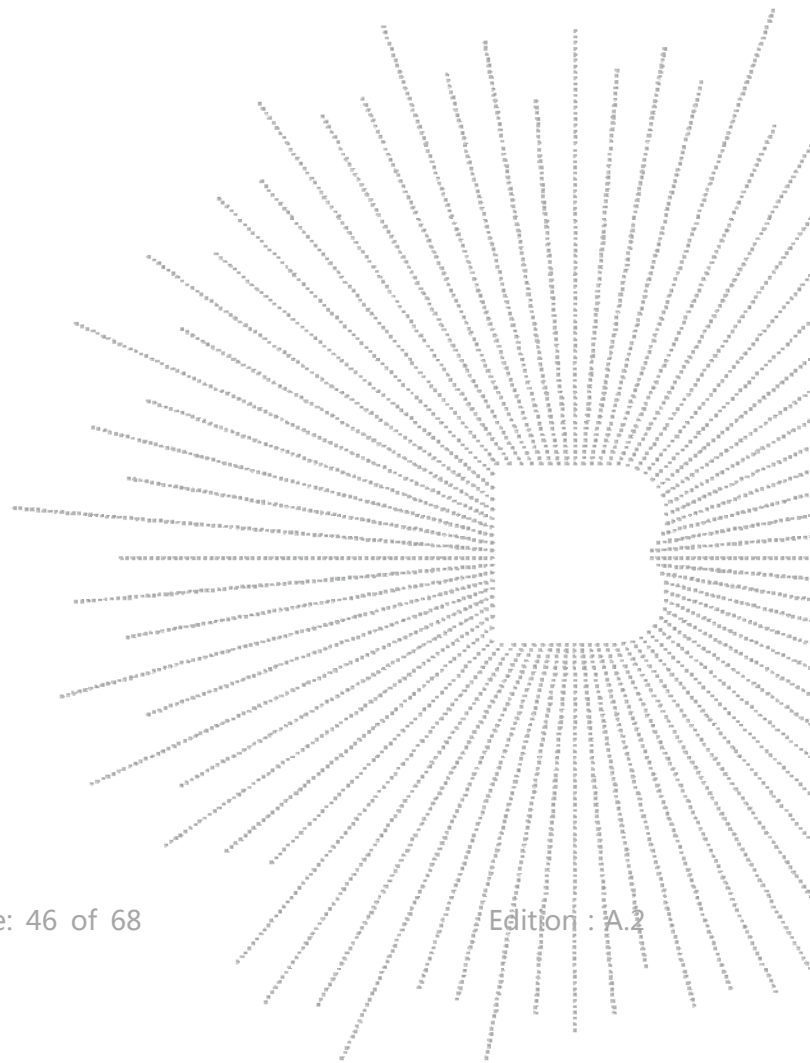


### 10.5 Test Result

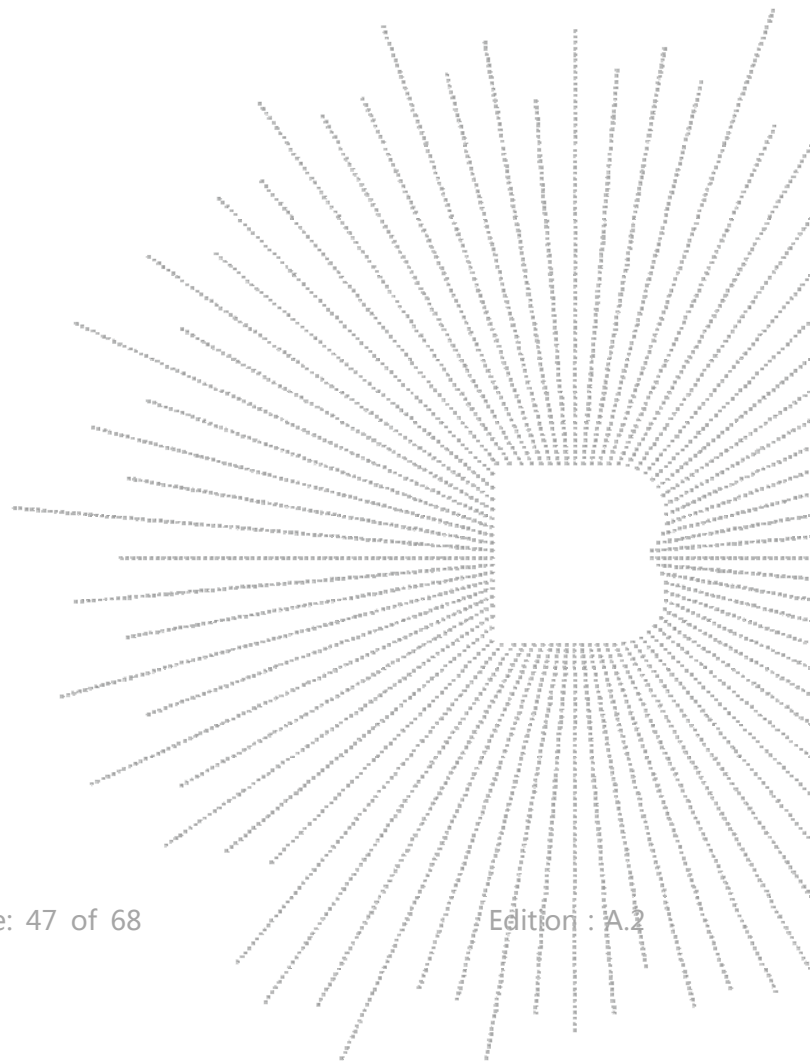
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V
Test Mode :	TX (5G) Mode Frequency U-NII-1 (5180-5240MHz)		

Test Channel	Frequency	Maximum output power. Antenna port (AV)			LIMIT	Result
	(MHz)	ANT A(dBm)	ANT B(dBm)	Total(dBm)	dBm	
<b>TX 802.11 n20M Mode</b>						
CH36	5180	11.110	6.594	12.42	30	Pass
CH40	5200	10.785	6.339	12.12	30	Pass
CH48	5240	11.557	6.334	12.70	30	Pass
<b>TX 802.11 n40M Mode</b>						
CH38	5190	8.689	3.551	9.85	30	Pass
CH46	5230	8.633	3.721	9.85	30	Pass



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V
Test Mode :	TX (5G) Mode Frequency U-NII-3 (5745-5825MHz)		

Test Channel	Frequency	Maximum output power. Antenna port (AV)			LIMIT	Result
	(MHz)	ANT A(dBm)	ANT B(dBm)	Total(dBm)	dBm	
<b>TX 802.11 n20M Mode</b>						
CH 149	5745	7.037	10.437	12.07	30	Pass
CH 157	5785	5.606	9.787	11.19	30	Pass
CH 165	5825	4.763	10.300	11.37	30	Pass
<b>TX 802.11 n40M Mode</b>						
CH 151	5755	4.257	7.455	9.15	30	Pass
CH 159	5795	3.110	6.855	8.38	30	Pass



## 11. OUT OF BAND EMISSIONS

### 11.1 Block Diagram Of Test Setup



### 11.2 Limit

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

(2) All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

### 11.3 Test procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

### 11.4 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

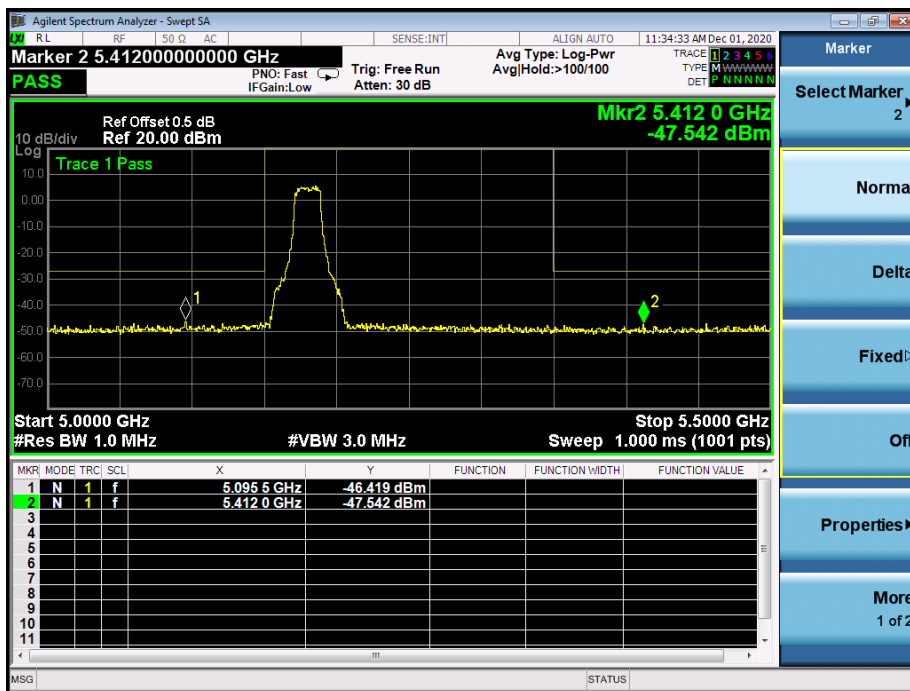
### 11.5 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V

