

### 9.5 Test Result

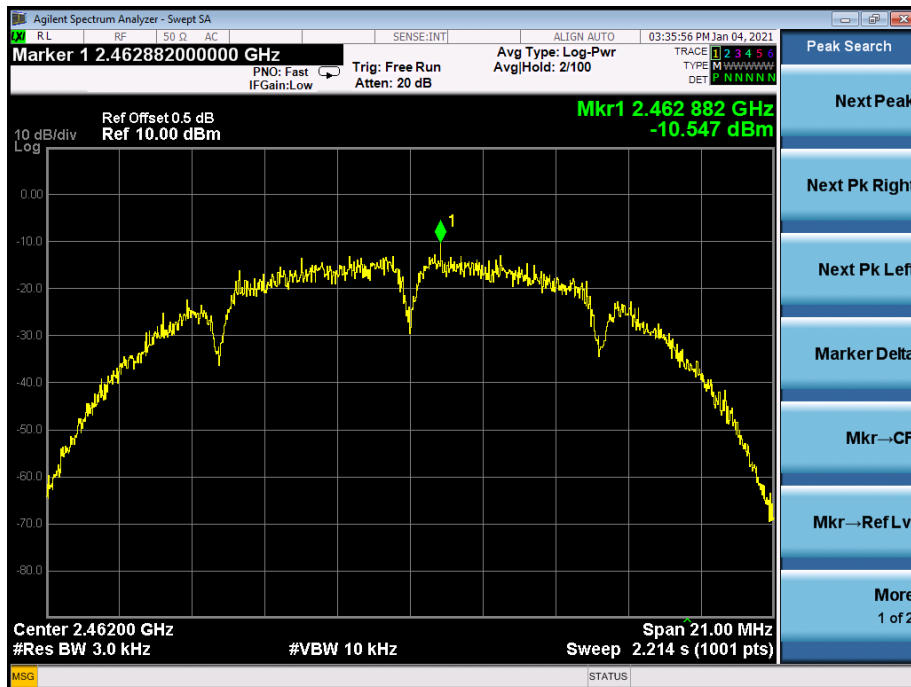
Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX b Mode		

Frequency	Power Spectral Density(dBm/3k Hz)	Limit (dBm/3kHz)	Result
2412 MHz	-11.747	8	PASS
2437 MHz	-11.217	8	PASS
2462 MHz	-10.547	8	PASS

#### TX CH01



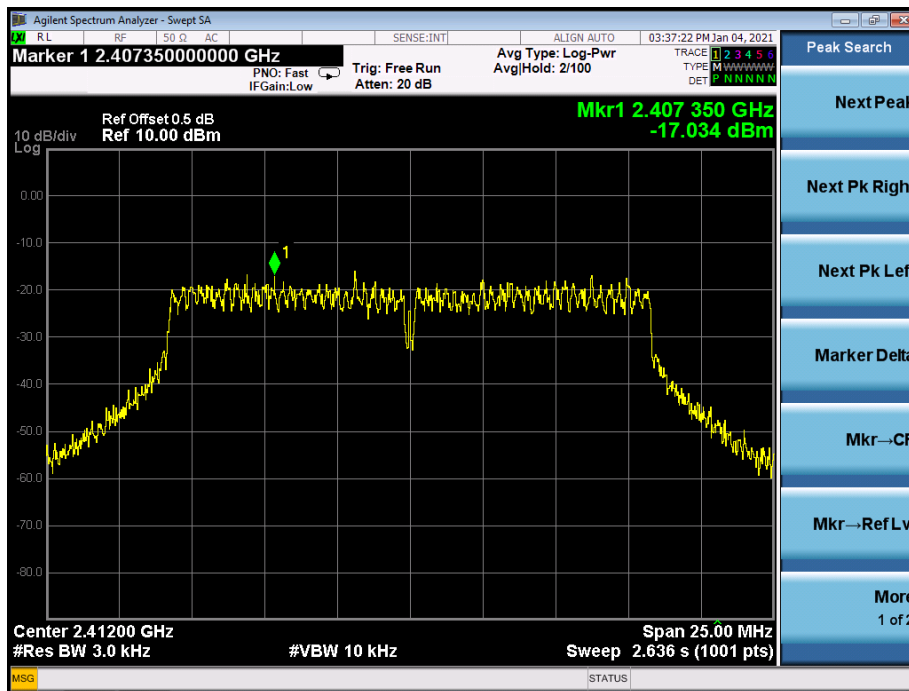
**TX CH06**

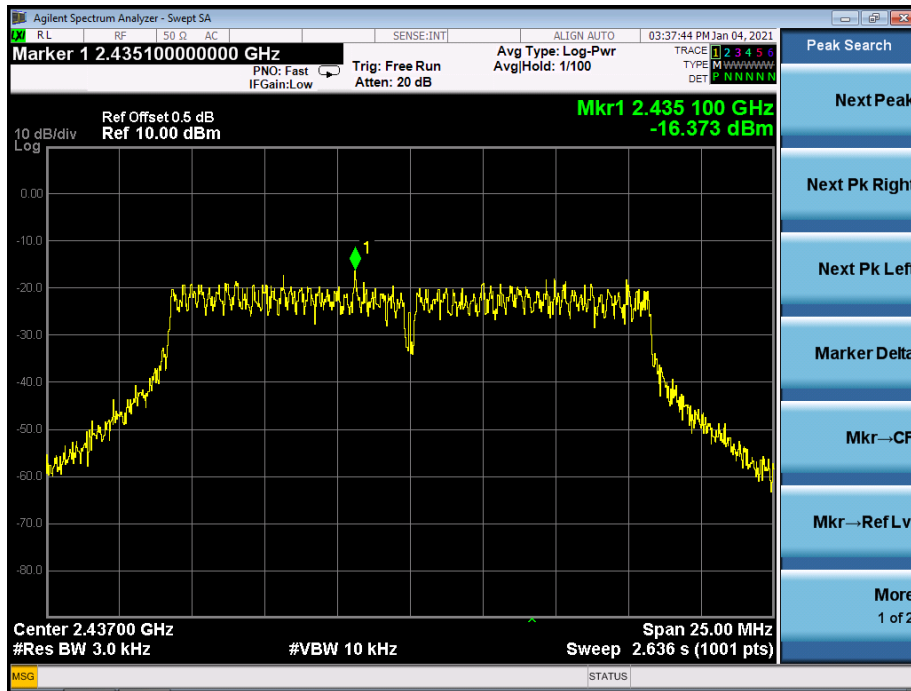
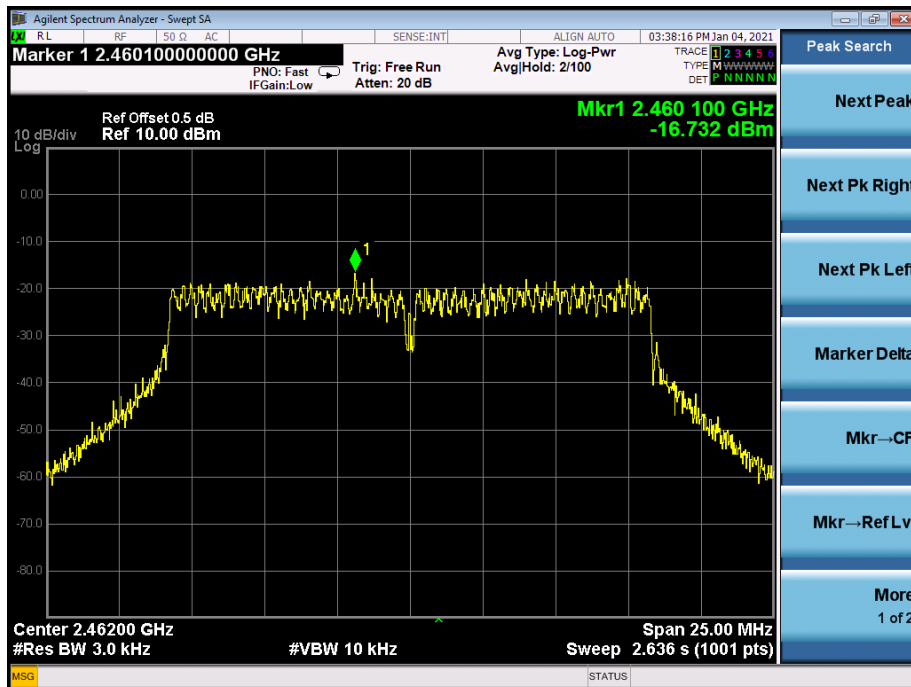
**TX CH11**


Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX g Mode		

Frequency	Power Spectral Density(dBm/3k Hz)	Limit (dBm/3kHz)	Result
2412 MHz	-17.034	8	PASS
2437 MHz	-16.373	8	PASS
2462 MHz	-16.732	8	PASS

