



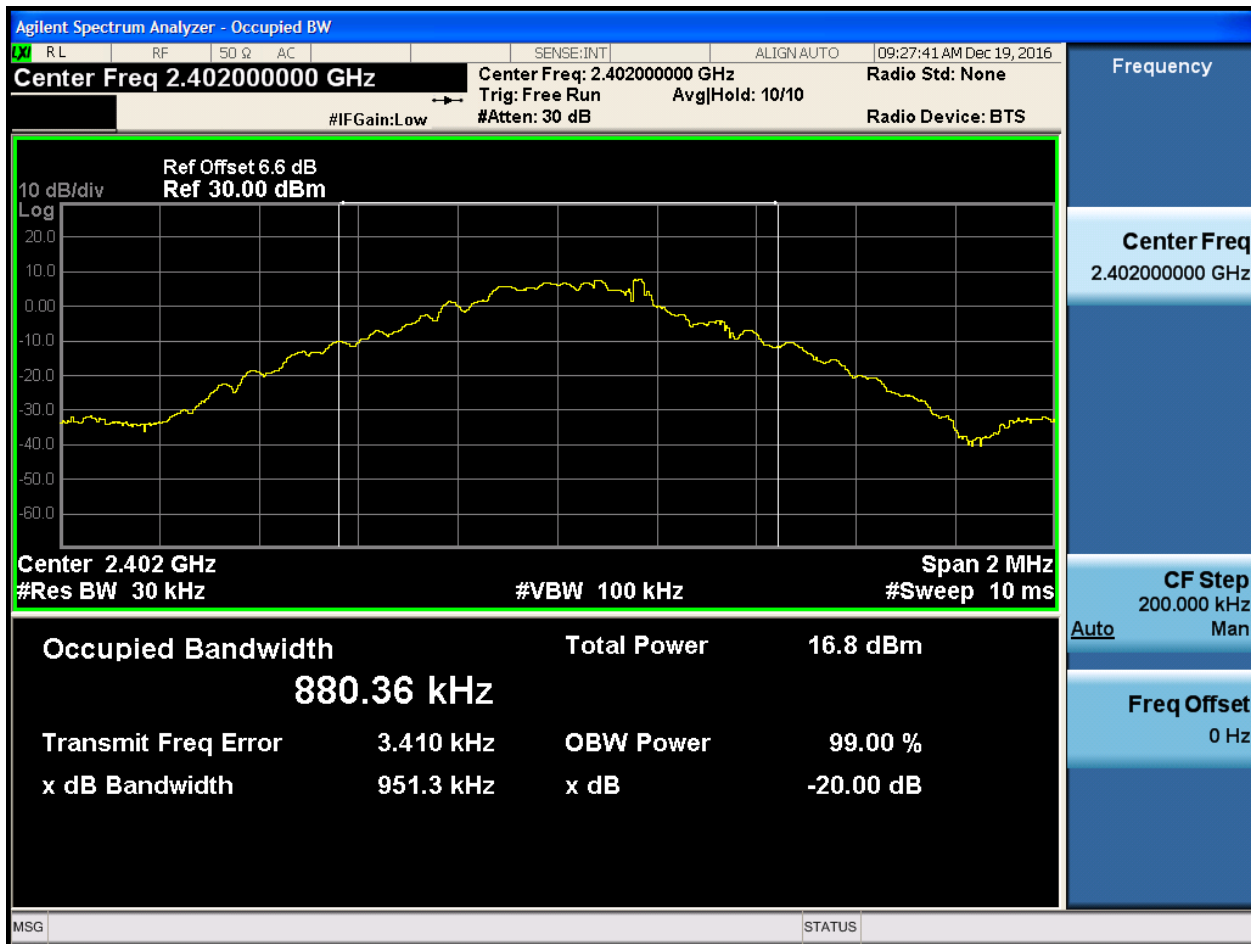
# **Appendix A: 20dB Emission Bandwidth (EBW)**

## 1 Result Table

| EUT Conf.     | EBW [MHz] | Verdict |
|---------------|-----------|---------|
| TM1_DH5_Ch0   | 0.95      | Pass    |
| TM1_DH5_Ch39  | 0.95      | Pass    |
| TM1_DH5_Ch78  | 0.95      | Pass    |
| TM2_2DH5_Ch0  | 1.28      | Pass    |
| TM2_2DH5_Ch39 | 1.27      | Pass    |
| TM2_2DH5_Ch78 | 1.28      | Pass    |
| TM3_3DH5_Ch0  | 1.28      | Pass    |
| TM3_3DH5_Ch39 | 1.27      | Pass    |
| TM3_3DH5_Ch78 | 1.28      | Pass    |

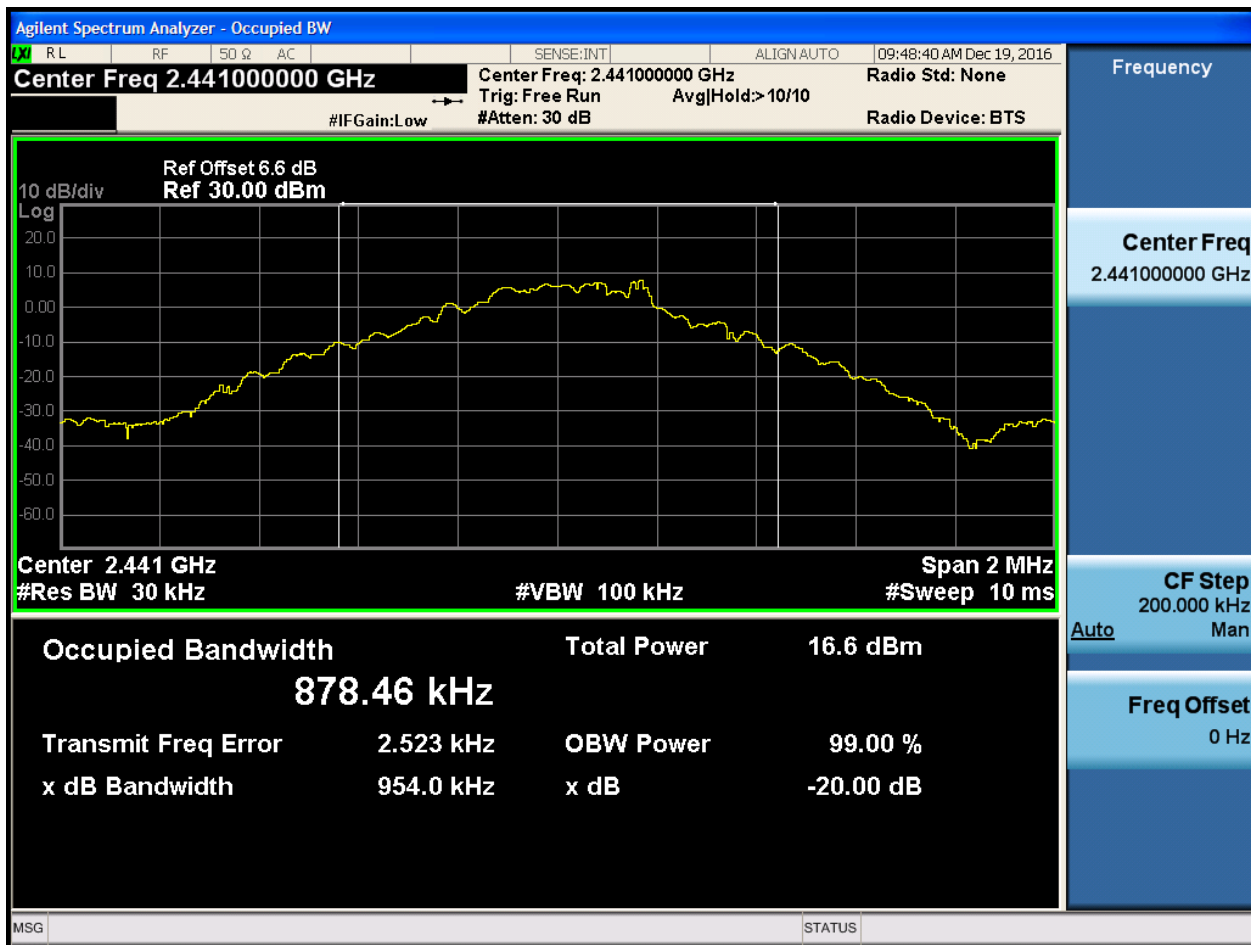
## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0