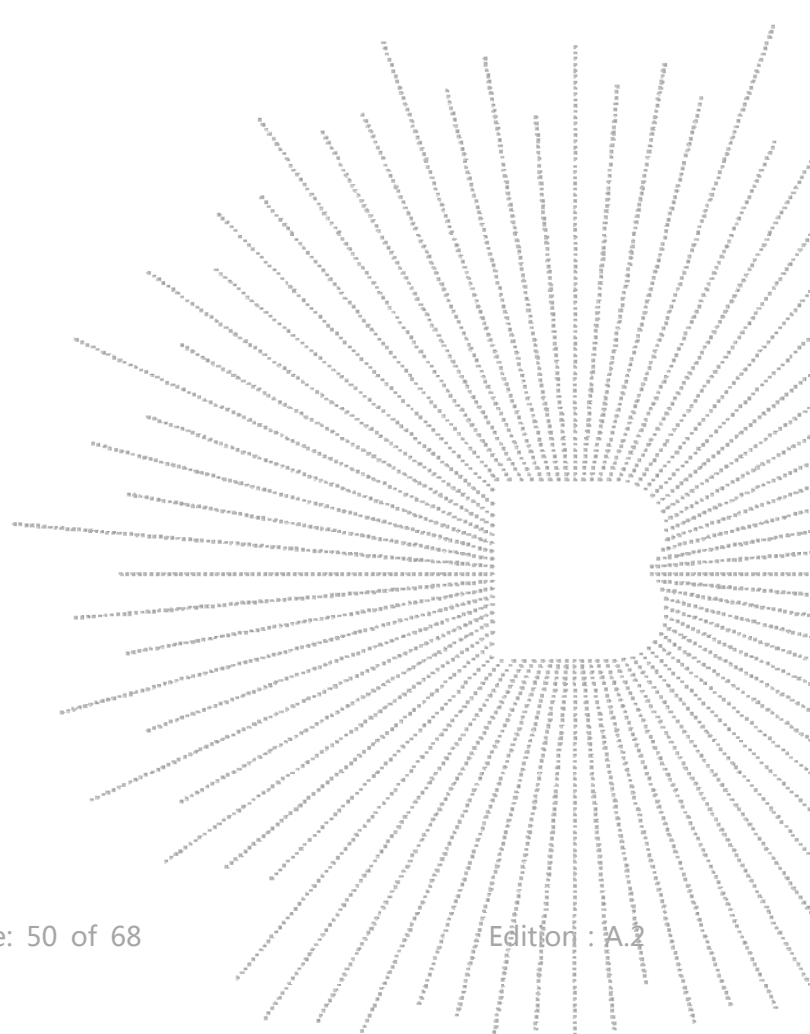
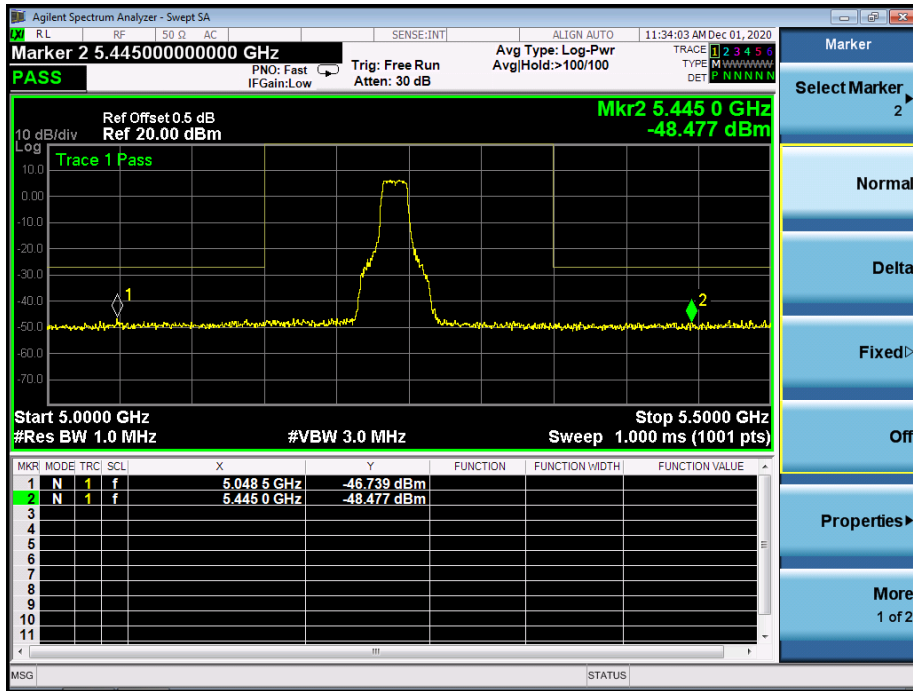
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A. Plot.Antenna A: 5180-5240MHz

