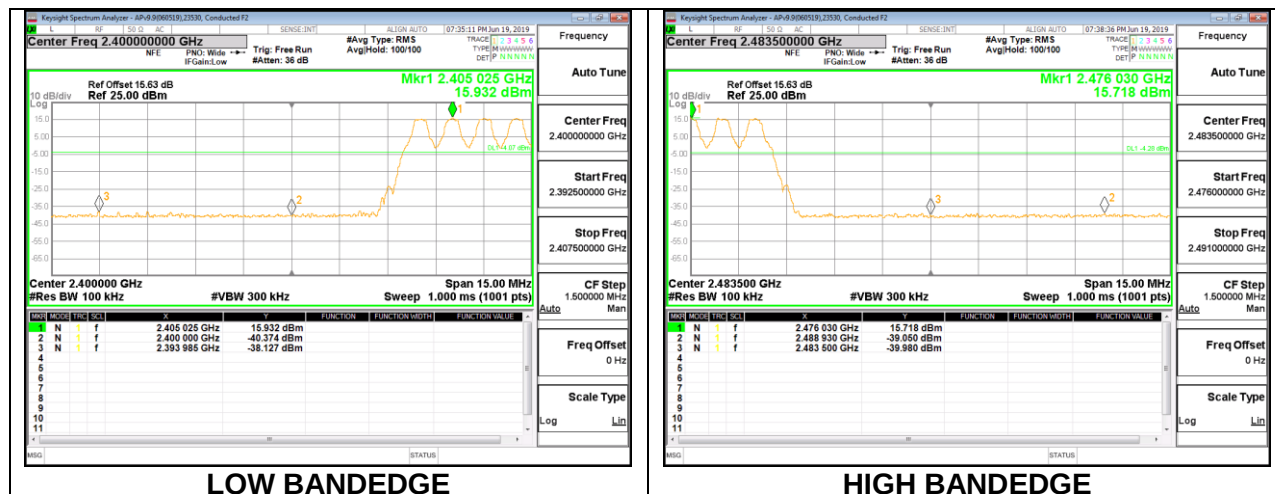
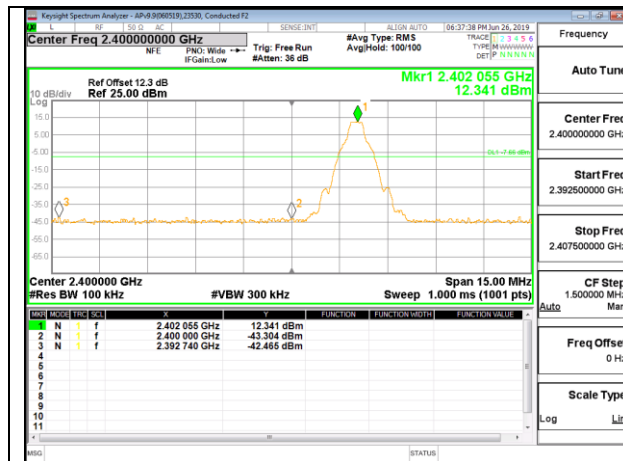


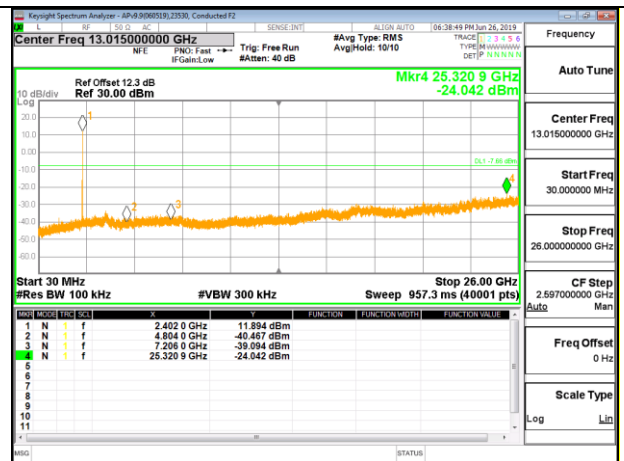
**Antenna 4 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**



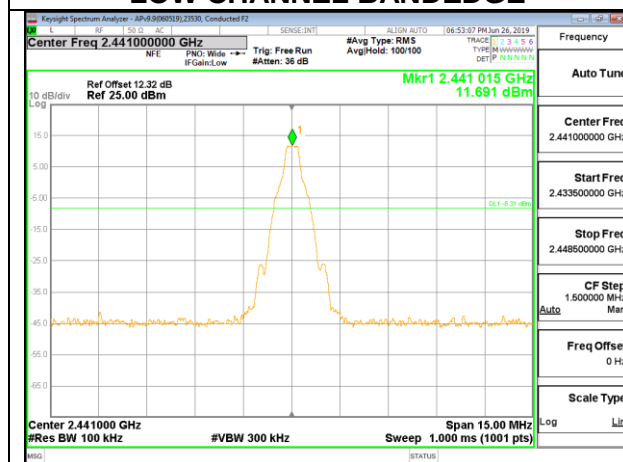
**Antenna 3 SPURIOUS EMISSIONS, NON-HOPPING**



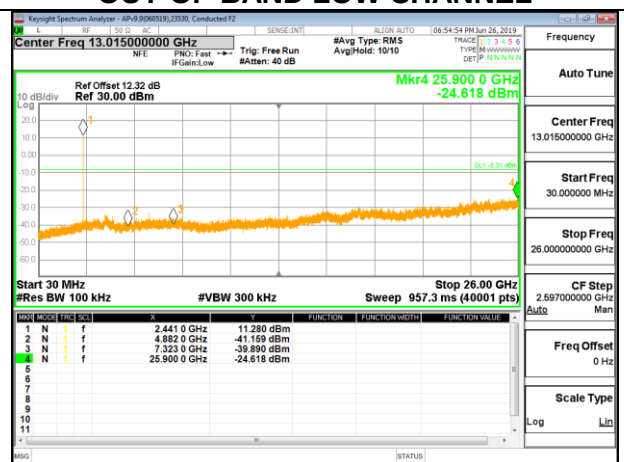
**LOW CHANNEL BANDEDGE**



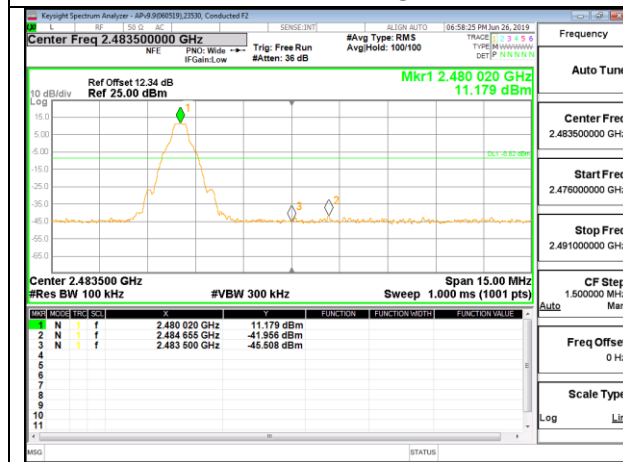
**OUT-OF-BAND LOW CHANNEL**



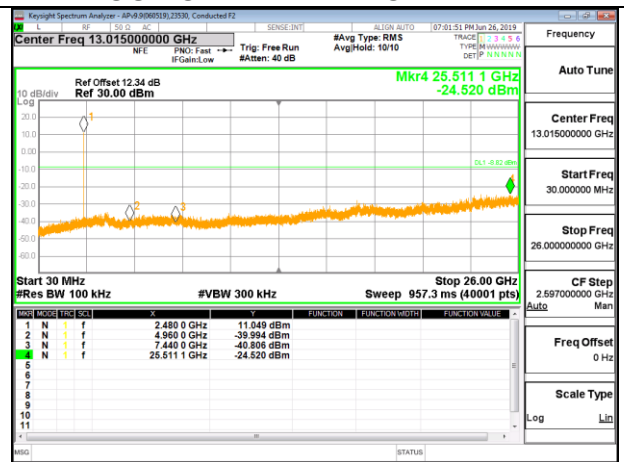
**IN-BAND REFERENCE LEVEL**



**OUT-OF-BAND MID CHANNEL**

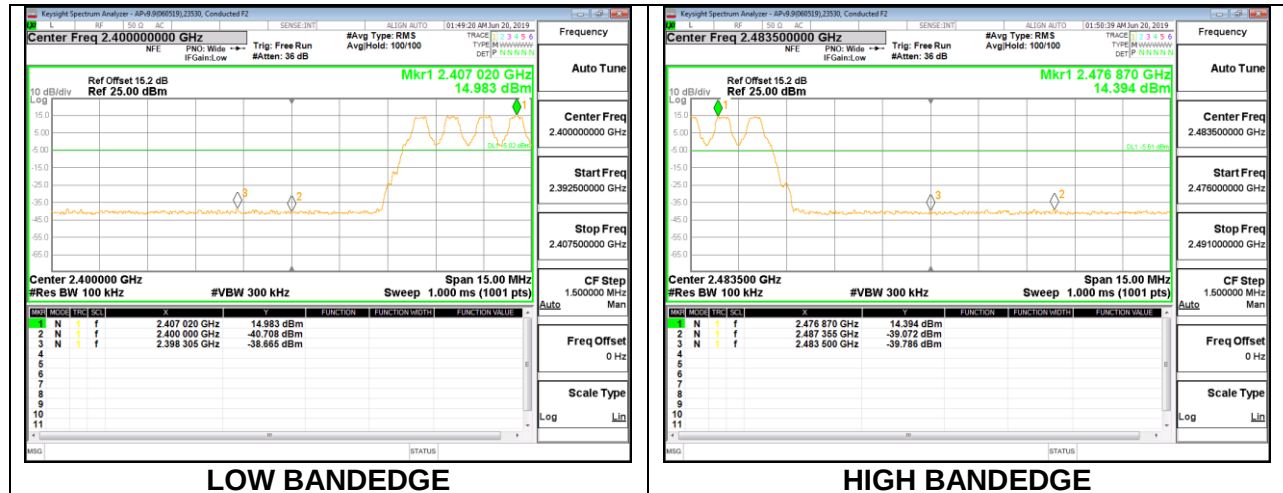


**HIGH CHANNEL BANDEDGE**



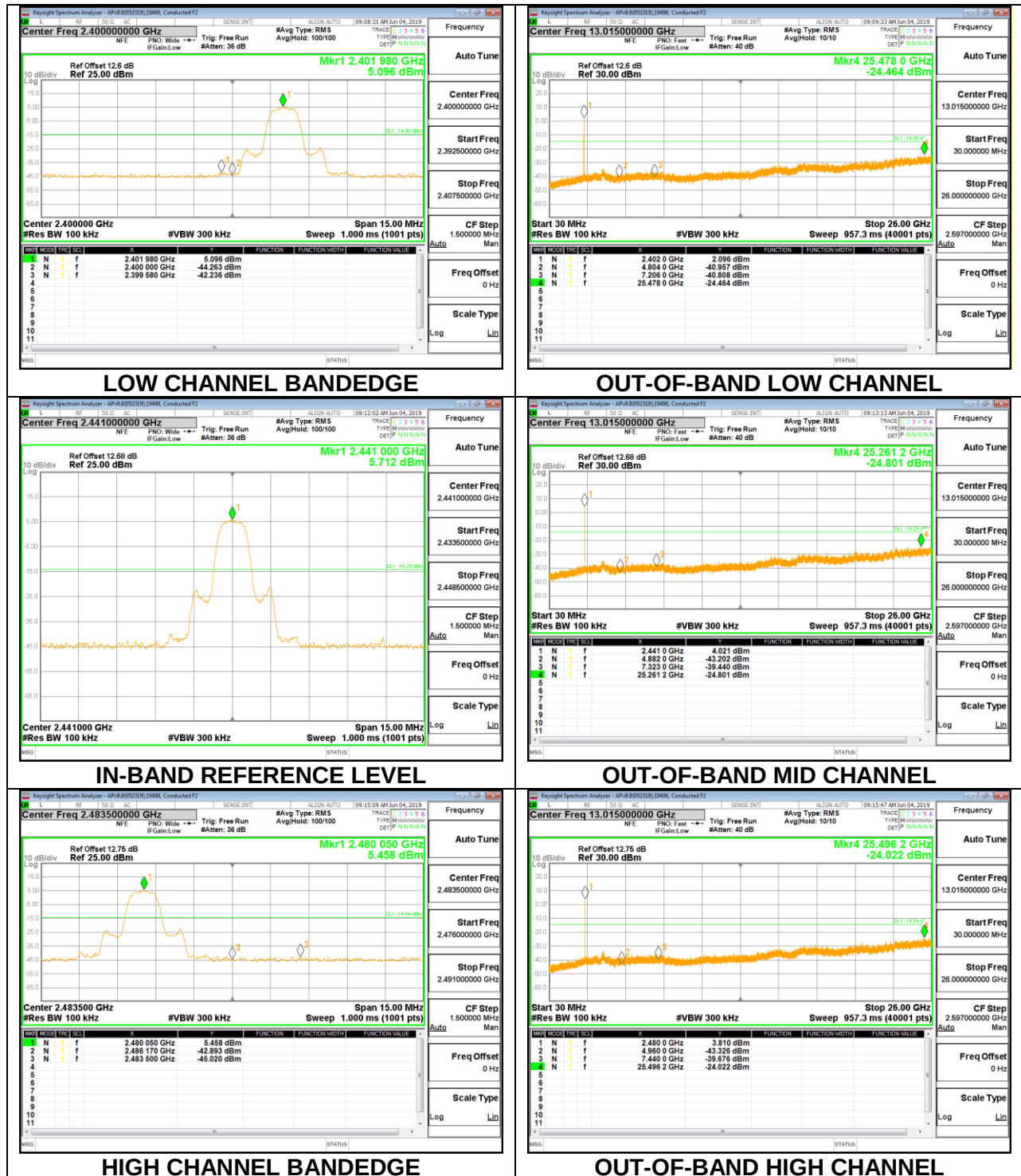
**OUT-OF-BAND HIGH CHANNEL**

**Antenna 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**

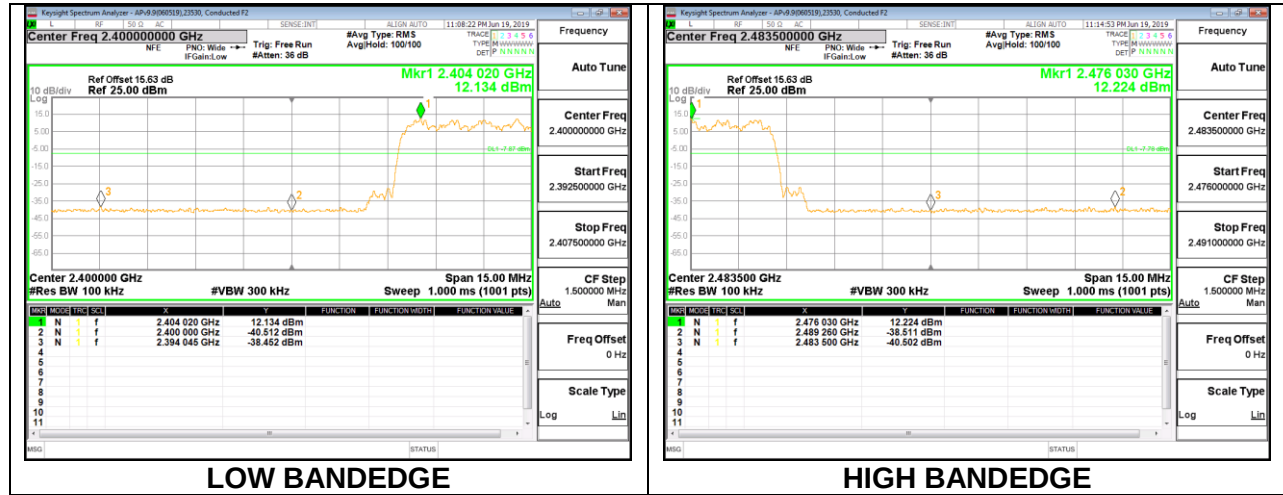


## 8.15.4. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

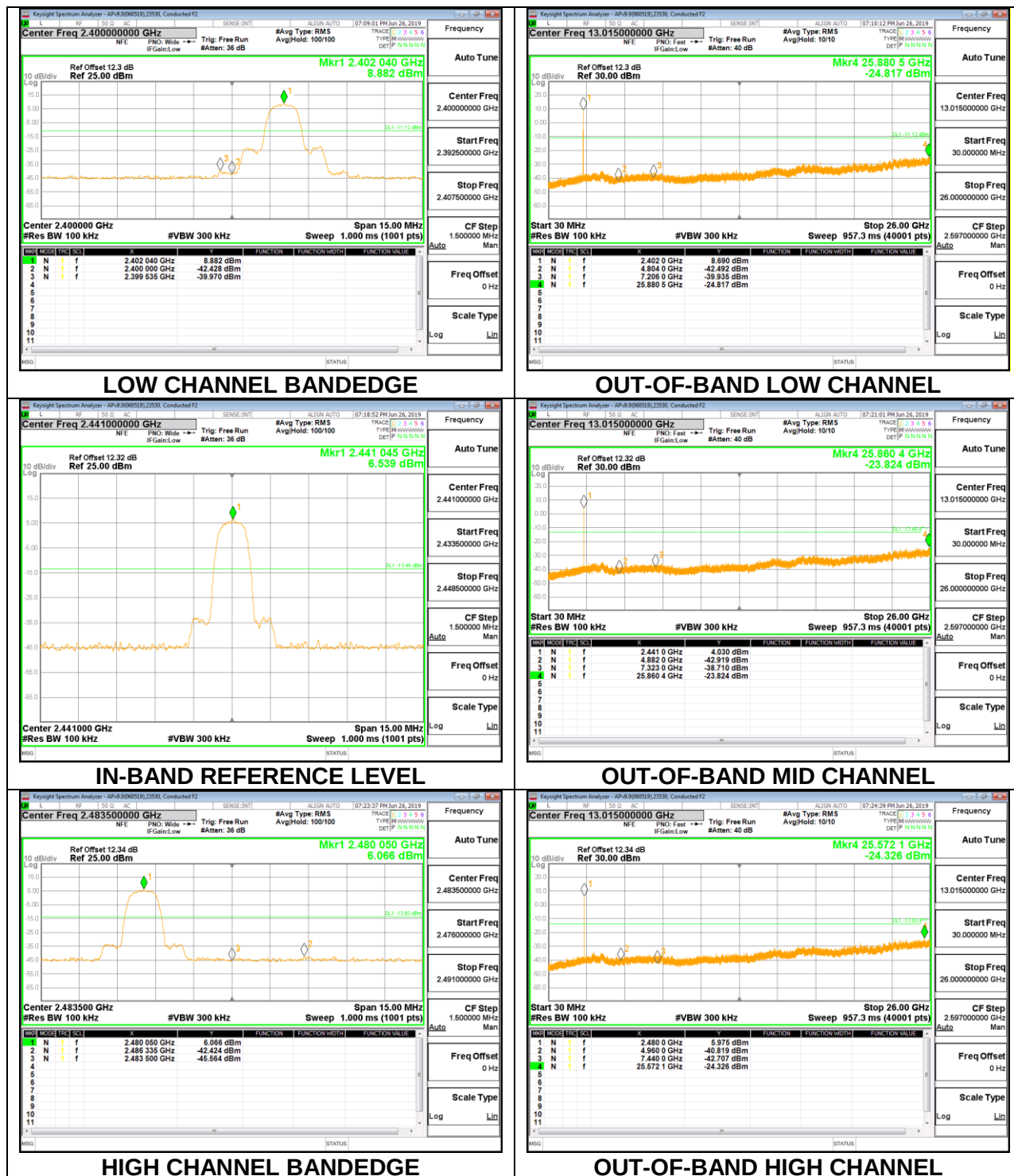
### Antenna 4 SPURIOUS EMISSIONS, NON-HOPPING



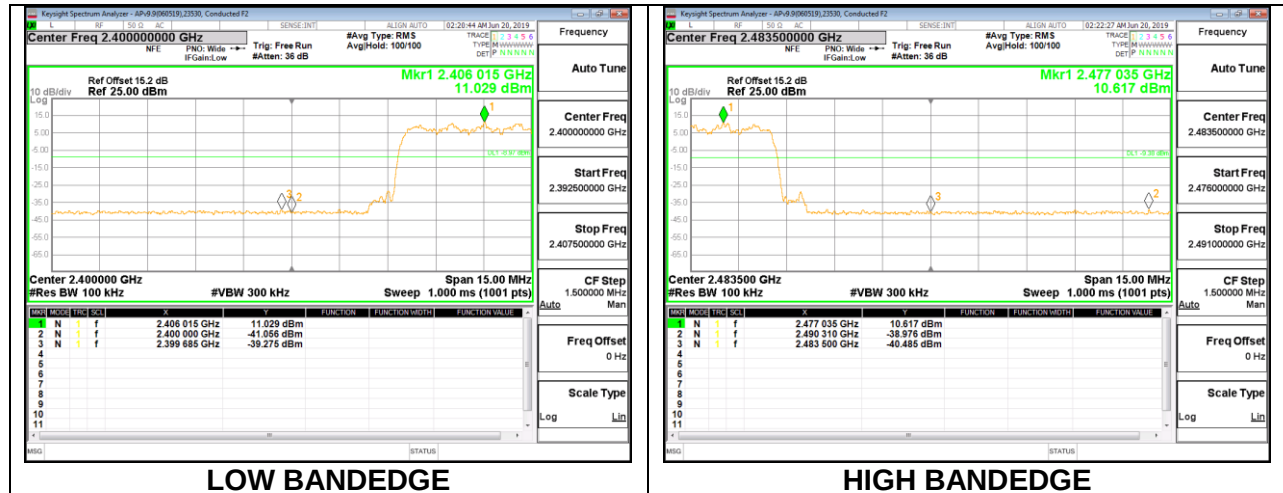
**Antenna 4 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**



**Antenna 3 SPURIOUS EMISSIONS, NON-HOPPING**



**Antenna 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**



## 9. RADIATED TEST RESULTS

### LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

| Frequency Range (MHz) | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (dBuV/m) at 3 m |
|-----------------------|------------------------------------|--------------------------------------|
| 0.009-0.490           | 2400/F(kHz) @ 300 m                | -                                    |
| 0.490-1.705           | 24000/F(kHz) @ 30 m                | -                                    |
| 1.705 - 30            | 30 @ 30m                           | -                                    |
| 30 - 88               | 100                                | 40                                   |
| 88 - 216              | 150                                | 43.5                                 |
| 216 - 960             | 200                                | 46                                   |
| Above 960             | 500                                | 54                                   |

### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final scans above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T (10 Hz) video bandwidth with peak detector for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).



**KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification**

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

**KDB 558074 D01 15.247 Meas Guidance v05r01**

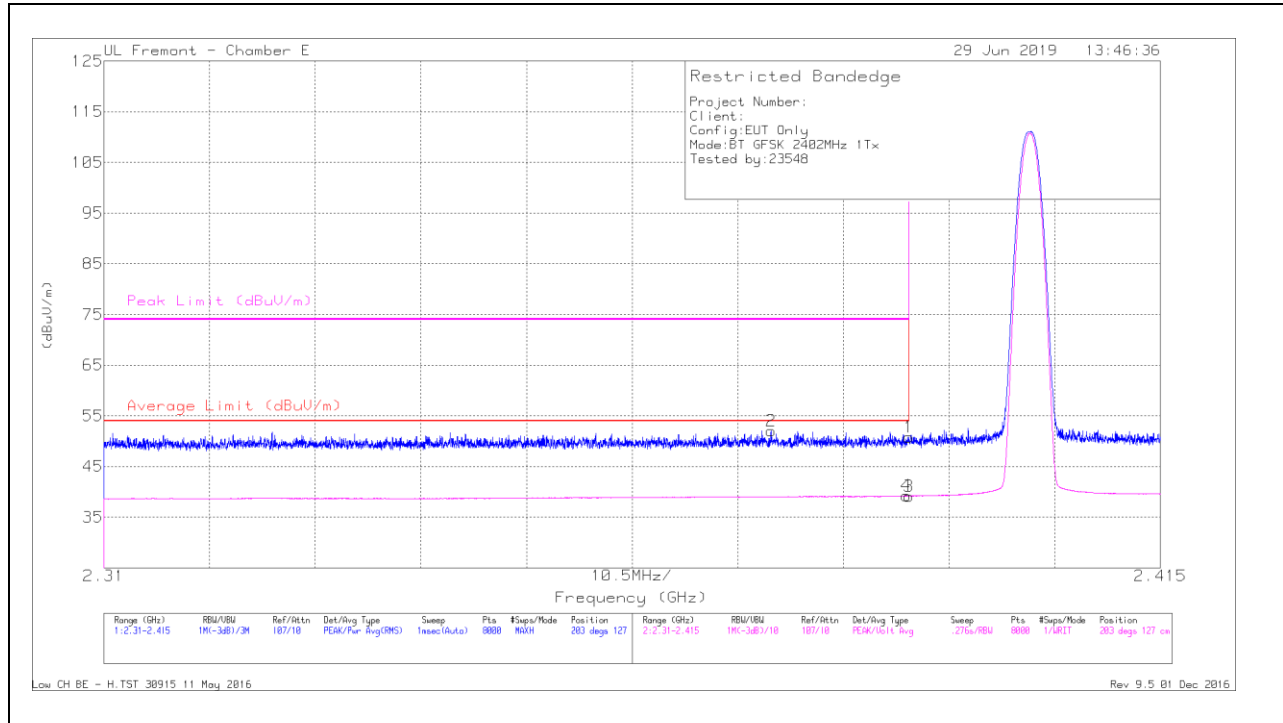
Use of a duty cycle correction factor (DCCF) is permitted for calculating average radiated field strength emission levels for an FHSS device in 15.247. This DCCF can be applied when the field strength limit (e.g., within a Government Restricted band) and the conditions specified in Section 15.35(c) can be satisfied. The average radiated field strength is calculated by subtracting the DCCF from the maximum radiated field strength level as determined through measurement. The maximum radiated field strength level represents the worst-case (maximum amplitude) RMS measurement of the emission(s) during continuous transmission (i.e., not including any time intervals during which the transmitter is off or is transmitting at a reduced power level). It is also acceptable to apply the DCCF to a measurement performed with a peak detector instead of the specified RMS power averaging detector. Note that Section 15.35(c) specifies that the DCCF shall represent the worst-case (greatest duty cycle) over any 100 msec transmission period.

## 9.1. TRANSMITTER ABOVE 1 GHz

### 9.1.1. ANTENNA 4, HIGH POWER BASIC DATA RATE GFSK MODULATION

#### BANDEDGE (LOW CHANNEL)

#### HORIZONTAL RESULT



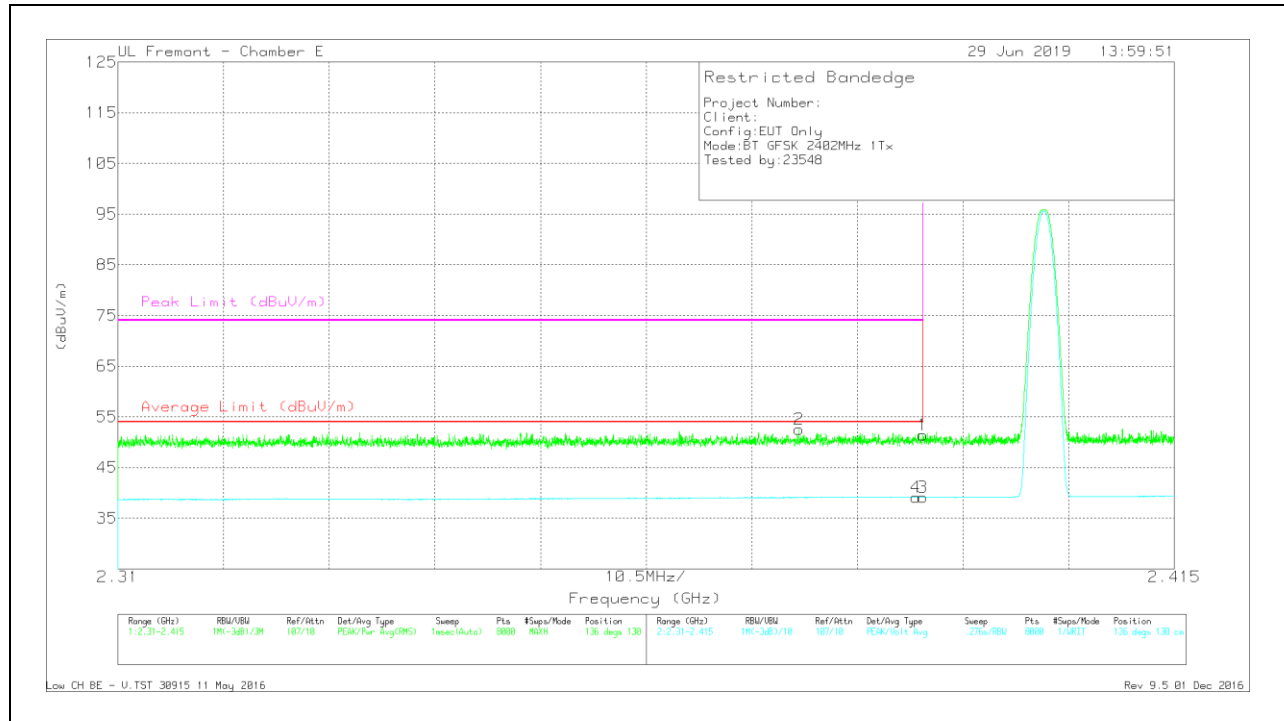
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AFT119 (dBm) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|--------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 44.71                | Pk   | 32.3         | -26.2                  | 50.81                      | -                      | -           | 74                  | -23.19         | 203            | 127         | H        |
| 2      | * 2.376         | 46.06                | Pk   | 32.2         | -26.2                  | 52.06                      | -                      | -           | 74                  | -21.94         | 203            | 127         | H        |
| 3      | * 2.39          | 33.04                | VA1T | 32.3         | -26.2                  | 39.14                      | 54                     | -14.86      | -                   | -              | 203            | 127         | H        |
| 4      | * 2.39          | 33.09                | VA1T | 32.3         | -26.2                  | 39.19                      | 54                     | -14.81      | -                   | -              | 203            | 127         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cb/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-----------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 45.36                | Pk   | 32.3           | -26.2                 | 51.46                      | -                      | -           | 74                  | -22.54         | 136            | 130         | V        |
| 2      | * 2.378         | 46.56                | Pk   | 32.2           | -26.2                 | 52.56                      | -                      | -           | 74                  | -21.44         | 136            | 130         | V        |
| 3      | * 2.39          | 33.02                | VA1T | 32.3           | -26.2                 | 39.12                      | 54                     | -14.88      | -                   | -              | 136            | 130         | V        |
| 4      | * 2.389         | 33.07                | VA1T | 32.3           | -26.2                 | 39.17                      | 54                     | -14.83      | -                   | -              | 136            | 130         | V        |

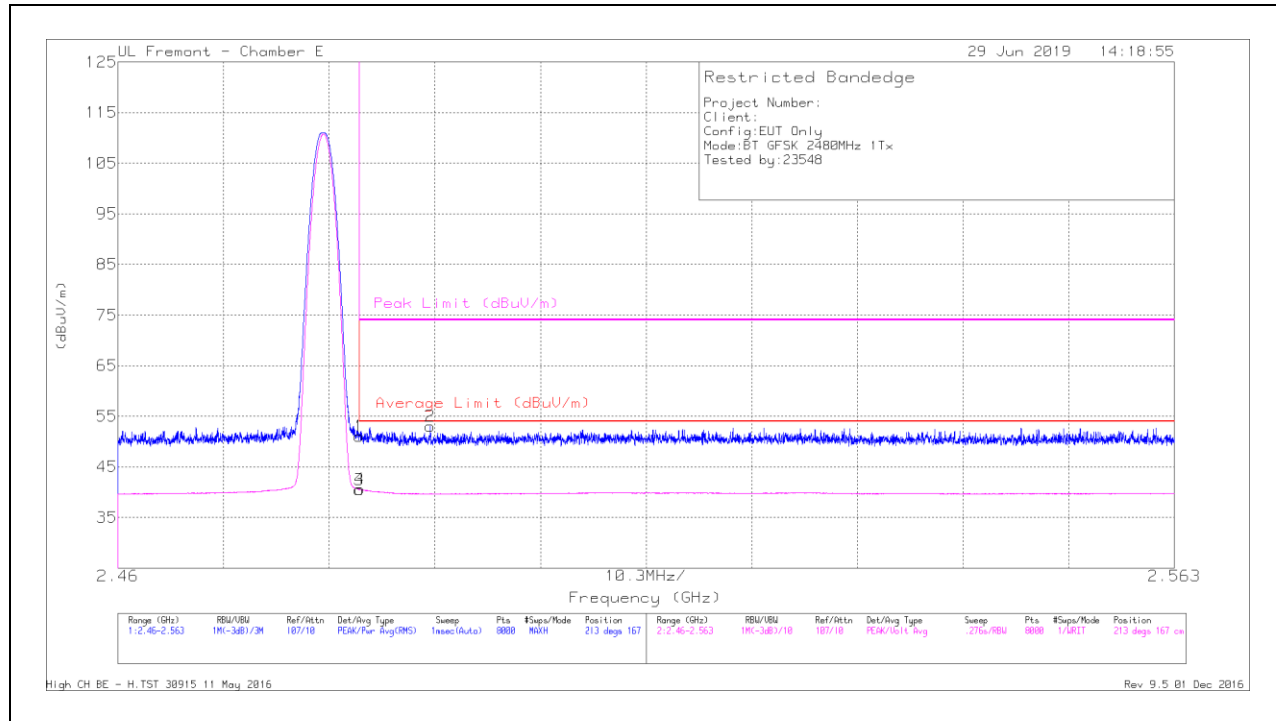
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

# **BANDEDGE (HIGH CHANNEL)**

## **HORIZONTAL RESULT**



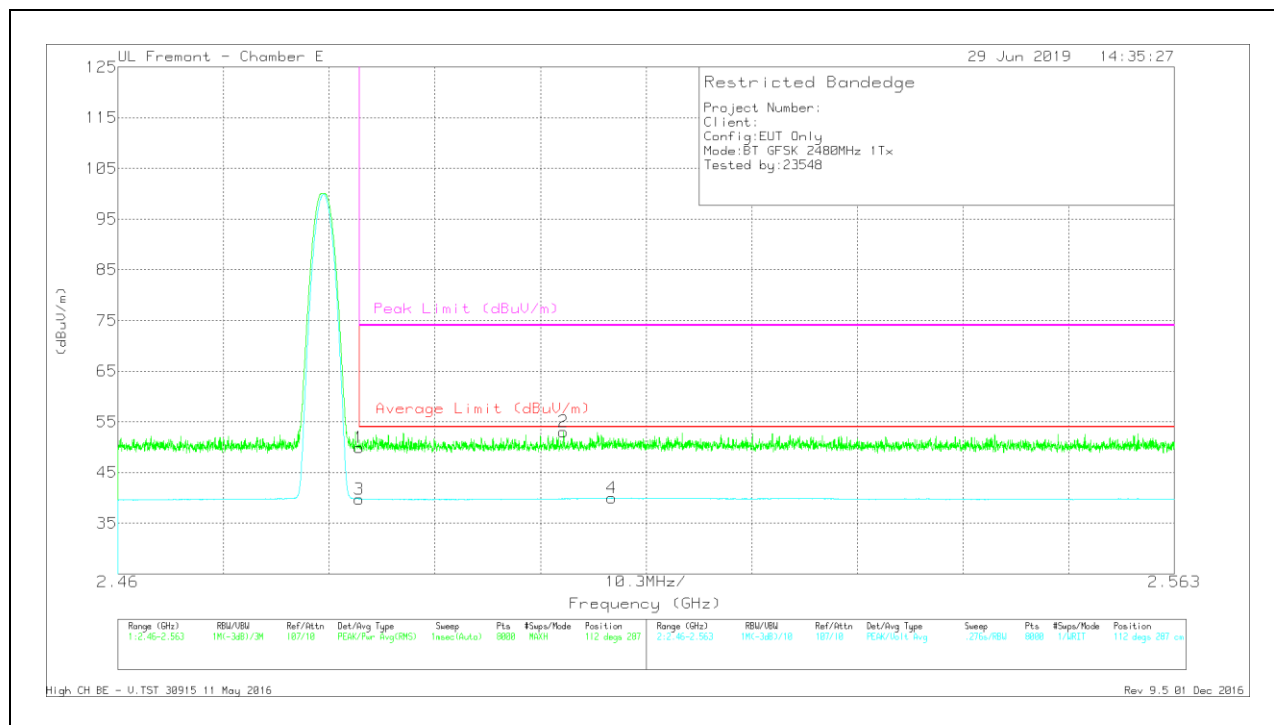
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 44.57                | Pk   | 32.8           | -26.3                  | 51.07                      | -                      | -           | 74                  | -22.93         | 213            | 167         | H        |
| 2      | * 2.49          | 46.52                | Pk   | 32.8           | -26.3                  | 53.02                      | -                      | -           | 74                  | -20.98         | 213            | 167         | H        |
| 3      | * 2.484         | 34.03                | VA1T | 32.8           | -26.3                  | 40.53                      | 54                     | -13.47      | -                   | -              | 213            | 167         | H        |
| 4      | * 2.484         | 34.05                | VA1T | 32.8           | -26.3                  | 40.55                      | 54                     | -13.45      | -                   | -              | 213            | 167         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 43.44                | Pk   | 32.8           | -26.3                  | 49.94                      | -                      | -           | 74                  | -24.06         | 112            | 287         | V        |
| 3      | * 2.484         | 33.26                | VA1T | 32.8           | -26.3                  | 39.76                      | 54                     | -14.24      | -                   | -              | 112            | 287         | V        |
| 2      | 2.503           | 46.48                | Pk   | 32.9           | -26.3                  | 53.08                      | -                      | -           | 74                  | -20.92         | 112            | 287         | V        |
| 4      | 2.508           | 33.26                | VA1T | 32.9           | -26.2                  | 39.96                      | 54                     | -14.04      | -                   | -              | 112            | 287         | V        |

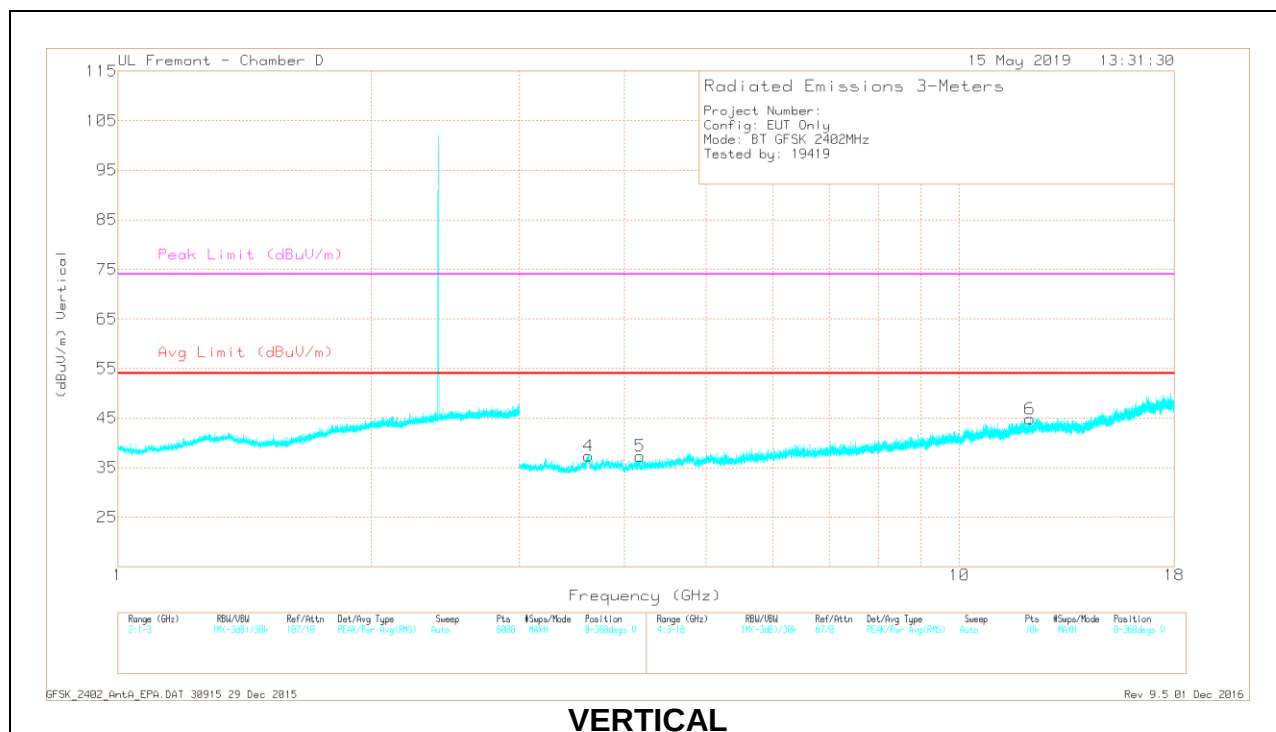
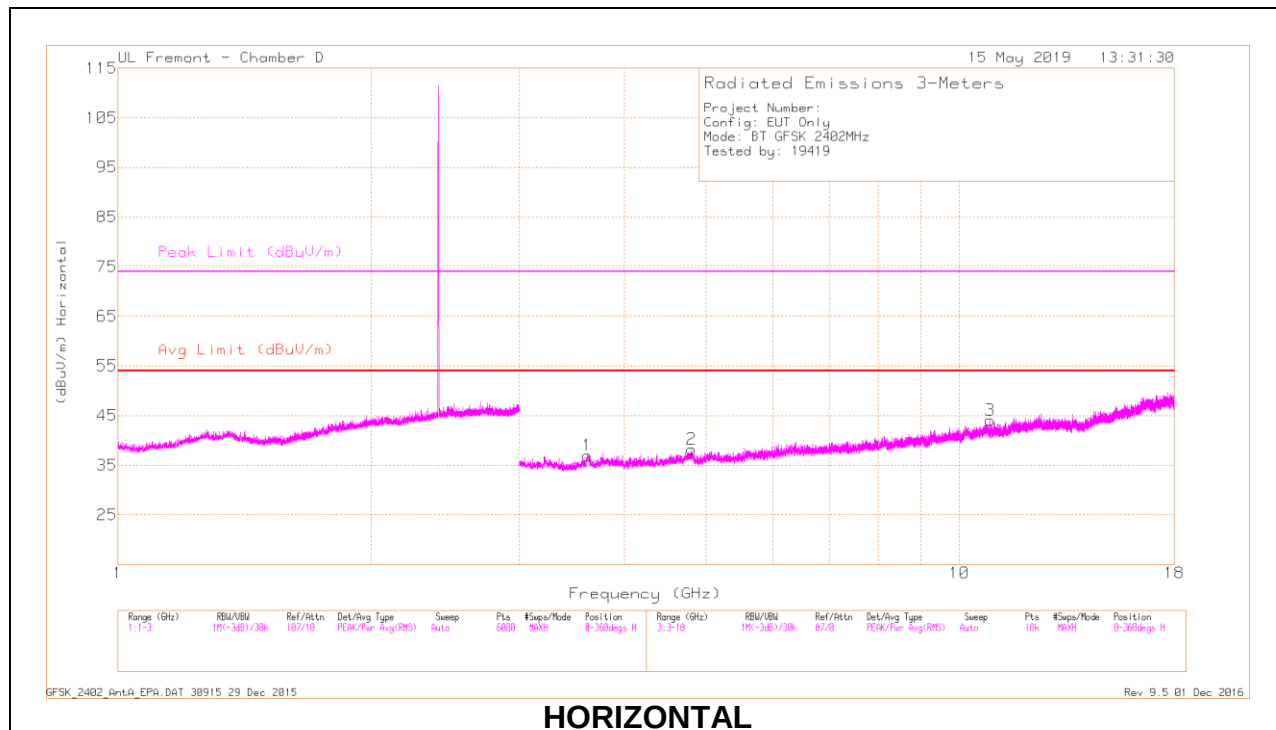
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL RESULTS



