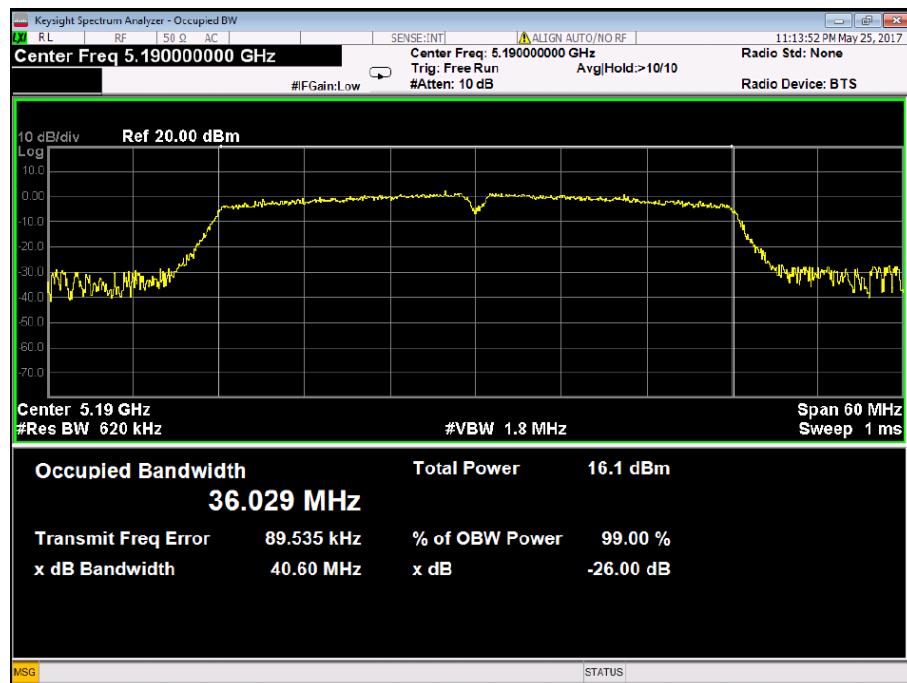


IEEE 802.11n HT20 5200 MHz

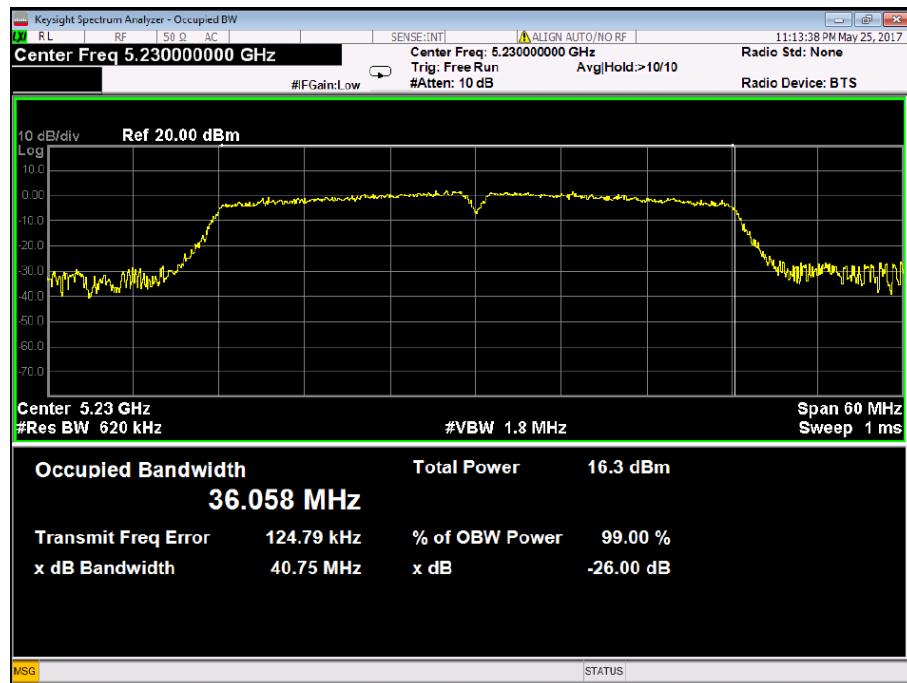


IEEE 802.11n HT20 5240 MHz

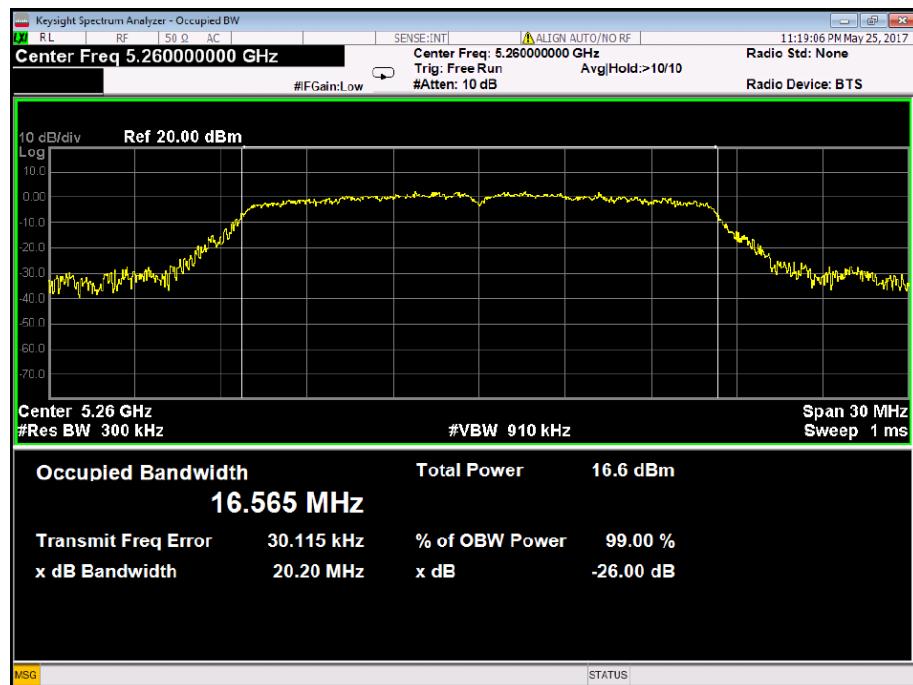
UNII Band I
IEEE 802.11n HT40 5190 MHz



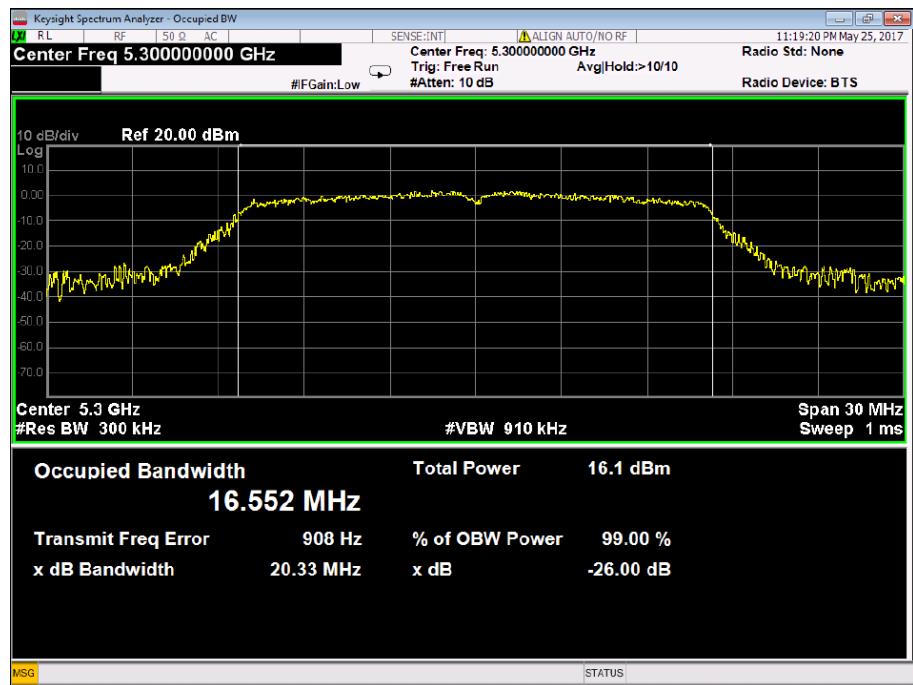
IEEE 802.11n HT40 5230 MHz

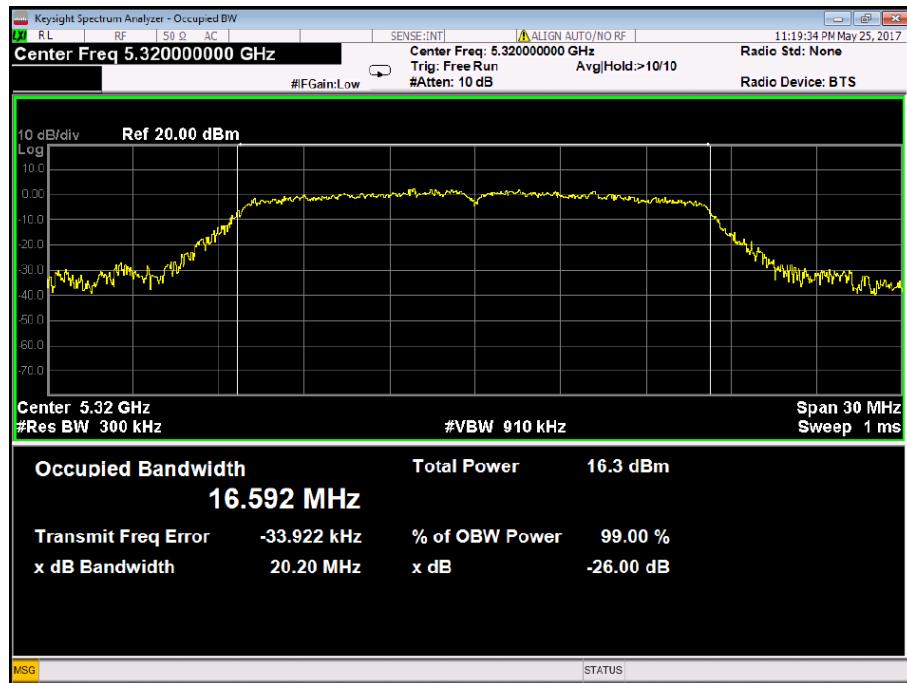


UNII Band II
IEEE 802.11a 5260 MHz

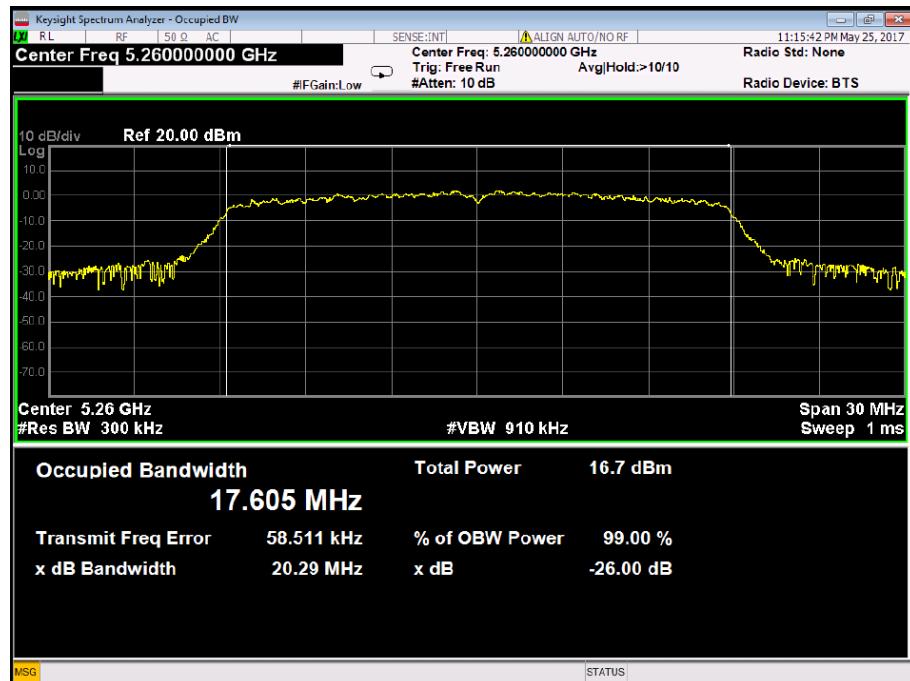


IEEE 802.11a 5300 MHz

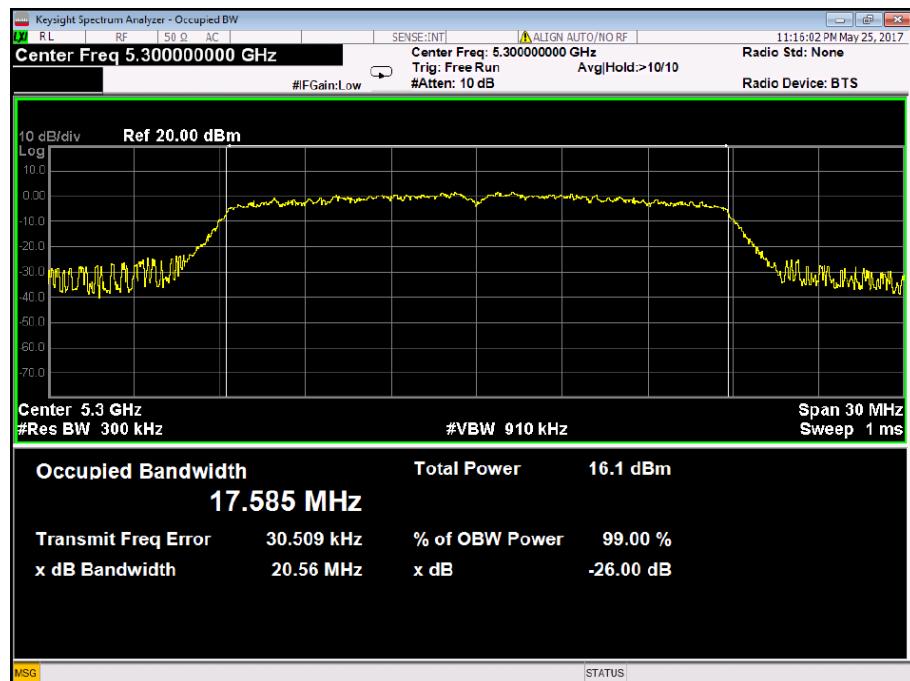


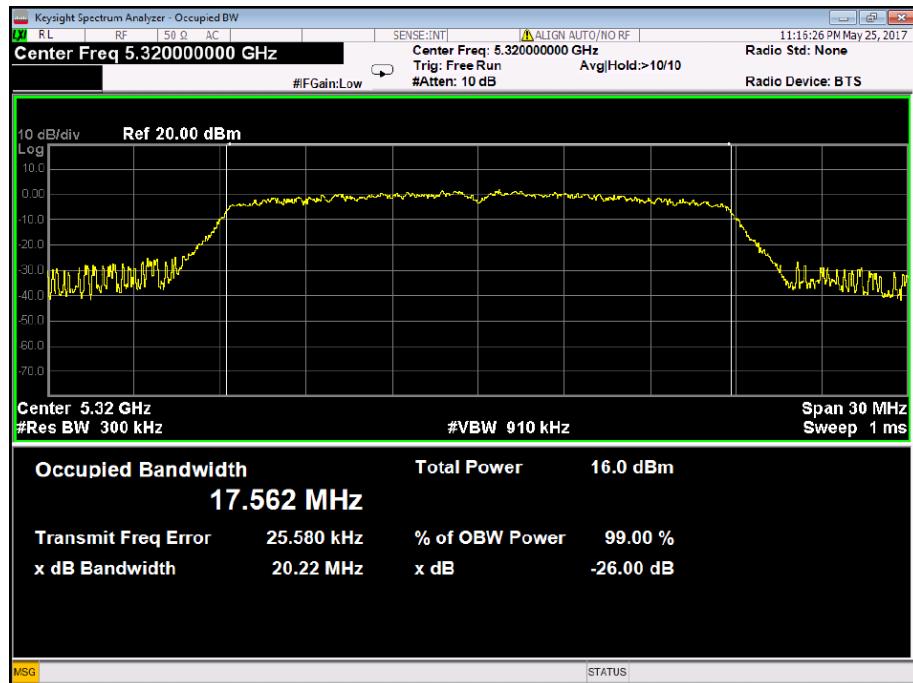
IEEE 802.11a 5320 MHz

UNII Band II
IEEE 802.11n HT20 5260 MHz

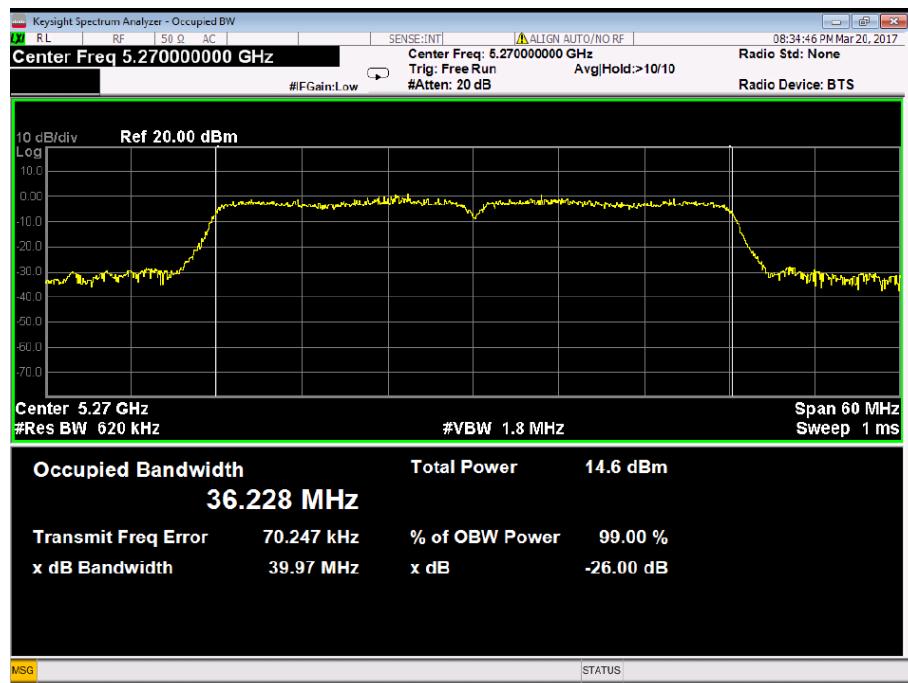


IEEE 802.11n HT20 5300 MHz

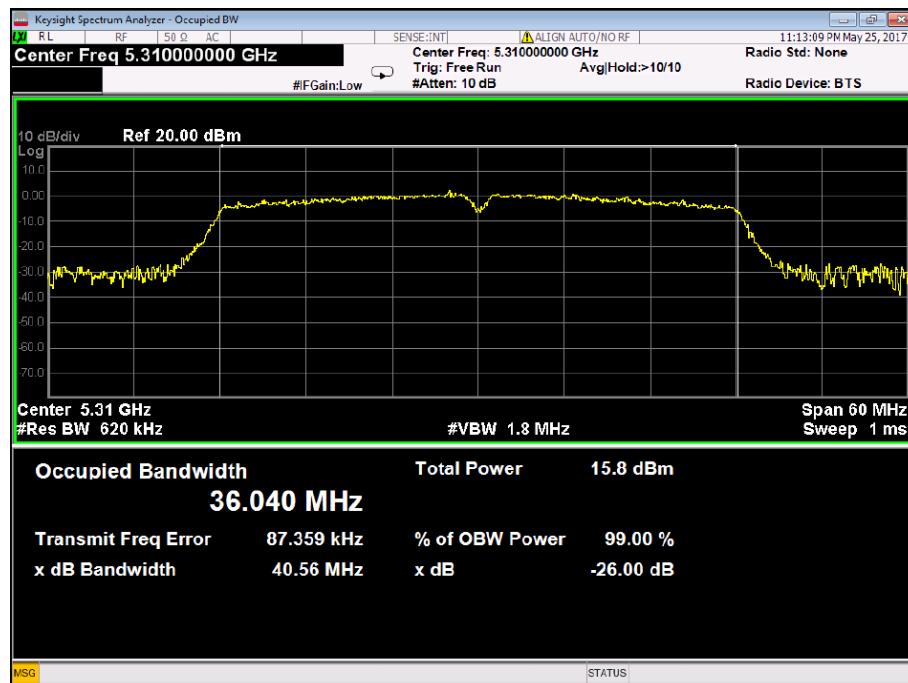


