**Antenna 5 SPURIOUS EMISSIONS, NON-HOPPING**



**LOW CHANNEL BANDEDGE**



**OUT-OF-BAND LOW CHANNEL**



**IN-BAND REFERENCE LEVEL**



**OUT-OF-BAND MID CHANNEL**



**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND HIGH CHANNEL**

## Antenna 5 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



LOW BANDEDGE                                      HIGH BANDEDGE

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA       TEL:(510) 319-4000       FAX:(510) 661-0888

# 8.8.3. LOW POWER BASIC DATA RATE GFSK MODULATION
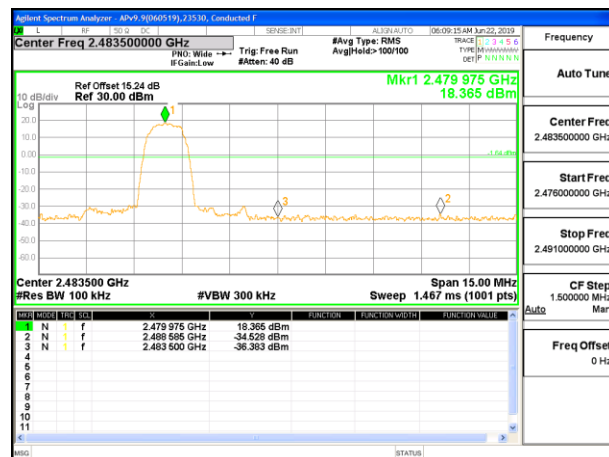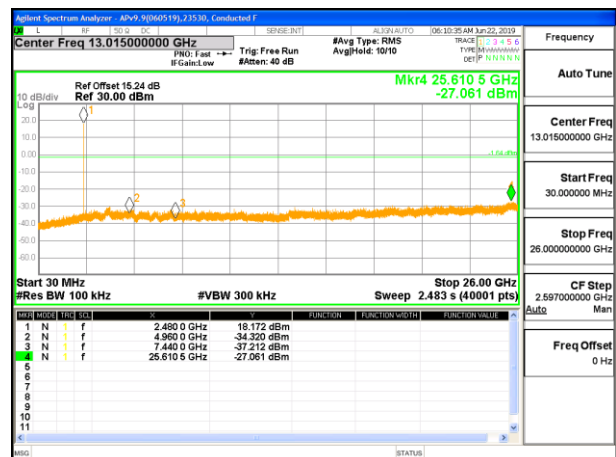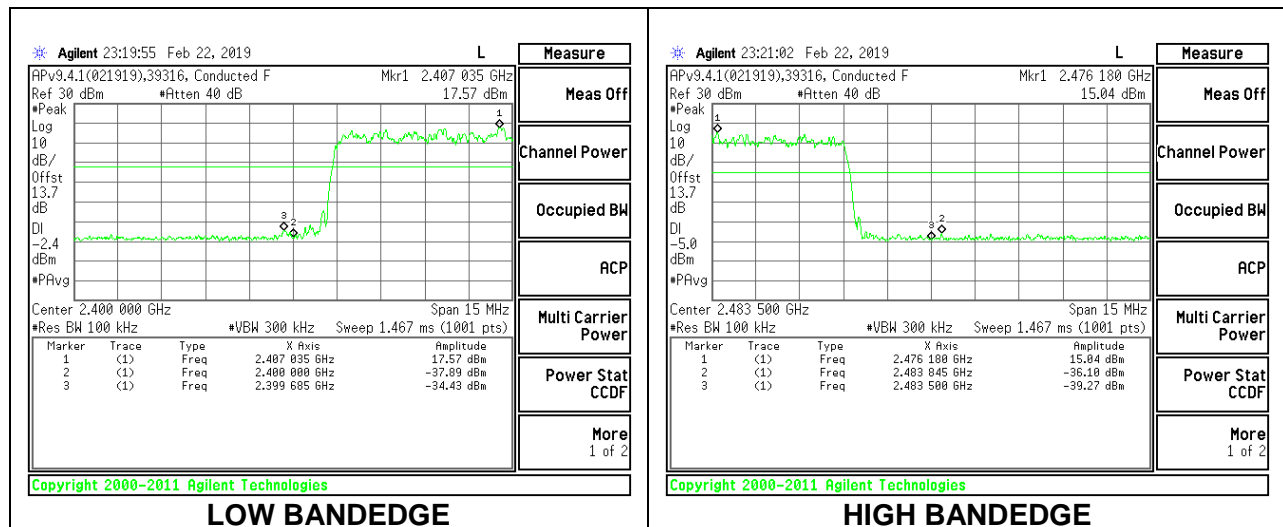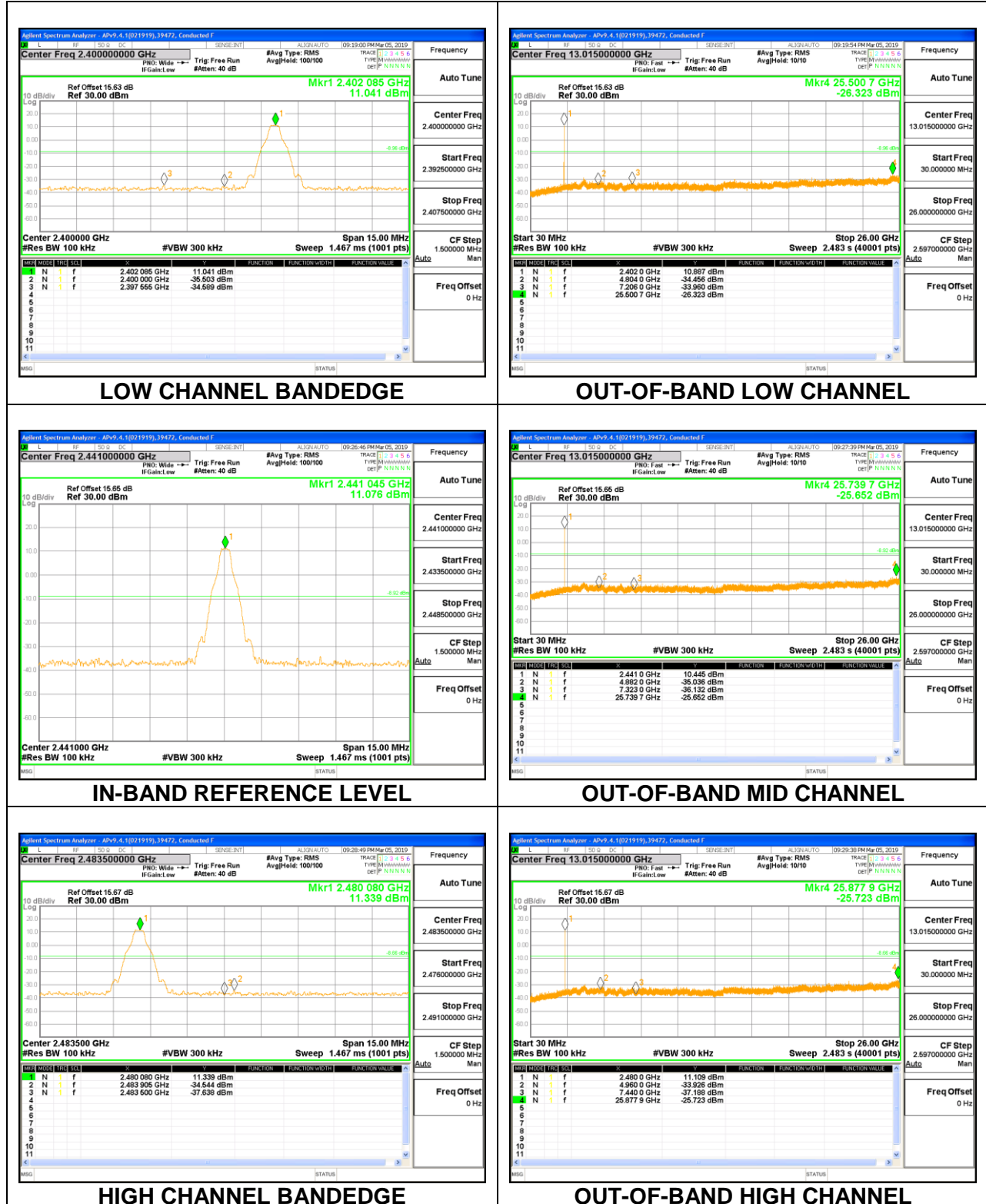
**Antenna 2 SPURIOUS EMISSIONS, NON-HOPPING**