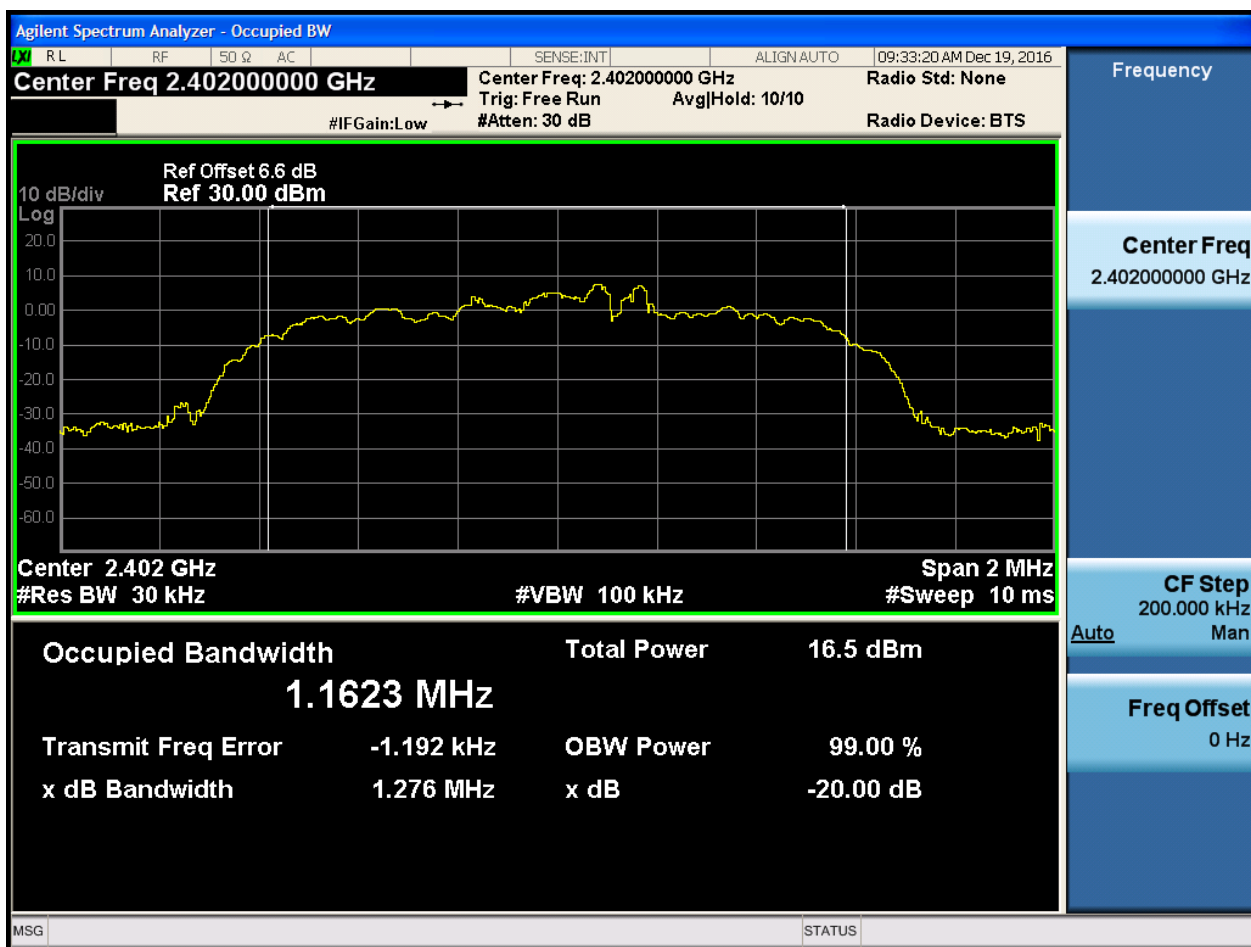
## 2.2 TM1\_DH5\_Ch39



## 2.3 TM1\_DH5\_Ch78

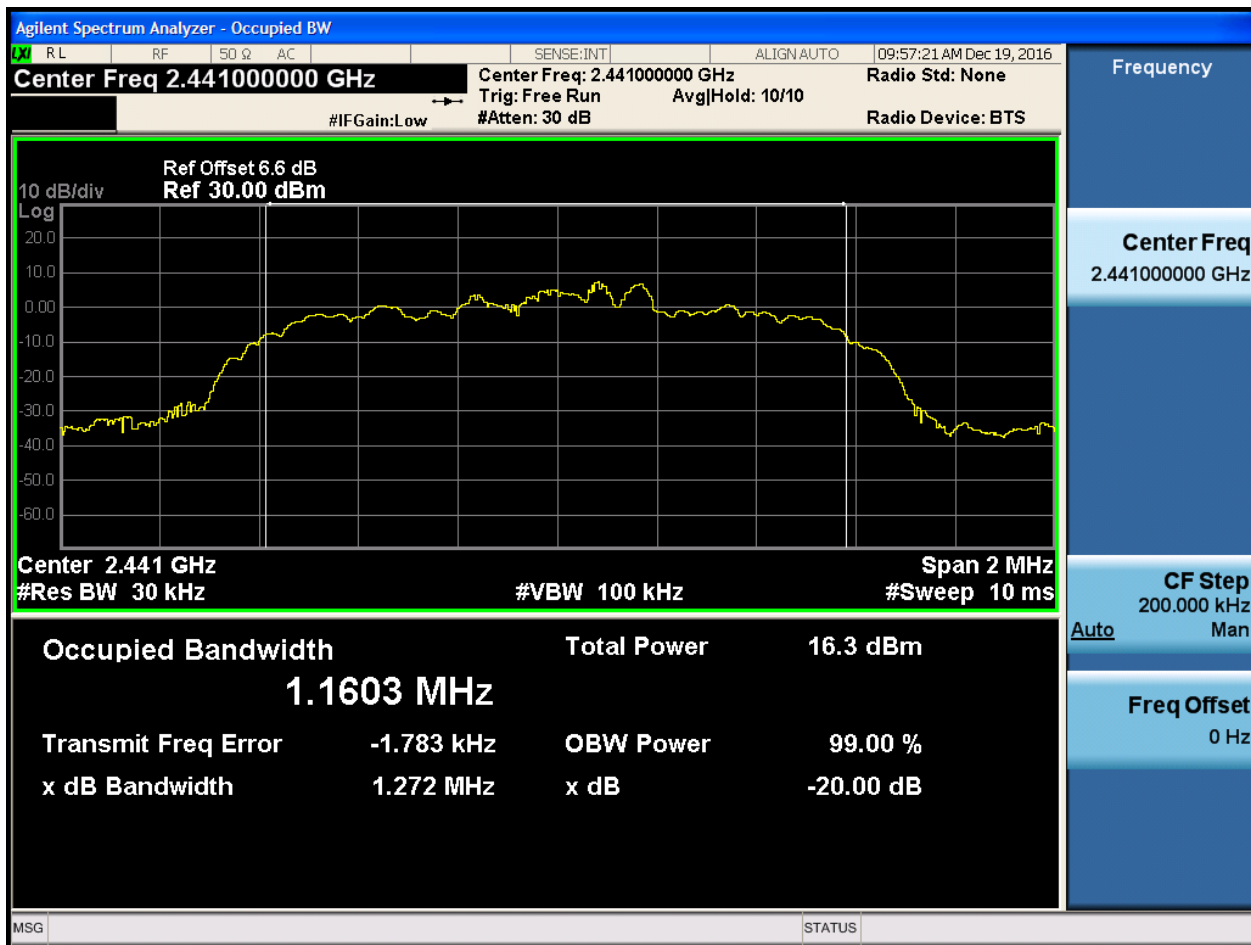


## 2.4 TM2\_2DH5\_Ch0



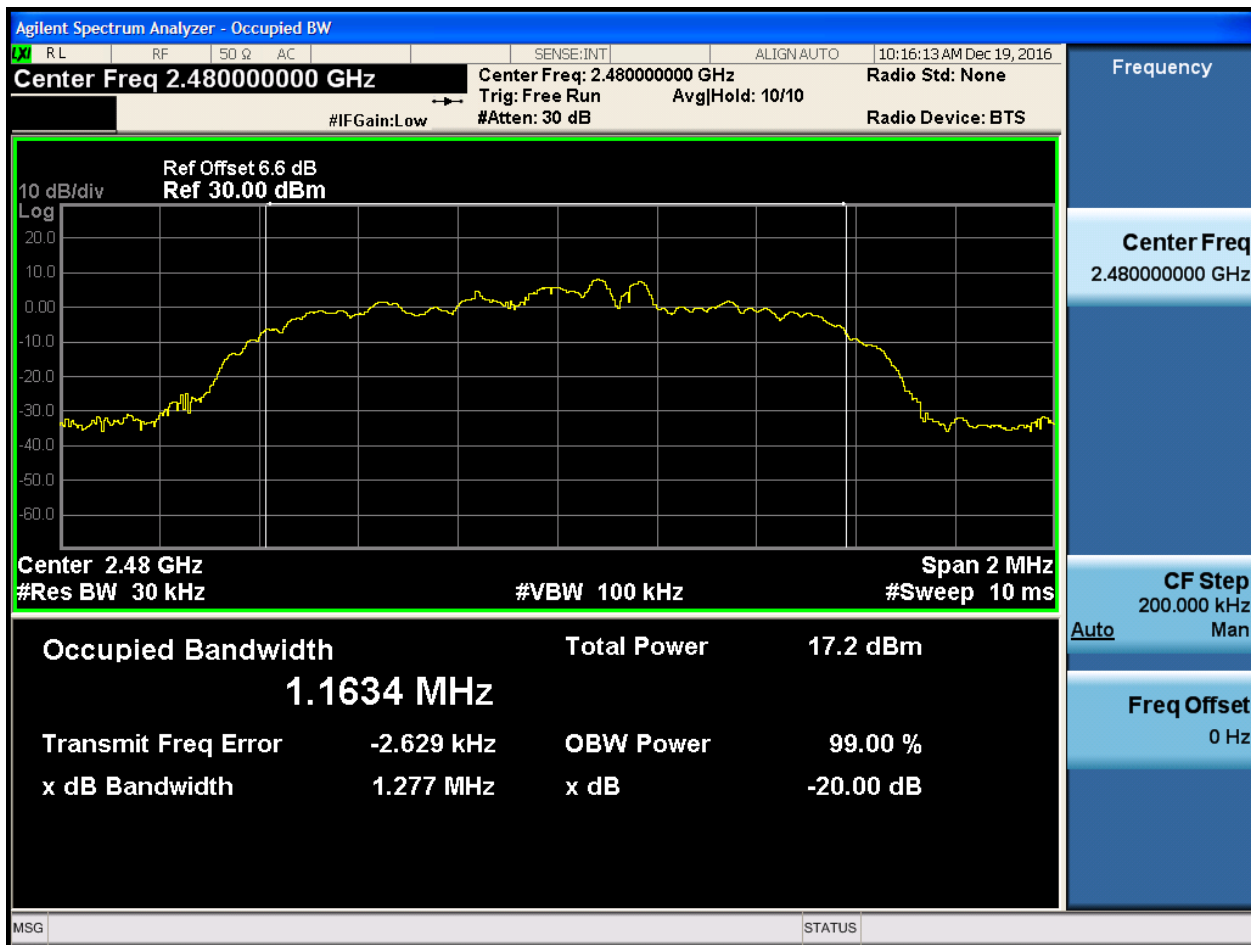


## 2.5 TM2\_2DH5\_Ch39



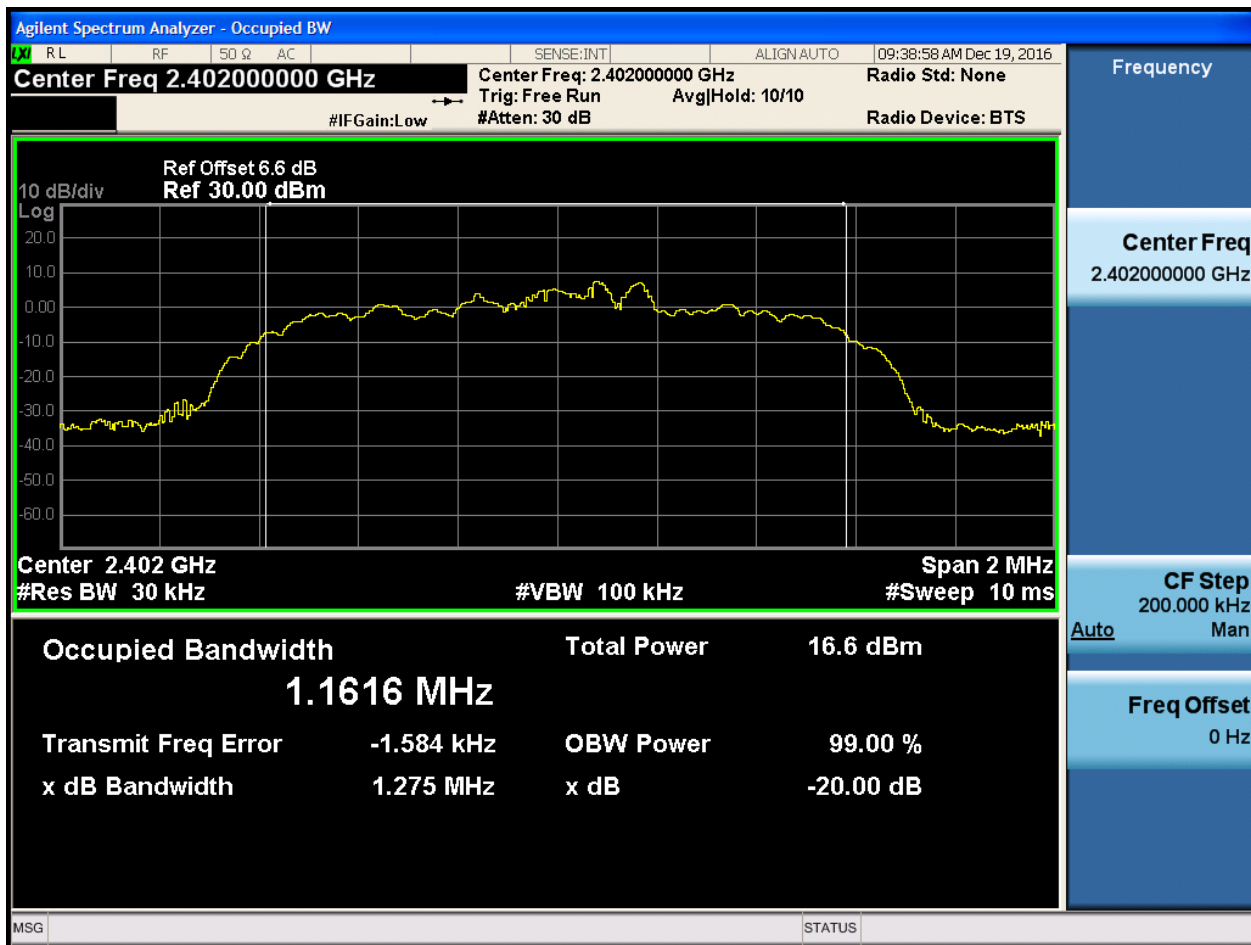


## 2.6 TM2\_2DH5\_Ch78



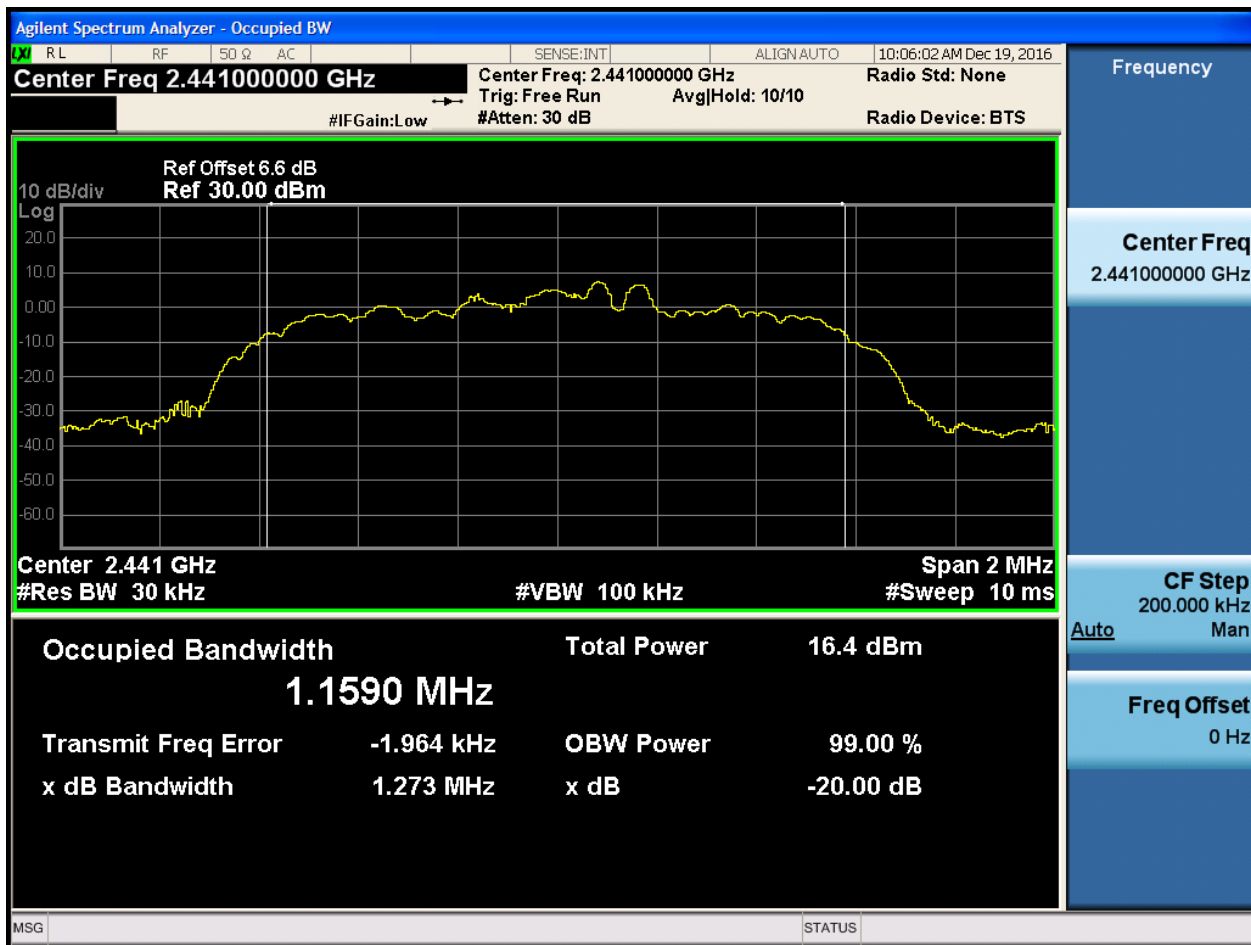


## 2.7 TM3\_3DH5\_Ch0



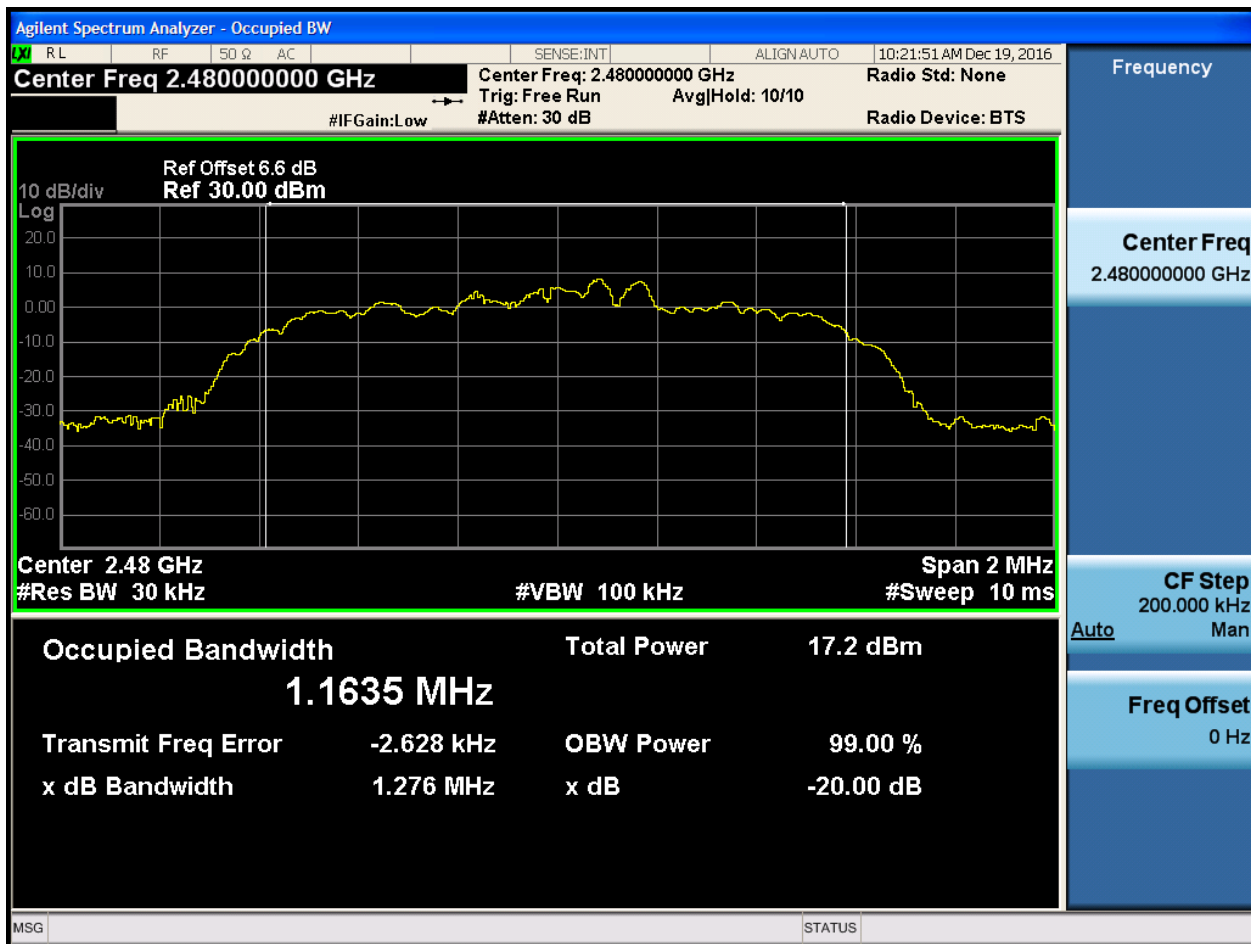


