FCC Test Report

Equipment	:	802.11 a/b/g/n 2x2 USB Dongle
Brand Name	:	VESTEL
Model No.	:	VEZZY110
FCC ID	:	NKR-DNUBAT1
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5725 MHz – 5850 MHz
Applicant	:	Wistron NeWeb Corporation 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308,Taiwan,R.O.C.
Manufacturer	:	Wistron NeWeb Corporation 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308,Taiwan,R.O.C.
Function	:	☐ Outdoor; ☐ Indoor; ☐ Fixed P2P ☒ Client
TPC Function	:	☒ With TPC ☐ Without TPC

The product sample received on Oct. 08, 2015 and completely tested on Sep. 29, 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.

Testing Laboratory
1190

Table of Contents

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

Report No.	Version	Description	Issued Date
FR273144-14AC	Rev. 01	Initial issue of report	Nov. 14, 2017

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5725-5850	a, n (HT20)	5745-5825	149-165 [5]
5725-5850	n (HT40)	5755-5795	151-159 [2]

Band	Mode	BWch (MHz)	Nant
5.725-5.85GHz	802.11a	20	1TX(Port 2)
5.725-5.85GHz	802.11n HT20	20	2TX
5.725-5.85GHz	802.11n HT40	40	2TX

Note:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	-	-	Printed Antenna	N/A
2	-	-	Printed Antenna	N/A

Gain (dBi)					
Chain/Port	2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4
1	-0.46	2.41	3.98	4.70	3.90
2	0.29	1.14	2.05	3.04	2.96

Note: The EUT has two antennas.

<For 2.4GHz Band>

For IEEE 802.11n mode (2TX/2RX):

Chain 1 and Chain 2 could transmit/receive simultaneously.

For IEEE 802.11b/g mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

Chain 1 is the worst case, so it was selected to test and record in the report.

<For 5GHz Band>

For IEEE 802.11n mode (2TX/2RX):

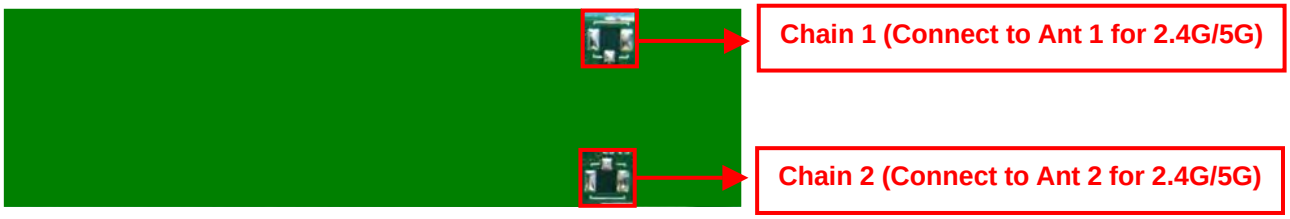
Chain 1 and Chain 2 could transmit/receive simultaneously.

For IEEE 802.11a mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

Chain 2 is the worst case, so it was selected to test and record in the report.



1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.985	0.066	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11n HT20	0.984	0.07	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11n HT40	0.974	0.114	15.87m	100

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
Test Software Version	Mtool 1.0.0.9			

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 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	Brian Sun	22°C / 54%	Sep. 22, 2017
Radiated	03CH01-CB (below 1GHz)	Stim Sung	24°C / 55%	Oct. 18, 2015
Radiated	03CH01-CB (above 1GHz)	Paul Chen	22°C / 54%	Sep. 29, 2017
AC Conduction	CO02-CB	Ryo Fan	24°C / 61%	Oct. 14, 2015

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	9.74×10^{-8}	Confidence levels of 95%
Frequency Stability	6.06×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11a_Nss1,(6Mbps)_1TX	-
5745MHz	75
5785MHz	75
5825MHz	75
802.11n HT20_Nss1,(MCS0)_2TX	-
5745MHz	75
5785MHz	75
5825MHz	75
802.11n HT40_Nss1,(MCS0)_2TX	-
5755MHz	75
5795MHz	75

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	Normal Link - 2.4G
2	Normal Link - 5G
For operating mode 1 is the worst case and it was record in this test report.	

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 < 1GHz	Normal Link
1	Normal Link - EUT in Z axis + 2.4G
2	Normal Link - EUT in Z axis + 5G
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
1	CTX - EUT in Z axis
2	CTX - EUT in Y axis
Mode 1 has been evaluated to be the worst case after evaluating. Consequently, measurement will follow this same test mode.	

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: CO02-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E6430	DoC
2	AP Router	Planex	GW-AP54SGX	KA220030603014-1
3	Mouse	Logitech	M-U0026	DoC
4	Earphone	SHYARO CHI	MIC-04	N/A

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

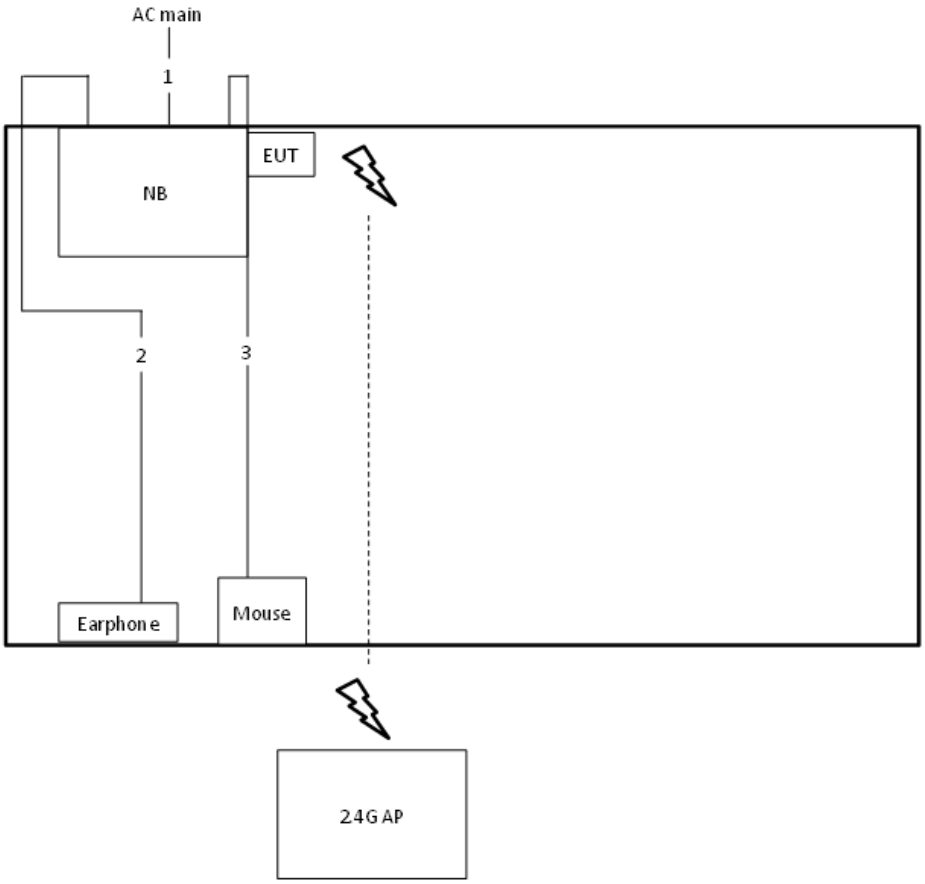
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	Wireless ac AP	Netgear	R6300V2	PY313200227
3	Mouse	Logitech	M-U0026	DoC
4	Earphone	SHYARO CHI	MIC-04	N/A

For Test Site No: 03CH01-CB (above 1GHz) and TH01-CB

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

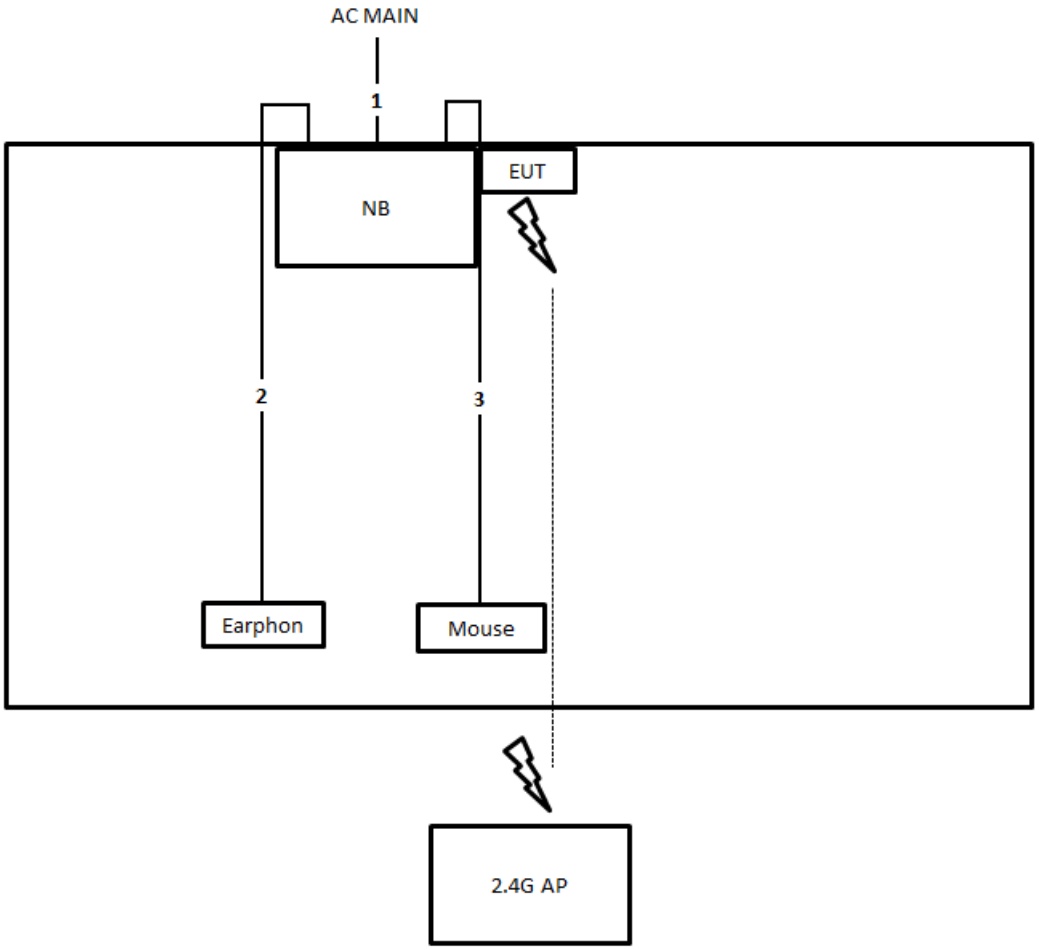
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



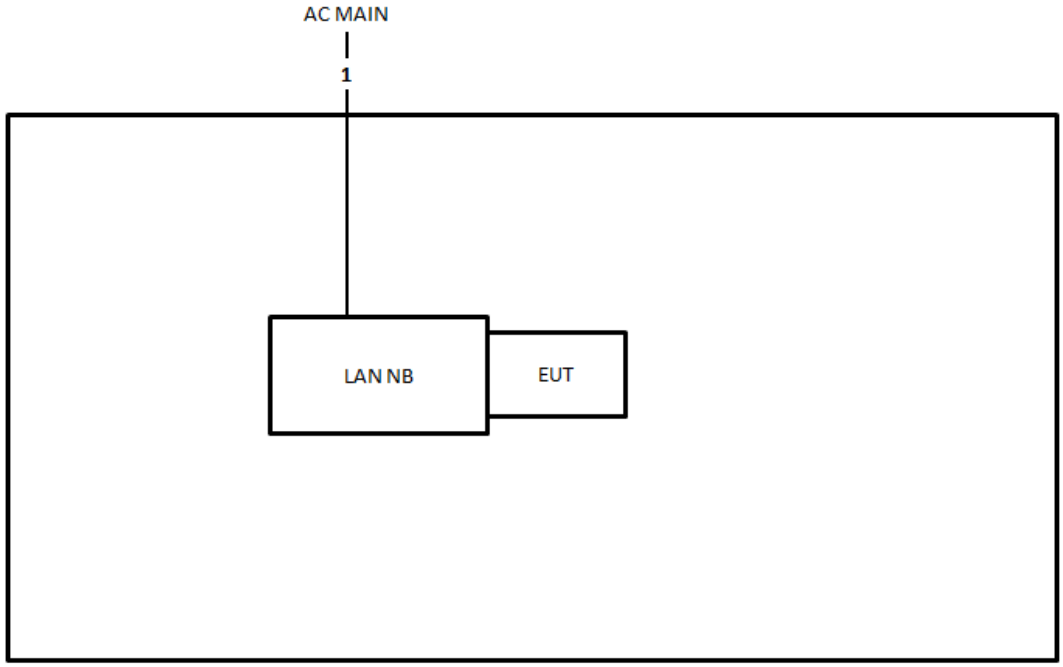
Item	Connection	Shielded	Length
1	Power cable	No	3.6m
2	Audio cable	No	1.1m
3	USB cable	Yes	1.8m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	3.6m
2	Audio cable	No	1.1m
3	USB cable	Yes	1.8m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m

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

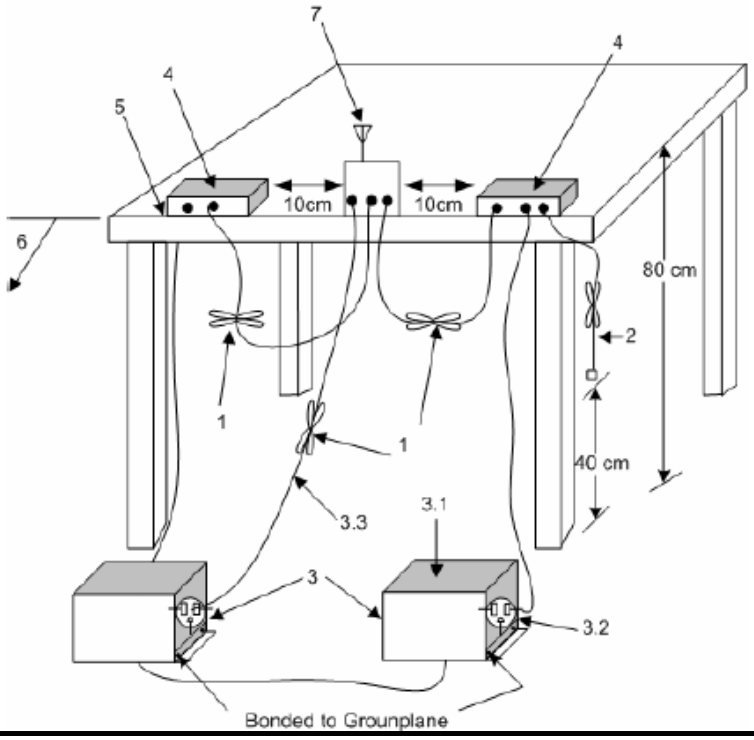
Refer a test equipment and calibration data table in this test report.

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

AC Power-line Conducted Emissions



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 ≥ 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 ≥ 500kHz.

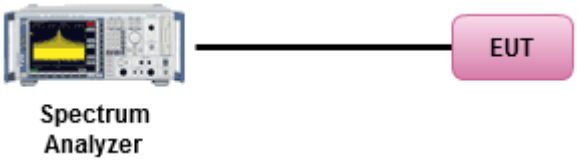
3.2.2 Measuring Instruments

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

Emission Bandwidth


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: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

RF Output Power (Power Meter)


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° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45°
☐	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.	

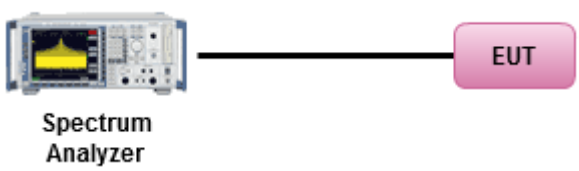
3.4.2 Measuring Instruments

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, F)5) 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: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

3.4.4 Test Setup

Power Spectral Density


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.

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

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.