## RADIATED EMISSIONS

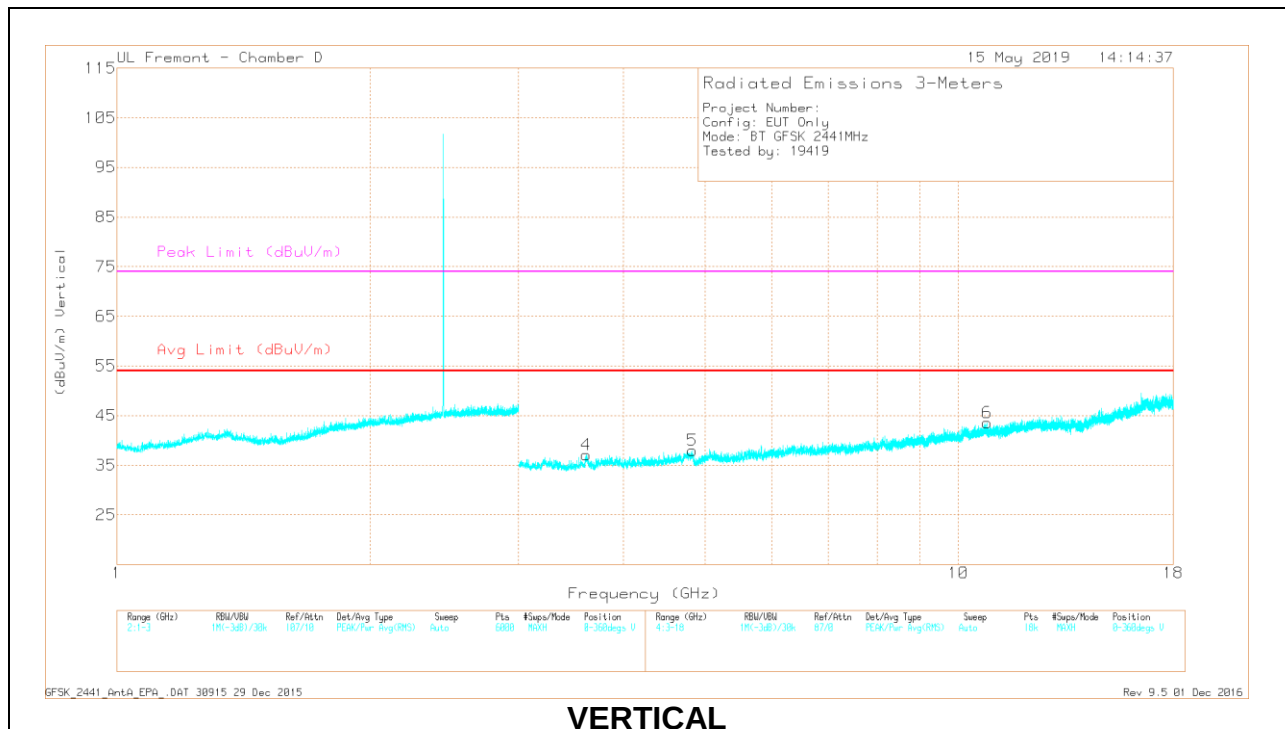
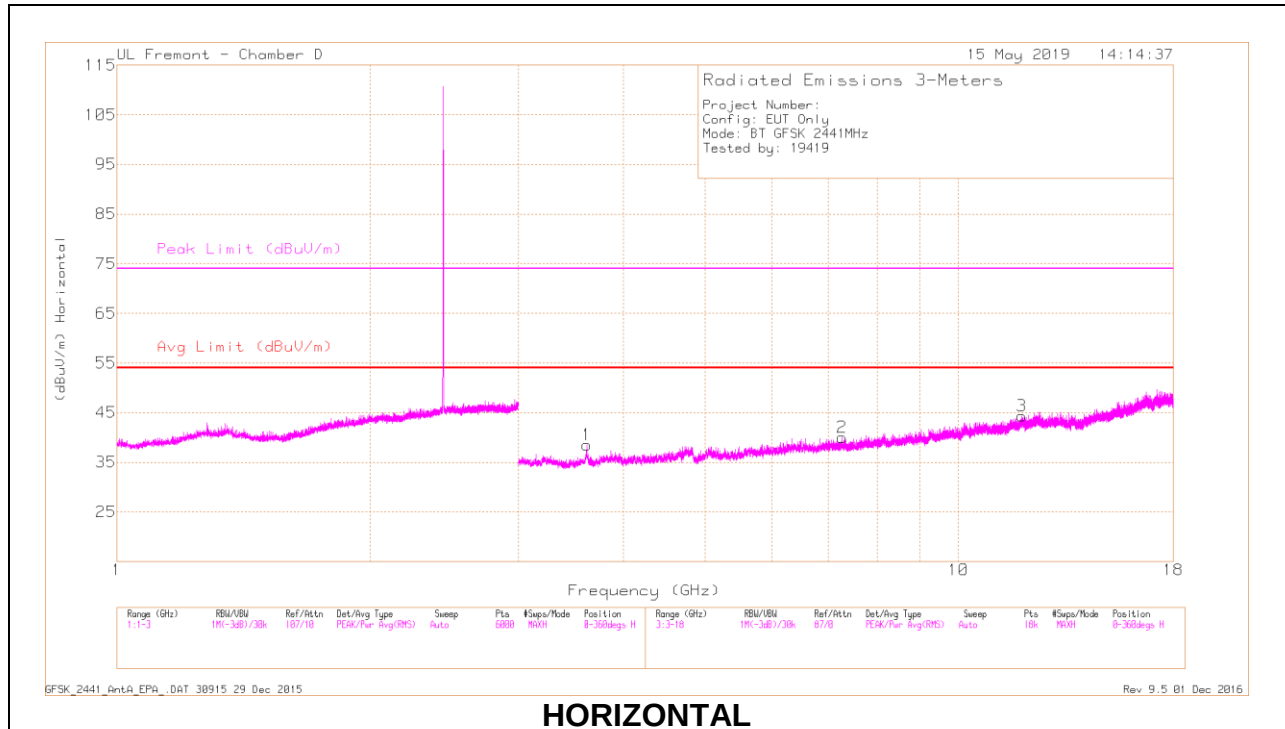
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cb/Filt/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-----------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.613         | 38.5                 | PKFH | 33.4           | -28.4                 | 43.5                       | -                  | -           | 74                  | -30.5          | 65             | 201         | H        |
|        | * 3.613         | 25.41                | VA1T | 33.4           | -28.4                 | 30.41                      | 54                 | -23.59      | -                   | -              | 65             | 201         | H        |
| 2      | * 4.806         | 38.01                | PKFH | 34.1           | -27                   | 45.11                      | -                  | -           | 74                  | -28.89         | 143            | 113         | H        |
|        | * 4.804         | 24.49                | VA1T | 34.1           | -26.9                 | 31.69                      | 54                 | -22.31      | -                   | -              | 143            | 113         | H        |
| 3      | * 10.866        | 33.35                | PKFH | 37.9           | -21.7                 | 49.55                      | -                  | -           | 74                  | -24.45         | 15             | 119         | H        |
|        | * 10.867        | 17.93                | VA1T | 37.8           | -21.6                 | 34.13                      | 54                 | -19.87      | -                   | -              | 15             | 119         | H        |
| 4      | * 3.623         | 38.52                | PKFH | 33.3           | -28.5                 | 43.32                      | -                  | -           | 74                  | -30.68         | 53             | 114         | V        |
|        | * 3.625         | 25.58                | VA1T | 33.2           | -28.6                 | 30.18                      | 54                 | -23.82      | -                   | -              | 53             | 114         | V        |
| 5      | * 4.173         | 37.57                | PKFH | 33.3           | -27.6                 | 43.27                      | -                  | -           | 74                  | -30.73         | 306            | 186         | V        |
|        | * 4.174         | 24.67                | VA1T | 33.3           | -27.7                 | 30.27                      | 54                 | -23.73      | -                   | -              | 306            | 186         | V        |
| 6      | * 12.128        | 33.58                | PKFH | 38.8           | -21.6                 | 50.78                      | -                  | -           | 74                  | -23.22         | 148            | 387         | V        |
|        | * 12.126        | 18.75                | VA1T | 38.8           | -21.6                 | 35.95                      | 54                 | -18.05      | -                   | -              | 148            | 387         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## MID CHANNEL RESULTS





## RADIATED EMISSIONS

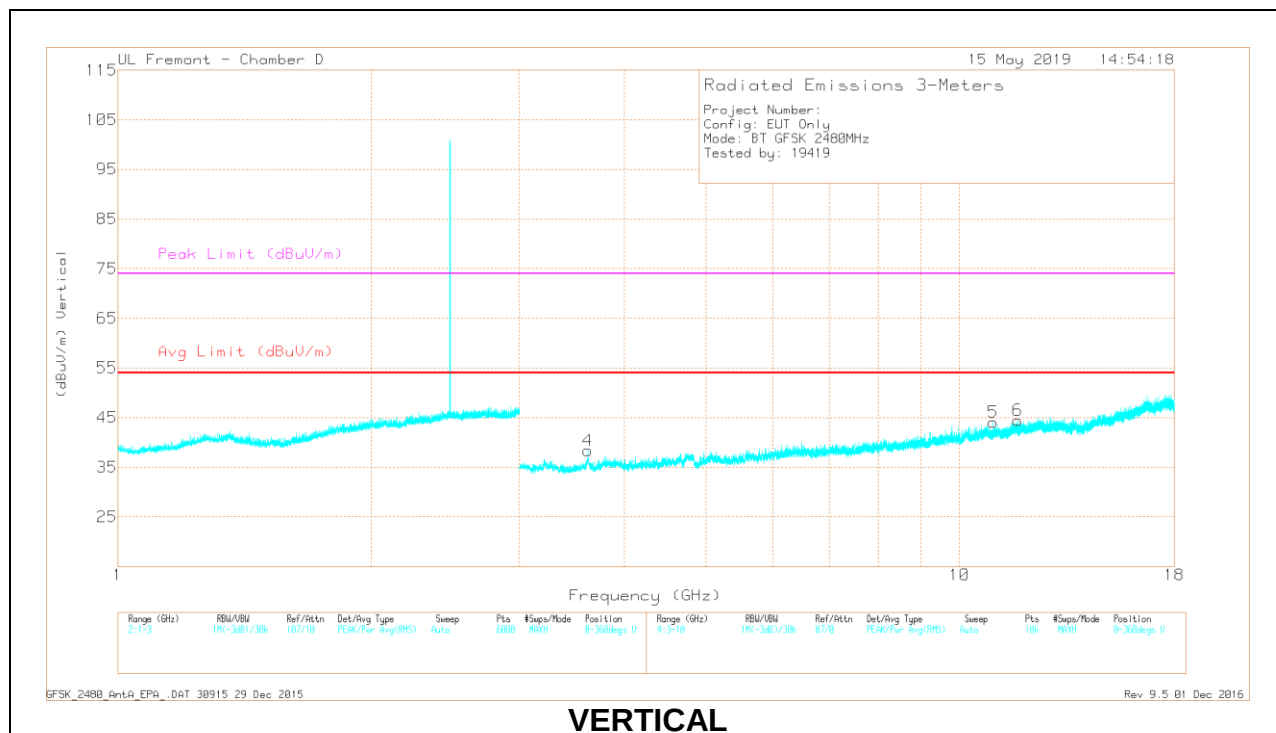
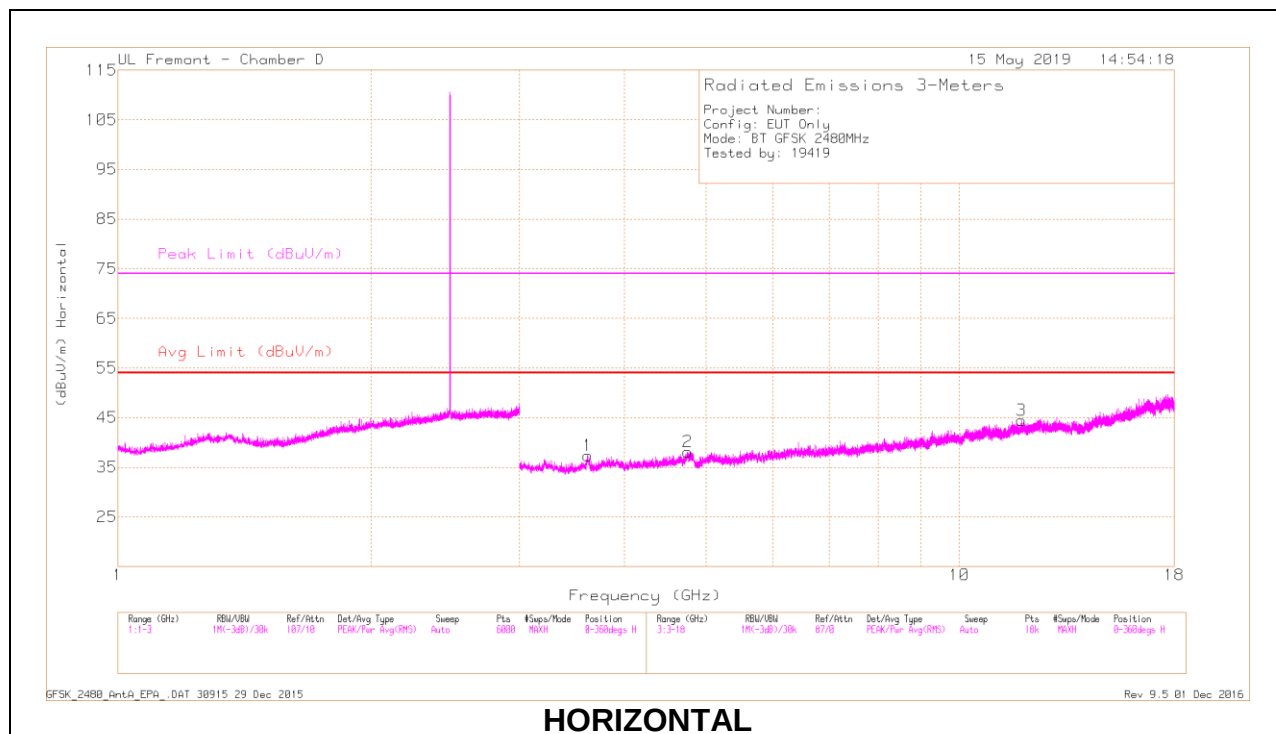
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.614         | 38.16                | PKFH | 33.5           | -28.4                   | 43.26                      | -                  | -           | 74                  | -30.74         | 53             | 244         | H        |
|        | * 3.617         | 25.74                | VA1T | 33.6           | -28.4                   | 30.94                      | 54                 | -23.06      | -                   | -              | 53             | 244         | H        |
| 2      | * 7.279         | 35.26                | PKFH | 35.4           | -24.5                   | 46.16                      | -                  | -           | 74                  | -27.84         | 304            | 349         | H        |
|        | * 7.278         | 21.94                | VA1T | 35.4           | -24.5                   | 32.84                      | 54                 | -21.16      | -                   | -              | 304            | 349         | H        |
| 3      | * 11.899        | 32.77                | PKFH | 38.6           | -21                     | 50.37                      | -                  | -           | 74                  | -23.63         | 139            | 320         | H        |
|        | * 11.9          | 18.66                | VA1T | 38.6           | -21.1                   | 36.16                      | 54                 | -17.84      | -                   | -              | 139            | 320         | H        |
| 4      | * 3.612         | 38.05                | PKFH | 33.4           | -28.3                   | 43.15                      | -                  | -           | 74                  | -30.85         | 197            | 135         | V        |
|        | * 3.612         | 25.48                | VA1T | 33.4           | -28.4                   | 30.48                      | 54                 | -23.52      | -                   | -              | 197            | 135         | V        |
| 5      | * 4.831         | 38.32                | PKFH | 34             | -27.3                   | 45.02                      | -                  | -           | 74                  | -28.98         | 6              | 328         | V        |
|        | * 4.833         | 25.18                | VA1T | 34             | -27.3                   | 31.88                      | 54                 | -22.12      | -                   | -              | 6              | 328         | V        |
| 6      | * 10.82         | 32.87                | PKFH | 37.8           | -21.4                   | 49.27                      | -                  | -           | 74                  | -24.73         | 185            | 185         | V        |
|        | * 10.819        | 17.66                | VA1T | 37.8           | -21.4                   | 34.06                      | 54                 | -19.94      | -                   | -              | 185            | 185         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HIGH CHANNEL RESULTS



## RADIATED EMISSIONS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.616         | 38.22                | PKFH | 33.6           | -28.4                   | 43.42                      | -                  | -           | 74                  | -30.58         | 196            | 129         | H        |
|        | * 3.62          | 25.68                | VA1T | 33.5           | -28.4                   | 30.78                      | 54                 | -23.22      | -                   | -              | 196            | 129         | H        |
| 2      | * 4.757         | 37.03                | PKFH | 34             | -26.5                   | 44.53                      | -                  | -           | 74                  | -29.47         | 139            | 142         | H        |
|        | * 4.756         | 24.06                | VA1T | 34             | -26.5                   | 31.56                      | 54                 | -22.44      | -                   | -              | 139            | 142         | H        |
| 3      | * 11.852        | 33.17                | PKFH | 38.5           | -21.3                   | 50.37                      | -                  | -           | 74                  | -23.63         | 98             | 182         | H        |
|        | * 11.854        | 18.82                | VA1T | 38.5           | -21.3                   | 36.02                      | 54                 | -17.98      | -                   | -              | 98             | 182         | H        |
| 4      | * 3.617         | 38.74                | PKFH | 33.6           | -28.4                   | 43.94                      | -                  | -           | 74                  | -30.06         | 80             | 143         | V        |
|        | * 3.619         | 25.58                | VA1T | 33.5           | -28.4                   | 30.68                      | 54                 | -23.32      | -                   | -              | 80             | 143         | V        |
| 5      | * 10.961        | 32.98                | PKFH | 37.7           | -21.6                   | 49.08                      | -                  | -           | 74                  | -24.92         | 160            | 110         | V        |
|        | * 10.96         | 18.34                | VA1T | 37.7           | -21.7                   | 34.34                      | 54                 | -19.66      | -                   | -              | 160            | 110         | V        |
| 6      | * 11.725        | 33.75                | PKFH | 38.4           | -21.9                   | 50.25                      | -                  | -           | 74                  | -23.75         | 142            | 255         | V        |
|        | * 11.724        | 19                   | VA1T | 38.4           | -21.9                   | 35.5                       | 54                 | -18.5       | -                   | -              | 142            | 255         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

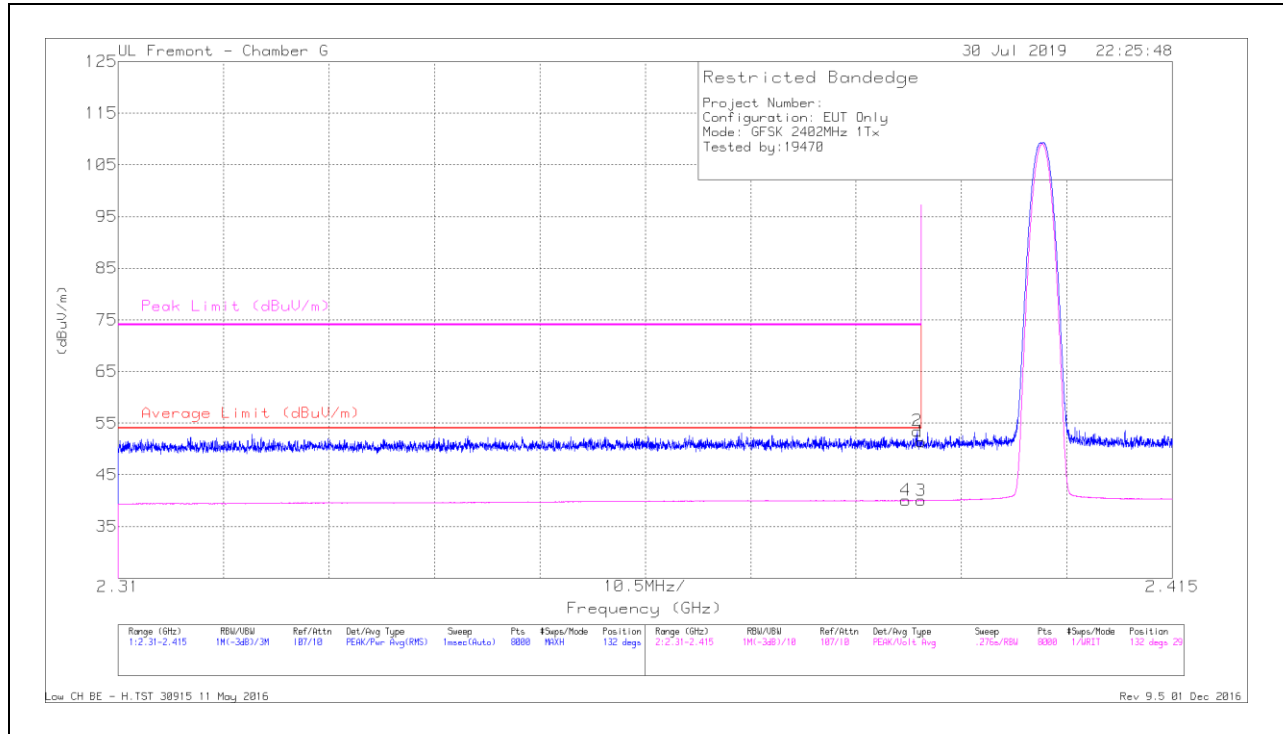
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## 9.1.2. ANTENNA 3, HIGH POWER BASIC DATA RATE GFSK MODULATION

### BANDEDGE (LOW CHANNEL)

### HORIZONTAL RESULT



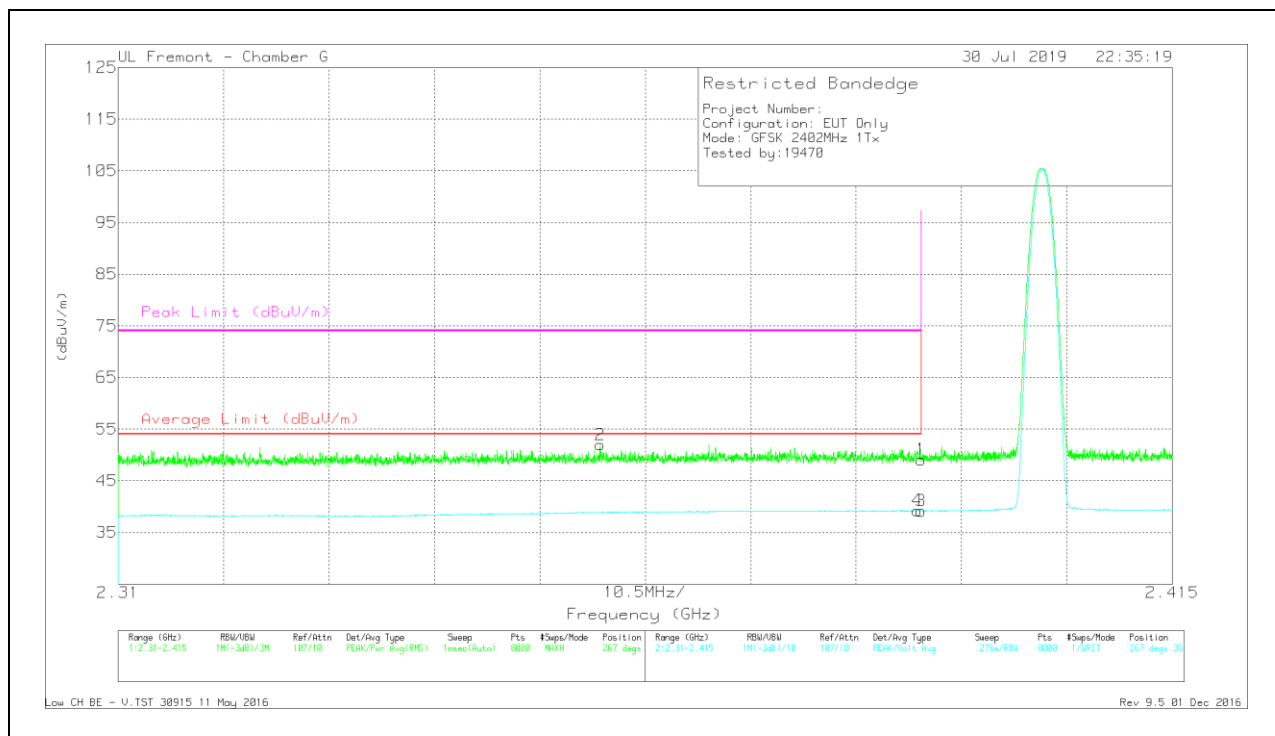
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T136 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 41.68                | Pk   | 31.9           | -22.2                  | 51.38                      | -                      | -           | 74                  | -22.62         | 132            | 291         | H        |
| 2      | * 2.39          | 43.8                 | Pk   | 31.9           | -22.2                  | 53.5                       | -                      | -           | 74                  | -20.5          | 132            | 291         | H        |
| 3      | * 2.39          | 30.33                | VA1T | 31.9           | -22.2                  | 40.03                      | 54                     | -13.97      | -                   | -              | 132            | 291         | H        |
| 4      | * 2.388         | 30.37                | VA1T | 31.9           | -22.2                  | 40.07                      | 54                     | -13.93      | -                   | -              | 132            | 291         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T136 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 2.358         | 42.38                | Pk   | 31.8           | -22.2                  | 51.98                      | -                      | -           | 74                  | -22.02         | 267            | 393         | V        |
| 1      | * 2.39          | 39.39                | Pk   | 31.9           | -22.2                  | 49.09                      | -                      | -           | 74                  | -24.91         | 267            | 393         | V        |
| 3      | * 2.39          | 29.46                | VA1T | 31.9           | -22.2                  | 39.16                      | 54                     | -14.84      | -                   | -              | 267            | 393         | V        |
| 4      | * 2.39          | 29.52                | VA1T | 31.9           | -22.2                  | 39.22                      | 54                     | -14.78      | -                   | -              | 267            | 393         | V        |

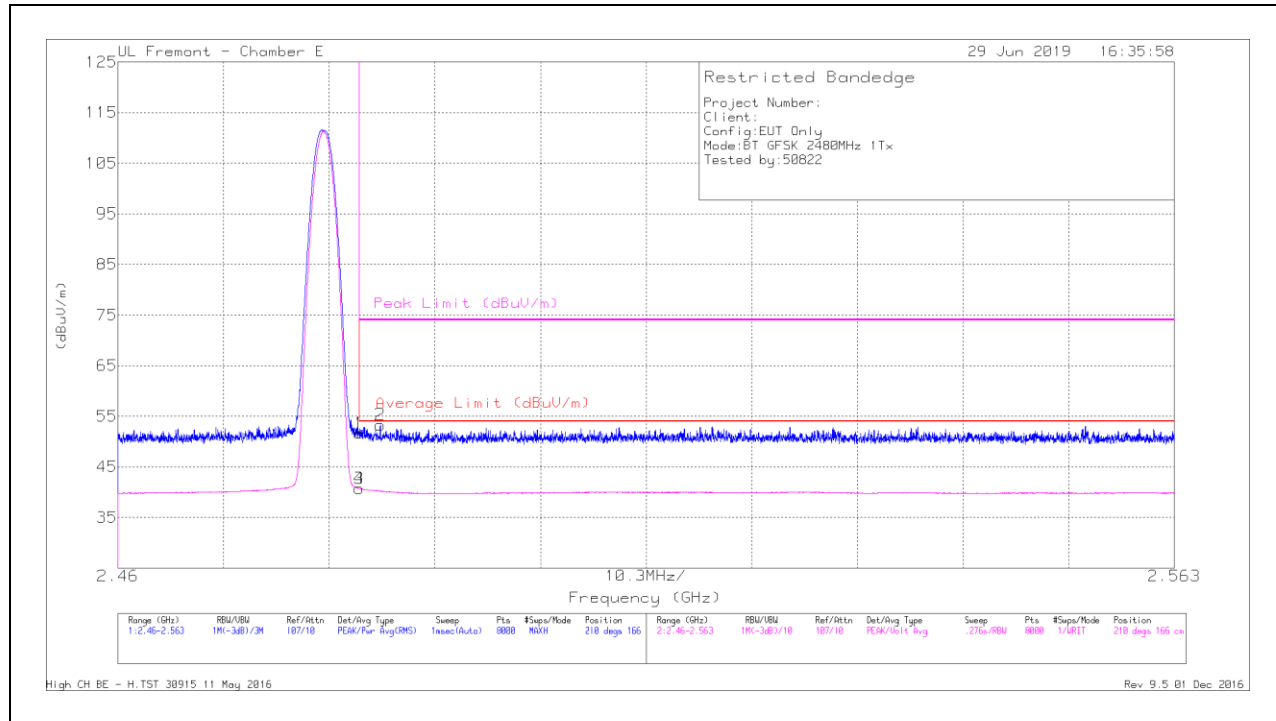
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

