



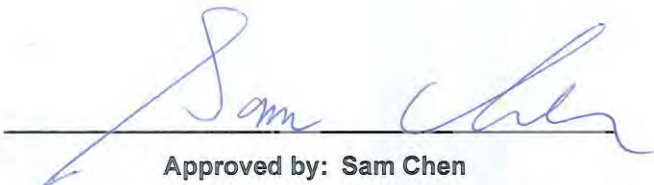
FCC RADIO TEST REPORT

FCC ID : Z8H89FT0047
Equipment : ePMP 5GHz Force 300 CSM RADIO / ePMP 3000L 5GHz Access Point Radio
Brand Name : Cambium Networks
Model Name : ePMP 5GHz Force 300 CSM RADIO / ePMP 3000L 5GHz Access Point Radio
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA
Manufacturer : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA
Standard : 47 CFR FCC Part 15.407

The product was received on Jan. 15, 2019, and testing was started from Jan. 16, 2019 and completed on Jan. 29, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Testing Applied Standards	8
1.3 Testing Location Information	8
1.4 Measurement Uncertainty	9
2 Test Configuration of EUT.....	10
2.1 Test Channel Mode	10
2.2 The Worst Case Measurement Configuration.....	12
2.3 EUT Operation during Test	13
2.4 Accessories	13
2.5 Support Equipment.....	13
2.6 Test Setup Diagram	14
3 Transmitter Test Result	16
3.1 AC Power-line Conducted Emissions	16
3.2 Emission Bandwidth	18
3.3 Maximum Conducted Output Power	19
3.4 Peak Power Spectral Density.....	21
3.5 Unwanted Emissions.....	24
4 Test Equipment and Calibration Data	29
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of Emission Bandwidth	
Appendix C. Test Results of Maximum Conducted Output Power	
Appendix D. Test Results of Peak Power Spectral Density	
Appendix E. Test Results of Unwanted Emissions	
Appendix F. Test Photos	
Photographs of EUT v01	



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Conducted Output Power	PASS	-
3.4	15.407(a)	Peak Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Cindy Peng



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), ac (VHT20)	5745-5825	149-165 [5]
5725-5850	ac (VHT80)	5775	155 [1]

Band	Mode	BWch (MHz)	Nant
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	802.11ac VHT80	80	2TX

Note:

- ♦ 11a and HT20 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20 and 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**

Set	Ant.	Port	Brand	P/N	Type	Connector	Gain (dBi)
1	1	1	Cambium	C050900D007B	Dish	Reversed-SMA	25
		2	Cambium	C050900D007B	Dish	Reversed-SMA	25
Set	Ant.	Port	Brand	P/N	Type	Connector	Gain (dBi)
2	2	1	ANATEL	C050900D021	Array	Reversed-SMA	17
		2	ANATEL	C050900D021	Array	Reversed-SMA	17
Set	Ant.	Port	Brand	Model Name	Type	Connector	Gain (dBi)
3	3	1	ABRACON	APAMS-121	Dipole	Reversed-SMA	2
	4	2	ABRACON	APAMS-121	Dipole	Reversed-SMA	2

Note 1: The above information was declared by manufacturer.

Note 2: The EUT has three sets of antenna.

Note 3: Set 1 antenna has one antenna, and it has two connectors.

Note 4: Set 2 antenna has one antenna, and it has two connectors.

Note 5: Set 3 antenna contains two antennas, and the array gain is 0dBi.

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	0.974	0.114	20.029m	100
802.11ac VHT20	0.988	0.052	n/a (DC \geq 0.98)	n/a (DC \geq 0.98)
802.11ac VHT80	0.942	0.259	10.014m	100

Note:

- ♦ DC is Duty Cycle.
- ♦ DCF is Duty Cycle Factor.

**1.1.4 EUT Operational Condition**

EUT Power Type	From POE			
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Function	<input checked="" type="checkbox"/>	Outdoor P2M for Set 2 antenna and Set 3 antenna	<input type="checkbox"/>	Indoor P2M
	<input checked="" type="checkbox"/>	Fixed P2P for Set 1 antenna and Set 3 antenna	<input type="checkbox"/>	Client
Test Software Version	QRCT V3.0.187.0			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The equipment names/model names in the following table are all refer to the identical product.

EUT	Equipment Name / Model Name	GPS Function	WIFI Filter Function
1	ePMP 5GHz Force 300 CSM RADIO	No	Yes
2	ePMP 3000L 5GHz Access Point Radio	Yes	Yes

From the above models, EUT 1 was selected as representative model for the test and its data was recorded in this report.



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 v02r01
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	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	Owen Hsu	21°C / 53%	Jan. 16, 2019~Jan. 29, 2019
Radiated Below 1GHz	03CH01-CB	Paul Chen	22°C / 54%	Jan. 26, 2019
Radiated Above 1GHz	03CH01-CB	Paul Chen	22°C / 54%	Jan. 21, 2019~Jan. 23, 2019
AC Conduction	CO02-CB	Max Lin	23°C / 51%	Jan. 29, 2019

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086B 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)	2.0 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%



2 Test Configuration of EUT

2.1 Test Channel Mode

For EUT 1 + Set 1 antenna:

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5745MHz	27
5785MHz	27
5825MHz	27
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5745MHz	27
5785MHz	27
5825MHz	27
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5775MHz	19.5

For EUT 1 + Set 2 antenna:

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5745MHz	16
5785MHz	16
5825MHz	16
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5745MHz	16
5785MHz	16
5825MHz	16
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5775MHz	16

**For EUT 1 + Set 3 antenna:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5745MHz	27
5785MHz	27
5825MHz	27
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5745MHz	27
5785MHz	27
5825MHz	27
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5775MHz	23.5

Note:

- ♦ VHT20 cover HT20, due to same modulation. The power setting for 802.11n HT20 is the same or lower than 802.11ac VHT20.

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	
The EUT has three sets of antenna. Only the higher gain antenna "Set 1 antenna" was tested and recorded in the report.	
1	CTX mode: EUT 1 + Set 1 antenna

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density
Test Condition	Conducted measurement at transmit chains
Operating Mode	
1	EUT 1 + Set 1 antenna
2	EUT 1 + Set 2 antenna
3	EUT 1 + Set 3 antenna

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	
1. The EUT has three sets of antenna. Only the higher gain antenna "Set 1 antenna" was tested and recorded in the report. 2. The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	CTX mode: EUT 1 Y axis + Set 1 antenna
Operating Mode > 1GHz	
The EUT was performed at X axis, Y axis and Z axis position. 1. For Set 1 antenna: Radiated measurement of above 1GHz: The worst case was found at Y axis, so the measurement will follow this same test configuration. 2. For Set 2 antenna and Set 3 antenna: Radiated measurement of above 1GHz cabinet: The worst case was found at X axis, so the measurement will follow this same test configuration.	
1	CTX mode: EUT 1 Y axis + Set 1 antenna
2	CTX mode: EUT 1 X axis (cabinet)



The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Conducted measurement
Operating Mode > 1GHz	
1	EUT 1 + Set 2 antenna
2	EUT 1 + Set 3 antenna

Note: The EUT was powered by PoE, and the PoE was for measurement only, would not be marked.

Equipment	Brand Name	Model Name	FCC ID
PoE	Cambium	NTE-P15-30IN	N/A

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

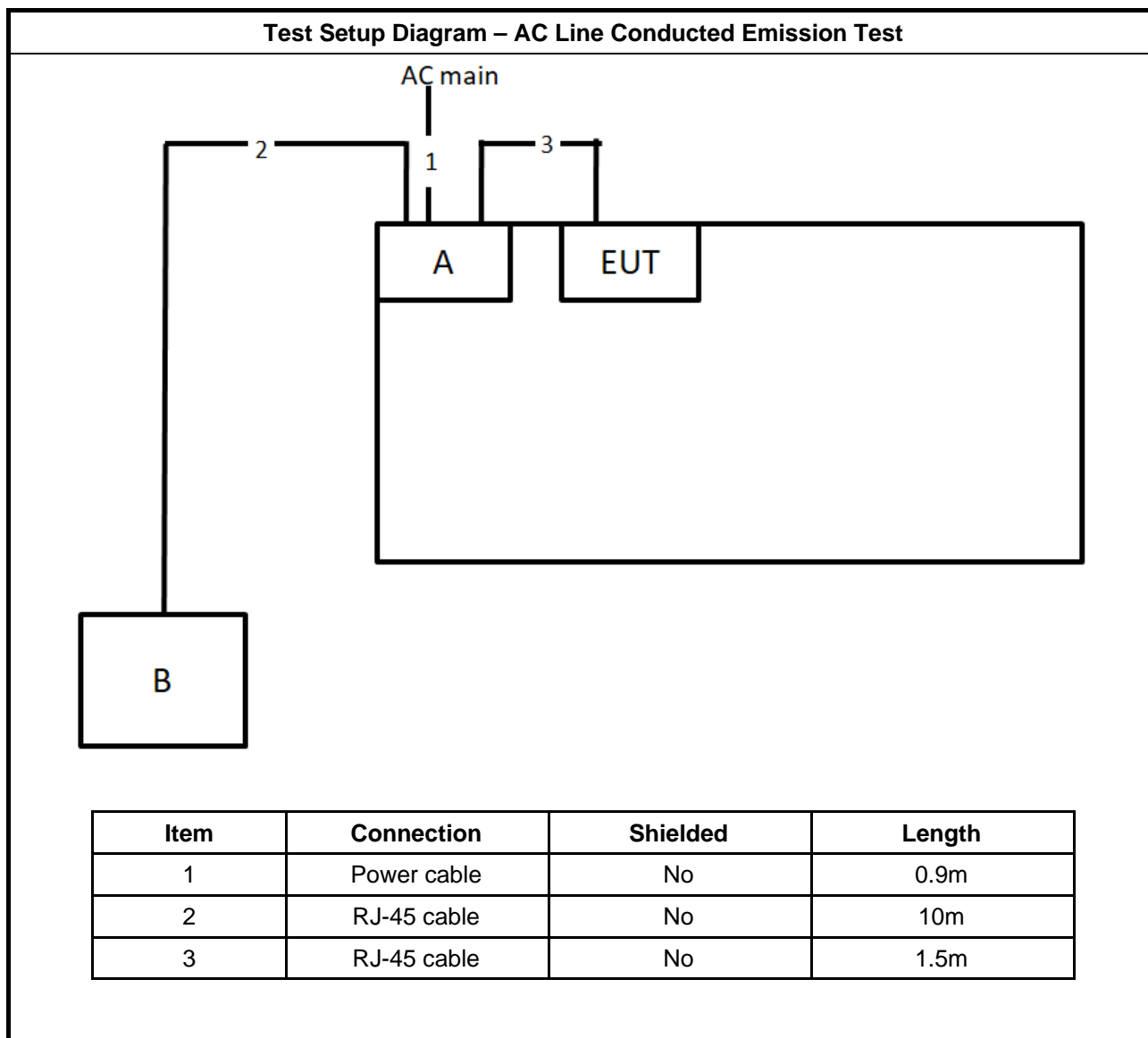
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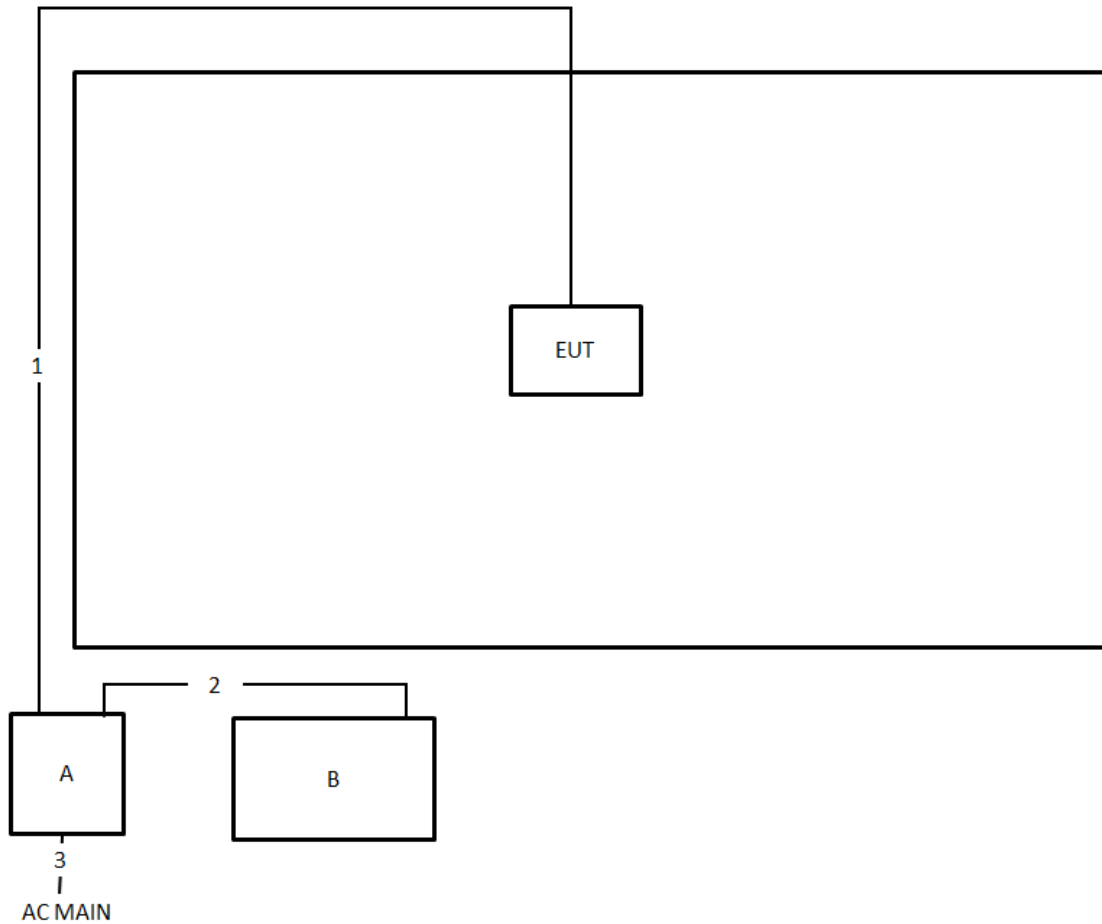
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	Cambium	NTE-P15-30IN	N/A
B	NB	DELL	E6430	N/A

For Test Site No: 03CH01-CB and TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	Cambium	NTE-P15-30IN	N/A
B	NB	DELL	E4300	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m
3	Power cable	No	0.9m



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.

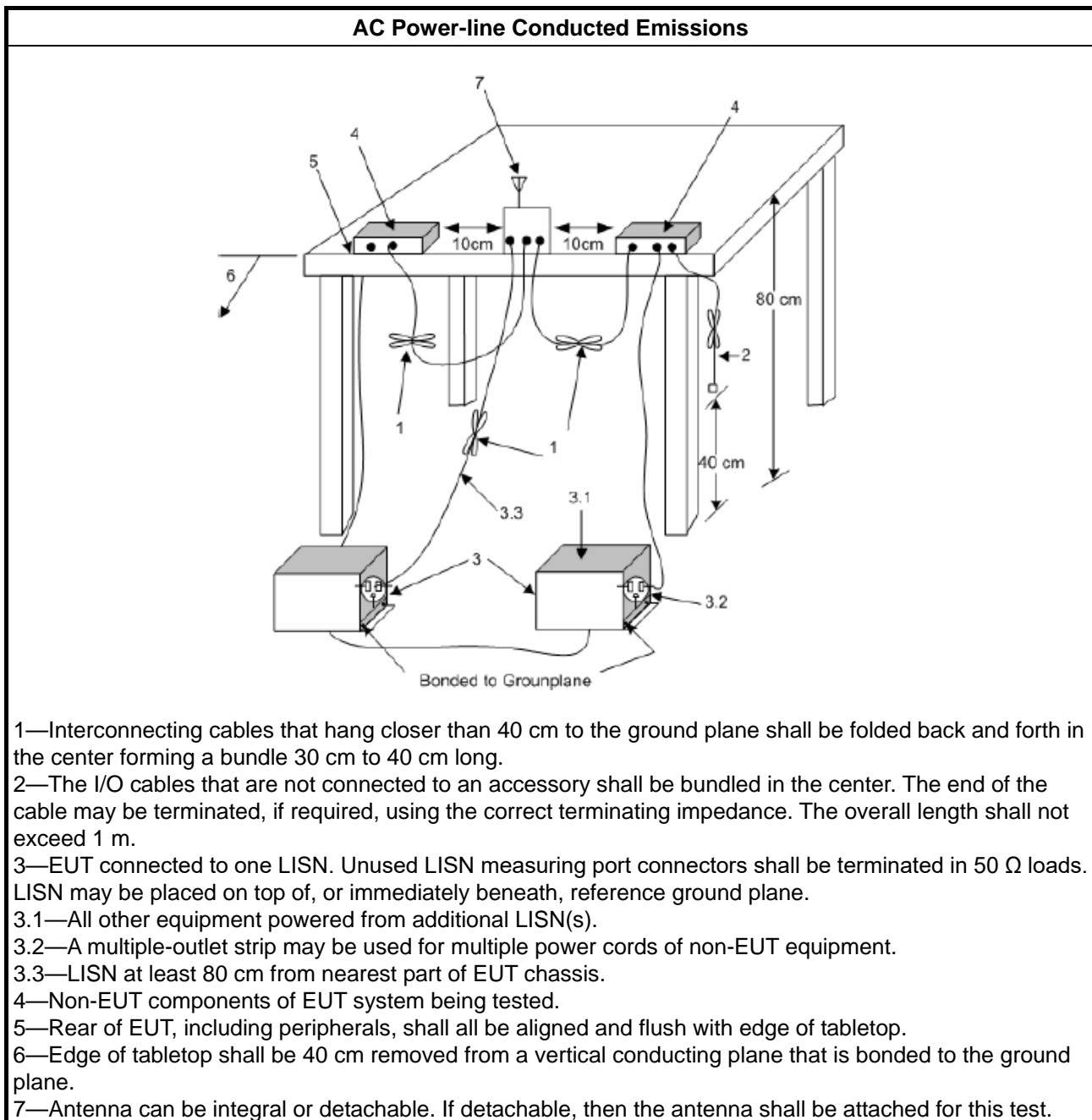
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> 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	
<input type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.
LE-LAN Devices	
<input type="checkbox"/>	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.
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.

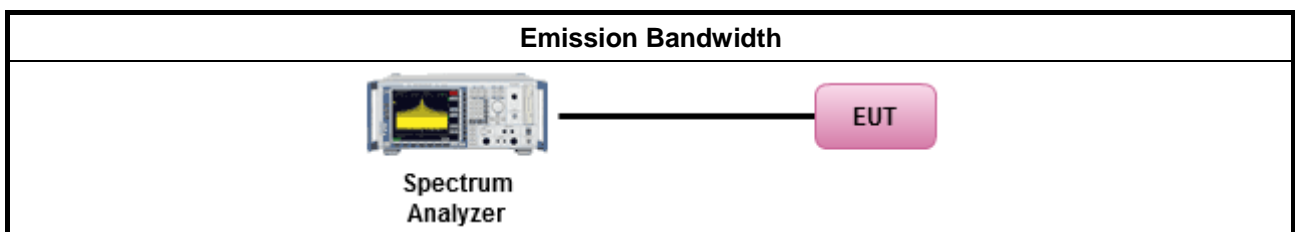
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
<input type="checkbox"/> For the emission bandwidth shall be measured using one of the options below:	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
<input type="checkbox"/>	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	
<input type="checkbox"/> For the 5.15-5.25 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none">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 $P_{Out} = 24 - (G_{TX} - 6)$.
<input type="checkbox"/>	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 $P_{Out} = 24 - (G_{TX} - 6)$.
<input type="checkbox"/>	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 $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
<input checked="" type="checkbox"/>	<ul style="list-style-type: none">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	
<input type="checkbox"/>	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.
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none">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.	

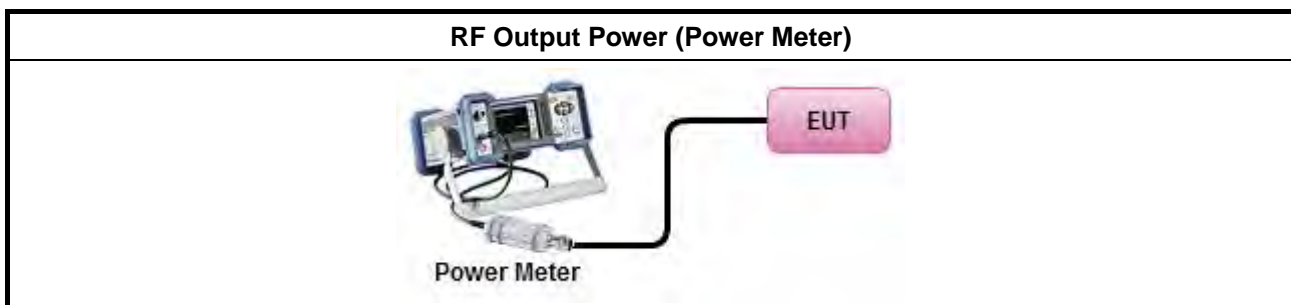
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Maximum Conducted Output Power 	
	Average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> 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	
<input type="checkbox"/> For the 5.15-5.25 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none">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 $PPSD = 11 - (G_{TX} - 6)$.
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none">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	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
<input type="checkbox"/>	<ul style="list-style-type: none">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 $\theta > 45^\circ$
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
<input type="checkbox"/> For the 5.725-5.85 GHz band:	
<input type="checkbox"/>	<ul style="list-style-type: none">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.	



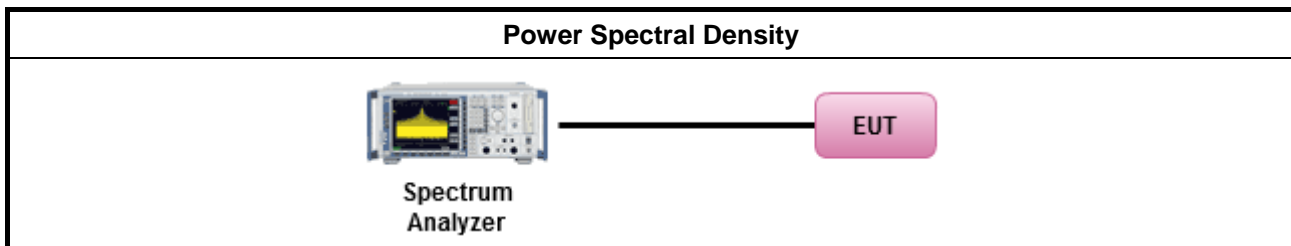
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none">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:	
<input type="checkbox"/>	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]	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	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	
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<ul style="list-style-type: none">For conducted measurement.	
<ul style="list-style-type: none">If the EUT supports multiple transmit chains using options given below:	
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	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,
<input type="checkbox"/>	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.
<ul style="list-style-type: none">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 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
<input type="checkbox"/> 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input type="checkbox"/> 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input type="checkbox"/> 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 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.

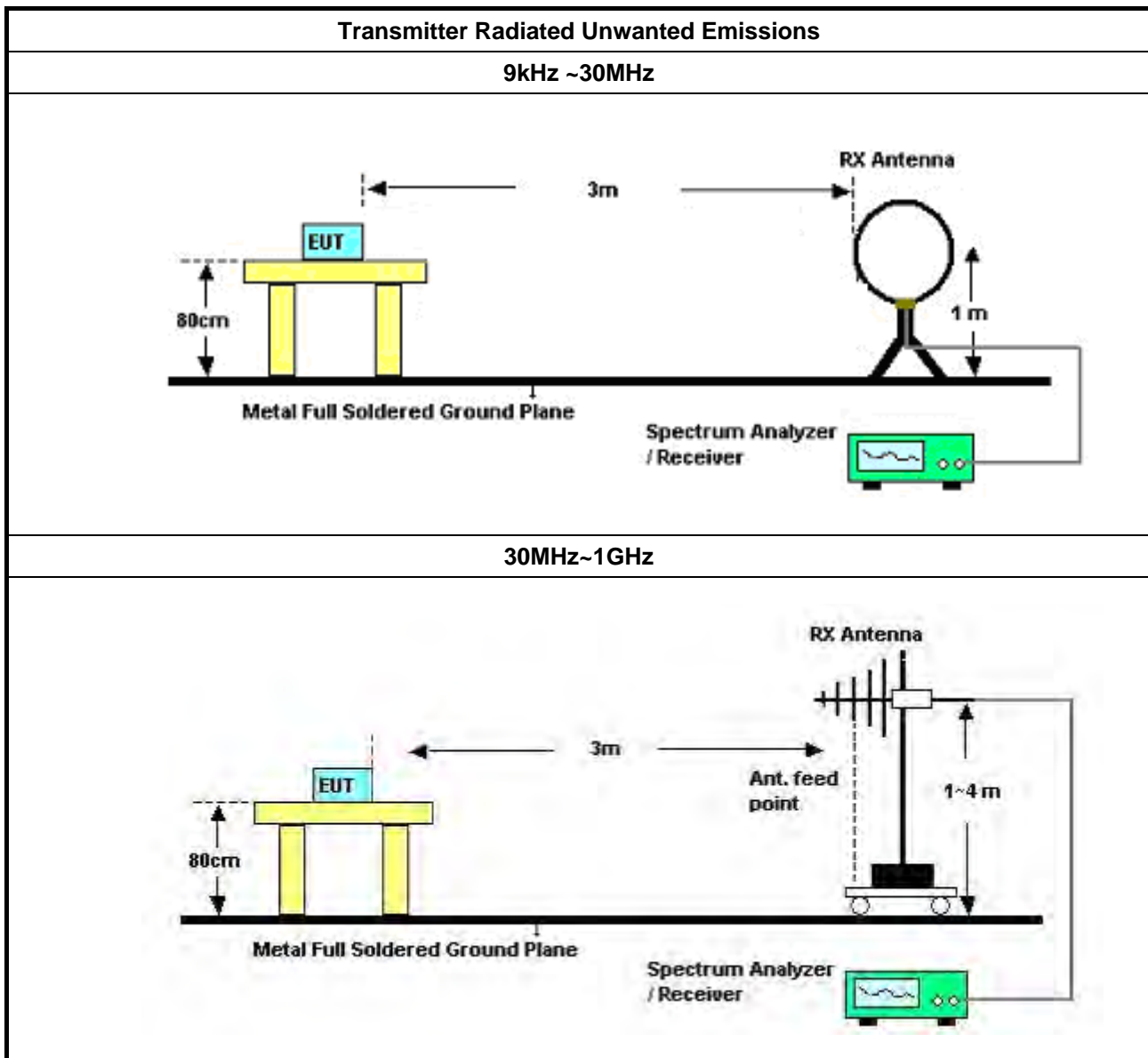
3.5.3 Test Procedures

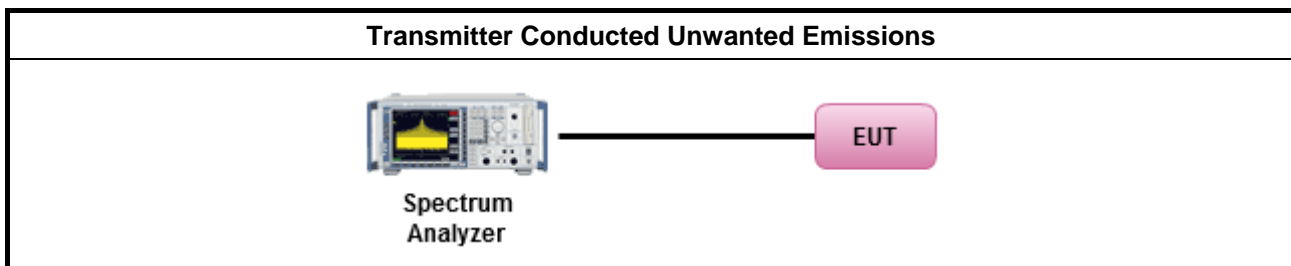
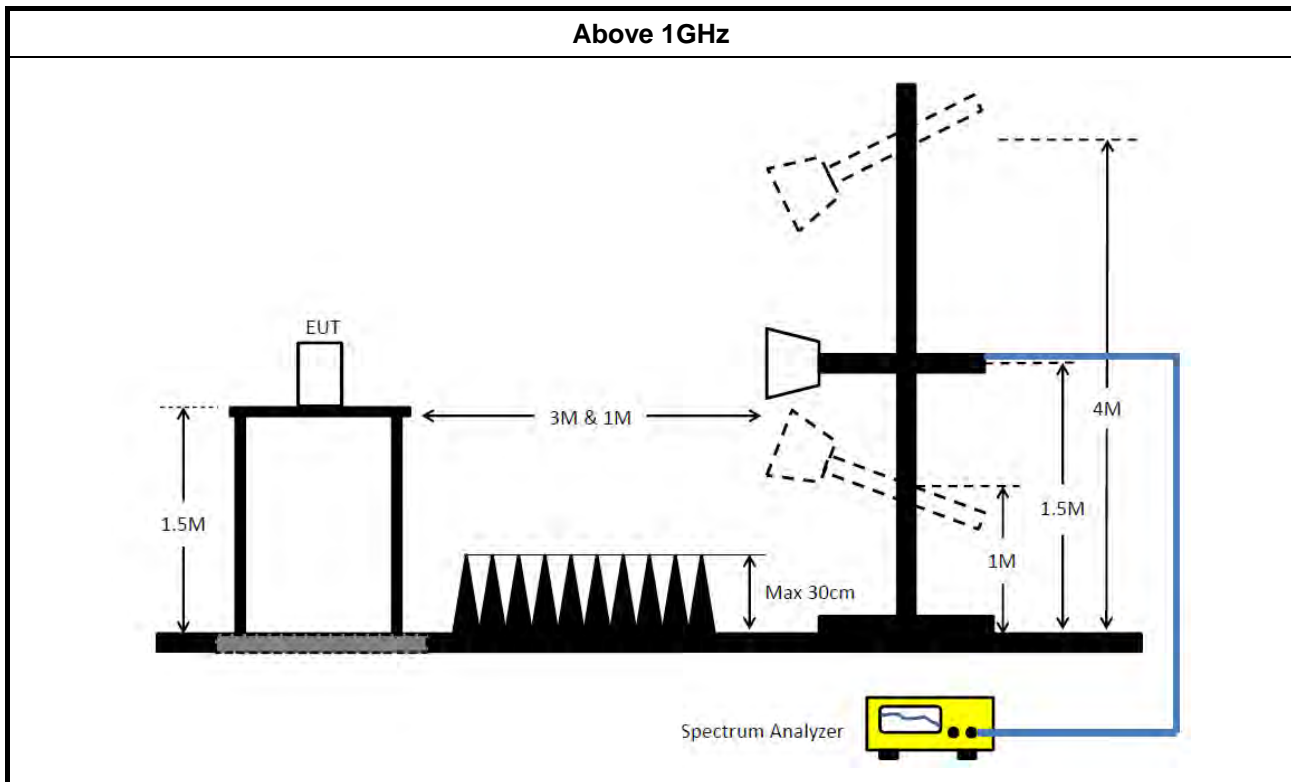
Test Method	
<ul style="list-style-type: none">Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater 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).	
<ul style="list-style-type: none">The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].	
<ul style="list-style-type: none">For the transmitter unwanted emissions shall be measured using following options below:	
	<ul style="list-style-type: none">Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
	<ul style="list-style-type: none">Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, G)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033, clause G)5) measurement procedure peak limit.
<input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.	
<ul style="list-style-type: none">For radiated measurement.	
	<ul style="list-style-type: none">Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<ul style="list-style-type: none">Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<ul style="list-style-type: none">Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
<ul style="list-style-type: none">The any unwanted emissions level shall not exceed the fundamental emission level.	
<ul style="list-style-type: none">All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	



Test Method	
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 789033, clause G)3).	
	▪ For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.5.4 Test Setup





3.5.5 Transmitter 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.

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2018	Nov. 20, 2019	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 05, 2018	Nov. 04, 2019	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 16, 2019	Jan. 15, 2020	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 06, 2018	Nov. 05, 2019	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jun. 22, 2018	Jun. 21, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz – 26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY5341000 1	50MHz~18GHz	Nov. 05, 2018	Nov. 04, 2019	Conducted (TH01-CB)

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

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



AC Power-line Conducted Emissions Result

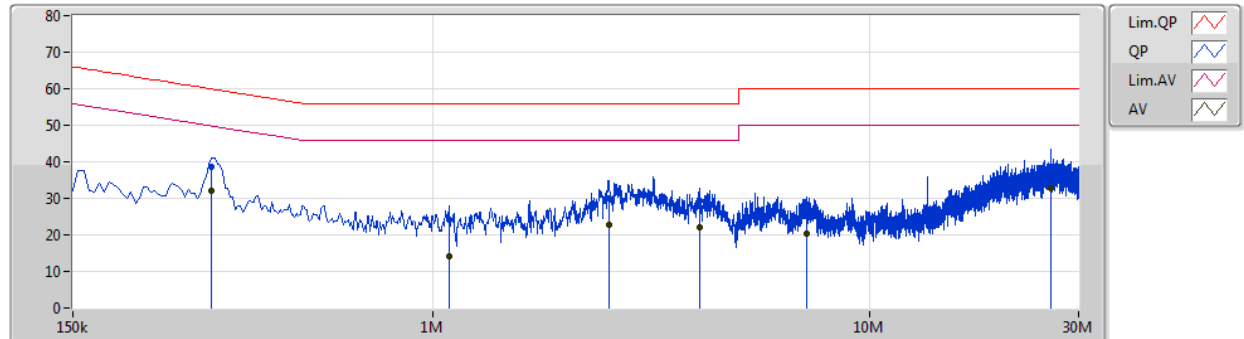
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition
Mode 1	Pass	AV	25.872M	40.67	50.00	-9.33	10.61	Neutral

