



中国认可  
国际互认  
检测  
TESTING  
CNAS L3163

# CE Radio Test Report

**Project No.** : 2304C059A  
**Equipment** : Slot-in PC Module  
**Brand Name** : ViewSonic  
**Test Model** : VS19693  
**Series Model** : VPC33-W33-G1, VPC35-W53-G1, VPC37-W53-G1  
**Applicant** : ViewSonic Corporation  
**Address** : 10 Pointe Dr. Suite 200. Brea, CA92821, USA  
**Manufacturer** : ViewSonic Corporation  
**Address** : 10 Pointe Dr. Suite 200. Brea, CA92821, USA  
**Date of Receipt** : May 17, 2023  
**Date of Test** : May 18, 2023 ~ Jul. 26, 2023  
**Issued Date** : Aug. 18, 2023  
**Report Version** : R01  
**Test Sample** : Engineering Sample No.: DG2023051798  
**Standard(s)** : ETSI EN 301 893 V2.1.1 (2017-05)

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.(Dongguan).

**Prepared by** :

  
\_\_\_\_\_

Sheldon Ou

**Approved by** :

\_\_\_\_\_

Ethan Ma

No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.

Tel: +86-769-8318-3000    Web: www.newbtl.com    Service mail: btl\_qa@newbtl.com

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Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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**REPORT ISSUED HISTORY**

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-4-2304C059A	R00	This is a copy report which referencing test data are provided from test report (BTL-ETSP-4-2304C059). The product name, brand name, model name, applicant and manufacturer information are changed which does not affect the test results, the rest are kept the same.	Aug. 14, 2023	Invalid
BTL-ETSP-4-2304C059A	R01	Modified the issued date.	Aug. 18, 2023	Valid

## 1. RF EMISSIONS MEASUREMENT

### 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-CB15/TR15/TR17** at the location of No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.

### 1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor)  $k=1.96$  or  $k=2$ (which provide confidence levels of respectively 95% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Measurement Uncertainty for a Level of Confidence of 95.45%,  $U=2xUc(y)$ .

The BTL measurement uncertainty as below table:

Item	Uncertainty
Radio Frequency	±53.46 Hz
RF Power, Conducted	±0.95 dB
RF Power, Radiated	±3.84 dB
Power Density	±0.86 dB
Temperature	±0.08 °C
Humidity	±1.5 %
Time	±0.58 %
Spurious Emissions, Conducted	±2.71 dB
Spurious Emissions, Radiated $f \leq 1\text{GHz}$	±3.50 dB
Spurious Emissions, Radiated $1\text{GHz} < f \leq 18\text{GHz}$	±3.54 dB
Spurious Emissions, Radiated $18\text{GHz} < f \leq 26.5\text{GHz}$	±3.94 dB

### 1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Data
Centre frequencies	Normal & Extreme	57%	DC 19V	Kirito Li	Jun. 02, 2023
Occupied Channel Bandwidth	23°C	57%	DC 19V	Kirito Li	Jun. 02, 2023
RF output power	Normal & Extreme	48-63%	DC 19V	Chen Mo	May 20, 2023~ Jul. 25, 2023
Power Density	23°C	57%	DC 19V	Kirito Li	Jun. 06, 2023
Transmitter unwanted emissions outside the 5 GHz RLAN bands	25-27°C	48-50%	DC 19V	Zack Zhang	May 25, 2023 May 29, 2023
Transmitter Spurious Emission (Conducted Measurement)	22°C	59%	DC 19V	Kirito Li	Jun. 03, 2023~ Jul. 07, 2023
Transmitter unwanted emissions within the 5 GHz RLAN bands	23°C	57%	DC 19V	Kirito Li	Jun. 02, 2023
Receiver spurious emissions	25°C	50%	DC 19V	Zack Zhang	May 25, 2023
Receiver Spurious Emission (Conducted Measurement)	23°C	61%	DC 19V	Kirito Li	Jun. 06, 2023~ Jul. 07, 2023
Adaptivity	23.4°C	56.7%	DC 19V	Kirito Li	Jun. 08, 2023
Receiver Blocking	23.9°C	55.6%	DC 19V	Kirito Li	Jun. 09, 2023

## 1.4 TEST CHANNEL

IEEE 802.11a / IEEE 802.11n(HT20) / IEEE 802.11ac(VHT20) / IEEE 802.11ax(HE20)		
Test Channel	EUT Channel	Test Frequency
Low High	CH36	5180 MHz
	CH64	5320 MHz
	CH100	5500 MHz
	CH140	5700 MHz

IEEE 802.11n(HT40) / IEEE 802.11ac(VHT40) / IEEE 802.11ax(HE40)		
Test Channel	EUT Channel	Test Frequency
Low High	CH38	5190 MHz
	CH62	5310 MHz
	CH102	5510 MHz
	CH134	5670 MHz

IEEE 802.11ac(VHT80) / IEEE 802.11ax(HE80)		
Test Channel	EUT Channel	Test Frequency
Low High	CH42	5210 MHz
	CH58	5290 MHz
	CH106	5530 MHz
	CH122	5610 MHz

IEEE 802.11ac(VHT160) / IEEE 802.11ax(HE160)		
Test Channel	EUT Channel	Test Frequency
Low High	CH50	5250 MHz
	CH114	5570 MHz

## 1.5 TEST METHODOLOGY AND RESULTS

Harmonised Standard ETSI EN 301 893					
Requirement			Requirement Conditionality		Observations
No	Description	Reference: Clause No	U/C	Condition	
1	Carrier frequencies	4.2.1	U	-	Pass
2	Nominal, and occupied channel bandwidth	4.2.2	U	-	Pass
3	RF output power	4.2.3	U	-	Pass
	Transmit Power Control (TPC)	4.2.3	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 2)Not required for devices that operate at a maximum mean e.i.r.p. of 20 dBm when operating in 5250 MHz to 5350 MHz or 27 dBm when operating in 5470 MHz to 5725 MHz.	Pass
	Power Density	4.2.3	U	-	Pass
4	Transmitter unwanted emissions outside the 5 GHz RLAN bands	4.2.4.1	U	-	Pass
5	Transmitter unwanted emissions within the 5 GHz RLAN bands	4.2.4.2	U	-	Pass
6	Receiver spurious emissions	4.2.5	U	-	Pass
7	Adaptivity	4.2.7	U	-	Pass
8	Receiver Blocking	4.2.8	U	-	Pass
9	User Access Restrictions	4.2.9	U	-	Pass <b>Note 1</b>
10	Geo-location capability	4.2.10	C	Where implemented by the manufacturer.	N/A

### Note:

- No related options for DFS functions will be provided in the software interfaces.  
DFS functions can be changed only by telnet command. Before the shipment of the product the telnet will be closed so that it will be inaccessible for the end user.
- U/C Indicates whether the requirement is unconditionally applicable (U) or is conditional upon the manufacturer's claimed functionality of the equipment (C).
- "N/A" indicates that it does not apply to this device.
- The geographical location would not be accessible to the user in a way that would allow the user to alter it.

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Slot-in PC Module
Brand Name	ViewSonic
Test Model	VS19693
Series Model	VPC33-W33-G1, VPC35-W53-G1, VPC37-W53-G1
Model Difference(s)	Only the model name is different.
Power Source	DC voltage supplied from AC adapter.(Support unit)
Power Rating	12-19V --- 8A
Operation Frequency Band(s)	5150 MHz ~ 5250 MHz 5250 MHz ~ 5350 MHz 5470 MHz ~ 5725 MHz
Modulation Type	IEEE 802.11a/n/ac: OFDM IEEE 802.11ax: OFDMA
Bit Rate of Transmitter	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ac: up to 1733.4 Mbps IEEE 802.11ax: up to 2402 Mbps
Max. e.i.r.p.	IEEE 802.11a: 19.08 dBm (80.91 mW) IEEE 802.11n(HT20): 18.86 dBm (76.91 mW) IEEE 802.11n(HT40): 20.25 dBm (105.93 mW) IEEE 802.11ac(VHT20): 18.87 dBm (77.09 mW) IEEE 802.11ac(VHT40): 20.26 dBm (106.17 mW) IEEE 802.11ac(VHT80): 21.00 dBm (125.89 mW) IEEE 802.11ac(VHT160): 19.39 dBm (86.90 mW) IEEE 802.11ax(HE20): 18.74 dBm (74.82 mW) IEEE 802.11ax(HE40): 20.04 dBm (100.93 mW) IEEE 802.11ax(HE80): 20.84 dBm (121.34 mW) IEEE 802.11ax(HE160): 18.83 dBm (76.38 mW)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

## 2. Channel List:

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80)	
Band 1		Band 1		Band 1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80)	
Band 2		Band 2		Band 2	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80)	
Band 3		Band 3		Band 3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590		
112	5560	126	5630		
116	5580	134	5670		
120	5600				
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				

IEEE 802.11ac(VHT160) IEEE 802.11ax(HE160)	
Channel	Frequency (MHz)
50	5250
114	5570

## 3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	B&T	AG-011520-1007	Dipole	SMA-J	2
2	B&T	AG-011520-1007	Dipole	SMA-J	2

## Note:

- 1) The EUT incorporates a CDD function. Physically, the EUT provides two completed transmitters and receivers (2T2R).
- 2) The antenna gain is provided by the manufacturer.

## 4. The worst case for 2TX as follow:

Operating Mode	TX Mode	2TX
IEEE 802.11a		V (Ant. 1+Ant. 2)
IEEE 802.11n(HT20)		V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)		V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT20)		V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT40)		V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT80)		V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT160)		V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE20)		V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE40)		V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE80)		V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE160)		V (Ant. 1+Ant. 2)

## 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test	Clause	Test channels		
		Lower sub-band (5150 MHz to 5350 MHz)		Higher sub-band 5470 MHz to 5725 MHz
		5150 MHz to 5250 MHz	5250 MHz to 5350 MHz	
Centre frequencies	5.4.2	C7( see note 1)		C8( see note 1)
Occupied Channel Bandwidth	5.4.3	C7		C8
Power, power density	5.4.4	C1	C2	C3,C4
Transmitter unwanted emissions outside the 5 GHz RLAN bands	5.4.5	C7( see note 1)		C8( see note 1)
Transmitter unwanted emissions within the 5 GHz RLAN bands	5.4.6	C1	C2	C3,C4
Receiver spurious emissions	5.4.7	C7( see note 1)		C8( see note 1)
Transmit Power Control (TPC)	5.4.4	N/A(see note 2)	C2(see note 1)	C3,C4( see note 1)
Adaptivity	5.4.9	C9		
Receiver Blocking	5.4.10	C7		C8

C1,C3	The lowest declared channel for every declared Nominal Channel Bandwidth within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest Nominal Channel Bandwidth.
C2, C4	The highest declared channel for every declared Nominal Channel Bandwidth within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest Nominal Channel Bandwidth.
C7, C8	One channel out of the declared channels for this sub-band. For Occupied Channel Bandwidth, testing shall be repeated for every declared Nominal Channel Bandwidth within this sub-band.
C9	One channel (in case of single-channel testing) or a group of channels (in case of multi-channel testing) out of the declared channels.

**Note :**

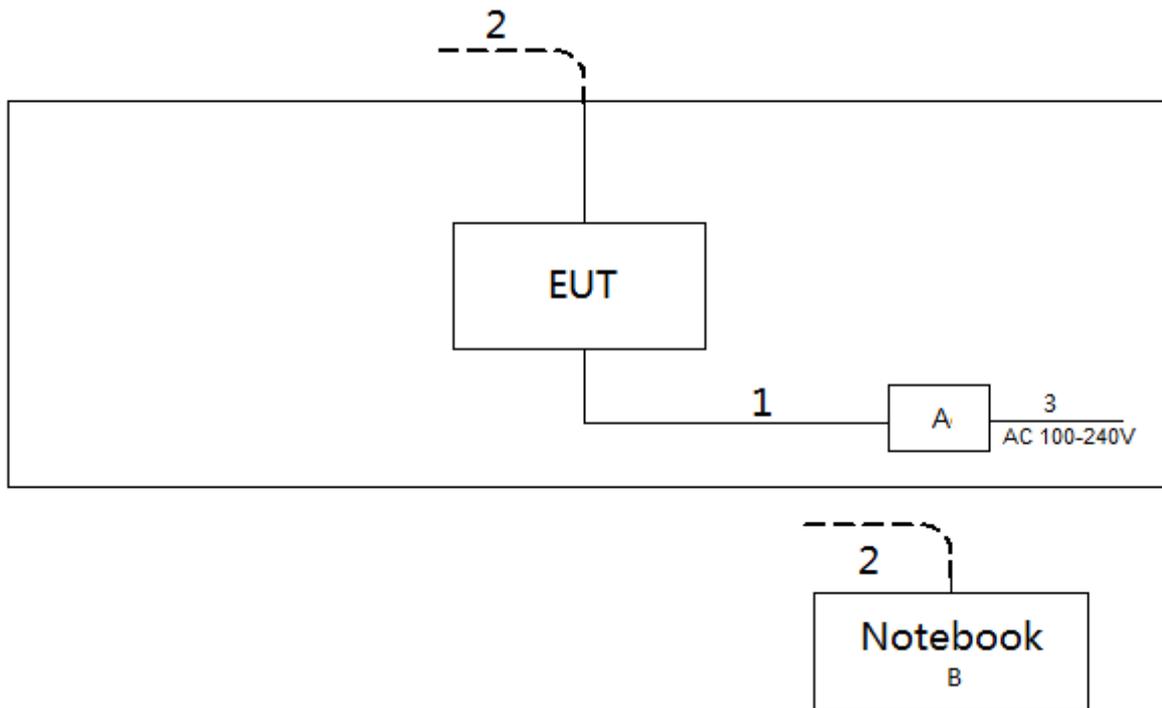
- (1) In case of more than 1 channel plan has been declared, testing of these specific requirements need only be performed using one of the declared channel plans.
- (2) Testing is not required for nominal channel bandwidths that fall completely within the frequency range 5150 MHz to 5250 MHz.
- (3) The measurements for RF Output Power are tested, because the modulation of IEEE 802.11n and IEEE 802.11ac are the same, and the power of IEEE 802.11ac(VHT20) mode and IEEE 802.11ac(VHT40) mode is worse than that of IEEE 802.11n(HT20) mode and IEEE 802.11n(HT40) mode, only the worst cases are documented for other test items.
- (4) For radiated spurious emissions below 1 GHz and receiver spurious emissions test, the IEEE 802.11ac(VHT80) channel 42/106 are found to be the worst case and recorded.
- (5) IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.

**2.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING**

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	DRTU V1.0			
Frequency (MHz)	5180	5320	5500	5700
IEEE 802.11a	16	16	16	16
IEEE 802.11n(HT20)	16	16	16	16
IEEE 802.11ac(VHT20)	16	16	16	16
IEEE 802.11ax(HE20)	16	16	16	16
Frequency (MHz)	5190	5310	5510	5670
IEEE 802.11n(HT40)	17.5	17.5	15	17.5
IEEE 802.11ac(VHT40)	17.5	17.5	15	17.5
IEEE 802.11ax(HE40)	17.5	17.5	15	17.5
Frequency (MHz)	5210	5290	5530	5610
IEEE 802.11ac(VHT80)	17.5	17.5	17.5	17.5
IEEE 802.11ax(HE80)	17.5	17.5	17.5	17.5
Frequency (MHz)	5250	5570		
IEEE 802.11ac(VHT160)	15	15		
IEEE 802.11ax(HE160)	16	14.5		

## 2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## 2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model No.	Series No.
A	Adapter	GangQi Electronic	GQ150-1900630-E1	N/A
B	Notebook	Dell	Inspiron 15-7559	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.2m
2	RJ45 Cable	NO	NO	10m
3	AC Cable	NO	NO	1.5m

## 2.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

### 3. CENTRE FREQUENCIES

#### 3.1 LIMIT

Clause	Test Item	Limit
4.2.1	Centre Frequencies	F(c) $\pm$ 20ppm

#### 3.2 TEST PROCEDURES

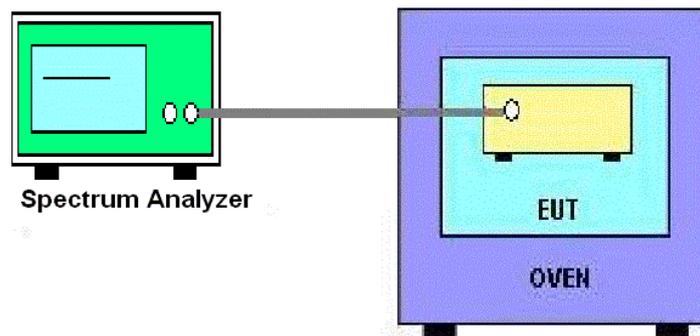
Refer to ETSI EN 301 893, clause 5.4.2.2.1.

#### 3.3 TEST SETUP LAYOUT

##### Normal Condition



##### Extreme Condition



#### 3.4 TEST DEVIATION

There is no deviation with the original standard.

#### 3.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

#### 3.6 TEST RESULTS

Please refer to the Appendix A.

## 4. NOMINAL / OCCUPIED CHANNEL BANDWIDTH

### 4.1 LIMIT

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

Alternatively, equipment may implement a lower Nominal Channel Bandwidth with a minimum of 5 MHz, providing they still comply with the Nominal Centre Frequencies defined in clause 4.2.1 of EN 301 893 (20 MHz raster).

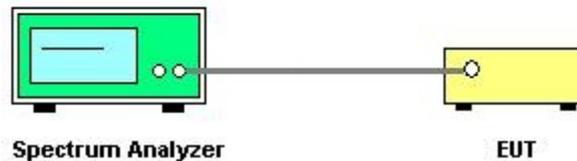
The Occupied Channel Bandwidth shall be between 80 % and 100 % of the Nominal Channel Bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement. The Occupied Channel Bandwidth might change with time/payload.

During a Channel Occupancy Time (COT), equipment may operate temporarily with an Occupied Channel Bandwidth of less than 80 % of its Nominal Channel Bandwidth with a minimum of 2 MHz.

### 4.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.3.2.1.

### 4.3 TEST SETUP LAYOUT



### 4.4 TEST DEVIATION

There is no deviation with the original standard.

### 4.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

### 4.6 TEST RESULTS

Please refer to the Appendix B.

## 5. RF OUTPUT POWER

### 5.1 LIMIT

Mean e.i.r.p. Limits for RF Output Power at the Highest Power Level		
Frequency Range (MHz)	Mean e.i.r.p. Limit for $P_H$ (dBm)	
	With TPC	Without TPC
5150 to 5350	23	20/23 (see note1)
5470 to 5725	30 (see note2)	27 (see note2)

Note:	
(1)	The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 23 dBm.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

Mean e.i.r.p. Limits for RF Output Power at the Lowest Power Level(see note1)	
Frequency Range	Mean e.i.r.p. for $P_L$
5250 MHz to 5350 MHz	17 dBm
5470 MHz to 5725 MHz	24 dBm (see note2)

Note:	
(1)	For devices without TPC, the limits in the table do not apply.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

### 5.2 TEST PROCEDURES

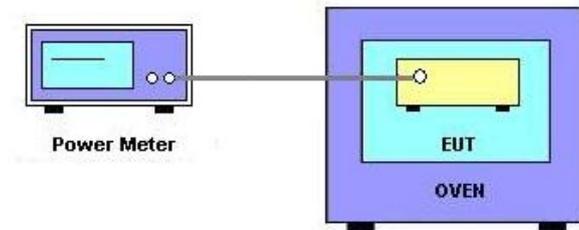
Refer to ETSI EN 301 893, clause 5.4.4.2.1.

### 5.3 TEST SETUP LAYOUT

#### Normal Condition



#### Extreme Condition



### 5.4 TEST DEVIATION

There is no deviation with the original standard.

### 5.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

### 5.6 TEST RESULTS

Please refer to the Appendix C.

## 6. POWER DENSITY

### 6.1 LIMIT

Mean e.i.r.p. Limits for Power Density at the Highest Power Level		
Frequency Range (MHz)	Mean e.i.r.p. Density Limit (dBm/MHz)	
	With TPC	Without TPC
5150 to 5350	10	7/10 (see note1)
5470 to 5725	17 (see note2)	14 (see note2)

Note:	
(1)	The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 10 dBm/MHz.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

### 6.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.4.2.1.

### 6.3 TEST SETUP LAYOUT



### 6.4 TEST DEVIATION

There is no deviation with the original standard.

### 6.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

### 6.6 TEST RESULTS

Please refer to the Appendix D.

## 7. TRANSMITTER UNWANTED EMISSIONS (OUTSIDE THE 5 GHz RLAN BANDS)

### 7.1 LIMIT

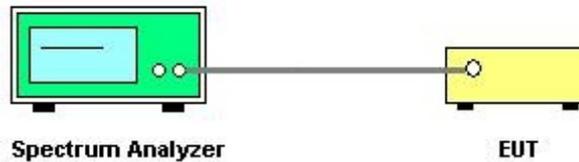
Clause	Test Item	Frequency(MHz)	Limit (dBm)
4.2.4.1	Transmitter Unwanted Emissions (Outside The 5 GHz RLAN Bands)	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	-54
		Other frequencies Below 1GHz	-36
		1GHz~26.5 GHz (Outside frequency ranges)	-30

### 7.2 TEST PROCEDURES

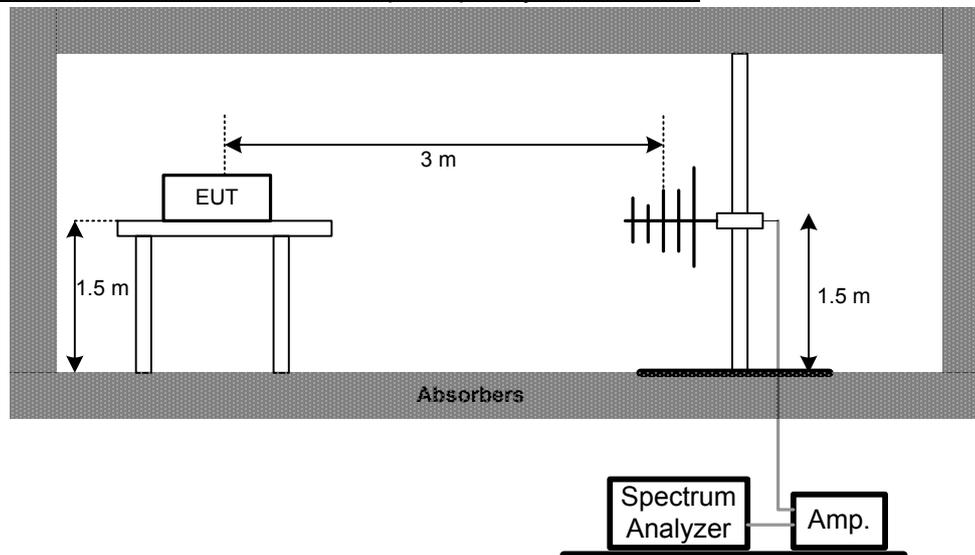
Refer to ETSI EN 301 893, clause 5.4.5.2.1 and 5.4.5.2.2.

### 7.3 TEST SETUP LAYOUT

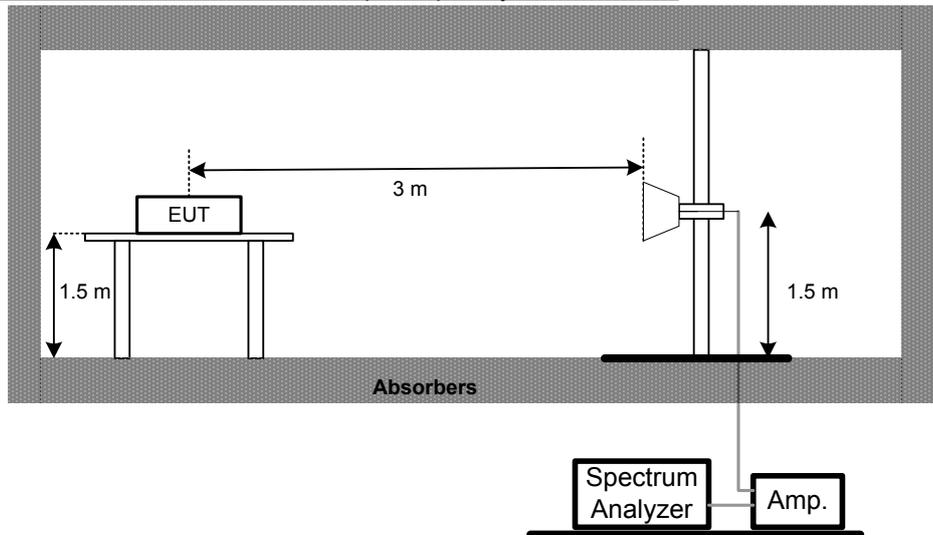
#### Conducted Measurement



#### Emission Radiated Measurement Test Set-Up Frequency Below 1 GHz



### Emission Radiated Measurement Test Set-Up Frequency Above 1 GHz



#### **7.4 TEST DEVIATION**

There is no deviation with the original standard.

#### **7.5 EUT OPERATION DURING TEST**

The measurements shall be performed during continuously transmitting.

#### **7.6 TEST RESULTS (30MHZ TO 1000MHZ)**

Please refer to the Appendix E.

#### **7.7 TEST RESULTS (ABOVE 1000MHZ)**

Please refer to the Appendix F.

## 8. TRANSMITTER UNWANTED EMISSIONS(WITHIN THE 5 GHZ RLAN BANDS)

### 8.1 LIMIT

Clause	Test Item	Limit
4.2.4.2	Transmitter Unwanted Emissions (Within the 5 GHz RLAN bands)	

### 8.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.6.2.1.

### 8.3 TEST SETUP LAYOUT



### 8.4 TEST DEVIATION

There is no deviation with the original standard.

### 8.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

### 8.6 TEST RESULTS

Please refer to the Appendix G.

## 9. RECEIVER SPURIOUS EMISSIONS

### 9.1 LIMIT

Clause	Test Item	Frequency(MHz)	Limit
4.2.5	Receiver spurious emissions	30-1000	-57dBm
		1000~26500	-47dBm

### 9.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.7.2.1 and 5.4.7.2.2.

### 9.3 TEST SETUP LAYOUT

Please refer to clause 7.3.

### 9.4 TEST DEVIATION

There is no deviation with the original standard.

### 9.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously receiving.

### 9.6 TEST RESULTS (30 MHZ TO 1000 MHZ)

Please refer to the Appendix H.

### 9.7 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Appendix I.

## 10. ADAPTIVITY (CHANNEL ACCESS MECHANISM)

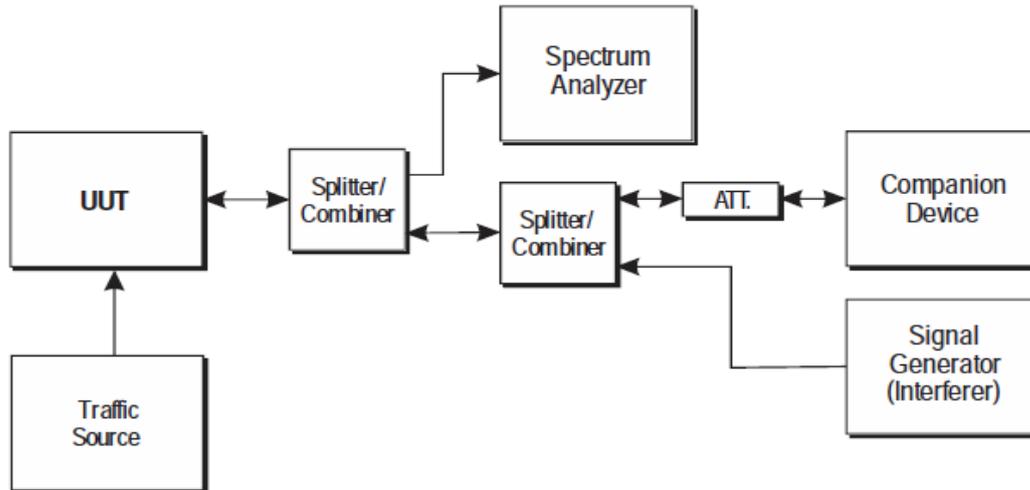
### 10.1 LIMIT

Refer to ETSI EN 301 893, clause 4.2.7

### 10.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.9.3.2.

### 10.3 TEST SETUP



### 10.4 TEST DEVIATION

There is no deviation with the original standard.

### 10.5 EUT OPERATION DURING TEST

The measurements shall be performed during normal operation.

### 10.6 TEST RESULTS

Please refer to the Appendix J.

## 11. RECEIVER BLOCKING

### 11.1 LIMIT

The minimum performance criterion shall be a PER of less than or equal to 10 %.

Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 2)		Type of blocking signal
		Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)	
$P_{min} + 6$ dB	5 100	-53	-59	Continuous Wave
$P_{min} + 6$ dB	4 900 5 000 5 975	-47	-53	Continuous Wave

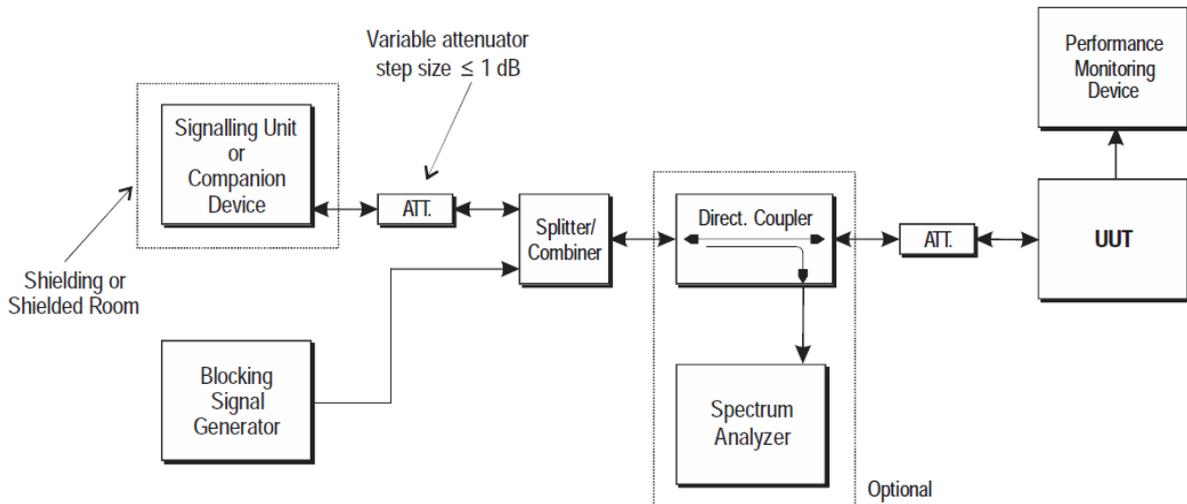
NOTE 1:  $P_{min}$  is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal.

NOTE 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.

### 11.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.10.2.1.

### 11.3 TEST SETUP



### 11.4 TEST DEVIATION

There is no deviation with the original standard.

### 11.5 EUT OPERATION DURING TEST

The measurements shall be performed during normal receiving.

### 11.6 TEST RESULTS

Please refer to the Appendix K.

## 12. MEASUREMENT INSTRUMENTS LIST

Centre Frequency					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Signal Analyzer	Keysight	N9010A	MY56480488	Jan. 08, 2024
2	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A
3	Measurement Software	BTL	EN301893	N/A	N/A
4	Const Temp. & Humidity Chamber	CEPREI	CEEC-M64T-40	15-008	Jan. 08, 2024
5	Cable	RegalWay	20210802 013	N/A	N/A

Nominal / Occupied Channel Bandwidth & Power Density & Transmitter Unwanted Emissions Within The 5 GHz RLAN Bands & Transmitter and Receiver Spurious Emission (Conducted Measurement)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Agilent	N9010A	MY54200164	Jan. 08, 2024
2	Cable	RegalWay	20210802 013	N/A	N/A
3	Cable	RegalWay	20210802 021	N/A	N/A
4	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A
5	Measurement Software	BTL	EN301893	N/A	N/A

RF Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Table top type high and low temperature test chamber	CEPREI	CEEC-M64T-40	15-008	Jan. 08, 2024
2	Power Sensor	Agilent	U2021XA	MY53320006	Jan. 08, 2024
3	Power Sensor	Agilent	U2021XA	MY53340001	Jan. 08, 2024
4	Power Sensor	Agilent	U2021XA	MY53340005	Jan. 08, 2024
5	Power Sensor	Agilent	U2021XA	MY53340007	Jan. 08, 2024
6	Cable	Woke	20210802 001	N/A	N/A
7	Cable	Woke	60CM	N/A	N/A
8	Measurement Software	BTL	EN301893	N/A	N/A
9	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A

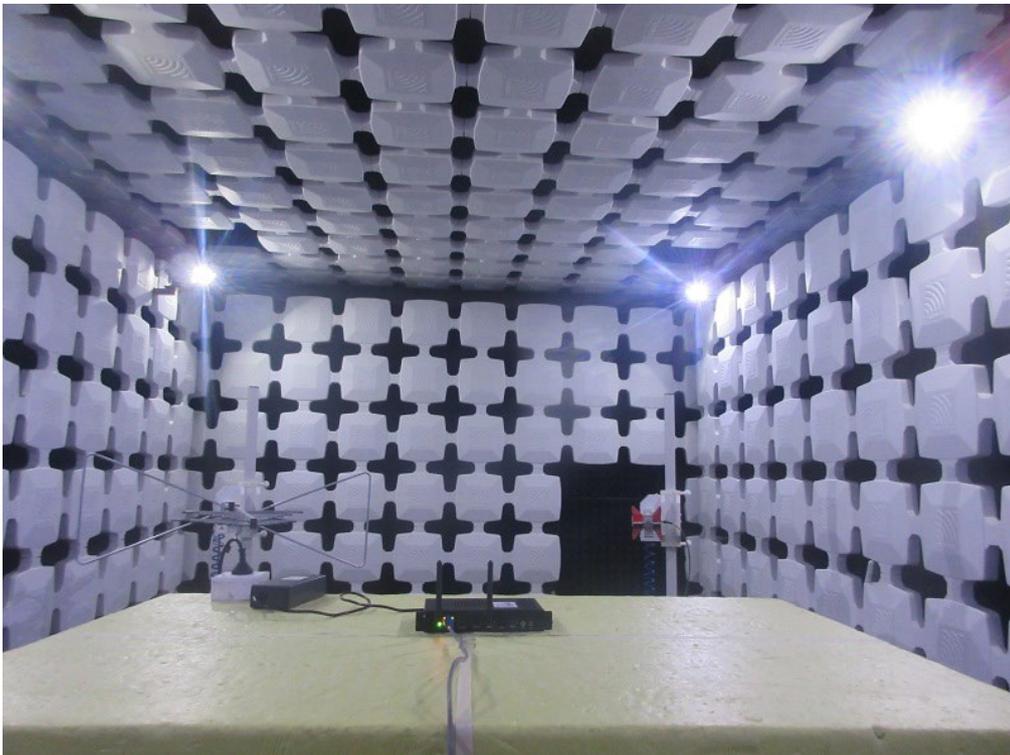
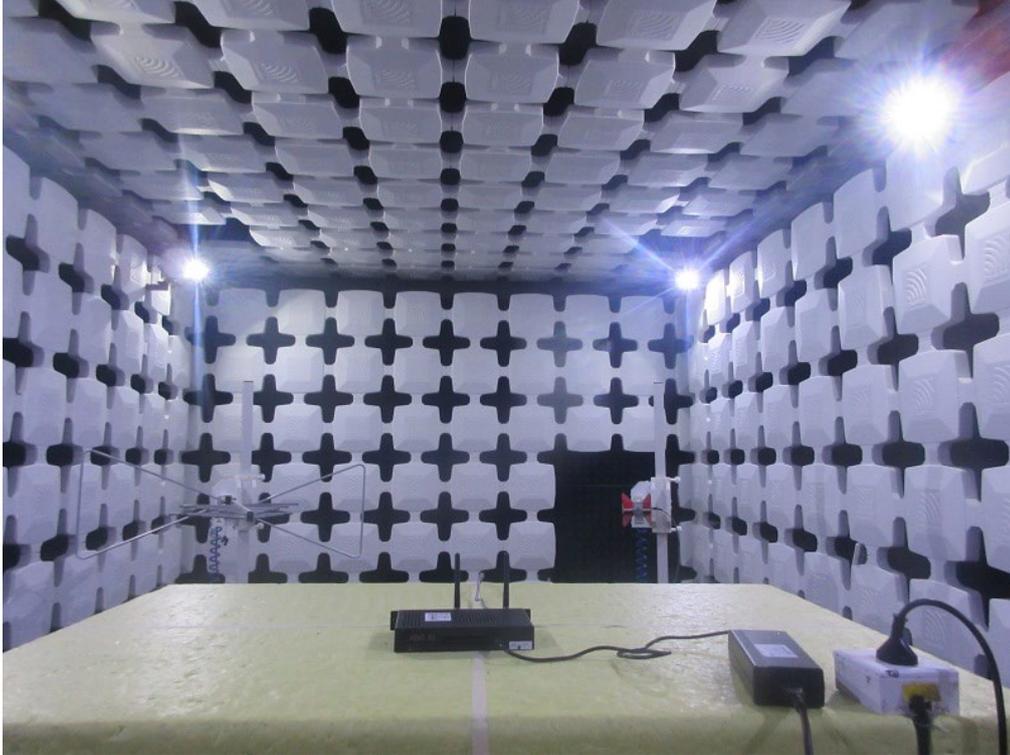
Adaptivity					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Agilent	N9010A	MY54200164	Jan. 08, 2024
2	EXG-B RF Vector Signal Generator	Keysight	N5171B	MY53051228	Jan. 08, 2024
3	Data Acquisition Unit	Keysight	AD211	TW56183509	Jan. 08, 2024
4	Power Splitter	N/A	N/A	SZ201504789	Jan. 08, 2024
5	Power Splitter	N/A	N/A	SZ201504789	Jan. 08, 2024
6	Power Splitter	Mini-Circuits	ZFRSC-123-S+	331000910-2	Jan. 08, 2024
7	Home Gateway	HUAWEI	DG8245V	N/A	N/A
8	Cable	RegalWay	20210802 013	N/A	N/A
9	Cable	RegalWay	S02-1081212-050	N/A	N/A
10	Cable	RegalWay	202108020 004	N/A	N/A
11	Cable	RegalWay	20210802 021	N/A	N/A
12	Cable	Woke	S02-181212-272	N/A	N/A
13	Measurement Software	BTL	EN301893	N/A	N/A
14	Shielding box	Jiachen	JC-PB2009	200917D0184A	Jan. 08, 2024
15	EXG-B RF Vector Signal Generator	Keysight	N5172B	MY53051637	Jan. 08, 2024

Receiver Blocking					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	wideband radio communication tester	R&S	CMW500	152372	Jan. 08, 2024
2	EXG-B RF Vector Signal Generator	Keysight	N5172B	MY53051637	Jan. 08, 2024
3	Shielding box	Jiachen	JC-PB2009	200917D0184A	Jan. 08, 2024
4	Power divider	N/A	PD-2SF-2080	N/A	Jan. 08, 2024
5	Cable	RegalWay	20210802 013	N/A	N/A
6	Cable	RegalWay	20210802 021	N/A	N/A

Transmitter and Receiver Spurious Emission (Radiated Measurement)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Amplifier	HP	8447D	2944A11203	Jan. 08, 2024
2	EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	Jan. 08, 2024
3	Controller	Innco Systems GmbH	CO3000-4port	CO3000/1155/4 5430119/P	N/A
4	Trilog-Broadband Antenna	Schwarzbeck	VULB9160	9160-3232	Feb. 24, 2024
5	Cable	Talent microwave	L6-NMNM-10M	N/A	N/A
6	Cable	Talent microwave	S02-181212-270	N/A	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	DRG Horn Antenna	ETS	3117-PA	221576	Mar. 04, 2024
9	Preamplifier	ETS	3117-PA	221576	Jul. 03, 2023
10	Cable	Talent microwave	A81-SMAMSMAM- 12.5M	N/A	N/A
11	Cable	RegalWay	A4.0-2.9M2.9M -2.5m	N/A	Now. 30, 2023
12	Cable	Tonscend	HF160-KMKM-3M	N/A	Now. 30, 2023
13	EXA Signal Analyzer	Keysight	N9010A	MY56480488	Jan. 16, 2024
14	DRG Horn Antenna	ETS	3116C	218942	Mar. 02, 2024
15	Pre-Amplifier	EMC INSTRUMENT	EMC184045SE	980409	Jan. 08, 2024

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

**13. EUT TEST PHOTO****Radiated Emissions Test Photos**

## APPENDIX A - CENTRE FREQUENCIES

**Test Mode: IEEE 802.11a Mode**

Test Conditions		Measurement Frequency (MHz)	
		5180MHz	5500MHz
T nom(°C)	23	5180.0020	5500.0400
T min(°C)	0	5180.0055	5500.0402
T max(°C)	45	5180.0028	5500.0433
Max. Deviation Frequency		0.0055	0.0433
Max. Frequency Error (ppm)		1.06	7.87
Limit (ppm)		±20.00	
Result		Pass	

**Test Mode: IEEE 802.11ac(VHT40) Mode**

Test Conditions		Measurement Frequency (MHz)	
		5190MHz	5510MHz
T nom(°C)	23	5190.0720	5510.0760
T min(°C)	0	5190.0709	5510.0769
T max(°C)	45	5190.0763	5510.0758
Max. Deviation Frequency		0.0763	0.0769
Max. Frequency Error (ppm)		14.70	13.96
Limit (ppm)		±20.00	
Result		Pass	

**Test Mode: IEEE 802.11ax(HE80) Mode**

Test Conditions		Measurement Frequency (MHz)	
		5210MHz	5530MHz
T nom(°C)	23	5209.9760	5530.0880
T min(°C)	0	5209.9711	5530.0915
T max(°C)	45	5209.9765	5530.0870
Max. Deviation Frequency		-0.0289	0.0915
Max. Frequency Error (ppm)		-5.55	16.55
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11ax(HE160) Mode			
Test Conditions		Measurement Frequency (MHz)	
		5250MHz	5570MHz
T nom(°C)	23	5250.0640	5570.0480
T min(°C)	0	5250.0685	5570.0519
T max(°C)	45	5250.0680	5570.0464
Max. Deviation Frequency		0.0685	0.0519
Max. Frequency Error (ppm)		13.05	9.32
Limit (ppm)		±20.00	
Result		Pass	

## **APPENDIX B - NOMINAL / OCCUPIED CHANNEL BANDWIDTH**

Test Mode: IEEE 802.11a Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	23	16.39	16.38
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT20) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	23	17.60	17.60
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT40) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5190MHz	5510MHz
T nom (°C)	23	36.02	36.03
Limits		32~40	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT80) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5210MHz	5530MHz
T nom (°C)	23	75.11	75.14
Limits		64~80	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT160) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5250MHz	5570MHz
T nom (°C)	23	153.43	153.41
Limits		128~160	
Result		Pass	

Test Mode: IEEE 802.11ax(HE20) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	23	18.84	18.85
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ax(HE40) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5190MHz	5510MHz
T nom (°C)	23	37.45	37.46
Limits		32~40	
Result		Pass	

Test Mode: IEEE 802.11ax(HE80) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5210MHz	5530MHz
T nom (°C)	23	76.61	76.56
Limits		64~80	
Result		Pass	

Test Mode: IEEE 802.11ax(HE160) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5250MHz	5570MHz
T nom (°C)	23	154.79	154.88
Limits		128~160	
Result		Pass	

## **APPENDIX C - RF OUTPUT POWER**

Test Mode: IEEE 802.11a Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	18.94	18.81	18.63	18.35
T min (°C)	0	19.08	18.90	18.74	18.44
T max (°C)	45	18.84	18.77	18.07	18.28
Max. e.i.r.p.		19.08	18.90	18.74	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11a Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	12.81	12.63	12.35
T min (°C)	0	12.90	12.74	12.44
T max (°C)	45	12.77	12.07	12.28
Max. e.i.r.p.		12.90	12.74	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11n(HT20) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	18.81	18.72	18.50	18.23
T min (°C)	0	18.86	18.76	18.58	18.29
T max (°C)	45	18.70	18.58	18.39	18.16
Max. e.i.r.p.		18.86	18.76	18.58	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11n(HT20) Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	12.72	12.50	12.23
T min (°C)	0	12.76	12.58	12.29
T max (°C)	45	12.58	12.39	12.16
Max. e.i.r.p.		12.76	12.58	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11n(HT40) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5190MHz	5310MHz	5510MHz	5670MHz
T nom (°C)	24-26	20.20	20.25	18.59	19.78
T min (°C)	0	20.21	20.21	18.72	19.72
T max (°C)	45	20.09	20.15	18.35	19.65
Max. e.i.r.p.		20.21	20.25	19.78	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11n(HT40) Mode at the Lowest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5310MHz	5510MHz	5670MHz	
T nom (°C)	24-26	14.25	12.59	13.78	
T min (°C)	0	14.21	12.72	13.72	
T max (°C)	45	14.15	12.35	13.65	
Max. e.i.r.p.		14.25	13.78		
Limits		17	17		
Result		Pass			

Test Mode: IEEE 802.11ac(VHT20) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	18.82	18.72	18.51	18.30
T min (°C)	0	18.87	18.76	18.58	18.30
T max (°C)	45	18.70	18.58	18.39	18.17
Max. e.i.r.p.		18.87	18.76	18.58	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ac(VHT20) Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	12.72	12.51	12.30
T min (°C)	0	12.76	12.58	12.30
T max (°C)	45	12.58	12.39	12.17
Max. e.i.r.p.		12.76	12.58	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11ac(VHT40) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5190MHz	5310MHz	5510MHz	5670MHz
T nom (°C)	24-26	20.20	20.26	18.71	19.78
T min (°C)	0	20.21	20.22	18.76	19.73
T max (°C)	45	20.10	20.15	18.48	19.65
Max. e.i.r.p.		20.21	20.26	19.78	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ac(VHT40) Mode at the Lowest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5310MHz	5510MHz	5670MHz	
T nom (°C)	24-26	14.26	12.71	13.78	
T min (°C)	0	14.22	12.76	13.73	
T max (°C)	45	14.15	12.48	13.65	
Max. e.i.r.p.		14.26	13.78		
Limits		17	17		
Result		Pass			

Test Mode: IEEE 802.11ac(VHT80) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5210MHz	5290MHz	5530MHz	5610MHz
T nom (°C)	24-26	20.72	20.81	20.98	20.98
T min (°C)	0	20.66	20.73	20.90	21.00
T max (°C)	45	20.57	20.66	20.86	20.82
Max. e.i.r.p.		20.72	20.81	21.00	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ac(VHT80) Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5290MHz	5530MHz	5610MHz
T nom (°C)	24-26	14.81	14.98	14.98
T min (°C)	0	14.73	14.90	15.00
T max (°C)	45	14.66	14.86	14.82
Max. e.i.r.p.		14.81	15.00	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11ac(VHT160) Mode at the Highest Power Level			
Test Conditions		e.i.r.p. ( dBm )	
		5250MHz	5570MHz
T nom (°C)	24-26	19.24	19.13
T min (°C)	0	19.39	19.38
T max (°C)	45	19.25	19.09
Max. e.i.r.p.		19.39	19.38
Limits		23	23
Result		Pass	

Test Mode: IEEE 802.11ac(VHT160) Mode at the Lowest Power Level			
Test Conditions		e.i.r.p. ( dBm )	
		5250MHz	5570MHz
T nom (°C)	24-26	13.24	13.13
T min (°C)	0	13.39	13.38
T max (°C)	45	13.25	13.09
Max. e.i.r.p.		13.39	13.38
Limits		17	17
Result		Pass	

Test Mode: IEEE 802.11ax(HE20) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	18.67	18.60	18.37	18.10
T min (°C)	0	18.74	18.67	18.40	18.13
T max (°C)	45	18.56	18.50	18.25	18.00
Max. e.i.r.p.		18.74	18.67	18.40	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ax(HE20) Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5320MHz	5500MHz	5700MHz
T nom (°C)	24-26	12.60	12.37	12.10
T min (°C)	0	12.67	12.40	12.13
T max (°C)	45	12.50	12.25	12.00
Max. e.i.r.p.		12.67	12.40	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11ax(HE40) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5190MHz	5310MHz	5510MHz	5670MHz
T nom (°C)	24-26	20.00	20.01	18.53	19.61
T min (°C)	0	20.04	20.03	18.58	19.53
T max (°C)	45	19.85	19.87	18.25	19.49
Max. e.i.r.p.		20.04	20.03	19.61	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ax(HE40) Mode at the Lowest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5310MHz	5510MHz	5670MHz	
T nom (°C)	24-26	14.01	12.53	13.61	
T min (°C)	0	14.03	12.58	13.53	
T max (°C)	45	13.87	12.25	13.49	
Max. e.i.r.p.		14.03	13.61		
Limits		17	17		
Result		Pass			