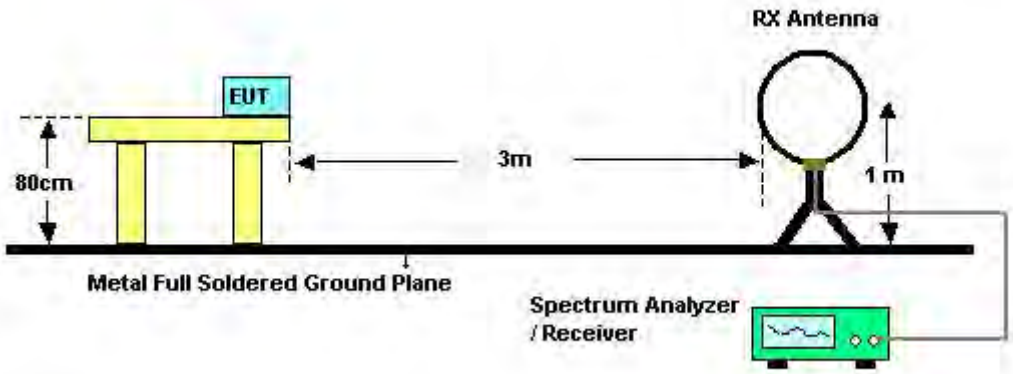
3.5.3 Test Procedures

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 ≥ 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 ≥ 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.		

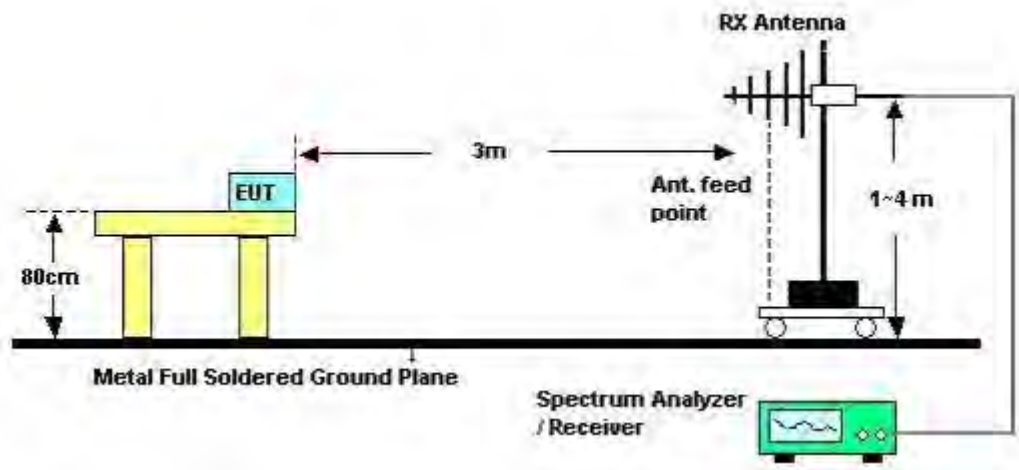
3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions

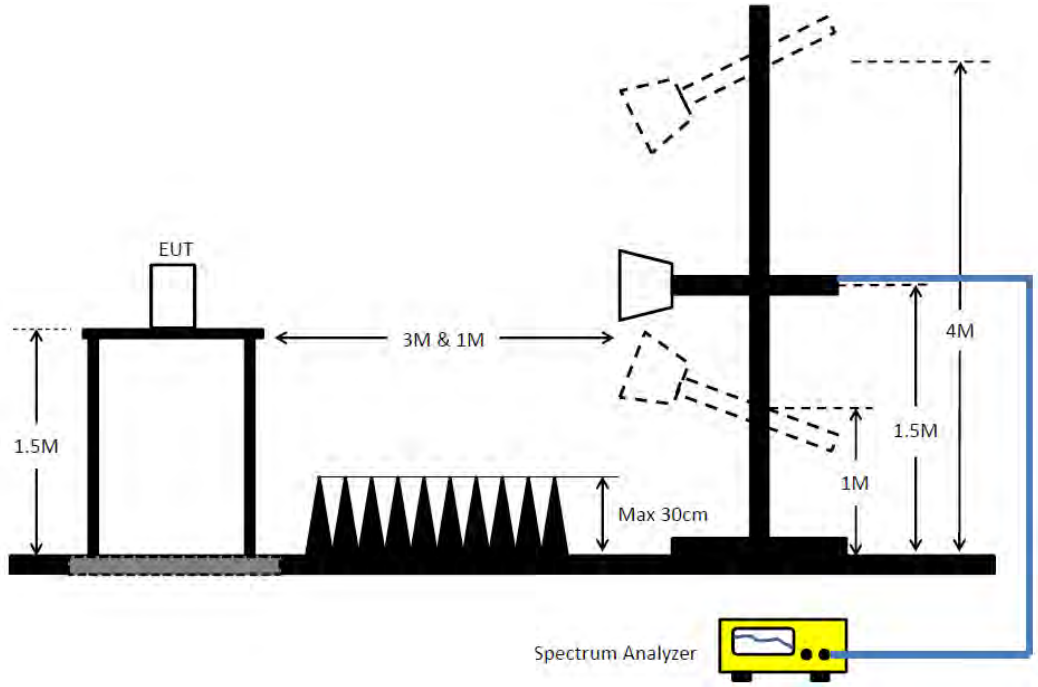
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



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

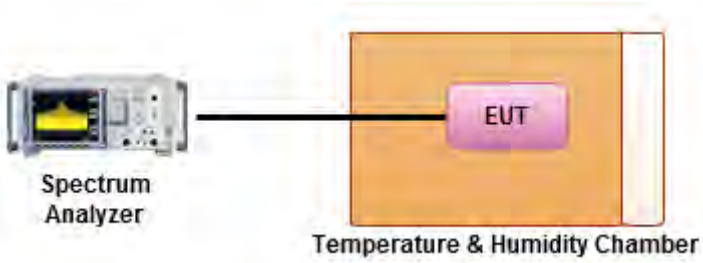
Refer a test equipment and calibration data table in this test report.

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 -20˚C~50˚C.

3.6.4 Test Setup

Frequency Stability



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	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 17, 2014	Nov. 16, 2015	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 17, 2014	Nov. 16, 2015	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 13, 2015	Jan. 12, 2016	Conduction (CO02-CB)
COND Cable	Woken	Cable	01	0.15MHz ~ 30MHz	Dec. 01, 2014	Nov. 30, 2015	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F	9561-F073	9kHz ~ 30MHz	Sep. 30, 2015	Sep. 29, 2016	Conduction (CO02-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 06, 2015	May 05, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015*	Mar. 11, 2017*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Nov. 09, 2017	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Feb. 23, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Jan. 15, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Nov. 05, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Nov. 21, 2017	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 21, 2015	Jan. 20, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Nov. 14, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Dec. 25, 2017	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2017	Jun. 01, 2018	Conducted (TH01-CB)

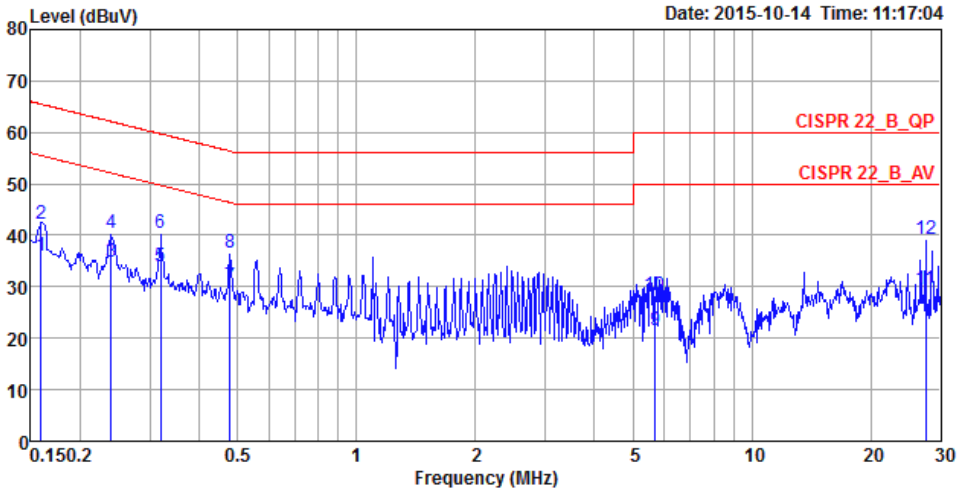
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Nov. 21, 2017	Conducted (TH01-CB)

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

"*" Calibration Interval of instruments listed above is two years.

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

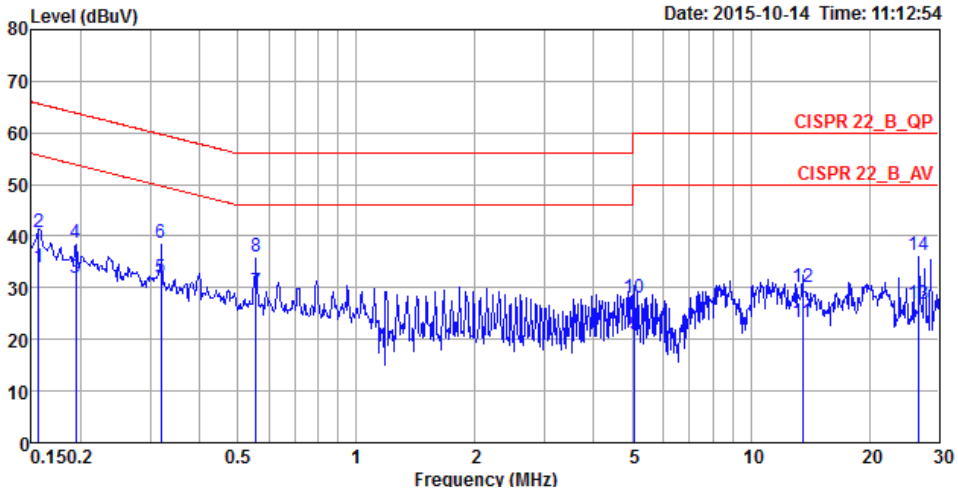
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.1590	36.04	-19.48	55.52	25.87	10.00	Average	NEUTRAL
2	0.1590	42.26	-23.26	65.52	32.09	10.00	QP	NEUTRAL
3	0.2391	34.95	-17.18	52.13	24.75	10.01	Average	NEUTRAL
4	0.2391	40.47	-21.66	62.13	30.27	10.01	QP	NEUTRAL
5	0.3200	33.93	-15.78	49.71	23.72	10.01	Average	NEUTRAL
6	0.3200	40.42	-19.29	59.71	30.21	10.01	QP	NEUTRAL
7	0.4786	30.07	-16.29	46.36	19.86	10.01	Average	NEUTRAL
8	0.4786	36.63	-19.73	56.36	26.42	10.01	QP	NEUTRAL
9	5.6833	21.44	-28.56	50.00	10.98	10.13	Average	NEUTRAL
10	5.6833	28.30	-31.70	60.00	17.84	10.13	QP	NEUTRAL
11	27.5436	29.59	-20.41	50.00	18.55	10.49	Average	NEUTRAL
12	27.5436	39.34	-20.66	60.00	28.30	10.49	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	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.1565	34.03	-21.62	55.65	23.86	10.00	Average	LINE
2	0.1565	40.71	-24.94	65.65	30.54	10.00	QP	LINE
3	0.1945	31.85	-21.99	53.84	21.65	10.01	Average	LINE
4	0.1945	38.67	-25.17	63.84	28.47	10.01	QP	LINE
5	0.3200	31.97	-17.74	49.71	21.76	10.01	Average	LINE
6	0.3200	38.75	-20.96	59.71	28.54	10.01	QP	LINE
7	0.5552	29.13	-16.87	46.00	18.91	10.02	Average	LINE
8	0.5552	35.88	-20.12	56.00	25.66	10.02	QP	LINE
9	5.0848	21.01	-28.99	50.00	10.57	10.12	Average	LINE
10	5.0848	27.90	-32.10	60.00	17.46	10.12	QP	LINE
11	13.5509	23.25	-26.75	50.00	12.54	10.29	Average	LINE
12	13.5509	30.05	-29.95	60.00	19.34	10.29	QP	LINE
13	26.6022	26.96	-23.04	50.00	15.94	10.48	Average	LINE
14	26.6022	36.16	-23.84	60.00	25.14	10.48	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)
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.275M	18.016M	18M0D1D	14.675M	16.442M
802.11n HT20_Nss1,(MCS0)_2TX	16.3M	18.366M	18M4D1D	14.95M	17.791M
802.11n HT40_Nss1,(MCS0)_2TX	36.35M	45.827M	45M8D1D	35.35M	39.03M

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;

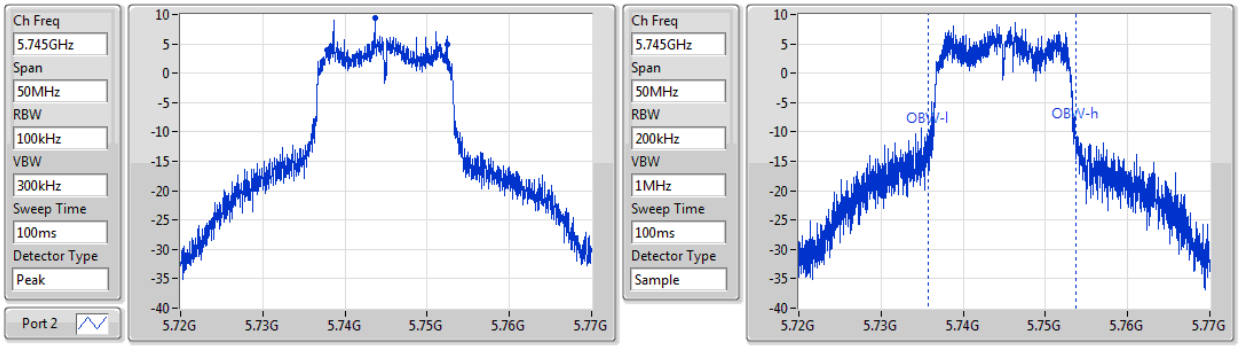
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
5745MHz	Pass	500k	-	-	14.675M	18.016M
5785MHz	Pass	500k	-	-	15.1M	17.491M
5825MHz	Pass	500k	-	-	16.275M	16.442M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	14.95M	18.366M	15.65M	17.816M
5785MHz	Pass	500k	15.05M	18.091M	16.3M	17.791M
5825MHz	Pass	500k	15.025M	18.291M	15.05M	17.791M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5755MHz	Pass	500k	36.35M	45.827M	36.35M	39.03M
5795MHz	Pass	500k	36.3M	40.73M	35.35M	39.33M

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_Nss1,(6Mbps)_1TX EBW

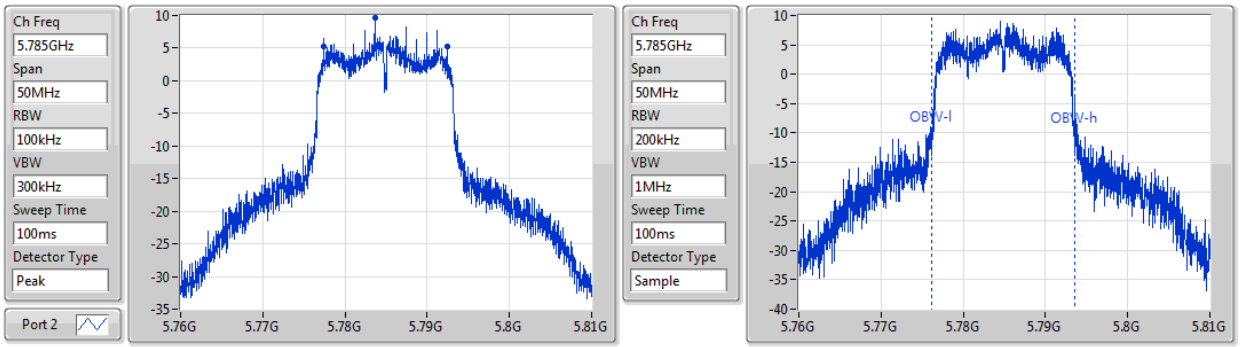
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.675M	5.737775G	5.75245G	18.016M	5.73573G	5.753746G	500k	2