Mode 1

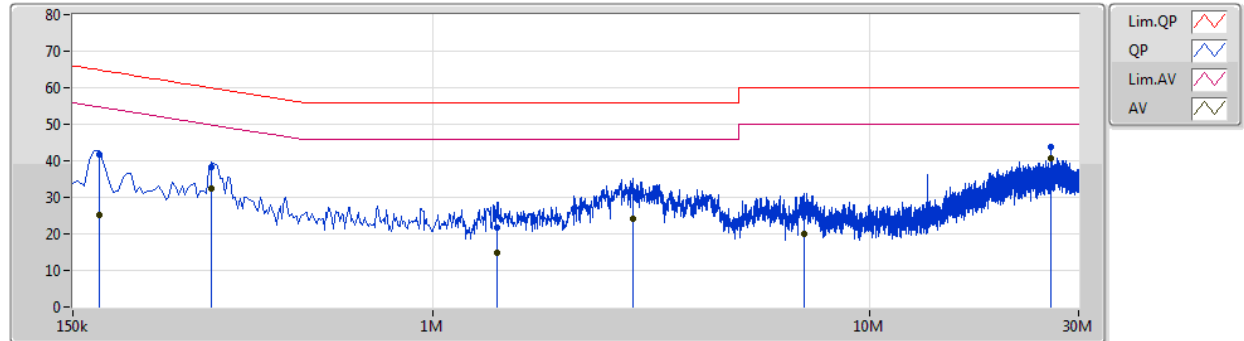
29/01/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)			
QP	312k	38.45	59.92	-21.47	10.18	Line	-	28.27	0.06	0.02	10.10			
AV	312k	32.20	49.92	-17.72	10.18	Line	-	22.02	0.06	0.02	10.10			
QP	1.086M	24.20	56.00	-31.80	10.19	Line	-	14.01	0.07	0.02	10.10			
AV	1.086M	14.18	46.00	-31.82	10.19	Line	-	3.99	0.07	0.02	10.10			
QP	2.522M	30.08	56.00	-25.92	10.26	Line	-	19.82	0.10	0.06	10.10			
AV	2.522M	22.61	46.00	-23.39	10.26	Line	-	12.35	0.10	0.06	10.10			
QP	4.083M	29.22	56.00	-26.78	10.29	Line	-	18.93	0.12	0.07	10.10			
AV	4.083M	22.07	46.00	-23.93	10.29	Line	-	11.78	0.12	0.07	10.10			
QP	7.148M	27.14	60.00	-32.86	10.35	Line	-	16.79	0.17	0.07	10.11			
AV	7.148M	20.26	50.00	-29.74	10.35	Line	-	9.91	0.17	0.07	10.11			
QP	25.877M	38.76	60.00	-21.24	10.68	Line	-	28.08	0.35	0.21	10.12			
AV	25.877M	32.76	50.00	-17.24	10.68	Line	"Worst"	22.08	0.35	0.21	10.12			

Mode 1

29/01/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)			
QP	172.5k	41.75	64.83	-23.08	10.15	Neutral	-	31.60	0.03	0.02	10.10			
AV	172.5k	25.34	54.83	-29.49	10.15	Neutral	-	15.19	0.03	0.02	10.10			
QP	312k	38.44	59.92	-21.48	10.16	Neutral	-	28.28	0.04	0.02	10.10			
AV	312k	32.25	49.92	-17.67	10.16	Neutral	-	22.09	0.04	0.02	10.10			
QP	1.406M	21.81	56.00	-34.19	10.18	Neutral	-	11.63	0.05	0.03	10.10			
AV	1.406M	14.75	46.00	-31.25	10.18	Neutral	-	4.57	0.05	0.03	10.10			
QP	2.859M	31.80	56.00	-24.20	10.23	Neutral	-	21.57	0.07	0.06	10.10			
AV	2.859M	24.19	46.00	-21.81	10.23	Neutral	-	13.96	0.07	0.06	10.10			
QP	7.076M	26.83	60.00	-33.17	10.31	Neutral	-	16.52	0.13	0.07	10.11			
AV	7.076M	20.05	50.00	-29.95	10.31	Neutral	-	9.74	0.13	0.07	10.11			
QP	25.872M	43.75	60.00	-16.25	10.61	Neutral	-	33.14	0.28	0.21	10.12			
AV	25.872M	40.67	50.00	-9.33	10.61	Neutral	"Worst"	30.06	0.28	0.21	10.12			

For EUT 1 + Set 1 antenna:

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)_2TX	16.325M	16.967M	17MOD1D	15.925M	16.417M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.6M	17.941M	17M9D1D	17.15M	17.641M
802.11ac VHT80_Nss1,(MCS0)_2TX	76.1M	75.762M	75M8D1D	75M	75.462M

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	16.325M	16.417M	15.925M	16.692M
5785MHz	Pass	500k	16.325M	16.517M	16.275M	16.867M
5825MHz	Pass	500k	16.325M	16.467M	16.3M	16.967M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	17.575M	17.641M	17.15M	17.816M
5785MHz	Pass	500k	17.55M	17.691M	17.575M	17.866M
5825MHz	Pass	500k	17.6M	17.666M	17.575M	17.941M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	500k	76.1M	75.762M	75M	75.462M

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

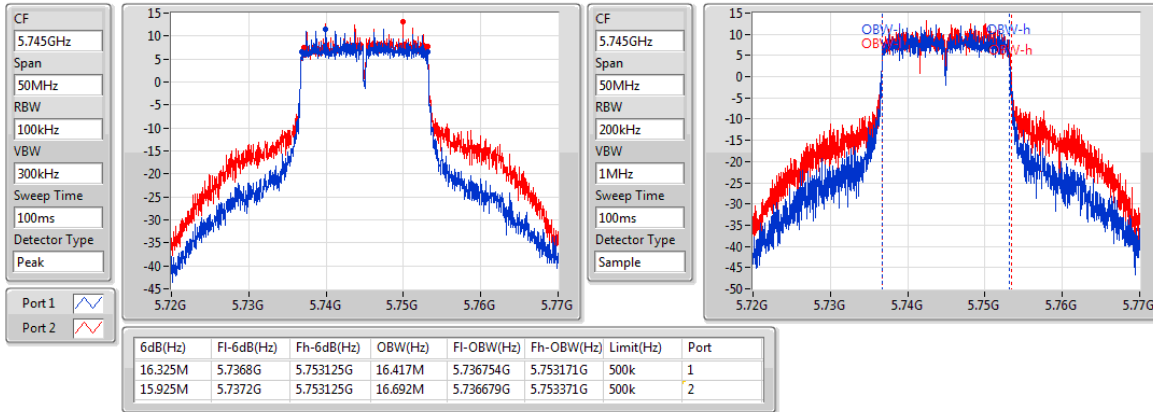
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX

EBW

5745MHz

21/01/2019

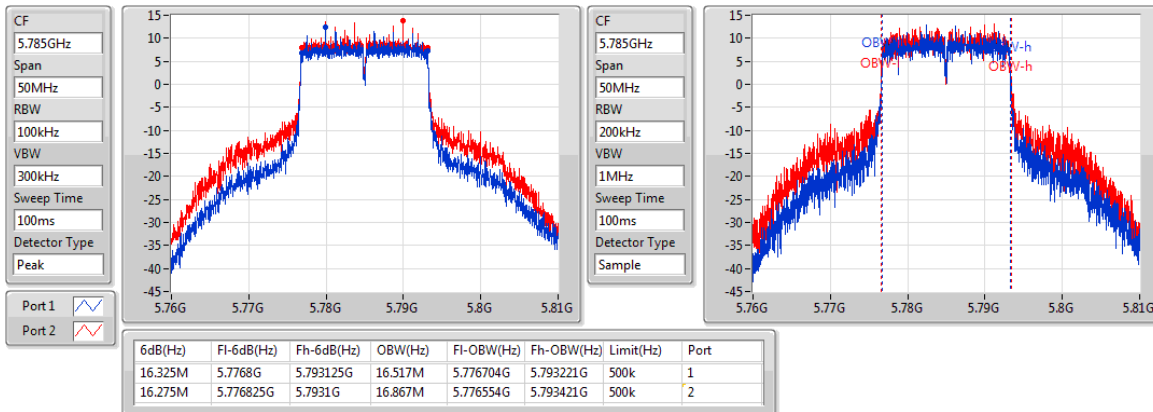


802.11a_Nss1,(6Mbps)_2TX

EBW

5785MHz

21/01/2019

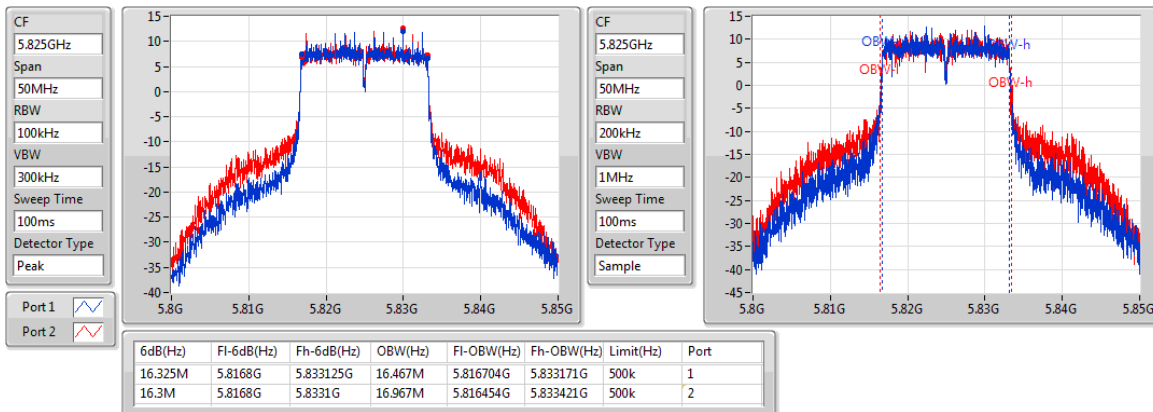


802.11a_Nss1,(6Mbps)_2TX

EBW

5825MHz

21/01/2019

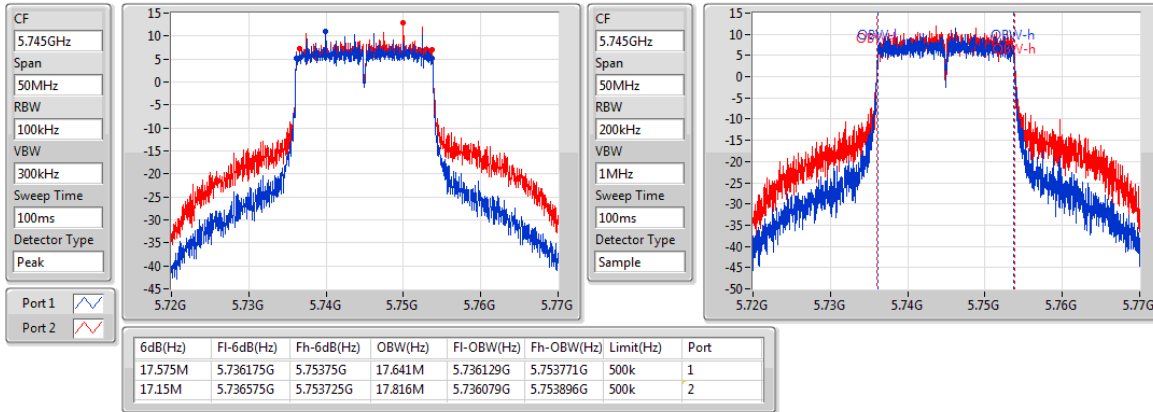


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5745MHz

21/01/2019

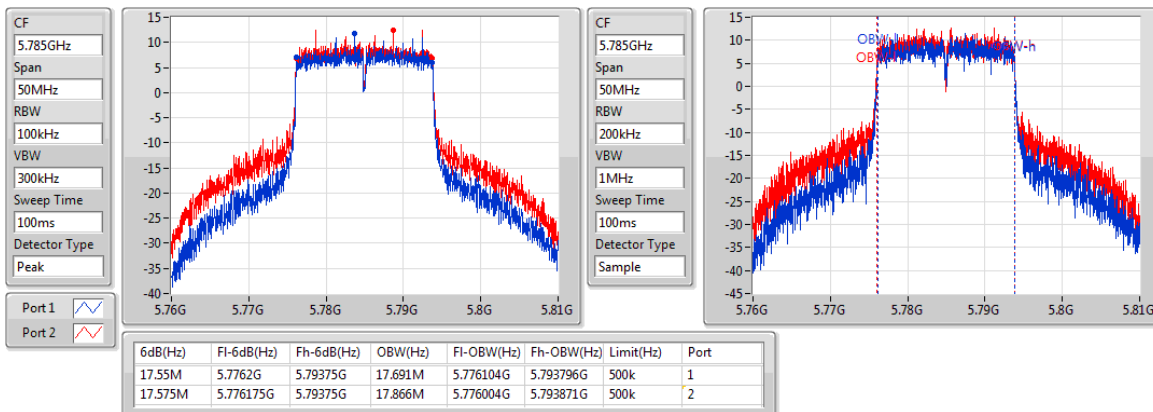


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5785MHz

21/01/2019

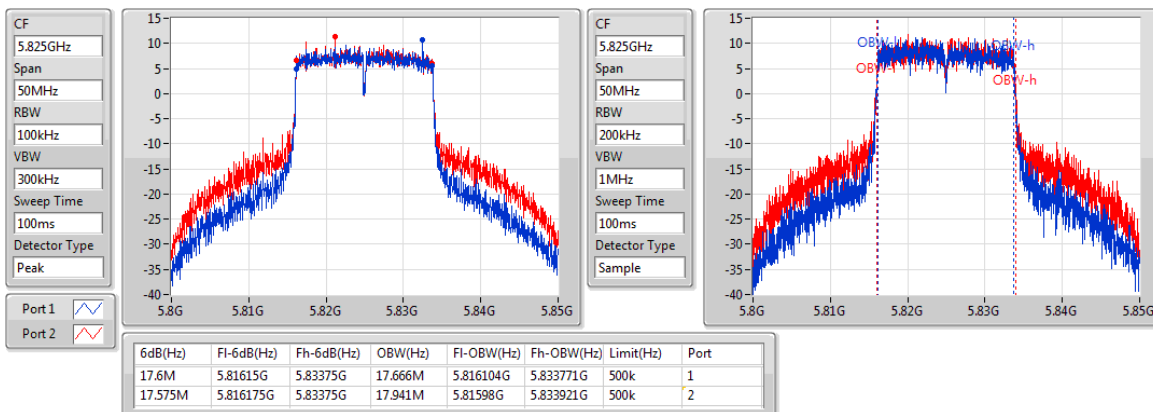


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5825MHz

21/01/2019

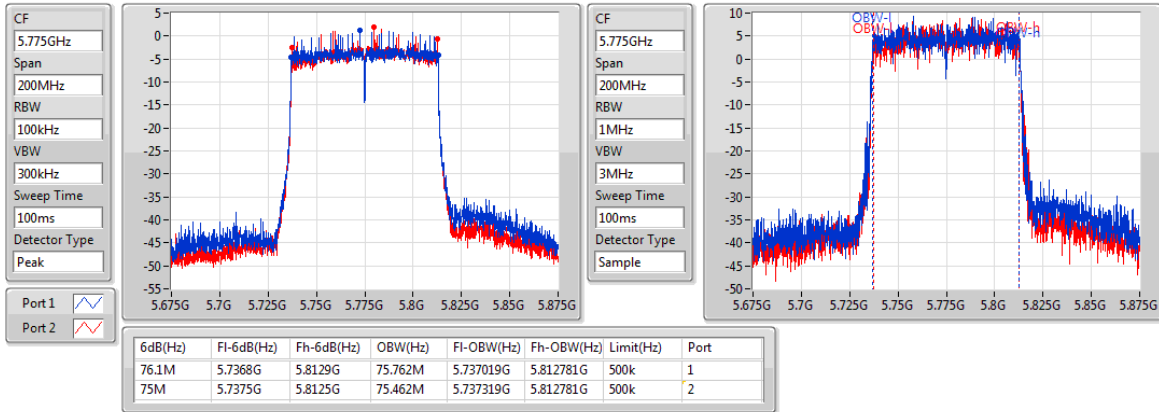


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5775MHz

21/01/2019



For EUT 1 + Set 2 antenna:

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)_2TX	16.375M	16.442M	16M4D1D	16.325M	16.392M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.575M	17.641M	17M6D1D	17.575M	17.616M
802.11ac VHT80_Nss1,(MCS0)_2TX	75M	75.662M	75M7D1D	73.8M	75.662M

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	16.325M	16.392M	16.35M	16.417M
5785MHz	Pass	500k	16.325M	16.392M	16.375M	16.392M
5825MHz	Pass	500k	16.35M	16.417M	16.35M	16.442M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	17.575M	17.616M	17.575M	17.616M
5785MHz	Pass	500k	17.575M	17.616M	17.575M	17.641M
5825MHz	Pass	500k	17.575M	17.616M	17.575M	17.641M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	500k	73.8M	75.662M	75M	75.662M

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

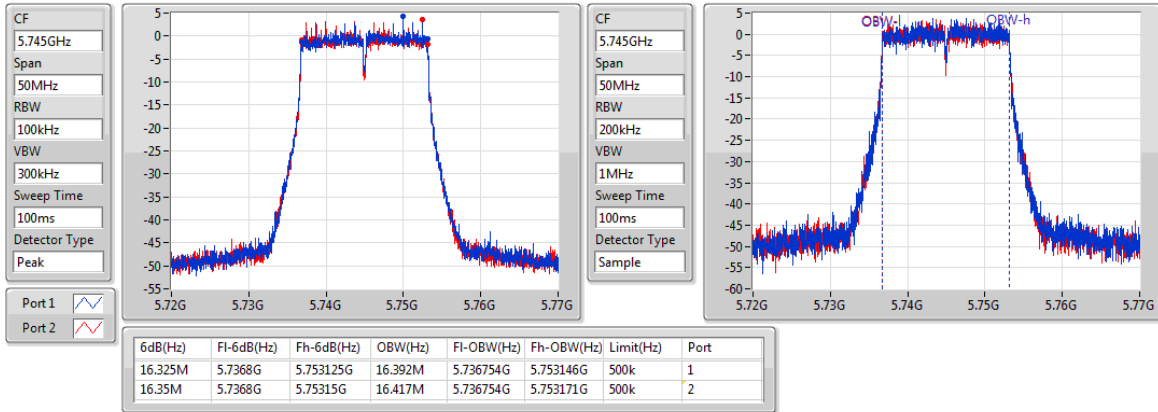
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX

EBW

5745MHz

17/01/2019

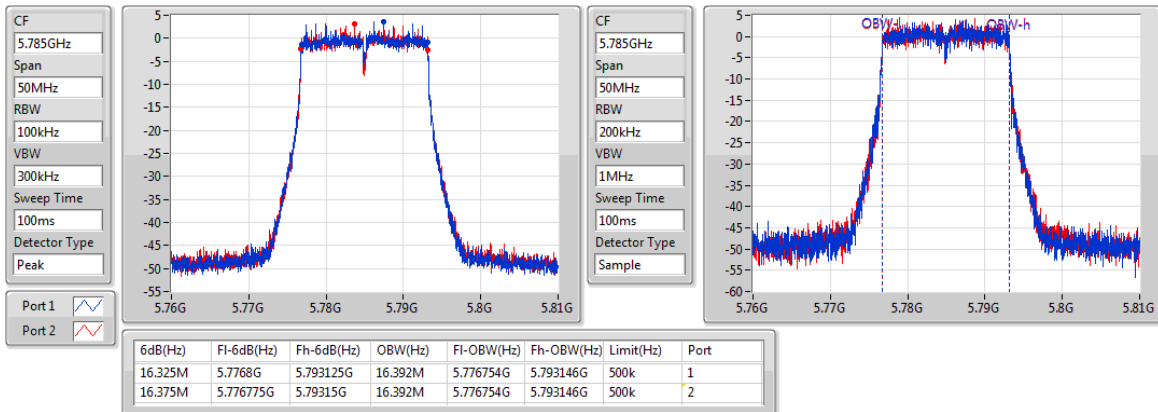


802.11a_Nss1,(6Mbps)_2TX

EBW

5785MHz

17/01/2019

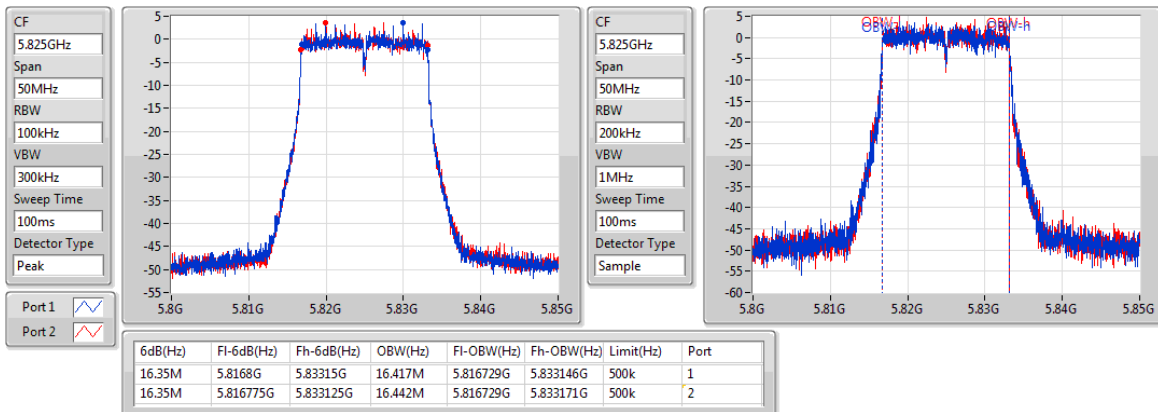


802.11a_Nss1,(6Mbps)_2TX

EBW

5825MHz

17/01/2019

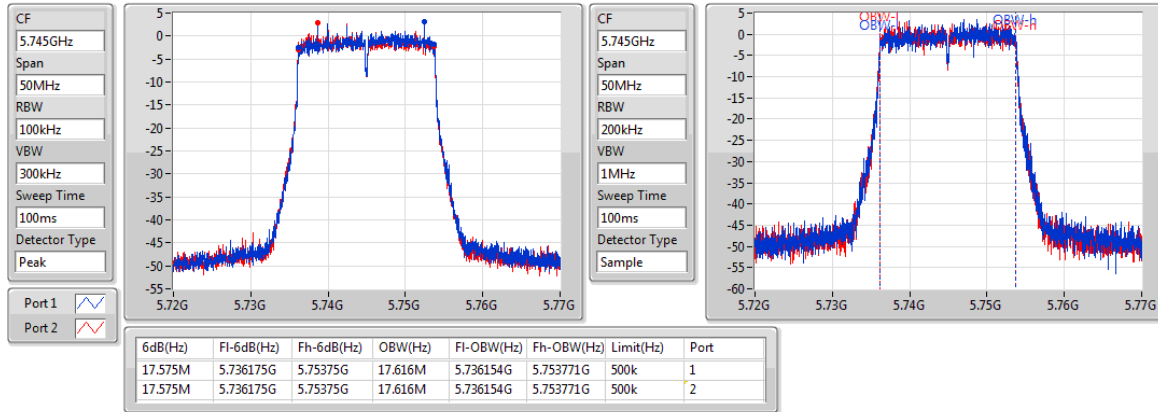


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5745MHz

17/01/2019

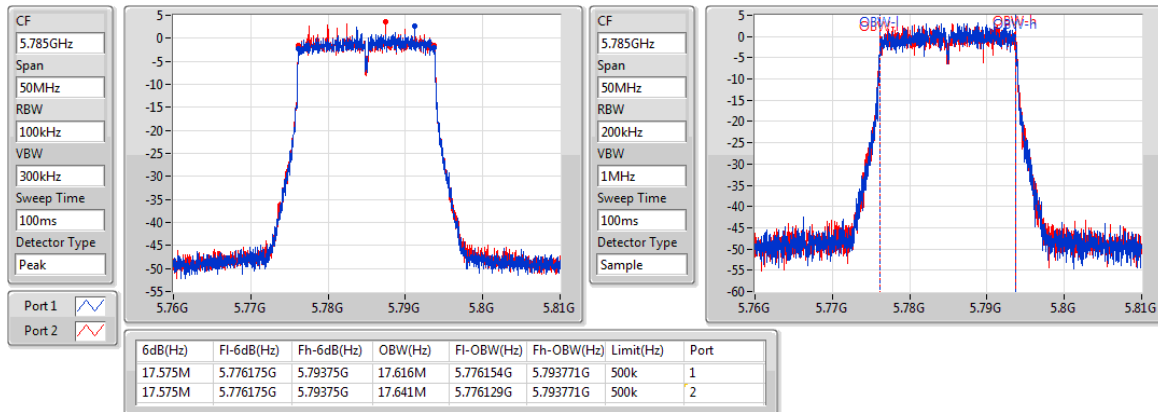


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5785MHz

17/01/2019

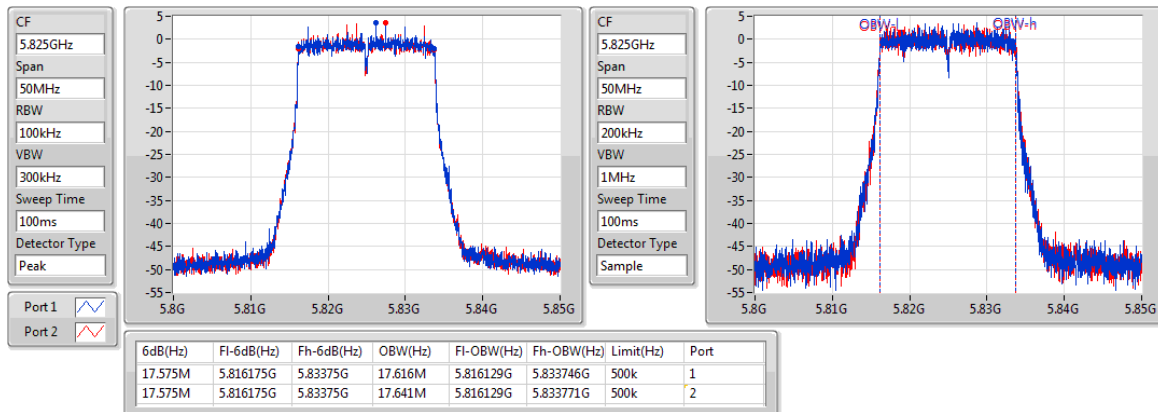


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5825MHz

17/01/2019

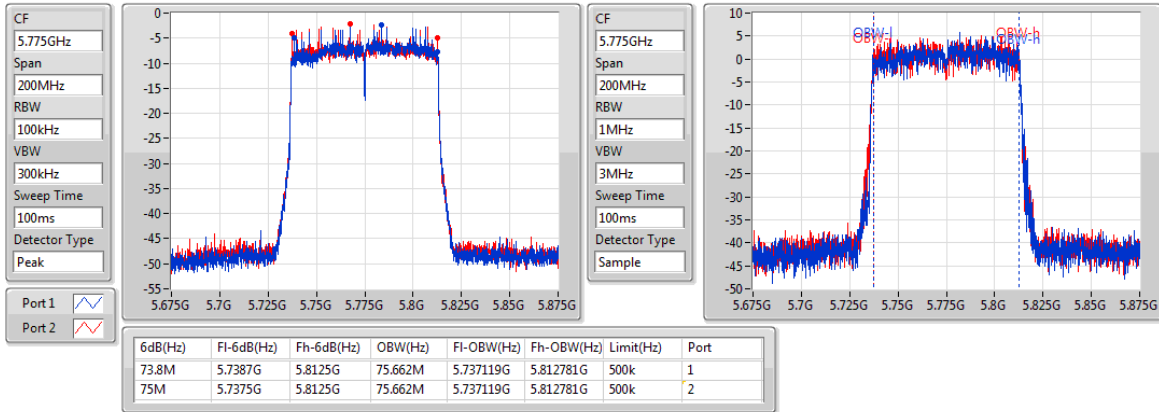


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5775MHz

17/01/2019



For EUT 1 + Set 3 antenna:

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)_2TX	16.35M	16.817M	16M8D1D	16.3M	16.442M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.575M	17.866M	17M9D1D	17.55M	17.641M
802.11ac VHT80_Nss1,(MCS0)_2TX	73.8M	75.662M	75M7D1D	73.5M	75.562M

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	16.325M	16.617M	16.35M	16.442M
5785MHz	Pass	500k	16.325M	16.817M	16.325M	16.467M
5825MHz	Pass	500k	16.3M	16.717M	16.35M	16.467M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	500k	17.575M	17.816M	17.575M	17.641M
5785MHz	Pass	500k	17.55M	17.866M	17.575M	17.691M
5825MHz	Pass	500k	17.575M	17.866M	17.55M	17.666M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	500k	73.5M	75.562M	73.8M	75.662M

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

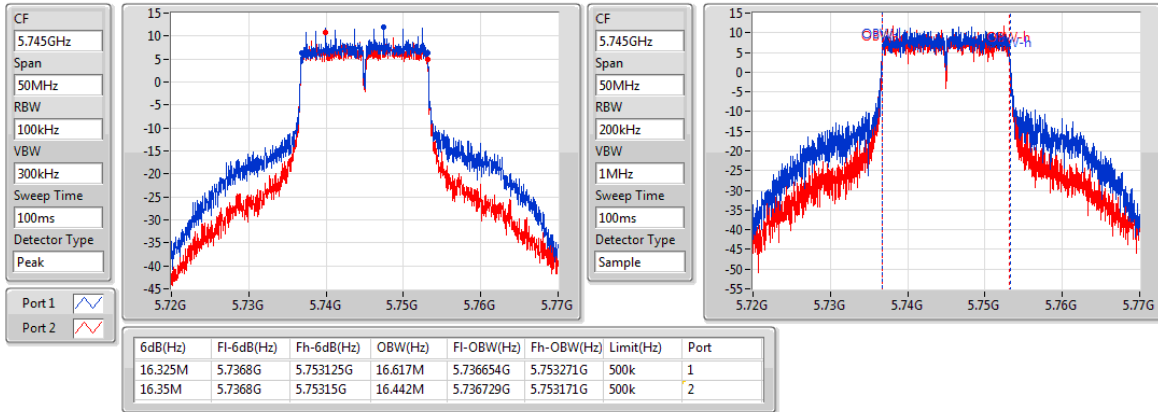
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX

EBW

5745MHz

18/01/2019

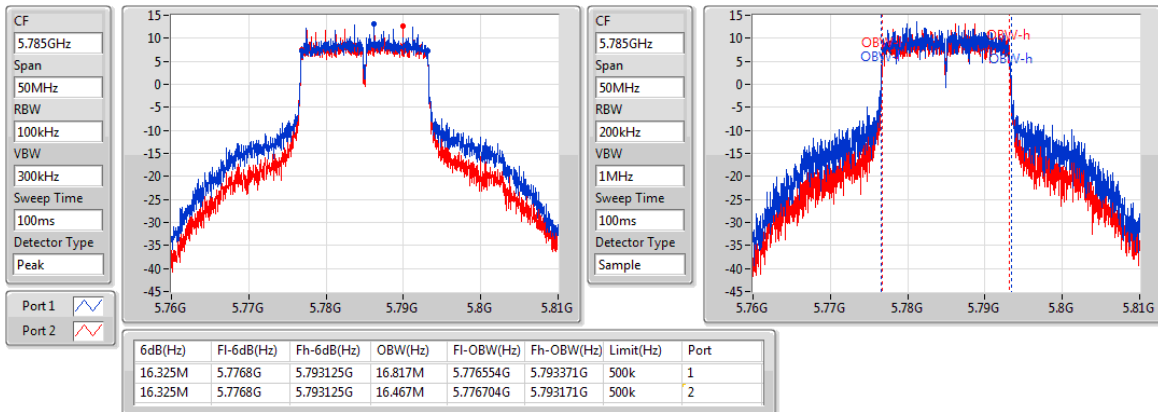


802.11a_Nss1,(6Mbps)_2TX

EBW

5785MHz

18/01/2019

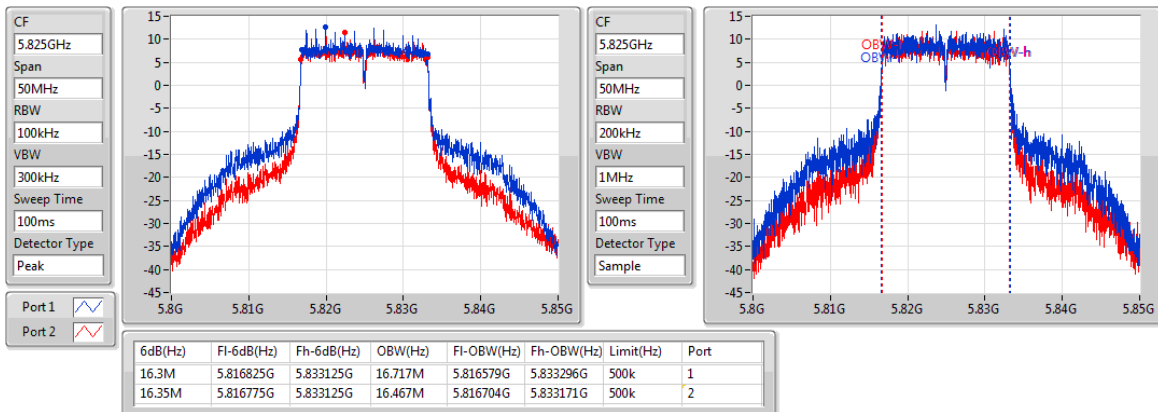


802.11a_Nss1,(6Mbps)_2TX

EBW

5825MHz

18/01/2019

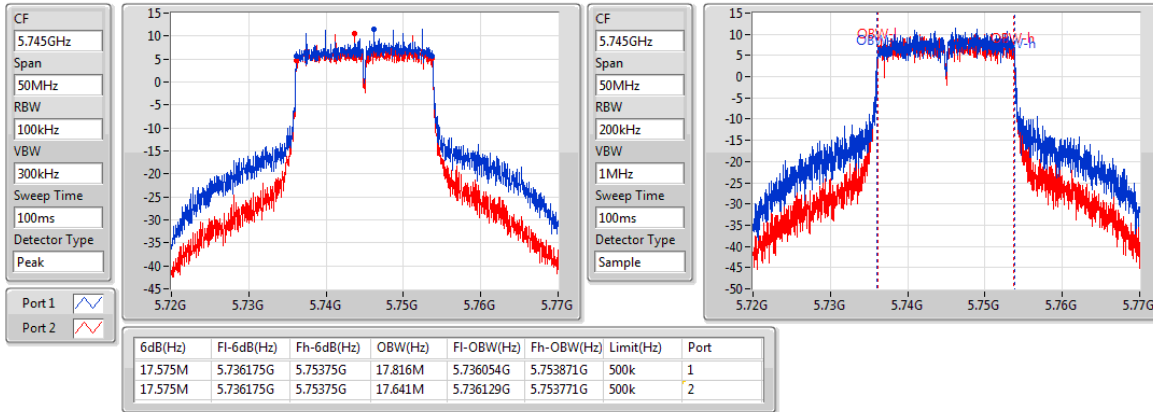


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5745MHz

18/01/2019

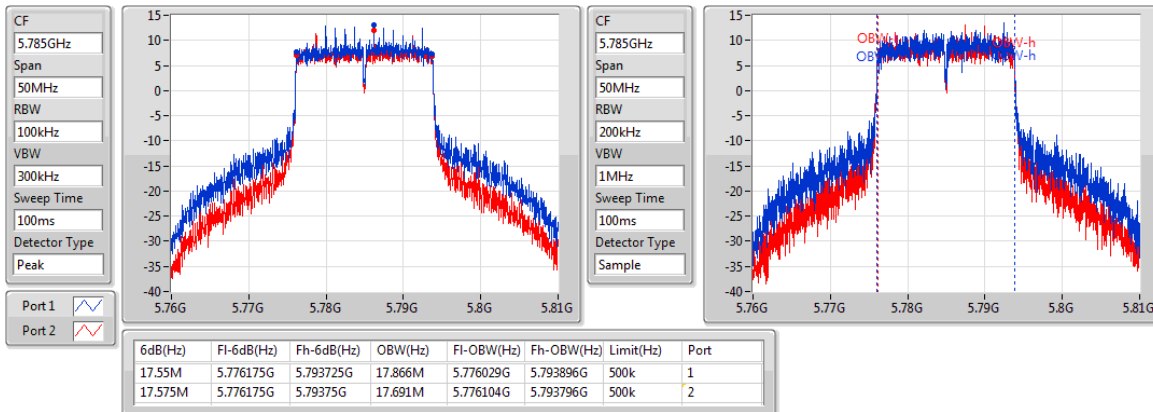


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5785MHz

18/01/2019

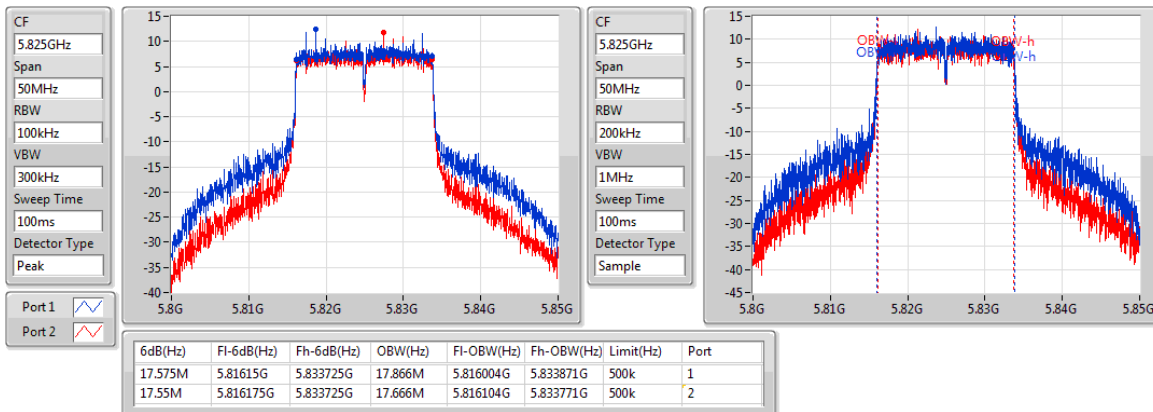


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5825MHz

18/01/2019

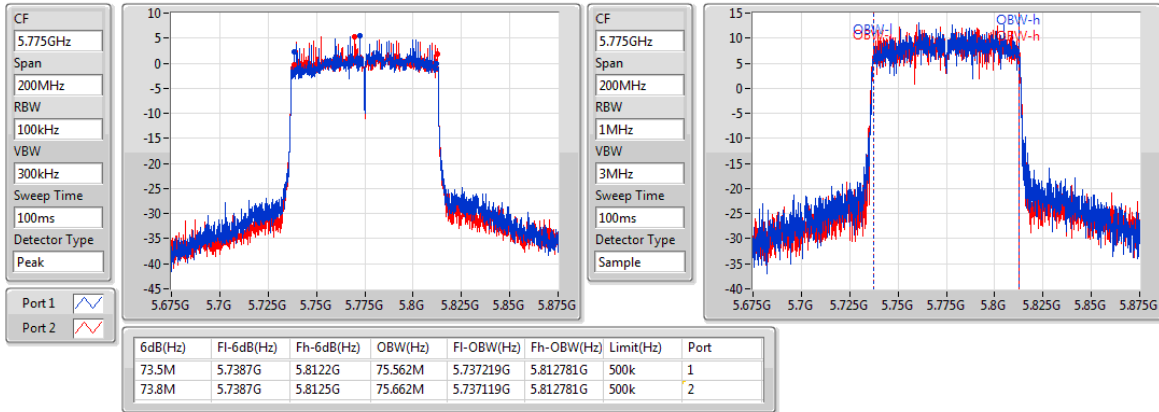


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5775MHz

18/01/2019



For EUT 1 + Set 1 antenna: Summary

Mode	Total Power (dBm)	Total Power (W)
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	27.57	0.57148
802.11ac VHT20_Nss1,(MCS0)_2TX	27.46	0.55719
802.11ac VHT80_Nss1,(MCS0)_2TX	22.03	0.15959

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5745MHz	Pass	25.00	22.93	23.71	26.35	30.00
5785MHz	Pass	25.00	24.16	24.93	27.57	30.00
5825MHz	Pass	25.00	24.17	24.25	27.22	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	25.00	22.76	23.47	26.14	30.00
5785MHz	Pass	25.00	23.89	24.95	27.46	30.00
5825MHz	Pass	25.00	24.13	24.16	27.16	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	25.00	19.05	18.98	22.03	30.00

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



Power Result

Appendix C

For EUT 1 + Set 2 antenna: Summary

Mode	Total Power (dBm)	Total Power (W)
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	18.90	0.07762
802.11ac VHT20_Nss1,(MCS0)_2TX	18.86	0.07691
802.11ac VHT80_Nss1,(MCS0)_2TX	18.63	0.07295

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5745MHz	Pass	17.00	15.59	15.52	18.57	19.00
5785MHz	Pass	17.00	15.83	15.92	18.89	19.00
5825MHz	Pass	17.00	15.92	15.85	18.90	19.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	17.00	15.62	15.57	18.61	19.00
5785MHz	Pass	17.00	15.89	15.81	18.86	19.00
5825MHz	Pass	17.00	15.86	15.73	18.81	19.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	17.00	15.58	15.65	18.63	19.00

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

For EUT 1 + Set 3 antenna: Summary

Mode	Total Power (dBm)	Total Power (W)
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	27.64	0.58076
802.11ac VHT20_Nss1,(MCS0)_2TX	27.37	0.54576
802.11ac VHT80_Nss1,(MCS0)_2TX	25.70	0.37154

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5745MHz	Pass	2.00	23.19	22.51	25.87	30.00
5785MHz	Pass	2.00	24.86	24.39	27.64	30.00
5825MHz	Pass	2.00	24.09	23.45	26.79	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	2.00	23.13	22.42	25.80	30.00
5785MHz	Pass	2.00	24.61	24.09	27.37	30.00
5825MHz	Pass	2.00	23.31	23.35	26.34	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	2.00	22.63	22.75	25.70	30.00

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

For EUT + Set 1 antenna: Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11a_Nss1,(6Mbps)_2TX	-1.64
802.11ac VHT20_Nss1,(MCS0)_2TX	-2.18
802.11ac VHT80_Nss1,(MCS0)_2TX	-7.82
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_2TX	12.63
802.11ac VHT20_Nss1,(MCS0)_2TX	12.23
802.11ac VHT80_Nss1,(MCS0)_2TX	0.95

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	25.00	8.56	9.40	11.83	30.00
5785MHz	Pass	25.00	9.14	10.28	12.63	30.00
5825MHz	Pass	25.00	9.26	9.37	12.23	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	25.00	7.90	8.89	11.34	30.00
5785MHz	Pass	25.00	8.71	9.78	12.23	30.00
5825MHz	Pass	25.00	8.86	8.87	11.87	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	25.00	-2.14	-1.76	0.95	30.00

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

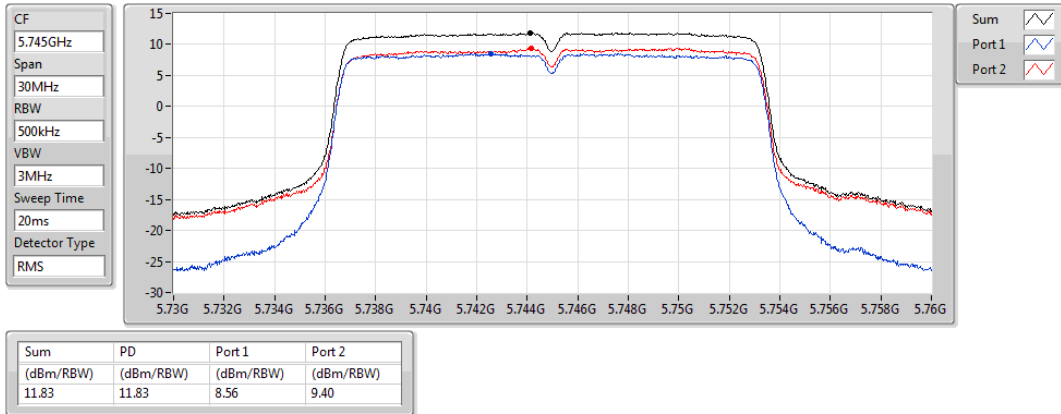
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port Xpower density;

802.11a_Nss1,(6Mbps)_2TX

PSD

5745MHz

21/01/2019

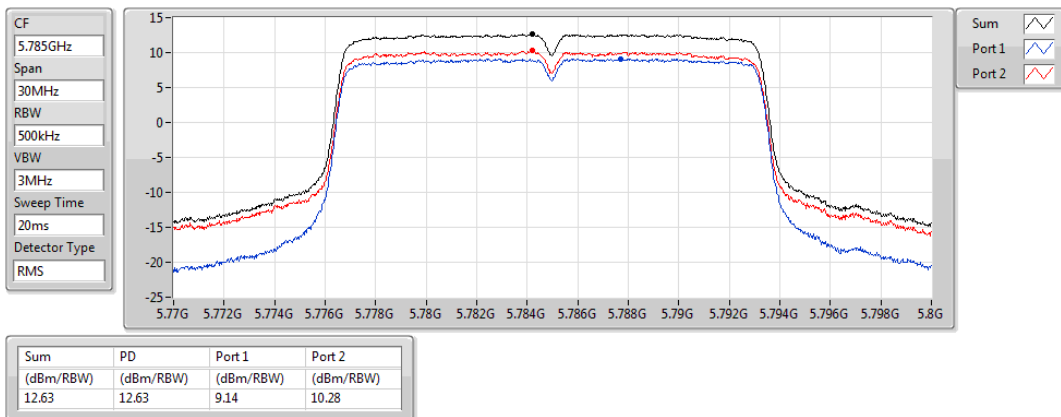


802.11a_Nss1,(6Mbps)_2TX

PSD

5785MHz

21/01/2019

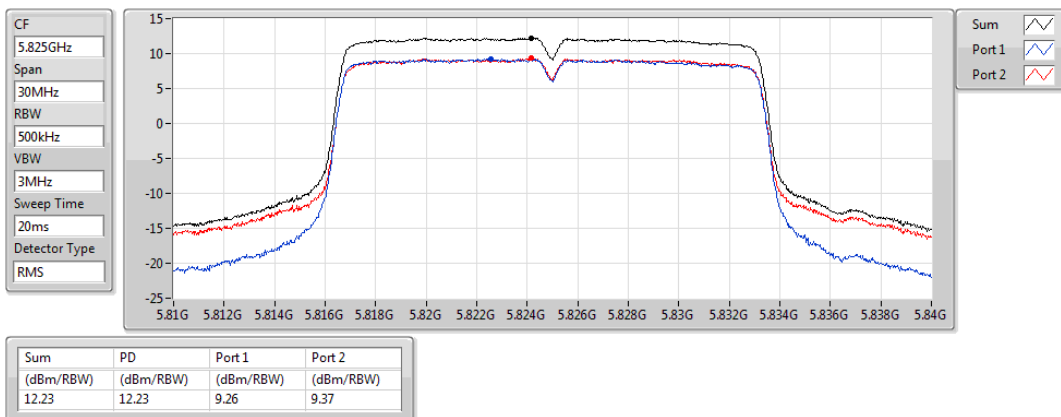


802.11a_Nss1,(6Mbps)_2TX

PSD

5825MHz

21/01/2019

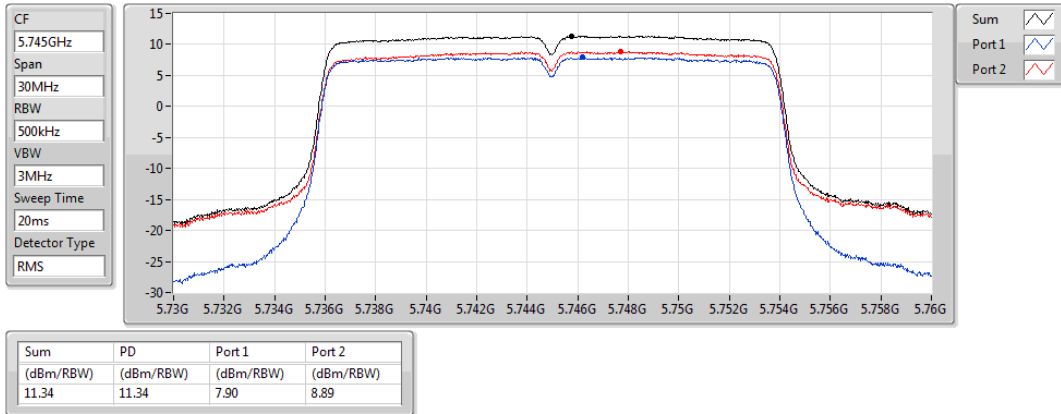


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5745MHz

21/01/2019

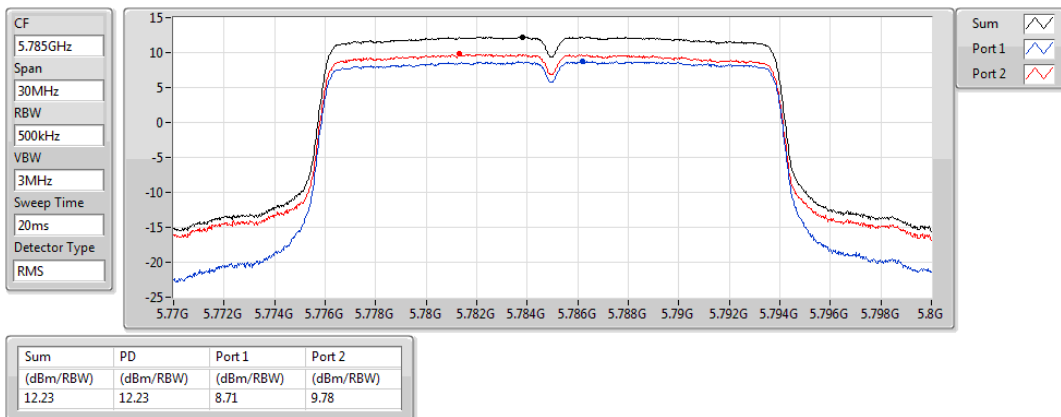


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5785MHz

21/01/2019

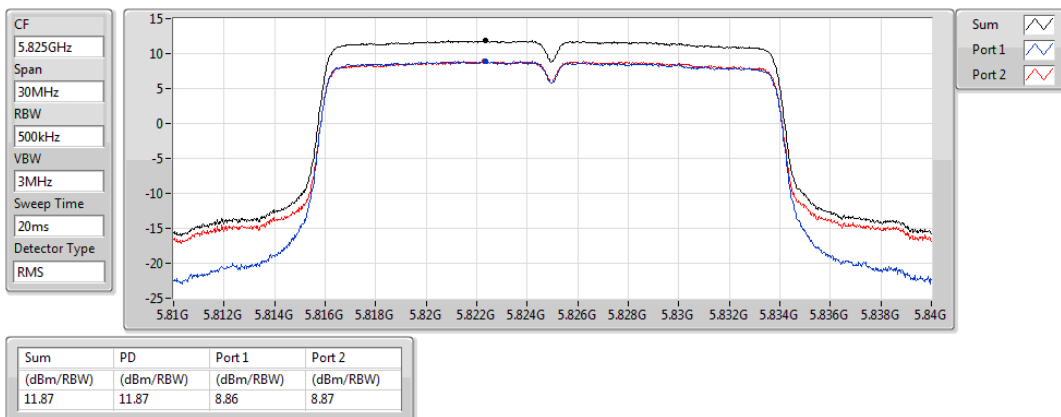


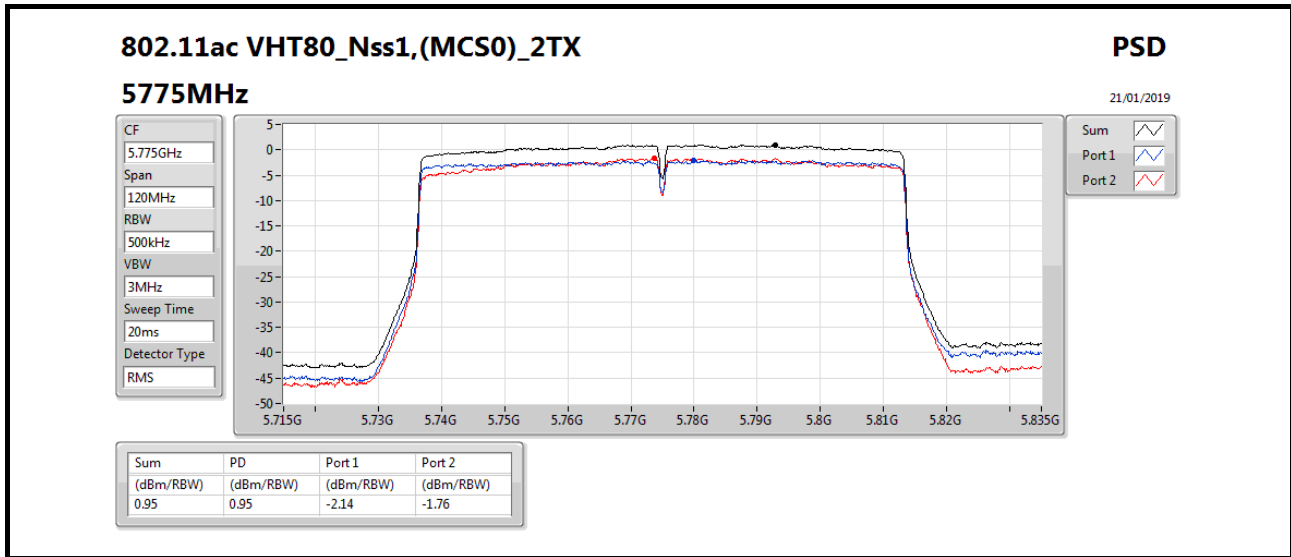
802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5825MHz

21/01/2019







PSD Result

Appendix C

For EUT + Set 2 antenna: Summary

Mode	PD (dBm/RBW)
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_2TX	4.29
802.11ac VHT20_Nss1,(MCS0)_2TX	3.76
802.11ac VHT80_Nss1,(MCS0)_2TX	-2.10

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	17.00	1.32	1.23	4.18	19.00
5785MHz	Pass	17.00	1.39	1.43	4.29	19.00
5825MHz	Pass	17.00	1.33	1.37	4.27	19.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	17.00	0.96	0.54	3.65	19.00
5785MHz	Pass	17.00	0.88	0.70	3.76	19.00
5825MHz	Pass	17.00	0.88	0.61	3.73	19.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	17.00	-4.88	-5.19	-2.10	19.00

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

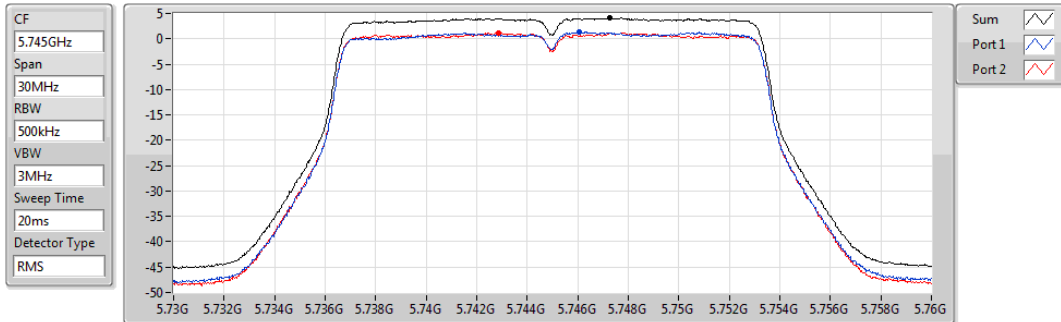
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11a_Nss1,(6Mbps)_2TX

PSD

5745MHz

17/01/2019



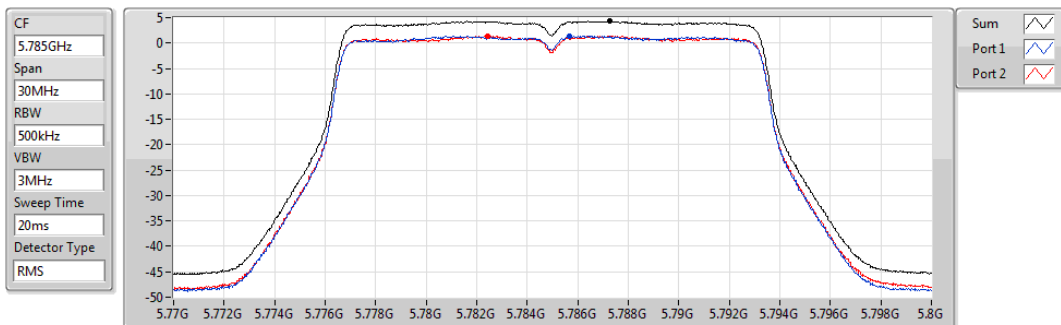
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.18	4.18	1.32	1.23

802.11a_Nss1,(6Mbps)_2TX

PSD

5785MHz

17/01/2019



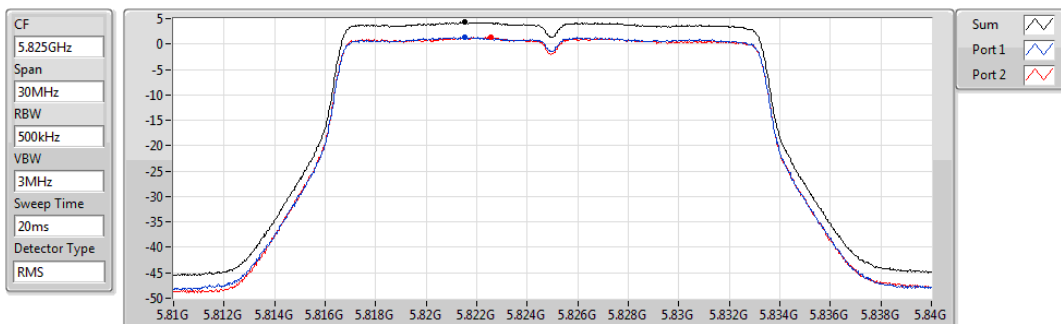
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.29	4.29	1.39	1.43

802.11a_Nss1,(6Mbps)_2TX

PSD

5825MHz

17/01/2019



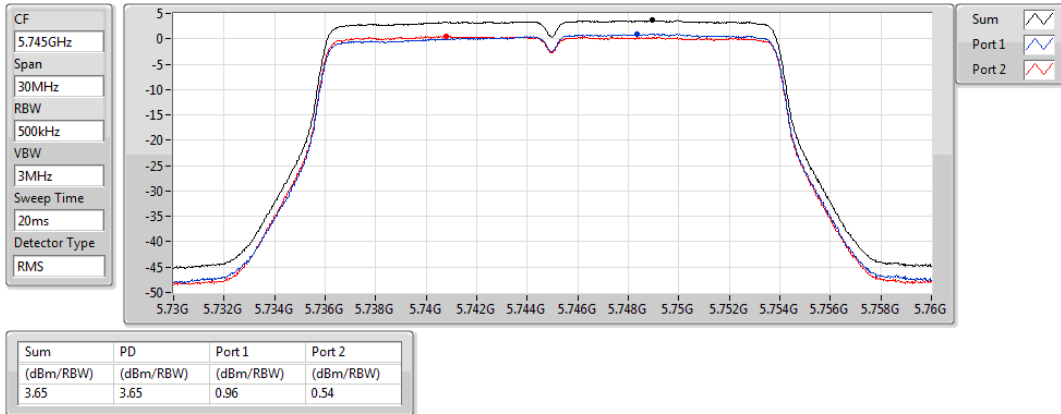
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.27	4.27	1.33	1.37

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5745MHz

17/01/2019

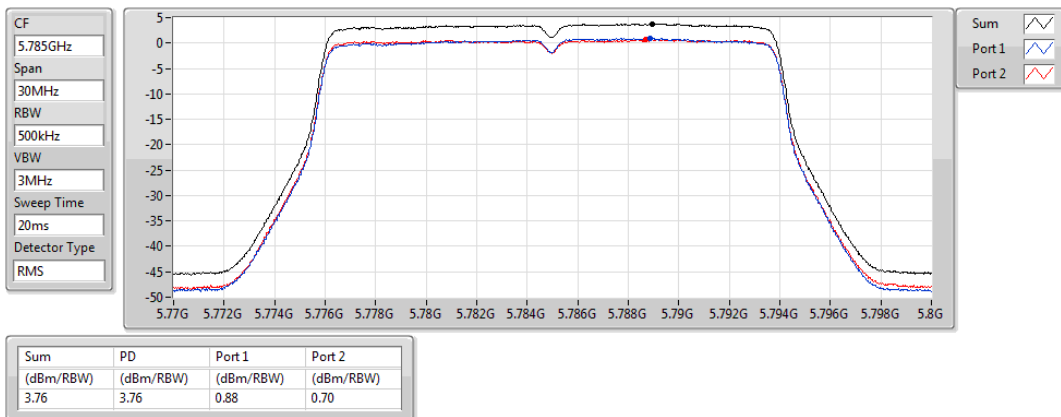


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5785MHz

17/01/2019

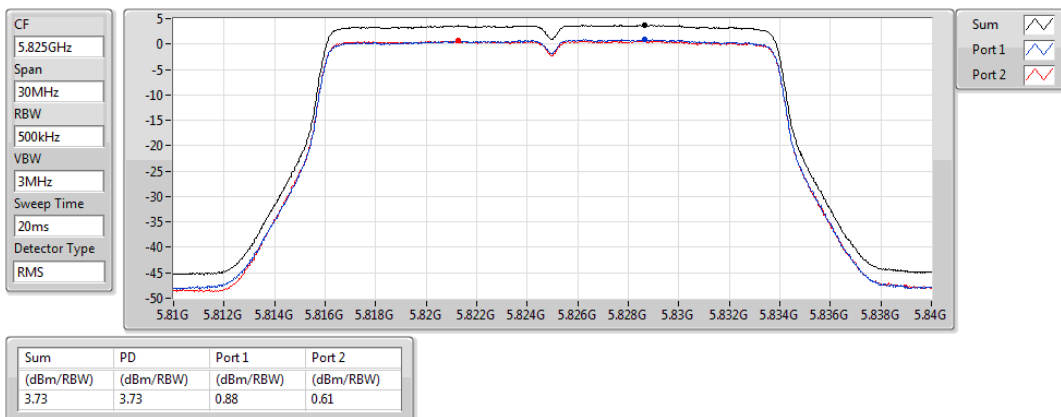


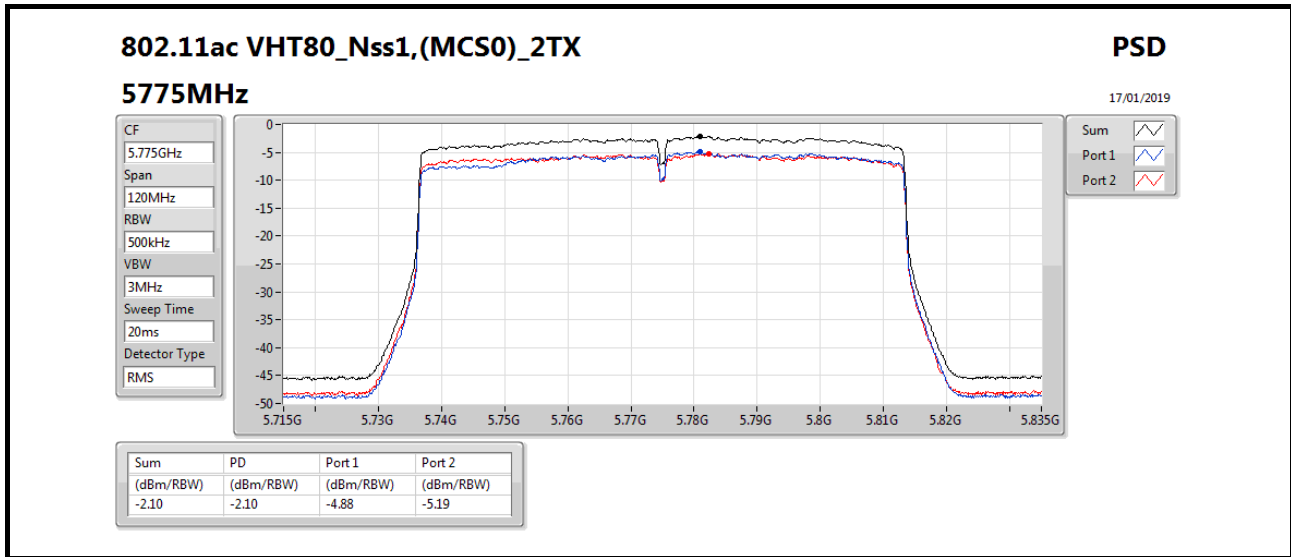
802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5825MHz

17/01/2019





For EUT + Set 3 antenna: Summar

Mode	PD (dBm/RBW)
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_2TX	12.81
802.11ac VHT20_Nss1,(MCS0)_2TX	12.48
802.11ac VHT80_Nss1,(MCS0)_2TX	5.45

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)_2TX	-	-	-	-	-	-
5745MHz	Pass	2.00	8.99	8.29	11.49	30.00
5785MHz	Pass	2.00	10.17	9.70	12.81	30.00
5825MHz	Pass	2.00	9.55	9.03	12.28	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5745MHz	Pass	2.00	8.83	7.81	11.26	30.00
5785MHz	Pass	2.00	9.91	9.09	12.48	30.00
5825MHz	Pass	2.00	9.25	8.51	11.86	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5775MHz	Pass	2.00	2.63	2.31	5.45	30.00

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

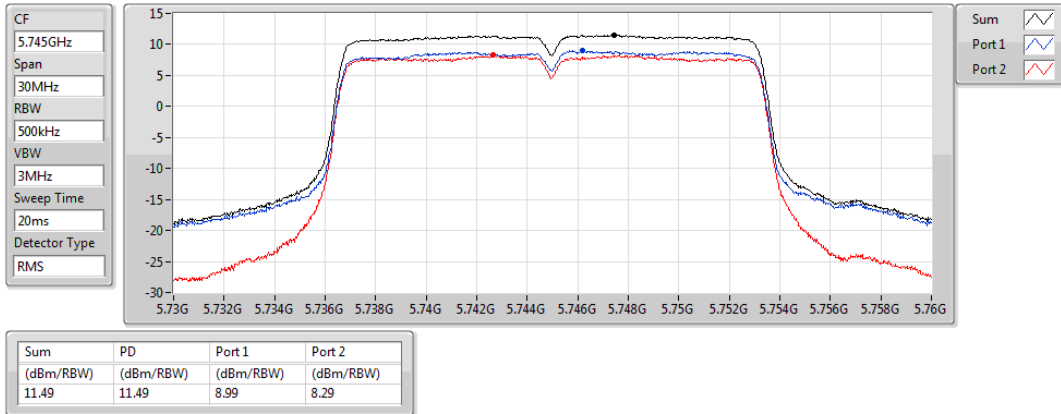
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11a_Nss1,(6Mbps)_2TX