IEEE 802.11n HT20 5320 MHz

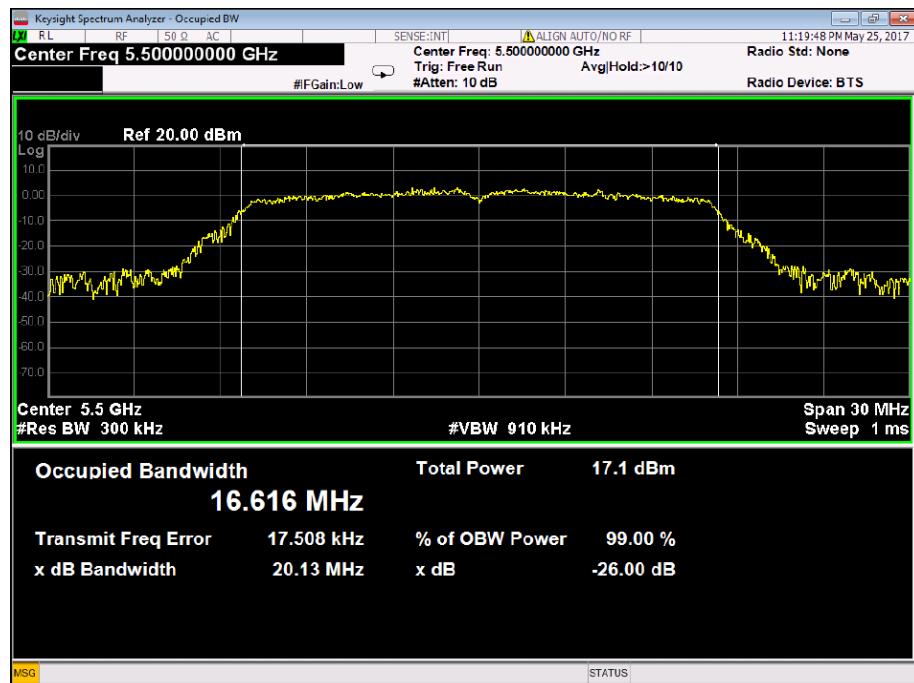
UNII Band II
IEEE 802.11n HT40 5270 MHz



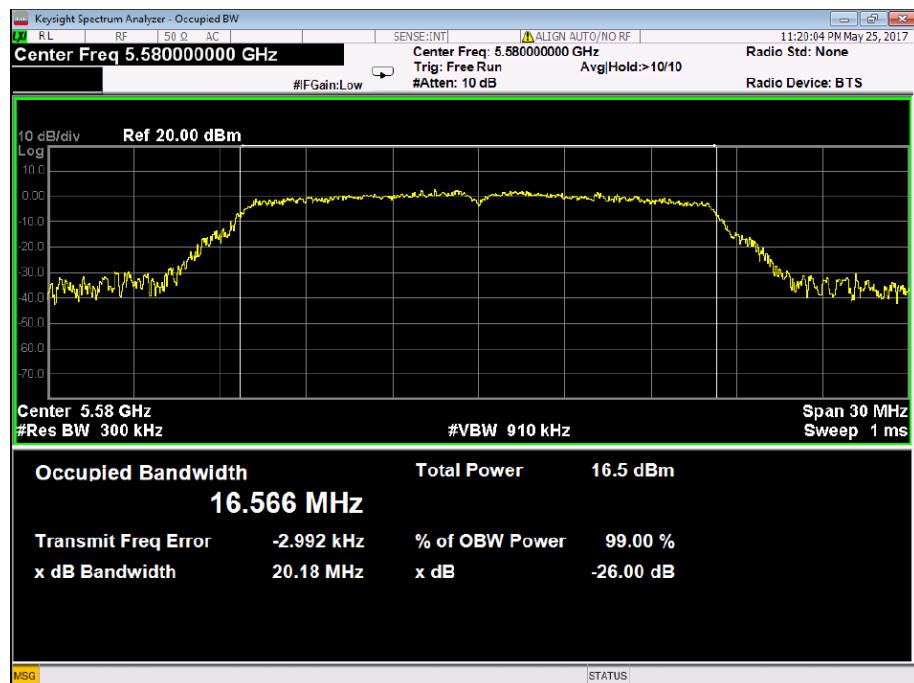
IEEE 802.11n HT40 5310 MHz

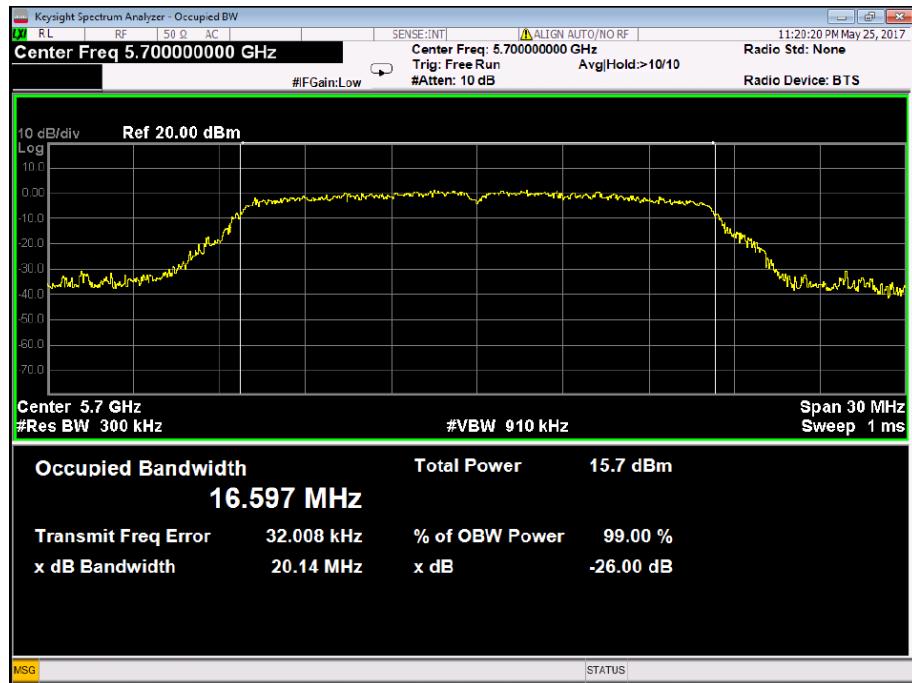


UNII Band III
IEEE 802.11a 5500 MHz

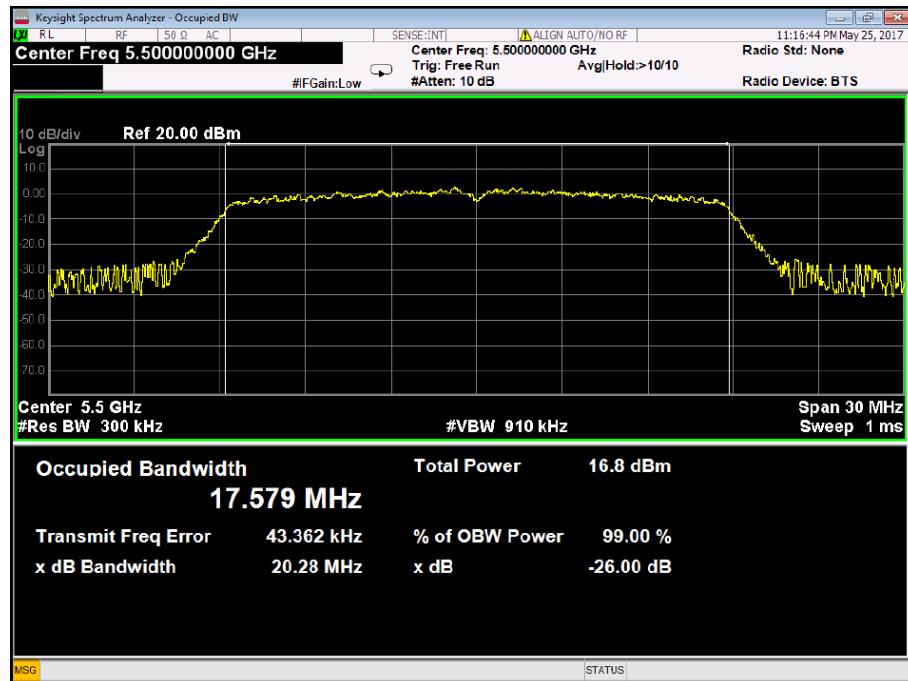


IEEE 802.11a 5580 MHz

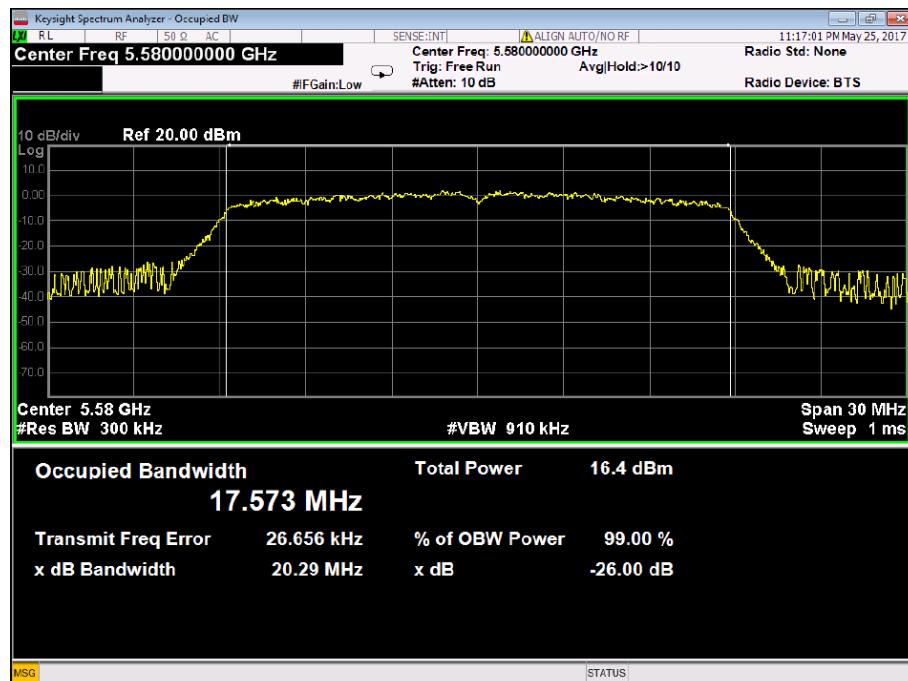


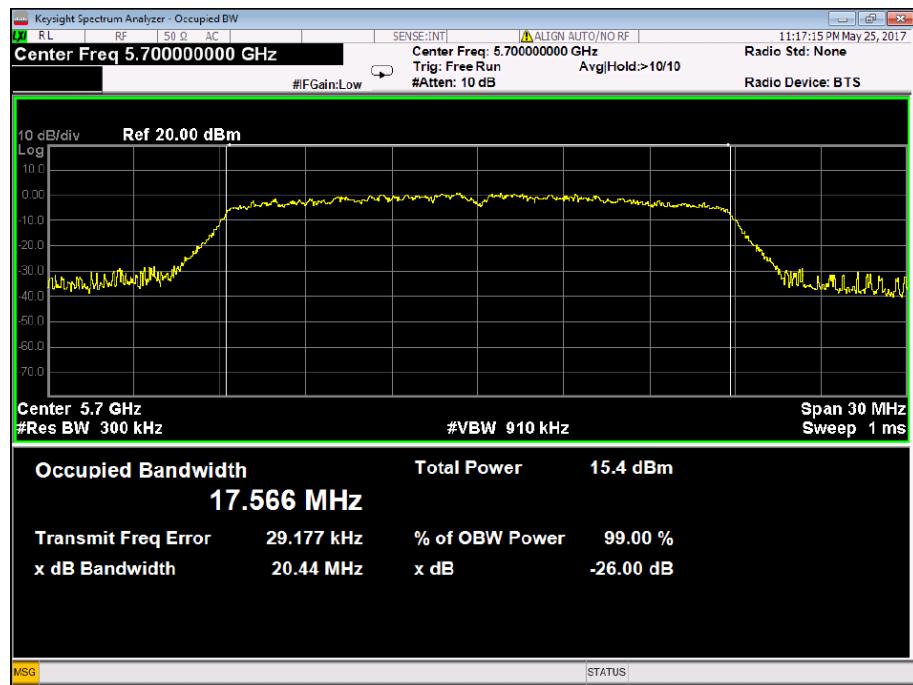
IEEE 802.11a 5700 MHz

UNII Band III
IEEE 802.11n HT20 5500 MHz

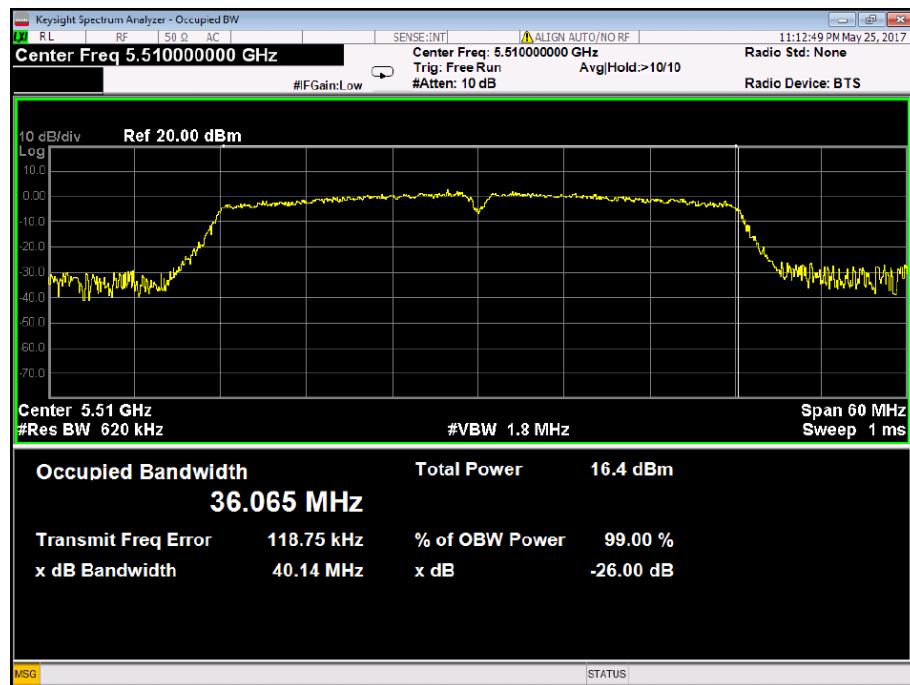


IEEE 802.11n HT20 5580 MHz

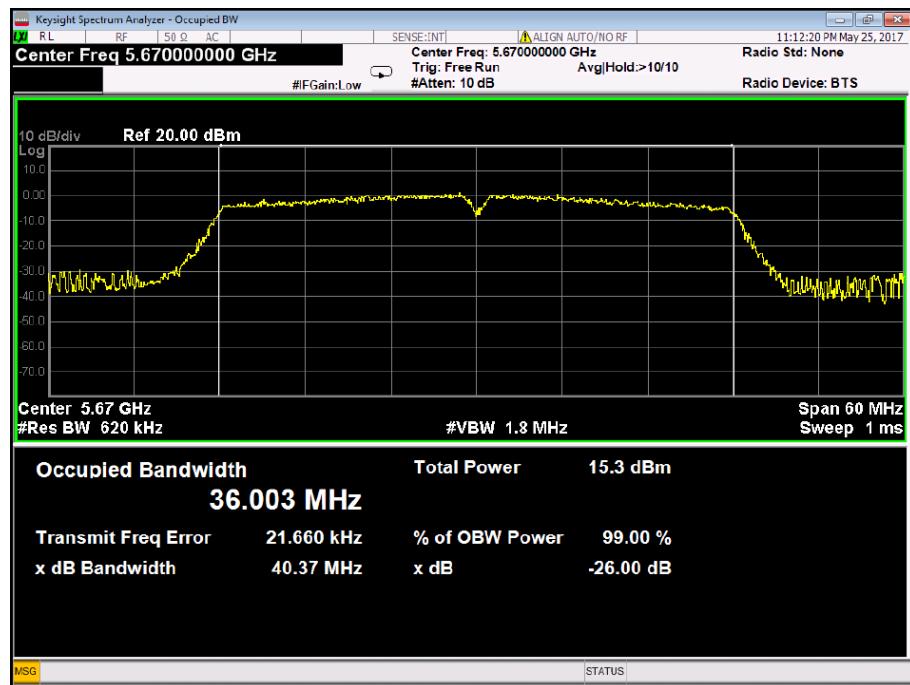


IEEE 802.11n HT20 5700 MHz

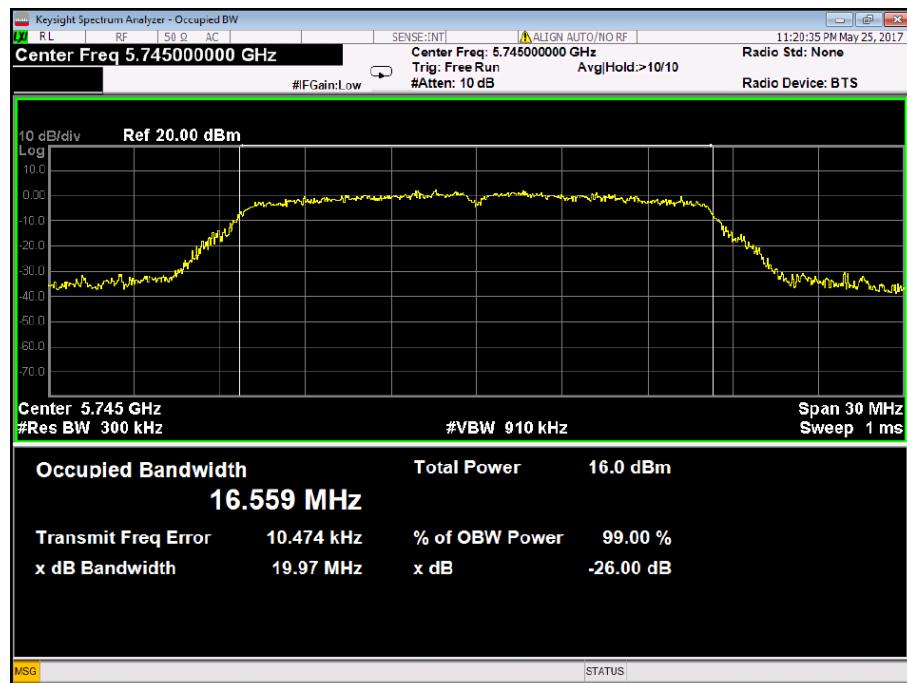
UNII Band III
IEEE 802.11n HT40 5510 MHz



