CE Test Report

Equipment	:	**Sterling-LWB5+ WiFi 5 + Bluetooth 5.2 USB Adapter**
Model No.	:	**Sterling LWB5+**
Brand Name	:	**Laird Connectivity**
Applicant	:	**Laird Connectivity, LLC.**
Address	:	**W66N220 Commerce Court, Cedarburg, Wisconsin 53012, USA**
Standard	:	**EN 301 893 V2.1.1 (2017-05)**
Received Date	:	**Aug. 03, 2020**
Tested Date	:	**Aug. 20, 2020 ~ Jun. 25, 2021**

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: **Approved by:**

James Fan / Assistant Manager **Gary Chang / Manager**

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
ER061103-02AN	Rev. 01	Initial issue	Aug. 17, 2021
ER061103-02AN	Rev. 02	Typing error of modulation mode of section 5.1 is corrected	Aug. 17, 2022

Summary of Test Result

Ref. Std. Clause	Test Items	Measured	Result
4.2.1	Carrier Frequencies	Meet the requirement of limit.	Pass
4.2.2	Nominal Channel Bandwidth and Occupied Channel Bandwidth	Meet the requirement of limit.	Pass
4.2.3	RF Output Power & Transmit Power Control (TPC)	5.15-5.25GHz: 21.83 dBm 5.25-5.35GHz: 21.76 dBm 5.47-5.725GHz: 22.20 dBm	Pass
4.2.3	Power Density	Meet the requirement of limit.	Pass
4.2.4	Transmitter Unwanted Emissions	Meet the requirement of limit.	Pass
4.2.5	Receiver Spurious Emissions	Meet the requirement of limit.	Pass
4.2.6	Dynamic Frequency Selection (DFS)	Meet the requirement of limit.	Pass
4.2.7	Adaptivity (Channel Access Mechanism)	Meet the requirement of limit.	Pass
4.2.8	Receiver Blocking	Meet the requirement of limit.	Pass
4.2.9	User Access Restrictions	Meet the requirement of limit.	Pass
4.2.10	Geo-location capability	This test is not required since the device does not support this function	NA

Note: The DFS measurement was recorded in Report No.: EY061103-02.

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.

1 General Description

1.1 Information

Test results of RF Conducted measurement is referred to International Certification Corp. Report No. ER061103AN.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
IEEE Std. 802.11	**Frequency Range (MHz)**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
a	5150-5250 5250-5350 5500-5700	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]	1	6-54 Mbps
n (HT20)	5150-5250 5250-5350 5500-5700	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]	1	MCS 0-7
n (HT40)	5150-5250 5250-5350 5500-5700	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [5]	1	MCS 0-7
ac (VHT20)	5150-5250 5250-5350 5500-5700	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [11]	1	MCS 0-9
ac (VHT40)	5150-5250 5250-5350 5500-5700	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [5]	1	MCS 0-9
ac (VHT80)	5150-5250 5250-5350 5500-5700	5210 5290 5530-5610	42 [1] 58 [1] 106-122 [2]	1	MCS 0-9
Note 1: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Manufacturer	Model	Laird Part Number	Type	Connector	Antenna Gain (dBi)	
						5.15 ~ 5.35 GHz	5.47 ~ 5.725 GHz
1	ACX	AD1608-A2455AAT/LF	NA	Chip Antenna	N/A	4	4

1.1.3 EUT Operational Condition

Power Type	5 Vdc		
SW Version	N/A		
Operational Voltage	☒ Vnom (5V)	☒ Vmax (5.5 V)	☒ Vmin (4.5V)
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (85°C)	☒ Tmin (-40°C)

1.1.4 Accessories

N/A

1.1.5 Adaptive Equipment

Adaptive Equipment		
☒	Adaptive Equipment without the possibility to switch to a non-adaptive mode:	
	☒	The equipment has implemented an LBT based DAA mechanism:
		☐ The equipment is Frame Based equipment
		☒ The equipment is Load Based equipment
		☐ The equipment can switch dynamically between Frame Based and Load Based equipment
	☐	The equipment has implemented an non-LBT based DAA mechanism
	☐	The equipment can operate in more than one adaptive mode
☐	Adaptive Equipment which can also operate in a non-adaptive mode	

1.1.6 Channel List

Frequency band (MHz)		5150~5350	
802.11a / n HT20 / ac VHT20		802.11n HT40 / ac VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	54	5270
48	5240	62	5310
52	5260	802.11ac VHT80	
56	5280	42	5210
60	5300	58	5290
64	5320	--	--

Frequency band (MHz)		5500~5700	
802.11a / n HT20 / ac VHT20		802.11n HT40 / ac VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
100	5500	102	5510
104	5520	110	5550
108	5540	118	5590
112	5560	126	5630
116	5580	134	5670
120	5600	802.11ac VHT80	
124	5620	106	5530
128	5640	122	5610
132	5660	--	--
136	5680	--	--
140	5700	--	--

1.1.7 Test Tool and Duty Cycle

Test Tool	TeraTerm, Version :4.103	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
a	97.85%	0.09
ac (VHT20)	97.65%	0.10
ac (VHT40)	94.20%	0.26
ac (VHT80)	88.50%	0.53

1.1.8 Power Index of Test Tool

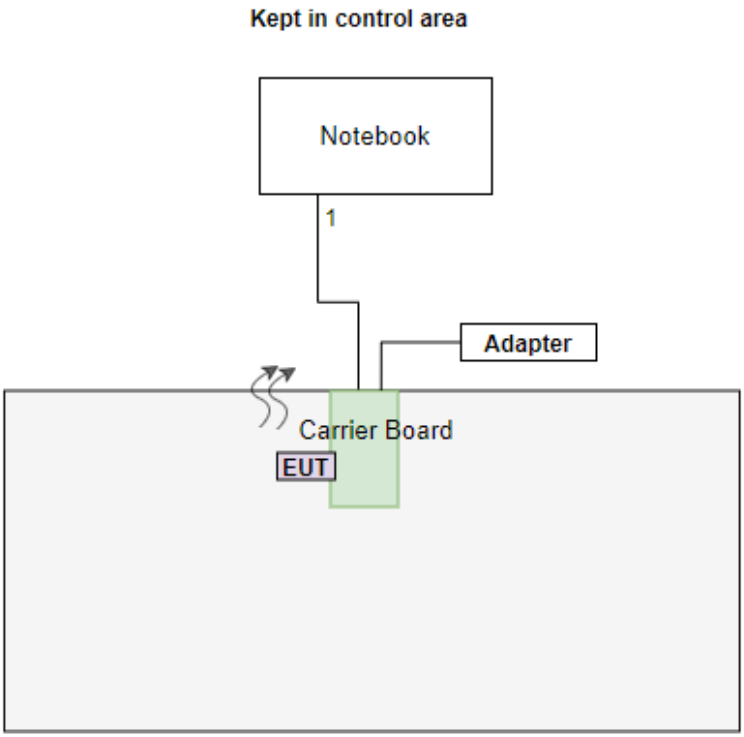
Modulation Mode	Test Frequency (MHz)											
	a / ac (VHT20)				ac (VHT40)				ac (VHT80)			
	5180	5320	5500	5700	5190	5310	5510	5670	5210	5290	5530	5610
a	70	68	64	64	--	--	--	--	--	--	--	--
ac (VHT20)	70	68	66	64	--	--	--	--	--	--	--	--
ac (VHT40)	--	--	--	--	62	64	54	68	--	--	--	--
ac (VHT80)	--	--	--	--	--	--	--	--	66	62	66	72

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**S/N**	**Remarks**
1	Notebook	DELL	Latitude 5400	CXYCM33	---
2	Carrier Board	Laird	DVK-LWB5+	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	USB, 0.5m shielded.

1.4 Test Equipment and Calibration Data

Test Item	Radiated Emissions				
Test Site	Fully-anechoic chamber 1 / (05CH01-WS)				
Test Date	Jun. 16, 2021				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
5m Fully-anechoic chamber	TDK	0	05CH01-WS	NA	NA
Spectrum Analyzer	Agilent	N9010A	MY54200247	Oct. 16, 2020	Oct. 15, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-524	Nov. 11, 2020	Nov. 10, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1094	Nov. 03, 2020	Nov. 02, 2021
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170508	Dec. 31, 2020	Dec. 30, 2021
Preamplifier	Agilent	83017A	MY39501310	Nov. 30, 2020	Nov. 29, 2021
Preamplifier	EMC	EMC02325	980146	Nov. 16, 2020	Nov. 15, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY22626/4	Oct. 13, 2020	Oct. 12, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16609/4	Oct. 13, 2020	Oct. 12, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY15686/4	Oct. 13, 2020	Oct. 12, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-005	Oct. 13, 2020	Oct. 12, 2021
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-006	Oct. 13, 2020	Oct. 12, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Test Date	Aug. 20, 2020				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101486	Feb. 10, 2020	Feb. 09, 2021
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 12, 2019	Dec. 11, 2020
Power Sensor	Agilent	U2021XA	MY53480019	Feb. 10, 2020	Feb. 09, 2021
Power Sensor	Agilent	U2021XA	MY53510003	Feb. 10, 2020	Feb. 09, 2021
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 02, 2019	Dec. 01, 2020
Combiner(1X2)	WOKEN	0120A02201801O	DOM2AEW1A23	Oct. 17, 2019	Oct. 16, 2020
Combiner(1X4)	WOKEN	4WAYDIV	0120A042011010	Oct. 16, 2019	Oct. 15, 2020
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Measurement Software	Agilent	EN RF test	V2.151229	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Receiver Blocking				
Test Site	(05CH01-WS)				
Test Date	Jun. 18, 2021				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Wireless connectivity tester	R&S	CMW270	100856	Nov. 02, 2020	Nov. 01, 2021
Signal Generator	R&S	SMB100A	175727	Jan. 07, 2021	Jan. 06, 2022
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	500202/4	Oct. 15, 2020	Oct. 14, 2021
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	296088/4	Oct. 15, 2020	Oct. 14, 2021
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329023/4	Oct. 15, 2020	Oct. 14, 2021
Combiner(1X2)	WOKEN	2WAYDIV	12101200003	Oct. 15, 2020	Oct. 14, 2021
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Adaptivity				
Test Site	(TH01-WS)				
Test Date	Jun. 25, 2021				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum	R&S	FSV7	100607	Jan. 06, 2021	Jan. 05, 2022
RF cable-4M	HUBER+SUHNER	SUCOFLEX_104	MY15686/4	Oct. 13, 2020	Oct. 12, 2021
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	296081/4	Oct. 15, 2020	Oct. 14, 2021
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329023/4	Oct. 15, 2020	Oct. 14, 2021
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329021/4	Oct. 15, 2020	Oct. 14, 2021
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	May 16, 2021	May 15, 2022
Preamplifier	Burgeon	BPA-530	100219	Nov. 09, 2020	Nov. 08, 2021
Oscilloscope	National Instruments	USB-5133	F651FF	Jul. 15, 2020	Jul. 14, 2021
Combiner(1X2)	Woken	2WAYDIV-1	0120A02056002D	Oct. 15, 2020	Oct. 14, 2021
Combiner(1X2)	Woken	2WAYDIV-2	0120A02056002D	Oct. 15, 2020	Oct. 14, 2021
Combiner(1X4)	Woken	4WAYDIV	0120A042011010	Oct. 15, 2020	Oct. 14, 2021
Direction Coupler	Marvelous Microwave	MVE4514-20	20	Oct. 15, 2020	Oct. 14, 2021
Attenuator	Warison	WATT-6SR1211	01	Oct. 15, 2020	Oct. 14, 2021
Measurement Software	Sporton	Sporton_3	1.0.0.22	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

EN 301 893 V2.1.1 (2017-05)

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Uncertainty		
Parameters	**Uncertainty**	**Limit**
Radio Frequency	±0.001 ppm	$\pm 1 \times 10^{-5}$
RF power conducted	±0.808 dB	±1,5 dB
RF power radiated	±3.40 dB	±6 dB
Spurious emission, conducted	±2.715 dB	±3 dB
Spurious emission, radiated	±3.40dB	±6 dB
Humidity	±3.3%	±5 %
Temperature	±0.4 °C	±2 °C
Time	±0.1 %	±10 %

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	TH01-WS, 05CH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Carrier Frequencies	11a VHT20 VHT40 VHT80	5180 / 5320 / 5500 / 5700 5180 / 5320 / 5500 / 5700 5190 / 5310 / 5510 / 5670 5210 / 5290 / 5530 / 5610	6 Mbps MCS 0 MCS 0 MCS 0	---
RF Output Power Power Spectral Density	11a VHT20 VHT40 VHT80	5180 / 5320 / 5500 / 5700 5180 / 5320 / 5500 / 5700 5190 / 5310 / 5510 / 5670 5210 / 5290 / 5530 / 5610	6 Mbps MCS 0 MCS 0 MCS 0	---
Transmitter Unwanted Emissions within the 5 GHz RLAN Band Occupied Channel Bandwidth	11a VHT20 VHT40 VHT80	5180 / 5320 / 5500 / 5700 5180 / 5320 / 5500 / 5700 5190 / 5310 / 5510 / 5670 5210 / 5290 / 5530 / 5610	6 Mbps MCS 0 MCS 0 MCS 0	---
Transmitter Radiated Unwanted Emissions outside the 5 GHz RLAN Bands≤1GHz Receiver Radiated Spurious Emissions ≤1GHz	11a VHT20 VHT40 VHT80	5180 / 5700 5180 / 5700 5190 / 5670 5210 / 5610	6 Mbps MCS 0 MCS 0 MCS 0	---
Transmitter Radiated Unwanted Emissions outside the 5 GHz RLAN Bands>1GHz Receiver Radiated Spurious Emissions>1GHz	11a VHT20 VHT40 VHT80	5180 / 5700 5180 / 5700 5190 / 5670 5210 / 5610	6 Mbps MCS 0 MCS 0 MCS 0	---
Adaptivity	VHT20 VHT40	5180 / 5500 5190 / 5510	MCS 0 MCS 0	---
Receiver Blocking	11a	5180 / 5700	6 Mbps	---

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** result was found as the worst case and was shown in this report.

3 Transmitter Test Results

3.1 Carrier Frequencies

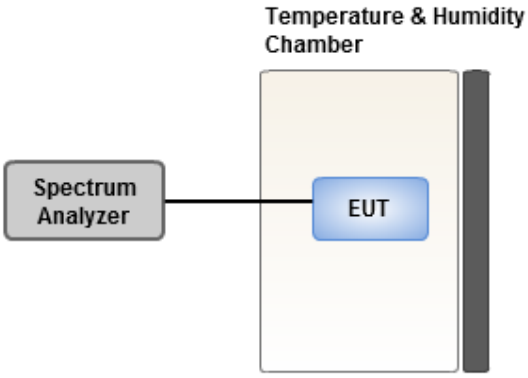
3.1.1 Limit of Carrier Frequencies

The actual centre frequency for any given channel declared by the manufacturer shall be maintained within the range f_c ± 20 ppm.

3.1.2 Test Procedures

Reference to clause 5.4.2.2 of ETSI EN 301 893 V2.1.1 (2017-05).

3.1.3 Test Setup



3.1.4 Test Result of Carrier Frequencies

Ambient Condition	25°C / 65%	Tested By	Nai Xu

Summary

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
5.15-5.25GHz	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	Pass	5.18G	5.179946G	10.497	20	1	-
802.11ac VHT20_Nss1,(MCS0)_1TX	Pass	5.18G	5.179933G	13.031	20	1	-
802.11ac VHT40_Nss1,(MCS0)_1TX	Pass	5.19G	5.189936G	12.283	20	1	-
802.11ac VHT80_Nss1,(MCS0)_1TX	Pass	5.21G	5.209948G	10.077	20	1	-
5.25-5.35GHz	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	Pass	5.32G	5.31994G	11.278	20	1	-
802.11ac VHT20_Nss1,(MCS0)_1TX	Pass	5.32G	5.319933G	12.688	20	1	-
802.11ac VHT40_Nss1,(MCS0)_1TX	Pass	5.31G	5.309936G	12.006	20	1	-
802.11ac VHT80_Nss1,(MCS0)_1TX	Pass	5.29G	5.289948G	9.924	20	1	-
5.47-5.725GHz	-	-	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	Pass	5.5G	5.499942G	10.568	20	1	-
802.11ac VHT20_Nss1,(MCS0)_1TX	Pass	5.5G	5.499936G	11.591	20	1	-
802.11ac VHT40_Nss1,(MCS0)_1TX	Pass	5.51G	5.509936G	11.57	20	1	-
802.11ac VHT80_Nss1,(MCS0)_1TX	Pass	5.53G	5.52994G	10.85	20	1	-

Result

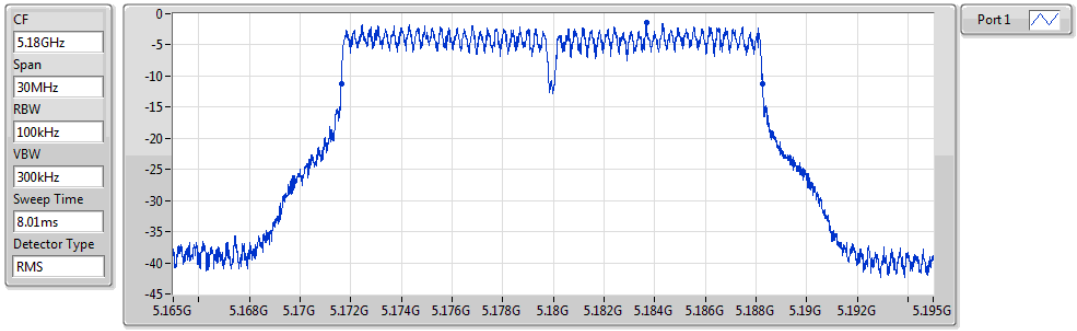
Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz_TnomVnom	Pass	5.18G	5.179946G	10.497	20	1	-
5180MHz_TminVmax	Pass	5.18G	5.179949G	9.773	20	1	-
5180MHz_TminVmin	Pass	5.18G	5.179953G	9.049	20	1	-
5180MHz_TmaxVmax	Pass	5.18G	5.180019G	3.62	20	1	-
5180MHz_TmaxVmin	Pass	5.18G	5.180011G	2.172	20	1	-
5320MHz_TnomVnom	Pass	5.32G	5.319942G	10.926	20	1	-
5320MHz_TminVmax	Pass	5.32G	5.31994G	11.278	20	1	-
5320MHz_TminVmin	Pass	5.32G	5.319951G	9.164	20	1	-
5320MHz_TmaxVmax	Pass	5.32G	5.319993G	1.41	20	1	-
5320MHz_TmaxVmin	Pass	5.32G	5.319993G	1.41	20	1	-
5500MHz_TnomVnom	Pass	5.5G	5.499946G	9.886	20	1	-
5500MHz_TminVmax	Pass	5.5G	5.499942G	10.568	20	1	-
5500MHz_TminVmin	Pass	5.5G	5.499946G	9.886	20	1	-
5500MHz_TmaxVmax	Pass	5.5G	5.500002G	0.341	20	1	-
5500MHz_TmaxVmin	Pass	5.5G	5.499994G	1.023	20	1	-
5700MHz_TnomVnom	Pass	5.7G	5.69994G	10.526	20	1	-
5700MHz_TminVmax	Pass	5.7G	5.699944G	9.868	20	1	-
5700MHz_TminVmin	Pass	5.7G	5.69994G	10.526	20	1	-
5700MHz_TmaxVmax	Pass	5.7G	5.7G	0	20	1	-
5700MHz_TmaxVmin	Pass	5.7G	5.7G	0	20	1	-
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz_TnomVnom	Pass	5.18G	5.179944G	10.859	20	1	-
5180MHz_TminVmax	Pass	5.18G	5.179942G	11.221	20	1	-
5180MHz_TminVmin	Pass	5.18G	5.179933G	13.031	20	1	-
5180MHz_TmaxVmax	Pass	5.18G	5.179996G	0.724	20	1	-
5180MHz_TmaxVmin	Pass	5.18G	5.180011G	2.172	20	1	-
5320MHz_TnomVnom	Pass	5.32G	5.31994G	11.278	20	1	-
5320MHz_TminVmax	Pass	5.32G	5.319933G	12.688	20	1	-
5320MHz_TminVmin	Pass	5.32G	5.31994G	11.278	20	1	-
5320MHz_TmaxVmax	Pass	5.32G	5.319994G	1.057	20	1	-
5320MHz_TmaxVmin	Pass	5.32G	5.319994G	1.057	20	1	-
5500MHz_TnomVnom	Pass	5.5G	5.499936G	11.591	20	1	-
5500MHz_TminVmax	Pass	5.5G	5.499936G	11.591	20	1	-
5500MHz_TminVmin	Pass	5.5G	5.499944G	10.227	20	1	-
5500MHz_TmaxVmax	Pass	5.5G	5.500002G	0.341	20	1	-

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
5500MHz_TmaxVmin	Pass	5.5G	5.499996G	0.682	20	1	-
5700MHz_TnomVnom	Pass	5.7G	5.699936G	11.184	20	1	-
5700MHz_TminVmax	Pass	5.7G	5.699936G	11.184	20	1	-
5700MHz_TminVmin	Pass	5.7G	5.699938G	10.855	20	1	-
5700MHz_TmaxVmax	Pass	5.7G	5.700004G	0.658	20	1	-
5700MHz_TmaxVmin	Pass	5.7G	5.700002G	0.329	20	1	-
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz_TnomVnom	Pass	5.19G	5.189948G	10.116	20	1	-
5190MHz_TminVmax	Pass	5.19G	5.189936G	12.283	20	1	-
5190MHz_TminVmin	Pass	5.19G	5.189948G	10.116	20	1	-
5190MHz_TmaxVmax	Pass	5.19G	5.19G	0	20	1	-
5190MHz_TmaxVmin	Pass	5.19G	5.190004G	0.723	20	1	-
5310MHz_TnomVnom	Pass	5.31G	5.309936G	12.006	20	1	-
5310MHz_TminVmax	Pass	5.31G	5.30994G	11.299	20	1	-
5310MHz_TminVmin	Pass	5.31G	5.309951G	9.181	20	1	-
5310MHz_TmaxVmax	Pass	5.31G	5.31G	0	20	1	-
5310MHz_TmaxVmin	Pass	5.31G	5.31G	0	20	1	-
5510MHz_TnomVnom	Pass	5.51G	5.509936G	11.57	20	1	-
5510MHz_TminVmax	Pass	5.51G	5.509948G	9.528	20	1	-
5510MHz_TminVmin	Pass	5.51G	5.509944G	10.209	20	1	-
5510MHz_TmaxVmax	Pass	5.51G	5.51G	0	20	1	-
5510MHz_TmaxVmin	Pass	5.51G	5.509996G	0.681	20	1	-
5670MHz_TnomVnom	Pass	5.67G	5.669936G	11.243	20	1	-
5670MHz_TminVmax	Pass	5.67G	5.669936G	11.243	20	1	-
5670MHz_TminVmin	Pass	5.67G	5.669944G	9.921	20	1	-
5670MHz_TmaxVmax	Pass	5.67G	5.670011G	1.984	20	1	-
5670MHz_TmaxVmin	Pass	5.67G	5.670011G	1.984	20	1	-
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz_TnomVnom	Pass	5.21G	5.209948G	10.077	20	1	-
5210MHz_TminVmax	Pass	5.21G	5.209955G	8.637	20	1	-
5210MHz_TminVmin	Pass	5.21G	5.209955G	8.637	20	1	-
5210MHz_TmaxVmax	Pass	5.21G	5.209993G	1.44	20	1	-
5210MHz_TmaxVmin	Pass	5.21G	5.210008G	1.44	20	1	-
5290MHz_TnomVnom	Pass	5.29G	5.289948G	9.924	20	1	-
5290MHz_TminVmax	Pass	5.29G	5.289948G	9.924	20	1	-
5290MHz_TminVmin	Pass	5.29G	5.289963G	7.089	20	1	-
5290MHz_TmaxVmax	Pass	5.29G	5.289985G	2.836	20	1	-

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
5290MHz_TmaxVmin	Pass	5.29G	5.290015G	2.836	20	1	-
5530MHz_TnomVnom	Pass	5.53G	5.52994G	10.85	20	1	-
5530MHz_TminVmax	Pass	5.53G	5.52994G	10.85	20	1	-
5530MHz_TminVmin	Pass	5.53G	5.52994G	10.85	20	1	-
5530MHz_TmaxVmax	Pass	5.53G	5.530015G	2.712	20	1	-
5530MHz_TmaxVmin	Pass	5.53G	5.530008G	1.356	20	1	-
5610MHz_TnomVnom	Pass	5.61G	5.60994G	10.695	20	1	-
5610MHz_TminVmax	Pass	5.61G	5.609948G	9.358	20	1	-
5610MHz_TminVmin	Pass	5.61G	5.609948G	9.358	20	1	-
5610MHz_TmaxVmax	Pass	5.61G	5.610008G	1.337	20	1	-
5610MHz_TmaxVmin	Pass	5.61G	5.610008G	1.337	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

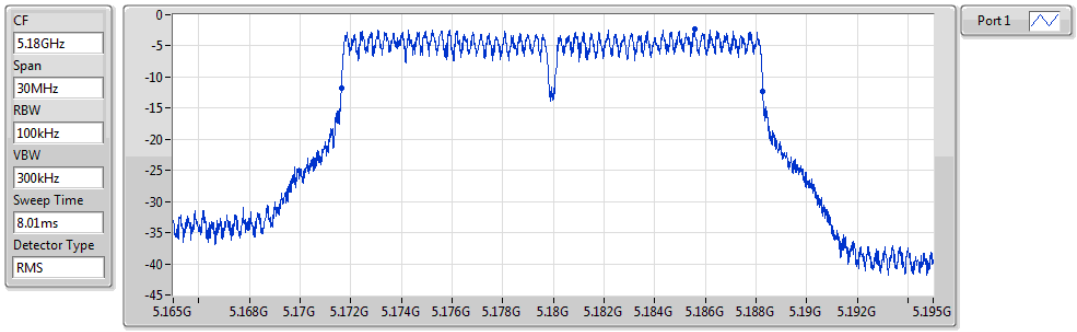
5180MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179946G	5.171626G	5.188265G	10.497	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

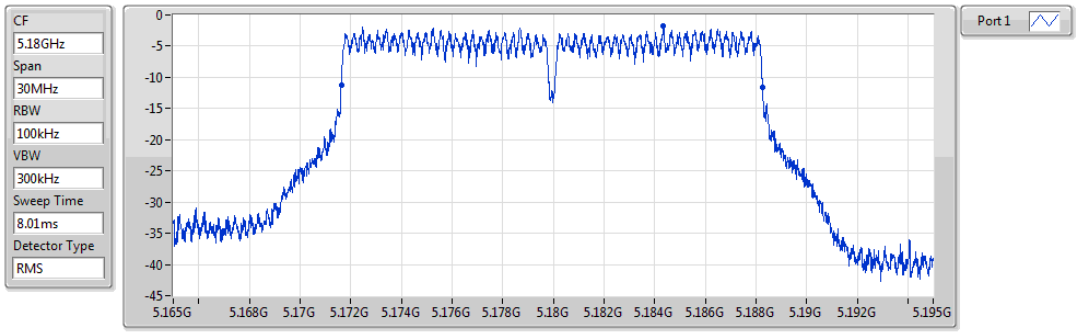
5180MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179949G	5.17163G	5.188269G	9.773	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

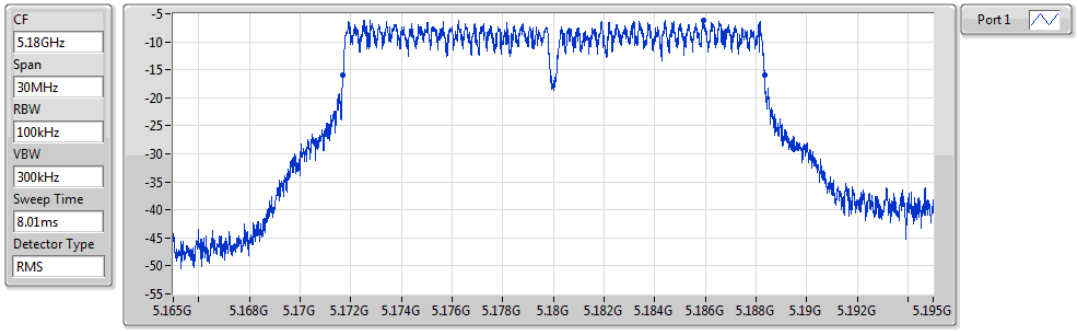
5180MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179953G	5.171626G	5.18828G	9.049	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

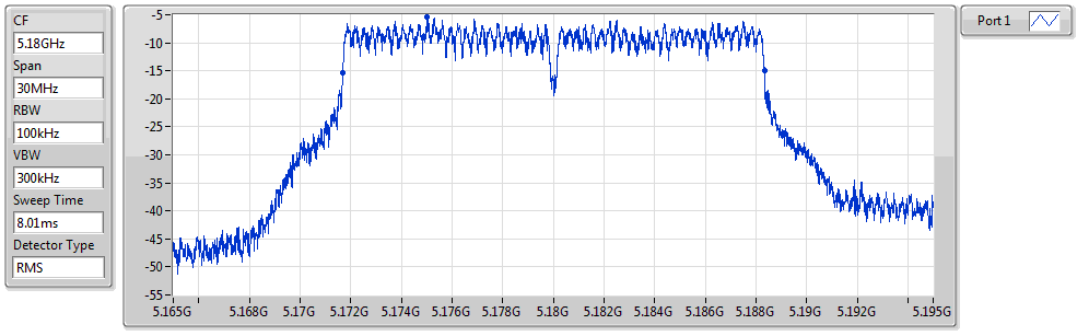
5180MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.180019G	5.171694G	5.188344G	3.62	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

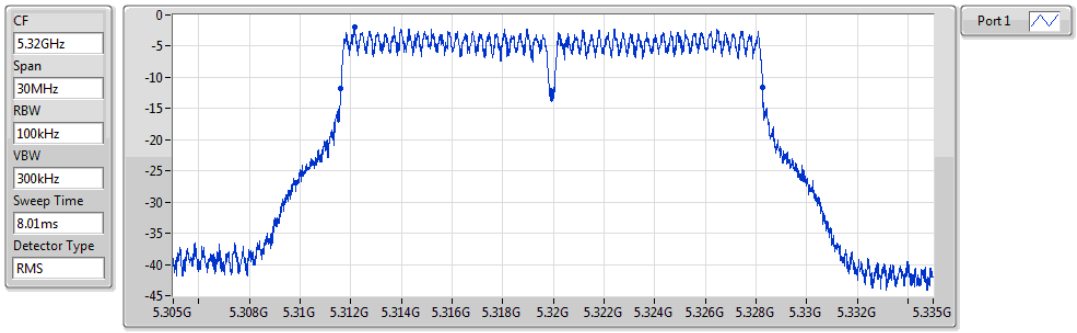
5180MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.180011G	5.171683G	5.18834G	2.172	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

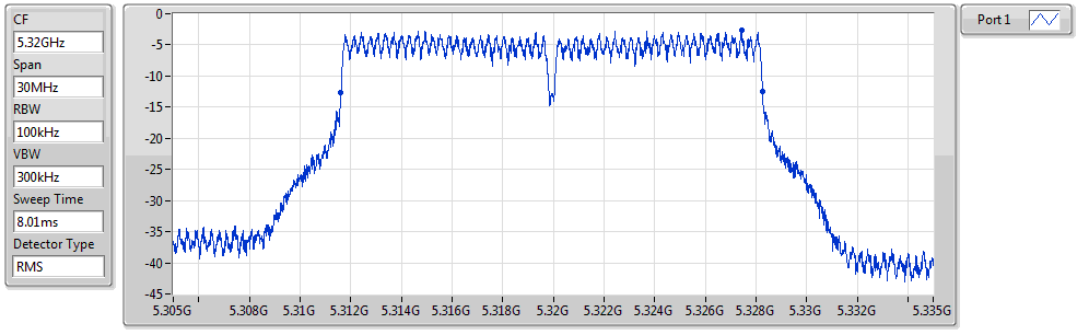
5320MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319942G	5.311615G	5.328269G	10.926	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

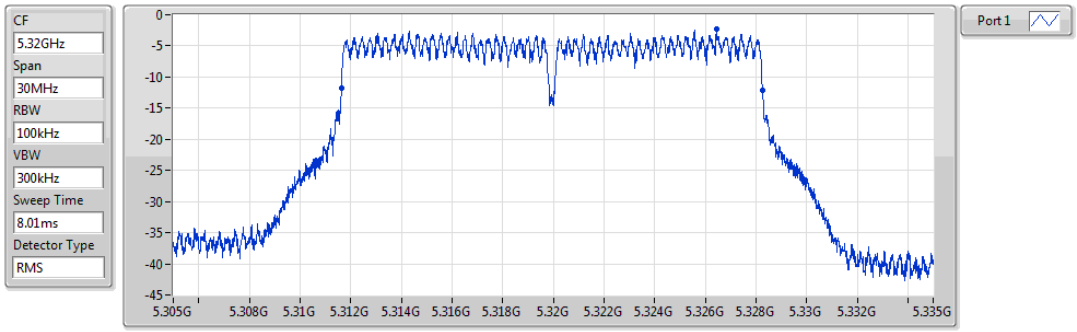
5320MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.31994G	5.311615G	5.328265G	11.278	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

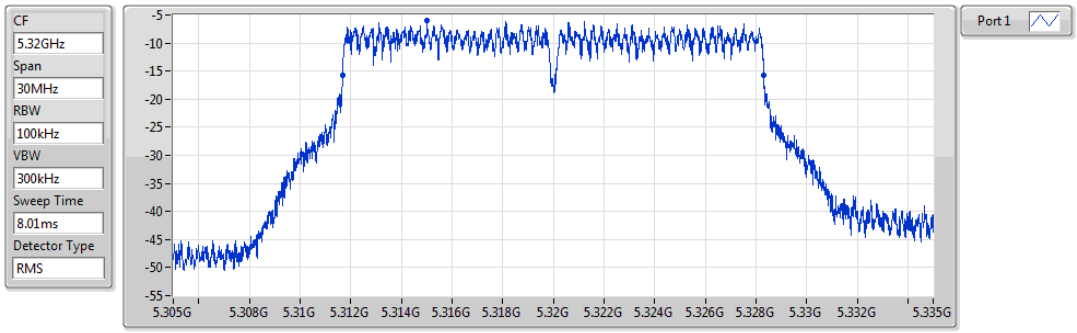
5320MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319951G	5.311634G	5.328269G	9.164	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

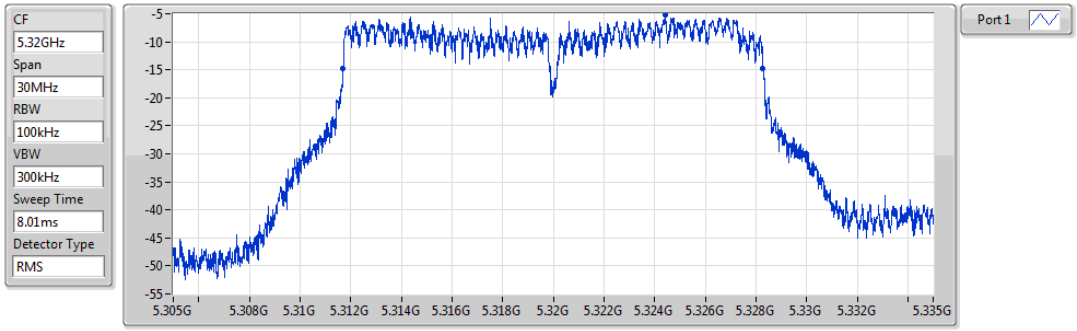
5320MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319993G	5.311679G	5.328306G	1.41	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

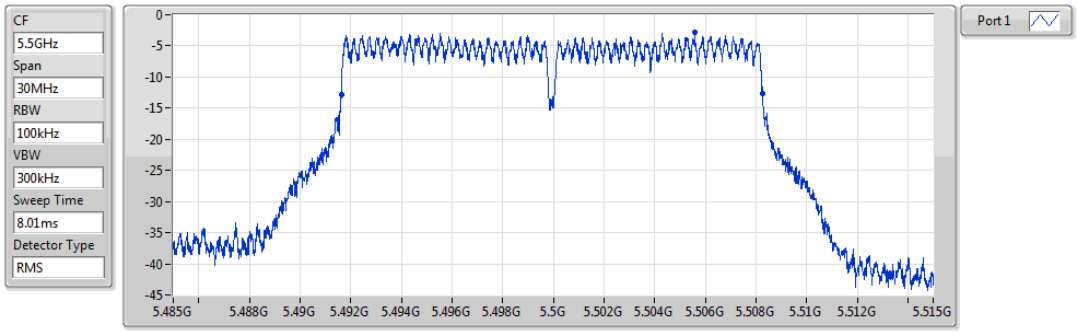
5320MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319993G	5.311698G	5.328288G	1.41	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

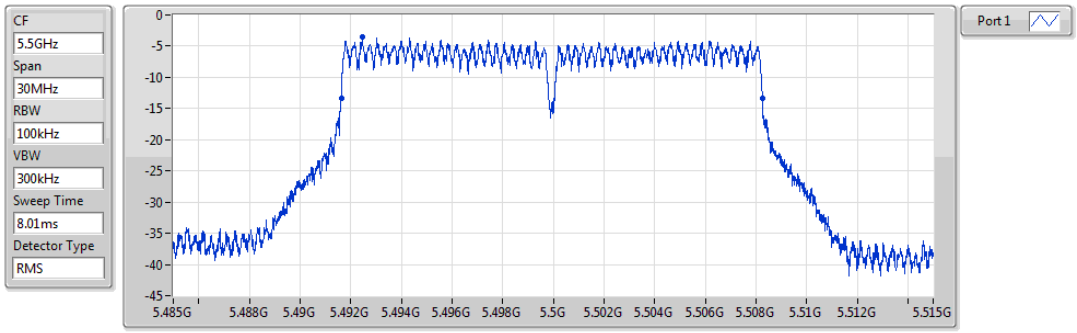
5500MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499946G	5.49163G	5.508261G	9.886	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

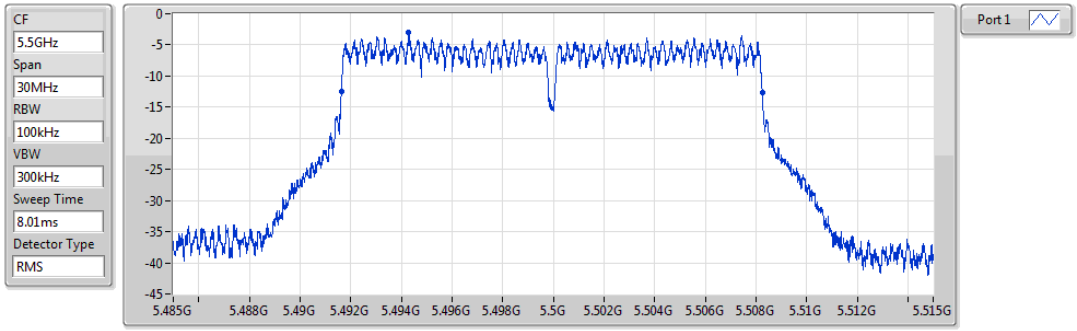
5500MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499942G	5.491626G	5.508258G	10.568	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

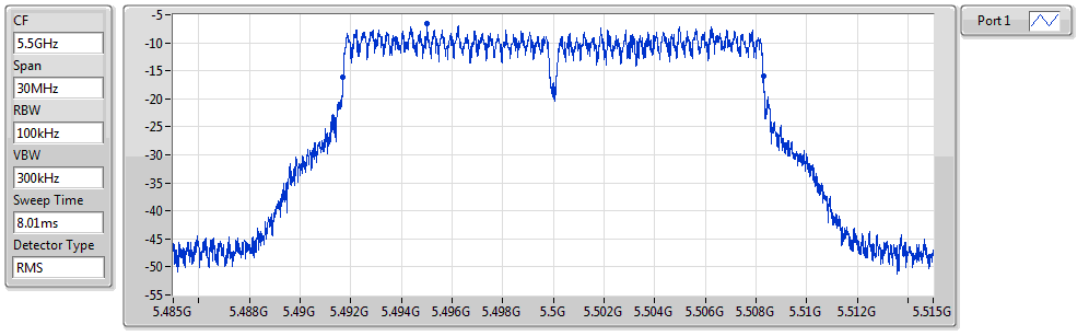
5500MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499946G	5.49163G	5.508261G	9.886	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

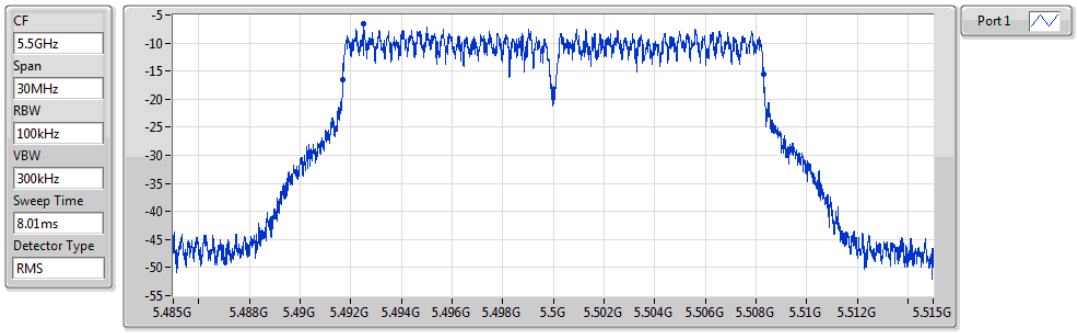
5500MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.500002G	5.491698G	5.508306G	0.341	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