Test Mode: IEEE 802.11ax(HE80) Mode at the Highest Power Level					
Test Conditions		e.i.r.p. ( dBm )			
		5210MHz	5290MHz	5530MHz	5610MHz
T nom (°C)	24-26	20.45	20.55	20.73	20.72
T min (°C)	0	20.58	20.61	20.78	20.84
T max (°C)	45	20.30	20.46	20.59	20.60
Max. e.i.r.p.		20.58	20.61	20.84	
Limits		23	23	23	
Result		Pass			

Test Mode: IEEE 802.11ax(HE80) Mode at the Lowest Power Level				
Test Conditions		e.i.r.p. ( dBm )		
		5290MHz	5530MHz	5610MHz
T nom (°C)	24-26	14.55	14.73	14.72
T min (°C)	0	14.61	14.78	14.84
T max (°C)	45	14.46	14.59	14.60
Max. e.i.r.p.		14.61	14.84	
Limits		17	17	
Result		Pass		

Test Mode: IEEE 802.11ax(HE160) Mode at the Highest Power Level			
Test Conditions		e.i.r.p. ( dBm )	
		5250MHz	5570MHz
T nom (°C)	24-26	18.83	18.56
T min (°C)	0	18.38	18.73
T max (°C)	45	18.70	18.55
Max. e.i.r.p.		18.83	18.73
Limits		23	23
Result		Pass	

Test Mode: IEEE 802.11ax(HE160) Mode at the Lowest Power Level			
Test Conditions		e.i.r.p. ( dBm )	
		5250MHz	5570MHz
T nom (°C)	24-26	12.83	12.56
T min (°C)	0	12.38	12.73
T max (°C)	45	12.70	12.55
Max. e.i.r.p.		12.83	12.73
Limits		17	17
Result		Pass	

Note: e.i.r.p. = Conducted output power + G (Ant Gain)

## **APPENDIX D - POWER DENSITY**

Test Mode: IEEE 802.11a Mode					
Test Conditions		Spectral Power Density e.i.r.p. ( dBm / MHz )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	23	9.71	9.55	9.27	9.44
Limits		10	10	10	
Result		Pass			

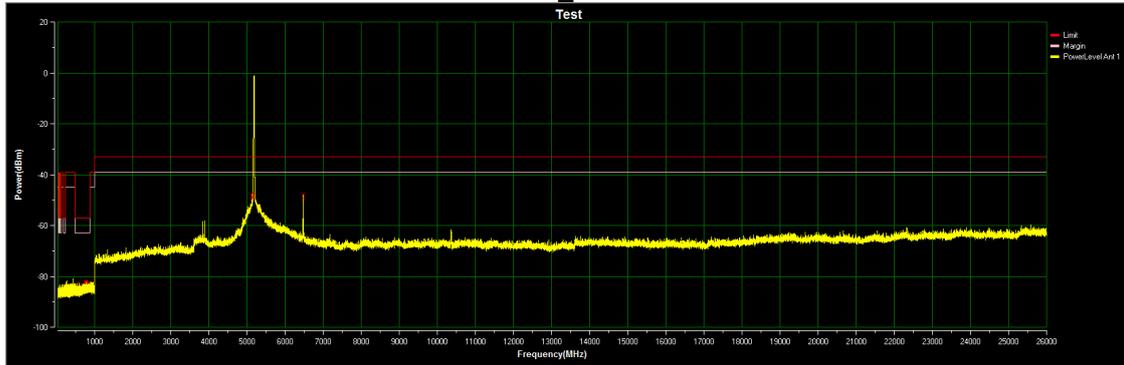
Test Mode: IEEE 802.11ac(VHT20) Mode					
Test Conditions		Spectral Power Density e.i.r.p. ( dBm / MHz )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	23	9.27	9.23	9.01	9.11
Limits		10	10	10	
Result		Pass			

Test Mode: IEEE 802.11ax(HE20) Mode					
Test Conditions		Spectral Power Density e.i.r.p. ( dBm / MHz )			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	23	8.81	8.78	8.62	8.71
Limits		10	10	10	
Result		Pass			

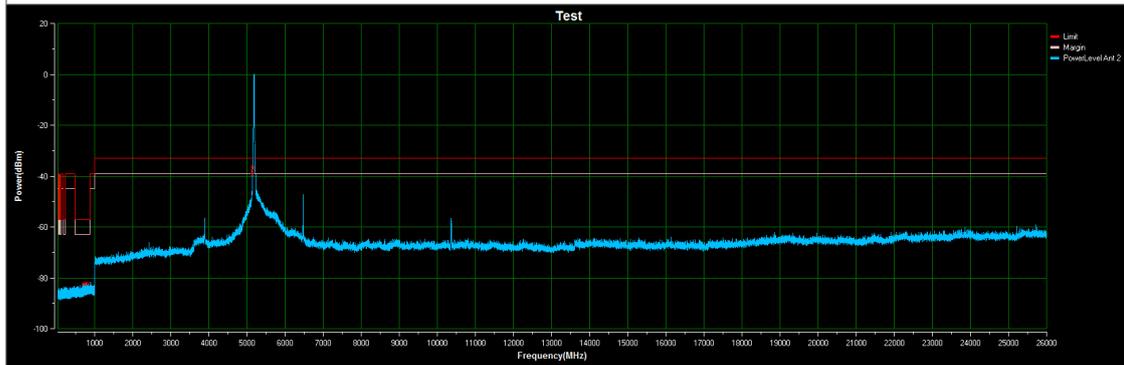
**APPENDIX E - TRANSMITTER UNWANTED EMISSIONS  
OUTSIDE THE 5 GHZ RLAN BANDS (30MHZ TO 1000MHZ)**

Test Mode TX Mode IEEE 802.11a

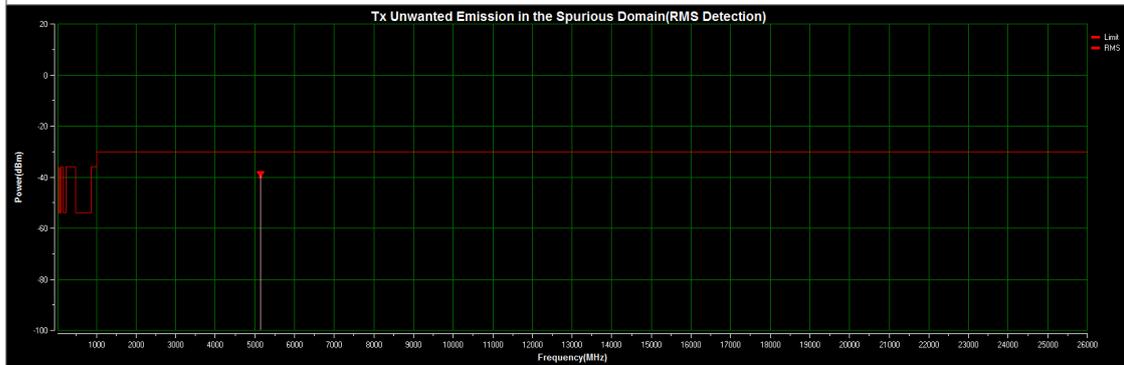
### TX Mode\_5180MHz



Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
756.65	-81.74	-57.01	24.73	Pass
756.7	-81.87	-57.01	24.86	Pass
828.05	-82.12	-57.01	25.11	Pass
828	-82.18	-57.01	25.17	Pass
897	-82.21	-57.01	25.2	Pass
776.6	-82.31	-57.01	25.3	Pass
5140	-47.35	-33.01	14.34	Pass
6475	-47.46	-33.01	14.45	Pass
5144	-48.04	-33.01	15.03	Pass
5148	-48.72	-33.01	15.71	Pass
6476	-49.05	-33.01	16.04	Pass
5121	-49.31	-33.01	16.3	Pass

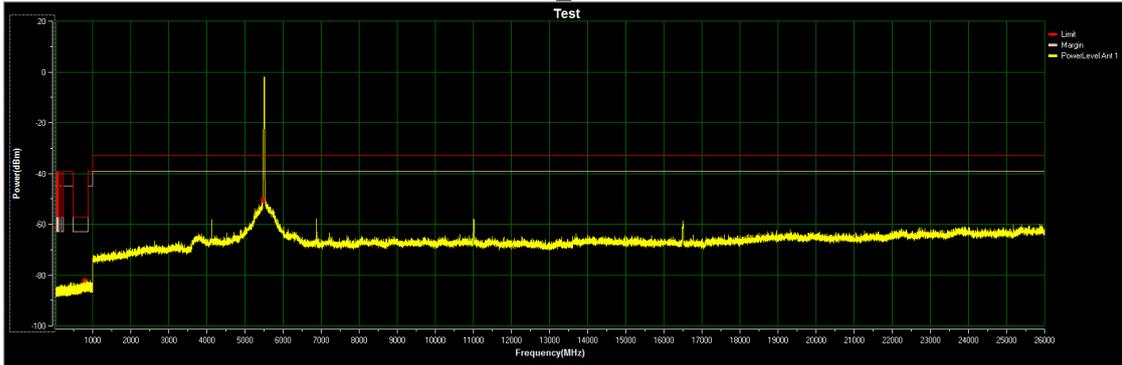


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
788.65	-81.84	-57.01	24.83	Pass
830.85	-81.91	-57.01	24.9	Pass
689.15	-82.06	-57.01	25.05	Pass
689.2	-82.08	-57.01	25.07	Pass
732.8	-82.2	-57.01	25.19	Pass
737	-82.24	-57.01	25.23	Pass
5146	-35.69	-33.01	2.68	Pass
5148	-36.47	-33.01	3.46	Pass
5147	-36.61	-33.01	3.6	Pass
5149	-36.83	-33.01	3.82	Pass
5145	-38.4	-33.01	5.39	Pass
5144	-39.2	-33.01	6.19	Pass

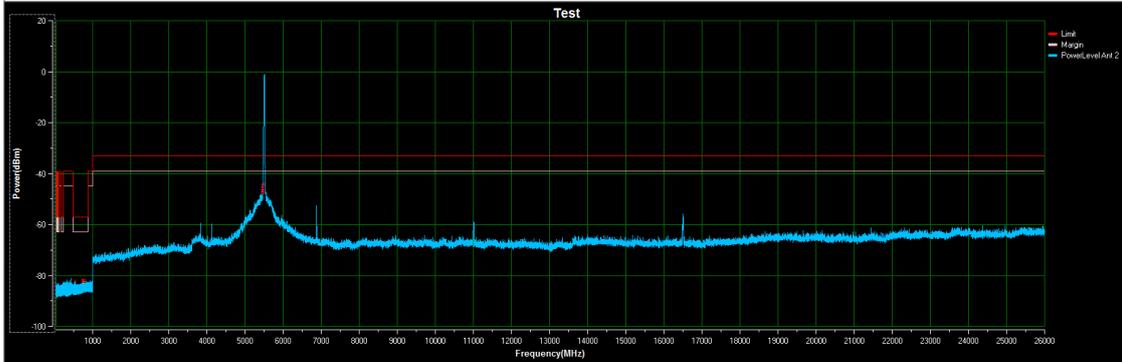


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
5146	-39.55	-30	9.55	Pass
5148	-39.28	-30	9.28	Pass
5147	-39.36	-30	9.36	Pass
5149	-39.11	-30	9.11	Pass
5145	-39.64	-30	9.64	Pass

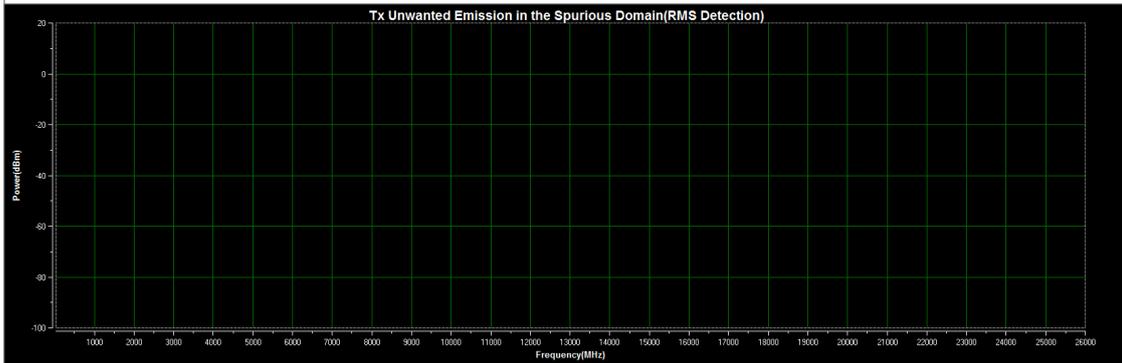
## TX Mode\_5500MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
765.05	-81.24	-57.01	24.23	Pass
841.1	-81.48	-57.01	24.47	Pass
779.95	-82.01	-57.01	25	Pass
752.05	-82.12	-57.01	25.11	Pass
752	-82.14	-57.01	25.13	Pass
765.1	-82.21	-57.01	25.2	Pass
5466	-49.71	-33.01	16.7	Pass
5467	-50.04	-33.01	17.03	Pass
5468	-50.21	-33.01	17.2	Pass
5462	-50.57	-33.01	17.56	Pass
5464	-50.74	-33.01	17.73	Pass
5456	-50.97	-33.01	17.96	Pass



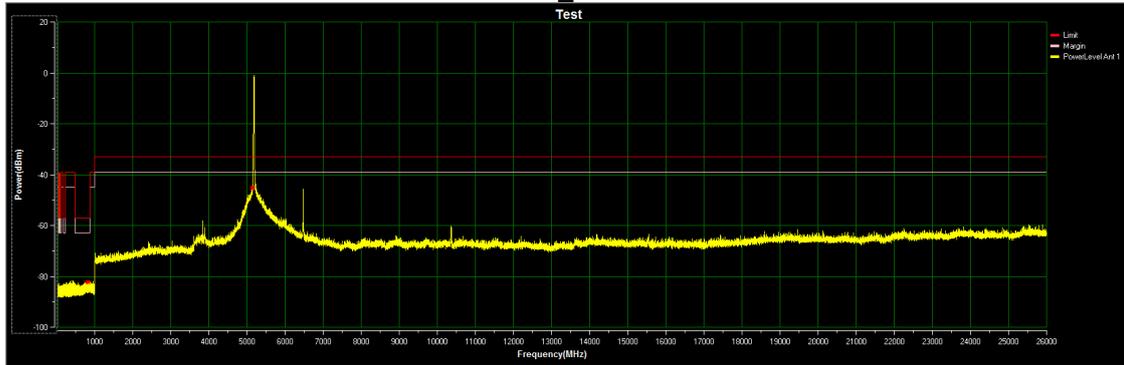
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
752	-81.8	-57.01	24.79	Pass
753.55	-81.84	-57.01	24.83	Pass
752.9	-81.89	-57.01	24.88	Pass
778.5	-81.96	-57.01	24.95	Pass
778.55	-81.96	-57.01	24.95	Pass
528.3	-82.02	-57.01	25.01	Pass
5469	-43.99	-33.01	10.98	Pass
5468	-44.75	-33.01	11.74	Pass
5464	-45.59	-33.01	12.58	Pass
5467	-46.54	-33.01	13.53	Pass
5466	-46.85	-33.01	13.83	Pass
5465	-47.23	-33.01	14.22	Pass



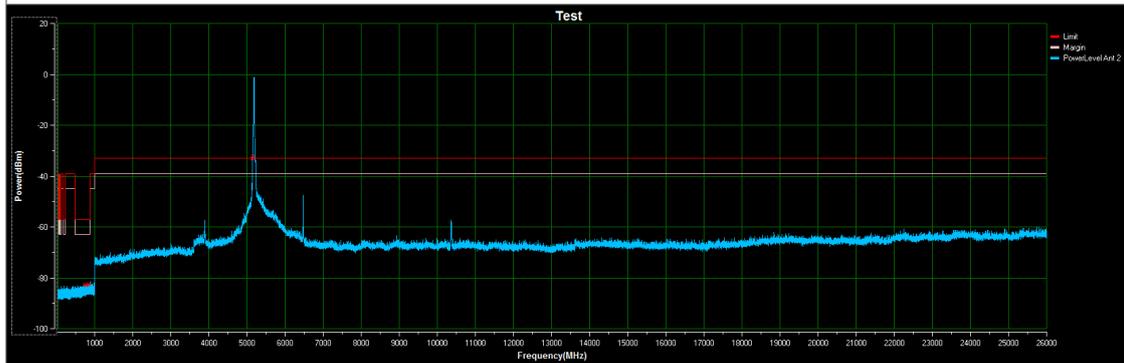
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
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Test Mode TX Mode IEEE 802.11ac(VHT20)

### TX Mode\_5180MHz

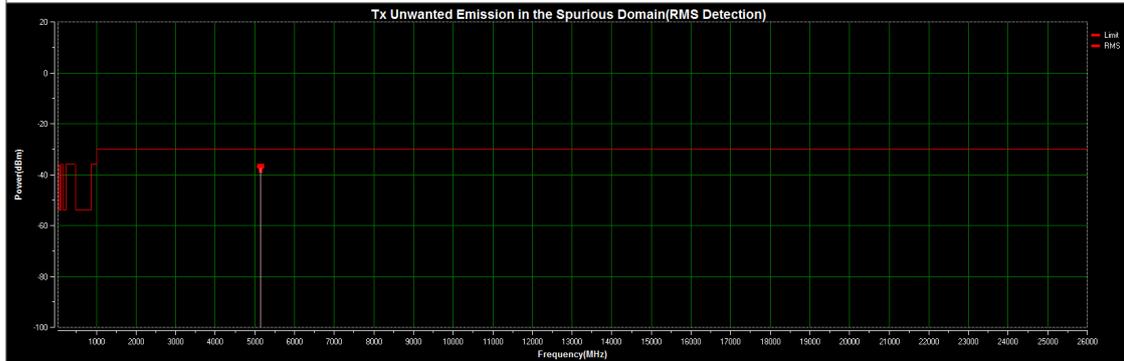


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
793.9	-81.98	-57.01	24.97	Pass
830.85	-82	-57.01	24.99	Pass
746.8	-82.06	-57.01	25.05	Pass
819.9	-82.08	-57.01	25.07	Pass
827.55	-82.15	-57.01	25.14	Pass
827.6	-82.17	-57.01	25.16	Pass
5148	-44.26	-33.01	11.25	Pass
5141	-44.83	-33.01	11.82	Pass
5149	-44.9	-33.01	11.89	Pass
5129	-45.28	-33.01	12.27	Pass
5146	-45.28	-33.01	12.27	Pass
5144	-45.34	-33.01	12.33	Pass



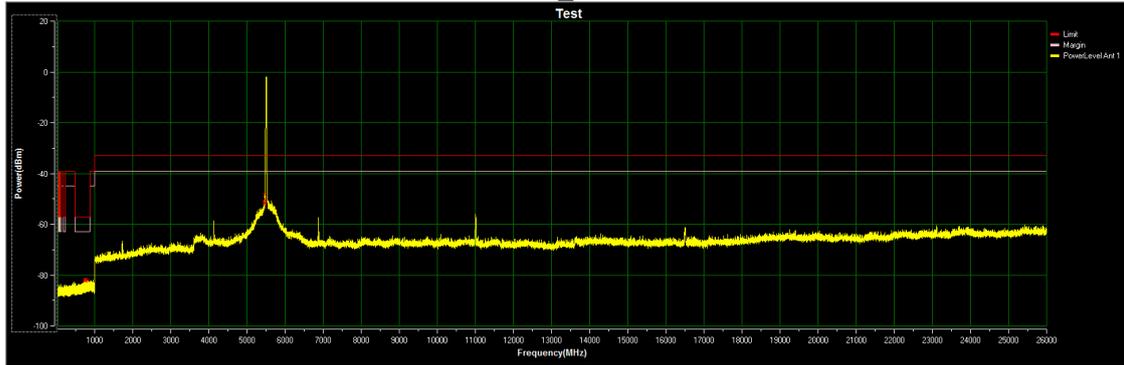
Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
725.2	-82.25	-57.01	25.24	Pass
839.35	-82.31	-57.01	25.3	Pass
839.3	-82.46	-57.01	25.45	Pass
774.85	-82.58	-57.01	25.57	Pass
841.9	-82.63	-57.01	25.62	Pass
753.3	-82.65	-57.01	25.64	Pass
5149	-31.91	-33.01	-1.1	Fail
5148	-32.46	-33.01	-0.55	Fail
5145	-32.8	-33.01	-0.21	Fail
5147	-32.9	-33.01	-0.11	Fail
5146	-33.07	-33.01	0.06	Pass
5144	-33.09	-33.01	0.08	Pass

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

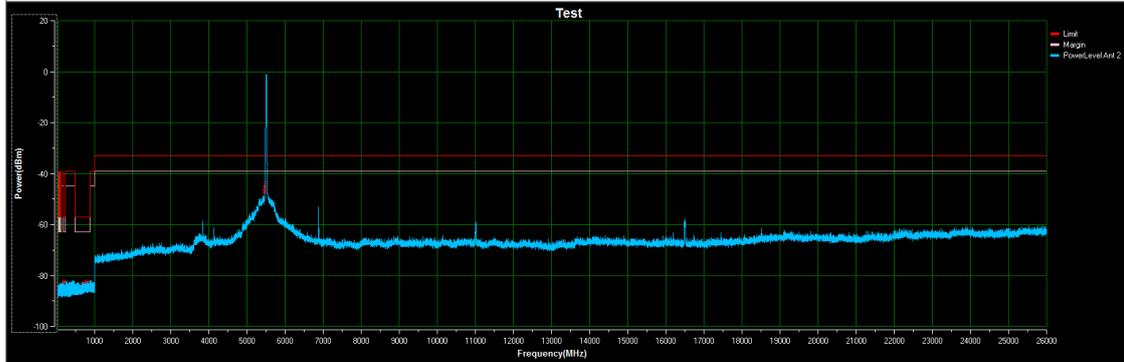


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
5149	-37.3	-30	7.3	Pass
5148	-37.74	-30	7.74	Pass
5145	-38.34	-30	8.34	Pass
5147	-37.93	-30	7.93	Pass
5146	-38.16	-30	8.16	Pass
5144	-38.56	-30	8.56	Pass

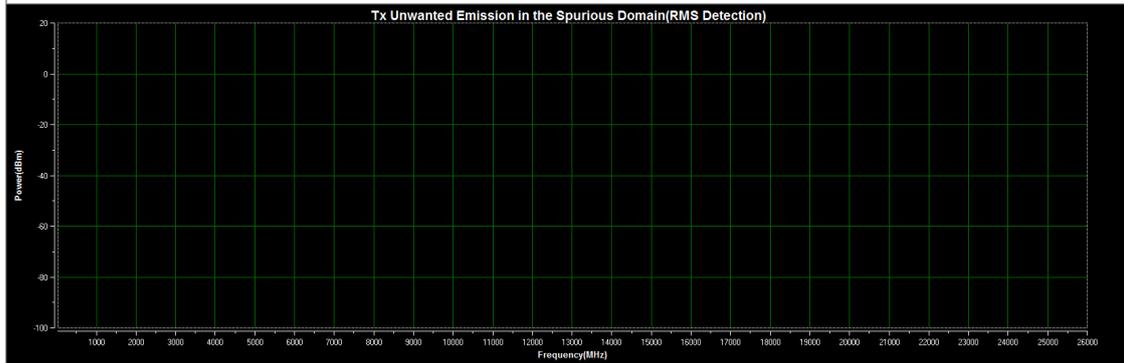
## TX Mode\_5500MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
753.85	-81.36	-57.01	24.35	Pass
752.35	-81.54	-57.01	24.53	Pass
816.65	-81.67	-57.01	24.66	Pass
753.8	-81.89	-57.01	24.88	Pass
756.8	-81.98	-57.01	24.97	Pass
752.3	-82.01	-57.01	25	Pass
5468	-47.99	-33.01	14.98	Pass
5467	-48.07	-33.01	15.06	Pass
5469	-49.65	-33.01	16.64	Pass
5466	-51.03	-33.01	18.02	Pass
5465	-51.13	-33.01	18.12	Pass
5460	-51.41	-33.01	18.4	Pass



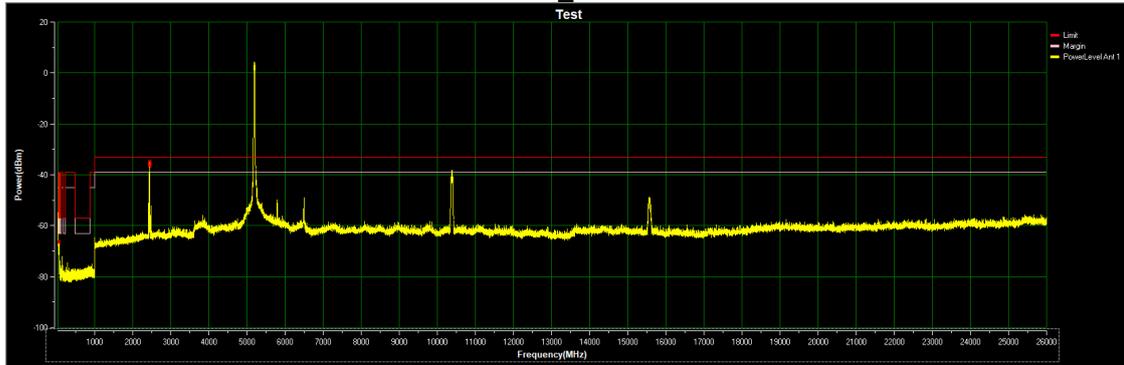
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
760.65	-81.94	-57.01	24.93	Pass
183.05	-81.95	-57.01	24.94	Pass
799.25	-82.04	-57.01	25.03	Pass
711.9	-82.17	-57.01	25.16	Pass
824.35	-82.2	-57.01	25.19	Pass
183	-82.22	-57.01	25.21	Pass
5469	-43.44	-33.01	10.43	Pass
5465	-44.96	-33.01	11.95	Pass
5466	-45.35	-33.01	12.34	Pass
5468	-46.05	-33.01	13.04	Pass
5467	-46.85	-33.01	13.84	Pass
5464	-46.94	-33.01	13.93	Pass



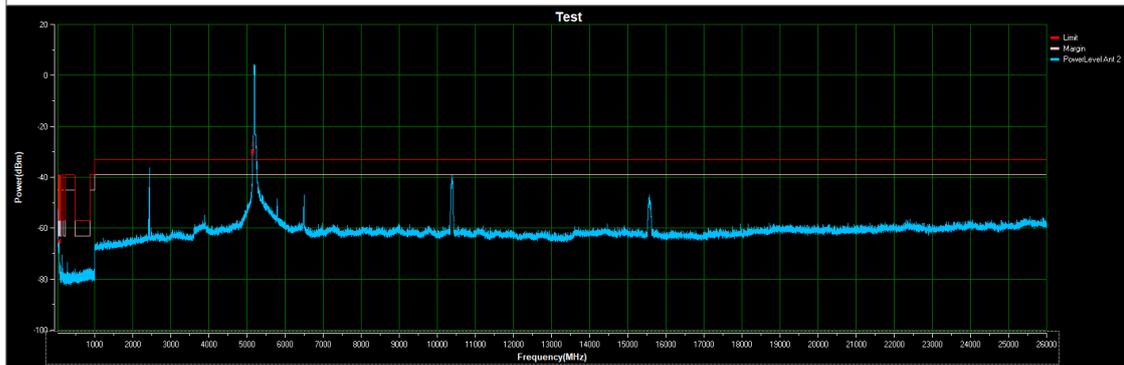
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
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Test Mode TX Mode IEEE 802.11ac(VHT40)

### TX Mode\_5190MHz

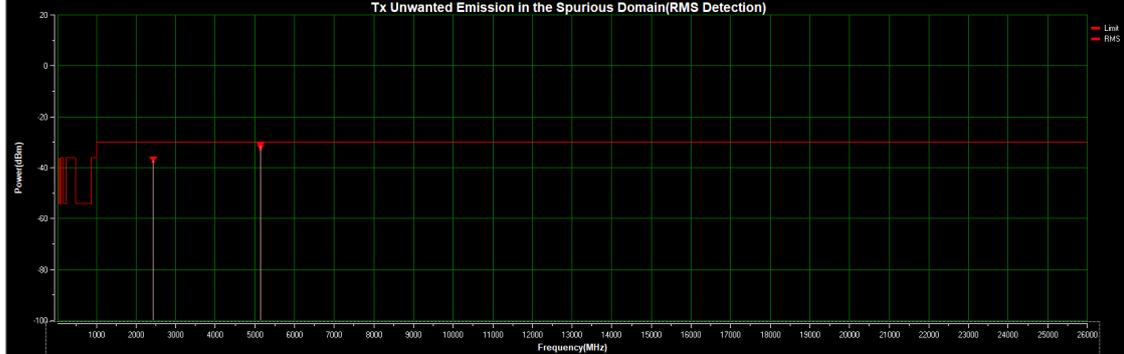


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
53.05	-66.15	-57.01	9.14	Pass
55.75	-66.3	-57.01	9.29	Pass
55.45	-66.34	-57.01	9.33	Pass
53.1	-66.47	-57.01	9.46	Pass
56.65	-66.5	-57.01	9.49	Pass
55	-66.56	-57.01	9.55	Pass
2439	-34.47	-33.01	1.46	Pass
2438	-34.56	-33.01	1.55	Pass
2437	-35.25	-33.01	2.24	Pass
2435	-35.51	-33.01	2.5	Pass
2436	-36	-33.01	2.99	Pass
2434	-36.32	-33.01	3.31	Pass



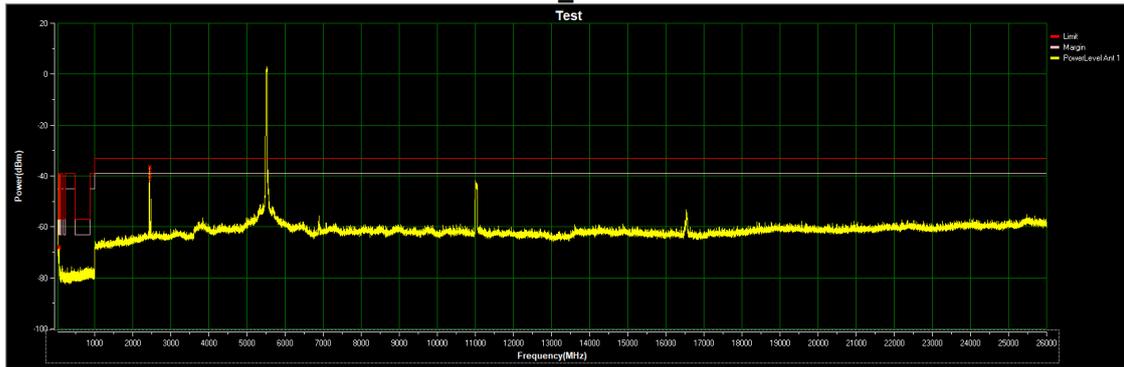
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
55.25	-64.57	-57.01	7.56	Pass
55.2	-64.59	-57.01	7.58	Pass
60.05	-64.7	-57.01	7.68	Pass
59.65	-64.76	-57.01	7.75	Pass
60.25	-64.92	-57.01	7.91	Pass
53.35	-65.07	-57.01	8.06	Pass
5149	-26.83	-33.01	-6.18	Fail
5147	-29.34	-33.01	-3.67	Fail
5148	-29.37	-33.01	-3.64	Fail
5146	-29.44	-33.01	-3.57	Fail
5141	-29.85	-33.01	-3.16	Fail
5145	-30.41	-33.01	-2.6	Fail

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

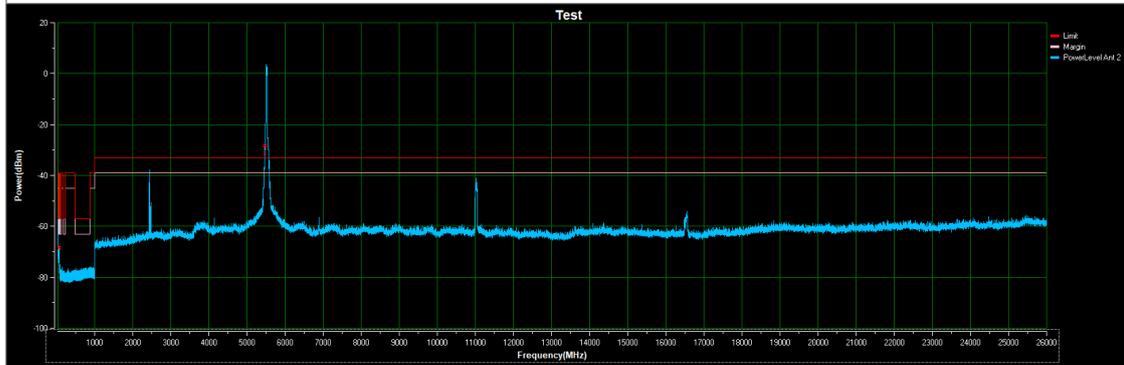


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
2439	-37.26	-30	7.26	Pass
2438	-37.03	-30	7.03	Pass
2437	-37.22	-30	7.22	Pass
2435	-37.22	-30	7.22	Pass
2436	-37.17	-30	7.17	Pass
2434	-37.22	-30	7.22	Pass
5149	-31.26	-30	1.26	Pass
5147	-31.63	-30	1.63	Pass
5148	-31.36	-30	1.36	Pass
5146	-31.75	-30	1.75	Pass
5141	-32.51	-30	2.51	Pass
5145	-31.88	-30	1.88	Pass

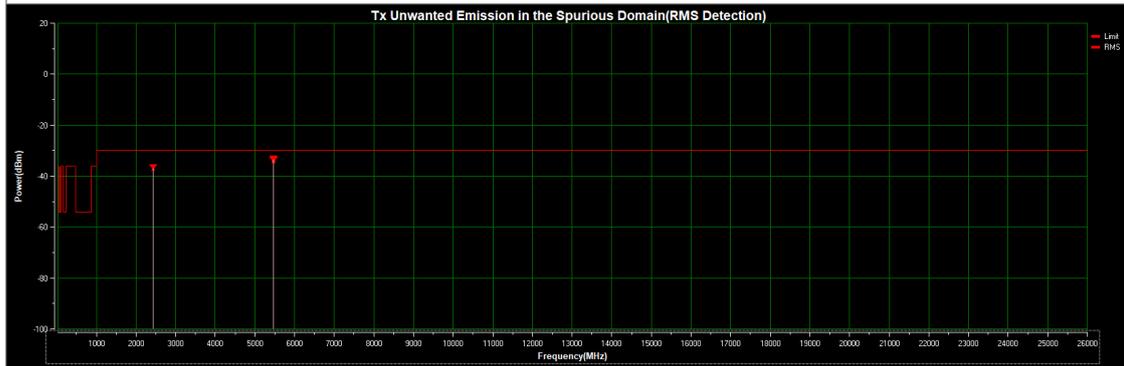
## TX Mode\_5510MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
52.75	-67.64	-57.01	10.63	Pass
62.65	-67.67	-57.01	10.66	Pass
52.7	-67.69	-57.01	10.68	Pass
52.65	-68.01	-57.01	11	Pass
52.55	-68.03	-57.01	11.02	Pass
52.6	-68.03	-57.01	11.02	Pass
2438	-36.15	-33.01	3.14	Pass
2439	-36.4	-33.01	3.39	Pass
2437	-37.58	-33.01	4.57	Pass
2440	-39.44	-33.01	6.43	Pass
2436	-39.67	-33.01	6.66	Pass
2441	-40.95	-33.01	7.94	Pass



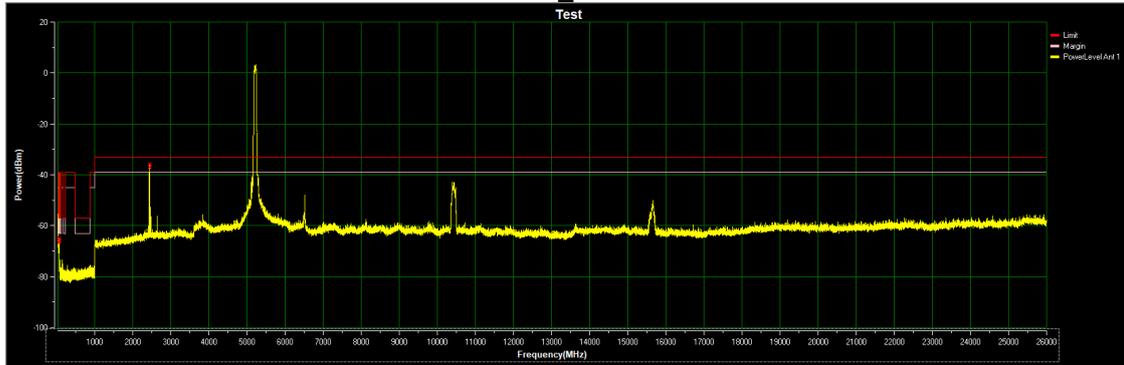
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
54.85	-67.43	-57.01	10.42	Pass
54.7	-68.04	-57.01	11.03	Pass
59.85	-68.18	-57.01	11.17	Pass
54.65	-68.29	-57.01	11.28	Pass
52.8	-68.42	-57.01	11.41	Pass
56.65	-68.42	-57.01	11.41	Pass
5468	-27.97	-33.01	-5.04	Fail
5469	-28.05	-33.01	-4.96	Fail
5465	-28.07	-33.01	-4.94	Fail
5466	-28.09	-33.01	-4.92	Fail
5467	-28.87	-33.01	-4.14	Fail
5464	-31.1	-33.01	-1.91	Fail



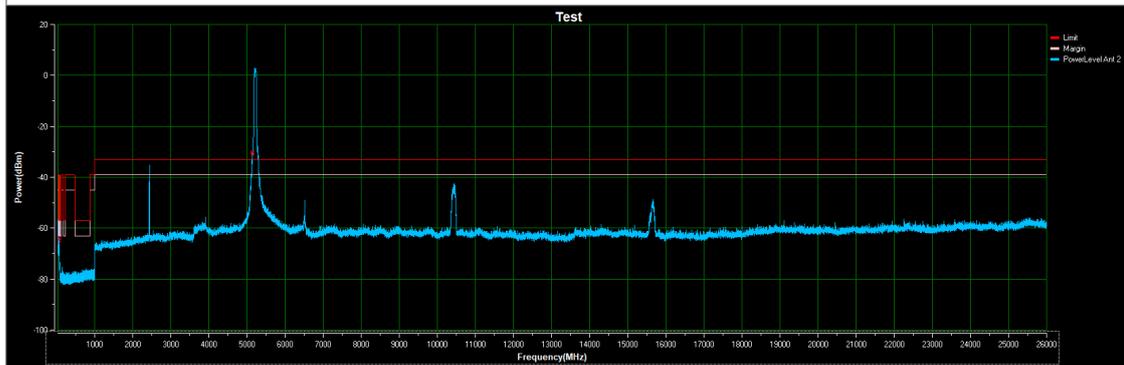
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
2438	-36.86	-30	6.86	Pass
2439	-37.18	-30	7.18	Pass
2437	-36.99	-30	6.99	Pass
5468	-33.43	-30	3.43	Pass
5469	-33.31	-30	3.31	Pass
5465	-33.96	-30	3.96	Pass
5466	-33.82	-30	3.82	Pass
5467	-33.6	-30	3.6	Pass
5464	-34.06	-30	4.06	Pass

Test Mode TX Mode IEEE 802.11ac(VHT80)

### TX Mode\_5210MHz

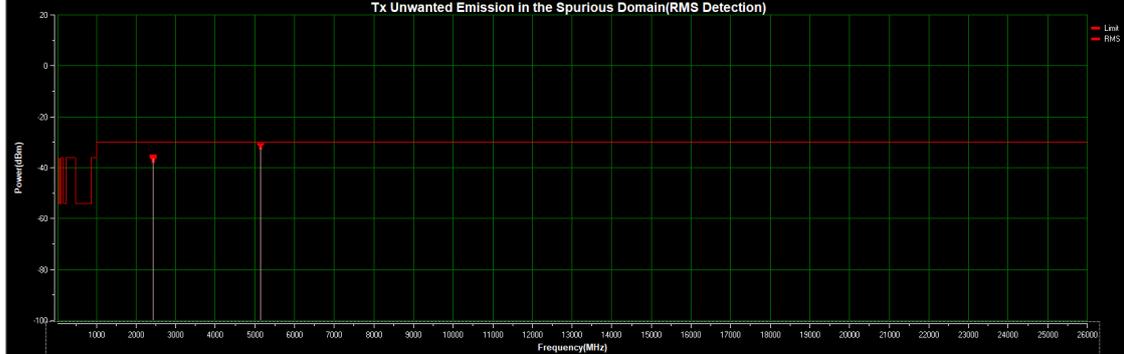


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
60	-64.67	-57.01	7.66	Pass
59.95	-65.03	-57.01	8.02	Pass
60.05	-65.58	-57.01	8.57	Pass
60.1	-65.88	-57.01	8.87	Pass
59.9	-65.97	-57.01	8.96	Pass
52.7	-66.46	-57.01	9.45	Pass
2435	-35.58	-33.01	2.57	Pass
2436	-35.62	-33.01	2.61	Pass
2439	-36.43	-33.01	3.42	Pass
2434	-36.49	-33.01	3.48	Pass
2437	-36.79	-33.01	3.78	Pass
2438	-36.92	-33.01	3.91	Pass



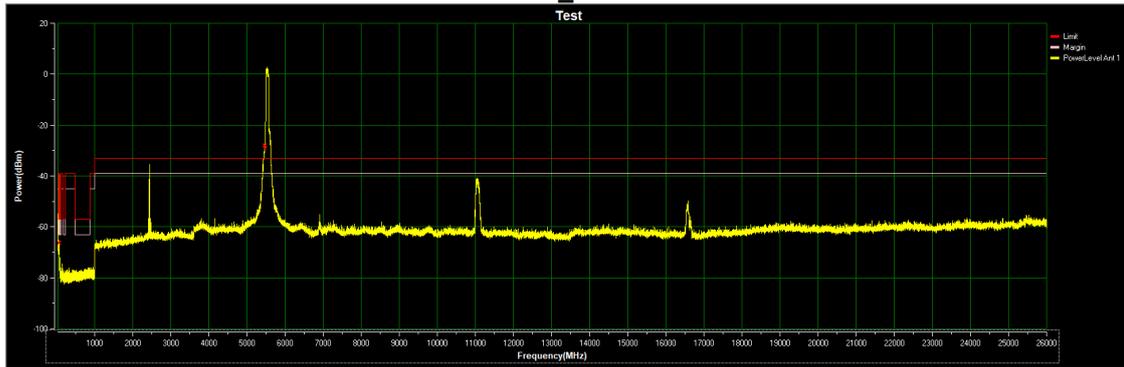
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
60	-63.55	-57.01	6.54	Pass
60.05	-63.7	-57.01	6.68	Pass
59.95	-64.31	-57.01	7.3	Pass
55.45	-65.64	-57.01	8.63	Pass
52.75	-65.67	-57.01	8.66	Pass
52.45	-65.76	-57.01	8.75	Pass
5143	-29.88	-33.01	-3.13	Fail
5144	-29.95	-33.01	-3.06	Fail
5147	-30.16	-33.01	-2.85	Fail
5141	-30.28	-33.01	-2.73	Fail
5145	-30.3	-33.01	-2.71	Fail
5142	-30.62	-33.01	-2.39	Fail

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

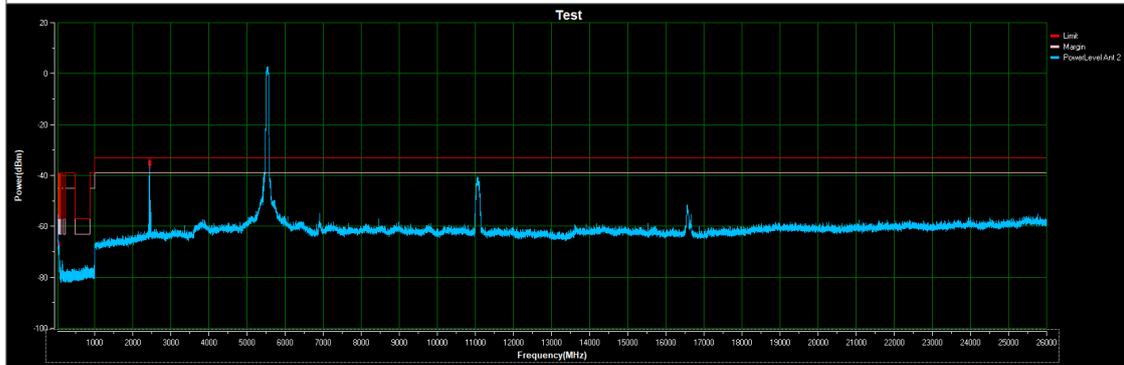


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
2435	-37.3	-30	7.3	Pass
2436	-36.39	-30	6.39	Pass
2439	-37.25	-30	7.25	Pass
2434	-36.54	-30	6.54	Pass
2437	-37.12	-30	7.12	Pass
2438	-36.53	-30	6.53	Pass
5143	-31.94	-30	1.94	Pass
5144	-31.87	-30	1.87	Pass
5147	-31.73	-30	1.73	Pass
5141	-31.9	-30	1.9	Pass
5145	-31.76	-30	1.76	Pass
5142	-31.98	-30	1.98	Pass

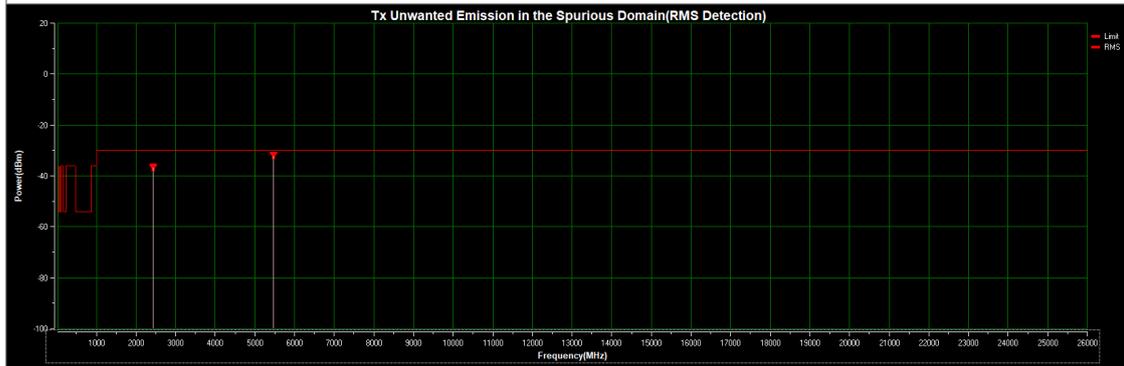
## TX Mode\_5530MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
54.9	-65.68	-57.01	8.67	Pass
52.85	-65.86	-57.01	8.85	Pass
52.75	-65.87	-57.01	8.86	Pass
56.5	-65.88	-57.01	8.87	Pass
52.8	-65.93	-57.01	8.92	Pass
60.35	-65.93	-57.01	8.92	Pass
5467	-27.53	-33.01	-5.48	Fail
5468	-27.54	-33.01	-5.47	Fail
5463	-27.56	-33.01	-5.45	Fail
5466	-27.67	-33.01	-5.34	Fail
5462	-28.18	-33.01	-4.83	Fail
5469	-28.55	-33.01	-4.46	Fail