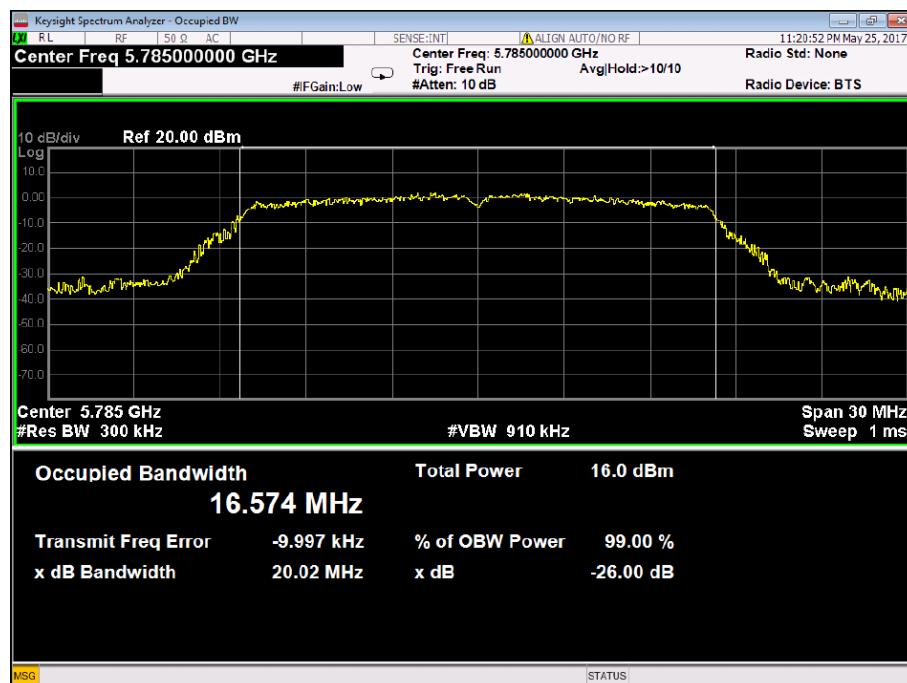
IEEE 802.11n HT40 5670 MHz

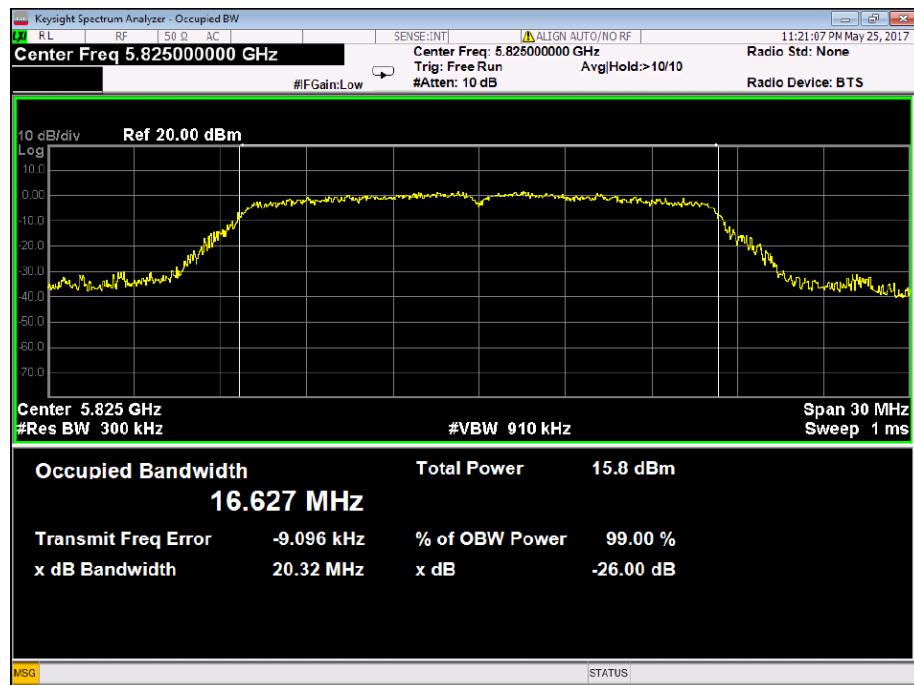


UNII Band IV
IEEE 802.11a 5745 MHz

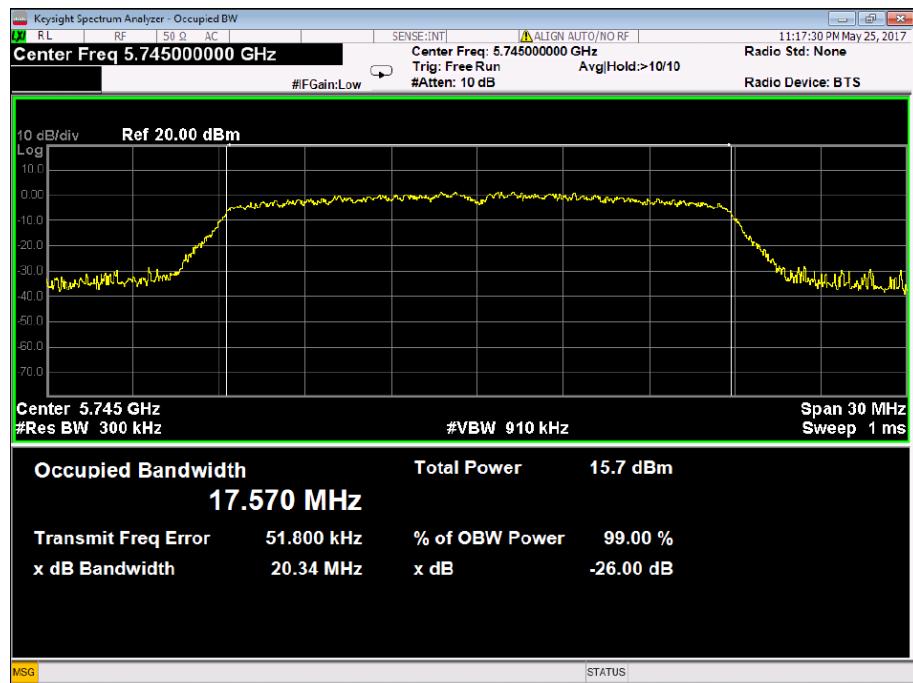


IEEE 802.11a 5785 MHz

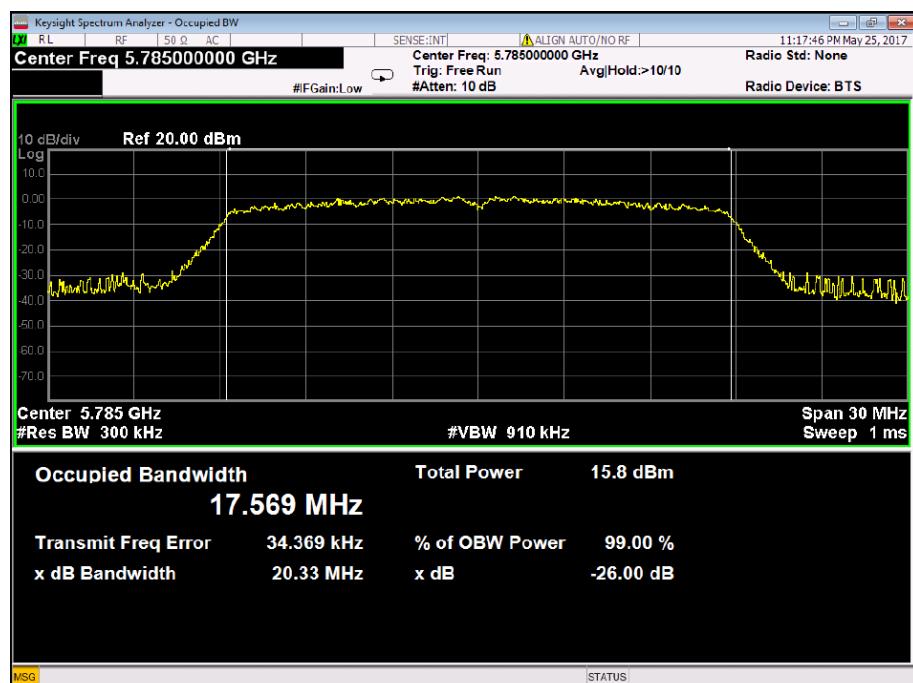


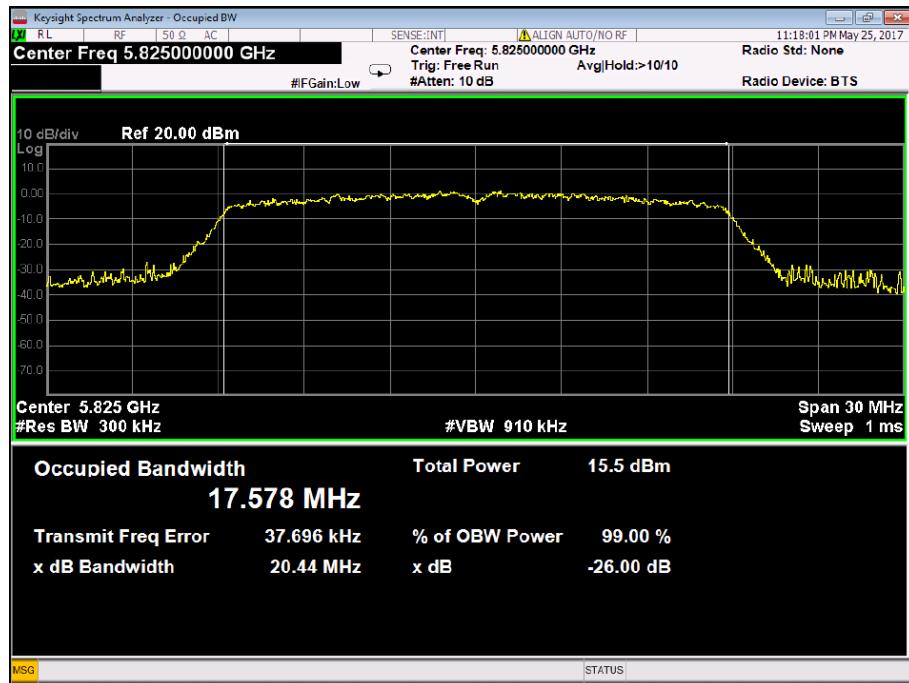
IEEE 802.11a 5825 MHz

UNII Band IV
IEEE 802.11n HT20 5745 MHz

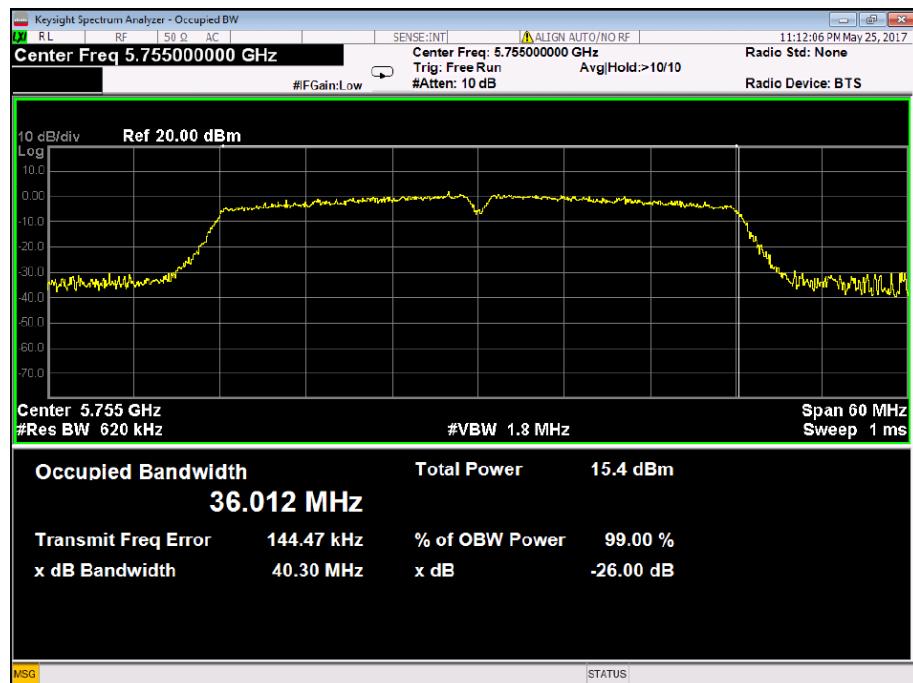


IEEE 802.11n HT20 5785 MHz

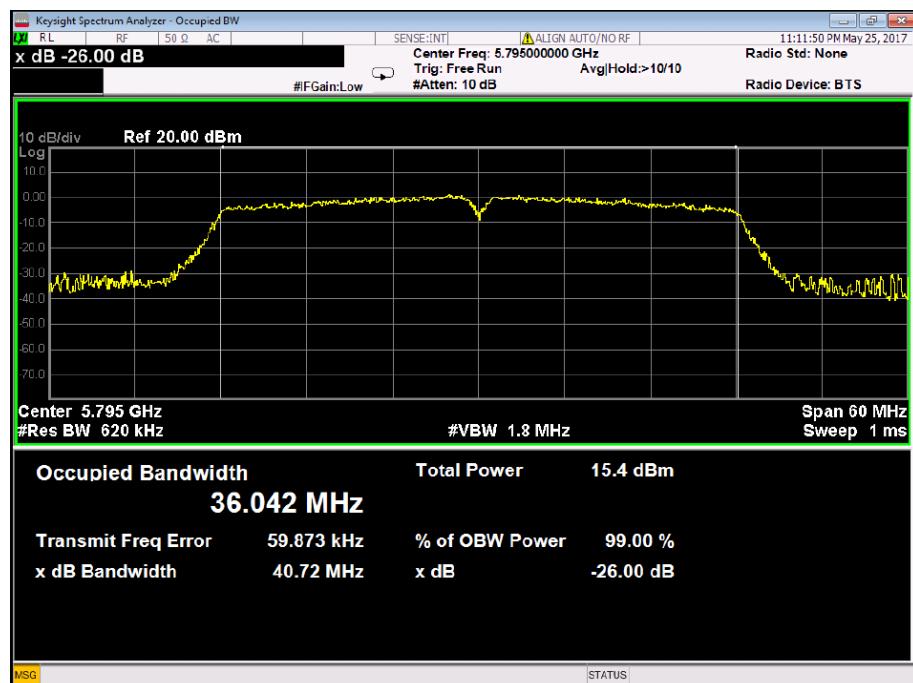


IEEE 802.11n HT20 5825 MHz

UNII Band IV
IEEE 802.11n HT40 5755 MHz



IEEE 802.11n HT40 5795 MHz



4. 6 DB BANDWIDTH

4.1. Limit

According to §15.407(e), Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

4.2. Test Procedure

- a, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- b, Place the EUT on the table and set it in the transmitting mode.
- c, Set resolution bandwidth (RBW) = 100 kHz
- d, Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- e, Set the Trace mode = Max hold.
- f, Set the Detector = Peak.
- g, Set the Sweep = Auto.
- h, Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.3. Test Information

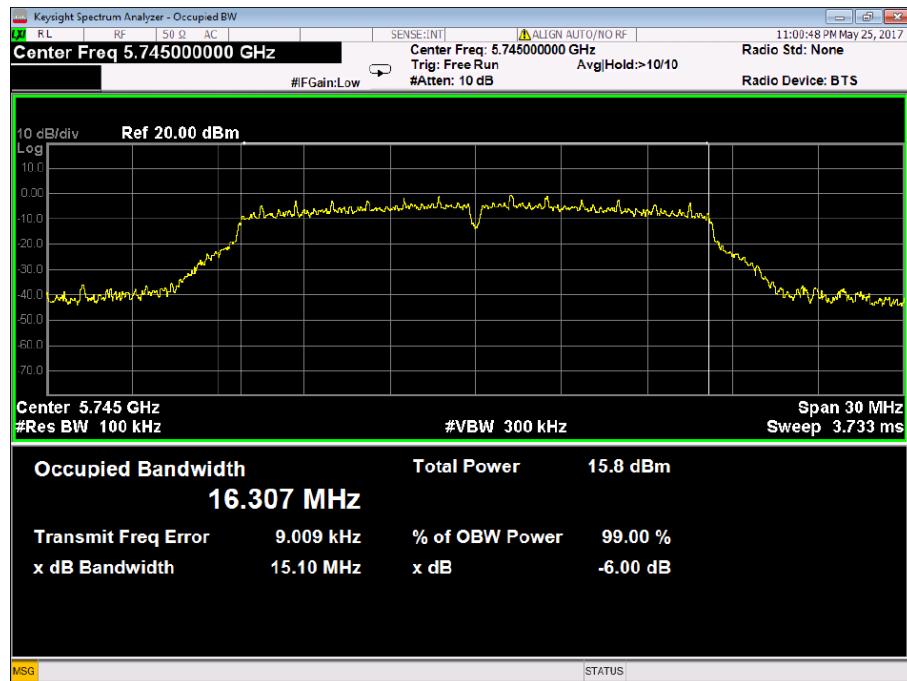
EUT: INTERNET RADIO PLAYER		
M/N: DN-350UI		
Test date: 2017-05-25	Test site: RF sit	Tested by: Sunny

4.4. Test Result

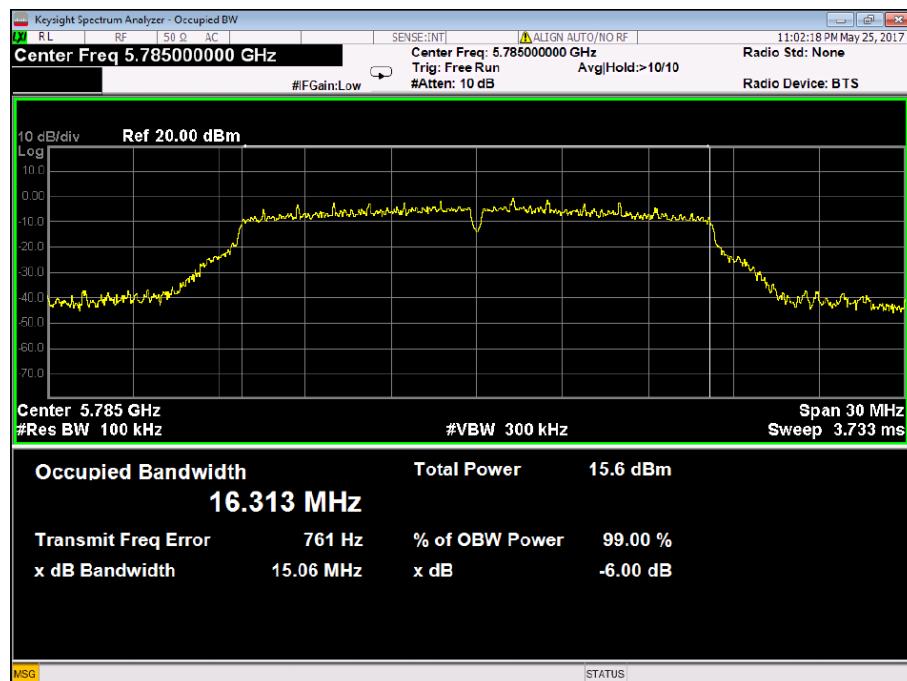
Band	Mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (kHz)
UNII Band IV	IEEE 802.11a: 5745-5785MHz	Low	5745	15.10	500
		Middle	5785	15.06	500
		High	5825	15.07	500
	IEEE 802.11n HT20: 5745-5785MHz	Low	5745	15.07	500
		Middle	5785	15.07	500
		High	5825	15.08	500
	IEEE 802.11n HT40: 5755-5795MHz	Low	5755	35.08	500
		High	5795	35.08	500
Conclusion: Pass					

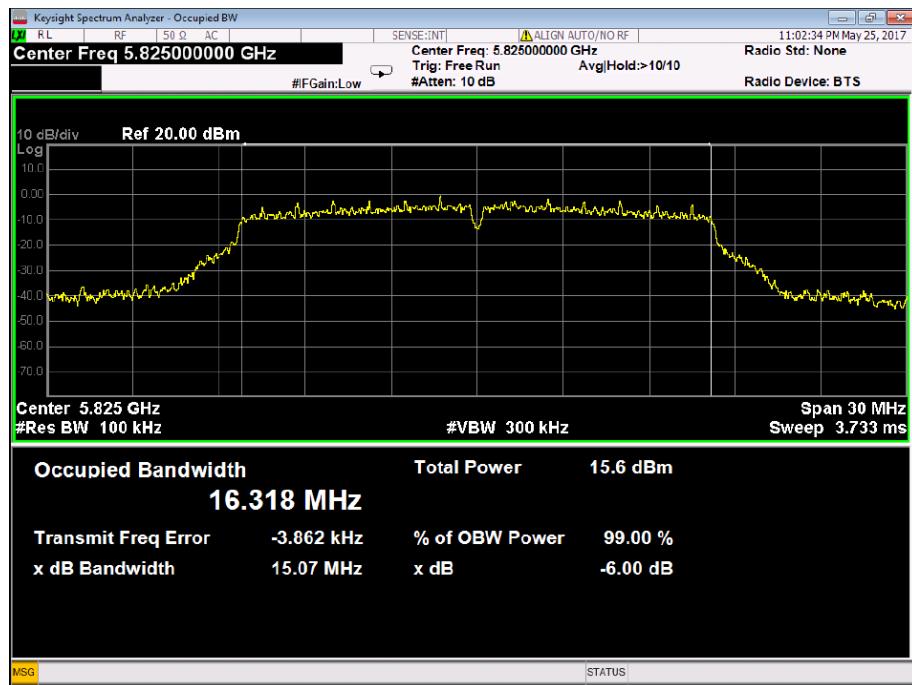
4.5. Test Data

UNII Band IV IEEE 802.11a 5745 MHz

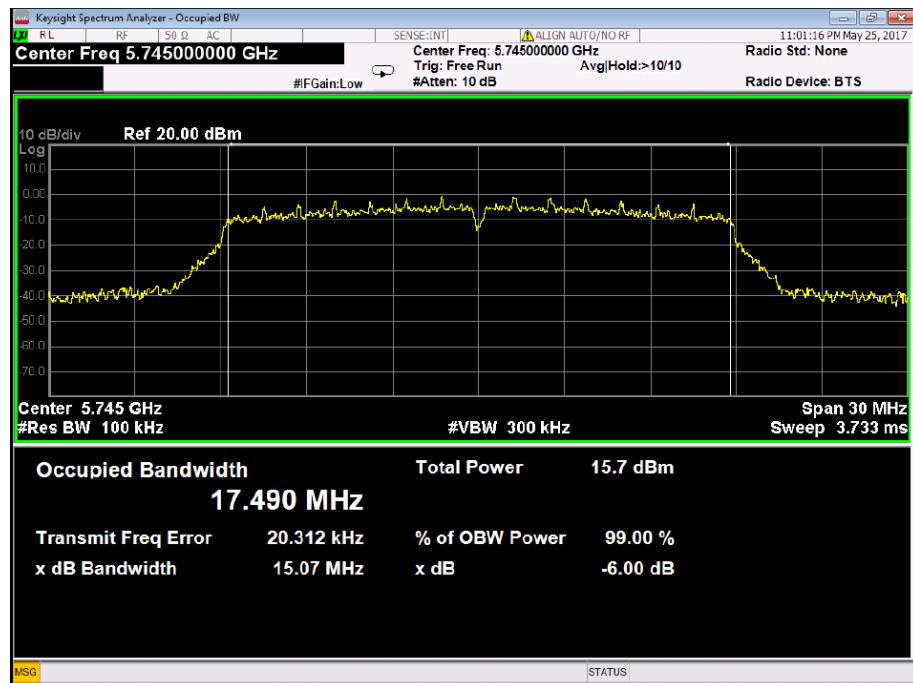


IEEE 802.11a 5785 MHz

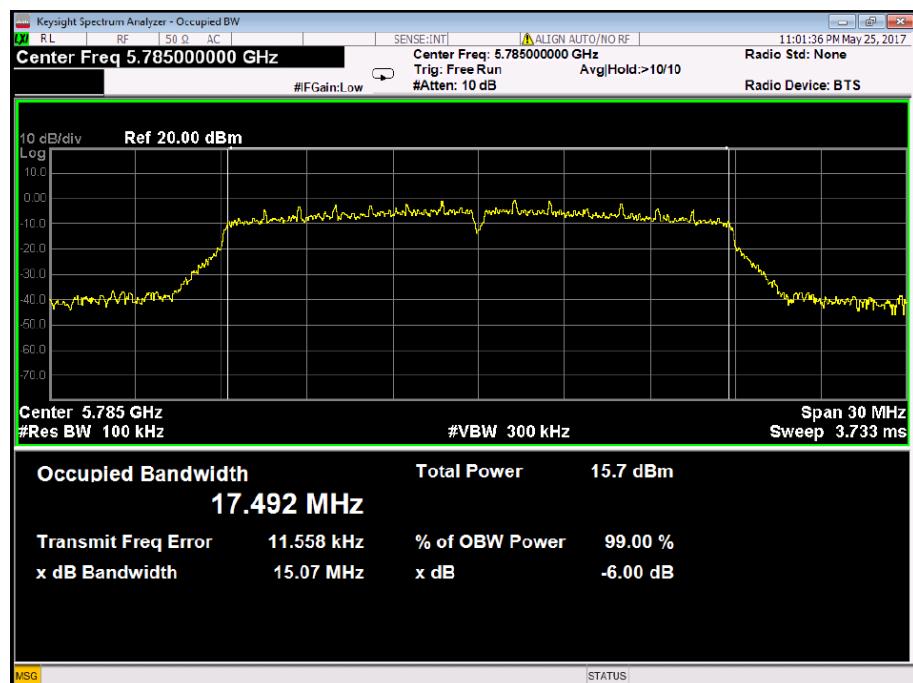


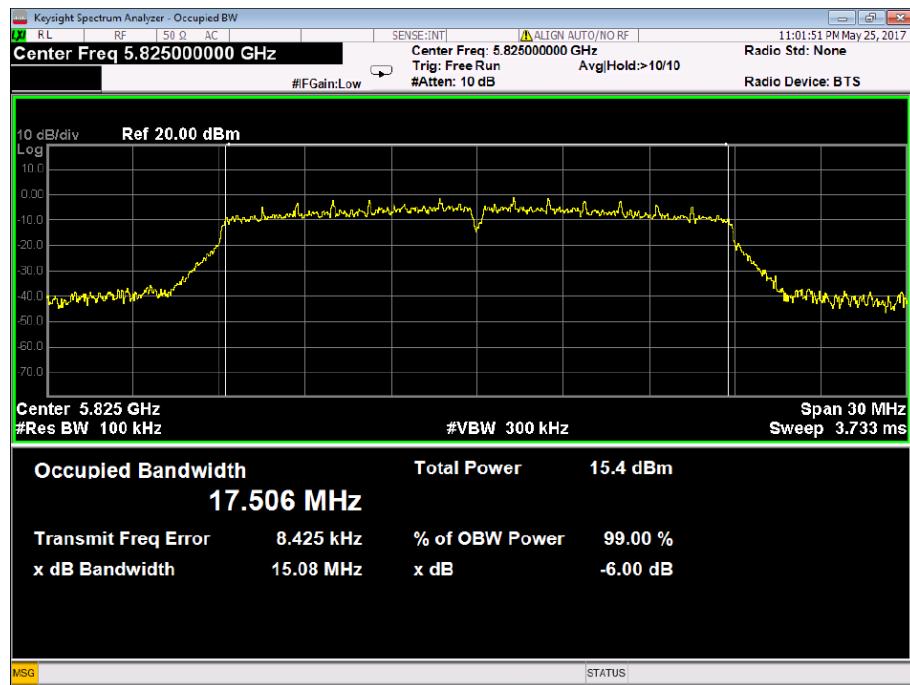
IEEE 802.11a 5825 MHz

UNII Band IV
IEEE 802.11n HT20 5745 MHz

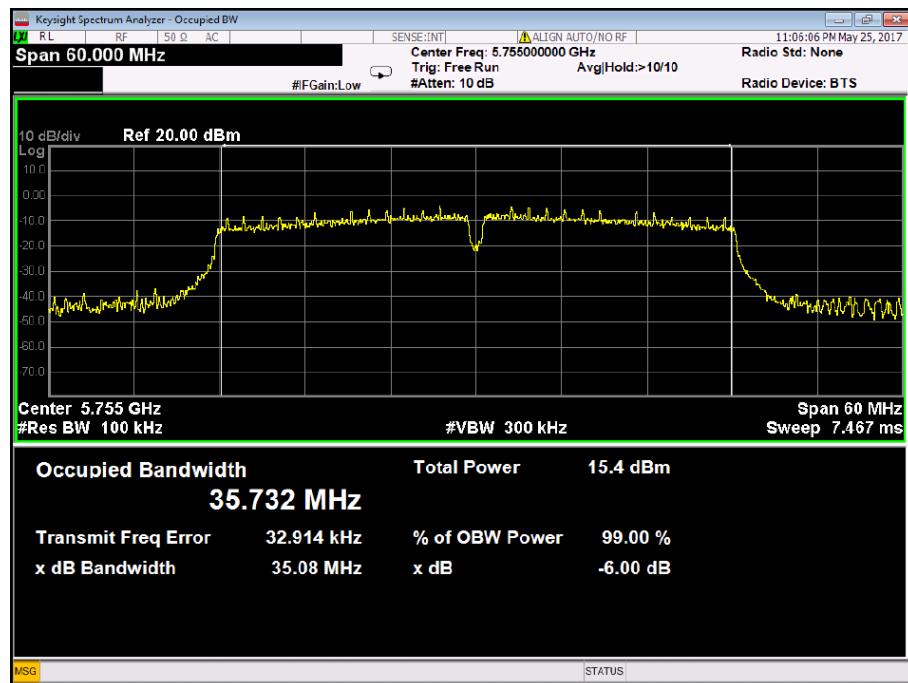


IEEE 802.11n HT20 5785 MHz

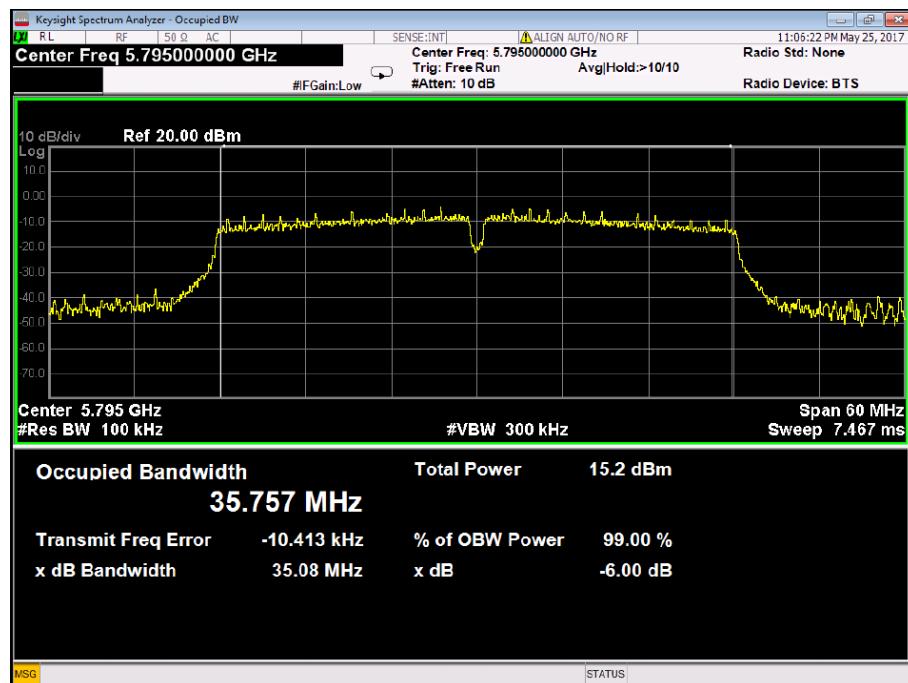


IEEE 802.11n HT20 5825 MHz

UNII Band IV
IEEE 802.11n HT40 5755 MHz



IEEE 802.11n HT40 5795 MHz



5. OUTPUT POWER

5.1. Limit

According to §15.407(a)& FCC R&O FCC 14 - 30,

- (1) For the band 5.15-5.25 GHz.
 - (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
 - (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
 - (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral

density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Note to paragraph (a)(3): The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