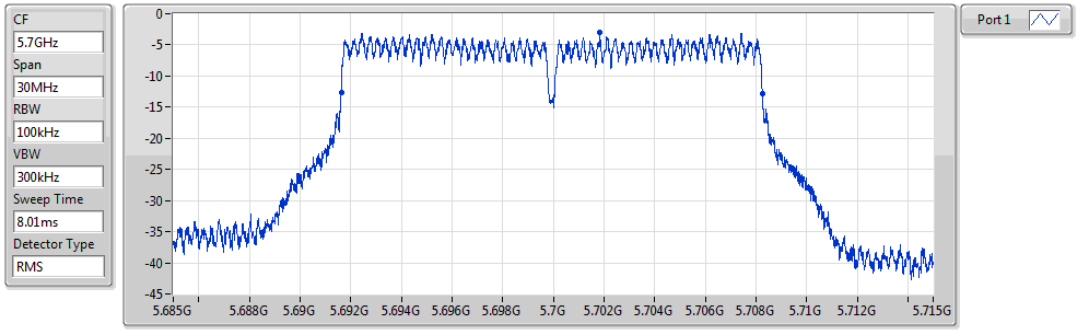
5500MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499994G	5.49169G	5.508299G	1.023	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

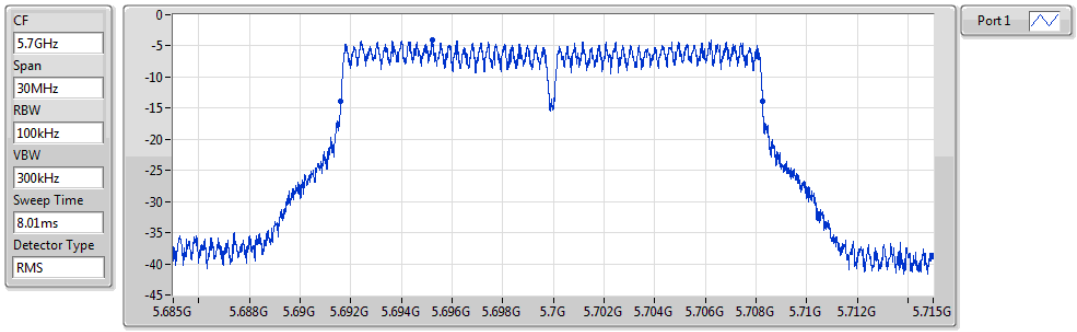
5700MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.69994G	5.691626G	5.708254G	10.526	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

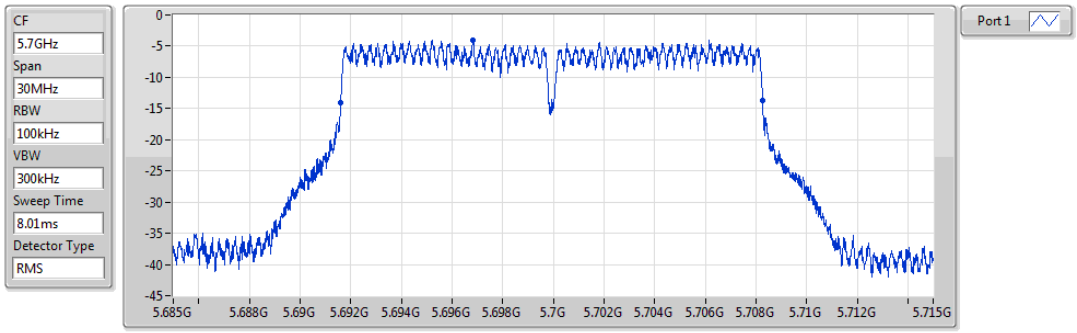
5700MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.699944G	5.691623G	5.708265G	9.868	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

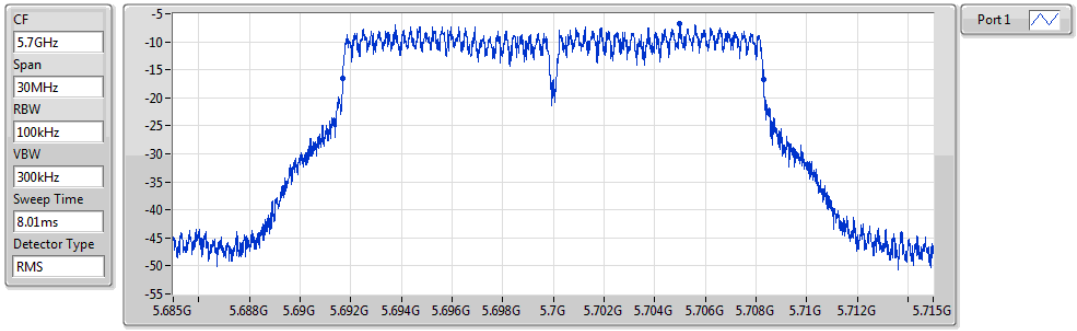
5700MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.69994G	5.691615G	5.708265G	10.526	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

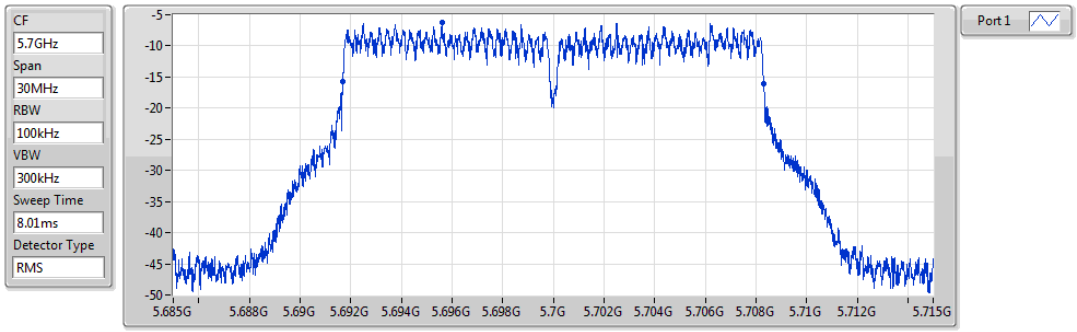
5700MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.7G	5.691694G	5.708306G	0	20	1	-

802.11a_Nss1,(6Mbps)_1TX **Freq. Stability**

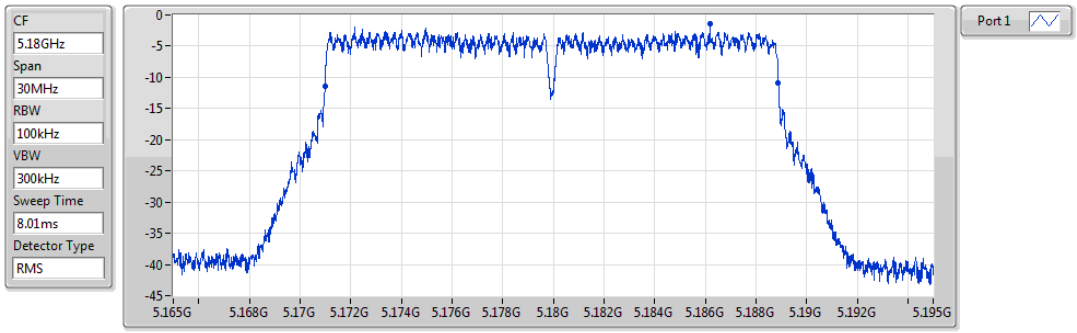
5700MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.7G	5.691683G	5.708318G	0	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

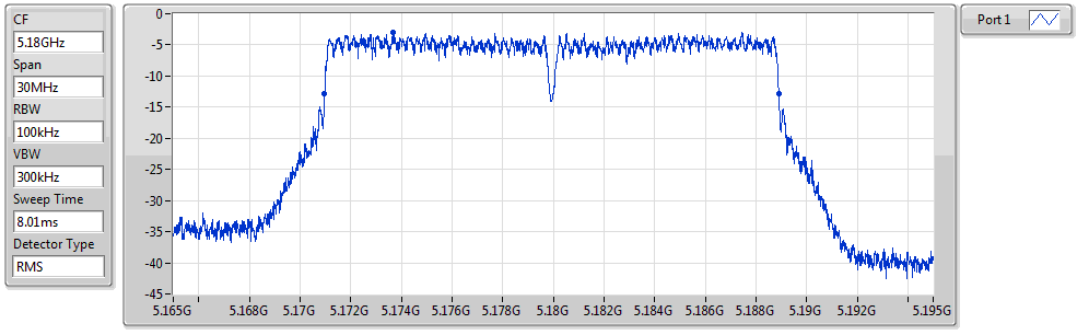
5180MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179944G	5.170996G	5.188891G	10.859	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

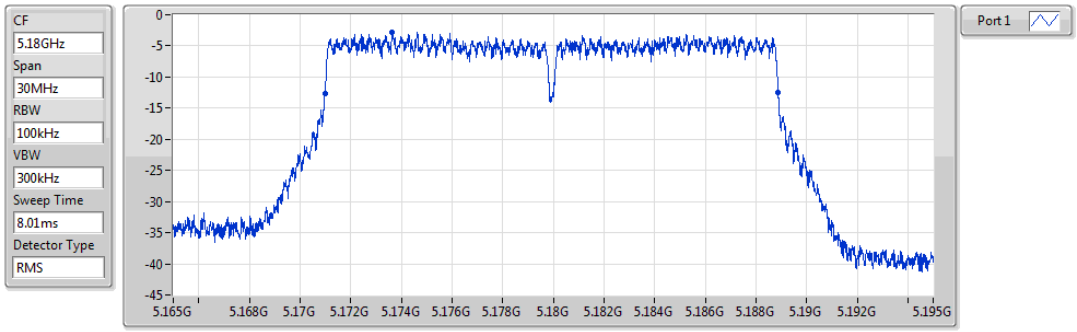
5180MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179942G	5.170978G	5.188906G	11.221	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

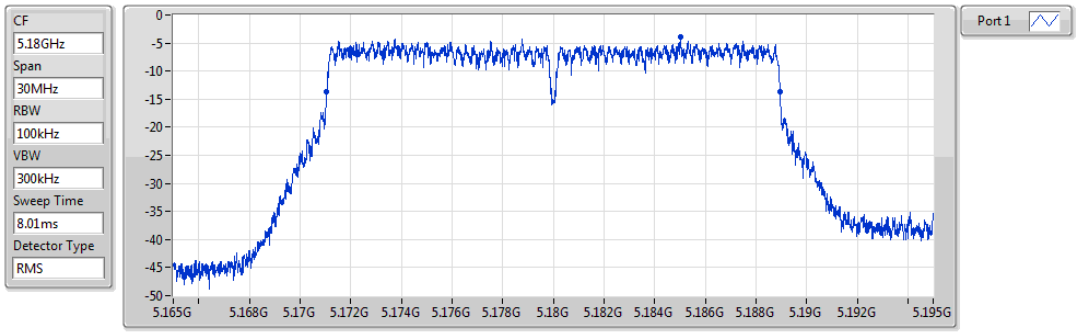
5180MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179933G	5.170985G	5.18888G	13.031	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

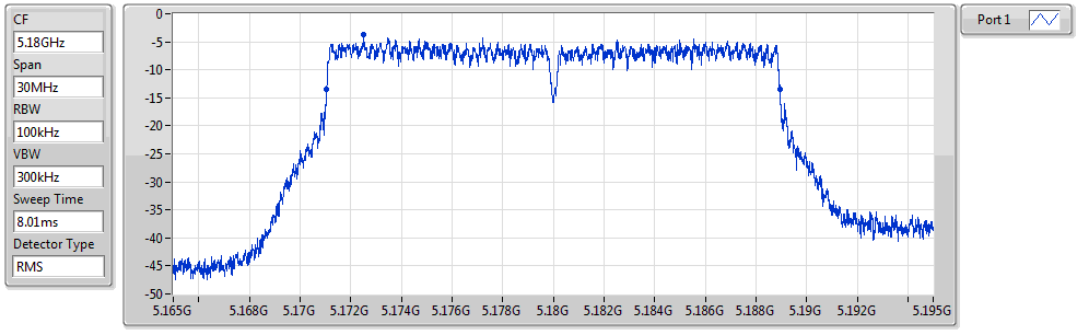
5180MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.179996G	5.171041G	5.188951G	0.724	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

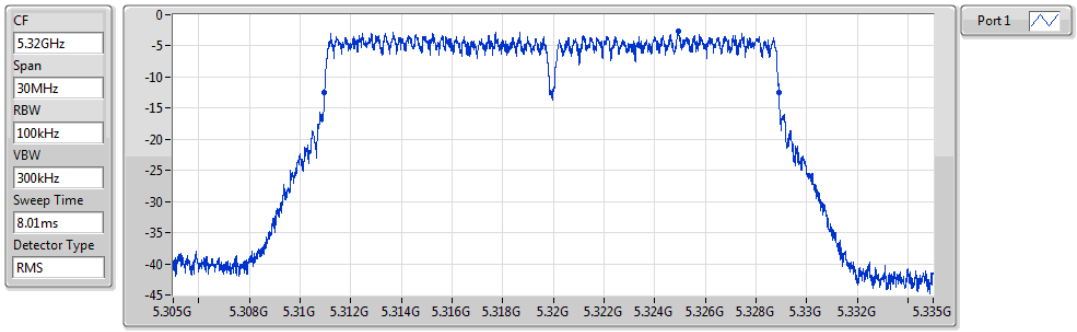
5180MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.18G	5.180011G	5.17106G	5.188963G	2.172	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

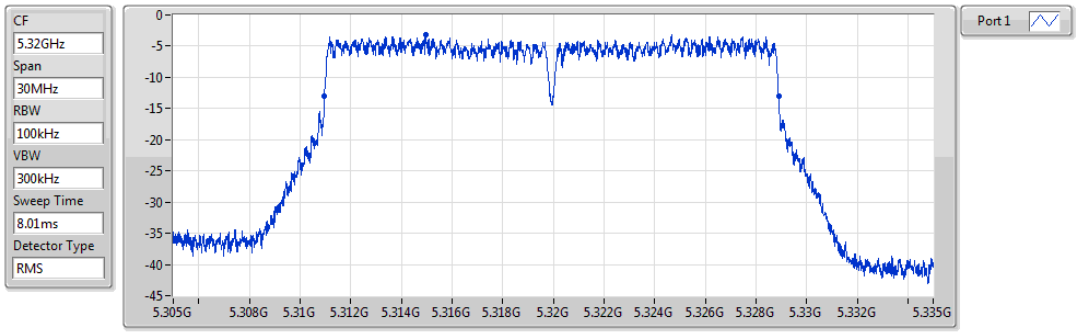
5320MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.31994G	5.310974G	5.328906G	11.278	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

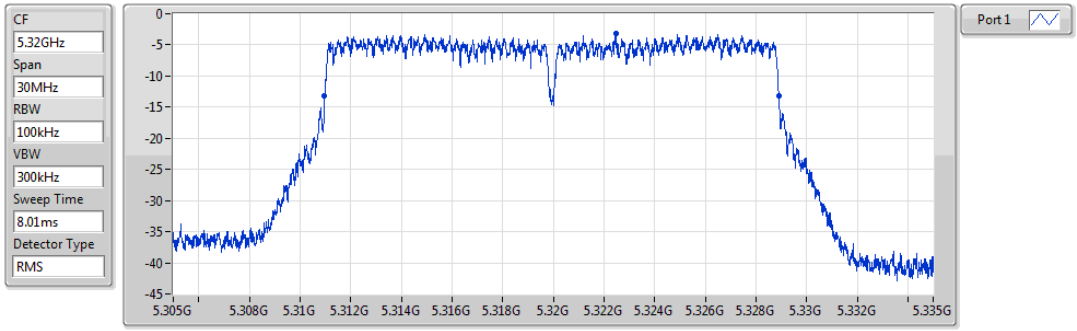
5320MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319933G	5.310966G	5.328899G	12.688	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

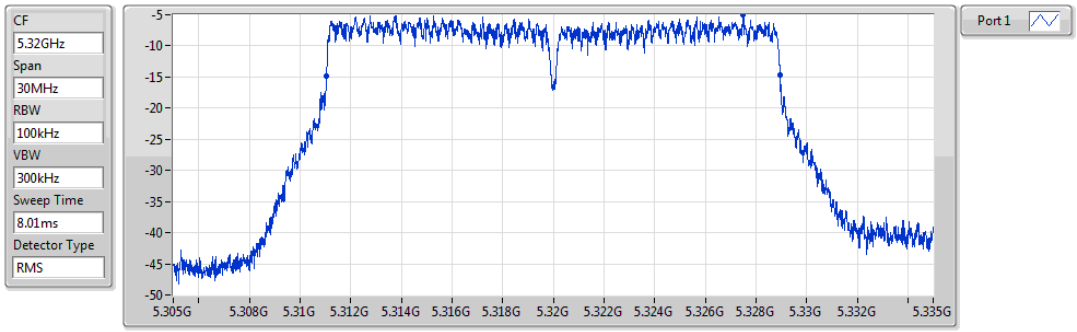
5320MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.31994G	5.310978G	5.328903G	11.278	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

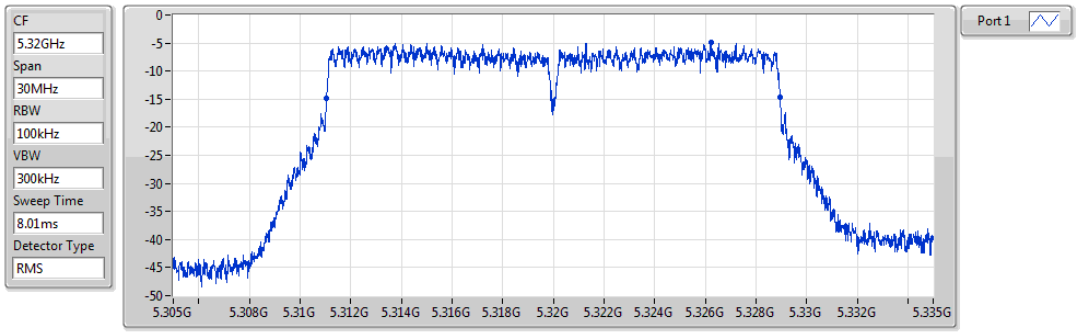
5320MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319994G	5.311045G	5.328944G	1.057	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

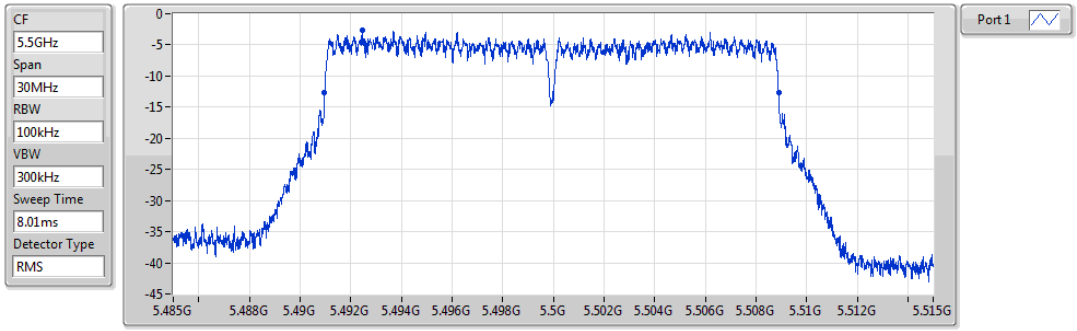
5320MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.32G	5.319994G	5.311045G	5.328944G	1.057	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

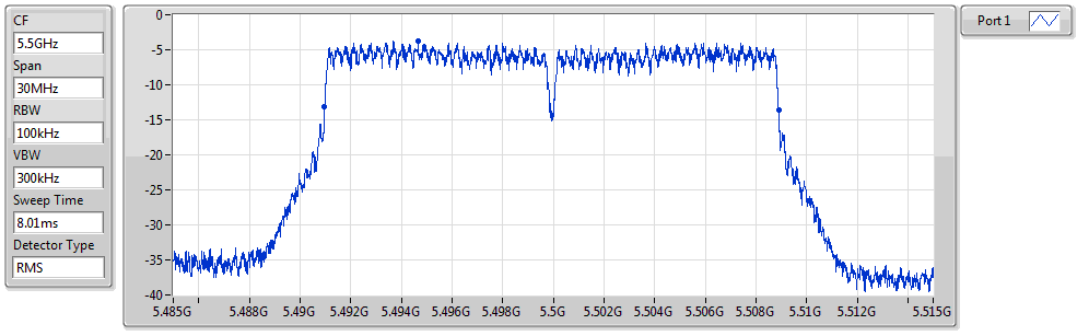
5500MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499936G	5.490978G	5.508895G	11.591	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

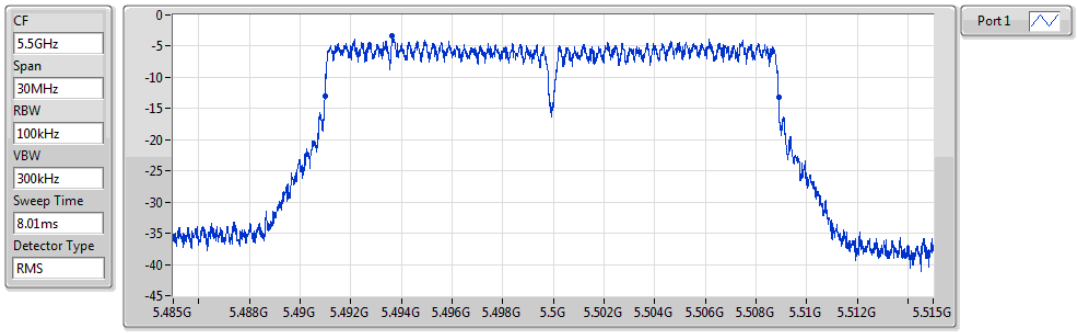
5500MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499936G	5.490978G	5.508895G	11.591	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

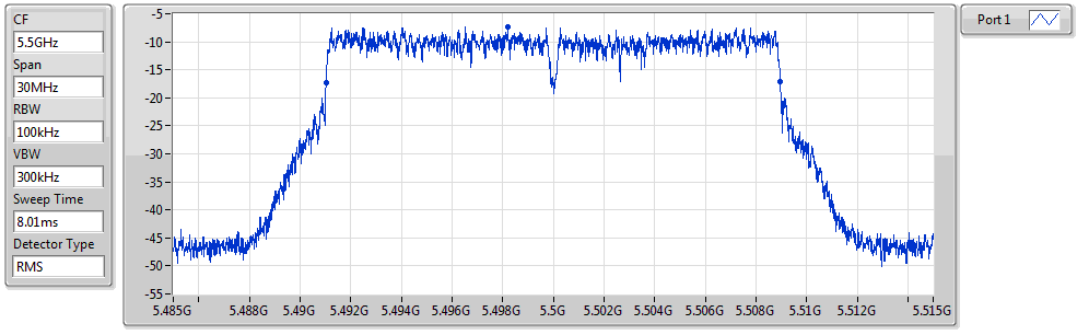
5500MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499944G	5.490989G	5.508899G	10.227	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

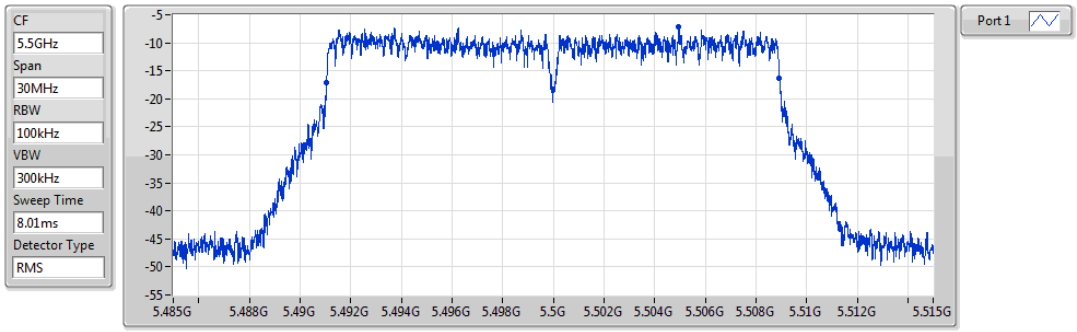
5500MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.500002G	5.491049G	5.508955G	0.341	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

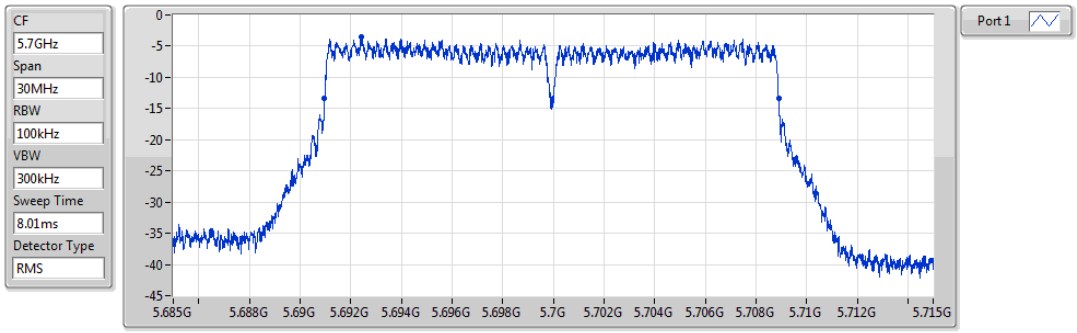
5500MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.5G	5.499996G	5.49106G	5.508933G	0.682	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

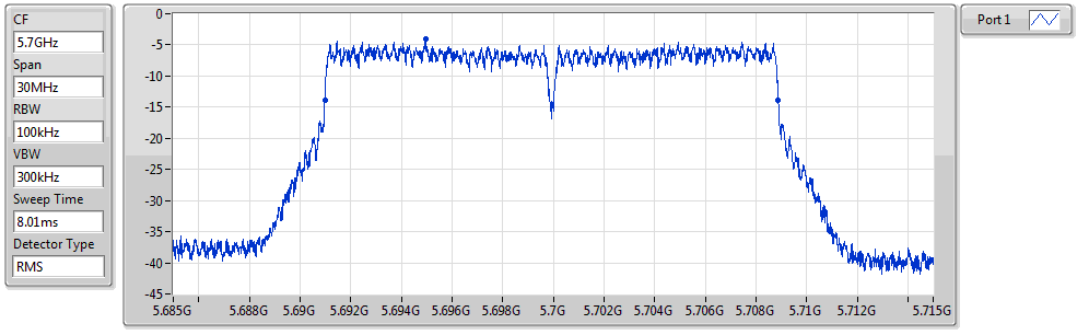
5700MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.699936G	5.69097G	5.708903G	11.184	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

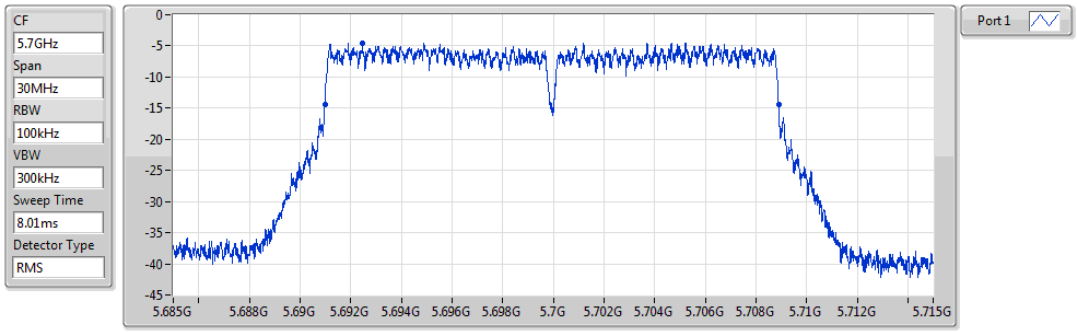
5700MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.699936G	5.690985G	5.708888G	11.184	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

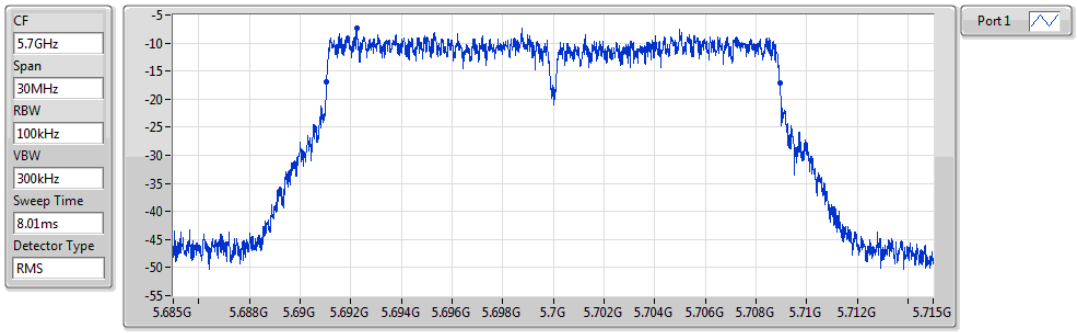
5700MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.699938G	5.690981G	5.708895G	10.855	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

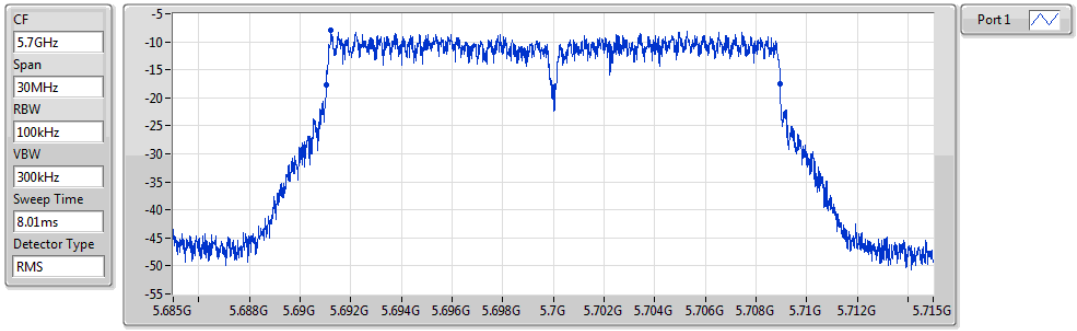
5700MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.700004G	5.691056G	5.708951G	0.658	20	1	-

802.11ac VHT20_Nss1,(MCS0)_1TX **Freq. Stability**

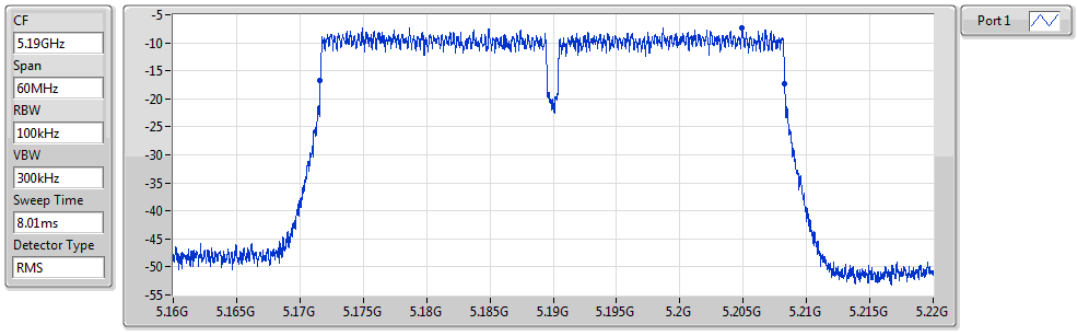
5700MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.7G	5.700002G	5.691045G	5.708959G	0.329	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

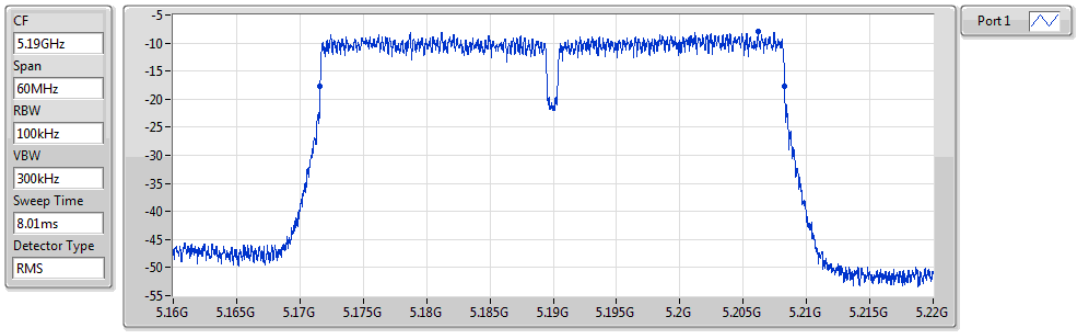
5190MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.19G	5.189948G	5.17161G	5.208285G	10.116	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

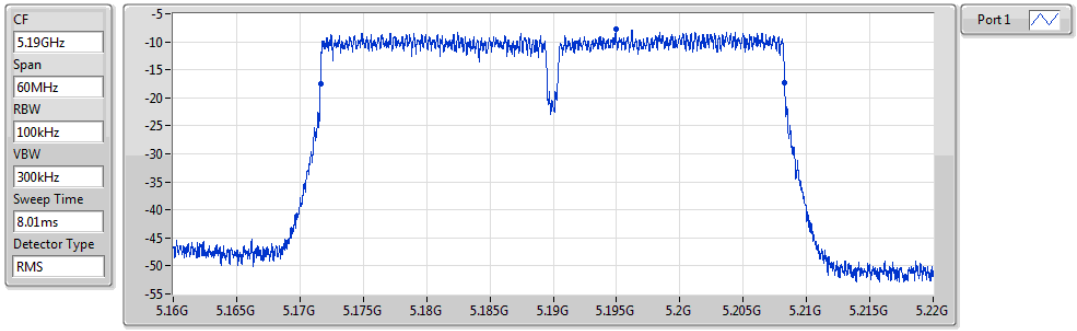
5190MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.19G	5.189936G	5.171603G	5.20827G	12.283	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

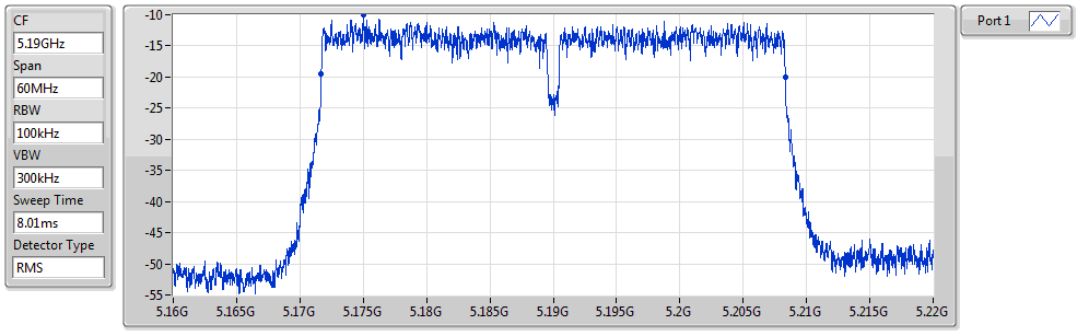
5190MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.19G	5.189948G	5.171618G	5.208278G	10.116	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

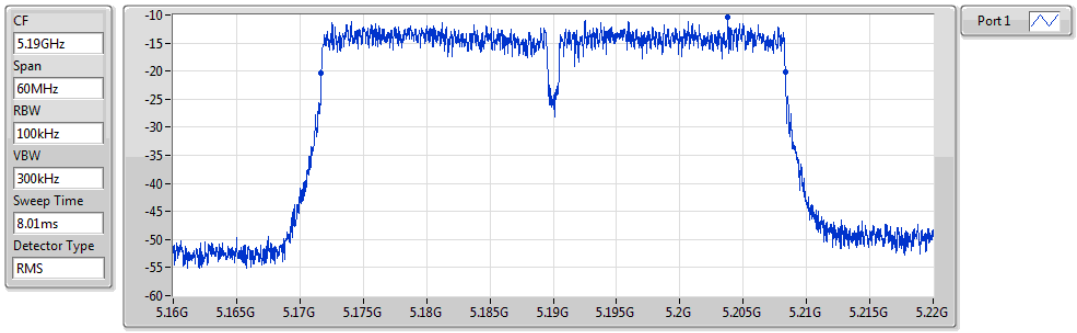
5190MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.19G	5.19G	5.171678G	5.208323G	0	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

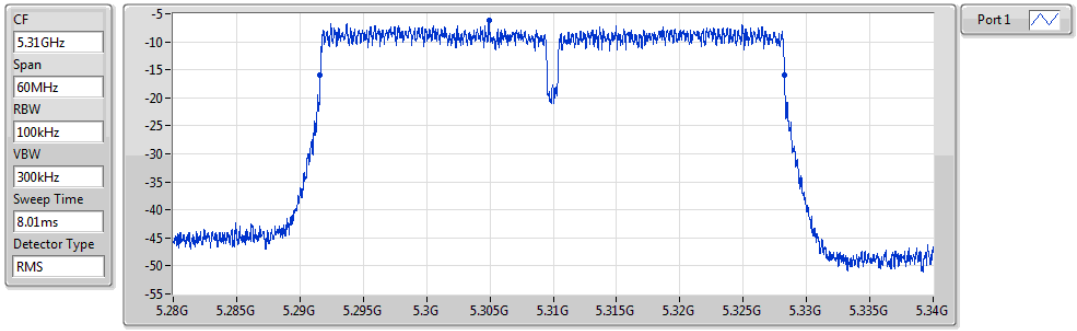
5190MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.19G	5.190004G	5.171685G	5.208323G	0.723	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

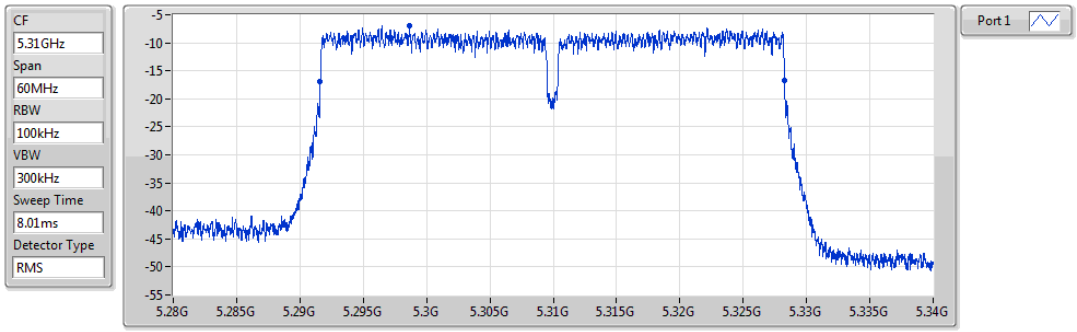
5310MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.31G	5.309936G	5.29161G	5.328263G	12.006	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

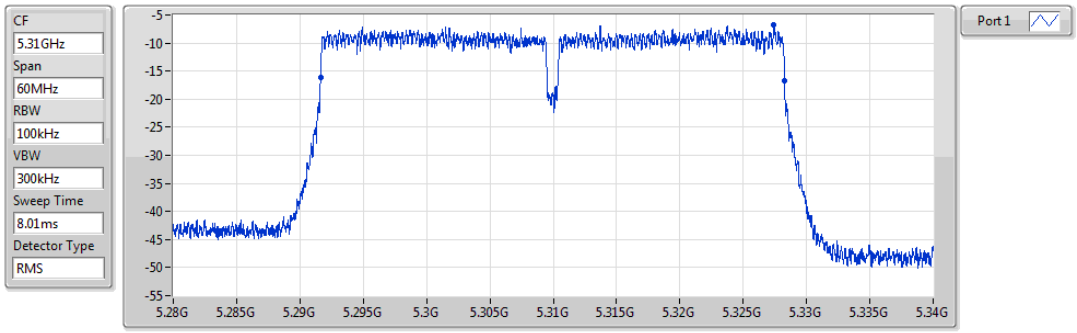
5310MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.31G	5.30994G	5.29161G	5.32827G	11.299	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

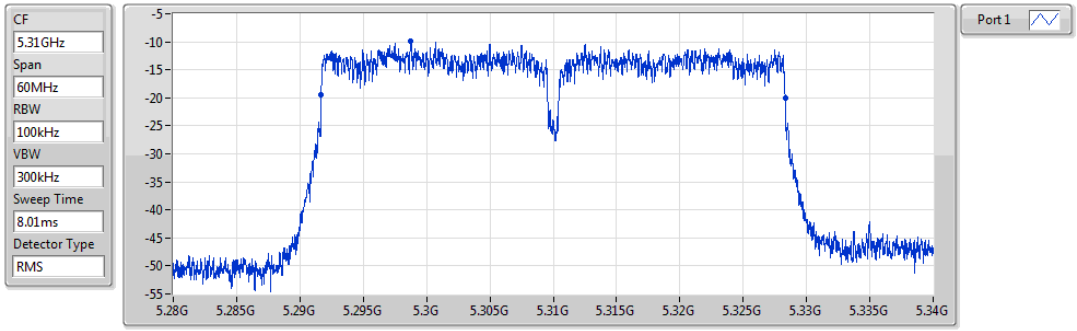
5310MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.31G	5.309951G	5.291625G	5.328278G	9.181	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