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
55.25	-66.45	-57.01	9.44	Pass
54.95	-66.51	-57.01	9.5	Pass
55.3	-66.54	-57.01	9.53	Pass
55.85	-66.55	-57.01	9.54	Pass
57.55	-66.72	-57.01	9.71	Pass
59.8	-66.81	-57.01	9.8	Pass
2436	-33.66	-33.01	0.65	Pass
2435	-34.08	-33.01	1.07	Pass
2437	-34.8	-33.01	1.79	Pass
2438	-34.98	-33.01	1.97	Pass
2439	-35.3	-33.01	2.29	Pass
2434	-36.17	-33.01	3.16	Pass



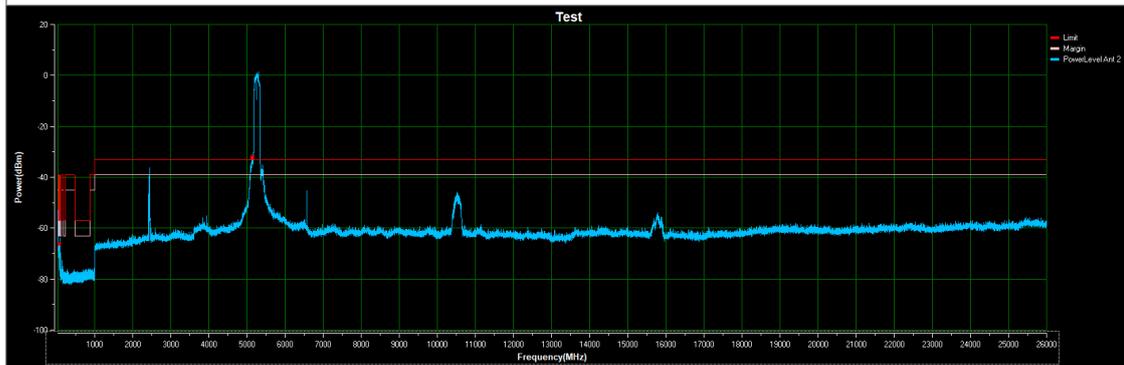
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
5467	-32.25	-30	2.25	Pass
5468	-32.03	-30	2.03	Pass
5463	-32.5	-30	2.5	Pass
5466	-32.3	-30	2.3	Pass
5462	-32.58	-30	2.58	Pass
5469	-31.93	-30	1.93	Pass
2436	-37.25	-30	7.25	Pass
2435	-37.15	-30	7.15	Pass
2437	-36.48	-30	6.48	Pass
2438	-37.21	-30	7.21	Pass
2439	-37.23	-30	7.23	Pass
2434	-37.16	-30	7.16	Pass

Test Mode TX Mode IEEE 802.11ac(VHT160)

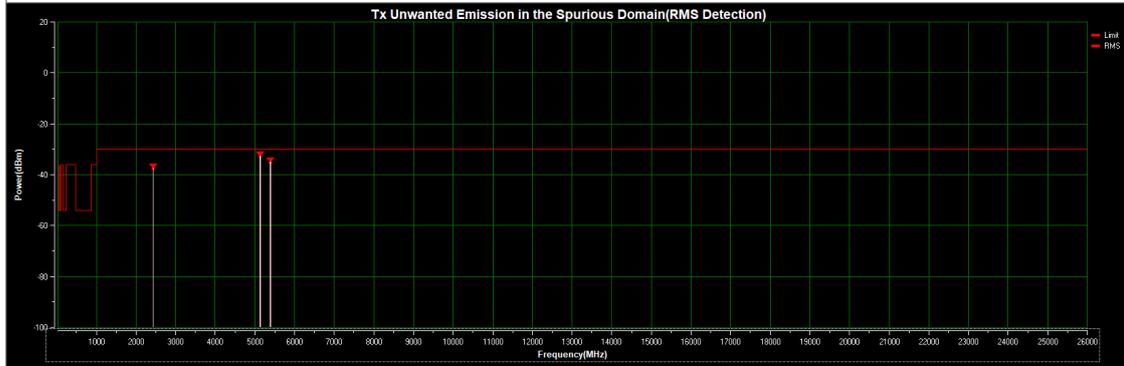
### TX Mode\_5250MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
52.5	-64.53	-57.01	7.52	Pass
55.25	-65.03	-57.01	8.02	Pass
51.95	-65.08	-57.01	8.07	Pass
52	-65.09	-57.01	8.08	Pass
59.85	-65.23	-57.01	8.21	Pass
52.25	-65.28	-57.01	8.27	Pass
5385	-33.02	-33.01	0.01	Pass
2436	-34.48	-33.01	1.47	Pass
2435	-34.61	-33.01	1.6	Pass
5377	-34.62	-33.01	1.61	Pass
5378	-34.76	-33.01	1.75	Pass
5403	-34.99	-33.01	1.98	Pass

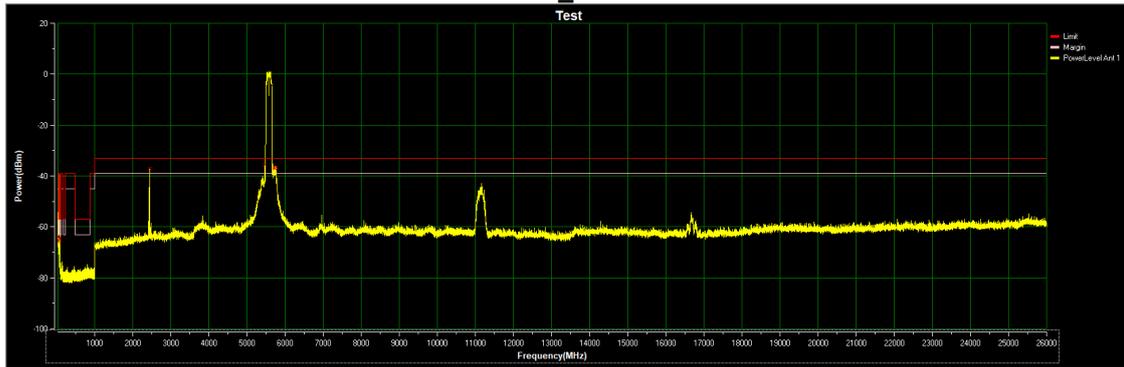


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
54.2	-65.71	-57.01	8.7	Pass
59.9	-65.95	-57.01	8.94	Pass
59.95	-66	-57.01	8.99	Pass
55.25	-66.1	-57.01	9.09	Pass
56.8	-66.36	-57.01	9.35	Pass
57.25	-66.4	-57.01	9.39	Pass
5139	-31.5	-33.01	-1.51	Fail
5140	-31.56	-33.01	-1.45	Fail
5145	-31.76	-33.01	-1.25	Fail
5123	-31.93	-33.01	-1.08	Fail
5146	-32.13	-33.01	-0.88	Fail
5138	-32.27	-33.01	-0.74	Fail

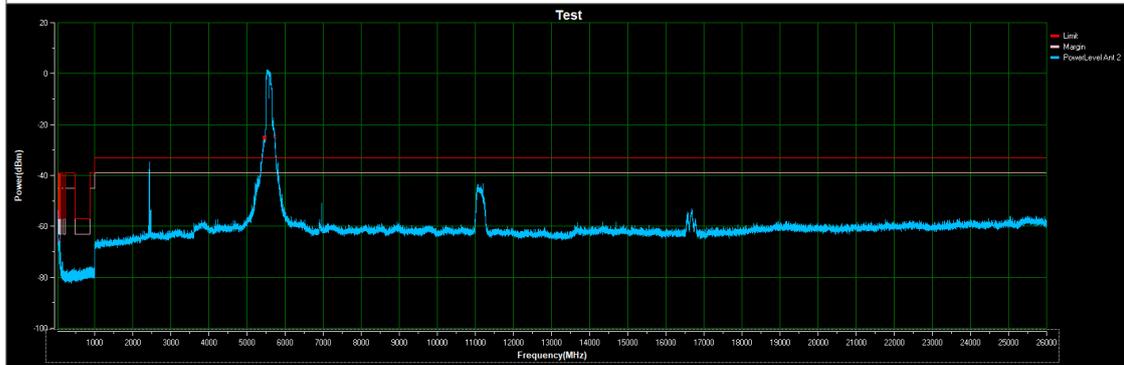


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
5385	-34.81	-30	4.81	Pass
2436	-37.17	-30	7.17	Pass
2435	-37.22	-30	7.22	Pass
5377	-34.8	-30	4.8	Pass
5378	-34.82	-30	4.82	Pass
5403	-34.81	-30	4.81	Pass
5139	-32.39	-30	2.39	Pass
5140	-32.25	-30	2.25	Pass
5145	-32.35	-30	2.35	Pass
5123	-32.57	-30	2.57	Pass
5146	-32.4	-30	2.4	Pass
5138	-32.31	-30	2.31	Pass

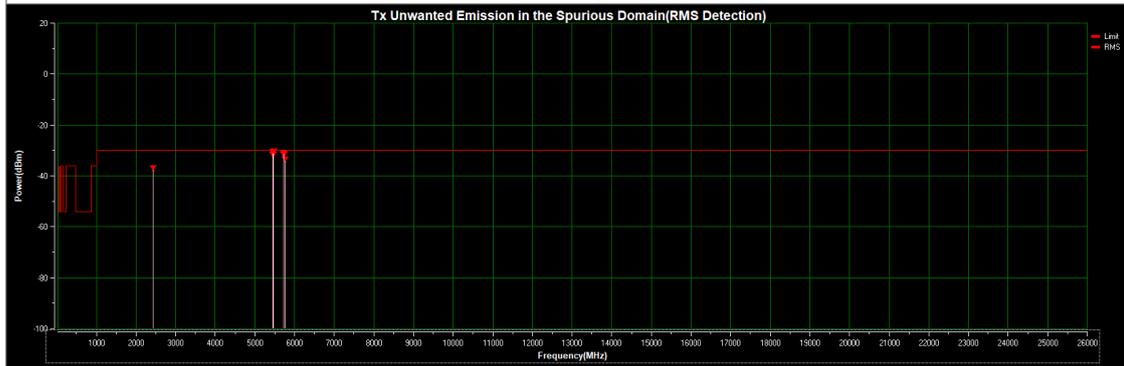
## TX Mode\_5570MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
62.15	-64.26	-57.01	7.25	Pass
62.2	-64.43	-57.01	7.42	Pass
55	-65.46	-57.01	8.45	Pass
56.45	-65.55	-57.01	8.54	Pass
53.4	-65.57	-57.01	8.56	Pass
53.45	-65.58	-57.01	8.57	Pass
5455	-35.59	-33.01	2.58	Pass
5763	-36.31	-33.01	3.3	Pass
5731	-36.53	-33.01	3.52	Pass
2437	-36.8	-33.01	3.79	Pass
2438	-36.81	-33.01	3.8	Pass
5730	-36.81	-33.01	3.8	Pass



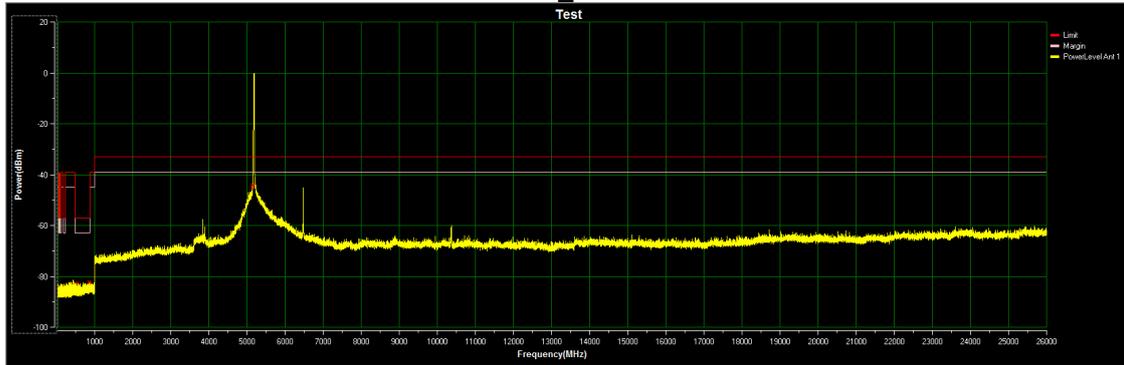
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
52.9	-64.91	-57.01	7.9	Pass
56.75	-65.07	-57.01	8.06	Pass
53.15	-65.08	-57.01	8.07	Pass
57.05	-65.15	-57.01	8.14	Pass
57.1	-65.16	-57.01	8.15	Pass
57.5	-65.16	-57.01	8.15	Pass
5460	-24.59	-33.01	-8.42	Fail
5727	-24.61	-33.01	-8.4	Fail
5468	-24.73	-33.01	-8.28	Fail
5454	-24.81	-33.01	-8.2	Fail
5444	-25.08	-33.01	-7.93	Fail
5464	-25.14	-33.01	-7.87	Fail



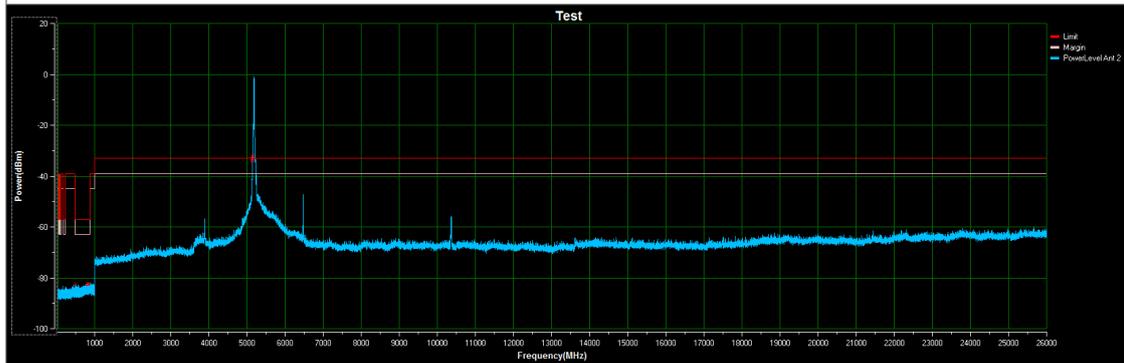
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
5455	-31.27	-30	1.27	Pass
5763	-33.78	-30	3.78	Pass
5731	-31.94	-30	1.94	Pass
2437	-37.32	-30	7.32	Pass
2438	-37.29	-30	7.29	Pass
5730	-31.78	-30	1.78	Pass
5460	-30.97	-30	0.97	Pass
5727	-31.32	-30	1.32	Pass
5468	-30.7	-30	0.7	Pass
5454	-31.35	-30	1.35	Pass
5444	-31.95	-30	1.95	Pass
5464	-30.81	-30	0.81	Pass

Test Mode TX Mode IEEE 802.11ax(HE20)

### TX Mode\_5180MHz

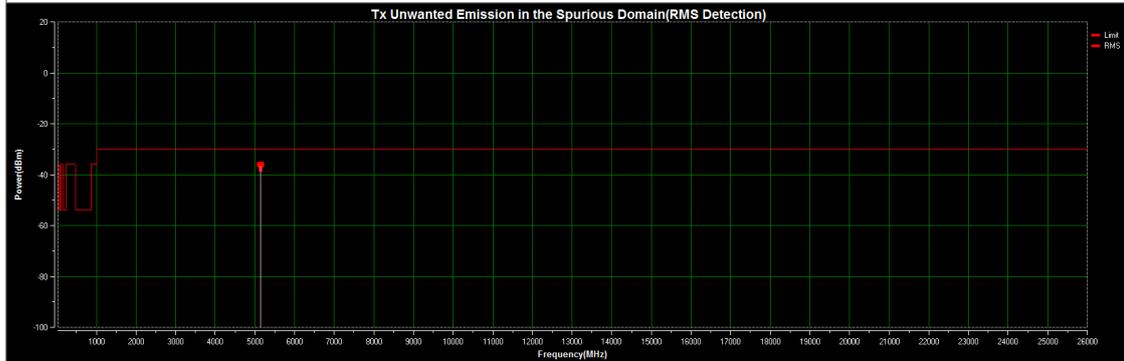


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
948.75	-81.93	-57.01	24.92	Pass
947.7	-82.13	-57.01	25.12	Pass
948.8	-82.19	-57.01	25.18	Pass
952.8	-82.26	-57.01	25.25	Pass
947.05	-82.27	-57.01	25.26	Pass
474.25	-82.35	-57.01	25.34	Pass
5149	-43.72	-33.01	10.71	Pass
5141	-43.97	-33.01	10.96	Pass
5142	-44.45	-33.01	11.44	Pass
5136	-44.78	-33.01	11.77	Pass
5143	-44.91	-33.01	11.9	Pass
5144	-44.92	-33.01	11.9	Pass



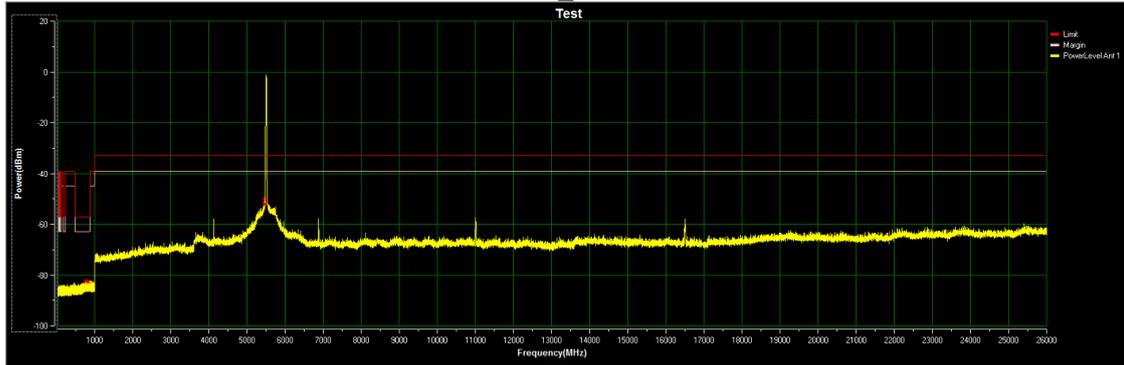
Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
795.95	-82.1	-57.01	25.09	Pass
836.75	-82.13	-57.01	25.12	Pass
836.7	-82.15	-57.01	25.14	Pass
833.75	-82.17	-57.01	25.16	Pass
496.35	-82.19	-57.01	25.18	Pass
807.55	-82.19	-57.01	25.18	Pass
5143	-31.64	-33.01	-1.37	Fail
5149	-31.92	-33.01	-1.09	Fail
5146	-32.63	-33.01	-0.38	Fail
5147	-32.94	-33.01	-0.07	Fail
5145	-33.33	-33.01	0.32	Pass
5144	-33.68	-33.01	0.67	Pass

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

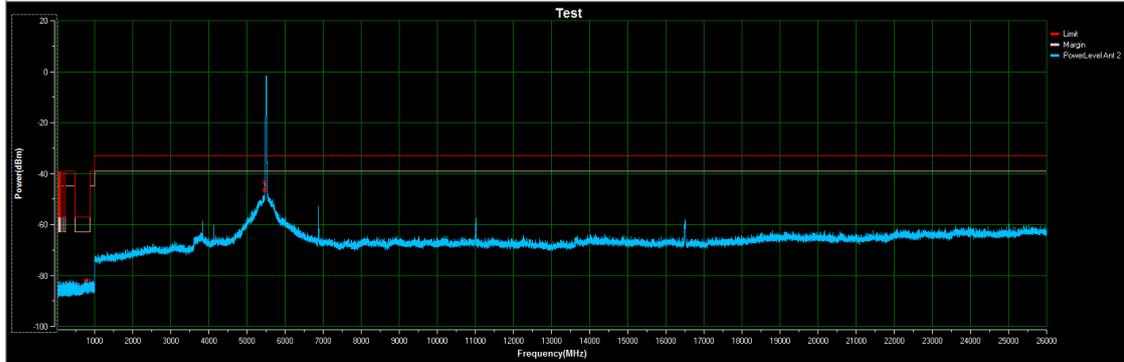


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
5143	-37.95	-30	7.95	Pass
5149	-36.41	-30	6.41	Pass
5146	-37.2	-30	7.2	Pass
5147	-37.05	-30	7.05	Pass
5145	-37.46	-30	7.46	Pass
5144	-37.66	-30	7.66	Pass

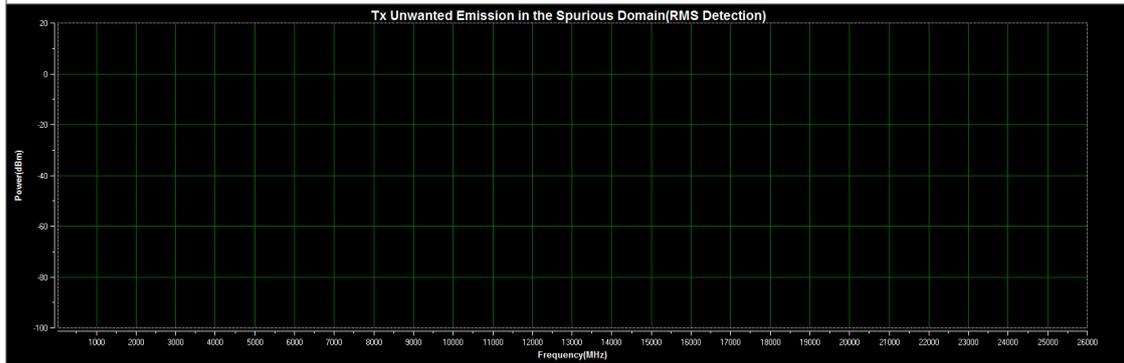
## TX Mode\_5500MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
754.65	-82.08	-57.01	25.07	Pass
754.7	-82.08	-57.01	25.07	Pass
757.65	-82.27	-57.01	25.26	Pass
822.9	-82.31	-57.01	25.3	Pass
854.35	-82.33	-57.01	25.31	Pass
811.35	-82.4	-57.01	25.39	Pass
5468	-49.52	-33.01	16.51	Pass
5467	-50.28	-33.01	17.27	Pass
5460	-51.46	-33.01	18.45	Pass
5469	-51.56	-33.01	18.55	Pass
5462	-51.77	-33.01	18.76	Pass
5466	-52.05	-33.01	19.04	Pass



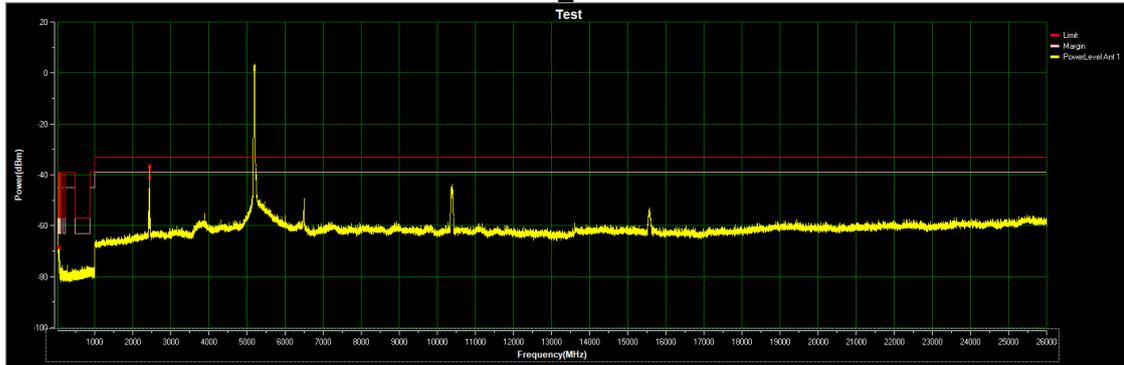
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
744.85	-81.56	-57.01	24.55	Pass
790.75	-81.58	-57.01	24.57	Pass
753.6	-81.82	-57.01	24.81	Pass
790.8	-82.03	-57.01	25.02	Pass
520	-82.14	-57.01	25.12	Pass
228.8	-82.14	-57.01	25.13	Pass
5468	-43.08	-33.01	10.07	Pass
5467	-43.38	-33.01	10.37	Pass
5469	-45	-33.01	11.99	Pass
5466	-45.95	-33.01	12.94	Pass
5465	-46.24	-33.01	13.23	Pass
5463	-46.47	-33.01	13.46	Pass



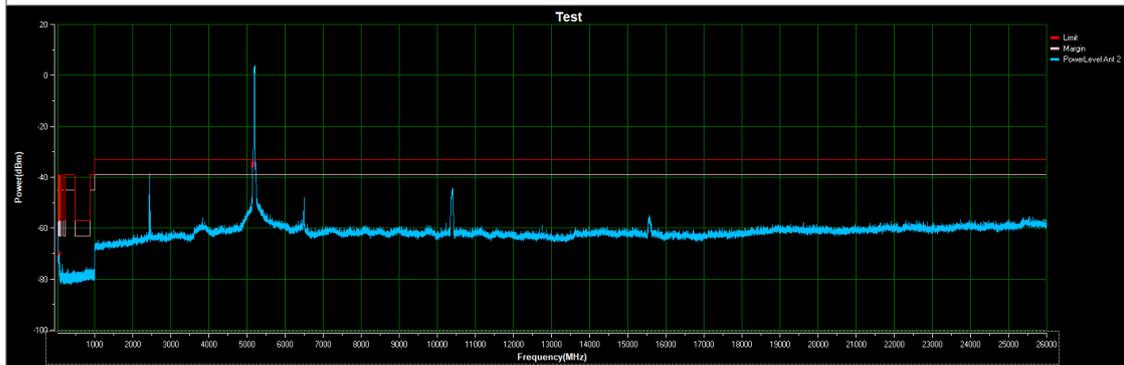
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
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Test Mode TX Mode IEEE 802.11ax(HE40)

### TX Mode\_5190MHz

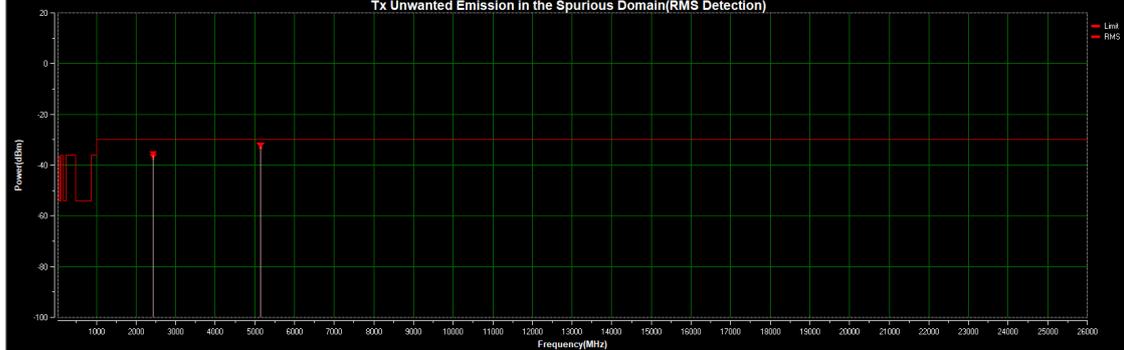


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
52.75	-67.87	-57.01	10.86	Pass
52.7	-67.91	-57.01	10.9	Pass
59.7	-68.44	-57.01	11.42	Pass
52.9	-68.53	-57.01	11.52	Pass
52.25	-68.65	-57.01	11.64	Pass
53.05	-68.75	-57.01	11.74	Pass
2438	-35.95	-33.01	2.94	Pass
2439	-36.2	-33.01	3.19	Pass
2440	-37.71	-33.01	4.7	Pass
2437	-38.11	-33.01	5.1	Pass
2436	-40.92	-33.01	7.91	Pass
2441	-41.07	-33.01	8.06	Pass



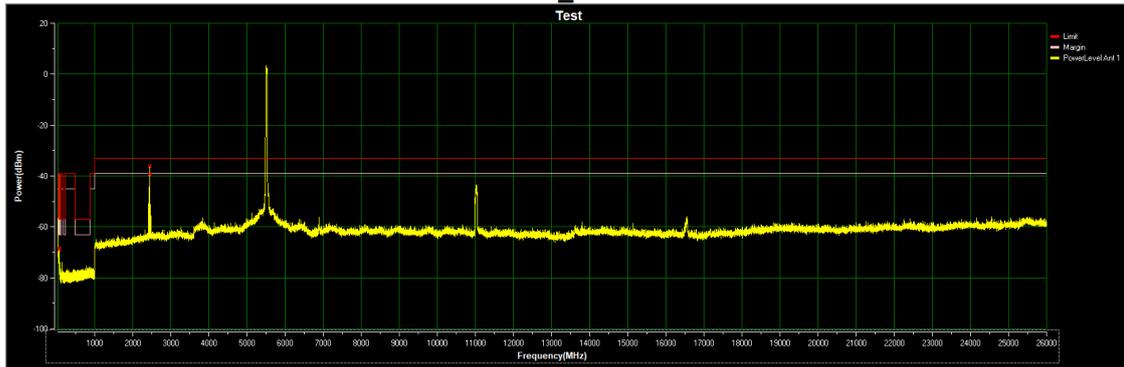
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
55.4	-69.2	-57.01	12.19	Pass
55.35	-69.64	-57.01	12.63	Pass
52.4	-69.68	-57.01	12.67	Pass
57.05	-69.7	-57.01	12.69	Pass
55.1	-69.81	-57.01	12.8	Pass
52.85	-69.85	-57.01	12.83	Pass
5146	-33.89	-33.01	0.88	Pass
5148	-34.13	-33.01	1.12	Pass
5149	-34.72	-33.01	1.71	Pass
5145	-34.79	-33.01	1.78	Pass
5147	-35.01	-33.01	2	Pass
5143	-35.78	-33.01	2.77	Pass

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

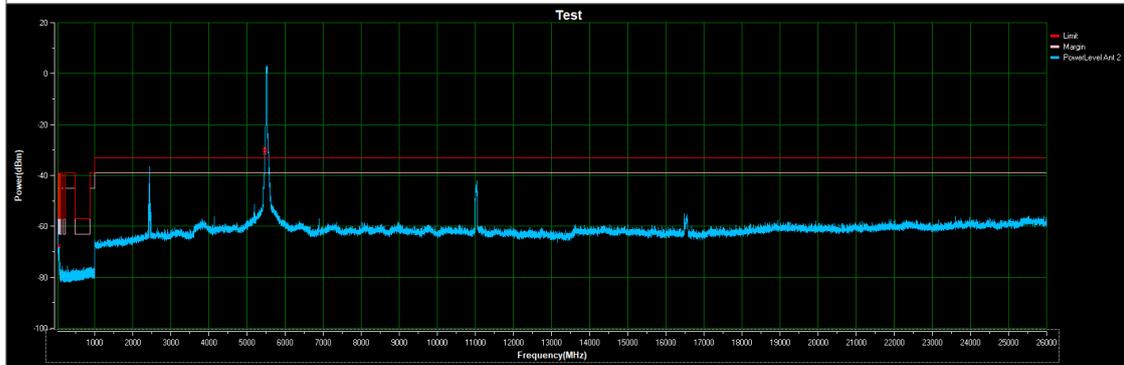


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
2438	-37.04	-30	7.04	Pass
2439	-36.03	-30	6.03	Pass
2440	-36.1	-30	6.1	Pass
2437	-37.06	-30	7.06	Pass
5146	-32.76	-30	2.76	Pass
5148	-32.53	-30	2.53	Pass
5149	-32.68	-30	2.68	Pass
5145	-32.72	-30	2.72	Pass
5147	-32.8	-30	2.8	Pass
5143	-32.92	-30	2.92	Pass

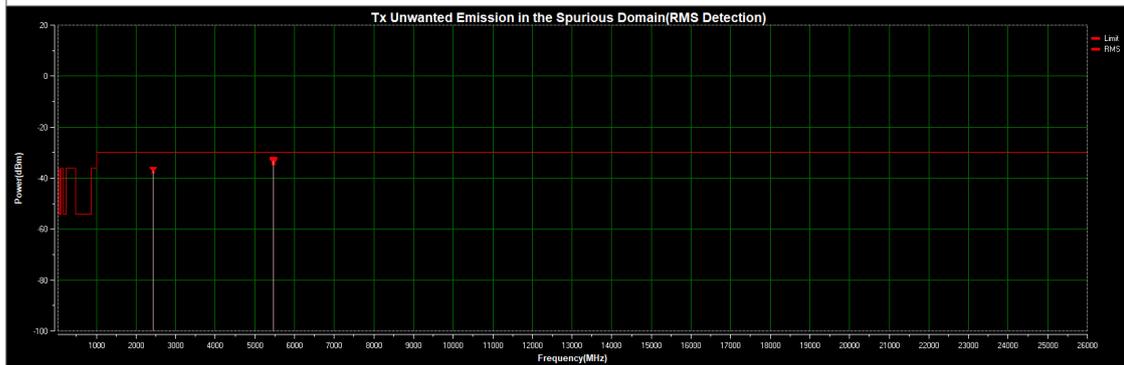
## TX Mode\_5510MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
55.3	-68.07	-57.01	11.06	Pass
60.05	-68.28	-57.01	11.27	Pass
55.7	-68.37	-57.01	11.36	Pass
55.25	-68.4	-57.01	11.38	Pass
60	-68.64	-57.01	11.63	Pass
56.8	-68.68	-57.01	11.67	Pass
2437	-35.85	-33.01	2.84	Pass
2438	-35.87	-33.01	2.86	Pass
2439	-36.04	-33.01	3.03	Pass
2436	-39.03	-33.01	6.02	Pass
2435	-39.06	-33.01	6.05	Pass
2440	-39.25	-33.01	6.24	Pass



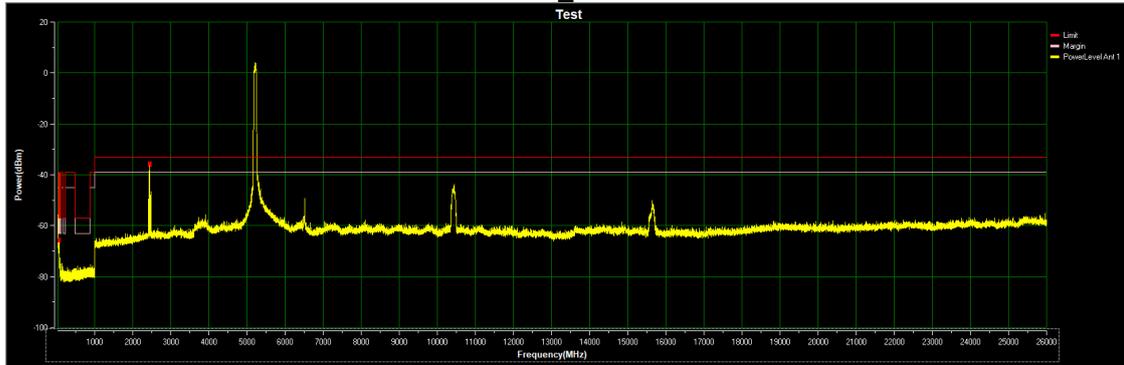
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
52.7	-67.36	-57.01	10.34	Pass
52.95	-67.39	-57.01	10.38	Pass
53.1	-67.39	-57.01	10.38	Pass
53.05	-67.56	-57.01	10.55	Pass
52.65	-67.69	-57.01	10.68	Pass
52.5	-67.71	-57.01	10.7	Pass
5467	-28.66	-33.01	-4.35	Fail
5469	-29.67	-33.01	-3.34	Fail
5463	-29.74	-33.01	-3.28	Fail
5465	-29.98	-33.01	-3.03	Fail
5468	-30.67	-33.01	-2.34	Fail
5462	-31.07	-33.01	-1.94	Fail



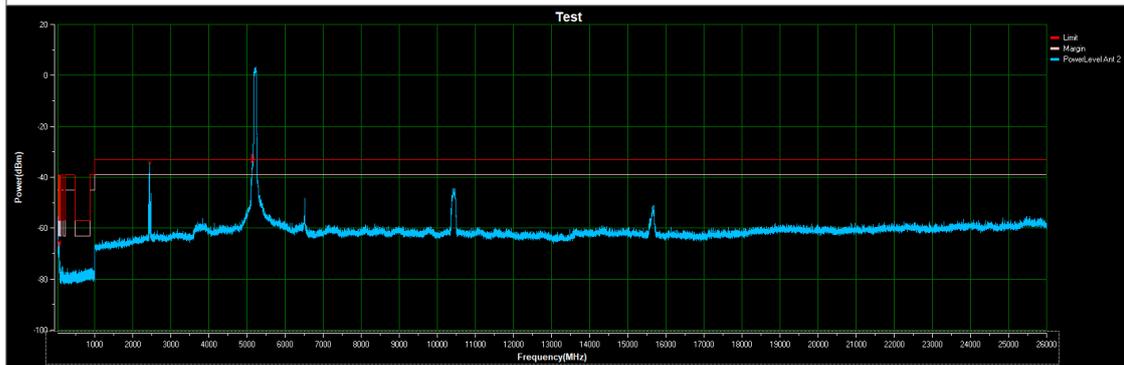
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
2437	-37.16	-30	7.16	Pass
2438	-37.21	-30	7.21	Pass
2439	-37.22	-30	7.22	Pass
5467	-33.6	-30	3.6	Pass
5469	-33.19	-30	3.19	Pass
5463	-34.29	-30	4.29	Pass
5465	-33.92	-30	3.92	Pass
5468	-33.26	-30	3.26	Pass
5462	-34.29	-30	4.29	Pass

Test Mode TX Mode IEEE 802.11ax(HE80)

### TX Mode\_5210MHz

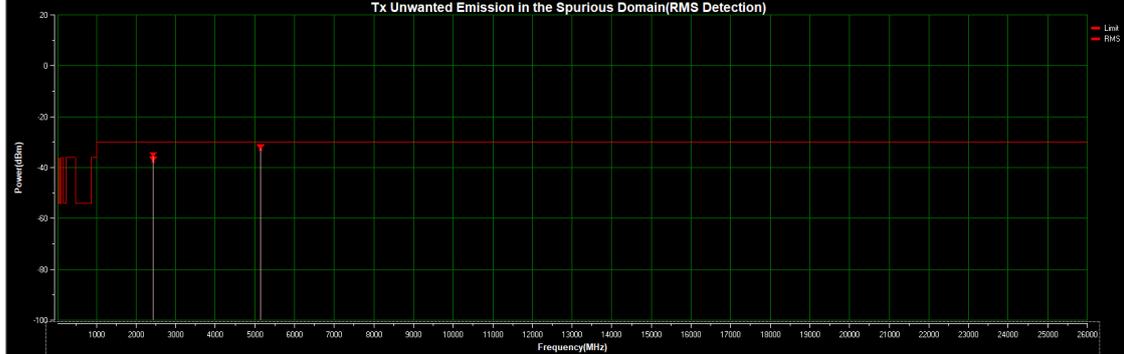


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
55.2	-65.07	-57.01	8.06	Pass
60	-65.22	-57.01	8.21	Pass
60.05	-65.52	-57.01	8.51	Pass
55.4	-65.74	-57.01	8.73	Pass
55.05	-65.92	-57.01	8.91	Pass
55.45	-65.94	-57.01	8.93	Pass
2438	-35.08	-33.01	2.07	Pass
2437	-35.25	-33.01	2.24	Pass
2439	-35.52	-33.01	2.51	Pass
2434	-35.61	-33.01	2.6	Pass
2435	-35.66	-33.01	2.65	Pass
2433	-35.92	-33.01	2.9	Pass



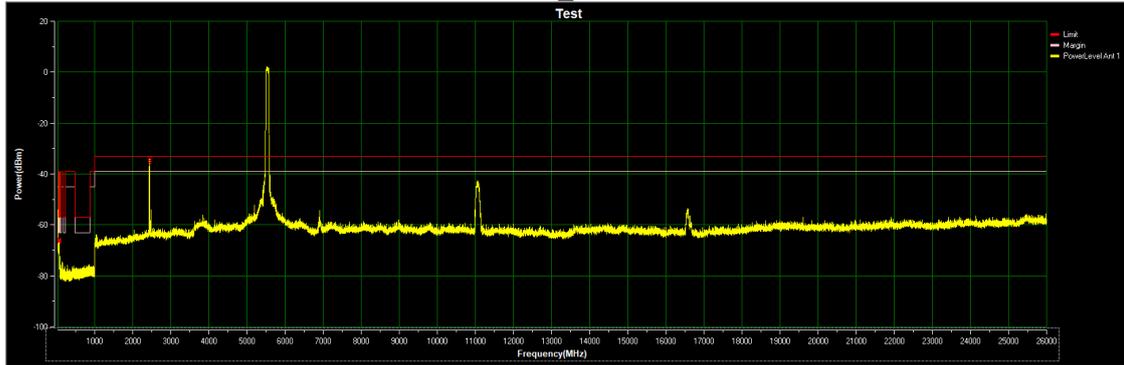
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
60.05	-65.33	-57.01	8.32	Pass
60	-65.44	-57.01	8.43	Pass
55.15	-66.29	-57.01	9.28	Pass
54.35	-66.37	-57.01	9.36	Pass
56.9	-66.42	-57.01	9.41	Pass
59.95	-66.44	-57.01	9.43	Pass
5147	-31.21	-33.01	-1.8	Fail
5146	-31.72	-33.01	-1.29	Fail
5148	-32.49	-33.01	-0.52	Fail
5135	-32.98	-33.01	-0.03	Fail
5142	-32.38	-33.01	0.37	Pass
2438	-33.93	-33.01	0.92	Pass

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

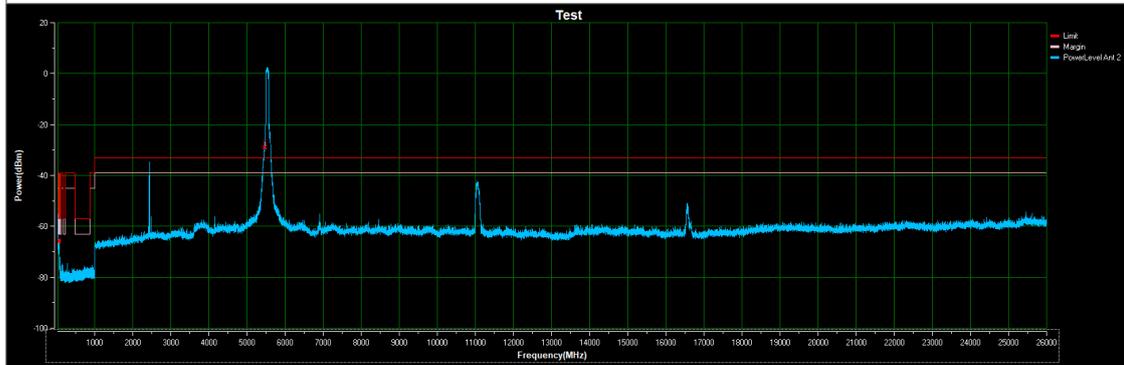


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
2438	-35.56	-30	5.56	Pass
2437	-37.29	-30	7.29	Pass
2439	-37.24	-30	7.24	Pass
2434	-37.21	-30	7.21	Pass
2435	-37.1	-30	7.1	Pass
2433	-37.22	-30	7.22	Pass
5147	-32.39	-30	2.39	Pass
5146	-32.38	-30	2.38	Pass
5148	-32.33	-30	2.33	Pass
5135	-32.57	-30	2.57	Pass
5142	-32.51	-30	2.51	Pass

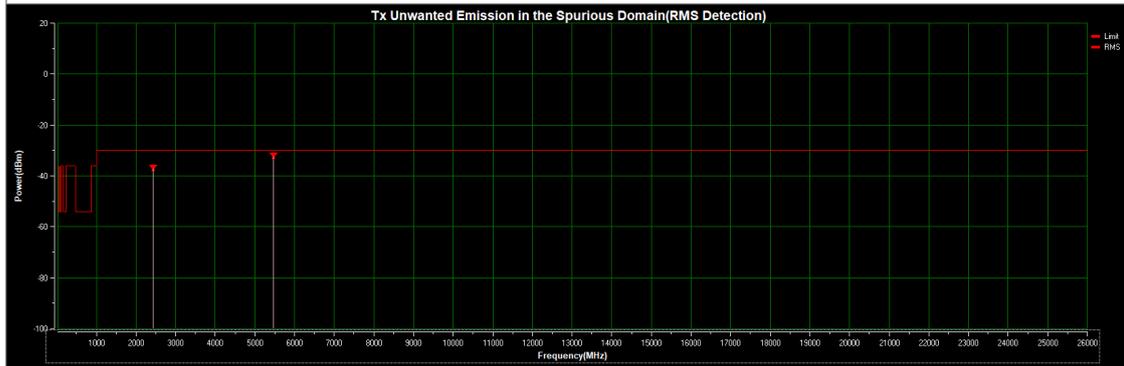
## TX Mode\_5530MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
60.1	-65.61	-57.01	8.6	Pass
60.05	-65.7	-57.01	8.69	Pass
59.9	-66.05	-57.01	9.04	Pass
54.8	-66.15	-57.01	9.14	Pass
59.8	-66.21	-57.01	9.2	Pass
54.65	-66.22	-57.01	9.21	Pass
2435	-33.58	-33.01	0.57	Pass
2436	-33.63	-33.01	0.62	Pass
2434	-34.53	-33.01	1.52	Pass
2438	-35.16	-33.01	2.15	Pass
2439	-35.21	-33.01	2.2	Pass
2437	-35.25	-33.01	2.24	Pass



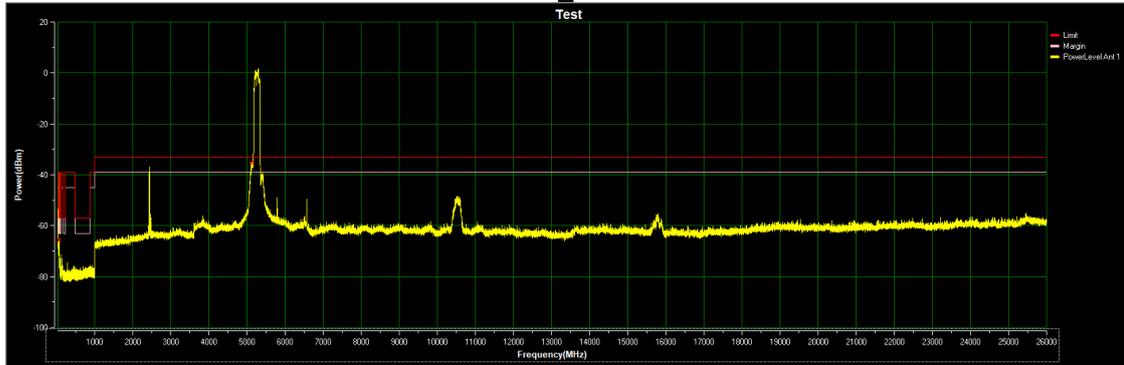
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
59.55	-65	-57.01	7.99	Pass
59.6	-65.04	-57.01	8.03	Pass
55.15	-65.31	-57.01	8.3	Pass
54.7	-65.56	-57.01	8.55	Pass
59.85	-65.72	-57.01	8.71	Pass
55.2	-65.76	-57.01	8.75	Pass
5467	-26.52	-33.01	-6.49	Fail
5468	-28.39	-33.01	-4.62	Fail
5469	-28.56	-33.01	-4.45	Fail
5465	-28.57	-33.01	-4.44	Fail
5466	-28.63	-33.01	-4.38	Fail
5464	-28.84	-33.01	-4.17	Fail



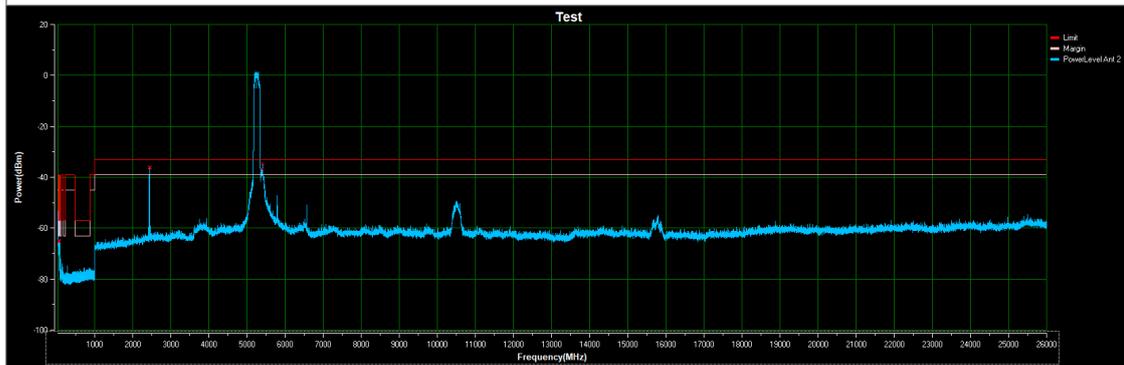
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
2435	-37.31	-30	7.31	Pass
2436	-37.28	-30	7.28	Pass
2434	-37.25	-30	7.25	Pass
2438	-37.23	-30	7.23	Pass
2439	-37.2	-30	7.2	Pass
2437	-37.19	-30	7.19	Pass
5467	-32.45	-30	2.45	Pass
5468	-32.3	-30	2.3	Pass
5469	-32.27	-30	2.27	Pass
5465	-32.6	-30	2.6	Pass
5466	-32.55	-30	2.55	Pass
5464	-32.62	-30	2.62	Pass