802.11a_Nss1,(6Mbps)_1TX EBW

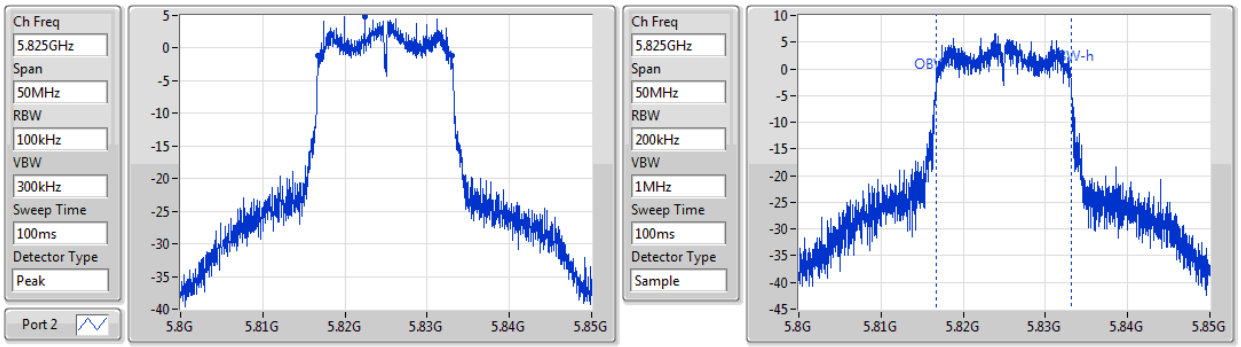
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.1M	5.77735G	5.79245G	17.491M	5.776104G	5.793596G	500k	2

802.11a_Nss1,(6Mbps)_1TX EBW

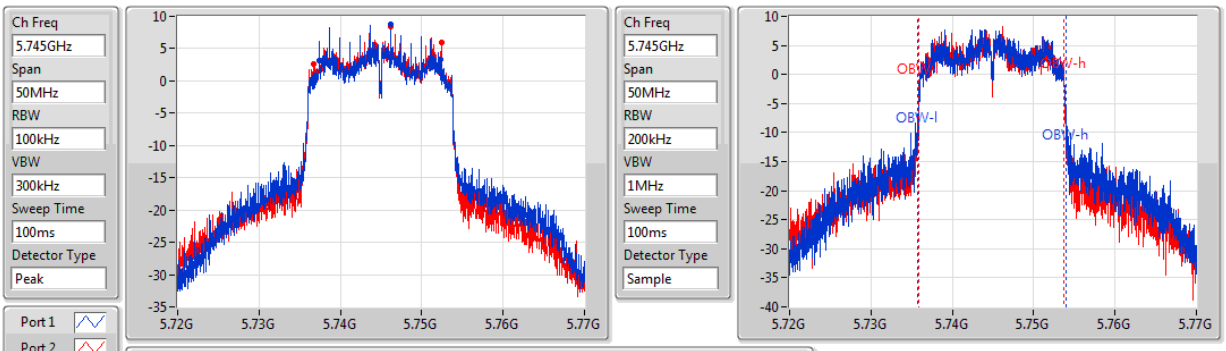
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.275M	5.816775G	5.83305G	16.442M	5.816679G	5.833121G	500k	2

802.11n HT20_Nss1,(MCS0)_2TX EBW

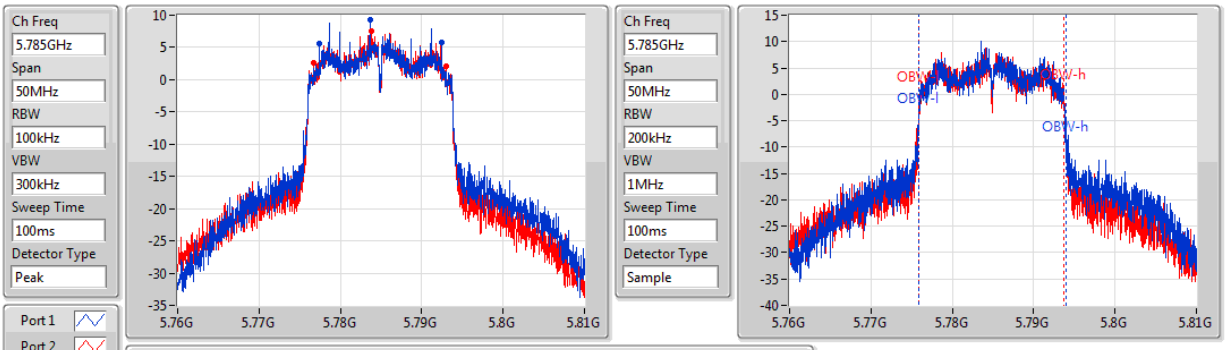
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.95M	5.7374G	5.75235G	18.366M	5.73568G	5.754045G	500k	1
15.65M	5.736775G	5.752425G	17.816M	5.73593G	5.753746G	500k	2

802.11n HT20_Nss1,(MCS0)_2TX EBW

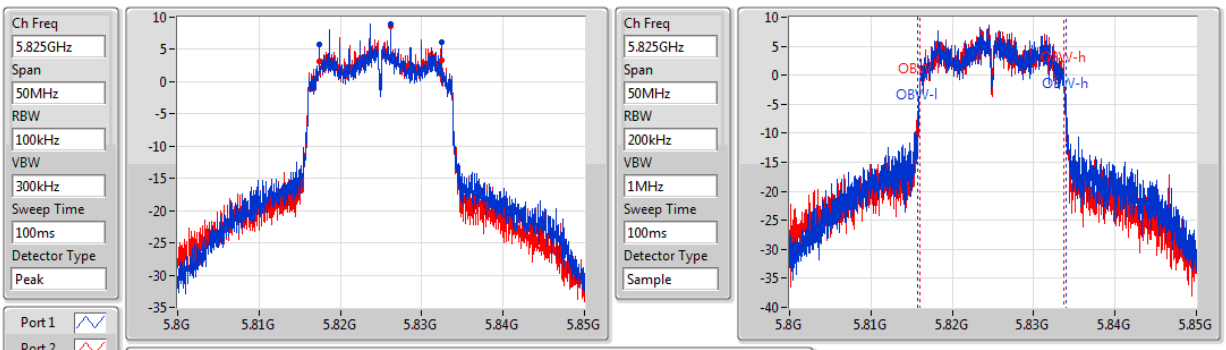
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.05M	5.777375G	5.792425G	18.091M	5.775855G	5.793946G	500k	1
16.3M	5.77675G	5.79305G	17.791M	5.77593G	5.793721G	500k	2

802.11n HT20_Nss1,(MCS0)_2TX EBW

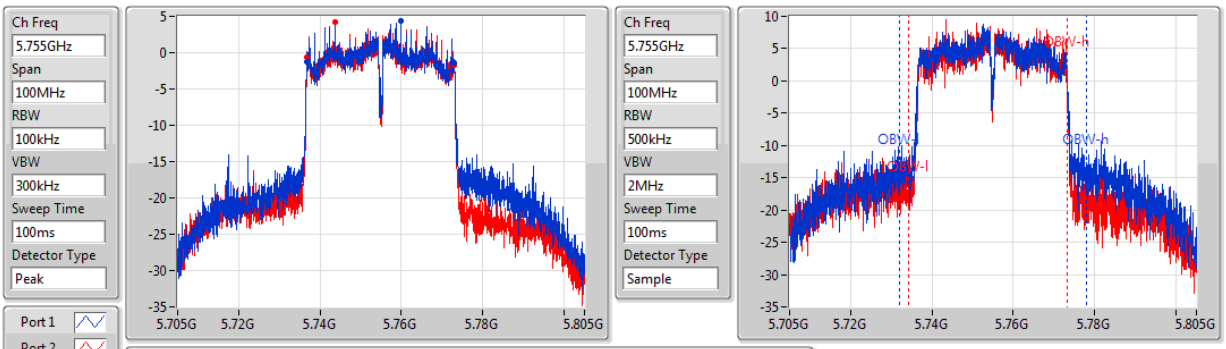
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.025M	5.817375G	5.8324G	18.291M	5.815705G	5.833996G	500k	1
15.05M	5.817375G	5.832425G	17.791M	5.815955G	5.833746G	500k	2

802.11n HT40_Nss1,(MCS0)_2TX **EBW**

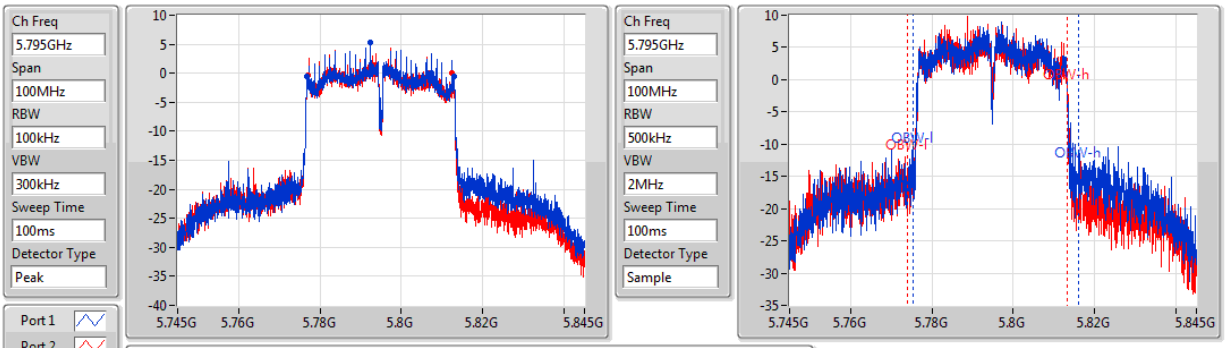
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.35M	5.73675G	5.7731G	45.827M	5.732111G	5.777939G	500k	1
36.35M	5.73675G	5.7731G	39.03M	5.73416G	5.773191G	500k	2

802.11n HT40_Nss1,(MCS0)_2TX **EBW**

5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.3M	5.77675G	5.81305G	40.73M	5.77541G	5.816139G	500k	1
35.35M	5.77705G	5.8124G	39.33M	5.773861G	5.813191G	500k	2

Summary

Mode	Total Power (dBm)	Total Power (W)
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	19.25	0.08414
802.11n HT20_Nss1,(MCS0)_2TX	20.74	0.11858
802.11n HT40_Nss1,(MCS0)_2TX	20.17	0.10399

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
5745MHz	Pass	3.90	-	19.25	19.25	30.00
5785MHz	Pass	3.90	-	17.64	17.64	30.00
5825MHz	Pass	3.90	-	17.18	17.18	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	3.90	17.58	17.87	20.74	30.00
5785MHz	Pass	3.90	16.05	15.79	18.93	30.00
5825MHz	Pass	3.90	16.76	16.57	19.68	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5755MHz	Pass	3.90	17.19	17.12	20.17	30.00
5795MHz	Pass	3.90	16.58	16.23	19.42	30.00

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

Summary

Mode	PD (dBm/RBW)
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_1TX	6.63
802.11n HT20_Nss1,(MCS0)_2TX	9.11
802.11n HT40_Nss1,(MCS0)_2TX	5.35

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

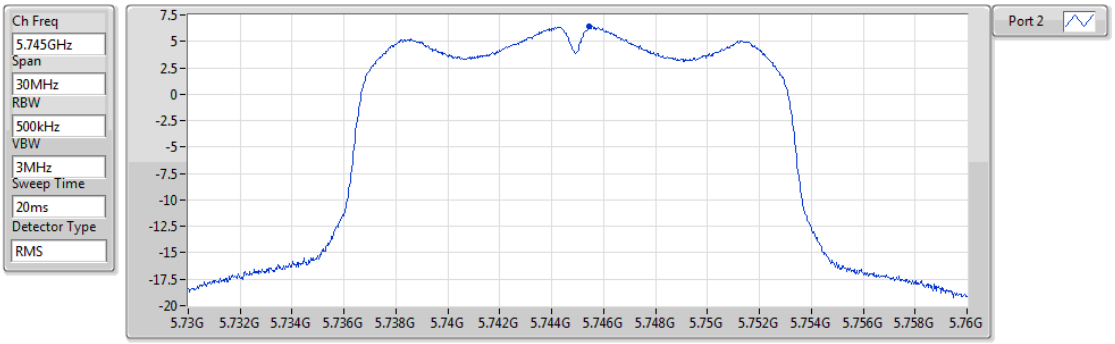
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
5745MHz	Pass	3.90	-	6.39	6.39	30.00
5785MHz	Pass	3.90	-	6.63	6.63	30.00
5825MHz	Pass	3.90	-	4.38	4.38	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	6.45	5.77	6.08	8.94	29.55
5785MHz	Pass	6.45	6.05	6.15	9.11	29.55
5825MHz	Pass	6.45	5.72	6.10	8.87	29.55
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5755MHz	Pass	6.45	2.48	2.28	5.35	29.55
5795MHz	Pass	6.45	2.31	2.01	5.12	29.55

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 Xpower density;

802.11a_Nss1,(6Mbps)_1TX **PSD**

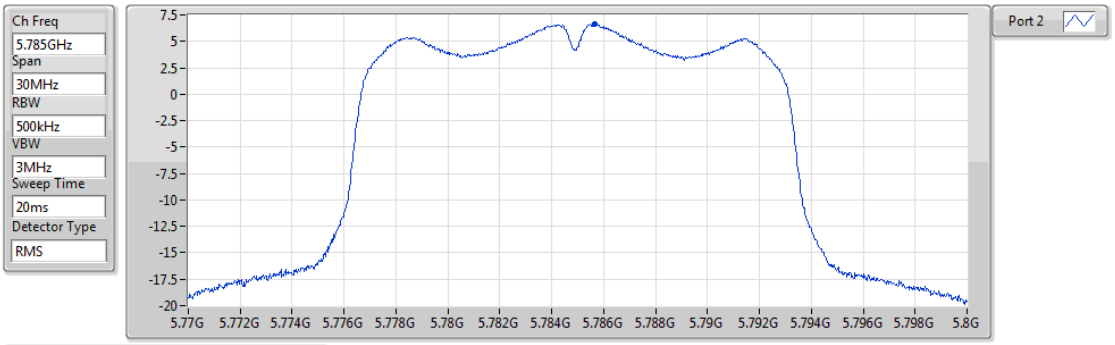
5745MHz



Sum	PD	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.39	6.39	6.39

802.11a_Nss1,(6Mbps)_1TX **PSD**

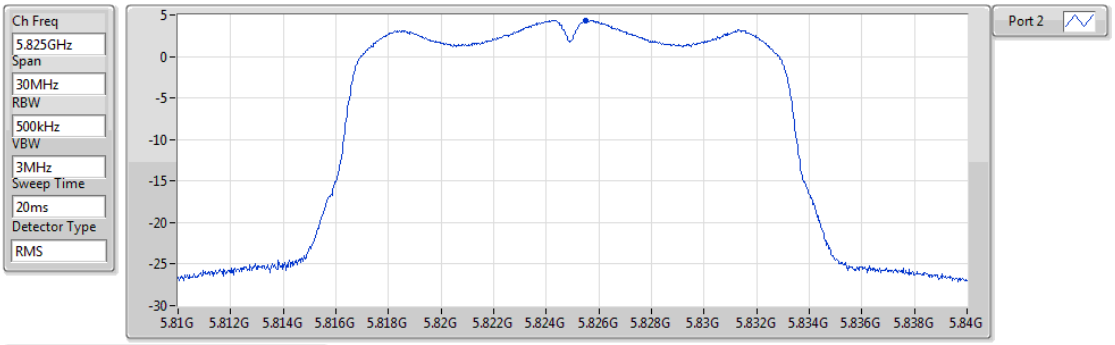
5785MHz



Sum	PD	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.63	6.63	6.63

802.11a_Nss1,(6Mbps)_1TX **PSD**

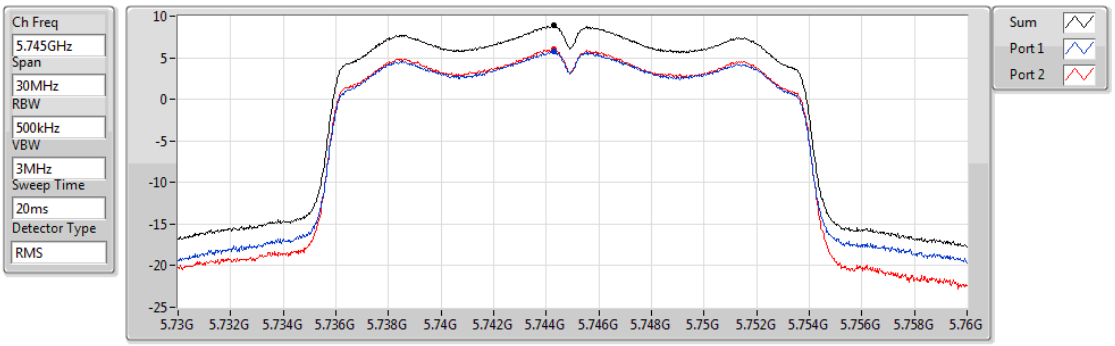
5825MHz



Sum	PD	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.38	4.38	4.38

802.11n HT20_Nss1,(MCS0)_2TX PSD

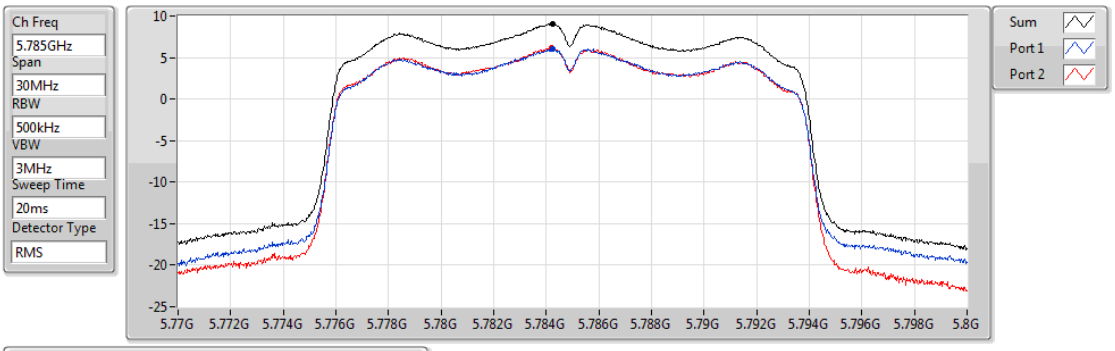
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.94	8.94	5.77	6.08

