

FCC Test Report

Equipment : AC1350 Wi-Fi Range Extender , AV1300 Powerline Edition
Brand Name : tp-link
Model No. : TL-WPA8630
FCC ID : TE7WPA8630V2
Standard : 47 CFR FCC Part 15.407
Operating Band : 5150 MHz – 5250 MHz
5725 MHz – 5850 MHz
Applicant : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science
and Technology Park,Nanshan Shenzhen, 518057 China
Manufacturer : TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science
and Technology Park,Nanshan Shenzhen, 518057 China
Function : ☐ Outdoor; ☒ Indoor; ☐ Fixed P2P
☐ Client

The product sample received on Apr. 18, 2017 and completely tested on Jul. 17, 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.

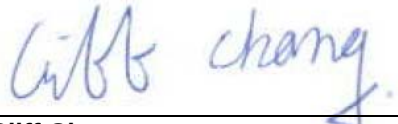

Cliff Chang
SPORTON INTERNATIONAL INC.





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Summary of Test Result

Conformance Test Specifications			
Report Clause	Ref. Std. Clause	Description	Result
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.207	AC Power-line Conducted Emissions	Complied
3.2	15.407(a)	Emission Bandwidth	Complied
3.3	15.407(a)	Maximum Conducted Output Power	Complied
3.4	15.407(a)	Peak Power Spectral Density	Complied
3.5	15.407(b)	Unwanted Emissions	Complied
3.6	15.407(g)	Frequency Stability	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
5150-5250	a, n (HT20), ac (VHT20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	2TX
5.15-5.25GHz	802.11n HT20	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	2TX
5.15-5.25GHz	802.11n HT40	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	2TX
5.15-5.25GHz	802.11ac VHT80	80	2TX
5.725-5.85GHz	802.11a	20	2TX
5.725-5.85GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	2TX
5.725-5.85GHz	802.11n HT40	40	2TX
5.725-5.85GHz	802.11ac VHT40	40	2TX
5.725-5.85GHz	802.11ac VHT80	80	2TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 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.	Port		Brand	P/N	Antenna Type	Connector	Gain (dBi)	
	2.4GHz	5GHz					2.4GHz	5GHz
1	1	1	TP-LINK	3101501205	Omni Antenna	I-PEX	2.0	2.5
2	2	-	TP-LINK	3101501205	Omni Antenna	N/A	2.0	-
3	3	2	TP-LINK	3101501205	Omni Antenna	I-PEX	2.0	2.5

Note: The EUT has three antennas.

<For 2.4GHz Band>
For IEEE 802.11b/g/n mode (3TX/3RX)

Port 1, Port 2 and Port 3 can be used as transmitting/receiving antenna.

Port 1, Port 2 and Port 3 could transmit/receive simultaneously.

<For 5GHz Band>
For IEEE 802.11a/n/ac mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.969	0.137	2.068m	1k
802.11ac VHT20	0.987	0.057	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.974	0.114	2.437m	1k
802.11ac VHT80	0.942	0.259	1.153m	1k

1.1.4 EUT Operational Condition

EUT Power Type	Internal power supply			
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 789033 D02 v01r04
- ◆ FCC KDB 644545 D03 v01
- ◆ FCC KDB 662911 D01 v02r01

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	Lucke Hsieh	22°C / 54%	Jun. 07, 2017~ Jul. 06, 2017
Radiated	03CH01-CB	Justin Lin	22°C / 54%	Jun. 07, 2017~ Jul. 17, 2017
AC Conduction	CO01-CB	Deven Huang	23°C / 60%	May 31, 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%
Frequency Stability	6.06 x10 ⁻⁸	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11a_(6Mbps)_2TX	-
5180MHz	21
5200MHz	19.5
5240MHz	21
5745MHz	21
5785MHz	21
5825MHz	21
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	21
5200MHz	21
5240MHz	21
5745MHz	21
5785MHz	21
5825MHz	21
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	15
5230MHz	21
5755MHz	21
5795MHz	21
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	14
5775MHz	20.5

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	CTX

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
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
The EUT can be placed in Y-axis and Z-axis. After evaluating, Z-axis was the worst case, so it's recorded in this report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
The EUT can be placed in Y-axis and Z-axis. After evaluating, Z-axis was the worst case, so it's recorded in this report.	
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	CTX
1	WLAN 2.4GHz + WLAN 5GHz
Refer to Sporton Test Report No.: FA642705-01 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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	DELL	E6430	DoC

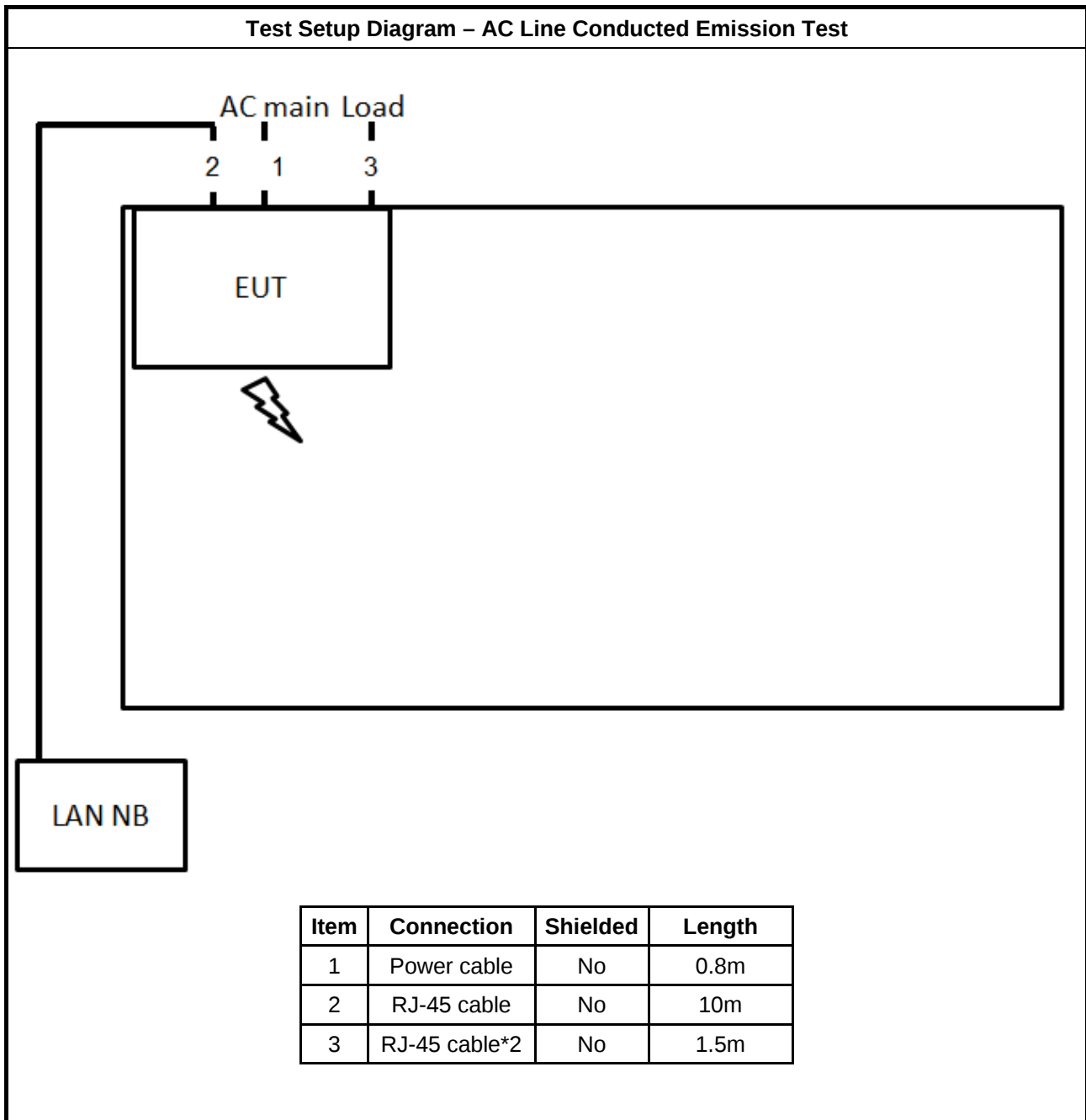
For Test Site No: 03CH01-CB

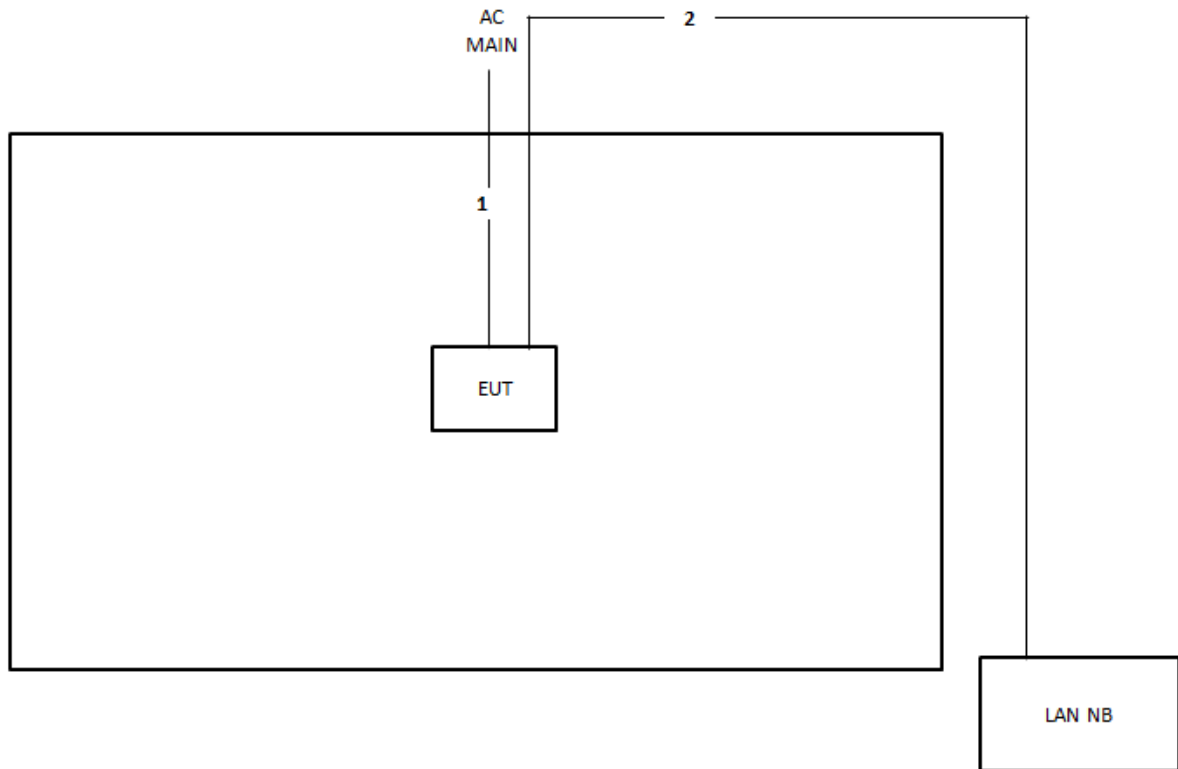
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC

For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

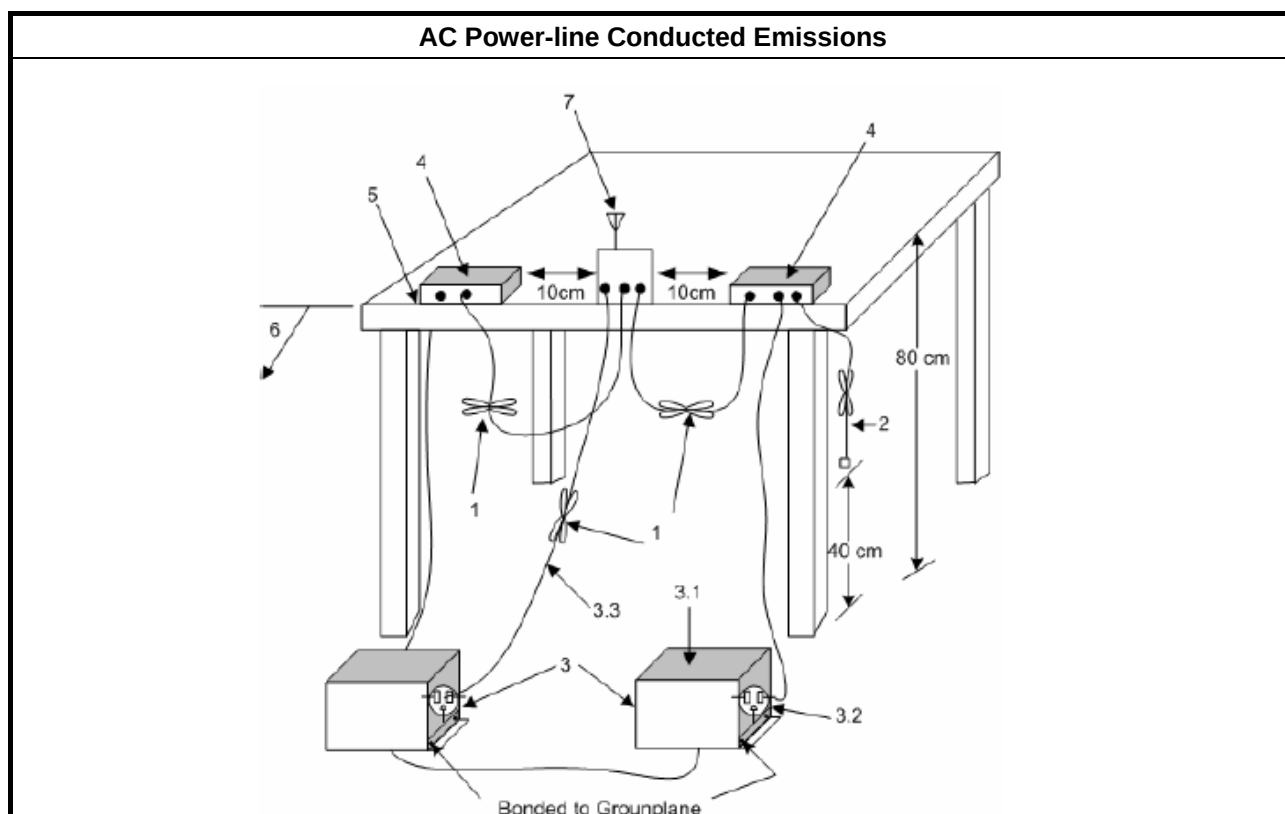
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☐	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☐	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.
LE-LAN Devices	
☐	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

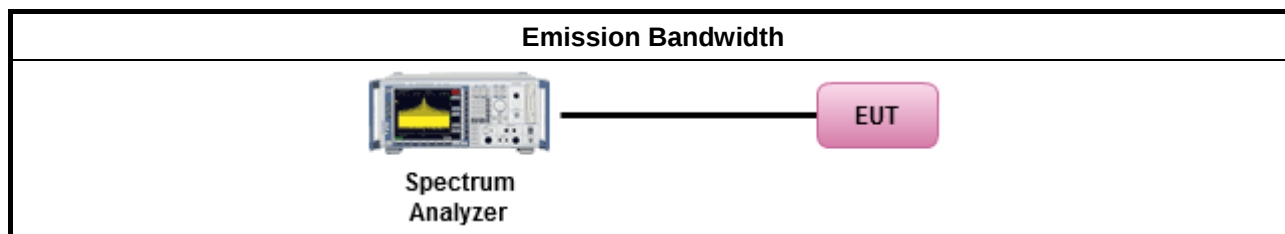
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☒	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
	- Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] - Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ - Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. - Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☐ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☐ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
☐ For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

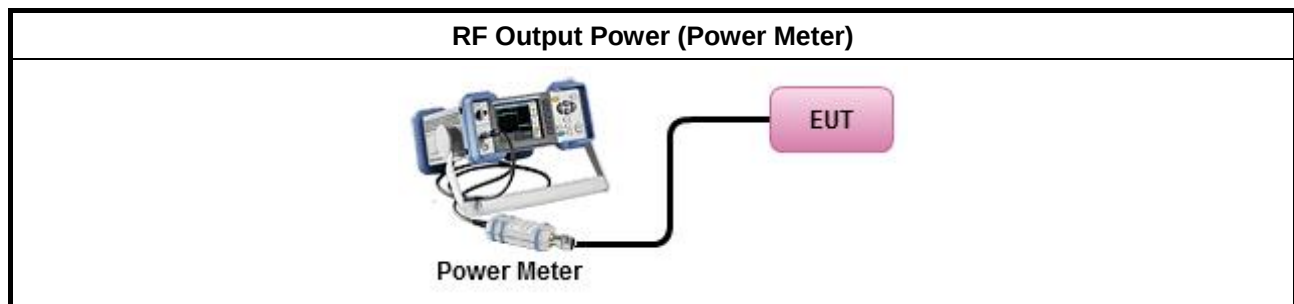
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Conducted Output Power	
Average over on/off periods with duty factor	
☐	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
Wideband RF power meter and average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
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 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
	- Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. - Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☐ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.	
	e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.	
☐ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

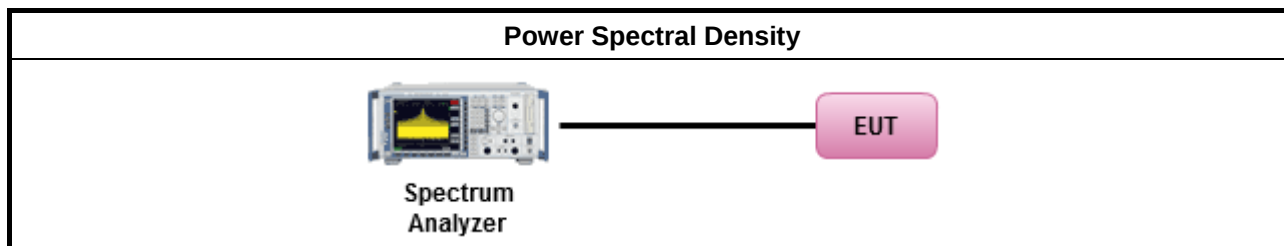
3.4.2 Measuring Instruments

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 shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐ Refer as FCC KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth [duty cycle ≥ 98% or external video / power trigger]	
☒ Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
☐ Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor	
☒ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with 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.	
If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	

3.4.4 Test Setup





3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

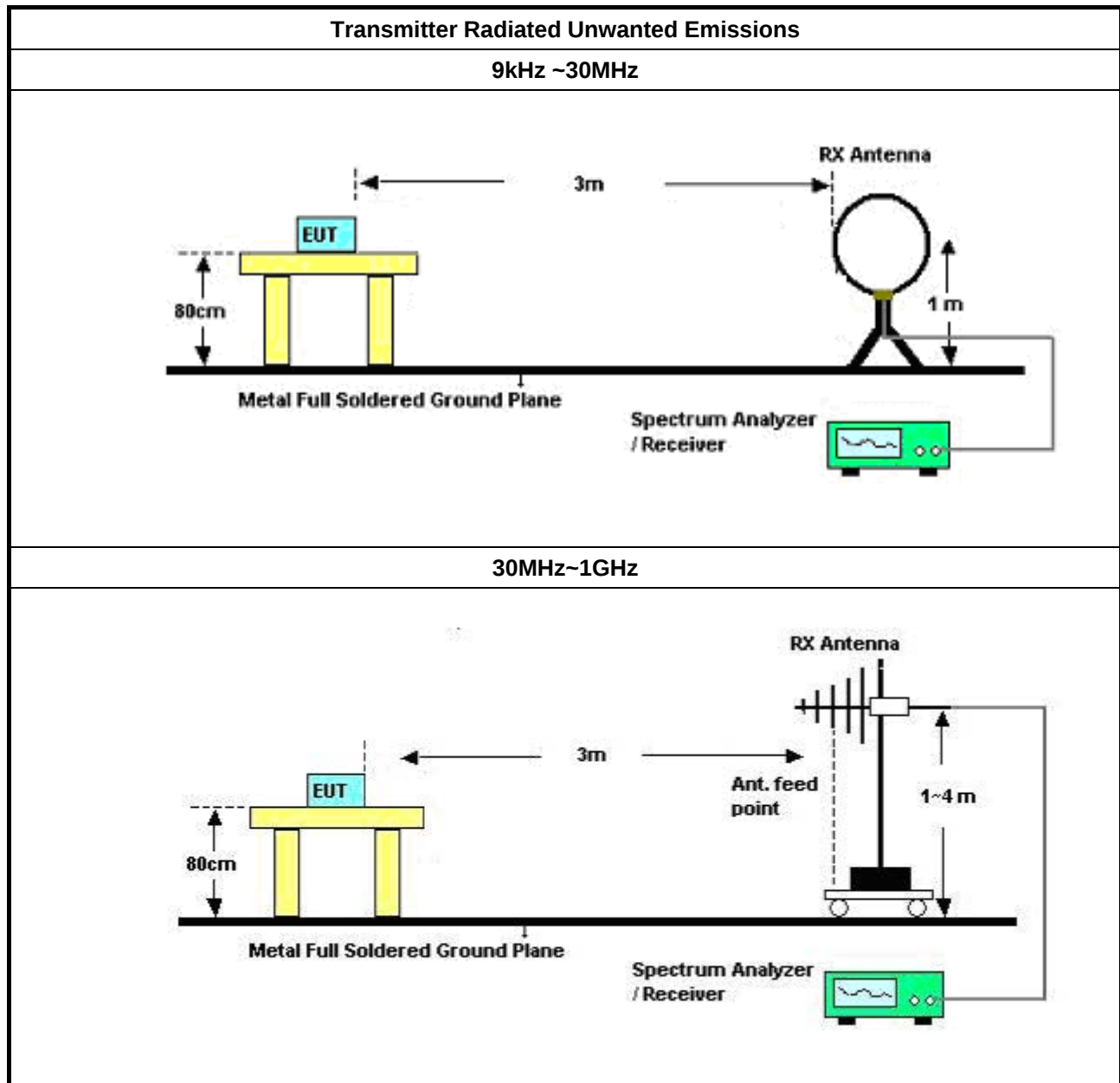
3.5.2 Measuring Instruments

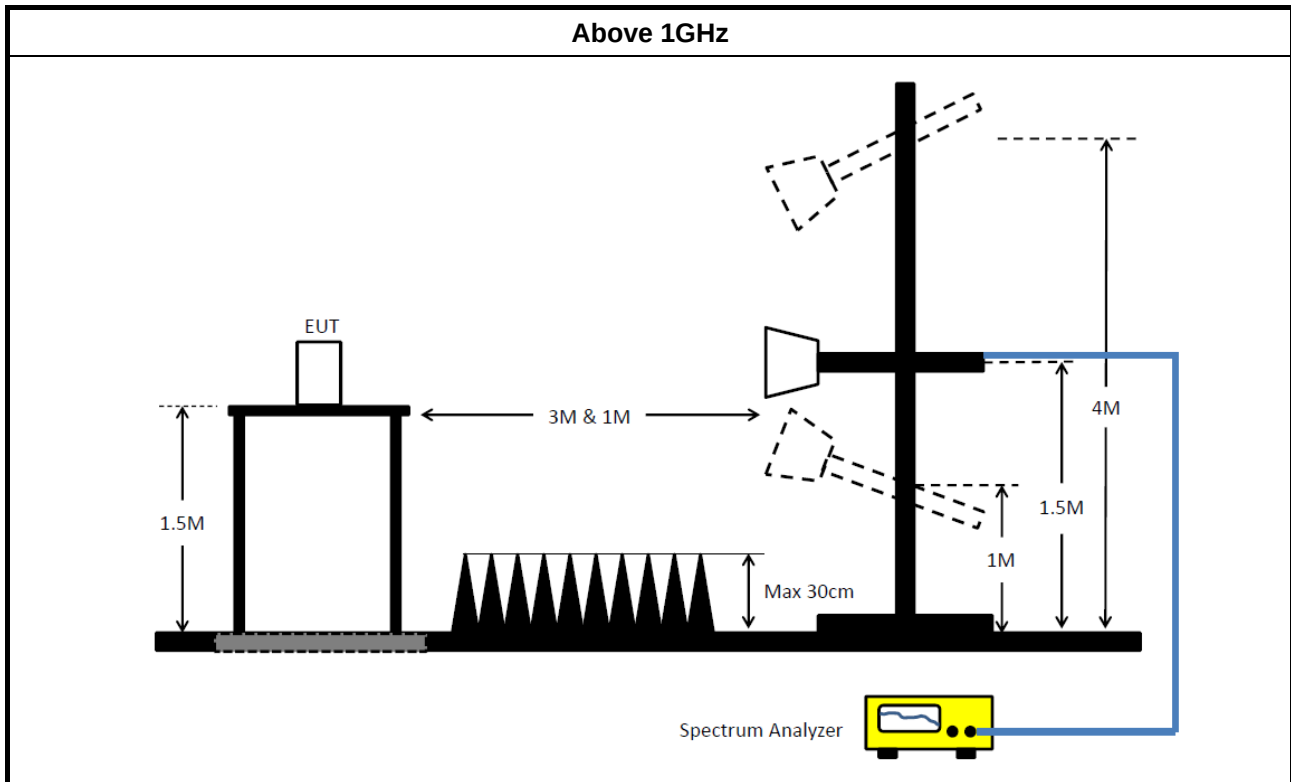
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
	☐ 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 789033, clause H)5) measurement procedure peak limit.
	☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
	For radiated measurement.
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	The any unwanted emissions level shall not exceed the fundamental emission level.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	

3.5.4 Test Setup





3.5.5 Transmitter 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 Unwanted Emissions

Refer as Appendix E

3.6 Frequency Stability

3.6.1 Frequency Stability Limit

Frequency Stability Limit
UNII Devices
In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
LE-LAN Devices
N/A
IEEE Std. 802.11
The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band.

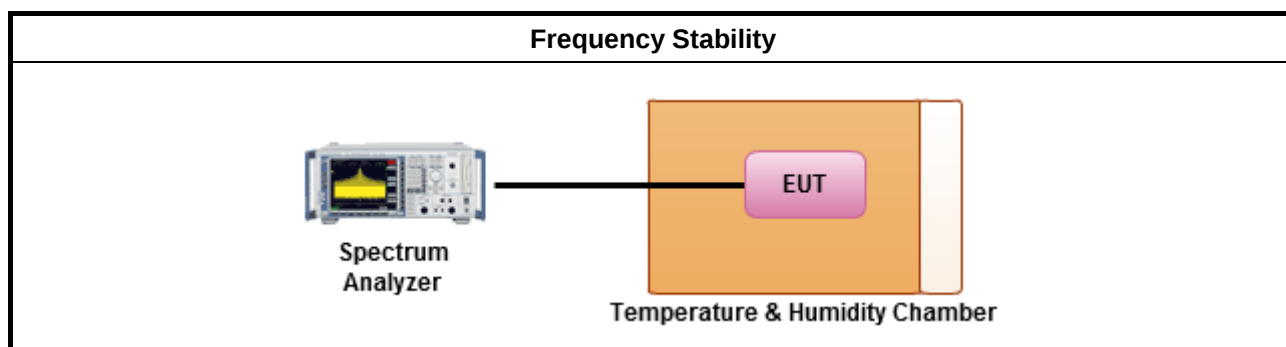
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
Refer as ANSI C63.10, clause 6.8 for frequency stability tests
- Frequency stability with respect to ambient temperature - Frequency stability when varying supply voltage - Extreme temperature is 0°C~40°C.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test 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 24, 2016	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)
Pre-Amplifier	-	-	TF-130N-R1	26GHz ~ 40GHz	Jun. 20, 2017	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)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
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)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2017	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)

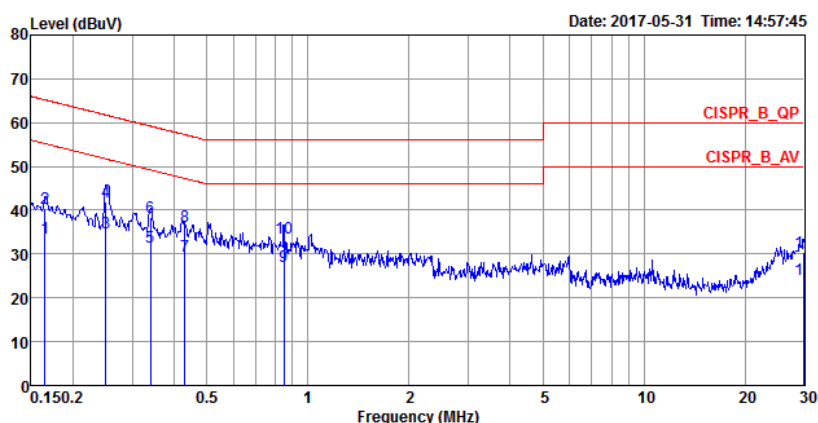
Note: Calibration Interval of instruments listed above is one year.