Test Mode TX Mode IEEE 802.11ax(HE160)

### TX Mode\_5250MHz

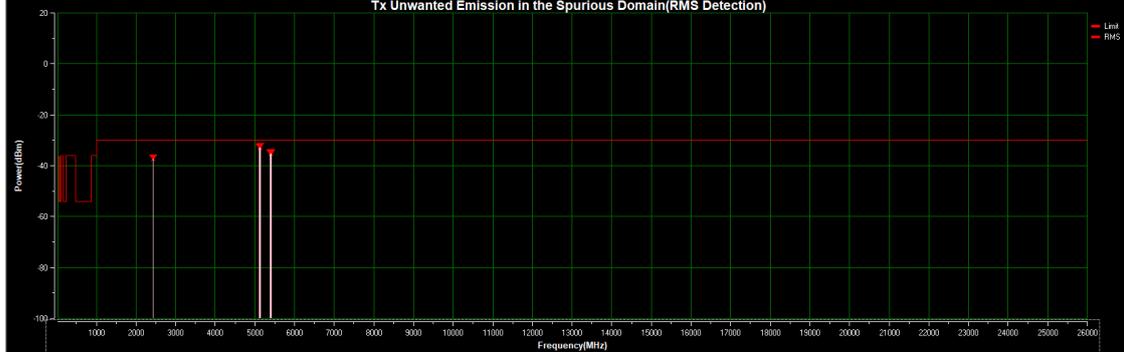


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
53.05	-65.17	-57.01	8.16	Pass
55.1	-65.23	-57.01	8.22	Pass
56.15	-65.27	-57.01	8.26	Pass
52.8	-65.45	-57.01	8.44	Pass
53	-65.51	-57.01	8.5	Pass
59.95	-65.54	-57.01	8.53	Pass
5148	-34.46	-33.01	1.45	Pass
5116	-34.92	-33.01	1.91	Pass
5114	-35	-33.01	1.99	Pass
5124	-35.09	-33.01	2.08	Pass
5111	-35.14	-33.01	2.13	Pass
5137	-35.17	-33.01	2.16	Pass



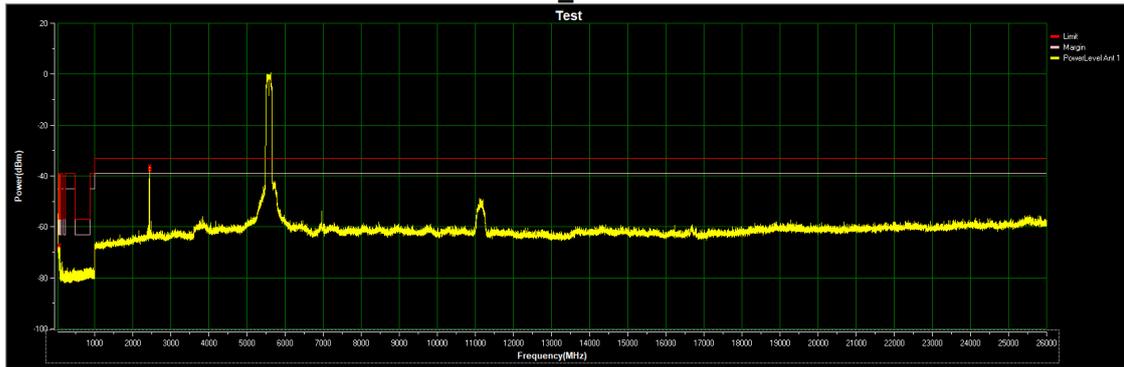
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
54.9	-64.56	-57.01	7.55	Pass
54.95	-64.67	-57.01	7.66	Pass
60	-64.93	-57.01	7.92	Pass
55.5	-64.96	-57.01	7.95	Pass
54.55	-64.97	-57.01	7.96	Pass
54.7	-64.98	-57.01	7.97	Pass
5404	-34.34	-33.01	1.33	Pass
5413	-34.48	-33.01	1.47	Pass
5403	-34.52	-33.01	1.51	Pass
2436	-35.66	-33.01	2.65	Pass
2435	-36.03	-33.01	3.02	Pass
5387	-36.46	-33.01	3.45	Pass

### Tx Unwanted Emission in the Spurious Domain(RMS Detection)

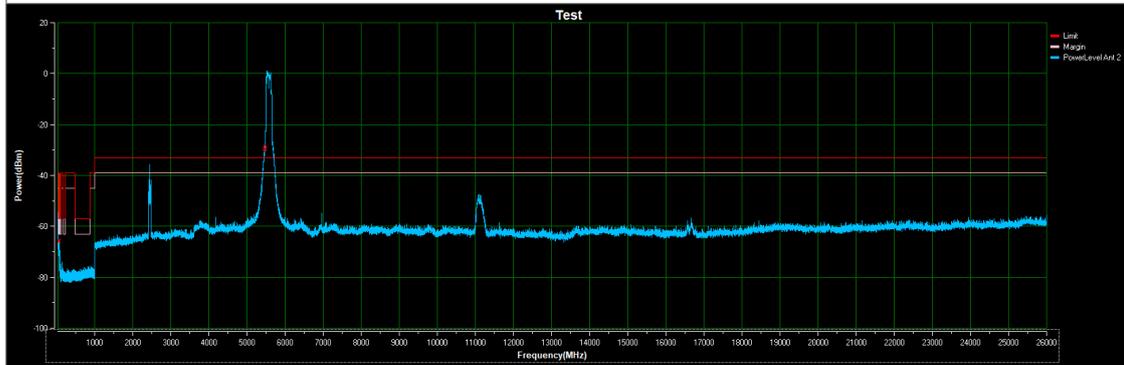


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
5148	-32.63	-30	2.63	Pass
5116	-32.72	-30	2.72	Pass
5114	-32.87	-30	2.87	Pass
5124	-32.63	-30	2.63	Pass
5111	-32.79	-30	2.79	Pass
5137	-32.68	-30	2.68	Pass
5404	-35.18	-30	5.18	Pass
5413	-35.23	-30	5.23	Pass
5403	-34.95	-30	4.95	Pass
2436	-37.18	-30	7.18	Pass
2435	-37.32	-30	7.32	Pass
5387	-35.12	-30	5.12	Pass

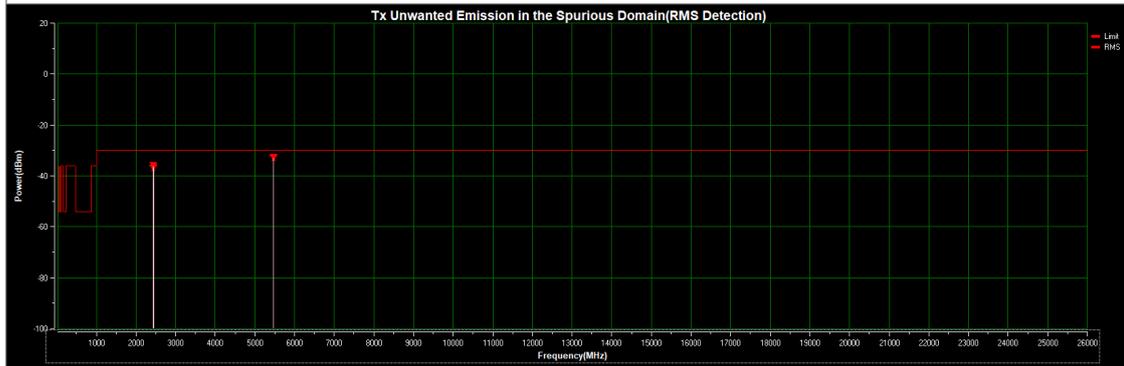
## TX Mode\_5570MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
55.4	-66.89	-57.01	9.88	Pass
57.1	-67.05	-57.01	10.04	Pass
57.05	-67.09	-57.01	10.08	Pass
56.75	-67.1	-57.01	10.09	Pass
54.55	-67.18	-57.01	10.17	Pass
55.2	-67.37	-57.01	10.36	Pass
2435	-35.71	-33.01	2.7	Pass
2436	-36.08	-33.01	3.07	Pass
2437	-36.71	-33.01	3.7	Pass
2440	-36.95	-33.01	3.94	Pass
2439	-37.12	-33.01	4.11	Pass
2441	-37.4	-33.01	4.39	Pass

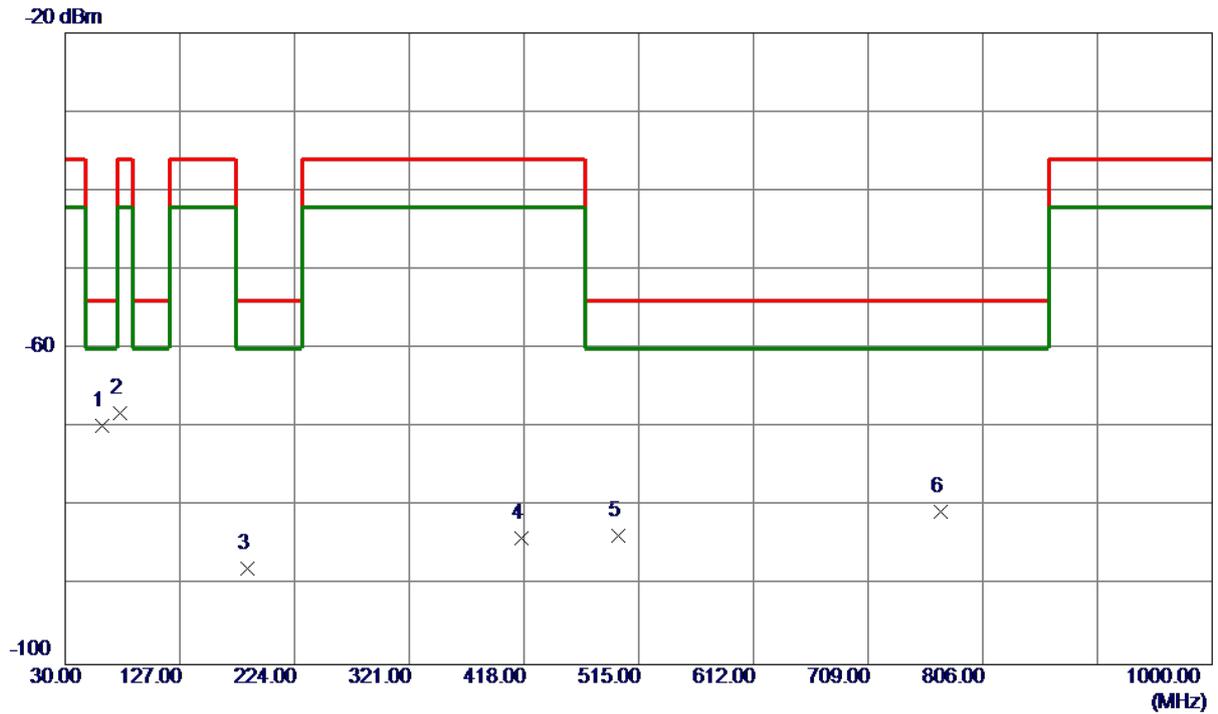


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
53.1	-65.32	-57.01	8.31	Pass
52.75	-65.37	-57.01	8.36	Pass
52.8	-65.52	-57.01	8.51	Pass
53.15	-65.62	-57.01	8.61	Pass
52.45	-65.65	-57.01	8.64	Pass
52.85	-65.79	-57.01	8.77	Pass
5462	-28.06	-33.01	-4.95	Fail
5469	-29.08	-33.01	-3.93	Fail
5467	-29.09	-33.01	-3.92	Fail
5463	-29.17	-33.01	-3.84	Fail
5464	-29.21	-33.01	-3.8	Fail
5468	-29.59	-33.01	-3.42	Fail



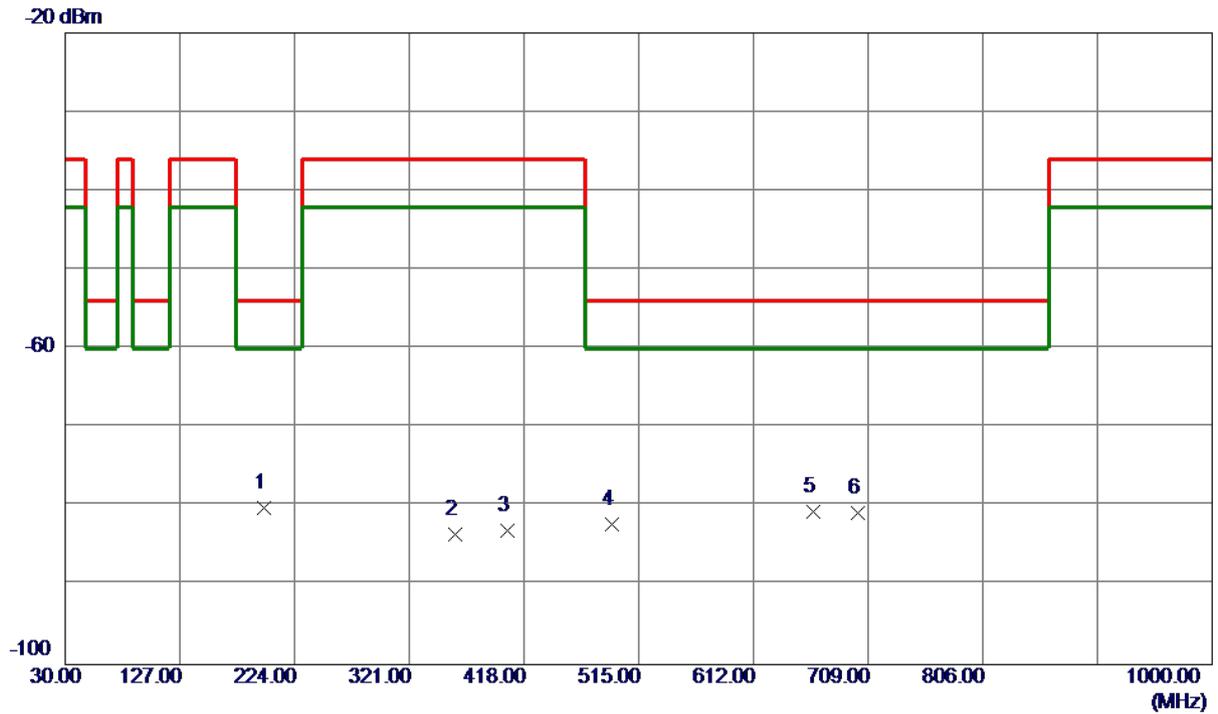
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
2435	-37.01	-30	7.01	Pass
2436	-37.24	-30	7.24	Pass
2437	-36.01	-30	6.01	Pass
2440	-37.23	-30	7.23	Pass
2439	-37.2	-30	7.2	Pass
2441	-36.45	-30	6.45	Pass
5462	-33.28	-30	3.28	Pass
5469	-32.81	-30	2.81	Pass
5467	-32.88	-30	2.88	Pass
5463	-33.24	-30	3.24	Pass
5464	-33.2	-30	3.2	Pass
5468	-32.79	-30	2.79	Pass

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Vertical
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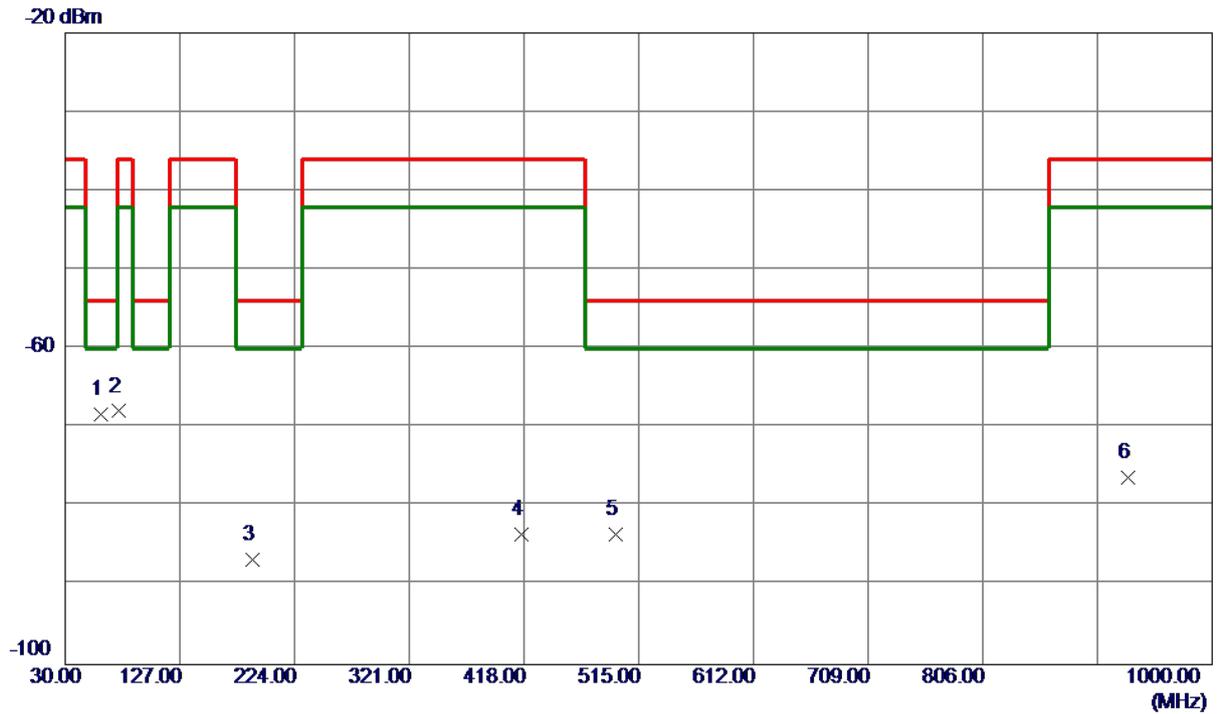
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	60.8460	-66.22	-3.58	-69.80	-54.00	-15.80	RMS	
2	76.5600	-68.83	0.61	-68.22	-36.00	-32.22	RMS	
3	183.8420	-76.57	-11.20	-87.77	-54.00	-33.77	RMS	
4	415.9630	-76.70	-7.30	-84.00	-36.00	-48.00	RMS	
5	497.5400	-76.97	-6.70	-83.67	-54.00	-29.67	RMS	
6	770.4980	-78.60	-1.98	-80.58	-54.00	-26.58	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Horizontal
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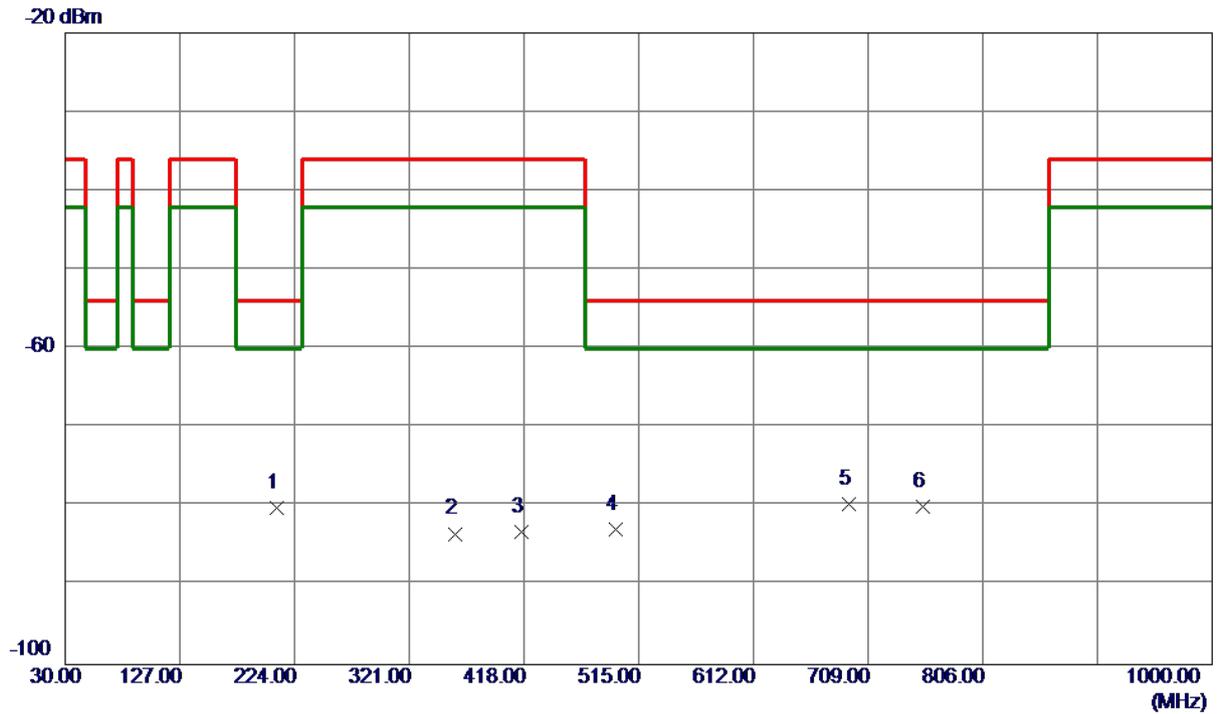
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	197.9070	-68.40	-11.73	-80.13	-54.00	-26.13	RMS	
2	360.1880	-75.59	-7.91	-83.50	-36.00	-47.50	RMS	
3	404.5169	-75.69	-7.30	-82.99	-36.00	-46.99	RMS	
4	492.3990	-76.06	-6.14	-82.20	-54.00	-28.20	RMS	
5	662.2460	-77.37	-3.32	-80.69	-54.00	-26.69	RMS	
6	700.4640	-78.52	-2.21	-80.73	-54.00	-26.73	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Vertical
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	59.8760	-65.39	-2.90	-68.29	-54.00	-14.29	RMS	
2	75.1050	-68.93	1.01	-67.92	-36.00	-31.92	RMS	
3	188.4980	-74.98	-11.77	-86.75	-54.00	-32.75	RMS	
4	415.9630	-76.22	-7.30	-83.52	-36.00	-47.52	RMS	
5	495.6000	-76.78	-6.75	-83.53	-54.00	-29.53	RMS	
6	928.5110	-76.90	0.52	-76.38	-36.00	-40.38	RMS	

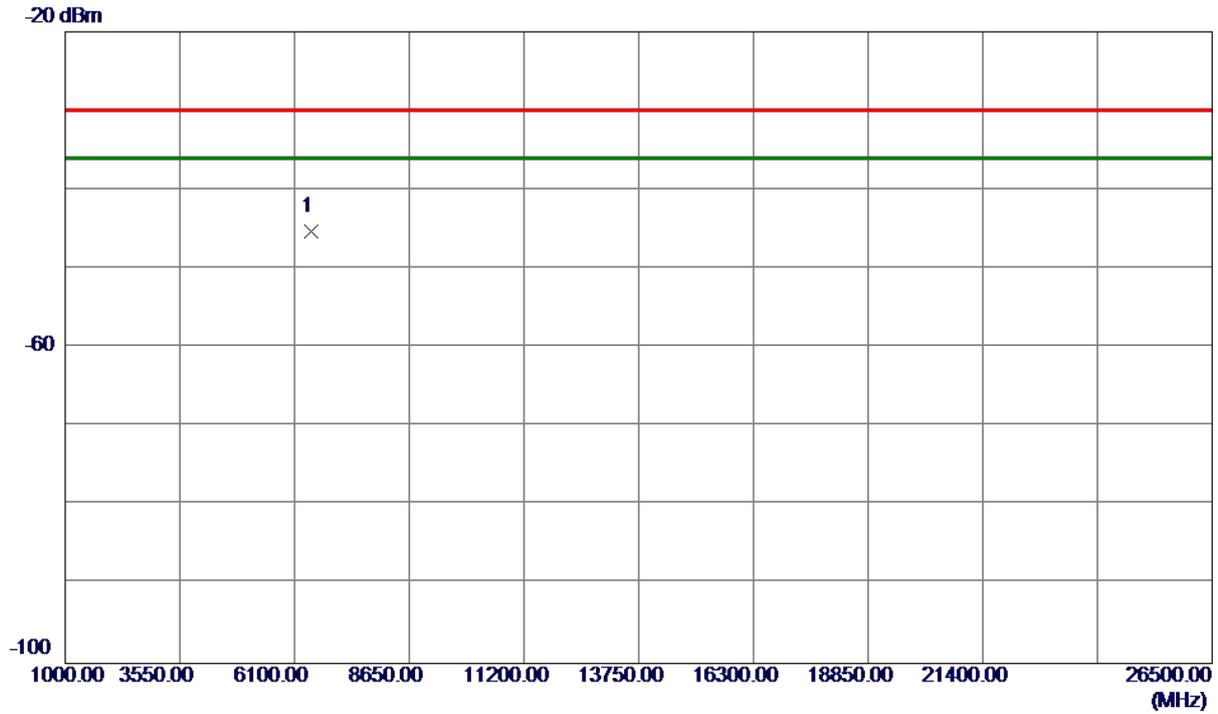
Test Mode	TX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Horizontal
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1	208.5770	-69.63	-10.50	-80.13	-54.00	-26.13	RMS	
2	360.0910	-75.53	-7.91	-83.44	-36.00	-47.44	RMS	
3	415.9630	-75.96	-7.17	-83.13	-36.00	-47.13	RMS	
4	495.1150	-76.89	-6.06	-82.95	-54.00	-28.95	RMS	
5 *	692.7040	-77.28	-2.42	-79.70	-54.00	-25.70	RMS	
6	755.8510	-78.17	-1.77	-79.94	-54.00	-25.94	RMS	

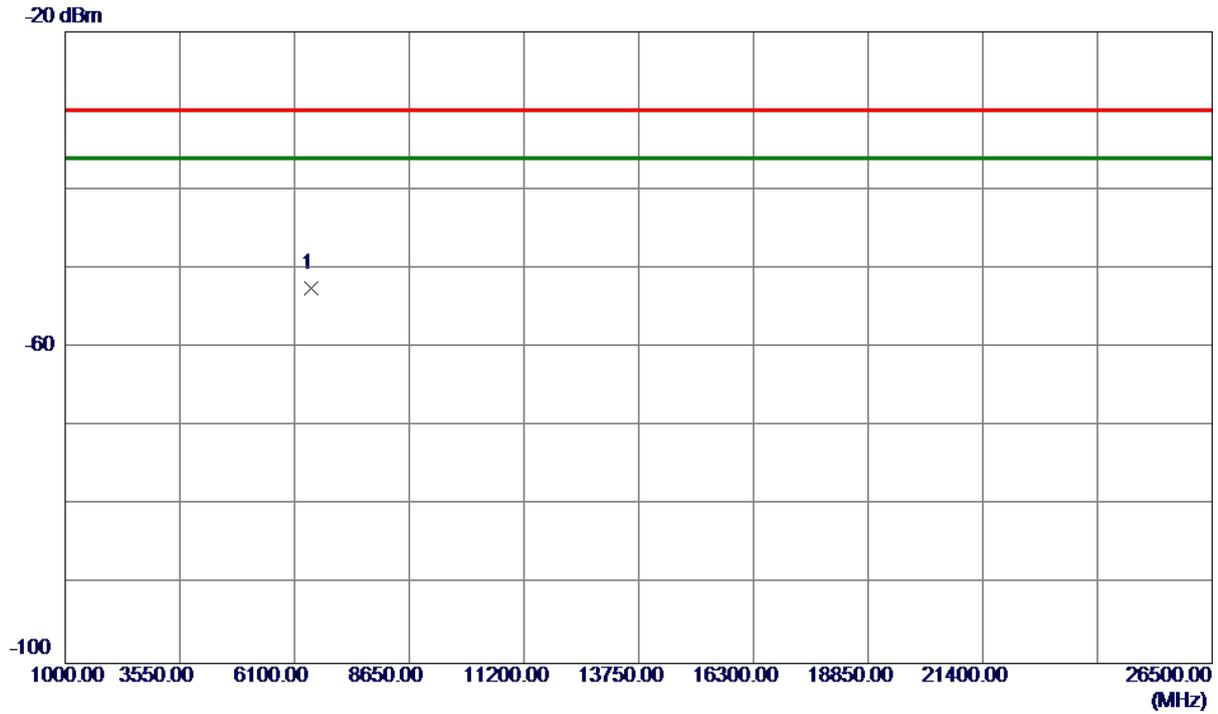
**APPENDIX F - TRANSMITTER UNWANTED EMISSIONS  
OUTSIDE THE 5 GHZ RLAN BANDS (ABOVE 1000MHZ)**

Test Mode	TX Mode IEEE 802.11a_5180MHz	Polarization	Vertical
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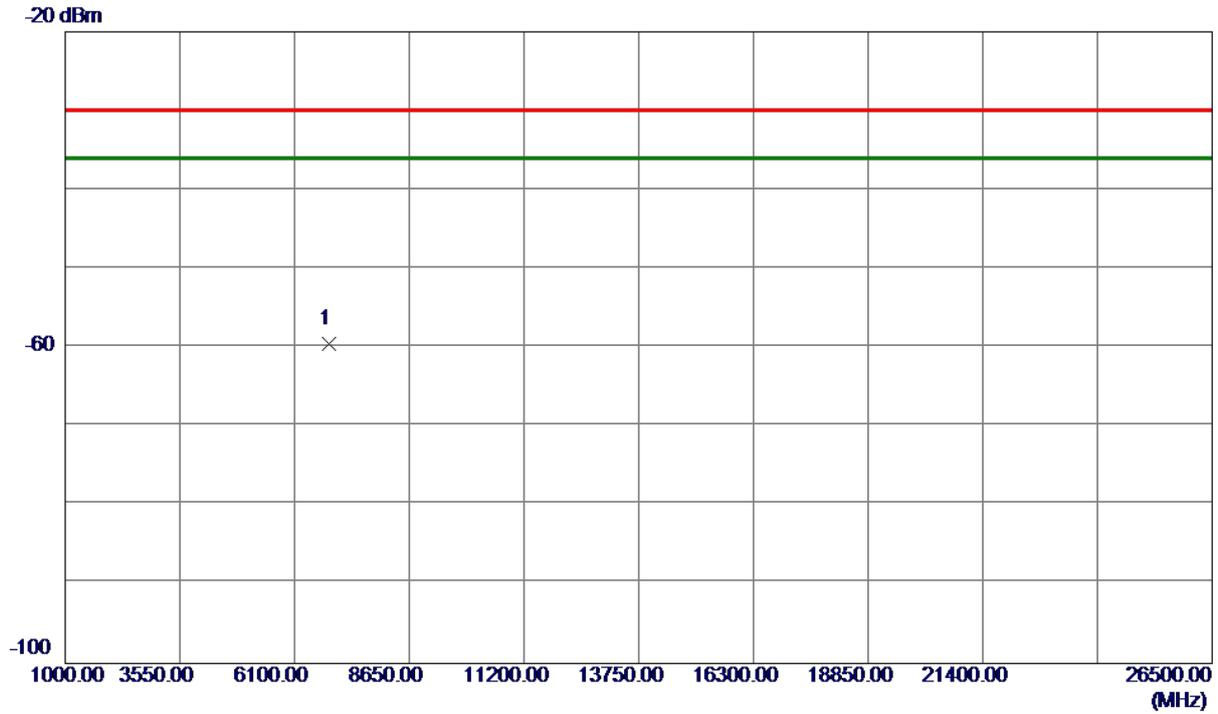
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-47.49	2.27	-45.22	-30.00	-15.22	RMS	

Test Mode	TX Mode IEEE 802.11a_5180MHz	Polarization	Horizontal
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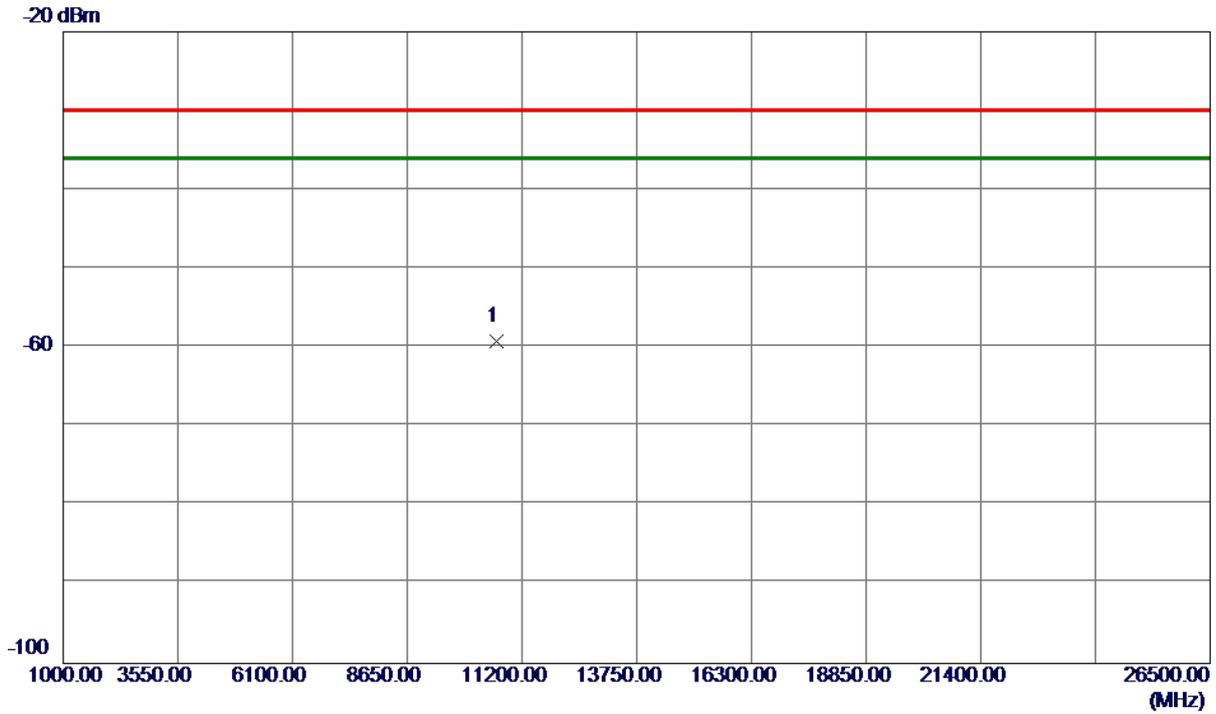
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-54.33	1.90	-52.43	-30.00	-22.43	RMS	

Test Mode	TX Mode IEEE 802.11a_5500MHz	Polarization	Vertical
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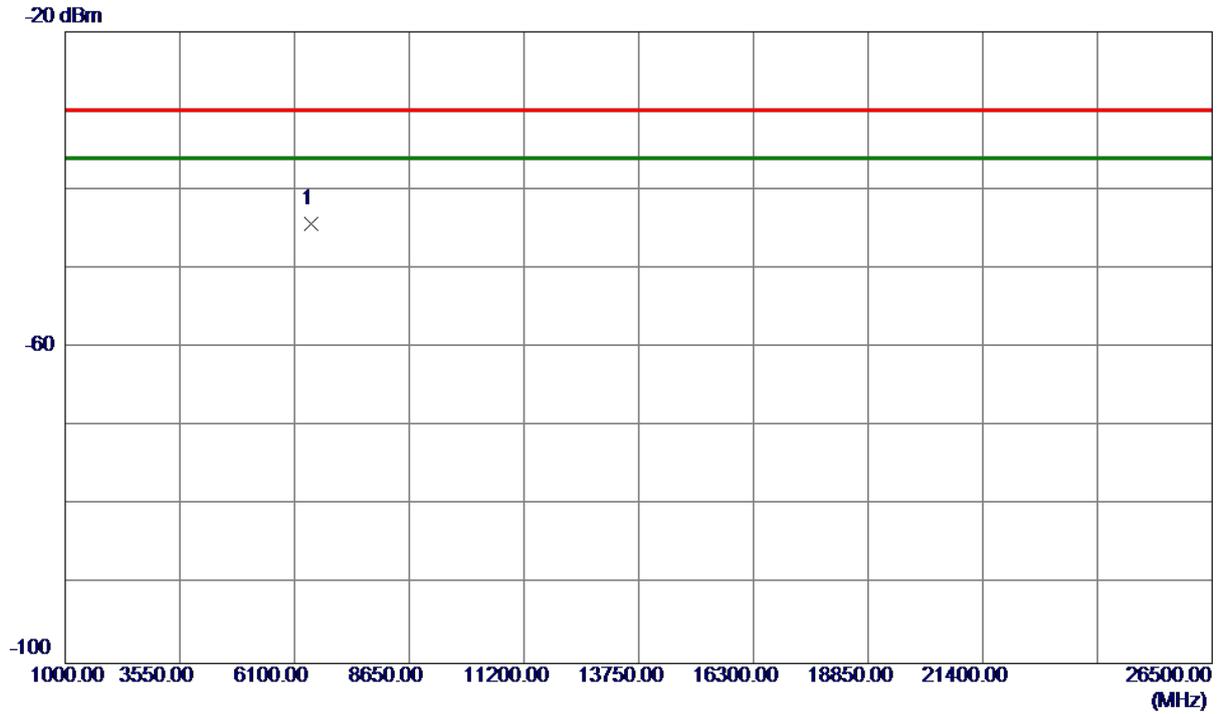
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6875.2000	-61.86	2.28	-59.58	-30.00	-29.58	RMS	

