



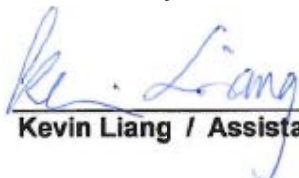
# FCC Test Report

**Equipment** : Nest Cam Outdoor  
**Brand Name** : Nest Labs  
**Model No.** : A0033  
**FCC ID** : ZQANC21  
**Standard** : 47 CFR FCC Part 15.407  
**Frequency** : 5150 MHz – 5250 MHz  
5250 MHz – 5350 MHz  
5470 MHz – 5725 MHz  
5725 MHz – 5850 MHz  
**FCC Classification** : NII  
**Applicant** : Nest Labs Inc.  
3400 Hillview Ave, Pola Alto, CA 94304 USA  
**Manufacturer** : Chicony Electronics (Dong Guan ) Co.,Ltd.  
San Zhong Guan Li Qu, Qingxi Town, Dongguan City  
Guangdong 523651 China  
**Function** :  Outdoor;  Indoor;  Fixed P2P  
 Portable Client  
**Operate Mode** : Client without radar detection; w/o TPC

The product sample received on May 13, 2016 and completely tested on Jul. 4, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

  
Kevin Liang / Assistant Manager





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**Appendix I. Test Result of AC Power-line Conducted Emissions**

**Appendix A. Test Result of Emission Bandwidth**

**Appendix B. Test Result of Maximum Conducted Output Power**

**Appendix C. Test Result of Power Spectral Density**

**Appendix D. Transmitter Bandedge Emissions**

**Appendix E. Transmitter Unwanted Emissions**

**Appendix F. Frequency Stability**

**Appendix G. Test Photos**

**Appendix H. Photographs of EUT**



### Summary of Test Result

Conformance Test Specifications			
Report Clause	Ref. Std. Clause	Description	Result
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.207	AC Power-line Conducted Emissions	Complied
3.2	15.407(a) 15.407(e)	Emission Bandwidth	Complied
3.3	15.407(a)	Maximum Conducted Output Power	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Unwanted Emissions	Complied
3.7	15.407(g)	Frequency Stability	Complied





# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

Band	Mode	BWch (MHz)	Nss-Min	Nant
5.2G	11a	20	1	1
5.2G	HT20	20	1,(M0-7)	1
5.2G	HT40	40	1,(M0-7)	1
5.3G	11a	20	1	1
5.3G	HT20	20	1,(M0-7)	1
5.3G	HT40	40	1,(M0-7)	1
5.6G	11a	20	1	1
5.6G	HT20	20	1,(M0-7)	1
5.6G	HT40	40	1,(M0-7)	1
5.8G	11a	20	1	1
5.8G	HT20	20	1,(M0-7)	1
5.8G	HT40	40	1,(M0-7)	1

Note:

- 5.2G is the 5.2GHz Band (5.15-5.25GHz).
- 5.3G is the 5.3GHz Band (5.25-5.35GHz).
- 5.6GHz is (5.47-5.6GHz) and (5.65-5.725GHz), w/o TDWR band.
- 5.8G is the 5.8GHz Band (5.725-5.850GHz).
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
  
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

Antenna Category	
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input checked="" type="checkbox"/>	Temporary RF connector provided
<input type="checkbox"/>	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.

Antenna General Information			
No.	Ant. Cat.	Ant. Type	Gain (dBi)
1	Integral	PIFA	2.45

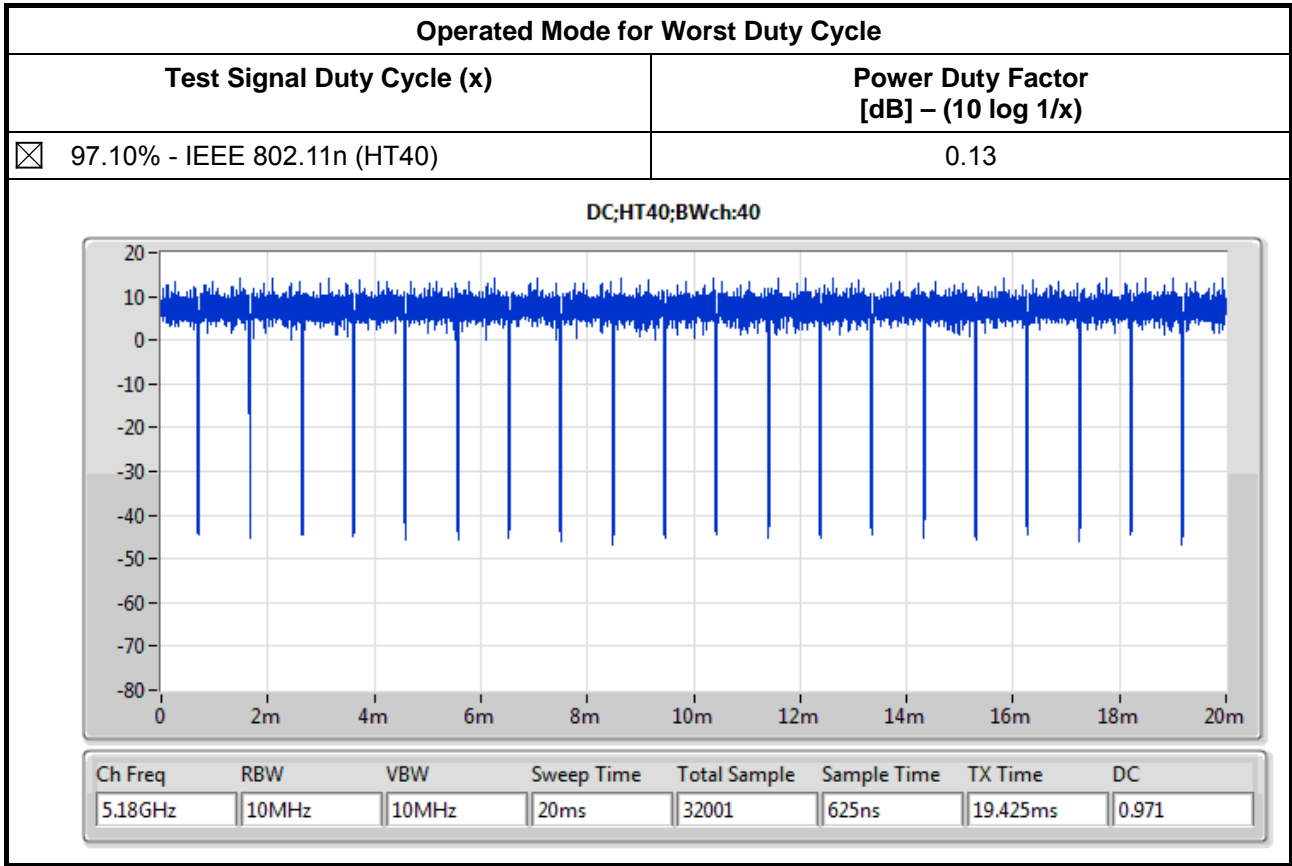
1.1.3 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	<input checked="" type="checkbox"/> Production ; <input type="checkbox"/> Pre-Production ; <input type="checkbox"/> Prototype
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:



1.1.4 Mode Test Duty Cycle

Operated Mode for Worst Duty Cycle							
Test Signal Duty Cycle (x)	Power Duty Factor [dB] – (10 log 1/x)						
<input checked="" type="checkbox"/> 98.60% - IEEE 802.11n (11a)	0.06						
DC;11a;BWch:20							
Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.18GHz	10MHz	10MHz	20ms	32001	625ns	19.72ms	0.986
<input checked="" type="checkbox"/> 98.60% - IEEE 802.11n (HT20)	0.06						
DC;HT20;BWch:20							
Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
5.18GHz	10MHz	10MHz	20ms	32001	625ns	19.719375ms	0.986



**1.1.5 EUT Operational Condition**

<b>Supply Voltage</b>	<input checked="" type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC	
<b>Type of DC Source</b>	<input checked="" type="checkbox"/> External AC adapter	<input checked="" type="checkbox"/> From Host System	<input type="checkbox"/> Battery
<b>Test Voltage</b>	<input checked="" type="checkbox"/> Vnom (5 V)	<input checked="" type="checkbox"/> Vmax (5.25 V)	<input checked="" type="checkbox"/> Vmin (4.75 V)
<b>Test Climatic</b>	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (55°C)	<input checked="" type="checkbox"/> Tmin (-20°C)





### 1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v01r02
- ♦ FCC-16-24-UNII

### 1.3 Testing Location Information

Testing Location				
<input checked="" type="checkbox"/>	HWA YA	ADD :	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	
		TEL :	886-3-327-3456	FAX : 886-3-327-6973
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Ryan	24°C / 58%	Jun. 07, 2016
RF Conducted	TH01-HY	Howard	23°C / 63%	Jul. 04, 2016
Radiated	03CH09-HY	Joe	22.2°C / 51.8%	Jun. 02, 2016

Test site registered number [ 553509 ] with FCC.

## 1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty		
Test Item		Uncertainty
AC power-line conducted emissions		±2.26 dB
Emission bandwidth, 26dB bandwidth		±1.42 %
RF output power, conducted		±0.63 dB
Power density, conducted		±0.81 dB
Unwanted emissions, conducted	9 – 150 kHz	±0.38 dB
	0.15 – 30 MHz	±0.42 dB
	30 – 1000 MHz	±0.51 dB
	1 – 18 GHz	±0.67 dB
	18 – 40 GHz	±0.83 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.49 dB
	0.15 – 30 MHz	±2.28 dB
	30 – 1000 MHz	±2.56 dB
	1 – 18 GHz	±3.59 dB
	18 – 40 GHz	±3.82 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±3 %
DC and low frequency voltages		±3 %
Time		±1.42 %
Duty Cycle		±1.42 %



## 2 Test Configuration of EUT

### 2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing			
Modulation Mode	Transmit Chains ( $N_{TX}$ )	Data Rate / MCS	Worst Data Rate / MCS
11a	1	6-54Mbps	6 Mbps
HT20	1	MCS 0-7	MCS 0
HT40	1	MCS 0-7	MCS 0



## 2.2 Test Channel Mode

Test Software	Dos
---------------	-----

Band	Mode	BWch (MHz)	Ch. (MHz)	Power Setting
5.2G	11a	20	5180	20
5.2G	11a	20	5200	20
5.2G	11a	20	5240	20
5.2G	HT20	20	5180,(M0-7)	20
5.2G	HT20	20	5200,(M0-7)	20
5.2G	HT20	20	5240,(M0-7)	20
5.2G	HT40	40	5190,(M0-7)	20
5.2G	HT40	40	5230,(M0-7)	20

Band	Mode	BWch (MHz)	Ch. (MHz)	Power Setting
5.3G	11a	20	5260	20
5.3G	11a	20	5300	20
5.3G	11a	20	5320	20
5.3G	HT20	20	5260,(M0-7)	20
5.3G	HT20	20	5300,(M0-7)	20
5.3G	HT20	20	5320,(M0-7)	20
5.3G	HT40	40	5270,(M0-7)	20
5.3G	HT40	40	5310,(M0-7)	20

Band	Mode	BWch (MHz)	Ch. (MHz)	Power Setting
5.6G	11a	20	5500	20
5.6G	11a	20	5580	20
5.6G	11a	20	5700	20
5.6G	HT20	20	5500,(M0-7)	20
5.6G	HT20	20	5580,(M0-7)	20
5.6G	HT20	20	5700,(M0-7)	20
5.6G	HT40	40	5510,(M0-7)	20
5.6G	HT40	40	5550,(M0-7)	20
5.6G	HT40	40	5670,(M0-7)	20



Band	Mode	BWch (MHz)	Ch. (MHz)	Power Setting
5.8G	11a	20	5745	20
5.8G	11a	20	5785	20
5.8G	11a	20	5825	20
5.8G	HT20	20	5745,(M0-7)	20
5.8G	HT20	20	5785,(M0-7)	20
5.8G	HT20	20	5825,(M0-7)	20
5.8G	HT40	40	5755,(M0-7)	20
5.8G	HT40	40	5795,(M0-7)	20

**Abbreviation Explanation**

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Test Cond.	Abbreviation
5.2G	VHT40	40	1,(M0-9)	2	5190	L	TN,VN	5.2G;VHT40;40;1,(M0-9);2;5190;L;TN,VN
5.2G	VHT80	80	1,(M0-9)	2	5210	S	TN,VN	5.2G;VHT80;80;1,(M0-9);2;5210;S;TN,VN




Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch. or Intra- band Ch.) and C (Inter-band Ch.).

### 2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
<b>Operating Mode</b>	Operating Mode Description
1	Adapter Mode (Charge)
2	USB Mode

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Emission Bandwidth, Maximum Conducted Output Power, Peak Power Spectral Density, Frequency Stability
<b>Test Condition</b>	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
<b>Tests Item</b>	Transmitter Bandedge Emissions , Transmitter Unwanted Emissions		
<b>Test Condition</b>	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
<b>User Position</b>	<input type="checkbox"/> EUT will be placed in fixed position.		
	<input checked="" type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes.		
	<input type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
<b>Operating Mode &lt; 1GHz</b>	<input checked="" type="checkbox"/> 1. Adapter Mode (Charge)		
	<input checked="" type="checkbox"/> 2. USB Mode		
<b>Orthogonal Planes of EUT</b>	<b>X Plane</b>	<b>Y Plane</b>	<b>Z Plane</b>
			
<b>Worst Planes of EUT</b>	V		



## 2.4 Accessories and Support Equipment

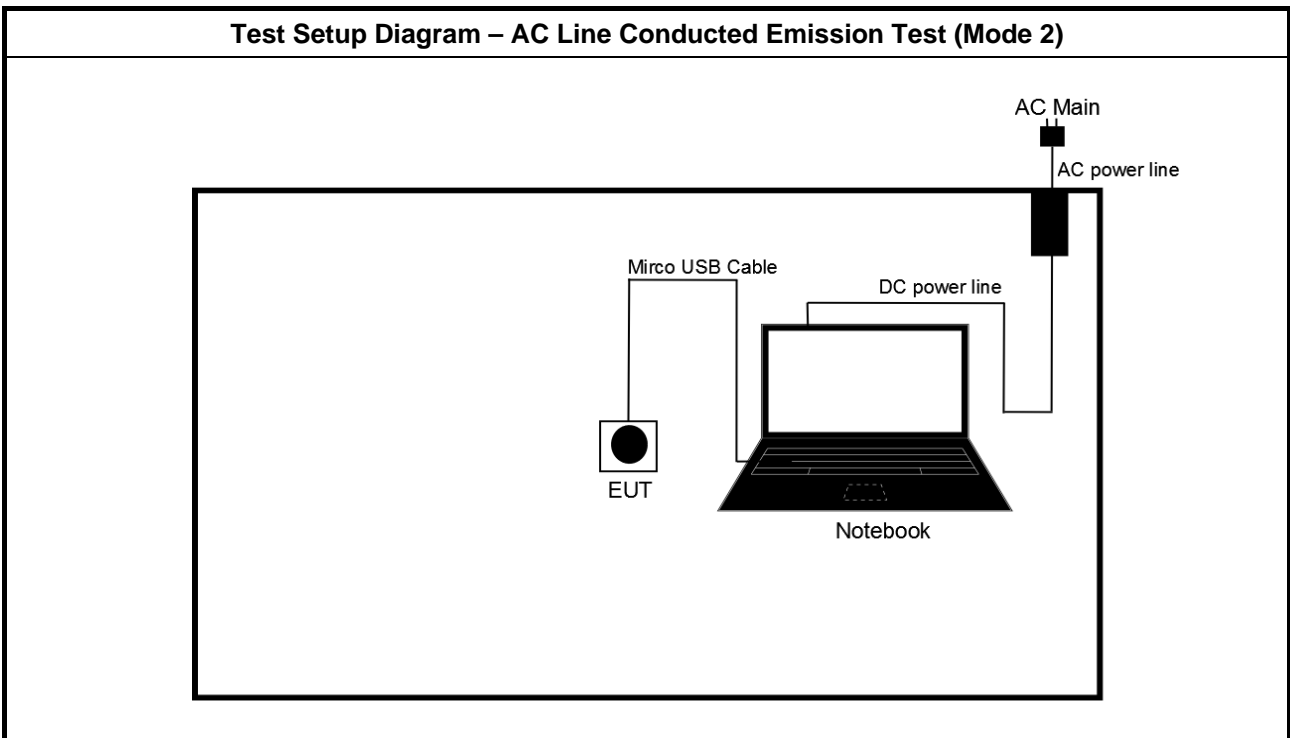
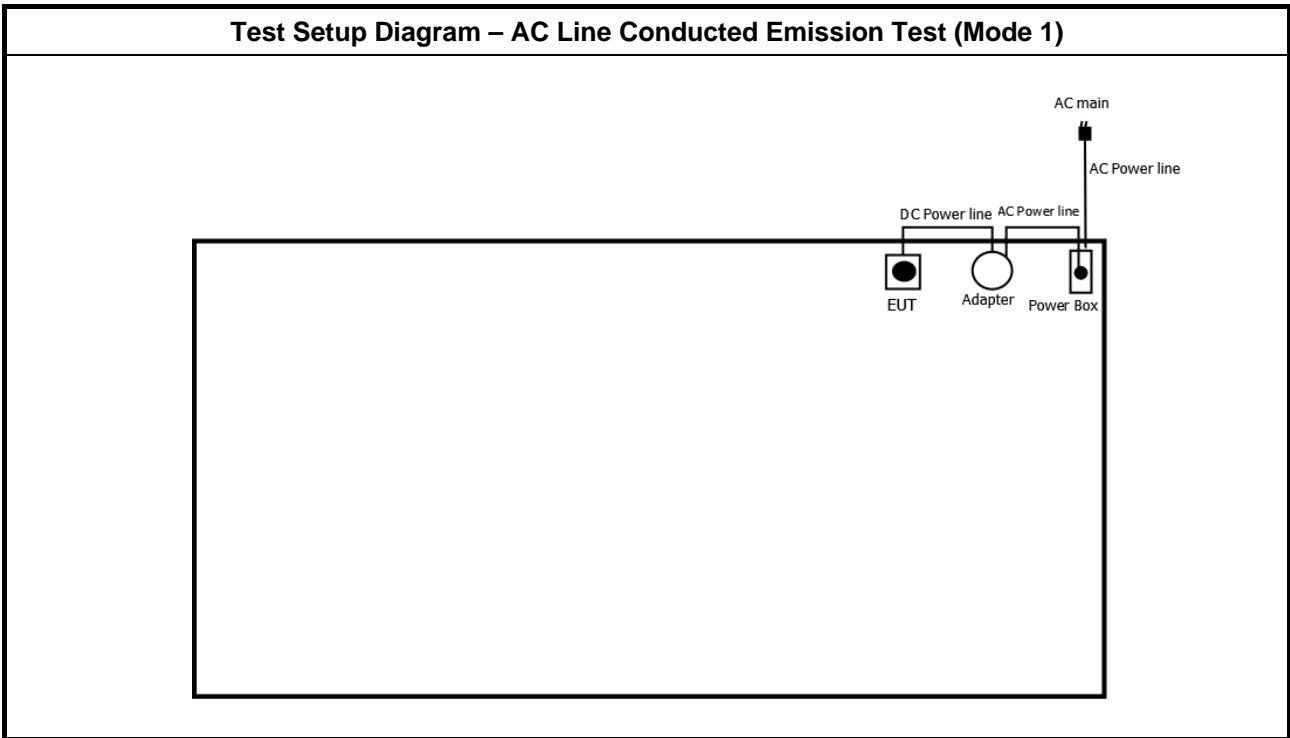
Accessories				
AC Adapter	Brand Name	I.T.E	Model Name	A0038
	Power Rating	I/P: 100-240 Vac, 0.35A, O/P: 5Vdc,1.4A		
	Power Cord	4.4 meter, non-shielded cable,with w/o ferrite core		

Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment - RF Conducted			
No.	Equipment	Brand Name	Model Name
1	Notebook	DELL	E6400
2	AC Adapter for Notebook	DELL	HA65NM130

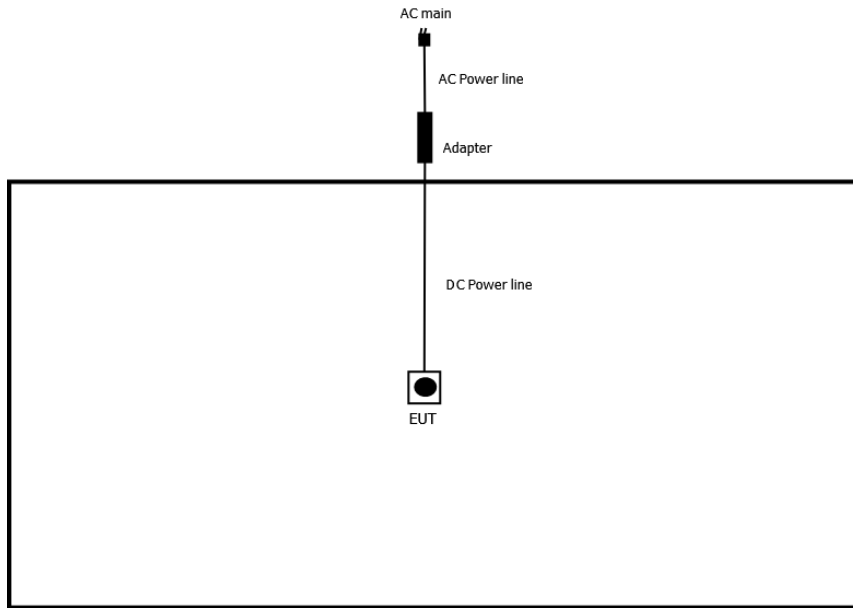
Support Equipment - AC Conduction and Radiated Emission			
No.	Equipment	Brand Name	Model Name
1	Notebook	DELL	E5540
2	AC Adapter for Notebook	DELL	LA65NS2-01