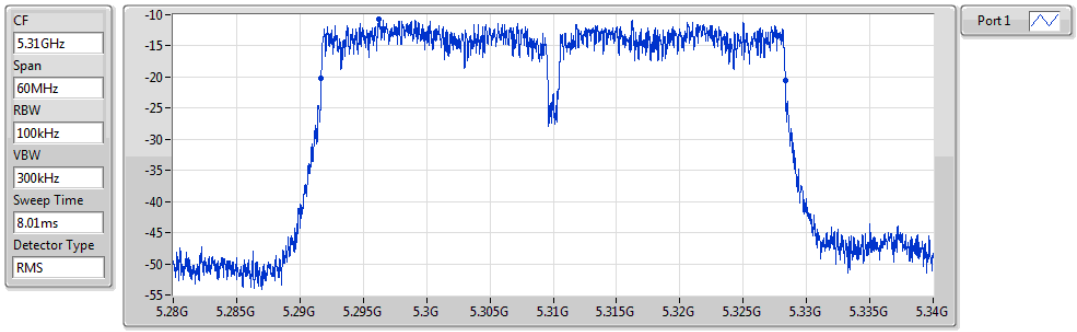
5310MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.31G	5.31G	5.291678G	5.328323G	0	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

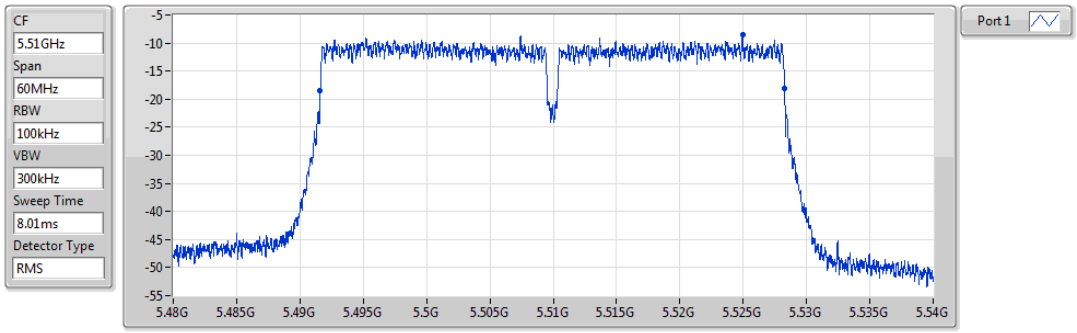
5310MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.31G	5.31G	5.291678G	5.328323G	0	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

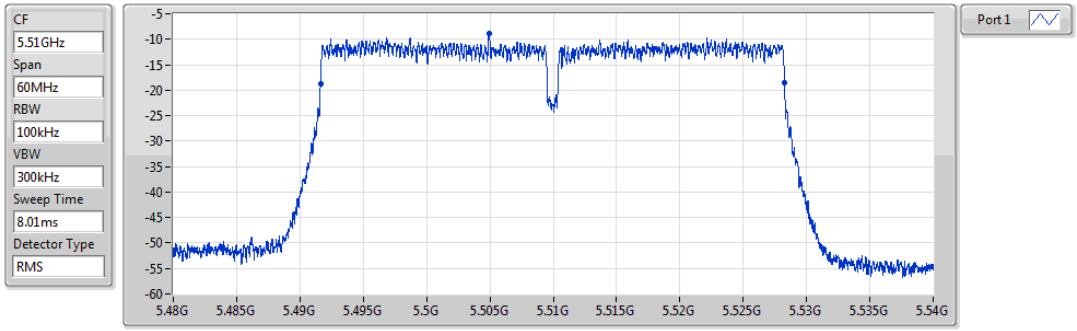
5510MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.51G	5.509936G	5.49161G	5.528263G	11.57	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

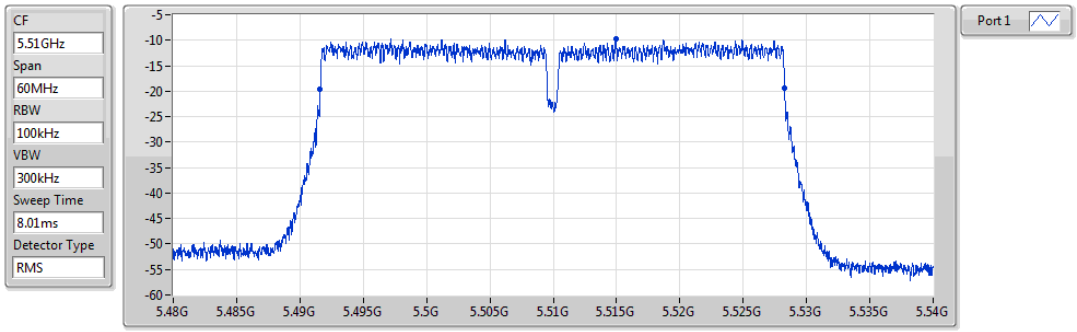
5510MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.51G	5.509948G	5.491625G	5.52827G	9.528	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

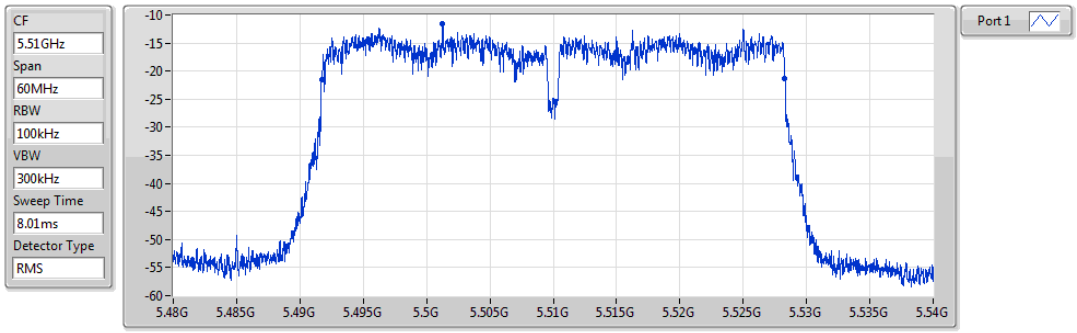
5510MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.51G	5.509944G	5.49161G	5.528278G	10.209	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

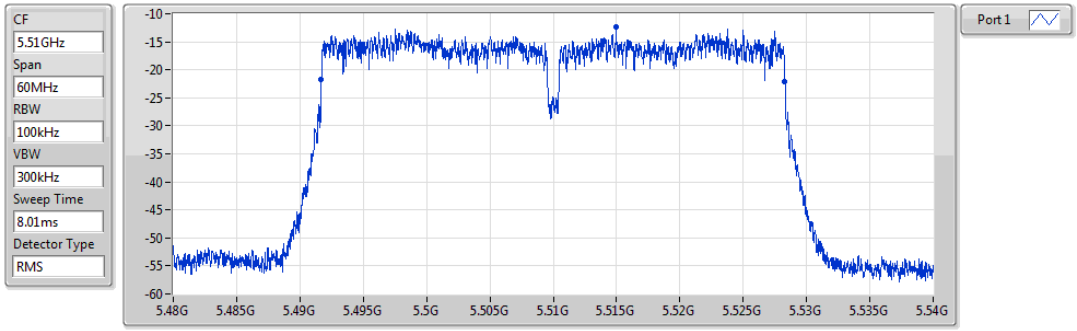
5510MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.51G	5.51G	5.491708G	5.528293G	0	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

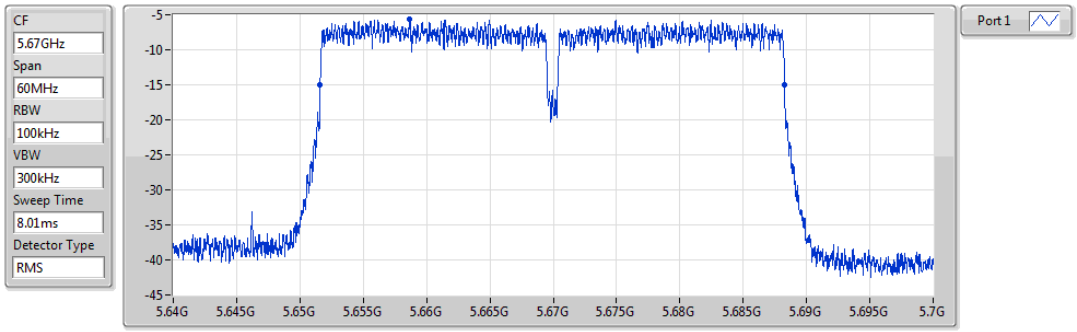
5510MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.51G	5.509996G	5.491693G	5.5283G	0.681	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

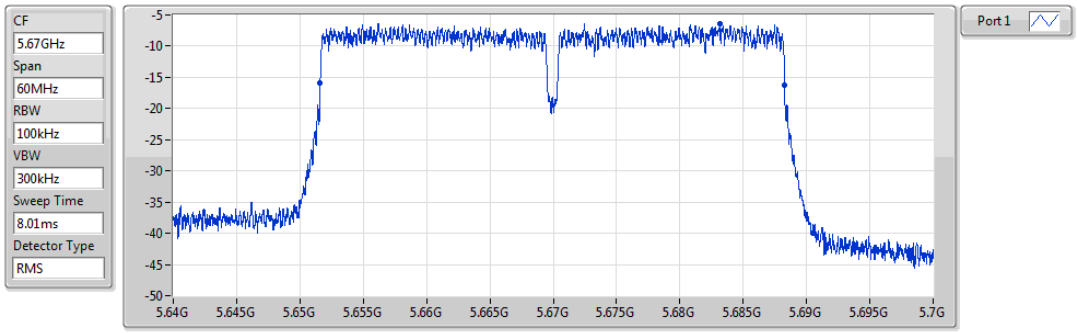
5670MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.67G	5.669936G	5.651603G	5.68827G	11.243	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

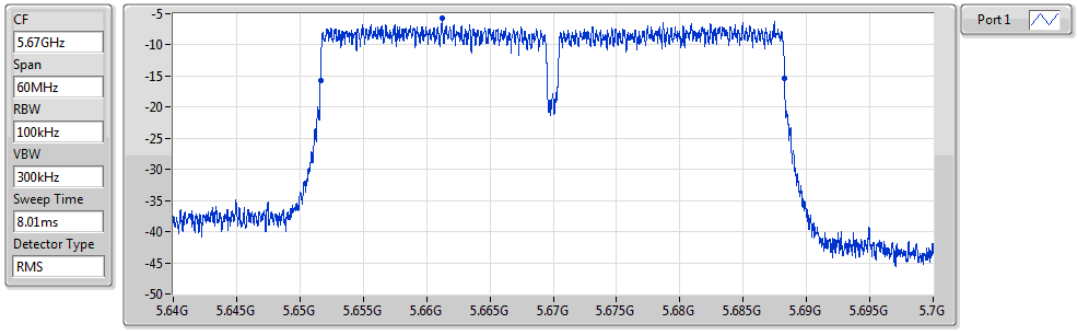
5670MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.67G	5.669936G	5.651603G	5.68827G	11.243	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

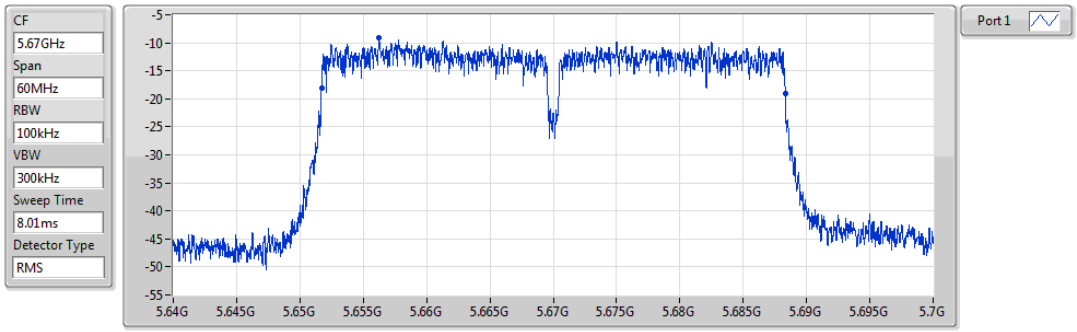
5670MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.67G	5.669944G	5.651618G	5.68827G	9.921	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

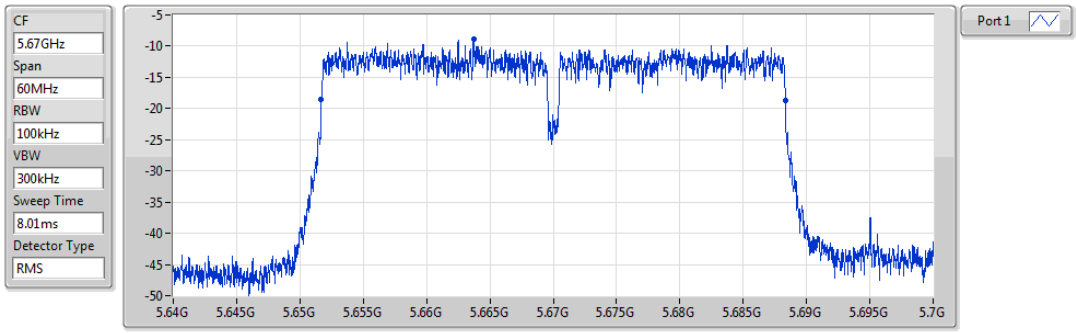
5670MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.67G	5.670011G	5.6517G	5.688323G	1.984	20	1	-

802.11ac VHT40_Nss1,(MCS0)_1TX **Freq. Stability**

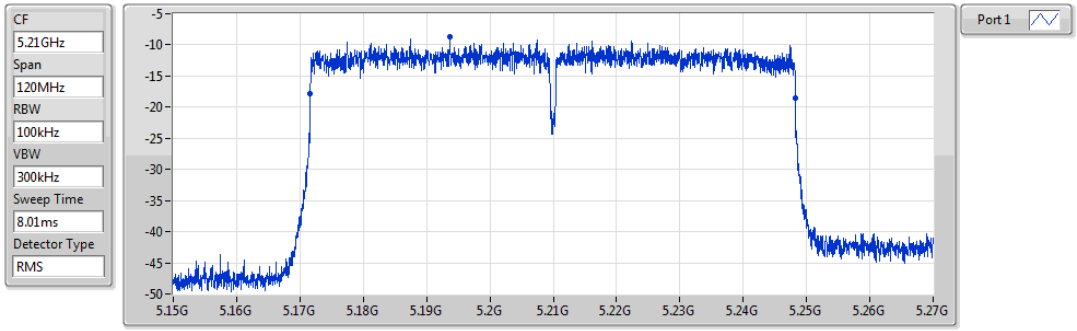
5670MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.67G	5.670011G	5.651693G	5.68833G	1.984	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

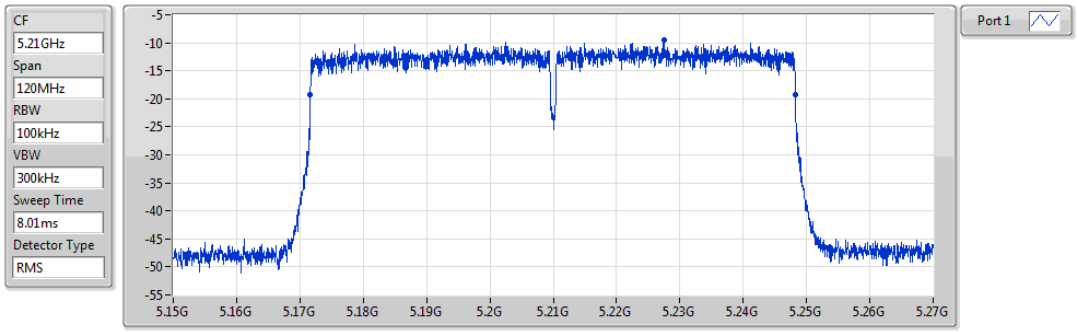
5210MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.21G	5.209948G	5.171645G	5.24825G	10.077	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

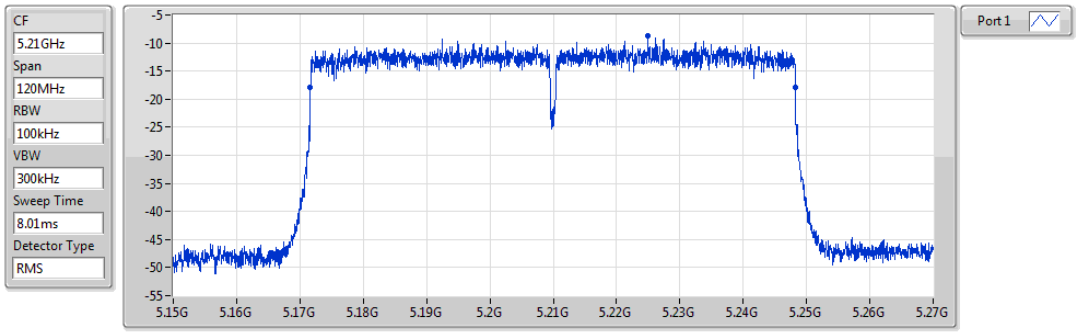
5210MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.21G	5.209955G	5.171645G	5.248265G	8.637	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

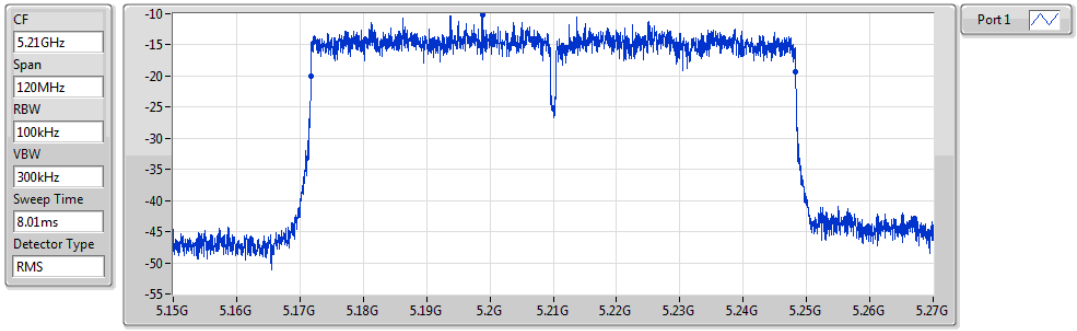
5210MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.21G	5.209955G	5.17166G	5.24825G	8.637	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

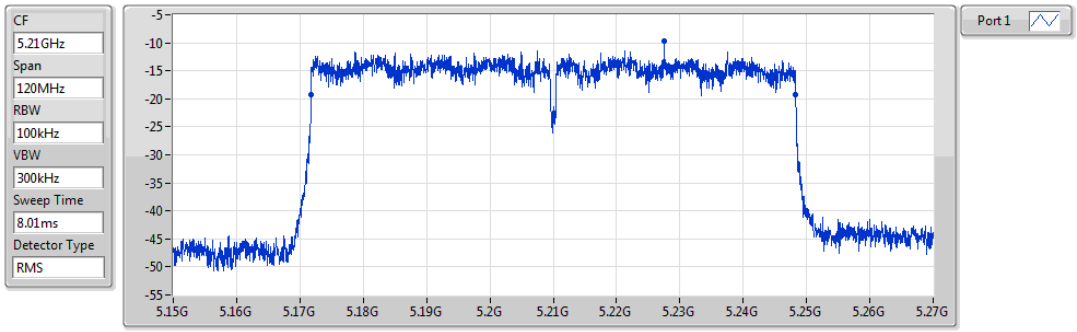
5210MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.21G	5.209993G	5.171705G	5.24828G	1.44	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

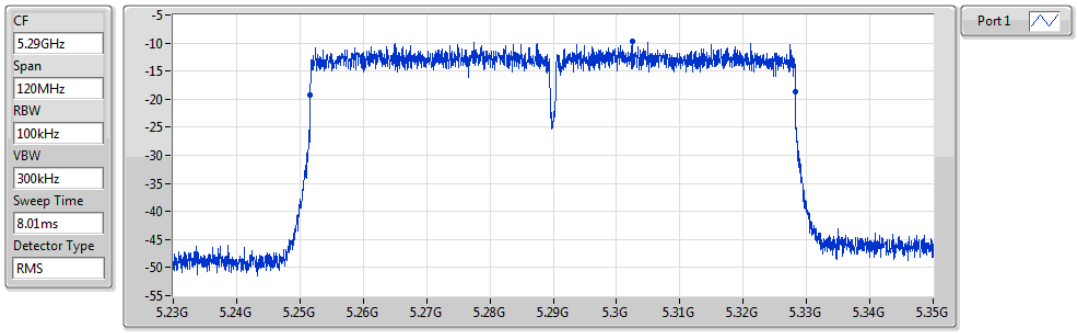
5210MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.21G	5.210008G	5.17172G	5.248295G	1.44	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

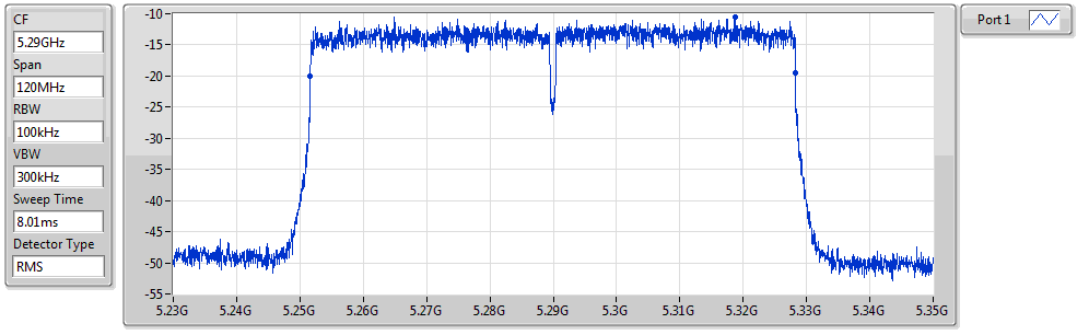
5290MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.29G	5.289948G	5.251645G	5.32825G	9.924	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

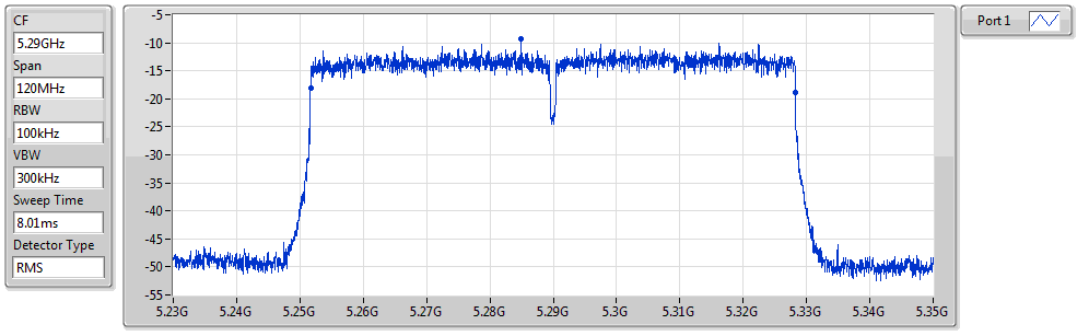
5290MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.29G	5.289948G	5.251645G	5.32825G	9.924	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

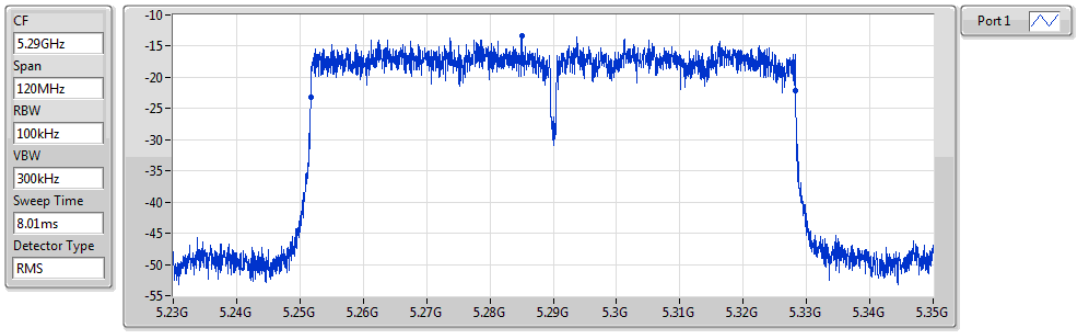
5290MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.29G	5.289963G	5.251675G	5.32825G	7.089	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

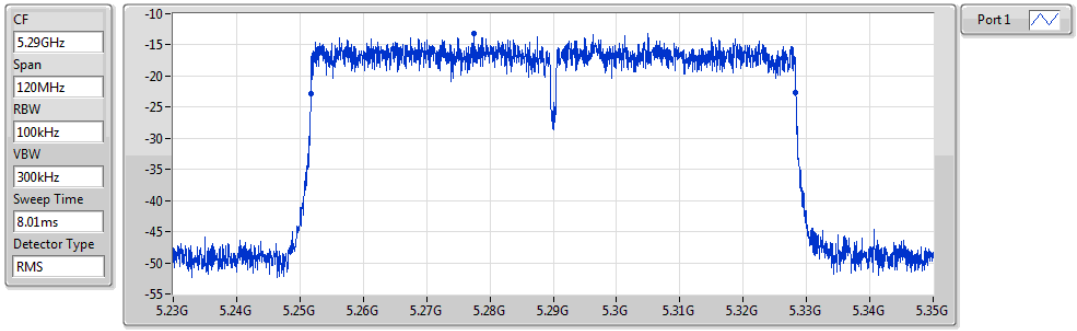
5290MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.29G	5.289985G	5.25169G	5.32828G	2.836	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

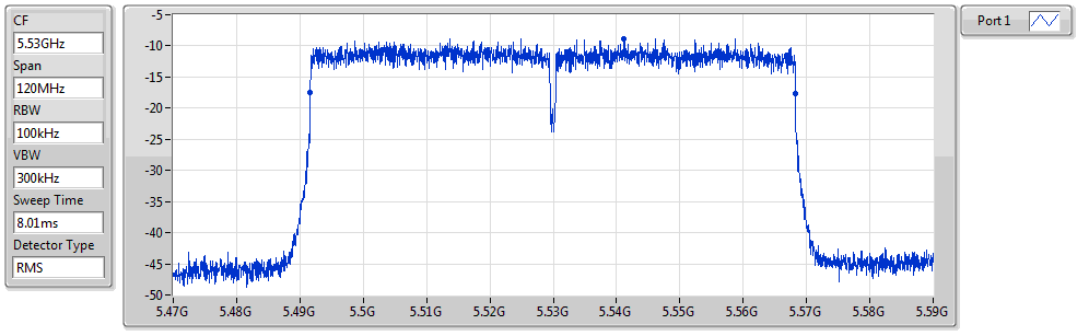
5290MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.29G	5.290015G	5.251705G	5.328325G	2.836	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

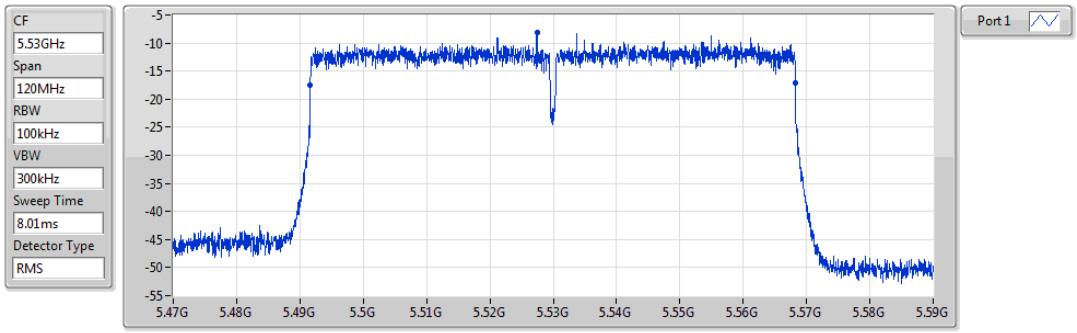
5530MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.53G	5.52994G	5.49163G	5.56825G	10.85	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

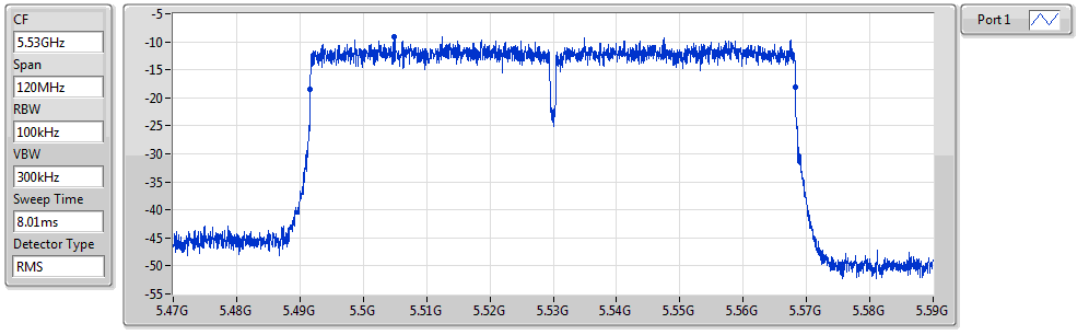
5530MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.53G	5.52994G	5.491645G	5.568235G	10.85	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

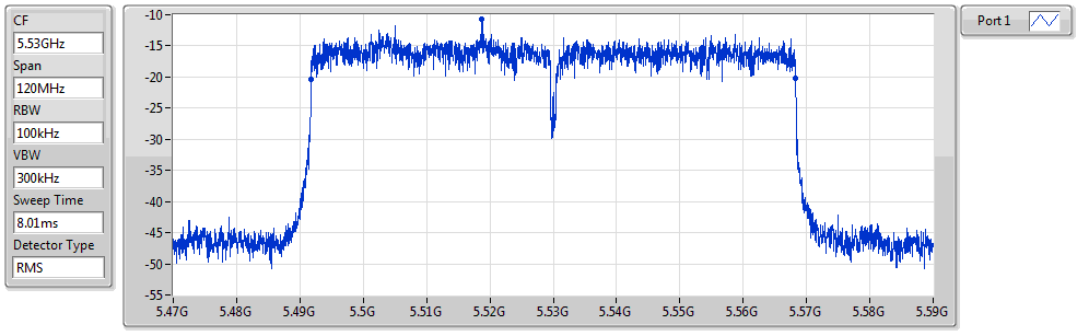
5530MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.53G	5.52994G	5.49163G	5.56825G	10.85	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

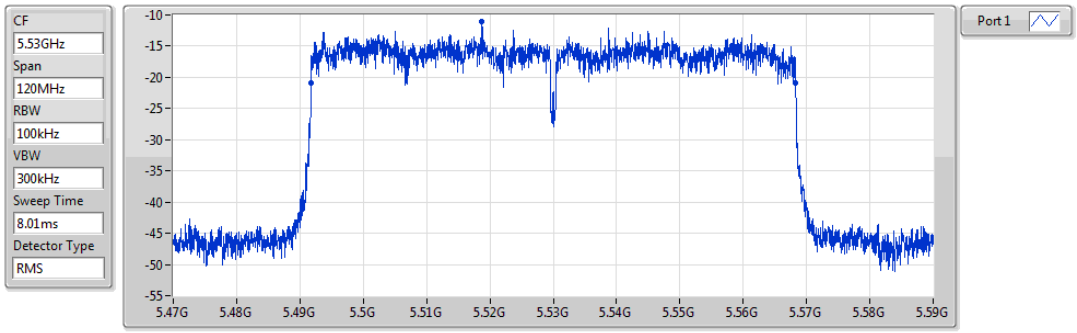
5530MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.53G	5.530015G	5.491735G	5.568295G	2.712	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

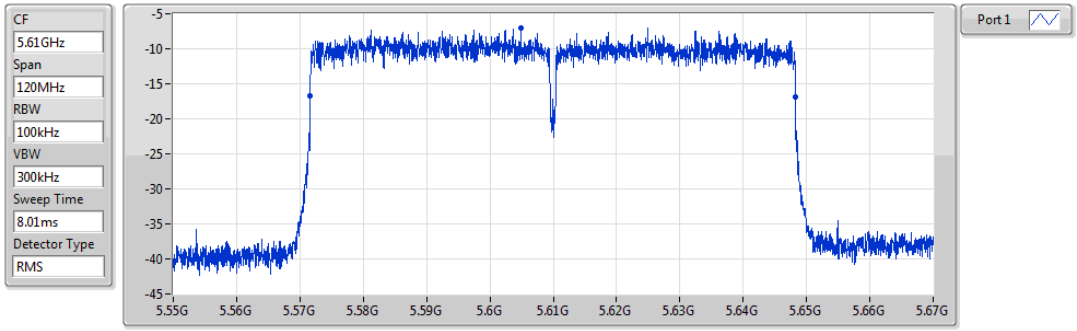
5530MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.53G	5.530008G	5.491735G	5.56828G	1.356	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

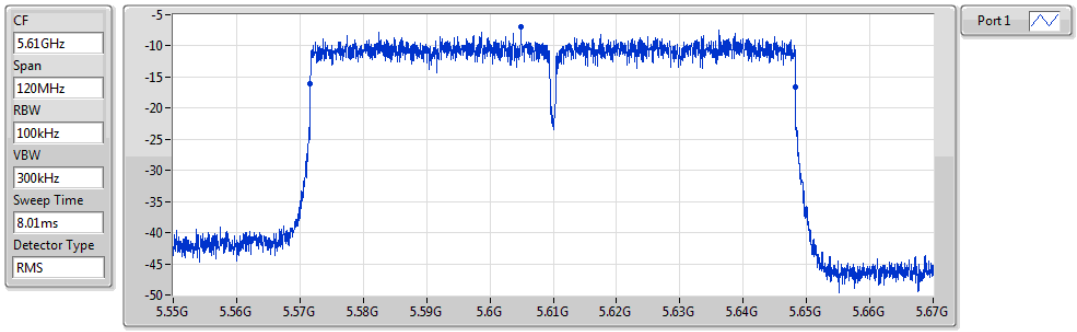
5610MHz_TnomVnom



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.61G	5.60994G	5.57163G	5.64825G	10.695	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

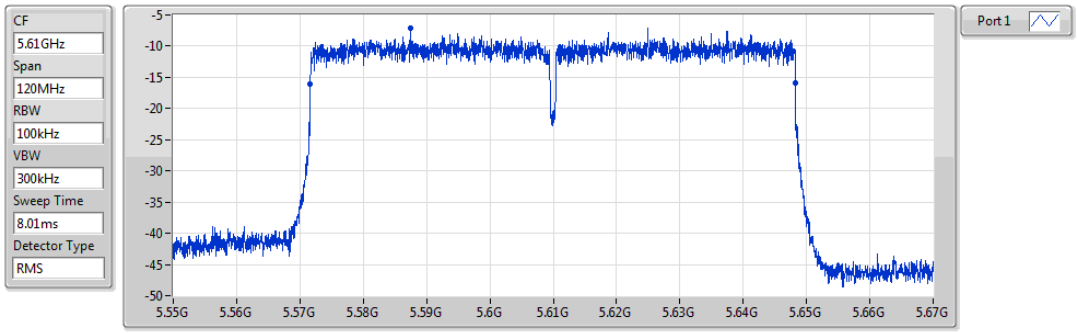
5610MHz_TminVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.61G	5.609948G	5.571645G	5.64825G	9.358	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

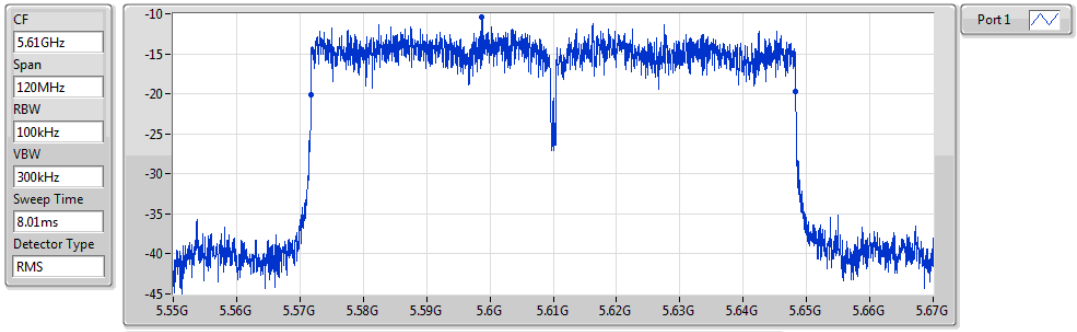
5610MHz_TminVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.61G	5.609948G	5.571645G	5.64825G	9.358	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

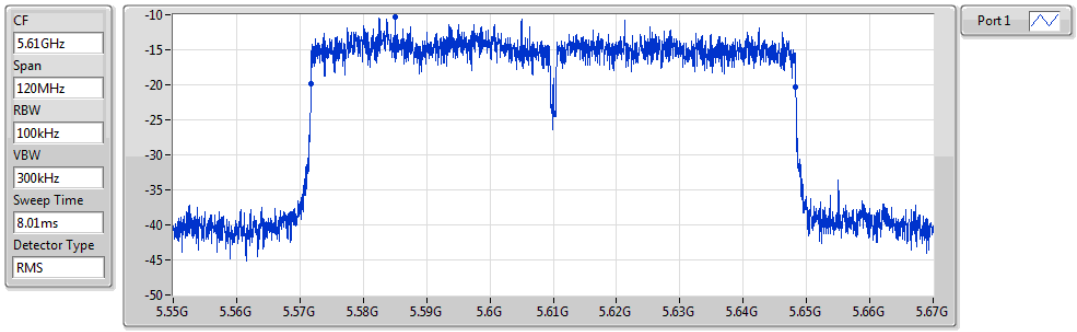
5610MHz_TmaxVmax



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.61G	5.610008G	5.571705G	5.64831G	1.337	20	1	-

802.11ac VHT80_Nss1,(MCS0)_1TX **Freq. Stability**

5610MHz_TmaxVmin



Ch(Hz)	Center(Hz)	Fl(Hz)	Fh(Hz)	ppm	Limit(ppm)	Port	Remark
5.61G	5.610008G	5.571705G	5.64831G	1.337	20	1	-

3.2 Occupied Channel Bandwidth

3.2.1 Limit of Occupied Channel Bandwidth

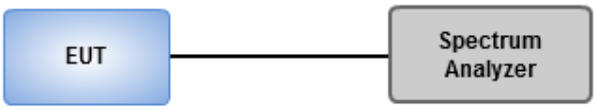
The Nominal Channel Bandwidth for a single Operating Channel shall be 20 MHz

The Occupied Channel Bandwidth shall be between 80 % and 100 % of the Nominal Channel Bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement.
The Occupied Channel Bandwidth might change with time/payload.

3.2.2 Test Procedures

Reference to clause 5.4.3.2 of ETSI EN 301 893 V2.1.1 (2017-05).

3.2.3 Test Setup



3.2.4 Test Result of Occupied Channel Bandwidth

Ambient Condition	25°C / 65%	**Tested By**	Nai Xu

Summary

Mode	**OBW (Hz)**	**ITU-Code**
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	16.486M	16M4D1D
802.11ac VHT20_Nss1,(MCS0)_1TX	17.696M	17M6D1D
802.11ac VHT40_Nss1,(MCS0)_1TX	36.231M	36M2D1D
802.11ac VHT80_Nss1,(MCS0)_1TX	75.701M	75M7D1D
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	16.486M	16M4D1D
802.11ac VHT20_Nss1,(MCS0)_1TX	17.696M	17M6D1D
802.11ac VHT40_Nss1,(MCS0)_1TX	36.251M	36M2D1D
802.11ac VHT80_Nss1,(MCS0)_1TX	75.701M	75M7D1D
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	16.496M	16M4D1D
802.11ac VHT20_Nss1,(MCS0)_1TX	17.706M	17M7D1D
802.11ac VHT40_Nss1,(MCS0)_1TX	36.251M	36M2D1D
802.11ac VHT80_Nss1,(MCS0)_1TX	75.821M	75M8D1D

OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)	N dB (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
5180MHz_TnomVnom	Pass	16M~20M	5.171692G	5.188178G	16.486M	16.54M
5320MHz_TnomVnom	Pass	16M~20M	5.311692G	5.328178G	16.486M	16.56M
5500MHz_TnomVnom	Pass	16M~20M	5.491682G	5.508168G	16.486M	16.54M
5700MHz_TnomVnom	Pass	16M~20M	5.691672G	5.708168G	16.496M	16.54M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-
5180MHz_TnomVnom	Pass	16M~20M	5.171082G	5.188778G	17.696M	17.78M
5320MHz_TnomVnom	Pass	16M~20M	5.311082G	5.328778G	17.696M	17.79M
5500MHz_TnomVnom	Pass	16M~20M	5.491072G	5.508768G	17.696M	17.77M
5700MHz_TnomVnom	Pass	16M~20M	5.691062G	5.708768G	17.706M	17.78M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-
5190MHz_TnomVnom	Pass	32M~40M	5.171825G	5.208055G	36.231M	36.56M
5310MHz_TnomVnom	Pass	32M~40M	5.291805G	5.328055G	36.251M	36.54M
5510MHz_TnomVnom	Pass	32M~40M	5.491805G	5.528035G	36.231M	36.54M
5670MHz_TnomVnom	Pass	32M~40M	5.651805G	5.688055G	36.251M	36.54M
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-
5210MHz_TnomVnom	Pass	64M~80M	5.172089G	5.247791G	75.701M	76.48M
5290MHz_TnomVnom	Pass	64M~80M	5.252089G	5.327791G	75.701M	76.52M
5530MHz_TnomVnom	Pass	64M~80M	5.492009G	5.567791G	75.781M	76.48M
5610MHz_TnomVnom	Pass	64M~80M	5.572009G	5.647831G	75.821M	76.48M

fl-OBW = fl lower edge 99% occupied bandwidth; **fh-OBW** = fh higher edge 99% occupied bandwidth; **OBW** = 99% occupied bandwidth;
N dB = 6dB down bandwidth;

3.3 RF Output Power, Transmit Power Control (TPC) and Power density

3.3.1 Limit of RF Output Power, Transmit Power Control (TPC) and Power Density

Mean e.i.r.p. limits for RF output power and Power Density at the highest power level (P_H)

Frequency range (MHz)	Mean e.i.r.p. limit for P_H (dBm)		Mean e.i.r.p. density limit (dBm/MHz)	
	With TPC	Without TPC	With TPC	Without TPC
5 150 to 5 350	23	20/23 (see note 1)	10	7/10 (see note 2)
5 470 to 5 725	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)

Note 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 23 dBm.
Note 2: The applicable limit is 7 dBm/MHz except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 10 dBm/MHz.
Note 3: Slave devices without a *Radar Interference Detection* function shall comply with the limits for the frequency range 5 250 MHz to 5 350 MHz.