802.11n HT20_Nss1,(MCS0)_2TX PSD

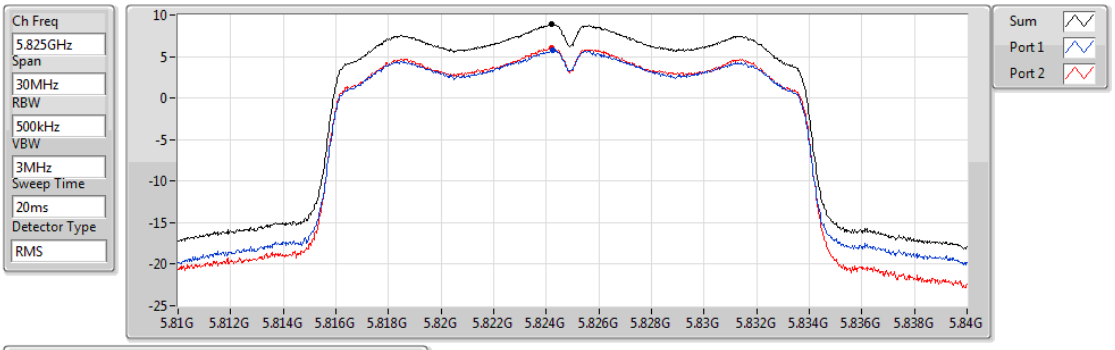
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.11	9.11	6.05	6.15

802.11n HT20_Nss1,(MCS0)_2TX PSD

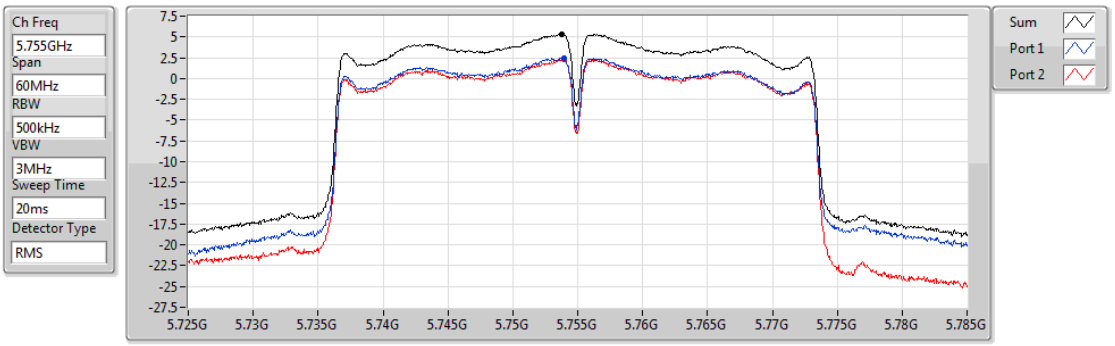
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.87	8.87	5.72	6.10

802.11n HT40_Nss1,(MCS0)_2TX PSD

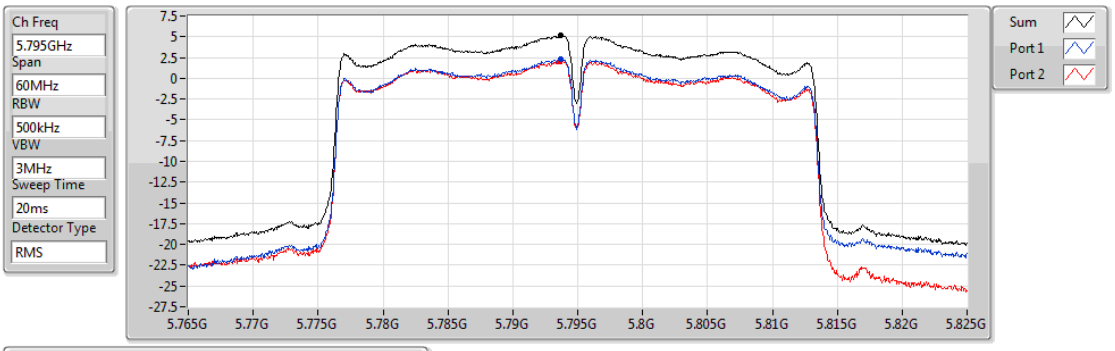
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.35	5.35	2.48	2.28

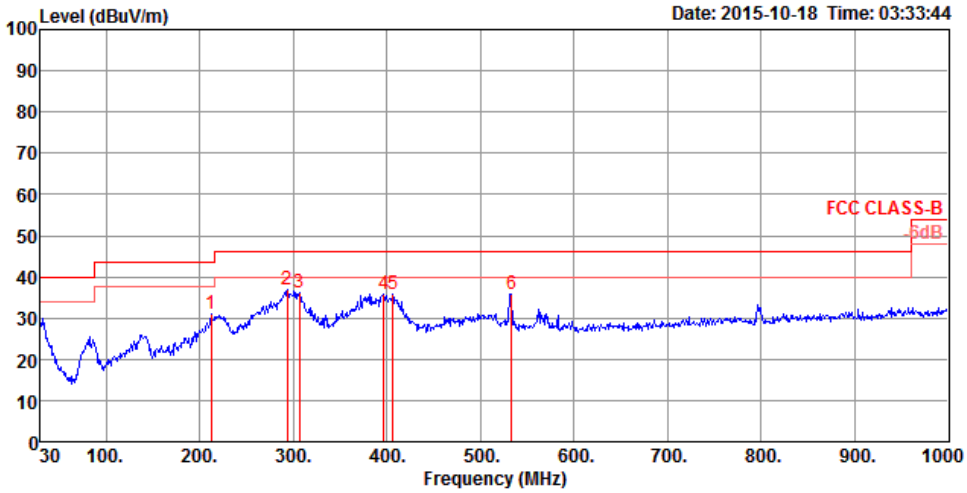
802.11n HT40_Nss1,(MCS0)_2TX PSD

5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.12	5.12	2.31	2.01

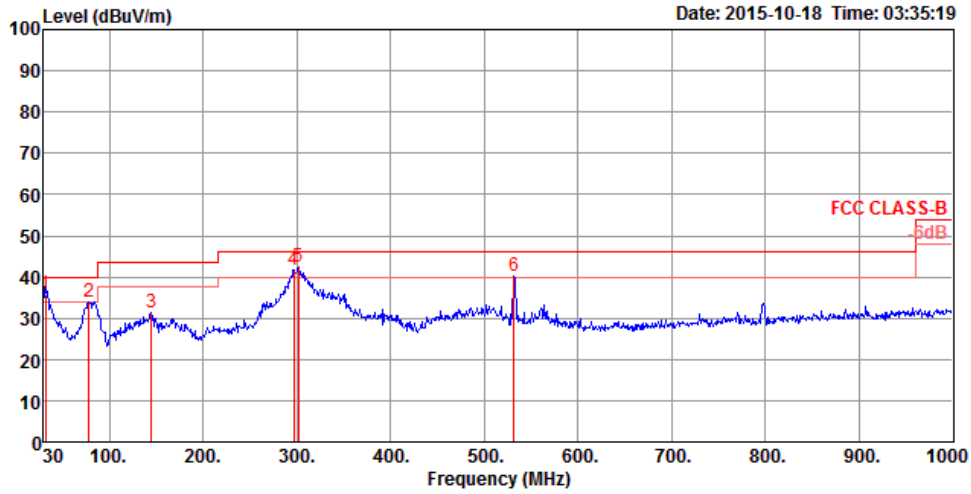
RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	212.36	31.13	43.50	-12.37	51.38	1.29	10.78	32.32	200	128	Peak	HORIZONTAL
2	293.84	36.98	46.00	-9.02	54.00	1.48	13.78	32.28	125	155	Peak	HORIZONTAL
3	306.45	36.10	46.00	-9.90	52.78	1.51	14.09	32.28	200	299	Peak	HORIZONTAL
4	396.66	35.91	46.00	-10.09	50.11	1.72	16.41	32.33	100	194	Peak	HORIZONTAL
5	406.36	35.93	46.00	-10.07	49.95	1.74	16.57	32.33	100	185	Peak	HORIZONTAL
6	533.43	35.70	46.00	-10.30	47.70	1.96	18.41	32.37	200	169	Peak	HORIZONTAL

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.)

RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	31.94	35.77	40.00	-4.23	48.66	0.64	18.87	32.40	133	221	QP	VERTICAL
2	78.50	33.91	40.00	-6.09	57.99	0.85	7.47	32.40	150	225	Peak	VERTICAL
3	144.46	31.31	43.50	-12.19	50.89	1.09	11.69	32.36	100	188	Peak	VERTICAL
4	296.75	41.84	46.00	-4.16	58.80	1.48	13.84	32.28	200	338	Peak	VERTICAL
5	301.60	42.31	46.00	-3.69	59.17	1.49	13.93	32.28	200	341	Peak	VERTICAL
6	531.49	40.23	46.00	-5.77	52.27	1.95	18.38	32.37	125	104	Peak	VERTICAL

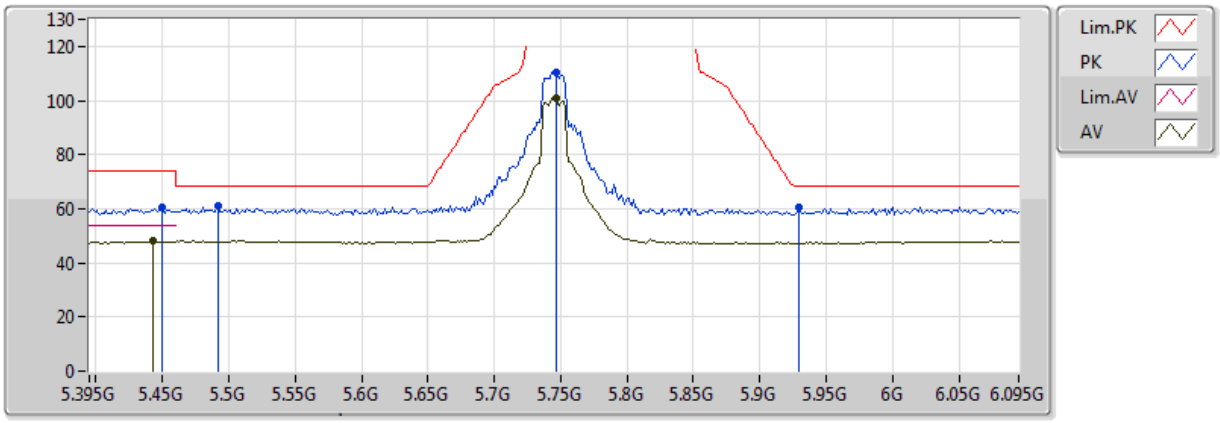
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	Pass	AV	11.64922G	53.62	54.00	-0.38	14.07	3	Horizontal	44	1.02	-

802.11a_Nss1,(6Mbps)_1TX

5745MHz_TX

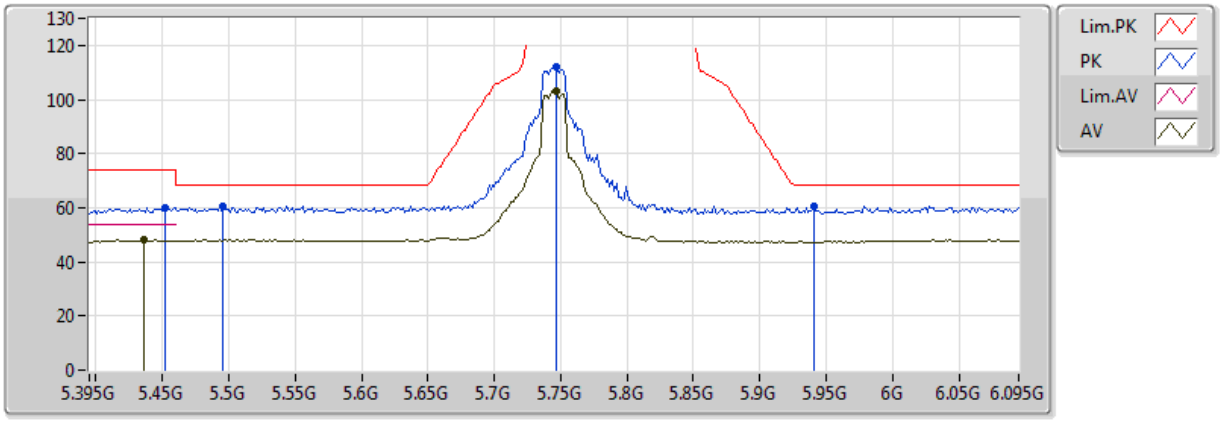


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.7464G	100.86	Inf	-Inf	6.94	3	Vertical	280	1.79
PK	5.4916G	60.84	68.20	-7.36	6.83	3	Vertical	280	1.79
PK	5.7464G	110.58	Inf	-Inf	6.94	3	Vertical	280	1.79
PK	5.9298G	60.38	68.20	-7.82	7.05	3	Vertical	280	1.79
PK	5.4496G	60.29	74.00	-13.71	6.69	3	Vertical	280	1.79
AV	5.4426G	47.92	54.00	-6.08	6.66	3	Vertical	280	1.79

802.11a_Nss1,(6Mbps)_1TX

5745MHz_TX

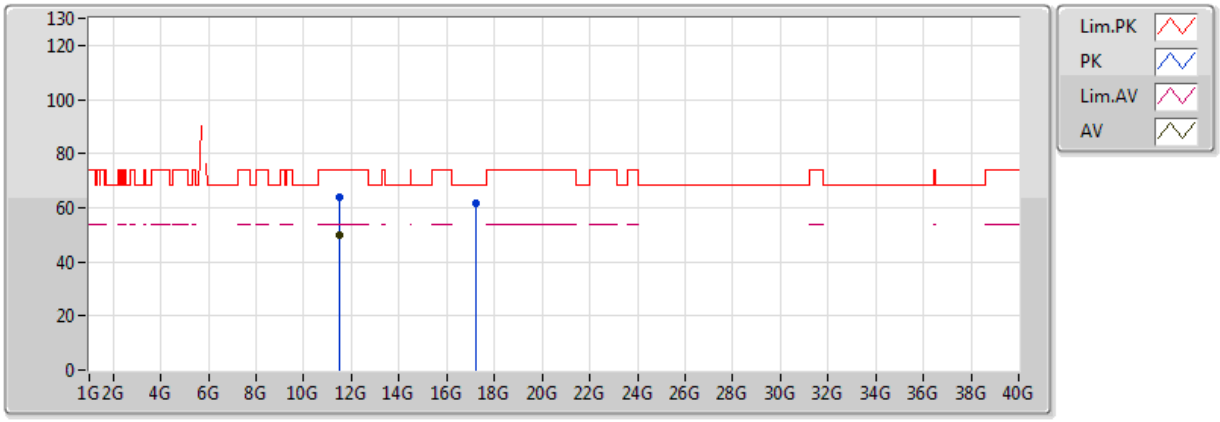


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.7464G	103.31	Inf	-Inf	6.94	3	Horizontal	185	1.01
PK	5.4958G	60.76	68.20	-7.44	6.85	3	Horizontal	185	1.01
PK	5.7464G	112.09	Inf	-Inf	6.94	3	Horizontal	185	1.01
PK	5.941G	60.49	68.20	-7.71	7.07	3	Horizontal	185	1.01
PK	5.4524G	59.91	74.00	-14.09	6.70	3	Horizontal	185	1.01
AV	5.4356G	48.22	54.00	-5.78	6.64	3	Horizontal	185	1.01

