

FCC Test Report

Equipment : Dual Band 4x4 802.11ac PCI-E adapter
Brand Name : ASUS
Model No. : PCE-AC88
FCC ID : MSQ-PCIE0U00
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant : ASUSTeK COMPUTER INC.
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Manufacturer(1) : ASKEY TECHNOLOGY (JIANG SU) LTD
NO1388, Jiao Tong Road, Wujiang Economic
Technological Development Area Jiangsu Province
215200 China
Manufacturer(2) : Compal Networking (KunShan) Co., LTD.
No. 520, Nabbang Rd., Economic & Technical
Development Zone Kunshan, Jiangsu Province
China

The product sample received on Nov. 05, 2015 and completely tested on Oct. 21, 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.


Cliff Chang
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	15.247(a)	DTS Bandwidth	≥500kHz	Complied
3.2	15.247(b)	Maximum Conducted Output Power	Power [dBm]:30	Complied
3.3	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.4	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: > 30 dBc	Complied
3.5	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
2400-2483.5	b, g, n (HT20), ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	4TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20-NON-BF	20	4TX
2.4-2.4835GHz	802.11n HT20-BF	20	4TX
2.4-2.4835GHz	802.11ac VHT20-NON-BF	20	4TX
2.4-2.4835GHz	802.11ac VHT20-BF	20	4TX
2.4-2.4835GHz	802.11n HT40-NON-BF	40	4TX
2.4-2.4835GHz	802.11n HT40-BF	40	4TX
2.4-2.4835GHz	802.11ac VHT40-NON-BF	40	4TX
2.4-2.4835GHz	802.11ac VHT40-BF	40	4TX

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.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 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

Set	Brand	P/N	Type	Connector	Gain (dBi)				
					2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4
1	WHA YU	C660-510336-A (SRF20141892)	Dipole	Reversed-SMA	1.86	1.97	1.96	1.95	1.95

Set	Loss of Cable (dB)					True Gain (dBi)				
	2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4	2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4
1	1.70	2.80	2.80	2.80	2.80	0.16	-0.83	-0.84	-0.85	-0.85

Note: The EUT has one set antenna, and each set contains four antennas.

Chain 1 (Port 1), Chain 2 (Port 2), Chain 3 (Port 3) and Chain 4 (Port 4) could transmit/receive simultaneously.



1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11b	0.998	0.009	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11g	0.974	0.114	2.065m	1k
802.11ac VHT20-BF	0.971	0.128	1.929m	1k
802.11ac VHT40-BF	0.936	0.287	937.5u	3k

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for 802.11n/ac.			
Test Software Version	Mtool 2.0.2.8			

**1.1.5 Table for Class II Change**

This product is an extension of original one reported under Sporton project number: FR5N0421AA

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Changing the Power Amplifier for 2.4GHz (Pin to pin PA. Radio parameter is same between old PA and new PA.).	1. DTS Bandwidth 2. Maximum Conducted Output Power 3. Power Spectral Density 4. Emissions in Non-restricted Frequency Bands 5. Emissions in Restricted Frequency Bands

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 558074 D01 v04
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 644545 D01 v01r02
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location				
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	TEL : 886-3-327-3456	FAX : 886-3-318-0055
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Serway Li	20°C / 45%	Oct. 12, 2017
Radiated	03CH01-CB	Mason Chan	25°C / 60%	Oct. 11, 2017~ Oct. 21, 2017

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

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
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74 x10 ⁻⁸	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	86
2437MHz	87
2462MHz	88
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	81
2437MHz	95
2462MHz	81
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
2412MHz	80
2437MHz	95
2462MHz	73
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
2422MHz	64
2437MHz	74
2452MHz	60

Note:

1. VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
2. There are two functions of EUT, one is beamforming function, and the other is non-beamforming function for 802.11n/ac, after evaluating, beamforming function has been evaluated to be the worst case, so it was selected to test and record in this test report.

2.2 The Worst Case Measurement Configuration

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	CTX
1	2.4GHz WLAN function_Z axis position

Note: The EUT can only be used at Z axis position.

2.3 EUT Operation during Test

<For Non-Beamforming Mode>

The EUT was programmed to be in continuously transmitting mode.

<For Beamforming Mode>

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under DOS.
3. Executed "Lantest.exe " to link with the remote workstation to receive and transmit packet by Wireless ac AP and transmit duty cycle no less 98%

2.4 Accessories

Antenna connection pedestal*1

2.5 Support Equipment

<For Non-Beamforming Mode>

For Test Site No: 03CH01-CB (below 1GHz) and (above 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PC	ASUS	Vintage2-PH1	DoC
2	LCD Monitor	ASUS	VB171	DoC
3	Keyboard	ASUS	AS-KBA000	DoC
4	Mouse	ASUS	MOBTUO	DoC

<For Beamforming Mode>

For Test Site No: 03CH01-CB (above 1GHz)

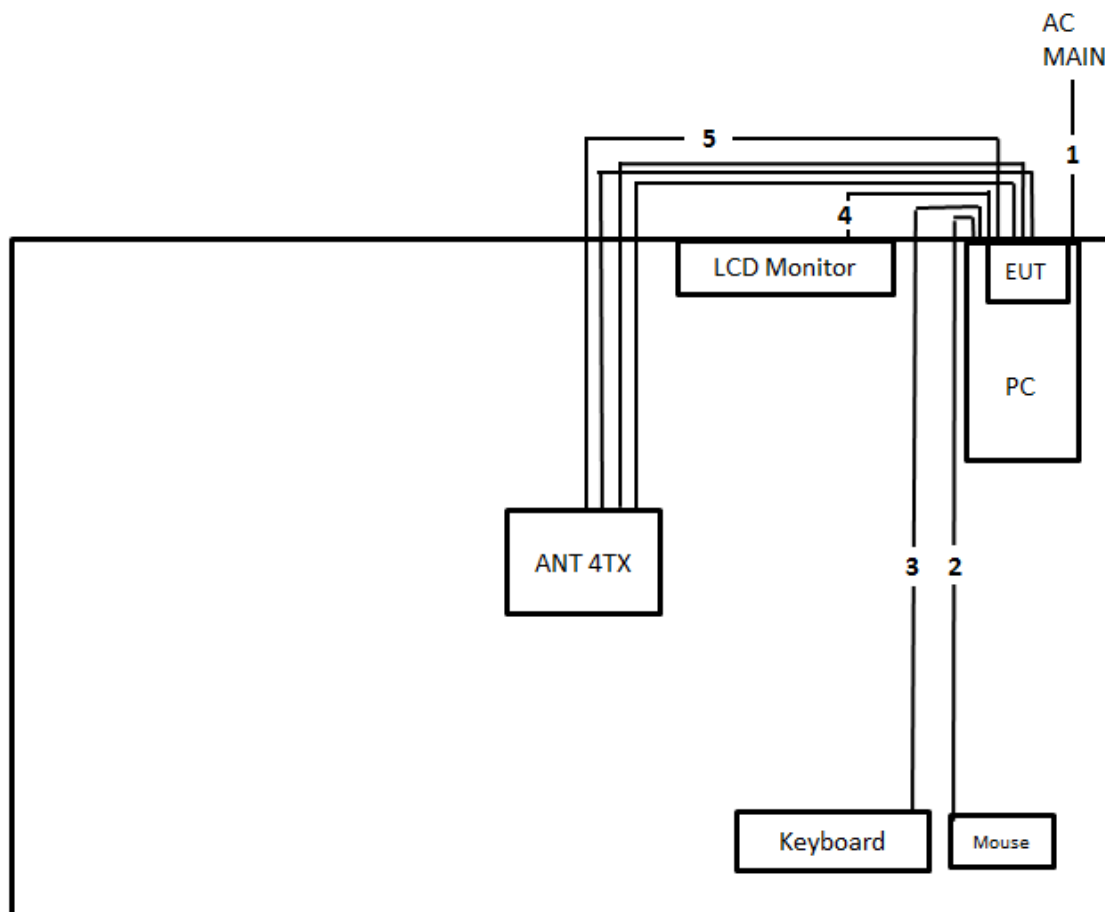
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PC	ASUS	Vintage2-PH1	DoC
2	LCD Monitor	ASUS	VB171	DoC
3	Keyboard	ASUS	AS-KBA000	DoC
4	Mouse	ASUS	MOBTUO	DoC
5	Wireless ac AP	ASUS	RT-AC88U	MSQ-RTGW00
6	Notebook	DELL	E4300	DoC

For Test Site No: TH01-CB

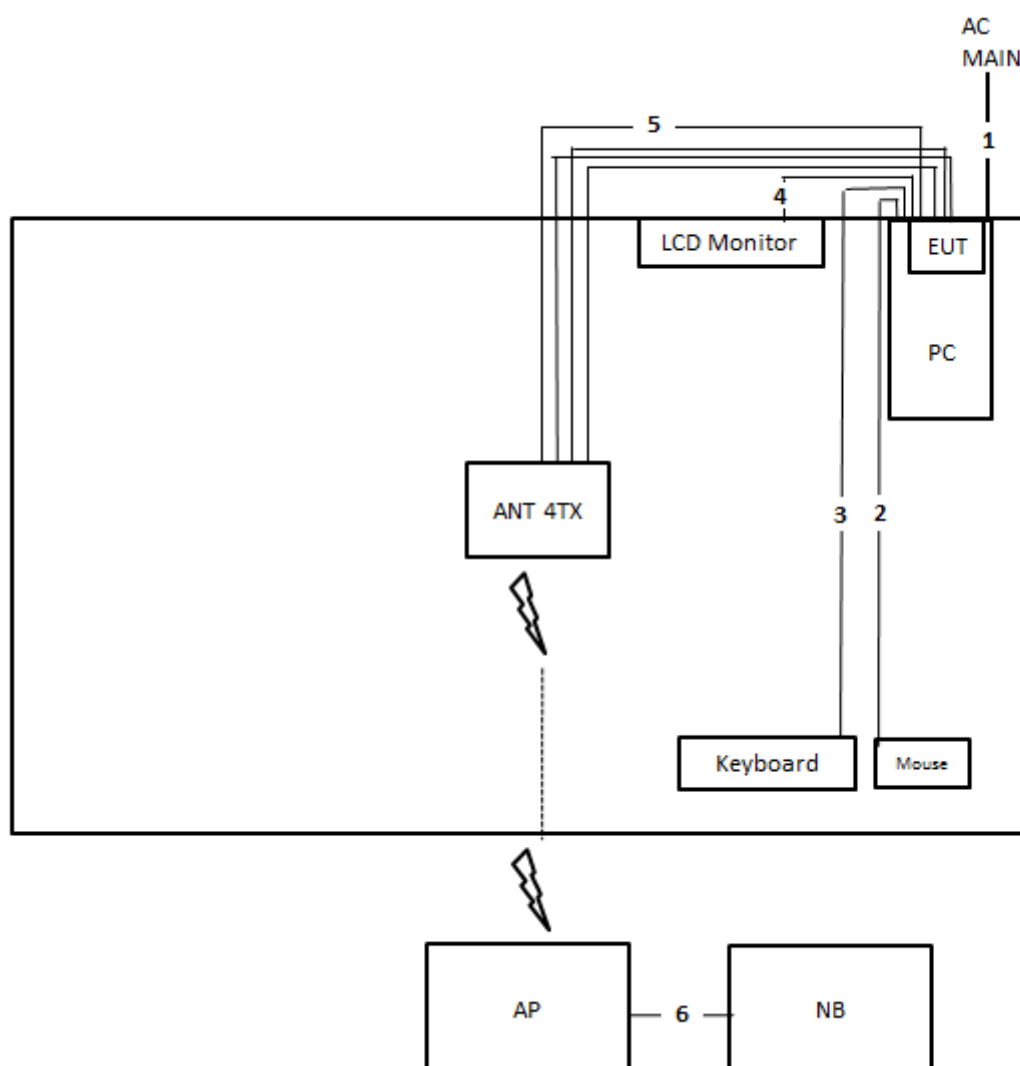
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PC	ASUS	Vintage2-PH1	DoC
2	LCD Monitor	ASUS	VB171	DoC
3	Keyboard	ASUS	AS-KBA000	DoC
4	Mouse	ASUS	MOBTUO	DoC

2.6 Test Setup Diagram

Test Setup Diagram - Radiated Test < 1GHz Non-Beamforming Mode (above 1GHz)



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	USB cable	Yes	1.8m
3	USB cable	Yes	1.8m
4	VGA cable	Yes	1.8m
5	Ant cable*4	Yes	1m

Test Setup Diagram - Radiated Test > 1GHz and Beamforming Mode


Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	USB cable	Yes	1.8m
3	USB cable	Yes	1.8m
4	VGA cable	Yes	1.8m
5	Ant cable*4	Yes	1m
6	RJ-45 cable	No	1.5m

3 Transmitter Test Result

3.1 DTS Bandwidth

3.1.1 6dB Bandwidth Limit

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

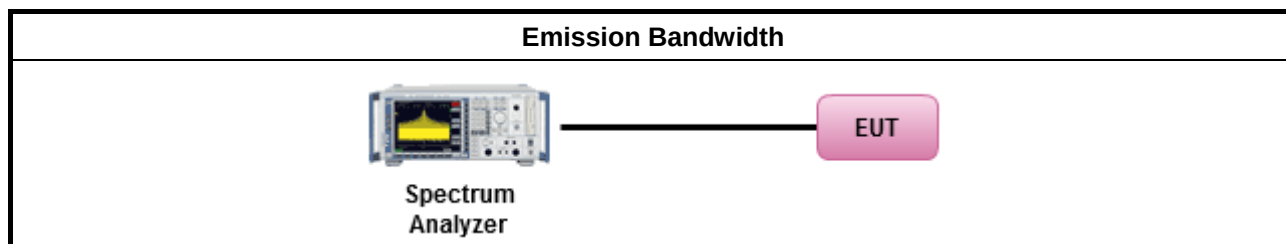
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
☒	Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.1.4 Test Setup



3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 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
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

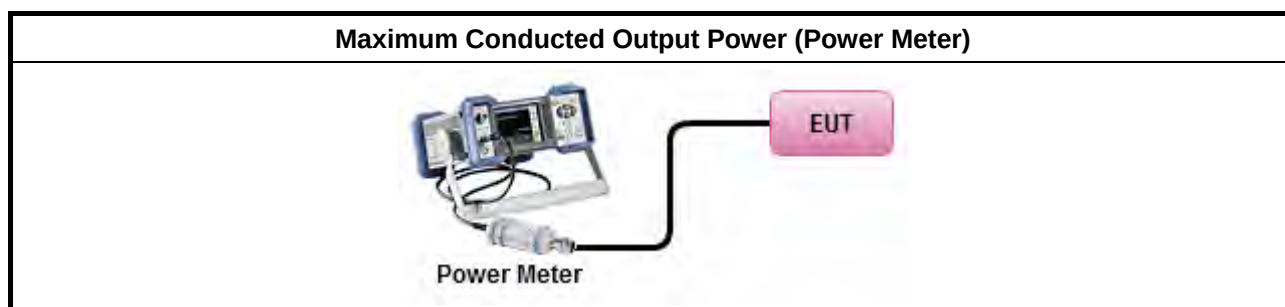
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
Maximum Conducted Output Power	
[duty cycle ≥ 98% or external video / power trigger]	
☐	Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
☐	Refer as FCC 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 FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter).
☐	Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method.
For conducted measurement.	
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.	
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]) $EIRP_{total} = P_{total} + DG$	

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Power Spectral Density

3.3.1 Power Spectral Density Limit

Power Spectral Density Limit
Power Spectral Density (PSD) $\leq$ 8 dBm/3kHz

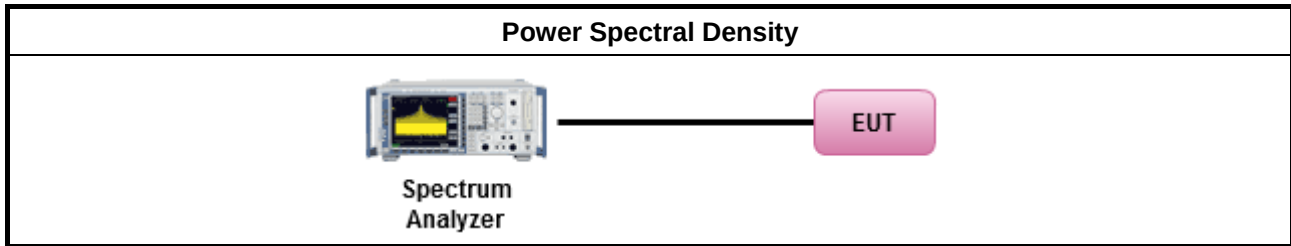
3.3.2 Measuring Instruments

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

3.3.3 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 FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle $\geq$ 98% or external video / power trigger]
☐ Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
☐ Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor
☐ Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).
☐ Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
For conducted measurement.
If The EUT supports multiple transmit chains using options given below:
☒ 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 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.
☐ 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,
☐ 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.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Refer as Appendix C

3.4 Emissions in Non-restricted Frequency Bands

3.4.1 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.	

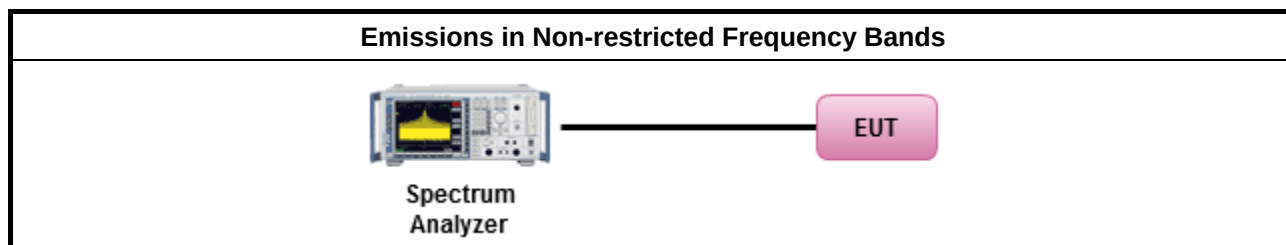
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup



3.4.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix D

3.5 Emissions in Restricted Frequency Bands

3.5.1 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.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

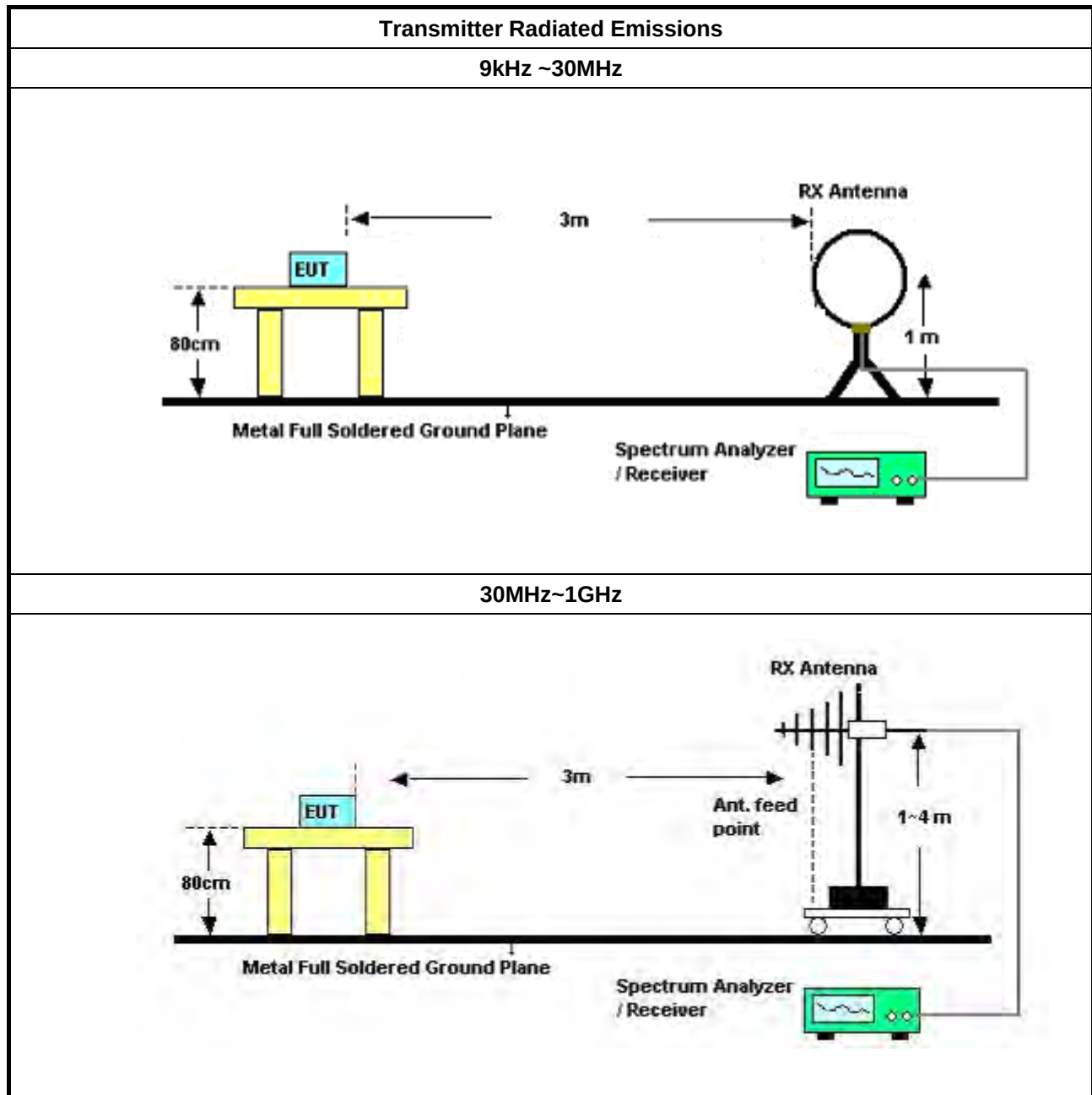
3.5.2 Measuring Instruments

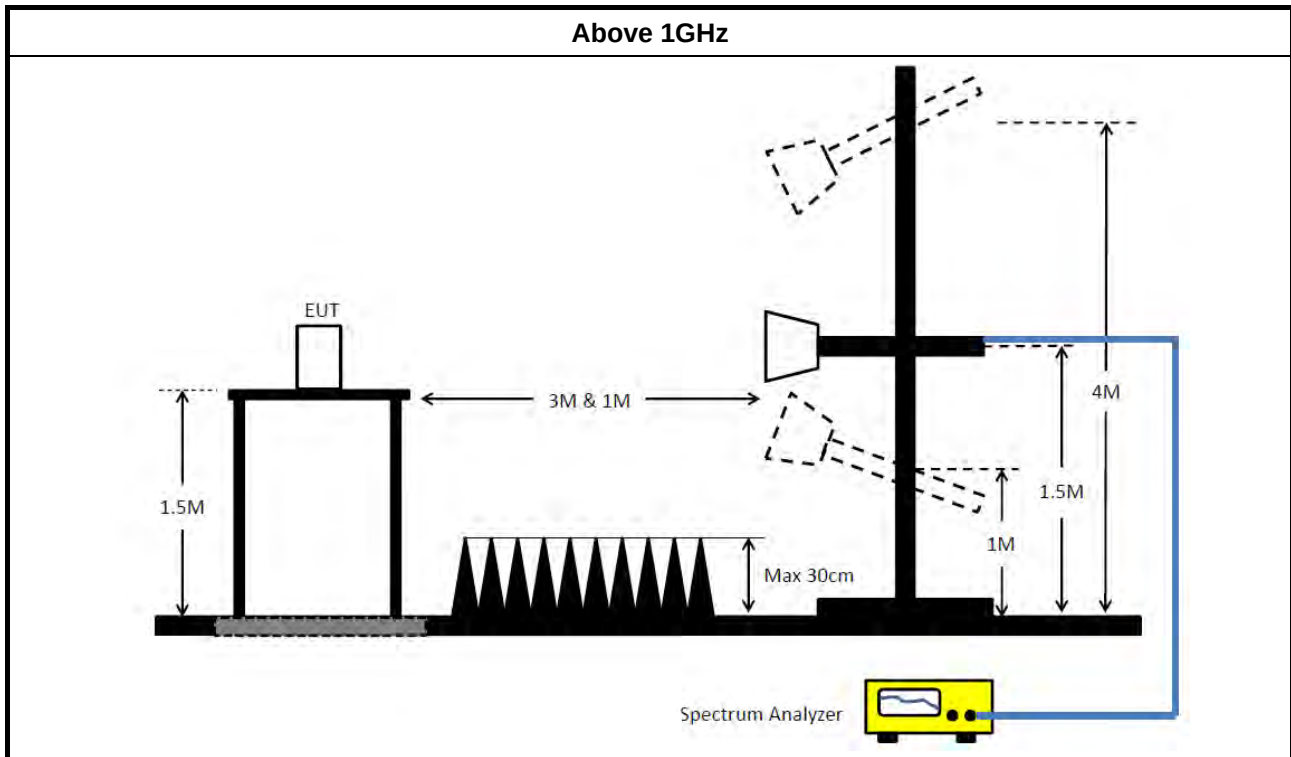
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.9.2.2 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 FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
	☐ Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
	☒ Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	☒ Refer as FCC 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 FCC 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 FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.
	Refer as FCC 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 FCC 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 FCC 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.