**LOW CHANNEL BANDEDGE**



**OUT-OF-BAND LOW CHANNEL**



**IN-BAND REFERENCE LEVEL**



**OUT-OF-BAND MID CHANNEL**
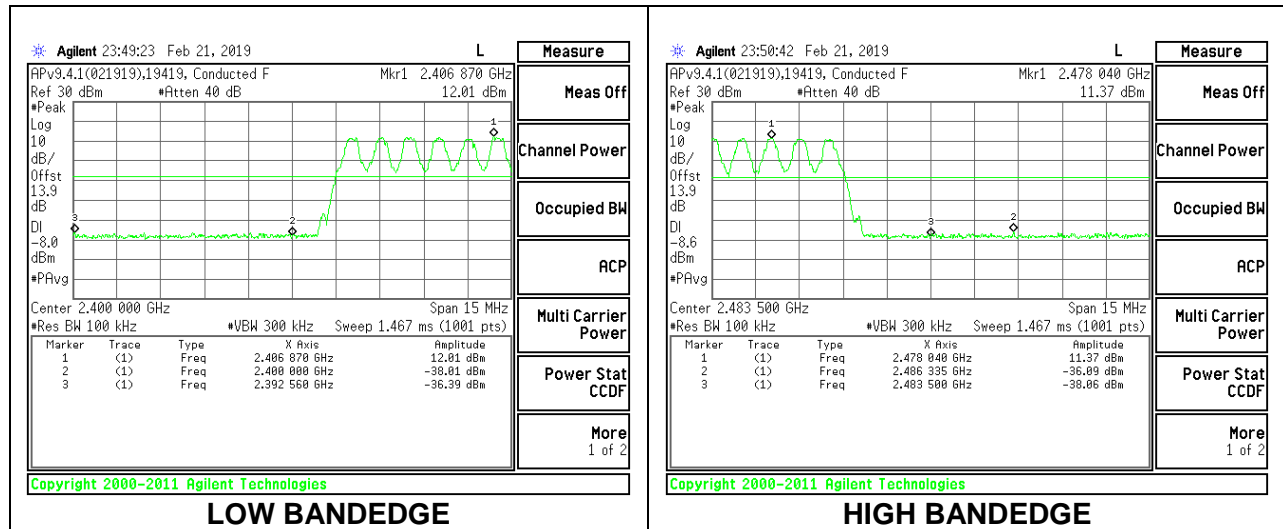


**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND HIGH CHANNEL**

## Antenna 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



LOW BANDEDGE



HIGH BANDEDGE

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**Antenna 5 SPURIOUS EMISSIONS, NON-HOPPING**


LOW CHANNEL BANDEDGE


OUT-OF-BAND LOW CHANNEL


IN-BAND REFERENCE LEVEL


OUT-OF-BAND MID CHANNEL


HIGH CHANNEL BANDEDGE


OUT-OF-BAND HIGH CHANNEL
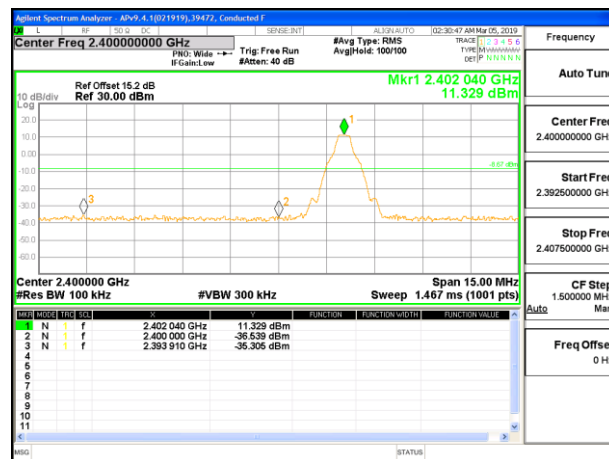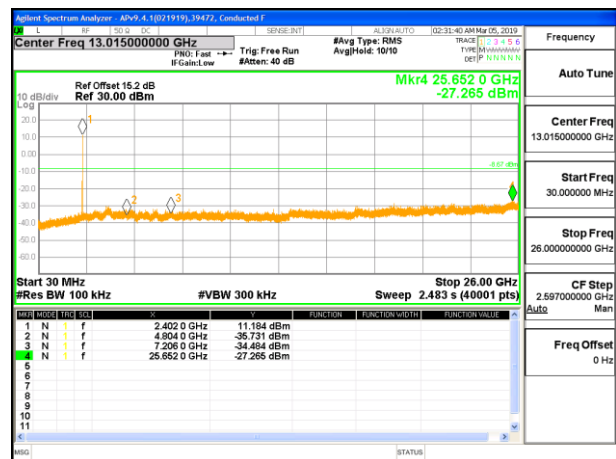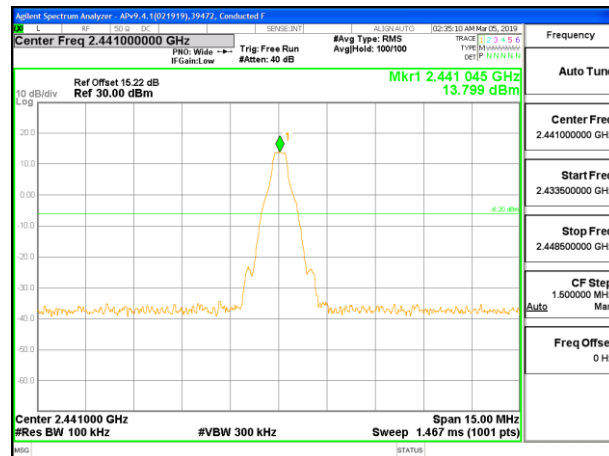
## Antenna 5 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