802.11a_Nss1,(6Mbps)_1TX

5745MHz_TX

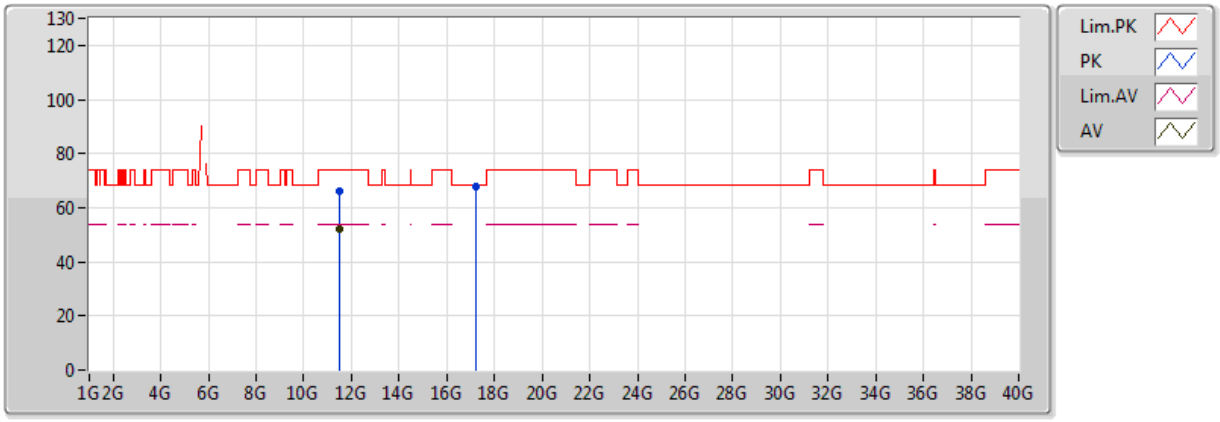


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.4902G	50.09	54.00	-3.91	13.93	3	Vertical	21	1.07
PK	11.491G	63.98	74.00	-10.02	13.93	3	Vertical	21	1.07
PK	17.2383G	61.54	68.20	-6.66	18.69	3	Vertical	115	1.02

802.11a_Nss1,(6Mbps)_1TX

5745MHz_TX

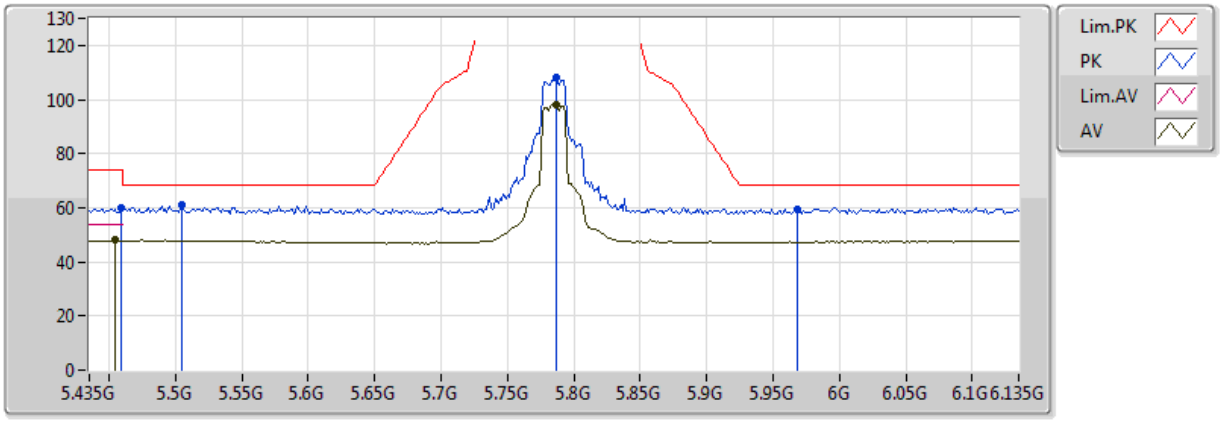


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.48976G	52.30	54.00	-1.70	13.93	3	Horizontal	46	2.88
PK	11.49108G	65.90	74.00	-8.10	13.93	3	Horizontal	46	2.88
PK	17.2374G	67.67	68.20	-0.53	18.69	3	Horizontal	49	1.91

802.11a_Nss1,(6Mbps)_1TX

5785MHz_TX

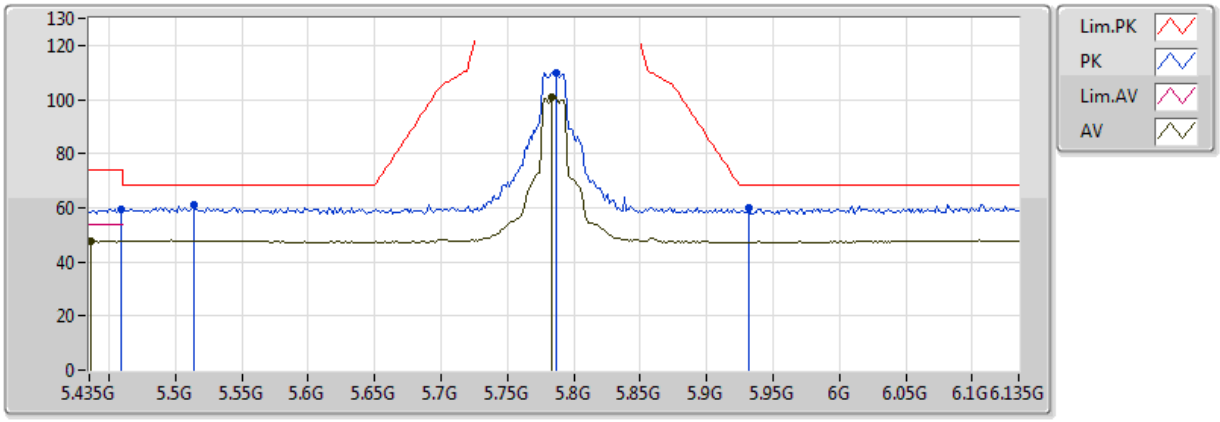


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.7864G	98.21	Inf	-Inf	6.92	3	Vertical	269	1.90
PK	5.505G	61.27	68.20	-6.93	6.87	3	Vertical	269	1.90
PK	5.7864G	107.93	Inf	-Inf	6.92	3	Vertical	269	1.90
PK	5.9684G	59.44	68.20	-8.76	7.10	3	Vertical	269	1.90
PK	5.4588G	59.82	74.00	-14.18	6.72	3	Vertical	269	1.90
AV	5.4546G	47.94	54.00	-6.06	6.71	3	Vertical	269	1.90

802.11a_Nss1,(6Mbps)_1TX

5785MHz_TX

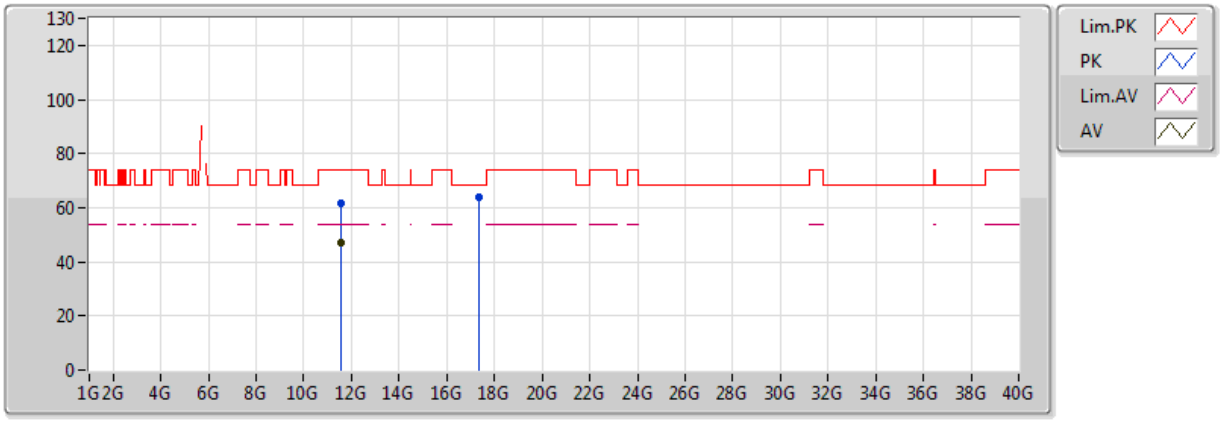


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01-10
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.7836G	100.69	Inf	-Inf	6.92	3	Horizontal	94	1.12
PK	5.5134G	61.14	68.20	-7.06	6.88	3	Horizontal	94	1.12
PK	5.7864G	109.88	Inf	-Inf	6.92	3	Horizontal	94	1.12
PK	5.932G	59.68	68.20	-8.52	7.06	3	Horizontal	94	1.12
PK	5.4588G	59.41	74.00	-14.59	6.72	3	Horizontal	94	1.12
AV	5.4364G	47.76	54.00	-6.24	6.64	3	Horizontal	94	1.12

802.11a_Nss1,(6Mbps)_1TX

5785MHz_TX

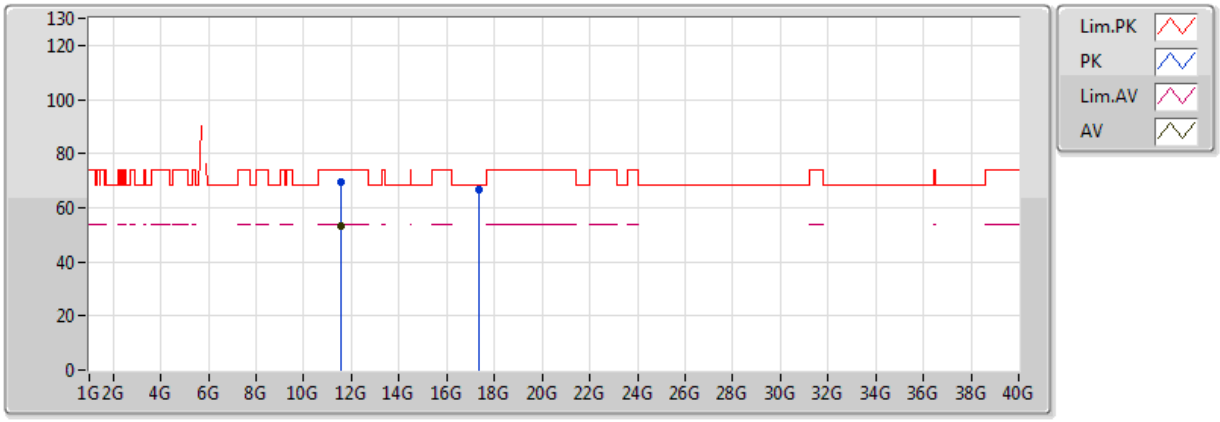


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.57018G	47.12	54.00	-6.88	14.00	3	Vertical	21	1.06
PK	11.56994G	61.81	74.00	-12.19	14.00	3	Vertical	21	1.06
PK	17.35884G	63.90	68.20	-4.30	19.26	3	Vertical	48	1.01

802.11a_Nss1,(6Mbps)_1TX

5785MHz_TX

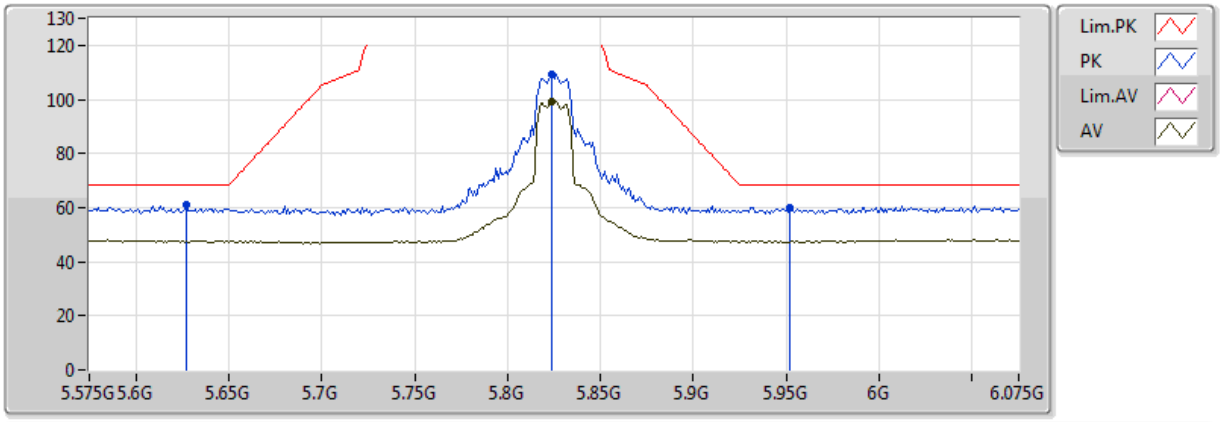


20170929
EUT Z_1TX-Ant 1
Setting 75
03-M-01
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.56952G	53.03	54.00	-0.97	14.00	3	Horizontal	42	1.01
PK	11.56964G	69.36	74.00	-4.64	14.00	3	Horizontal	42	1.01
PK	17.35932G	66.55	68.20	-1.65	19.26	3	Horizontal	52	2.87

802.11a_Nss1,(6Mbps)_1TX

5825MHz_TX

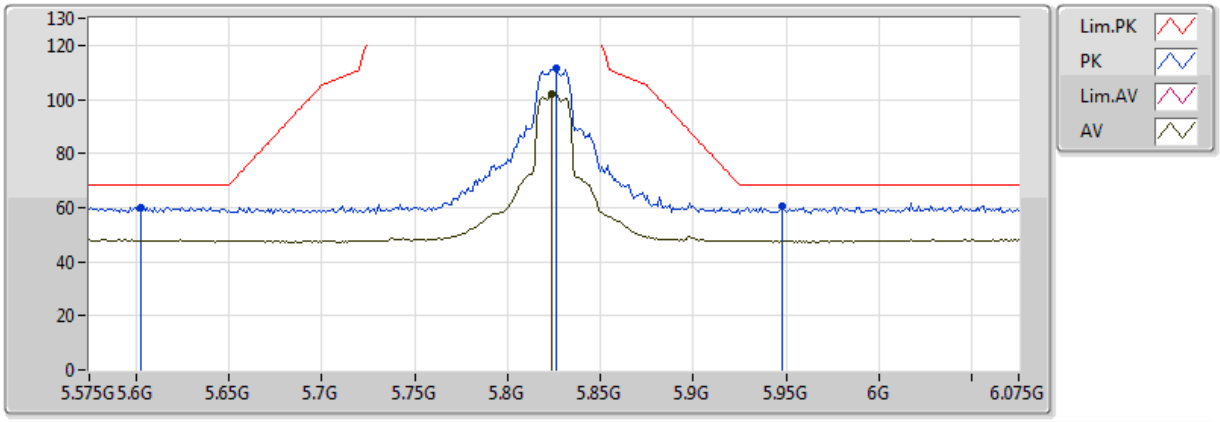


20170929
EUT Z_1TX-Ant 1
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.824G	99.37	Inf	-Inf	6.94	3	Vertical	270	2.05
PK	5.627G	61.18	68.20	-7.02	7.01	3	Vertical	270	2.05
PK	5.824G	109.52	Inf	-Inf	6.94	3	Vertical	270	2.05
PK	5.952G	60.04	68.20	-8.16	7.08	3	Vertical	270	2.05