Specified Limit of the Output Power

Band	Mode	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	$11 + 10 * \log(B)$ (dBm)	Maximum Conducted Output Power Limit(dBm)
UNII Band I	IEEE 802.11a: 5180-5240MHz	Low	5180	20.10	24.03	24.00
		Middle	5200	20.13	24.04	24.00
		High	5240	20.11	24.03	24.00
	IEEE 802.11n HT20: 5180-5240MHz	Low	5180	20.14	24.04	24.00
		Middle	5200	20.32	24.08	24.00
		High	5240	20.28	24.07	24.00
	IEEE 802.11n HT40: 5190-5230MHz	Low	5190	40.60	27.09	24.00
		High	5230	40.75	27.10	24.00
	IEEE 802.11a: 5260-5320MHz	Low	5260	20.20	24.05	24.00
		Middle	5300	20.33	24.08	24.00
		High	5320	20.20	24.05	24.00
UNII Band II	IEEE 802.11n HT20: 5260-5320MHz	Low	5260	20.29	24.07	24.00
		Middle	5300	20.56	24.13	24.00
		High	5320	20.22	24.06	24.00
	IEEE 802.11n HT40: 5270-5310MHz	Low	5270	39.97	27.02	24.00
		High	5310	40.56	27.08	24.00
UNII Band III	IEEE 802.11a: 5500-5700MHz	Low	5500	20.13	24.04	24.00
		Middle	5580	20.18	24.05	24.00
		High	5700	20.14	24.04	24.00
	IEEE 802.11n HT20: 5500-5700MHz	Low	5500	20.28	24.07	24.00
		Middle	5580	20.29	24.07	24.00
		High	5700	20.44	24.10	24.00
	IEEE 802.11n HT40: 5510-5670MHz	Low	5510	40.14	27.04	24.00
		High	5670	40.37	27.06	24.00

5.2. Test Procedure

The transmitter output (antenna port) was connected to the Power Meter with Power Sensor. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

5.3. Test Information

EUT: INTERNET RADIO PLAYER						
M/N: DN-350UI						
Test date: 2017-05-25		Test site: RF sit			Tested by: Sunny	

5.4. Test Result

Band	Mode	Channel	Frequency (MHz)	Output Power		Maximum Conducted Output Power Limit(dBm)
				W	dBm	
UNII Band I	IEEE 802.11a: 5180-5240MHz	Low	5180	0.02270	13.56	24.00
		Middle	5200	0.02254	13.53	24.00
		High	5240	0.02228	13.48	24.00
	IEEE 802.11n HT20: 5180-5240MHz	Low	5180	0.02163	13.35	24.00
		Middle	5200	0.02153	13.33	24.00
		High	5240	0.02143	13.31	24.00
	IEEE 802.11n HT40: 5190-5230MHz	Low	5190	0.02188	13.40	24.00
		High	5230	0.02183	13.39	24.00
Conclusion: Pass						
UNII Band II	IEEE 802.11a: 5260-5320MHz	Low	5260	0.02388	13.78	24.00
		Middle	5300	0.02410	13.82	24.00
		High	5320	0.02070	13.16	24.00
	IEEE 802.11n HT20: 5260-5320MHz	Low	5260	0.02228	13.48	24.00
		Middle	5300	0.02051	13.12	24.00
		High	5320	0.02148	13.32	24.00
	IEEE 802.11n HT40: 5270-5310MHz	Low	5270	0.02612	14.17	24.00
		High	5310	0.03020	14.80	24.00
Conclusion: Pass						
UNII Band III	IEEE 802.11a: 5500-5700MHz	Low	5500	0.02223	13.47	24.00
		Middle	5580	0.02254	13.53	24.00
		High	5700	0.02265	13.55	24.00
	IEEE 802.11n HT20: 5500-5700MHz	Low	5500	0.02344	13.70	24.00
		Middle	5580	0.02377	13.76	24.00
		High	5700	0.02371	13.75	24.00
	IEEE 802.11n HT40: 5510-5670MHz	Low	5510	0.02460	13.91	24.00
		High	5670	0.02576	14.11	24.00
Conclusion: Pass						
UNII Band IV	IEEE 802.11a: 5745-5785MHz	Low	5745	0.02455	13.90	30.00
		Middle	5785	0.02432	13.86	30.00
		High	5825	0.02080	13.18	30.00
	IEEE 802.11n HT20: 5745-5785MHz	Low	5745	0.02249	13.52	30.00
		Middle	5785	0.02042	13.10	30.00
		High	5825	0.02275	13.57	30.00
	IEEE 802.11n HT40: 5755-5795MHz	Low	5755	0.01991	12.99	30.00
		High	5795	0.01936	12.87	30.00
Conclusion: Pass						

6. PEAK POWER SPECTRAL DENSITY

6.1. Limit

According to §15.407(a) & FCC R&O FCC 14-30

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Note to paragraph (a)(3): The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

6.2. Test Procedure

- a, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- b, Place the EUT on the table and set it in the transmitting mode.
- c, For devices operating in the bands 5.15-5.25 GHz, Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span > 26dB bandwidth, Sweep=1ms
- d, For devices operating in the bands 5.725-5.85 GHz, Set the spectrum analyzer as RBW = 470kHz, VBW = 1.5 MHz, Span > 26dB bandwidth, Sweep=1ms
- e, Record the max. reading.
- f, Repeat the above procedure until the measurements for all frequencies are completed

6.3. Test Information

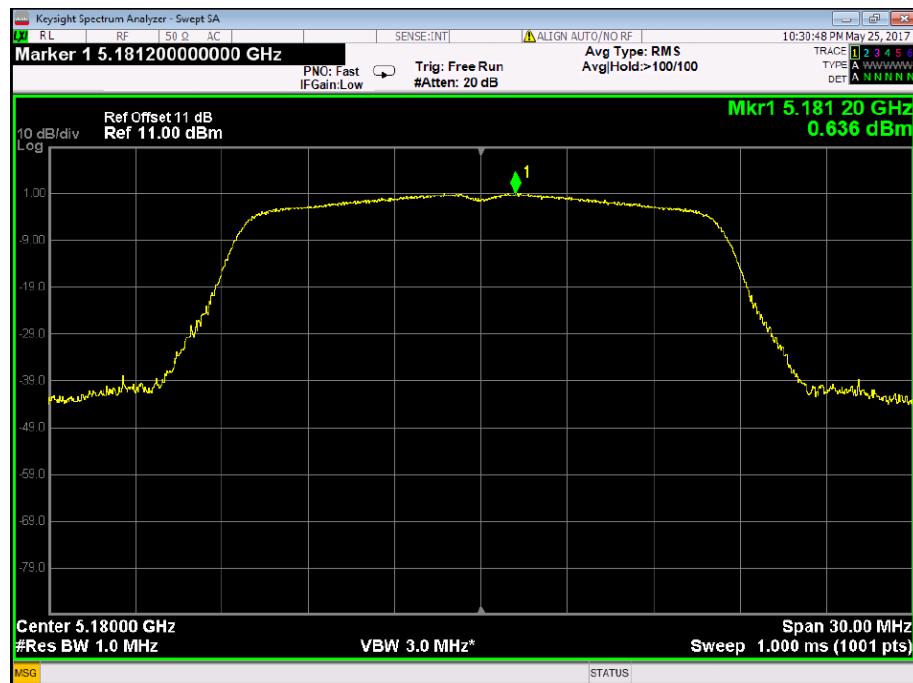
EUT: INTERNET RADIO PLAYER					
M/N: DN-350UI					
Test date: 2017-05-25		Test site: RF sit		Tested by: Sunny	

6.4. Test Result

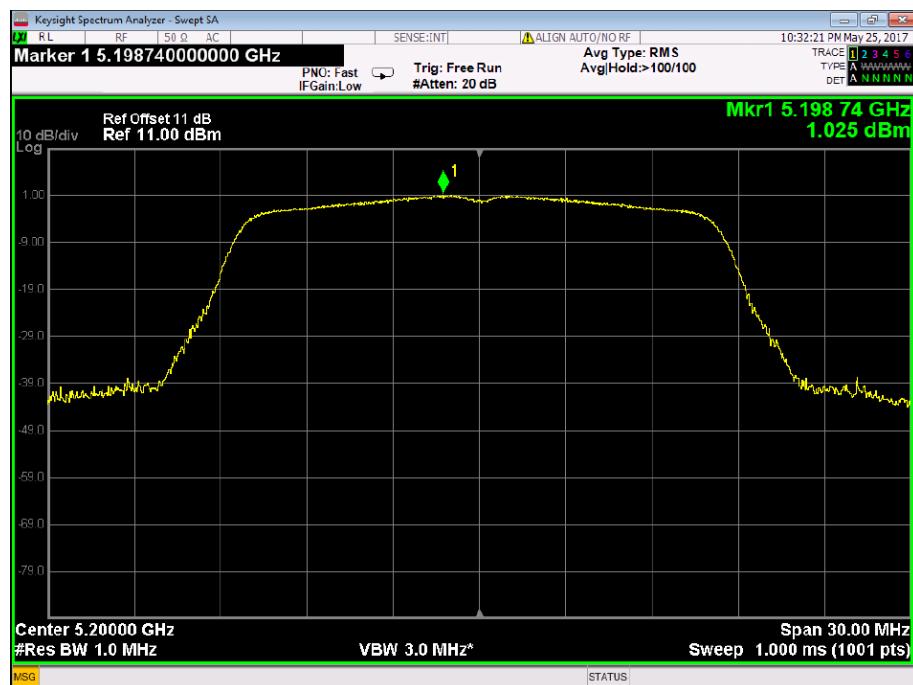
Band	Mode	Channel	Frequency (MHz)	Peak Power Spectral Density (dBm)	Limit	
UNII Band I	IEEE 802.11a: 5180-5240MHz	Low	5180	0.636	11.00 dBm/MHz	
		Middle	5200	1.025	11.00 dBm/MHz	
		High	5240	1.093	11.00 dBm/MHz	
	IEEE 802.11n HT20: 5180-5240MHz	Low	5180	0.314	11.00 dBm/MHz	
		Middle	5200	0.518	11.00 dBm/MHz	
		High	5240	0.156	11.00 dBm/MHz	
	IEEE 802.11n HT40: 5190-5230MHz	Low	5190	-2.470	11.00 dBm/MHz	
		High	5230	-2.125	11.00 dBm/MHz	
Conclusion: Pass						
UNII Band II	IEEE 802.11a: 5260-5320MHz	Low	5260	0.341	11.00 dBm/MHz	
		Middle	5300	0.427	11.00 dBm/MHz	
		High	5320	0.231	11.00 dBm/MHz	
	IEEE 802.11n HT20: 5260-5320MHz	Low	5260	0.011	11.00 dBm/MHz	
		Middle	5300	0.140	11.00 dBm/MHz	
		High	5320	-0.049	11.00 dBm/MHz	
	IEEE 802.11n HT40: 5270-5310MHz	Low	5270	-2.807	11.00 dBm/MHz	
		High	5310	-2.579	11.00 dBm/MHz	
Conclusion: Pass						
UNII Band III	IEEE 802.11a: 5500-5700MHz	Low	5500	1.012	11.00 dBm/MHz	
		Middle	5580	0.304	11.00 dBm/MHz	
		High	5700	-0.380	11.00 dBm/MHz	
	IEEE 802.11n HT20: 5500-5700MHz	Low	5500	0.830	11.00 dBm/MHz	
		Middle	5580	0.464	11.00 dBm/MHz	
		High	5700	-0.542	11.00 dBm/MHz	
	IEEE 802.11n HT40: 5510-5670MHz	Low	5510	-2.049	11.00 dBm/MHz	
		High	5670	-3.140	11.00 dBm/MHz	
Conclusion: Pass						
UNII Band IV	IEEE 802.11a: 5745-5785MHz	Low	5745	-3.275	29.73 dBm/500kHz	
		Middle	5785	-3.130	29.73 dBm/500kHz	
		High	5825	-3.198	29.73 dBm/500kHz	
	IEEE 802.11n HT20: 5745-5785MHz	Low	5745	-3.225	29.73 dBm/500kHz	
		Middle	5785	-3.628	29.73 dBm/500kHz	
		High	5825	-3.550	29.73 dBm/500kHz	
	IEEE 802.11n HT40: 5755-5795MHz	Low	5755	-6.554	29.73 dBm/500kHz	
		High	5795	-6.316	29.73 dBm/500kHz	
Conclusion: Pass						
Remark: Factor=10 * log10(500/RBW)=0.27 Final Limit=30.00-Factor=29.73dBm						