| LOW BANDEDGE | HIGH BANDEDGE |

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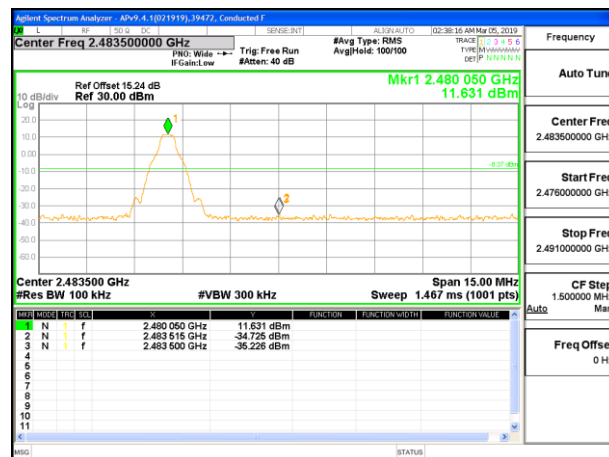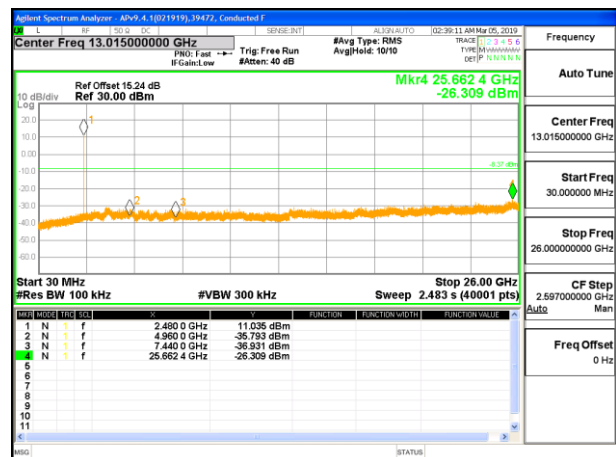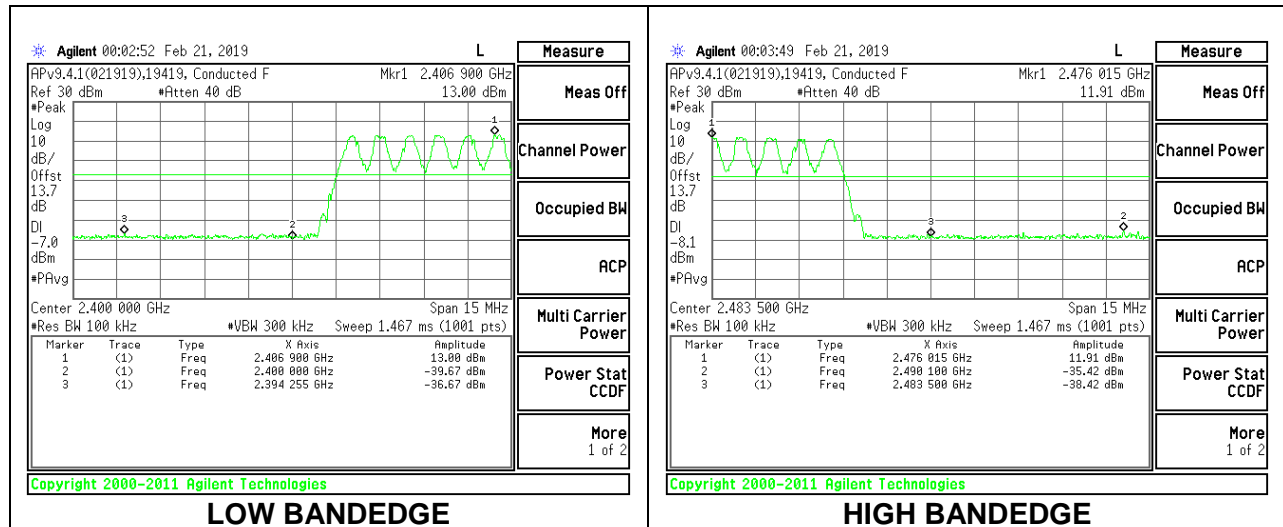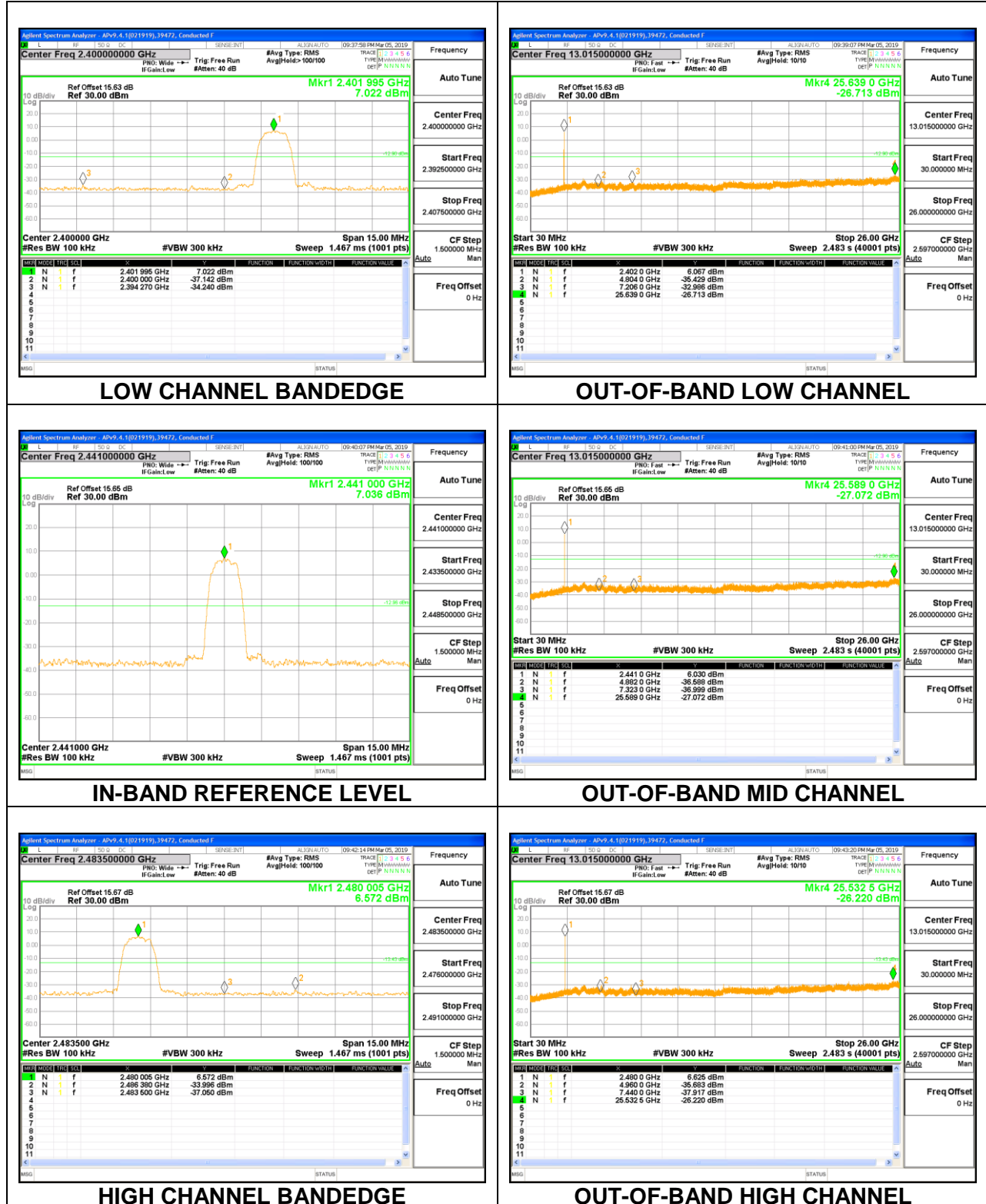