# **BANDEDGE (HIGH CHANNEL)**

## **HORIZONTAL RESULT**



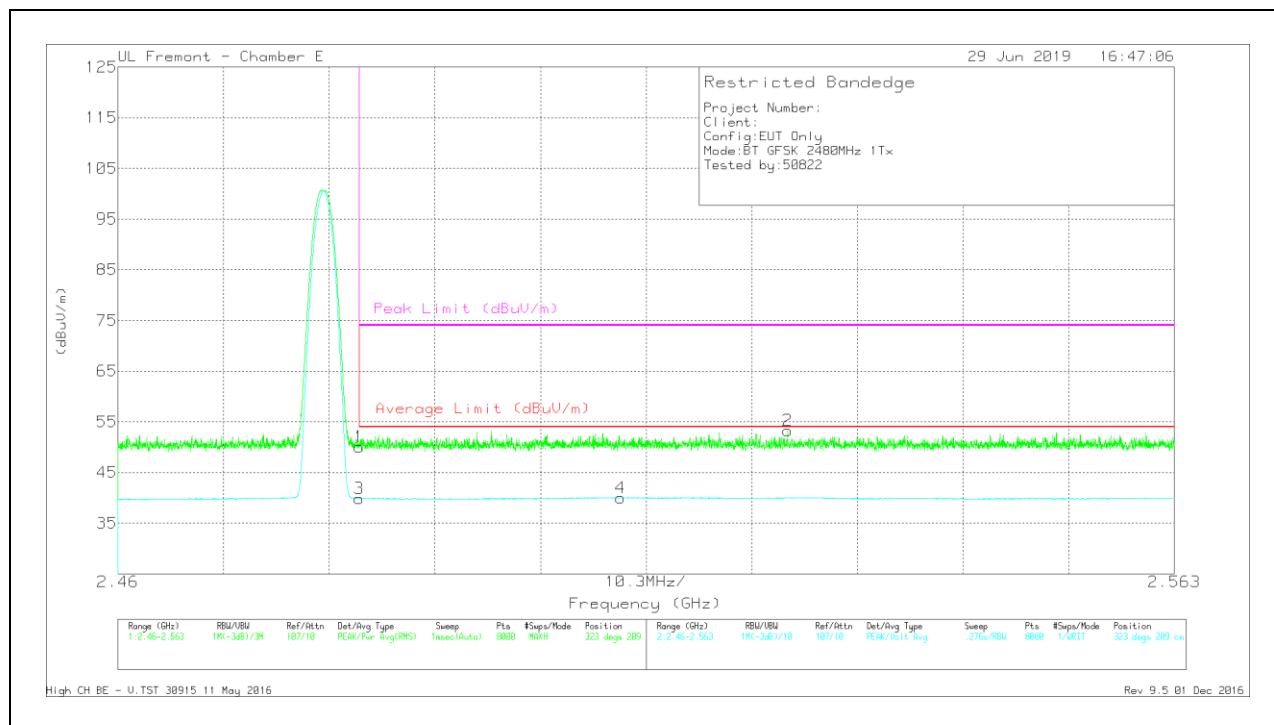
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 45.21                | Pk   | 32.8           | -26.3                  | 51.71                      | -                      | -           | 74                  | -22.29         | 210            | 166         | H        |
| 2      | * 2.486         | 46.83                | Pk   | 32.8           | -26.3                  | 53.33                      | -                      | -           | 74                  | -20.67         | 210            | 166         | H        |
| 3      | * 2.484         | 34.24                | VA1T | 32.8           | -26.3                  | 40.74                      | 54                     | -13.26      | -                   | -              | 210            | 166         | H        |
| 4      | * 2.484         | 34.25                | VA1T | 32.8           | -26.3                  | 40.75                      | 54                     | -13.25      | -                   | -              | 210            | 166         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 43.57                | Pk   | 32.8           | -26.3                  | 50.07                      | -                      | -           | 74                  | -23.93         | 323            | 209         | V        |
| 3      | * 2.484         | 33.39                | VA1T | 32.8           | -26.3                  | 39.89                      | 54                     | -14.11      | -                   | -              | 323            | 209         | V        |
| 4      | 2.509           | 33.34                | VA1T | 32.9           | -26.2                  | 40.04                      | 54                     | -13.96      | -                   | -              | 323            | 209         | V        |
| 2      | 2.525           | 46.6                 | Pk   | 32.9           | -26.2                  | 53.3                       | -                      | -           | 74                  | -20.7          | 323            | 209         | V        |

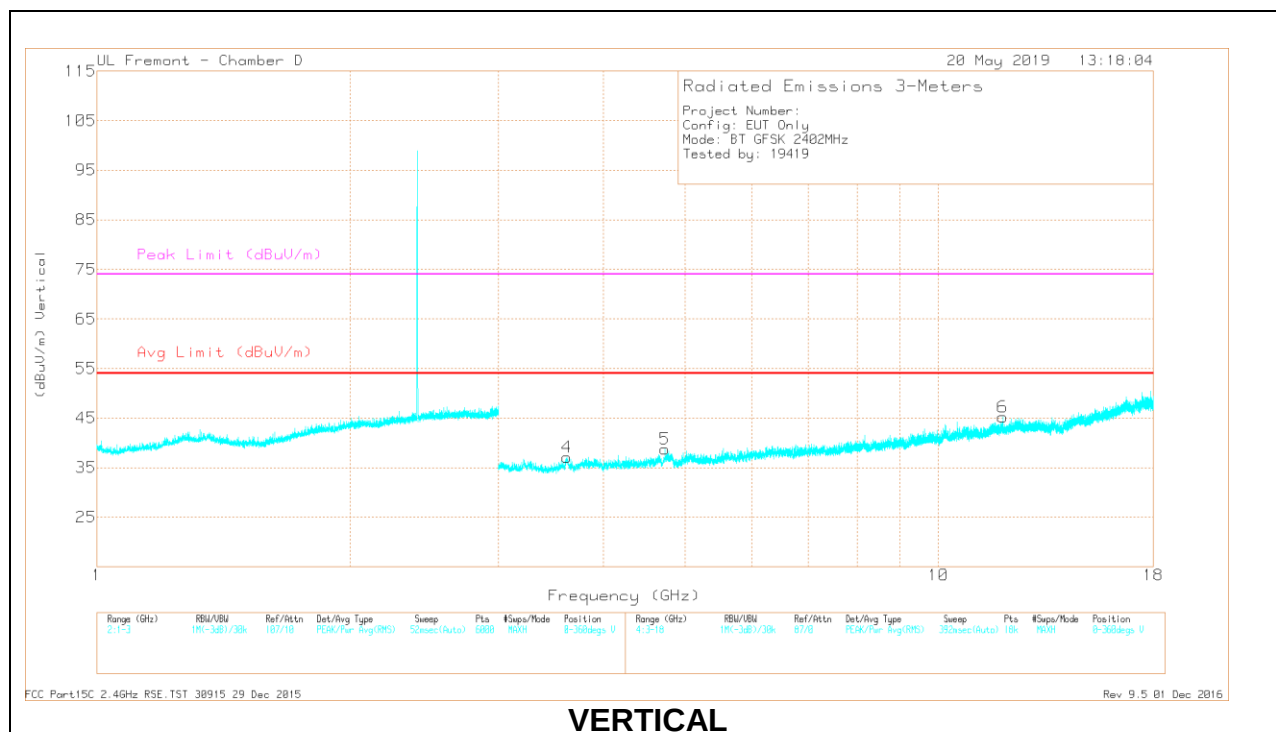
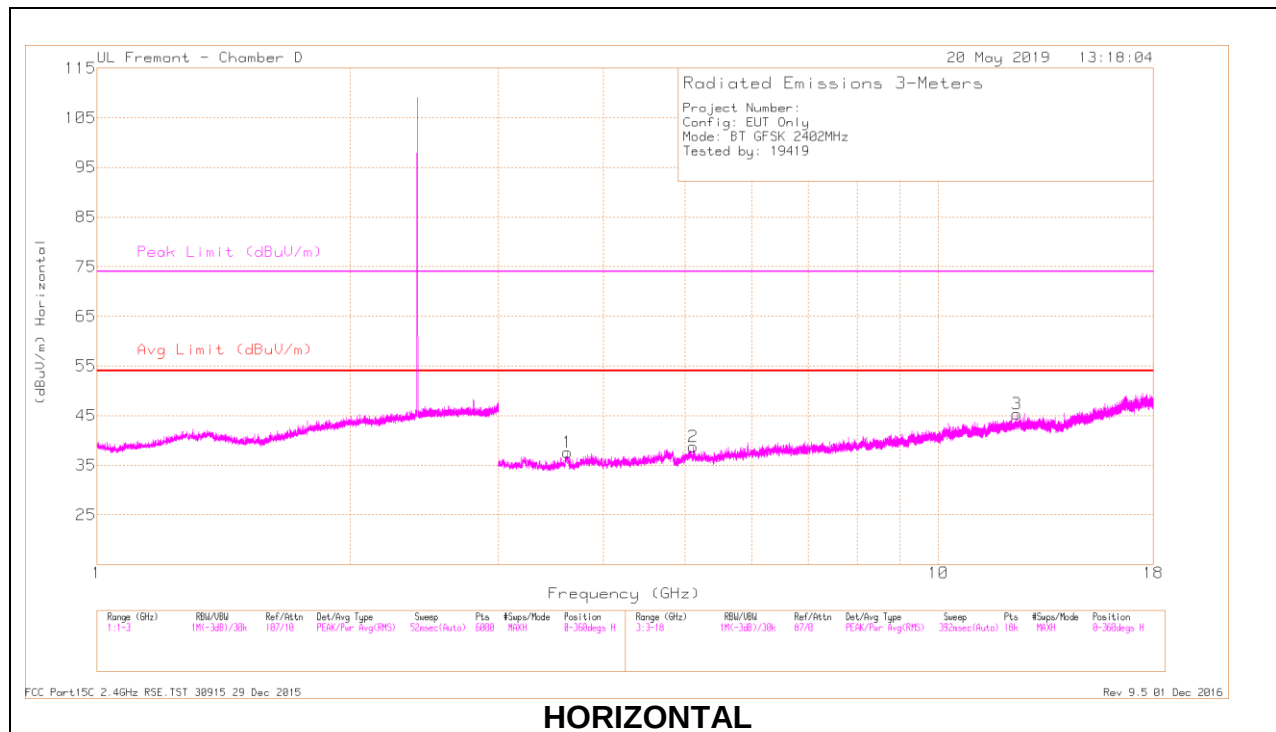
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL RESULTS





## RADIATED EMISSIONS

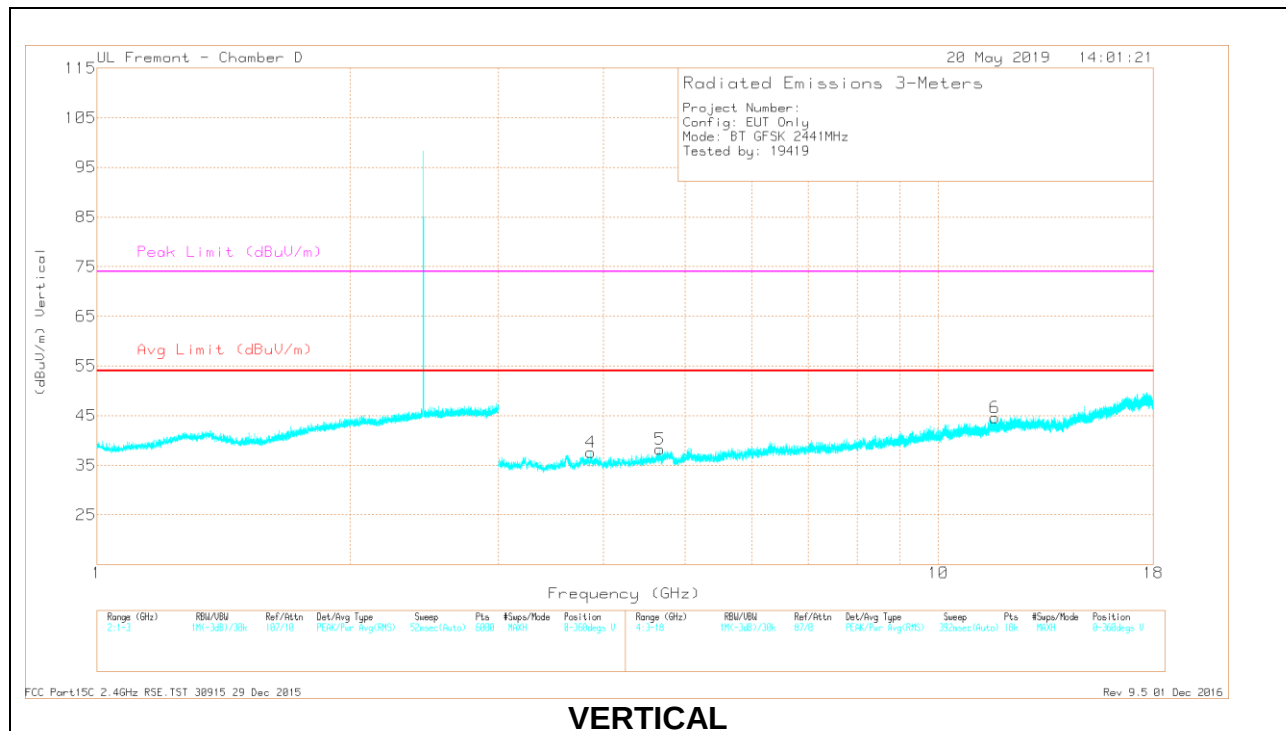
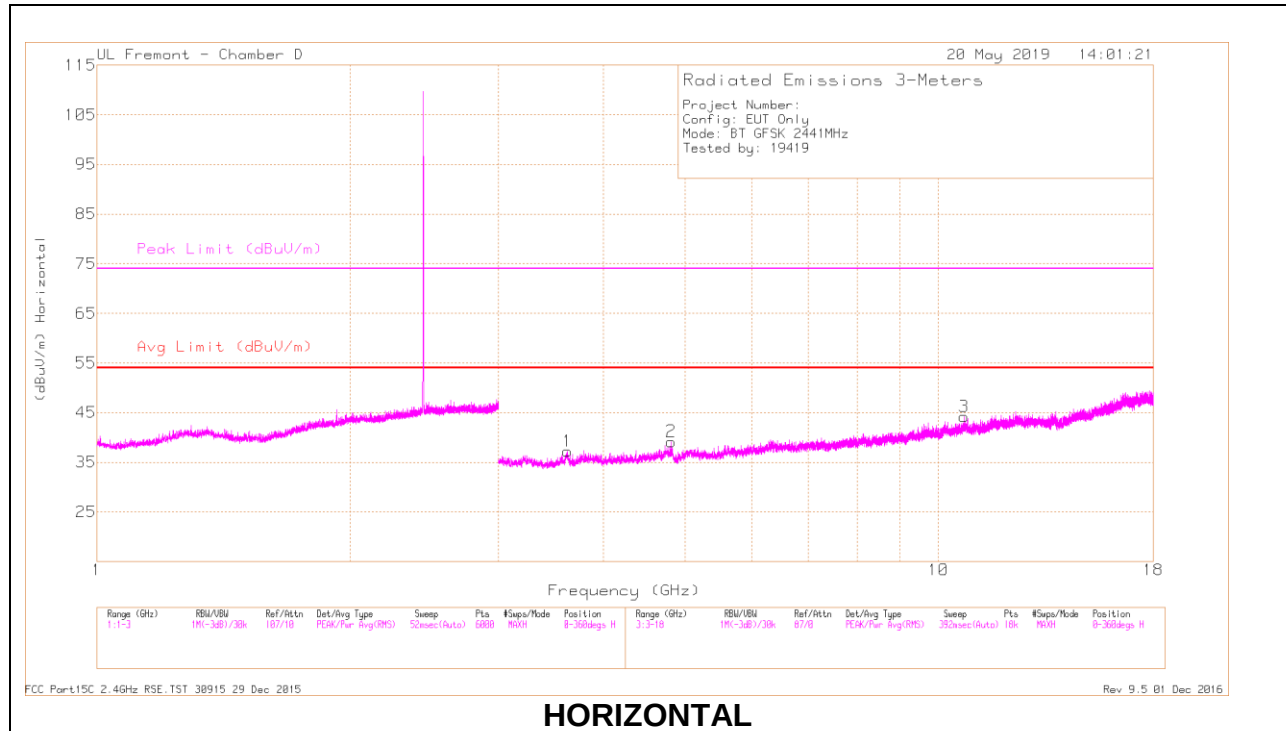
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cb/Filtr/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.624         | 39.16                | PKFH | 33.3           | -28.5                  | 43.96                      | -                  | -           | 74                  | -30.04         | 149            | 155         | H        |
|        | * 3.624         | 26                   | VA1T | 33.3           | -28.5                  | 30.8                       | 54                 | -23.2       | -                   | -              | 149            | 155         | H        |
| 2      | * 5.114         | 37.87                | PKFH | 34.1           | -27.4                  | 44.57                      | -                  | -           | 74                  | -29.43         | 247            | 178         | H        |
|        | * 5.115         | 24.79                | VA1T | 34.1           | -27.4                  | 31.49                      | 54                 | -22.51      | -                   | -              | 247            | 178         | H        |
| 3      | * 12.386        | 33.27                | PKFH | 38.9           | -21.2                  | 50.97                      | -                  | -           | 74                  | -23.03         | 360            | 188         | H        |
|        | * 12.387        | 19.04                | VA1T | 38.9           | -21.2                  | 36.74                      | 54                 | -17.26      | -                   | -              | 360            | 188         | H        |
| 4      | * 3.62          | 39.45                | PKFH | 33.5           | -28.4                  | 44.55                      | -                  | -           | 74                  | -29.45         | 208            | 161         | V        |
|        | * 3.62          | 26                   | VA1T | 33.5           | -28.4                  | 31.1                       | 54                 | -22.9       | -                   | -              | 208            | 161         | V        |
| 5      | * 4.732         | 36.48                | PKFH | 33.9           | -26.6                  | 43.78                      | -                  | -           | 74                  | -30.22         | 174            | 179         | V        |
|        | * 4.732         | 24.3                 | VA1T | 33.9           | -26.6                  | 31.6                       | 54                 | -22.4       | -                   | -              | 174            | 179         | V        |
| 6      | * 11.92         | 34.1                 | PKFH | 38.6           | -21.5                  | 51.2                       | -                  | -           | 74                  | -22.8          | 89             | 208         | V        |
|        | * 11.923        | 19.16                | VA1T | 38.6           | -21.6                  | 36.16                      | 54                 | -17.84      | -                   | -              | 89             | 208         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## MID CHANNEL RESULTS



### RADIATED EMISSIONS

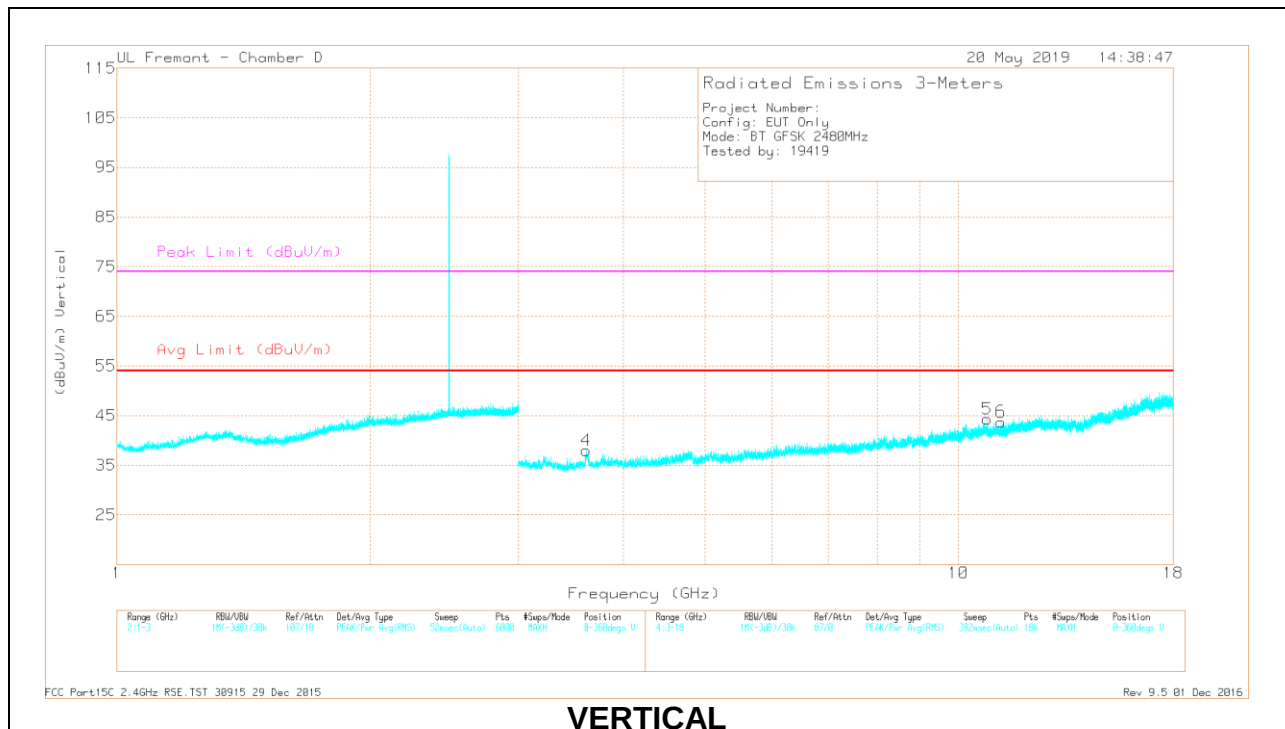
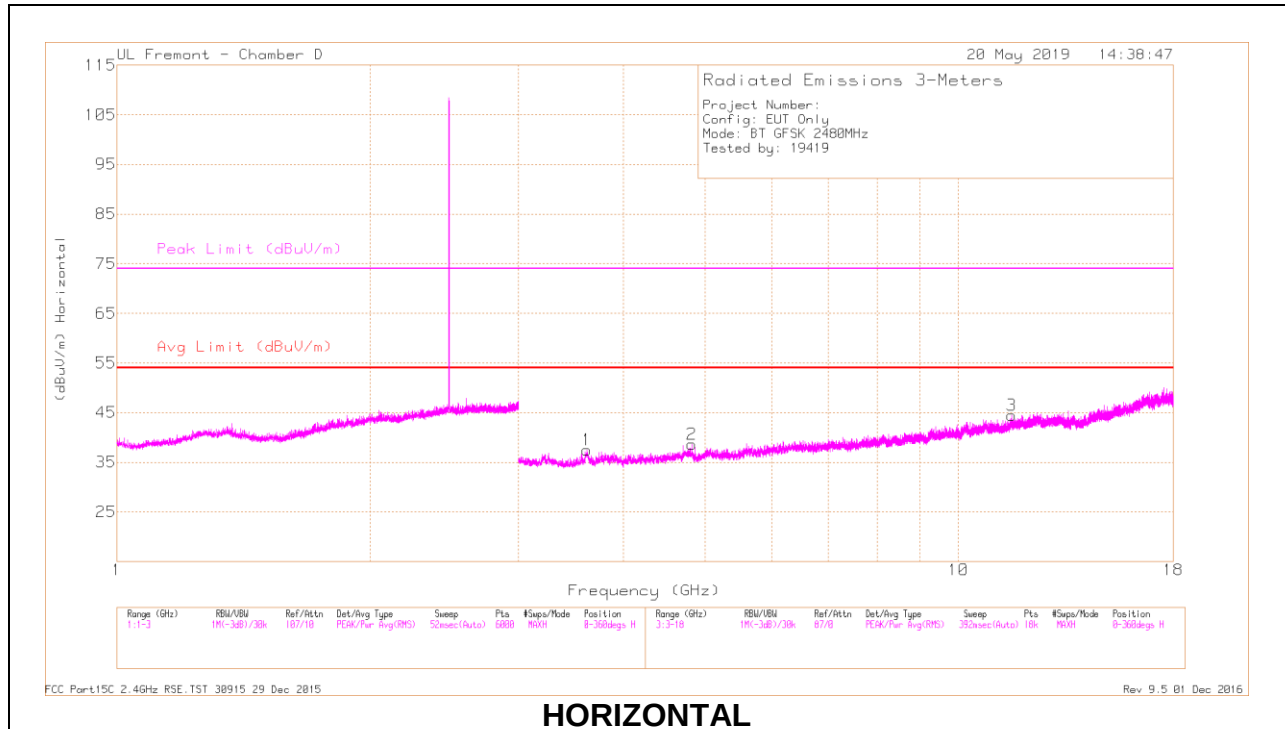
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cb1/Filtr/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.622         | 38.34                | PKFH | 33.4           | -28.5                   | 43.24                      | -                  | -           | 74                  | -30.76         | 173            | 205         | H        |
|        | * 3.625         | 25.59                | VA1T | 33.3           | -28.5                   | 30.39                      | 54                 | -23.61      | -                   | -              | 173            | 205         | H        |
| 2      | * 4.812         | 37.25                | PKFH | 34             | -26.9                   | 44.35                      | -                  | -           | 74                  | -29.65         | 360            | 339         | H        |
|        | * 4.814         | 24.41                | VA1T | 34             | -26.8                   | 31.61                      | 54                 | -22.39      | -                   | -              | 360            | 339         | H        |
| 3      | * 10.717        | 33.42                | PKFH | 37.9           | -21.1                   | 50.22                      | -                  | -           | 74                  | -23.78         | 182            | 308         | H        |
|        | * 10.719        | 18                   | VA1T | 37.8           | -21.1                   | 34.7                       | 54                 | -19.3       | -                   | -              | 182            | 308         | H        |
| 4      | * 3.864         | 38.22                | PKFH | 33.3           | -28.2                   | 43.32                      | -                  | -           | 74                  | -30.68         | 67             | 242         | V        |
|        | * 3.864         | 25.98                | VA1T | 33.3           | -28.2                   | 31.08                      | 54                 | -22.92      | -                   | -              | 67             | 242         | V        |
| 5      | * 4.668         | 38.33                | PKFH | 34             | -28.2                   | 44.13                      | -                  | -           | 74                  | -29.87         | 286            | 363         | V        |
|        | * 4.666         | 26.02                | VA1T | 34             | -28.2                   | 31.82                      | 54                 | -22.18      | -                   | -              | 286            | 363         | V        |
| 6      | * 11.662        | 33.47                | PKFH | 38.3           | -20.8                   | 50.97                      | -                  | -           | 74                  | -23.03         | 274            | 181         | V        |
|        | * 11.661        | 18.32                | VA1T | 38.3           | -20.8                   | 35.82                      | 54                 | -18.18      | -                   | -              | 274            | 181         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HIGH CHANNEL RESULTS



