

FCC Test Report

Equipment : airCube AC
Brand Name : UBIQUITI
Model No. : ACB-AC
FCC ID : SWX-ACBAC
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant / Manufacturer : Ubiquiti Networks, Inc.
2580 Orchard Parkway San Jose, CA 95131

The product sample received on Apr. 07, 2017 and completely tested on May 05, 2017. 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.


Phoenix Chen
SPORTON INTERNATIONAL INC.

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Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	≥500kHz	Complied
3.3	15.247(b)	Maximum Conducted Output Power	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: > 30 dBc	Complied
3.6	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied

Revision History

[illegible]

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2.4-2.4835GHz	b, g, n (HT20)	2412-2462	1-11 [11]
2.4-2.4835GHz	n (HT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX

Note:

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	-	-	internal antenna	I-PEX	4

Note: 1 : 802.11b/g/n used two antennas are for signal transmitting and receiving.(2T2R Spatial Multiplexing MIMO configuration)

1.1.3 EUT Information

Identify EUT			
SW / HW	N/A		
Operational Condition			
EUT Power Type	From AC Adapter		
Beamforming Function	☐ With beamforming	☒ Without beamforming	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:		...
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:		...
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.986	0.061	n/a (DC≥0.98)	n/a (DC≥0.98)
802.11g	0.908	0.419	1.366m	1k
802.11n HT20	0.908	0.419	1.278m	1k
802.11n HT40	0.832	0.799	628.125u	3k

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
- ♦ KDB 558074 D01 v04
- ♦ KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. 553509 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Ryan	24.5°C / 63%	20/Apr/2017
Radiated	03CH03-HY	Thor	24.2°C / 58%	19/Apr/2017
AC Conduction	CO04-HY	Bear	21.4°C / 61%	05/May/2017

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))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	Adapter mode
2	PoE mode
Mode 1 configuration was tested and found to be the worst case and measured during the test.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	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.		
Operating Mode < 1GHz	CTX		
1	Adapter mode		
2	PoE mode		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT			V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	WLAN 5GHz +WLAN 2.4GHz
Refer to Sporton Test Report No.: FA740631 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
AC Adapter 2 (US Plug)	Brand Name	UBIQUITI	Model Name	GP-R240-083
	Power Rating	I/P: <u>100</u> - <u>240</u> Vac, <u>0.5</u> A, O/P: 24Vdc, <u>0.83</u> A		
	Power Cord	<u>2.04</u> meter, non-shielded cable, w/o ferrite core		

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

2.4 Support Equipment

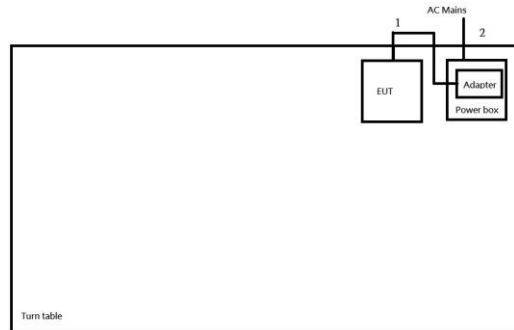
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
-	-	-	-	-

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
-	-	-	-	-

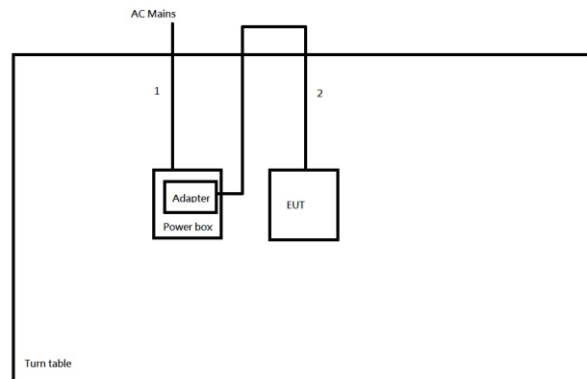
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test- Adapter mode



Item	Connection	Shielded	Length(m)	Remark
1	DC power line	No	2.04m	-
2	AC power line	No	1m	-

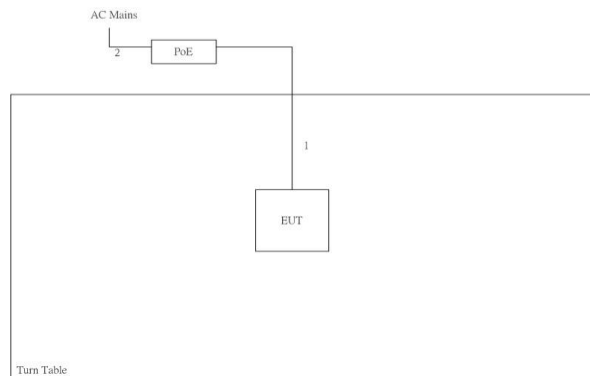
Test Setup Diagram - Radiated Test - Adapter mode



Item	Connection	Shielded	Length(m)	Remark
1	AC power line	No	1.8m	-
2	DC power line	No	2.04m	-

Test Setup Diagram – AC Line Conducted Emission Test- PoE mode


Item	Connection	Shielded	Length(m)	Remark
1	Lan cable	No	1m	-
2	AC power line	No	1.8m	-

Test Setup Diagram - Radiated Test - PoE mode


Item	Connection	Shielded	Length(m)	Remark
1	AC power line	No	1.8m	-
2	Lan cable	No	10m	-

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.

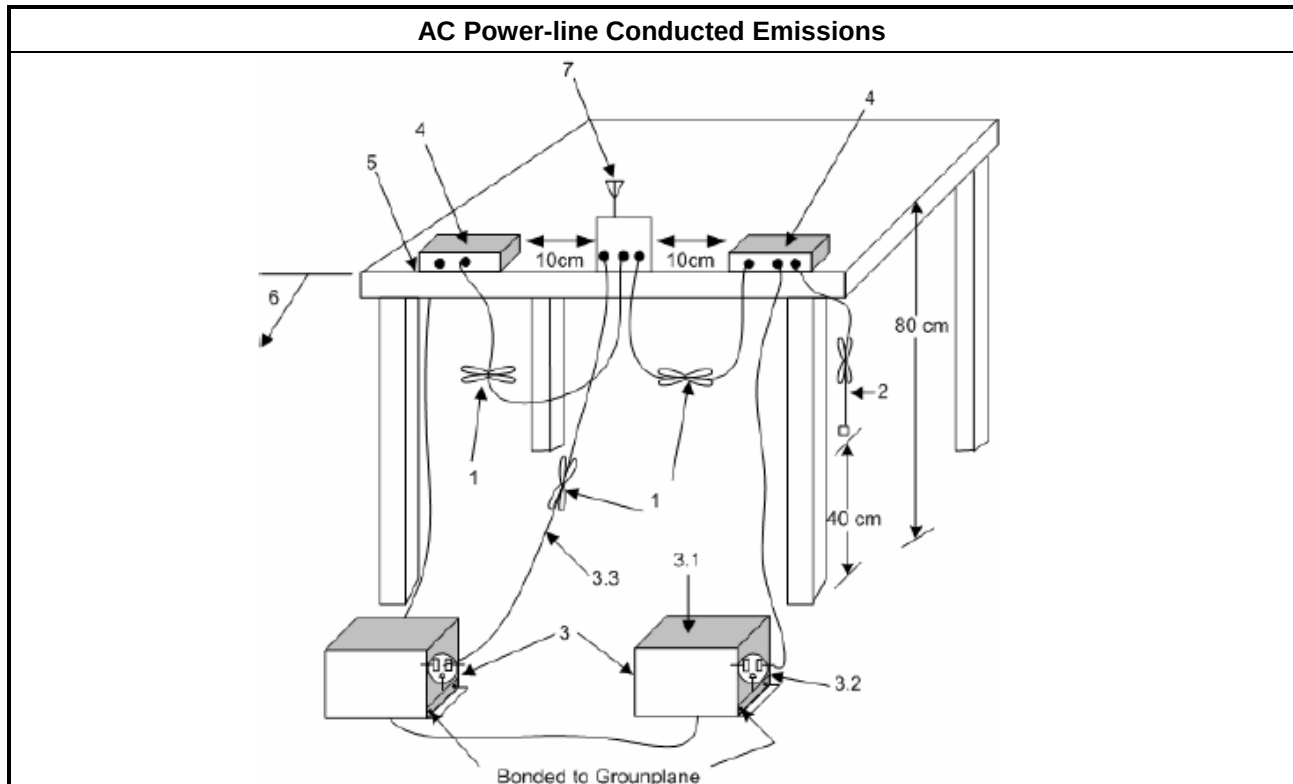
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
☒ 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 A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth $\geq$ 500 kHz.

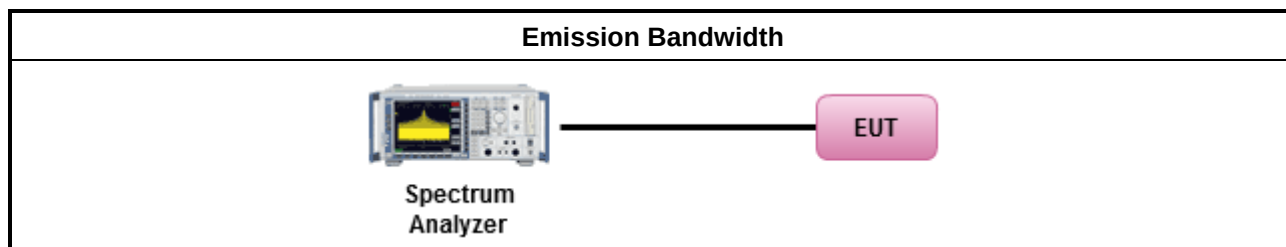
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
☒	Refer as KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit		
	▪	If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	▪	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	▪	Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	▪	Smart antenna system (SAS):
	-	Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	-	Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	-	Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:		
	▪	2400-2483.5 MHz Band
	▪	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	▪	Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	▪	Smart antenna system (SAS)
	-	Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	-	Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	-	Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.		

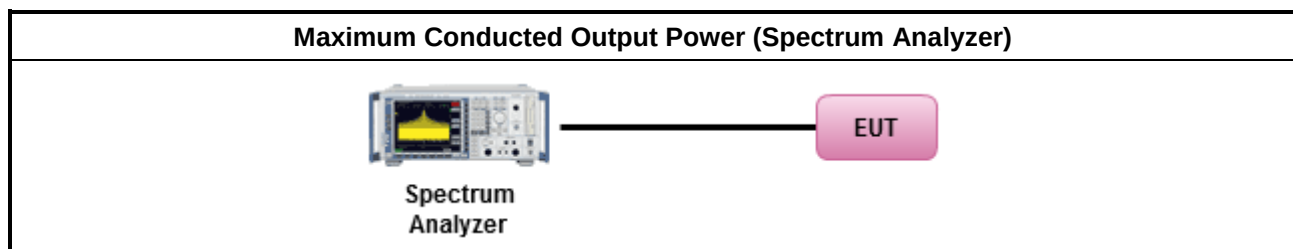
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as KDB 558074, clause 9.1.2 Option 2 (integrated band power method)
☐	Refer as KDB 558074, clause 9.1.3 Option 3 (peak power meter for VBW ≥ DTS BW)
Maximum Average Conducted Output Power	
Duty cycle ≥ 98%	
☐	Refer as KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
Duty cycle < 98%	
☐	Refer as KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
RF power meter and average over on/off periods with duty factor or gated trigger	
☒	Refer as KDB 558074, clause 9.2.3.1 Method AVGPM (using an RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as 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.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit	
▪	Power Spectral Density (PSD) ≤ 8 dBm/3kHz

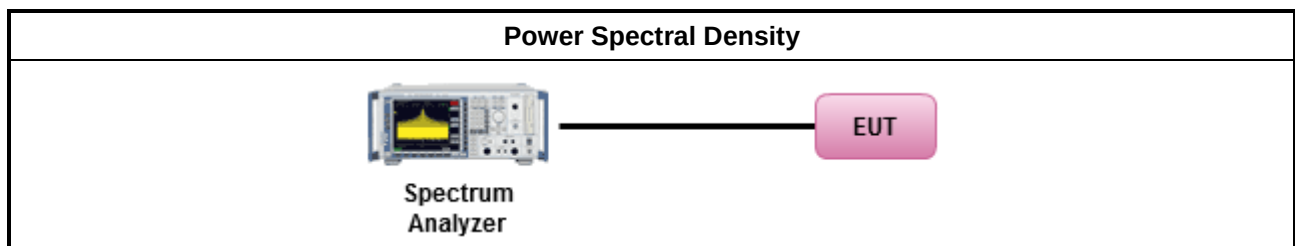
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
▪	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒	Refer as KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
☒	Measure and sum the spectra across the outputs. Refer as 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 NTX 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.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.	

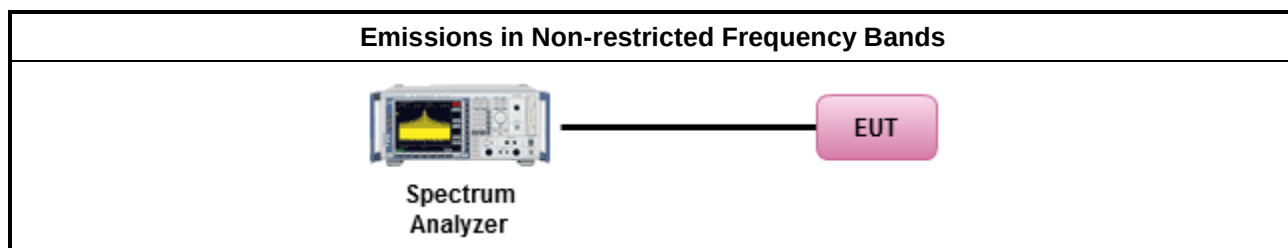
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as KDB 558074, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions 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.