### TX CH01

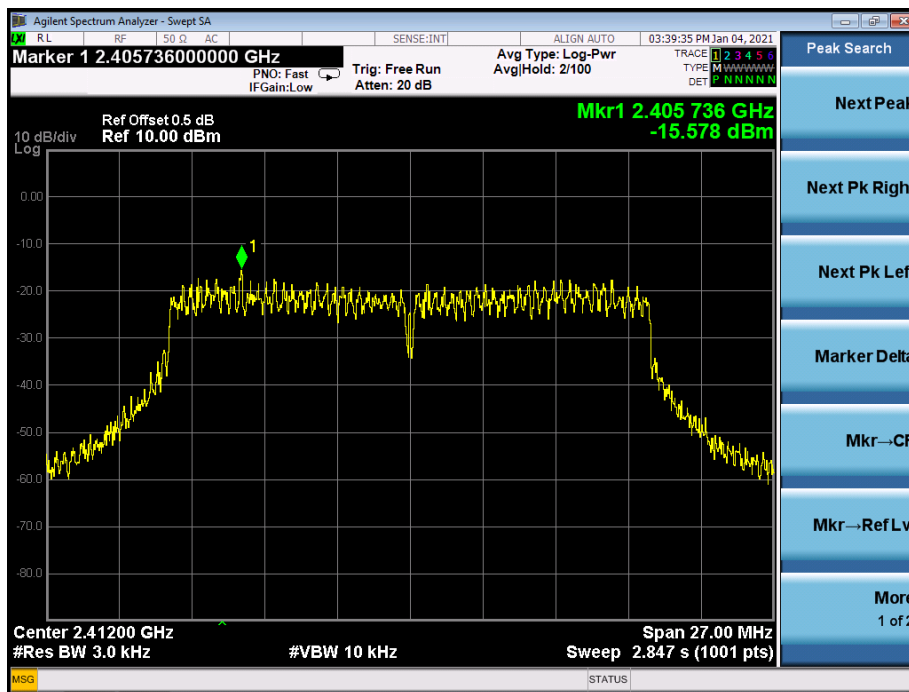


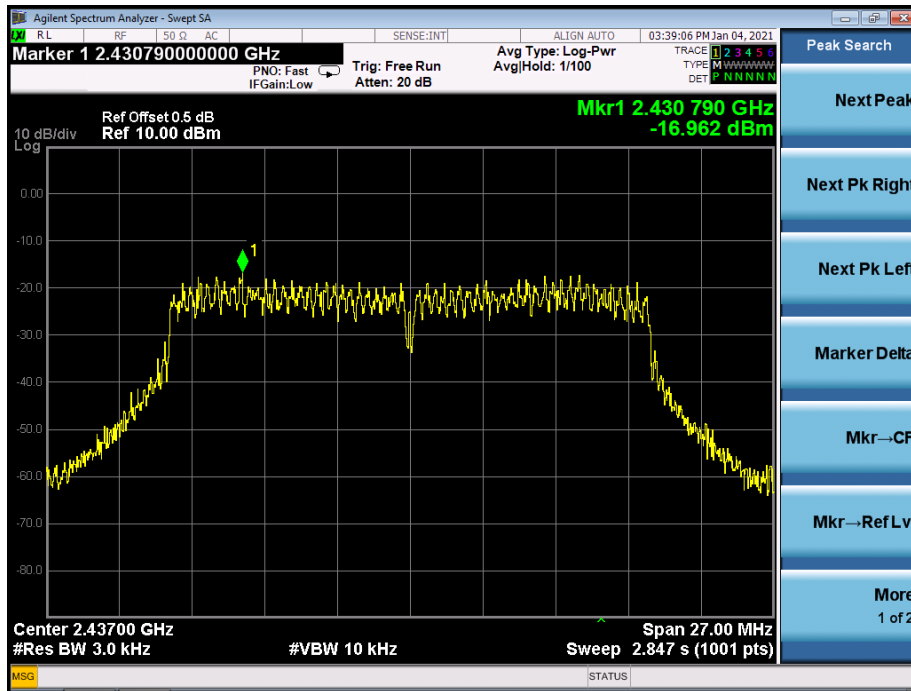
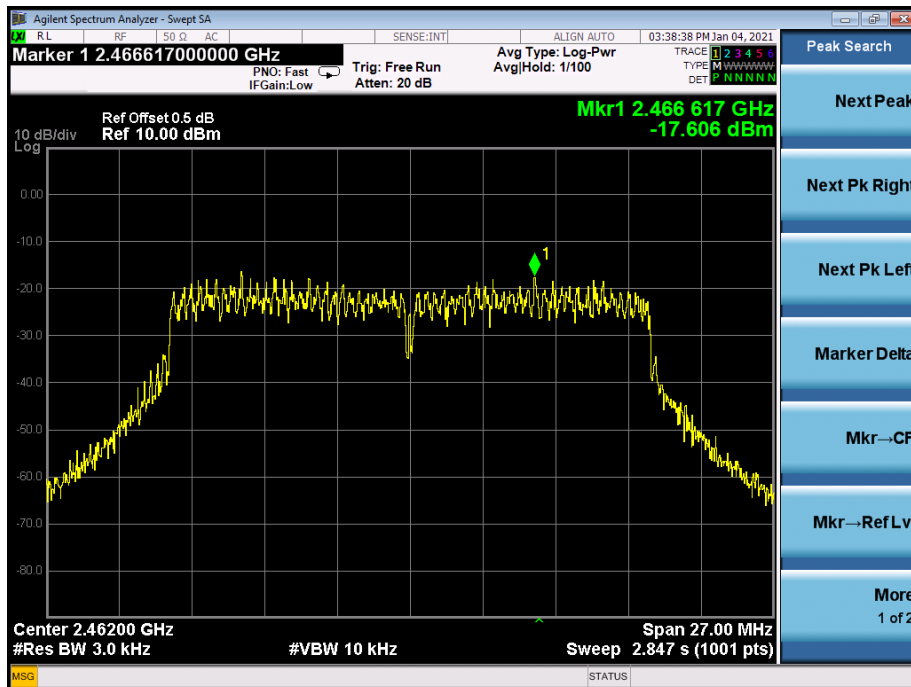
**TX CH06**

**TX CH11**


Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX n Mode(20M)		

Frequency	Power Spectral Density(dBm/3k Hz)	Limit (dBm/3kHz)	Result
2412 MHz	-15.578	8	PASS
2437 MHz	-16.962	8	PASS
2462 MHz	-17.606	8	PASS

### TX CH01

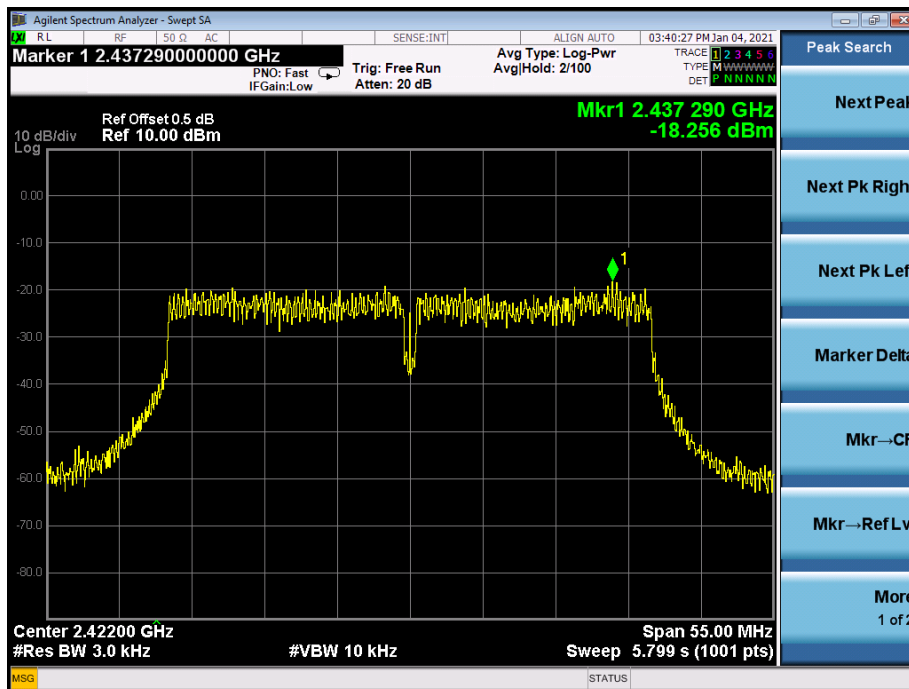


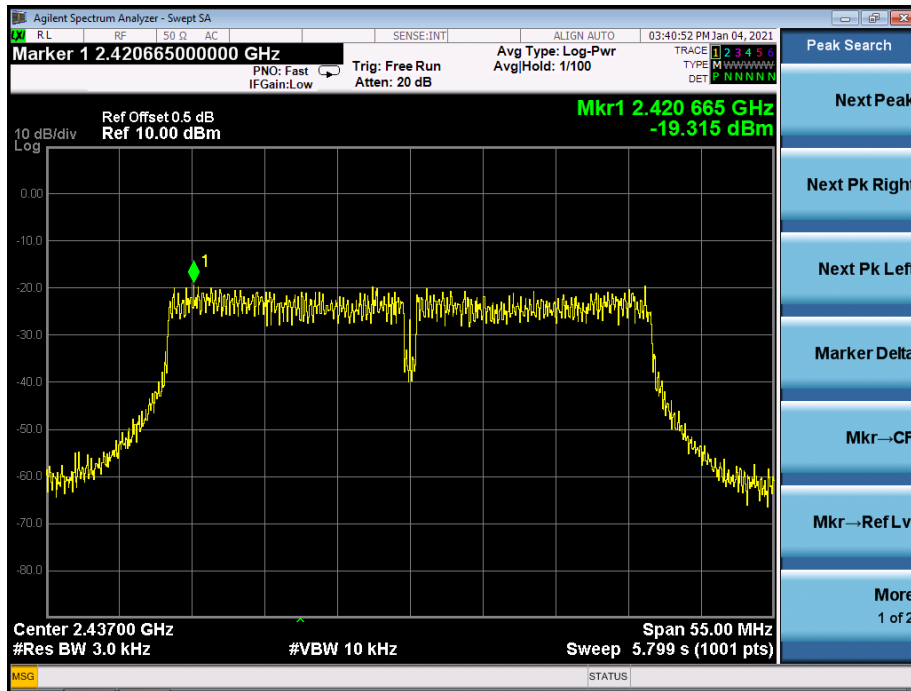
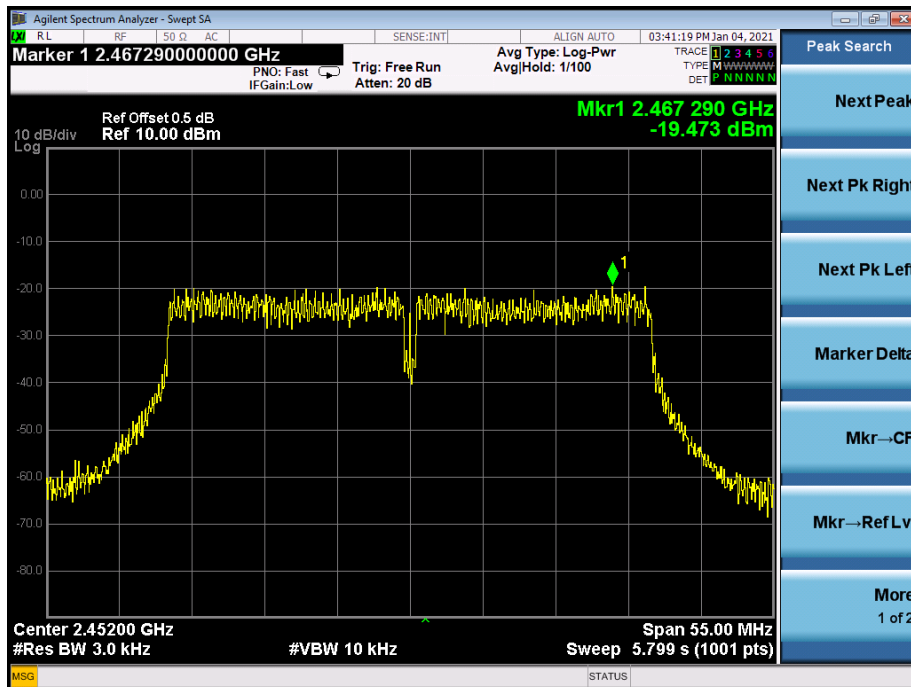
**TX CH06**

**TX CH11**


Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX n Mode(40M)		

Frequency	Power Spectral Density(dBm)	Limit (dBm)	Result
2422 MHz	-18.256	8	PASS
2437 MHz	-19.315	8	PASS
2452 MHz	-19.473	8	PASS

### TX CH03



**TX CH06**

**TX CH09**




## 10. BANDWIDTH TEST

### 10.1 Block Diagram Of Test Setup



### 10.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

### 10.3 Test procedure

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 10.4 EUT operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

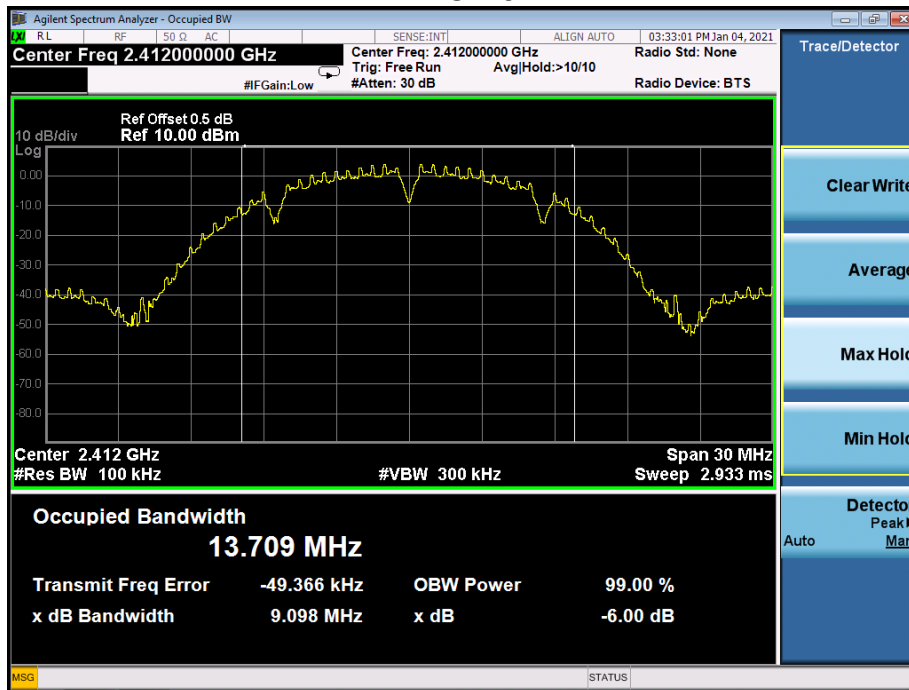
Note: Power Spectral Density(dBm)=Reading+Cable Loss