PSD

5745MHz

18/01/2019

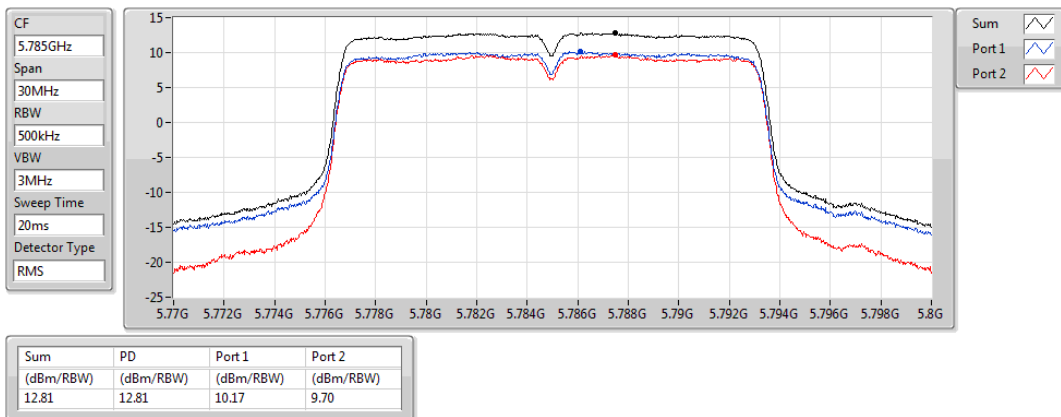


802.11a_Nss1,(6Mbps)_2TX

PSD

5785MHz

18/01/2019

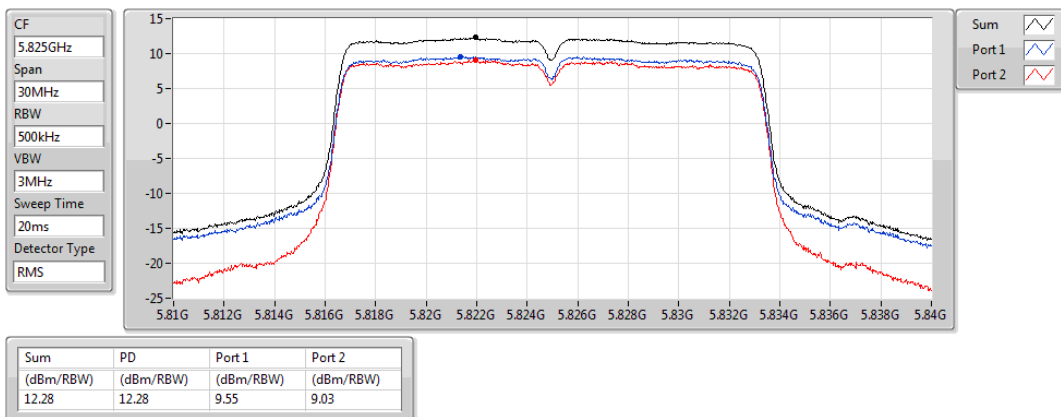


802.11a_Nss1,(6Mbps)_2TX

PSD

5825MHz

18/01/2019

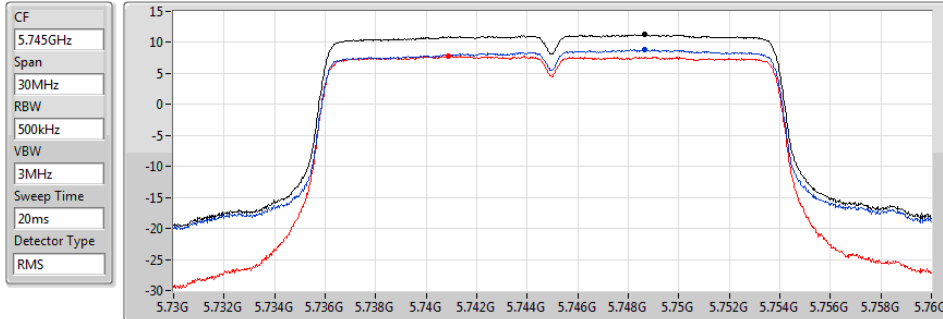


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5745MHz

18/01/2019



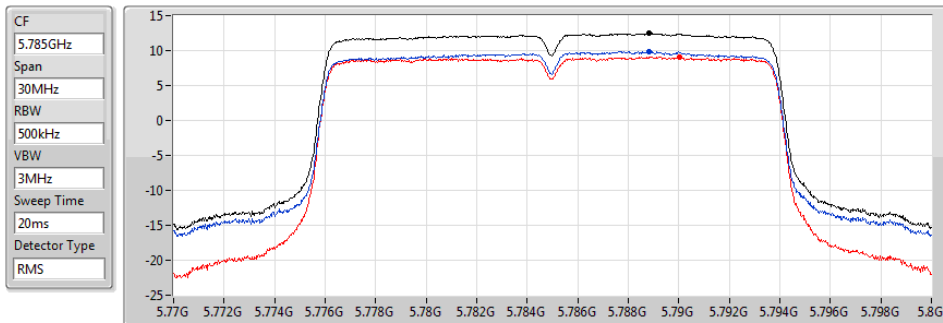
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
11.26	11.26	8.83	7.81

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5785MHz

18/01/2019



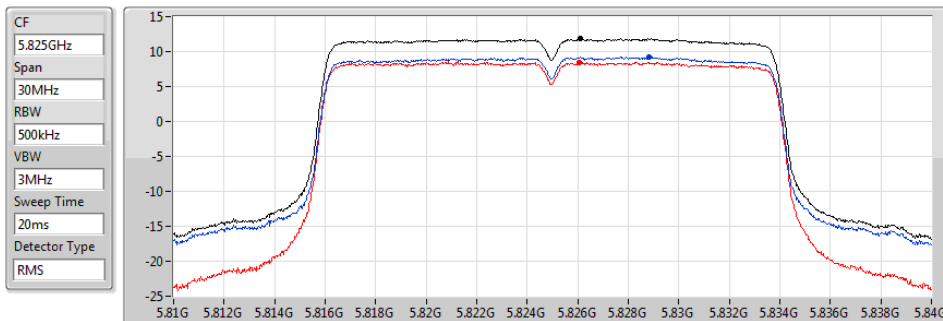
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
12.48	12.48	9.91	9.09

802.11ac VHT20_Nss1,(MCS0)_2TX

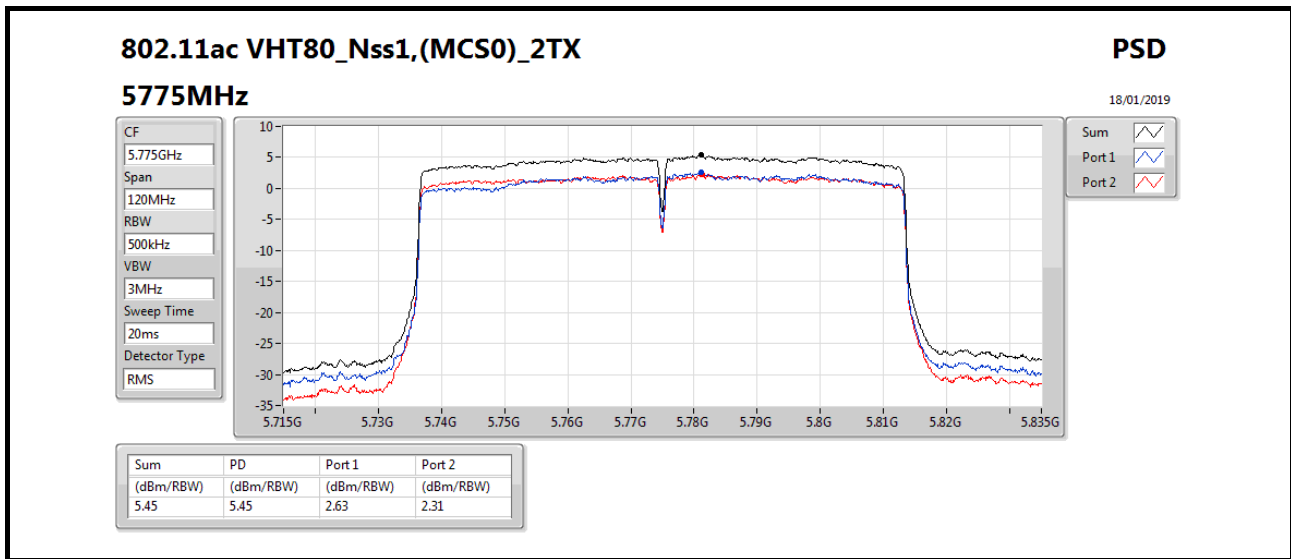
PSD

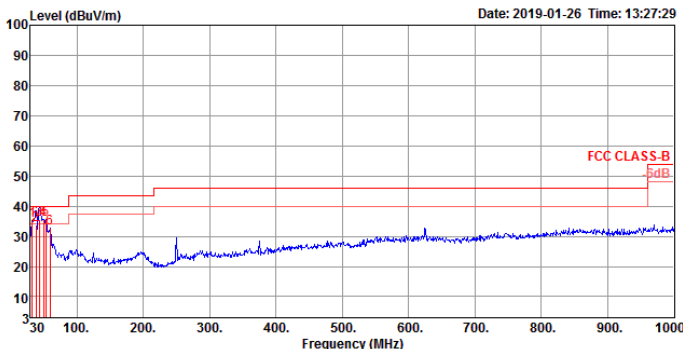
5825MHz

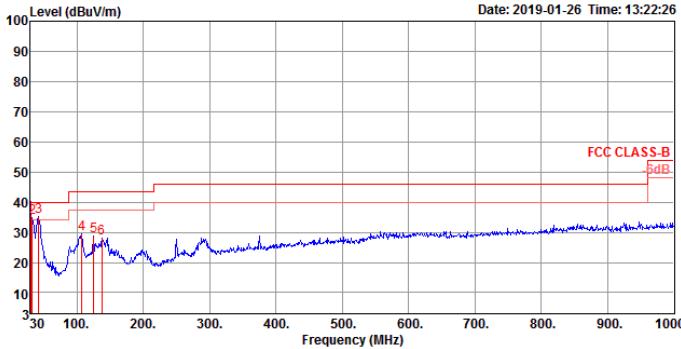
18/01/2019



Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
11.86	11.86	9.25	8.51



RSE below 1GHz Result																																																																																																												
Operating Mode	1					Polarization			Vertical																																																																																																			
Operating Function	CTX																																																																																																											
<div><div><div>Level (dBuV/m)</div><div></div><div>Date: 2019-01-26 Time: 13:27:29</div></div><table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>32.91</td><td>35.25</td><td>40.00</td><td>-4.75</td><td>40.21</td><td>0.74</td><td>22.87</td><td>28.57</td><td>100</td><td>10 Peak</td><td>VERTICAL</td></tr><tr><td>2</td><td>38.73</td><td>33.64</td><td>40.00</td><td>-6.36</td><td>41.80</td><td>0.72</td><td>19.69</td><td>28.57</td><td>200</td><td>337 QP</td><td>VERTICAL</td></tr><tr><td>3</td><td>43.58</td><td>35.50</td><td>40.00</td><td>-4.50</td><td>46.09</td><td>0.85</td><td>17.12</td><td>28.56</td><td>100</td><td>10 QP</td><td>VERTICAL</td></tr><tr><td>4</td><td>49.40</td><td>35.75</td><td>40.00</td><td>-4.25</td><td>48.86</td><td>0.93</td><td>14.52</td><td>28.56</td><td>150</td><td>332 Peak</td><td>VERTICAL</td></tr><tr><td>5</td><td>53.28</td><td>35.54</td><td>40.00</td><td>-4.46</td><td>50.08</td><td>0.96</td><td>13.05</td><td>28.55</td><td>100</td><td>298 Peak</td><td>VERTICAL</td></tr><tr><td>6</td><td>59.10</td><td>32.54</td><td>40.00</td><td>-7.46</td><td>47.89</td><td>1.00</td><td>12.19</td><td>28.54</td><td>125</td><td>28 Peak</td><td>VERTICAL</td></tr></table></div>														Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		1	32.91	35.25	40.00	-4.75	40.21	0.74	22.87	28.57	100	10 Peak	VERTICAL	2	38.73	33.64	40.00	-6.36	41.80	0.72	19.69	28.57	200	337 QP	VERTICAL	3	43.58	35.50	40.00	-4.50	46.09	0.85	17.12	28.56	100	10 QP	VERTICAL	4	49.40	35.75	40.00	-4.25	48.86	0.93	14.52	28.56	150	332 Peak	VERTICAL	5	53.28	35.54	40.00	-4.46	50.08	0.96	13.05	28.55	100	298 Peak	VERTICAL	6	59.10	32.54	40.00	-7.46	47.89	1.00	12.19	28.54	125	28 Peak	VERTICAL
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg																																																																																																		
1	32.91	35.25	40.00	-4.75	40.21	0.74	22.87	28.57	100	10 Peak	VERTICAL																																																																																																	
2	38.73	33.64	40.00	-6.36	41.80	0.72	19.69	28.57	200	337 QP	VERTICAL																																																																																																	
3	43.58	35.50	40.00	-4.50	46.09	0.85	17.12	28.56	100	10 QP	VERTICAL																																																																																																	
4	49.40	35.75	40.00	-4.25	48.86	0.93	14.52	28.56	150	332 Peak	VERTICAL																																																																																																	
5	53.28	35.54	40.00	-4.46	50.08	0.96	13.05	28.55	100	298 Peak	VERTICAL																																																																																																	
6	59.10	32.54	40.00	-7.46	47.89	1.00	12.19	28.54	125	28 Peak	VERTICAL																																																																																																	
<div>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.)</div>																																																																																																												

RSE below 1GHz Result																																																																																																																		
Operating Mode	1				Polarization				Horizontal																																																																																																									
Operating Function	CTX																																																																																																																	
<div><div><div>Level (dBuV/m)</div><div>Date: 2019-01-26 Time: 13:22:26</div></div><table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>30.00</td><td>36.09</td><td>40.00</td><td>-3.91</td><td>39.46</td><td>0.80</td><td>24.40</td><td>28.57</td><td>200</td><td>287</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>2</td><td>32.91</td><td>35.02</td><td>40.00</td><td>-4.98</td><td>39.98</td><td>0.74</td><td>22.87</td><td>28.57</td><td>300</td><td>130</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>3</td><td>42.61</td><td>35.19</td><td>40.00</td><td>-4.81</td><td>45.28</td><td>0.82</td><td>17.65</td><td>28.56</td><td>200</td><td>131</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>4</td><td>107.60</td><td>29.65</td><td>43.50</td><td>-13.85</td><td>39.30</td><td>1.26</td><td>17.51</td><td>28.42</td><td>300</td><td>250</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>5</td><td>125.06</td><td>28.93</td><td>43.50</td><td>-14.57</td><td>38.05</td><td>1.32</td><td>17.91</td><td>28.35</td><td>300</td><td>88</td><td>Peak</td><td>HORIZONTAL</td></tr><tr><td>6</td><td>137.67</td><td>28.23</td><td>43.50</td><td>-15.27</td><td>37.76</td><td>1.39</td><td>17.38</td><td>28.30</td><td>200</td><td>240</td><td>Peak</td><td>HORIZONTAL</td></tr></table></div>														Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		1	30.00	36.09	40.00	-3.91	39.46	0.80	24.40	28.57	200	287	Peak	HORIZONTAL	2	32.91	35.02	40.00	-4.98	39.98	0.74	22.87	28.57	300	130	Peak	HORIZONTAL	3	42.61	35.19	40.00	-4.81	45.28	0.82	17.65	28.56	200	131	Peak	HORIZONTAL	4	107.60	29.65	43.50	-13.85	39.30	1.26	17.51	28.42	300	250	Peak	HORIZONTAL	5	125.06	28.93	43.50	-14.57	38.05	1.32	17.91	28.35	300	88	Peak	HORIZONTAL	6	137.67	28.23	43.50	-15.27	37.76	1.39	17.38	28.30	200	240	Peak	HORIZONTAL
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																							
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg																																																																																																								
1	30.00	36.09	40.00	-3.91	39.46	0.80	24.40	28.57	200	287	Peak	HORIZONTAL																																																																																																						
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4	107.60	29.65	43.50	-13.85	39.30	1.26	17.51	28.42	300	250	Peak	HORIZONTAL																																																																																																						
5	125.06	28.93	43.50	-14.57	38.05	1.32	17.91	28.35	300	88	Peak	HORIZONTAL																																																																																																						
6	137.67	28.23	43.50	-15.27	37.76	1.39	17.38	28.30	200	240	Peak	HORIZONTAL																																																																																																						
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RSE TX above 1GHz Result

Appendix E.2

For EUT 1 + Set 1 antenna:

Radiated Emissions

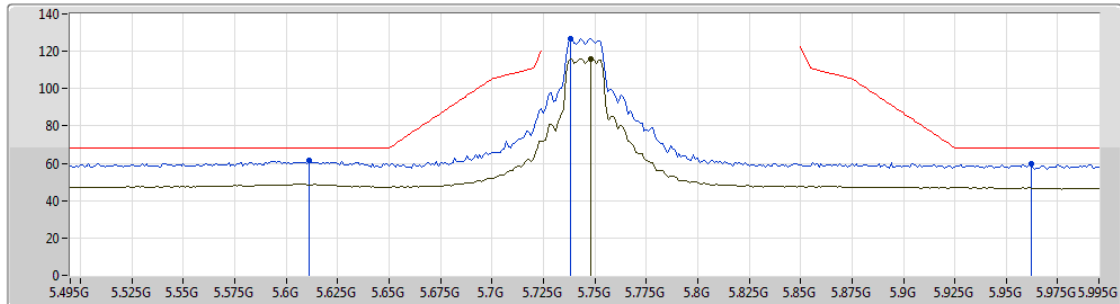
Summary

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	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT80_Nss1,(MCS0)_2TX	Pass	PK	5.649G	67.77	68.20	-0.43	8.71	3	Vertical	156	1.87	-

802.11a_Nss1,(6Mbps)_2TX

21/01/2019

5745MHz_TX



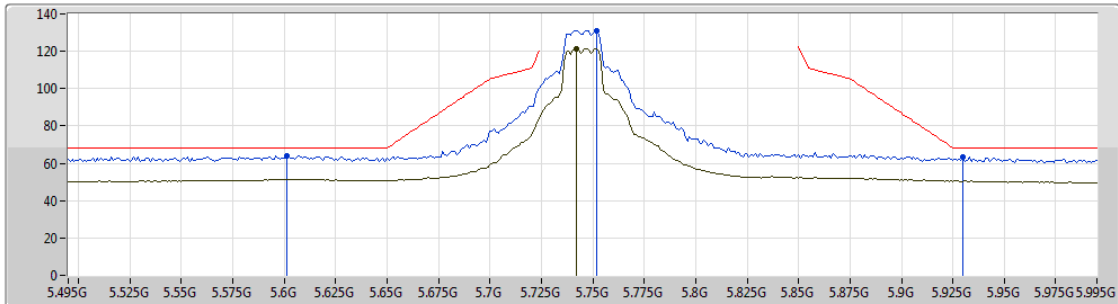
EUT Y_2TX
Setting 27
02-C-5-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.611G	61.41	68.20	-6.79	8.66	3	Vertical	12	2.49	-
PK	5.738G	126.61	Inf	-Inf	8.81	3	Vertical	12	2.49	-
AV	5.748G	116.14	Inf	-Inf	8.82	3	Vertical	12	2.49	-
PK	5.962G	59.58	68.20	-8.62	8.84	3	Vertical	12	2.49	-

802.11a_Nss1,(6Mbps)_2TX

21/01/2019

5745MHz_TX



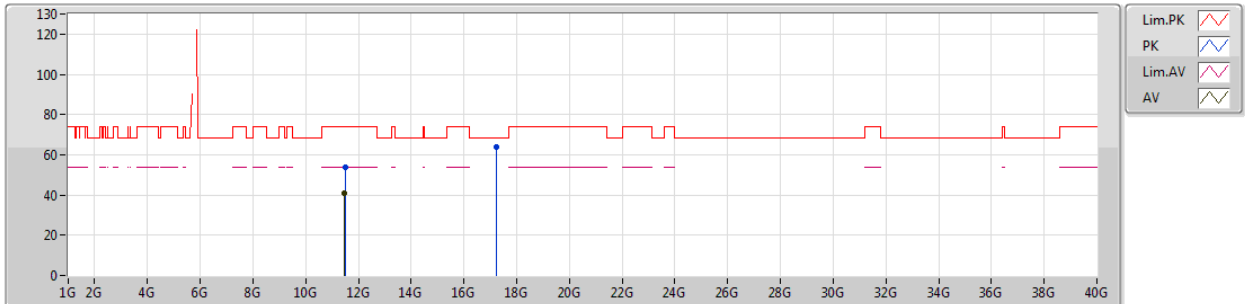
EUT Y_2TX
Setting 27
02-C-5-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.601G	63.90	68.20	-4.30	8.64	3	Horizontal	356	1.88	-
PK	5.752G	131.25	Inf	-Inf	8.83	3	Horizontal	356	1.88	-
AV	5.742G	121.57	Inf	-Inf	8.81	3	Horizontal	356	1.88	-
PK	5.93G	63.14	68.20	-5.06	8.86	3	Horizontal	356	1.88	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5745MHz_TX



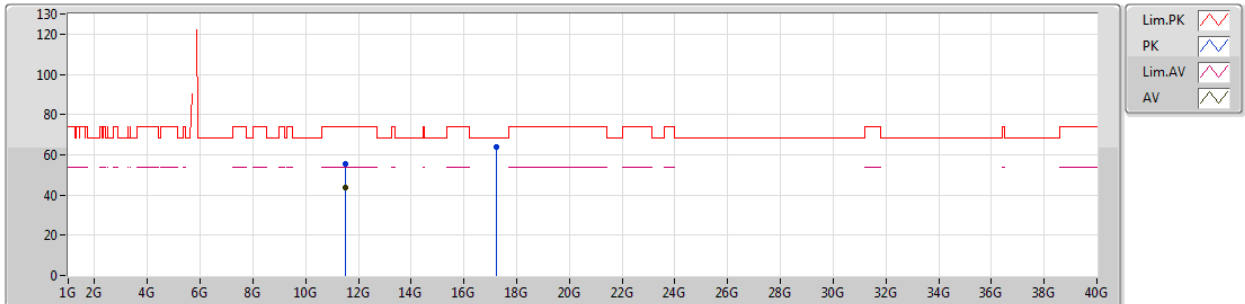
EUT Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.504G	53.81	74.00	-20.19	14.96	3	Vertical	124	1.52	-
AV	11.4732G	40.64	54.00	-13.36	14.92	3	Vertical	124	1.52	-
PK	17.2499G	63.68	68.20	-4.52	20.82	3	Vertical	316	1.57	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5745MHz_TX



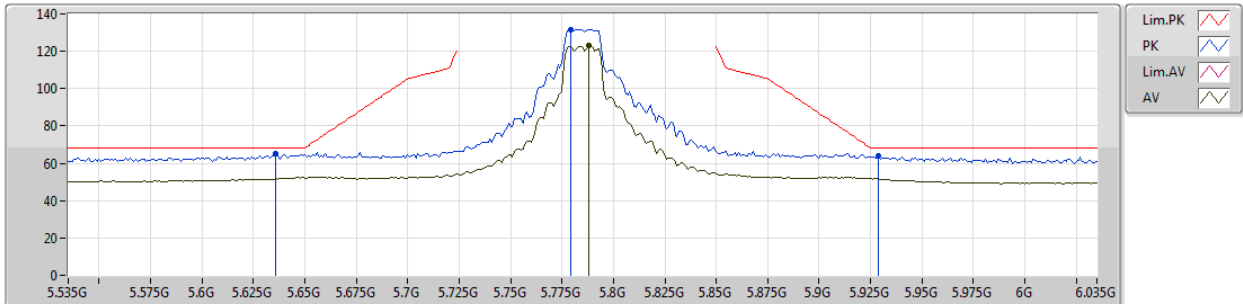
EUT Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.4954G	55.53	74.00	-18.47	14.95	3	Horizontal	85	1.03	-
AV	11.4901G	43.51	54.00	-10.49	14.94	3	Horizontal	85	1.03	-
PK	17.222G	64.13	68.20	-4.07	20.66	3	Horizontal	13	1.60	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5785MHz_TX



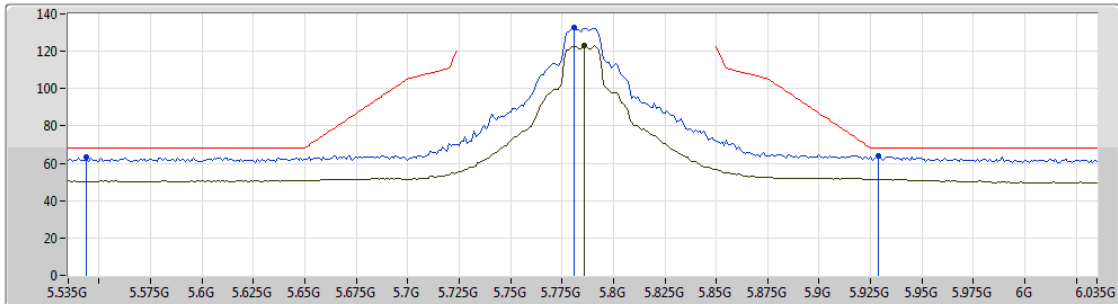
EUT_Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.636G	65.04	68.20	-3.16	8.69	3	Vertical	318	1.89	-
PK	5.779G	131.77	Inf	-Inf	8.86	3	Vertical	318	1.89	-
AV	5.788G	122.87	Inf	-Inf	8.86	3	Vertical	318	1.89	-
PK	5.929G	63.83	68.20	-4.37	8.86	3	Vertical	318	1.89	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5785MHz_TX



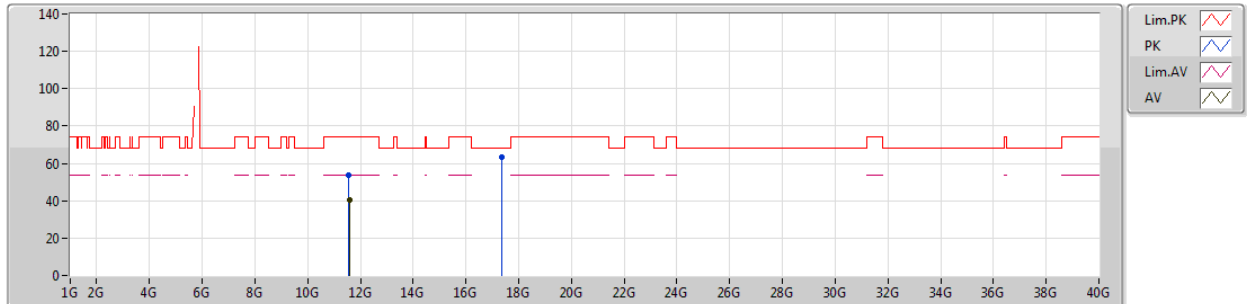
EUT Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.544G	63.46	68.20	-4.74	8.63	3	Horizontal	326	1.85	-
PK	5.781G	132.46	Inf	-Inf	8.87	3	Horizontal	326	1.85	-
AV	5.786G	123.09	Inf	-Inf	8.87	3	Horizontal	326	1.85	-
PK	5.929G	63.75	68.20	-4.45	8.86	3	Horizontal	326	1.85	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5785MHz_TX



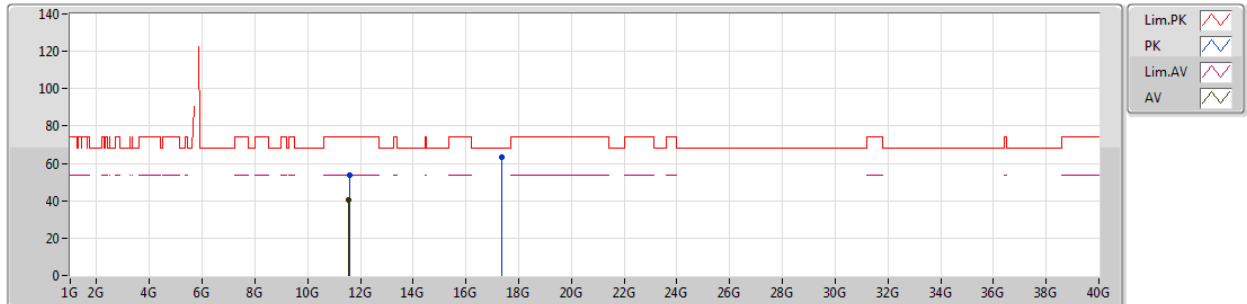
EUT Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.56608G	53.61	74.00	-20.39	15.05	3	Vertical	164	1.48	-
AV	11.57736G	40.45	54.00	-13.55	15.07	3	Vertical	164	1.48	-
PK	17.34584G	63.40	68.20	-4.80	21.40	3	Vertical	290	1.80	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5785MHz_TX



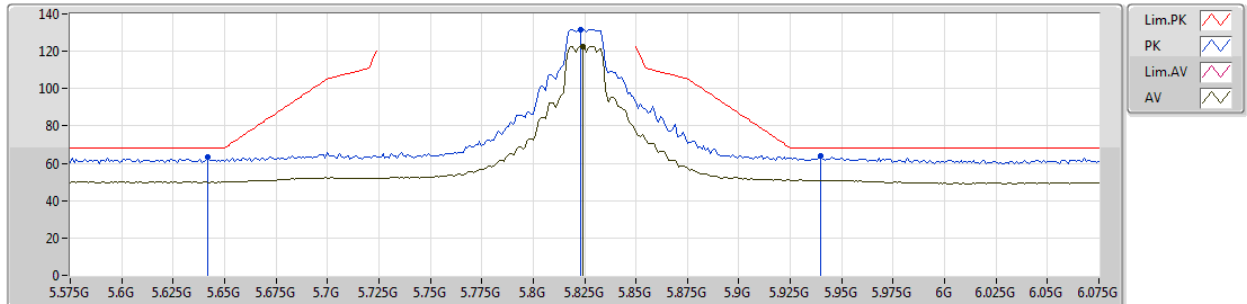
EUT_Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.57808G	53.93	74.00	-20.07	15.07	3	Horizontal	2	1.00	-
AV	11.56828G	40.71	54.00	-13.29	15.05	3	Horizontal	2	1.00	-
PK	17.34624G	63.13	68.20	-5.07	21.40	3	Horizontal	27	1.58	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5825MHz_TX



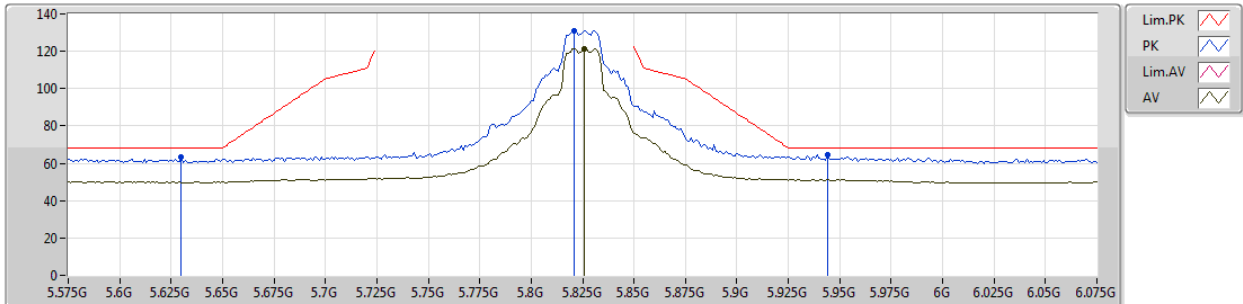
EUT_Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.642G	63.56	68.20	-4.64	8.70	3	Vertical	267	1.91	-
PK	5.823G	131.70	Inf	-Inf	8.87	3	Vertical	267	1.91	-
AV	5.824G	122.72	Inf	-Inf	8.87	3	Vertical	267	1.91	-
PK	5.94G	63.78	68.20	-4.42	8.86	3	Vertical	267	1.91	-

802.11a_Nss1.(6Mbps)_2TX

21/01/2019

5825MHz_TX



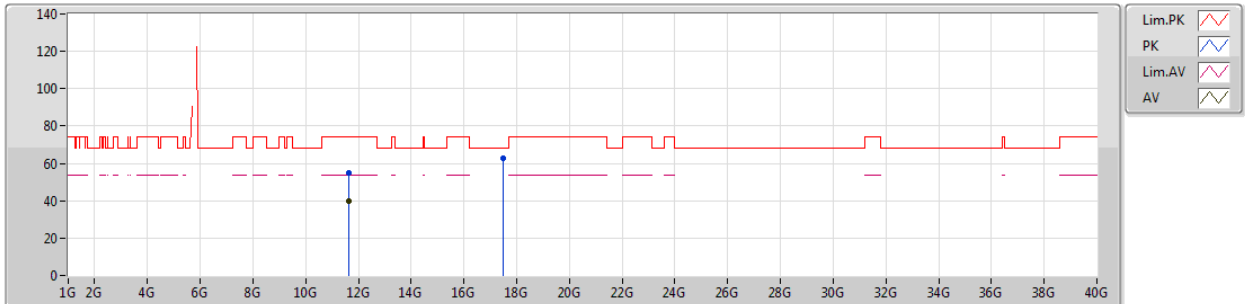
EUT Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.63G	63.59	68.20	-4.61	8.68	3	Horizontal	253	1.86	-
PK	5.821G	131.08	Inf	-Inf	8.87	3	Horizontal	253	1.86	-
AV	5.826G	121.48	Inf	-Inf	8.88	3	Horizontal	253	1.86	-
PK	5.944G	64.46	68.20	-3.74	8.86	3	Horizontal	253	1.86	-

802.11a_Nss1.(6Mbps)_2TX

23/01/2019

5825MHz_TX



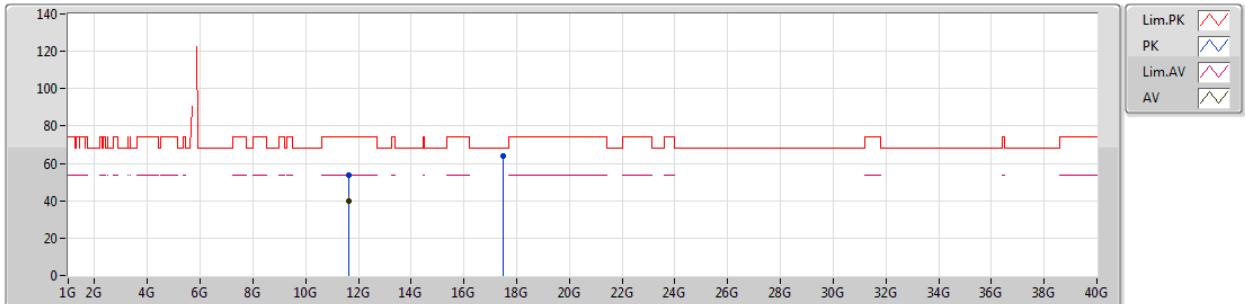
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.64915G	54.94	74.00	-19.06	15.15	3	Vertical	109	1.56	-
AV	11.64925G	39.97	54.00	-14.03	15.15	3	Vertical	109	1.56	-
PK	17.47812G	63.01	68.20	-5.19	22.20	3	Vertical	43	1.63	-

802.11a_Nss1.(6Mbps)_2TX

23/01/2019

5825MHz_TX



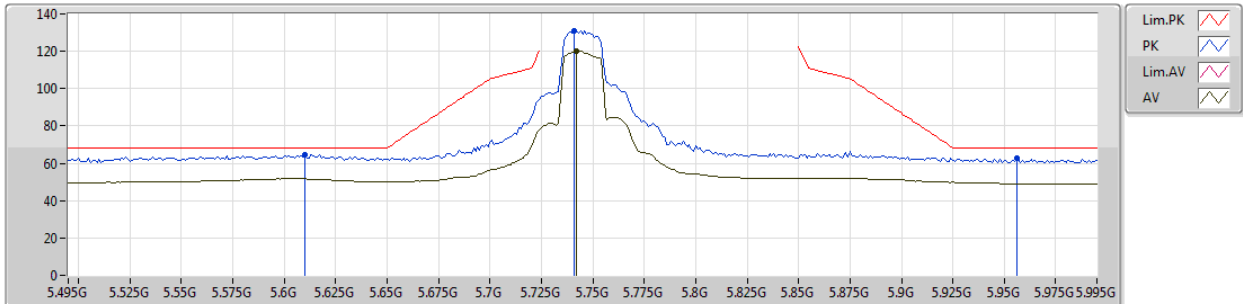
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.65035G	53.92	74.00	-20.08	15.16	3	Horizontal	21	1.32	-
AV	11.64757G	40.06	54.00	-13.94	15.15	3	Horizontal	21	1.32	-
PK	17.48004G	63.79	68.20	-4.41	22.21	3	Horizontal	80	1.19	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5745MHz_TX



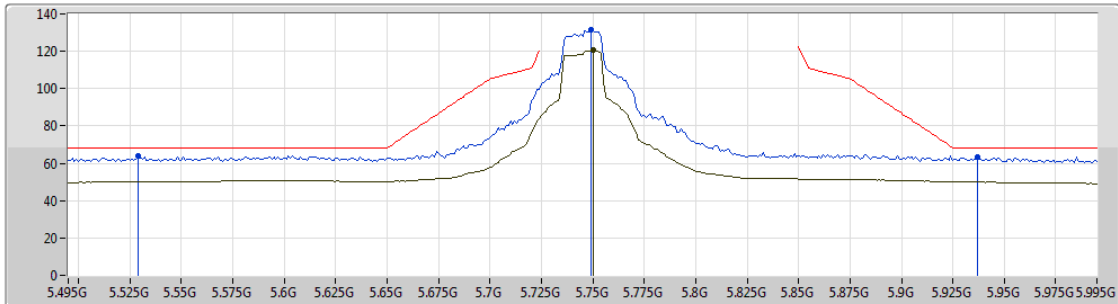
EUT Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.61G	64.62	68.20	-3.58	8.65	3	Vertical	231	1.92	-
PK	5.741G	130.76	Inf	-Inf	8.81	3	Vertical	231	1.92	-
AV	5.742G	120.03	Inf	-Inf	8.81	3	Vertical	231	1.92	-
PK	5.956G	62.54	68.20	-5.66	8.84	3	Vertical	231	1.92	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5745MHz_TX



Lim.PK
PK
Lim_AV
AV

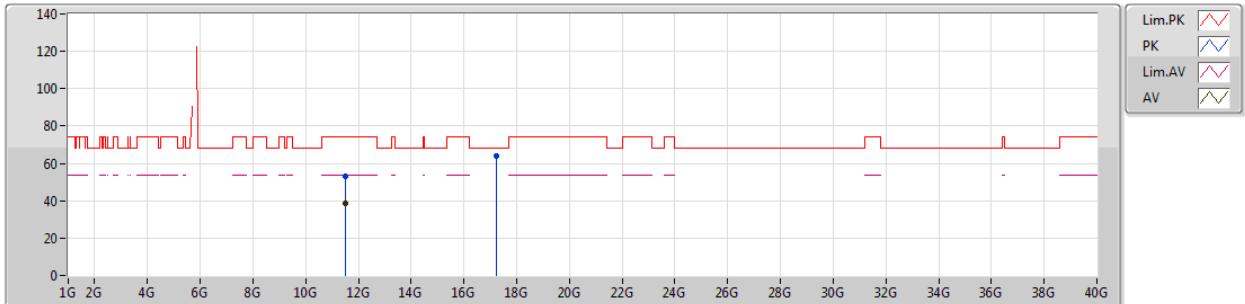
EUT_Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.529G	64.04	68.20	-4.16	8.63	3	Horizontal	245	1.86	-
PK	5.749G	131.29	Inf	-Inf	8.82	3	Horizontal	245	1.86	-
AV	5.75G	120.41	Inf	-Inf	8.83	3	Horizontal	245	1.86	-
PK	5.937G	63.25	68.20	-4.95	8.86	3	Horizontal	245	1.86	-

802.11ac VHT20_Nss1,(MCS0)_2TX

23/01/2019

5745MHz_TX



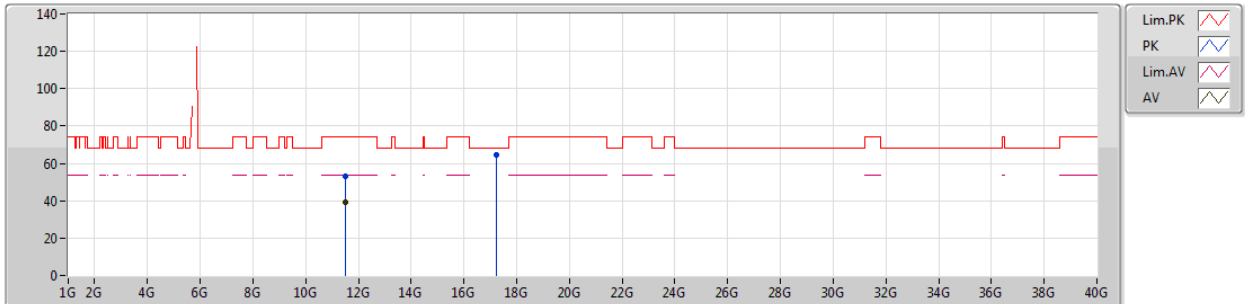
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.48998G	52.92	74.00	-21.08	14.94	3	Vertical	71	1.64	-
AV	11.49055G	38.90	54.00	-15.10	14.94	3	Vertical	71	1.64	-
PK	17.23564G	63.74	68.20	-4.46	20.74	3	Vertical	327	1.54	-

802.11ac VHT20_Nss1,(MCS0)_2TX

23/01/2019

5745MHz_TX



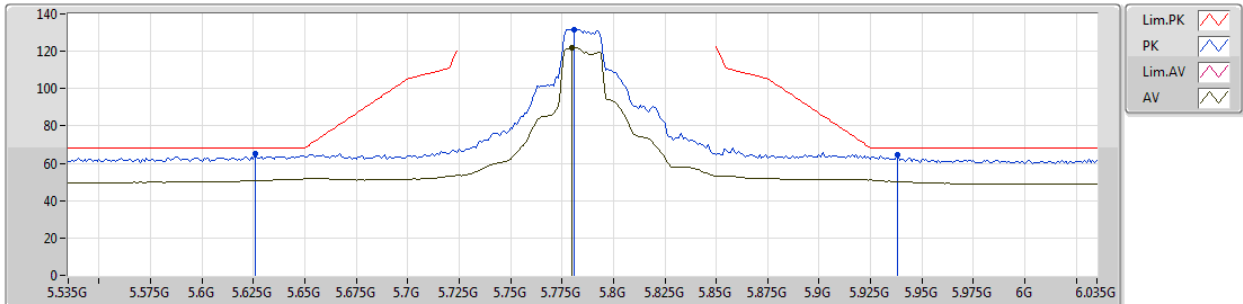
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.49127G	53.03	74.00	-20.97	14.94	3	Horizontal	82	1.23	-
AV	11.49053G	39.09	54.00	-14.91	14.94	3	Horizontal	82	1.23	-
PK	17.233G	64.36	68.20	-3.84	20.72	3	Horizontal	15	1.59	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5785MHz_TX



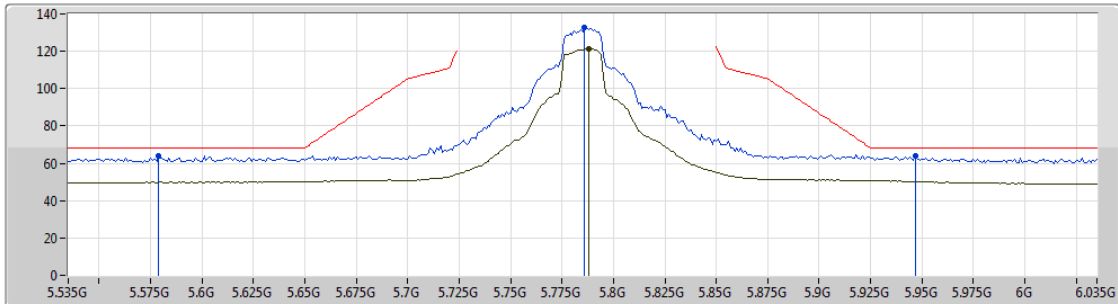
EUT_Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.626G	65.11	68.20	-3.09	8.68	3	Vertical	214	1.91	-
PK	5.781G	131.69	Inf	-Inf	8.87	3	Vertical	214	1.91	-
AV	5.78G	121.83	Inf	-Inf	8.86	3	Vertical	214	1.91	-
PK	5.938G	64.30	68.20	-3.90	8.86	3	Vertical	214	1.91	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5785MHz_TX



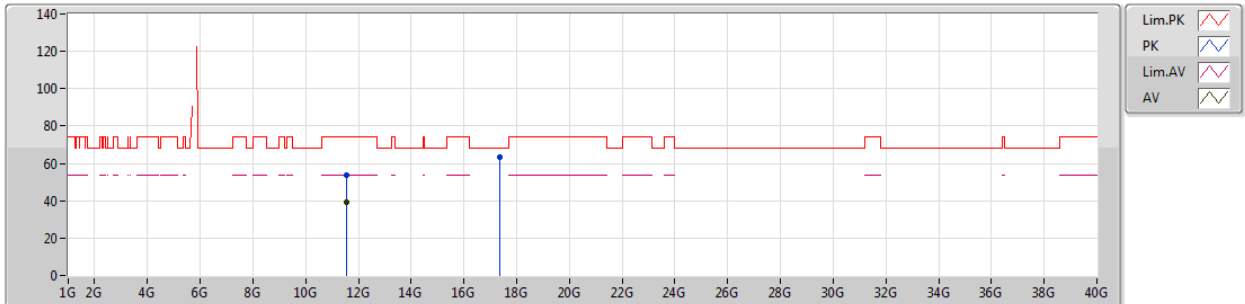
EUT Y_2TX
Setting 27
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.579G	63.84	68.20	-4.36	8.64	3	Horizontal	204	1.87	-
PK	5.786G	132.97	Inf	-Inf	8.87	3	Horizontal	204	1.87	-
AV	5.788G	121.54	Inf	-Inf	8.86	3	Horizontal	204	1.87	-
PK	5.947G	63.85	68.20	-4.35	8.86	3	Horizontal	204	1.87	-

802.11ac VHT20_Nss1,(MCS0)_2TX

23/01/2019

5785MHz_TX



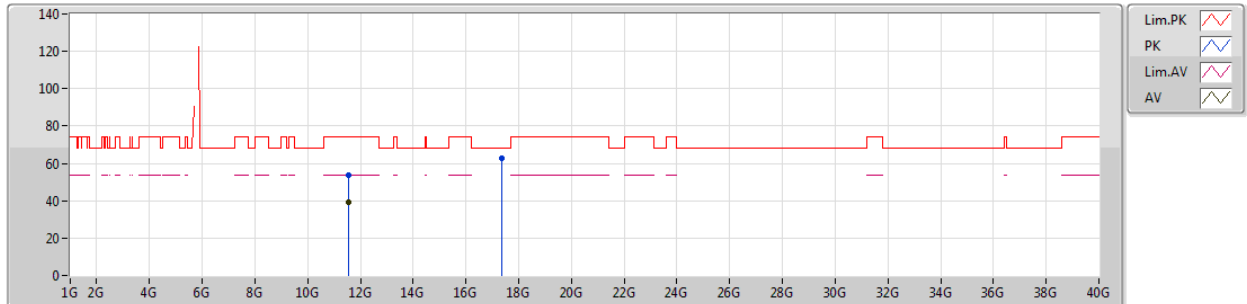
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.56953G	53.67	74.00	-20.33	15.05	3	Vertical	131	1.60	-
AV	11.57007G	39.32	54.00	-14.68	15.05	3	Vertical	131	1.60	-
PK	17.3551G	63.37	68.20	-4.83	21.46	3	Vertical	327	1.64	-

802.11ac VHT20_Nss1,(MCS0)_2TX

23/01/2019

5785MHz_TX



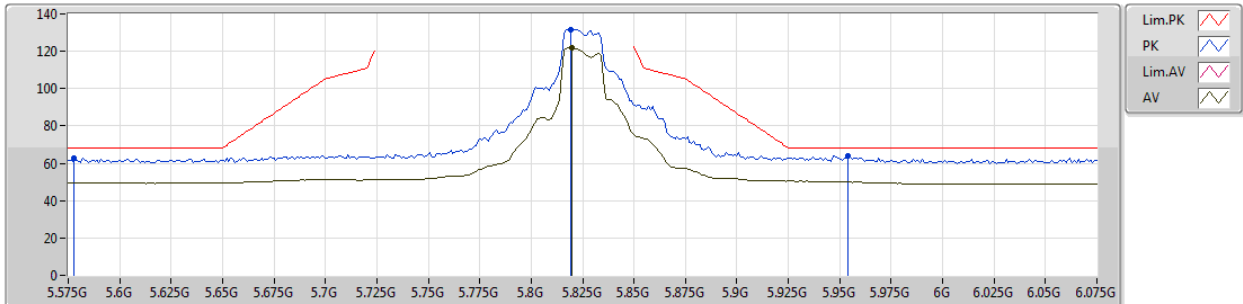
EUT Y_2TX
Setting 27
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.56938G	53.42	74.00	-20.58	15.05	3	Horizontal	89	1.11	-
AV	11.56988G	39.22	54.00	-14.78	15.05	3	Horizontal	89	1.11	-
PK	17.35371G	62.65	68.20	-5.55	21.45	3	Horizontal	27	1.47	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5825MHz_TX



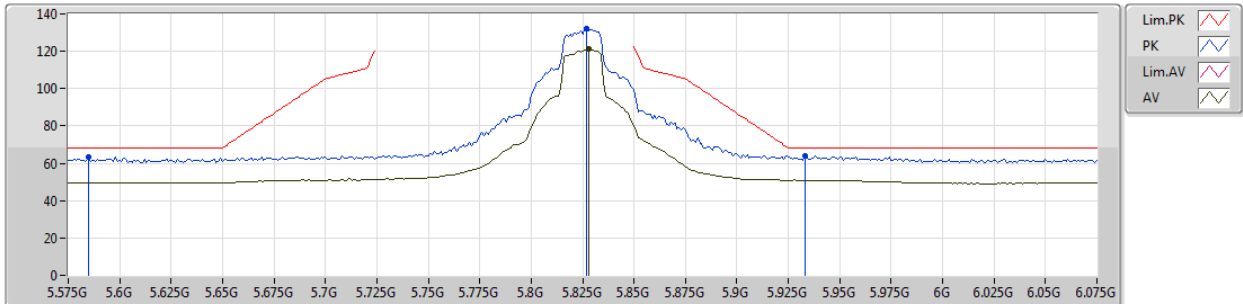
EUT_Y_2TX
Setting 27
02-C-5-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.578G	62.91	68.20	-5.29	8.64	3	Vertical	205	1.98	-
PK	5.819G	131.68	Inf	-Inf	8.87	3	Vertical	205	1.98	-
AV	5.82G	121.79	Inf	-Inf	8.87	3	Vertical	205	1.98	-
PK	5.954G	64.07	68.20	-4.13	8.84	3	Vertical	205	1.98	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5825MHz_TX



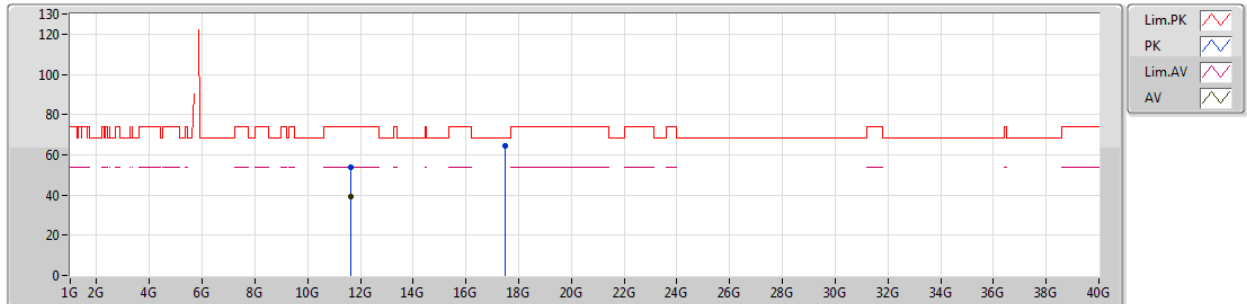
EUT_Y_2TX
Setting 27
02-C-5-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.585G	63.17	68.20	-5.03	8.64	3	Horizontal	204	1.85	-
PK	5.827G	131.87	Inf	-Inf	8.88	3	Horizontal	204	1.85	-
AV	5.828G	121.05	Inf	-Inf	8.88	3	Horizontal	204	1.85	-
PK	5.933G	63.73	68.20	-4.47	8.86	3	Horizontal	204	1.85	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5825MHz_TX



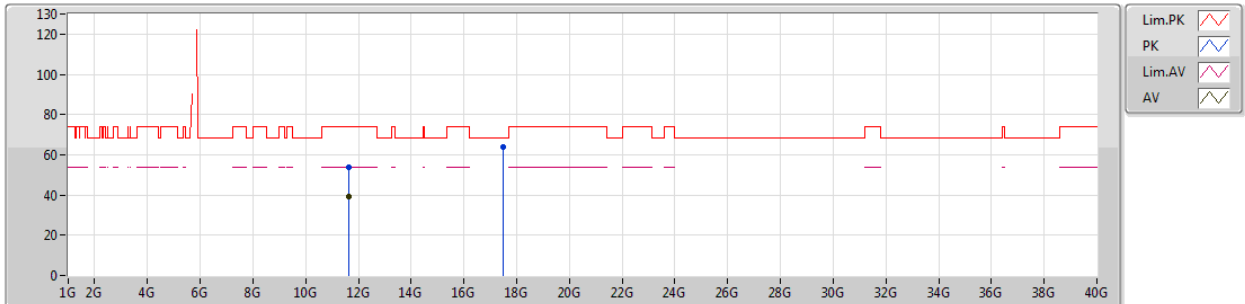
EUT_Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.64828G	53.56	74.00	-20.44	15.15	3	Vertical	133	1.53	-
AV	11.65208G	38.98	54.00	-15.02	15.17	3	Vertical	133	1.53	-
PK	17.47403G	64.49	68.20	-3.71	22.17	3	Vertical	325	1.61	-

802.11ac VHT20_Nss1,(MCS0)_2TX

21/01/2019

5825MHz_TX



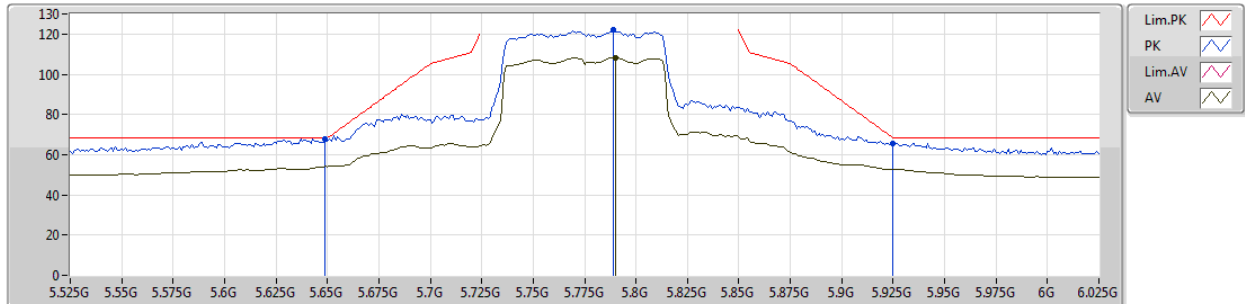
EUT_Y_2TX
Setting 27
02-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.65203G	53.57	74.00	-20.43	15.17	3	Horizontal	107	1.22	-
AV	11.65195G	38.97	54.00	-15.03	15.17	3	Horizontal	107	1.22	-
PK	17.47637G	63.84	68.20	-4.36	22.19	3	Horizontal	60	1.61	-

802.11ac VHT80_Nss1,(MCS0)_2TX

21/01/2019

5775MHz_TX



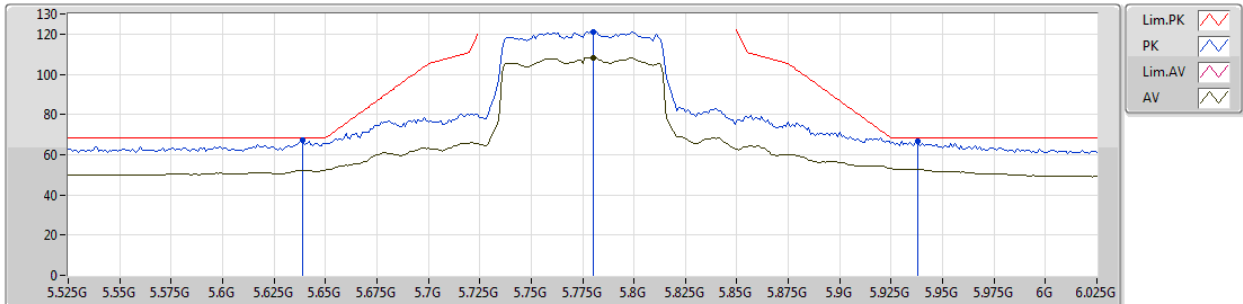
EUT Y_2TX
Setting 19.5
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.649G	67.77	68.20	-0.43	8.71	3	Vertical	156	1.87	-
PK	5.789G	121.90	Inf	-Inf	8.87	3	Vertical	156	1.87	-
AV	5.79G	108.03	Inf	-Inf	8.87	3	Vertical	156	1.87	-
PK	5.925G	65.76	68.20	-2.44	8.86	3	Vertical	156	1.87	-

802.11ac VHT80_Nss1,(MCS0)_2TX

21/01/2019

5775MHz_TX



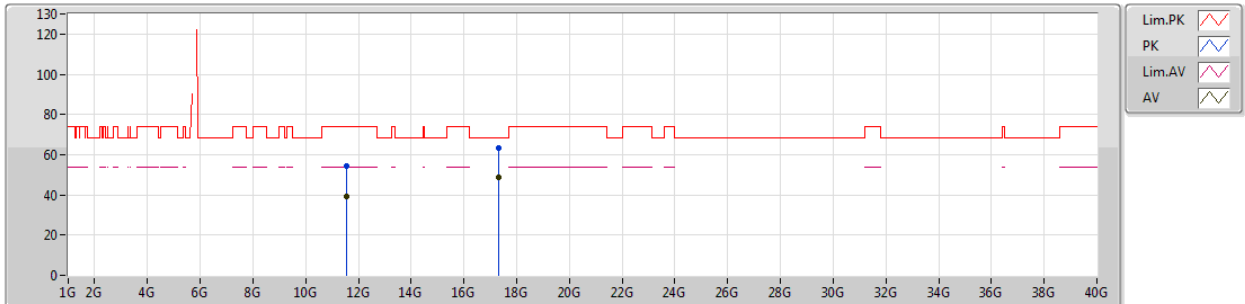
EUT Y_2TX
Setting 19.5
02-B-2-13
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.639G	67.51	68.20	-0.69	8.69	3	Horizontal	174	1.85	-
PK	5.78G	121.12	Inf	-Inf	8.86	3	Horizontal	174	1.85	-
AV	5.78G	108.33	Inf	-Inf	8.86	3	Horizontal	174	1.85	-
PK	5.938G	66.95	68.20	-1.25	8.86	3	Horizontal	174	1.85	-

802.11ac VHT80_Nss1,(MCS0)_2TX

23/01/2019

5775MHz_TX



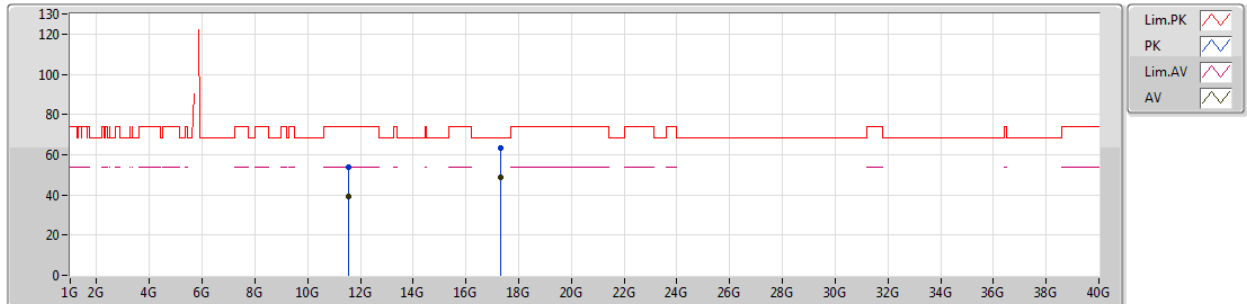
EUT Y_2TX
Setting 19.5
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.55151G	54.24	74.00	-19.76	15.03	3	Vertical	112	1.57	-
AV	11.55243G	39.31	54.00	-14.69	15.03	3	Vertical	112	1.57	-
PK	17.32362G	63.31	68.20	-4.89	21.27	3	Vertical	331	1.53	-
AV	17.32344G	48.67	Inf	-Inf	21.27	3	Vertical	331	1.53	-

802.11ac VHT80_Nss1,(MCS0)_2TX

23/01/2019

5775MHz_TX



EUT Y_2TX
Setting 19.5
02-B-2
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	11.54864G	53.57	74.00	-20.43	15.02	3	Horizontal	139	1.15	-
AV	11.55023G	39.02	54.00	-14.98	15.03	3	Horizontal	139	1.15	-
PK	17.3234G	63.42	68.20	-4.78	21.27	3	Horizontal	359	1.67	-
AV	17.32373G	48.65	Inf	-Inf	21.27	3	Horizontal	359	1.67	-



RSE TX above 1GHz Result

Appendix E.2

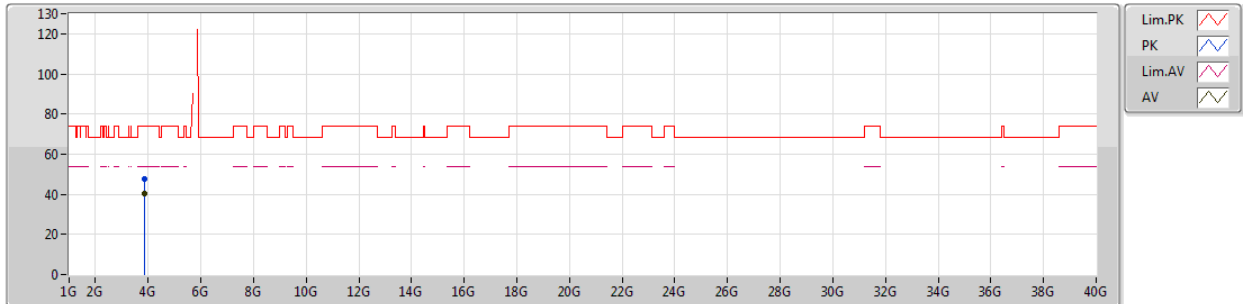
For Cabinet: Summary

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)_2TX	Pass	AV	3.85664G	40.39	54.00	-13.61	1.58	3	Vertical	314	1.23	-

802.11a_Nss1,(6Mbps)_2TX

26/01/2019

5785MHz_TX



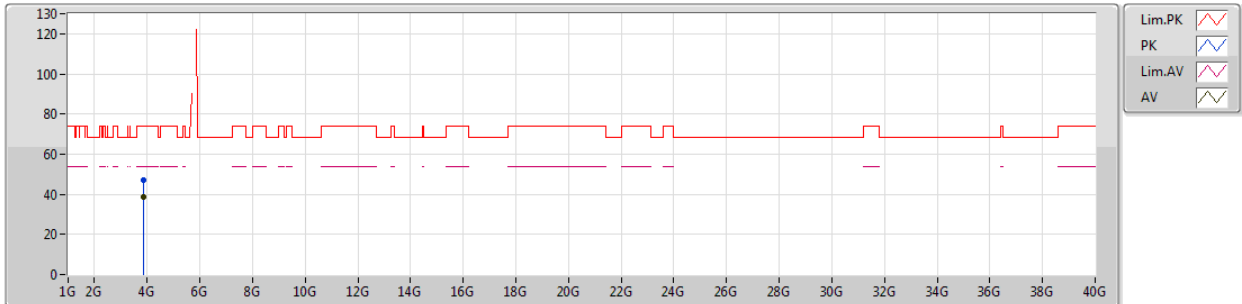
EUT X_2TX
Setting 27
03-P-2
FSP(100019)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	3.85667G	47.83	74.00	-26.17	1.58	3	Vertical	314	1.23	-						
AV	3.85664G	40.39	54.00	-13.61	1.58	3	Vertical	314	1.23	-						

802.11a_Nss1,(6Mbps)_2TX

26/01/2019

5785MHz_TX



EUT X_2TX
Setting 27
03-P-2
FSP(100019)

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments						
PK	3.85674G	46.98	74.00	-27.02	1.58	3	Horizontal	60	1.09	-						
AV	3.8567G	38.78	54.00	-15.22	1.58	3	Horizontal	60	1.09	-						



CSE TX above 1GHz Result

Appendix E.3

For EUT + Set 2 antenna:

For Conducted Spurious Emission and Conducted Bandedge (1GHz~8GHz)

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	DG (dBi)	Refl (dB)	Psum (dBm)	P1 (dBm)	P2 (dBm)
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	1G	5.15G	1M	AV	1.5395G	-41.63	-41.20	-0.43	17.00	0.00	-58.63	-61.36	-61.95
802.11ac VHT20_Nss1,(MCS0)_2TX	Pass	1G	5.15G	1M	AV	1.5395G	-41.53	-41.20	-0.33	17.00	0.00	-58.53	-61.34	-61.75
802.11ac VHT80_Nss1,(MCS0)_2TX	Pass	1G	8G	1M	PK	5.93413G	-27.58	-27.00	-0.58	17.00	0.00	-44.58	-47.29	-47.91

DG = Directional Gain;

PX=Port X; Psum=P1+..P2+..PX



CSE TX above 1GHz Result

Appendix E.3

Result

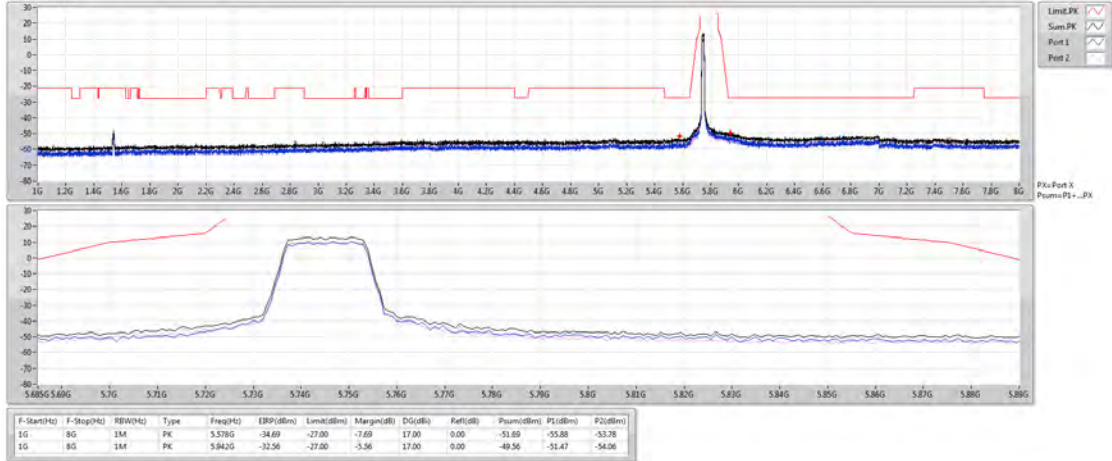
Mode	Result	F-Start (Hz)	F-Stoo (Hz)	RBW (Hz)	Tvde	Frea (Hz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	DG (dBi)	Refl (dB)	Psum (dBm)	P1 (dBm)	P2 (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	1G	8G	1M	PK	5.578G	-34.69	-27.00	-7.69	17.00	0.00	-51.69	-55.88	-53.78
5745MHz	Pass	1G	8G	1M	PK	5.942G	-32.56	-27.00	-5.56	17.00	0.00	-49.56	-51.47	-54.06
5745MHz	Pass	1G	5.15G	1M	AV	1.5395G	-41.63	-41.20	-0.43	17.00	0.00	-58.63	-61.36	-61.95
5745MHz	Pass	1G	5.15G	1M	AV	5.10954G	-47.34	-41.20	-6.14	17.00	0.00	-64.34	-67.38	-67.33
5745MHz	Pass	5.15G	5.35G	1M	AV	5.277G	-47.90	-41.20	-6.70	17.00	0.00	-64.90	-68.25	-67.59
5745MHz	Pass	5.35G	5.46G	1M	AV	5.45934G	-48.09	-41.20	-6.89	17.00	0.00	-65.09	-67.99	-68.21
5745MHz	Pass	5.46G	8G	1M	AV	7.40913G	-46.96	-41.20	-5.76	17.00	0.00	-63.96	-66.78	-67.17
5785MHz	Pass	1G	8G	1M	PK	5.641G	-35.70	-27.00	-8.70	17.00	0.00	-52.70	-56.21	-55.27
5785MHz	Pass	1G	8G	1M	PK	5.94463G	-31.25	-27.00	-4.25	17.00	0.00	-48.25	-50.63	-51.99
5785MHz	Pass	1G	5.15G	1M	AV	1.57996G	-41.89	-41.20	-0.69	17.00	0.00	-58.89	-61.89	-61.91
5785MHz	Pass	1G	5.15G	1M	AV	5.11058G	-47.39	-41.20	-6.19	17.00	0.00	-64.39	-67.32	-67.49
5785MHz	Pass	5.15G	5.35G	1M	AV	5.2972G	-47.99	-41.20	-6.79	17.00	0.00	-64.99	-68.23	-67.79
5785MHz	Pass	5.35G	5.46G	1M	AV	5.45626G	-48.06	-41.20	-6.86	17.00	0.00	-65.06	-67.74	-68.42
5785MHz	Pass	5.46G	8G	1M	AV	7.3958G	-47.08	-41.20	-5.88	17.00	0.00	-64.08	-67.23	-66.95
5825MHz	Pass	1G	8G	1M	PK	5.64538G	-35.18	-27.00	-8.18	17.00	0.00	-52.18	-54.78	-55.64
5825MHz	Pass	1G	8G	1M	PK	5.92538G	-30.82	-27.00	-3.82	17.00	0.00	-47.82	-51.16	-50.53
5825MHz	Pass	1G	5.15G	1M	AV	1.61939G	-41.70	-41.20	-0.50	17.00	0.00	-58.70	-61.48	-61.95
5825MHz	Pass	1G	5.15G	1M	AV	5.10746G	-47.36	-41.20	-6.16	17.00	0.00	-64.36	-67.44	-67.30
5825MHz	Pass	5.15G	5.35G	1M	AV	5.3276G	-47.98	-41.20	-6.78	17.00	0.00	-64.98	-67.87	-68.12
5825MHz	Pass	5.35G	5.46G	1M	AV	5.45714G	-48.08	-41.20	-6.88	17.00	0.00	-65.08	-68.12	-68.07
5825MHz	Pass	5.46G	8G	1M	AV	7.39612G	-47.03	-41.20	-5.83	17.00	0.00	-64.03	-67.10	-66.99
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	1G	8G	1M	PK	5.641G	-35.11	-27.00	-8.11	17.00	0.00	-52.11	-56.02	-54.38
5745MHz	Pass	1G	8G	1M	PK	5.93588G	-32.58	-27.00	-5.58	17.00	0.00	-49.58	-52.25	-52.96
5745MHz	Pass	1G	5.15G	1M	AV	1.5395G	-41.53	-41.20	-0.33	17.00	0.00	-58.53	-61.34	-61.75
5745MHz	Pass	1G	5.15G	1M	AV	5.10954G	-47.40	-41.20	-6.20	17.00	0.00	-64.40	-67.41	-67.41
5745MHz	Pass	5.15G	5.35G	1M	AV	5.2634G	-48.01	-41.20	-6.81	17.00	0.00	-65.01	-67.98	-68.06
5745MHz	Pass	5.35G	5.46G	1M	AV	5.36496G	-47.94	-41.20	-6.74	17.00	0.00	-64.94	-68.09	-67.82
5745MHz	Pass	5.46G	8G	1M	AV	7.39834G	-47.08	-41.20	-5.88	17.00	0.00	-64.08	-66.91	-67.27
5785MHz	Pass	1G	8G	1M	PK	5.648G	-34.81	-27.00	-7.81	17.00	0.00	-51.81	-56.27	-53.74
5785MHz	Pass	1G	8G	1M	PK	5.93675G	-30.97	-27.00	-3.97	17.00	0.00	-47.97	-50.90	-51.06
5785MHz	Pass	1G	5.15G	1M	AV	1.57996G	-41.65	-41.20	-0.45	17.00	0.00	-58.65	-61.66	-61.67
5785MHz	Pass	1G	5.15G	1M	AV	5.10954G	-47.35	-41.20	-6.15	17.00	0.00	-64.35	-67.14	-67.59
5785MHz	Pass	5.15G	5.35G	1M	AV	5.191G	-47.89	-41.20	-6.69	17.00	0.00	-64.89	-67.76	-68.04
5785MHz	Pass	5.35G	5.46G	1M	AV	5.3621G	-48.08	-41.20	-6.88	17.00	0.00	-65.08	-68.01	-68.18
5785MHz	Pass	5.46G	8G	1M	AV	7.3977G	-46.94	-41.20	-5.74	17.00	0.00	-63.94	-66.92	-66.99
5825MHz	Pass	1G	8G	1M	PK	5.648G	-35.66	-27.00	-8.66	17.00	0.00	-52.66	-54.97	-56.50
5825MHz	Pass	1G	8G	1M	PK	5.93063G	-29.20	-27.00	-2.20	17.00	0.00	-46.20	-48.31	-50.35
5825MHz	Pass	1G	5.15G	1M	AV	1.61939G	-41.54	-41.20	-0.34	17.00	0.00	-58.54	-61.45	-61.65
5825MHz	Pass	1G	5.15G	1M	AV	5.10228G	-47.42	-41.20	-6.22	17.00	0.00	-64.42	-67.73	-67.15
5825MHz	Pass	5.15G	5.35G	1M	AV	5.2838G	-47.99	-41.20	-6.79	17.00	0.00	-64.99	-68.08	-67.92
5825MHz	Pass	5.35G	5.46G	1M	AV	5.45923G	-48.08	-41.20	-6.88	17.00	0.00	-65.08	-68.15	-68.03
5825MHz	Pass	5.46G	8G	1M	AV	7.40342G	-47.07	-41.20	-5.87	17.00	0.00	-64.07	-67.15	-67.02
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	1G	8G	1M	PK	5.648G	-32.01	-27.00	-5.01	17.00	0.00	-49.01	-52.63	-51.49
5775MHz	Pass	1G	8G	1M	PK	5.93413G	-27.58	-27.00	-0.58	17.00	0.00	-44.58	-47.29	-47.91
5775MHz	Pass	1G	5.15G	1M	AV	1.56959G	-45.00	-41.20	-3.80	17.00	0.00	-62.00	-65.02	-65.01
5775MHz	Pass	1G	5.15G	1M	AV	5.10643G	-47.24	-41.20	-6.04	17.00	0.00	-64.24	-67.27	-67.24
5775MHz	Pass	5.15G	5.35G	1M	AV	5.228G	-48.04	-41.20	-6.84	17.00	0.00	-65.04	-68.12	-67.98
5775MHz	Pass	5.35G	5.46G	1M	AV	5.45824G	-48.05	-41.20	-6.85	17.00	0.00	-65.05	-67.98	-68.15
5775MHz	Pass	5.46G	8G	1M	AV	7.39008G	-46.98	-41.20	-5.78	17.00	0.00	-63.98	-67.03	-66.96

DG = Directional Gain;
PX=Port X; Psum=P1+.P2+..PX

802.11a_Nss1,(6Mbps)_2TX

5745MHz

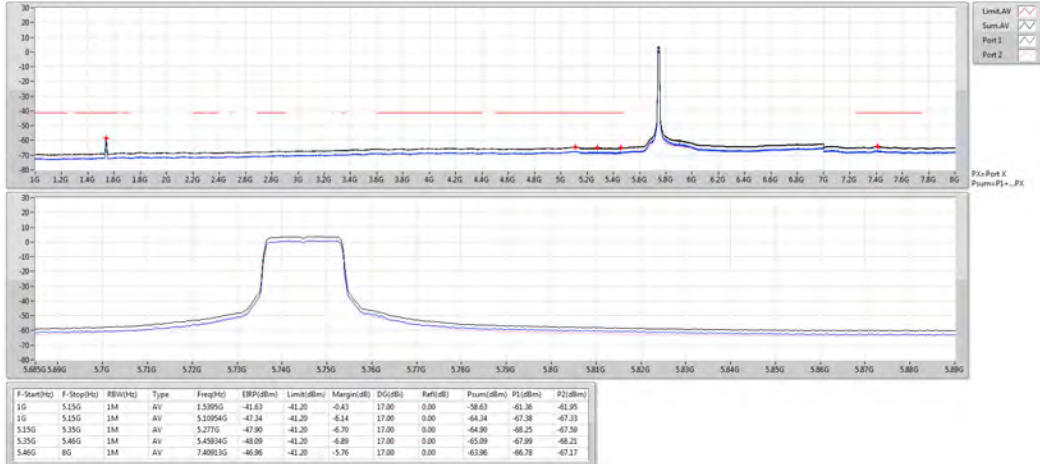
CSE-PK



802.11a_Nss1,(6Mbps)_2TX

5745MHz

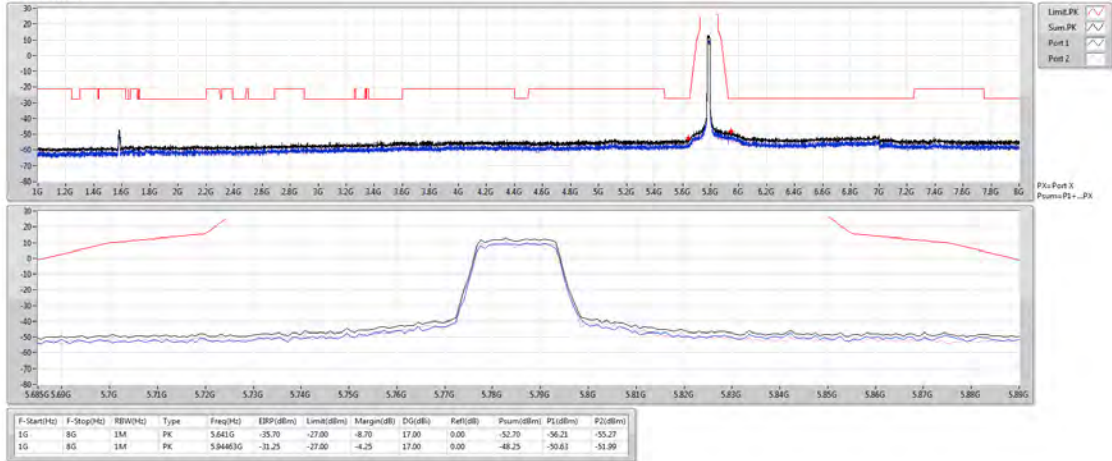
CSE-AV



802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-PK

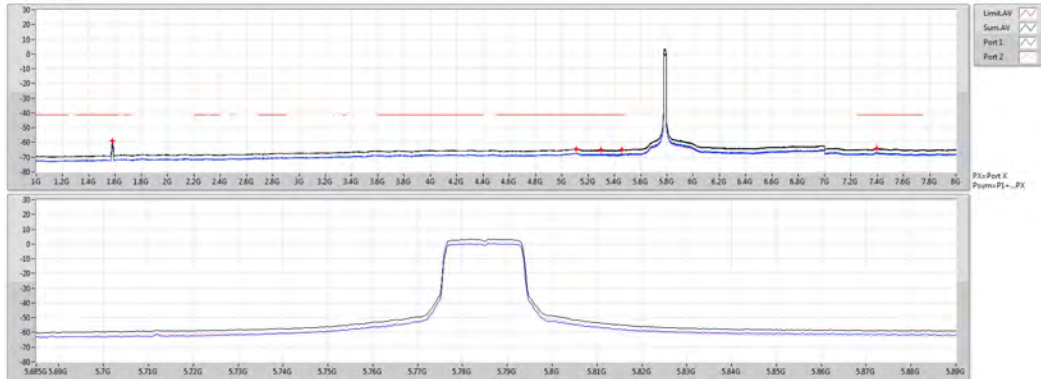


802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-AV

16/01/2019

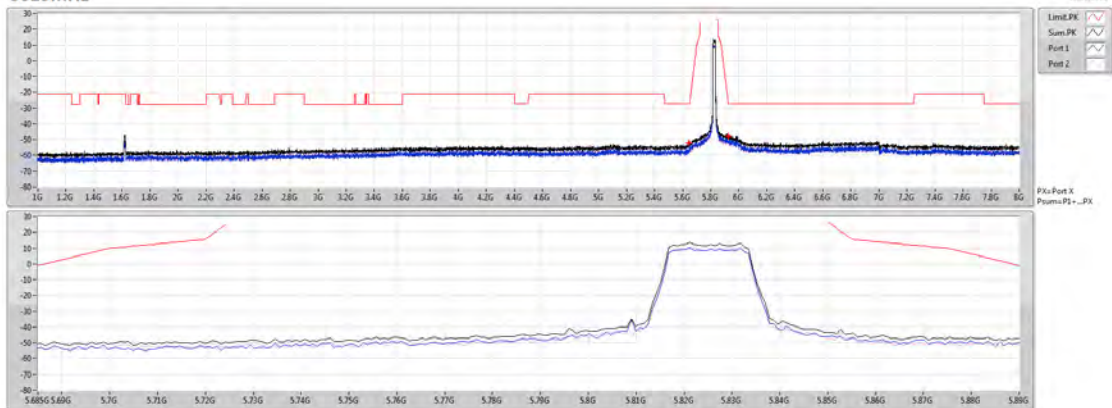


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-PK

16/01/2019

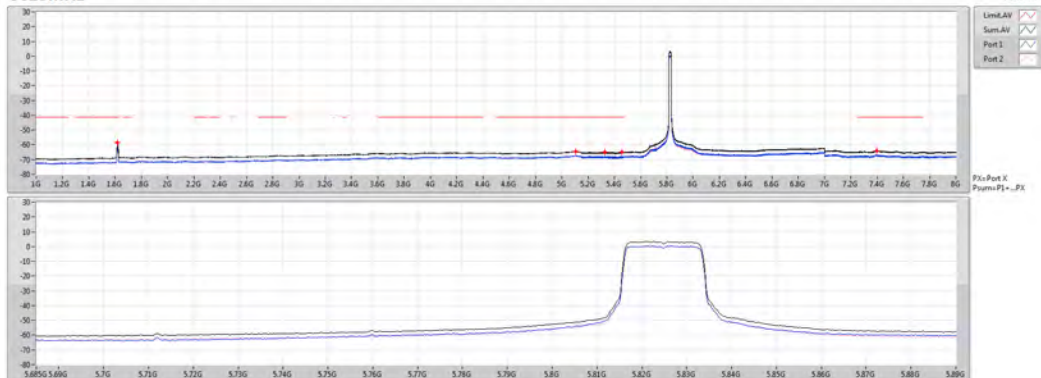


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-AV

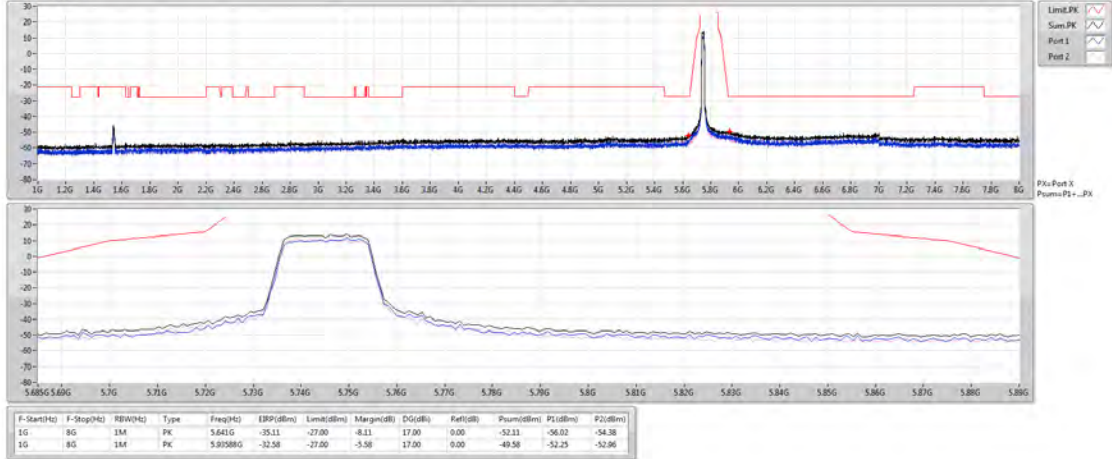
16/01/2019



802.11ac VHT20_Nss1,(MCS0)_2TX

CSE-PK

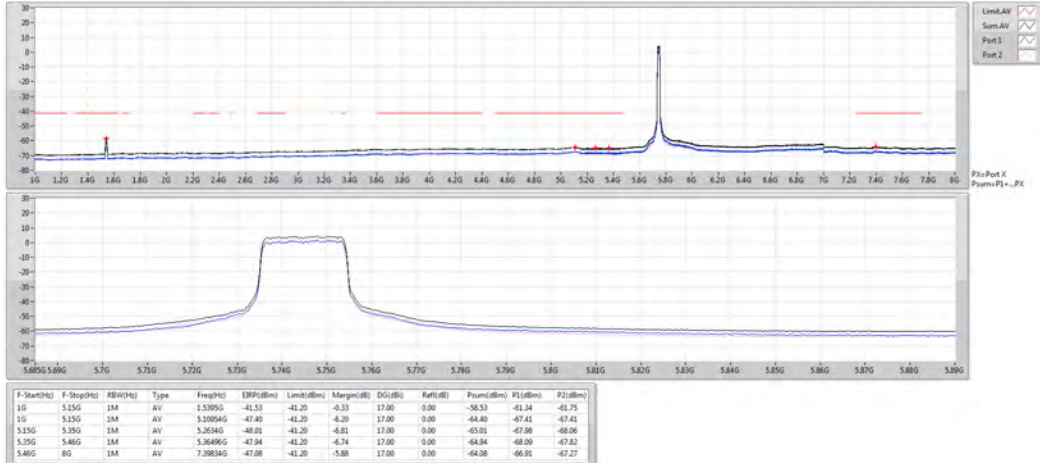
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

CSE-AV

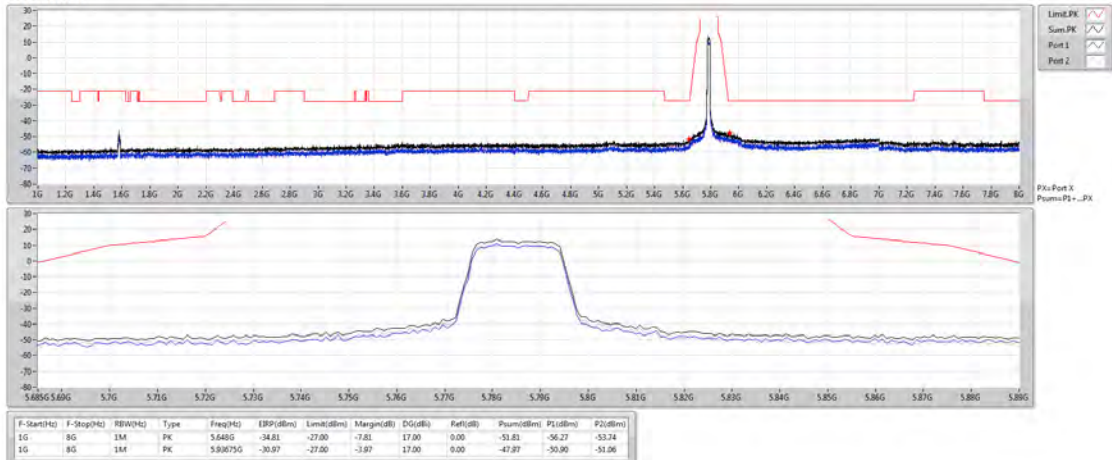
5745MHz

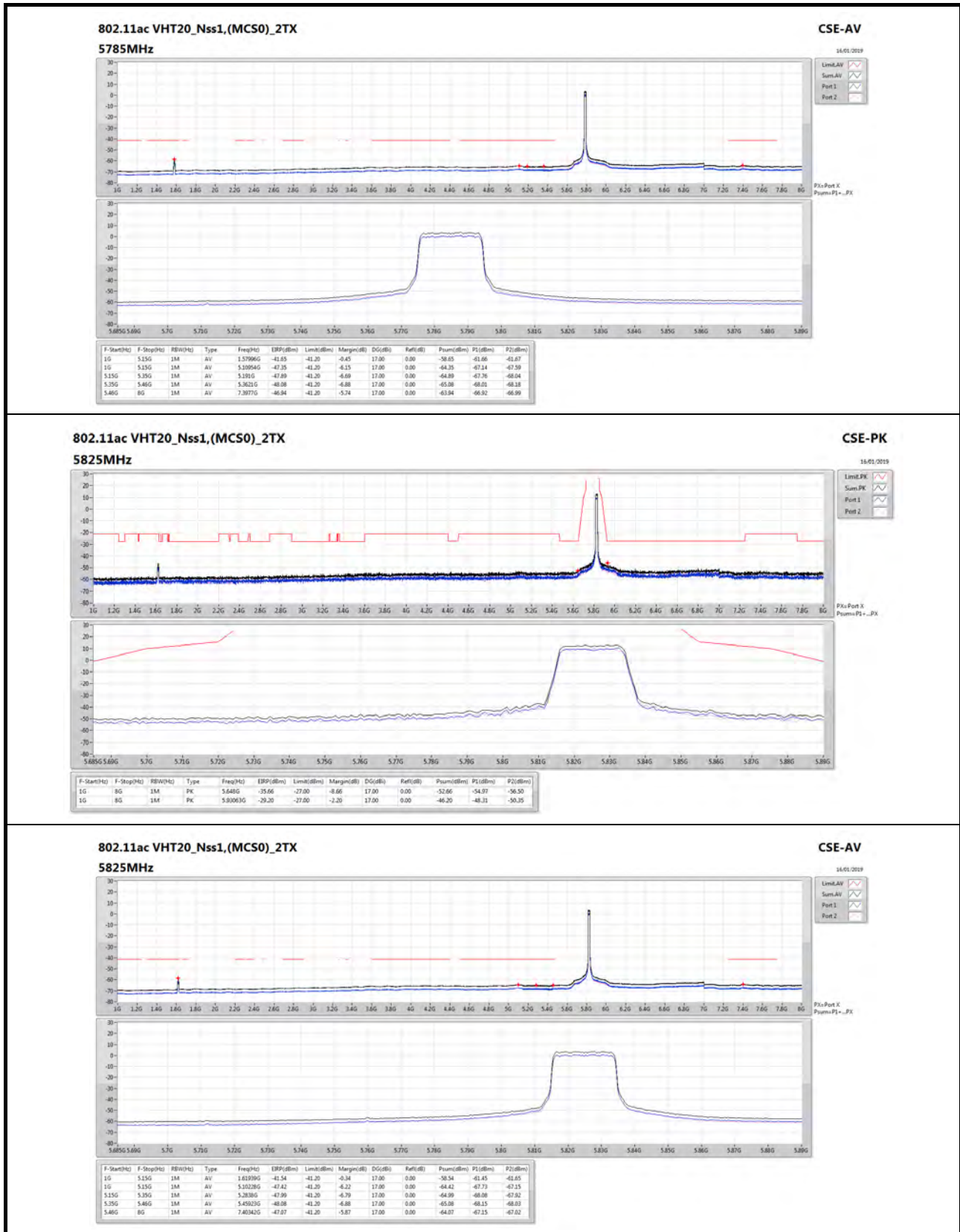


802.11ac VHT20_Nss1,(MCS0)_2TX

CSE-PK

5785MHz

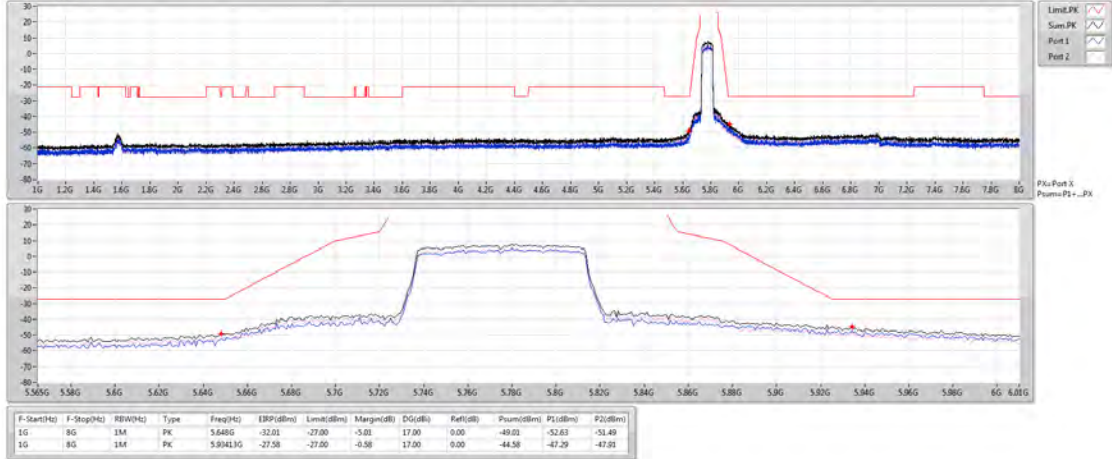




802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

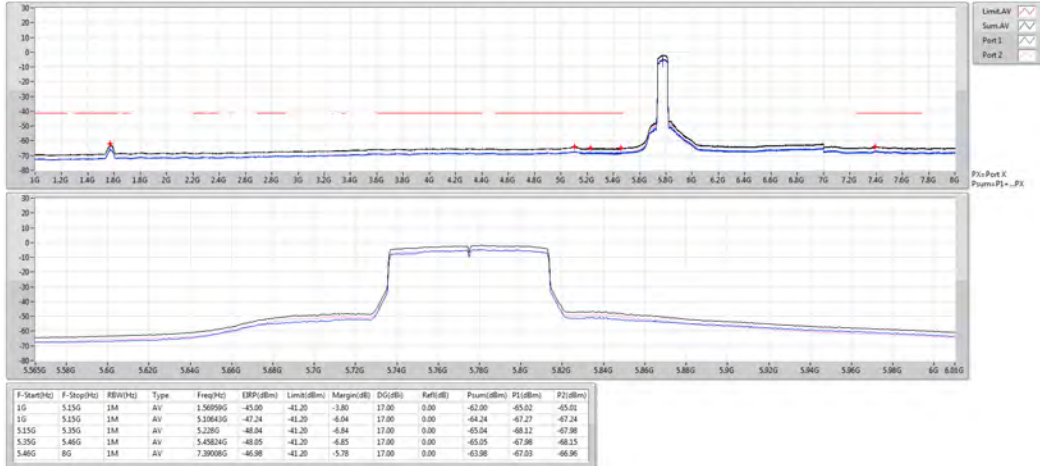
CSE-PK



802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

CSE-AV





CSE TX above 1GHz Result

Appendix E.3

For Conducted Spurious Emission (8GHz~40GHz)

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	DG (dBi)	P1 (dBm)	P2 (dBm)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	8G	40G	1M	AV	40G	17.00	-77.78	-77.74	-74.75	-57.75	-41.20	-16.55
802.11ac VHT20_Nss1,(MCS0)_2TX	Pass	8G	40G	1M	AV	39.999G	17.00	-77.63	-77.91	-74.76	-57.76	-41.20	-16.56
802.11ac VHT80_Nss1,(MCS0)_2TX	Pass	8G	40G	1M	AV	39.991G	17.00	-77.99	-77.68	-74.82	-57.82	-41.20	-16.62

DG = Directional Gain;

PX=Port X; Psum=P1+.P2+..PX



CSE TX above 1GHz Result

Appendix E.3

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	DG (dB)	P1 (dBm)	P2 (dBm)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	8G	40G	1M	PK	11.496G	17.00	-78.35	-79.60	-75.92	-58.92	-21.20	-37.72
5745MHz	Pass	8G	40G	1M	PK	37.5G	17.00	-66.77	-68.81	-64.66	-47.66	-27.00	-20.66
5745MHz	Pass	8G	40G	1M	AV	11.498G	17.00	-88.42	-88.69	-85.54	-68.54	-41.20	-27.34
5745MHz	Pass	8G	40G	1M	AV	40G	17.00	-77.78	-77.74	-74.75	-57.75	-41.20	-16.55
5785MHz	Pass	8G	40G	1M	PK	11.568G	17.00	-74.42	-76.43	-72.30	-55.30	-21.20	-34.10
5785MHz	Pass	8G	40G	1M	PK	36.584G	17.00	-65.92	-70.35	-64.58	-47.58	-27.00	-20.58
5785MHz	Pass	8G	40G	1M	AV	11.568G	17.00	-86.15	-86.42	-83.27	-66.27	-41.20	-25.07
5785MHz	Pass	8G	40G	1M	AV	39.999G	17.00	-77.66	-77.89	-74.76	-57.76	-41.20	-16.56
5825MHz	Pass	8G	40G	1M	PK	11.64G	17.00	-76.56	-77.84	-74.14	-57.14	-21.20	-35.94
5825MHz	Pass	8G	40G	1M	PK	38.54G	17.00	-67.13	-68.02	-64.54	-47.54	-27.00	-20.54
5825MHz	Pass	8G	40G	1M	AV	11.648G	17.00	-87.60	-87.61	-84.59	-67.59	-41.20	-26.39
5825MHz	Pass	8G	40G	1M	AV	39.997G	17.00	-77.80	-77.77	-74.77	-57.77	-41.20	-16.57
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	8G	40G	1M	PK	11.488G	17.00	-78.97	-78.97	-75.96	-58.96	-21.20	-37.76
5745MHz	Pass	8G	40G	1M	PK	36.648G	17.00	-66.66	-68.02	-64.28	-47.28	-27.00	-20.28
5745MHz	Pass	8G	40G	1M	AV	11.498G	17.00	-88.63	-88.84	-85.72	-68.72	-41.20	-27.52
5745MHz	Pass	8G	40G	1M	AV	39.997G	17.00	-78.04	-77.68	-74.85	-57.85	-41.20	-16.65
5785MHz	Pass	8G	40G	1M	PK	11.564G	17.00	-76.17	-75.38	-72.75	-55.75	-21.20	-34.55
5785MHz	Pass	8G	40G	1M	PK	37.436G	17.00	-68.67	-66.46	-64.42	-47.42	-27.00	-20.42
5785MHz	Pass	8G	40G	1M	AV	11.568G	17.00	-86.53	-86.79	-83.65	-66.65	-41.20	-25.45
5785MHz	Pass	8G	40G	1M	AV	39.998G	17.00	-77.77	-77.85	-74.80	-57.80	-41.20	-16.60
5825MHz	Pass	8G	40G	1M	PK	11.64G	17.00	-78.10	-77.19	-74.61	-57.61	-21.20	-36.41
5825MHz	Pass	8G	40G	1M	PK	38.568G	17.00	-66.74	-68.76	-64.62	-47.62	-27.00	-20.62
5825MHz	Pass	8G	40G	1M	AV	11.653G	17.00	-87.84	-87.57	-84.69	-67.69	-41.20	-26.49
5825MHz	Pass	8G	40G	1M	AV	39.999G	17.00	-77.63	-77.91	-74.76	-57.76	-41.20	-16.56
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	8G	40G	1M	PK	11.516G	17.00	-77.18	-73.87	-72.21	-55.21	-21.20	-34.01
5775MHz	Pass	8G	40G	1M	PK	37.94G	17.00	-67.51	-66.81	-64.14	-47.14	-27.00	-20.14
5775MHz	Pass	8G	40G	1M	AV	11.549G	17.00	-86.24	-85.19	-82.67	-65.67	-41.20	-24.47
5775MHz	Pass	8G	40G	1M	AV	39.991G	17.00	-77.99	-77.68	-74.82	-57.82	-41.20	-16.62

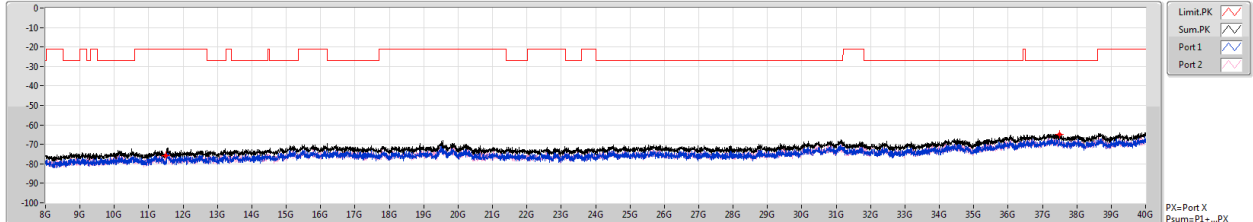
DG = Directional Gain;

802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-PK

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.496G	-58.92	-21.20	-37.72	17.00	0.00	-75.92	-78.35	-79.60
8G	40G	1M	PK	37.5G	-47.66	-27.00	-20.66	17.00	0.00	-64.66	-66.77	-68.81

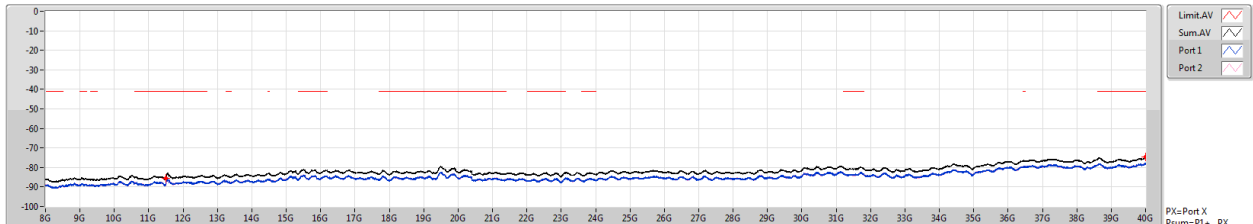
PX=Port X
Psum=P1+...PX

802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-AV

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.498G	-68.54	-41.20	-27.34	17.00	0.00	-85.54	-88.42	-88.69
8G	40G	1M	AV	40G	-57.75	-41.20	-16.55	17.00	0.00	-74.75	-77.78	-77.74

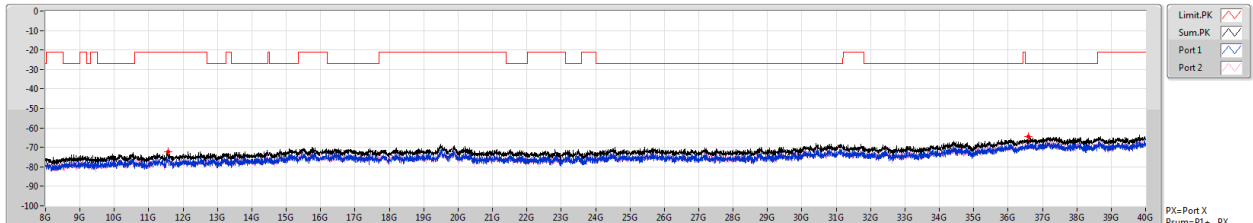
PX=Port X
Psum=P1+...PX

802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-PK

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.568G	-55.30	-21.20	-34.10	17.00	0.00	-72.30	-74.42	-76.43
8G	40G	1M	PK	36.584G	-47.58	-27.00	-20.58	17.00	0.00	-64.58	-65.92	-70.35

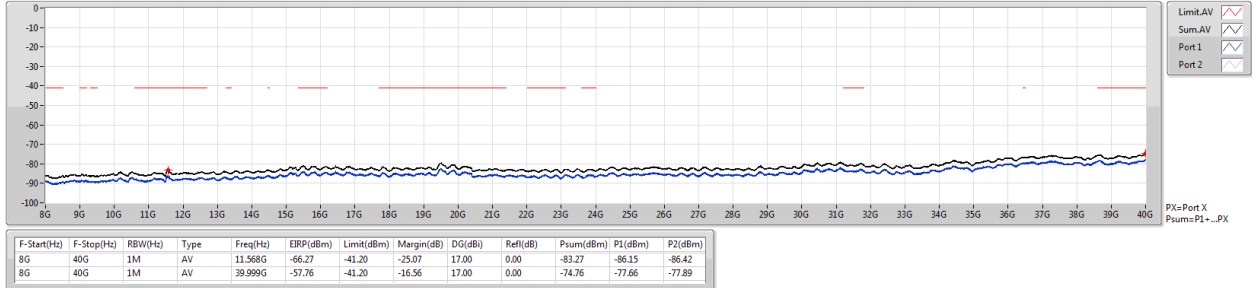
PX=Port X
Psum=P1+...PX

802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-AV

16/01/2019

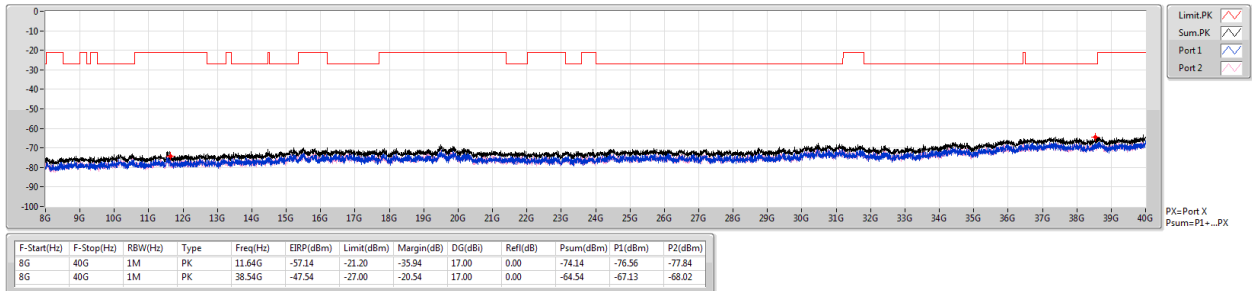


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-PK

16/01/2019

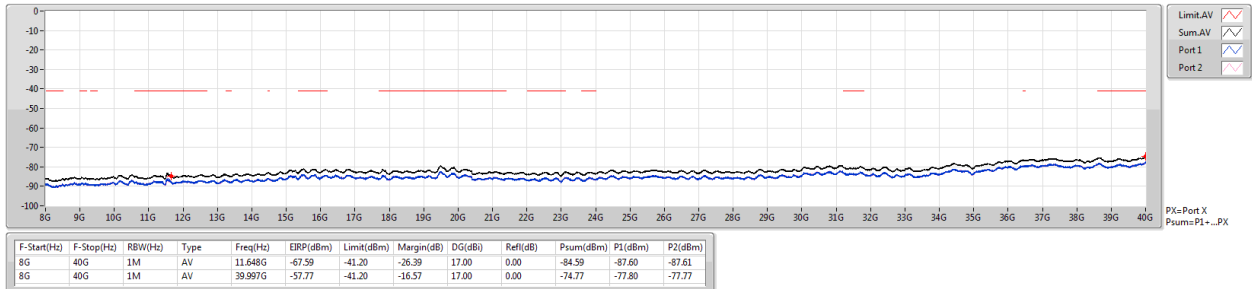


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-AV

16/01/2019

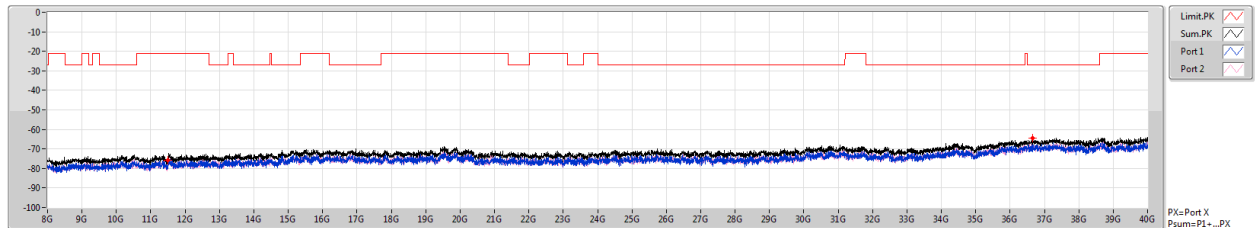


802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-PK

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.488G	-58.96	-21.20	-37.76	17.00	0.00	-75.96	-78.97	-78.97
8G	40G	1M	PK	36.648G	-47.28	-27.00	-20.28	17.00	0.00	-64.28	-66.66	-68.02

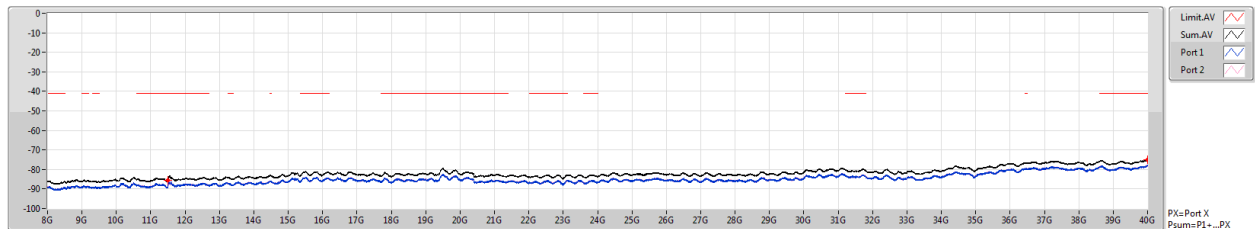
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-AV

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.498G	-68.72	-41.20	-27.52	17.00	0.00	-85.72	-88.63	-88.84
8G	40G	1M	AV	39.997G	-57.85	-41.20	-16.65	17.00	0.00	-74.85	-78.04	-77.68

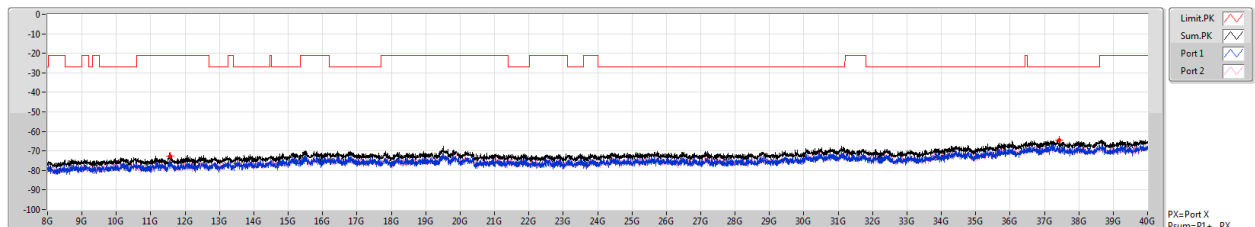
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

CSE-PK

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.564G	-55.75	-21.20	-34.55	17.00	0.00	-72.75	-76.17	-75.38
8G	40G	1M	PK	37.436G	-47.42	-27.00	-20.42	17.00	0.00	-64.42	-68.67	-66.46

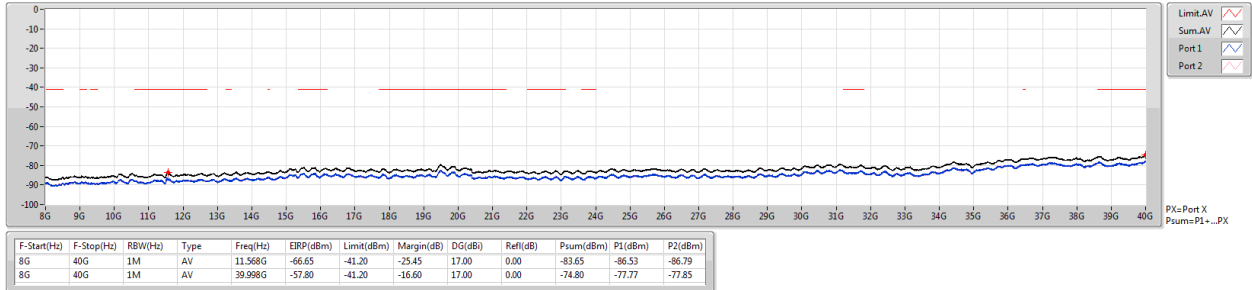
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

CSE-AV

16/01/2019

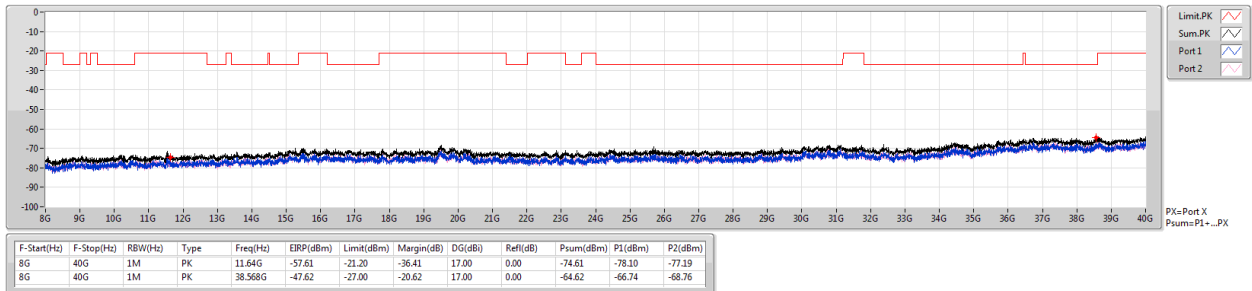


802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz

CSE-PK

16/01/2019

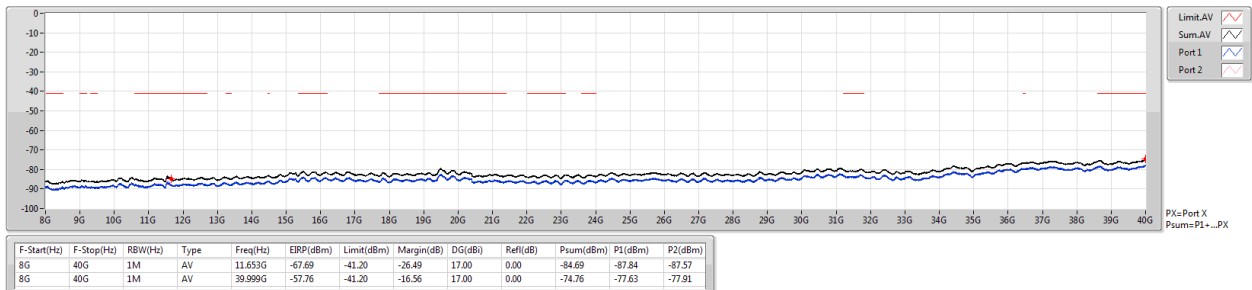


802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz

CSE-AV

16/01/2019

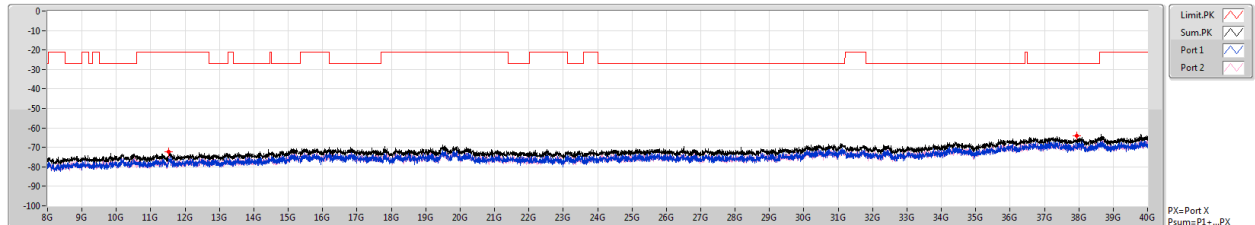


802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

CSE-PK

16/01/2019



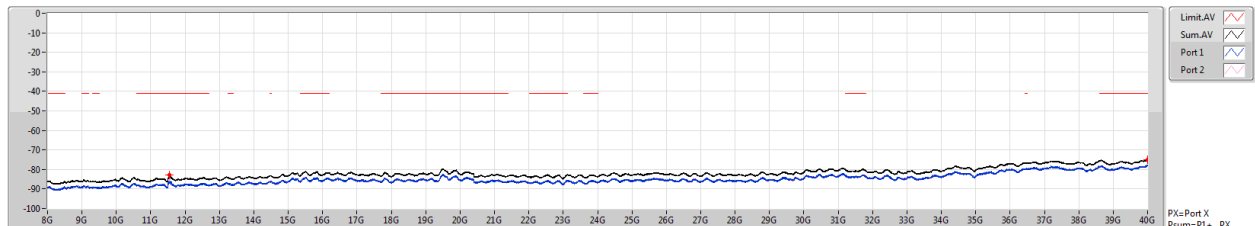
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	ERP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.516G	-55.21	-21.20	-34.01	17.00	0.00	-72.21	-77.18	-73.87
8G	40G	1M	PK	37.94G	-47.14	-27.00	-20.14	17.00	0.00	-64.14	-67.51	-66.81

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

CSE-AV

16/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	ERP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.549G	-65.67	-41.20	-24.47	17.00	0.00	-82.67	-86.24	-85.19
8G	40G	1M	AV	39.991G	-57.82	-41.20	-16.62	17.00	0.00	-74.82	-77.99	-77.68



CSE TX above 1GHz Result

Appendix E.3

For EUT + Set 3 antenna:

For Conducted Spurious Emission and Conducted Bandedge (1GHz~8GHz)

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	DG (dBi)	Refl (dB)	Psum (dBm)	P1 (dBm)	P2 (dBm)
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	1G	5.15G	1M	AV	1.57996G	-48.78	-41.20	-7.58	2.00	0.00	-50.78	-53.53	-54.06
802.11ac VHT20_Nss1,(MCS0)_2TX	Pass	1G	5.15G	1M	AV	1.57893G	-49.42	-41.20	-8.22	2.00	0.00	-51.42	-54.04	-54.86
802.11ac VHT80_Nss1,(MCS0)_2TX	Pass	1G	8G	1M	PK	5.65063G	-27.38	-26.54	-0.84	2.00	0.00	-29.38	-35.54	-30.59

DG = Directional Gain;

PX=Port X; Psum=P1+..P2+..PX



CSE TX above 1GHz Result

Appendix E.3

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	DG (dBi)	Refl (dB)	Psum (dBm)	P1 (dBm)	P2 (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	1G	8G	1M	PK	5.5815G	-44.43	-27.00	-17.43	2.00	0.00	-46.43	-48.99	-49.94
5745MHz	Pass	1G	8G	1M	PK	5.9455G	-43.25	-27.00	-16.25	2.00	0.00	-45.25	-47.20	-49.66
5745MHz	Pass	1G	8G	1M	PK	6.73125G	-41.82	-27.00	-14.82	2.00	0.00	-43.82	-45.64	-48.47
5745MHz	Pass	1G	5.15G	1M	AV	1.5395G	-52.14	-41.20	-10.94	2.00	0.00	-54.14	-56.85	-57.48
5745MHz	Pass	1G	5.15G	1M	AV	5.14274G	-56.91	-41.20	-15.71	2.00	0.00	-58.91	-62.06	-61.78
5745MHz	Pass	5.15G	5.35G	1M	AV	5.1658G	-56.94	-41.20	-15.74	2.00	0.00	-58.94	-61.84	-62.07
5745MHz	Pass	5.35G	5.46G	1M	AV	5.38366G	-57.21	-41.20	-16.01	2.00	0.00	-59.21	-62.19	-62.26
5745MHz	Pass	5.46G	8G	1M	AV	5.46826G	-57.33	-41.20	-16.13	2.00	0.00	-59.33	-62.30	-62.38
5785MHz	Pass	1G	8G	1M	PK	5.63925G	-44.34	-27.00	-17.34	2.00	0.00	-46.34	-50.44	-48.48
5785MHz	Pass	1G	8G	1M	PK	5.9315G	-42.04	-27.00	-15.04	2.00	0.00	-44.04	-48.54	-45.94
5785MHz	Pass	1G	5.15G	1M	AV	1.57996G	-48.78	-41.20	-7.58	2.00	0.00	-50.78	-53.53	-54.06
5785MHz	Pass	1G	5.15G	1M	AV	5.14585G	-56.73	-41.20	-15.53	2.00	0.00	-58.73	-61.99	-61.50
5785MHz	Pass	5.15G	5.35G	1M	AV	5.1528G	-56.93	-41.20	-15.73	2.00	0.00	-58.93	-62.09	-61.79
5785MHz	Pass	5.35G	5.46G	1M	AV	5.41314G	-57.23	-41.20	-16.03	2.00	0.00	-59.23	-62.13	-62.35
5785MHz	Pass	5.46G	8G	1M	AV	5.46032G	-57.37	-41.20	-16.17	2.00	0.00	-59.37	-62.38	-62.38
5825MHz	Pass	1G	8G	1M	PK	5.58675G	-43.96	-27.00	-16.96	2.00	0.00	-45.96	-47.89	-50.41
5825MHz	Pass	1G	8G	1M	PK	5.956G	-41.97	-27.00	-14.97	2.00	0.00	-43.97	-46.23	-47.90
5825MHz	Pass	1G	5.15G	1M	AV	1.61939G	-49.45	-41.20	-8.25	2.00	0.00	-51.45	-53.85	-55.17
5825MHz	Pass	5.15G	5.35G	1M	AV	5.15G	-56.86	-41.20	-15.66	2.00	0.00	-58.86	-61.94	-61.80
5825MHz	Pass	5.15G	5.35G	1M	AV	5.2436G	-56.99	-41.20	-15.79	2.00	0.00	-58.99	-61.95	-62.05
5825MHz	Pass	5.35G	5.46G	1M	AV	5.39818G	-57.16	-41.20	-15.96	2.00	0.00	-59.16	-62.00	-62.35
5825MHz	Pass	5.46G	8G	1M	AV	5.46984G	-57.39	-41.20	-16.19	2.00	0.00	-59.39	-62.45	-62.35
802.11ac_VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	1G	8G	1M	PK	5.62875G	-43.82	-27.00	-16.82	2.00	0.00	-45.82	-47.37	-51.03
5745MHz	Pass	1G	8G	1M	PK	5.93938G	-43.81	-27.00	-16.81	2.00	0.00	-45.81	-48.81	-48.83
5745MHz	Pass	1G	8G	1M	PK	6.81788G	-42.28	-27.00	-15.28	2.00	0.00	-44.28	-47.14	-47.44
5745MHz	Pass	1G	5.15G	1M	AV	1.5395G	-52.33	-41.20	-11.13	2.00	0.00	-54.33	-56.79	-57.98
5745MHz	Pass	5.15G	5.35G	1M	AV	5.1546G	-56.89	-41.20	-15.69	2.00	0.00	-58.89	-61.76	-62.05
5745MHz	Pass	5.35G	5.46G	1M	AV	5.36991G	-57.20	-41.20	-16.00	2.00	0.00	-59.20	-62.29	-62.13
5745MHz	Pass	5.46G	8G	1M	AV	5.4654G	-57.05	-41.20	-15.85	2.00	0.00	-59.05	-61.90	-62.23
5785MHz	Pass	1G	8G	1M	PK	5.64275G	-44.47	-27.00	-17.47	2.00	0.00	-46.47	-50.35	-48.76
5785MHz	Pass	1G	8G	1M	PK	5.96913G	-42.28	-27.00	-15.28	2.00	0.00	-44.28	-46.56	-48.17
5785MHz	Pass	1G	8G	1M	PK	6.6455G	-42.17	-27.00	-15.17	2.00	0.00	-44.17	-46.00	-48.81
5785MHz	Pass	1G	5.15G	1M	AV	1.57893G	-49.42	-41.20	-8.22	2.00	0.00	-51.42	-54.04	-54.86
5785MHz	Pass	1G	5.15G	1M	AV	5.14274G	-56.88	-41.20	-15.68	2.00	0.00	-58.88	-61.98	-61.81
5785MHz	Pass	5.15G	5.35G	1M	AV	5.1568G	-56.96	-41.20	-15.76	2.00	0.00	-58.96	-61.89	-62.05
5785MHz	Pass	5.35G	5.46G	1M	AV	5.3929G	-57.18	-41.20	-15.98	2.00	0.00	-59.18	-62.00	-62.39
5785MHz	Pass	5.46G	8G	1M	AV	5.46286G	-57.17	-41.20	-15.97	2.00	0.00	-59.17	-62.36	-62.01
5825MHz	Pass	1G	8G	1M	PK	5.55263G	-44.59	-27.00	-17.59	2.00	0.00	-46.59	-51.21	-48.43
5825MHz	Pass	1G	8G	1M	PK	5.94725G	-41.49	-27.00	-14.49	2.00	0.00	-43.49	-45.31	-48.14
5825MHz	Pass	1G	5.15G	1M	AV	1.61939G	-50.00	-41.20	-8.80	2.00	0.00	-52.00	-54.40	-55.72
5825MHz	Pass	5.15G	5.35G	1M	AV	5.1528G	-56.84	-41.20	-15.64	2.00	0.00	-58.84	-61.74	-61.96
5825MHz	Pass	5.35G	5.46G	1M	AV	5.40313G	-57.27	-41.20	-16.07	2.00	0.00	-59.27	-62.04	-62.54
5825MHz	Pass	5.46G	8G	1M	AV	5.46762G	-57.28	-41.20	-16.08	2.00	0.00	-59.28	-62.31	-62.27
802.11ac_VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	1G	8G	1M	PK	5.65063G	-27.38	-26.54	-0.84	2.00	0.00	-29.38	-35.54	-30.59
5775MHz	Pass	1G	8G	1M	PK	5.92713G	-30.91	-27.00	-3.91	2.00	0.00	-32.91	-35.62	-36.25
5775MHz	Pass	1G	5.15G	1M	AV	1.56959G	-55.80	-41.20	-14.60	2.00	0.00	-57.80	-60.88	-60.75
5775MHz	Pass	1G	5.15G	1M	AV	5.14689G	-56.76	-41.20	-15.56	2.00	0.00	-58.76	-61.80	-61.74
5775MHz	Pass	5.15G	5.35G	1M	AV	5.1638G	-56.99	-41.20	-15.79	2.00	0.00	-58.99	-62.09	-61.92
5775MHz	Pass	5.35G	5.46G	1M	AV	5.39455G	-57.26	-41.20	-16.06	2.00	0.00	-59.26	-62.01	-62.55



CSE TX above 1GHz Result

Appendix E.3

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	DG (dBi)	Refl (dB)	Psum (dBm)	P1 (dBm)	P2 (dBm)
5775MHz	Pass	5.46G	8G	1M	AV	5.46191G	-57.27	-41.20	-16.07	2.00	0.00	-59.27	-62.19	-62.38