# 8.8.4. LOW POWER ENHANCED DATA RATE 8PSK MODULATION
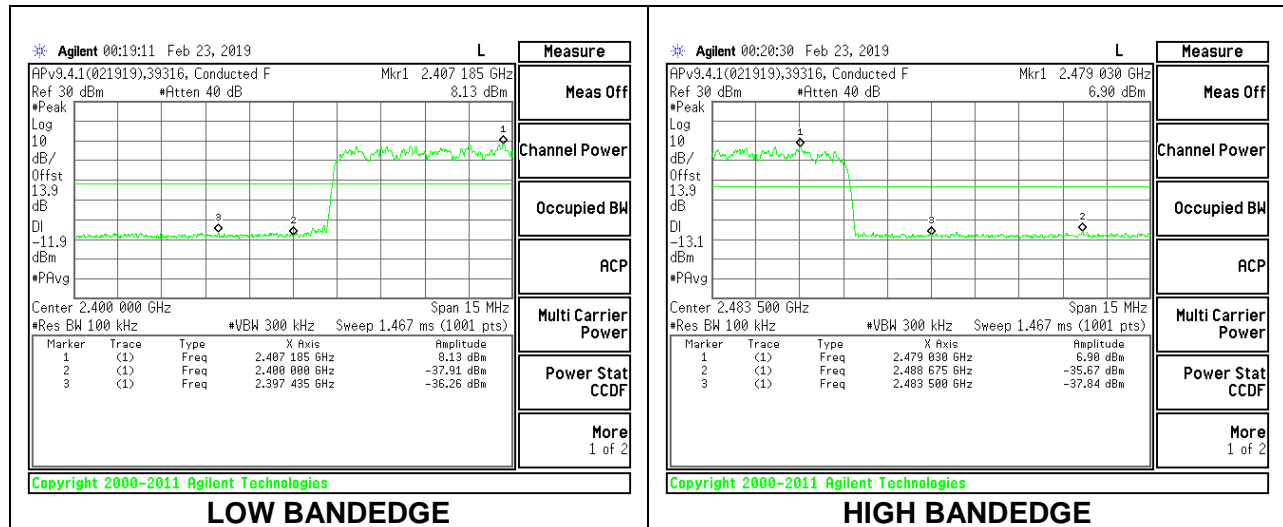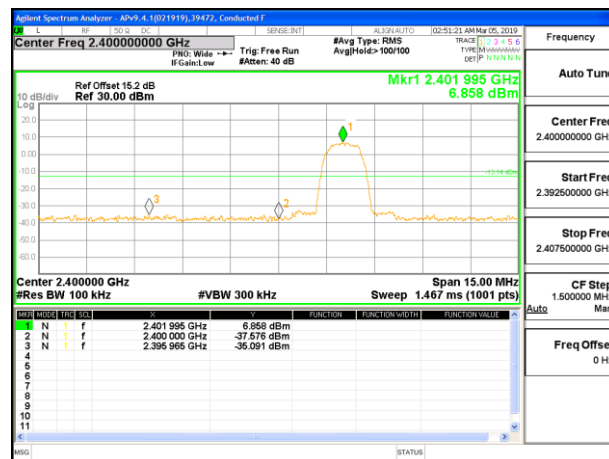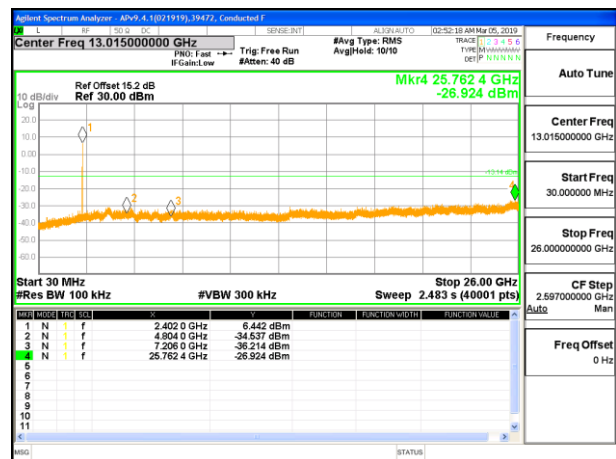
## Antenna 2 SPURIOUS EMISSIONS, NON-HOPPING