3.5.4 Test Setup





3.5.5 Transmitter Radiated Unwanted Emissions (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.

3.5.6 Test Result of Transmitter Radiated Unwanted Emissions

Refer as Appendix E

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Mar. 15, 2018*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Nov. 09, 2017	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Jan. 15, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Nov. 21, 2017	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	May 05, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Dec. 25, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~ 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~ 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~ 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~ 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Nov. 21, 2017	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

“*” Calibration Interval of instruments listed above is two years.

Summary

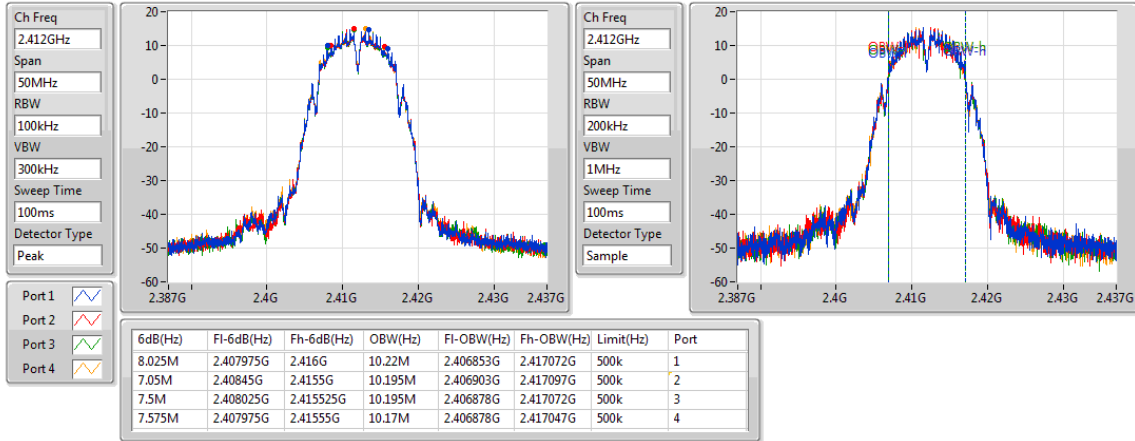
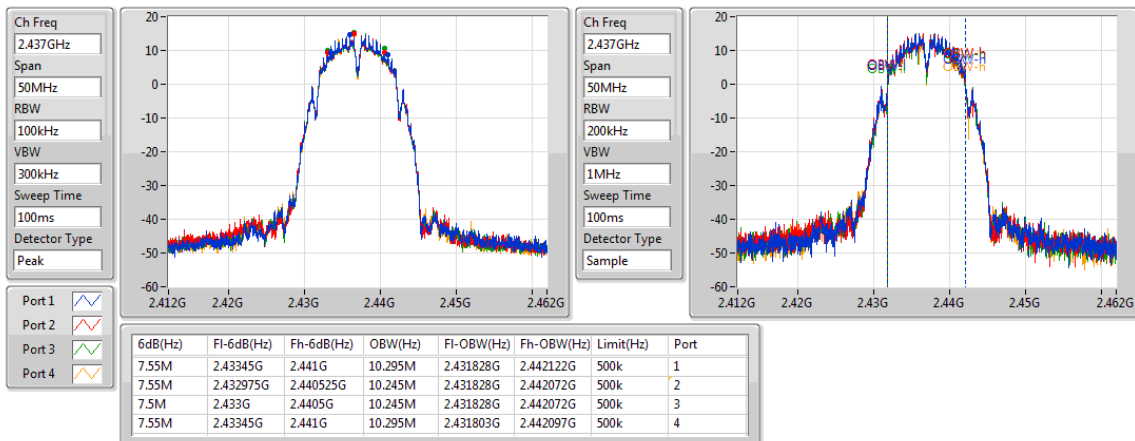
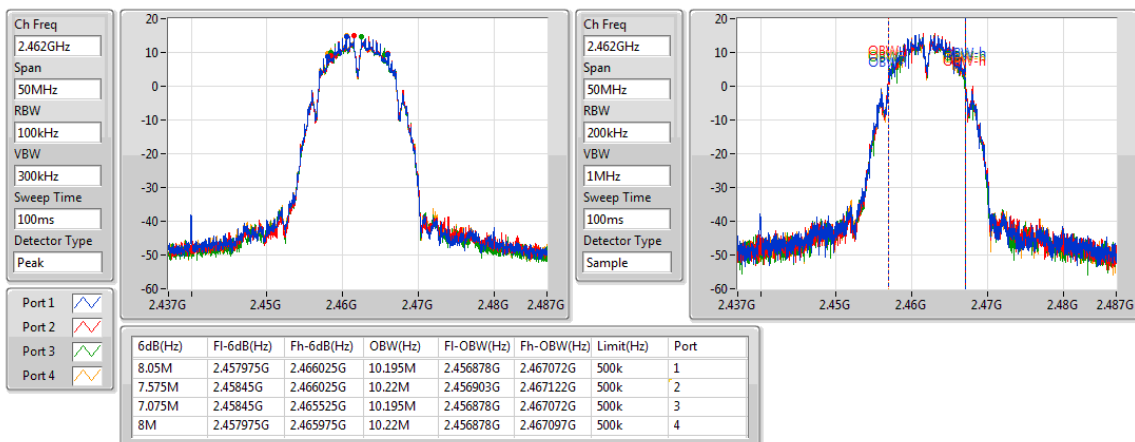
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	8.05M	10.295M	10M3G1D	7.05M	10.17M
802.11g_Nss1,(6Mbps)_4TX	16.25M	16.417M	16M4D1D	14.325M	16.317M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	16.25M	17.616M	17M6D1D	14.75M	17.516M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	36.35M	36.332M	36M3D1D	35.7M	36.082M

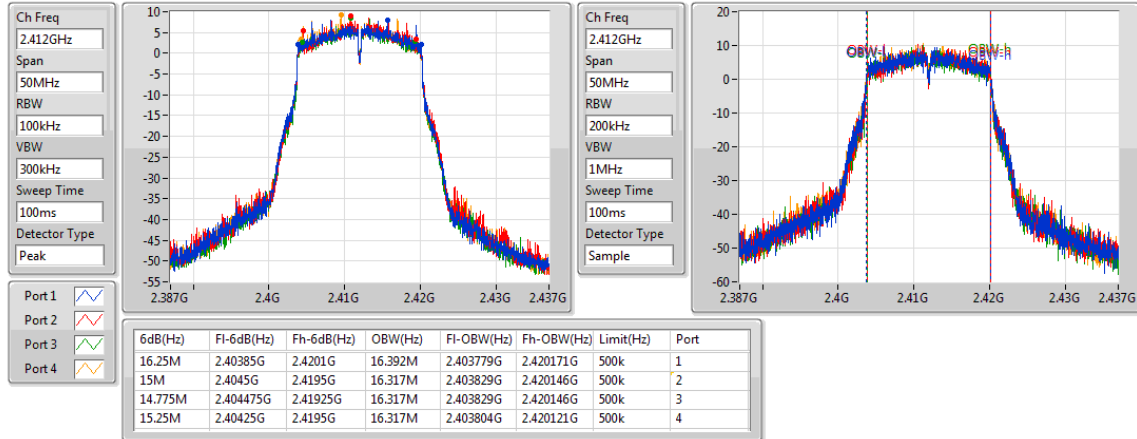
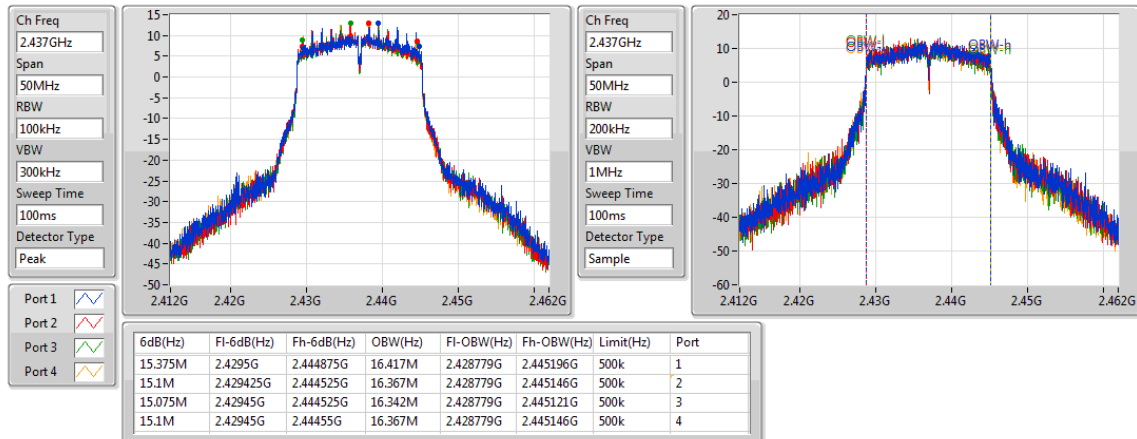
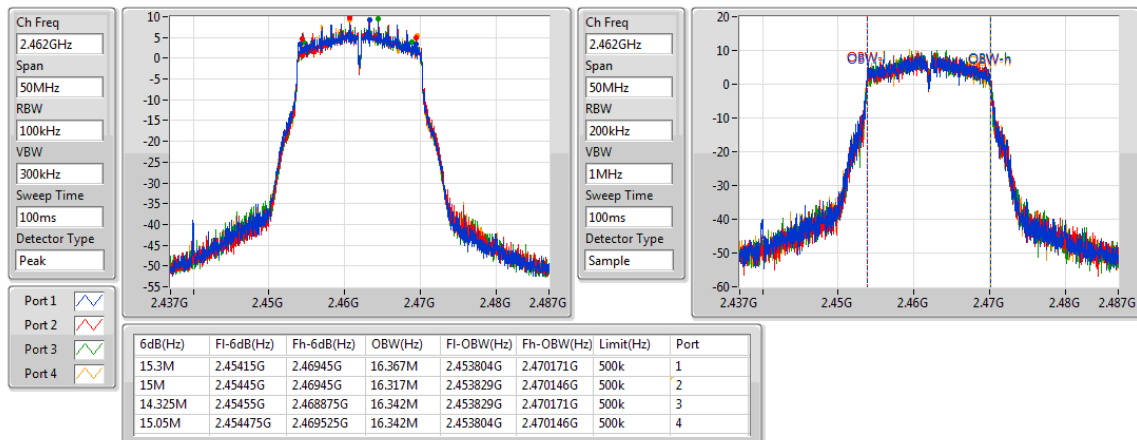
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

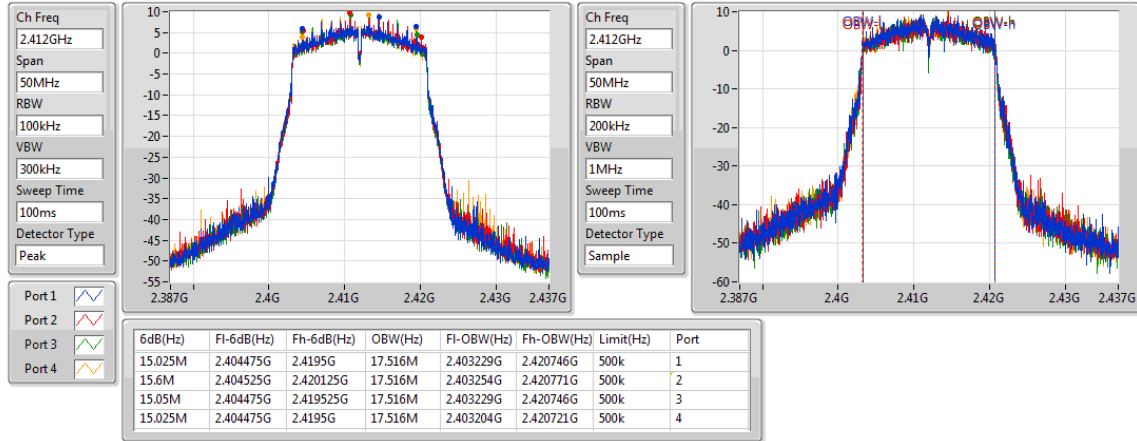
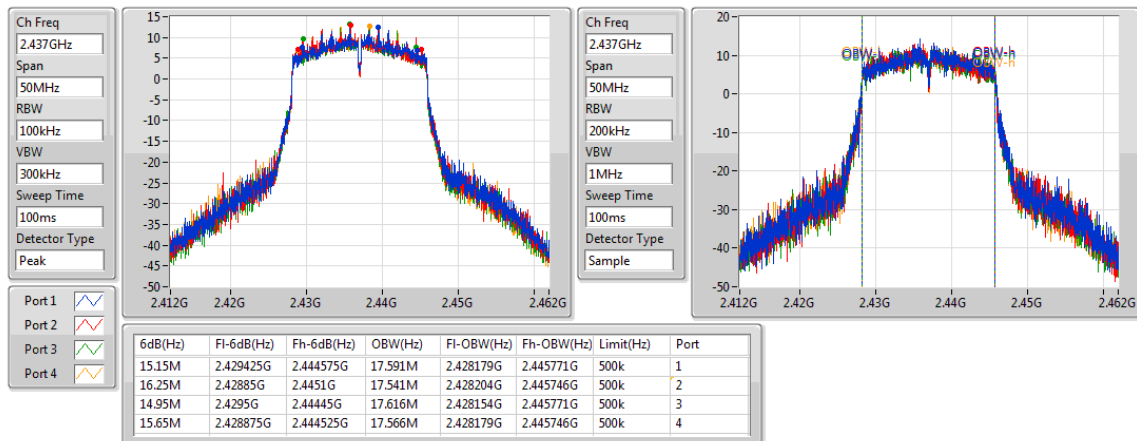
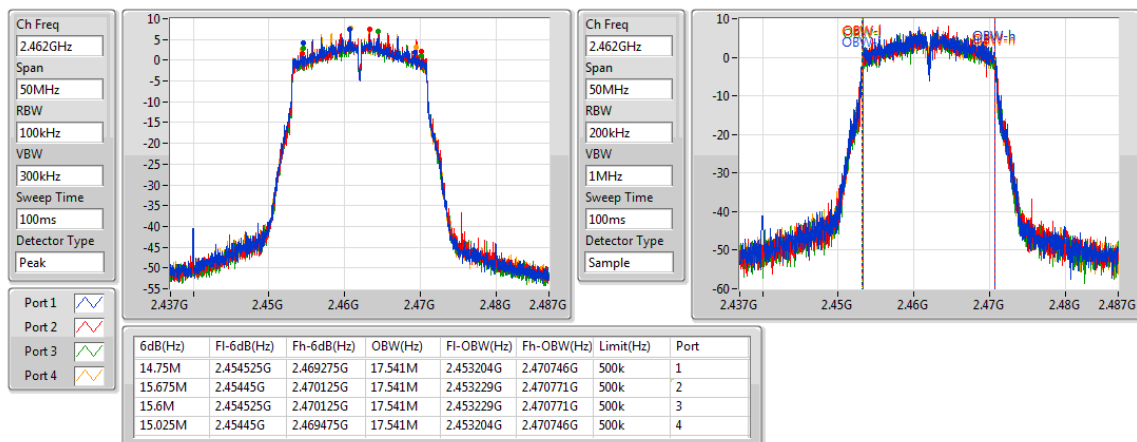
Result

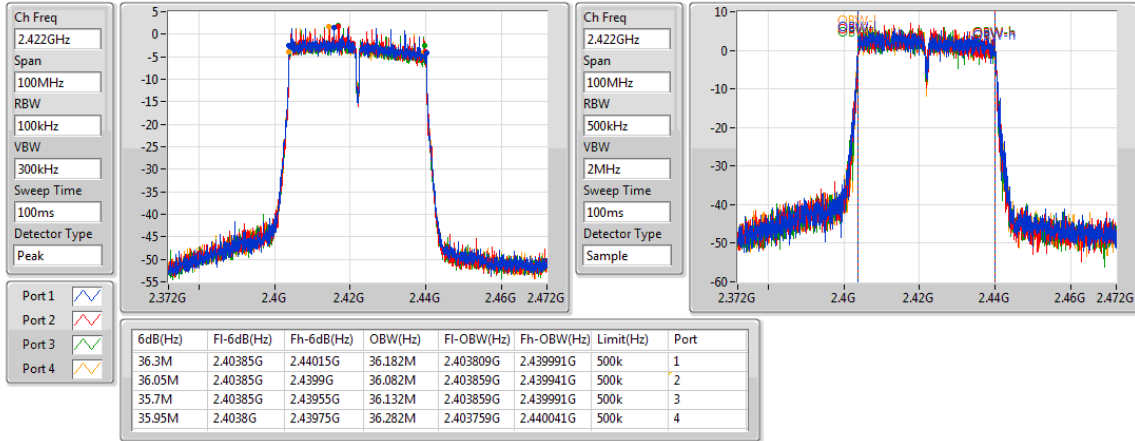
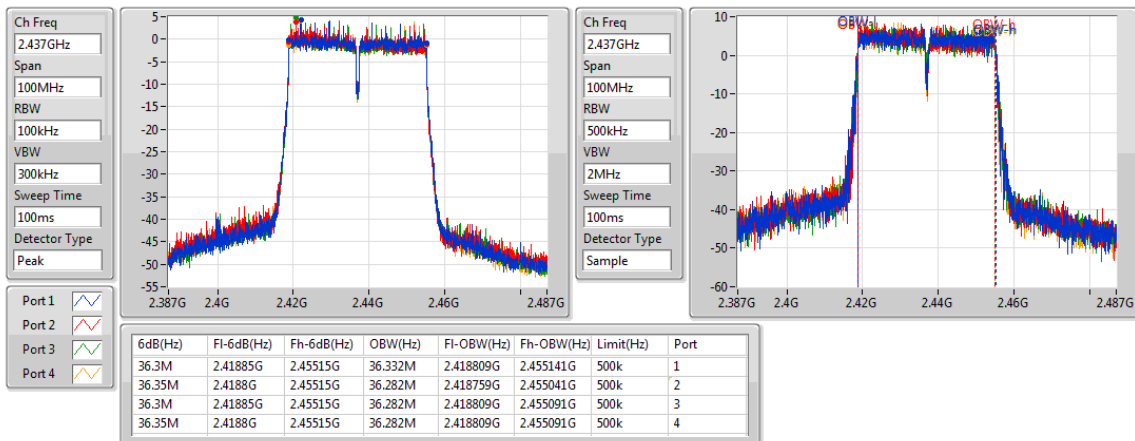
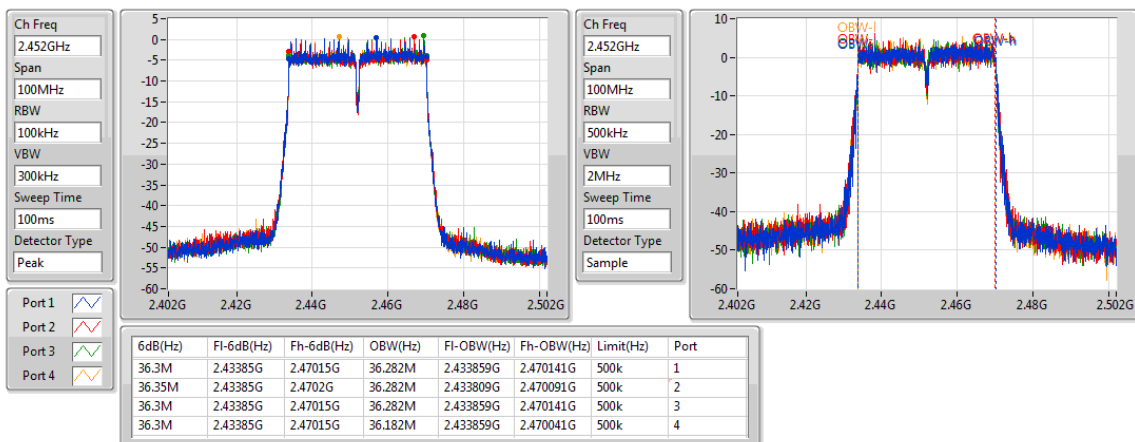
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.025M	10.22M	7.05M	10.195M	7.5M	10.195M	7.575M	10.17M
2437MHz	Pass	500k	7.55M	10.295M	7.55M	10.245M	7.5M	10.245M	7.55M	10.295M
2462MHz	Pass	500k	8.05M	10.195M	7.575M	10.22M	7.075M	10.195M	8M	10.22M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.25M	16.392M	15M	16.317M	14.775M	16.317M	15.25M	16.317M
2437MHz	Pass	500k	15.375M	16.417M	15.1M	16.367M	15.075M	16.342M	15.1M	16.367M
2462MHz	Pass	500k	15.3M	16.367M	15M	16.317M	14.325M	16.342M	15.05M	16.342M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	15.025M	17.516M	15.6M	17.516M	15.05M	17.516M	15.025M	17.516M
2437MHz	Pass	500k	15.15M	17.591M	16.25M	17.541M	14.95M	17.616M	15.65M	17.566M
2462MHz	Pass	500k	14.75M	17.541M	15.675M	17.541M	15.6M	17.541M	15.025M	17.541M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	36.3M	36.182M	36.05M	36.082M	35.7M	36.132M	35.95M	36.282M
2437MHz	Pass	500k	36.3M	36.332M	36.35M	36.282M	36.3M	36.282M	36.35M	36.282M
2452MHz	Pass	500k	36.3M	36.282M	36.35M	36.282M	36.3M	36.282M	36.3M	36.182M

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

802.11b_Nss1,(1Mbps)_4TX
EBW
2412MHz

802.11b_Nss1,(1Mbps)_4TX
EBW
2437MHz

802.11b_Nss1,(1Mbps)_4TX
EBW
2462MHz


802.11g_Nss1,(6Mbps)_4TX
EBW
2412MHz

802.11g_Nss1,(6Mbps)_4TX
EBW
2437MHz

802.11g_Nss1,(6Mbps)_4TX
EBW
2462MHz


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
2412MHz

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
2437MHz

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
2462MHz


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
2422MHz

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
2437MHz

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
2452MHz


Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	29.65	0.92257
802.11g_Nss1,(6Mbps)_4TX	29.96	0.99083
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	29.76	0.94624
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	25.78	0.37844

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	0.16	23.64	23.53	23.58	23.71	29.64	30.00
2437MHz	Pass	0.16	23.65	23.55	23.66	23.67	29.65	30.00
2462MHz	Pass	0.16	22.83	22.99	22.89	23.09	28.97	30.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	0.16	20.48	20.59	20.46	20.68	26.57	30.00
2437MHz	Pass	0.16	24.02	23.75	23.86	24.12	29.96	30.00
2462MHz	Pass	0.16	20.35	20.21	19.84	20.24	26.18	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.18	20.92	20.69	20.55	20.82	26.77	29.82
2437MHz	Pass	6.18	23.88	23.62	23.70	23.75	29.76	29.82
2462MHz	Pass	6.18	18.42	18.55	18.11	18.41	24.40	29.82
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.18	16.48	16.46	16.56	16.68	22.57	29.82
2437MHz	Pass	6.18	19.67	19.62	19.51	20.21	25.78	29.82
2452MHz	Pass	6.18	15.91	15.53	15.56	15.78	21.72	29.82

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_4TX	4.84
802.11g_Nss1,(6Mbps)_4TX	3.98
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	3.76
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-5.62

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.18	1.06	1.50	0.22	0.43	4.45	7.82
2437MHz	Pass	6.18	0.67	0.30	0.60	0.54	4.84	7.82
2462MHz	Pass	6.18	0.41	1.17	0.41	1.43	4.70	7.82
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.18	-3.60	-4.11	-4.70	-4.21	0.96	7.82
2437MHz	Pass	6.18	-0.20	-1.05	-1.19	-1.36	3.98	7.82
2462MHz	Pass	6.18	-3.87	-3.69	-3.57	-4.73	1.68	7.82
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	6.18	-4.98	-5.60	-4.14	-4.67	-1.35	7.82
2437MHz	Pass	6.18	-0.68	-0.54	-1.38	-0.24	3.76	7.82
2462MHz	Pass	6.18	-5.49	-7.22	-5.88	-6.17	-2.68	7.82
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	6.18	-11.96	-11.47	-12.85	-11.14	-7.87	7.82
2437MHz	Pass	6.18	-9.59	-9.66	-7.75	-10.30	-5.62	7.82
2452MHz	Pass	6.18	-13.75	-12.38	-12.34	-13.71	-9.04	7.82

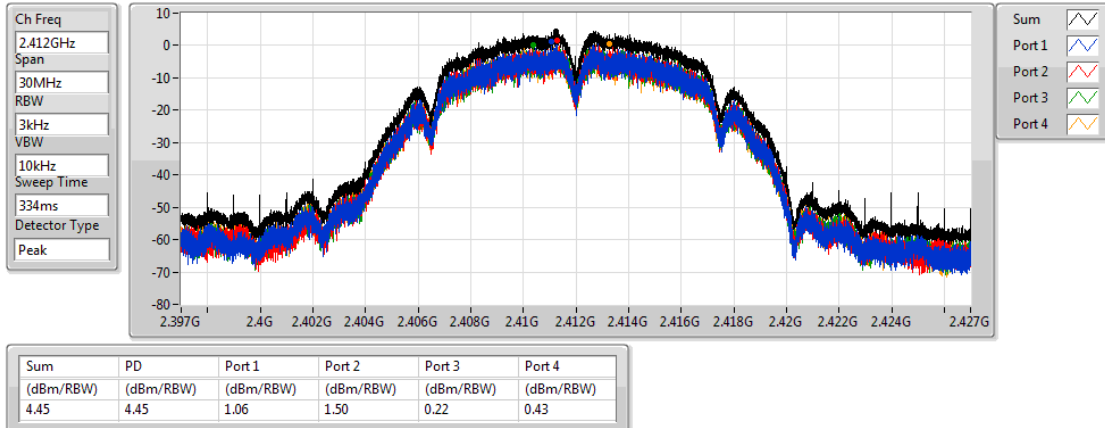
DG = Directional Gain; RBW=3kHz;

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

802.11b_Nss1,(1Mbps)_4TX

PSD

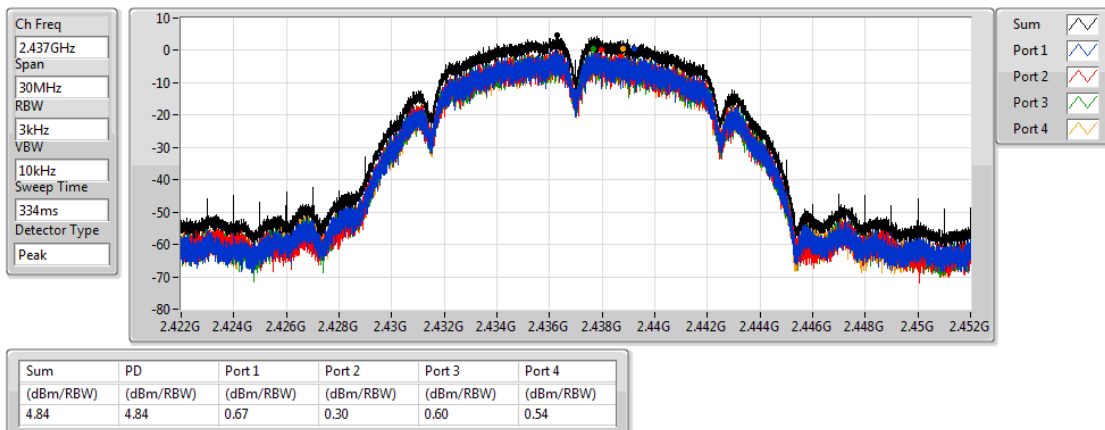
2412MHz



802.11b_Nss1,(1Mbps)_4TX

PSD

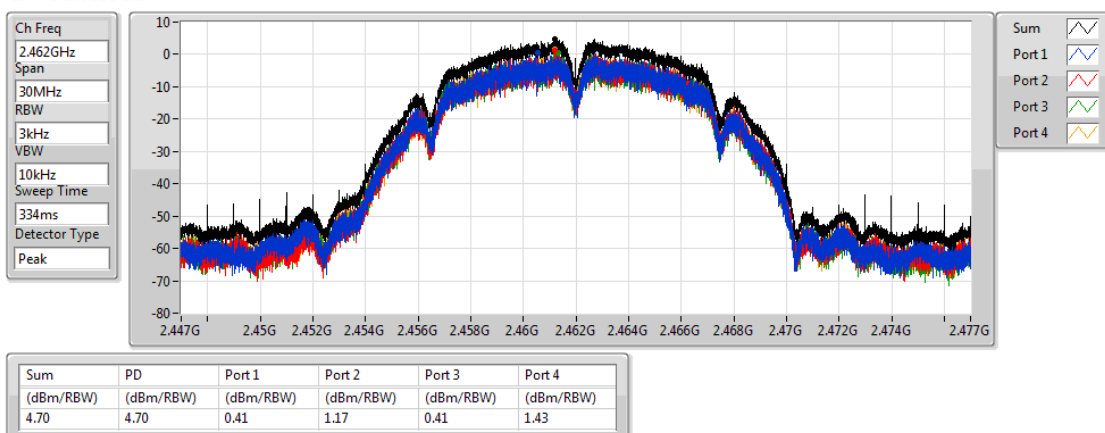
2437MHz



802.11b_Nss1,(1Mbps)_4TX

PSD

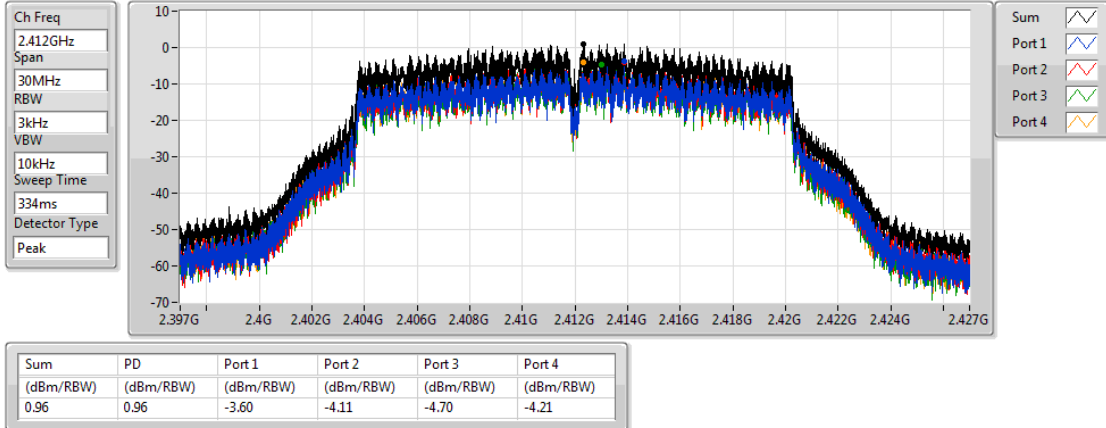
2462MHz



802.11g_Nss1,(6Mbps)_4TX

PSD

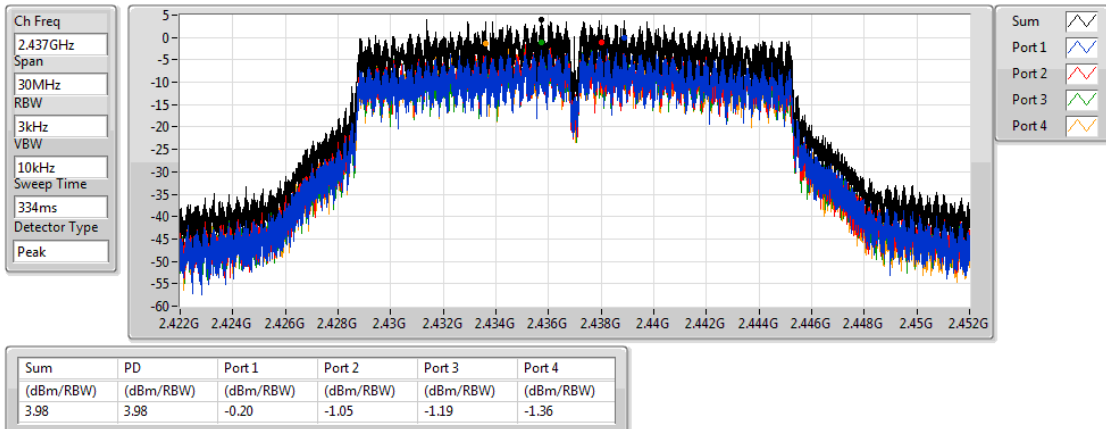
2412MHz



802.11g_Nss1,(6Mbps)_4TX

PSD

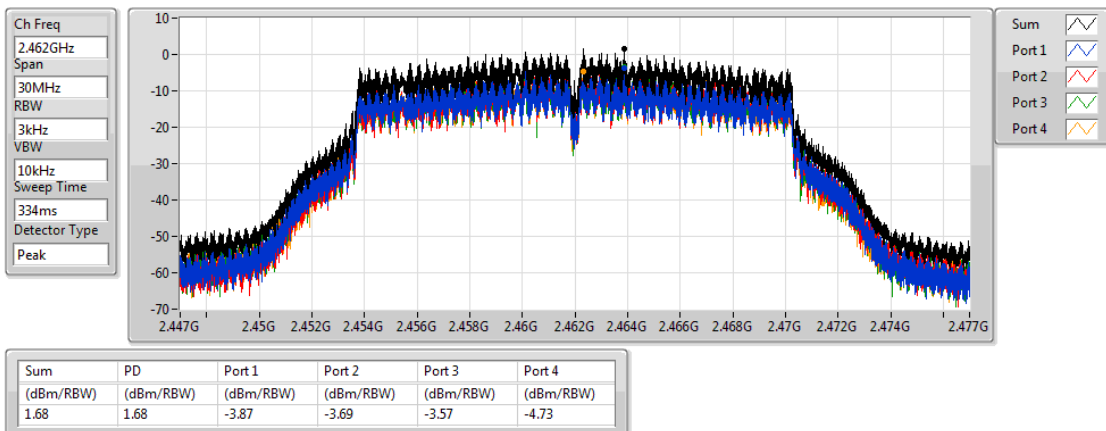
2437MHz



802.11g_Nss1,(6Mbps)_4TX

PSD

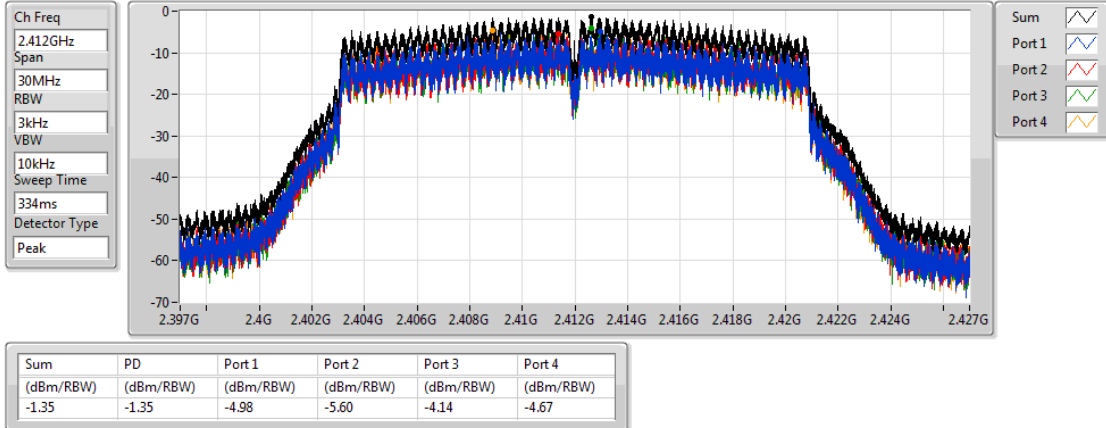
2462MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

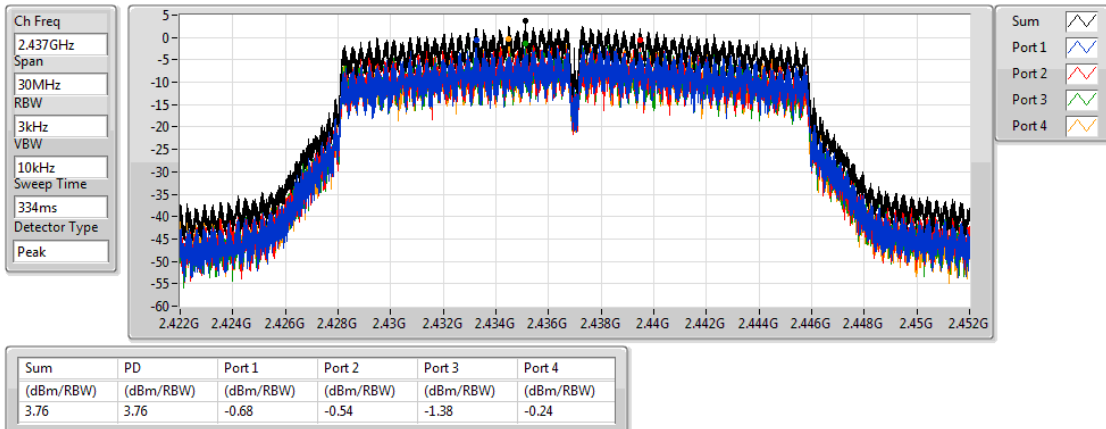
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

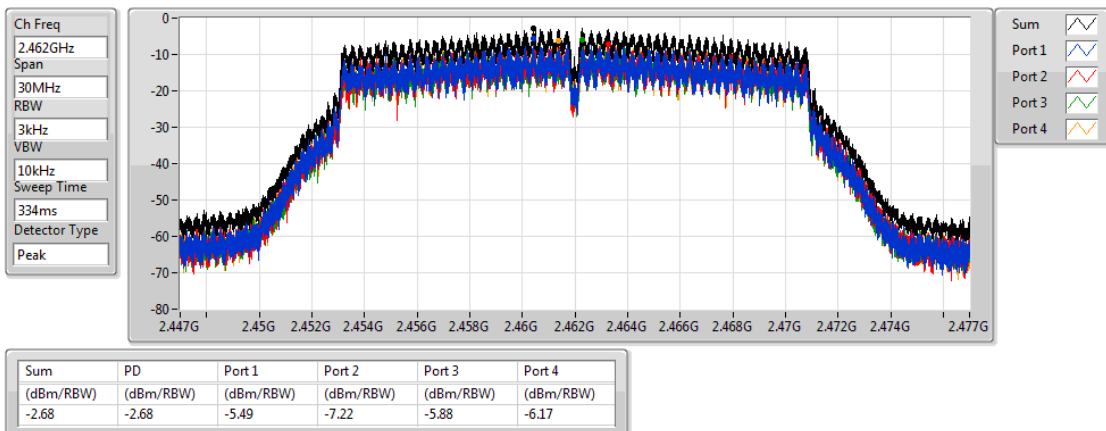
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

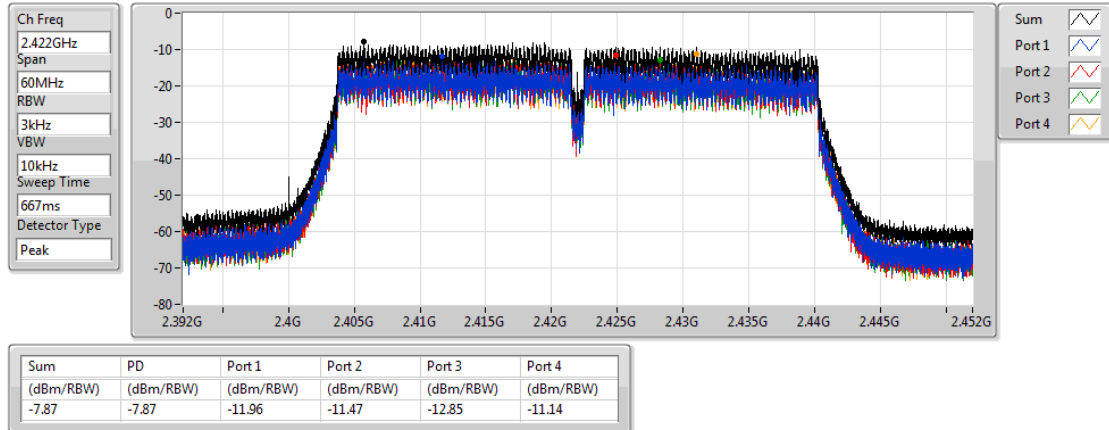
2462MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

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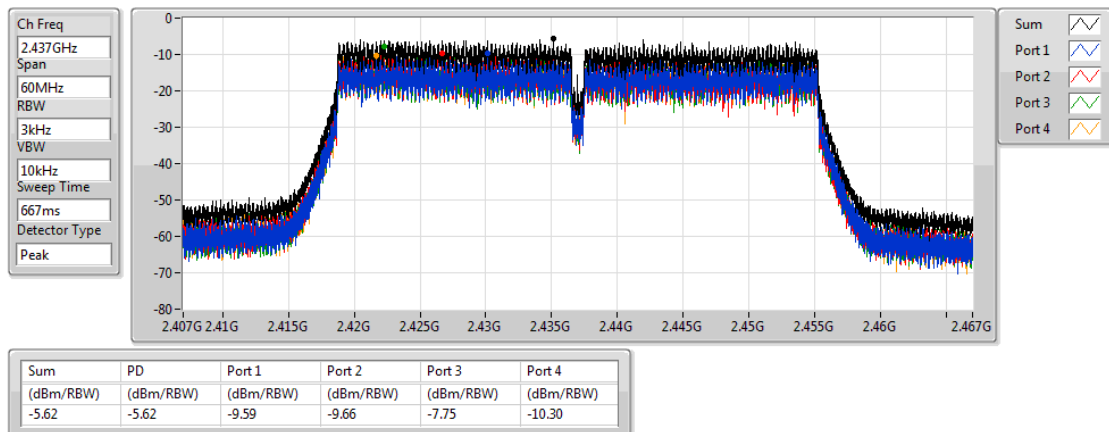
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802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

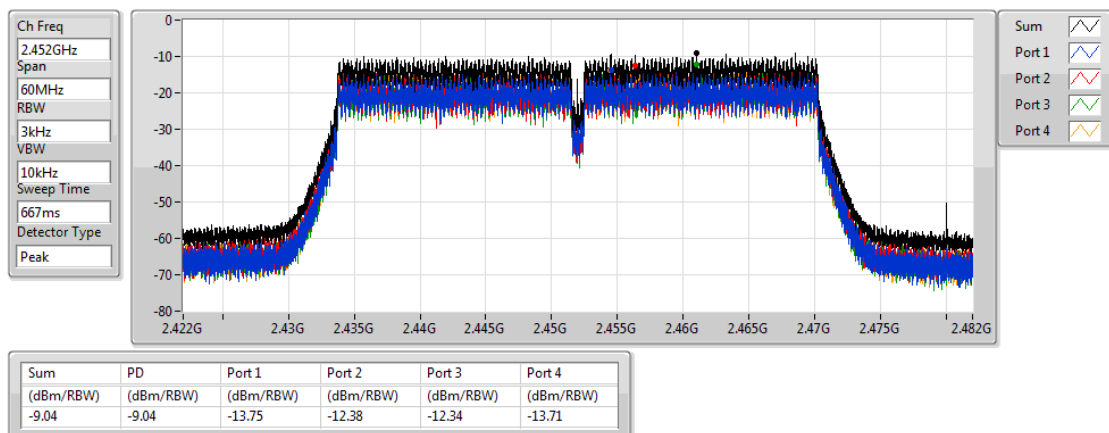
2437MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

2452MHz



**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
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	Pass	2.43507G	14.38	-15.62	479.69M	-58.05	2.39912G	-38.61	2.48734G	-43.01	7.235136G	-46.31	4
802.11g_Nss1,(6Mbps)_4TX	Pass	2.438243G	13.00	-17.00	478.525M	-57.45	2.39952G	-32.46	2.48734G	-51.96	7.232327G	-52.34	4
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	Pass	2.439579G	12.26	-17.74	478.525M	-57.95	2.39952G	-32.23	2.48734G	-49.33	7.232327G	-52.66	3
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	Pass	2.421877G	5.38	-24.62	478.84M	-56.43	2.39712G	-41.00	2.48798G	-53.68	21.426987G	-53.82	3

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_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.43507G	14.38	-15.62	2.300585G	-58.29	2.39904G	-39.43	2.48734G	-47.06	7.237946G	-44.75	1
2412MHz	Pass	2.43507G	14.38	-15.62	490.175M	-57.67	2.398G	-38.85	2.48734G	-50.25	7.235136G	-45.57	2
2412MHz	Pass	2.43507G	14.38	-15.62	2.198065G	-58.80	2.39856G	-39.83	2.48734G	-54.70	7.235136G	-47.05	3
2412MHz	Pass	2.43507G	14.38	-15.62	479.69M	-58.05	2.39912G	-38.61	2.48734G	-43.01	7.235136G	-46.31	4
2437MHz	Pass	2.43507G	14.38	-15.62	2.083895G	-59.98	2.39272G	-51.02	2.51318G	-48.71	24.80895G	-53.50	1
2437MHz	Pass	2.43507G	14.38	-15.62	2.167775G	-59.83	2.39136G	-51.13	2.51318G	-52.20	21.78867G	-53.96	2
2437MHz	Pass	2.43507G	14.38	-15.62	2.30641G	-58.20	2.39872G	-51.81	2.48438G	-55.06	16.363405G	-53.14	3
2437MHz	Pass	2.43507G	14.38	-15.62	2.307575G	-57.30	2.39128G	-51.62	2.48558G	-53.16	16.745505G	-53.60	4
2462MHz	Pass	2.43507G	14.38	-15.62	2.30641G	-58.14	2.39992G	-52.52	2.48446G	-47.06	16.745505G	-53.79	1
2462MHz	Pass	2.43507G	14.38	-15.62	472.7M	-57.89	2.3968G	-53.41	2.48358G	-47.74	21.420617G	-53.28	2
2462MHz	Pass	2.43507G	14.38	-15.62	2.305245G	-58.72	2.39872G	-53.40	2.48422G	-48.49	16.711791G	-53.74	3
2462MHz	Pass	2.43507G	14.38	-15.62	502.99M	-58.15	2.39616G	-52.61	2.4859G	-48.17	21.440284G	-52.26	4
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.438243G	13.00	-17.00	476.195M	-57.35	2.39976G	-34.11	2.48734G	-48.99	23.418216G	-53.67	1
2412MHz	Pass	2.438243G	13.00	-17.00	473.865M	-56.96	2.39808G	-32.94	2.48734G	-49.12	7.235136G	-51.53	2
2412MHz	Pass	2.438243G	13.00	-17.00	501.825M	-57.50	2.39968G	-33.70	2.48734G	-51.26	16.706172G	-53.08	3
2412MHz	Pass	2.438243G	13.00	-17.00	478.525M	-57.45	2.39952G	-32.46	2.48734G	-51.96	7.232327G	-52.34	4
2437MHz	Pass	2.438243G	13.00	-17.00	475.03M	-58.02	2.398G	-49.93	2.51318G	-48.32	17.689518G	-53.38	1
2437MHz	Pass	2.438243G	13.00	-17.00	454.06M	-57.99	2.39976G	-49.82	2.48646G	-53.27	16.765172G	-52.95	2
2437MHz	Pass	2.438243G	13.00	-17.00	475.03M	-57.49	2.398G	-49.67	2.51318G	-50.52	21.740908G	-52.91	3
2437MHz	Pass	2.438243G	13.00	-17.00	478.525M	-57.19	2.39808G	-48.80	2.51318G	-49.57	23.471598G	-53.70	4
2462MHz	Pass	2.438243G	13.00	-17.00	490.175M	-59.12	2.39944G	-55.37	2.4839G	-48.24	16.796078G	-54.02	1
2462MHz	Pass	2.438243G	13.00	-17.00	496M	-57.71	2.39888G	-54.70	2.4847G	-48.33	16.700552G	-53.12	2
2462MHz	Pass	2.438243G	13.00	-17.00	487.845M	-57.59	2.39944G	-54.06	2.48366G	-48.99	21.541429G	-53.18	3
2462MHz	Pass	2.438243G	13.00	-17.00	452.895M	-58.93	2.39072G	-53.00	2.48398G	-49.20	15.23677G	-53.37	4
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.439579G	12.26	-17.74	484.35M	-56.96	2.39992G	-33.45	2.48734G	-47.73	7.235136G	-53.09	1
2412MHz	Pass	2.439579G	12.26	-17.74	483.185M	-56.62	2.39992G	-32.36	2.48734G	-44.80	7.235136G	-52.40	2
2412MHz	Pass	2.439579G	12.26	-17.74	478.525M	-57.95	2.39952G	-32.23	2.48734G	-49.33	7.232327G	-52.66	3
2412MHz	Pass	2.439579G	12.26	-17.74	491.34M	-57.41	2.3996G	-33.68	2.48734G	-47.02	7.232327G	-53.68	4
2437MHz	Pass	2.439579G	12.26	-17.74	489.01M	-57.61	2.3992G	-49.10	2.51318G	-47.51	16.728648G	-53.17	1
2437MHz	Pass	2.439579G	12.26	-17.74	468.04M	-56.19	2.3992G	-48.49	2.48358G	-51.48	21.836433G	-53.63	2
2437MHz	Pass	2.439579G	12.26	-17.74	490.175M	-57.04	2.39992G	-49.08	2.48398G	-53.30	16.405548G	-54.23	3
2437MHz	Pass	2.439579G	12.26	-17.74	482.02M	-56.69	2.3992G	-47.61	2.51318G	-50.89	16.748315G	-51.88	4
2462MHz	Pass	2.439579G	12.26	-17.74	468.04M	-58.13	2.3988G	-56.46	2.48422G	-49.63	23.527789G	-53.30	1
2462MHz	Pass	2.439579G	12.26	-17.74	477.36M	-57.29	2.39736G	-55.33	2.48382G	-49.99	16.686505G	-53.49	2
2462MHz	Pass	2.439579G	12.26	-17.74	486.68M	-56.44	2.3968G	-56.72	2.48462G	-52.48	16.773601G	-53.43	3
2462MHz	Pass	2.439579G	12.26	-17.74	483.185M	-56.23	2.39312G	-55.05	2.48446G	-50.55	16.711791G	-53.67	4



CSE Non-restricted Band Result

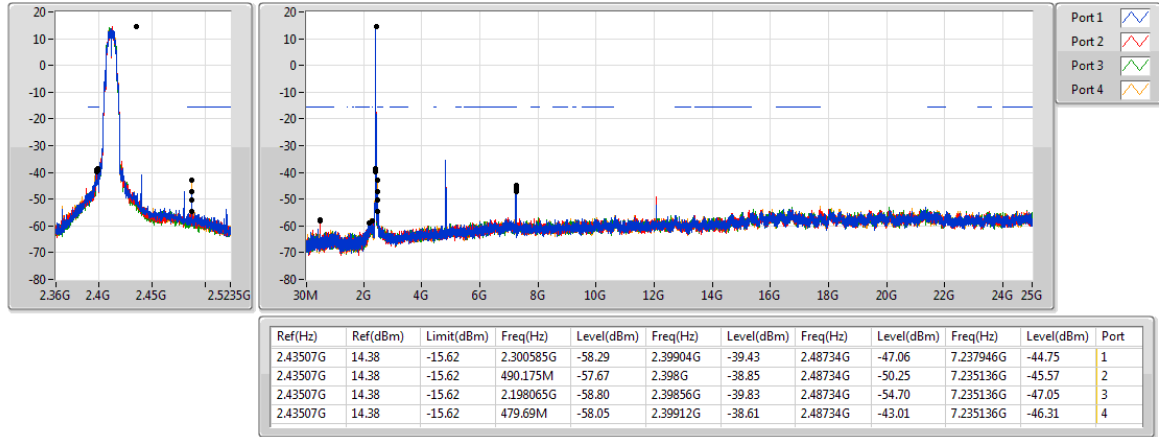
Appendix D

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
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.421877G	5.38	-24.62	489.145M	-56.43	2.39264G	-42.33	2.4883G	-53.44	21.412965G	-53.38	1
2422MHz	Pass	2.421877G	5.38	-24.62	505.175M	-57.11	2.39824G	-42.67	2.48622G	-53.60	16.631186G	-53.43	2
2422MHz	Pass	2.421877G	5.38	-24.62	478.84M	-56.43	2.39712G	-41.00	2.48798G	-53.68	21.426987G	-53.82	3
2422MHz	Pass	2.421877G	5.38	-24.62	473.115M	-56.10	2.39232G	-42.25	2.48382G	-54.26	16.757391G	-53.68	4
2437MHz	Pass	2.421877G	5.38	-24.62	481.13M	-56.00	2.3992G	-43.56	2.49134G	-48.72	24.873795G	-53.42	1
2437MHz	Pass	2.421877G	5.38	-24.62	490.29M	-56.16	2.39968G	-41.61	2.48446G	-49.66	16.718127G	-52.95	2
2437MHz	Pass	2.421877G	5.38	-24.62	481.13M	-56.73	2.39952G	-44.00	2.48798G	-50.22	16.670449G	-53.80	3
2437MHz	Pass	2.421877G	5.38	-24.62	488M	-56.70	2.3992G	-43.17	2.48766G	-50.19	21.763535G	-53.98	4
2452MHz	Pass	2.421877G	5.38	-24.62	475.405M	-56.38	2.39984G	-51.36	2.48398G	-50.31	16.757391G	-53.85	1
2452MHz	Pass	2.421877G	5.38	-24.62	496.015M	-57.27	2.39984G	-50.52	2.48414G	-49.82	16.381579G	-53.64	2
2452MHz	Pass	2.421877G	5.38	-24.62	489.145M	-56.30	2.3976G	-49.98	2.48382G	-49.30	17.424877G	-54.03	3
2452MHz	Pass	2.421877G	5.38	-24.62	485.71M	-56.21	2.39952G	-50.41	2.48558G	-50.22	16.347925G	-52.89	4

802.11b_Nss1,(1Mbps)_4TX

CSE NdB

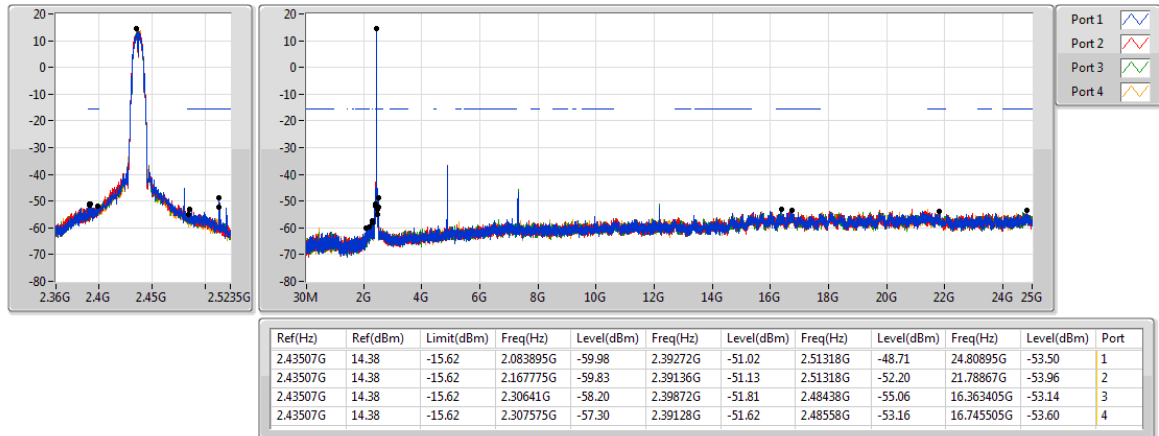
2412MHz



802.11b_Nss1,(1Mbps)_4TX

CSE NdB

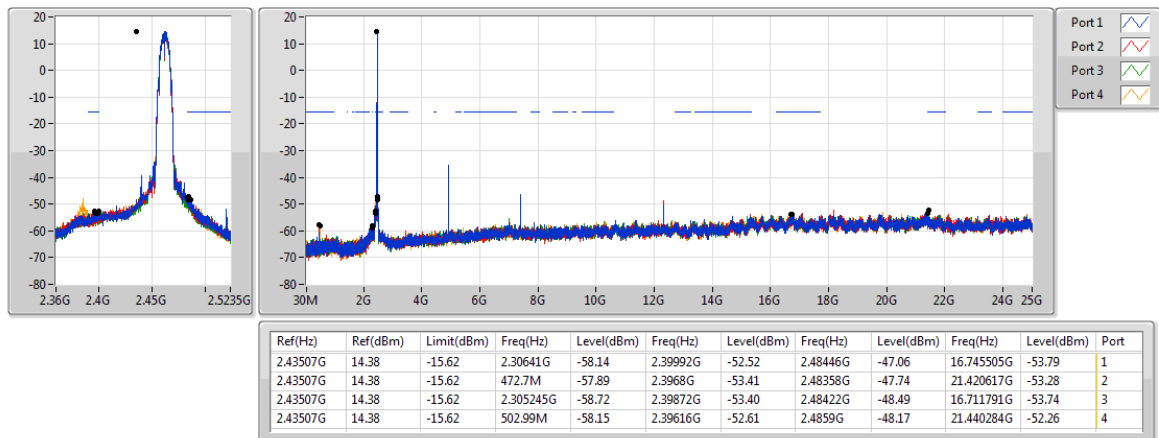
2437MHz



802.11b_Nss1,(1Mbps)_4TX

CSE NdB

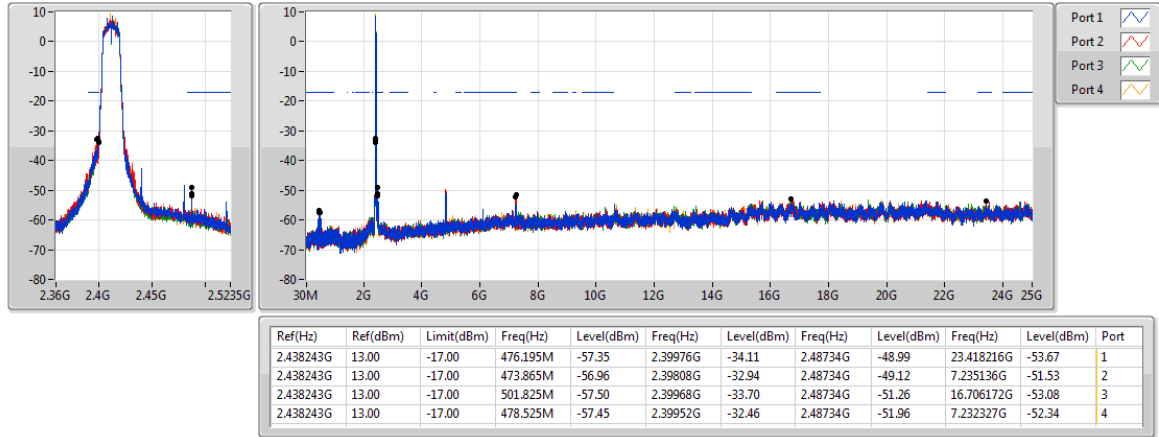
2462MHz



802.11g_Nss1,(6Mbps)_4TX

CSE NdB

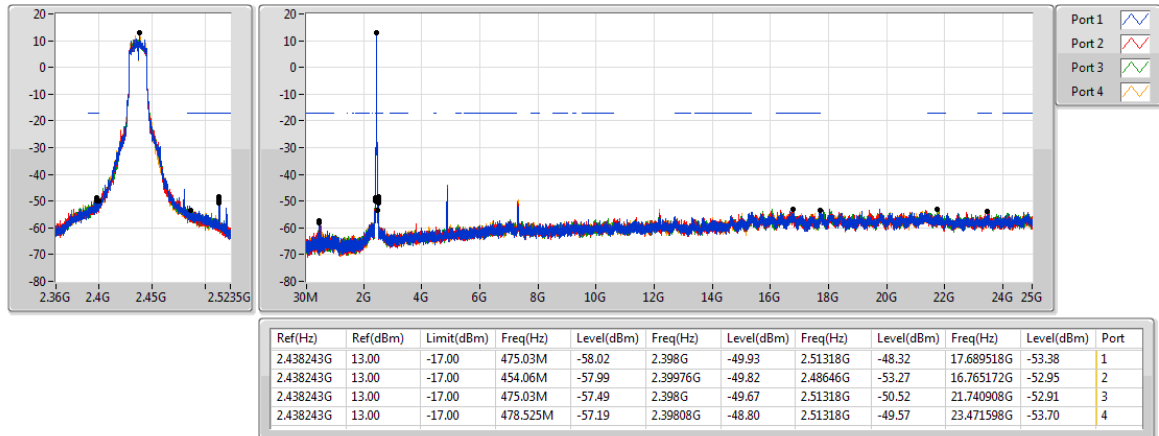
2412MHz



802.11g_Nss1,(6Mbps)_4TX

CSE NdB

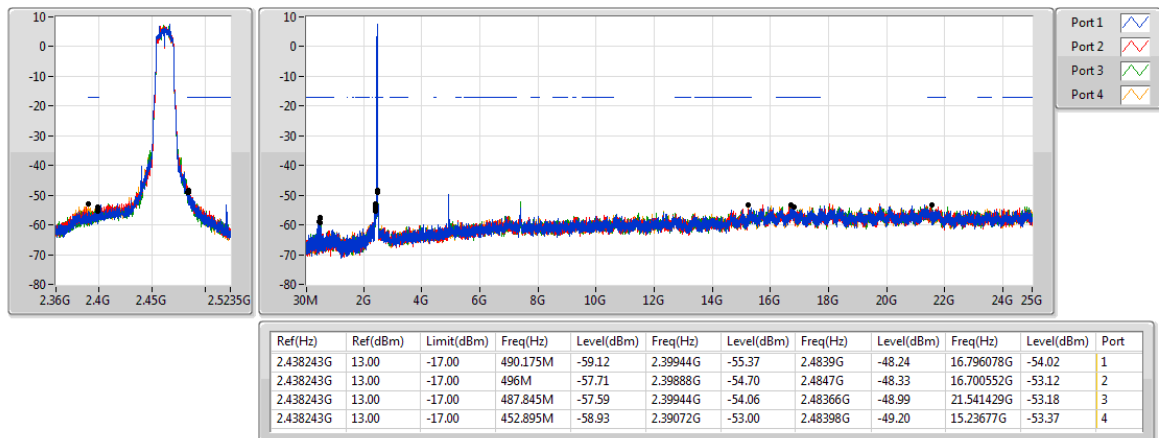
2437MHz



802.11g_Nss1,(6Mbps)_4TX

CSE NdB

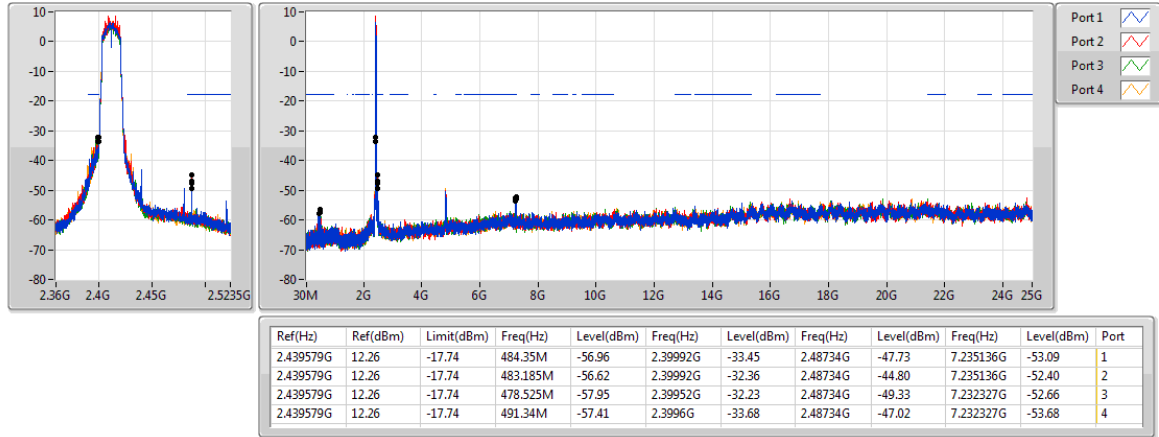
2462MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

CSE NdB

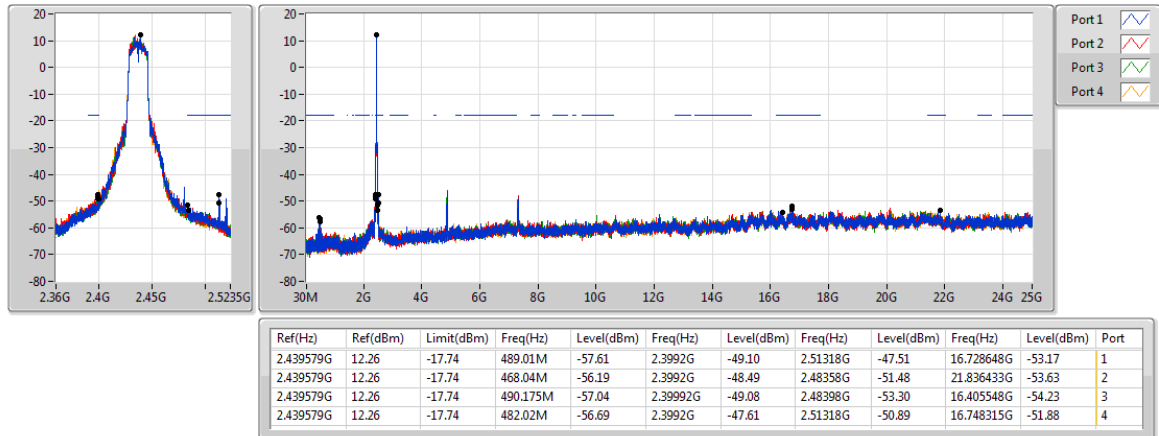
2412MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

CSE NdB

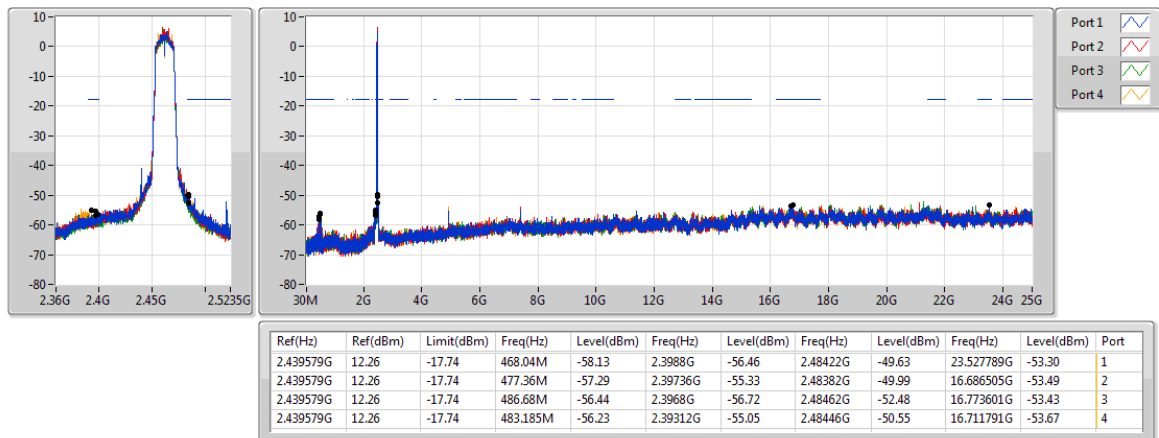
2437MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

CSE NdB

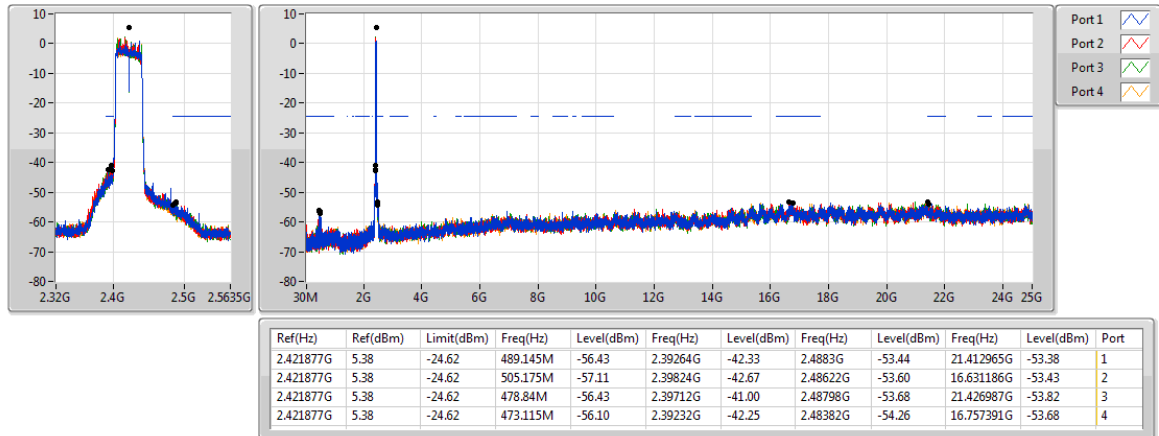
2462MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

CSE NdB

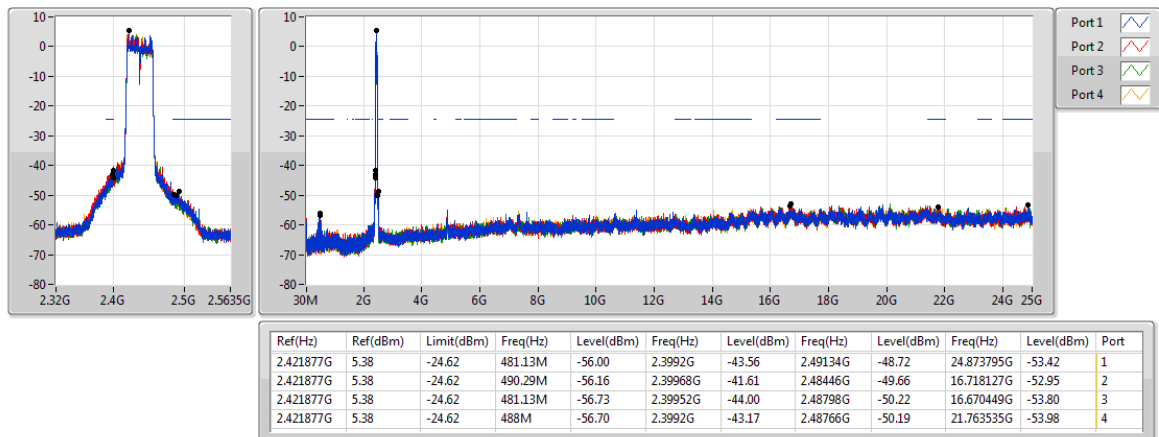
2422MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

CSE NdB

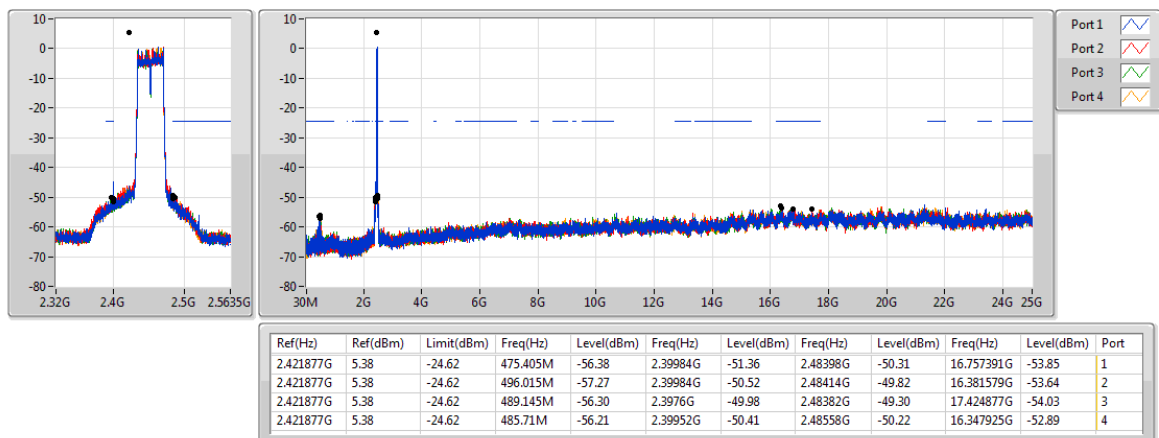
2437MHz

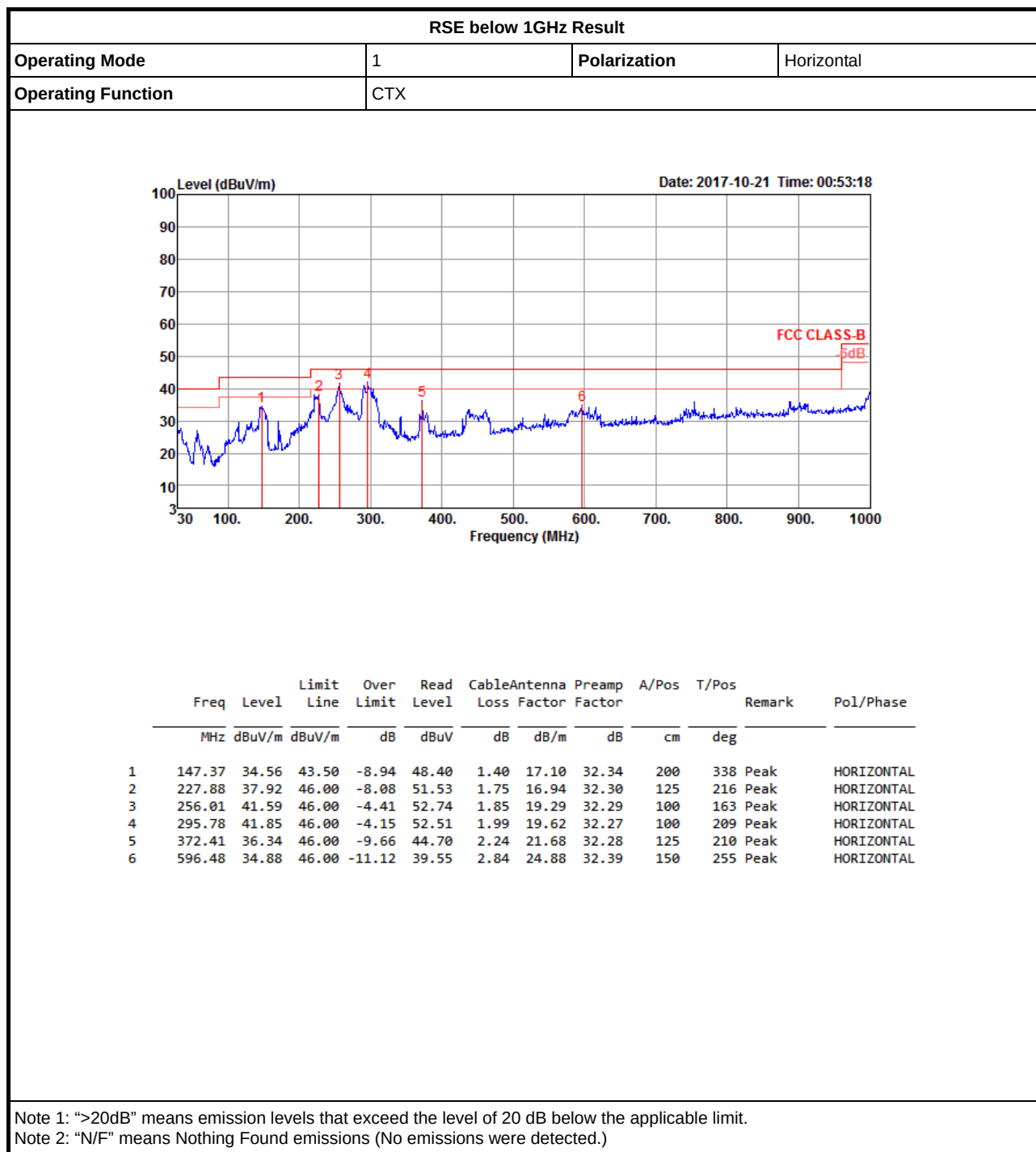


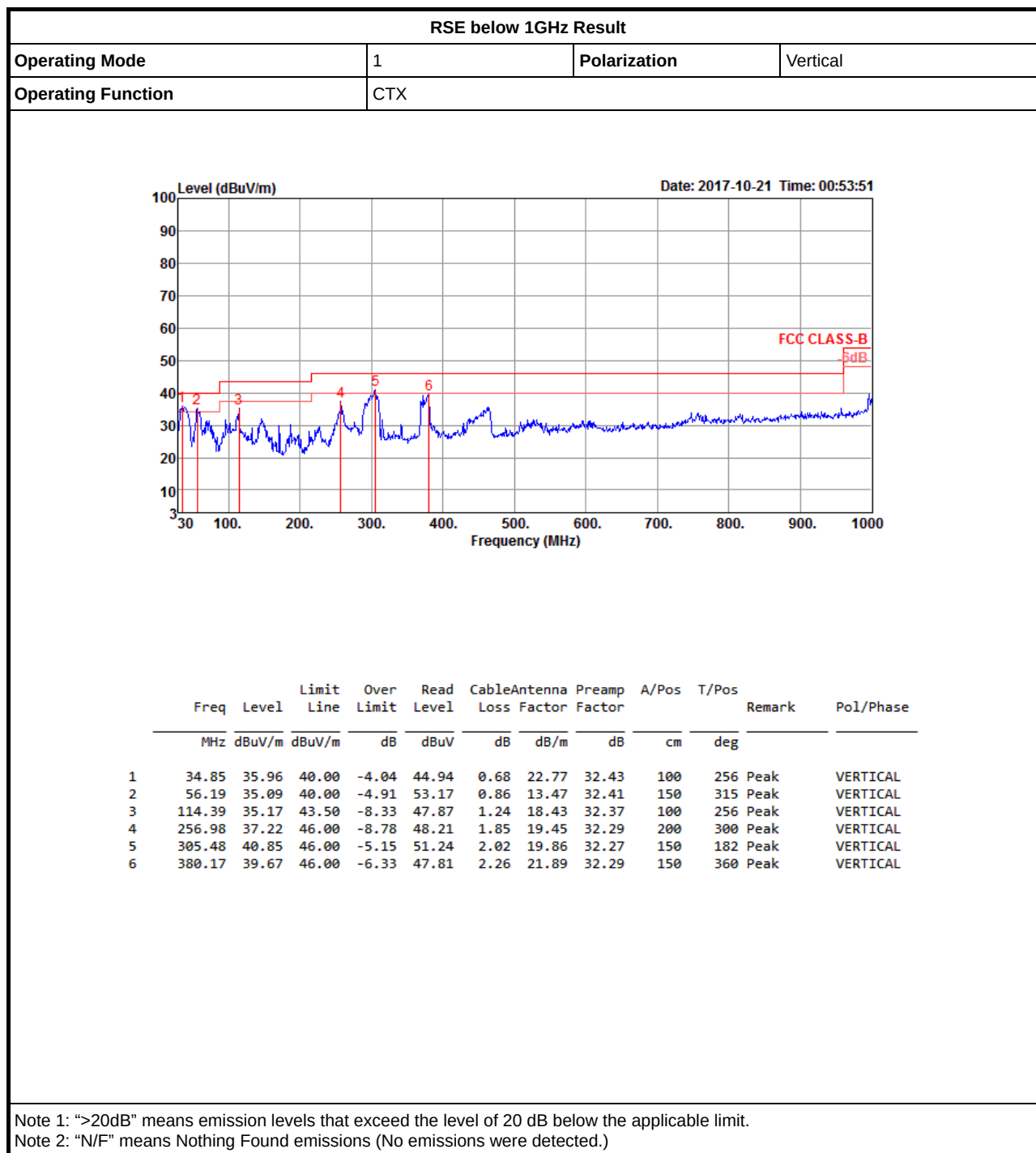
802.11ac VHT40-BF_Nss1,(MCS0)_4TX

CSE NdB

2452MHz









RSE TX above 1GHz Result

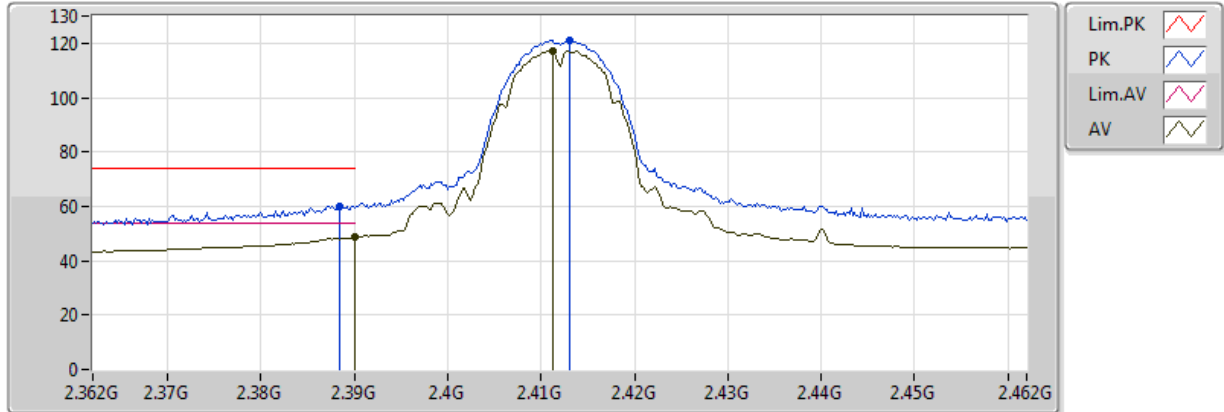
Appendix E.2

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	Pass	AV	2.389998G	52.98	54.00	-1.02	30.95	3	Vertical	0	2.20	-

802.11b_Nss1,(1Mbps)_4TX

2412MHz_TX

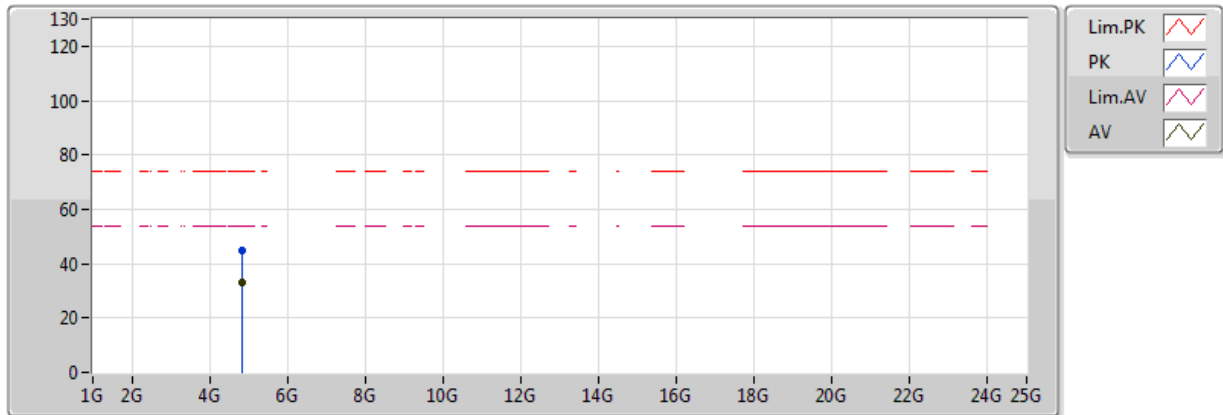


20171011
EUT_Z_4TX
Setting 86
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	2.389998G	48.51	54.00	-5.49	30.95	3	Vertical	94	1.54	-				
AV	2.4112G	116.90	Inf	-Inf	30.93	3	Vertical	94	1.54	-				
PK	2.3884G	59.97	74.00	-14.03	30.96	3	Vertical	94	1.54	-				
PK	2.413G	121.14	Inf	-Inf	30.93	3	Vertical	94	1.54	-				

802.11b_Nss1,(1Mbps)_4TX

2412MHz_TX

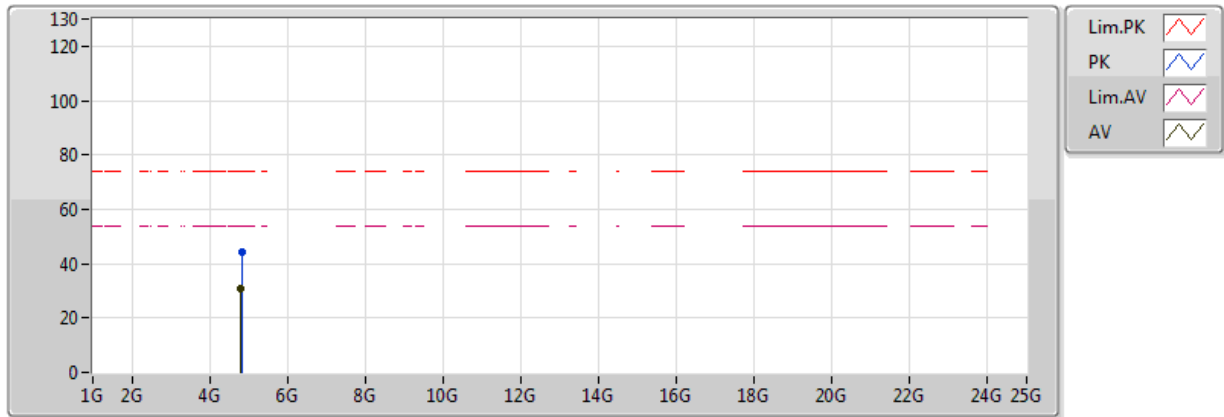


20171011
EUT_Z_4TX
Setting 86
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.82404G	32.81	54.00	-21.19	3.23	3	Vertical	136	2.58	-				
PK	4.83236G	44.67	74.00	-29.33	3.25	3	Vertical	136	2.58	-				

802.11b_Nss1,(1Mbps)_4TX

2412MHz_TX

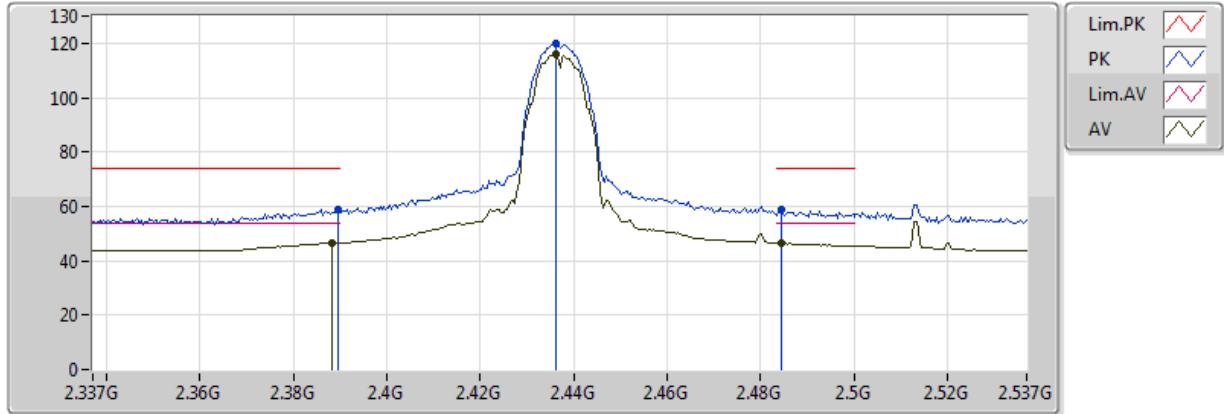


20171011
EUT_Z_4TX
Setting 86
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.81432G	30.75	54.00	-23.25	3.20	3	Horizontal	217	1.49	-				
PK	4.82116G	44.19	74.00	-29.81	3.22	3	Horizontal	217	1.49	-				

802.11b_Nss1,(1Mbps)_4TX

2437MHz_TX

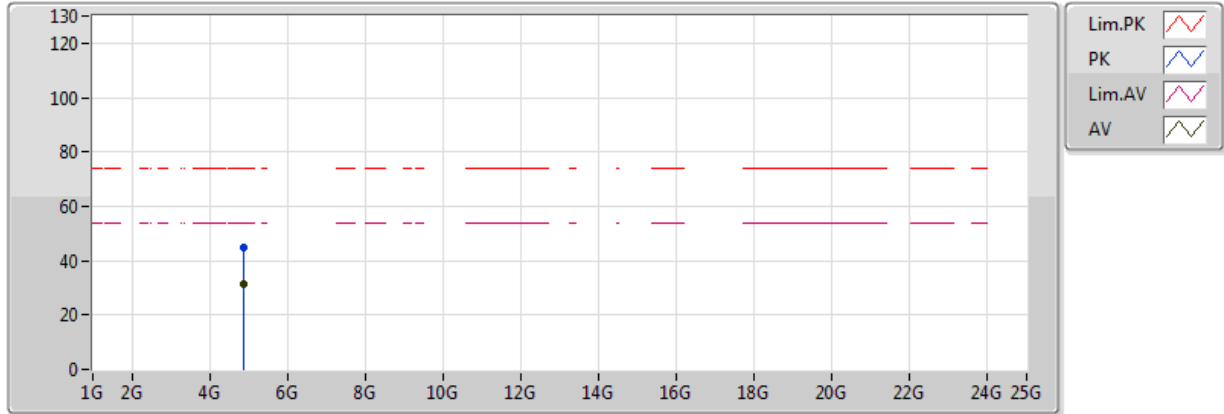


20171011
EUT_Z_4TX
Setting 87
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.3882G	46.52	54.00	-7.48	30.96	3	Vertical	95	2.91	-				
AV	2.4362G	115.85	Inf	-Inf	30.91	3	Vertical	95	2.91	-				
AV	2.4846G	46.32	54.00	-7.68	30.86	3	Vertical	95	2.91	-				
PK	2.3894G	58.61	74.00	-15.39	30.95	3	Vertical	95	2.91	-				
PK	2.4362G	119.76	Inf	-Inf	30.91	3	Vertical	95	2.91	-				
PK	2.4846G	58.56	74.00	-15.44	30.86	3	Vertical	95	2.91	-				

802.11b_Nss1,(1Mbps)_4TX

2437MHz_TX

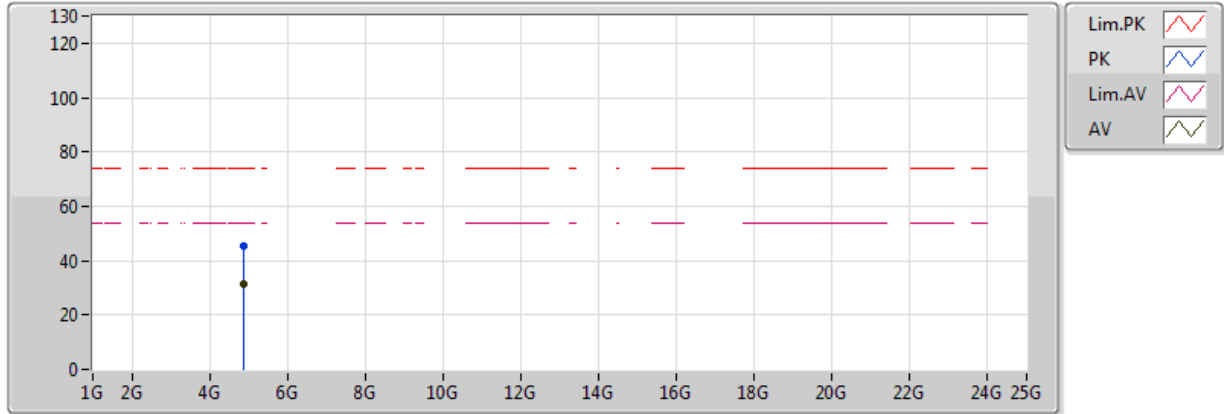


20171011
EUT_Z_4TX
Setting 87
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.8832G	31.36	54.00	-22.64	3.42	3	Vertical	61	1.50	-				
PK	4.88036G	44.66	74.00	-29.34	3.41	3	Vertical	61	1.50	-				

802.11b_Nss1,(1Mbps)_4TX

2437MHz_TX

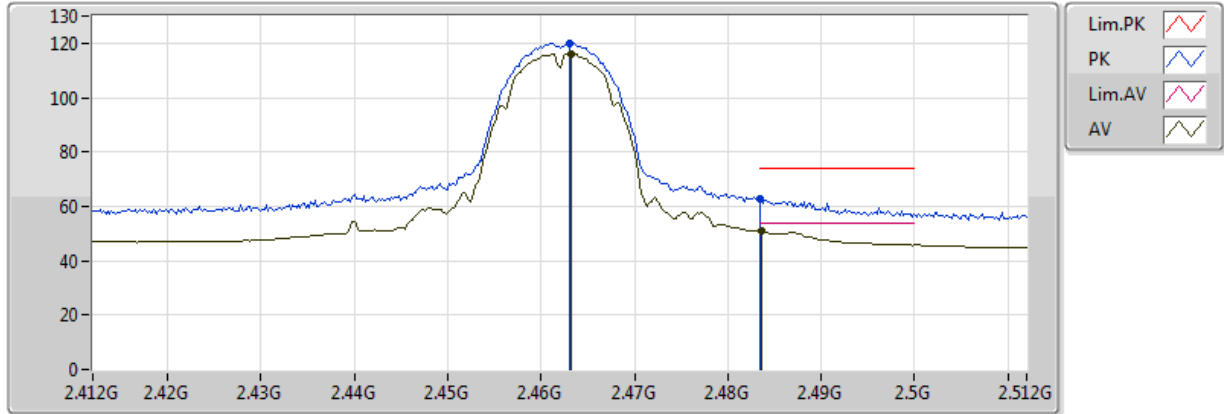


20171011
EUT_Z_4TX
Setting 87
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.88132G	31.28	54.00	-22.72	3.41	3	Horizontal	202	2.19	-				
PK	4.88136G	45.41	74.00	-28.59	3.41	3	Horizontal	202	2.19	-				

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

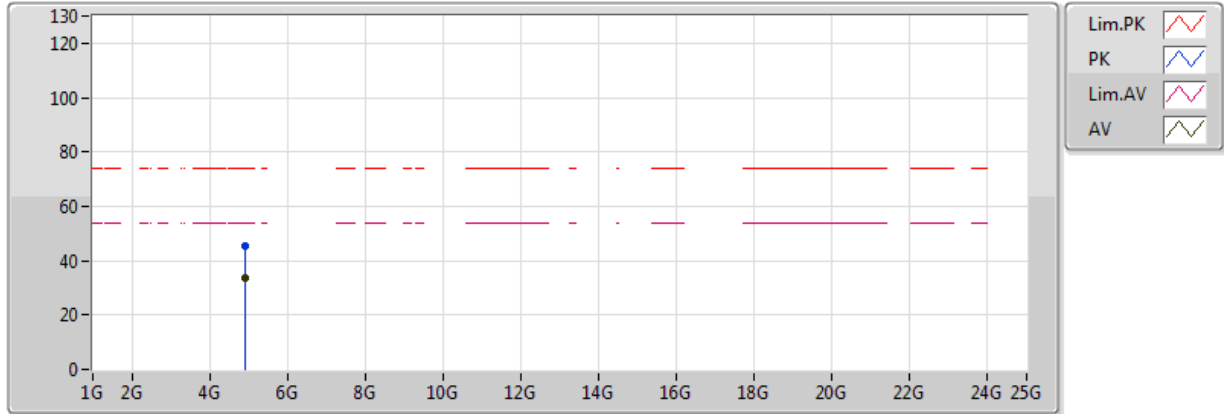


20171011
EUT_Z_4TX
Setting 88
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	2.4632G	116.05	Inf	-Inf	30.88	3	Vertical	356	1.94	-				
AV	2.4836G	50.92	54.00	-3.08	30.86	3	Vertical	356	1.94	-				
PK	2.463G	120.17	Inf	-Inf	30.88	3	Vertical	356	1.94	-				
PK	2.483502G	62.75	74.00	-11.25	30.86	3	Vertical	356	1.94	-				

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

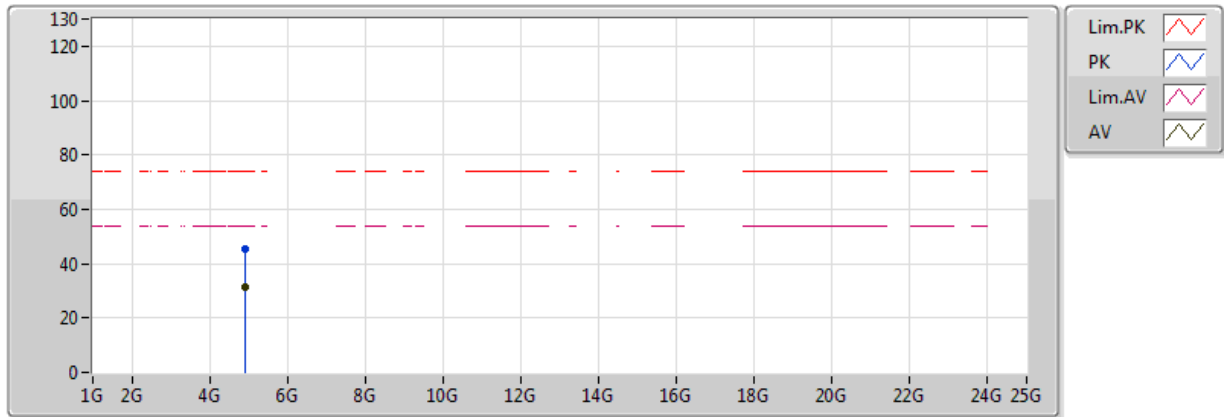


20171011
EUT_Z_4TX
Setting 88
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.92404G	33.37	54.00	-20.63	3.55	3	Vertical	108	2.40	-				
PK	4.92392G	45.54	74.00	-28.46	3.55	3	Vertical	108	2.40	-				

802.11b_Nss1,(1Mbps)_4TX

2462MHz_TX

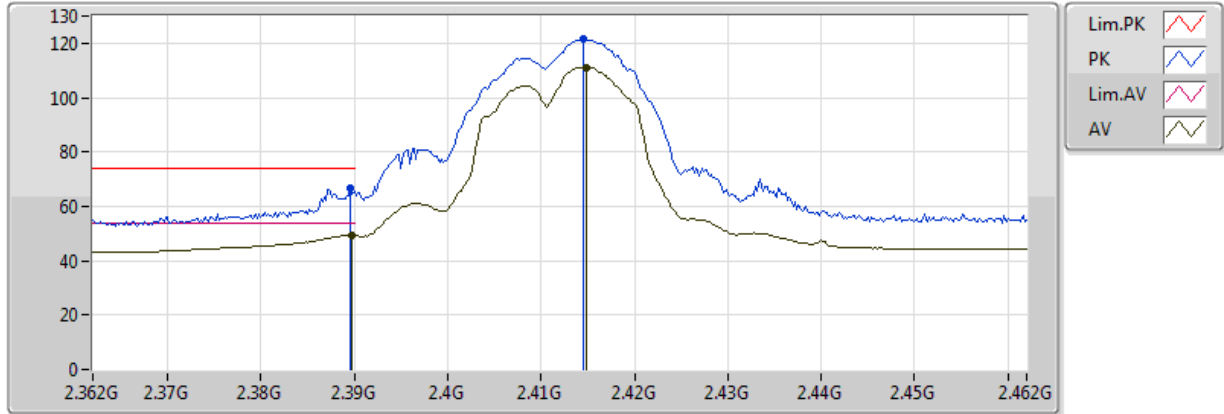


20171011
EUT_Z_4TX
Setting 88
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.925G	31.56	54.00	-22.44	3.56	3	Horizontal	204	2.61	-				
PK	4.92228G	45.61	74.00	-28.39	3.55	3	Horizontal	204	2.61	-				

802.11g_Nss1,(6Mbps)_4TX

2412MHz_TX

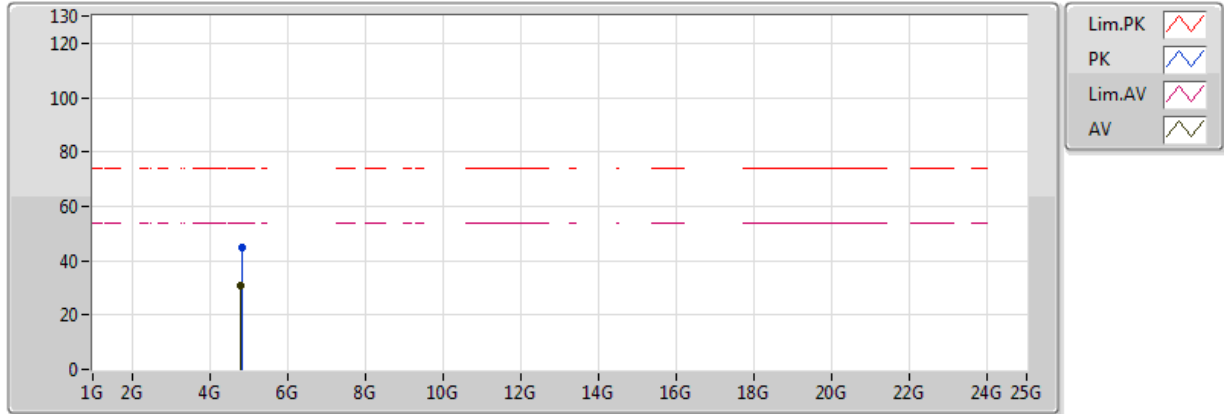


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	2.3898G	49.37	54.00	-4.63	30.95	3	Vertical	173	1.82	-				
AV	2.4148G	111.16	Inf	-Inf	30.93	3	Vertical	173	1.82	-				
PK	2.3896G	66.76	74.00	-7.24	30.95	3	Vertical	173	1.82	-				
PK	2.4146G	121.66	Inf	-Inf	30.93	3	Vertical	173	1.82	-				

802.11g_Nss1,(6Mbps)_4TX

2412MHz_TX

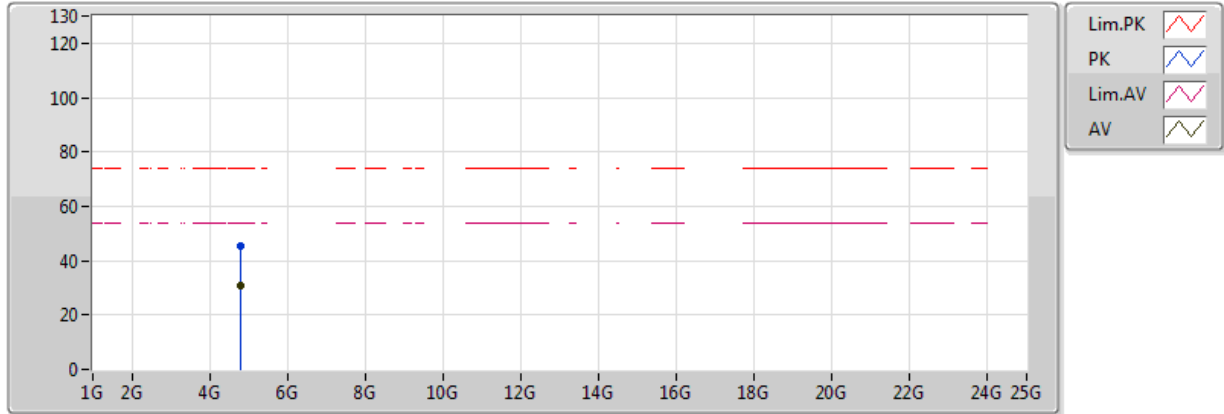


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.81456G	30.70	54.00	-23.30	3.20	3	Vertical	155	1.73	-				
PK	4.82396G	45.10	74.00	-28.90	3.23	3	Vertical	155	1.73	-				

802.11g_Nss1,(6Mbps)_4TX

2412MHz_TX

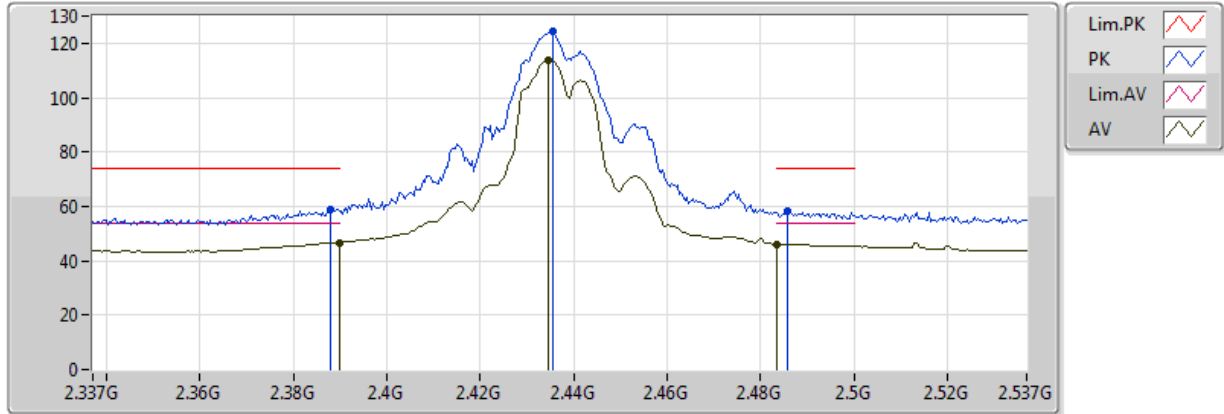


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.81436G	30.69	54.00	-23.31	3.20	3	Horizontal	96	1.00	-				
PK	4.814G	45.38	74.00	-28.62	3.19	3	Horizontal	96	1.00	-				

802.11g_Nss1,(6Mbps)_4TX

2437MHz_TX

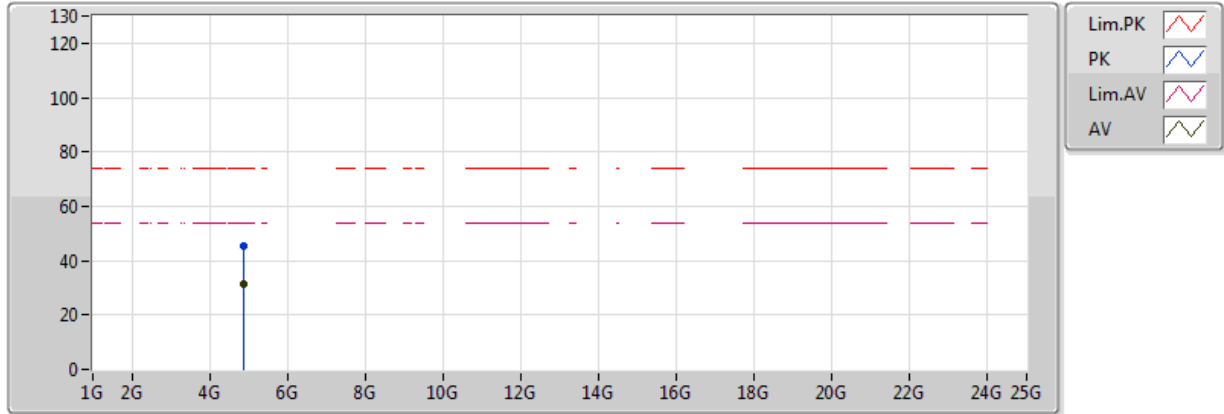


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.3898G	46.71	54.00	-7.29	30.95	3	Vertical	346	2.55	-				
AV	2.4346G	113.59	Inf	-Inf	30.91	3	Vertical	346	2.55	-				
AV	2.483502G	46.16	54.00	-7.84	30.86	3	Vertical	346	2.55	-				
PK	2.3878G	58.91	74.00	-15.09	30.96	3	Vertical	346	2.55	-				
PK	2.4354G	124.16	Inf	-Inf	30.91	3	Vertical	346	2.55	-				
PK	2.4858G	58.02	74.00	-15.98	30.86	3	Vertical	346	2.55	-				

802.11g_Nss1,(6Mbps)_4TX

2437MHz_TX

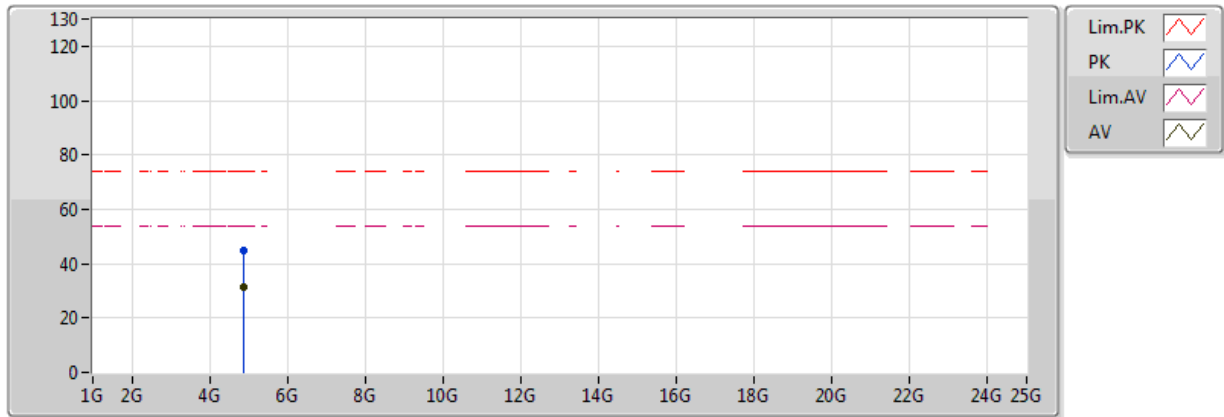


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.88396G	31.24	54.00	-22.76	3.42	3	Vertical	10	1.23	-				
PK	4.88144G	45.40	74.00	-28.60	3.41	3	Vertical	10	1.23	-				

802.11g_Nss1,(6Mbps)_4TX

2437MHz_TX

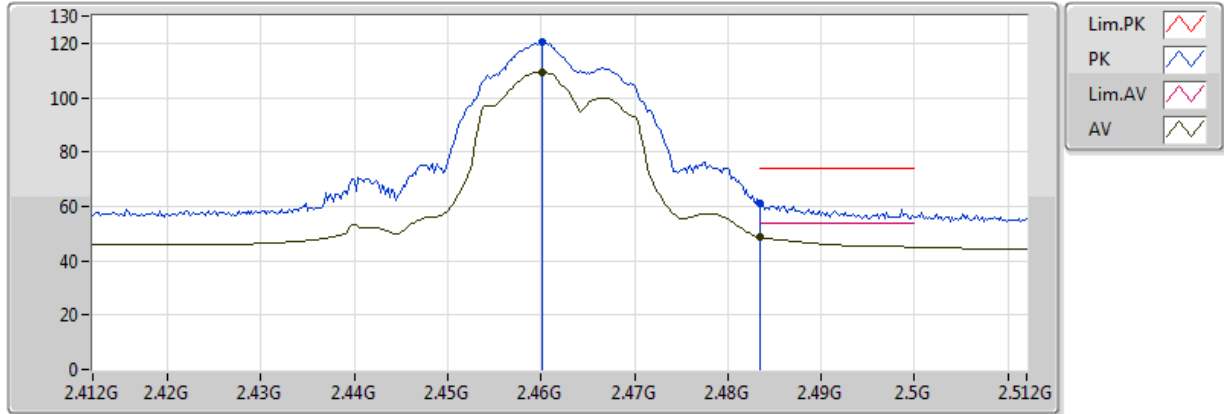


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.88348G	31.33	54.00	-22.67	3.42	3	Horizontal	156	1.44	-				
PK	4.87024G	44.80	74.00	-29.20	3.37	3	Horizontal	156	1.44	-				

802.11g_Nss1,(6Mbps)_4TX

2462MHz_TX

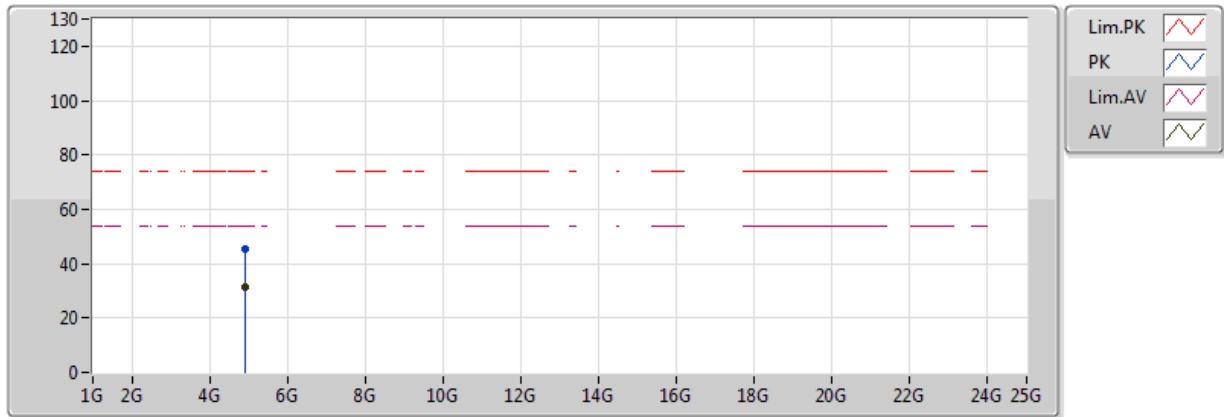


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	2.4602G	109.27	Inf	-Inf	30.89	3	Vertical	346	2.42	-				
AV	2.483502G	48.54	54.00	-5.46	30.86	3	Vertical	346	2.42	-				
PK	2.4602G	120.40	Inf	-Inf	30.89	3	Vertical	346	2.42	-				
PK	2.483502G	61.14	74.00	-12.86	30.86	3	Vertical	346	2.42	-				

802.11g_Nss1,(6Mbps)_4TX

2462MHz_TX

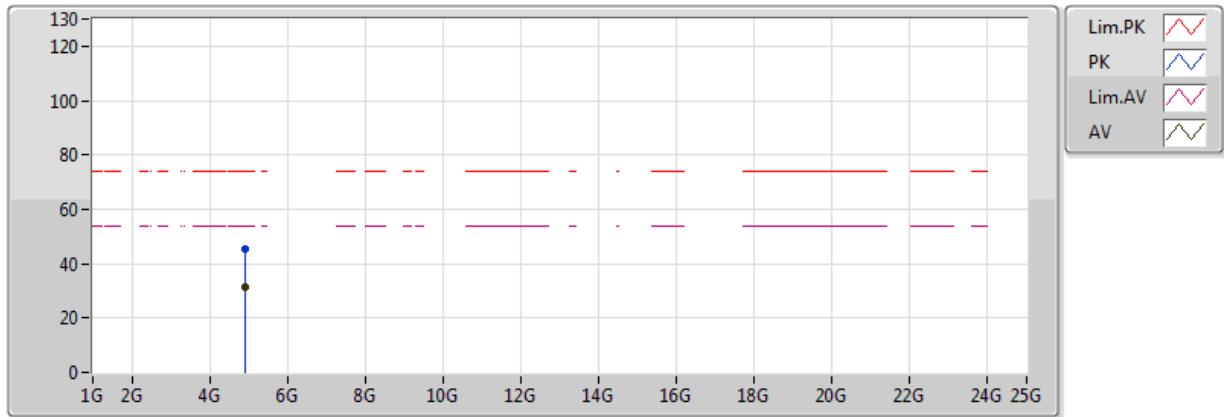


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.9252G	31.35	54.00	-22.65	3.56	3	Vertical	293	2.42	-				
PK	4.91916G	45.11	74.00	-28.89	3.54	3	Vertical	293	2.42	-				

802.11g_Nss1,(6Mbps)_4TX

2462MHz_TX

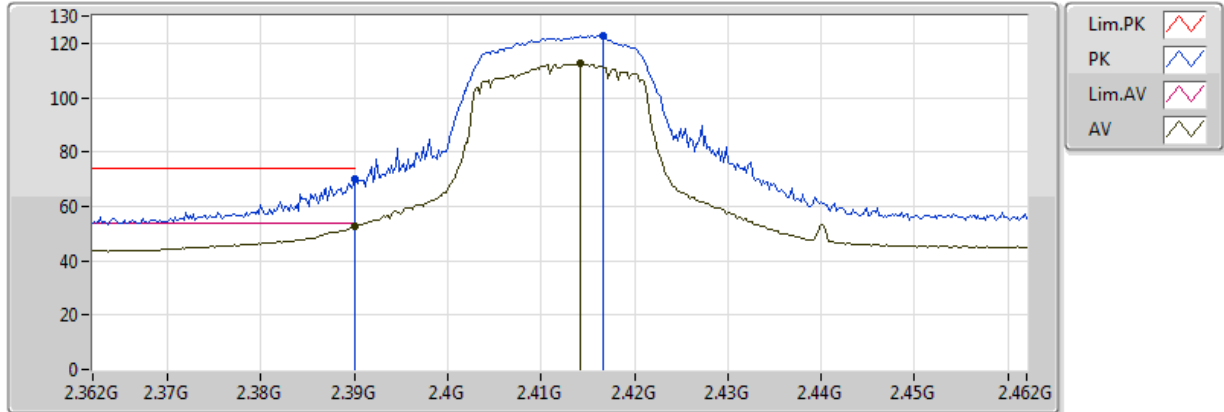


20171011
EUT_Z_4TX
Setting 81
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.9246G	31.35	54.00	-22.65	3.55	3	Horizontal	42	2.08	-				
PK	4.92728G	45.24	74.00	-28.76	3.56	3	Horizontal	42	2.08	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2412MHz_TX

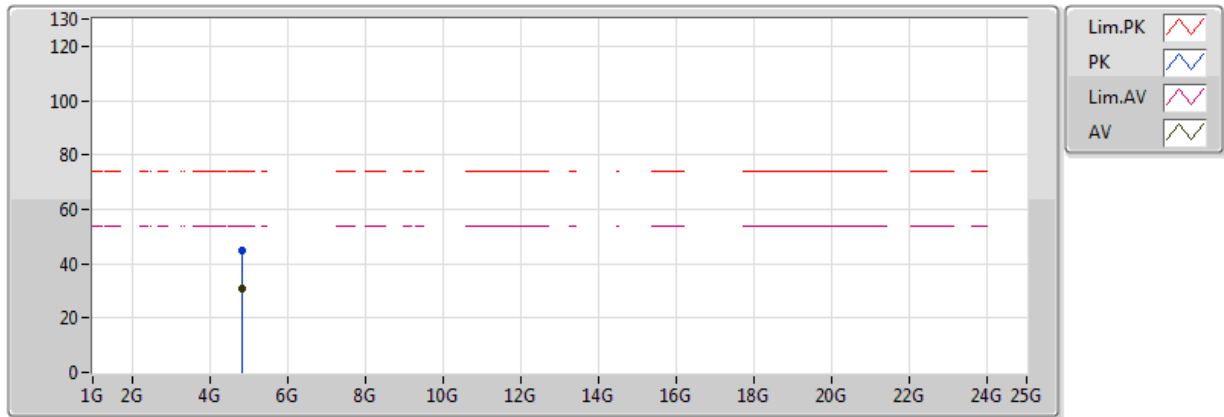


20171011
EUT_Z_4TX
Setting 80
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.389998G	52.59	54.00	-1.41	30.95	3	Vertical	83	2.95	-				
AV	2.4142G	112.35	Inf	-Inf	30.93	3	Vertical	83	2.95	-				
PK	2.389998G	70.03	74.00	-3.97	30.95	3	Vertical	83	2.95	-				
PK	2.4166G	122.99	Inf	-Inf	30.93	3	Vertical	83	2.95	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2412MHz_TX

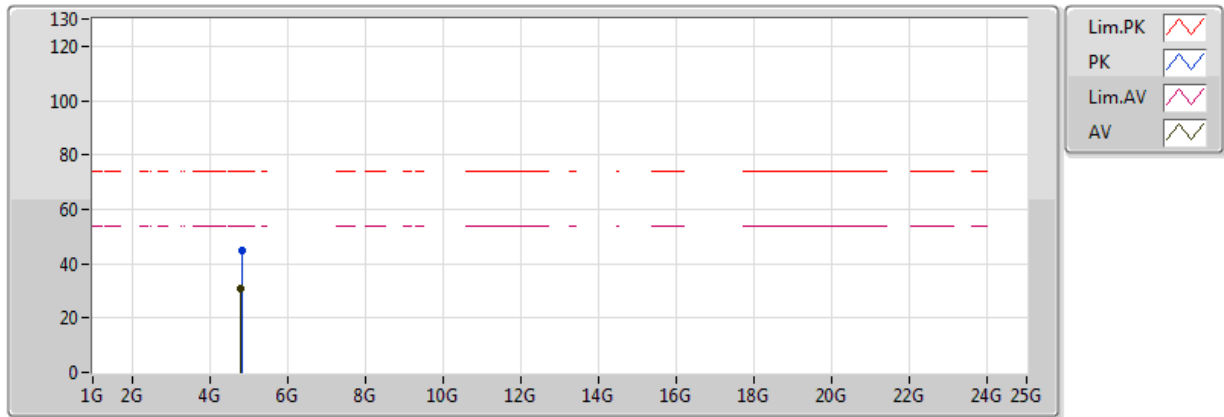


20171011
EUT_Z_4TX
Setting 80
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.82712G	30.94	54.00	-23.06	3.24	3	Vertical	204	1.60	-				
PK	4.82344G	44.96	74.00	-29.04	3.23	3	Vertical	204	1.60	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2412MHz_TX

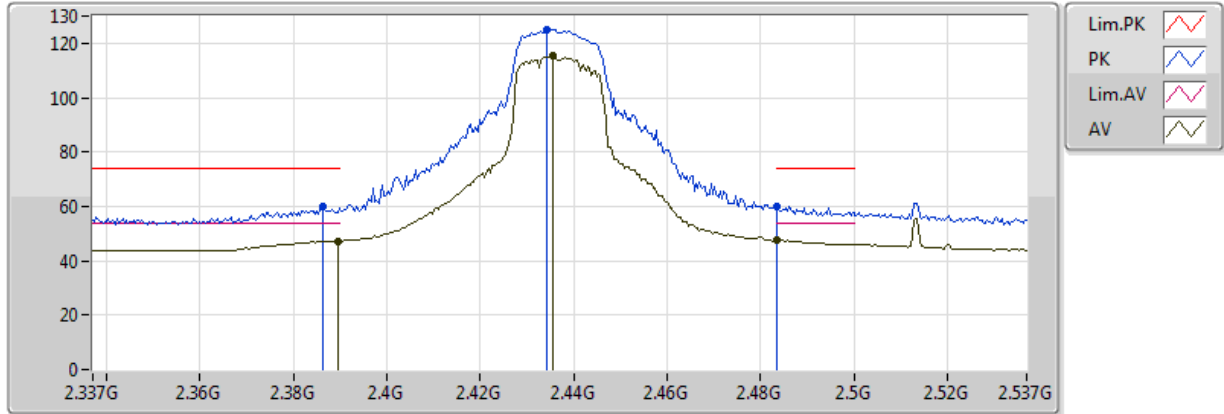


20171011
EUT_Z_4TX
Setting 80
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.81436G	30.93	54.00	-23.07	3.20	3	Horizontal	150	2.01	-				
PK	4.823G	44.91	74.00	-29.09	3.22	3	Horizontal	150	2.01	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2437MHz_TX

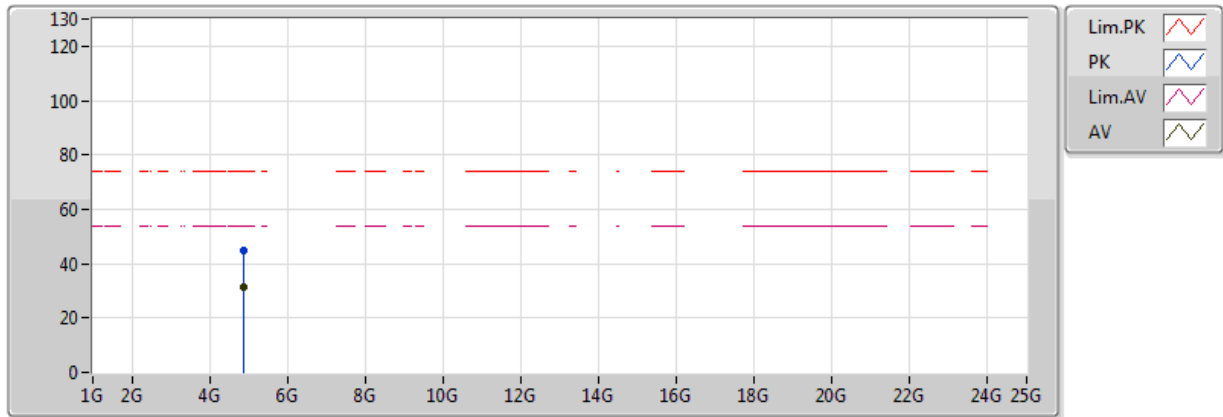


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.3894G	47.20	54.00	-6.80	30.95	3	Vertical	263	2.55	-				
AV	2.4354G	115.31	Inf	-Inf	30.91	3	Vertical	263	2.55	-				
AV	2.483502G	47.51	54.00	-6.49	30.86	3	Vertical	263	2.55	-				
PK	2.3862G	60.22	74.00	-13.78	30.96	3	Vertical	263	2.55	-				
PK	2.4342G	125.13	Inf	-Inf	30.91	3	Vertical	263	2.55	-				
PK	2.483502G	60.08	74.00	-13.92	30.86	3	Vertical	263	2.55	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2437MHz_TX

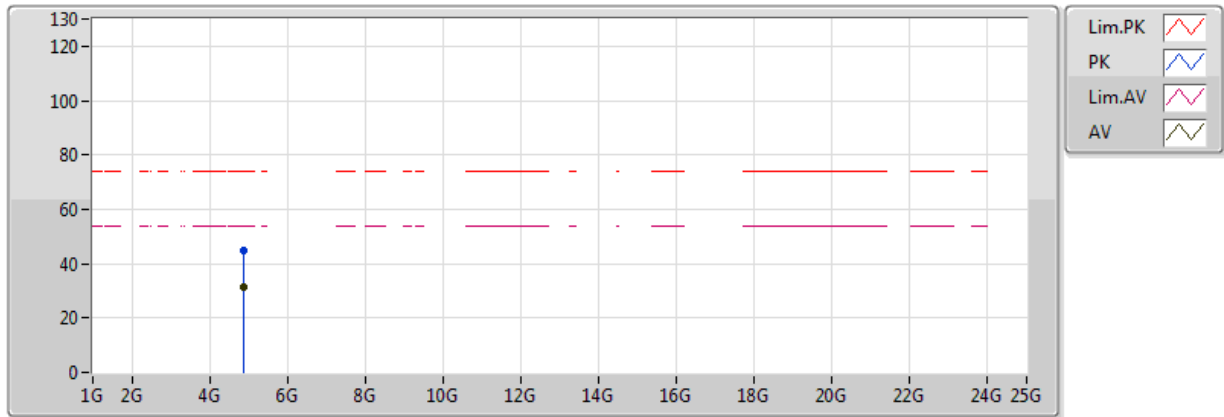


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.88392G	31.54	54.00	-22.46	3.42	3	Vertical	288	2.27	-				
PK	4.87808G	44.94	74.00	-29.06	3.40	3	Vertical	288	2.27	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2437MHz_TX

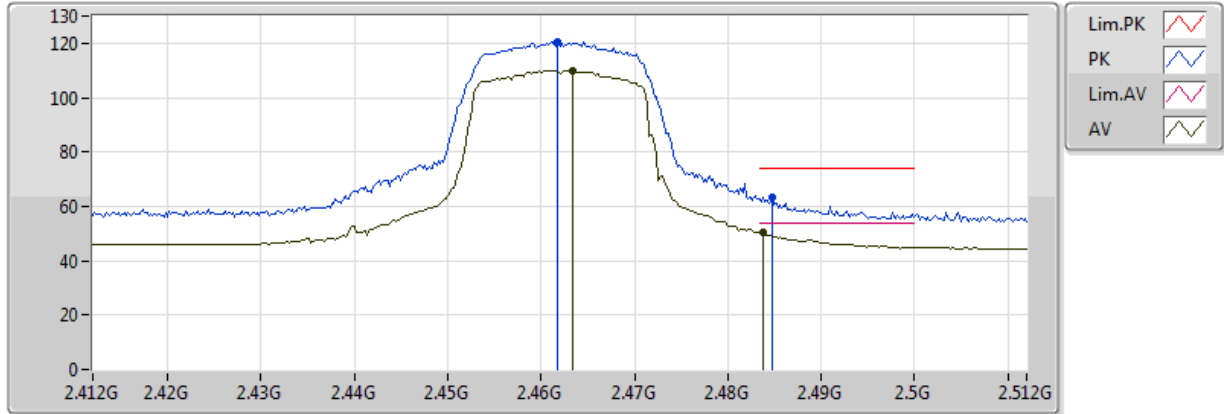


20171011
EUT_Z_4TX
Setting 95
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.88396G	31.51	54.00	-22.49	3.42	3	Horizontal	172	1.87	-				
PK	4.87444G	44.70	74.00	-29.30	3.39	3	Horizontal	172	1.87	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2462MHz_TX

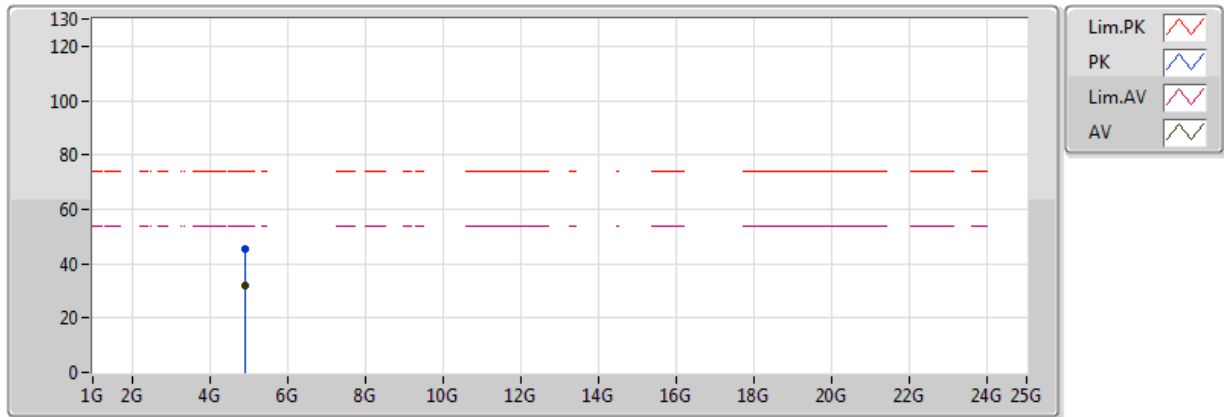


20171011
EUT_Z_4TX
Setting 73
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	2.4634G	109.94	Inf	-Inf	30.88	3	Vertical	98	2.77	-				
AV	2.4838G	50.22	54.00	-3.78	30.86	3	Vertical	98	2.77	-				
PK	2.4618G	120.65	Inf	-Inf	30.88	3	Vertical	98	2.77	-				
PK	2.4848G	63.59	74.00	-10.41	30.86	3	Vertical	98	2.77	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2462MHz_TX

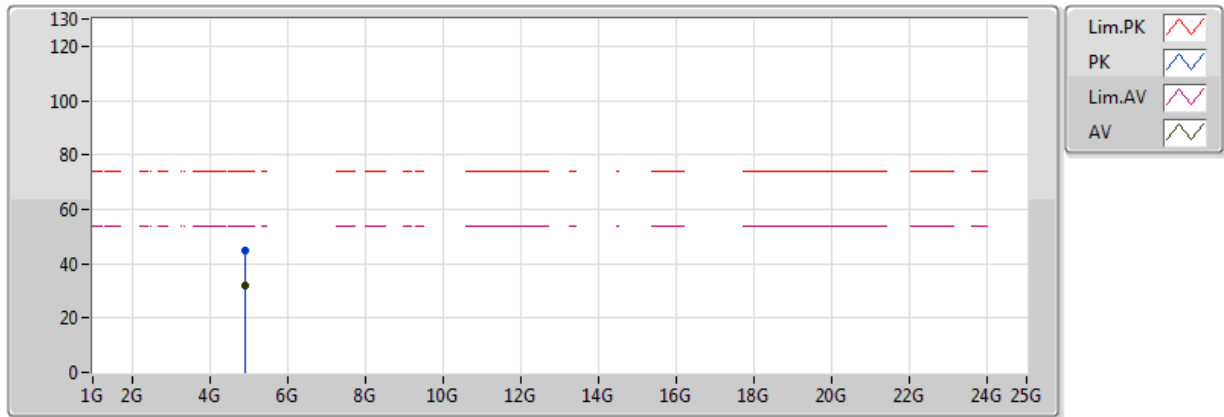


20171011
EUT_Z_4TX
Setting 73
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.92388G	31.72	54.00	-22.28	3.55	3	Vertical	17	1.70	-				
PK	4.92216G	45.20	74.00	-28.80	3.55	3	Vertical	17	1.70	-				

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

2462MHz_TX

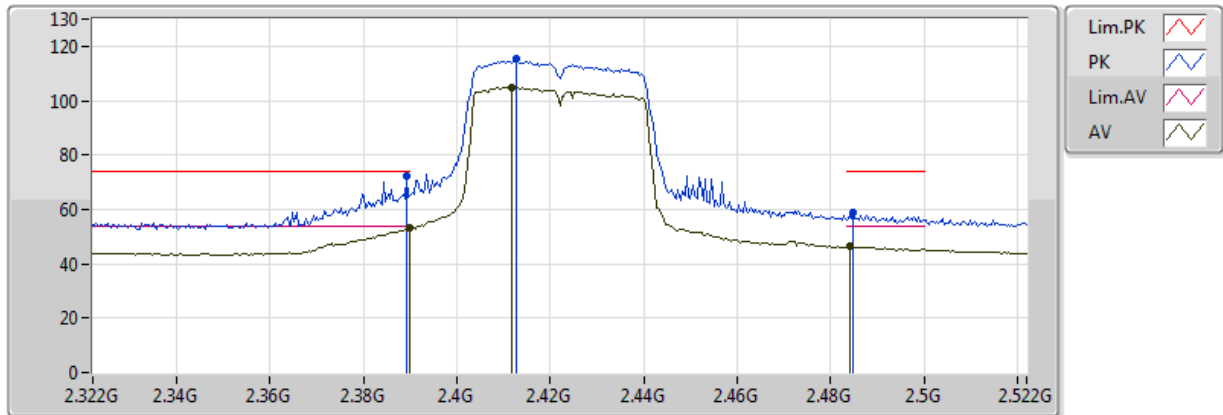


20171011
EUT_Z_4TX
Setting 73
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.92484G	31.70	54.00	-22.30	3.55	3	Horizontal	131	2.23	-				
PK	4.92696G	45.10	74.00	-28.90	3.56	3	Horizontal	131	2.23	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2422MHz_TX

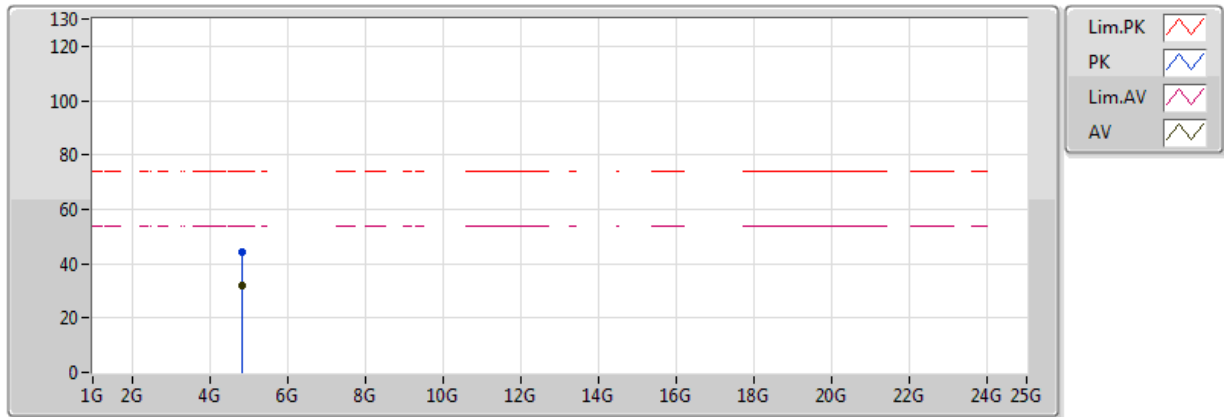


20171002
EUT_Z_4TX
Setting 64
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.389998G	52.98	54.00	-1.02	30.95	3	Vertical	0	2.20	-				
AV	2.4116G	104.90	Inf	-Inf	30.93	3	Vertical	0	2.20	-				
AV	2.484G	46.32	54.00	-7.68	30.86	3	Vertical	0	2.20	-				
PK	2.3892G	72.48	74.00	-1.52	30.95	3	Vertical	0	2.20	-				
PK	2.4128G	115.29	Inf	-Inf	30.93	3	Vertical	0	2.20	-				
PK	2.4848G	58.69	74.00	-15.31	30.86	3	Vertical	0	2.20	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2422MHz_TX

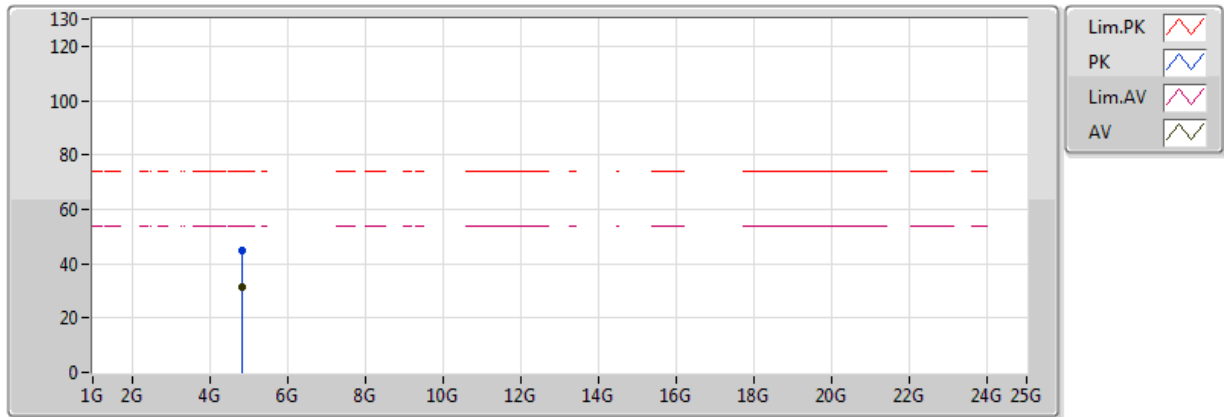


20171011
EUT_Z_4TX
Setting 64
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.84456G	31.75	54.00	-22.25	3.29	3	Vertical	13	2.06	-				
PK	4.84684G	44.32	74.00	-29.68	3.30	3	Vertical	13	2.06	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2422MHz_TX

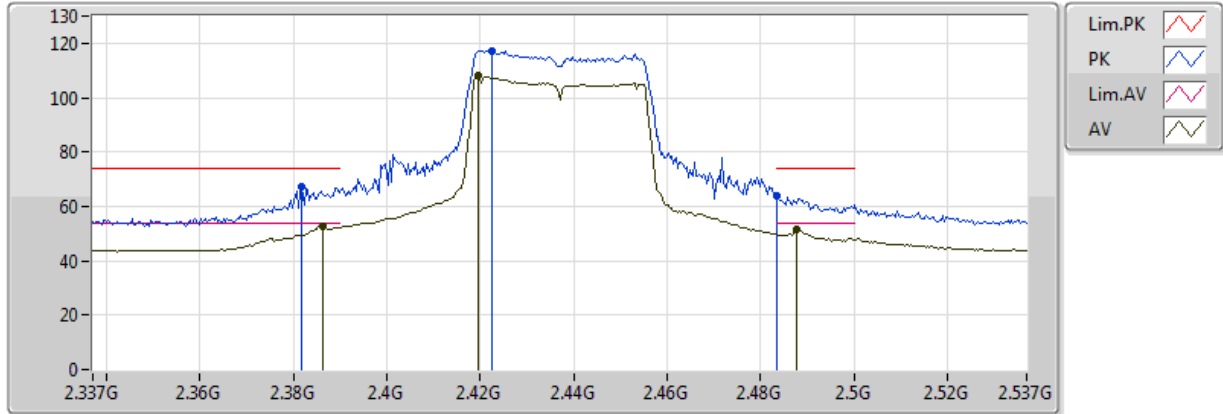


20171011
EUT_Z_4TX
Setting 64
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.84028G	31.63	54.00	-22.37	3.28	3	Horizontal	152	1.08	-				
PK	4.84932G	44.95	74.00	-29.05	3.31	3	Horizontal	152	1.08	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2437MHz_TX

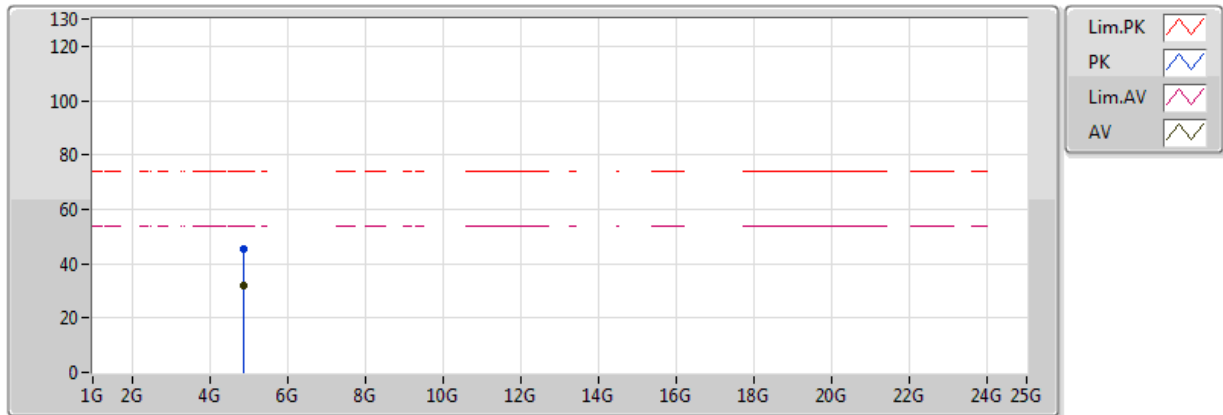


20171011
EUT_Z_4TX
Setting 74
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3862G	52.85	54.00	-1.15	30.96	3	Vertical	173	2.52	-
AV	2.4194G	108.00	Inf	-Inf	30.92	3	Vertical	173	2.52	-
AV	2.4878G	51.38	54.00	-2.62	30.86	3	Vertical	173	2.52	-
PK	2.3818G	67.46	74.00	-6.54	30.96	3	Vertical	173	2.52	-
PK	2.4226G	117.30	Inf	-Inf	30.92	3	Vertical	173	2.52	-
PK	2.483502G	64.07	74.00	-9.93	30.86	3	Vertical	173	2.52	-

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2437MHz_TX

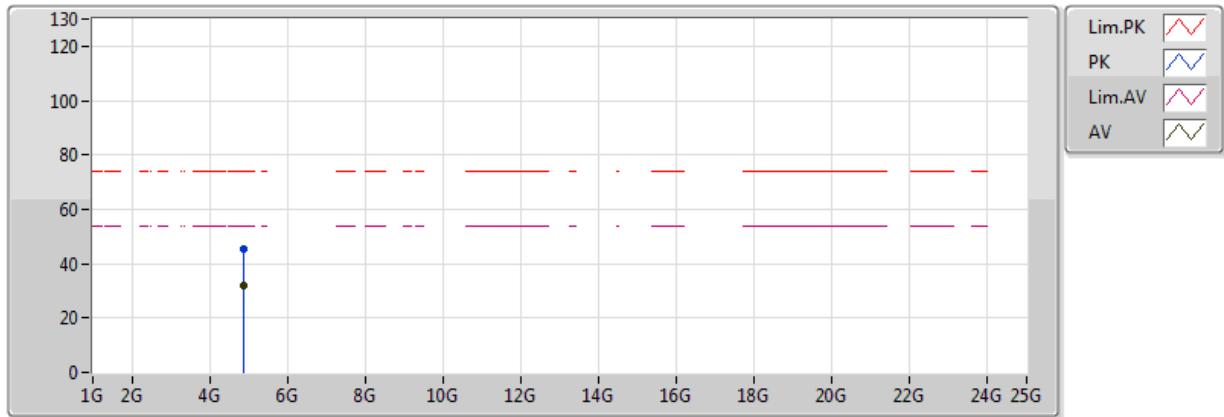


20171011
EUT_Z_4TX
Setting 74
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.87228G	31.93	54.00	-22.07	3.38	3	Vertical	192	1.83	-				
PK	4.88144G	45.51	74.00	-28.49	3.41	3	Vertical	192	1.83	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2437MHz_TX

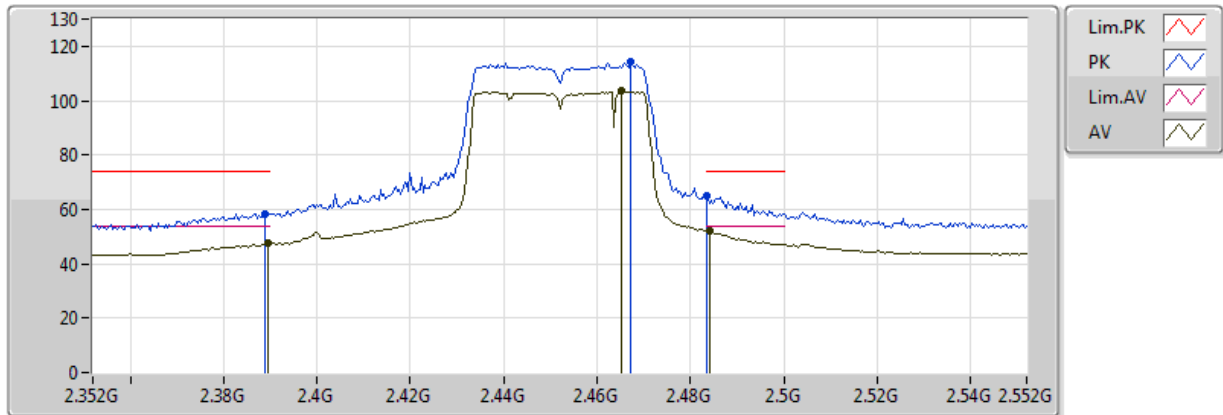


20171011
EUT_Z_4TX
Setting 74
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.87936G	31.88	54.00	-22.12	3.40	3	Horizontal	272	1.93	-				
PK	4.88052G	45.17	74.00	-28.83	3.41	3	Horizontal	272	1.93	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2452MHz_TX

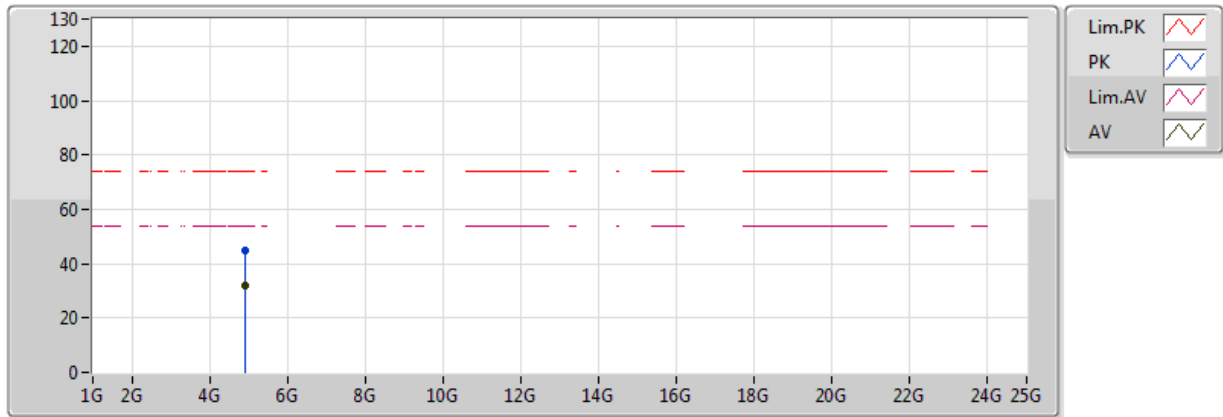


20171002
EUT_Z_4TX
Setting 60
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	2.3896G	47.44	54.00	-6.56	30.95	3	Vertical	181	2.35	-				
AV	2.4652G	103.53	Inf	-Inf	30.88	3	Vertical	181	2.35	-				
AV	2.484G	52.18	54.00	-1.82	30.86	3	Vertical	181	2.35	-				
PK	2.3888G	58.25	74.00	-15.75	30.95	3	Vertical	181	2.35	-				
PK	2.4672G	114.04	Inf	-Inf	30.88	3	Vertical	181	2.35	-				
PK	2.483502G	65.12	74.00	-8.88	30.86	3	Vertical	181	2.35	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2452MHz_TX

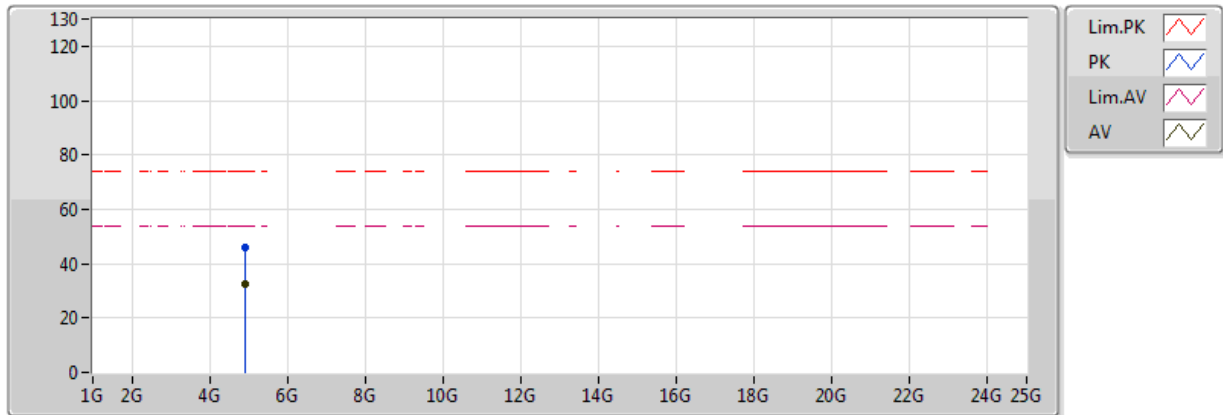


20171011
EUT_Z_4TX
Setting 60
01-J-6
FSP(100056)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments				
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)					
AV	4.91108G	32.17	54.00	-21.83	3.51	3	Vertical	228	2.41	-				
PK	4.90076G	45.09	74.00	-28.91	3.47	3	Vertical	228	2.41	-				

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

2452MHz_TX



20171011
EUT_Z_4TX
Setting 60
01-J-6
FSP(100056)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments				
AV	4.90752G	32.25	54.00	-21.75	3.50	3	Horizontal	333	1.21	-				
PK	4.91252G	45.97	74.00	-28.03	3.51	3	Horizontal	333	1.21	-				