## 2.8 TM3\_3DH5\_Ch39





## 2.9 TM3\_3DH5\_Ch78



# Appendix B: Carrier Frequency Separation

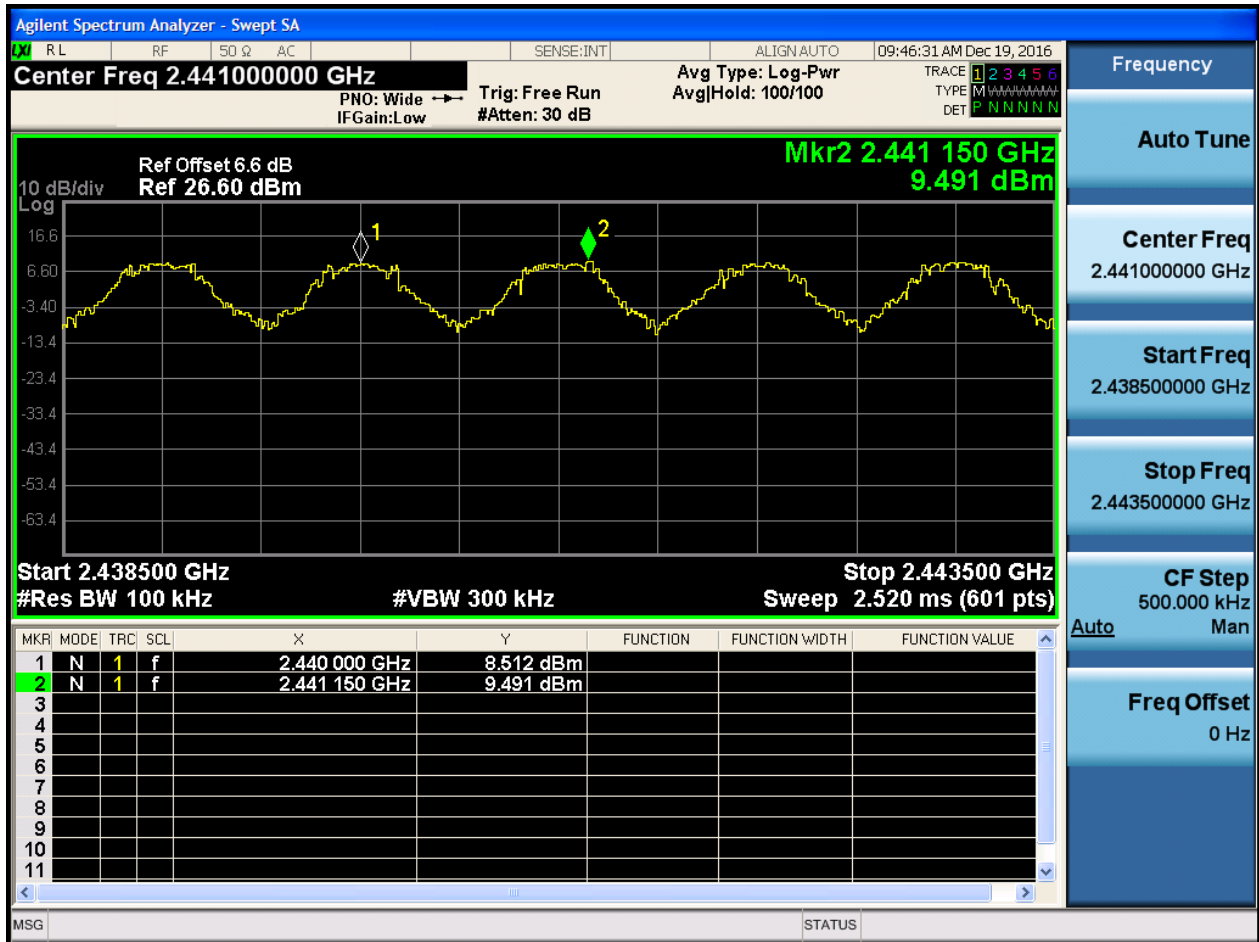
## 1 Result Table

| EUT Conf.    | Carrier Frequency Separation [MHz] | Verdict |
|--------------|------------------------------------|---------|
| TM1_DH5_Hop  | 1.15                               | Pass    |
| TM2_2DH5_Hop | 1.15                               | Pass    |
| TM3_3DH5_Hop | 1                                  | Pass    |