## RADIATED EMISSIONS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/ Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.619         | 37.95                | PKFH | 33.5           | -28.4                   | 43.05                      | -                  | -           | 74                  | -30.95         | 356            | 115         | H        |
|        | * 3.619         | 25.98                | VA1T | 33.5           | -28.4                   | 31.08                      | 54                 | -22.92      | -                   | -              | 356            | 115         | H        |
| 2      | * 4.823         | 38.46                | PKFH | 34             | -27.2                   | 45.26                      | -                  | -           | 74                  | -28.74         | 52             | 183         | H        |
|        | * 4.823         | 25.36                | VA1T | 34             | -27.2                   | 32.16                      | 54                 | -21.84      | -                   | -              | 52             | 183         | H        |
| 3      | * 11.566        | 33.17                | PKFH | 38.2           | -21.2                   | 50.17                      | -                  | -           | 74                  | -23.83         | 45             | 134         | H        |
|        | * 11.565        | 18.66                | VA1T | 38.2           | -21.2                   | 35.66                      | 54                 | -18.34      | -                   | -              | 45             | 134         | H        |
| 4      | * 3.608         | 37.7                 | PKFH | 33.2           | -28.4                   | 42.5                       | -                  | -           | 74                  | -31.5          | 16             | 400         | V        |
|        | * 3.611         | 25.53                | VA1T | 33.3           | -28.3                   | 30.53                      | 54                 | -23.47      | -                   | -              | 16             | 400         | V        |
| 5      | * 10.817        | 32.92                | PKFH | 37.8           | -21.3                   | 49.42                      | -                  | -           | 74                  | -24.58         | 143            | 261         | V        |
|        | * 10.814        | 17.81                | VA1T | 37.8           | -21.3                   | 34.31                      | 54                 | -19.69      | -                   | -              | 143            | 261         | V        |
| 6      | * 11.225        | 33.93                | PKFH | 37.8           | -22                     | 49.73                      | -                  | -           | 74                  | -24.27         | 199            | 382         | V        |
|        | * 11.225        | 18.93                | VA1T | 37.8           | -22                     | 34.73                      | 54                 | -19.27      | -                   | -              | 199            | 382         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

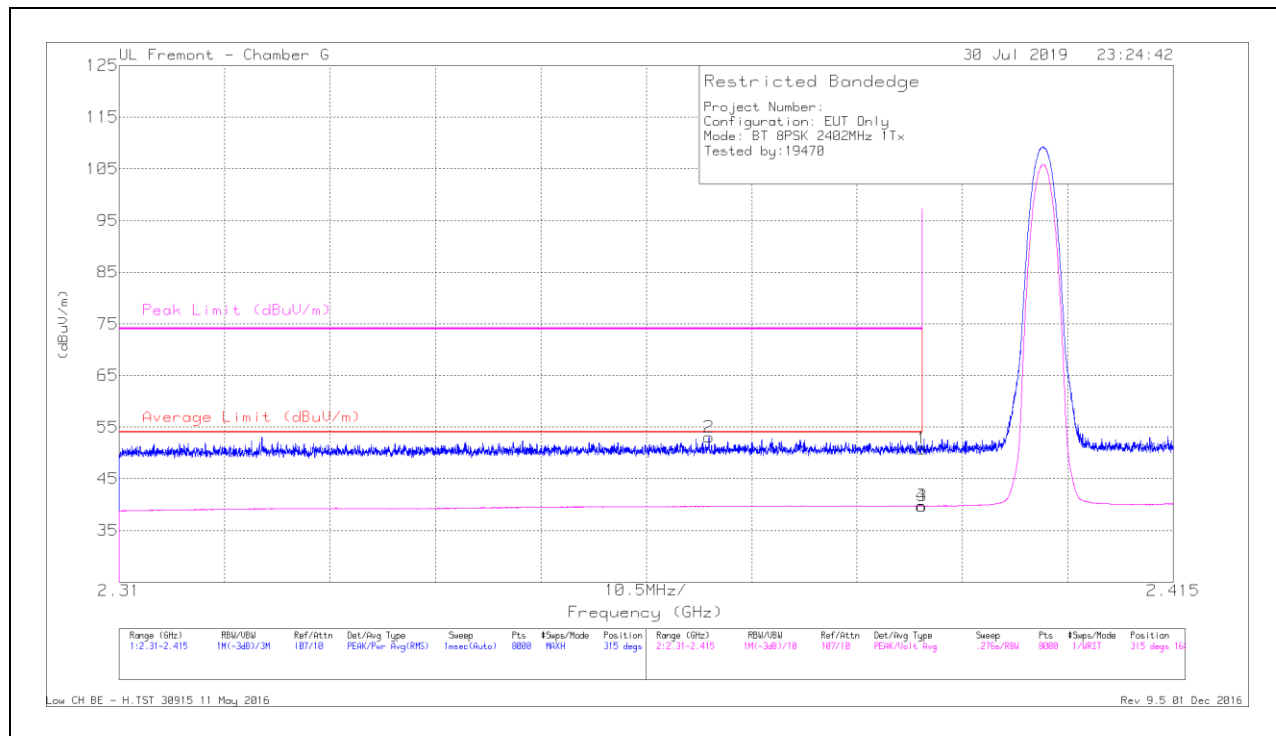
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

### 9.1.3. ANTENNA 4, HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

#### BANDEDGE (LOW CHANNEL)

#### HORIZONTAL RESULT



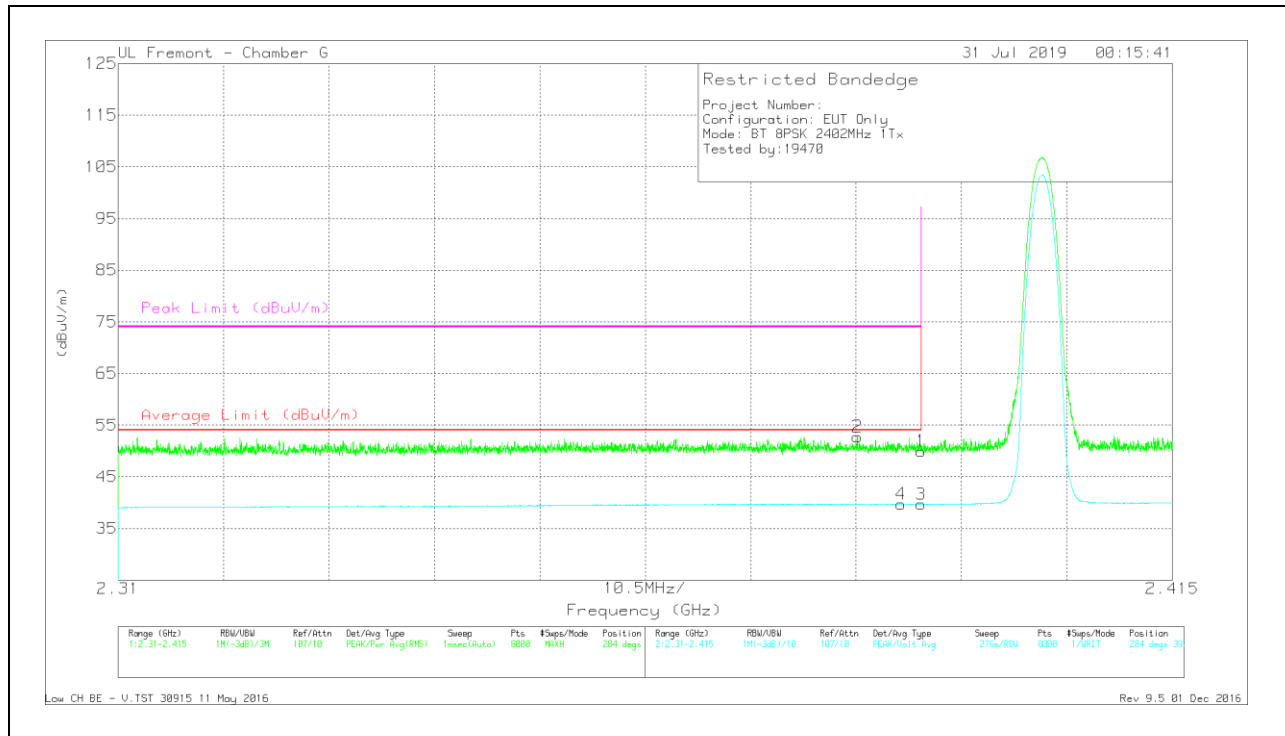
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T136 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 2.369         | 43.35                | Pk   | 31.9           | -22.2                  | 53.05                      | -                      | -           | 74                  | -20.95         | 315            | 168         | H        |
| 1      | * 2.39          | 41.13                | Pk   | 31.9           | -22.2                  | 50.83                      | -                      | -           | 74                  | -23.17         | 315            | 168         | H        |
| 3      | * 2.39          | 30.04                | VA1T | 31.9           | -22.2                  | 39.74                      | 54                     | -14.26      | -                   | -              | 315            | 168         | H        |
| 4      | * 2.39          | 30.07                | VA1T | 31.9           | -22.2                  | 39.77                      | 54                     | -14.23      | -                   | -              | 315            | 168         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average  $V_B=1/T_{on}$  where:  $T_{on}$  is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T136 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 40.26                | Pk   | 31.9           | -22.2                  | 49.96                      | -                      | -           | 74                  | -24.04         | 284            | 392         | V        |
| 2      | * 2.384         | 43.04                | Pk   | 31.9           | -22.2                  | 52.74                      | -                      | -           | 74                  | -21.26         | 284            | 392         | V        |
| 3      | * 2.39          | 29.97                | VA1T | 31.9           | -22.2                  | 39.67                      | 54                     | -14.33      | -                   | -              | 284            | 392         | V        |
| 4      | * 2.388         | 30.01                | VA1T | 31.9           | -22.2                  | 39.71                      | 54                     | -14.29      | -                   | -              | 284            | 392         | V        |

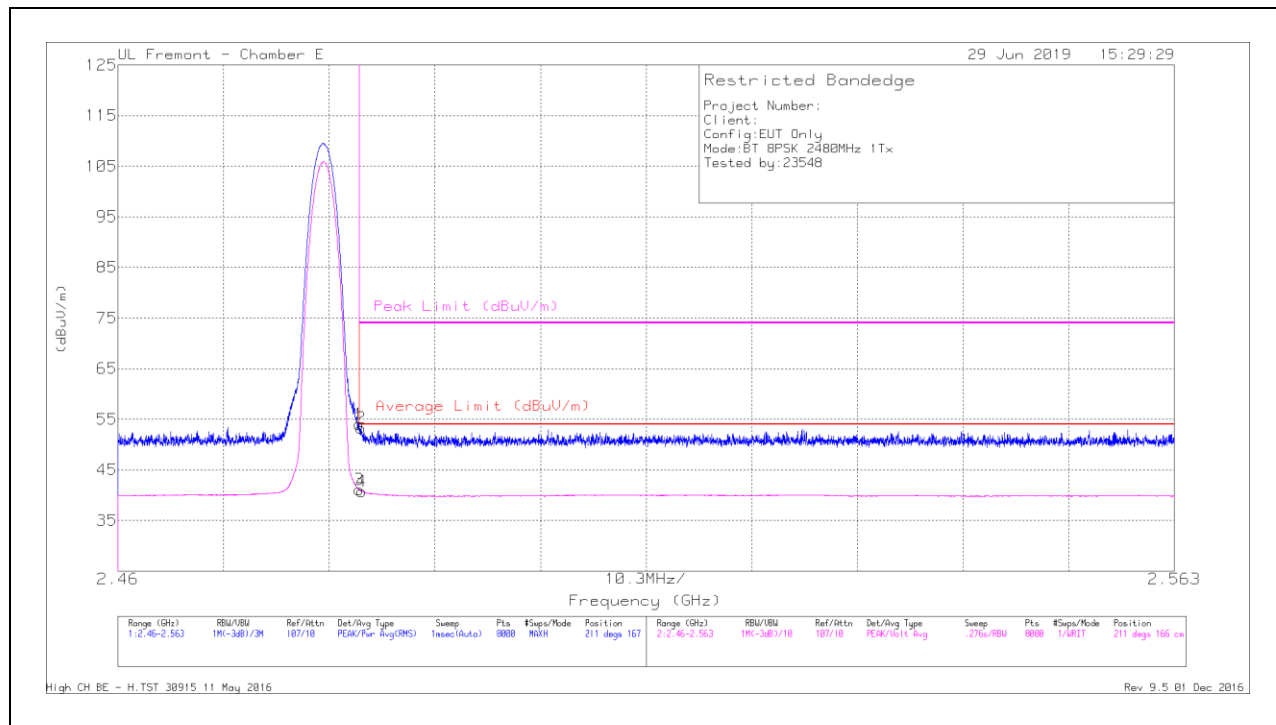
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average  $V_B = 1/T_{on}$  where:  $T_{on}$  is transmit duration

# **BANDEDGE (HIGH CHANNEL)**

## **HORIZONTAL RESULT**



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 47.49                | Pk   | 32.8           | -26.3                   | 53.99                      | -                      | -           | 74                  | -20.01         | 211            | 167         | H        |
| 2      | * 2.484         | 46.76                | Pk   | 32.8           | -26.3                   | 53.26                      | -                      | -           | 74                  | -20.74         | 211            | 167         | H        |
| 3      | * 2.484         | 34.62                | VA1T | 32.8           | -26.3                   | 41.12                      | 54                     | -12.88      | -                   | -              | 211            | 166         | H        |
| 4      | * 2.484         | 34.28                | VA1T | 32.8           | -26.3                   | 40.78                      | 54                     | -13.22      | -                   | -              | 211            | 166         | H        |

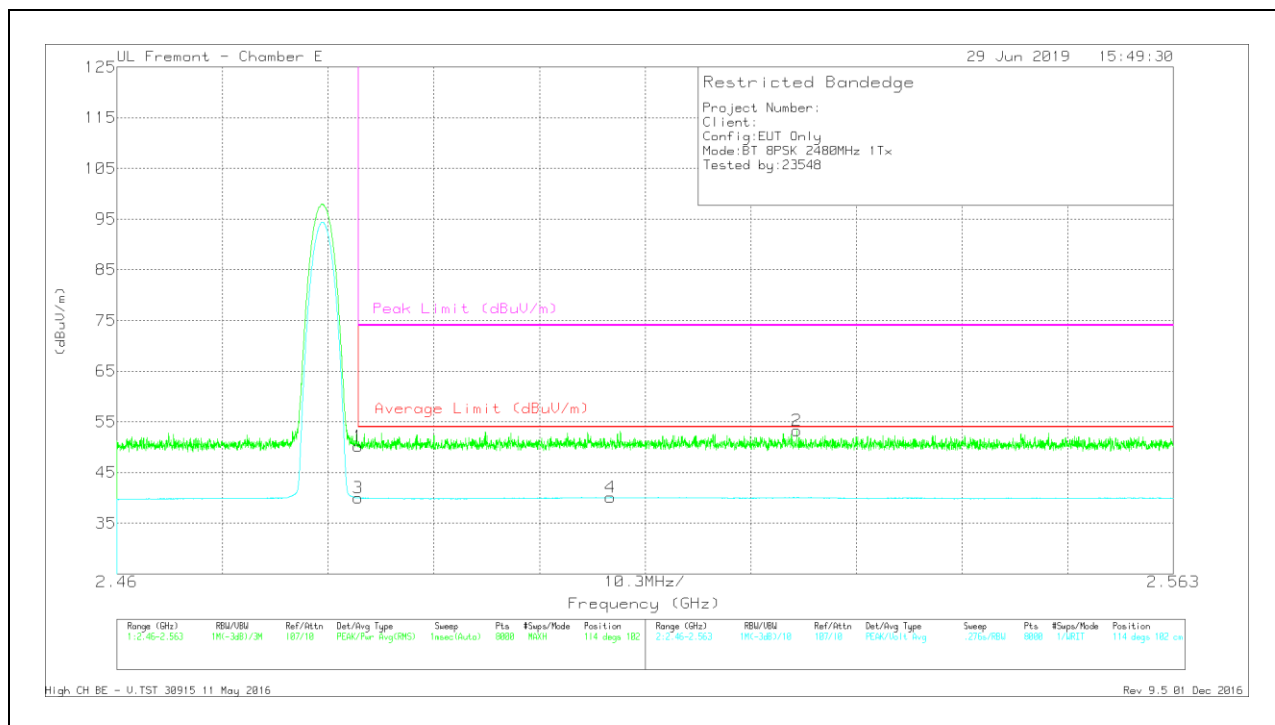
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration



## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Ftr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-----------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 43.72                | Pk   | 32.8           | -26.3                 | 50.22                      | -                      | -           | 74                  | -23.78         | 114            | 102         | V        |
| 3      | * 2.484         | 33.47                | VA1T | 32.8           | -26.3                 | 39.97                      | 54                     | -14.03      | -                   | -              | 114            | 102         | V        |
| 4      | 2.508           | 33.4                 | VA1T | 32.9           | -26.2                 | 40.1                       | 54                     | -13.9       | -                   | -              | 114            | 102         | V        |
| 2      | 2.526           | 46.57                | Pk   | 32.9           | -26.2                 | 53.27                      | -                      | -           | 74                  | -20.73         | 114            | 102         | V        |

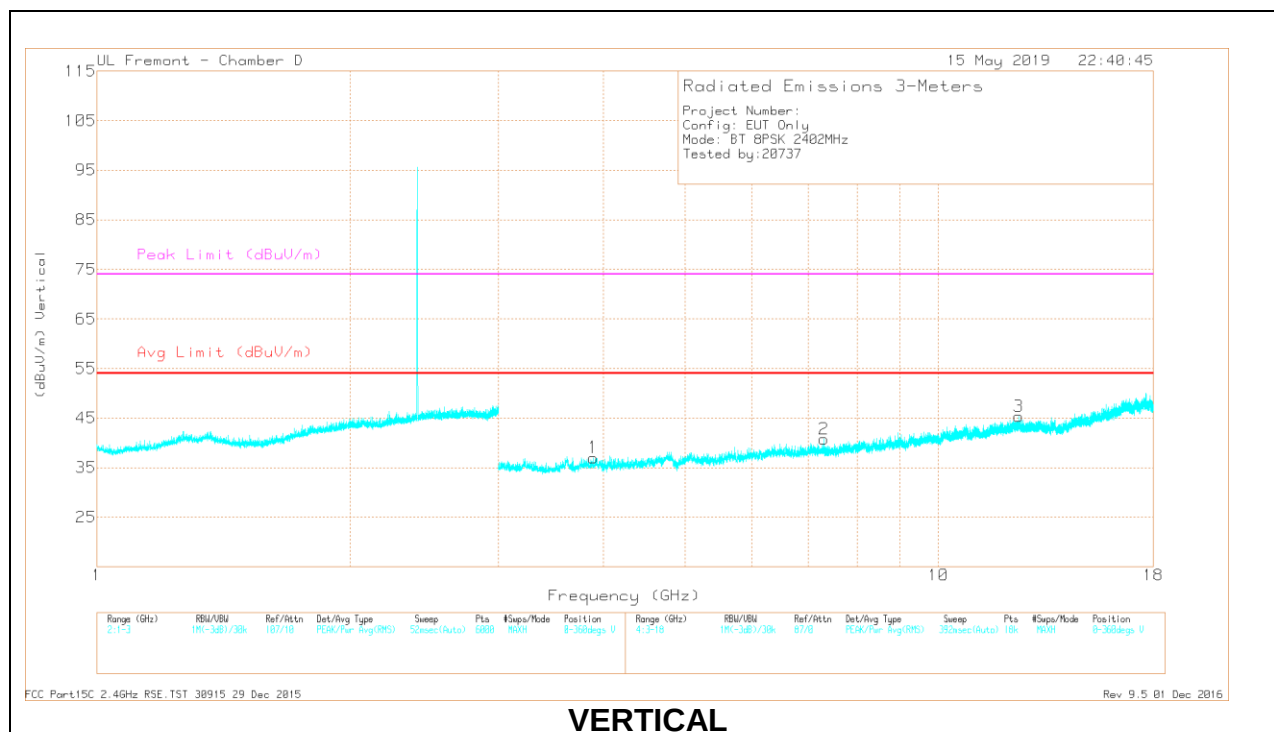
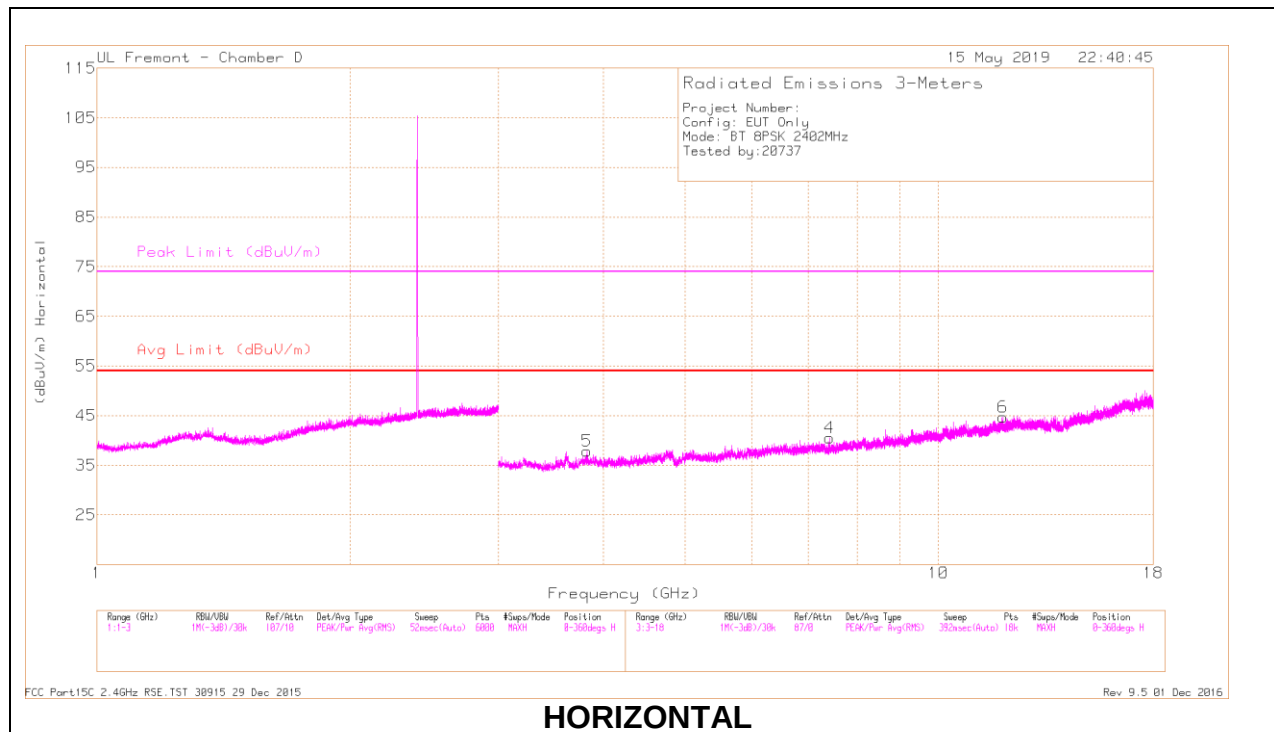
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL RESULTS