#### 5.180~5.240 GHz

(802.11n20) Band Edge, Left Side

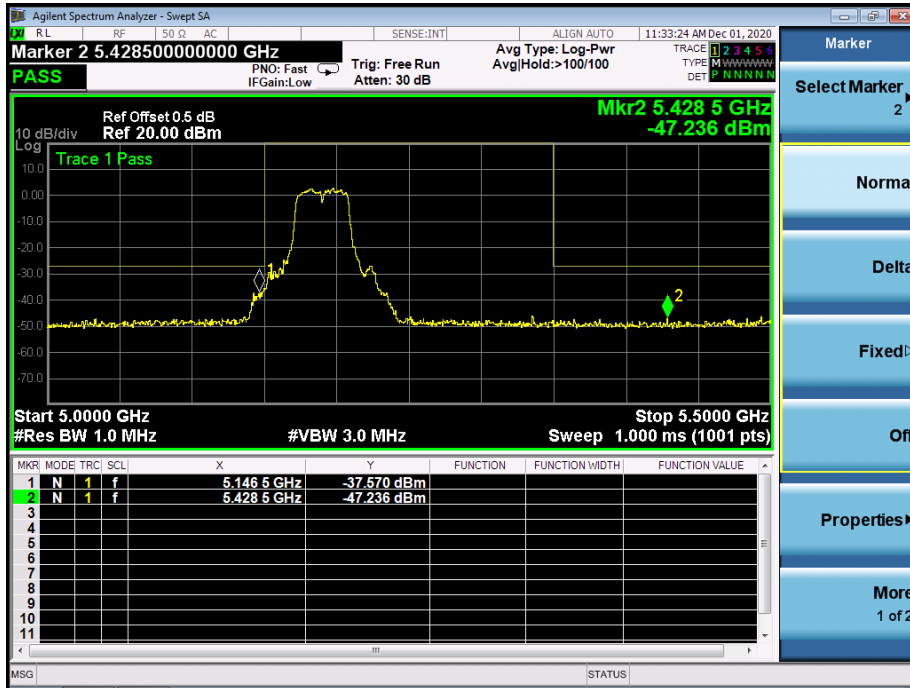


(802.11n20) Band Edge, Right Side

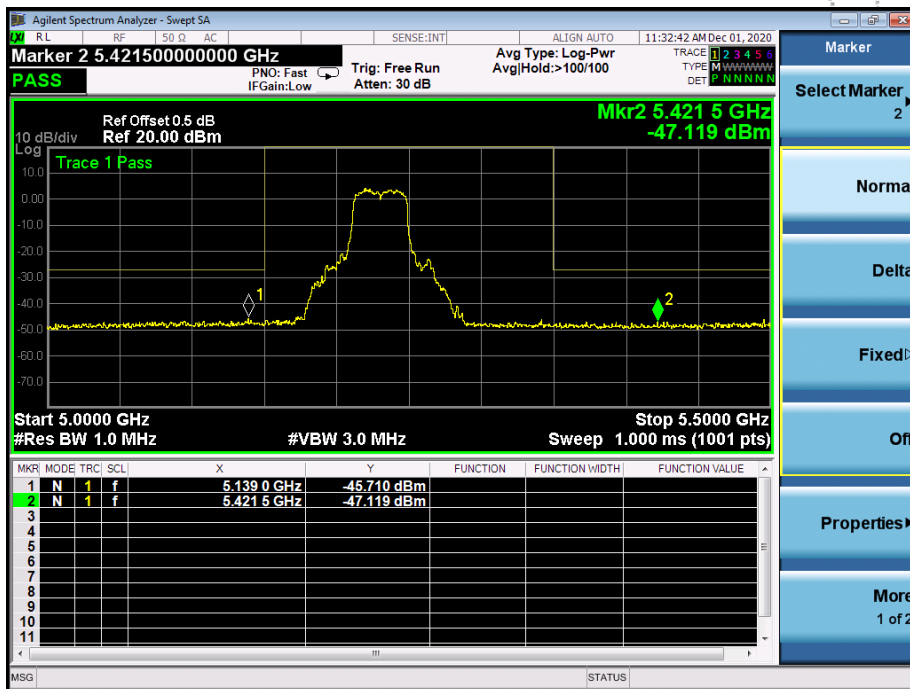


5.180~5.240 GHz

(802.11n40) Band Edge, Left Side



(802.11n40) Band Edge, Right Side



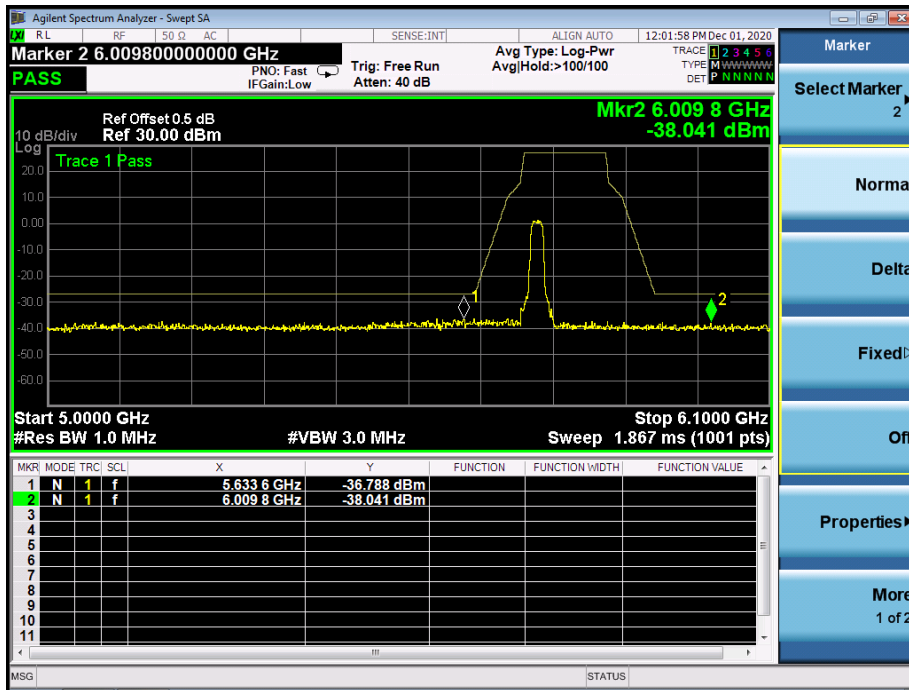


Antenna A: 5745-58250MHz

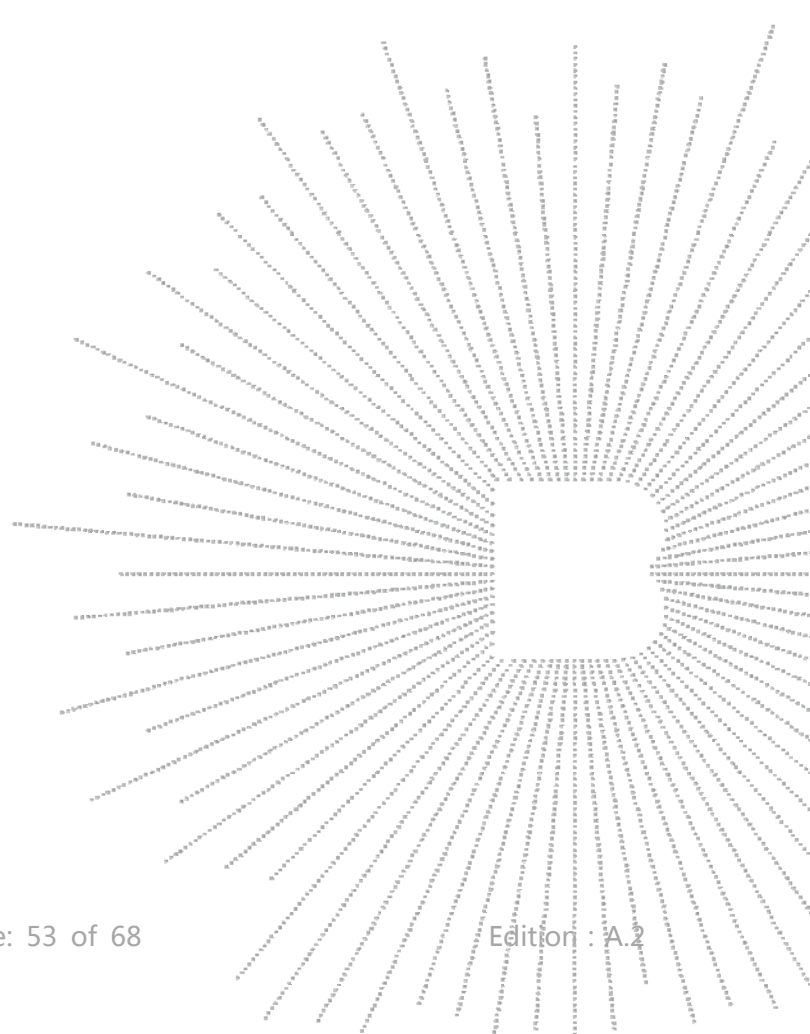
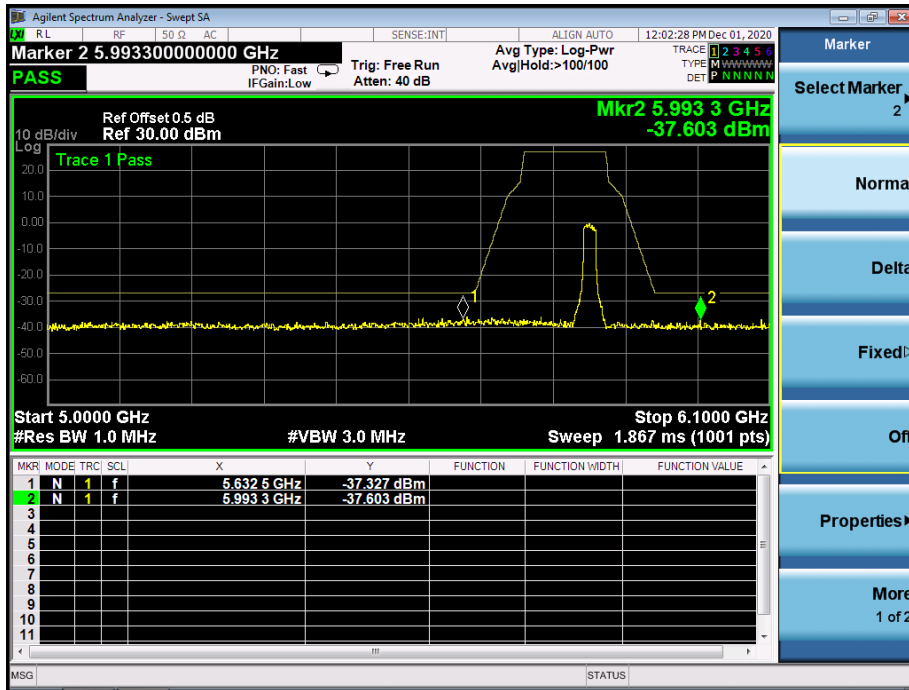
5.8G