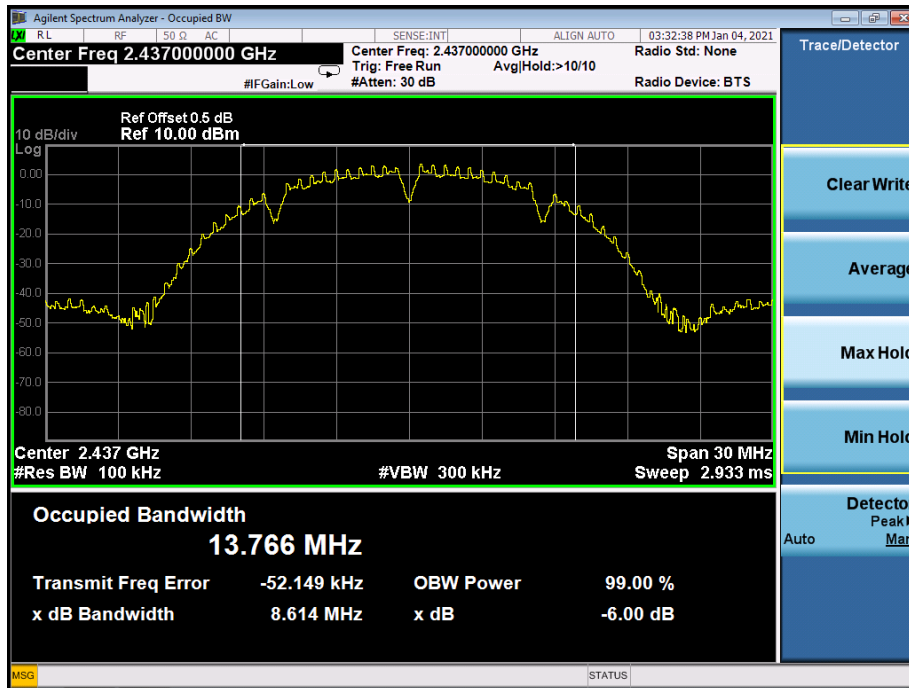
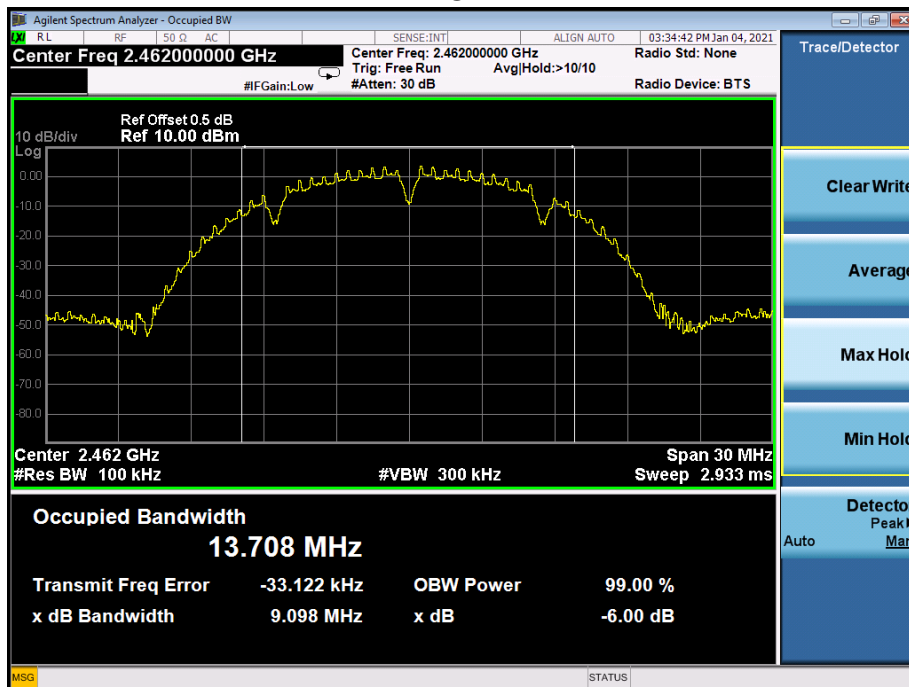
### 10.5 Test Result

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX b Mode		

Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
2412	9.10	500	Pass
2437	8.61	500	Pass
2462	9.10	500	Pass

#### TX CH 01

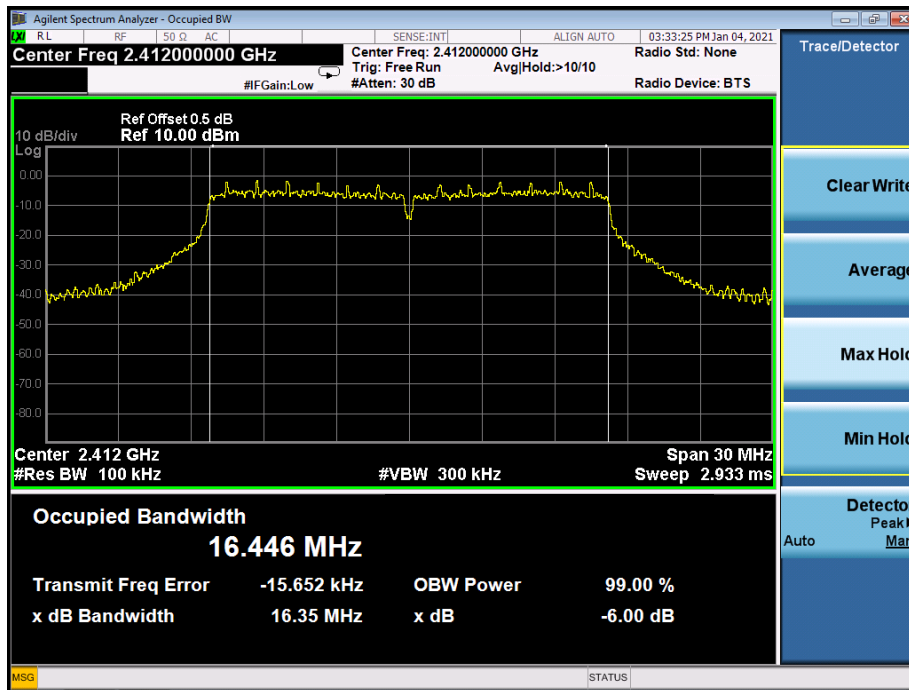


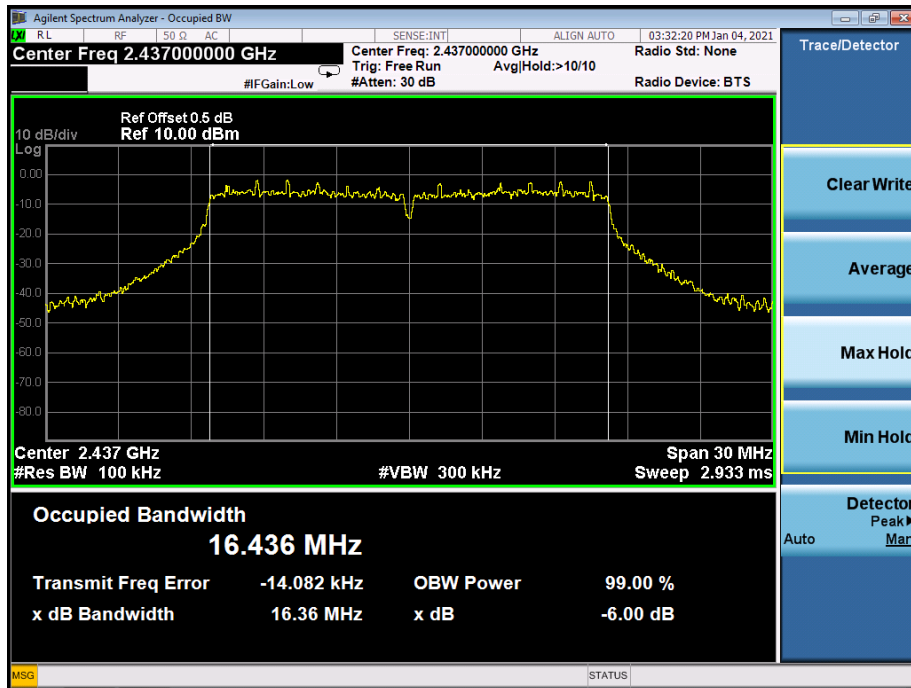
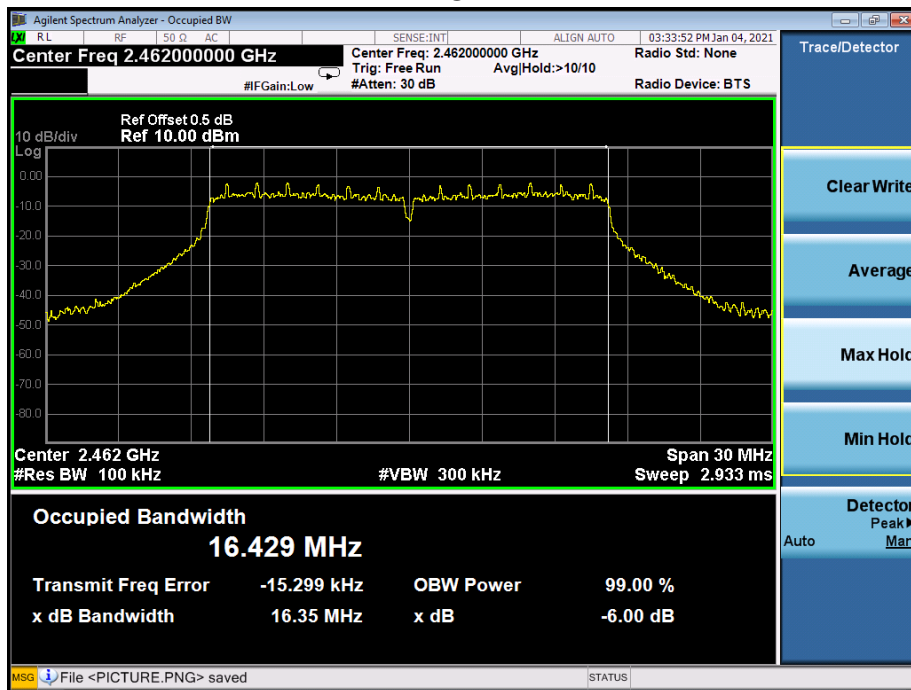
**TX CH 06**

**TX CH 11**


Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX g Mode		

Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
2412	16.35	500	Pass
2437	16.36	500	Pass
2462	16.35	500	Pass