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

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

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	CTX		



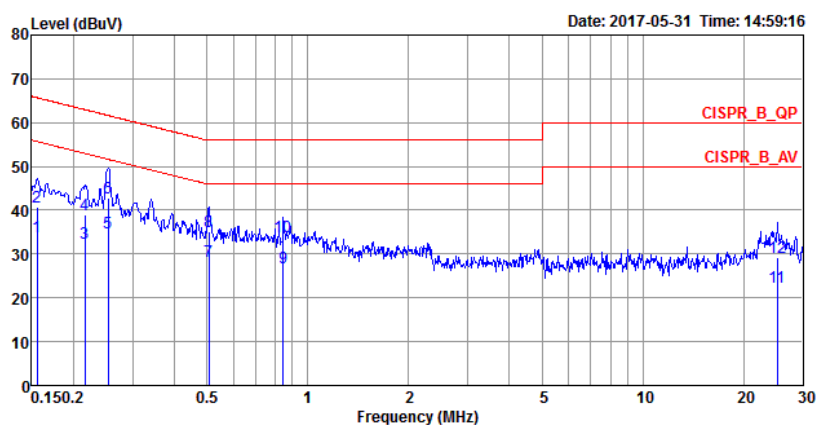
	Freq	Level	Over	Limit	Read	LISN	Cable	Remark	Pol/Phase
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.1650	33.66	-21.55	55.21	23.41	10.10	0.15	Average	NEUTRAL
2	0.1650	40.50	-24.71	65.21	30.25	10.10	0.15	QP	NEUTRAL
3	0.2508	34.76	-16.97	51.73	24.59	10.08	0.09	Average	NEUTRAL
4	0.2508	41.91	-19.82	61.73	31.74	10.08	0.09	QP	NEUTRAL
5	0.3392	31.65	-17.57	49.22	21.42	10.19	0.04	Average	NEUTRAL
6	0.3392	38.41	-20.81	59.22	28.18	10.19	0.04	QP	NEUTRAL
7	0.4305	29.57	-17.67	47.24	19.30	10.25	0.02	Average	NEUTRAL
8	0.4305	36.35	-20.89	57.24	26.08	10.25	0.02	QP	NEUTRAL
9	0.8483	27.11	-18.89	46.00	16.85	10.10	0.16	Average	NEUTRAL
10	0.8483	33.79	-22.21	56.00	23.53	10.10	0.16	QP	NEUTRAL
11	29.8415	24.06	-25.94	50.00	13.19	10.58	0.29	Average	NEUTRAL
12	29.8415	30.55	-29.45	60.00	19.68	10.58	0.29	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	1	Power Phase	Line
Operating Function	CTX		



	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	33.98	-21.71	55.69	23.82	10.00	0.16	Average	LINE
2	0.1557	40.78	-24.91	65.69	30.62	10.00	0.16	QP	LINE
3	0.2162	32.37	-20.59	52.96	22.33	9.92	0.12	Average	LINE
4	0.2162	38.96	-24.00	62.96	28.92	9.92	0.12	QP	LINE
5	0.2535	34.88	-16.76	51.64	24.87	9.92	0.09	Average	LINE
6	0.2535	42.76	-18.88	61.64	32.75	9.92	0.09	QP	LINE
7	0.5074	28.25	-17.75	46.00	18.24	9.95	0.06	Average	LINE
8	0.5074	35.24	-20.76	56.00	25.23	9.95	0.06	QP	LINE
9	0.8438	26.88	-19.12	46.00	16.76	9.96	0.16	Average	LINE
10	0.8438	33.84	-22.16	56.00	23.72	9.96	0.16	QP	LINE
11	25.1876	22.39	-27.61	50.00	11.71	10.43	0.25	Average	LINE
12	25.1876	29.15	-30.85	60.00	18.47	10.43	0.25	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)
802.11a_(6Mbps)_2TX	-	-	-	-	-
5.15-5.25GHz	36.125M	17.741M	17M7D1D	21.025M	16.467M
5.725-5.85GHz	16.3M	19.99M	20M0D1D	16.025M	17.866M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	36.05M	18.116M	18M1D1D	30.075M	17.741M
5.725-5.85GHz	17.55M	18.641M	18M6D1D	15.025M	17.991M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	74.55M	36.532M	36M5D1D	39.7M	35.882M
5.725-5.85GHz	33.8M	40.33M	40M3D1D	31.3M	37.681M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-
5.15-5.25GHz	84.7M	75.862M	75M9D1D	83.9M	75.762M
5.725-5.85GHz	73.9M	81.959M	82M0D1D	72.6M	76.962M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

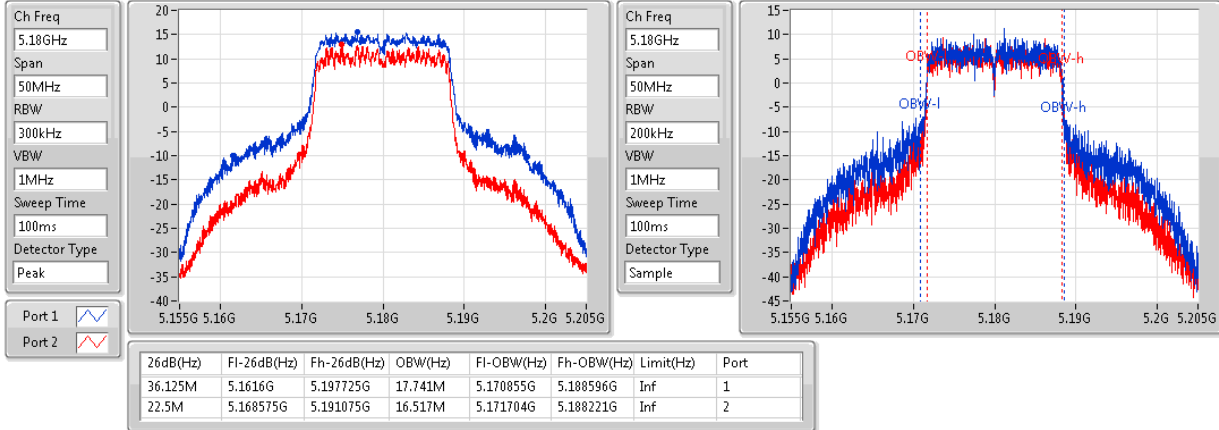
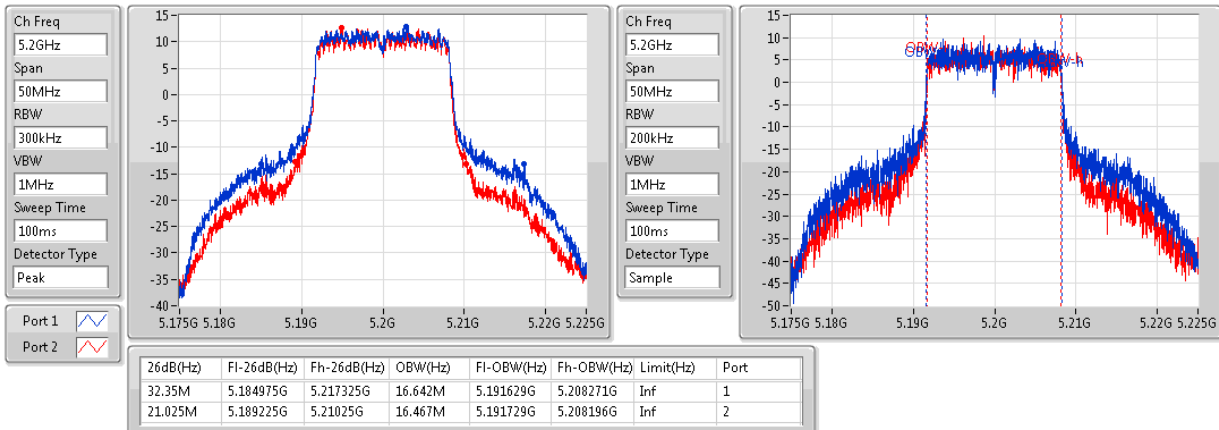
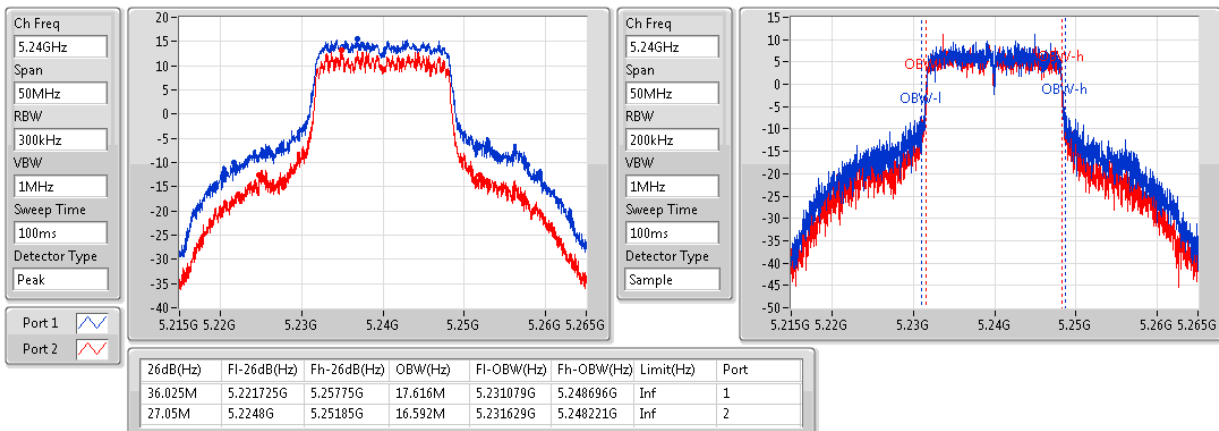
Min-OBW = Minimum 99% occupied bandwidth;

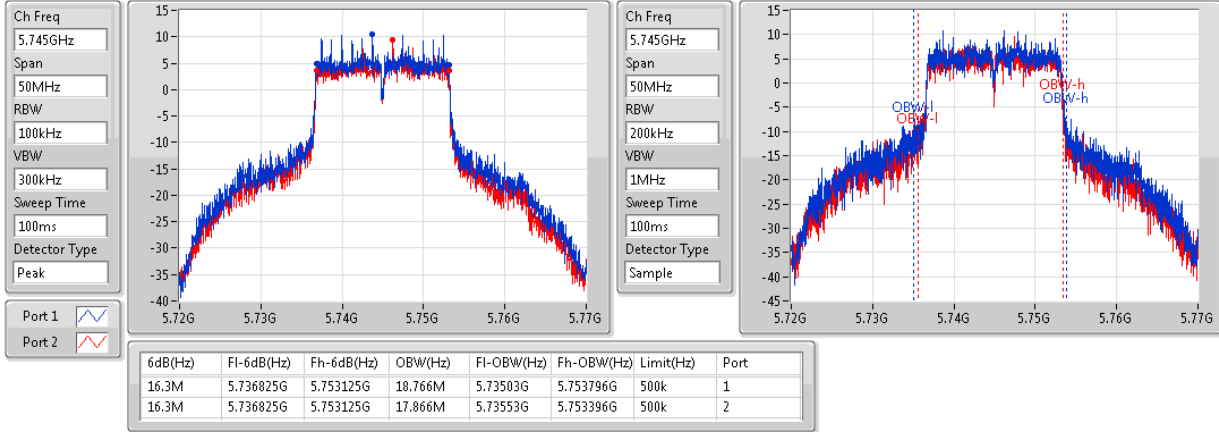
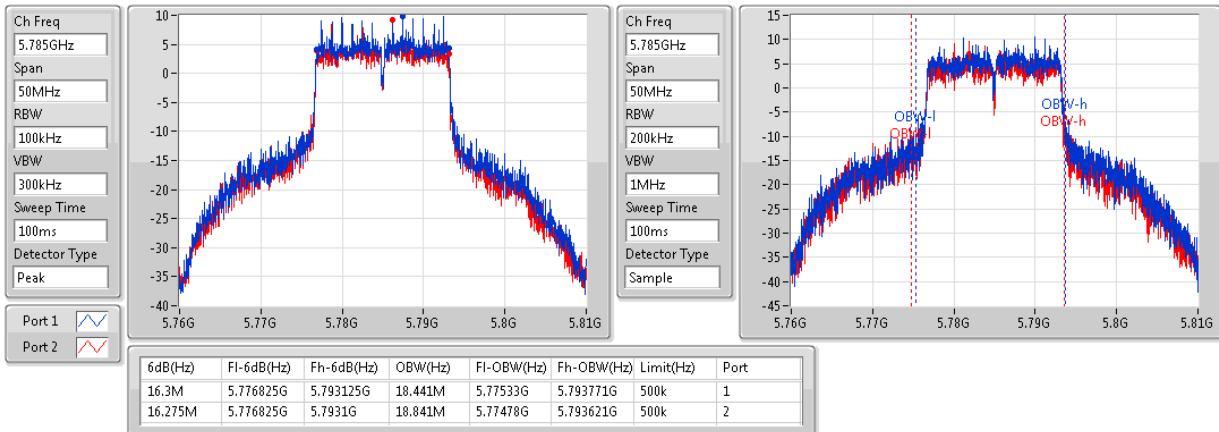
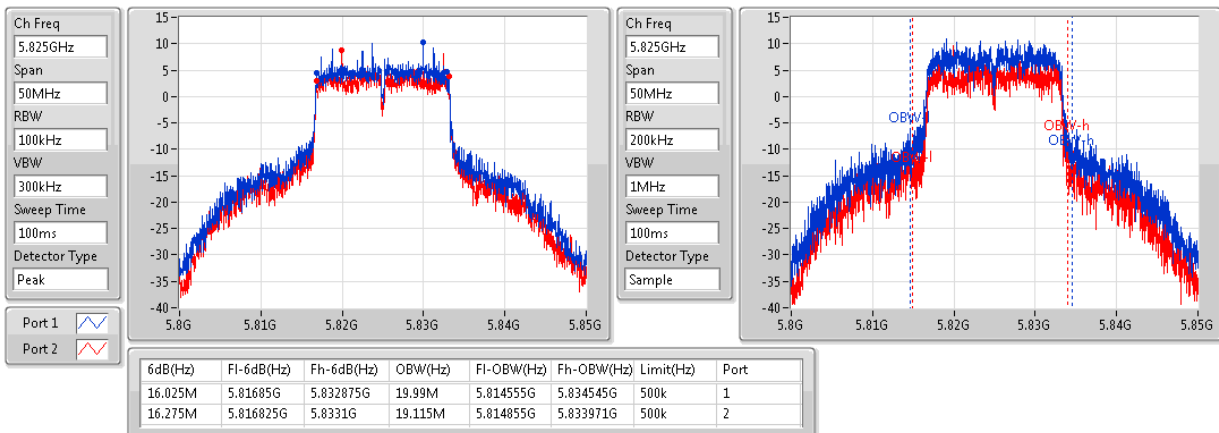
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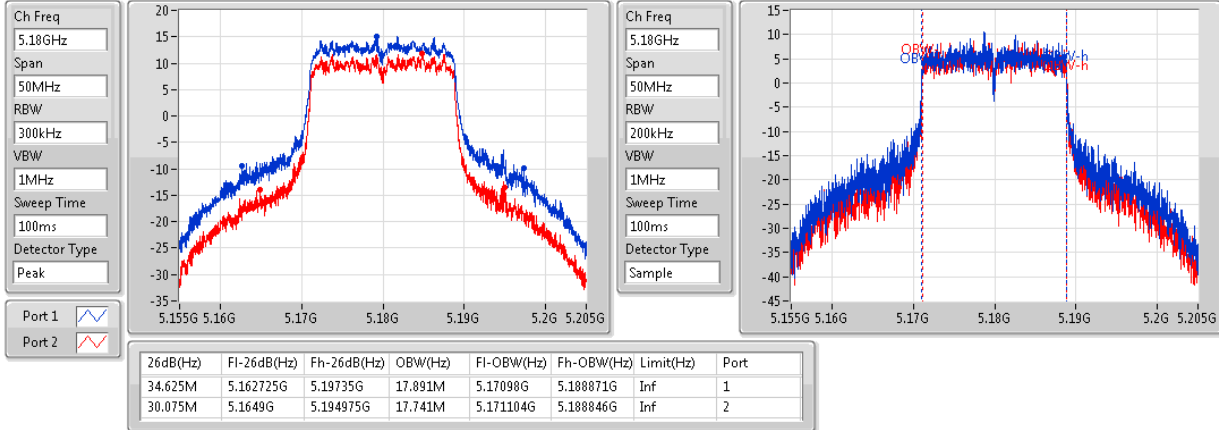
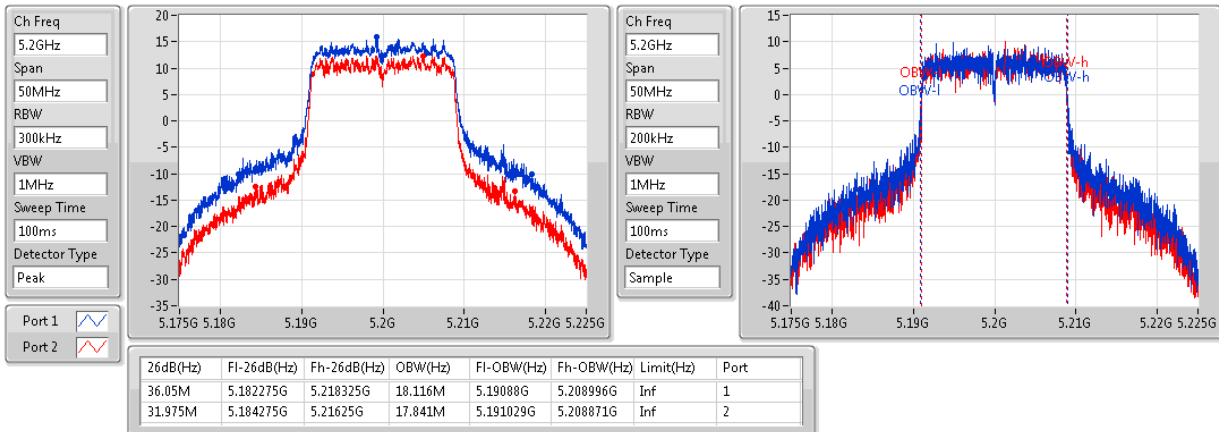
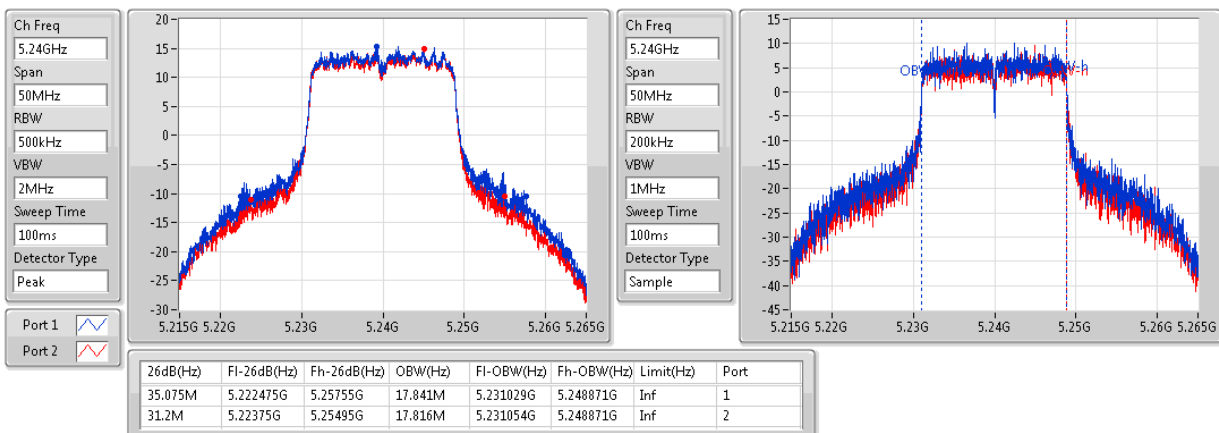
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	36.125M	17.741M	22.5M	16.517M
5200MHz	Pass	Inf	32.35M	16.642M	21.025M	16.467M
5240MHz	Pass	Inf	36.025M	17.616M	27.05M	16.592M
5745MHz	Pass	500k	16.3M	18.766M	16.3M	17.866M
5785MHz	Pass	500k	16.3M	18.441M	16.275M	18.841M
5825MHz	Pass	500k	16.025M	19.99M	16.275M	19.115M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	34.625M	17.891M	30.075M	17.741M
5200MHz	Pass	Inf	36.05M	18.116M	31.975M	17.841M
5240MHz	Pass	Inf	35.075M	17.841M	31.2M	17.816M
5745MHz	Pass	500k	16.775M	18.191M	17.55M	18.391M
5785MHz	Pass	500k	16.475M	17.991M	16.9M	18.641M
5825MHz	Pass	500k	15.025M	18.416M	16.55M	18.216M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.1M	35.982M	39.7M	35.882M
5230MHz	Pass	Inf	74.55M	36.532M	63.3M	36.282M
5755MHz	Pass	500k	33.8M	37.681M	31.3M	39.28M
5795MHz	Pass	500k	33.7M	38.131M	31.95M	40.33M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.9M	75.862M	84.7M	75.762M
5775MHz	Pass	500k	73.9M	76.962M	72.6M	81.959M

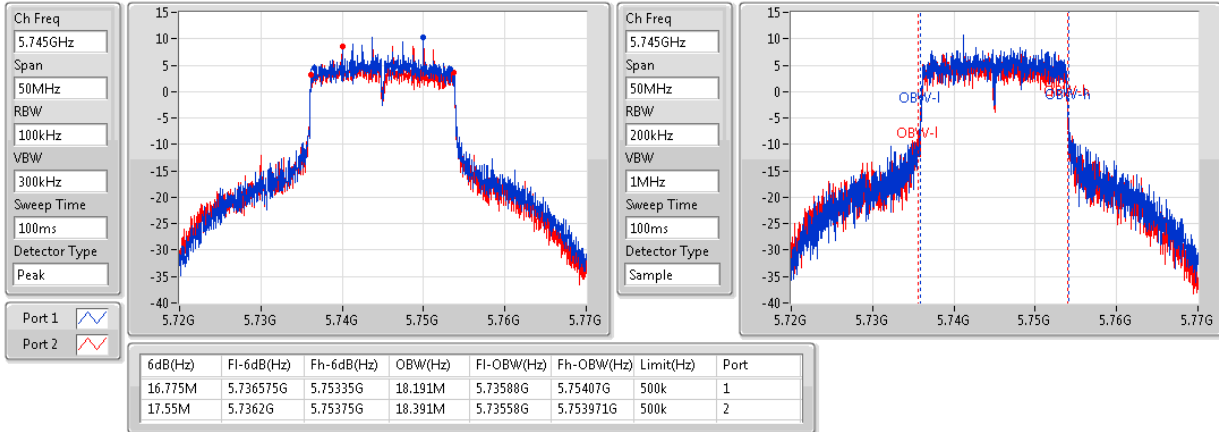
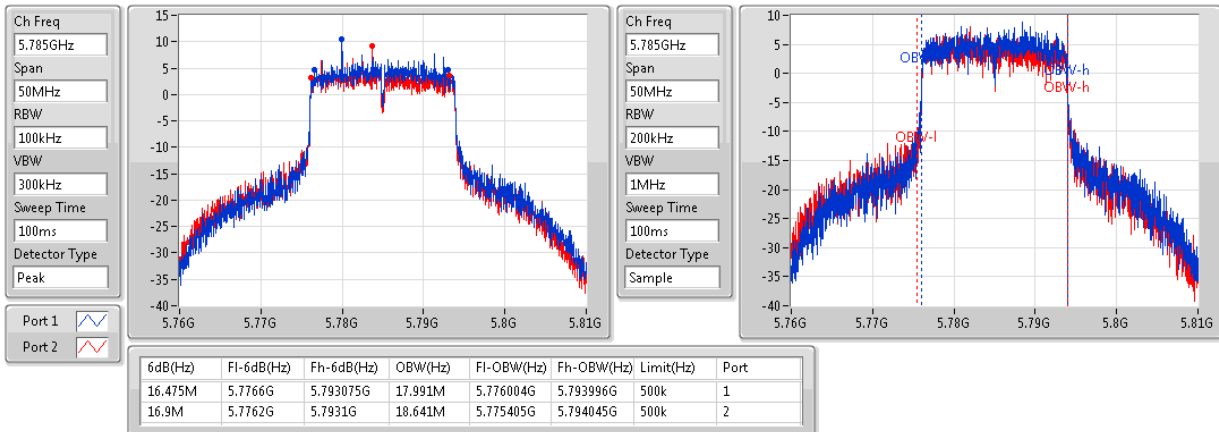
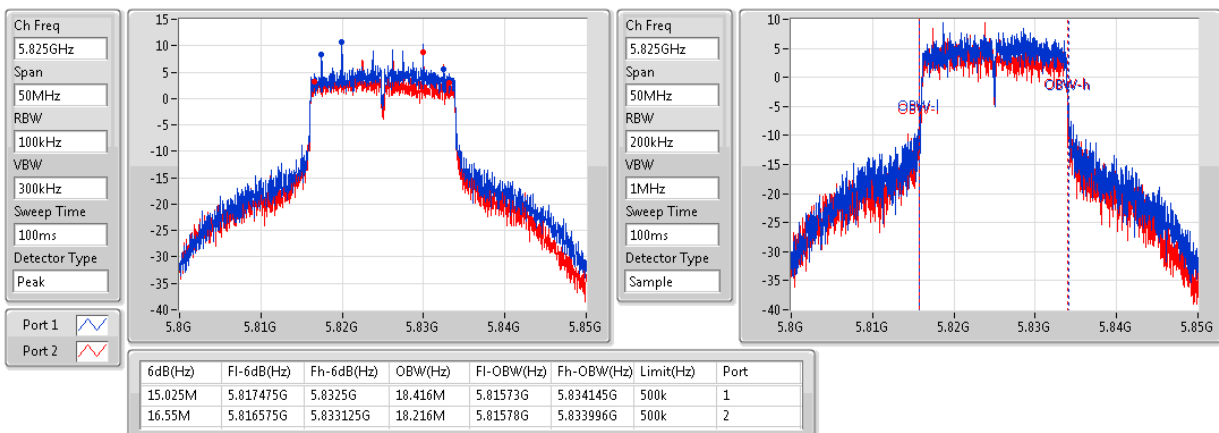
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

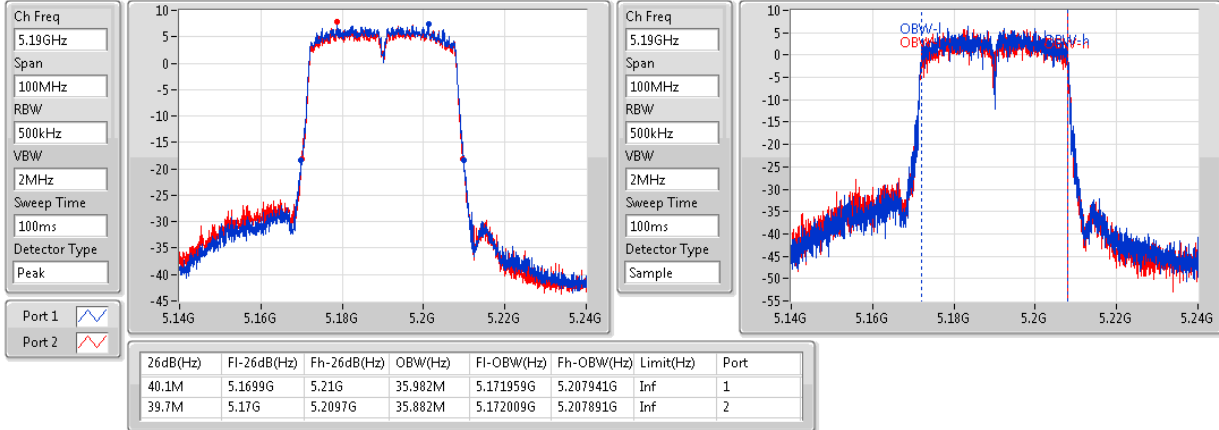
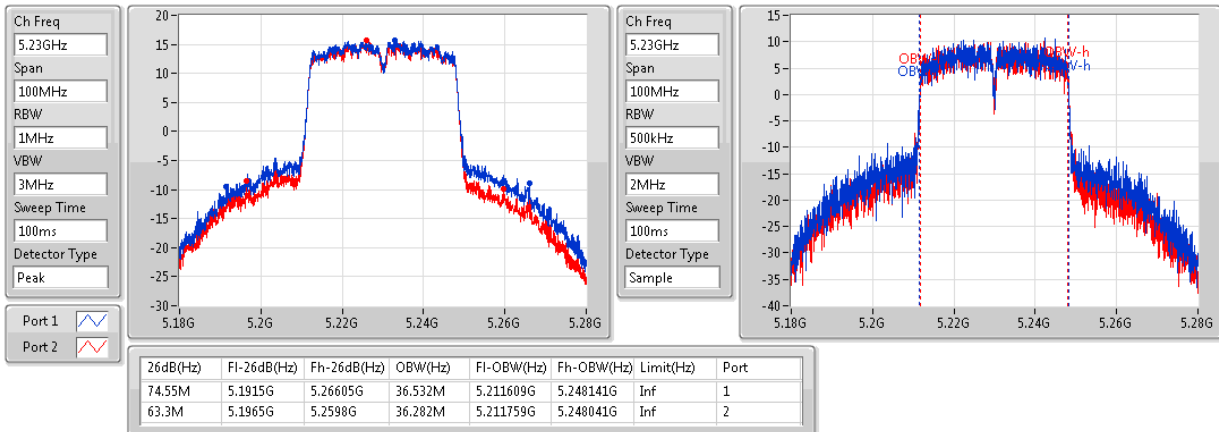
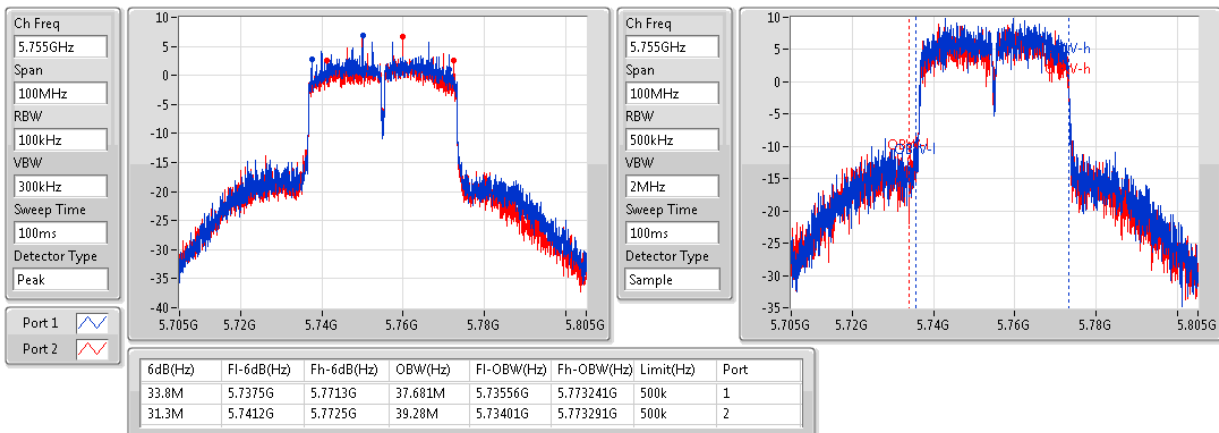
Port X-OBW = Port X 99% occupied bandwidth;