5.745~5.825 GHz

(802.11 n20) Band Edge, Left Side



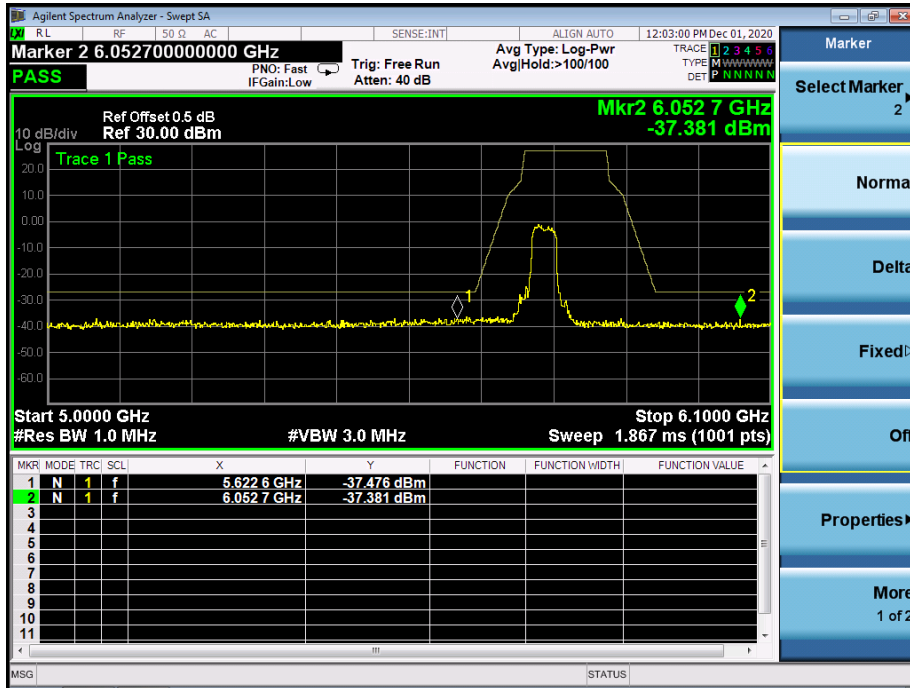
(802.11n20) Band Edge, Right Side



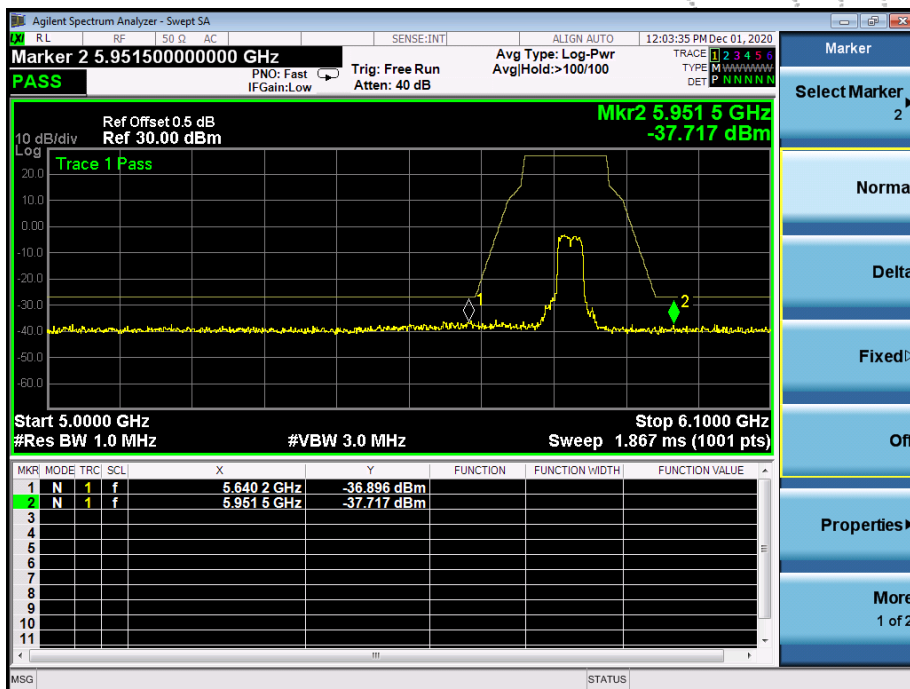


5.745~5.825 GHz

(802.11n40) Band Edge, Left Side

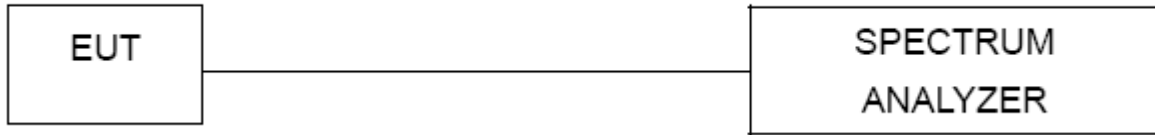


(802.11n40) Band Edge, Right Side



## 12. SPURIOUS RF CONDUCTED EMISSIONS

### 12.1 Block Diagram Of Test Setup



### 12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

### 12.3 Test procedure

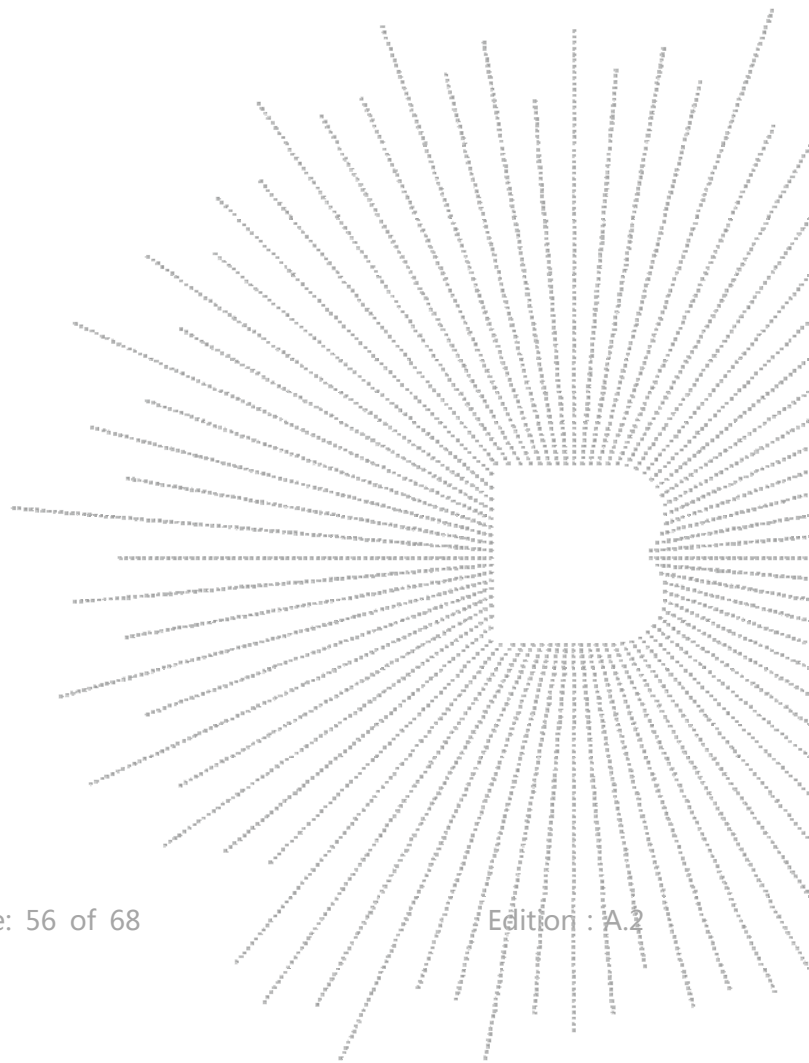
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

## 12.4 Test Result

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandedge measurement data.

