



## Regulatory Test Report

### Prepared for Harman Becker Automotive Systems

This report presents detailed information on

**CY20 DA UPPER**

Prepared by

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Engineer II

Approved by

Jason Kanakry

General Manager

Issue date: 12/13/2021

Report No: AH21100601-HAR-134-TR2 v2

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The test is traceable to national standard or related international standard

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- **Test Request Information**

**Test Request #:** 7700096778

**Test Requested By:** Mark Bowman  
Harman International Industries, Inc.  
30001 Cabot Drive, Novi, MI 48377

**Test item Description:** CY20 DA UPPER

**Part Number:** T077

**DUT Sample Number:** AH21100601-HAR-134#1, AH21100601-HAR-134#4, AH21100601-HAR-134#5

**Hardware Version of DUT:** PV1

**Software Version of DUT:** 1.20.020

**Component Category of DUT:** N/A

**Type of Test:** FCC/ISED Certification

**Test Method:** CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 2,  
ISED Canada RSS-Gen Issue 5, FCC KDB 789033 D02 General UNII Test Procedures New  
Rules v02r01 and ANSI C63.10-2013

**Deviations from standard:** None

**Approved Test Plan Number:** N/A

**Test Plan Revision:** N/A

**Date test sample received:** 10-20-2021

**Date test started:** 11-04-2021

**Date test finished:** 12-07-2021

- **Test Laboratory Information**

<b>Location of Test Lab:</b>	The radiated and conducted emissions test sites are located at Bureau Veritas 815 N. Opdyke Rd #100, Auburn Hills, MI 48326, Phone: +1-248-836-4700
<b>Key Contact:</b>	Jason Kanakry (General Manager) <a href="mailto:Jason.Kanakry@BureauVeritas.com">Jason.Kanakry@BureauVeritas.com</a> Phone: +1-248-836-4747
<b>Laboratory Accreditations:</b>	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
<b>ISO/IEC 17025:2017:</b>	5678.01
<b>FCC Test Site Number:</b>	US1278 (242530)
<b>IC Test Site Number:</b>	US0229 (26240)

• **Statement of Conformity**

RSS-GEN	RSS 247	Part 15	Comments
6.4		15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
		15.19	The label is shown in the label exhibit.
		15.21	Information to the user is shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
3.2		15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13.2		15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
6.13.1		15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
6.8		15.203	EUT employs External detachable antenna with 1.89dBi (UNII-1) 1.50dBi (UNII-3)
8.10		15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable
8.8		15.207	N/A. EUT is vehicle battery powered only.

**CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 2**

• **Conducted Testing**

**Test Summary**

This test report supports an application for certification of a transmitter operating pursuant to:

**CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 2, ISED Canada RSS-Gen Issue 5, FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013**

The product is the **CY20 DA UPPER** and it is a transmitter that operates in

UNII-1: 5.15GHz – 5.25GHz

UNII-3: 5.725GHz – 5.85GHz

Details	Description
Frequency Range (MHz)	UNII-1 (5.15GHz – 5.25GHz) UNII-3 (5.725GHz – 5.85GHz)
Tested Modes	802.11a 802.11n(HT20, HT40) 802.11ac (VHT20, VHT40, VHT80).
Tested Channels	UNII-1 (36-48) UNII-3 (149-165)
DUT Antenna Type	External detachable antenna
DUT Antenna Gain	1.89dBi (UNII-1) 1.50dBi (UNII-3)

We found that the product met the above requirements with modification.

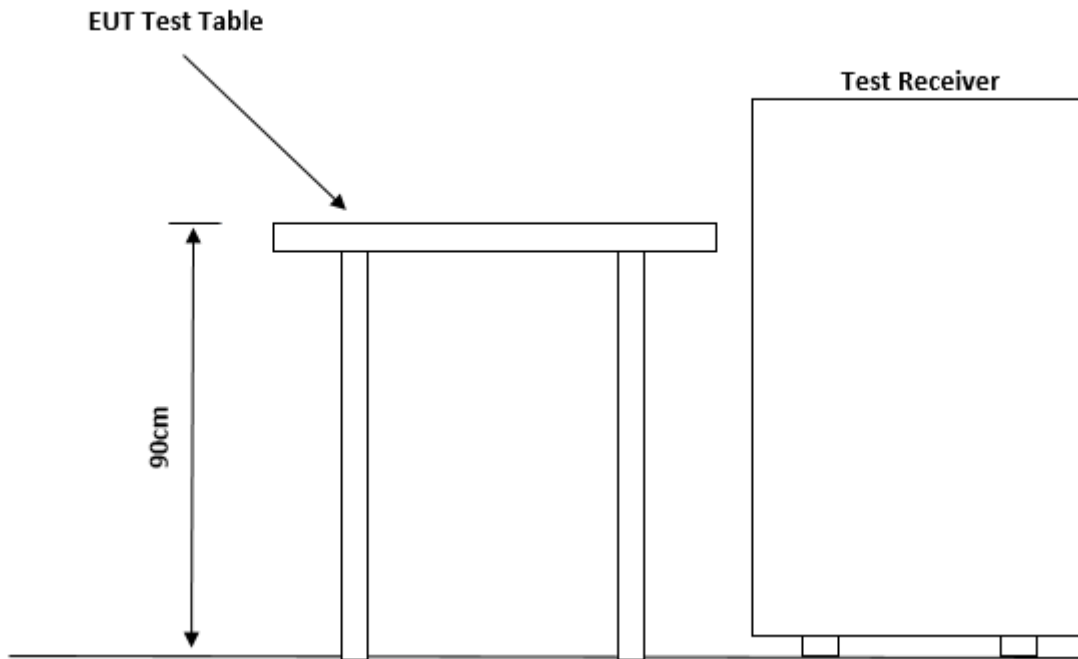
Test samples were received in good condition.

Test Item	Sample #	Result
<a href="#">FCC 15.407 UNII-1</a>	AH21100601-HAR-134#5	Meets Requirements
<a href="#">FCC 15.407 UNII-3</a>	AH21100601-HAR-134#1	Meets Requirements

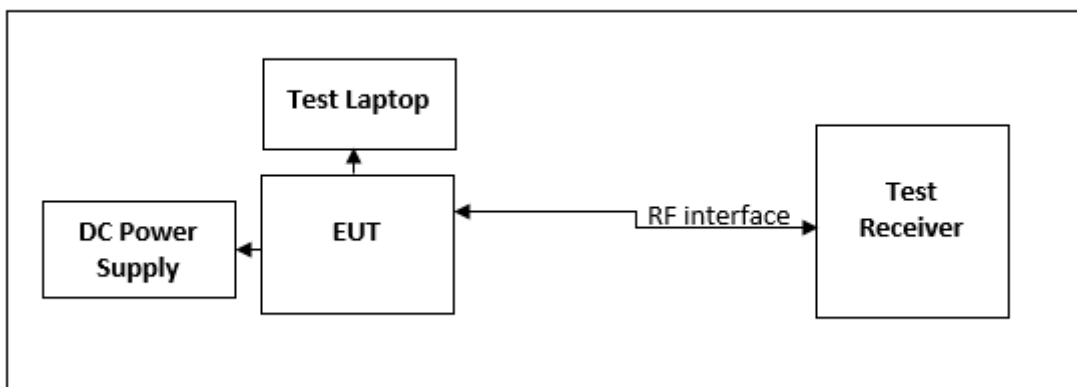
## Test Setup

### Conducted Test Site Description

The site is accommodated to test tabletop and floor standing test equipment.



TEST SETUP DIAGRAM



## Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0226	Spectrum Analyzer 10Hz-44GHz	Rohde & Schwarz	FSV3044	101018	1/14/2022
BVD0227	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP150	101100	N/A
BVD0228	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP220	101632	N/A
BVD0224	Signal Generator 100kHz-40GHz	Rohde & Schwarz	SMB100A	181741	11/19/2022
BVD0225	Signal Generator 100k-6GHz with GPS simulator	Rohde & Schwarz	SMW200A	107664	11/18/2022
BVD0250	Wireless Connectivity Tester 70M-6GHz	Rohde & Schwarz	CMW270	102113	11/18/2022
BVD0343	DC Regulated Power Supply	Circuit Specialists, INC	CSI3020X	595215	N/A
BVD0321	Fixed Attenuator 2W 20dB -40GHz	Mini-Circuits	BW-K20-2W44+	2103	N/A
BVD0477	10db Attenuator -18GHz	Mouser	BW-S10W2+	2043	N/A
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	3/26/2022

## Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Cable Harness	Harman	N/A	N/A	N/A
N/A	USB Hub	Harman	N/A	N/A	N/A
N/A	USB 2.0 Ethernet Adapter	Harman	USB2-E100	N/As	N/A

## Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No.	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	11.20.00	N/A



## FCC 15.407 UNII-1

### DUT Information

<b>Model:</b>	CY20 DA UPPER
<b>Manufacturer:</b>	Harman Becker Automotive Systems
<b>Serial Number:</b>	AH21100601-HAR-134#5

Mode	Channel	Frequency
802.11a 802.11n(HT20) 802.11ac(VHT20)	36	5180
802.11n(HT40) 802.11ac(VHT40)	38	5190
802.11a 802.11n(HT20) 802.11ac(VHT20)	40	5200
802.11ac(VHT80)	42	5210
802.11n(HT40) 802.11ac(VHT40)	46	5230
802.11a 802.11n(HT20) 802.11ac(VHT20)	48	5240

### Notes

- Channels and modes above were tested.
- Output power measurements were performed at the lowest and highest data rate of each supported 802.11 mode.

<b>Antenna Gain</b>	1.89dBi
<b>Number of transmit chains</b>	1
<b>Equipment Type</b>	Unlicensed National Information Infrastructure Device

## Power settings

802.11a		802.11n (HT20)		802.11ac (VHT20)	
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting
36	13	36	13	36	13
40	13	40	13	40	13
48	13	48	13	48	13

802.11n (HT40)		802.11ac (VHT40)	
Channel	Power Setting	Channel	Power Setting
38	13	38	13
46	13	46	13

802.11ac (VHT80)	
Channel	Power Setting
42	13

## Test Results Summary

Test	Frequency (MHz)	802.11a	802.11n(HT20)	802.11ac (VHT20)
RF Output Power	5180/5200/5240	PASS	PASS	PASS
Power Spectral Density	5180/5200/5240	PASS	PASS	PASS
DTS Bandwidth (6dB)	5180/5200/5240	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	5180/5200/5240	PASS	PASS	PASS
Emission Bandwidth 26 dB	5180/5200/5240	PASS	PASS	PASS
		802.11n(HT40)	802.11ac(VHT40)	
RF Output Power	5190/5230	PASS	PASS	
Power Spectral Density	5190/5230	PASS	PASS	
DTS Bandwidth (6dB)	5190/5230	PASS	PASS	
Occupied Channel Bandwidth 99%	5190/5230	PASS	PASS	
Emission Bandwidth 26 dB	5190/5230	PASS	PASS	
		802.11ac(VHT80)		
RF Output Power	5210	PASS		
Power Spectral Density	5210	PASS		
DTS Bandwidth (6dB)	5210	PASS		
Occupied Channel Bandwidth 99%	5210	PASS		
Emission Bandwidth 26 dB	5210	PASS		

## RF output power and Duty Cycle

### FCC

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New

Rules v02r01 II.E and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.

Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Device has both client and access point modes and has identical RF characteristics and settings for both Limits are as follows:

15.407(a)(1)(i): 1W (30dBm) for outdoor access points with antenna gains less than 6dBi.

15.407(a)(1)(iv): 250mW (23.9dBm) for client devices with antenna gains less than 6dBi.

Since client devices are subject to more stringent limits, unit was tested against the limits for a client device.

#### 802.11a

Data Rate	Gated RMS (dBm) 5180 MHz	Gated RMS (dBm) 5200 MHz	Gated RMS (dBm) 5240 MHz	Limit (dBm)	Duty Cycle (%)
6 Mbps	3.932	2.967	2.811	23.9	98.682
54 Mbps	3.762	2.513	2.761	23.9	90.512

#### 802.11n (HT20)

Data Rate	Gated RMS (dBm) 5180 MHz	Gated RMS (dBm) 5200 MHz	Gated RMS (dBm) 5240 MHz	Limit (dBm)	Duty Cycle (%)
MCS0	3.803	2.979	2.927	23.9	98.593
MCS7	3.757	2.912	2.658	23.9	89.905

#### 802.11ac (VHT20)

Data Rate	Gated RMS (dBm) 5180 MHz	Gated RMS (dBm) 5200 MHz	Gated RMS (dBm) 5240 MHz	Limit (dBm)	Duty Cycle (%)
MCS0	3.868	2.819	2.676	23.9	96.154
MCS8	3.468	2.612	3.033	23.9	88.997

**802.11n (HT40)**

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5190 MHz	5230 MHz		
MCS0	3.602	3.425	23.9	97.222
MCS7	3.183	3.420	23.9	84.300

**802.11ac (VHT40)**

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5190 MHz	5230 MHz		
MCS0	3.222	3.381	23.9	97.251
MCS9	3.564	3.435	23.9	82.560

**802.11ac (VHT80)**

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5210 MHz			
MCS0	3.247		23.9	94.685
MCS9	3.033		23.9	78.011

## RSS-247

Per RSS-247 Issue 2 Section 6.2.1.1, limit for OEM devices installed in vehicles: Maximum EIRP shall not exceed 30mW or  $1.76+10*\log B$ , dBm, whichever is less (where B is 99% OBW in MHz).

In addition devices must be capable of reducing power by a least 3dB below the maximum permitted EIRP of 30mW, which is 11.77dBm.

For modulations with less than 20MHz 99% OBW; 802.11a, 802.11n (HT20) and 802.11ac (VHT20), worst case 99% OBW of 16.6MHz is assumed with resulting conservative limit of 13.96dBm.

For modulations with more than 20MHz 99% OBW; 802.11n (HT40), 802.11ac (VHT40) and 802.11ac (VHT80), the limit is 30mW (14.77dBm)

### 802.11a

Data Rate	Gated RMS with TPC (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
6 Mbps	3.932	1.89	5.822	11.77	13
54 Mbps	3.762	1.89	5.652	11.77	13
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
6 Mbps	2.967	1.89	4.857	11.77	13
54 Mbps	2.513	1.89	4.403	11.77	13
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
6 Mbps	2.811	1.89	4.701	11.77	13
54 Mbps	2.761	1.89	4.651	11.77	13

**802.11n (HT20)**

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.803	1.89	5.693	11.77	13
MCS7	3.757	1.89	5.647	11.77	13
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	2.979	1.89	4.869	11.77	13
MCS7	2.912	1.89	4.802	11.77	13
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	2.927	1.89	4.817	11.77	13
MCS7	2.658	1.89	4.548	11.77	13

**802.11ac (VHT20)**

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.868	1.89	5.758	11.77	13
MCS8	3.468	1.89	5.358	11.77	13
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	2.819	1.89	4.709	11.77	13
MCS8	2.612	1.89	4.502	11.77	13
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	2.676	1.89	4.566	11.77	13
MCS8	3.033	1.89	4.923	11.77	13

**802.11n (HT40)**

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.602	1.89	5.492	11.77	13
MCS7	3.183	1.89	5.073	11.77	13
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.425	1.89	5.315	11.77	13
MCS7	3.420	1.89	5.31	11.77	13

**802.11ac (VHT40)**

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.222	1.89	5.112	11.77	13
MCS9	3.564	1.89	5.454	11.77	13
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.381	1.89	5.271	11.77	13
MCS9	3.435	1.89	5.325	11.77	13

**802.11ac (VHT80)**

Data Rate	Gated RMS (dBm) 5210MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting with TPC
MCS0	3.247	1.89	5.137	11.77	13
MCS9	3.033	1.89	4.923	11.77	13



## Power Spectral Density

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New

Rules v02r01 II.F and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

### FCC

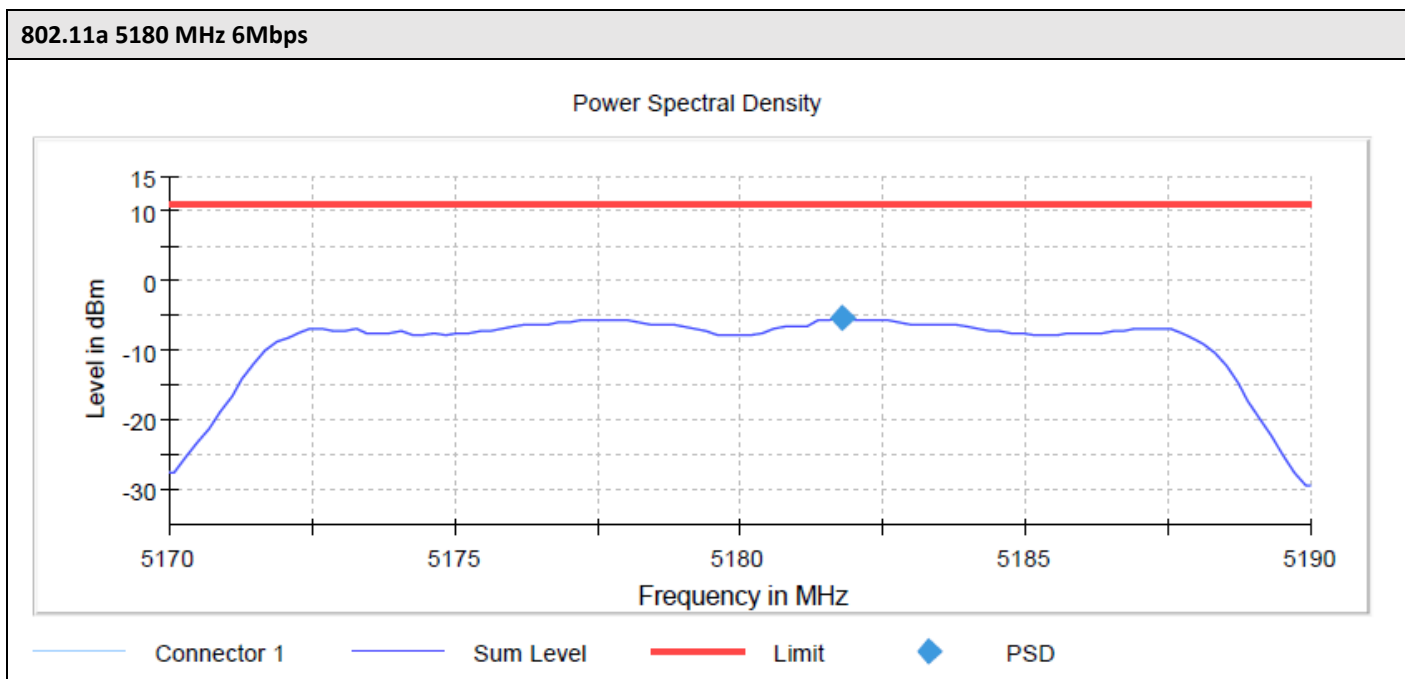
Device has both client and access point modes and has identical RF characteristics and settings for both Limits are as follows:

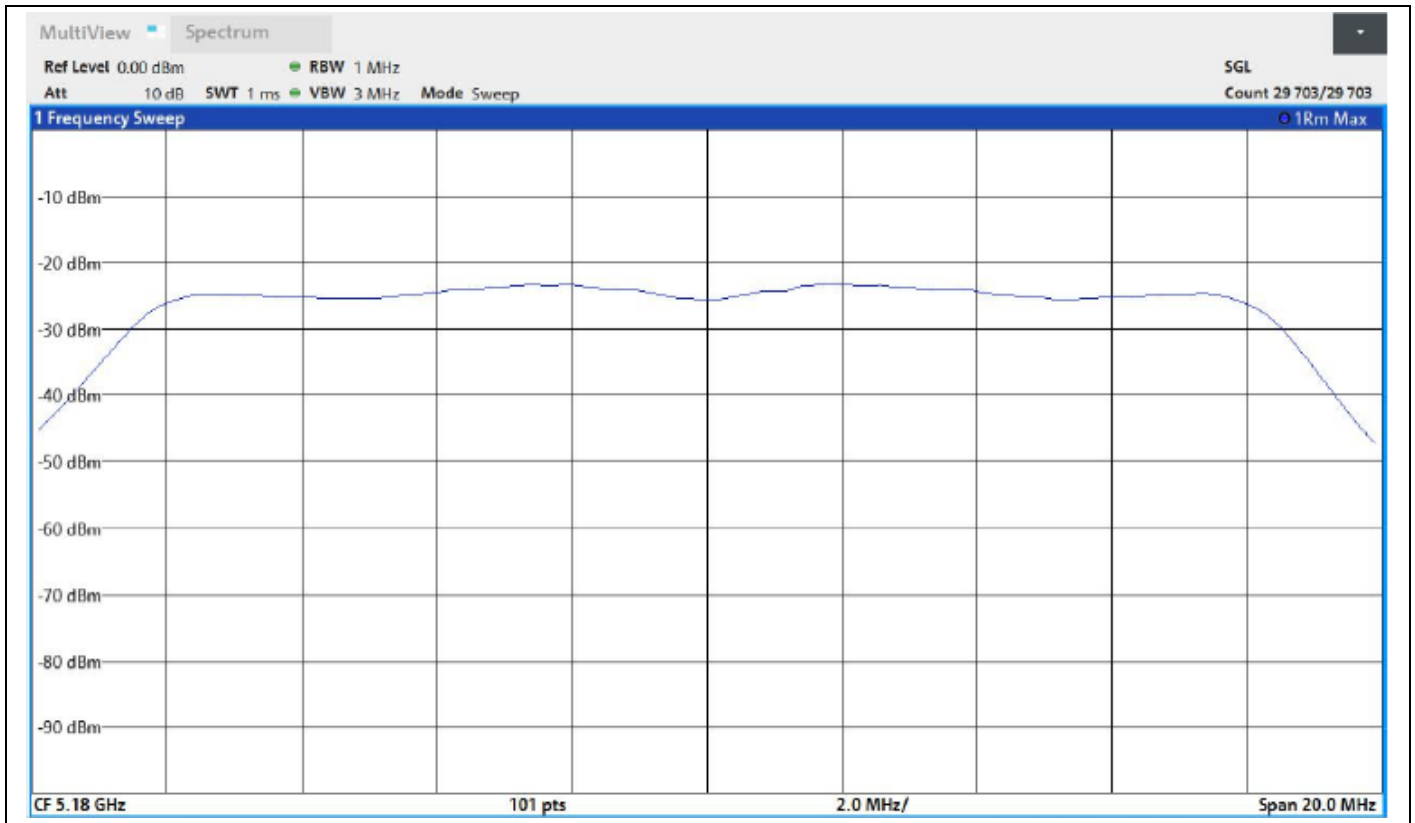
15.407(a)(1)(i): 17dBm for outdoor access points with antenna gains less than 6dBi.

15.407(a)(1)(iv):11dBm for client devices with antenna gains less than 6dBi.

Since client devices are subject to more stringent limits, unit was tested against the limits for a client device.

Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)
802.11a	6Mbps	-5.454	-6.403	-6.669	11.0

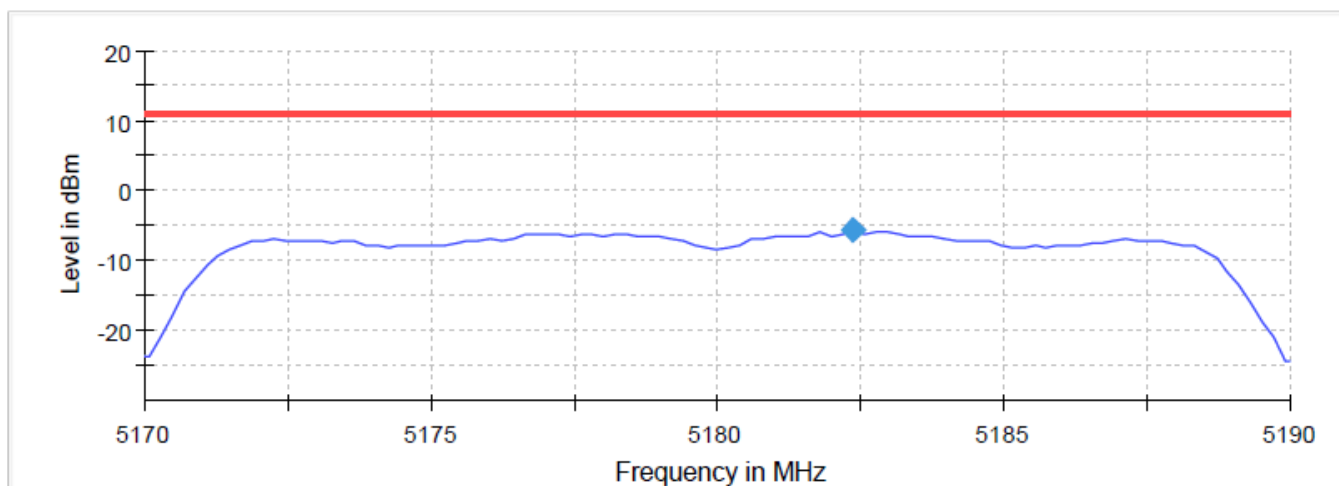




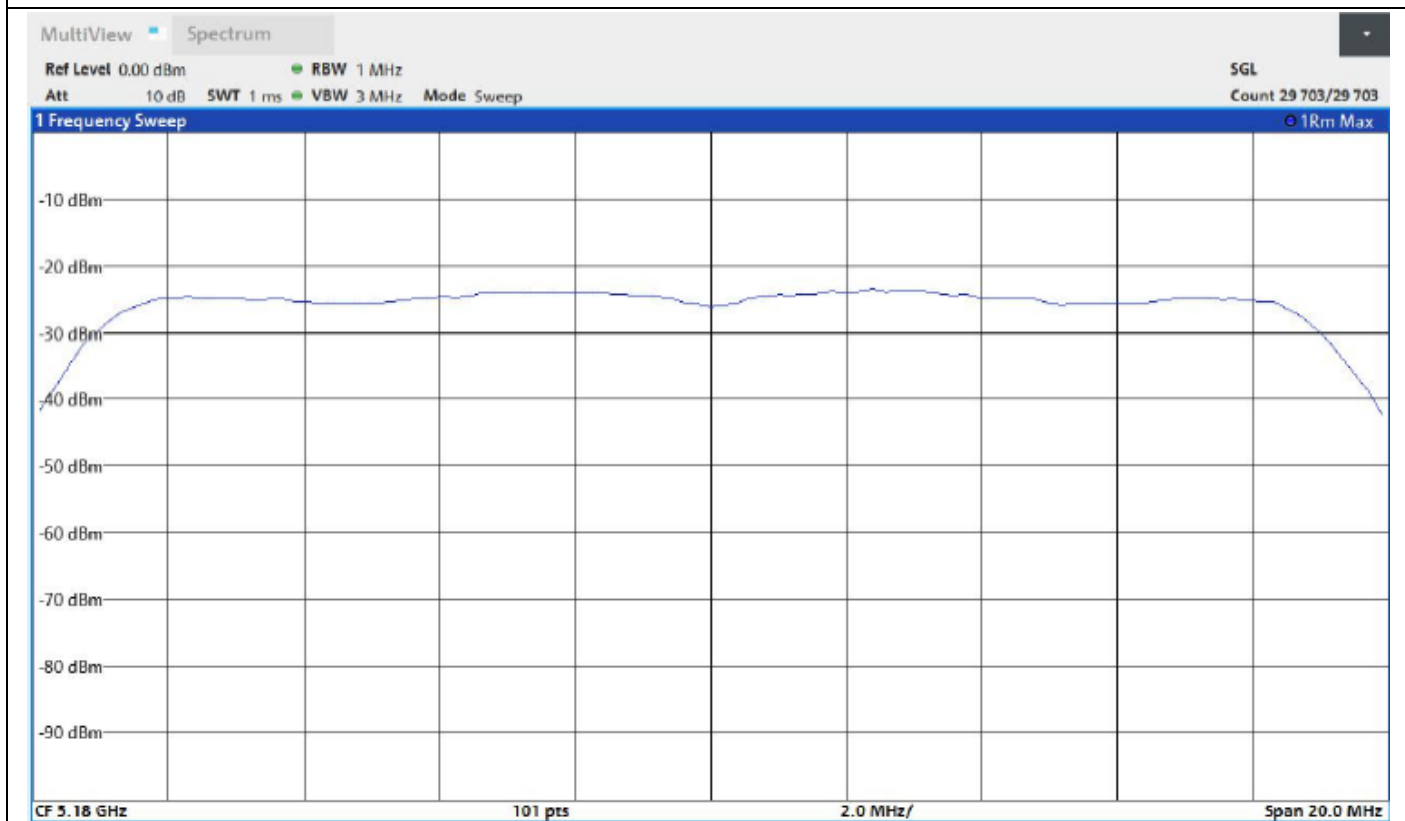
Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)
802.11n (HT20)	MCS0	-5.754	-6.863	-6.992	11

802.11n (HT20) 5180 MHz MCS0

Power Spectral Density



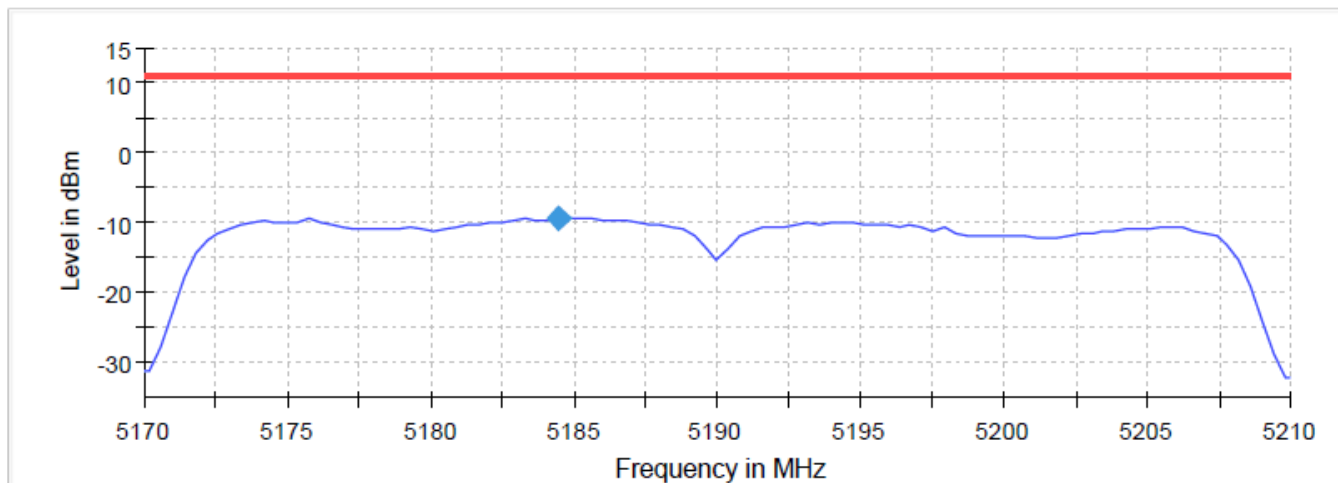
Connector 1 Sum Level Limit PSD



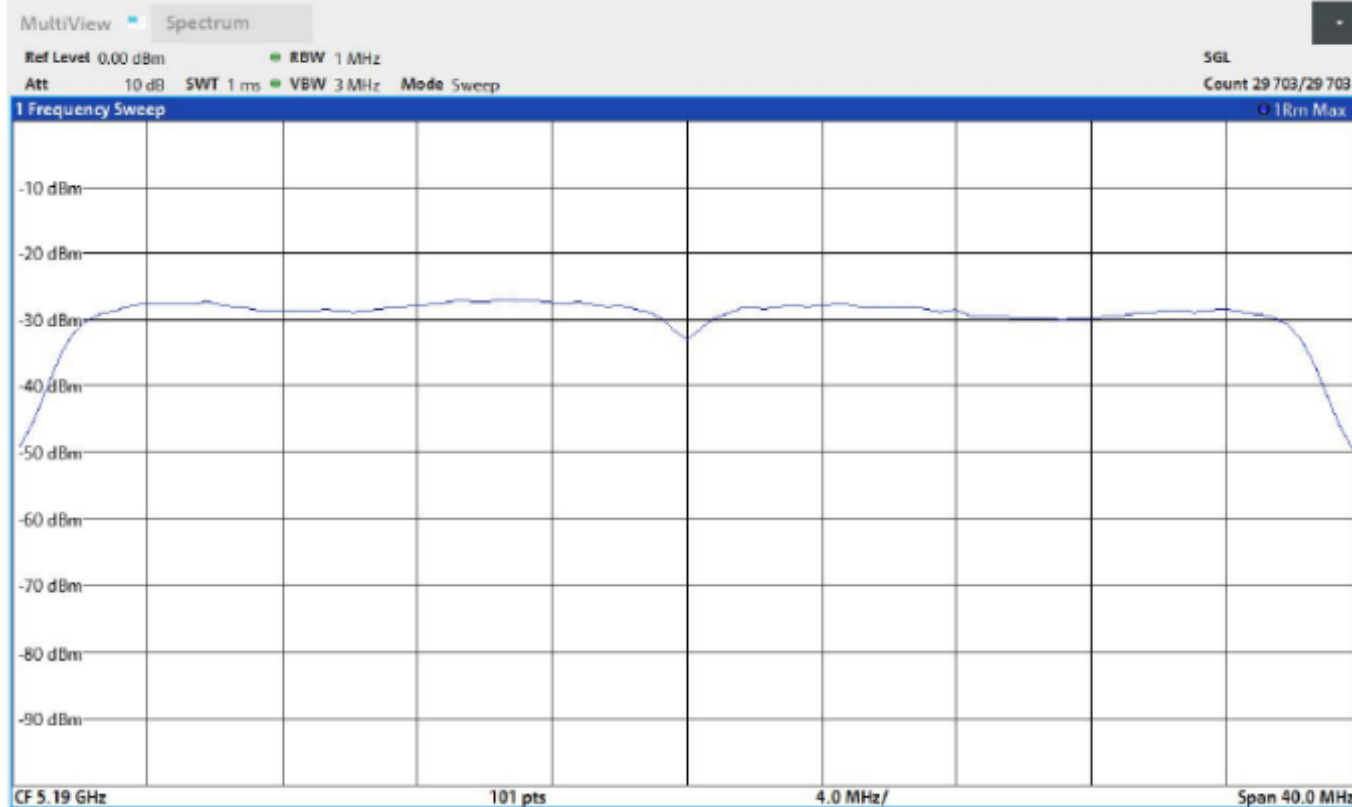
Mode	Data Rate	PSD (dBm) 5190 MHz	PSD (dBm) 5230 MHz	Limit (dBm)
802.11n (HT40)	MCS0	-9.257	-9.034	11.0

802.11n (HT40) 5190 MHz MCS0

Power Spectral Density



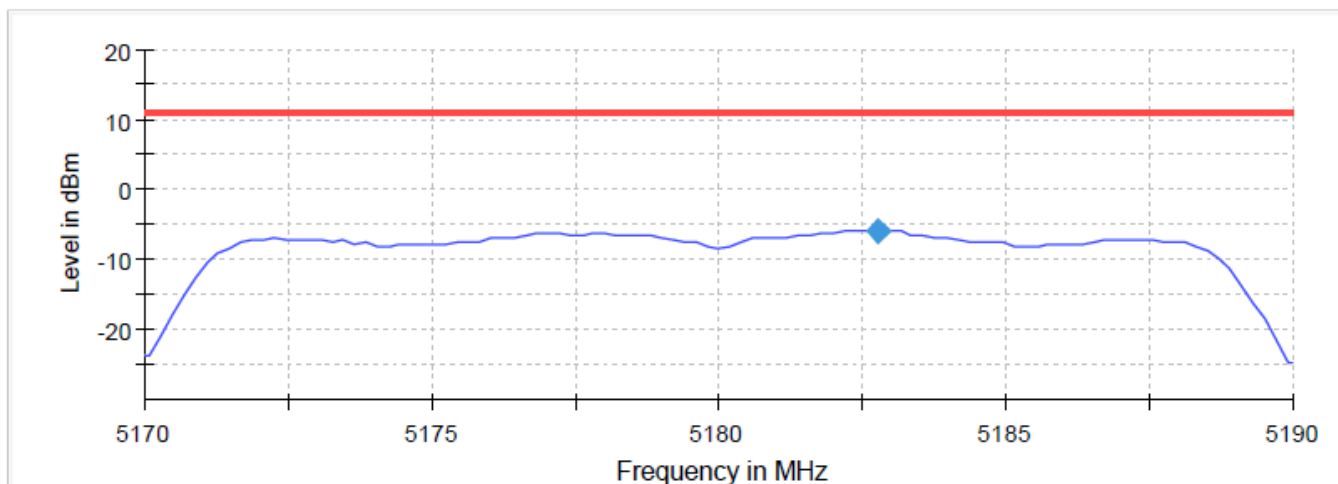
Connector 1 Sum Level Limit PSD



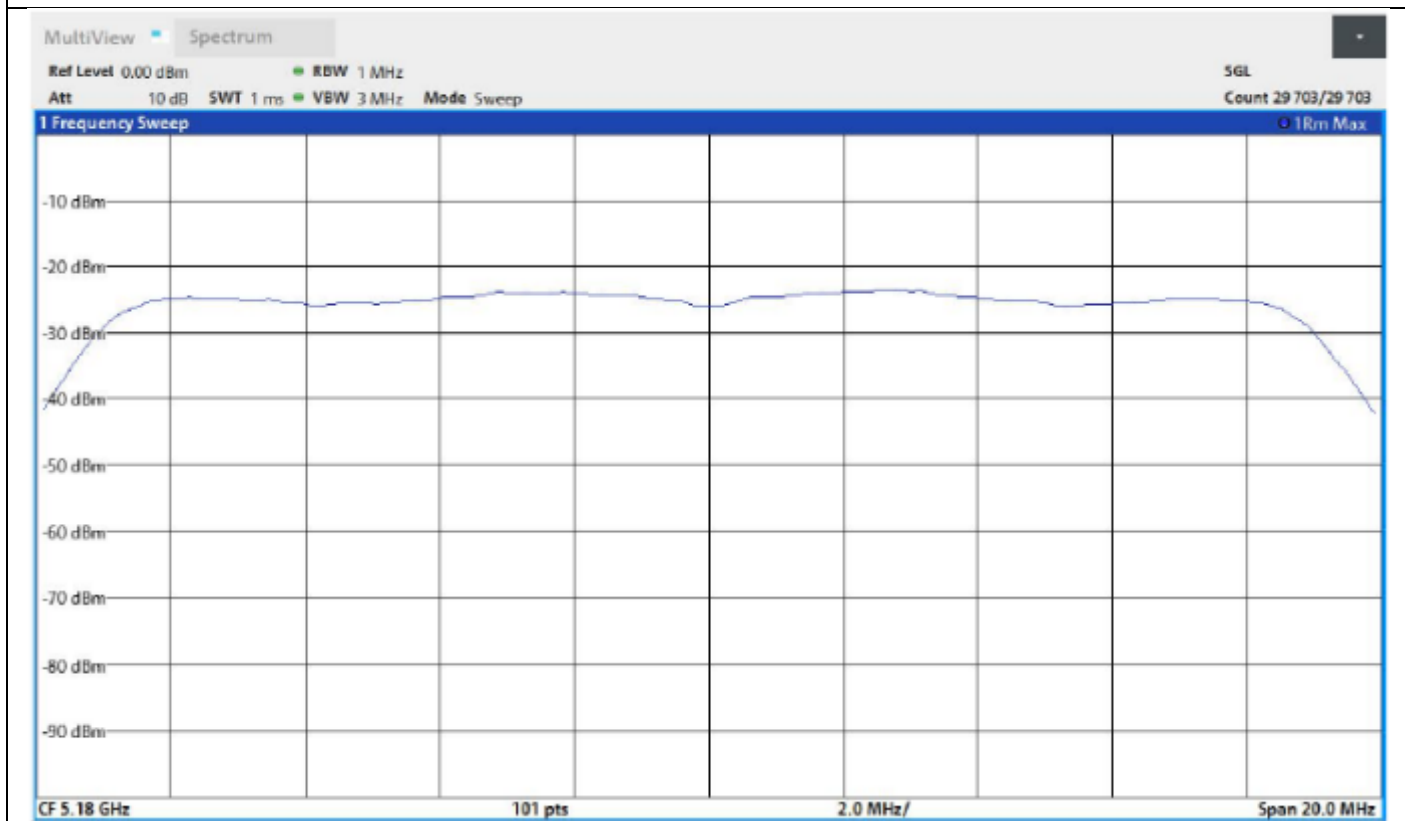
Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)
802.11ac (VHT20)	MCS0	-5.827	-6.699	-6.944	11.0

802.11ac (VHT20) 5180 MHz MCS0

Power Spectral Density



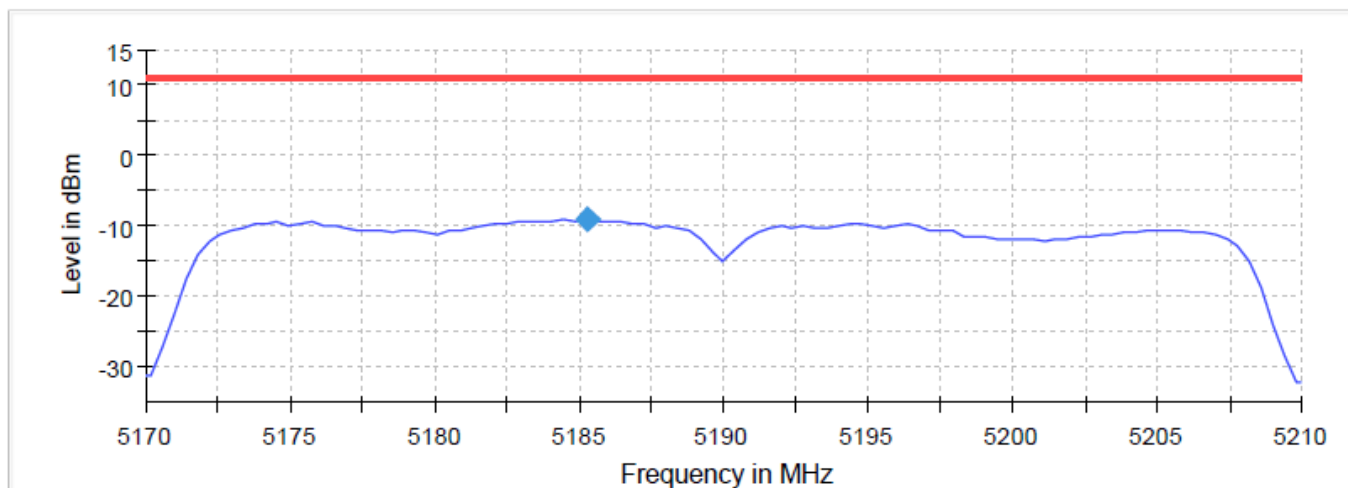
Connector 1 Sum Level Limit PSD



Mode	Data Rate	PSD (dBm) 5190 MHz	PSD (dBm) 5230 MHz	Limit (dBm)
802.11ac (VHT40)	MCS0	-9.003	-8.792	11.0

802.11ac (VHT40) 5190 MHz MCS0

Power Spectral Density



Connector 1 Sum Level Limit PSD

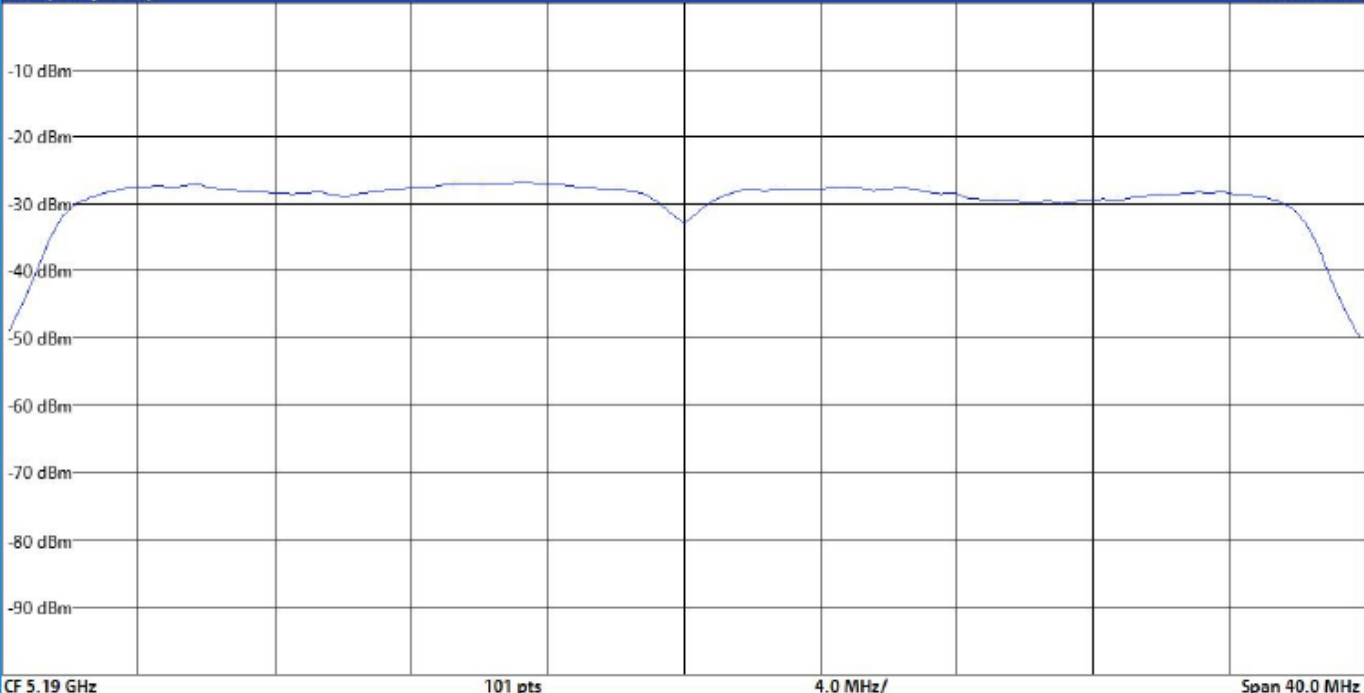
MultiView Spectrum

Ref Level 0.00 dBm Att 10 dB RBW 1 MHz VBW 3 MHz Mode Sweep

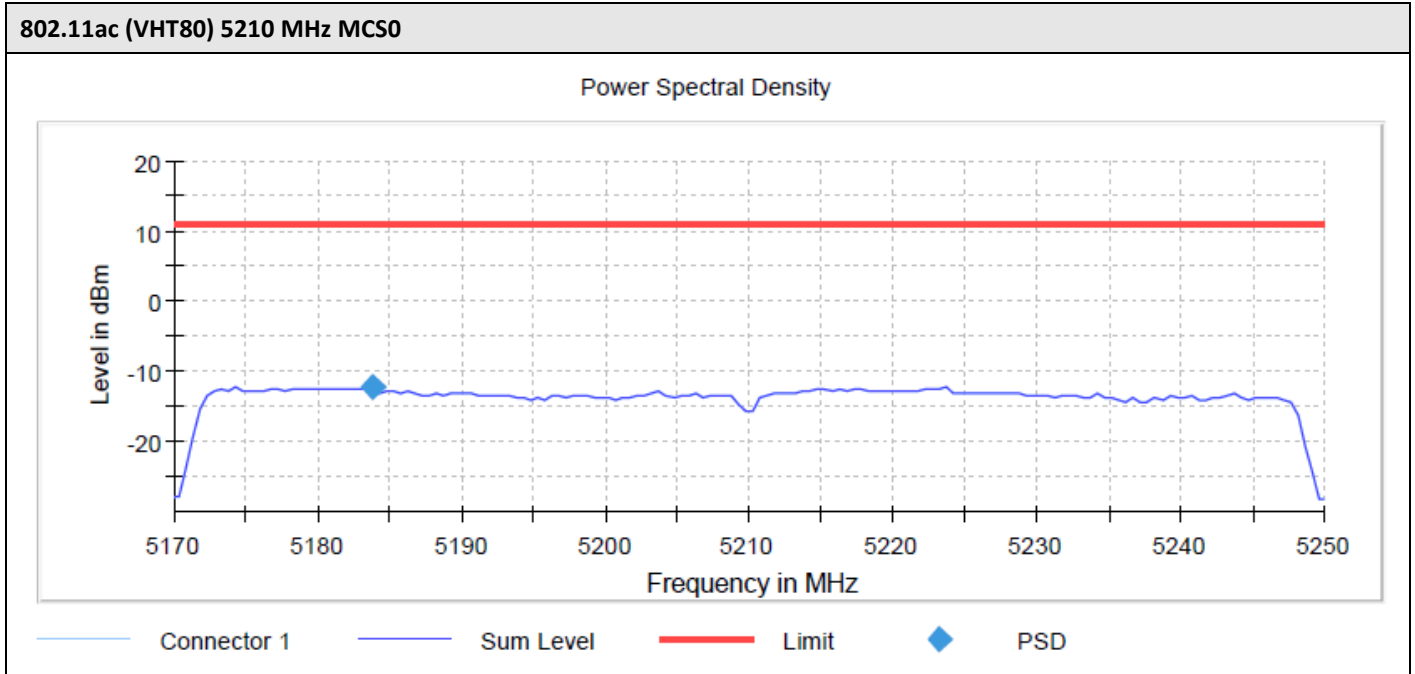
SGL Count 29 703/29 703

1 Frequency Sweep

100m Max



Mode	Data Rate	PSD (dBm) 5210 MHz	Limit (dBm)
802.11ac (VHT80)	MCS0	-12.082	11



## RSS-247

### 802.11a

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
6 Mbps	-5.454	1.89	-3.564	10.0
Data Rate	PSD(dBm) 5200MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
6 Mbps	-6.403	1.89	-4.513	10.0
Data Rate	PSD(dBm) 5240MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
6 Mbps	-6.669	1.89	-4.779	10.0

### 802.11n (HT20)

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-5.754	1.89	-3.864	10.0
Data Rate	PSD(dBm) 5200MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-6.863	1.89	-4.973	10.0
Data Rate	PSD(dBm) 5240MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-6.992	1.89	-5.102	10.0

### 802.11n (HT40)

Data Rate	PSD(dBm) 5190MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-9.257	1.89	-7.367	10.0
Data Rate	PSD(dBm) 5230MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-9.034	1.89	-7.144	10.0



**802.11ac (VHT20)**

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-5.827	1.89	-3.937	10.0
Data Rate	PSD(dBm) 5200MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-6.699	1.89	-4.809	10.0
Data Rate	PSD(dBm) 5240MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-6.944	1.89	-5.054	10.0

**802.11ac (VHT40)**

Data Rate	PSD(dBm) 5190MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-9.003	1.89	-7.113	10.0
Data Rate	PSD(dBm) 5230MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-8.792	1.89	-6.902	10.0

**802.11ac (VHT80)**

Data Rate	PSD(dBm) 5190MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)
MCS0	-12.082	1.89	-10.192	10.0

## DTS Bandwidth 6dB

### FCC and RSS-247

Test according to FCC title 47 part 15 §15.407(a),€ , KDB 789033 D02 General U-NII Test Procedures

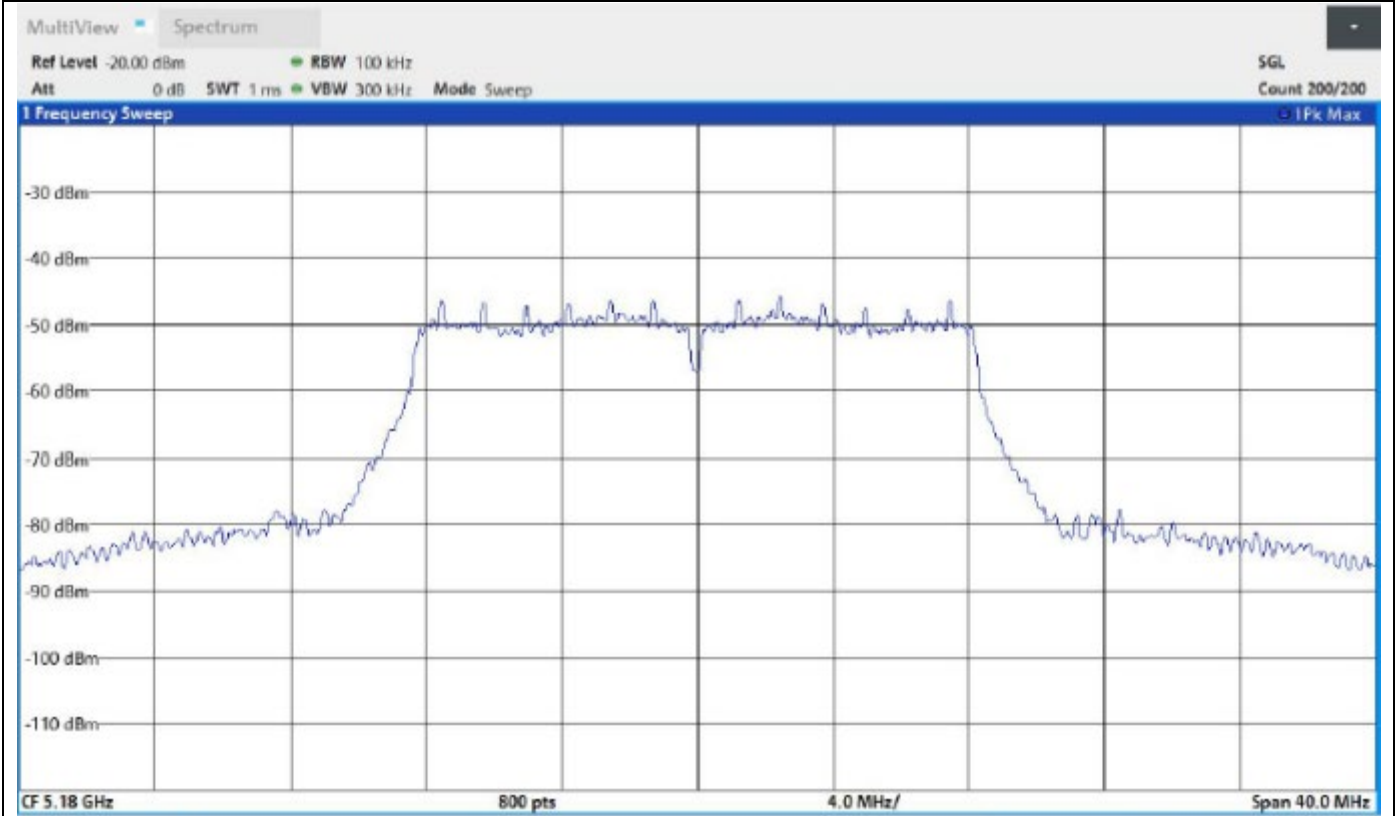
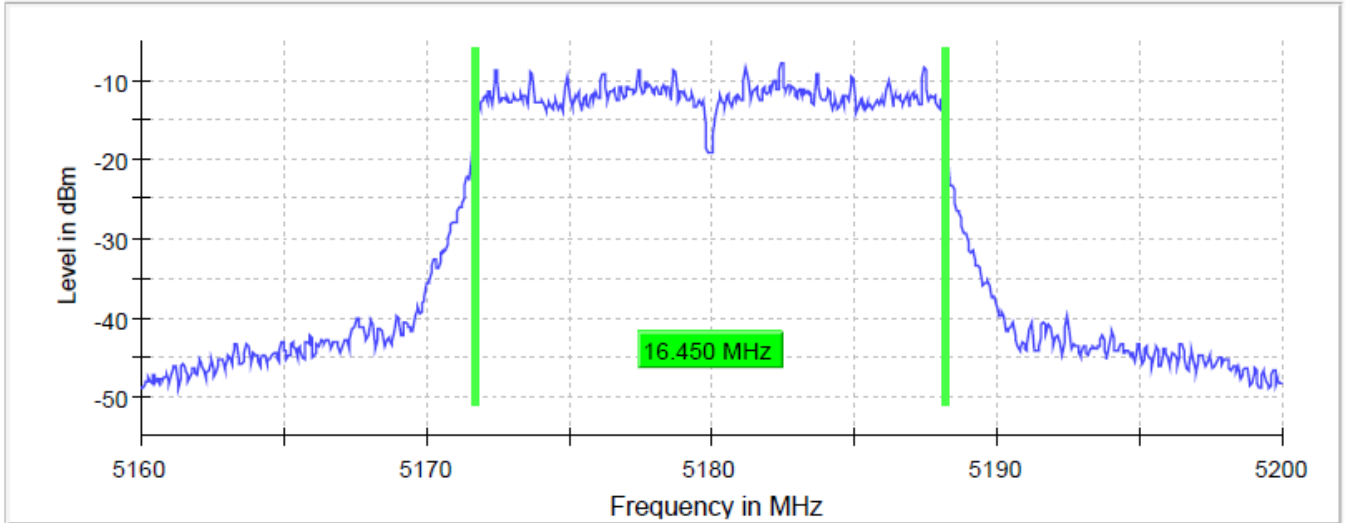
New Rules v02r01 D and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

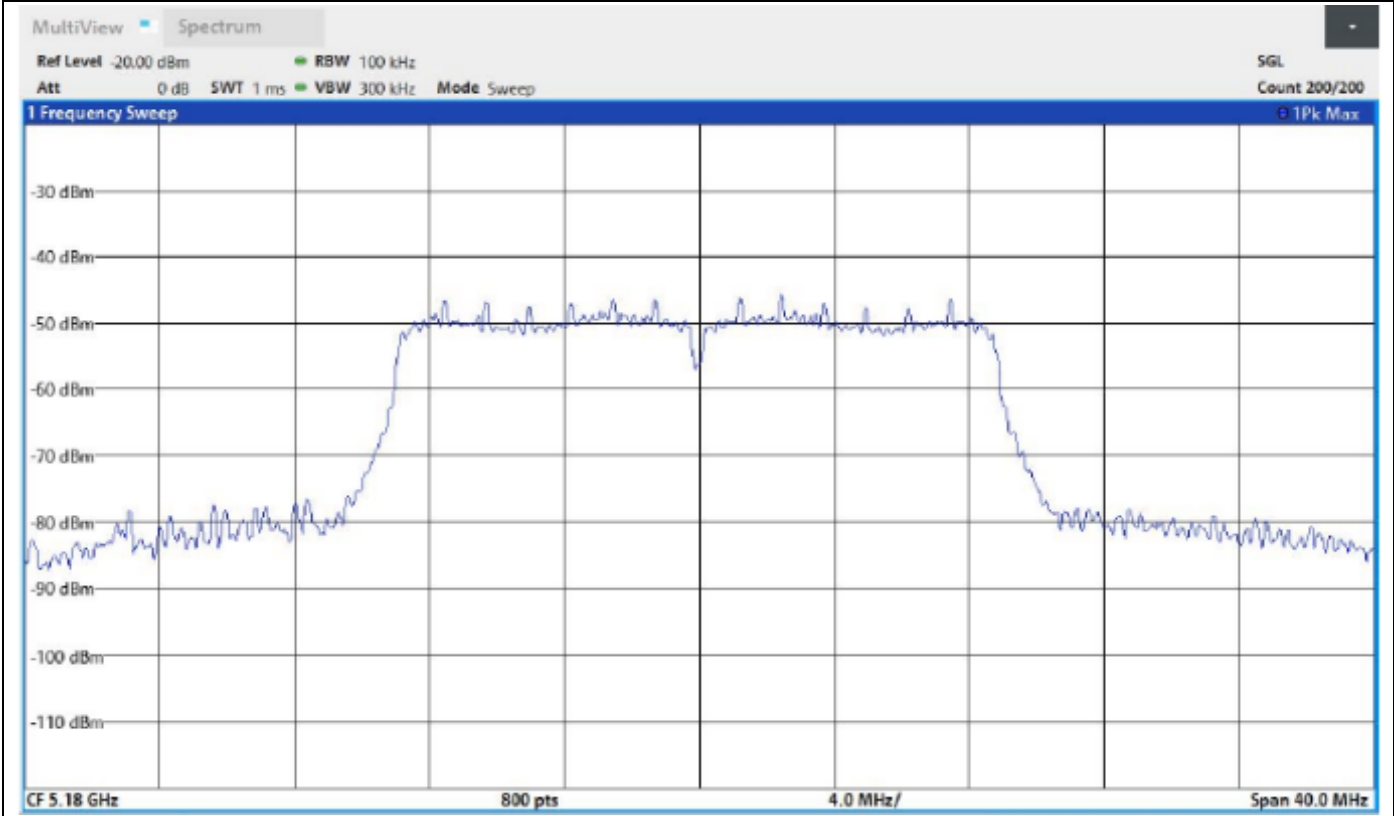
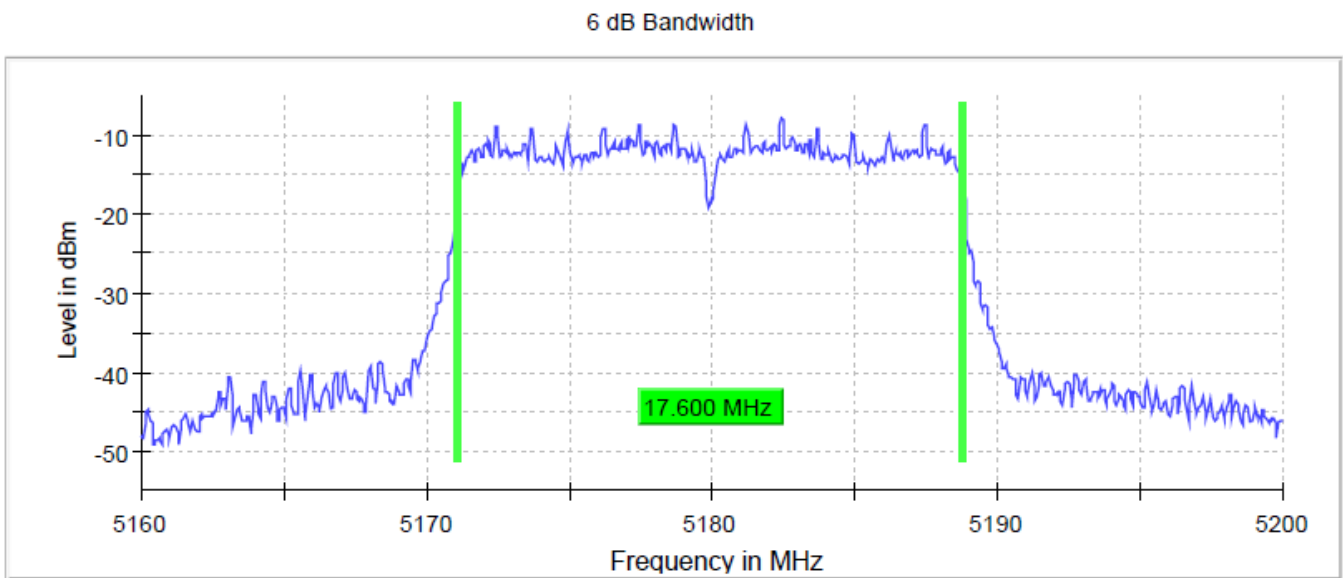
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Minimum Limit (MHz)
802.11a 6Mbps	5180.000000	16.450000	5171.725000	5188.175000	0.5
802.11n (HT20) MCS0	5180.000000	17.600000	5171.125000	5188.725000	0.5
802.11ac (VHT20) MCS0	5180.000000	17.650000	5171.125000	5188.775000	0.5
802.11n (HT40) MCS0	5190.000000	35.700000	5172.125000	5207.825000	0.5
802.11ac (VHT40) MCS0	5190.000000	35.650000	5172.125000	5207.775000	0.5
802.11ac (VHT80) MCS0	5210.000000	76.400000	5171.775000	5248.175000	0.5
802.11a 6Mbps	5200.000000	16.450000	5191.725000	5208.175000	0.5
802.11n (HT20) MCS0	5200.000000	17.650000	5191.125000	5208.775000	0.5
802.11ac (VHT20) MCS0	5200.000000	17.650000	5191.125000	5208.775000	0.5
802.11n (HT40) MCS0	5230.000000	35.650000	5212.175000	5247.825000	0.5
802.11ac (VHT40) MCS0	5230.000000	35.600000	5212.175000	5247.775000	0.5
802.11a 6Mbps	5240.000000	16.450000	5231.725000	5248.175000	0.5
802.11n (HT20) MCS0	5240.000000	17.650000	5231.125000	5248.775000	0.5
802.11ac (VHT20) MCS0	5240.000000	17.650000	5231.125000	5248.775000	0.5

802.11a 5180MHz 6Mbps

6 dB Bandwidth

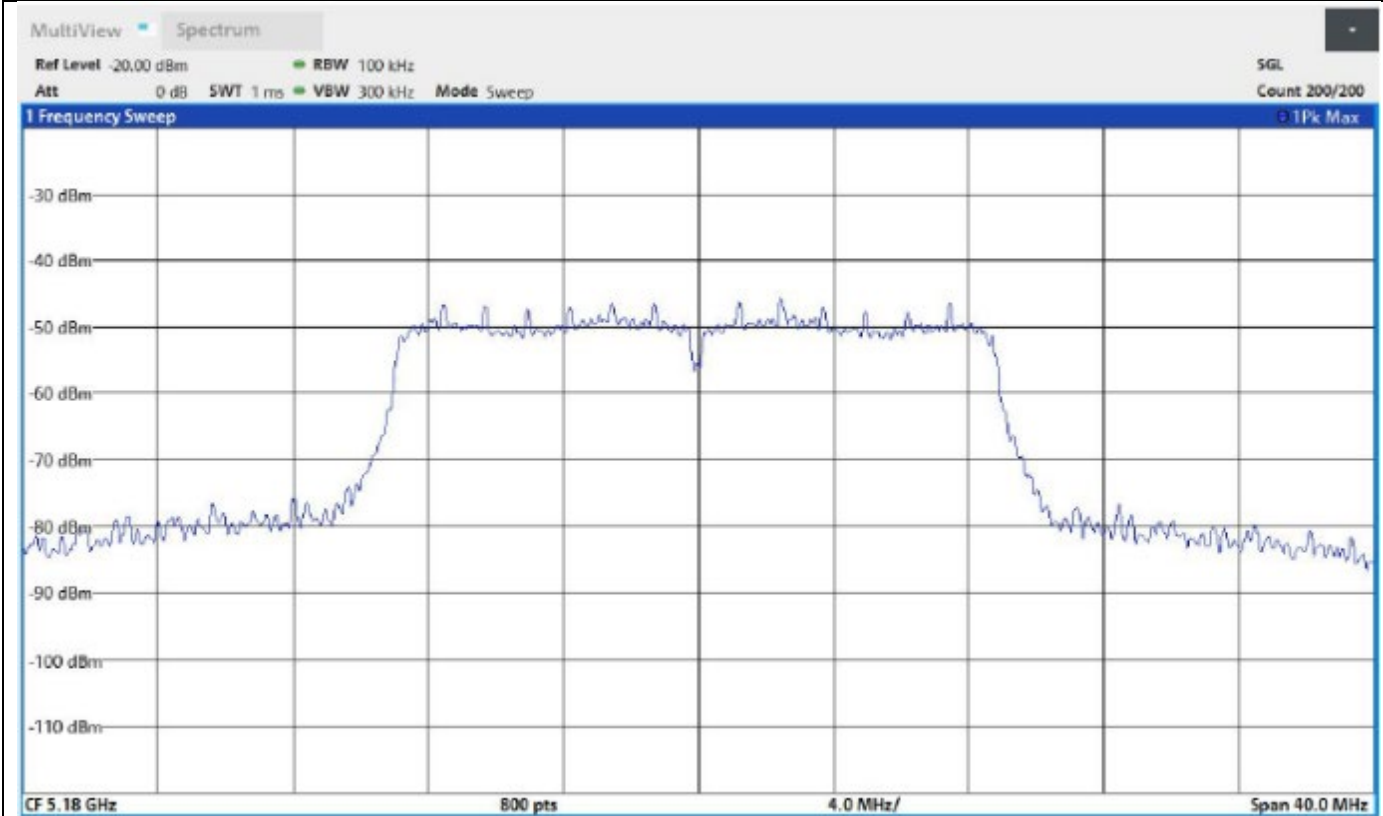
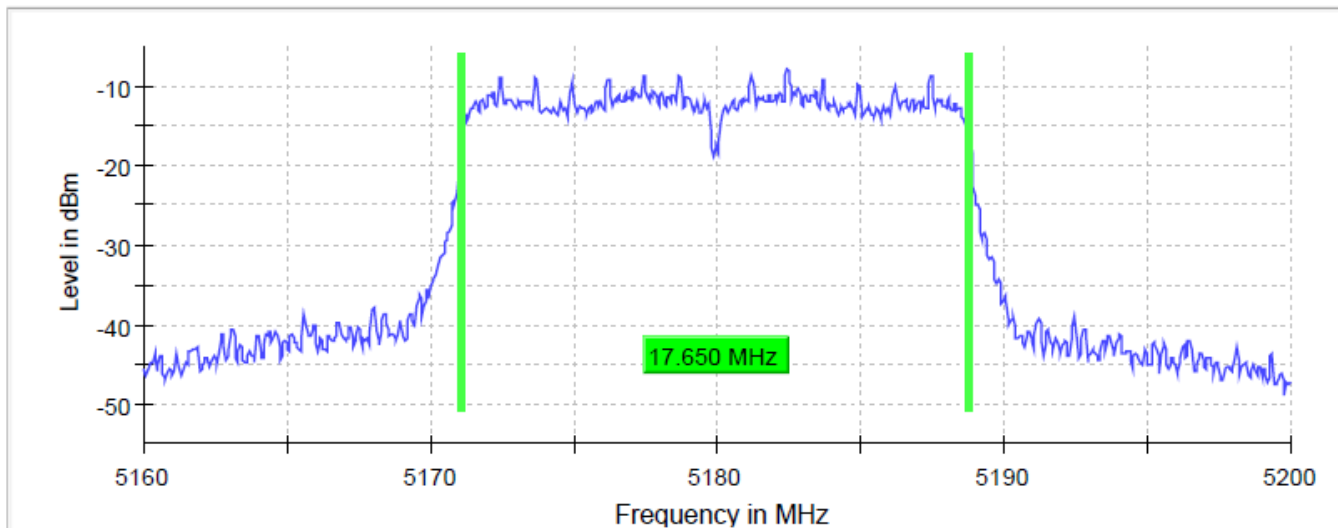