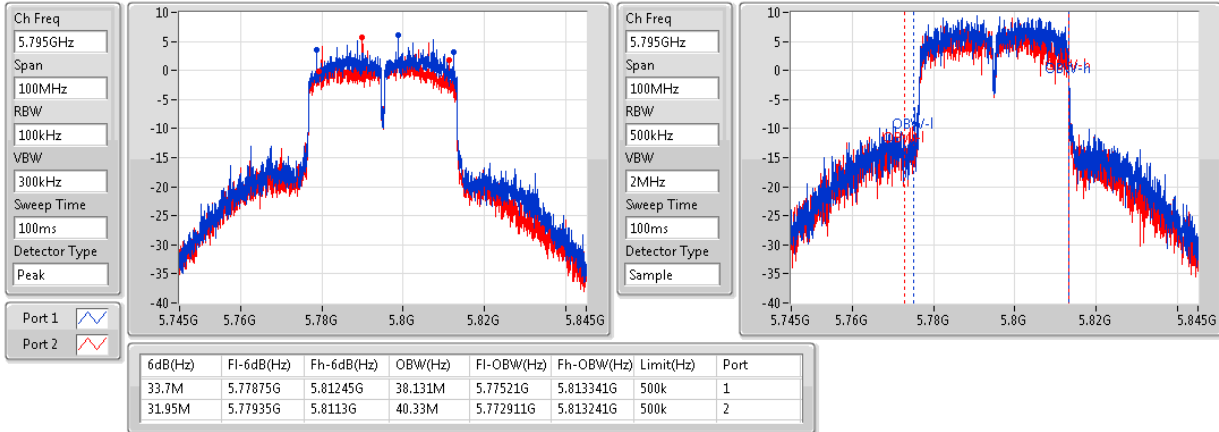
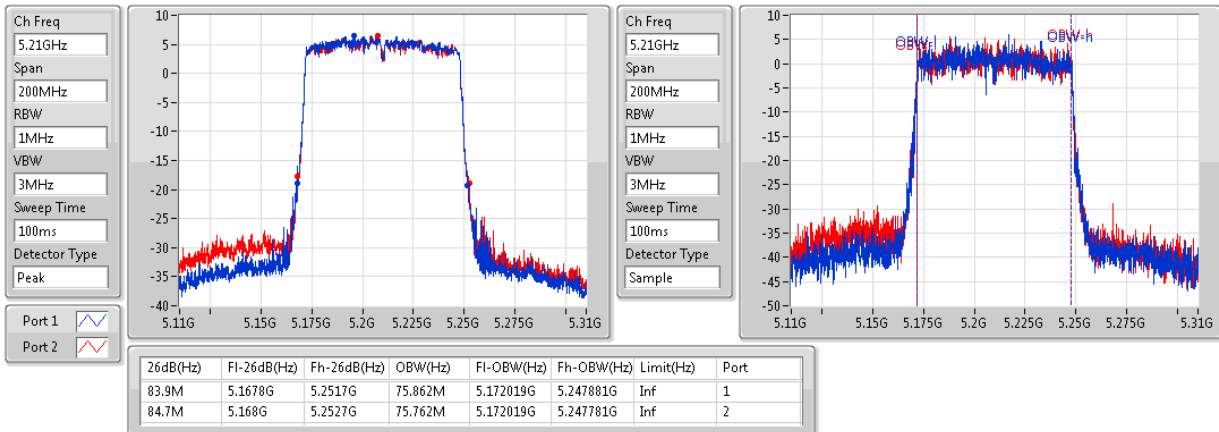
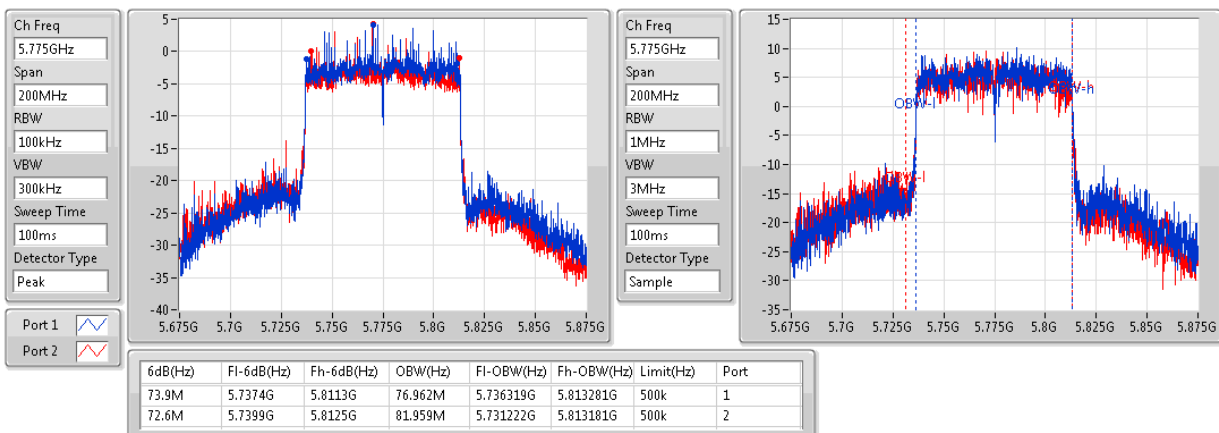
802.11a_(6Mbps)_2TX
EBW
5180MHz

802.11a_(6Mbps)_2TX
EBW
5200MHz

802.11a_(6Mbps)_2TX
EBW
5240MHz


802.11a_(6Mbps)_2TX
EBW
5745MHz

802.11a_(6Mbps)_2TX
EBW
5785MHz

802.11a_(6Mbps)_2TX
EBW
5825MHz


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5180MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5200MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5240MHz


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5745MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5785MHz

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5825MHz


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5190MHz

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5230MHz

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5755MHz


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5795MHz

802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5210MHz

802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5775MHz


Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
802.11a_(6Mbps)_2TX	-	-	-	-
5.15-5.25GHz	23.91	0.24604	26.41	0.43752
5.725-5.85GHz	23.41	0.21928	25.91	0.38994
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	24.60	0.28840	27.10	0.51286
5.725-5.85GHz	23.23	0.21038	25.73	0.37411
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	23.90	0.24547	26.40	0.43652
5.725-5.85GHz	22.91	0.19543	25.41	0.34754
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-
5.15-5.25GHz	18.09	0.06442	20.59	0.11455
5.725-5.85GHz	22.32	0.17061	24.82	0.30339

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	2.50	21.25	20.51	23.91	30.00	26.41	36.00
5200MHz	Pass	2.50	20.90	20.22	23.58	30.00	26.08	36.00
5240MHz	Pass	2.50	21.19	20.59	23.91	30.00	26.41	36.00
5745MHz	Pass	2.50	20.82	19.93	23.41	30.00	25.91	36.00
5785MHz	Pass	2.50	20.34	19.41	22.91	30.00	25.41	36.00
5825MHz	Pass	2.50	20.51	19.04	22.85	30.00	25.35	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	2.50	20.79	20.36	23.59	30.00	26.09	36.00
5200MHz	Pass	2.50	21.31	21.05	24.19	30.00	26.69	36.00
5240MHz	Pass	2.50	21.80	21.37	24.60	30.00	27.10	36.00
5745MHz	Pass	2.50	20.68	19.70	23.23	30.00	25.73	36.00
5785MHz	Pass	2.50	20.10	19.11	22.64	30.00	25.14	36.00
5825MHz	Pass	2.50	20.15	18.69	22.49	30.00	24.99	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	2.50	16.75	16.17	19.48	30.00	21.98	36.00
5230MHz	Pass	2.50	21.08	20.70	23.90	30.00	26.40	36.00
5755MHz	Pass	2.50	20.31	19.44	22.91	30.00	25.41	36.00
5795MHz	Pass	2.50	20.19	18.78	22.55	30.00	25.05	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	2.50	15.19	14.97	18.09	30.00	20.59	36.00
5775MHz	Pass	2.50	19.70	18.88	22.32	30.00	24.82	36.00

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

Summary

Mode	PD (dBm/RBW)
802.11a_(6Mbps)_2TX	-
5.15-5.25GHz	11.29
5.725-5.85GHz	9.13
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5.15-5.25GHz	10.98
5.725-5.85GHz	8.57
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5.15-5.25GHz	8.10
5.725-5.85GHz	5.63
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5.15-5.25GHz	-0.73
5.725-5.85GHz	2.11

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.51	8.39	7.79	11.11	17.00
5200MHz	Pass	5.51	8.22	7.65	10.89	17.00
5240MHz	Pass	5.51	8.56	8.05	11.29	17.00
5745MHz	Pass	5.51	6.74	5.82	9.13	30.00
5785MHz	Pass	5.51	6.43	5.37	8.73	30.00
5825MHz	Pass	5.51	6.28	5.01	8.48	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	5.51	7.47	7.19	10.31	17.00
5200MHz	Pass	5.51	8.10	7.95	10.98	17.00
5240MHz	Pass	5.51	7.77	7.31	10.46	17.00
5745MHz	Pass	5.51	6.04	5.23	8.57	30.00
5785MHz	Pass	5.51	5.63	4.64	8.01	30.00
5825MHz	Pass	5.51	5.68	4.26	7.76	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	5.51	0.83	0.49	3.57	17.00
5230MHz	Pass	5.51	5.23	5.14	8.10	17.00
5755MHz	Pass	5.51	3.00	2.41	5.63	30.00
5795MHz	Pass	5.51	2.89	1.72	5.27	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	5.51	-3.68	-3.72	-0.73	17.00
5775MHz	Pass	5.51	-0.62	-1.09	2.11	30.00

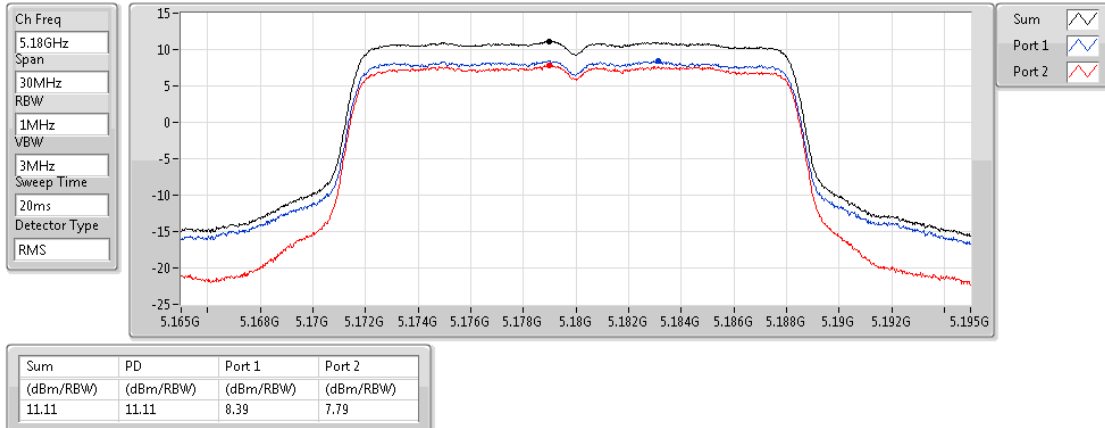
DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

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

802.11a_(6Mbps)_2TX

PSD

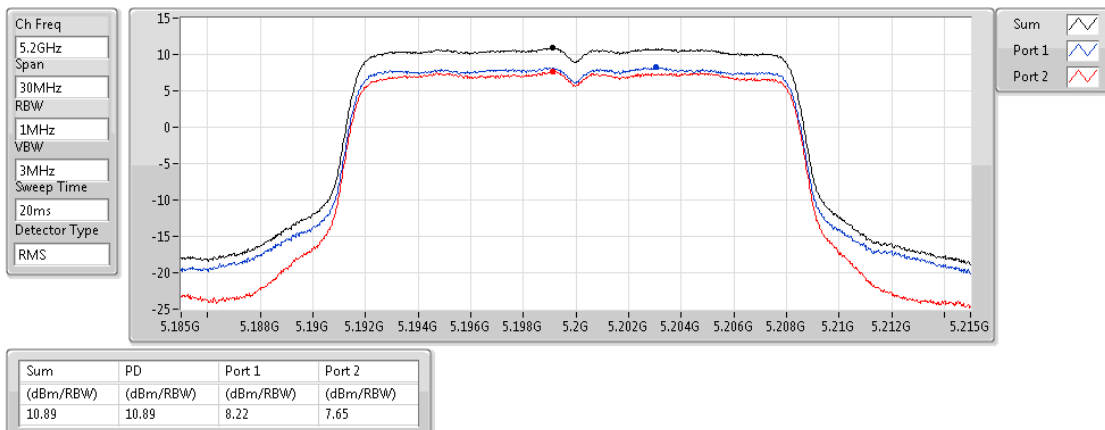
5180MHz



802.11a_(6Mbps)_2TX

PSD

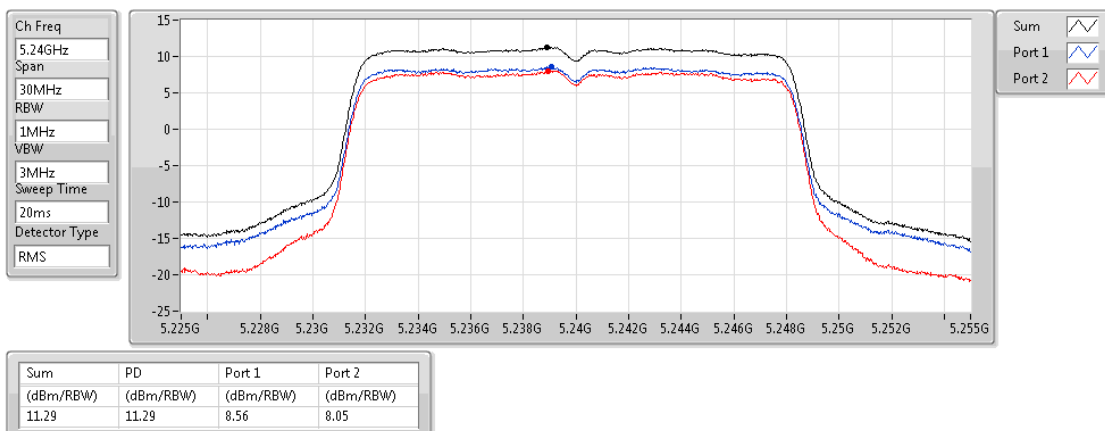
5200MHz



802.11a_(6Mbps)_2TX

PSD

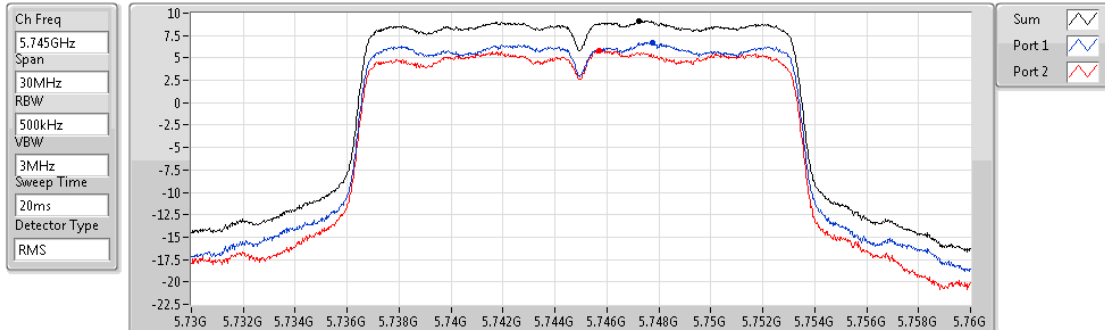
5240MHz



802.11a_(6Mbps)_2TX

PSD

5745MHz

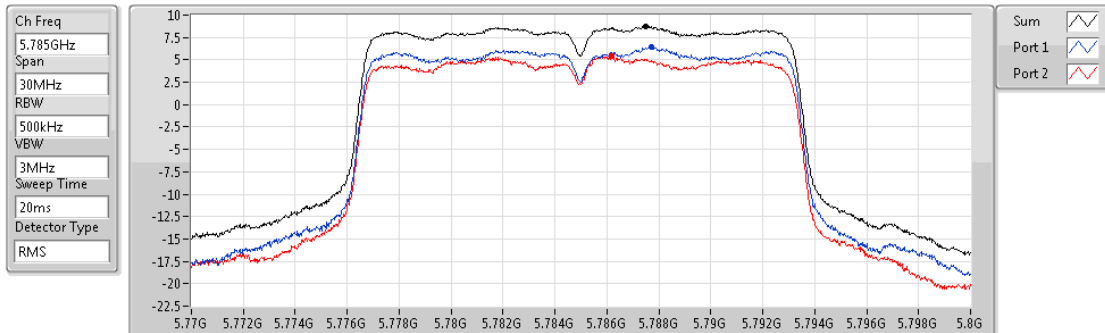


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.13	9.13	6.74	5.82

802.11a_(6Mbps)_2TX

PSD

5785MHz

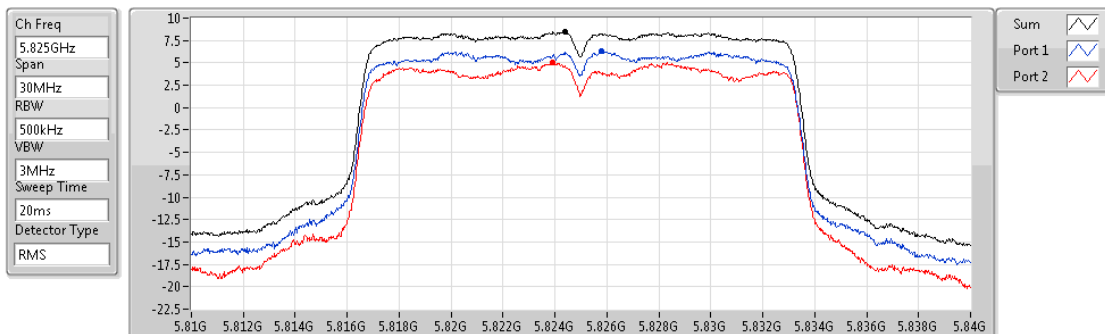


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.73	8.73	6.43	5.37

802.11a_(6Mbps)_2TX

PSD

5825MHz

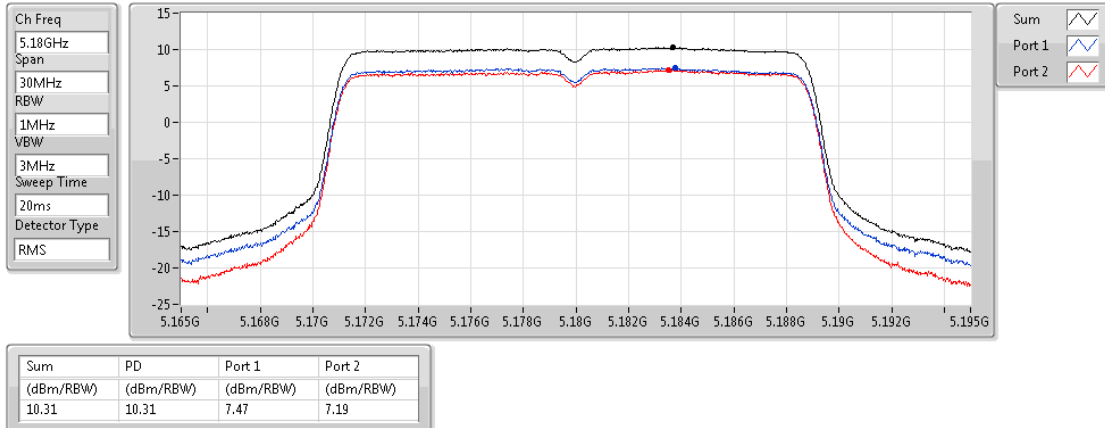


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.48	8.48	6.28	5.01

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

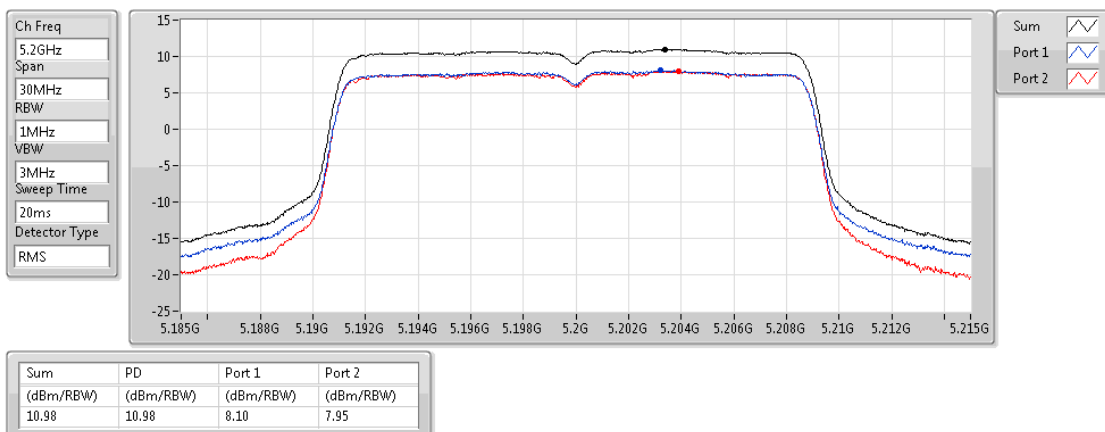
5180MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

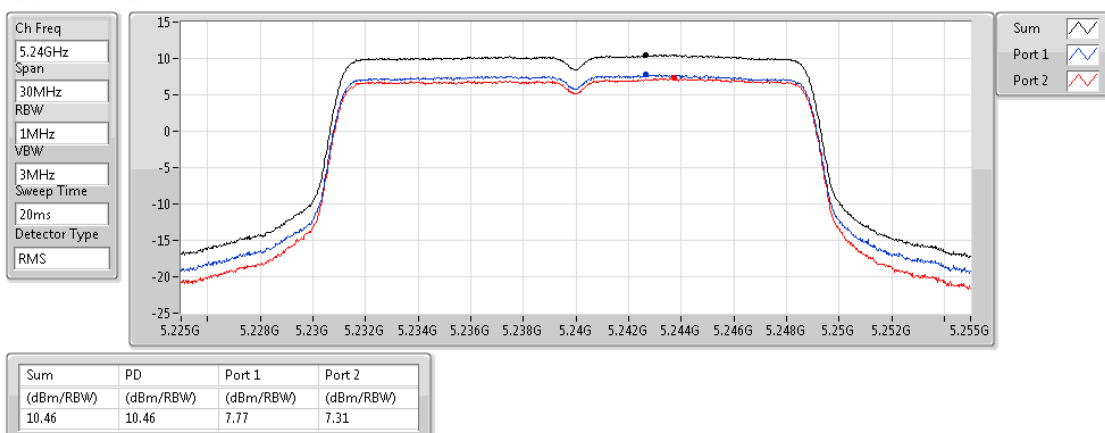
5200MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

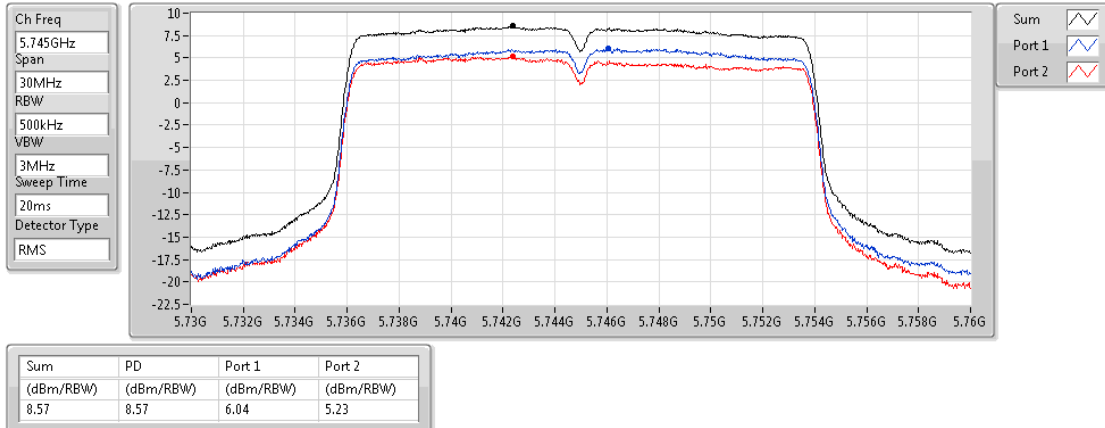
5240MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

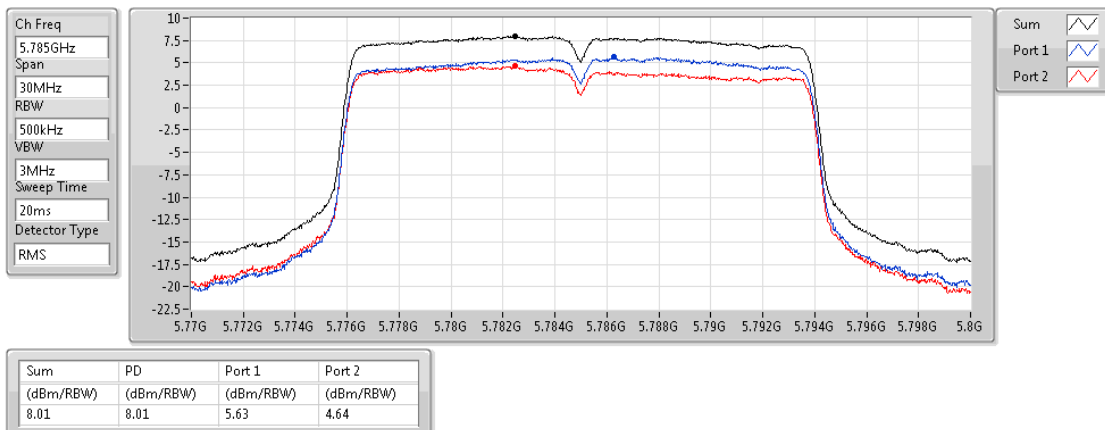
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

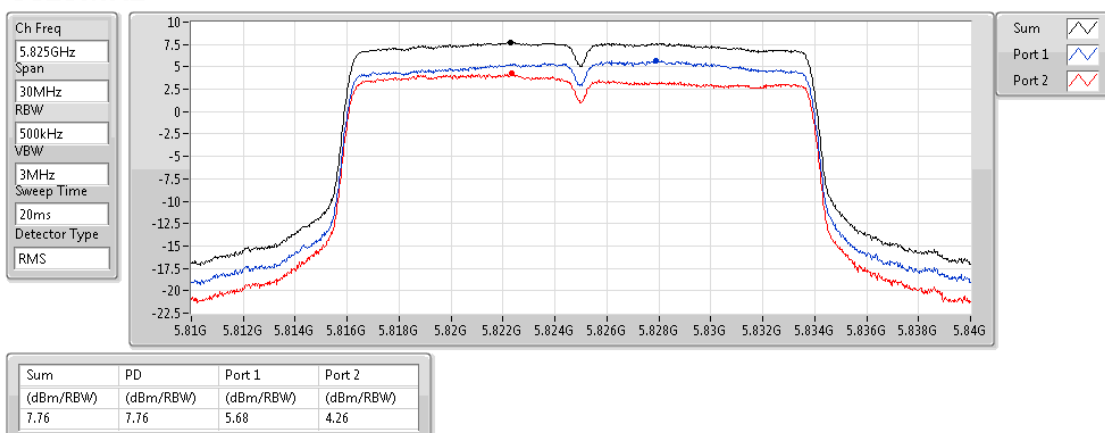
5785MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

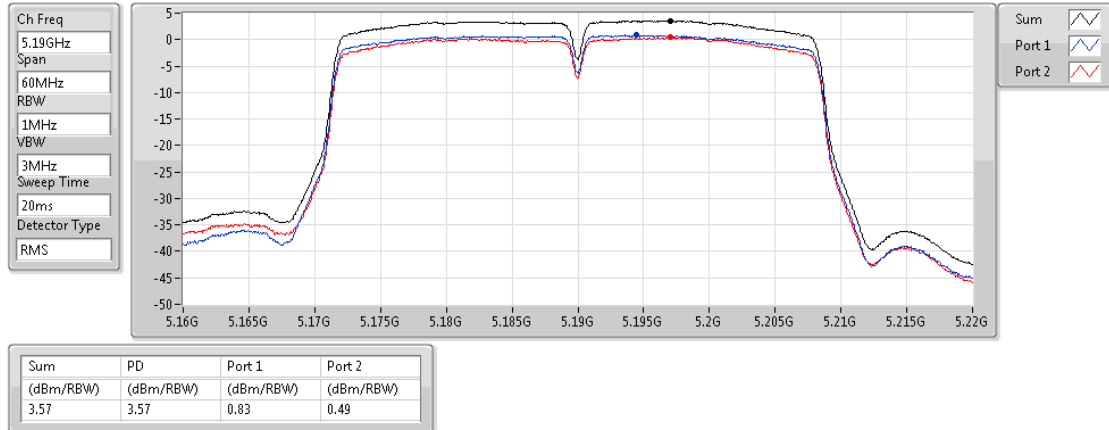
5825MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

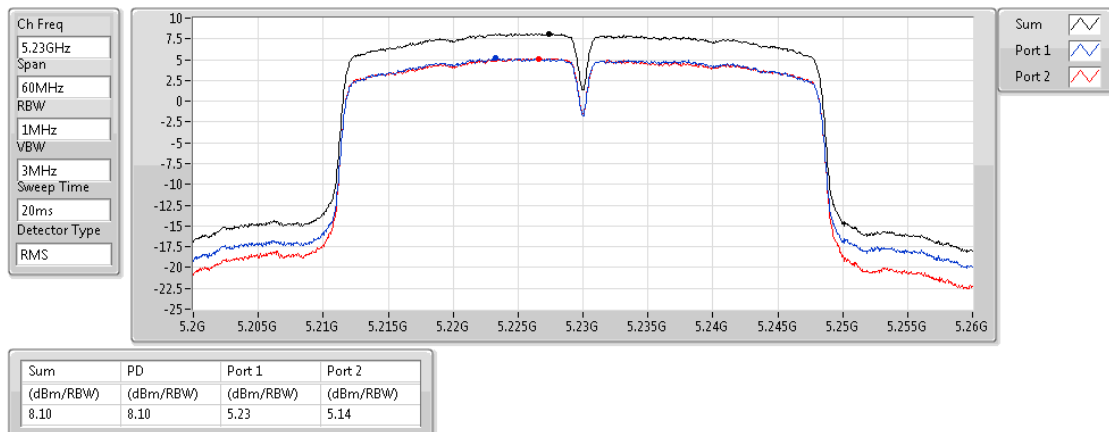
5190MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

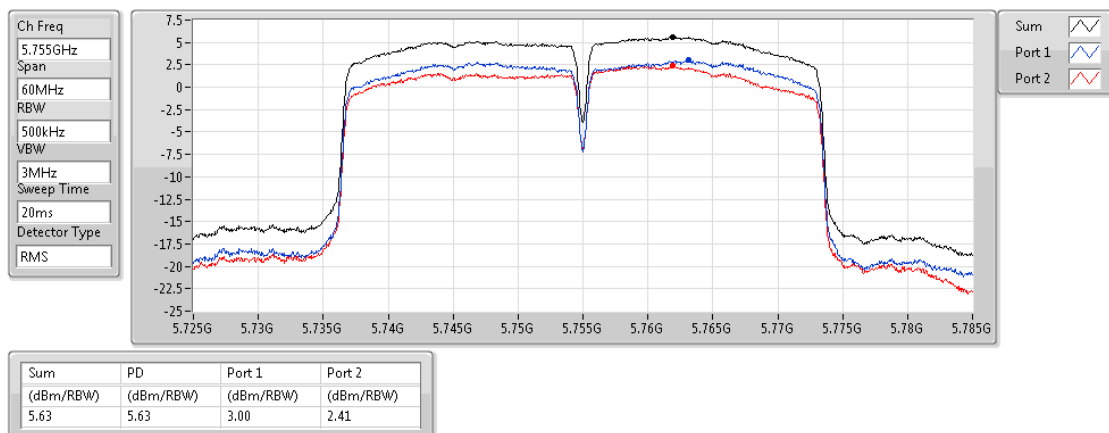
5230MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