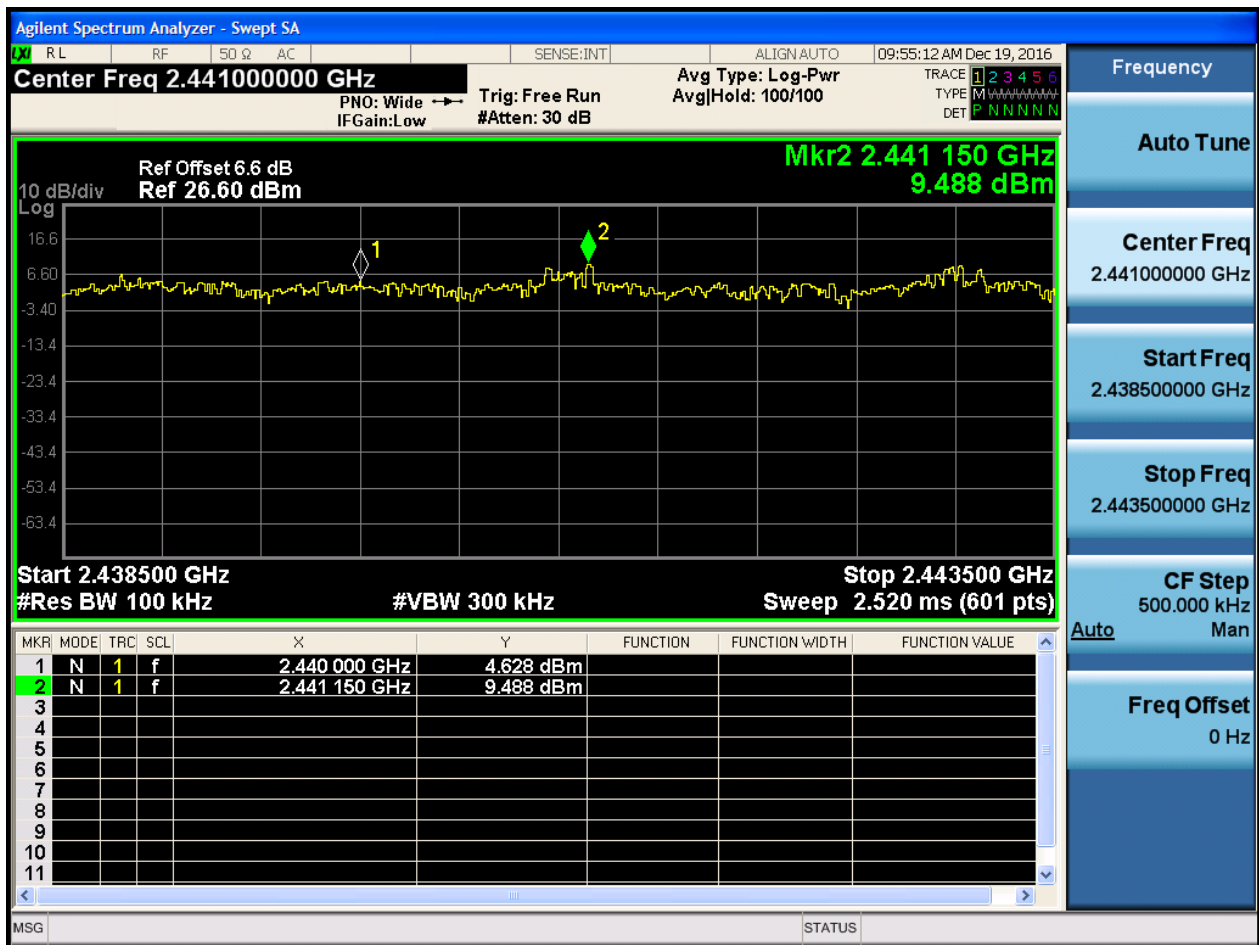
## 2 Test Plot

### 2.1 TM1\_DH5\_Hop



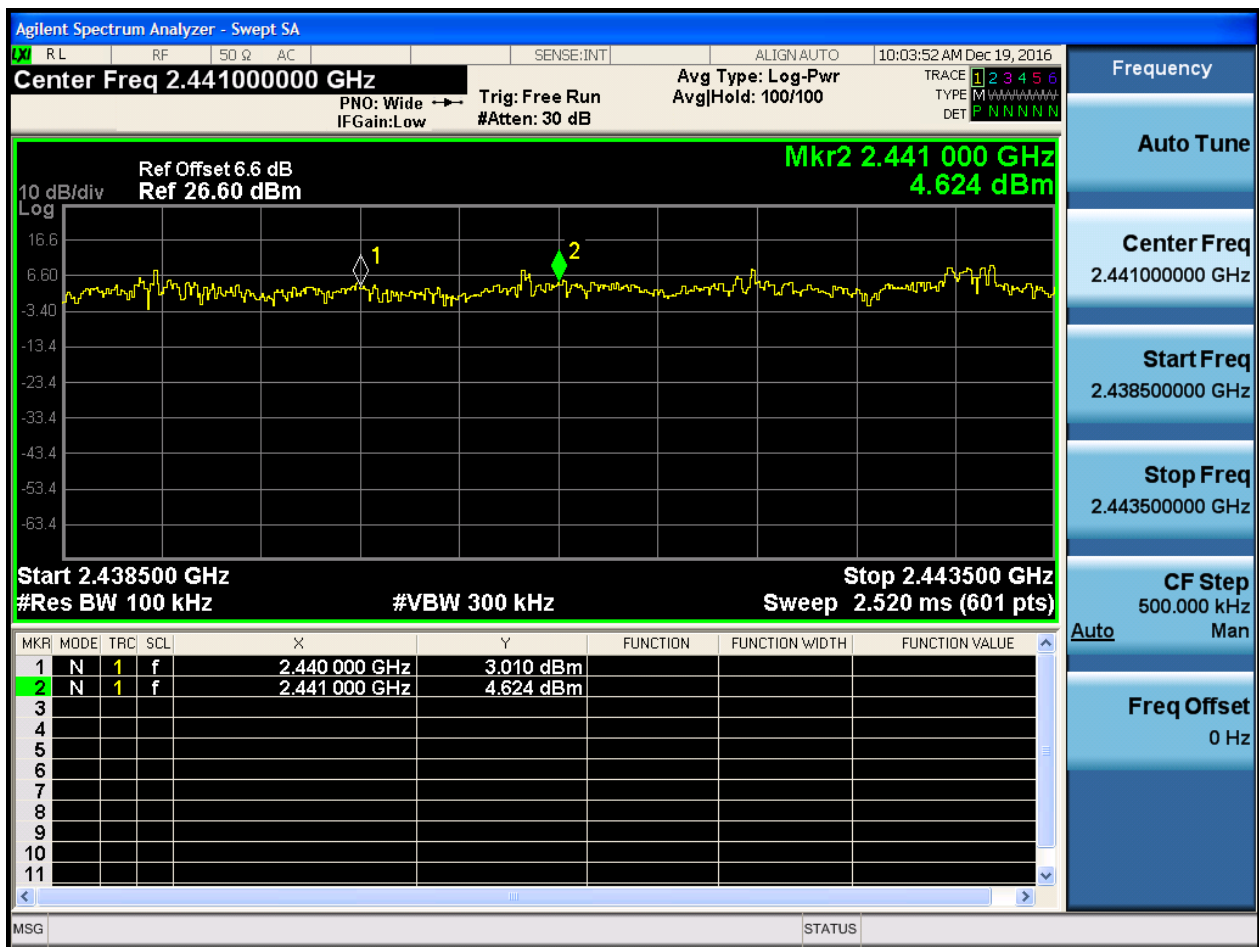


## 2.2 TM2\_2DH5\_Hop





## 2.3 TM3\_3DH5\_Hop



## Appendix C: Number of Hopping Channel

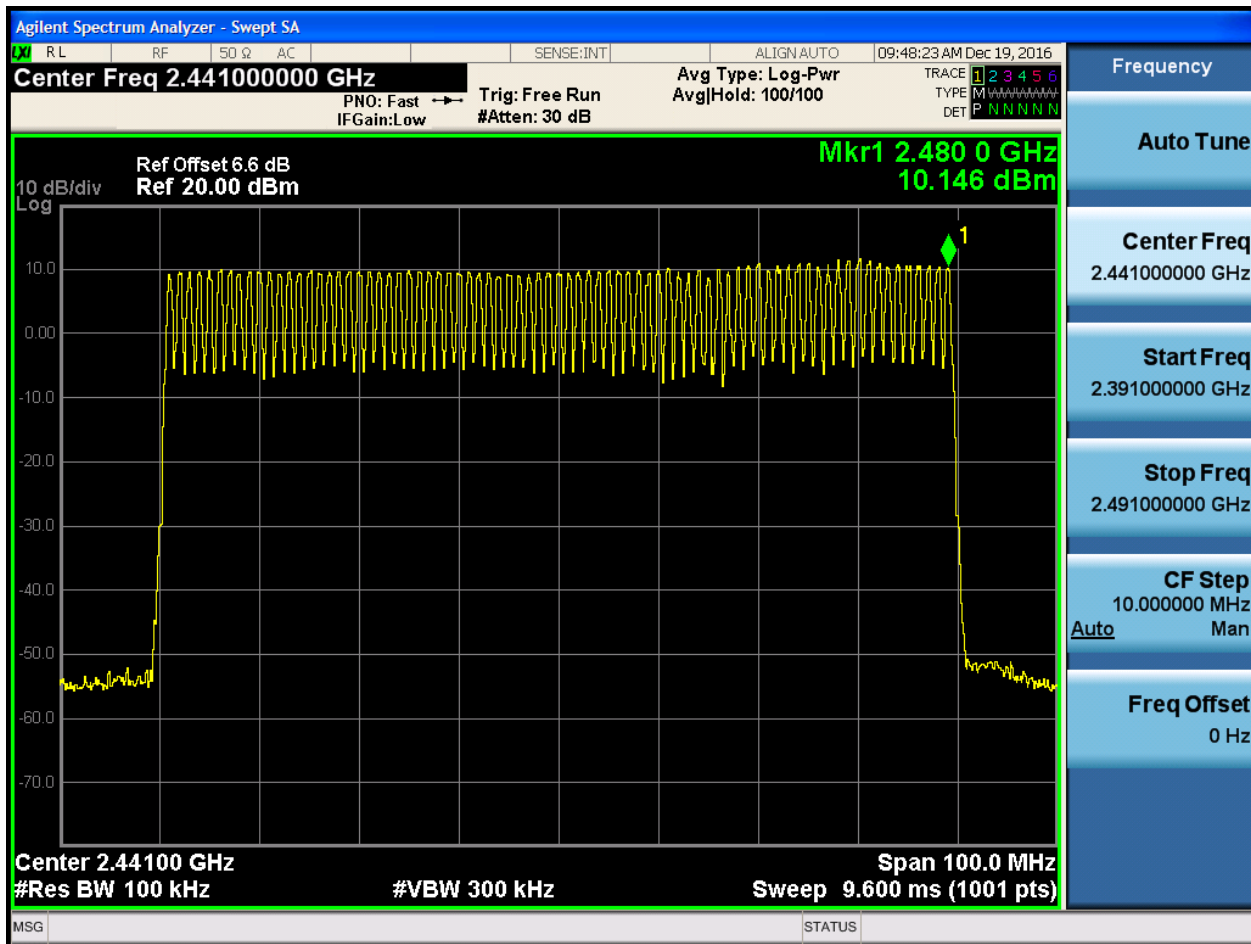


## 1 Result Table

| EUT Conf.    | Number of Hopping Channel | Verdict |
|--------------|---------------------------|---------|
| TM1_DH5_Hop  | 79                        | Pass    |
| TM2_2DH5_Hop | 79                        | Pass    |
| TM3_3DH5_Hop | 79                        | Pass    |

