

## 6. 20 DB & 99% BANDWIDTH TEST

### 6.1. Test Equipment

| Item | Equipment           | Manufacturer | Model No.            | Serial No. | Last Cal. | Cal. Interval |
|------|---------------------|--------------|----------------------|------------|-----------|---------------|
| 1.   | PXA Signal Analyzer | Agilent      | N9030A               | MY51380221 | Jun.30,19 | 1 Year        |
| 2.   | Attenuator          | Agilent      | 8491B                | MY39269201 | Oct.13,19 | 1 Year        |
| 3.   | RF Cable            | EMCI         | EMC102-KM-KM<br>3500 | 170702     | May.13,19 | 1 Year        |

### 6.2. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 6.3. Test Procedure

Use the test method described in ANSI C63.10 clause 7.8.7:

1. Connect the antenna port of the EUT to the spectrum analyzer.
2. Let the EUT transmit at Low/ Mid/ High channel with test software.
3. Setting of SA is following as: RBW: 30kHz / VBW: 100kHz  
Sweep Mode: Continuous sweep  
Detect mode: Positive peak  
Trace mode: Max hold.
4. Use the occupied bandwidth function of the SA measure the 20dB bandwidth directly.

6.4. Test Results

|                       |                         |                          |
|-----------------------|-------------------------|--------------------------|
| EUT: WiFi module      |                         |                          |
| M/N: U9W42            |                         |                          |
| Test date: 2019-11-21 | Pressure: 102.1±1.0 kpa | Humidity: 51.1±3.0%      |
| Tested by: Garry      | Test site: RF site      | Temperature: 22.8±0.6 °C |

| Test Mode | Frequency (MHz) | 20dB bandwidth (KHz) | Limit (KHz) |
|-----------|-----------------|----------------------|-------------|
| GFSK      | 2402            | 893.1                | N/A         |
|           | 2441            | 890.9                | N/A         |
|           | 2480            | 893.4                | N/A         |
| 8-DPSK    | 2402            | 1286                 | N/A         |
|           | 2441            | 1287                 | N/A         |
|           | 2480            | 1288                 | N/A         |

Conclusion : PASS

| Test Mode | Frequency (MHz) | 99% Bandwidth (KHz) | Limit (KHz) |
|-----------|-----------------|---------------------|-------------|
| GFSK      | 2402            | 820.47              | N/A         |
|           | 2441            | 819.25              | N/A         |
|           | 2480            | 820.04              | N/A         |
| 8-DPSK    | 2402            | 1133.4              | N/A         |
|           | 2441            | 1133.1              | N/A         |
|           | 2480            | 1133.4              | N/A         |

Conclusion : PASS

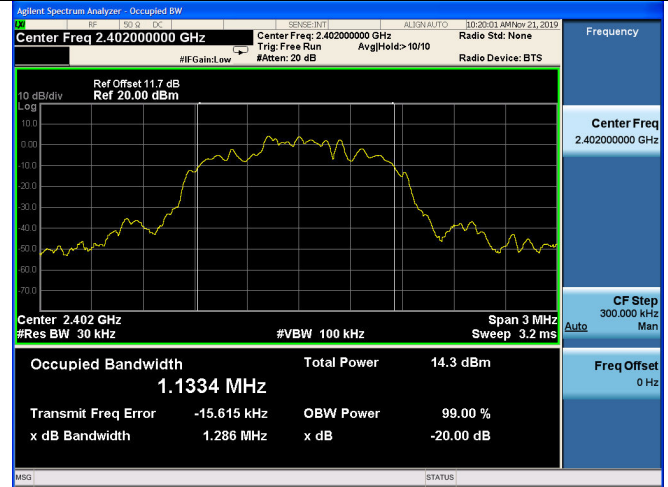
**GFSK**

**2402MHz**



**8-DPSK**

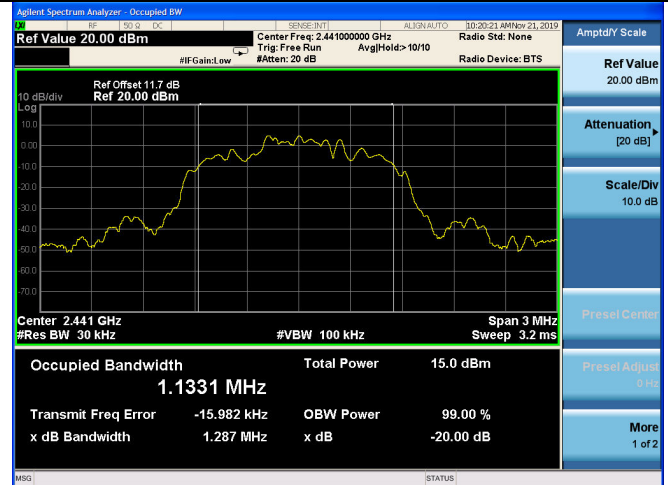
**2402MHz**



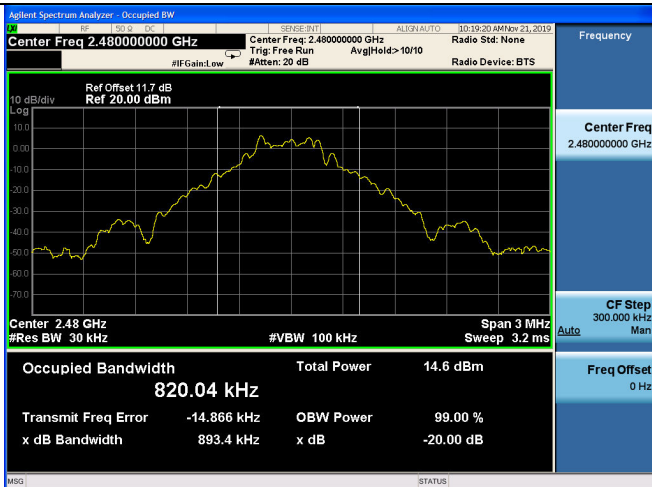
**2441MHz**



**2441MHz**



**2480MHz**



**2480MHz**