802.11a_Nss1,(6Mbps)_1TX

5825MHz_TX

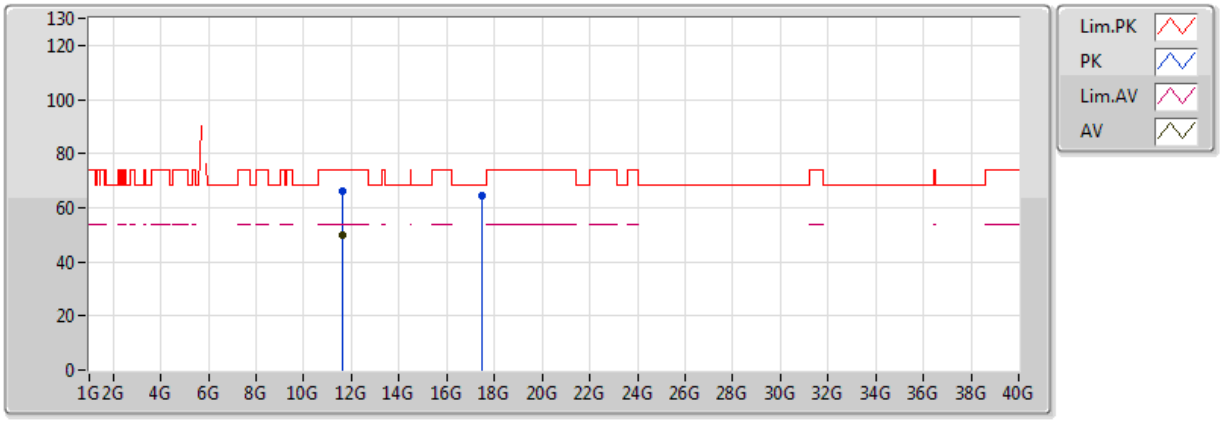


20170929
EUT Z_1TX-Ant 1
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.824G	102.00	Inf	-Inf	6.94	3	Horizontal	94	1.13
PK	5.603G	60.18	68.20	-8.02	7.02	3	Horizontal	94	1.13
PK	5.826G	111.24	Inf	-Inf	6.94	3	Horizontal	94	1.13
PK	5.948G	60.29	68.20	-7.91	7.07	3	Horizontal	94	1.13

802.11a_Nss1,(6Mbps)_1TX

5825MHz_TX

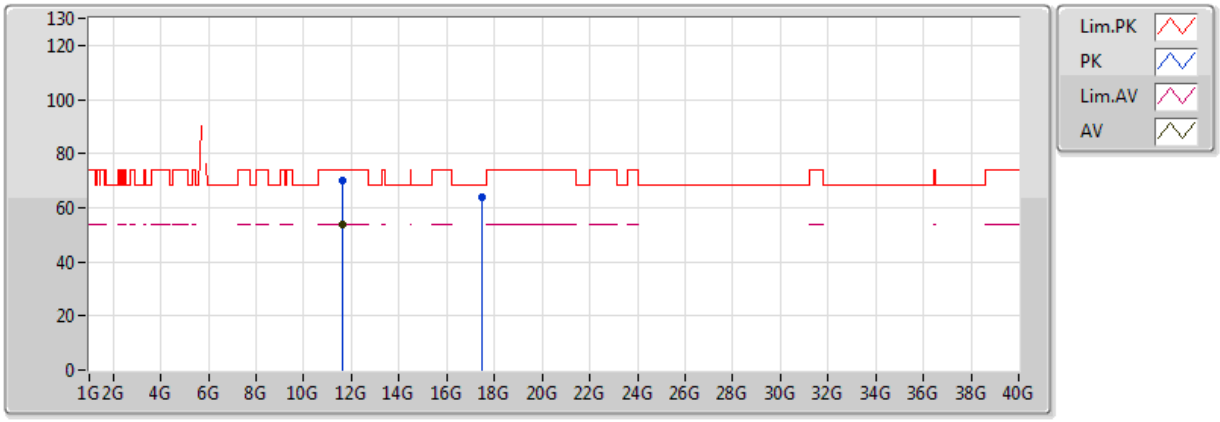


20170929
EUT Z_1TX-Ant 1
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.64868G	49.64	54.00	-4.36	14.07	3	Vertical	21	1.10
PK	11.64904G	66.18	74.00	-7.82	14.07	3	Vertical	21	1.10
PK	17.47704G	64.58	68.20	-3.62	19.82	3	Vertical	49	1.09

802.11a_Nss1,(6Mbps)_1TX

5825MHz_TX

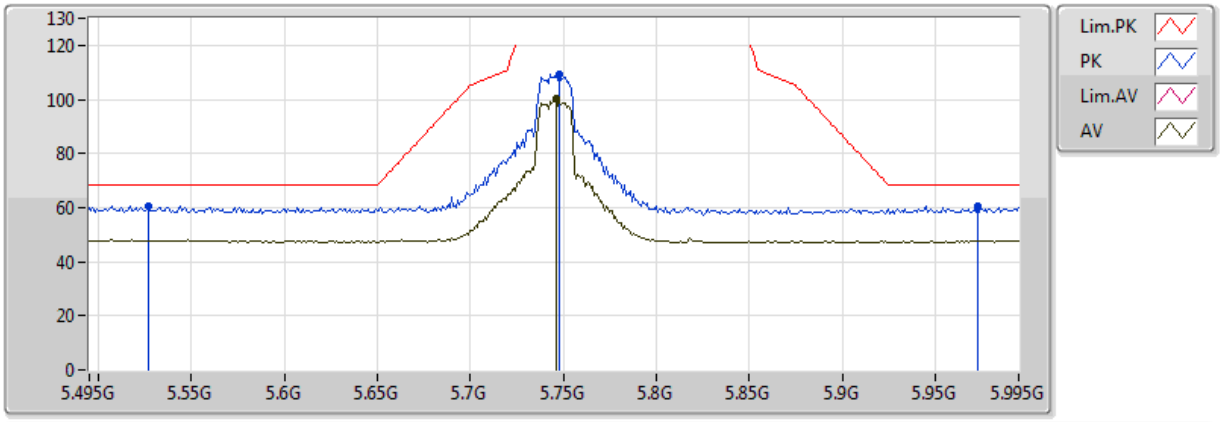


20170929
EUT Z_1TX-Ant 1
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.64922G	53.62	54.00	-0.38	14.07	3	Horizontal	44	1.02
PK	11.6494G	70.14	74.00	-3.86	14.07	3	Horizontal	44	1.02
PK	17.48502G	64.04	68.20	-4.16	19.86	3	Horizontal	249	2.96

802.11n HT20_Nss1,(MCS0)_2TX

5745MHz_TX

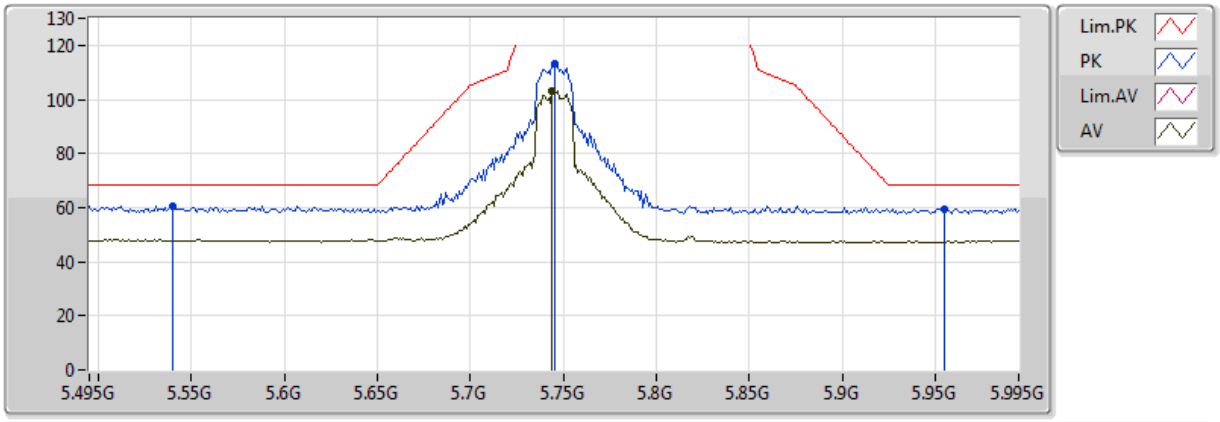


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.746G	100.45	Inf	-Inf	6.94	3	Vertical	272	1.82
PK	5.527G	60.46	68.20	-7.74	6.90	3	Vertical	272	1.82
PK	5.748G	109.43	Inf	-Inf	6.94	3	Vertical	272	1.82
PK	5.973G	60.78	68.20	-7.42	7.10	3	Vertical	272	1.82

802.11n HT20_Nss1,(MCS0)_2TX

5745MHz_TX

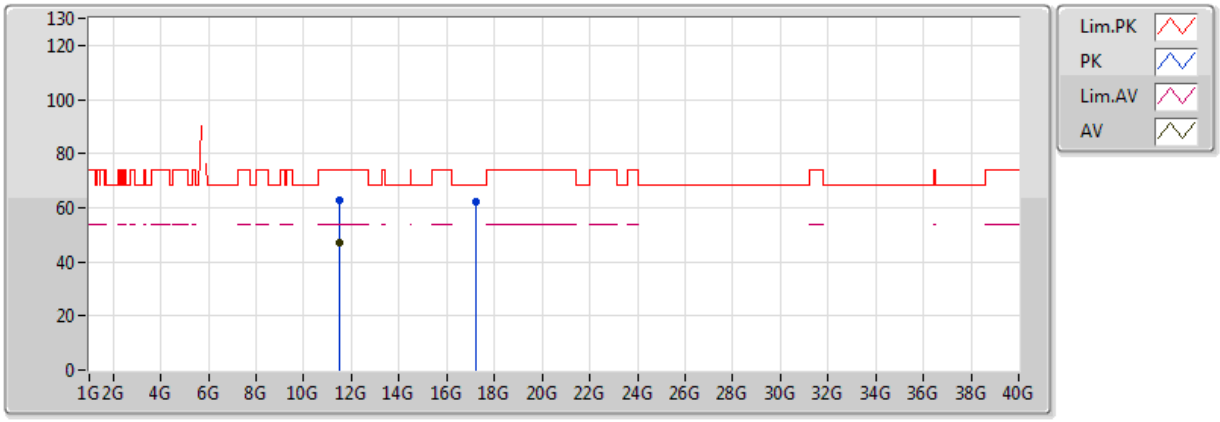


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.744G	103.16	Inf	-Inf	6.94	3	Horizontal	78	1.00
PK	5.54G	60.76	68.20	-7.44	6.92	3	Horizontal	78	1.00
PK	5.745G	112.91	Inf	-Inf	6.94	3	Horizontal	78	1.00
PK	5.955G	59.59	68.20	-8.61	7.08	3	Horizontal	78	1.00

802.11n HT20_Nss1,(MCS0)_2TX

5745MHz_TX

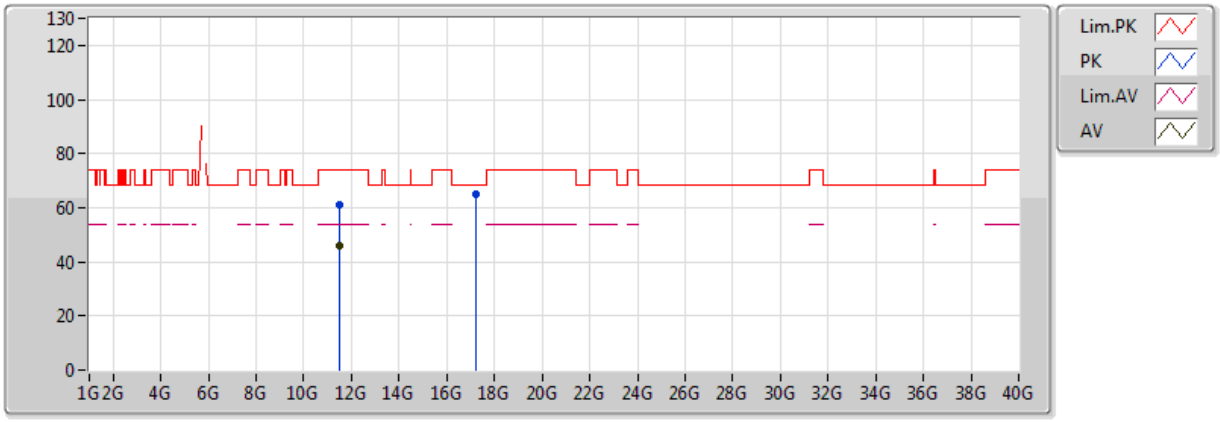


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.49078G	47.31	54.00	-6.69	13.93	3	Vertical	22	1.01
PK	11.48586G	62.92	74.00	-11.08	13.92	3	Vertical	22	1.01
PK	17.23086G	62.01	68.20	-6.19	18.65	3	Vertical	155	2.92

802.11n HT20_Nss1,(MCS0)_2TX

5745MHz_TX

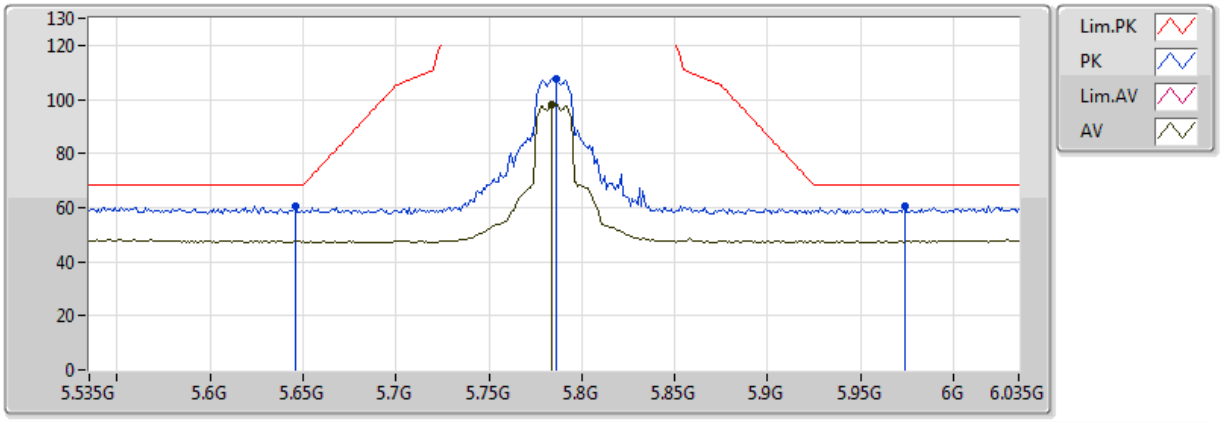


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.4912G	46.05	54.00	-7.95	13.93	3	Horizontal	168	2.84
PK	11.4912G	61.15	74.00	-12.85	13.93	3	Horizontal	168	2.84
PK	17.23116G	65.06	68.20	-3.14	18.66	3	Horizontal	111	1.93

802.11n HT20_Nss1,(MCS0)_2TX

5785MHz_TX

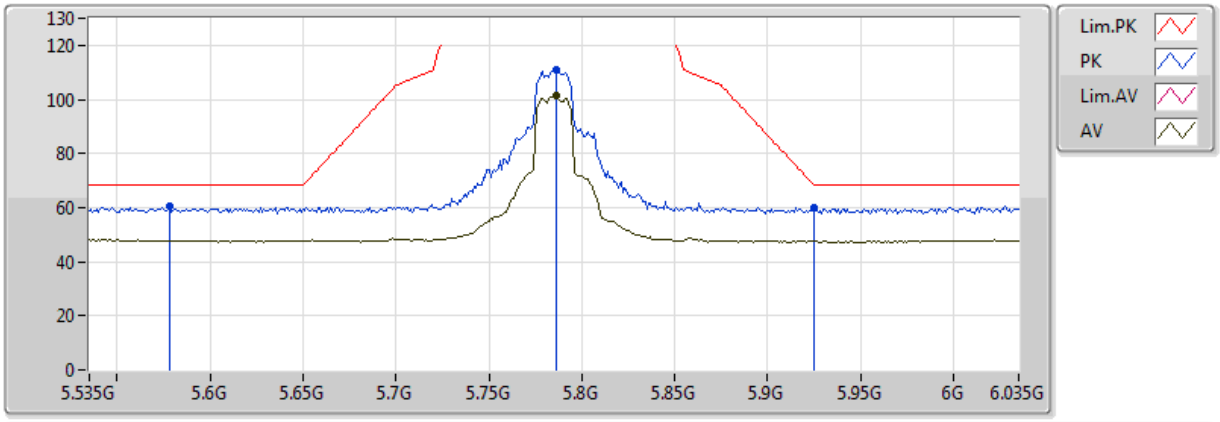


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.784G	98.29	Inf	-Inf	6.92	3	Vertical	270	1.93
PK	5.646G	60.31	68.20	-7.89	7.00	3	Vertical	270	1.93
PK	5.786G	107.69	Inf	-Inf	6.92	3	Vertical	270	1.93
PK	5.974G	60.40	68.20	-7.80	7.10	3	Vertical	270	1.93