802.11n 5180MHz MCS0



802.11ac 5180MHz MCS0

6 dB Bandwidth



## Occupied Channel Bandwidth

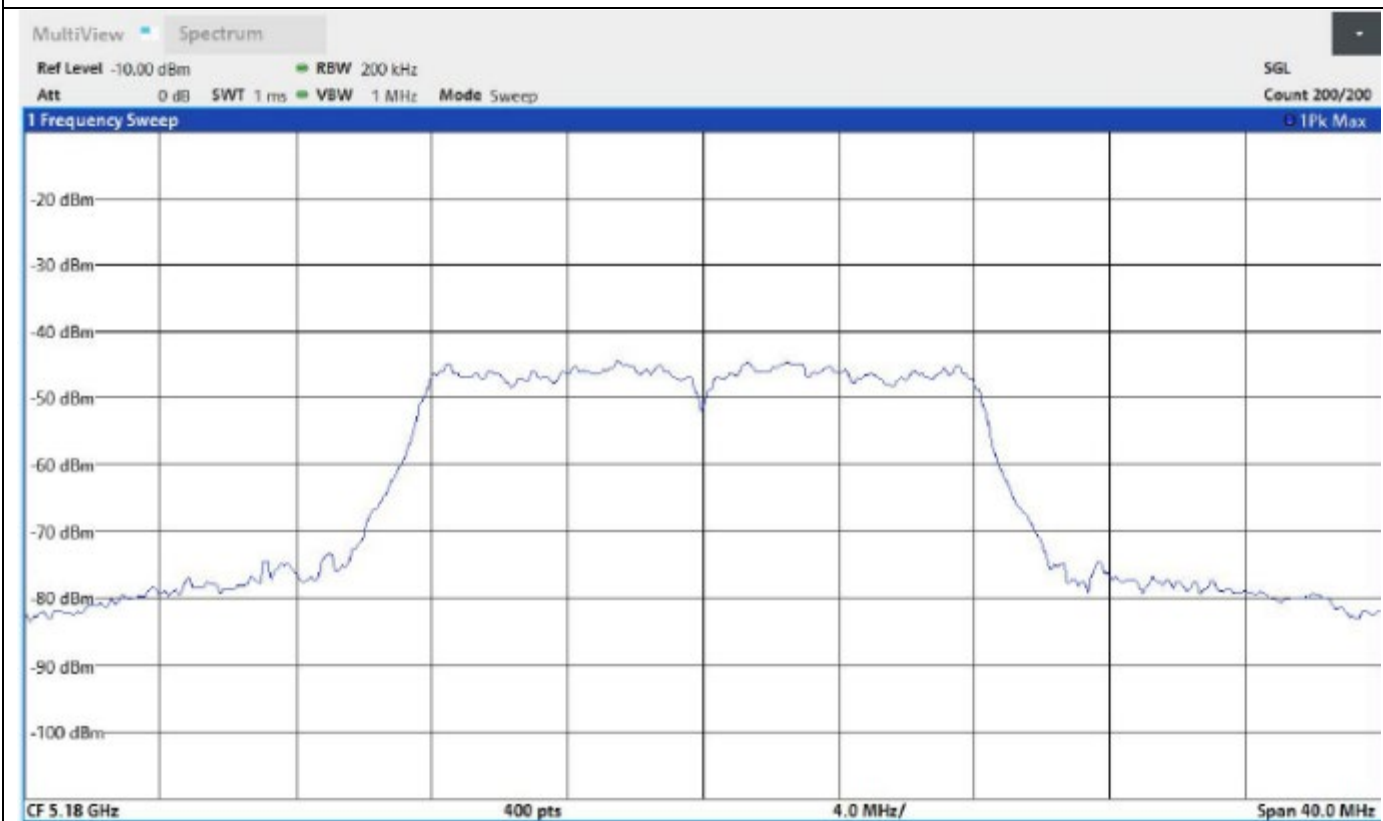
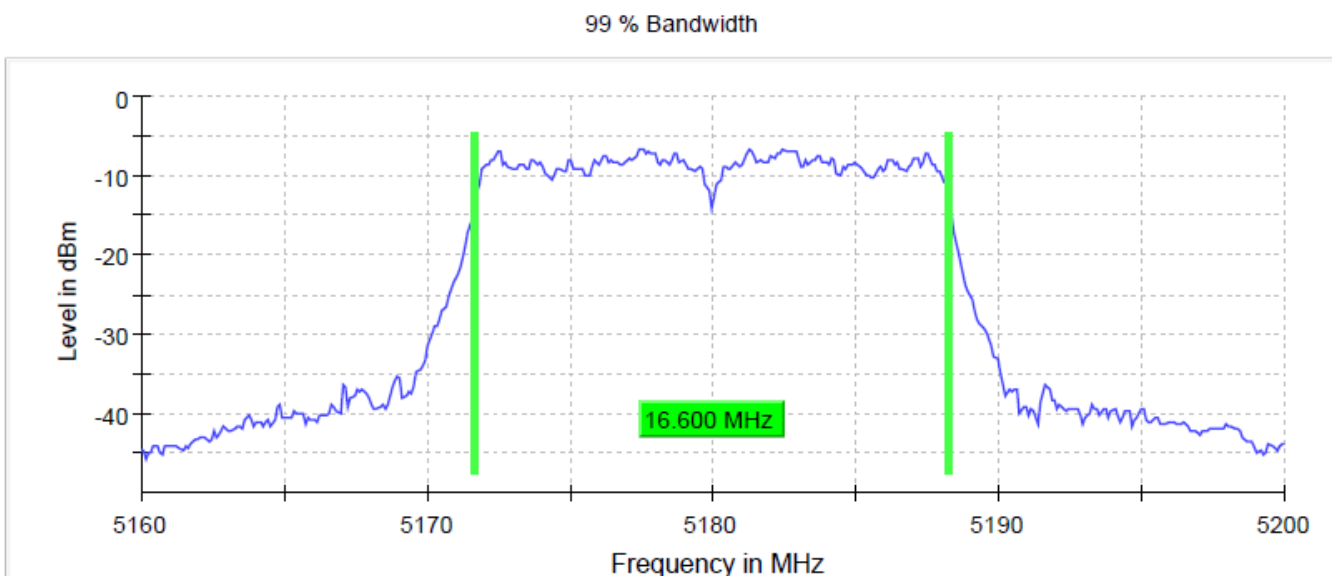
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures

New Rules v02r01 D and ANSI C63.10-2013

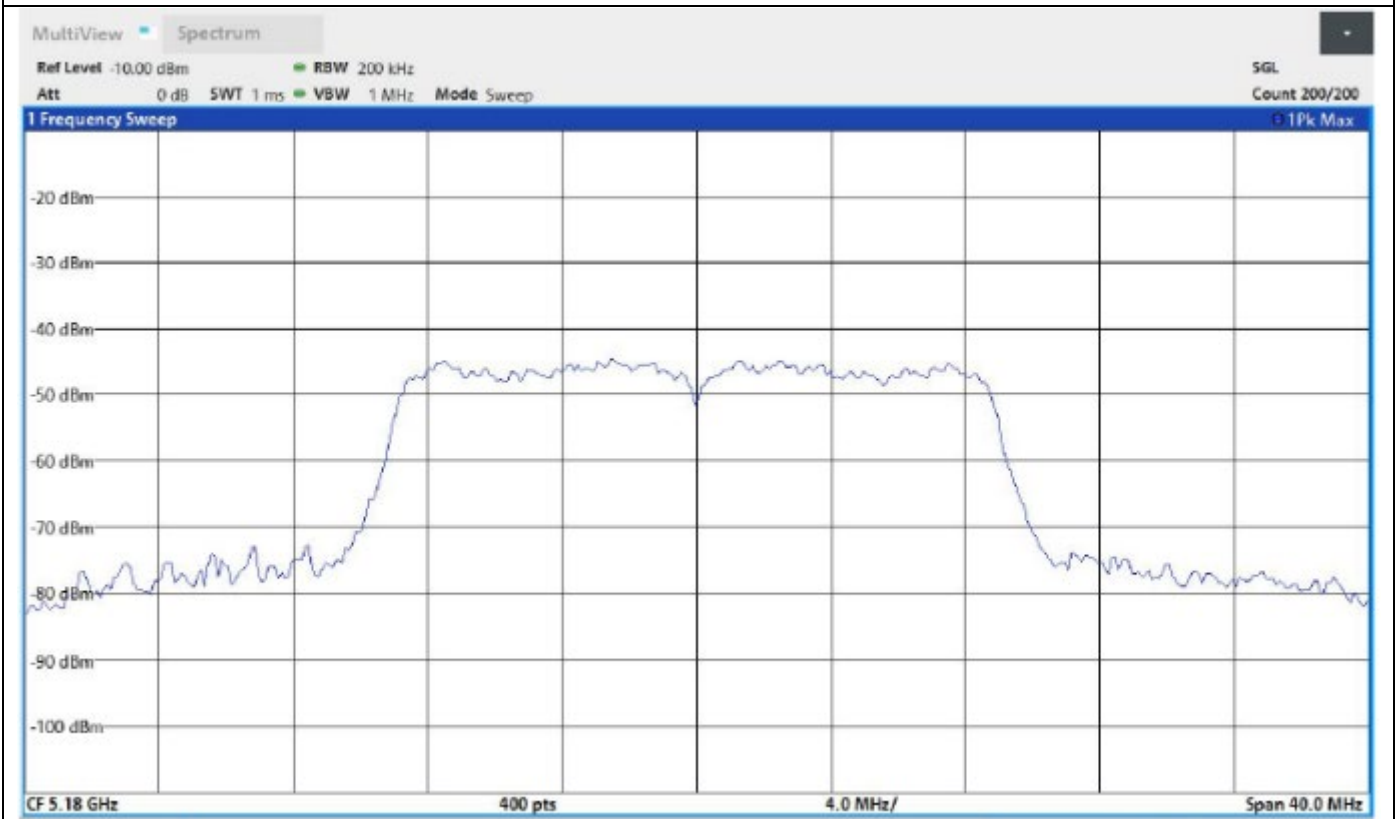
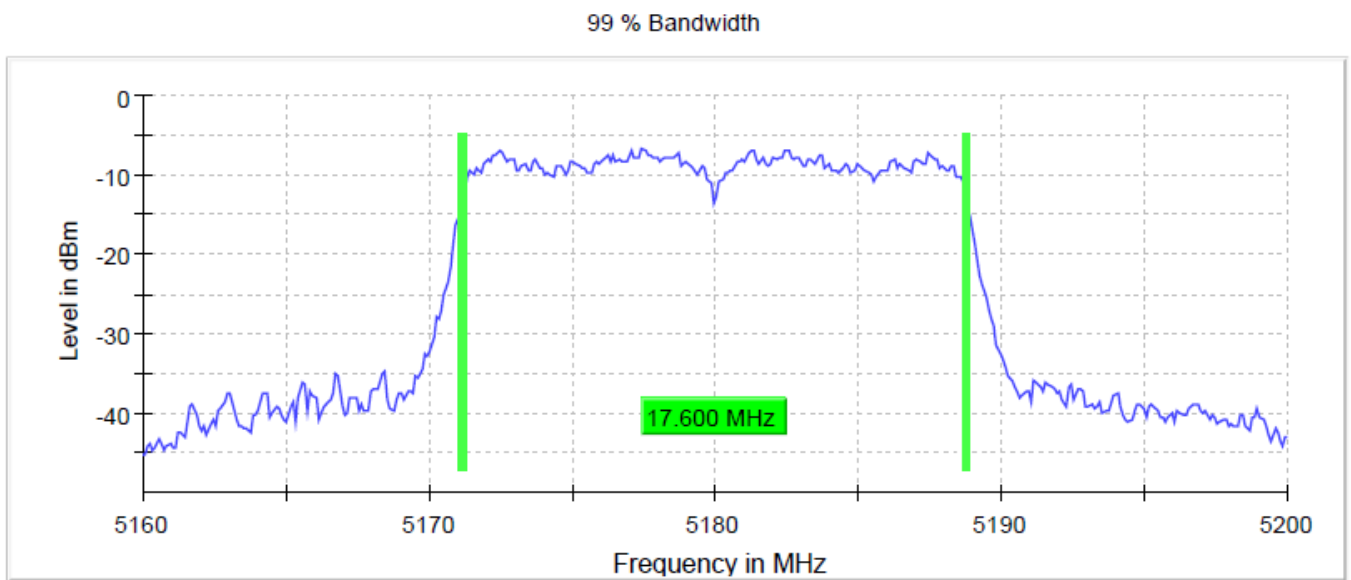
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Band Limit (MHz)
802.11a 6Mbps	5180.000000	16.600000	5171.650000	5188.250000	5150-5250
802.11n (HT20) MCS0	5180.000000	17.600000	5171.150000	5188.750000	5150-5250
802.11ac (VHT20) MCS0	5180.000000	17.600000	5171.150000	5188.750000	5150-5250
802.11n (HT40) MCS0	5190.000000	36.500000	5171.625000	5208.125000	5150-5250
802.11ac (VHT40) MCS0	5190.000000	36.500000	5171.625000	5208.125000	5150-5250
802.11ac (VHT80) MCS0	5210.000000	77.500000	5171.250000	5248.750000	5150-5250
802.11a 6Mbps	5200.000000	16.700000	5191.550000	5208.250000	5150-5250
802.11n (HT20) MCS0	5200.000000	17.700000	5191.150000	5208.850000	5150-5250
802.11ac (VHT20) MCS0	5200.000000	17.700000	5191.150000	5208.850000	5150-5250
802.11n (HT40) MCS0	5230.000000	36.500000	5211.625000	5248.125000	5150-5250
802.11ac (VHT40) MCS0	5230.000000	36.250000	5211.875000	5248.125000	5150-5250
802.11a 6Mbps	5240.000000	16.700000	5231.550000	5248.250000	5150-5250
802.11n (HT20) MCS0	5240.000000	17.600000	5231.150000	5248.750000	5150-5250
802.11ac (VHT20) MCS0	5240.000000	17.600000	5231.150000	5248.750000	5150-5250

802.11a 5180MHz 6Mbps

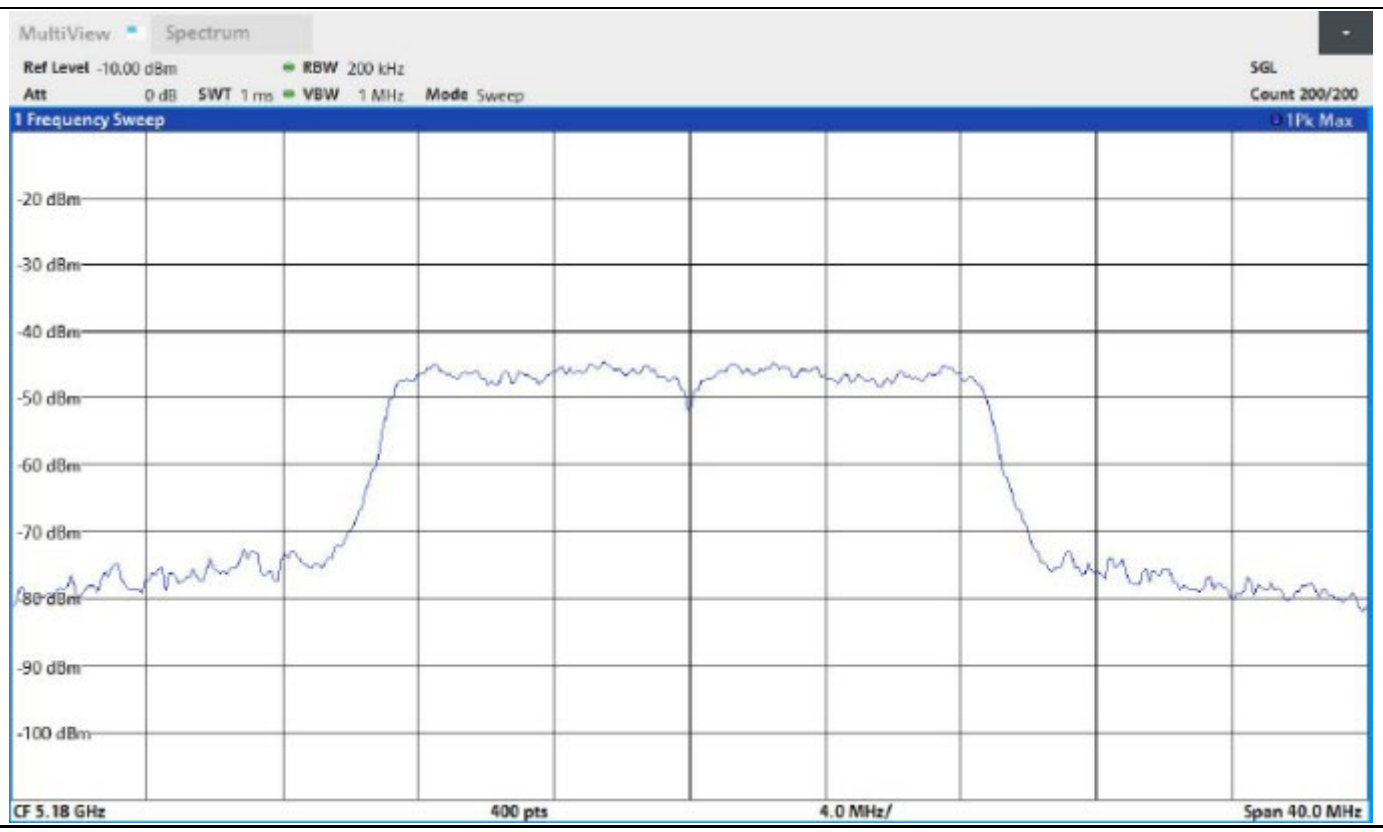
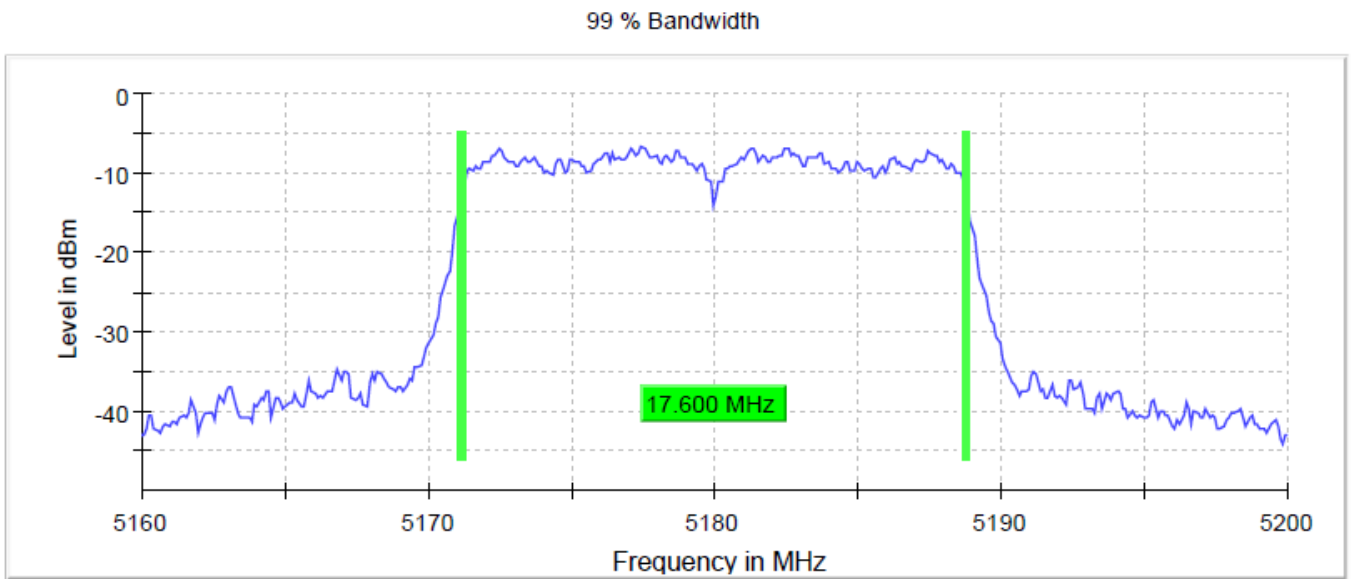


802.11n (HT20) 5180MHz MCS0





802.11ac (VHT20) 5180MHz MCS0



## Emission Bandwidth 26 dB

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures

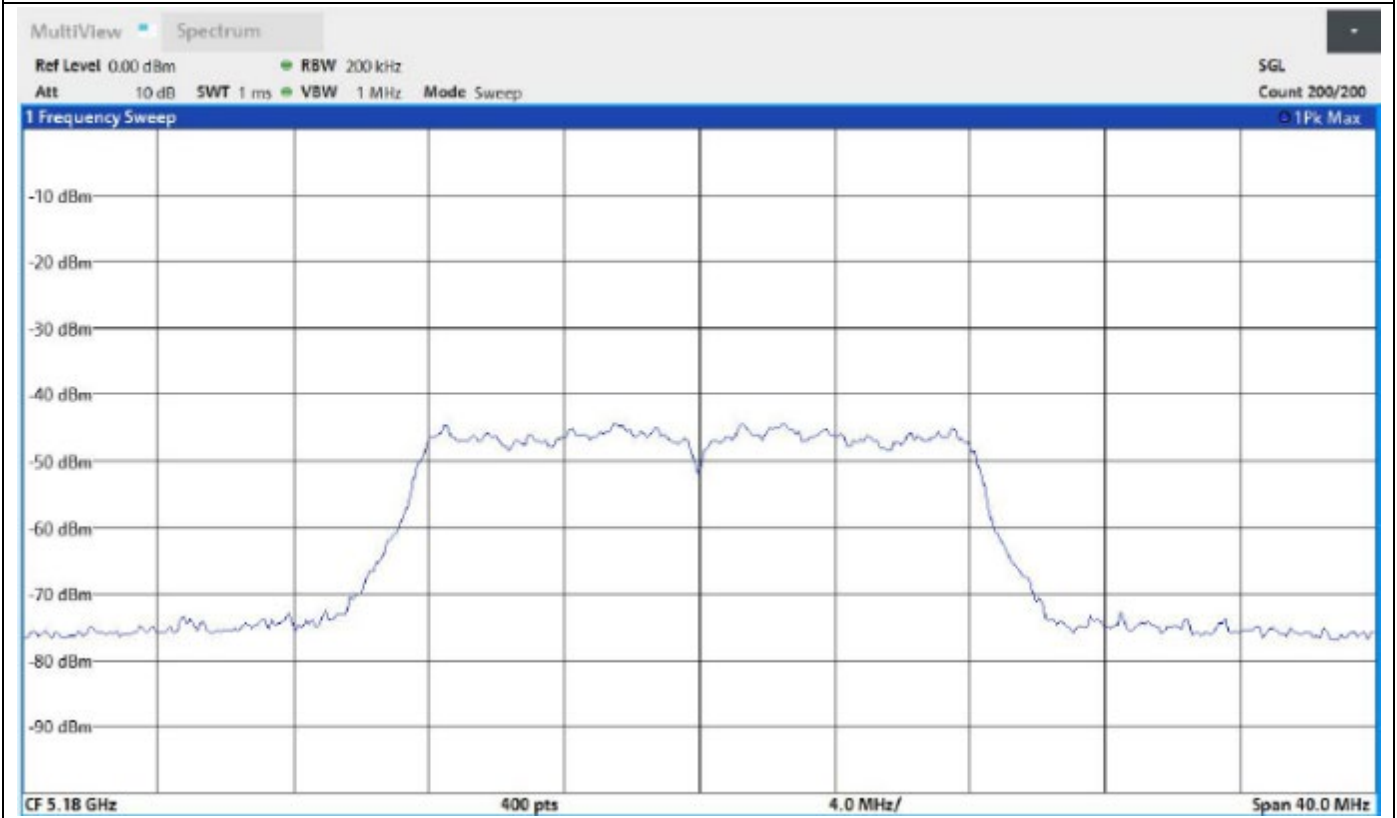
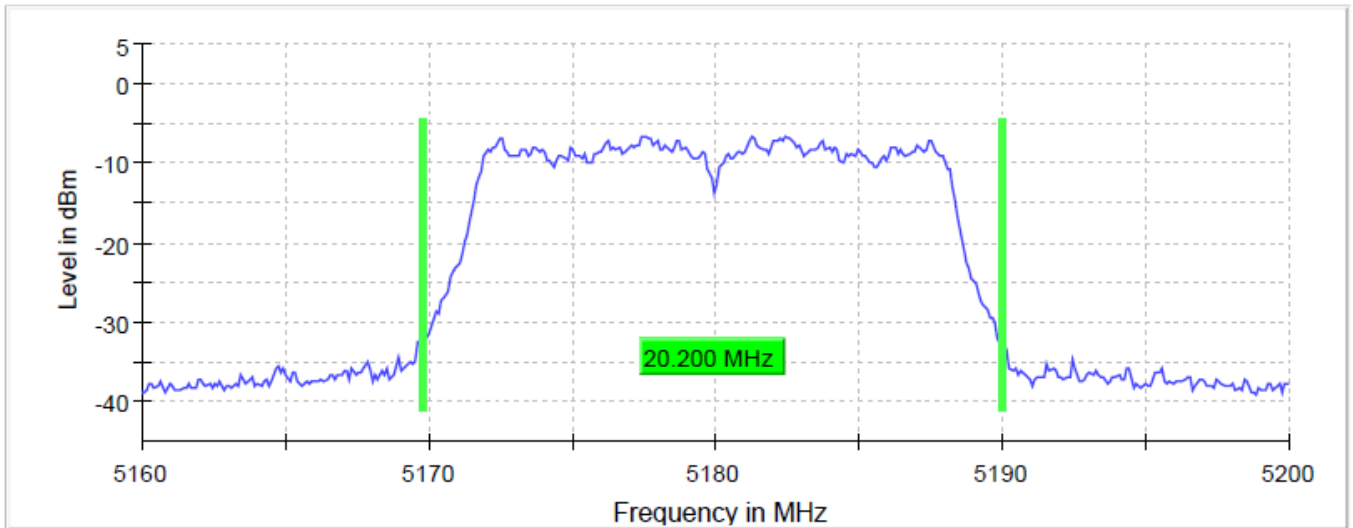
New Rules v02r01 D and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

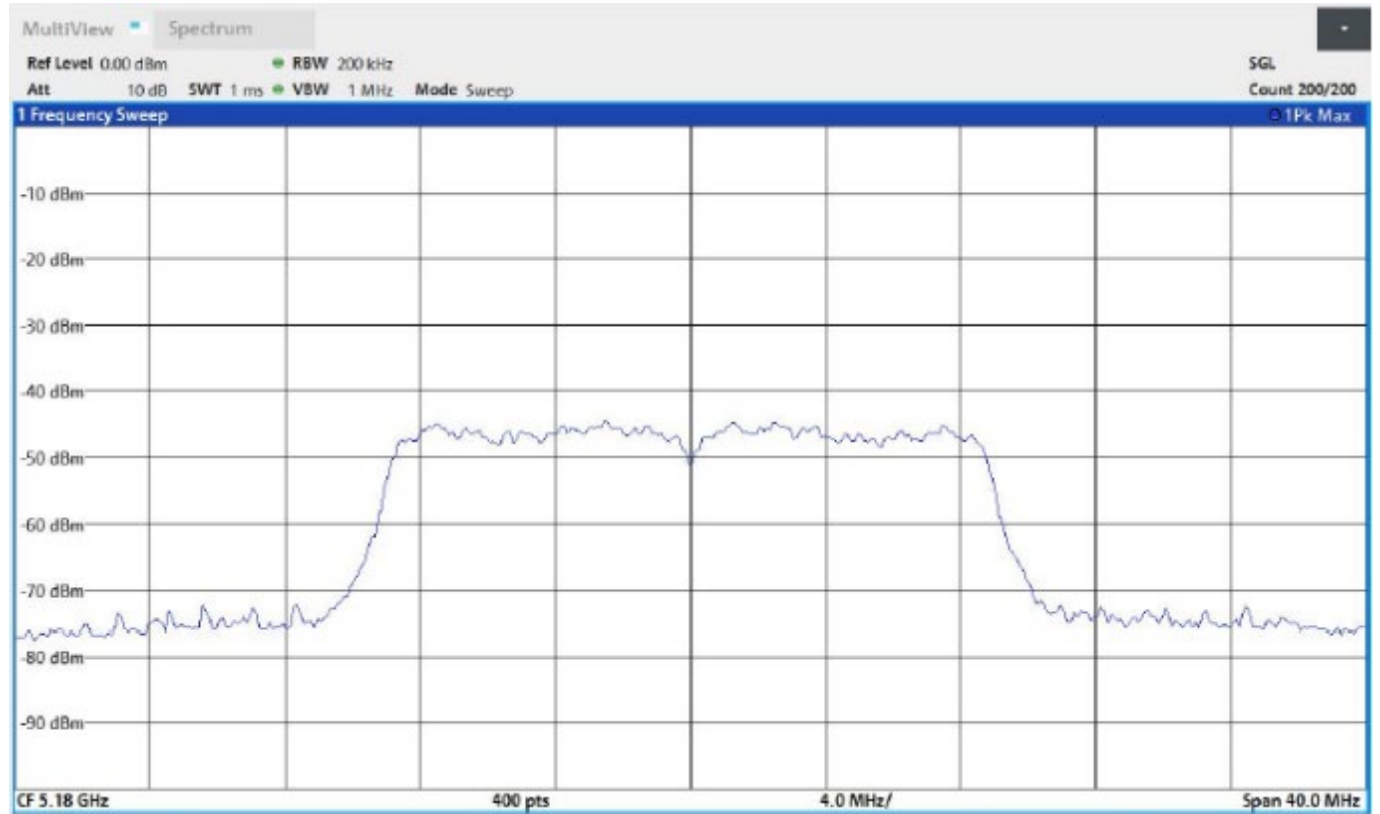
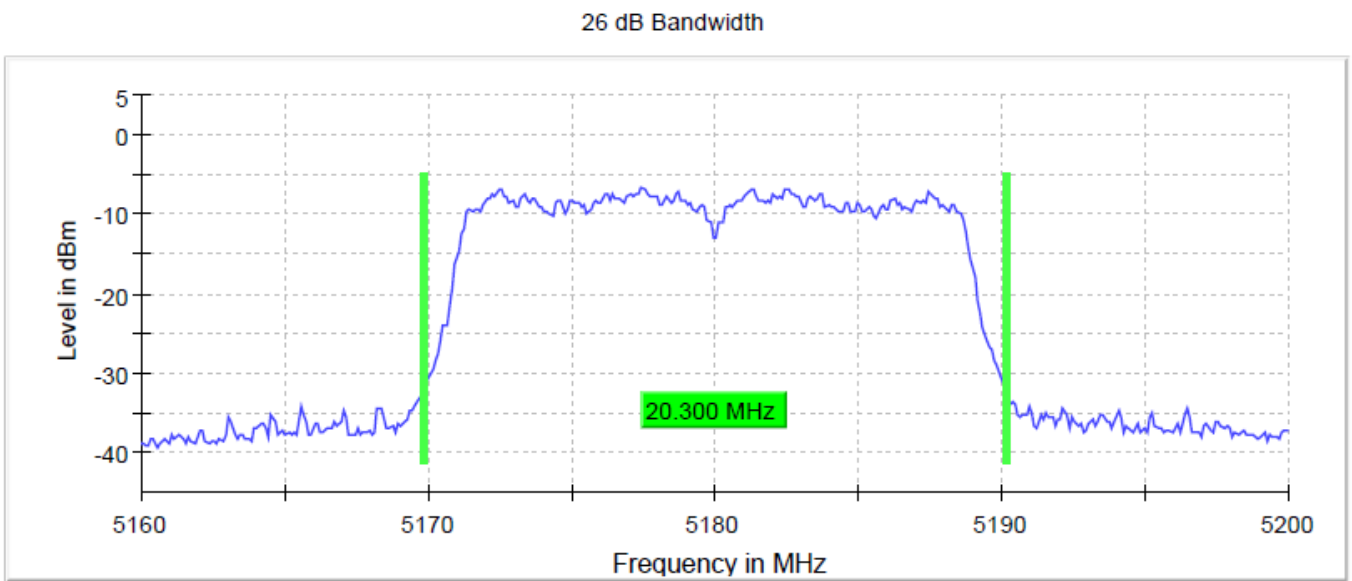
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
802.11a 6Mbps	5180.000000	20.200000	5169.750000	5189.950000
802.11n (HT20) MCS0	5180.000000	20.300000	5169.850000	5190.150000
802.11ac (VHT20) MCS0	5180.000000	20.400000	5169.750000	5190.150000
802.11n (HT40) MCS0	5190.000000	73.245778	5154.878049	5228.123827
802.11ac (VHT40) MCS0	5190.000000	53.283302	5169.587242	5222.870544
802.11ac (VHT80) MCS0	5210.000000	160.000000	5130.000000	5290.000000
802.11a 6Mbps	5200.000000	20.400000	5189.650000	5210.050000
802.11n (HT20) MCS0	5200.000000	20.600000	5189.650000	5210.250000
802.11ac (VHT20) MCS0	5200.000000	20.500000	5189.750000	5210.250000
802.11n (HT40) MCS0	5230.000000	67.542214	5201.031895	5268.574109
802.11ac (VHT40) MCS0	5230.000000	57.185741	5208.386492	5265.572233
802.11a 6Mbps	5240.000000	20.300000	5229.850000	5250.150000
802.11n (HT20) MCS0	5240.000000	20.400000	5229.750000	5250.150000
802.11ac (VHT20) MCS0	5240.000000	20.600000	5229.850000	5250.450000

802.11a 5180MHz 6Mbps

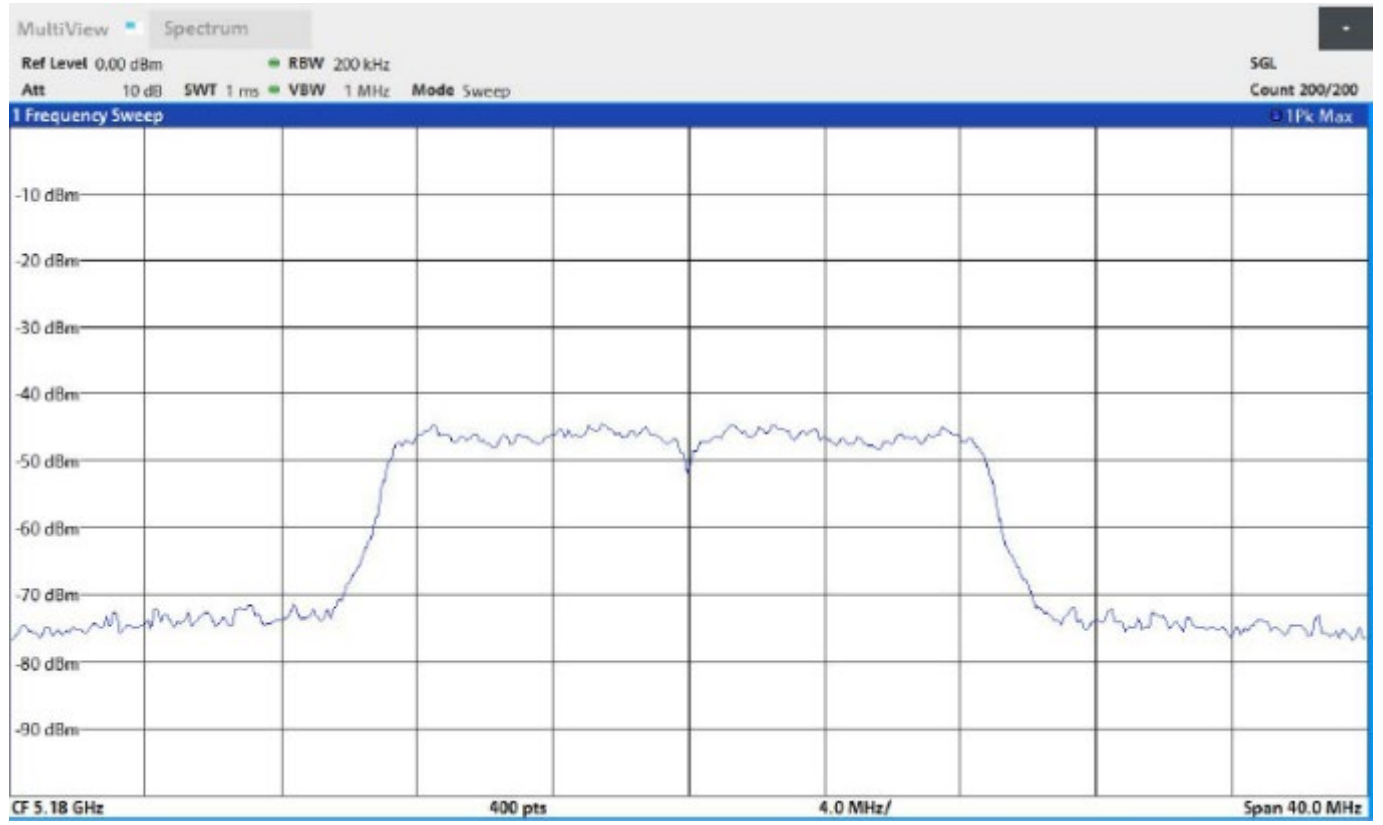
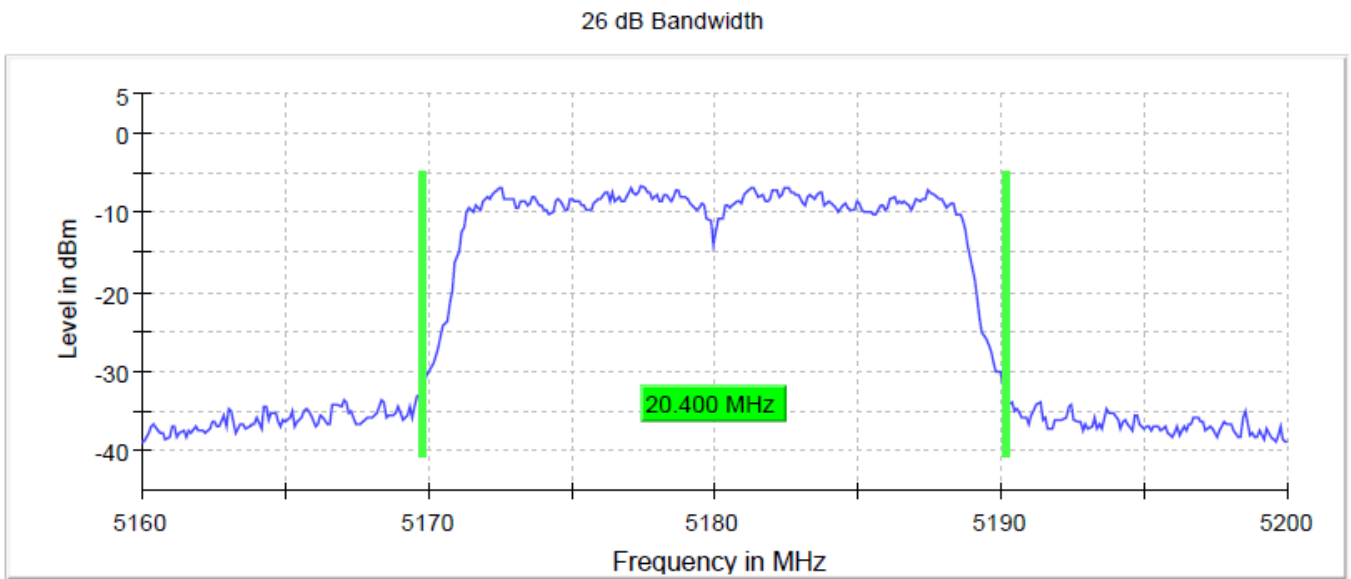
26 dB Bandwidth



802.11n (HT20) 5180MHz MCS0



802.11ac (VHT20) 5180MHz MCS0



### FCC 15.407 UNII-3

#### DUT Information:

<b>Model:</b>	CY20 DA UPPER
<b>Manufacturer:</b>	Harman Becker Automotive Systems
<b>Serial Number:</b>	AH21100601-HAR-134#1

UNII-3		
Mode	Channel	Frequency
802.11a 802.11n(HT20) 802.11ac(VHT20)	149	5745
802.11n(HT40) 802.11ac(VHT40)	151	5755
802.11ac(VHT80)	155	5775
802.11a 802.11n(HT20) 802.11ac(VHT20)	157	5785
802.11n(HT40) 802.11ac(VHT40)	159	5795
802.11a 802.11n(HT20) 802.11ac(VHT20)	165	5825

#### Notes

- Channels and modes above were tested.
- Output power measurements were performed at the lowest and highest data rate of each supported 802.11 mode.

Antenna Gain	1.50dBi
Number of transmit chains	1
Equipment Type	Unlicensed National Information Infrastructure Device

## Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0226	Spectrum Analyzer 10Hz-44GHz	Rohde & Schwarz	FSV3044	101018	1/14/2022
BVD0227	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP150	101100	N/A
BVD0228	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP220	101632	N/A
BVD0224	Signal Generator 100kHz-40GHz	Rohde & Schwarz	SMB100A	181741	11/19/2022
BVD0225	Signal Generator 100k-6GHz with GPS simulator	Rohde & Schwarz	SMW200A	107664	11/18/2022
BVD0250	Wireless Connectivity Tester 70M-6GHz	Rohde & Schwarz	CMW270	102113	11/18/2022
BVD0343	DC Regulated Power Supply	Circuit Specialists, INC	CSI3020X	595215	N/A
BVD0321	Fixed Attenuator 2W 20dB -40GHz	Mini-Circuits	BW-K20-2W44+	2103	N/A
BVD0477	10db Attenuator -18GHz	Mouser	BW-S10W2+	2043	N/A
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	3/26/2022

## Power Settings

802.11a		802.11n (HT20)		802.11ac (VHT20)	
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting
149	13	149	13	149	13
157	13	157	13	157	13
165	13	165	13	165	13

802.11n (HT40)		802.11ac (VHT40)	
Channel	Power Setting	Channel	Power Setting
151	13	151	13
159	13	159	13

802.11ac (VHT80)	
Channel	Power Setting
155	13



## Test Results Summary

Test	Frequency (MHz)	802.11a	802.11n(HT20)	802.11ac (VHT20)
RF Output Power	5745/5785/5825	PASS	PASS	PASS
Power Spectral Density	5745/5785/5825	PASS	PASS	PASS
DTS Bandwidth (6dB)	5745/5785/5825	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	5745/5785/5825	PASS	PASS	PASS
		802.11n(HT40)	802.11ac(VHT40)	
RF Output Power	5755/5795	PASS	PASS	
Power Spectral Density	5755/5795	PASS	PASS	
DTS Bandwidth (6dB)	5755/5795	PASS	PASS	
Occupied Channel Bandwidth 99%	5755/5795	PASS	PASS	
		802.11ac(VHT80)		
RF Output Power	5775	PASS		
Power Spectral Density	5775	PASS		
DTS Bandwidth (6dB)	5775	PASS		
Occupied Channel Bandwidth 99%	5775	PASS		

## RF output power and Duty-Cycle

### FCC and RSS-247

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.E and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

#### 802.11a

Data Rate	Gated RMS (dBm)	Gated RMS (dBm)	Gated RMS (dBm)	Limit (dBm)	Duty Cycle (%)
	5745 MHz	5785 MHz	5825 MHz		
6 Mbps	6.940	6.784	6.759	30.0	98.695
54 Mbps	6.842	6.688	6.380	30.0	90.570

#### 802.11n (HT20)

Data Rate	Gated RMS (dBm)	Gated RMS (dBm)	Gated RMS (dBm)	Limit (dBm)	Duty Cycle (%)
	5745 MHz	5785 MHz	5825 MHz		
MCS0	6.915	6.722	7.029	30.0	98.600
MCS7	6.780	6.794	6.750	30.0	89.989

#### 802.11ac (VHT20)

Data Rate	Gated RMS (dBm)	Gated RMS (dBm)	Gated RMS (dBm)	Limit (dBm)	Duty Cycle (%)
	5745 MHz	5785 MHz	5825 MHz		
MCS0	6.777	6.897	6.494	30.0	98.614
MCS8	6.438	6.781	6.346	30.0	89.088

#### 802.11n (HT40)

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5755 MHz	5795 MHz		
MCS0	7.293	7.023	30.0	97.226
MCS7	6.754	6.826	30.0	84.423

802.11ac (VHT40)

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5755 MHz	5795 MHz		
MCS0	7.056	7.137	30.0	97.271
MCS9	6.817	7.004	30.0	82.679

802.11ac (VHT80)

Data Rate	Gated RMS (dBm)		Limit (dBm)	Duty Cycle (%)
	5775 MHz			
MCS0	7.296		30.0	94.687
MCS9	7.091		30.0	78.011

## Power Spectral Density

### FCC and RSS-247

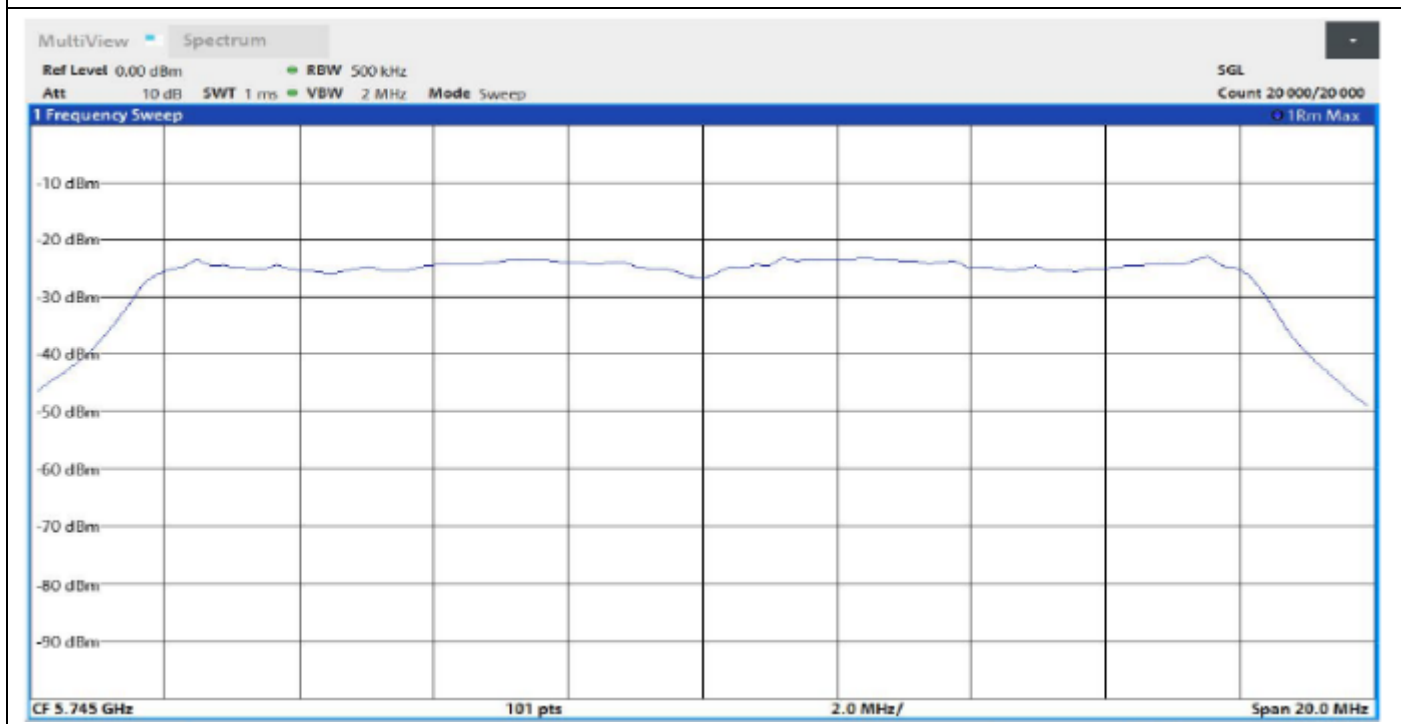
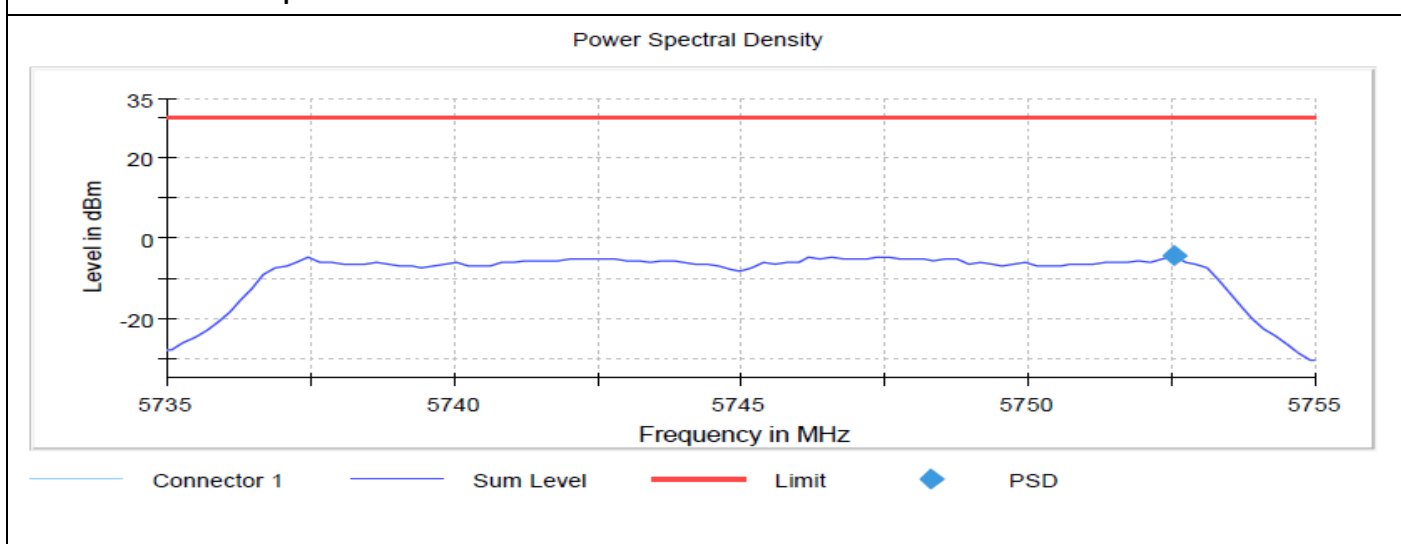
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.F and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

### 802.11a 6Mbps

Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
6Mbps	-4.472	-4.577	-4.873	30.0

#### 802.11a 5745 MHz 6Mbps



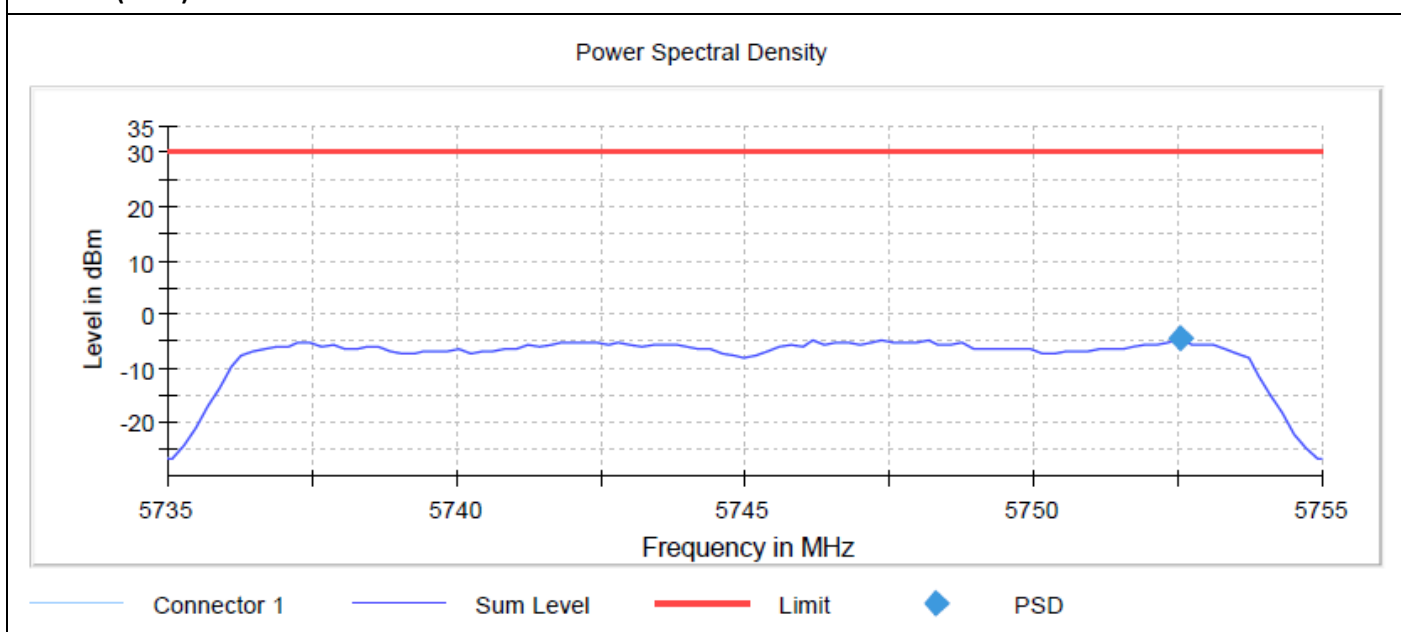
### 802.11n (HT20)

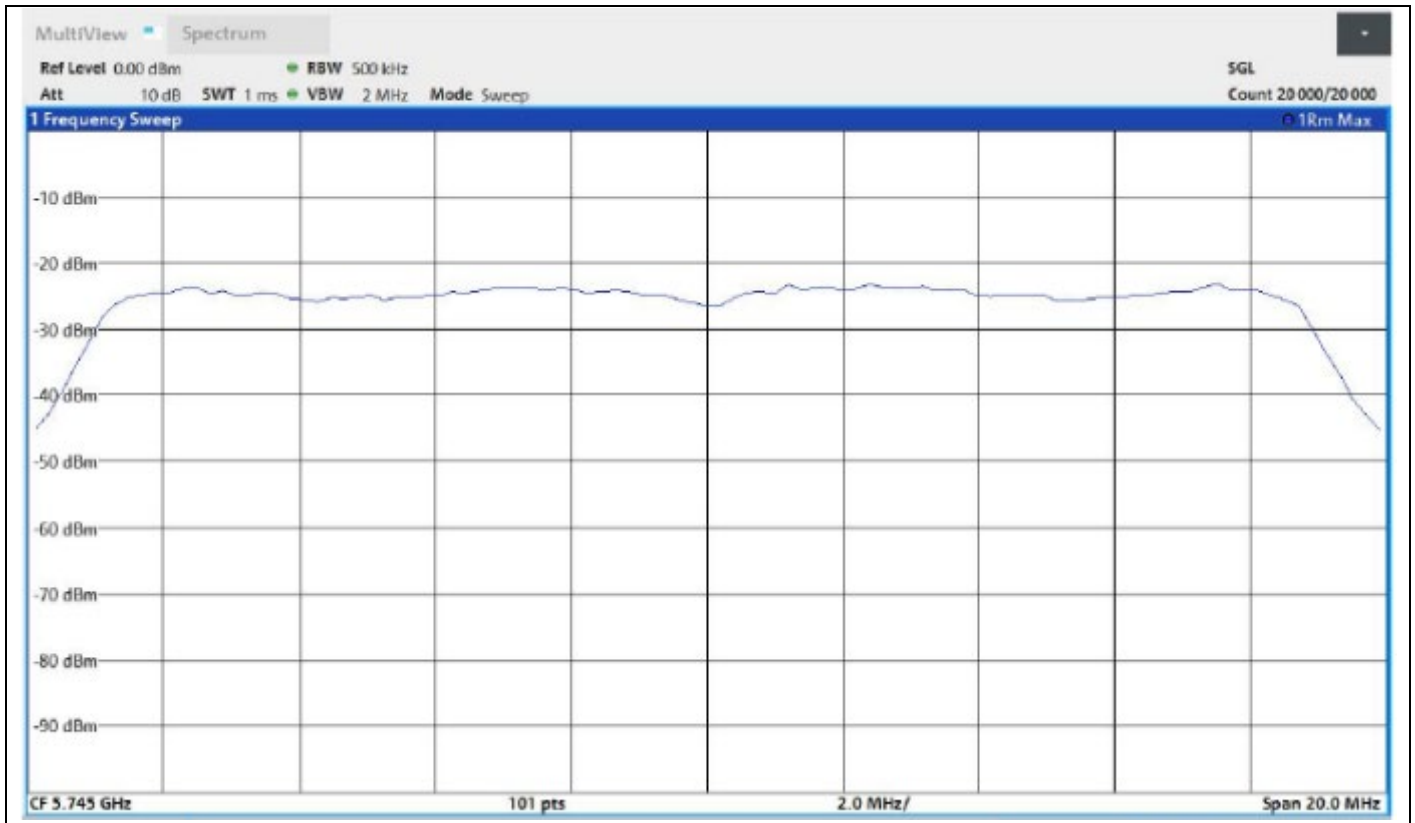
Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
MCS0	-4.591	-4.572	-5.257	30.0

### 802.11n (HT40)

Data Rate	PSD (dBm) 5755 MHz	PSD (dBm) 5795 MHz	Limit (dBm)
MCS0	-6.225	-6.488	30.0

#### 802.11n (HT20) 5745 MHz MCS0





### 802.11ac (VHT20)

Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
MCS0	-4.734	-4.615	-4.887	30.0

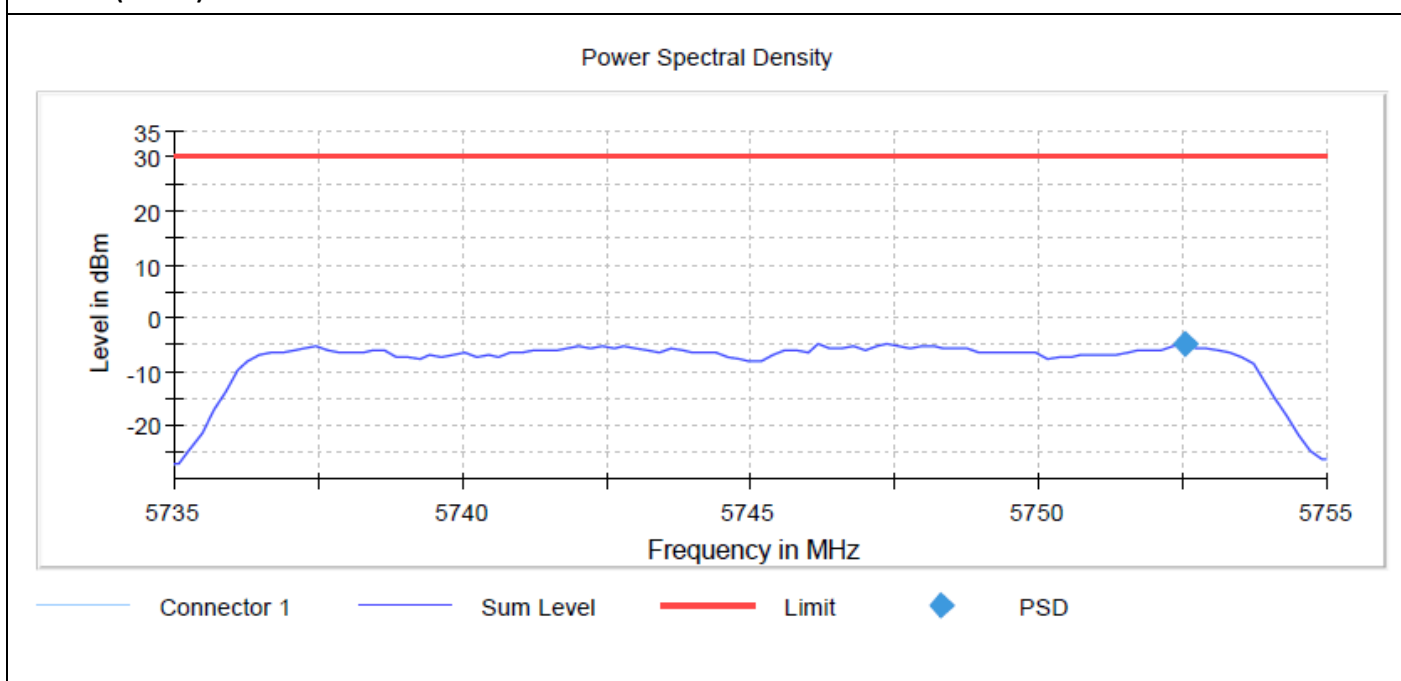
### 802.11ac (VHT40)

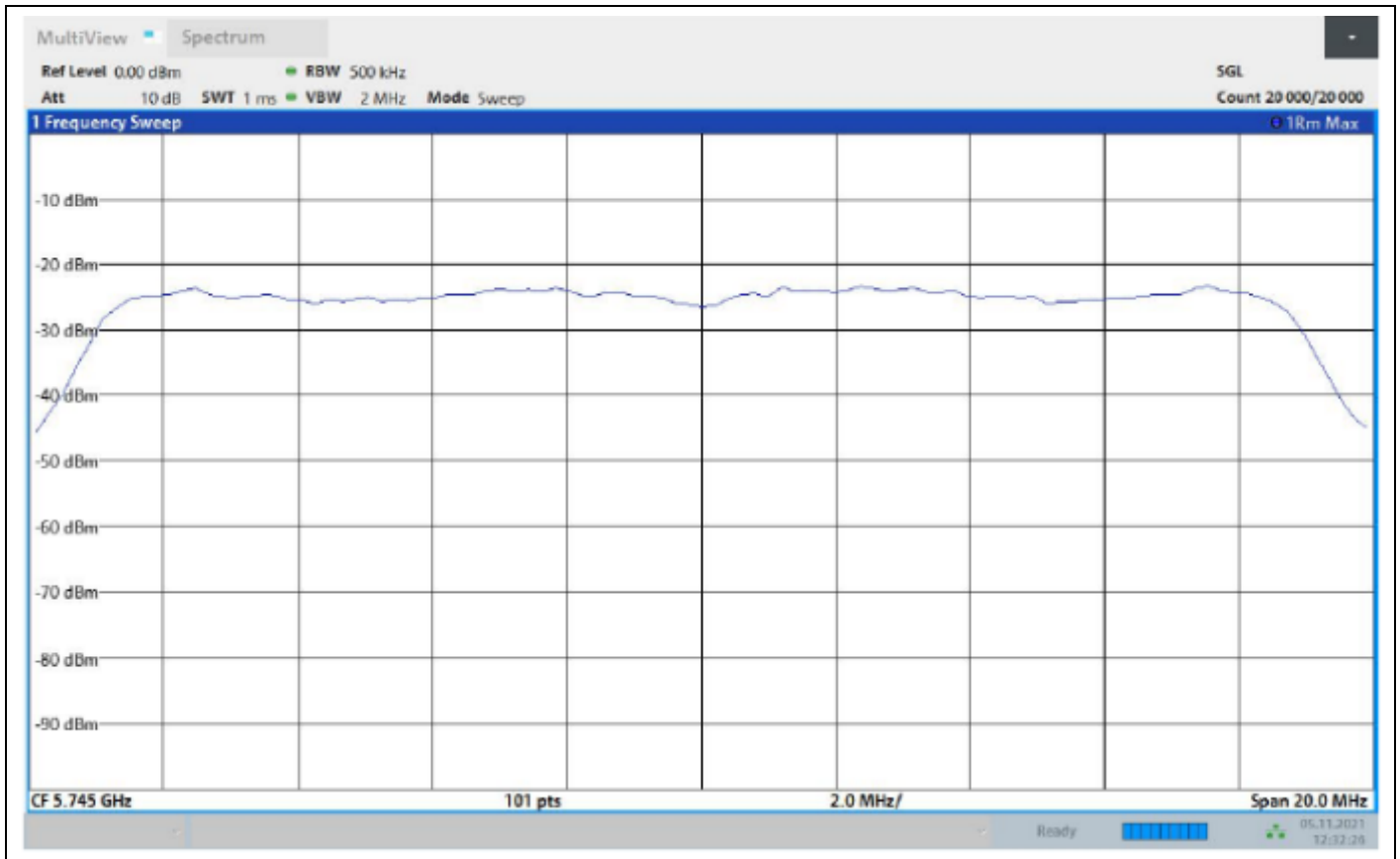
Data Rate	PSD (dBm) 5755 MHz	PSD (dBm) 5795 MHz	Limit (dBm)
MCS0	-6.344	-6.405	30.0

### 802.11ac (VHT80)

Data Rate	PSD (dBm) 5775 MHz	Limit (dBm)
MCS0	-7.869	30.0

#### 802.11a (VHT20) 5745 MHz MCS0







## DTS Bandwidth 6dB

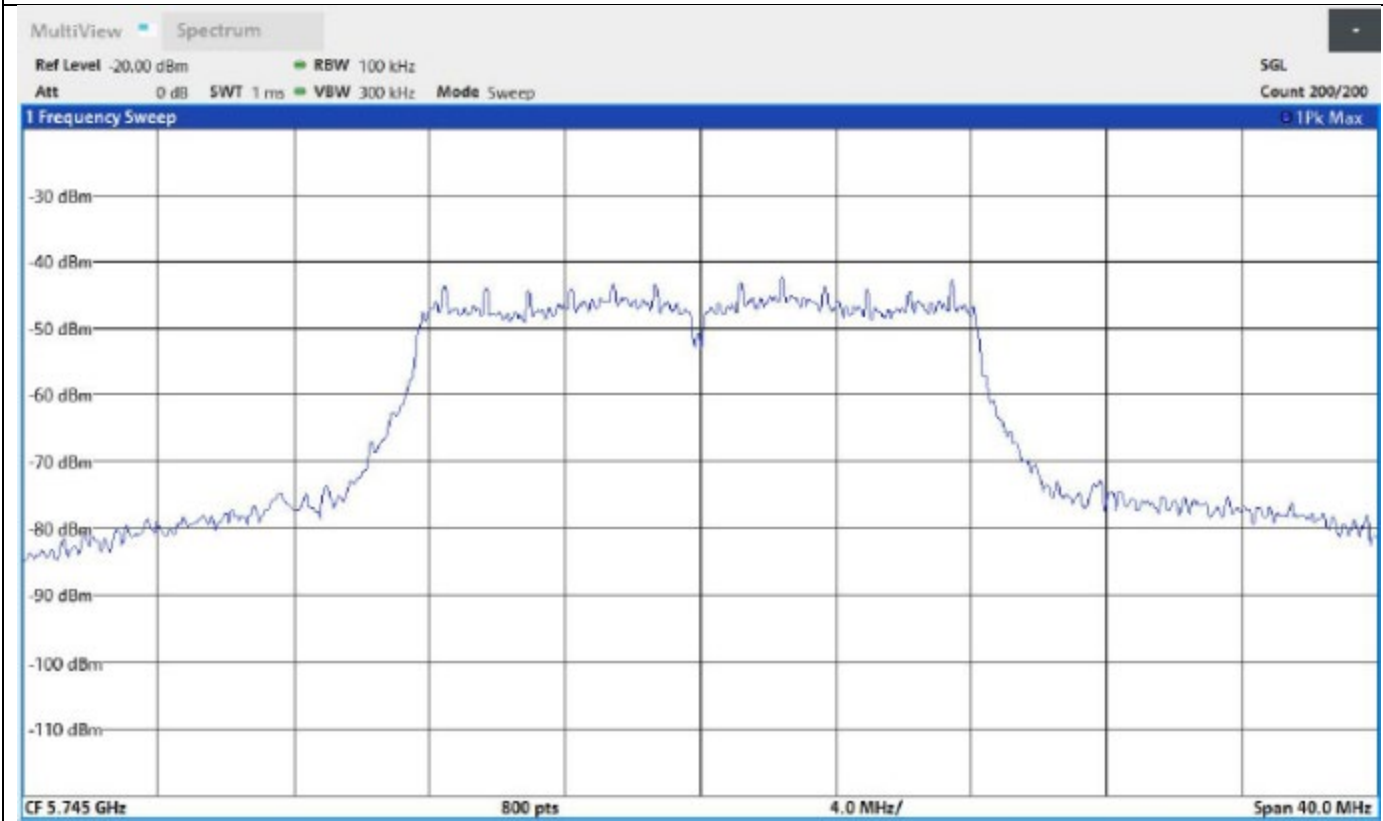
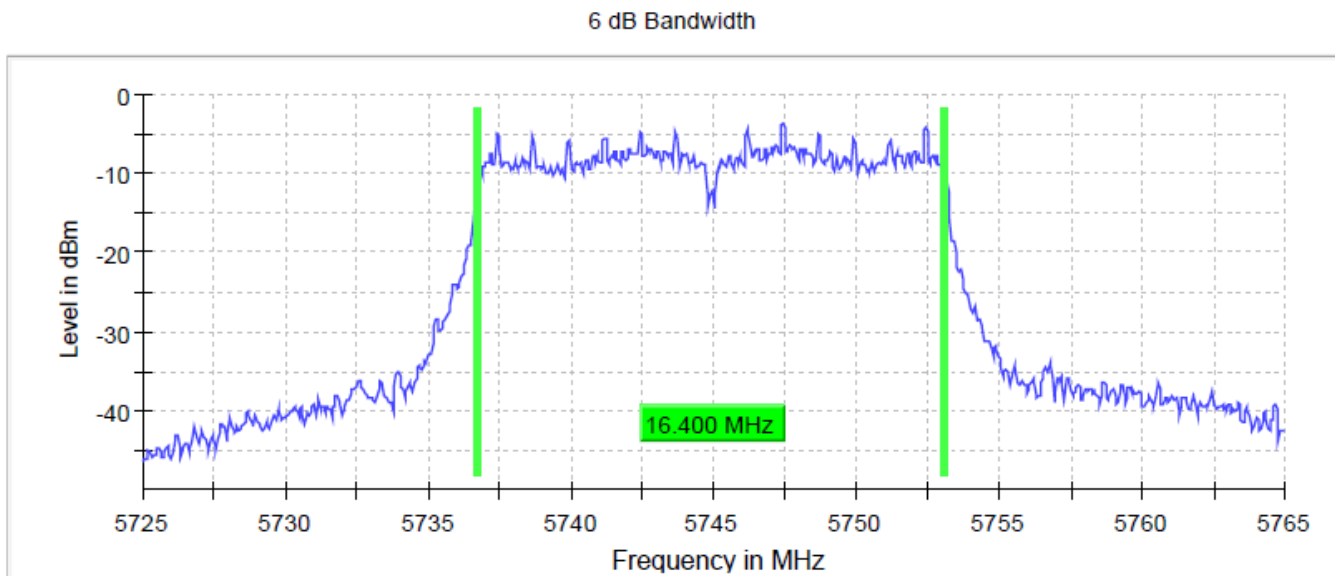
### FCC and RSS-247

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 D and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