Mean e.i.r.p. limits for RF Output Power at the lowest power level of the TPC range

Frequency range (MHz)	Mean e.i.r.p. (dBm) limit for P_L
5 250 to 5 350	17
5 470 to 5 725	24 (see note)

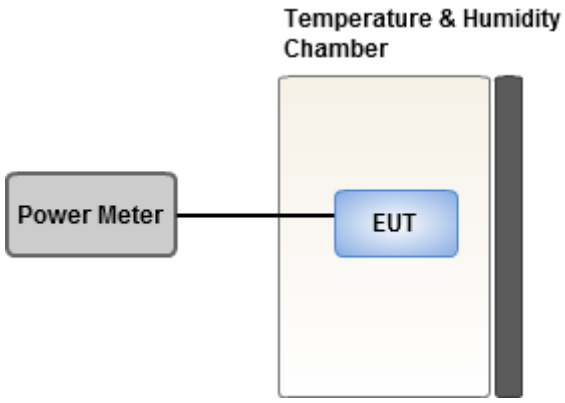
Note: Slave devices without a *Radar Interference Detection* function shall comply with the limits for the band 5 250 MHz to 5 350 MHz.

3.3.2 Test Procedures

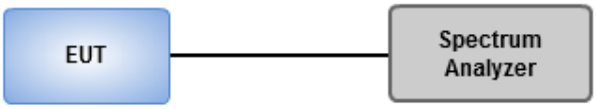
Reference to clause 5.4.4.2 of ETSI EN 301 893 V2.1.1 (2017-05).

3.3.3 Test Setup

For RF Output Power, Transmit Power Control (TPC)



For Power Density



3.3.4 Test Result of RF Output Power at the Highest Power

Ambient Condition	25°C / 65%	Tested By	Nai Xu

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11a**	**Limit (dBm)**
$T_{nom}V_{nom}$	5180	21.58	23
$T_{min}V_{max}$	5180	21.78	23
$T_{min}V_{min}$	5180	21.80	23
$T_{max}V_{max}$	5180	21.13	23
$T_{max}V_{min}$	5180	21.10	23
$T_{nom}V_{nom}$	5320	21.54	23
$T_{min}V_{max}$	5320	21.71	23
$T_{min}V_{min}$	5320	21.73	23
$T_{max}V_{max}$	5320	21.13	23
$T_{max}V_{min}$	5320	21.11	23
$T_{nom}V_{nom}$	5500	20.46	23
$T_{min}V_{max}$	5500	20.69	23
$T_{min}V_{min}$	5500	20.71	23
$T_{max}V_{max}$	5500	20.12	23
$T_{max}V_{min}$	5500	20.09	23
$T_{nom}V_{nom}$	5700	19.75	23
$T_{min}V_{max}$	5700	19.95	23
$T_{min}V_{min}$	5700	19.98	23
$T_{max}V_{max}$	5700	19.48	23
$T_{max}V_{min}$	5700	19.46	23

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT20**	**Limit (dBm)**
$T_{nom}V_{nom}$	5180	21.60	23
$T_{min}V_{max}$	5180	21.80	23
$T_{min}V_{min}$	5180	21.83	23
$T_{max}V_{max}$	5180	21.18	23
$T_{max}V_{min}$	5180	21.16	23
$T_{nom}V_{nom}$	5320	21.54	23
$T_{min}V_{max}$	5320	21.74	23
$T_{min}V_{min}$	5320	21.76	23
$T_{max}V_{max}$	5320	21.14	23
$T_{max}V_{min}$	5320	21.12	23
$T_{nom}V_{nom}$	5500	20.52	23
$T_{min}V_{max}$	5500	20.76	23
$T_{min}V_{min}$	5500	20.79	23
$T_{max}V_{max}$	5500	20.04	23
$T_{max}V_{min}$	5500	20.02	23
$T_{nom}V_{nom}$	5700	19.75	23
$T_{min}V_{max}$	5700	19.99	23
$T_{min}V_{min}$	5700	20.01	23
$T_{max}V_{max}$	5700	19.34	23
$T_{max}V_{min}$	5700	19.32	23

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT40**	**Limit (dBm)**
$T_{nom}V_{nom}$	5190	19.48	23
$T_{min}V_{max}$	5190	19.69	23
$T_{min}V_{min}$	5190	19.71	23
$T_{max}V_{max}$	5190	19.13	23
$T_{max}V_{min}$	5190	19.11	23
$T_{nom}V_{nom}$	5310	20.28	23
$T_{min}V_{max}$	5310	20.52	23
$T_{min}V_{min}$	5310	20.54	23
$T_{max}V_{max}$	5310	19.83	23
$T_{max}V_{min}$	5310	19.81	23
$T_{nom}V_{nom}$	5510	17.25	23
$T_{min}V_{max}$	5510	17.49	23
$T_{min}V_{min}$	5510	17.51	23
$T_{max}V_{max}$	5510	16.90	23
$T_{max}V_{min}$	5510	16.88	23
$T_{nom}V_{nom}$	5670	20.83	23
$T_{min}V_{max}$	5670	21.06	23
$T_{min}V_{min}$	5670	21.08	23
$T_{max}V_{max}$	5670	20.39	23
$T_{max}V_{min}$	5670	20.37	23

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT80**	**Limit (dBm)**
$T_{nom}V_{nom}$	5210	20.33	23
$T_{min}V_{max}$	5210	20.59	23
$T_{min}V_{min}$	5210	20.62	23
$T_{max}V_{max}$	5210	19.99	23
$T_{max}V_{min}$	5210	19.97	23
$T_{nom}V_{nom}$	5290	19.55	23
$T_{min}V_{max}$	5290	19.76	23
$T_{min}V_{min}$	5290	19.80	23
$T_{max}V_{max}$	5290	19.13	23
$T_{max}V_{min}$	5290	19.10	23
$T_{nom}V_{nom}$	5530	20.39	23
$T_{min}V_{max}$	5530	20.61	23
$T_{min}V_{min}$	5530	20.64	23
$T_{max}V_{max}$	5530	20.01	23
$T_{max}V_{min}$	5530	19.99	23
$T_{nom}V_{nom}$	5610	21.92	23
$T_{min}V_{max}$	5610	22.18	23
$T_{min}V_{min}$	5610	22.20	23
$T_{max}V_{max}$	5610	21.52	23
$T_{max}V_{min}$	5610	21.50	23

Note: EIRP = Measured conducted power + Antenna gain

3.3.5 Test Result of RF Output Power at the Lowest Power

Ambient Condition	25°C / 65%	Tested By	Nai Xu

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11a**	**Limit (dBm)**
$T_{nom}V_{nom}$	5320	15.54	17
$T_{min}V_{max}$	5320	15.71	17
$T_{min}V_{min}$	5320	15.73	17
$T_{max}V_{max}$	5320	15.13	17
$T_{max}V_{min}$	5320	15.11	17
$T_{nom}V_{nom}$	5500	14.46	17
$T_{min}V_{max}$	5500	14.69	17
$T_{min}V_{min}$	5500	14.71	17
$T_{max}V_{max}$	5500	14.12	17
$T_{max}V_{min}$	5500	14.09	17
$T_{nom}V_{nom}$	5700	13.75	17
$T_{min}V_{max}$	5700	13.95	17
$T_{min}V_{min}$	5700	13.98	17
$T_{max}V_{max}$	5700	13.48	17
$T_{max}V_{min}$	5700	13.46	17

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT20**	**Limit (dBm)**
$T_{nom}V_{nom}$	5320	15.54	17
$T_{min}V_{max}$	5320	15.74	17
$T_{min}V_{min}$	5320	15.76	17
$T_{max}V_{max}$	5320	15.14	17
$T_{max}V_{min}$	5320	15.12	17
$T_{nom}V_{nom}$	5500	14.52	17
$T_{min}V_{max}$	5500	14.76	17
$T_{min}V_{min}$	5500	14.79	17
$T_{max}V_{max}$	5500	14.04	17
$T_{max}V_{min}$	5500	14.02	17
$T_{nom}V_{nom}$	5700	13.75	17
$T_{min}V_{max}$	5700	13.99	17
$T_{min}V_{min}$	5700	14.01	17
$T_{max}V_{max}$	5700	13.34	17
$T_{max}V_{min}$	5700	13.32	17

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT40**	**Limit (dBm)**
$T_{nom}V_{nom}$	5310	14.28	17
$T_{min}V_{max}$	5310	14.52	17
$T_{min}V_{min}$	5310	14.54	17
$T_{max}V_{max}$	5310	13.83	17
$T_{max}V_{min}$	5310	13.81	17
$T_{nom}V_{nom}$	5510	11.25	17
$T_{min}V_{max}$	5510	11.49	17
$T_{min}V_{min}$	5510	11.51	17
$T_{max}V_{max}$	5510	10.90	17
$T_{max}V_{min}$	5510	10.88	17
$T_{nom}V_{nom}$	5670	14.83	17
$T_{min}V_{max}$	5670	15.06	17
$T_{min}V_{min}$	5670	15.08	17
$T_{max}V_{max}$	5670	14.39	17
$T_{max}V_{min}$	5670	14.37	17

Note: EIRP = Measured conducted power + Antenna gain

Maximum Transmit Power (dBm)			
Condition	**Freq. (MHz)**	**802.11ac VHT80**	**Limit (dBm)**
$T_{nom}V_{nom}$	5290	13.55	17
$T_{min}V_{max}$	5290	13.76	17
$T_{min}V_{min}$	5290	13.80	17
$T_{max}V_{max}$	5290	13.13	17
$T_{max}V_{min}$	5290	13.10	17
$T_{nom}V_{nom}$	5530	14.39	17
$T_{min}V_{max}$	5530	14.61	17
$T_{min}V_{min}$	5530	14.64	17
$T_{max}V_{max}$	5530	14.01	17
$T_{max}V_{min}$	5530	13.99	17
$T_{nom}V_{nom}$	5610	15.92	17
$T_{min}V_{max}$	5610	16.18	17
$T_{min}V_{min}$	5610	16.20	17
$T_{max}V_{max}$	5610	15.52	17
$T_{max}V_{min}$	5610	15.50	17

Note: EIRP = Measured conducted power + Antenna gain

3.3.6 Test Result of Power Density

Ambient Condition	25°C / 65%	Tested By	Nai Xu

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz) e.i.r.p.	Limit (dBm/1MHz) e.i.r.p.	Results
11a	5180	9.93	10	Pass
11a	5320	9.90	10	Pass
11a	5500	8.79	10	Pass
11a	5700	8.03	10	Pass
802.11ac VHT20	5180	9.75	10	Pass
802.11ac VHT20	5320	9.69	10	Pass
802.11ac VHT20	5500	8.51	10	Pass
802.11ac VHT20	5700	7.84	10	Pass
802.11ac VHT40	5190	4.66	10	Pass
802.11ac VHT40	5310	5.42	10	Pass
802.11ac VHT40	5510	2.19	10	Pass
802.11ac VHT40	5670	6.08	10	Pass
802.11ac VHT80	5210	2.46	10	Pass
802.11ac VHT80	5290	1.36	10	Pass
802.11ac VHT80	5530	2.35	10	Pass
802.11ac VHT80	5610	3.95	10	Pass

Note: Power Density = Measured conducted power density+ Antenna gain

3.4 Transmitter Unwanted Emissions outside the 5 GHz RLAN Bands

3.4.1 Limit of Transmitter Unwanted Emissions outside the 5 GHz RLAN Bands

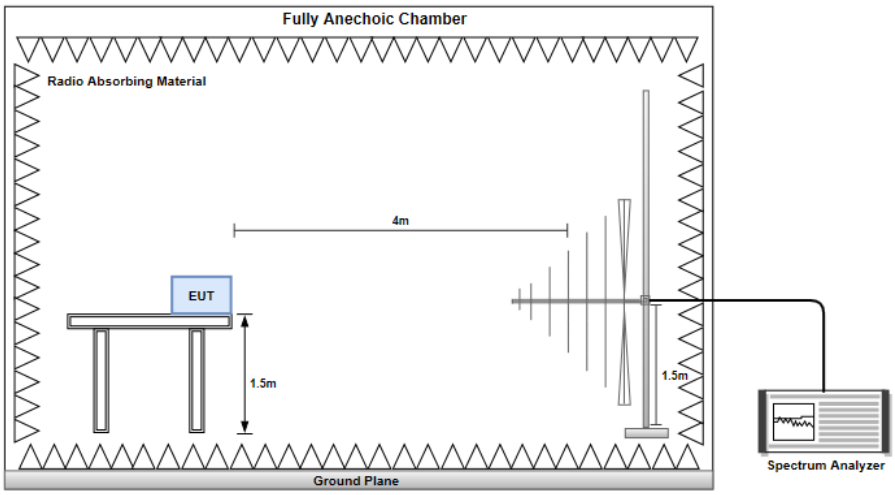
Frequency Range	Maximum Power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 5,15 GHz	-30 dBm	1 MHz
5,35 GHz to 5,47 GHz	-30 dBm	1 MHz
5,725 GHz to 26 GHz	-30 dBm	1 MHz

3.4.2 Test Procedures

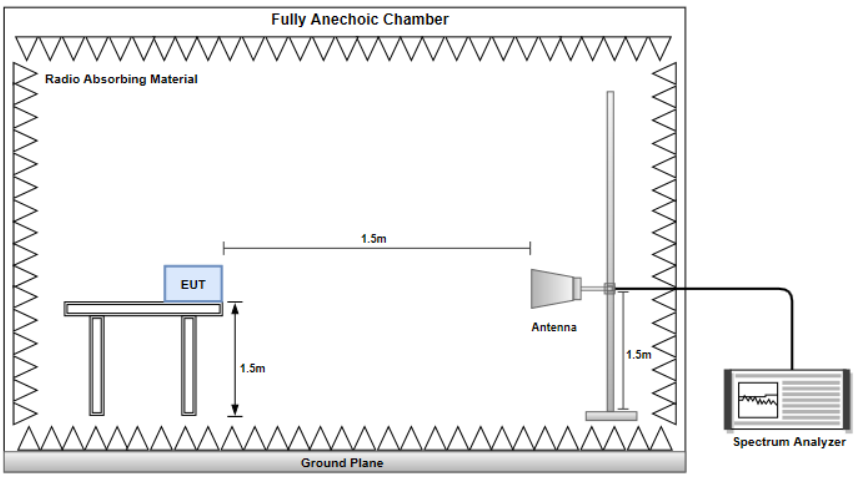
Reference to clause 5.4.5.2 of ETSI EN 301 893 V2.1.1 (2017-05).

3.4.3 Test Setup

Below 1GHz



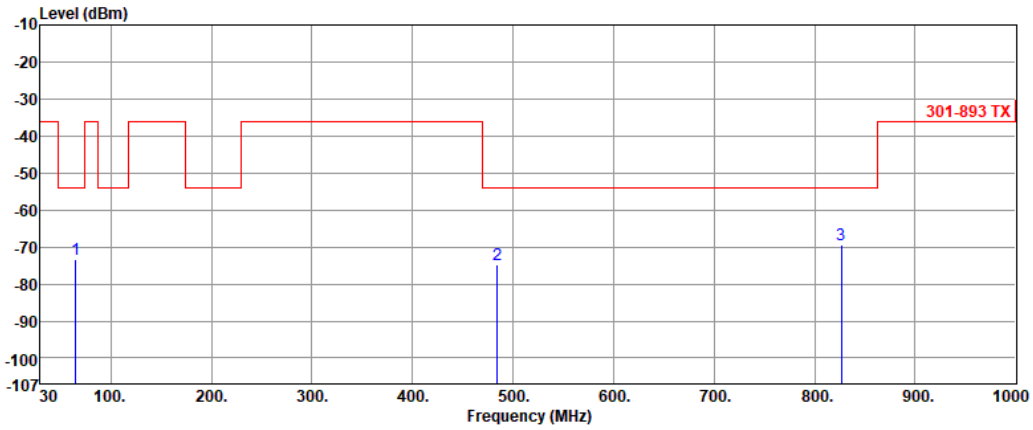
Above 1 GHz



3.4.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	11a	**Test Freq. (MHz)**	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

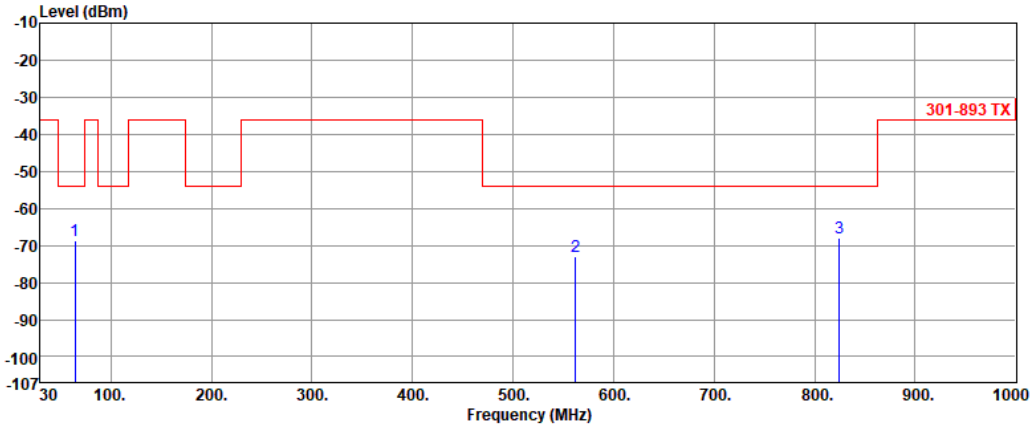


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.18	-73.42	-54.00	-19.42	-3.29	-70.13
2	484.56	-74.76	-54.00	-20.76	2.03	-76.79
3	826.24	-69.50	-54.00	-15.50	8.01	-77.51

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

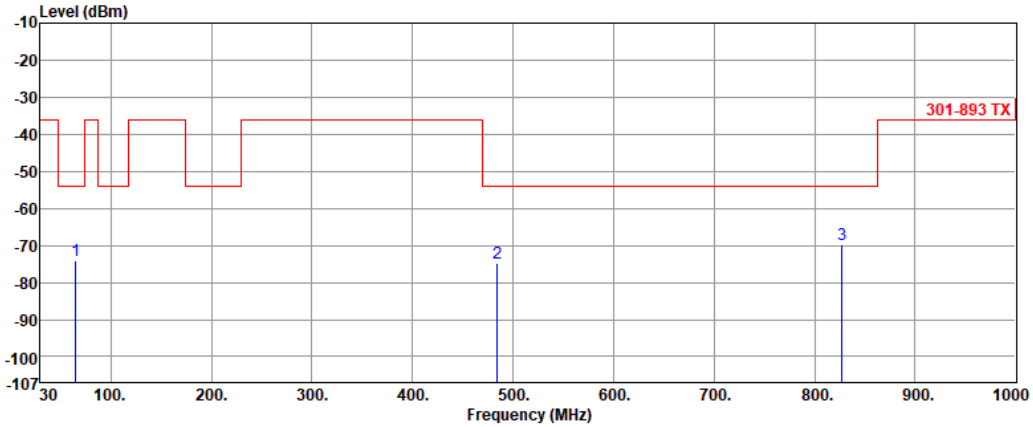


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.58	-68.60	-54.00	-14.60	-4.61	-63.99
2	561.96	-72.83	-54.00	-18.83	3.42	-76.25
3	824.74	-68.04	-54.00	-14.04	8.08	-76.12

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

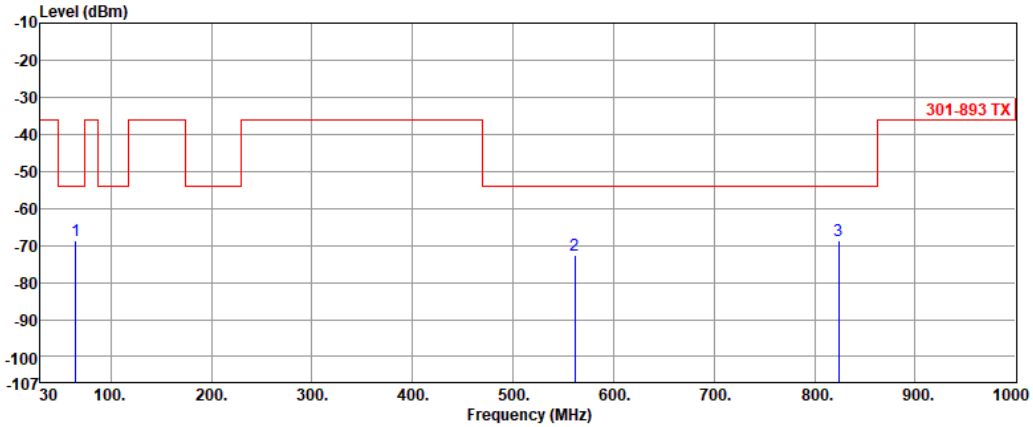


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.23	-73.93	-54.00	-19.93	-3.31	-70.62
2	484.63	-74.81	-54.00	-20.81	2.03	-76.84
3	826.91	-69.72	-54.00	-15.72	8.02	-77.74

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

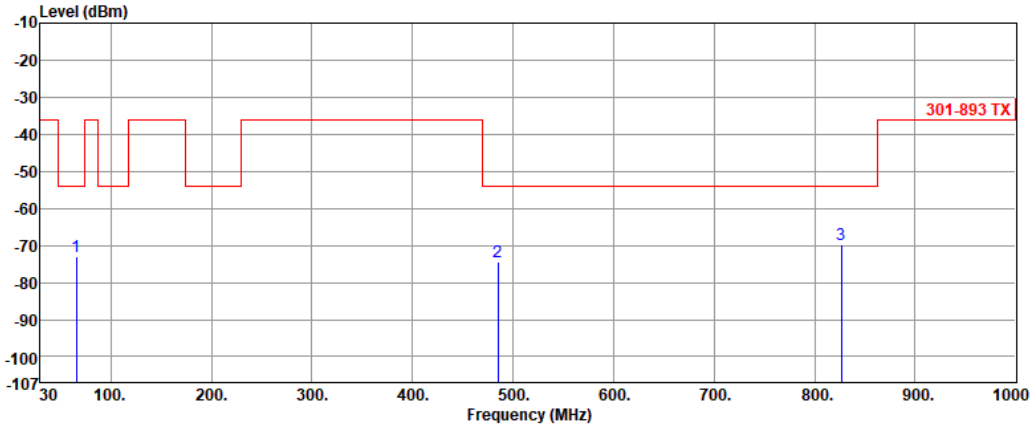


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.88	-68.65	-54.00	-14.65	-4.69	-63.96
2	561.37	-72.76	-54.00	-18.76	3.39	-76.15
3	824.19	-68.52	-54.00	-14.52	8.08	-76.60

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

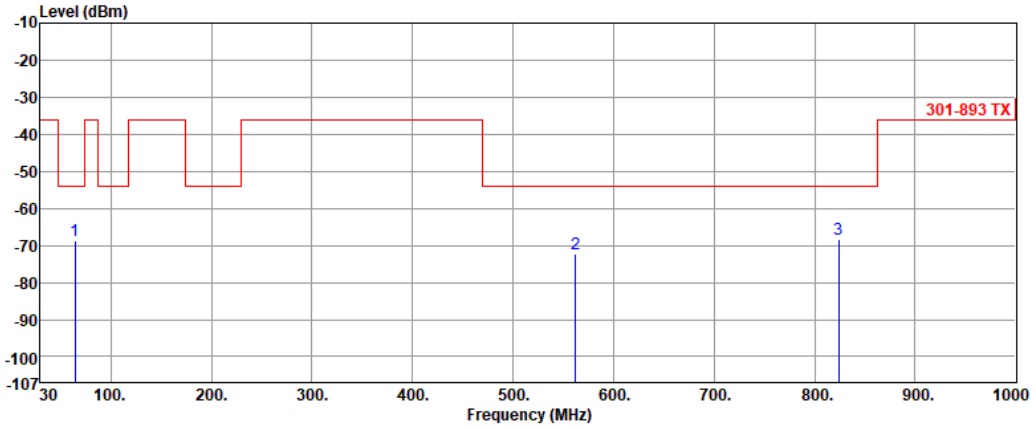


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.53	-73.12	-54.00	-19.12	-3.39	-69.73
2	484.95	-74.31	-54.00	-20.31	2.05	-76.36
3	826.49	-69.78	-54.00	-15.78	8.01	-77.79

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

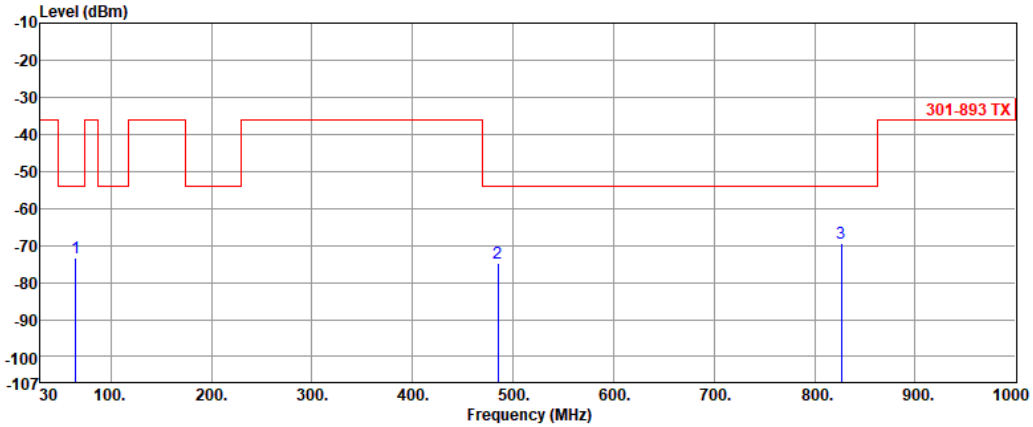


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.16	-68.58	-54.00	-14.58	-4.51	-64.07
2	561.92	-72.26	-54.00	-18.26	3.42	-75.68
3	824.21	-68.35	-54.00	-14.35	8.08	-76.43

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

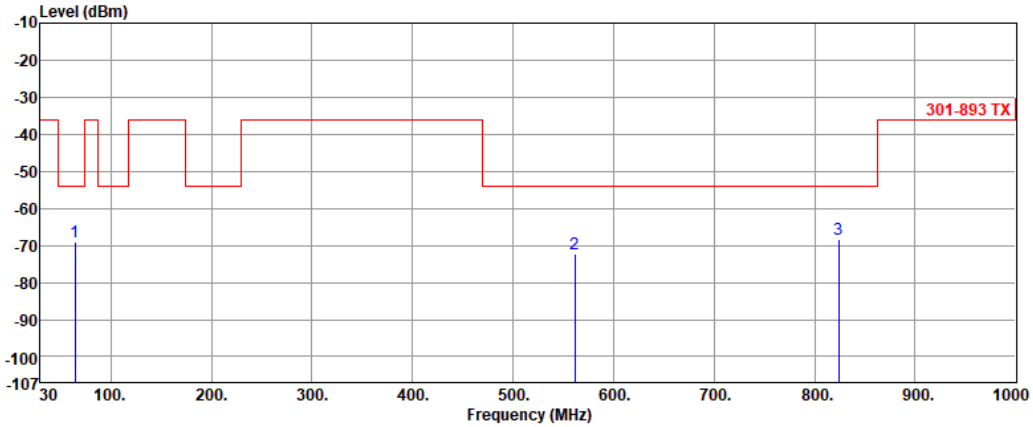


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.04	-73.29	-54.00	-19.29	-3.25	-70.04
2	484.72	-74.85	-54.00	-20.85	2.04	-76.89
3	826.79	-69.40	-54.00	-15.40	8.02	-77.42

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

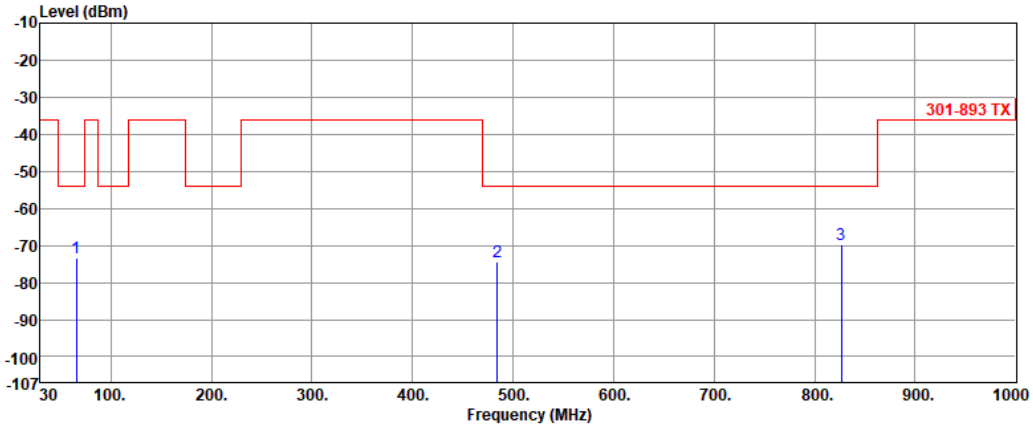


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.44	-68.90	-54.00	-14.90	-4.58	-64.32
2	561.81	-72.17	-54.00	-18.17	3.41	-75.58
3	824.07	-68.23	-54.00	-14.23	8.09	-76.32

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

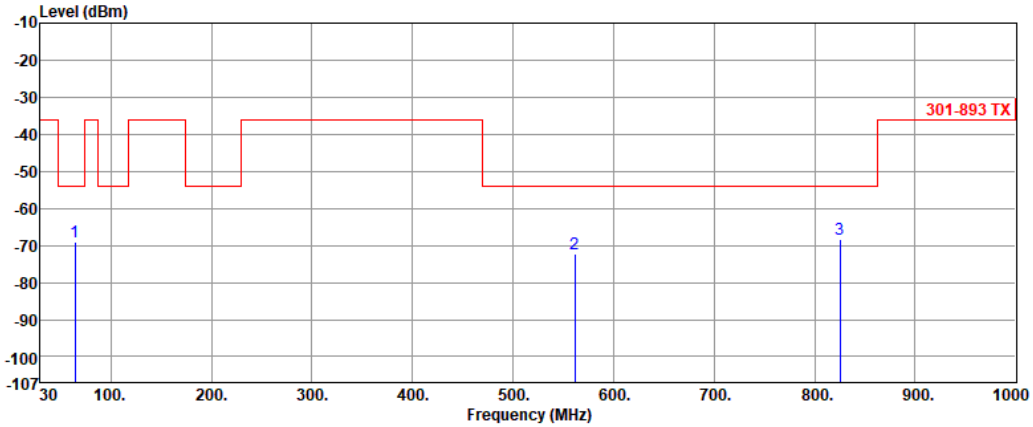


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.66	-73.43	-54.00	-19.43	-3.42	-70.01
2	484.14	-74.31	-54.00	-20.31	2.02	-76.33
3	826.88	-69.95	-54.00	-15.95	8.02	-77.97

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

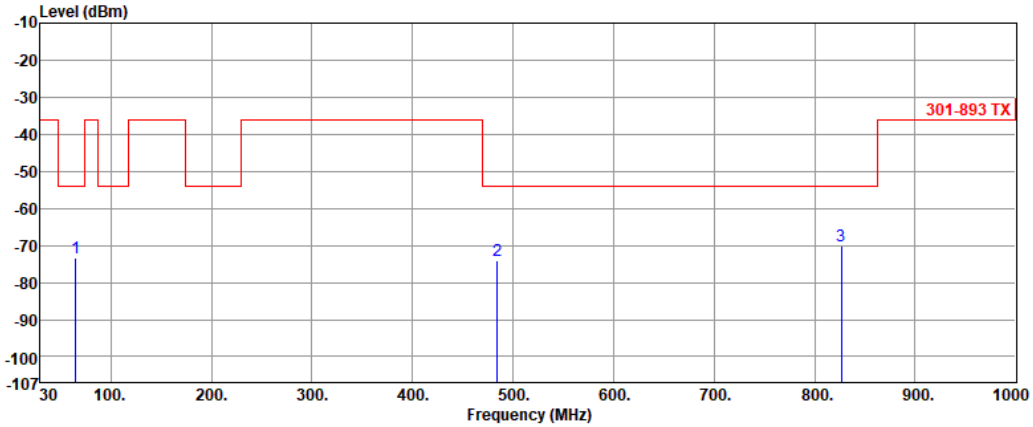


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.10	-68.92	-54.00	-14.92	-4.50	-64.42
2	561.47	-72.36	-54.00	-18.36	3.40	-75.76
3	824.98	-68.18	-54.00	-14.18	8.07	-76.25

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

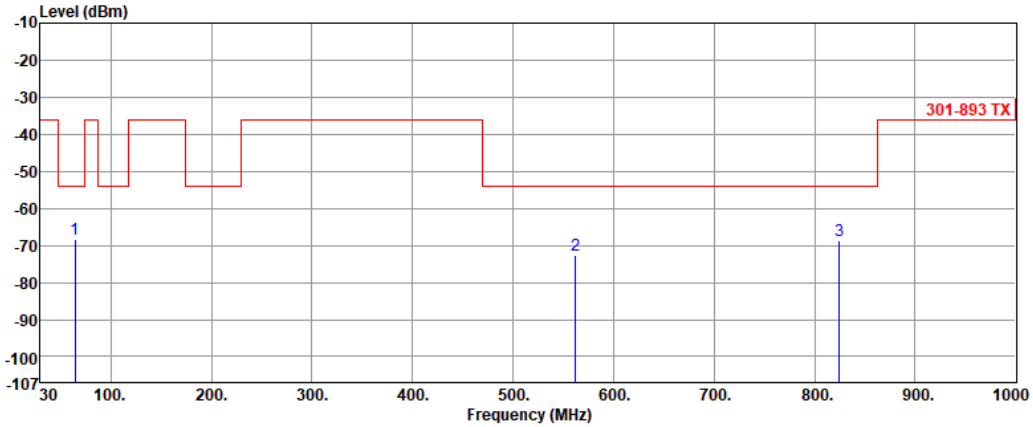


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.18	-73.40	-54.00	-19.40	-3.29	-70.11
2	484.57	-74.16	-54.00	-20.16	2.03	-76.19
3	826.39	-69.99	-54.00	-15.99	8.01	-78.00

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

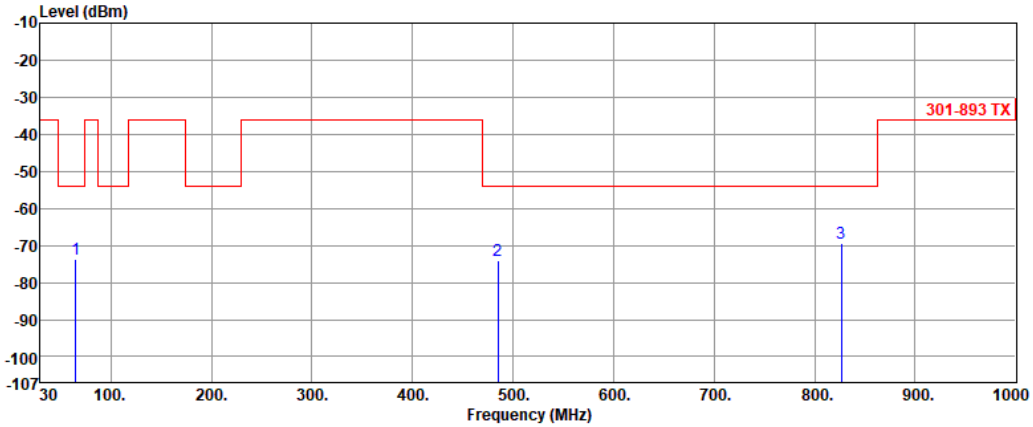


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.01	-68.44	-54.00	-14.44	-4.47	-63.97
2	561.86	-72.60	-54.00	-18.60	3.41	-76.01
3	824.39	-68.71	-54.00	-14.71	8.08	-76.79

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

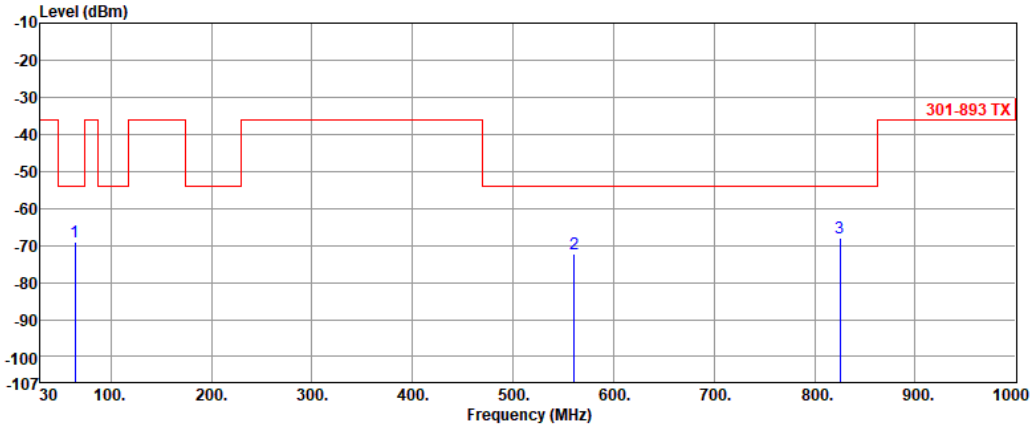


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.16	-73.85	-54.00	-19.85	-3.29	-70.56
2	484.72	-74.03	-54.00	-20.03	2.04	-76.07
3	826.61	-69.46	-54.00	-15.46	8.01	-77.47

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

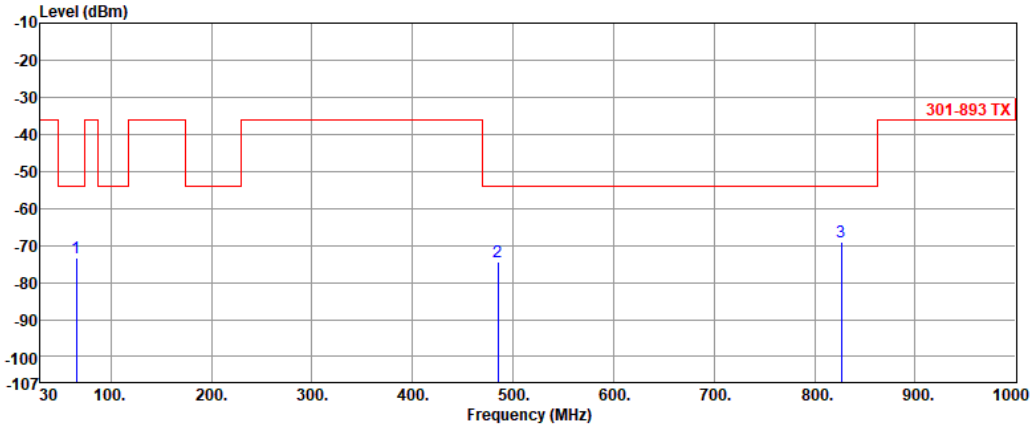


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.25	-68.94	-54.00	-14.94	-4.53	-64.41
2	561.08	-72.35	-54.00	-18.35	3.38	-75.73
3	824.93	-68.15	-54.00	-14.15	8.07	-76.22

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

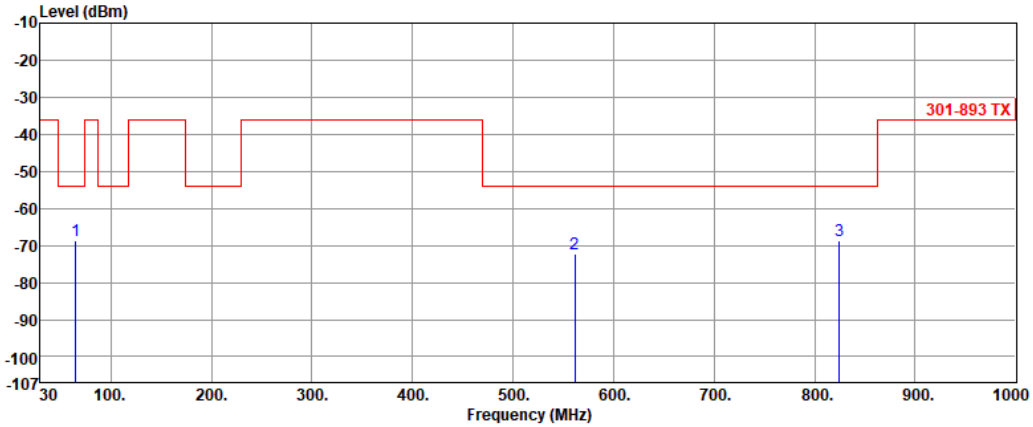


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	65.89	-73.51	-54.00	-19.51	-3.48	-70.03
2	484.93	-74.34	-54.00	-20.34	2.05	-76.39
3	826.37	-69.21	-54.00	-15.21	8.01	-77.22