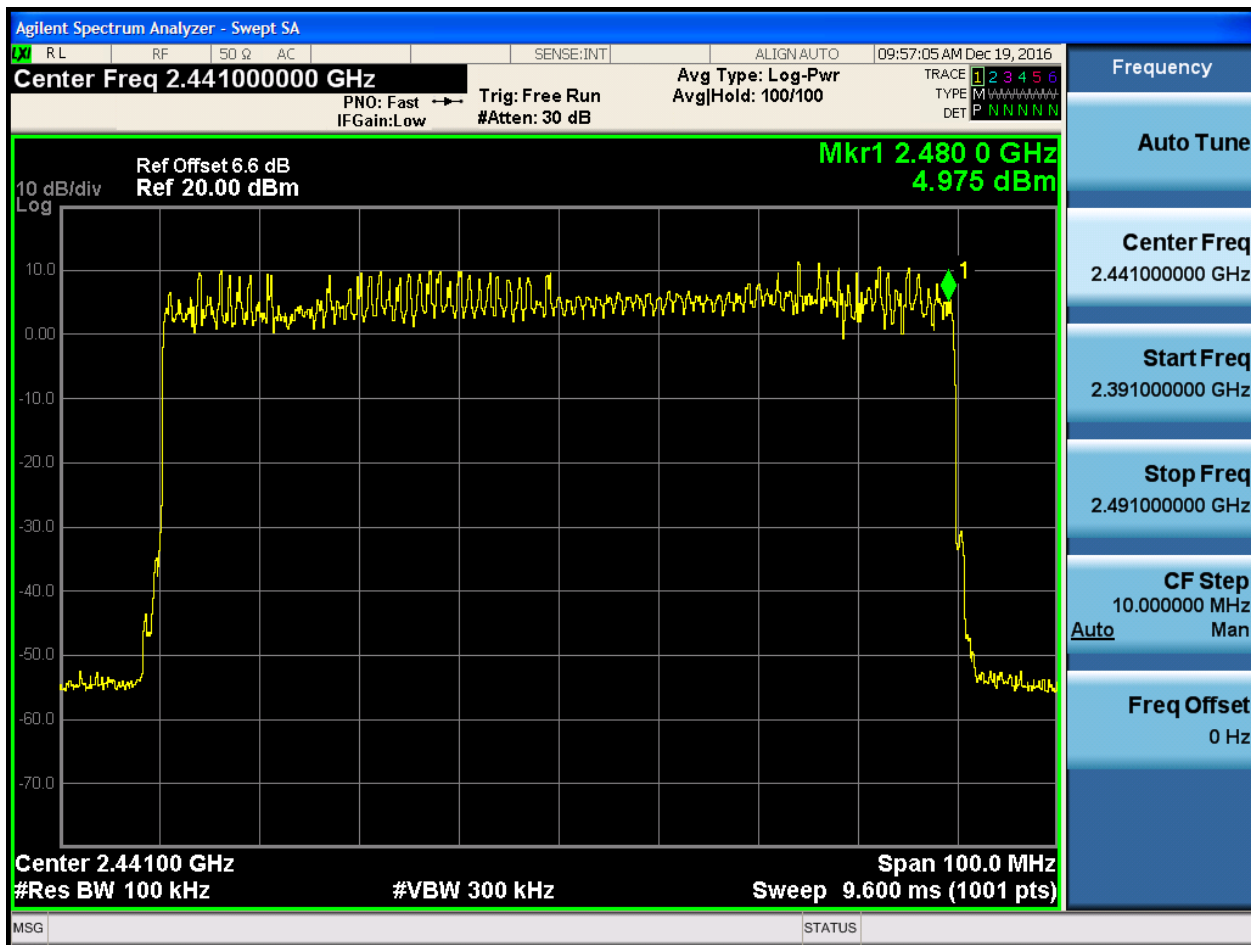
## 2 Test Plot

### 2.1 TM1\_DH5\_Hop



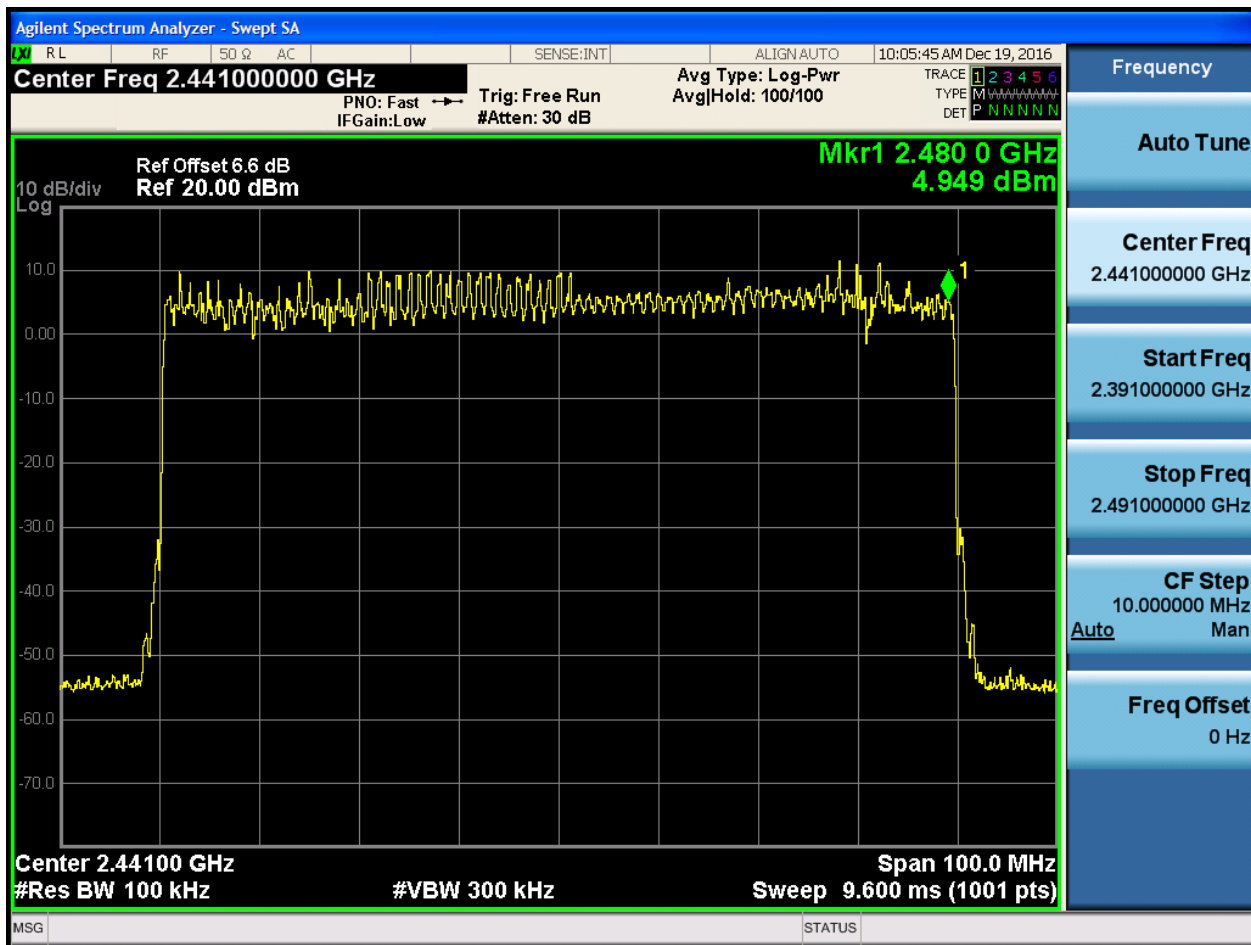


## 2.2 TM2\_2DH5\_Hop





## 2.3 TM3\_3DH5\_Hop



## **Appendix D: Time of Occupancy (Dwell Time)**

## 1 Result Table

The Dwell Time = Burst Width \* Total Hops. The detailed calculations are showed as follows:

- The duration for dwell time calculation:  $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch\*hop/s] for all channels. So the final hopping rate for all channels is  $1600 / 6 = 266.67 \text{ [ch*hop/s]}$ ;
- The hops per second on one channel:  $266.67 \text{ [ch*hop/s]} / 79 \text{ [ch]} = 3.38 \text{ [hop/s]}$ ;
- The total hops for all channels within the dwell time calculation duration:  $3.38 \text{ [hop/s]} * 31.6 \text{ [s*ch]} = 106.67 \text{ [hop*ch]}$ ;
- The dwell time for all channels hopping:  $106.67 \text{ [hop*ch]} * \text{Burst Width [ms/hop/ch]}$ .

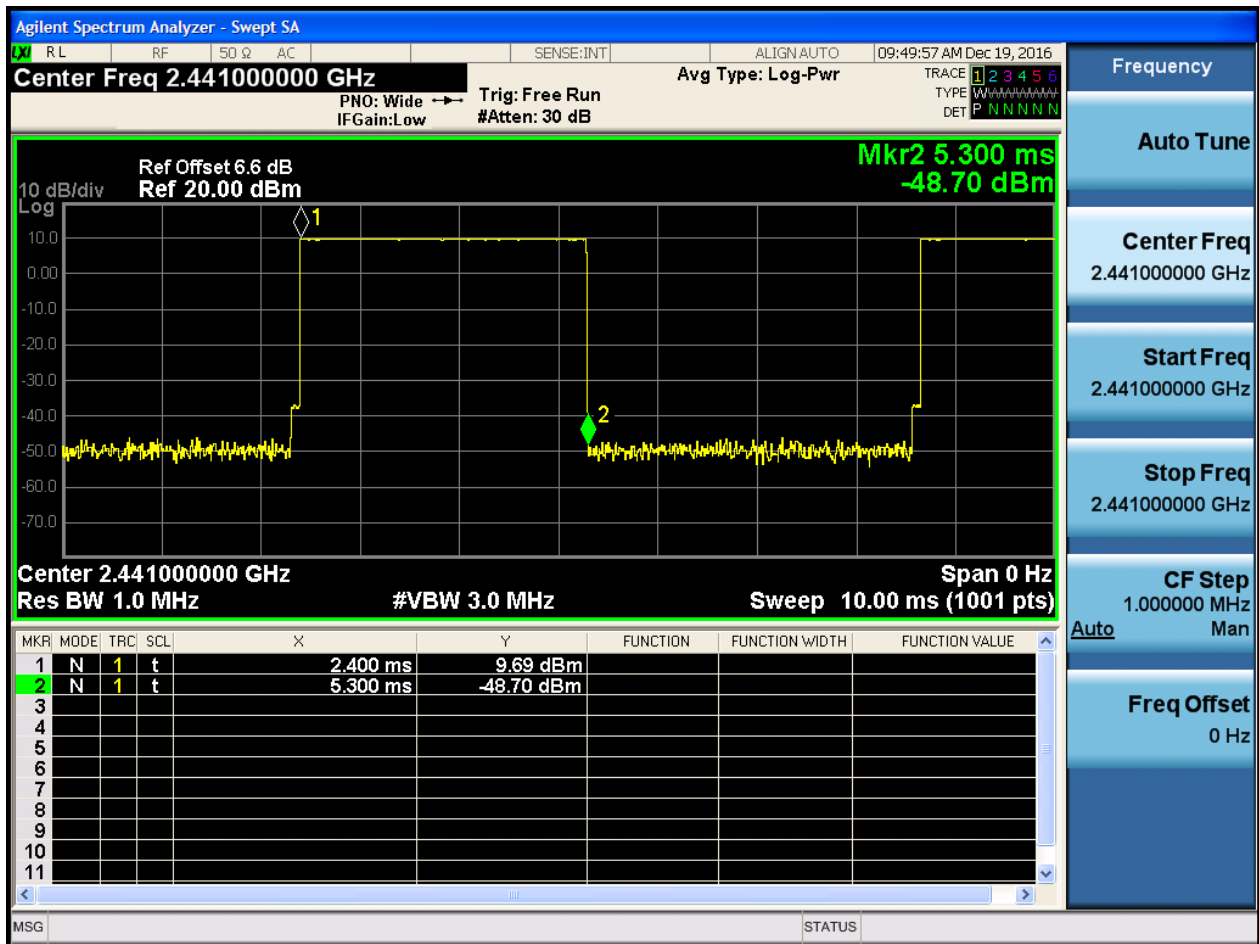
| EUT Conf.     | Burst Width [s/hop/ch] | Total Hops [hop*ch] | Dwell Time [s] | Verdict |
|---------------|------------------------|---------------------|----------------|---------|
| TM1_DH5_Ch39  | 0.0029                 | 106.67              | 0.309          | Pass    |
| TM2_2DH5_Ch39 | 0.0029                 | 106.67              | 0.309          | Pass    |
| TM3_3DH5_Ch39 | 0.0029                 | 106.67              | 0.309          | Pass    |



## 2 Test Plot

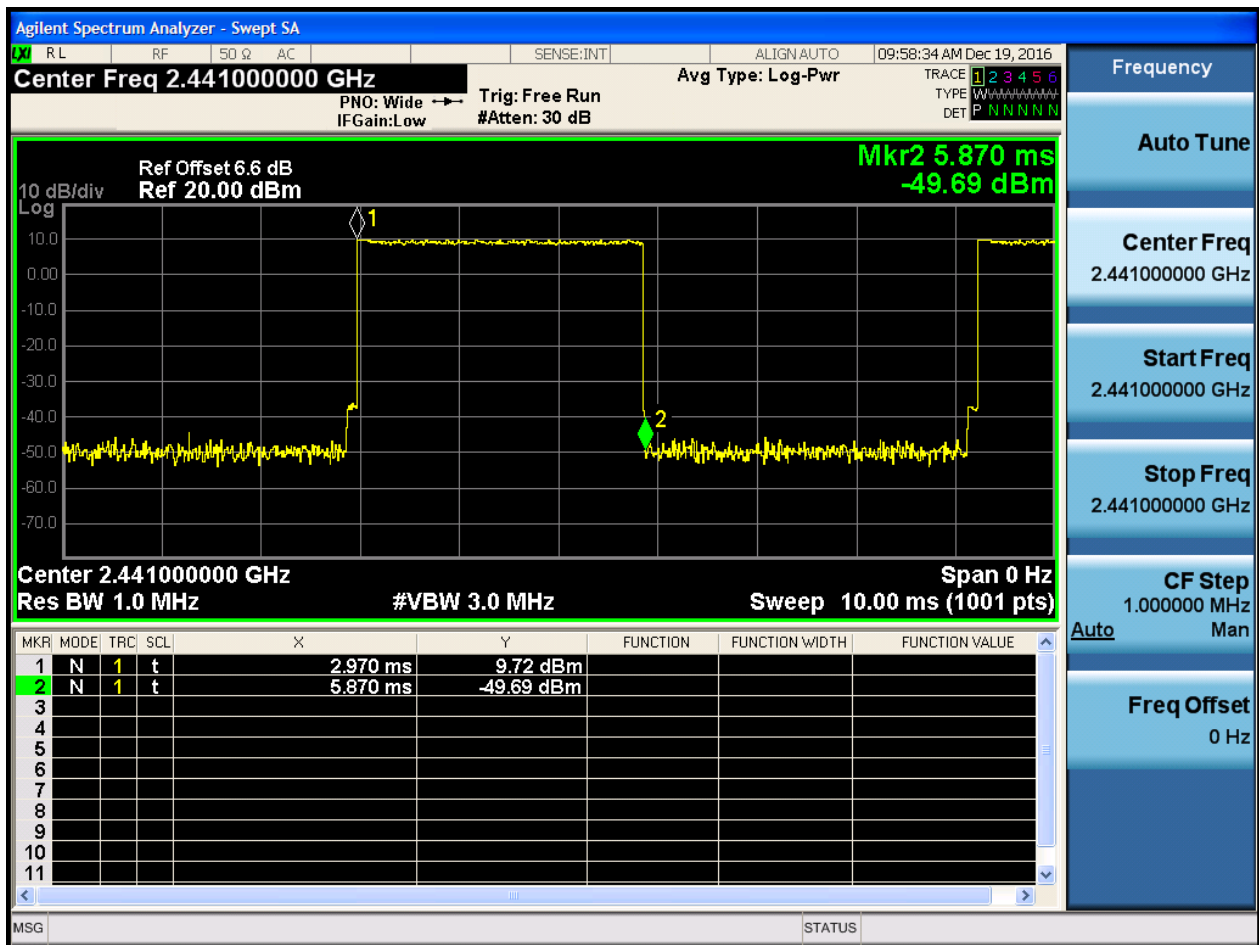
NOTE: The test plots are only for Burst Width measurements.