6.5. Test Data

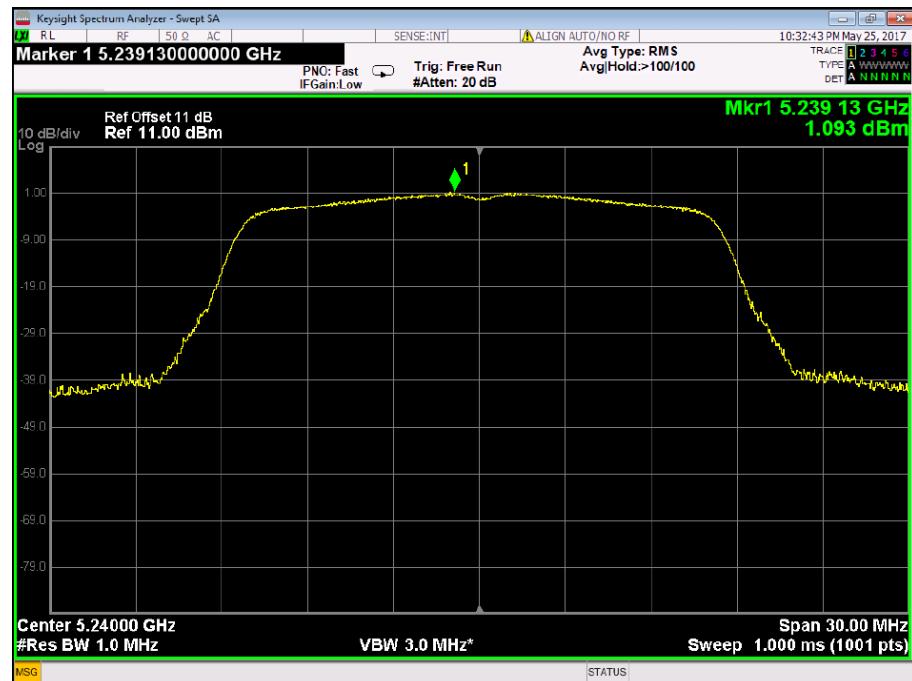
UNII Band I IEEE 802.11a 5180 MHz



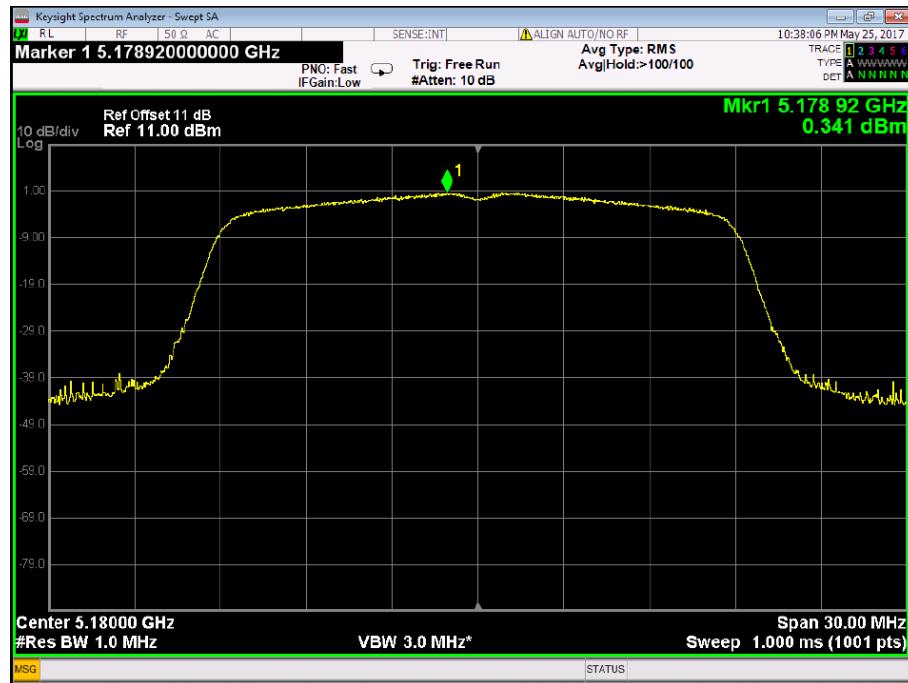
IEEE 802.11a 5200 MHz



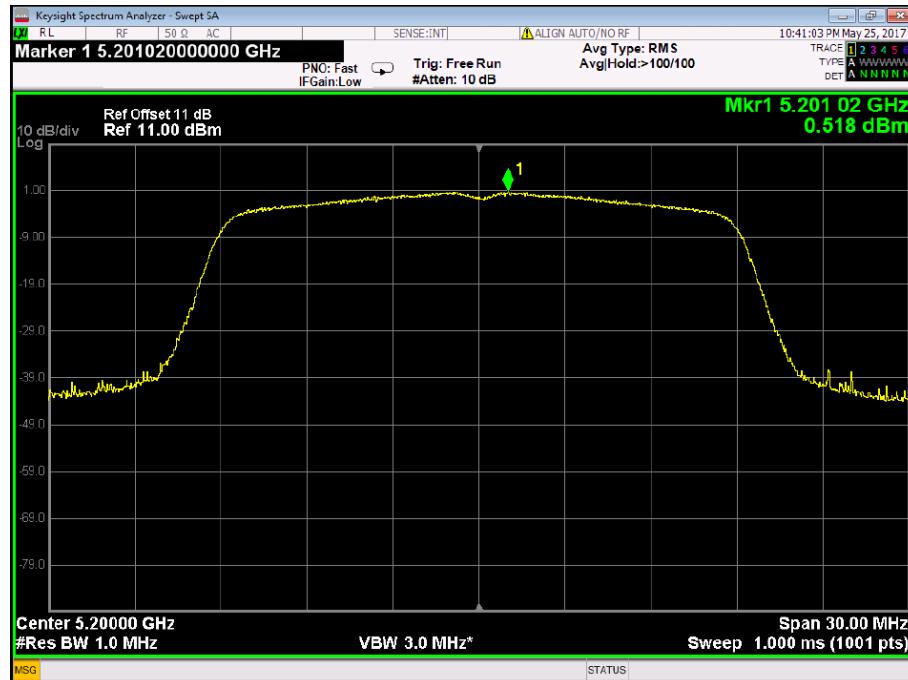
IEEE 802.11a 5240 MHz

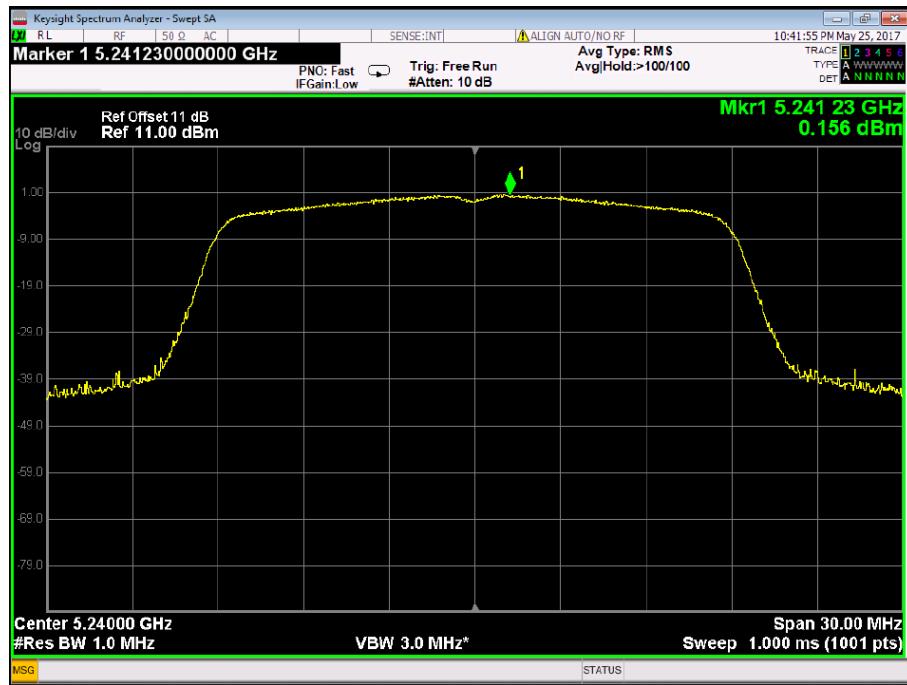


UNII Band I
IEEE 802.11n HT20 5180 MHz

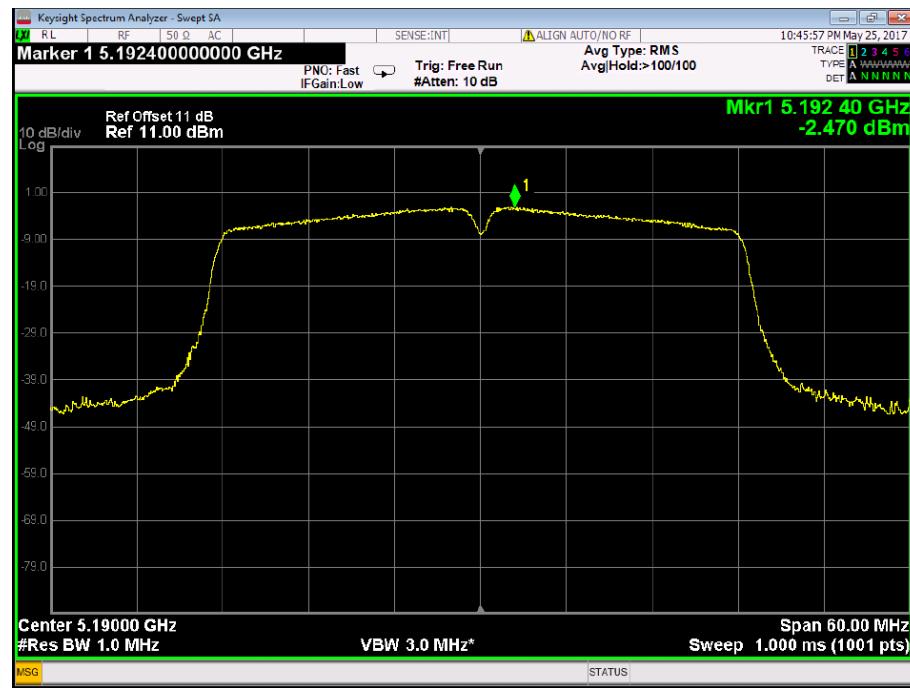


IEEE 802.11n HT20 5200 MHz

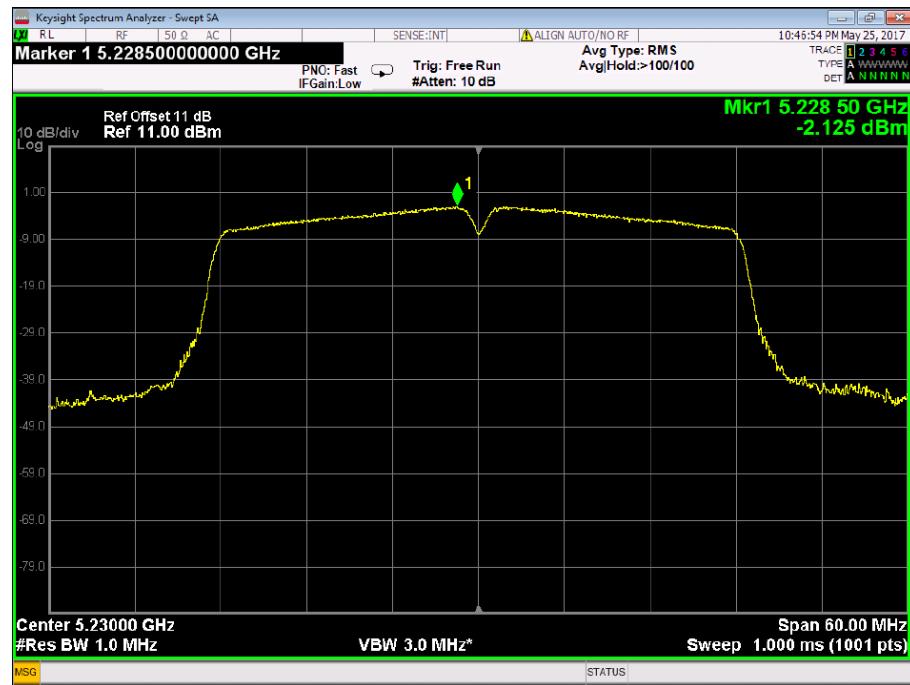


IEEE 802.11n HT20 5240 MHz

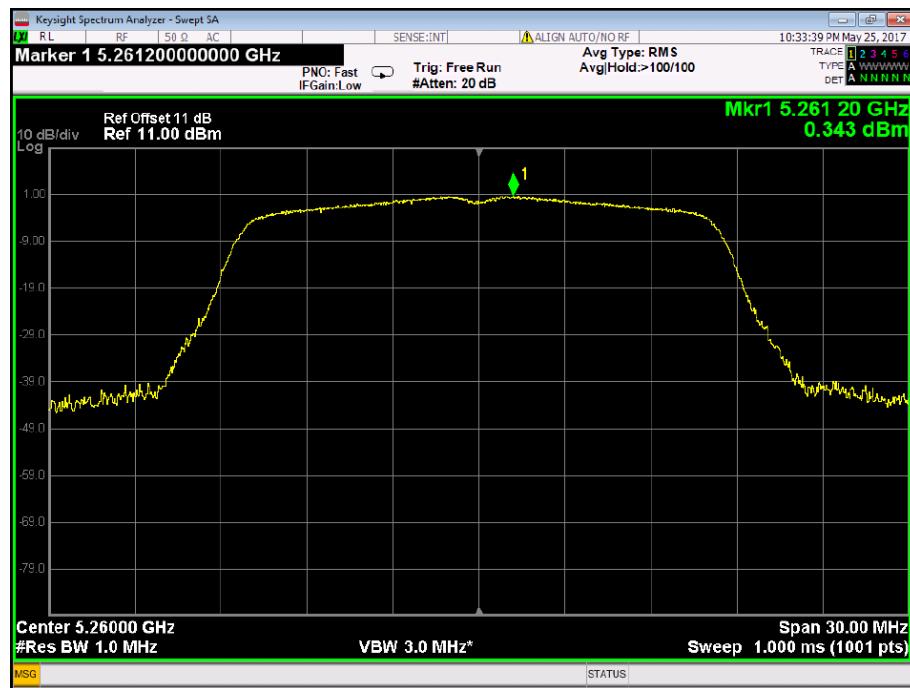
UNII Band I
IEEE 802.11n HT40 5190 MHz



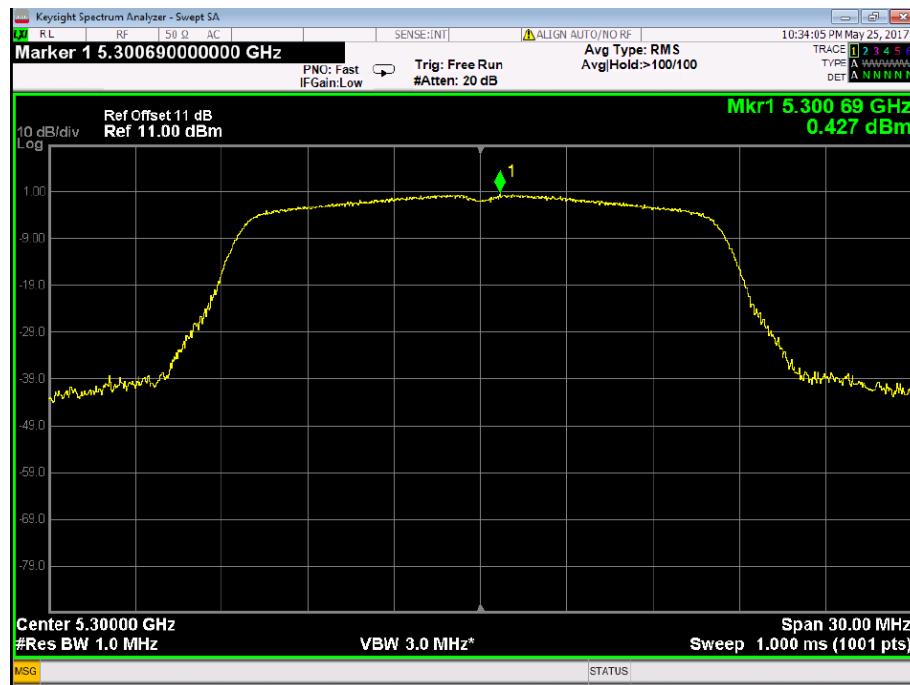
IEEE 802.11n HT40 5230 MHz

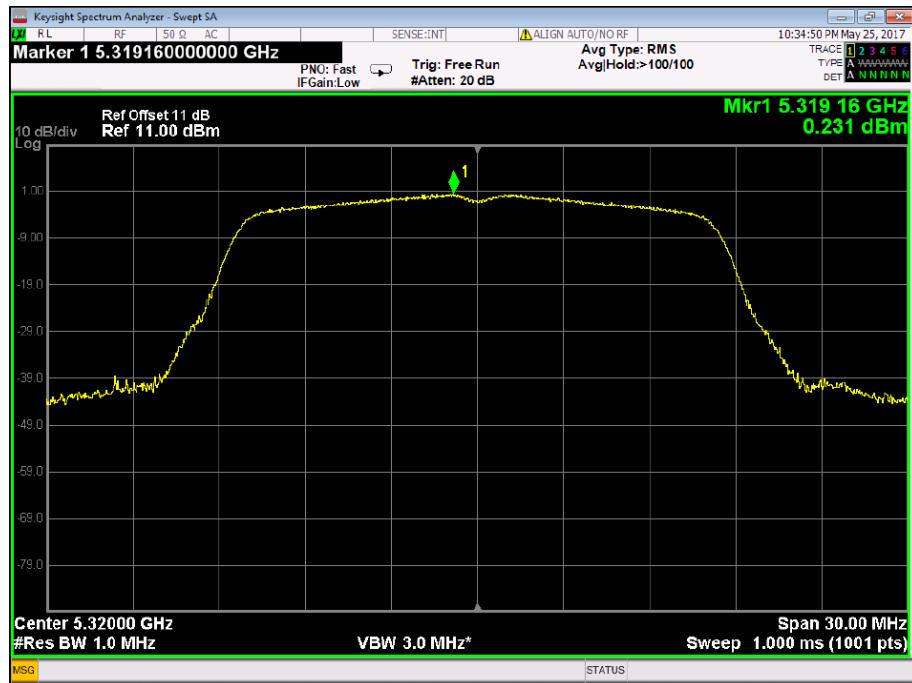


UNII Band II
IEEE 802.11a 5260 MHz

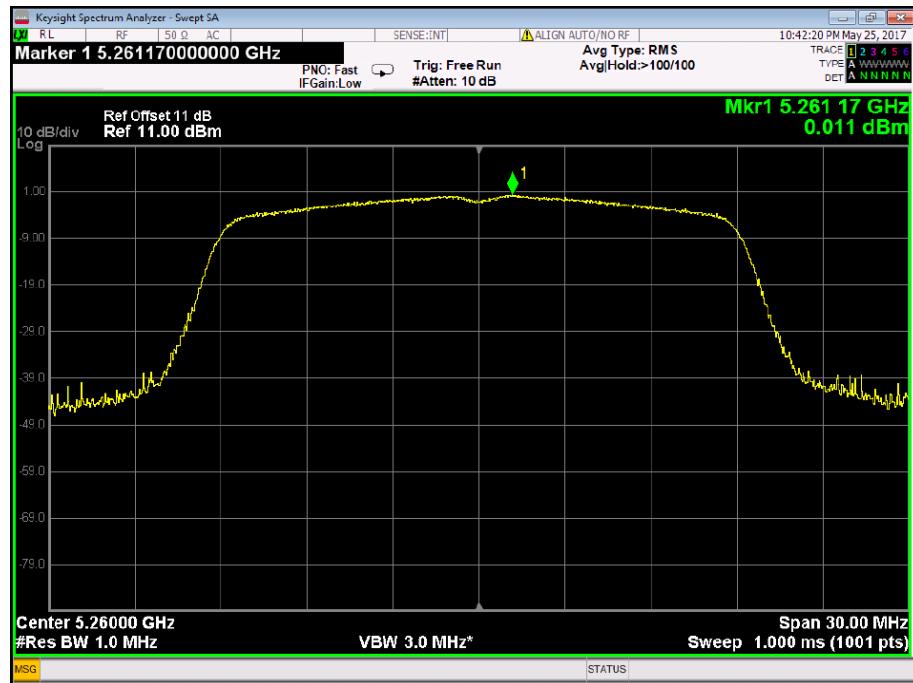


IEEE 802.11a 5300 MHz

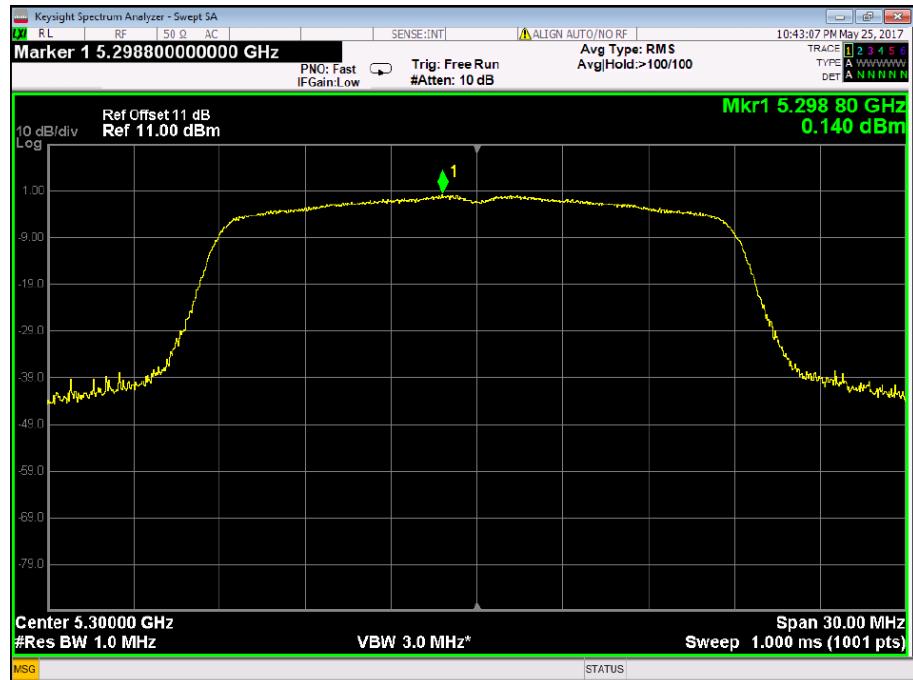


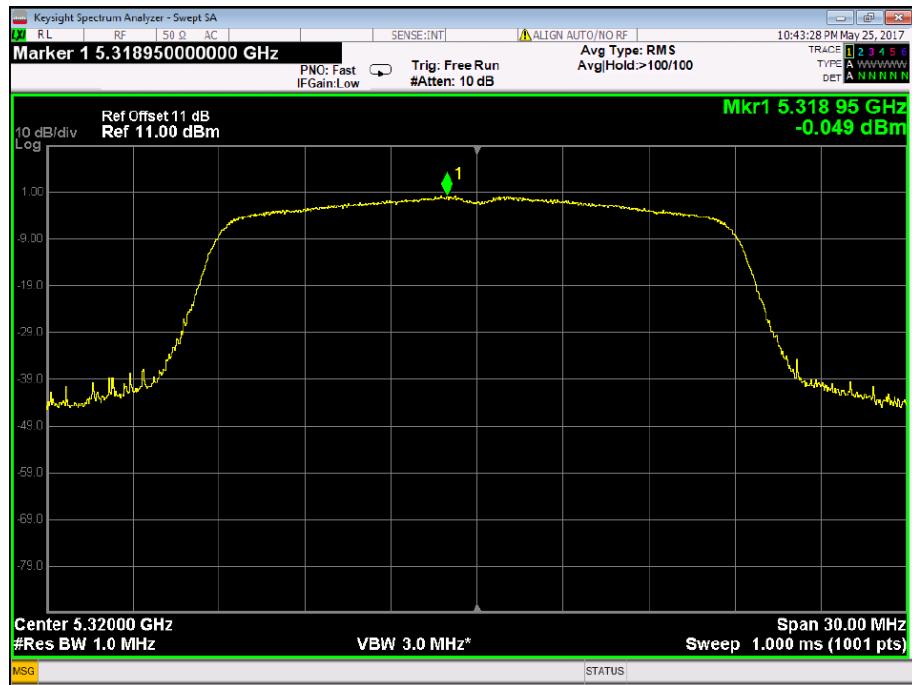
IEEE 802.11a 5320 MHz