## 2.5 Test Setup Diagram

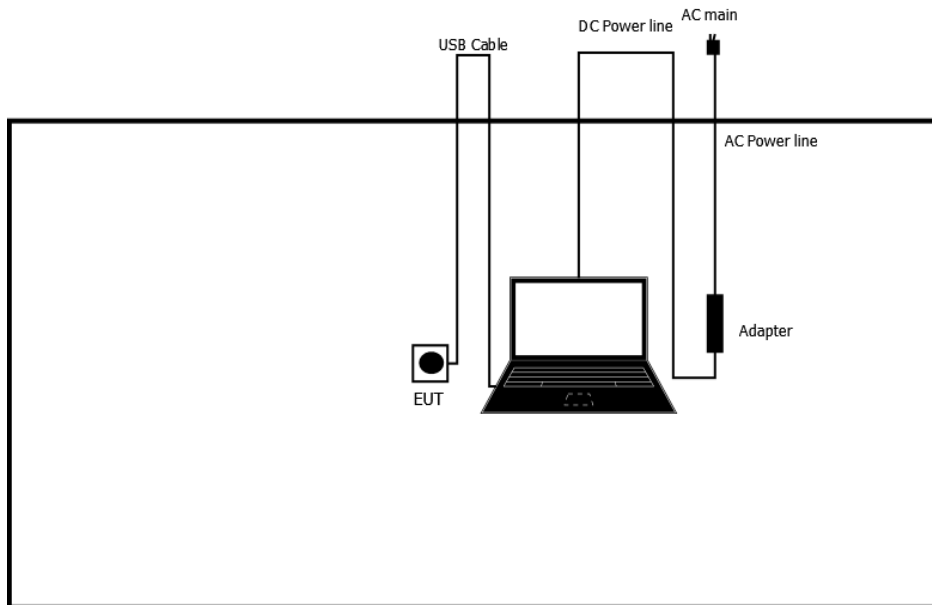




Test Setup Diagram - Radiated Test (Mode 1)



Test Setup Diagram - Radiated Test (Mode 2)



### 3 Transmitter Test Result

#### 3.1 AC Power-line Conducted Emissions

##### 3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: \* Decreases with the logarithm of the frequency.

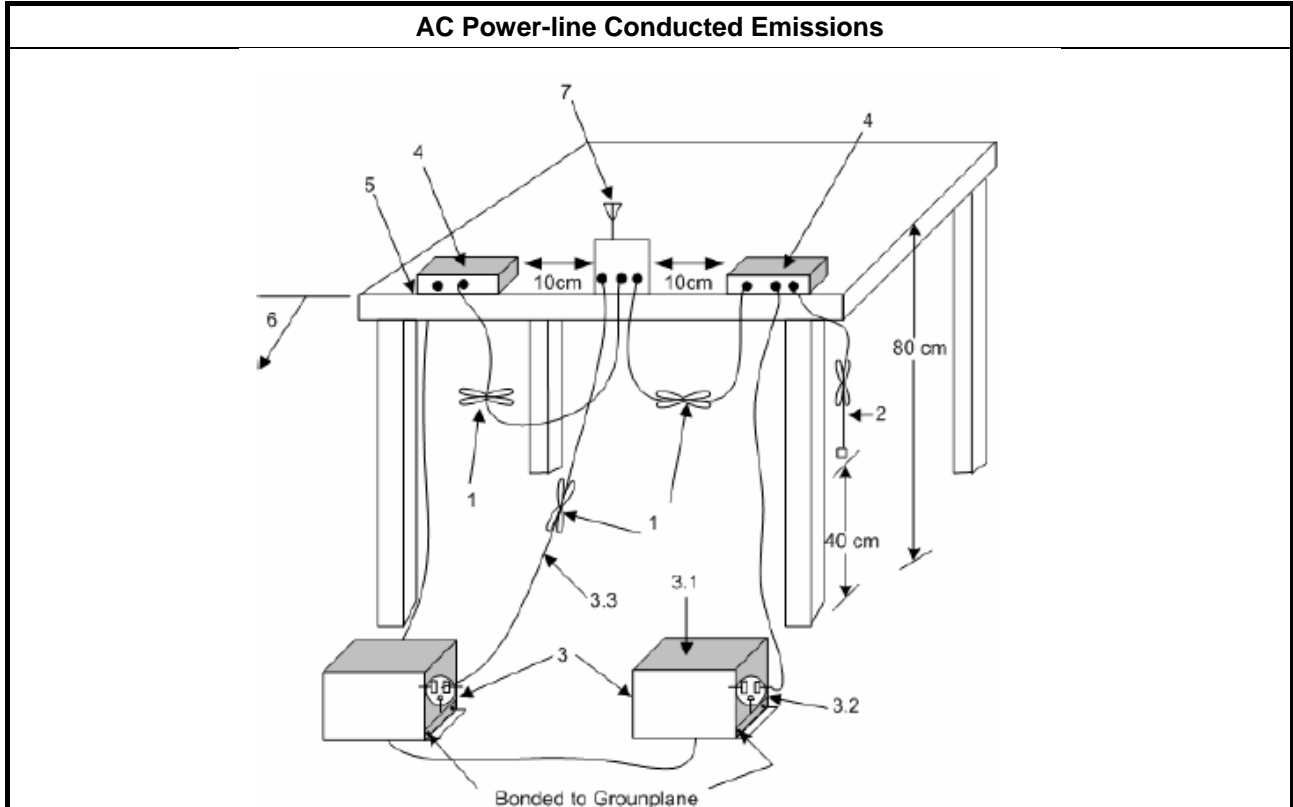
##### 3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

##### 3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

##### 3.1.4 Test Setup





### **3.1.5 Test Result of AC Power-line Conducted Emissions**

Refer as Appendix I

### 3.2 Emission Bandwidth

#### 3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
<b>UNII Devices</b>	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.25-5.35 GHz band, 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 MHz.
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, 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 MHz.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

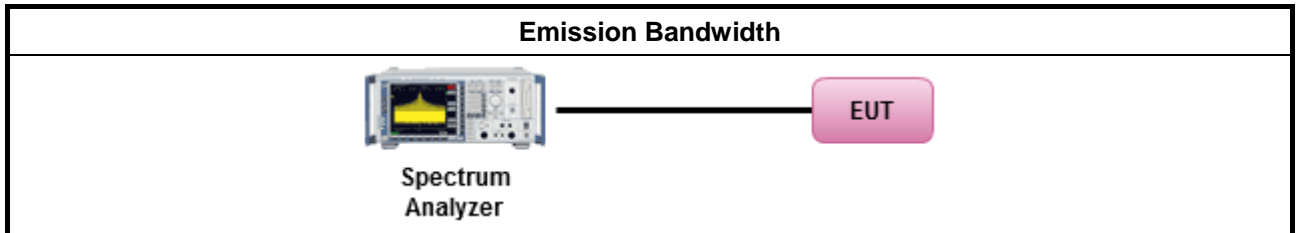
#### 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.2.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ For the emission bandwidth shall be measured using one of the options below:</li> </ul>	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

#### 3.2.4 Test Setup



#### 3.2.5 Test Result of Emission Bandwidth

Refer as Appendix A

### 3.3 Maximum Conducted Output Power

#### 3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit					
<b>UNII Devices</b>					
<ul style="list-style-type: none"> <li>▪ For the 5.15-5.25 GHz band:               <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td> <ul style="list-style-type: none"> <li>▪ Outdoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>. e.i.r.p. at any elevation angle above 30 degrees <math>\leq 125</math>mW [21dBm]</li> <li>▪ Indoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math></li> <li>▪ Point-to-point AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 23)</math>.</li> <li>▪ Mobile or Portable Client: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> </ul> </td> </tr> </table> </li> <li>▪ For the 5.25-5.35 GHz band, the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW or <math>11 \text{ dBm} + 10 \log B</math>, where B is the 26 dB emission bandwidth in MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> <li>▪ For the 5.47-5.725 GHz band, the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW or <math>11 \text{ dBm} + 10 \log B</math>, where B is the 26 dB emission bandwidth in MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> <li>▪ For the 5.725-5.85 GHz band:               <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td> <ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>.</li> <li>▪ Point-to-point systems (P2P): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W.</li> </ul> </td> </tr> </table> </li> </ul>			<ul style="list-style-type: none"> <li>▪ Outdoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>. e.i.r.p. at any elevation angle above 30 degrees <math>\leq 125</math>mW [21dBm]</li> <li>▪ Indoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math></li> <li>▪ Point-to-point AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 23)</math>.</li> <li>▪ Mobile or Portable Client: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>.</li> <li>▪ Point-to-point systems (P2P): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Outdoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>. e.i.r.p. at any elevation angle above 30 degrees <math>\leq 125</math>mW [21dBm]</li> <li>▪ Indoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math></li> <li>▪ Point-to-point AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 23)</math>.</li> <li>▪ Mobile or Portable Client: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> </ul>				
	<ul style="list-style-type: none"> <li>▪ Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>.</li> <li>▪ Point-to-point systems (P2P): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W.</li> </ul>				
$P_{Out}$ = maximum conducted output power in dBm, $G_{TX}$ = the maximum transmitting antenna directional gain in dBi.					

### 3.3.2 Measuring Instruments

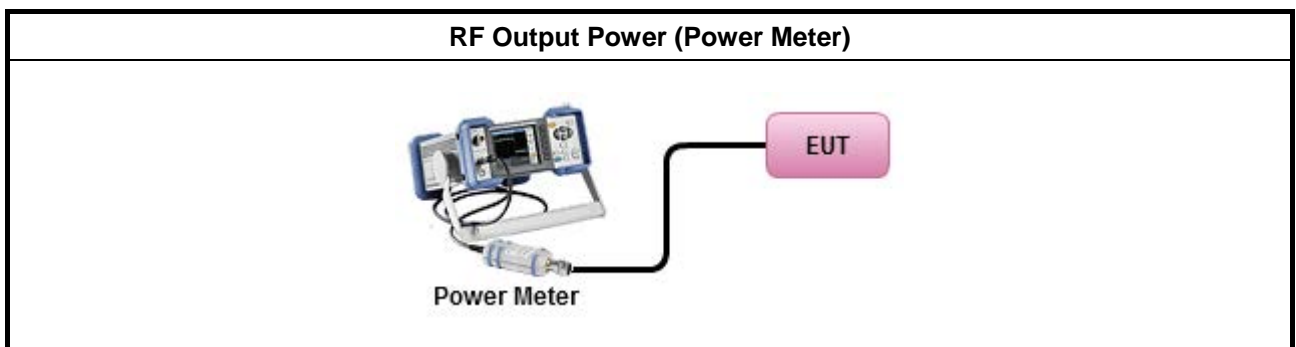
Refer a test equipment and calibration data table in this test report.

### 3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>Maximum Conducted Output Power</li> </ul>	
[duty cycle ≥ 98% or external video / power trigger]	
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
Wideband RF power meter and average over on/off periods with duty factor	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method PM (using an RF average power meter).
<ul style="list-style-type: none"> <li>For conducted measurement.</li> </ul>	
<ul style="list-style-type: none"> <li>If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.</li> </ul>	
<ul style="list-style-type: none"> <li>If multiple transmit chains, EIRP calculation could be following as methods:  <math>P_{total} = P_1 + P_2 + \dots + P_n</math>                      (calculated in linear unit [mW] and transfer to log unit [dBm])  <math>EIRP_{total} = P_{total} + DG</math> </li> </ul>	

Note: Duty cycle correction factor already take into account in shown result by adding offset during measurement.

### 3.3.4 Test Setup



### 3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

### 3.4 Peak Power Spectral Density

#### 3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit													
<b>UNII Devices</b>													
<ul style="list-style-type: none"> <li>▪ For the 5.15-5.25 GHz band:               <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px;">▪</td> <td>Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 6)</math>.</td> </tr> <tr> <td>▪</td> <td>Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 6)</math>.</td> </tr> <tr> <td>▪</td> <td>Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 23)</math>.</td> </tr> <tr> <td>▪</td> <td>Mobile or Portable Client: the peak power spectral density (PPSD) <math>\leq 11</math> dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 11 - (G_{TX} - 6)</math>.</td> </tr> </table> </li> <li>▪ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) <math>\leq 11</math> dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 11 - (G_{TX} - 6)</math>.</li> <li>▪ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) <math>\leq 11</math> dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 11 - (G_{TX} - 6)</math>.</li> <li>▪ For the 5.725-5.85 GHz band:               <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px;">▪</td> <td>Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) <math>\leq 30</math> dBm/500kHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 30 - (G_{TX} - 6)</math>.</td> </tr> <tr> <td>▪</td> <td>Point-to-point systems (P2P): the peak power spectral density (PPSD) <math>\leq 30</math> dBm/500kHz.</td> </tr> </table> </li> </ul>		▪	Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .	▪	Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .	▪	Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$ .	▪	Mobile or Portable Client: the peak power spectral density (PPSD) $\leq 11$ dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$ .	▪	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) $\leq 30$ dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$ .	▪	Point-to-point systems (P2P): the peak power spectral density (PPSD) $\leq 30$ dBm/500kHz.
▪	Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .												
▪	Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .												
▪	Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$ .												
▪	Mobile or Portable Client: the peak power spectral density (PPSD) $\leq 11$ dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$ .												
▪	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) $\leq 30$ dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$ .												
▪	Point-to-point systems (P2P): the peak power spectral density (PPSD) $\leq 30$ dBm/500kHz.												
<p><b>PPSD</b> = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz  <b><math>G_{TX}</math></b> = the maximum transmitting antenna directional gain in dBi.</p>													

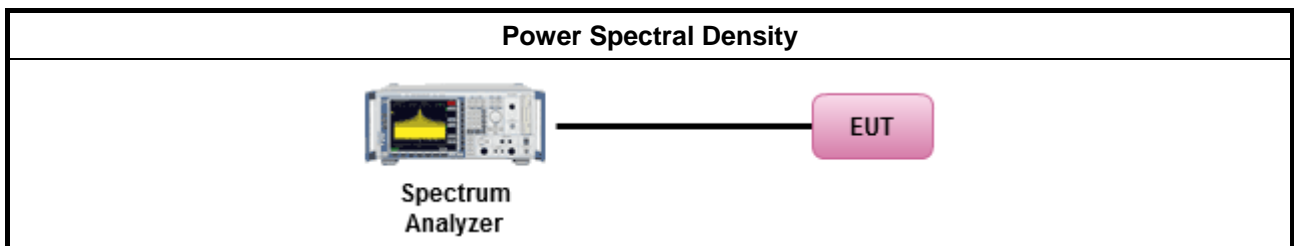
#### 3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>▪ Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:</li> </ul>	
<input type="checkbox"/>	Refer as FCC KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth [duty cycle ≥ 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<ul style="list-style-type: none"> <li>▪ For conducted measurement.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ If the EUT supports multiple transmit chains using options given below:</li> </ul>	
<input type="checkbox"/>	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the N <sub>TX</sub> output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/>	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
<input type="checkbox"/>	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
<ul style="list-style-type: none"> <li>▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods:  <math>PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n</math>            (calculated in linear unit [mW] and transfer to log unit [dBm])  <math>EIRP_{total} = PPSD_{total} + DG</math> </li> </ul>	

3.4.4 Test Setup





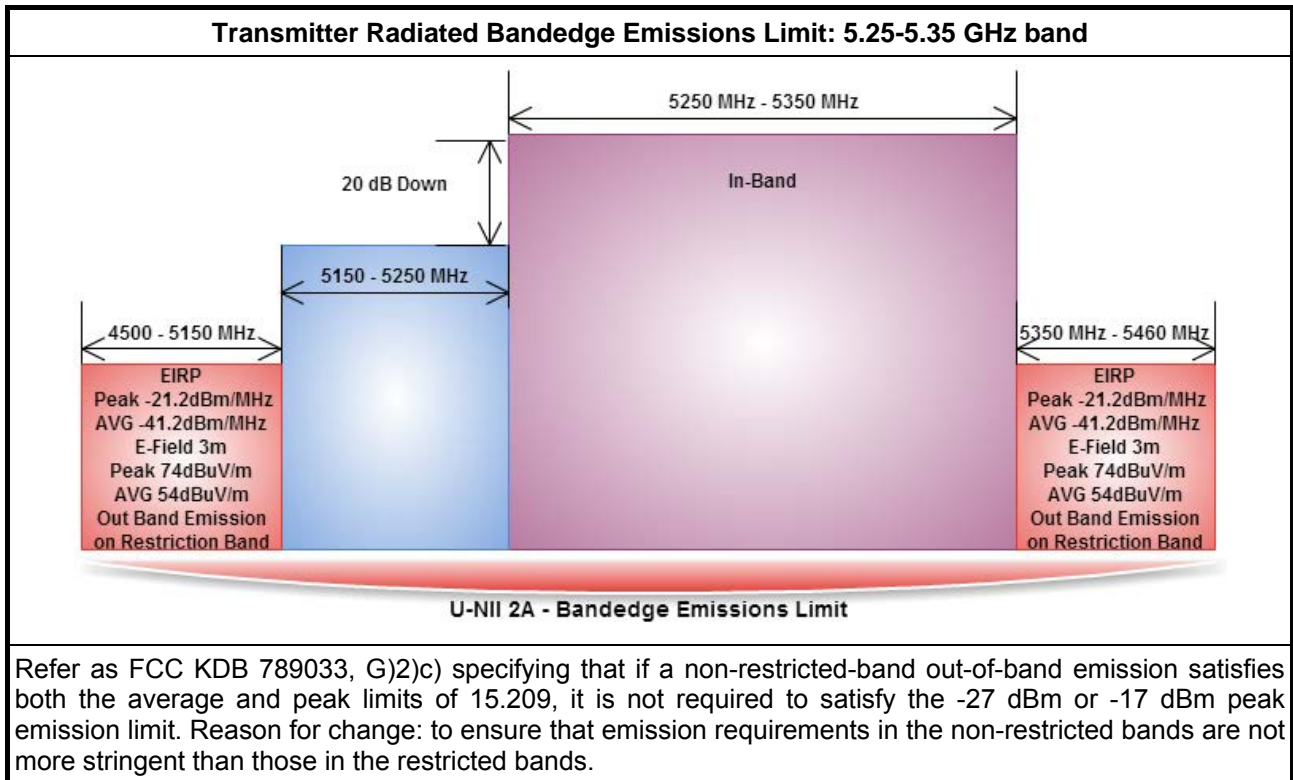
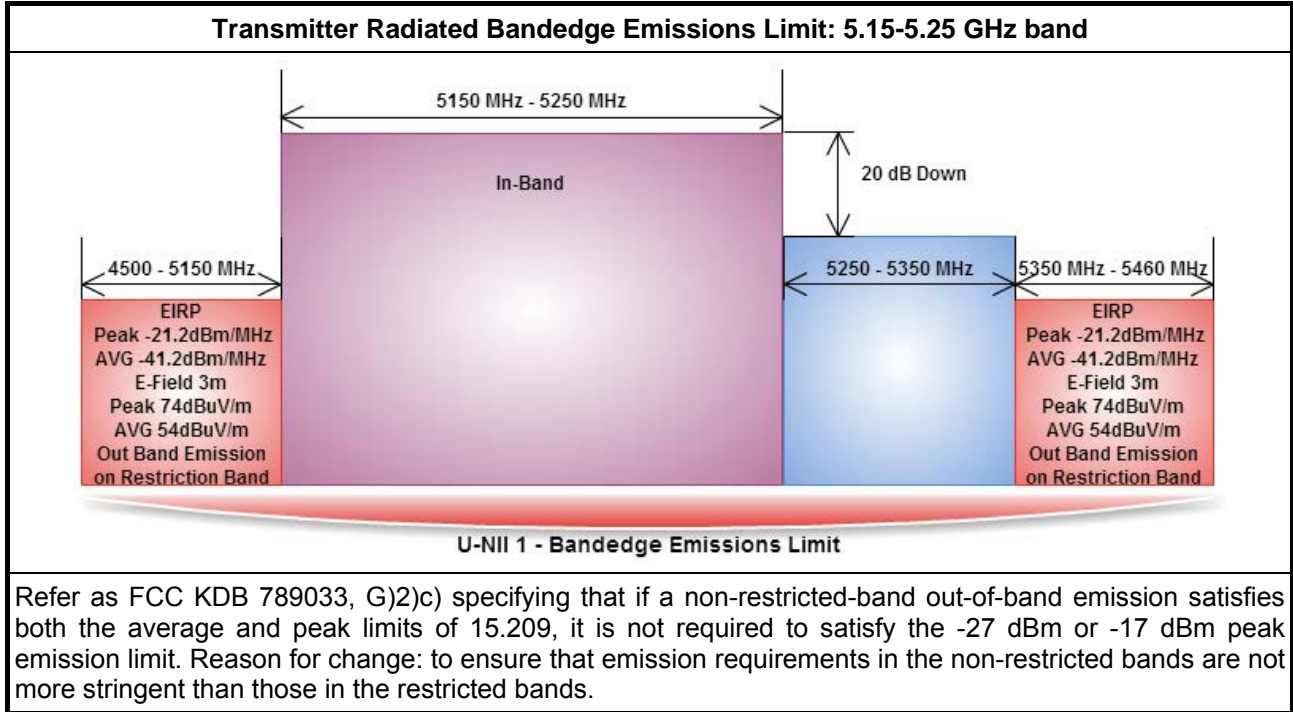