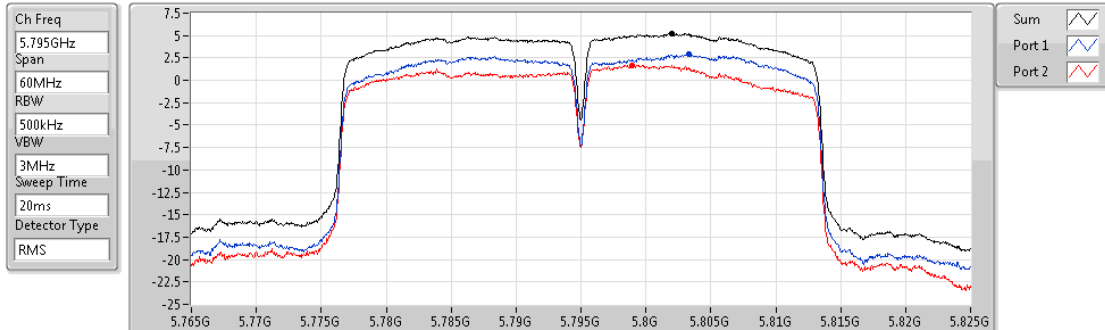
5755MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

5795MHz

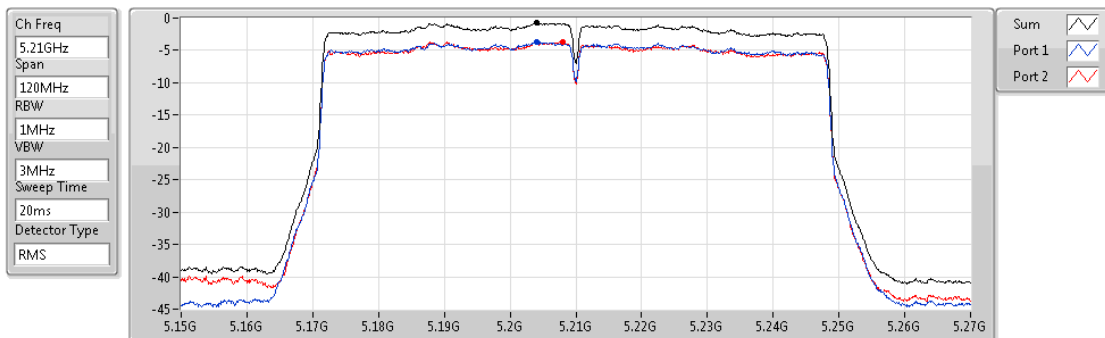


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.27	5.27	2.89	1.72

802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5210MHz

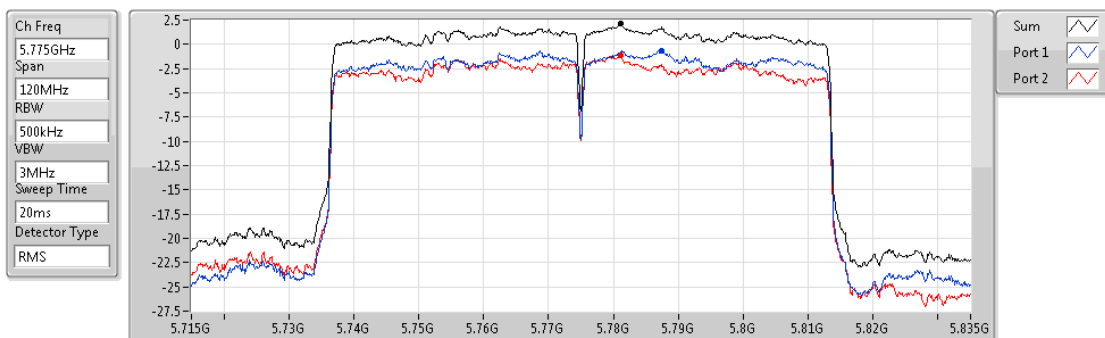


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.73	-0.73	-3.68	-3.72

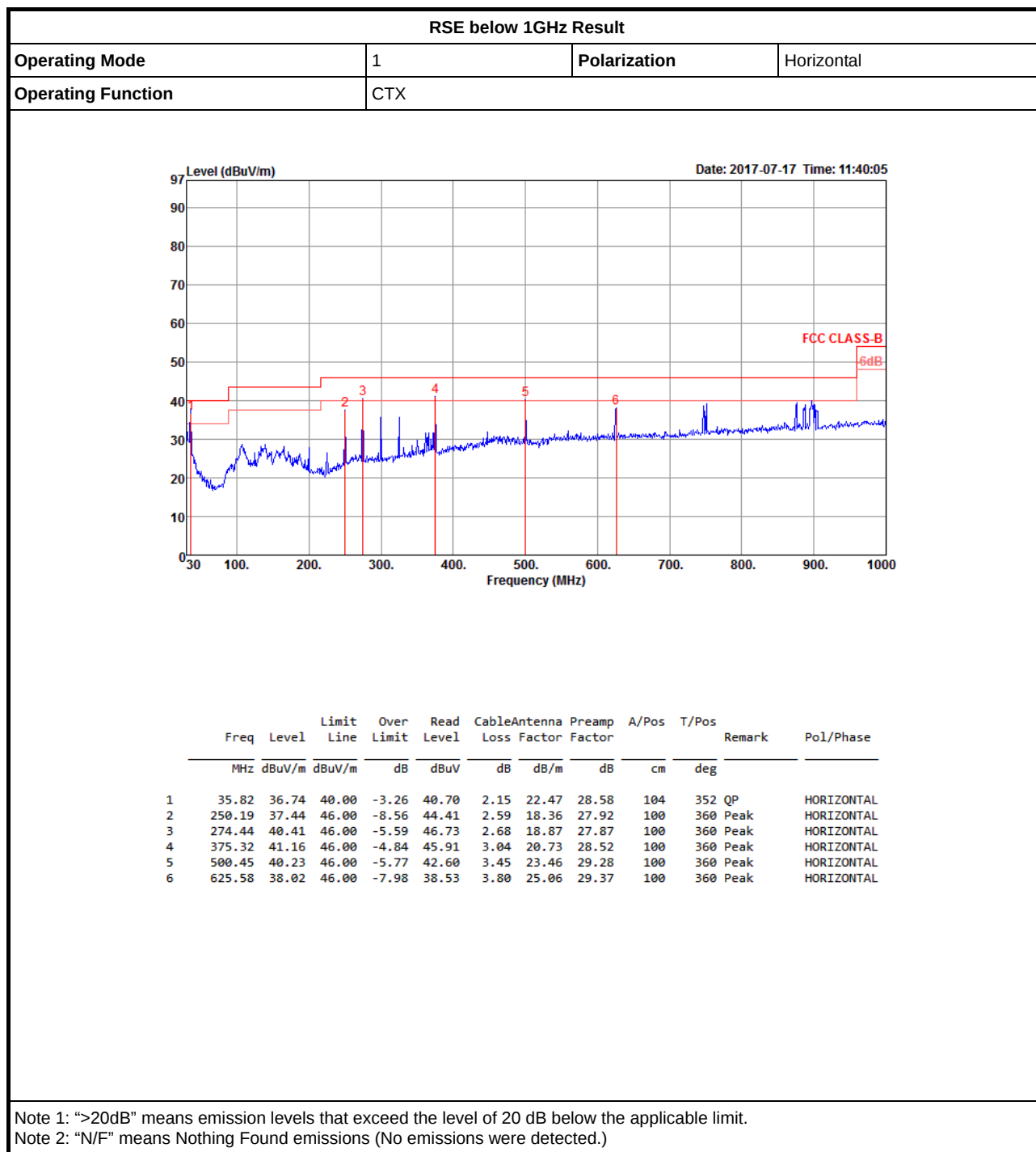
802.11ac VHT80_Nss1,(MCS0)_2TX

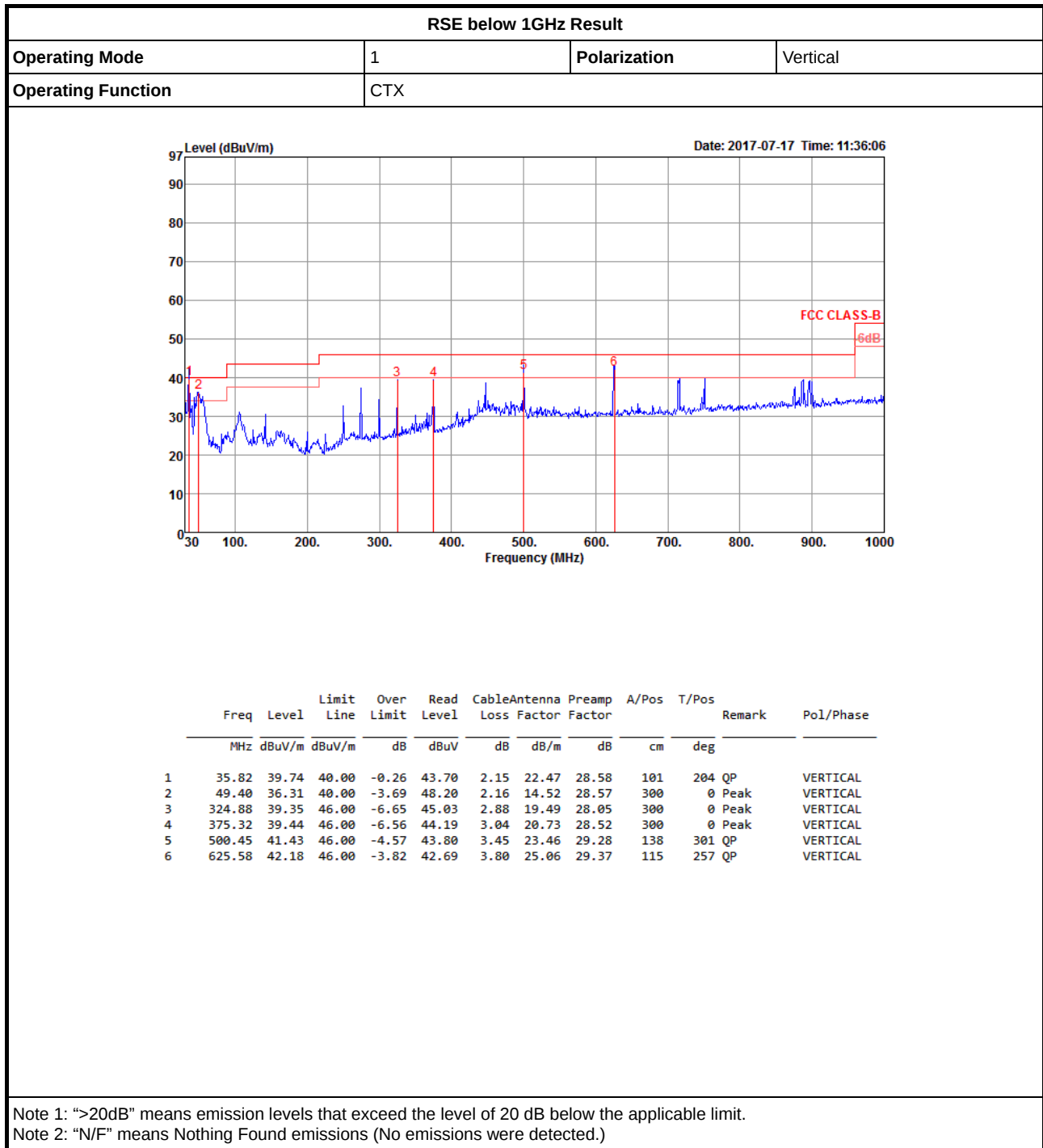
PSD

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.11	2.11	-0.62	-1.09



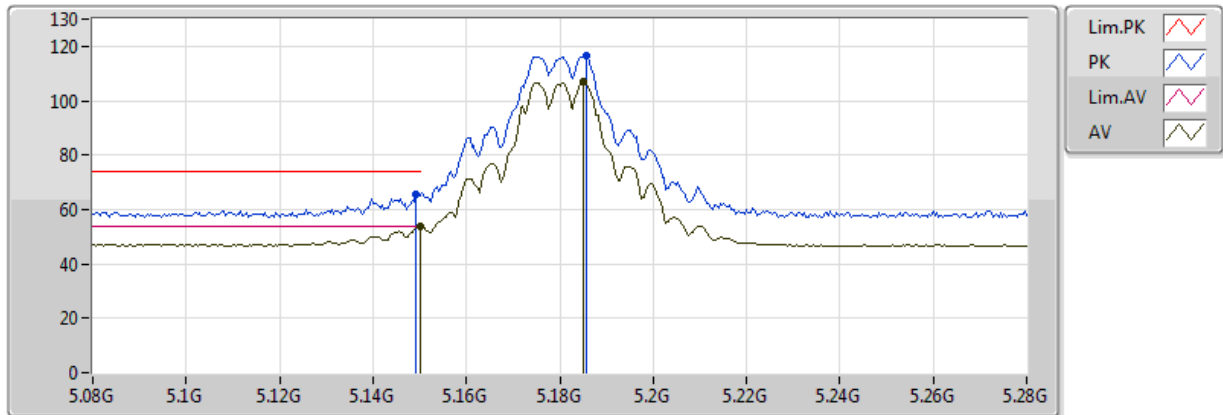


**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
802.11a_(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-
5.15-5.25GHz	Pass	AV	5.149995G	53.89	54.00	-0.11	5.31	3	V	277	1.94	-

802.11a_(6Mbps)_2TX

5180MHz_TX

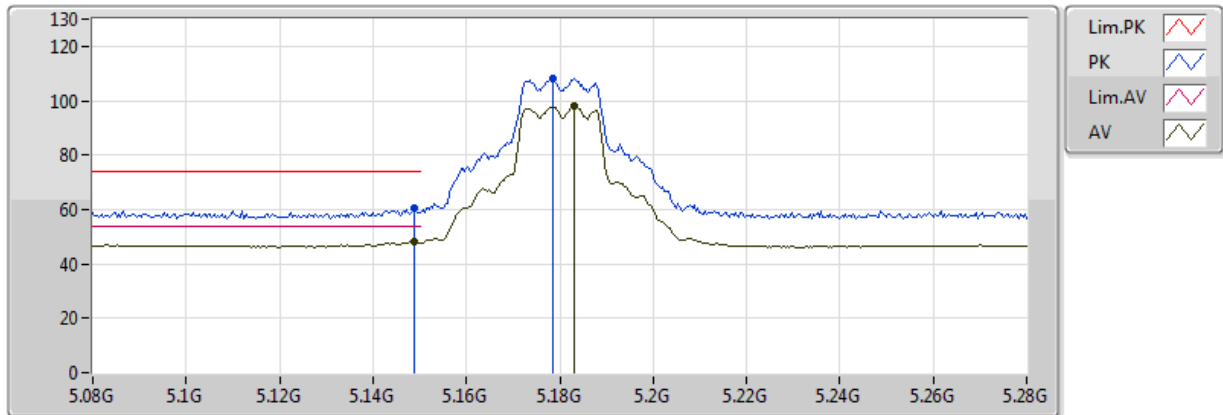


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	53.89	54.00	-0.11	5.31	3	V	277	1.94	-
AV	5.1852G	106.90	Inf	-Inf	5.44	3	V	277	1.94	-
PK	5.1492G	65.84	74.00	-8.16	5.31	3	V	277	1.94	-
PK	5.1856G	116.45	Inf	-Inf	5.44	3	V	277	1.94	-

802.11a_(6Mbps)_2TX

5180MHz_TX

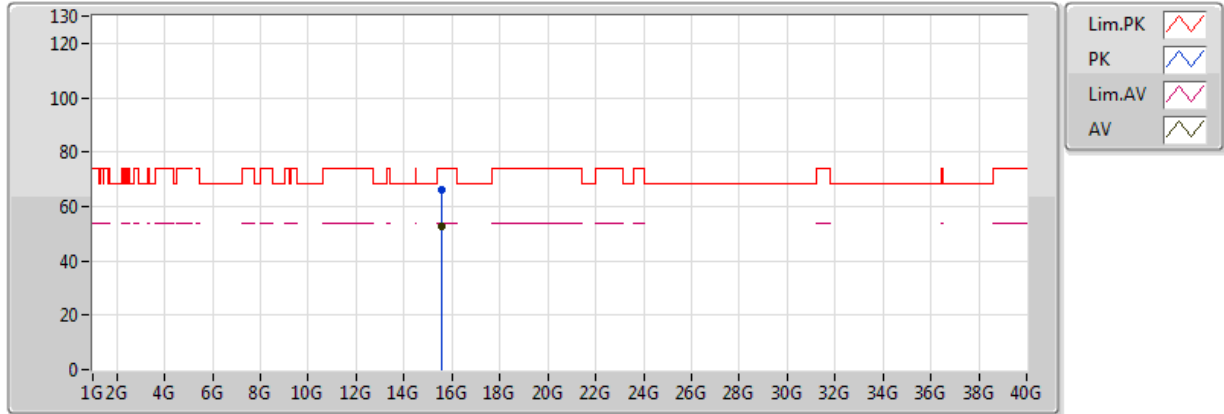


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1488G	48.36	54.00	-5.64	5.31	3	H	285	1.78	-
AV	5.1832G	98.03	Inf	-Inf	5.43	3	H	285	1.78	-
PK	5.1488G	60.33	74.00	-13.67	5.31	3	H	285	1.78	-
PK	5.1784G	108.06	Inf	-Inf	5.41	3	H	285	1.78	-

802.11a_(6Mbps)_2TX

5180MHz_TX

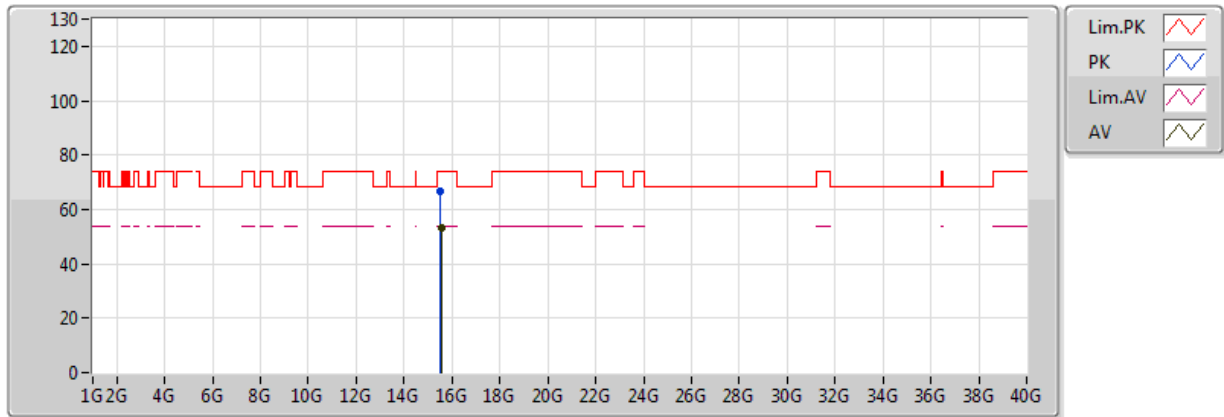


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.5394G	52.63	54.00	-1.37	17.80	3	V	316	1.66	-
PK	15.55386G	66.00	74.00	-8.00	17.81	3	V	316	1.66	-

802.11a_(6Mbps)_2TX

5180MHz_TX

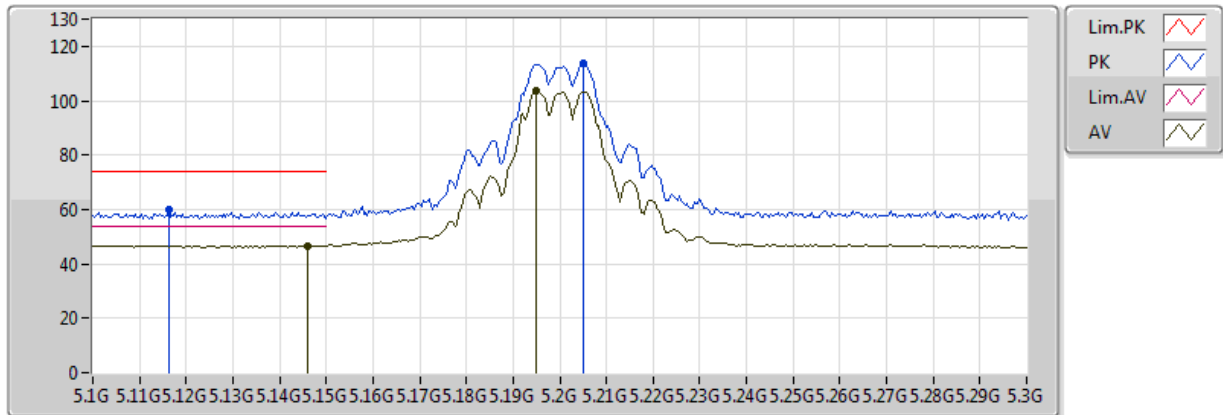


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54204G	53.26	54.00	-0.74	17.80	3	H	268	1.71	-
PK	15.53706G	66.64	74.00	-7.36	17.80	3	H	268	1.71	-

802.11a_(6Mbps)_2TX

5200MHz_TX

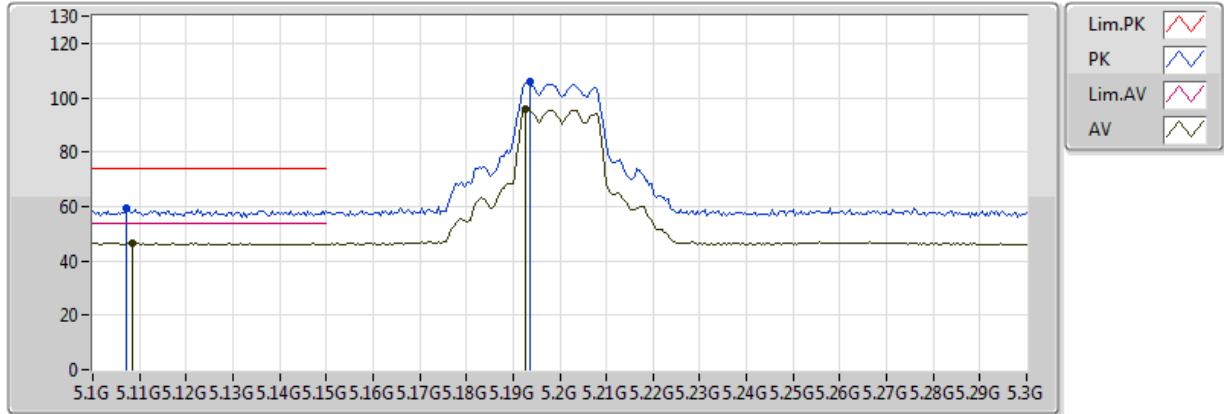


20170704
EUT_Z_2TX
Setting 19.5
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.146G	46.67	54.00	-7.33	5.30	3	V	256	1.80	-
AV	5.1948G	103.61	Inf	-Inf	5.47	3	V	256	1.80	-
PK	5.1164G	60.04	74.00	-13.96	5.20	3	V	256	1.80	-
PK	5.2052G	113.64	Inf	-Inf	5.50	3	V	256	1.80	-

802.11a_(6Mbps)_2TX

5200MHz_TX

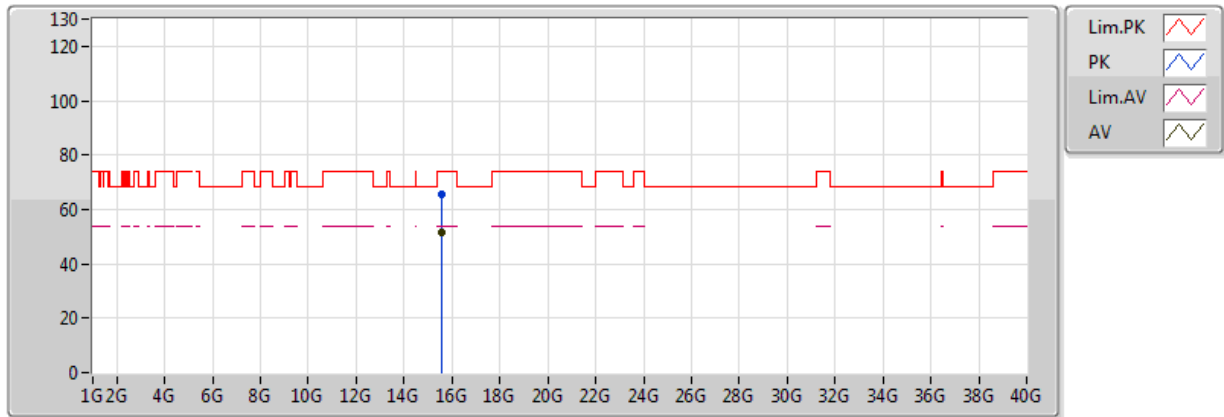


20170704
EUT_Z_2TX
Setting 19.5
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1084G	46.71	54.00	-7.29	5.17	3	H	285	2.83	-
AV	5.1928G	95.84	Inf	-Inf	5.46	3	H	285	2.83	-
PK	5.1072G	59.50	74.00	-14.50	5.17	3	H	285	2.83	-
PK	5.1936G	105.84	Inf	-Inf	5.47	3	H	285	2.83	-

802.11a_(6Mbps)_2TX

5200MHz_TX

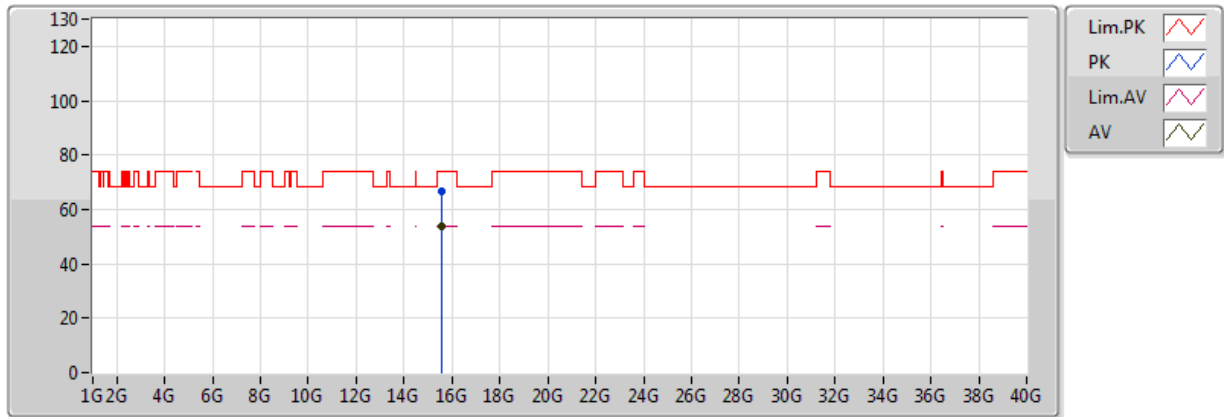


20170704
EUT_Z_2TX
Setting 19.5
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.59694G	51.73	54.00	-2.27	17.84	3	V	313	1.75	-
PK	15.59742G	65.31	74.00	-8.69	17.84	3	V	313	1.75	-

802.11a_(6Mbps)_2TX

5200MHz_TX

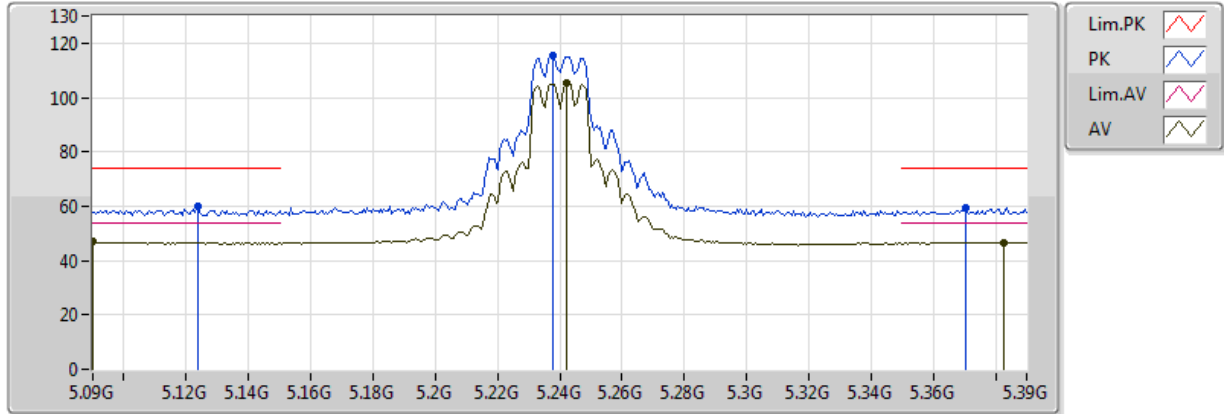


20170704
EUT_Z_2TX
Setting 19.5
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.5994G	53.60	54.00	-0.40	17.85	3	H	266	1.69	-
PK	15.59502G	66.88	74.00	-7.12	17.84	3	H	266	1.69	-

802.11a_(6Mbps)_2TX

5240MHz_TX

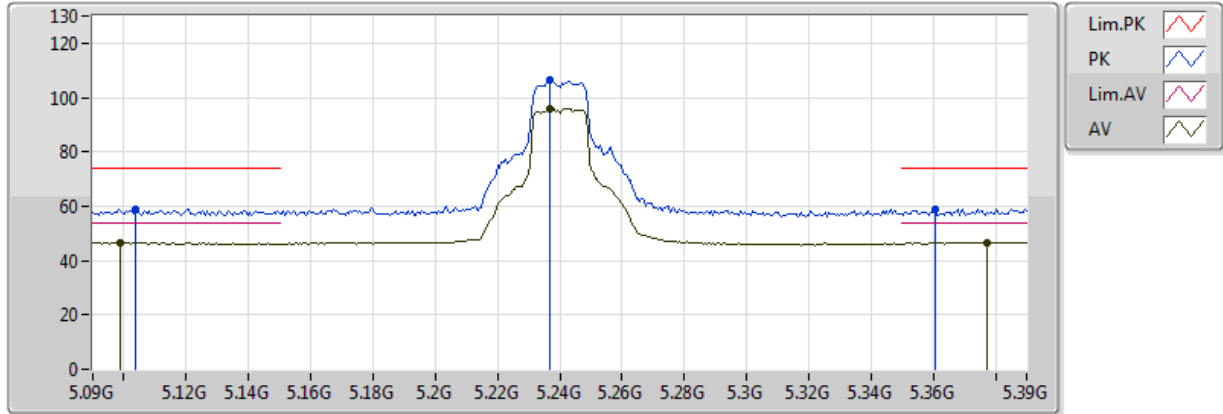


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.09G	46.94	54.00	-7.06	5.10	3	V	261	2.07	-
AV	5.2424G	105.49	Inf	-Inf	5.54	3	V	261	2.07	-
AV	5.3828G	46.77	54.00	-7.23	5.68	3	V	261	2.07	-
PK	5.1236G	59.70	74.00	-14.30	5.22	3	V	261	2.07	-
PK	5.2376G	115.50	Inf	-Inf	5.53	3	V	261	2.07	-
PK	5.3702G	59.16	74.00	-14.84	5.67	3	V	261	2.07	-