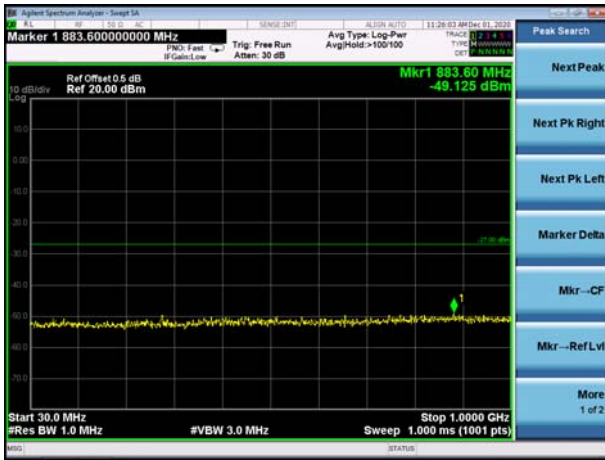
About:26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A Plot.

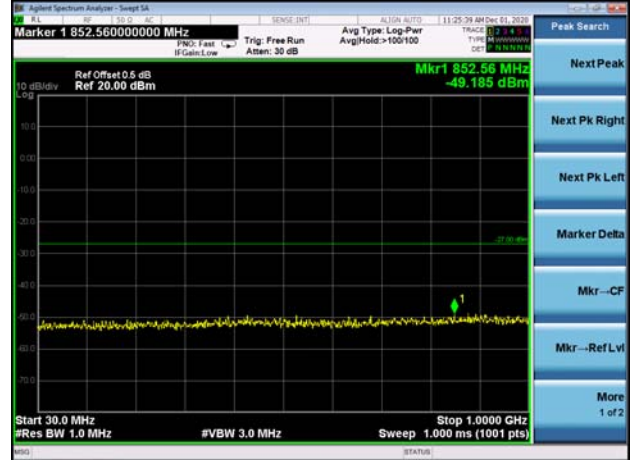


**5.2G**  
**Test Plot**

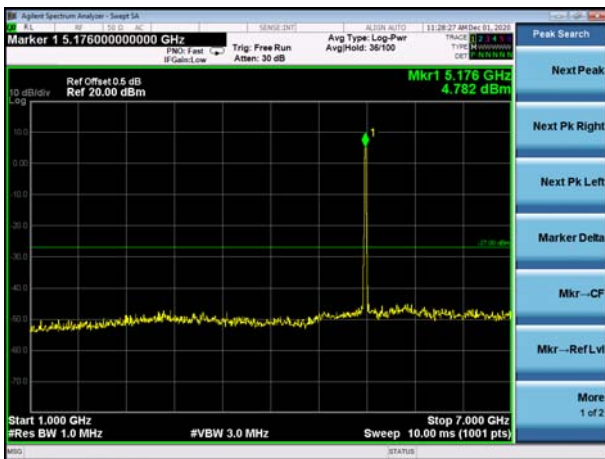
802.11n20 on channel 36



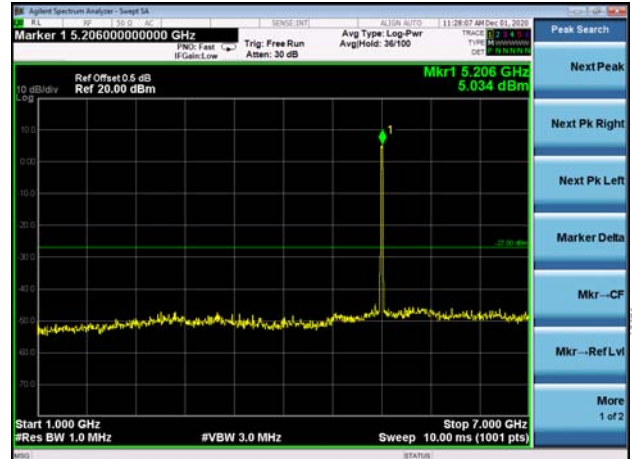
802.11n20 on channel 40



802.11n20 on channel 36



802.11n20 on channel 40



802.11n20 on channel 36



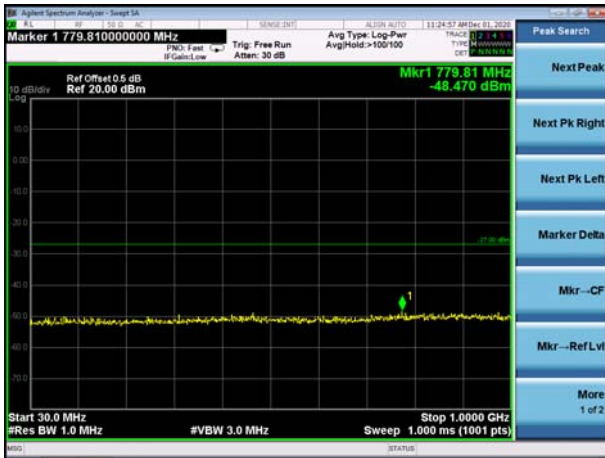
802.11n20 on channel 40





**Test Plot**

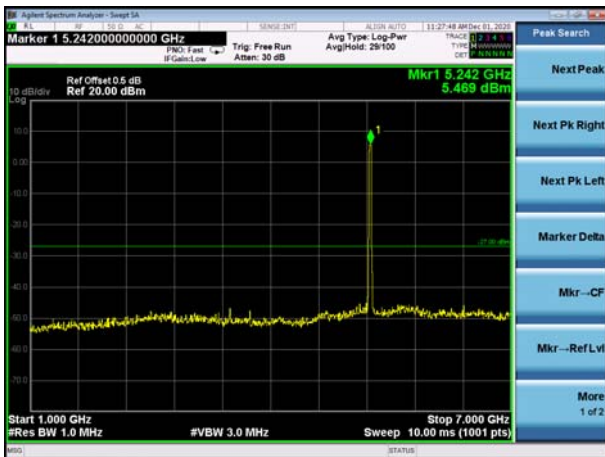
802.11n20 on channel 48



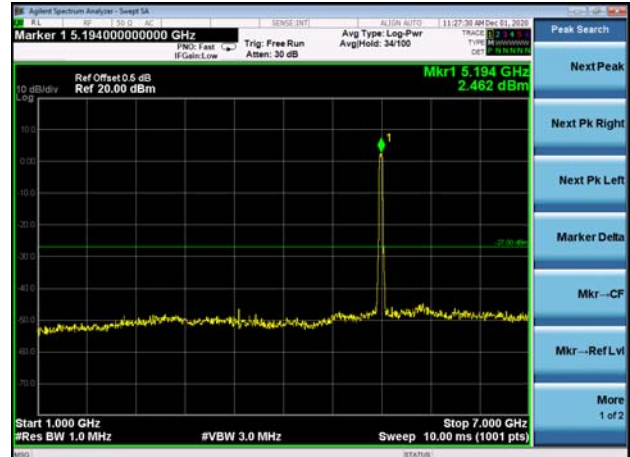
802.11n40 on channel 38



802.11n20 on channel 48



802.11n40 on channel 38



802.11n20 on channel 48