### 2.1 TM1\_DH5\_Ch39



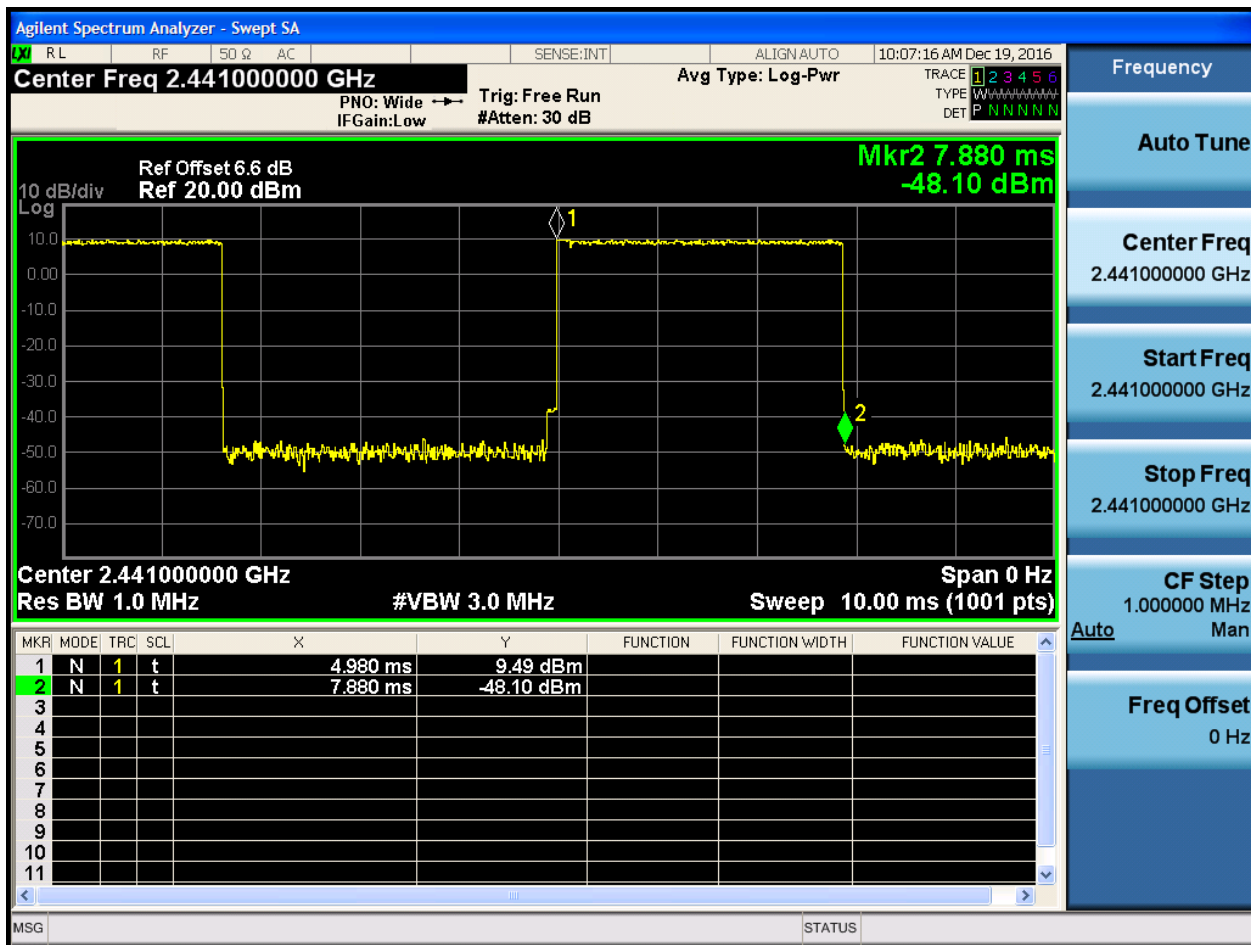


## 2.2 TM2\_2DH5\_Ch39





## 2.3 TM3\_3DH5\_Ch39



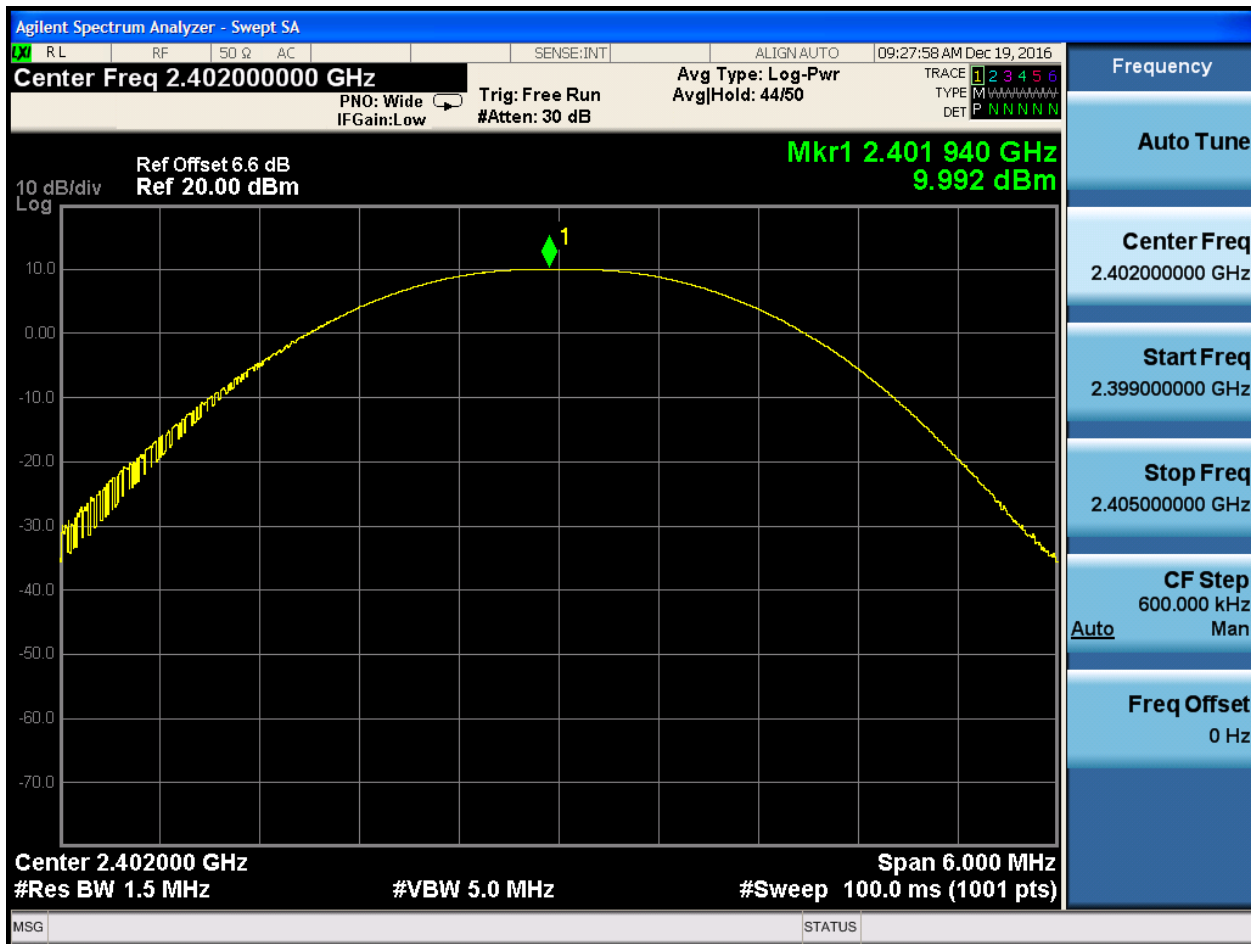
## **Appendix E: Maximum Peak Conducted Output Power**

## 1 Result Table

| EUT Conf.     | Max. Peak Power [dBm] | Verdict |
|---------------|-----------------------|---------|
| TM1_DH5_Ch0   | 9.992                 | Pass    |
| TM1_DH5_Ch39  | 9.853                 | Pass    |
| TM1_DH5_Ch78  | 10.723                | Pass    |
| TM2_2DH5_Ch0  | 10.435                | Pass    |
| TM2_2DH5_Ch39 | 10.446                | Pass    |
| TM2_2DH5_Ch78 | 11.000                | Pass    |
| TM3_3DH5_Ch0  | 10.430                | Pass    |
| TM3_3DH5_Ch39 | 10.274                | Pass    |
| TM3_3DH5_Ch78 | 10.978                | Pass    |

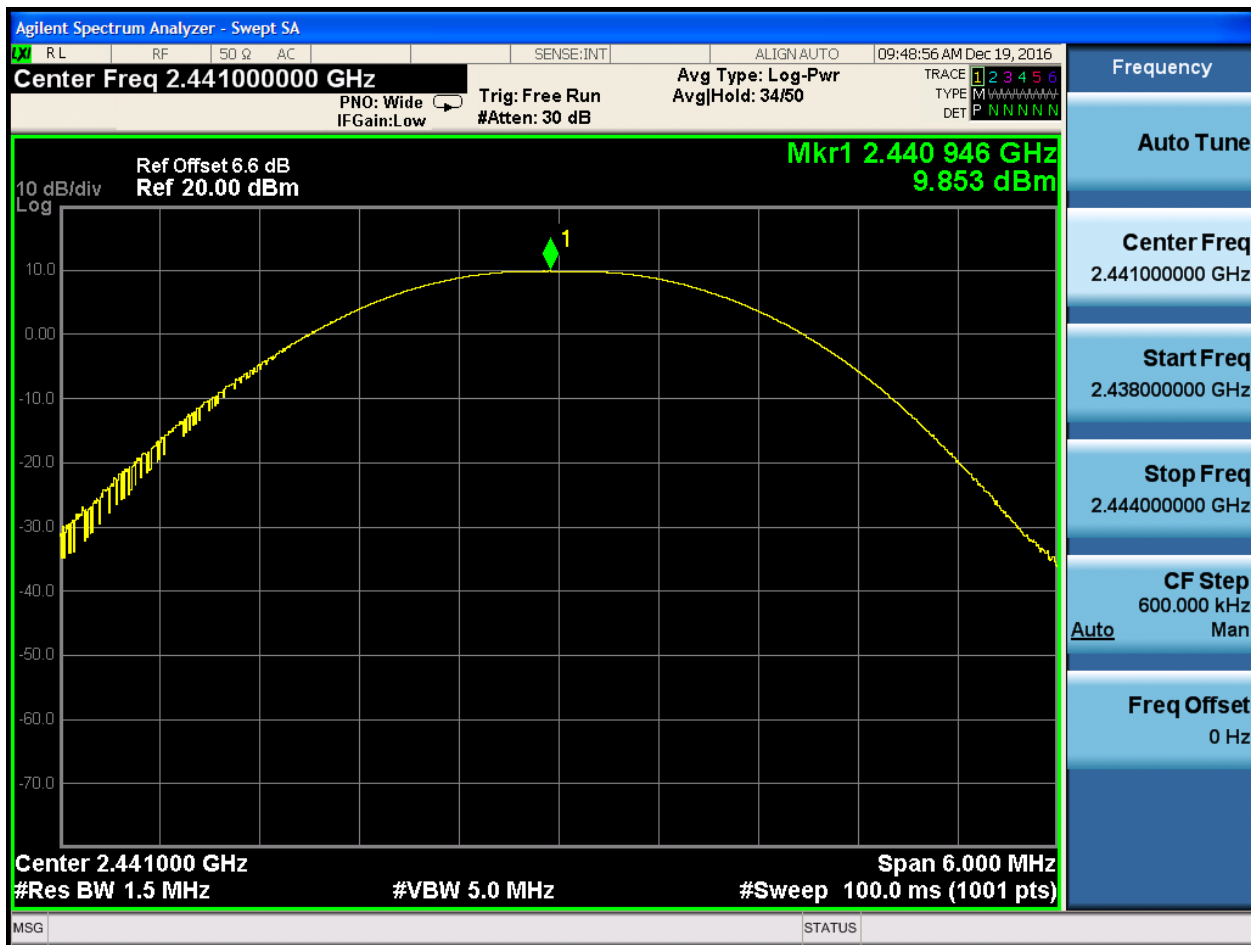
## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0