802.11a_(6Mbps)_2TX

5240MHz_TX

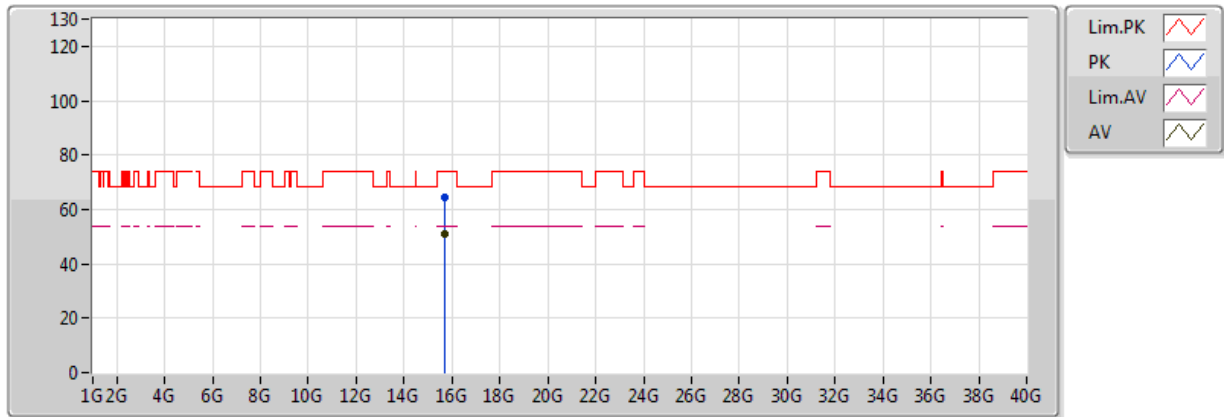


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.099G	46.76	54.00	-7.24	5.14	3	H	281	2.14	-
AV	5.237G	96.08	Inf	-Inf	5.53	3	H	281	2.14	-
AV	5.3774G	46.67	54.00	-7.33	5.68	3	H	281	2.14	-
PK	5.1038G	58.98	74.00	-15.02	5.15	3	H	281	2.14	-
PK	5.237G	106.62	Inf	-Inf	5.53	3	H	281	2.14	-
PK	5.3606G	59.08	74.00	-14.92	5.66	3	H	281	2.14	-

802.11a_(6Mbps)_2TX

5240MHz_TX

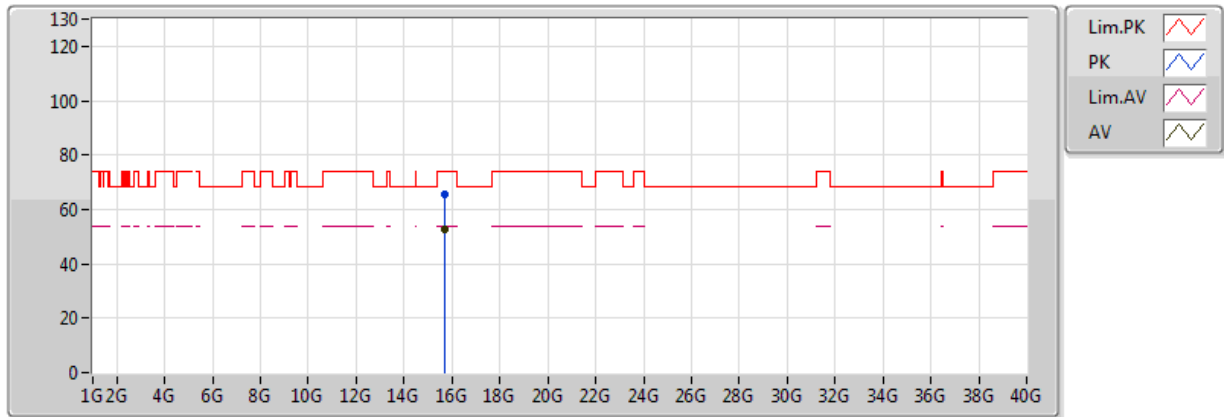


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.72G	50.90	54.00	-3.10	17.94	3	V	314	1.73	-
PK	15.71532G	64.55	74.00	-9.45	17.94	3	V	314	1.73	-

802.11a_(6Mbps)_2TX

5240MHz_TX

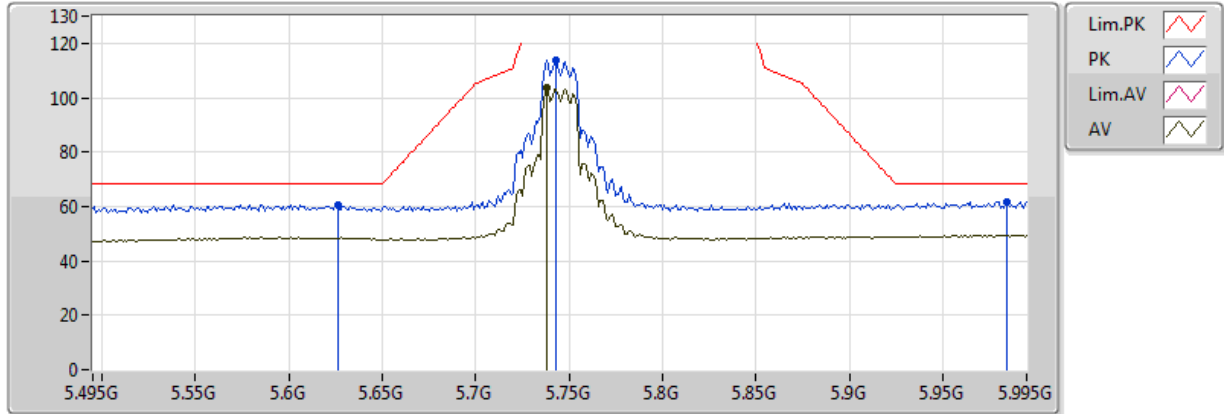


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.72204G	52.61	54.00	-1.39	17.94	3	H	266	1.60	-
PK	15.72264G	65.64	74.00	-8.36	17.95	3	H	266	1.60	-

802.11a_(6Mbps)_2TX

5745MHz_TX

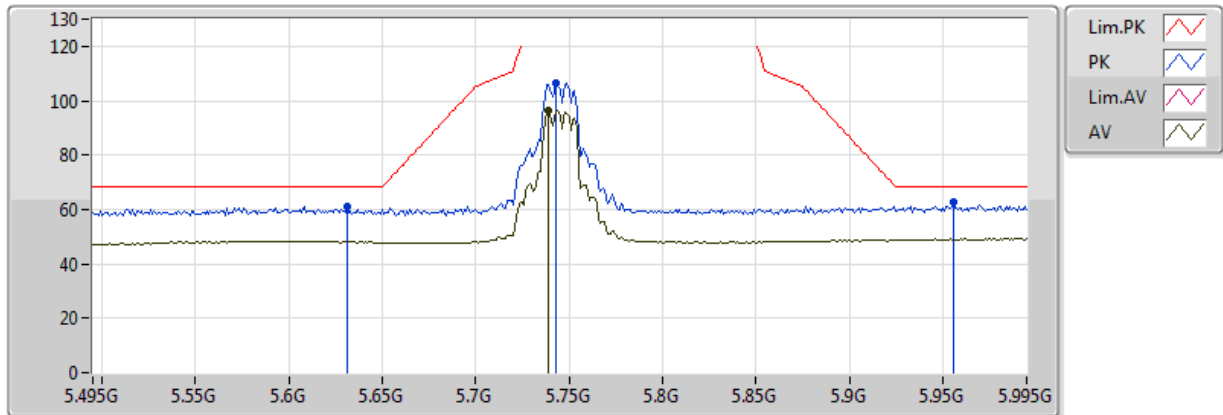


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.738G	103.42	Inf	-Inf	7.05	3	V	90	2.08	-
PK	5.626G	60.78	68.20	-7.42	6.83	3	V	90	2.08	-
PK	5.743G	113.89	Inf	-Inf	7.06	3	V	90	2.08	-
PK	5.984G	61.50	68.20	-6.70	8.38	3	V	90	2.08	-

802.11a_(6Mbps)_2TX

5745MHz_TX

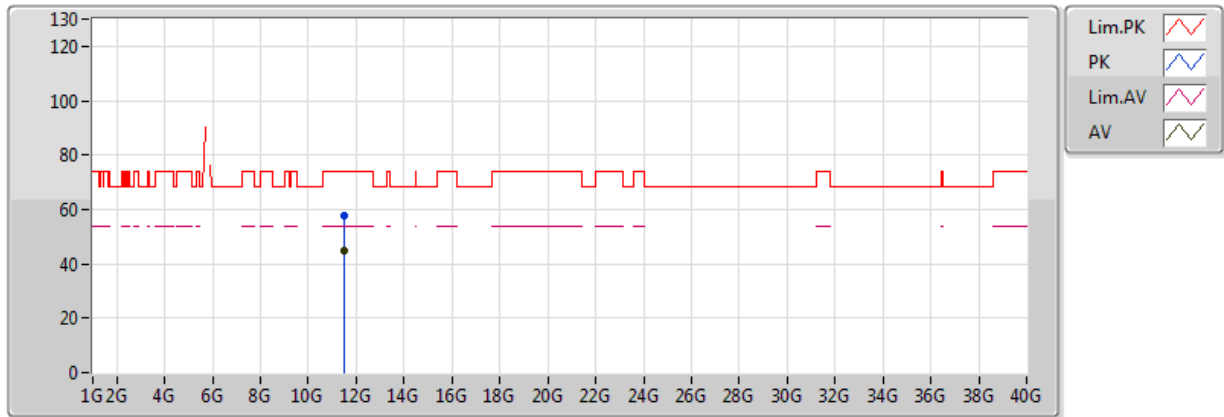


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.739G	96.29	Inf	-Inf	7.05	3	H	214	1.63	-
PK	5.631G	61.06	68.20	-7.14	6.84	3	H	214	1.63	-
PK	5.743G	106.69	Inf	-Inf	7.06	3	H	214	1.63	-
PK	5.956G	62.73	68.20	-5.47	8.19	3	H	214	1.63	-

802.11a_(6Mbps)_2TX

5745MHz_TX

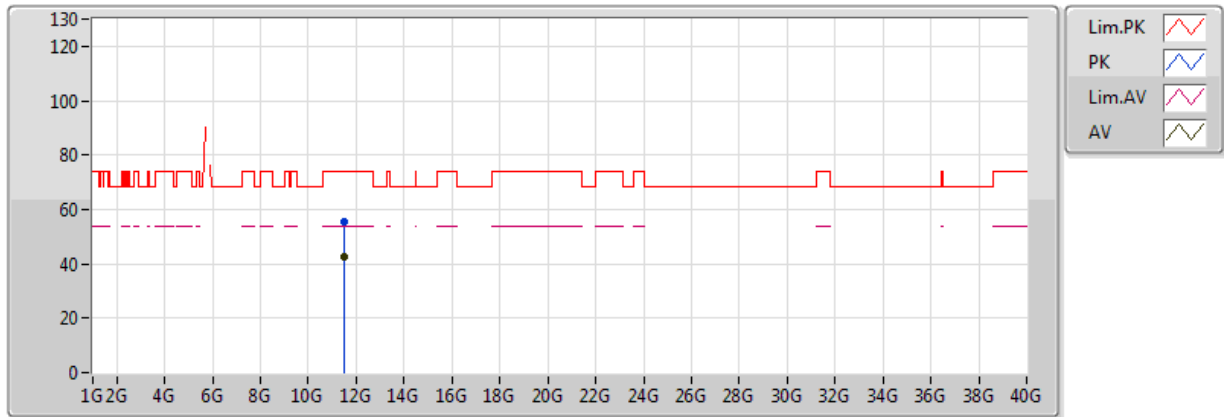


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.49636G	44.85	54.00	-9.15	16.13	3	V	93	3.00	-
PK	11.49186G	57.58	74.00	-16.42	16.12	3	V	93	3.00	-

802.11a_(6Mbps)_2TX

5745MHz_TX

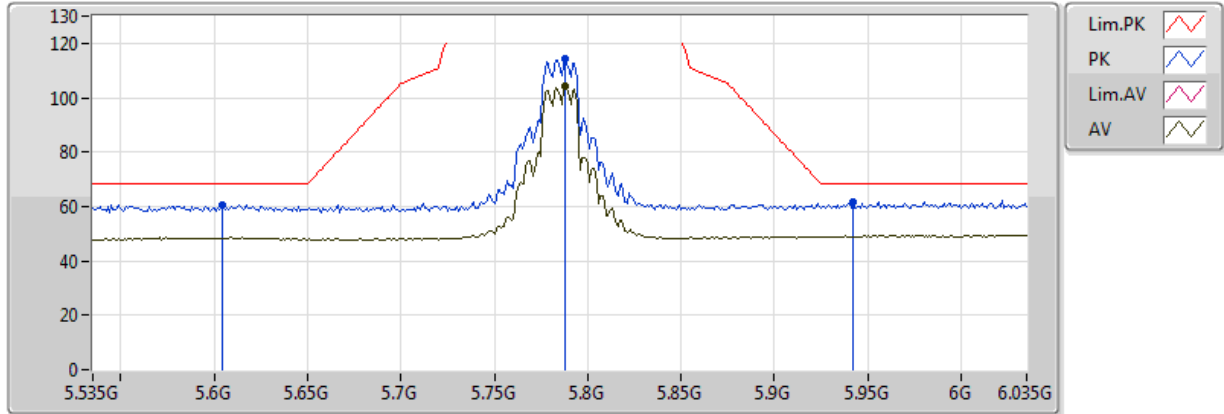


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.48994G	42.67	54.00	-11.33	16.12	3	H	297	1.86	-
PK	11.49774G	55.70	74.00	-18.30	16.13	3	H	297	1.86	-

802.11a_(6Mbps)_2TX

5785MHz_TX

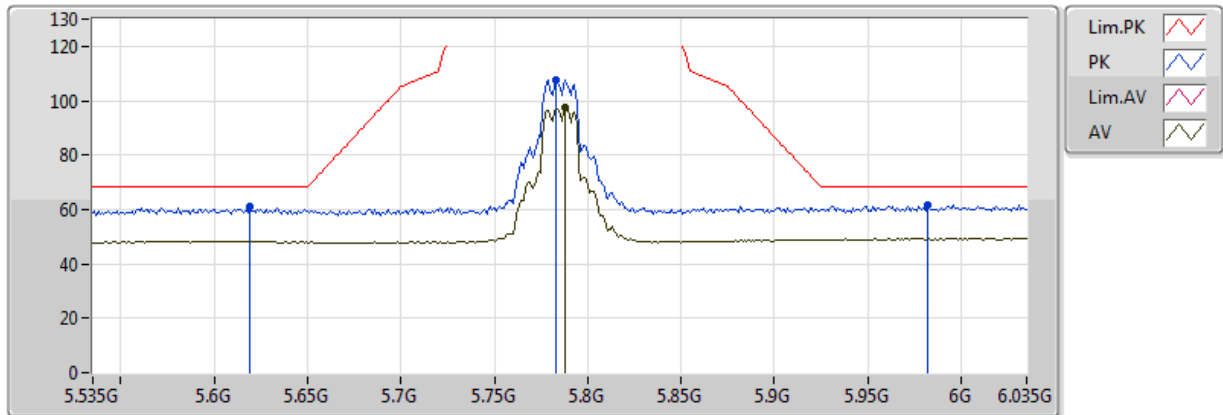


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.788G	104.20	Inf	-Inf	7.15	3	V	27	1.89	-
PK	5.604G	60.70	68.20	-7.50	6.79	3	V	27	1.89	-
PK	5.788G	114.24	Inf	-Inf	7.15	3	V	27	1.89	-
PK	5.942G	61.88	68.20	-6.32	8.10	3	V	27	1.89	-

802.11a_(6Mbps)_2TX

5785MHz_TX

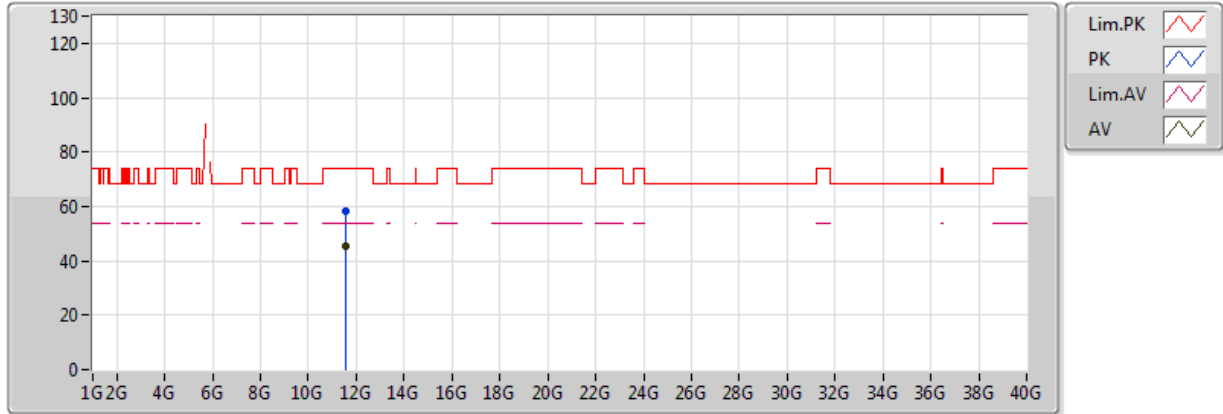


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.788G	97.78	Inf	-Inf	7.15	3	H	249	2.28	-
PK	5.619G	61.17	68.20	-7.03	6.82	3	H	249	2.28	-
PK	5.783G	107.56	Inf	-Inf	7.14	3	H	249	2.28	-
PK	5.982G	61.69	68.20	-6.51	8.36	3	H	249	2.28	-

802.11a_(6Mbps)_2TX

5785MHz_TX

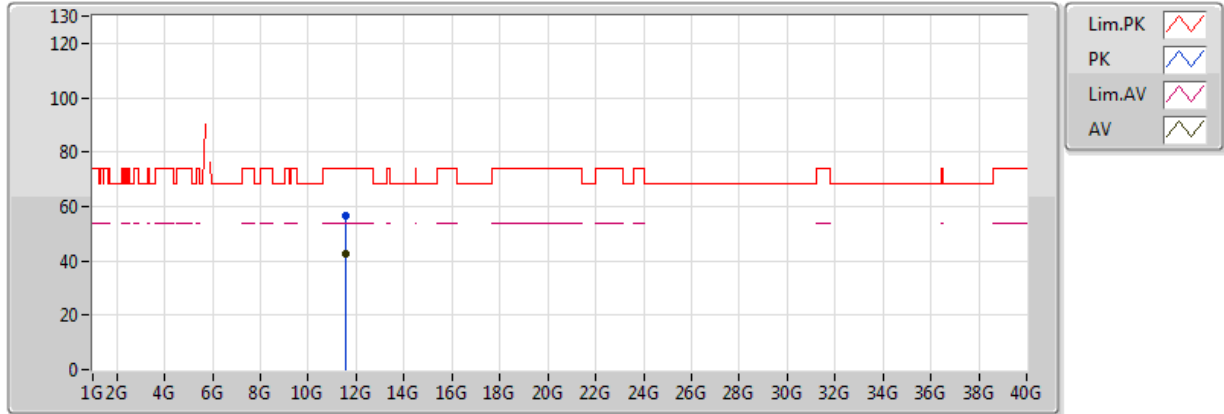


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.57018G	45.13	54.00	-8.87	16.18	3	V	92	1.55	-
PK	11.57216G	58.47	74.00	-15.53	16.18	3	V	92	1.55	-

802.11a_(6Mbps)_2TX

5785MHz_TX

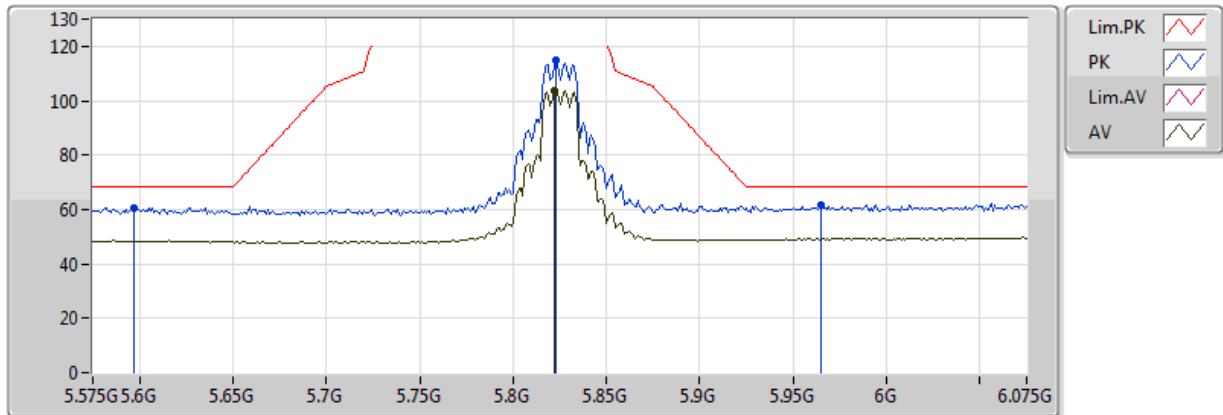


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.57072G	42.85	54.00	-11.15	16.18	3	H	335	1.30	-
PK	11.58338G	56.63	74.00	-17.37	16.19	3	H	335	1.30	-

802.11a_(6Mbps)_2TX

5825MHz_TX

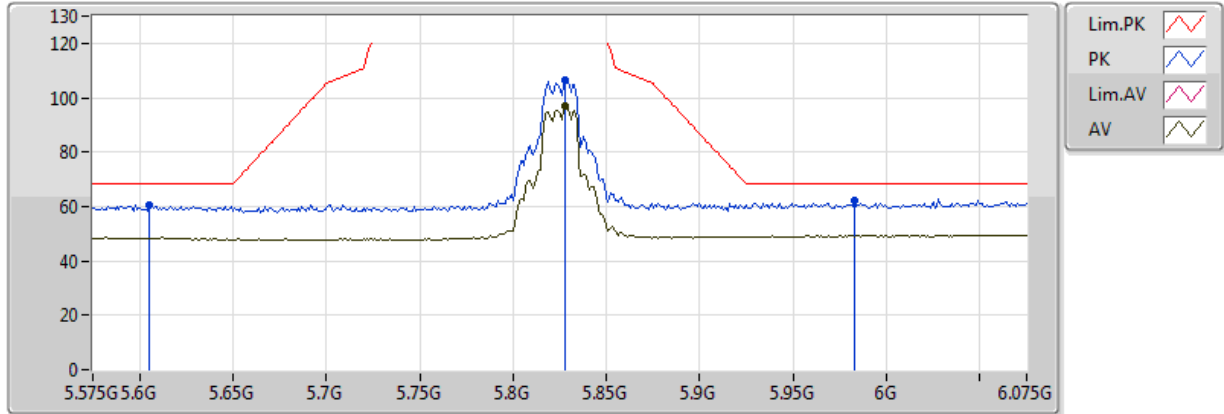


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.822G	103.73	Inf	-Inf	7.32	3	V	123	1.62	-
PK	5.597G	60.46	68.20	-7.74	6.76	3	V	123	1.62	-
PK	5.823G	114.78	Inf	-Inf	7.33	3	V	123	1.62	-
PK	5.965G	61.73	68.20	-6.47	8.25	3	V	123	1.62	-

802.11a_(6Mbps)_2TX

5825MHz_TX

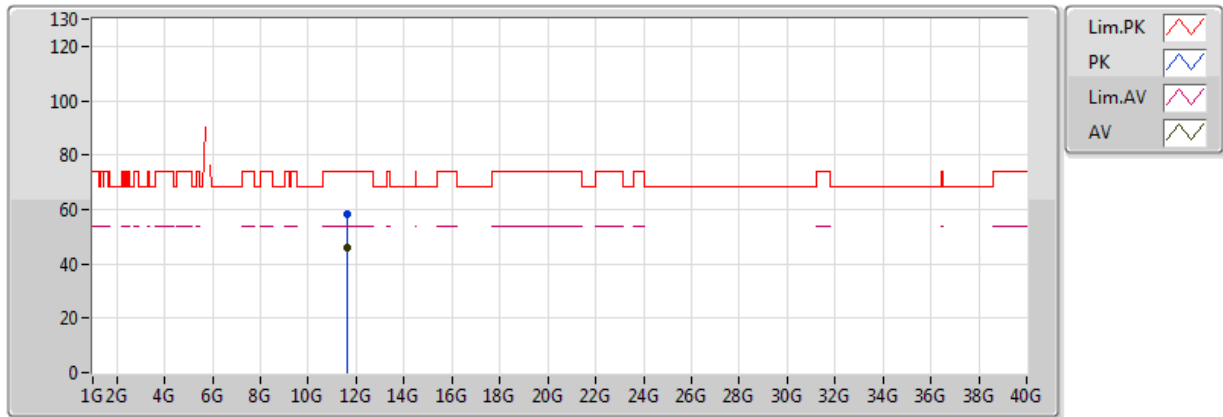


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.828G	96.67	Inf	-Inf	7.36	3	H	250	2.31	-
PK	5.605G	60.42	68.20	-7.78	6.79	3	H	250	2.31	-
PK	5.828G	106.70	Inf	-Inf	7.36	3	H	250	2.31	-
PK	5.983G	62.10	68.20	-6.10	8.37	3	H	250	2.31	-

802.11a_(6Mbps)_2TX

5825MHz_TX

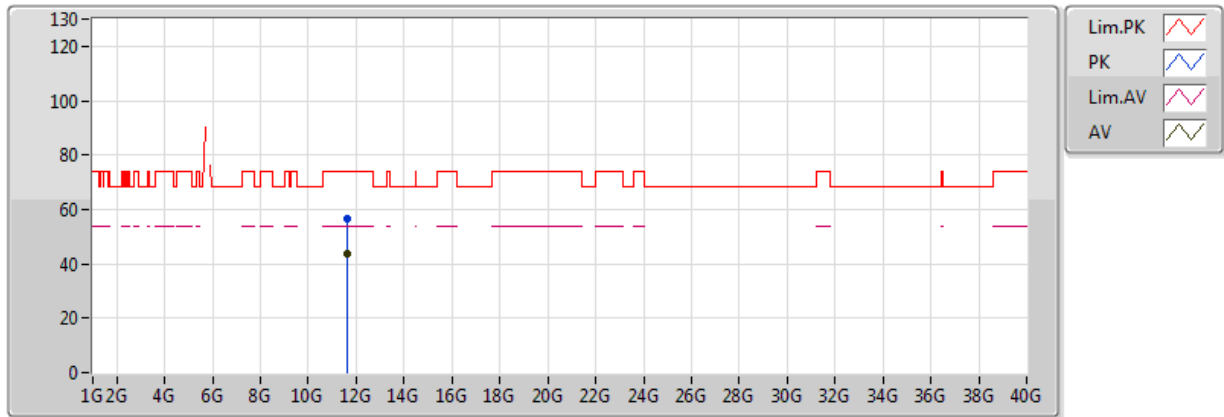


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65006G	45.72	54.00	-8.28	16.23	3	V	86	1.67	-
PK	11.65156G	58.13	74.00	-15.87	16.23	3	V	86	1.67	-

802.11a_(6Mbps)_2TX

5825MHz_TX

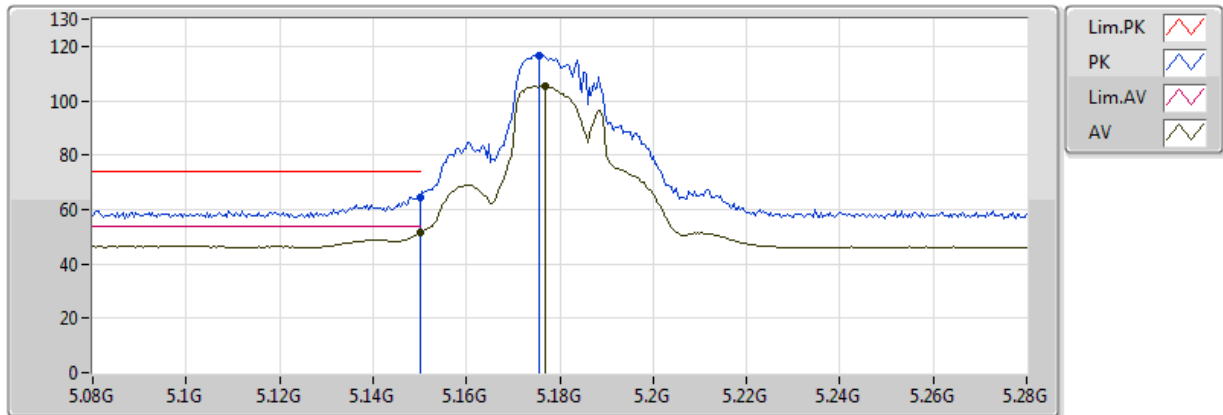


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.64502G	43.54	54.00	-10.46	16.23	3	H	155	1.25	-
PK	11.63638G	56.62	74.00	-17.38	16.22	3	H	155	1.25	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

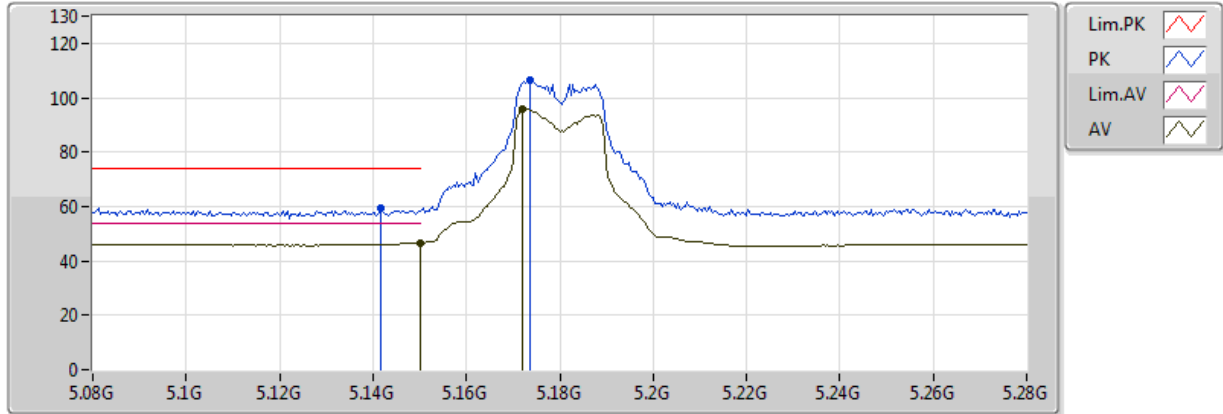


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	51.39	54.00	-2.61	5.31	3	V	354	2.86	-
AV	5.1768G	105.45	Inf	-Inf	5.41	3	V	354	2.86	-
PK	5.149995G	64.69	74.00	-9.31	5.31	3	V	354	2.86	-
PK	5.1756G	116.64	Inf	-Inf	5.40	3	V	354	2.86	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