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65



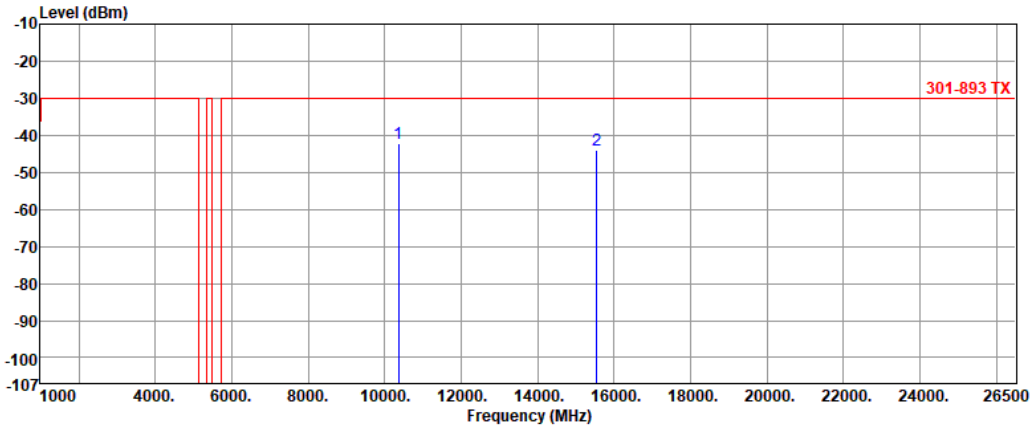
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	64.92	-68.81	-54.00	-14.81	-4.70	-64.11
2	561.56	-72.21	-54.00	-18.21	3.40	-75.61
3	824.43	-68.64	-54.00	-14.64	8.07	-76.71

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

3.4.5 Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

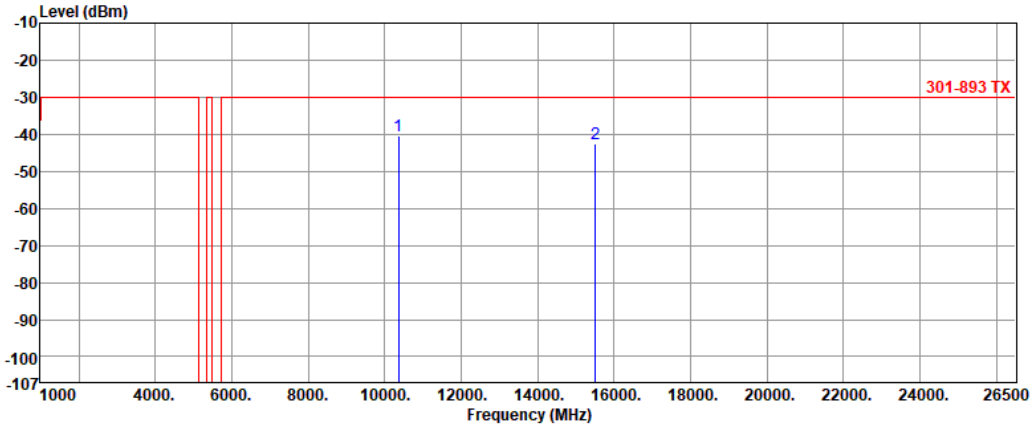


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10359.95	-42.31	-30.00	-12.31	21.30	-63.61
2	15539.78	-43.92	-30.00	-13.92	19.74	-63.66

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

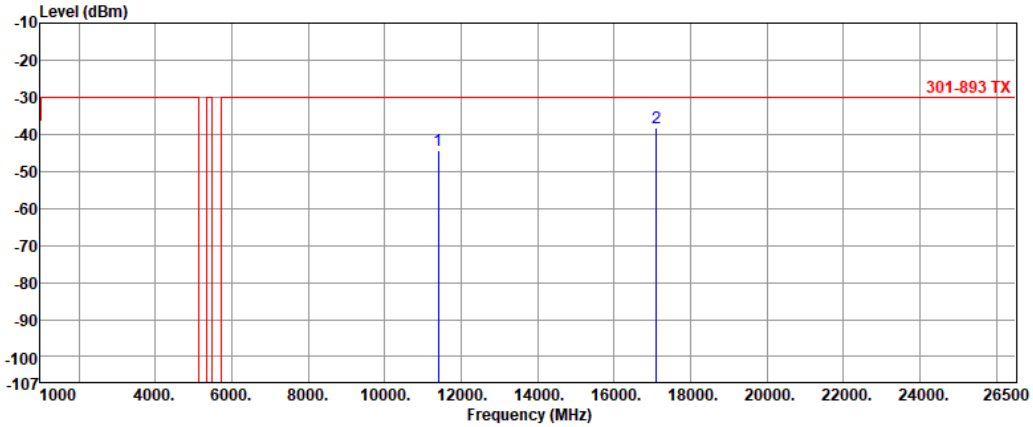


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10359.74	-40.57	-30.00	-10.57	20.64	-61.21
2	15506.47	-42.58	-30.00	-12.58	20.15	-62.73

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

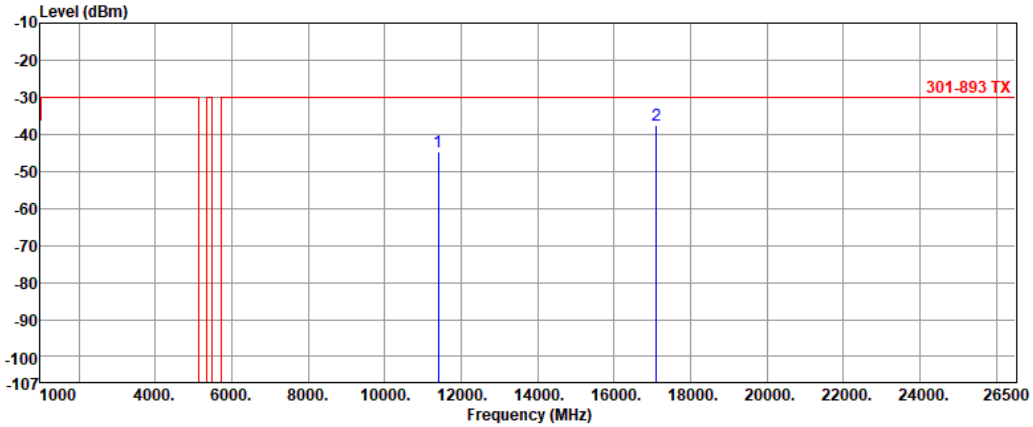


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11399.78	-44.54	-30.00	-14.54	18.99	-63.53
2	17100.49	-38.24	-30.00	-8.24	23.26	-61.50

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

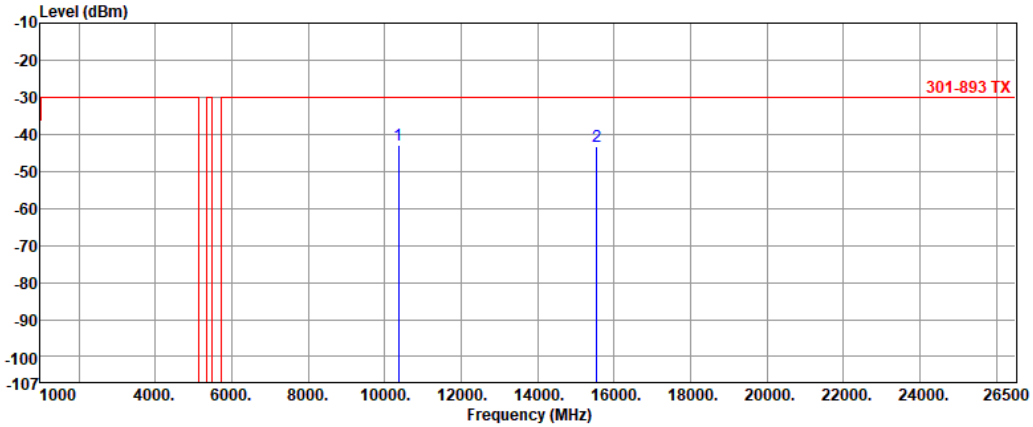


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11400.48	-44.73	-30.00	-14.73	18.75	-63.48
2	17100.14	-37.47	-30.00	-7.47	23.62	-61.09

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

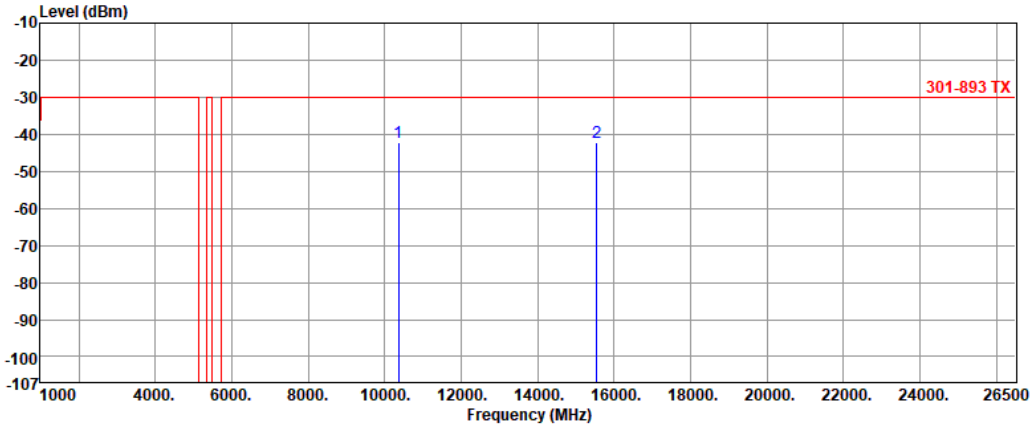


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10359.68	-42.88	-30.00	-12.88	21.31	-64.19
2	15539.85	-43.20	-30.00	-13.20	19.74	-62.94

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

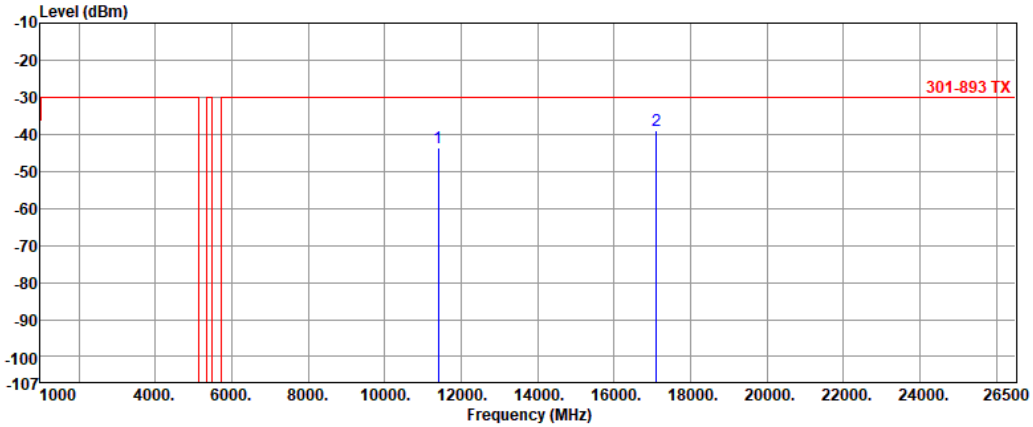


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10359.80	-42.20	-30.00	-12.20	20.64	-62.84
2	15539.77	-42.23	-30.00	-12.23	19.75	-61.98

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

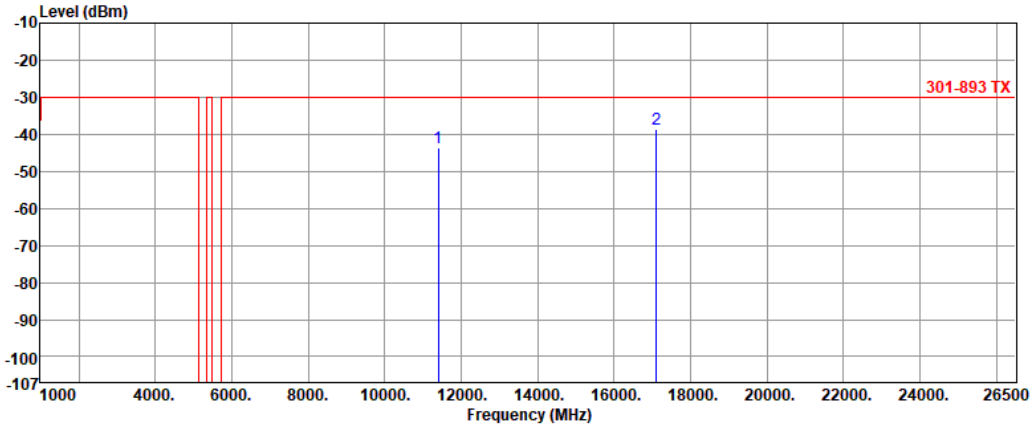


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11399.69	-43.73	-30.00	-13.73	18.98	-62.71
2	17099.85	-39.14	-30.00	-9.14	23.26	-62.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

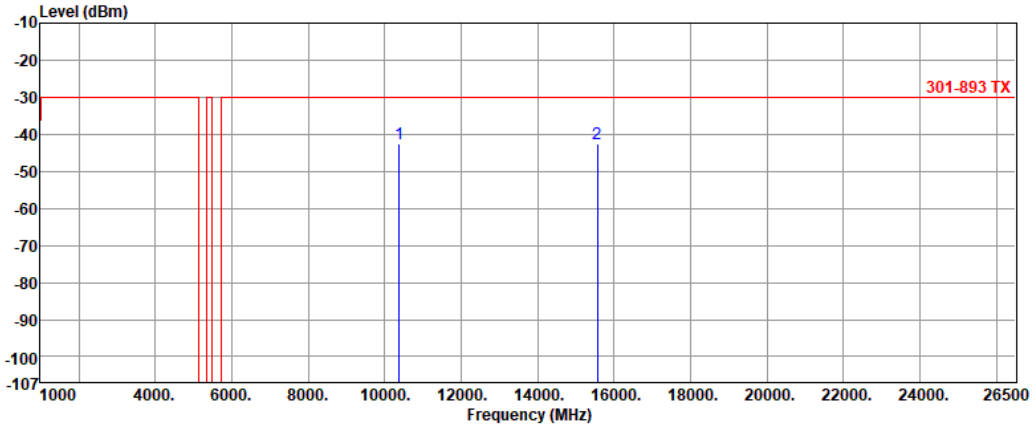


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11400.46	-43.47	-30.00	-13.47	18.75	-62.22
2	17100.54	-38.51	-30.00	-8.51	23.62	-62.13

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

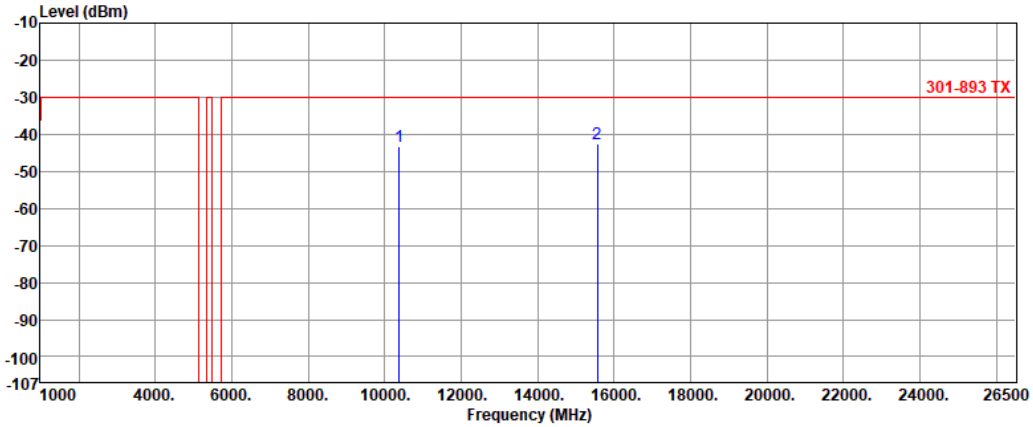


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10380.27	-42.71	-30.00	-12.71	21.21	-63.92
2	15569.81	-42.42	-30.00	-12.42	19.24	-61.66

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

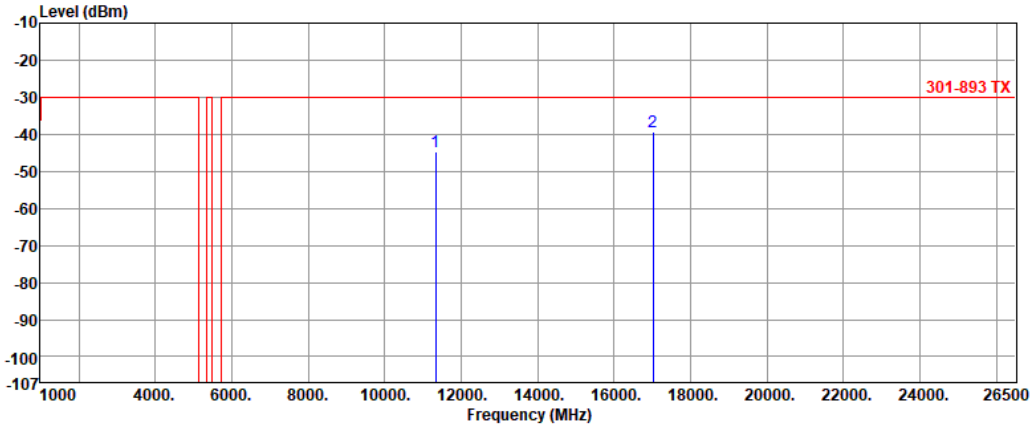


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10379.70	-43.45	-30.00	-13.45	20.59	-64.04
2	15569.76	-42.56	-30.00	-12.56	19.39	-61.95

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

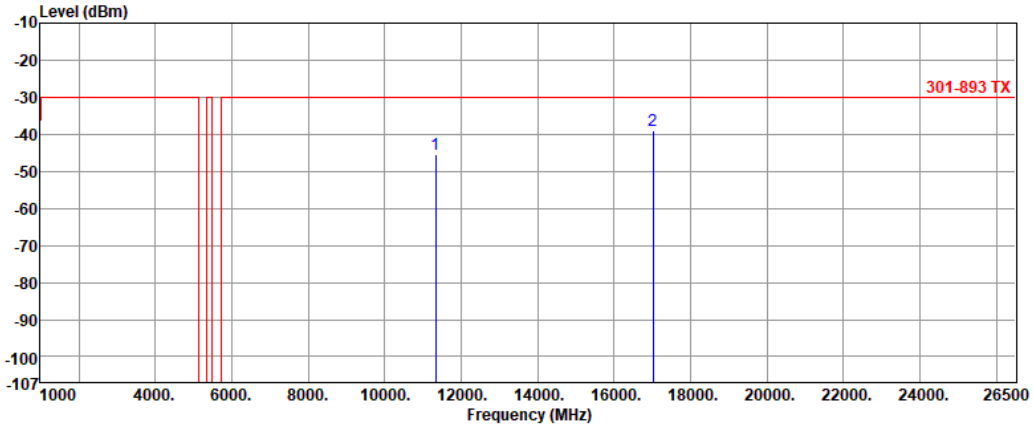


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11339.92	-44.63	-30.00	-14.63	18.84	-63.47
2	17009.64	-39.42	-30.00	-9.42	23.13	-62.55

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

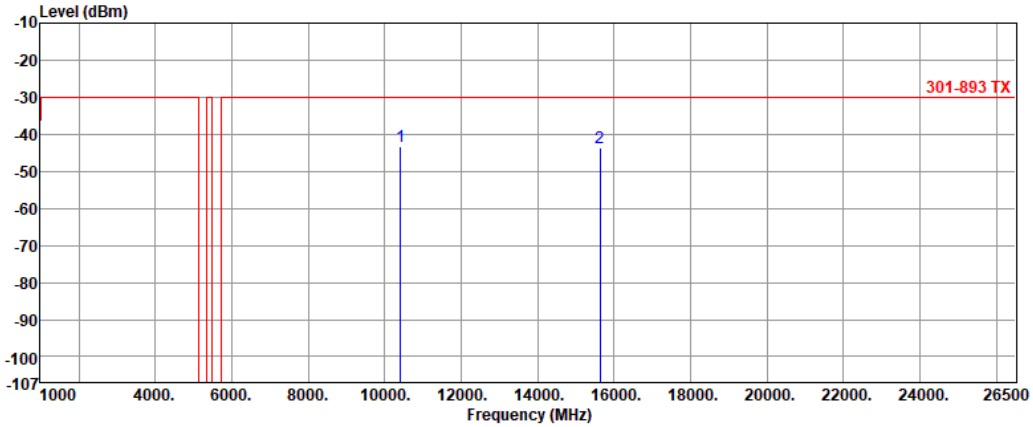


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11339.76	-45.41	-30.00	-15.41	18.47	-63.88
2	17009.88	-38.88	-30.00	-8.88	23.22	-62.10

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

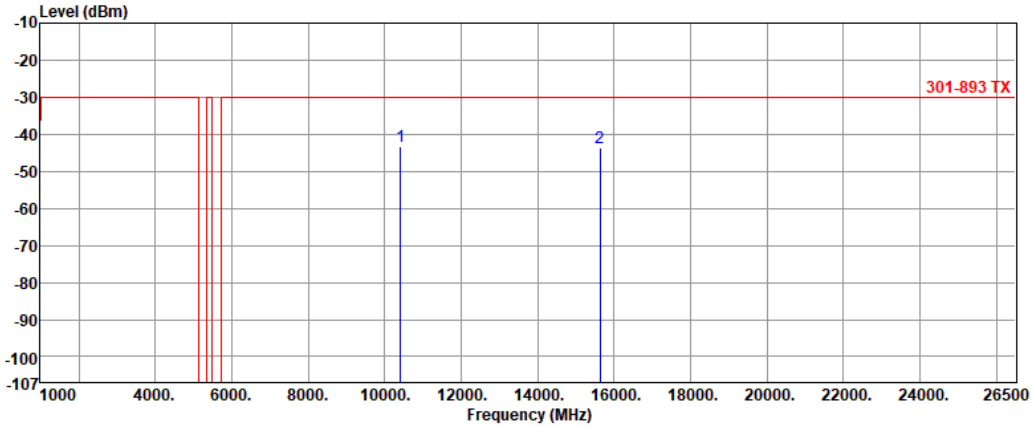


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10419.76	-43.11	-30.00	-13.11	21.05	-64.16
2	15629.73	-43.74	-30.00	-13.74	18.96	-62.70

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

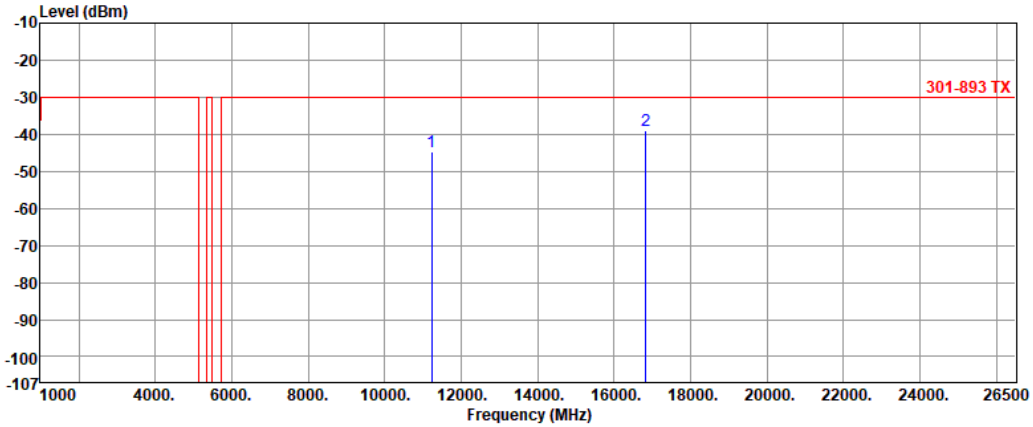


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	10420.55	-43.15	-30.00	-13.15	20.53	-63.68
2	15630.42	-43.76	-30.00	-13.76	19.20	-62.96

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

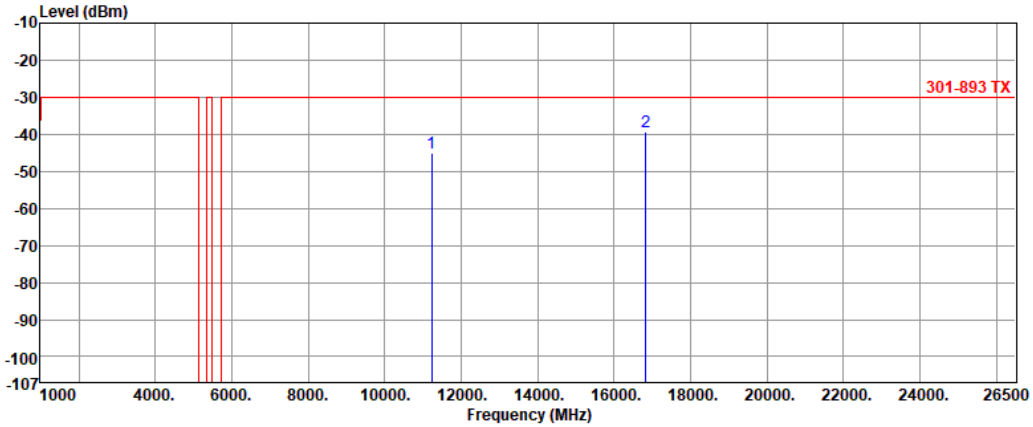


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11220.52	-44.84	-30.00	-14.84	19.09	-63.93
2	16830.17	-39.07	-30.00	-9.07	23.31	-62.38

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

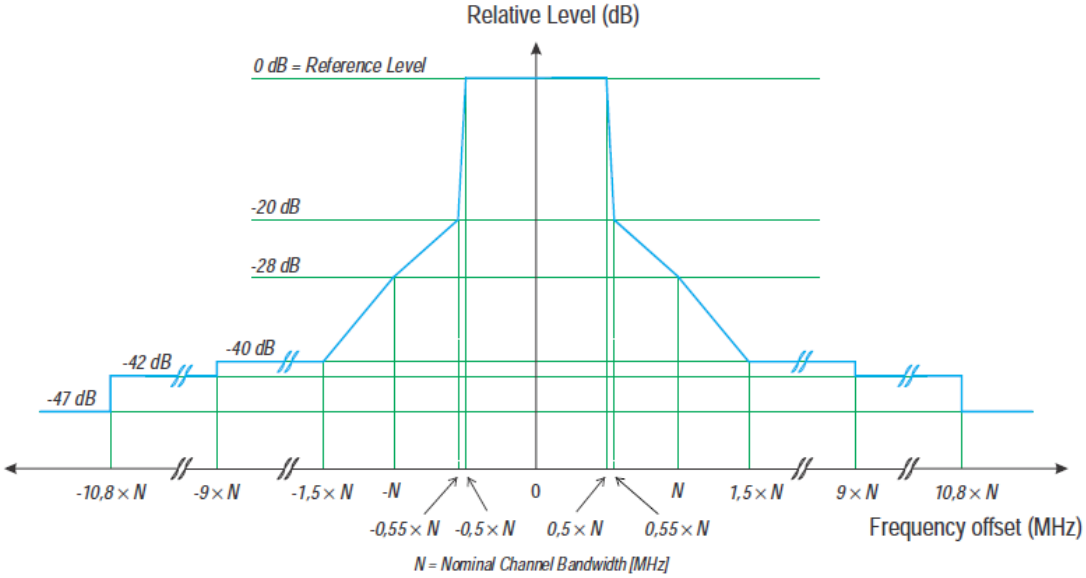


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	11219.56	-45.07	-30.00	-15.07	18.55	-63.62
2	16829.84	-39.48	-30.00	-9.48	23.49	-62.97

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

3.5 Transmitter Unwanted Emissions within the 5 GHz RLAN Band

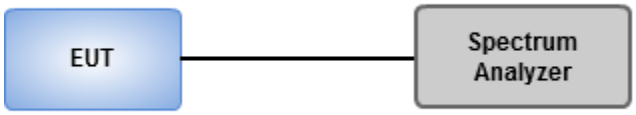
3.5.1 Limit of Transmitter Unwanted Emissions within the 5 GHz RLAN Band



3.5.2 Test Procedures

Reference to clause 5.4.6.2 of ETSI EN 301 893 V2.1.1 (2017-05).

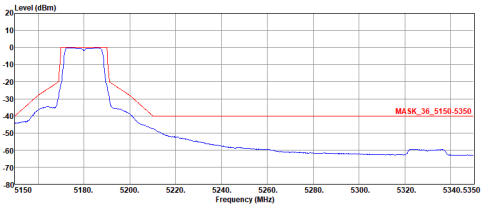
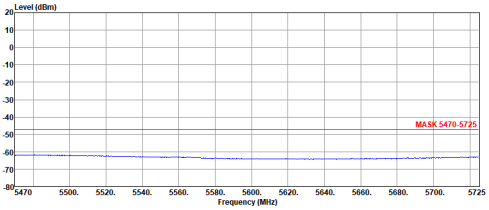
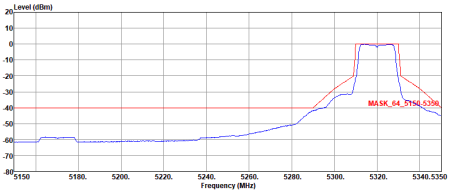
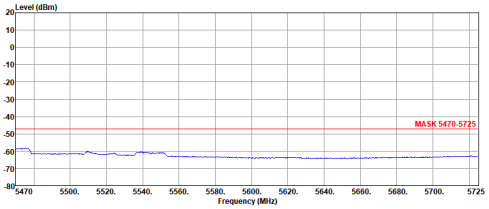
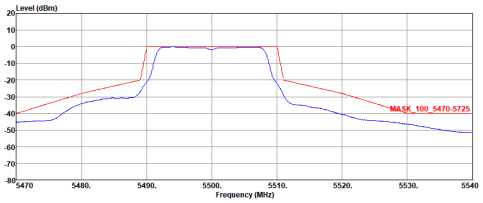
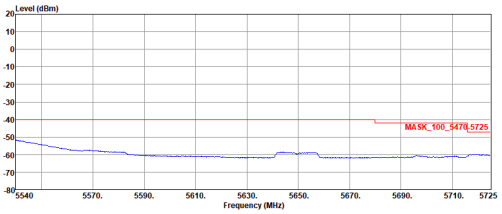
3.5.3 Test Setup

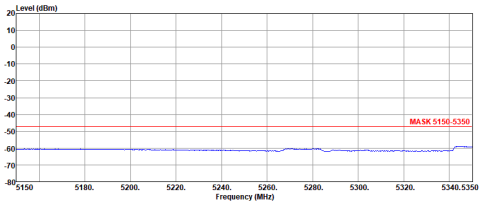
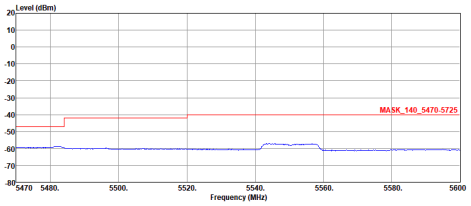
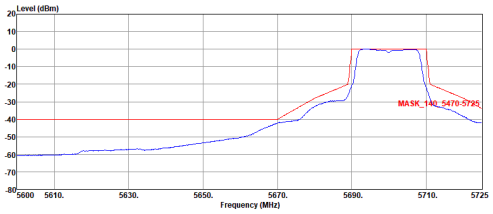
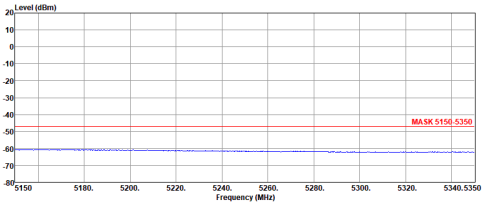


3.5.4 Test Result of Transmitter Unwanted Emissions within the 5 GHz RLAN Band

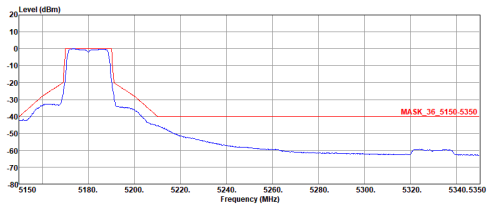
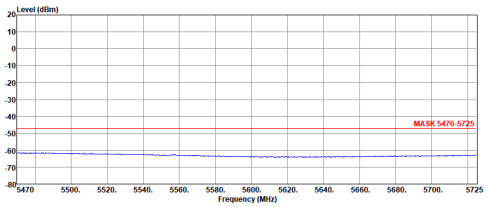
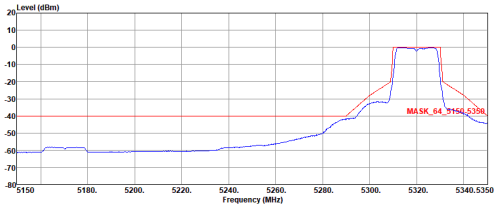
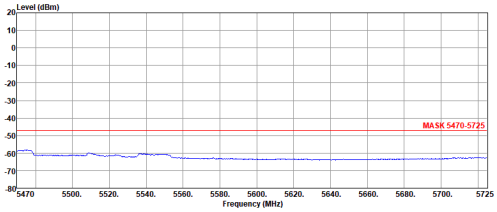
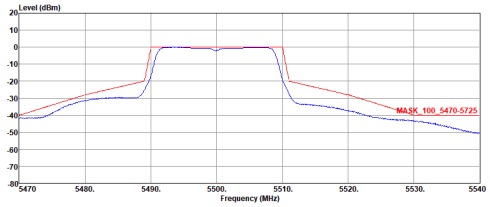
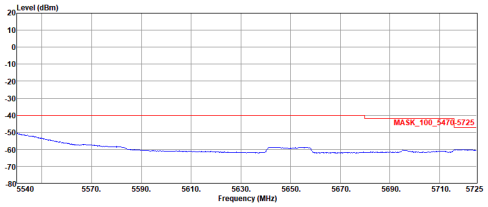
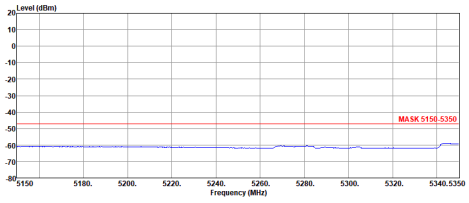
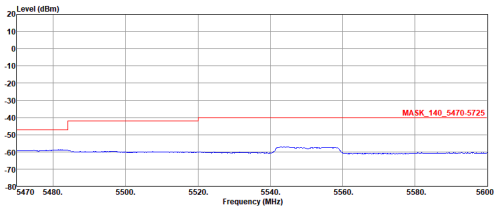
Ambient Condition	25°C / 65%	**Tested By**	Nai Xu

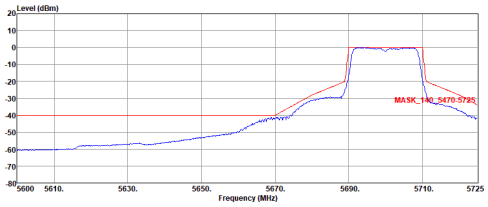
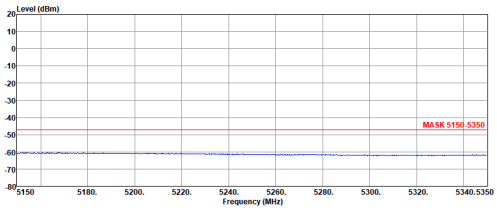
3.5.5 Test Result of Transmitter Unwanted Emissions within the 5 GHz RLAN Band for 802.11a

5180MHz	5180MHz
	
5320MHz	**5320MHz**
	
5500MHz	**5500MHz**
	

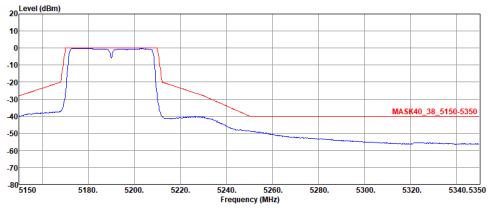
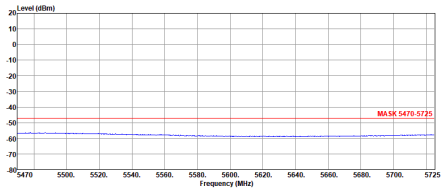
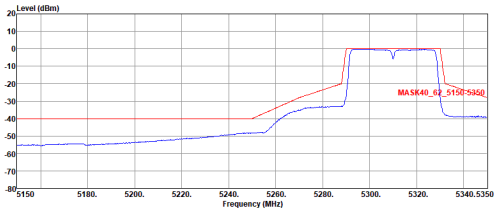
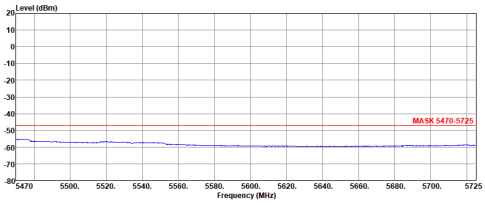
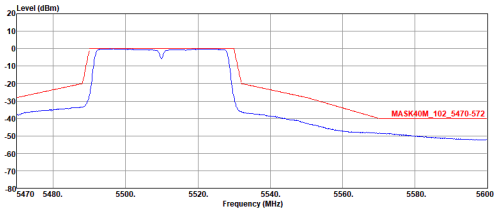
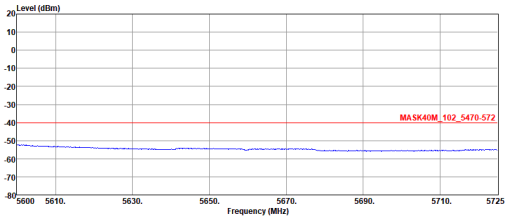
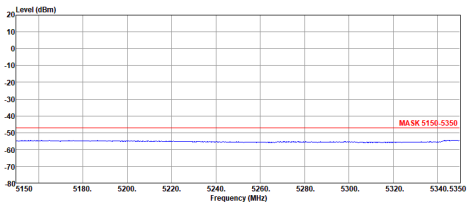
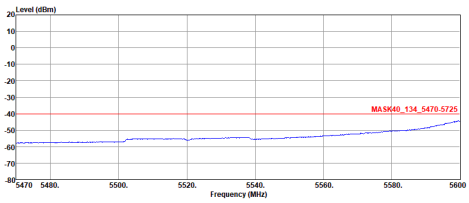
5500MHz	5700MHz
	
5700MHz	**5700MHz**
	

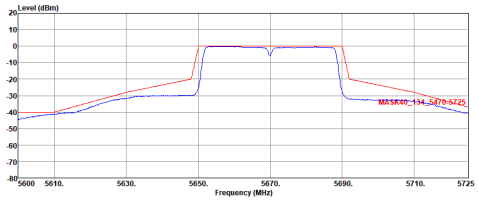
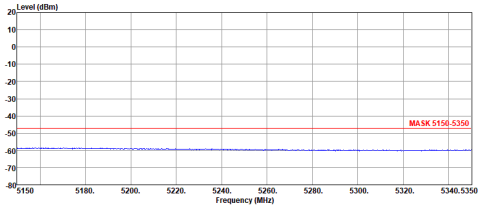
3.5.6 Test Result of Transmitter Unwanted Emissions within the 5 GHz RLAN Band for 802.11ac VHT20

5180MHz	5180MHz
	
5320MHz	**5320MHz**
	
5500MHz	**5500MHz**
	
5500MHz	**5700MHz**
	

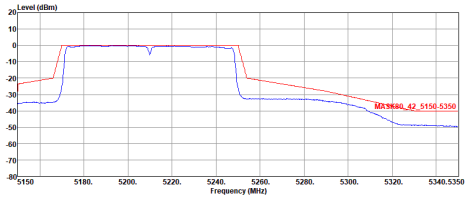
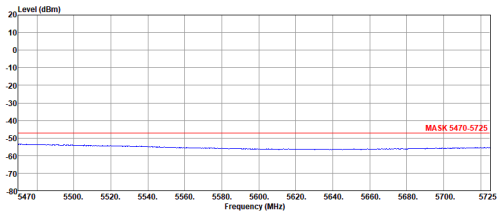
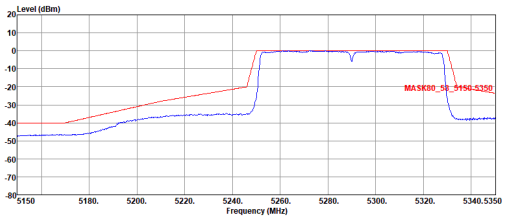
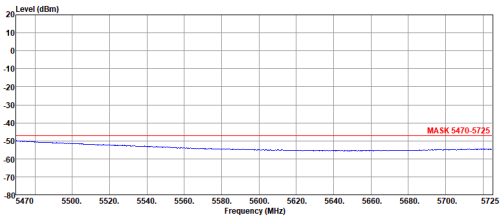
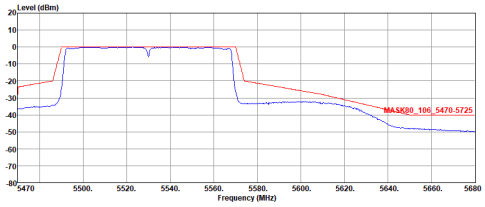
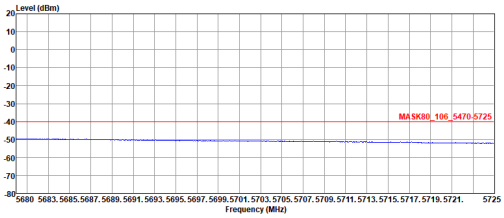
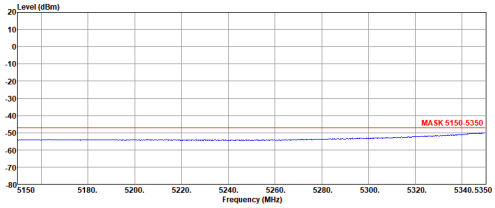
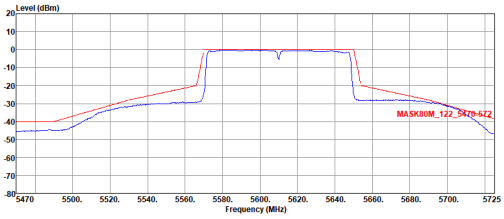
5700MHz	5700MHz
	

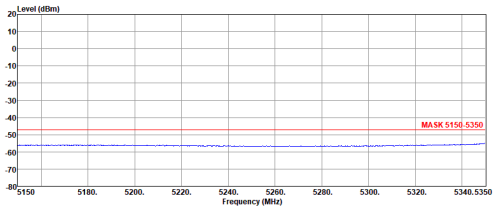
3.5.7 Test Result of Transmitter Unwanted Emissions within the 5 GHz RLAN Band for 802.11ac VHT40

5190MHz	5190MHz
	
5310MHz	**5310MHz**
	
5510MHz	**5510MHz**
	
5510MHz	**5670MHz**
	

5670MHz	5670MHz
	

3.5.8 Test Result of Transmitter Unwanted Emissions within the 5 GHz RLAN Band for 802.11ac VHT80

5210MHz	5210MHz
	
5290MHz	**5290MHz**
	
5530MHz	**5530MHz**
	
5530MHz	**5610MHz**
	

5610MHz	---
 Level (dBm) 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 MASK 5150-5350 5150 5180. 5200. 5220. 5240. 5260. 5280. 5300. 5320. 5340.5350 Frequency (MHz)	

4 Receiver Test Results

4.1 Receiver Spurious Emissions

4.1.1 Limit of Receiver Spurious Emissions

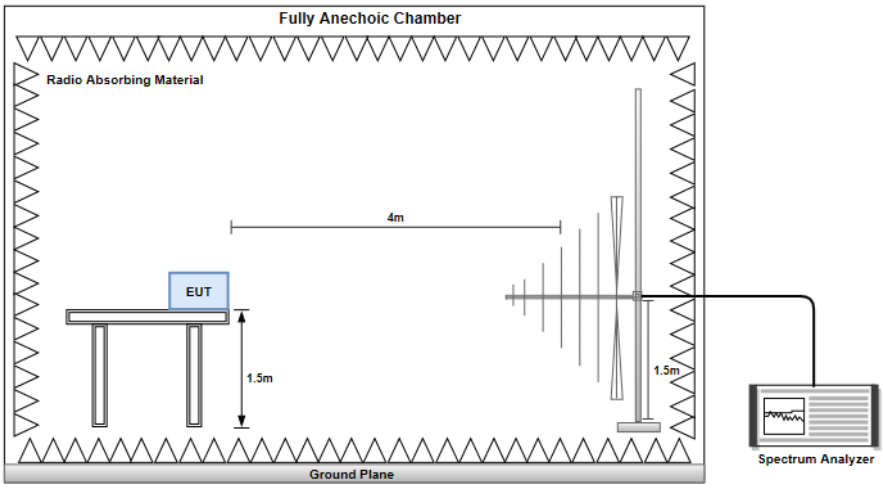
Frequency Range	Maximum Power	Measurement Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 26 GHz	-47 dBm	1 MHz

4.1.2 Test Procedures

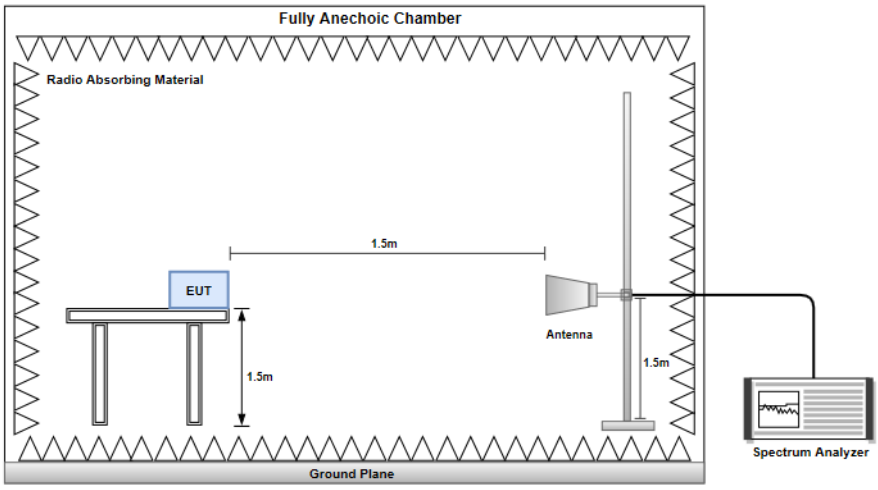
Reference to clause 5.4.7.2 of ETSI EN 301 893 V2.1.1 (2017-05).