UNII Band II
IEEE 802.11n HT20 5260 MHz

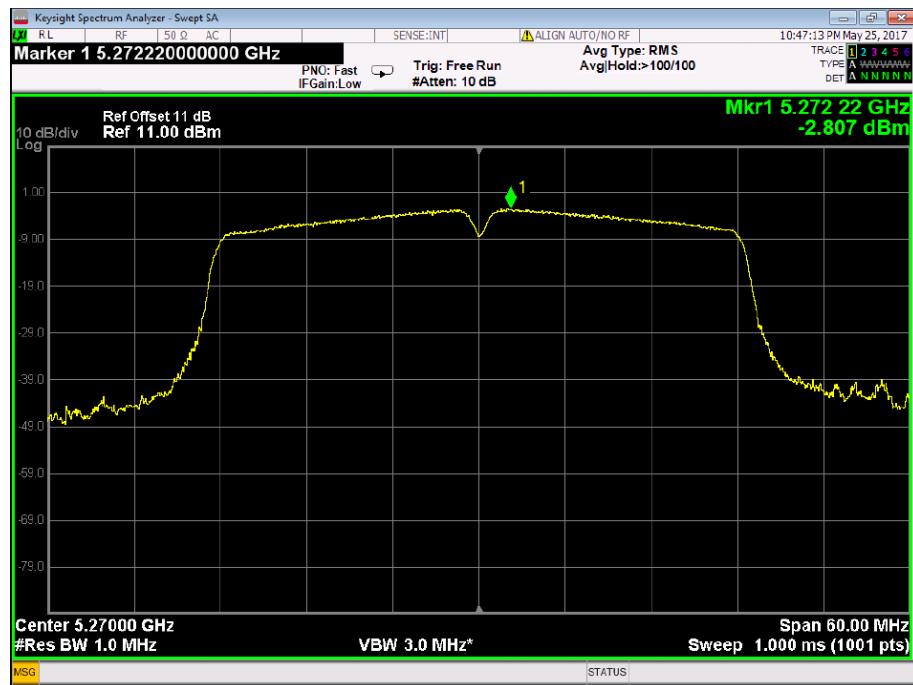


IEEE 802.11n HT20 5300 MHz

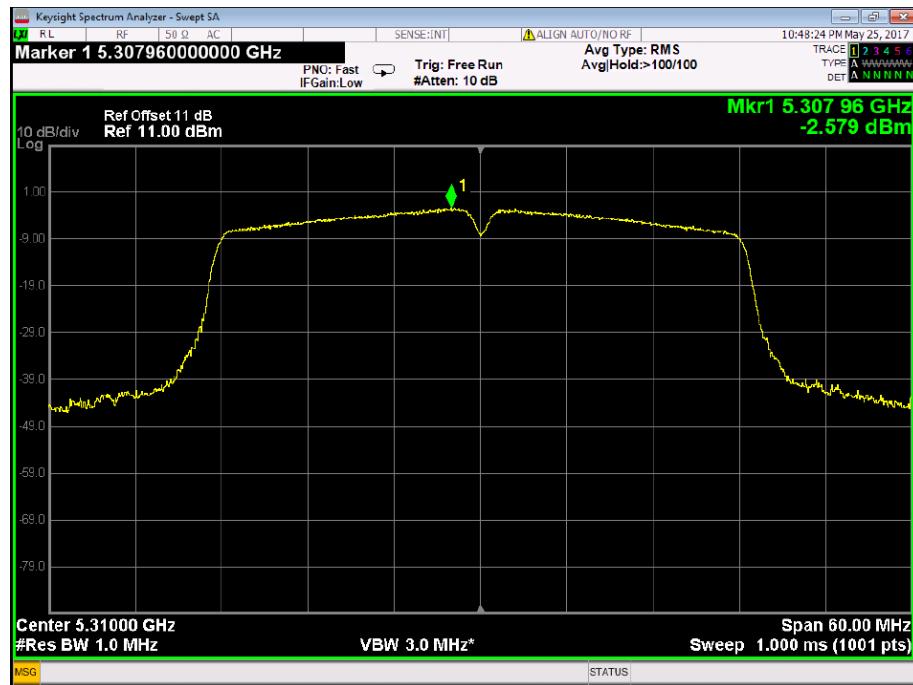


IEEE 802.11n HT20 5320 MHz

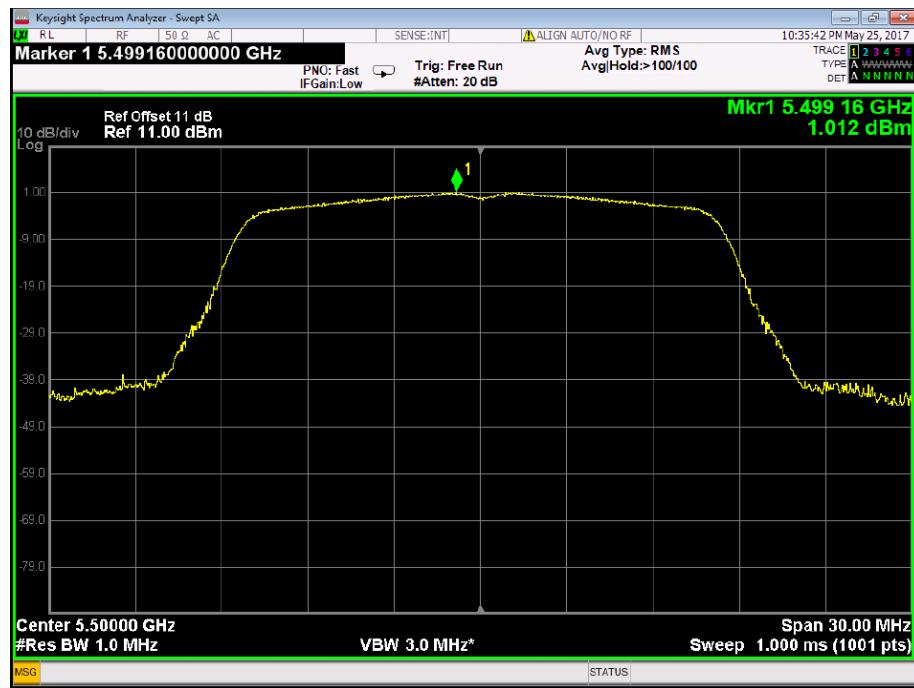
UNII Band II
IEEE 802.11n HT40 5270 MHz



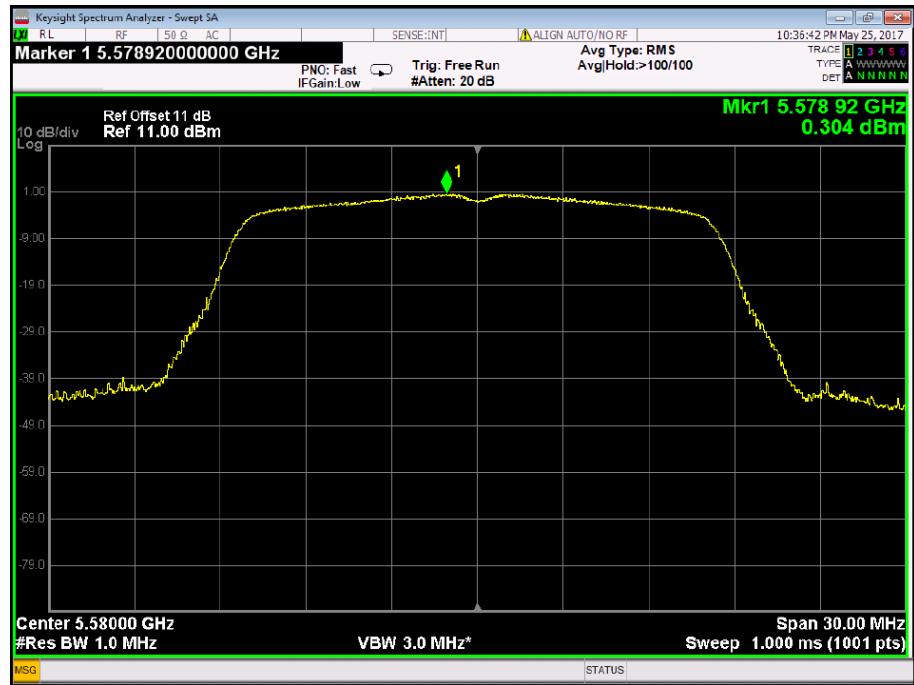
IEEE 802.11n HT40 5310 MHz

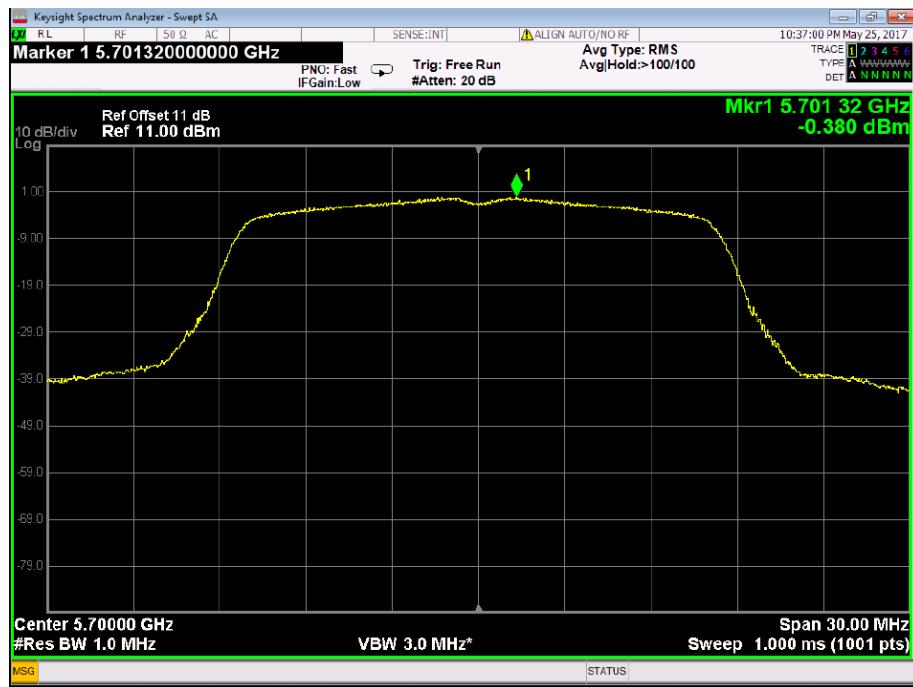


UNII Band III
IEEE 802.11a 5500 MHz

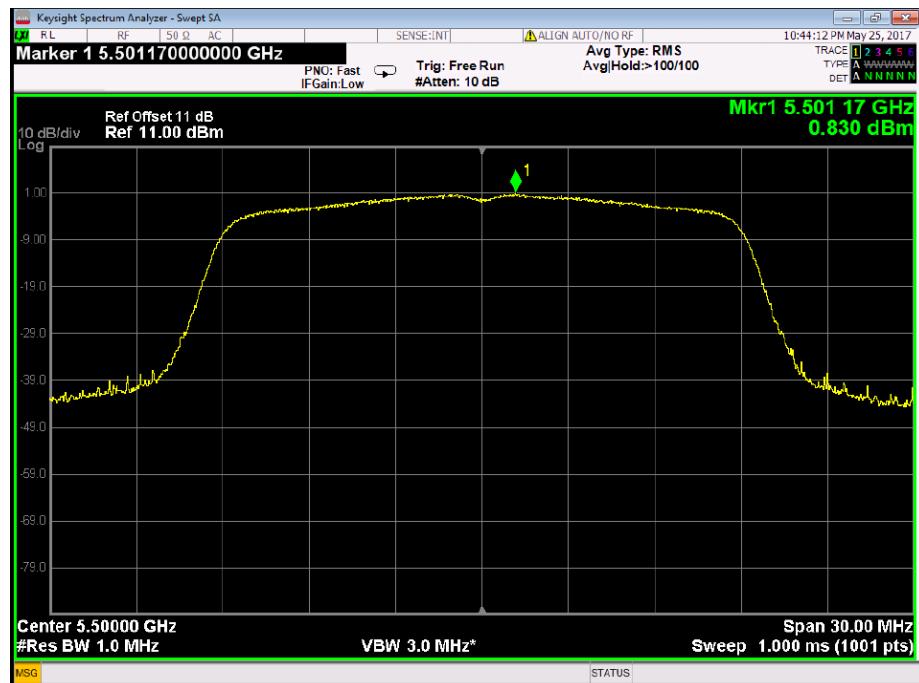


IEEE 802.11a 5580 MHz

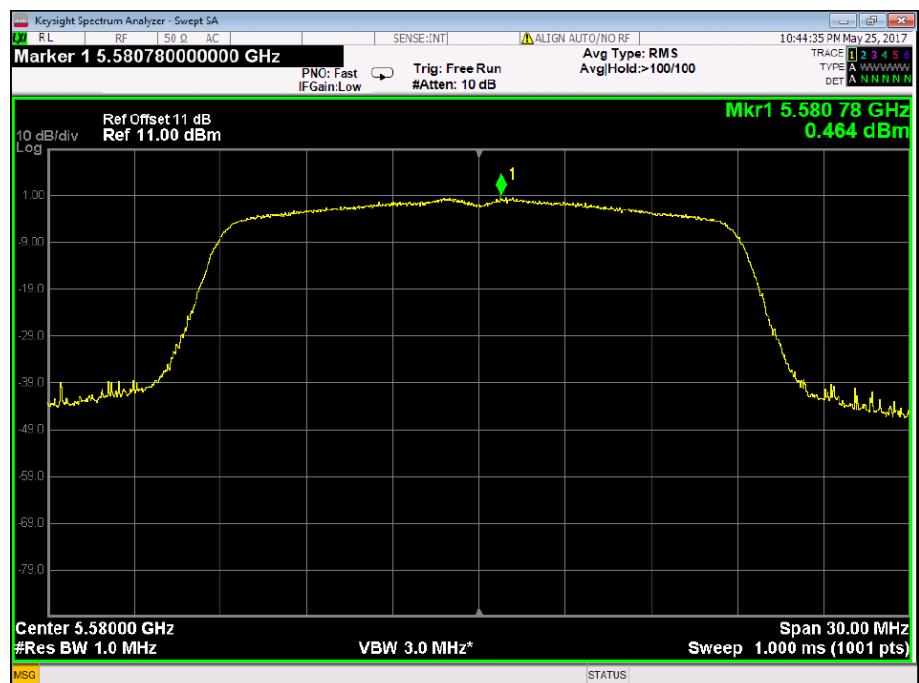


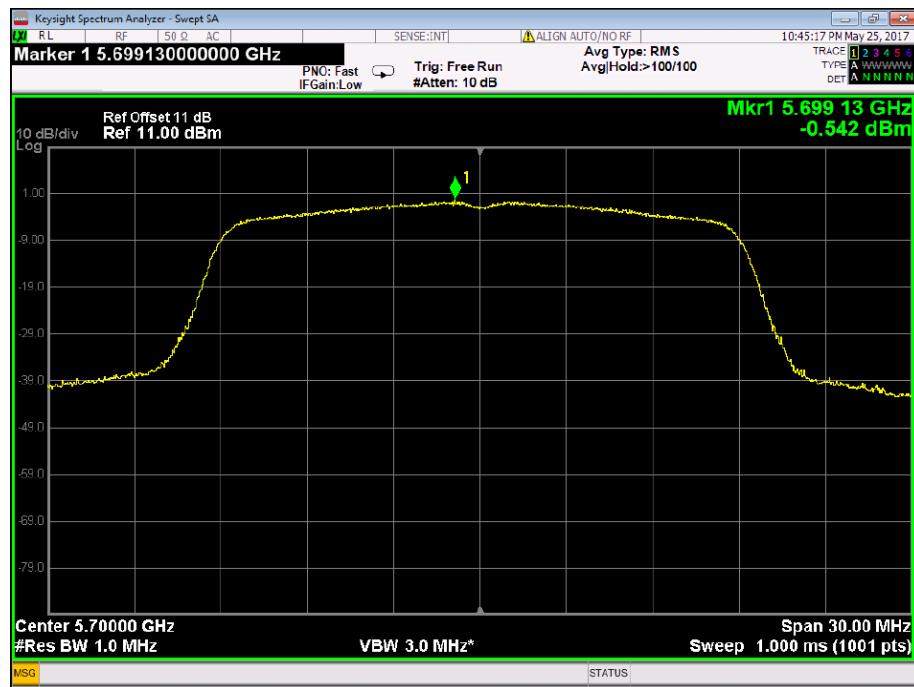
IEEE 802.11a 5700 MHz

UNII Band III
IEEE 802.11n HT20 5500 MHz

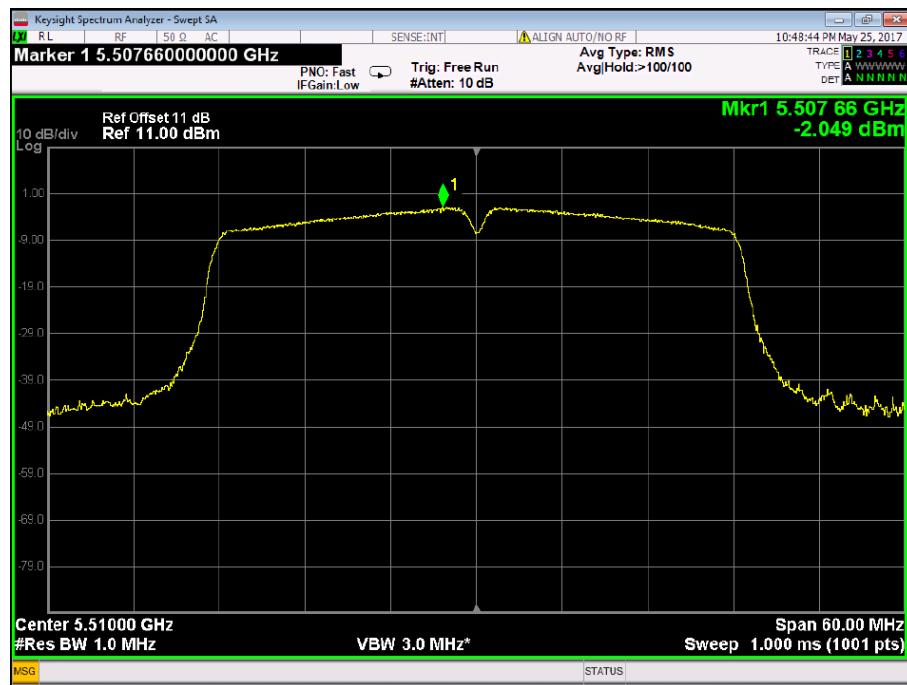


IEEE 802.11n HT20 5580 MHz

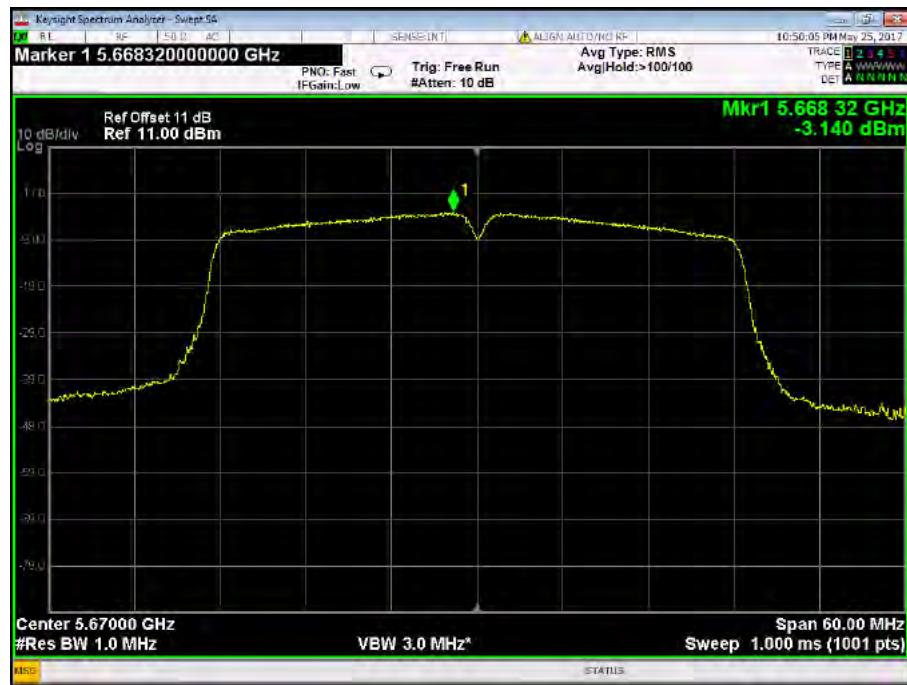


IEEE 802.11n HT20 5700 MHz

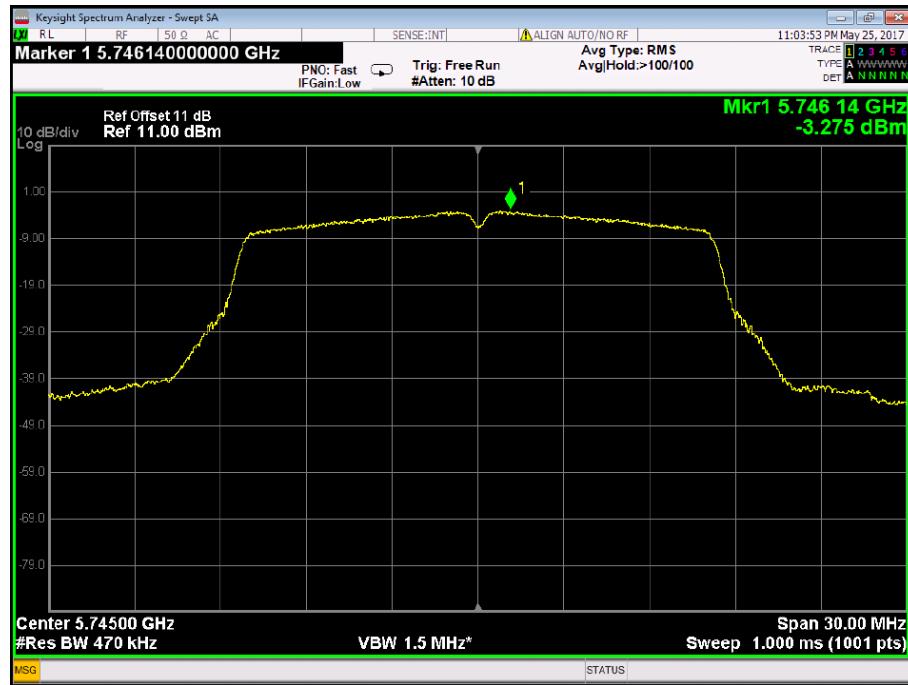
UNII Band III
IEEE 802.11n HT40 5510 MHz