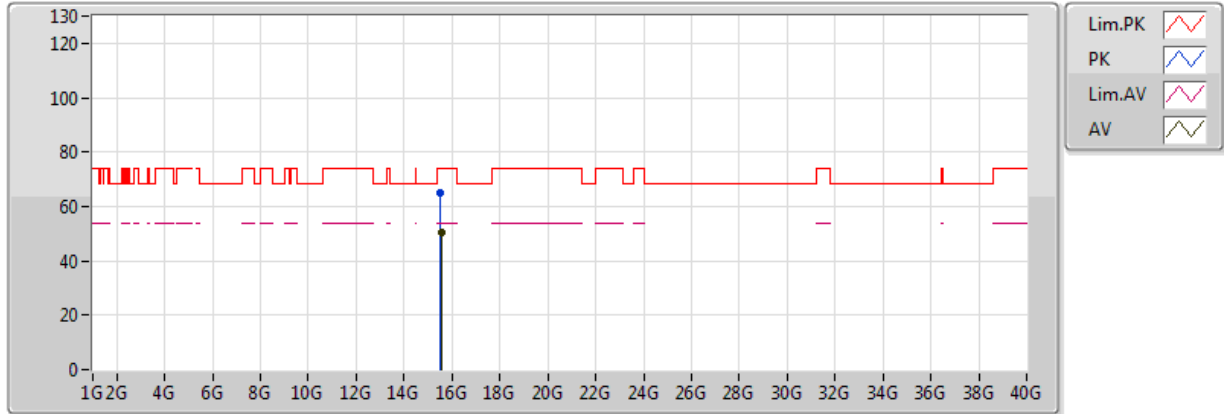


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	46.62	54.00	-7.38	5.31	3	H	171	2.86	-
AV	5.172G	95.90	Inf	-Inf	5.39	3	H	171	2.86	-
PK	5.1416G	59.37	74.00	-14.63	5.29	3	H	171	2.86	-
PK	5.1736G	106.33	Inf	-Inf	5.40	3	H	171	2.86	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

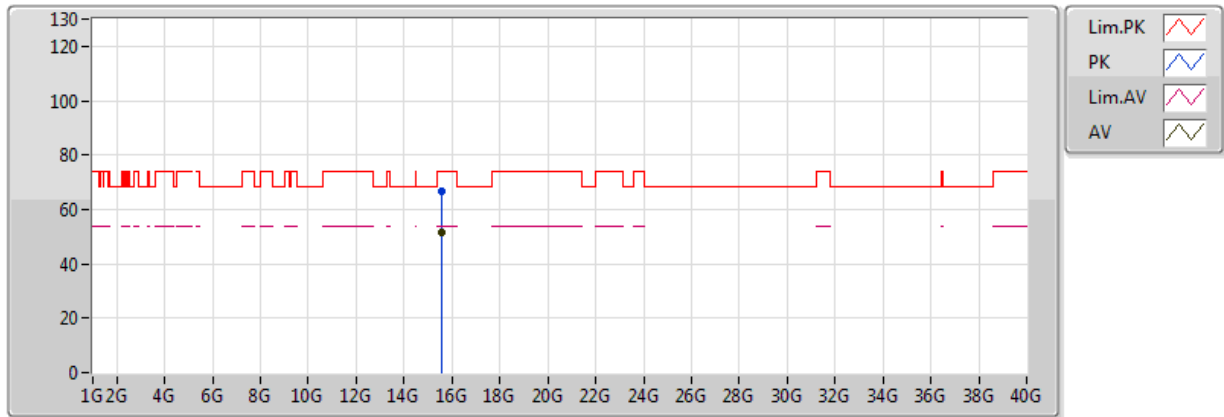


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.53862G	50.49	54.00	-3.51	17.80	3	V	46	1.64	-
PK	15.53538G	64.83	74.00	-9.17	17.79	3	V	46	1.64	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5180MHz_TX

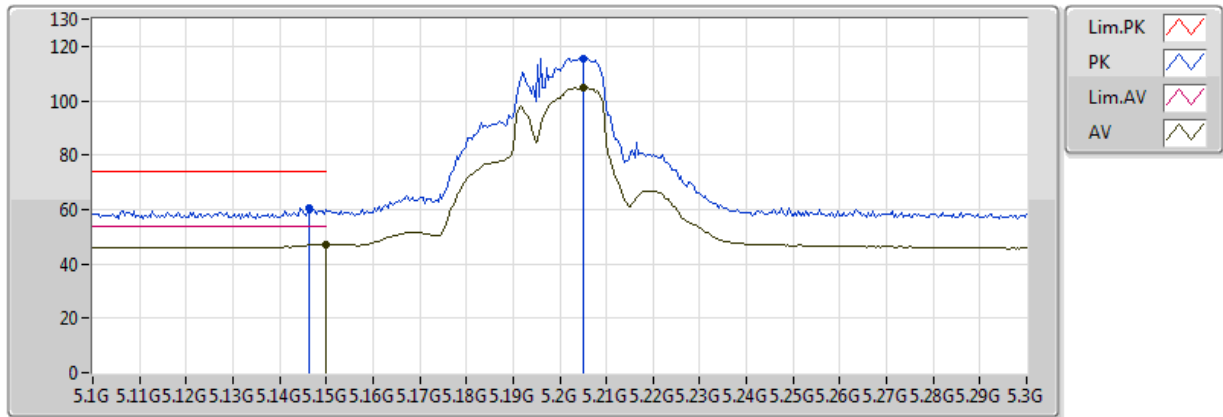


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.54636G	51.40	54.00	-2.60	17.80	3	H	267	1.72	-
PK	15.54852G	66.45	74.00	-7.55	17.80	3	H	267	1.72	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

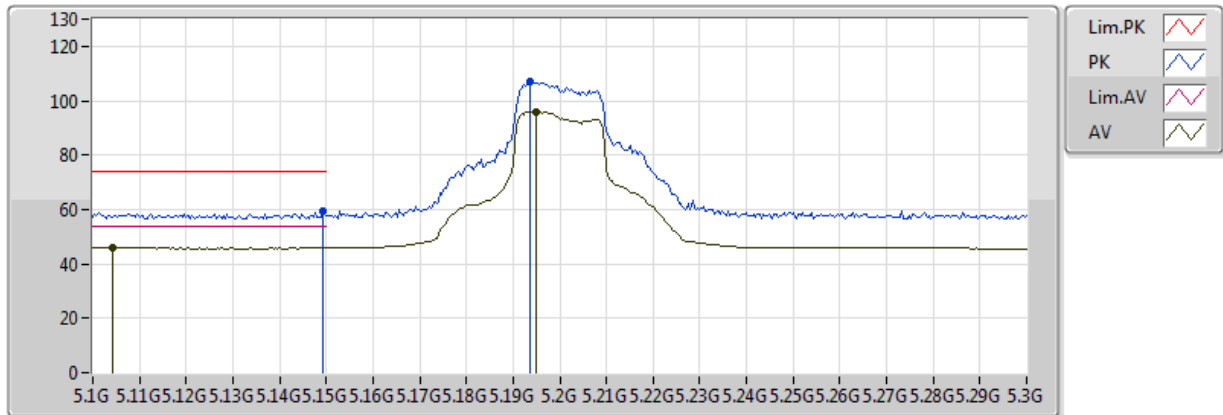


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	47.32	54.00	-6.68	5.31	3	V	101	1.92	-
AV	5.2052G	104.84	Inf	-Inf	5.50	3	V	101	1.92	-
PK	5.1464G	60.58	74.00	-13.42	5.30	3	V	101	1.92	-
PK	5.2052G	115.69	Inf	-Inf	5.50	3	V	101	1.92	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

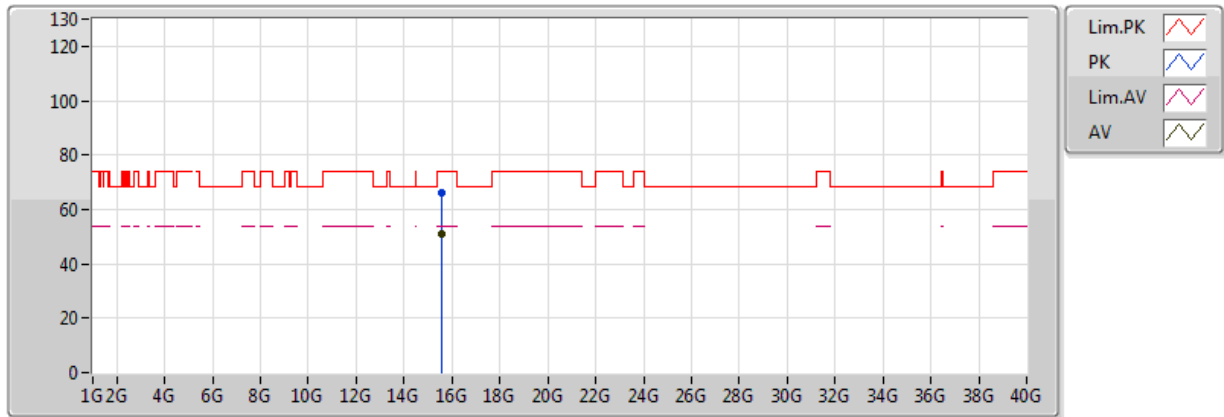


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1044G	45.96	54.00	-8.04	5.16	3	H	283	1.96	-
AV	5.1948G	96.07	Inf	-Inf	5.47	3	H	283	1.96	-
PK	5.1492G	59.16	74.00	-14.84	5.31	3	H	283	1.96	-
PK	5.1936G	106.78	Inf	-Inf	5.47	3	H	283	1.96	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

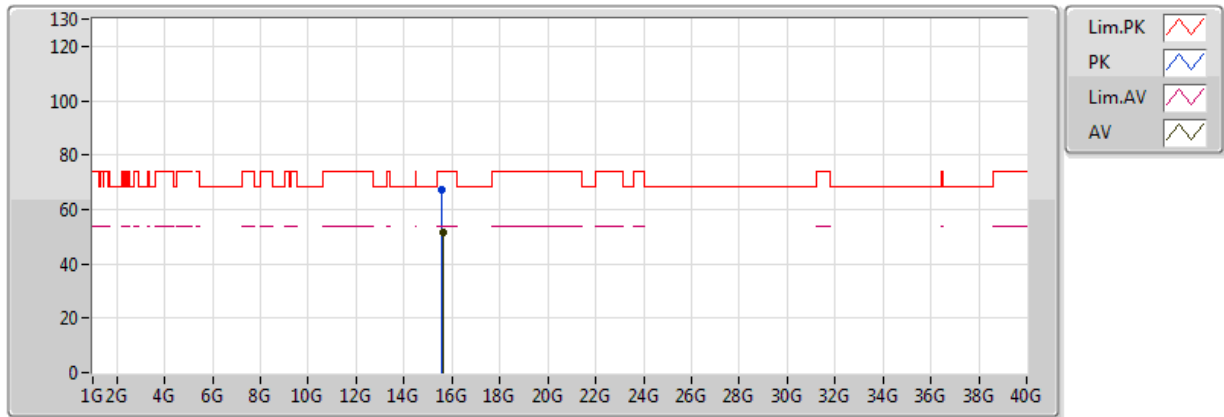


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.59838G	51.19	54.00	-2.81	17.84	3	V	318	1.71	-
PK	15.59532G	66.01	74.00	-7.99	17.84	3	V	318	1.71	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5200MHz_TX

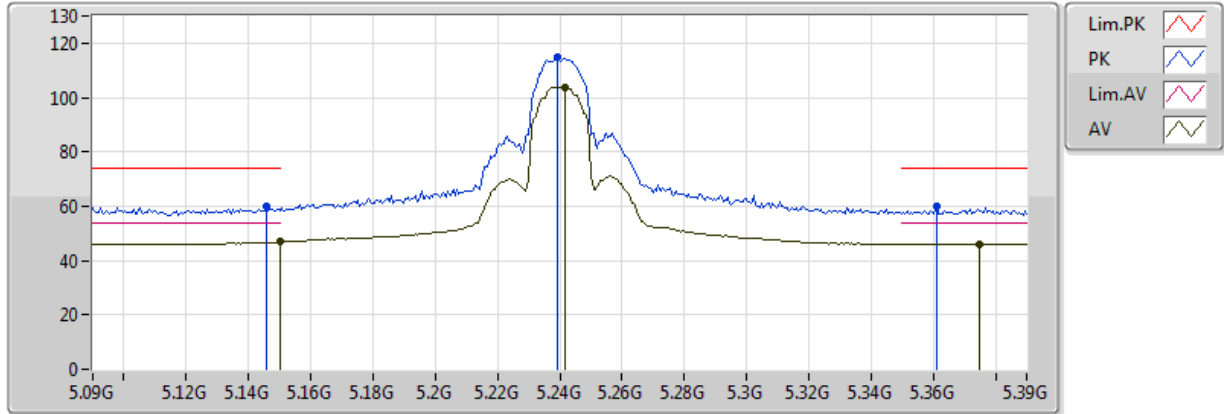


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.60462G	51.70	54.00	-2.30	17.85	3	H	280	1.41	-
PK	15.58848G	67.32	74.00	-6.68	17.84	3	H	280	1.41	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

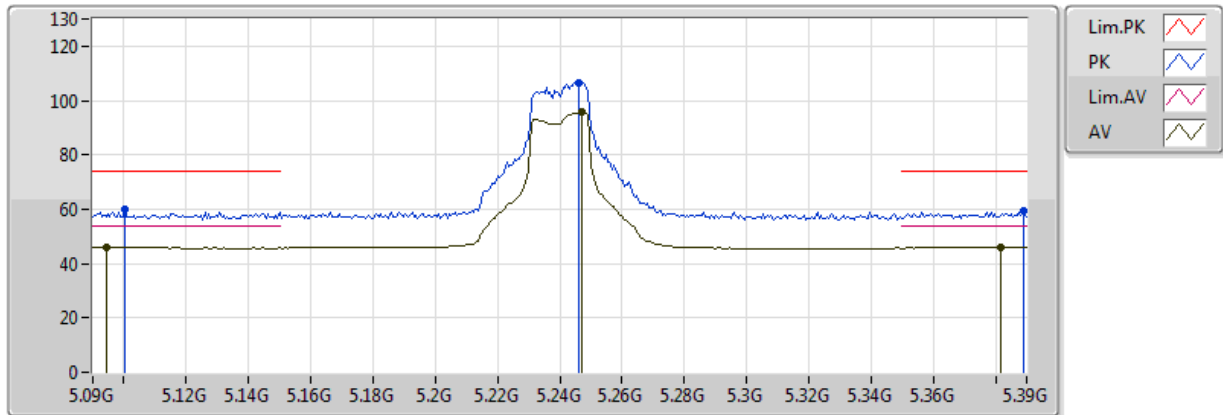


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	46.81	54.00	-7.19	5.31	3	V	259	2.17	-
AV	5.2418G	103.86	Inf	-Inf	5.54	3	V	259	2.17	-
AV	5.375G	46.21	54.00	-7.79	5.67	3	V	259	2.17	-
PK	5.1458G	59.73	74.00	-14.27	5.30	3	V	259	2.17	-
PK	5.2394G	114.98	Inf	-Inf	5.53	3	V	259	2.17	-
PK	5.3612G	59.68	74.00	-14.32	5.66	3	V	259	2.17	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

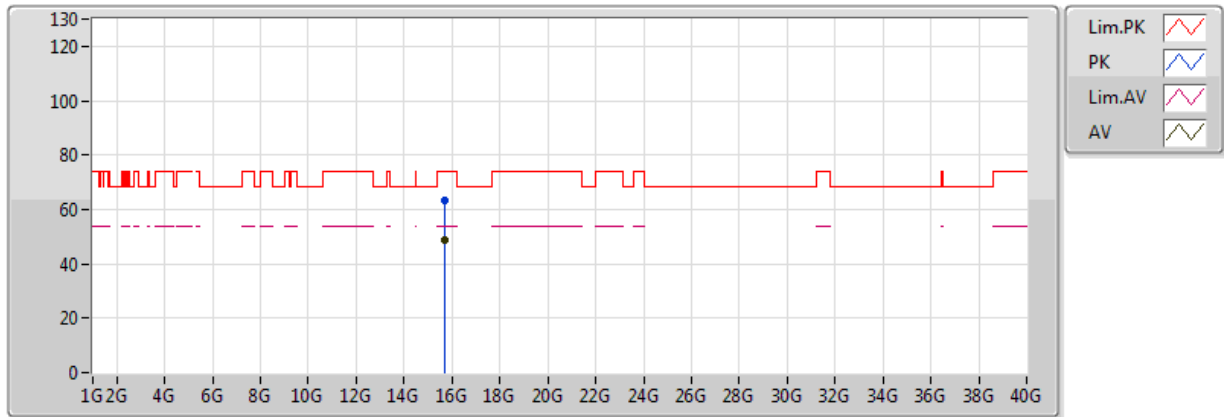


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.0942G	46.02	54.00	-7.98	5.12	3	H	282	2.37	-
AV	5.2472G	95.78	Inf	-Inf	5.54	3	H	282	2.37	-
AV	5.3816G	46.12	54.00	-7.88	5.68	3	H	282	2.37	-
PK	5.1002G	59.69	74.00	-14.31	5.14	3	H	282	2.37	-
PK	5.246G	106.61	Inf	-Inf	5.54	3	H	282	2.37	-
PK	5.3888G	59.23	74.00	-14.77	5.69	3	H	282	2.37	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

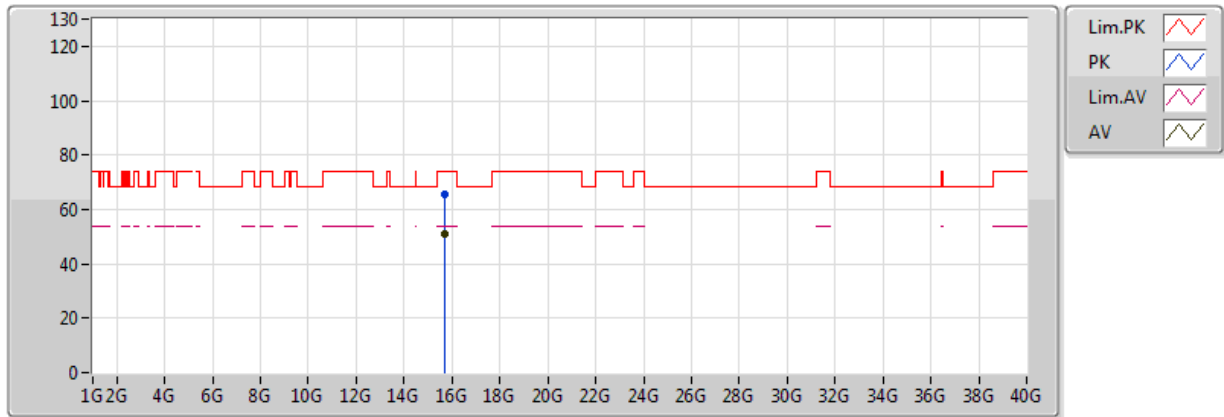


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.7266G	48.93	54.00	-5.07	17.95	3	V	314	2.02	-
PK	15.7266G	63.43	74.00	-10.57	17.95	3	V	314	2.02	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5240MHz_TX

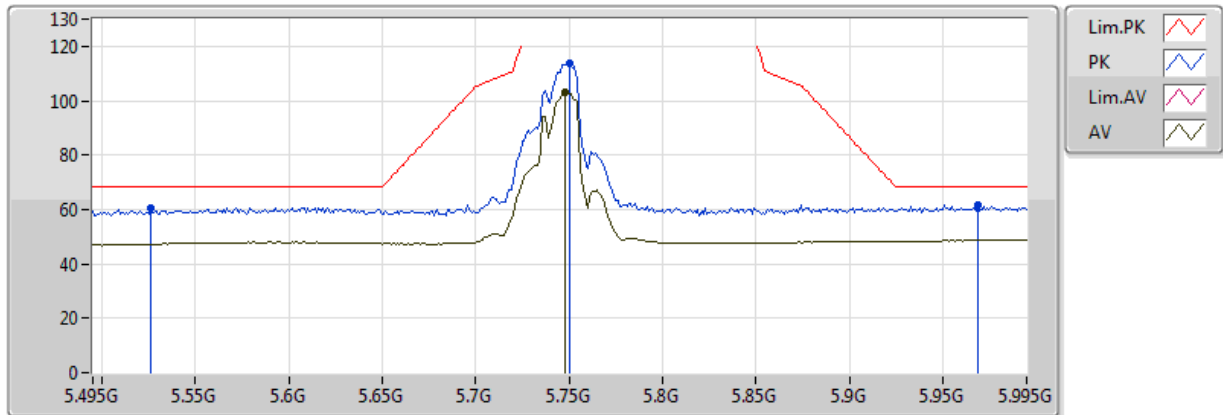


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.7191G	51.16	54.00	-2.84	17.94	3	H	266	1.69	-
PK	15.71508G	65.52	74.00	-8.48	17.94	3	H	266	1.69	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

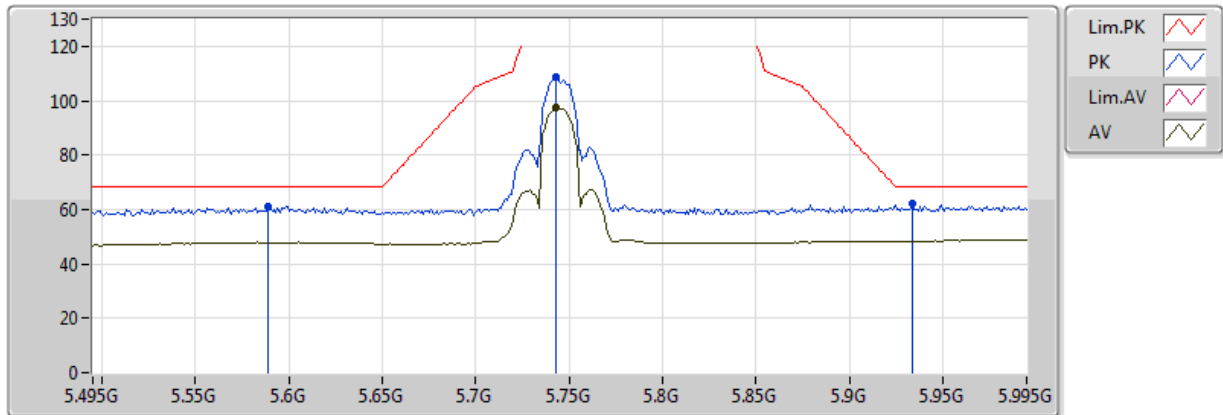


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.748G	102.86	Inf	-Inf	7.07	3	V	10	2.80	-
PK	5.526G	60.66	68.20	-7.54	6.32	3	V	10	2.80	-
PK	5.75G	113.59	Inf	-Inf	7.08	3	V	10	2.80	-
PK	5.969G	61.82	68.20	-6.38	8.28	3	V	10	2.80	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

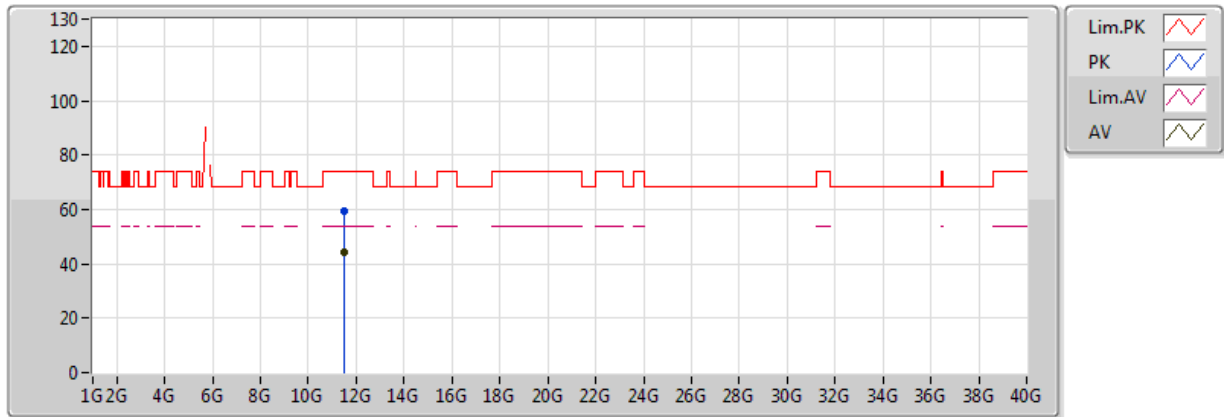


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.743G	97.44	Inf	-Inf	7.06	3	H	206	3.00	-
PK	5.589G	61.12	68.20	-7.08	6.71	3	H	206	3.00	-
PK	5.743G	108.44	Inf	-Inf	7.06	3	H	206	3.00	-
PK	5.934G	62.29	68.20	-5.91	8.05	3	H	206	3.00	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

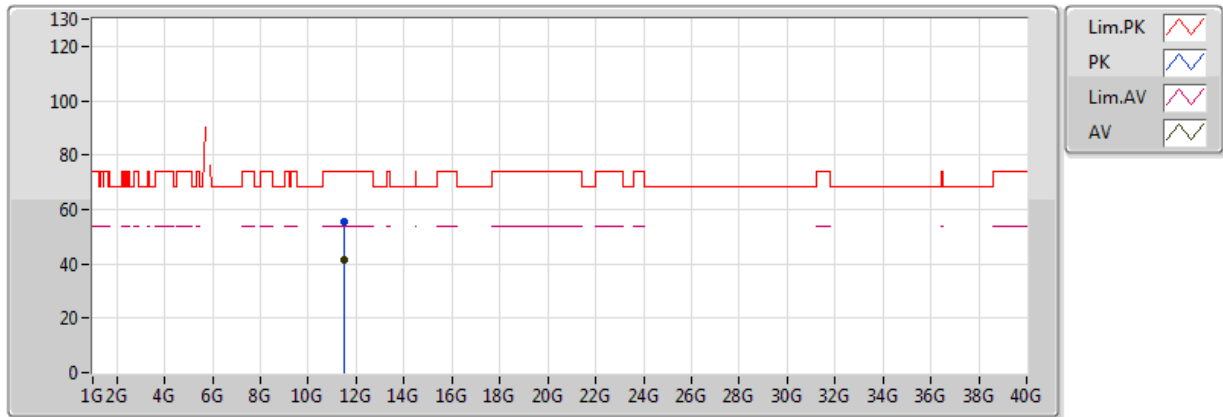


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.49342G	44.38	54.00	-9.62	16.13	3	V	270	2.31	-
PK	11.4933G	59.39	74.00	-14.61	16.13	3	V	270	2.31	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz_TX

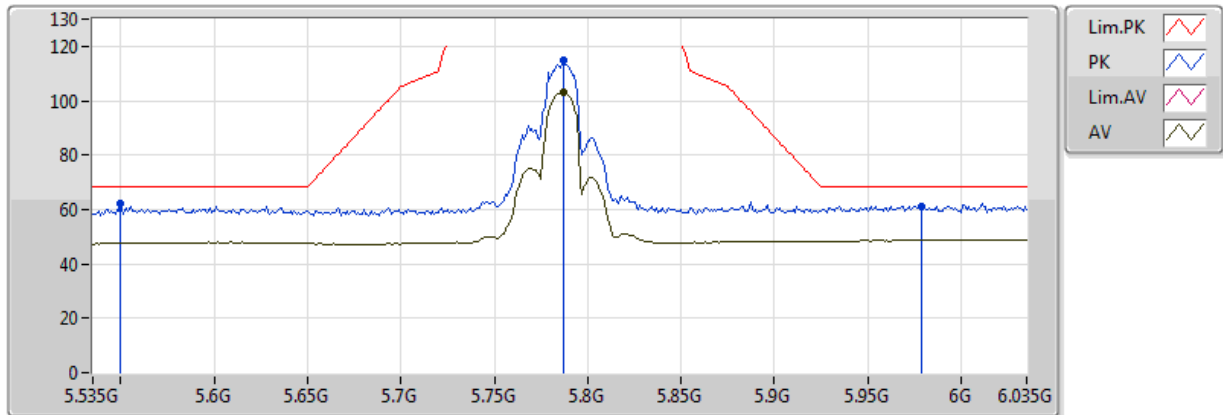


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.50494G	41.52	54.00	-12.48	16.13	3	H	28	1.30	-
PK	11.50146G	55.28	74.00	-18.72	16.13	3	H	28	1.30	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

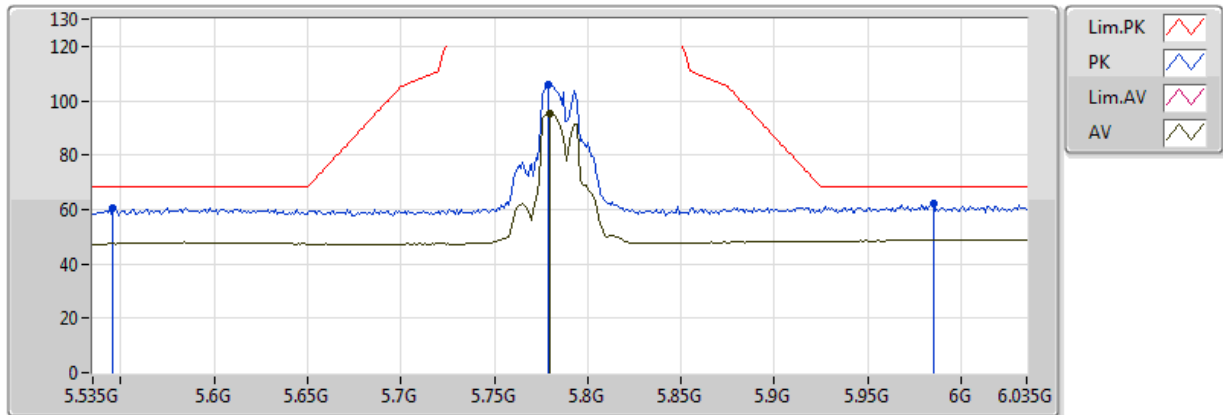


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.787G	103.18	Inf	-Inf	7.15	3	V	218	1.86	-
PK	5.55G	62.15	68.20	-6.05	6.47	3	V	218	1.86	-
PK	5.787G	114.96	Inf	-Inf	7.15	3	V	218	1.86	-
PK	5.979G	61.34	68.20	-6.86	8.34	3	V	218	1.86	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

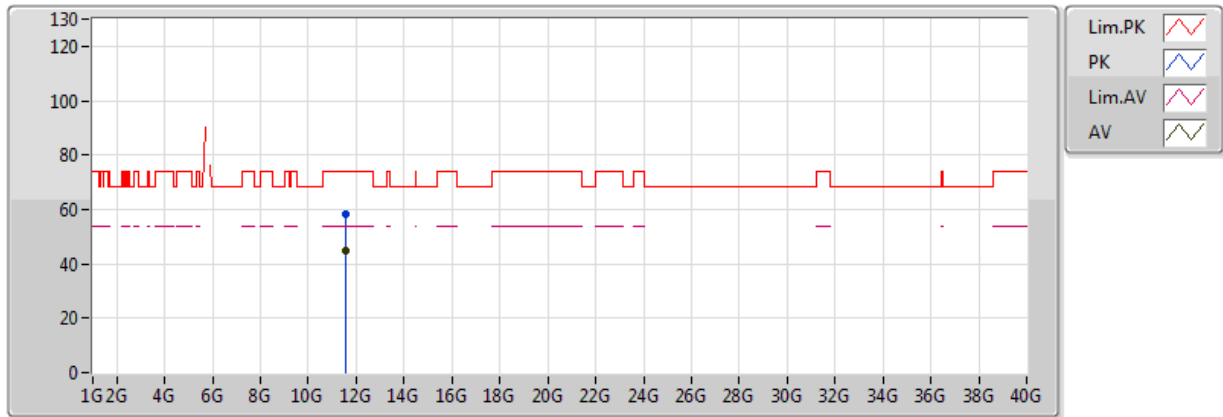


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.78G	95.27	Inf	-Inf	7.14	3	H	221	1.90	-
PK	5.546G	60.55	68.20	-7.65	6.45	3	H	221	1.90	-
PK	5.779G	105.86	Inf	-Inf	7.14	3	H	221	1.90	-
PK	5.985G	62.03	68.20	-6.17	8.38	3	H	221	1.90	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

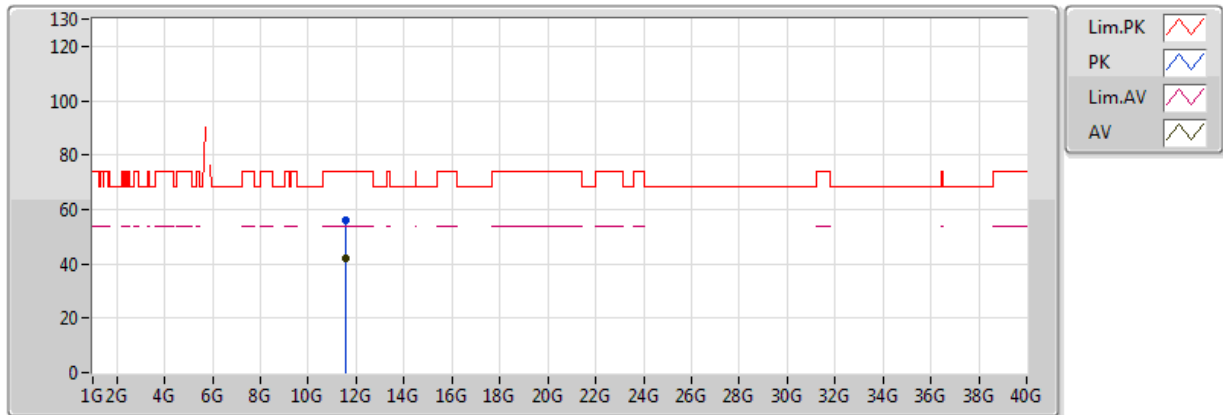


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.57336G	44.60	54.00	-9.40	16.18	3	V	266	2.17	-
PK	11.57246G	58.54	74.00	-15.46	16.18	3	V	266	2.17	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz_TX

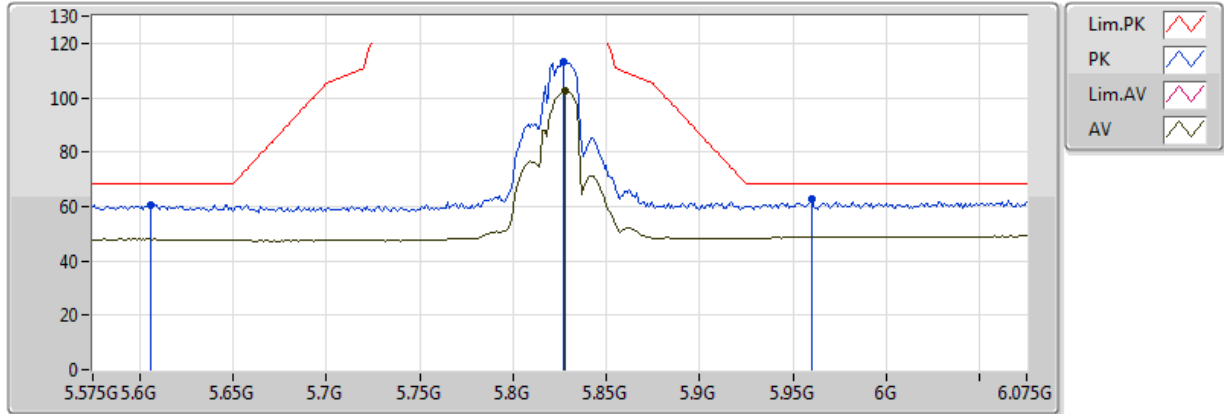


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.58434G	41.97	54.00	-12.03	16.19	3	H	123	1.57	-
PK	11.58254G	56.05	74.00	-17.95	16.18	3	H	123	1.57	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

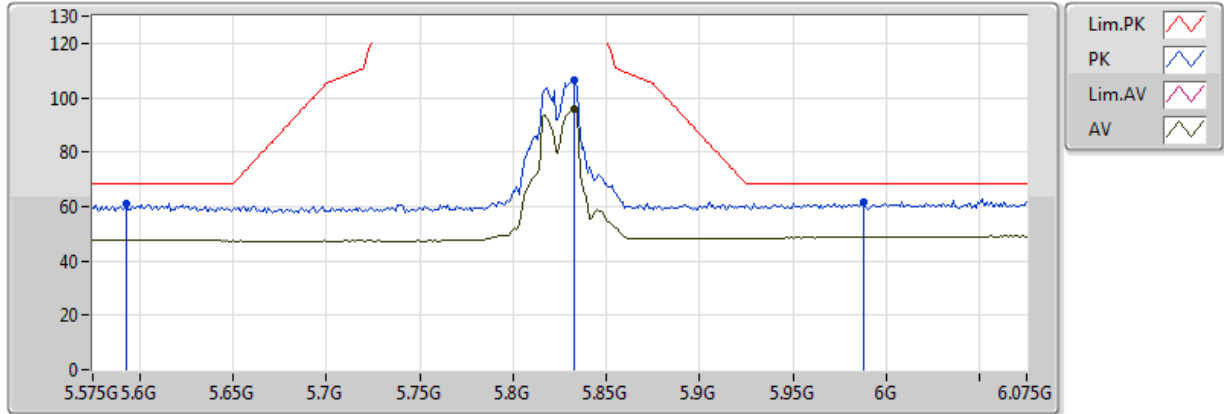


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.828G	102.52	Inf	-Inf	7.36	3	V	28	2.67	-
PK	5.606G	60.78	68.20	-7.42	6.79	3	V	28	2.67	-
PK	5.827G	113.25	Inf	-Inf	7.36	3	V	28	2.67	-
PK	5.96G	62.59	68.20	-5.61	8.22	3	V	28	2.67	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

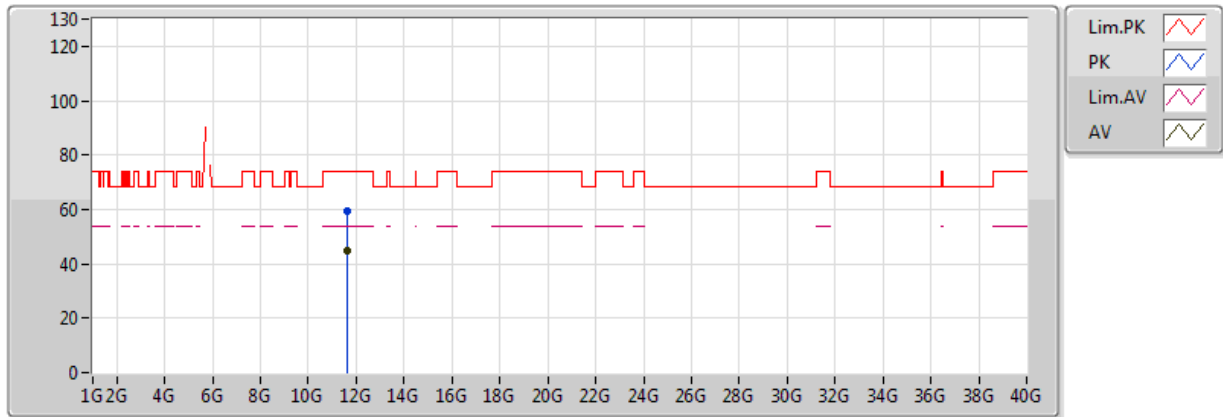


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.833G	95.67	Inf	-Inf	7.39	3	H	168	2.54	-
PK	5.593G	60.86	68.20	-7.34	6.74	3	H	168	2.54	-
PK	5.833G	106.37	Inf	-Inf	7.39	3	H	168	2.54	-
PK	5.988G	61.41	68.20	-6.79	8.40	3	H	168	2.54	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

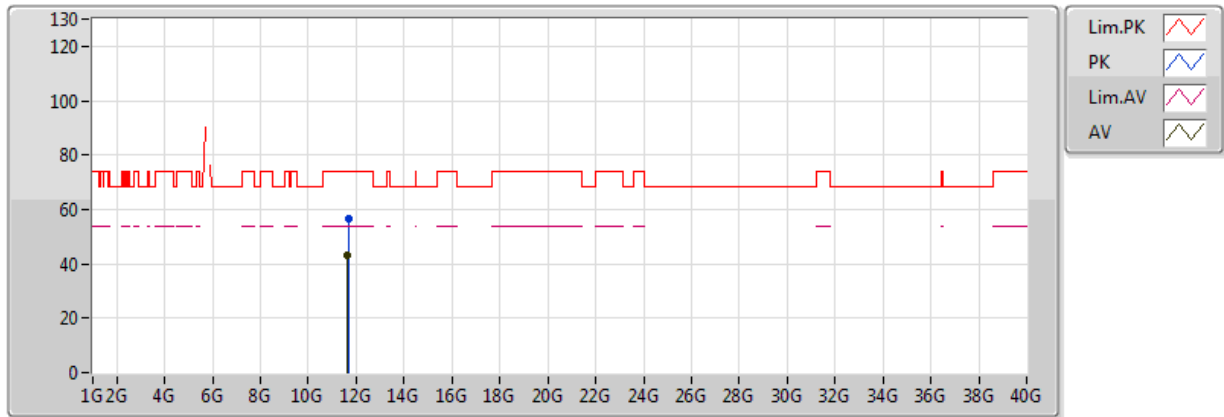


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65G	44.86	54.00	-9.14	16.23	3	V	47	1.65	-
PK	11.64904G	59.21	74.00	-14.79	16.23	3	V	47	1.65	-

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz_TX

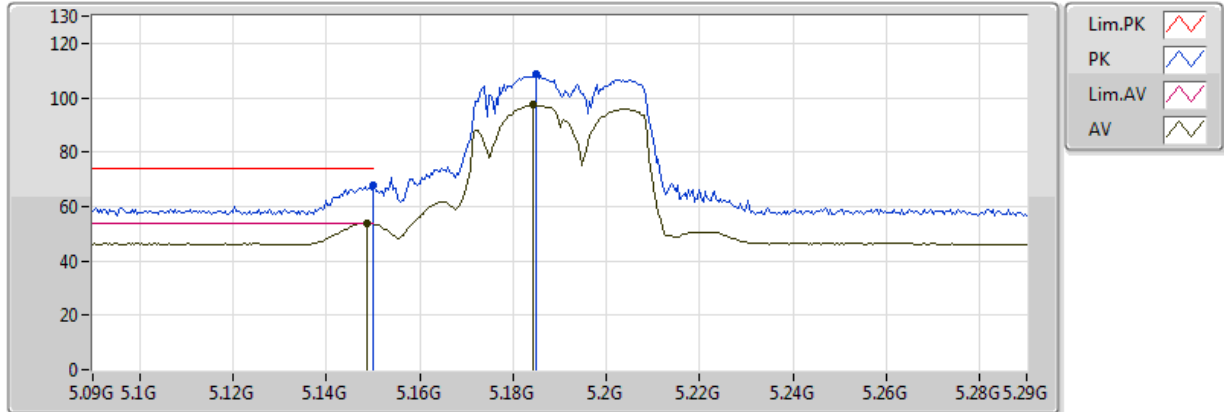


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.65078G	42.90	54.00	-11.10	16.23	3	H	200	1.80	-
PK	11.66068G	56.45	74.00	-17.55	16.24	3	H	200	1.80	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

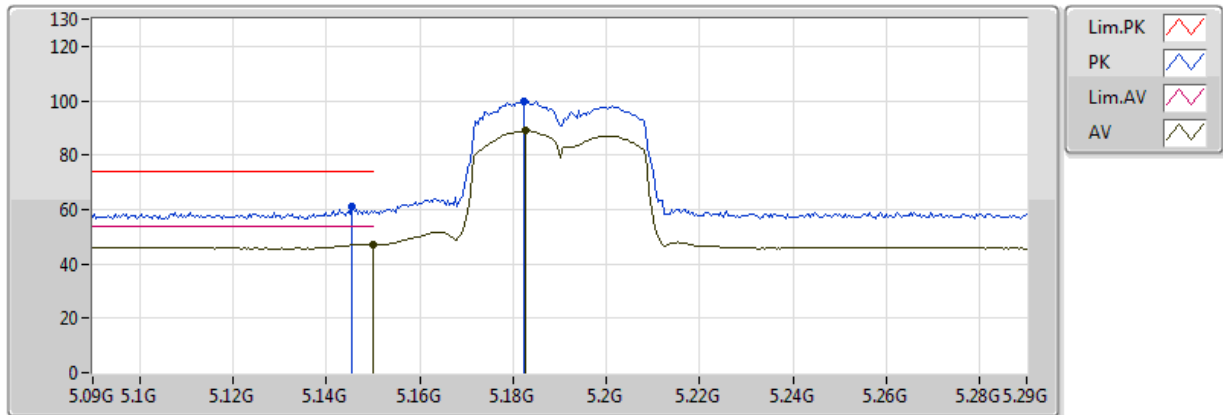


20170704
EUT_Z_2TX
Setting 15
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1488G	53.74	54.00	-0.26	5.31	3	V	96	1.89	-
AV	5.1844G	97.29	Inf	-Inf	5.44	3	V	96	1.89	-
PK	5.149995G	67.85	74.00	-6.15	5.31	3	V	96	1.89	-
PK	5.1848G	108.70	Inf	-Inf	5.44	3	V	96	1.89	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

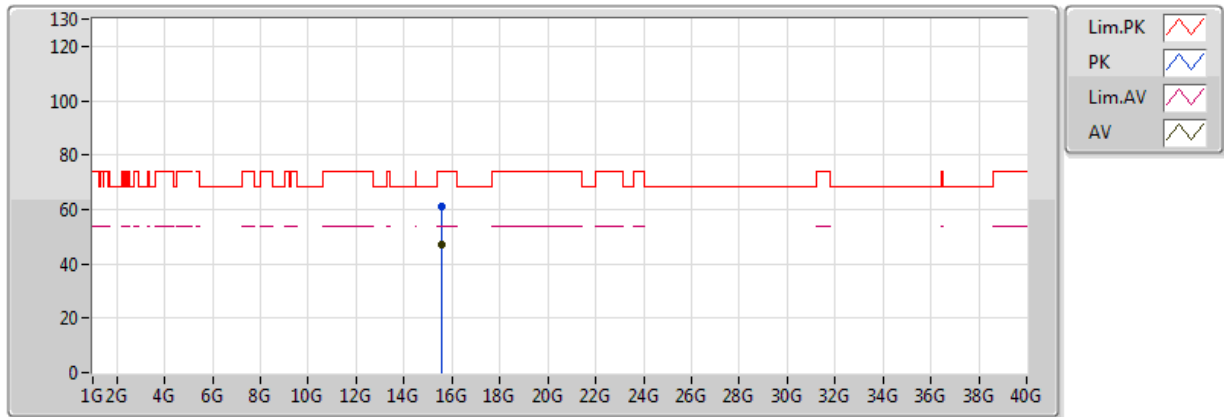


20170704
EUT_Z_2TX
Setting 15
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	47.14	54.00	-6.86	5.31	3	H	285	2.84	-
AV	5.1828G	89.00	Inf	-Inf	5.43	3	H	285	2.84	-
PK	5.1456G	61.05	74.00	-12.95	5.30	3	H	285	2.84	-
PK	5.1824G	99.60	Inf	-Inf	5.43	3	H	285	2.84	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

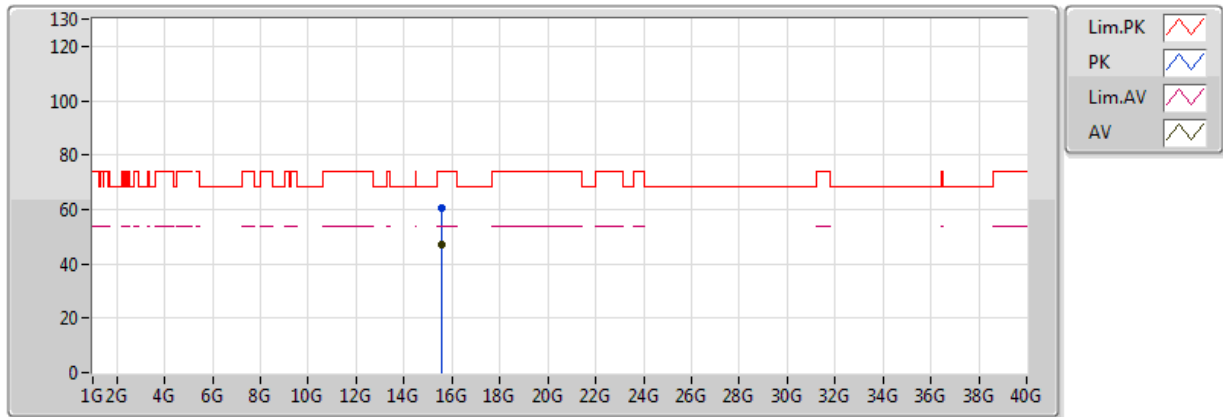


20170704
EUT_Z_2TX
Setting 15
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.57498G	47.00	54.00	-7.00	17.83	3	V	274	1.84	-
PK	15.57744G	61.26	74.00	-12.74	17.83	3	V	274	1.84	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5190MHz_TX

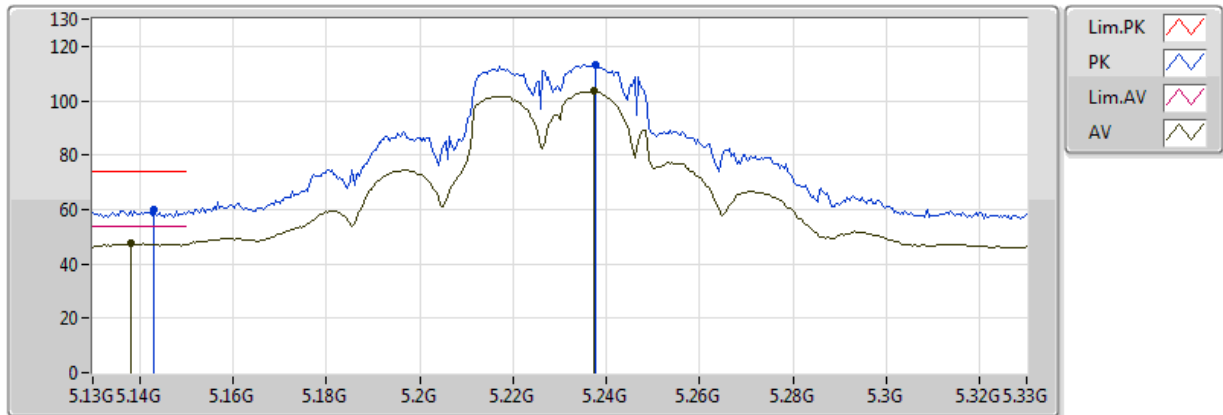


20170704
EUT_Z_2TX
Setting 15
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.5787G	46.99	54.00	-7.01	17.83	3	H	75	2.04	-
PK	15.56364G	60.79	74.00	-13.21	17.82	3	H	75	2.04	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

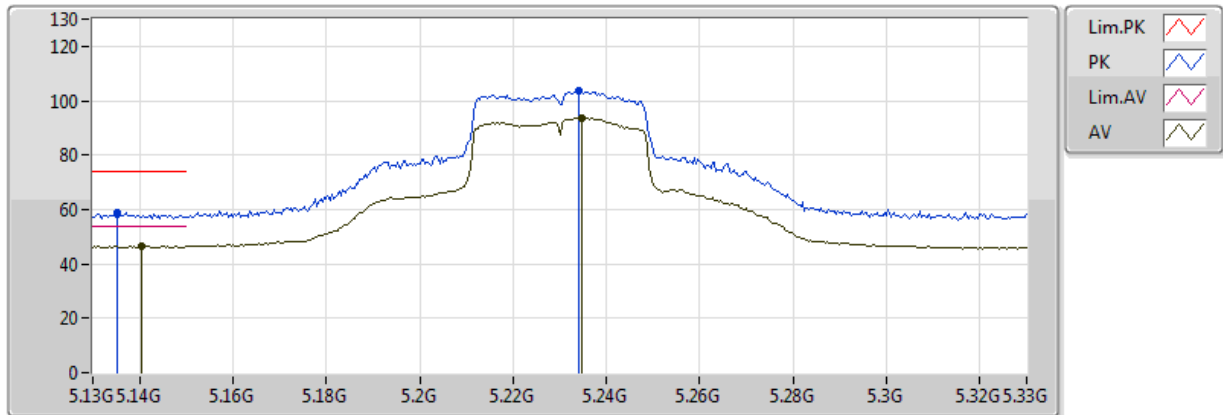


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.138G	47.45	54.00	-6.55	5.27	3	V	92	1.99	-
AV	5.2372G	103.40	Inf	-Inf	5.53	3	V	92	1.99	-
PK	5.1432G	59.74	74.00	-14.26	5.29	3	V	92	1.99	-
PK	5.2376G	113.38	Inf	-Inf	5.53	3	V	92	1.99	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

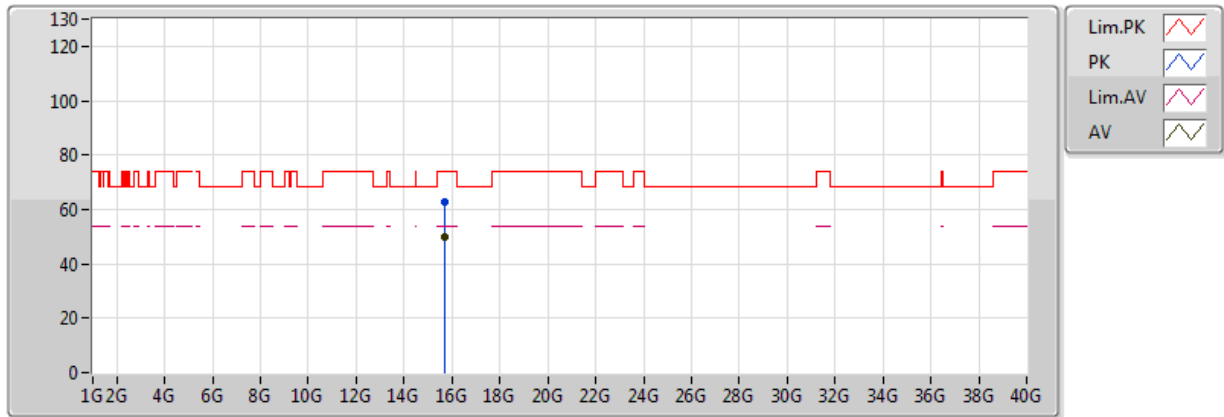


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.1404G	46.42	54.00	-7.58	5.28	3	H	283	2.06	-
AV	5.2348G	93.69	Inf	-Inf	5.53	3	H	283	2.06	-
PK	5.1352G	58.68	74.00	-15.32	5.26	3	H	283	2.06	-
PK	5.234G	103.48	Inf	-Inf	5.53	3	H	283	2.06	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

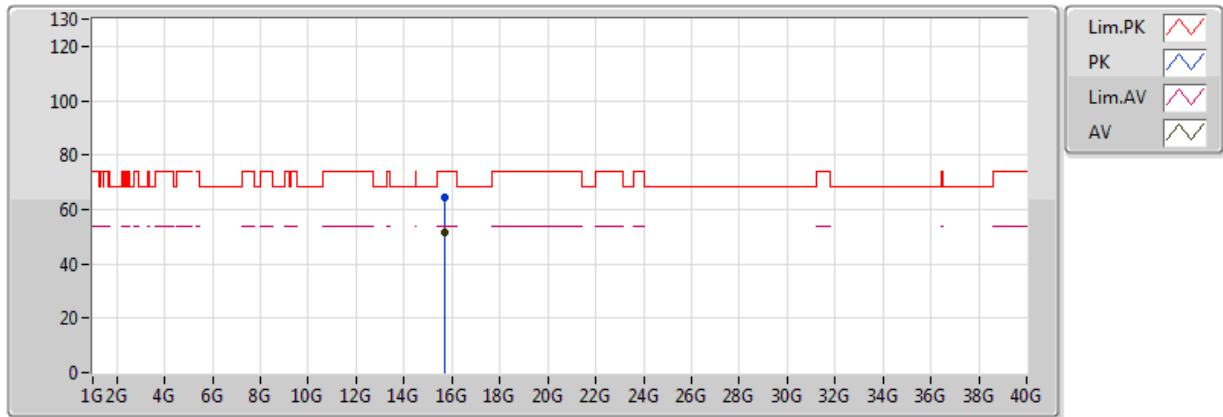


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.69372G	49.68	54.00	-4.32	17.92	3	V	175	2.02	-
PK	15.6975G	62.65	74.00	-11.35	17.92	3	V	175	2.02	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5230MHz_TX

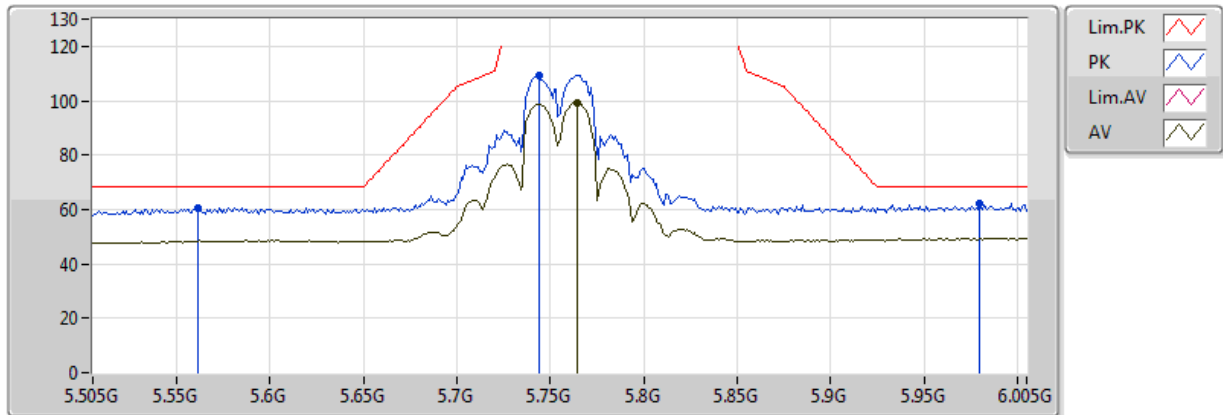


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.68766G	51.44	54.00	-2.56	17.92	3	H	316	2.35	-
PK	15.68874G	64.49	74.00	-9.51	17.92	3	H	316	2.35	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

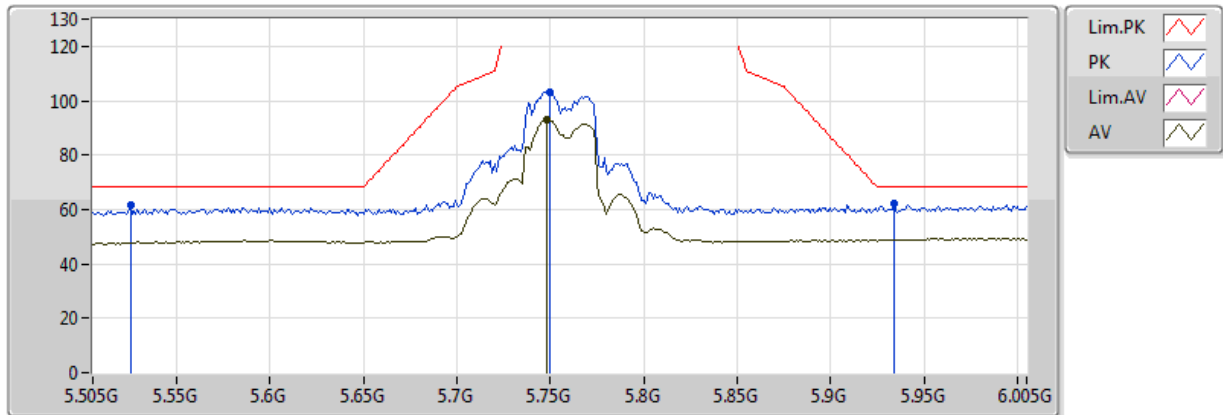


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.764G	99.46	Inf	-Inf	7.10	3	V	263	1.93	-
PK	5.561G	60.66	68.20	-7.54	6.54	3	V	263	1.93	-
PK	5.744G	109.43	Inf	-Inf	7.06	3	V	263	1.93	-
PK	5.98G	61.96	68.20	-6.24	8.35	3	V	263	1.93	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

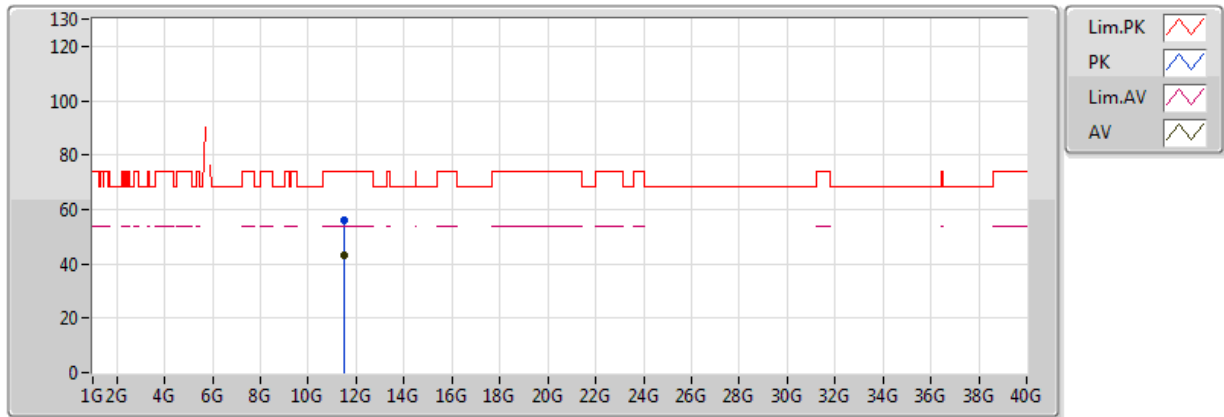


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.748G	93.15	Inf	-Inf	7.07	3	H	216	1.86	-
PK	5.525G	61.61	68.20	-6.59	6.31	3	H	216	1.86	-
PK	5.75G	103.16	Inf	-Inf	7.08	3	H	216	1.86	-
PK	5.934G	62.07	68.20	-6.13	8.05	3	H	216	1.86	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

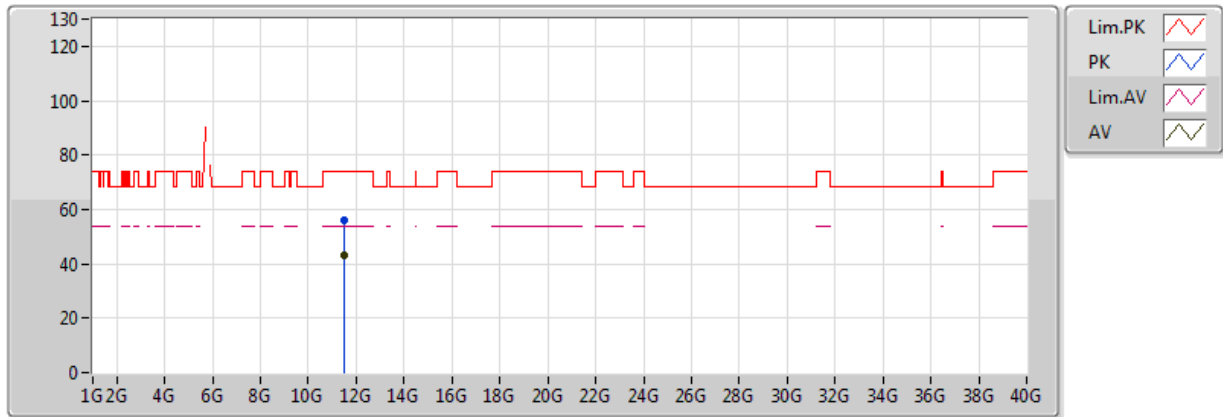


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.51012G	43.10	54.00	-10.90	16.14	3	V	13	2.01	-
PK	11.52182G	56.20	74.00	-17.80	16.14	3	V	13	2.01	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5755MHz_TX

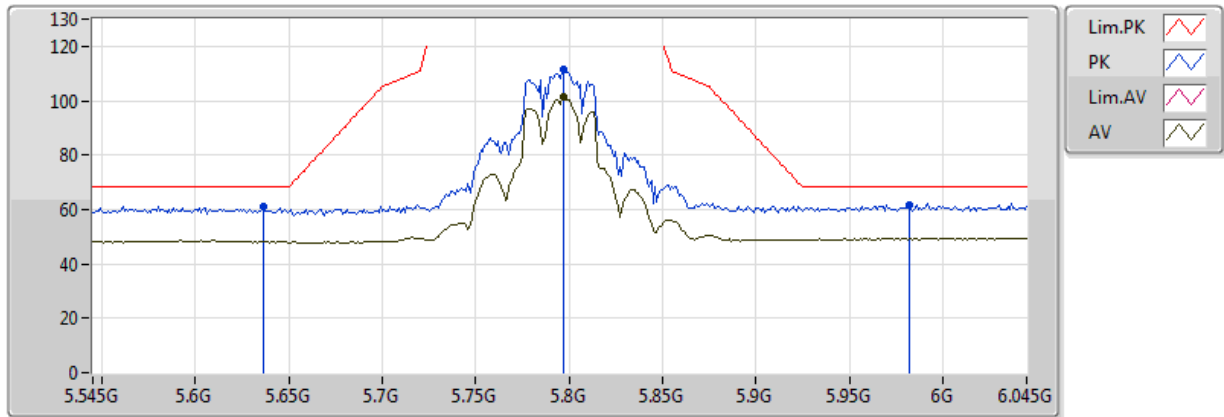


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.51888G	43.00	54.00	-11.00	16.14	3	H	262	1.59	-
PK	11.52086G	55.81	74.00	-18.19	16.14	3	H	262	1.59	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

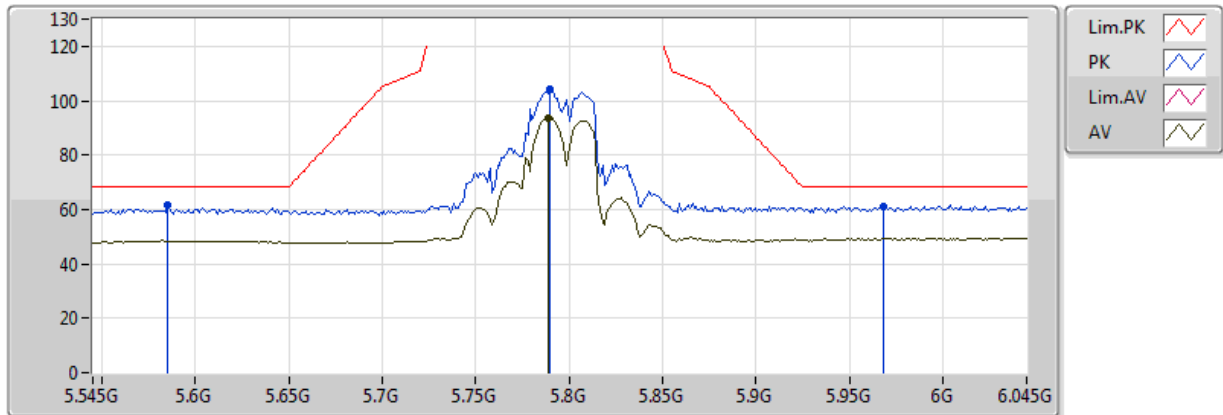


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.797G	101.32	Inf	-Inf	7.17	3	V	3	3.00	-
PK	5.636G	60.82	68.20	-7.38	6.85	3	V	3	3.00	-
PK	5.797G	111.45	Inf	-Inf	7.17	3	V	3	3.00	-
PK	5.982G	61.48	68.20	-6.72	8.36	3	V	3	3.00	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

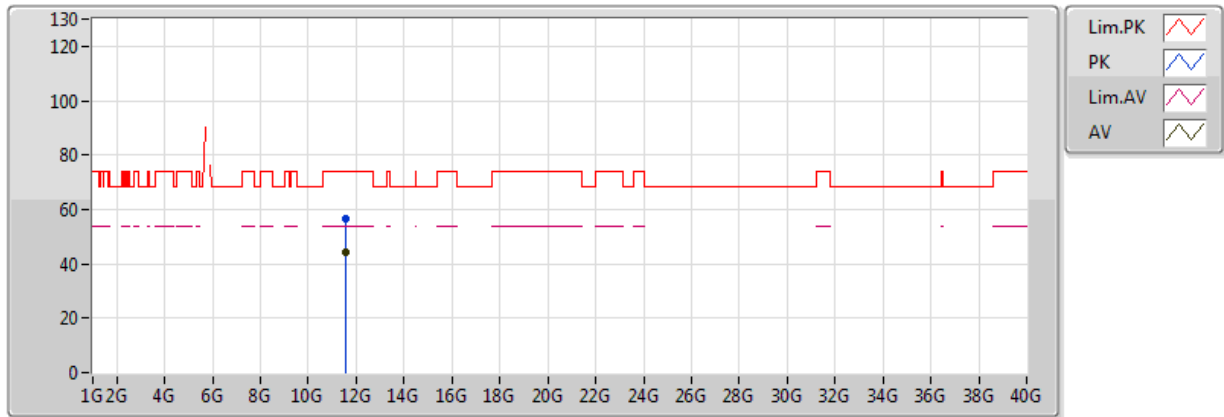


20170704
EUT_Z_2TX
Setting 21
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.789G	93.83	Inf	-Inf	7.16	3	H	220	1.88	-
PK	5.585G	61.36	68.20	-6.84	6.69	3	H	220	1.88	-
PK	5.79G	104.08	Inf	-Inf	7.16	3	H	220	1.88	-
PK	5.968G	61.24	68.20	-6.96	8.27	3	H	220	1.88	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

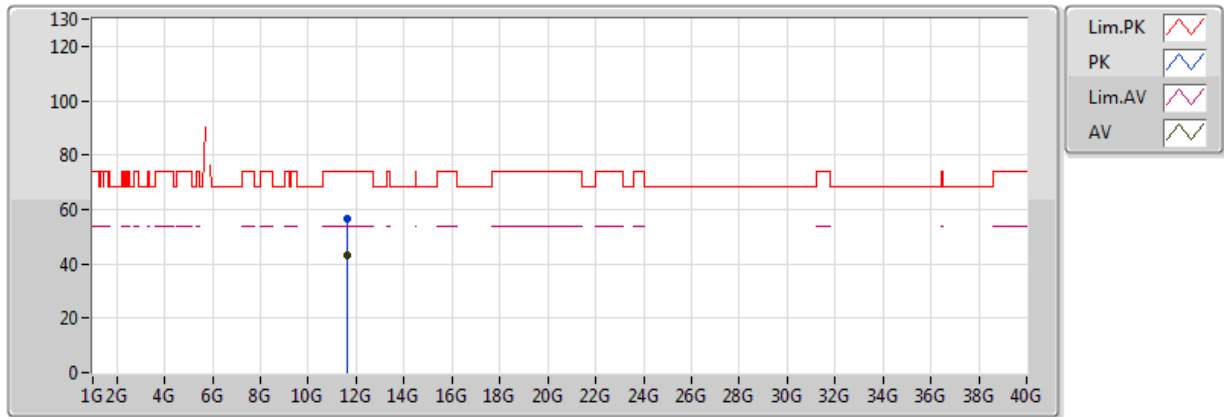


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.59288G	44.30	54.00	-9.70	16.19	3	V	283	1.44	-
PK	11.59138G	56.67	74.00	-17.33	16.19	3	V	283	1.44	-

802.11ac VHT40_Nss1,(MCS0)_2TX

5795MHz_TX

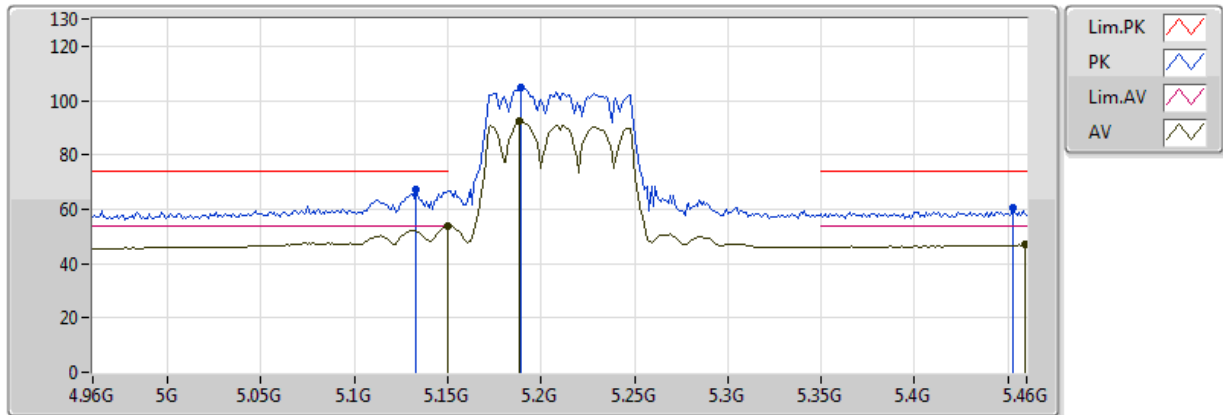


20170704
EUT_Z_2TX
Setting 21
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.60098G	43.27	54.00	-10.73	16.20	3	H	16	2.11	-
PK	11.6026G	56.56	74.00	-17.44	16.20	3	H	16	2.11	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

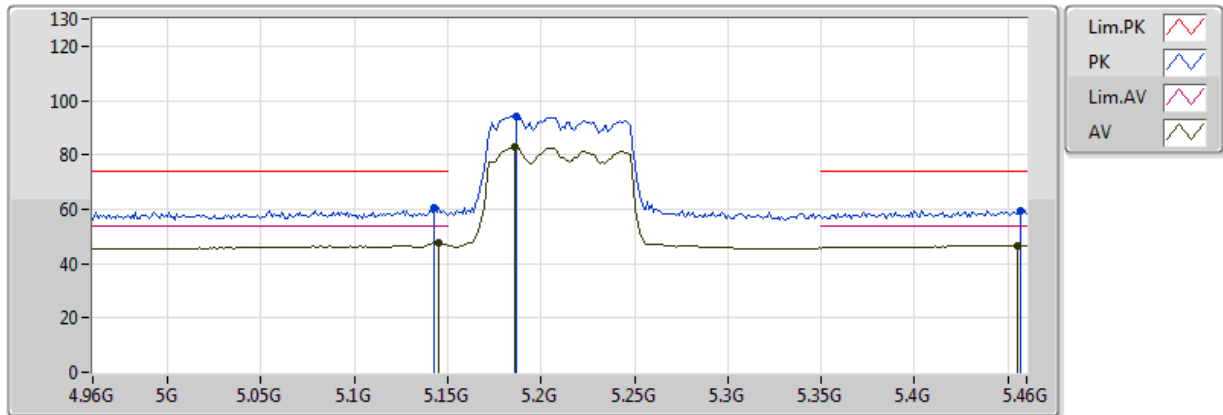


20170704
EUT_Z_2TX
Setting 14
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.149995G	53.68	54.00	-0.32	5.31	3	V	268	1.98	-
AV	5.188G	92.25	Inf	-Inf	5.45	3	V	268	1.98	-
AV	5.459G	46.88	54.00	-7.12	5.97	3	V	268	1.98	-
PK	5.133G	67.00	74.00	-7.00	5.26	3	V	268	1.98	-
PK	5.189G	104.86	Inf	-Inf	5.45	3	V	268	1.98	-
PK	5.453G	60.24	74.00	-13.76	5.94	3	V	268	1.98	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

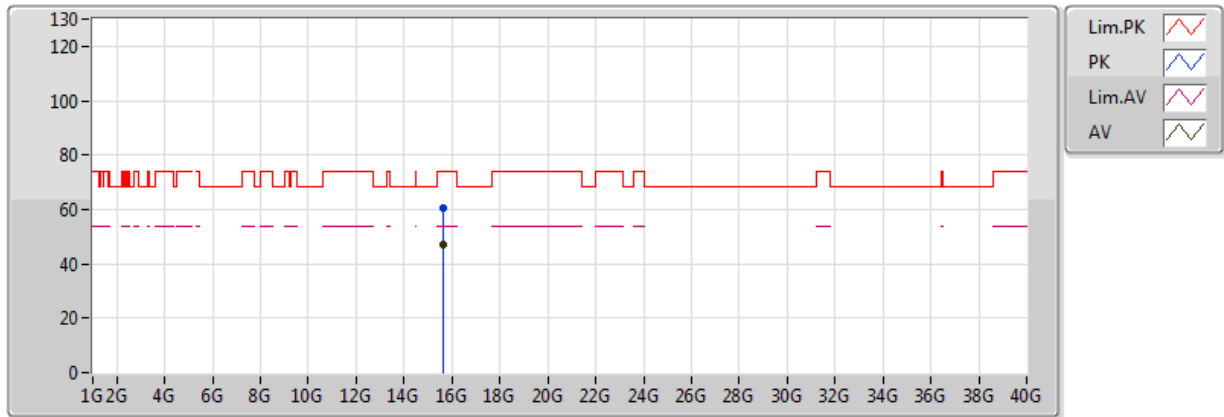


20170704
EUT_Z_2TX
Setting 14
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.145G	47.84	54.00	-6.16	5.30	3	H	283	1.77	-
AV	5.186G	82.66	Inf	-Inf	5.44	3	H	283	1.77	-
AV	5.455G	46.78	54.00	-7.22	5.95	3	H	283	1.77	-
PK	5.143G	60.72	74.00	-13.28	5.29	3	H	283	1.77	-
PK	5.187G	94.22	Inf	-Inf	5.44	3	H	283	1.77	-
PK	5.457G	59.59	74.00	-14.41	5.96	3	H	283	1.77	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

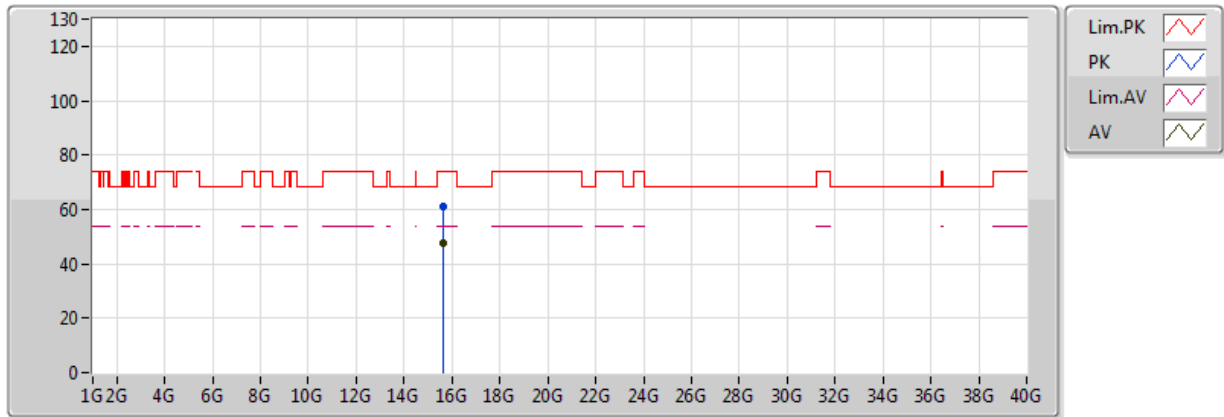


20170704
EUT_Z_2TX
Setting 14
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.63738G	47.29	54.00	-6.71	17.88	3	V	151	1.88	-
PK	15.6405G	60.50	74.00	-13.50	17.88	3	V	151	1.88	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5210MHz_TX

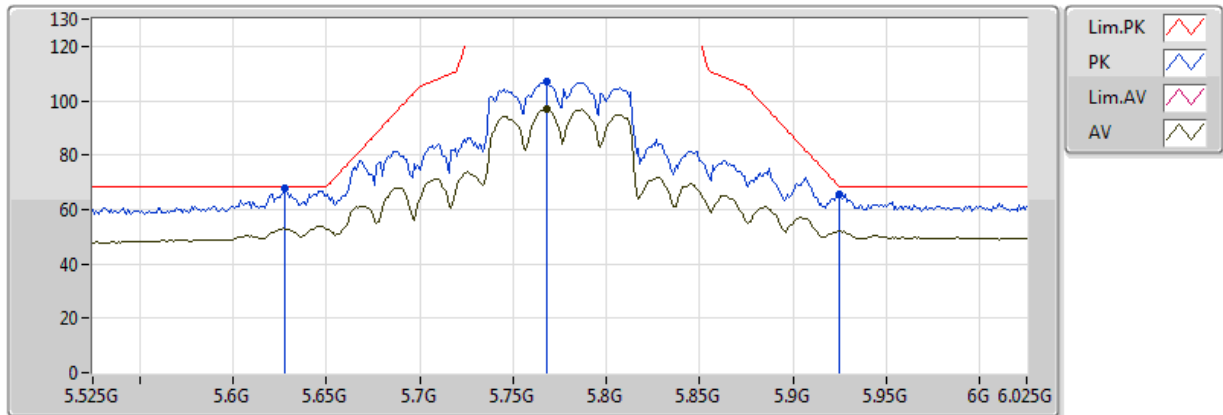


20170704
EUT_Z_2TX
Setting 14
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	15.61794G	47.37	54.00	-6.63	17.86	3	H	215	1.85	-
PK	15.6246G	61.12	74.00	-12.88	17.87	3	H	215	1.85	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

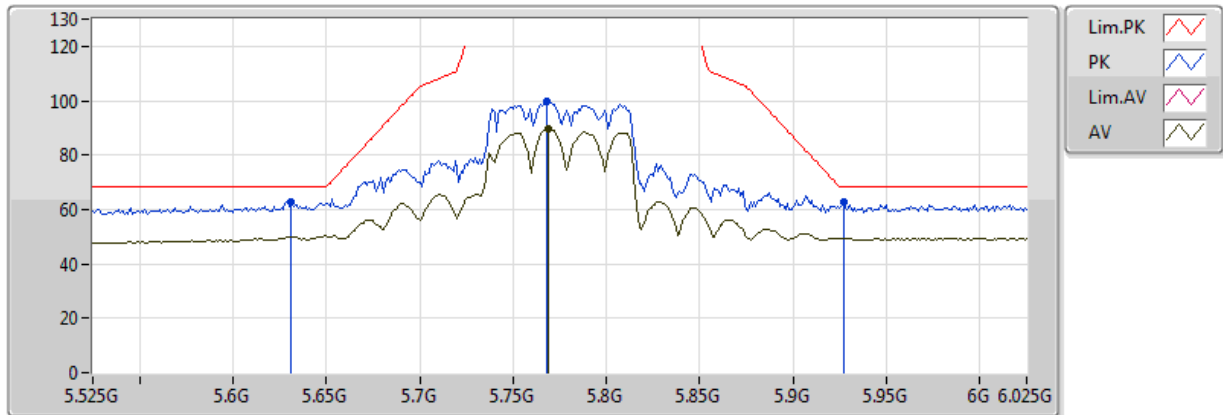


20170704
EUT_Z_2TX
Setting 20.5
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.768G	96.81	Inf	-Inf	7.11	3	V	90	1.96	-
PK	5.628G	67.75	68.20	-0.45	6.83	3	V	90	1.96	-
PK	5.768G	107.10	Inf	-Inf	7.11	3	V	90	1.96	-
PK	5.925G	65.54	68.20	-2.66	7.99	3	V	90	1.96	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

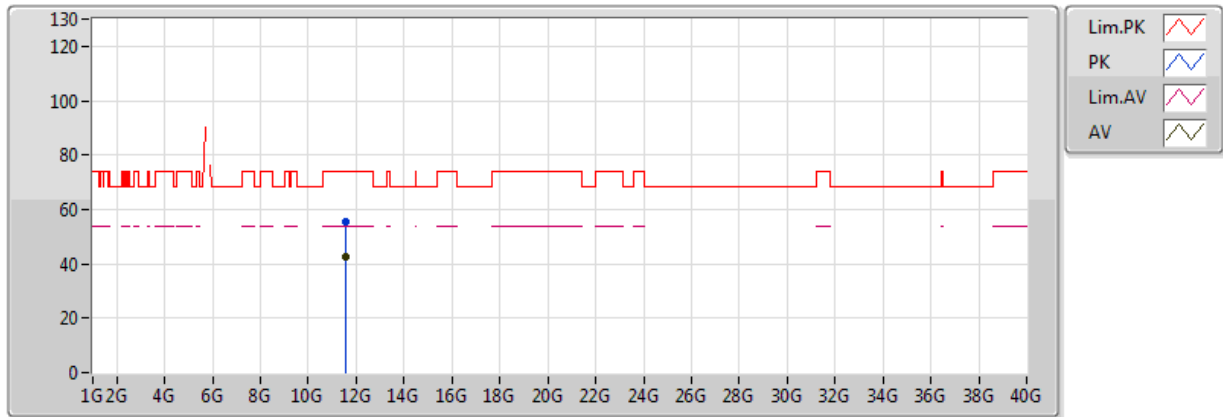


20170704
EUT_Z_2TX
Setting 20.5
04-J-4-10
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	5.769G	89.92	Inf	-Inf	7.11	3	H	218	1.71	-
PK	5.631G	62.95	68.20	-5.25	6.84	3	H	218	1.71	-
PK	5.768G	99.94	Inf	-Inf	7.11	3	H	218	1.71	-
PK	5.927G	62.94	68.20	-5.26	8.01	3	H	218	1.71	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX

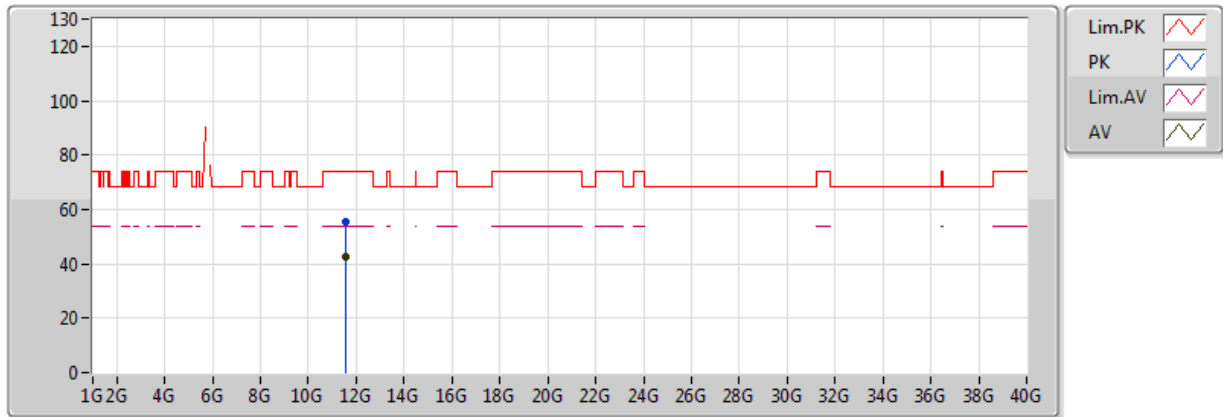


20170704
EUT_Z_2TX
Setting 20.5
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.54412G	42.56	54.00	-11.44	16.16	3	V	353	2.16	-
PK	11.56182G	55.57	74.00	-18.43	16.17	3	V	353	2.16	-

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz_TX



20170704
EUT_Z_2TX
Setting 20.5
04-J-4
FSP

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	11.53842G	42.46	54.00	-11.54	16.16	3	H	254	1.50	-
PK	11.54016G	55.66	74.00	-18.34	16.16	3	H	254	1.50	-

Mode: 20 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5299.9637	5299.9633	5299.9625	5299.9616
110.00	5299.9635	5299.9634	5299.9624	5299.9623
93.50	5299.9628	5299.9621	5299.9617	5299.9613
Max. Deviation (MHz)	0.0372	0.0379	0.0383	0.0387
Max. Deviation (ppm)	7.02	7.15	7.23	7.30
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5299.9609	5299.9607	5299.9605	5299.9602
10	5299.9621	5299.9614	5299.9607	5299.9599
20	5299.9635	5299.9630	5299.9626	5299.9623
30	5299.9958	5299.9956	5299.9952	5299.9949
40	5299.9959	5299.9957	5299.9947	5299.9943
Max. Deviation (MHz)	0.0391	0.0393	0.0395	0.0401
Max. Deviation (ppm)	7.38	7.42	7.45	7.57
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5579.9643	5579.9638	5579.9635	5579.9633
110.00	5579.9635	5579.9625	5579.9619	5579.9614
93.50	5579.9634	5579.9627	5579.9622	5579.9617
Max. Deviation (MHz)	0.0366	0.0375	0.0381	0.0386
Max. Deviation (ppm)	6.56	6.72	6.83	6.92
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5579.9605	5579.9599	5579.9593	5579.9587
10	5579.9622	5579.9614	5579.9607	5579.9599
20	5579.9635	5579.9631	5579.9622	5579.9612
30	5579.9958	5579.9950	5579.9941	5579.9935
40	5579.9961	5579.9956	5579.9952	5579.9948
Max. Deviation (MHz)	0.0395	0.0401	0.0407	0.0413
Max. Deviation (ppm)	7.08	7.19	7.29	7.40
Result	Pass			

Mode: 40 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5309.9645	5309.9644	5309.9641	5309.9640
110.00	5309.9635	5309.9625	5309.9616	5309.9611
93.50	5309.9626	5309.9618	5309.9610	5309.9601
Max. Deviation (MHz)	0.0374	0.0382	0.0390	0.0399
Max. Deviation (ppm)	7.04	7.19	7.34	7.51
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5309.9606	5309.9605	5309.9596	5309.9588
10	5309.9622	5309.9620	5309.9612	5309.9608
20	5309.9635	5309.9632	5309.9625	5309.9621
30	5309.9958	5309.9954	5309.9949	5309.9941
40	5309.9977	5309.9971	5309.9965	5309.9964
Max. Deviation (MHz)	0.0394	0.0395	0.0404	0.0412
Max. Deviation (ppm)	7.42	7.44	7.61	7.76
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5549.9639	5549.9630	5549.9628	5549.9627
110.00	5549.9635	5549.9633	5549.9623	5549.9615
93.50	5549.9630	5549.9624	5549.9623	5549.9617
Max. Deviation (MHz)	0.0370	0.0376	0.0377	0.0385
Max. Deviation (ppm)	6.67	6.77	6.79	6.94
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5549.9607	5549.9600	5549.9593	5549.9590
10	5549.9615	5549.9608	5549.9605	5549.9599
20	5549.9635	5549.9625	5549.9615	5549.9605
30	5549.9958	5549.9956	5549.9950	5549.9942
40	5549.9965	5549.9958	5549.9948	5549.9941
Max. Deviation (MHz)	0.0393	0.0400	0.0407	0.0410
Max. Deviation (ppm)	7.08	7.21	7.33	7.39
Result	Pass			

Mode: 80 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5289.9639	5289.9635	5289.9628	5289.9626
110.00	5289.9635	5289.9630	5289.9626	5289.9619
93.50	5289.9634	5289.9632	5289.9627	5289.9624
Max. Deviation (MHz)	0.0366	0.0370	0.0374	0.0381
Max. Deviation (ppm)	6.92	6.99	7.07	7.20
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5289.9608	5289.9605	5289.9601	5289.9593
10	5289.9617	5289.9607	5289.9604	5289.9596
20	5289.9635	5289.9631	5289.9622	5289.9620
30	5289.9958	5289.9948	5289.9942	5289.9932
40	5289.9972	5289.9965	5289.9956	5289.9949
Max. Deviation (MHz)	0.0392	0.0395	0.0399	0.0407
Max. Deviation (ppm)	7.41	7.47	7.54	7.69
Result	Pass			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5529.9643	5529.9638	5529.9633	5529.9624
110.00	5529.9635	5529.9626	5529.9622	5529.9620
93.50	5529.9633	5529.9625	5529.9617	5529.9612
Max. Deviation (MHz)	0.0367	0.0375	0.0383	0.0388
Max. Deviation (ppm)	6.64	6.78	6.93	7.02
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5529.9609	5529.9606	5529.9598	5529.9595
10	5529.9623	5529.9616	5529.9606	5529.9603
20	5529.9635	5529.9625	5529.9620	5529.9619
30	5529.9958	5529.9956	5529.9953	5529.9951
40	5529.9977	5529.9967	5529.9961	5529.9958
Max. Deviation (MHz)	0.0391	0.0394	0.0402	0.0405
Max. Deviation (ppm)	7.07	7.12	7.27	7.32
Result	Pass			