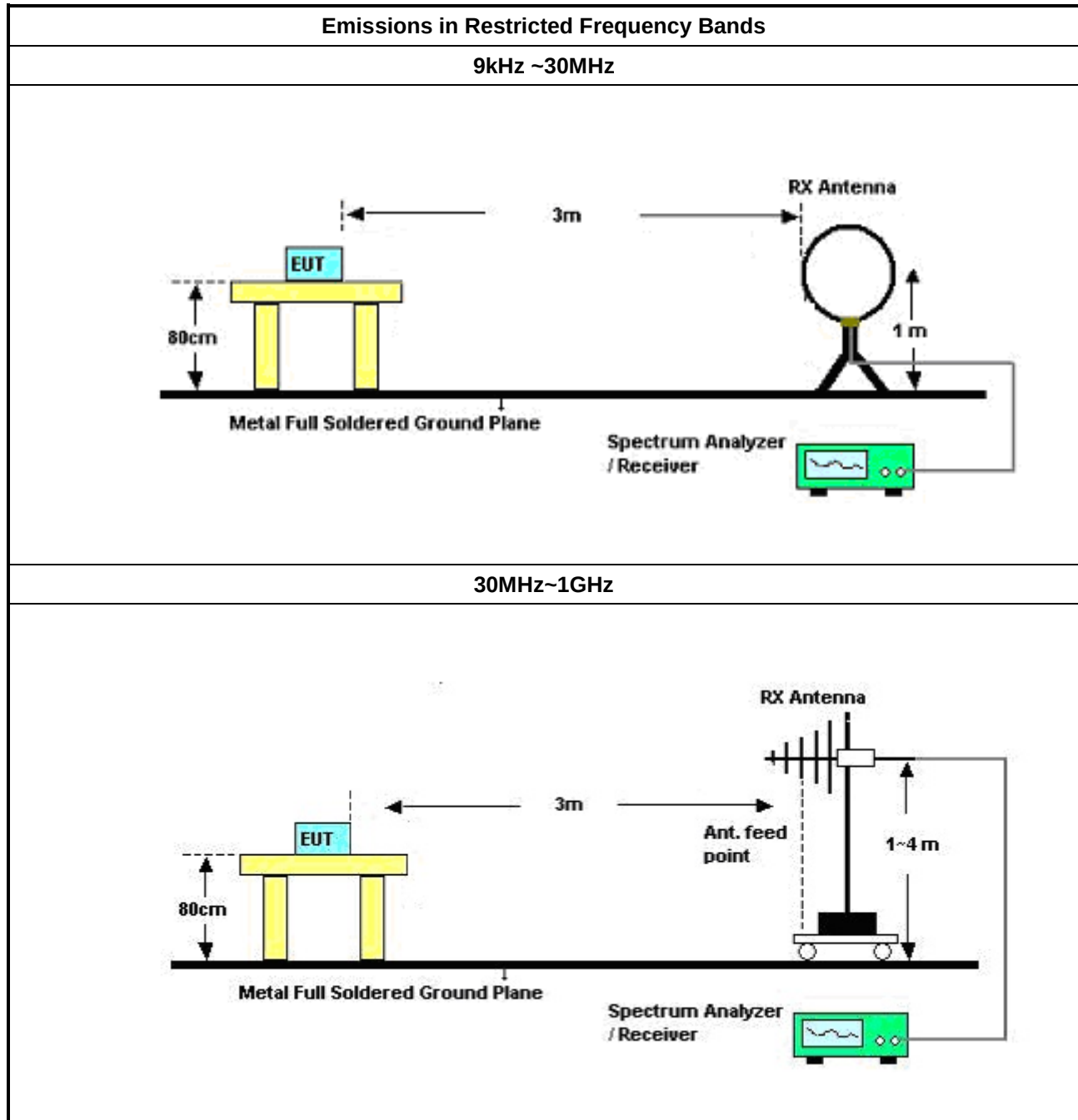
3.6.2 Measuring Instruments

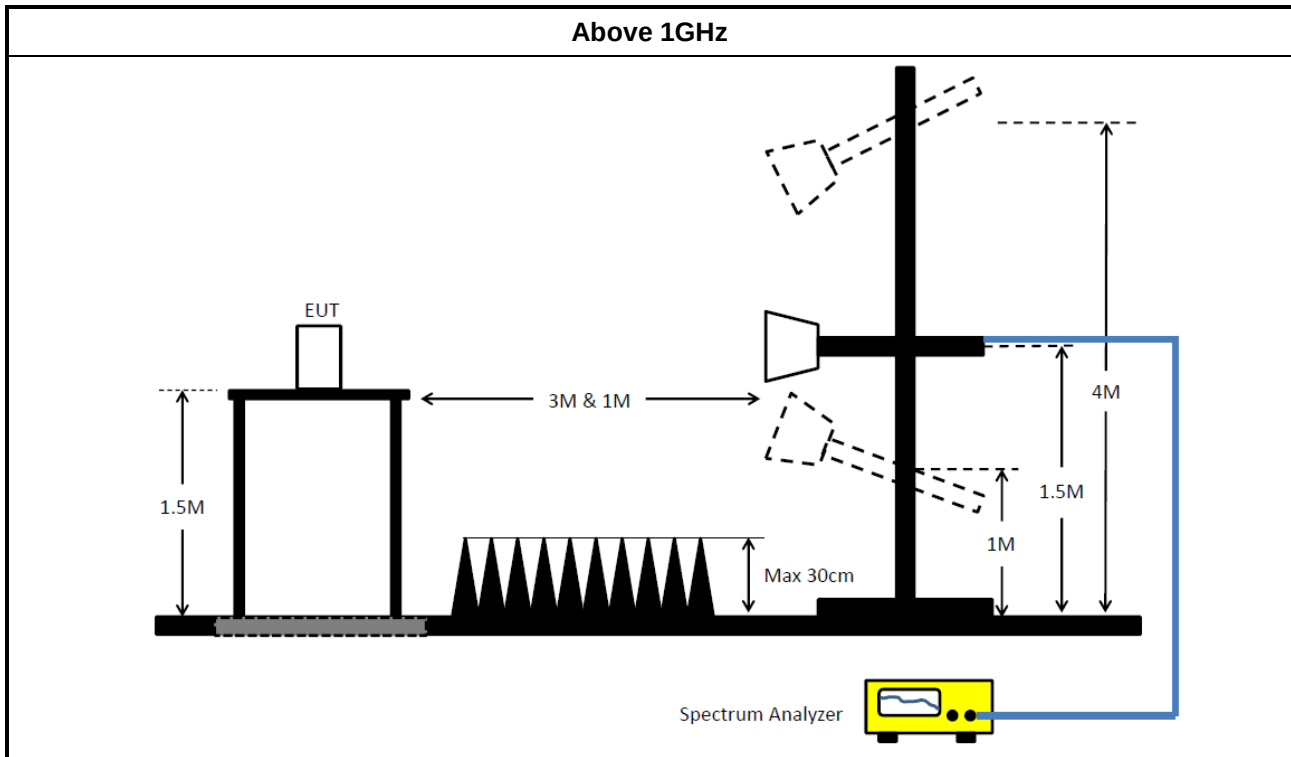
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as KDB 558074, clause 12 for unwanted emissions into restricted bands.
	☒ Refer as KDB 558074, clause 12.2.5.3 (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW $\geq 1/T$.
	☒ Refer as KDB 558074, clause 12.2.4 measurement procedure peak limit.
For the transmitter band-edge emissions shall be measured using following options below:	
	Refer as KDB 558074 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	Refer as KDB 558074, clause 13.2 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	Refer as KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
For conducted and cabinet radiation measurement, refer as KDB 558074, clause 12.2.2.	
	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	For KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 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 Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102051	9KHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	24/Oct/2016	23/Oct/2017
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	14/ Feb/2017	13/ Feb/2018

Instrument for Radiated Test

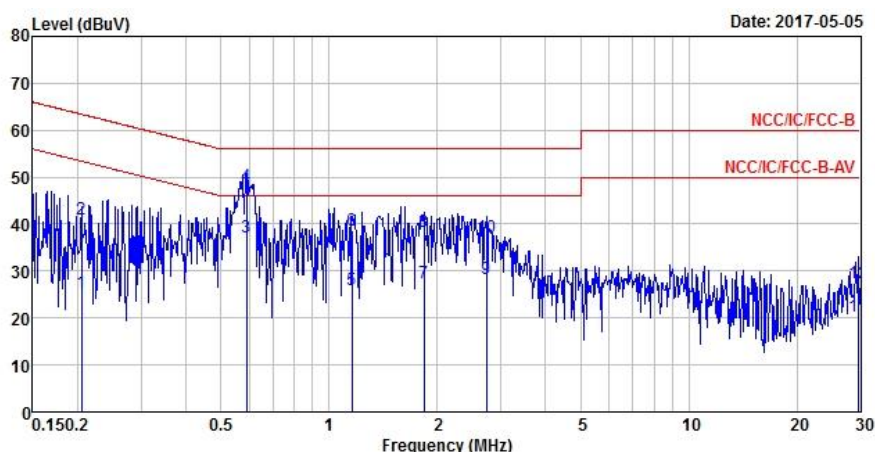
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz	28/Nov/2016	27/Nov/2017
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz	16/Dec/2016	15/Dec/2017
Amplifier	HP	8447D	2944A11146	10kHz ~ 1.3GHz	12/Sep/2016	12/Sep/2017
Amplifier	KEYSIGHT	83017A	MY53270197	1GHz ~ 26.5GHz	29/Aug/2016	28/Aug/2017
Spectrum	R&S	FSV40	101515	9kHz ~ 40GHz	28/Nov/2016	27/Nov/2017
Bilog Antenna	SCHAFFNER	CBL 6112D	2723	30MHz ~ 1GHz	01/Oct/2016	30/Sep/2017
Horn Antenna	SCHWARZBECK	BBHA 9120D	BBHA 9120D 1531	1GHz ~ 18GHz	22/Apr/2016	21/Apr/2017
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz ~ 40GHz	06/Feb/2017	05/Feb/2018
Amplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	02/Jun/2015	01/Jun/2017
Loop Antenna	TESEQ	HLA 6120	24155	9 kHz~30 MHz	02/Mar/2017	01/Mar/2018
RF-Cable-high	SUHNER	SUHNER	CB222	1GHz ~ 40GHz	28/Oct/2016	27/Oct/2017
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	27/Oct/2016	26/Oct/2017

**Instrument for Conducted Test**

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	9kHz~40GHz	30/Dec/2016	29/Dec/ 2017
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	10/Feb/2017	09/Feb/2018
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	10/Feb/2017	09/Feb/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	21/Jul/2016	20/Jul/2017
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10710/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10709/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10713/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter mode		



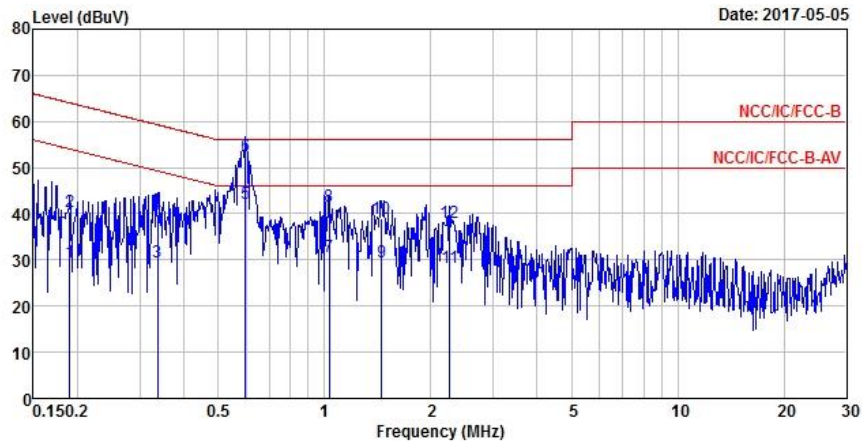
	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.21	25.32	-28.08	53.40	25.00	0.03	0.29	Average
2	0.21	40.94	-22.46	63.40	40.62	0.03	0.29	QP
3	0.59	37.05	-8.95	46.00	36.91	0.04	0.10	Average
4 MAX	0.59	48.03	-7.97	56.00	47.89	0.04	0.10	QP
5	1.16	25.86	-20.14	46.00	25.67	0.05	0.14	Average
6	1.16	38.72	-17.28	56.00	38.53	0.05	0.14	QP
7	1.84	27.32	-18.68	46.00	26.98	0.06	0.28	Average
8	1.84	38.37	-17.63	56.00	38.03	0.06	0.28	QP
9	2.74	28.44	-17.56	46.00	28.15	0.08	0.21	Average
10	2.74	37.13	-18.87	56.00	36.84	0.08	0.21	QP
11	29.53	20.50	-29.50	50.00	19.69	0.52	0.29	Average
12	29.53	27.38	-32.62	60.00	26.57	0.52	0.29	QP

Note 1: ">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.)

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Adapter mode		

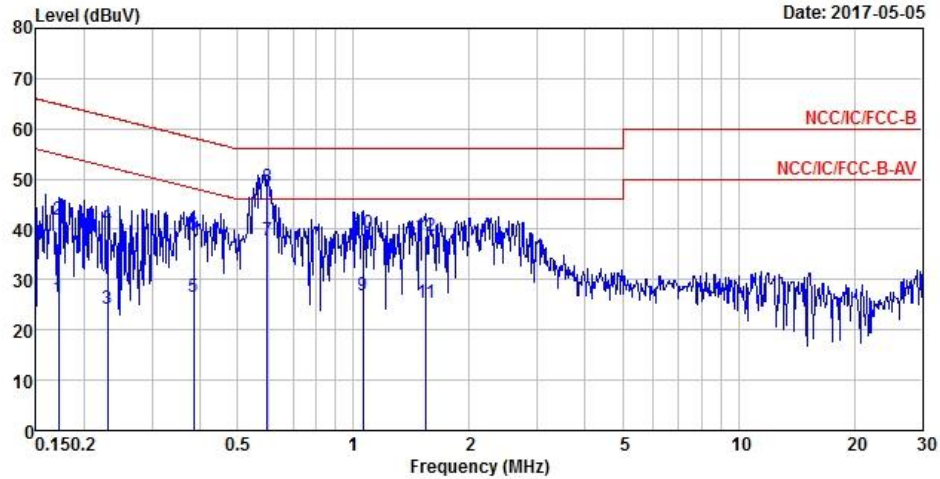


	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.19	29.62	-24.40	54.02	29.26	0.07	0.29	Average
2	0.19	40.55	-23.47	64.02	40.19	0.07	0.29	QP
3	0.34	29.38	-19.89	49.27	29.16	0.07	0.15	Average
4	0.34	39.97	-19.30	59.27	39.75	0.07	0.15	QP
5	0.60	42.11	-3.89	46.00	41.93	0.08	0.10	Average
6 MAX	0.60	52.54	-3.46	56.00	52.36	0.08	0.10	QP
7	1.03	30.76	-15.24	46.00	30.56	0.09	0.11	Average
8	1.03	41.49	-14.51	56.00	41.29	0.09	0.11	QP
9	1.45	29.41	-16.59	46.00	29.09	0.11	0.21	Average
10	1.45	38.90	-17.10	56.00	38.58	0.11	0.21	QP
11	2.26	28.35	-17.65	46.00	27.95	0.13	0.27	Average
12	2.26	38.14	-17.86	56.00	37.74	0.13	0.27	QP

Note 1: ">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.)

AC Power-line Conducted Emissions Result - Co-location

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter mode		

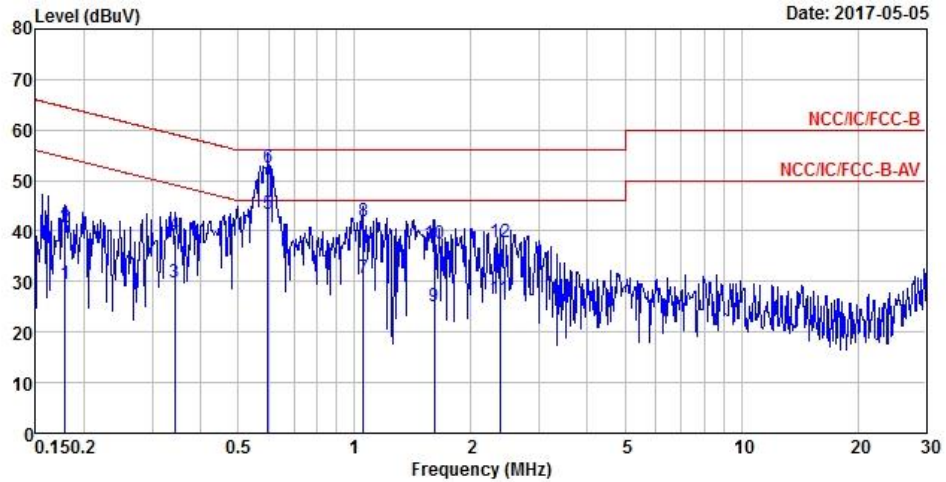


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	26.26	-28.64	54.90	25.97	0.03	0.26	Average
2	0.17	41.83	-23.07	64.90	41.54	0.03	0.26	QP
3	0.23	24.35	-28.12	52.47	24.06	0.03	0.26	Average
4	0.23	40.80	-21.67	62.47	40.51	0.03	0.26	QP
5	0.39	26.67	-21.50	48.17	26.53	0.03	0.11	Average
6	0.39	39.02	-19.15	58.17	38.88	0.03	0.11	QP
7	0.60	37.67	-8.33	46.00	37.53	0.04	0.10	Average
8 MAX	0.60	48.31	-7.69	56.00	48.17	0.04	0.10	QP
9	1.06	26.91	-19.09	46.00	26.74	0.05	0.12	Average
10	1.06	39.39	-16.61	56.00	39.22	0.05	0.12	QP
11	1.54	25.53	-20.47	46.00	25.25	0.06	0.22	Average
12	1.54	38.60	-17.40	56.00	38.32	0.06	0.22	QP

Note 1: ">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.)

AC Power-line Conducted Emissions Result - Co-location

Operating Mode	1	Power Phase	Line
Operating Function	Adapter mode		



	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.18	29.53	-25.02	54.55	29.19	0.07	0.27	Average
2	0.18	40.70	-23.85	64.55	40.36	0.07	0.27	QP
3	0.34	29.68	-19.45	49.13	29.47	0.07	0.14	Average
4	0.34	39.16	-19.97	59.13	38.95	0.07	0.14	QP
5 MAX	0.60	43.43	-2.57	46.00	43.25	0.08	0.10	Average
6	0.60	52.52	-3.48	56.00	52.34	0.08	0.10	QP
7	1.05	30.77	-15.23	46.00	30.57	0.09	0.11	Average
8	1.05	41.82	-14.18	56.00	41.62	0.09	0.11	QP
9	1.61	25.09	-20.91	46.00	24.74	0.11	0.24	Average
10	1.61	37.41	-18.59	56.00	37.06	0.11	0.24	QP
11	2.37	26.69	-19.31	46.00	26.31	0.13	0.25	Average
12	2.37	37.85	-18.15	56.00	37.47	0.13	0.25	QP

Note 1: ">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.)

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11b_(1Mbps)_2TX	-	-	-	-	-
2.4-2.4835GHz	10.075M	13.918M	13M9G1D	9.575M	13.818M
802.11g_(6Mbps)_2TX	-	-	-	-	-
2.4-2.4835GHz	16.35M	23.263M	23M3D1D	16.25M	16.542M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	17.575M	25.412M	25M4D1D	16.525M	17.666M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	36.35M	36.382M	36M4D1D	35.65M	36.282M