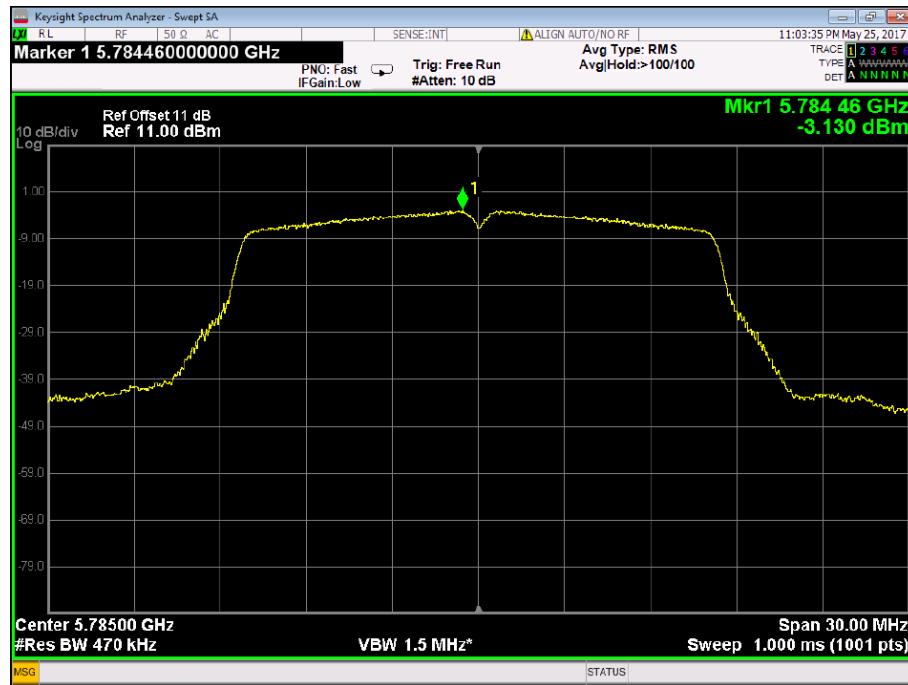
IEEE 802.11n HT40 5670 MHz

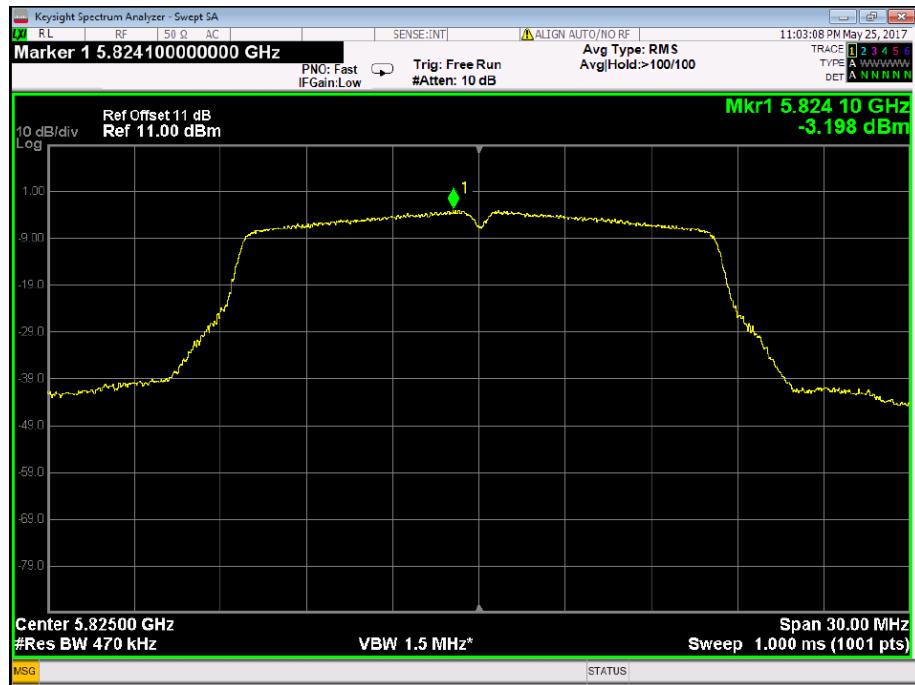


UNII Band IV
IEEE 802.11a 5745 MHz

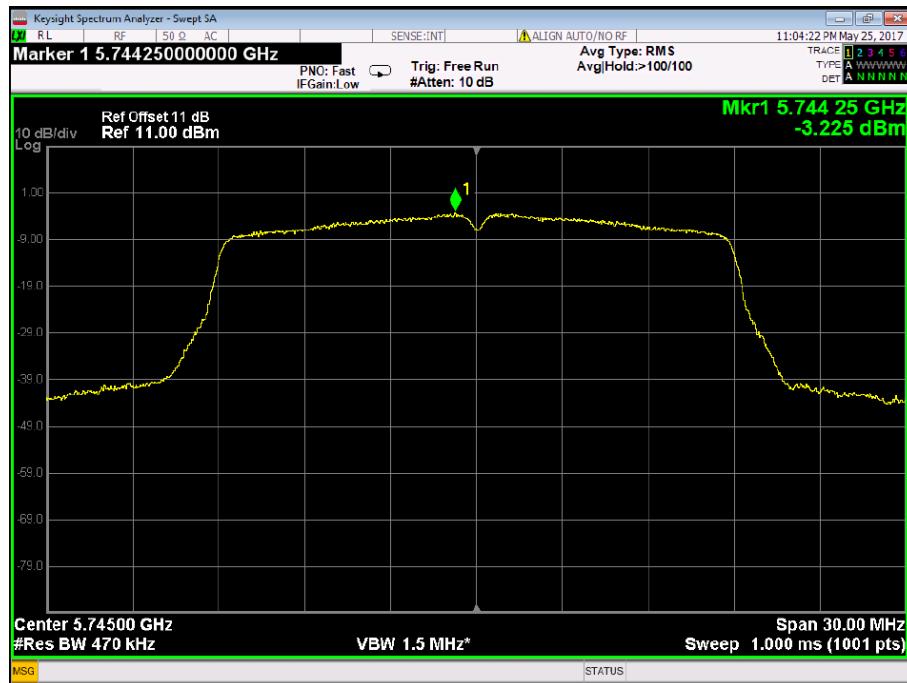


IEEE 802.11a 5785 MHz

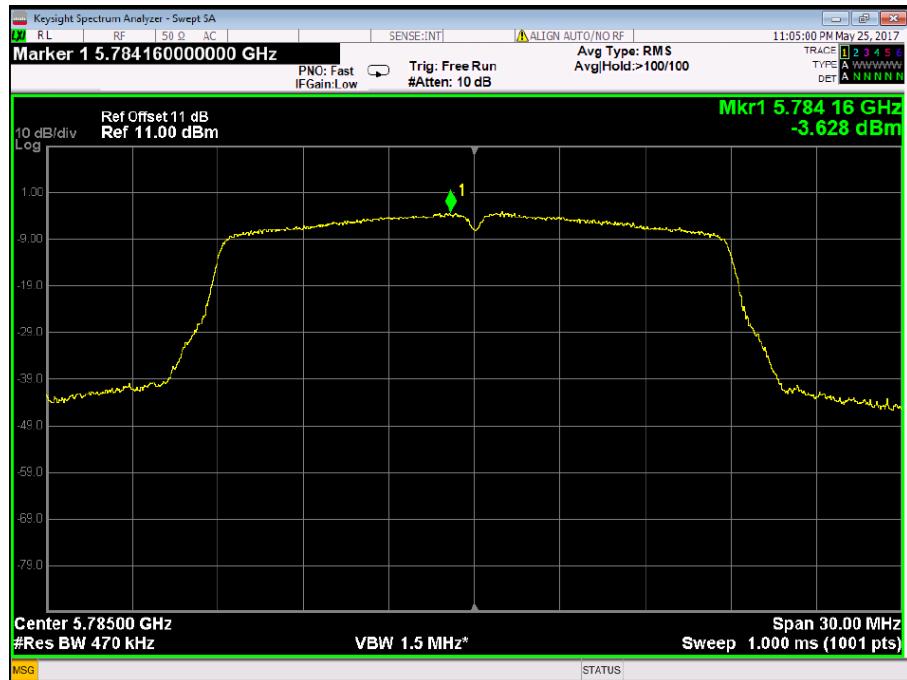


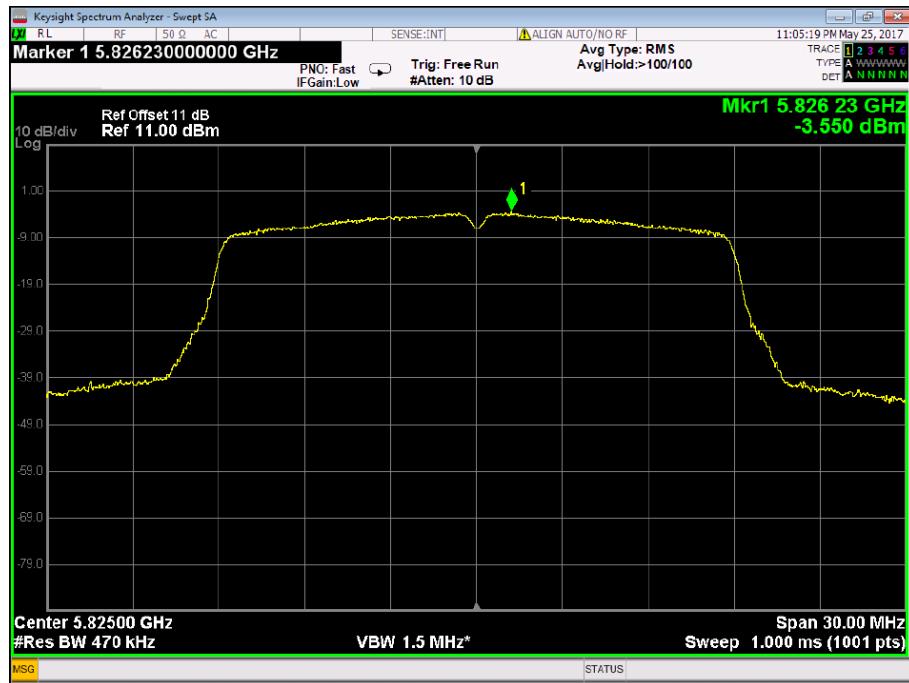
IEEE 802.11a 5825 MHz

UNII Band IV
IEEE 802.11n HT20 5745 MHz

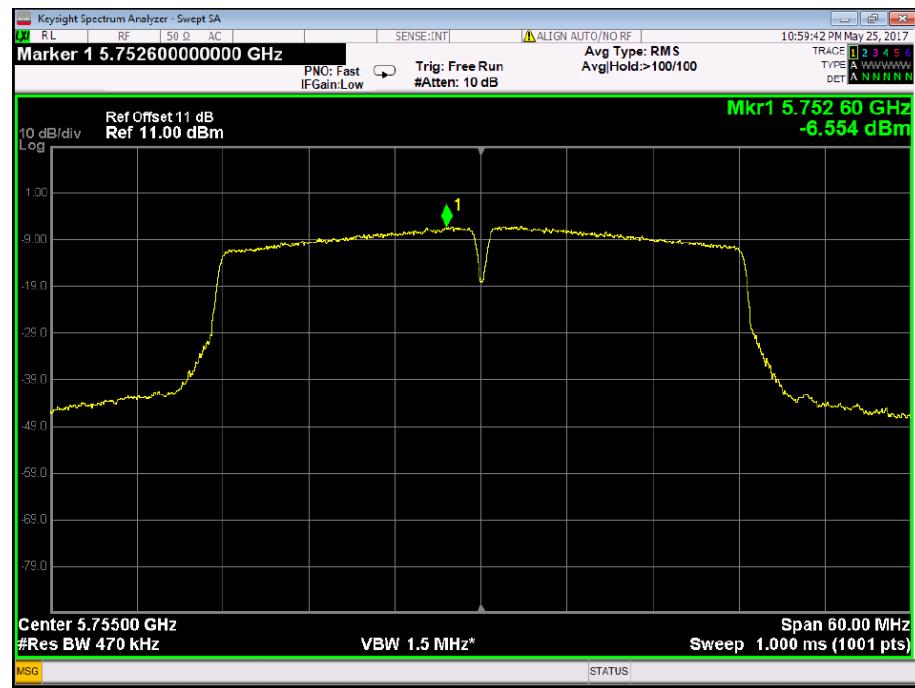


IEEE 802.11n HT20 5785 MHz

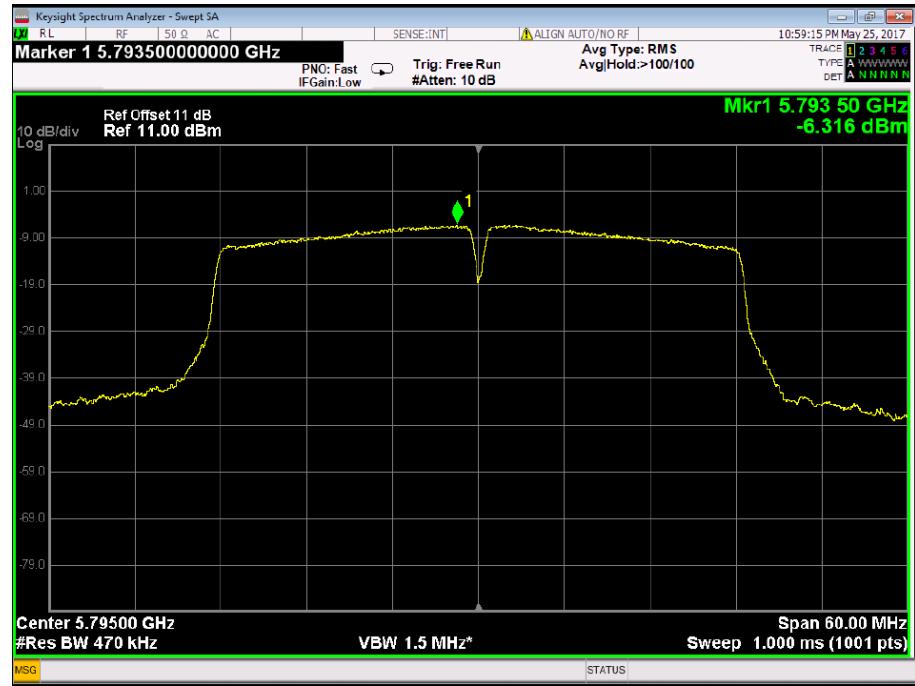


IEEE 802.11n HT20 5825 MHz

UNII Band IV
IEEE 802.11n HT40 5755 MHz



IEEE 802.11n HT40 5795 MHz

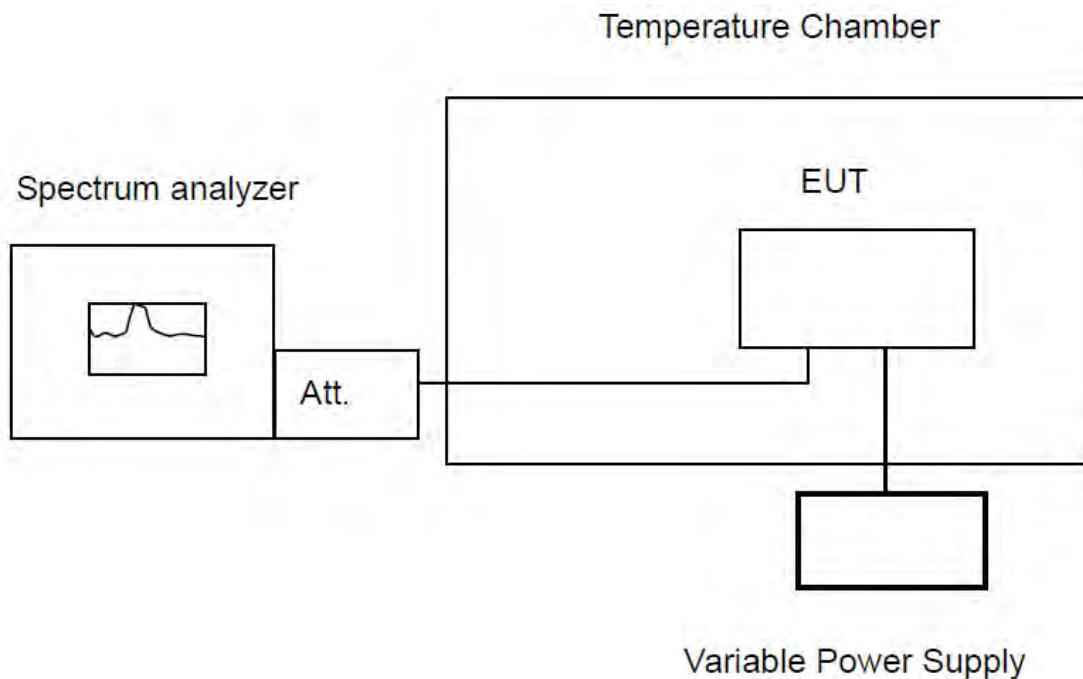


7. FREQUENCY STABILITY

7.1. Limit

According to §15.407(g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

7.2. Test Procedure



Remark :

- a, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- b, Place the EUT on the table and set it in the un-modulation transmitting mode.
- c, The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

7.3. Test Information

EUT: INTERNET RADIO PLAYER						
M/N: DN-350UI						
Test date: 2017-05-27			Test site: RF sit		Tested by: Sunny	

7.4. Test Result

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11a 5180MHz	50	120	5179.984103	5150-5250	Pass
		40	120	5179.958463	5150-5250	Pass
		30	120	5179.956568	5150-5250	Pass
		20	120	5179.966845	5150-5250	Pass
		10	120	5179.949370	5150-5250	Pass
		0	120	5179.975293	5150-5250	Pass
		-10	120	5179.975772	5150-5250	Pass
		-20	120	5179.981295	5150-5250	Pass
		20	108	5179.965173	5150-5250	Pass
		20	120	5179.966845	5150-5250	Pass
		20	132	5179.987972	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11a 5240MHz	50	120	5239.998819	5150-5250	Pass
		40	120	5239.959382	5150-5250	Pass
		30	120	5239.995699	5150-5250	Pass
		20	120	5239.966426	5150-5250	Pass
		10	120	5239.956877	5150-5250	Pass
		0	120	5239.975428	5150-5250	Pass
		-10	120	5239.988688	5150-5250	Pass
		-20	120	5239.985189	5150-5250	Pass
		20	108	5239.984665	5150-5250	Pass
		20	120	5239.966426	5150-5250	Pass
		20	132	5239.964903	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11a 5260MHz	50	120	5259.970585	5250-5350	Pass
		40	120	5259.953965	5250-5350	Pass
		30	120	5259.955629	5250-5350	Pass
		20	120	5259.966157	5250-5350	Pass
		10	120	5259.986031	5250-5350	Pass
		0	120	5259.993559	5250-5350	Pass
		-10	120	5259.949259	5250-5350	Pass
		-20	120	5259.998647	5250-5350	Pass
		20	108	5259.957151	5250-5350	Pass
		20	120	5259.966157	5250-5350	Pass
		20	132	5259.959657	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11a 5320MHz	50	120	5319.950272	5250-5350	Pass
		40	120	5319.987651	5250-5350	Pass
		30	120	5319.965804	5250-5350	Pass
		20	120	5319.965657	5250-5350	Pass
		10	120	5319.981294	5250-5350	Pass
		0	120	5319.968733	5250-5350	Pass
		-10	120	5319.989331	5250-5350	Pass
		-20	120	5319.980791	5250-5350	Pass
		20	108	5319.965419	5250-5350	Pass
		20	120	5319.965657	5250-5350	Pass
		20	132	5319.990178	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11a 5500MHz	50	120	5499.969084	5745-5725	Pass
		40	120	5499.989934	5745-5725	Pass
		30	120	5499.999943	5745-5725	Pass
		20	120	5499.964557	5745-5725	Pass
		10	120	5499.961322	5745-5725	Pass
		0	120	5499.996777	5745-5725	Pass
		-10	120	5499.987548	5745-5725	Pass
		-20	120	5499.950965	5745-5725	Pass
		20	108	5499.968728	5745-5725	Pass
		20	120	5499.964557	5745-5725	Pass
		20	132	5499.959950	5745-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11a 5700MHz	50	120	5699.954051	5475-5725	Pass
		40	120	5699.986511	5475-5725	Pass
		30	120	5699.981483	5475-5725	Pass
		20	120	5699.963549	5475-5725	Pass
		10	120	5699.974614	5475-5725	Pass
		0	120	5699.974321	5475-5725	Pass
		-10	120	5699.982482	5475-5725	Pass
		-20	120	5699.960676	5475-5725	Pass
		20	108	5699.959313	5475-5725	Pass
		20	120	5699.963549	5475-5725	Pass
		20	132	5699.959931	5475-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11a 5745MHz	50	120	5744.959416	5725-5850	Pass
		40	120	5744.983722	5725-5850	Pass
		30	120	5744.976894	5725-5850	Pass
		20	120	5744.964168	5725-5850	Pass
		10	120	5744.989066	5725-5850	Pass
		0	120	5744.953895	5725-5850	Pass
		-10	120	5744.962894	5725-5850	Pass
		-20	120	5744.973121	5725-5850	Pass
		20	108	5744.962904	5725-5850	Pass
		20	120	5744.964168	5725-5850	Pass
		20	132	5744.987897	5725-5850	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11a 5825MHz	50	120	5824.991254	5725-5850	Pass
		40	120	5824.987146	5725-5850	Pass
		30	120	5824.951729	5725-5850	Pass
		20	120	5824.962574	5725-5850	Pass
		10	120	5824.992127	5725-5850	Pass
		0	120	5824.963329	5725-5850	Pass
		-10	120	5824.990864	5725-5850	Pass
		-20	120	5824.960173	5725-5850	Pass
		20	108	5824.955166	5725-5850	Pass
		20	120	5824.962574	5725-5850	Pass
		20	132	5824.961713	5725-5850	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11n HT20 5180MHz	50	120	5179.990977	5150-5250	Pass
		40	120	5179.971505	5150-5250	Pass
		30	120	5179.973548	5150-5250	Pass
		20	120	5179.966861	5150-5250	Pass
		10	120	5179.956627	5150-5250	Pass
		0	120	5179.988881	5150-5250	Pass
		-10	120	5179.959277	5150-5250	Pass
		-20	120	5179.965210	5150-5250	Pass
		20	108	5179.955247	5150-5250	Pass
		20	120	5179.966861	5150-5250	Pass
		20	132	5179.991133	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11n HT20 5240MHz	50	120	5239.982590	5150-5250	Pass
		40	120	5239.953294	5150-5250	Pass
		30	120	5239.955777	5150-5250	Pass
		20	120	5239.966397	5150-5250	Pass
		10	120	5239.996175	5150-5250	Pass
		0	120	5239.979636	5150-5250	Pass
		-10	120	5239.999155	5150-5250	Pass
		-20	120	5239.992775	5150-5250	Pass
		20	108	5239.993427	5150-5250	Pass
		20	120	5239.966397	5150-5250	Pass
		20	132	5239.997197	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11n HT20 5260MHz	50	120	5259.950869	5250-5350	Pass
		40	120	5259.975986	5250-5350	Pass
		30	120	5259.986818	5250-5350	Pass
		20	120	5259.966120	5250-5350	Pass
		10	120	5259.981946	5250-5350	Pass
		0	120	5259.992438	5250-5350	Pass
		-10	120	5259.991141	5250-5350	Pass
		-20	120	5259.987560	5250-5350	Pass
		20	108	5259.950193	5250-5350	Pass
		20	120	5259.966120	5250-5350	Pass
		20	132	5259.952103	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11n HT20 5320MHz	50	120	5319.978735	5250-5350	Pass
		40	120	5319.962847	5250-5350	Pass
		30	120	5319.997950	5250-5350	Pass
		20	120	5319.965687	5250-5350	Pass
		10	120	5319.951623	5250-5350	Pass
		0	120	5319.976989	5250-5350	Pass
		-10	120	5319.976346	5250-5350	Pass
		-20	120	5319.966529	5250-5350	Pass
		20	108	5319.975297	5250-5350	Pass
		20	120	5319.965687	5250-5350	Pass
		20	132	5319.966529	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11n HT20 5500MHz	50	120	5499.976532	5745-5725	Pass
		40	120	5499.989391	5745-5725	Pass
		30	120	5499.973271	5745-5725	Pass
		20	120	5499.964562	5745-5725	Pass
		10	120	5499.972634	5745-5725	Pass
		0	120	5499.999124	5745-5725	Pass
		-10	120	5499.997246	5745-5725	Pass
		-20	120	5499.975234	5745-5725	Pass
		20	108	5499.990176	5745-5725	Pass
		20	120	5499.964562	5745-5725	Pass
		20	132	5499.999659	5745-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11n HT20 5700MHz	50	120	5699.951825	5475-5725	Pass
		40	120	5699.973096	5475-5725	Pass
		30	120	5699.965555	5475-5725	Pass
		20	120	5699.963397	5475-5725	Pass
		10	120	5699.982120	5475-5725	Pass
		0	120	5699.987890	5475-5725	Pass
		-10	120	5699.999239	5475-5725	Pass
		-20	120	5699.960428	5475-5725	Pass
		20	108	5699.951216	5475-5725	Pass
		20	120	5699.963397	5475-5725	Pass
		20	132	5699.950021	5475-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11n HT20 5745MHz	50	120	5744.974779	5725-5850	Pass
		40	120	5744.963259	5725-5850	Pass
		30	120	5744.967131	5725-5850	Pass
		20	120	5744.963078	5725-5850	Pass
		10	120	5744.963259	5725-5850	Pass
		0	120	5744.967131	5725-5850	Pass
		-10	120	5744.974779	5725-5850	Pass
		-20	120	5744.963259	5725-5850	Pass
		20	108	5744.968433	5725-5850	Pass
		20	120	5744.963078	5725-5850	Pass
		20	132	5744.950069	5725-5850	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11n HT20 5825MHz	50	120	5824.973451	5725-5850	Pass
		40	120	5824.955306	5725-5850	Pass
		30	120	5824.953875	5725-5850	Pass
		20	120	5824.962590	5725-5850	Pass
		10	120	5824.963065	5725-5850	Pass
		0	120	5824.949821	5725-5850	Pass
		-10	120	5824.953424	5725-5850	Pass
		-20	120	5824.975822	5725-5850	Pass
		20	108	5824.951545	5725-5850	Pass
		20	120	5824.962590	5725-5850	Pass
		20	132	5824.978275	5725-5850	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11n HT40 5190MHz	50	120	5189.960382	5150-5250	Pass
		40	120	5189.998293	5150-5250	Pass
		30	120	5189.962891	5150-5250	Pass
		20	120	5189.966427	5150-5250	Pass
		10	120	5189.960064	5150-5250	Pass
		0	120	5189.961082	5150-5250	Pass
		-10	120	5189.979209	5150-5250	Pass
		-20	120	5189.988555	5150-5250	Pass
		20	108	5189.970217	5150-5250	Pass
		20	120	5189.966427	5150-5250	Pass
		20	132	5189.987719	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band I	IEEE 802.11n HT40 5230MHz	50	120	5229.980943	5150-5250	Pass
		40	120	5229.952096	5150-5250	Pass
		30	120	5229.995140	5150-5250	Pass
		20	120	5229.966307	5150-5250	Pass
		10	120	5229.966898	5150-5250	Pass
		0	120	5229.964844	5150-5250	Pass
		-10	120	5229.957297	5150-5250	Pass
		-20	120	5229.991256	5150-5250	Pass
		20	108	5229.951773	5150-5250	Pass
		20	120	5229.966307	5150-5250	Pass
		20	132	5229.986908	5150-5250	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11n HT40 5270MHz	50	120	5269.983588	5250-5350	Pass
		40	120	5269.990212	5250-5350	Pass
		30	120	5269.971524	5250-5350	Pass
		20	120	5269.966033	5250-5350	Pass
		10	120	5269.981187	5250-5350	Pass
		0	120	5269.966453	5250-5350	Pass
		-10	120	5269.966453	5250-5350	Pass
		-20	120	5269.958182	5250-5350	Pass
		20	108	5269.983927	5250-5350	Pass
		20	120	5269.966033	5250-5350	Pass
		20	132	5269.979873	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band II	IEEE 802.11n HT40 5310MHz	50	120	5309.950392	5250-5350	Pass
		40	120	5309.985129	5250-5350	Pass
		30	120	5309.974207	5250-5350	Pass
		20	120	5309.965255	5250-5350	Pass
		10	120	5309.974784	5250-5350	Pass
		0	120	5309.979242	5250-5350	Pass
		-10	120	5309.989159	5250-5350	Pass
		-20	120	5309.991189	5250-5350	Pass
		20	108	5309.995252	5250-5350	Pass
		20	120	5309.965255	5250-5350	Pass
		20	132	5309.969840	5250-5350	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11n HT40 5510MHz	50	120	5509.980503	5745-5725	Pass
		40	120	5509.999157	5745-5725	Pass
		30	120	5509.955597	5745-5725	Pass
		20	120	5509.970226	5745-5725	Pass
		10	120	5509.986741	5745-5725	Pass
		0	120	5509.978688	5745-5725	Pass
		-10	120	5509.976167	5745-5725	Pass
		-20	120	5509.992587	5745-5725	Pass
		20	108	5509.992290	5745-5725	Pass
		20	120	5509.970226	5745-5725	Pass
		20	132	5509.966424	5745-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band III	IEEE 802.11n HT40 5670MHz	50	120	5669.950046	5475-5725	Pass
		40	120	5669.975123	5475-5725	Pass
		30	120	5669.972758	5475-5725	Pass
		20	120	5669.963265	5475-5725	Pass
		10	120	5669.964233	5475-5725	Pass
		0	120	5669.993108	5475-5725	Pass
		-10	120	5669.953144	5475-5725	Pass
		-20	120	5669.981874	5475-5725	Pass
		20	108	5669.966956	5475-5725	Pass
		20	120	5669.963265	5475-5725	Pass
		20	132	5669.956715	5475-5725	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11n HT40 5755MHz	50	120	5754.960082	5725-5850	Pass
		40	120	5754.960210	5725-5850	Pass
		30	120	5754.981693	5725-5850	Pass
		20	120	5754.963254	5725-5850	Pass
		10	120	5754.973153	5725-5850	Pass
		0	120	5754.977158	5725-5850	Pass
		-10	120	5754.989255	5725-5850	Pass
		-20	120	5754.992914	5725-5850	Pass
		20	108	5754.977883	5725-5850	Pass
		20	120	5754.963254	5725-5850	Pass
		20	132	5754.985952	5725-5850	Pass