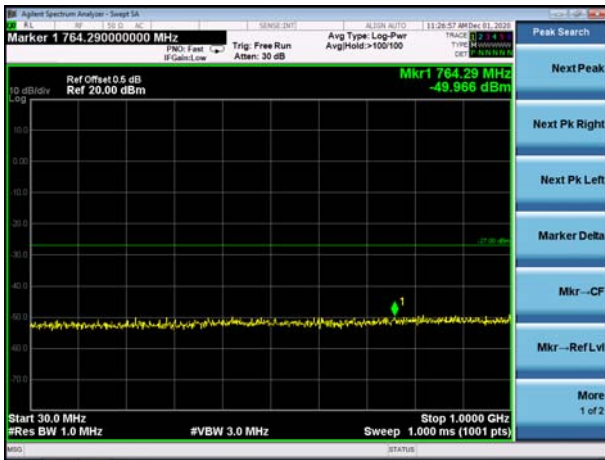


802.11n40 on channel 38

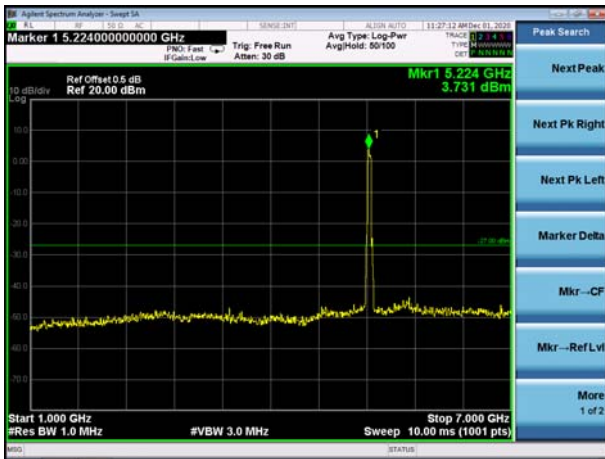


**Test Plot**

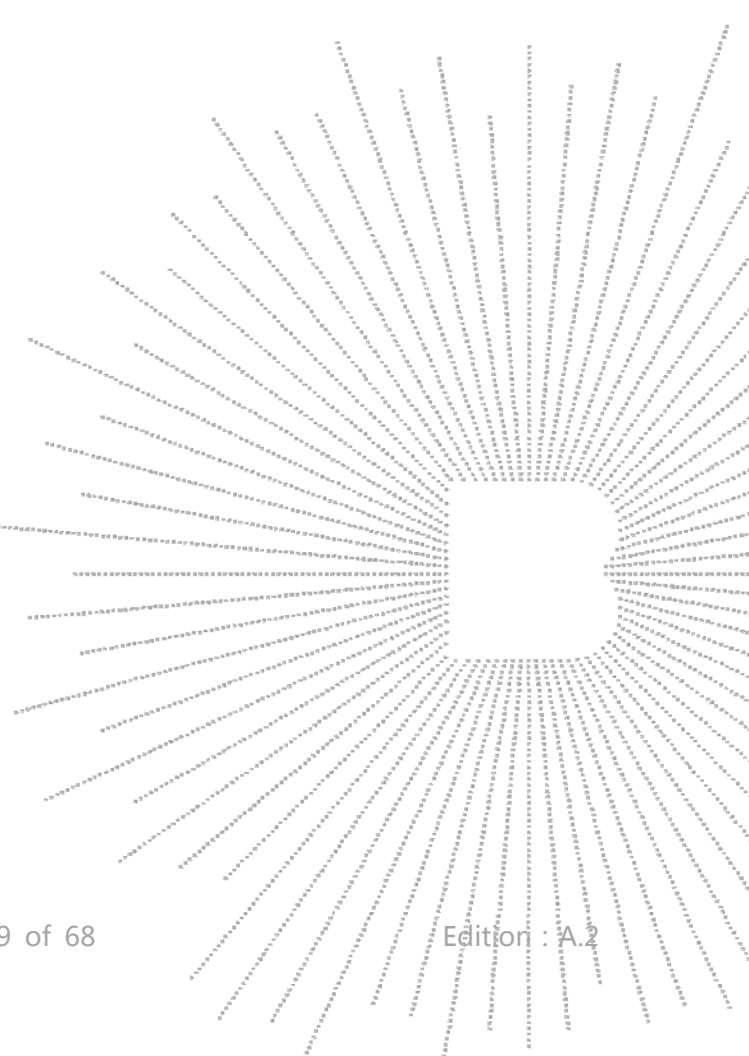
802.11n40 on channel 46



802.11n40 on channel 46

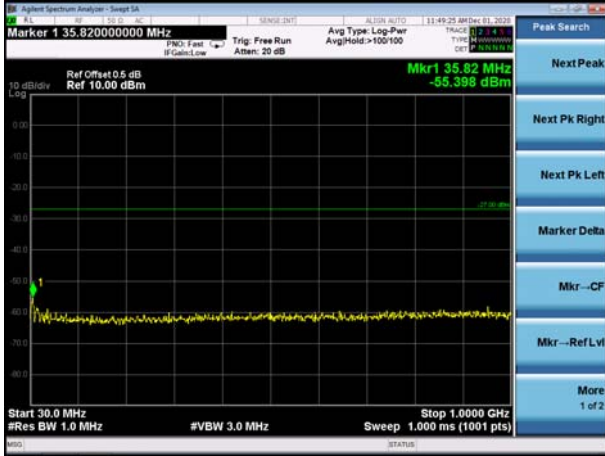


802.11n40 on channel 46

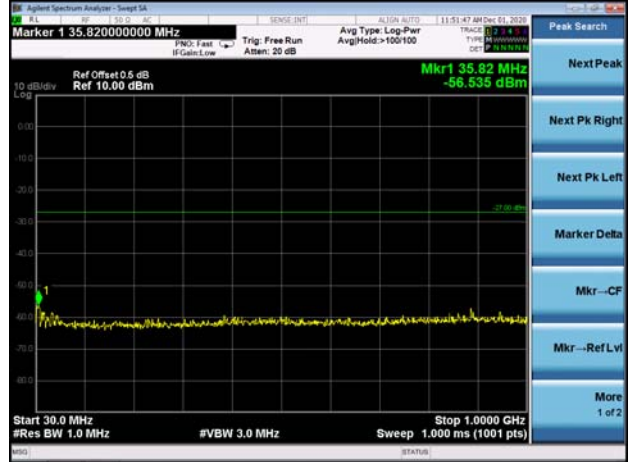


**5.8G**  
**Test Plot**

802.11n20 on channel 149



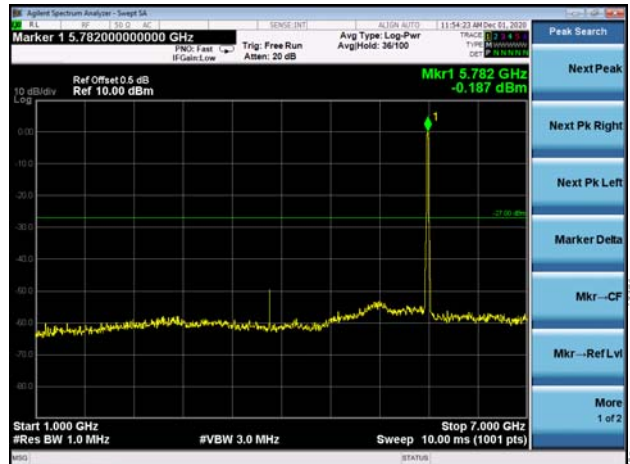
802.11n20 on channel 157



802.11n20 on channel 149



802.11n20 on channel 157



802.11n20 on channel 149



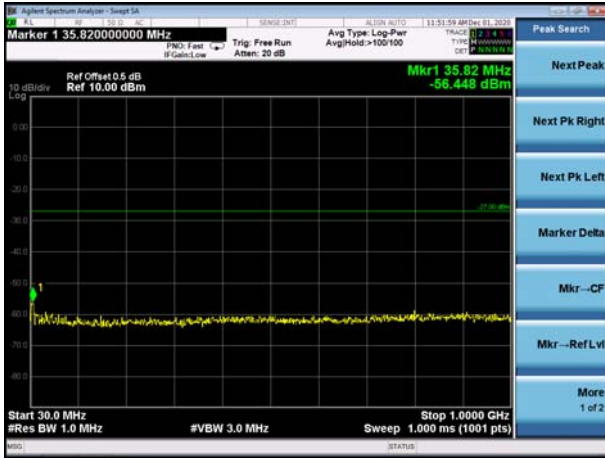
802.11n20 on channel 157



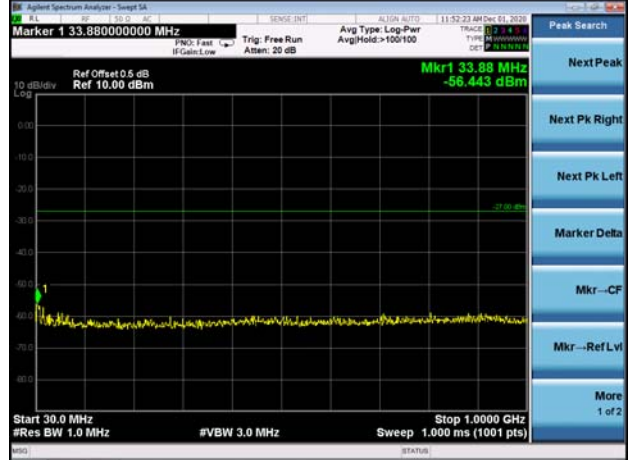


**Test Plot**

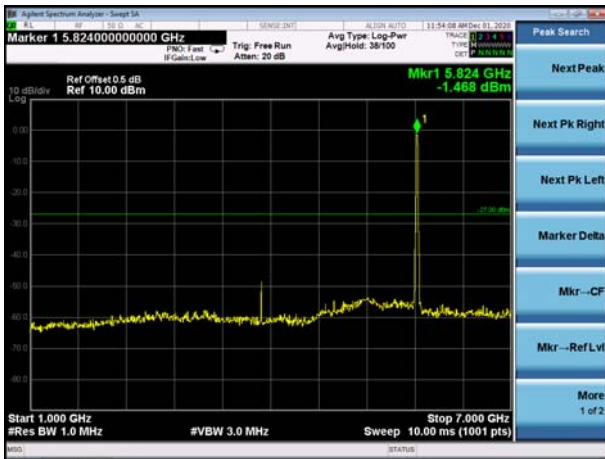