**LOW CHANNEL BANDEDGE**



**OUT-OF-BAND LOW CHANNEL**



**IN-BAND REFERENCE LEVEL**



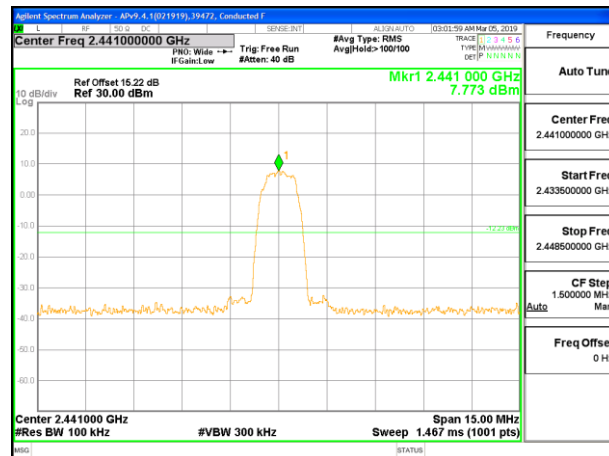**OUT-OF-BAND MID CHANNEL**



**HIGH CHANNEL BANDEDGE**



**OUT-OF-BAND HIGH CHANNEL**

**Antenna 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**



LOW BANDEDGE



HIGH BANDEDGE

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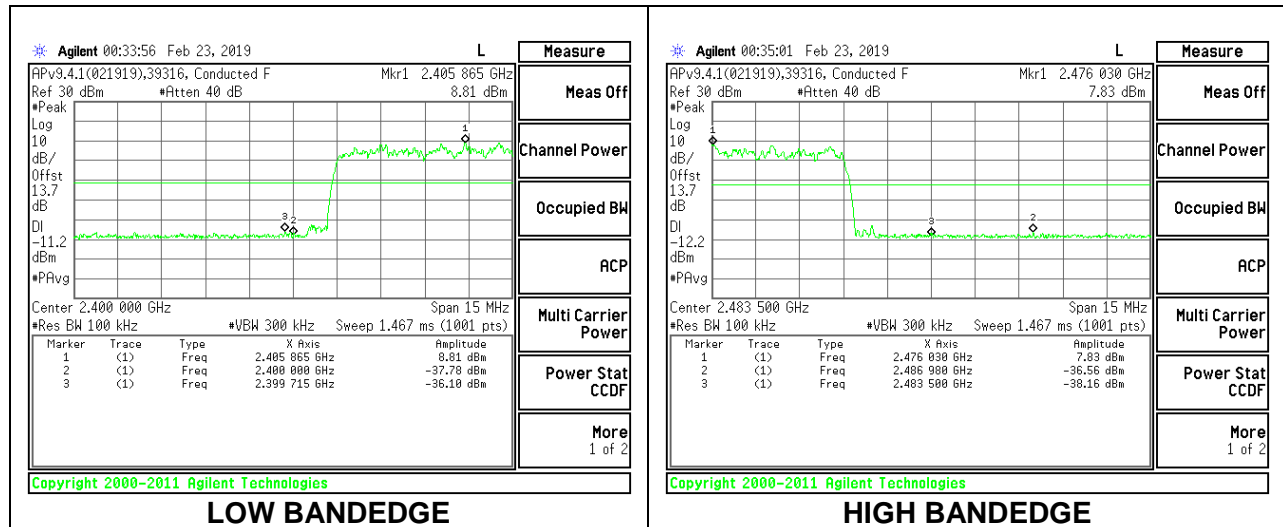
**Antenna 5 SPURIOUS EMISSIONS, NON-HOPPING**


LOW CHANNEL BANDEDGE


OUT-OF-BAND LOW CHANNEL


IN-BAND REFERENCE LEVEL


OUT-OF-BAND MID CHANNEL


HIGH CHANNEL BANDEDGE


OUT-OF-BAND HIGH CHANNEL

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**Antenna 5 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**



| | |
|:---:|:---:|
| **LOW BANDEDGE** | **HIGH BANDEDGE** |

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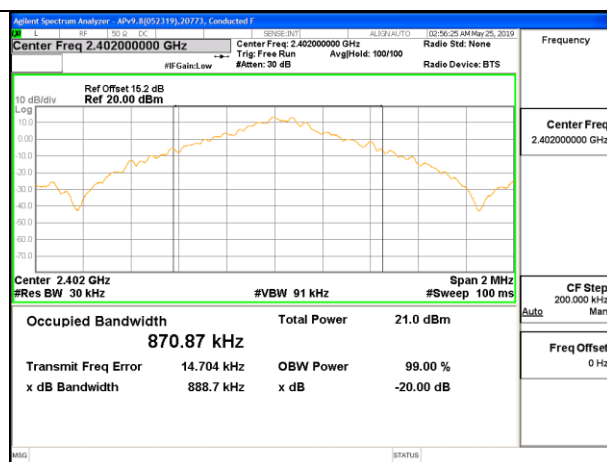
## 8.9. BEAMFORMING, 99% BANDWIDTH

## 8.9.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

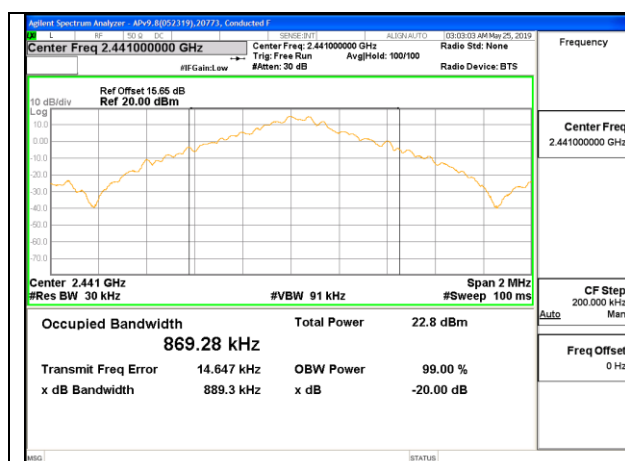| Channel | Frequency (MHz) | 99% Bandwidth ANT 2 (MHz) | 99% Bandwidth ANT 5 (MHz) |
|---------|-----------|---------|---------|
| Low | 2402 | 0.870 | 0.871 |
| Mid | 2441 | 0.869 | 0.871 |
| High | 2480 | 0.870 | 0.871 |

Note: Test procedures and setting on beamforming mode are same as BT basic and EDR mode
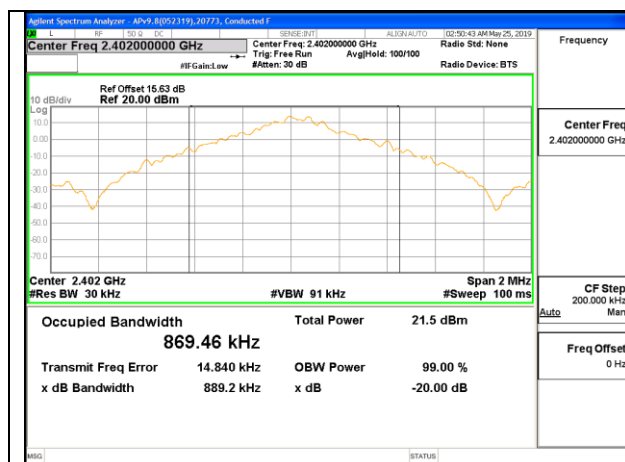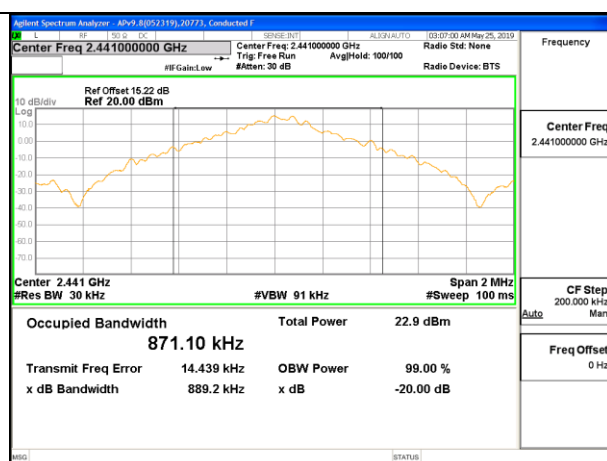
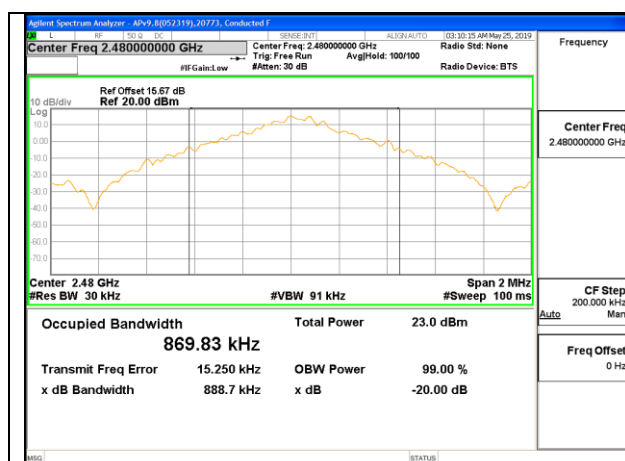LOW CHANNEL , ANT 2

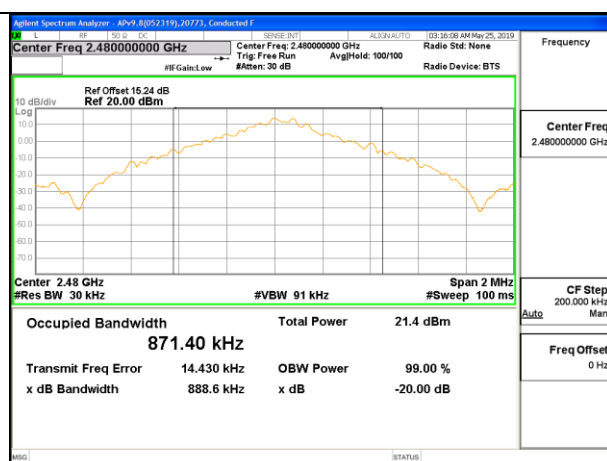

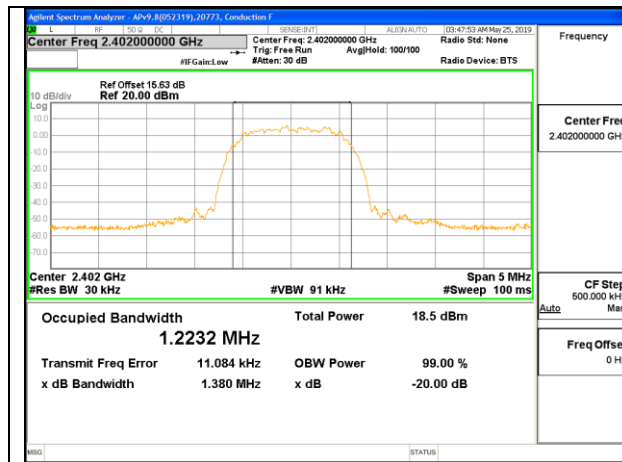LOW CHANNEL ANT 5



MID CHANNEL ANT 2
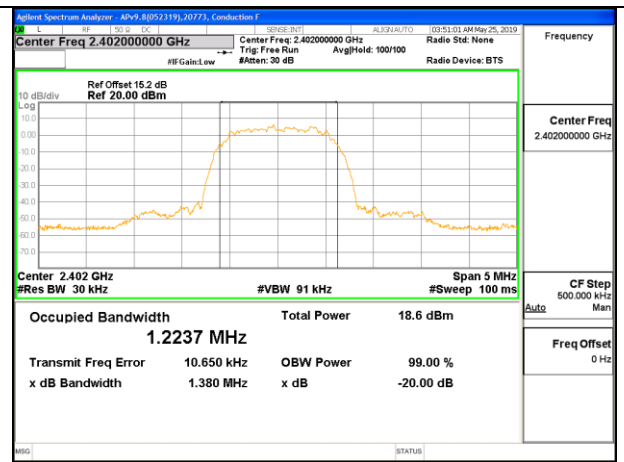


MID CHANNEL ANT 5



HIGH CHANNEL  ANT 2



HIGH CHANNEL  ANT 5

## 8.9.2. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

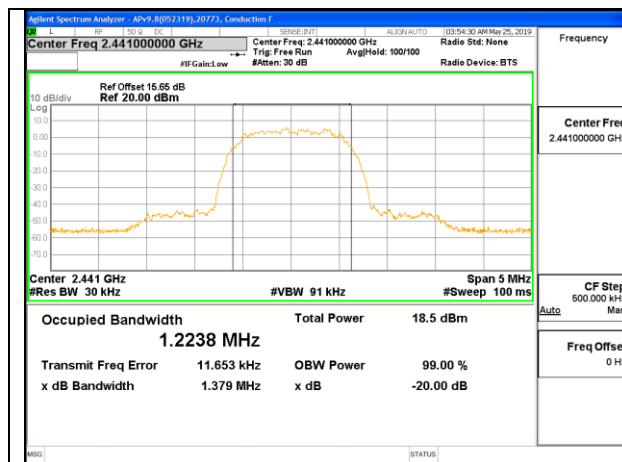| Channel | Frequency (MHz) | 99% Bandwidth ANT 2 (MHz) | 99% Bandwidth ANT 5 (MHz) |
|---|---|---|---|
| Low | 2402 | 1.2232 | 1.2237 |
| Mid | 2441 | 1.2238 | 1.2231 |
| High | 2480 | 1.2230 | 1.2217 |

**LOW CHANNEL , ANT 2**



**LOW CHANNEL ANT 5**
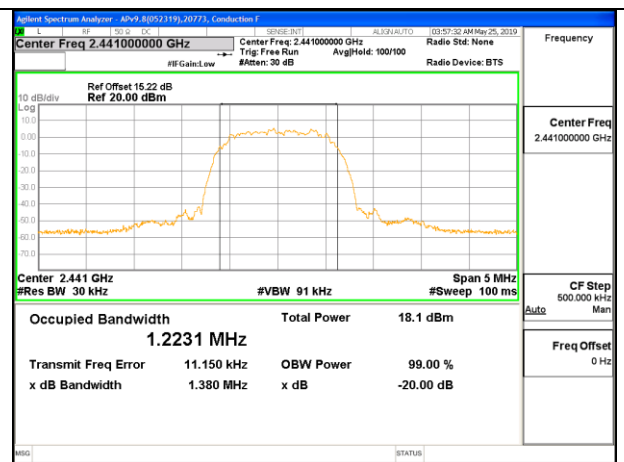


**MID CHANNEL ANT 2**
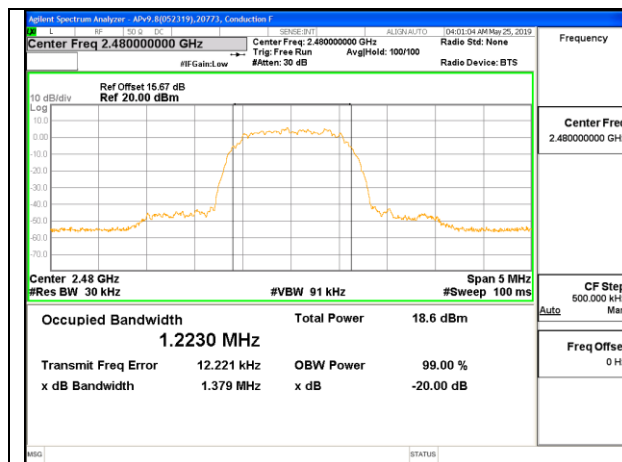


**MID CHANNEL ANT 5**



**HIGH CHANNEL  ANT 2**



**HIGH CHANNEL  ANT 5**

## 8.9.3. LOW POWER BASIC DATA RATE GFSK MODULATION

| Channel | Frequency (MHz) | 99% Bandwidth ANT 2 (MHz) | 99% Bandwidth ANT 5 (MHz) |
|---------|-----------|-----------|-----------|
| Low | 2402 | 0.8720 | 0.8780 |
| Mid | 2441 | 0.8710 | 0.8740 |
| High | 2480 | 0.8710 | 0.8780 |

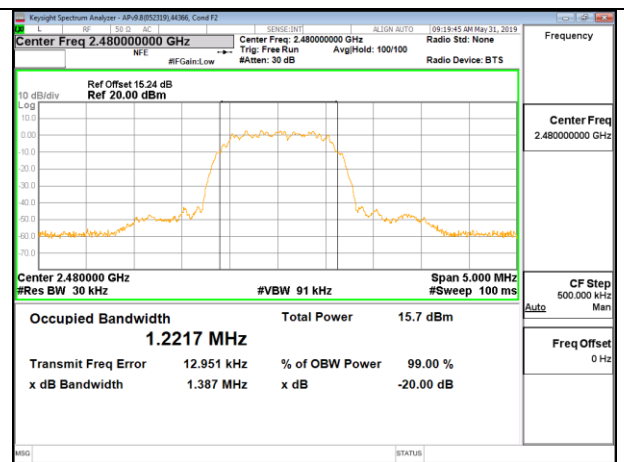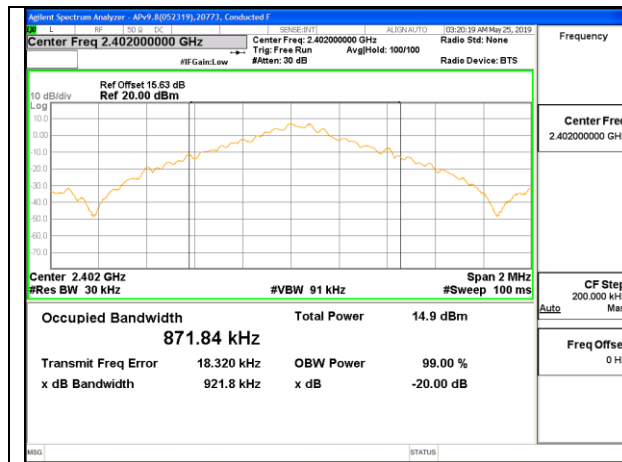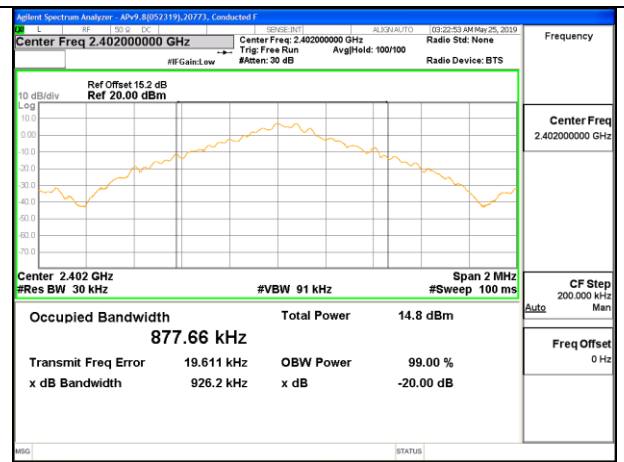**LOW CHANNEL , ANT 2**



**LOW CHANNEL ANT 5**
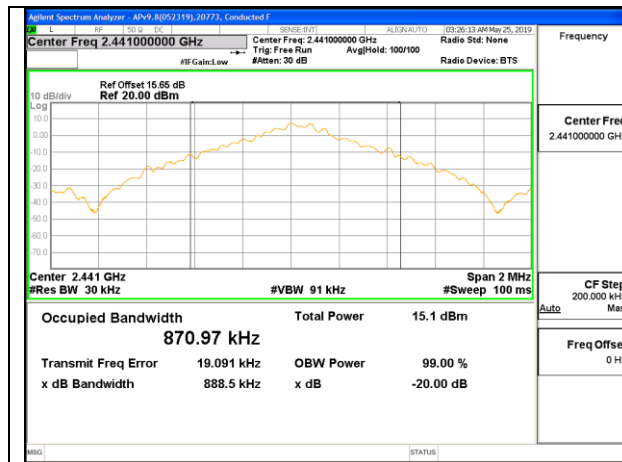


**MID CHANNEL ANT 2**



**MID CHANNEL ANT 5**



**HIGH CHANNEL  ANT 2**



**HIGH CHANNEL  ANT 5**

## 8.9.4. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

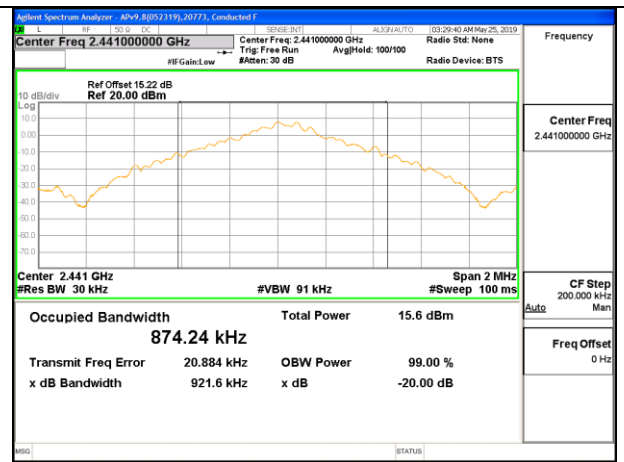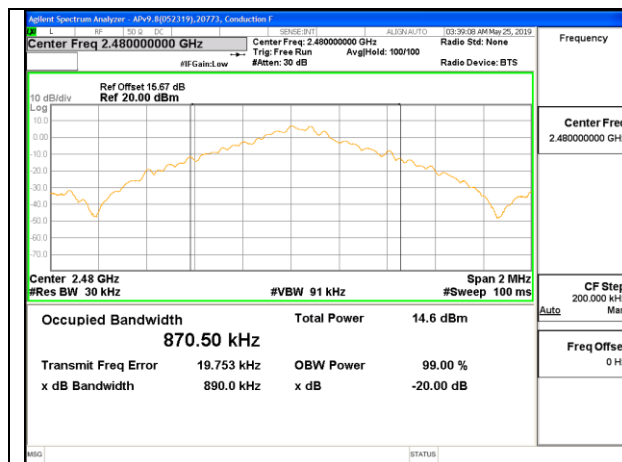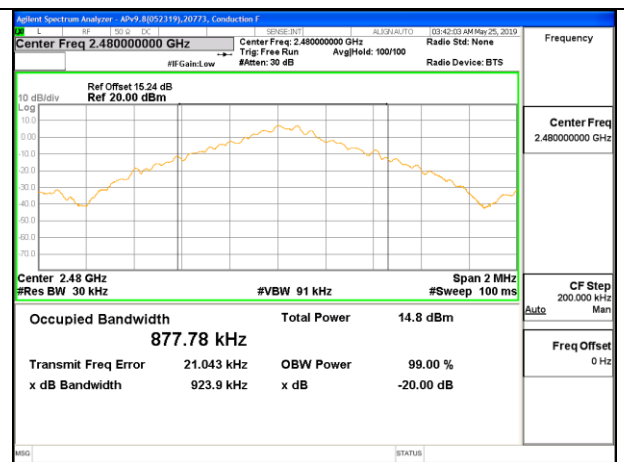| Channel | Frequency (MHz) | 99% Bandwidth ANT 2 (MHz) | 99% Bandwidth ANT 5 (MHz) |
|---------|-----------------|---------------------------|---------------------------|
| Low     | 2402            | 1.2245                    | 1.2244                    |
| Mid     | 2441            | 1.2232                    | 1.2221                    |
| High    | 2480            | 1.2240                    | 1.2237                    |

LOW CHANNEL , ANT 2



LOW CHANNEL ANT 5



MID CHANNEL ANT 2



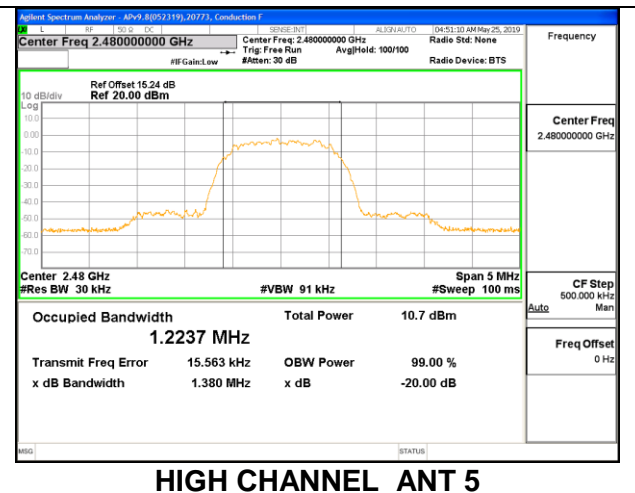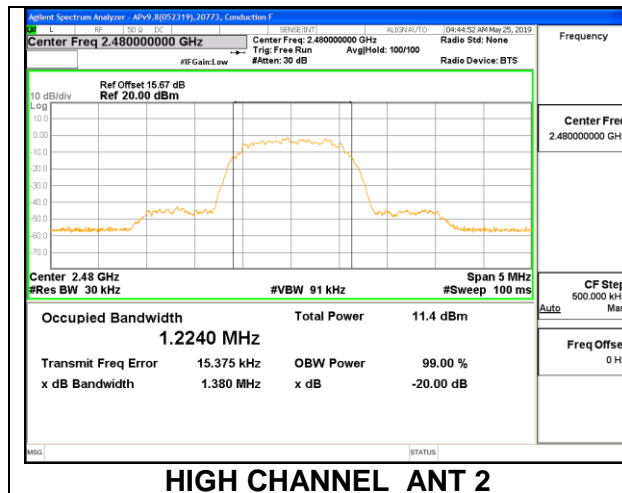MID CHANNEL ANT 5



HIGH CHANNEL  ANT 2



HIGH CHANNEL  ANT 5
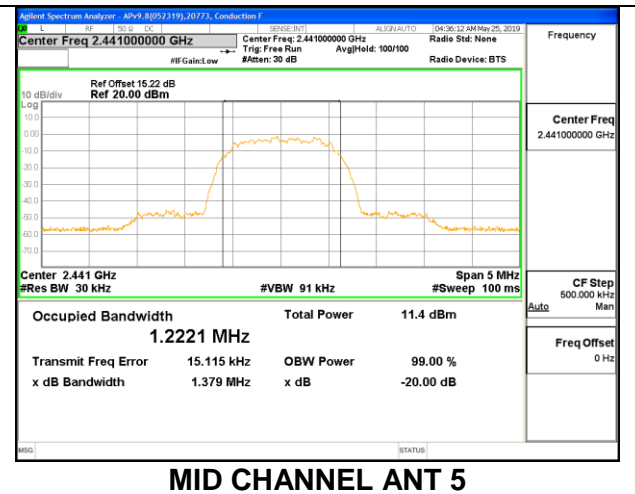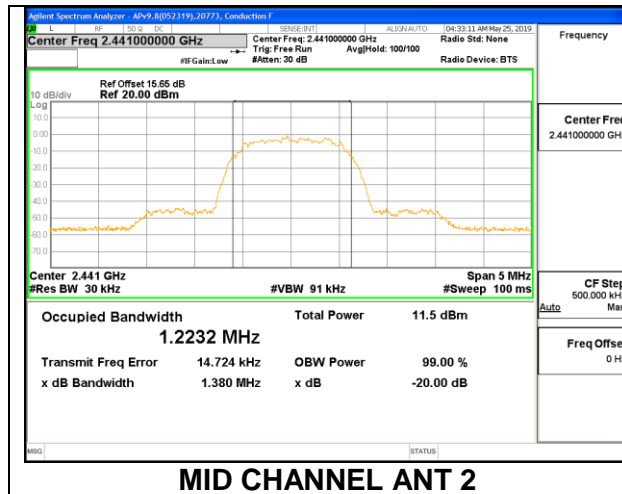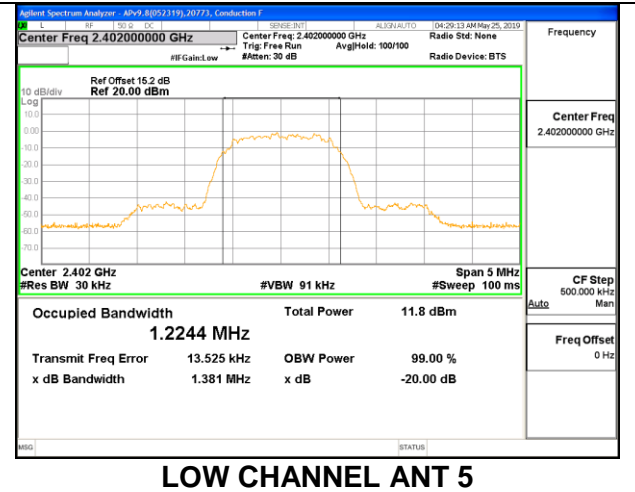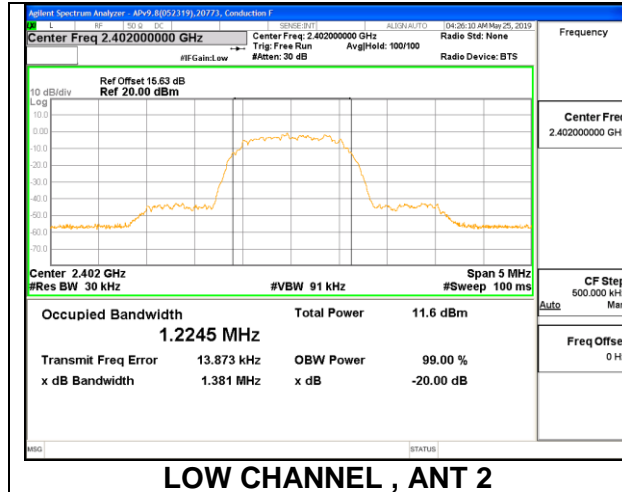
## 8.10.  BEAMFORMING, 20dB BANDWIDTH

### 8.10.1.  HIGH POWER BASIC DATA RATE GFSK MODULATION

| Channel | Frequency (MHz) | 20dB Bandwidth ANT 2 (MHz) | 20dB Bandwidth ANT 5 (MHz) |
|---------|-----------------|----------------------------|----------------------------|
| Low     | 2402            | 0.9280                     | 0.9080                     |
| Mid     | 2441            | 0.9300                     | 0.9400                     |
| High    | 2480            | 0.9440                     | 0.9300                     |

Note: Test procedures and setting on beamforming mode are same as BT basic and EDR mode

LOW CHANNEL , ANT 2



LOW CHANNEL ANT 5



MID CHANNEL ANT 2



MID CHANNEL ANT 5



HIGH CHANNEL  ANT 2



HIGH CHANNEL  ANT 5