### TX CH 01

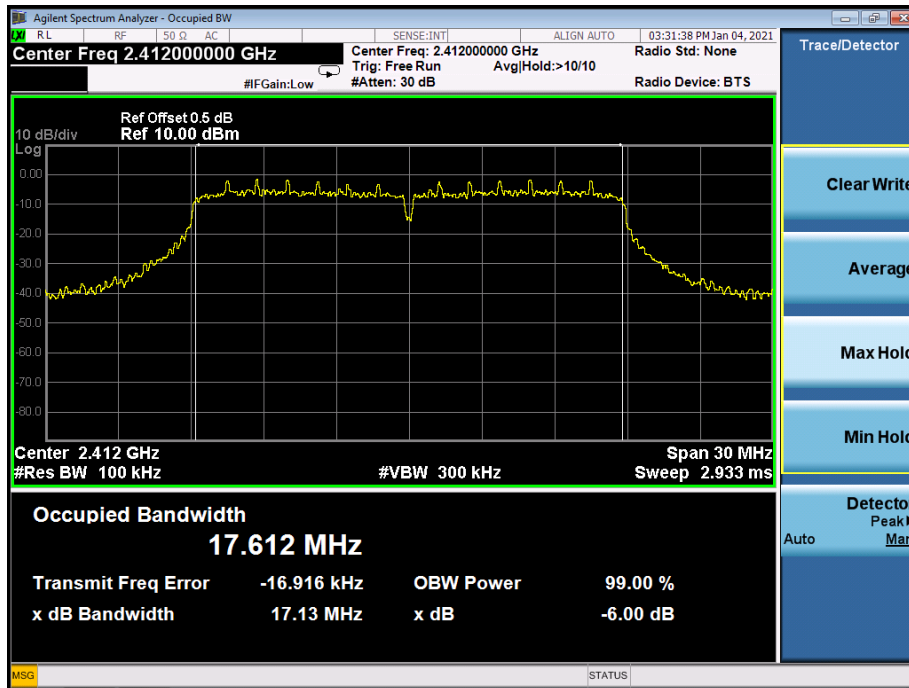


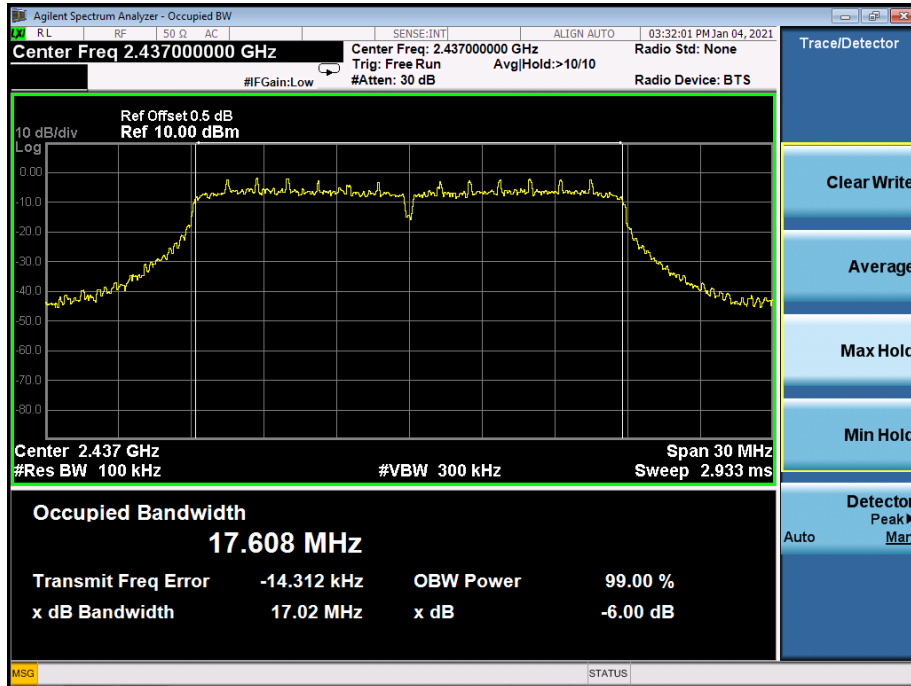
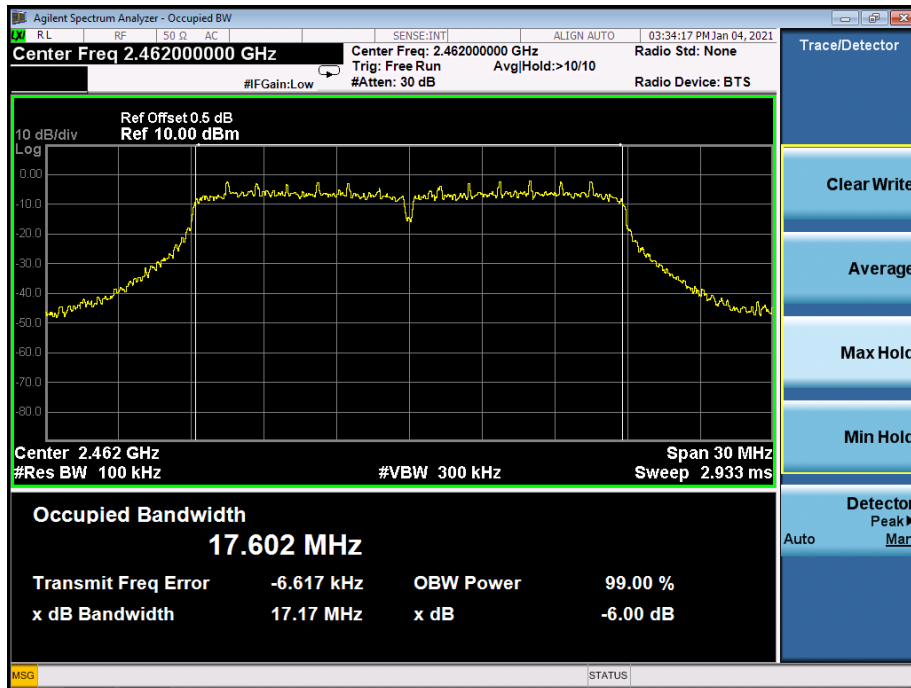
**TX CH 06**

**TX CH 11**


Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX n Mode(20M)		

Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
2412	17.13	500	Pass
2437	17.02	500	Pass
2462	17.17	500	Pass

### TX CH 01

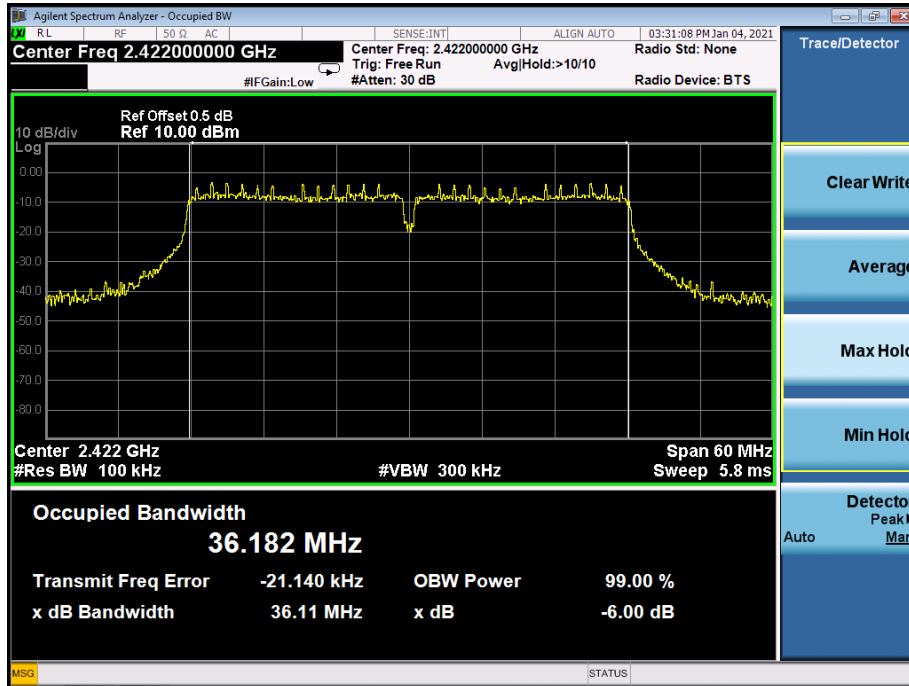


**TX CH 06**

**TX CH 11**


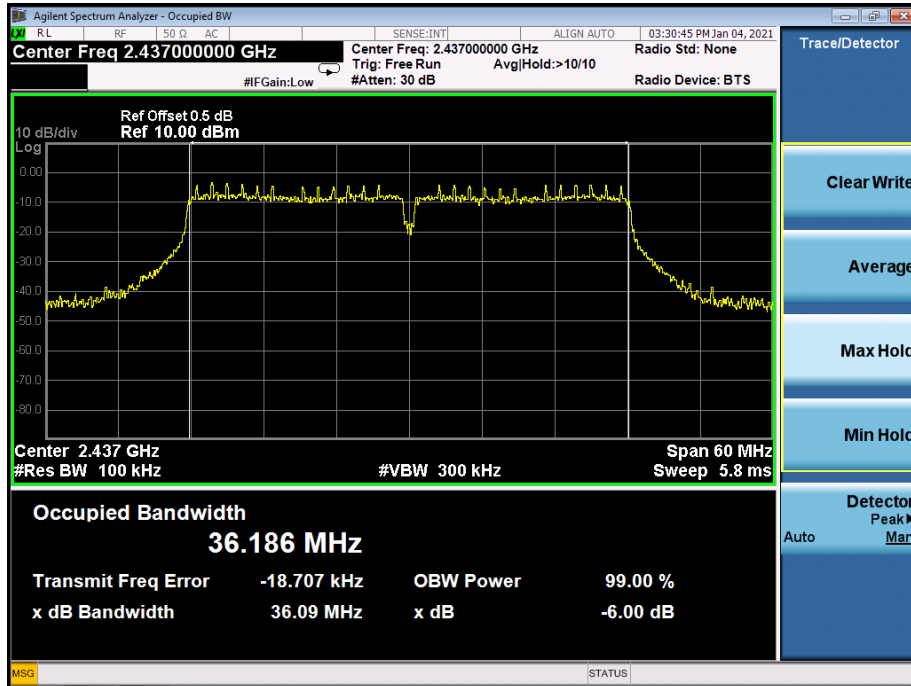
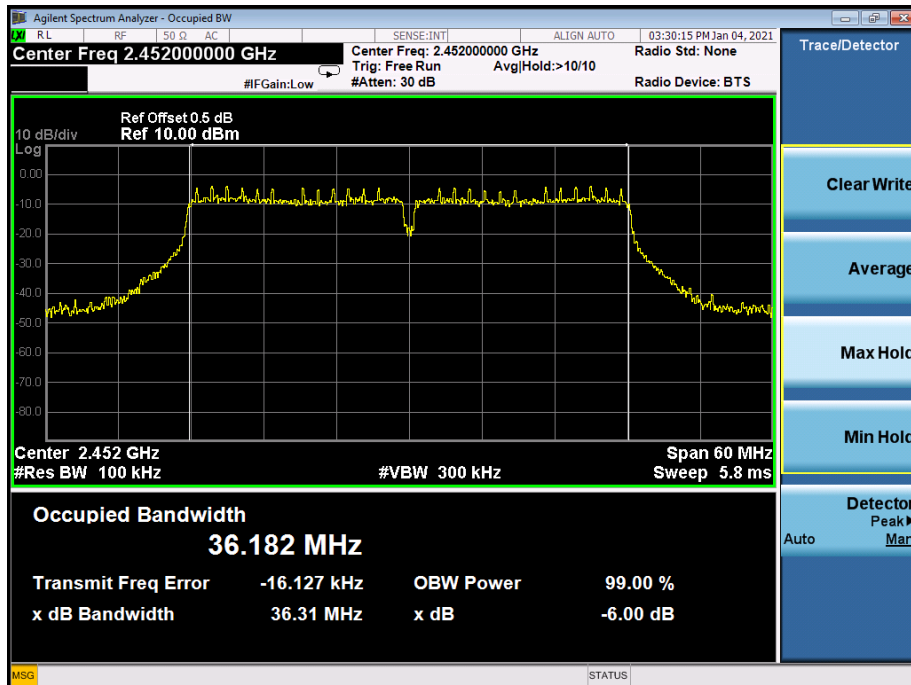
Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V
Test Mode :	TX n Mode(40M)		

Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
2422	36.11	500	Pass
2437	36.09	500	Pass
2452	36.31	500	Pass

### TX CH 03





**TX CH 06**

**TX CH 09**


## 11. PEAK OUTPUT POWER TEST

### 11.1 Block Diagram Of Test Setup



### 11.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

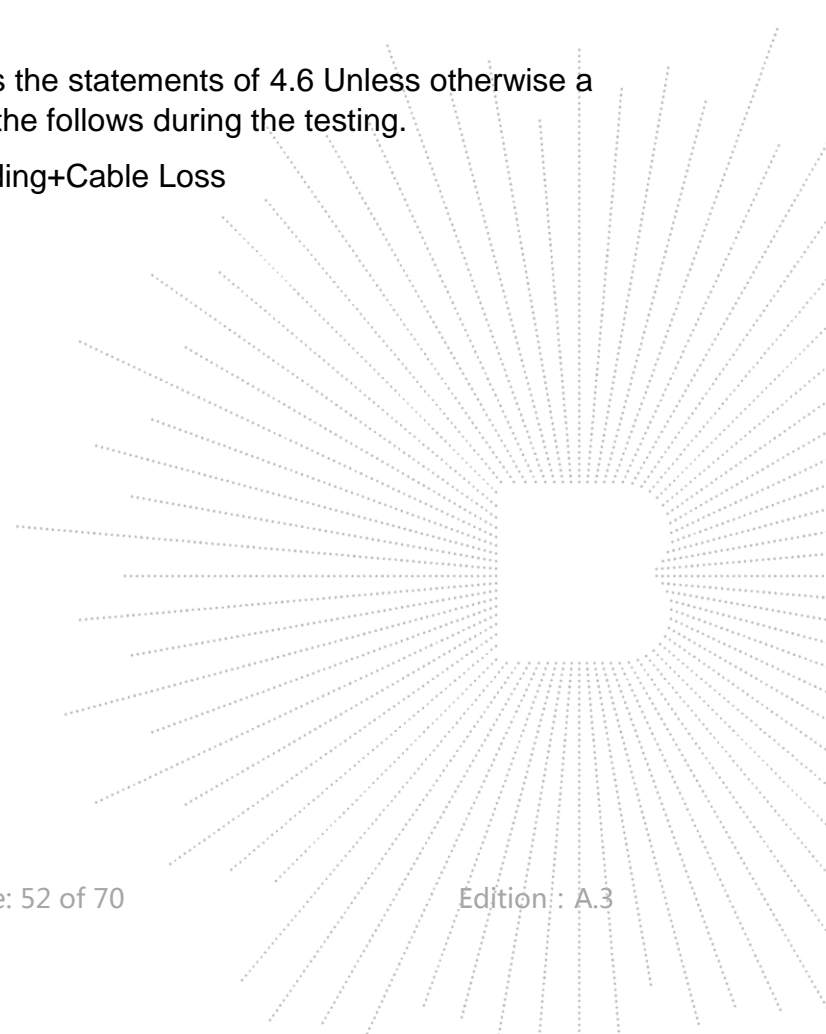
### 11.3 Test procedure

- a. The EUT was directly connected to the Power meter

### 11.4 EUT operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss



### 11.5 Test Result

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V

	Frequency	Maximum Conducted Output Power(PK)	LIMIT
	(MHz)	(dBm)	dBm
802.11b	2412	13.884	30
	2437	13.730	30
	2462	13.562	30
802.11g	2412	12.098	30
	2437	12.672	30
	2462	12.572	30
802.11n20	2412	11.654	30
	2437	11.415	30
	2462	11.288	30
802.11n40	2422	10.538	30
	2437	10.243	30
	2452	10.130	30

