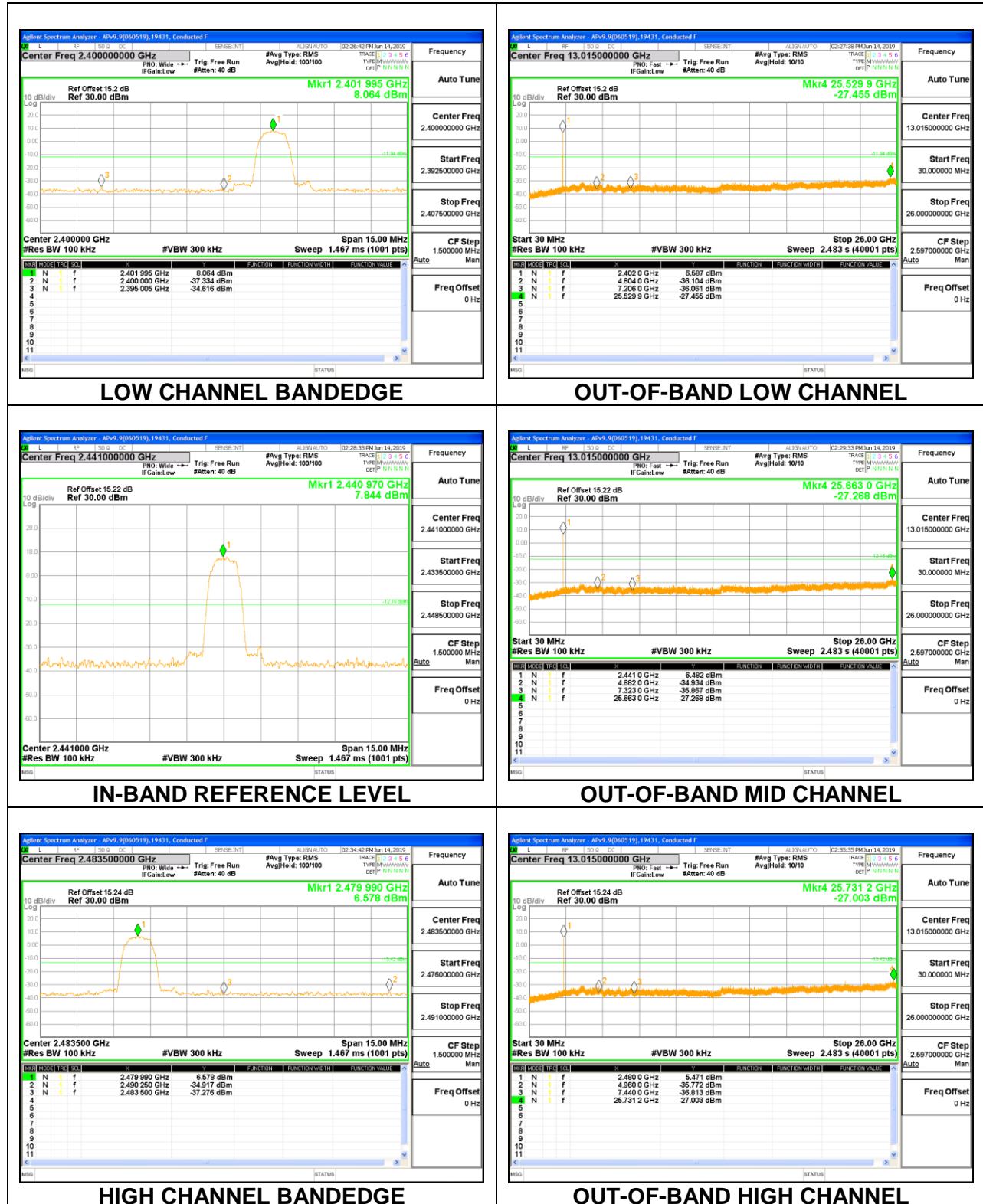
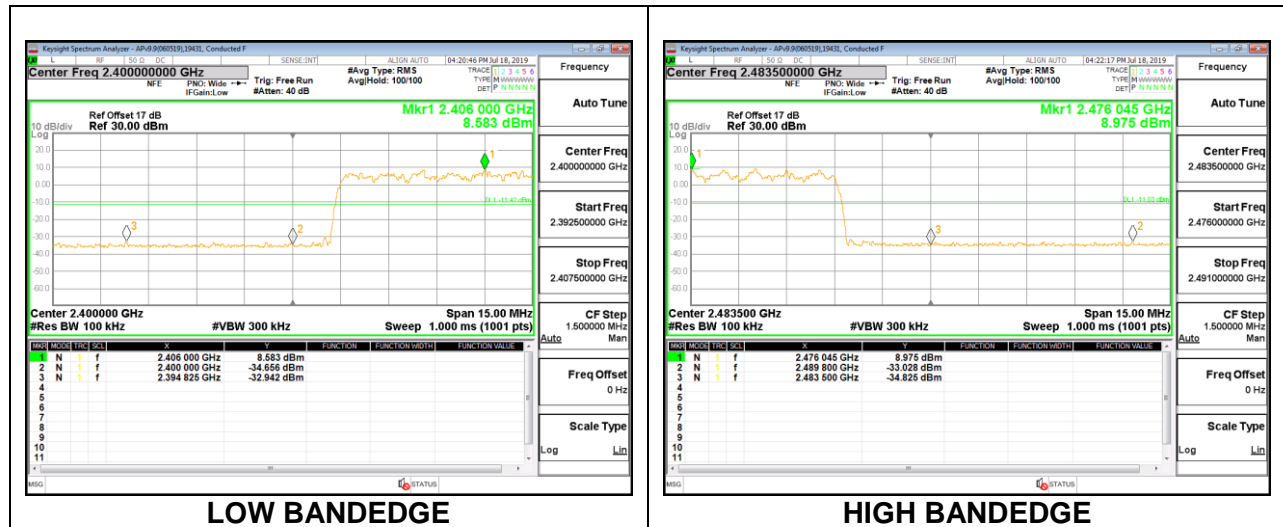