DG = Directional Gain;
PX=Port X; Psum=P1+.P2+..PX

802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-PK

17/01/2019

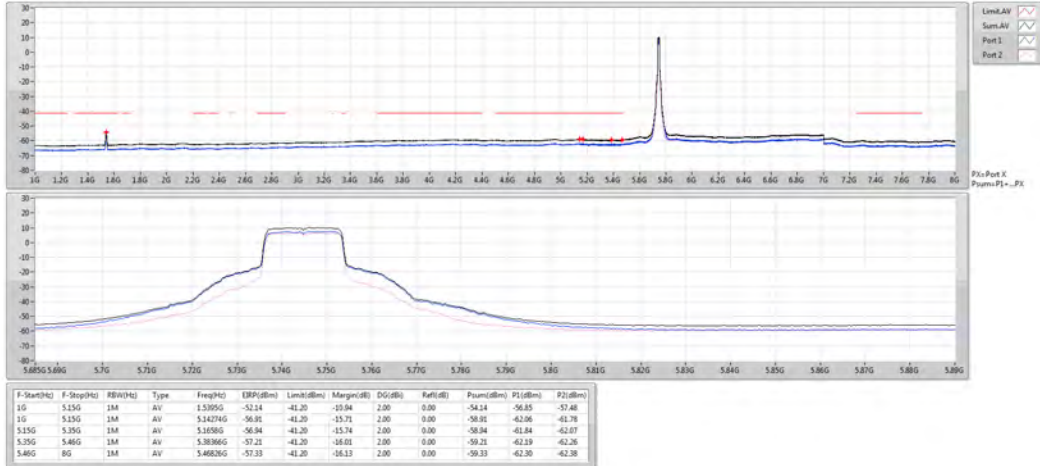


802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-AV

17/01/2019

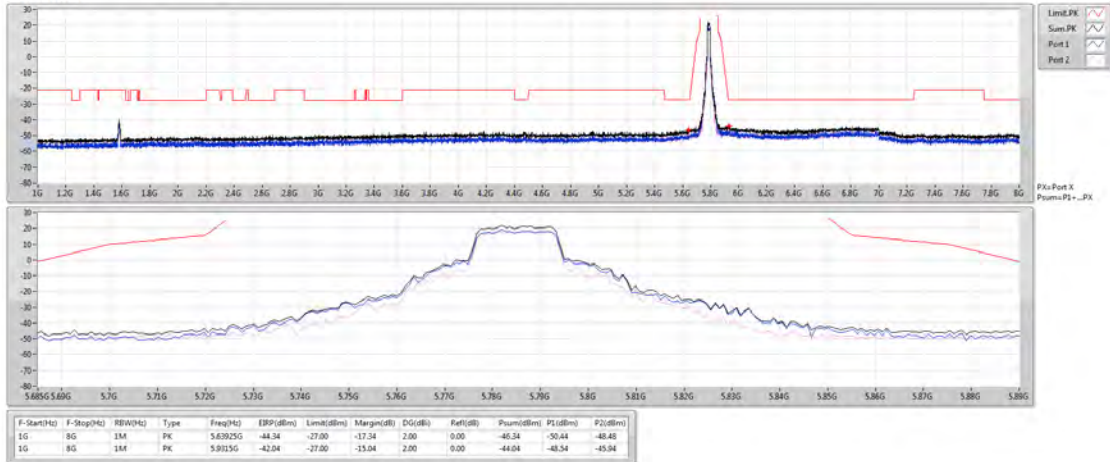


802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-PK

17/01/2019

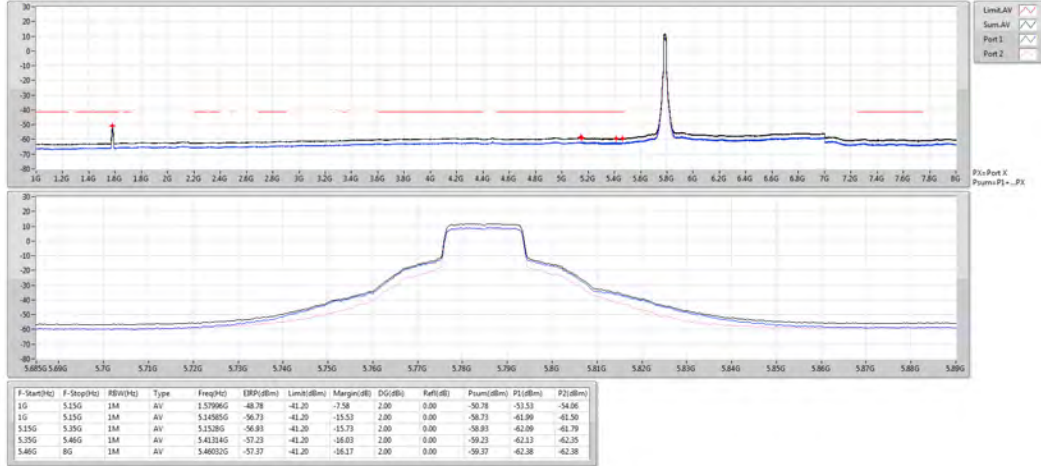


802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-AV

17/01/2019

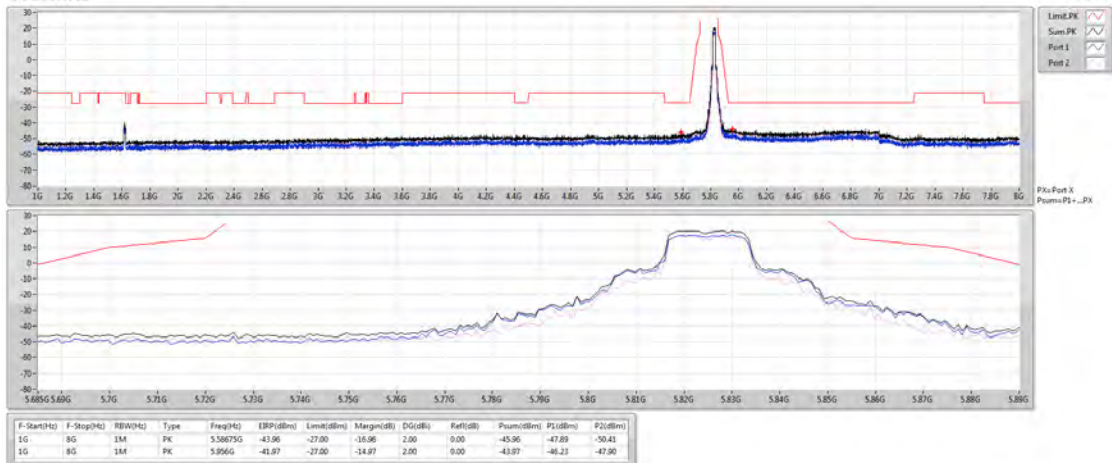


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-PK

17/01/2019

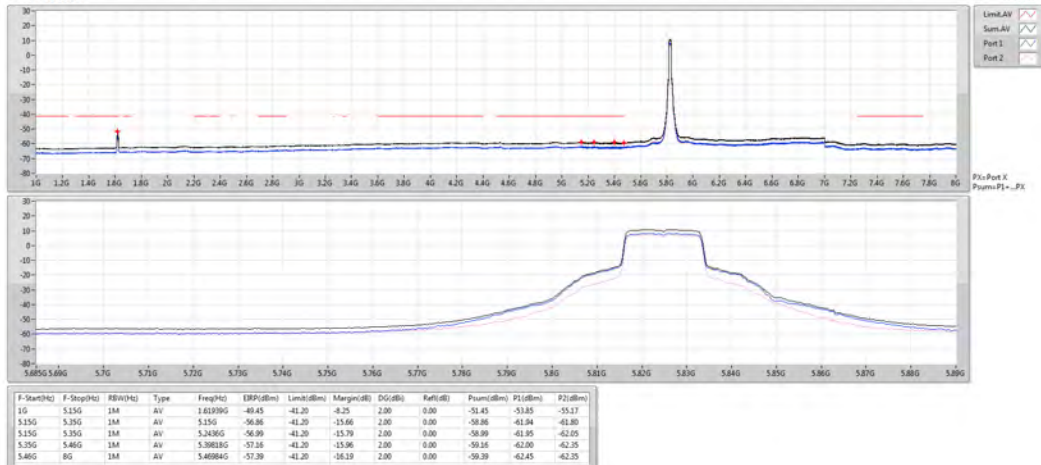


802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-AV

17/01/2019

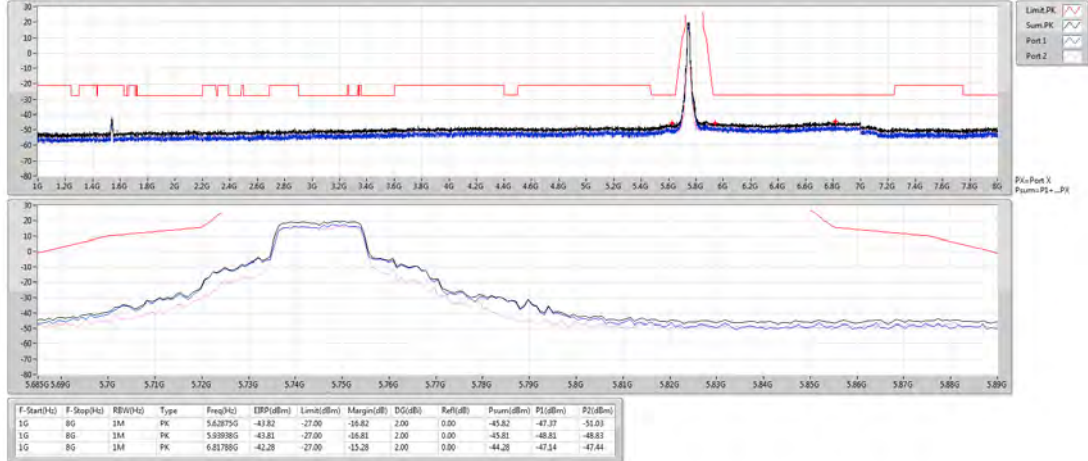


802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-PK

17.01.2019

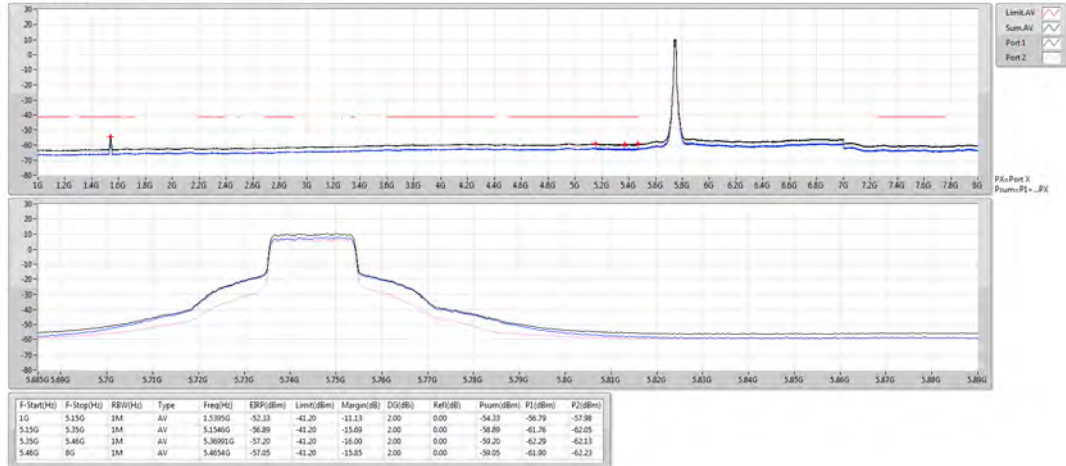


802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-AV

17.01.2019

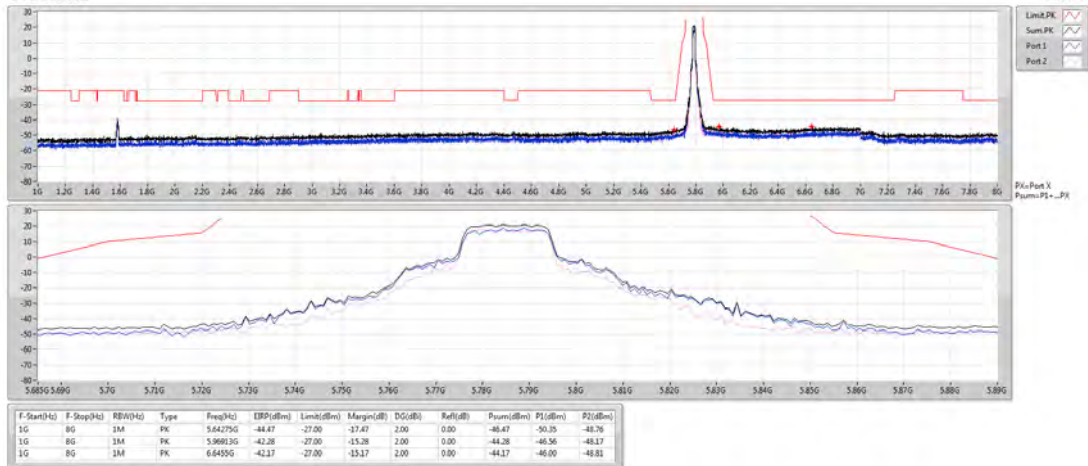


802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

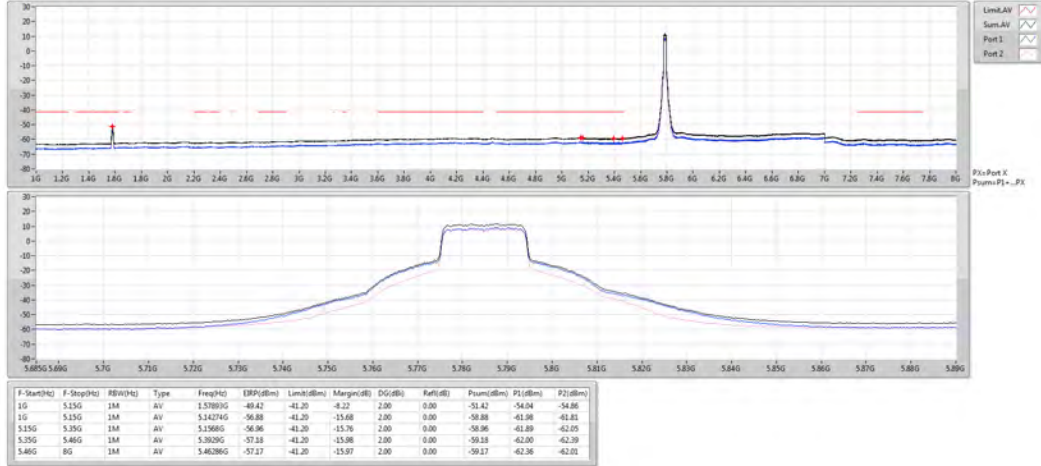
CSE-PK

17.01.2019



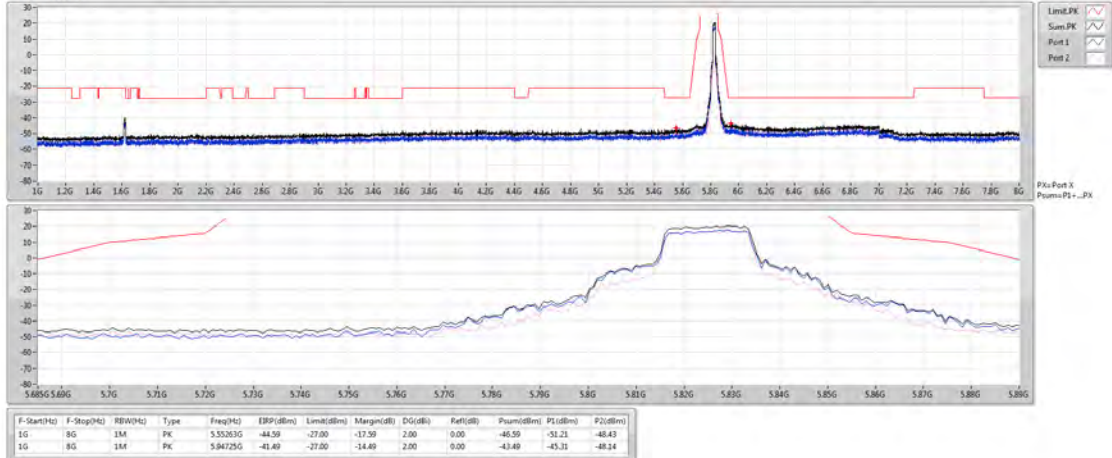
802.11ac VHT20_Nss1,(MCS0)_2TX
5785MHz

CSE-AV



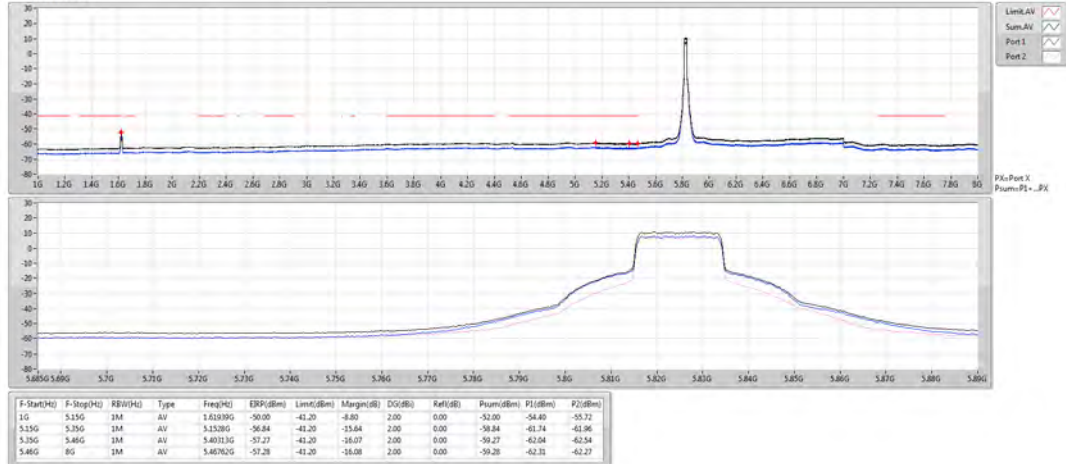
802.11ac VHT20_Nss1,(MCS0)_2TX
5825MHz

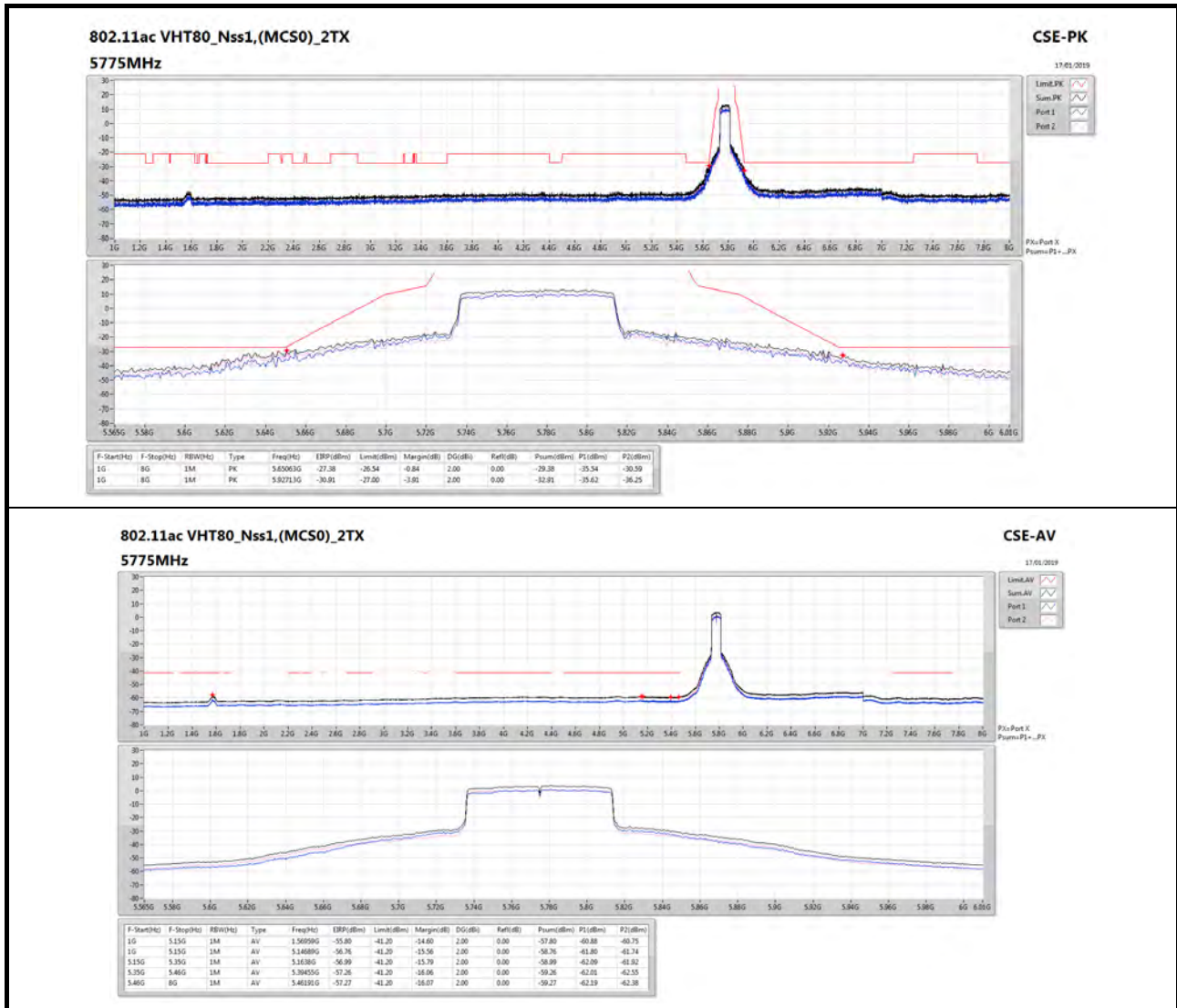
CSE-PK



802.11ac VHT20_Nss1,(MCS0)_2TX
5825MHz

CSE-AV







CSE TX above 1GHz Result

Appendix E.3

For Conducted Spurious Emission (8GHz~40GHz)

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	DG (dBi)	P1 (dBm)	P2 (dBm)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	Pass	8G	40G	1M	AV	11.65G	2.00	-67.65	-67.03	-64.32	-62.32	-41.20	-21.12
802.11ac VHT20_Nss1,(MCS0)_2TX	Pass	8G	40G	1M	AV	11.649G	2.00	-68.72	-67.02	-64.78	-62.78	-41.20	-21.58
802.11ac VHT80_Nss1,(MCS0)_2TX	Pass	8G	40G	1M	AV	39.997G	2.00	-77.95	-77.65	-74.79	-72.79	-41.20	-31.59

DG = Directional Gain;

PX=Port X; Psum=P1+.P2+..PX



CSE TX above 1GHz Result

Appendix E.3

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	Type	Freq (Hz)	DG (dBi)	P1 (dBm)	P2 (dBm)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	8G	40G	1M	PK	11.492G	2.00	-59.66	-72.98	-59.46	-57.46	-21.20	-36.26
5745MHz	Pass	8G	40G	1M	PK	36.564G	2.00	-67.03	-68.37	-64.64	-62.64	-27.00	-35.64
5745MHz	Pass	8G	40G	1M	AV	11.495G	2.00	-69.95	-83.66	-69.77	-67.77	-41.20	-26.57
5785MHz	Pass	8G	40G	1M	PK	11.568G	2.00	-73.02	-59.51	-59.32	-57.32	-21.20	-36.12
5785MHz	Pass	8G	40G	1M	PK	17.348G	2.00	-57.06	-68.18	-56.74	-54.74	-27.00	-27.74
5785MHz	Pass	8G	40G	1M	AV	11.566G	2.00	-83.57	-72.55	-72.22	-70.22	-41.20	-29.02
5825MHz	Pass	8G	40G	1M	PK	11.648G	2.00	-52.89	-52.20	-49.52	-47.52	-21.20	-26.32
5825MHz	Pass	8G	40G	1M	AV	11.65G	2.00	-67.65	-67.03	-64.32	-62.32	-41.20	-21.12
802.11ac_VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	8G	40G	1M	PK	11.492G	2.00	-58.74	-71.86	-58.53	-56.53	-21.20	-35.33
5745MHz	Pass	8G	40G	1M	AV	11.498G	2.00	-71.19	-83.55	-70.94	-68.94	-41.20	-27.74
5745MHz	Pass	8G	40G	1M	AV	11.499G	2.00	-70.76	-83.03	-70.51	-68.51	-41.20	-27.31
5785MHz	Pass	8G	40G	1M	PK	11.564G	2.00	-71.31	-60.30	-59.97	-57.97	-21.20	-36.77
5785MHz	Pass	8G	40G	1M	PK	17.36G	2.00	-57.01	-67.96	-56.67	-54.67	-27.00	-27.67
5785MHz	Pass	8G	40G	1M	AV	11.562G	2.00	-82.54	-73.40	-72.90	-70.90	-41.20	-29.70
5825MHz	Pass	8G	40G	1M	PK	11.644G	2.00	-53.93	-52.71	-50.27	-48.27	-21.20	-27.07
5825MHz	Pass	8G	40G	1M	AV	11.649G	2.00	-68.72	-67.02	-64.78	-62.78	-41.20	-21.58
802.11ac_VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	8G	40G	1M	PK	11.568G	2.00	-64.96	-68.40	-63.34	-61.34	-21.20	-40.14
5775MHz	Pass	8G	40G	1M	PK	36.7G	2.00	-66.43	-67.33	-63.85	-61.85	-27.00	-34.85
5775MHz	Pass	8G	40G	1M	AV	11.551G	2.00	-78.89	-78.89	-75.88	-73.88	-41.20	-32.68
5775MHz	Pass	8G	40G	1M	AV	39.997G	2.00	-77.95	-77.65	-74.79	-72.79	-41.20	-31.59

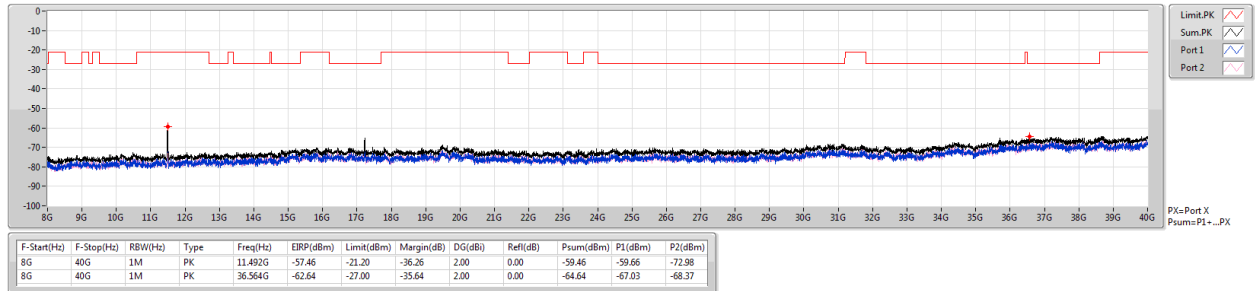
DG = Directional Gain;
PX=Port X; Psum=P1+.P2+...PX

802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-PK

17/01/2019

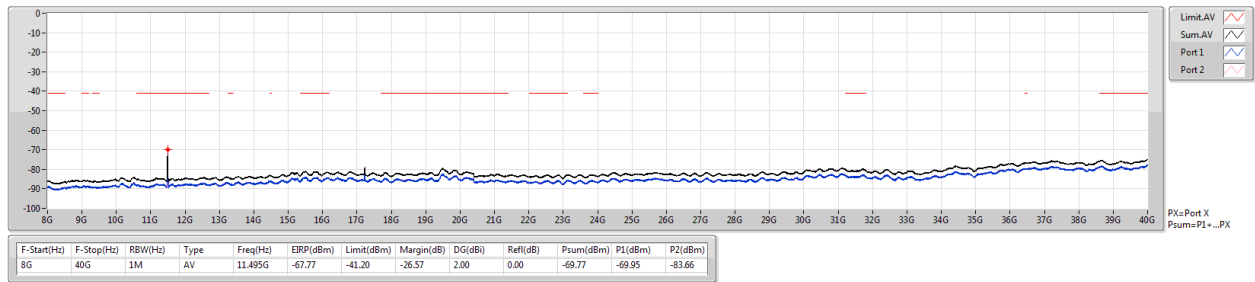


802.11a_Nss1,(6Mbps)_2TX

5745MHz

CSE-AV

17/01/2019

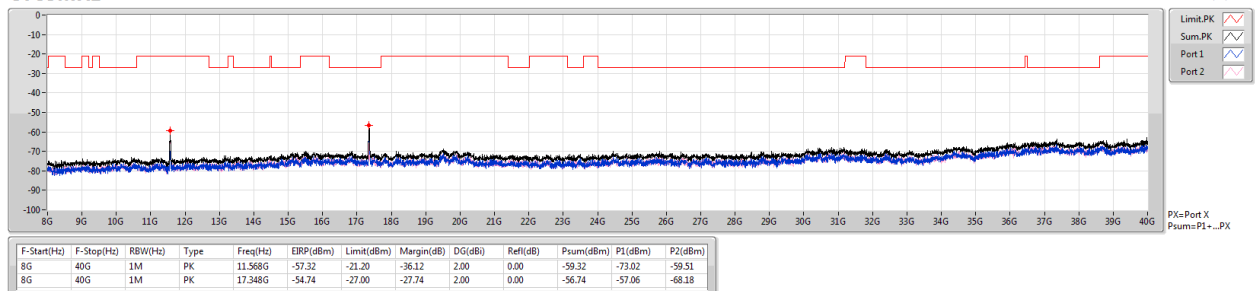


802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-PK

17/01/2019

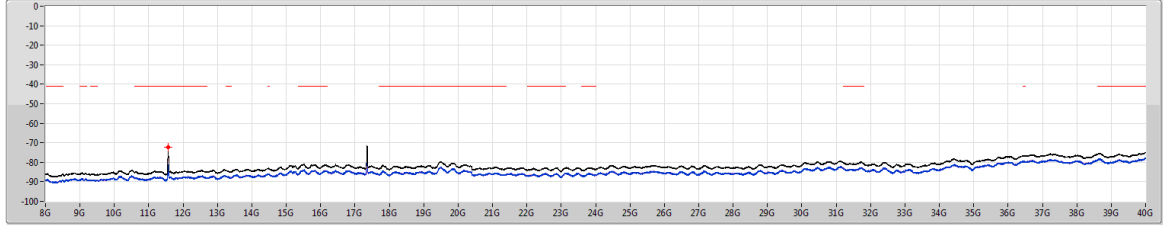


802.11a_Nss1,(6Mbps)_2TX

5785MHz

CSE-AV

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.666G	-70.22	-41.20	-29.02	2.00	0.00	-72.22	-83.57	-72.55

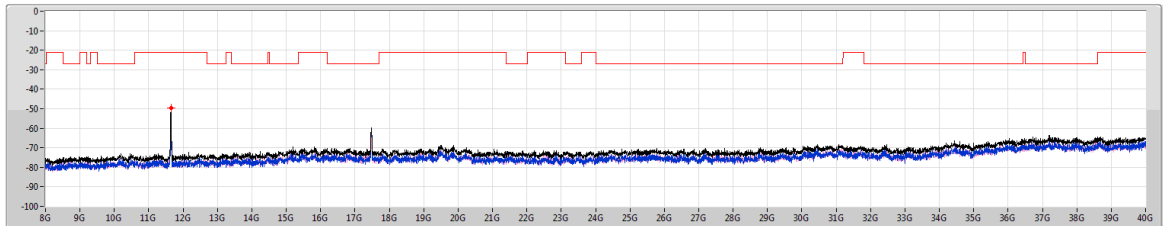
PX=Port X
Psum=P1+...PX

802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-PK

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.648G	-47.52	-21.20	-26.32	2.00	0.00	-49.52	-52.89	-52.20

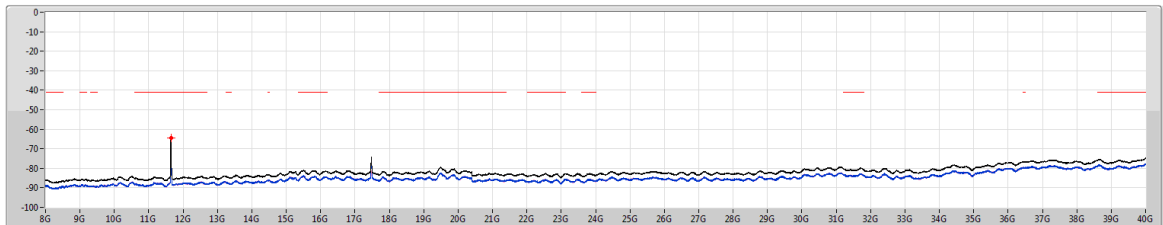
PX=Port X
Psum=P1+...PX

802.11a_Nss1,(6Mbps)_2TX

5825MHz

CSE-AV

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.65G	-62.32	-41.20	-21.12	2.00	0.00	-64.32	-67.65	-67.03

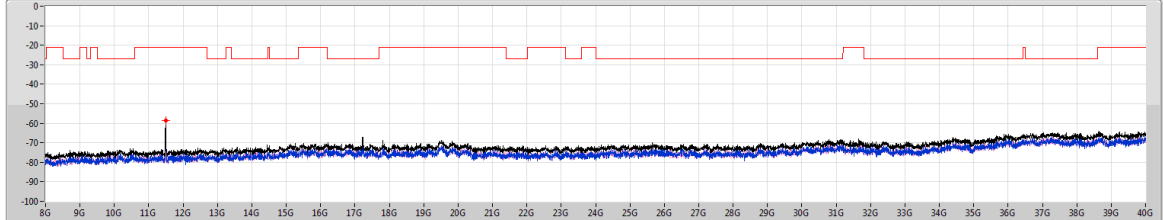
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-PK

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.492G	-56.53	-21.20	-35.33	2.00	0.00	-58.53	-58.74	-71.86

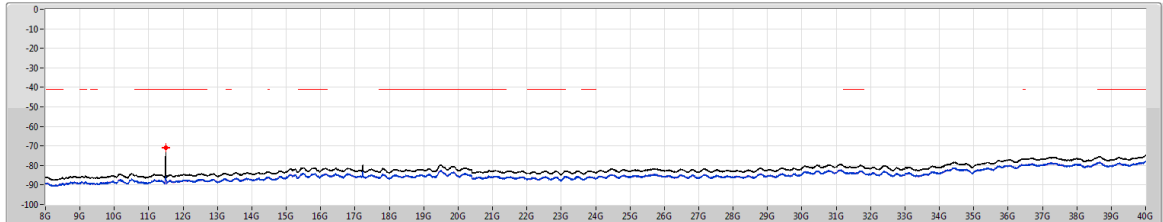
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5745MHz

CSE-AV

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.498G	-68.94	-41.20	-27.74	2.00	0.00	-70.94	-71.19	-83.55
8G	40G	1M	AV	11.499G	-68.51	-41.20	-27.31	2.00	0.00	-70.51	-70.76	-83.03

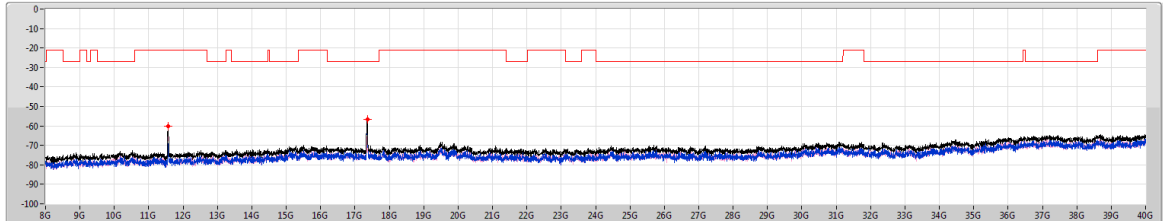
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

CSE-PK

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.564G	-57.97	-21.20	-36.77	2.00	0.00	-59.97	-71.31	-60.30
8G	40G	1M	PK	17.36G	-54.67	-27.00	-27.67	2.00	0.00	-56.67	-57.01	-67.96

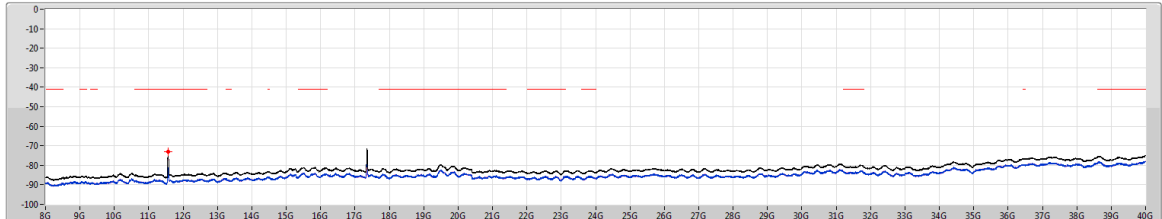
PX=Port X
Psum=P1+...PX

802.11ac VHT20_Nss1,(MCS0)_2TX

5785MHz

CSE-AV

17/01/2019



Limit.AV
Sum.AV
Port 1
Port 2

PX=Port X
Psum=P1+...PX

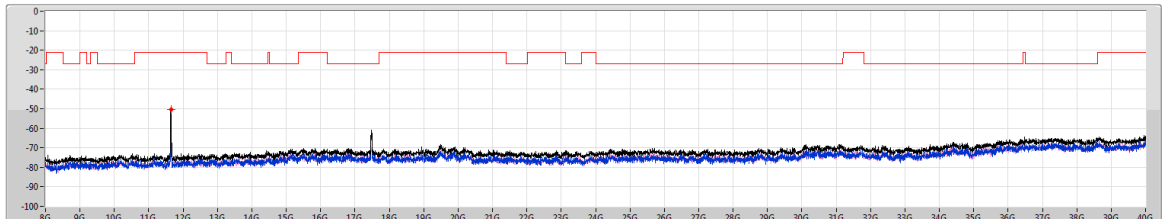
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.562G	-70.90	-41.20	-29.70	2.00	0.00	-72.90	-82.54	-73.40

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz

CSE-PK

17/01/2019



Limit.PK
Sum.PK
Port 1
Port 2

PX=Port X
Psum=P1+...PX

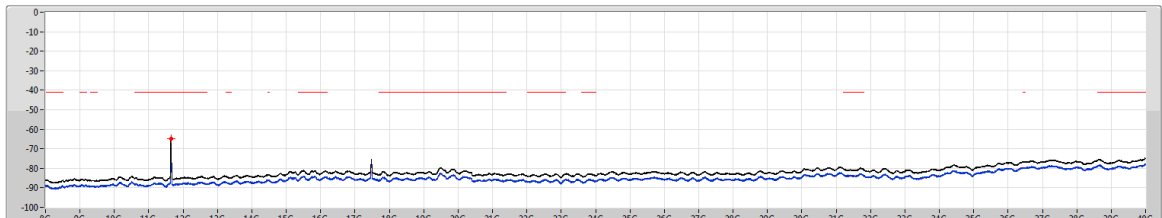
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.644G	-48.27	-21.20	-27.07	2.00	0.00	-50.27	-53.93	-52.71

802.11ac VHT20_Nss1,(MCS0)_2TX

5825MHz

CSE-AV

17/01/2019



Limit.AV
Sum.AV
Port 1
Port 2

PX=Port X
Psum=P1+...PX

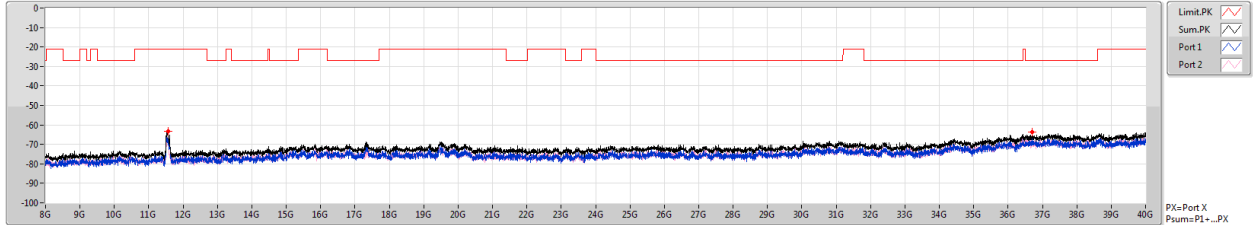
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	RefI(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.649G	-62.78	-41.20	-21.58	2.00	0.00	-64.78	-68.72	-67.02

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

CSE-PK

17/01/2019



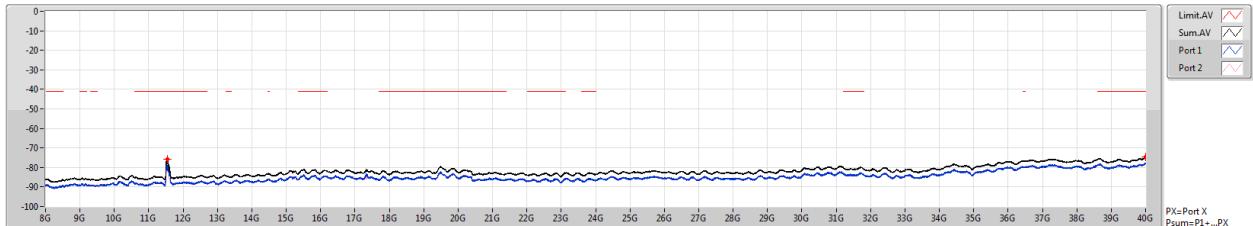
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	ERP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	PK	11.568G	-61.34	-21.20	-40.14	2.00	0.00	-63.34	-64.96	-68.40
8G	40G	1M	PK	36.7G	-61.85	-27.00	-34.85	2.00	0.00	-63.85	-66.43	-67.33

802.11ac VHT80_Nss1,(MCS0)_2TX

5775MHz

CSE-AV

17/01/2019



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	ERP(dBm)	Limit(dBm)	Margin(dB)	DG(dB)	Ref(dB)	Psum(dBm)	P1(dBm)	P2(dBm)
8G	40G	1M	AV	11.551G	-73.88	-41.20	-32.68	2.00	0.00	-75.88	-78.89	-78.89
8G	40G	1M	AV	39.997G	-72.79	-41.20	-31.59	2.00	0.00	-74.79	-77.95	-77.65