## 12. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

### 12.1 Block Diagram Of Test Setup



### 12.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

### 12.3 Test procedure

Using the following spectrum analyzer setting:

- a) Set the RBW = 100KHz.
- b) Set the VBW = 300KHz.
- c) Sweep time = auto couple.
- d) Detector function = peak.
- e) Trace mode = max hold.
- f) Allow trace to fully stabilize..

### 12.4 EUT operating Conditions

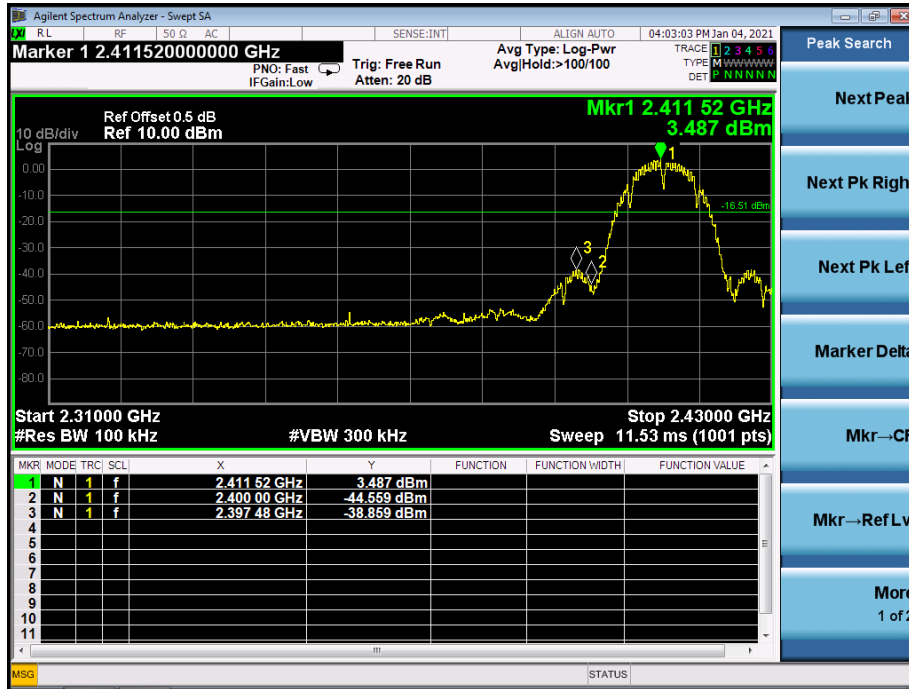
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