Test Mode	TX Mode IEEE 802.11a_5500MHz	Polarization	Horizontal
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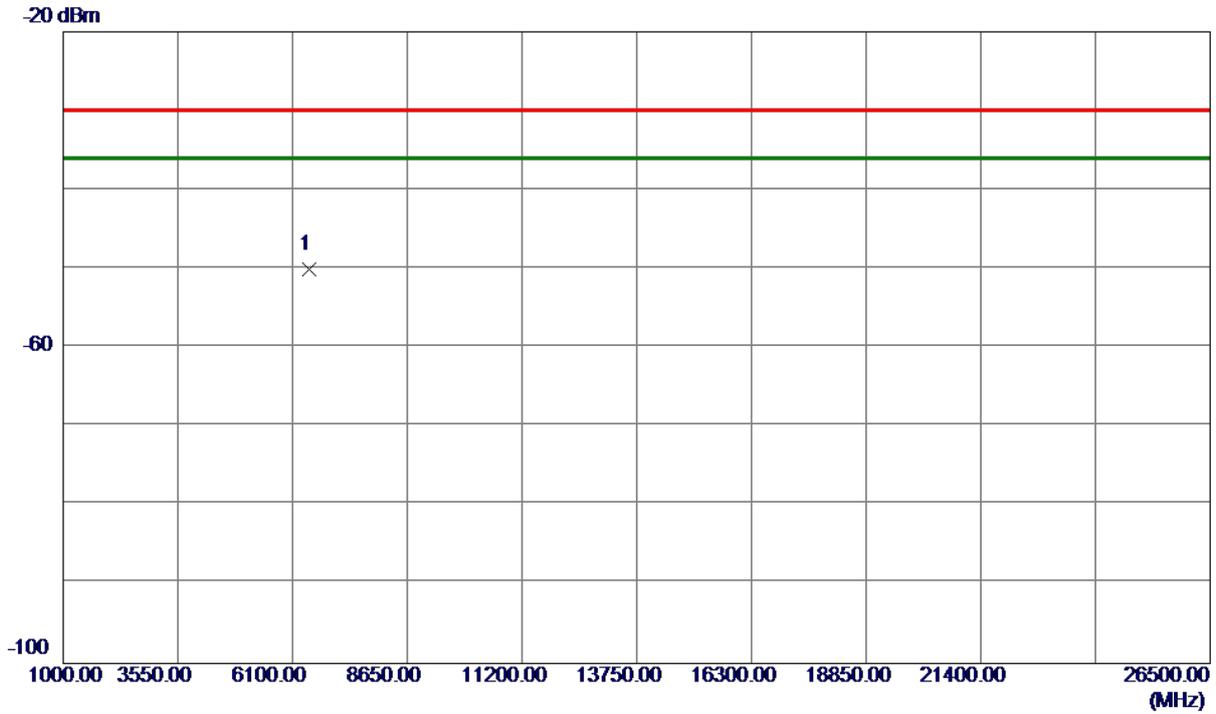
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10619.8750	-65.87	6.73	-59.14	-30.00	-29.14	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT20)_5180MHz	Polarization	Vertical
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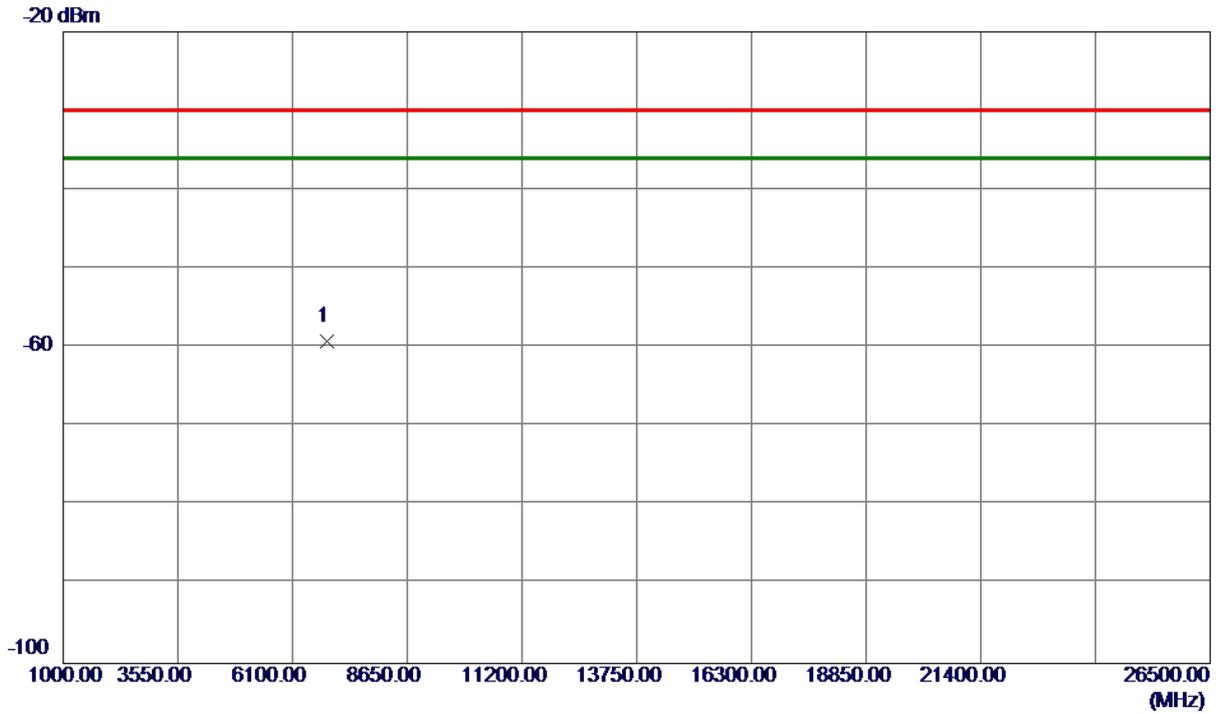
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-46.59	2.27	-44.32	-30.00	-14.32	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT20)_5180MHz	Polarization	Horizontal
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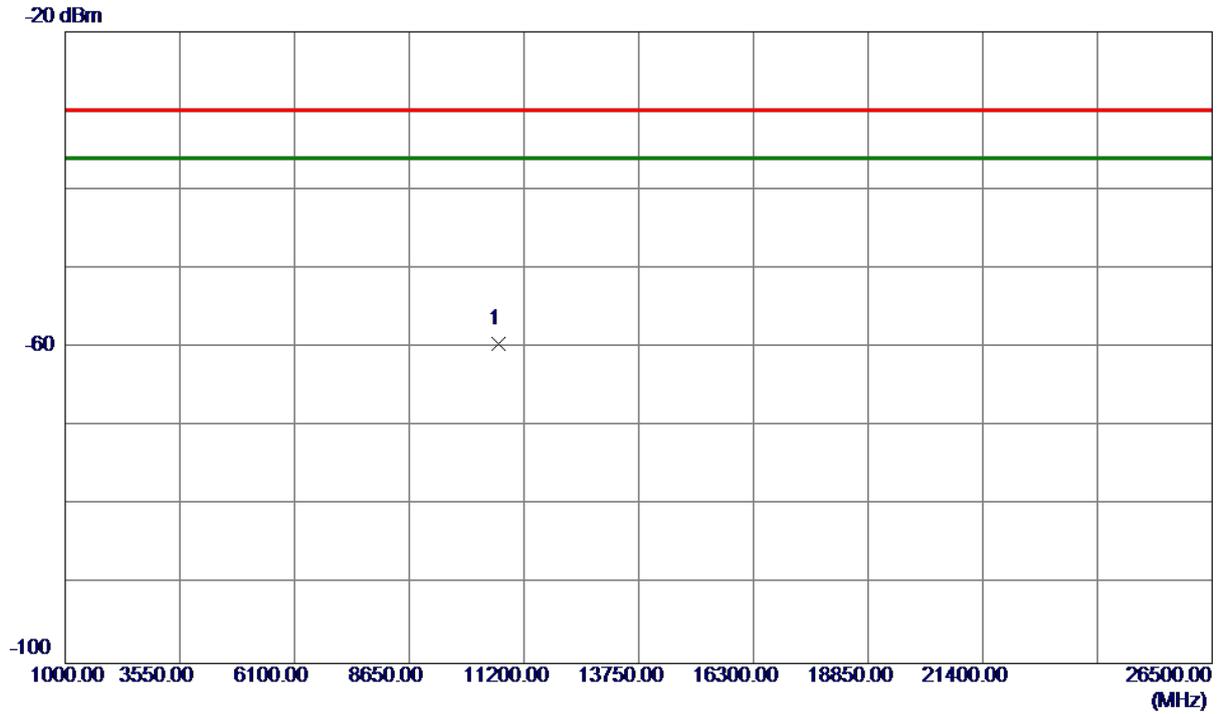
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-52.01	1.90	-50.11	-30.00	-20.11	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT20)_5500MHz	Polarization	Vertical
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6875.2000	-61.49	2.28	-59.21	-30.00	-29.21	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT20)_5500MHz	Polarization	Horizontal
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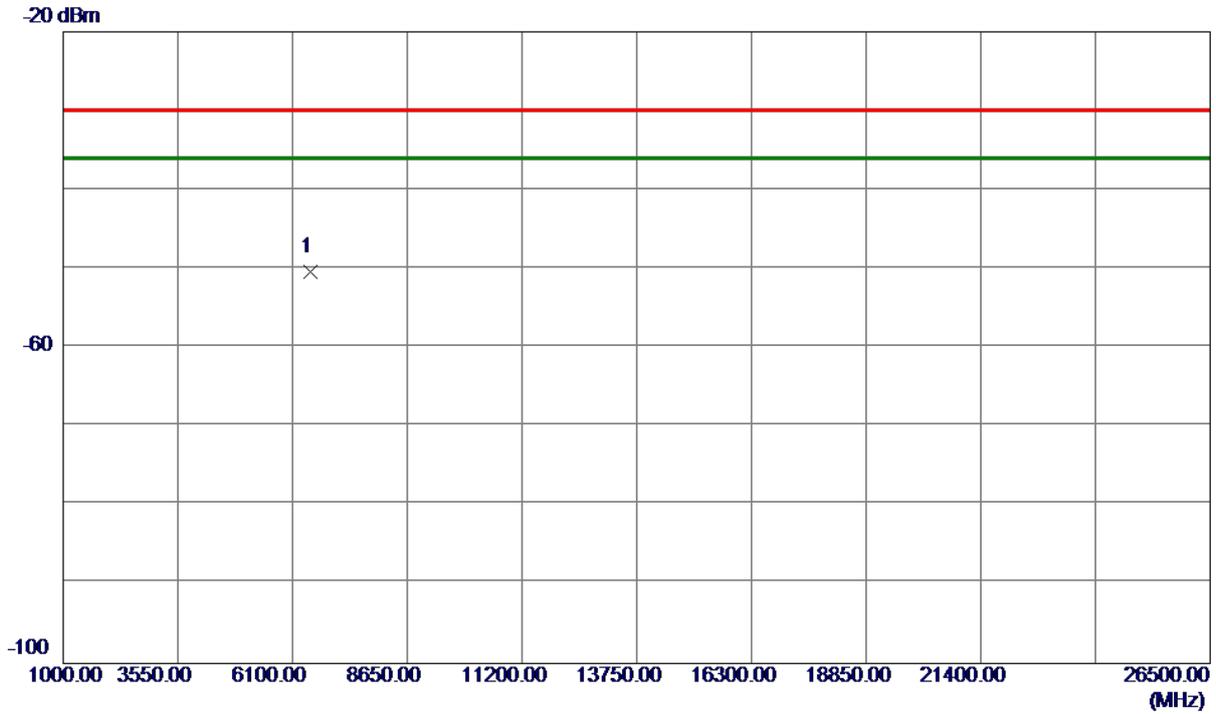
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10637.7250	-66.22	6.76	-59.46	-30.00	-29.46	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT40)_5190MHz	Polarization	Vertical
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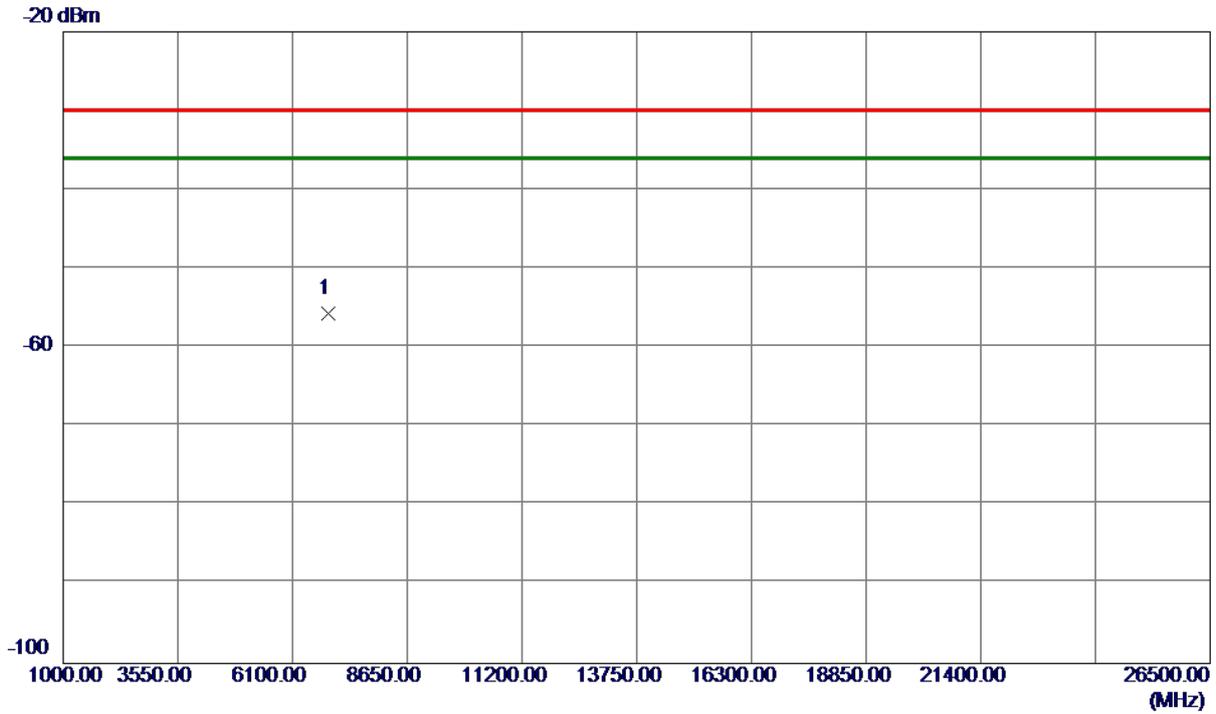
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6487.6000	-48.73	2.27	-46.46	-30.00	-16.46	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT40)_5190MHz	Polarization	Horizontal
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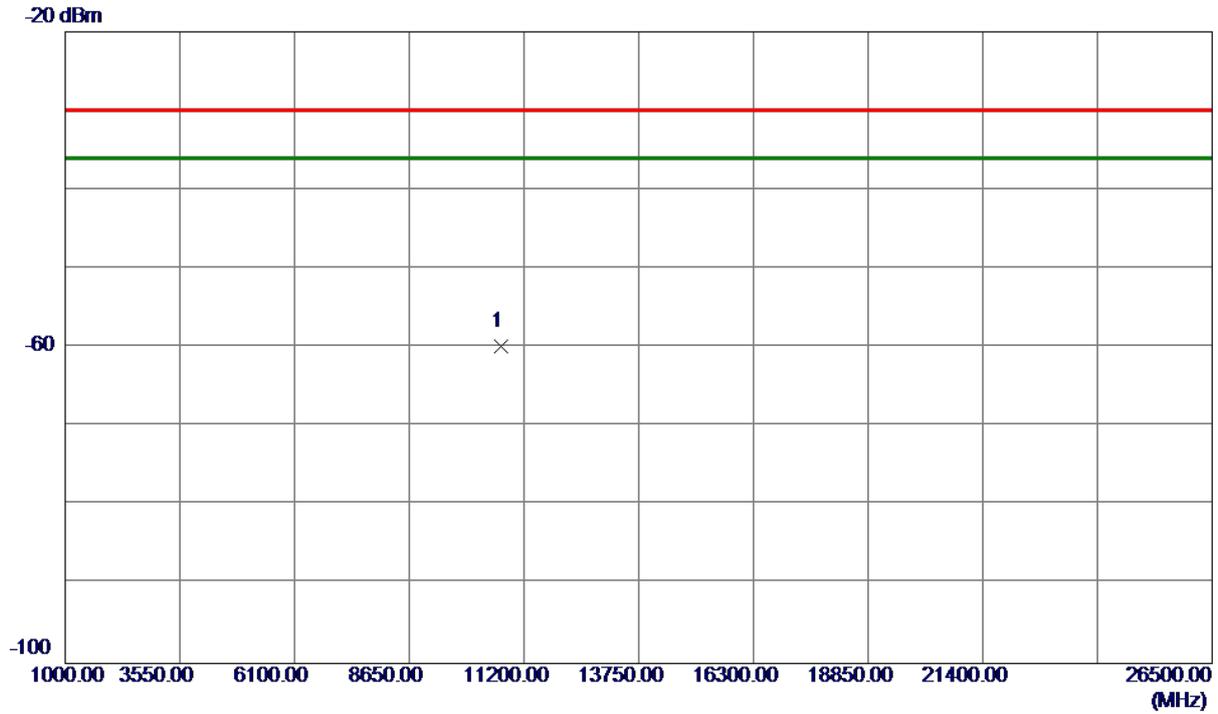
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6487.6000	-52.38	1.90	-50.48	-30.00	-20.48	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT40)_5510MHz	Polarization	Vertical
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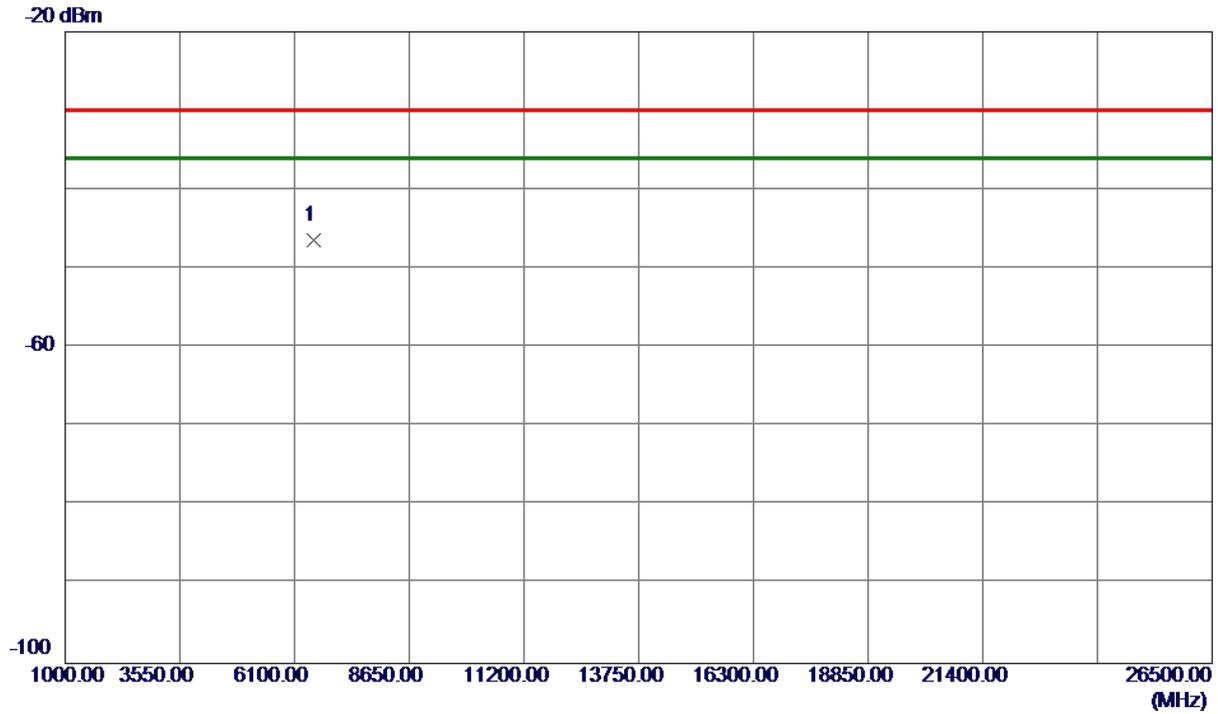
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6887.9500	-58.02	2.28	-55.74	-30.00	-25.74	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT40)_5510MHz	Polarization	Horizontal
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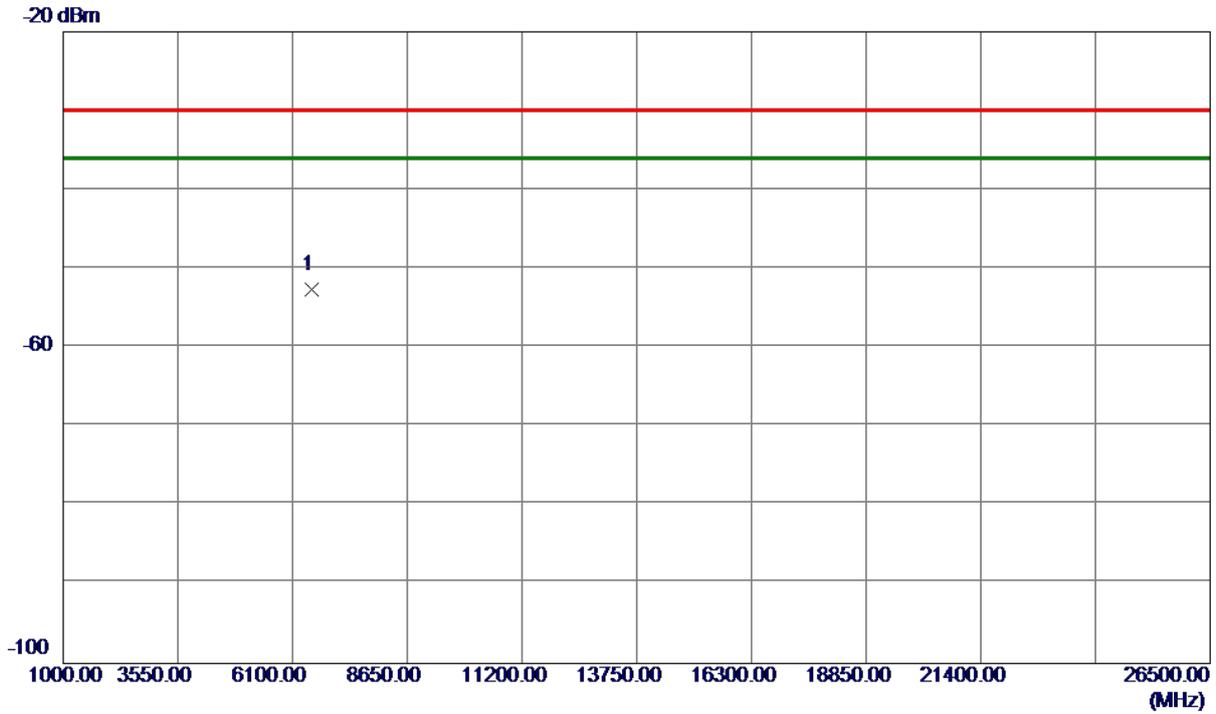
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10687.4500	-66.63	6.85	-59.78	-30.00	-29.78	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Vertical
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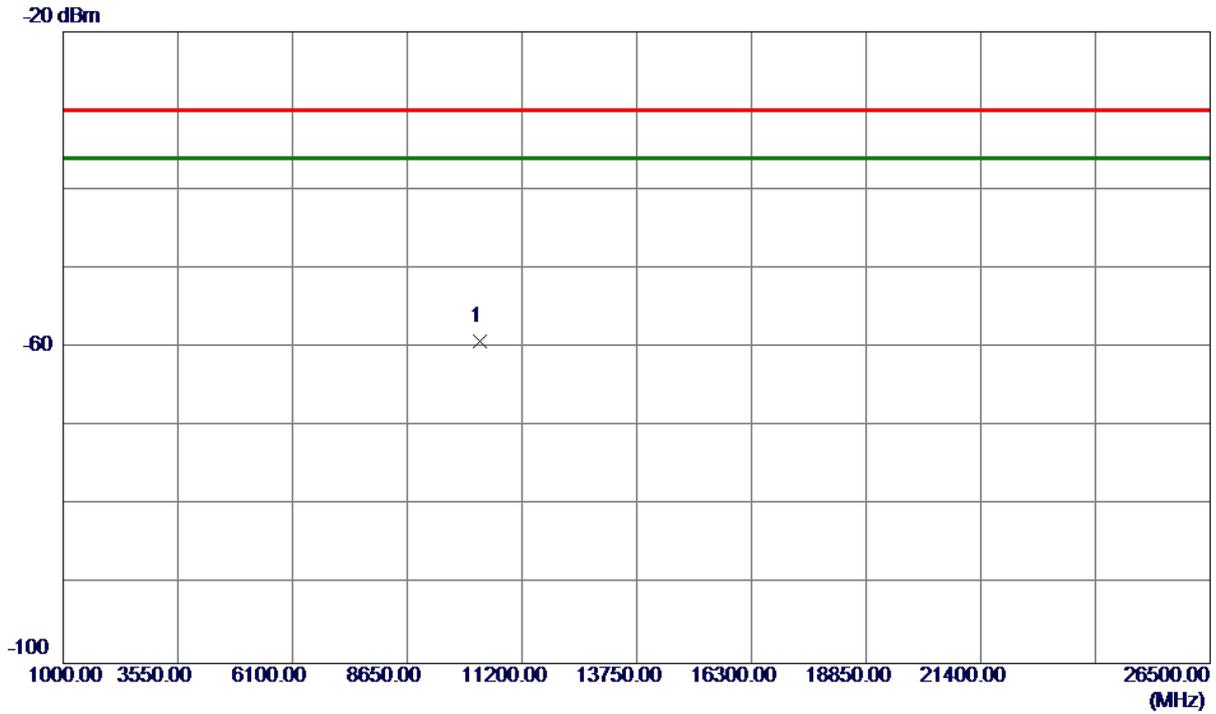
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6513.1000	-48.66	2.27	-46.39	-30.00	-16.39	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Horizontal
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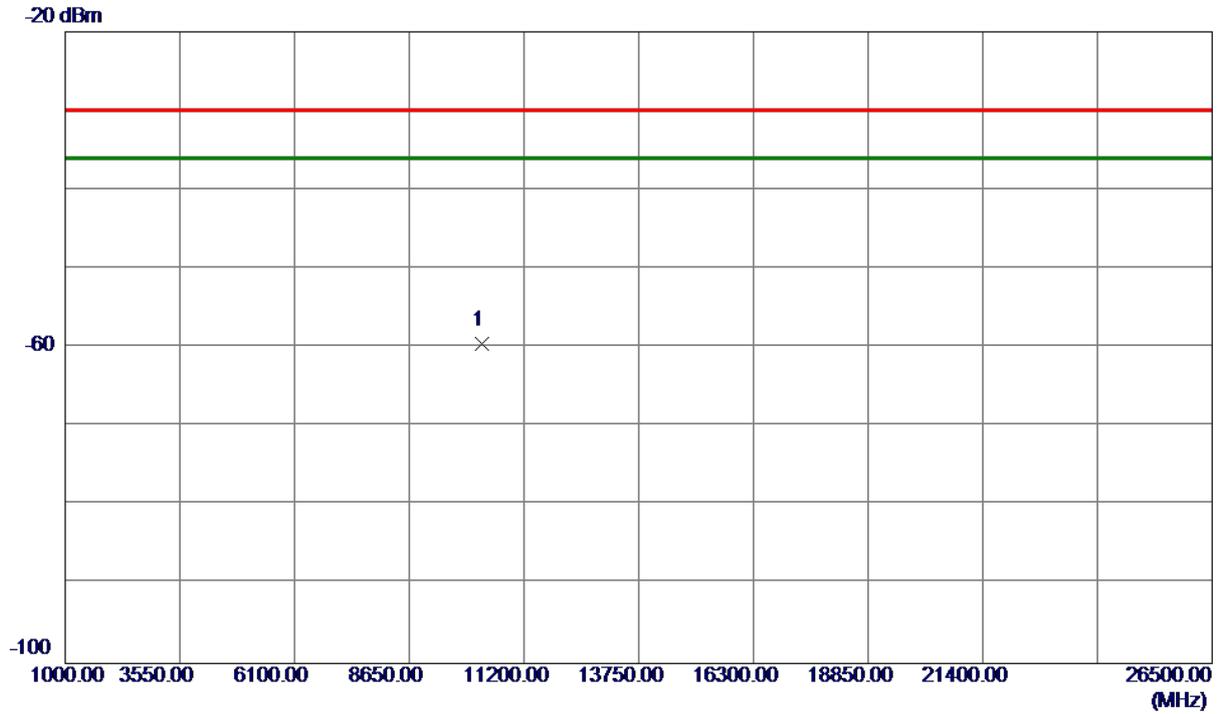
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6513.1000	-54.52	1.91	-52.61	-30.00	-22.61	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Vertical
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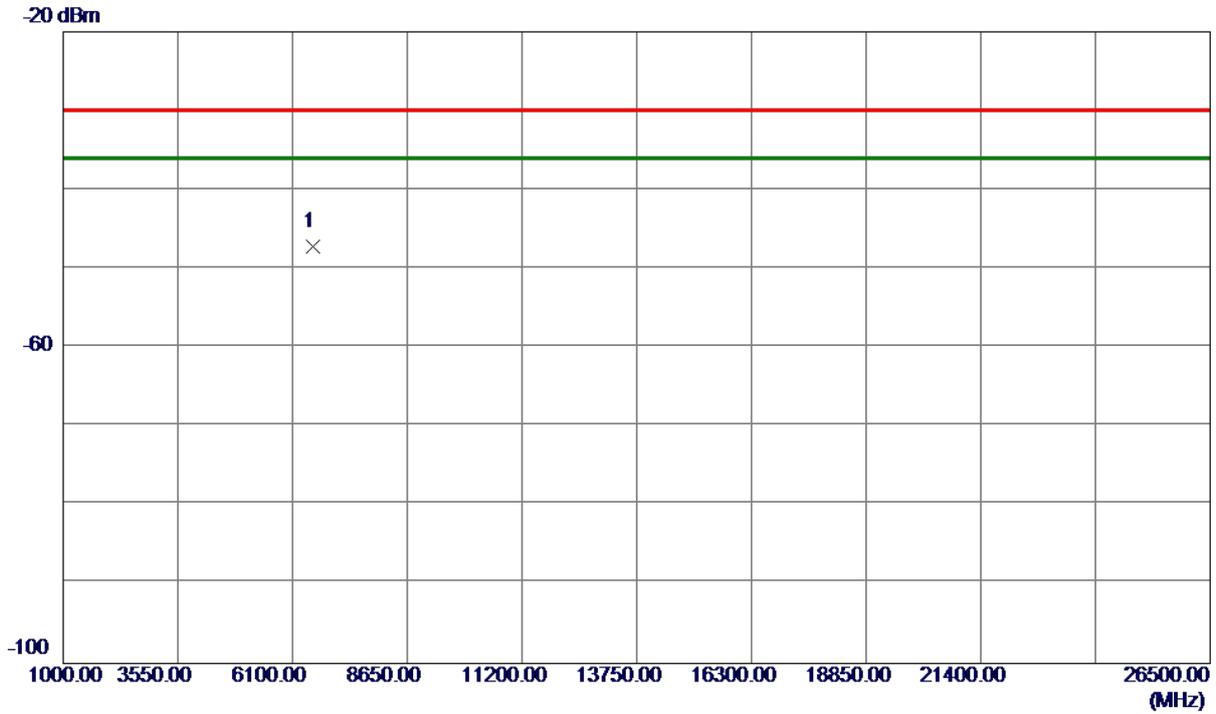
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10264.1500	-65.59	6.41	-59.18	-30.00	-29.18	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Horizontal
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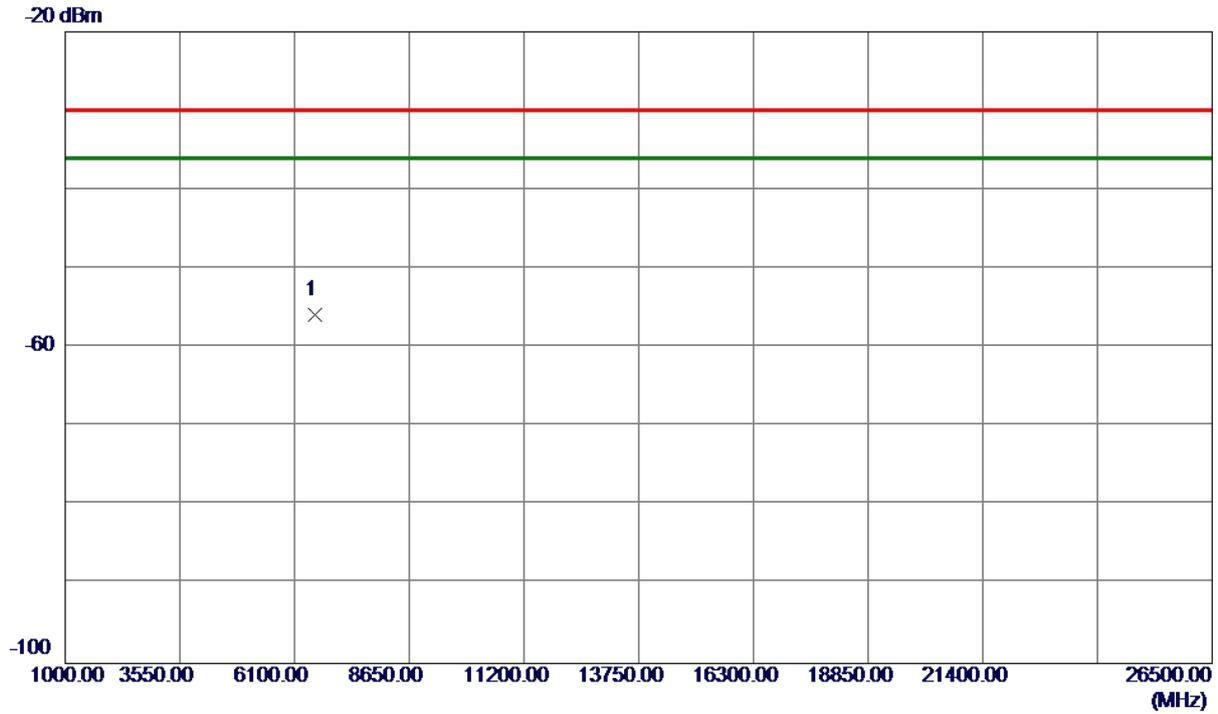
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10264.1500	-65.91	6.31	-59.60	-30.00	-29.60	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT160)_5250MHz	Polarization	Vertical
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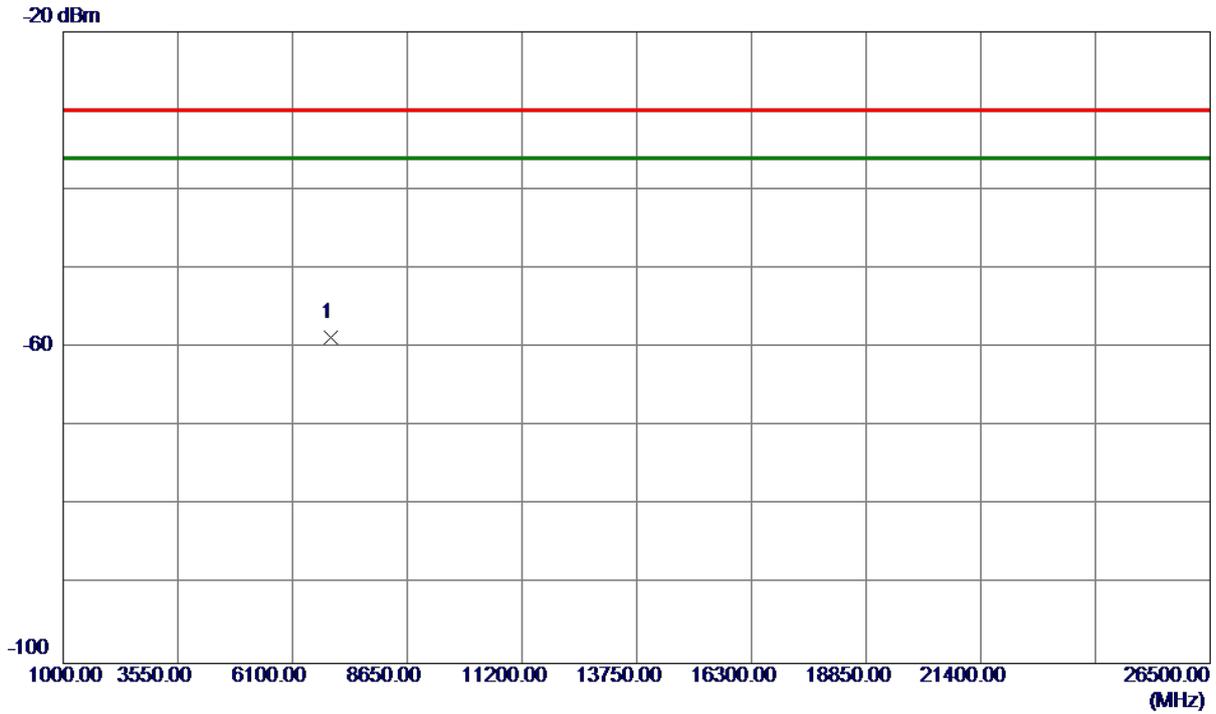
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6562.8250	-49.48	2.27	-47.21	-30.00	-17.21	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT160)_5250MHz	Polarization	Horizontal
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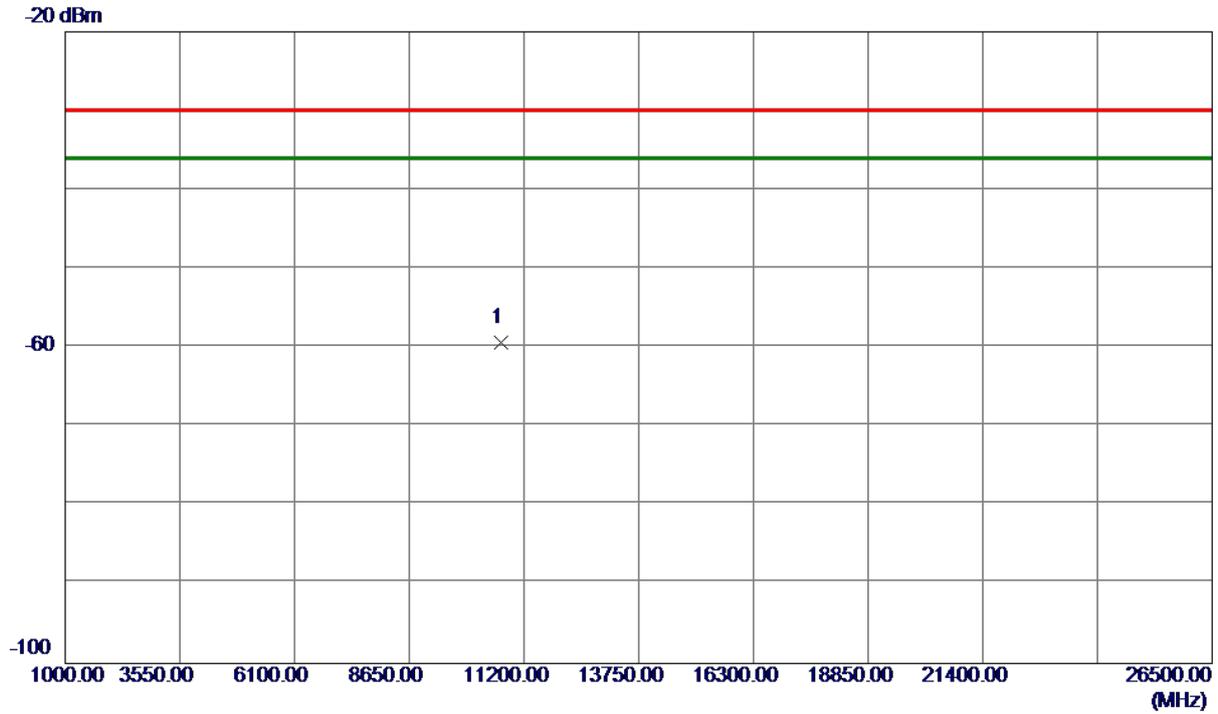
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6562.8250	-57.88	1.97	-55.91	-30.00	-25.91	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT160)_5570MHz	Polarization	Vertical
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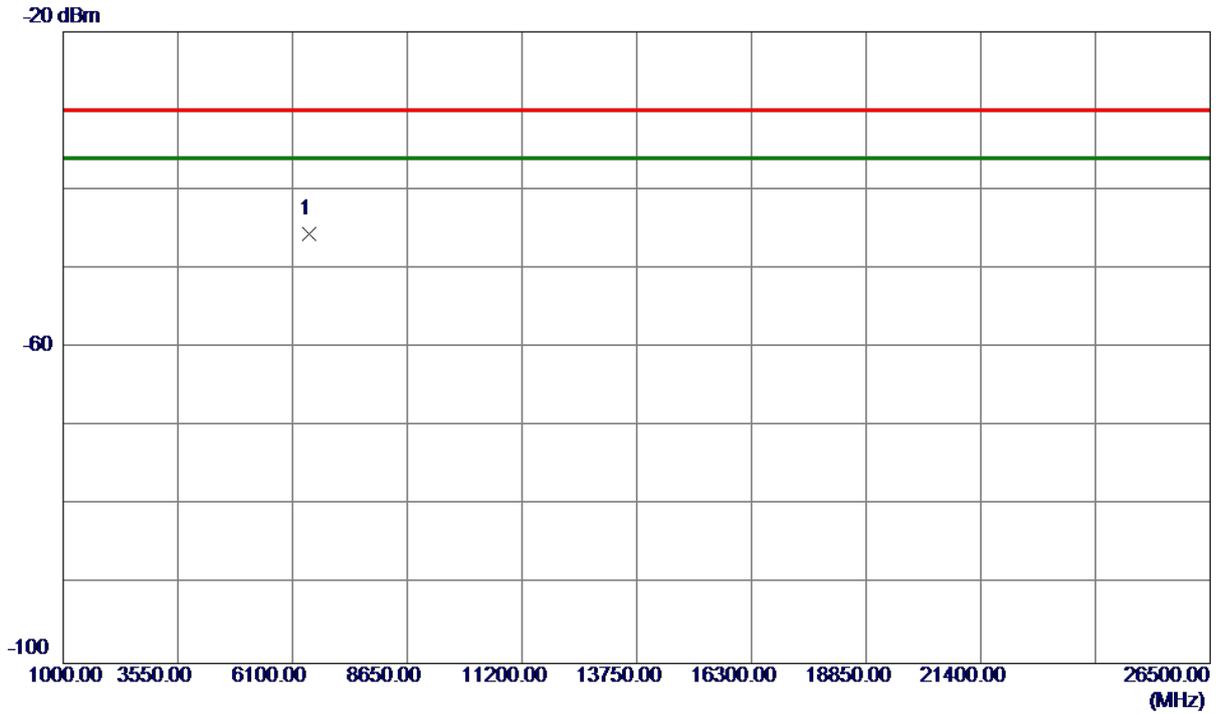
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6961.9000	-61.02	2.28	-58.74	-30.00	-28.74	RMS	