4.1.3 Test Setup

Below 1GHz



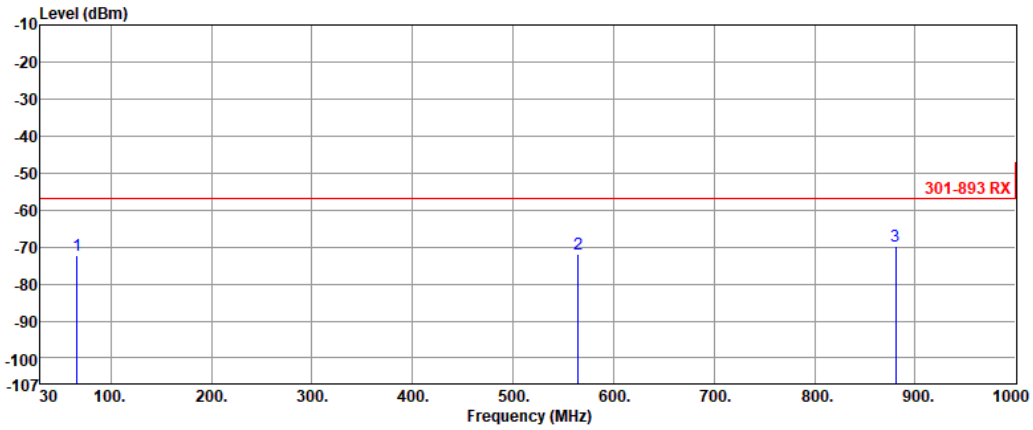
Above 1 GHz



4.1.4 Receiver Radiated Unwanted Emissions (Below 1GHz)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

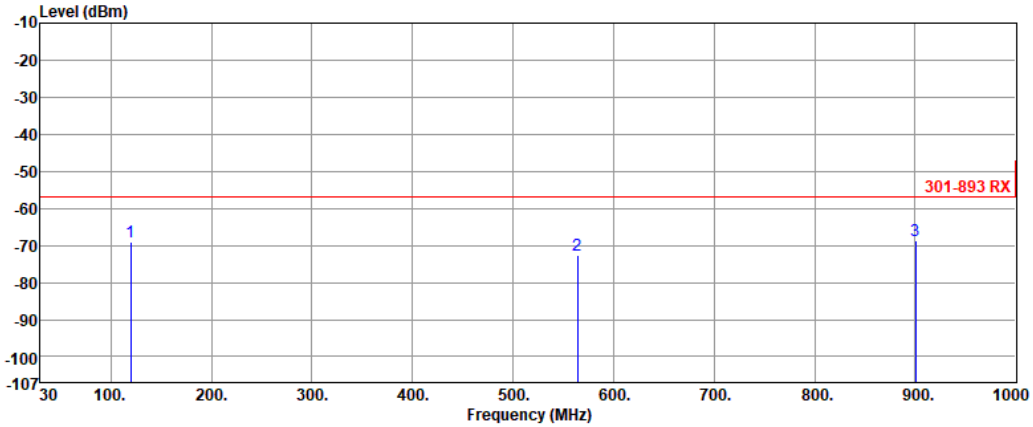


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.18	-72.39	-57.00	-15.39	-3.56	-68.83
2	564.98	-72.01	-57.00	-15.01	3.50	-75.51
3	880.51	-69.85	-57.00	-12.85	8.87	-78.72

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

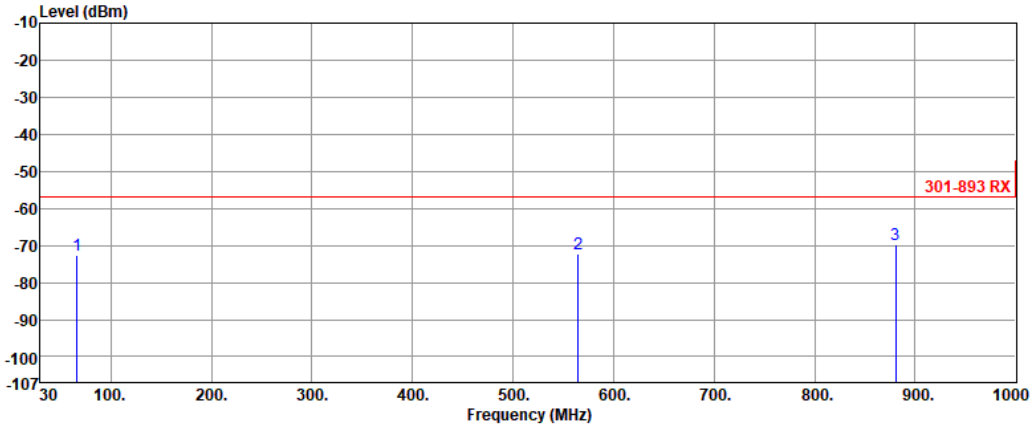


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.67	-68.95	-57.00	-11.95	-2.42	-66.53
2	563.81	-72.46	-57.00	-15.46	3.51	-75.97
3	900.38	-68.62	-57.00	-11.62	9.20	-77.82

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

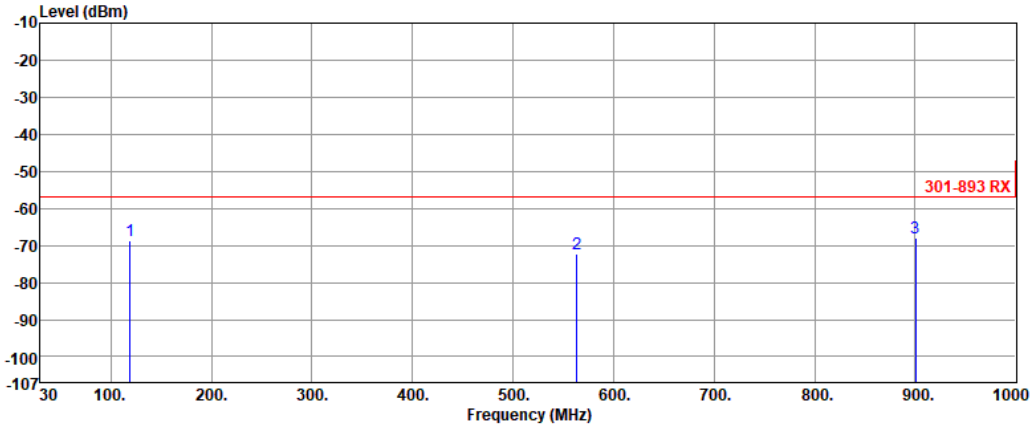


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.12	-72.67	-57.00	-15.67	-3.55	-69.12
2	564.96	-72.32	-57.00	-15.32	3.50	-75.82
3	880.48	-69.86	-57.00	-12.86	8.87	-78.73

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

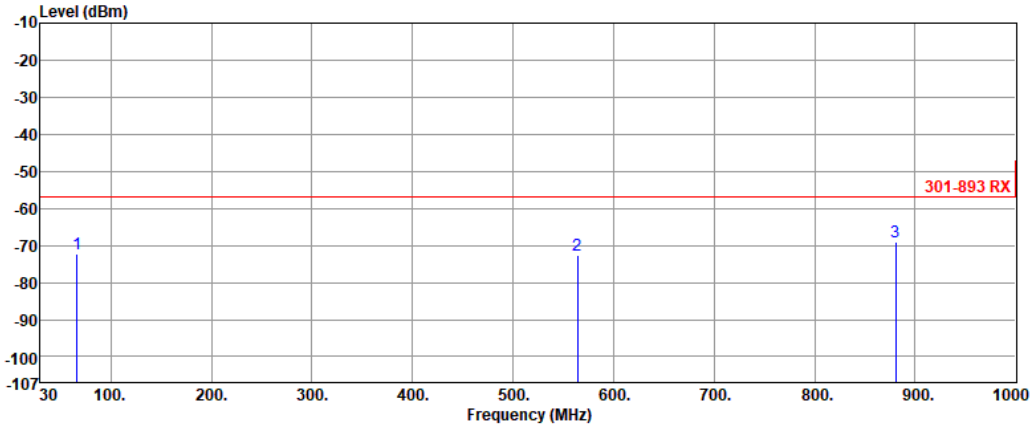


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.31	-68.83	-57.00	-11.83	-2.46	-66.37
2	563.17	-72.25	-57.00	-15.25	3.48	-75.73
3	900.74	-68.09	-57.00	-11.09	9.21	-77.30

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

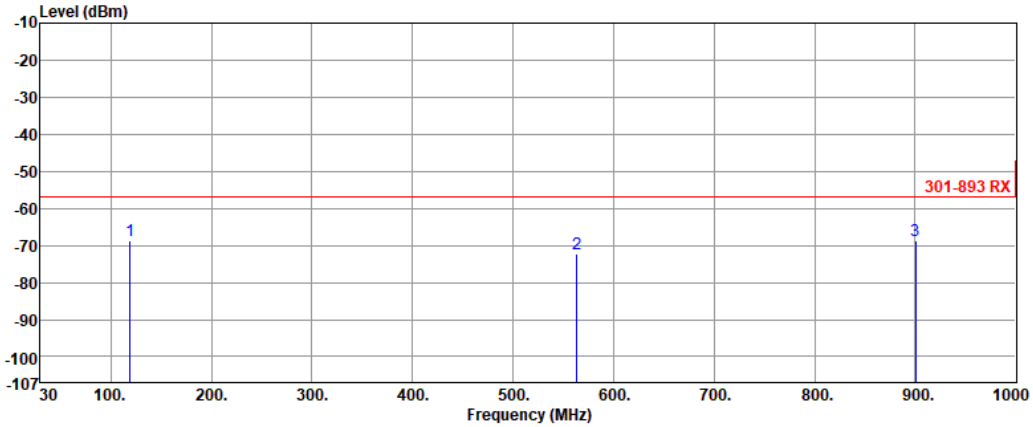


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.56	-72.37	-57.00	-15.37	-3.66	-68.71
2	564.26	-72.76	-57.00	-15.76	3.49	-76.25
3	880.42	-69.20	-57.00	-12.20	8.87	-78.07

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

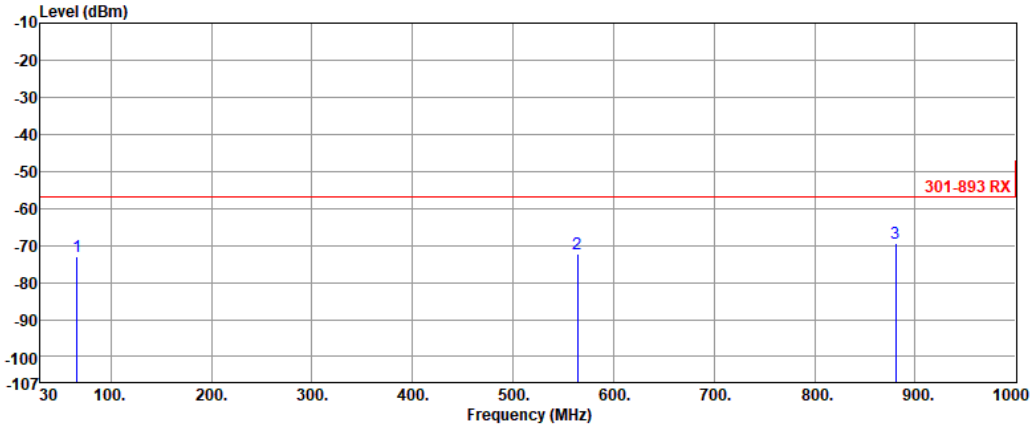


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.15	-68.56	-57.00	-11.56	-2.48	-66.08
2	563.76	-72.11	-57.00	-15.11	3.50	-75.61
3	900.25	-68.87	-57.00	-11.87	9.19	-78.06

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

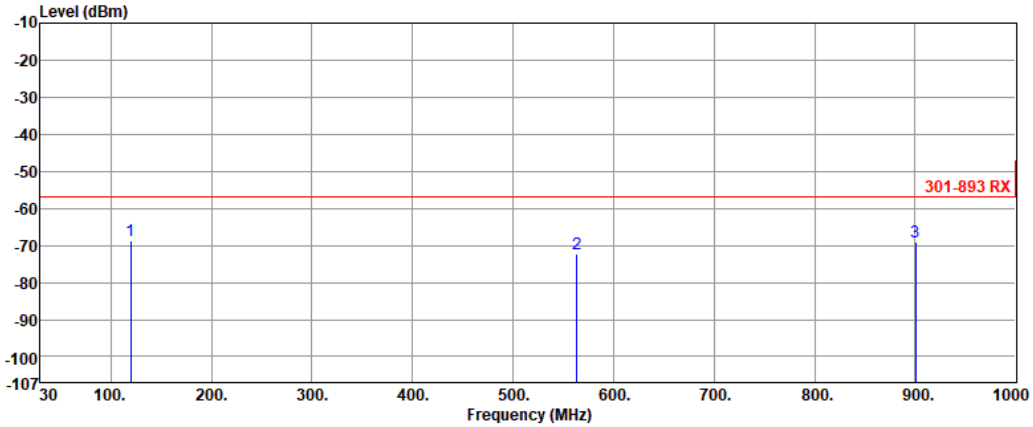


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.29	-72.86	-57.00	-15.86	-3.59	-69.27
2	564.09	-72.43	-57.00	-15.43	3.48	-75.91
3	880.71	-69.53	-57.00	-12.53	8.87	-78.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

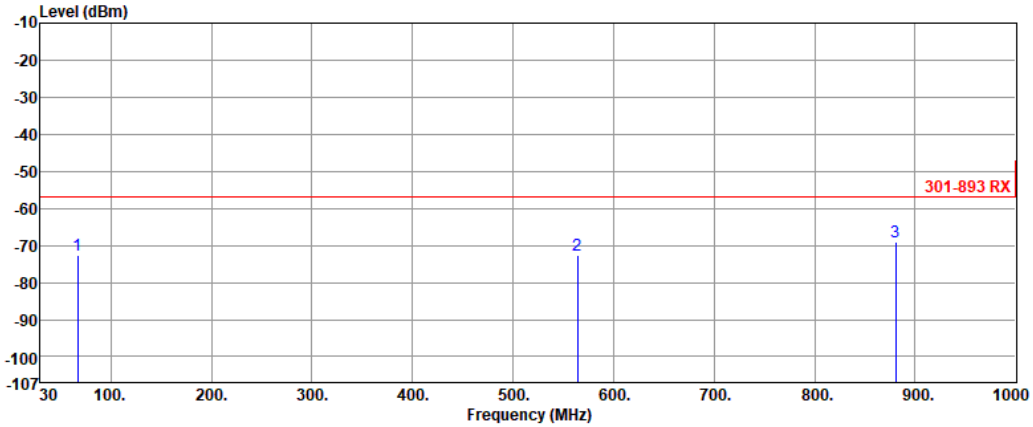


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.41	-68.70	-57.00	-11.70	-2.45	-66.25
2	563.65	-72.25	-57.00	-15.25	3.50	-75.75
3	900.17	-68.90	-57.00	-11.90	9.19	-78.09

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

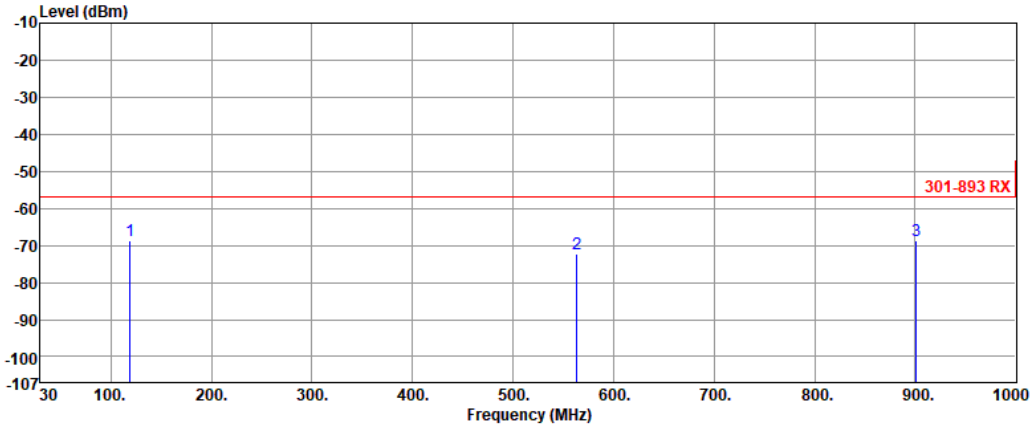


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.63	-72.49	-57.00	-15.49	-3.68	-68.81
2	564.19	-72.76	-57.00	-15.76	3.48	-76.24
3	880.45	-69.09	-57.00	-12.09	8.87	-77.96

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

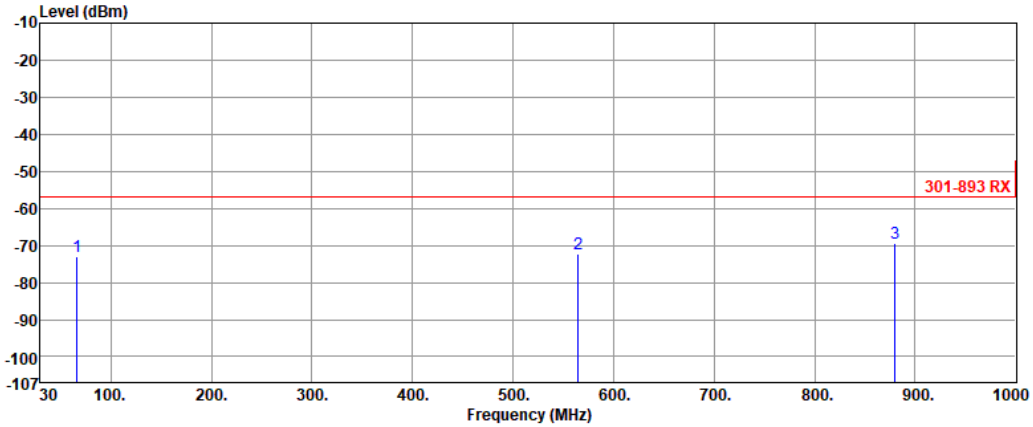


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.14	-68.59	-57.00	-11.59	-2.48	-66.11
2	563.72	-72.43	-57.00	-15.43	3.50	-75.93
3	900.92	-68.83	-57.00	-11.83	9.22	-78.05

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

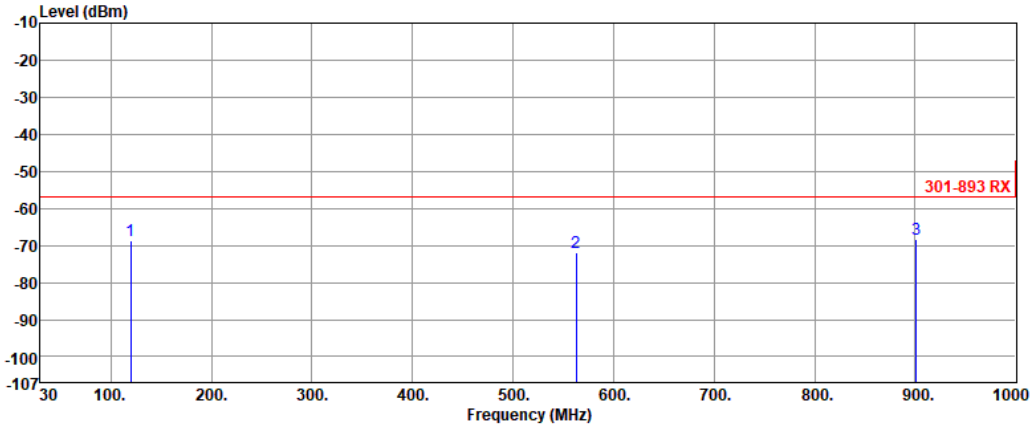


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.59	-72.93	-57.00	-15.93	-3.67	-69.26
2	564.71	-72.22	-57.00	-15.22	3.50	-75.72
3	880.24	-69.39	-57.00	-12.39	8.87	-78.26

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

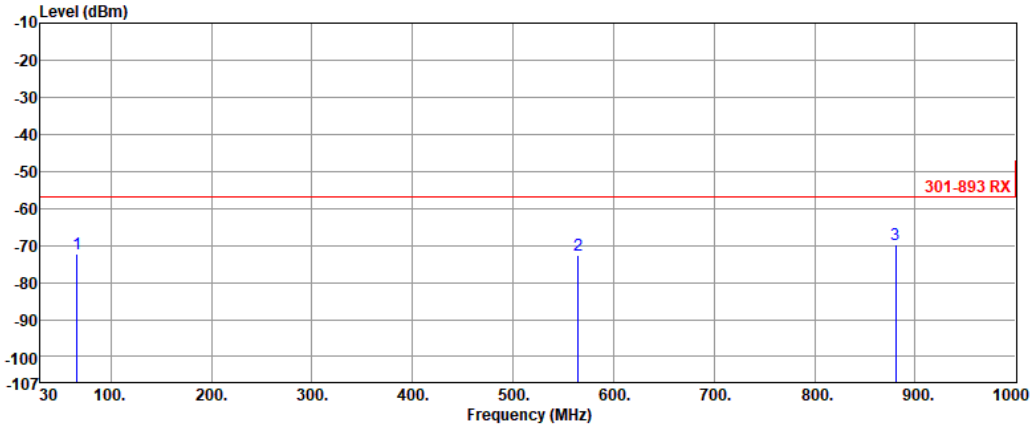


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.37	-68.56	-57.00	-11.56	-2.45	-66.11
2	563.11	-72.09	-57.00	-15.09	3.48	-75.57
3	900.93	-68.42	-57.00	-11.42	9.22	-77.64

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

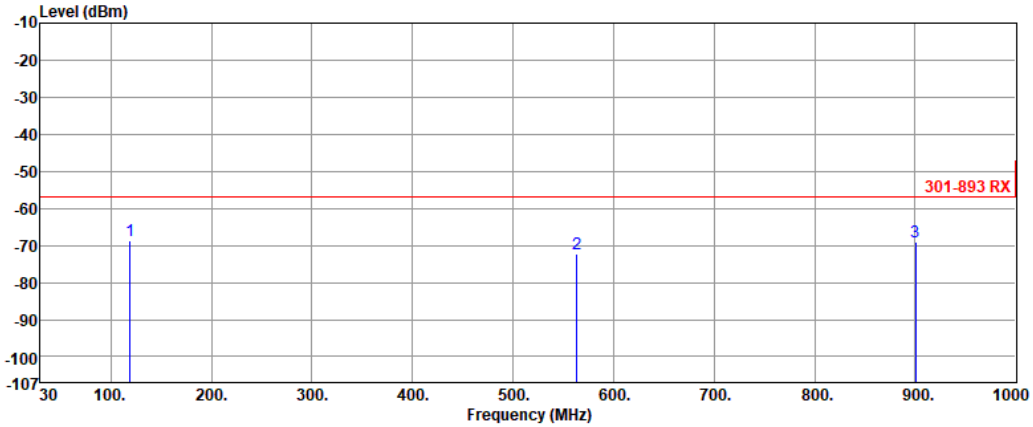


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.11	-72.25	-57.00	-15.25	-3.54	-68.71
2	564.92	-72.59	-57.00	-15.59	3.50	-76.09
3	880.44	-69.77	-57.00	-12.77	8.87	-78.64

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

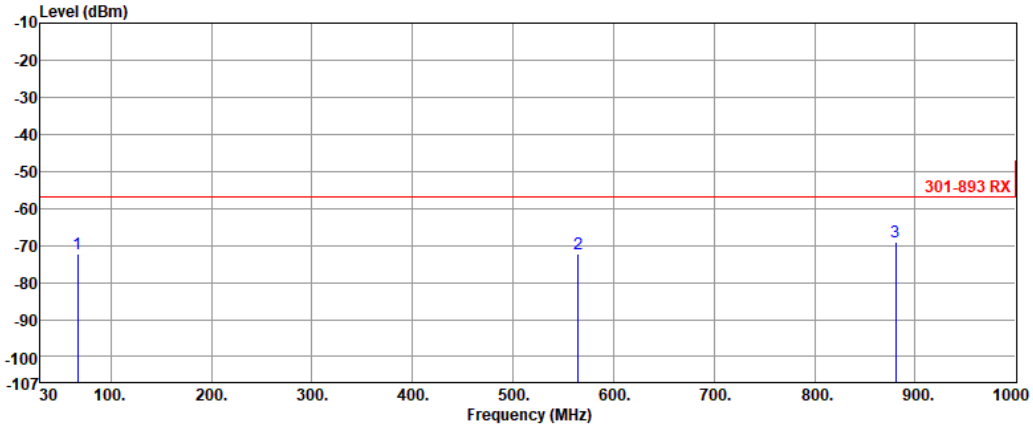


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.35	-68.82	-57.00	-11.82	-2.46	-66.36
2	563.15	-72.26	-57.00	-15.26	3.48	-75.74
3	900.31	-68.99	-57.00	-11.99	9.20	-78.19

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

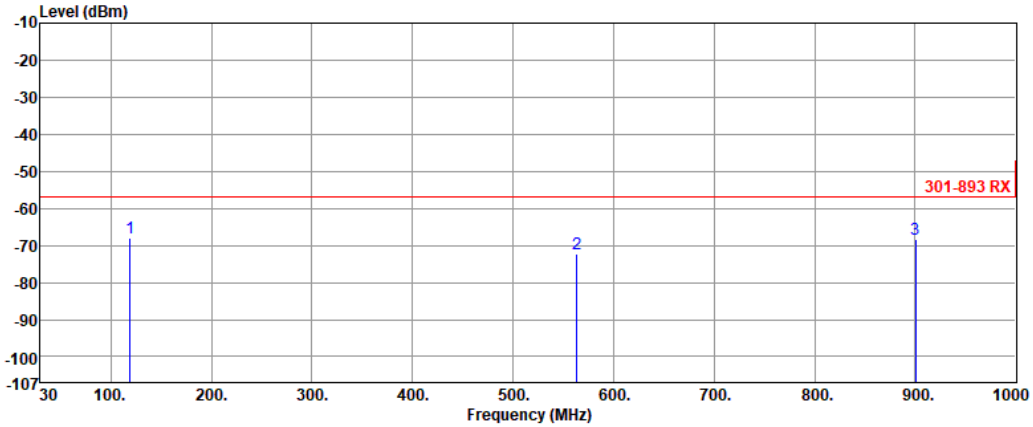


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	66.86	-72.22	-57.00	-15.22	-3.74	-68.48
2	564.47	-72.11	-57.00	-15.11	3.49	-75.60
3	880.69	-69.02	-57.00	-12.02	8.87	-77.89

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65



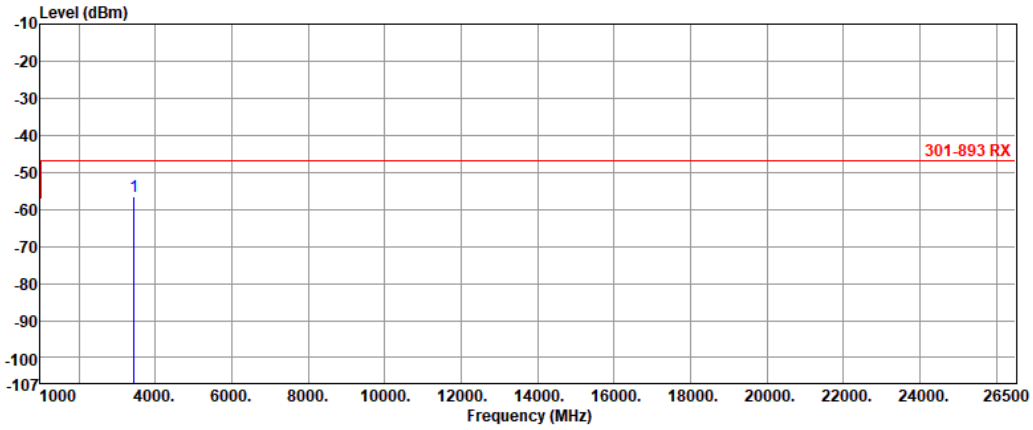
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.24	-68.11	-57.00	-11.11	-2.47	-65.64
2	563.50	-72.38	-57.00	-15.38	3.49	-75.87
3	900.09	-68.28	-57.00	-11.28	9.19	-77.47

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

4.1.5 Receiver Radiated Unwanted Emissions (Above 1GHz)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

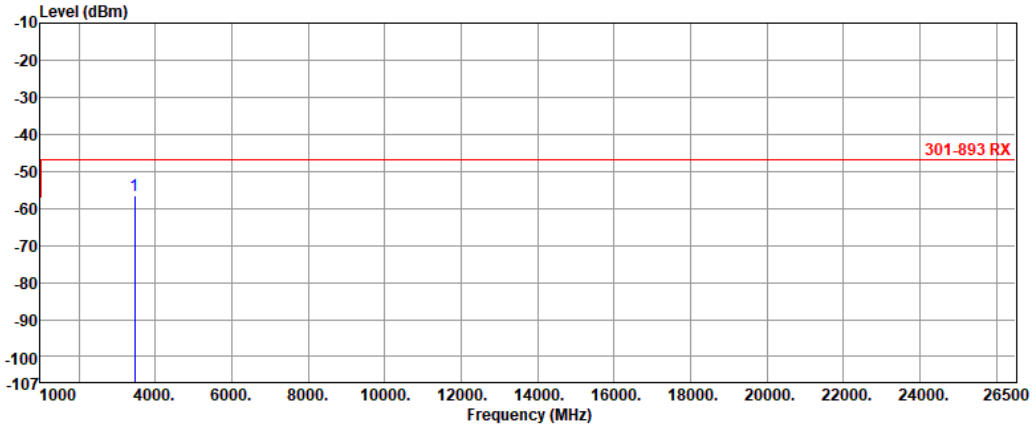


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3452.83	-56.43	-47.00	-9.43	4.49	-60.92

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

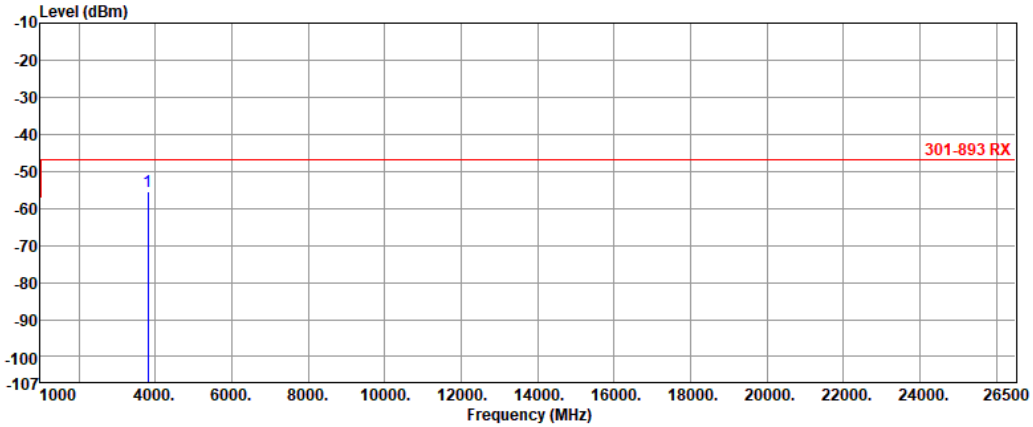


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3453.49	-56.51	-47.00	-9.51	4.18	-60.69

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

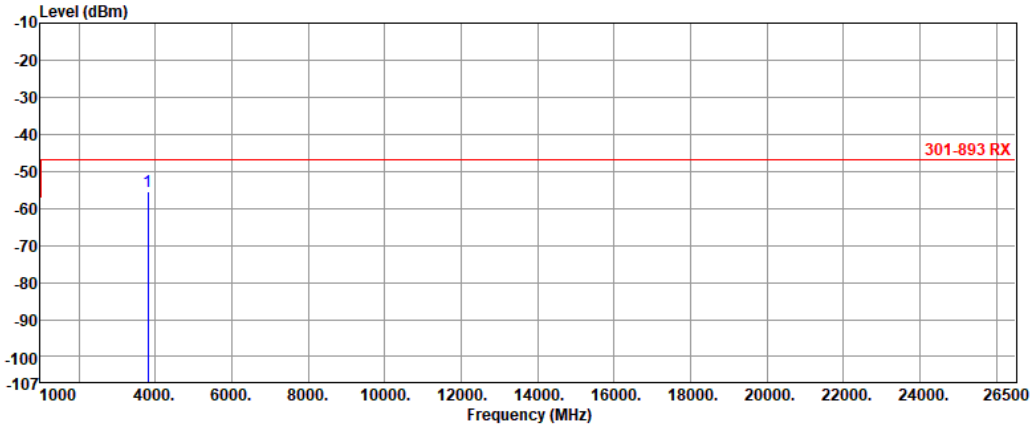


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3800.22	-55.30	-47.00	-8.30	6.34	-61.64

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

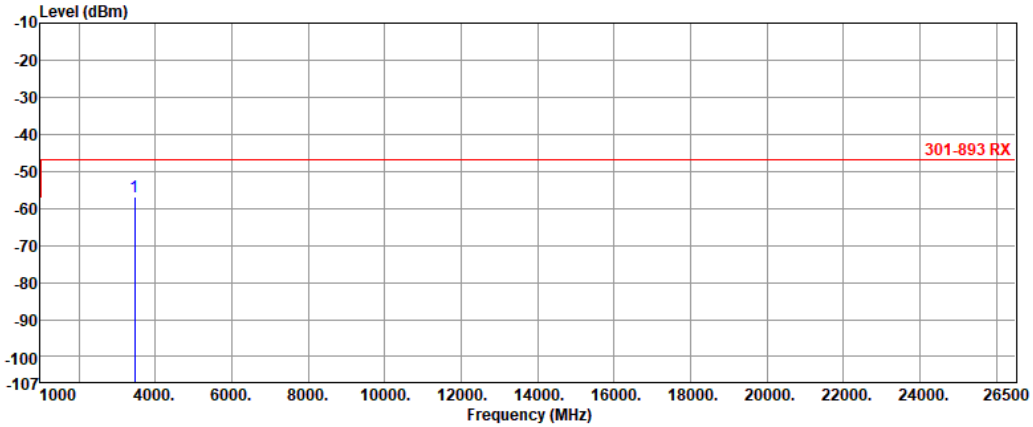


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3800.44	-55.56	-47.00	-8.56	6.06	-61.62

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

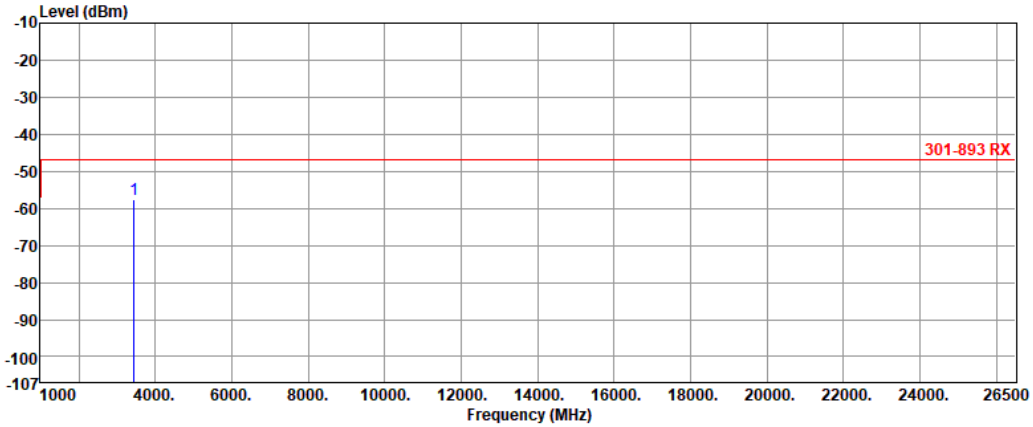


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3453.70	-56.93	-47.00	-9.93	4.49	-61.42

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

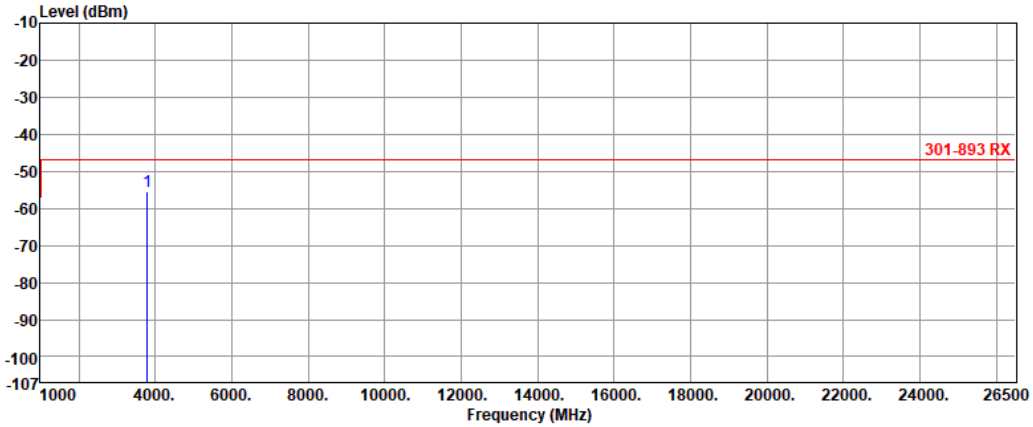


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3453.00	-57.50	-47.00	-10.50	4.18	-61.68

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

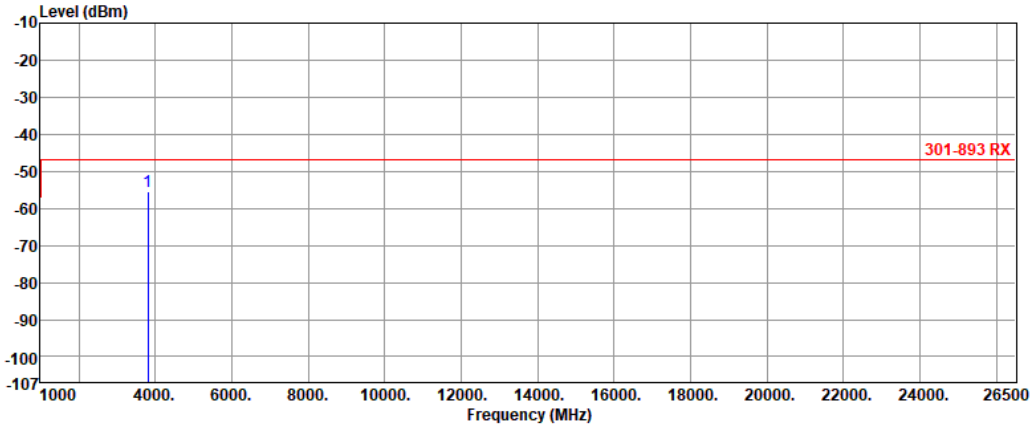


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3799.84	-55.58	-47.00	-8.58	6.34	-61.92

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

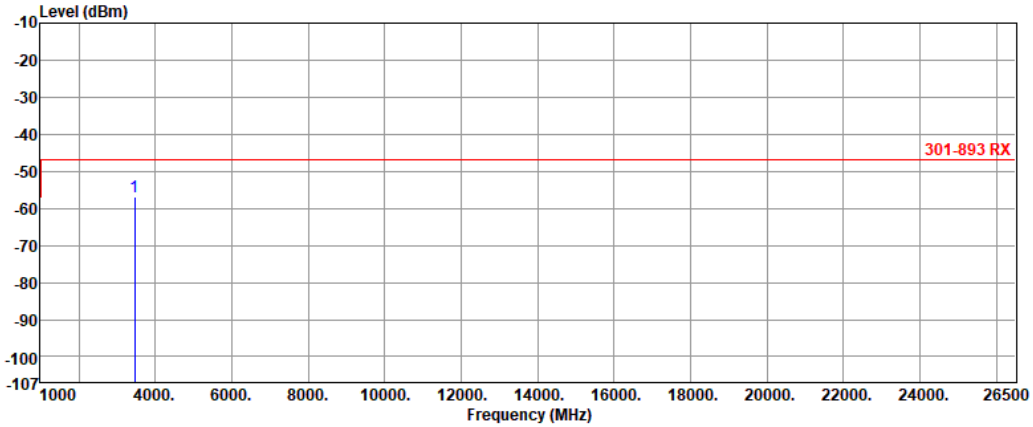


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3800.36	-55.63	-47.00	-8.63	6.06	-61.69

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

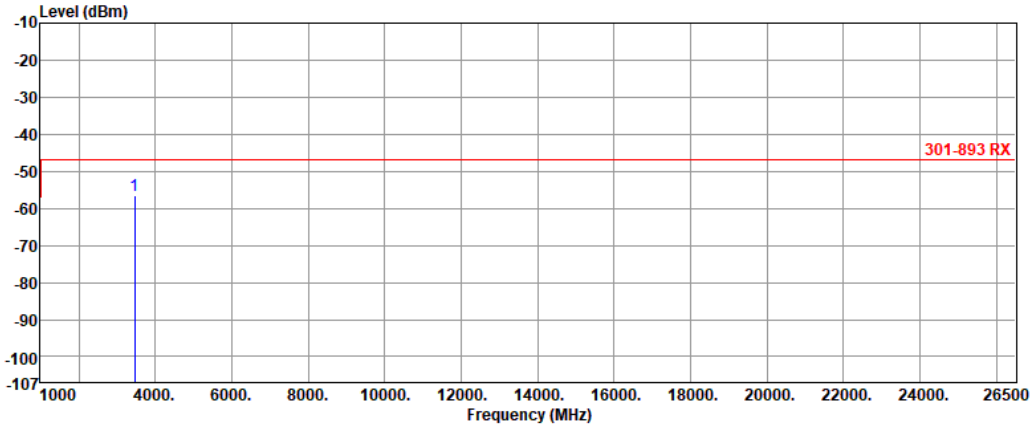


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3460.01	-57.01	-47.00	-10.01	4.50	-61.51

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

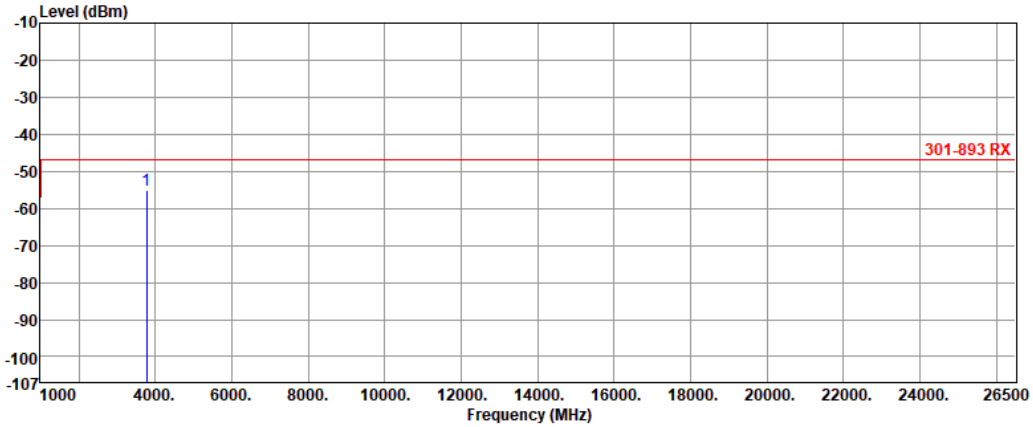


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3460.50	-56.53	-47.00	-9.53	4.20	-60.73

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

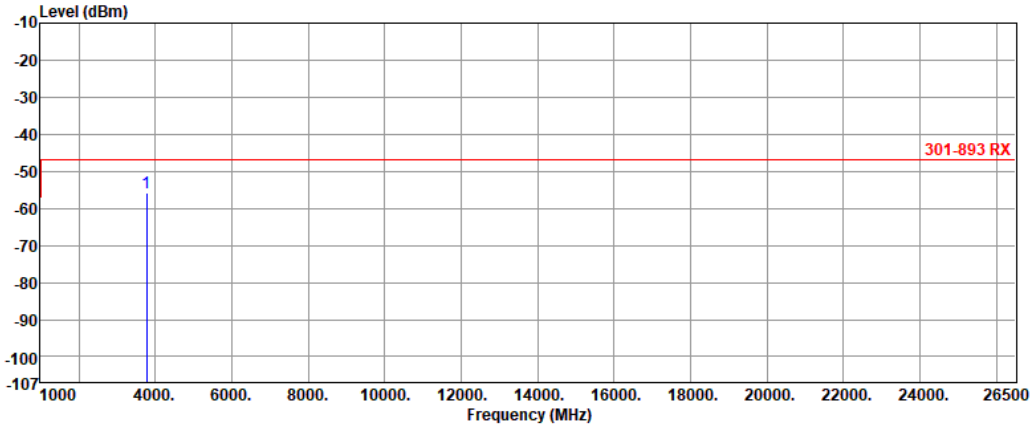


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3779.82	-55.16	-47.00	-8.16	6.35	-61.51

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

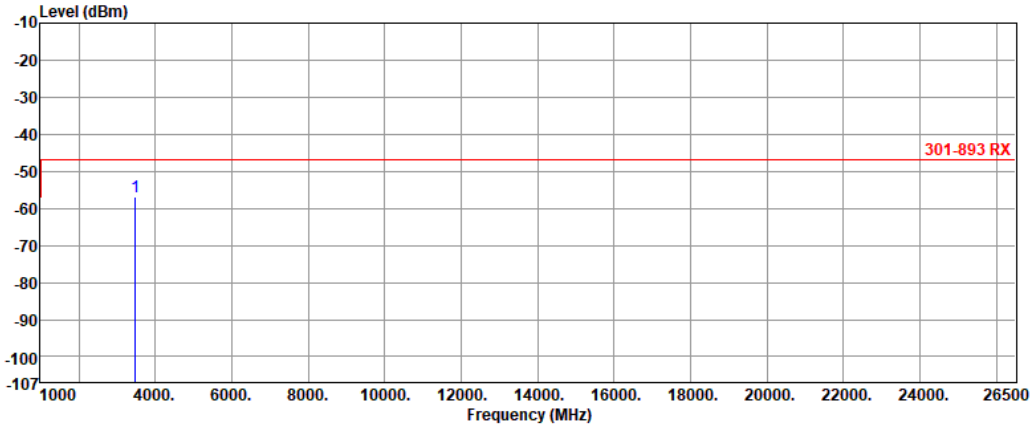


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3780.35	-55.99	-47.00	-8.99	6.03	-62.02

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

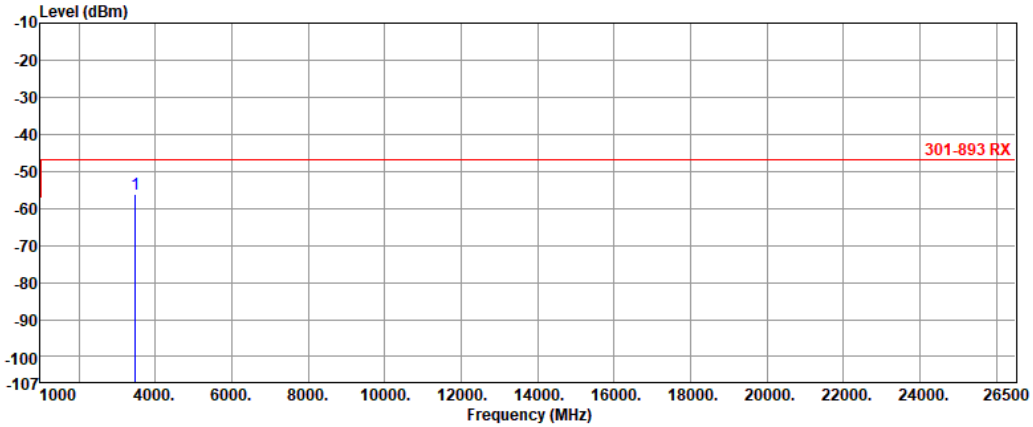


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3473.02	-56.72	-47.00	-9.72	4.55	-61.27

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65

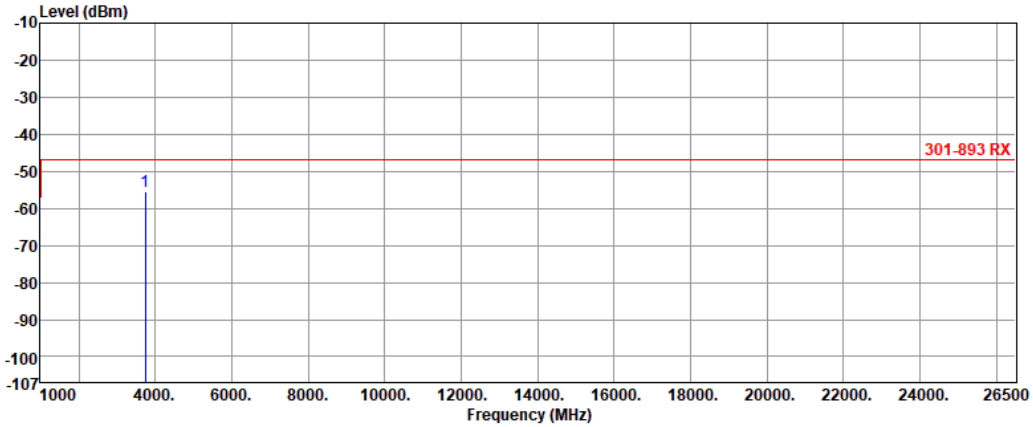


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3473.44	-56.00	-47.00	-9.00	4.25	-60.25

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		

Test By :Alan Tang Temperature:24 Humidity(%):65

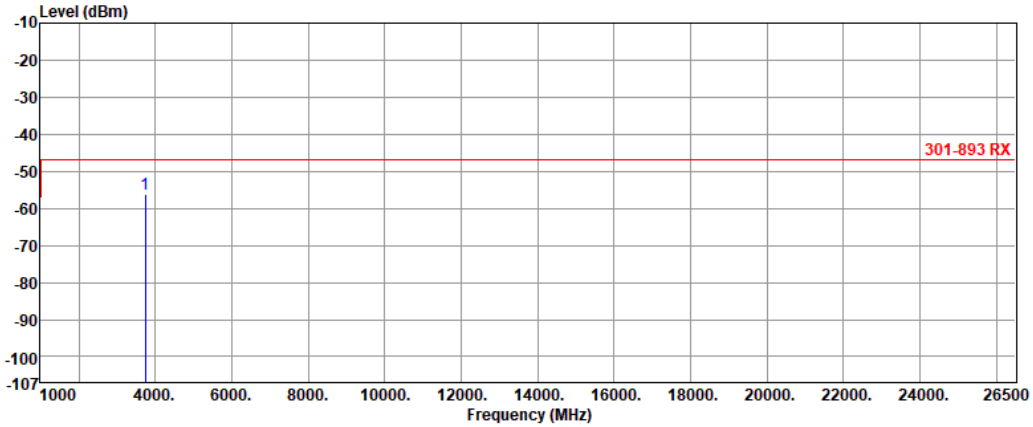


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3740.12	-55.52	-47.00	-8.52	6.39	-61.91

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical		

Test By :Alan Tang Temperature:24 Humidity(%):65



	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3740.53	-56.33	-47.00	-9.33	5.99	-62.32

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

5 Adaptivity Test Results

5.1 Adaptivity

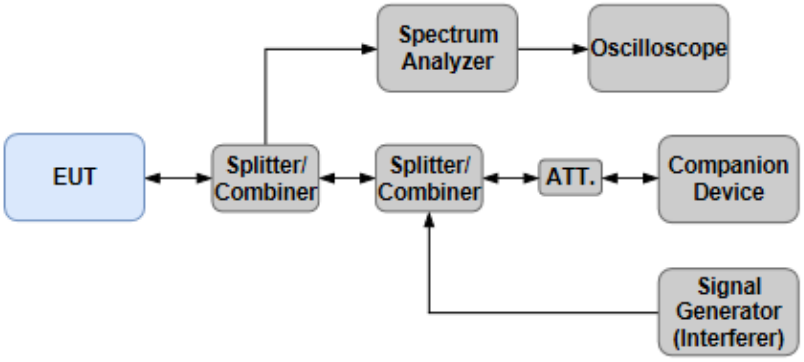
5.1.1 Adaptivity Limit

Adaptivity Limit
☐ Frame Based Equipment The ED Threshold Level (TL), at the input of the receiver, shall be proportional to the maximum transmit power (PH) according to the formula which assumes a 0 dBi receive antenna and PH to be specified in dBm e.i.r.p. For P_H ≤ 13 dBm: TL = -75 dBm/MHz For 13 dBm < P_H < 23 dBm: TL = -85 dBm/MHz + (23 dBm - P_H) For P_H ≥ 23 dBm: TL = -85 dBm/MHz
☒ Load Based Equipment ☒ **Option 1:** For equipment that for its operation in the 5 GHz bands is conforming to IEEE 802.11™-2016 [9], clause 17, clause 19 or clause 21, or any combination of these clauses, the *ED Threshold Level (TL)* is independent of the equipment's maximum transmit power (P_H). Assuming a 0 dBi receive antenna the *ED Threshold Level (TL)* shall be: TL = -75 dBm/MHz
☐ **Option 2:** For equipment conforming to one or more of the clauses listed in Option 1, and to at least one other operating mode, and for equipment conforming to none of the clauses listed in Option 1, the *ED Threshold Level (TL)* shall be proportional to the equipment's maximum transmit power (P_H). Assuming a 0 dBi receive antenna the *ED Threshold Level (TL)* shall be: For P_H ≤ 13 dBm: TL = -75 dBm/MHz For 13 dBm < P_H < 23 dBm: TL = -85 dBm/MHz + (23 dBm - P_H) For P_H ≥ 23 dBm: TL = -85 dBm/MHz
☒ Short Control Signalling Transmissions: ● within an observation period of 50 ms, the number of *Short Control Signalling Transmissions* by the equipment shall be equal to or less than 50; and ● the total duration of the equipment's *Short Control Signalling Transmissions* shall be less than 2 500 µs within said observation period.
☒ Channel Access Mechanism / Maximum Channel Occupancy Time(s) : For Supervising Devices refer to clause 4.2.7.3.2.4 Table 7. For Supervised Devices refer to clause 4.2.7.3.2.4 Table 8. ☒Option A: Measurement for Channel Access Mechanism and Maximum Channel Occupancy Time(s) ☐Option B: Compliance by declaration for the Channel Access Mechanism and Maximum Channel Occupancy Time(s)

5.1.2 Test Procedures

Reference to clause 5.4.9.3 of ETSI EN 301 893 V2.1.1 (2017-05).

5.1.3 Test Setup



5.1.4 Test Result of Adaptivity and Short Control Signalling Transmissions

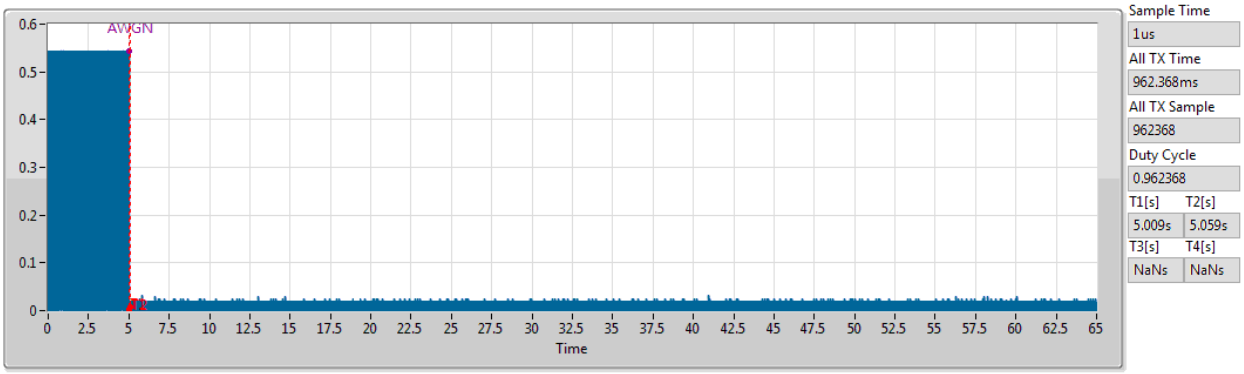
Ambient Condition	23°C / 67%	**Tested By**	Jack Li

Adaptivity Result						
Equipment / Device type		Load Based Equipment / Supervised Device				
Energy Detect Threshold Level (dBm)		-73				
Modulation Mode	**Freq. (MHz)**	**Interference Signal Frequency (MHz)**	**Interference Signal Type**	**Short Control Signalling Transmissions (ms)/period Numbers**	**Channel Occupancy Time (ms)**	**Adaptivity**
802.11ac (VHT20)	5180	5180	AWGN	0 / 0	5.414	PASS
802.11ac (VHT20)	5180	5180	OFDM	0 / 0		
802.11ac (VHT20)	5180	5180	LTE	0 / 0		
802.11ac (VHT20)	5500	5500	AWGN	0 / 0	5.415	PASS
802.11ac (VHT20)	5500	5500	OFDM	0.565 / 1		
802.11ac (VHT20)	5500	5500	LTE	0 / 0		
802.11ac (VHT40)	5190	5200	AWGN	0 / 0	0.273	PASS
802.11ac (VHT40)	5510	5520	AWGN	0 / 0	1.774	PASS
Limit				< 2.5 ms / 50	6 ms	N/A

Adaptivity Result Plots

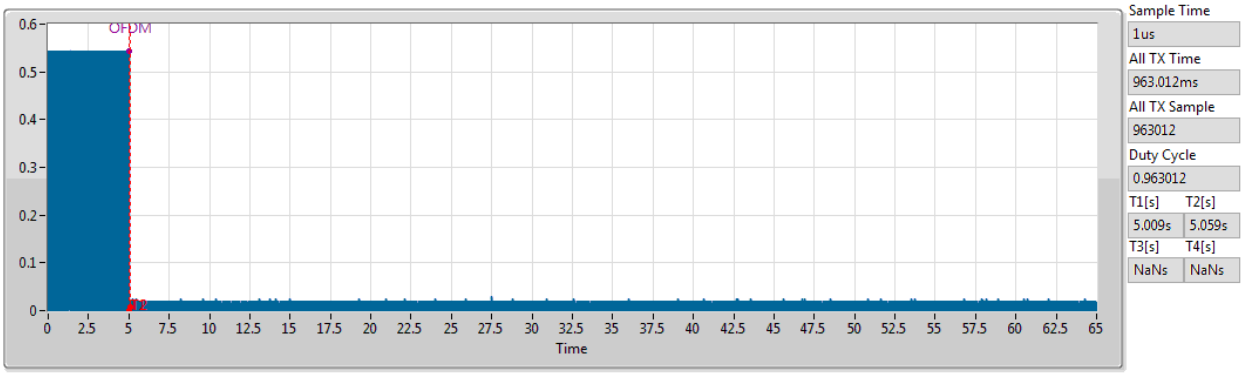
802.11ac (VHT20)- 5180MHz (AWGN)

Time Analysis



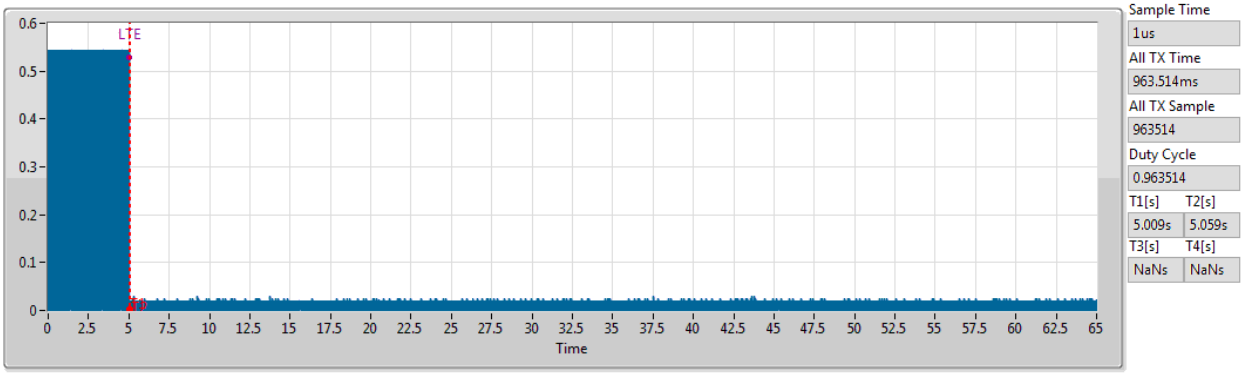
802.11ac (VHT20) - 5180MHz (OFDM)

Time Analysis



802.11ac (VHT20) - 5180MHz (LTE)

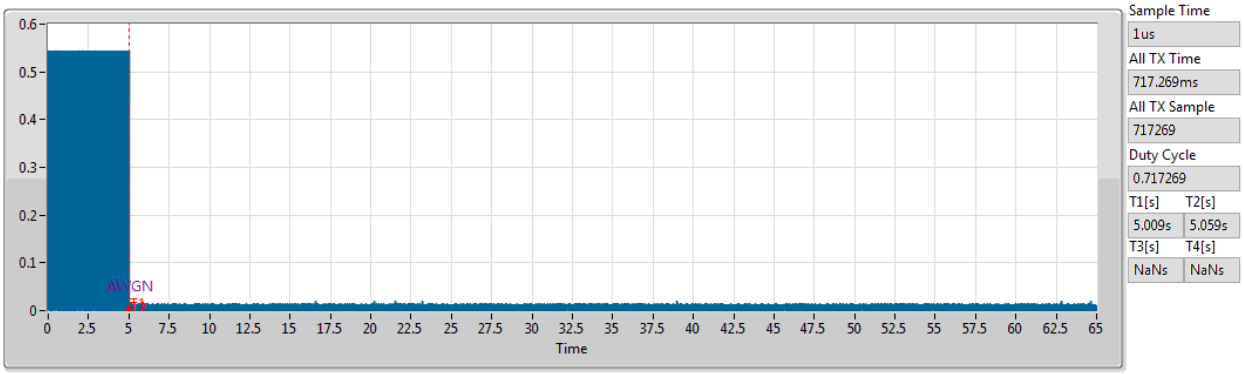
Time Analysis



Adaptivity Result Plots

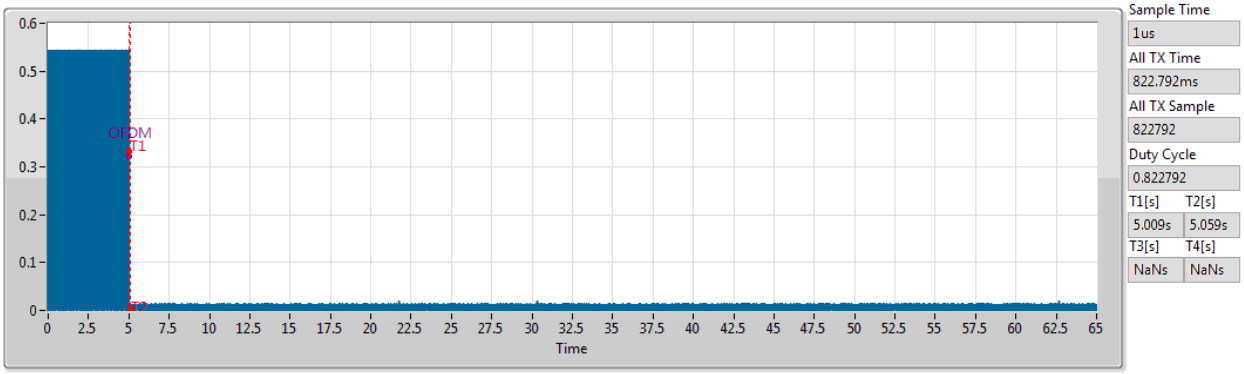
802.11ac (VHT20) - 5500MHz (AWGN)

Time Analysis



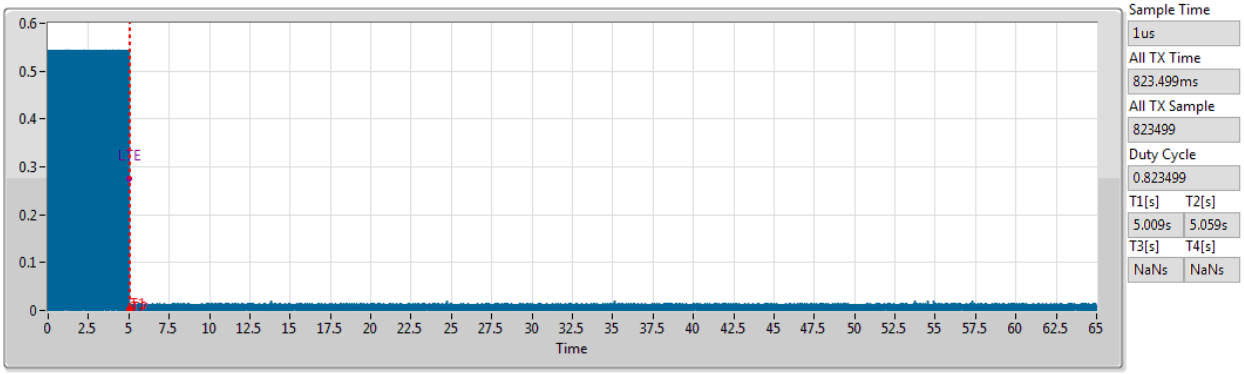
802.11ac (VHT20) - 5500MHz (OFDM)

Time Analysis



802.11ac (VHT20) - 5500MHz (LTE)

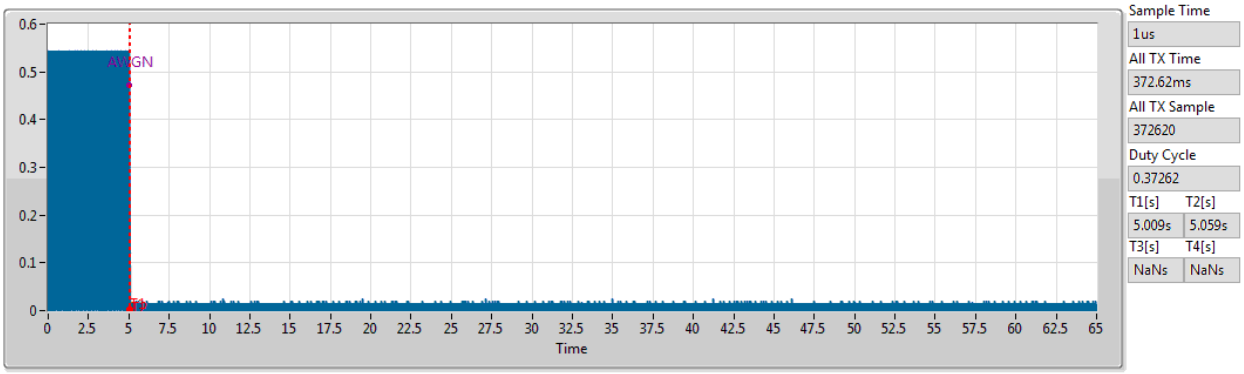
Time Analysis



Adaptivity Result Plots

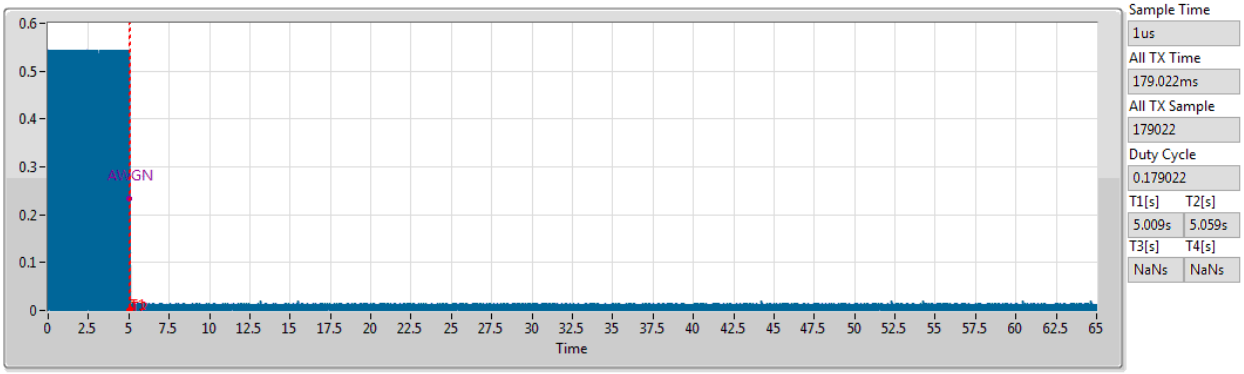
802.11ac (VHT40) - 5190MHz (AWGN)

Time Analysis

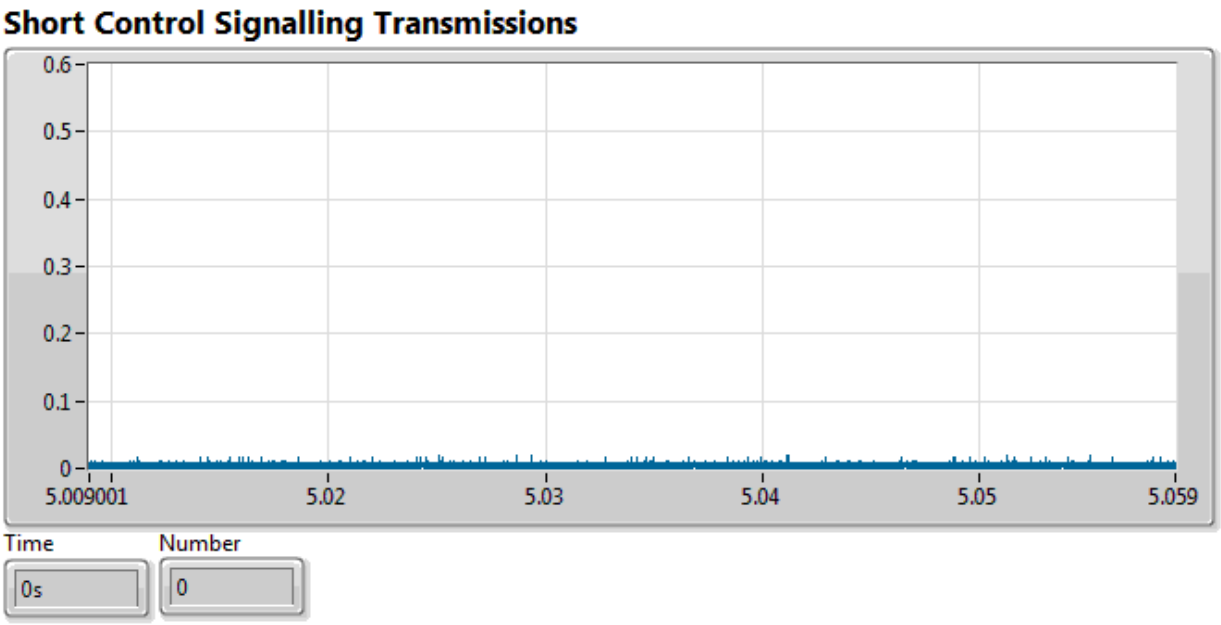


802.11ac (VHT40) - 5510MHz (AWGN)

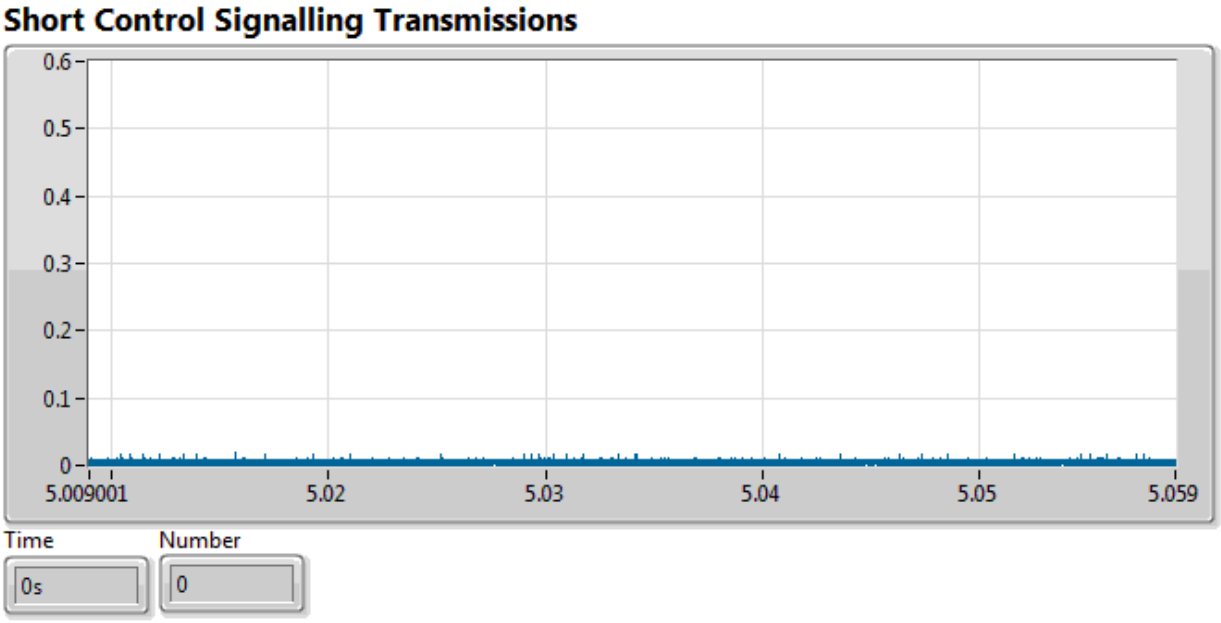
Time Analysis



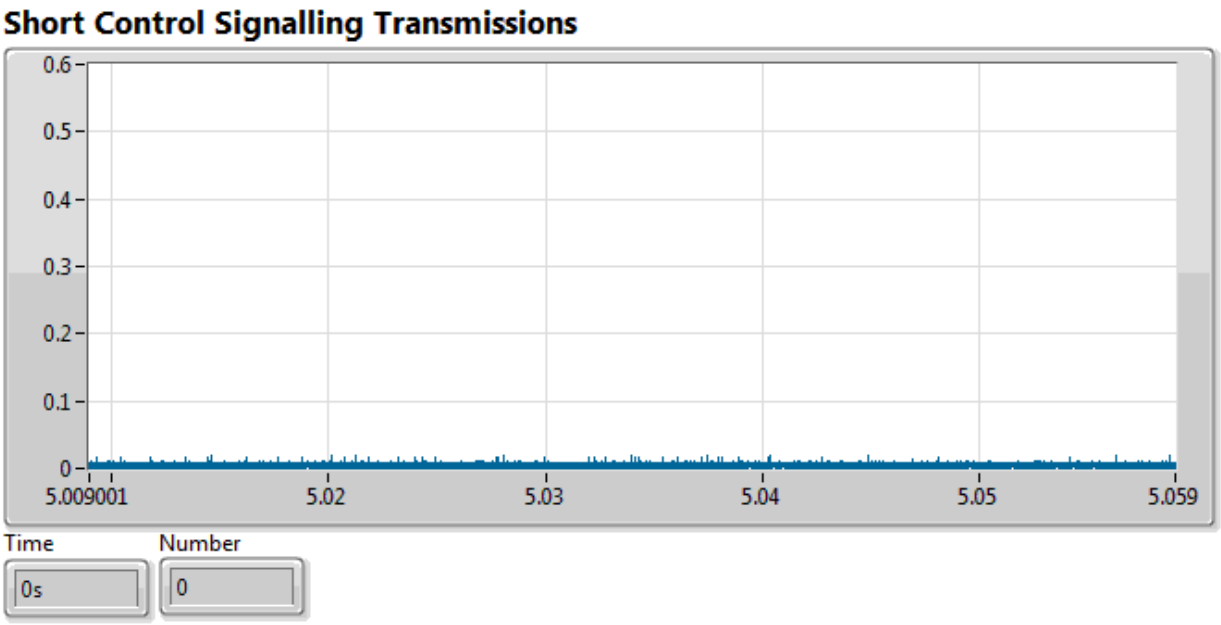
Short Control Signalling Transmissions Plots
802.11ac (VHT20) - 5180MHz (AWGN)



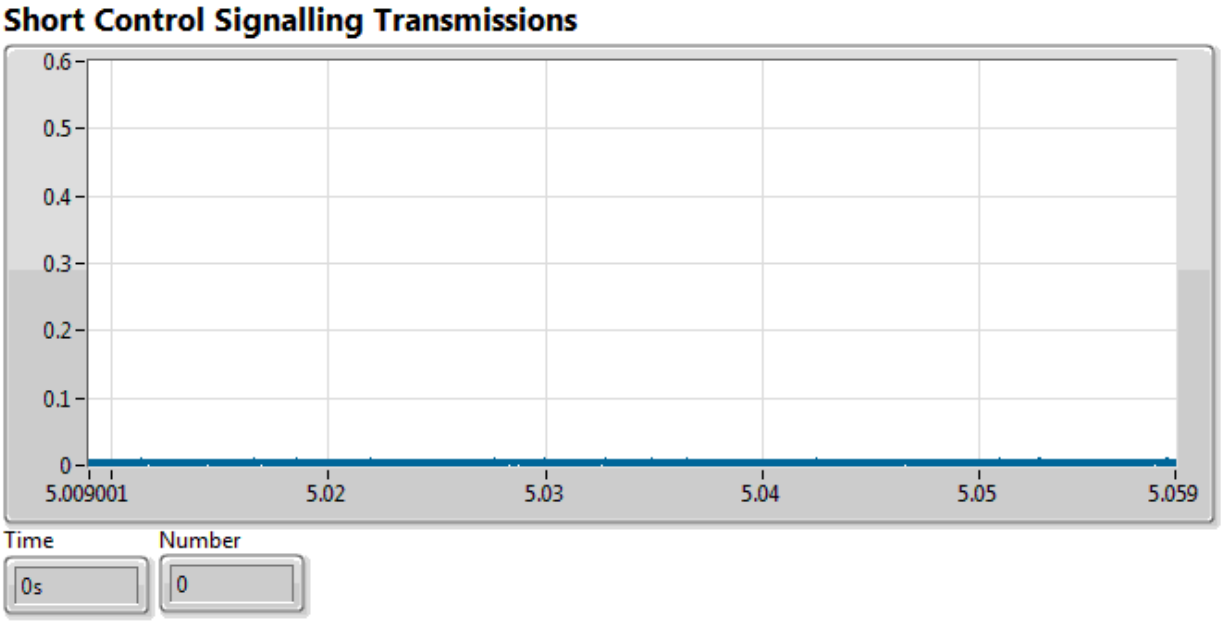
802.11ac (VHT20) - 5180MHz (OFDM)



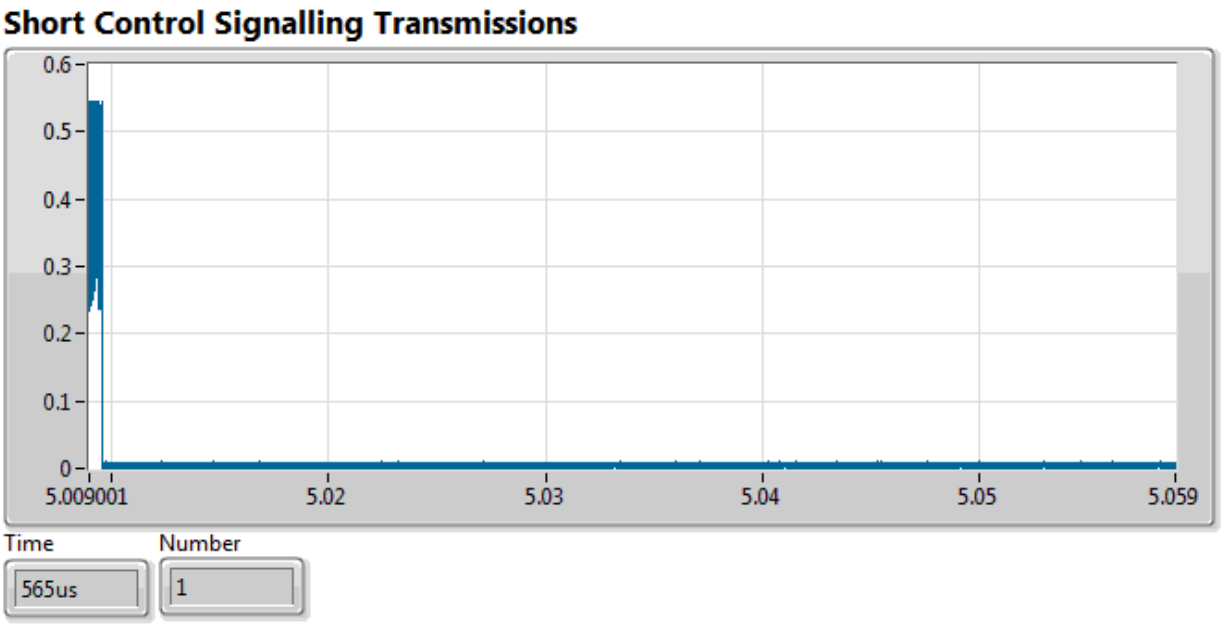
Short Control Signalling Transmissions Plots
802.11ac (VHT20) - 5180MHz (LTE)



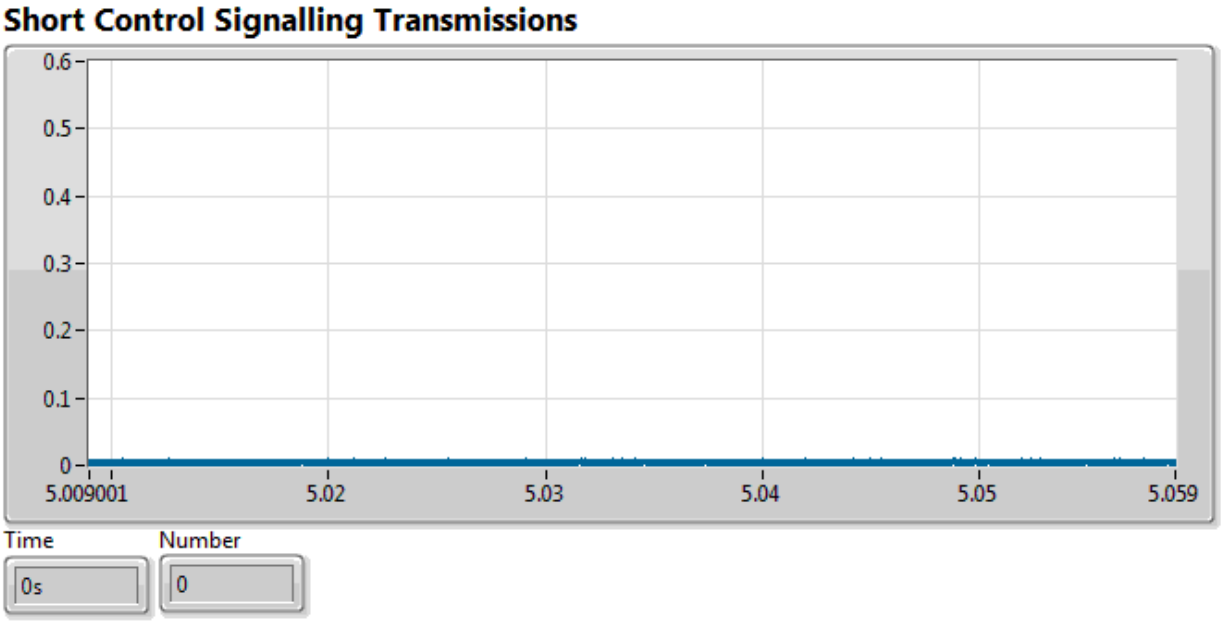
802.11ac (VHT20) - 5500MHz (AWGN)



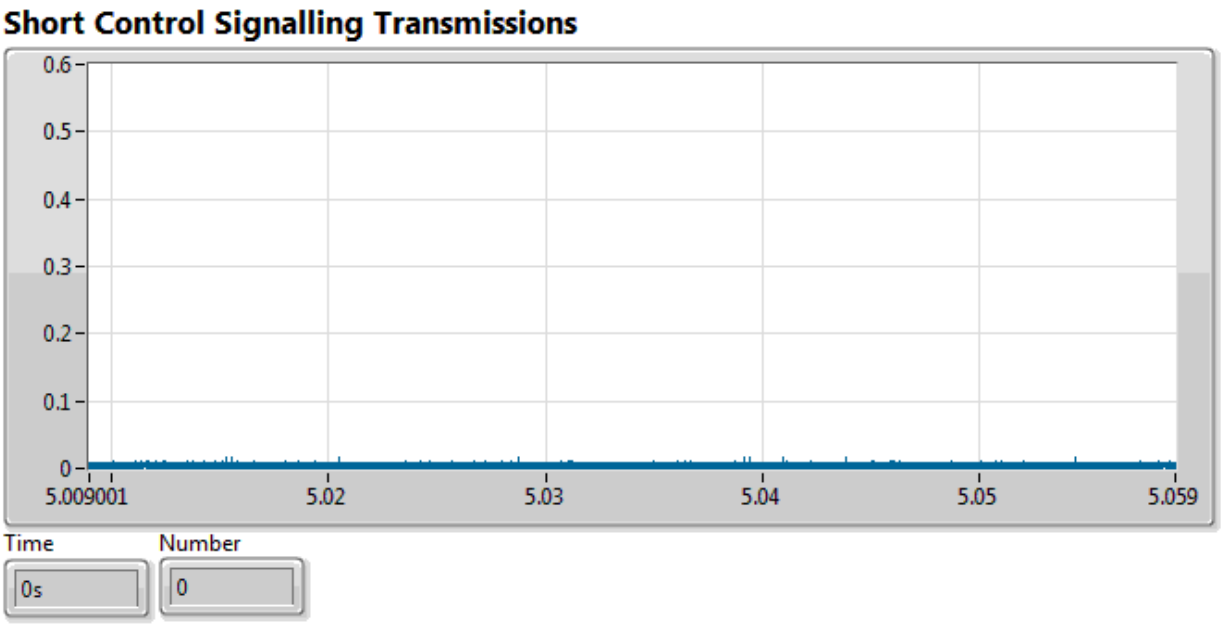
Short Control Signalling Transmissions Plots
802.11ac (VHT20) - 5500MHz (OFDM)



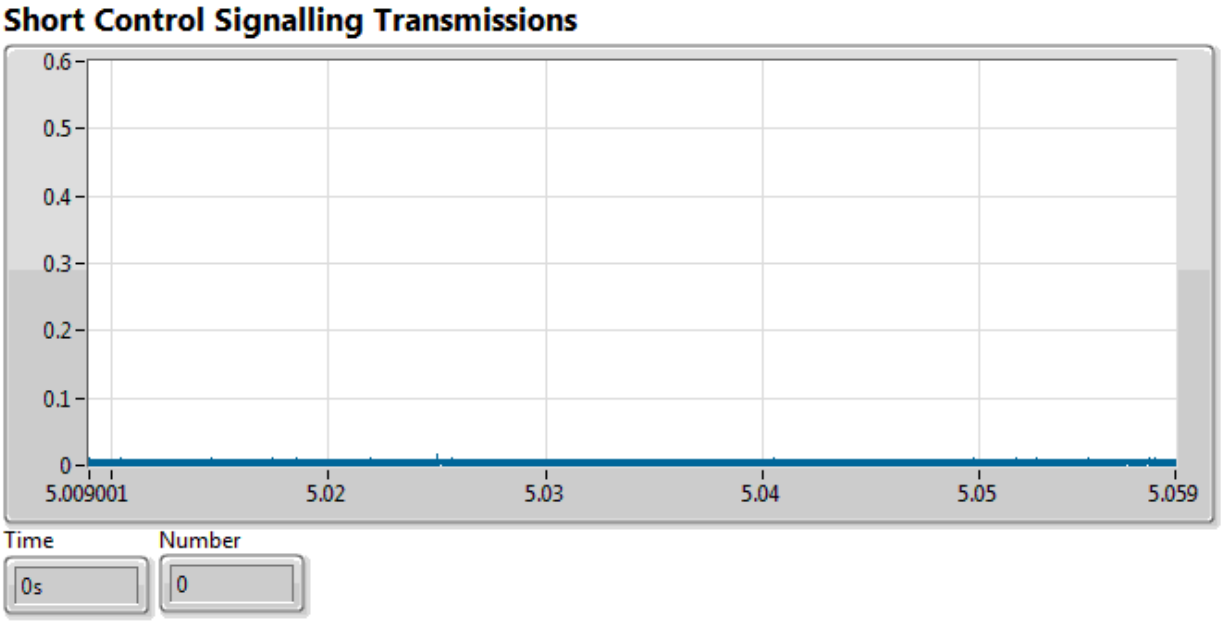
802.11ac (VHT20) - 5500MHz (LTE)



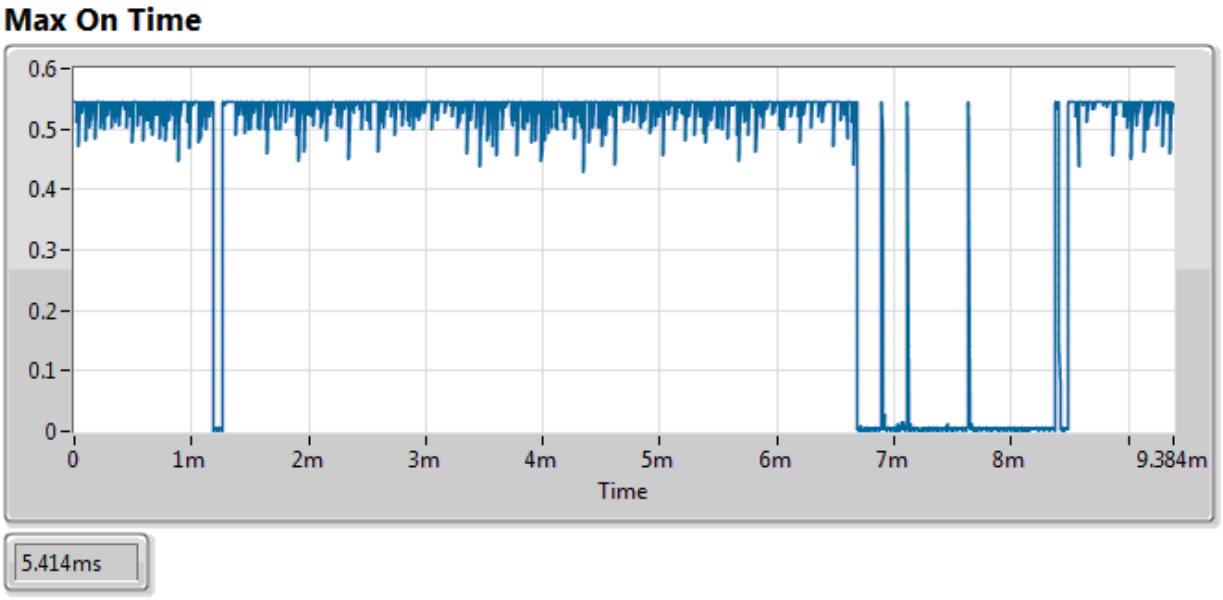
Short Control Signalling Transmissions Plots
802.11ac (VHT40) - 5190MHz (AWGN)



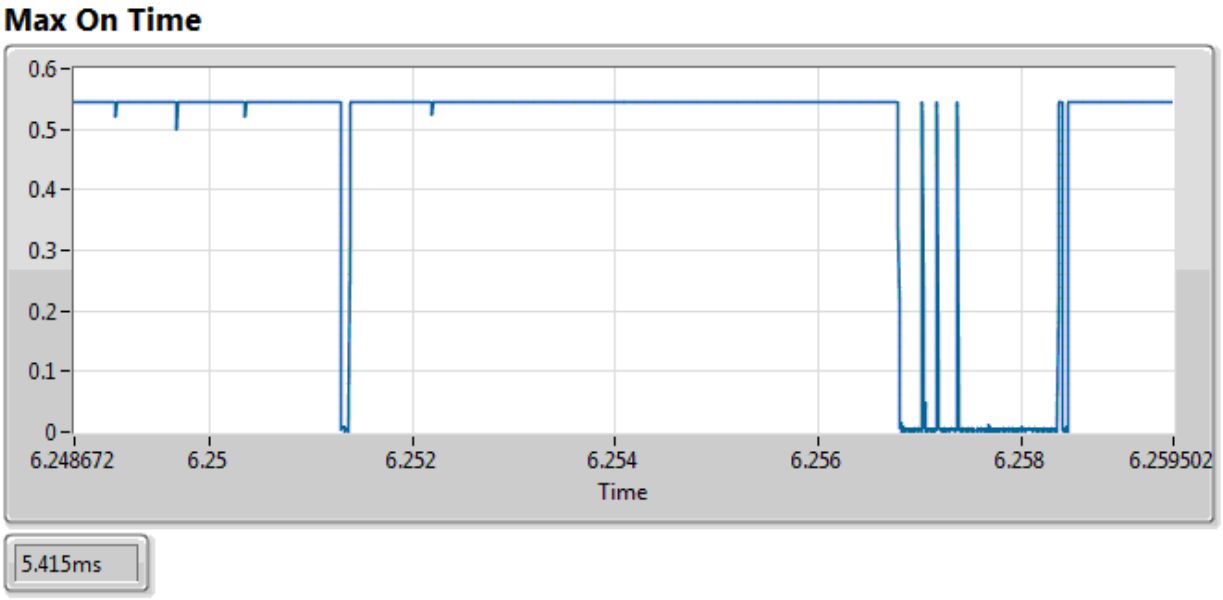
802.11ac (VHT40) - 5510MHz (AWGN)



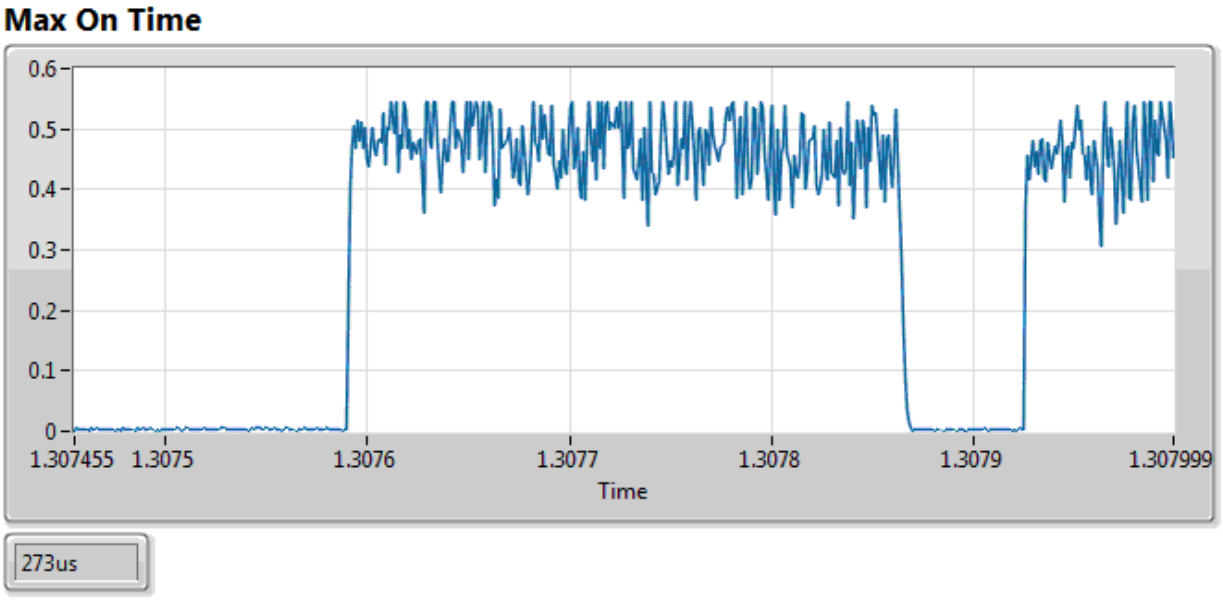
Channel Occupancy Time
802.11ac (VHT20) - 5180MHz



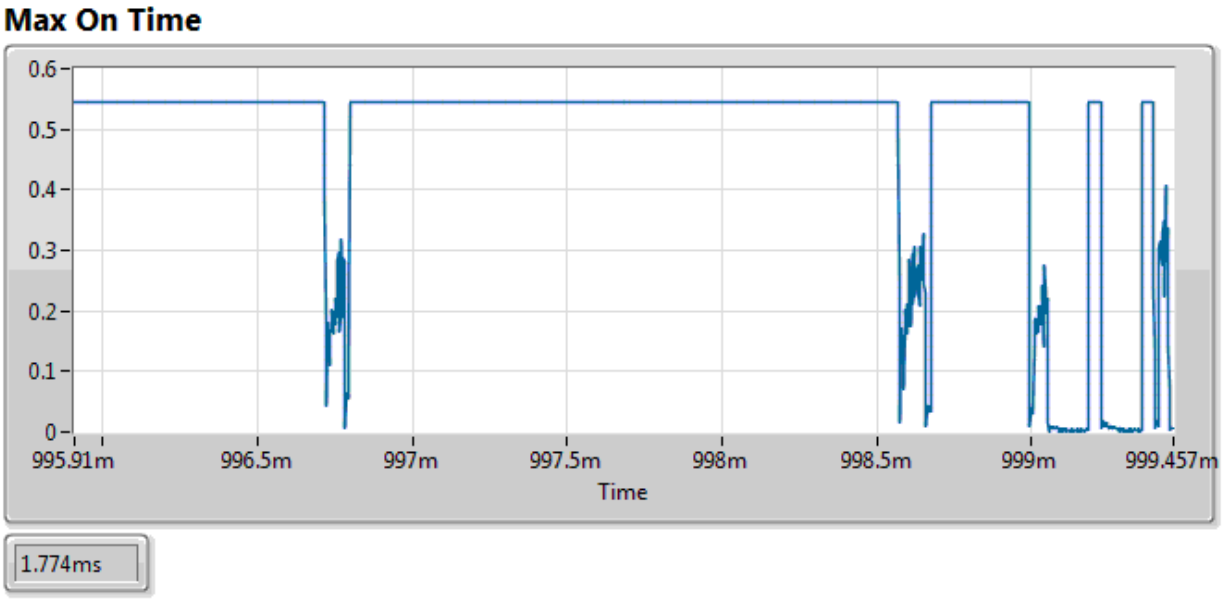
802.11ac (VHT20) - 5500MHz



Channel Occupancy Time
802.11ac (VHT40) - 5190MHz



802.11ac (VHT40) - 5510MHz



5.1.5 Idle Period probability evaluation

Priority Class	Class 2
Operating Type	Supervised Device
Test condition	802.11ac (VHT20) / 5180MHz

n	H(Bn)	Pn	Pn Limit	Result
0	0	0.00000	0.05000	Pass
1	0	0.00000	0.12000	Pass
2	0	0.00000	0.18250	Pass
3	2025	0.16556	0.24500	Pass
4	503	0.20669	0.30750	Pass
5	1902	0.36219	0.37000	Pass
6	8	0.36285	0.43250	Pass
7	131	0.37356	0.49500	Pass
8	224	0.39187	0.55750	Pass
9	224	0.41019	0.62000	Pass
10	222	0.42834	0.68250	Pass
11	196	0.44436	0.74500	Pass
12	228	0.46300	0.80750	Pass
13	236	0.48230	0.87000	Pass
14	225	0.50069	0.93250	Pass
15	214	0.51819	0.99500	Pass
16	5893	1.00000	1.00000	Pass

Priority Class	Class 2
Operating Type	Supervised Device
Test condition	802.11ac (VHT20) / 5500MHz

n	H(Bn)	Pn	Pn Limit	Result
0	0	0.00000	0.05000	Pass
1	0	0.00000	0.12000	Pass
2	0	0.00000	0.18250	Pass
3	2020	0.16561	0.24500	Pass
4	484	0.20530	0.30750	Pass
5	1912	0.36206	0.37000	Pass
6	10	0.36288	0.43250	Pass
7	127	0.37329	0.49500	Pass
8	215	0.39092	0.55750	Pass
9	209	0.40805	0.62000	Pass
10	221	0.42617	0.68250	Pass
11	218	0.44404	0.74500	Pass
12	225	0.46249	0.80750	Pass
13	199	0.47881	0.87000	Pass
14	213	0.49627	0.93250	Pass
15	215	0.51390	0.99500	Pass
16	5929	1.00000	1.00000	Pass

Priority Class	Class 2
Operating Type	Supervised Device
Test condition	802.11ac (VHT40) / 5190MHz

n	H(Bn)	Pn	Pn Limit	Result
0	0	0.00000	0.05000	Pass
1	0	0.00000	0.12000	Pass
2	0	0.00000	0.18250	Pass
3	896	0.08387	0.24500	Pass
4	0	0.08387	0.30750	Pass
5	0	0.08387	0.37000	Pass
6	1	0.08397	0.43250	Pass
7	5	0.08443	0.49500	Pass
8	5	0.08490	0.55750	Pass
9	5	0.08537	0.62000	Pass
10	7	0.08602	0.68250	Pass
11	15	0.08743	0.74500	Pass
12	10	0.08836	0.80750	Pass
13	6	0.08893	0.87000	Pass
14	11	0.08996	0.93250	Pass
15	5	0.09042	0.99500	Pass
16	9717	1.00000	1.00000	Pass

Priority Class	Class 2
Operating Type	Supervised Device
Test condition	802.11ac (VHT40) / 5190MHz

n	H(Bn)	Pn	Pn Limit	Result
0	509	0.04984	0.05000	Pass
1	290	0.07824	0.12000	Pass
2	225	0.10027	0.18250	Pass
3	21	0.10233	0.24500	Pass
4	5	0.10282	0.30750	Pass
5	1163	0.21671	0.37000	Pass
6	120	0.22846	0.43250	Pass
7	136	0.24177	0.49500	Pass
8	263	0.26753	0.55750	Pass
9	290	0.29593	0.62000	Pass
10	250	0.32041	0.68250	Pass
11	275	0.34734	0.74500	Pass
12	154	0.36242	0.80750	Pass
13	276	0.38944	0.87000	Pass
14	328	0.42156	0.93250	Pass
15	315	0.45241	0.99500	Pass
16	5592	1.00000	1.00000	Pass

6 Receiver Blocking Test Results

6.1 Receiver Blocking

6.1.1 Limit of Receiver Blocking

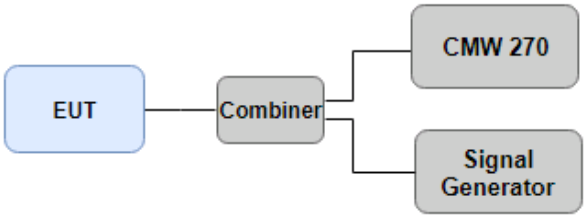
Receiver Blocking Parameters				
Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm) (see note 2)		Type of Blocking Signal
		Master or Slave with radar detection	Slave without radar detection	
P_{min} + 6 dB	5 100	-53	-59	Continuous Wave
P_{min} + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave

Note 1: P_{min} is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria (The minimum performance criterion shall be a PER of less than or equal to 10 %) in the absence of any blocking signal.
Note 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.

6.1.2 Test Procedures

Reference to clause 5.4.10.2 of ETSI EN 301 893 V2.1.1 (2017-05).

6.1.3 Test Setup

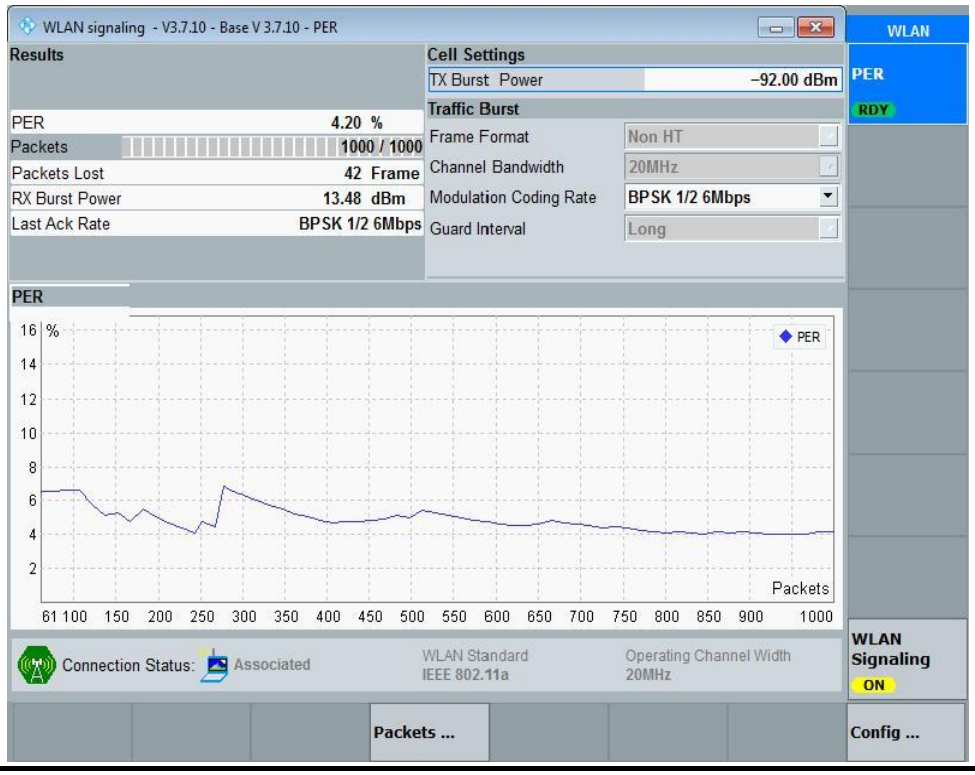


6.1.4 Test Result of Receiver Blocking

Ambient Condition	22.5°C / 64%	Tested By	Alan Tang

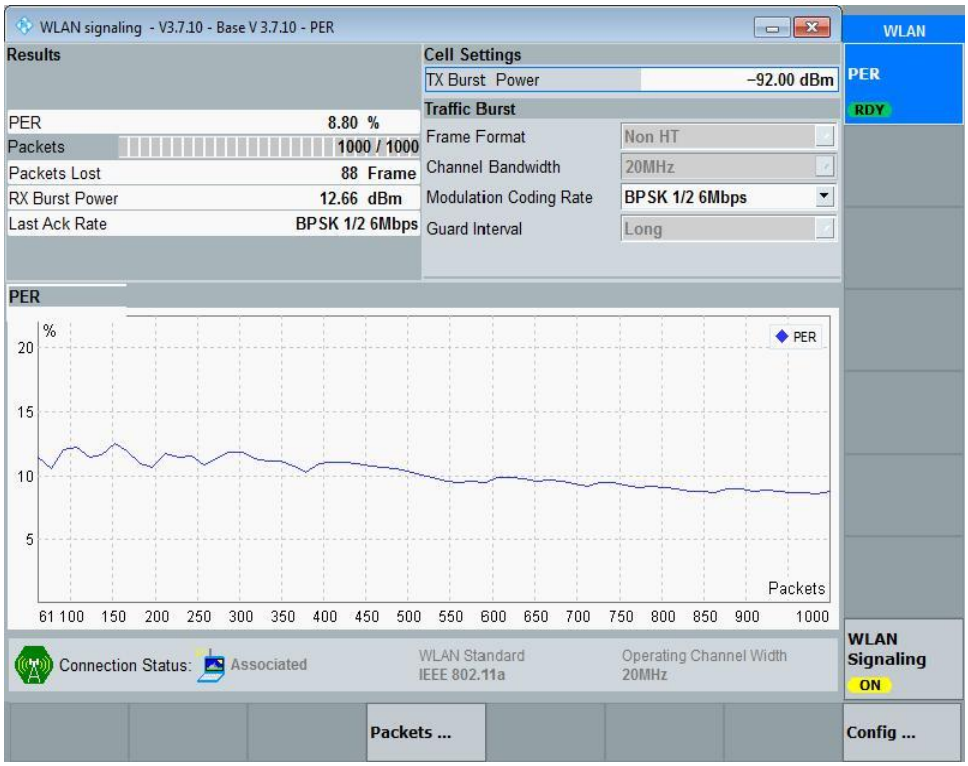
11a / 5180 MHz

Without Interference Signal Sensitivity Level



Minimum Level of the Wanted Signal (dBm)	-92		dBm
Wanted Signal Mean Power from Companion Device (dBm)	**Blocking Signal Frequency (MHz)**	**Blocking Signal Power (dBm)**	**Test Result**
-86	5100	-59	Pass
-86	4900	-53	Pass
-86	5000		Pass
-86	5975		Pass

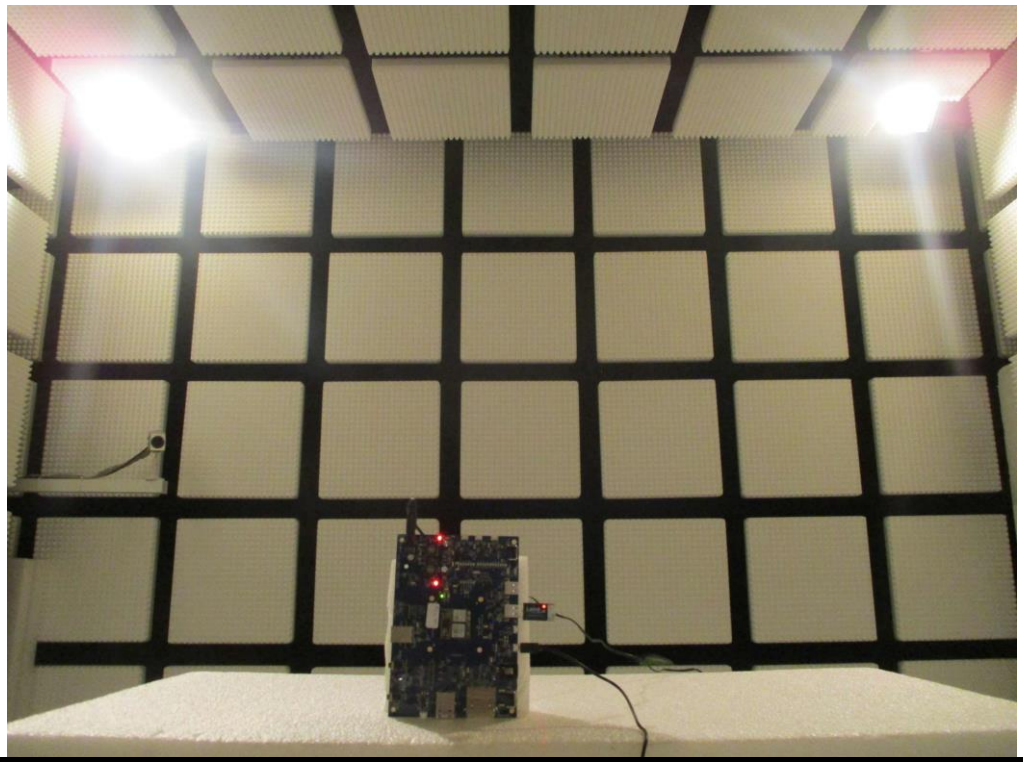
11a / 5700 MHz
Without Interference Signal Sensitivity Level

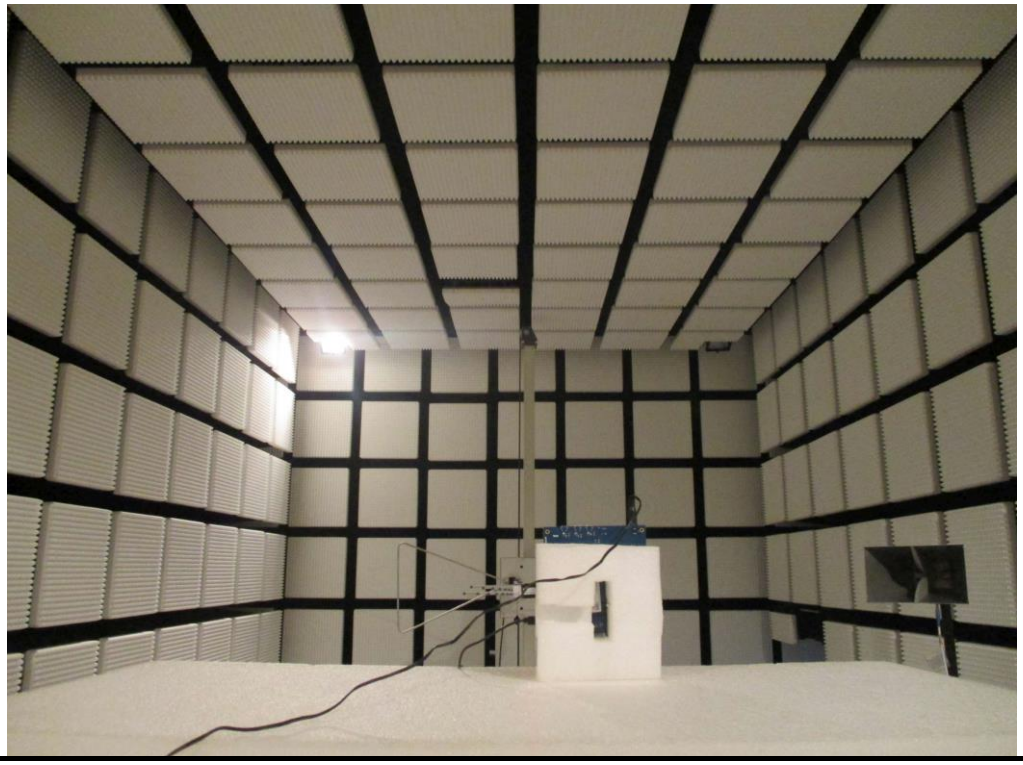


Minimum Level of the Wanted Signal (dBm)	-92		dBm
Wanted Signal Mean Power from Companion Device (dBm)	**Blocking Signal Frequency (MHz)**	**Blocking Signal Power (dBm)**	**Test Result**
-86	5100	-59	Pass
-86	4900	-53	Pass
-86	5000		Pass
-86	5975		Pass

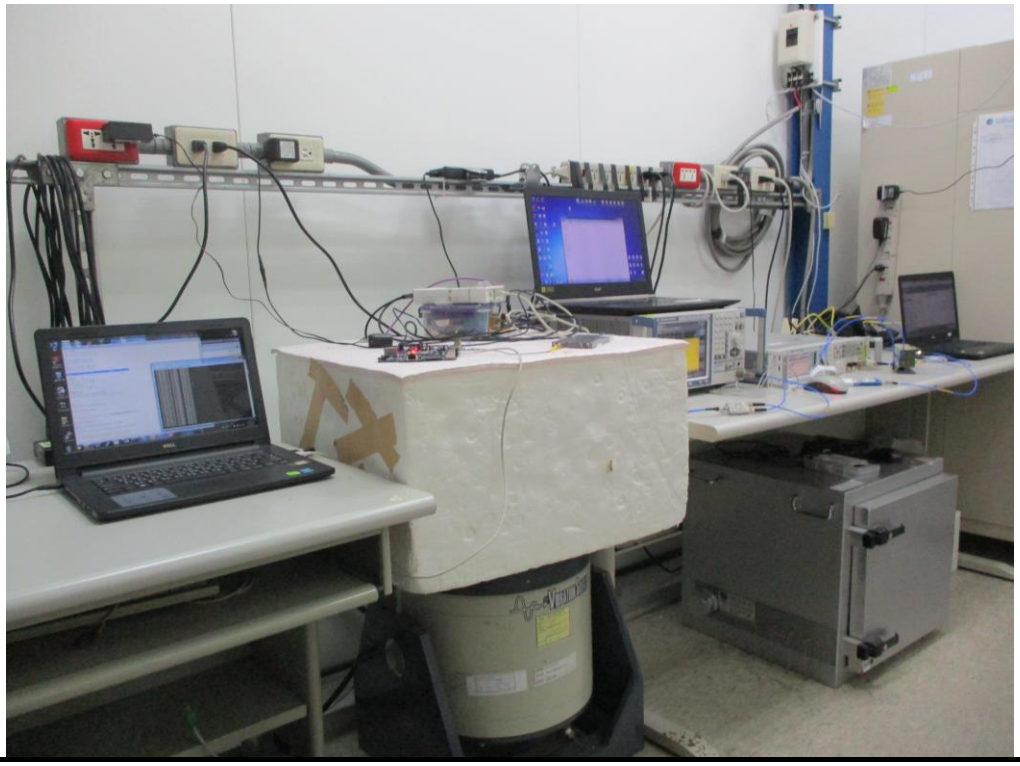
7 Photographs of the Test Configuration

Spurious Emission Test

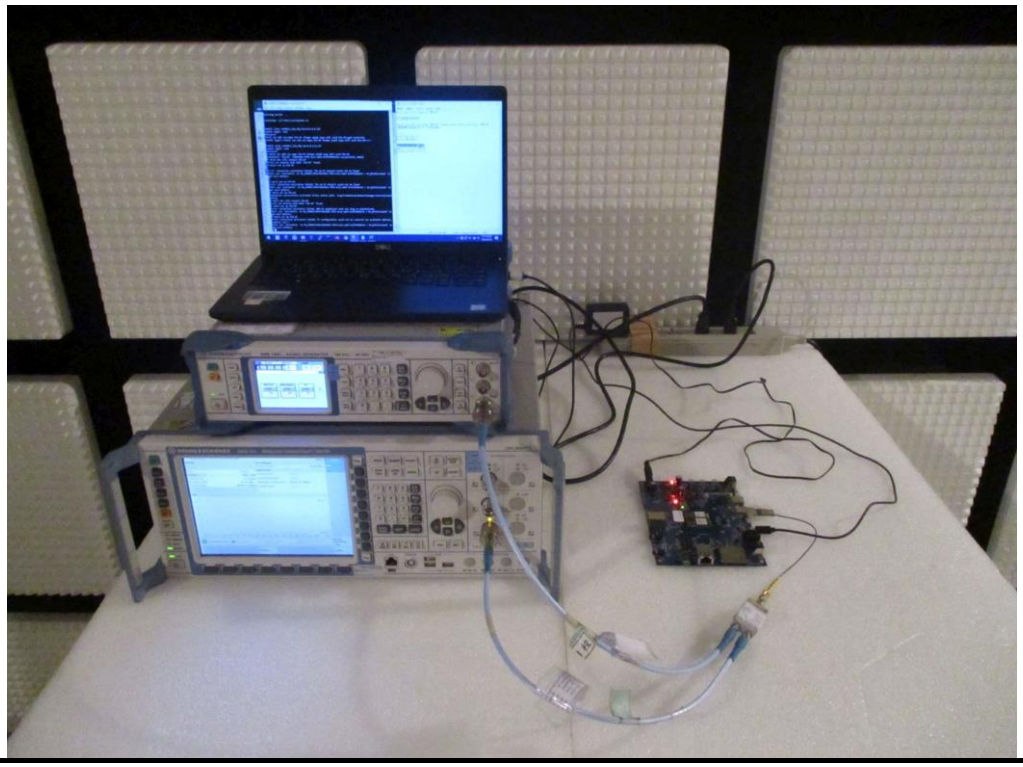




Adaptivity Test



Receiver Blocking Test



8 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No.30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan (R.O.C.)	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.) No.2-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

══END══