### 12.5 Test Result

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.6V

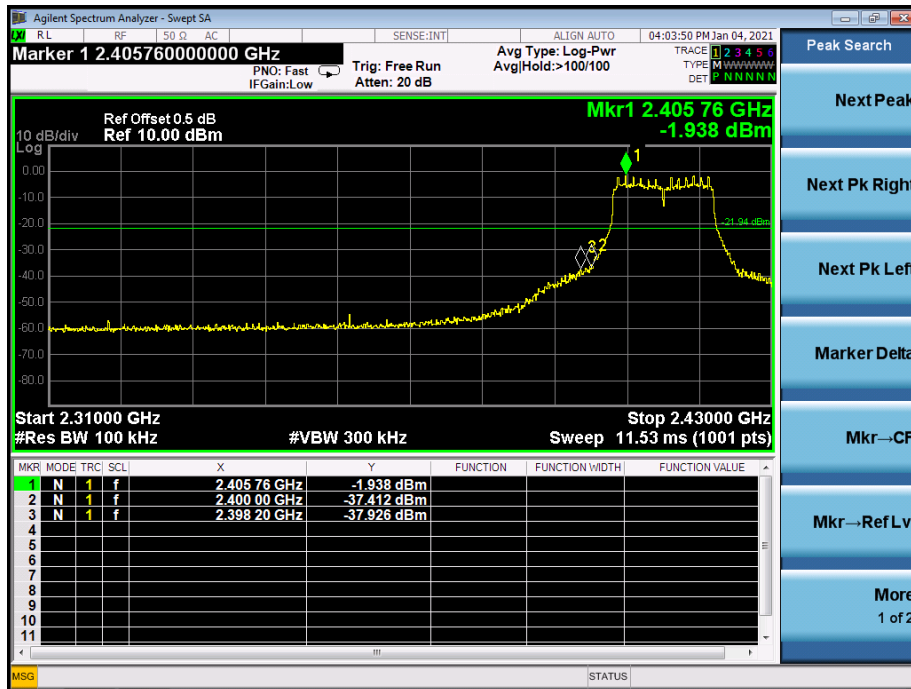
802.11b: Band Edge, Left Side



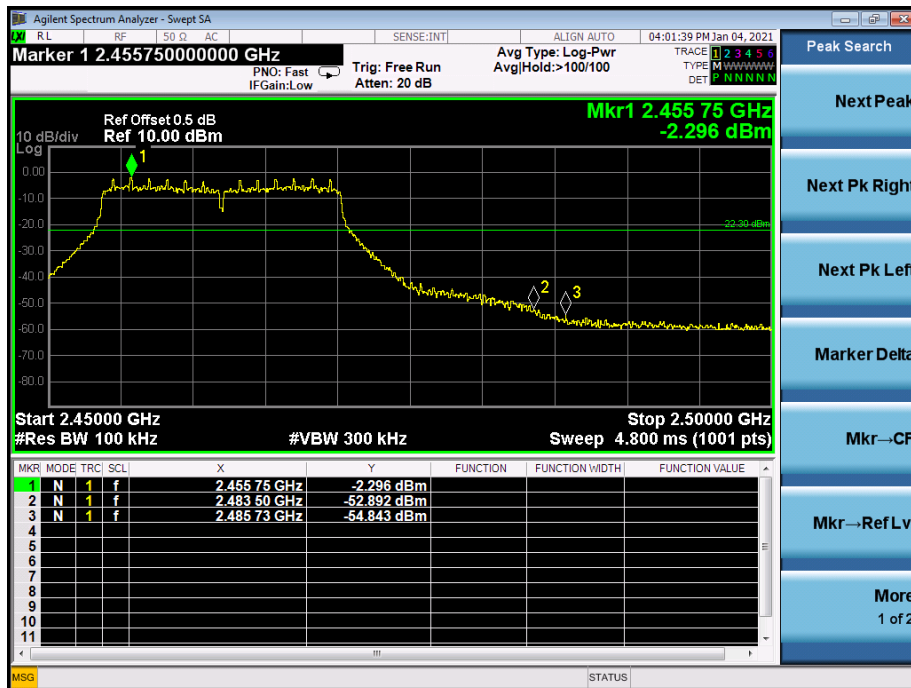
802.11b: Band Edge, Right Side



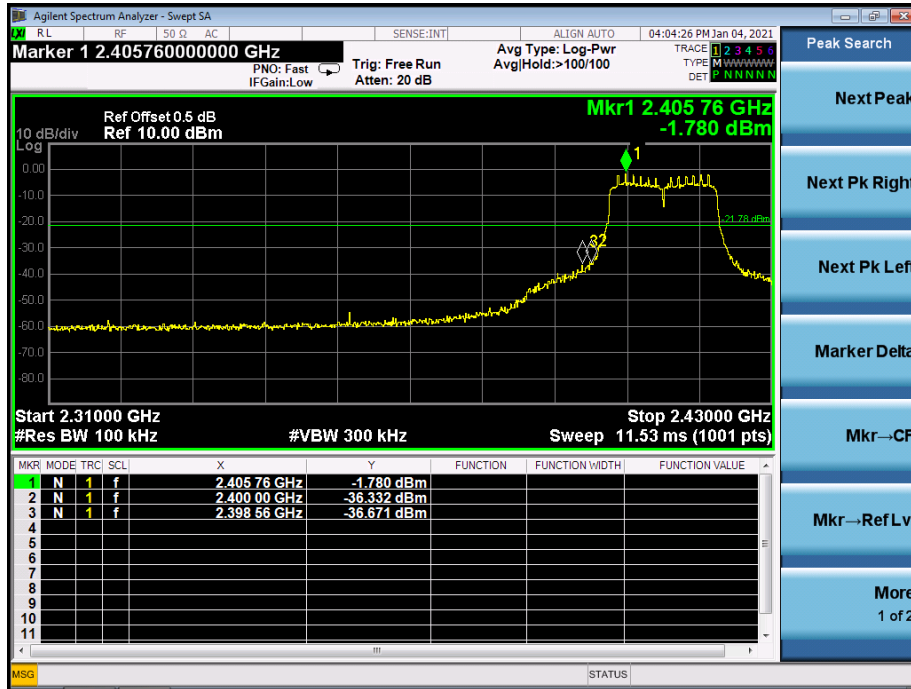
## 802.11g: Band Edge, Left Side



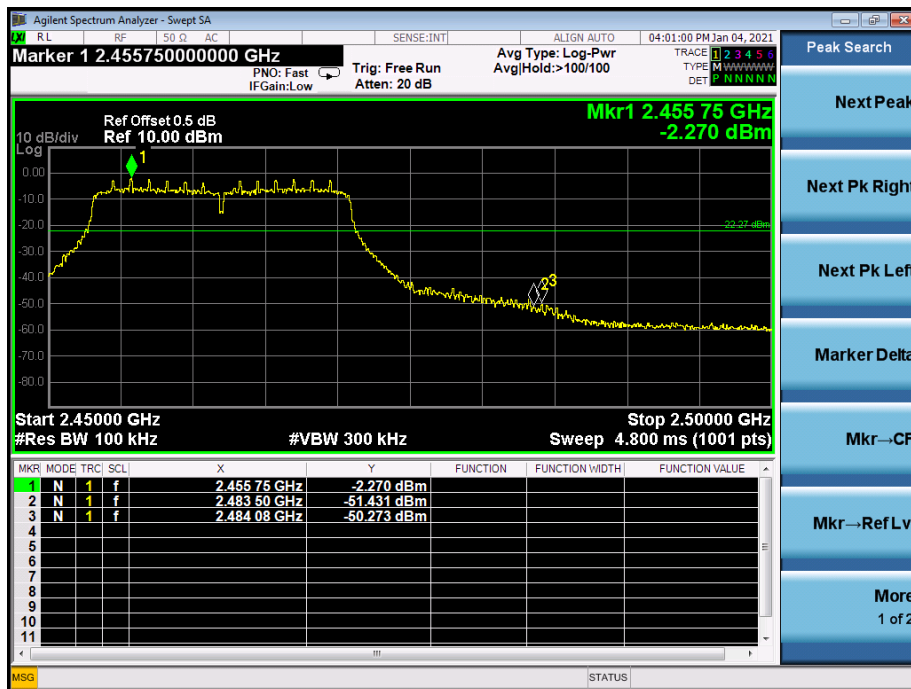
## 802.11g: Band Edge, Right Side



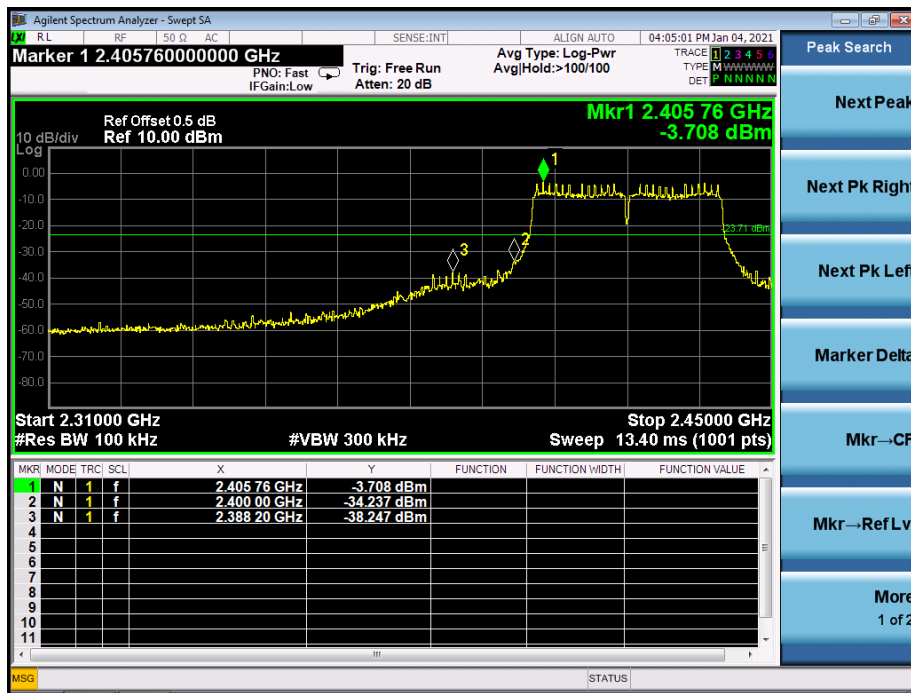
## 802.11n-HT20: Band Edge, Left Side



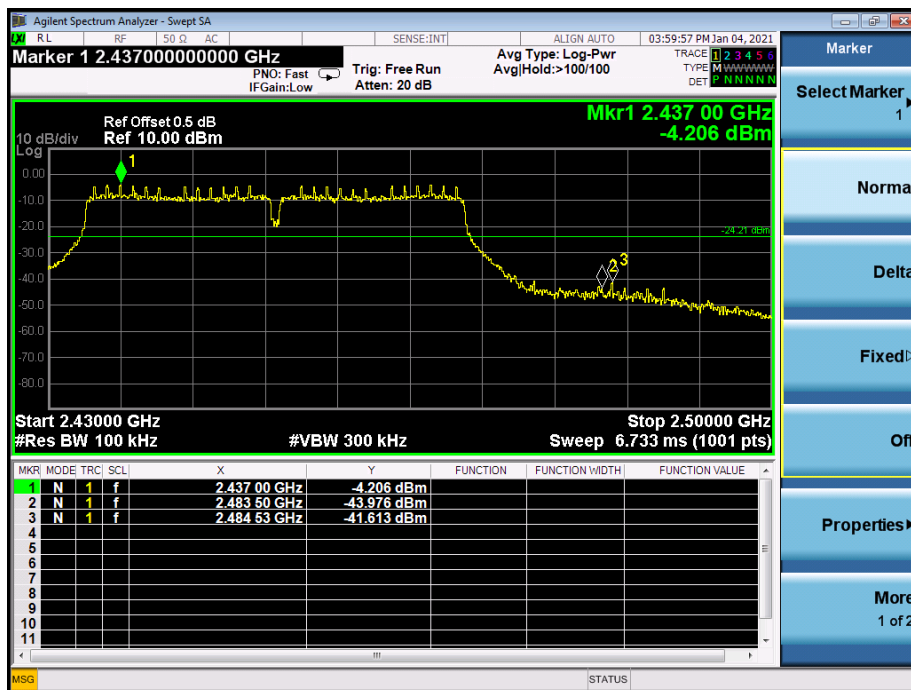
## 802.11n-HT20: Band Edge, Right Side



## 802.11n-HT40: Band Edge, Left Side



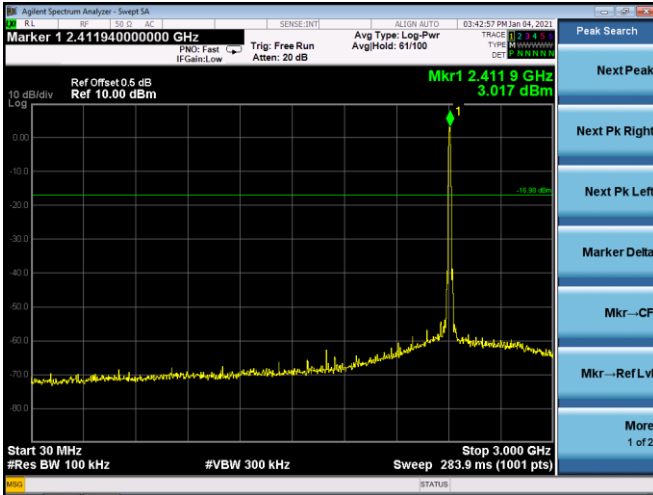
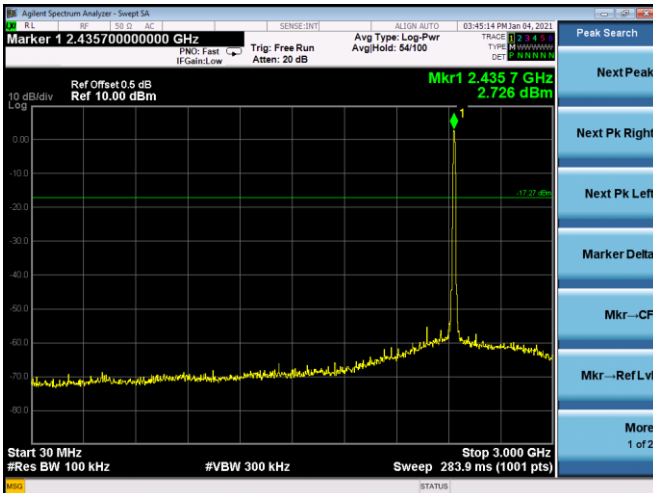
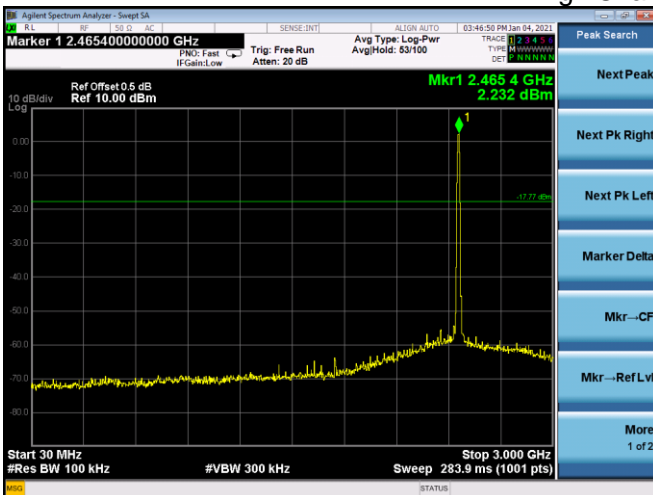
## 802.11n-HT40: Band Edge, Right Side



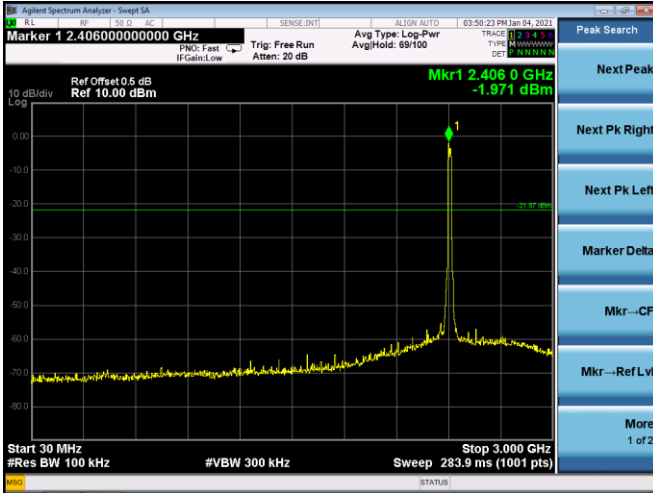
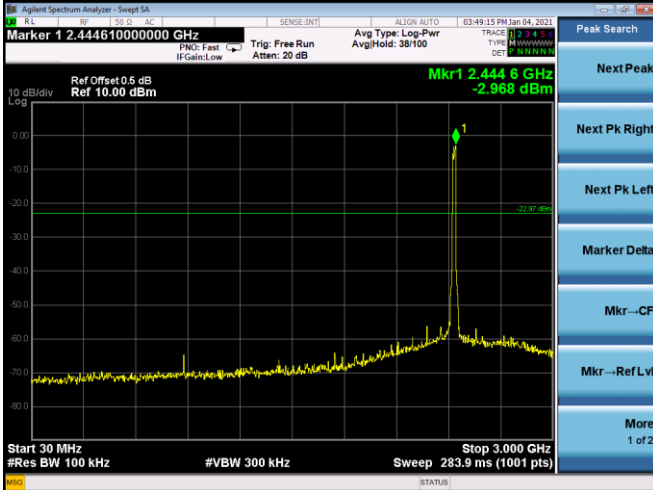
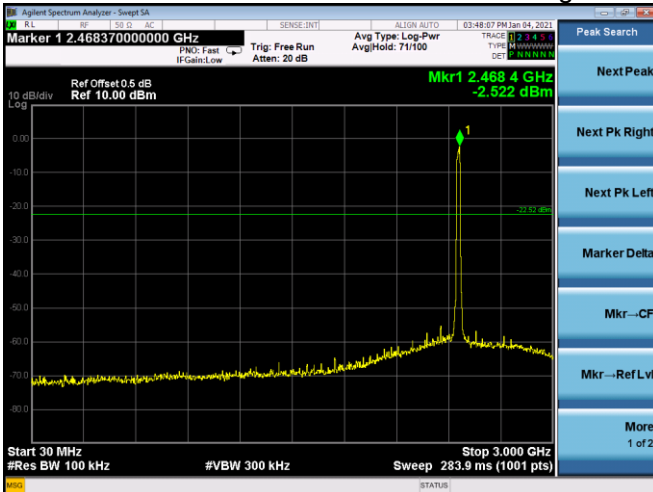