## RADIATED EMISSIONS

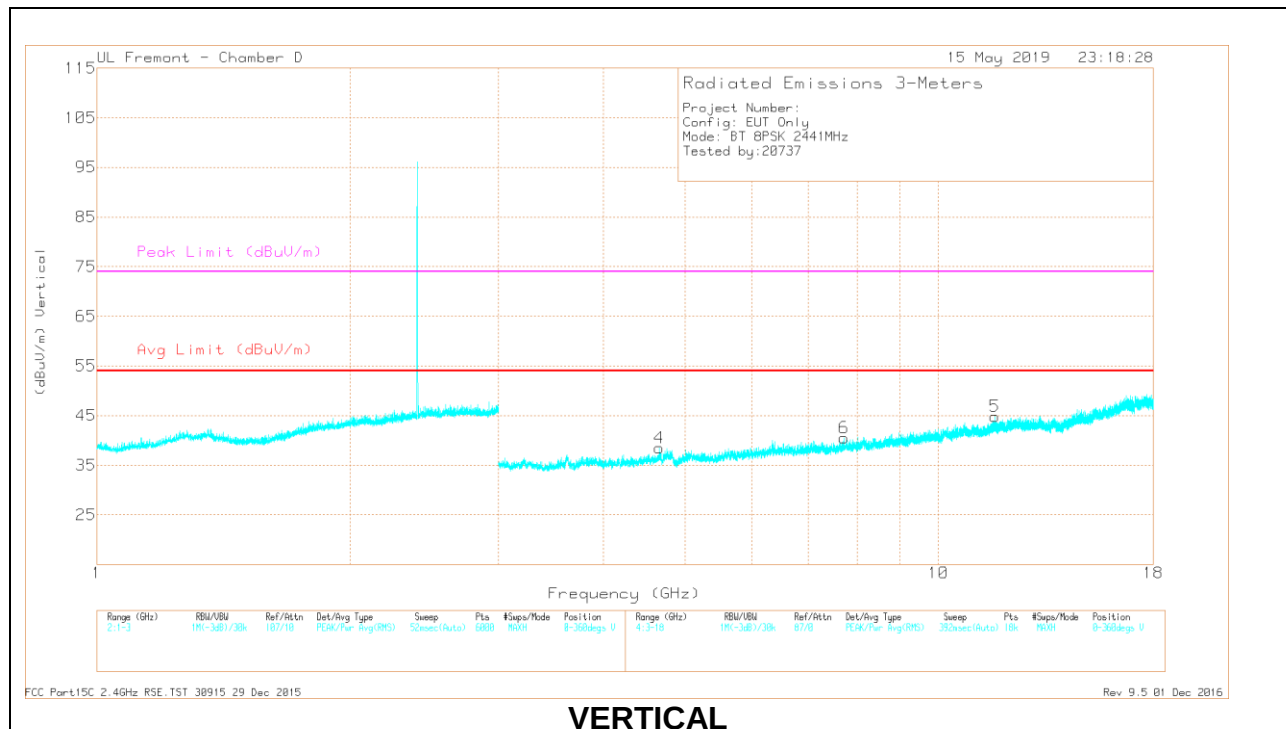
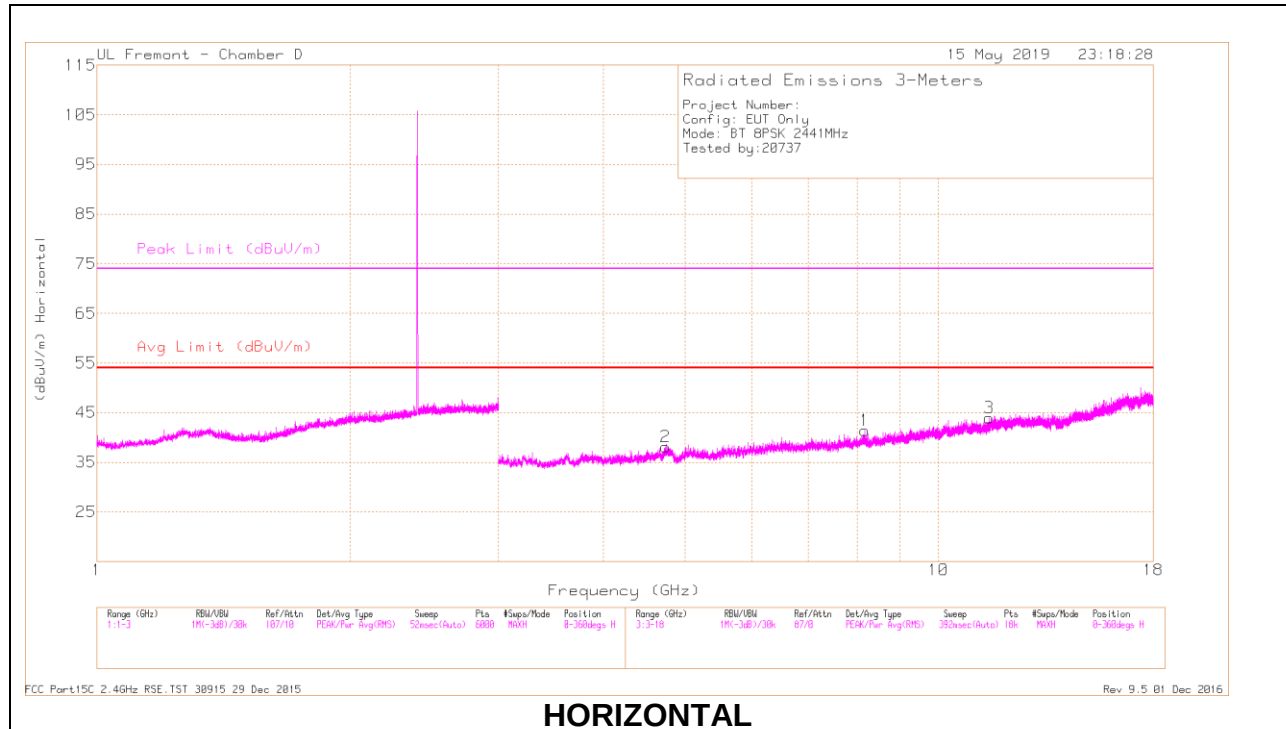
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.888         | 38.59                | PKFH | 33.4           | -28.2                  | 43.79                      | -                  | -           | 74                  | -30.21         | 275            | 266         | V        |
|        | * 3.889         | 25.77                | VA1T | 33.5           | -28.2                  | 31.07                      | 54                 | -22.93      | -                   | -              | 275            | 266         | V        |
| 2      | * 7.312         | 35.83                | PKFH | 35.4           | -25.1                  | 46.13                      | -                  | -           | 74                  | -27.87         | 321            | 199         | V        |
|        | * 7.312         | 22.54                | VA1T | 35.4           | -25.1                  | 32.84                      | 54                 | -21.16      | -                   | -              | 321            | 199         | V        |
| 3      | * 12.453        | 33.74                | PKFH | 38.9           | -21.6                  | 51.04                      | -                  | -           | 74                  | -22.96         | 235            | 124         | V        |
|        | * 12.454        | 19.23                | VA1T | 38.9           | -21.6                  | 36.53                      | 54                 | -17.47      | -                   | -              | 235            | 124         | V        |
| 4      | * 7.423         | 34.97                | PKFH | 35.5           | -24.9                  | 45.57                      | -                  | -           | 74                  | -28.43         | 360            | 127         | H        |
|        | * 7.425         | 21.94                | VA1T | 35.5           | -24.8                  | 32.64                      | 54                 | -21.36      | -                   | -              | 360            | 127         | H        |
| 5      | * 3.824         | 38.55                | PKFH | 33.5           | -28.4                  | 43.65                      | -                  | -           | 74                  | -30.35         | 251            | 175         | H        |
|        | * 3.827         | 26.04                | VA1T | 33.5           | -28.3                  | 31.24                      | 54                 | -22.76      | -                   | -              | 251            | 175         | H        |
| 6      | * 11.929        | 33.7                 | PKFH | 38.6           | -21.7                  | 50.6                       | -                  | -           | 74                  | -23.4          | 210            | 256         | H        |
|        | * 11.929        | 19.12                | VA1T | 38.6           | -21.7                  | 36.02                      | 54                 | -17.98      | -                   | -              | 210            | 256         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## MID CHANNEL RESULTS



## RADIATED EMISSIONS

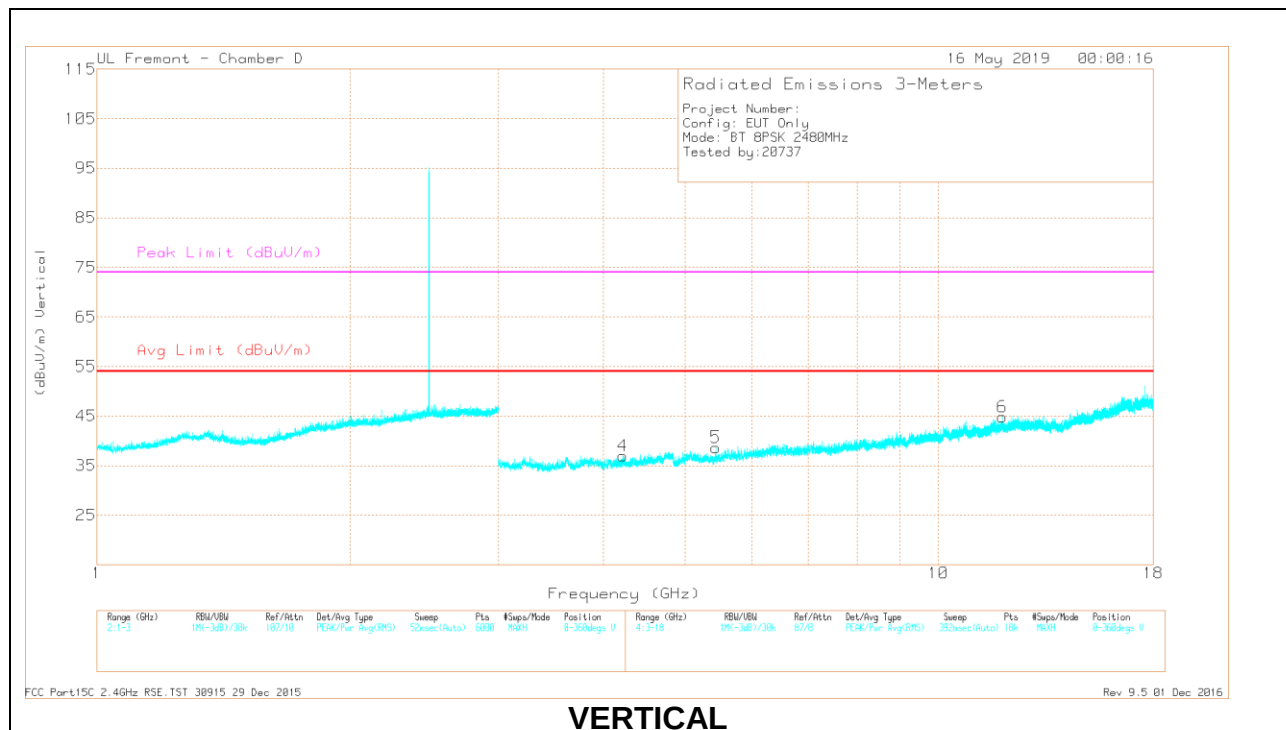
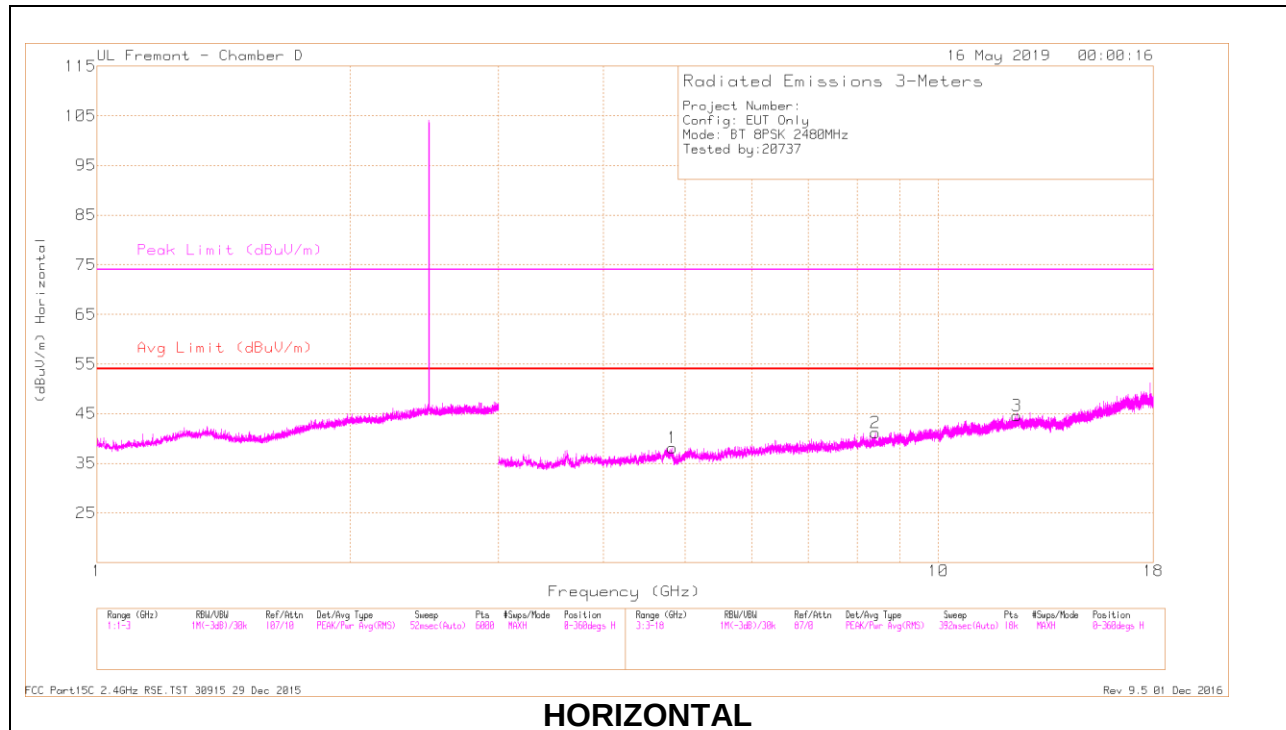
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 8.178         | 34.76                | PKFH | 35.8           | -23.4                  | 47.16                      | -                  | -           | 74                  | -26.84         | 351            | 181         | H        |
|        | * 8.178         | 20.84                | VA1T | 35.8           | -23.4                  | 33.24                      | 54                 | -20.76      | -                   | -              | 351            | 181         | H        |
| 2      | * 4.741         | 37.09                | PKFH | 33.9           | -26.7                  | 44.29                      | -                  | -           | 74                  | -29.71         | 316            | 124         | H        |
|        | * 4.743         | 23.94                | VA1T | 33.9           | -26.6                  | 31.24                      | 54                 | -22.76      | -                   | -              | 316            | 124         | H        |
| 3      | * 11.491        | 33.94                | PKFH | 38.1           | -21.8                  | 50.24                      | -                  | -           | 74                  | -23.76         | 293            | 317         | H        |
|        | * 11.493        | 18.56                | VA1T | 38.1           | -21.7                  | 34.96                      | 54                 | -19.04      | -                   | -              | 293            | 317         | H        |
| 4      | * 4.664         | 38.79                | PKFH | 34             | -28.2                  | 44.59                      | -                  | -           | 74                  | -29.41         | 258            | 255         | V        |
|        | * 4.664         | 26.21                | VA1T | 34             | -28.2                  | 32.01                      | 54                 | -21.99      | -                   | -              | 258            | 255         | V        |
| 5      | * 11.659        | 33.21                | PKFH | 38.3           | -20.9                  | 50.61                      | -                  | -           | 74                  | -23.39         | 203            | 172         | V        |
|        | * 11.662        | 18.29                | VA1T | 38.3           | -20.8                  | 35.79                      | 54                 | -18.21      | -                   | -              | 203            | 172         | V        |
| 6      | * 7.725         | 36.51                | PKFH | 35.7           | -24.7                  | 47.51                      | -                  | -           | 74                  | -26.49         | 143            | 228         | V        |
|        | * 7.724         | 22.25                | VA1T | 35.7           | -24.7                  | 33.25                      | 54                 | -20.75      | -                   | -              | 143            | 228         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HIGH CHANNEL RESULTS



## RADIATED EMISSIONS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 4.828         | 38.29                | PKFH | 34             | -27.2                  | 45.09                      | -                  | -           | 74                  | -28.91         | 62             | 167         | H        |
|        | * 4.83          | 25.41                | VA1T | 34             | -27.2                  | 32.21                      | 54                 | -21.79      | -                   | -              | 62             | 167         | H        |
| 2      | * 8.412         | 34.6                 | PKFH | 35.8           | -23.2                  | 47.2                       | -                  | -           | 74                  | -26.8          | 122            | 119         | H        |
|        | * 8.414         | 20.47                | VA1T | 35.8           | -23.1                  | 33.17                      | 54                 | -20.83      | -                   | -              | 122            | 119         | H        |
| 3      | * 12.39         | 33.76                | PKFH | 38.9           | -21.3                  | 51.36                      | -                  | -           | 74                  | -22.64         | 170            | 206         | H        |
|        | * 12.39         | 19.05                | VA1T | 38.9           | -21.3                  | 36.65                      | 54                 | -17.35      | -                   | -              | 170            | 206         | H        |
| 4      | * 4.216         | 37.74                | PKFH | 33.3           | -27.4                  | 43.64                      | -                  | -           | 74                  | -30.36         | 220            | 195         | V        |
|        | * 4.216         | 25.08                | VA1T | 33.3           | -27.4                  | 30.98                      | 54                 | -23.02      | -                   | -              | 220            | 195         | V        |
| 5      | * 5.44          | 37.72                | PKFH | 34.3           | -27.7                  | 44.32                      | -                  | -           | 74                  | -29.68         | 289            | 267         | V        |
|        | * 5.439         | 24.25                | VA1T | 34.3           | -27.8                  | 30.75                      | 54                 | -23.25      | -                   | -              | 289            | 267         | V        |
| 6      | * 11.909        | 33.38                | PKFH | 38.5           | -21.2                  | 50.68                      | -                  | -           | 74                  | -23.32         | 327            | 185         | V        |
|        | * 11.908        | 18.84                | VA1T | 38.6           | -21.3                  | 36.14                      | 54                 | -17.86      | -                   | -              | 327            | 185         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

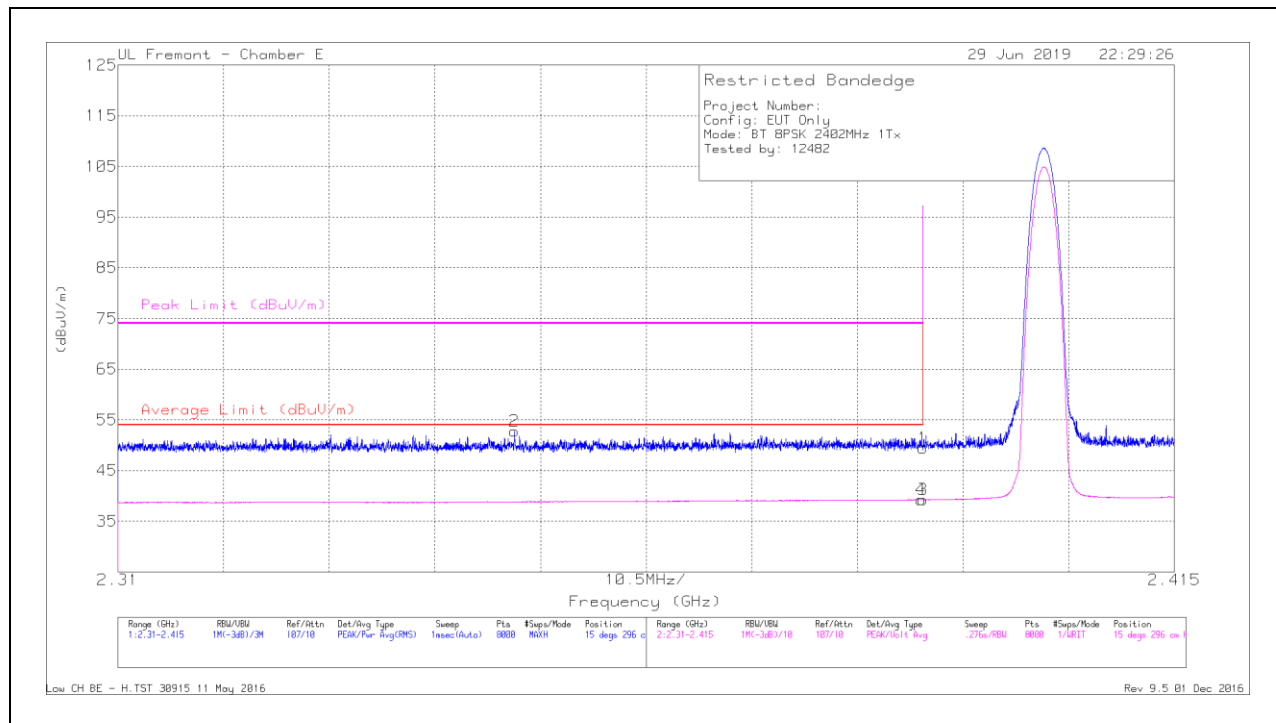
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## 9.1.4. ANTENNA 3, HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

### BANDEDGE (LOW CHANNEL)

#### HORIZONTAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cb/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 43.35                | Pk   | 32.3           | -26.2                  | 49.45                      | -                      | -           | 74                  | -24.55         | 15             | 296         | H        |
| 2      | * 2.349         | 46.94                | Pk   | 32             | -26.2                  | 52.74                      | -                      | -           | 74                  | -21.26         | 15             | 296         | H        |
| 3      | * 2.39          | 33.14                | VA1T | 32.3           | -26.2                  | 39.24                      | 54                     | -14.76      | -                   | -              | 15             | 296         | H        |
| 4      | * 2.39          | 33.15                | VA1T | 32.3           | -26.2                  | 39.25                      | 54                     | -14.75      | -                   | -              | 15             | 296         | H        |