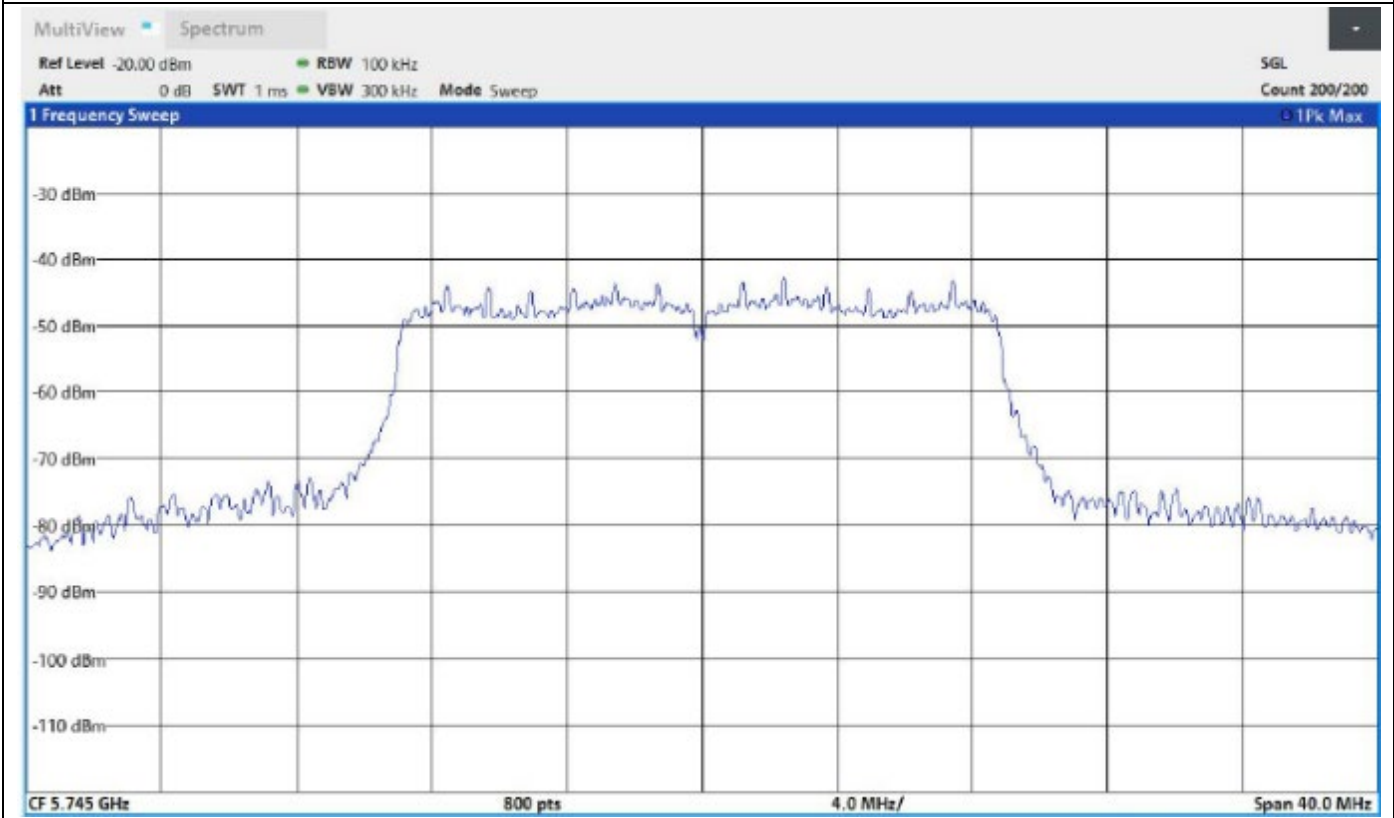
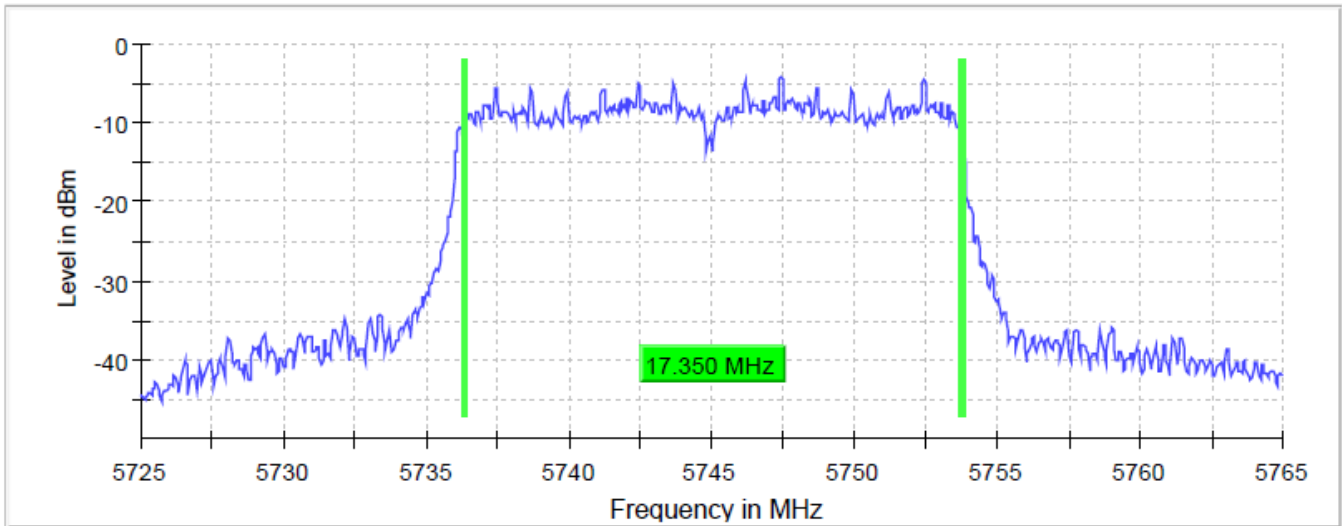
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Minimum Band Limit (MHz)
802.11a 6Mbps	5745.000000	16.400000	5736.725000	5753.125000	0.500000
802.11n (HT20) MCS0	5745.000000	17.350000	5736.375000	5753.725000	0.500000
802.11ac (VHT20) MCS0	5745.000000	17.400000	5736.325000	5753.725000	0.500000
802.11n (HT40) MCS0	5755.000000	35.550000	5737.325000	5772.875000	0.500000
802.11ac (VHT40) MCS0	5755.000000	35.600000	5737.325000	5772.925000	0.500000
802.11ac (VHT80) MCS0	5775.000000	76.000000	5737.175000	5813.175000	0.500000
802.11a 6Mbps	5785.000000	16.400000	5776.725000	5793.125000	0.500000
802.11n (HT20) MCS0	5785.000000	17.400000	5776.325000	5793.725000	0.500000
802.11ac (VHT20) MCS0	5785.000000	17.400000	5776.325000	5793.725000	0.500000
802.11n (HT40) MCS0	5795.000000	35.450000	5777.325000	5812.775000	0.500000
802.11ac (VHT40) MCS0	5795.000000	35.600000	5777.175000	5812.775000	0.500000
802.11a 6Mbps	5825.000000	16.400000	5816.725000	5833.125000	0.500000
802.11n (HT20) MCS0	5825.000000	17.450000	5816.325000	5833.775000	0.500000
802.11ac (VHT20) MCS0	5825.000000	17.400000	5816.325000	5833.725000	0.500000

802.11a 5745MHz 6Mbps



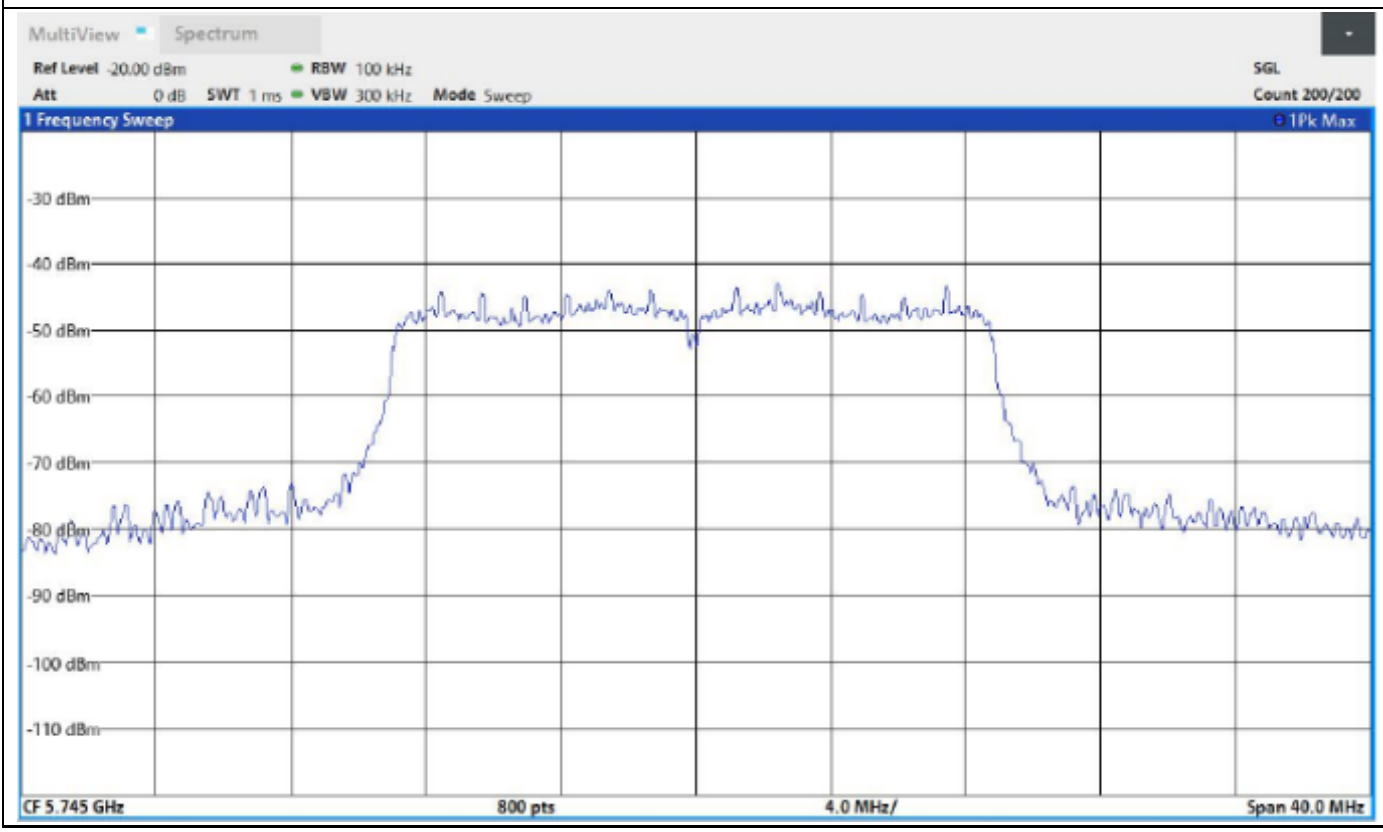
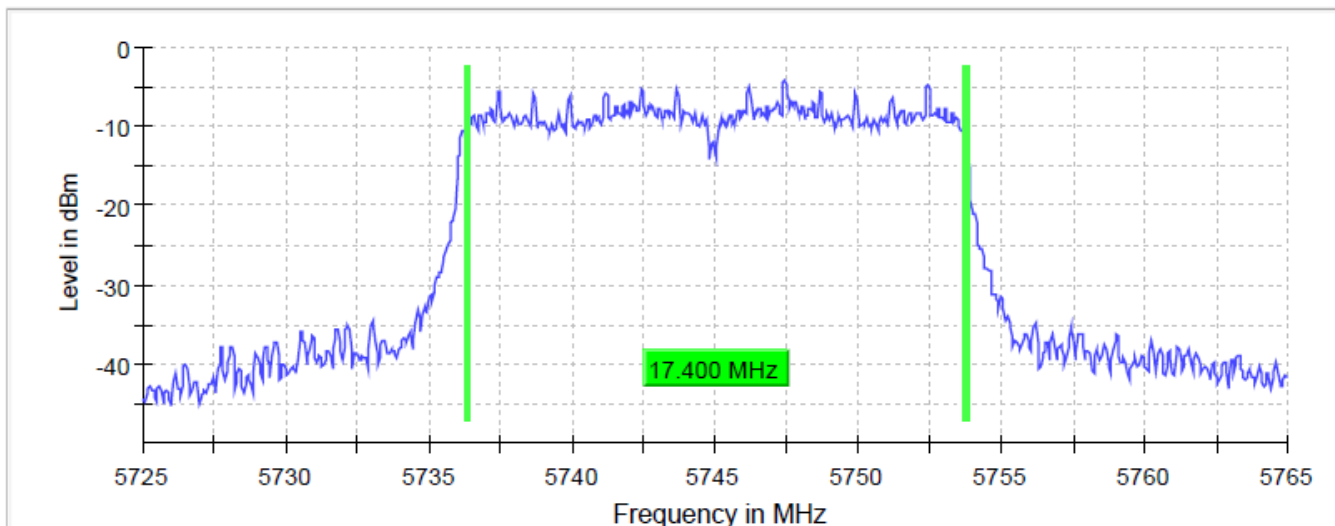
802.11n (HT20) 5745MHz MCS0

6 dB Bandwidth



802.11ac (VHT20) 5745MHz MCS0

6 dB Bandwidth



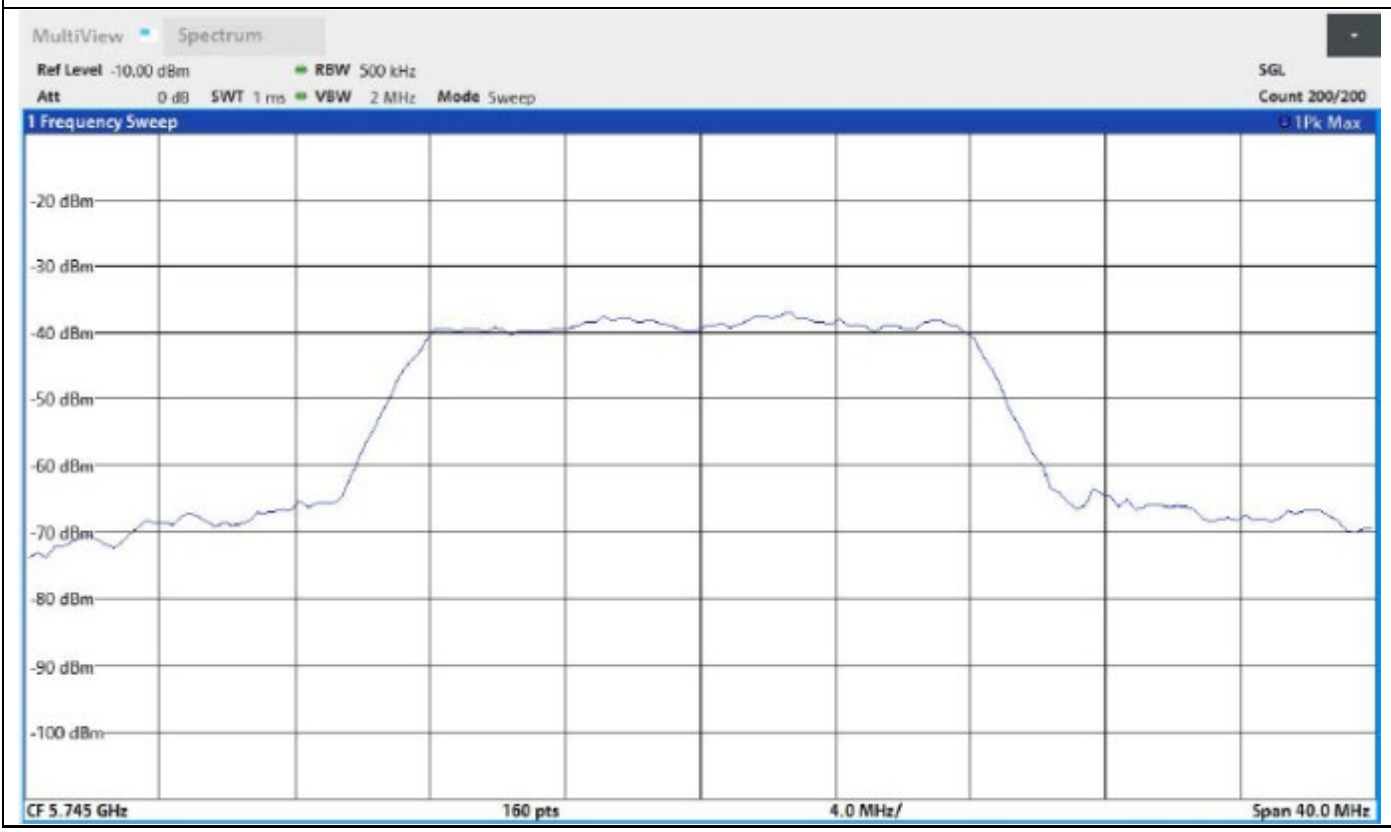
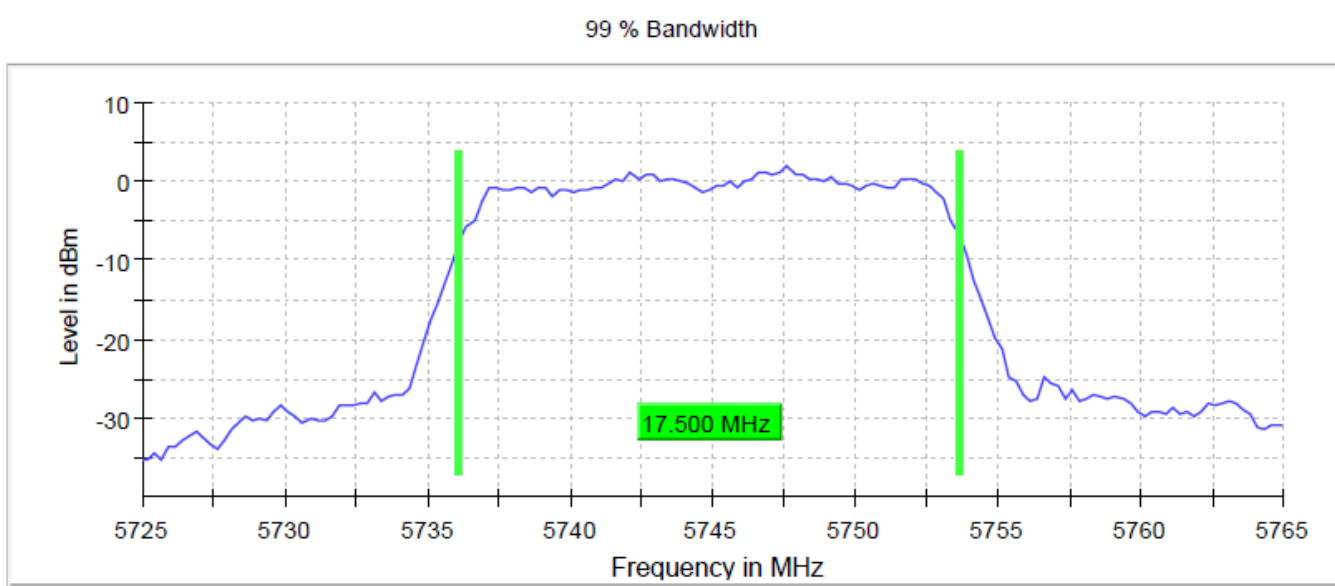
## Occupied Channel Bandwidth

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 D and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

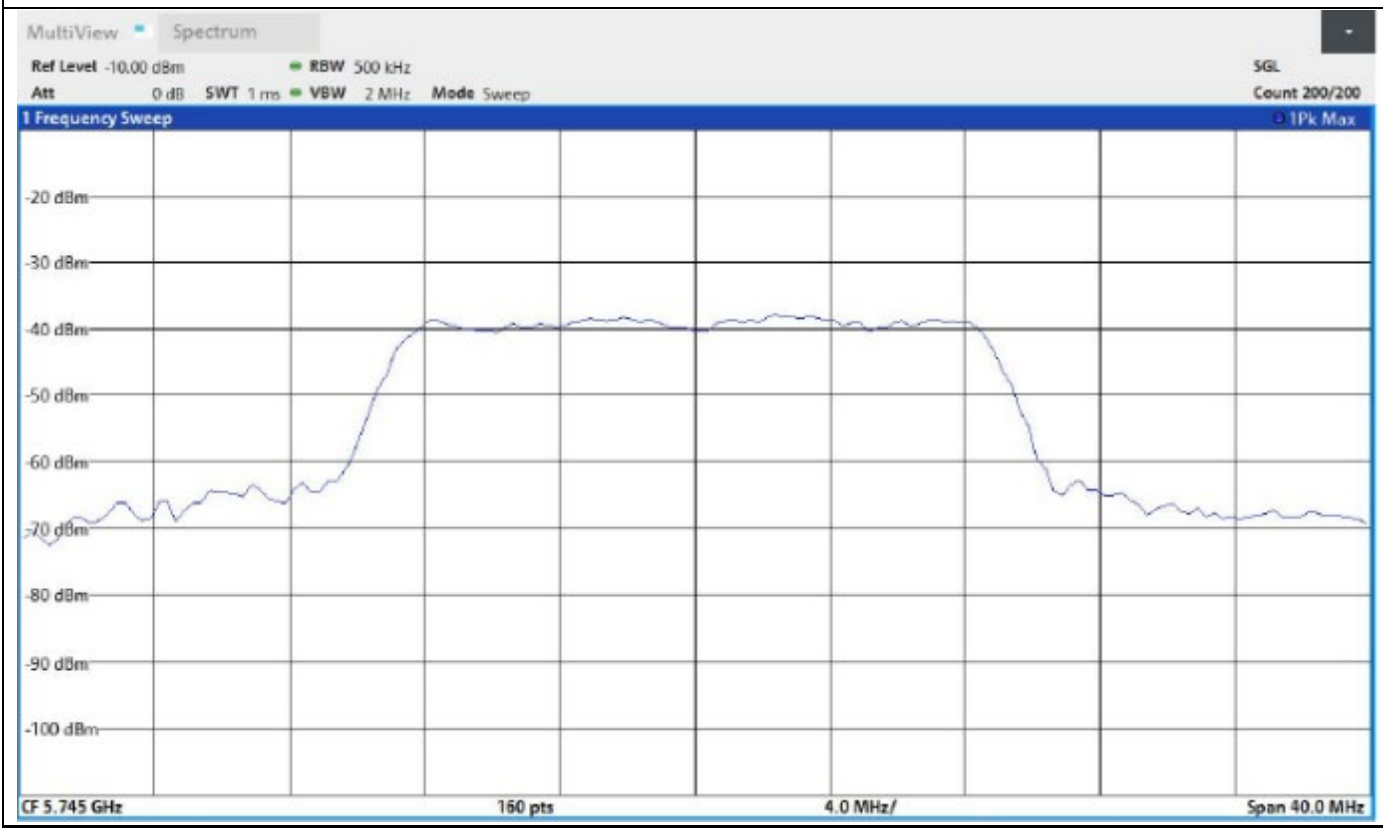
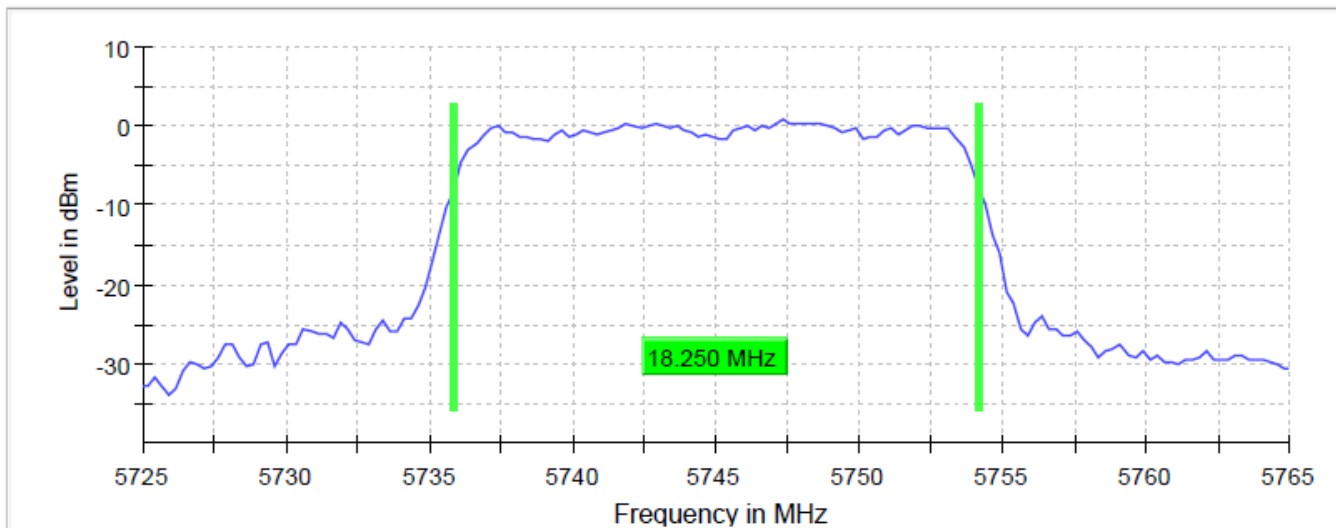
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Band Limit (MHz)
802.11a 6Mbps	5745.000000	17.500000	5736.125000	5753.625000	5725-5850
802.11n (HT20) MCS0	5745.000000	18.250000	5735.875000	5754.125000	5725-5850
802.11ac (VHT20) MCS0	5745.000000	18.250000	5735.875000	5754.125000	5725-5850
802.11n (HT40) MCS0	5755.000000	37.500000	5736.250000	5773.750000	5725-5850
802.11ac (VHT40) MCS0	5755.000000	37.000000	5736.750000	5773.750000	5725-5850
802.11ac (VHT80) MCS0	5775.000000	79.000000	5735.500000	5814.500000	5725-5850
802.11a 6Mbps	5785.000000	17.500000	5776.125000	5793.625000	5725-5850
802.11n (HT20) MCS0	5785.000000	18.250000	5775.875000	5794.125000	5725-5850
802.11ac (VHT20) MCS0	5785.000000	18.250000	5775.875000	5794.125000	5725-5850
802.11n (HT40) MCS0	5795.000000	37.000000	5776.750000	5813.750000	5725-5850
802.11ac (VHT40) MCS0	5795.000000	37.000000	5776.750000	5813.750000	5725-5850
802.11a 6Mbps	5825.000000	17.500000	5816.125000	5833.625000	5725-5850
802.11n (HT20) MCS0	5825.000000	18.250000	5815.875000	5834.125000	5725-5850
802.11ac (VHT20) MCS0	5825.000000	18.250000	5815.875000	5834.125000	5725-5850

802.11a 5745MHz 6Mbps

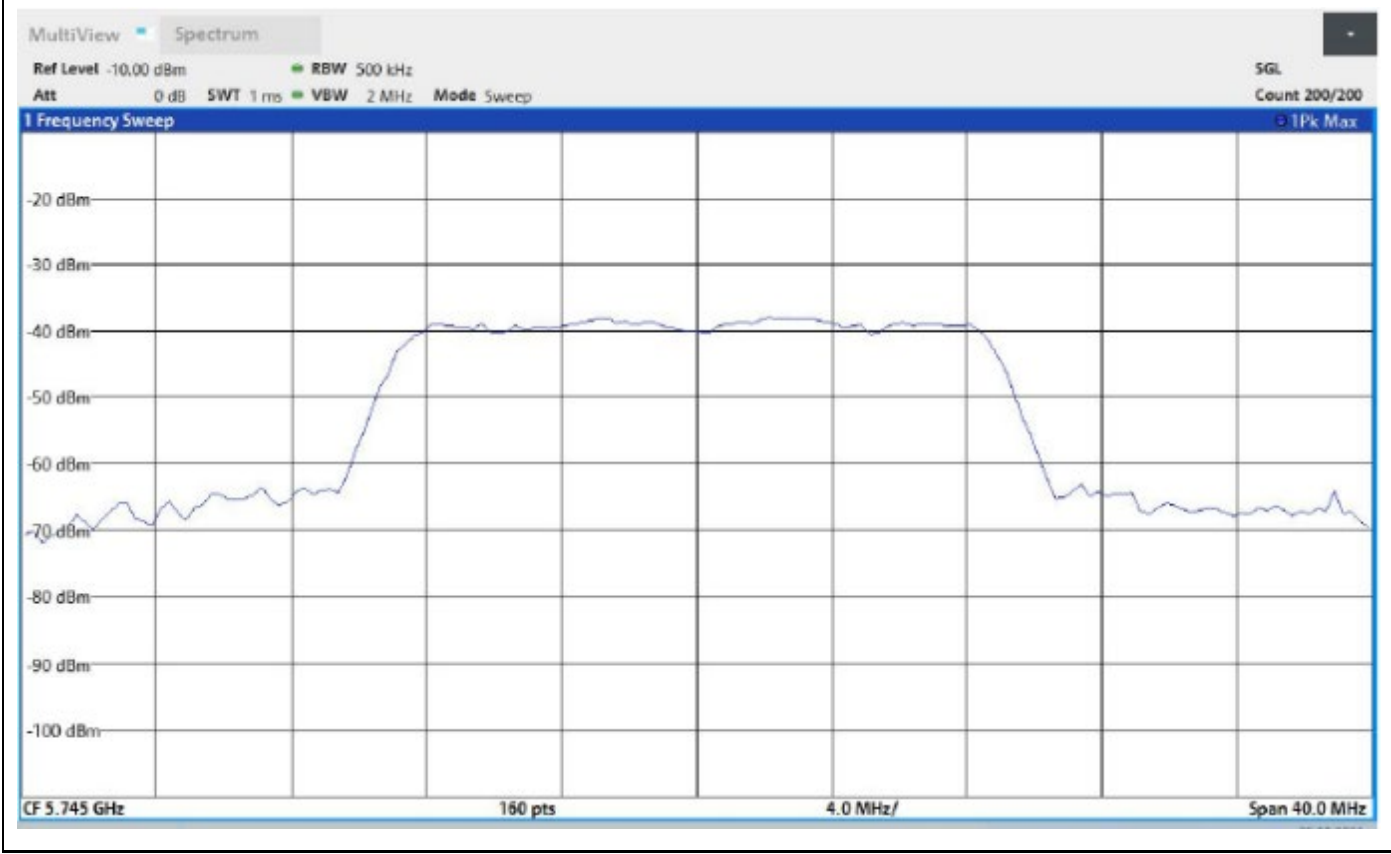
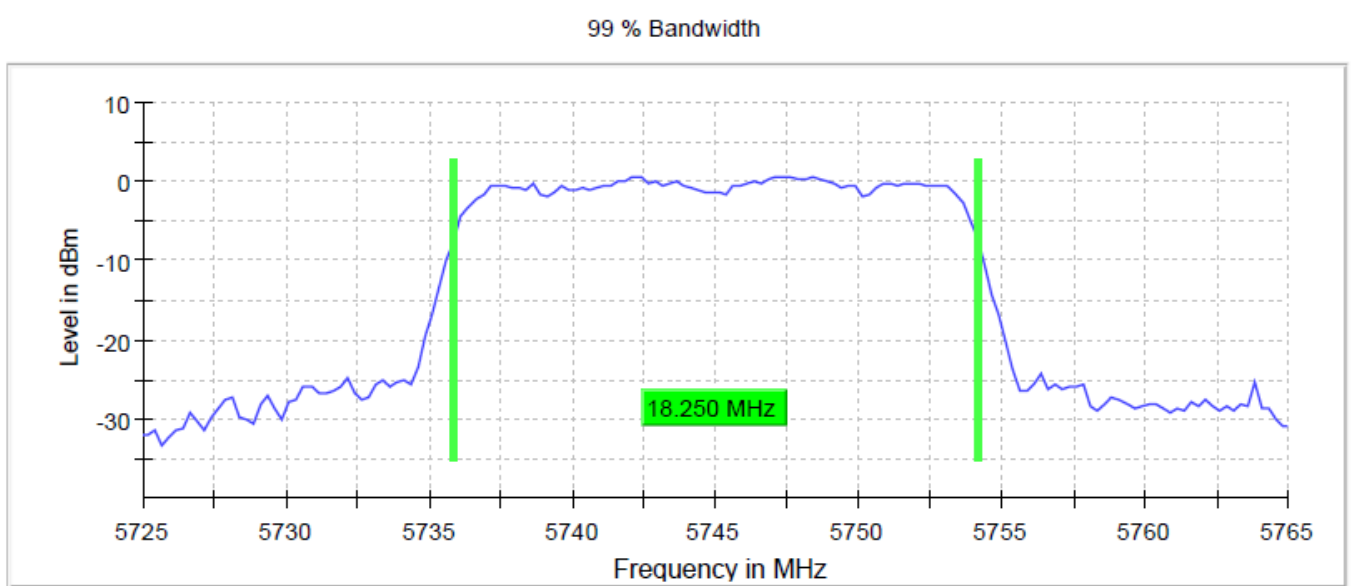


802.11n (HT20) 5745MHz MCS0

99 % Bandwidth



802.11ac (VHT20) 5745MHz MCS0





• Radiated Testing

Test Summary

Start: 11/11/2021	End: 12/6/2021	Temperature: 22.6°C	Initials: RP
		Humidity:27 %R.H.	

DUT S/N	AH21100601-HAR-134#004	DUT Operating Mode		UNII-1 WLAN
Comment	802.11a 6Mbps, 802.11n MCS0, 802.11ac MCS0			
Antenna	Frequency Range	Polarization	Result Over/Under Limit	Notes
Loop	9kHz-30MHz	Parallel	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Perpendicular	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Ground-Parallel	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Log Periodic	30MHz-1GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Horn	1GHz-18GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Horn	18GHz-40GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√

Notes: √ meets the requirements of the acceptance criteria.

Start: 11/12/2021	End: 12/7/2021	Temperature: 22.6°C	Initials: RP
		Humidity:27 %R.H.	

DUT S/N	AH21100601-HAR-134#004	DUT Operating Mode		UNII-3 WLAN
Comment	802.11a 6Mbps, 802.11n MCS0, 802.11ac MCS0			
Antenna	Frequency Range	Polarization	Result Over/Under Limit	Notes
Loop	9kHz-30MHz	Parallel	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Perpendicular	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Ground-Parallel	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Log Periodic	30MHz-1GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Horn	1GHz-18GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
Horn	18GHz-40GHz	Horizontal	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√
		Vertical	<input type="checkbox"/> Over <input checked="" type="checkbox"/> Under	√

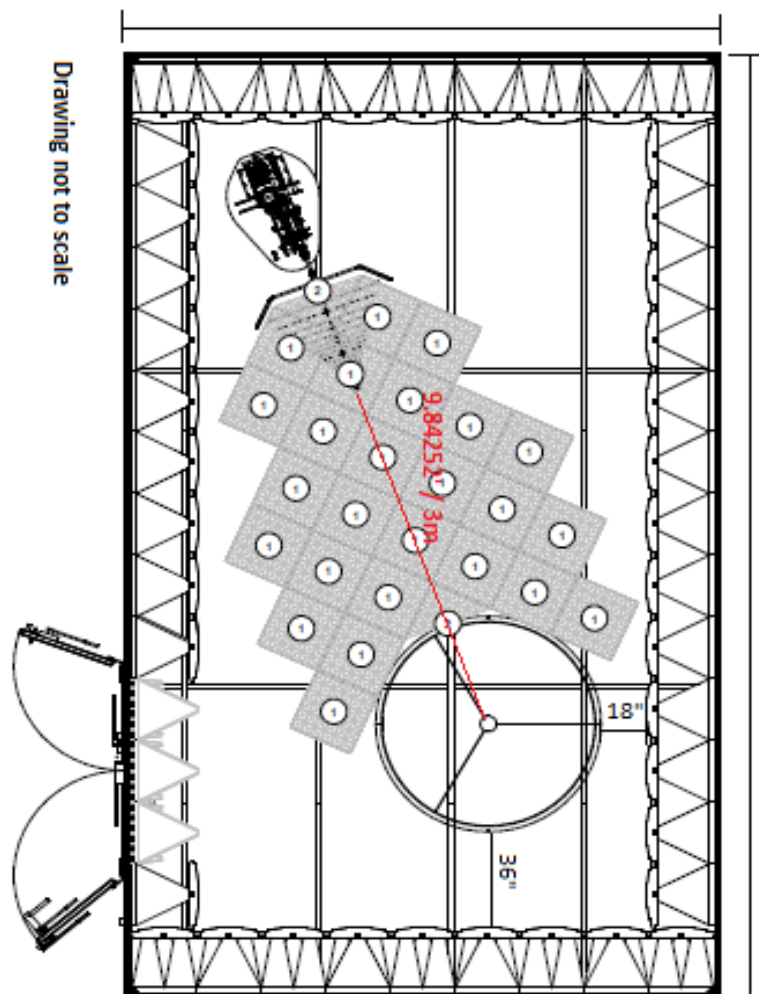
Notes: √ meets the requirements of the acceptance criteria.

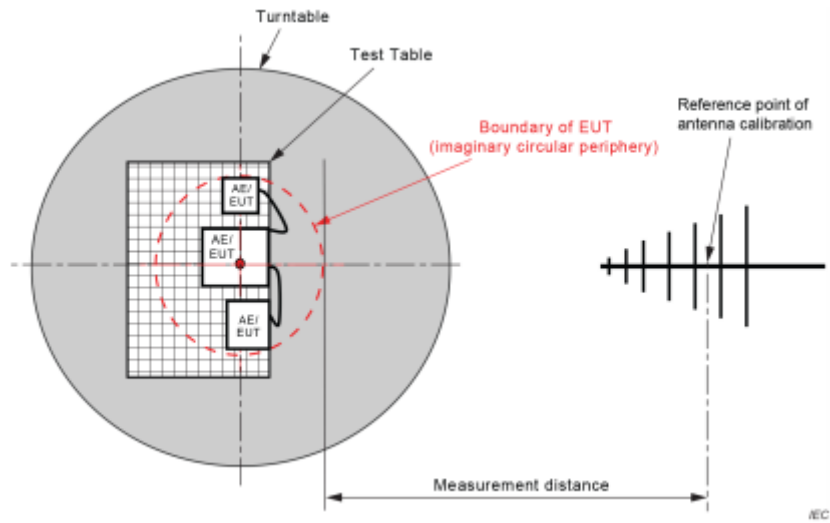
## Test Setup

Semi-Anechoic Chamber Test Site-3 meter

Chamber Location	815 N Opdyke Rd Auburn Hills, Michigan 48326
Chamber Manufacturer:	ETS-Lindgren
Chamber Type	Semi-Anechoic
Model	FACT™ 3-2.0 Plus
Chamber Dimensions (L x W x H)	18'x18'x30'
Quiet Zone Diameter	2.0 meters
Quiet Zone Test Heights	1 & 2 meters (front only)
Test Distance	3.0 meters
Test Frequency Range	1-40 GHz
Measured Performance	4.87 dB Site sVSWR

Chamber Dimensions





## Test Equipment Used

ID #	Equipment	Manufacturer	Model	Serial #	Cal Due
BVD0217	Receiver 2Hz-44GHz	Rohde & Schwarz	ESW44	101871	4/16/2022
BVD0398	Double Shielded N-Type Cable 2 Meter	Rohde & Schwarz	N-Type	N/A	12/29/2022
BVD0404	Double Shielded N-Type Cable 440mm (For PreAmp)	Rohde & Schwarz	N-Type	N/A	8/10/2022
BVD0407	Double Shielded N-Type Cable 410mm (For PreAmp)	Rohde & Schwarz	N-Type	N/A	8/5/2022
BVD0187	Preamplifier 25dB cal to 100kHz-1GHz	Rohde & Schwarz	TS-PR1	102080	11/19/2021
BVD0184	Preamplifier 29dB 1-18GHz	Rohde & Schwarz	TS-PR18	101646	4/26/2022
BVD0394	Double Shielded N-Type Cable 6.9 Meter	Rohde & Schwarz	N-Type	N/A	12/29/2022
BVD0011	Loop Antenna 9kHz-30MHz	Rohde & Schwarz	FMZB1519B	145	3/23/2022
BVD0021	UltraLog Antenna 30-6000 MHz	Rohde & Schwarz	HL562E	101113	7/23/2022
BVD0267	Double Ridge Waveguide 800MHz- 18GHz	Rohde & Schwarz	HF907	102832	9/9/2022
BVD0320	18-40GHz Horn Antenna	L3 Narda ATM	PNR 180-442-KF	136164-01	3/8/2022
BVD0496	SMA Shielded Cable approx 100mm (for Pre-Amp)	Rohde & Schwarz	SMA-Type	N/A	N/A
BVD0480	Band Reject Filter 50dB from 2400 to 2500MHz	Micro-Tronics	BRM50702	G482	N/A
BVD0481	Band Reject Filter 40dB from 5150 to 5880MHz	Micro-Tronics	BRM50716	G336	N/A
BVD0495	SMA Shielded Cable approx 100mm (for Pre-Amp)	Rohde & Schwarz	SMA-Type	N/A	N/A
BVD0185	Preamplifier 45dB 18-40GHz	Rohde & Schwarz	TS-PR1840	100064	3/2/2022
BVD0118	Antenna Mast Position Controller	ETS	7006-001	00214778/0 0214648	N/A
BVD0112	Equipment Chamber for 3 Meter Chamber	ETS	N/A	N/A	N/A
BVD0111	3 Meter Anechoic Chamber	ETS	N/A	N/A	10/16/2022
BVD0247	Turn Table	ETS	920250	N/A	N/A
BVD0258	Optima 12V Blue top Marine battery	Optima	D34M	N/A	N/A
BVD0323	Foam Test Table For 3 Meter Chamber	ETS-Lindgren	LDT-1.5	N/A	N/A
BVD0069	Bore Sight Tower	ETS	2171B	226732	N/A

### Equipment List (Software)

Equipment	Manufacturer	Model	Version No.
EMC Test Software	Nexio	BAT-EMC	3.21.0.18

### Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	1m	N/A	N/A

## Test Plots

### Uncertainty

Radiated Emissions (30MHz to 18GHz)

Test Engineer: Ryan Phillips

The test is to measure the radiated emissions of the EUT. Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

#### 30MHz to 1GHZ

Source of Uncertainty	Value(dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter - Receiver	0.25	U-Shape	2.449	1	0.1768033
NSA Calibration	4.0	Triangular	1.414	1	1.633332
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					2.113781
<b>Expanded Uncertainty (K=2)</b>					<b>4.227562</b>

The total derived measurement uncertainty is +/- 4.228 dB

**1GHz to 40GHz**

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105000
Filter Insertion Loss	0.25	Normal	2	1	0.125000
Antenna Factor	0.65	Normal	2	1	0.325000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.866051
PRF Response	1.5	Rectangular	1.732	1	0.866051
Mismatch Filter - Receiver	0.25	U-Shape	1.414	1	0.176803
VSWR Calibration	2.0	Triangular	2.449	1	0.816659
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					1.869213
<b>Expanded Uncertainty (K=2)</b>					<b>3.738426</b>

The total derived measurement uncertainty is +/- 3.738 dB.

**Remarks:**

1. Raw Peak Level (dBuV/m) = Level Peak Reading - Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level – Limit

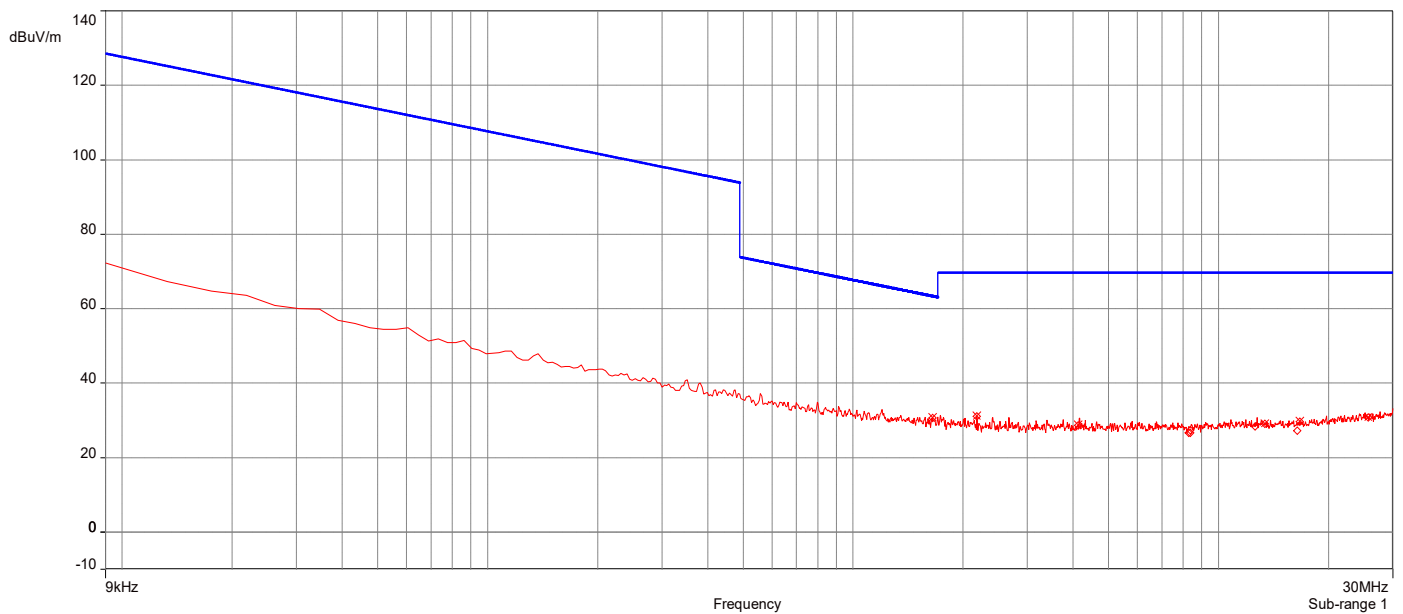
**UNII-1**

**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_9kHz-30MHz\_Ground-Parallel**

11/16/2021 8:49:13 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.650171MHz	30.69	19.12	63.25	-32.57	1.00	287.70	Passed
2.	2.181516MHz	31.03	19.09	69.54	-38.52	1.00	161.20	Passed
3.	4.126924MHz	28.59	19.21	69.54	-40.95	1.00	154.70	Passed
4.	13.391182MHz	29.03	19.62	69.54	-40.52	1.00	154.70	Passed
5.	16.694949MHz	29.68	19.68	69.54	-39.86	1.00	82.30	Passed
6.	25.659254MHz	30.86	20.73	69.54	-38.69	1.00	22.10	Passed

Overall Graphs:



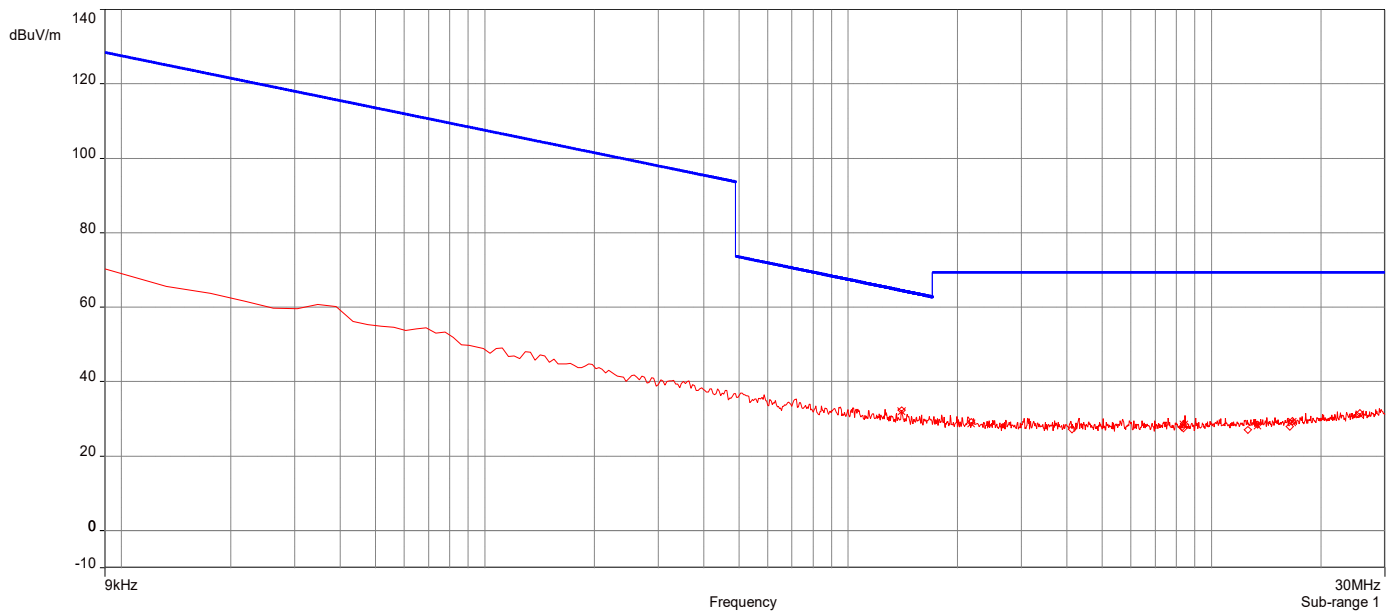


**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_9kHz-30MHz\_Parallel**

11/16/2021 8:39:04 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.401638MHz	32.31	19.15	64.67	-32.36	1.00	264.00	Passed

Overall Graphs:

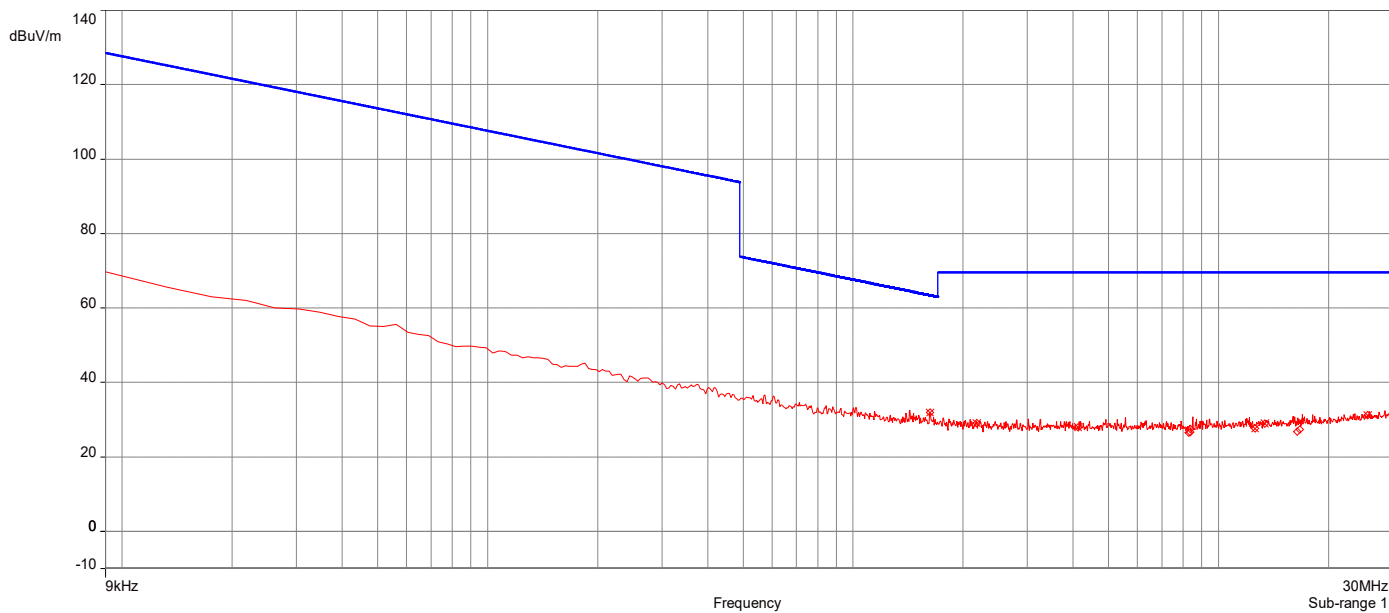


**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_9kHz-30MHz\_Perpendicular**

11/16/2021 8:34:28 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.62446MHz	31.90	19.13	63.39	-31.49	1.00	1.30	Passed
2.	2.177231MHz	29.14	19.09	69.54	-40.40	1.00	11.20	Passed
3.	4.126924MHz	27.91	19.21	69.54	-41.64	1.00	358.90	Passed
4.	12.577024MHz	27.60	19.58	69.54	-41.94	1.00	229.70	Passed
5.	13.391182MHz	29.00	19.62	69.54	-40.54	1.00	168.80	Passed
6.	25.603548MHz	31.17	20.72	69.54	-38.37	1.00	99.10	Passed

Overall Graphs:

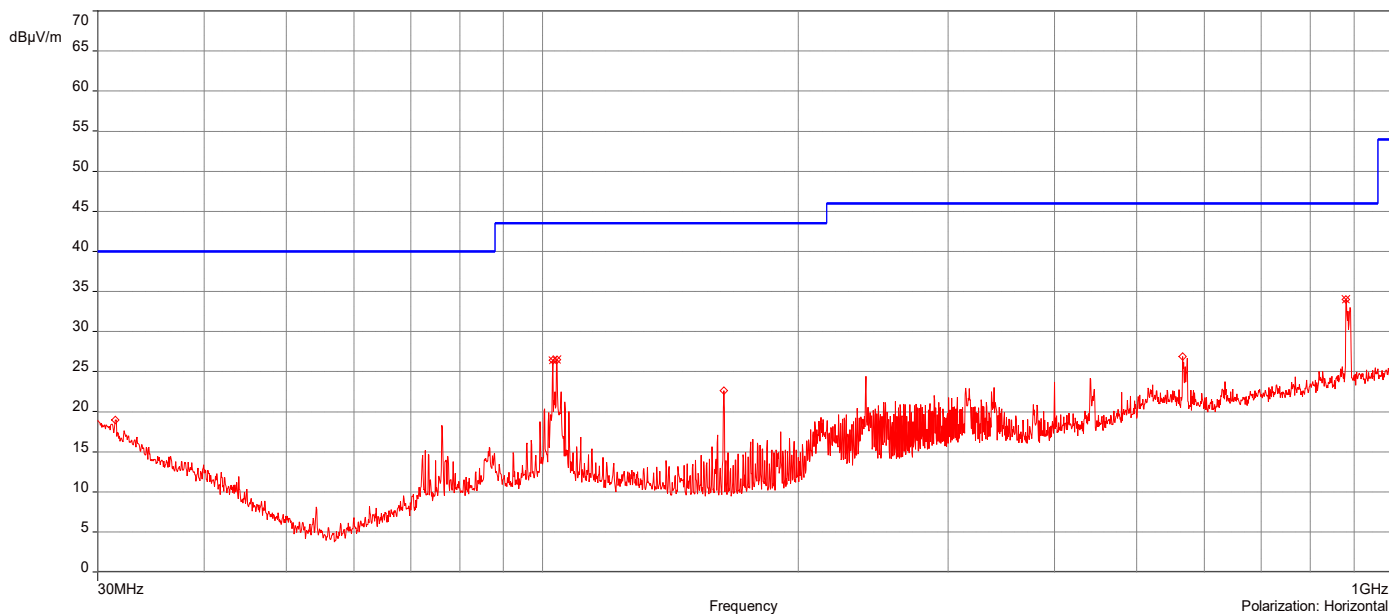


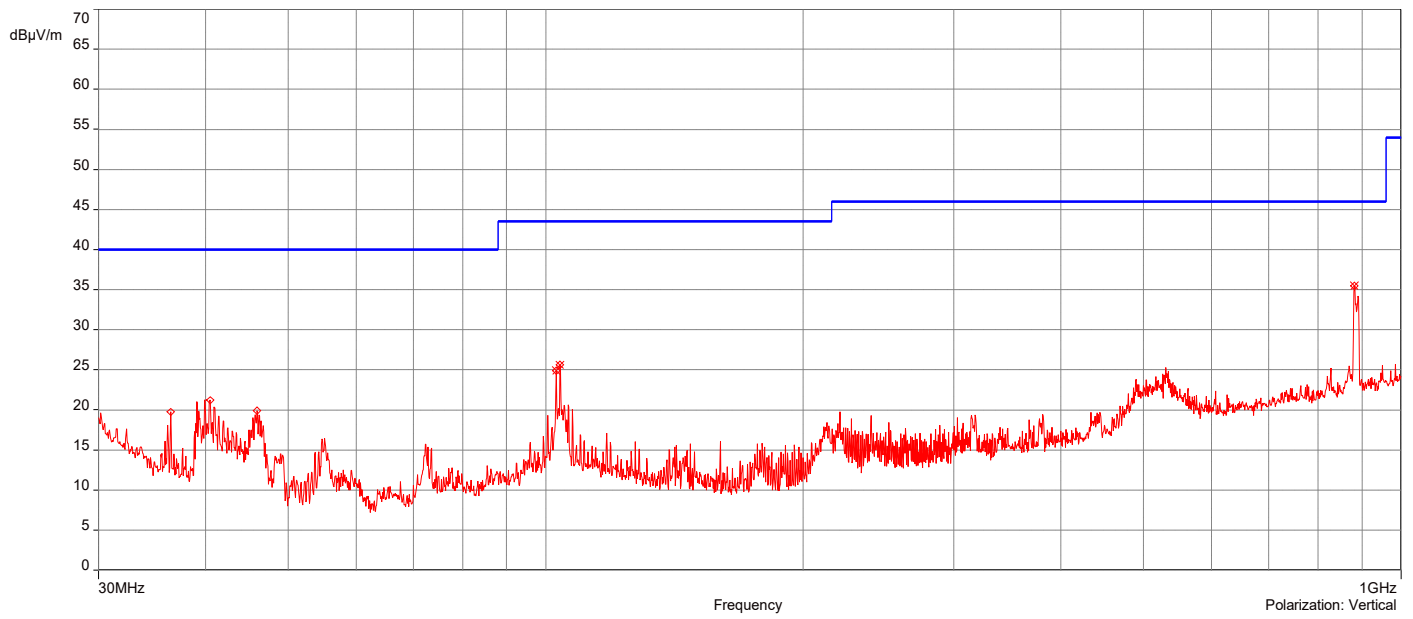
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 36\_30MHz-1GHz**

11/11/2021 1:07:40 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	102.8684MHz	24.91	-13.04	43.50	-18.59	1.00	96.20	Vertical	Passed
2.	103.95258MHz	25.61	-12.97	43.50	-17.89	1.00	99.20	Vertical	Passed
3.	881.19654MHz	35.46	-1.59	46.00	-10.54	1.00	0.10	Vertical	Passed
4.	102.8684MHz	26.39	-13.74	43.50	-17.11	2.50	225.30	Horizontal	Passed
5.	104.00965MHz	26.50	-13.67	43.50	-17.00	2.75	227.90	Horizontal	Passed
6.	880.96829MHz	34.02	-0.49	46.00	-11.98	2.00	320.70	Horizontal	Passed

Overall Graphs:



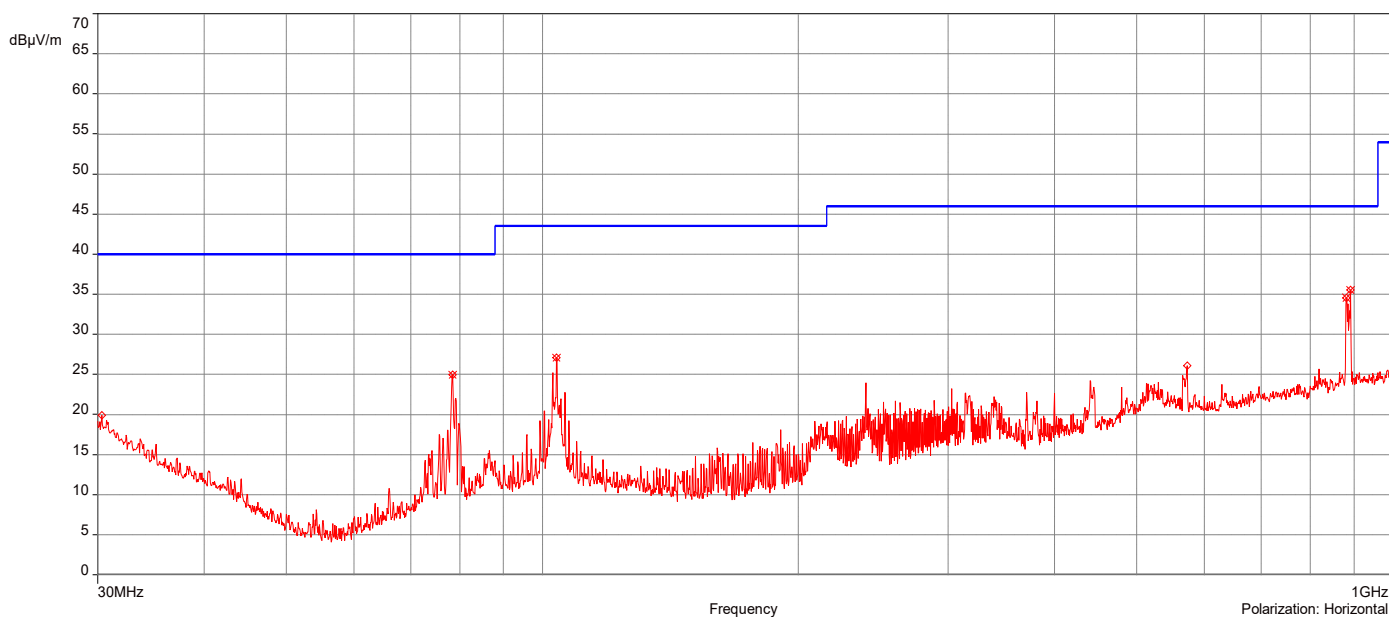


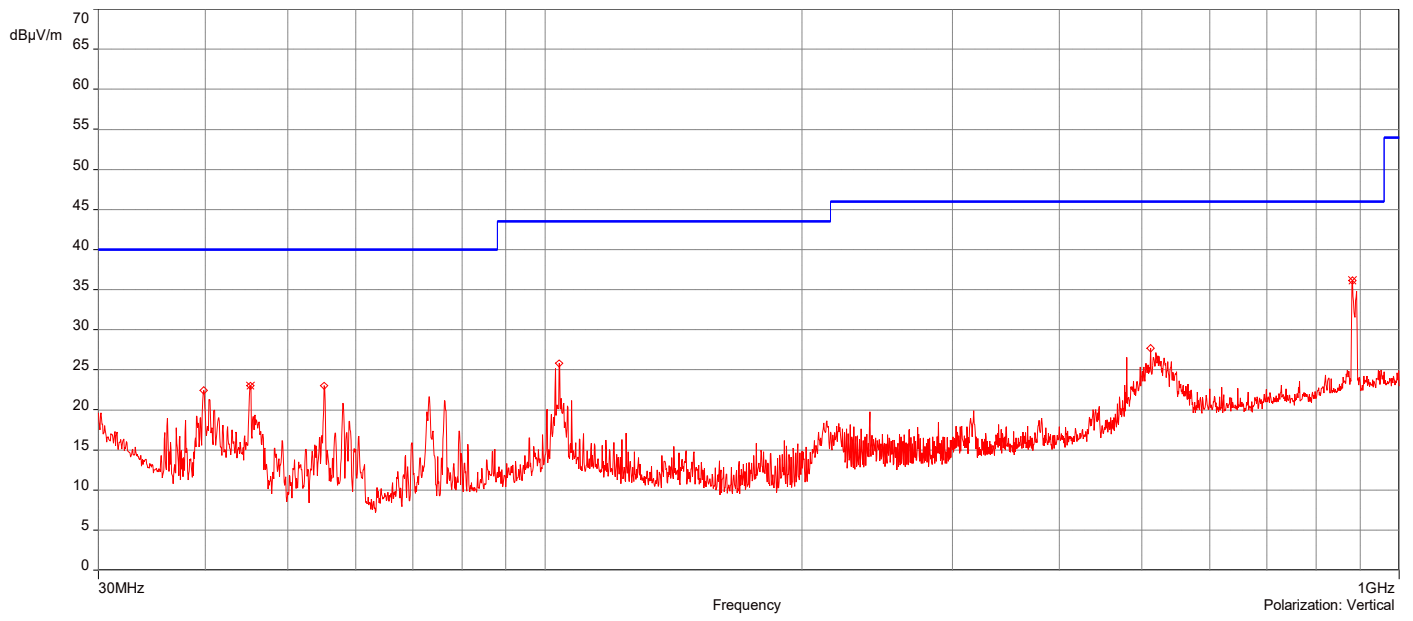
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_30MHz-1GHz**

11/11/2021 1:56:17 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	45.17854MHz	23.04	-15.81	40.00	-16.96	1.25	25.30	Vertical	Passed
2.	881.48185MHz	36.15	-1.59	46.00	-9.85	2.00	14.60	Vertical	Passed
3.	78.388729MHz	24.96	-15.16	40.00	-15.04	2.25	7.40	Horizontal	Passed
4.	103.95258MHz	27.06	-13.67	43.50	-16.44	2.75	224.70	Horizontal	Passed
5.	881.53891MHz	34.51	-0.49	46.00	-11.49	2.00	37.00	Horizontal	Passed
6.	891.46773MHz	35.56	-0.36	46.00	-10.44	1.75	310.50	Horizontal	Passed

Overall Graphs:



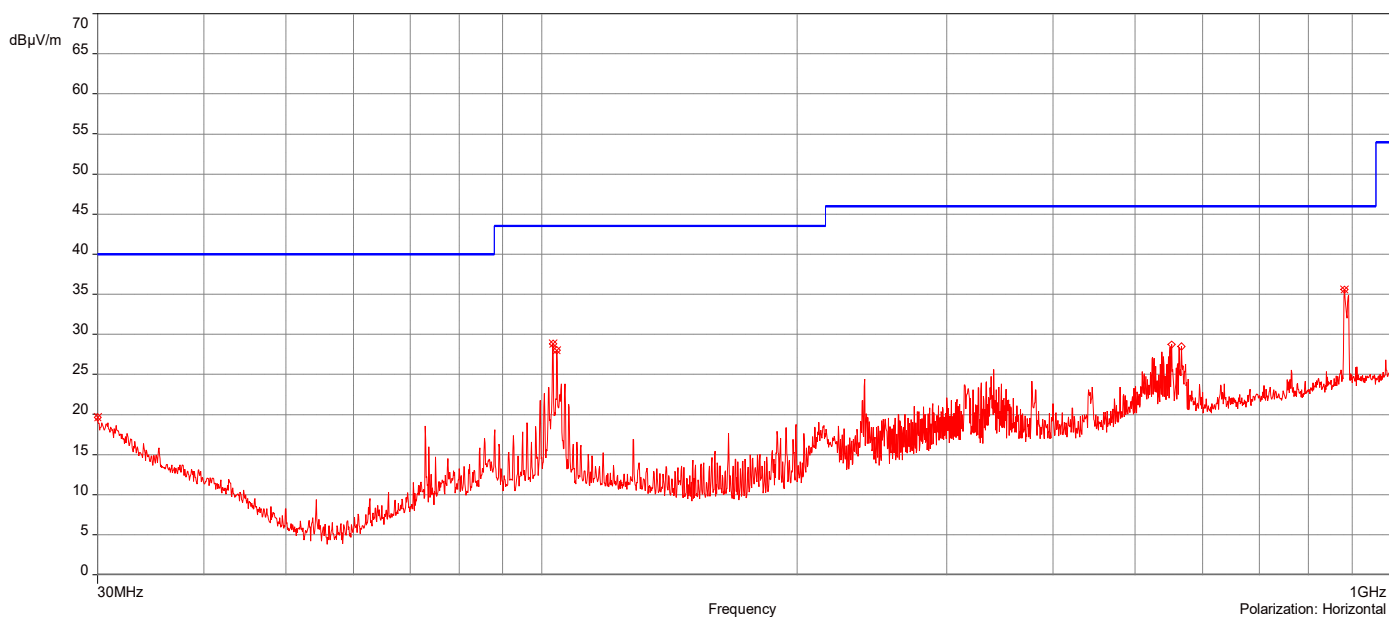


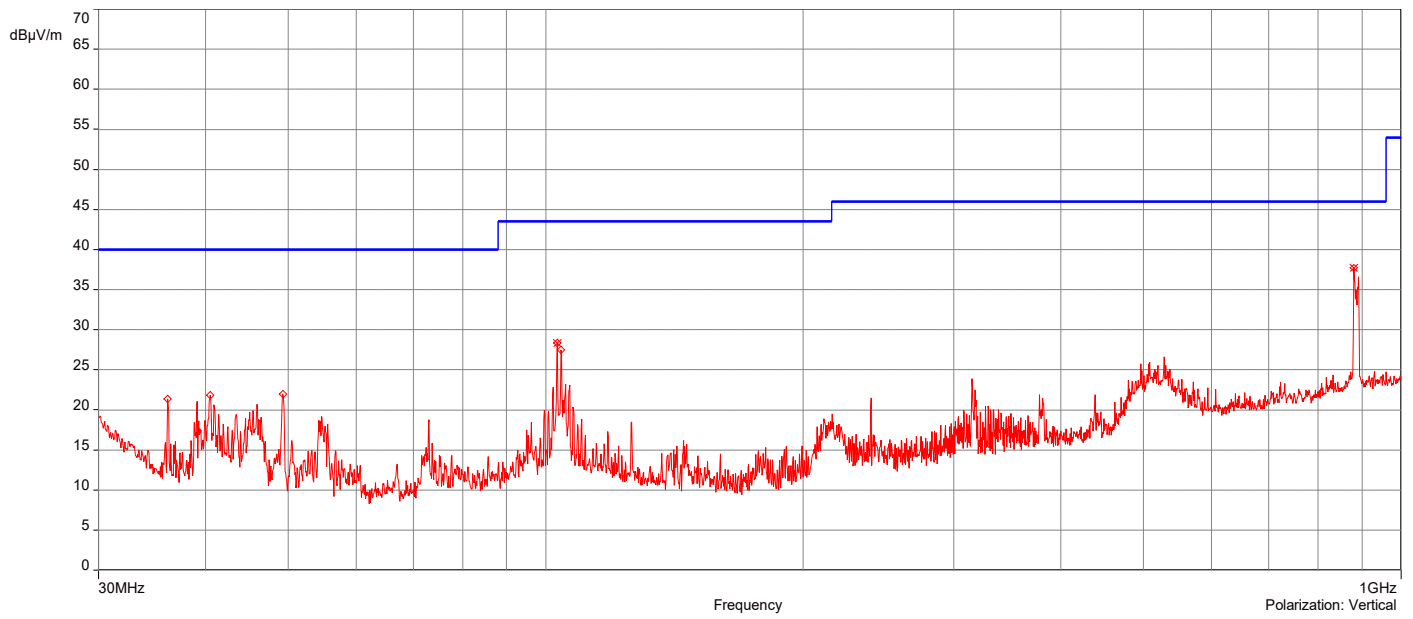
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 48\_30MHz-1GHz**

11/12/2021 6:44:46 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	103.15372MHz	28.38	-13.03	43.50	-15.12	1.00	100.70	Vertical	Passed
2.	880.96829MHz	37.71	-1.59	46.00	-8.29	2.00	0.10	Vertical	Passed
3.	30MHz	19.66	-5.22	29.50	-9.84	3.25	196.70	Horizontal	Passed
4.	103.09665MHz	28.81	-13.73	43.50	-14.69	2.75	226.90	Horizontal	Passed
5.	104.2379MHz	28.02	-13.65	43.50	-15.48	2.50	220.80	Horizontal	Passed
6.	881.53891MHz	35.64	-0.49	46.00	-10.36	2.00	307.10	Horizontal	Passed

Overall Graphs:







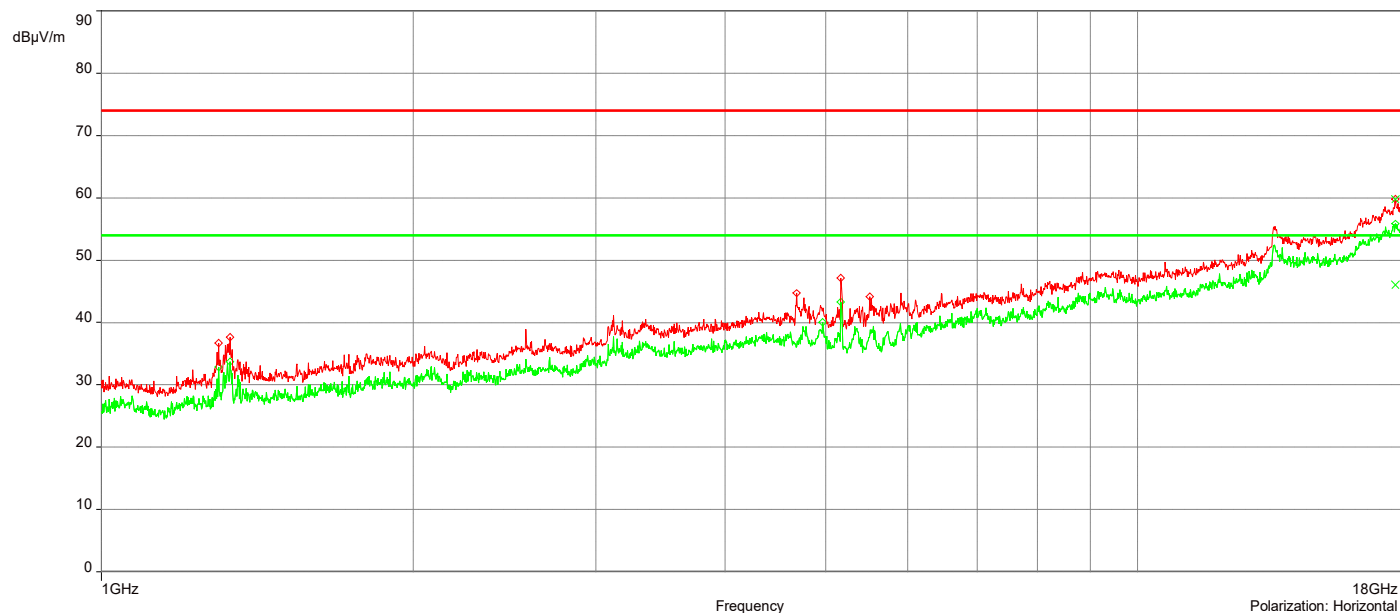
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 36\_1-18GHz**

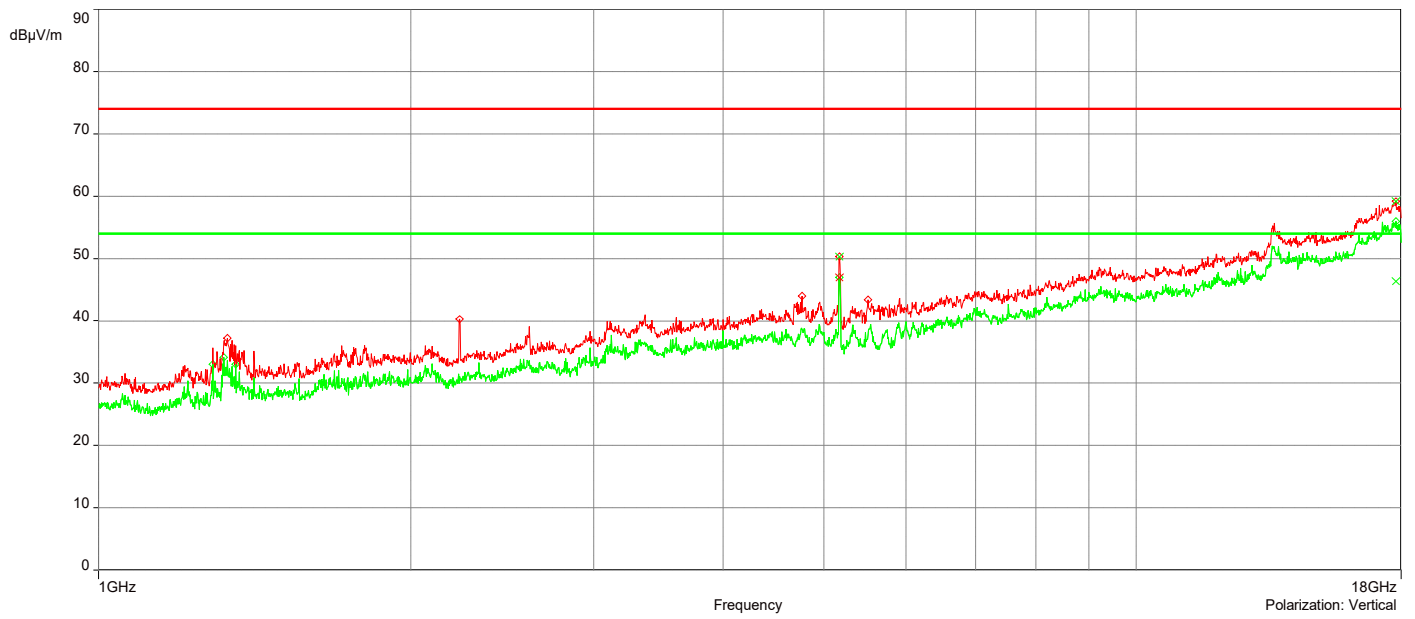
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.738492GHz	59.77	18.22	74.00	-14.23	3.00	249.20	Horizontal	Passed
2.	17.786994GHz	59.20	18.31	74.00	-14.80	1.50	243.40	Vertical	Passed
3.	5.1771229GHz	50.35	3.89	74.00	-23.65	4.00	0.10	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1771229GHz	46.97	3.89	54.00	-7.03	4.00	0.10	Vertical	Passed
2.	17.797994GHz	46.40	18.32	54.00	-7.60	4.00	291.10	Vertical	Passed
3.	17.739492GHz	46.05	18.25	54.00	-7.95	2.00	6.10	Horizontal	Passed

Overall Graphs:





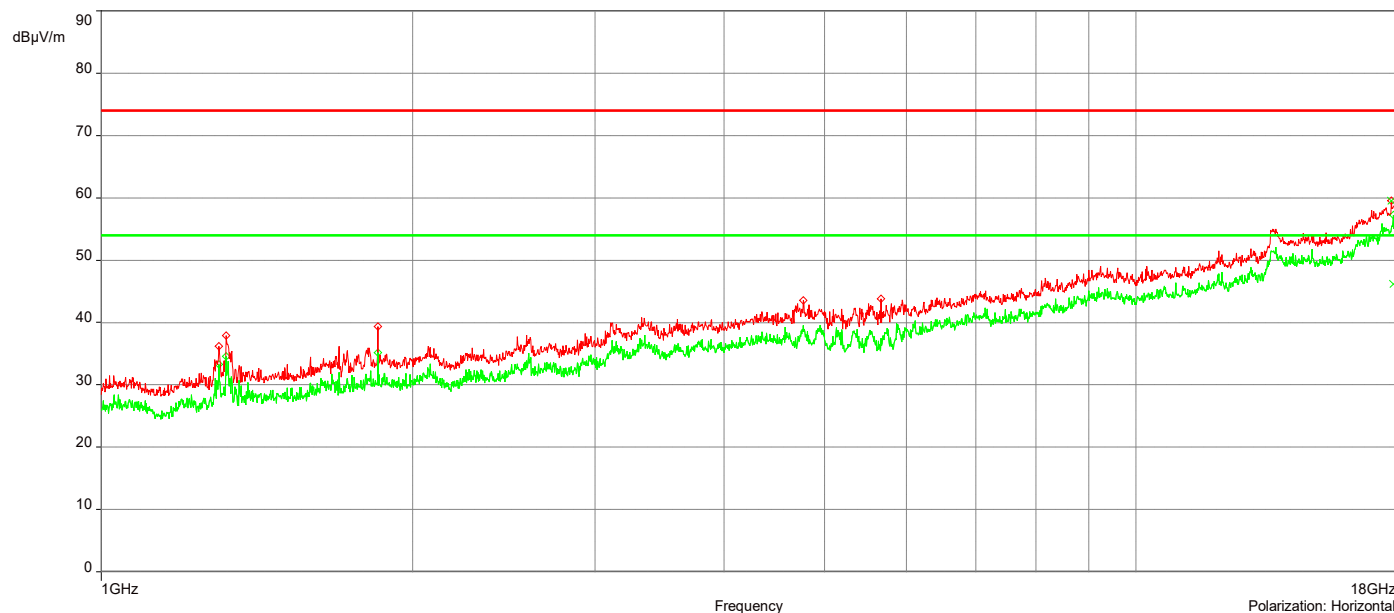
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_1-18GHz**

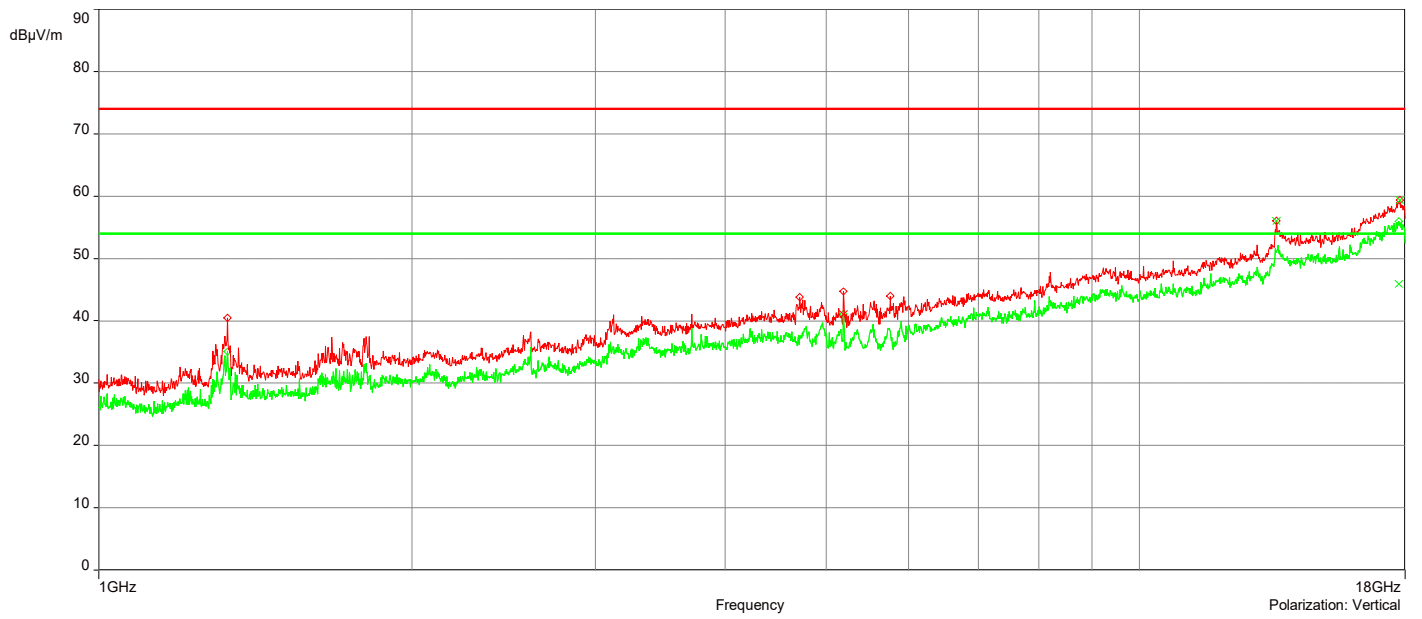
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	13.542369GHz	56.00	12.52	74.00	-18.00	3.50	111.80	Vertical	Passed
2.	17.794494GHz	59.39	18.32	74.00	-14.61	3.50	307.80	Vertical	Passed
3.	17.641989GHz	59.52	18.24	74.00	-14.48	1.50	121.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.741992GHz	46.24	18.22	54.00	-7.76	3.00	1.90	Horizontal	Passed
2.	17.752493GHz	45.92	18.22	54.00	-8.08	2.00	277.90	Vertical	Passed
3.	5.1956234GHz	41.06	3.89	54.00	-12.94	3.50	0.10	Vertical	Passed

Overall Graphs:





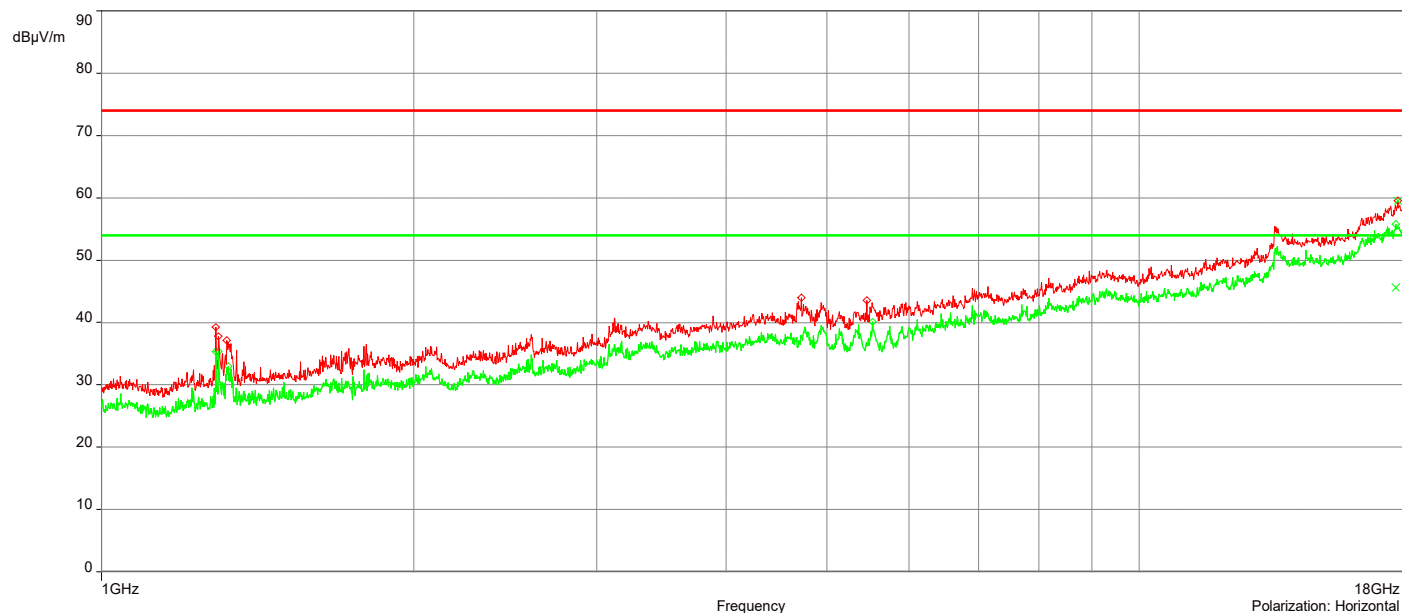
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 48\_1-18GHz**

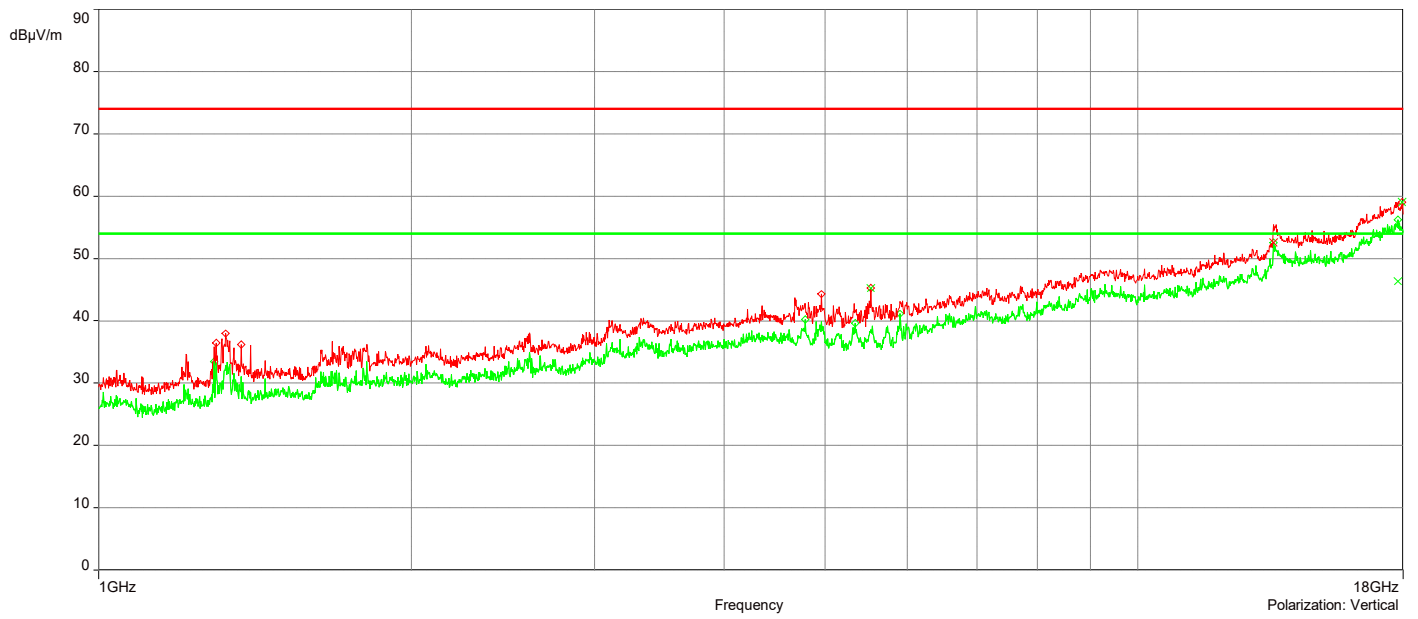
11/30/2021 3:53:04 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.743492GHz	59.59	18.22	74.00	-14.41	3.00	87.00	Horizontal	Passed
2.	17.952999GHz	59.04	18.52	74.00	-14.96	3.50	276.60	Vertical	Passed
3.	5.5341334GHz	45.30	4.59	74.00	-28.70	3.50	0.10	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.678491GHz	45.59	18.25	54.00	-8.41	1.00	254.90	Horizontal	Passed
2.	17.792494GHz	46.38	18.32	54.00	-7.62	1.50	17.10	Vertical	Passed
3.	13.507368GHz	52.54	12.49	54.00	-1.46	3.00	12.90	Vertical	Passed

Overall Graphs:





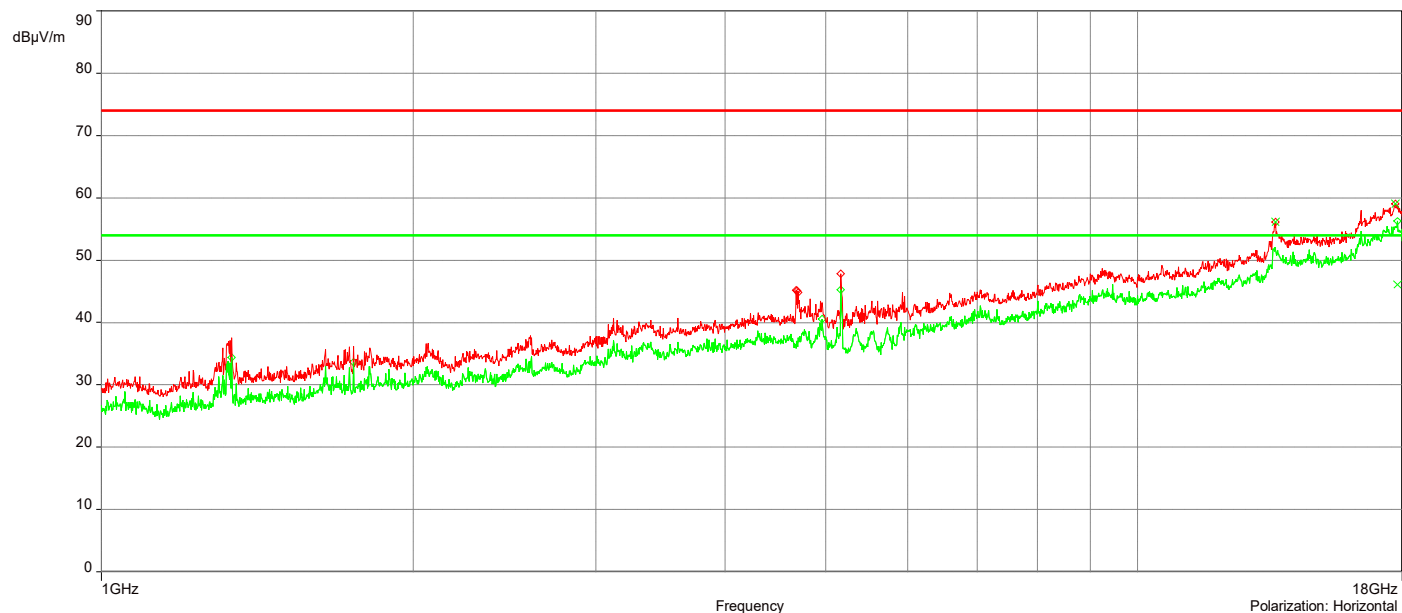
**AH21100601-HAR-134#004\_5G UNII-1 802.11n\_Ch 36 (HT20)\_1-18GHz**

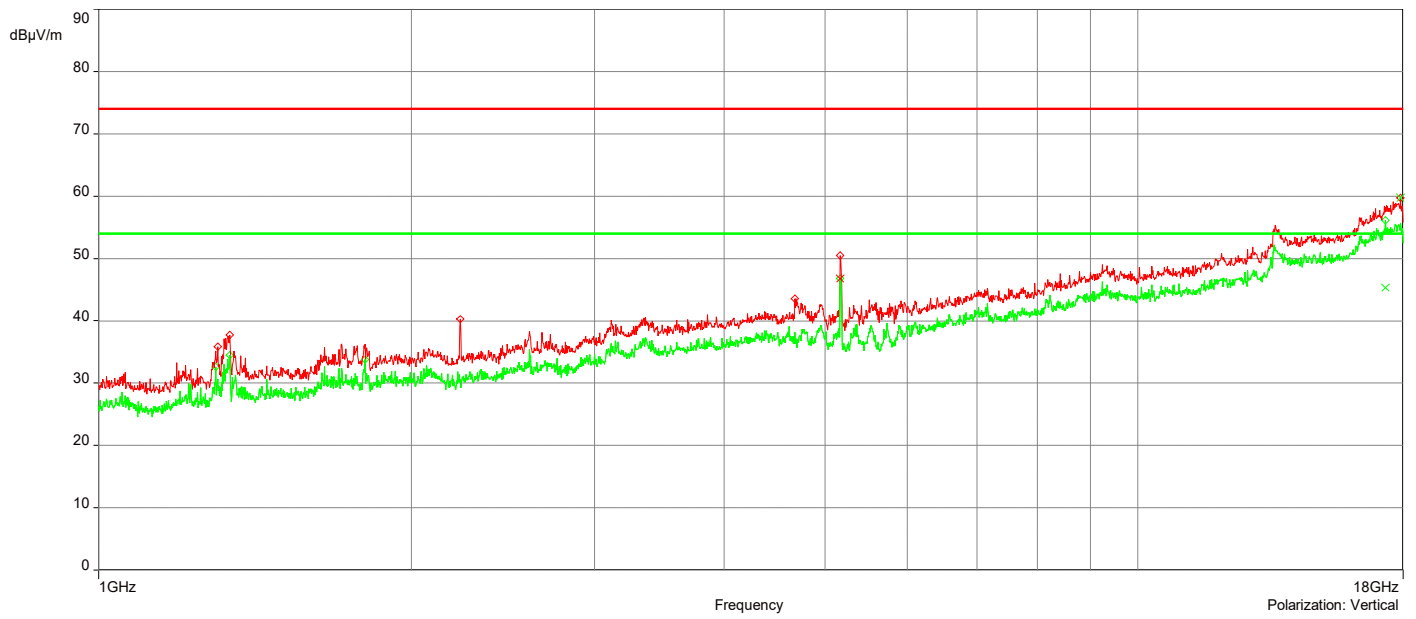
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	13.58887GHz	56.11	12.67	74.00	-17.89	4.00	1.70	Horizontal	Passed
2.	17.741992GHz	59.00	18.22	74.00	-15.00	3.00	186.20	Horizontal	Passed
3.	17.891997GHz	59.68	18.36	74.00	-14.32	3.50	116.60	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1716227GHz	46.79	3.89	54.00	-7.21	4.00	0.20	Vertical	Passed
2.	17.301479GHz	45.36	17.67	54.00	-8.64	1.50	330.90	Vertical	Passed
3.	17.808494GHz	46.11	18.29	54.00	-7.89	2.50	164.10	Horizontal	Passed

Overall Graphs:







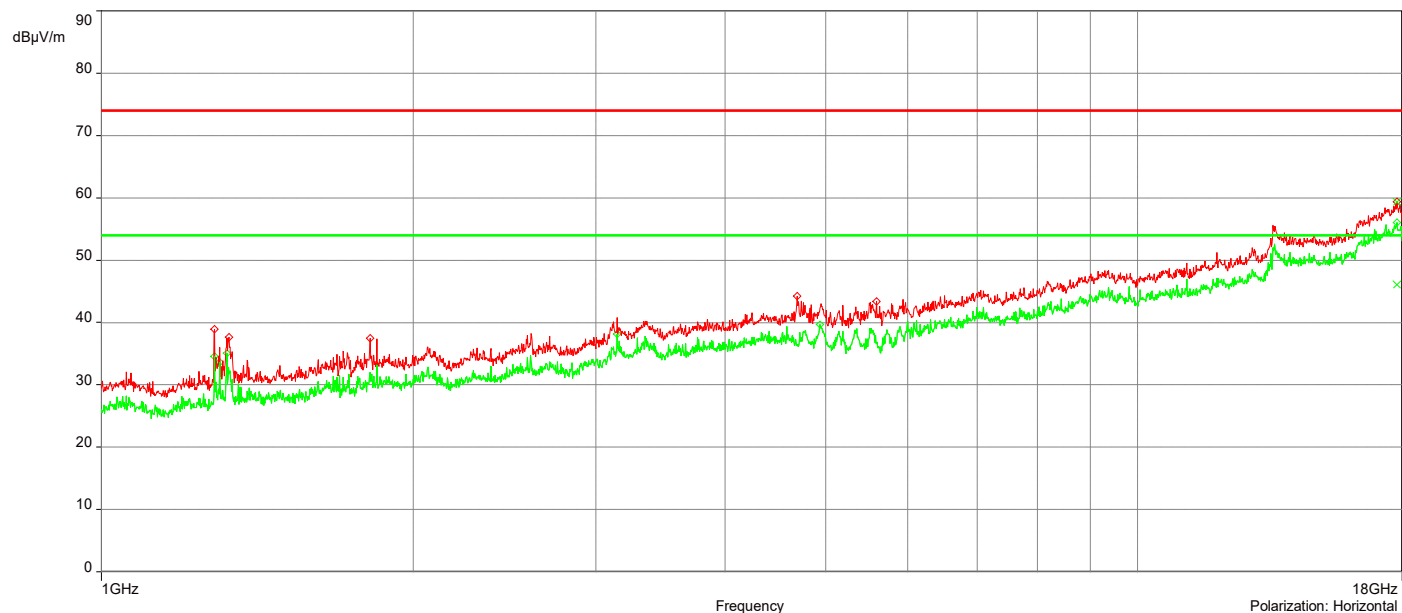
**AH21100601-HAR-134#004\_5G UNII-1 802.11n\_Ch 40 (HT20)\_1-18GHz**

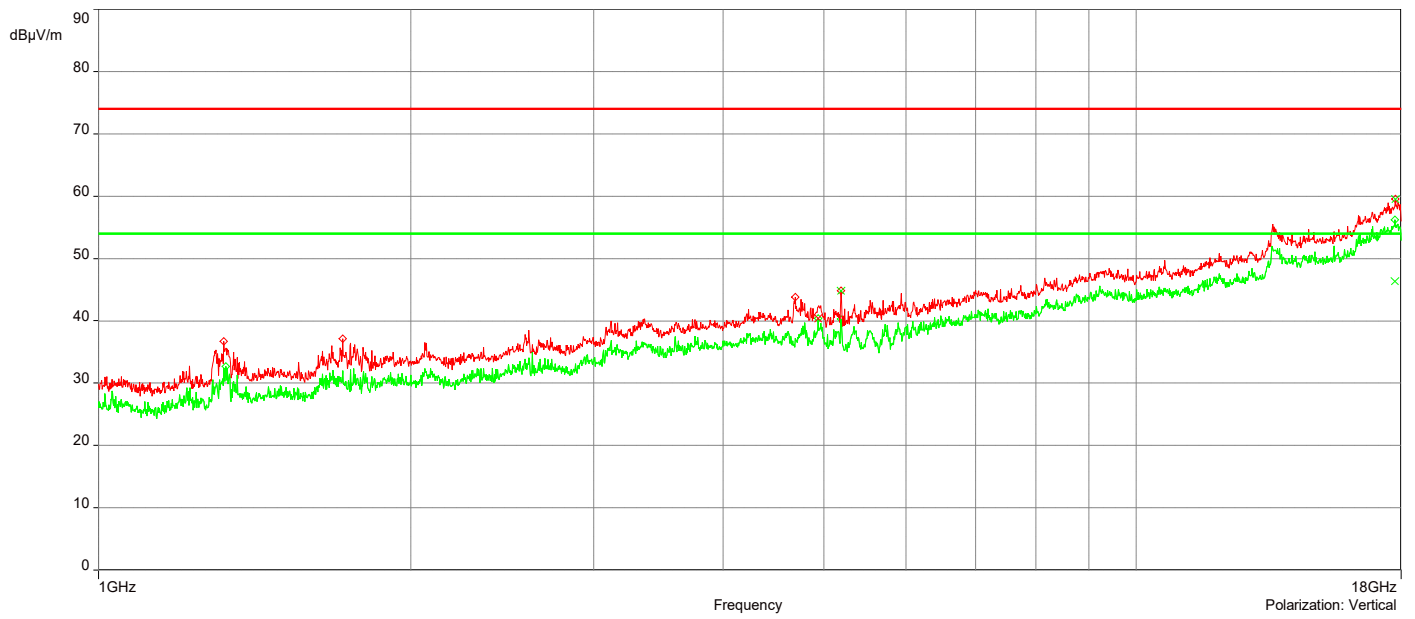
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1921233GHz	44.79	3.89	74.00	-29.21	4.00	359.90	Vertical	Passed
2.	17.803994GHz	59.41	18.29	74.00	-14.59	4.00	261.20	Horizontal	Passed
3.	17.772993GHz	59.51	18.29	74.00	-14.49	1.00	142.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.761493GHz	46.35	18.28	54.00	-7.65	3.00	81.10	Vertical	Passed
2.	17.795494GHz	46.15	18.32	54.00	-7.85	3.00	162.90	Horizontal	Passed
3.	4.9361158GHz	40.40	4.40	54.00	-13.60	1.50	197.10	Vertical	Passed

Overall Graphs:





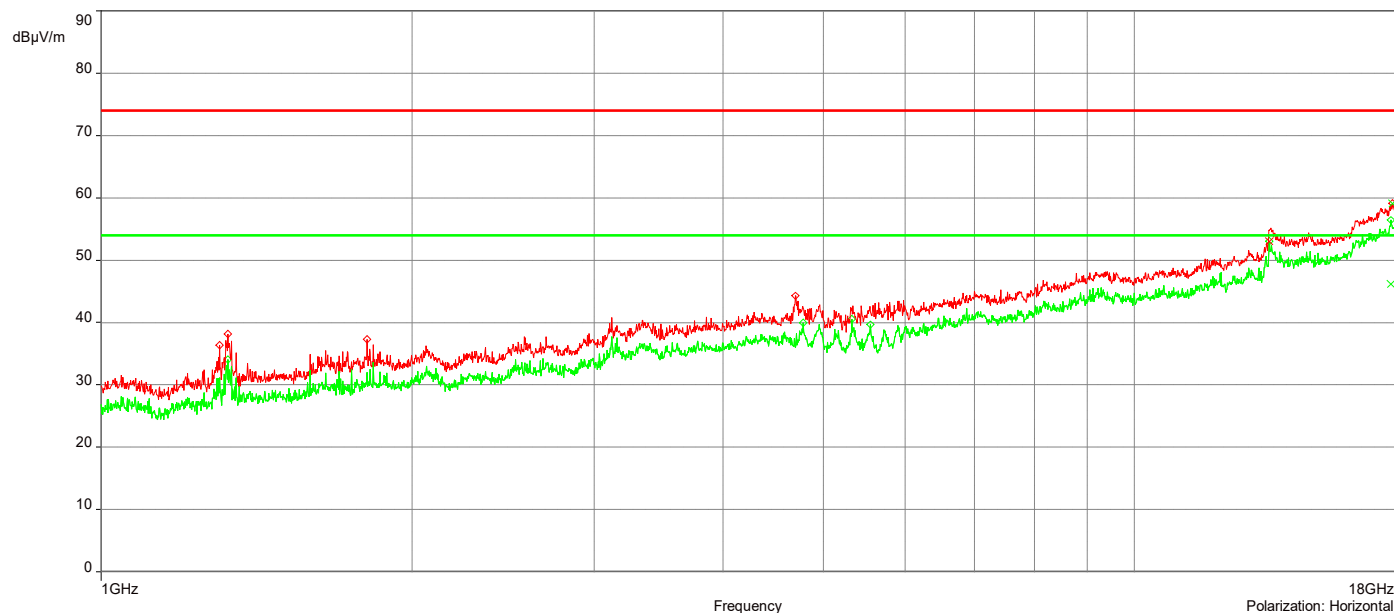
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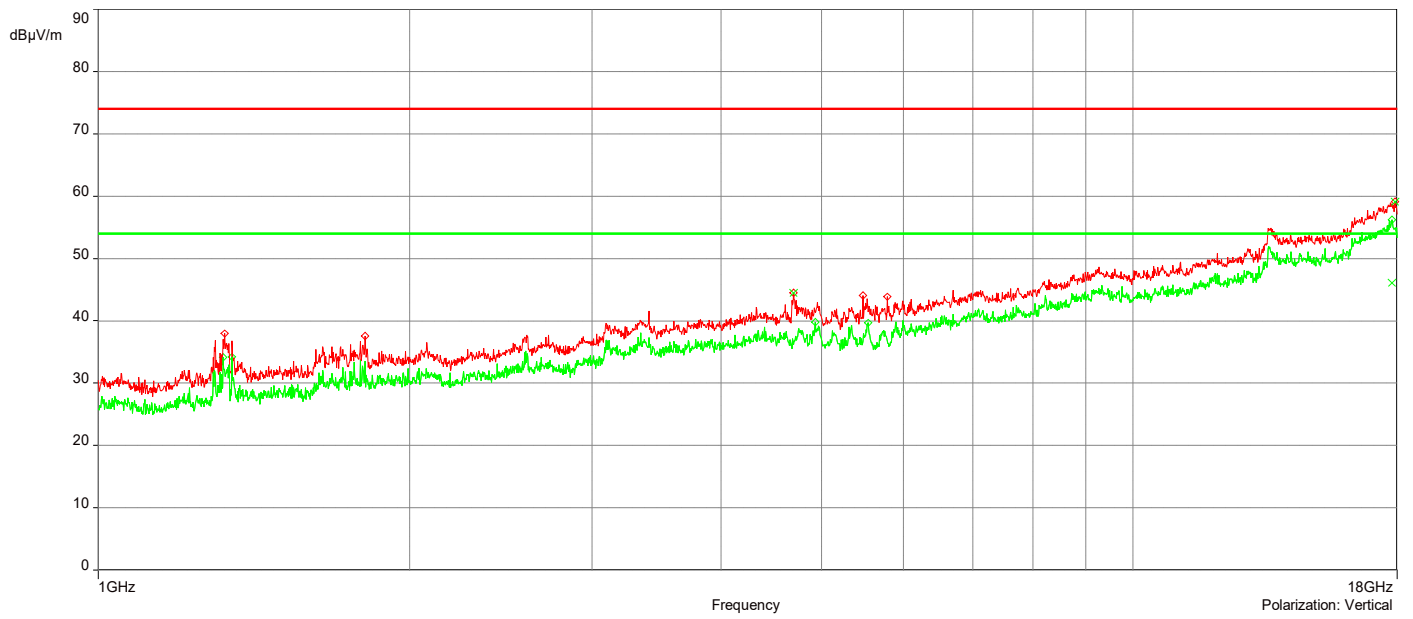
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.912997GHz	59.16	18.40	74.00	-14.84	3.00	74.70	Vertical	Passed
2.	17.781494GHz	59.09	18.26	74.00	-14.91	4.00	106.10	Horizontal	Passed
3.	4.6986088GHz	44.47	3.47	74.00	-29.53	2.50	359.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.802994GHz	46.13	18.29	54.00	-7.87	2.50	197.90	Vertical	Passed
2.	17.712492GHz	46.18	18.23	54.00	-7.82	2.00	0.10	Horizontal	Passed
3.	13.509868GHz	53.08	12.59	54.00	-0.92	1.50	110.20	Horizontal	Passed

Overall Graphs:





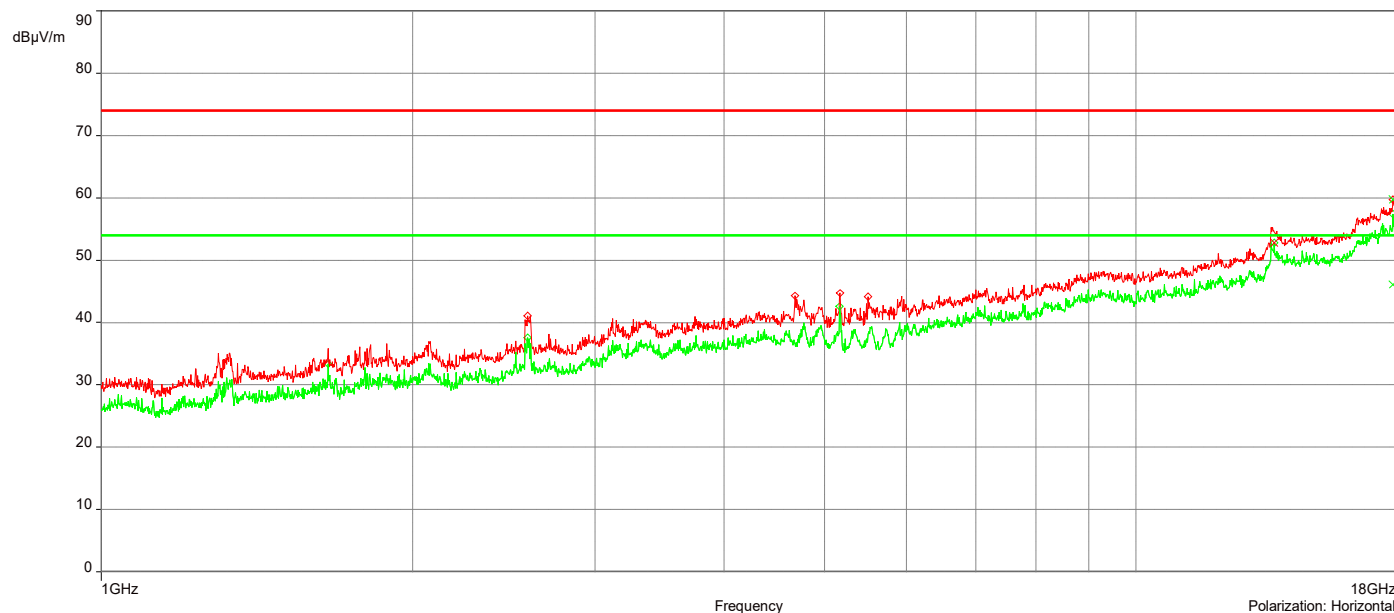
**AH21100601-HAR-134#004\_5G UNII-1 802.11n\_Ch 38 (HT40)\_1-18GHz**

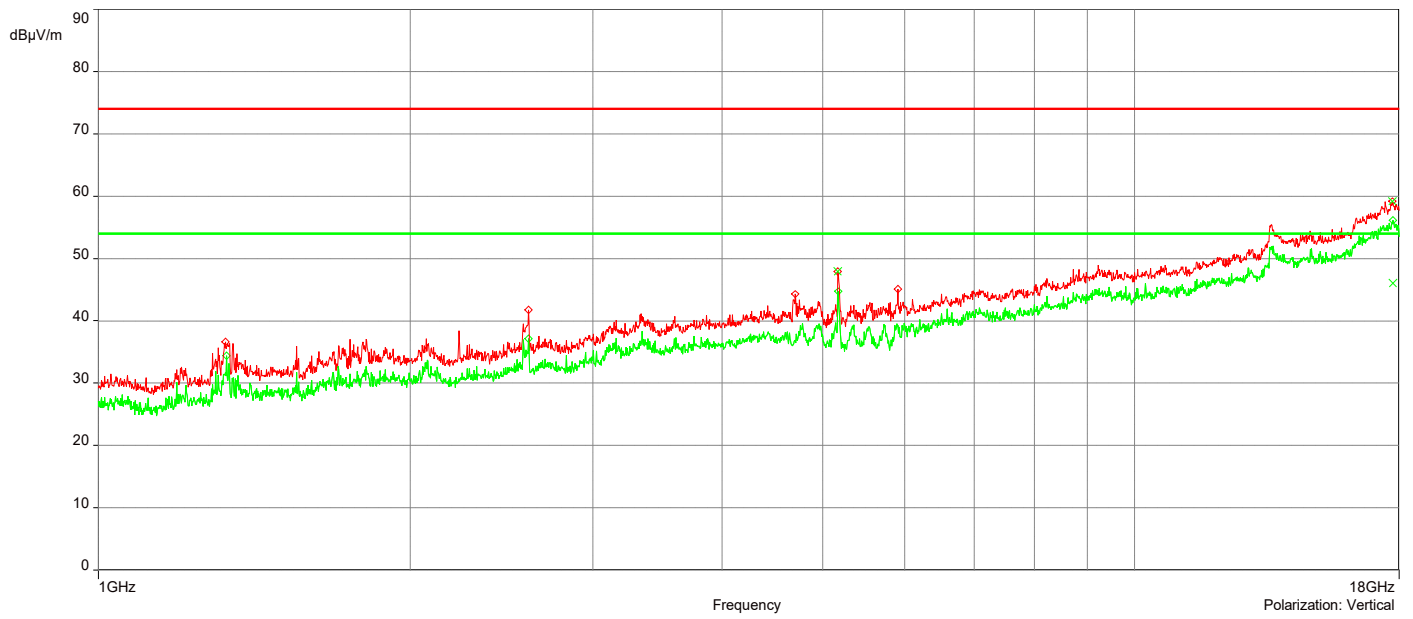
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.715492GHz	59.68	18.23	74.00	-14.32	3.50	272.60	Horizontal	Passed
2.	17.725492GHz	59.20	18.24	74.00	-14.80	1.50	219.50	Vertical	Passed
3.	5.1726227GHz	47.89	3.89	74.00	-26.11	4.00	0.10	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.759493GHz	46.04	18.23	54.00	-7.96	2.00	357.90	Vertical	Passed
2.	17.707991GHz	46.15	18.23	54.00	-7.85	1.00	87.10	Horizontal	Passed
3.	13.604371GHz	52.80	12.71	54.00	-1.20	1.50	100.40	Horizontal	Passed

Overall Graphs:





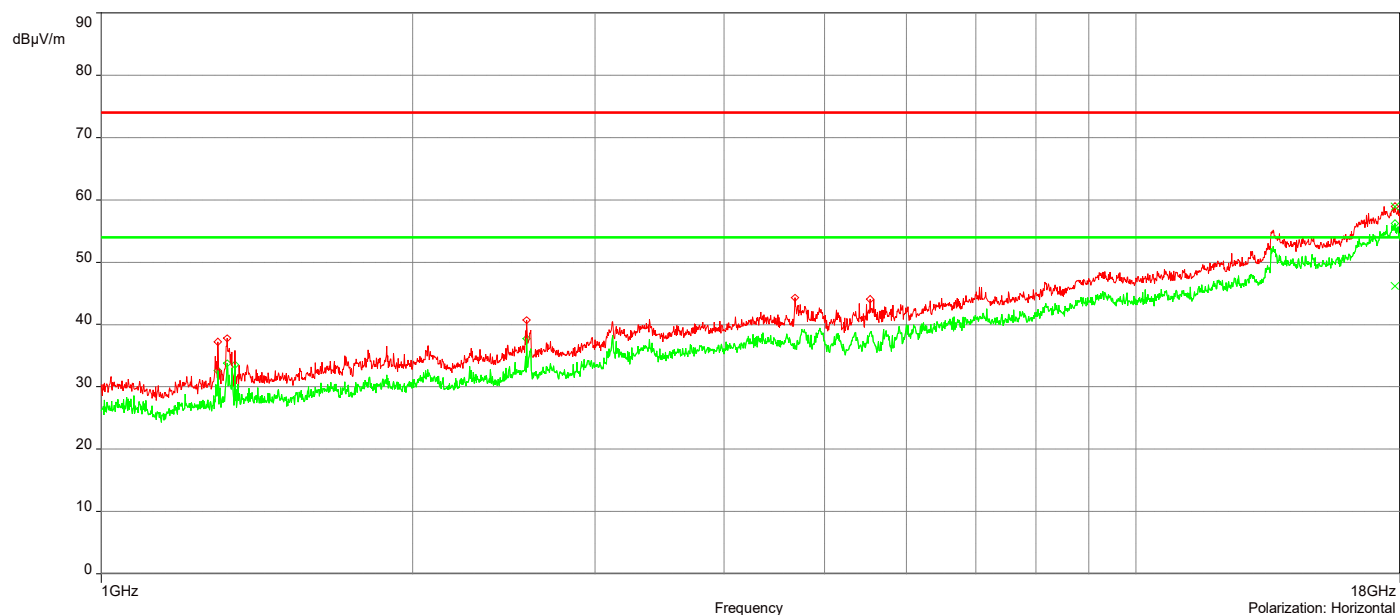
**AH21100601-HAR-134#004\_5G UNII-1 802.11n\_Ch 46 (HT40)\_1-18GHz**

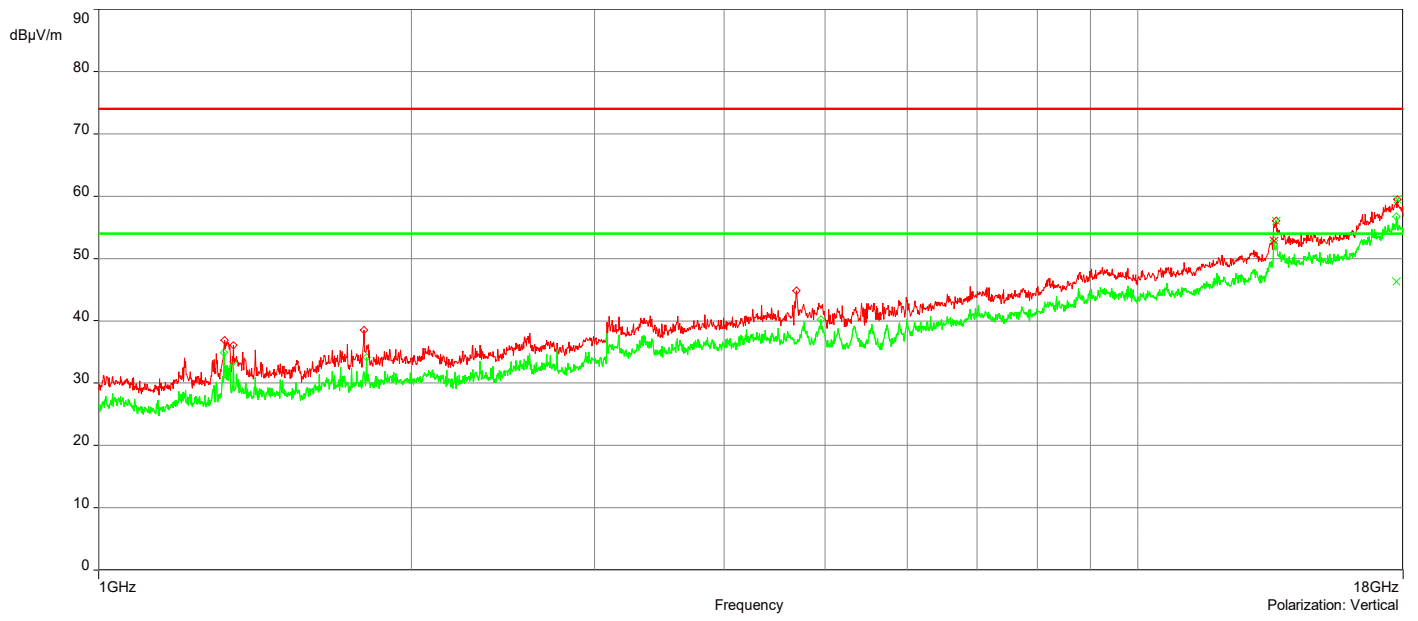
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	13.59037GHz	56.06	12.62	74.00	-17.94	2.00	197.50	Vertical	Passed
2.	17.802494GHz	58.99	18.29	74.00	-15.01	3.00	302.90	Horizontal	Passed
3.	17.769493GHz	59.46	18.29	74.00	-14.54	2.50	359.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	13.520368GHz	52.88	12.50	54.00	-1.12	1.00	215.20	Vertical	Passed
2.	17.736492GHz	46.29	18.25	54.00	-7.71	3.50	354.20	Vertical	Passed
3.	17.802494GHz	46.17	18.29	54.00	-7.83	3.00	302.90	Horizontal	Passed

Overall Graphs:







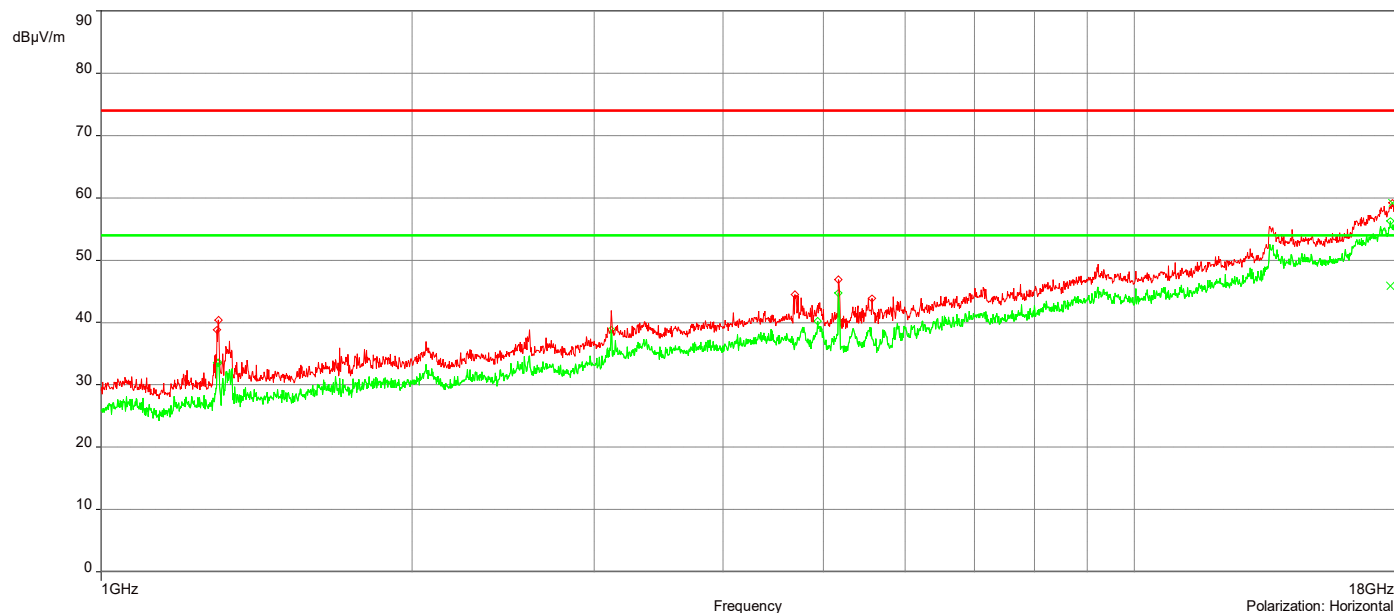
**AH21100601-HAR-134#004\_5G UNII-1 802.11ac\_Ch 36 (VHT20)\_1-18GHz**

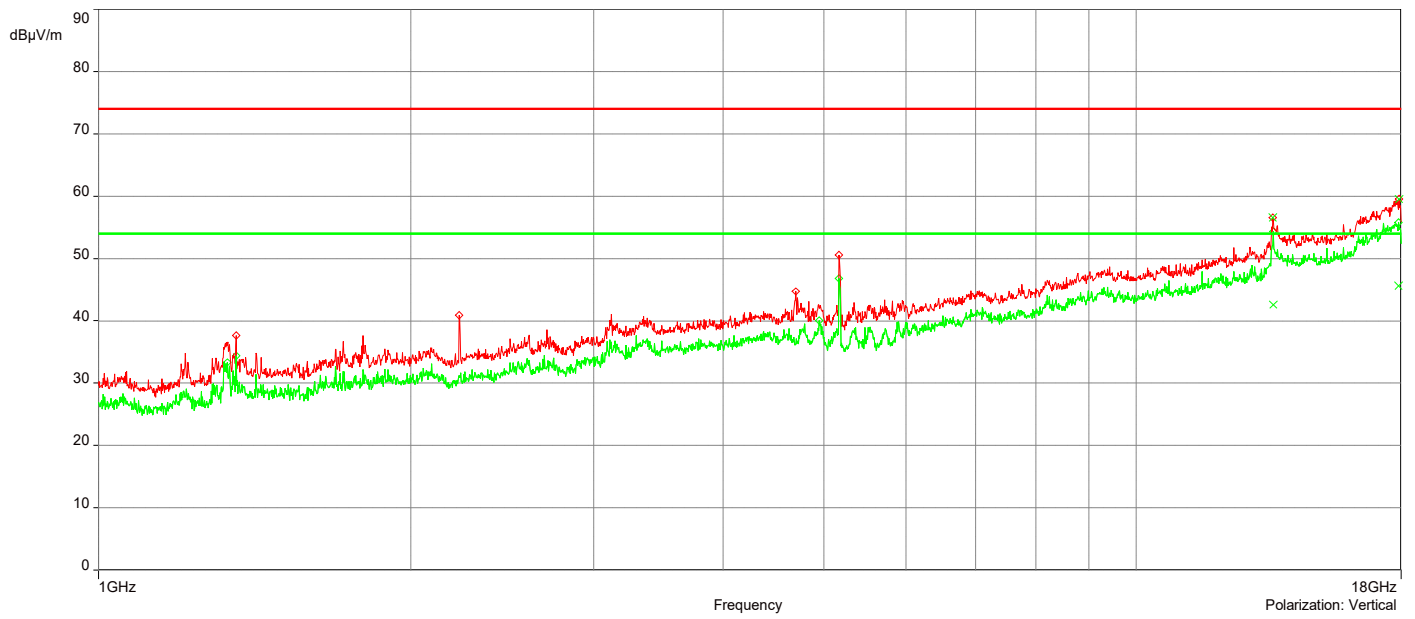
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.909997GHz	59.58	18.39	74.00	-14.42	2.00	277.90	Vertical	Passed
2.	17.771993GHz	59.17	18.25	74.00	-14.83	2.50	359.90	Horizontal	Passed
3.	13.546369GHz	56.52	12.53	74.00	-17.48	3.00	16.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.906497GHz	45.63	18.30	54.00	-8.37	3.50	329.90	Vertical	Passed
2.	17.694991GHz	45.83	18.23	54.00	-8.17	1.50	193.10	Horizontal	Passed
3.	13.549369GHz	42.58	12.53	54.00	-11.42	1.50	244.10	Vertical	Passed

Overall Graphs:





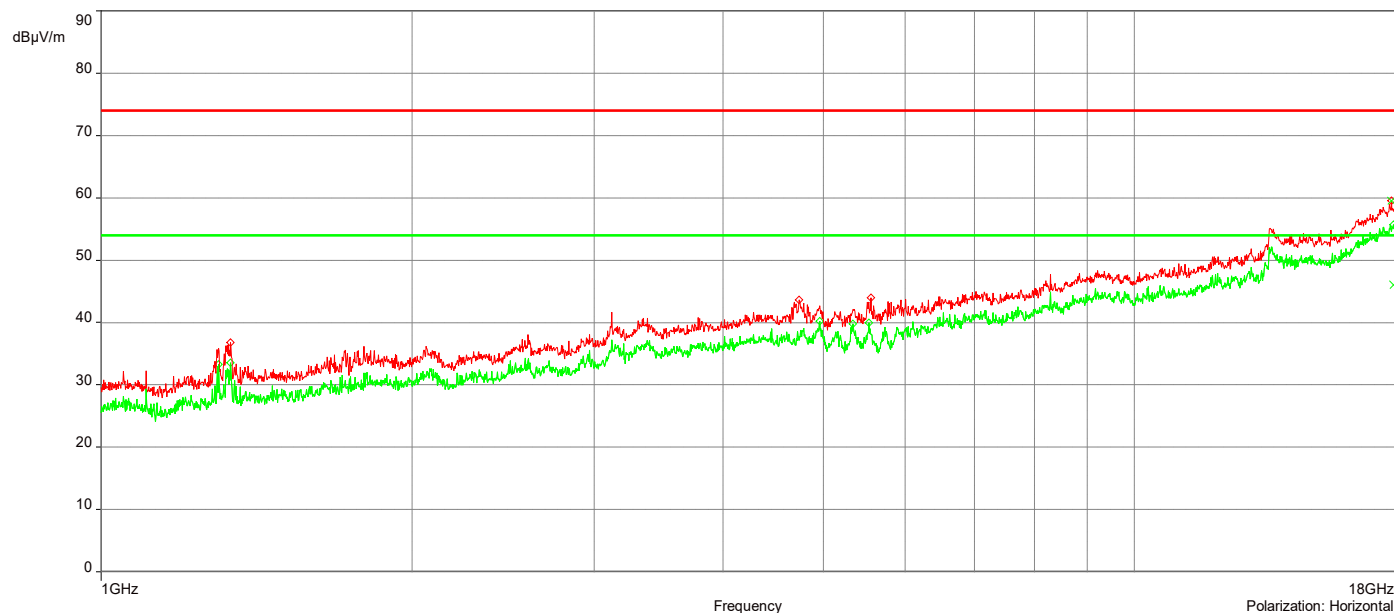
**AH21100601-HAR-134#004\_5G UNII-1 802.11ac\_Ch 40 (VHT20)\_1-18GHz**

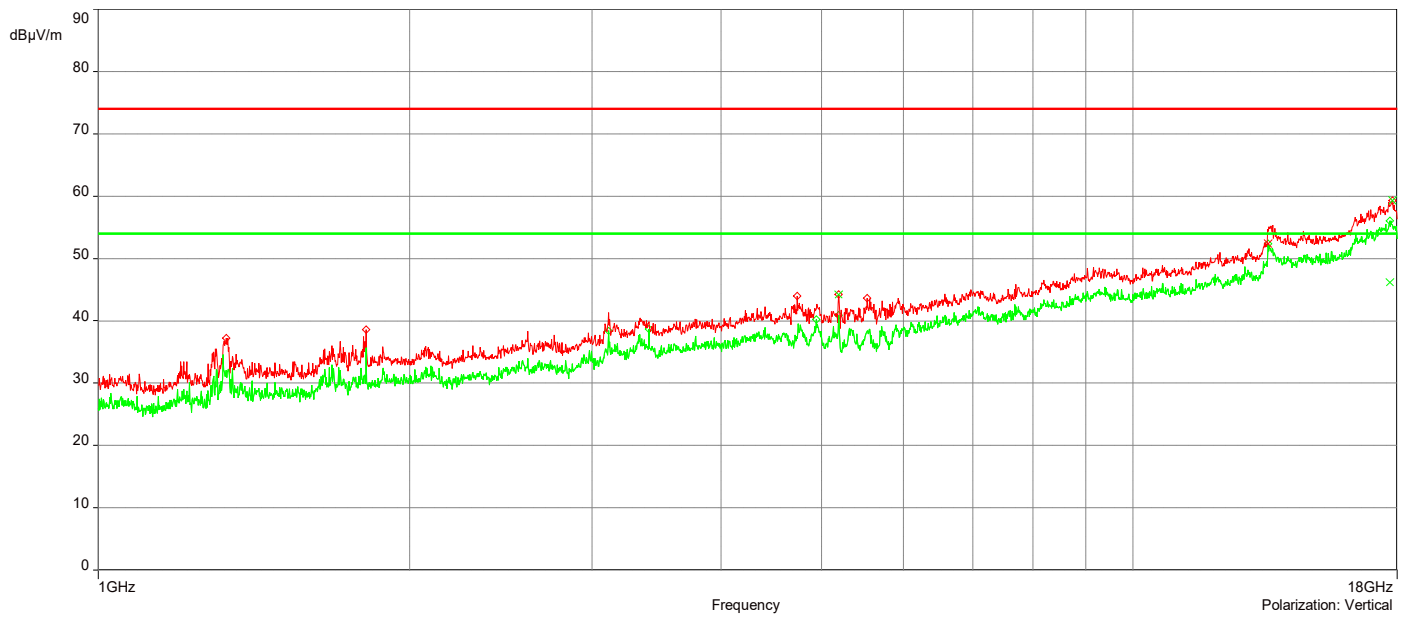
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.730992GHz	59.53	18.22	74.00	-14.47	1.00	46.60	Horizontal	Passed
2.	17.816995GHz	59.31	18.34	74.00	-14.69	2.50	127.10	Vertical	Passed
3.	5.1921233GHz	44.19	3.89	74.00	-29.81	1.50	358.40	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.824495GHz	45.99	18.34	54.00	-8.01	2.00	203.20	Horizontal	Passed
2.	17.716492GHz	46.20	18.24	54.00	-7.80	1.00	337.10	Vertical	Passed
3.	13.504868GHz	52.37	12.48	54.00	-1.63	2.50	359.90	Vertical	Passed

Overall Graphs:





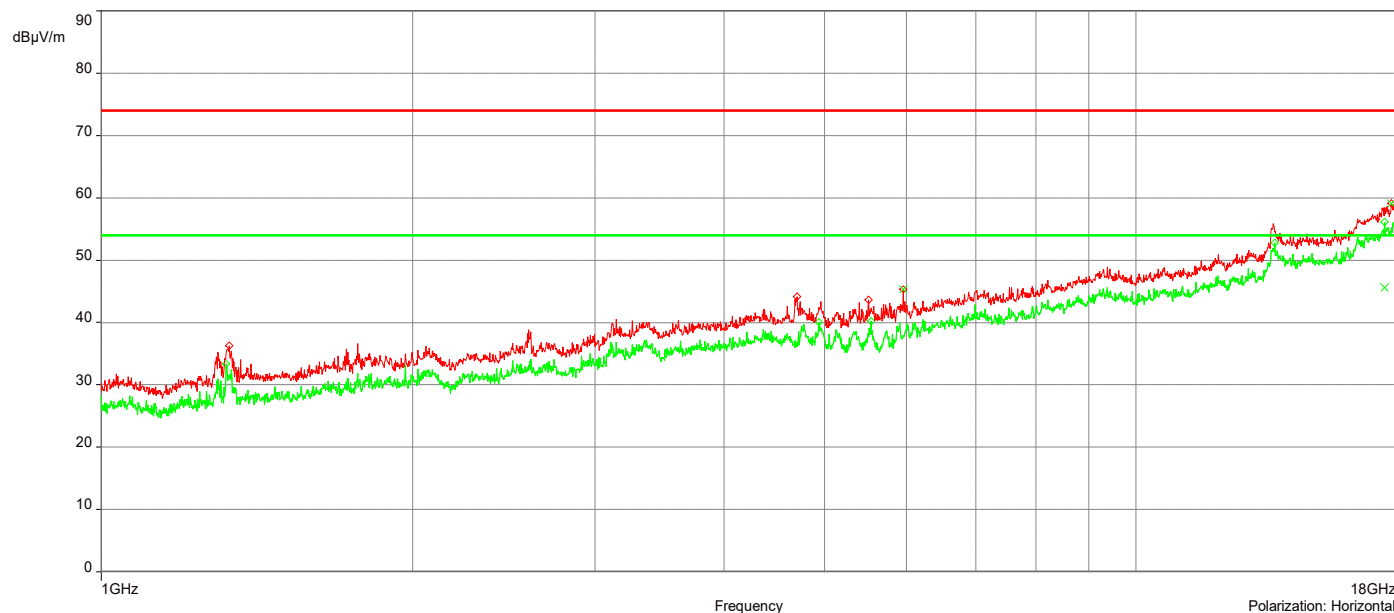
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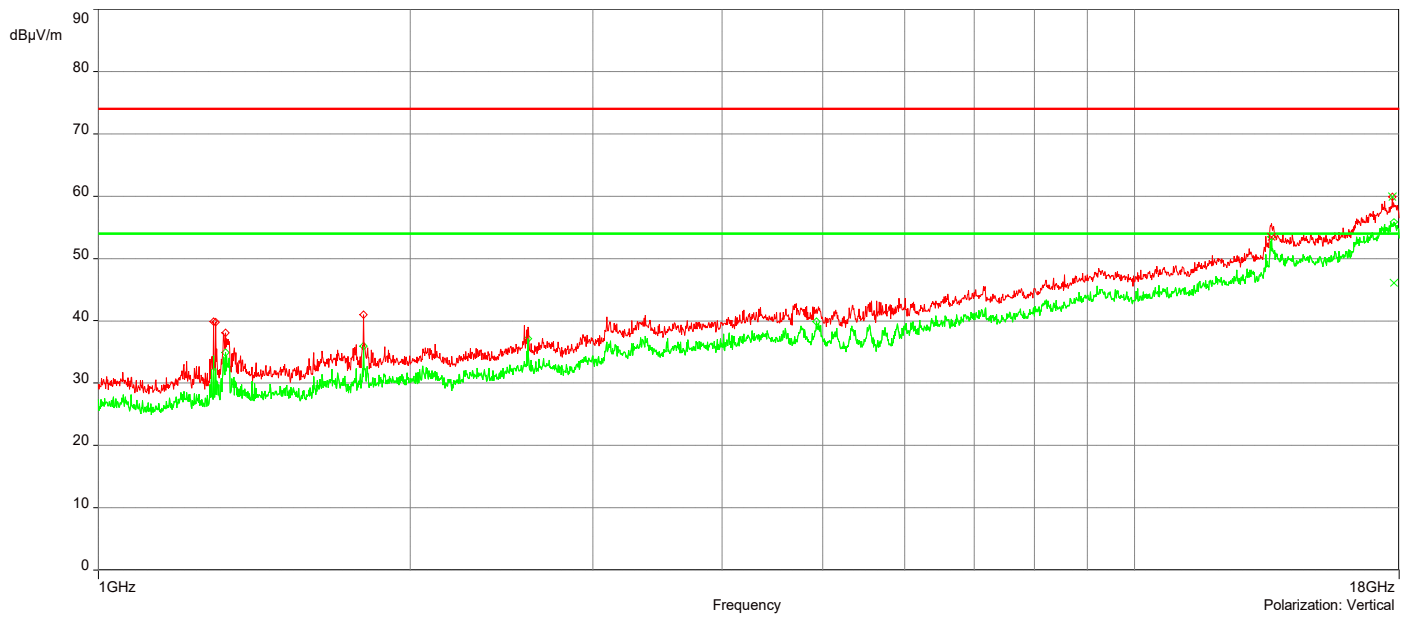
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9606459GHz	45.38	5.11	74.00	-28.62	4.00	0.10	Horizontal	Passed
2.	17.64899GHz	59.10	18.25	74.00	-14.90	1.50	94.10	Horizontal	Passed
3.	17.738992GHz	59.90	18.25	74.00	-14.10	2.50	127.10	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	13.552869GHz	53.46	12.54	54.00	-0.54	3.00	243.50	Vertical	Passed
2.	17.803494GHz	46.13	18.29	54.00	-7.87	1.00	336.90	Vertical	Passed
3.	17.390482GHz	45.63	18.08	54.00	-8.37	4.00	132.10	Horizontal	Passed

Overall Graphs:





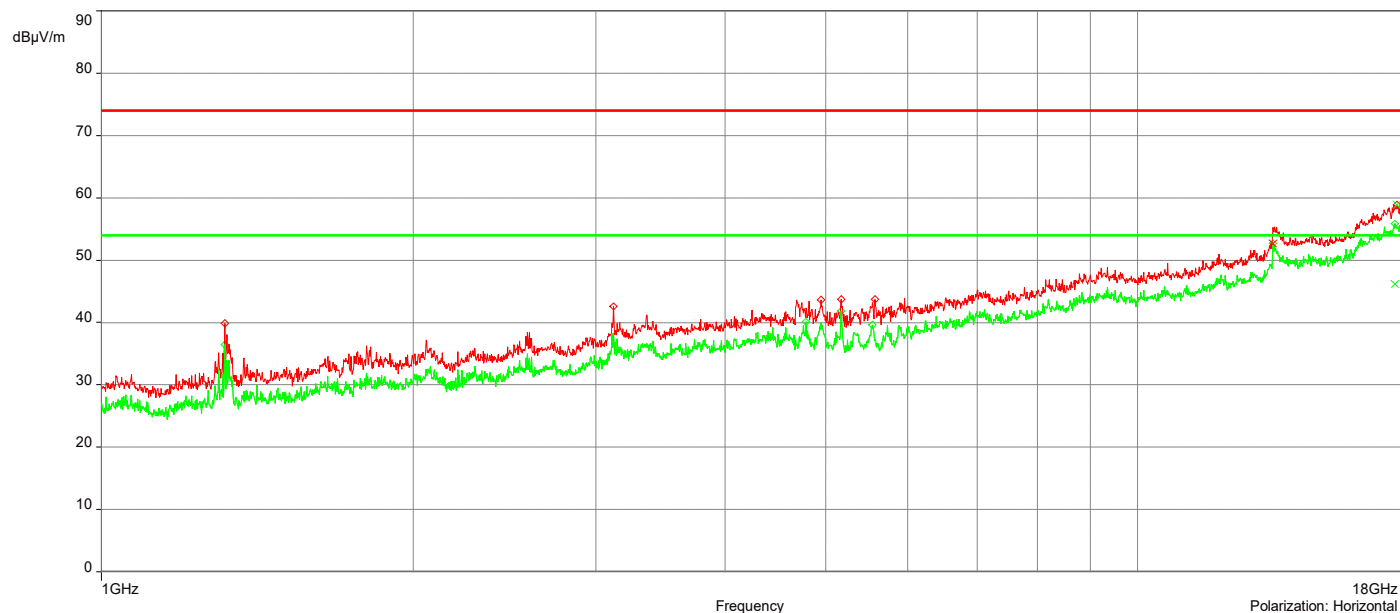
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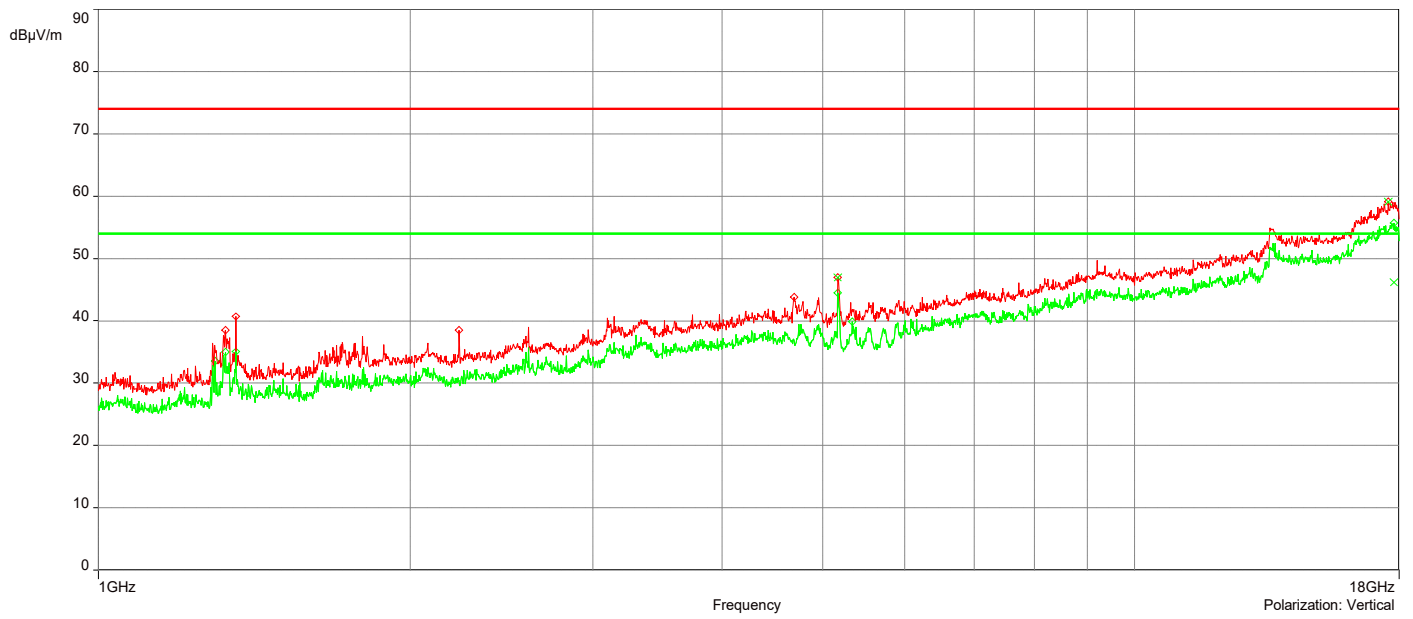
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1731227GHz	46.97	3.89	74.00	-27.03	3.50	1.50	Vertical	Passed
2.	17.579488GHz	59.13	18.30	74.00	-14.87	3.00	296.20	Vertical	Passed
3.	17.796494GHz	58.84	18.29	74.00	-15.16	3.00	334.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.721492GHz	46.17	18.22	54.00	-7.83	1.00	76.10	Horizontal	Passed
2.	17.786994GHz	46.22	18.27	54.00	-7.78	4.00	127.90	Vertical	Passed
3.	13.516868GHz	52.74	12.59	54.00	-1.26	3.50	0.10	Horizontal	Passed

Overall Graphs:







**AH21100601-HAR-134#004\_5G UNII-1 802.11ac\_Ch 46 (VHT40)\_1-18GHz**

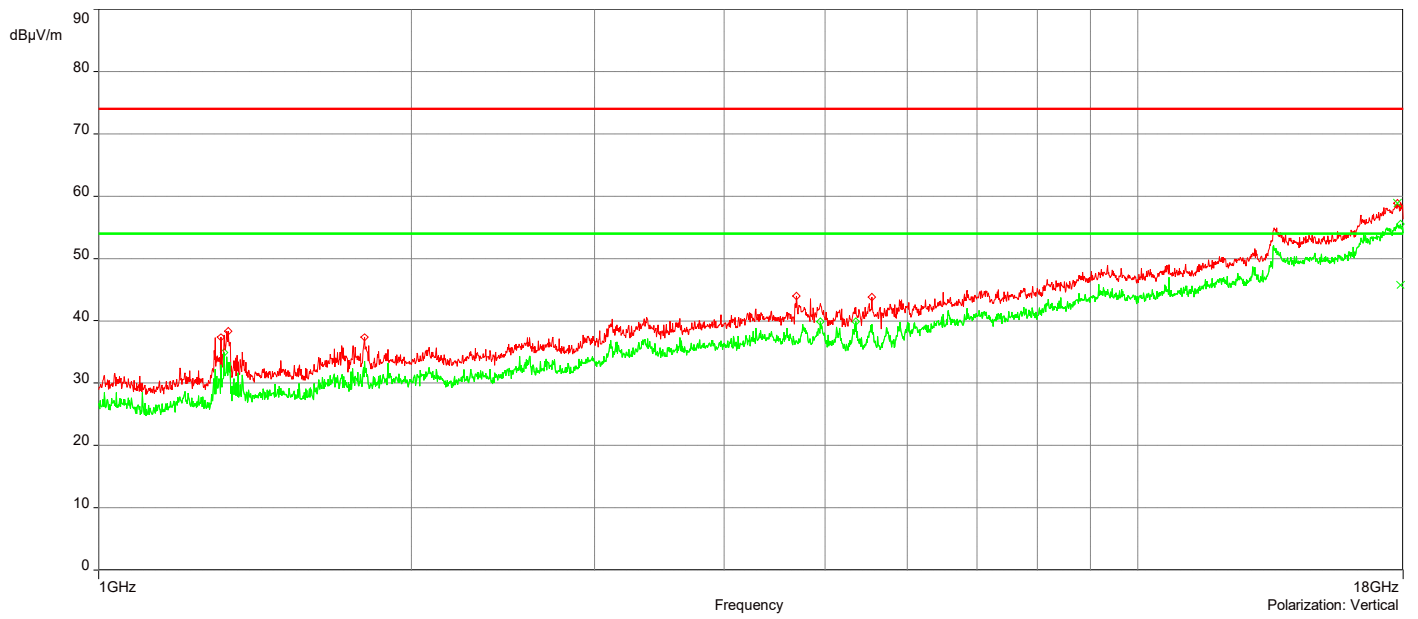
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.970999GHz	59.27	18.47	74.00	-14.73	2.00	250.40	Horizontal	Passed
2.	17.769993GHz	58.86	18.29	74.00	-15.14	1.00	359.90	Vertical	Passed
3.	4.7236095GHz	44.98	3.69	74.00	-29.02	4.00	359.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.890497GHz	45.76	18.29	54.00	-8.24	1.00	270.10	Vertical	Passed
2.	17.776493GHz	46.35	18.26	54.00	-7.65	1.50	352.90	Horizontal	Passed
3.	5.7341392GHz	39.92	4.52	54.00	-14.08	4.00	278.90	Horizontal	Passed

Overall Graphs:





**AH21100601-HAR-134#004\_5G UNII-1 802.11ac\_Ch 42 (VHT80)\_1-18GHz**

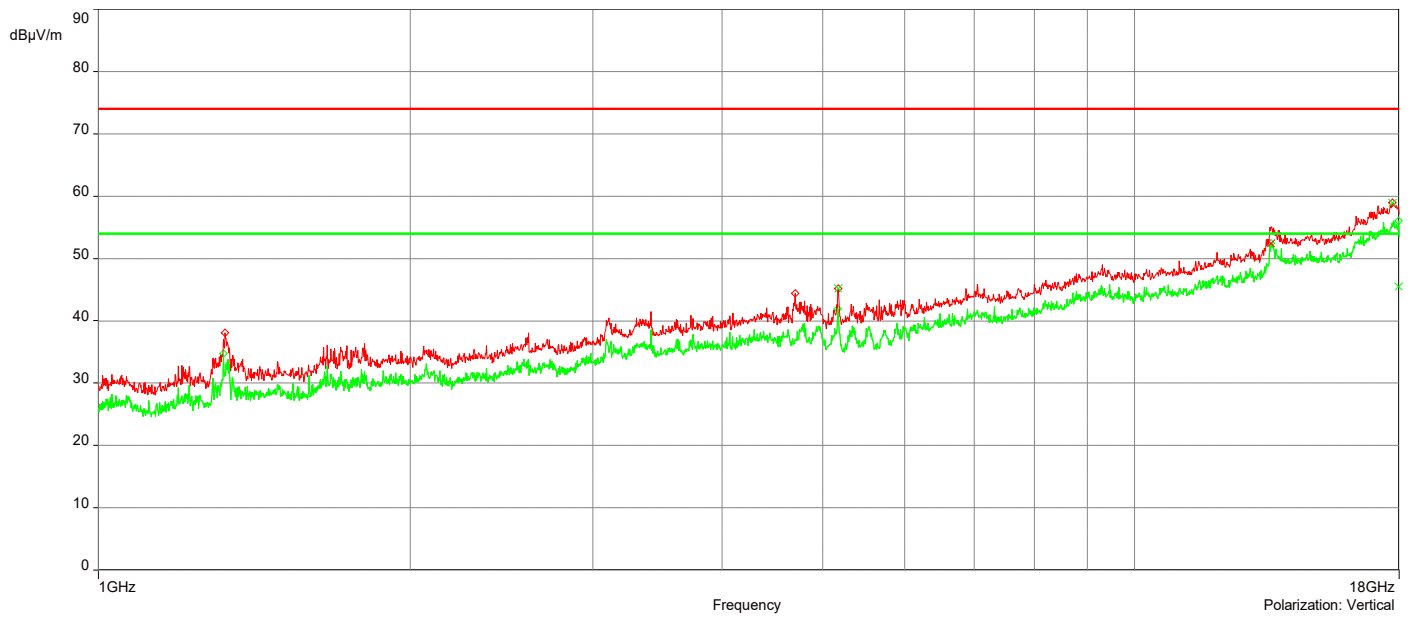
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.802994GHz	59.32	18.29	74.00	-14.68	4.00	232.20	Horizontal	Passed
2.	17.734492GHz	58.95	18.25	74.00	-15.05	4.00	51.90	Vertical	Passed
3.	5.1736228GHz	45.14	3.89	74.00	-28.86	4.00	1.30	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.970499GHz	45.52	18.47	54.00	-8.48	1.50	156.90	Vertical	Passed
2.	17.708491GHz	46.19	18.23	54.00	-7.81	2.00	75.20	Horizontal	Passed
3.	13.533869GHz	52.46	12.51	54.00	-1.54	1.50	249.50	Vertical	Passed

Overall Graphs:





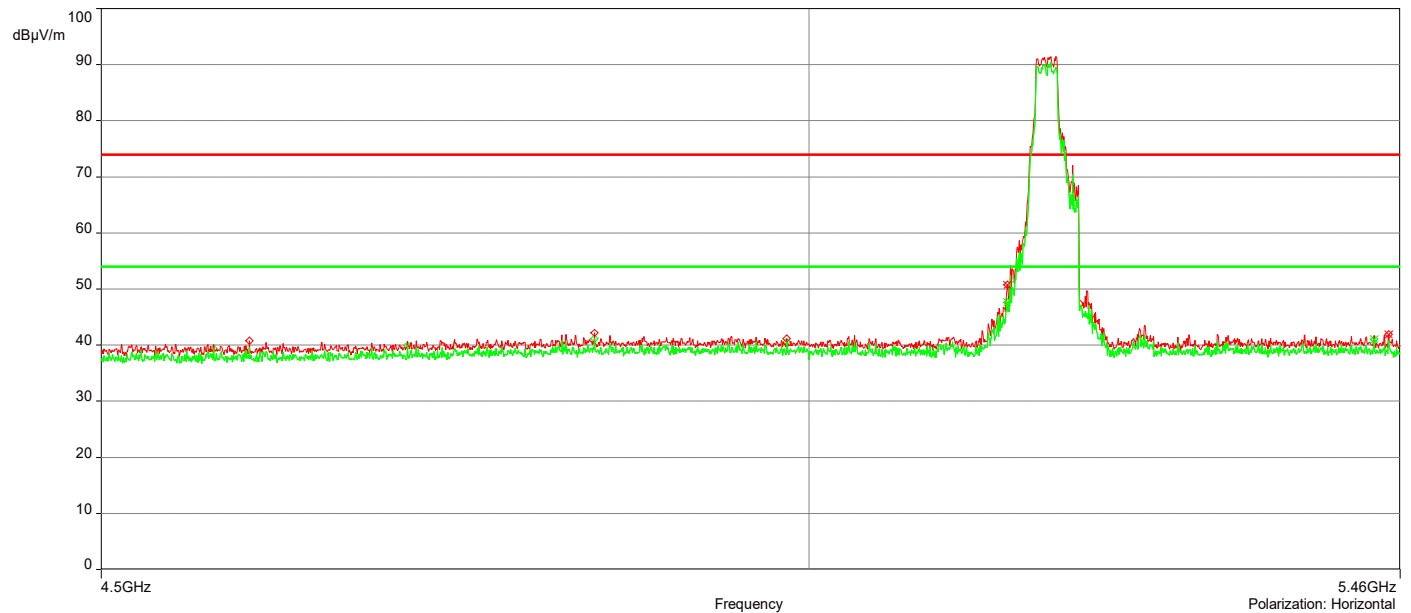
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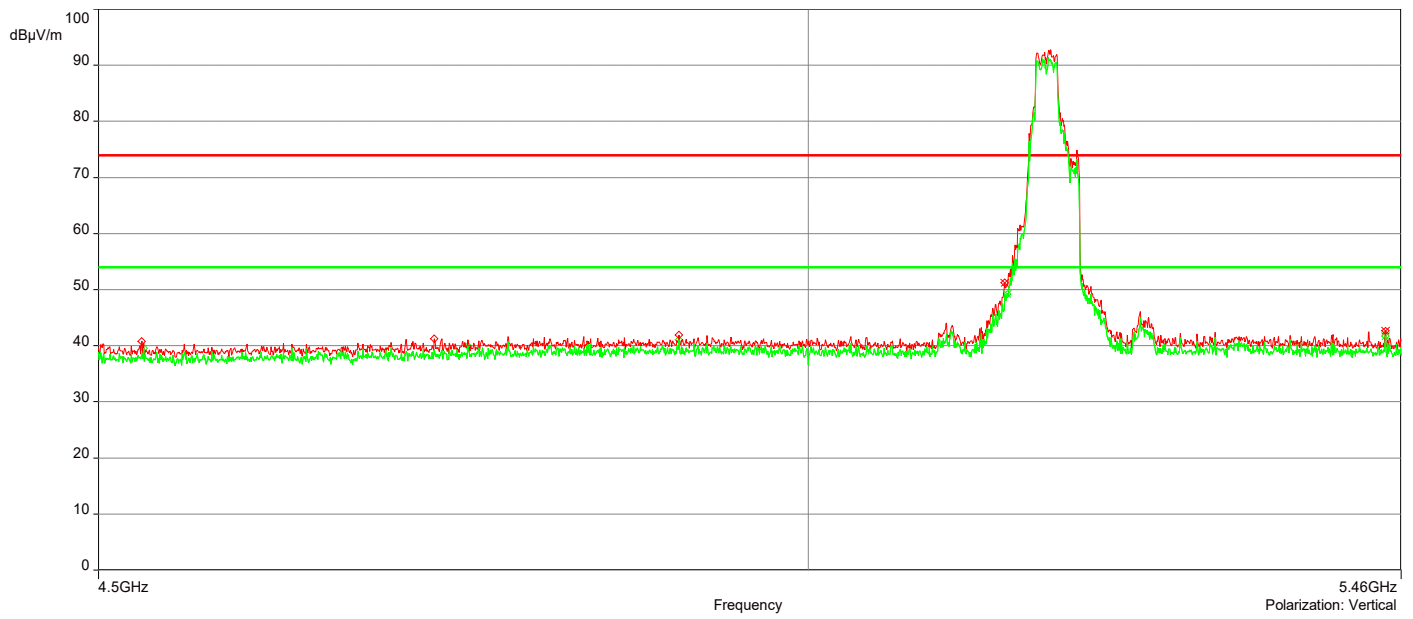
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No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1478439GHz	51.26	3.90	74.00	-22.74	4.00	358.90	Vertical	Passed
2.	5.1497649GHz	50.75	3.95	74.00	-23.25	3.00	41.90	Horizontal	Passed
3.	5.4475138GHz	42.71	4.54	74.00	-31.29	2.00	337.40	Vertical	Passed
4.	5.4508754GHz	41.92	4.66	74.00	-32.08	2.00	353.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1497649GHz	49.27	3.89	54.00	-4.73	3.50	0.10	Vertical	Passed
2.	5.1497649GHz	47.61	3.95	54.00	-6.39	3.00	41.90	Horizontal	Passed
3.	5.4475138GHz	41.74	4.54	54.00	-12.26	2.00	337.40	Vertical	Passed
4.	5.4388694GHz	41.11	4.65	54.00	-12.89	3.50	57.40	Horizontal	Passed

Overall Graphs:





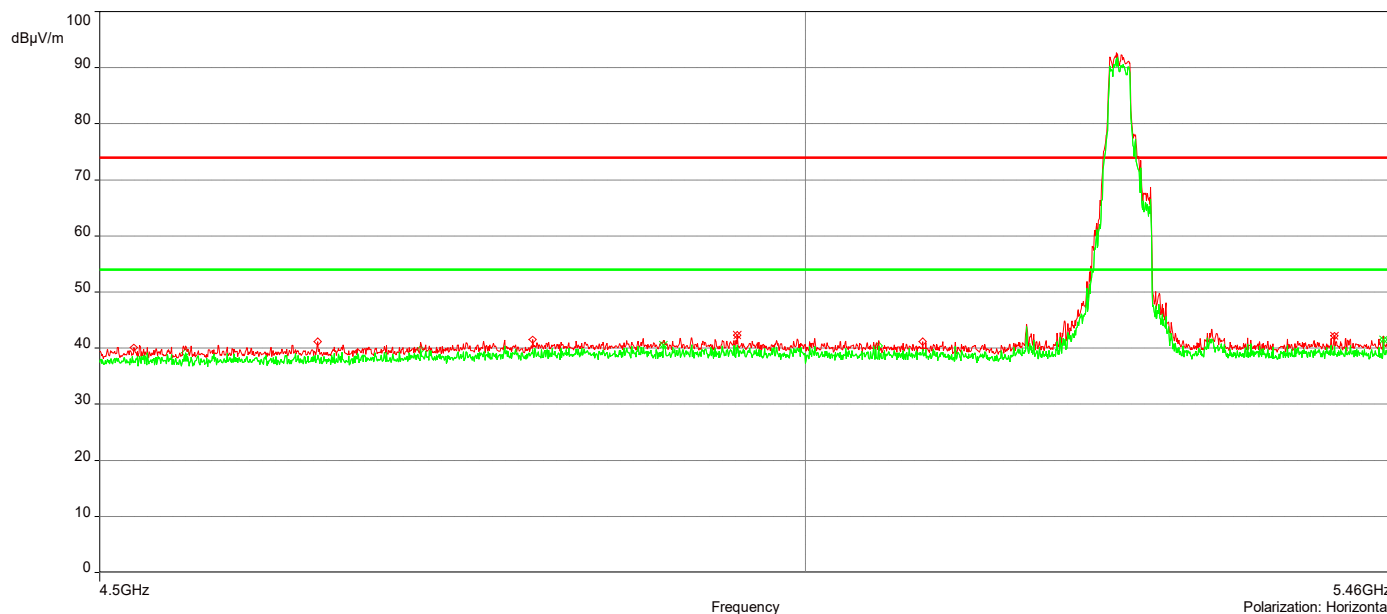
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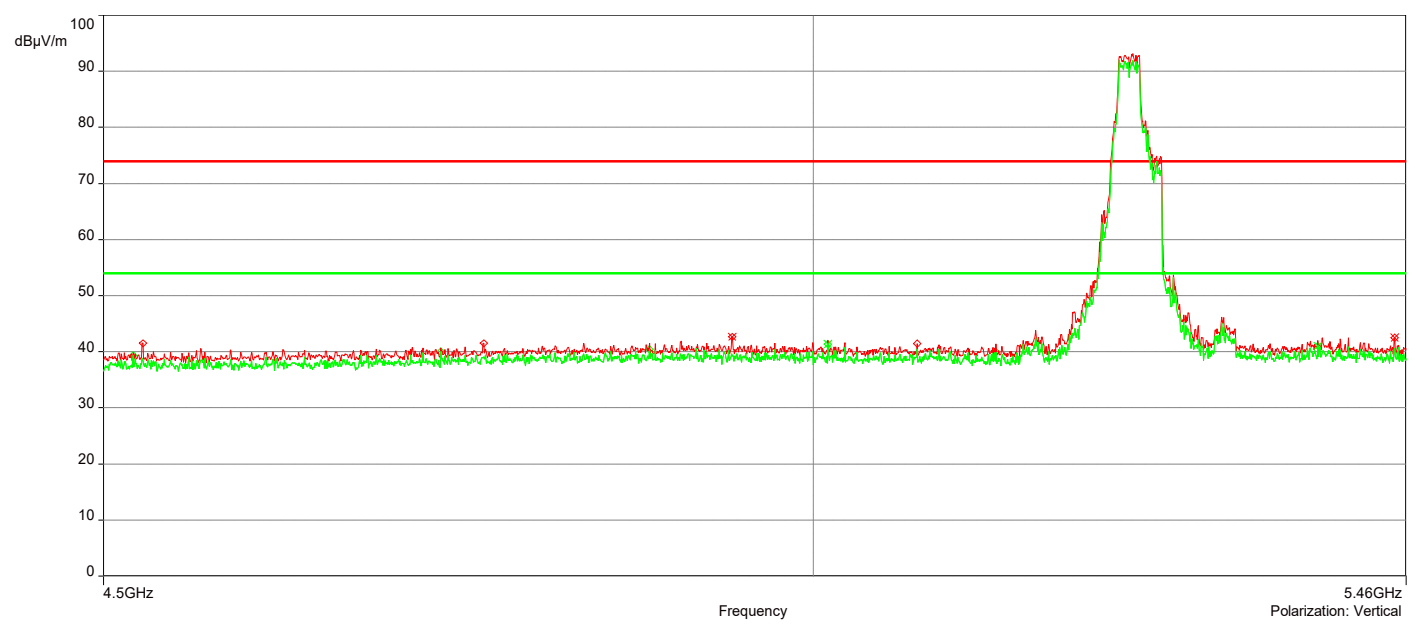
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No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.4110155GHz	42.24	4.62	74.00	-31.76	3.50	82.80	Horizontal	Passed
2.	4.9495048GHz	42.29	4.50	74.00	-31.71	2.00	74.20	Horizontal	Passed
3.	5.4508754GHz	42.54	4.54	74.00	-31.46	2.00	358.90	Vertical	Passed
4.	4.9403802GHz	42.67	4.39	74.00	-31.33	1.00	48.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.4508754GHz	41.57	4.66	54.00	-12.43	1.00	19.60	Horizontal	Passed
2.	5.0109755GHz	41.32	4.23	54.00	-12.68	1.50	138.00	Vertical	Passed
3.	5.3889245GHz	41.03	4.46	54.00	-12.97	3.50	358.50	Vertical	Passed
4.	4.8952376GHz	40.62	4.44	54.00	-13.38	2.50	195.70	Horizontal	Passed

Overall Graphs:







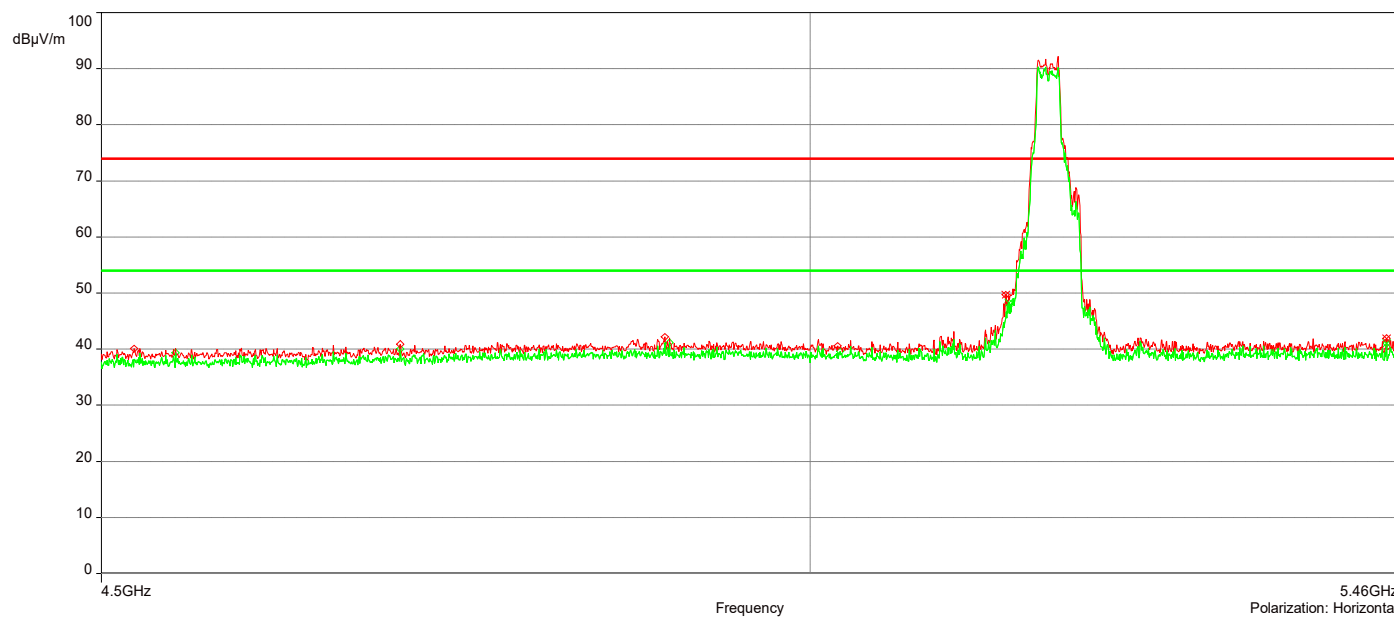
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11n\_Ch 36 (HT20)**

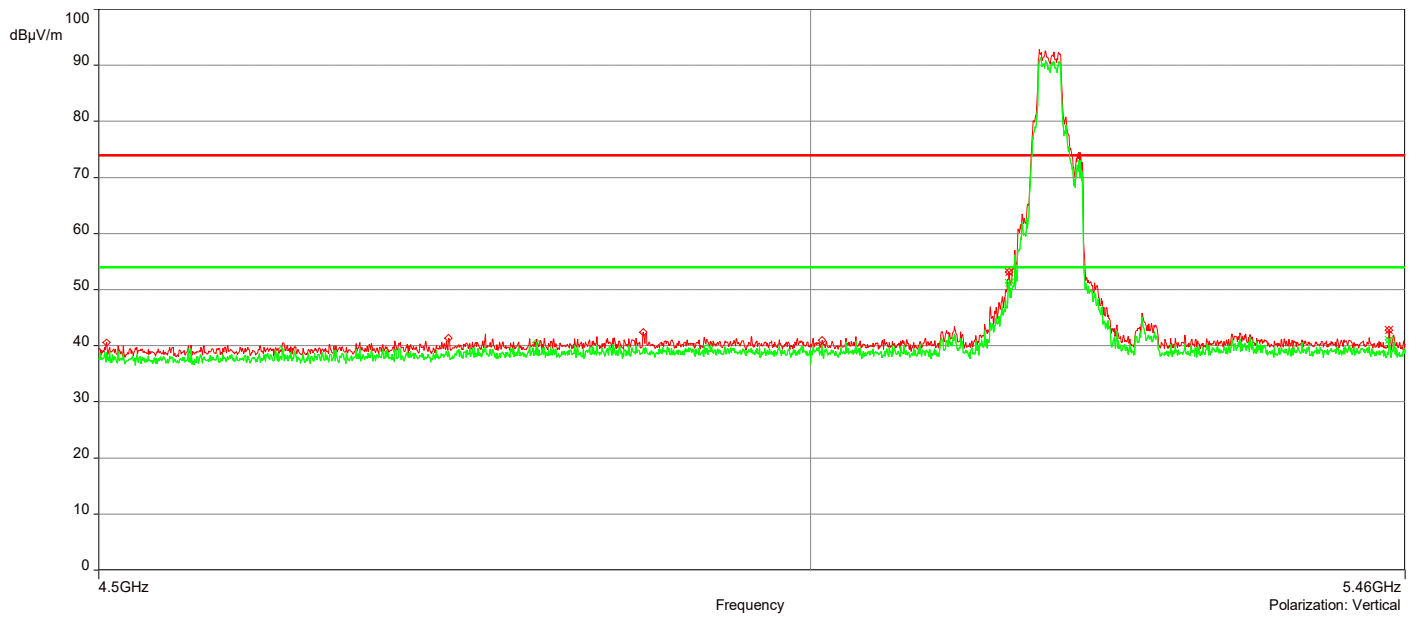
11/16/2021 12:04:42 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1473637GHz	49.75	3.95	74.00	-24.25	3.50	49.20	Horizontal	Passed
2.	5.4475138GHz	41.95	4.66	74.00	-32.05	2.00	352.80	Horizontal	Passed
3.	5.1492846GHz	53.11	3.89	74.00	-20.89	4.00	9.30	Vertical	Passed
4.	5.4470335GHz	42.75	4.54	74.00	-31.25	1.00	18.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1497649GHz	48.34	3.95	54.00	-5.66	4.00	43.50	Horizontal	Passed
2.	5.4475138GHz	41.06	4.66	54.00	-12.94	2.00	352.80	Horizontal	Passed
3.	5.1492846GHz	51.20	3.89	54.00	-2.80	4.00	9.30	Vertical	Passed
4.	5.4470335GHz	41.07	4.54	54.00	-12.93	1.00	18.70	Vertical	Passed

Overall Graphs:





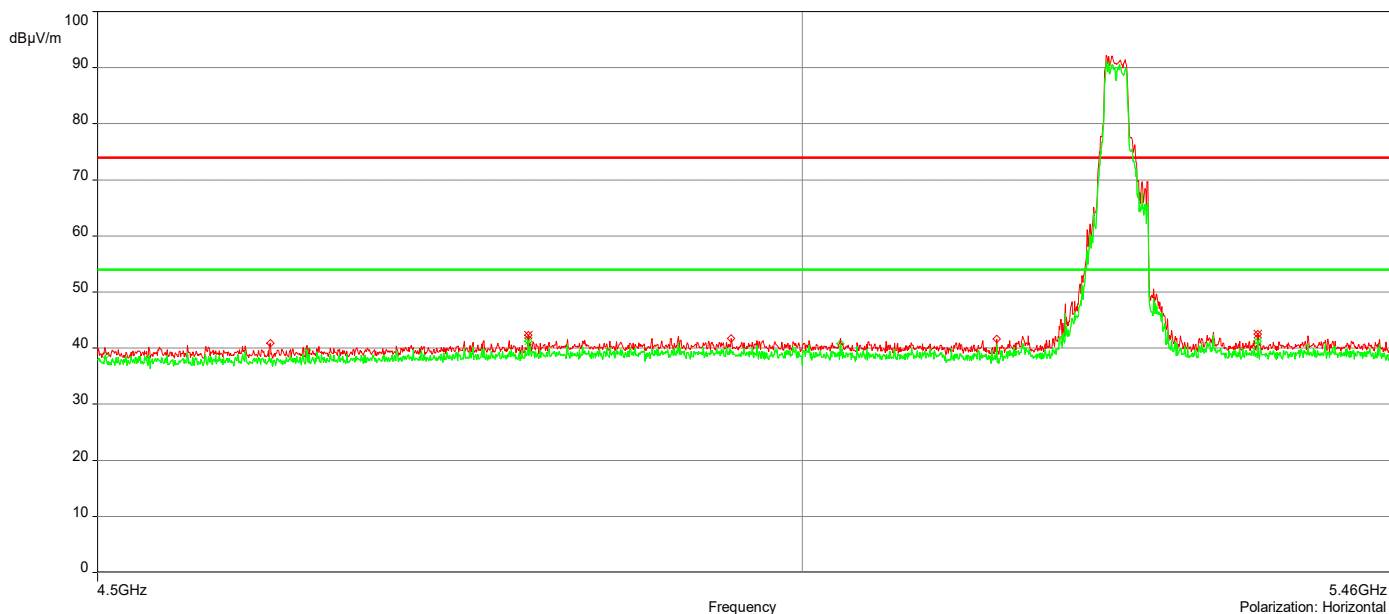
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11n\_Ch 48 (HT20)**

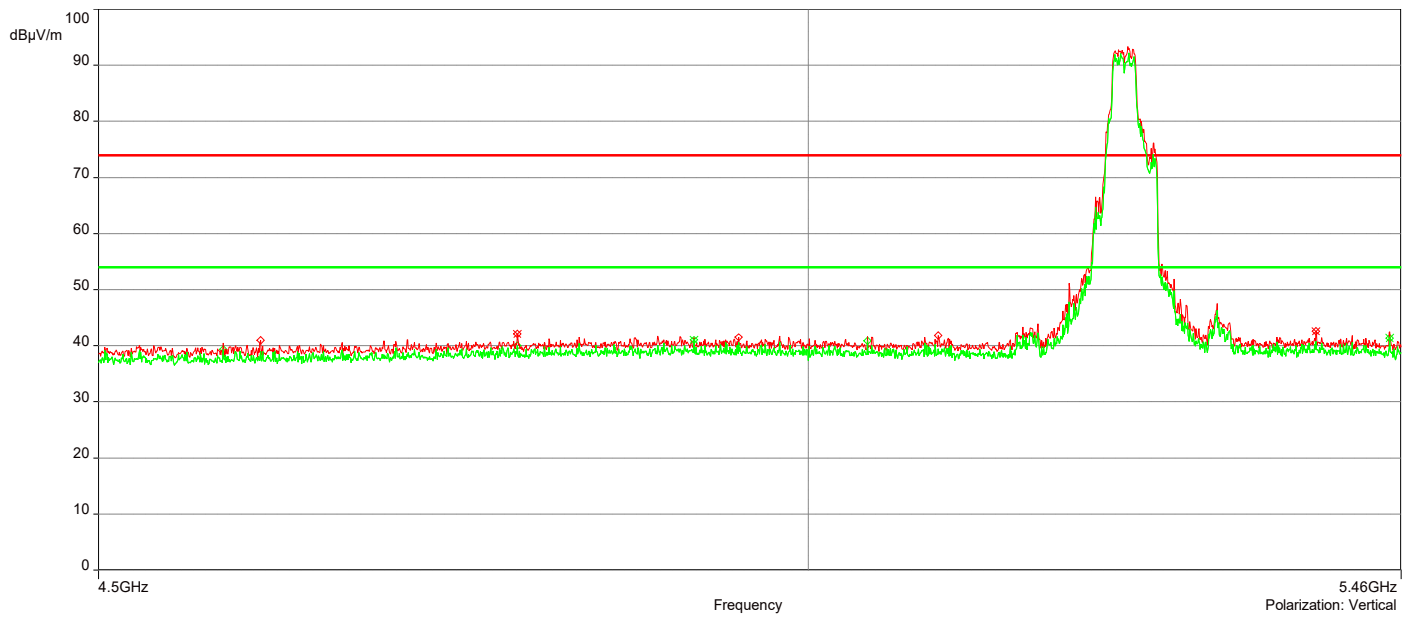
11/16/2021 1:09:25 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.3913257GHz	42.58	4.47	74.00	-31.42	4.00	357.60	Vertical	Passed
2.	5.3524262GHz	42.52	4.47	74.00	-31.48	3.00	48.70	Horizontal	Passed
3.	4.7991896GHz	42.28	4.07	74.00	-31.72	3.50	278.90	Horizontal	Passed
4.	4.7886243GHz	42.10	4.01	74.00	-31.90	4.00	344.30	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.4508754GHz	41.38	4.54	54.00	-12.62	2.50	319.50	Vertical	Passed
2.	4.7991896GHz	41.27	4.07	54.00	-12.73	3.50	278.90	Horizontal	Passed
3.	5.3524262GHz	41.26	4.47	54.00	-12.74	3.00	48.70	Horizontal	Passed
4.	4.9158879GHz	41.06	4.45	54.00	-12.94	2.00	6.40	Vertical	Passed

Overall Graphs:





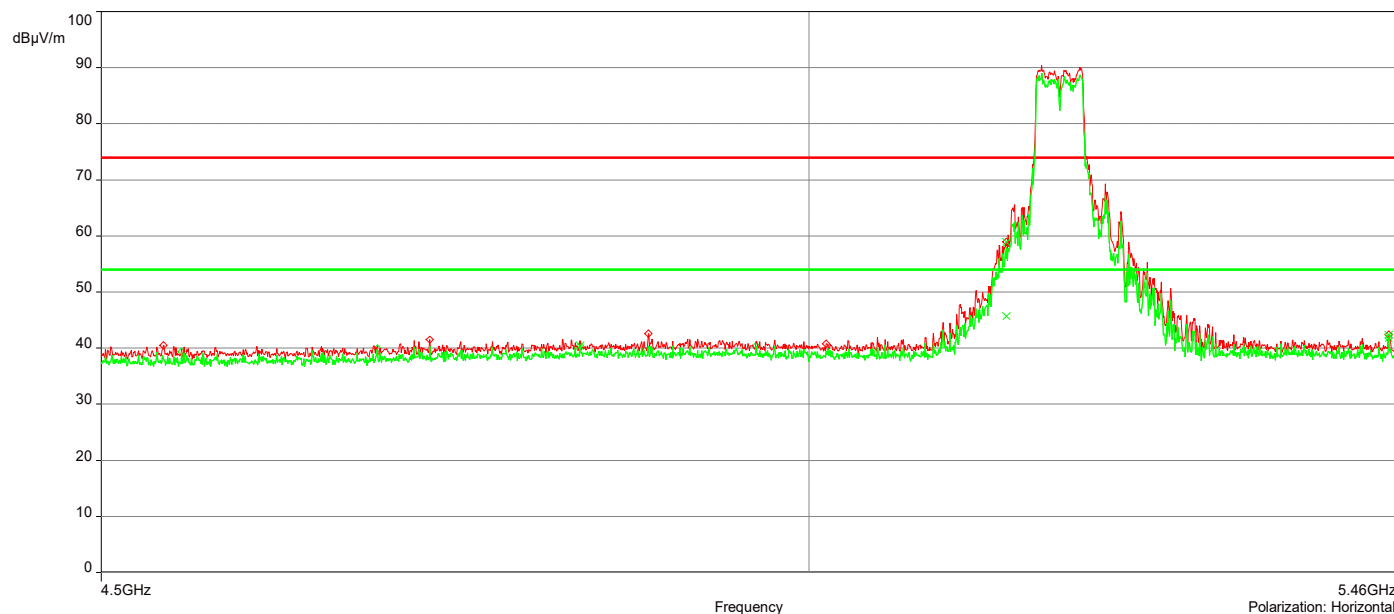
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11n\_Ch 38 (HT40)**

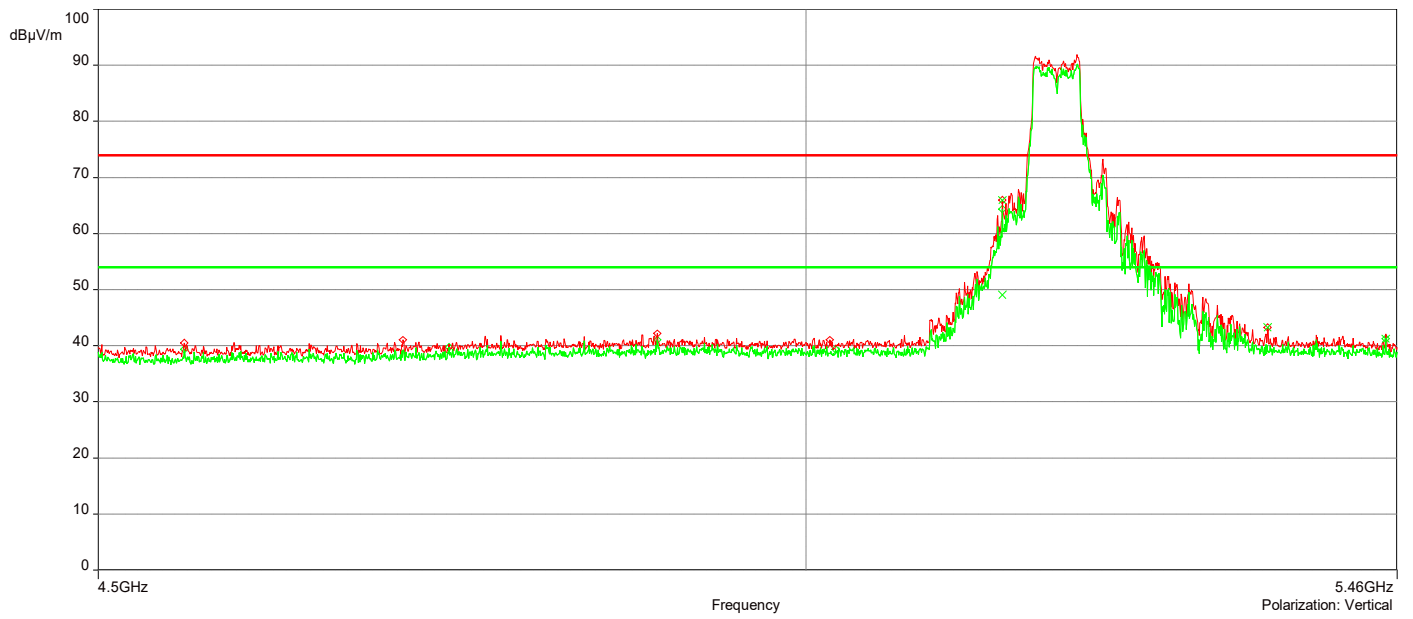
11/16/2021 1:55:01 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1483242GHz	66.02	3.89	74.00	-7.98	1.50	6.30	Vertical	Passed
2.	5.4508754GHz	42.36	4.66	74.00	-31.64	1.00	11.90	Horizontal	Passed
3.	5.3557879GHz	43.27	4.38	74.00	-30.73	1.50	0.10	Vertical	Passed
4.	5.1492846GHz	58.93	3.95	74.00	-15.07	4.00	44.80	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1483242GHz	49.01	3.89	54.00	-4.99	1.50	6.30	Vertical	Passed
2.	5.1492846GHz	45.76	3.95	54.00	-8.24	4.00	44.80	Horizontal	Passed
3.	5.4508754GHz	41.80	4.66	54.00	-12.20	1.00	11.90	Horizontal	Passed
4.	5.4508754GHz	41.25	4.54	54.00	-12.75	2.50	24.50	Vertical	Passed

Overall Graphs:





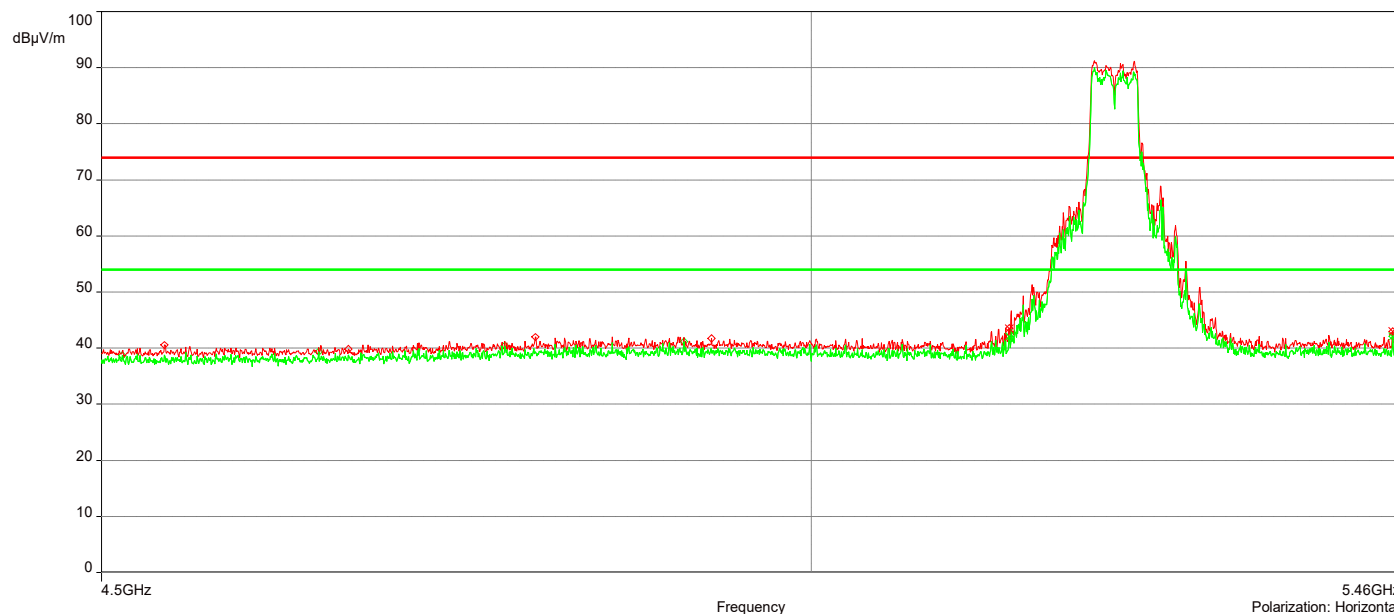
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11n\_Ch 46 (HT40)**

11/17/2021 7:22:46 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1483242GHz	45.81	3.89	74.00	-28.19	4.00	358.90	Vertical	Passed
2.	5.3754777GHz	43.96	4.43	74.00	-30.04	1.50	357.40	Vertical	Passed
3.	5.1492846GHz	43.53	3.95	74.00	-30.47	1.00	289.70	Horizontal	Passed
4.	5.4508754GHz	42.97	4.66	74.00	-31.03	1.50	337.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.133917GHz	43.74	3.94	54.00	-10.26	1.50	7.20	Vertical	Passed
2.	5.3725963GHz	42.15	4.42	54.00	-11.85	4.00	358.90	Vertical	Passed
3.	5.4508754GHz	42.13	4.66	54.00	-11.87	1.50	337.00	Horizontal	Passed
4.	5.1492846GHz	42.12	3.95	54.00	-11.88	1.00	289.70	Horizontal	Passed

Overall Graphs:







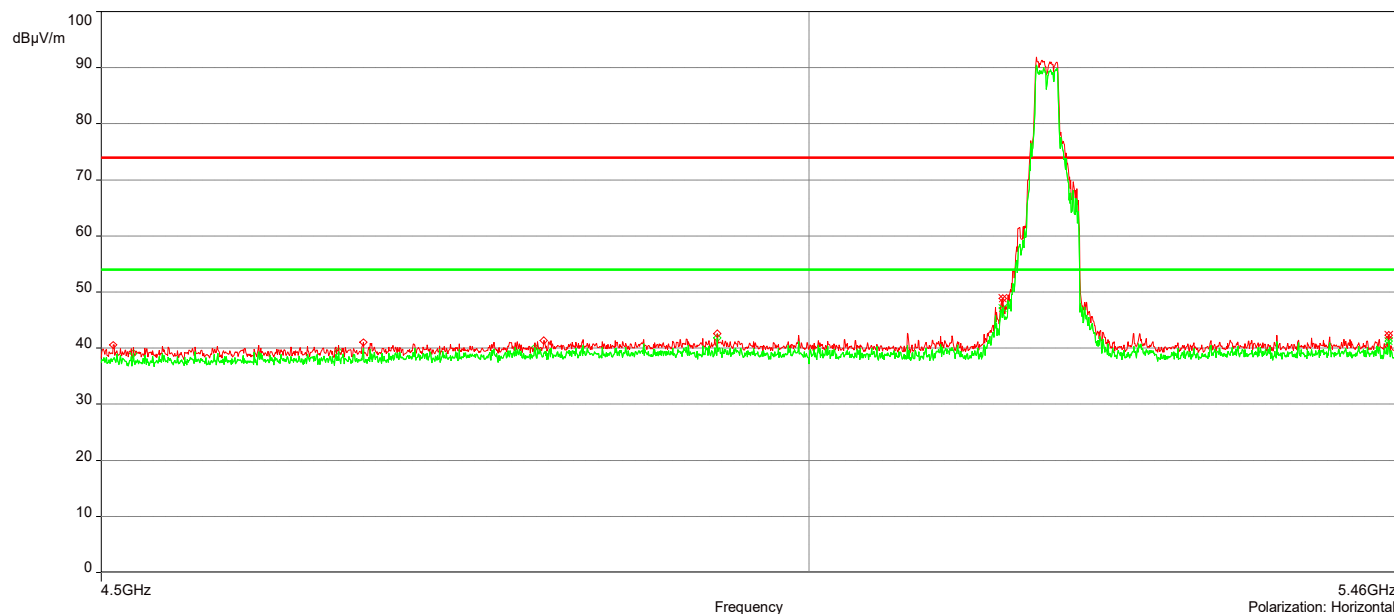
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11ac\_Ch 36 (VHT20)**

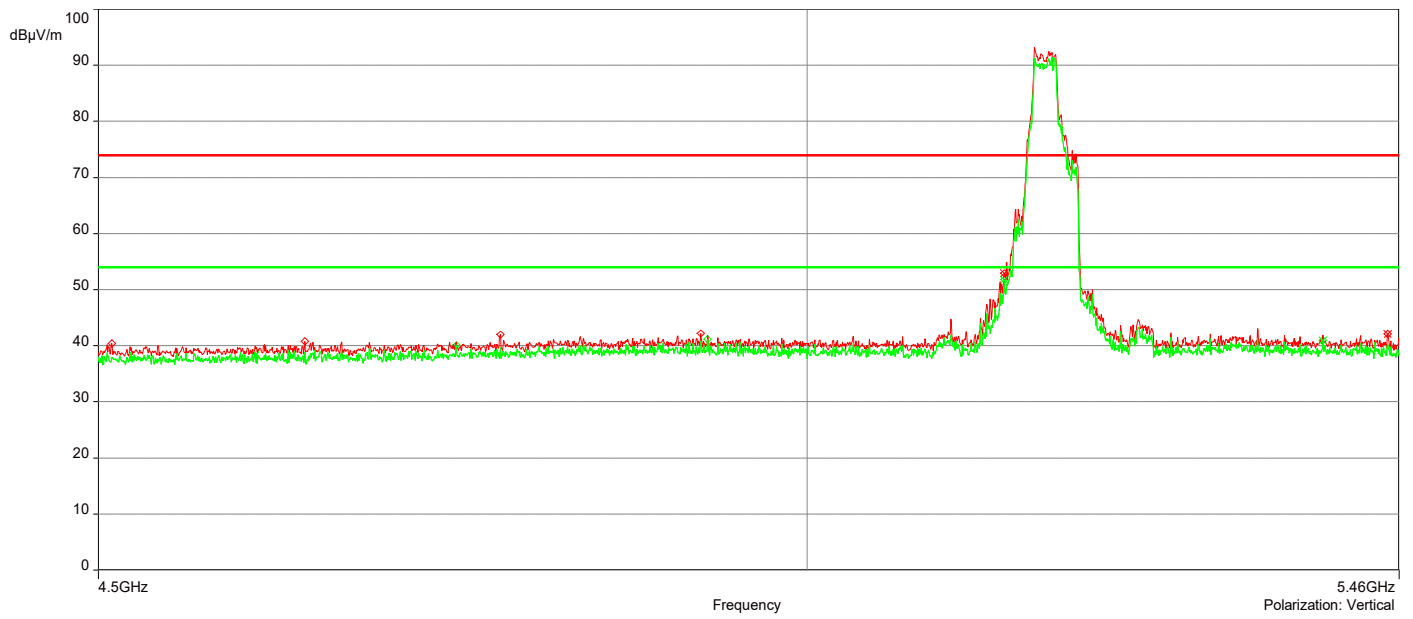
11/17/2021 8:05:00 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1488044GHz	52.94	3.89	74.00	-21.06	4.00	8.70	Vertical	Passed
2.	5.1464032GHz	48.84	3.96	74.00	-25.16	1.00	174.50	Horizontal	Passed
3.	5.4508754GHz	42.35	4.66	74.00	-31.65	3.50	34.10	Horizontal	Passed
4.	5.4508754GHz	42.14	4.54	74.00	-31.86	2.50	17.60	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1488044GHz	51.85	3.89	54.00	-2.15	4.00	8.70	Vertical	Passed
2.	5.1464032GHz	47.14	3.96	54.00	-6.86	1.00	174.50	Horizontal	Passed
3.	5.4508754GHz	41.25	4.66	54.00	-12.75	3.50	34.10	Horizontal	Passed
4.	5.3985293GHz	40.97	4.48	54.00	-13.03	1.50	337.30	Vertical	Passed

Overall Graphs:





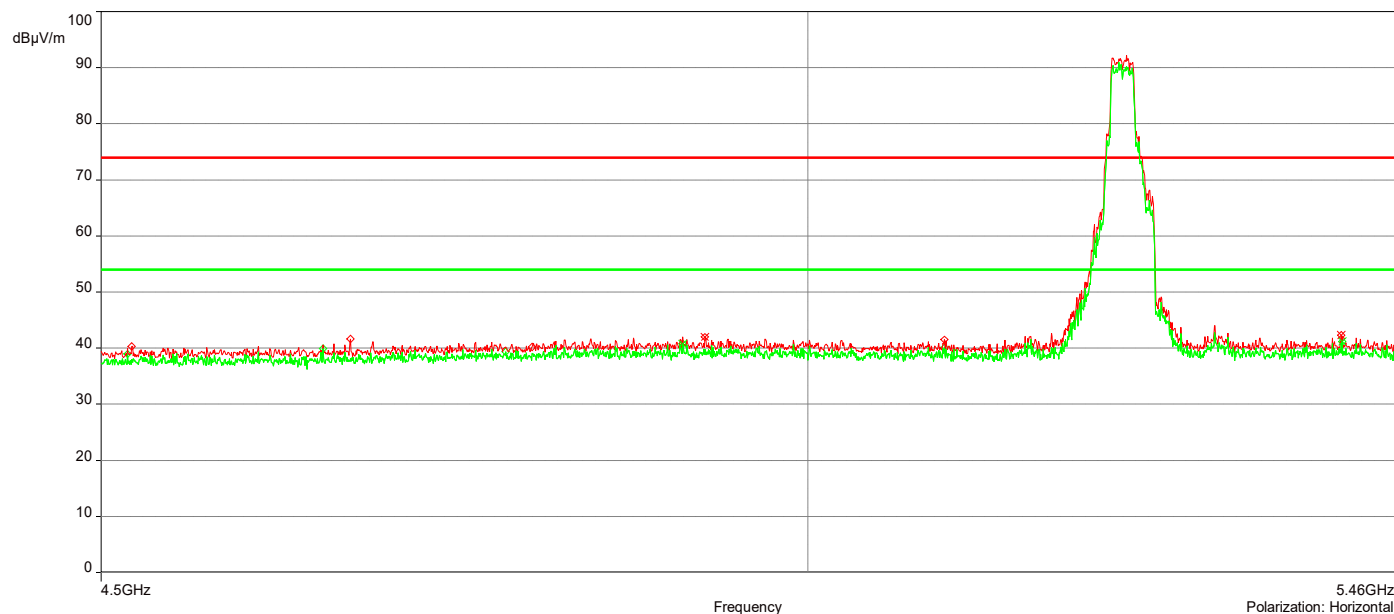
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11ac\_Ch 48 (VHT20)**

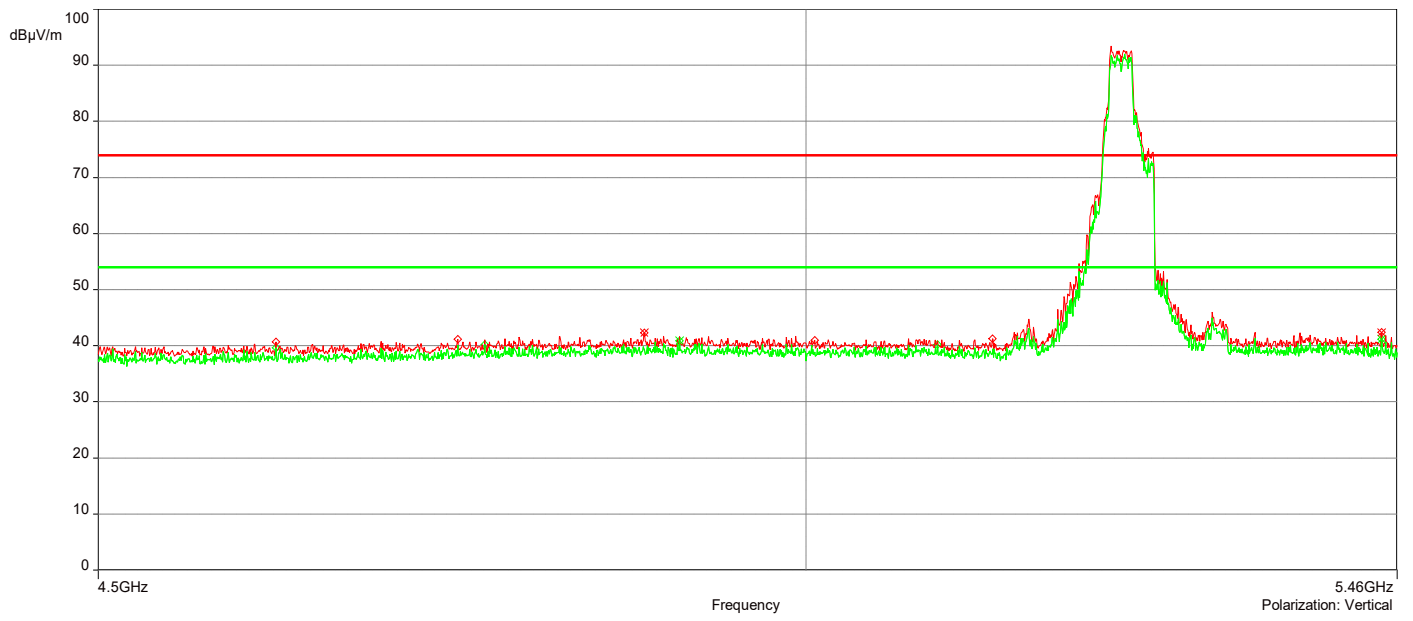
11/17/2021 8:25:32 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.924052GHz	42.03	4.47	74.00	-31.97	3.50	265.70	Horizontal	Passed
2.	5.4138969GHz	42.26	4.62	74.00	-31.74	4.00	84.90	Horizontal	Passed
3.	4.8813107GHz	42.27	4.41	74.00	-31.73	2.50	0.10	Vertical	Passed
4.	5.4475138GHz	42.44	4.54	74.00	-31.56	1.00	15.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.4148574GHz	41.19	4.62	54.00	-12.81	3.00	13.40	Horizontal	Passed
2.	5.4475138GHz	41.12	4.54	54.00	-12.88	1.00	15.70	Vertical	Passed
3.	4.9067634GHz	40.87	4.47	54.00	-13.13	3.50	87.50	Vertical	Passed
4.	4.9077239GHz	40.77	4.46	54.00	-13.23	1.50	123.90	Horizontal	Passed

Overall Graphs:





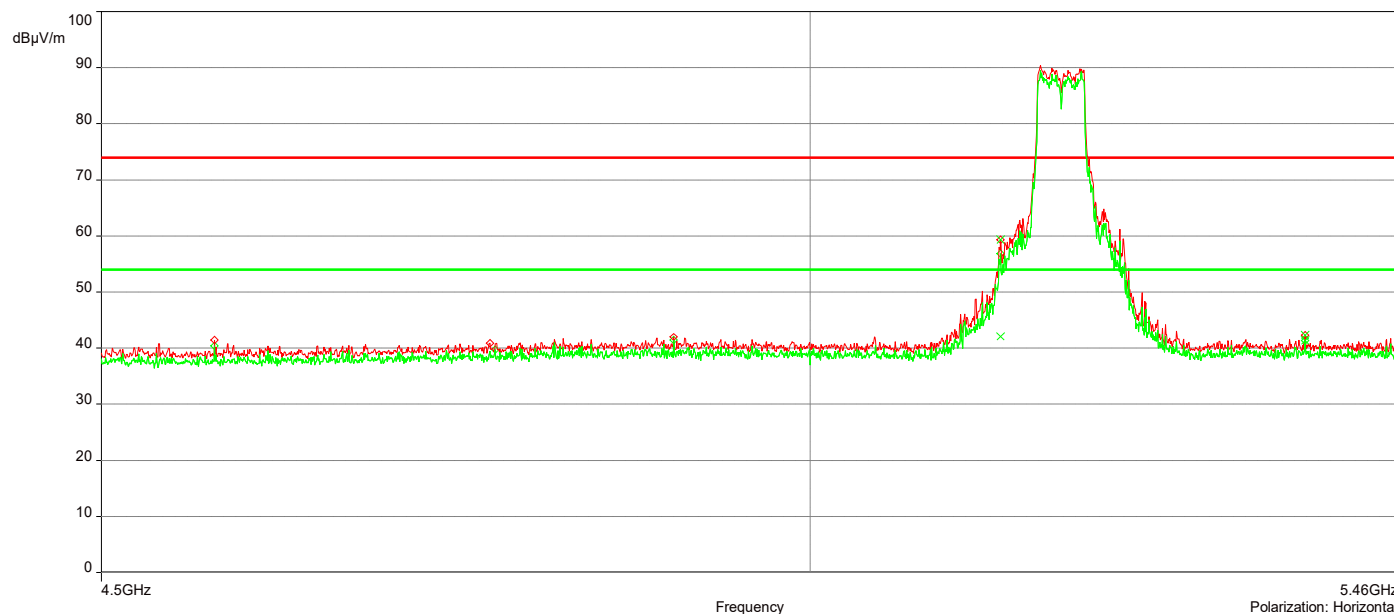
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11ac\_Ch 38 (VHT40)**

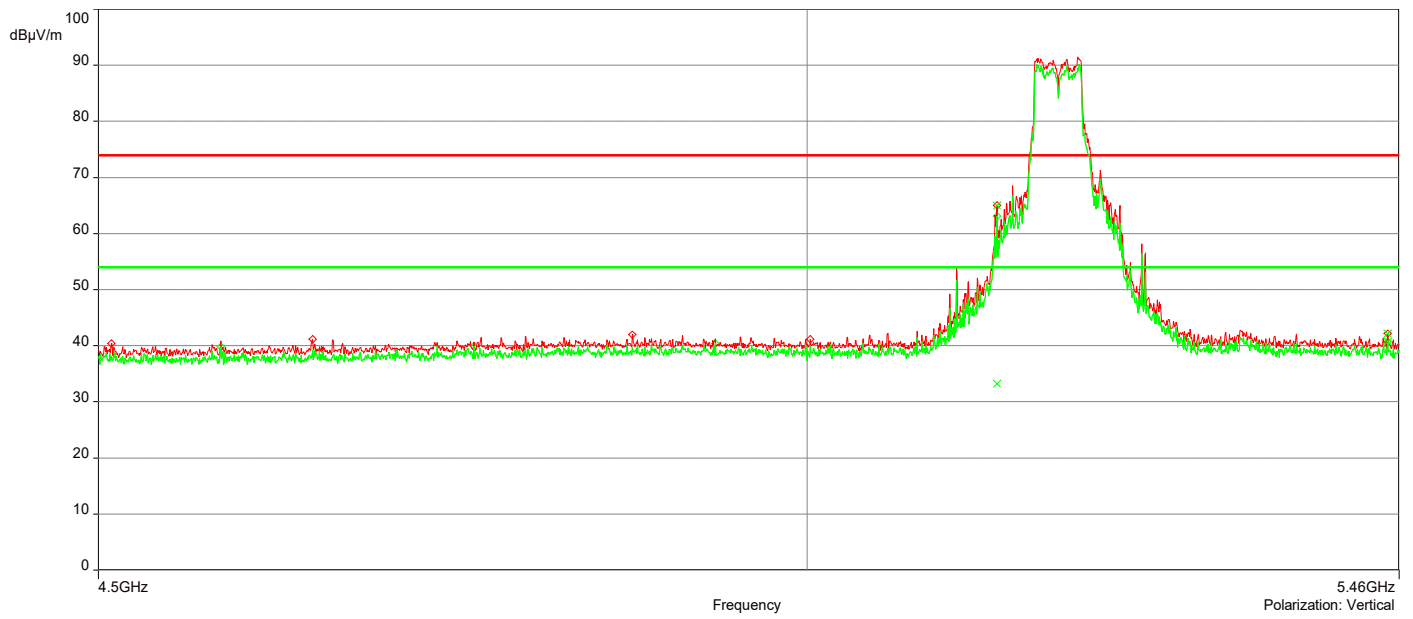
11/17/2021 8:50:43 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1430415GHz	65.06	3.91	74.00	-8.94	4.00	12.20	Vertical	Passed
2.	5.1435218GHz	59.28	3.97	74.00	-14.72	1.00	171.60	Horizontal	Passed
3.	5.3817209GHz	42.33	4.55	74.00	-31.67	4.00	27.90	Horizontal	Passed
4.	5.4508754GHz	42.17	4.54	74.00	-31.83	2.00	24.50	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1435218GHz	42.12	3.97	54.00	-11.88	1.00	171.60	Horizontal	Passed
2.	5.3817209GHz	41.32	4.55	54.00	-12.68	4.00	27.90	Horizontal	Passed
3.	5.1430415GHz	33.25	3.91	54.00	-20.75	4.00	12.20	Vertical	Passed
4.	5.4508754GHz	40.74	4.54	54.00	-13.26	2.00	24.50	Vertical	Passed

Overall Graphs:





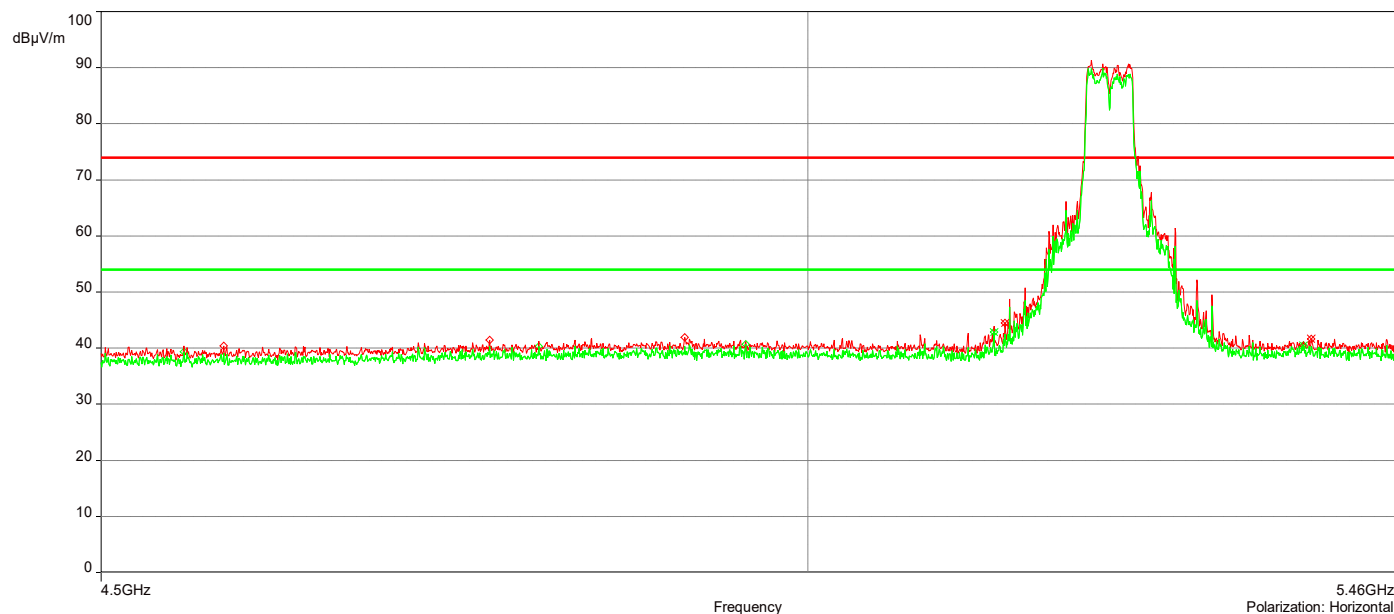
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11ac\_Ch 46 (VHT40)**

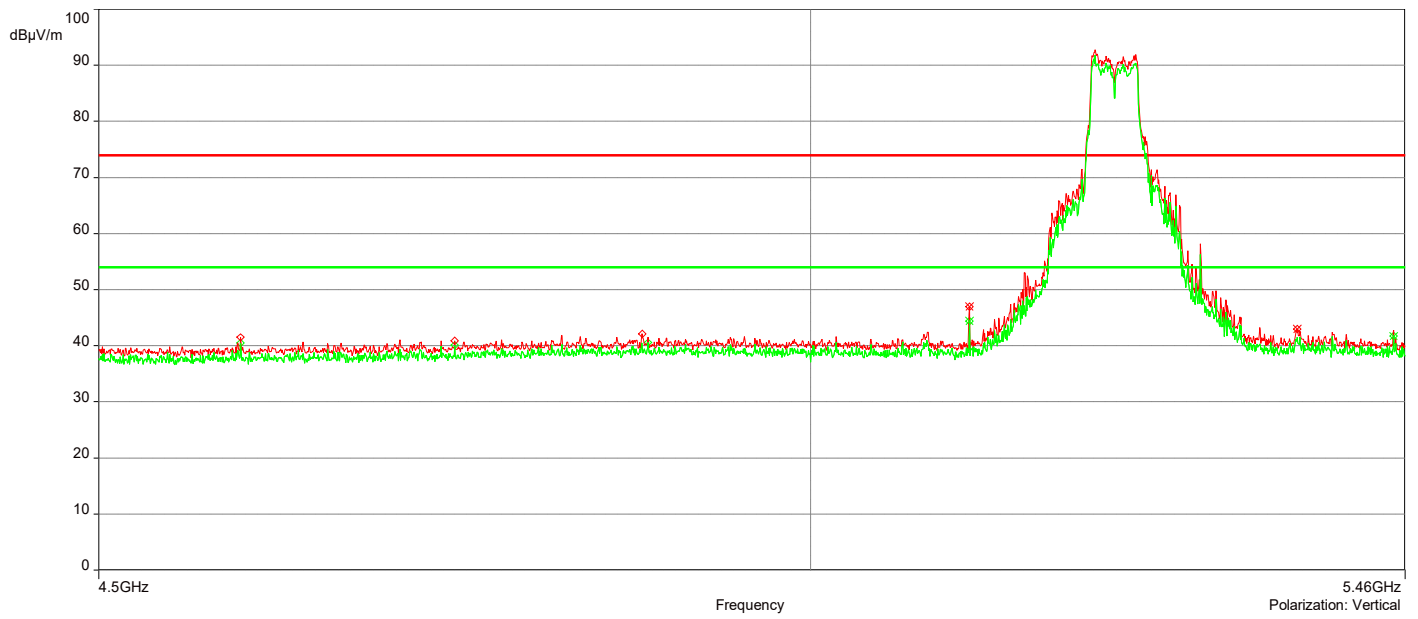
11/17/2021 9:29:18 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1190295GHz	46.95	4.00	74.00	-27.05	1.50	0.10	Vertical	Passed
2.	5.1492846GHz	44.54	3.95	74.00	-29.46	1.00	291.10	Horizontal	Passed
3.	5.3735568GHz	42.95	4.42	74.00	-31.05	4.00	358.90	Vertical	Passed
4.	5.3898849GHz	41.69	4.58	74.00	-32.31	4.00	43.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1190295GHz	44.35	4.00	54.00	-9.65	1.50	0.10	Vertical	Passed
2.	5.1406403GHz	42.87	3.98	54.00	-11.13	3.50	57.30	Horizontal	Passed
3.	5.4508754GHz	41.69	4.54	54.00	-12.31	3.00	358.90	Vertical	Passed
4.	5.3836418GHz	40.54	4.56	54.00	-13.46	3.50	12.20	Horizontal	Passed