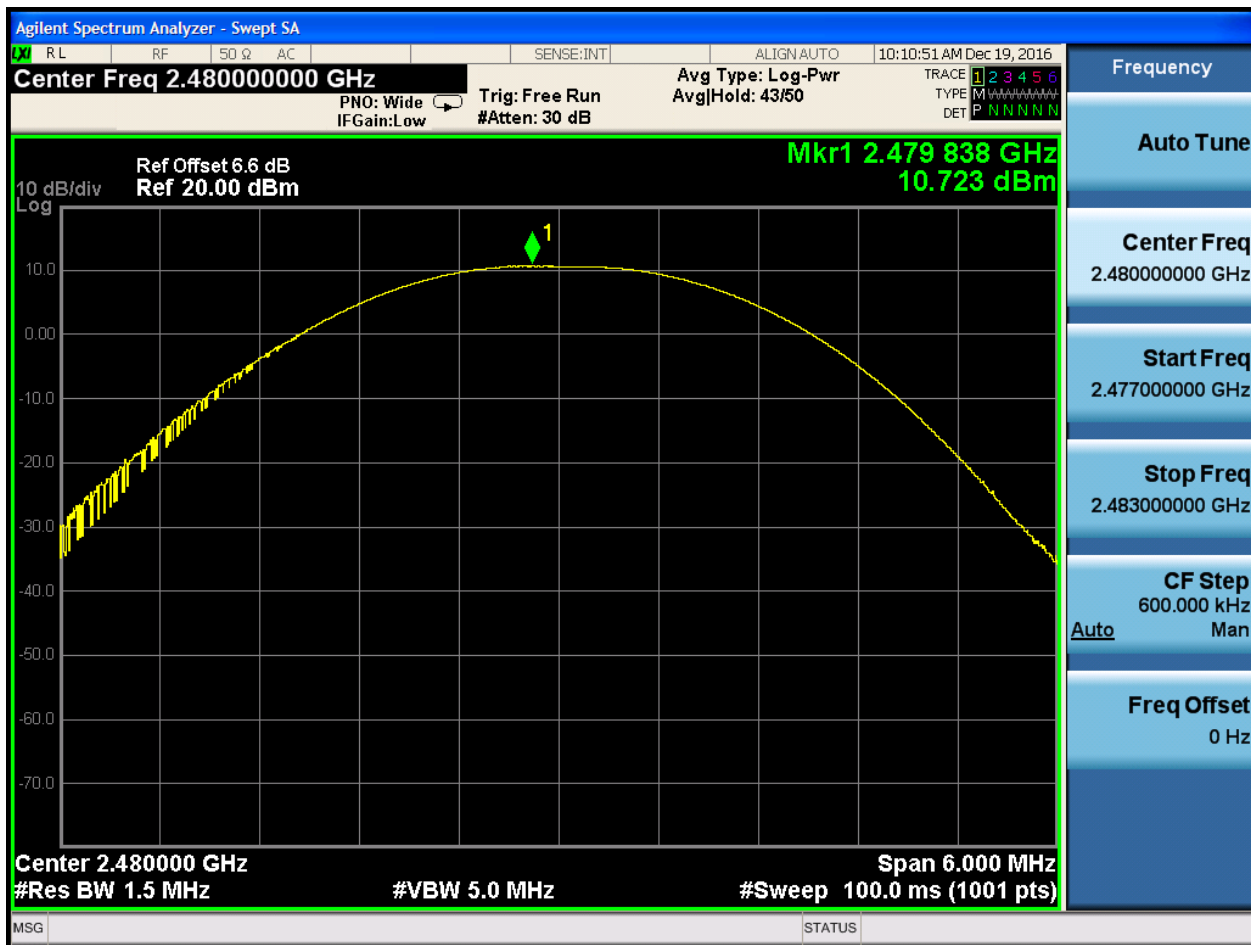


## 2.2 TM1\_DH5\_Ch39



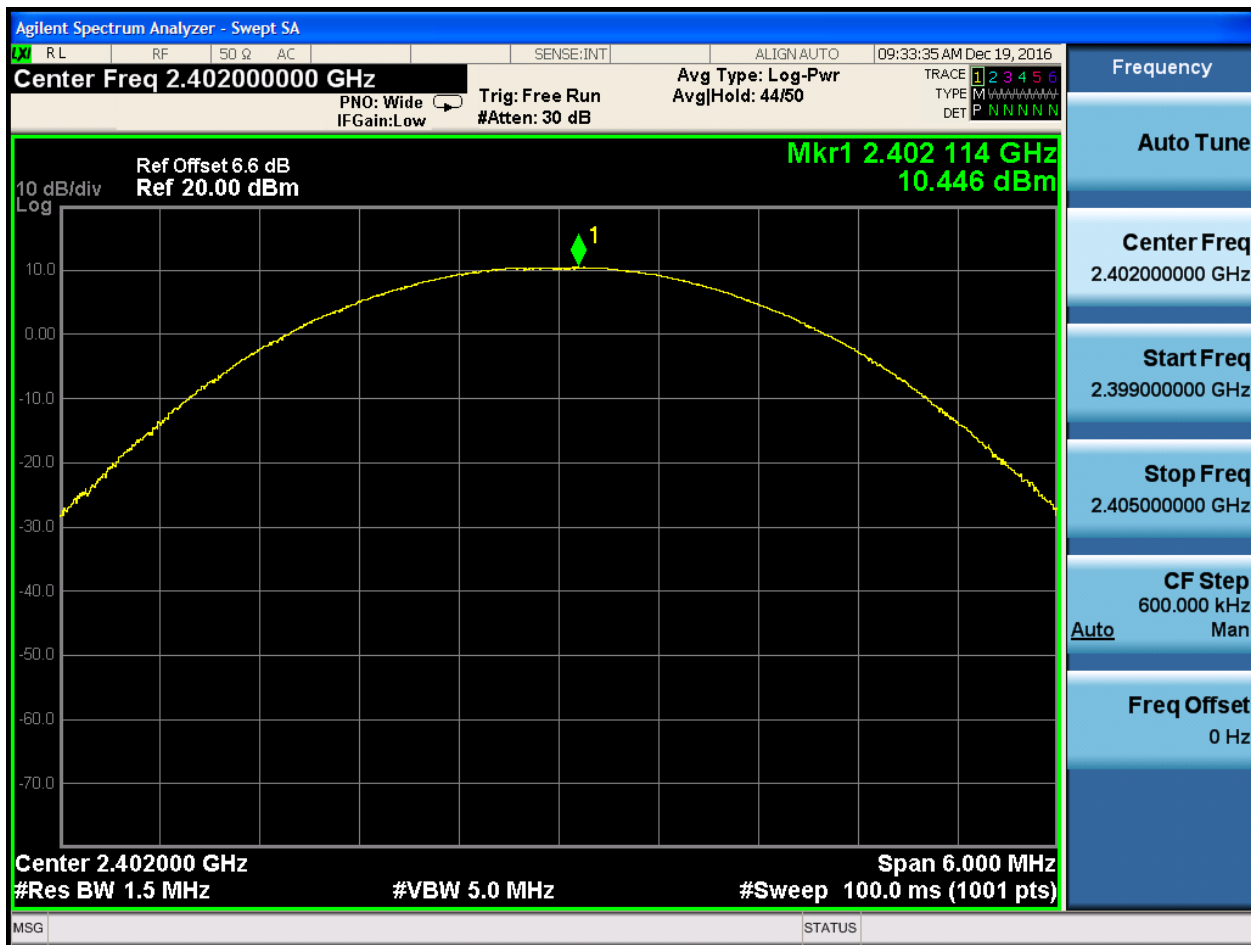


## 2.3 TM1\_DH5\_Ch78



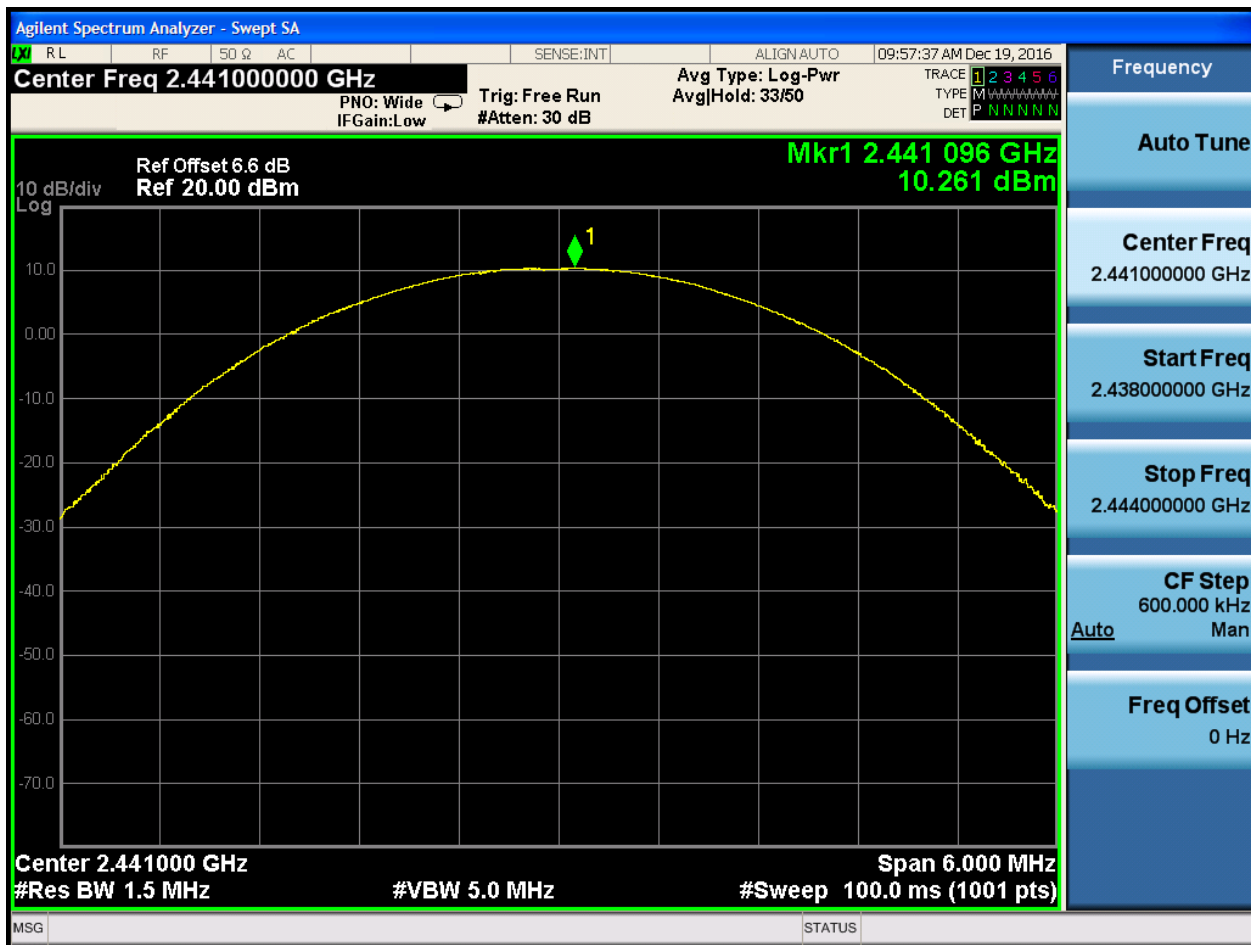


## 2.4 TM2\_2DH5\_Ch0

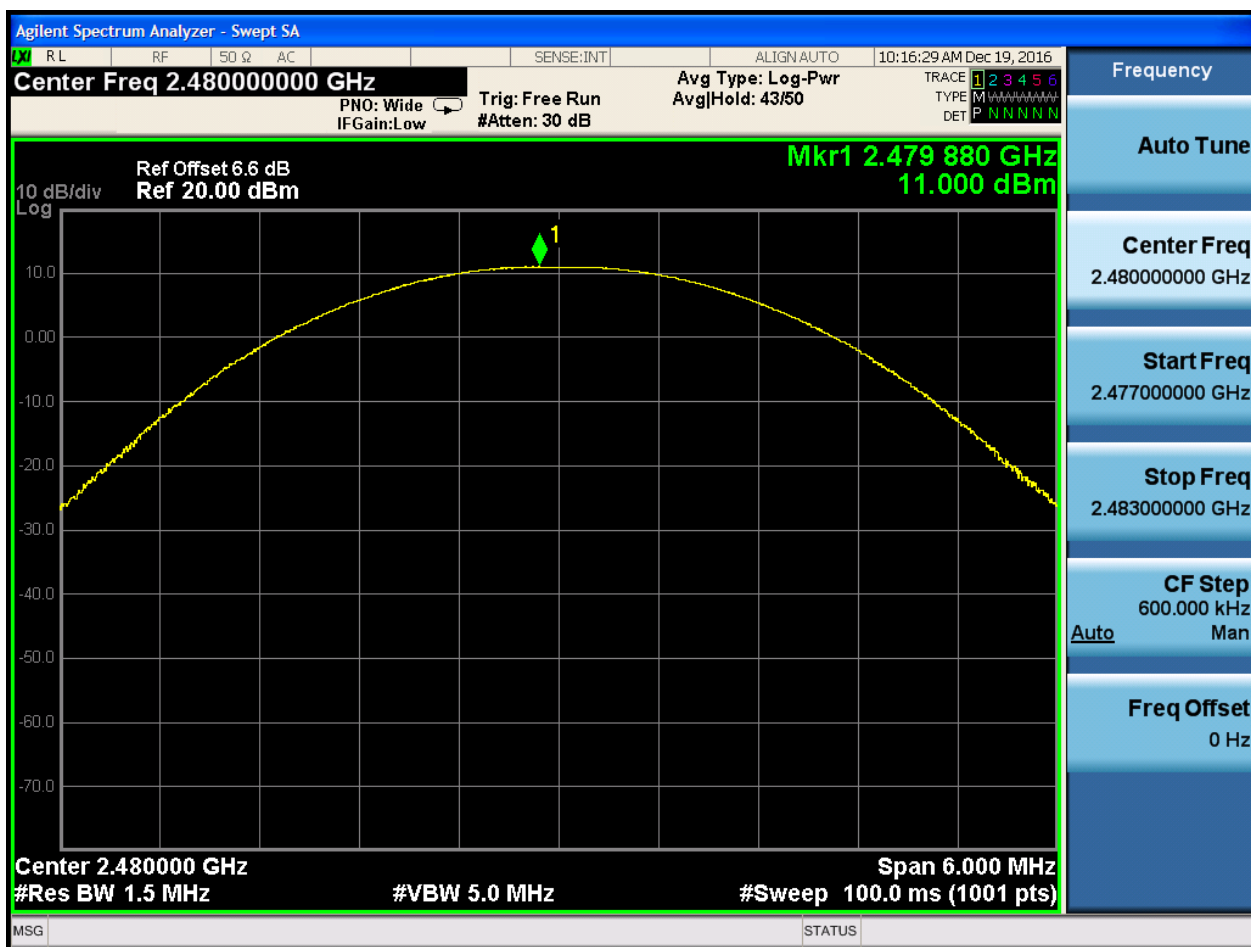




## 2.5 TM2\_2DH5\_Ch39

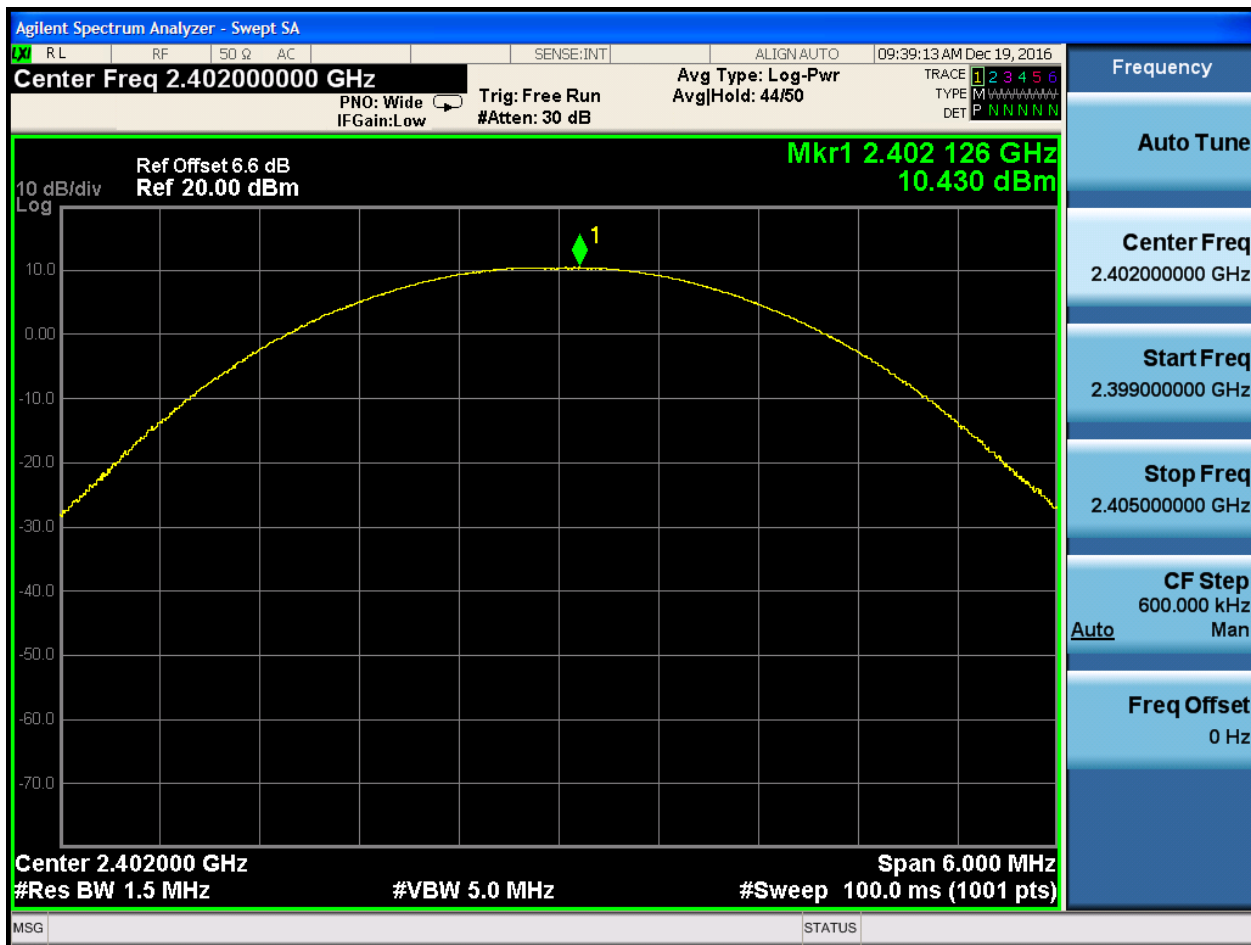