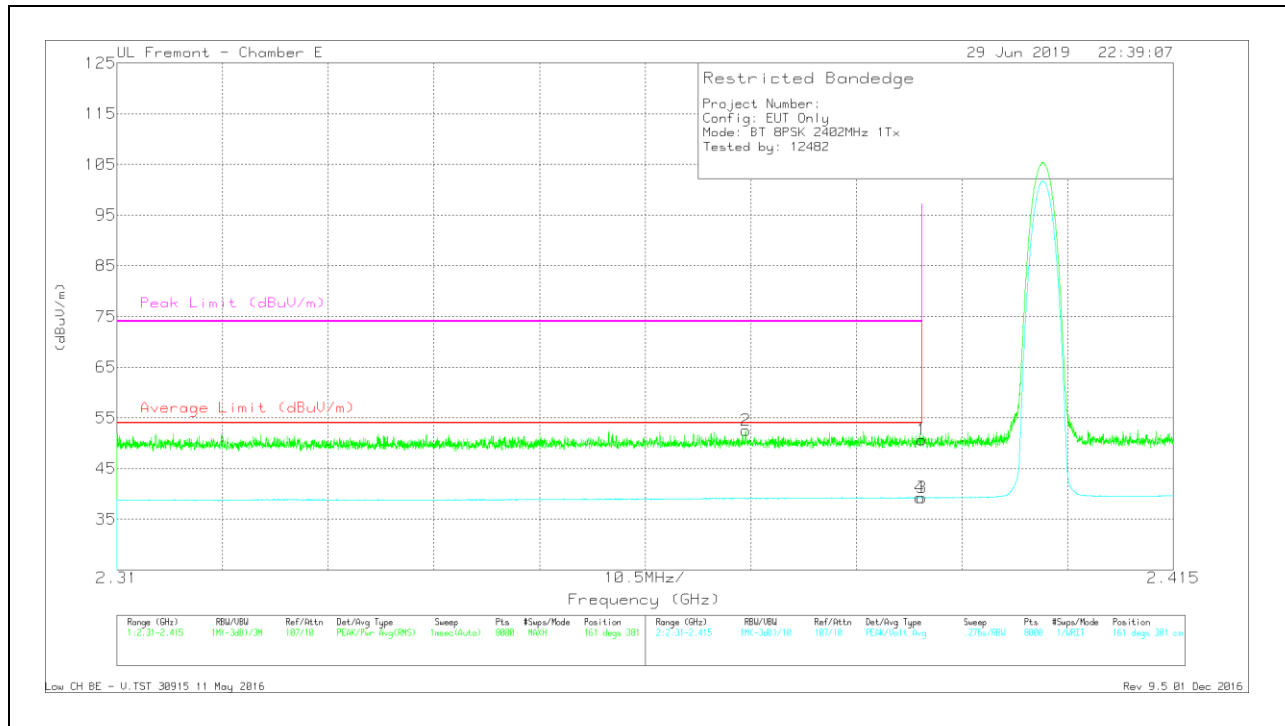
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration



## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBUV) | Det  | AF T119 (dB/m) | Amp/Cbl/Fitr/Pa d (dB) | Corrected Reading (dBUV/m) | Average Limit (dBUV/m) | Margin (dB) | Peak Limit (dBUV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 44.59                | Pk   | 32.3           | -26.2                  | 50.69                      | -                      | -           | 74                  | -23.31         | 161            | 381         | V        |
| 2      | * 2.373         | 46.58                | Pk   | 32.2           | -26.3                  | 52.48                      | -                      | -           | 74                  | -21.52         | 161            | 381         | V        |
| 3      | * 2.39          | 33.12                | VA1T | 32.3           | -26.2                  | 39.22                      | 54                     | -14.78      | -                   | -              | 161            | 381         | V        |
| 4      | * 2.39          | 33.14                | VA1T | 32.3           | -26.2                  | 39.24                      | 54                     | -14.76      | -                   | -              | 161            | 381         | V        |

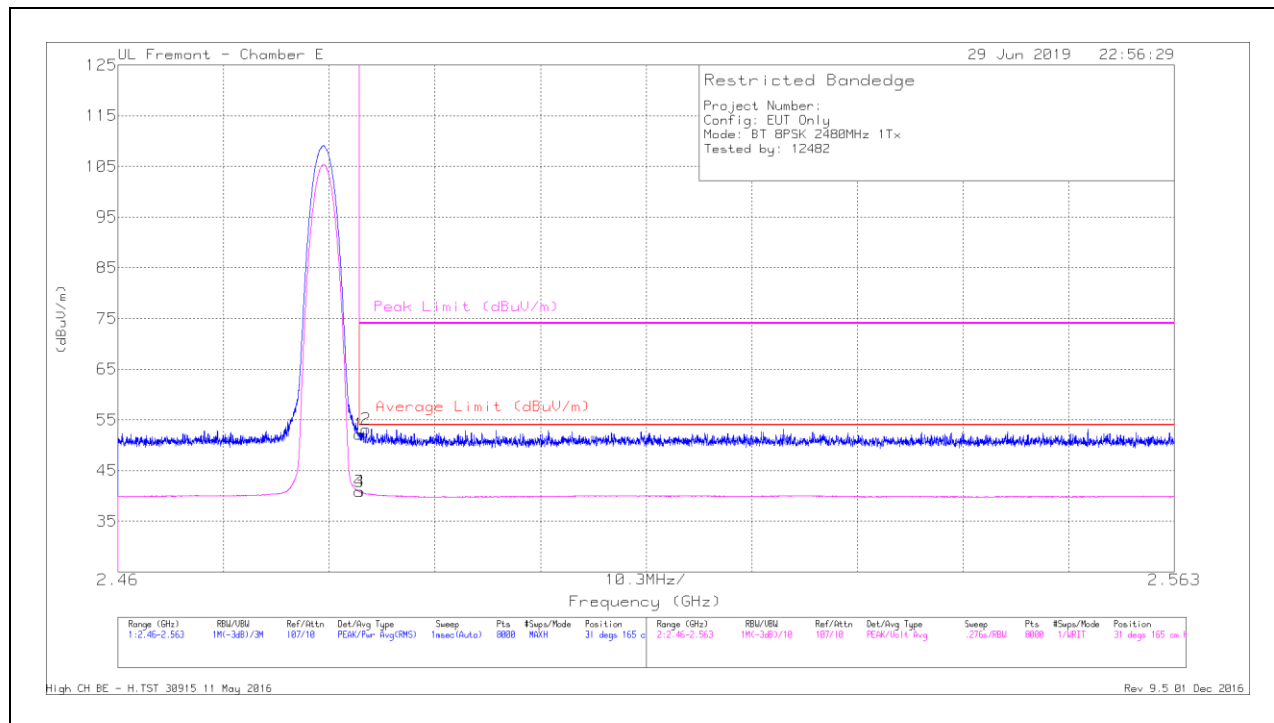
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

# BANDEDGE (HIGH CHANNEL)

## HORIZONTAL RESULT



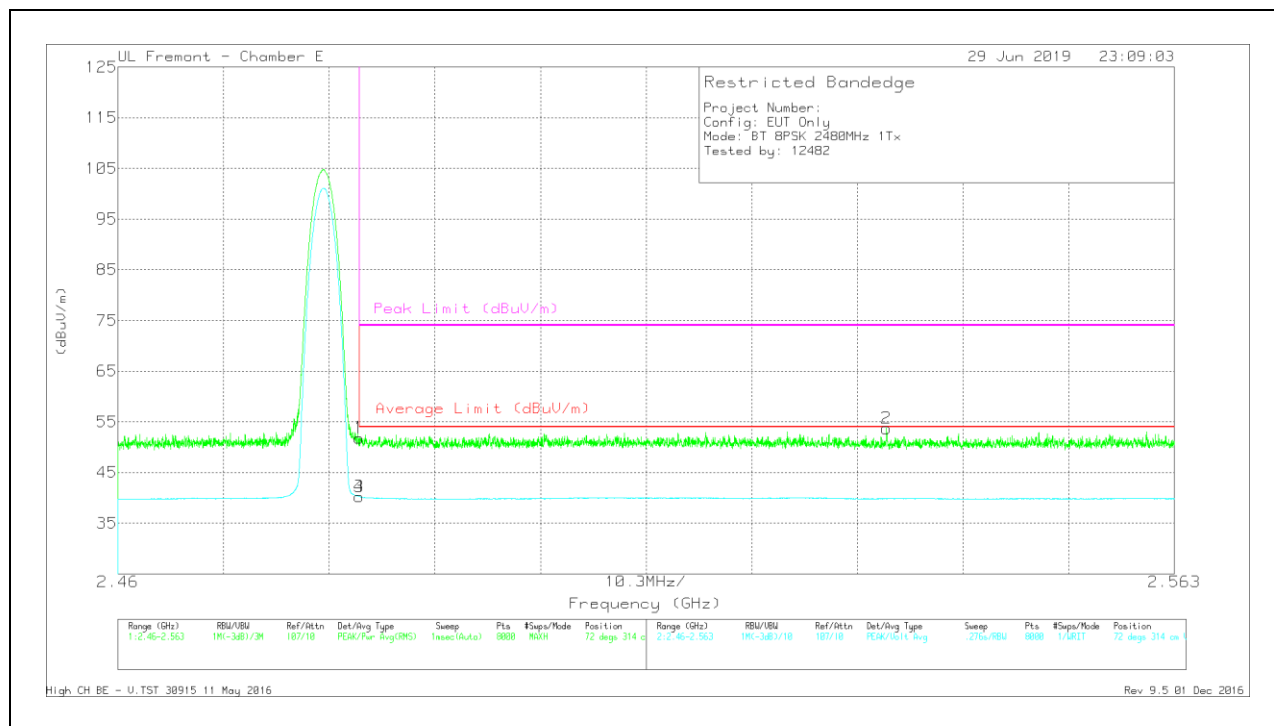
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 45.7                 | Pk   | 32.8           | -26.3                   | 52.2                       | -                      | -           | 74                  | -21.8          | 31             | 165         | H        |
| 2      | * 2.484         | 46.67                | Pk   | 32.8           | -26.3                   | 53.17                      | -                      | -           | 74                  | -20.83         | 31             | 165         | H        |
| 3      | * 2.484         | 34.33                | VA1T | 32.8           | -26.3                   | 40.83                      | 54                     | -13.17      | -                   | -              | 31             | 165         | H        |
| 4      | * 2.484         | 34.3                 | VA1T | 32.8           | -26.3                   | 40.8                       | 54                     | -13.2       | -                   | -              | 31             | 165         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 45.34                | Pk   | 32.8           | -26.3                  | 51.84                      | -                      | -           | 74                  | -22.16         | 72             | 314         | V        |
| 3      | * 2.484         | 33.75                | VA1T | 32.8           | -26.3                  | 40.25                      | 54                     | -13.75      | -                   | -              | 72             | 314         | V        |
| 4      | * 2.484         | 33.76                | VA1T | 32.8           | -26.3                  | 40.26                      | 54                     | -13.74      | -                   | -              | 72             | 314         | V        |
| 2      | 2.535           | 47.21                | Pk   | 32.9           | -26.4                  | 53.71                      | -                      | -           | 74                  | -20.29         | 72             | 314         | V        |

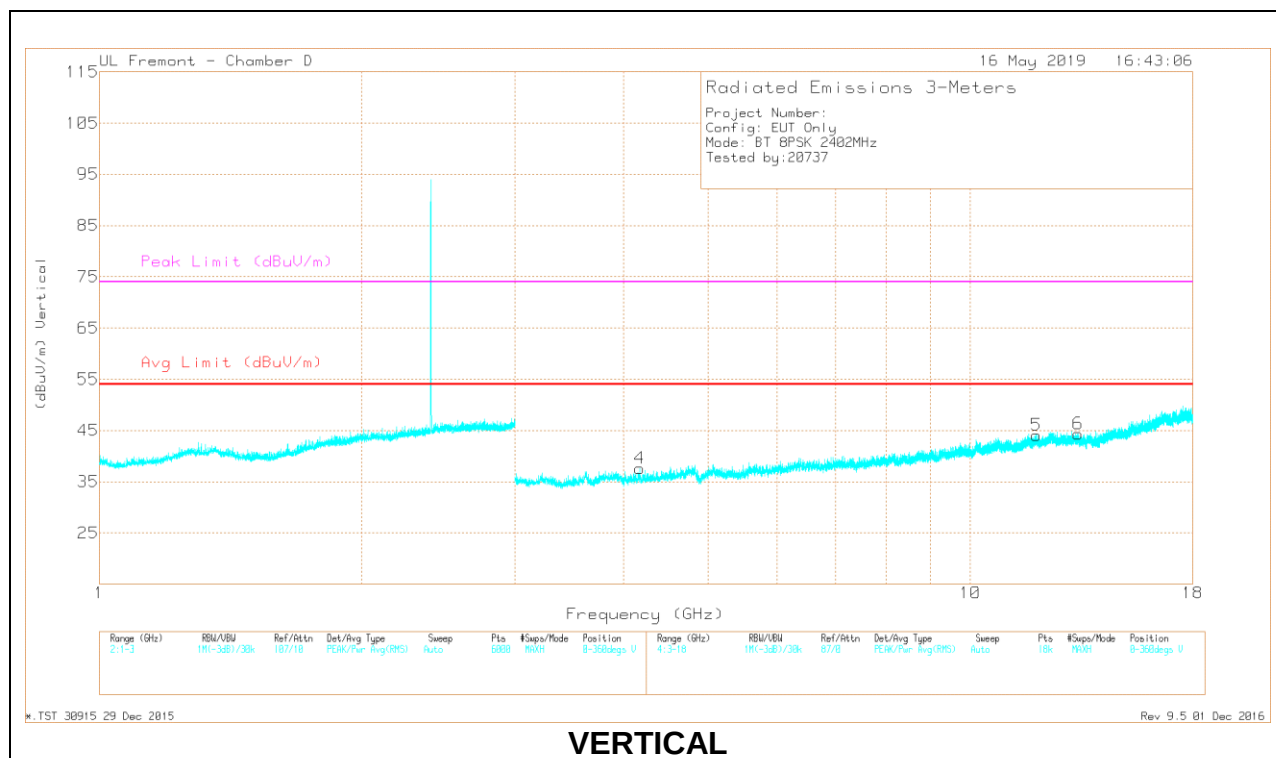
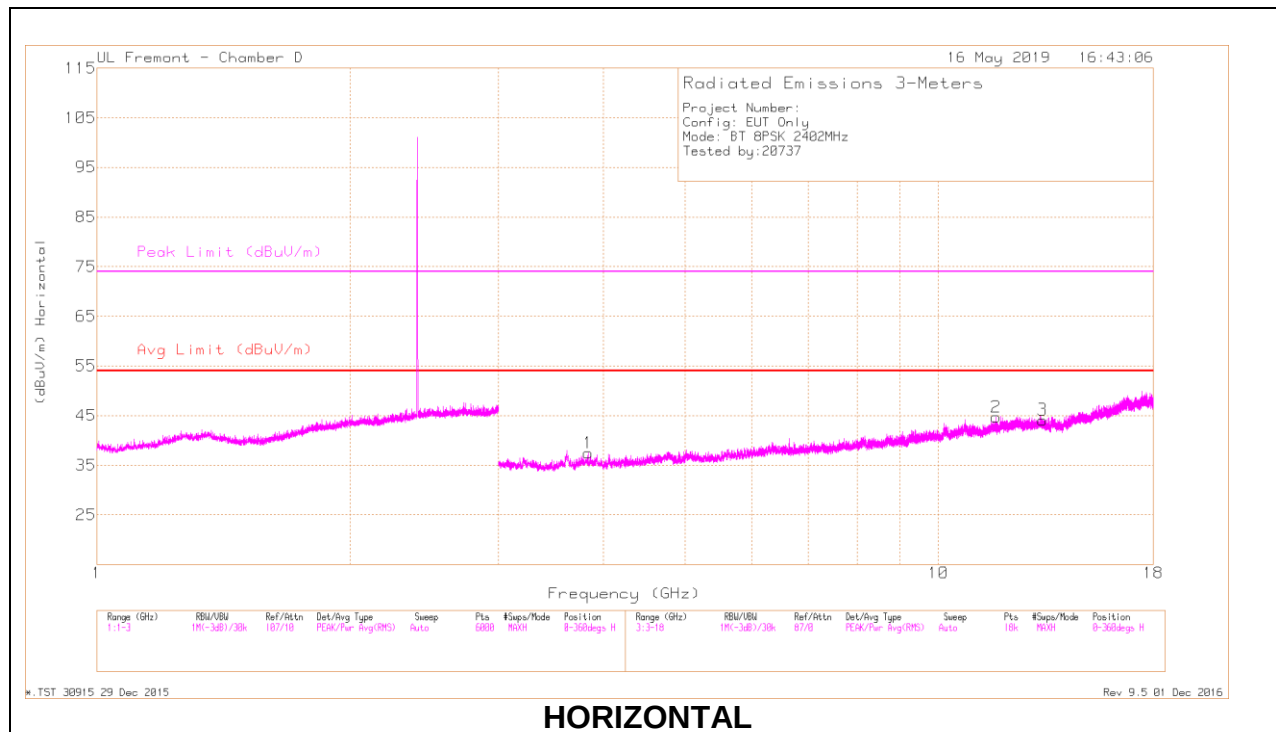
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average  $V_B = 1/T_{on}$  where:  $T_{on}$  is transmit duration

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL RESULTS



## RADIATED EMISSIONS

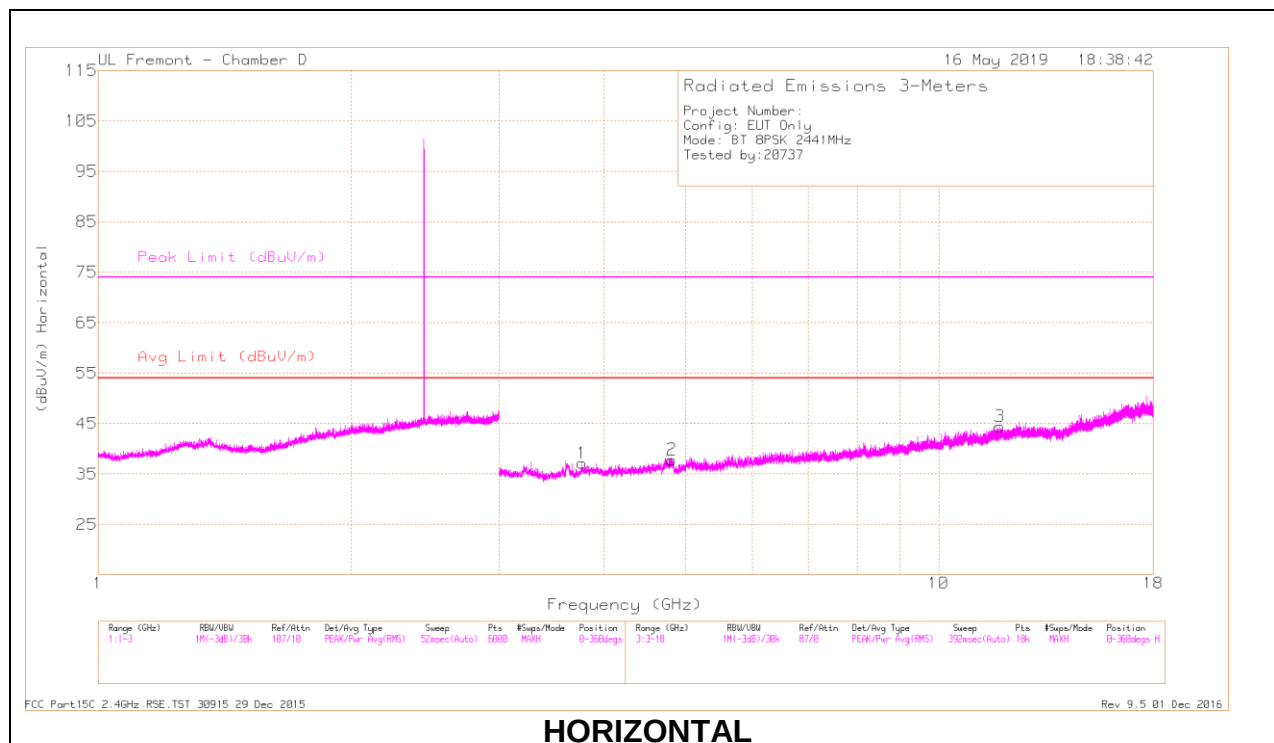
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.836         | 38.84                | PKFH | 33.4           | -28.6                  | 43.64                      | -                  | -           | 74                  | -30.36         | 204            | 224         | H        |
|        | * 3.837         | 25.81                | VA1T | 33.4           | -28.6                  | 30.61                      | 54                 | -23.39      | -                   | -              | 204            | 224         | H        |
| 2      | * 11.708        | 33.37                | PKFH | 38.4           | -21.6                  | 50.17                      | -                  | -           | 74                  | -23.83         | 98             | 330         | H        |
|        | * 11.711        | 18.95                | VA1T | 38.4           | -21.7                  | 35.65                      | 54                 | -18.35      | -                   | -              | 98             | 330         | H        |
| 3      | * 13.287        | 34.12                | PKFH | 39.2           | -22.9                  | 50.42                      | -                  | -           | 74                  | -23.58         | 70             | 400         | H        |
|        | * 13.289        | 20.59                | VA1T | 39.2           | -22.8                  | 36.99                      | 54                 | -17.01      | -                   | -              | 70             | 400         | H        |
| 4      | * 4.172         | 37.78                | PKFH | 33.3           | -27.6                  | 43.48                      | -                  | -           | 74                  | -30.52         | 305            | 143         | V        |
|        | * 4.172         | 25                   | VA1T | 33.3           | -27.6                  | 30.7                       | 54                 | -23.3       | -                   | -              | 305            | 143         | V        |
| 5      | * 11.918        | 33.86                | PKFH | 38.6           | -21.4                  | 51.06                      | -                  | -           | 74                  | -22.94         | 4              | 224         | V        |
|        | * 11.92         | 19.15                | VA1T | 38.6           | -21.5                  | 36.25                      | 54                 | -17.75      | -                   | -              | 4              | 224         | V        |
| 6      | * 13.289        | 34.22                | PKFH | 39.2           | -22.8                  | 50.62                      | -                  | -           | 74                  | -23.38         | 163            | 218         | V        |
|        | * 13.285        | 20.59                | VA1T | 39.1           | -22.9                  | 36.79                      | 54                 | -17.21      | -                   | -              | 163            | 218         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