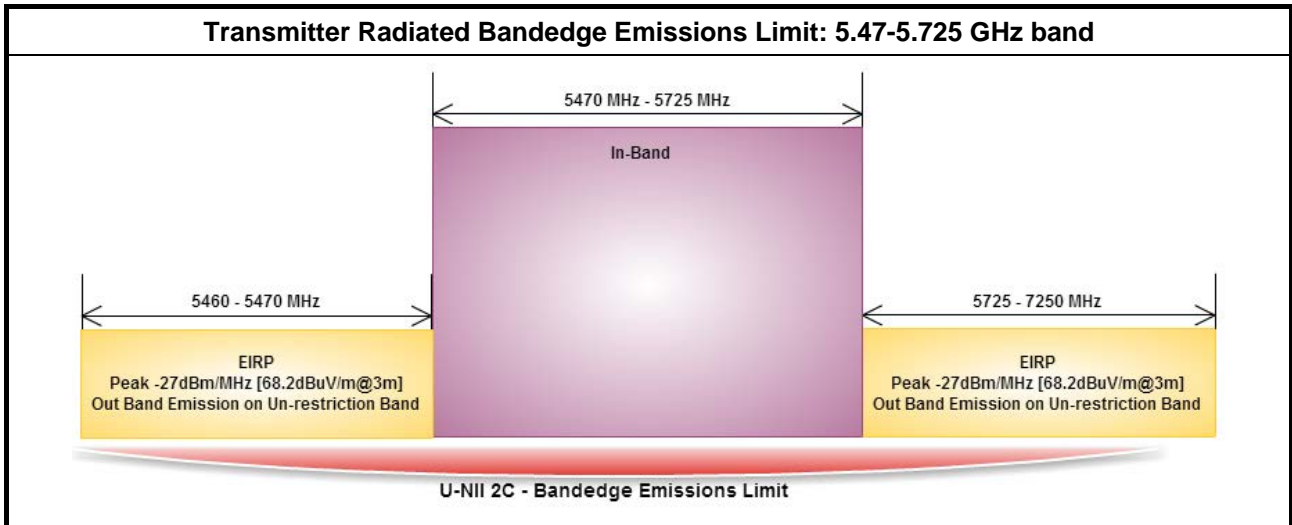
### **3.4.5 Test Result of Peak Power Spectral Density**

Refer as Appendix C

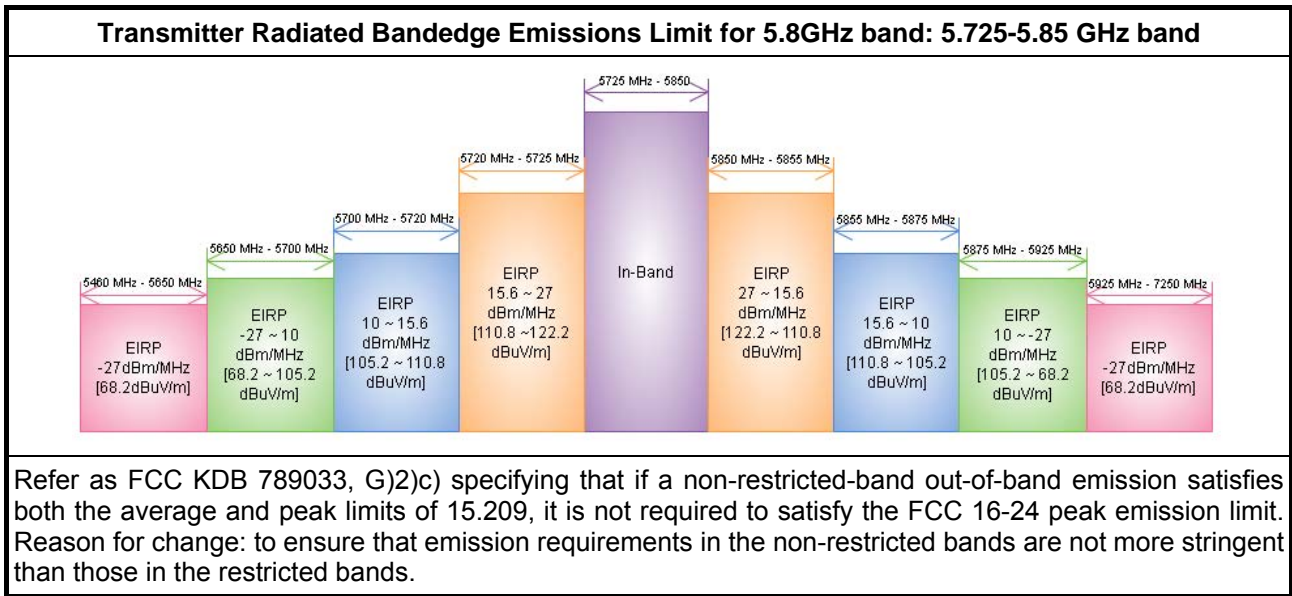
### 3.5 Transmitter Bandedge Emissions

#### 3.5.1 Transmitter Radiated Bandedge Emissions Limit





Refer as FCC KDB 789033, G)2)c) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.



Refer as FCC KDB 789033, G)2)c) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the FCC 16-24 peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

### 3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

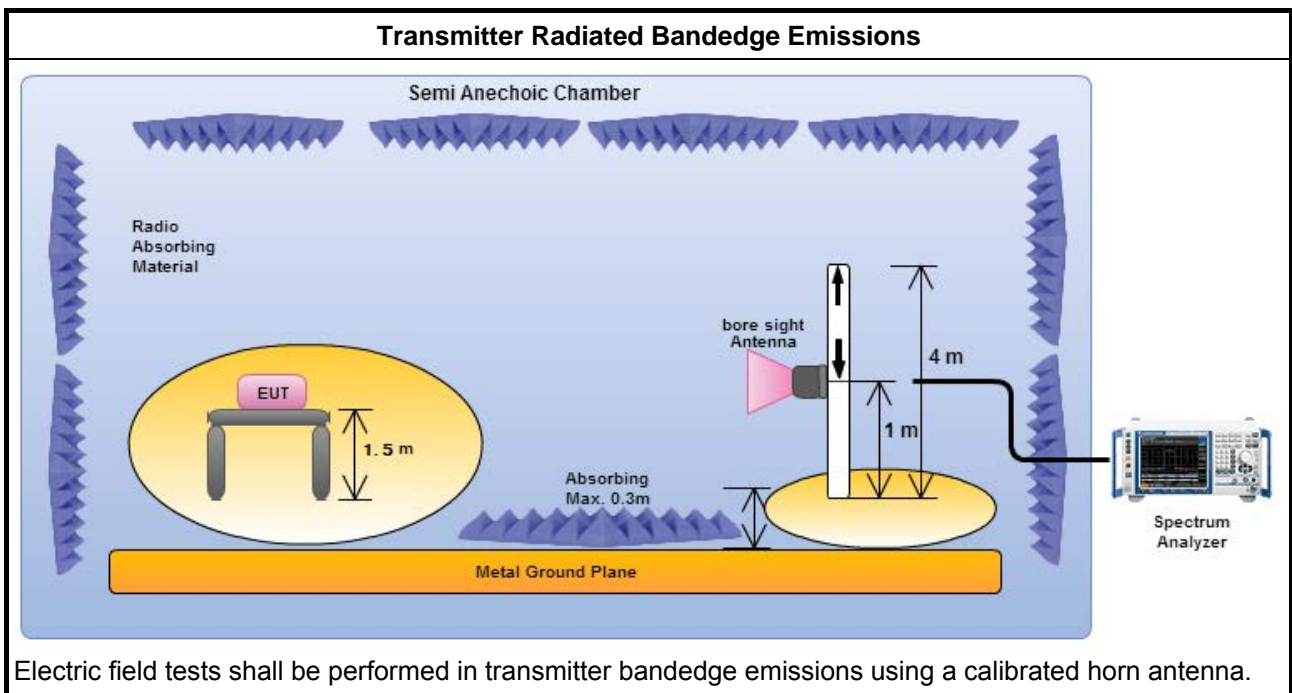


3.5.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
<input type="checkbox"/>	If EUT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency channel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions will consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel at lower-band and highest frequency channel at higher-band in-band emissions will consist of two adjacent contiguous bands.)
<input type="checkbox"/>	Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band).
<input type="checkbox"/>	Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band).
<input type="checkbox"/>	If EUT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency channel and highest frequency channel within lower-band and higher-band. (e.g., (e.g., IEEE 802.11ac VHT160)
<input type="checkbox"/>	Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band).
<input type="checkbox"/>	Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.85 GHz band (higher-band).
<input checked="" type="checkbox"/>	For the transmitter unwanted emissions shall be measured using following options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
<input type="checkbox"/>	Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). $VBW \geq 1/T$ , where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)5) measurement procedure peak limit.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
<input checked="" type="checkbox"/>	For the transmitter bandedge emissions shall be measured using following options below:
<input type="checkbox"/>	Refer as FCC KDB 789033, clause G)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.10 for band-edge testing.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
<input checked="" type="checkbox"/>	For radiated measurement, refer as ANSI C63.10, clause 6.6. Test distance is 3m.
<input checked="" type="checkbox"/>	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). Measurements in the bandedge are typically made at a closer distance 3m, because the instrumentation noise floor is typically close to the radiated emission limit.

Test setting		
Bandedge Emissions	RBW/VBW	
Non-restricted Band	100k/300k	
Restricted Band	11a, HT20	Peak : 1M/3M Average : 1M/10Hz
	HT40	Peak : 1M/3M Average : 1M/3k

### 3.5.4 Test Setup



### 3.5.5 Transmitter Radiated Bandedge Emissions

Refer as Appendix D

### 3.6 Transmitter Unwanted Emissions

#### 3.6.1 Transmitter Radiated Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

### 3.6.2 Measuring Instruments

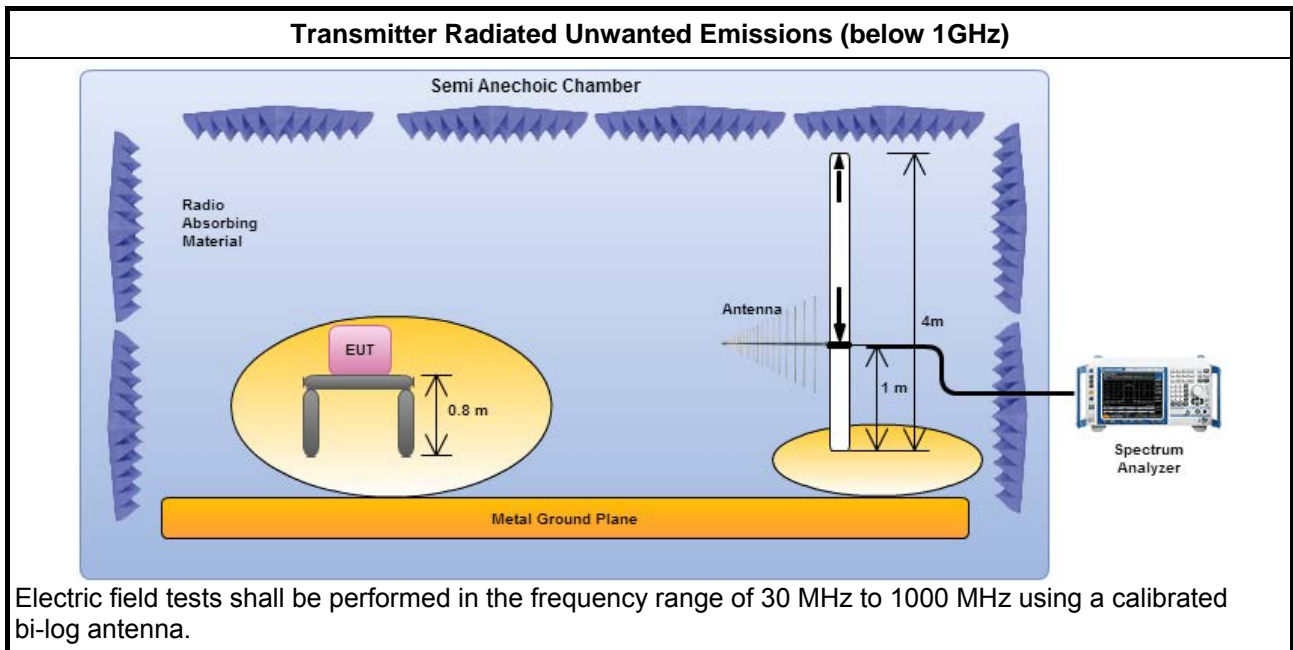
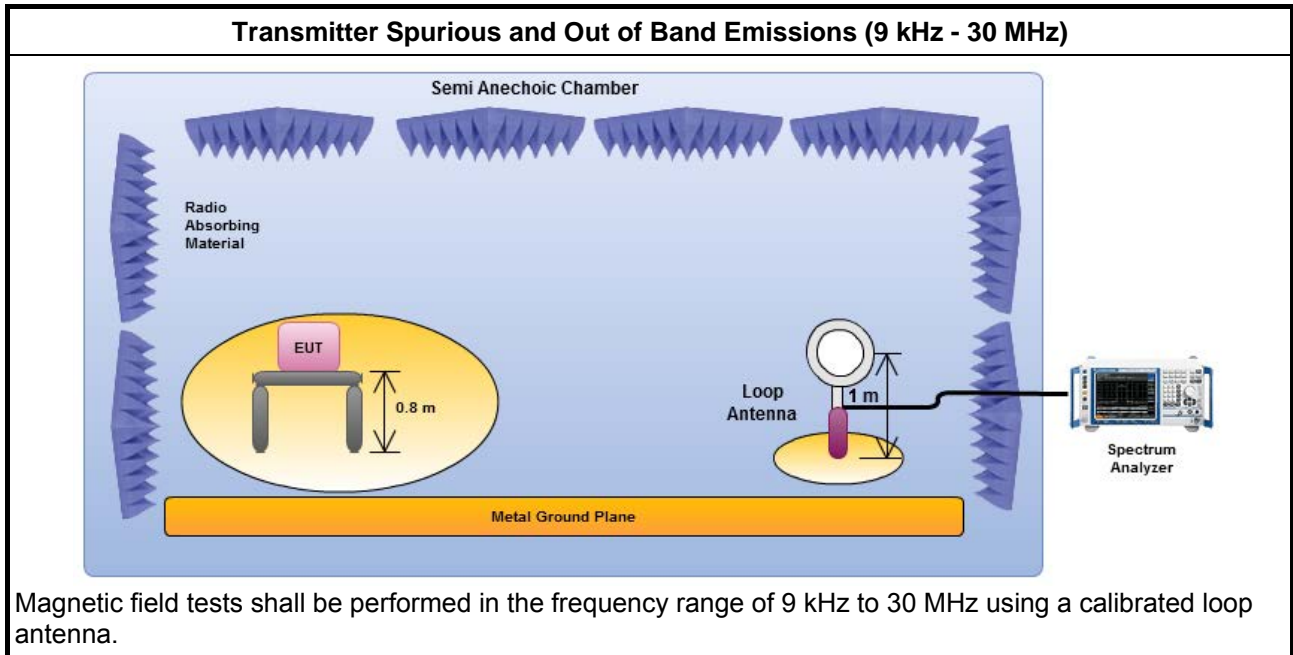
Refer a test equipment and calibration data table in this test report.

### 3.6.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
<input checked="" type="checkbox"/>	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
<input checked="" type="checkbox"/>	For the transmitter unwanted emissions shall be measured using following options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
<input type="checkbox"/>	Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause G)5) measurement procedure peak limit.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
<input checked="" type="checkbox"/>	For radiated measurement.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. For 1 GHz to 5 GHz, test distance is 3m; For 5 GHz to 40 GHz, test distance is 3m.
<input checked="" type="checkbox"/>	The any unwanted emissions level shall not exceed the fundamental emission level.
<input checked="" type="checkbox"/>	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

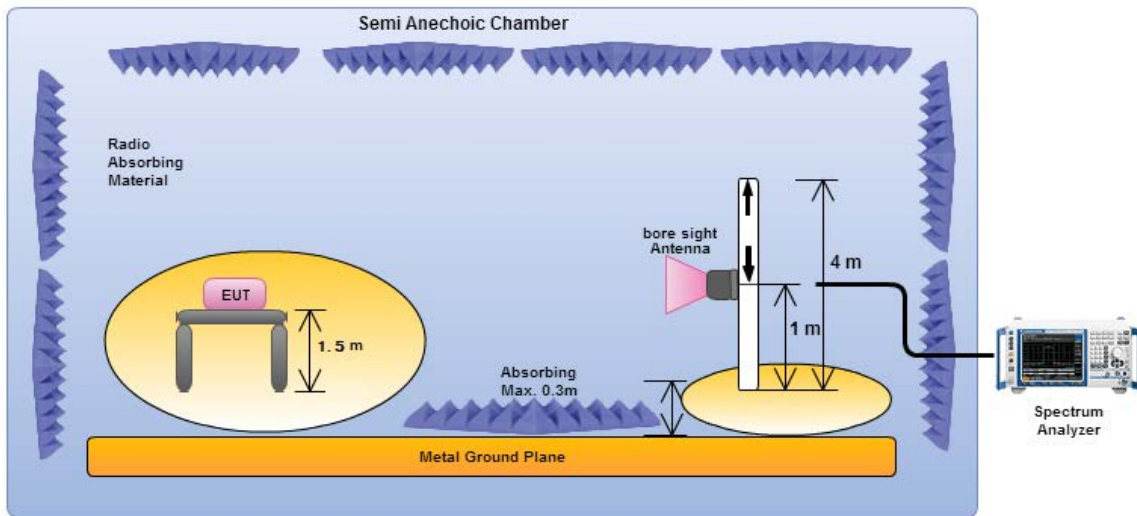
Test setting		
Unwanted emissions	RBW/VBW	
Below 1G	100k/300k	
Above 1G	11a, HT20	Peak : 1M/3M Average : 1M/10Hz
	HT40	Peak : 1M/3M Average : 1M/3k

### 3.6.4 Test Setup





**Transmitter Radiated Unwanted Emissions (above 1GHz)**



Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

**3.6.5 Transmitter Radiated Unwanted Emissions-with Antenna (Below 30MHz)**

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

**3.6.6 Test Result of Transmitter Radiated Unwanted Emissions**

Refer as Appendix E

### 3.7 Frequency Stability

#### 3.7.1 Frequency Stability Limit

Frequency Stability Limit	
<b>UNII Devices</b>	
<ul style="list-style-type: none"> <li>In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.</li> </ul>	
<b>IEEE Std. 802.11</b>	
<ul style="list-style-type: none"> <li>The transmitter center frequency tolerance shall be <math>\pm 20</math> ppm maximum for the 5 GHz.</li> </ul>	

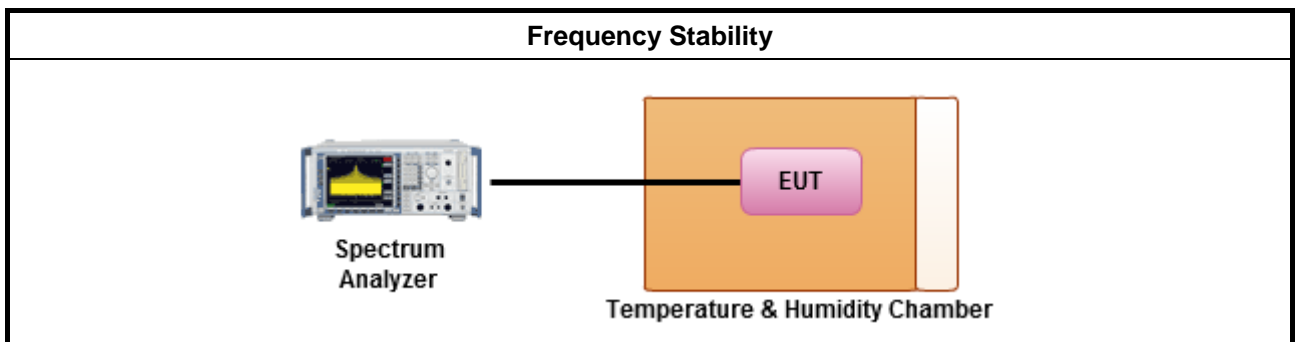
#### 3.7.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.7.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.8 for frequency stability tests</li> </ul>	
	<ul style="list-style-type: none"> <li>Frequency stability with respect to ambient temperature</li> </ul>
	<ul style="list-style-type: none"> <li>Frequency stability when varying supply voltage</li> </ul>

#### 3.7.4 Test Setup



#### 3.7.5 Test Result of Frequency Stability

Refer as Appendix F

### 3.8 Discontinue Transmitting with absence of Data or operational failure states

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.” Data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets (ACKs, CTS, PSpoll, etc...) are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted.