**CONDUCTED EMISSION MEASUREMENT**

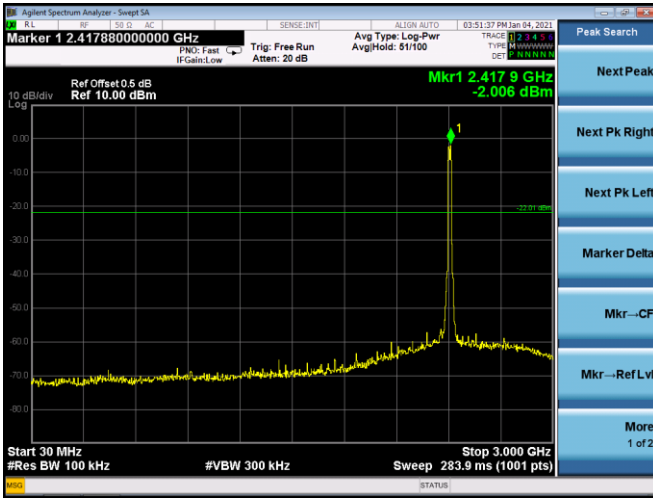
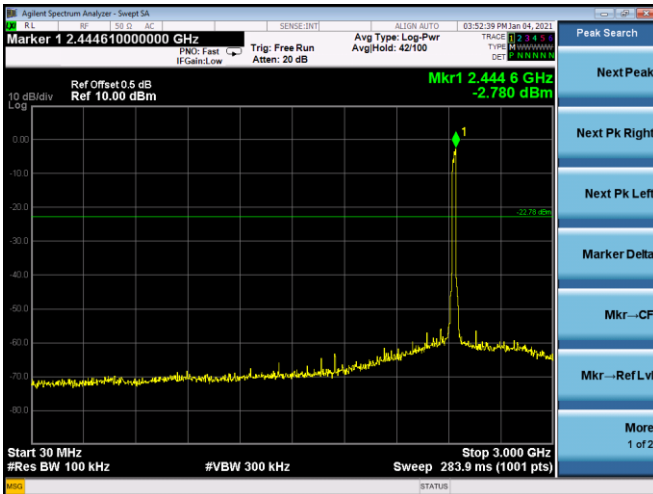
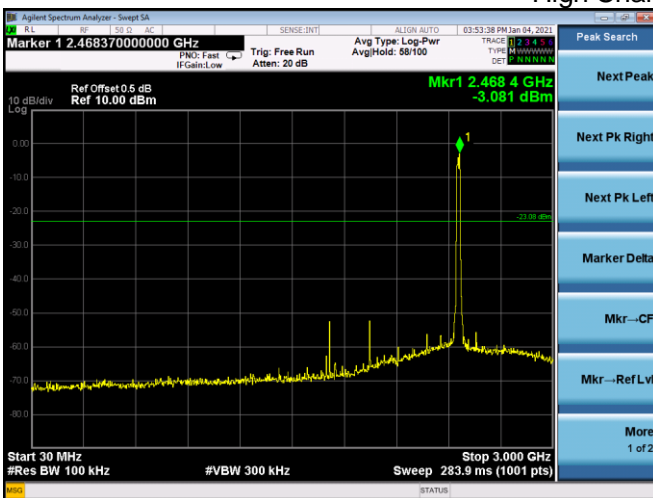
802.11b

**Low Channel 2412MHz**

**Middle Channel 2437MHz**

**High Channel 2462MHz**


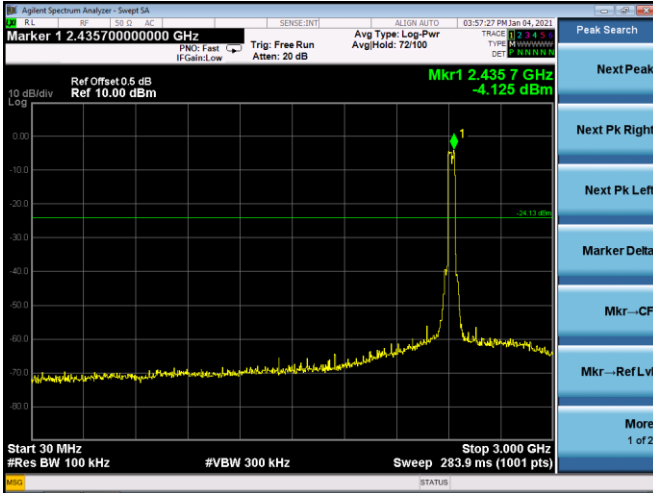
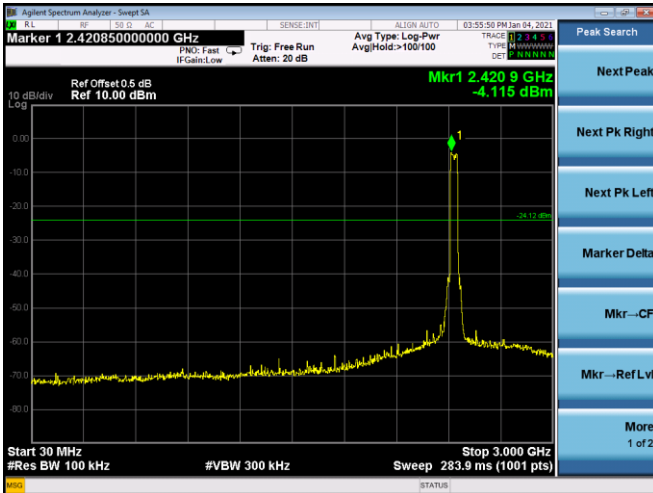
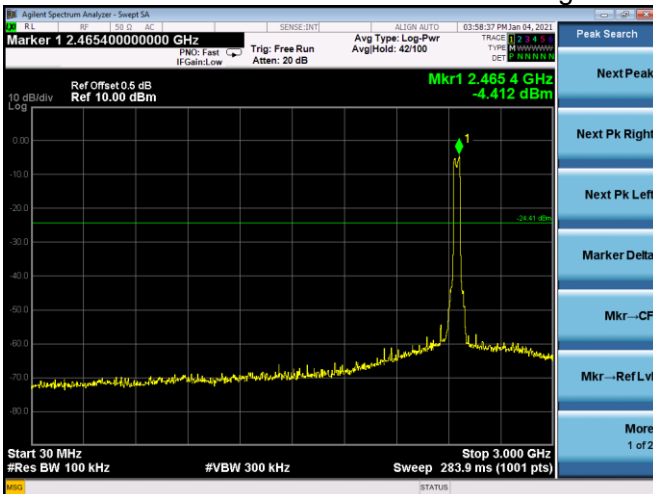
802.11g

**Low Channel 2412MHz**

**Middle Channel 2437MHz**

**High Channel 2462MHz**


802.11n20

**Low Channel 2412MHz**

**Middle Channel 2437MHz**

**High Channel 2462MHz**


802.11n40

**Low Channel 2422MHz**

**Middle Channel 2437MHz**

**High Channel 2452MHz**


## 13. DUTY CYCLE OF TEST SIGNAL

### 13.1 Standard requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

### 13.2 Formula

Duty Cycle =  $T_{on} / (T_{on} + T_{off})$

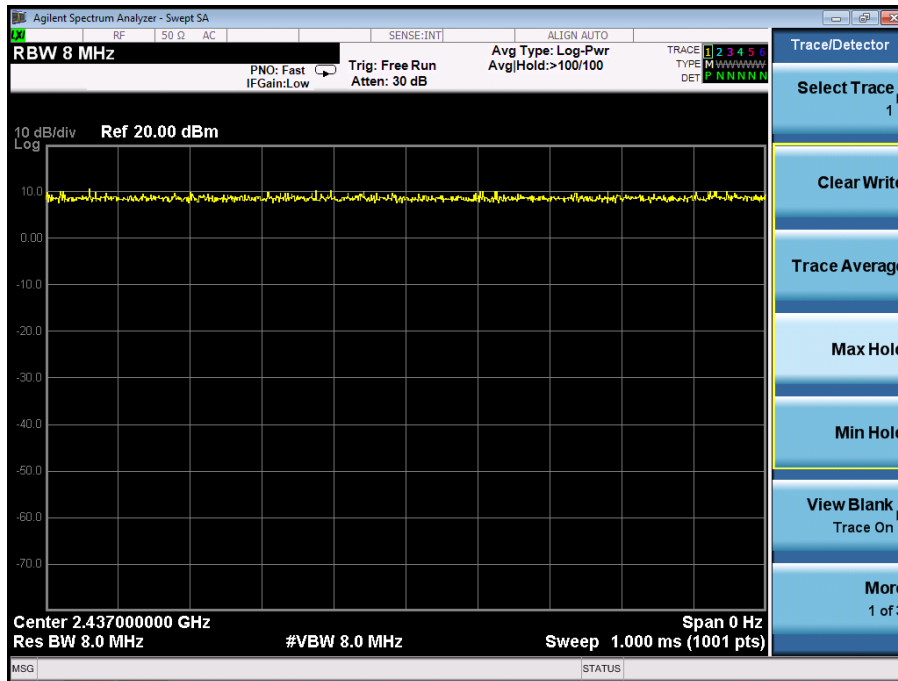
### 13.3 Test procedure

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

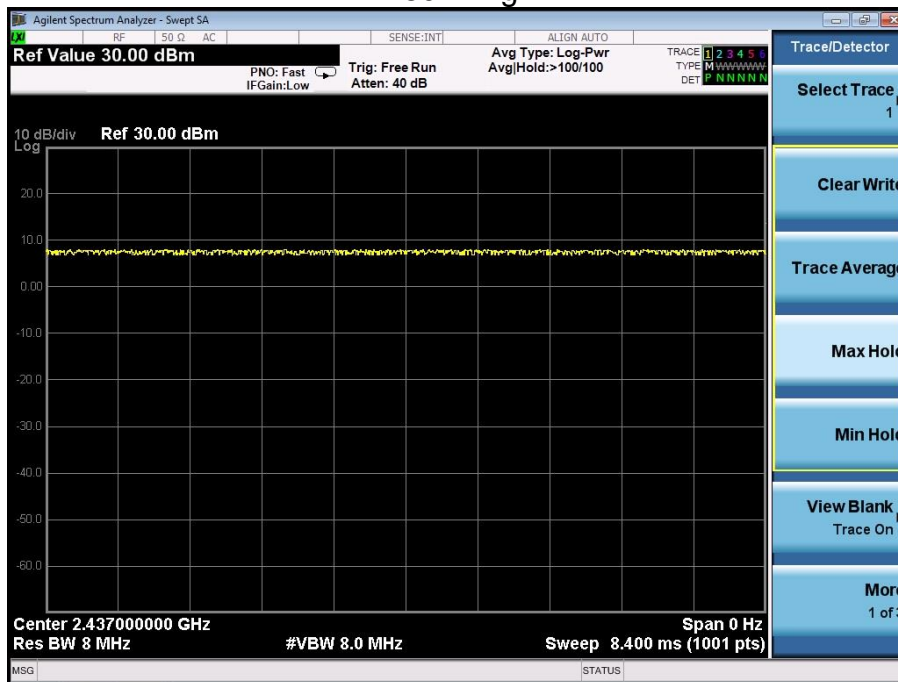
### 13.4 Test Result

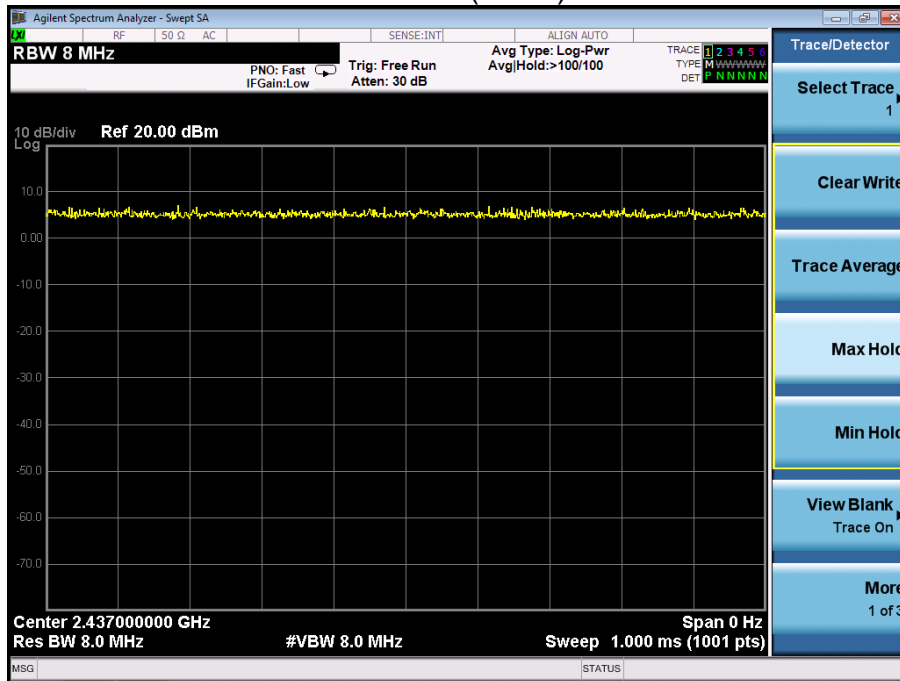
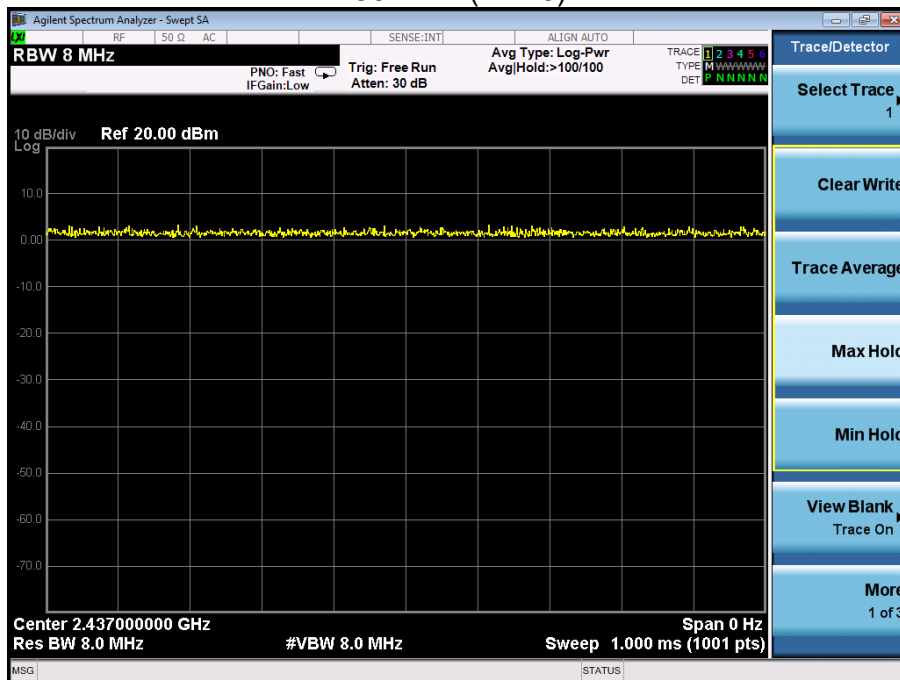
	Duty Cycle	Duty Fator (dB)
802.11b	1	0
802.11g	1	0
802.11n(HT20)	1	0
802.11n(HT40)	1	0