802.11n HT20_Nss1,(MCS0)_2TX

5785MHz_TX

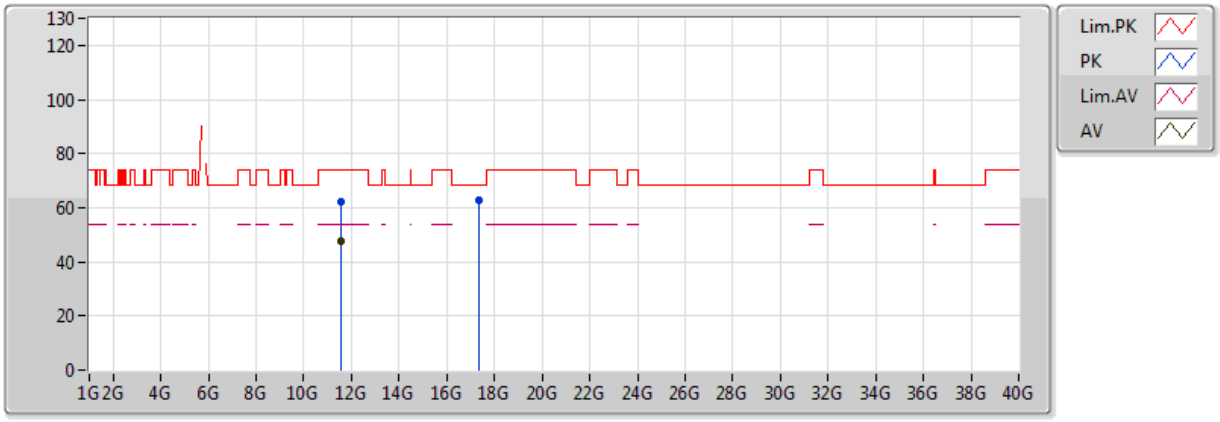


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.786G	101.51	Inf	-Inf	6.92	3	Horizontal	93	1.19
PK	5.578G	60.53	68.20	-7.67	6.98	3	Horizontal	93	1.19
PK	5.786G	110.97	Inf	-Inf	6.92	3	Horizontal	93	1.19
PK	5.925G	60.22	68.20	-7.98	7.05	3	Horizontal	93	1.19

802.11n HT20_Nss1,(MCS0)_2TX

5785MHz_TX

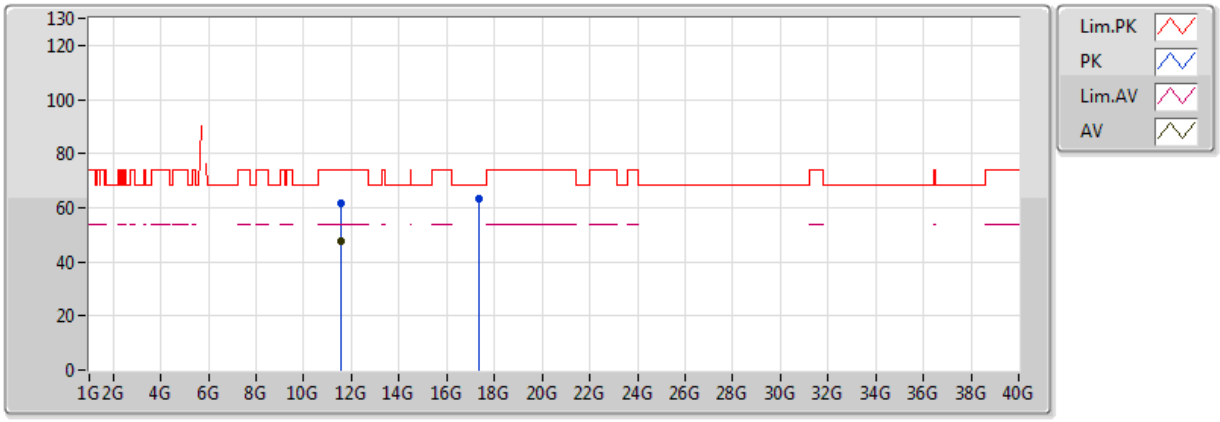


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.5672G	47.37	54.00	-6.63	13.99	3	Vertical	22	1.02
PK	11.5677G	62.43	74.00	-11.57	14.00	3	Vertical	22	1.02
PK	17.36646G	62.58	68.20	-5.62	19.30	3	Vertical	46	2.43

802.11n HT20_Nss1,(MCS0)_2TX

5785MHz_TX

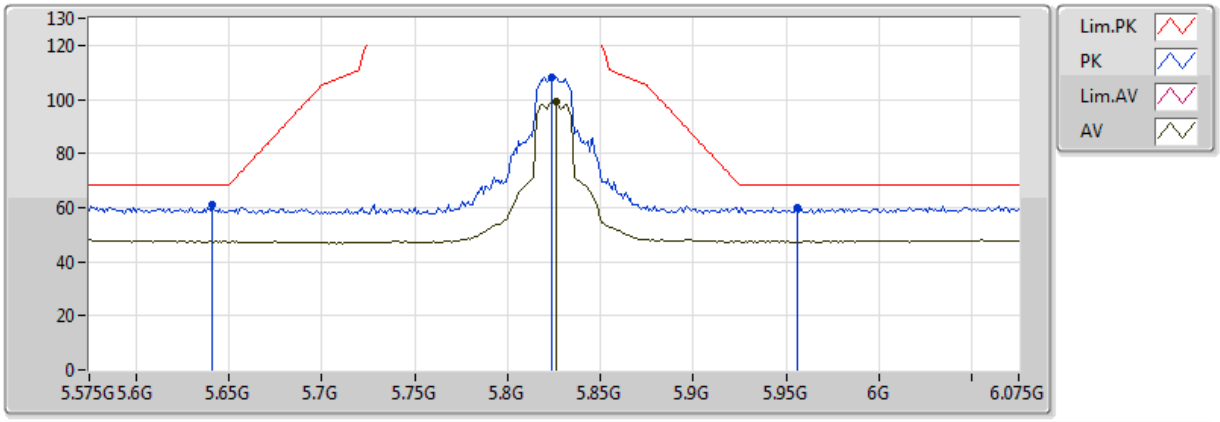


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.57126G	47.81	54.00	-6.19	14.00	3	Horizontal	168	1.01
PK	11.56886G	61.39	74.00	-12.61	14.00	3	Horizontal	168	1.01
PK	17.3682G	63.45	68.20	-4.75	19.31	3	Horizontal	54	2.93

802.11n HT20_Nss1,(MCS0)_2TX

5825MHz_TX

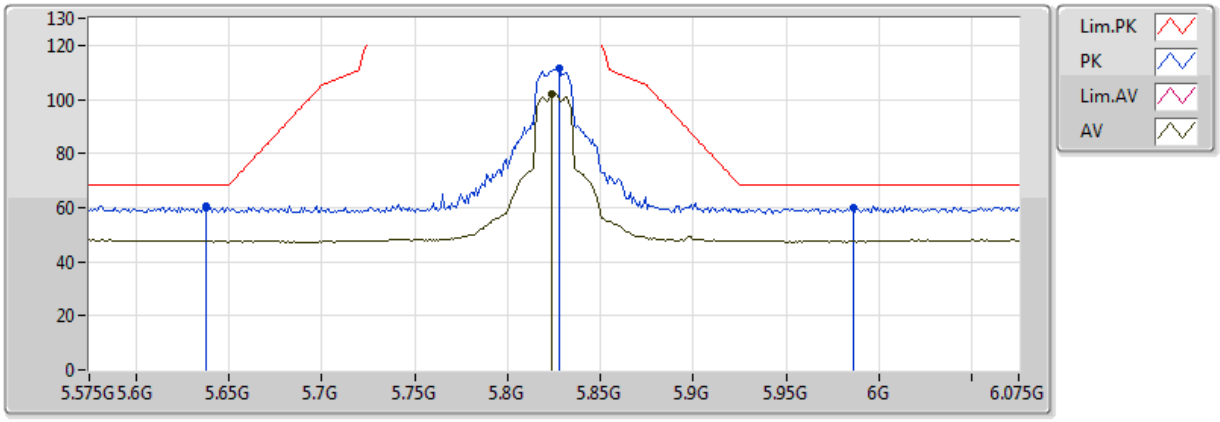


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.826G	99.29	Inf	-Inf	6.94	3	Vertical	271	2.07
PK	5.641G	60.87	68.20	-7.33	7.00	3	Vertical	271	2.07
PK	5.824G	108.36	Inf	-Inf	6.94	3	Vertical	271	2.07
PK	5.956G	60.00	68.20	-8.20	7.08	3	Vertical	271	2.07

802.11n HT20_Nss1,(MCS0)_2TX

5825MHz_TX

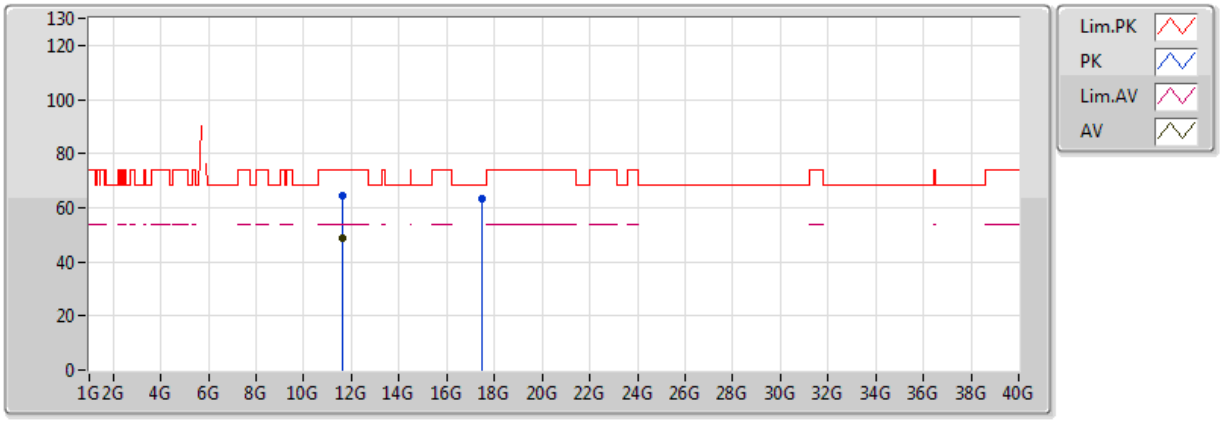


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.824G	102.03	Inf	-Inf	6.94	3	Horizontal	90	1.15
PK	5.638G	60.43	68.20	-7.77	7.00	3	Horizontal	90	1.15
PK	5.828G	111.53	Inf	-Inf	6.94	3	Horizontal	90	1.15
PK	5.986G	59.69	68.20	-8.51	7.11	3	Horizontal	90	1.15

802.11n HT20_Nss1,(MCS0)_2TX

5825MHz_TX

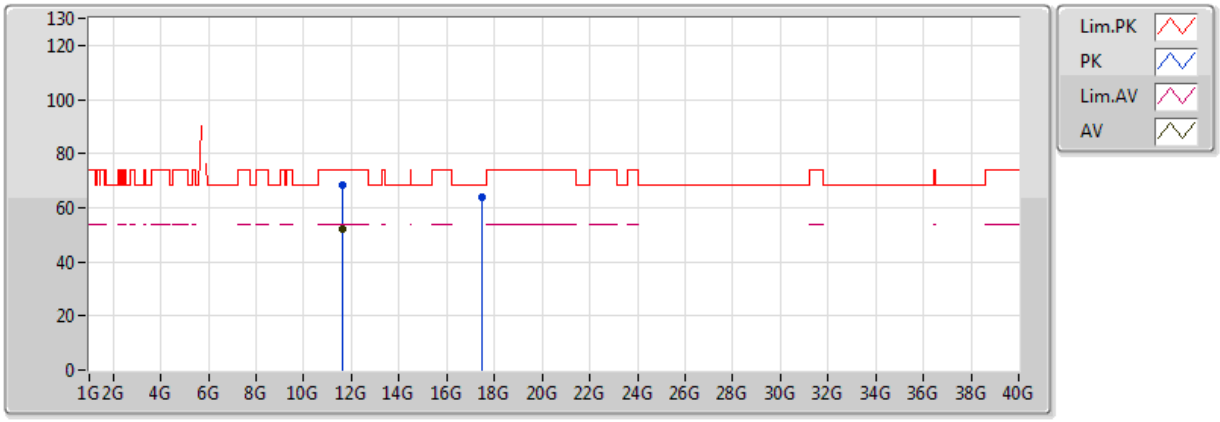


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.6497G	48.65	54.00	-5.35	14.07	3	Vertical	18	1.00
PK	11.6486G	64.19	74.00	-9.81	14.07	3	Vertical	18	1.00
PK	17.47914G	63.19	68.20	-5.01	19.83	3	Vertical	128	1.18

802.11n HT20_Nss1,(MCS0)_2TX

5825MHz_TX

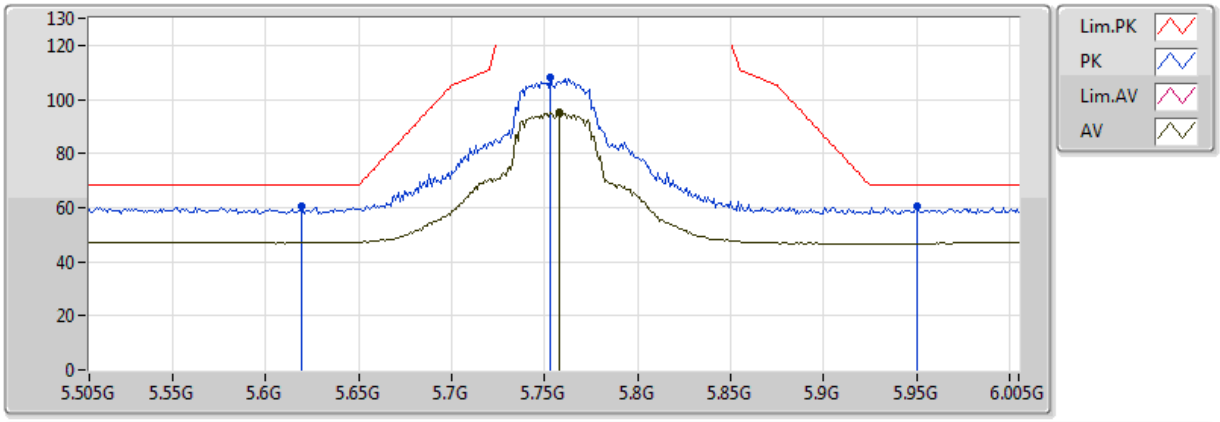


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.6493G	52.14	54.00	-1.86	14.07	3	Horizontal	44	1.02
PK	11.6505G	68.56	74.00	-5.44	14.07	3	Horizontal	44	1.02
PK	17.47512G	63.66	68.20	-4.54	19.81	3	Horizontal	35	1.01

802.11n HT40_Nss1,(MCS0)_2TX

5755MHz_TX

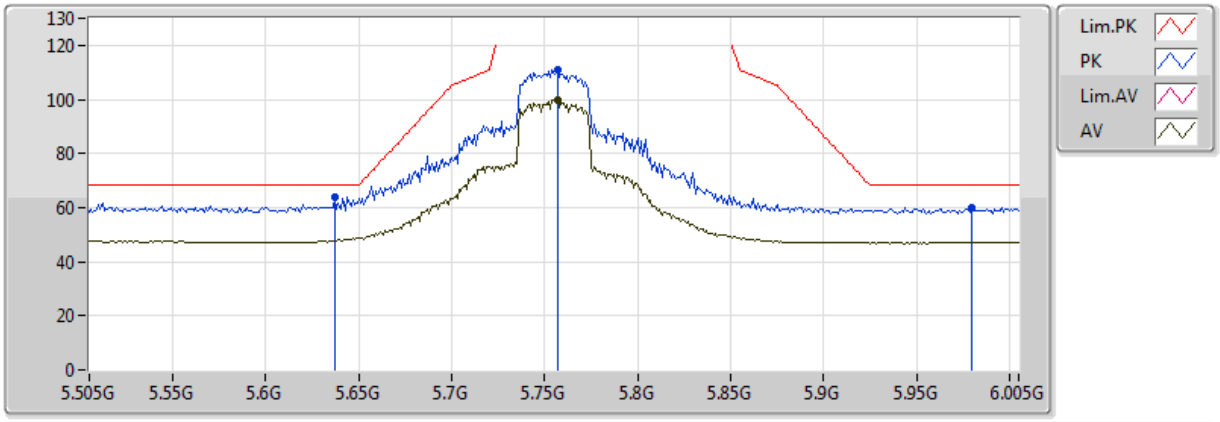


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.758G	95.45	Inf	-Inf	6.94	3	Vertical	269	1.99
PK	5.619G	60.24	68.20	-7.96	7.01	3	Vertical	269	1.99
PK	5.753G	107.95	Inf	-Inf	6.94	3	Vertical	269	1.99
PK	5.95G	60.33	68.20	-7.87	7.08	3	Vertical	269	1.99