## 4 Test Equipment and Calibration Data

### Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
EMC Receiver	KEYSIGHT	N9038A	MY54130031	20Hz ~ 8.4GHz	Apr. 14, 2016	Apr. 13, 2017
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 26, 2016	Jan. 25, 2017
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 30, 2015	Oct. 29, 2016
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	NCR

### Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May 12, 2016	May 11, 2017
Power Sensor	Anritsu	MA2411B	917017	300MHz ~ 40GHz	Feb. 04, 2016	Feb. 03, 2017
Power Meter	Anritsu	ML2495A	949003	300MHz ~ 40GHz	Feb. 04, 2016	Feb. 03, 2017
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 28, 2015	Jul. 27, 2016
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jun. 22, 2015	Jun. 21, 2016
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-00 1	-20 ~ 100°C	Jun. 12, 2015	Jun. 11, 2016

### Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz 3m	May 14, 2016	May 13, 2017
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz 3m	Jul. 01, 2015	Jun. 30, 2016
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz 3m	Jul. 01, 2016	Jun. 30, 2017
Amplifier	EMC	EMC9135	980232	9kHz ~ 1.0GHz	Jan. 29, 2016	Jan. 28, 2017
Amplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	Apr.11.2016	Apr.10.2017
Spectrum	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	Jul. 15, 2015	Jul. 14, 2016
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL 6111D & MTJ6102	35418	30MHz ~ 1GHz	Mar. 31, 2016	Mar. 30, 2017
Horn Antenna	SCHWARZBECK	BBHA 9120D	BBHA 9120D 1534	1GHz ~ 18GHz	Apr. 22, 2016	Apr. 21, 2017
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170614	18GHz ~ 40GHz	Jan. 04, 2016	Jan. 03, 2017



<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Characteristics</b>	<b>Calibration Last Cal.</b>	<b>Calibration Due Date</b>
Amplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 02.2015	Jun. 01.2017
Loop Antenna	ROHDE&SCHWARZ	HFH2-Z2	100330	9 kHz~30 MHz	Nov. 10, 2014	Nov. 09, 2016



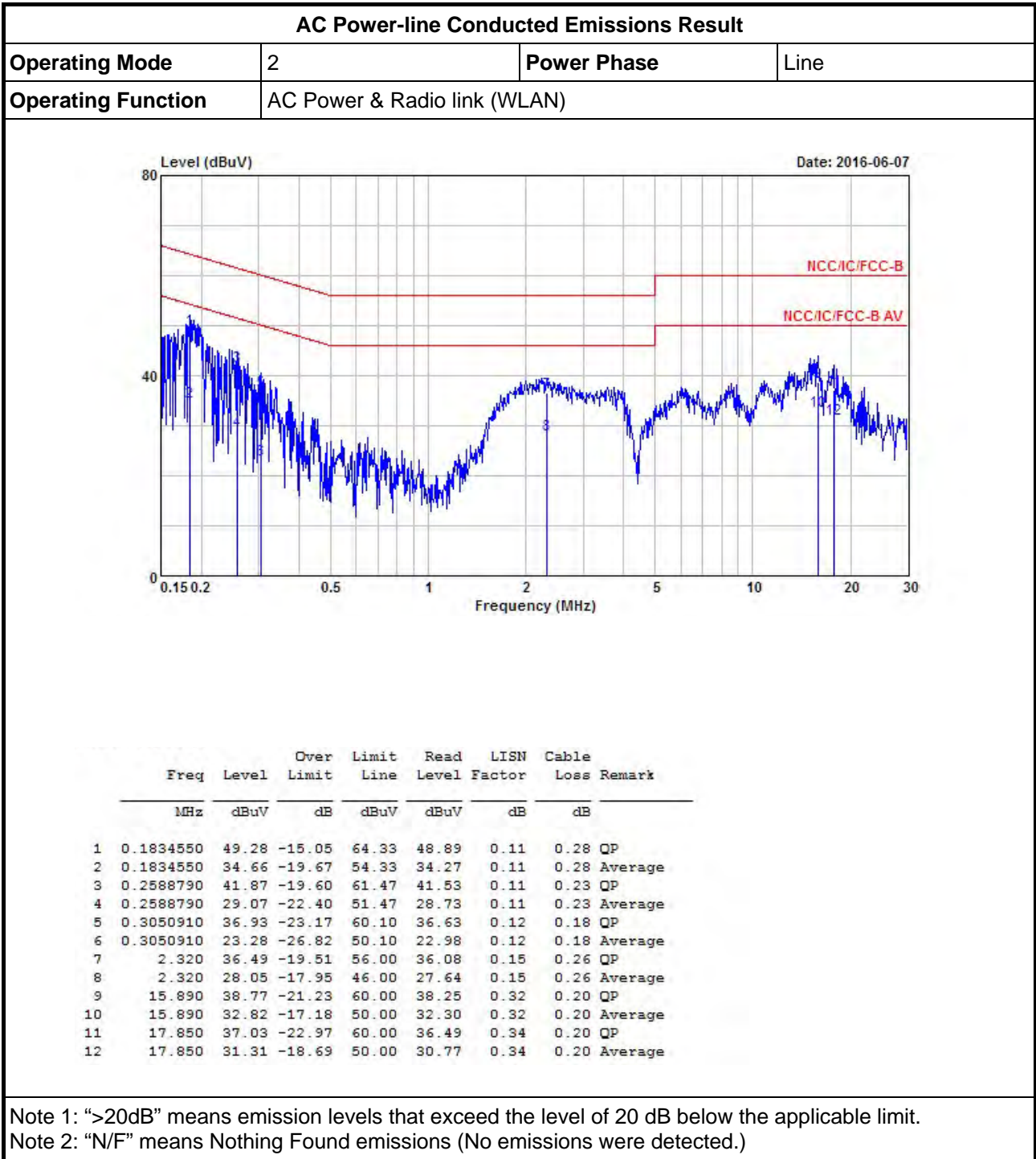
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7	1.840	37.71	-18.29	56.00	37.28	0.15	0.28 QP																																																																																																												
8	1.840	28.36	-17.64	46.00	27.93	0.15	0.28 Average																																																																																																												
9	3.960	35.02	-20.98	56.00	34.74	0.18	0.10 QP																																																																																																												
10	3.960	27.62	-18.38	46.00	27.34	0.18	0.10 Average																																																																																																												
11	13.770	34.31	-25.69	60.00	33.78	0.33	0.20 QP																																																																																																												
12	13.770	28.78	-21.22	50.00	28.25	0.33	0.20 Average																																																																																																												
<p>Note 1: "&gt;20dB" means emission levels that exceed the level of 20 dB below the applicable limit.            Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)</p>																																																																																																																			





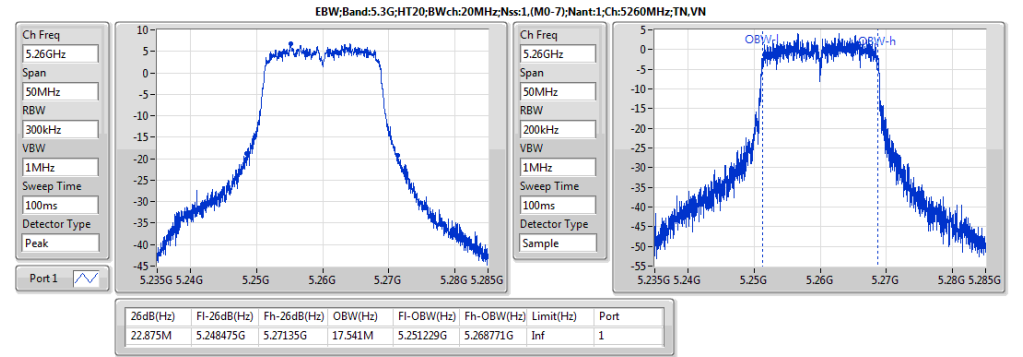
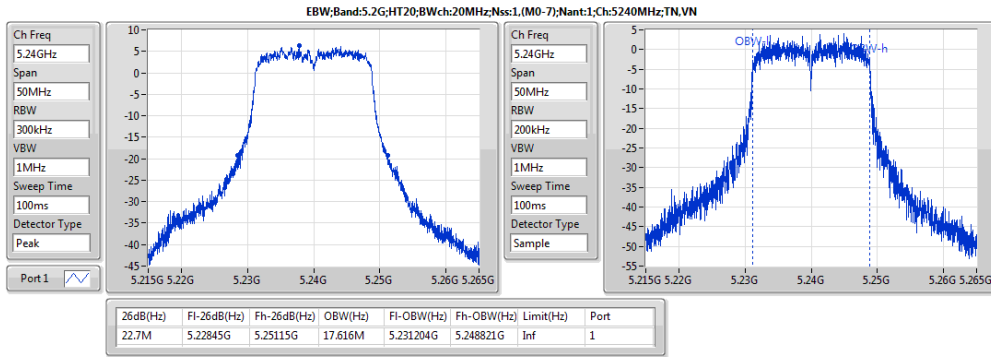
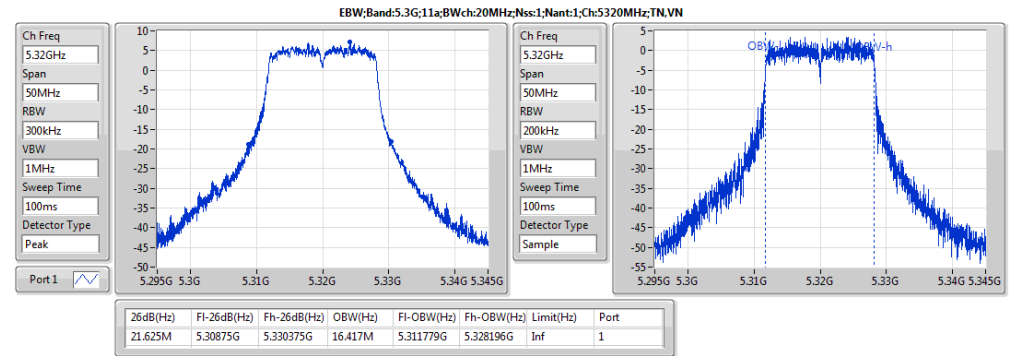
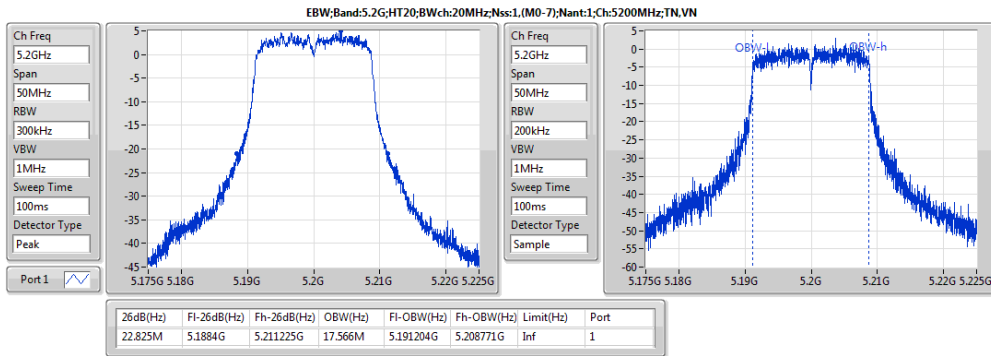
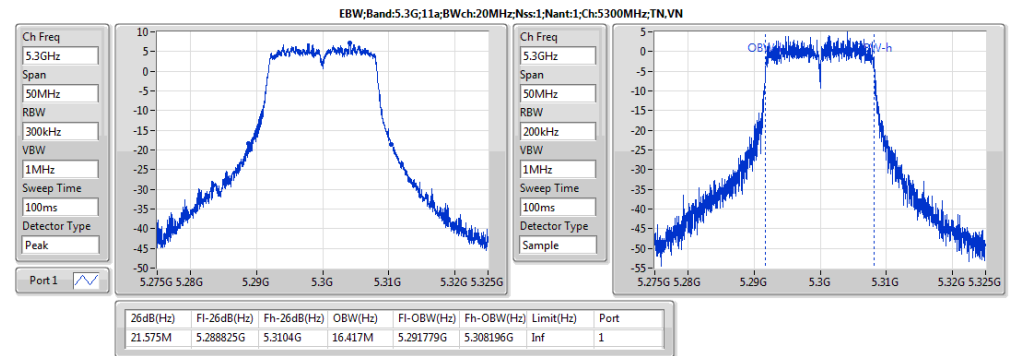
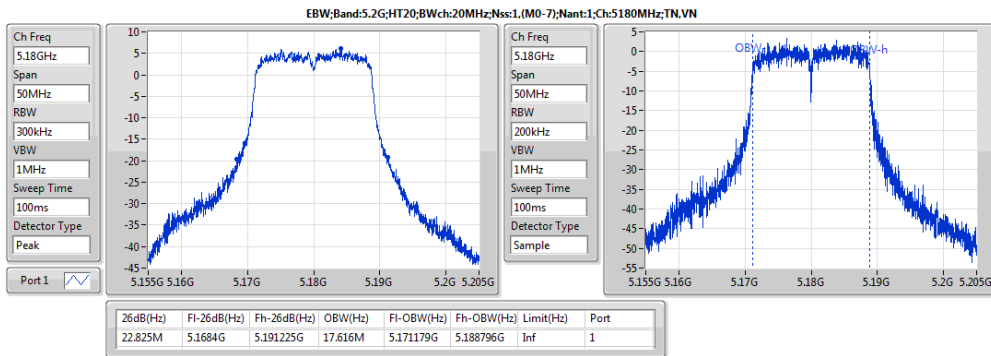
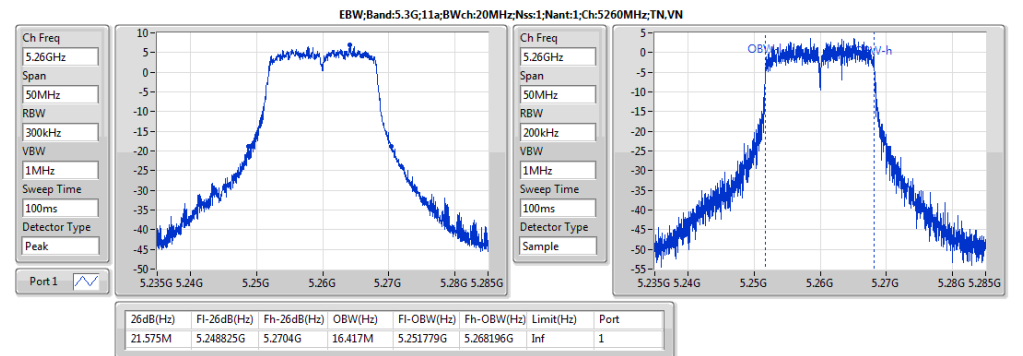
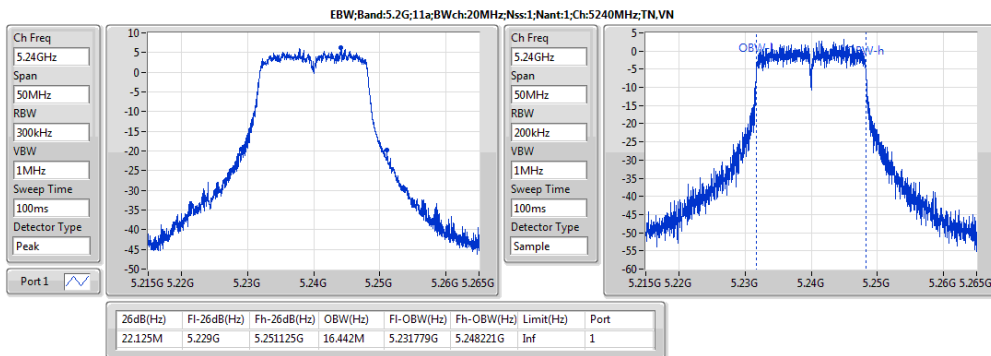
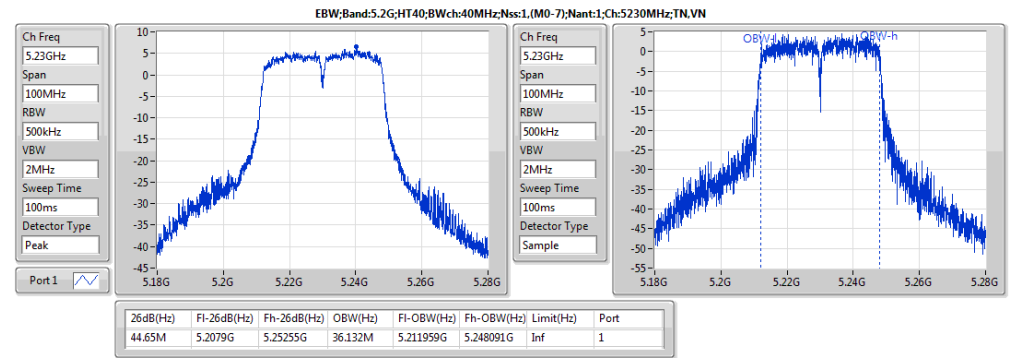
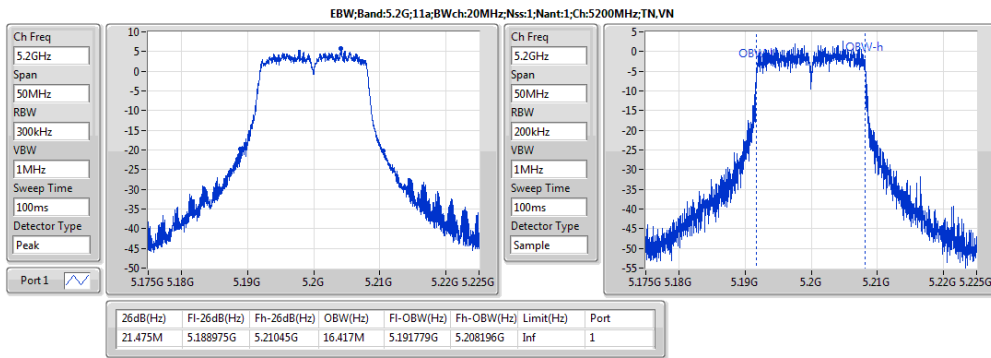
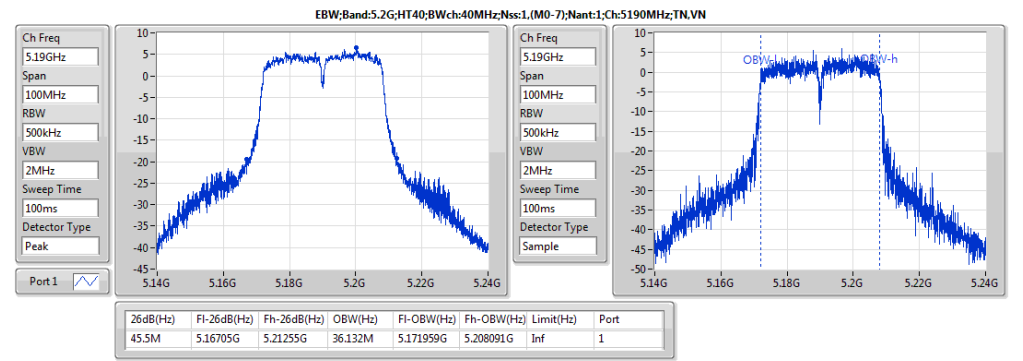
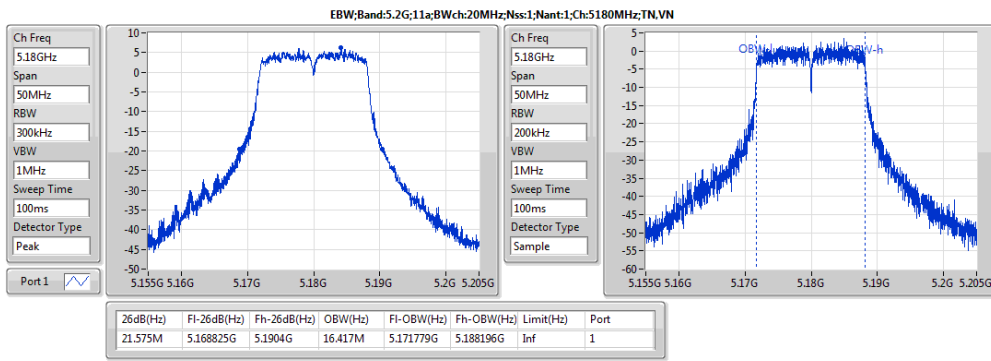