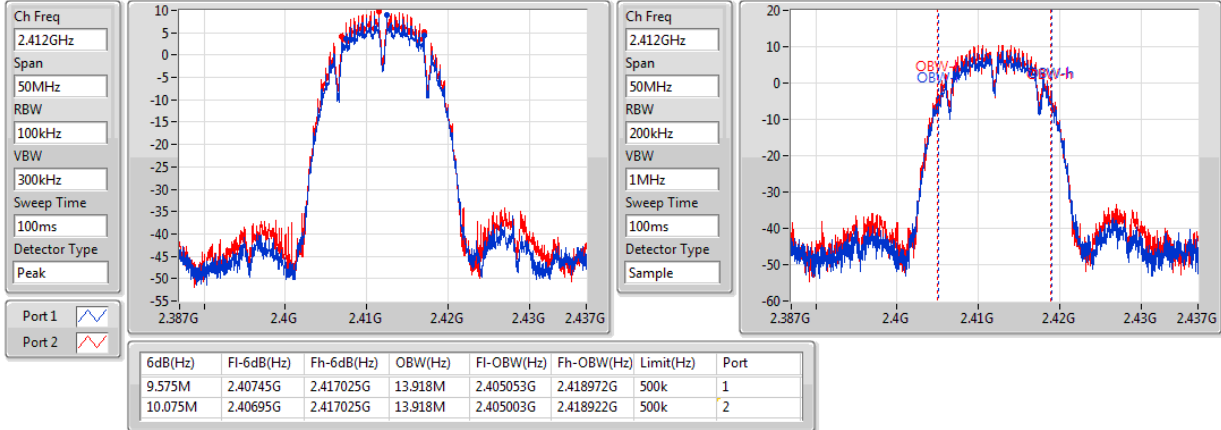
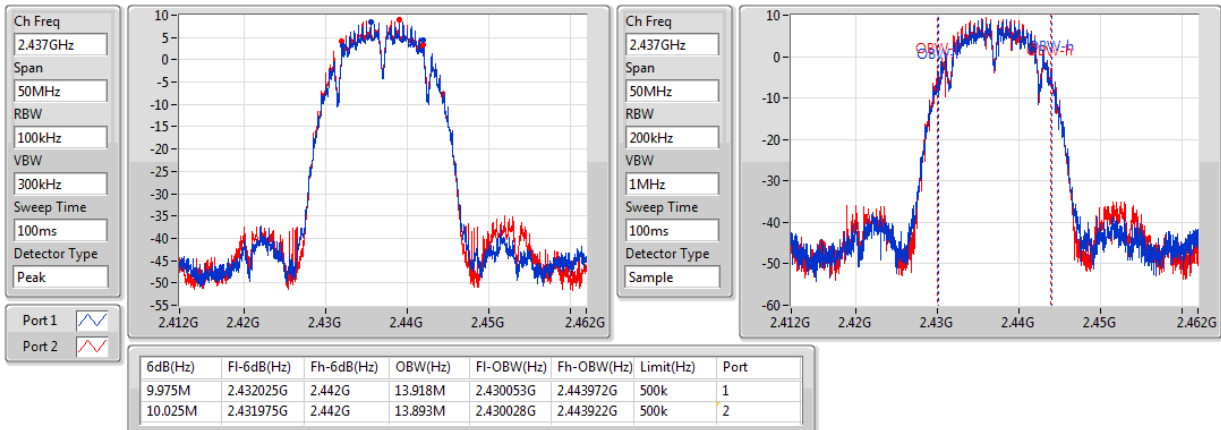
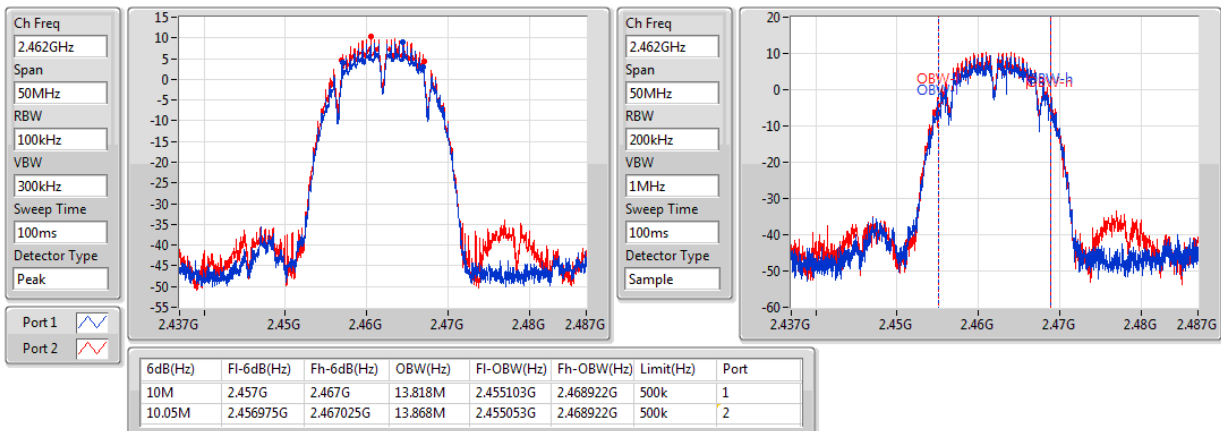
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

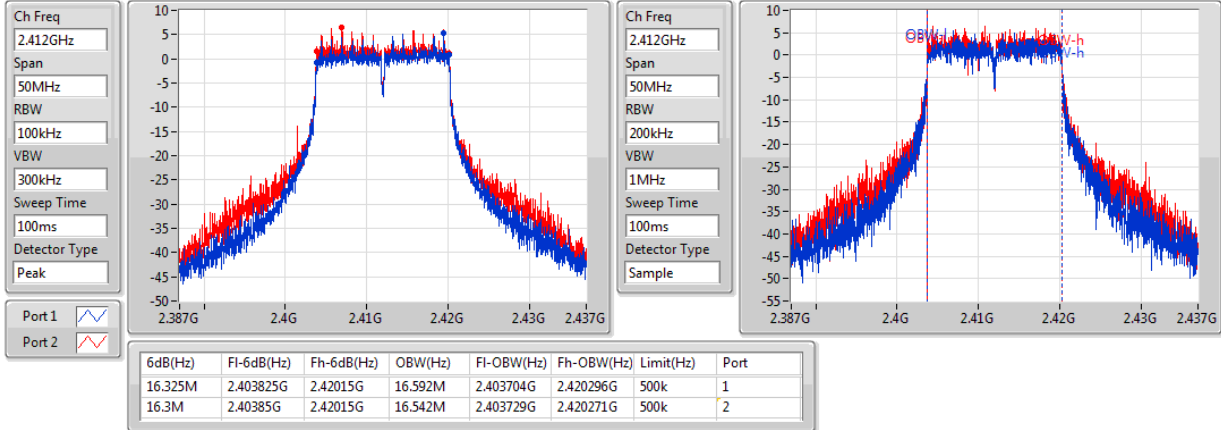
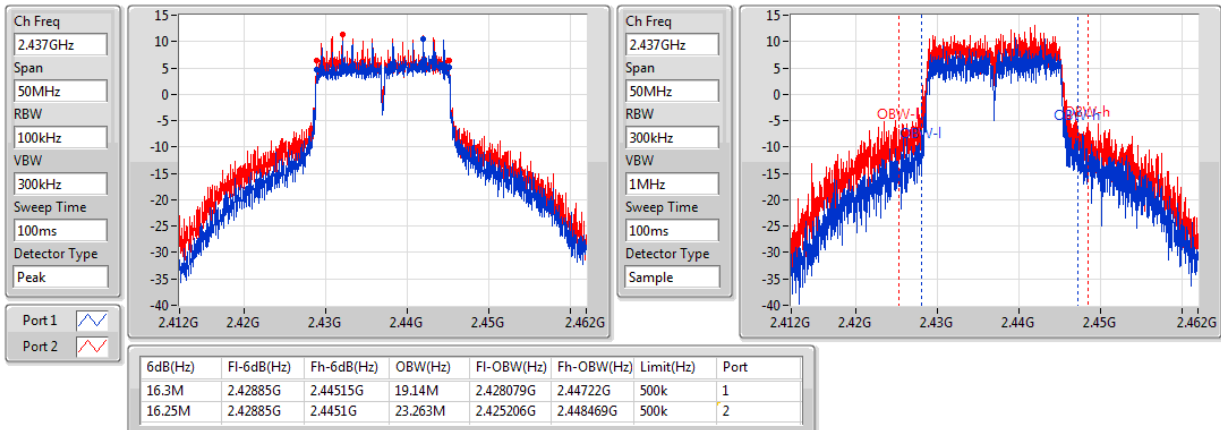
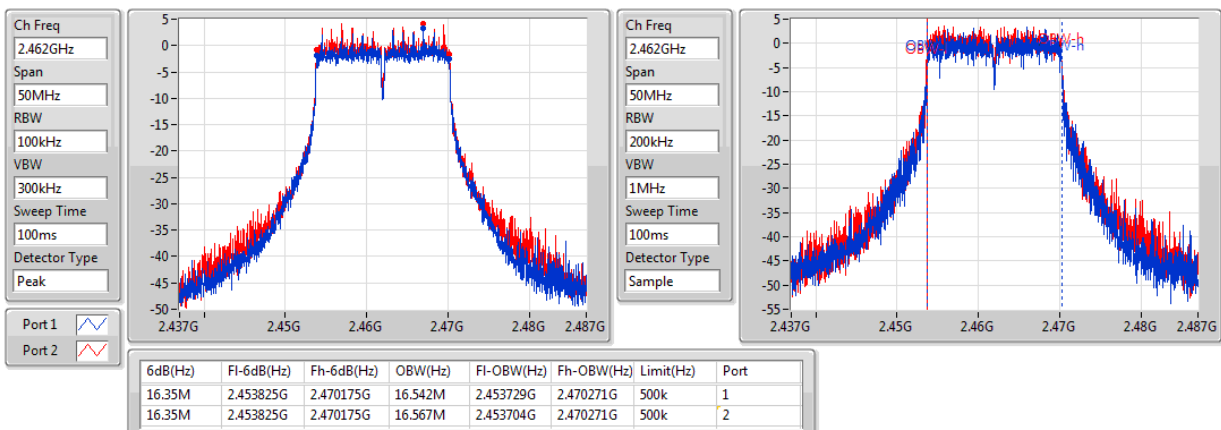
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

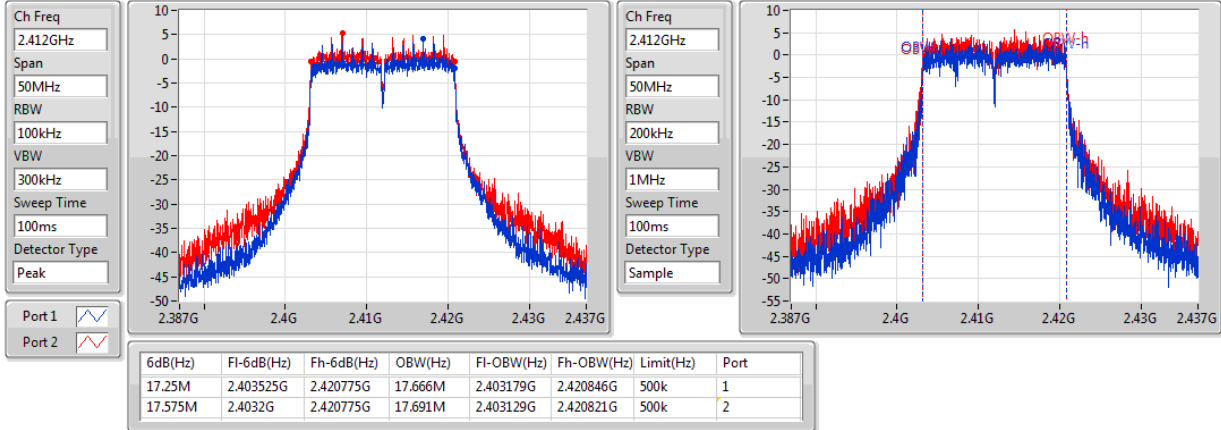
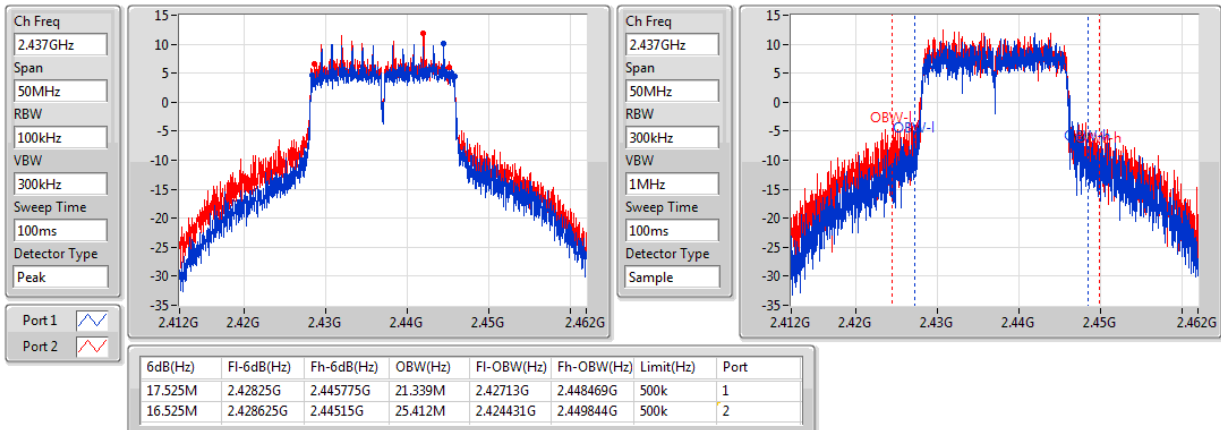
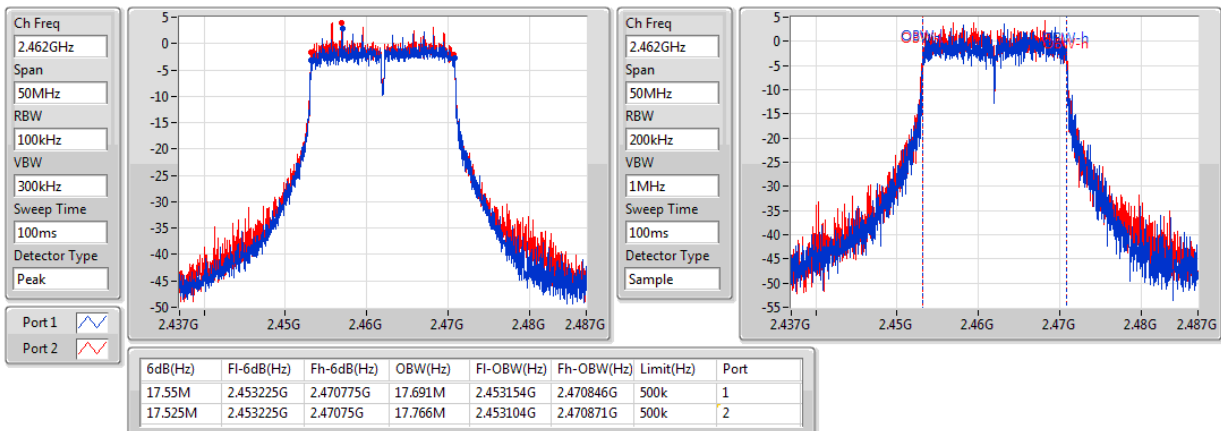
Result

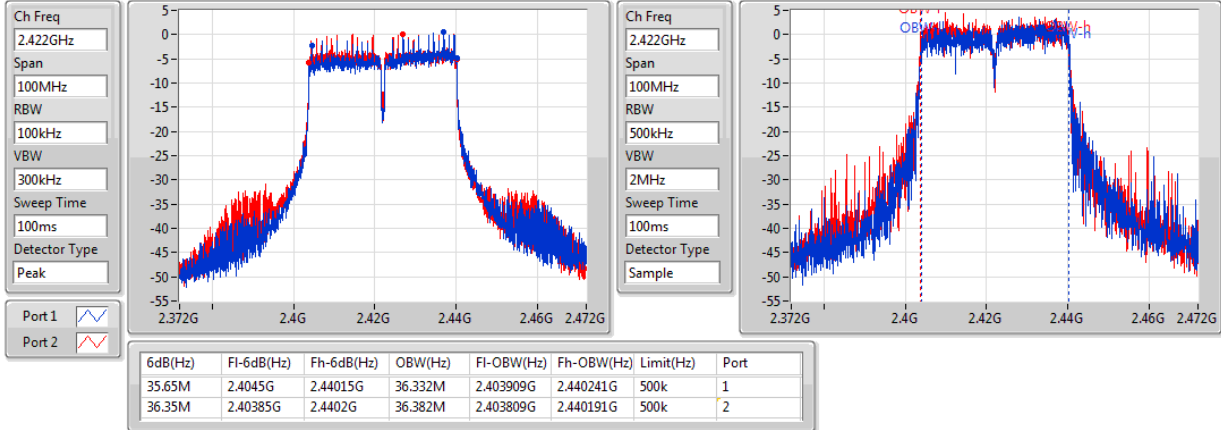
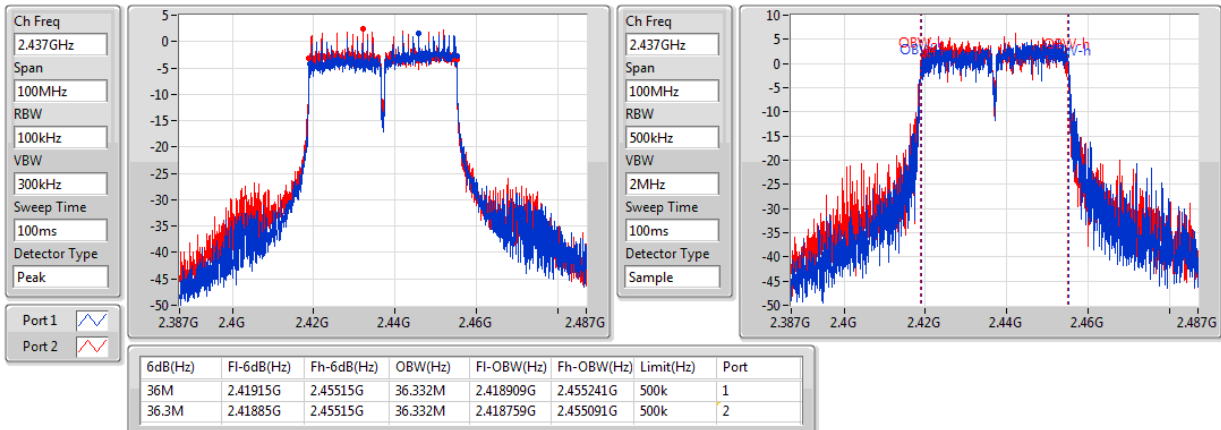
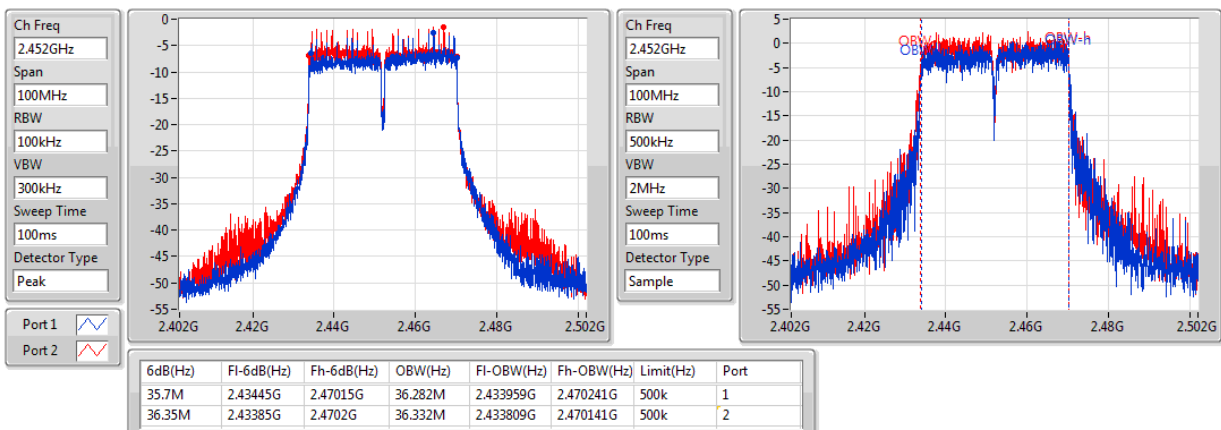
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	9.575M	13.918M	10.075M	13.918M
2437MHz	Pass	500k	9.975M	13.918M	10.025M	13.893M
2462MHz	Pass	500k	10M	13.818M	10.05M	13.868M
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.592M	16.3M	16.542M
2437MHz	Pass	500k	16.3M	19.14M	16.25M	23.263M
2462MHz	Pass	500k	16.35M	16.542M	16.35M	16.567M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.25M	17.666M	17.575M	17.691M
2437MHz	Pass	500k	17.525M	21.339M	16.525M	25.412M
2462MHz	Pass	500k	17.55M	17.691M	17.525M	17.766M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.65M	36.332M	36.35M	36.382M
2437MHz	Pass	500k	36M	36.332M	36.3M	36.332M
2452MHz	Pass	500k	35.7M	36.282M	36.35M	36.332M

Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_(1Mbps)_2TX
EBW
2412MHz

802.11b_(1Mbps)_2TX
EBW
2437MHz

802.11b_(1Mbps)_2TX
EBW
2462MHz


802.11g_(6Mbps)_2TX
EBW
2412MHz

802.11g_(6Mbps)_2TX
EBW
2437MHz

802.11g_(6Mbps)_2TX
EBW
2462MHz


802.11n HT20_Nss1,(MCS0)_2TX
EBW
2412MHz

802.11n HT20_Nss1,(MCS0)_2TX
EBW
2437MHz

802.11n HT20_Nss1,(MCS0)_2TX
EBW
2462MHz


802.11n HT40_Nss1,(MCS0)_2TX
EBW
2422MHz

802.11n HT40_Nss1,(MCS0)_2TX
EBW
2437MHz

802.11n HT40_Nss1,(MCS0)_2TX
EBW
2452MHz


Summary

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_2TX	-	-
2.4-2.4835GHz	22.09	0.16181
802.11g_(6Mbps)_2TX	-	-
2.4-2.4835GHz	24.24	0.26546
802.11n HT20_Nss1,(MCS0)_2TX	-	-
2.4-2.4835GHz	24.32	0.27040
802.11n HT40_Nss1,(MCS0)_2TX	-	-
2.4-2.4835GHz	19.31	0.08531

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.00	18.41	19.66	22.09	30.00
2437MHz	Pass	4.00	18.19	18.90	21.57	30.00
2462MHz	Pass	4.00	18.73	19.30	22.04	30.00
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.00	16.58	17.72	20.20	30.00
2437MHz	Pass	4.00	20.80	21.63	24.24	30.00
2462MHz	Pass	4.00	14.31	15.27	17.83	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.00	15.36	16.95	19.24	30.00
2437MHz	Pass	4.00	20.89	21.70	24.32	30.00
2462MHz	Pass	4.00	14.34	15.23	17.82	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.00	13.77	14.50	17.16	30.00
2437MHz	Pass	4.00	15.93	16.64	19.31	30.00
2452MHz	Pass	4.00	11.85	13.04	15.50	30.00

DG = Directional Gain; Port X = Port X output power

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_2TX	-
2.4-2.4835GHz	-4.20
802.11g_(6Mbps)_2TX	-
2.4-2.4835GHz	-2.27
802.11n HT20_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-3.08
802.11n HT40_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-10.66

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.01	-6.78	-5.42	-4.29	6.99
2437MHz	Pass	7.01	-6.31	-5.85	-4.41	6.99
2462MHz	Pass	7.01	-5.62	-5.40	-4.20	6.99
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.01	-9.23	-6.67	-6.53	6.99
2437MHz	Pass	7.01	-5.25	-3.50	-2.27	6.99
2462MHz	Pass	7.01	-11.35	-11.11	-9.93	6.99
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	7.01	-11.41	-9.27	-8.50	6.99
2437MHz	Pass	7.01	-5.97	-4.37	-3.08	6.99
2462MHz	Pass	7.01	-10.61	-11.32	-9.23	6.99
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	7.01	-14.64	-14.60	-12.17	6.99
2437MHz	Pass	7.01	-13.03	-11.26	-10.66	6.99
2452MHz	Pass	7.01	-16.82	-16.73	-15.12	6.99

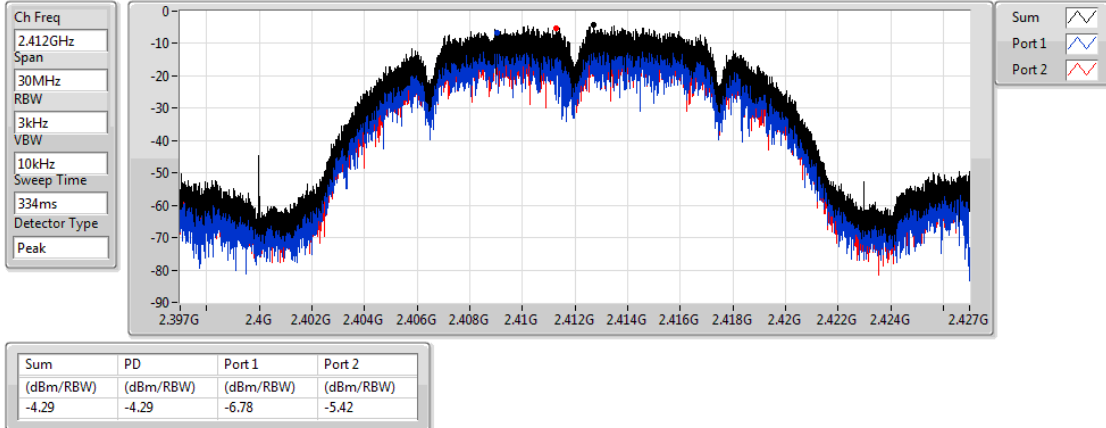
DG = Directional Gain; RBW=3kHz;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_(1Mbps)_2TX