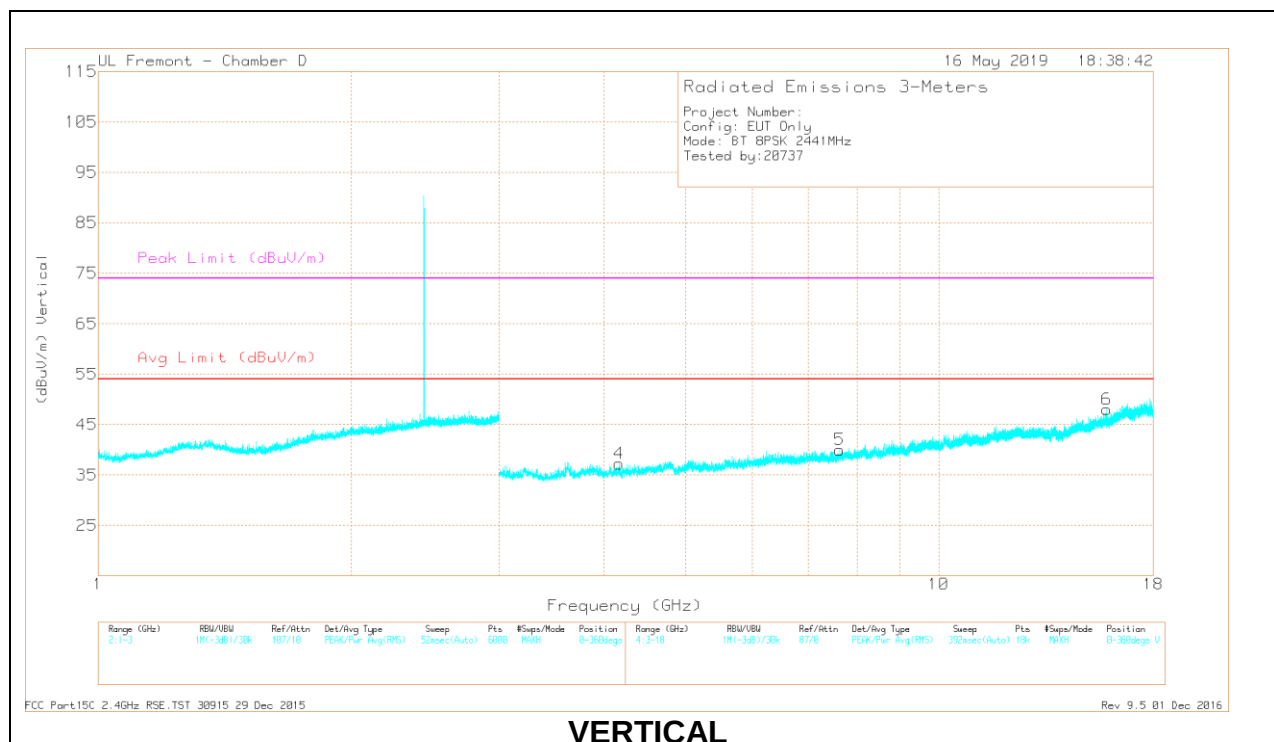
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## MID CHANNEL RESULTS



## HORIZONTAL



## VERTICAL

## RADIATED EMISSIONS

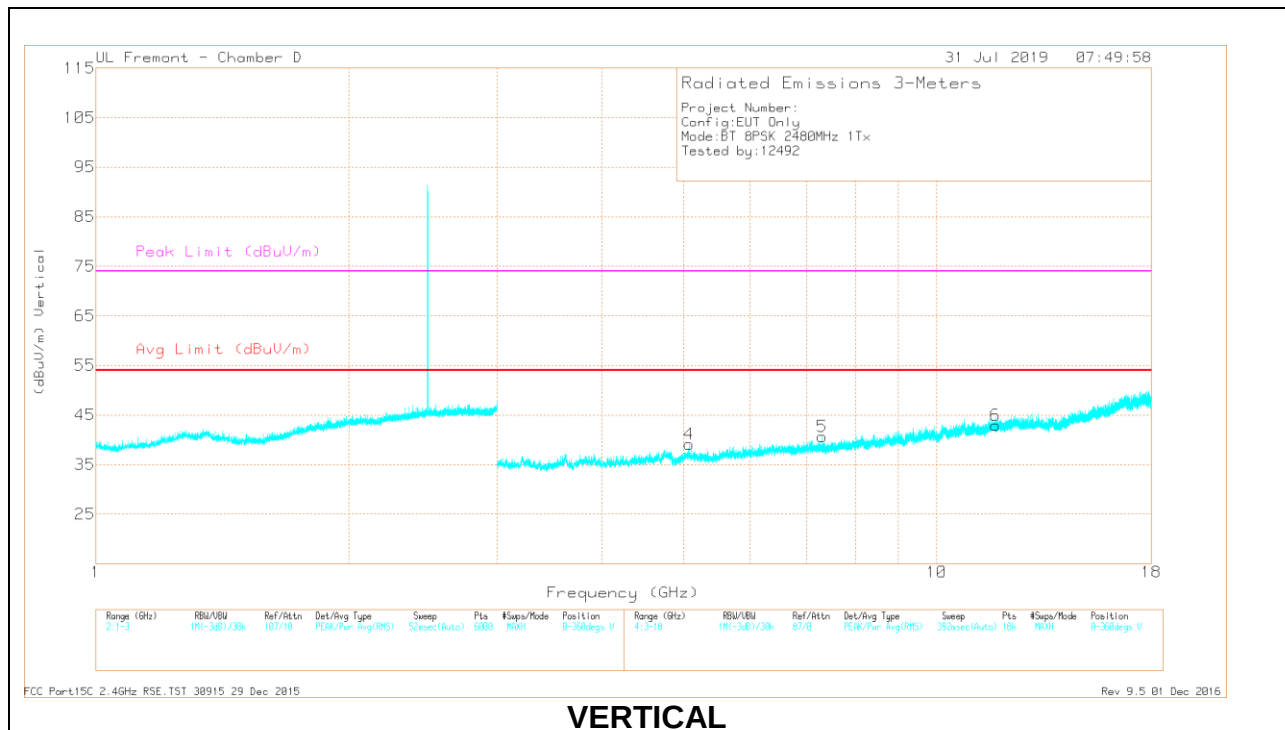
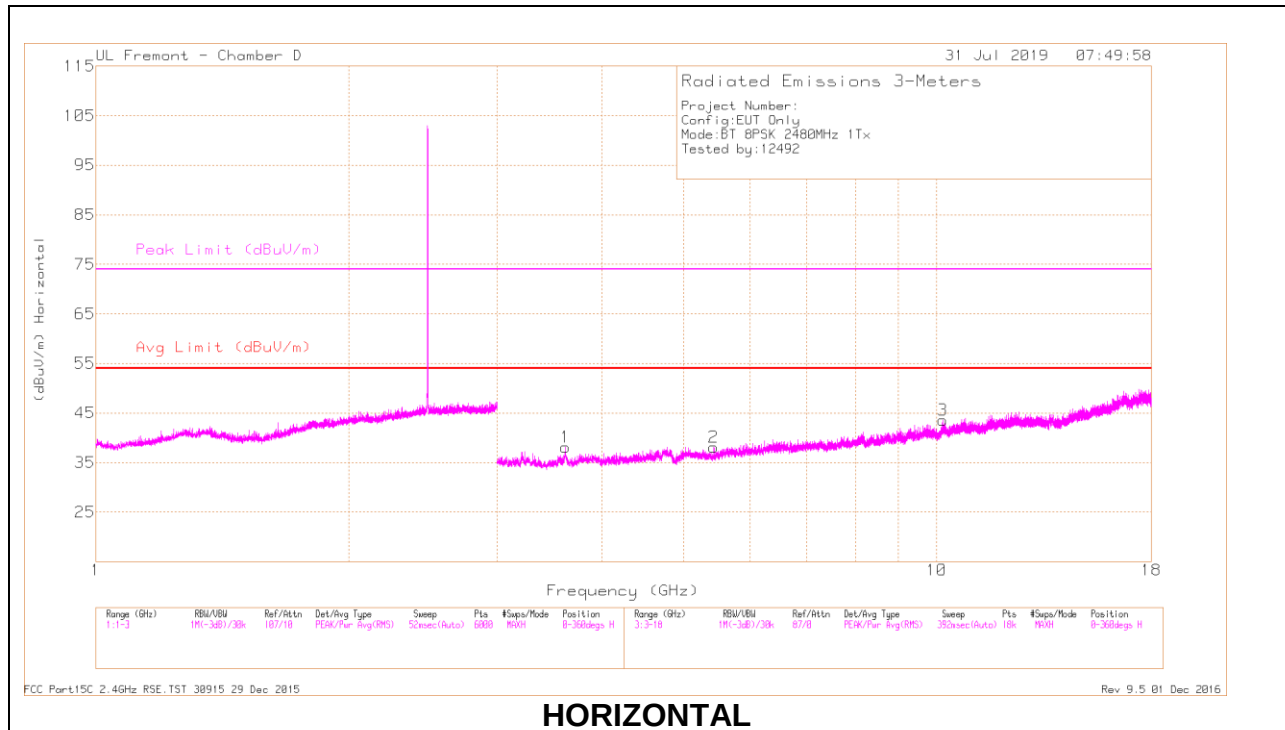
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T712 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|------------------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 3.767         | 38.35                | PKFH | 33.3           | -28                    | 43.65                      | -                  | -           | 74                  | -30.35         | 307            | 315         | H        |
|        | * 3.766         | 25.61                | VA1T | 33.3           | -28                    | 30.91                      | 54                 | -23.09      | -                   | -              | 307            | 315         | H        |
| 2      | * 4.819         | 37.45                | PKFH | 34             | -27                    | 44.45                      | -                  | -           | 74                  | -29.55         | 127            | 387         | H        |
|        | * 4.82          | 24.84                | VA1T | 34             | -27.1                  | 31.74                      | 54                 | -22.26      | -                   | -              | 127            | 387         | H        |
| 3      | * 11.818        | 33.67                | PKFH | 38.5           | -21.6                  | 50.57                      | -                  | -           | 74                  | -23.43         | 104            | 158         | H        |
|        | * 11.815        | 18.82                | VA1T | 38.5           | -21.6                  | 35.72                      | 54                 | -18.28      | -                   | -              | 104            | 158         | H        |
| 4      | * 4.163         | 37.76                | PKFH | 33.3           | -27.9                  | 43.16                      | -                  | -           | 74                  | -30.84         | 96             | 349         | V        |
|        | * 4.164         | 25.18                | VA1T | 33.3           | -27.9                  | 30.58                      | 54                 | -23.42      | -                   | -              | 96             | 349         | V        |
| 5      | * 7.624         | 35.38                | PKFH | 35.6           | -25                    | 45.98                      | -                  | -           | 74                  | -28.02         | 339            | 173         | V        |
|        | * 7.625         | 22.13                | VA1T | 35.6           | -25                    | 32.73                      | 54                 | -21.27      | -                   | -              | 339            | 173         | V        |
| 6      | * 15.843        | 34.07                | PKFH | 40.3           | -21.2                  | 53.17                      | -                  | -           | 74                  | -20.83         | 10             | 374         | V        |
|        | * 15.843        | 19.69                | VA1T | 40.3           | -21.2                  | 38.79                      | 54                 | -15.21      | -                   | -              | 10             | 374         | V        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## HIGH CHANNEL RESULTS





## RADIATED EMISSIONS

| Marker | Frequenc<br>y<br>(GHz) | Meter<br>Readin<br>g<br>(dBuV) | Det      | AF T712<br>(dB/m) | Amp/Cbl/Fitr/<br>Pad (dB) | Correcte<br>d<br>Reading<br>(dBuV/m) | Avg Limit<br>(dBuV/m) | Margin<br>(dB) | Peak Limit<br>(dBuV/m) | PK<br>Margin<br>(dB) | Azimu<br>t<br>(Degs) | Height<br>(cm) | Polarit<br>y |
|--------|------------------------|--------------------------------|----------|-------------------|---------------------------|--------------------------------------|-----------------------|----------------|------------------------|----------------------|----------------------|----------------|--------------|
| 1      | * 3.62                 | 38.08                          | PKF<br>H | 33.5              | -28.3                     | 43.28                                | -                     | -              | 74                     | -30.72               | 62                   | 124            | H            |
|        | * 3.62                 | 25.86                          | VA1<br>T | 33.5              | -28.3                     | 31.06                                | 54                    | -22.94         | -                      | -                    | 62                   | 124            | H            |
| 2      | * 5.426                | 37.34                          | PKF<br>H | 34.4              | -27.7                     | 44.04                                | -                     | -              | 74                     | -29.96               | 140                  | 194            | H            |
|        | * 5.428                | 24.38                          | VA1<br>T | 34.4              | -27.6                     | 31.18                                | 54                    | -22.82         | -                      | -                    | 140                  | 194            | H            |
| 4      | * 5.08                 | 37.5                           | PKF<br>H | 34.1              | -26.7                     | 44.9                                 | -                     | -              | 74                     | -29.1                | 199                  | 178            | V            |
|        | * 5.079                | 24.22                          | VA1<br>T | 34.1              | -26.7                     | 31.62                                | 54                    | -22.38         | -                      | -                    | 199                  | 178            | V            |
| 5      | * 7.31                 | 35.83                          | PKF<br>H | 35.4              | -24.9                     | 46.33                                | -                     | -              | 74                     | -27.67               | 328                  | 119            | V            |
|        | * 7.31                 | 22.34                          | VA1<br>T | 35.4              | -24.9                     | 32.84                                | 54                    | -21.16         | -                      | -                    | 328                  | 119            | V            |
| 6      | * 11.756               | 33.3                           | PKF<br>H | 38.4              | -21.4                     | 50.3                                 | -                     | -              | 74                     | -23.7                | 258                  | 238            | V            |
|        | * 11.758               | 18.5                           | VA1<br>T | 38.4              | -21.4                     | 35.5                                 | 54                    | -18.5          | -                      | -                    | 258                  | 238            | V            |
| 3      | 10.162                 | 32.69                          | PKF<br>H | 37                | -20.2                     | 49.49                                | -                     | -              | -                      | -                    | 240                  | 224            | H            |
|        | 10.162                 | 16.78                          | VA1<br>T | 37                | -20.2                     | 33.58                                | -                     | -              | -                      | -                    | 240                  | 224            | H            |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

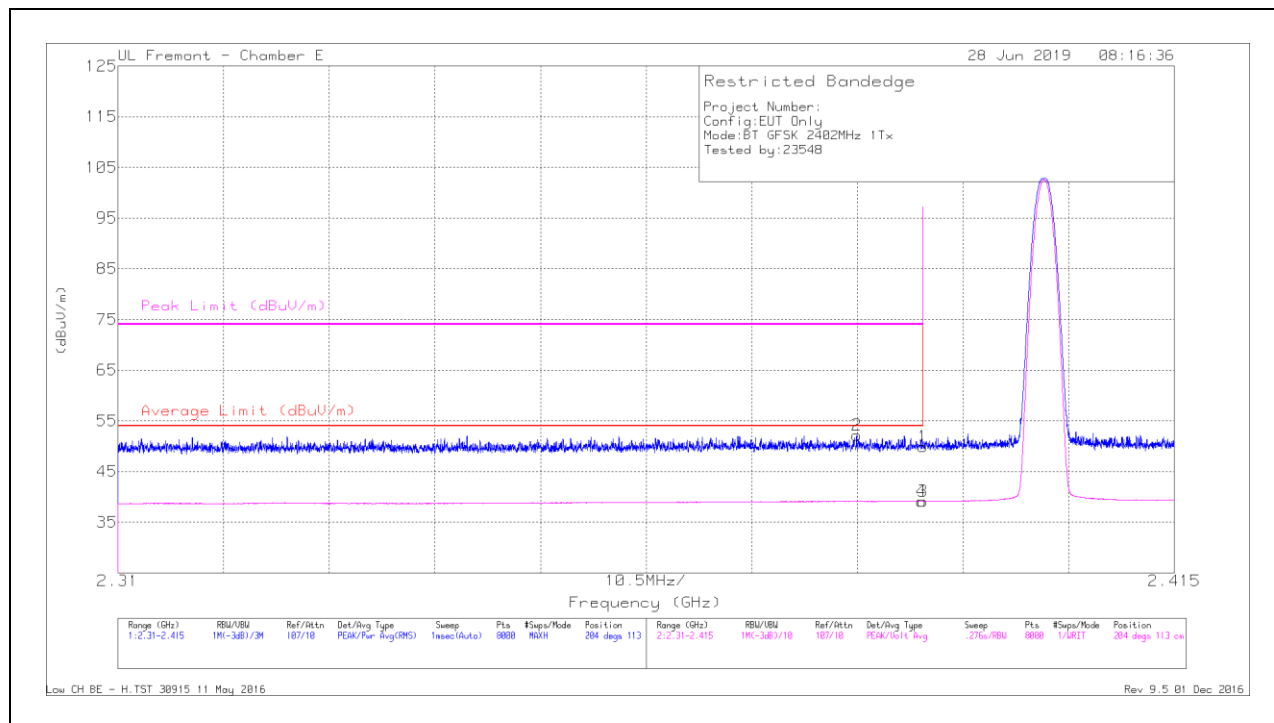
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## 9.1.5. ANTENNA 4, LOW POWER BASIC DATA RATE GFSK MODULATION

### BANDEDGE (LOW CHANNEL)

#### HORIZONTAL RESULT



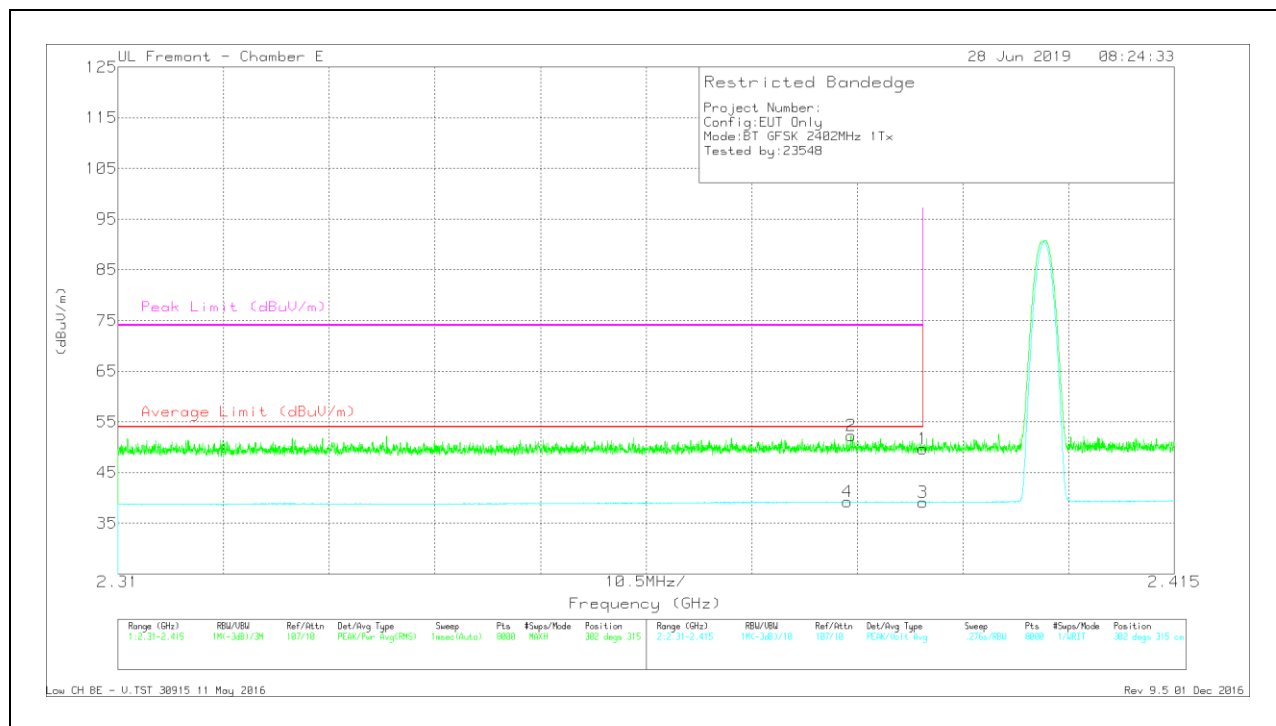
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 43.84                | Pk   | 32.3           | -26.2                   | 49.94                      | -                      | -           | 74                  | -24.06         | 204            | 113         | H        |
| 2      | * 2.383         | 46.19                | Pk   | 32.3           | -26.3                   | 52.19                      | -                      | -           | 74                  | -21.81         | 204            | 113         | H        |
| 3      | * 2.39          | 33.05                | VA1T | 32.3           | -26.2                   | 39.15                      | 54                     | -14.85      | -                   | -              | 204            | 113         | H        |
| 4      | * 2.39          | 33.05                | VA1T | 32.3           | -26.2                   | 39.15                      | 54                     | -14.85      | -                   | -              | 204            | 113         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

## VERTICAL RESULT



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.39          | 43.61                | Pk   | 32.3           | -26.2                   | 49.71                      | -                      | -           | 74                  | -24.29         | 302            | 315         | V        |
| 2      | * 2.383         | 46.32                | Pk   | 32.3           | -26.3                   | 52.32                      | -                      | -           | 74                  | -21.68         | 302            | 315         | V        |
| 3      | * 2.39          | 33.04                | VA1T | 32.3           | -26.2                   | 39.14                      | 54                     | -14.86      | -                   | -              | 302            | 315         | V        |
| 4      | * 2.383         | 33.2                 | VA1T | 32.3           | -26.3                   | 39.2                       | 54                     | -14.8       | -                   | -              | 302            | 315         | V        |

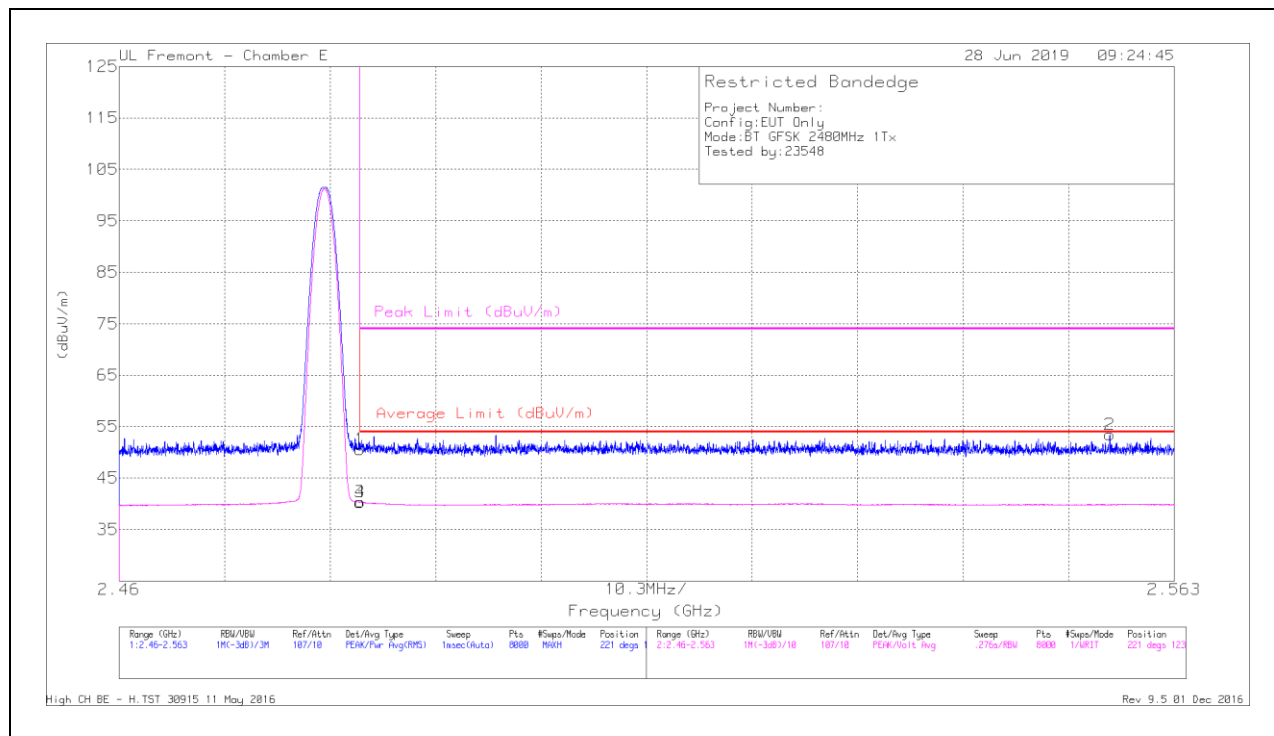
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average  $V_B = 1/T_{on}$  where:  $T_{on}$  is transmit duration

# **BANDEDGE (HIGH CHANNEL)**

## **HORIZONTAL RESULT**



| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T119 (dB/m) | Amp/Cbl/Filtr/Pa d (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|------|----------------|-------------------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 2.484         | 44.05                | Pk   | 32.8           | -26.3                   | 50.55                      | -                      | -           | 74                  | -23.45         | 221            | 123         | H        |
| 3      | * 2.484         | 33.81                | VA1T | 32.8           | -26.3                   | 40.31                      | 54                     | -13.69      | -                   | -              | 221            | 123         | H        |
| 4      | * 2.484         | 33.86                | VA1T | 32.8           | -26.3                   | 40.36                      | 54                     | -13.64      | -                   | -              | 221            | 123         | H        |
| 2      | 2.557           | 46.93                | Pk   | 32.8           | -26.3                   | 53.43                      | -                      | -           | 74                  | -20.57         | 221            | 123         | H        |

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration