

FCC Test Report

Equipment : 802.11ac 2x2 MIMO PCI Express Mini Card
Brand Name : LITE-ON
Model No. : WM862FEMD
FCC ID : PPQ-WM862FEMD
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant : LITE-ON Technology Corp.
Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei City,
23585 Taiwan
Manufacturer : Lite-On Network Communication (Dongguan) Limited
30#Keji Rd.,Yin Hu Industrial Area,Qingxi
Town,DongGuan City,Guangdong,China

The product sample received on May 22, 2017 and completely tested on Jun. 16, 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.

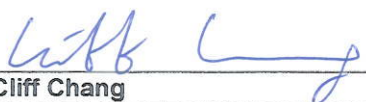

Cliff Chang
SPORTON INTERNATIONAL INC.



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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	15.207	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



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FCC ID: PPQ-WM862FEMD

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	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11ac VHT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	802.11ac VHT40	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.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM 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

Ant.	Brand Holder	Model Name	Antenna Type	Connector
1	Master Wave Technology CO., LTD	98P7RPIPF000	PCB Antenna	I-PEX
2	Master Wave Technology CO., LTD	98P7RPIPF001	PCB Antenna	I-PEX

Ant.	Gain (dBi)				
	2.4G	5G B1	5G B2	5G B3	5G B4
1	6.5	4.7	4.7	5.6	6.0
2	6.5	4.8	5.4	5.8	5.5

Note1: The EUT has two antennas.

Note2: The EUT is a limited module which only limited to the host (Brand Name: LITE-ON, MOJO / Model No.: WP8333V1, C-110 / FCC ID: PPQ-WP8333V1).

For 2.4GHz function:

For IEEE 802.11b/g/n/ac mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)
802.11b	0.95	0.223
802.11g	0.967	0.146
802.11ac VHT20	0.961	0.173
802.11ac VHT40	0.93	0.315

1.1.4 EUT Operational Condition

EUT Power Type	From host system		
Beamforming Function	☐ With beamforming	☒ Without beamforming	

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	Stim Song	23.1°C / 75%	May 26, 2017
Radiated below 1GHz	03CH01-CB	Jay Luo & Justin Li	22°C / 54%	Jun. 15, 2017 ~ Jun. 16, 2017
Radiated above 1GHz	03CH01-CB	Jay Luo & Justin Li	22°C / 54%	May 22, 2017 ~ May 26, 2017
AC Conduction	CO01-CB	Kane Liu	21°C / 60%	Jun. 03, 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
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
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_(1Mbps)_2TX	-
2412MHz	18
2437MHz	22
2462MHz	18
802.11g_(6Mbps)_2TX	-
2412MHz	15
2437MHz	22
2462MHz	15.5
802.11ac VHT20_Nss1,(MCS0)_2TX	-
2412MHz	14
2437MHz	20.5
2462MHz	15.5
802.11ac VHT40_Nss1,(MCS0)_2TX	-
2422MHz	12
2437MHz	16
2452MHz	14

Note:

- ♦ 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.

2.2 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	EUT - 2.4G
2	EUT - 5G
For operating mode 2 is the worst case and it was record in this test report.	

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	Normal Link
1	EUT in Y axis - 2.4G
2	EUT in Z axis - 2.4G
Mode 2 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT in Z axis - 5G
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX The EUT was performed at X axis, Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at X axis. So the measurement will follow this same test configuration.
1	EUT in X axis



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	2.4G + 5G
Refer to Sporton Test Report No.: FA741722-01 for Co-location RF Exposure Evaluation.	

Note: The EUT was installed to the host (Brand Name: LITE-ON / Model No.: WP8333V1 /
FCC ID: PPQ-WP8333V1) to perform all the tests.

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*5	DELL	E6430	DoC
2	Device*2	LITE-ON	WP8333V1	PPQ-WP8333V1
3	Flash disk3.0	Transcend	JetFlash-700	DoC

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

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*5	DELL	E4300	DoC
2	Device*2	LITE-ON	WP8333V1	PPQ-WP8333V1
3	Flash disk3.0	Silicon Power	B06	DoC

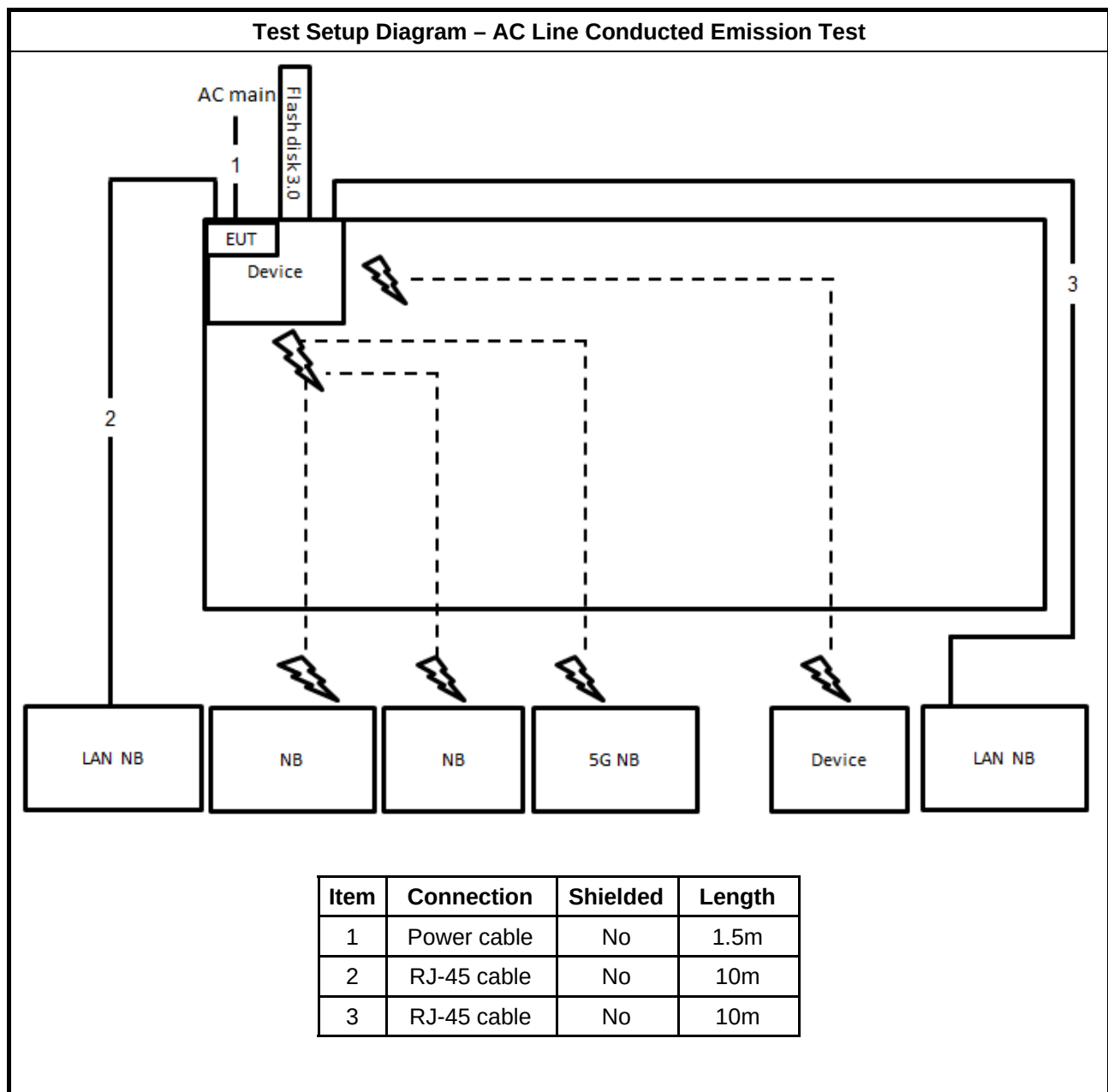
For Test Site No: 03CH01-CB (above 1GHz)

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Device	LITE-ON	WP8333V1	PPQ-WP8333V1

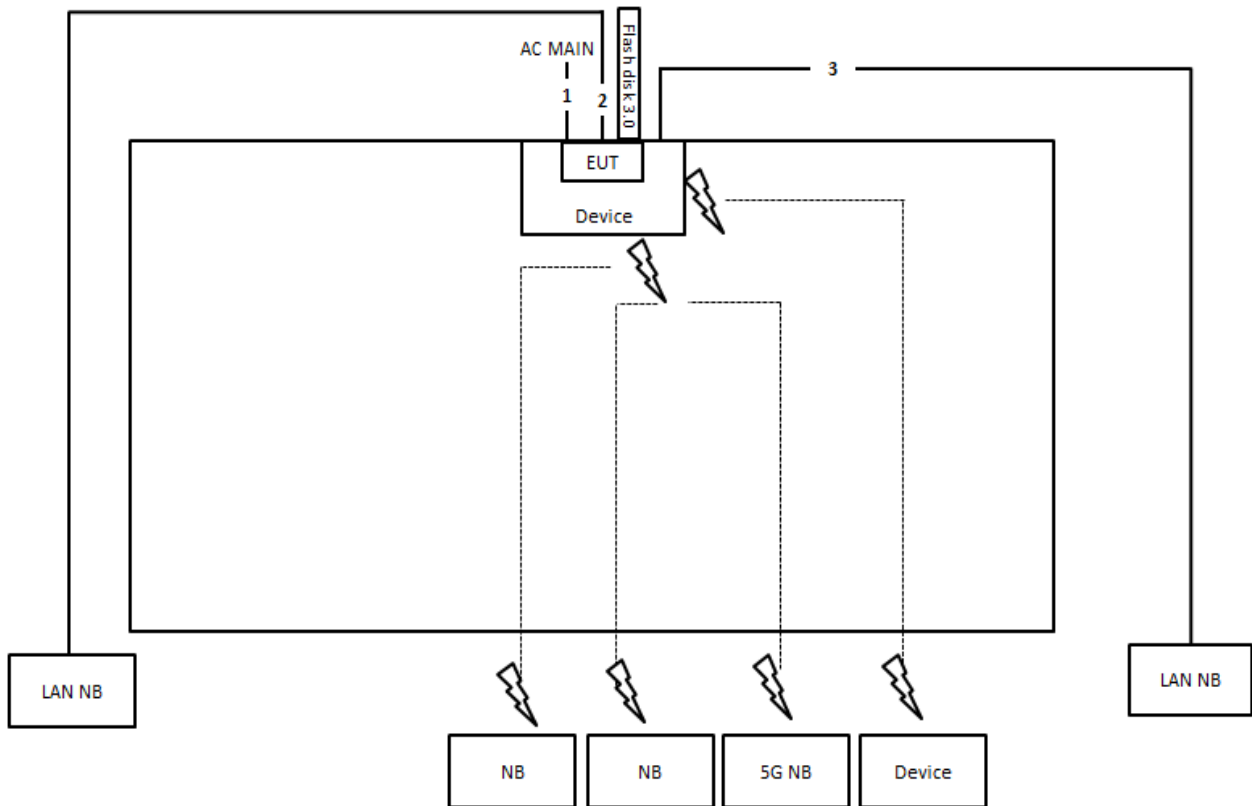
For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Device	LITE-ON	WP8333V1	PPQ-WP8333V1

2.6 Test Setup Diagram

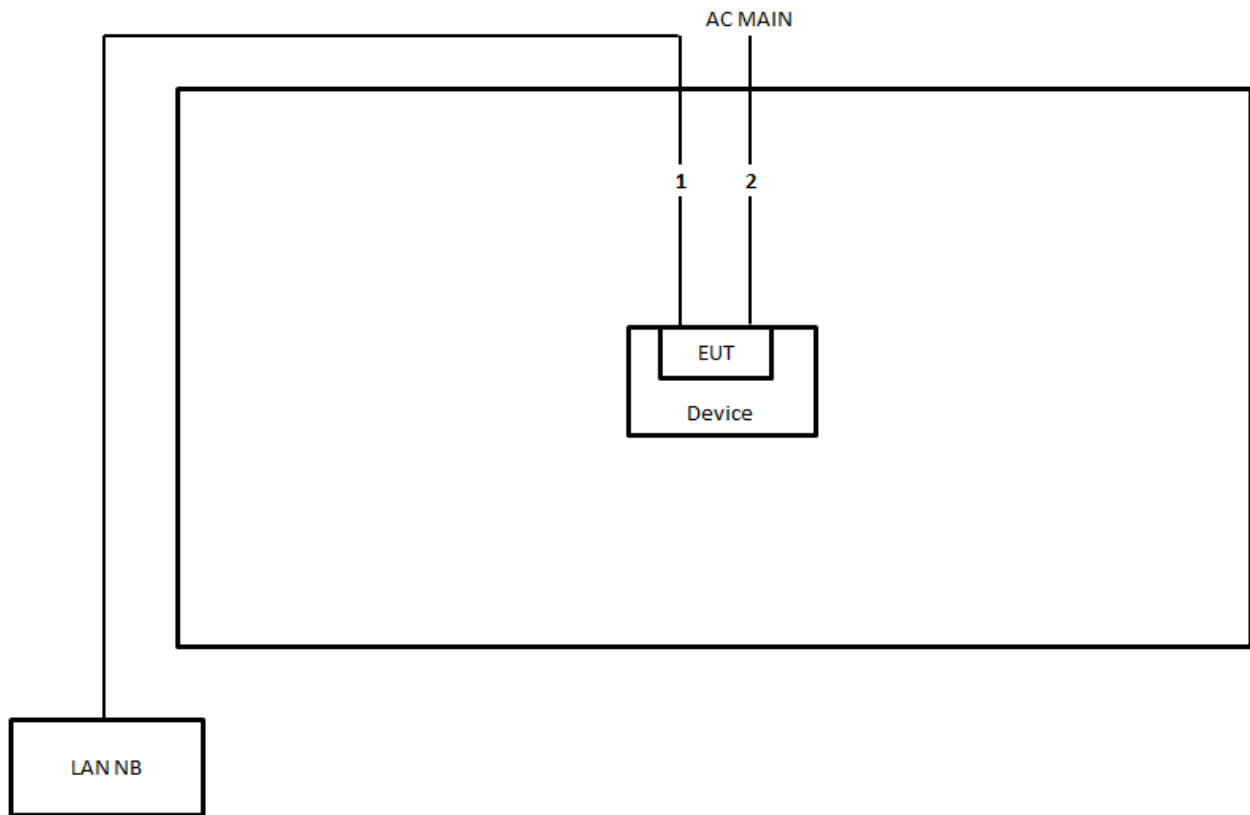


Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.5m

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.

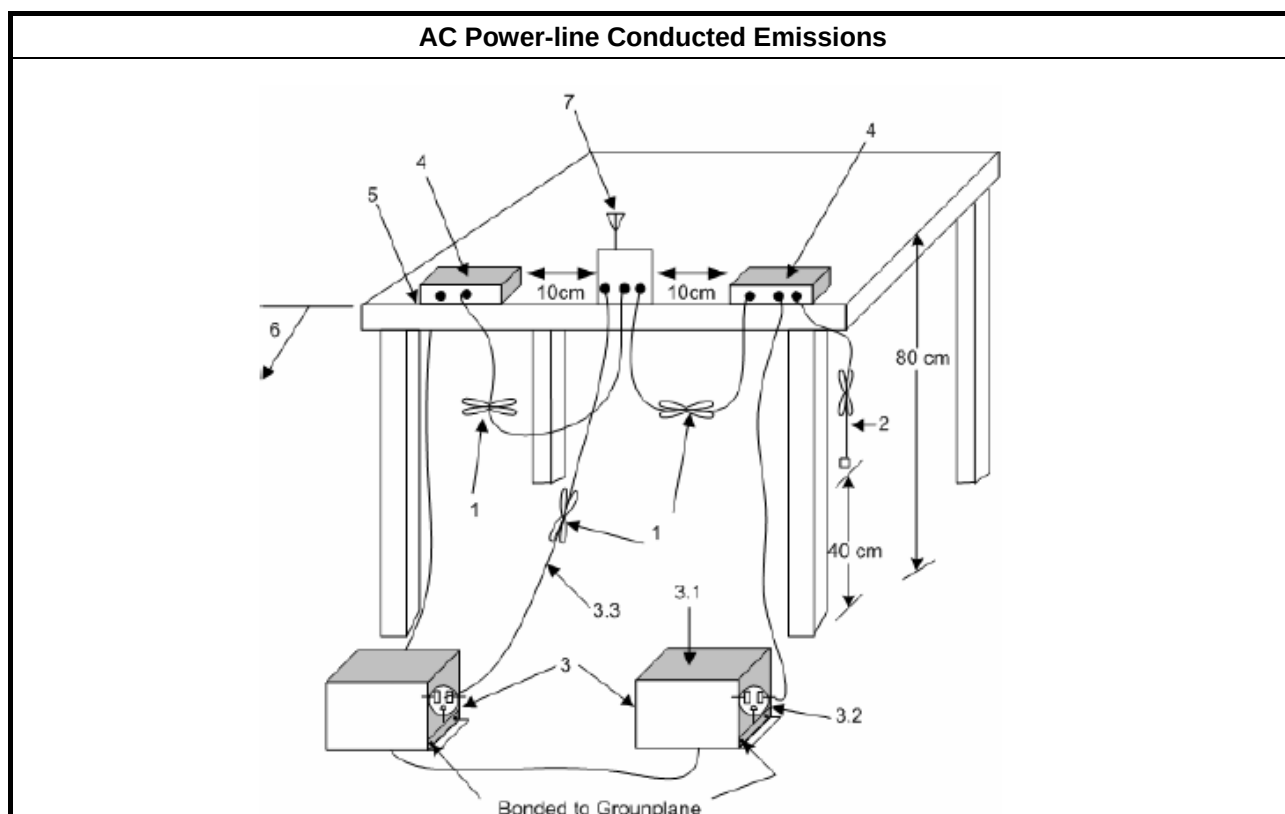
3.1.2 Measuring Instruments

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.

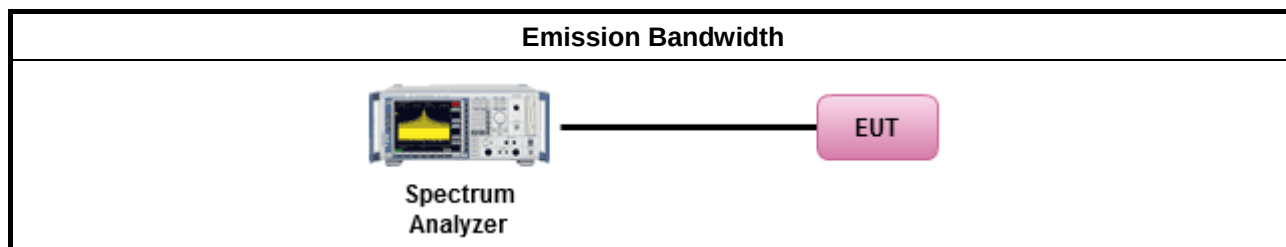
3.2.2 Measuring Instruments

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 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.

3.2.4 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
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

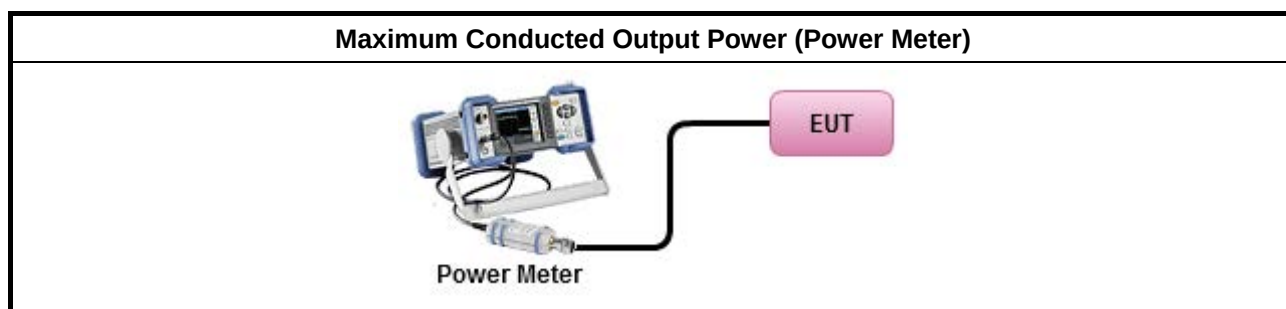
3.3.2 Measuring Instruments

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 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]) $EIRP_{total} = P_{total} + DG$	

3.3.4 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) $\leq$ 8 dBm/3kHz

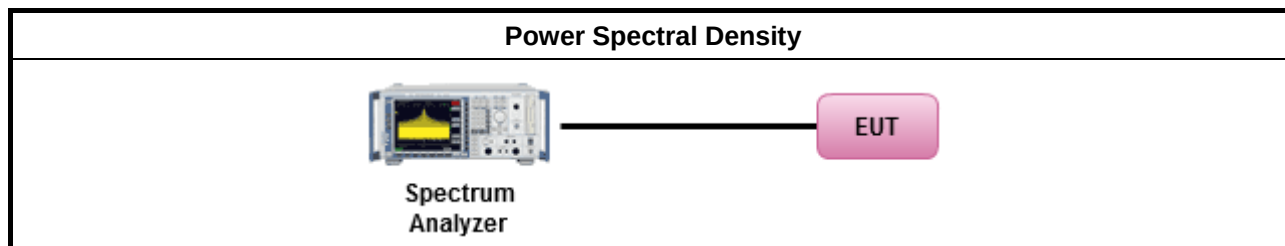
3.4.2 Measuring Instruments

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 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 AVGPS-1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.4 Method AVGPS-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 AVGPS-1 Alt (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 10.6 Method AVGPS-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.

3.4.4 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.	

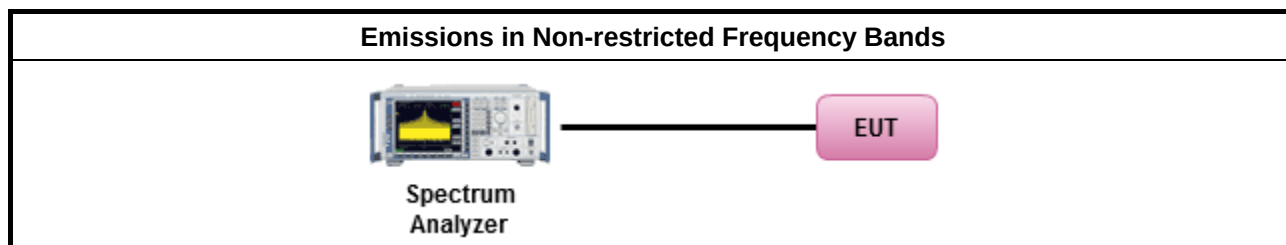
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as FCC 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.

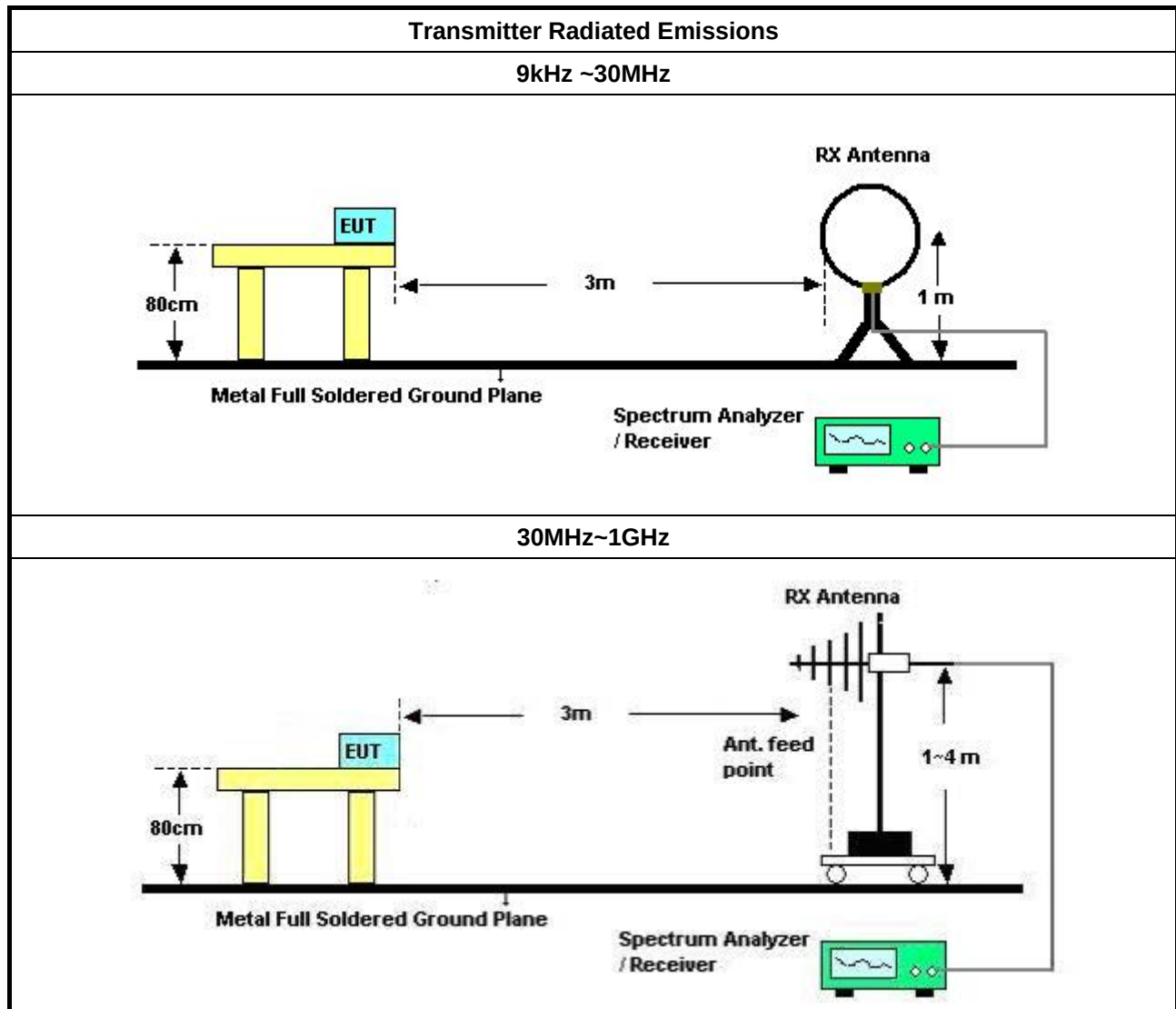
3.6.2 Measuring Instruments

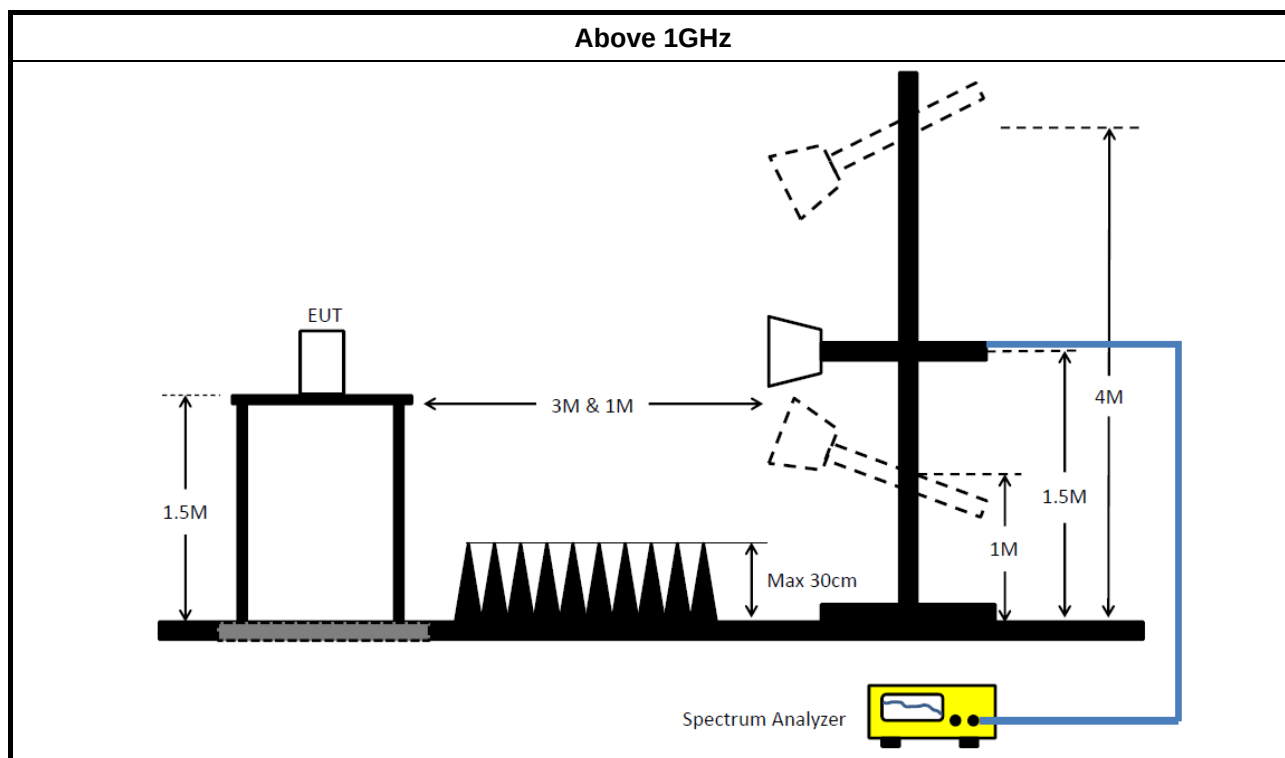
Refer a test equipment and calibration data table in this test report.

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 6.9.2.2 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.

3.6.4 Test Setup





3.6.5 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.

3.6.6 Test Result of Transmitter Radiated Unwanted Emissions

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 23, 2017	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 14, 2016	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 21, 2016	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jun. 28, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Conducted (TH01-CB)

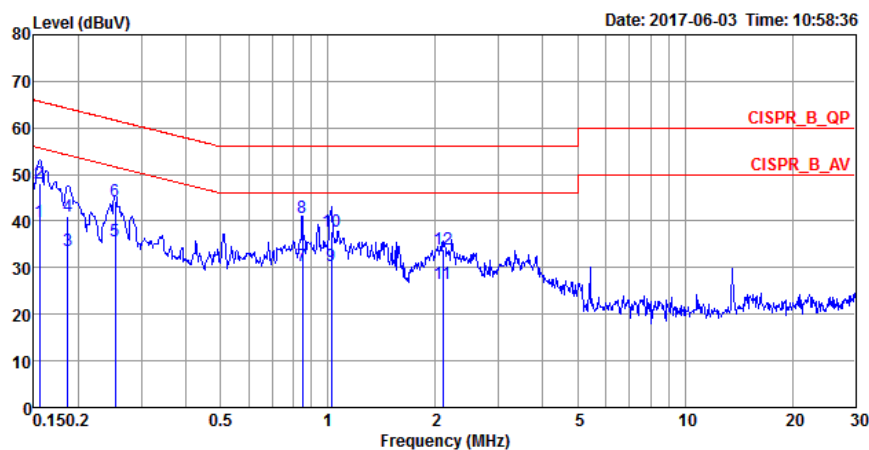
Note: Calibration Interval of instruments listed above is one year.

*Calibration Interval of instruments listed above is two year.

N.C.R. means Non-Calibration required.

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Neutral
Operating Function	Normal Link		



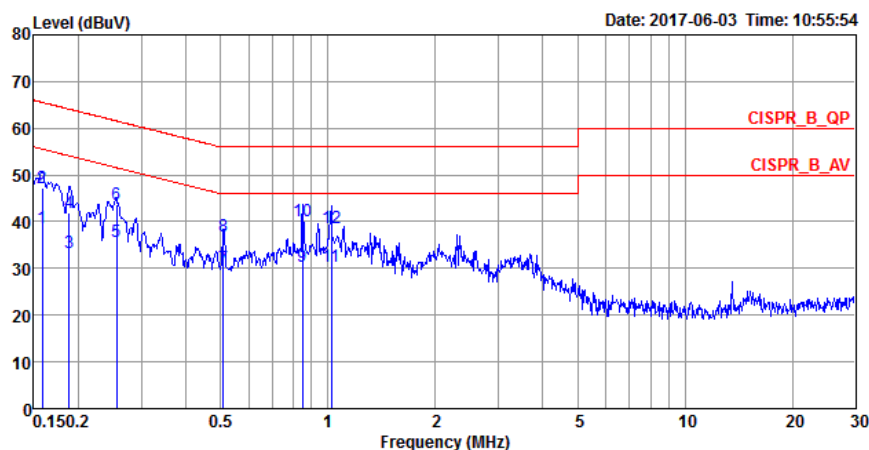
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	39.92	-15.77	55.69	29.66	10.10	0.16	Average	NEUTRAL
2	0.1557	48.15	-17.54	65.69	37.89	10.10	0.16	QP	NEUTRAL
3	0.1864	33.68	-20.52	54.20	23.53	10.01	0.14	Average	NEUTRAL
4	0.1864	41.03	-23.17	64.20	30.88	10.01	0.14	QP	NEUTRAL
5	0.2535	35.76	-15.88	51.64	25.59	10.08	0.09	Average	NEUTRAL
6	0.2535	44.25	-17.39	61.64	34.08	10.08	0.09	QP	NEUTRAL
7	0.8483	30.51	-15.49	46.00	20.25	10.10	0.16	Average	NEUTRAL
8	0.8483	40.74	-15.26	56.00	30.48	10.10	0.16	QP	NEUTRAL
9	1.0211	30.33	-15.67	46.00	20.09	10.05	0.19	Average	NEUTRAL
10	1.0211	37.92	-18.08	56.00	27.68	10.05	0.19	QP	NEUTRAL
11	2.0990	26.63	-19.37	46.00	16.48	9.95	0.20	Average	NEUTRAL
12	2.0990	33.81	-22.19	56.00	23.66	9.95	0.20	QP	NEUTRAL

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	2	Power Phase	Line
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1582	38.68	-16.88	55.56	28.53	10.00	0.15	Average	LINE
2	0.1582	47.19	-18.37	65.56	37.04	10.00	0.15	QP	LINE
3	0.1884	33.47	-20.64	54.11	23.42	9.91	0.14	Average	LINE
4	0.1884	41.77	-22.34	64.11	31.72	9.91	0.14	QP	LINE
5	0.2562	35.64	-15.92	51.56	25.63	9.92	0.09	Average	LINE
6	0.2562	43.59	-17.97	61.56	33.58	9.92	0.09	QP	LINE
7	0.5101	30.19	-15.81	46.00	20.18	9.95	0.06	Average	LINE
8	0.5101	36.99	-19.01	56.00	26.98	9.95	0.06	QP	LINE
9	0.8483	30.42	-15.58	46.00	20.30	9.96	0.16	Average	LINE
10	0.8483	40.25	-15.75	56.00	30.13	9.96	0.16	QP	LINE
11	1.0211	30.37	-15.63	46.00	20.22	9.96	0.19	Average	LINE
12	1.0211	38.67	-17.33	56.00	28.52	9.96	0.19	QP	LINE

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	14.268M	14M3G1D	9.575M	13.793M
802.11g_(6Mbps)_2TX	-	-	-	-	-
2.4-2.4835GHz	16.325M	17.866M	17M9D1D	16.275M	16.442M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	17.5M	17.791M	17M8D1D	16.9M	17.616M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-
2.4-2.4835GHz	35.7M	36.232M	36M2D1D	34.8M	36.082M

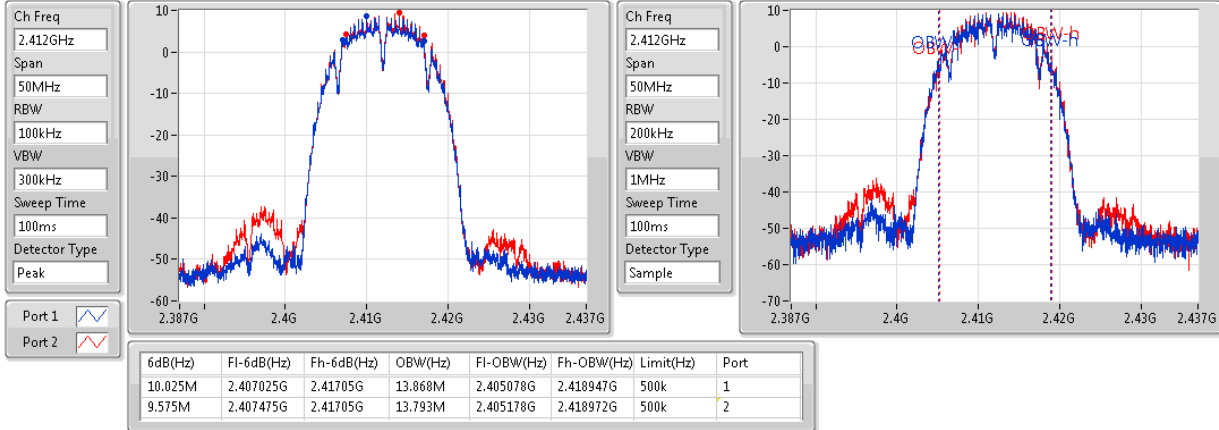
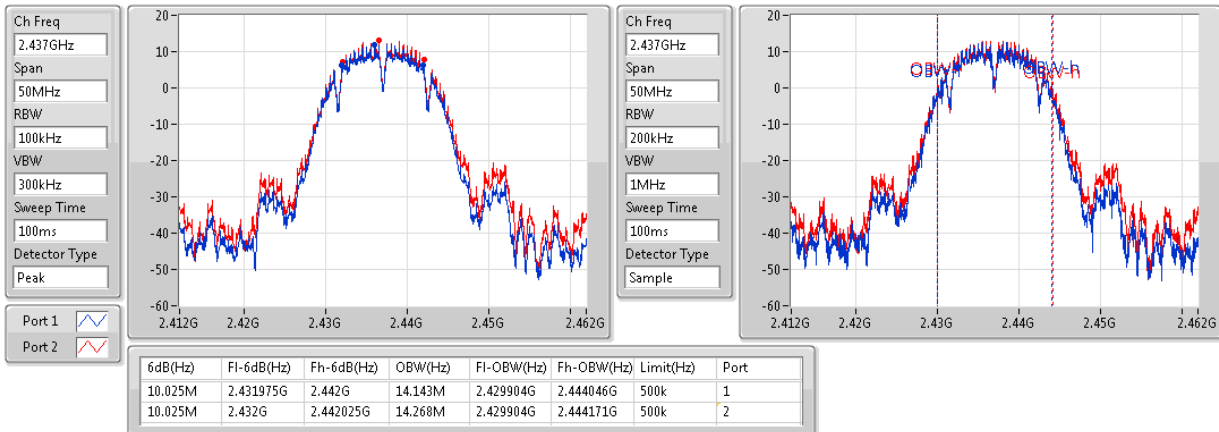
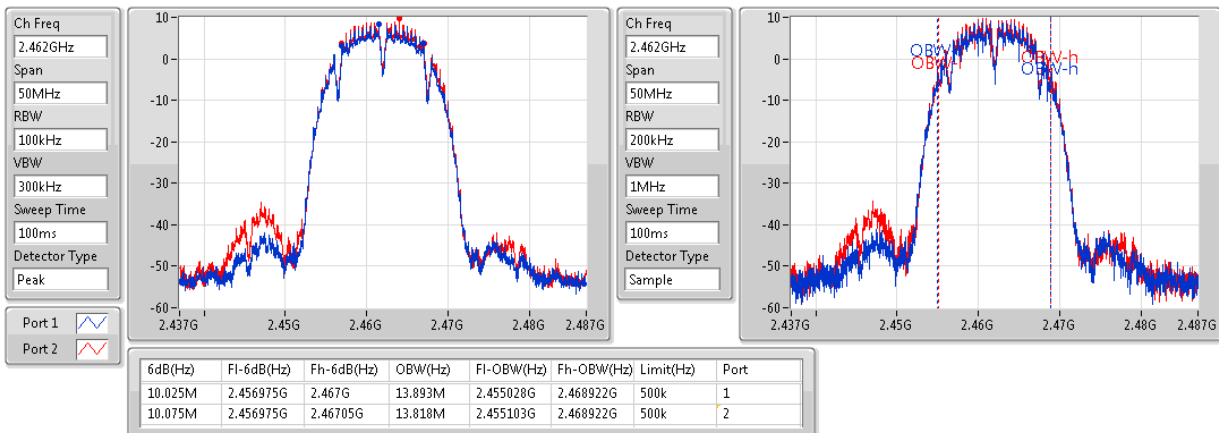
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

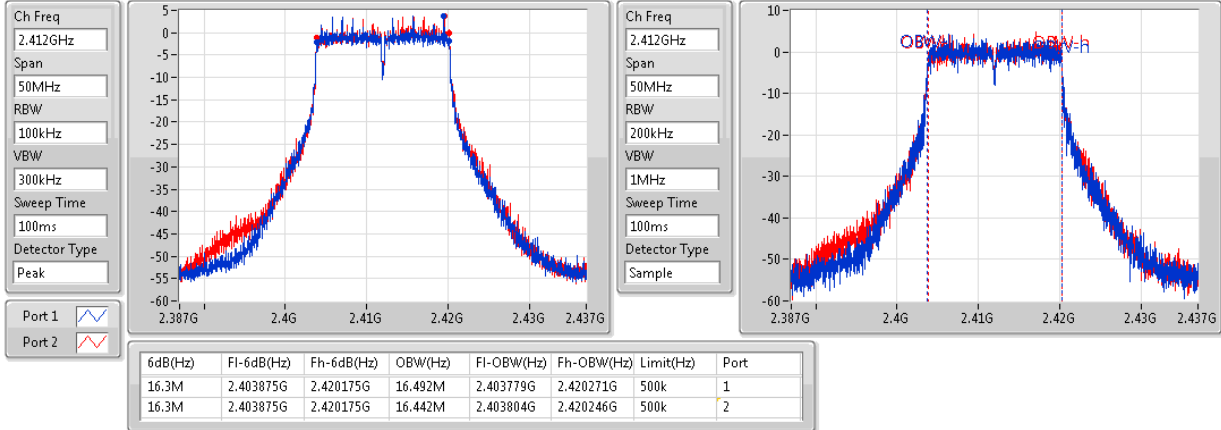
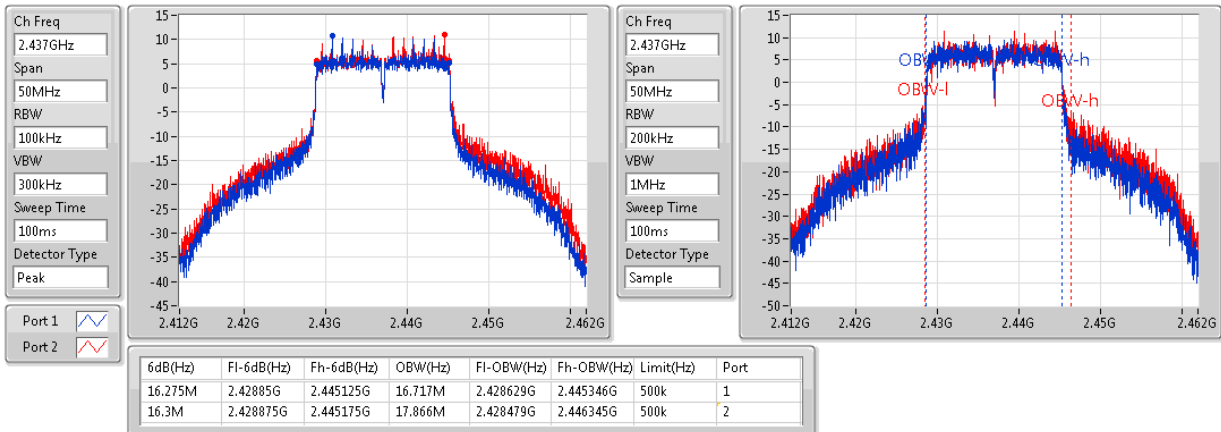
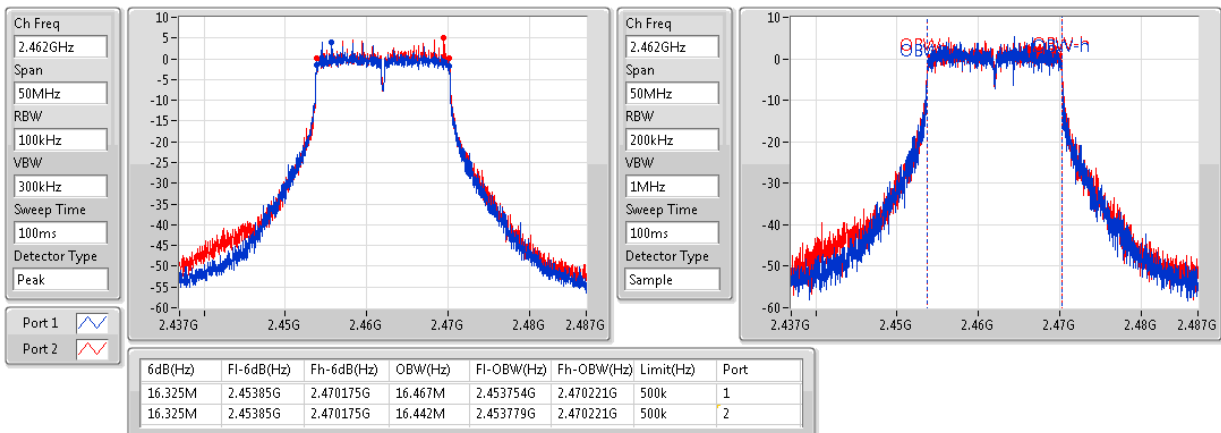
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

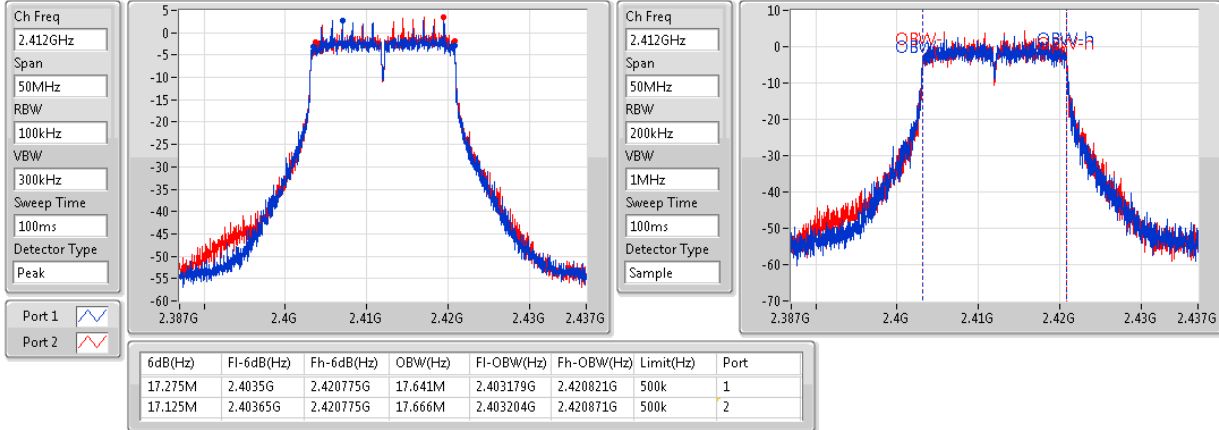
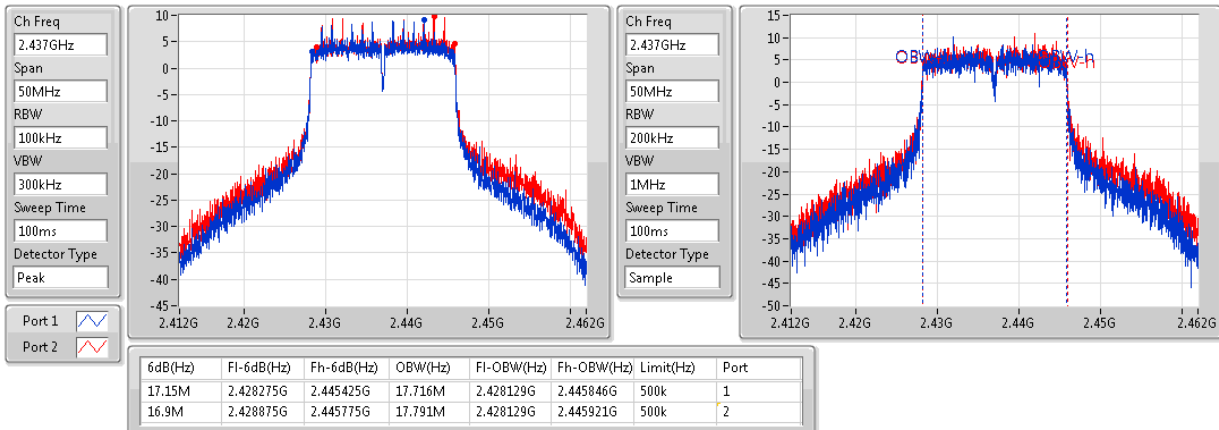
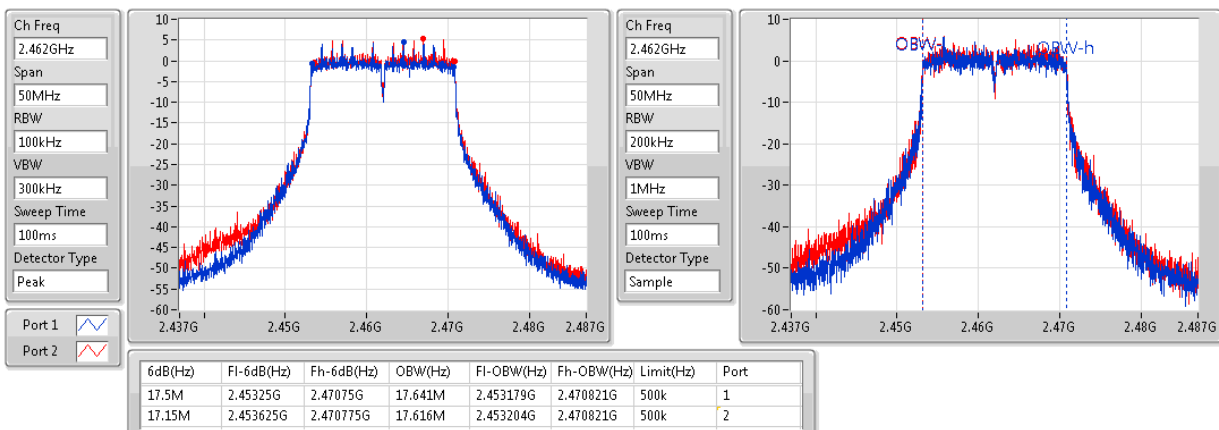
Result

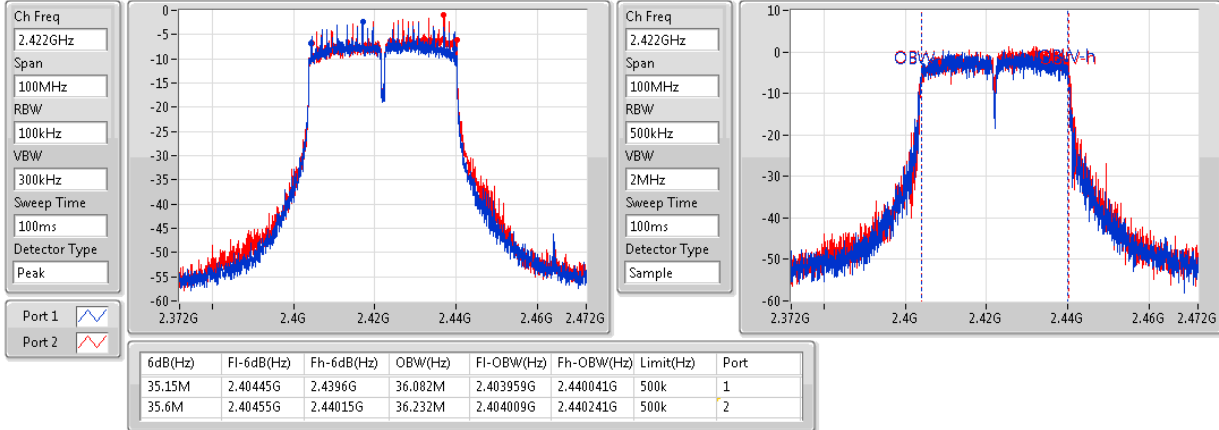
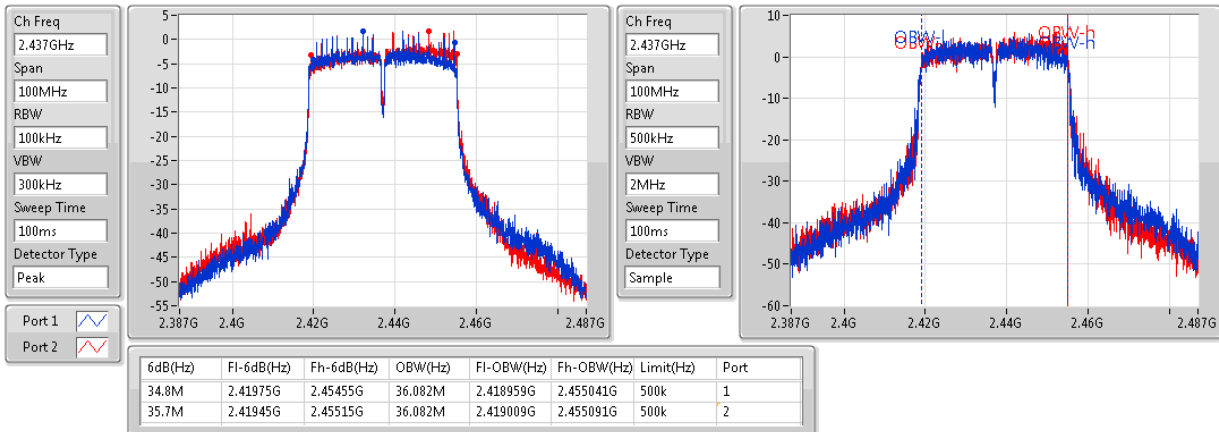
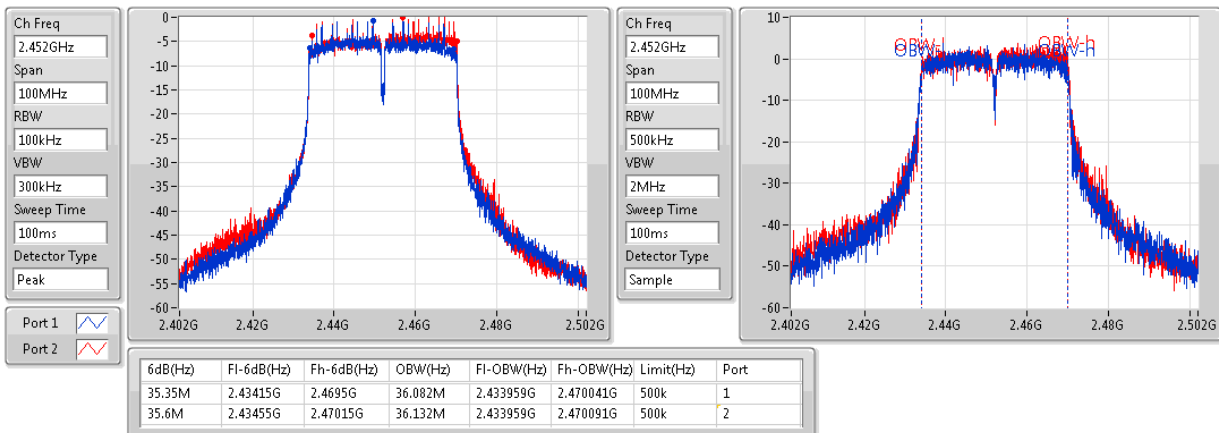
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	10.025M	13.868M	9.575M	13.793M
2437MHz	Pass	500k	10.025M	14.143M	10.025M	14.268M
2462MHz	Pass	500k	10.025M	13.893M	10.075M	13.818M
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.492M	16.3M	16.442M
2437MHz	Pass	500k	16.275M	16.717M	16.3M	17.866M
2462MHz	Pass	500k	16.325M	16.467M	16.325M	16.442M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.275M	17.641M	17.125M	17.666M
2437MHz	Pass	500k	17.15M	17.716M	16.9M	17.791M
2462MHz	Pass	500k	17.5M	17.641M	17.15M	17.616M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.15M	36.082M	35.6M	36.232M
2437MHz	Pass	500k	34.8M	36.082M	35.7M	36.082M
2452MHz	Pass	500k	35.35M	36.082M	35.6M	36.132M

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


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
2412MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
2437MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
2462MHz


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
2422MHz

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
2437MHz

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
2452MHz


**Summary**

Mode	Total Power (dBm)	Total Power (W)
802.11b_(1Mbps)_2TX	-	-
2.4-2.4835GHz	24.89	0.30832
802.11g_(6Mbps)_2TX	-	-
2.4-2.4835GHz	24.44	0.27797
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-
2.4-2.4835GHz	23.29	0.21330
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-
2.4-2.4835GHz	18.55	0.07161

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.50	18.12	18.72	21.44	29.50
2437MHz	Pass	6.50	21.50	22.22	24.89	29.50
2462MHz	Pass	6.50	18.02	18.89	21.49	29.50
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.50	15.08	15.45	18.28	29.50
2437MHz	Pass	6.50	21.20	21.64	24.44	29.50
2462MHz	Pass	6.50	15.40	16.20	18.83	29.50
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	6.50	13.90	14.46	17.20	29.50
2437MHz	Pass	6.50	19.99	20.55	23.29	29.50
2462MHz	Pass	6.50	15.47	16.22	18.87	29.50
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	6.50	11.35	12.13	14.77	29.50
2437MHz	Pass	6.50	15.23	15.84	18.55	29.50
2452MHz	Pass	6.50	13.38	14.19	16.81	29.50

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

Summary

Mode	PD (dBm/RBW)
802.11b_(1Mbps)_2TX	-
2.4-2.4835GHz	0.19
802.11g_(6Mbps)_2TX	-
2.4-2.4835GHz	-0.80
802.11ac VHT20_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-3.56
802.11ac VHT40_Nss1,(MCS0)_2TX	-
2.4-2.4835GHz	-10.54

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	9.51	-5.33	-5.50	-3.27	4.49
2437MHz	Pass	9.51	-2.00	-0.77	0.19	4.49
2462MHz	Pass	9.51	-6.13	-5.25	-3.63	4.49
802.11g_(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	9.51	-11.36	-10.11	-8.19	4.49
2437MHz	Pass	9.51	-2.13	-3.48	-0.80	4.49
2462MHz	Pass	9.51	-10.05	-9.37	-7.47	4.49
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	9.51	-11.26	-10.58	-9.25	4.49
2437MHz	Pass	9.51	-5.22	-5.46	-3.56	4.49
2462MHz	Pass	9.51	-9.98	-9.93	-7.89	4.49
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	9.51	-16.01	-16.20	-14.57	4.49
2437MHz	Pass	9.51	-12.48	-11.70	-10.54	4.49
2452MHz	Pass	9.51	-13.76	-14.32	-12.40	4.49

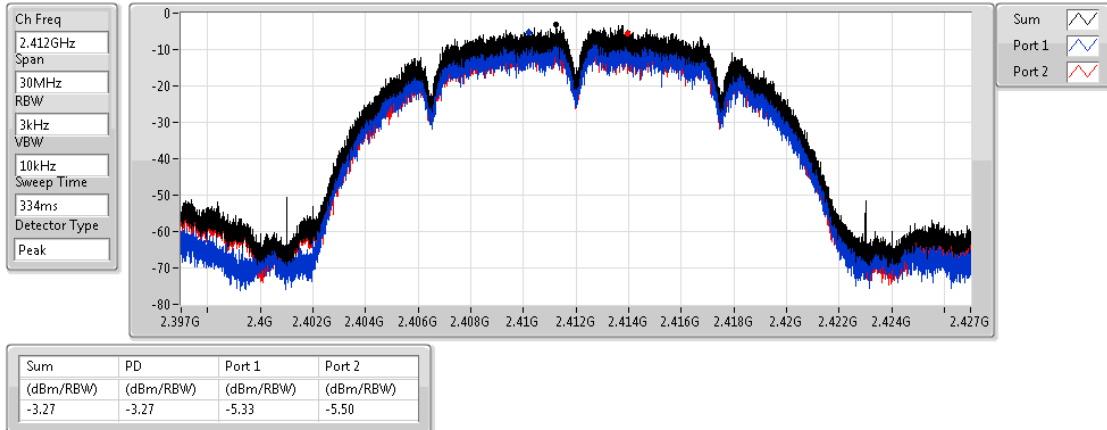
DG = Directional Gain; RBW=3kHz;

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

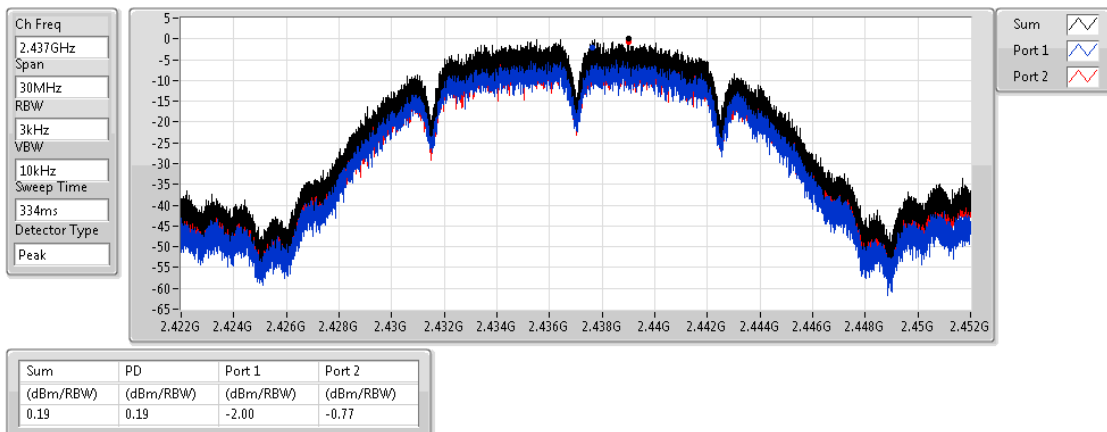
2412MHz



802.11b_(1Mbps)_2TX

PSD

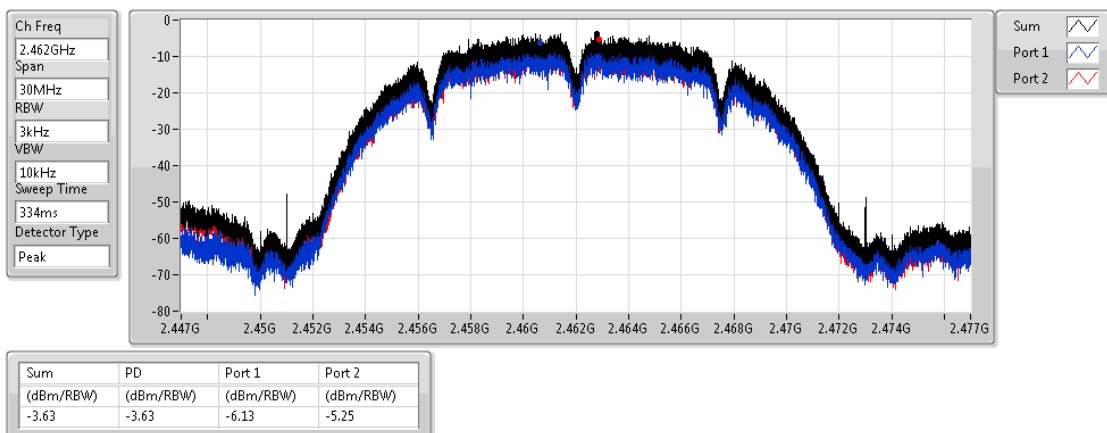
2437MHz



802.11b_(1Mbps)_2TX

PSD

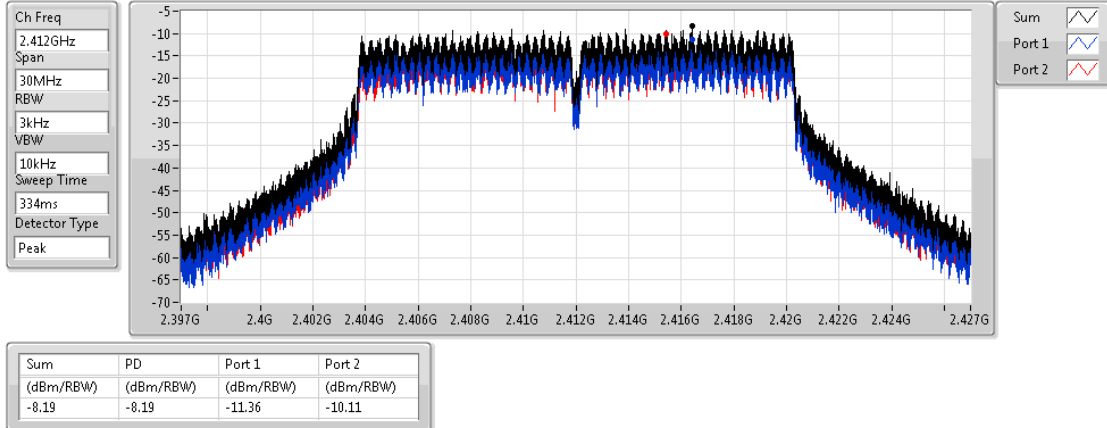
2462MHz



802.11g_(6Mbps)_2TX

PSD

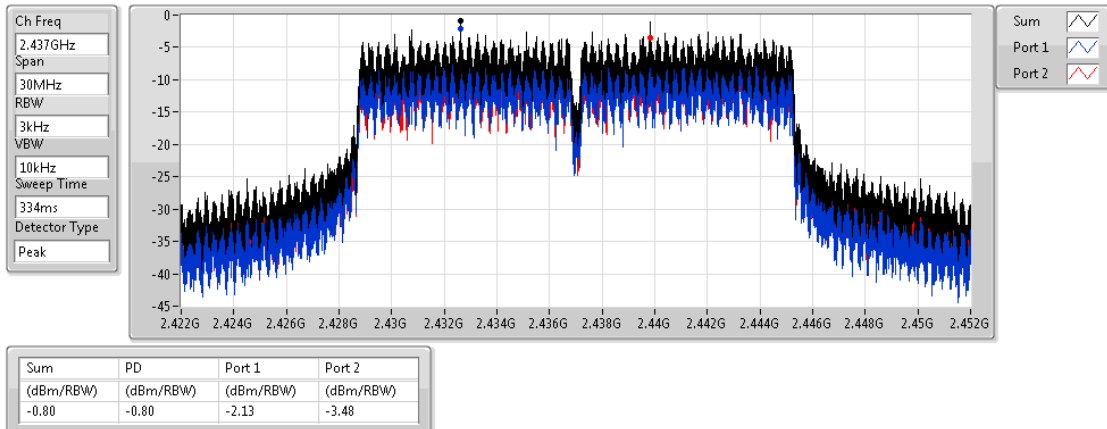
2412MHz



802.11g_(6Mbps)_2TX

PSD

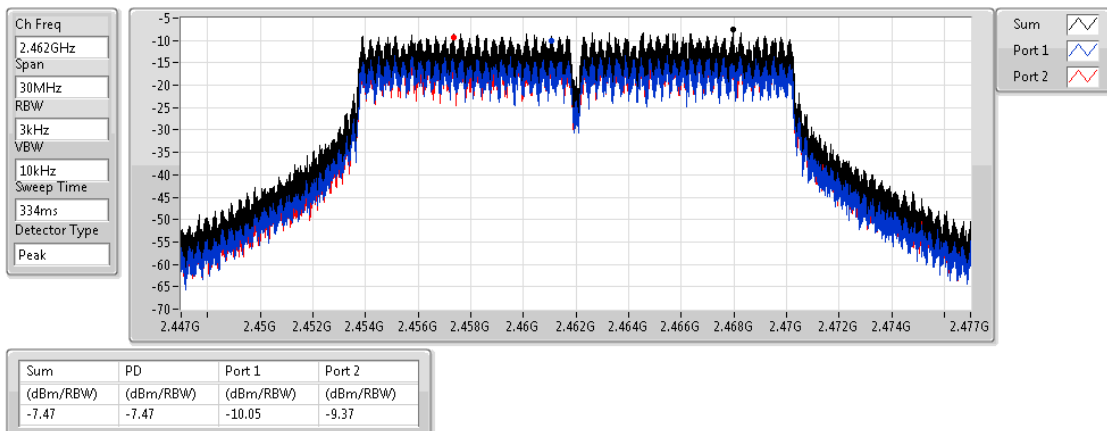
2437MHz



802.11g_(6Mbps)_2TX

PSD

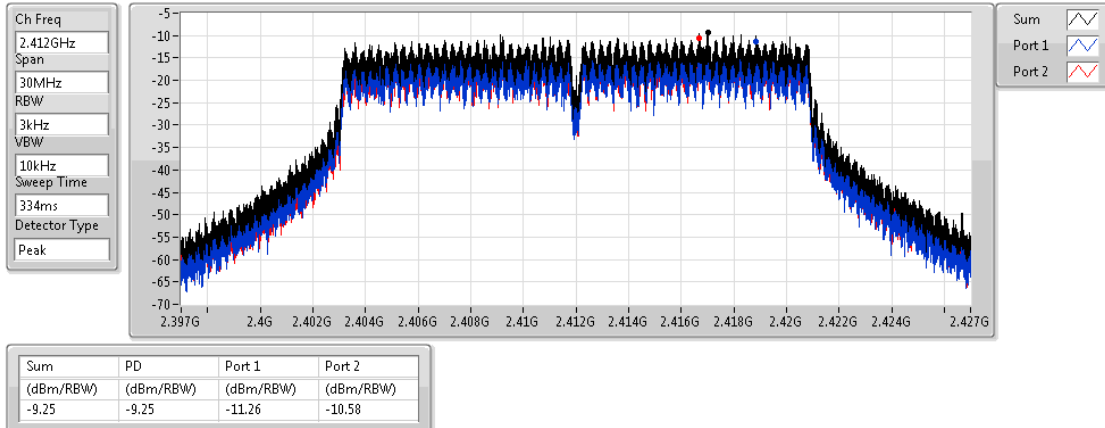
2462MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

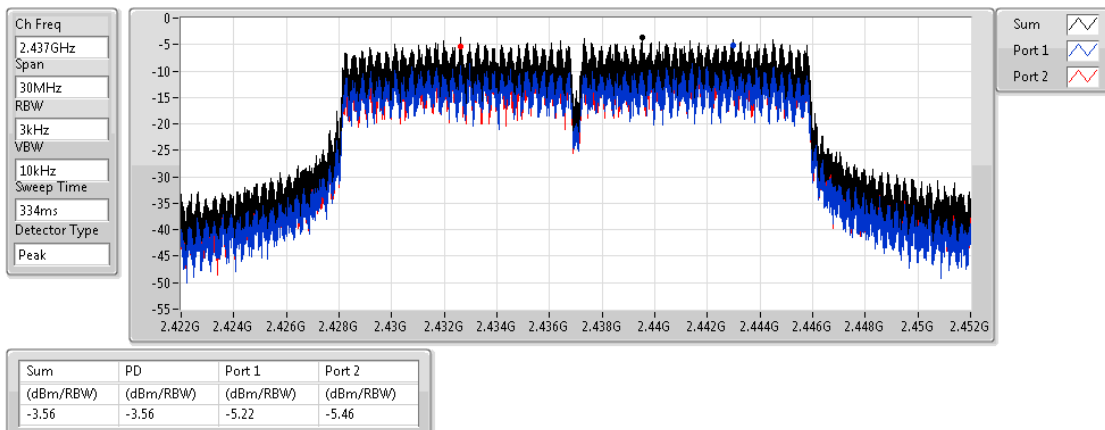
2412MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

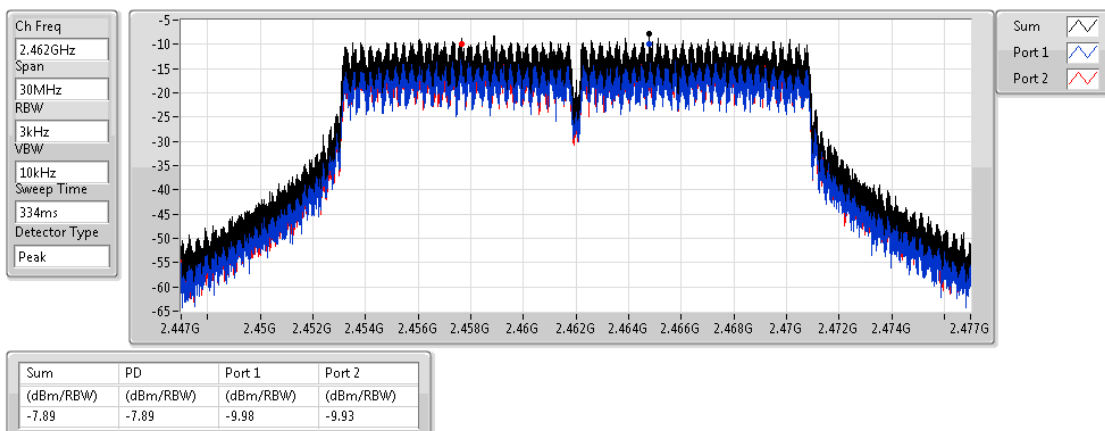
2437MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

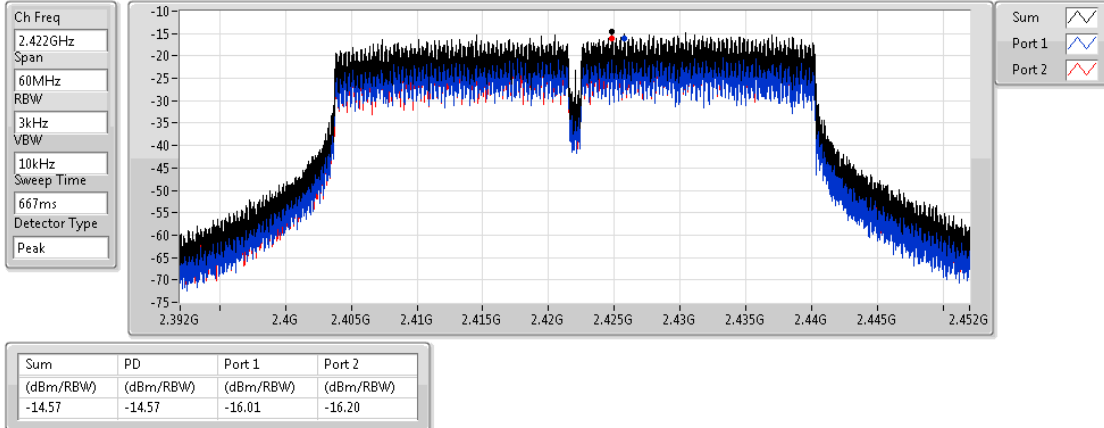
2462MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

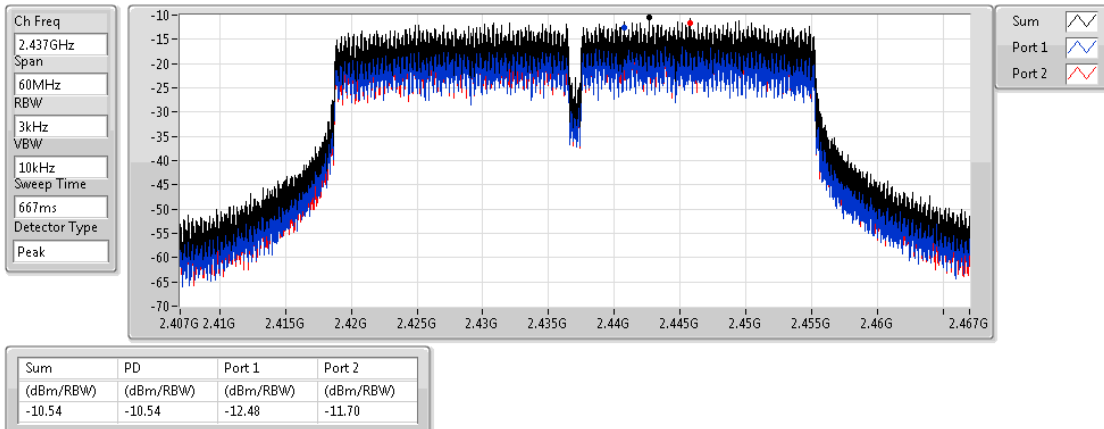
2422MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

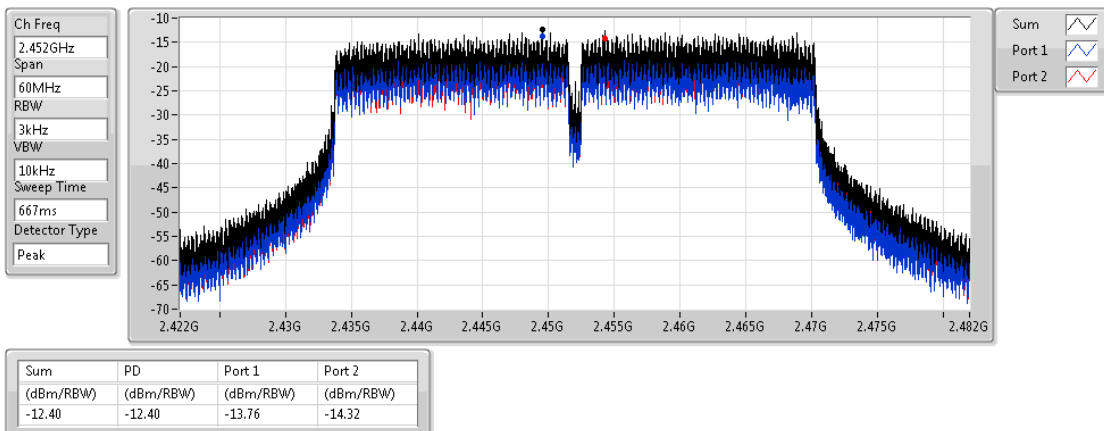
2437MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

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
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.431897G	2.06	-27.94	49.465M	-52.17	2.39648G	-42.36	2.48798G	-59.95	16.448889G	-55.12	1

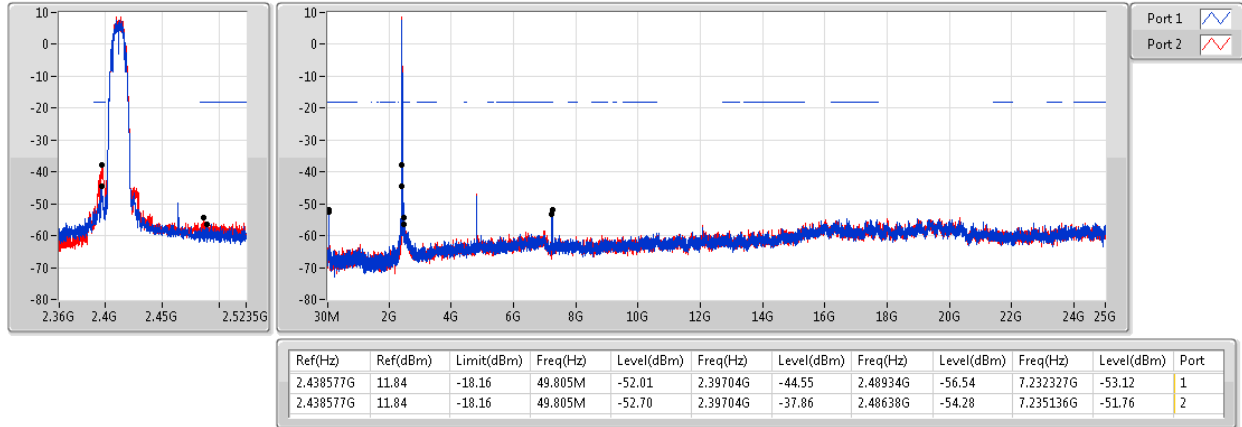
Result

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	2.438577G	11.84	-18.16	49.805M	-52.01	2.39704G	-44.55	2.48934G	-56.54	7.232327G	-53.12	1
2412MHz	Pass	2.438577G	11.84	-18.16	49.805M	-52.70	2.39704G	-37.86	2.48638G	-54.28	7.235136G	-51.76	2
2437MHz	Pass	2.438577G	11.84	-18.16	49.805M	-56.45	2.39808G	-52.37	2.4839G	-56.66	17.655804G	-54.57	1
2437MHz	Pass	2.438577G	11.84	-18.16	49.805M	-57.07	2.39352G	-49.36	2.48494G	-49.24	16.295975G	-55.14	2
2462MHz	Pass	2.438577G	11.84	-18.16	49.805M	-51.84	2.39384G	-56.34	2.48486G	-54.30	16.206069G	-55.37	1
2462MHz	Pass	2.438577G	11.84	-18.16	49.805M	-51.61	2.39808G	-59.34	2.48702G	-53.31	17.692328G	-55.19	2
802.11g_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.441917G	10.34	-19.66	49.805M	-52.66	2.39824G	-35.69	2.48862G	-56.66	17.352371G	-54.95	1
2412MHz	Pass	2.441917G	10.34	-19.66	49.805M	-52.32	2.39832G	-36.83	2.49766G	-55.40	17.695138G	-55.31	2
2437MHz	Pass	2.441917G	10.34	-19.66	49.805M	-52.50	2.3952G	-40.56	2.48606G	-48.25	24.395944G	-55.50	1
2437MHz	Pass	2.441917G	10.34	-19.66	49.805M	-52.26	2.3964G	-37.86	2.48358G	-43.86	2.540357G	-54.60	2
2462MHz	Pass	2.441917G	10.34	-19.66	49.805M	-52.19	2.39296G	-56.99	2.48358G	-52.65	16.444882G	-53.98	1
2462MHz	Pass	2.441917G	10.34	-19.66	49.805M	-51.79	2.39256G	-59.58	2.48398G	-49.67	17.082653G	-54.61	2
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.432064G	9.32	-20.68	49.805M	-51.92	2.39768G	-38.72	2.49526G	-56.28	16.680885G	-54.78	1
2412MHz	Pass	2.432064G	9.32	-20.68	49.805M	-52.41	2.39832G	-36.40	2.49622G	-55.53	24.716234G	-55.12	2
2437MHz	Pass	2.432064G	9.32	-20.68	49.805M	-51.18	2.39792G	-44.38	2.48446G	-52.62	16.270689G	-55.35	1
2437MHz	Pass	2.432064G	9.32	-20.68	49.805M	-52.08	2.39776G	-40.55	2.48486G	-47.59	2.540357G	-54.46	2
2462MHz	Pass	2.432064G	9.32	-20.68	49.805M	-50.65	2.39048G	-56.51	2.48494G	-50.91	17.369228G	-54.87	1
2462MHz	Pass	2.432064G	9.32	-20.68	49.805M	-52.34	2.39128G	-59.00	2.48382G	-47.05	17.369228G	-54.79	2
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.431897G	2.06	-27.94	49.465M	-52.17	2.39648G	-42.36	2.48798G	-59.95	16.448889G	-55.12	1
2422MHz	Pass	2.431897G	2.06	-27.94	49.465M	-51.99	2.39616G	-42.52	2.4931G	-56.06	16.373166G	-54.96	2
2437MHz	Pass	2.431897G	2.06	-27.94	49.465M	-51.37	2.39392G	-43.91	2.48398G	-47.32	17.69131G	-55.19	1
2437MHz	Pass	2.431897G	2.06	-27.94	49.465M	-52.92	2.39648G	-44.11	2.48414G	-49.23	16.300247G	-53.69	2
2452MHz	Pass	2.431897G	2.06	-27.94	49.465M	-53.10	2.39648G	-59.09	2.48478G	-44.28	16.7013G	-55.42	1
2452MHz	Pass	2.431897G	2.06	-27.94	49.465M	-53.33	2.39552G	-57.28	2.48382G	-42.55	16.269397G	-54.33	2

802.11b_(1Mbps)_2TX

CSE NdB

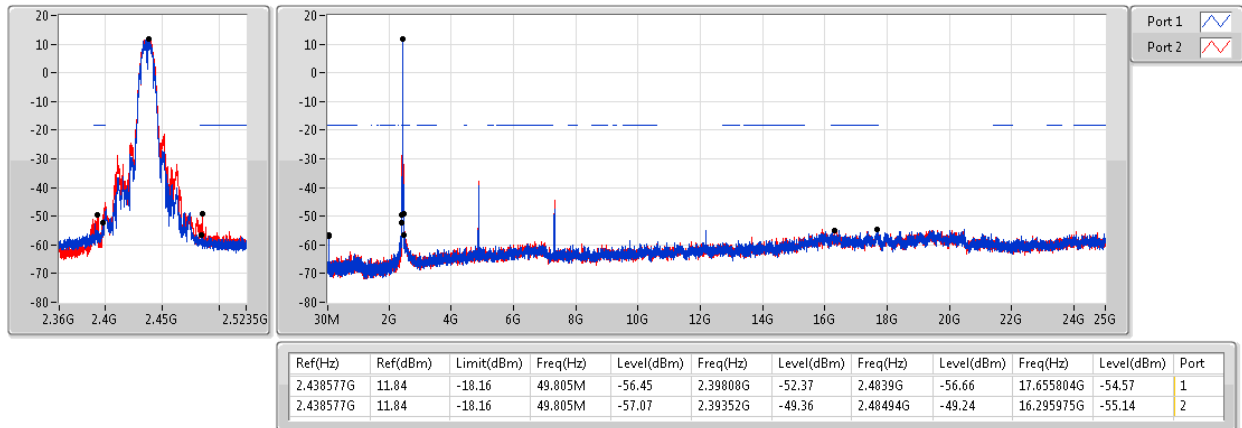
2412MHz



802.11b_(1Mbps)_2TX

CSE NdB

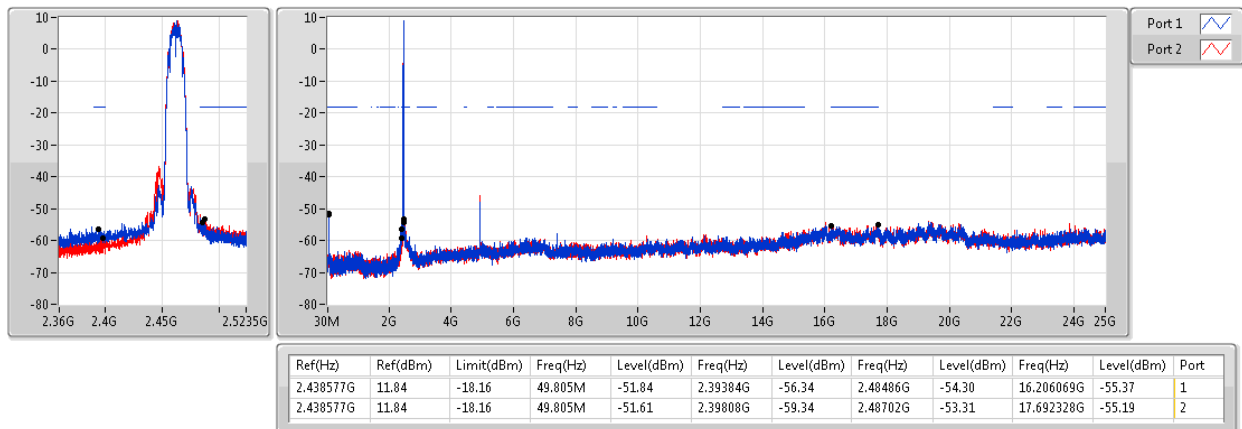
2437MHz



802.11b_(1Mbps)_2TX

CSE NdB

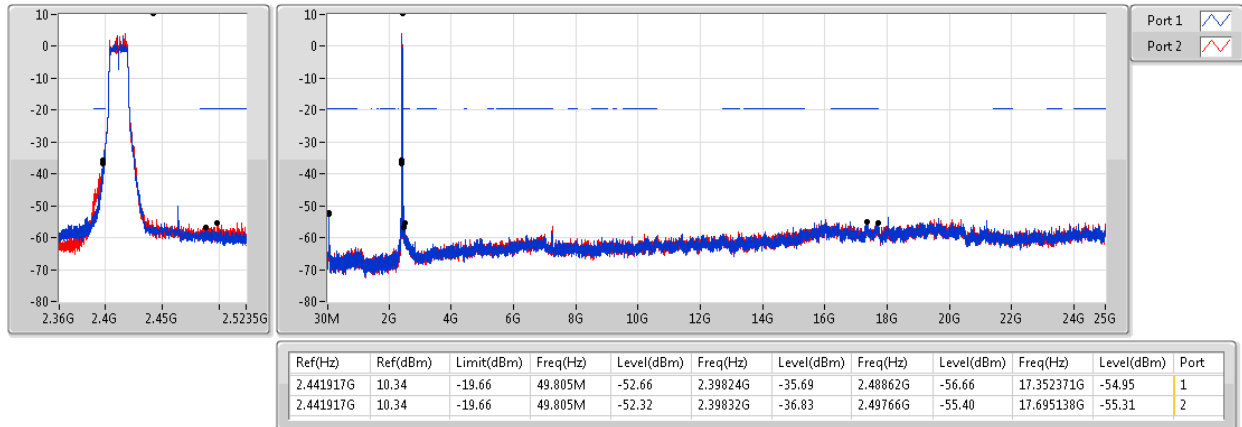
2462MHz



802.11g_(6Mbps)_2TX

CSE NdB

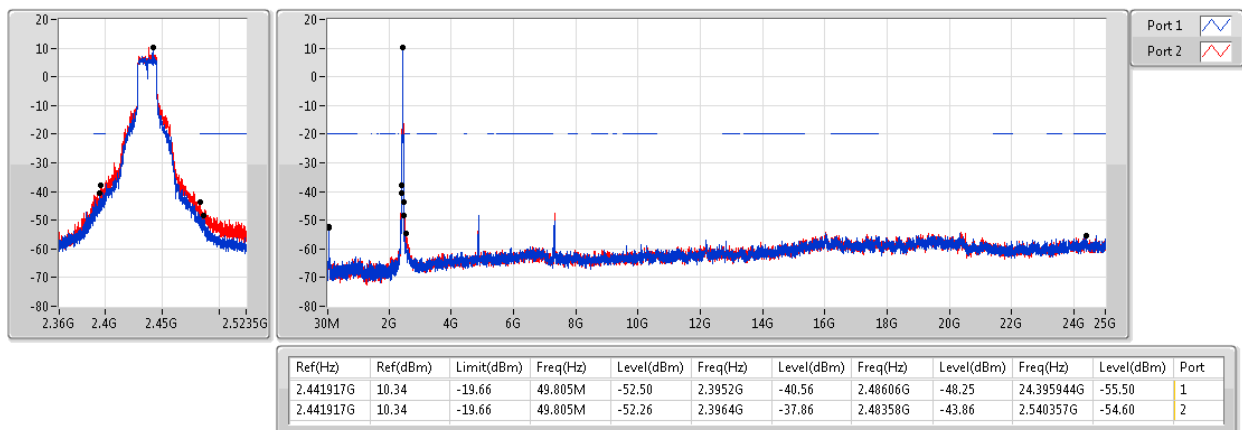
2412MHz



802.11g_(6Mbps)_2TX

CSE NdB

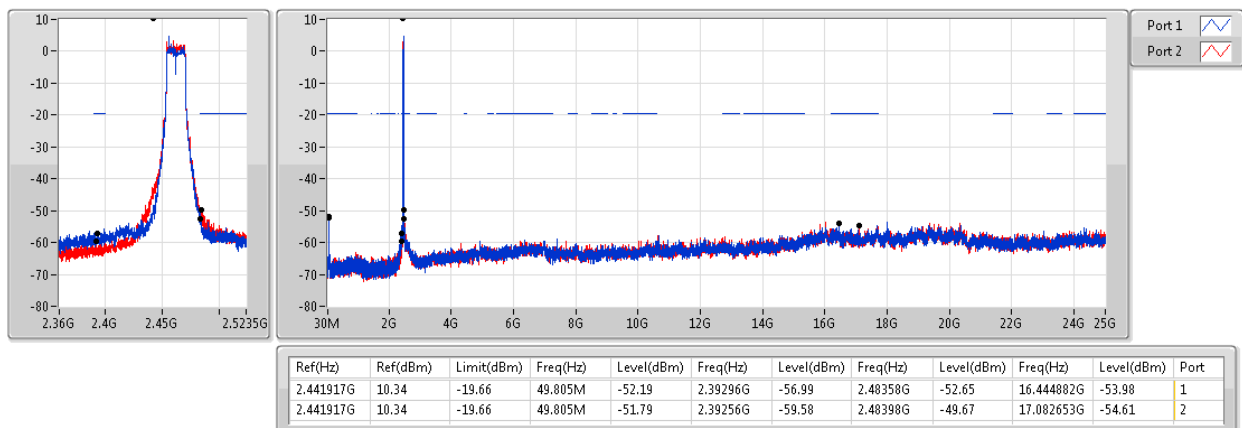
2437MHz



802.11g_(6Mbps)_2TX

CSE NdB

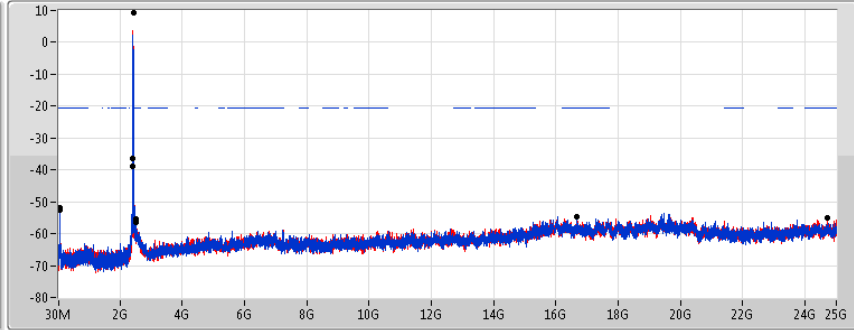
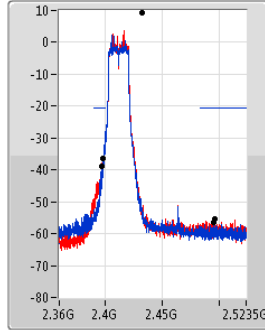
2462MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

CSE NdB

2412MHz



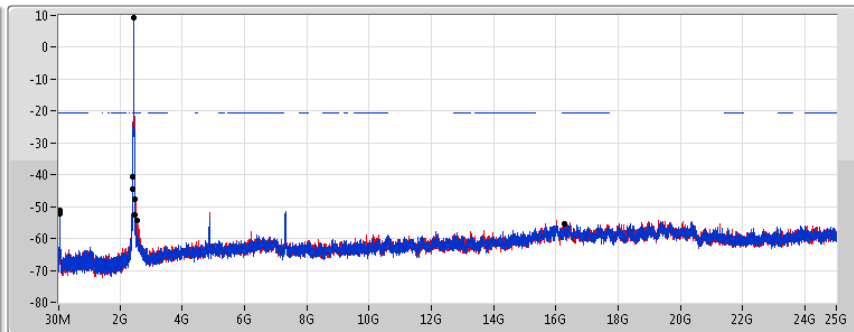
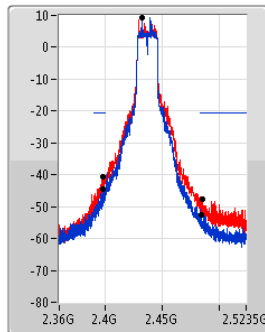
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.432064G	9.32	-20.68	49.805M	-51.92	2.39768G	-38.72	2.49526G	-56.28	16.680885G	-54.78	1
2.432064G	9.32	-20.68	49.805M	-52.41	2.39832G	-36.40	2.49622G	-55.53	24.716234G	-55.12	2

802.11ac VHT20_Nss1,(MCS0)_2TX

CSE NdB

2437MHz



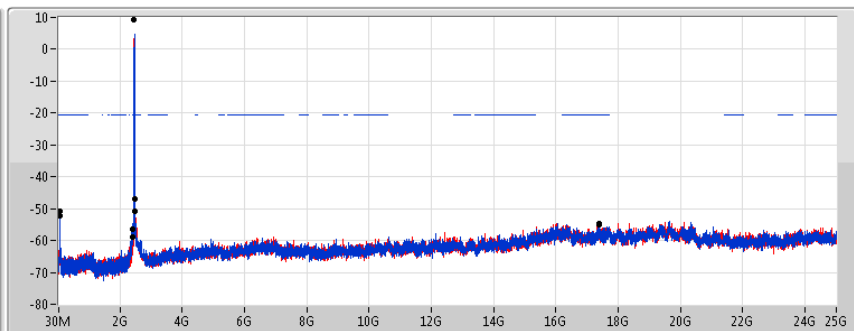
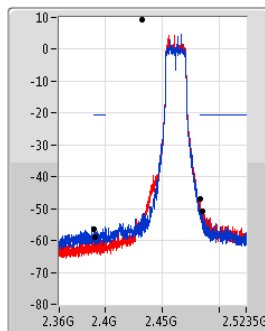
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.432064G	9.32	-20.68	49.805M	-51.18	2.39792G	-44.38	2.48446G	-52.62	16.270689G	-55.35	1
2.432064G	9.32	-20.68	49.805M	-52.08	2.39776G	-40.55	2.48486G	-47.59	2.540357G	-54.46	2

802.11ac VHT20_Nss1,(MCS0)_2TX

CSE NdB

2462MHz



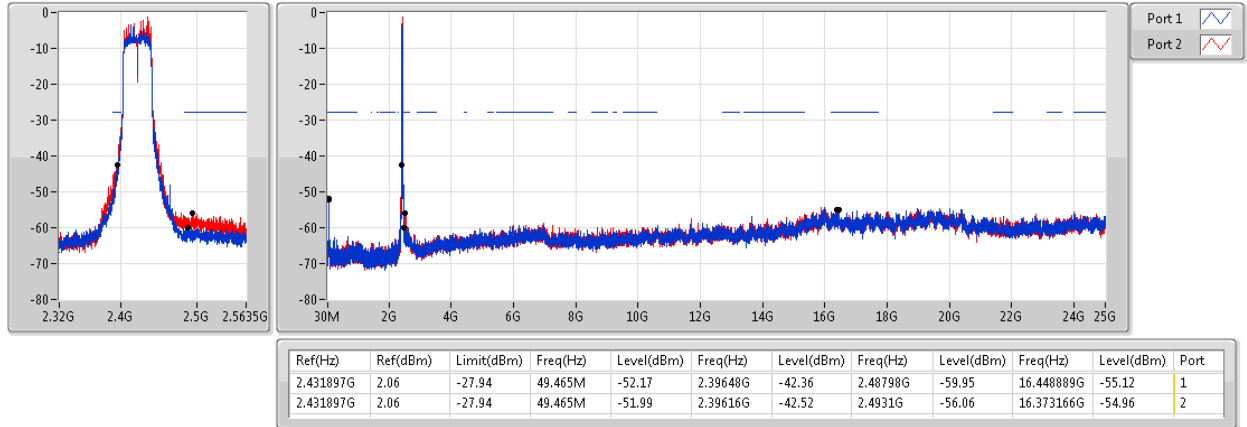
Port 1 
Port 2 

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.432064G	9.32	-20.68	49.805M	-50.65	2.39048G	-56.51	2.48494G	-50.91	17.369228G	-54.87	1
2.432064G	9.32	-20.68	49.805M	-52.34	2.39128G	-59.00	2.48382G	-47.05	17.369228G	-54.79	2

802.11ac VHT40_Nss1,(MCS0)_2TX

CSE NdB

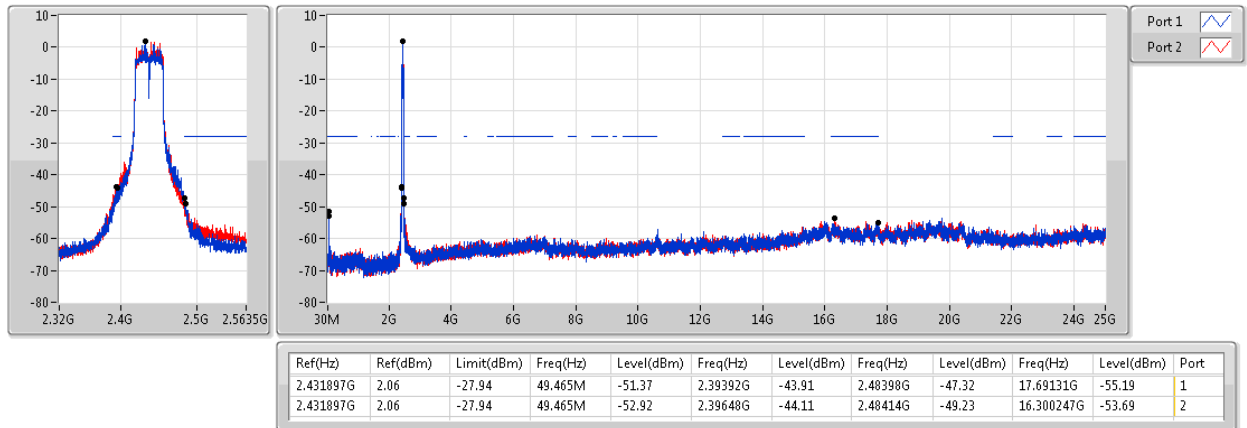
2422MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

CSE NdB

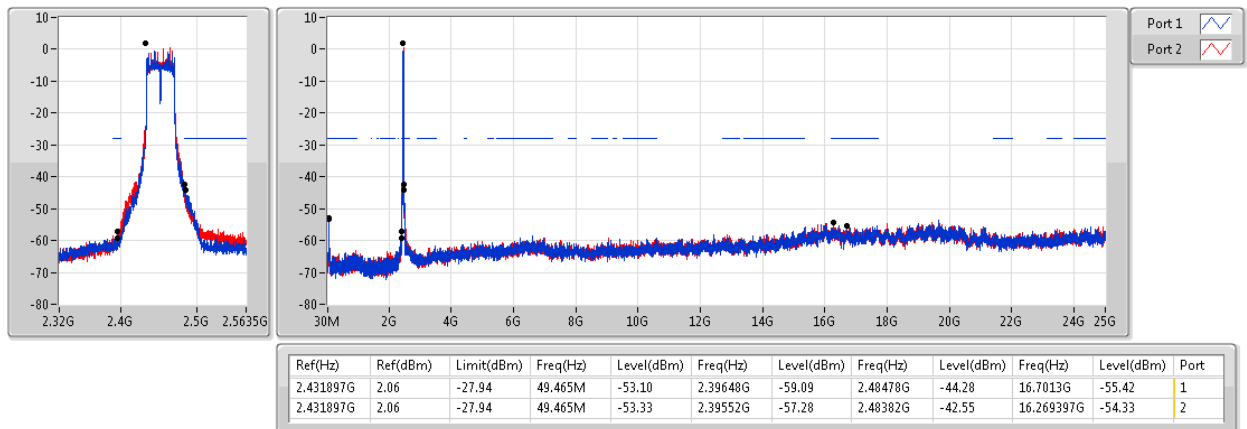
2437MHz

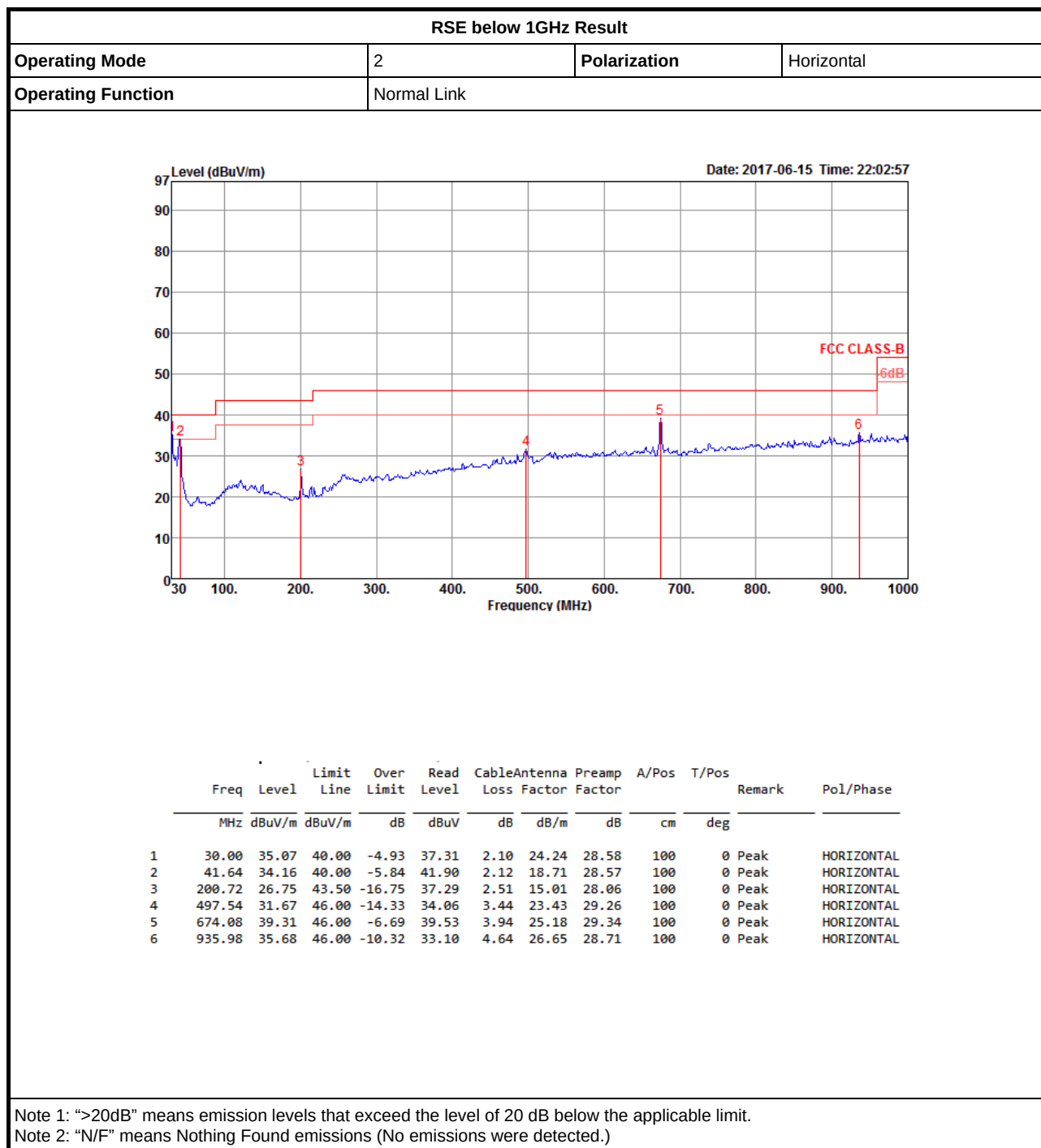


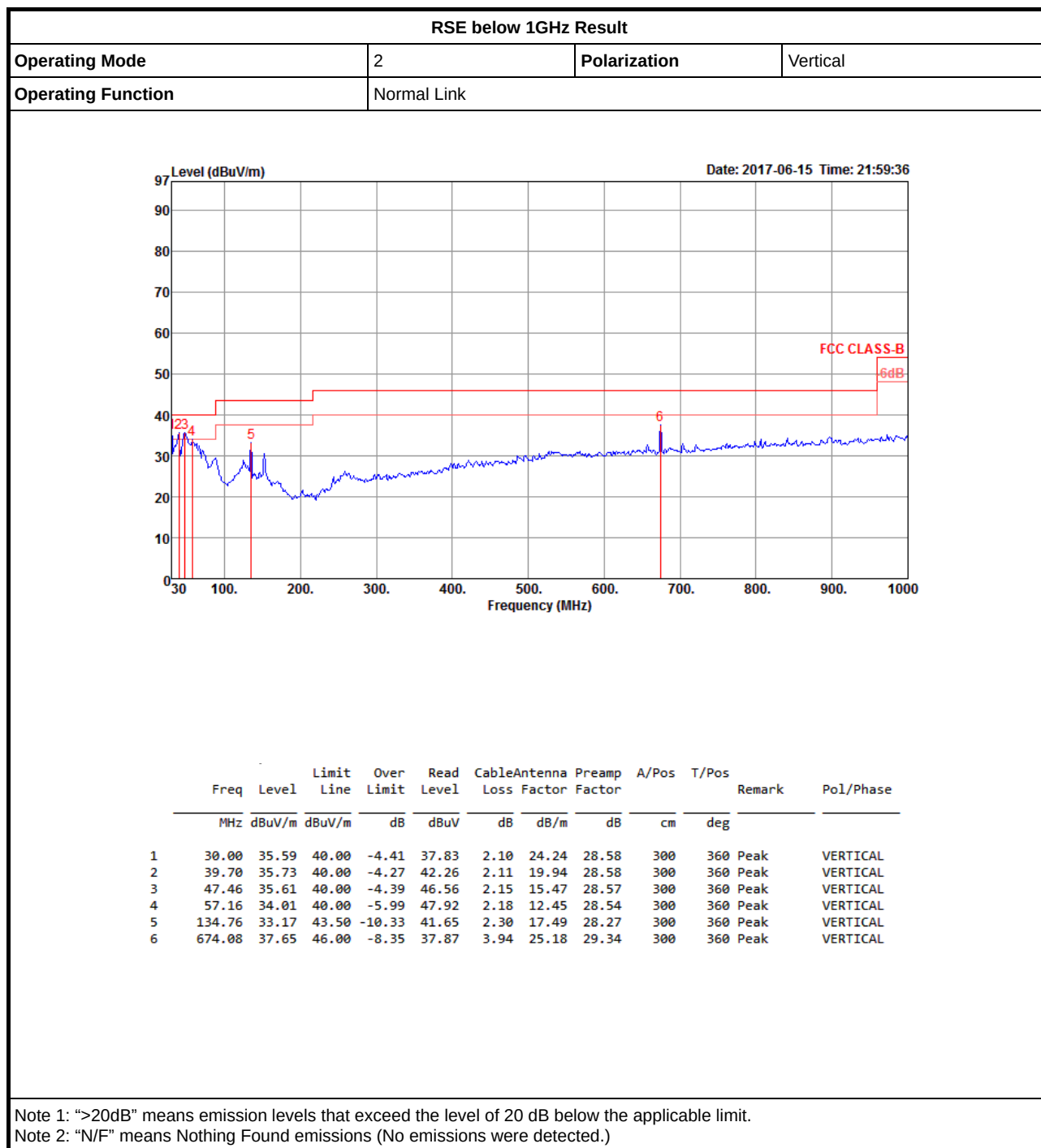
802.11ac VHT40_Nss1,(MCS0)_2TX

CSE NdB

2452MHz









RSE TX above 1GHz Result

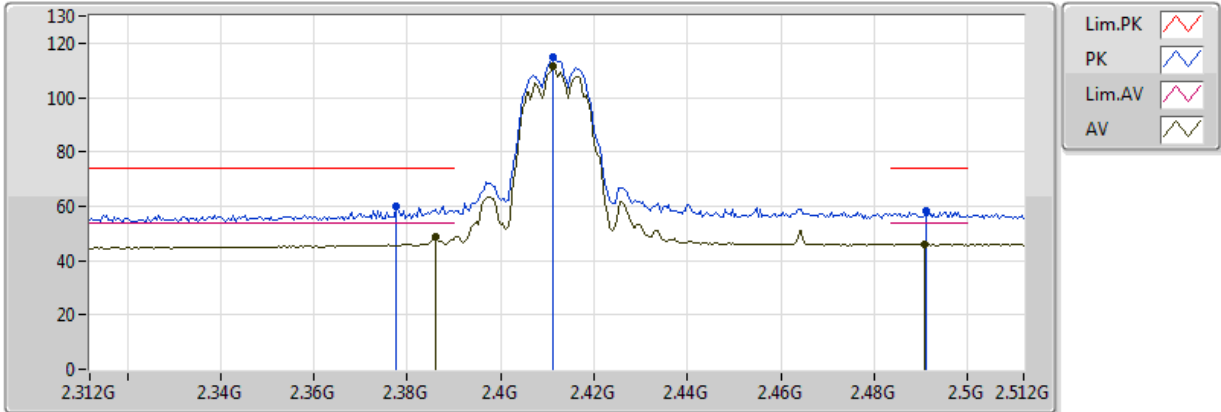
Appendix F.2

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
802.11b_(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	AV	4.82402G	53.96	54.00	-0.04	4.72	3	H	288	1.88	-

802.11b_(1Mbps)_2TX

2412MHz_TX

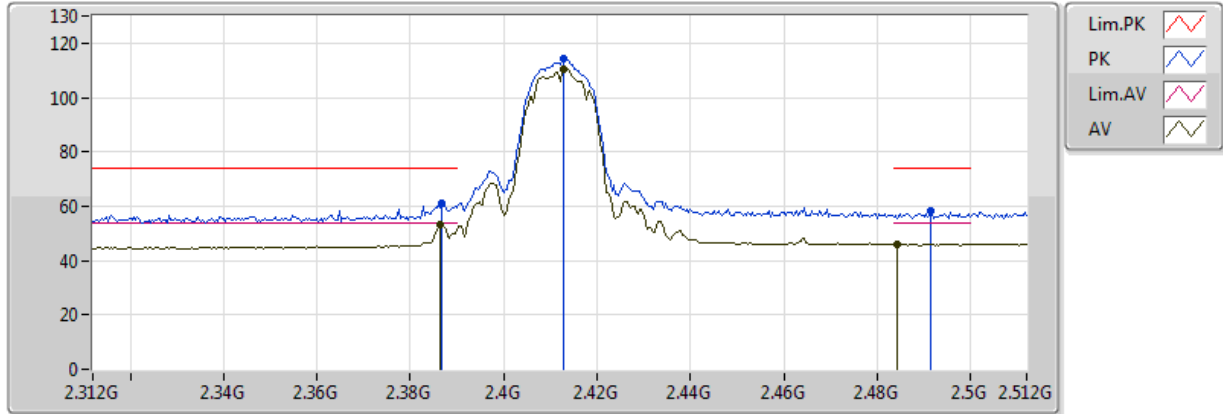


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.386G	48.52	54.00	-5.48	31.90	3	V	20	1.75	-
AV	2.4112G	111.25	Inf	-Inf	31.97	3	V	20	1.75	-
AV	2.4908G	46.00	54.00	-8.00	32.16	3	V	20	1.75	-
PK	2.3776G	60.12	74.00	-13.88	31.88	3	V	20	1.75	-
PK	2.4112G	114.67	Inf	-Inf	31.97	3	V	20	1.75	-
PK	2.4912G	58.08	74.00	-15.92	32.16	3	V	20	1.75	-

802.11b_(1Mbps)_2TX

2412MHz_TX

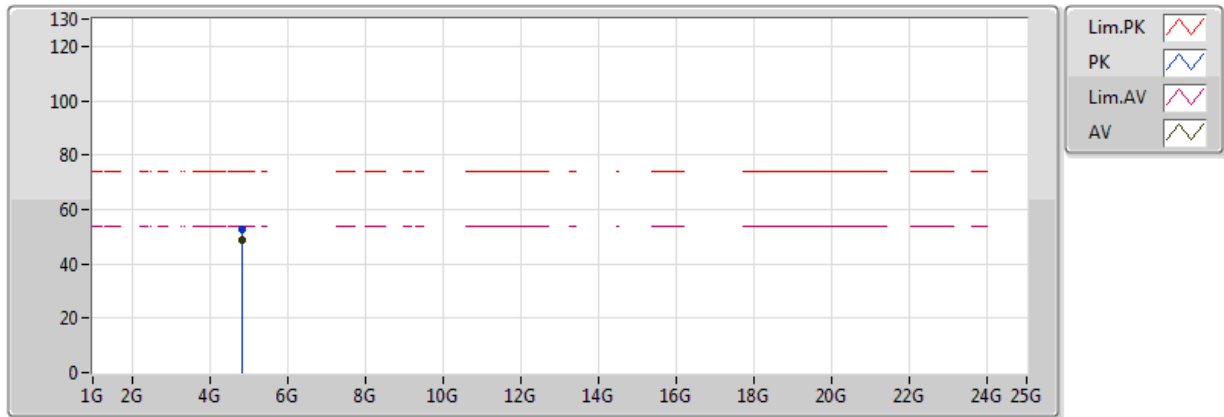


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3864G	53.51	54.00	-0.49	31.90	3	H	0	2.22	-
AV	2.4128G	110.61	Inf	-Inf	31.97	3	H	0	2.22	-
AV	2.4844G	46.14	54.00	-7.86	32.14	3	H	0	2.22	-
PK	2.3868G	60.95	74.00	-13.05	31.91	3	H	0	2.22	-
PK	2.4128G	114.55	Inf	-Inf	31.97	3	H	0	2.22	-
PK	2.4916G	58.41	74.00	-15.59	32.16	3	H	0	2.22	-

802.11b_(1Mbps)_2TX

2412MHz_TX

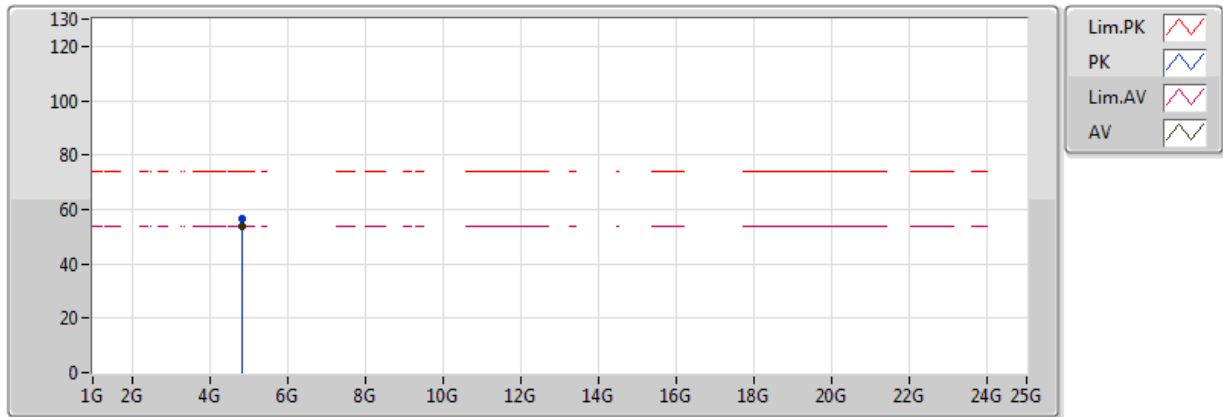


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.82402G	48.91	54.00	-5.09	4.72	3	V	51	1.19	-
PK	4.82404G	52.56	74.00	-21.44	4.72	3	V	51	1.19	-

802.11b_(1Mbps)_2TX

2412MHz_TX

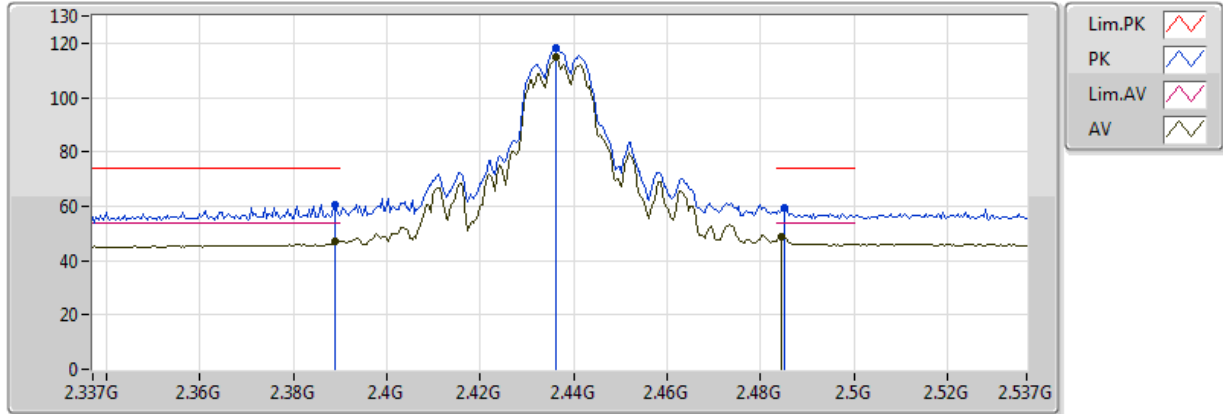


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.82402G	53.96	54.00	-0.04	4.72	3	H	288	1.88	-
PK	4.82404G	56.61	74.00	-17.39	4.72	3	H	288	1.88	-

802.11b_(1Mbps)_2TX

2437MHz_TX

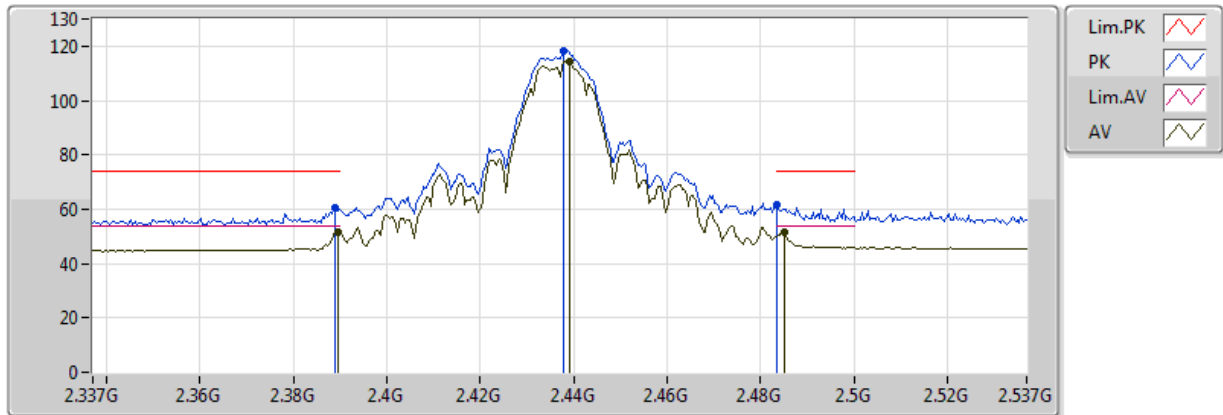


20170522
EUT X_2TX
Setting 22
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.389G	47.02	54.00	-6.98	31.91	3	V	15	1.96	-
AV	2.4362G	114.84	Inf	-Inf	32.03	3	V	15	1.96	-
AV	2.4846G	48.80	54.00	-5.20	32.14	3	V	15	1.96	-
PK	2.389G	60.69	74.00	-13.31	31.91	3	V	15	1.96	-
PK	2.4362G	118.35	Inf	-Inf	32.03	3	V	15	1.96	-
PK	2.485G	59.46	74.00	-14.54	32.14	3	V	15	1.96	-

802.11b_(1Mbps)_2TX

2437MHz_TX

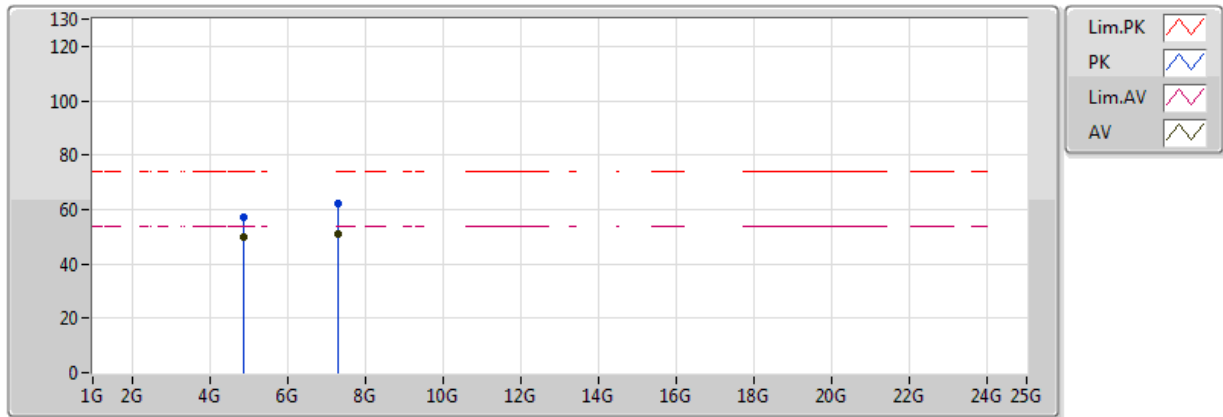


20170522
EUT X_2TX
Setting 22
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3894G	51.47	54.00	-2.53	31.91	3	H	360	2.38	-
AV	2.439G	114.45	Inf	-Inf	32.03	3	H	360	2.38	-
AV	2.485G	51.82	54.00	-2.18	32.14	3	H	360	2.38	-
PK	2.389G	60.52	74.00	-13.48	31.91	3	H	360	2.38	-
PK	2.4378G	118.26	Inf	-Inf	32.03	3	H	360	2.38	-
PK	2.483502G	61.88	74.00	-12.12	32.14	3	H	360	2.38	-

802.11b_(1Mbps)_2TX

2437MHz_TX

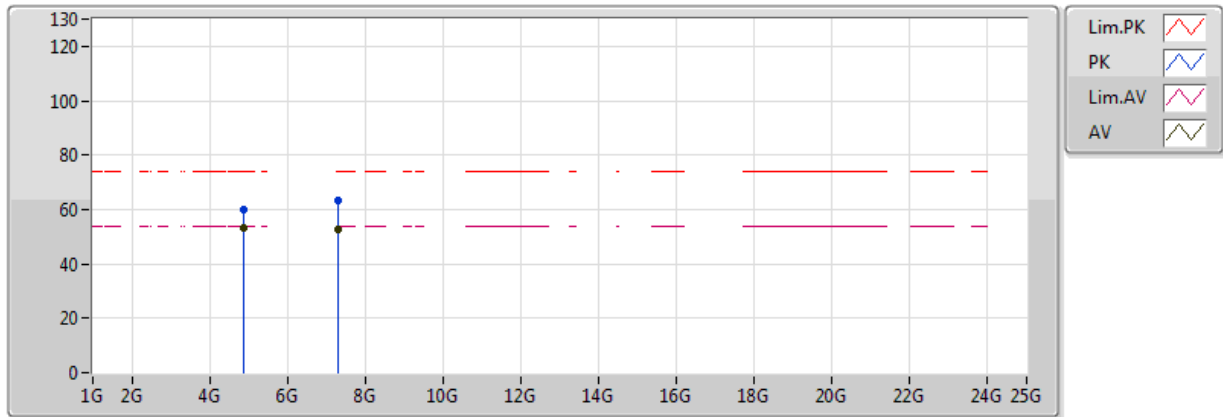


20170522
EUT_X_2TX
Setting 22
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	49.69	54.00	-4.31	4.82	3	V	6	1.80	-
AV	7.31176G	50.98	54.00	-3.02	8.80	3	V	0	1.60	-
PK	4.87404G	57.32	74.00	-16.68	4.82	3	V	6	1.80	-
PK	7.31104G	62.07	74.00	-11.93	8.80	3	V	0	1.60	-

802.11b_(1Mbps)_2TX

2437MHz_TX

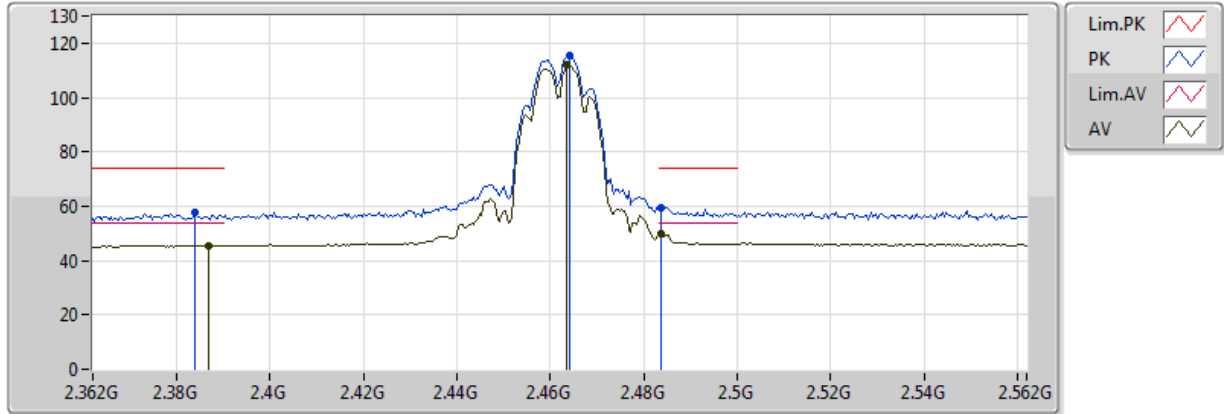


20170522
EUT X_2TX
Setting 22
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.874G	53.51	54.00	-0.49	4.82	3	H	343	1.76	-
AV	7.3118G	52.71	54.00	-1.29	8.80	3	H	50	1.02	-
PK	4.87404G	59.70	74.00	-14.30	4.82	3	H	343	1.76	-
PK	7.31128G	63.52	74.00	-10.48	8.80	3	H	50	1.02	-

802.11b_(1Mbps)_2TX

2462MHz_TX

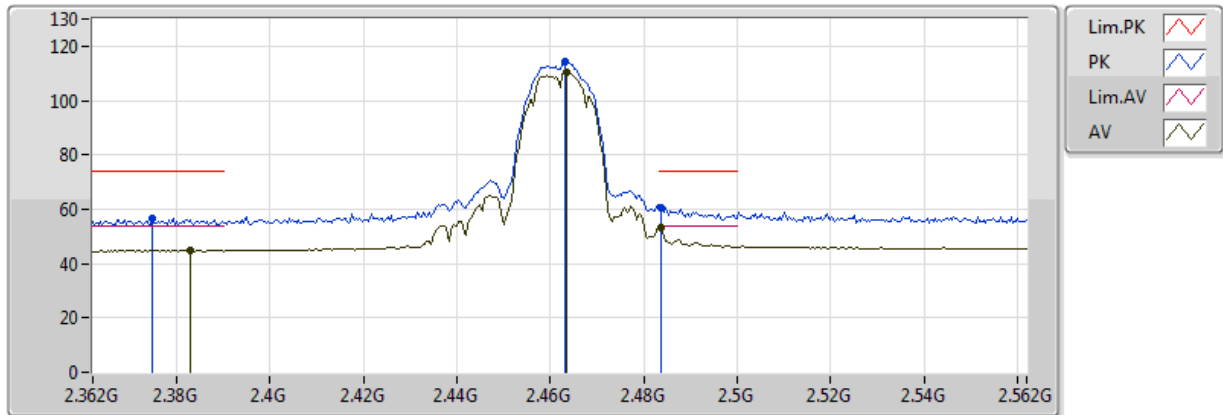


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3868G	45.46	54.00	-8.54	31.91	3	V	17	1.30	-
AV	2.4636G	111.80	Inf	-Inf	32.09	3	V	17	1.30	-
AV	2.4836G	49.68	54.00	-4.32	32.14	3	V	17	1.30	-
PK	2.384G	57.45	74.00	-16.55	31.90	3	V	17	1.30	-
PK	2.464G	115.22	Inf	-Inf	32.09	3	V	17	1.30	-
PK	2.4836G	59.52	74.00	-14.48	32.14	3	V	17	1.30	-

802.11b_(1Mbps)_2TX

2462MHz_TX

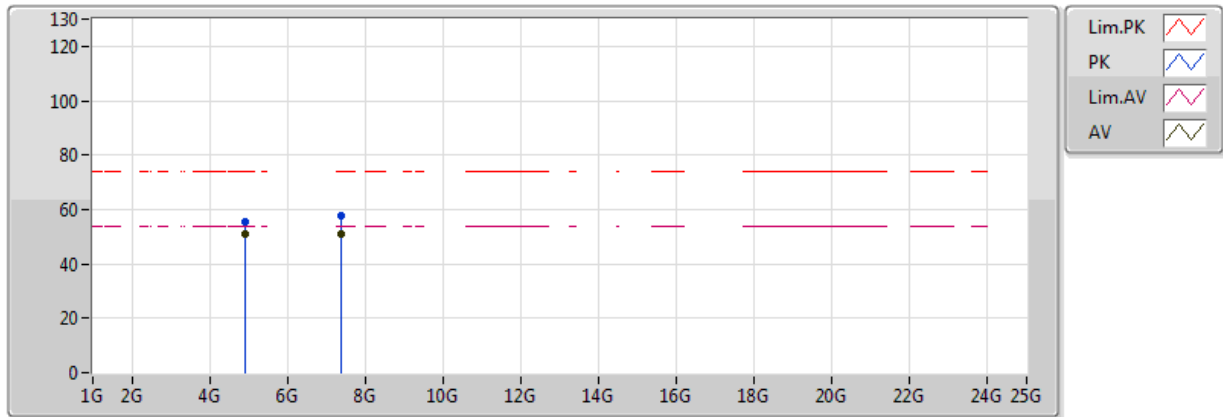


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3828G	44.81	54.00	-9.19	31.90	3	H	352	2.12	-
AV	2.4636G	110.59	Inf	-Inf	32.09	3	H	352	2.12	-
AV	2.4836G	53.51	54.00	-0.49	32.14	3	H	352	2.12	-
PK	2.3748G	56.53	74.00	-17.47	31.87	3	H	352	2.12	-
PK	2.4632G	114.32	Inf	-Inf	32.09	3	H	352	2.12	-
PK	2.4836G	60.79	74.00	-13.21	32.14	3	H	352	2.12	-

802.11b_(1Mbps)_2TX

2462MHz_TX

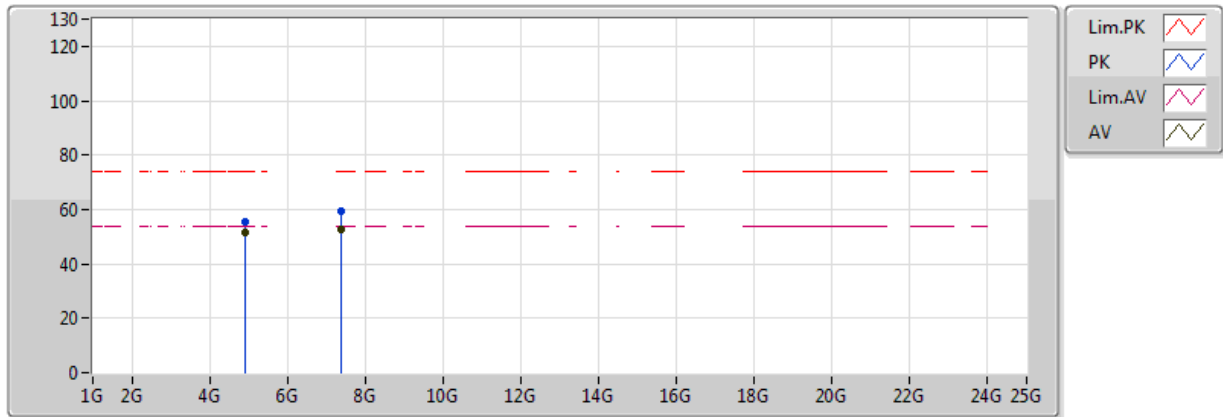


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.92402G	51.01	54.00	-2.99	4.92	3	V	322	1.18	-
AV	7.38732G	50.99	54.00	-3.01	8.83	3	V	323	2.57	-
PK	4.92398G	55.21	74.00	-18.79	4.92	3	V	322	1.18	-
PK	7.38692G	57.75	74.00	-16.25	8.83	3	V	323	2.57	-

802.11b_(1Mbps)_2TX

2462MHz_TX

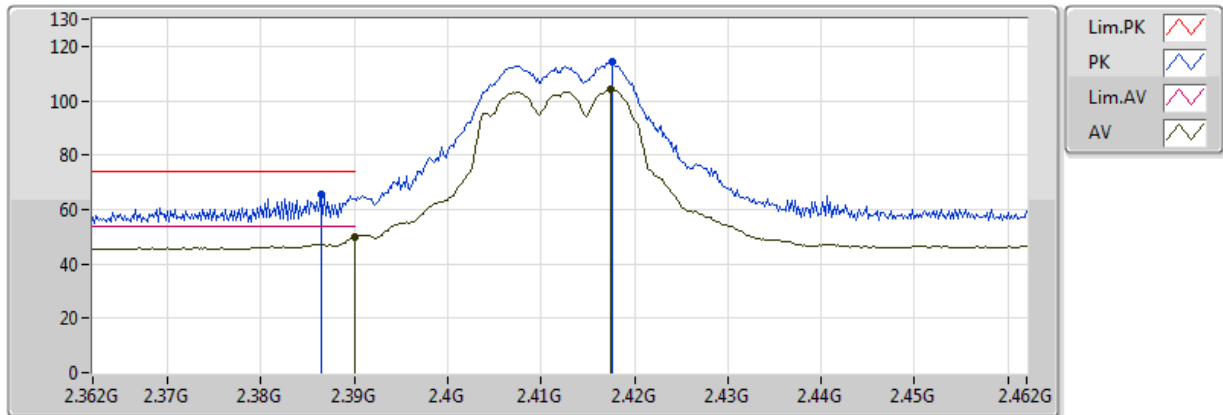


20170522
EUT X_2TX
Setting 18
03-J-4
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.92402G	51.28	54.00	-2.72	4.92	3	H	14	1.01	-
AV	7.38784G	52.84	54.00	-1.16	8.83	3	H	327	1.85	-
PK	4.92406G	55.41	74.00	-18.59	4.92	3	H	14	1.01	-
PK	7.38752G	59.51	74.00	-14.49	8.83	3	H	327	1.85	-

802.11g_(6Mbps)_2TX

2412MHz_TX

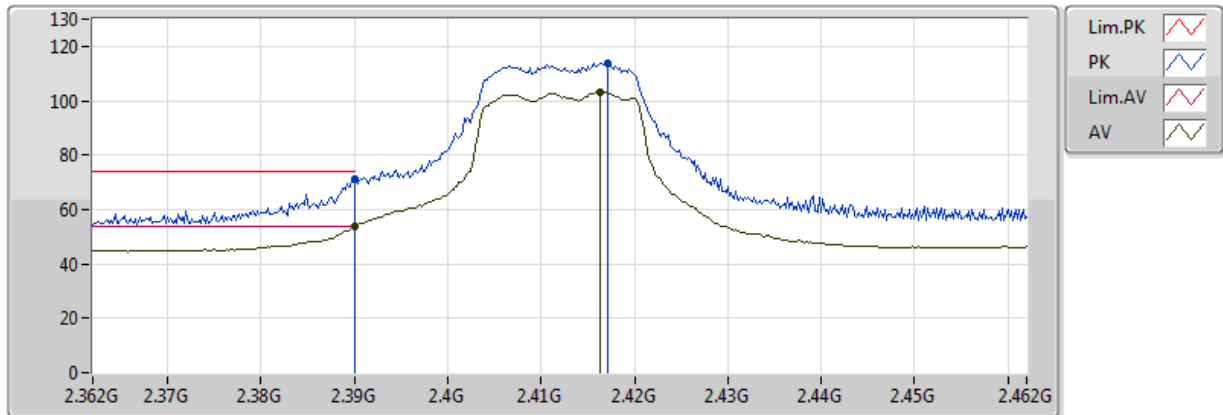


20170523
EUT X_2TX
Setting 15
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.39G	49.92	54.00	-4.08	31.91	3	V	17	1.77	-
AV	2.4174G	104.27	Inf	-Inf	31.98	3	V	17	1.77	-
PK	2.3864G	65.40	74.00	-8.60	31.90	3	V	17	1.77	-
PK	2.4176G	114.05	Inf	-Inf	31.98	3	V	17	1.77	-

802.11g_(6Mbps)_2TX

2412MHz_TX

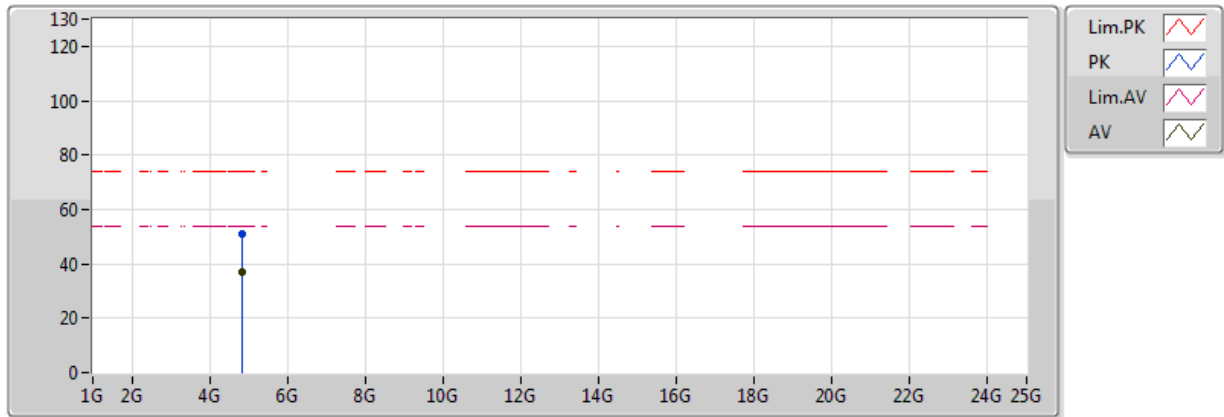


20170523
EUT X_2TX
Setting 15
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.39G	53.64	54.00	-0.36	31.91	3	H	1	2.22	-
AV	2.4164G	103.34	Inf	-Inf	31.98	3	H	1	2.22	-
PK	2.39G	71.18	74.00	-2.82	31.91	3	H	1	2.22	-
PK	2.4172G	113.73	Inf	-Inf	31.98	3	H	1	2.22	-

802.11g_(6Mbps)_2TX

2412MHz_TX

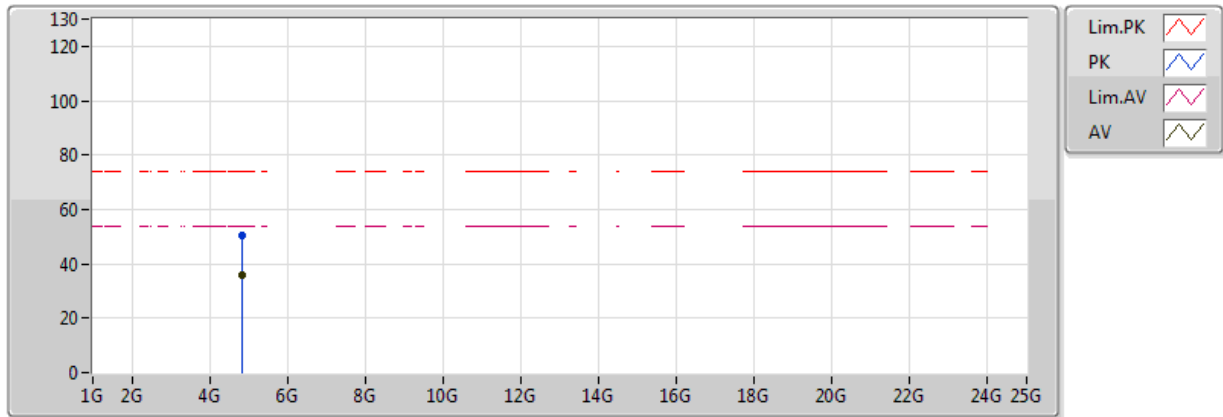


20170523
EUT X_2TX
Setting 15
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.82684G	37.03	54.00	-16.97	4.72	3	V	353	1.17	-
PK	4.8251G	51.19	74.00	-22.81	4.72	3	V	353	1.17	-

802.11g_(6Mbps)_2TX

2412MHz_TX

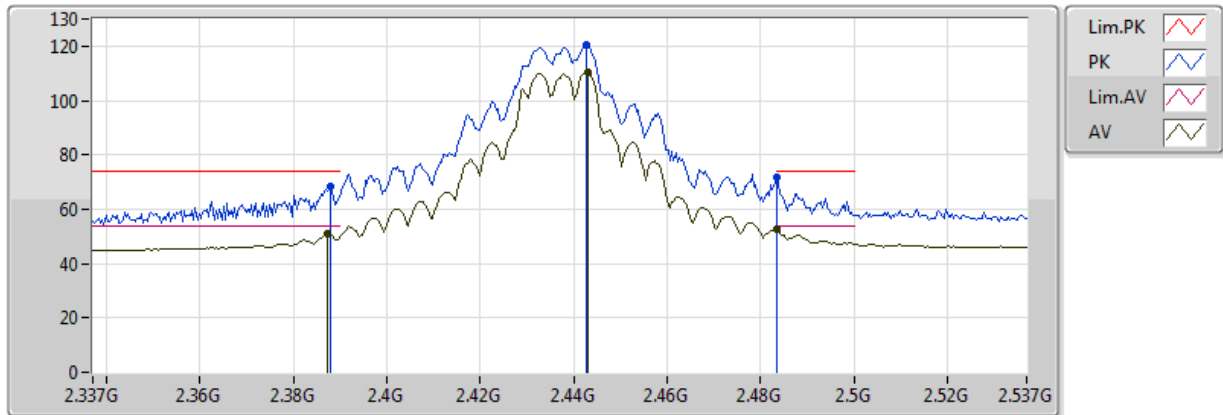


20170523
EUT X_2TX
Setting 15
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.82694G	35.94	54.00	-18.06	4.72	3	H	259	1.49	-
PK	4.8267G	50.16	74.00	-23.84	4.72	3	H	259	1.49	-

802.11g_(6Mbps)_2TX

2437MHz_TX

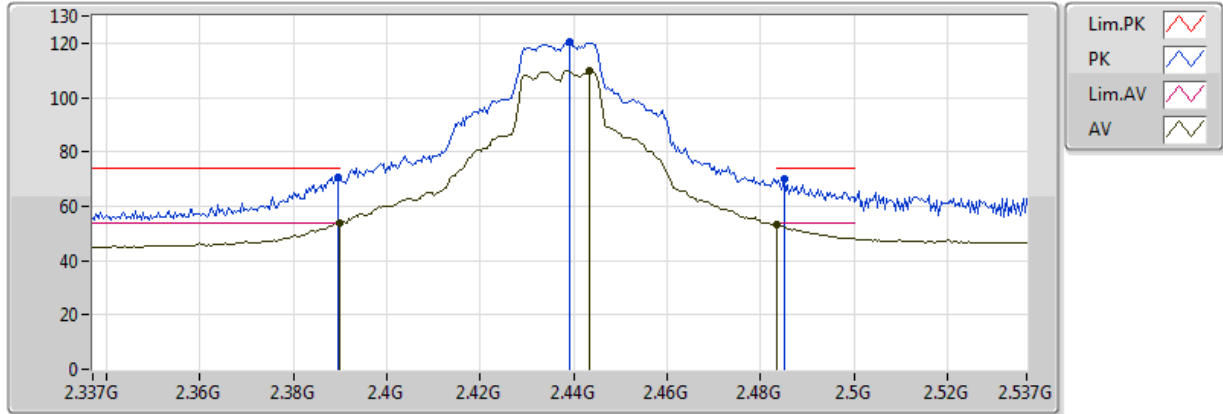


20170523
EUT X_2TX
Setting 22
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3874G	50.96	54.00	-3.04	31.91	3	V	21	1.98	-
AV	2.443G	120.35	Inf	-Inf	32.04	3	V	21	1.98	-
AV	2.483502G	52.49	54.00	-1.51	32.14	3	V	21	1.98	-
PK	2.3878G	68.30	74.00	-5.70	31.91	3	V	21	1.98	-
PK	2.4426G	120.65	Inf	-Inf	32.04	3	V	21	1.98	-
PK	2.483502G	71.64	74.00	-2.36	32.14	3	V	21	1.98	-

802.11g_(6Mbps)_2TX

2437MHz_TX

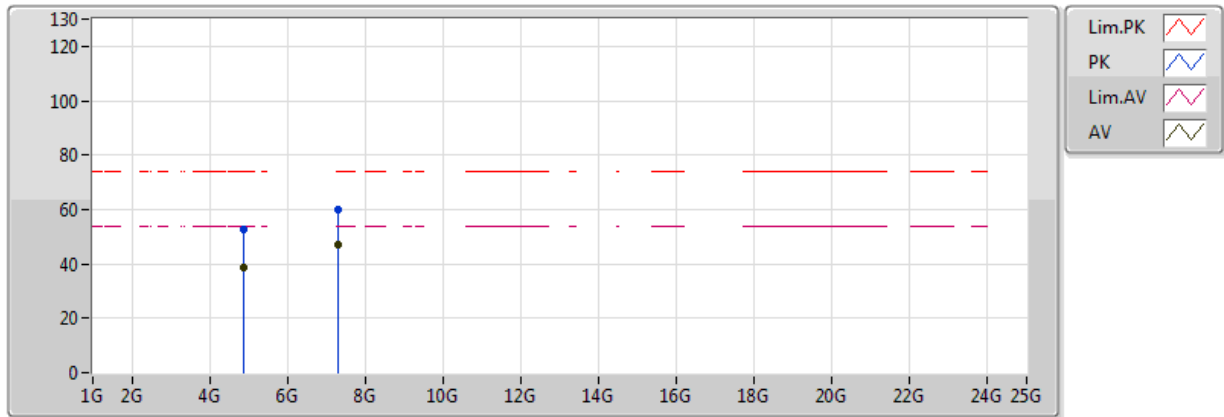


20170523
EUT X_2TX
Setting 22
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.389998G	53.84	54.00	-0.16	31.91	3	H	3	2.41	-
AV	2.4434G	109.88	Inf	-Inf	32.04	3	H	3	2.41	-
AV	2.483502G	53.40	54.00	-0.60	32.14	3	H	3	2.41	-
PK	2.3894G	70.58	74.00	-3.42	31.91	3	H	3	2.41	-
PK	2.439G	120.57	Inf	-Inf	32.03	3	H	3	2.41	-
PK	2.485G	70.08	74.00	-3.92	32.14	3	H	3	2.41	-

802.11g_(6Mbps)_2TX

2437MHz_TX

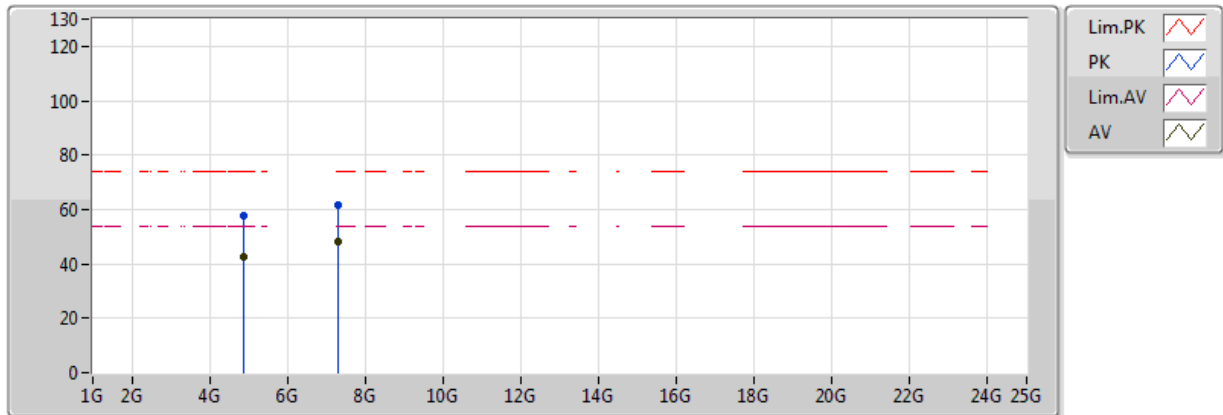


20170523
EUT X_2TX
Setting 22
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87292G	38.61	54.00	-15.39	4.82	3	V	19	1.94	-
AV	7.3086G	46.83	54.00	-7.17	8.80	3	V	322	1.56	-
PK	4.87816G	52.81	74.00	-21.19	4.83	3	V	19	1.94	-
PK	7.3038G	60.20	74.00	-13.80	8.80	3	V	322	1.56	-

802.11g_(6Mbps)_2TX

2437MHz_TX

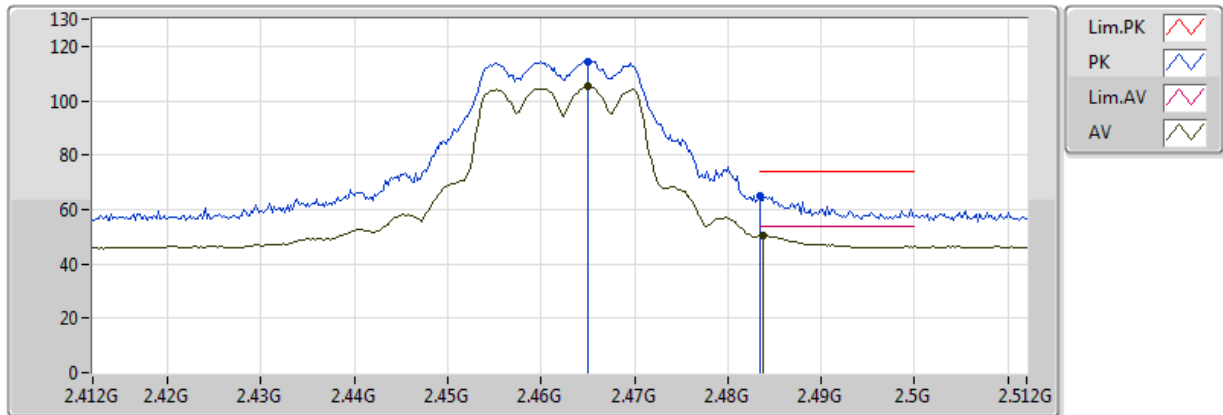


20170523
EUT_X_2TX
Setting 22
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87396G	42.70	54.00	-11.30	4.82	3	H	227	2.19	-
AV	7.31112G	48.07	54.00	-5.93	8.80	3	H	51	1.08	-
PK	4.87424G	57.64	74.00	-16.36	4.82	3	H	227	2.19	-
PK	7.3118G	61.76	74.00	-12.24	8.80	3	H	51	1.08	-

802.11g_(6Mbps)_2TX

2462MHz_TX

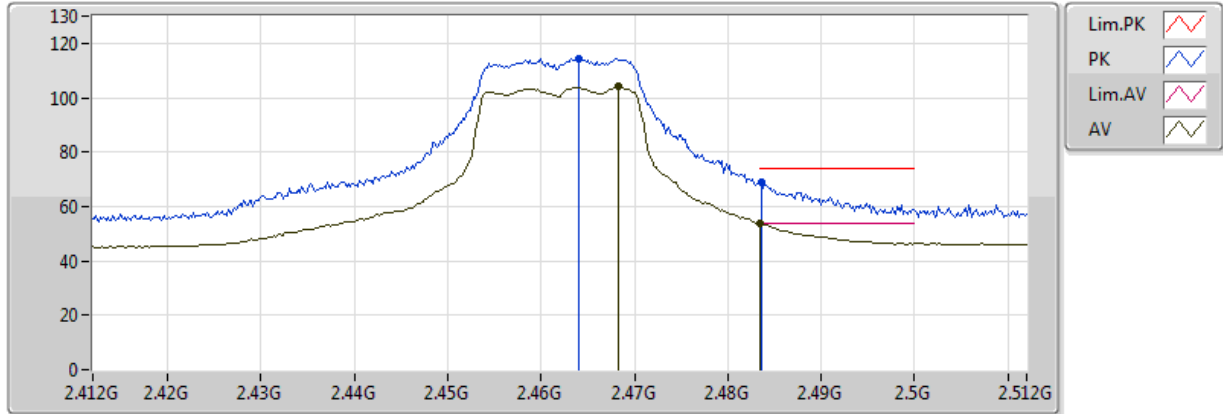


20170523
EUT X_2TX
Setting 15.5
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.465G	105.17	Inf	-Inf	32.10	3	V	13	1.30	-
AV	2.4838G	50.48	54.00	-3.52	32.14	3	V	13	1.30	-
PK	2.465G	114.40	Inf	-Inf	32.10	3	V	13	1.30	-
PK	2.483502G	64.82	74.00	-9.18	32.14	3	V	13	1.30	-

802.11g_(6Mbps)_2TX

2462MHz_TX

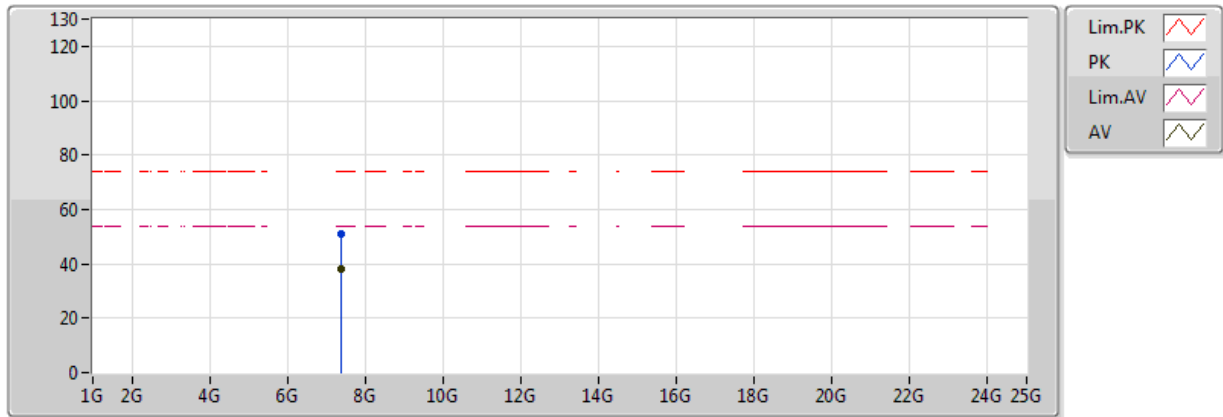


20170523
EUT X_2TX
Setting 15.5
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4682G	103.97	Inf	-Inf	32.10	3	H	3	2.35	-
AV	2.483502G	53.88	54.00	-0.12	32.14	3	H	3	2.35	-
PK	2.464G	114.33	Inf	-Inf	32.09	3	H	3	2.35	-
PK	2.4836G	69.13	74.00	-4.87	32.14	3	H	3	2.35	-

802.11g_(6Mbps)_2TX

2462MHz_TX

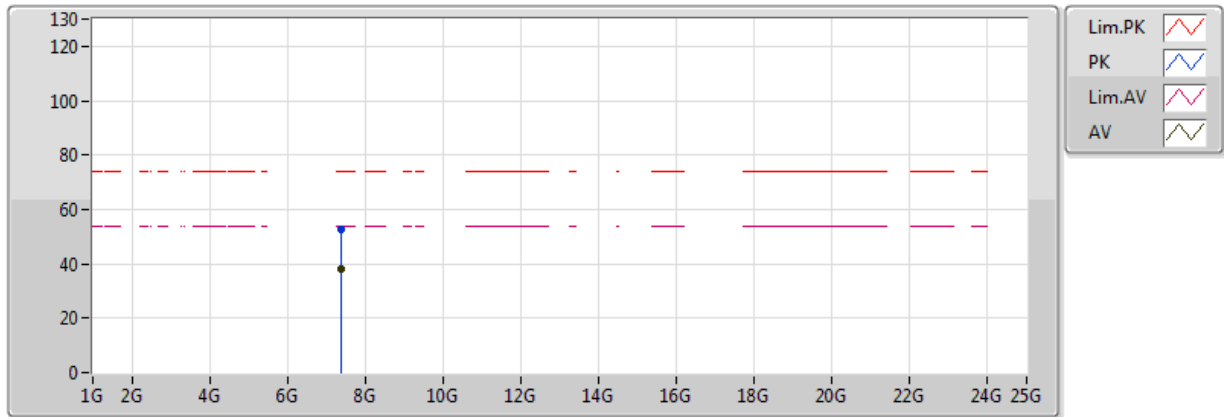


20170523
EUT X_2TX
Setting 15.5
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	7.38334G	38.22	54.00	-15.78	8.83	3	V	125	2.40	-
PK	7.38846G	51.25	74.00	-22.75	8.83	3	V	125	2.40	-

802.11g_(6Mbps)_2TX

2462MHz_TX

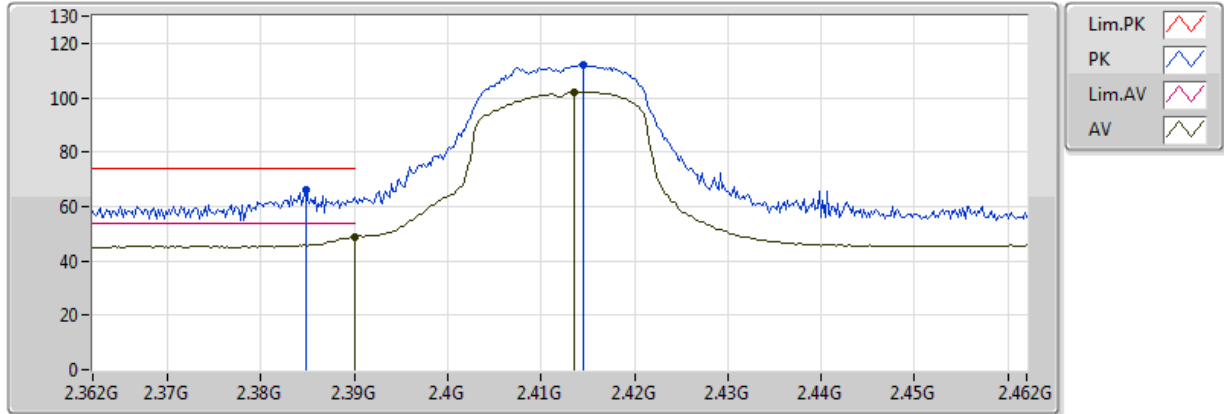


20170523
EUT X_2TX
Setting 15.5
03-Z-1
FSP(100019)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	7.38348G	38.38	54.00	-15.62	8.83	3	H	40	1.74	-
PK	7.38532G	52.64	74.00	-21.36	8.83	3	H	40	1.74	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2412MHz_TX

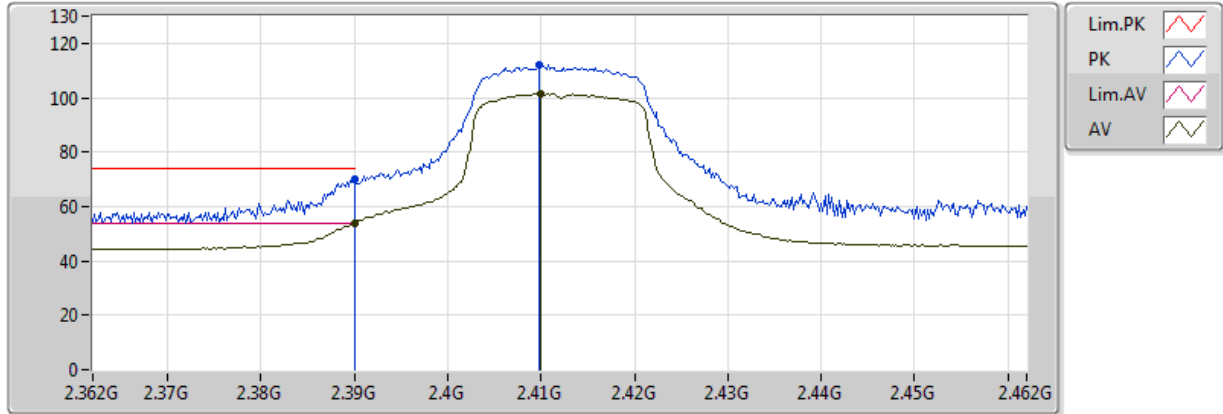


20170523
EUT X_2TX
Setting 14
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.389998G	48.84	54.00	-5.16	31.04	3	V	17	1.71	-
AV	2.4136G	102.11	Inf	-Inf	31.00	3	V	17	1.71	-
PK	2.3848G	66.03	74.00	-7.97	31.04	3	V	17	1.71	-
PK	2.4146G	112.02	Inf	-Inf	31.00	3	V	17	1.71	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2412MHz_TX

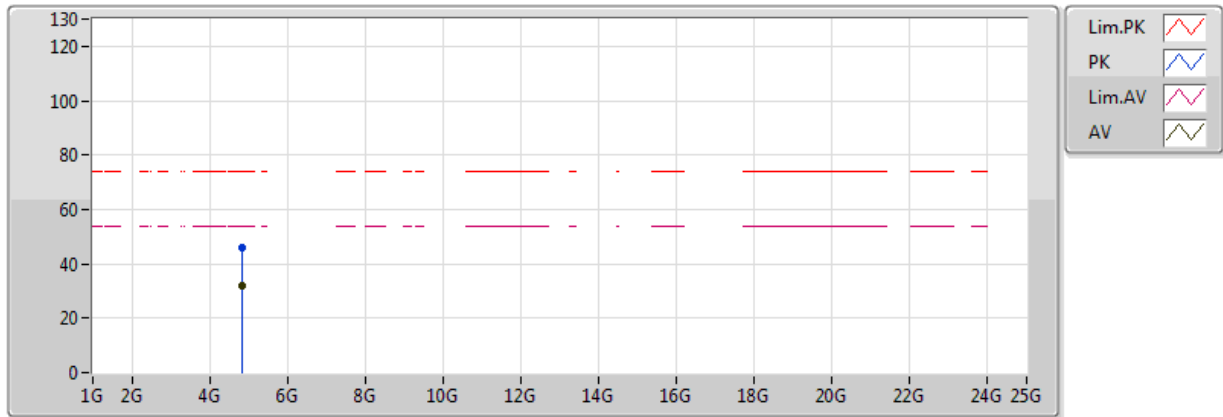


20170523
EUT X_2TX
Setting 14
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.389998G	53.83	54.00	-0.17	31.04	3	H	2	1.92	-
AV	2.41G	101.55	Inf	-Inf	31.01	3	H	2	1.92	-
PK	2.389998G	69.97	74.00	-4.03	31.04	3	H	2	1.92	-
PK	2.4098G	111.95	Inf	-Inf	31.01	3	H	2	1.92	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2412MHz_TX

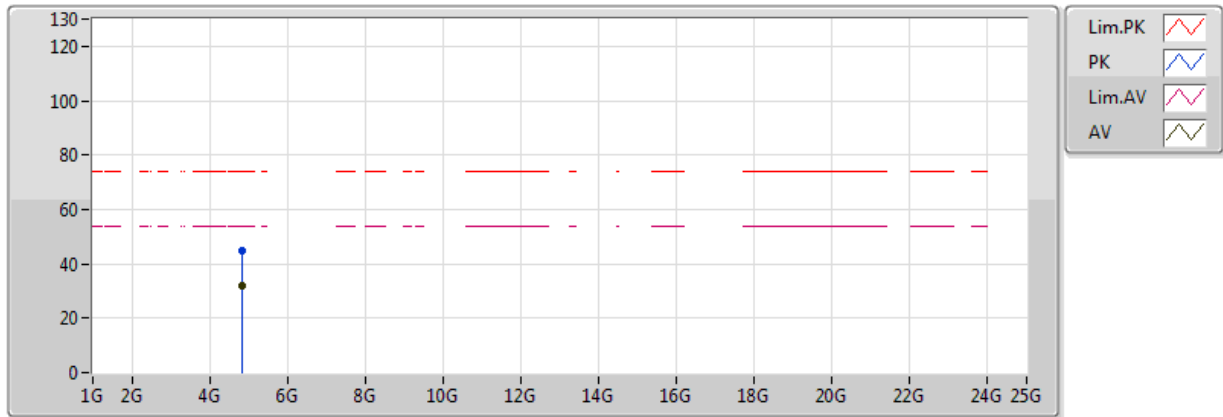


20170523
EUT X_2TX
Setting 14
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.83006G	32.05	54.00	-21.95	3.54	3	V	56	2.34	-
PK	4.82736G	45.95	74.00	-28.05	3.53	3	V	56	2.34	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2412MHz_TX

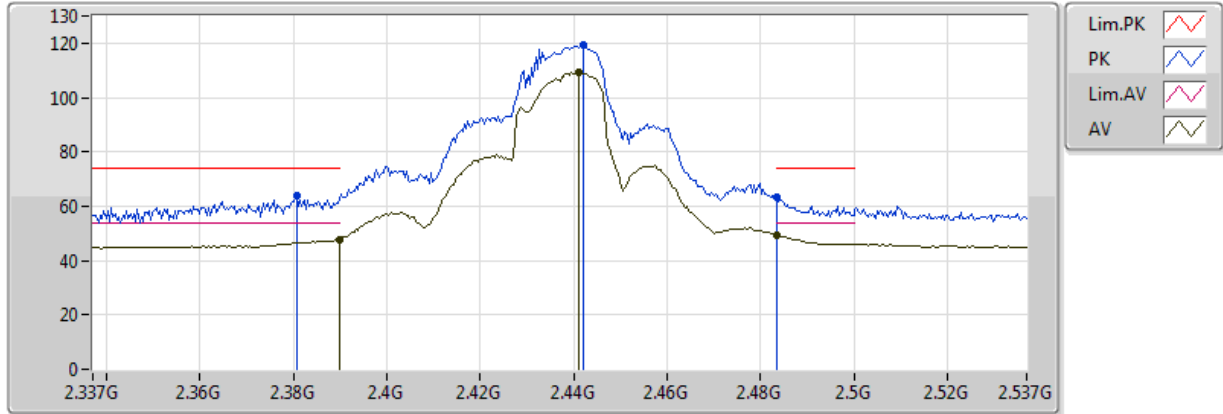


20170523
EUT X_2TX
Setting 14
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.83534G	32.16	54.00	-21.84	3.55	3	H	160	2.13	-
PK	4.82058G	45.01	74.00	-28.99	3.51	3	H	160	2.13	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2437MHz_TX

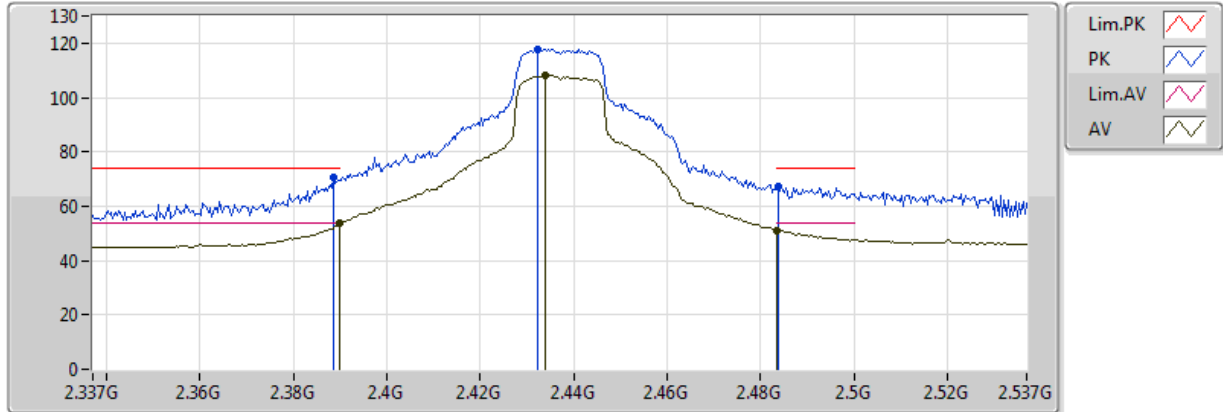


20170523
EUT X_2TX
Setting 20.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3898G	47.51	54.00	-6.49	31.04	3	V	25	1.64	-
AV	2.441G	109.04	Inf	-Inf	30.97	3	V	25	1.64	-
AV	2.483502G	49.27	54.00	-4.73	30.92	3	V	25	1.64	-
PK	2.3806G	63.83	74.00	-10.17	31.05	3	V	25	1.64	-
PK	2.4422G	119.11	Inf	-Inf	30.97	3	V	25	1.64	-
PK	2.483502G	63.56	74.00	-10.44	30.92	3	V	25	1.64	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2437MHz_TX

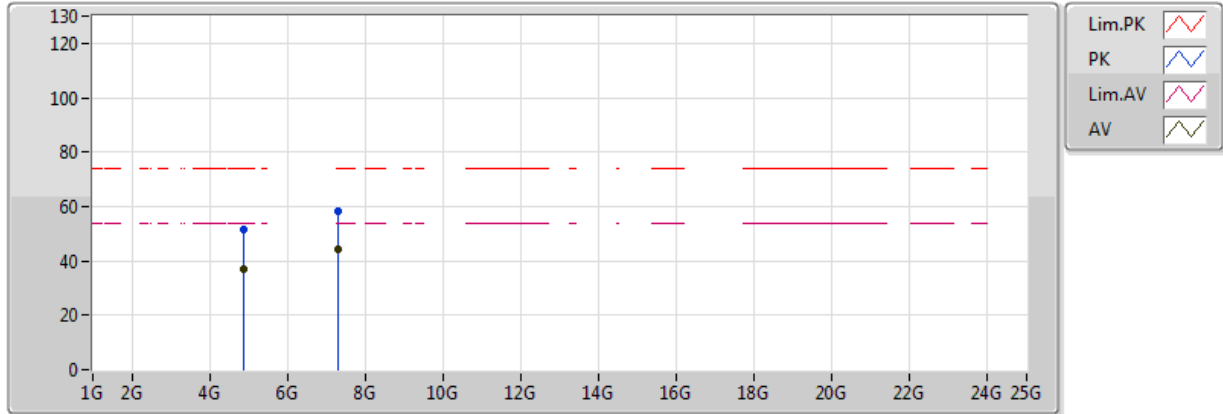


20170523
EUT X_2TX
Setting 20.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3898G	53.89	54.00	-0.11	31.04	3	H	353	2.33	-
AV	2.4338G	108.13	Inf	-Inf	30.98	3	H	353	2.33	-
AV	2.483502G	51.19	54.00	-2.81	30.92	3	H	353	2.33	-
PK	2.3886G	70.42	74.00	-3.58	31.04	3	H	353	2.33	-
PK	2.4322G	117.90	Inf	-Inf	30.98	3	H	353	2.33	-
PK	2.4838G	67.26	74.00	-6.74	30.92	3	H	353	2.33	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2437MHz_TX

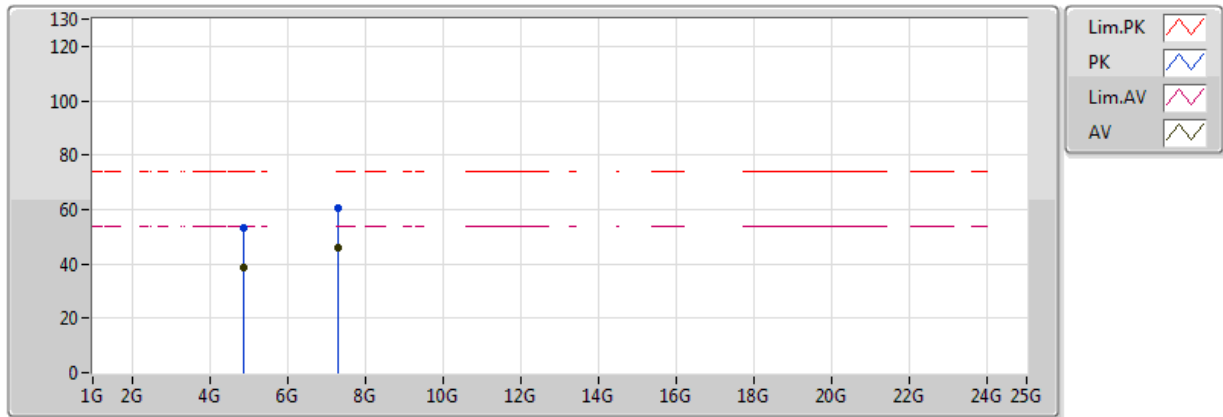


20170523
EUT X_2TX
Setting 20.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87352G	37.17	54.00	-16.83	3.66	3	V	6	1.50	-
AV	7.31106G	44.10	54.00	-9.90	10.63	3	V	4	1.26	-
PK	4.87436G	51.70	74.00	-22.30	3.67	3	V	6	1.50	-
PK	7.31346G	58.19	74.00	-15.81	10.64	3	V	4	1.26	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2437MHz_TX

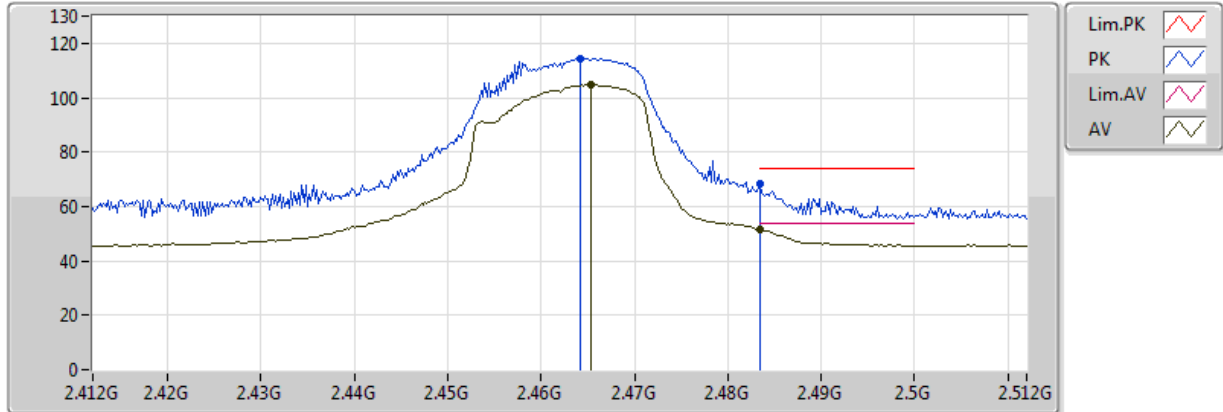


20170523
EUT X_2TX
Setting 20.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87496G	38.62	54.00	-15.38	3.67	3	H	356	1.45	-
AV	7.30938G	45.70	54.00	-8.30	10.63	3	H	29	2.36	-
PK	4.87376G	53.20	74.00	-20.80	3.66	3	H	356	1.45	-
PK	7.30782G	60.33	74.00	-13.67	10.63	3	H	29	2.36	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2462MHz_TX

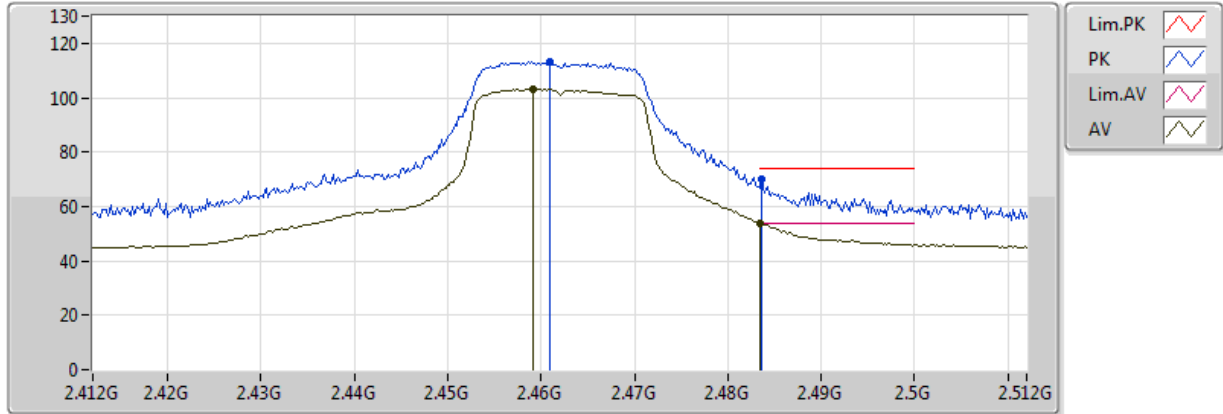


20170523
EUT X_2TX
Setting 15.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4654G	104.66	Inf	-Inf	30.94	3	V	17	1.42	-
AV	2.483502G	51.70	54.00	-2.30	30.92	3	V	17	1.42	-
PK	2.4642G	114.47	Inf	-Inf	30.94	3	V	17	1.42	-
PK	2.483502G	68.21	74.00	-5.79	30.92	3	V	17	1.42	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2462MHz_TX

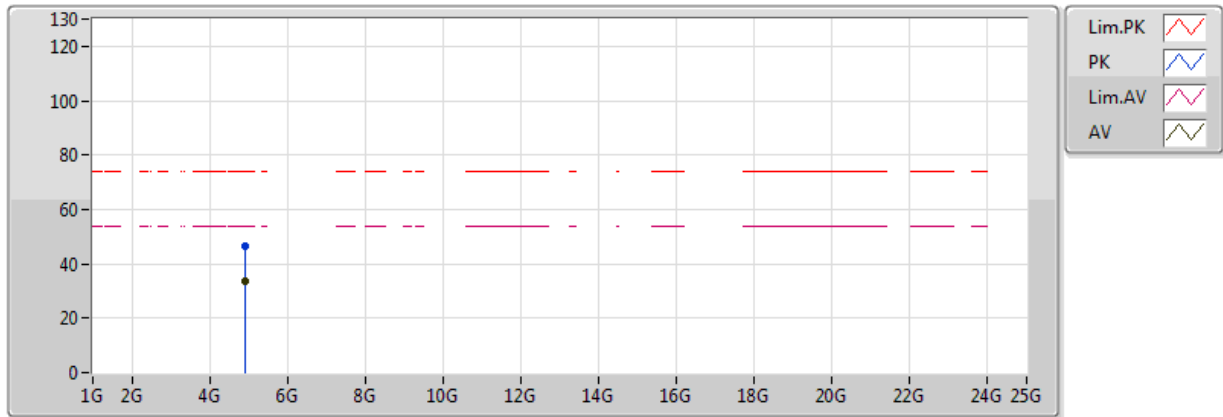


20170523
EUT X_2TX
Setting 15.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.4592G	103.27	Inf	-Inf	30.95	3	H	358	1.87	-
AV	2.483502G	53.90	54.00	-0.10	30.92	3	H	358	1.87	-
PK	2.461G	113.23	Inf	-Inf	30.95	3	H	358	1.87	-
PK	2.4836G	70.09	74.00	-3.91	30.92	3	H	358	1.87	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2462MHz_TX

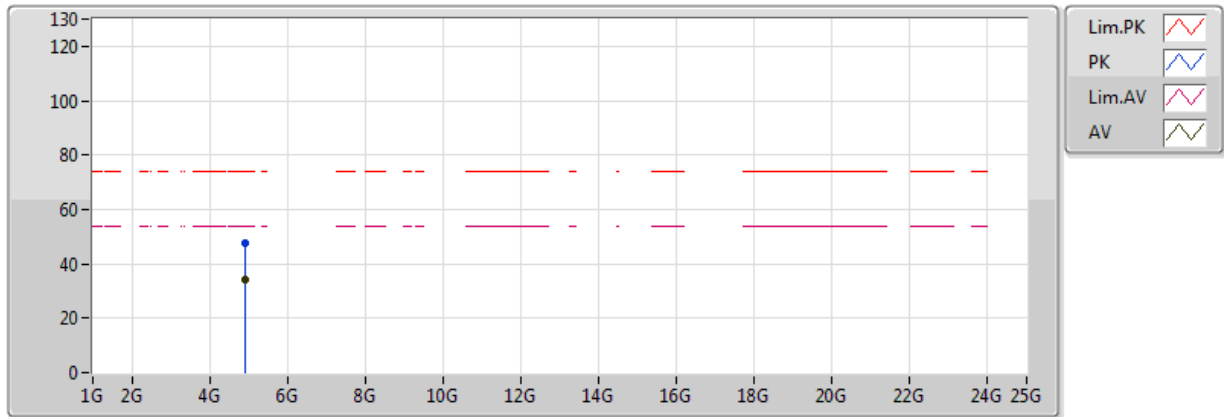


20170523
EUT X_2TX
Setting 15.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.9141G	33.62	54.00	-20.38	3.78	3	V	300	2.60	-
PK	4.91788G	46.49	74.00	-27.51	3.79	3	V	300	2.60	-

802.11ac VHT20_Nss1,(MCS0)_2TX

2462MHz_TX

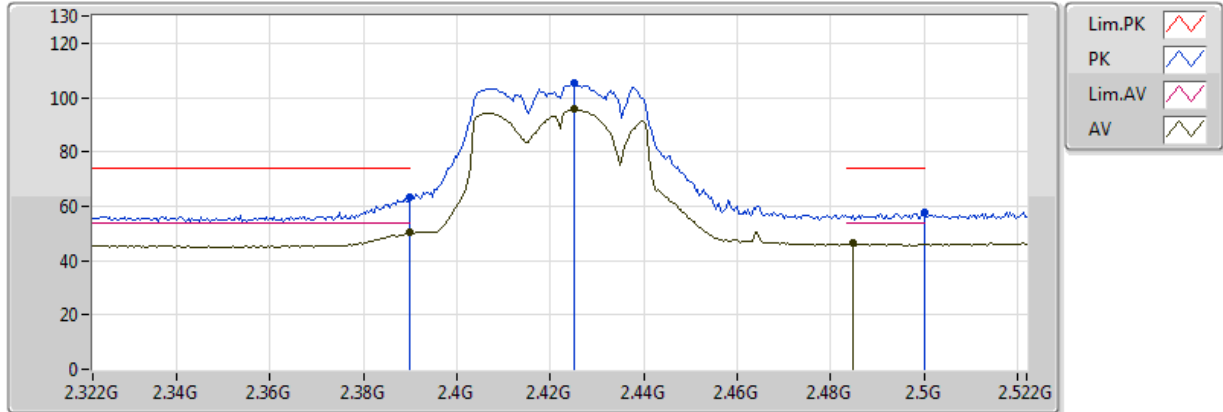


20170523
EUT X_2TX
Setting 15.5
01-J-5
FSP(100080)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.9147G	34.44	54.00	-19.56	3.78	3	H	354	1.87	-
PK	4.9126G	47.64	74.00	-26.36	3.78	3	H	354	1.87	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2422MHz_TX

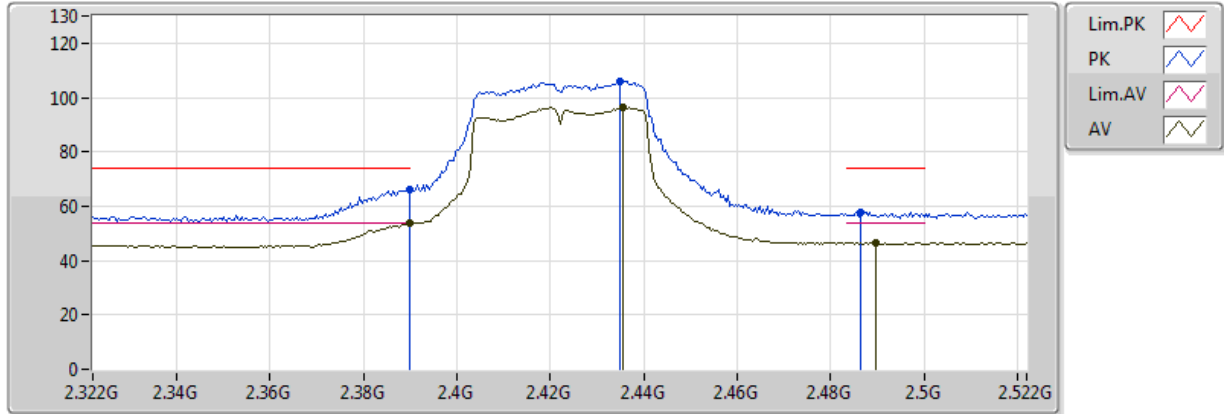


20170523
EUT X_2TX
Setting 12
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.39G	50.42	54.00	-3.58	32.67	3	V	34	1.50	-
AV	2.4252G	95.59	Inf	-Inf	32.70	3	V	34	1.50	-
AV	2.4848G	46.23	54.00	-7.77	32.78	3	V	34	1.50	-
PK	2.39G	63.40	74.00	-10.60	32.67	3	V	34	1.50	-
PK	2.4252G	105.33	Inf	-Inf	32.70	3	V	34	1.50	-
PK	2.5G	57.76	74.00	-16.24	32.80	3	V	34	1.50	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2422MHz_TX

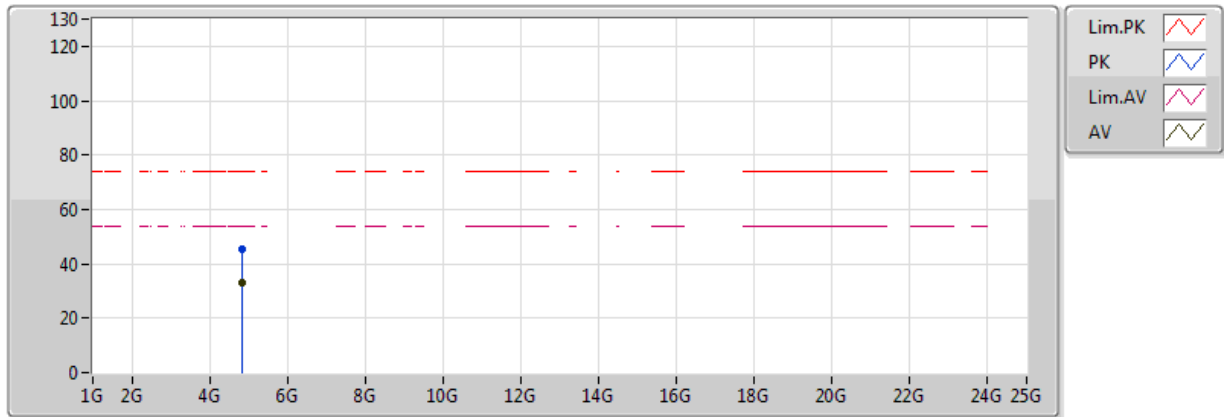


20170523
EUT X_2TX
Setting 12
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.39G	53.85	54.00	-0.15	32.67	3	H	3	2.17	-
AV	2.4356G	96.35	Inf	-Inf	32.72	3	H	3	2.17	-
AV	2.4896G	46.50	54.00	-7.50	32.79	3	H	3	2.17	-
PK	2.39G	66.31	74.00	-7.69	32.67	3	H	3	2.17	-
PK	2.4348G	105.83	Inf	-Inf	32.72	3	H	3	2.17	-
PK	2.4864G	57.89	74.00	-16.11	32.78	3	H	3	2.17	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2422MHz_TX

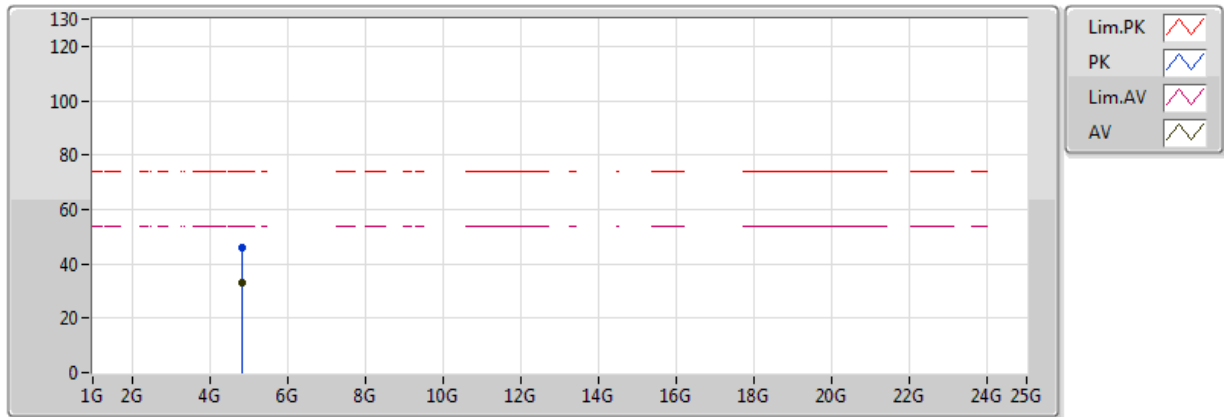


20170523
EUT X_2TX
Setting 12
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.84298G	33.26	54.00	-20.74	3.57	3	V	98	1.08	-
PK	4.83482G	45.41	74.00	-28.59	3.55	3	V	98	1.08	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2422MHz_TX

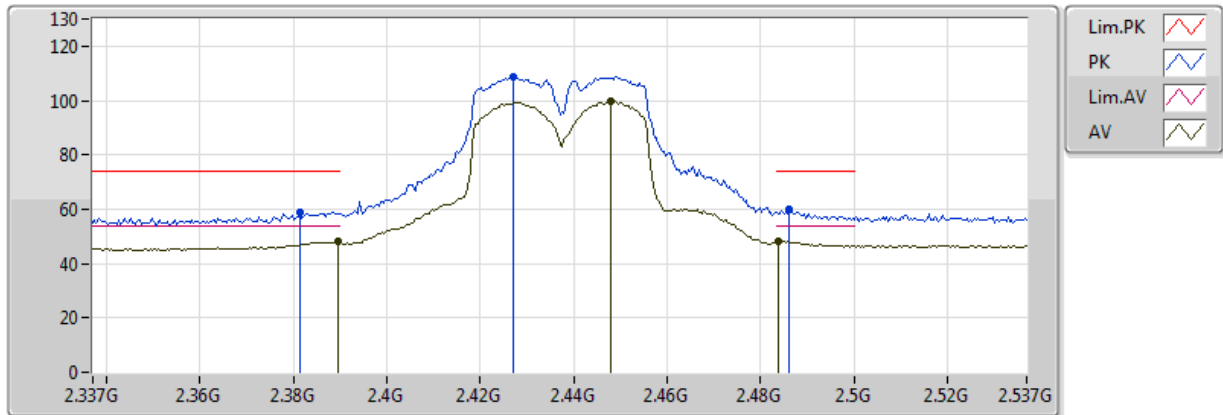


20170523
EUT X_2TX
Setting 12
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.83494G	33.31	54.00	-20.69	3.55	3	H	35	1.34	-
PK	4.83428G	45.69	74.00	-28.31	3.55	3	H	35	1.34	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2437MHz_TX

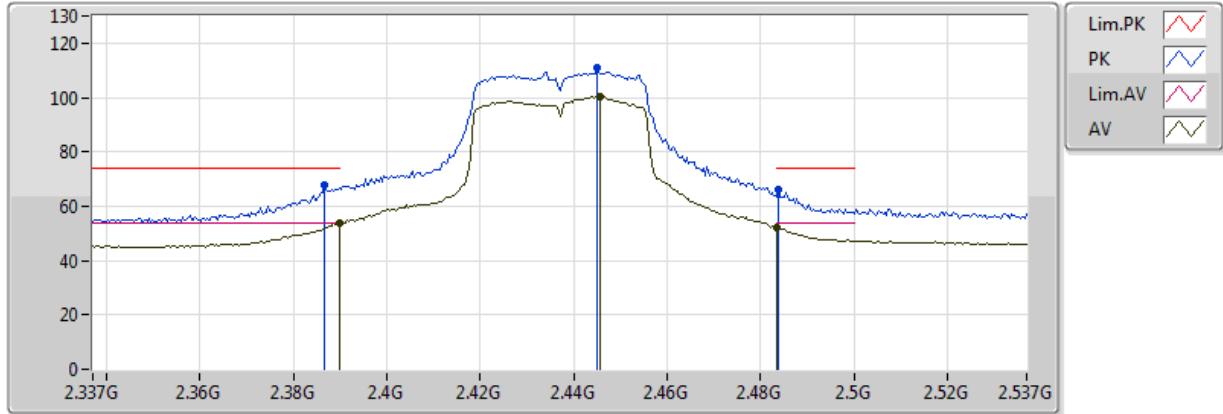


20170523
EUT X_2TX
Setting 16
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3894G	48.21	54.00	-5.79	32.67	3	V	10	1.50	-
AV	2.4478G	99.56	Inf	-Inf	32.73	3	V	10	1.50	-
AV	2.4838G	47.99	54.00	-6.01	32.78	3	V	10	1.50	-
PK	2.3814G	59.06	74.00	-14.94	32.66	3	V	10	1.50	-
PK	2.427G	108.68	Inf	-Inf	32.71	3	V	10	1.50	-
PK	2.4862G	59.89	74.00	-14.11	32.78	3	V	10	1.50	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2437MHz_TX

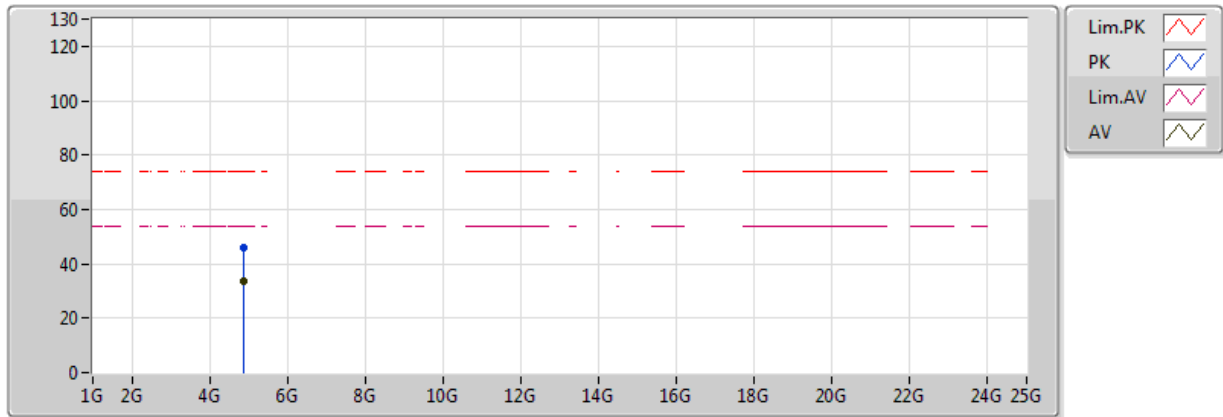


20170523
EUT X_2TX
Setting 16
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.389998G	53.86	54.00	-0.14	32.67	3	H	356	2.11	-
AV	2.4458G	100.40	Inf	-Inf	32.73	3	H	356	2.11	-
AV	2.483502G	52.06	54.00	-1.94	32.78	3	H	356	2.11	-
PK	2.3866G	68.08	74.00	-5.92	32.67	3	H	356	2.11	-
PK	2.445G	110.99	Inf	-Inf	32.73	3	H	356	2.11	-
PK	2.4838G	66.17	74.00	-7.83	32.78	3	H	356	2.11	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2437MHz_TX

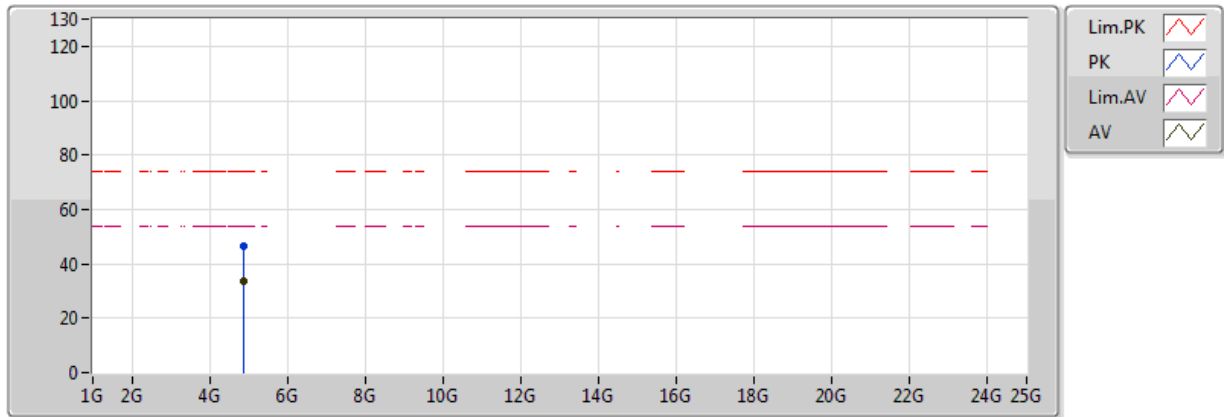


20170523
EUT X_2TX
Setting 16
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87976G	33.84	54.00	-20.16	3.68	3	V	279	1.86	-
PK	4.88258G	46.05	74.00	-27.95	3.69	3	V	279	1.86	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2437MHz_TX

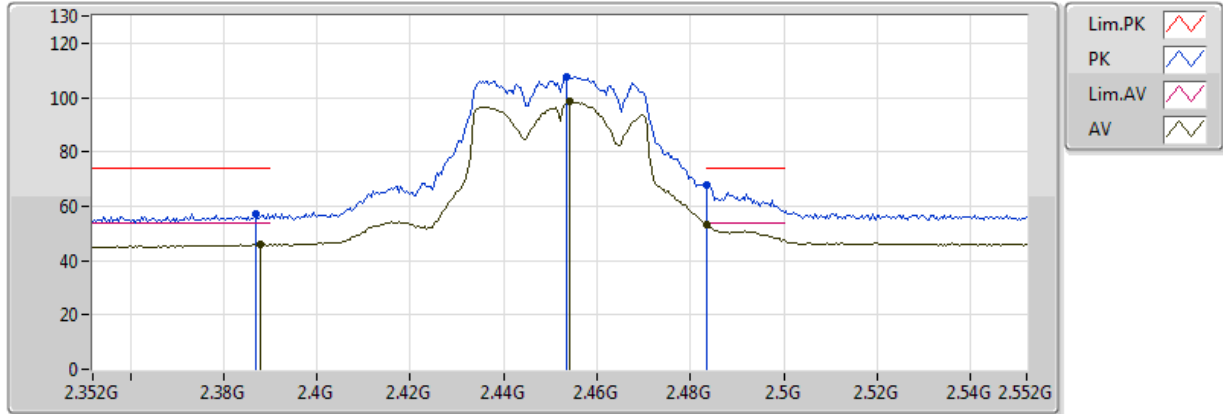


20170523
EUT X_2TX
Setting 16
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.88084G	33.83	54.00	-20.17	3.68	3	H	299	1.96	-
PK	4.88036G	46.31	74.00	-27.69	3.68	3	H	299	1.96	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2452MHz_TX

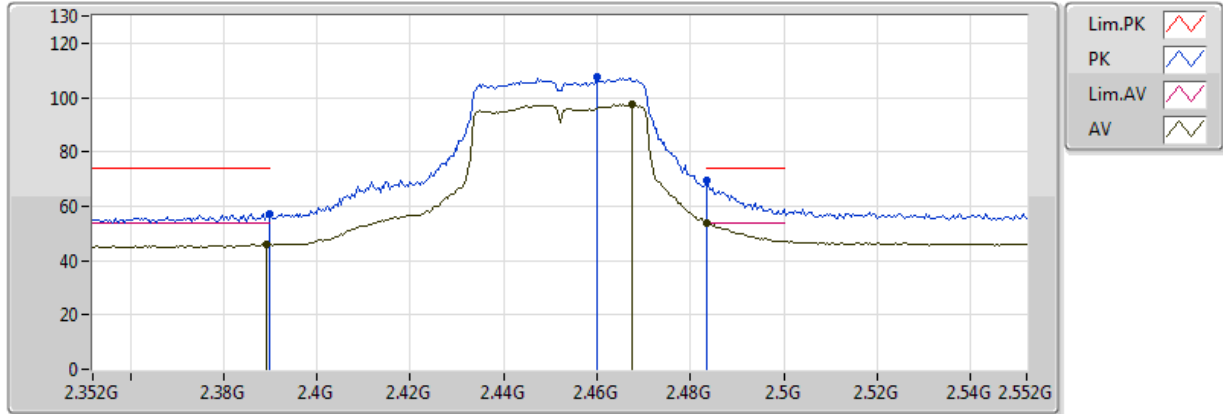


20170523
EUT X_2TX
Setting 14
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.388G	45.87	54.00	-8.13	32.67	3	V	17	1.50	-
AV	2.454G	98.41	Inf	-Inf	32.74	3	V	17	1.50	-
AV	2.4836G	53.18	54.00	-0.82	32.78	3	V	17	1.50	-
PK	2.3868G	57.37	74.00	-16.63	32.67	3	V	17	1.50	-
PK	2.4536G	107.65	Inf	-Inf	32.74	3	V	17	1.50	-
PK	2.4836G	67.73	74.00	-6.27	32.78	3	V	17	1.50	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2452MHz_TX

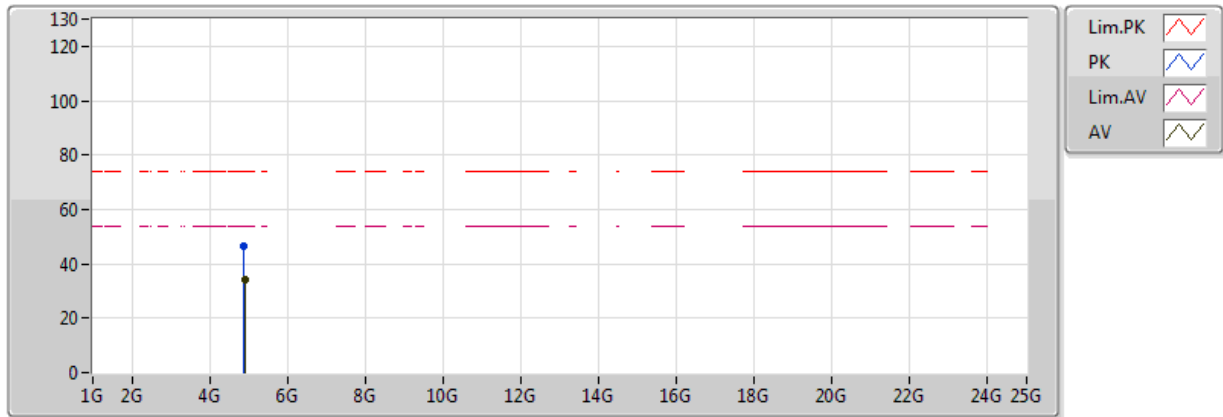


20170523
EUT X_2TX
Setting 14
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3892G	45.93	54.00	-8.07	32.67	3	H	0	2.36	-
AV	2.4676G	97.56	Inf	-Inf	32.76	3	H	0	2.36	-
AV	2.4836G	53.91	54.00	-0.09	32.78	3	H	0	2.36	-
PK	2.39G	57.33	74.00	-16.67	32.67	3	H	0	2.36	-
PK	2.46G	107.32	Inf	-Inf	32.75	3	H	0	2.36	-
PK	2.4836G	69.55	74.00	-4.45	32.78	3	H	0	2.36	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2452MHz_TX

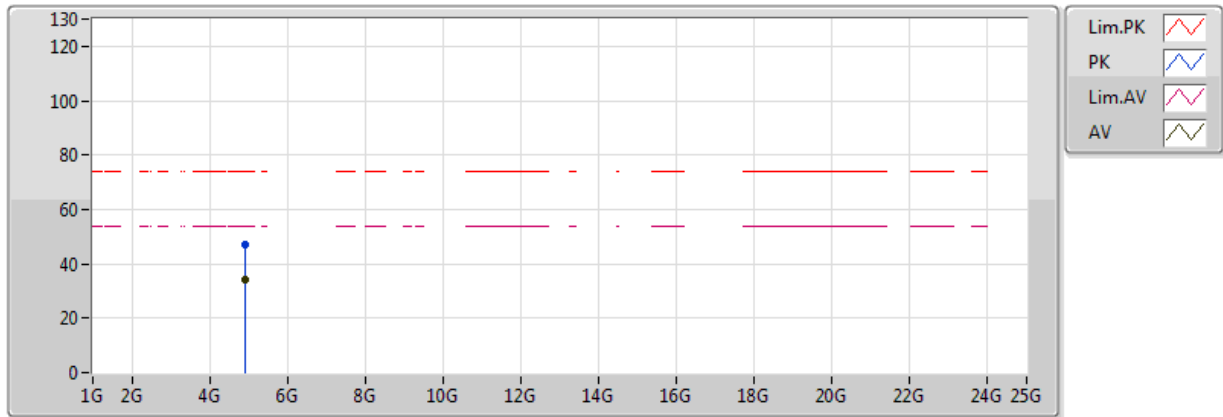


20170523
EUT X_2TX
Setting 14
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.91078G	34.08	54.00	-19.92	3.77	3	V	172	1.62	-
PK	4.89362G	46.26	74.00	-27.74	3.72	3	V	172	1.62	-

802.11ac VHT40_Nss1,(MCS0)_2TX

2452MHz_TX



20170523
EUT X_2TX
Setting 14
04-J-5
FSP(100142)

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.90838G	34.04	54.00	-19.96	3.76	3	H	135	1.52	-
PK	4.91114G	46.81	74.00	-27.19	3.77	3	H	135	1.52	-