PSD

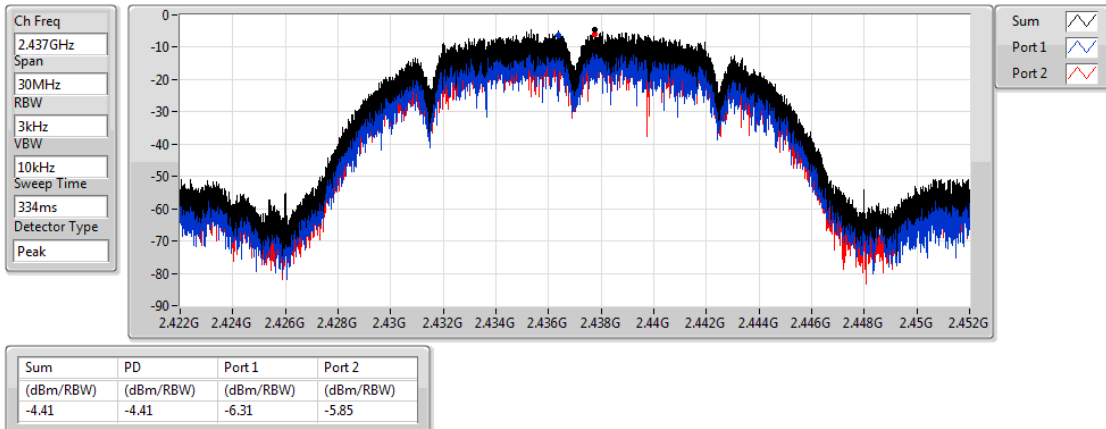
2412MHz



802.11b_(1Mbps)_2TX

PSD

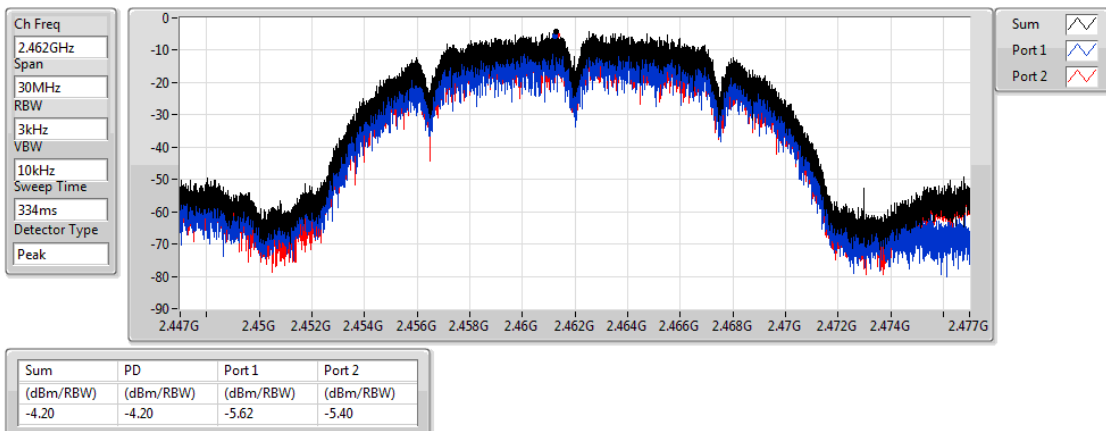
2437MHz



802.11b_(1Mbps)_2TX

PSD

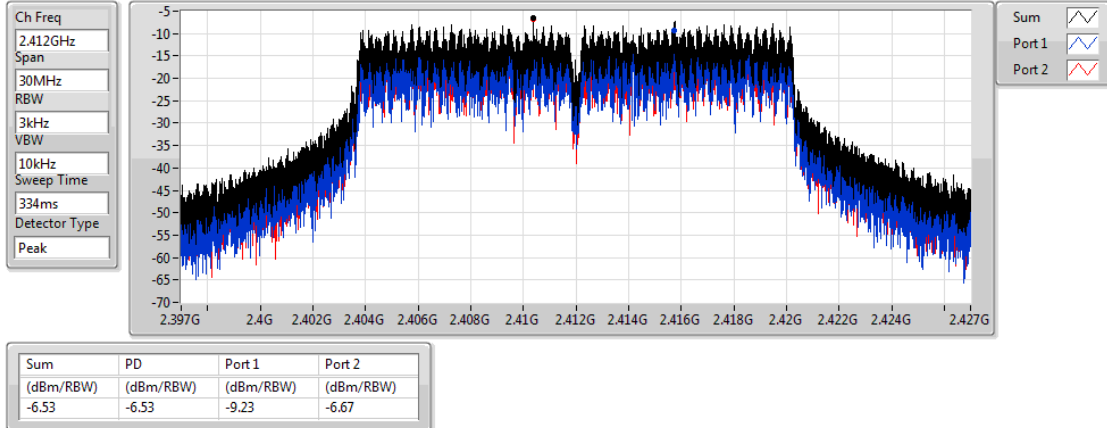
2462MHz



802.11g_(6Mbps)_2TX

PSD

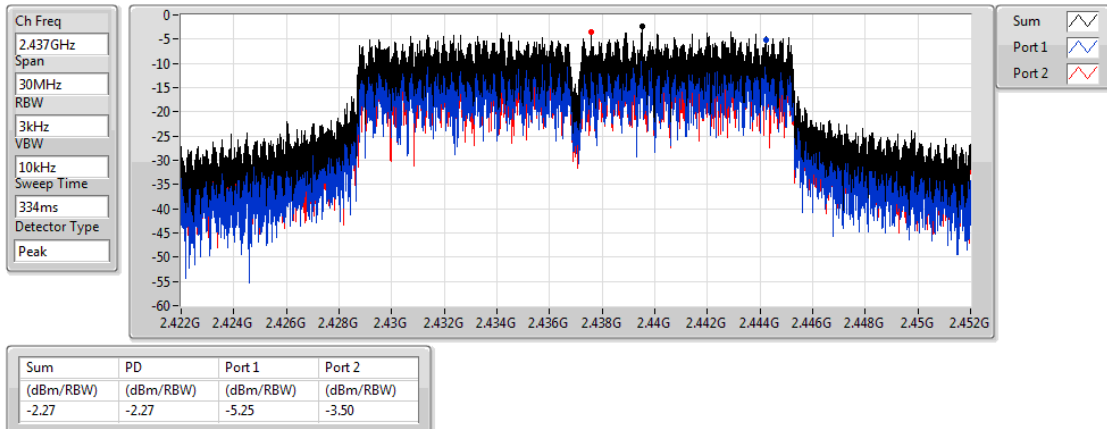
2412MHz



802.11g_(6Mbps)_2TX

PSD

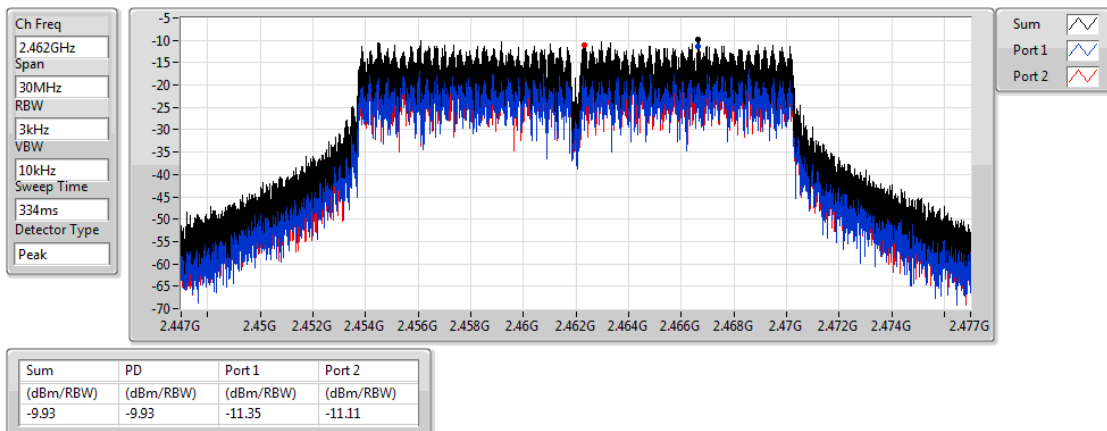
2437MHz



802.11g_(6Mbps)_2TX

PSD

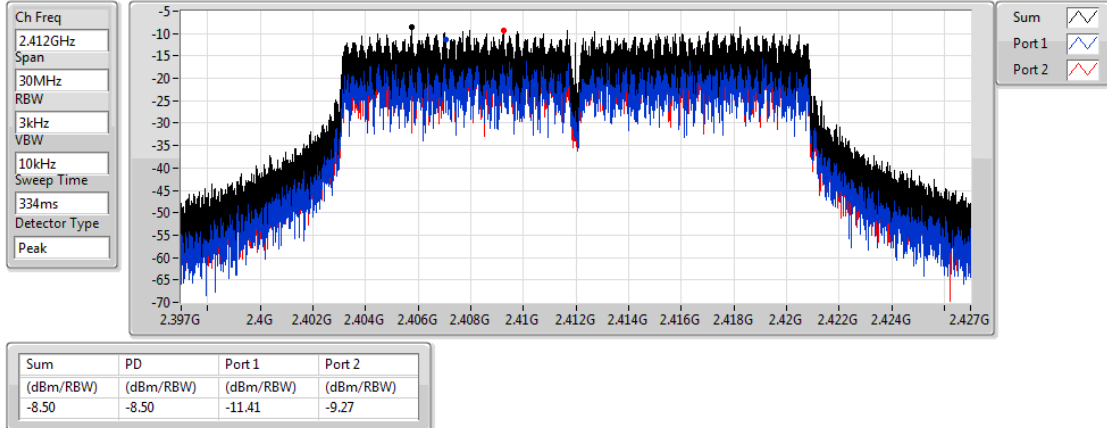
2462MHz



802.11n HT20_Nss1,(MCS0)_2TX

PSD

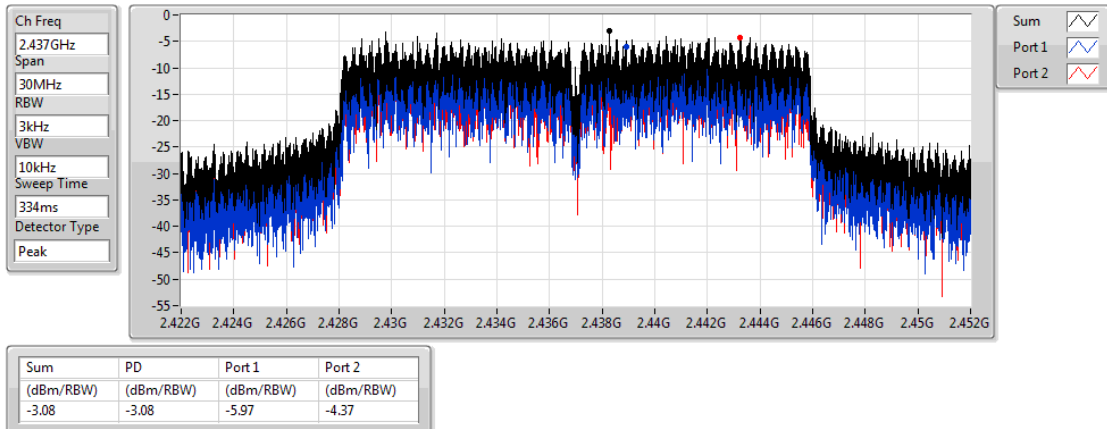
2412MHz



802.11n HT20_Nss1,(MCS0)_2TX

PSD

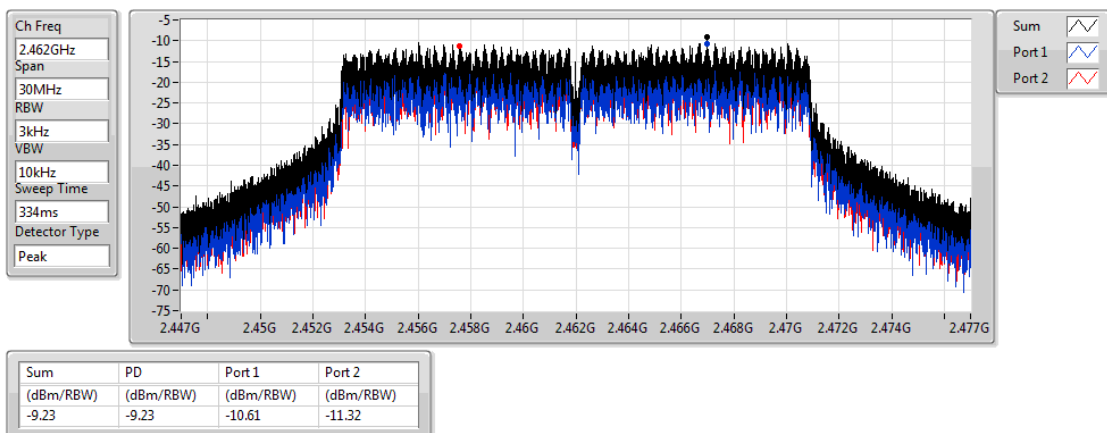
2437MHz



802.11n HT20_Nss1,(MCS0)_2TX

PSD

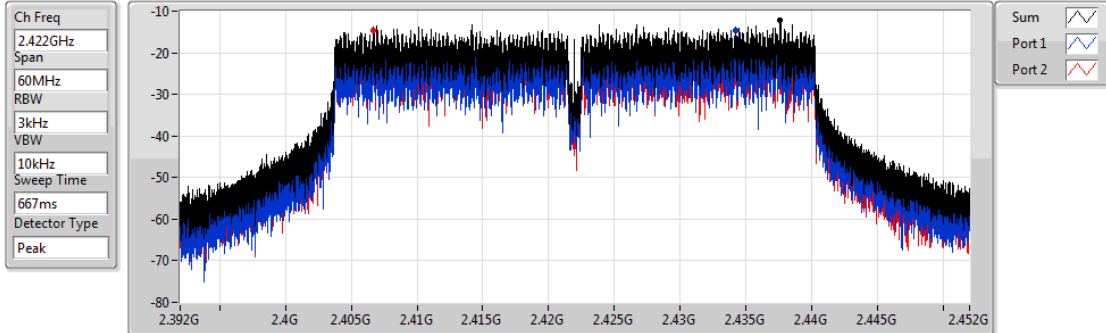
2462MHz



802.11n HT40_Nss1,(MCS0)_2TX

PSD

2422MHz

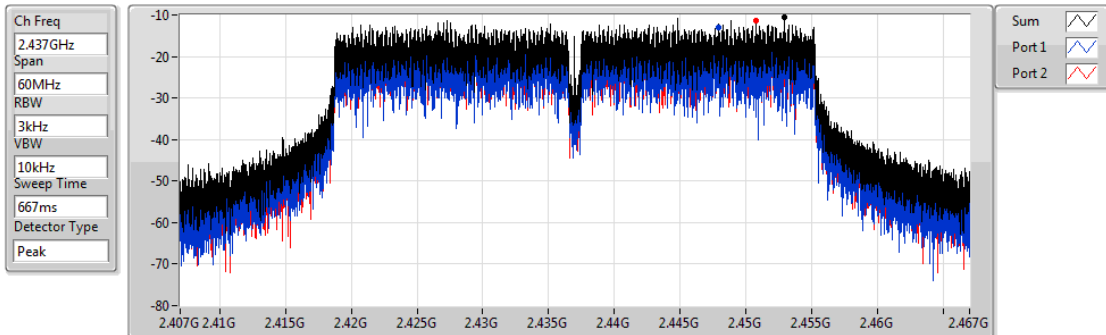


Sum	PD	Port 1	Port 2
(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)
-12.17	-12.17	-14.64	-14.60

802.11n HT40_Nss1,(MCS0)_2TX

PSD

2437MHz

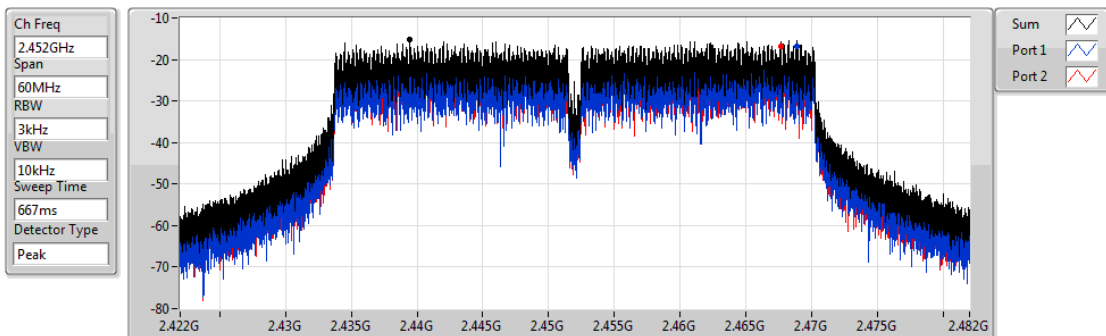


Sum	PD	Port 1	Port 2
(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)
-10.66	-10.66	-13.03	-11.26

802.11n HT40_Nss1,(MCS0)_2TX

PSD

2452MHz



Sum	PD	Port 1	Port 2
(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)	(dBm/100MHz)
-15.12	-15.12	-16.82	-16.73

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.433233G	2.24	-27.76	2.30855G	-57.28	2.39984G	-29.19	2.49454G	-44.65	17.624001G	-55.00	1

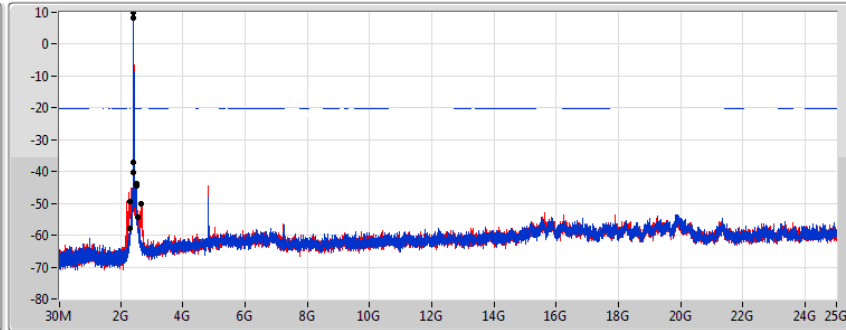
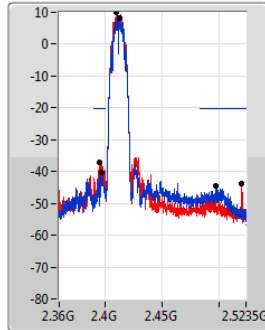
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.413026G	9.89	-20.11	2.302915G	-57.99	2.39704G	-40.15	2.4975G	-44.50	2.540357G	-54.35	1
2412MHz	Pass	2.41002G	9.89	-20.11	2.30408G	-49.32	2.39504G	-37.20	2.52006G	-43.75	2.638692G	-50.13	2
2437MHz	Pass	2.438911G	9.89	-20.11	2.305245G	-57.84	2.39976G	-47.88	2.49054G	-46.61	2.5235G	-50.43	1
2437MHz	Pass	2.437408G	9.89	-20.11	2.30641G	-53.16	2.39992G	-46.78	2.52006G	-44.82	2.638692G	-51.55	2
2462MHz	Pass	2.464963G	9.89	-20.11	2.309905G	-58.20	2.39928G	-51.16	2.48646G	-42.99	2.545977G	-52.21	1
2462MHz	Pass	2.463627G	9.89	-20.11	2.309905G	-51.45	2.39992G	-47.82	2.48694G	-41.15	2.638692G	-46.57	2
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.410688G	10.69	-19.31	2.30408G	-56.82	2.39952G	-27.61	2.50598G	-44.00	2.529119G	-52.36	1
2412MHz	Pass	2.413193G	10.69	-19.31	2.305245G	-49.37	2.39976G	-23.45	2.52006G	-43.69	2.638692G	-46.91	2
2437MHz	Pass	2.439579G	10.69	-19.31	2.30408G	-53.83	2.3996G	-36.79	2.48414G	-36.30	2.52631G	-47.89	1
2437MHz	Pass	2.435738G	10.69	-19.31	2.305245G	-46.49	2.39824G	-34.92	2.48446G	-38.55	2.638692G	-45.12	2
2462MHz	Pass	2.469639G	10.69	-19.31	2.30175G	-58.31	2.39312G	-51.55	2.48382G	-39.48	2.5235G	-53.10	1
2462MHz	Pass	2.456947G	10.69	-19.31	2.30874G	-53.30	2.39992G	-48.87	2.48446G	-38.85	2.638692G	-50.51	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.414362G	11.77	-18.23	2.305245G	-59.00	2.3996G	-27.74	2.4991G	-45.22	2.5235G	-53.62	1
2412MHz	Pass	2.414362G	11.77	-18.23	2.30408G	-51.80	2.39952G	-25.22	2.51998G	-43.13	2.638692G	-47.69	2
2437MHz	Pass	2.442084G	11.77	-18.23	2.30175G	-52.91	2.39952G	-36.38	2.48534G	-34.59	2.52631G	-47.85	1
2437MHz	Pass	2.431897G	11.77	-18.23	2.302915G	-46.08	2.39832G	-33.68	2.48758G	-36.22	2.638692G	-46.20	2
2462MHz	Pass	2.455778G	11.77	-18.23	2.309905G	-58.28	2.39072G	-51.67	2.4839G	-40.29	2.5235G	-53.03	1
2462MHz	Pass	2.460788G	11.77	-18.23	2.307575G	-53.86	2.39992G	-49.23	2.48398G	-39.21	2.638692G	-49.77	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.433233G	2.24	-27.76	2.30855G	-57.28	2.39984G	-29.19	2.49454G	-44.65	17.624001G	-55.00	1
2422MHz	Pass	2.434402G	2.24	-27.76	2.30397G	-52.16	2.3992G	-30.47	2.49198G	-46.26	2.639223G	-53.42	2
2437MHz	Pass	2.449599G	2.24	-27.76	2.30168G	-58.42	2.39888G	-36.21	2.48606G	-37.14	16.221719G	-54.23	1
2437MHz	Pass	2.421877G	2.24	-27.76	2.302825G	-50.87	2.39984G	-30.05	2.48462G	-36.87	2.639223G	-48.30	2
2452MHz	Pass	2.465798G	2.24	-27.76	2.305115G	-60.67	2.39632G	-52.39	2.48414G	-41.91	17.643633G	-54.75	1
2452MHz	Pass	2.466967G	2.24	-27.76	2.307405G	-52.13	2.39968G	-49.82	2.49006G	-37.10	2.639223G	-52.44	2

802.11b_(1Mbps)_2TX

CSE NdB

2412MHz

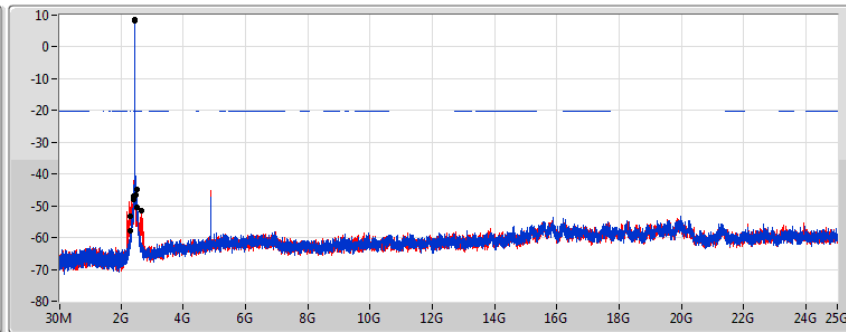
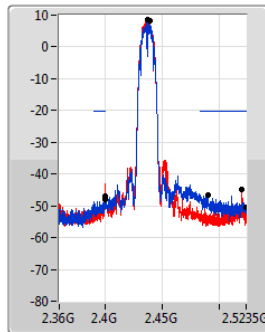

Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.413026G	9.89	-20.11	2.302915G	-57.99	2.39704G	-40.15	2.4975G	-44.50	2.540357G	-54.35	1
2.41002G	9.89	-20.11	2.30408G	-49.32	2.39504G	-37.20	2.52006G	-43.75	2.638692G	-50.13	2

802.11b_(1Mbps)_2TX

CSE NdB

2437MHz

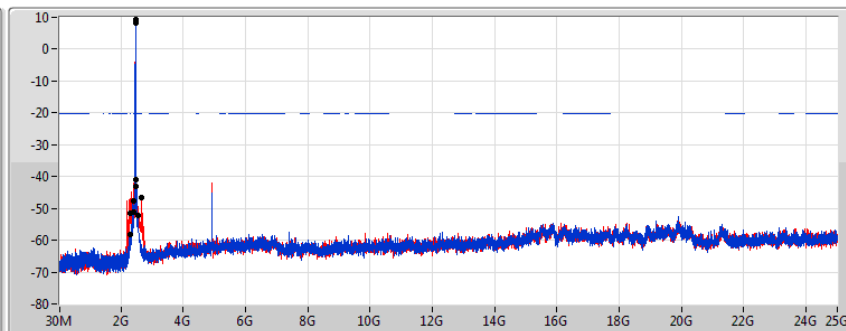
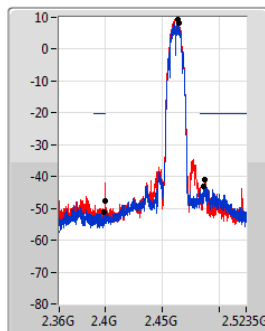

Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.438911G	9.89	-20.11	2.305245G	-57.84	2.39976G	-47.88	2.49054G	-46.61	2.5235G	-50.43	1
2.437408G	9.89	-20.11	2.30641G	-53.16	2.39992G	-46.78	2.52006G	-44.82	2.638692G	-51.55	2

802.11b_(1Mbps)_2TX

CSE NdB

2462MHz

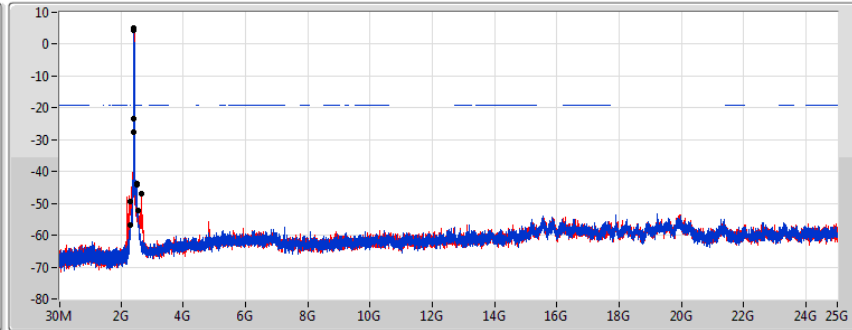
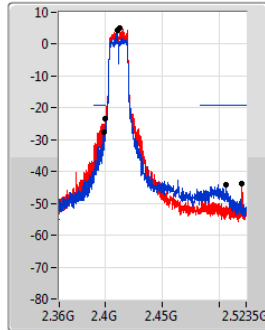

Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.464963G	9.89	-20.11	2.309905G	-58.20	2.39928G	-51.16	2.48646G	-42.99	2.545977G	-52.21	1
2.463627G	9.89	-20.11	2.309905G	-51.45	2.39992G	-47.82	2.48694G	-41.15	2.638692G	-46.57	2

802.11g_(6Mbps)_2TX

CSE NdB

2412MHz



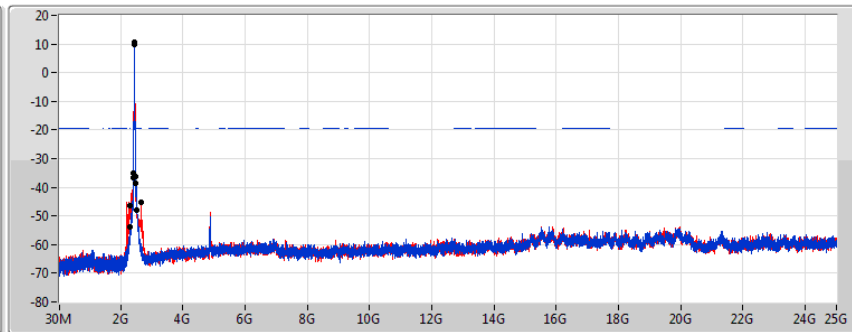
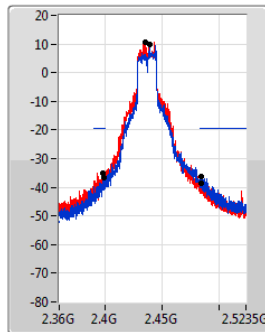
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.410688G	10.69	-19.31	2.30408G	-56.82	2.39952G	-27.61	2.50598G	-44.00	2.529119G	-52.36	1
2.413193G	10.69	-19.31	2.305245G	-49.37	2.39976G	-23.45	2.52006G	-43.69	2.638692G	-46.91	2