802.11n HT40_Nss1,(MCS0)_2TX

5755MHz_TX

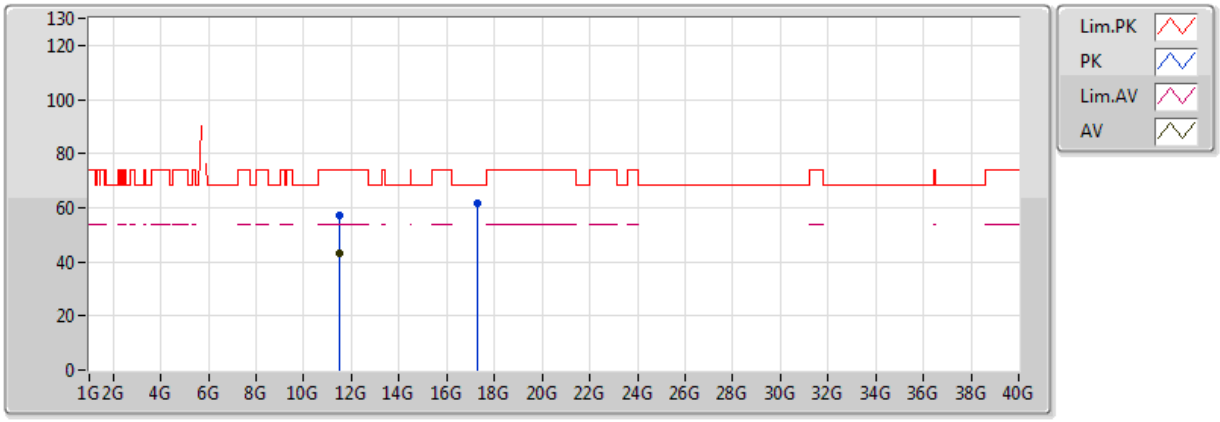


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.757G	99.79	Inf	-Inf	6.94	3	Horizontal	93	1.14
PK	5.637G	63.69	68.20	-4.51	7.00	3	Horizontal	93	1.14
PK	5.757G	110.85	Inf	-Inf	6.94	3	Horizontal	93	1.14
PK	5.98G	59.81	68.20	-8.39	7.11	3	Horizontal	93	1.14

802.11n HT40_Nss1,(MCS0)_2TX

5755MHz_TX

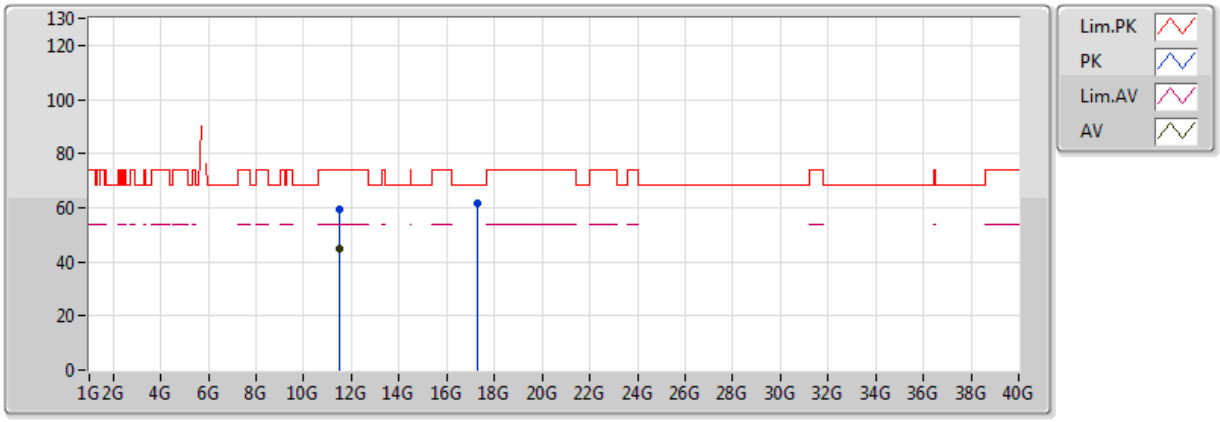


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.5183G	43.09	54.00	-10.91	13.95	3	Vertical	22	1.05
PK	11.5158G	57.43	74.00	-16.57	13.95	3	Vertical	22	1.05
PK	17.2707G	61.67	68.20	-6.53	18.84	3	Vertical	0	1.01

802.11n HT40_Nss1,(MCS0)_2TX

5755MHz_TX

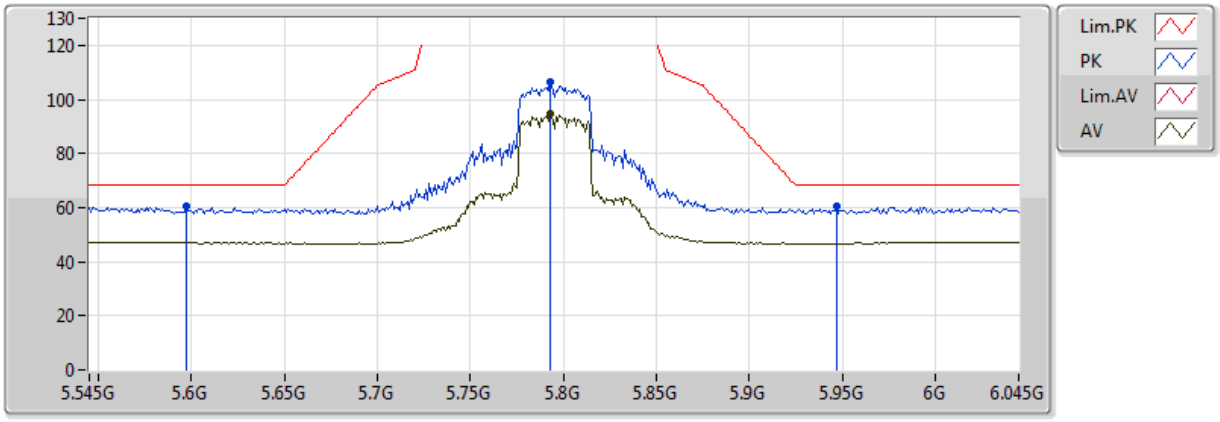


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.5087G	44.89	54.00	-9.11	13.94	3	Horizontal	168	2.84
PK	11.5135G	59.30	74.00	-14.70	13.95	3	Horizontal	168	2.84
PK	17.27712G	61.77	68.20	-6.43	18.87	3	Horizontal	64	1.03

802.11n HT40_Nss1,(MCS0)_2TX

5795MHz_TX

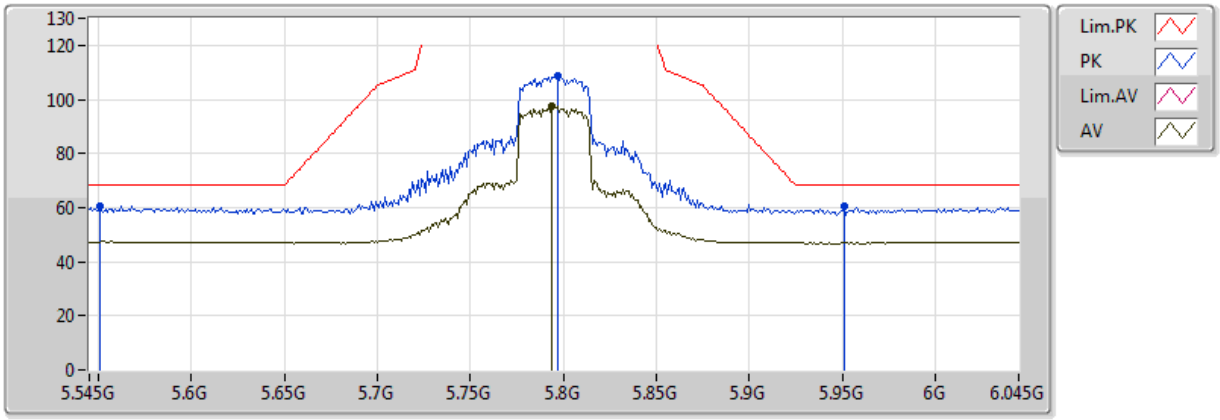


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.793G	94.84	Inf	-Inf	6.91	3	Vertical	267	1.91
PK	5.597G	60.26	68.20	-7.94	7.02	3	Vertical	267	1.91
PK	5.793G	106.23	Inf	-Inf	6.91	3	Vertical	267	1.91
PK	5.947G	60.69	68.20	-7.51	7.07	3	Vertical	267	1.91

802.11n HT40_Nss1,(MCS0)_2TX

5795MHz_TX

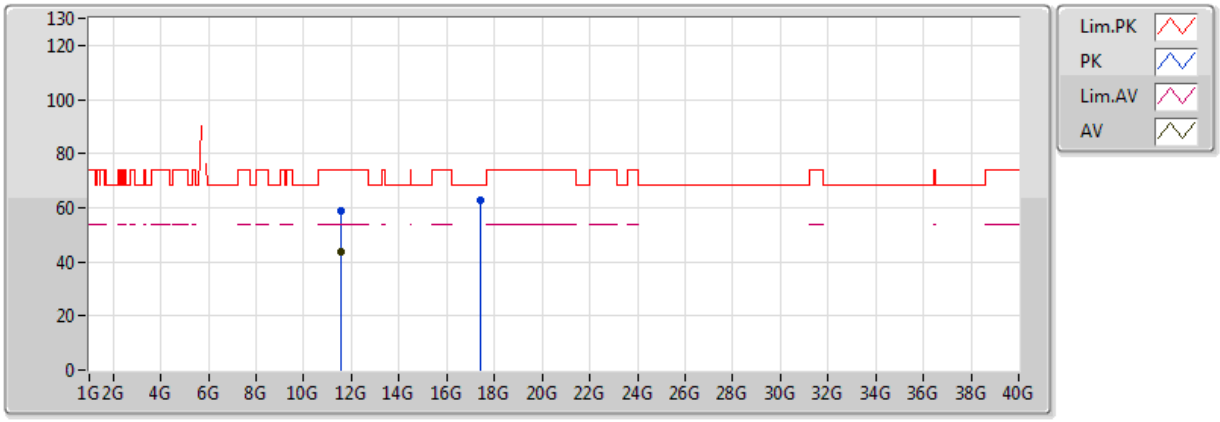


20170929
EUT Z_2TX
Setting 75
03-P-2-10
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	5.794G	97.78	Inf	-Inf	6.91	3	Horizontal	80	1.09
PK	5.551G	60.43	68.20	-7.77	6.94	3	Horizontal	80	1.09
PK	5.797G	108.80	Inf	-Inf	6.91	3	Horizontal	80	1.09
PK	5.951G	60.33	68.20	-7.87	7.08	3	Horizontal	80	1.09

802.11n HT40_Nss1,(MCS0)_2TX

5795MHz_TX

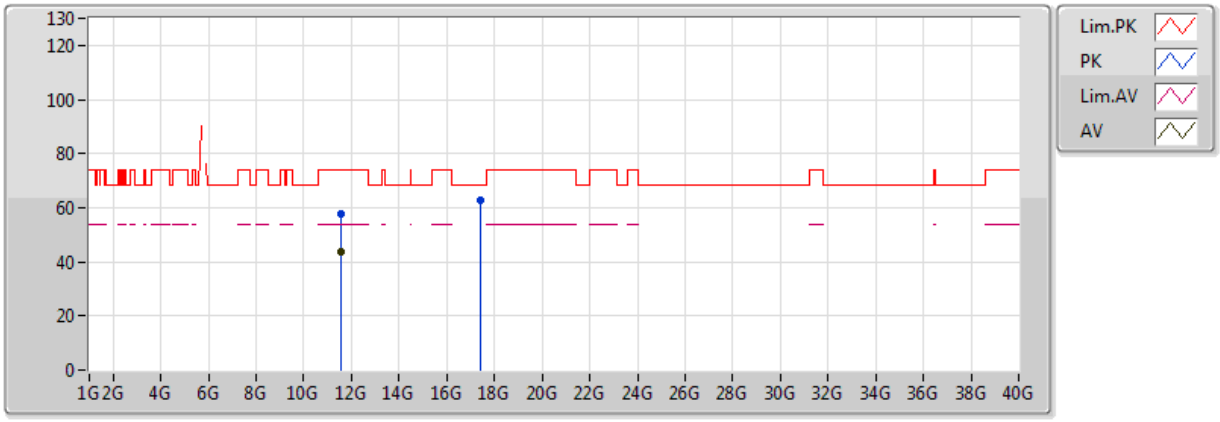


20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.5918G	43.90	54.00	-10.10	14.02	3	Vertical	165	1.05
PK	11.5916G	58.75	74.00	-15.25	14.02	3	Vertical	165	1.05
PK	17.39646G	62.56	68.20	-5.64	19.44	3	Vertical	48	1.06

802.11n HT40_Nss1,(MCS0)_2TX

5795MHz_TX



20170929
EUT Z_2TX
Setting 75
03-P-2
FSP(100019)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)
AV	11.5899G	43.43	54.00	-10.57	14.02	3	Horizontal	99	1.01
PK	11.5749G	57.63	74.00	-16.37	14.00	3	Horizontal	99	1.01
PK	17.38788G	62.58	68.20	-5.62	19.40	3	Horizontal	319	1.50

Mode: 20 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9950	5784.9947	5784.9941	5784.9934
110.00	5784.9942	5784.9935	5784.9926	5784.9916
93.50	5784.9934	5784.9927	5784.9924	5784.9920
Max. Deviation (MHz)	0.0066	0.0073	0.0076	0.0084
Max. Deviation (ppm)	1.14	1.26	1.31	1.45
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5784.9985	5784.9983	5784.9976	5784.9973
-10	5784.9971	5784.9964	5784.9961	5784.9959
0	5784.9968	5784.9966	5784.9961	5784.9952
10	5784.9952	5784.9949	5784.9945	5784.9939
20	5784.9942	5784.9940	5784.9934	5784.9926
30	5784.9932	5784.9930	5784.9924	5784.9916
40	5784.9916	5784.9913	5784.9904	5784.9894
50	5784.9952	5784.9949	5784.9945	5784.9939
Max. Deviation (MHz)	0.0084	0.0087	0.0096	0.0106
Max. Deviation (ppm)	1.45	1.50	1.66	1.83
Result	Pass			

Mode: 40 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9947	5754.9942	5754.9937	5754.9929
110.00	5754.9942	5754.9935	5754.9926	5754.9925
93.50	5754.9938	5754.9929	5754.9926	5754.9917
Max. Deviation (MHz)	0.0062	0.0071	0.0074	0.0083
Max. Deviation (ppm)	1.08	1.23	1.29	1.44
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5755.0004	5754.9997	5754.9988	5754.9978
-10	5754.9990	5754.9987	5754.9980	5754.9979
0	5754.9970	5754.9963	5754.9956	5754.9953
10	5754.9960	5754.9958	5754.9949	5754.9946
20	5754.9942	5754.9934	5754.9926	5754.9922
30	5754.9932	5754.9925	5754.9917	5754.9912
40	5754.9920	5754.9917	5754.9912	5754.9902
50	5754.9920	5754.9917	5754.9912	5754.9902
Max. Deviation (MHz)	0.0080	0.0083	0.0088	0.0098
Max. Deviation (ppm)	1.39	1.44	1.53	1.70
Result	Pass			

Mode: 80 MHz / Port 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9945	5774.9939	5774.9937	5774.9927
110.00	5774.9942	5774.9933	5774.9930	5774.9929
93.50	5774.9932	5774.9931	5774.9930	5774.9926
Max. Deviation (MHz)	0.0068	0.0069	0.0070	0.0074
Max. Deviation (ppm)	1.18	1.19	1.21	1.28
Result	Pass			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5774.9973	5774.9972	5774.9971	5774.9966
-10	5774.9964	5774.9955	5774.9946	5774.9937
0	5774.9947	5774.9946	5774.9944	5774.9941
10	5774.9944	5774.9937	5774.9934	5774.9930
20	5774.9942	5774.9937	5774.9928	5774.9927
30	5774.9932	5774.9924	5774.9920	5774.9914
40	5774.9931	5774.9922	5774.9915	5774.9906
50	5774.9931	5774.9922	5774.9915	5774.9906
Max. Deviation (MHz)	0.0069	0.0078	0.0085	0.0094
Max. Deviation (ppm)	1.19	1.35	1.47	1.63
Result	Pass			