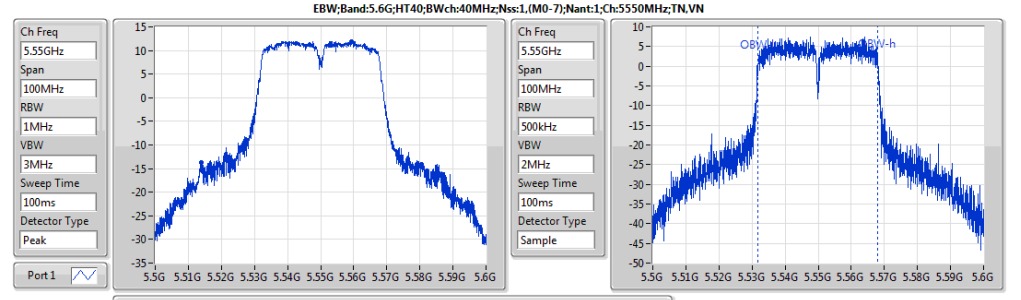
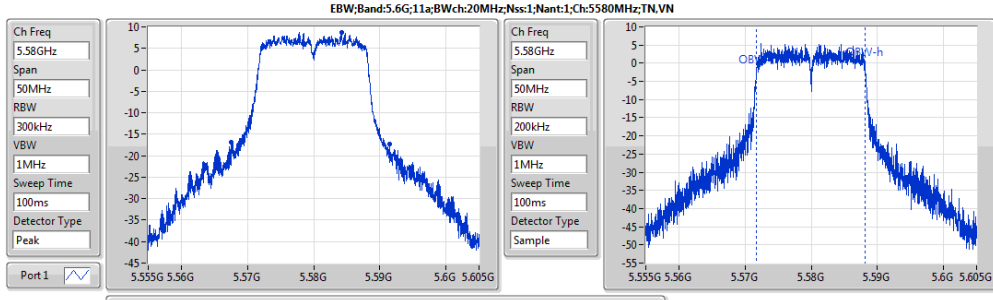
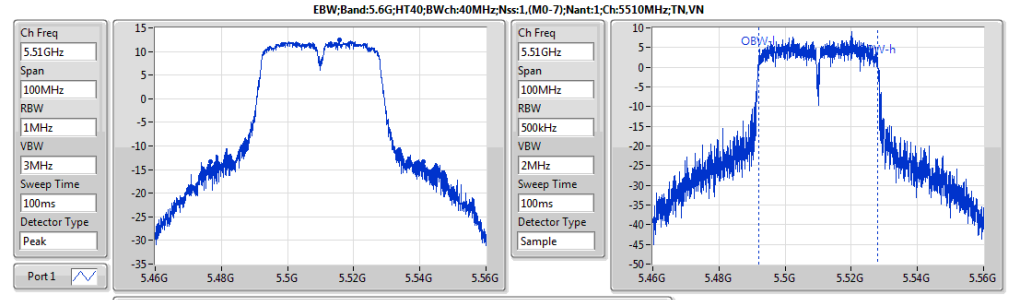
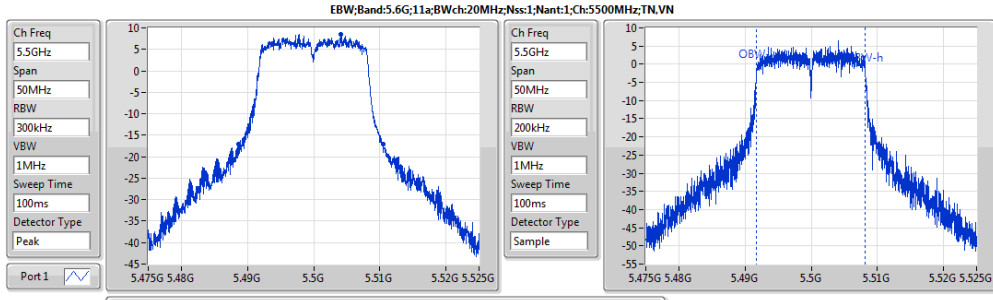
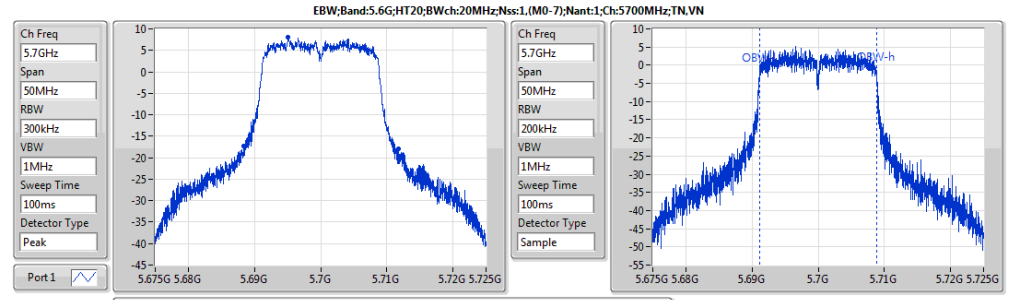
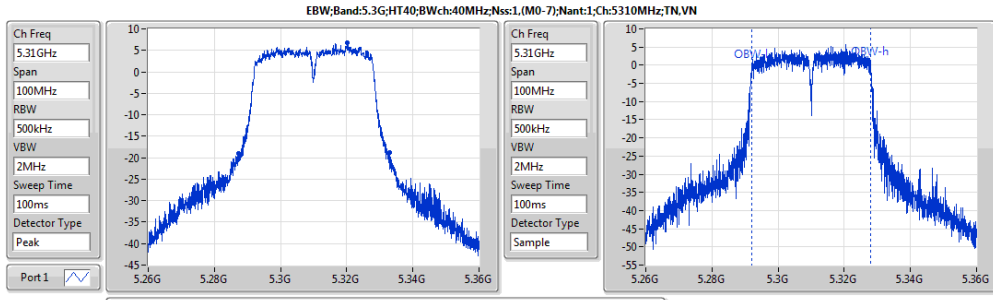
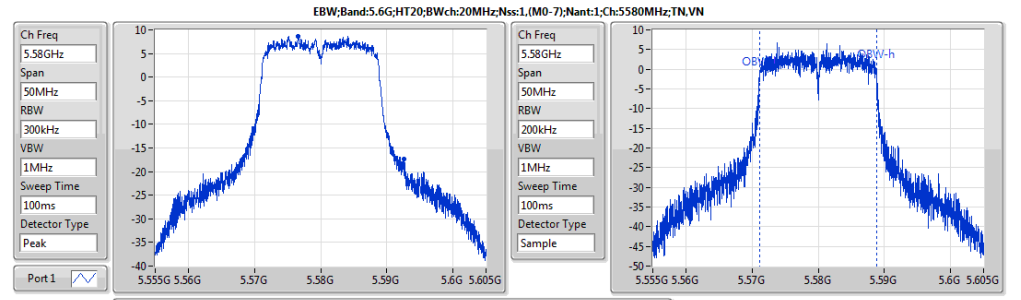
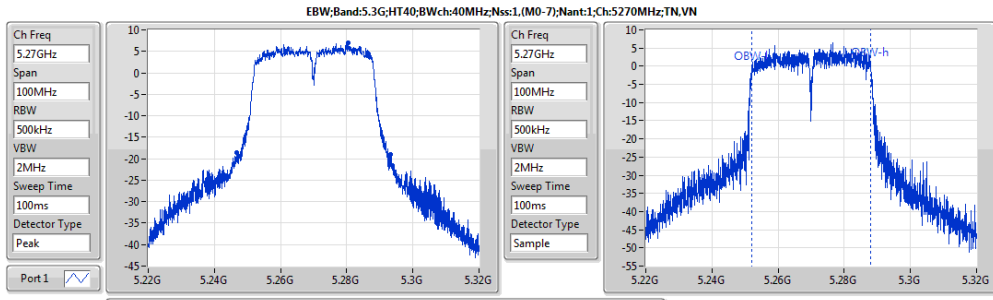
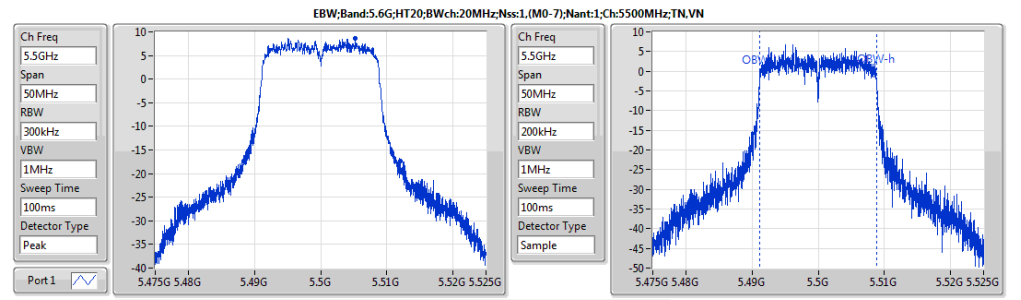
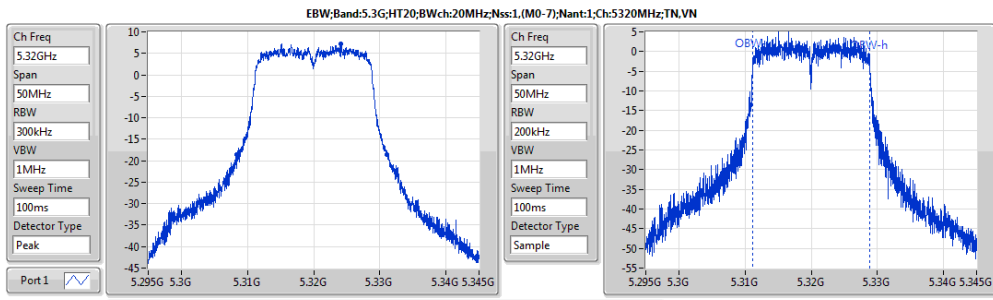
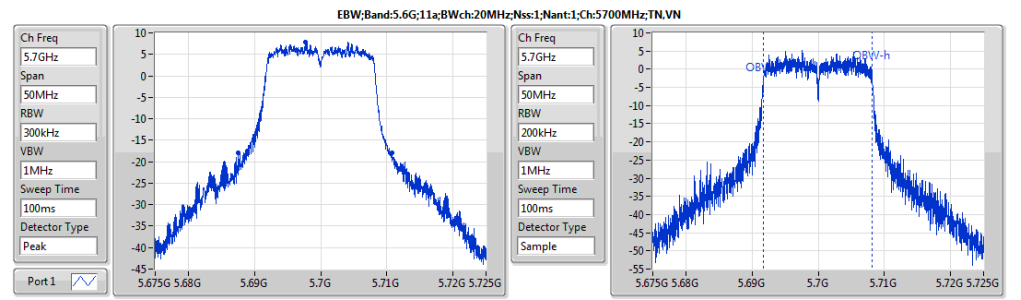
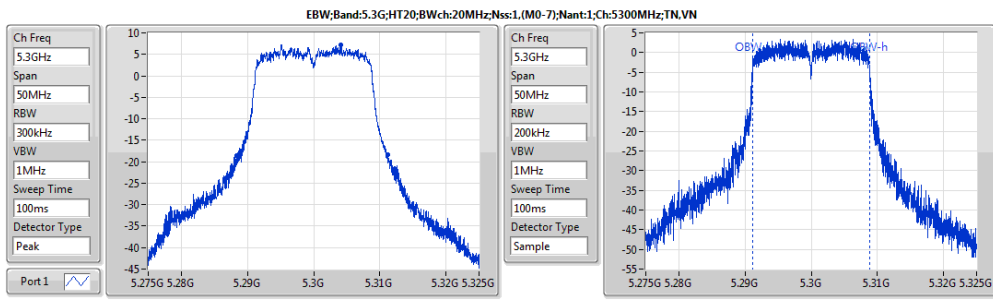
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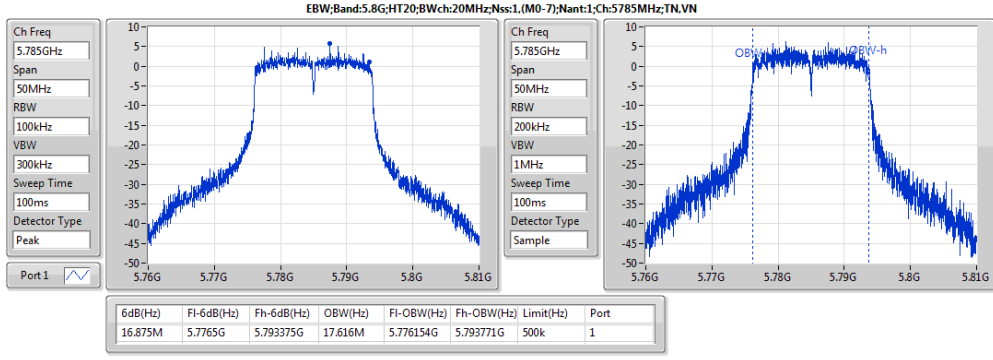
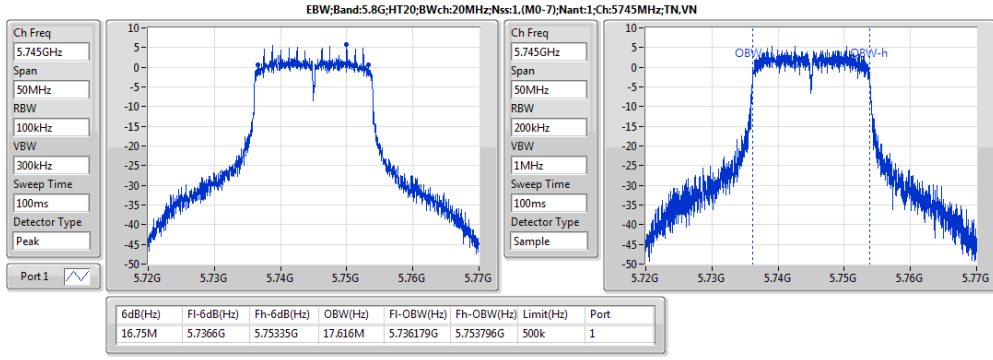
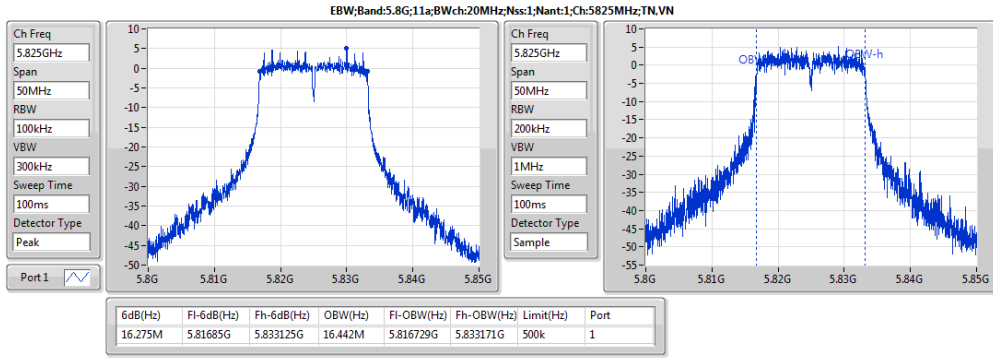
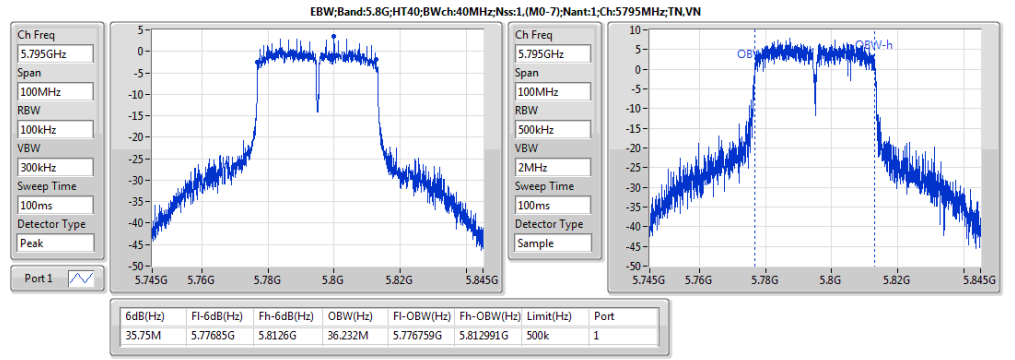
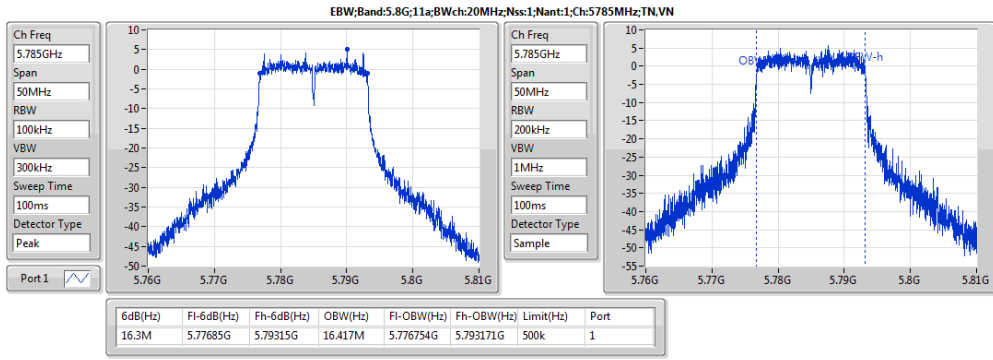
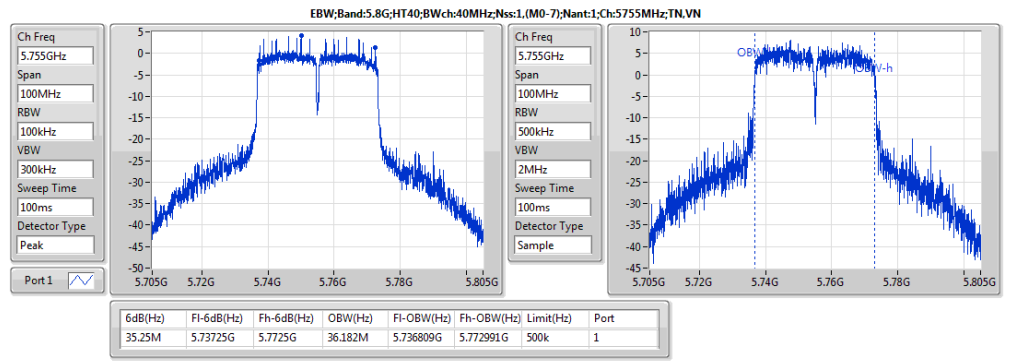
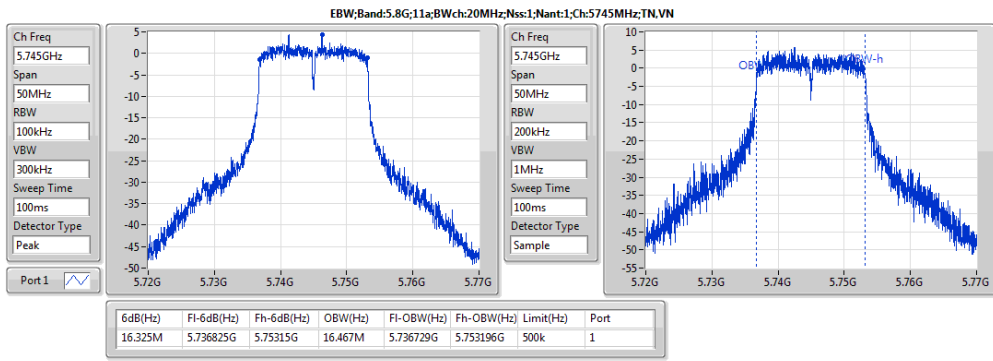
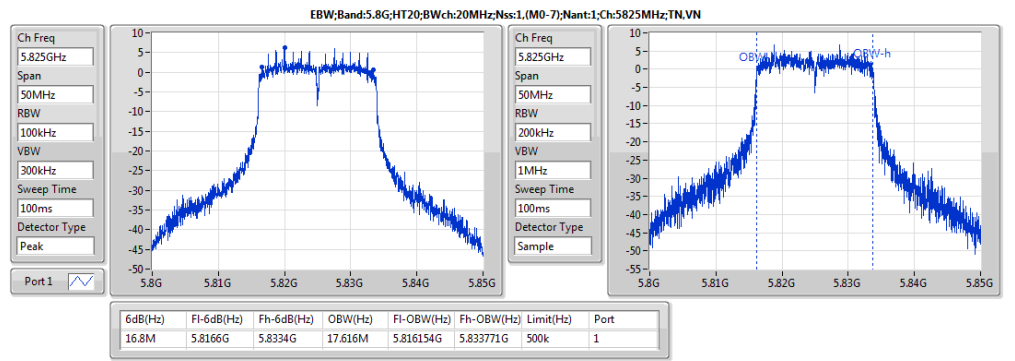
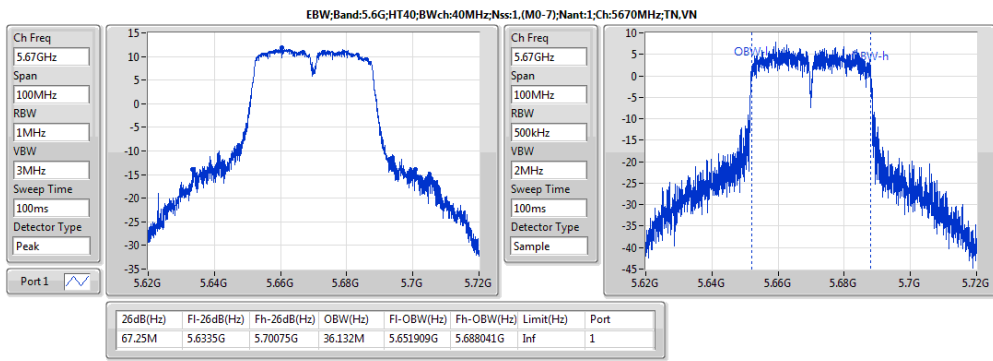
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.2G;11a;20;1;1	22.125M	16.442M	16M4D1D	21.475M	16.417M
5.2G;HT20;20;1;(M0-7);1	22.825M	17.616M	17M6D1D	22.7M	17.566M
5.2G;HT40;40;1;(M0-7);1	45.5M	36.132M	36M1D1D	44.65M	36.132M
5.3G;11a;20;1;1	21.625M	16.417M	16M4D1D	21.575M	16.417M
5.3G;HT20;20;1;(M0-7);1	22.875M	17.616M	17M6D1D	22.725M	17.541M
5.3G;HT40;40;1;(M0-7);1	46.5M	36.132M	36M1D1D	45.65M	36.032M
5.6G;11a;20;1;1	23.925M	16.467M	16M5D1D	21.875M	16.417M
5.6G;HT20;20;1;(M0-7);1	24.375M	17.666M	17M7D1D	23.475M	17.641M
5.6G;HT40;40;1;(M0-7);1	67.25M	36.182M	36M2D1D	64.35M	36.132M
5.8G;11a;20;1;1	16.325M	16.467M	16M5D1D	16.275M	16.417M
5.8G;HT20;20;1;(M0-7);1	16.875M	17.616M	17M6D1D	16.75M	17.616M
5.8G;HT40;40;1;(M0-7);1	35.75M	36.232M	36M2D1D	35.25M	36.182M

**Result**

Mode	Result	Limit	P1-N dB (Hz)	P1-OBW (Hz)
5.2G:11a:20:1;1:5180:L;TN,VN	Pass	Inf	21.575M	16.417M
5.2G:11a:20:1;1:5200:M;TN,VN	Pass	Inf	21.475M	16.417M
5.2G:11a:20:1;1:5240:H;TN,VN	Pass	Inf	22.125M	16.442M
5.2G:HT20:20:1,(M0-7);1:5180:L;TN,VN	Pass	Inf	22.825M	17.616M
5.2G:HT20:20:1,(M0-7);1:5200:M;TN,VN	Pass	Inf	22.825M	17.566M
5.2G:HT20:20:1,(M0-7);1:5240:H;TN,VN	Pass	Inf	22.7M	17.616M
5.2G:HT40:40:1,(M0-7);1:5190:L;TN,VN	Pass	Inf	45.5M	36.132M
5.2G:HT40:40:1,(M0-7);1:5230:H;TN,VN	Pass	Inf	44.65M	36.132M
5.3G:11a:20:1;1:5260:L;TN,VN	Pass	Inf	21.575M	16.417M
5.3G:11a:20:1;1:5300:M;TN,VN	Pass	Inf	21.575M	16.417M
5.3G:11a:20:1;1:5320:H;TN,VN	Pass	Inf	21.625M	16.417M
5.3G:HT20:20:1,(M0-7);1:5260:L;TN,VN	Pass	Inf	22.875M	17.541M
5.3G:HT20:20:1,(M0-7);1:5300:M;TN,VN	Pass	Inf	22.775M	17.616M
5.3G:HT20:20:1,(M0-7);1:5320:H;TN,VN	Pass	Inf	22.725M	17.616M
5.3G:HT40:40:1,(M0-7);1:5270:L;TN,VN	Pass	Inf	46.5M	36.132M
5.3G:HT40:40:1,(M0-7);1:5310:H;TN,VN	Pass	Inf	45.65M	36.032M
5.6G:11a:20:1;1:5500:L;TN,VN	Pass	Inf	21.875M	16.417M
5.6G:11a:20:1;1:5580:M;TN,VN	Pass	Inf	23.925M	16.467M
5.6G:11a:20:1;1:5700:H;TN,VN	Pass	Inf	23.2M	16.467M
5.6G:HT20:20:1,(M0-7);1:5500:L;TN,VN	Pass	Inf	23.65M	17.641M
5.6G:HT20:20:1,(M0-7);1:5580:M;TN,VN	Pass	Inf	24.375M	17.641M
5.6G:HT20:20:1,(M0-7);1:5700:H;TN,VN	Pass	Inf	23.475M	17.666M
5.6G:HT40:40:1,(M0-7);1:5510:L;TN,VN	Pass	Inf	64.35M	36.182M
5.6G:HT40:40:1,(M0-7);1:5550:M;TN,VN	Pass	Inf	66.8M	36.182M
5.6G:HT40:40:1,(M0-7);1:5670:H;TN,VN	Pass	Inf	67.25M	36.132M
5.8G:11a:20:1;1:5745:L;TN,VN	Pass	500k	16.325M	16.467M
5.8G:11a:20:1;1:5785:M;TN,VN	Pass	500k	16.3M	16.417M
5.8G:11a:20:1;1:5825:H;TN,VN	Pass	500k	16.275M	16.442M
5.8G:HT20:20:1,(M0-7);1:5745:L;TN,VN	Pass	500k	16.75M	17.616M
5.8G:HT20:20:1,(M0-7);1:5785:M;TN,VN	Pass	500k	16.875M	17.616M
5.8G:HT20:20:1,(M0-7);1:5825:H;TN,VN	Pass	500k	16.8M	17.616M
5.8G:HT40:40:1,(M0-7);1:5755:L;TN,VN	Pass	500k	35.25M	36.182M
5.8G:HT40:40:1,(M0-7);1:5795:H;TN,VN	Pass	500k	35.75M	36.232M









Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
5.2G:11a:20:1;1	14.05	0.02541	16.50	0.04467
5.2G:HT20:20:1,(M0-7);1	14.55	0.02851	17.00	0.05012
5.2G:HT40:40:1,(M0-7);1	15.62	0.03648	18.07	0.06412
5.3G:11a:20:1;1	14.92	0.03105	17.37	0.05458
5.3G:HT20:20:1,(M0-7);1	15.86	0.03855	18.31	0.06776
5.3G:HT40:40:1,(M0-7);1	15.75	0.03758	18.20	0.06607
5.6G:11a:20:1;1	16.69	0.04667	19.14	0.08204
5.6G:HT20:20:1,(M0-7);1	17.19	0.05236	19.64	0.09204
5.6G:HT40:40:1,(M0-7);1	18.13	0.06501	20.58	0.11429
5.8G:11a:20:1;1	16.15	0.04121	18.60	0.07244
5.8G:HT20:20:1,(M0-7);1	17.43	0.05534	19.88	0.09727
5.8G:HT40:40:1,(M0-7);1	17.79	0.06012	20.24	0.10568



Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP Lim. (dBm)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)
5.2G:11a:20:1;1:5180:L;TN,VN	Pass	2.45	16.50	36.00	14.05	24.00	14.05
5.2G:11a:20:1;1:5200:M;TN,VN	Pass	2.45	15.88	36.00	13.43	24.00	13.43
5.2G:11a:20:1;1:5240:H;TN,VN	Pass	2.45	16.26	36.00	13.81	24.00	13.81
5.2G:HT20:20:1,(M0-7);1:5180:L;TN,VN	Pass	2.45	16.97	36.00	14.52	24.00	14.52
5.2G:HT20:20:1,(M0-7);1:5200:M;TN,VN	Pass	2.45	15.75	36.00	13.30	24.00	13.30
5.2G:HT20:20:1,(M0-7);1:5240:H;TN,VN	Pass	2.45	17.00	36.00	14.55	24.00	14.55
5.2G:HT40:40:1,(M0-7);1:5190:L;TN,VN	Pass	2.45	18.07	36.00	15.62	24.00	15.62
5.2G:HT40:40:1,(M0-7);1:5230:H;TN,VN	Pass	2.45	17.55	36.00	15.10	24.00	15.10
5.3G:11a:20:1;1:5260:L;TN,VN	Pass	2.45	16.92	30.00	14.47	24.00	14.47
5.3G:11a:20:1;1:5300:M;TN,VN	Pass	2.45	17.37	30.00	14.92	24.00	14.92
5.3G:11a:20:1;1:5320:H;TN,VN	Pass	2.45	17.18	30.00	14.73	24.00	14.73
5.3G:HT20:20:1,(M0-7);1:5260:L;TN,VN	Pass	2.45	17.57	30.00	15.12	24.00	15.12
5.3G:HT20:20:1,(M0-7);1:5300:M;TN,VN	Pass	2.45	17.93	30.00	15.48	24.00	15.48
5.3G:HT20:20:1,(M0-7);1:5320:H;TN,VN	Pass	2.45	18.31	30.00	15.86	24.00	15.86
5.3G:HT40:40:1,(M0-7);1:5270:L;TN,VN	Pass	2.45	18.20	30.00	15.75	24.00	15.75
5.3G:HT40:40:1,(M0-7);1:5310:H;TN,VN	Pass	2.45	17.84	30.00	15.39	24.00	15.39
5.6G:11a:20:1;1:5500:L;TN,VN	Pass	2.45	18.84	30.00	16.39	24.00	16.39
5.6G:11a:20:1;1:5580:M;TN,VN	Pass	2.45	19.14	30.00	16.69	24.00	16.69
5.6G:11a:20:1;1:5700:H;TN,VN	Pass	2.45	18.21	30.00	15.76	24.00	15.76
5.6G:HT20:20:1,(M0-7);1:5500:L;TN,VN	Pass	2.45	19.52	30.00	17.07	24.00	17.07
5.6G:HT20:20:1,(M0-7);1:5580:M;TN,VN	Pass	2.45	19.64	30.00	17.19	24.00	17.19
5.6G:HT20:20:1,(M0-7);1:5700:H;TN,VN	Pass	2.45	18.72	30.00	16.27	24.00	16.27
5.6G:HT40:40:1,(M0-7);1:5510:L;TN,VN	Pass	2.45	20.58	30.00	18.13	24.00	18.13
5.6G:HT40:40:1,(M0-7);1:5550:M;TN,VN	Pass	2.45	20.42	30.00	17.97	24.00	17.97
5.6G:HT40:40:1,(M0-7);1:5670:H;TN,VN	Pass	2.45	19.92	30.00	17.47	24.00	17.47
5.8G:11a:20:1;1:5745:L;TN,VN	Pass	2.45	18.56	36.00	16.11	30.00	16.11
5.8G:11a:20:1;1:5785:M;TN,VN	Pass	2.45	18.60	36.00	16.15	30.00	16.15
5.8G:11a:20:1;1:5825:H;TN,VN	Pass	2.45	18.43	36.00	15.98	30.00	15.98
5.8G:HT20:20:1,(M0-7);1:5745:L;TN,VN	Pass	2.45	19.11	36.00	16.66	30.00	16.66
5.8G:HT20:20:1,(M0-7);1:5785:M;TN,VN	Pass	2.45	19.85	36.00	17.40	30.00	17.40
5.8G:HT20:20:1,(M0-7);1:5825:H;TN,VN	Pass	2.45	19.88	36.00	17.43	30.00	17.43
5.8G:HT40:40:1,(M0-7);1:5755:L;TN,VN	Pass	2.45	20.24	36.00	17.79	30.00	17.79
5.8G:HT40:40:1,(M0-7);1:5795:H;TN,VN	Pass	2.45	20.16	36.00	17.71	30.00	17.71

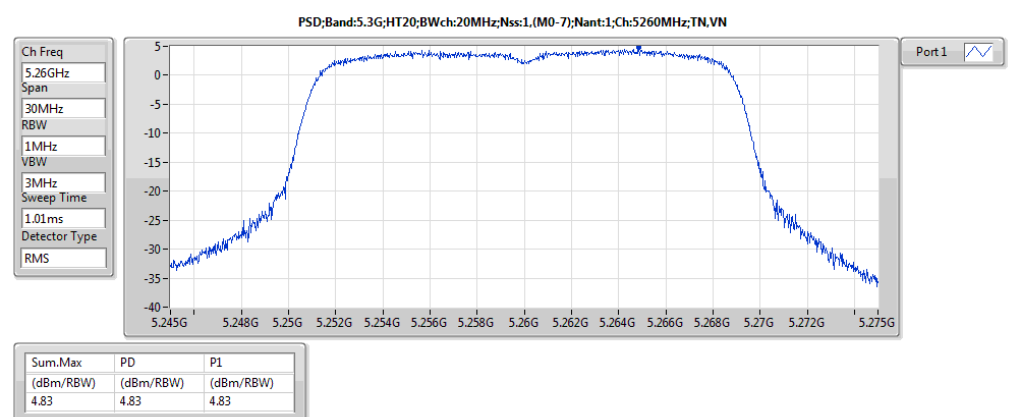
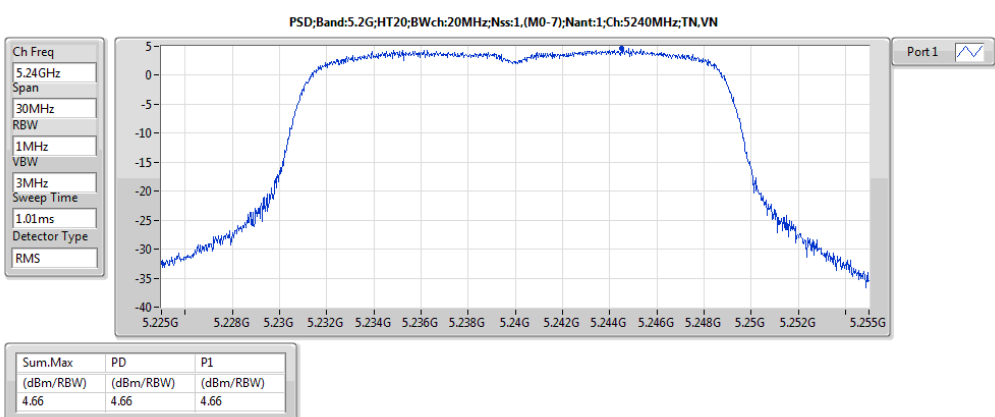
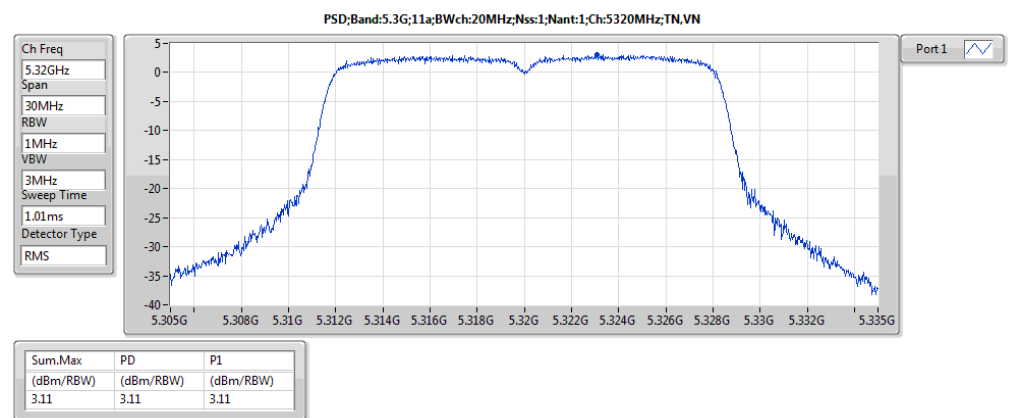
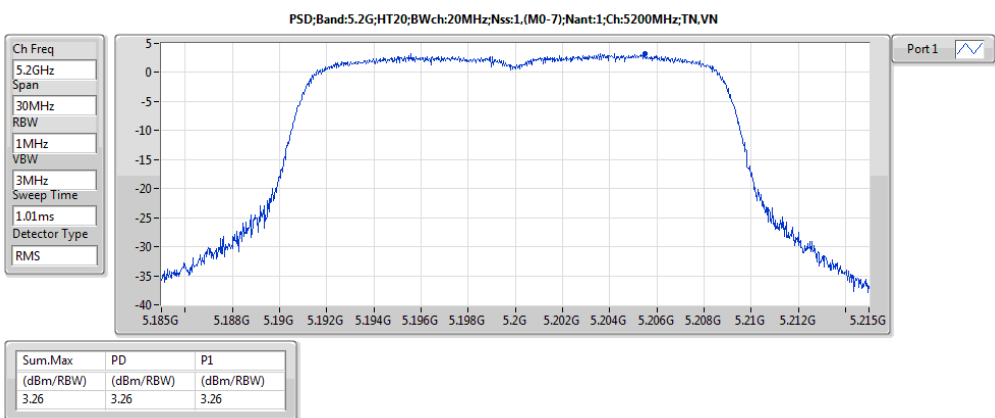
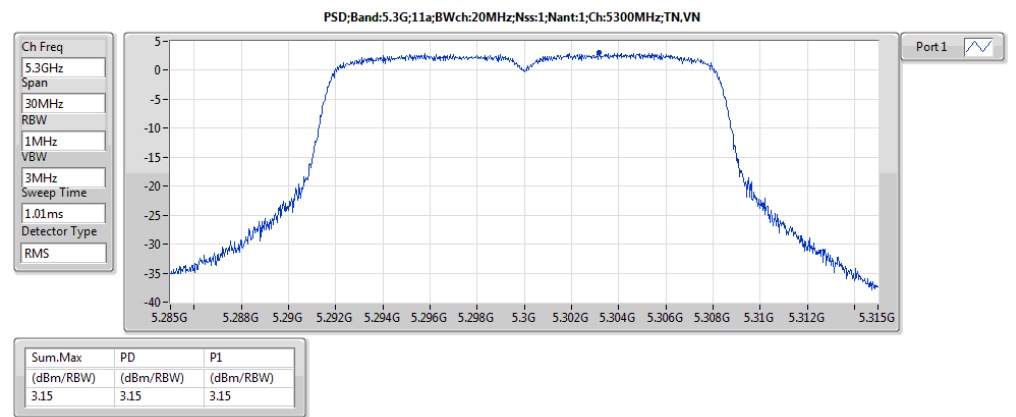
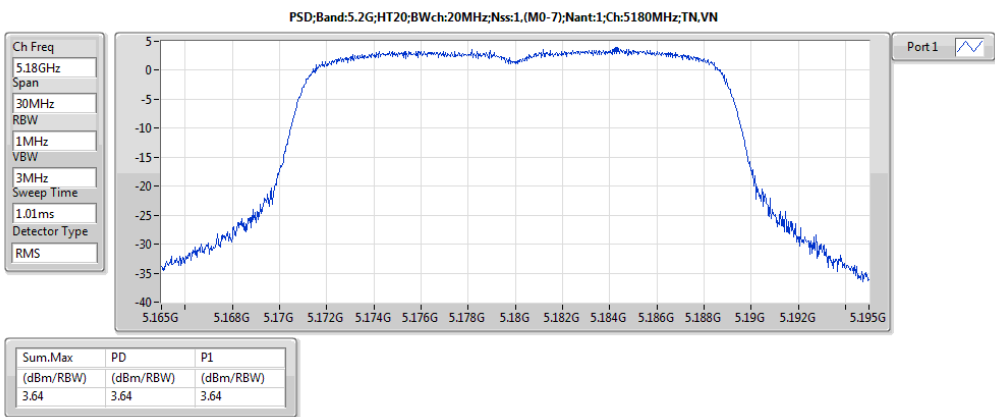
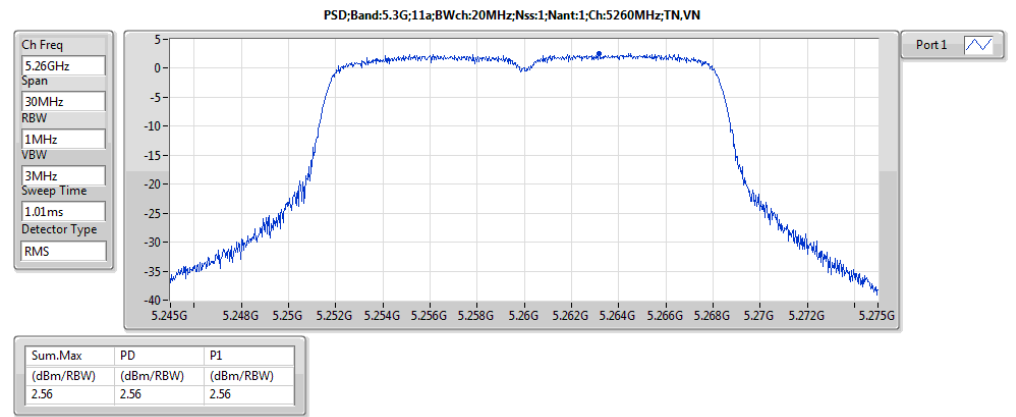
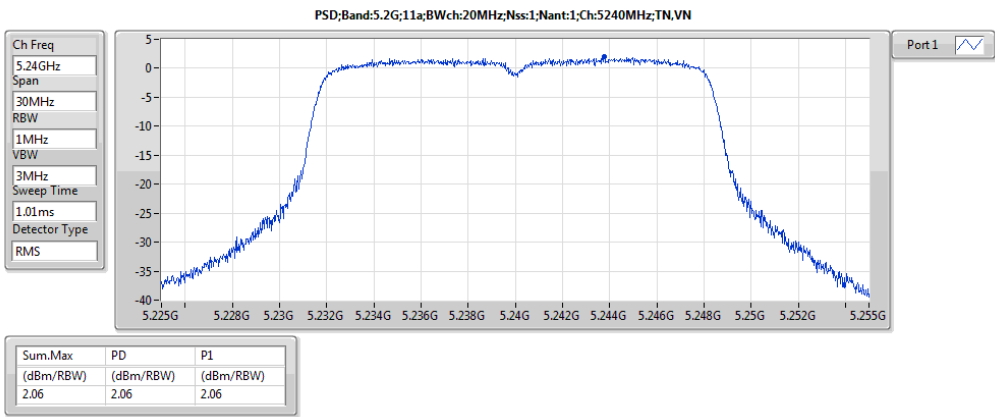
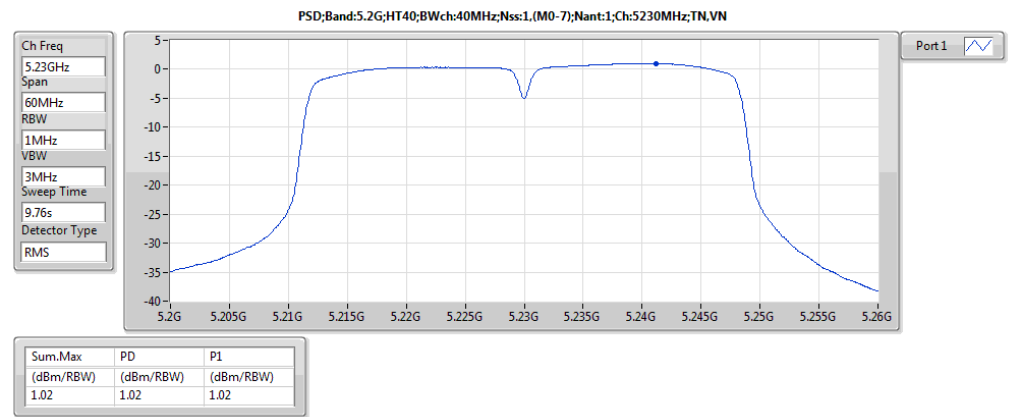
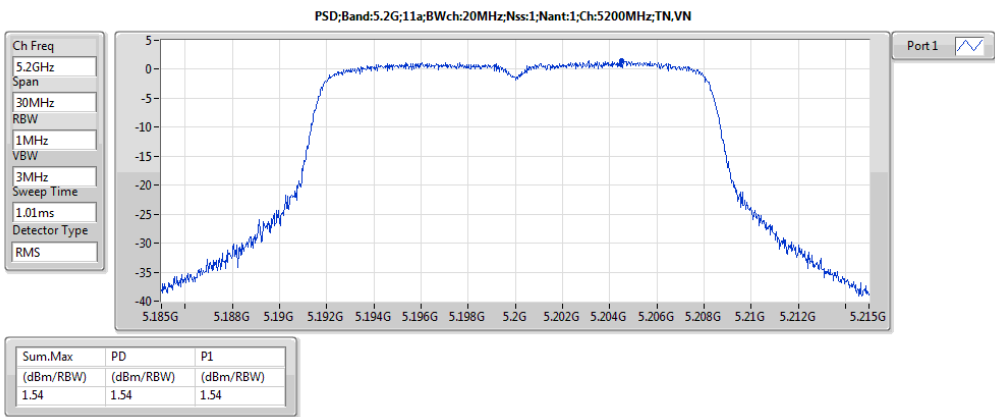
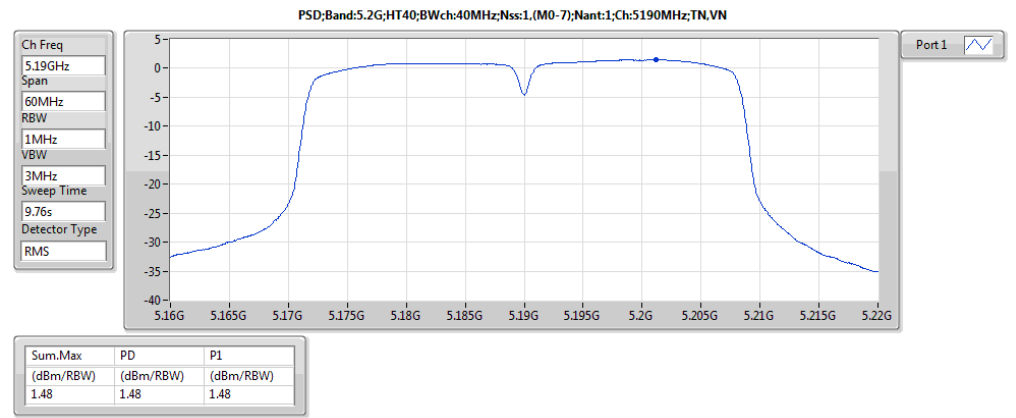
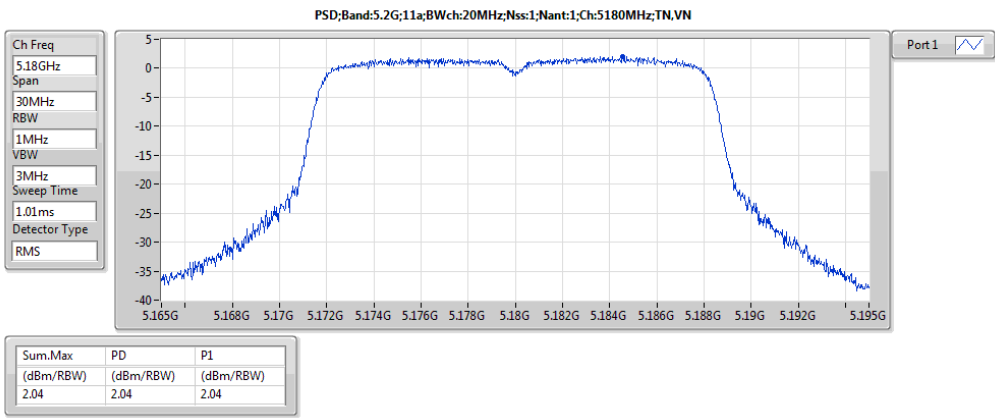
Summary

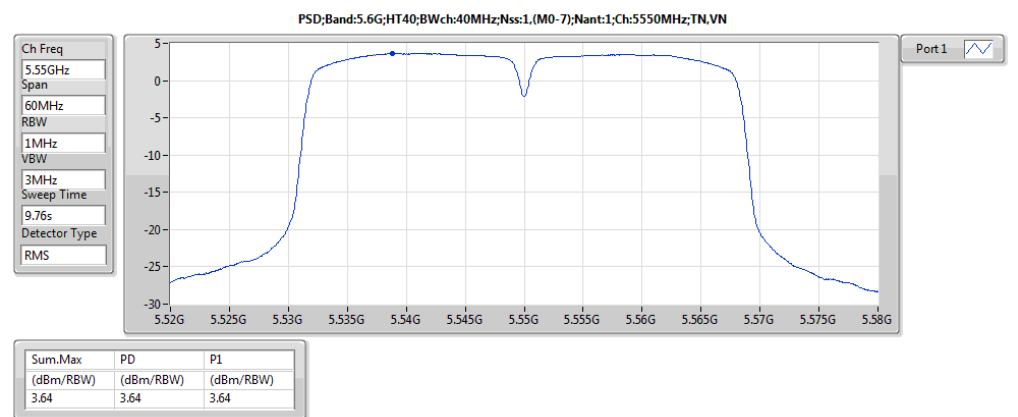
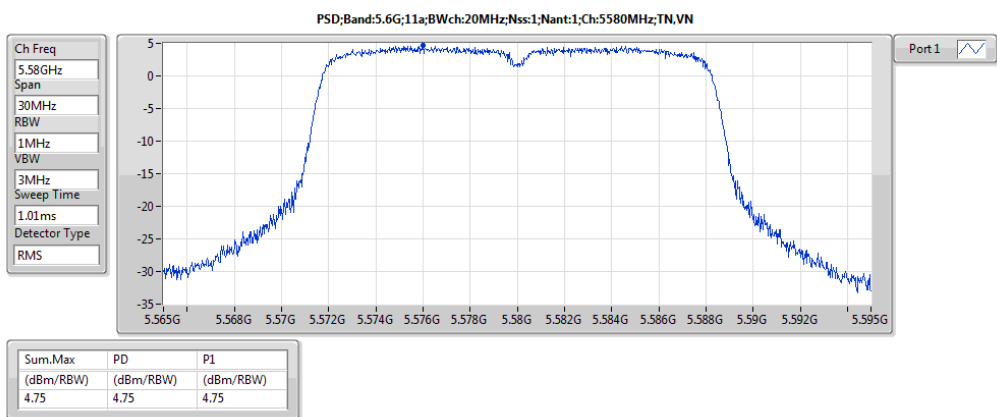
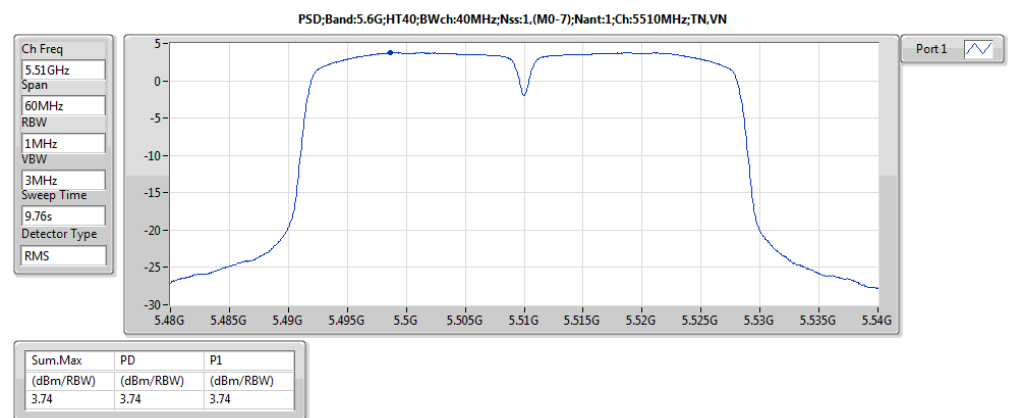
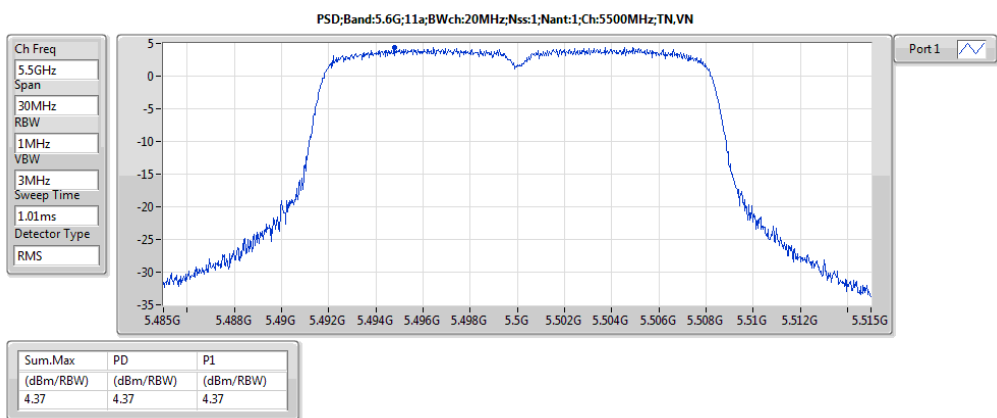
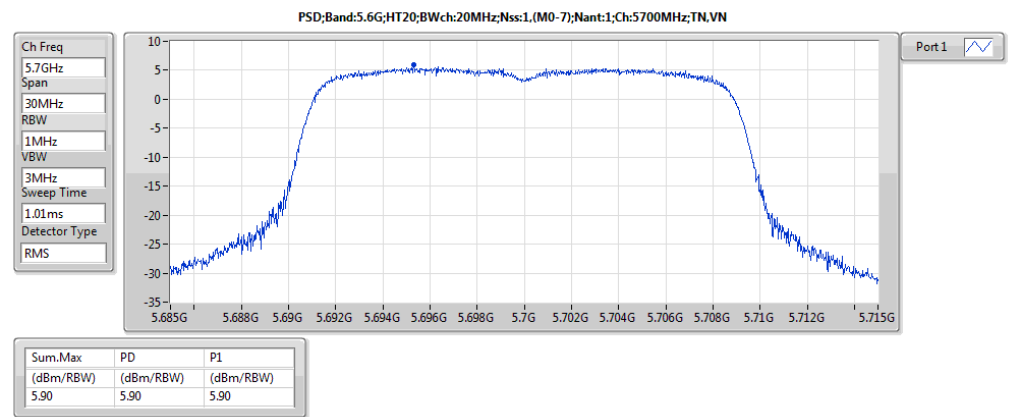
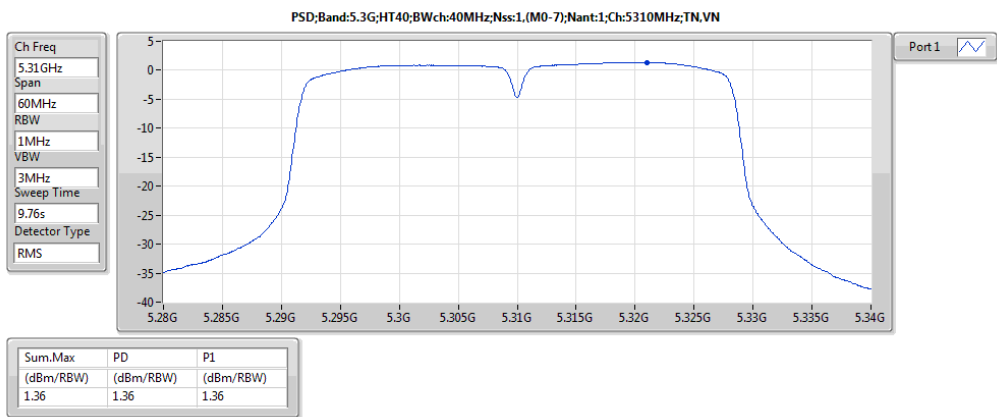
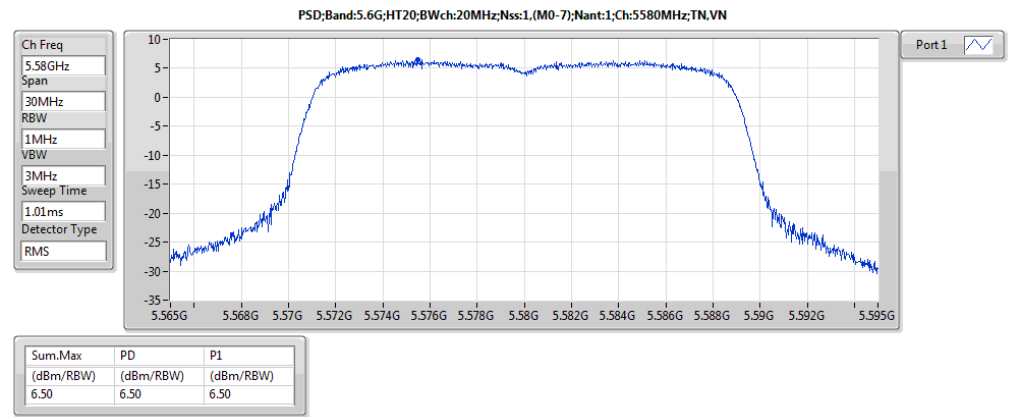
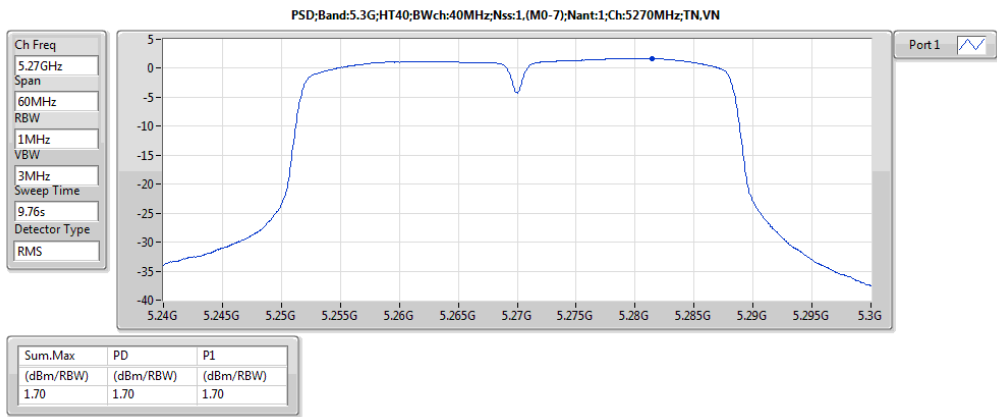
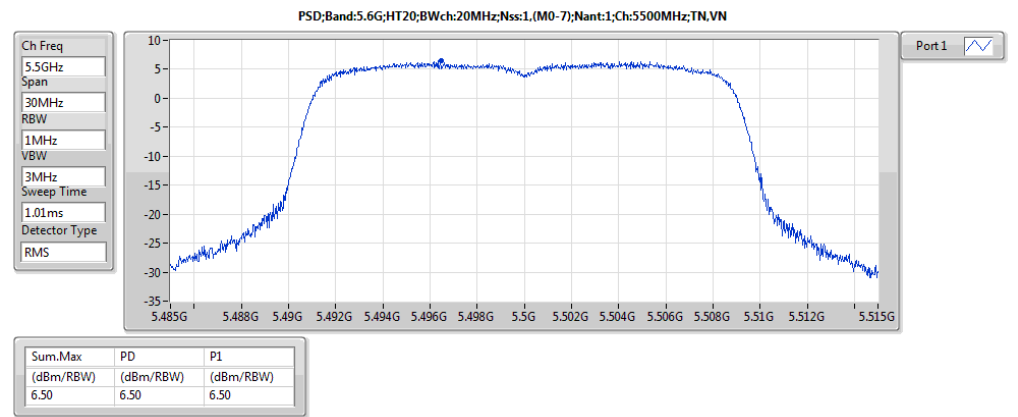
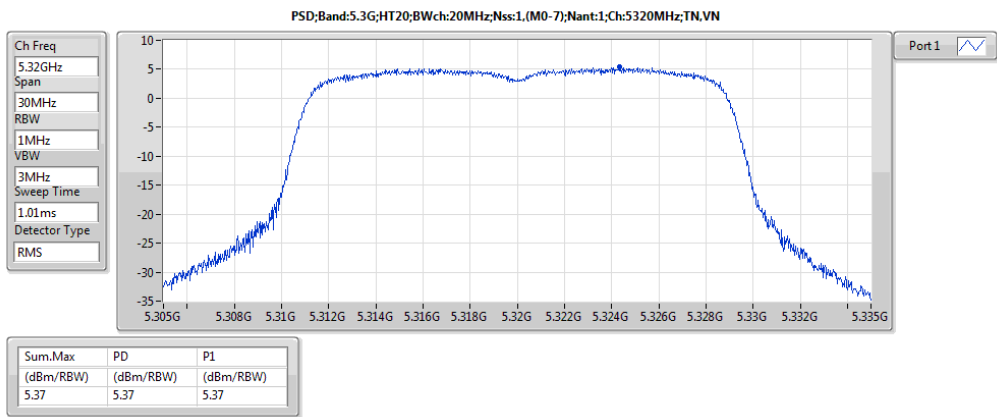
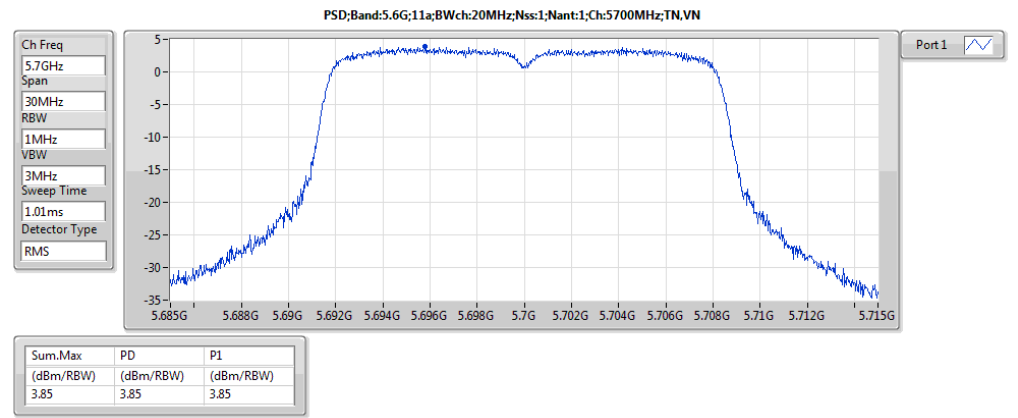
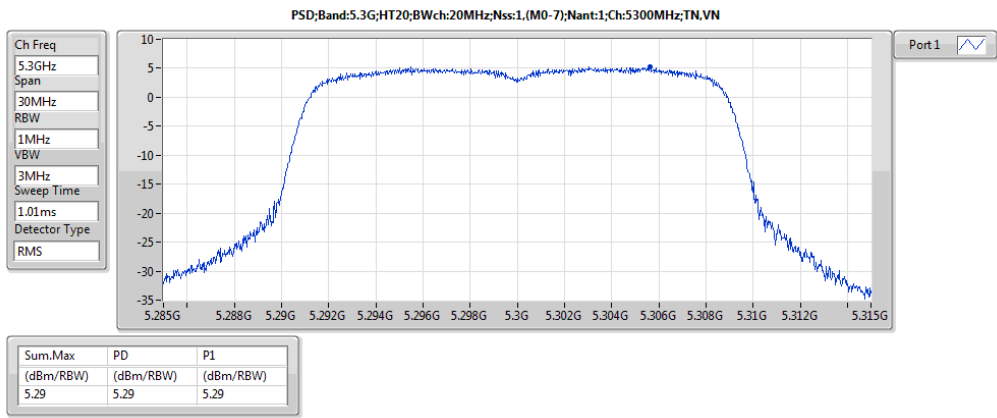
Mode	PD (dBm/RBW)	EIRP.PD (dBm/RBW)
5.2G;11a;20;1;1	2.06	4.51
5.2G;HT20;20;1,(M0-7);1	4.66	7.11
5.2G;HT40;40;1,(M0-7);1	1.48	3.93
5.3G;11a;20;1;1	3.15	5.60
5.3G;HT20;20;1,(M0-7);1	5.37	7.82
5.3G;HT40;40;1,(M0-7);1	1.70	4.15
5.6G;11a;20;1;1	4.75	7.20
5.6G;HT20;20;1,(M0-7);1	6.50	8.95
5.6G;HT40;40;1,(M0-7);1	3.74	6.19
5.8G;11a;20;1;1	2.94	5.39
5.8G;HT20;20;1,(M0-7);1	3.95	6.40
5.8G;HT40;40;1,(M0-7);1	1.21	3.66

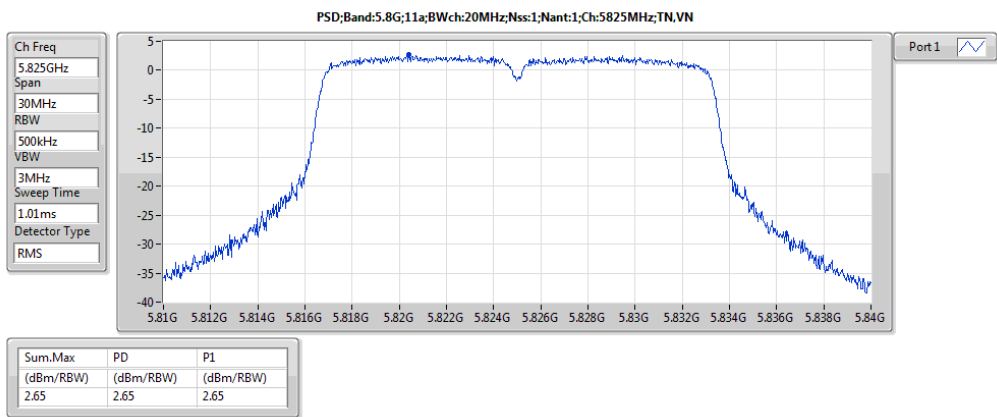
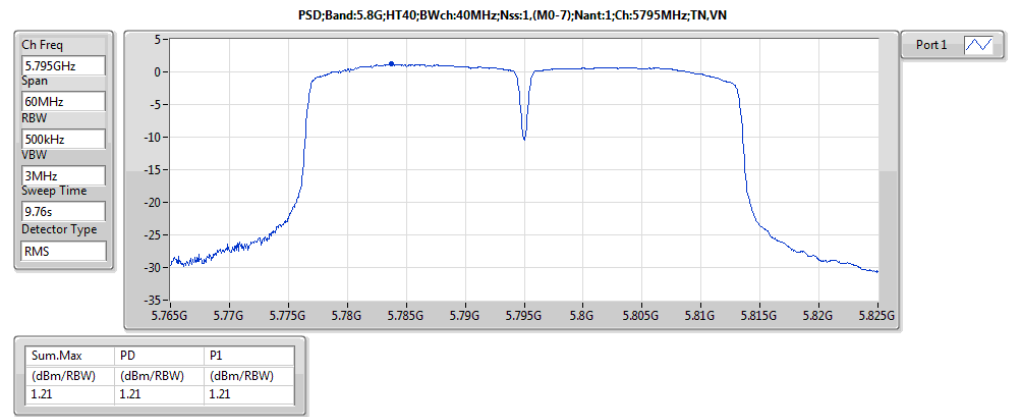
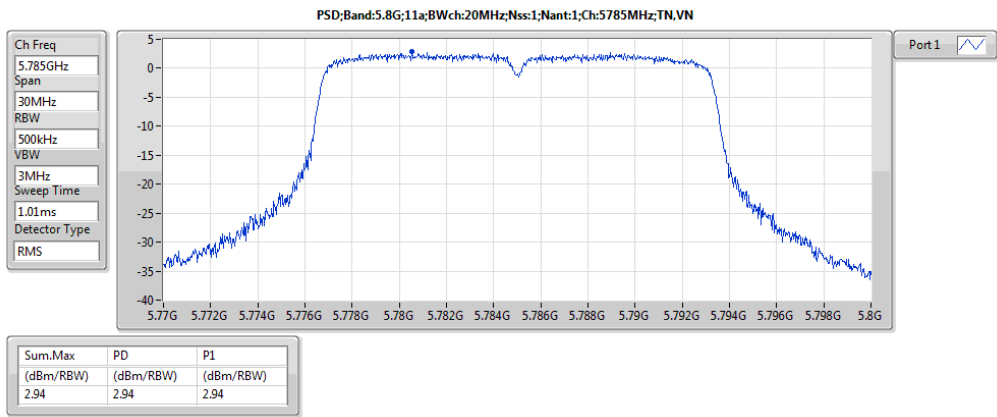
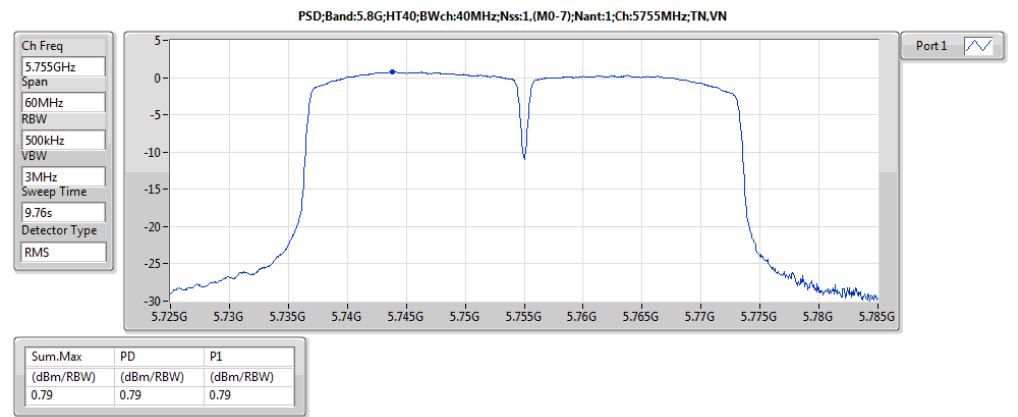
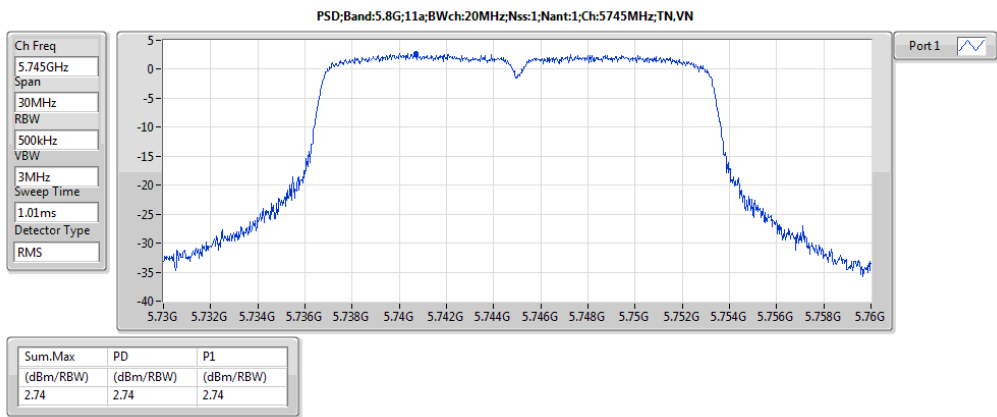
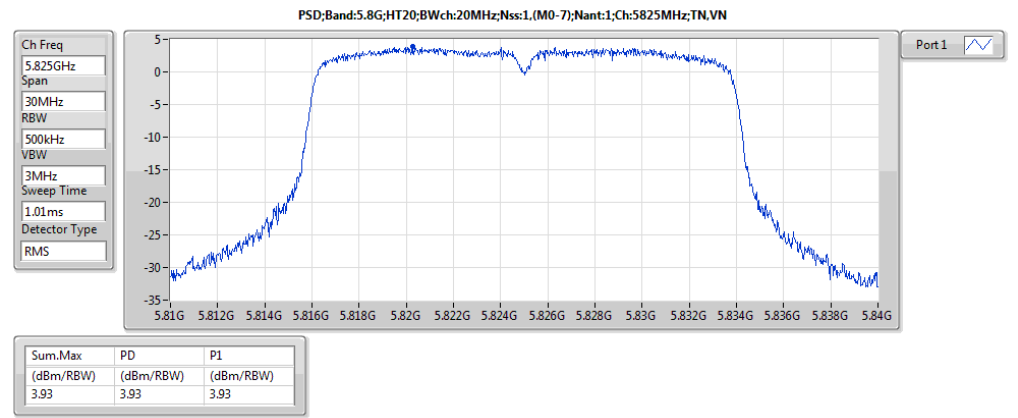
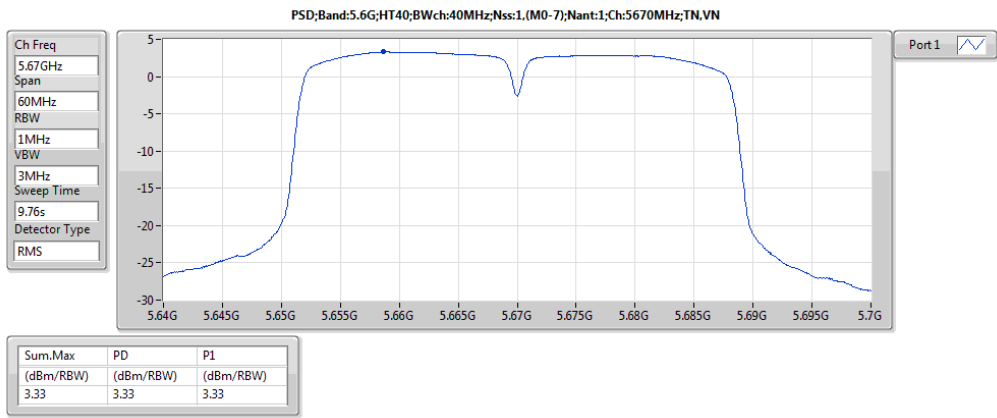


Result

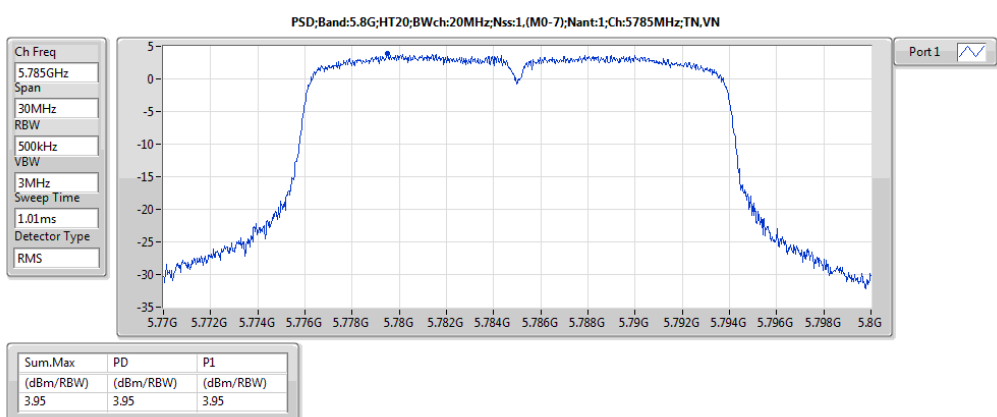
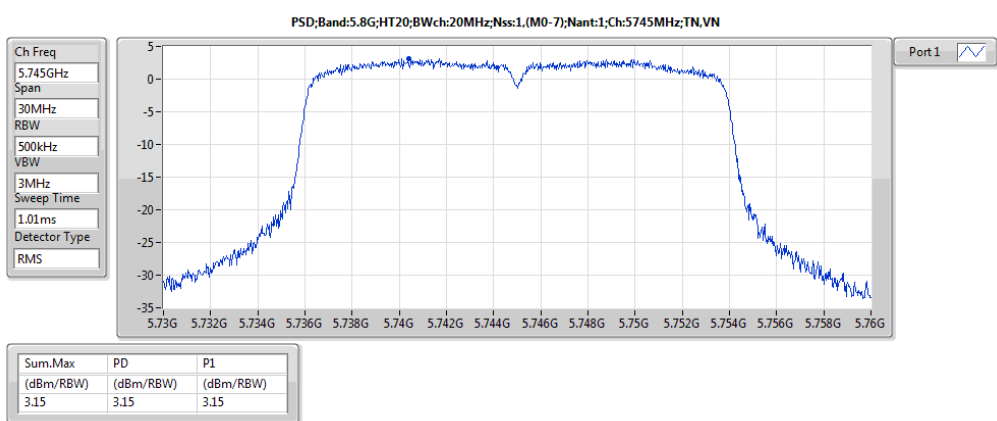
Mode	Result	Meas.RBW (Hz)	Lim.RBW (Hz)	BWCF (dB)	DG (dBi)	Sum.Max (dBm/RBW)	PD (dBm/RBW)	PD.Limit (dBm/RBW)	EIRP.PD (dBm/RBW)	EIRP.PD.Li m (dBm/RBW)	P1 (dBm/RBW)
5.2G;11a;20;1;1:5180;L;TN,VN	Pass	1M	1M	0.00	2.45	2.04	2.04	11.00	4.49	Inf	2.04
5.2G;11a;20;1;1:5200;M;TN,VN	Pass	1M	1M	0.00	2.45	1.54	1.54	11.00	3.99	Inf	1.54
5.2G;11a;20;1;1:5240;H;TN,VN	Pass	1M	1M	0.00	2.45	2.06	2.06	11.00	4.51	Inf	2.06
5.2G;HT20;20;1,(M0-7);1:5180;L;TN,VN	Pass	1M	1M	0.00	2.45	3.64	3.64	11.00	6.09	Inf	3.64
5.2G;HT20;20;1,(M0-7);1:5200;M;TN,VN	Pass	1M	1M	0.00	2.45	3.26	3.26	11.00	5.71	Inf	3.26
5.2G;HT20;20;1,(M0-7);1:5240;H;TN,VN	Pass	1M	1M	0.00	2.45	4.66	4.66	11.00	7.11	Inf	4.66
5.2G;HT40;40;1,(M0-7);1:5190;L;TN,VN	Pass	1M	1M	0.00	2.45	1.48	1.48	11.00	3.93	Inf	1.48
5.2G;HT40;40;1,(M0-7);1:5230;H;TN,VN	Pass	1M	1M	0.00	2.45	1.02	1.02	11.00	3.47	Inf	1.02
5.3G;11a;20;1;1:5260;L;TN,VN	Pass	1M	1M	0.00	2.45	2.56	2.56	11.00	5.01	Inf	2.56
5.3G;11a;20;1;1:5300;M;TN,VN	Pass	1M	1M	0.00	2.45	3.15	3.15	11.00	5.60	Inf	3.15
5.3G;11a;20;1;1:5320;H;TN,VN	Pass	1M	1M	0.00	2.45	3.11	3.11	11.00	5.56	Inf	3.11
5.3G;HT20;20;1,(M0-7);1:5260;L;TN,VN	Pass	1M	1M	0.00	2.45	4.83	4.83	11.00	7.28	Inf	4.83
5.3G;HT20;20;1,(M0-7);1:5300;M;TN,VN	Pass	1M	1M	0.00	2.45	5.29	5.29	11.00	7.74	Inf	5.29
5.3G;HT20;20;1,(M0-7);1:5320;H;TN,VN	Pass	1M	1M	0.00	2.45	5.37	5.37	11.00	7.82	Inf	5.37
5.3G;HT40;40;1,(M0-7);1:5270;L;TN,VN	Pass	1M	1M	0.00	2.45	1.70	1.70	11.00	4.15	Inf	1.70
5.3G;HT40;40;1,(M0-7);1:5310;H;TN,VN	Pass	1M	1M	0.00	2.45	1.36	1.36	11.00	3.81	Inf	1.36
5.6G;11a;20;1;1:5500;L;TN,VN	Pass	1M	1M	0.00	2.45	4.37	4.37	11.00	6.82	Inf	4.37
5.6G;11a;20;1;1:5580;M;TN,VN	Pass	1M	1M	0.00	2.45	4.75	4.75	11.00	7.20	Inf	4.75
5.6G;11a;20;1;1:5700;H;TN,VN	Pass	1M	1M	0.00	2.45	3.85	3.85	11.00	6.30	Inf	3.85
5.6G;HT20;20;1,(M0-7);1:5500;L;TN,VN	Pass	1M	1M	0.00	2.45	6.50	6.50	11.00	8.95	Inf	6.50
5.6G;HT20;20;1,(M0-7);1:5580;M;TN,VN	Pass	1M	1M	0.00	2.45	6.50	6.50	11.00	8.95	Inf	6.50
5.6G;HT20;20;1,(M0-7);1:5700;H;TN,VN	Pass	1M	1M	0.00	2.45	5.90	5.90	11.00	8.35	Inf	5.90
5.6G;HT40;40;1,(M0-7);1:5510;L;TN,VN	Pass	1M	1M	0.00	2.45	3.74	3.74	11.00	6.19	Inf	3.74
5.6G;HT40;40;1,(M0-7);1:5550;M;TN,VN	Pass	1M	1M	0.00	2.45	3.64	3.64	11.00	6.09	Inf	3.64
5.6G;HT40;40;1,(M0-7);1:5670;H;TN,VN	Pass	1M	1M	0.00	2.45	3.33	3.33	11.00	5.78	Inf	3.33
5.8G;11a;20;1;1:5745;L;TN,VN	Pass	500k	500k	0.00	2.45	2.74	2.74	30.00	5.19	36.00	2.74
5.8G;11a;20;1;1:5785;M;TN,VN	Pass	500k	500k	0.00	2.45	2.94	2.94	30.00	5.39	36.00	2.94
5.8G;11a;20;1;1:5825;H;TN,VN	Pass	500k	500k	0.00	2.45	2.65	2.65	30.00	5.10	36.00	2.65
5.8G;HT20;20;1,(M0-7);1:5745;L;TN,VN	Pass	500k	500k	0.00	2.45	3.15	3.15	30.00	5.60	36.00	3.15
5.8G;HT20;20;1,(M0-7);1:5785;M;TN,VN	Pass	500k	500k	0.00	2.45	3.95	3.95	30.00	6.40	36.00	3.95
5.8G;HT20;20;1,(M0-7);1:5825;H;TN,VN	Pass	500k	500k	0.00	2.45	3.93	3.93	30.00	6.38	36.00	3.93
5.8G;HT40;40;1,(M0-7);1:5755;L;TN,VN	Pass	500k	500k	0.00	2.45	0.79	0.79	30.00	3.24	36.00	0.79
5.8G;HT40;40;1,(M0-7);1:5795;H;TN,VN	Pass	500k	500k	0.00	2.45	1.21	1.21	30.00	3.66	36.00	1.21







Note : RF Power Spectral Density Plots with Duty Factor





**Transmitter Radiated Bandedge Emissions (with Antenna)**

U-NII 5150-5250MHz Transmitter Radiated Bandedge (with Antenna)										
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11a	1	5180	3	5146.600	57.51	74	5149.800	46.48	54	H
11a	1	5240	3	5143.200	58.00	74	5113.200	46.24	54	H
HT20	1	5180	3	5129.200	57.31	74	5149.400	46.00	54	H
HT20	1	5240	3	5130.000	57.49	74	5109.000	46.05	54	H
HT40	1	5190	3	5146.640	57.86	74	5149.940	47.02	54	H
HT40	1	5230	3	5133.000	56.85	74	5102.400	46.02	54	H

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5250-5350MHz Transmitter Radiated Bandedge (with Antenna)										
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11a	1	5260	3	5350.000	56.07	74	5133.600	46.24	54	H
11a	1	5320	3	5353.120	58.05	74	5350.180	46.59	54	H
HT20	1	5260	3	5123.400	56.98	74	5132.400	46.12	54	H
HT20	1	5320	3	5350.880	57.22	74	5351.720	46.61	54	H
HT40	1	5270	3	5144.400	57.50	74	5148.600	46.30	54	H
HT40	1	5310	3	5350.840	59.49	74	5350.000	48.29	54	H

Note 1: Measurement worst emissions of receive antenna polarization.



U-NII 5470-5725MHz Transmitter Radiated Bandedge (with Antenna)										
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11a	1	5500	3	5469.680	58.25	68.2	5455.760	46.15	54	H
11a	1	5700	3	5725.400	58.95	68.2	5725.280	47.54	68.2	H
HT20	1	5500	3	5461.840	57.19	68.2	5458.000	46.09	54	H
HT20	1	5700	3	5739.560	57.99	68.2	5725.040	46.76	68.2	H
HT40	1	5510	3	5469.600	61.71	68.2	5459.800	46.39	54	H
HT40	1	5670	3	5747.600	57.95	68.2	5731.800	47.02	68.2	H

Note 1: Measurement worst emissions of receive antenna polarization.

U-NII 5725-5850MHz Transmitter Radiated Bandedge (with Antenna)							
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Pol.
11a	1	5745	3	5633.320	59.23	68.2	H
11a	1	5825	3	5938.120	60.32	68.2	H
HT20	1	5745	3	5633.320	56.79	68.2	H
HT20	1	5825	3	5940.550	57.36	68.2	H
HT40	1	5755	3	5647.940	58.71	68.2	H
HT40	1	5795	3	5925.880	58.23	68.2	H
VHT80	1	5775	3	5633.320	59.23	68.2	H

Note 1: Measurement worst emissions of receive antenna polarization.