802.11g_(6Mbps)_2TX

CSE NdB

2437MHz



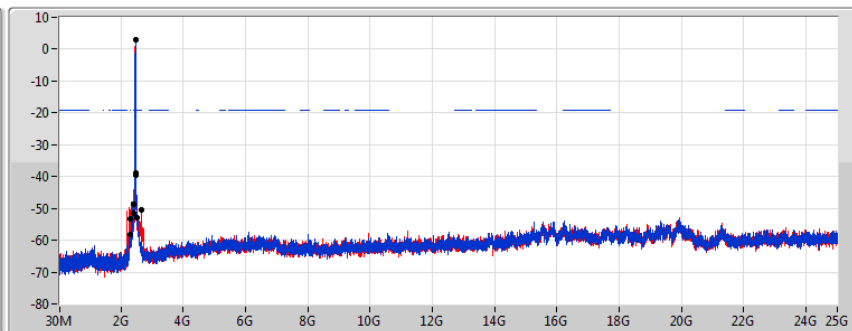
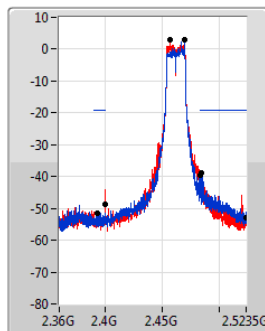
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.439579G	10.69	-19.31	2.30408G	-53.83	2.3996G	-36.79	2.48414G	-36.30	2.52631G	-47.89	1
2.435738G	10.69	-19.31	2.305245G	-46.49	2.39824G	-34.92	2.48446G	-38.55	2.638692G	-45.12	2

802.11g_(6Mbps)_2TX

CSE NdB

2462MHz



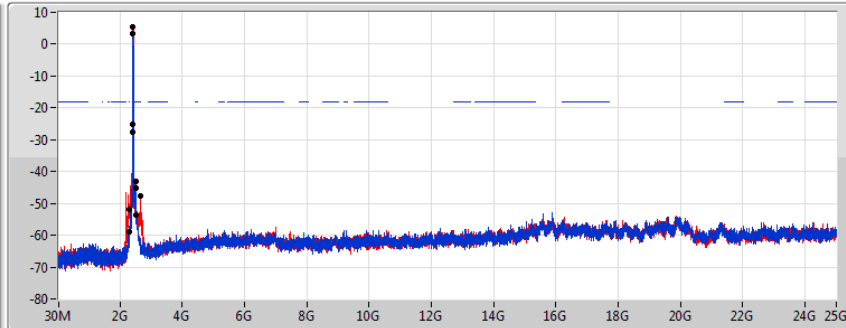
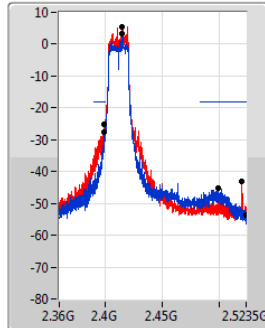
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.469639G	10.69	-19.31	2.30175G	-58.31	2.39312G	-51.55	2.48382G	-39.48	2.5235G	-53.10	1
2.456947G	10.69	-19.31	2.30874G	-53.30	2.39992G	-48.87	2.48446G	-38.85	2.638692G	-50.51	2

802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

2412MHz



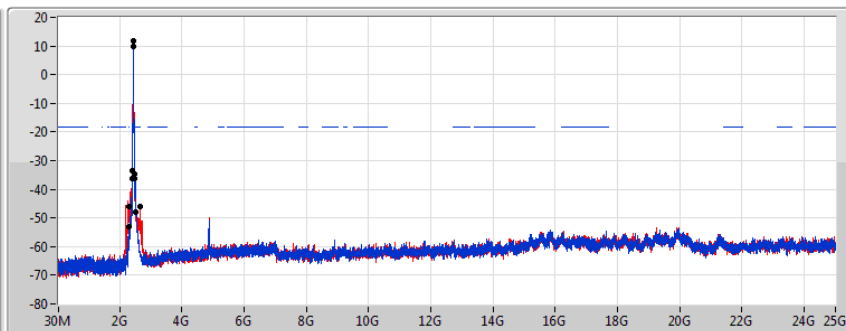
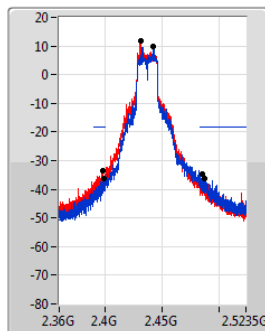
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.414362G	11.77	-18.23	2.305245G	-59.00	2.3996G	-27.74	2.4991G	-45.22	2.5235G	-53.62	1
2.414362G	11.77	-18.23	2.30408G	-51.80	2.39952G	-25.22	2.51998G	-43.13	2.638692G	-47.69	2

802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

2437MHz



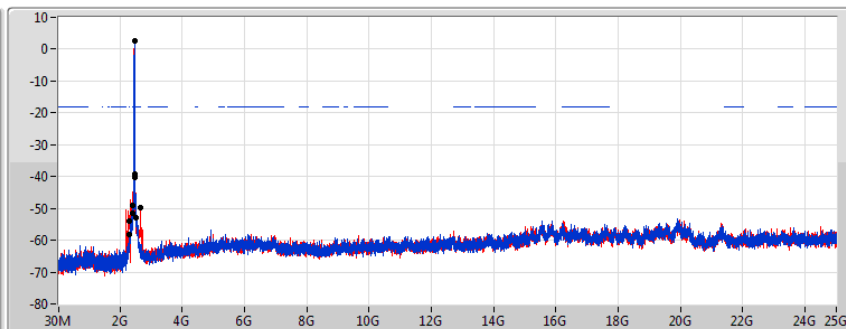
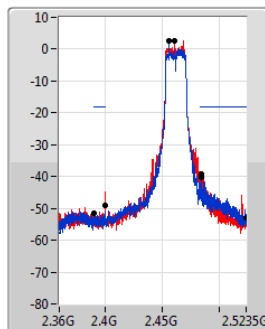
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.442084G	11.77	-18.23	2.30175G	-52.91	2.39952G	-36.38	2.48534G	-34.59	2.52631G	-47.85	1
2.431897G	11.77	-18.23	2.302915G	-46.08	2.39832G	-33.68	2.48758G	-36.22	2.638692G	-46.20	2

802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

2462MHz



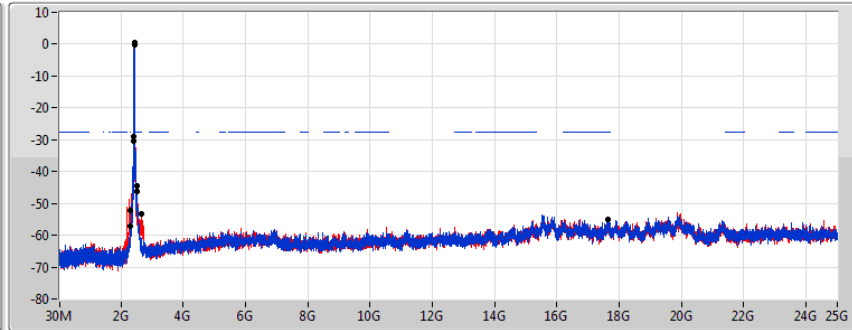
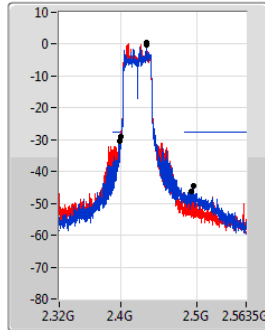
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.455778G	11.77	-18.23	2.309905G	-58.28	2.39072G	-51.67	2.4839G	-40.29	2.5235G	-53.03	1
2.460788G	11.77	-18.23	2.307575G	-53.86	2.39992G	-49.23	2.48398G	-39.21	2.638692G	-49.77	2

802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

2422MHz

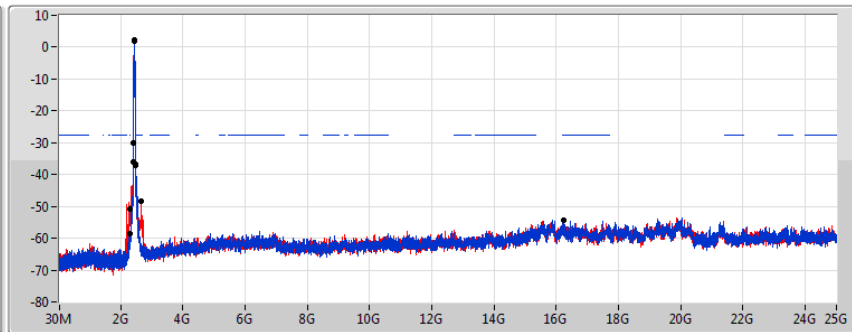
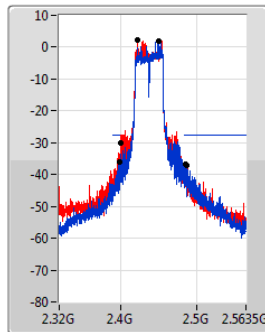

Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.433233G	2.24	-27.76	2.30855G	-57.28	2.39984G	-29.19	2.49454G	-44.65	17.624001G	-55.00	1
2.434402G	2.24	-27.76	2.30397G	-52.16	2.3992G	-30.47	2.49198G	-46.26	2.639223G	-53.42	2

802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

2437MHz

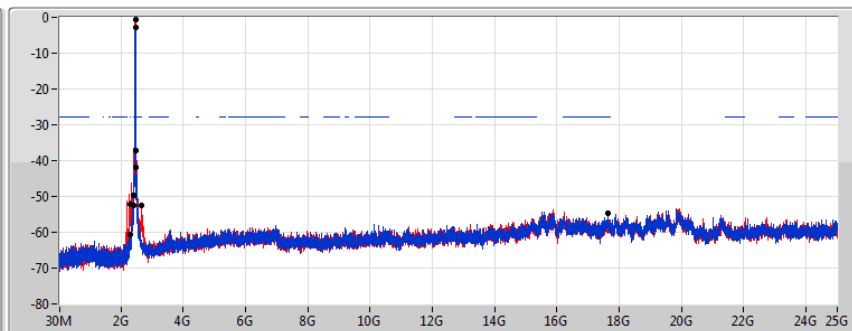
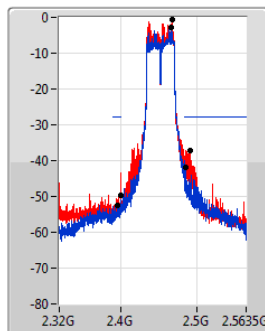

Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.449599G	2.24	-27.76	2.30168G	-58.42	2.39888G	-36.21	2.48606G	-37.14	16.221719G	-54.23	1
2.421877G	2.24	-27.76	2.302825G	-50.87	2.39984G	-30.05	2.48462G	-36.87	2.639223G	-48.30	2

802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

2452MHz


Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.465798G	2.24	-27.76	2.305115G	-60.67	2.39632G	-52.39	2.48414G	-41.91	17.643633G	-54.75	1
2.466967G	2.24	-27.76	2.307405G	-52.13	2.39968G	-49.82	2.49006G	-37.10	2.639223G	-52.44	2

**Summary**

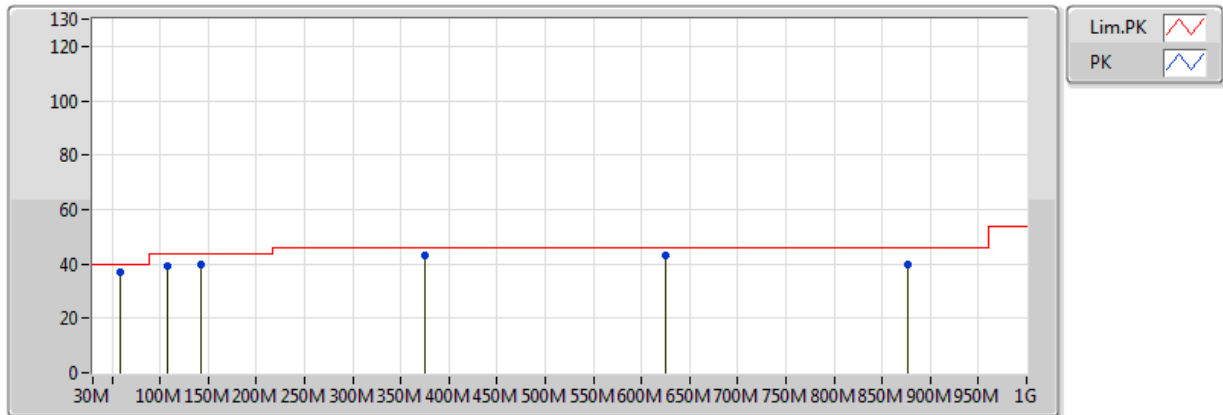
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	QP	625.58M	42.97	46.00	-3.03	2.15	3	V	0	3.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	39.7M	32.15	40.00	-7.85	-6.57	3	H	0	3.00	-
2437MHz	Pass	PK	235.64M	42.32	46.00	-3.68	-7.77	3	H	0	3.00	-
2437MHz	Pass	PK	730.34M	36.13	46.00	-9.87	3.93	3	H	0	3.00	-
2437MHz	Pass	QP	144.46M	40.42	43.50	-3.08	-7.91	3	H	0	3.00	-
2437MHz	Pass	QP	365.62M	42.89	46.00	-3.11	-3.21	3	H	0	3.00	-
2437MHz	Pass	QP	375.32M	42.95	46.00	-3.05	-2.93	3	H	0	3.00	-
2437MHz	Pass	PK	107.6M	39.31	43.50	-4.19	-8.81	3	V	0	3.00	-
2437MHz	Pass	PK	142.52M	39.58	43.50	-3.92	-7.84	3	V	0	3.00	-
2437MHz	Pass	PK	875.84M	39.87	46.00	-6.13	5.54	3	V	0	3.00	-
2437MHz	Pass	QP	59.1M	36.83	40.00	-3.17	-14.07	3	V	0	3.00	-
2437MHz	Pass	QP	375.32M	42.91	46.00	-3.09	-2.93	3	V	0	3.00	-
2437MHz	Pass	QP	625.58M	42.97	46.00	-3.03	2.15	3	V	0	3.00	-
2437MHz	Pass	PK	125.06M	35.17	43.50	-8.33	-8.35	3	H	360	3.00	-
2437MHz	Pass	PK	144.46M	38.30	43.50	-5.20	-9.64	3	H	360	3.00	-
2437MHz	Pass	PK	224M	39.64	46.00	-6.36	-10.15	3	H	360	3.00	-
2437MHz	Pass	PK	319.06M	42.35	46.00	-3.65	-5.85	3	H	360	3.00	-
2437MHz	Pass	PK	499.48M	35.06	46.00	-10.94	-2.25	3	H	360	3.00	-
2437MHz	Pass	QP	375.32M	42.94	46.00	-3.06	-4.38	3	H	360	3.00	-
2437MHz	Pass	PK	39.7M	28.41	40.00	-11.59	-8.39	3	V	0	3.00	-
2437MHz	Pass	PK	138.64M	36.42	43.50	-7.08	-9.19	3	V	0	3.00	-
2437MHz	Pass	PK	214.3M	36.07	43.50	-7.43	-10.60	3	V	0	3.00	-
2437MHz	Pass	PK	499.48M	39.55	46.00	-6.45	-2.25	3	V	0	3.00	-
2437MHz	Pass	PK	625.58M	38.93	46.00	-7.07	-0.48	3	V	0	3.00	-
2437MHz	Pass	QP	375.32M	42.79	46.00	-3.21	-4.38	3	V	0	3.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_Adapter

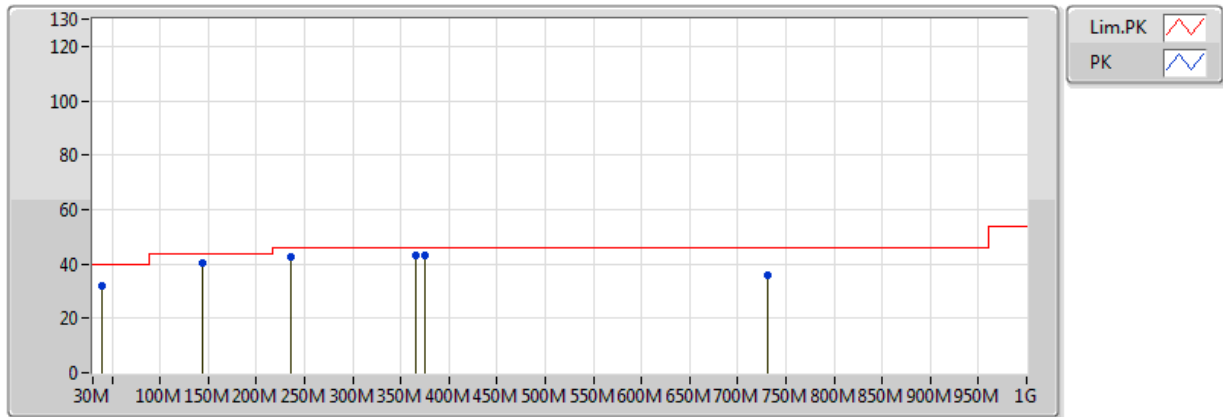


EUT=Z

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
QP	59.1M	36.83	40.00	-3.17	-14.07	3	V	139	1.00	-
PK	107.6M	39.31	43.50	-4.19	-8.81	3	V	0	1.00	-
PK	142.52M	39.58	43.50	-3.92	-7.84	3	V	0	1.00	-
QP	375.32M	42.91	46.00	-3.09	-2.93	3	V	248	1.00	-
QP	625.58M	42.97	46.00	-3.03	2.15	3	V	179	1.00	-
PK	875.84M	39.87	46.00	-6.13	5.54	3	V	0	1.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_Adapter

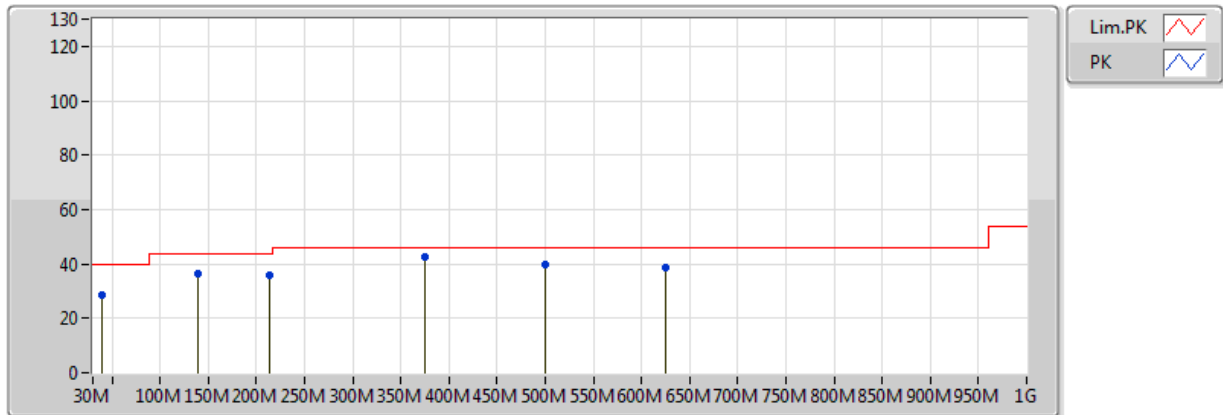


EUT=Z

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
PK	39.7M	32.15	40.00	-7.85	-6.57	3	H	0	1.00	-
QP	144.46M	40.42	43.50	-3.08	-7.91	3	H	69	1.00	-
PK	235.64M	42.32	46.00	-3.68	-7.77	3	H	0	1.00	-
QP	365.62M	42.89	46.00	-3.11	-3.21	3	H	184	1.00	-
QP	375.32M	42.95	46.00	-3.05	-2.93	3	H	271	1.00	-
PK	730.34M	36.13	46.00	-9.87	3.93	3	H	0	1.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_PoE

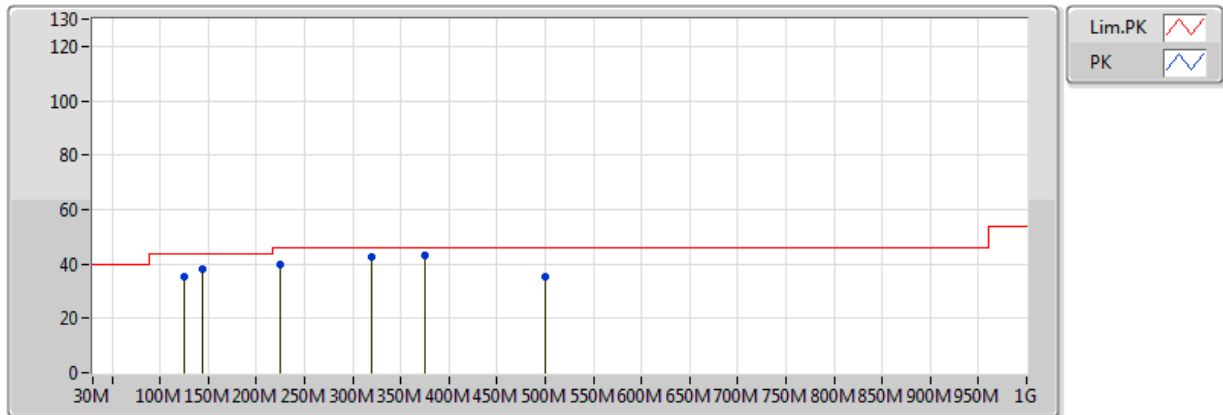


EUT=Z

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
PK	39.7M	28.41	40.00	-11.59	-8.39	3	V	0	1.00	-
PK	138.64M	36.42	43.50	-7.08	-9.19	3	V	0	1.00	-
PK	214.3M	36.07	43.50	-7.43	-10.60	3	V	0	1.00	-
QP	375.32M	42.79	46.00	-3.21	-4.38	3	V	159	1.00	-
PK	499.48M	39.55	46.00	-6.45	-2.25	3	V	0	1.00	-
PK	625.58M	38.93	46.00	-7.07	-0.48	3	V	0	1.00	-

802.11n HT40_Nss1,(MCS0)_2TX

2437MHz_PoE



EUT=Z

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
PK	125.06M	35.17	43.50	-8.33	-8.35	3	H	360	1.00	-
PK	144.46M	38.30	43.50	-5.20	-9.64	3	H	360	1.00	-
PK	224M	39.64	46.00	-6.36	-10.15	3	H	360	1.00	-
PK	319.06M	42.35	46.00	-3.65	-5.85	3	H	360	1.00	-
QP	375.32M	42.94	46.00	-3.06	-4.38	3	H	182	1.00	-
PK	499.48M	35.06	46.00	-10.94	-2.25	3	H	360	1.00	-

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.433233G	2.24	-27.76	2.30855G	-57.28	2.39984G	-29.19	2.49454G	-44.65	17.624001G	-55.00	1

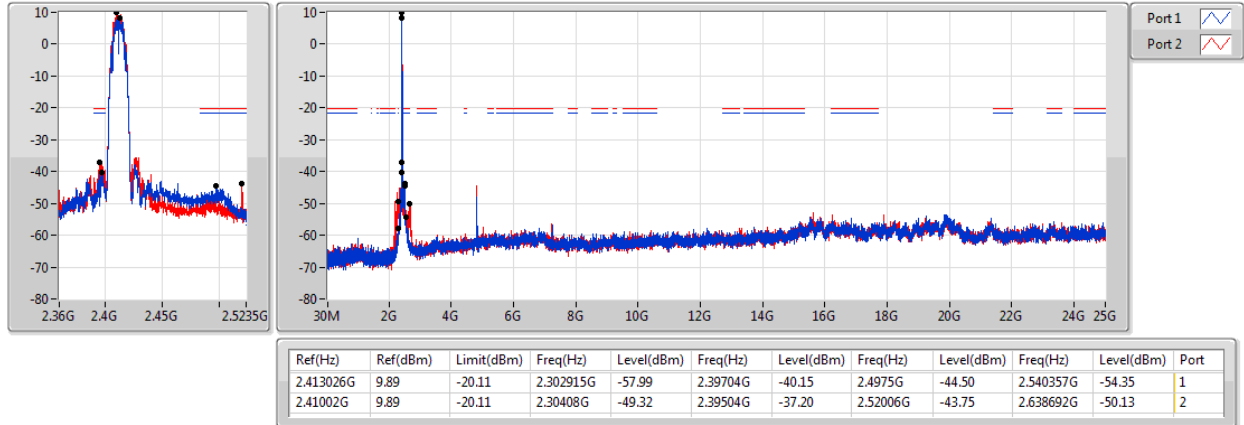
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11b_(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.413026G	9.89	-20.11	2.302915G	-57.99	2.39704G	-40.15	2.4975G	-44.50	2.540357G	-54.35	1
2412MHz	Pass	2.41002G	9.89	-20.11	2.30408G	-49.32	2.39504G	-37.20	2.52006G	-43.75	2.638692G	-50.13	2
2437MHz	Pass	2.438911G	9.89	-20.11	2.305245G	-57.84	2.39976G	-47.88	2.49054G	-46.61	2.5235G	-50.43	1
2437MHz	Pass	2.437408G	9.89	-20.11	2.30641G	-53.16	2.39992G	-46.78	2.52006G	-44.82	2.638692G	-51.55	2
2462MHz	Pass	2.464963G	9.89	-20.11	2.309905G	-58.20	2.39928G	-51.16	2.48646G	-42.99	2.545977G	-52.21	1
2462MHz	Pass	2.463627G	9.89	-20.11	2.309905G	-51.45	2.39992G	-47.82	2.48694G	-41.15	2.638692G	-46.57	2
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.410688G	10.69	-19.31	2.30408G	-56.82	2.39952G	-27.61	2.50598G	-44.00	2.529119G	-52.36	1
2412MHz	Pass	2.413193G	10.69	-19.31	2.305245G	-49.37	2.39976G	-23.45	2.52006G	-43.69	2.638692G	-46.91	2
2437MHz	Pass	2.439579G	10.69	-19.31	2.30408G	-53.83	2.3996G	-36.79	2.48414G	-36.30	2.52631G	-47.89	1
2437MHz	Pass	2.435738G	10.69	-19.31	2.305245G	-46.49	2.39824G	-34.92	2.48446G	-38.55	2.638692G	-45.12	2
2462MHz	Pass	2.469639G	10.69	-19.31	2.30175G	-58.31	2.39312G	-51.55	2.48382G	-39.48	2.5235G	-53.10	1
2462MHz	Pass	2.456947G	10.69	-19.31	2.30874G	-53.30	2.39992G	-48.87	2.48446G	-38.85	2.638692G	-50.51	2
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.414362G	11.77	-18.23	2.305245G	-59.00	2.3996G	-27.74	2.4991G	-45.22	2.5235G	-53.62	1
2412MHz	Pass	2.414362G	11.77	-18.23	2.30408G	-51.80	2.39952G	-25.22	2.51998G	-43.13	2.638692G	-47.69	2
2437MHz	Pass	2.442084G	11.77	-18.23	2.30175G	-52.91	2.39952G	-36.38	2.48534G	-34.59	2.52631G	-47.85	1
2437MHz	Pass	2.431897G	11.77	-18.23	2.302915G	-46.08	2.39832G	-33.68	2.48758G	-36.22	2.638692G	-46.20	2
2462MHz	Pass	2.455778G	11.77	-18.23	2.309905G	-58.28	2.39072G	-51.67	2.4839G	-40.29	2.5235G	-53.03	1
2462MHz	Pass	2.460788G	11.77	-18.23	2.307575G	-53.86	2.39992G	-49.23	2.48398G	-39.21	2.638692G	-49.77	2
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.433233G	2.24	-27.76	2.30855G	-57.28	2.39984G	-29.19	2.49454G	-44.65	17.624001G	-55.00	1
2422MHz	Pass	2.434402G	2.24	-27.76	2.30397G	-52.16	2.3992G	-30.47	2.49198G	-46.26	2.639223G	-53.42	2
2437MHz	Pass	2.449599G	2.24	-27.76	2.30168G	-58.42	2.39888G	-36.21	2.48606G	-37.14	16.221719G	-54.23	1
2437MHz	Pass	2.421877G	2.24	-27.76	2.302825G	-50.87	2.39984G	-30.05	2.48462G	-36.87	2.639223G	-48.30	2
2452MHz	Pass	2.465798G	2.24	-27.76	2.305115G	-60.67	2.39632G	-52.39	2.48414G	-41.91	17.643633G	-54.75	1
2452MHz	Pass	2.466967G	2.24	-27.76	2.307405G	-52.13	2.39968G	-49.82	2.49006G	-37.10	2.639223G	-52.44	2

802.11b_(1Mbps)_2TX

CSE NdB

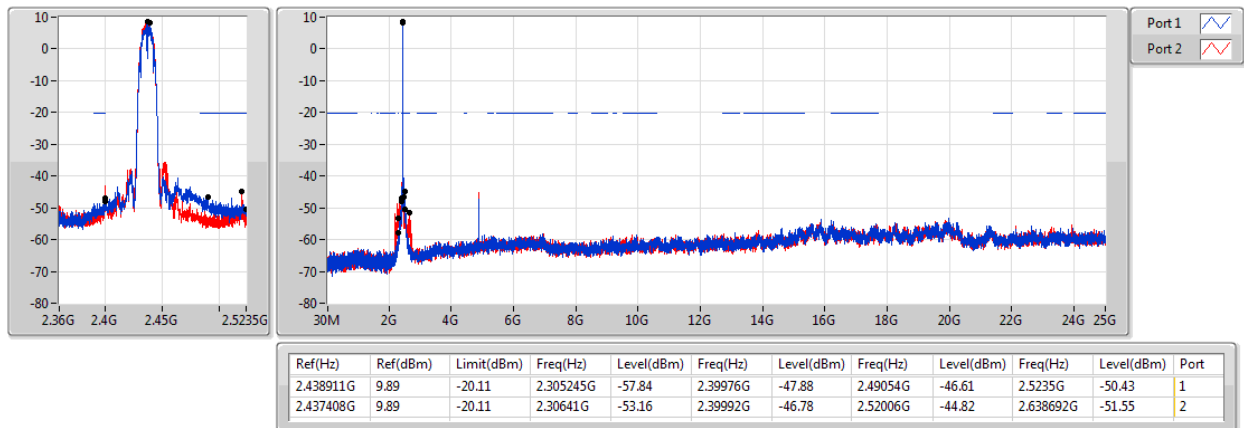
2412MHz



802.11b_(1Mbps)_2TX

CSE NdB

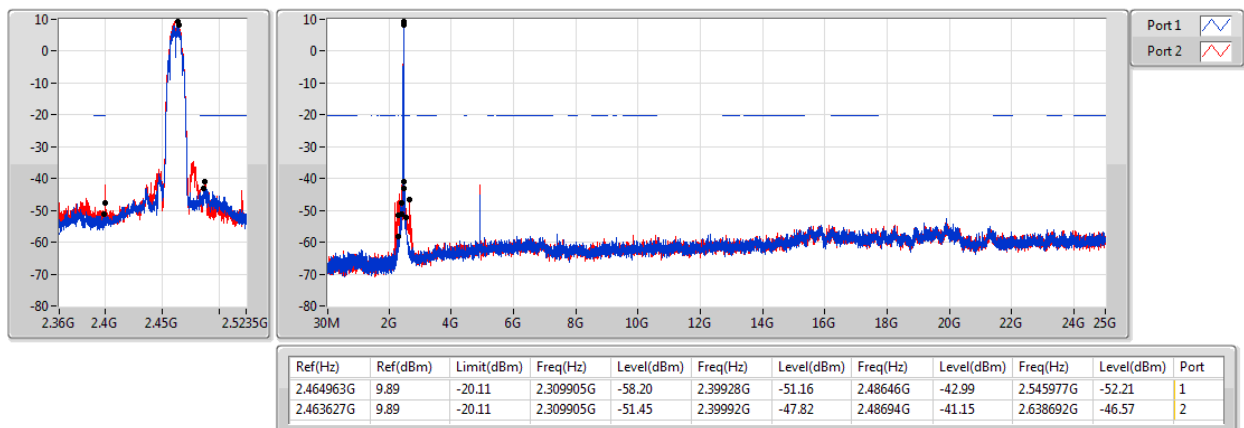
2437MHz



802.11b_(1Mbps)_2TX

CSE NdB

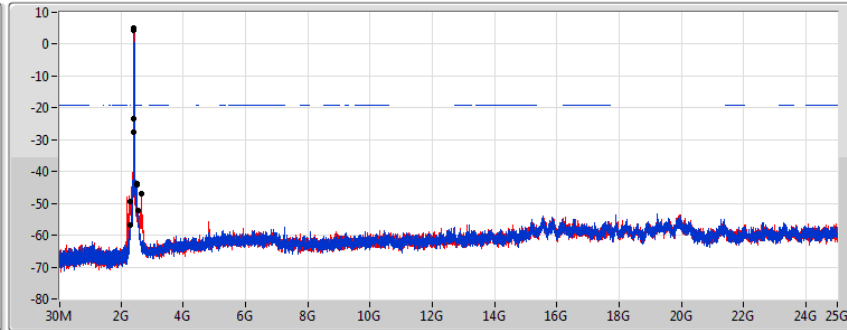
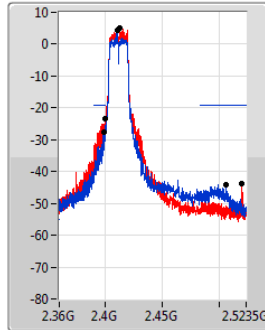
2462MHz



802.11g_(6Mbps)_2TX

CSE NdB

2412MHz



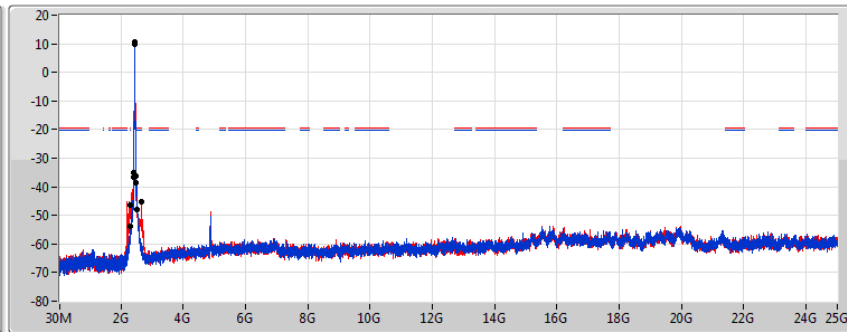
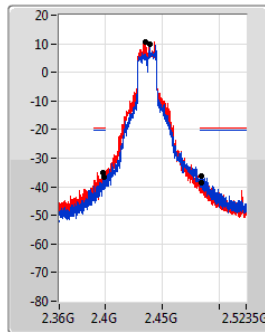
Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.410688G	10.69	-19.31	2.30408G	-56.82	2.39952G	-27.61	2.50598G	-44.00	2.529119G	-52.36	1
2.413193G	10.69	-19.31	2.305245G	-49.37	2.39976G	-23.45	2.52006G	-43.69	2.638692G	-46.91	2

802.11g_(6Mbps)_2TX

CSE NdB

2437MHz



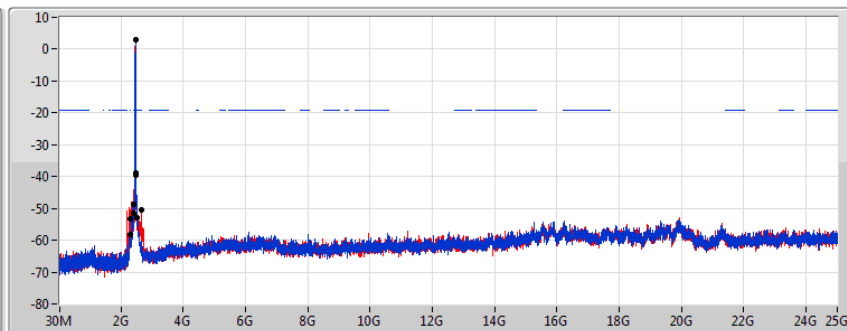
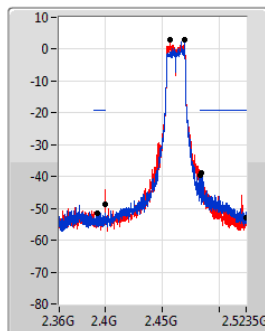
Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.439579G	10.69	-19.31	2.30408G	-53.83	2.3996G	-36.79	2.48414G	-36.30	2.52631G	-47.89	1
2.435738G	10.69	-19.31	2.305245G	-46.49	2.39824G	-34.92	2.48446G	-38.55	2.638692G	-45.12	2

802.11g_(6Mbps)_2TX

CSE NdB

2462MHz



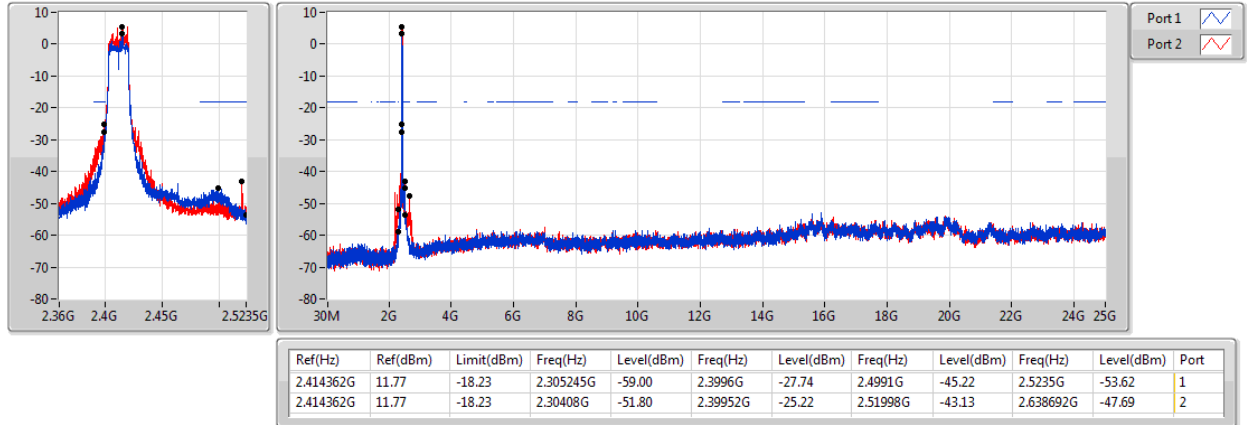
Port 1
Port 2

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.469639G	10.69	-19.31	2.30175G	-58.31	2.39312G	-51.55	2.48382G	-39.48	2.5235G	-53.10	1
2.456947G	10.69	-19.31	2.30874G	-53.30	2.39992G	-48.87	2.48446G	-38.85	2.638692G	-50.51	2

802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

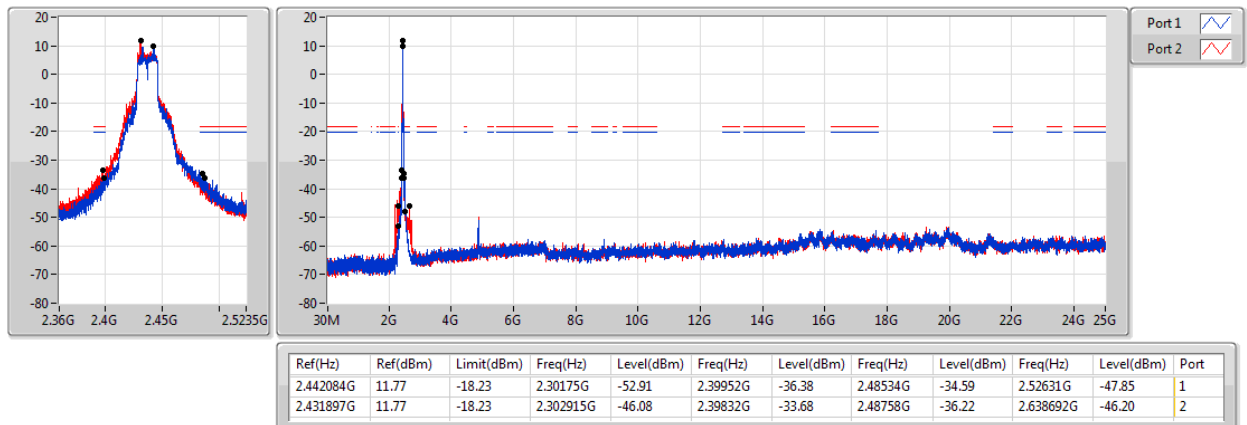
2412MHz



802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

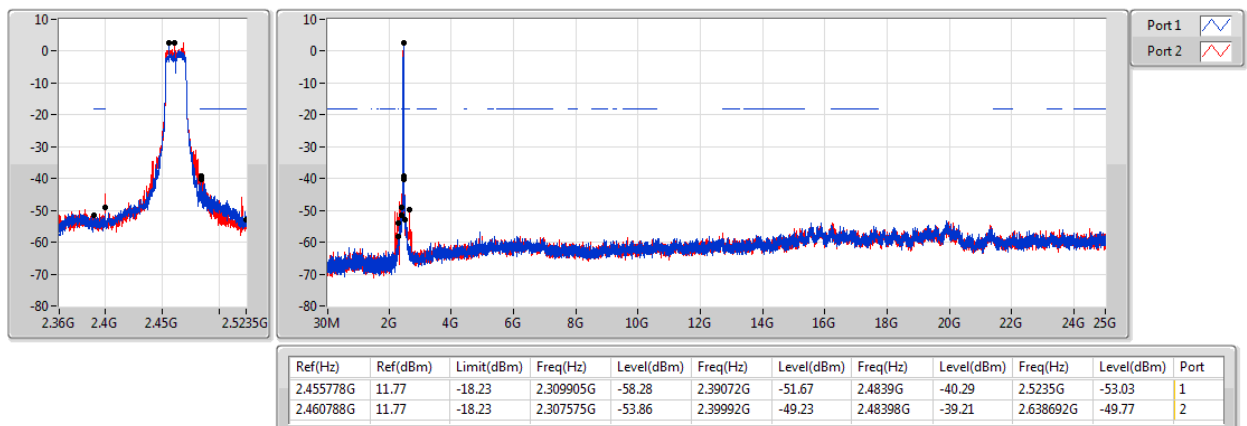
2437MHz



802.11n HT20_Nss1,(MCS0)_2TX

CSE NdB

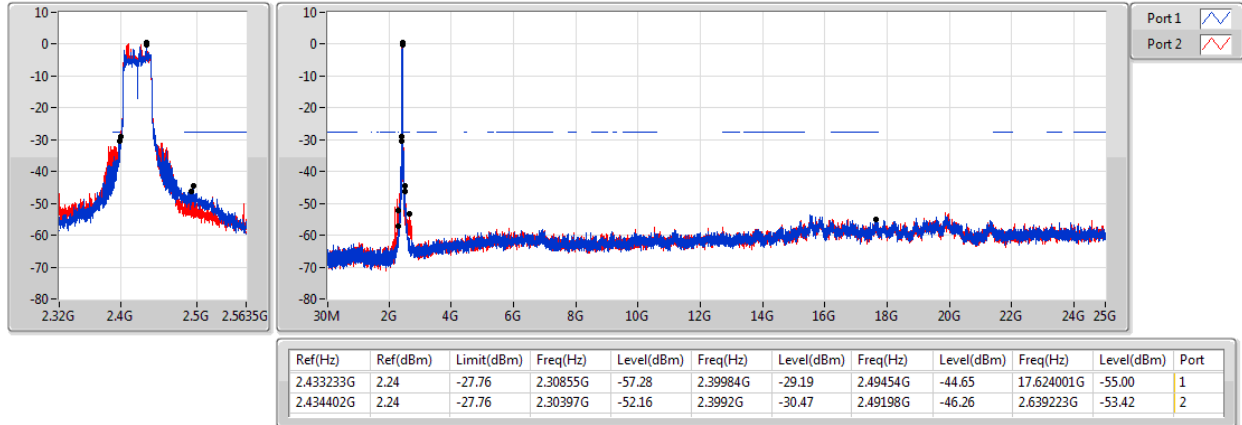
2462MHz



802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

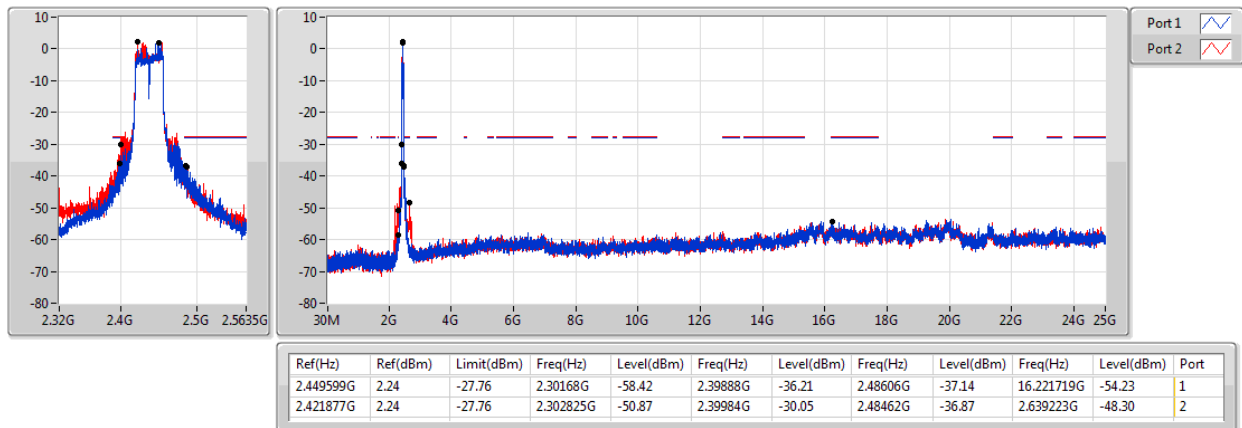
2422MHz



802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

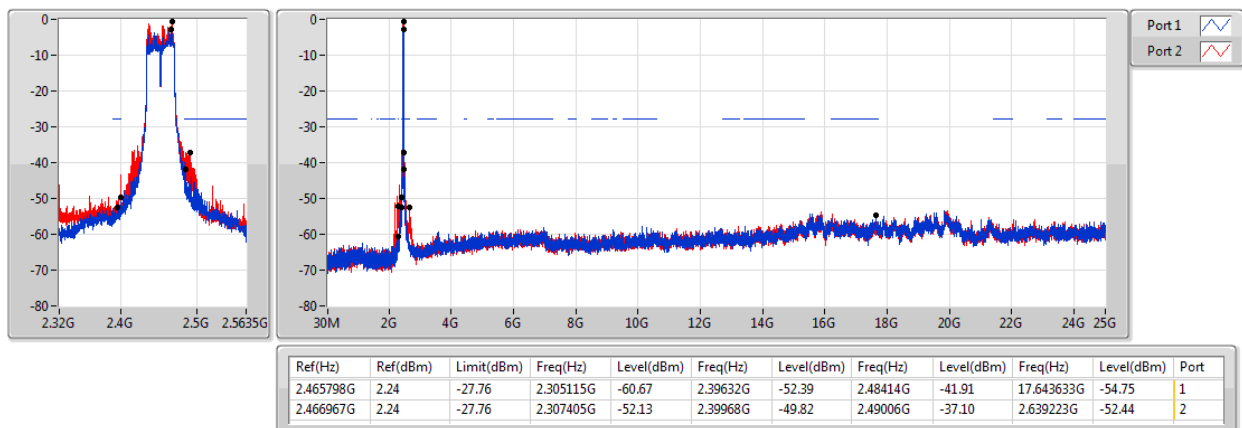
2437MHz



802.11n HT40_Nss1,(MCS0)_2TX

CSE NdB

2452MHz





RSE above 1GHz Result

Appendix G

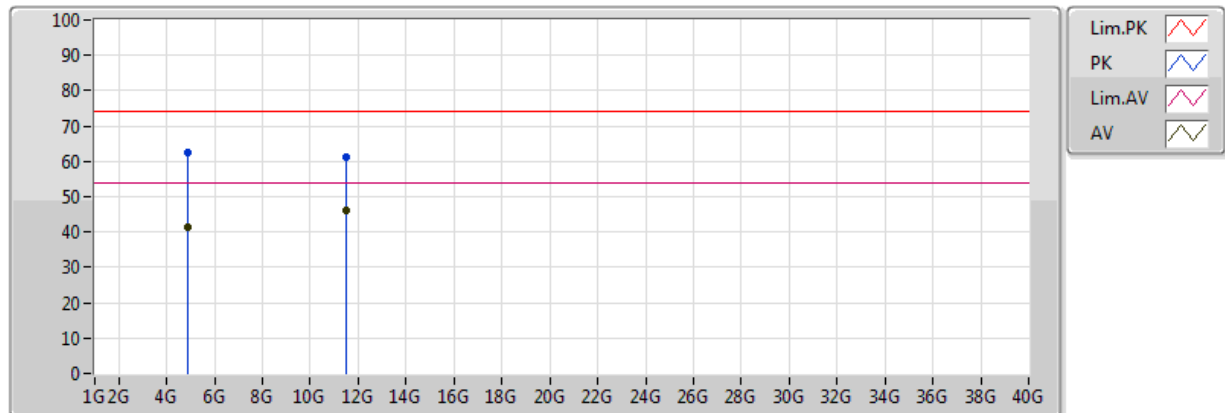
Summary

Mode	Result	Type	Freq (Hz)	Level	Limit	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	11.49G	45.95	54.00	-8.05	17.68	3	Vertical	197	1.50	-

**Result**

Mode	Result	Type	Freq (Hz)	Level	Limit	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	4.874G	42.90	54.00	-11.10	6.53	3	Horizontal	61	2.24	-
Mode 1	Pass	AV	11.49G	42.55	54.00	-11.45	17.68	3	Horizontal	179	1.35	-
Mode 1	Pass	PK	4.874G	63.51	74.00	-10.49	6.53	3	Horizontal	61	2.24	-
Mode 1	Pass	PK	11.49G	58.47	74.00	-15.53	17.68	3	Horizontal	179	1.35	-
Mode 1	Pass	AV	4.874G	41.59	54.00	-12.41	6.53	3	Vertical	107	1.00	-
Mode 1	Pass	AV	11.49G	45.95	54.00	-8.05	17.68	3	Vertical	197	1.50	-
Mode 1	Pass	PK	4.874G	62.31	74.00	-11.69	6.53	3	Vertical	107	1.00	-
Mode 1	Pass	PK	11.49G	61.02	74.00	-12.98	17.68	3	Vertical	197	1.50	-

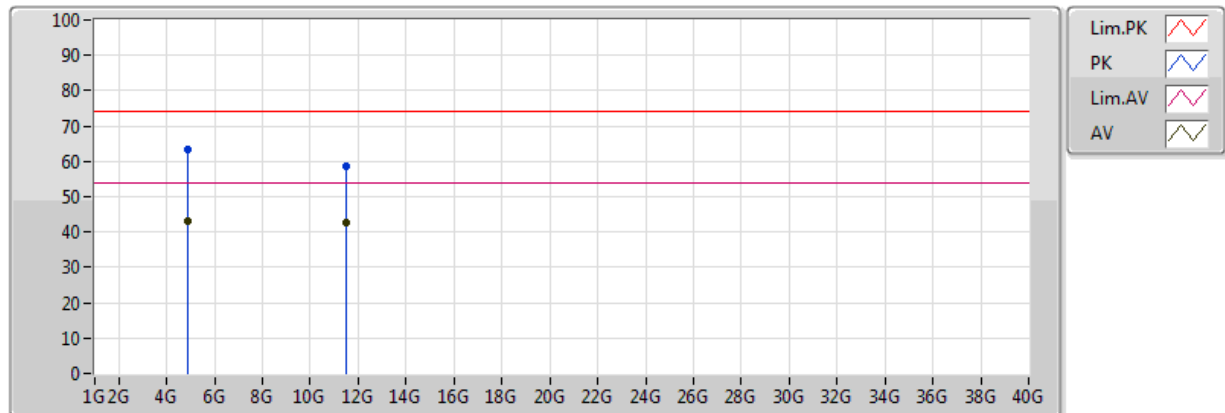
Radiated-above 1GHz_Mode 1



EUT=Z

Type	Freq(Hz)	Level	Limit	Margin(dB)	Factor(dB)	Dist(m)	Condition	Azimuth(°)	Height(m)	Comments
AV	4.874G	41.59	54.00	-12.41	6.53	3	Vertical	107	1.00	-
AV	11.49G	45.95	54.00	-8.05	17.68	3	Vertical	197	1.50	-
PK	4.874G	62.31	74.00	-11.69	6.53	3	Vertical	107	1.00	-
PK	11.49G	61.02	74.00	-12.98	17.68	3	Vertical	197	1.50	-

Radiated-above 1GHz_Mode 1



EUT=Z

Type	Freq(Hz)	Level	Limit	Margin(dB)	Factor(dB)	Dist(m)	Condition	Azimuth(°)	Height(m)	Comments
AV	4.874G	42.90	54.00	-11.10	6.53	3	Horizontal	61	2.24	-
AV	11.49G	42.55	54.00	-11.45	17.68	3	Horizontal	179	1.35	-
PK	4.874G	63.51	74.00	-10.49	6.53	3	Horizontal	61	2.24	-
PK	11.49G	58.47	74.00	-15.53	17.68	3	Horizontal	179	1.35	-