802.11n20 on channel 165



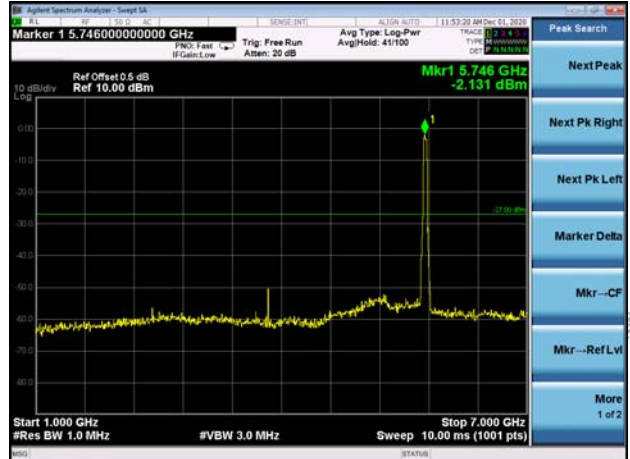
802.11n40 on channel 151



802.11n20 on channel 165



802.11n40 on channel 151



802.11n20 on channel 165

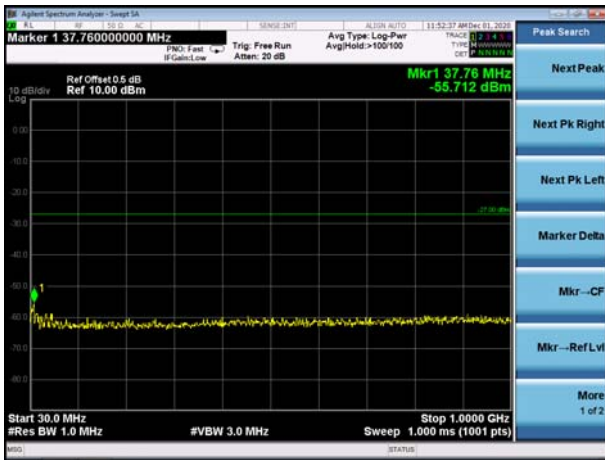


802.11n40 on channel 151



**Test Plot**

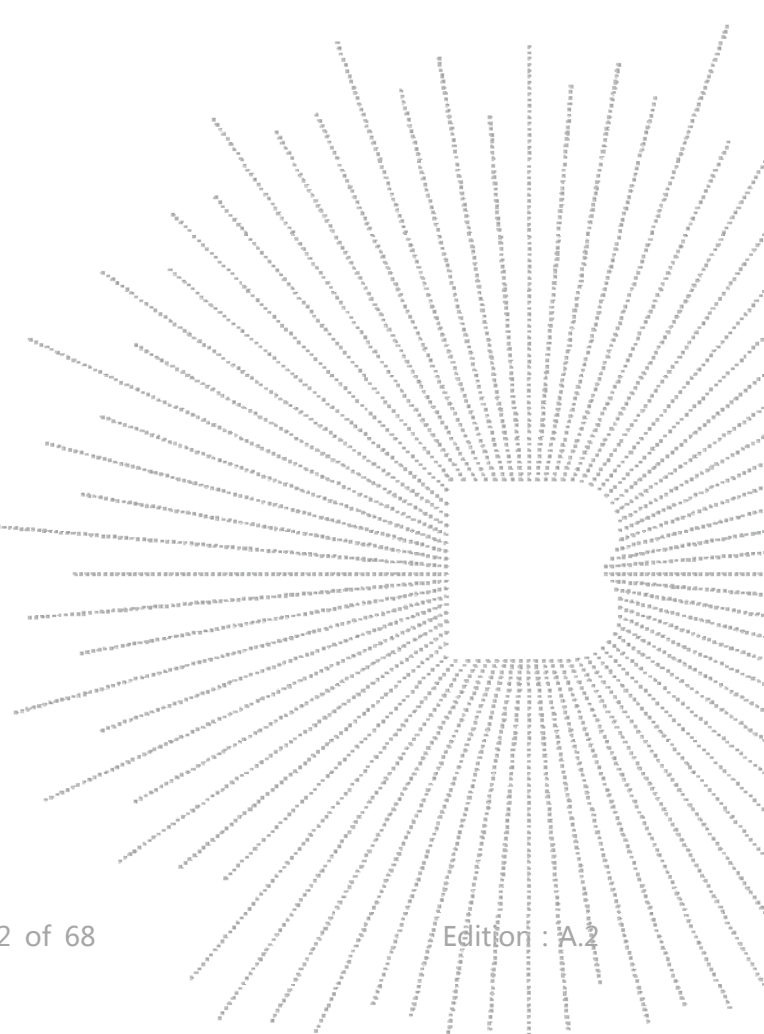
802.11n40 on channel 159



802.11n40 on channel 159



802.11n40 on channel 159



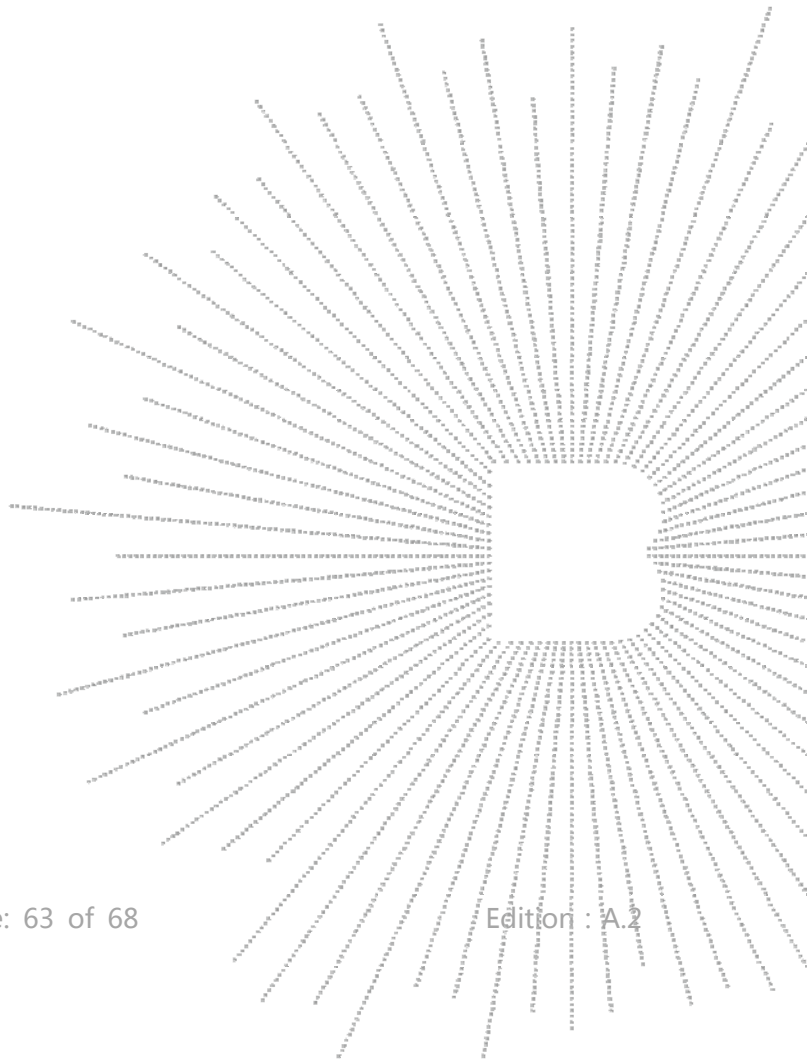
## 13. ANTENNA REQUIREMENT

### 14.1 Limit

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 14.2 Test Result

The EUT antenna is External antenna (antenna gain (A): 2dBi; antenna gain (B): 2dBi). It comply with the standard requirement.