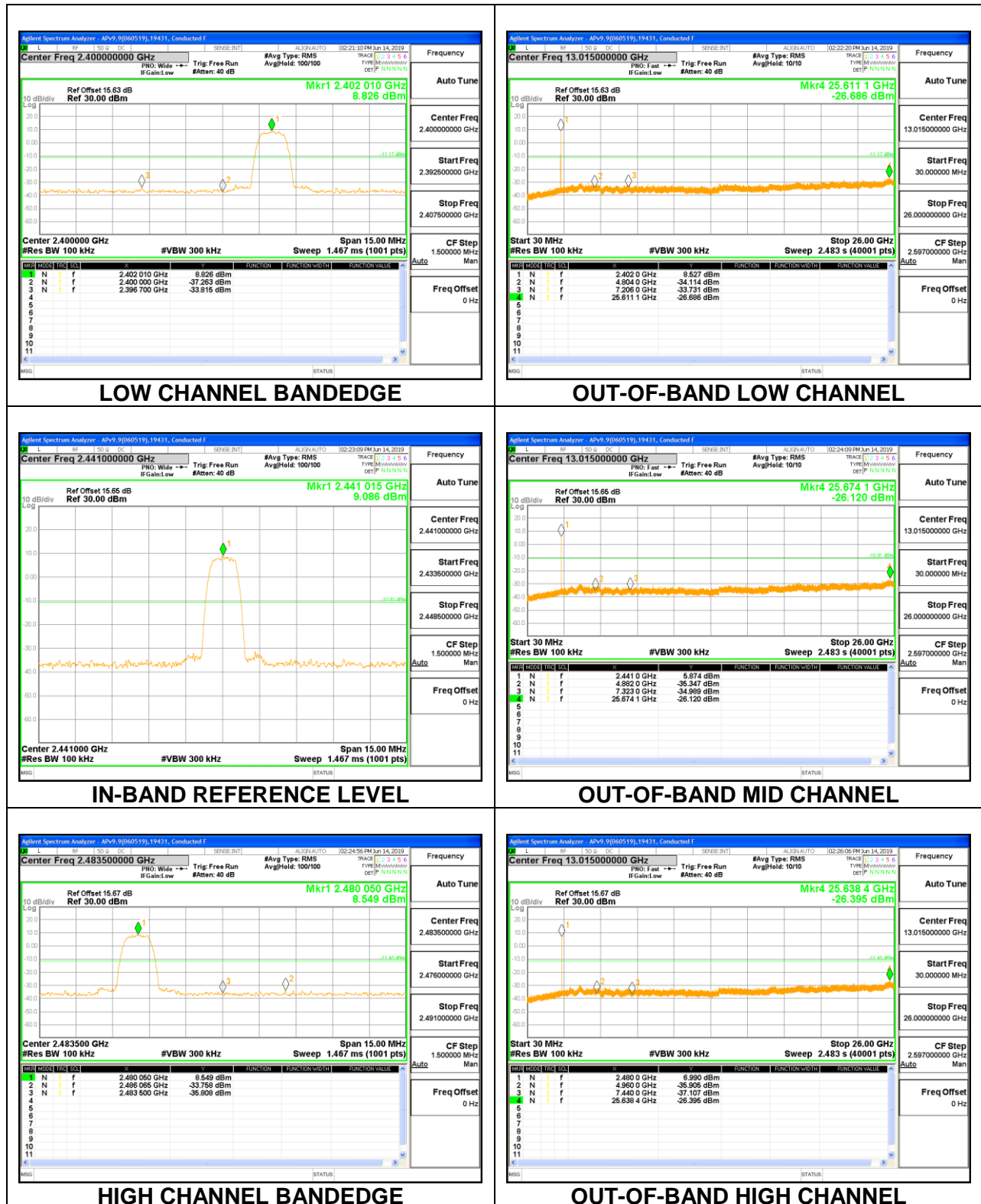
8.8.4 LOW POWER ENHANCED DATA RATE 8PSK MODULATION

Antenna 4 SPURIOUS EMISSIONS, NON-HOPPING





Antenna 3 SPURIOUS EMISSIONS, NON-HOPPING



Antenna 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



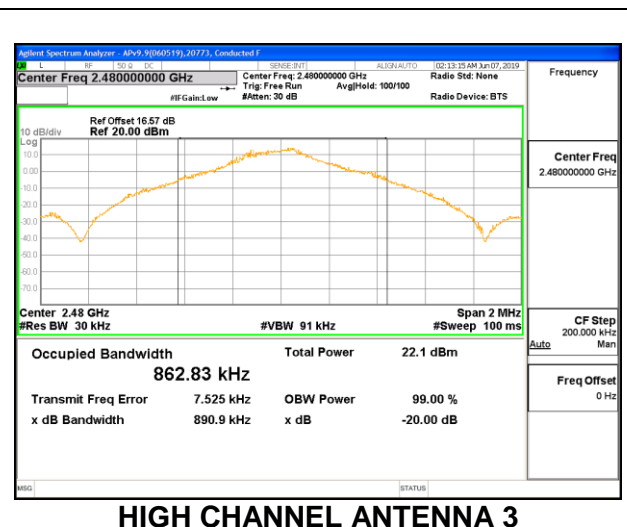
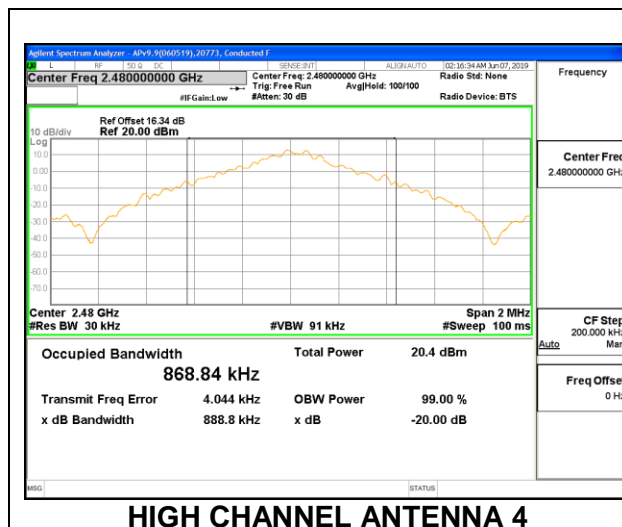
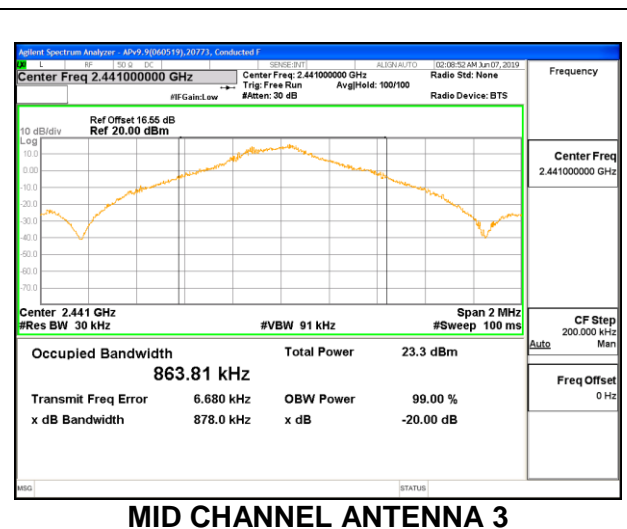
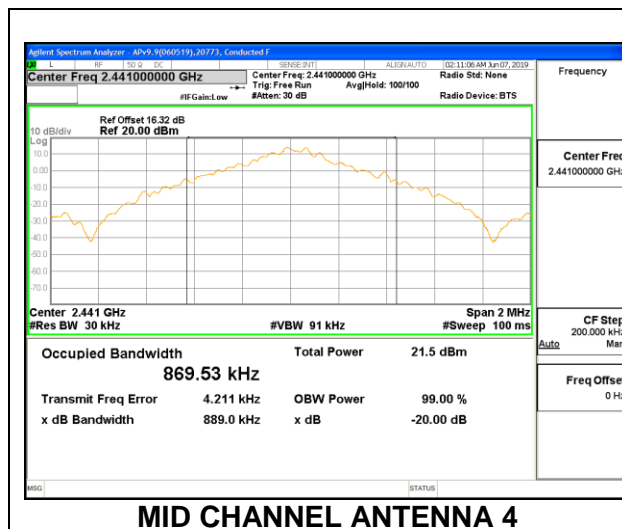
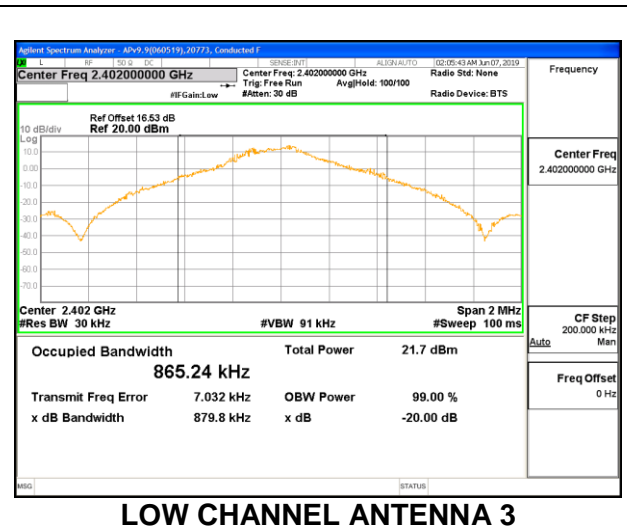
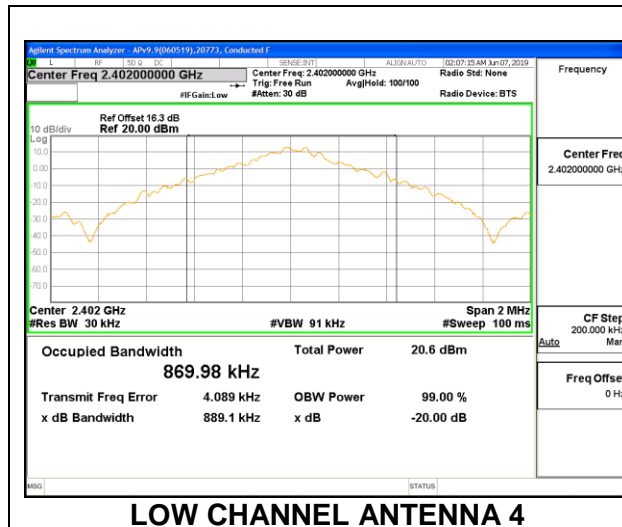
8.9 BEAMFORMING, 99% BANDWIDTH

8.9.1 HIGH POWER BASIC DATA RATE GFSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

2TX Antenna 4 + Antenna 3 TxBF MODE

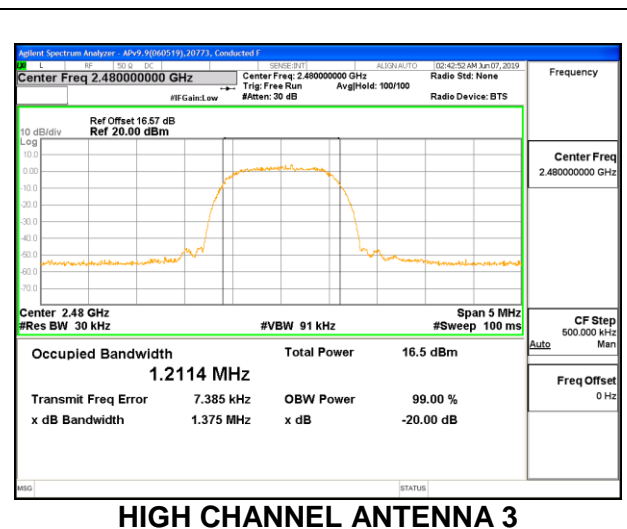
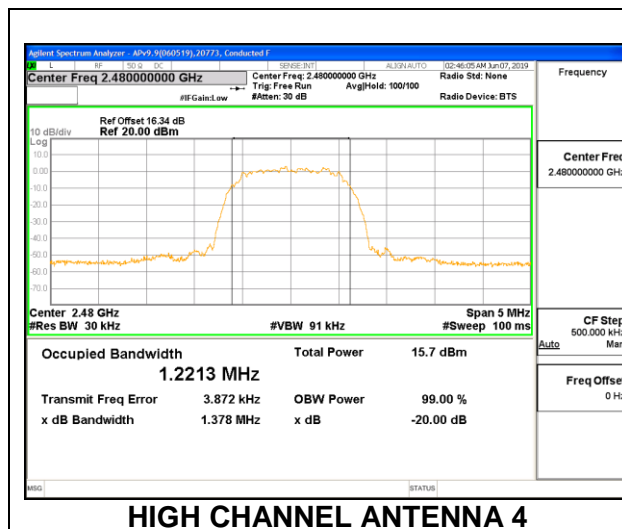
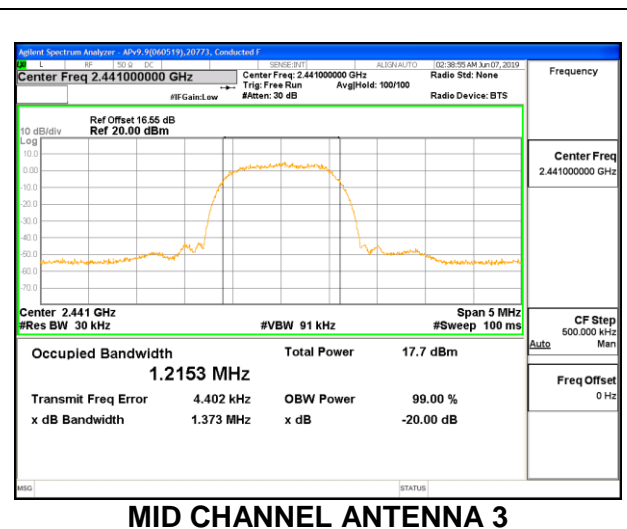
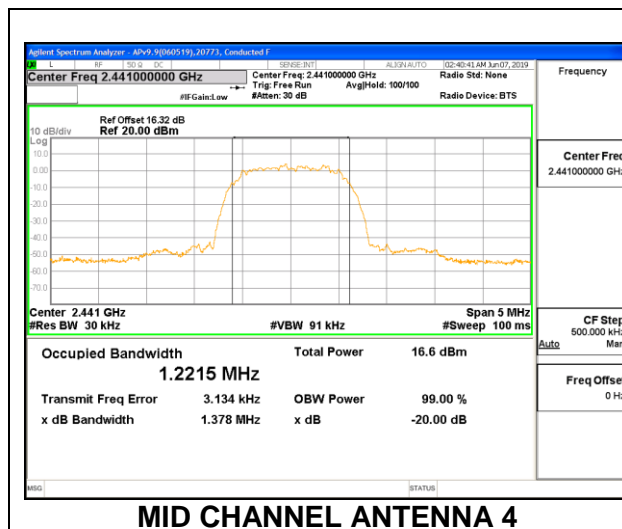
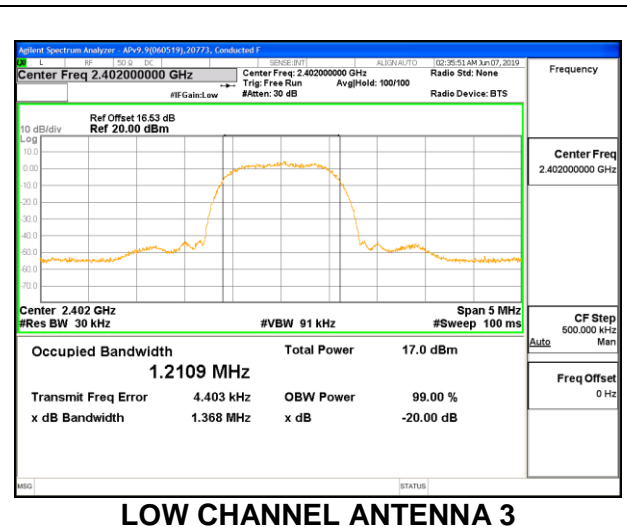
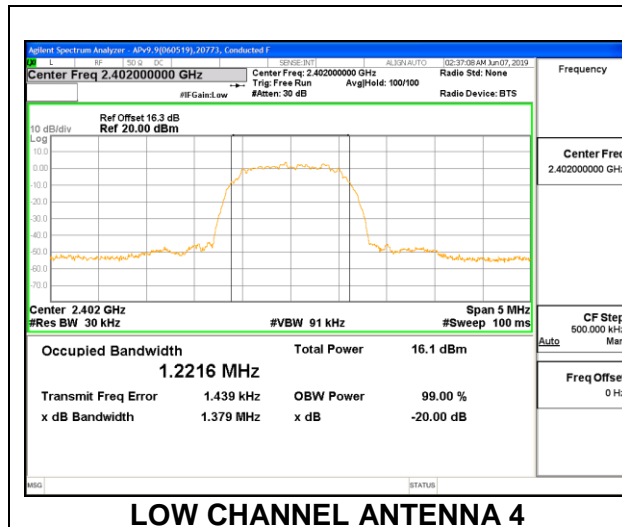
| Channel | Frequency (MHz) | 99% Bandwidth Antenna 4 (MHz) | 99% Bandwidth Antenna 3 (MHz) |
|---------|--------------------|-------------------------------------|-------------------------------------|
| Low | 2402 | 0.8700 | 0.8652 |
| Mid | 2441 | 0.8695 | 0.8638 |
| High | 2480 | 0.8688 | 0.8628 |



8.9.2 HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

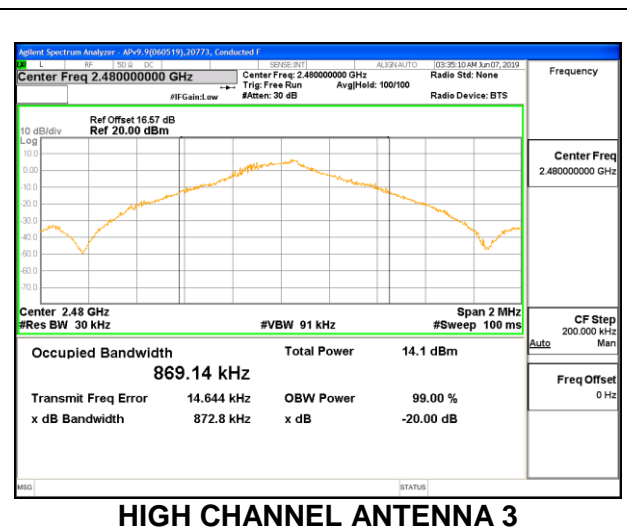
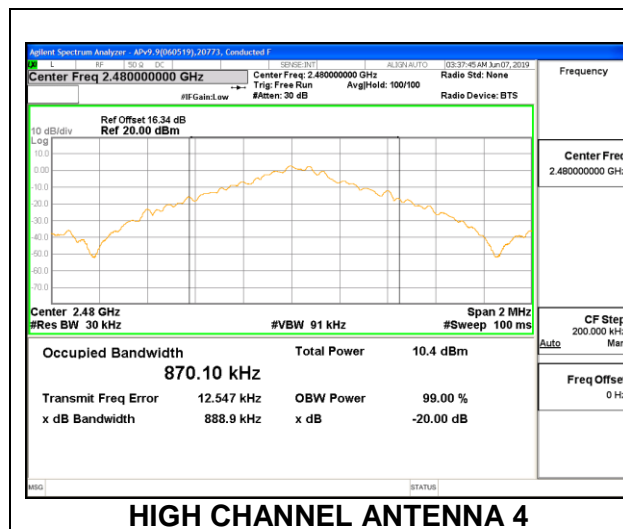
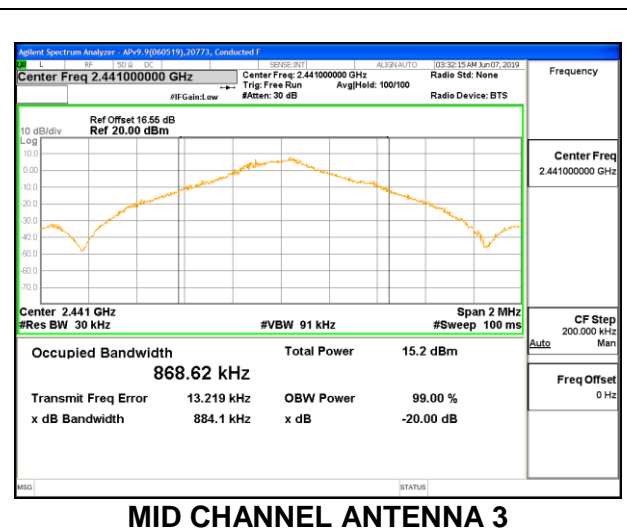
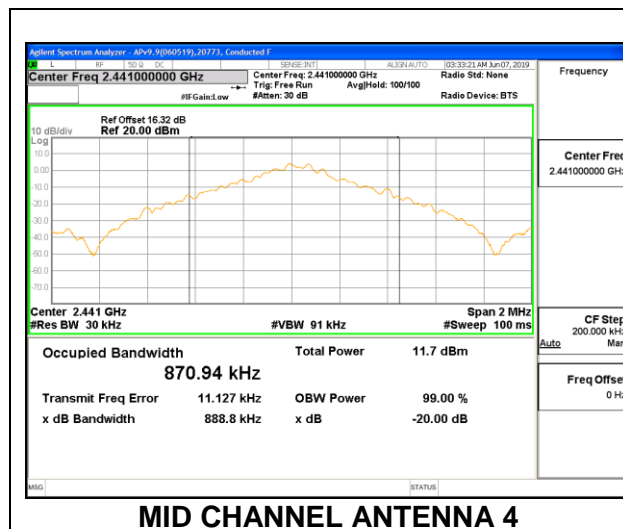
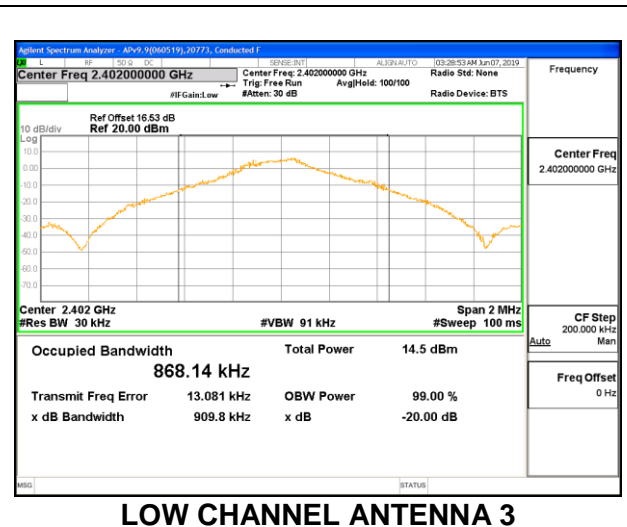
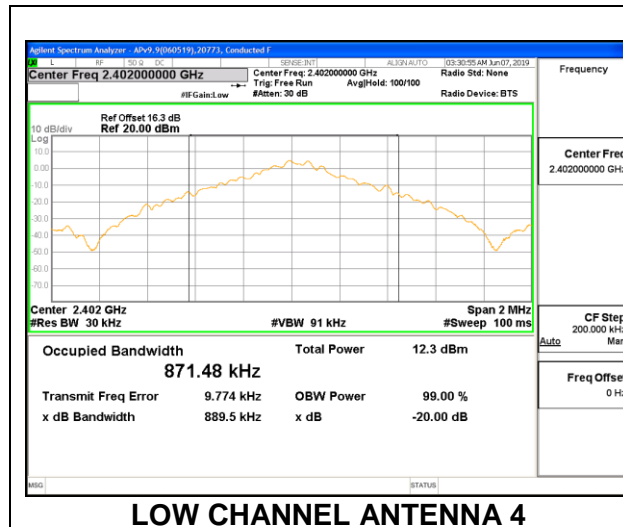
| Channel | Frequency (MHz) | 99% Bandwidth Antenna 4 (MHz) | 99% Bandwidth Antenna 3 (MHz) |
|---------|--------------------|-------------------------------------|-------------------------------------|
| Low | 2402 | 1.2216 | 1.2109 |
| Mid | 2441 | 1.2215 | 1.2153 |
| High | 2480 | 1.2213 | 1.2114 |



8.9.3 LOW POWER BASIC DATA RATE GFSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

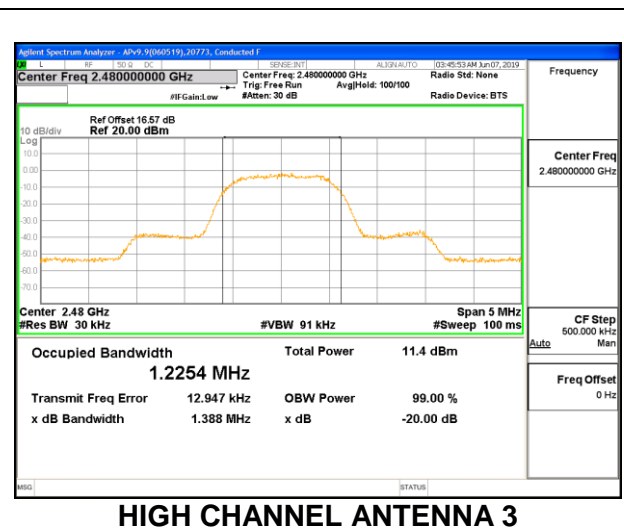
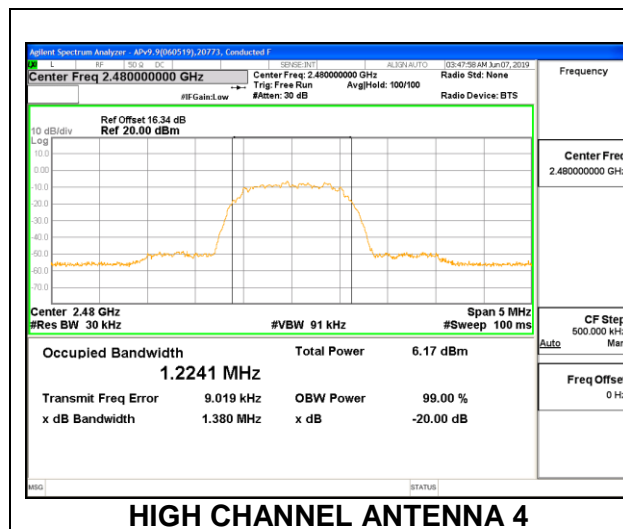
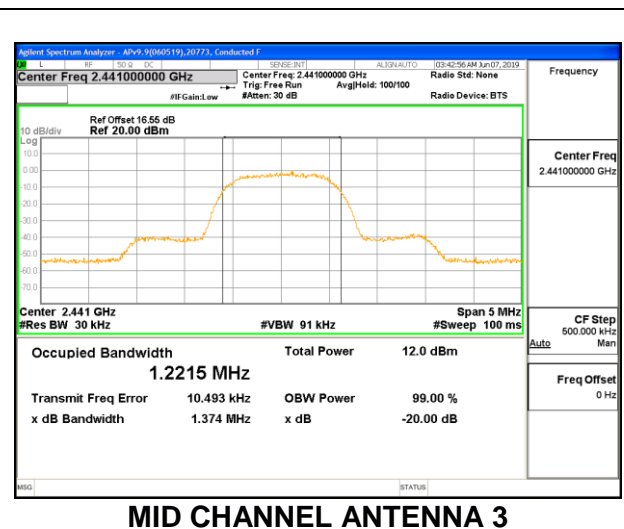
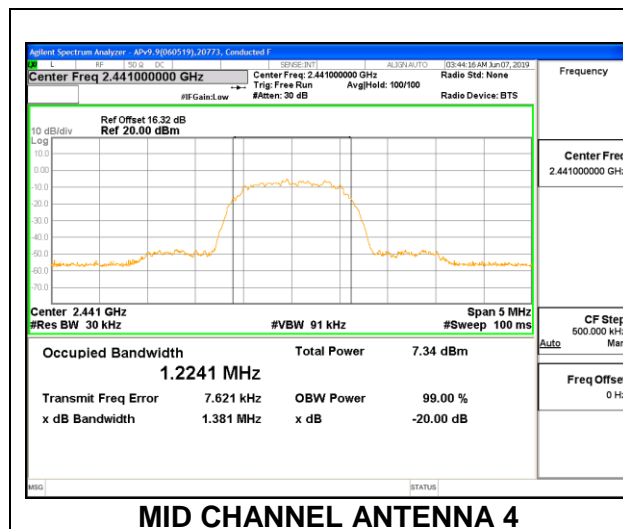
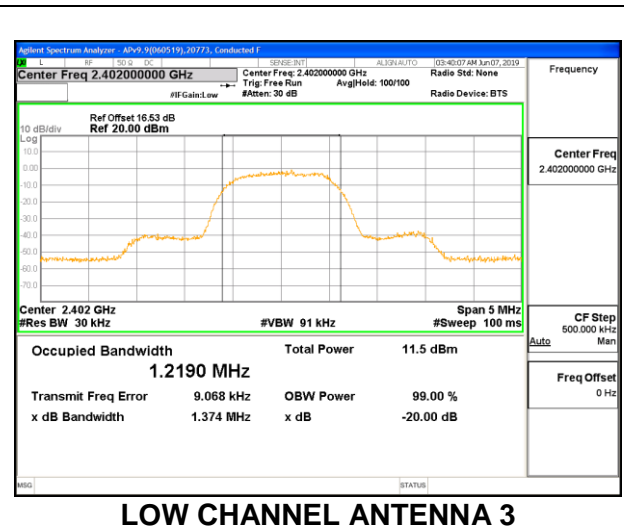
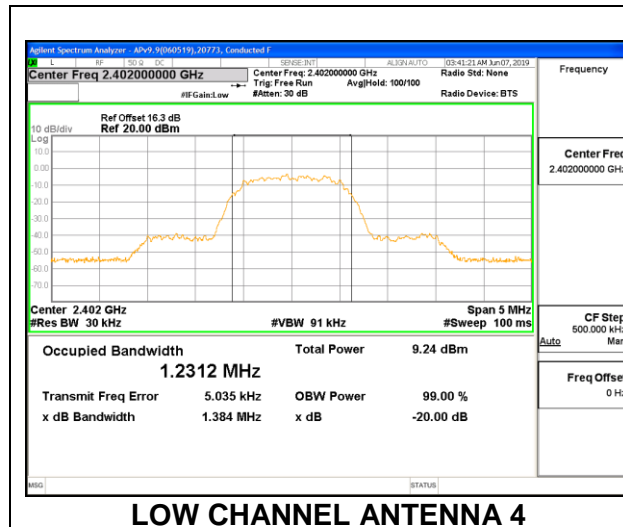
| Channel | Frequency (MHz) | 99% Bandwidth Antenna 4 (MHz) | 99% Bandwidth Antenna 3 (MHz) |
|---------|--------------------|-------------------------------------|-------------------------------------|
| Low | 2402 | 0.8715 | 0.8681 |
| Mid | 2441 | 0.8709 | 0.8686 |
| High | 2480 | 0.8701 | 0.8691 |



8.9.4 LOW POWER ENHANCED DATA RATE 8PSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

| Channel | Frequency (MHz) | 99% Bandwidth Antenna 4 (MHz) | 99% Bandwidth Antenna 3 (MHz) |
|---------|--------------------|-------------------------------------|-------------------------------------|
| Low | 2402 | 1.2312 | 1.2190 |
| Mid | 2441 | 1.2241 | 1.2215 |
| High | 2480 | 1.2241 | 1.2254 |



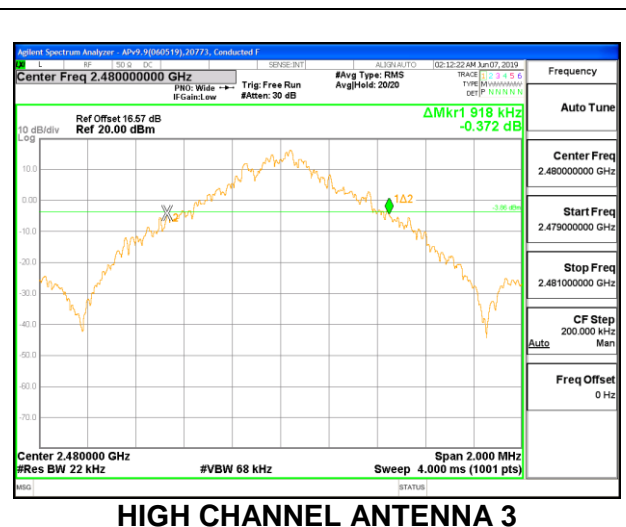
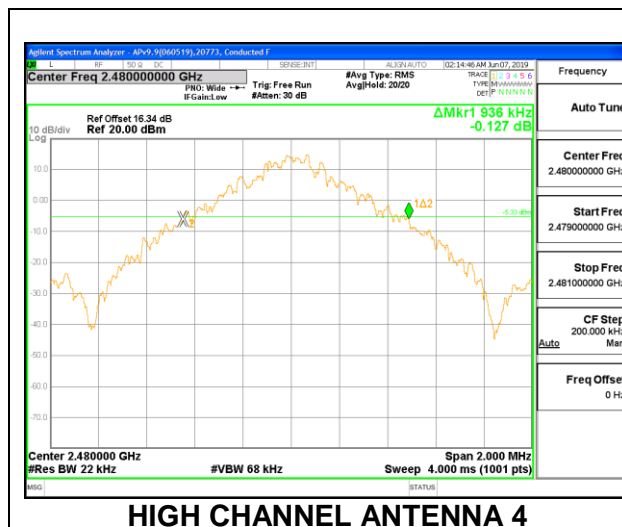
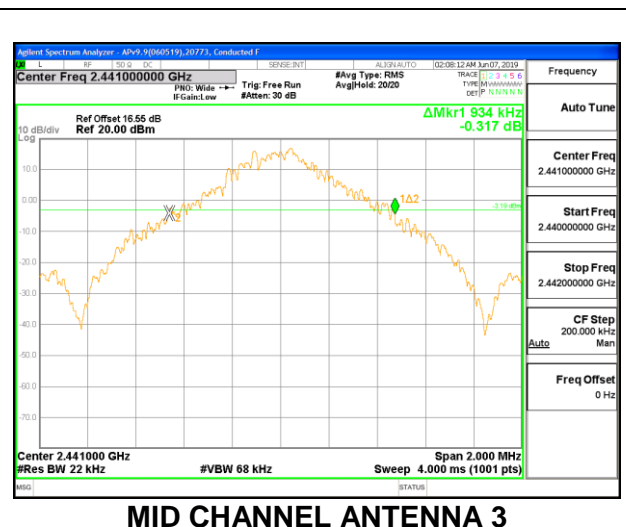
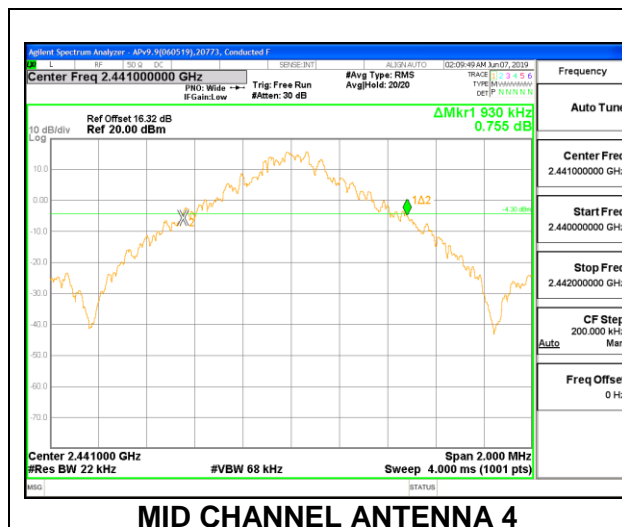
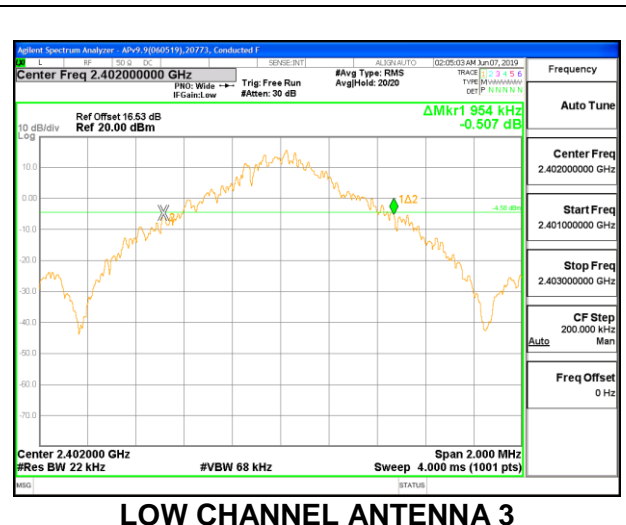
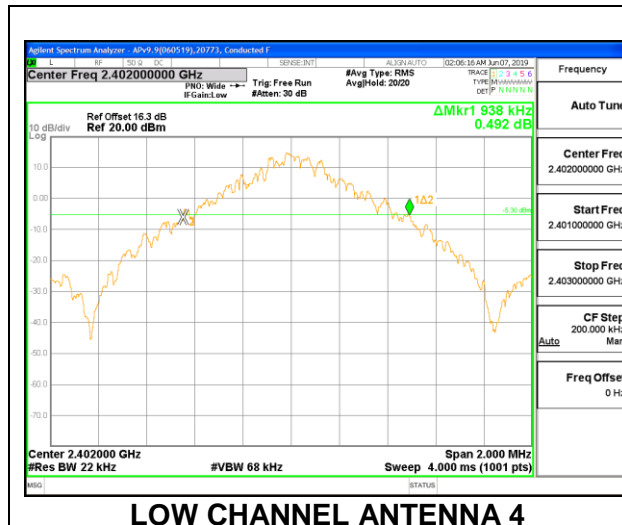
8.10 BEAMFORMING, 20 dB BANDWIDTH

8.10.1 HIGH POWER BASIC DATA RATE GFSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

2TX Antenna 4 + Antenna 3 TxBF MODE

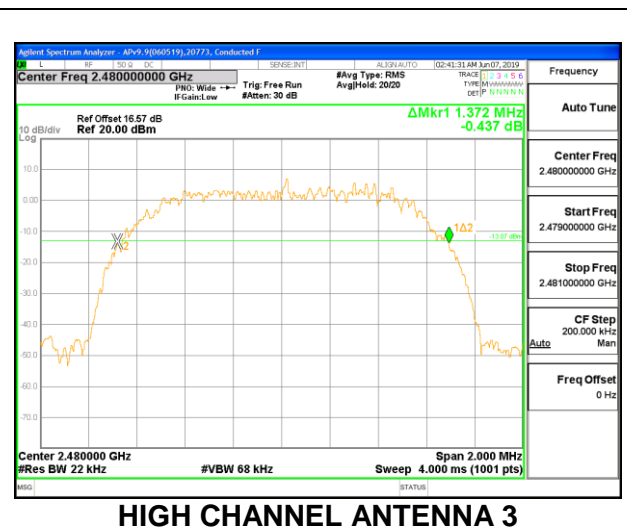
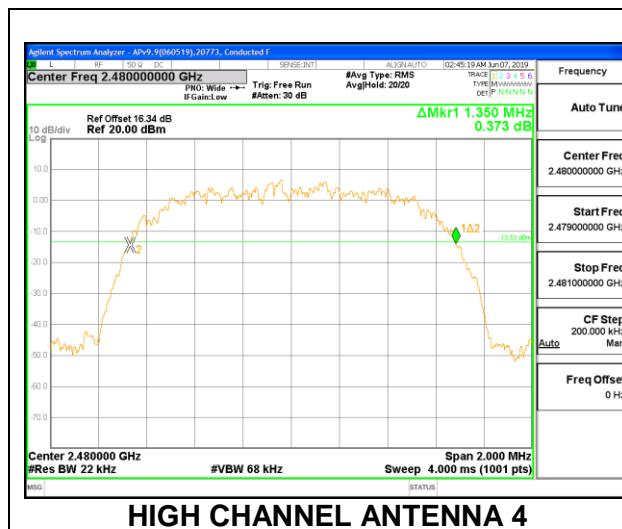
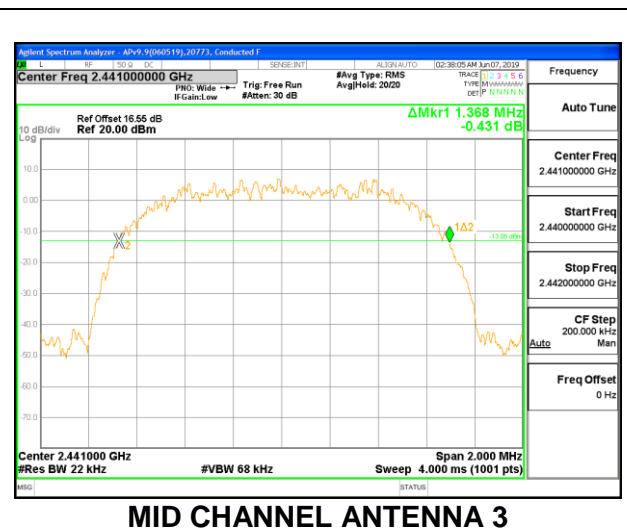
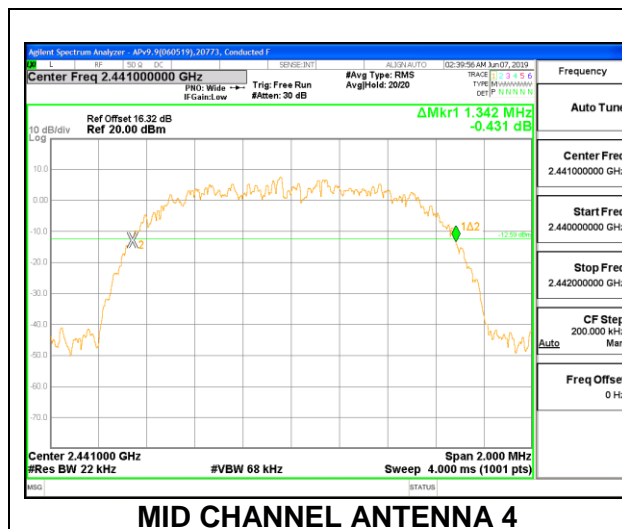
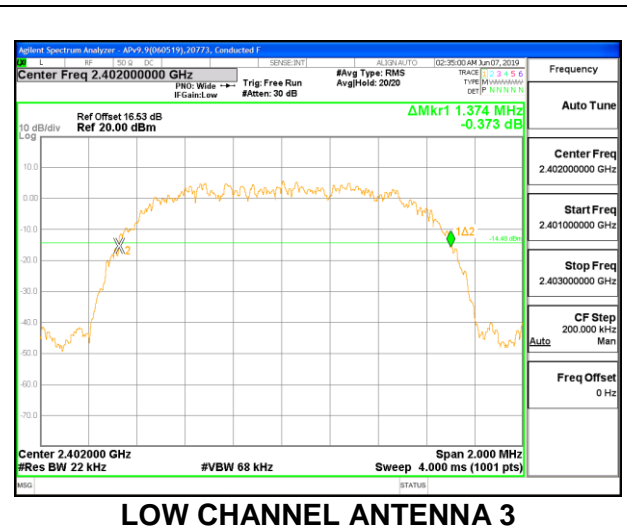
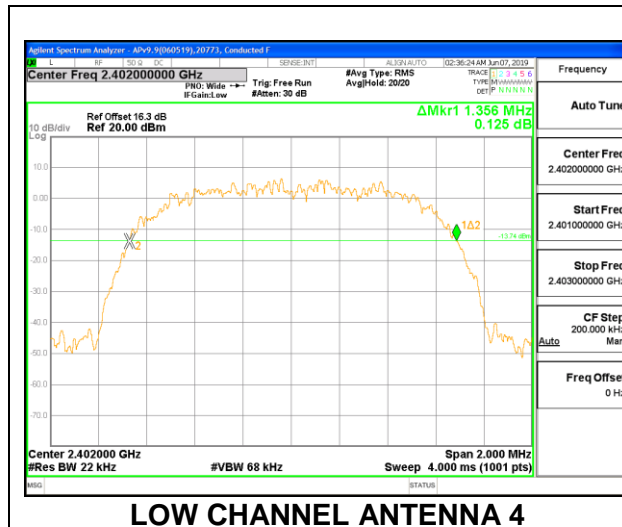
| Channel | Frequency (MHz) | 20dB Bandwidth Antenna 4 (MHz) | 20dB Bandwidth Antenna 3 (MHz) |
|---------|--------------------|--------------------------------------|--------------------------------------|
| Low | 2402 | 0.938 | 0.954 |
| Mid | 2441 | 0.930 | 0.934 |
| High | 2480 | 0.936 | 0.918 |



8.10.2 HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

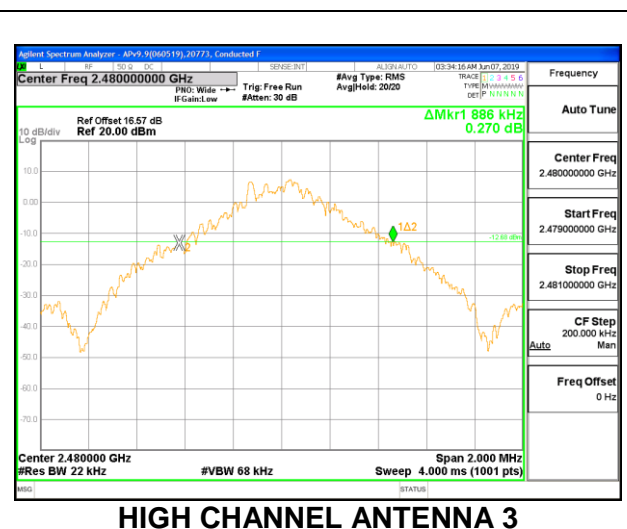
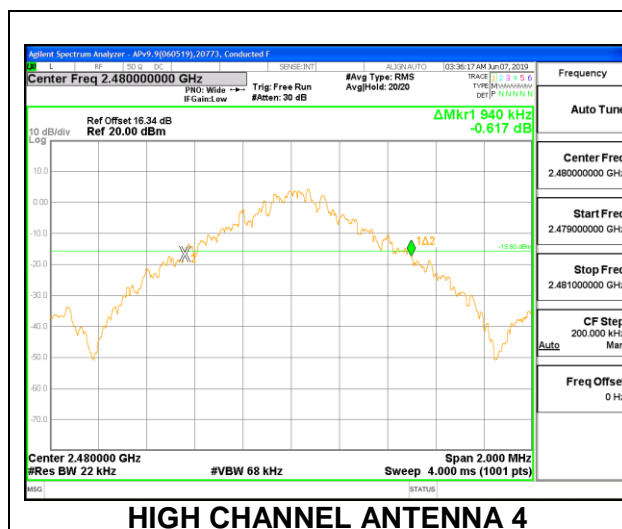
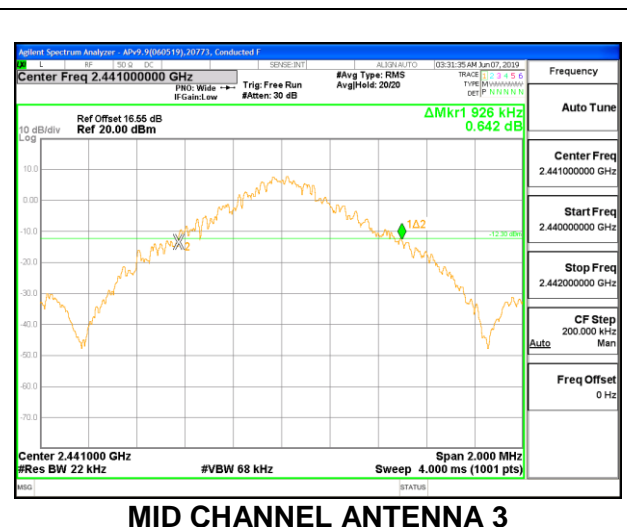
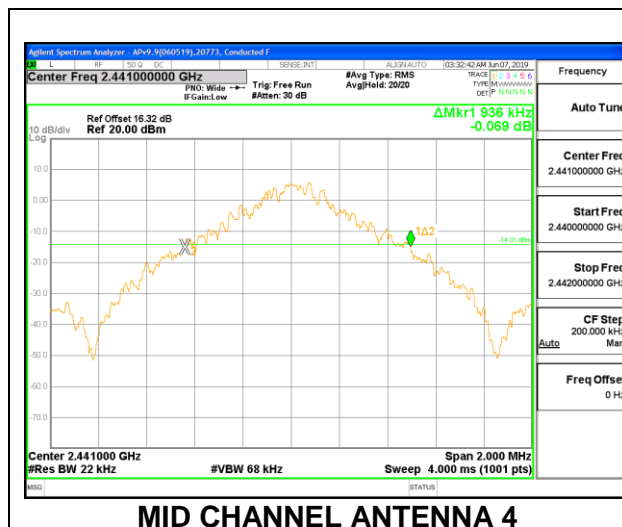
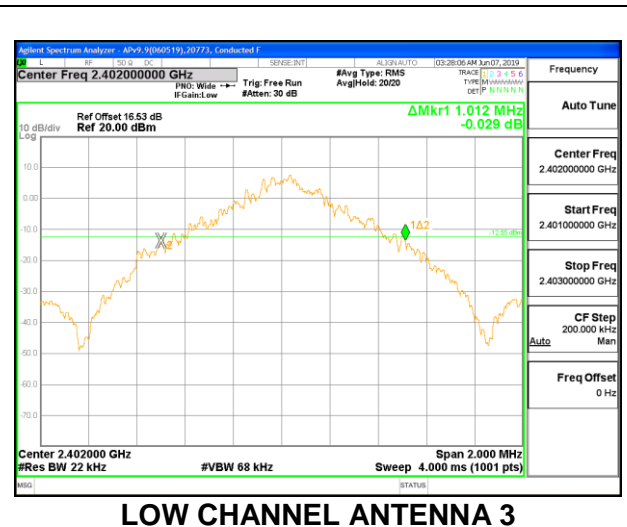
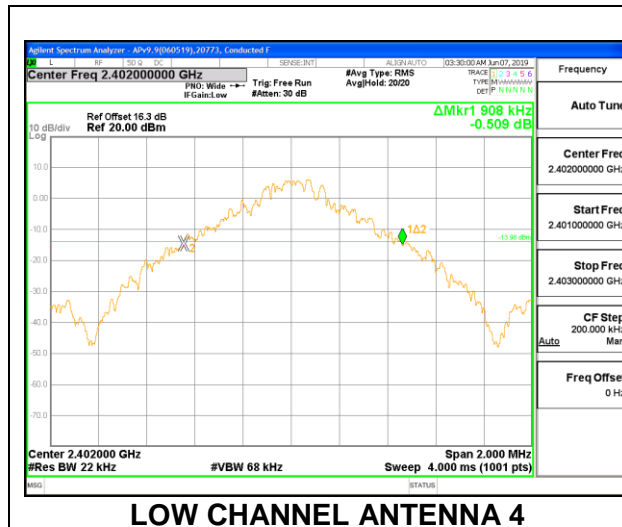
| Channel | Frequency (MHz) | 20dB Bandwidth Antenna 4 (MHz) | 20dB Bandwidth Antenna 3 (MHz) |
|---------|--------------------|--------------------------------------|--------------------------------------|
| Low | 2402 | 1.356 | 1.374 |
| Mid | 2441 | 1.342 | 1.368 |
| High | 2480 | 1.350 | 1.372 |



8.10.3 LOW POWER BASIC DATA RATE GFSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

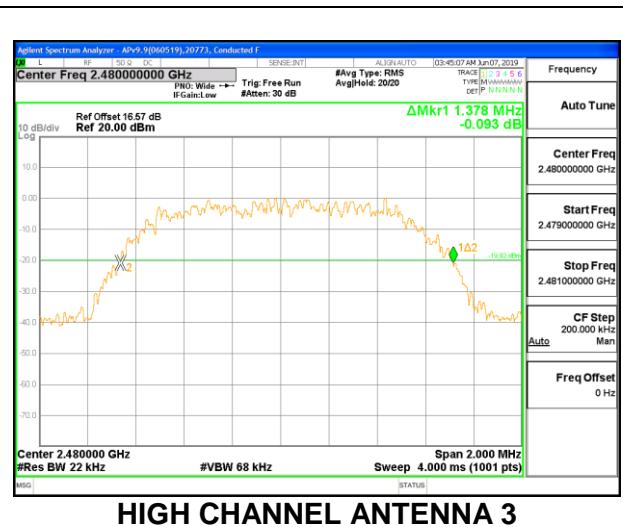
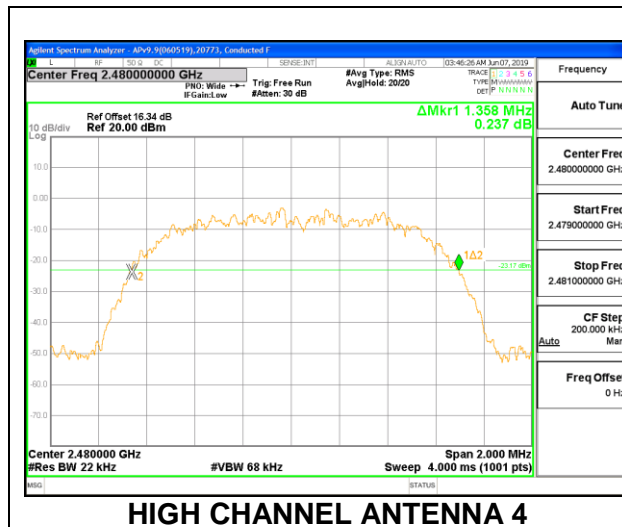
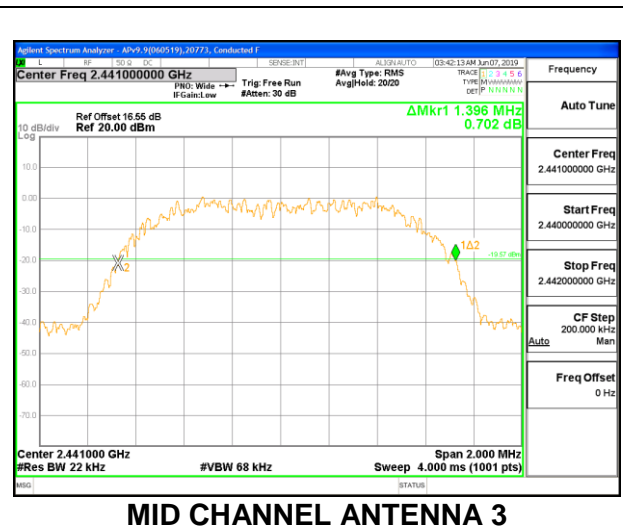
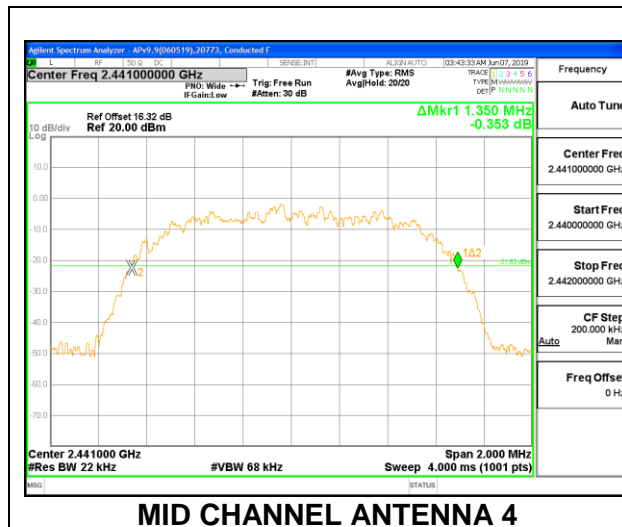
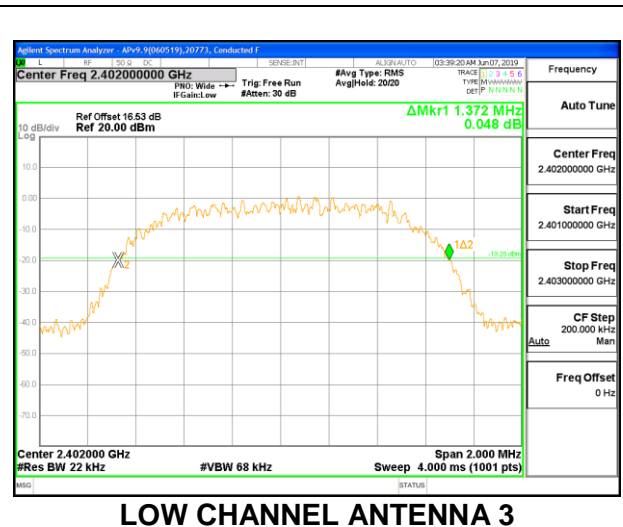
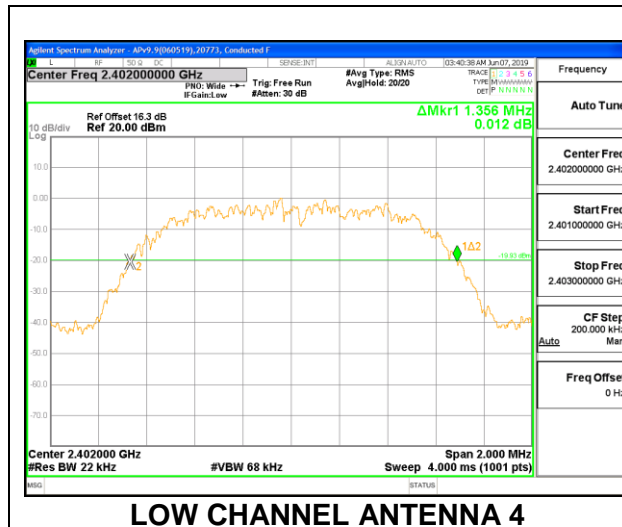
| Channel | Frequency (MHz) | 20dB Bandwidth Antenna 4 (MHz) | 20dB Bandwidth Antenna 3 (MHz) |
|---------|--------------------|--------------------------------------|--------------------------------------|
| Low | 2402 | 0.908 | 1.012 |
| Mid | 2441 | 0.936 | 0.926 |
| High | 2480 | 0.940 | 0.886 |



8.10.4 LOW POWER ENHANCED DATA RATE 8PSK MODULATION

2TX Antenna 4 + Antenna 3 TxBF MODE

| Channel | Frequency (MHz) | 20dB Bandwidth Antenna 4 (MHz) | 20dB Bandwidth Antenna 3 (MHz) |
|---------|--------------------|--------------------------------------|--------------------------------------|
| Low | 2402 | 1.356 | 1.372 |
| Mid | 2441 | 1.350 | 1.396 |
| High | 2480 | 1.358 | 1.378 |



8.11 BEAMFORMING, HOPPING FREQUENCY SEPARATION

LIMITS

FCC §15.247 (a) (1)

RSS-247 (5.1) (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

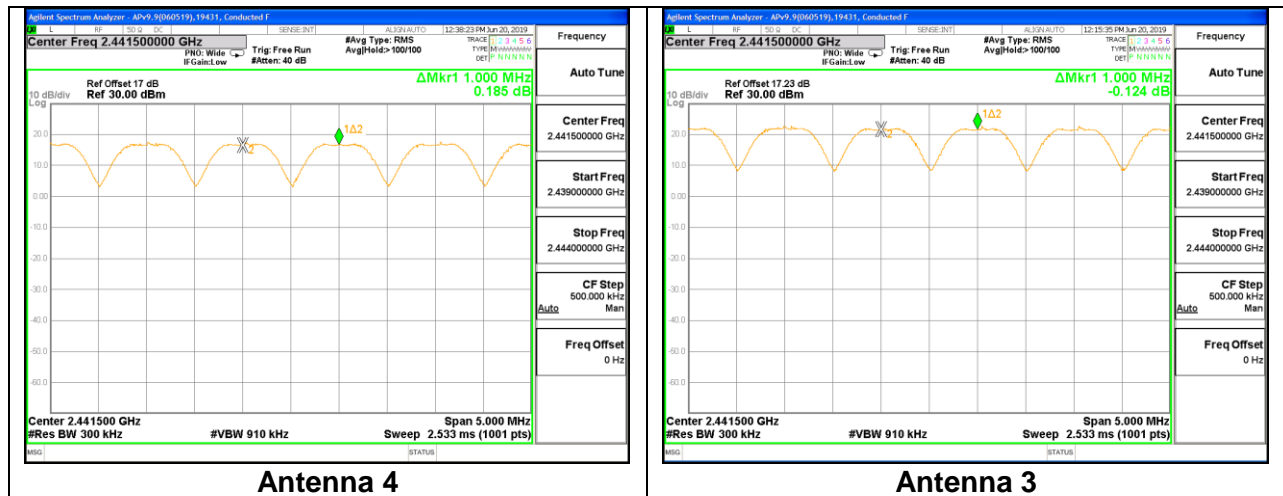
The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to VBW \geq RBW. The sweep time is coupled.

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

RESULTS

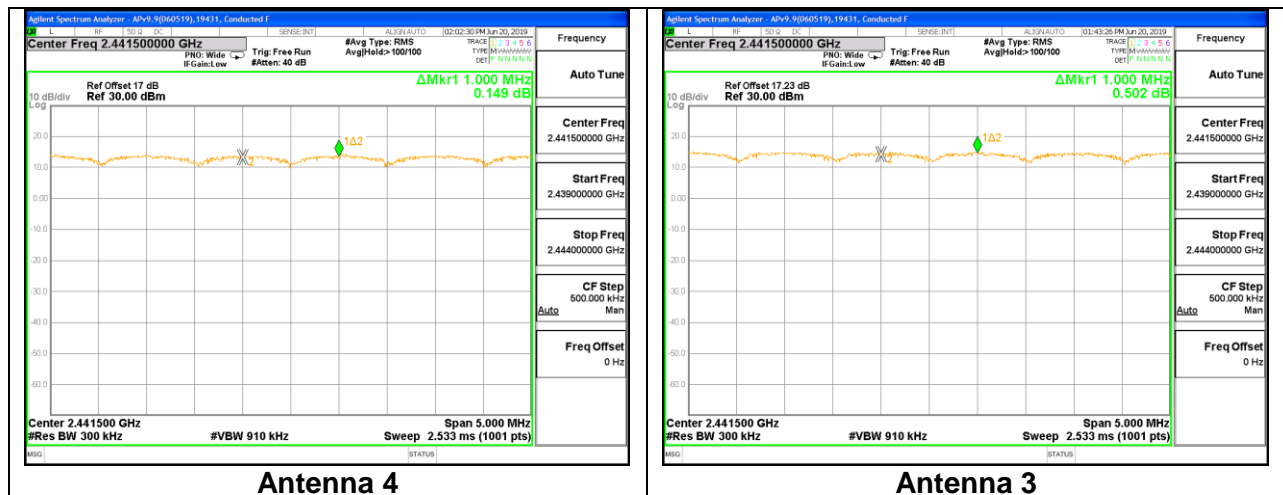
8.11.1 HIGH POWER BASIC DATA RATE GFSK MODULATION

HOPPING FREQUENCY SEPARATION



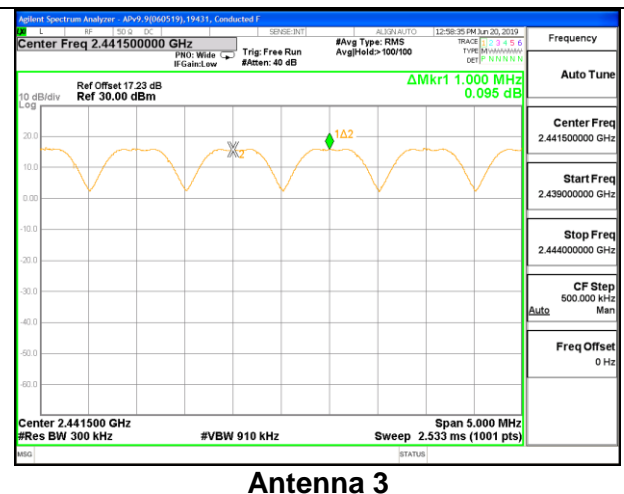
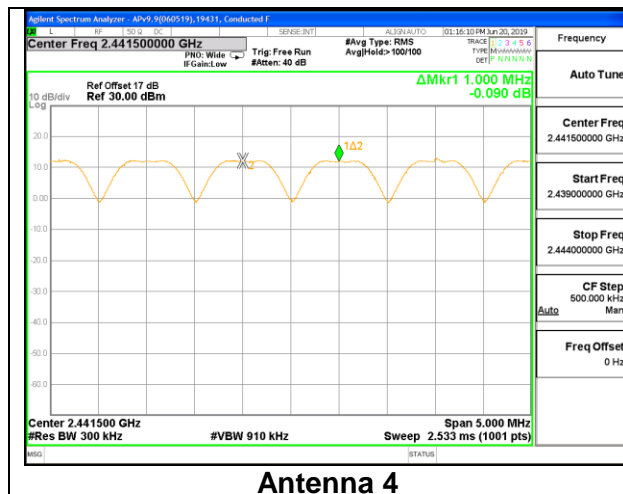
8.11.2 HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

HOPPING FREQUENCY SEPARATION



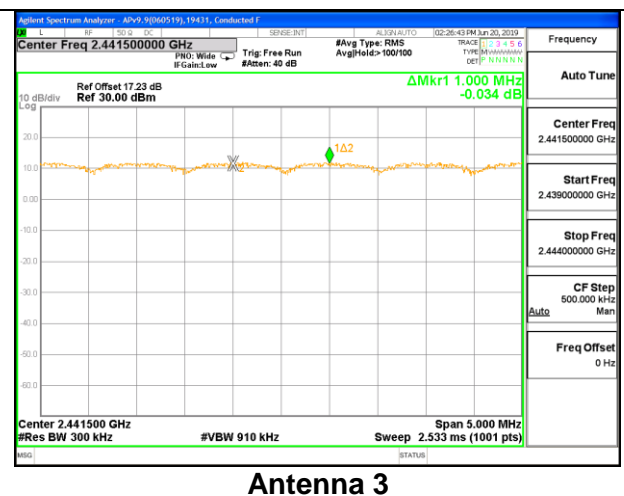
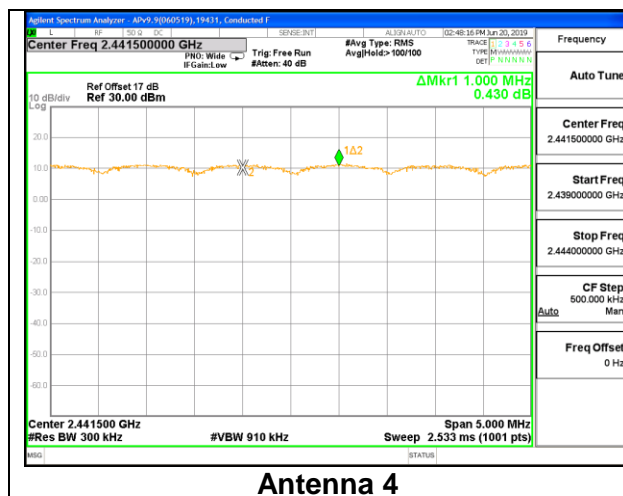
8.11.3 LOW POWER BASIC DATA RATE GFSK MODULATION

HOPPING FREQUENCY SEPARATION



8.11.4 LOW POWER ENHANCED DATA RATE 8PSK MODULATION

HOPPING FREQUENCY SEPARATION



8.12 BEAMFORMING, NUMBER OF HOPPING CHANNELS

LIMITS

FCC §15.247 (a) (1) (iii)

RSS-247 (5.1) (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

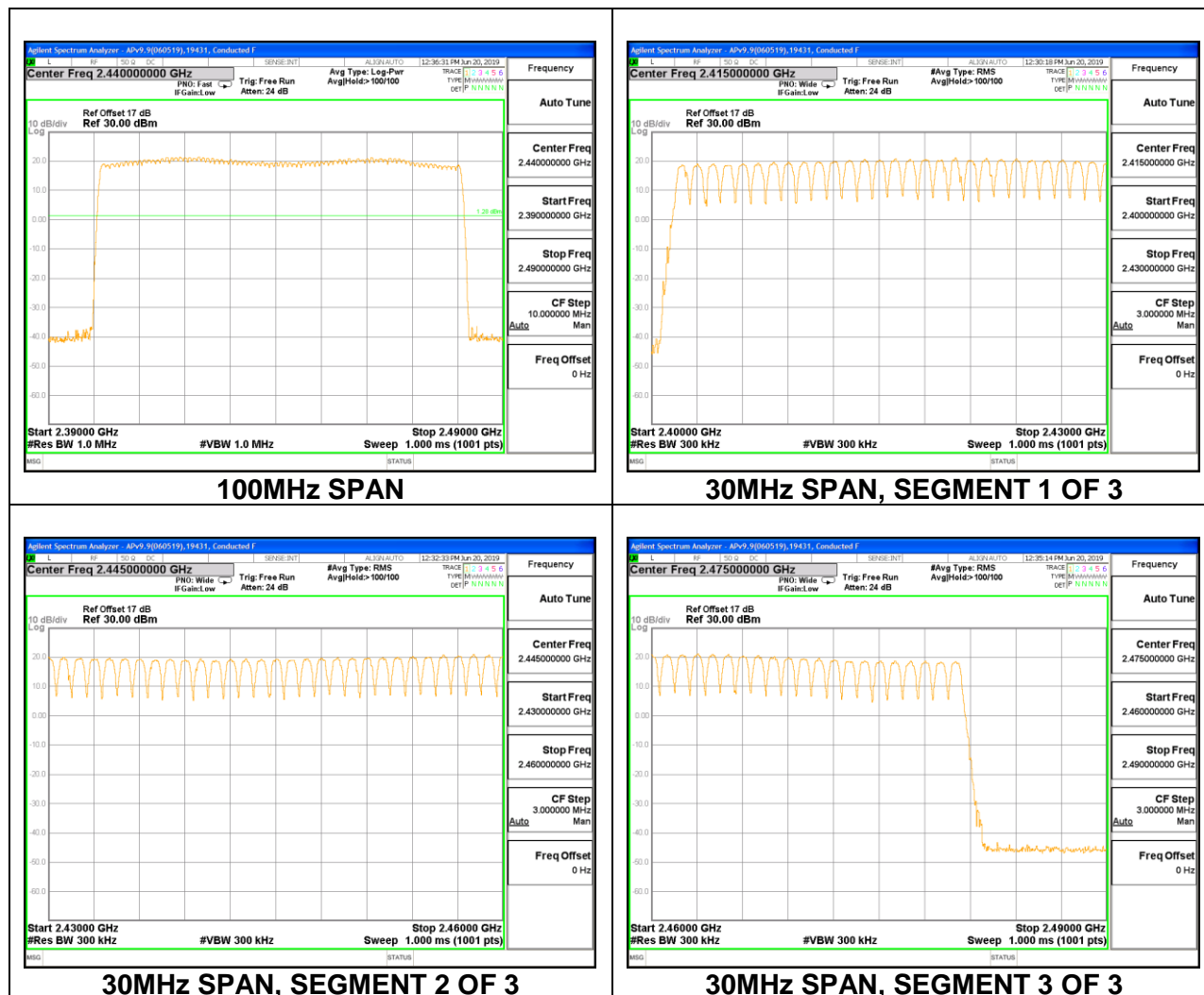
Note: Test procedure on beamforming mode is same as BT basic and EDR mode

RESULTS

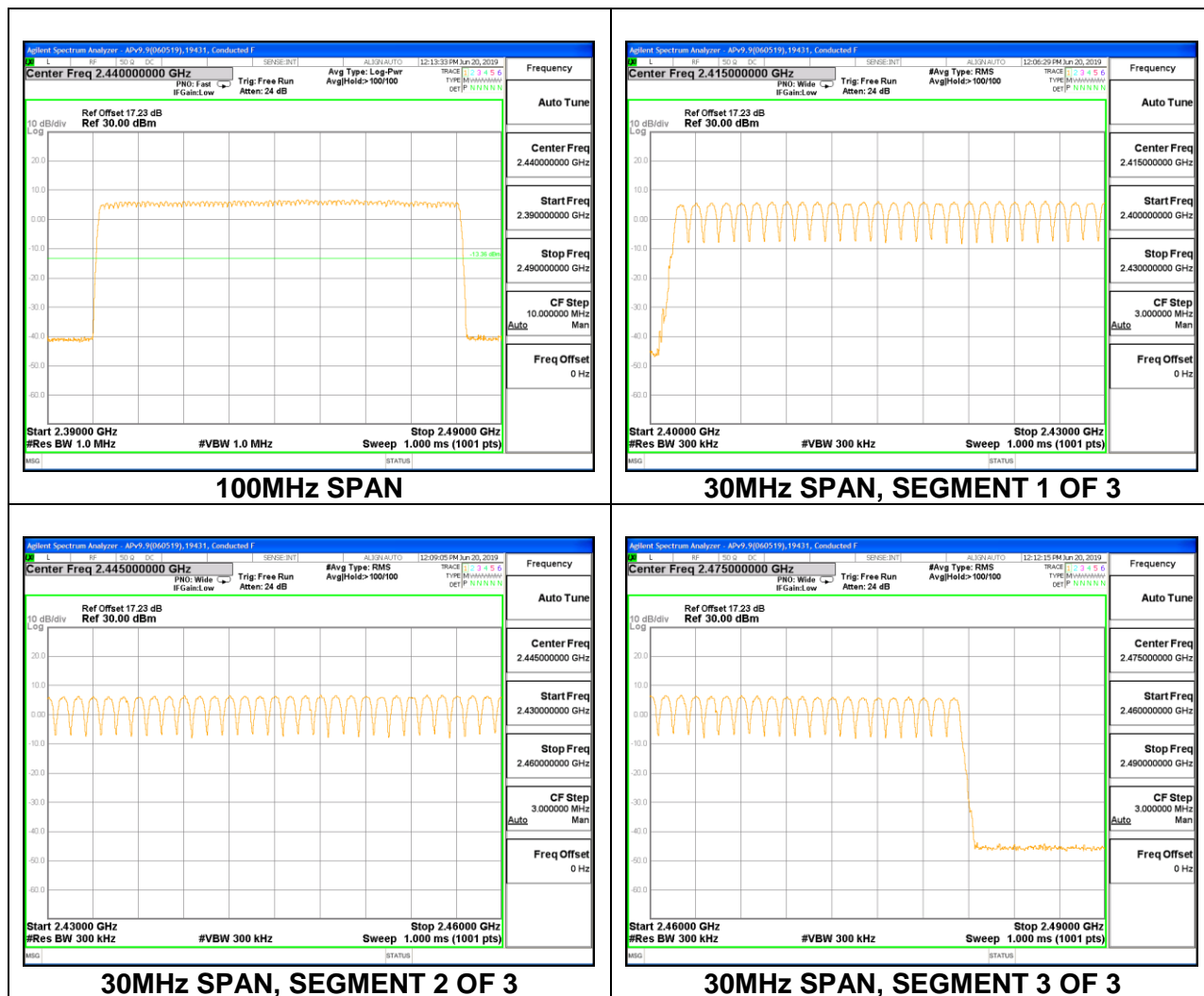
Normal Mode: All Channels Observed

8.12.1 HIGH POWER BASIC DATA RATE GFSK MODULATION

Antenna 4

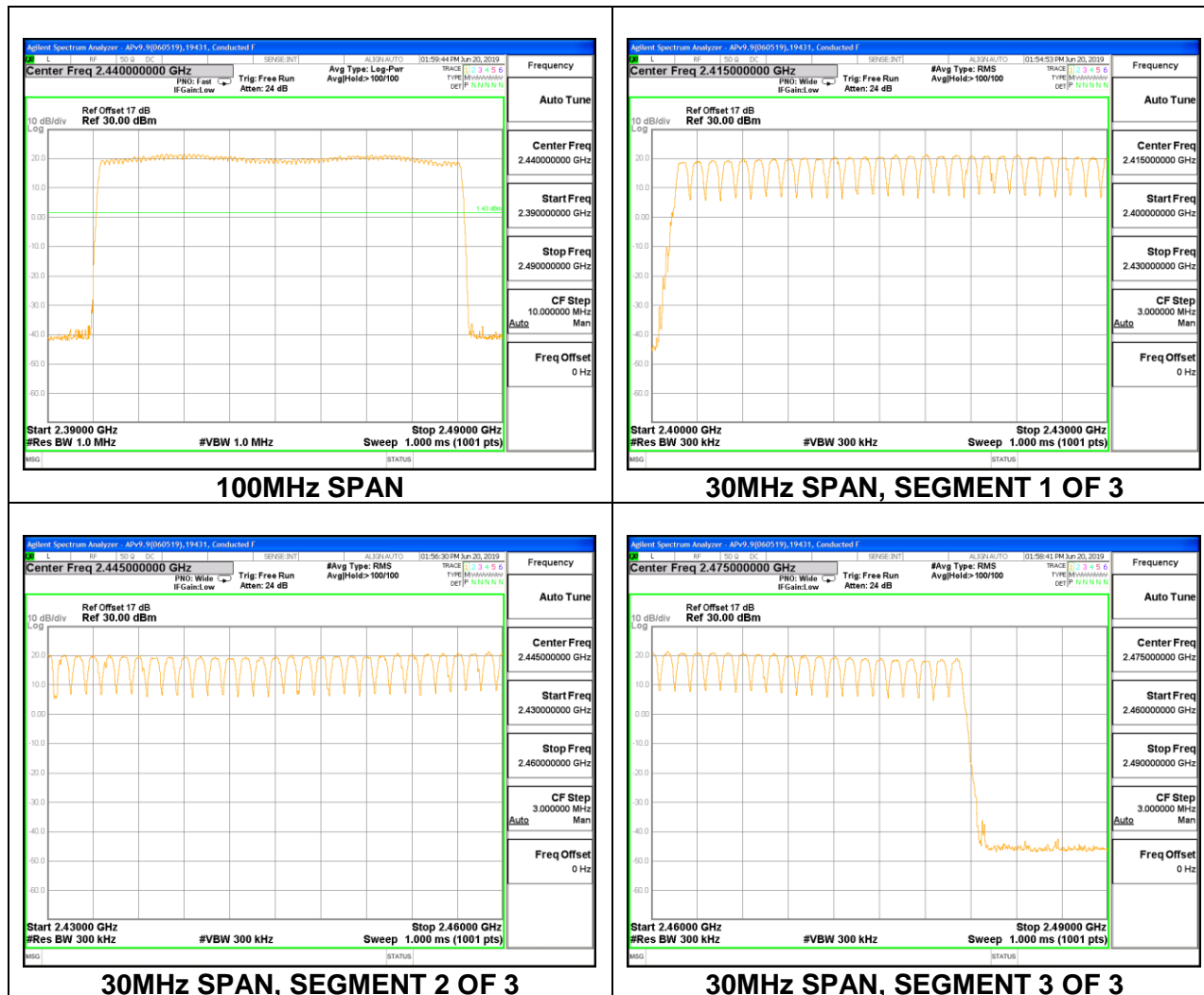


Antenna 3



8.12.2 HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

Antenna 4



Antenna 3