Overall Graphs:







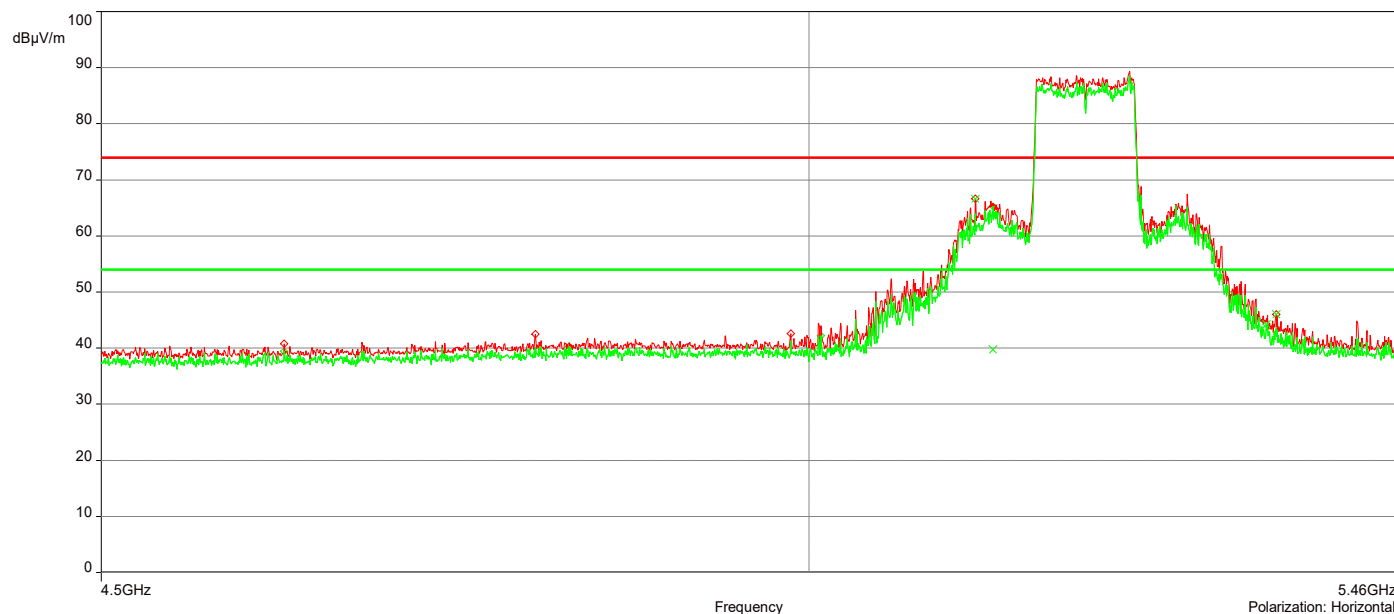
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-1 802.11ac\_Ch 42 (VHT80)**

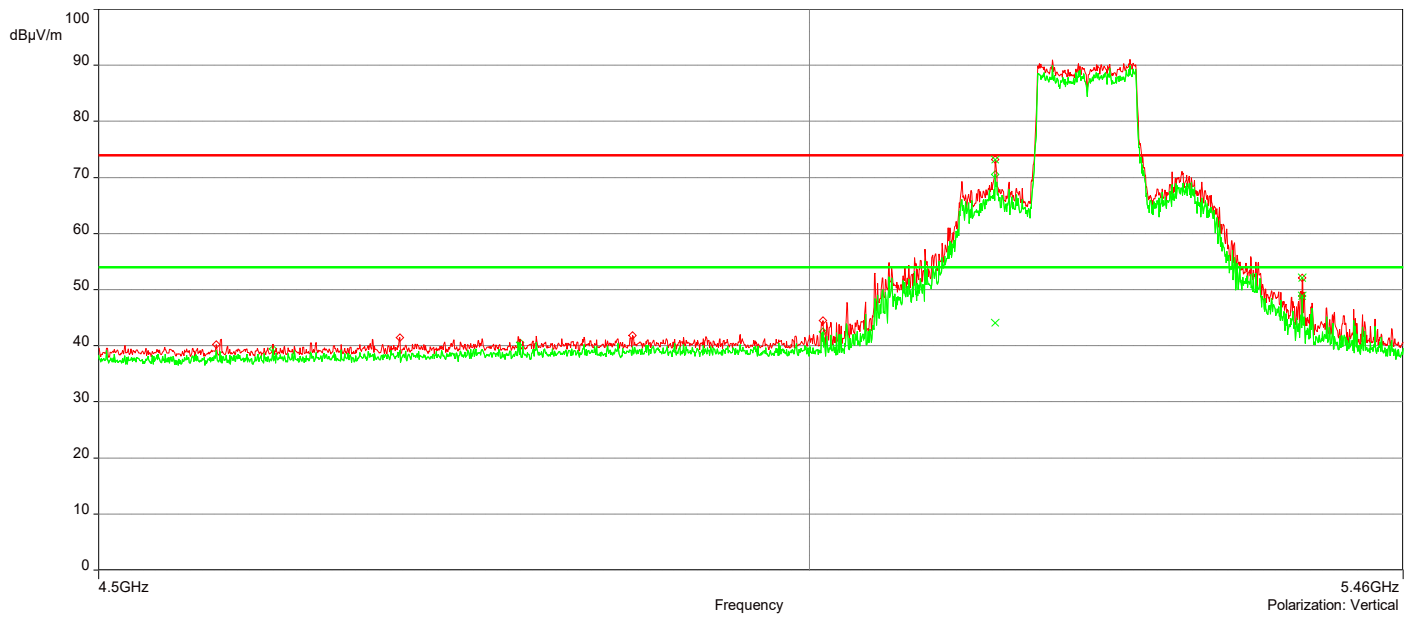
11/17/2021 9:59:51 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1396798GHz	73.18	3.92	74.00	-0.82	4.00	9.20	Vertical	Passed
2.	5.1252726GHz	66.65	4.03	74.00	-7.35	3.50	287.90	Horizontal	Passed
3.	5.3788394GHz	52.14	4.44	74.00	-21.86	4.00	358.90	Vertical	Passed
4.	5.3601101GHz	46.02	4.49	74.00	-27.98	2.00	63.20	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.3788394GHz	48.82	4.44	54.00	-5.18	4.00	358.90	Vertical	Passed
2.	5.3524262GHz	44.33	4.47	54.00	-9.67	1.00	186.00	Horizontal	Passed
3.	5.1396798GHz	44.13	3.92	54.00	-9.87	4.00	9.20	Vertical	Passed
4.	5.1387194GHz	39.73	3.99	54.00	-14.27	4.00	0.10	Horizontal	Passed

Overall Graphs:





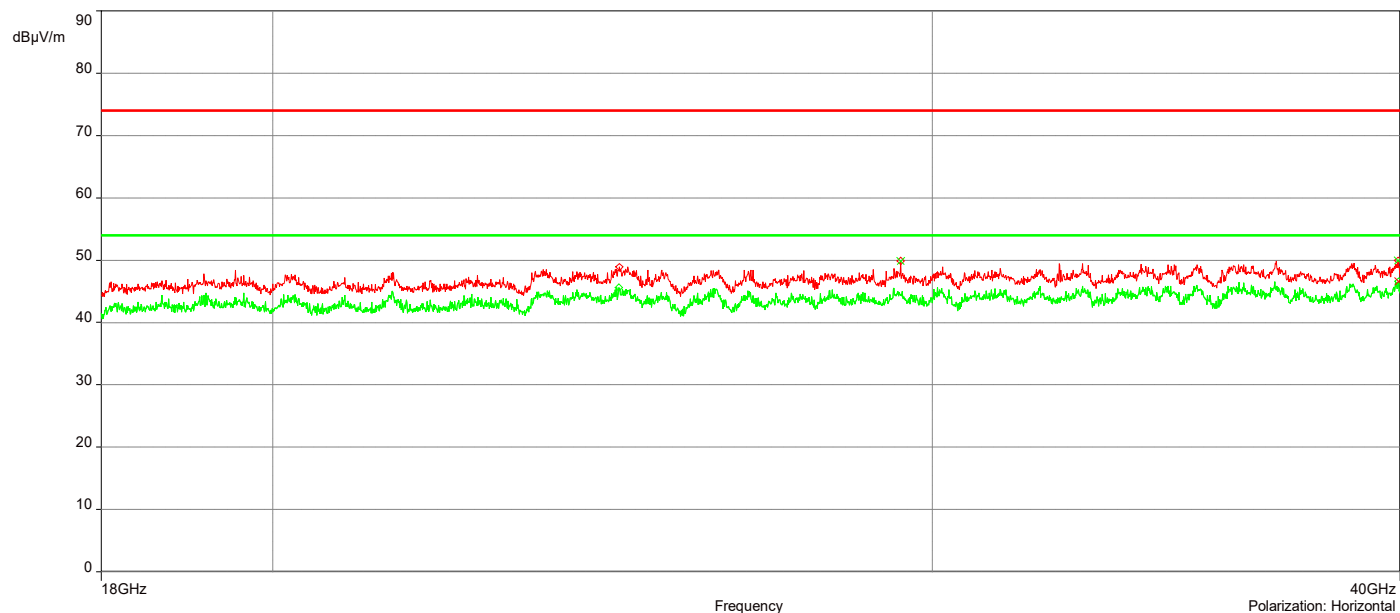
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 36\_18-40GHz**

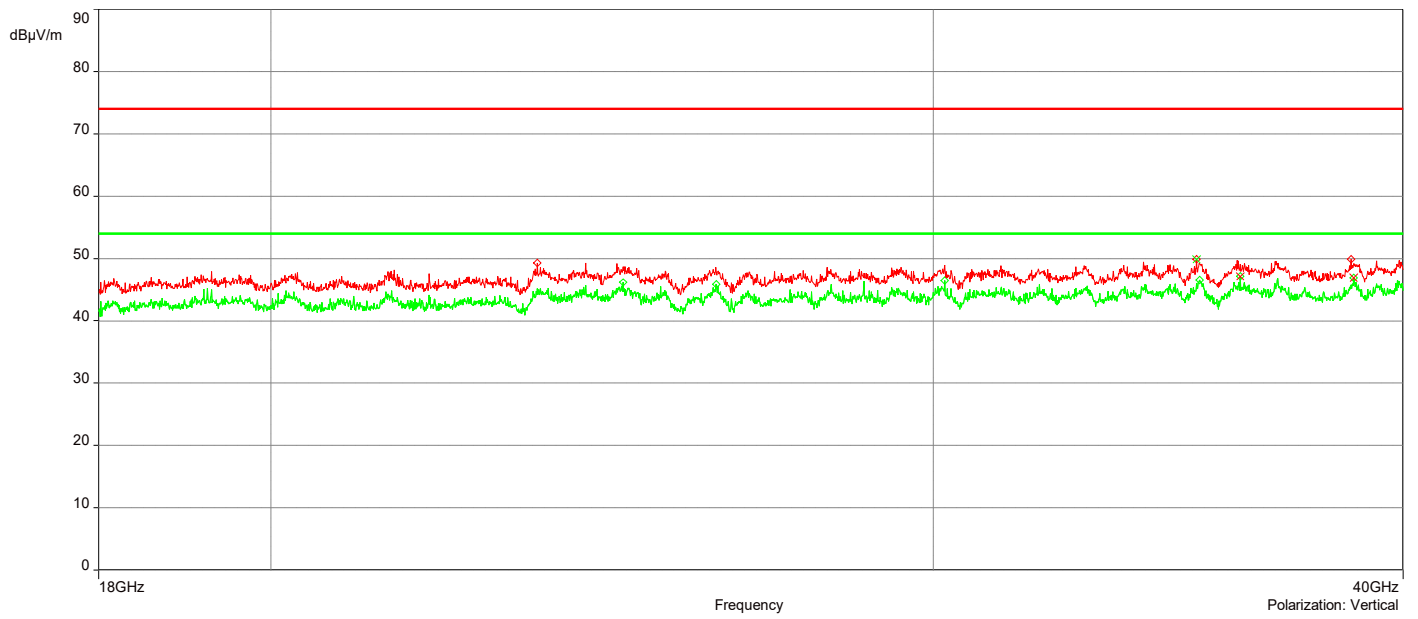
12/6/2021 1:21:46 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	39.955499GHz	49.95	4.55	74.00	-24.05	3.97	89.90	Horizontal	Passed
2.	35.250892GHz	49.91	3.21	74.00	-24.09	1.67	157.40	Vertical	Passed
3.	29.42276GHz	49.89	5.36	74.00	-24.11	3.97	314.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	39.956999GHz	46.62	4.54	54.00	-7.38	3.14	44.90	Horizontal	Passed
2.	38.803973GHz	46.86	3.88	54.00	-7.14	2.06	314.90	Vertical	Passed
3.	36.206914GHz	47.15	2.59	54.00	-6.85	2.24	314.90	Vertical	Passed

Overall Graphs:





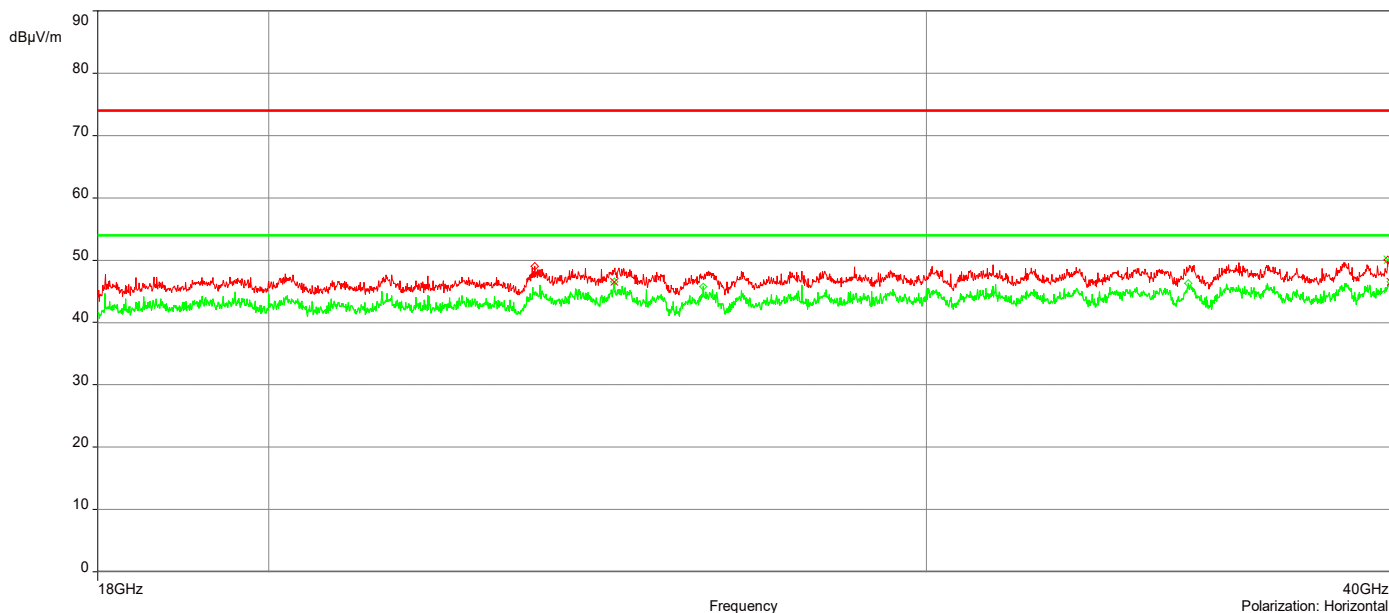
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 40\_18-40GHz**

12/6/2021 12:47:57 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	38.801973GHz	50.48	3.89	74.00	-23.52	2.40	135.10	Vertical	Passed
2.	39.870497GHz	50.03	4.73	74.00	-23.97	1.32	112.50	Horizontal	Passed
3.	34.73438GHz	49.72	3.04	74.00	-24.28	3.14	67.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	24.750653GHz	46.58	2.98	54.00	-7.42	3.32	180.20	Horizontal	Passed
2.	39.954499GHz	46.58	4.55	54.00	-7.42	2.79	45.00	Horizontal	Passed
3.	36.305916GHz	46.94	2.27	54.00	-7.06	3.97	225.10	Vertical	Passed

Overall Graphs:





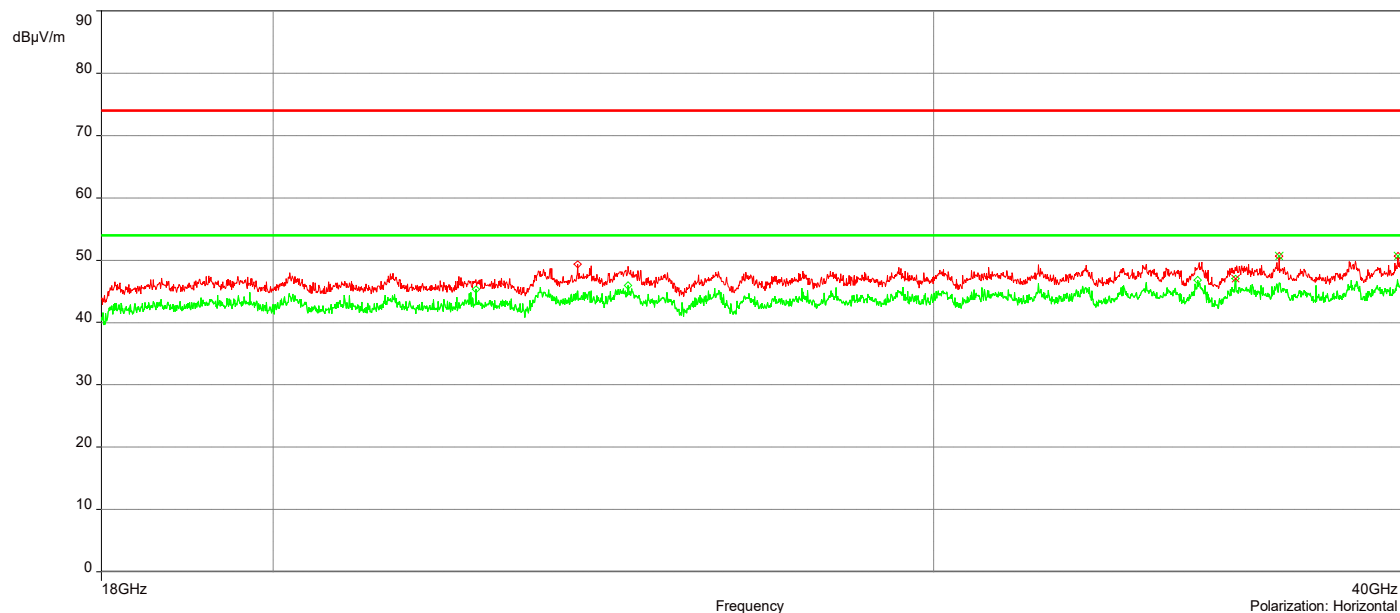
**AH21100601-HAR-134#004\_5G UNII-1 802.11a\_Ch 48\_18-40GHz**

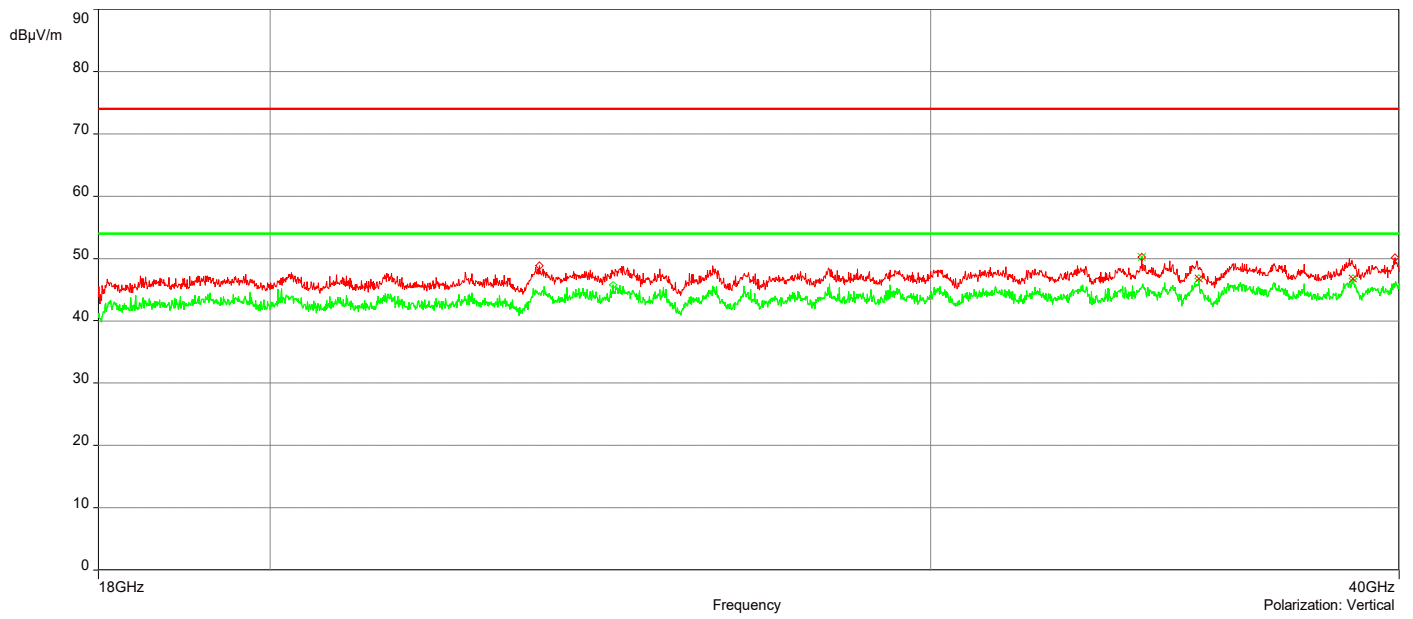
12/6/2021 12:17:50 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	34.153867GHz	50.19	3.64	74.00	-23.81	3.36	22.40	Vertical	Passed
2.	37.089934GHz	50.63	2.05	74.00	-23.37	1.37	22.40	Horizontal	Passed
3.	39.902998GHz	50.64	4.77	74.00	-23.36	1.17	224.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	38.876474GHz	46.79	3.85	54.00	-7.21	1.00	67.40	Vertical	Passed
2.	35.373895GHz	46.81	2.94	54.00	-7.19	4.00	224.90	Vertical	Passed
3.	36.115412GHz	47.04	2.93	54.00	-6.96	2.23	0.10	Horizontal	Passed

Overall Graphs:







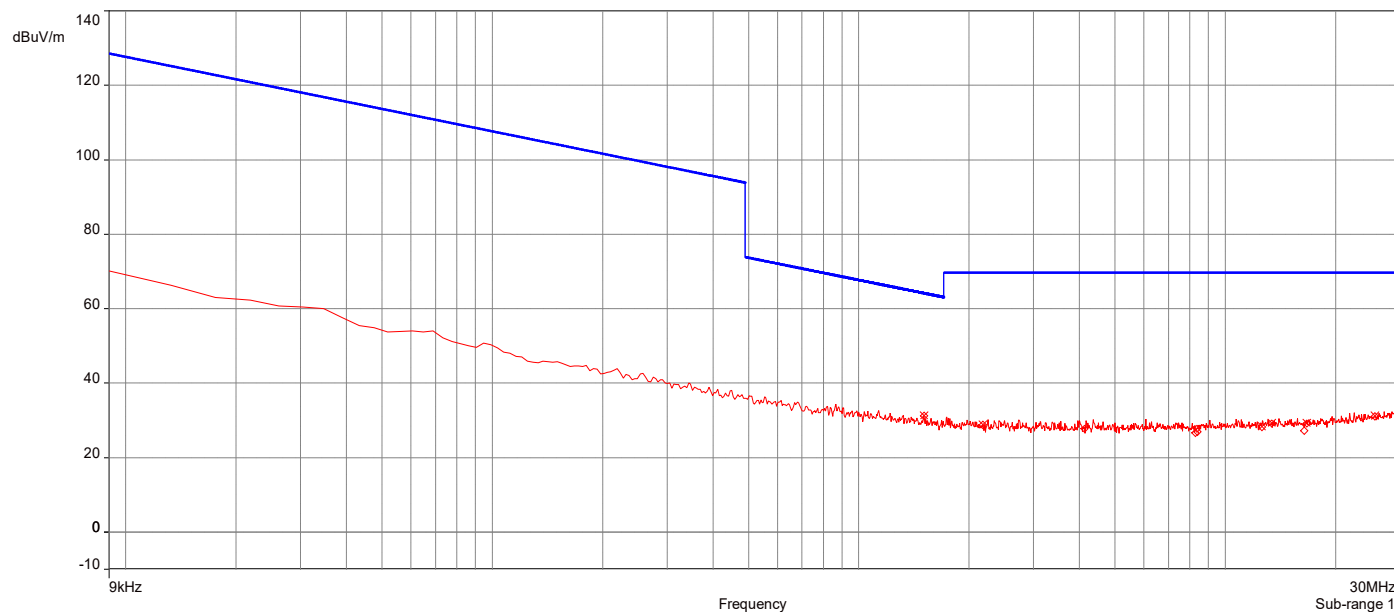
**UNII-3**

**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_9kHz-30MHz\_Ground-Parallel**

11/16/2021 9:20:21 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.508764MHz	31.19	19.14	64.03	-32.84	1.00	22.10	Passed
2.	2.177231MHz	28.81	19.09	69.54	-40.73	1.00	0.10	Passed
3.	12.577024MHz	28.19	19.58	69.54	-41.35	1.00	312.20	Passed
4.	13.399752MHz	29.21	19.62	69.54	-40.34	1.00	103.20	Passed
5.	16.694949MHz	29.21	19.68	69.54	-40.33	1.00	0.10	Passed
6.	25.569268MHz	31.03	20.72	69.54	-38.51	1.00	230.90	Passed

Overall Graphs:

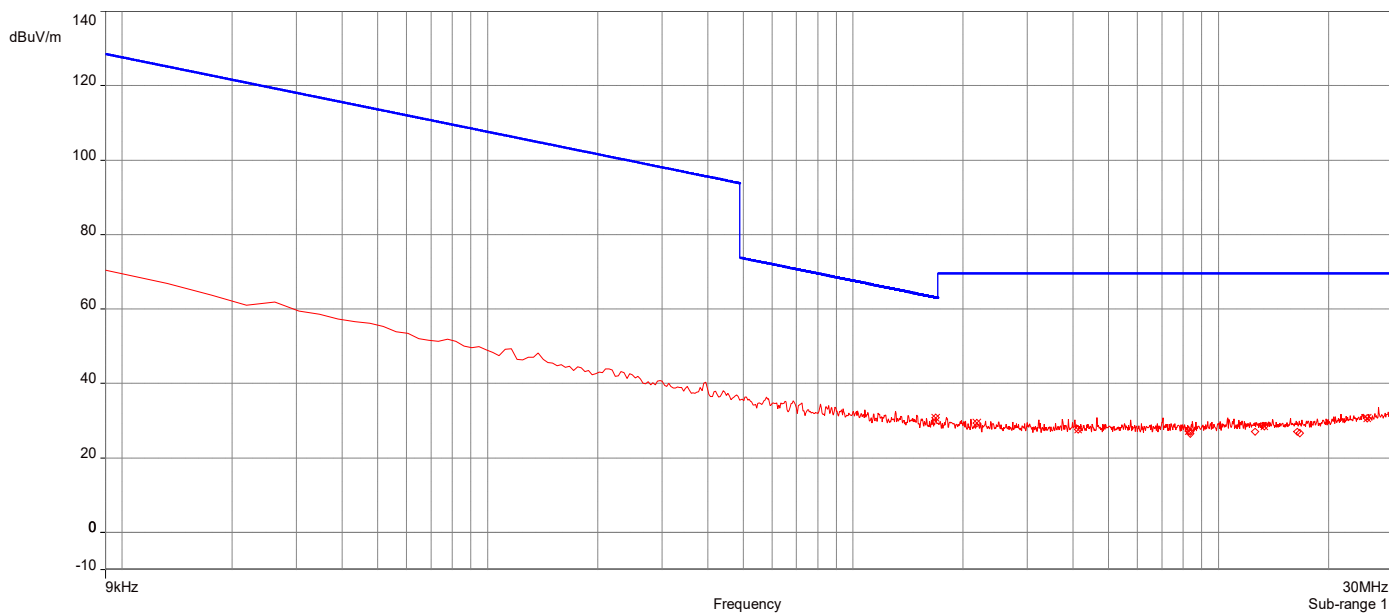


**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_9kHz-30MHz\_Parallel**

11/16/2021 9:40:07 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.684451MHz	30.81	19.12	63.07	-32.26	1.00	219.00	Passed
2.	2.177231MHz	29.38	19.09	69.54	-40.17	1.00	267.10	Passed
3.	4.126924MHz	27.66	19.21	69.54	-41.88	1.00	312.30	Passed
4.	8.291984MHz	27.21	19.14	69.54	-42.33	1.00	336.80	Passed
5.	13.361187MHz	28.49	19.61	69.54	-41.05	1.00	40.70	Passed
6.	25.513562MHz	30.65	20.72	69.54	-38.89	1.00	355.00	Passed

Overall Graphs:

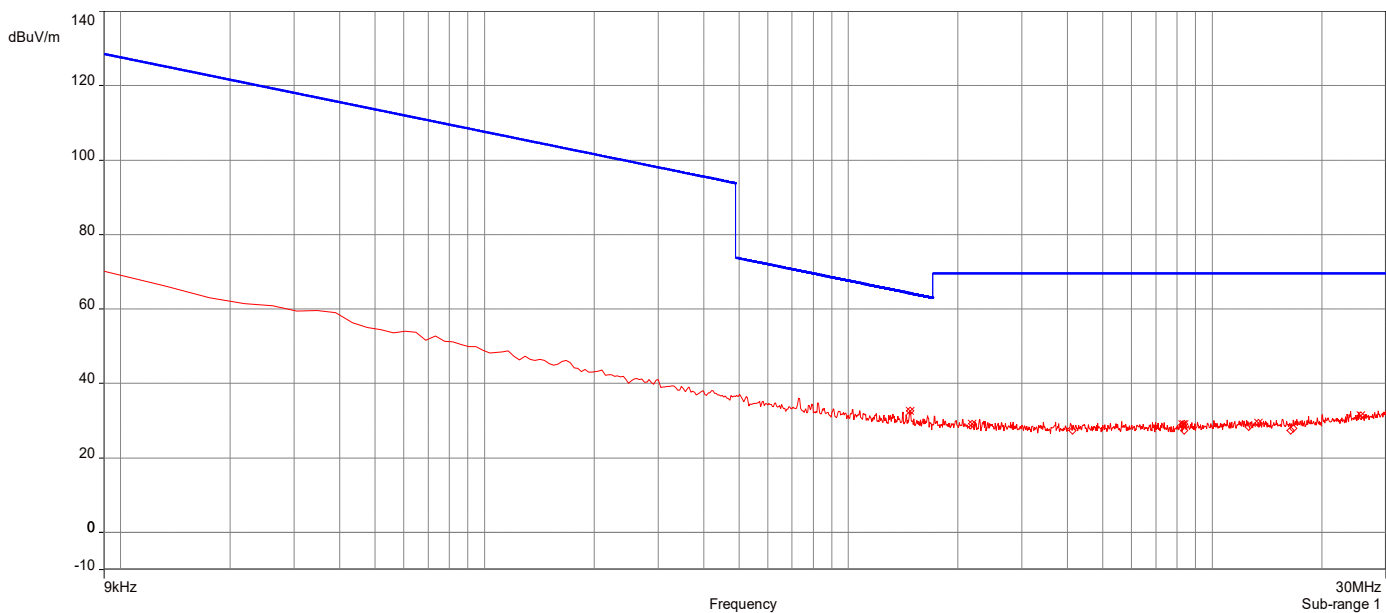


**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_9kHz-30MHz\_Perpendicular**

11/16/2021 9:46:26 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBuV/m	Margin (dB)	Height (m)	Angle (°)	Judgement
1.	1.478769MHz	32.61	19.14	64.21	-31.59	1.00	0.10	Passed
2.	2.185801MHz	29.17	19.09	69.54	-40.37	1.00	215.50	Passed
3.	8.291984MHz	28.91	19.14	69.54	-40.63	1.00	3.10	Passed
4.	8.377685MHz	29.01	19.14	69.54	-40.53	1.00	136.50	Passed
5.	13.399752MHz	29.37	19.62	69.54	-40.17	1.00	5.40	Passed
6.	25.564983MHz	31.39	20.72	69.54	-38.15	1.00	77.70	Passed

Overall Graphs:

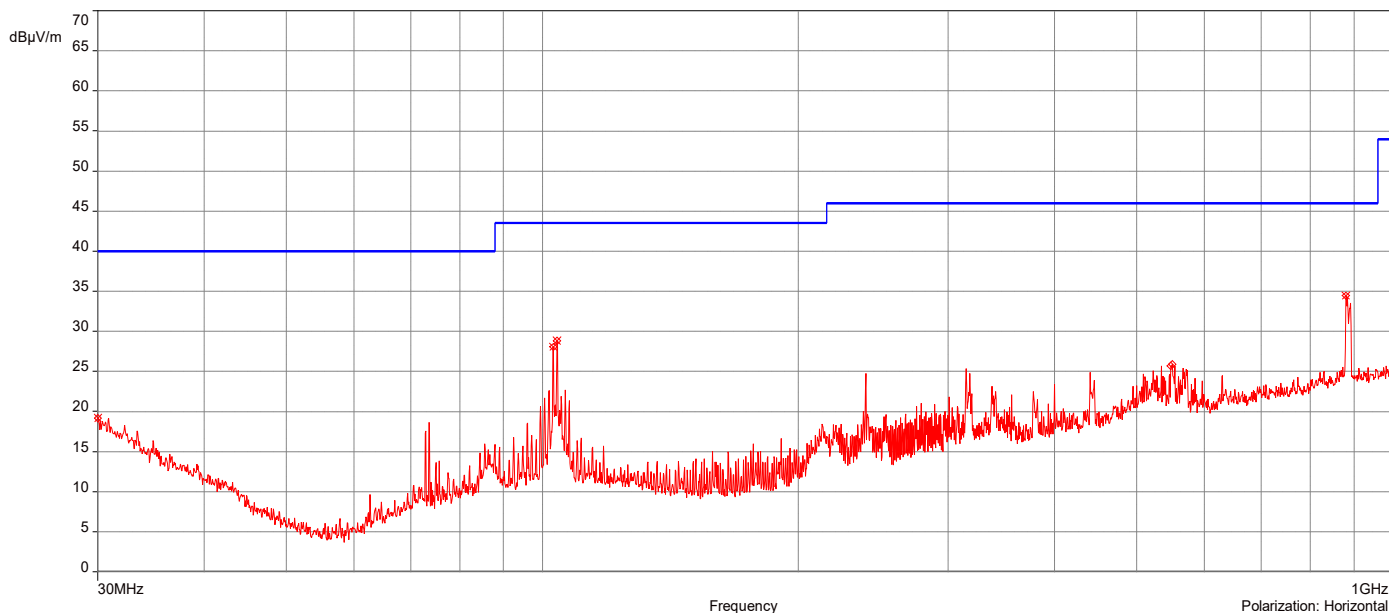


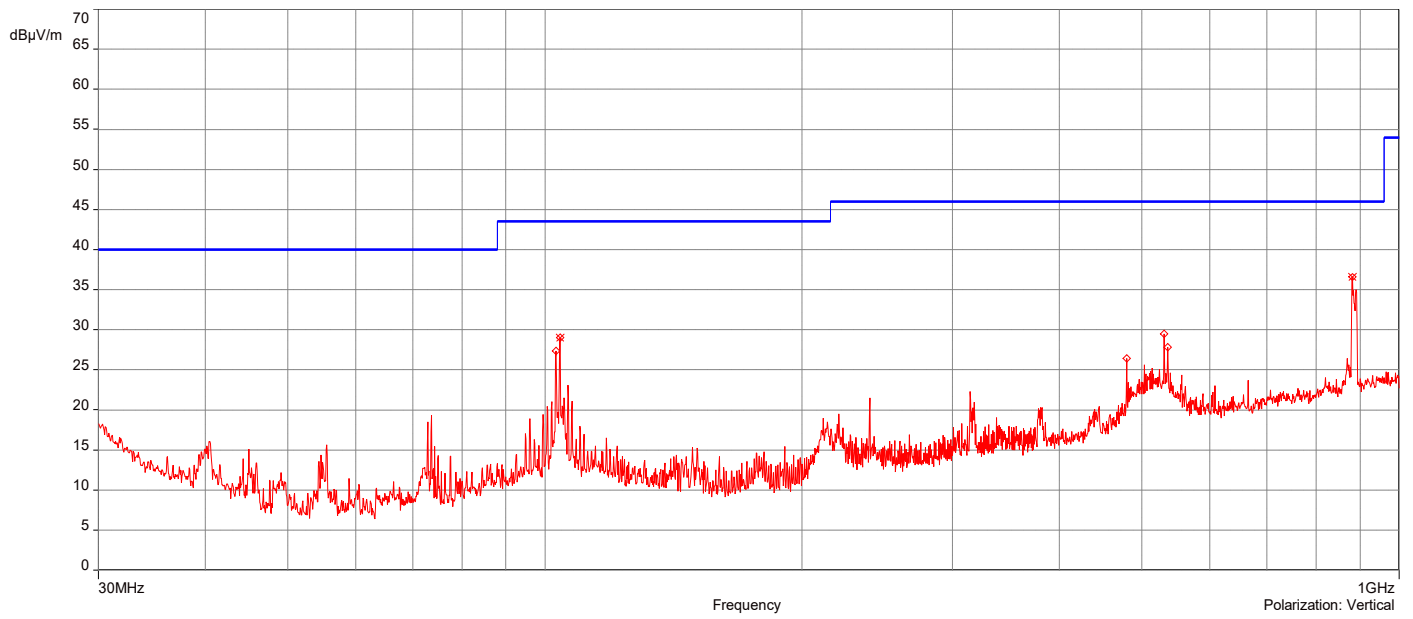
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 149\_30MHz-1GHz**

11/12/2021 7:20:50 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	104.12377MHz	29.02	-12.96	43.50	-14.48	1.00	84.70	Vertical	Passed
2.	881.7101MHz	36.59	-1.59	46.00	-9.41	2.00	0.10	Vertical	Passed
3.	30MHz	19.20	-5.22	29.50	-10.30	3.25	163.30	Horizontal	Passed
4.	102.98253MHz	28.12	-13.74	43.50	-15.38	2.25	229.90	Horizontal	Passed
5.	104.06671MHz	28.84	-13.66	43.50	-14.66	2.25	235.60	Horizontal	Passed
6.	880.85417MHz	34.47	-0.49	46.00	-11.53	2.00	332.90	Horizontal	Passed

Overall Graphs:



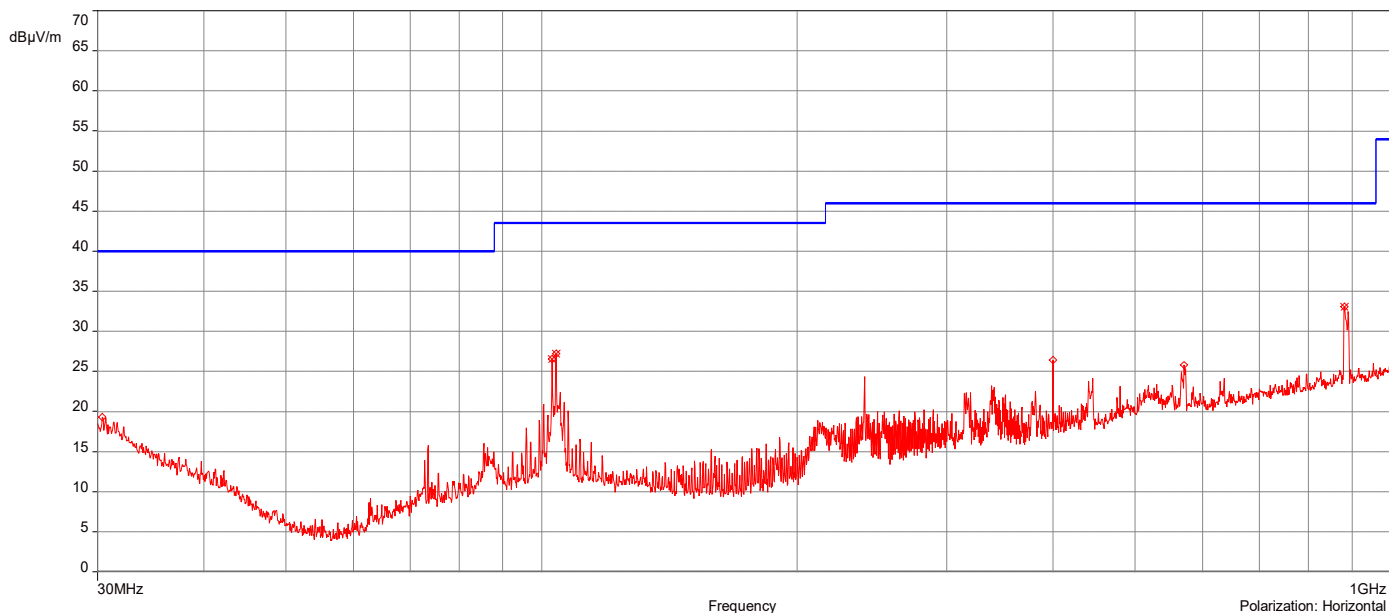


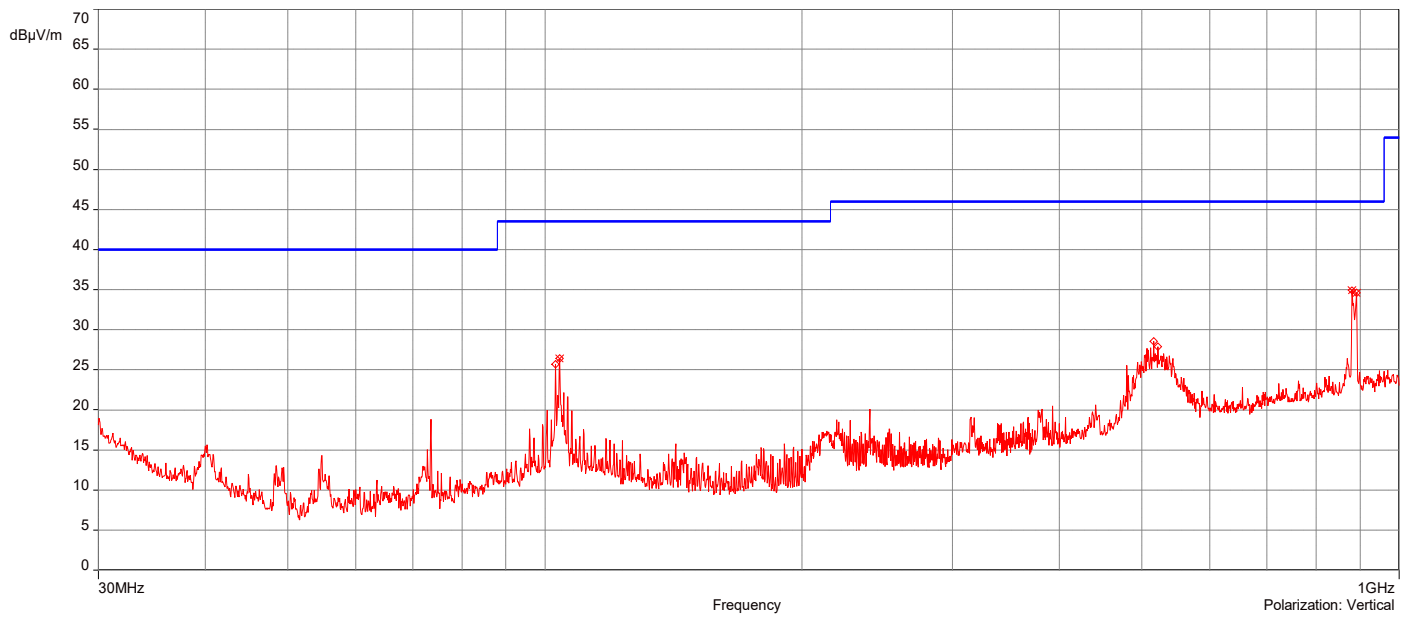
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_30MHz-1GHz**

11/12/2021 8:14:38 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	104.00965MHz	26.44	-12.97	43.50	-17.06	1.00	74.20	Vertical	Passed
2.	880.91123MHz	34.91	-1.59	46.00	-11.09	2.00	25.40	Vertical	Passed
3.	891.41067MHz	34.60	-1.60	46.00	-11.40	2.00	356.10	Vertical	Passed
4.	102.8684MHz	26.52	-13.74	43.50	-16.98	3.00	223.10	Horizontal	Passed
5.	104.00965MHz	27.22	-13.67	43.50	-16.28	2.25	227.60	Horizontal	Passed
6.	882.05247MHz	33.05	-0.49	46.00	-12.95	1.75	47.60	Horizontal	Passed

Overall Graphs:



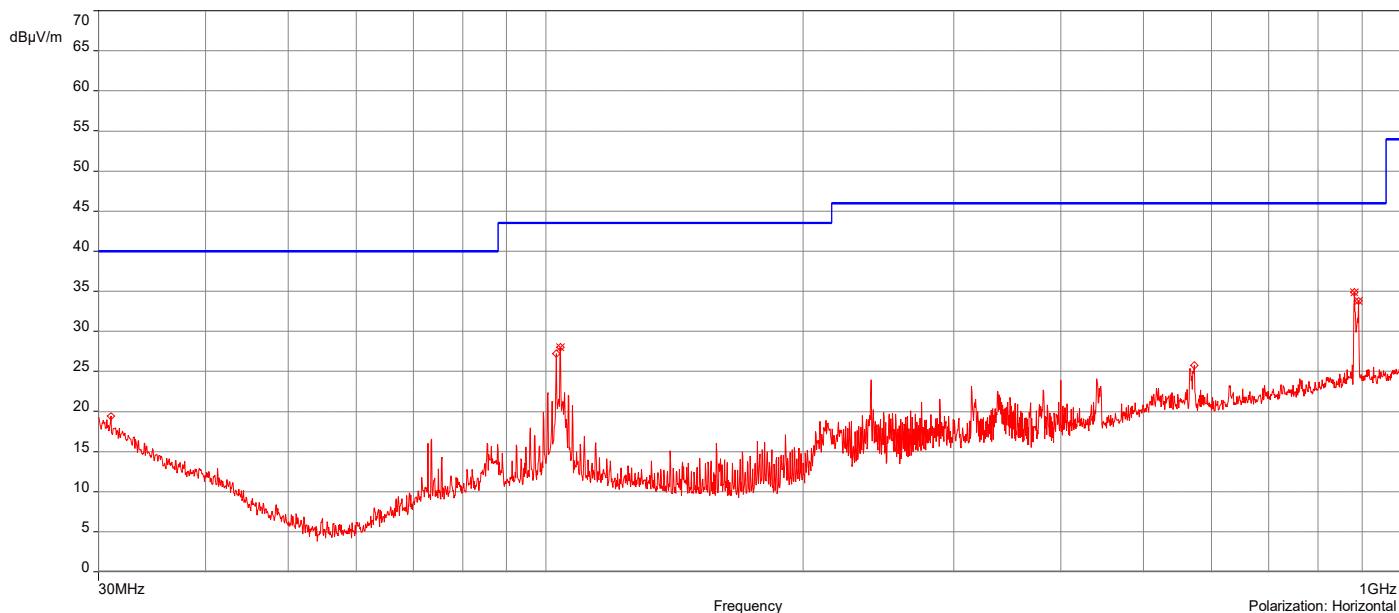


**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 165\_30MHz-1GHz**

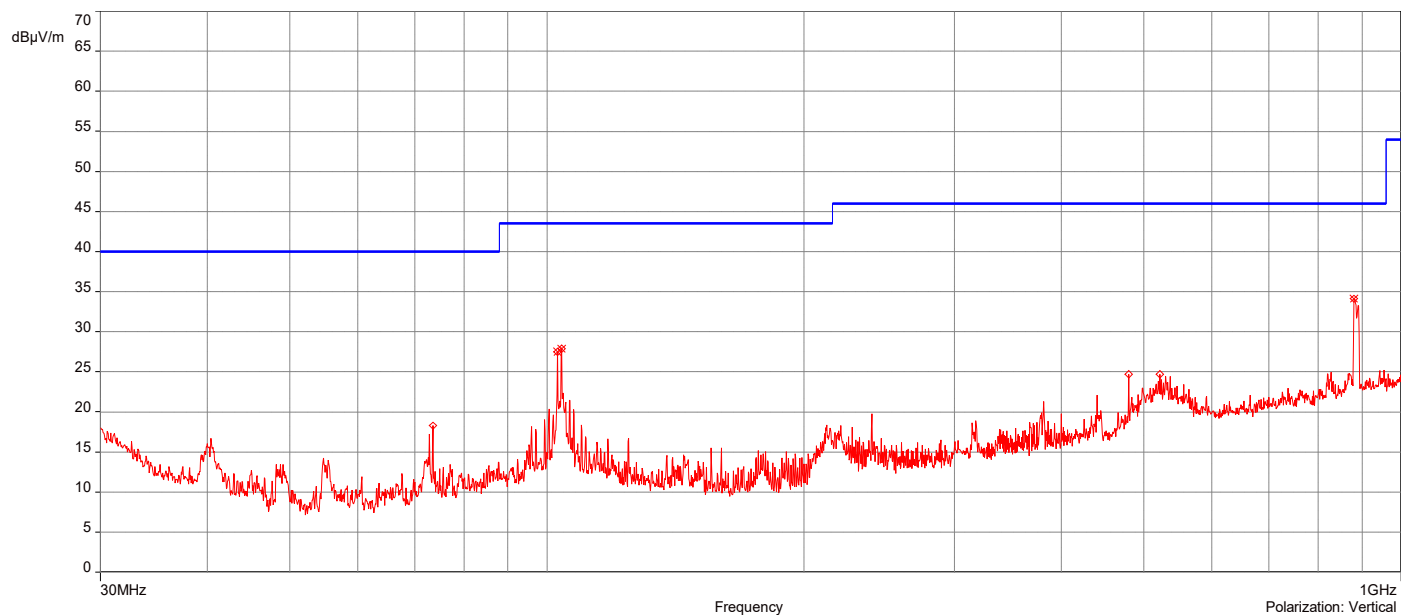
11/12/2021 9:08:57 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	102.8684MHz	27.51	-13.04	43.50	-15.99	1.00	102.00	Vertical	Passed
2.	104.00965MHz	27.89	-12.97	43.50	-15.61	1.00	110.50	Vertical	Passed
3.	881.08242MHz	34.15	-1.59	46.00	-11.85	1.00	2.60	Vertical	Passed
4.	104.00965MHz	28.04	-13.67	43.50	-15.46	2.25	242.30	Horizontal	Passed
5.	881.42479MHz	34.85	-0.49	46.00	-11.15	1.75	327.60	Horizontal	Passed
6.	891.29655MHz	33.79	-0.37	46.00	-12.21	1.75	310.70	Horizontal	Passed

Overall Graphs:







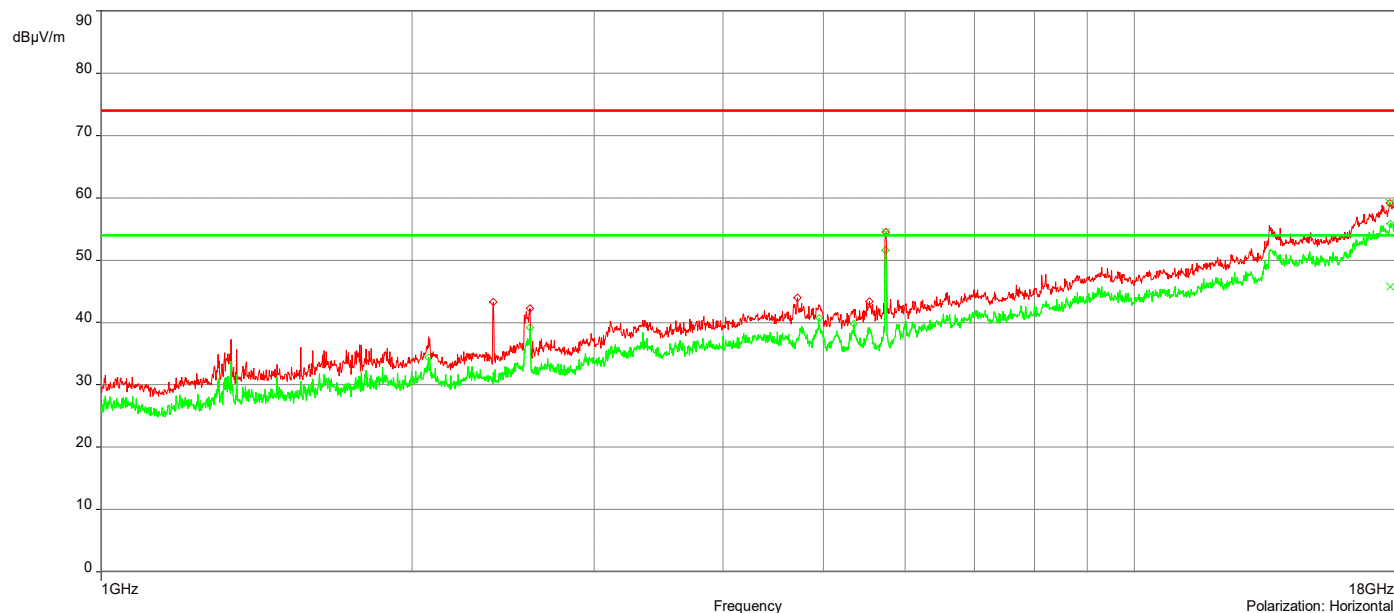
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 149\_1-18GHz**

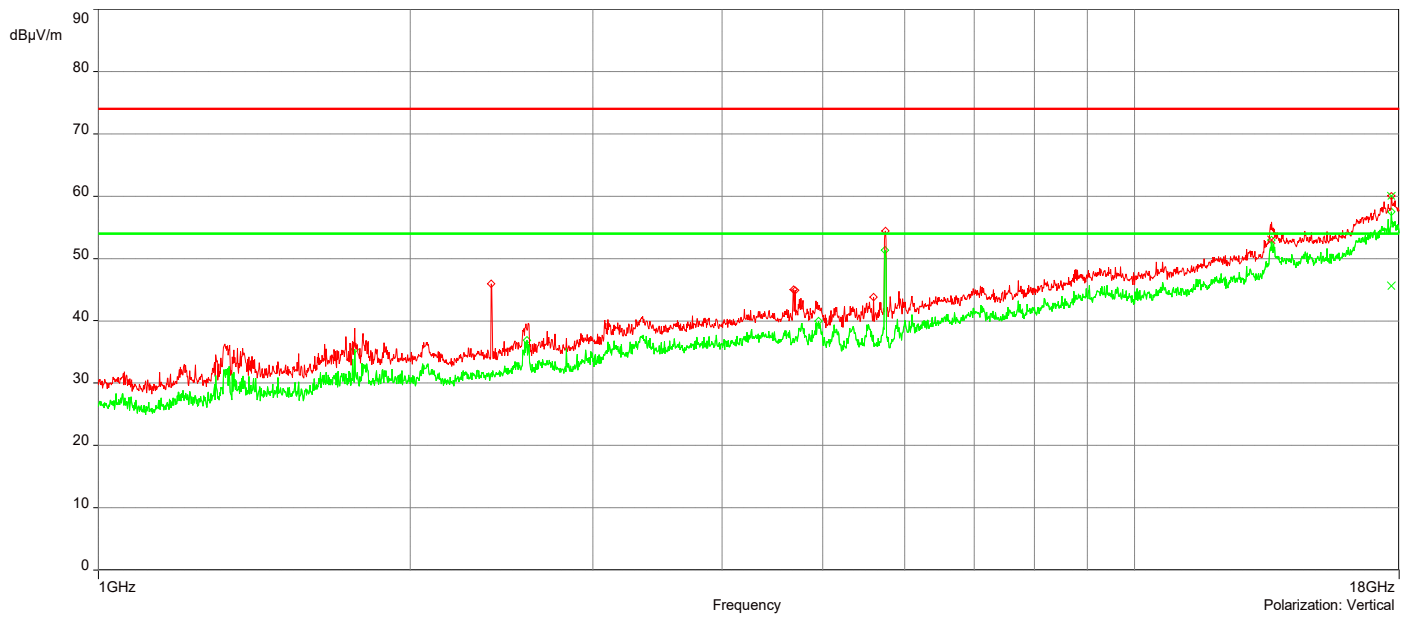
11/23/2021 6:30:39 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.7466396GHz	54.49	4.55	74.00	-19.51	2.00	62.20	Horizontal	Passed
2.	17.681991GHz	59.21	18.24	74.00	-14.79	1.50	52.30	Horizontal	Passed
3.	17.682991GHz	60.09	18.25	74.00	-13.91	1.50	0.20	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	13.549369GHz	52.94	12.53	54.00	-1.06	4.00	110.30	Vertical	Passed
2.	17.696491GHz	45.74	18.23	54.00	-8.26	1.00	103.90	Horizontal	Passed
3.	17.682991GHz	45.63	18.25	54.00	-8.37	1.50	0.20	Vertical	Passed

Overall Graphs:





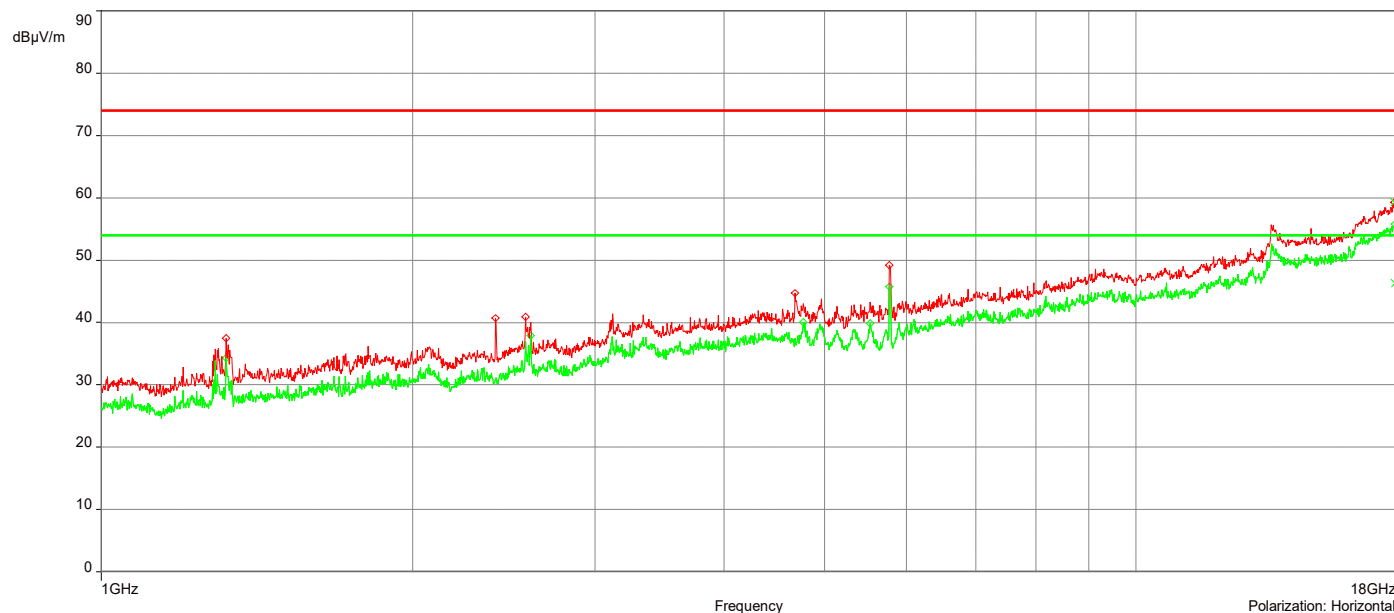
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_1-18GHz**

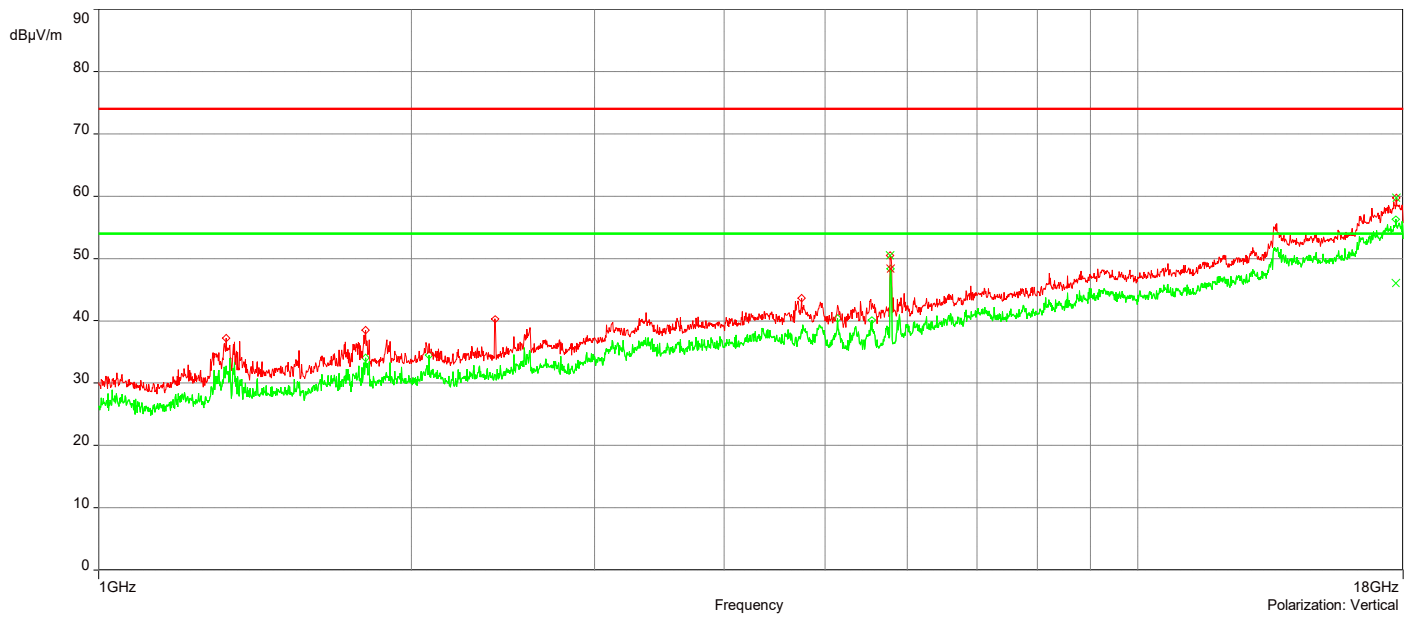
11/23/2021 7:01:16 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.735492GHz	59.71	18.25	74.00	-14.29	2.00	231.90	Vertical	Passed
2.	17.768493GHz	59.28	18.24	74.00	-14.72	2.50	46.80	Horizontal	Passed
3.	5.7771405GHz	50.46	4.47	74.00	-23.54	3.00	358.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.702991GHz	46.01	18.23	54.00	-7.99	2.00	231.90	Vertical	Passed
2.	17.783494GHz	46.33	18.30	54.00	-7.67	4.00	283.90	Horizontal	Passed
3.	5.7816406GHz	48.35	4.46	54.00	-5.65	3.00	358.70	Vertical	Passed

Overall Graphs:





**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 165\_1-18GHz**

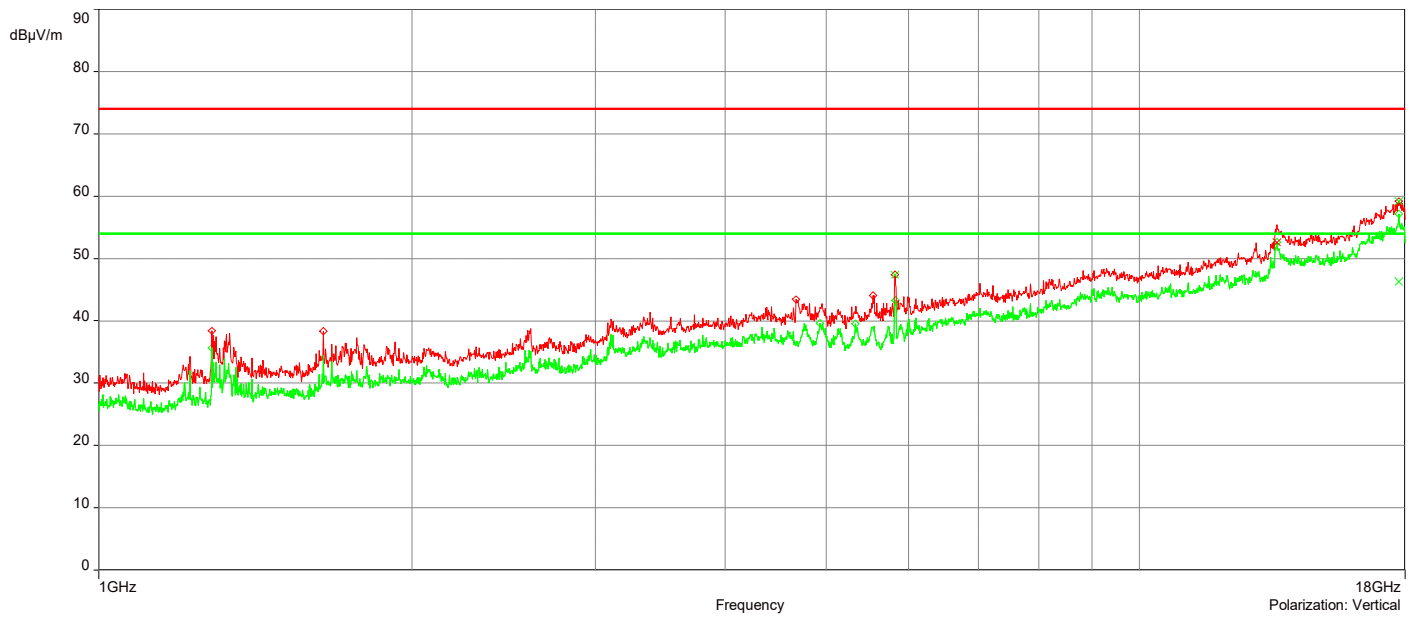
11/23/2021 7:28:36 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.776493GHz	59.46	18.26	74.00	-14.54	2.50	319.20	Horizontal	Passed
2.	17.763493GHz	59.19	18.28	74.00	-14.81	3.50	51.70	Vertical	Passed
3.	5.8226418GHz	47.37	4.53	74.00	-26.63	4.00	23.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.763493GHz	46.21	18.28	54.00	-7.79	3.50	324.90	Horizontal	Passed
2.	17.763493GHz	46.31	18.28	54.00	-7.69	3.50	51.70	Vertical	Passed
3.	13.56337GHz	52.61	12.56	54.00	-1.39	2.50	191.60	Vertical	Passed

Overall Graphs:





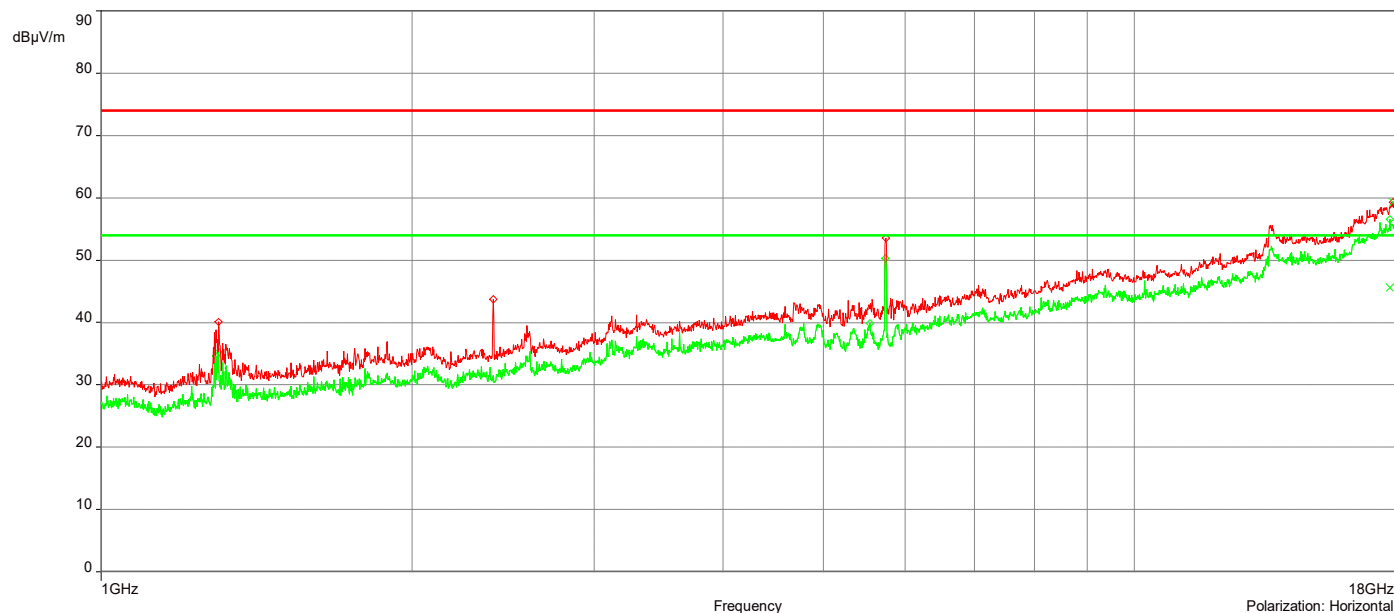
**AH21100601-HAR-134#004\_5G UNII-3 802.11n\_Ch 149 (HT20)\_1-18GHz**