## 14. EUT PHOTOGRAPHS

EUT Photo 1

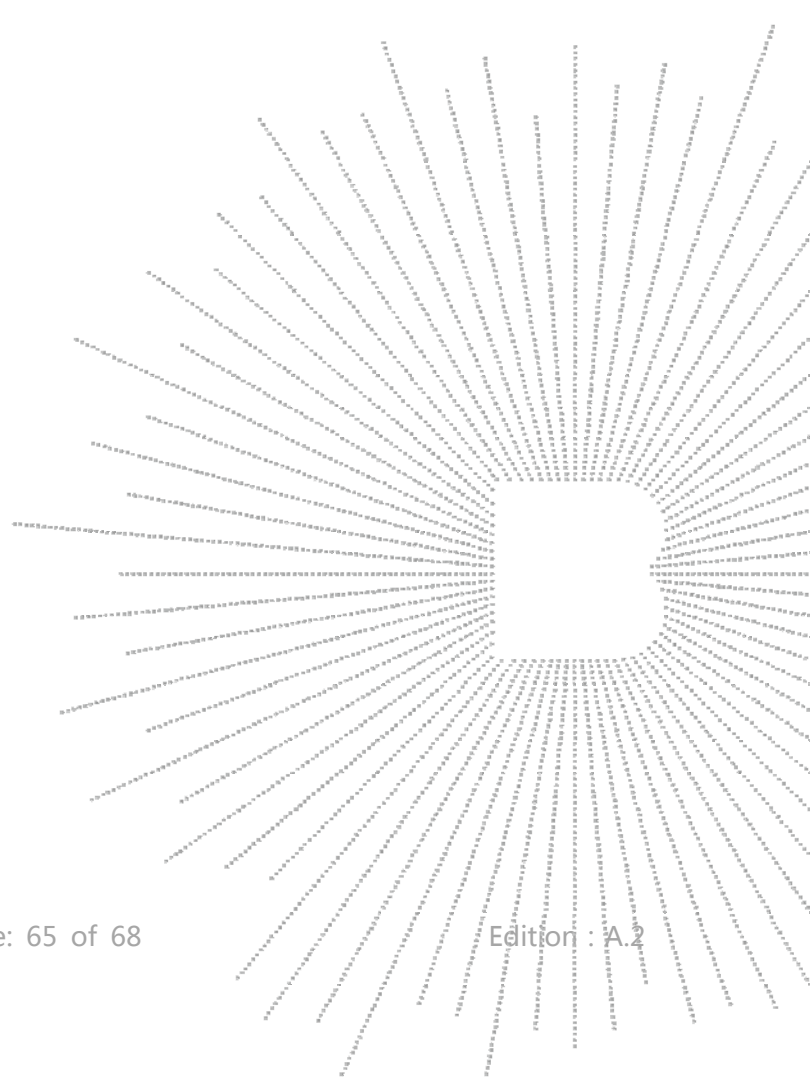


EUT Photo 2





**EUT Photo 3**

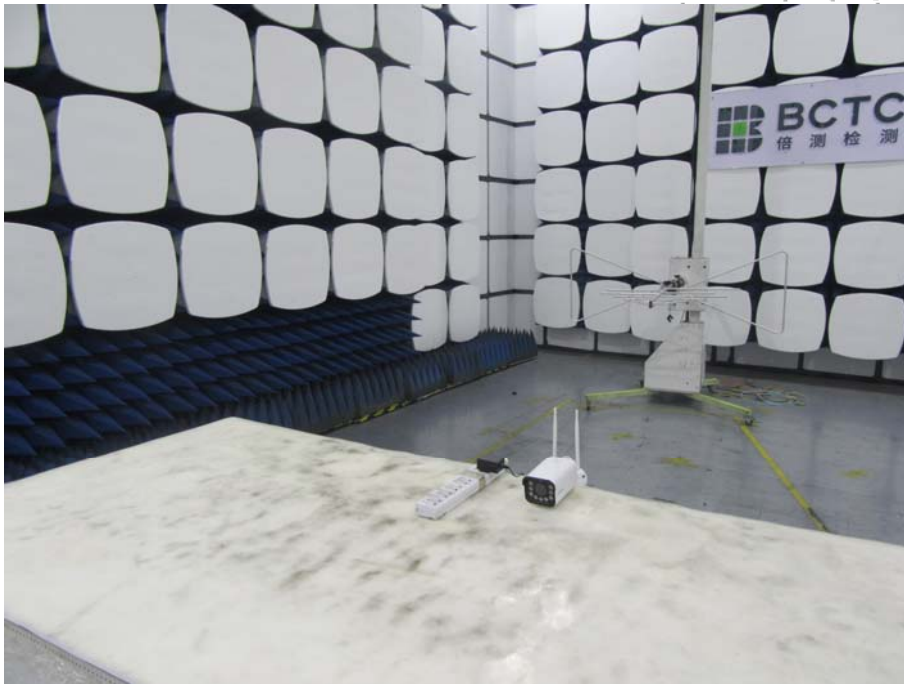


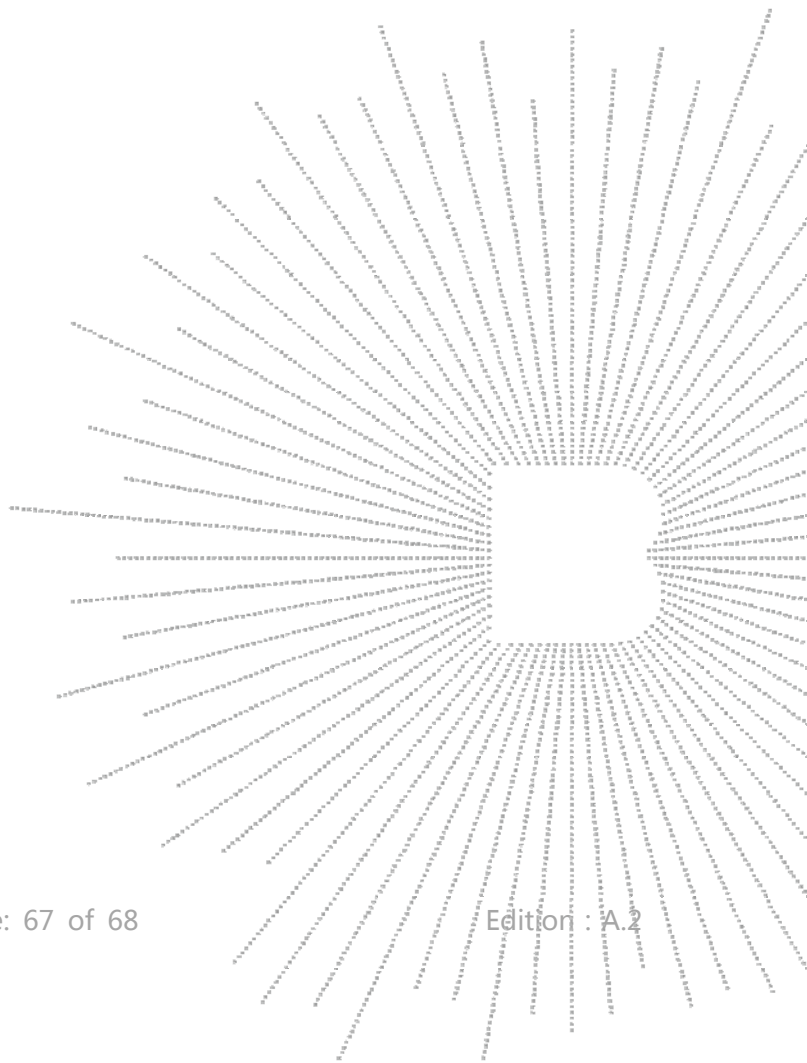
## 15. EUT TEST SETUP PHOTOGRAPHS

Conducted Measurement Photos



Radiated Measurement Photos







## STATEMENT

- 1.The equipment lists are traceable to the national reference standards.
- 2.The test report can not be partially copied unless prior written approval is issued from our lab.
- 3.The test report is invalid without stamp of laboratory.
- 4.The test report is invalid without signature of person(s) testing and authorizing.
- 5.The test process and test result is only related to the Unit Under Test.
- 6.The quality system of our laboratory is in accordance with ISO/IEC17025.
- 7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., East of B Building, Pengzhou Industrial Park, Fuyuan 1st Road, Qiaotou, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

TEL : 400-788-9558

P.C.: 518103

FAX : 0755-33229357

Internet : <http://www.bctc-lab.com>

E-Mail : [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

\*\*\*\*\* END \*\*\*\*\*