Test Mode	TX Mode IEEE 802.11ac(VHT160)_5570MHz	Polarization	Horizontal
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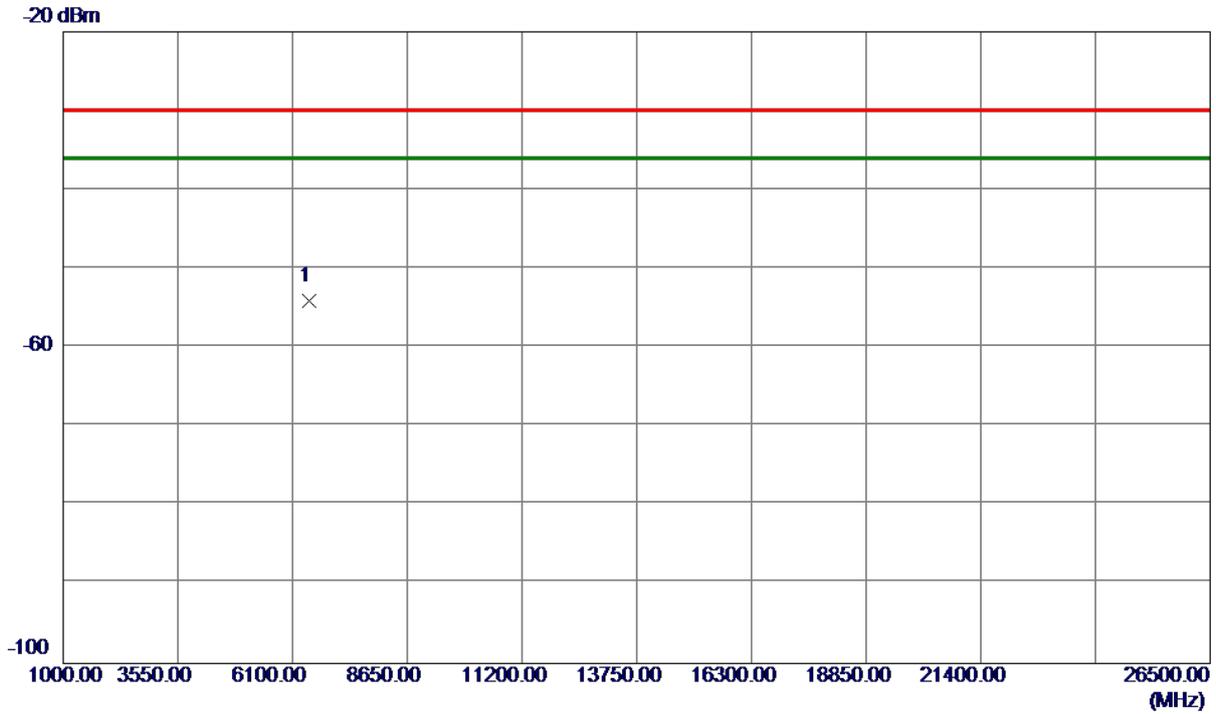
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10702.7500	-66.16	6.87	-59.29	-30.00	-29.29	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_5180MHz	Polarization	Vertical
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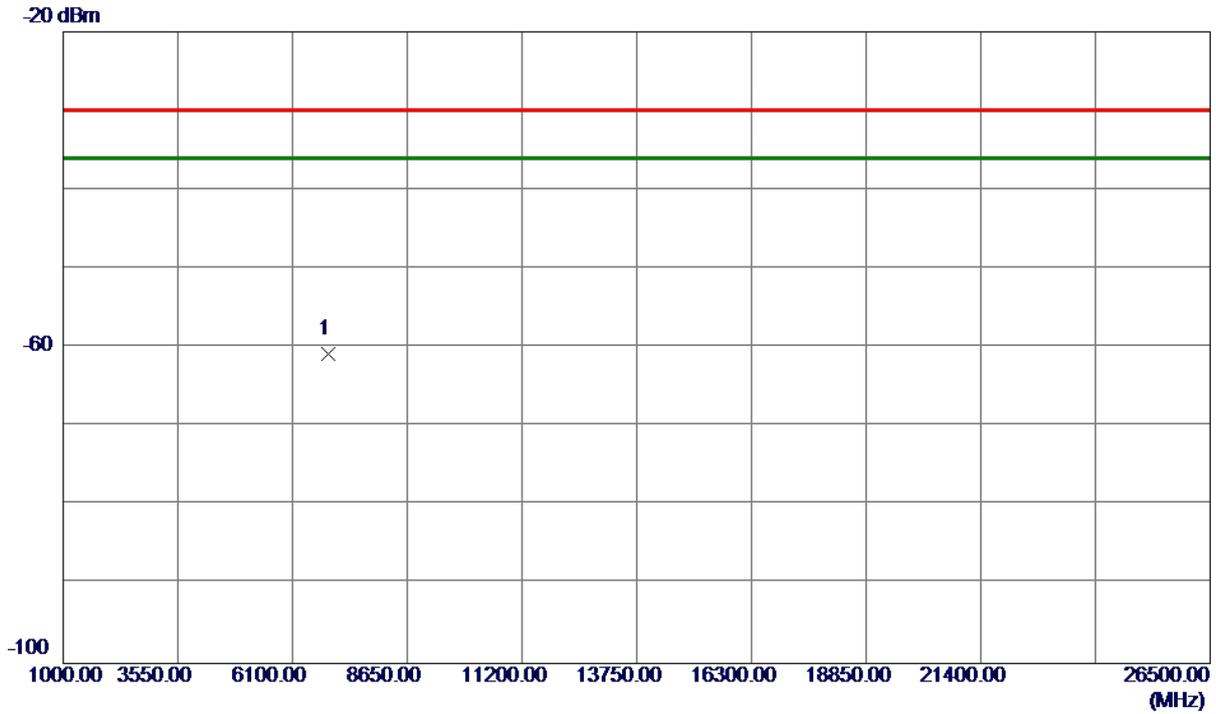
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-47.87	2.27	-45.60	-30.00	-15.60	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_5180MHz	Polarization	Horizontal
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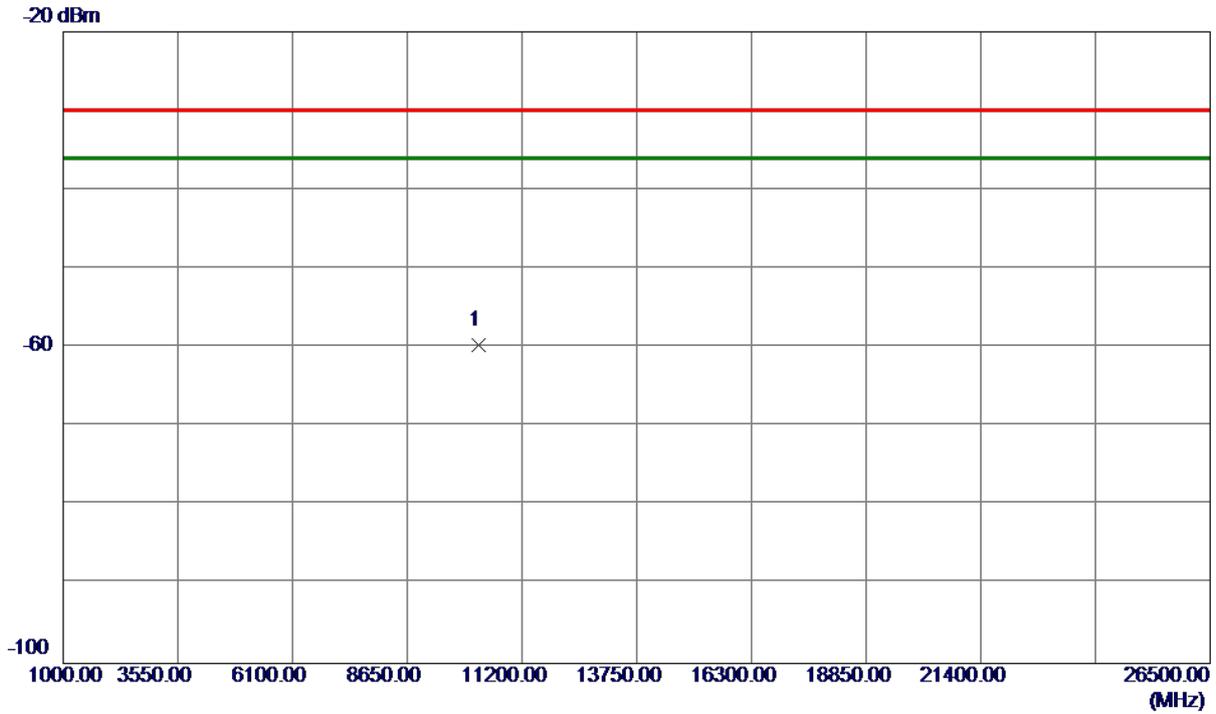
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6474.8500	-56.03	1.90	-54.13	-30.00	-24.13	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_5500MHz	Polarization	Vertical
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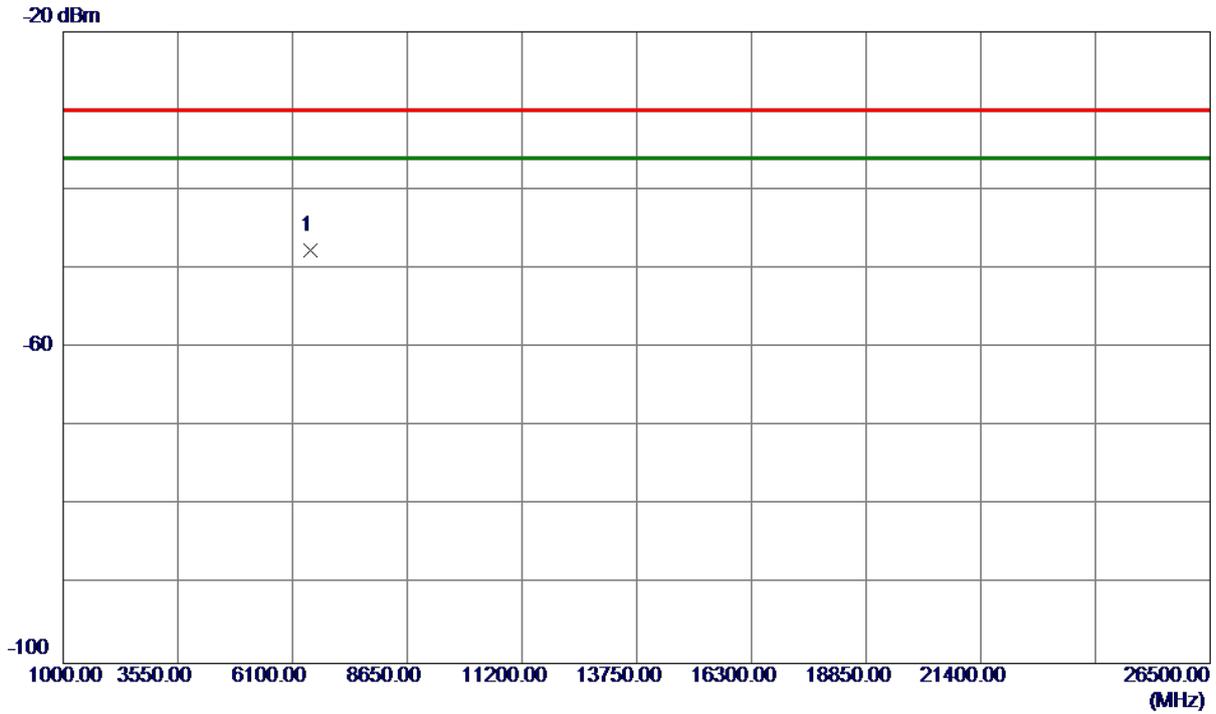
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6880.3000	-63.06	2.28	-60.78	-30.00	-30.78	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE20)_5500MHz	Polarization	Horizontal
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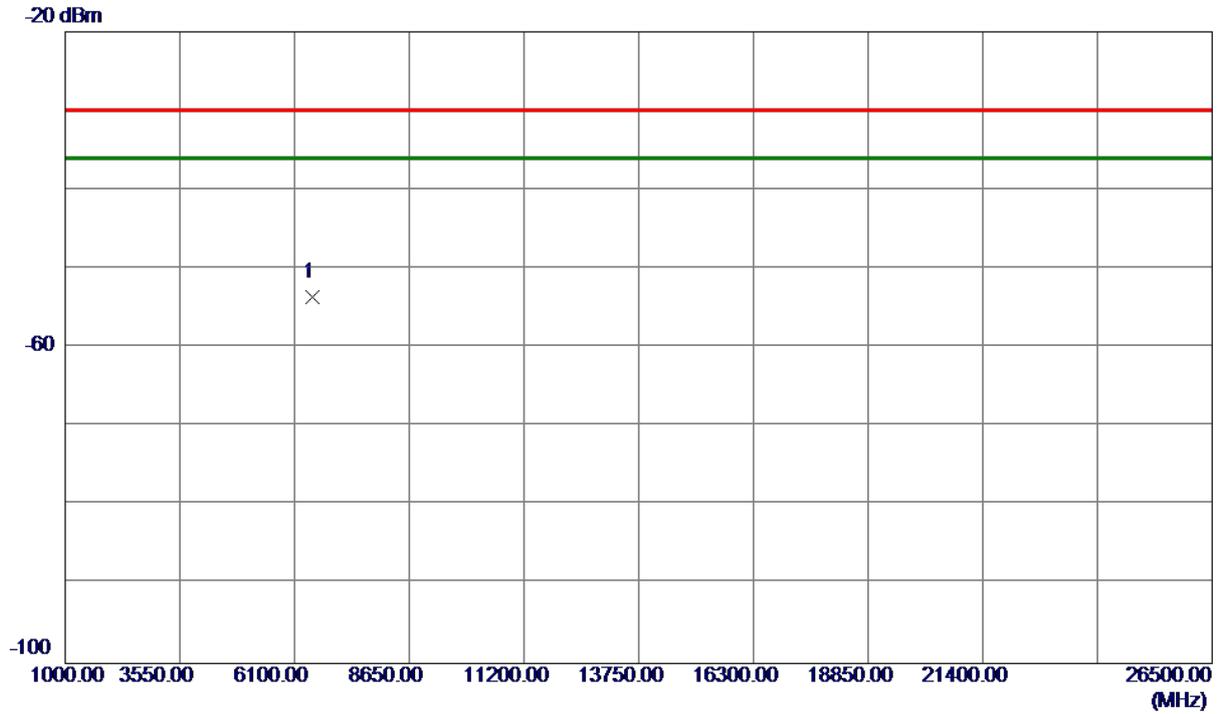
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10242.4750	-65.90	6.29	-59.61	-30.00	-29.61	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_5190MHz	Polarization	Vertical
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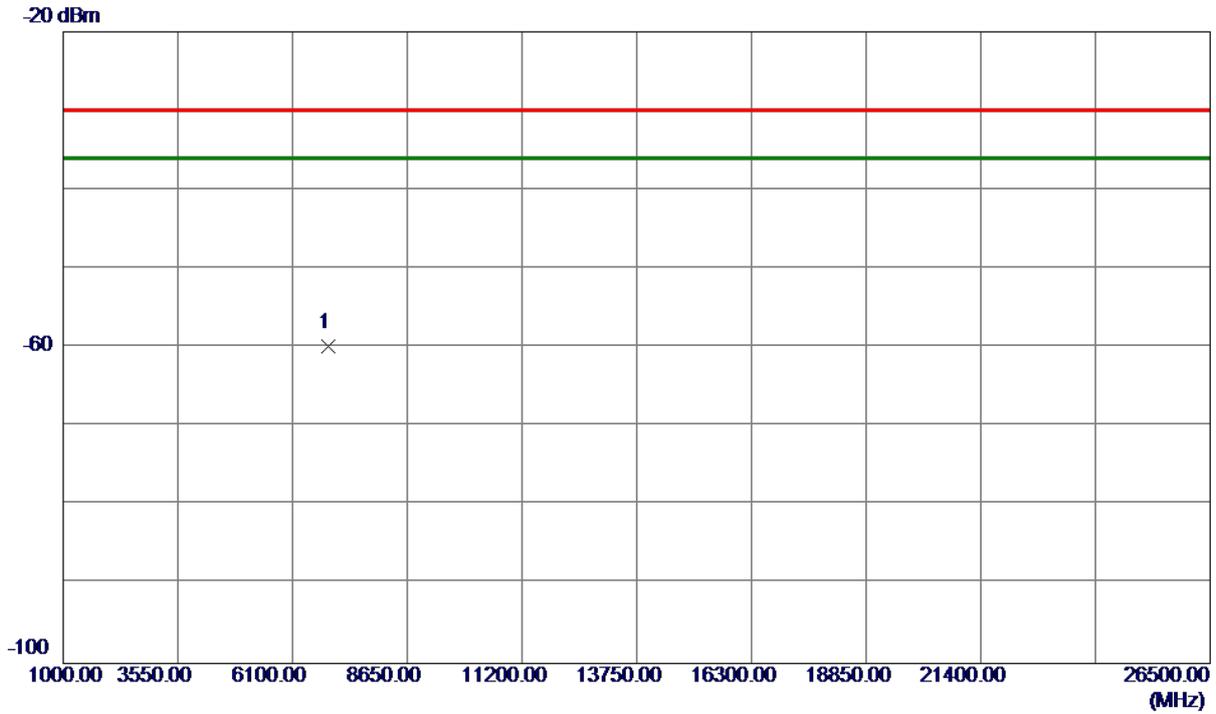
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6487.6000	-49.94	2.27	-47.67	-30.00	-17.67	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_5190MHz	Polarization	Horizontal
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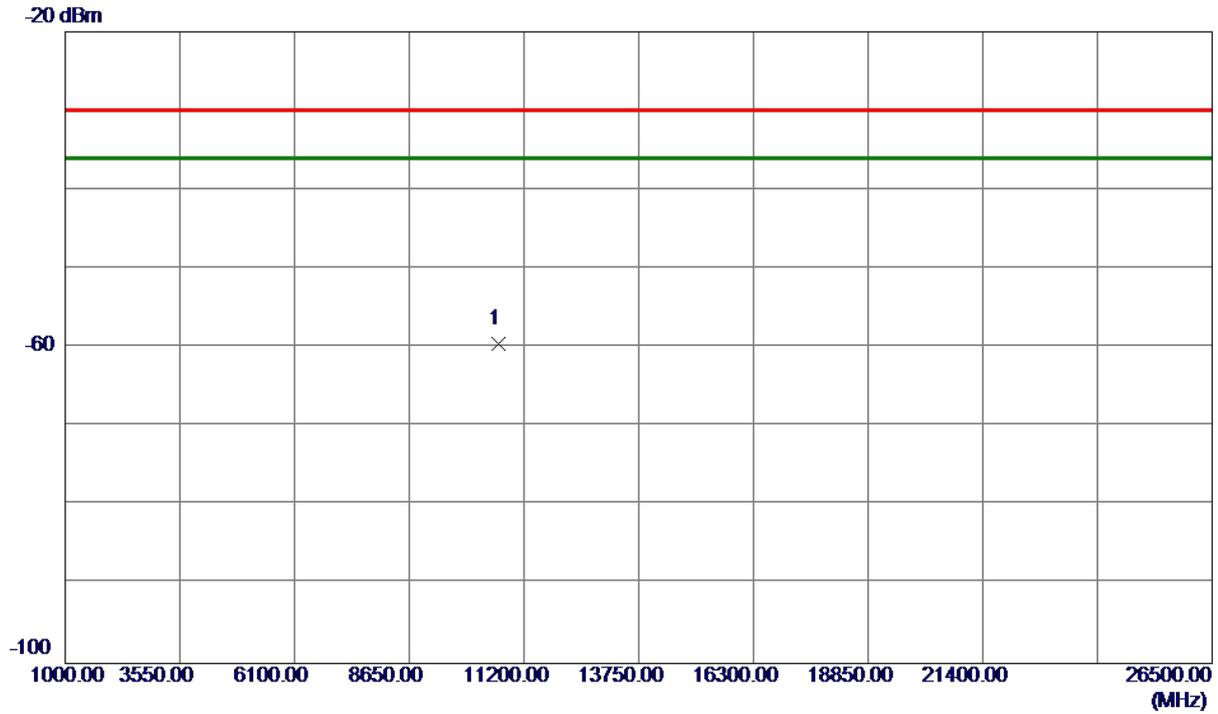
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6487.6000	-55.53	1.90	-53.63	-30.00	-23.63	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_5510MHz	Polarization	Vertical
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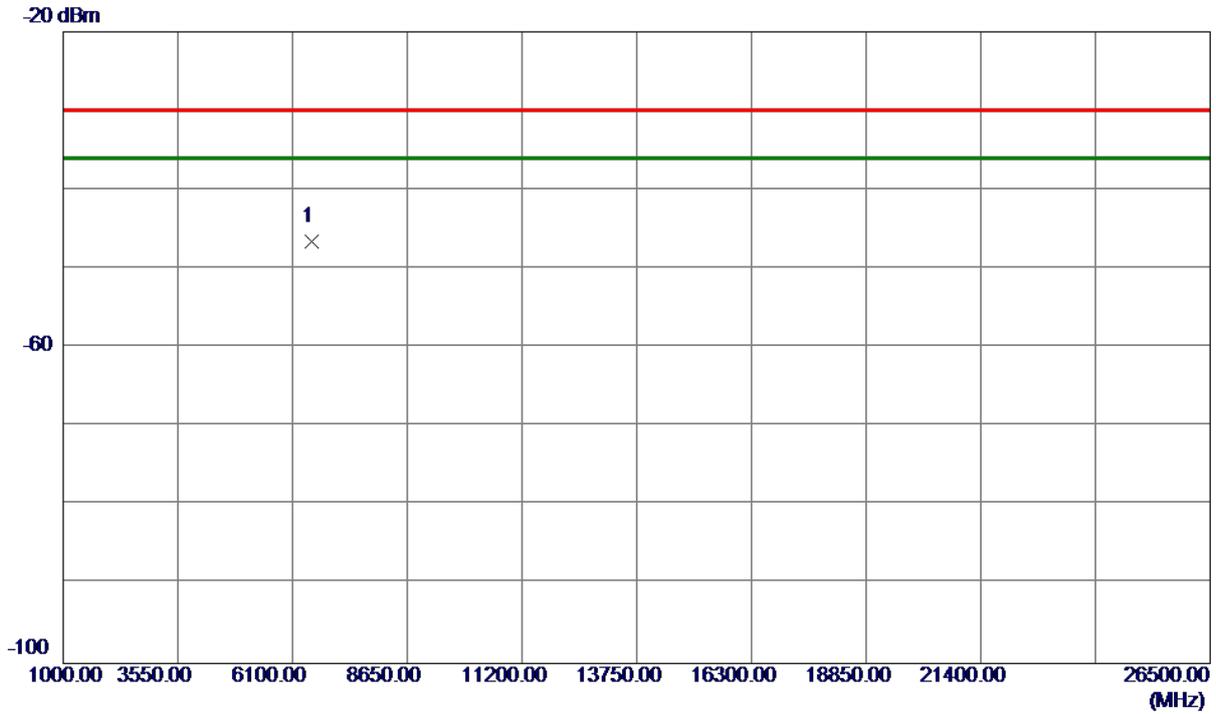
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6887.9500	-62.20	2.28	-59.92	-30.00	-29.92	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE40)_5510MHz	Polarization	Horizontal
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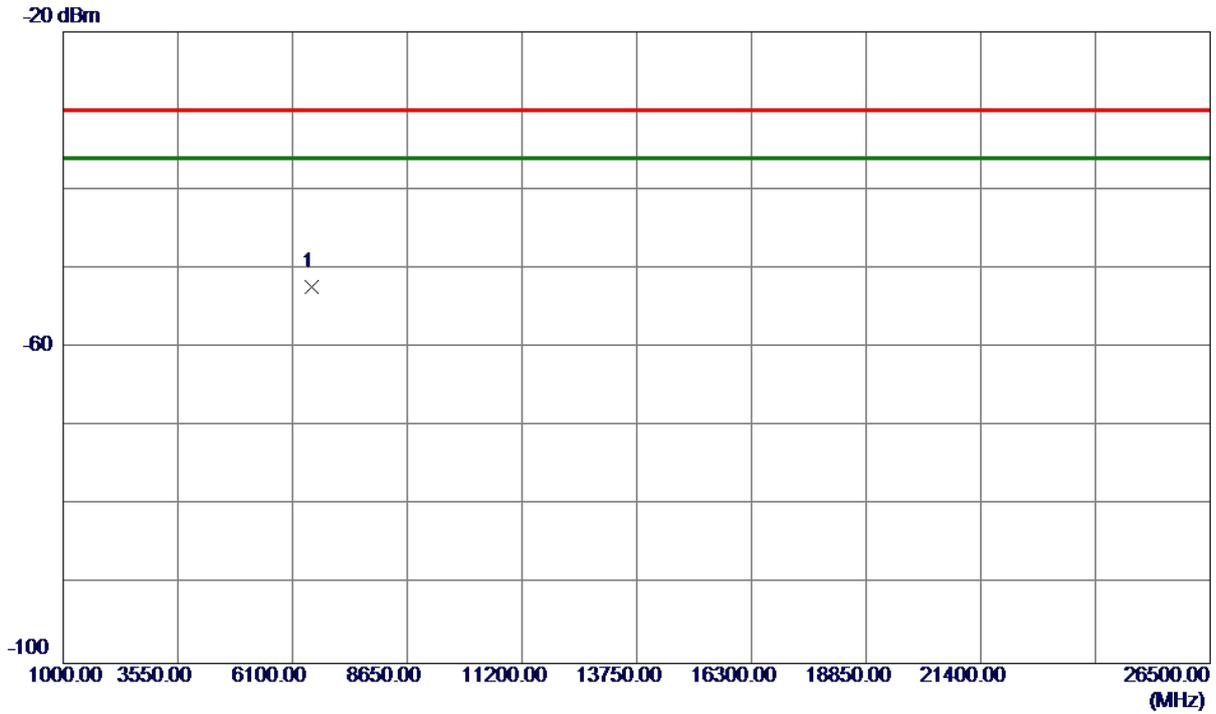
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10636.4500	-66.31	6.76	-59.55	-30.00	-29.55	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE80)_5210MHz	Polarization	Vertical
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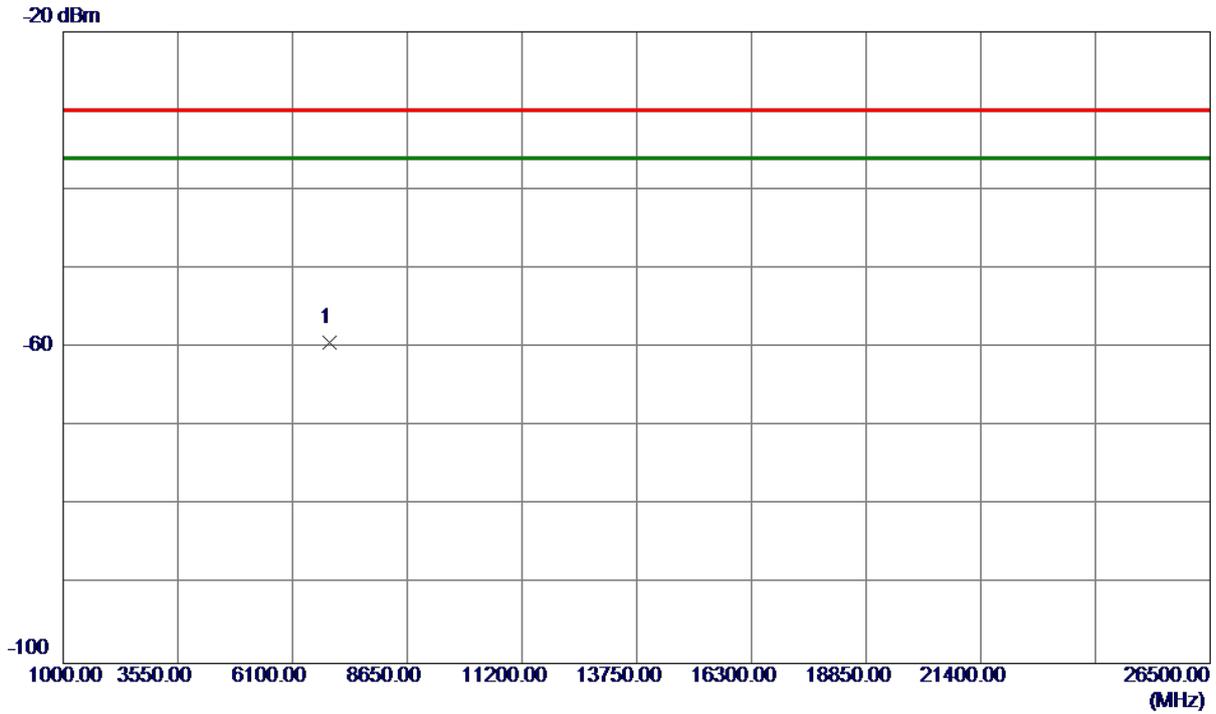
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6513.1000	-48.86	2.27	-46.59	-30.00	-16.59	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE80)_5210MHz	Polarization	Horizontal
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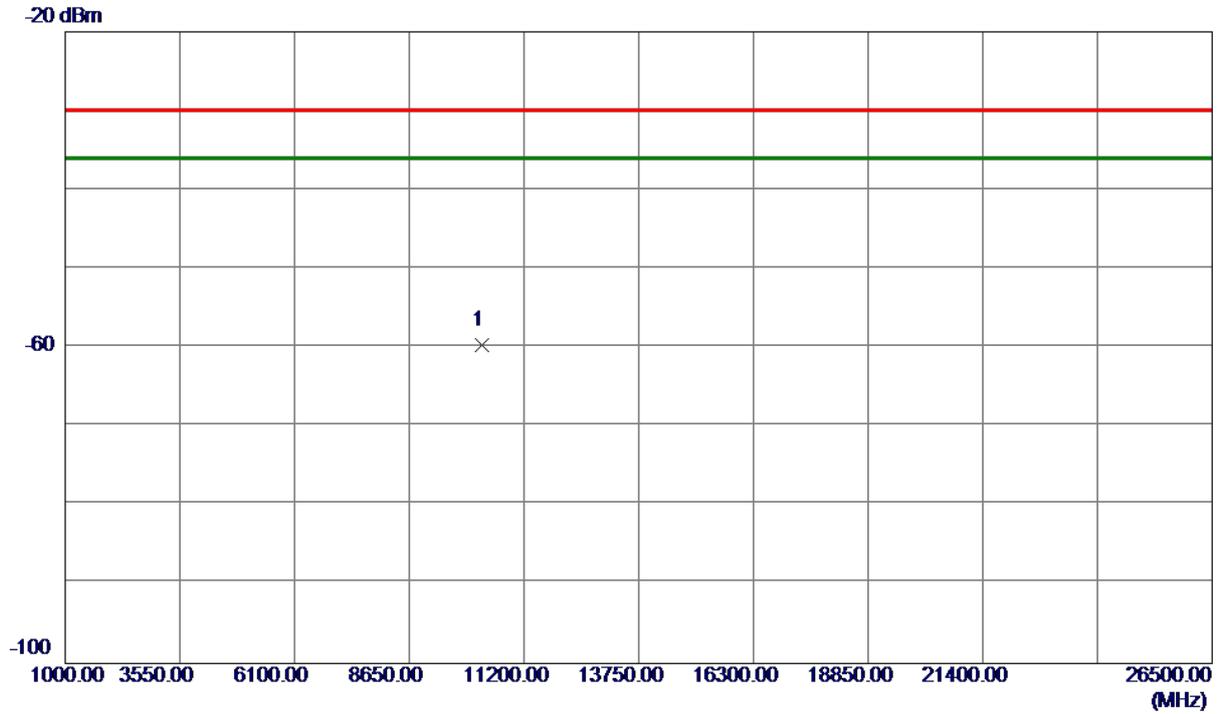
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6513.1000	-54.19	1.91	-52.28	-30.00	-22.28	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE80)_5530MHz	Polarization	Vertical
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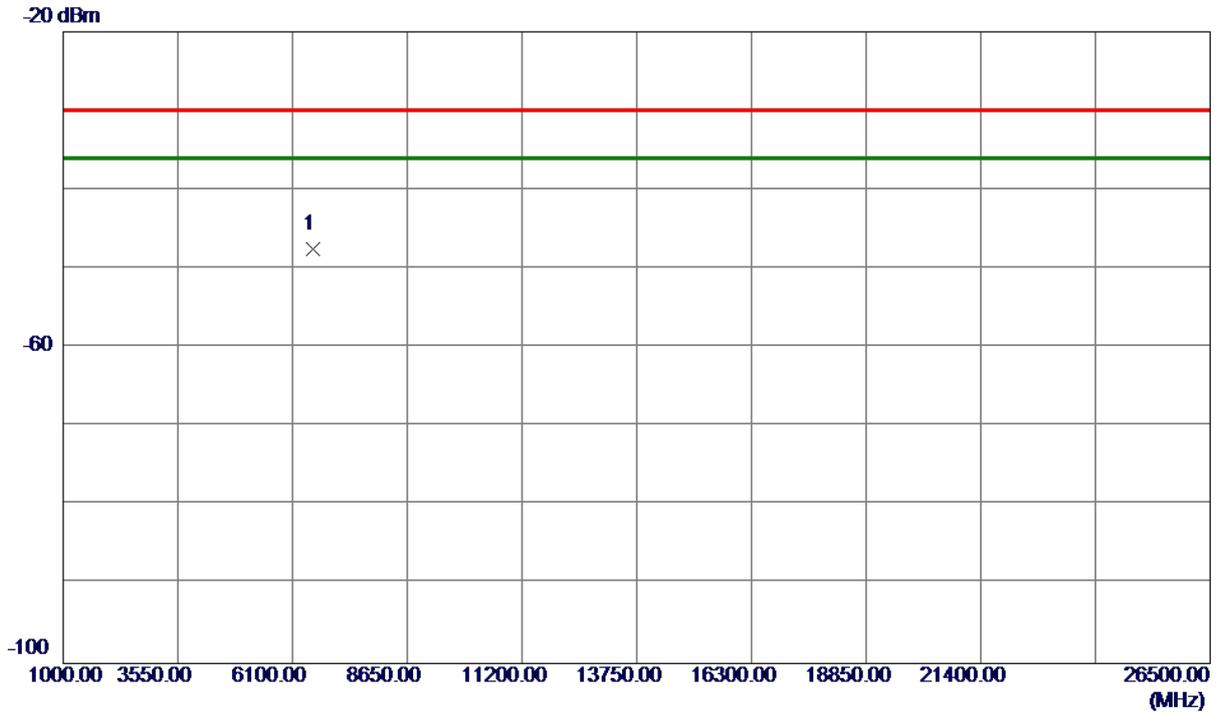
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6912.1750	-61.60	2.28	-59.32	-30.00	-29.32	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE80)_5530MHz	Polarization	Horizontal
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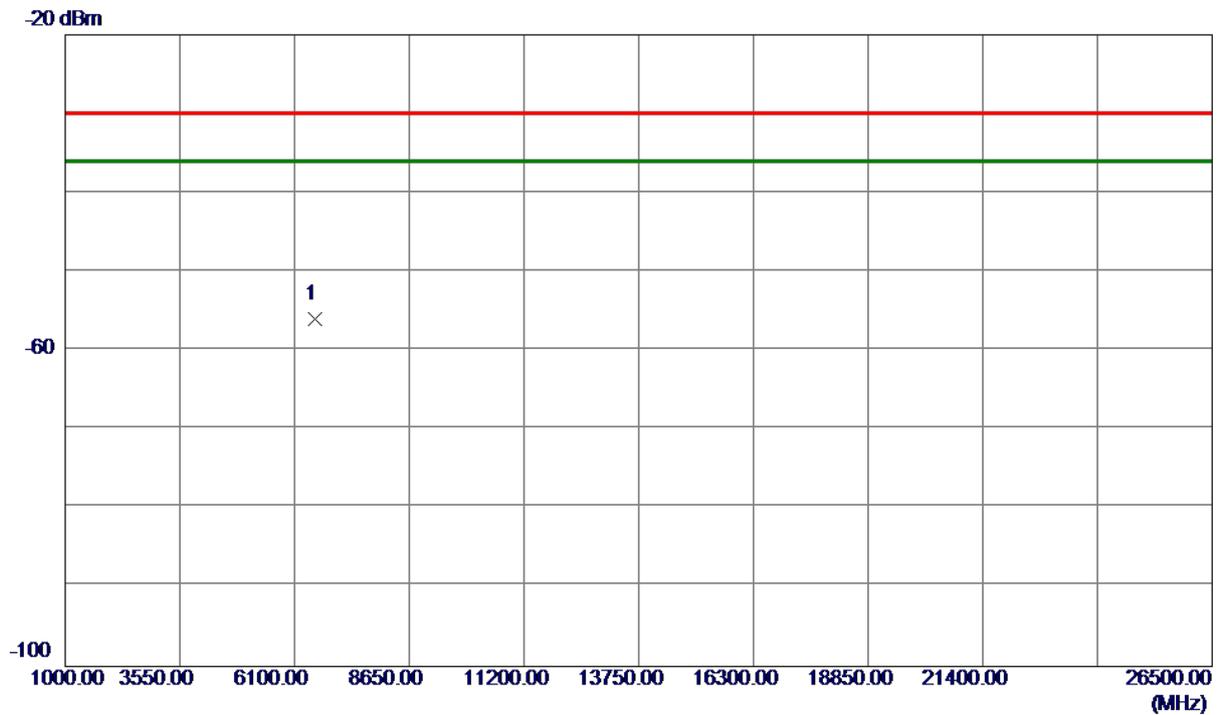
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10259.0500	-65.93	6.31	-59.62	-30.00	-29.62	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE160)_5250MHz	Polarization	Vertical
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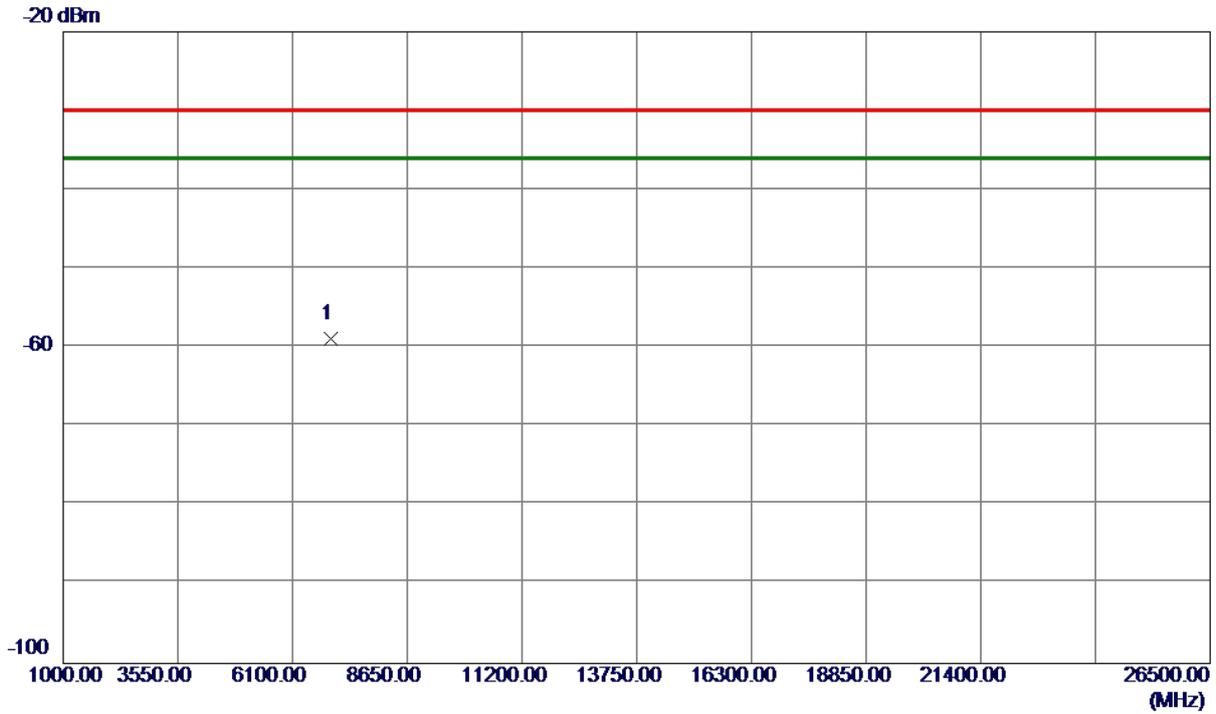
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6562.8250	-49.76	2.27	-47.49	-30.00	-17.49	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE160)_5250MHz	Polarization	Horizontal
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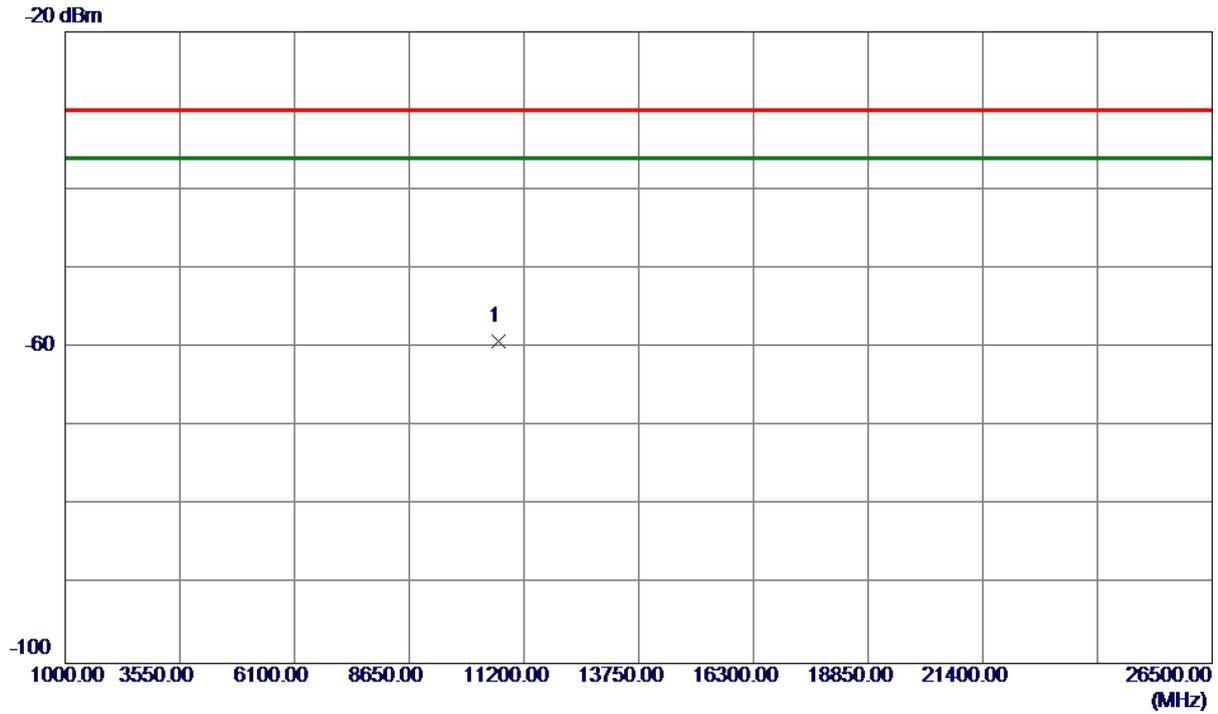
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6562.8250	-57.90	1.97	-55.93	-30.00	-25.93	RMS	

Test Mode	TX Mode IEEE 802.11ax(HE160)_5570MHz	Polarization	Vertical
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	6963.1750	-61.11	2.28	-58.83	-30.00	-28.83	RMS	

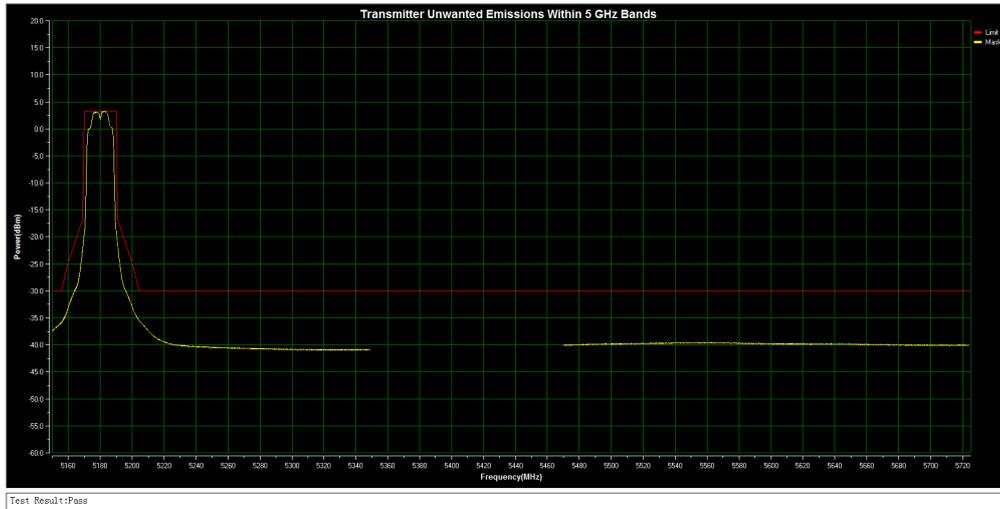
Test Mode	TX Mode IEEE 802.11ax(HE160)_5570MHz	Polarization	Horizontal
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	10631.3500	-65.93	6.75	-59.18	-30.00	-29.18	RMS	

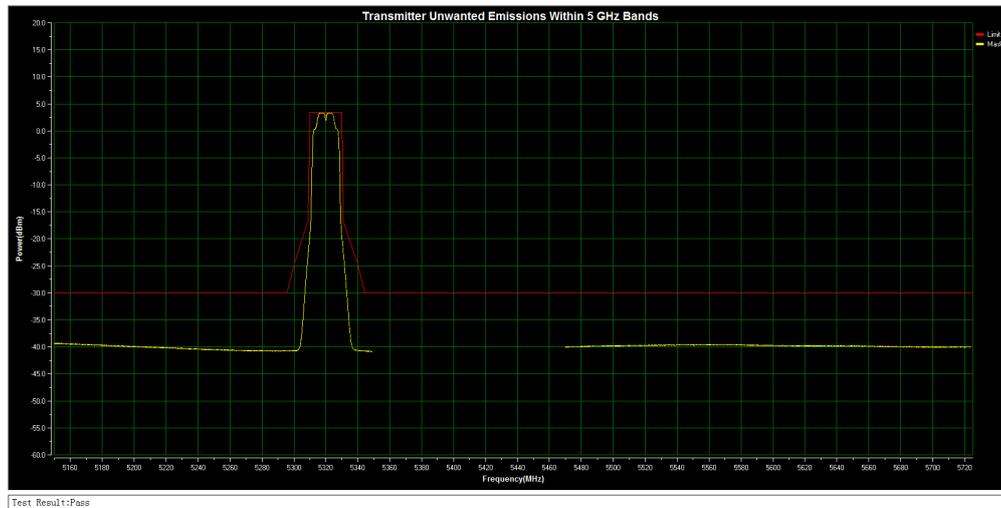
**APPENDIX G - TRANSMITTER UNWANTED EMISSIONS  
WITHIN THE 5 GHZ RLAN BANDS**

Test Mode :	IEEE 802.11a_5180MHz
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**Note:**

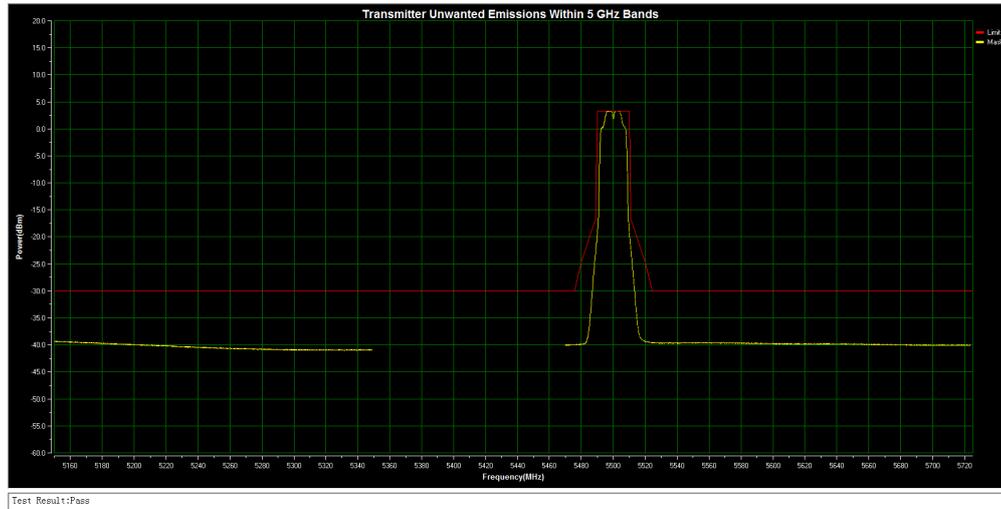
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11a\_5320MHz

**Note:**

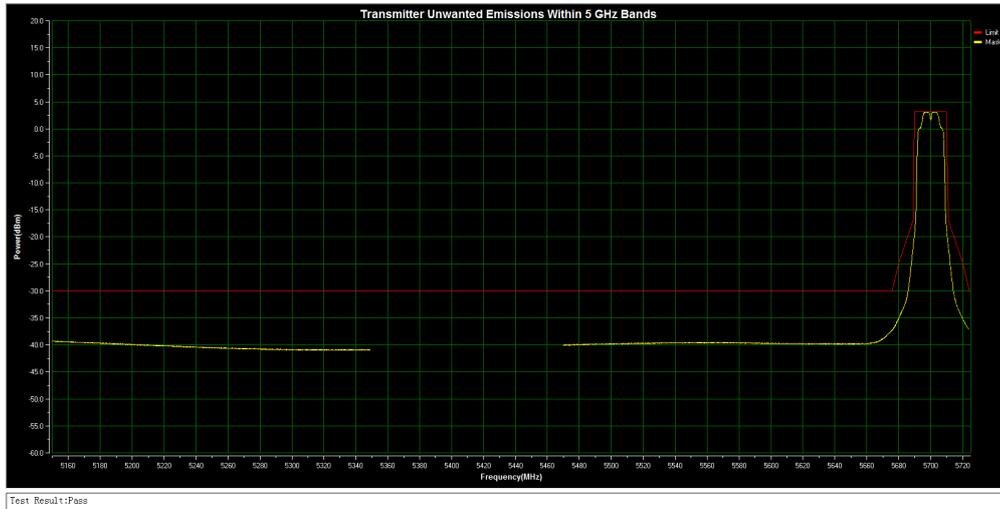
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11a_5500MHz
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**Note:**

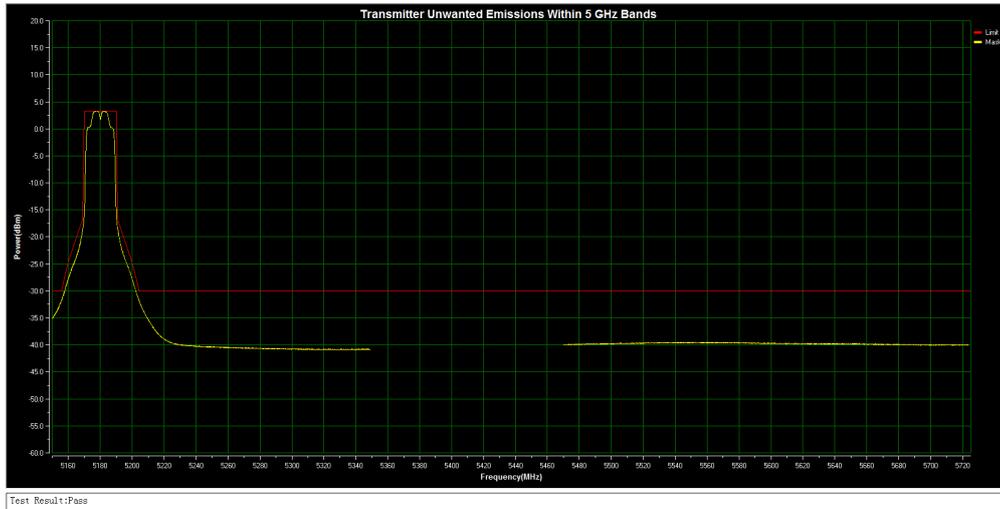
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11a\_5700MHz



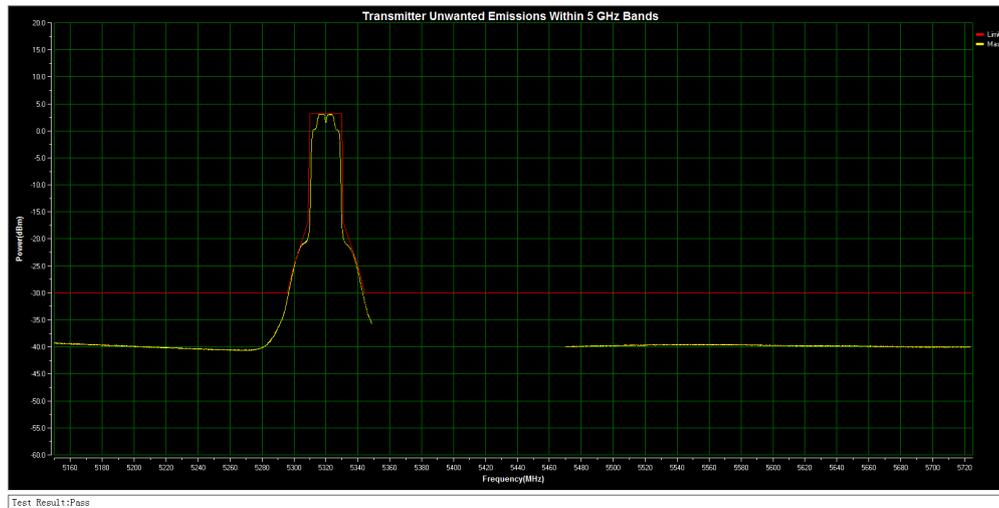
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT20)_5180MHz
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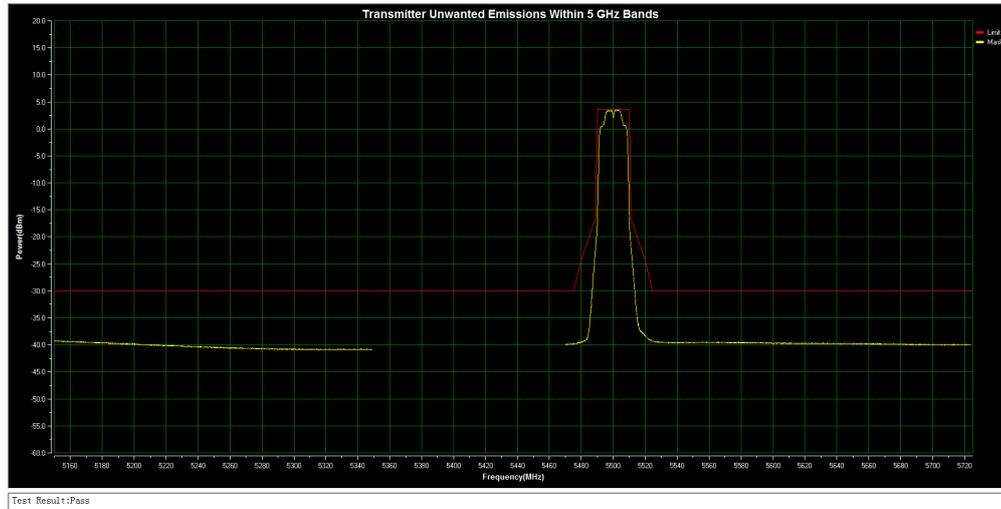
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT20)_5320MHz
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**Note:**

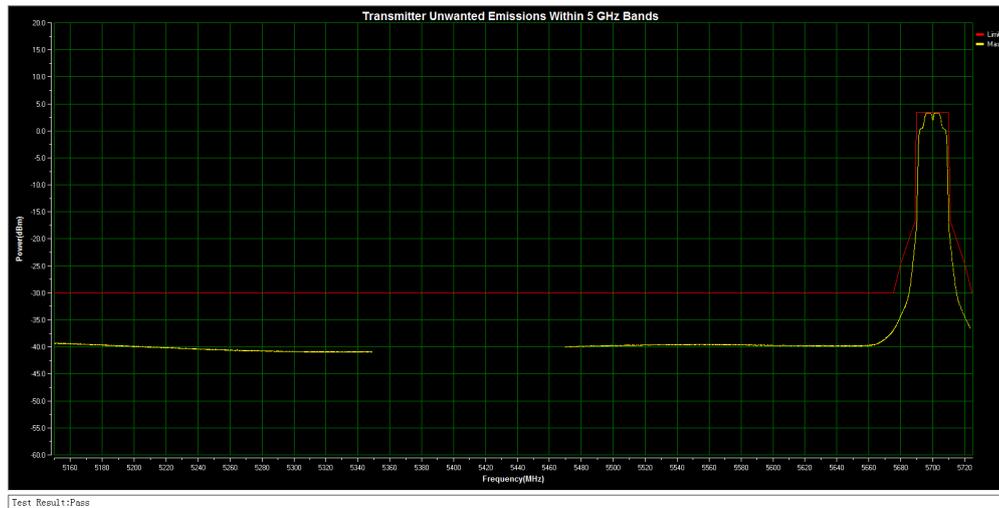
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT20)_5500MHz
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**Note:**

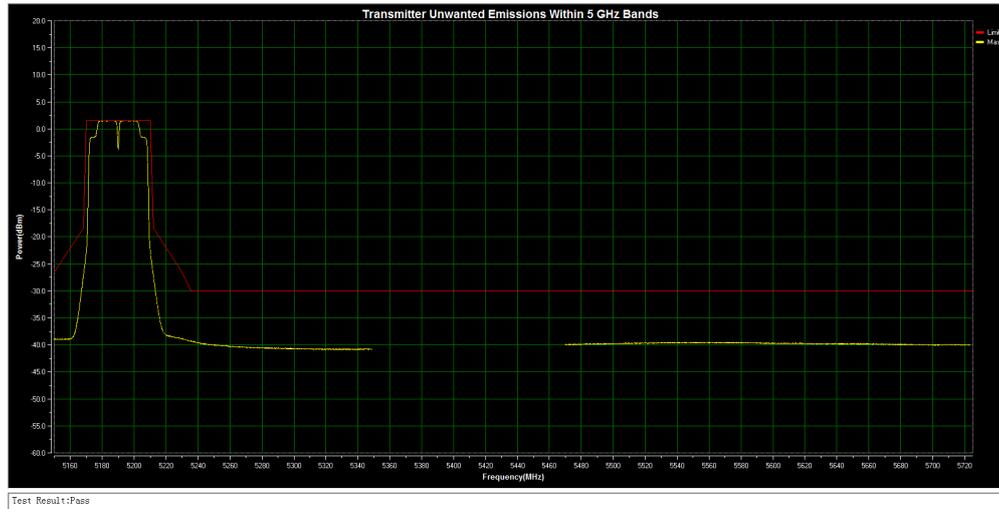
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT20)_5700MHz
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**Note:**

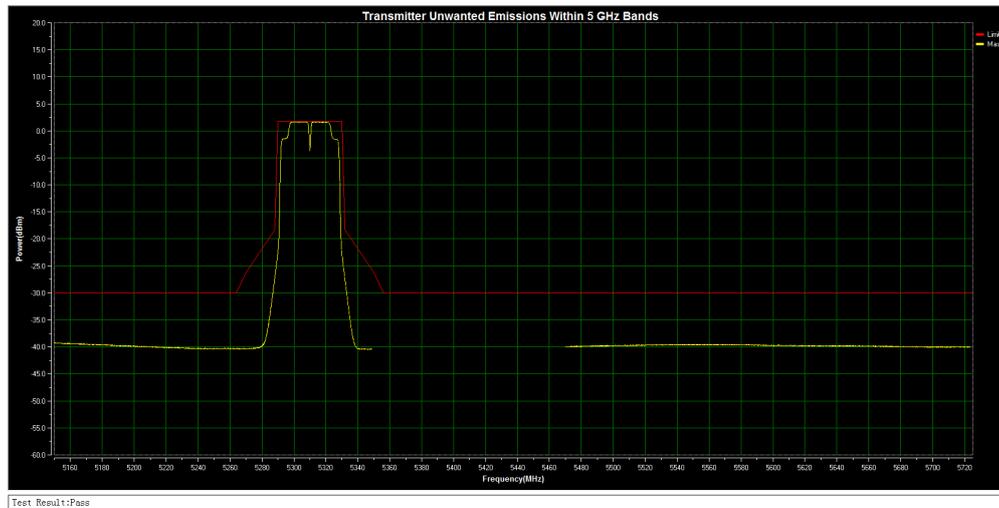
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT40)_5190MHz
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**Note:**

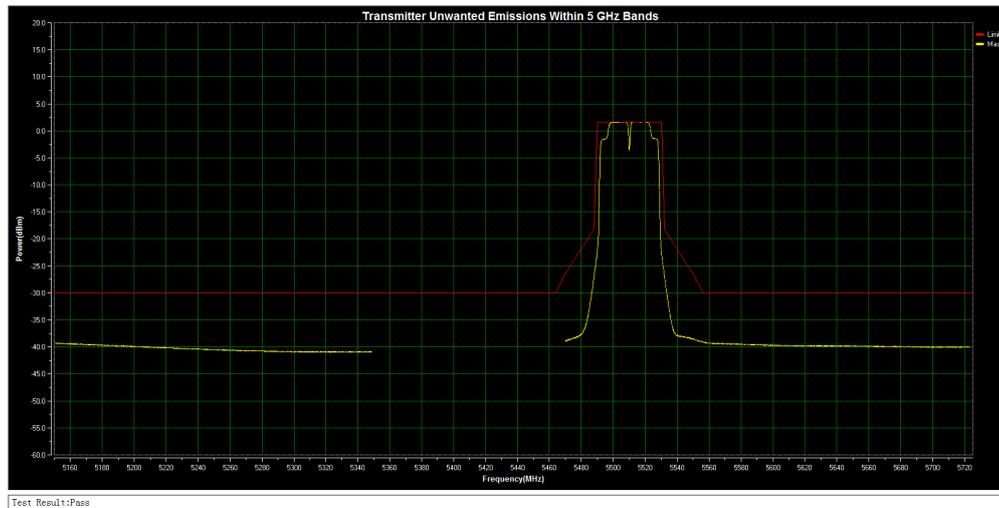
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT40)_5310MHz
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**Note:**

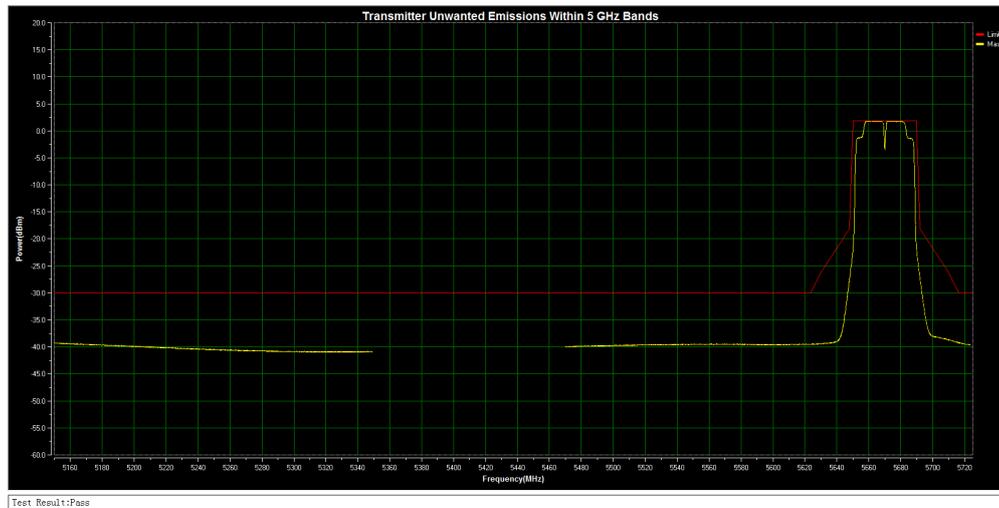
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT40)_5510MHz
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**Note:**

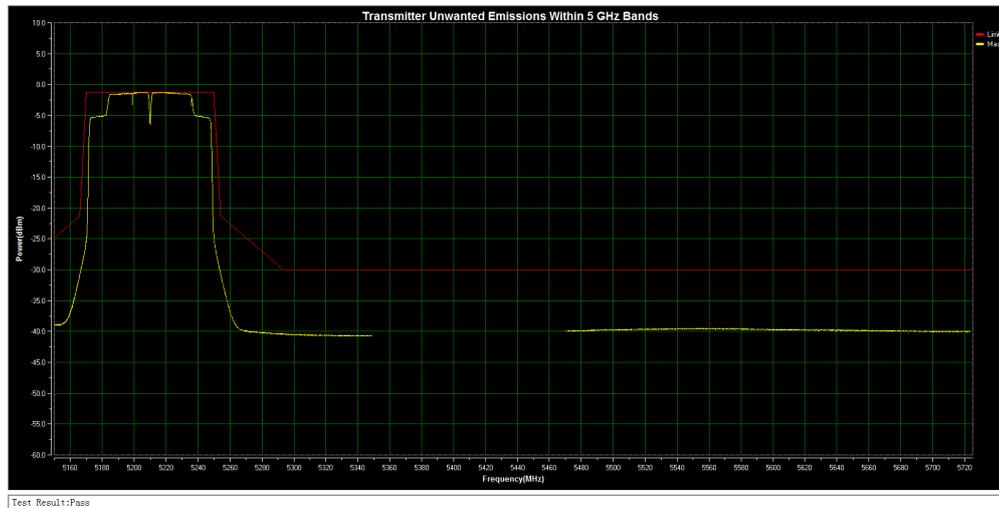
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT40)_5670MHz
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**Note:**

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT80)_5210MHz
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**Note:**

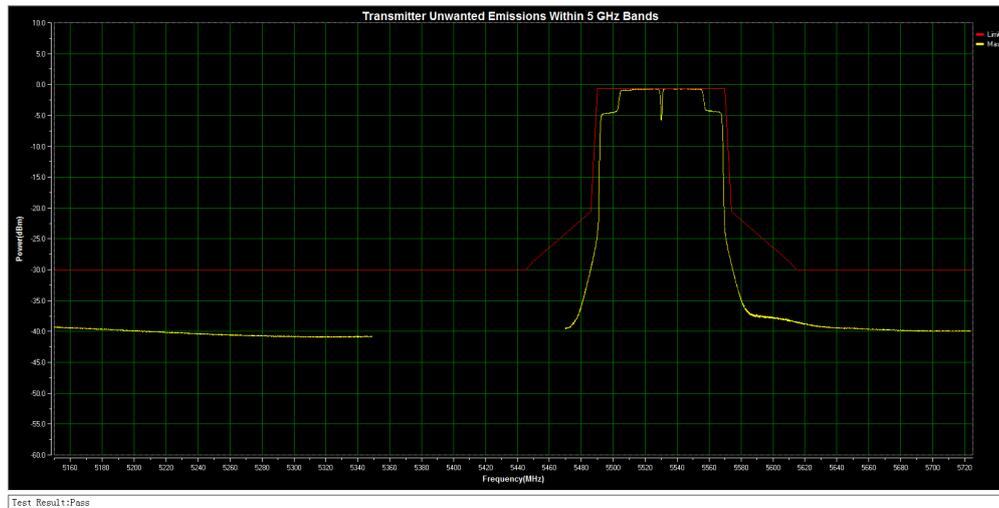
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT80)_5290MHz
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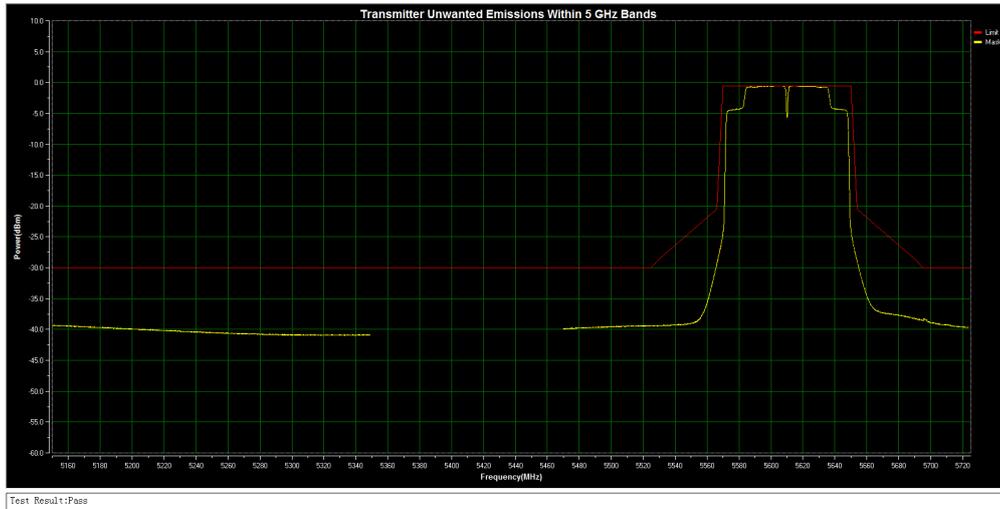
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT80)_5530MHz
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**Note:**

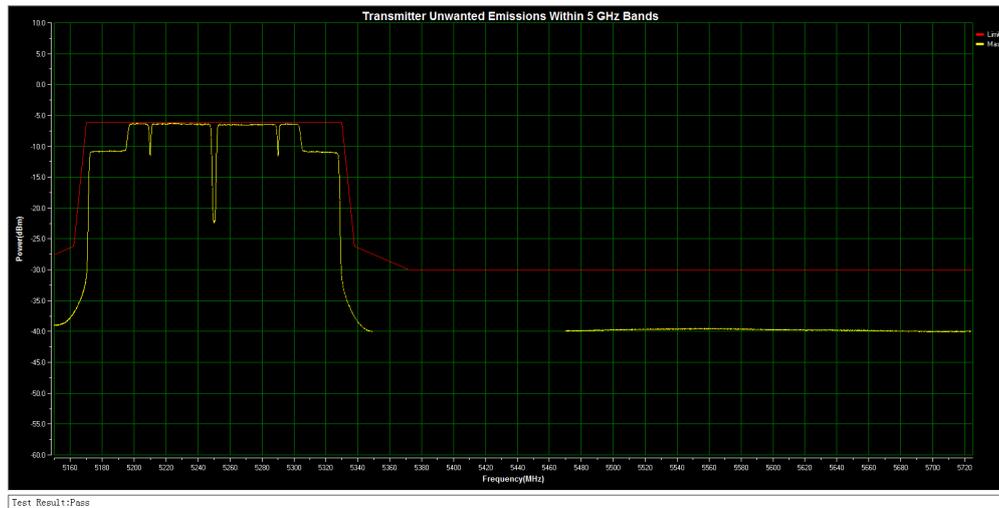
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT80)\_5610MHz



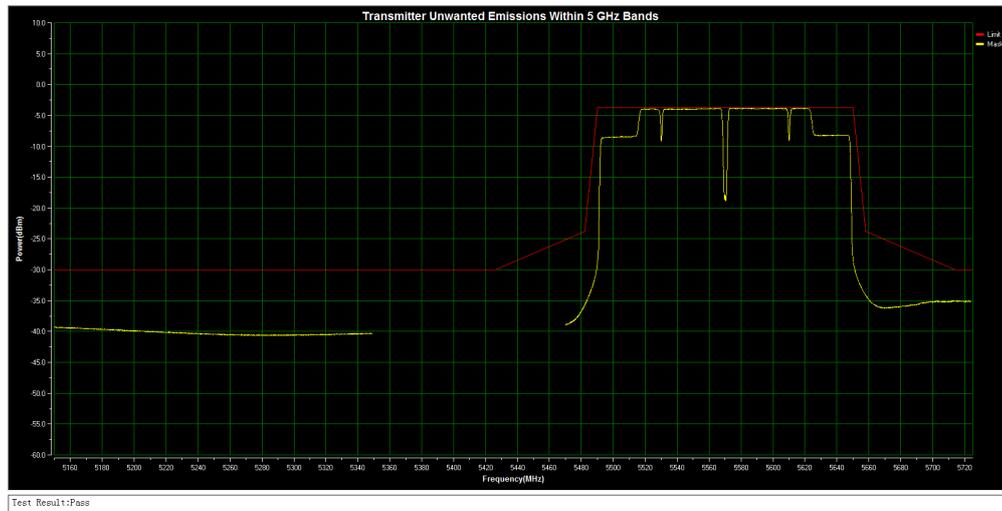
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT160)_5250MHz
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**Note:**

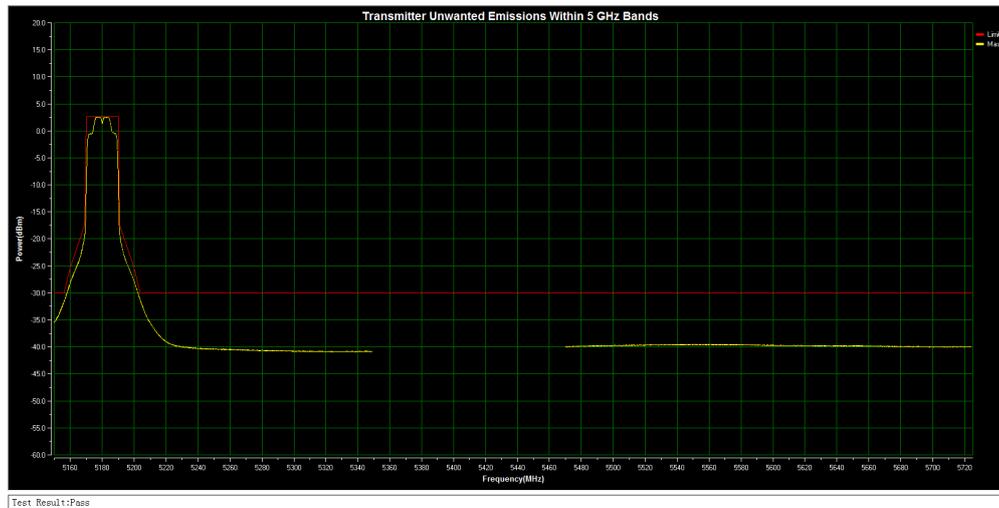
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ac(VHT160)_5570MHz
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**Note:**

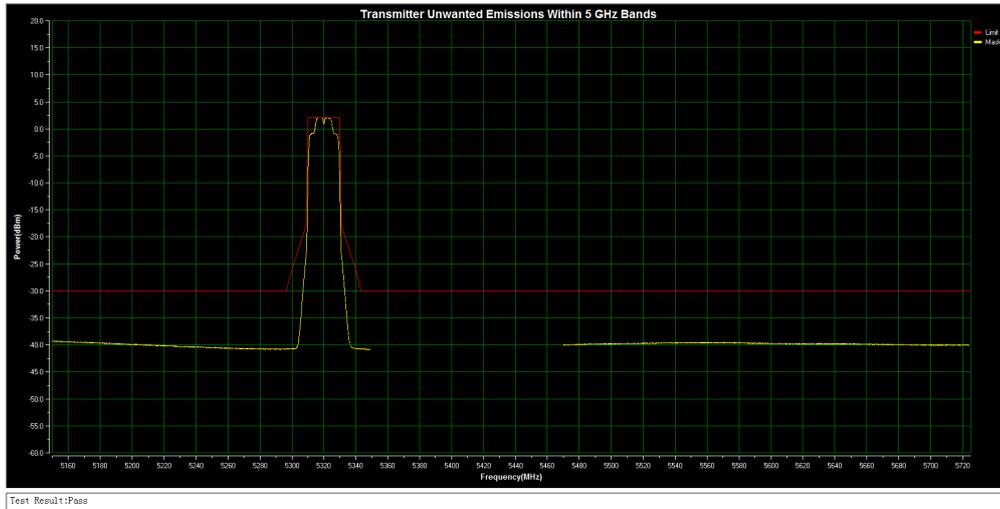
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE20)_5180MHz
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**Note:**

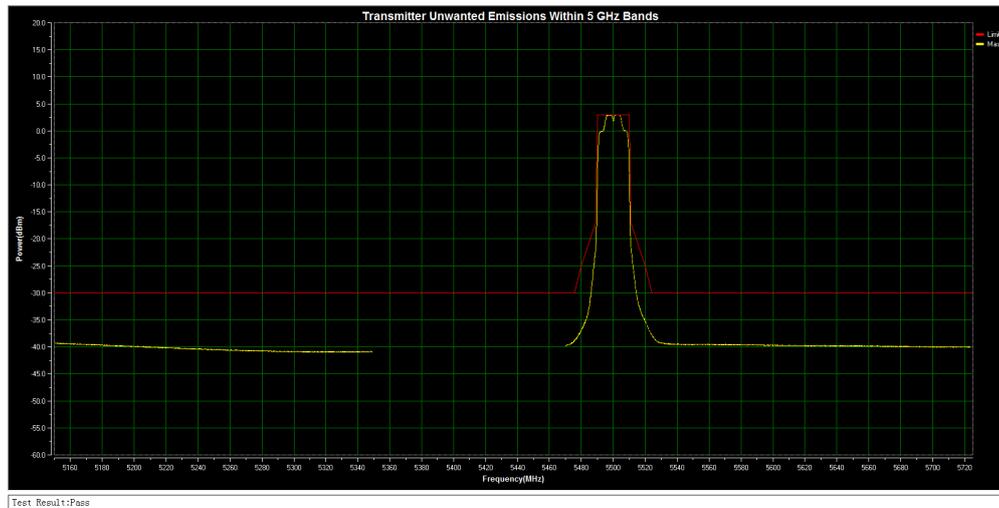
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE20)\_5320MHz



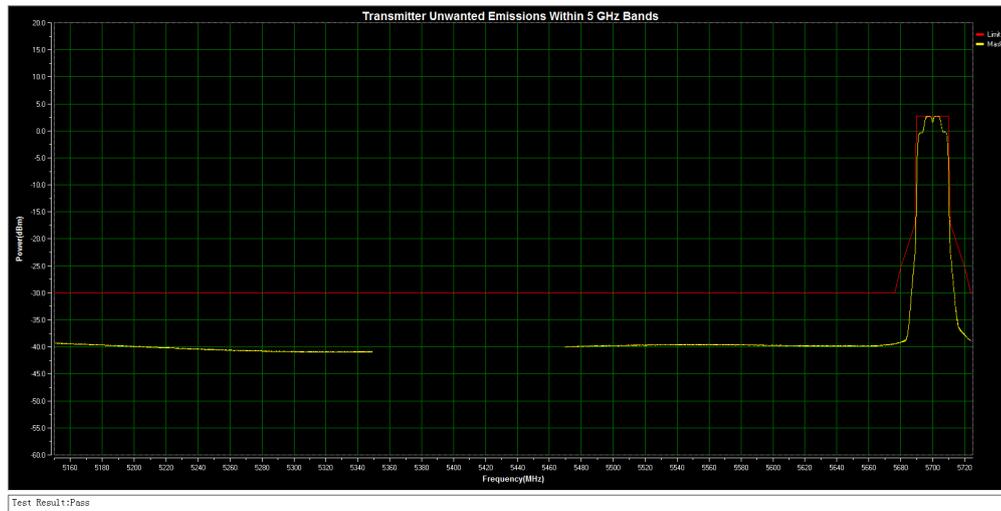
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE20)_5500MHz
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**Note:**

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

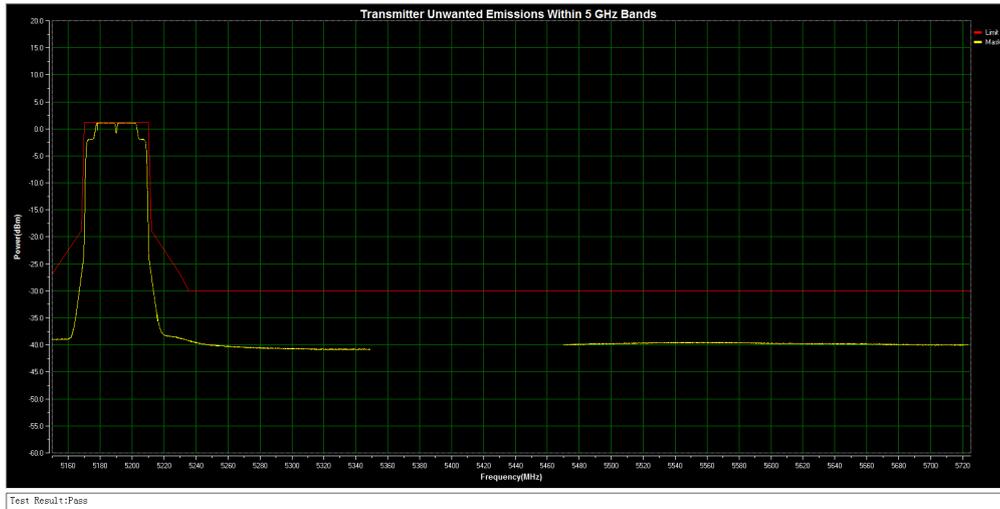
Test Mode :	IEEE 802.11ax(HE20)_5700MHz
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**Note:**

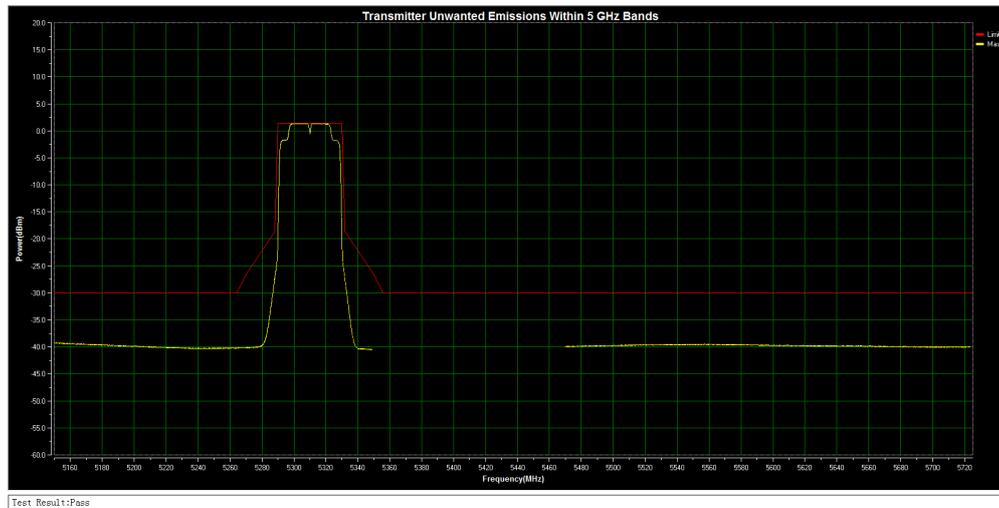
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE40)\_5190MHz



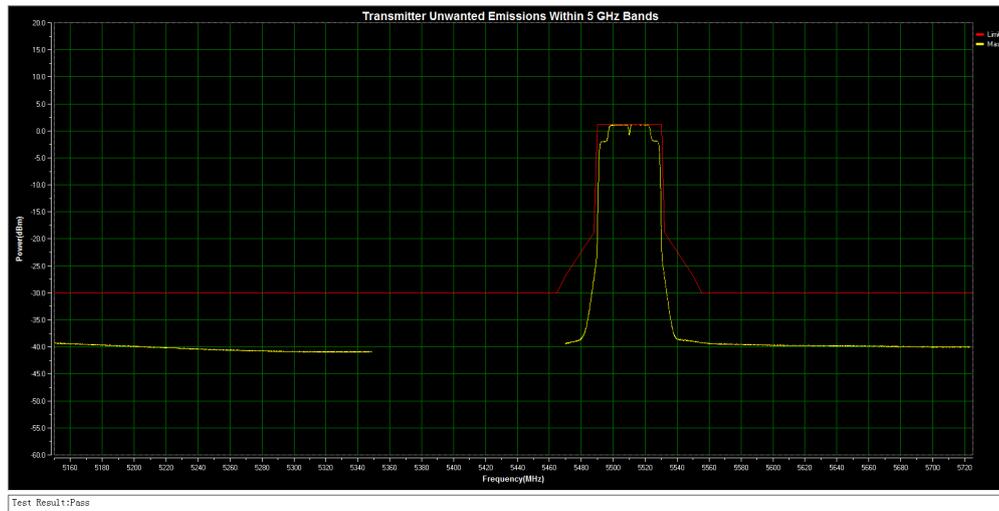
Note:  
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.  
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE40)_5310MHz
-------------	-----------------------------

**Note:**

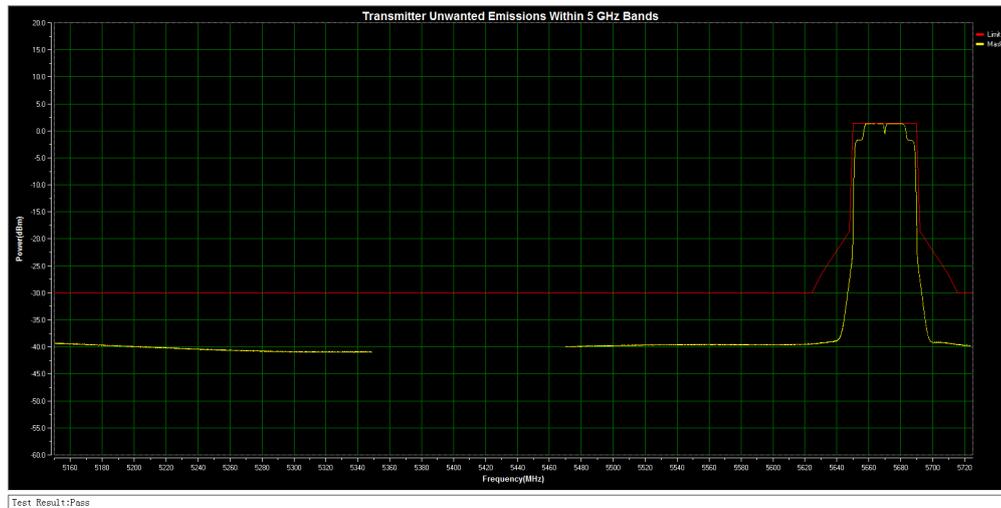
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE40)_5510MHz
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**Note:**

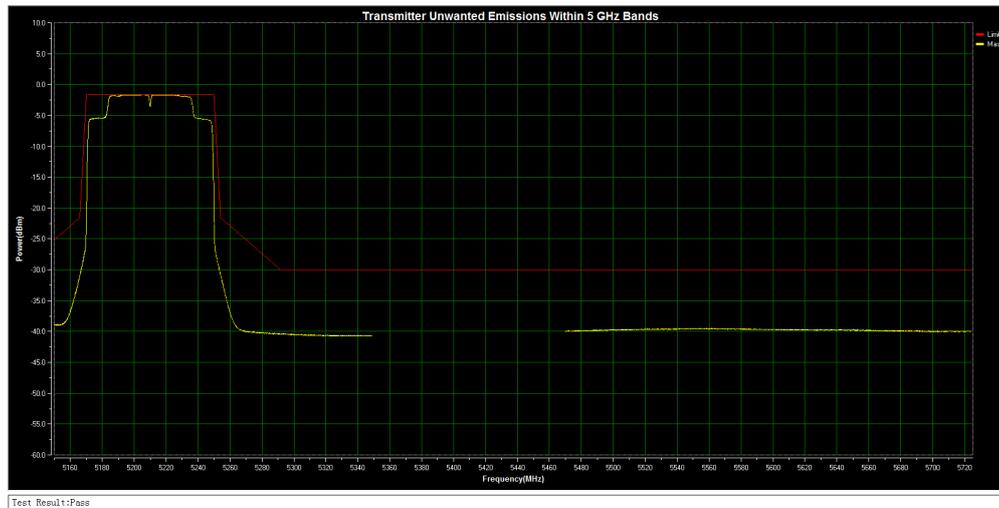
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE40)_5670MHz
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**Note:**

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE80)_5210MHz
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**Note:**

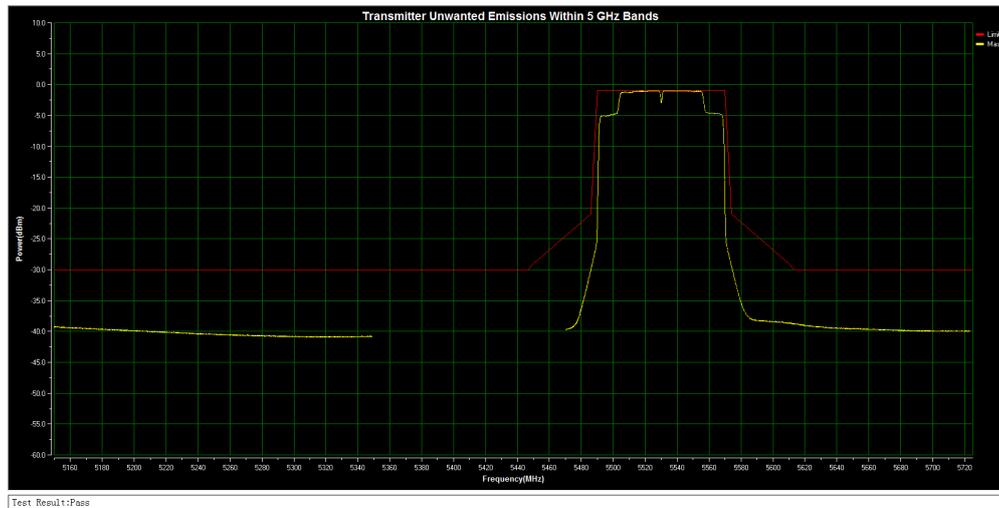
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE80)_5290MHz
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**Note:**

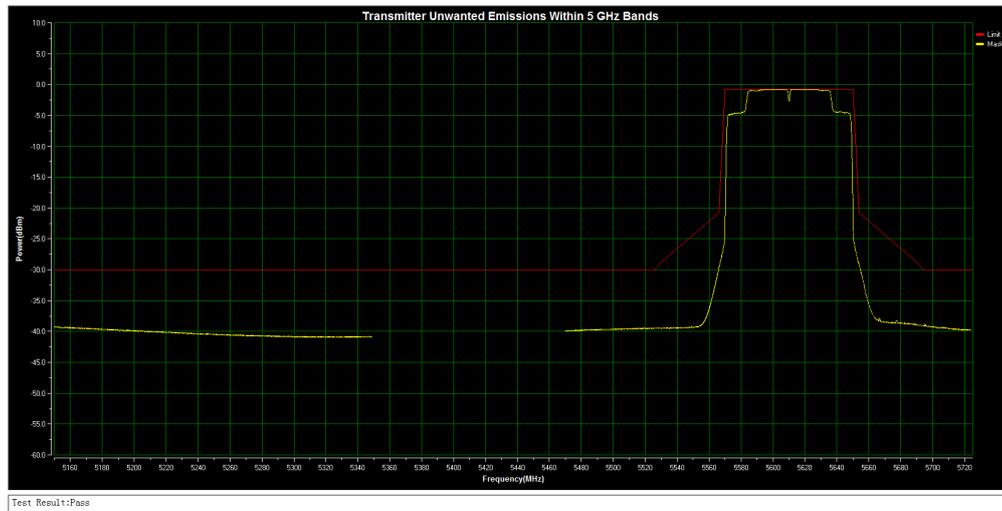
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE80)_5530MHz
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**Note:**

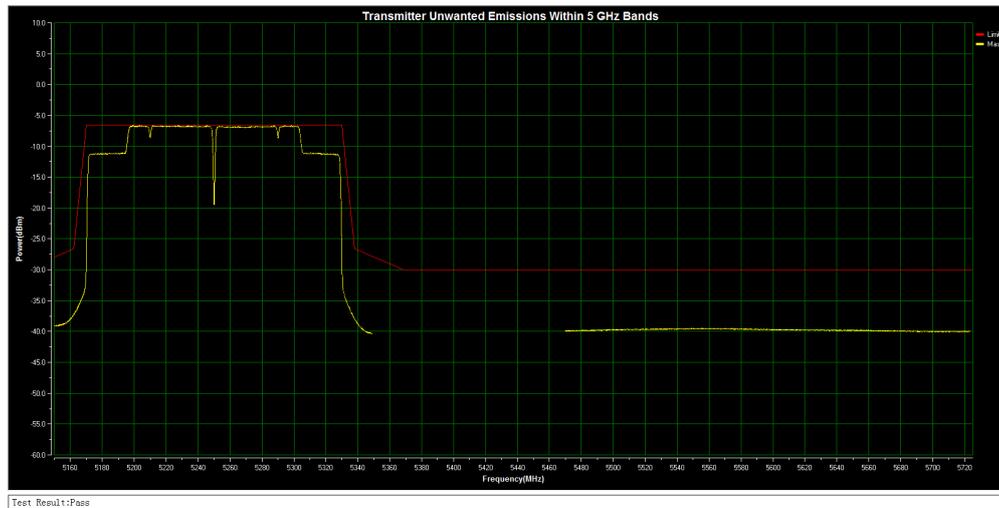
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE80)_5610MHz
-------------	-----------------------------

**Note:**

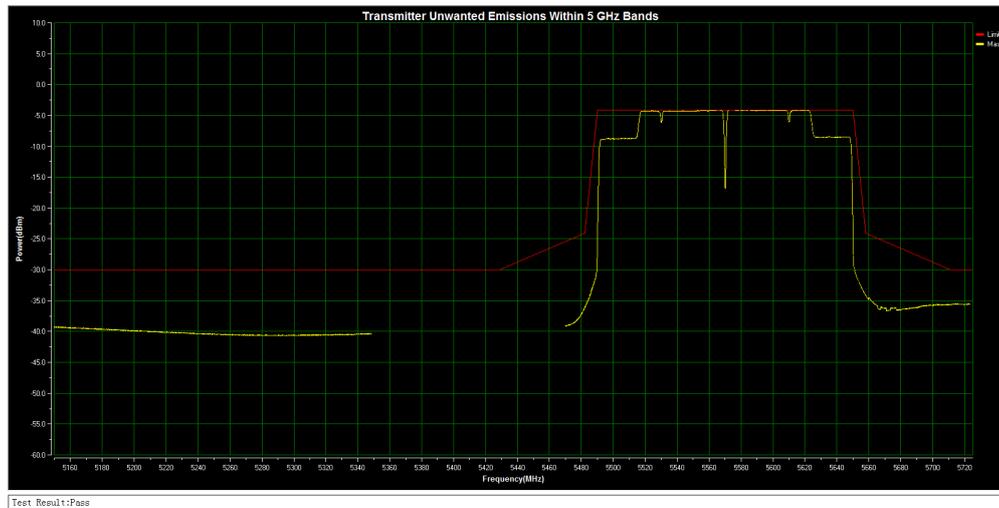
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE160)_5250MHz
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**Note:**

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

Test Mode :	IEEE 802.11ax(HE160)_5570MHz
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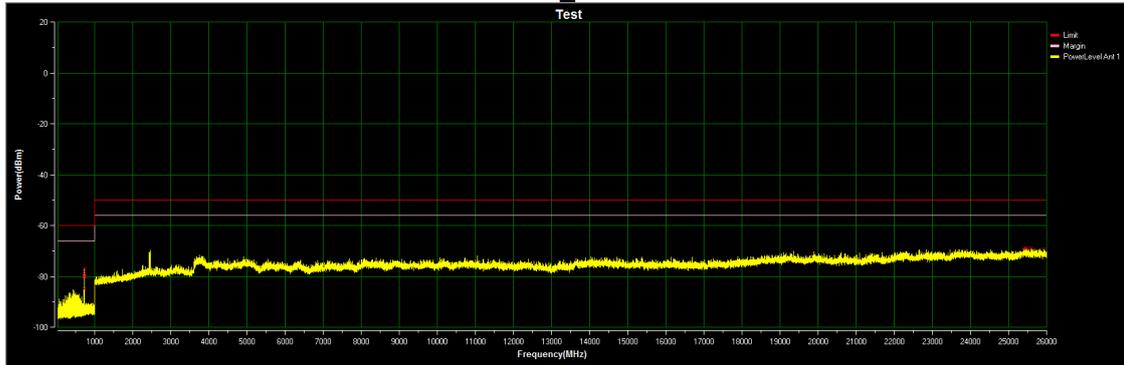
**Note:**

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious, so the waveform is not displayed in the test data.

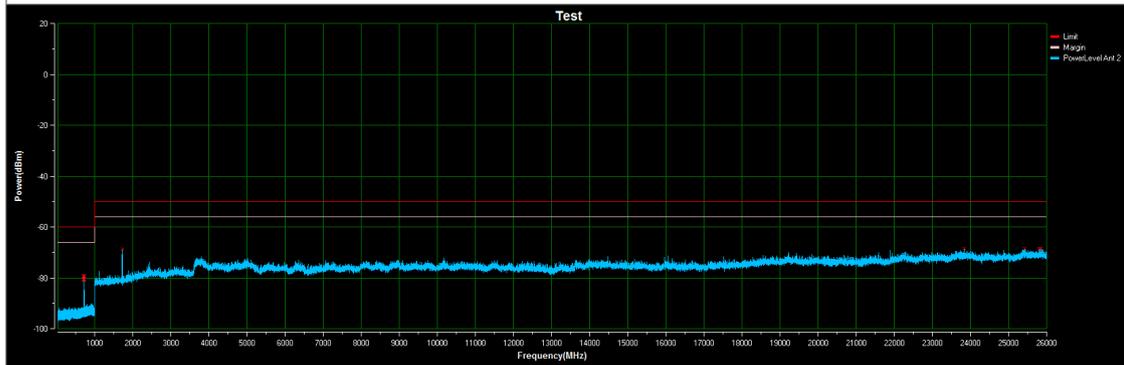
## **APPENDIX H - RECEIVER SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)**

Test Mode RX Mode IEEE 802.11ac(VHT80)

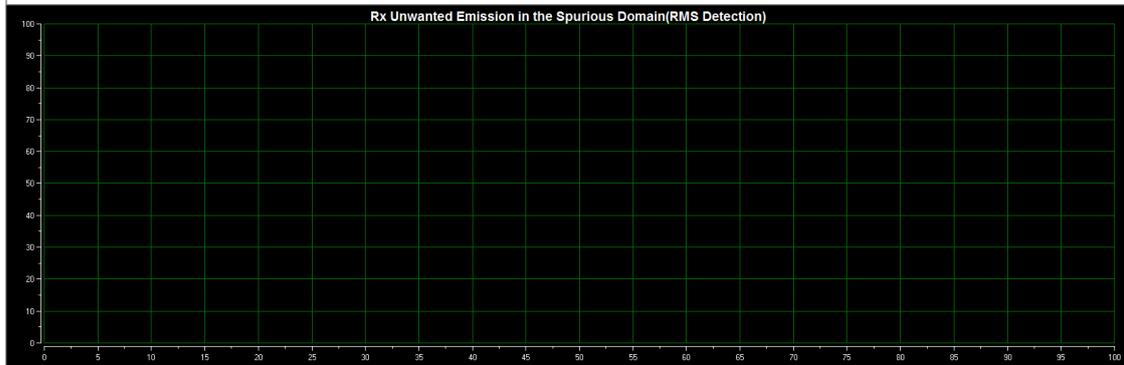
### RX Mode\_5210MHz



Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
722.2	-76.62	-60.01	16.61	Pass
722.25	-76.64	-60.01	16.63	Pass
722.15	-78.75	-60.01	18.74	Pass
722.3	-79.59	-60.01	19.58	Pass
722.35	-79.78	-60.01	19.77	Pass
722.4	-84.73	-60.01	24.72	Pass
25479	-68.76	-50.01	18.75	Pass
25599	-68.78	-50.01	18.77	Pass
25439	-68.83	-50.01	18.82	Pass
25402	-68.88	-50.01	18.87	Pass
25582	-68.93	-50.01	18.92	Pass
25931	-68.99	-50.01	18.98	Pass

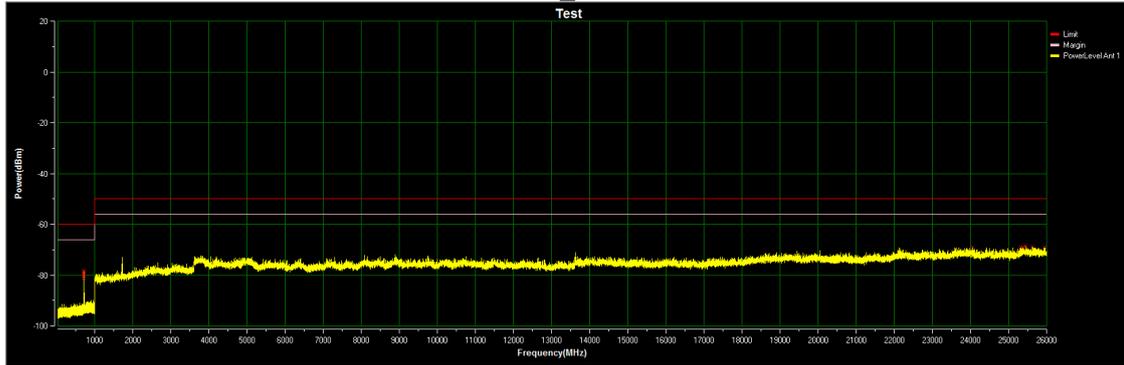


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
707	-78.9	-60.01	18.89	Pass
706.95	-79.03	-60.01	19.02	Pass
706.7	-79.42	-60.01	19.41	Pass
711.6	-80.04	-60.01	20.03	Pass
711.7	-80.42	-60.01	20.41	Pass
707.35	-80.53	-60.01	20.52	Pass
25420	-68.08	-50.01	18.07	Pass
25821	-68.21	-50.01	18.2	Pass
25850	-68.29	-50.01	18.28	Pass
23845	-68.32	-50.01	18.31	Pass
25808	-68.53	-50.01	18.52	Pass
1724	-68.56	-50.01	18.55	Pass

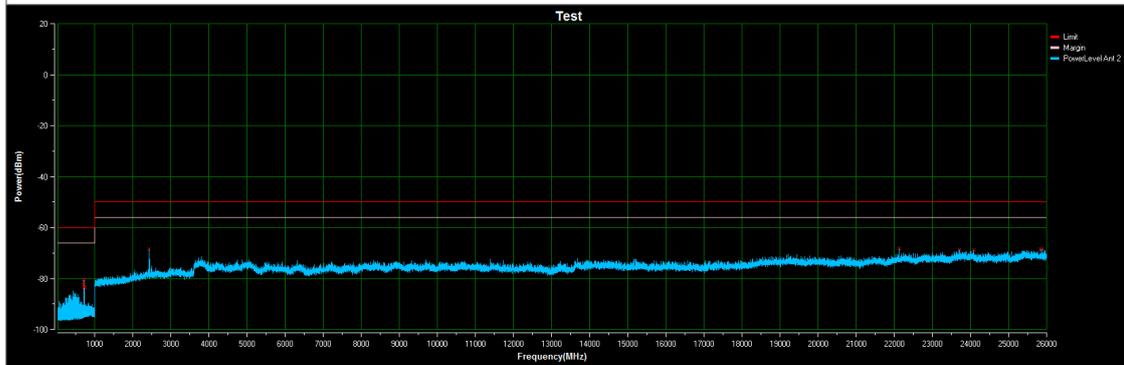


Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Margin (dB)	Result
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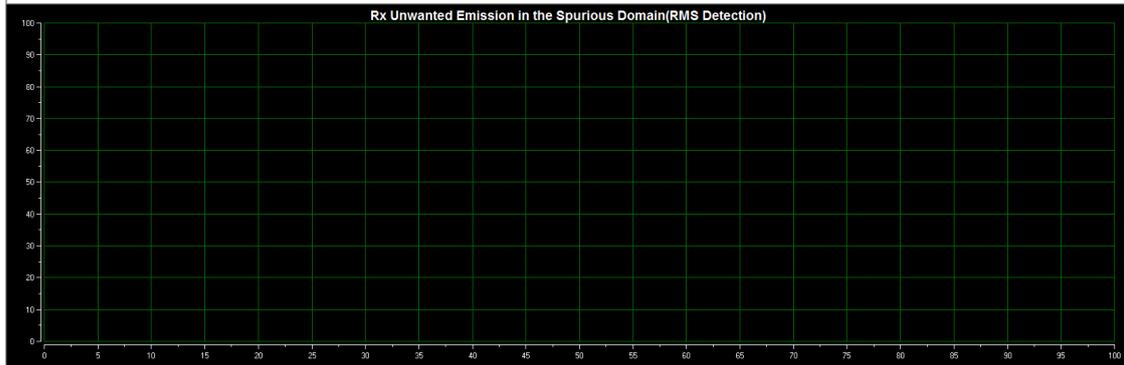
## RX Mode\_5530MHz



Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
705.45	-78.14	-60.01	18.13	Pass
705.4	-78.41	-60.01	18.4	Pass
712.3	-79.47	-60.01	19.46	Pass
705.5	-80.19	-60.01	20.18	Pass
712.45	-80.91	-60.01	20.9	Pass
712.35	-80.95	-60.01	20.94	Pass
25441	-68.2	-50.01	18.18	Pass
25622	-68.43	-50.01	18.42	Pass
24056	-68.66	-50.01	18.65	Pass
25943	-68.73	-50.01	18.72	Pass
25366	-68.76	-50.01	18.75	Pass
25317	-68.83	-50.01	18.82	Pass

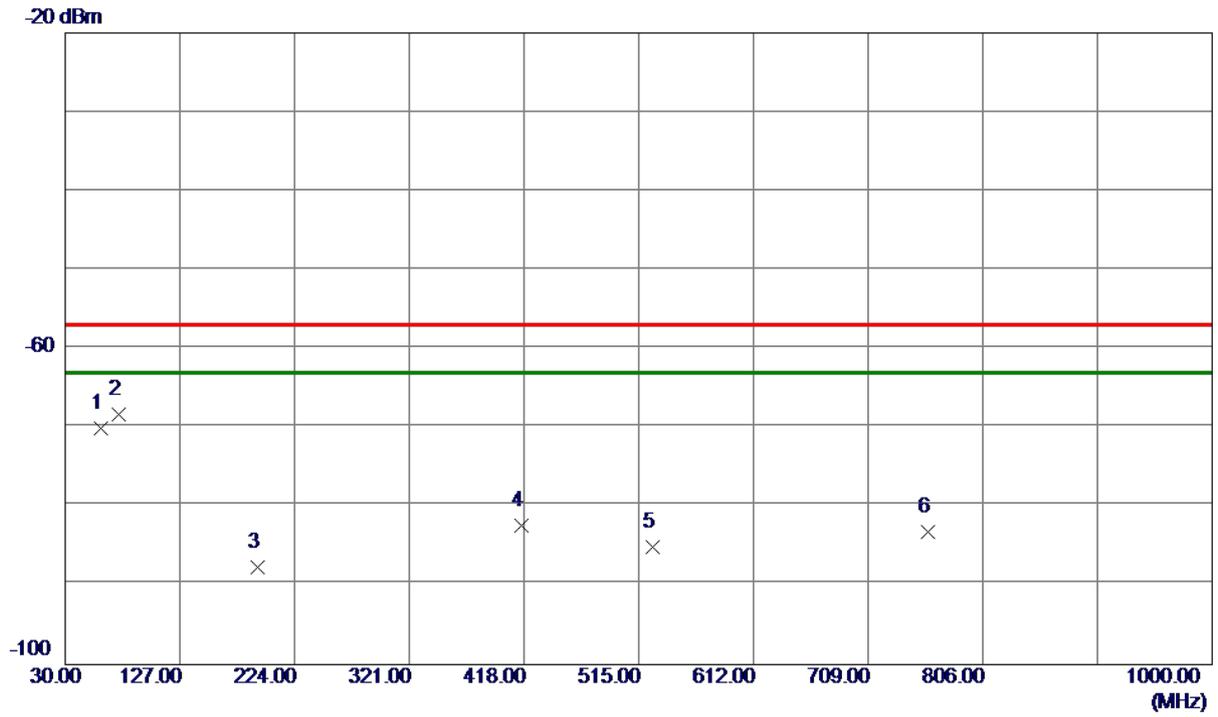


Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
705.45	-80.22	-60.01	20.21	Pass
705.5	-81.11	-60.01	21.1	Pass
705.4	-81.29	-60.01	21.28	Pass
705.55	-82.38	-60.01	22.37	Pass
727.1	-83.14	-60.01	23.13	Pass
727.05	-83.21	-60.01	23.2	Pass
22120	-67.89	-50.01	17.88	Pass
2425	-68.16	-50.01	18.15	Pass
25838	-68.22	-50.01	18.21	Pass
25887	-68.24	-50.01	18.23	Pass
23706	-68.41	-50.01	18.4	Pass
24096	-68.55	-50.01	18.54	Pass



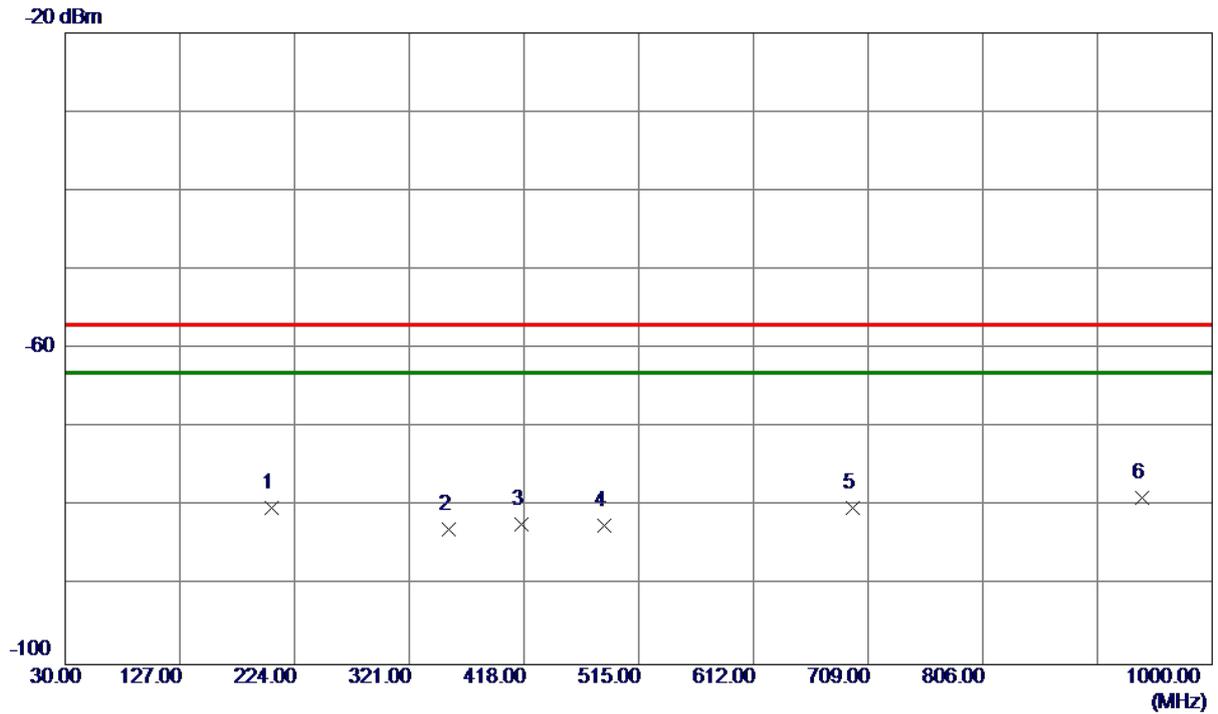
Frequency(MHz)	Reading Level (dBm)	Limit (dBm)	Margin(dB)	Result
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Test Mode	RX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Vertical
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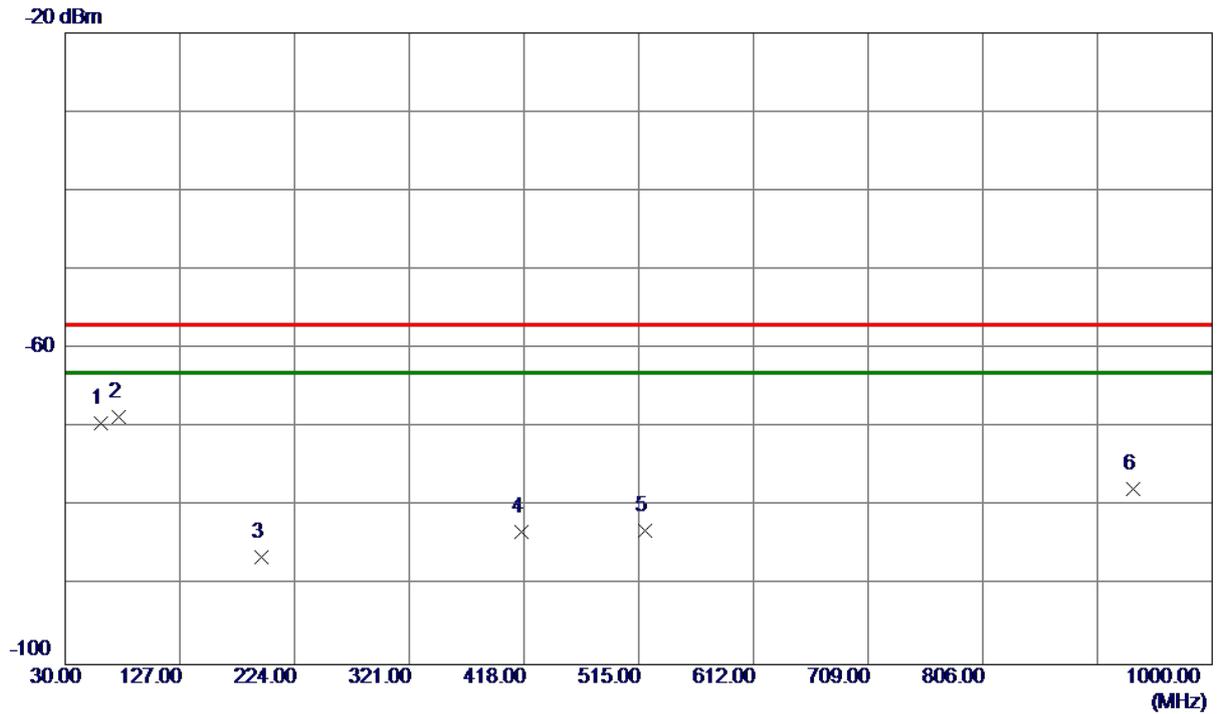
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1	59.6820	-66.90	-3.12	-70.02	-57.00	-13.02	RMS	
2 *	75.1050	-69.33	1.01	-68.32	-57.00	-11.32	RMS	
3	193.1540	-75.33	-12.37	-87.70	-57.00	-30.70	RMS	
4	415.9630	-75.16	-7.30	-82.46	-57.00	-25.46	RMS	
5	526.8340	-78.88	-6.23	-85.11	-57.00	-28.11	RMS	
6	760.0220	-81.20	-1.95	-83.15	-57.00	-26.15	RMS	

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Horizontal
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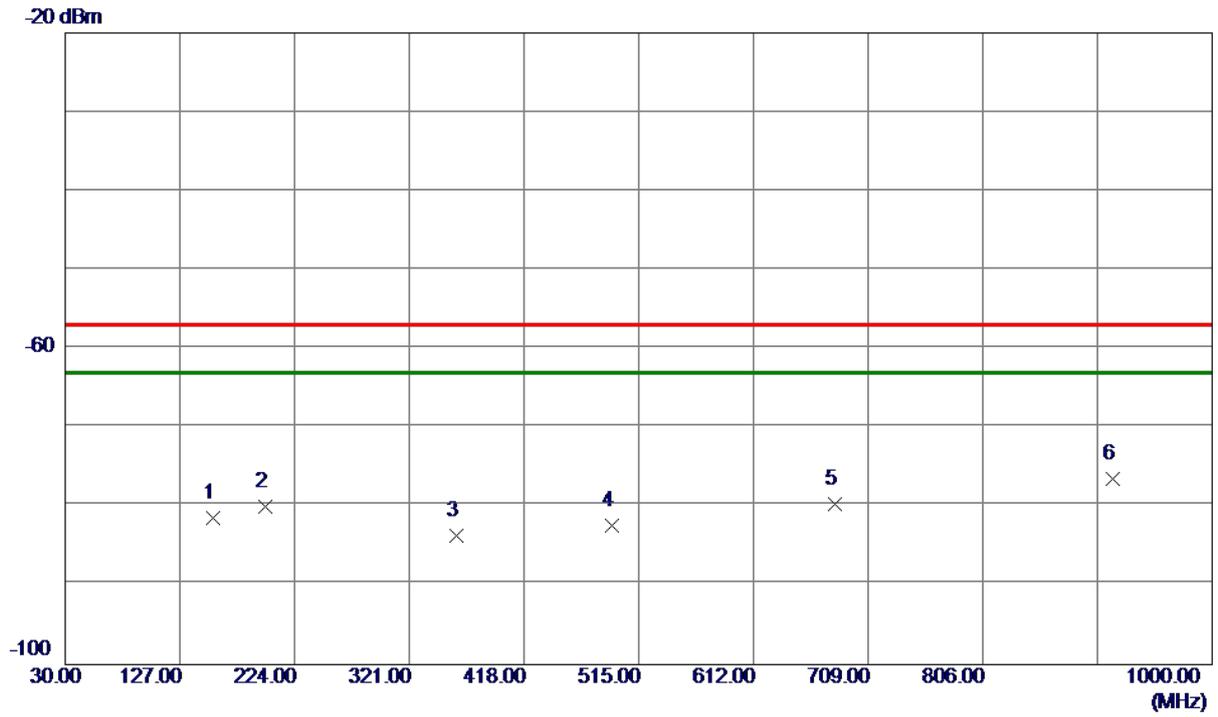
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1	204.4060	-69.09	-11.08	-80.17	-57.00	-23.17	RMS	
2	354.3680	-75.02	-7.94	-82.96	-57.00	-25.96	RMS	
3	415.9630	-75.08	-7.17	-82.25	-57.00	-25.25	RMS	
4	486.2880	-76.08	-6.32	-82.40	-57.00	-25.40	RMS	
5	695.9050	-77.87	-2.33	-80.20	-57.00	-23.20	RMS	
6 *	940.5390	-80.15	1.26	-78.89	-57.00	-21.89	RMS	

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Vertical
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1	60.2640	-66.51	-3.01	-69.52	-57.00	-12.52	RMS	
2 *	75.5899	-69.48	0.88	-68.60	-57.00	-11.60	RMS	
3	195.6760	-73.66	-12.71	-86.37	-57.00	-29.37	RMS	
4	415.9630	-75.85	-7.30	-83.15	-57.00	-26.15	RMS	
5	519.9470	-76.73	-6.34	-83.07	-57.00	-26.07	RMS	
6	933.6520	-78.34	0.51	-77.83	-57.00	-20.83	RMS	

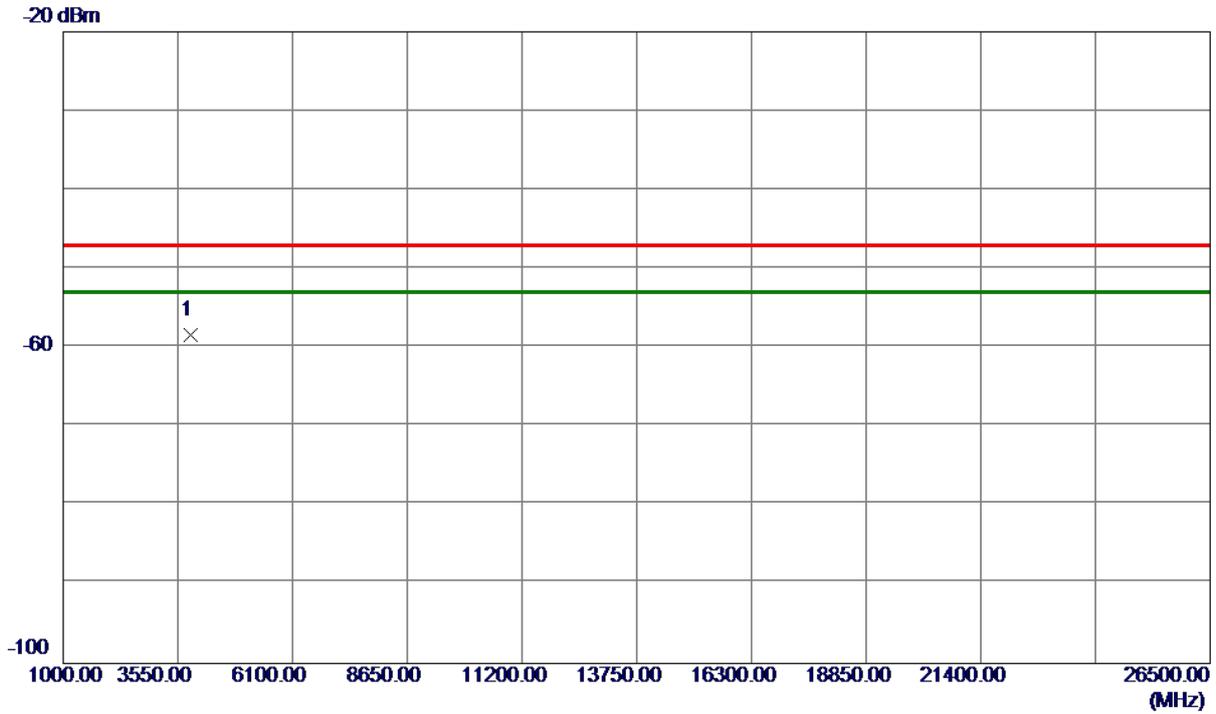
Test Mode	RX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Horizontal
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1	155.1300	-72.49	-8.90	-81.39	-57.00	-24.39	RMS	
2	199.3620	-68.25	-11.70	-79.95	-57.00	-22.95	RMS	
3	361.2550	-75.85	-7.89	-83.74	-57.00	-26.74	RMS	
4	492.7870	-76.24	-6.13	-82.37	-57.00	-25.37	RMS	
5	681.1609	-76.92	-2.76	-79.68	-57.00	-22.68	RMS	
6 *	916.2890	-77.23	0.82	-76.41	-57.00	-19.41	RMS	

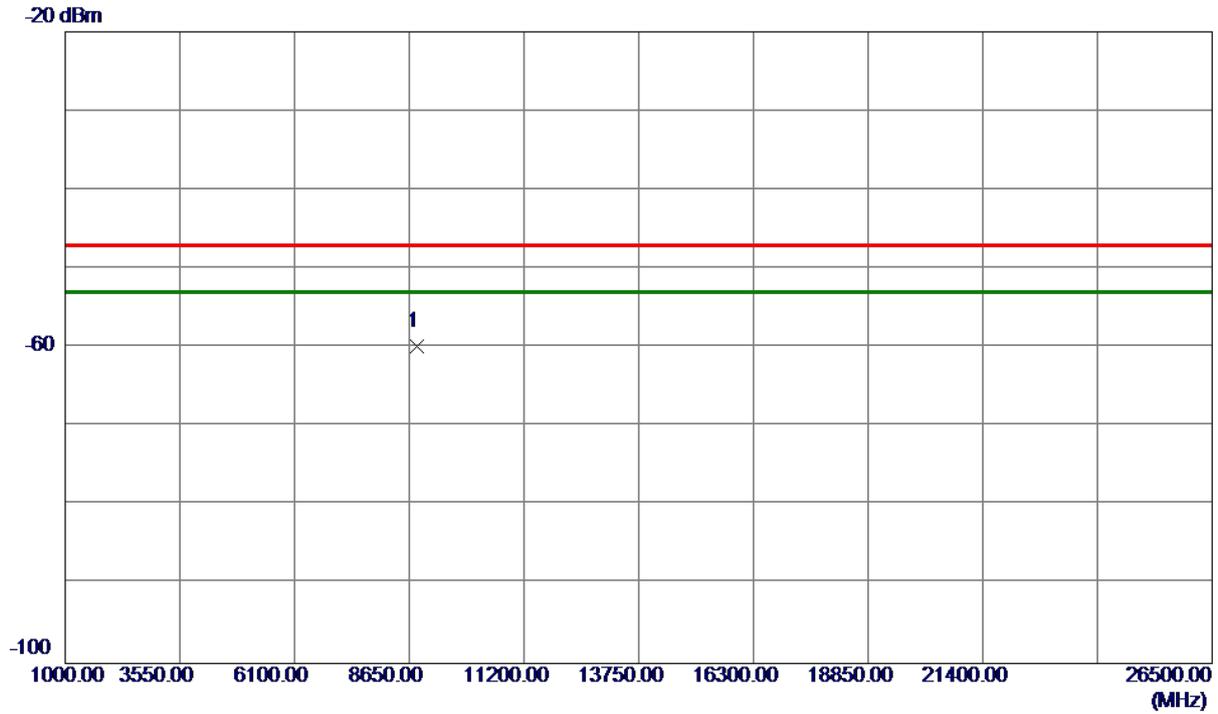
## **APPENDIX I - RECEIVER SPURIOUS EMISSIONS (ABOVE 1000MHZ)**

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Vertical
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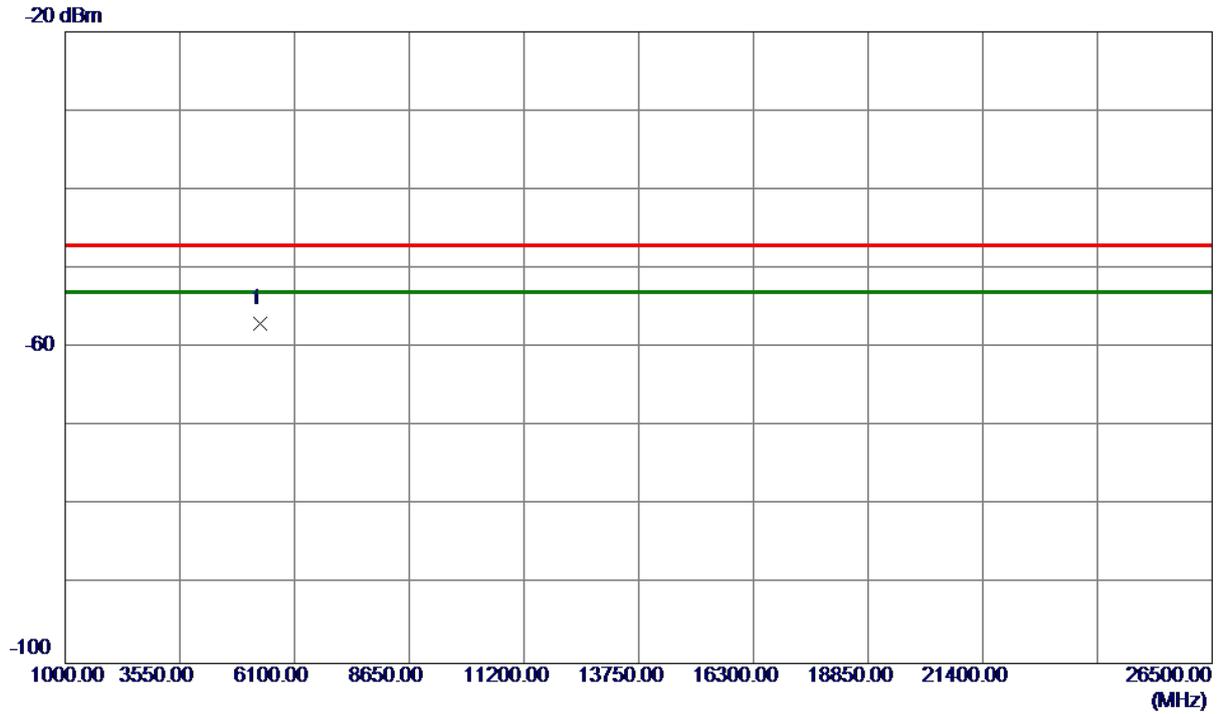
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	3825.4000	-58.39	0.00	-58.39	-47.00	-11.39	RMS	

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5210MHz	Polarization	Horizontal
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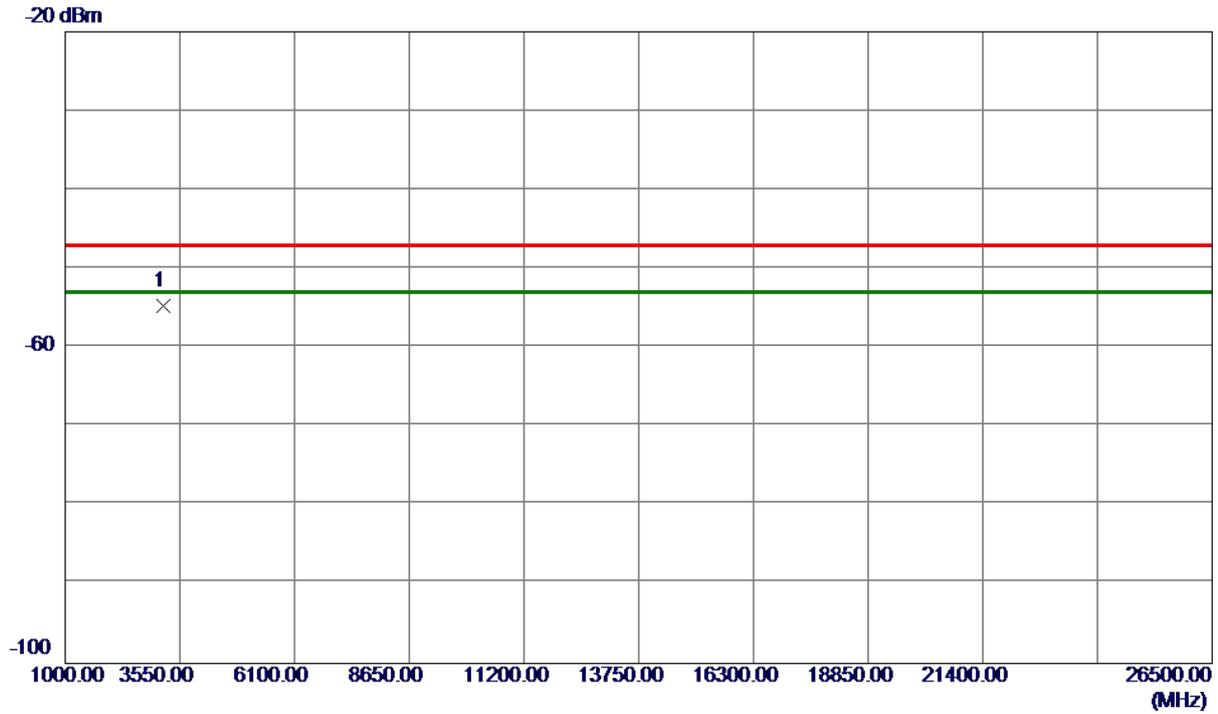
No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	8831.0500	-64.21	4.35	-59.86	-47.00	-12.86	RMS	

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Vertical
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	5323.5250	-58.18	1.15	-57.03	-47.00	-10.03	RMS	

Test Mode	RX Mode IEEE 802.11ac(VHT80)_5530MHz	Polarization	Horizontal
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No.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	3194.2750	-54.55	-0.18	-54.73	-47.00	-7.73	RMS	

## APPENDIX J - ADAPTIVITY

<b>EUT Operational Mode</b>	<b>Frame Based Equipment</b>	
	<b>Load Based Equipment (CCA using 'energy detect')</b>	√
	<b>Load Based Equipment (CCA not using any of the mechanisms referenced)</b>	

Clause	Test Parameter	Remark	Pass/Fail
4.2.7.3.1	Adaptive (Frame Based Equipment)	Not Applicable	N/A
4.2.7.3.2	Adaptive (Load Based Equipment)	Applicable	Pass
4.2.7.3.3	Short Control Signalling Transmissions	Applicable	Pass

Test Mode:	TX Mode_ IEEE 802.11ac(VHT20)_5180MHz,IEEE 802.11ax(HE40)_5190MHz
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Channel Occupancy Time and Priority Class Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Priority Class
5180	5.485	2
5190	2.938	3

Adaptivity Results				
Detection Threshold Level			-73 dBm/MHz	
Interference Signal	Freq.(MHz)		Short Control Signalling Transmissions (ms)	Number of Short Control Signalling Transmissions
AWGN	AC20	5180	0.5	1
OFDM		5180	2	2
LTE		5180	0.5	1
AWGN	AX40	5180	0	0
		5200	1.5	3
Limit			2.5	≤ 50
Result			Pass	

Note:

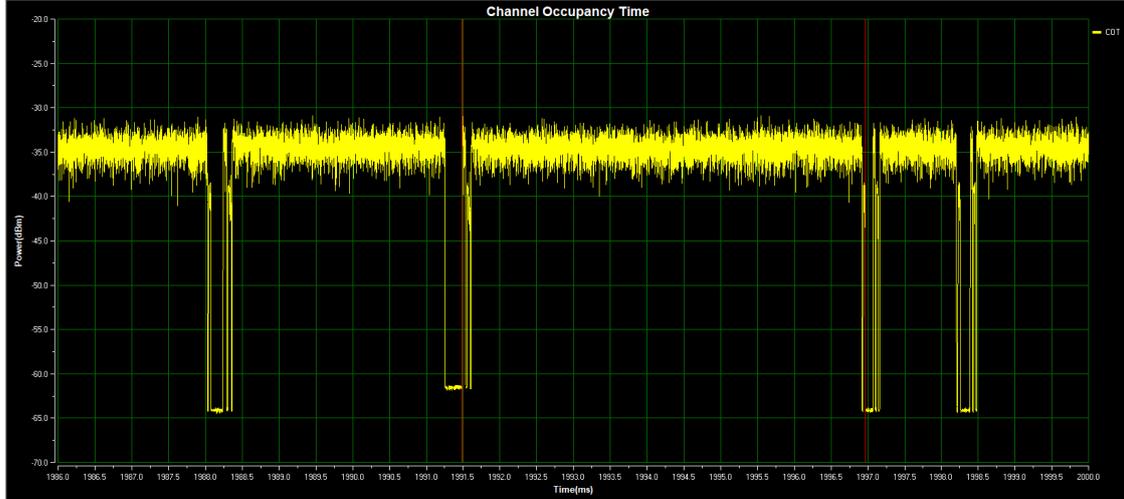
- For an EUT with a non-zero dBi antenna gain, the final interference detection threshold level  $T_L$  at the port of the radio module in a conducted test setup shall be adjusted by the gain of the bypassed antenna and is calculated using below formulas:

$$\text{Threshold Level} = -75 \text{ dBm/MHz} + \text{EUT Antenna Gain.}$$

- Short Control Signalling Transmissions = 50 (ms) \* Duty cycle (%)

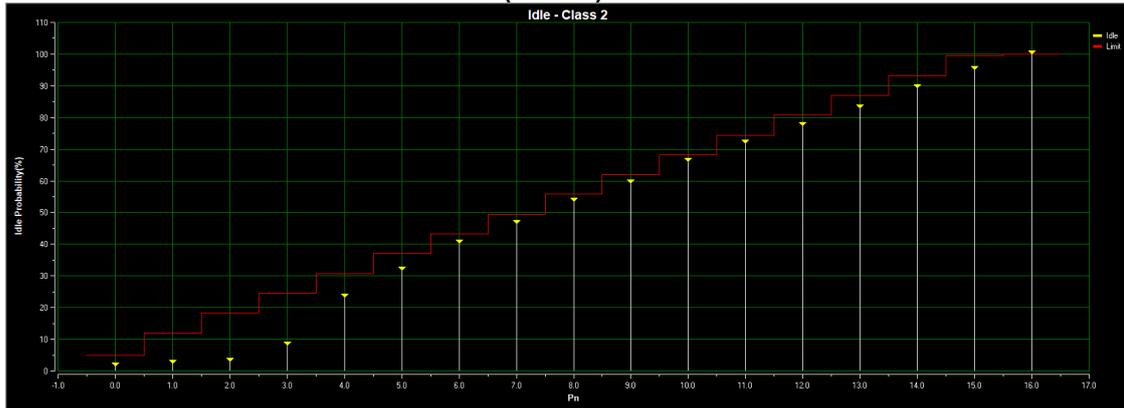
Single Channel device test results

IEEE 802.11ac(VHT20) Mode 5180 MHz



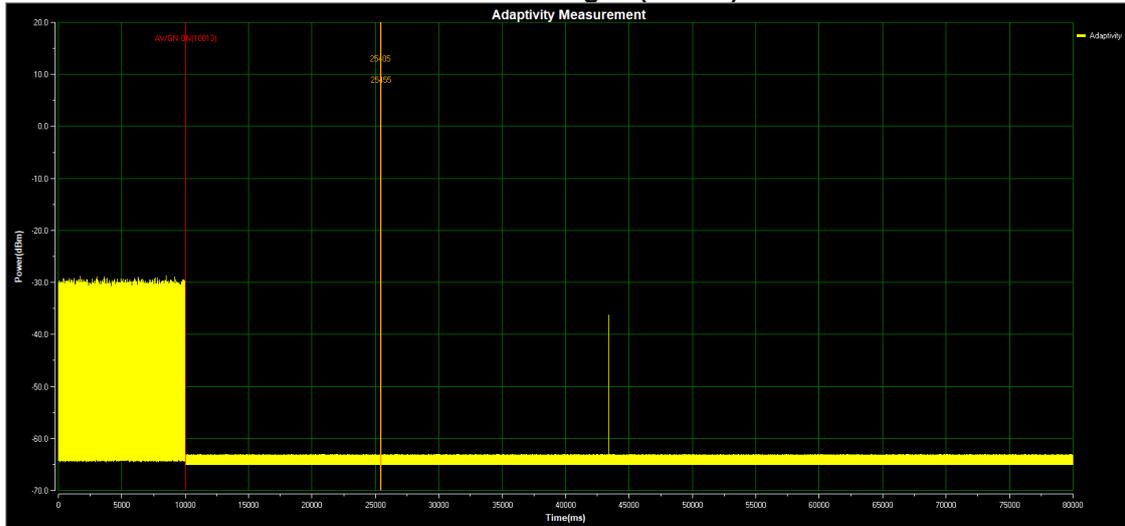
COT Number:10011 Idle Number:9827  
 Maximum COT(ms):5.485 Minimum Idle Time(us):27

IEEE 802.11ac(VHT20) Mode 5180 MHz



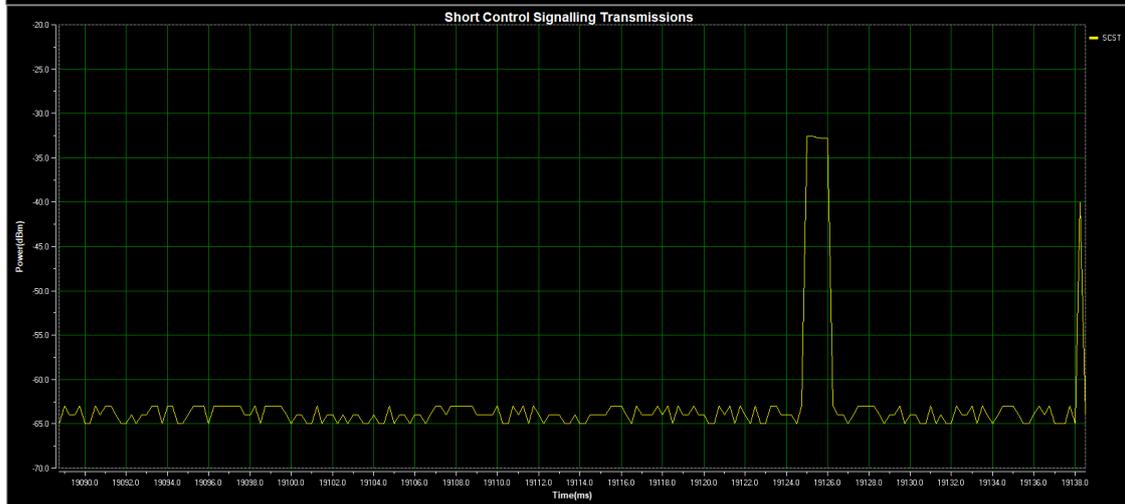
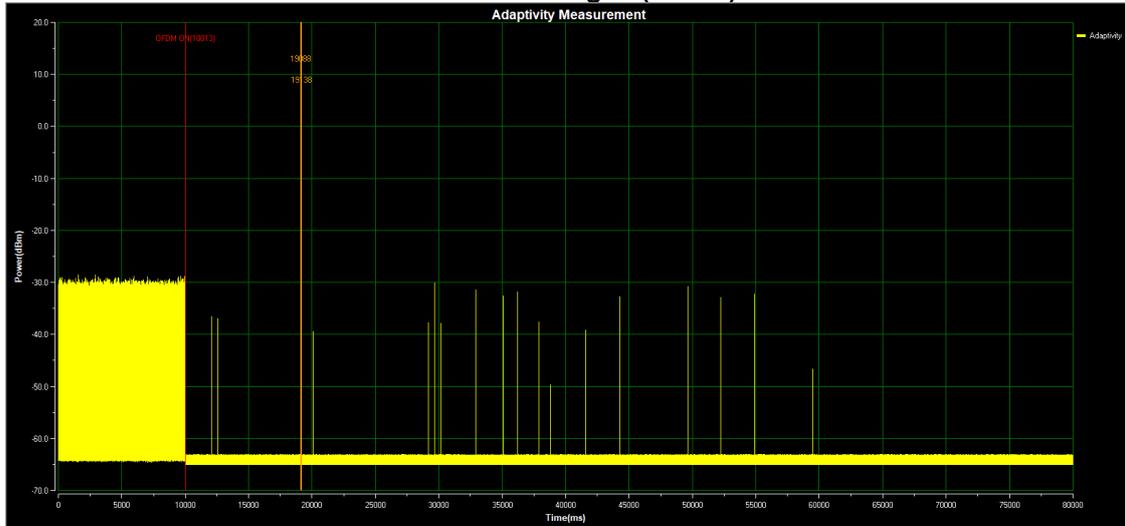
Pn	Idle Num	Result(%)	Limit(%)	Status
0	153	1.557	5	Pass
1	74	2.21	12	Pass
2	61	2.931	18.25	Pass
3	503	8.049	24.5	Pass
4	1484	23.151	30.75	Pass
5	845	31.749	37	Pass
6	839	40.287	43.25	Pass
7	607	46.464	49.5	Pass
8	688	53.465	55.75	Pass
9	580	59.367	62	Pass
10	654	66.022	68.25	Pass
11	567	71.792	74.5	Pass
12	551	77.399	80.75	Pass
13	551	83.006	87	Pass
14	621	89.325	93.25	Pass
15	558	95.004	99.5	Pass
16	491	100	100	Pass

### IEEE 802.11ac(VHT20) Mode 5180 MHz Interference Signal(AWGN)



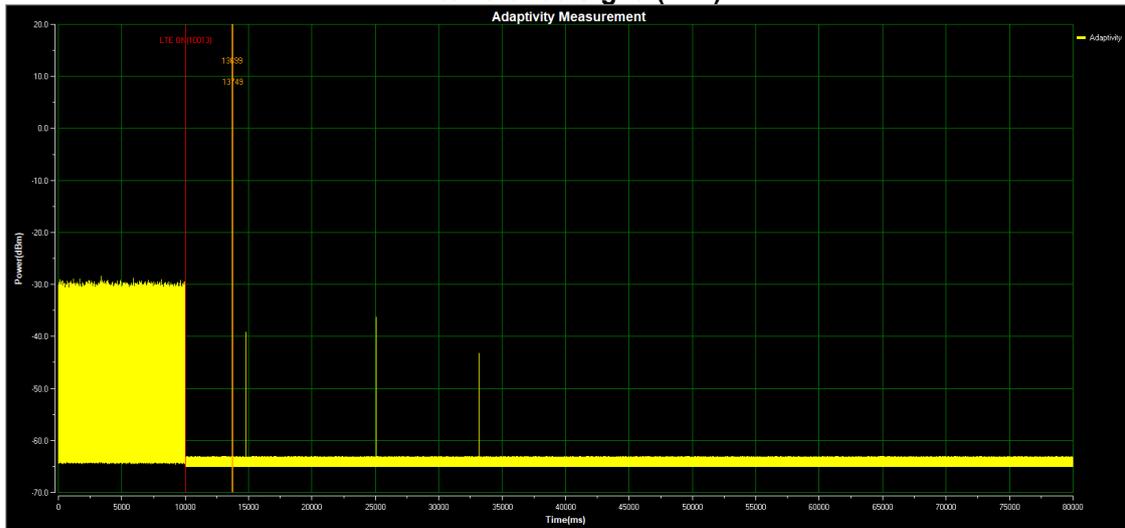
Duty Cycle(%):1.00      Short Control Signalling Transmissions Time (ms):0.50  
Test Result:Pass

### IEEE 802.11ac(VHT20) Mode 5180 MHz Interference Signal(OFDM)



Duty Cycle(%):4.00      Short Control Signalling Transmissions Time(ms):2.00  
Test Result:Pass

### IEEE 802.11ac(VHT20) Mode 5180 MHz Interference Signal(LTE)



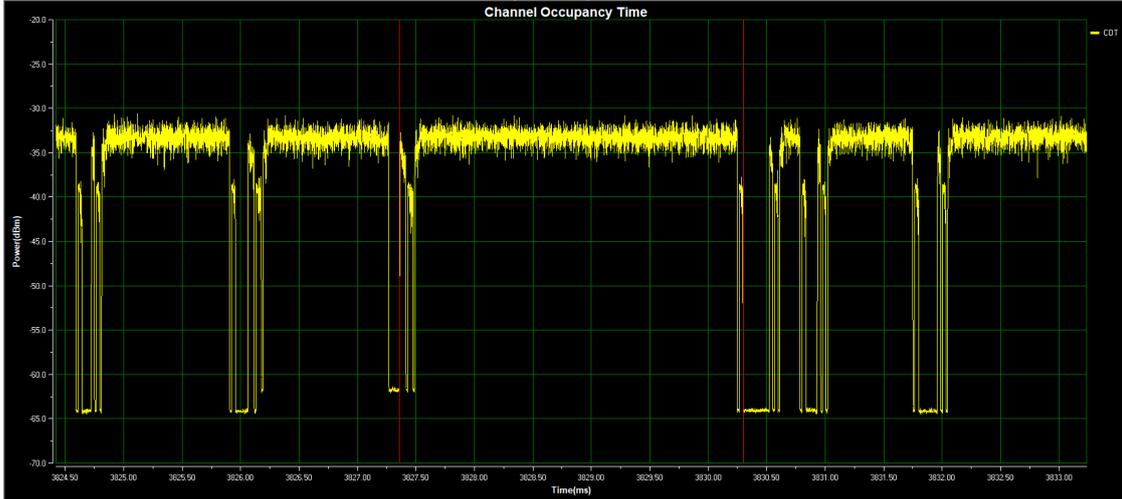
Duty Cycle (%):1.00      Short Control Signalling Transmissions Time (ms):0.50  
Test Result:Pass

### Multi-Channel device test results

**Option 2:**

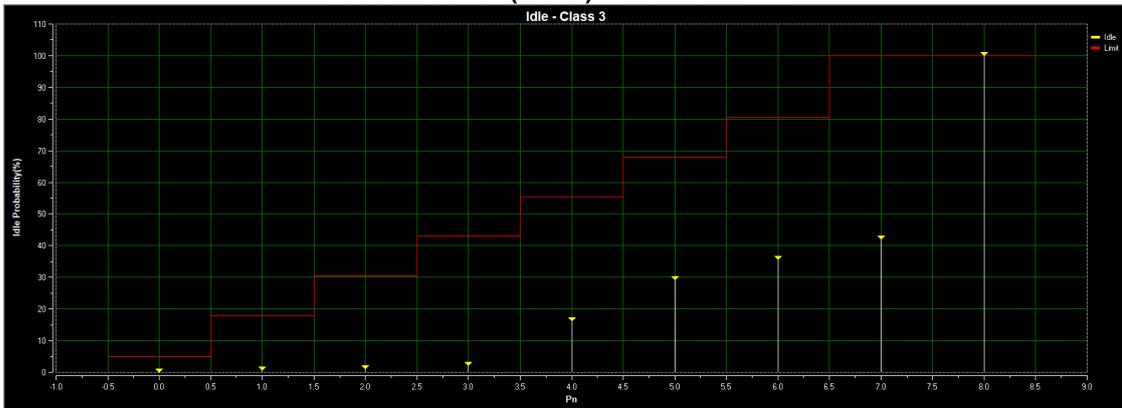
The EUT is set to a channel bandwidth of 40MHz with the primary operating channel 5180MHz. One additional adjacent 20MHz operating channel that constructs the full 40 MHz channel bandwidth is located at 5200 MHz. Data traffic is started and then an interfering signal is injected into the EUT at 5200 MHz.

#### IEEE 802.11ax(HE40) Mode 5190 MHz



COT Number:10079 Idle Number:9999  
 Maximum COT(ms):2.938 Minimum Idle Time(us):34

#### IEEE 802.11ax(HE40) Mode 5190 MHz



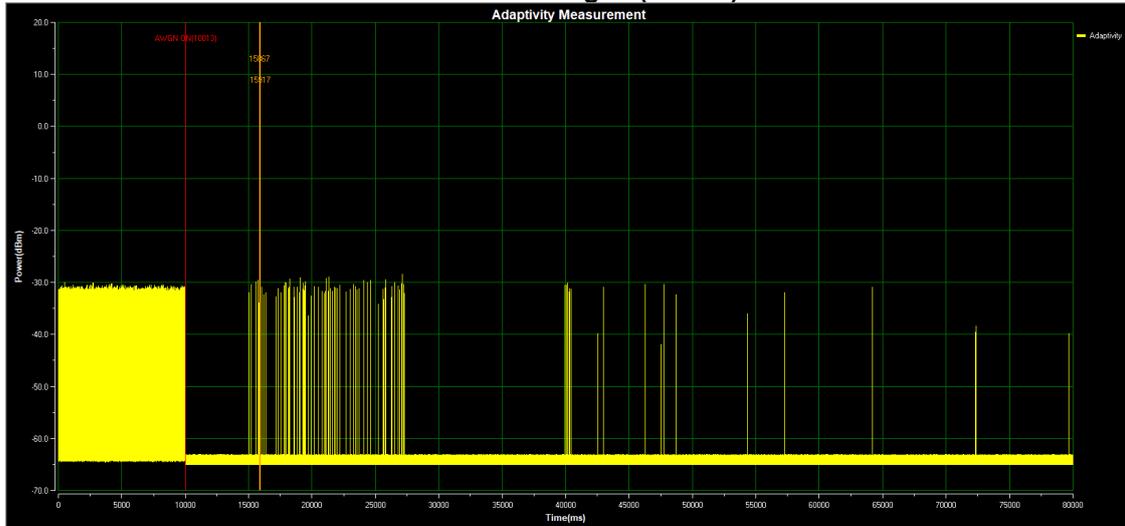
Pn	Idle Num	Result (%)	Limit (%)	Status
0	0	0	5	Pass
1	54	0.54	18	Pass
2	47	1.01	30.5	Pass
3	109	2.1	43	Pass
4	1406	16.162	55.5	Pass
5	1310	29.262	68	Pass
6	638	35.644	80.5	Pass
7	641	42.054	100	Pass
8	5794	100	100	Pass

### IEEE 802.11ax(HE40) Mode 5180 MHz Interference Signal(AWGN)



Duty Cycle (%):0.00 Short Control Signalling Transmissions Time (ms):0.00  
Test Result:Pass

### IEEE 802.11ax(HE40) Mode 5200 MHz Interference Signal(AWGN)



Duty Cycle(%):3.00      Short Control Signalling Transmissions Time(ms):1.50  
Test Result:Pass

## APPENDIX K - RECEIVER BLOCKING

Receiver Blocking Result						
$P_{min}$ (dBm)	-91					
Modulation Mode	Operation Freq. (MHz)	Wanted Signal Mean Power from Companion Device (dBm) $P_{min} + 6$ dB	Blocking Signal Freq. (MHz)	Receiver Blocking Power (dBm)	PER (%)	Blocking Signal Level at which the Performance Criteria is no longer met(dBm) <b>(See Note)</b>
IEEE 802.11a 6 Mbps	5180	-85	5100	-59	2.20	-21
			4900	-53	3.40	-19
			5000	-53	3.00	-19
			5975	-53	2.80	-18
Limit	PER(Packet Error Rate) $\leq 10\%$					N/A
Result	Pass					Record Only

Receiver Blocking Result						
$P_{min}$ (dBm)	-89					
Modulation Mode	Operation Freq. (MHz)	Wanted Signal Mean Power from Companion Device (dBm) $P_{min} + 6$ dB	Blocking Signal Freq. (MHz)	Receiver Blocking Power (dBm)	PER (%)	Blocking Signal Level at which the Performance Criteria is no longer met(dBm) <b>(See Note)</b>
IEEE 802.11a 6 Mbps	5500	-83	5100	-59	3.20	-23
			4900	-53	3.40	-17
			5000	-53	2.20	-20
			5975	-53	2.60	-17
Limit	PER(Packet Error Rate) $\leq 10\%$					N/A
Result	Pass					Record Only

**Note:**

The performance criteria had been met, the level of the blocking signal at the UUT were further increased in steps of 1 dB until the level whereby the performance criteria were no longer met.

**APPENDIX L - INFORMATION AS REQUIRED BY EN 301 893  
V2.1.1, CLAUSE 5.4.1**

In accordance with ETSI EN 301 893, clause 5.4.1, the following information is provided by the manufacturer.

**a) The Nominal Channel Bandwidth(s):**

Nominal Channel Bandwidth 1: 20 MHz

Nominal Channel Bandwidth 2: 40 MHz

Nominal Channel Bandwidth 3: 80 MHz

Nominal Channel Bandwidth 4: 160 MHz

The associated centre frequencies: in clause 1.4 of the test report.

**b) For Load Based Equipment that supports multi-channel operation:**

The LBE equipment supports Option 1 as described in clause 4.2.7.3.2.3

The LBE equipment supports Option 2 as described in clause 4.2.7.3.2.3

• The (maximum) number of channels used for multi-channel operation: 18

• These channels are adjacent channels:  Yes  No

• In case of non-adjacent channels, whether or not these channels are in different sub-bands:

Yes  No

• for LBE equipment implementing option 1 (see clause 4.2.7.3.2.3), the number of channels used for multi-channel operation when performing the test described in clause 5.4.9.3.2.3.1: N/A

In case of multi-channel operation, further information defining the channels used for these simultaneous transmissions may be required.

**c) The different transmit operating modes (see clause 5.3.3.2) (tick all that apply):**

**Operating mode 1:** Single Antenna Equipment

a) Equipment with only 1 antenna

b) Equipment with diversity antennas but only 1 antenna active at any moment in time

c) Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1 antenna is used.

**Operating mode 2:** Smart Antenna Systems - Multiple Antennas without beamforming

a) Single spatial stream/Standard throughput

b) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1

c) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2

d) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 3

e) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 4

**Operating mode 3:** Smart Antenna Systems - Multiple Antennas with beamforming

a) Single spatial stream/Standard throughput

b) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1

c) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2

d) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 3

e) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 4

**d) In case of Smart Antenna Systems or multiple antenna systems:**

- The number of Receive chains:   2
- The number of Transmit chains:   2
- Equal power distribution among the transmit chains:  Yes  No
- In case of beamforming, the maximum (additional) beamforming gain:   N/A   dB

NOTE: Beamforming gain does not include the basic gain of a single antenna (assembly).

**e) TPC feature available:**  Yes  No**h) The DFS related operating mode(s) of the equipment:**

- Master
- Slave with radar detection
- Slave without radar detection

**i) User access restrictions (please check box below to confirm):**

the equipment is constructed to comply with the requirements contained in clause 4.2.9 in ETSI EN 301 893 V2.1.1.

**j) For equipment with Off-Channel CAC functionality:**

The equipment has an "Off-Channel CAC" function:  Yes  No

If yes, specify the "Off-Channel CAC Time"

- For channels outside the 5 600 MHz to 5 650 MHz range:        hours
- If applicable, for channels (partially) within the 5 600 MHz to 5 650 MHz range:        hours

**k) The equipment can operate in ad-hoc mode:**

- no ad-hoc operation
- ad-hoc operation in the frequency range 5 150 MHz to 5 250 MHz without DFS
- ad-hoc operation with DFS

**l) Operating Frequency Range(s):**

Range 1:  5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz

Range 2:  5 470 MHz to 5 725 MHz

Range 3:  5 150 MHz to 5 250 MHz (ad-hoc without DFS)

Range 4:  other, please specify:       

If the equipment has more than one Operating Frequency Range, tick all that apply.

**m) The extreme operating temperature and supply voltage range that apply to the equipment:**

- 20 °C to +55 °C (Outdoor & Indoor usage)  
 0 °C to +35 °C (Indoor usage only)  
 Other: 0°C to +45°C.

The supply voltages of the stand-alone radio equipment or the supply voltages of the combined (host) equipment or test jig in case of plug-in devices:

Details provided are for the:

- stand-alone equipment  
 combined (or host) equipment  
 test jig

Supply Voltage  AC mains State AC voltage: Minimum: ... Nominal: ... Maximum: ...

DC State DC voltage: Minimum: 17.1V Nominal: 19V Maximum: 20.9V

In case of DC, indicate the type of power source:

- Internal Power Supply  
 External Power Supply or AC/DC adapter  
 Battery  Nickel Cadmium  
      Alkaline  
      Nickel-Metal Hydride  
      Lithium-Ion  
      Lead acid (Vehicle regulated)  
      Other  
 Other\_\_\_\_\_

**n) The test sequence/test software used (see also ETSI EN 301 893 (V2.1.1), clause 5.3.1.2):**

DRTU V1.0

**o) Type of Equipment:**

- Stand-alone  
 Combined Equipment (Equipment where the radio part is fully integrated within another type of equipment)  
 Plug-in radio device (Equipment intended for a variety of host systems)  
 Other\_\_\_\_\_

**p) Adaptivity (Channel Access Mechanism):**

- Frame Based Equipment  
 Load Based Equipment

**r) With regards to Adaptivity for Load Based Equipment:**

- The Load Based Equipment operates as a Supervising Device
- The Load Based Equipment operates as a Supervised Device
- The Load Based Equipment can operate as a Supervising and as a Supervised Device
- The Load Based Equipment makes use of note 1 in table 7 or note 1 in table 8 of ETSI EN 301 893 V2.1.1

The Priority Classes implemented by the Load Based Equipment

- When operating as a Supervising Device

- Priority Class 4 (Highest priority)
- Priority Class 3
- Priority Class 2
- Priority Class 1 (Lowest priority)

- When operating as a Supervised Device

- Priority Class 4 (Highest priority)
- Priority Class 3
- Priority Class 2
- Priority Class 1 (Lowest priority)

- The Load Based Equipment operates as an Initiating Device
- The Load Based Equipment operates as an Responding Device
- The Load Based Equipment can operate as an Initiating Device and as a Responding Device

With regard to Energy Detection Threshold, the Load Based Equipment has implemented either option 1 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1 or option 2 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1:

- Option 1
- Option 2

Specify which protocol has been implemented:

- IEEE 802.11™
- Other: \_\_\_\_\_

**s) The equipment supports a geo-location capability as defined in clause 4.2.10 of ETSI EN 301 893****V2.1.1:**

- Yes
- No

**End of Test Report**