Band	Mode	Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range (MHz)	Result
UNII Band IV	IEEE 802.11n HT40 5795MHz	50	120	5794.990163	5725-5850	Pass
		40	120	5794.954557	5725-5850	Pass
		30	120	5794.973845	5725-5850	Pass
		20	120	5794.962267	5725-5850	Pass
		10	120	5794.978444	5725-5850	Pass
		0	120	5794.973497	5725-5850	Pass
		-10	120	5794.967123	5725-5850	Pass
		-20	120	5794.963800	5725-5850	Pass
		20	108	5794.962549	5725-5850	Pass
		20	120	5794.962267	5725-5850	Pass
		20	132	5794.986901	5725-5850	Pass

8. RADIATED SPURIOUS EMISSIONS

8.1. Limit

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

15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

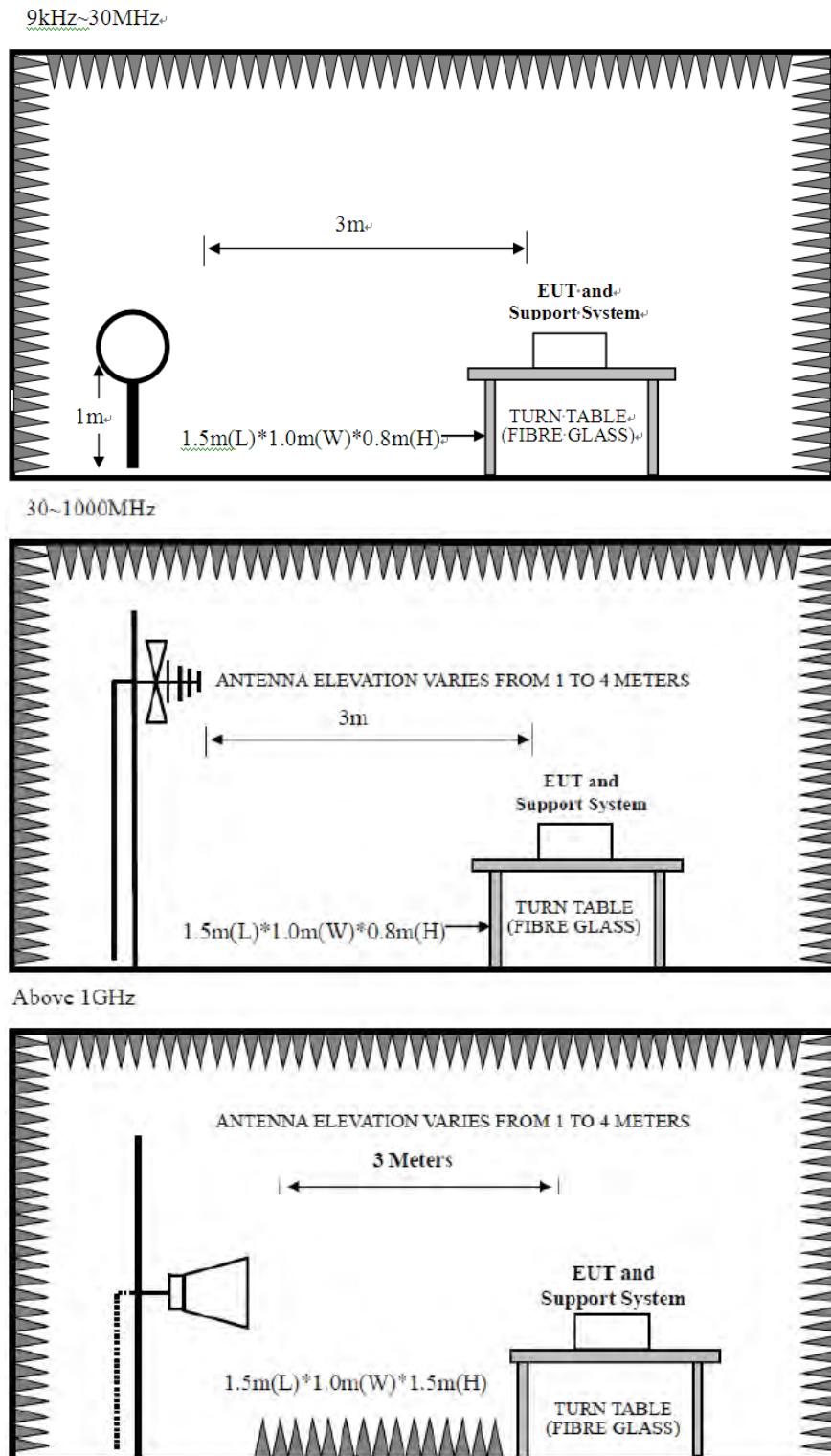
15.209 Limit

Frequency (MHz)	Field Strength(μV/m)	Distance(m)
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

Remark : (1) Emission level dB μ V = 20 log Emission level μ V/m

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

8.2. Block Diagram of Test setup



8.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and which is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement,

PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 9 kHz to 10th harmonic are checked.

8.4. Test Result

Pass

Note: 1、For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

- 2、The frequency 5180MHz 、5190MHz、5200MHz、5230 MHz、5240 MHz、5260 MHz、5270 MHz、5300 MHz、5310 MHz、5320 MHz、5500 MHz、5510 MHz、5580 MHz、5670 MHz、5700 MHz、5745 MHz、5755 MHz、5785 MHz、5795 MHz、5825MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

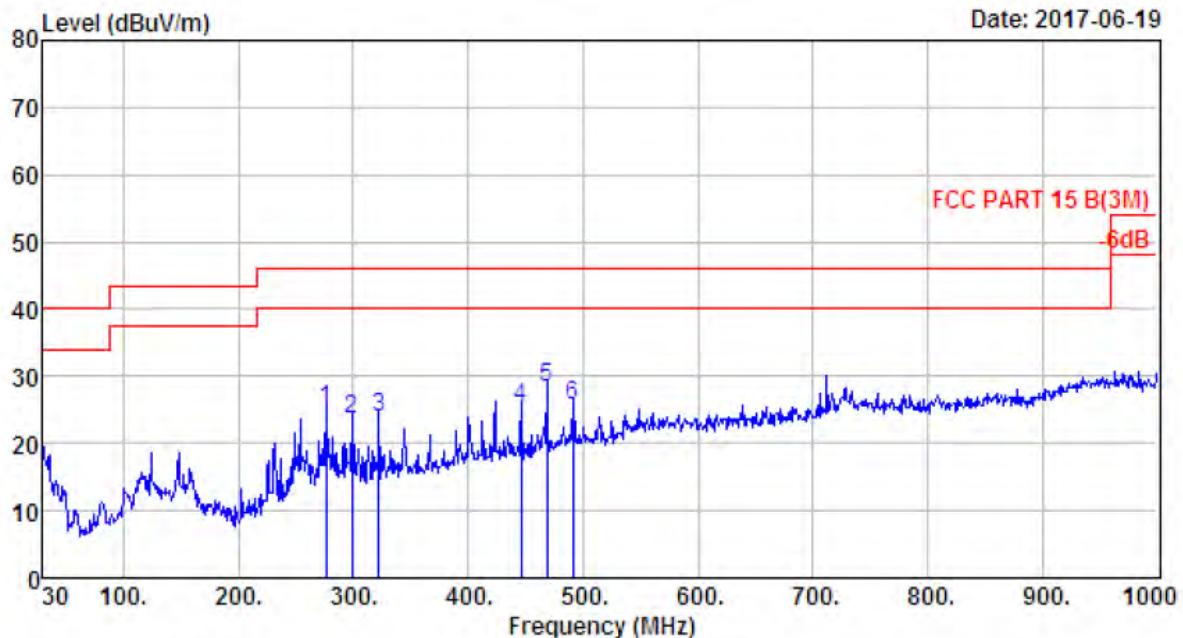
8.5. Test Data

9 kHz – 30 MHz

Pass

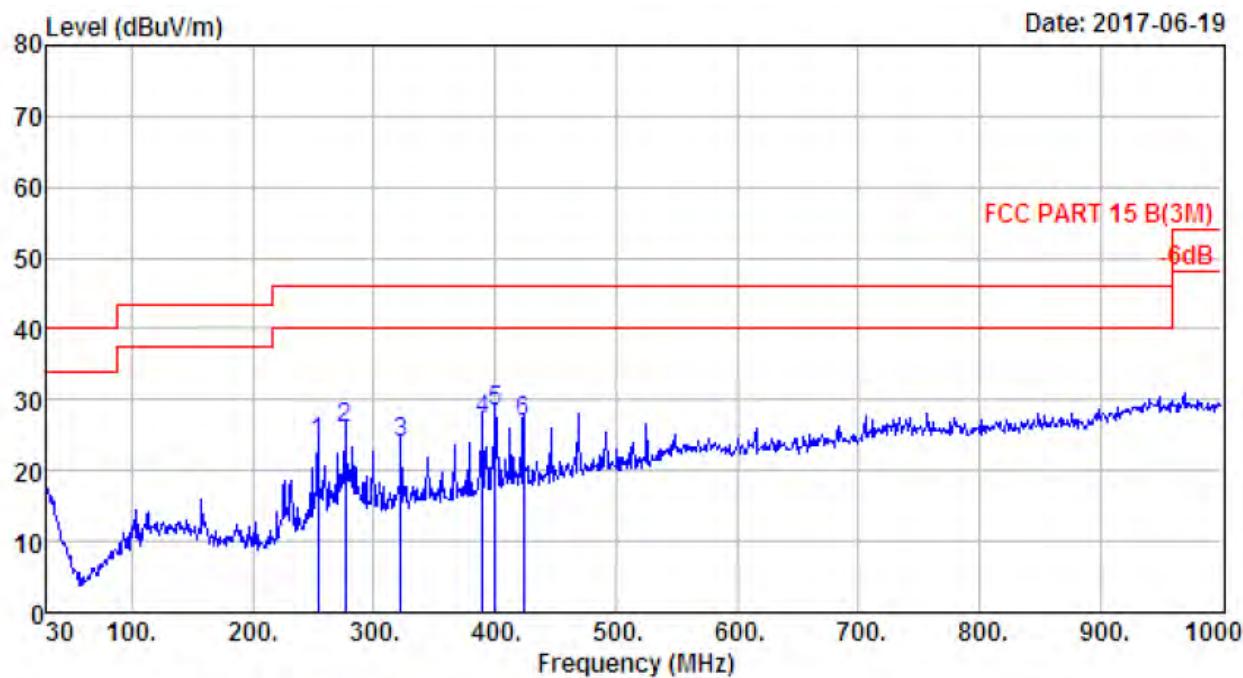
Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

30 MHz – 1000 MHz



Site no. : 1# 966 Chamber Data no. : 965
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B(3M)
 Env. / Ins. : Temp:24.3';Humi:51%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : TX Mode

	ANT	Cable	Emission				
Freq.	Factor	Loss	Reading	Level	Limit	Margin	Remark
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1 276.38	12.36	2.26	10.59	25.21	46.00	20.79	QP
2 298.69	13.00	2.40	8.22	23.62	46.00	22.38	QP
3 321.97	13.63	2.42	7.72	23.77	46.00	22.23	QP
4 446.13	16.38	3.00	6.03	25.41	46.00	20.59	QP
5 468.44	17.14	3.09	8.00	28.23	46.00	17.77	QP
6 490.75	17.82	3.09	4.84	25.75	46.00	20.25	QP



Site no. : 1# 966 Chamber Data no. : 966
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B(3M)
 Env. / Ins. : Temp:24.3';Humi:51%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : TX Mode

Freq. (MHz)	ANT	Cable	Emission				Remark
	Factor (dB/m)	Loss (dB)	Reading (dB _{BuV})	Level (dB _{BuV/m})	Limit (dB _{BuV/m})	Margin (dB)	
1 254.07	12.29	2.15	9.57	24.01	46.00	21.99	QP
2 276.38	12.36	2.26	11.47	26.09	46.00	19.91	QP
3 321.97	13.63	2.42	7.93	23.98	46.00	22.02	QP
4 389.87	15.60	2.65	9.01	27.26	46.00	18.74	QP
5 400.54	16.07	2.66	9.73	28.46	46.00	17.54	QP
6 423.82	16.20	2.77	7.92	26.89	46.00	19.11	QP

1000-18000 MHz

Site no. : 1# 966 Chamber Data no. : 735
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH36 5180MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5180.00	31.66	12.37	35.98	85.64	93.69	74.00	-19.69	Peak
2 7409.00	36.58	11.60	34.23	37.39	51.34	74.00	22.66	Peak
3 8684.00	37.32	11.45	33.66	35.65	50.76	74.00	23.24	Peak
4 10360.00	38.74	11.38	34.53	29.02	44.61	54.00	9.39	Average
5 10360.00	38.74	11.38	34.53	42.24	57.83	74.00	16.17	Peak
6 14005.00	41.46	10.90	33.01	31.43	50.78	74.00	23.22	Peak
7 15540.00	37.80	11.07	33.08	30.57	46.36	74.00	27.64	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 736
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH36 5180MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5180.00	31.66	12.37	35.98	90.09	98.14	74.00	-24.14	Peak
2 7290.00	36.54	11.56	34.09	36.99	51.00	74.00	23.00	Peak
3 10360.00	38.74	11.38	34.53	31.19	46.78	54.00	7.22	Average
4 10360.00	38.74	11.38	34.53	45.29	60.88	74.00	13.12	Peak
5 11574.00	39.12	10.99	33.27	32.83	49.67	74.00	24.33	Peak
6 13716.00	40.69	11.24	32.94	31.22	50.21	74.00	23.79	Peak
7 15540.00	37.80	11.07	33.08	28.56	44.35	74.00	29.65	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 737
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH40 5200MHz TX

		Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	5200.00	31.67	12.35	35.97	90.62	98.67	74.00	-24.67	Peak
2	7375.00	36.57	11.59	34.21	36.54	50.49	74.00	23.51	Peak
3	10400.00	38.80	11.37	34.53	32.10	47.74	54.00	6.26	Average
4	10400.00	38.80	11.37	34.53	44.86	60.50	74.00	13.50	Peak
5	11064.00	39.48	11.24	33.83	33.92	50.81	74.00	23.19	Peak
6	13444.00	39.95	11.49	32.74	31.87	50.57	74.00	23.43	Peak
7	15600.00	37.72	11.01	33.25	29.14	44.62	74.00	29.38	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 738
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH40 5200MHz TX

		Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	5200.00	31.67	12.35	35.97	85.12	93.17	74.00	-19.17	Peak
2	7460.00	36.52	11.61	34.21	37.00	50.92	74.00	23.08	Peak
3	8684.00	37.32	11.45	33.66	34.49	49.60	74.00	24.40	Peak
4	10400.00	38.80	11.37	34.53	28.72	44.36	54.00	9.64	Average
5	10400.00	38.80	11.37	34.53	42.29	57.93	74.00	16.07	Peak
6	13716.00	40.69	11.24	32.94	31.08	50.07	74.00	23.93	Peak
7	15600.00	37.72	11.01	33.25	27.95	43.43	74.00	30.57	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 739
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH48 5240MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5240.00	31.68	12.31	35.97	84.86	92.88	74.00	-18.88	Peak
2 7120.00	36.08	11.51	33.86	36.42	50.15	74.00	23.85	Peak
3 8684.00	37.32	11.45	33.66	35.41	50.52	74.00	23.48	Peak
4 10480.00	38.95	11.32	34.51	31.67	47.43	54.00	6.57	Average
5 10480.00	38.95	11.32	34.51	43.58	59.34	74.00	14.66	Peak
6 13716.00	40.69	11.24	32.94	31.24	50.23	74.00	23.77	Peak
7 15720.00	37.52	10.91	33.35	29.06	44.14	74.00	29.86	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 740
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH48 5240MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5240.00	31.68	12.31	35.97	91.40	99.42	74.00	-25.42	Peak
2 7460.00	36.52	11.61	34.21	37.28	51.20	74.00	22.80	Peak
3 8650.00	37.27	11.45	33.68	35.65	50.69	74.00	23.31	Peak
4 10480.00	38.95	11.32	34.51	32.73	48.49	54.00	5.51	Average
5 10480.00	38.95	11.32	34.51	44.67	60.43	74.00	13.57	Peak
6 14090.00	41.54	10.91	33.13	31.50	50.82	74.00	23.18	Peak
7 15720.00	37.52	10.91	33.35	29.80	44.88	74.00	29.12	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 741
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH52 5260MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5260.00	31.69	12.27	35.97	90.51	98.50	74.00	-24.50	Peak
2 7375.00	36.57	11.59	34.21	36.46	50.41	74.00	23.59	Peak
3 10520.00	39.00	11.31	34.48	33.55	49.38	54.00	4.62	Average
4 10520.00	39.00	11.31	34.48	45.91	61.74	74.00	12.26	Peak
5 13240.00	39.46	11.46	32.88	32.19	50.23	74.00	23.77	Peak
6 14464.00	41.85	10.93	33.45	31.46	50.79	74.00	23.21	Peak
7 15780.00	37.41	10.86	33.21	30.24	45.30	74.00	28.70	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 742
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH52 5260MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5260.00	31.69	12.27	35.97	85.05	93.04	74.00	-19.04	Peak
2 7154.00	36.25	11.52	33.88	36.24	50.13	74.00	23.87	Peak
3 8684.00	37.32	11.45	33.66	34.45	49.56	74.00	24.44	Peak
4 10520.00	39.00	11.31	34.48	29.54	45.37	54.00	8.63	Average
5 10520.00	39.00	11.31	34.48	42.17	58.00	74.00	16.00	Peak
6 13886.00	41.16	11.04	33.03	30.98	50.15	74.00	23.85	Peak
7 15780.00	37.41	10.86	33.21	27.87	42.93	74.00	31.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 743
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH60 5300MHz TX

		Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	5300.00	31.70	12.23	35.94	84.48	92.47	74.00	-18.47	Peak
2	7460.00	36.52	11.61	34.21	35.24	49.16	74.00	24.84	Peak
3	8684.00	37.32	11.45	33.66	34.54	49.65	74.00	24.35	Peak
4	10600.00	39.09	11.31	34.42	30.65	46.63	54.00	7.37	Average
5	10600.00	39.09	11.31	34.42	41.99	57.97	74.00	16.03	Peak
6	14056.00	41.51	10.90	33.06	31.57	50.92	74.00	23.08	Peak
7	15900.00	37.22	10.76	32.95	28.09	43.12	74.00	30.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 744
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH60 5300MHz TX

		Ant.	Cable	Amp	Emission				
Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1	5300.00	31.70	12.23	35.94	89.96	97.95	74.00	-23.95	Peak
2	7307.00	36.55	11.57	34.12	36.67	50.67	74.00	23.33	Peak
3	8650.00	37.27	11.45	33.68	35.50	50.54	74.00	23.46	Peak
4	10600.00	39.09	11.31	34.42	33.98	49.96	54.00	4.04	Average
5	10600.00	39.09	11.31	34.42	45.22	61.20	74.00	12.80	Peak
6	13393.00	39.83	11.49	32.88	31.14	49.58	74.00	24.42	Peak
7	15900.00	37.22	10.76	32.95	26.16	41.19	74.00	32.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 745
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH64 5320MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5320.00	31.71	12.21	35.89	90.17	98.20	74.00	-24.20	Peak
2 7426.00	36.56	11.60	34.22	36.72	50.66	74.00	23.34	Peak
3 9075.00	37.53	11.49	34.20	36.03	50.85	74.00	23.15	Peak
4 10640.00	39.13	11.30	34.35	33.04	49.12	54.00	4.88	Average
5 10640.00	39.13	11.30	34.35	45.17	61.25	74.00	12.75	Peak
6 13954.00	41.35	10.96	32.99	30.51	49.83	74.00	24.17	Peak
7 15960.00	37.13	10.70	33.07	27.13	41.89	74.00	32.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 1# 966 Chamber Data no. : 746
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL
 Limit : FCC PART 15.407 PEAK
 Env. / Ins. : Temp:23.2';Humi:54%;Press:101.52kPa
 Engineer : Viking
 EUT : INTERNET RADIO PLAYER
 Power : AC 120V/60Hz
 M/N : DN-350UI
 Test Mode : IEEE 802.11a CH64 5320MHz TX

Freq. (MHz)	Ant.	Cable	Amp	Emission			Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1 5320.00	31.71	12.21	35.89	84.32	92.35	74.00	-18.35	Peak
2 7426.00	36.56	11.60	34.22	36.67	50.61	74.00	23.39	Peak
3 8684.00	37.32	11.45	33.66	35.07	50.18	74.00	23.82	Peak
4 10640.00	39.13	11.30	34.35	30.76	46.84	54.00	7.16	Average
5 10640.00	39.13	11.30	34.35	41.86	57.94	74.00	16.06	Peak
6 13954.00	41.35	10.96	32.99	30.37	49.69	74.00	24.31	Peak
7 15960.00	37.13	10.70	33.07	27.06	41.82	74.00	32.18	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.