11/23/2021 8:12:18 AM

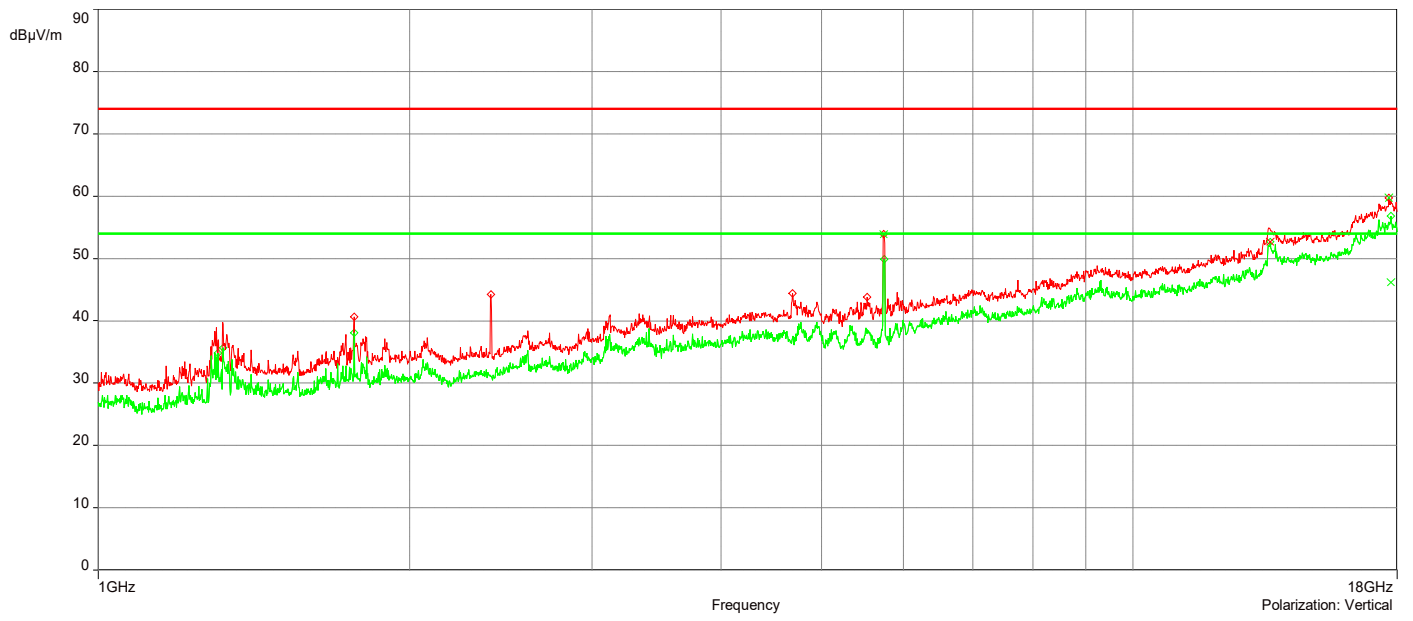
No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.679991GHz	59.73	18.25	74.00	-14.27	2.00	0.10	Vertical	Passed
2.	17.799494GHz	59.31	18.29	74.00	-14.69	3.00	225.60	Horizontal	Passed
3.	5.7431395GHz	53.89	4.48	74.00	-20.11	4.00	30.40	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.67099GHz	45.59	18.26	54.00	-8.41	1.50	290.20	Horizontal	Passed
2.	17.745993GHz	46.22	18.26	54.00	-7.78	1.50	326.10	Vertical	Passed
3.	13.57387GHz	52.68	12.58	54.00	-1.32	3.75	357.70	Vertical	Passed

Overall Graphs:







**AH21100601-HAR-134#004\_5G UNII-3 802.11n\_Ch 157 (HT20)\_1-18GHz**

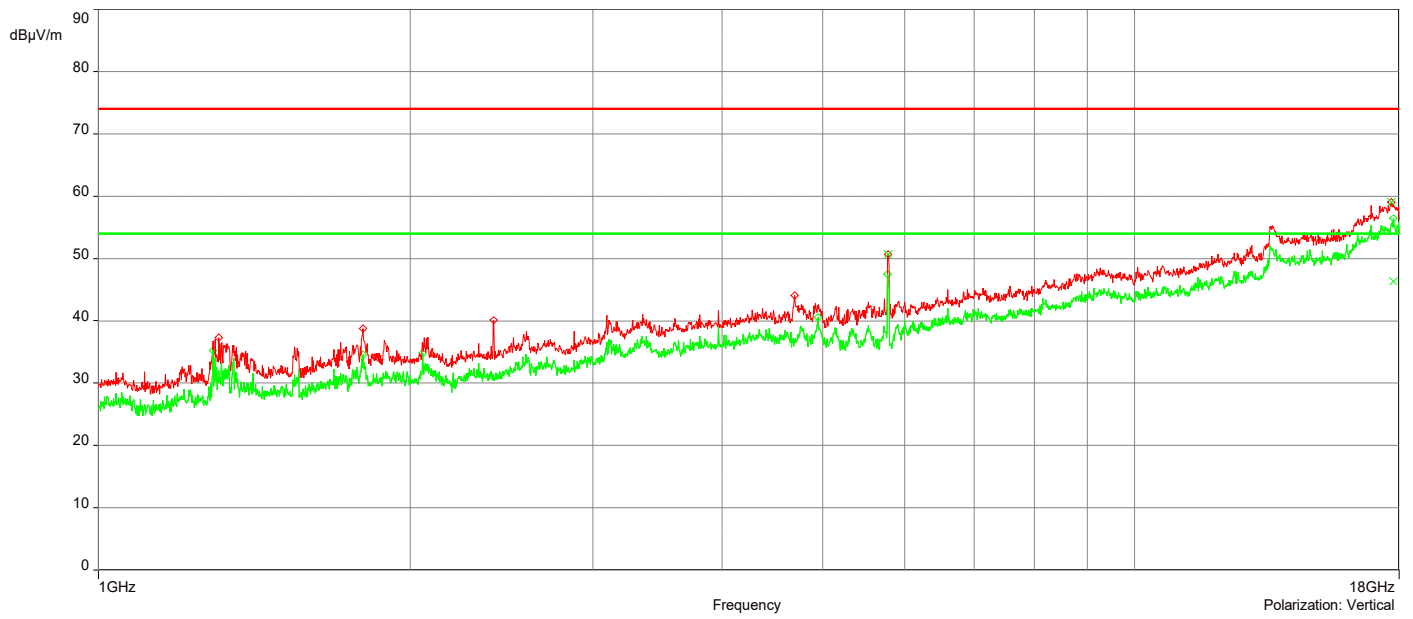
11/23/2021 8:46:49 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.701491GHz	59.00	18.23	74.00	-15.00	3.00	42.50	Vertical	Passed
2.	17.712992GHz	58.71	18.23	74.00	-15.29	3.00	237.60	Horizontal	Passed
3.	5.7831407GHz	50.65	4.46	74.00	-23.35	3.00	353.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.920998GHz	45.68	18.42	54.00	-8.32	3.50	77.10	Horizontal	Passed
2.	17.778493GHz	46.39	18.30	54.00	-7.61	1.50	359.90	Vertical	Passed
3.	12.099326GHz	49.07	10.35	54.00	-4.93	2.50	174.90	Horizontal	Passed

Overall Graphs:





**AH21100601-HAR-134#004\_5G UNII-3 802.11n\_Ch 165 (HT20)\_1-18GHz**

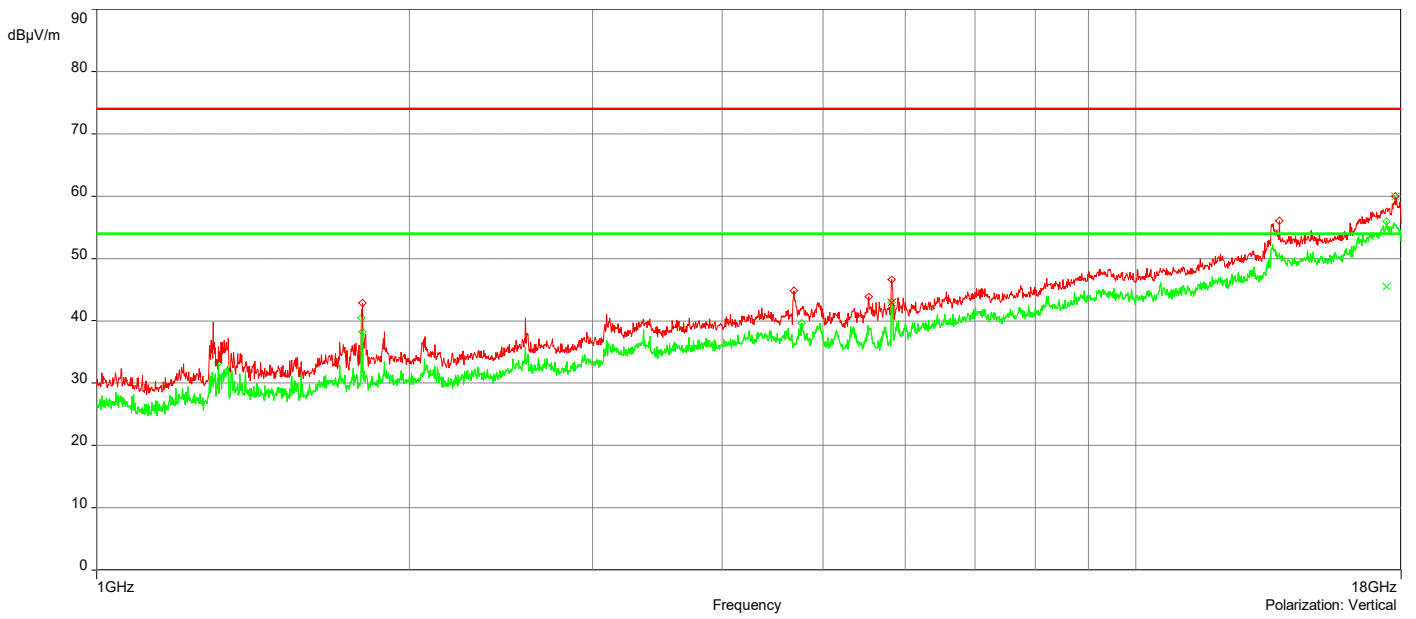
11/23/2021 9:11:51 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	13.560369GHz	56.27	12.60	74.00	-17.73	3.00	0.10	Horizontal	Passed
2.	17.746993GHz	59.39	18.22	74.00	-14.61	2.50	276.90	Horizontal	Passed
3.	17.781994GHz	59.95	18.30	74.00	-14.05	1.00	280.30	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.8231419GHz	42.94	4.54	54.00	-11.06	3.50	348.10	Vertical	Passed
2.	17.419483GHz	45.49	18.20	54.00	-8.51	2.50	47.90	Vertical	Passed
3.	17.785994GHz	46.29	18.31	54.00	-7.71	2.00	255.90	Horizontal	Passed

Overall Graphs:





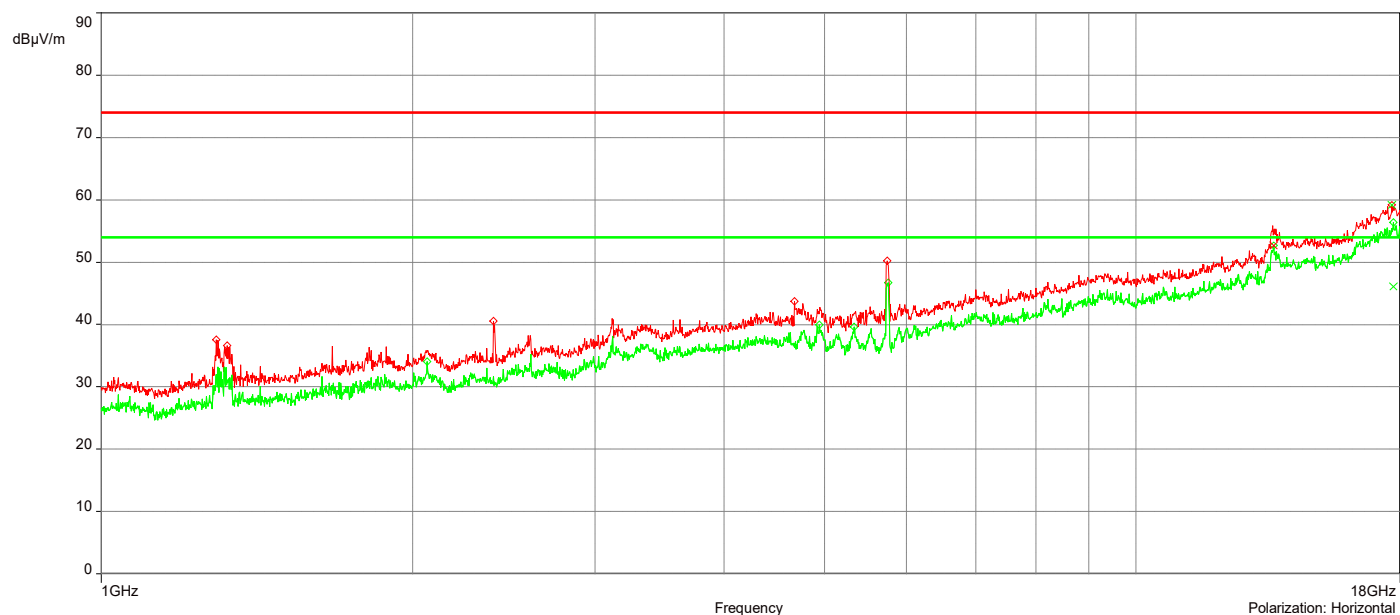
**AH21100601-HAR-134#004\_5G UNII-3 802.11n\_Ch 151 (HT40)\_1-18GHz**

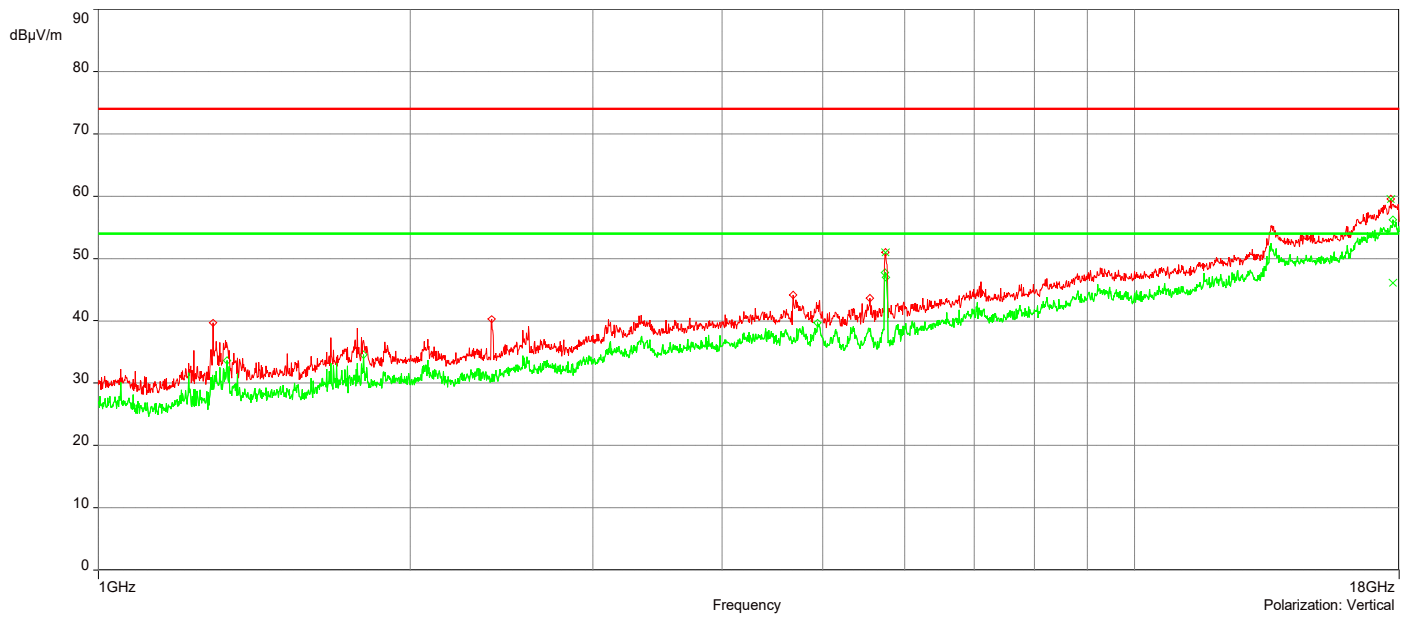
11/23/2021 9:36:57 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.677491GHz	59.56	18.25	74.00	-14.44	4.00	3.20	Vertical	Passed
2.	17.678491GHz	59.24	18.24	74.00	-14.76	3.00	127.20	Horizontal	Passed
3.	5.7486397GHz	50.96	4.49	74.00	-23.04	4.00	19.70	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.753993GHz	46.10	18.27	54.00	-7.90	1.00	62.10	Vertical	Passed
2.	17.731492GHz	46.11	18.25	54.00	-7.89	1.00	298.90	Horizontal	Passed
3.	13.59237GHz	52.71	12.68	54.00	-1.29	1.50	162.60	Horizontal	Passed

Overall Graphs:





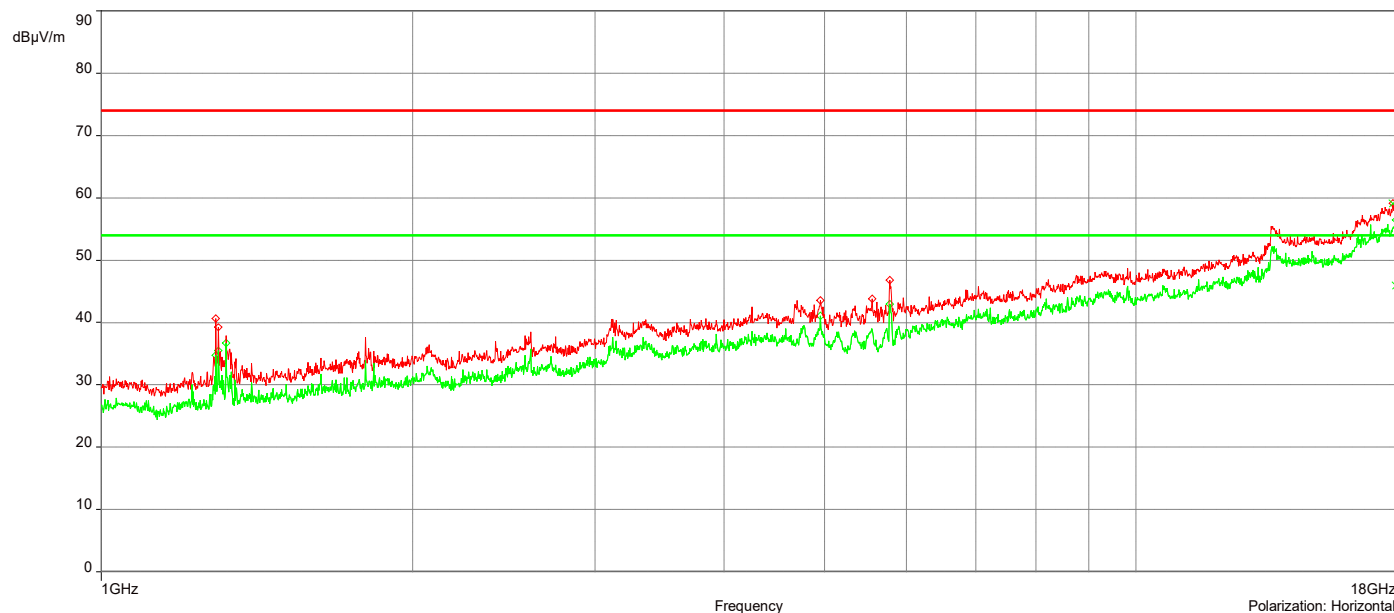
**AH21100601-HAR-134#004\_5G UNII-3 802.11n\_Ch 159 (HT40)\_1-18GHz**

11/23/2021 10:24:12 AM

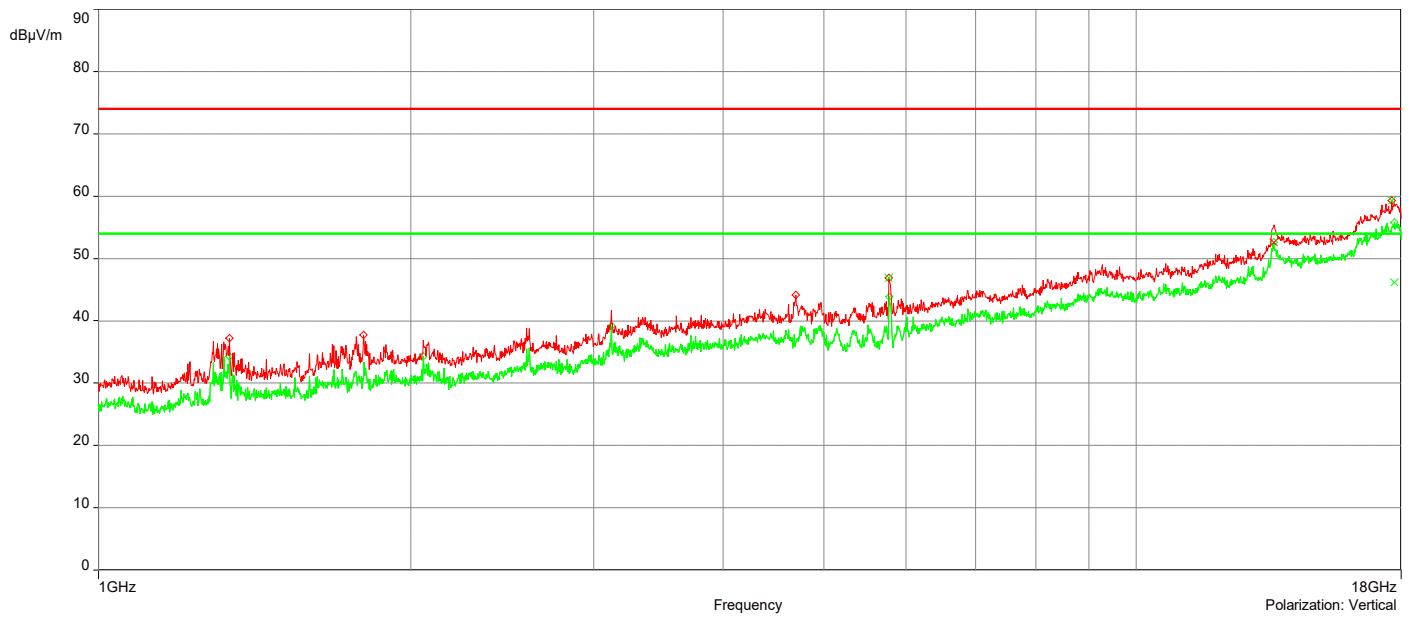
No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.637489GHz	59.31	18.29	74.00	-14.69	3.00	255.70	Vertical	Passed
2.	17.709491GHz	59.12	18.23	74.00	-14.88	2.50	319.90	Horizontal	Passed
3.	5.7786405GHz	46.88	4.46	74.00	-27.12	4.00	349.00	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.845495GHz	45.96	18.35	54.00	-8.04	2.50	37.10	Horizontal	Passed
2.	17.725992GHz	46.19	18.24	54.00	-7.81	1.00	268.10	Vertical	Passed
3.	13.57537GHz	52.61	12.58	54.00	-1.39	1.50	289.20	Vertical	Passed

Overall Graphs:







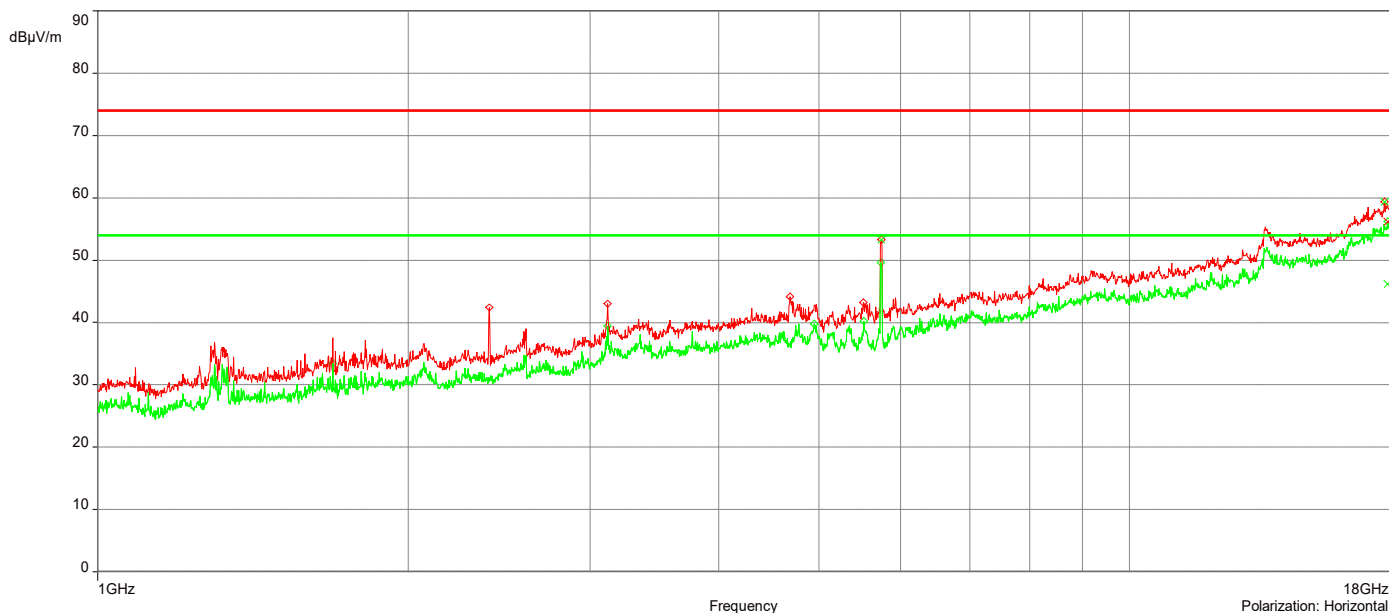
**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 149 (VHT20)\_1-18GHz**

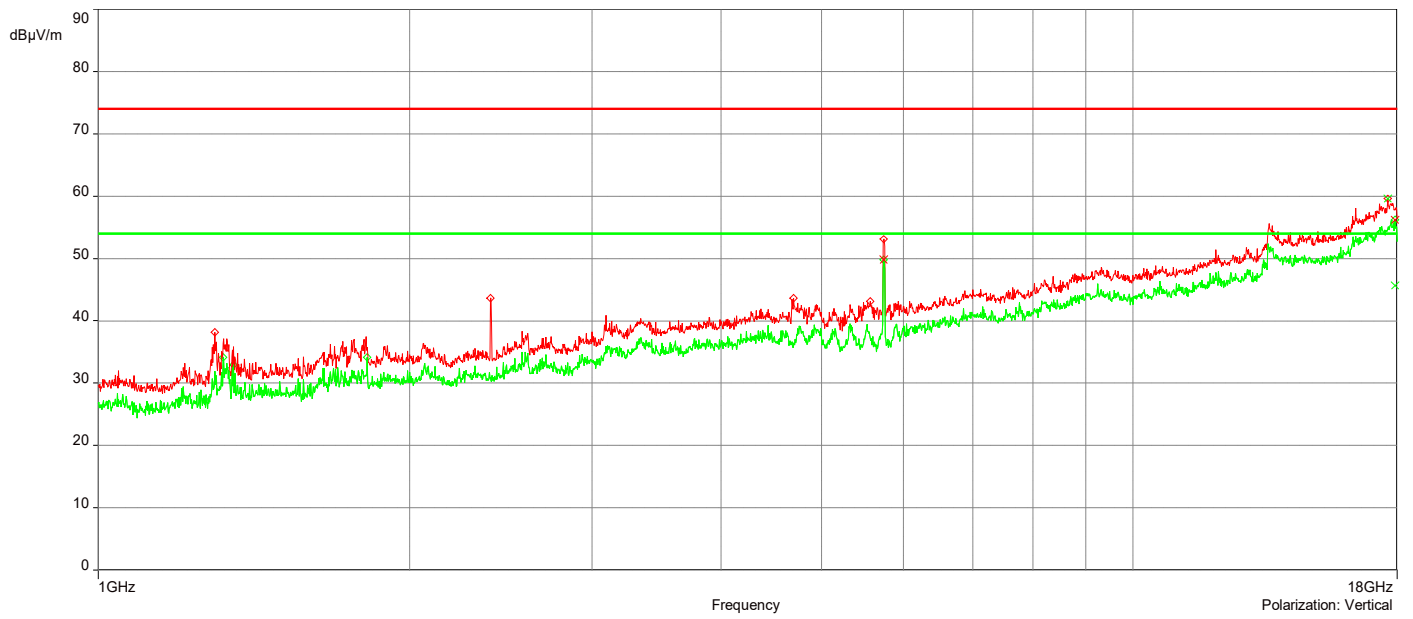
11/23/2021 10:59:57 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.7476396GHz	53.33	4.55	74.00	-20.67	2.00	72.50	Horizontal	Passed
2.	17.67149GHz	59.35	18.24	74.00	-14.65	1.00	307.30	Horizontal	Passed
3.	17.631489GHz	59.63	18.30	74.00	-14.37	2.00	126.80	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.7416395GHz	49.82	4.47	54.00	-4.18	3.00	358.30	Vertical	Passed
2.	17.790494GHz	56.19	18.31	54.00	-7.76	3.50	111.10	Horizontal	Passed
3.	17.921998GHz	56.22	18.43	54.00	-8.30	2.50	312.90	Vertical	Passed

Overall Graphs:





**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 157 (VHT20)\_1-18GHz**

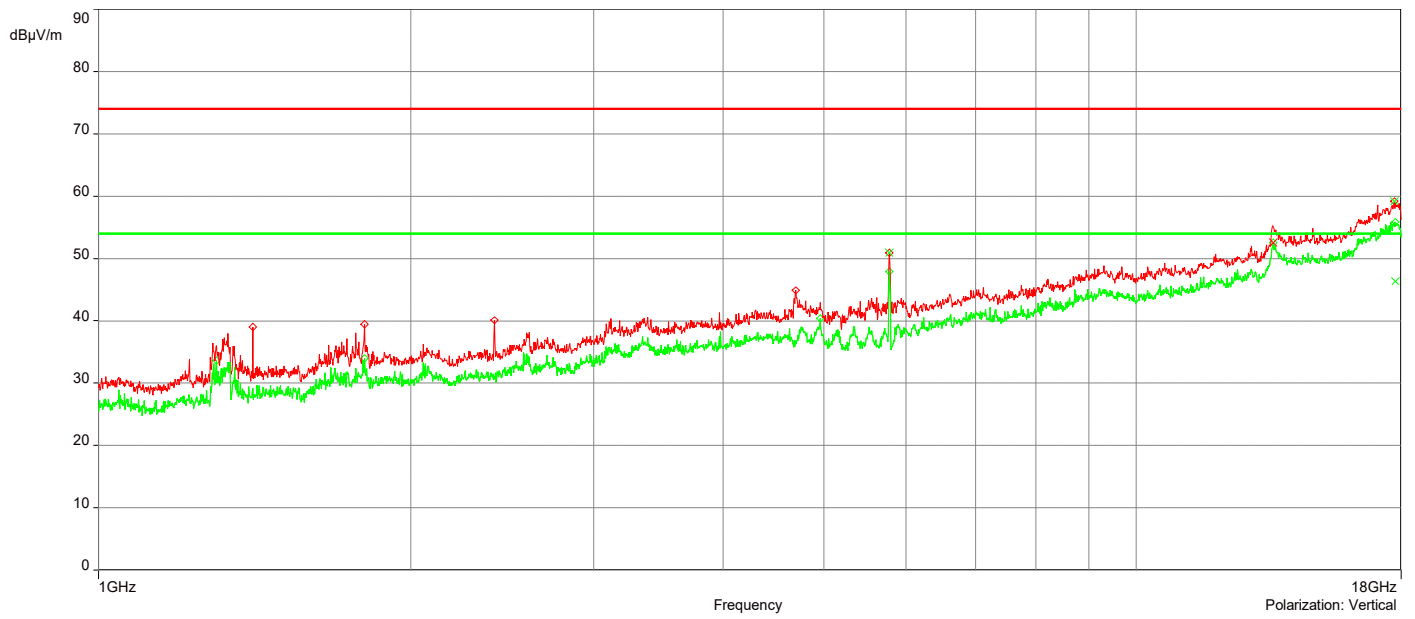
11/23/2021 11:38:46 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.444984GHz	59.64	18.30	74.00	-14.36	2.56	44.90	Horizontal	Passed
2.	17.729992GHz	59.19	18.25	74.00	-14.81	1.00	22.40	Vertical	Passed
3.	5.7811406GHz	50.95	4.46	74.00	-23.05	3.59	22.40	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.444984GHz	45.52	18.30	54.00	-8.48	2.56	44.90	Horizontal	Passed
2.	17.771993GHz	46.41	18.29	54.00	-7.59	1.51	90.10	Vertical	Passed
3.	13.548369GHz	52.52	12.53	54.00	-1.48	2.29	89.90	Vertical	Passed

Overall Graphs:





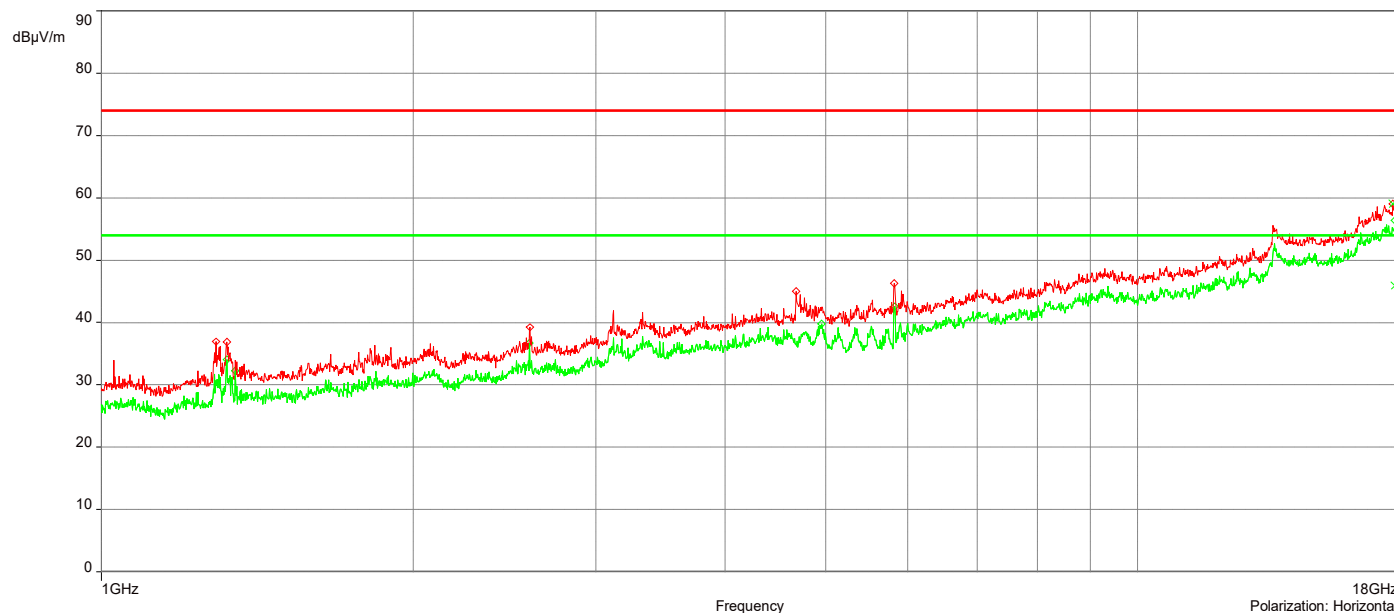
**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 165 (VHT20)\_1-18GHz**

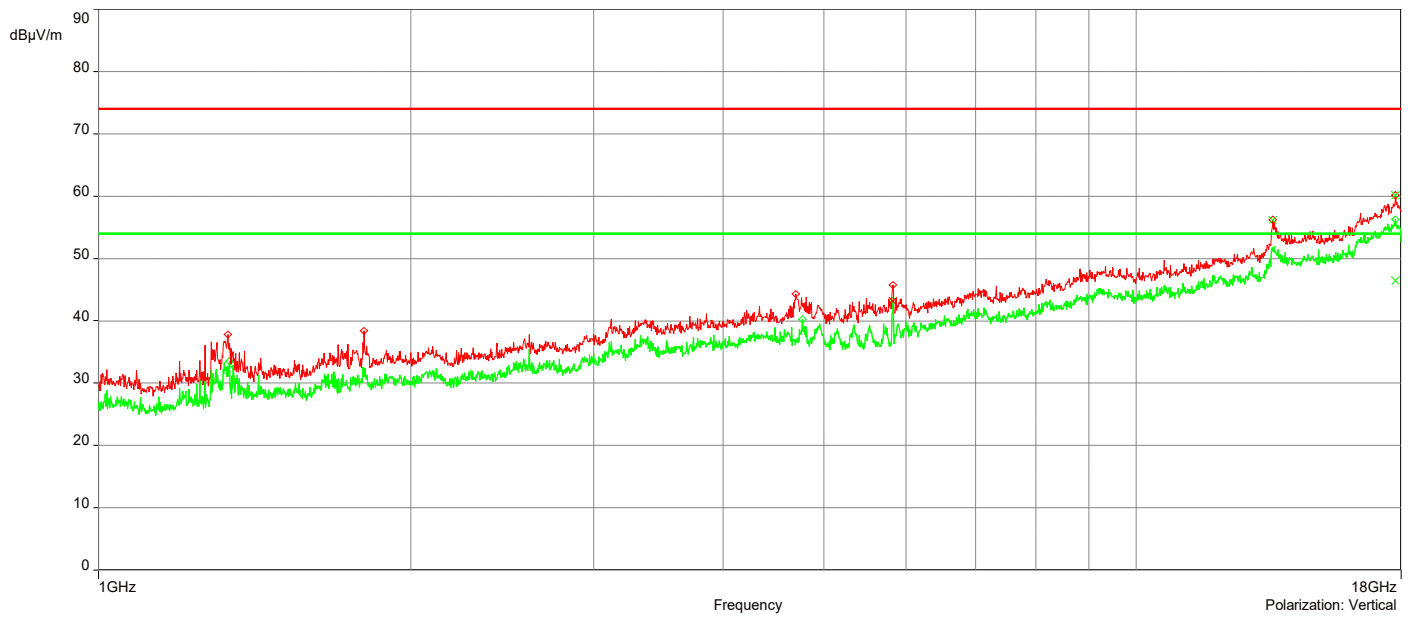
11/23/2021 1:54:15 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	13.537869GHz	56.22	12.52	74.00	-17.78	1.02	0.10	Vertical	Passed
2.	17.637489GHz	59.01	18.23	74.00	-14.99	1.18	157.40	Horizontal	Passed
3.	17.769493GHz	60.19	18.29	74.00	-13.81	2.12	89.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.769493GHz	46.48	18.29	54.00	-7.52	2.12	89.90	Vertical	Passed
2.	17.710491GHz	45.95	18.23	54.00	-8.05	3.84	67.10	Horizontal	Passed
3.	5.826642GHz	43.23	4.55	54.00	-10.77	3.97	22.40	Vertical	Passed

Overall Graphs:





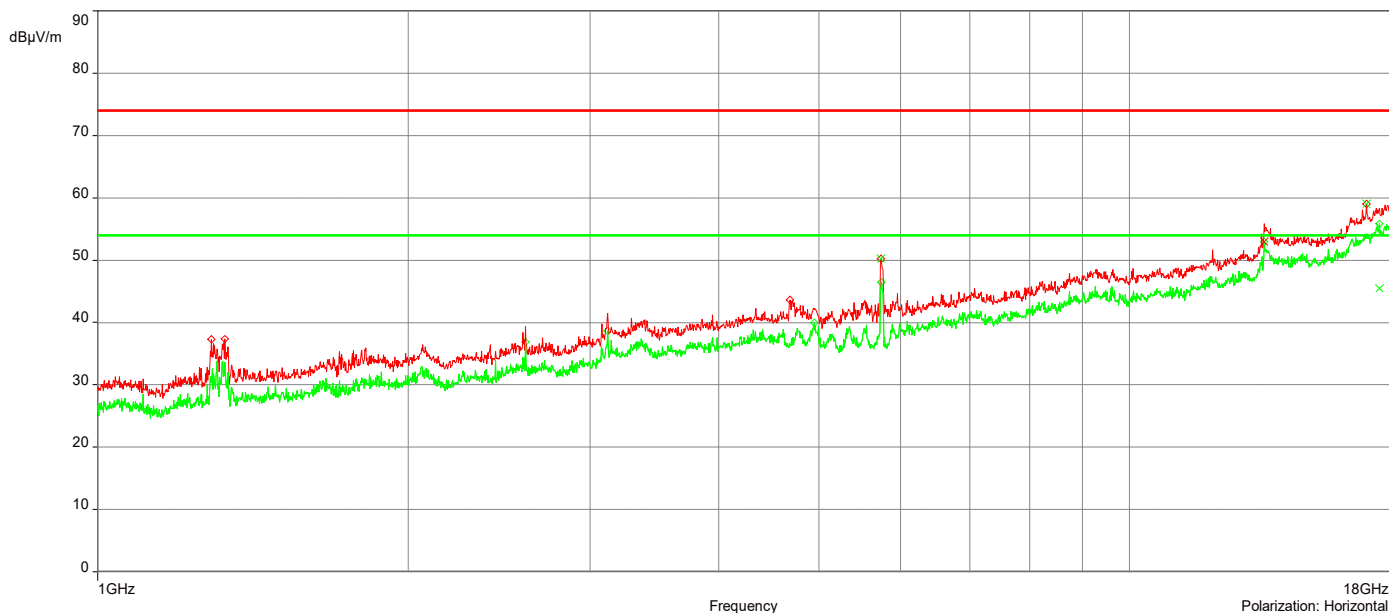
**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 151 (VHT40)\_1-18GHz**

11/23/2021 2:34:00 PM

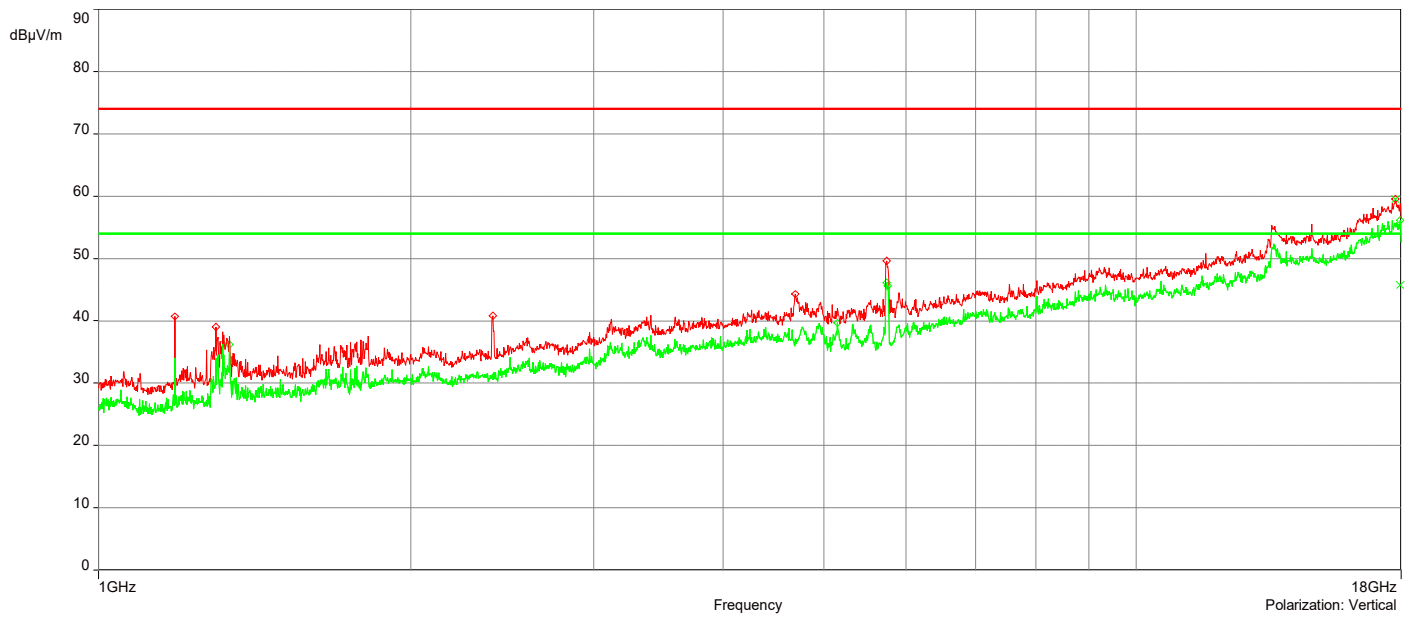
No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.764993GHz	59.51	18.28	74.00	-14.49	2.54	157.40	Vertical	Passed
2.	16.97497GHz	59.06	17.20	74.00	-14.94	3.49	292.40	Horizontal	Passed
3.	5.7396394GHz	50.22	4.53	74.00	-23.78	3.26	67.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	17.468484GHz	45.50	18.34	54.00	-8.50	2.11	67.10	Horizontal	Passed
2.	17.965999GHz	45.74	18.54	54.00	-8.26	1.34	90.10	Vertical	Passed
3.	13.512868GHz	52.96	12.59	54.00	-1.04	2.14	337.40	Horizontal	Passed

Overall Graphs:







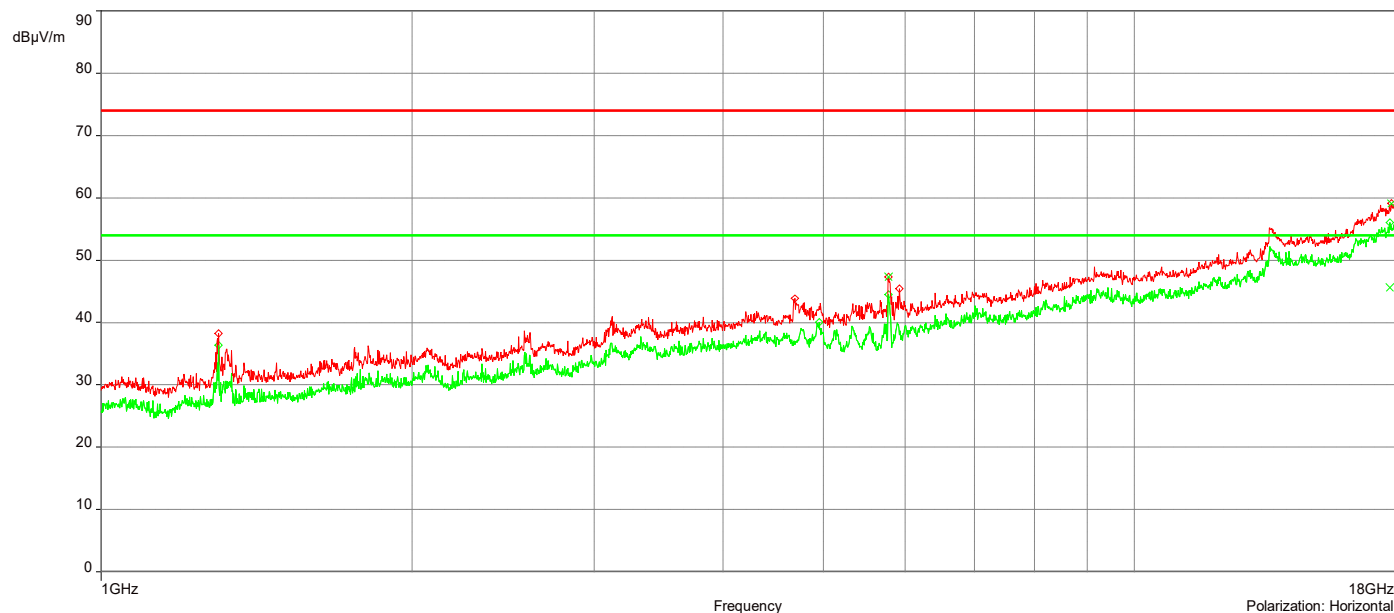
**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 159 (VHT40)\_1-18GHz**

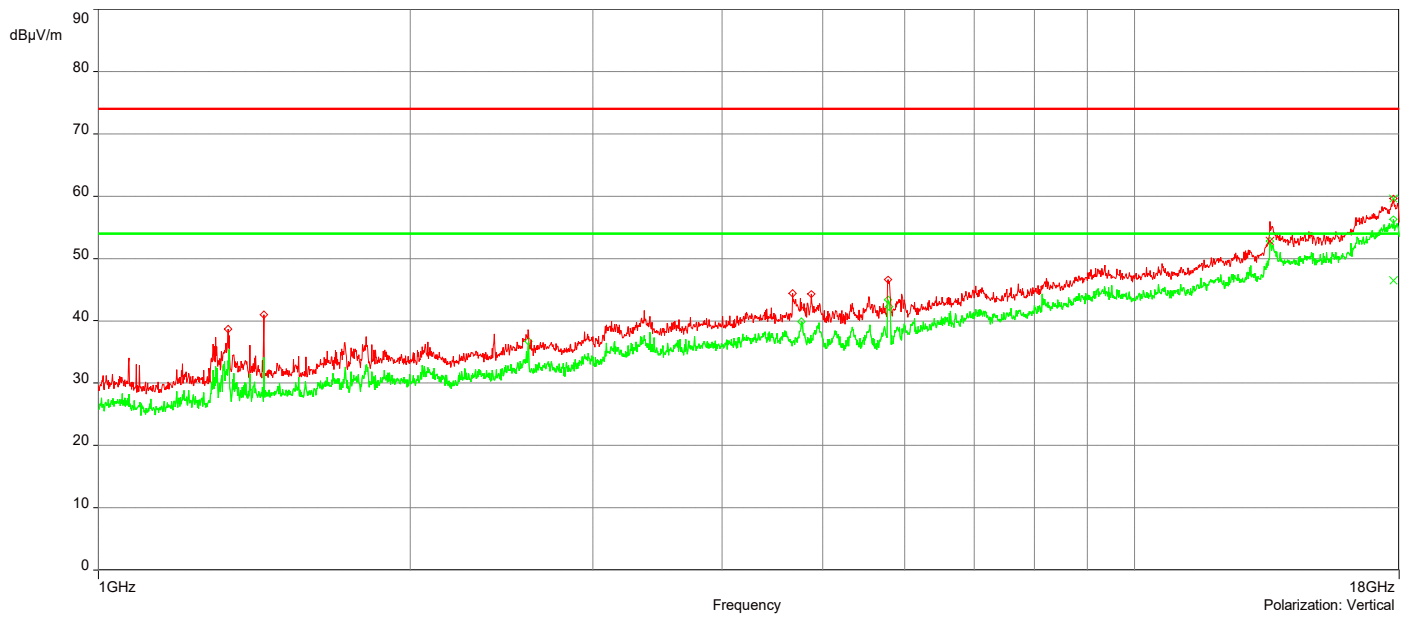
11/30/2021 12:40:39 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.7791406GHz	47.27	4.55	74.00	-26.73	3.26	22.40	Horizontal	Passed
2.	17.742992GHz	59.09	18.22	74.00	-14.91	1.09	44.90	Horizontal	Passed
3.	17.766493GHz	59.62	18.28	74.00	-14.38	4.00	224.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	13.505368GHz	52.76	12.48	54.00	-1.24	1.00	157.40	Vertical	Passed
2.	17.766493GHz	46.49	18.28	54.00	-7.51	4.00	224.90	Vertical	Passed
3.	17.67249GHz	45.58	18.26	54.00	-8.42	2.61	112.10	Horizontal	Passed

Overall Graphs:





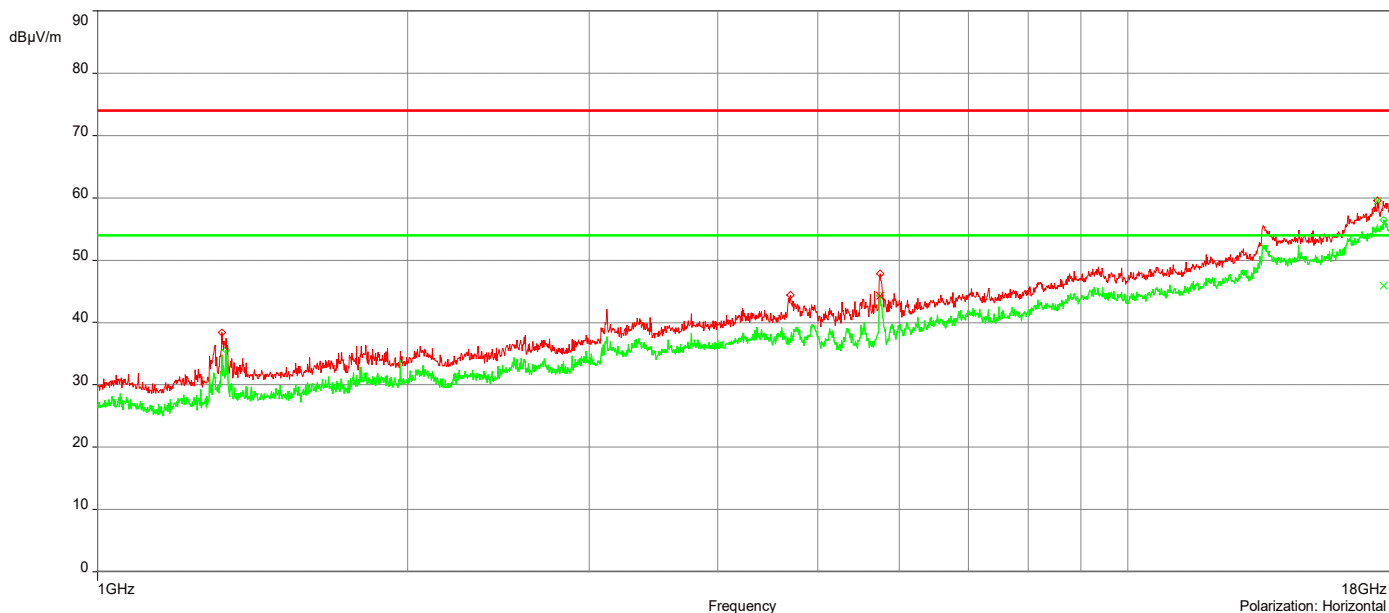
**AH21100601-HAR-134#004\_5G UNII-3 802.11ac\_Ch 155 (VHT80)\_1-18GHz**

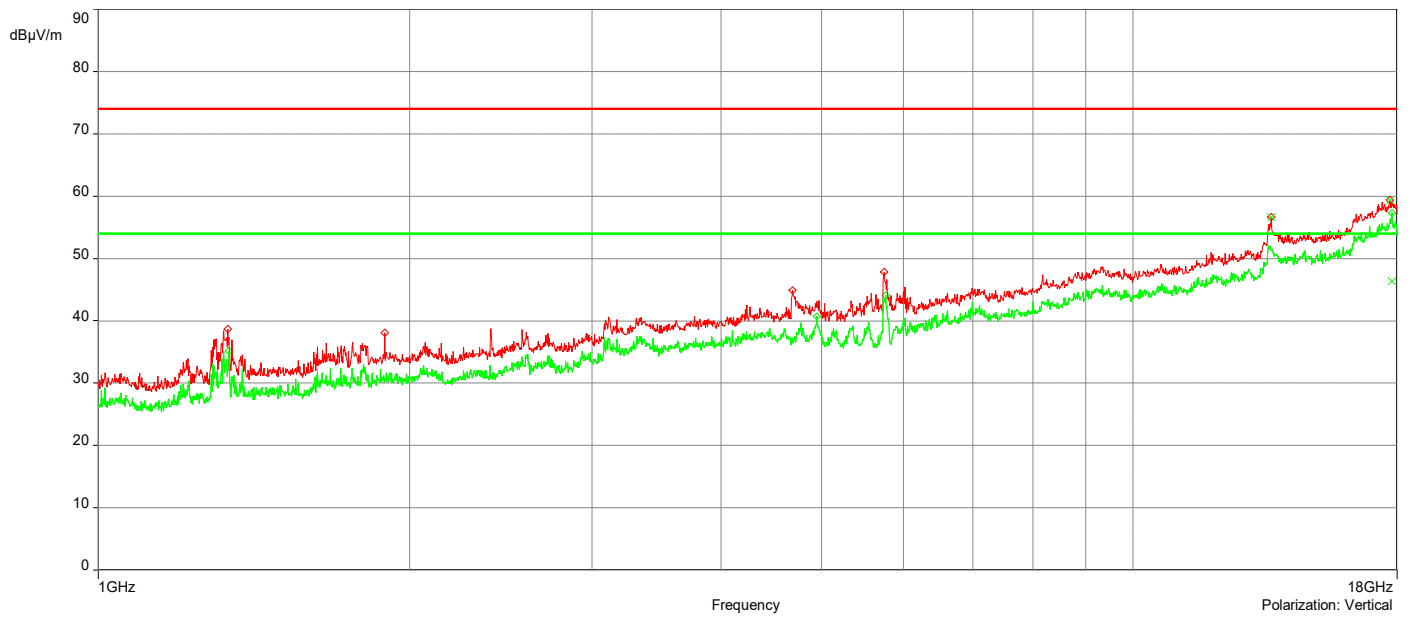
11/30/2021 12:50:46 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	17.460484GHz	59.54	18.31	74.00	-14.46	1.17	56.10	Horizontal	Passed
2.	17.706991GHz	59.34	18.23	74.00	-14.66	3.79	11.10	Vertical	Passed
3.	13.59637GHz	56.62	12.63	74.00	-17.38	2.05	213.60	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.7486397GHz	44.29	4.55	54.00	-9.71	3.12	78.60	Horizontal	Passed
2.	17.706491GHz	45.94	18.23	54.00	-8.06	1.00	246.90	Horizontal	Passed
3.	17.795994GHz	46.36	18.32	54.00	-7.64	3.49	112.10	Vertical	Passed

Overall Graphs:



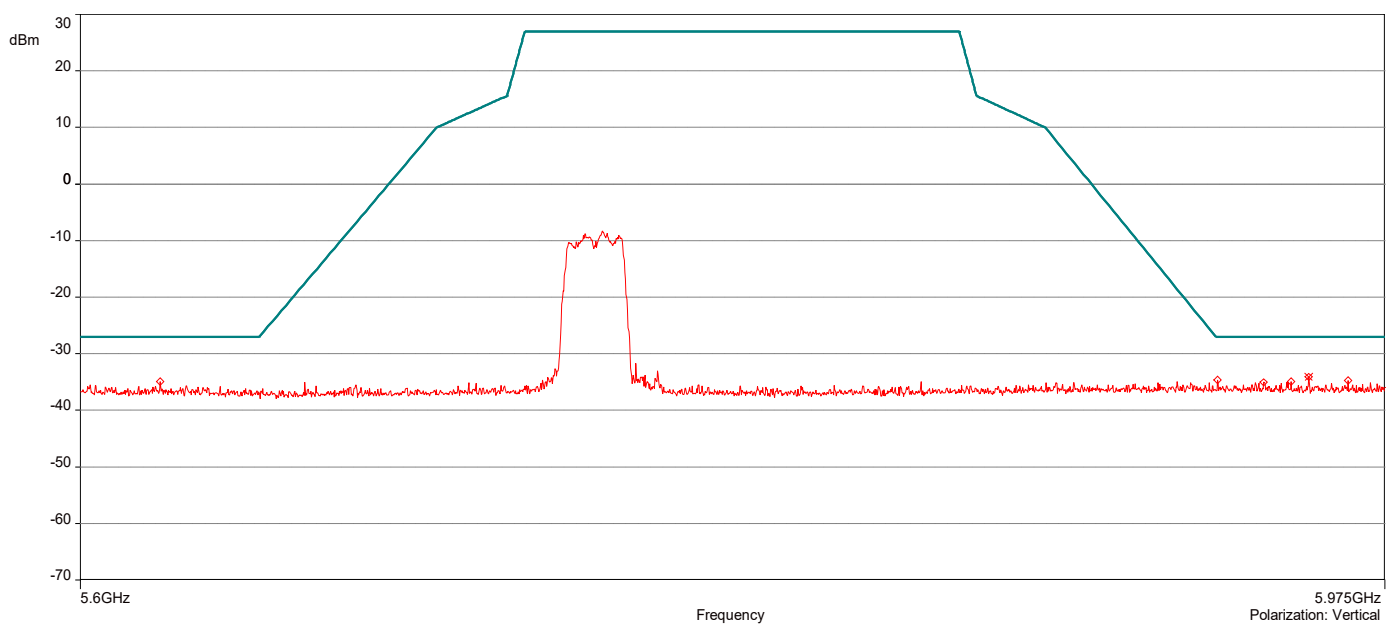
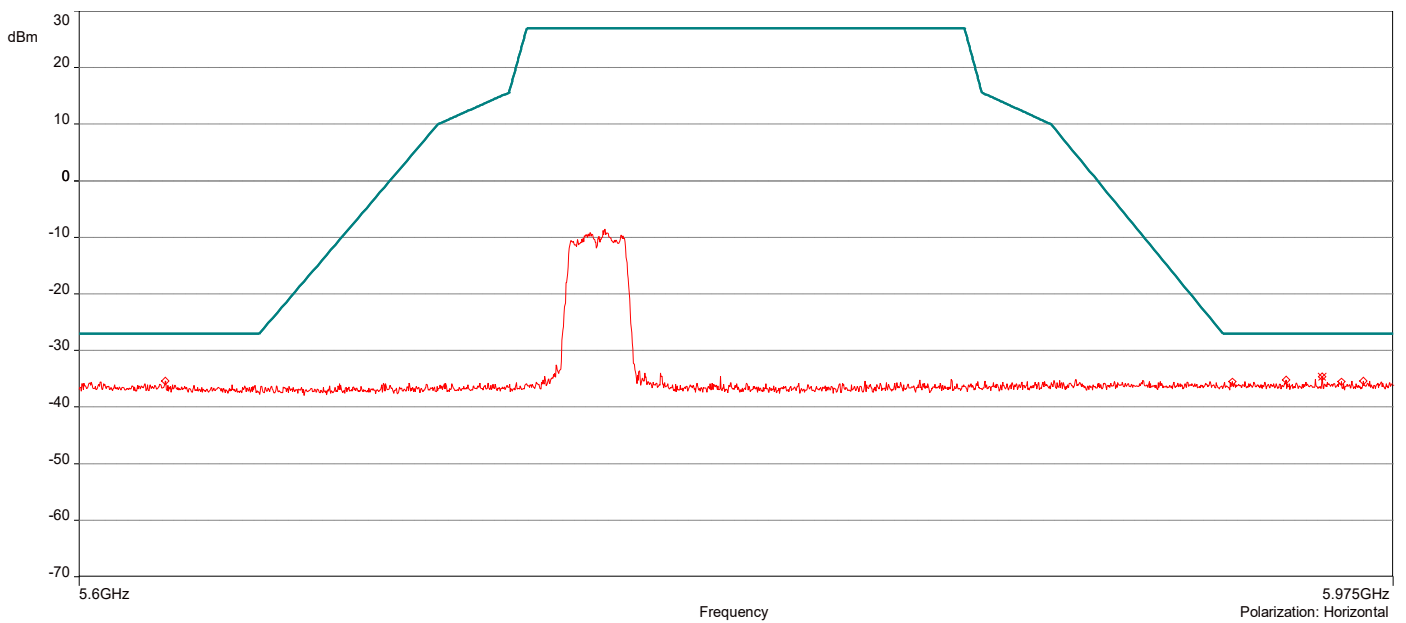


**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11a\_Ch 149**

11/17/2021 11:32:19 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9541875GHz	-34.59	5.10	-27.00	-7.59	2.00	317.00	Horizontal	Passed
2.	5.9525GHz	-34.10	5.02	-27.00	-7.10	2.00	67.80	Vertical	Passed

Overall Graphs:

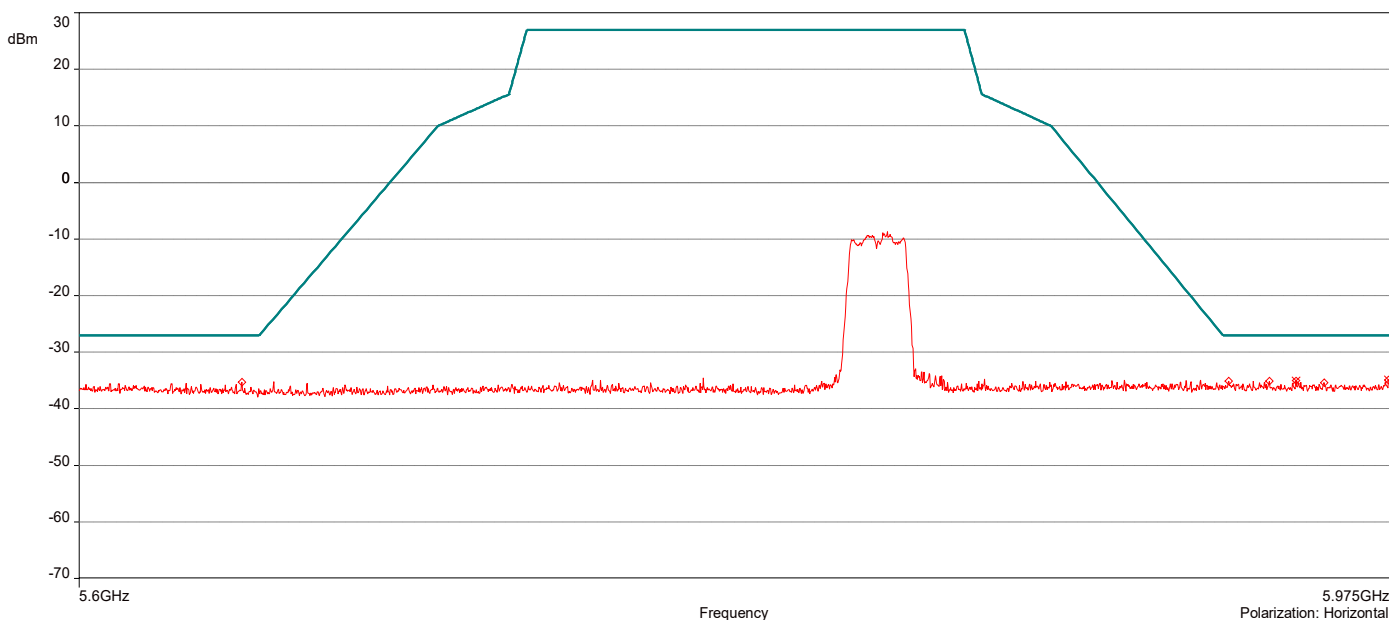


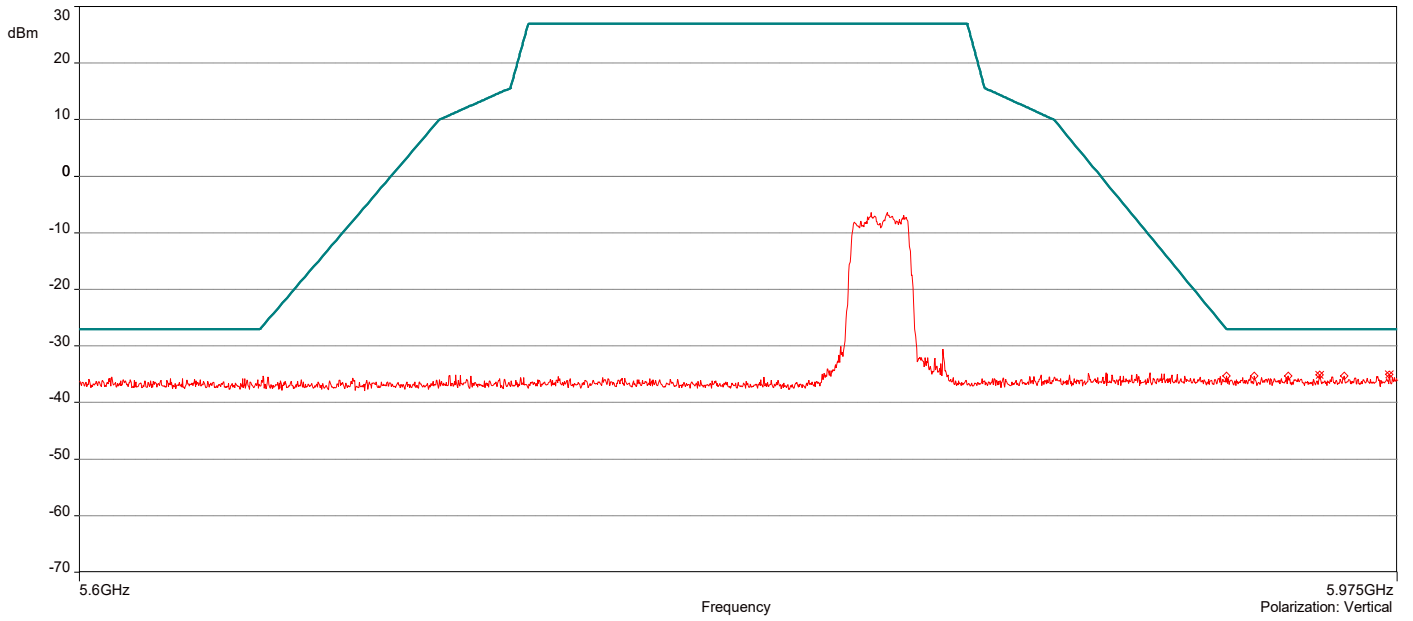
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11a\_Ch 165**

11/17/2021 12:22:39 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9465GHz	-34.99	5.08	-27.00	-7.99	2.50	294.90	Horizontal	Passed
2.	5.9736875GHz	-34.89	5.15	-27.00	-7.89	1.00	106.30	Horizontal	Passed
3.	5.9523125GHz	-35.12	5.02	-27.00	-8.12	3.50	358.00	Vertical	Passed
4.	5.97275GHz	-35.00	5.06	-27.00	-8.00	2.00	68.50	Vertical	Passed

Overall Graphs:





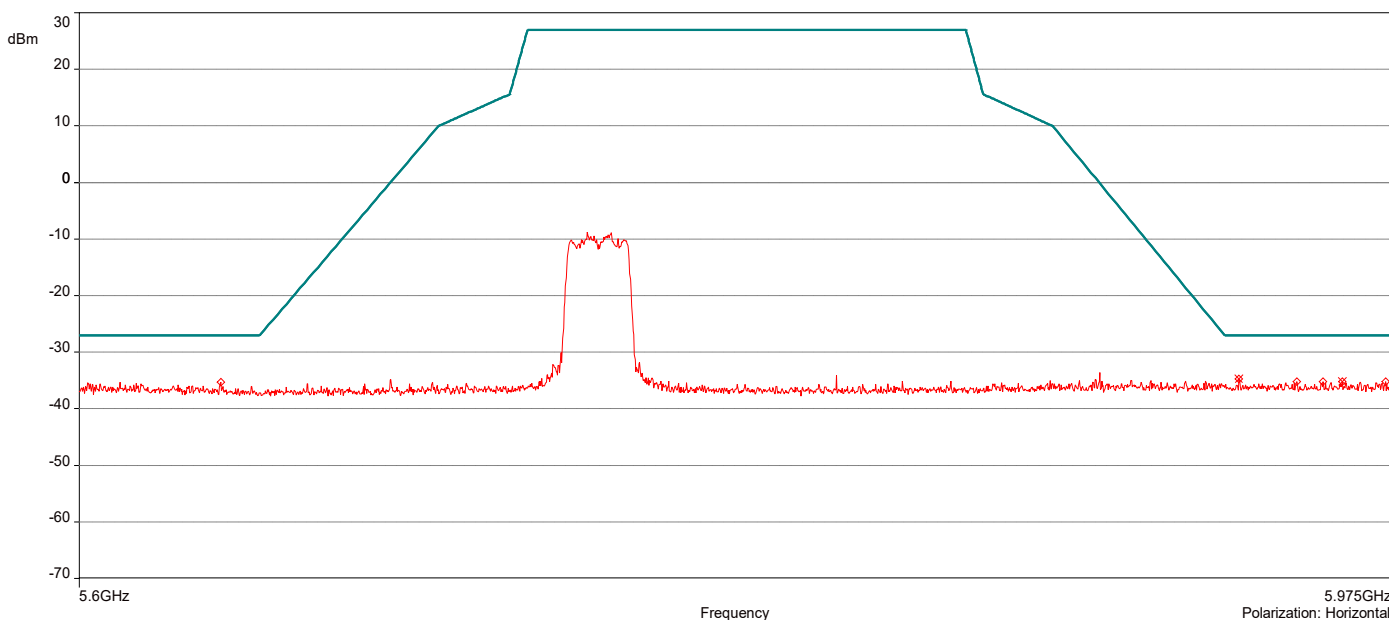


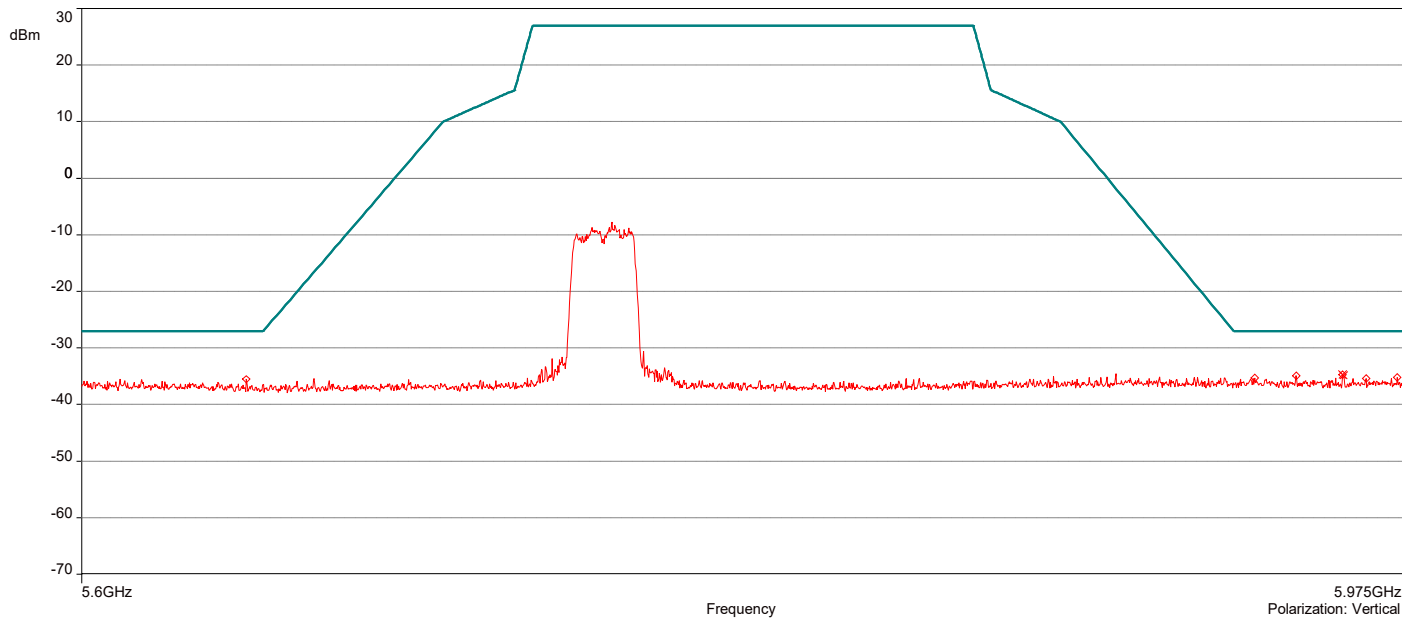
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11n\_Ch 149 (HT20)**

11/17/2021 1:18:57 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.92925GHz	-34.71	5.05	-27.00	-7.71	1.00	0.10	Horizontal	Passed
2.	5.9594375GHz	-35.16	5.11	-27.00	-8.16	3.00	232.40	Horizontal	Passed
3.	5.9568125GHz	-34.70	5.03	-27.00	-7.70	3.00	312.40	Vertical	Passed
4.	5.957GHz	-34.82	5.03	-27.00	-7.82	3.00	312.40	Vertical	Passed

Overall Graphs:



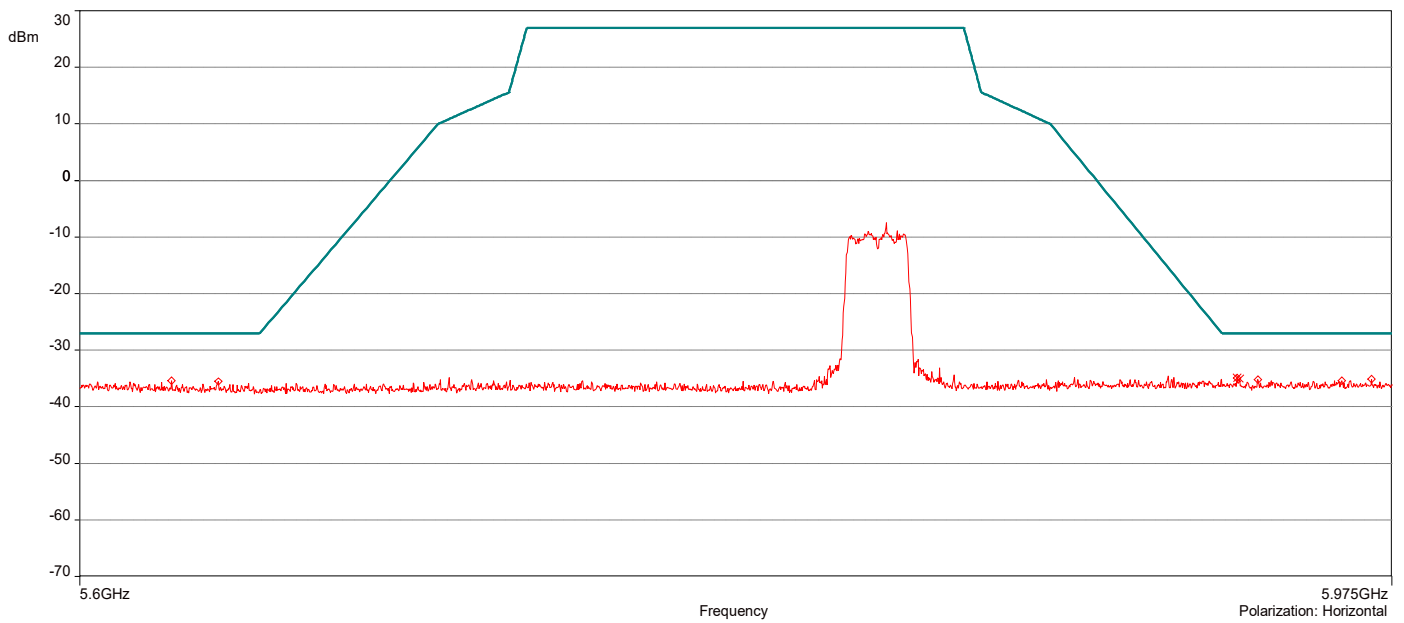


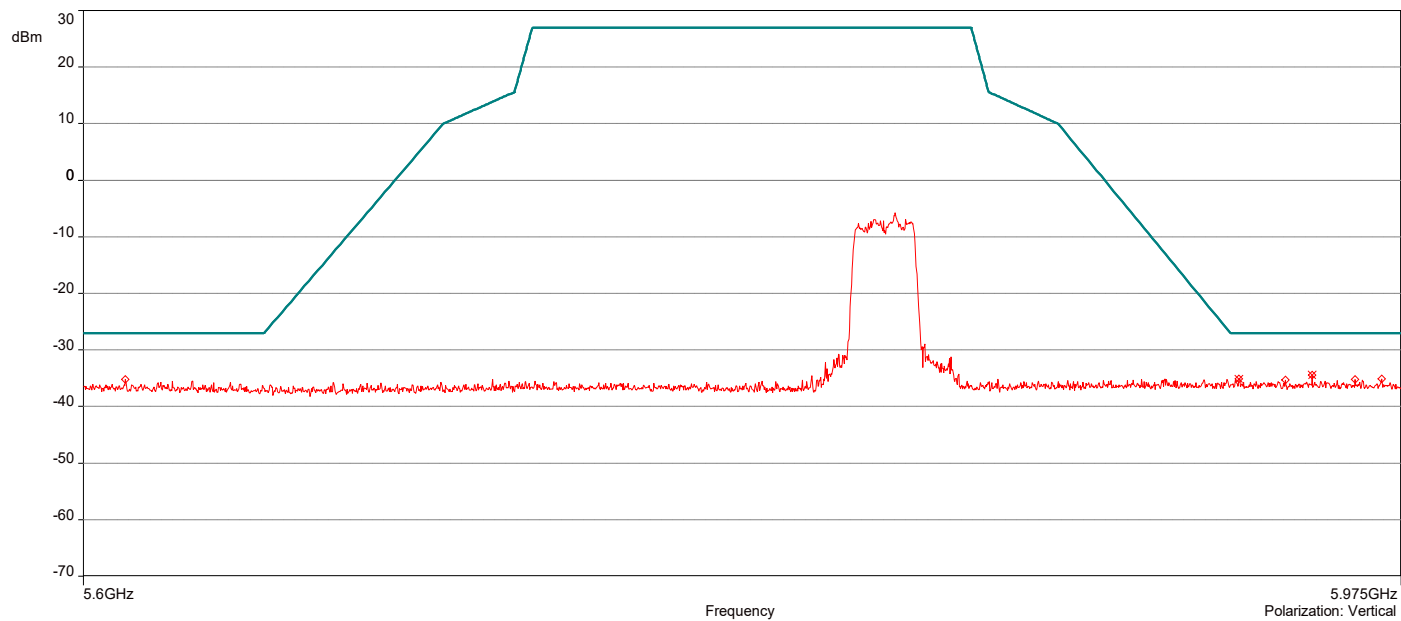
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11n\_Ch 165 (HT20)**

11/17/2021 1:27:36 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9294375GHz	-34.95	5.05	-27.00	-7.95	1.00	283.20	Horizontal	Passed
2.	5.9301875GHz	-34.98	5.05	-27.00	-7.98	3.00	108.90	Horizontal	Passed
3.	5.9275625GHz	-35.09	5.00	-27.00	-8.09	1.50	240.30	Vertical	Passed
4.	5.9489375GHz	-34.44	5.01	-27.00	-7.44	3.50	78.80	Vertical	Passed

Overall Graphs:



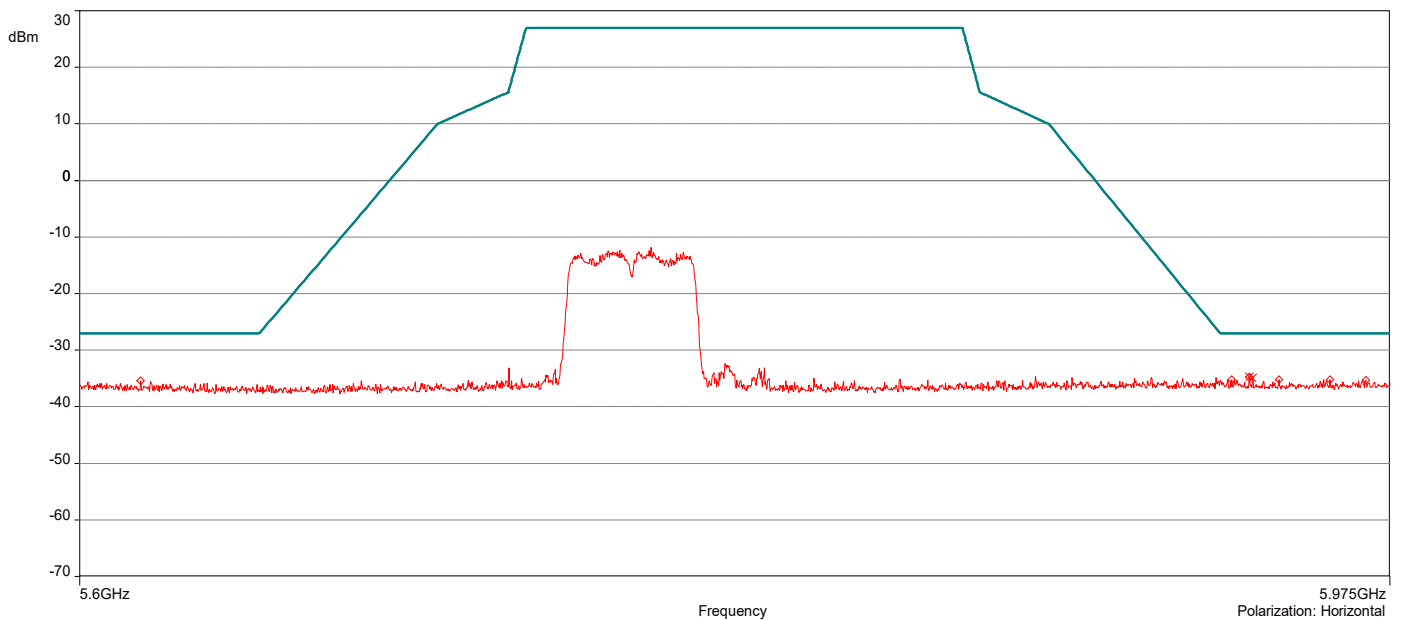


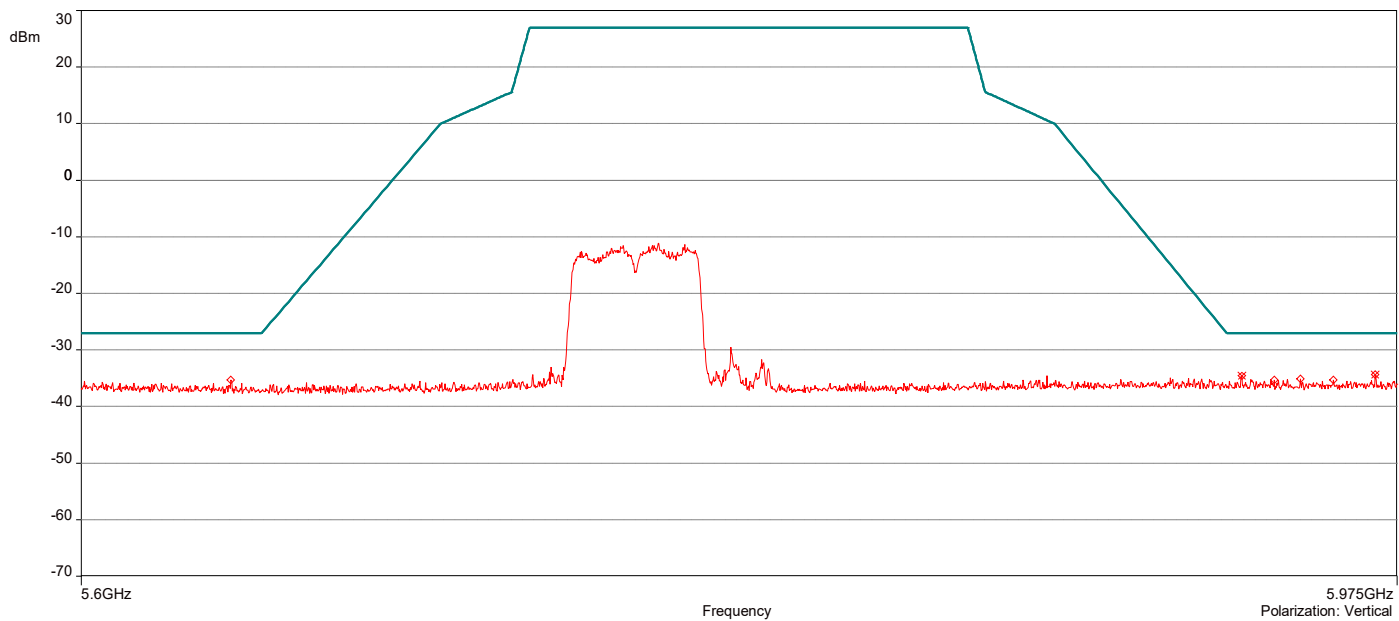
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11n\_Ch 151 (HT40)**

11/17/2021 2:00:05 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9335625GHz	-34.77	5.06	-27.00	-7.77	1.50	21.70	Horizontal	Passed
2.	5.9345GHz	-34.87	5.06	-27.00	-7.87	3.50	45.60	Horizontal	Passed
3.	5.9294375GHz	-34.58	5.00	-27.00	-7.58	1.50	120.90	Vertical	Passed
4.	5.968625GHz	-34.36	5.05	-27.00	-7.36	2.00	8.50	Vertical	Passed

Overall Graphs:



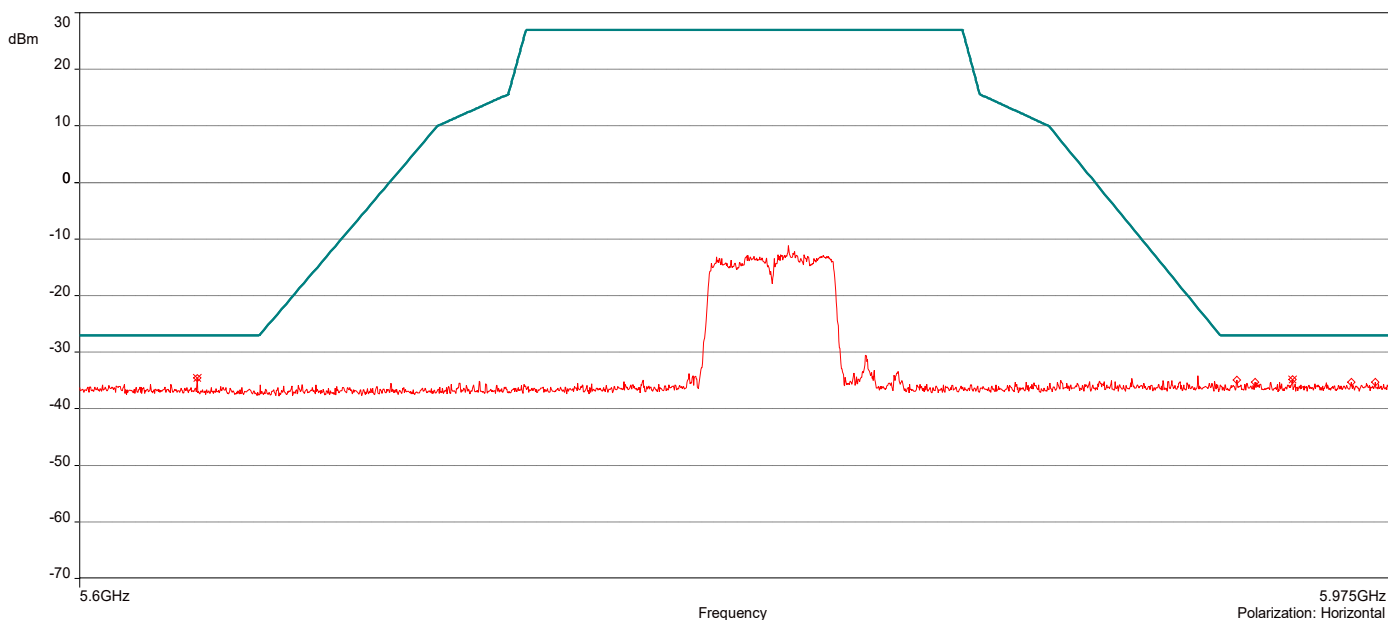


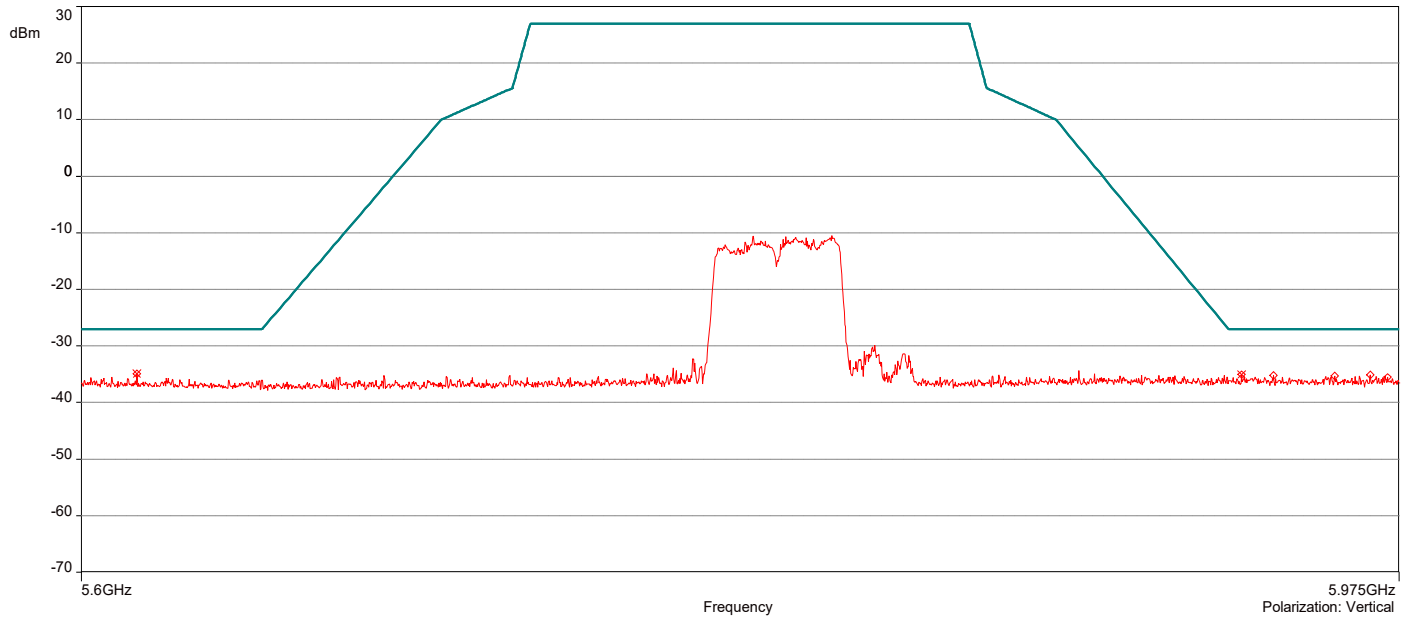
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11n\_Ch 159 (HT40)**

11/17/2021 2:21:47 PM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.632625GHz	-34.56	4.51	-27.00	-7.56	4.00	103.00	Horizontal	Passed
2.	5.9463125GHz	-34.82	5.08	-27.00	-7.82	3.50	351.50	Horizontal	Passed
3.	5.615375GHz	-34.94	4.45	-27.00	-7.94	4.00	136.30	Vertical	Passed
4.	5.928875GHz	-35.00	5.00	-27.00	-8.00	3.50	324.80	Vertical	Passed

Overall Graphs:





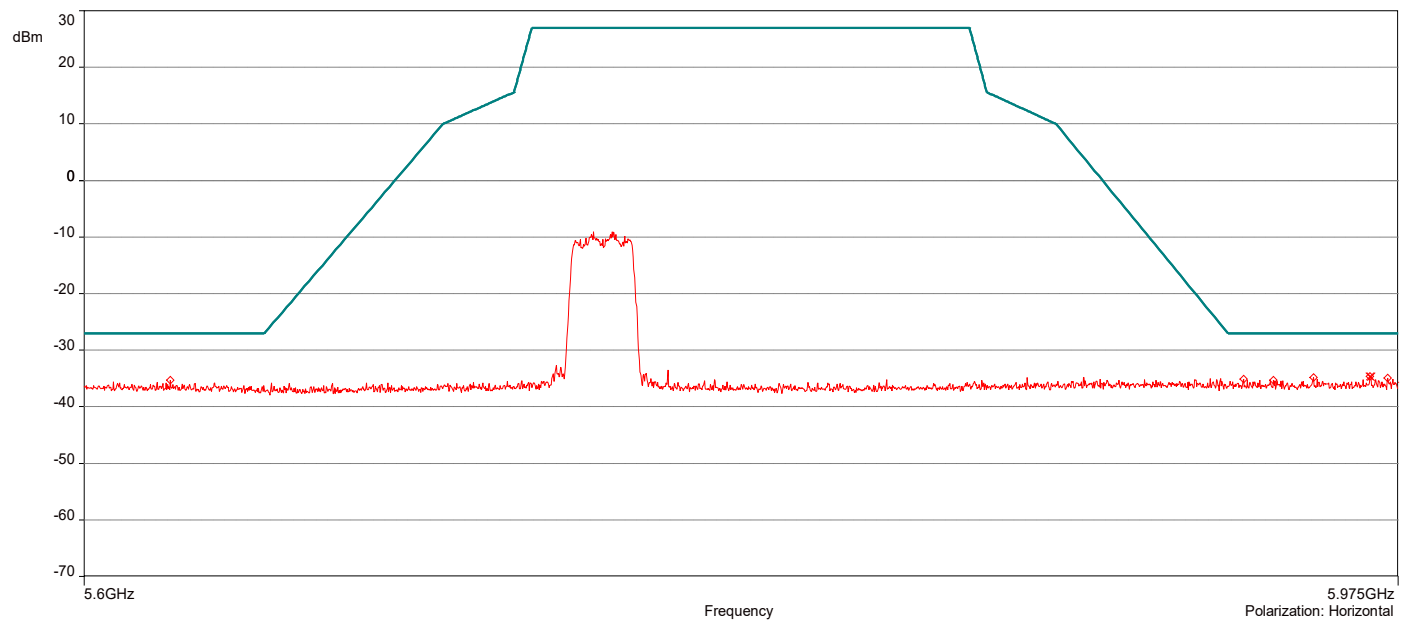


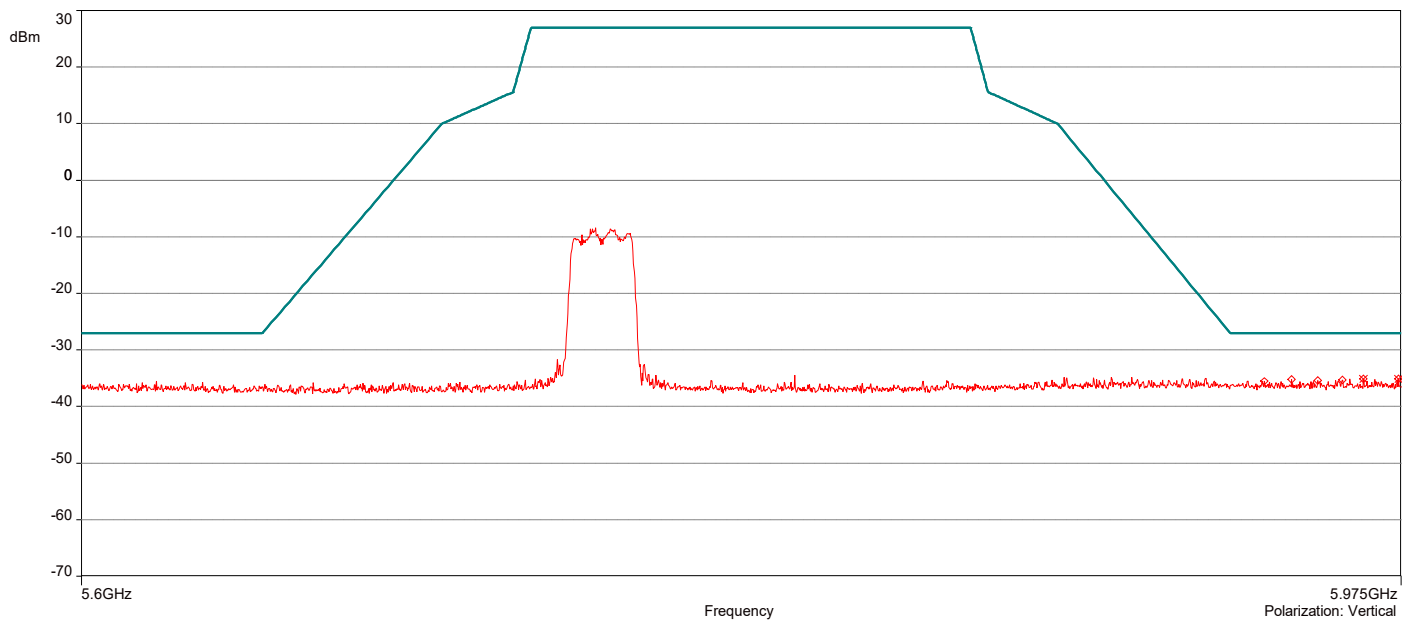
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11ac\_Ch 149 (VHT20)**

11/18/2021 6:31:55 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.96675GHz	-34.62	5.13	-27.00	-7.62	4.00	358.10	Horizontal	Passed
2.	5.9669375GHz	-34.68	5.13	-27.00	-7.68	4.00	358.10	Horizontal	Passed
3.	5.9639375GHz	-35.08	5.04	-27.00	-8.08	3.50	304.60	Vertical	Passed
4.	5.97425GHz	-35.11	5.06	-27.00	-8.11	1.50	192.30	Vertical	Passed

Overall Graphs:



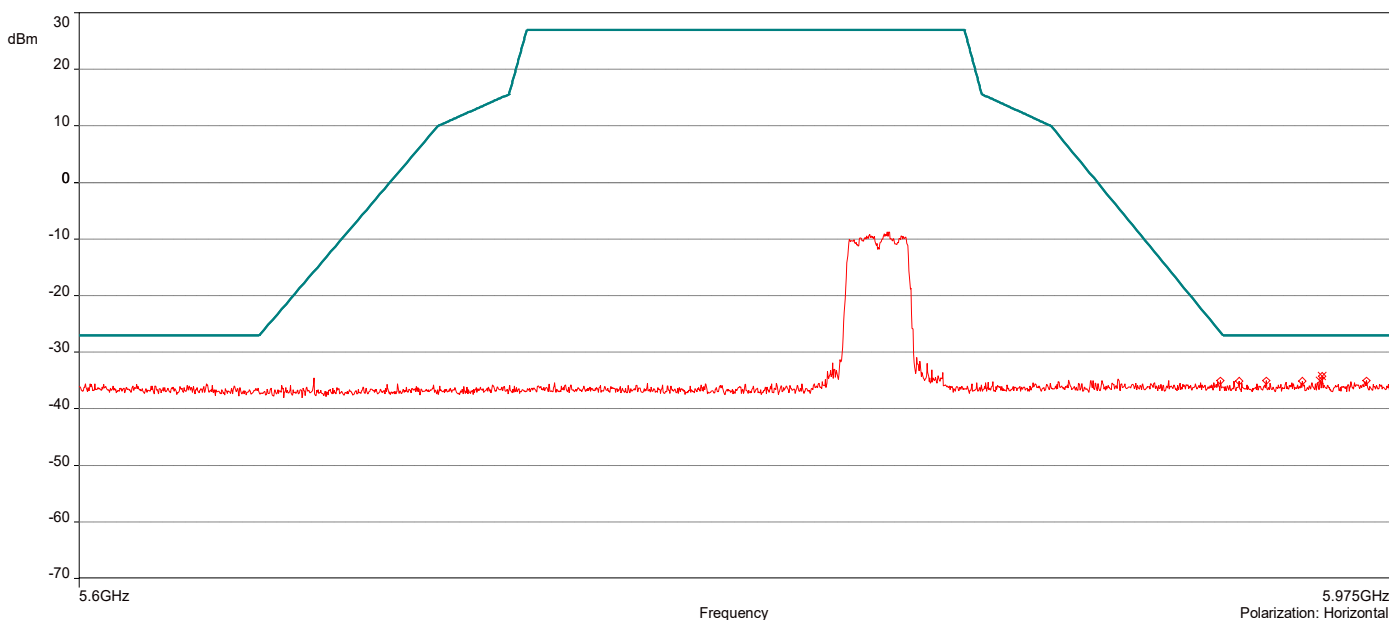


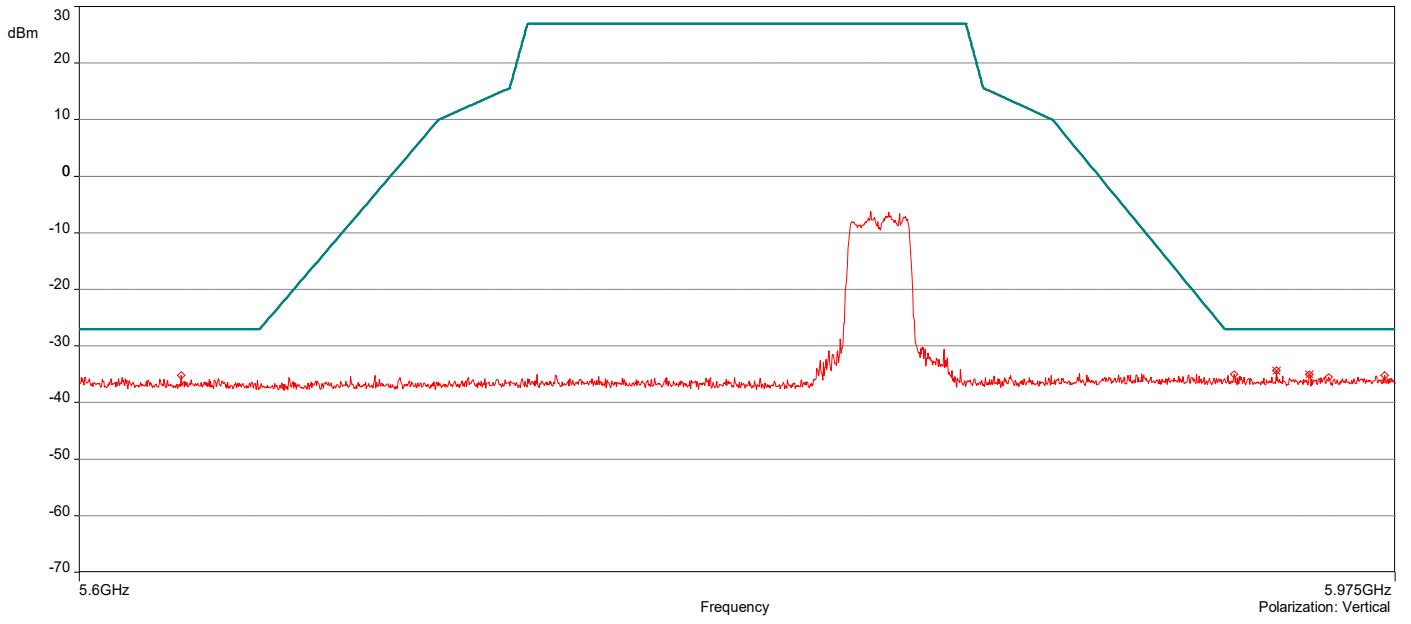
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11ac\_Ch 165 (VHT20)**

11/18/2021 7:08:29 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9534375GHz	-35.02	5.09	-27.00	-8.02	3.50	168.10	Horizontal	Passed
2.	5.9541875GHz	-34.27	5.10	-27.00	-7.27	2.00	150.10	Horizontal	Passed
3.	5.940125GHz	-34.33	5.01	-27.00	-7.33	4.00	177.10	Vertical	Passed
4.	5.949875GHz	-35.03	5.01	-27.00	-8.03	3.50	352.60	Vertical	Passed

Overall Graphs:



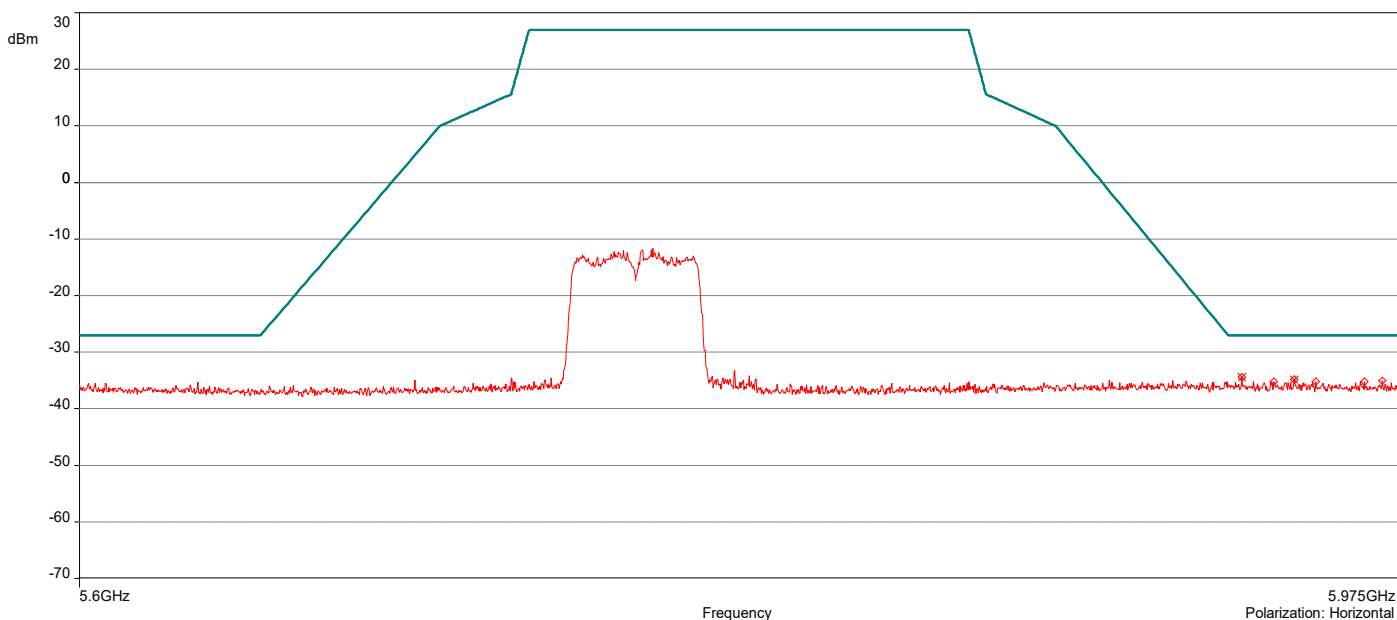


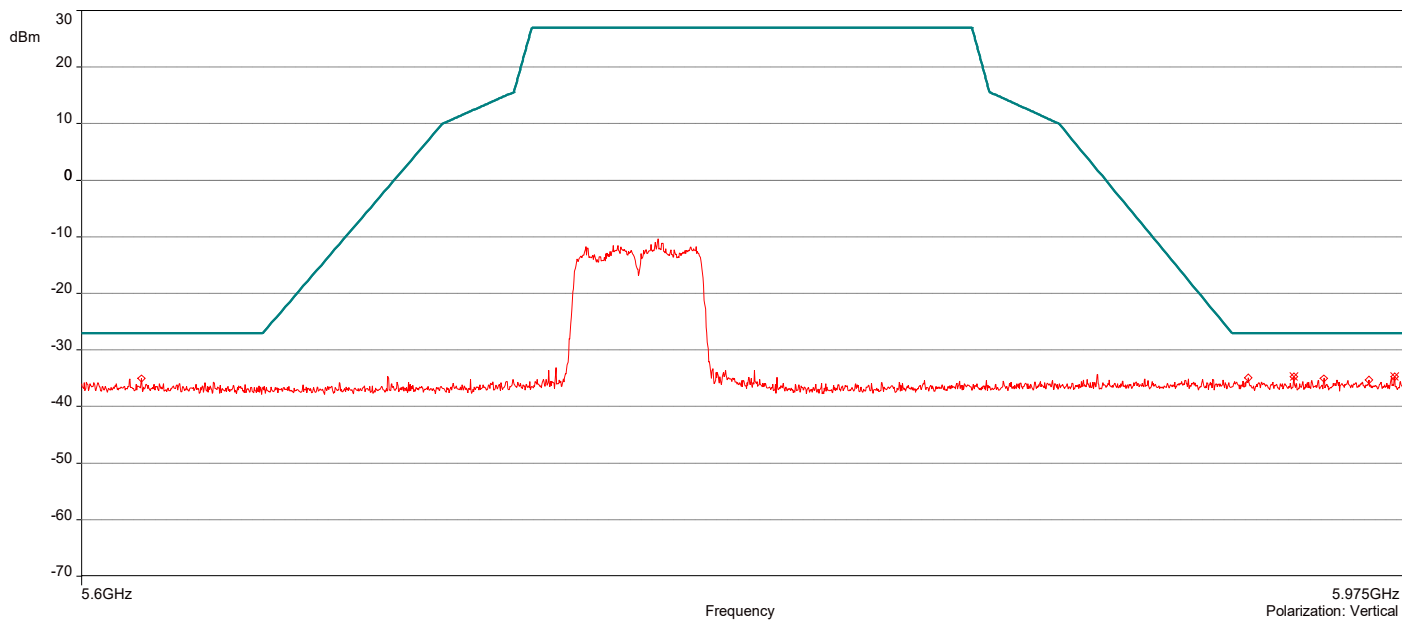
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11ac\_Ch 151 (VHT40)**

11/18/2021 7:45:07 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9290625GHz	-34.45	5.05	-27.00	-7.45	3.00	352.80	Horizontal	Passed
2.	5.94425GHz	-34.86	5.08	-27.00	-7.86	2.00	332.70	Horizontal	Passed
3.	5.943125GHz	-34.70	5.01	-27.00	-7.70	2.50	108.20	Vertical	Passed
4.	5.9725625GHz	-34.68	5.06	-27.00	-7.68	3.50	338.80	Vertical	Passed

Overall Graphs:



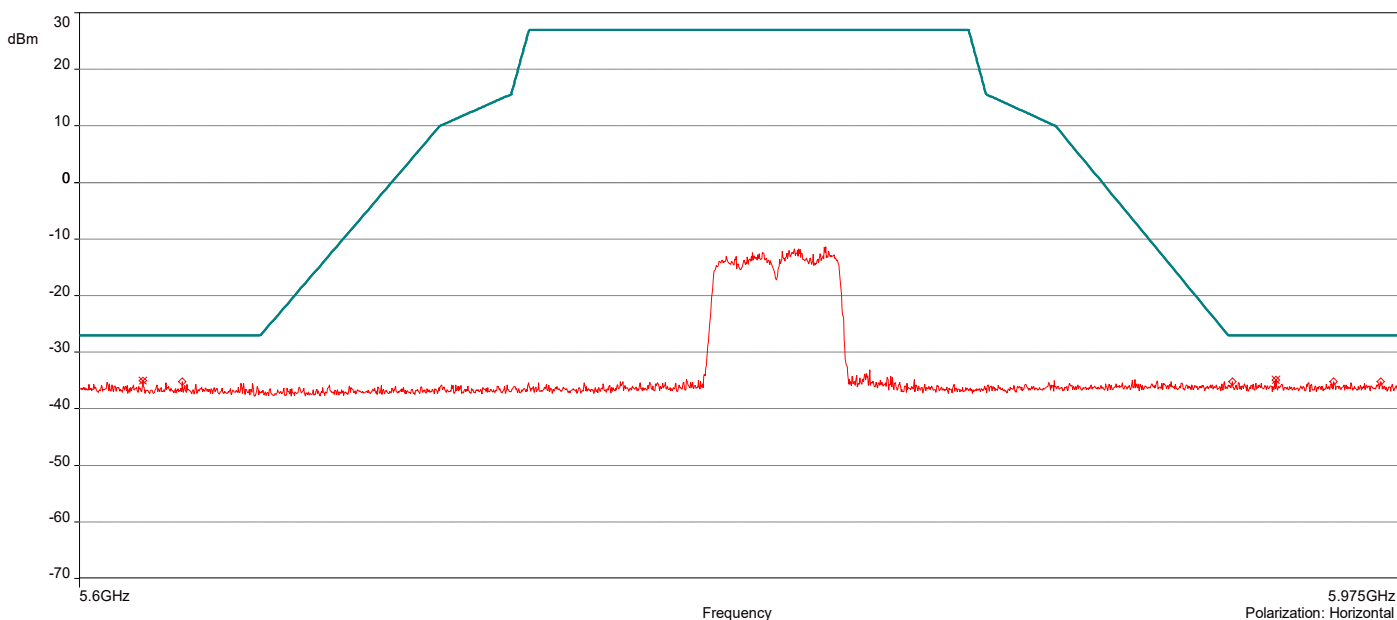


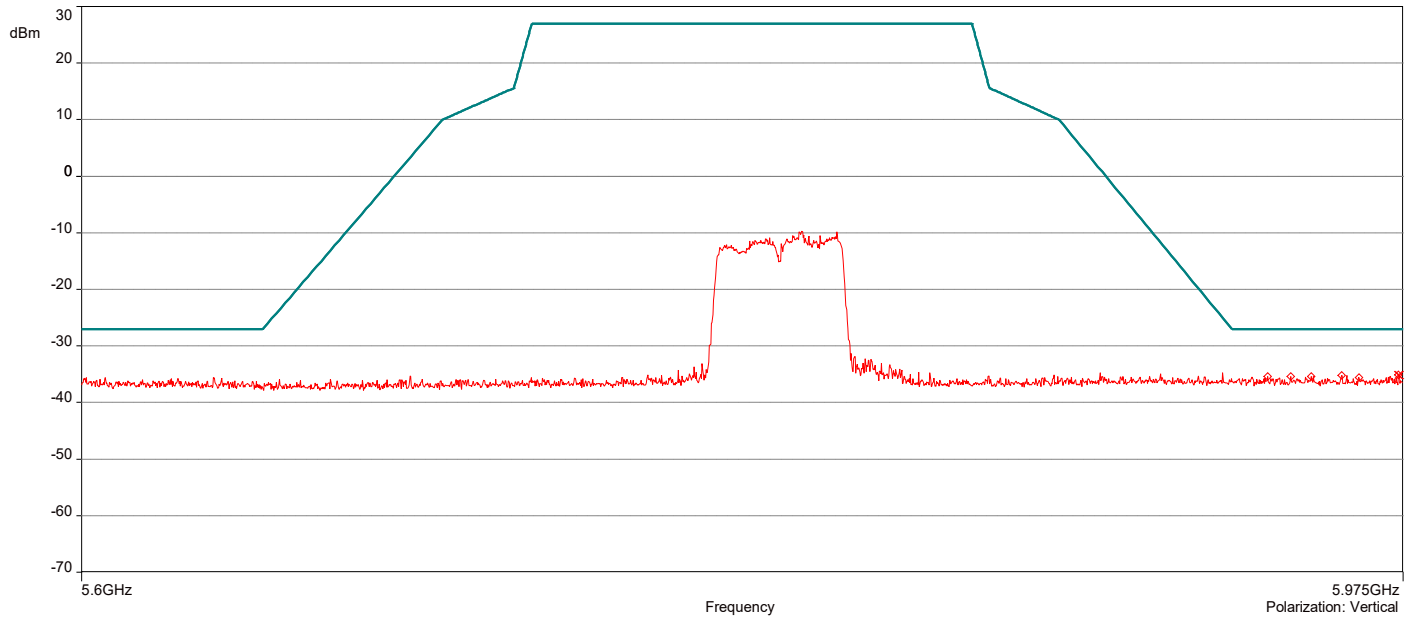
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11ac\_Ch 159 (VHT40)**

11/18/2021 8:11:29 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.6174375GHz	-34.98	4.57	-27.00	-7.98	4.00	93.30	Horizontal	Passed
2.	5.939GHz	-34.90	5.07	-27.00	-7.90	1.00	242.60	Horizontal	Passed
3.	5.9736875GHz	-35.06	5.06	-27.00	-8.06	4.00	273.00	Vertical	Passed
4.	5.973875GHz	-35.16	5.06	-27.00	-8.16	4.00	273.00	Vertical	Passed

Overall Graphs:





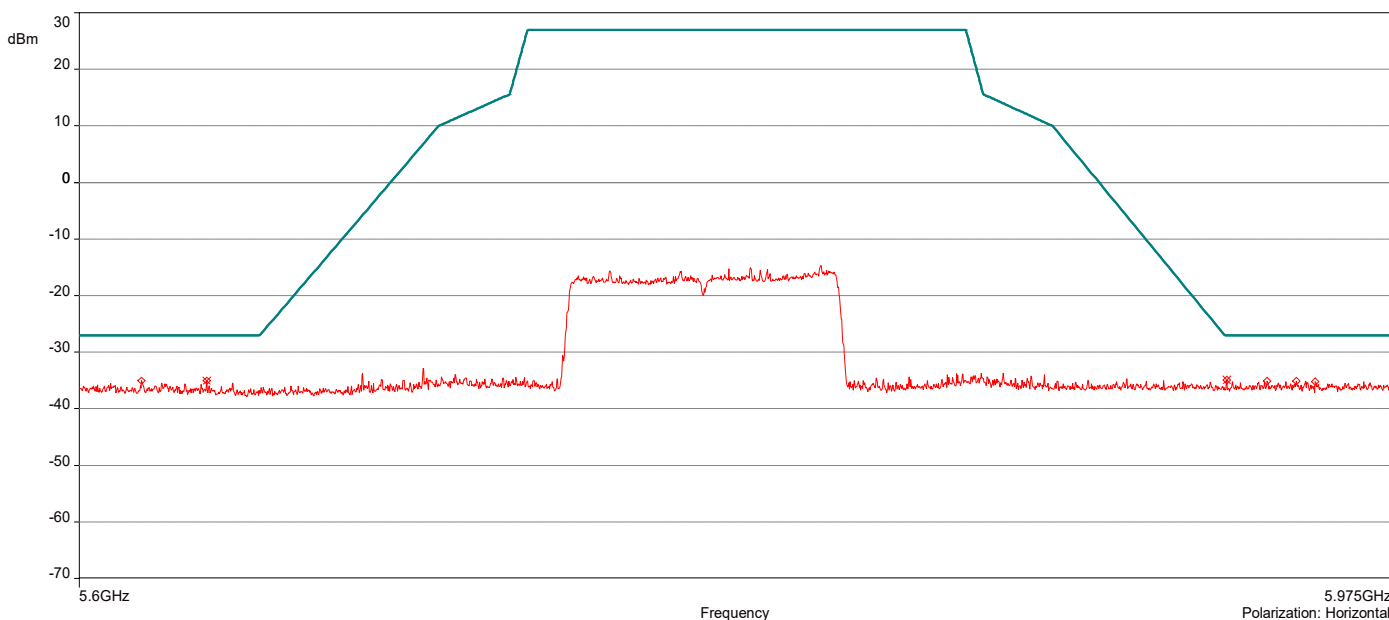


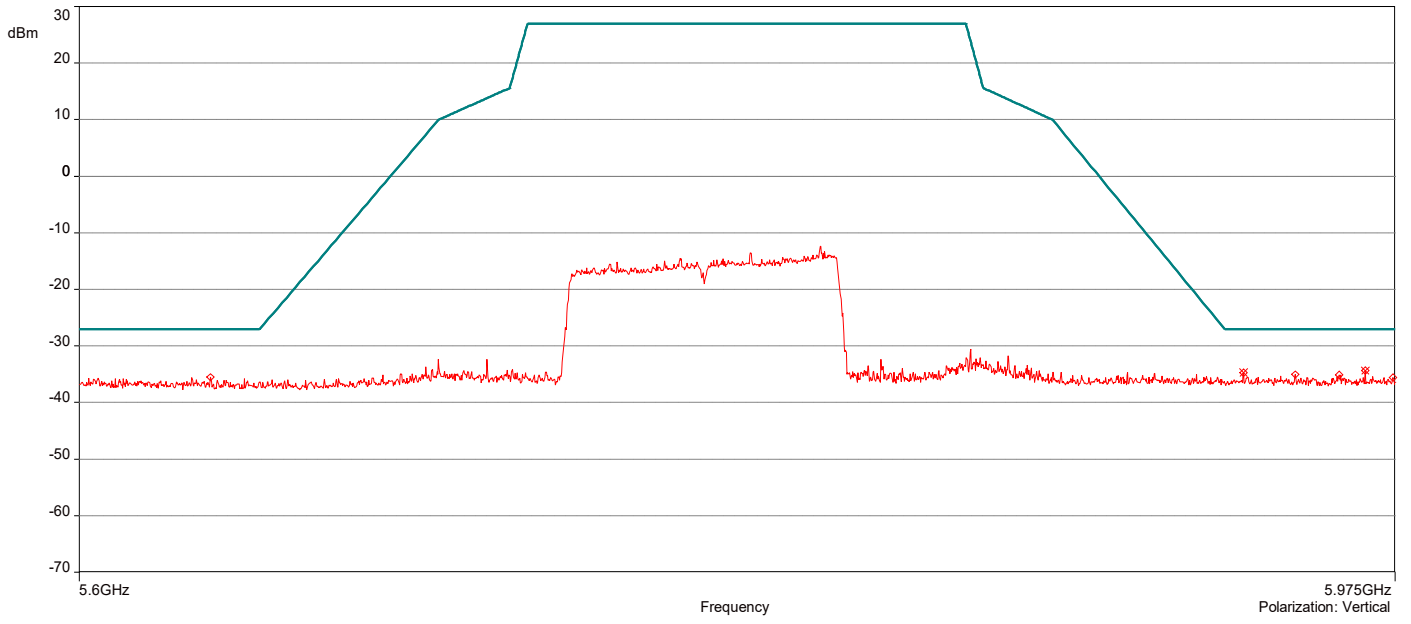
**AH21100601-HAR-134#004\_Restricted Bandedge\_5G UNII-3\_802.11ac\_Ch 155 (VHT80)**

11/18/2021 8:33:18 AM

No	Frequency (MHz)	Level Peak Reading (dBuV/m)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.63525GHz	-34.97	4.50	-27.00	-7.97	3.00	42.00	Horizontal	Passed
2.	5.9256875GHz	-34.92	5.05	-27.00	-7.92	2.50	152.70	Horizontal	Passed
3.	5.9305625GHz	-34.77	5.00	-27.00	-7.77	3.00	72.10	Vertical	Passed
4.	5.9661875GHz	-34.34	5.05	-27.00	-7.34	2.50	304.80	Vertical	Passed

Overall Graphs:





**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 149\_18-40GHz**

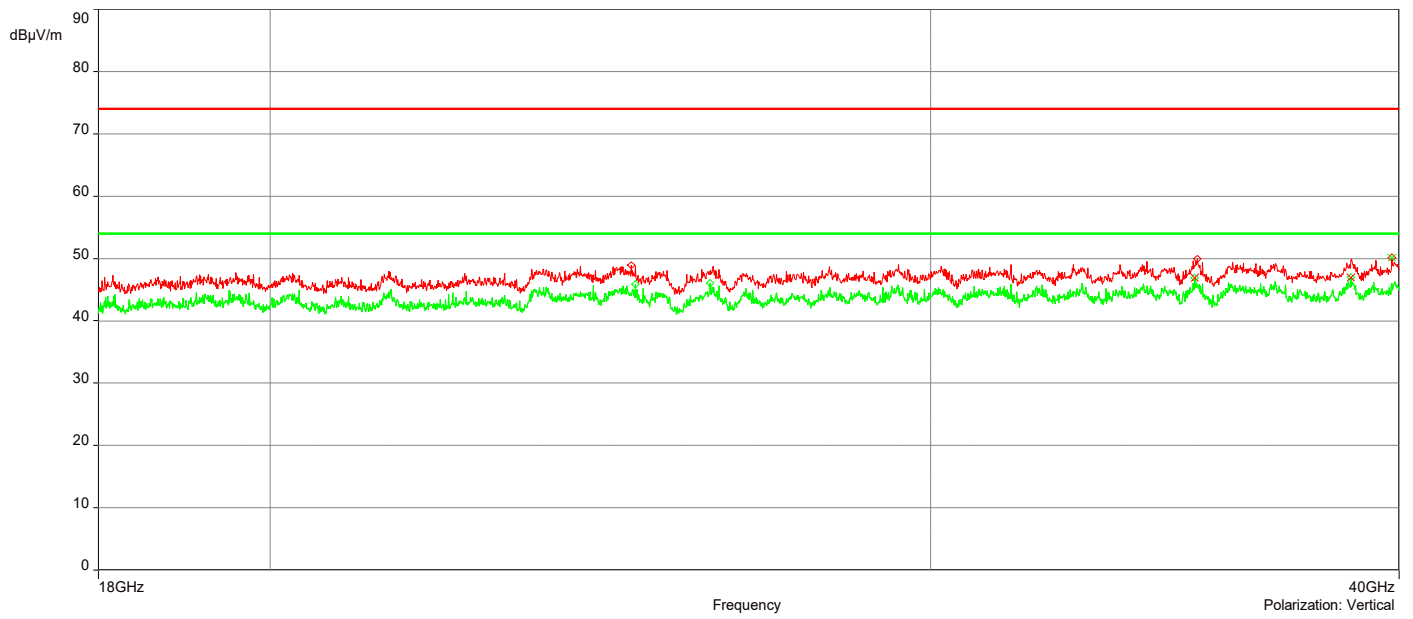
12/6/2021 1:49:54 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	39.828496GHz	50.13	4.73	74.00	-23.87	2.22	337.40	Vertical	Passed
2.	32.925339GHz	50.20	4.38	74.00	-23.80	3.76	45.00	Horizontal	Passed
3.	39.915498GHz	50.61	4.72	74.00	-23.39	3.58	225.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	38.906475GHz	47.42	3.90	54.00	-6.58	3.33	90.00	Horizontal	Passed
2.	38.837974GHz	47.01	3.87	54.00	-6.99	1.89	22.60	Vertical	Passed
3.	35.287893GHz	46.85	3.17	54.00	-7.15	2.23	202.60	Vertical	Passed

Overall Graphs:





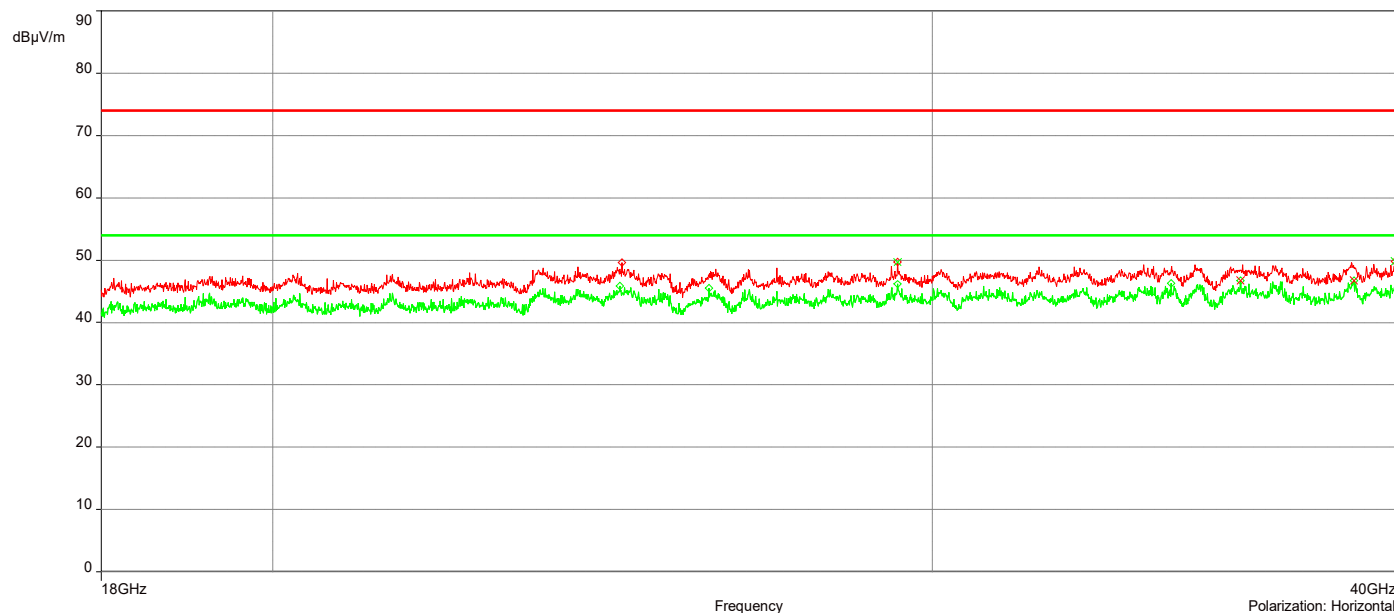
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 157\_18-40GHz**

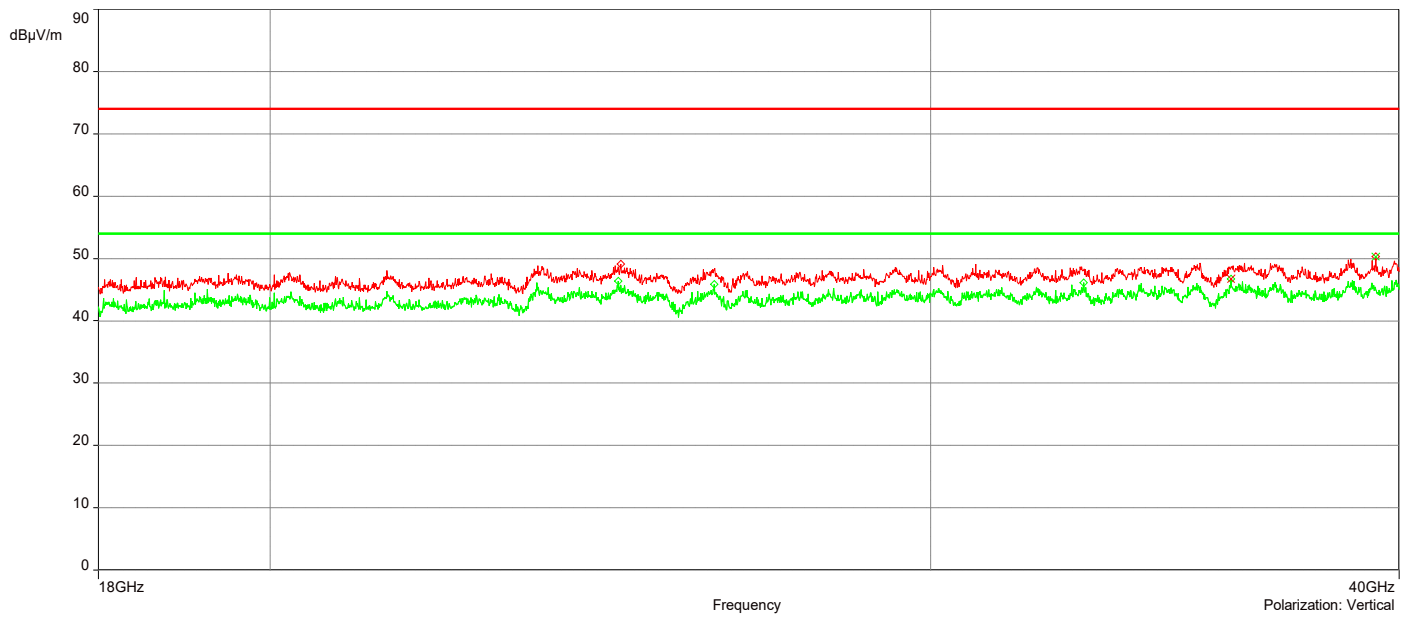
12/6/2021 2:25:29 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	29.365758GHz	49.74	5.50	74.00	-24.26	1.37	292.40	Horizontal	Passed
2.	39.873997GHz	49.77	4.74	74.00	-24.23	4.00	292.40	Horizontal	Passed
3.	39.427987GHz	50.28	3.48	74.00	-23.72	2.77	134.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.263415GHz	46.76	2.41	54.00	-7.24	2.07	112.40	Horizontal	Passed
2.	38.878975GHz	46.76	3.90	54.00	-7.24	2.23	67.40	Horizontal	Passed
3.	36.081911GHz	46.73	2.84	54.00	-7.27	3.97	247.40	Vertical	Passed

Overall Graphs:





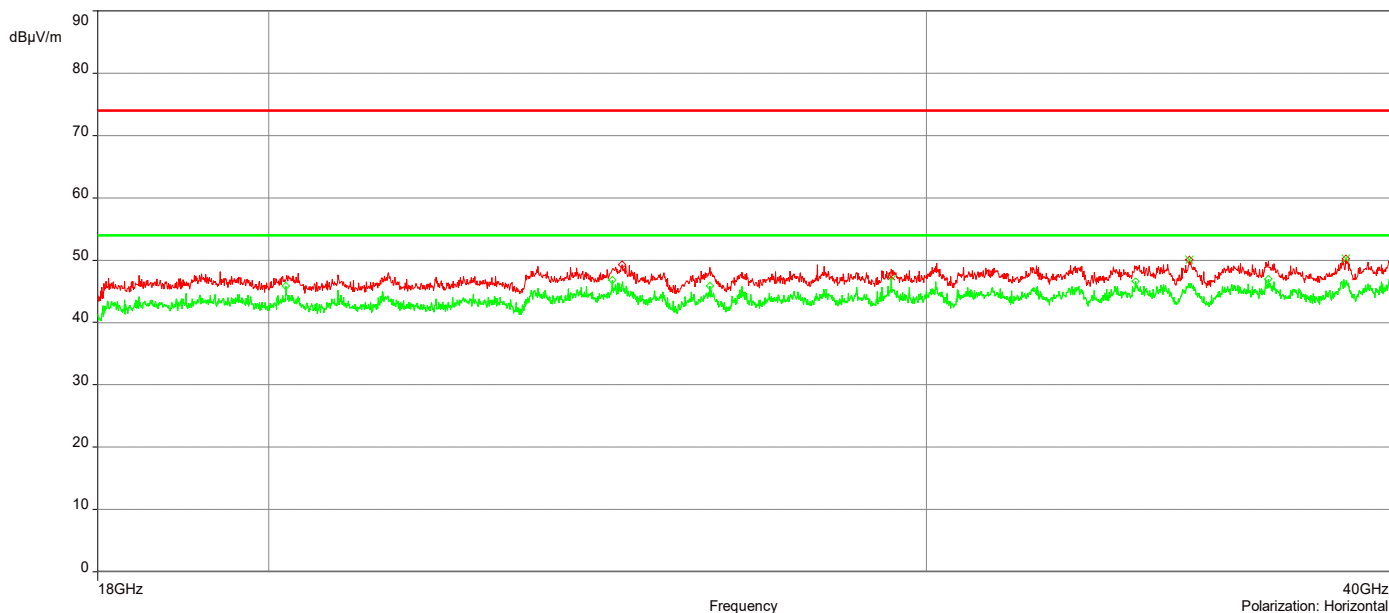
**AH21100601-HAR-134#004\_5G UNII-3 802.11a\_Ch 165\_18-40GHz**

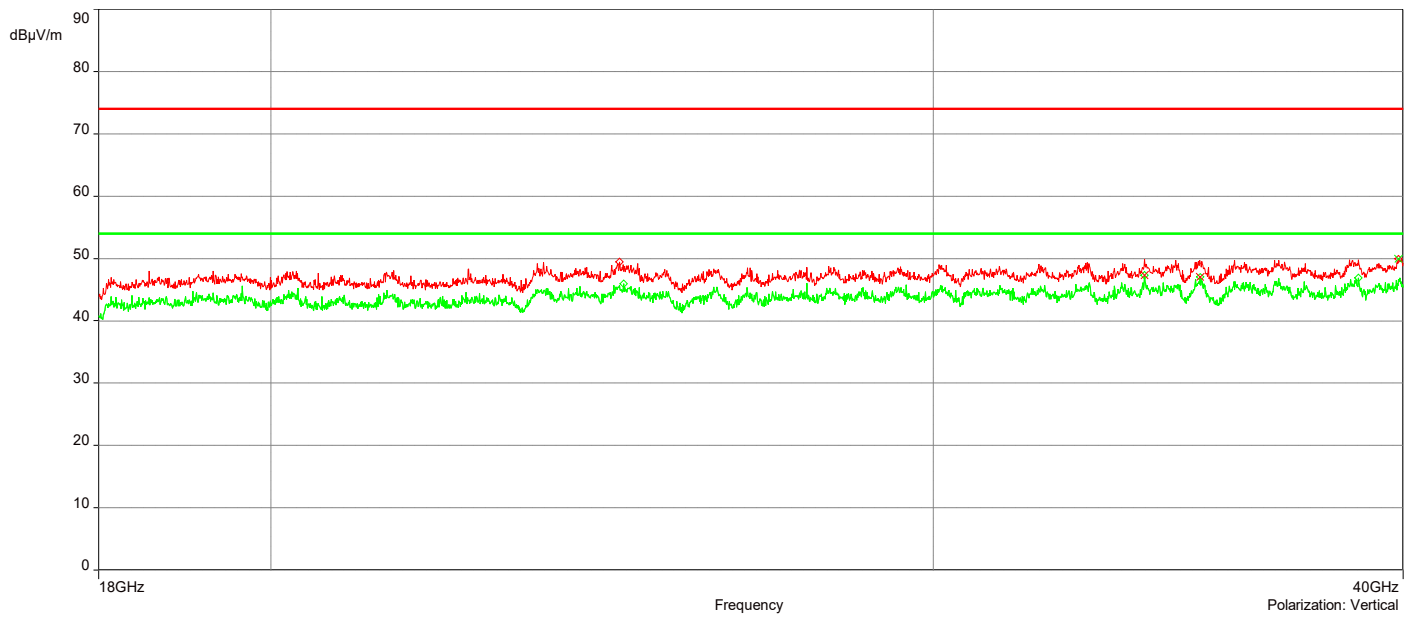
12/7/2021 6:32:30 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	39.886497GHz	50.01	4.89	74.00	-23.99	3.76	0.20	Vertical	Passed
2.	35.280393GHz	50.06	3.09	74.00	-23.94	1.36	247.60	Horizontal	Passed
3.	38.851974GHz	50.20	3.89	74.00	-23.80	3.56	22.50	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	29.355258GHz	47.44	5.52	54.00	-6.56	2.78	0.20	Horizontal	Passed
2.	34.146867GHz	47.32	3.65	54.00	-6.68	1.15	315.10	Vertical	Passed
3.	35.331394GHz	47.03	3.07	54.00	-6.97	2.94	22.50	Vertical	Passed

Overall Graphs:







## Document Revisions

Version	Date	Modifier	Changes
1.0	12-03-2021	Aravind Buddana	<ul style="list-style-type: none"><li>Initial Draft</li></ul>
2.0	12-13-2021	Aravind Buddana Ryan Philips	<ul style="list-style-type: none"><li>Updated Radiated Test Data</li></ul>

End of Report