## 802.11b



## 802.11g



**802.11n(HT20)**

**802.11n(HT40)**


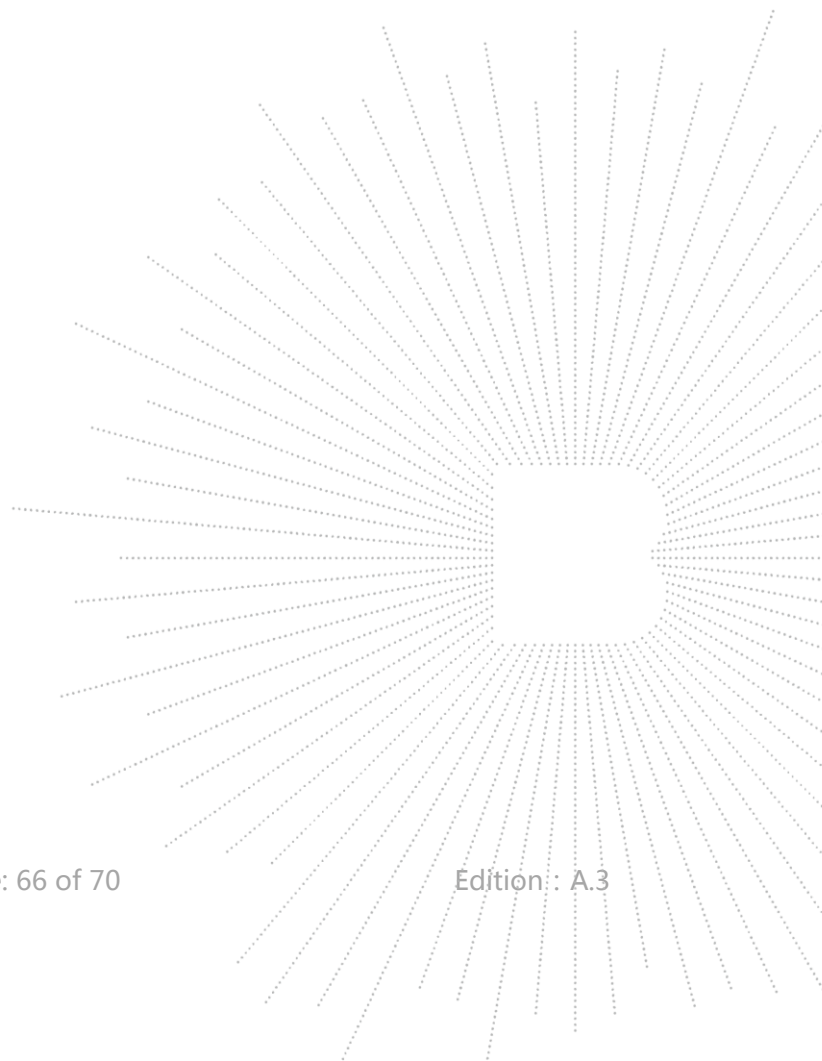
## 14. ANTENNA REQUIREMENT

### 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

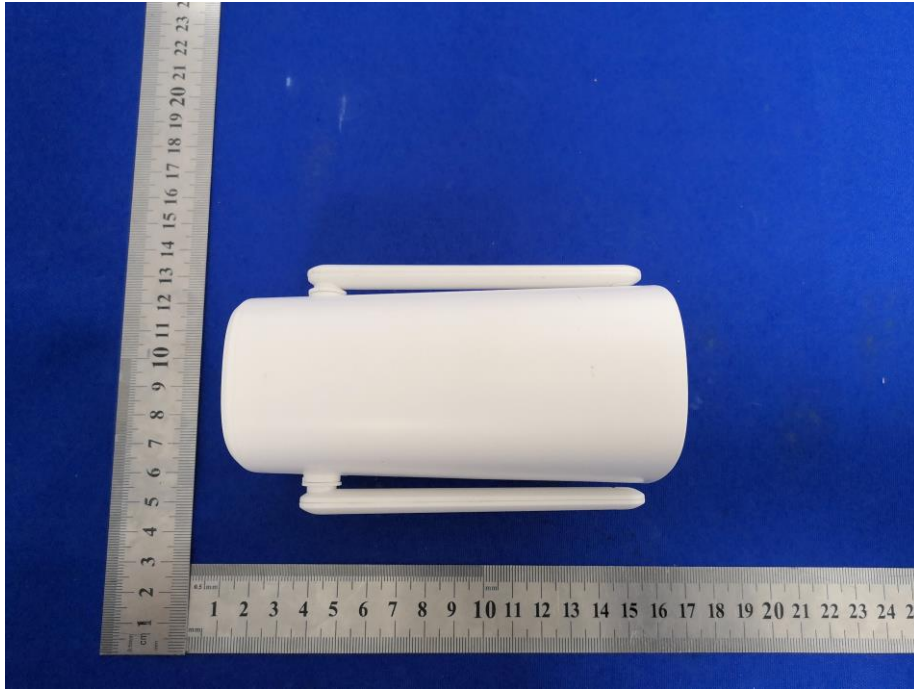
The EUT antenna is External antenna, and the antenna gain is 3 dbi. It fulfill the requirement of this section.



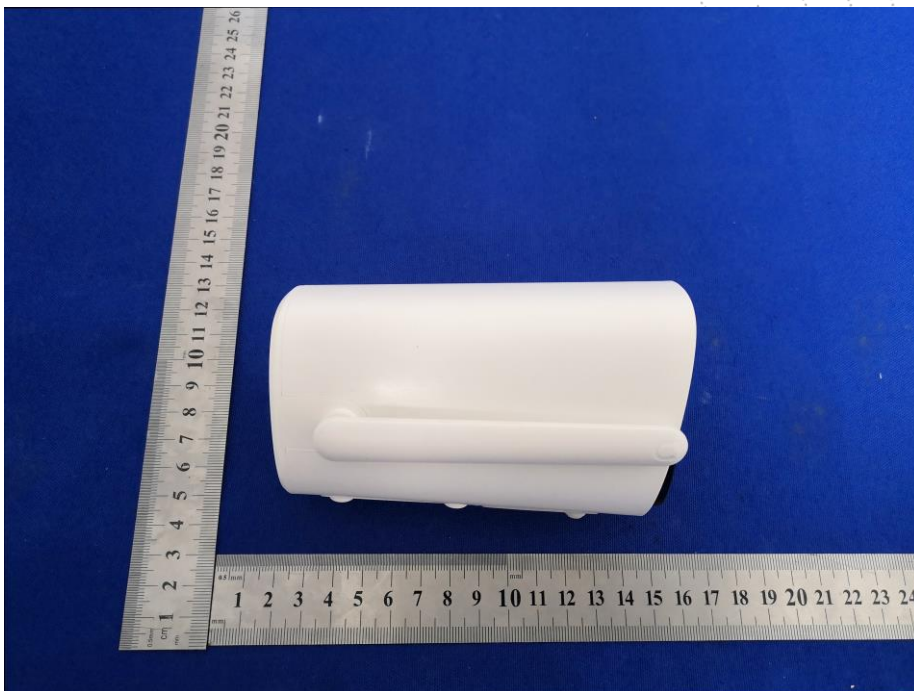


## 15. EUT PHOTOGRAPHS

EUT Photo 1



EUT Photo 2



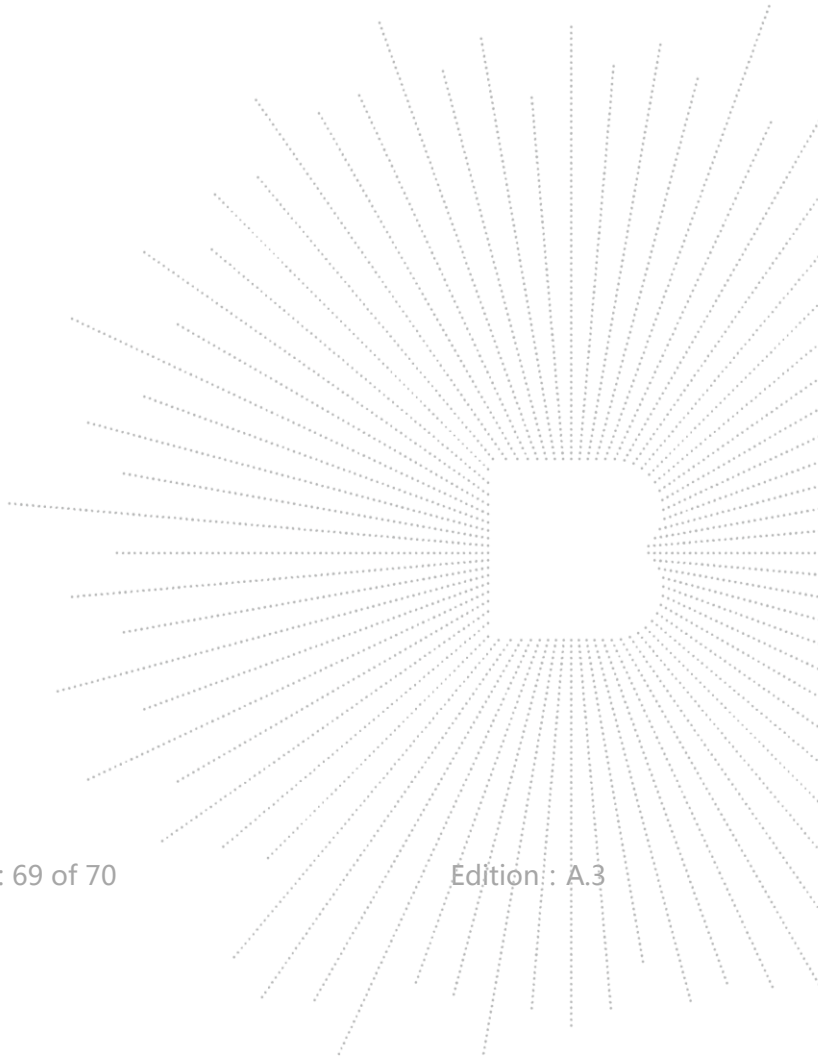
## 16. EUT TEST SETUP PHOTOGRAPHS

### Conducted emissions



### 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., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, 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 \*\*\*\*\*