## 2.6 TM2\_2DH5\_Ch78



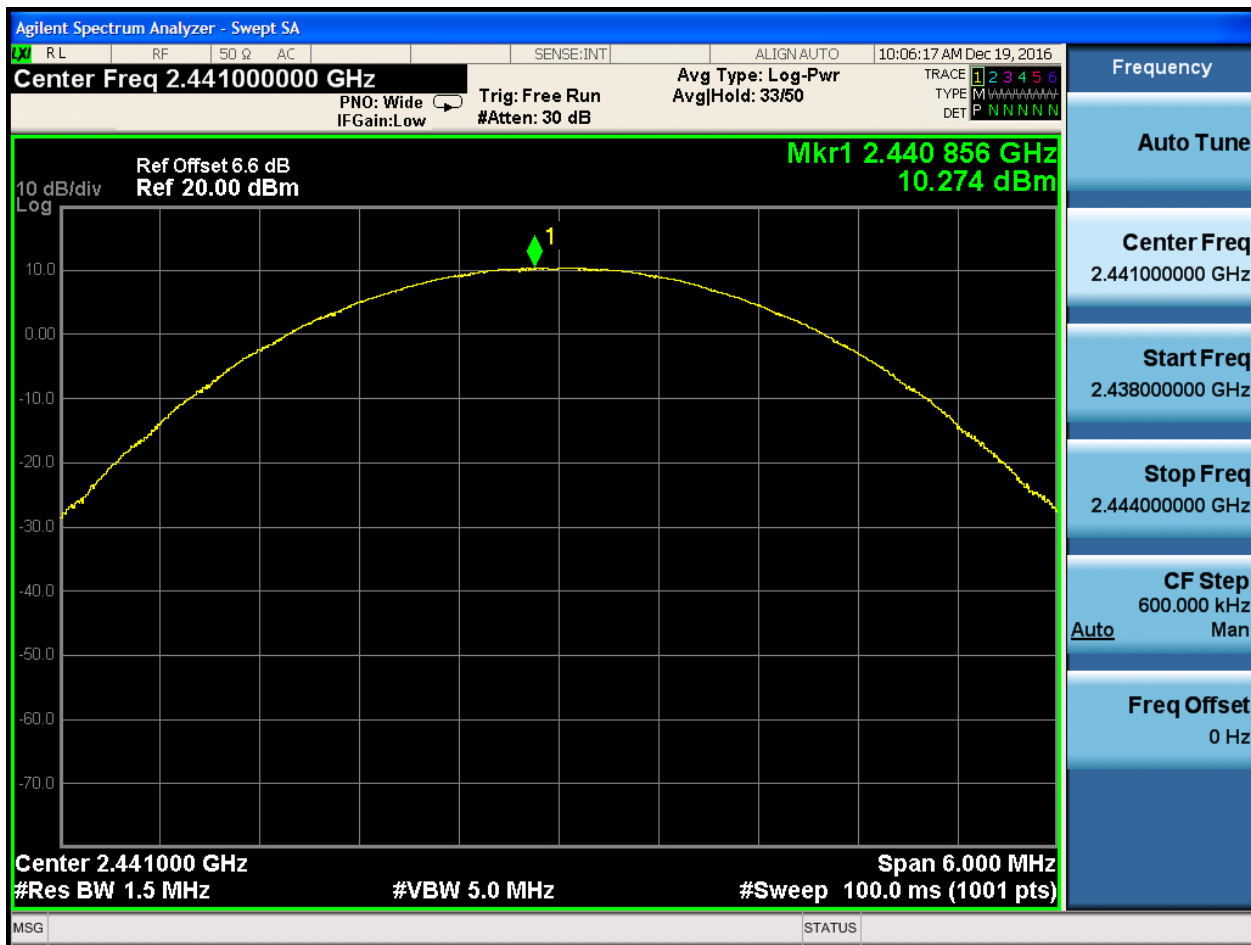


## 2.7 TM3\_3DH5\_Ch0



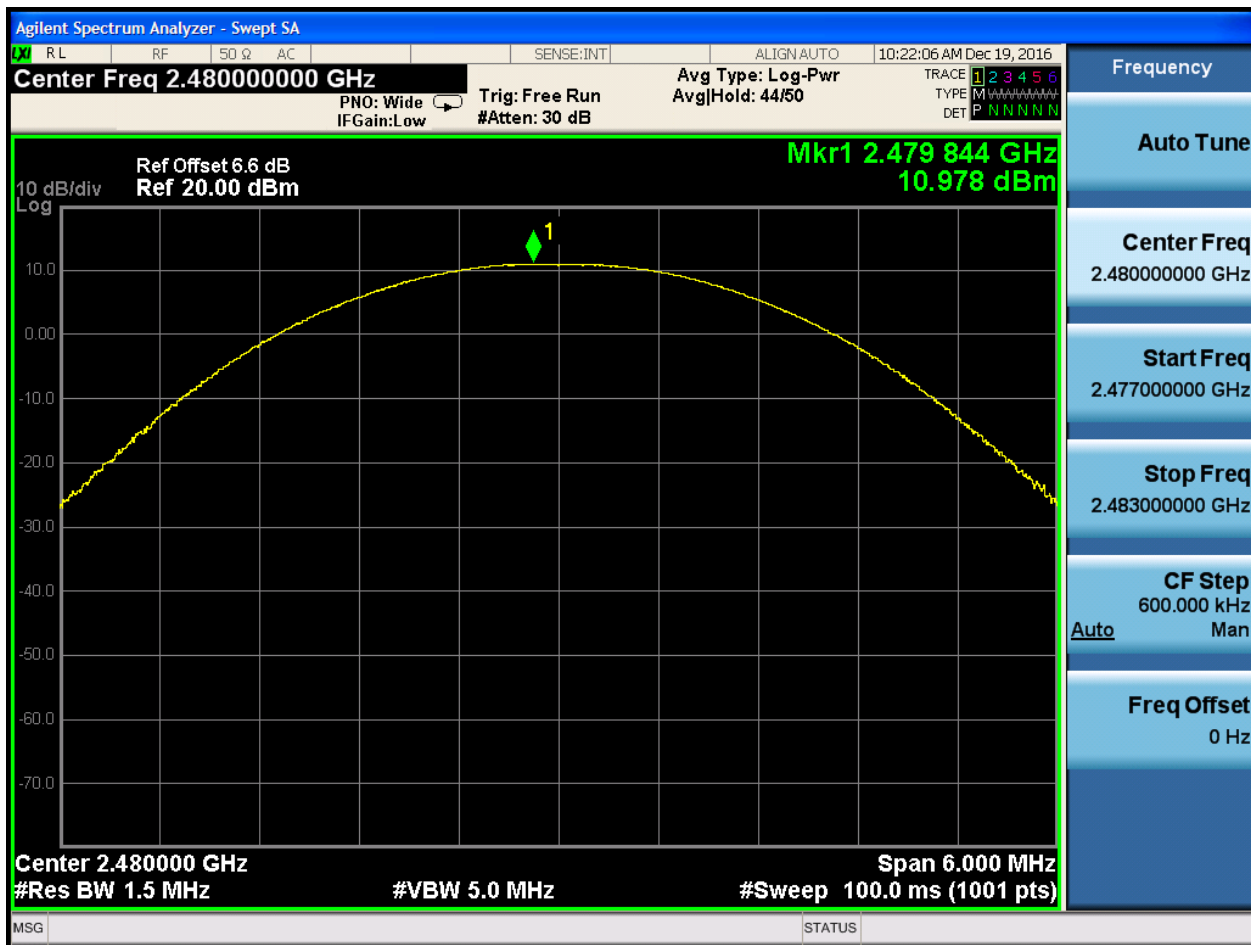


## 2.8 TM3\_3DH5\_Ch39





## 2.9 TM3\_3DH5\_Ch78



# Appendix F: Band edge spurious emission

## 1 Result Table

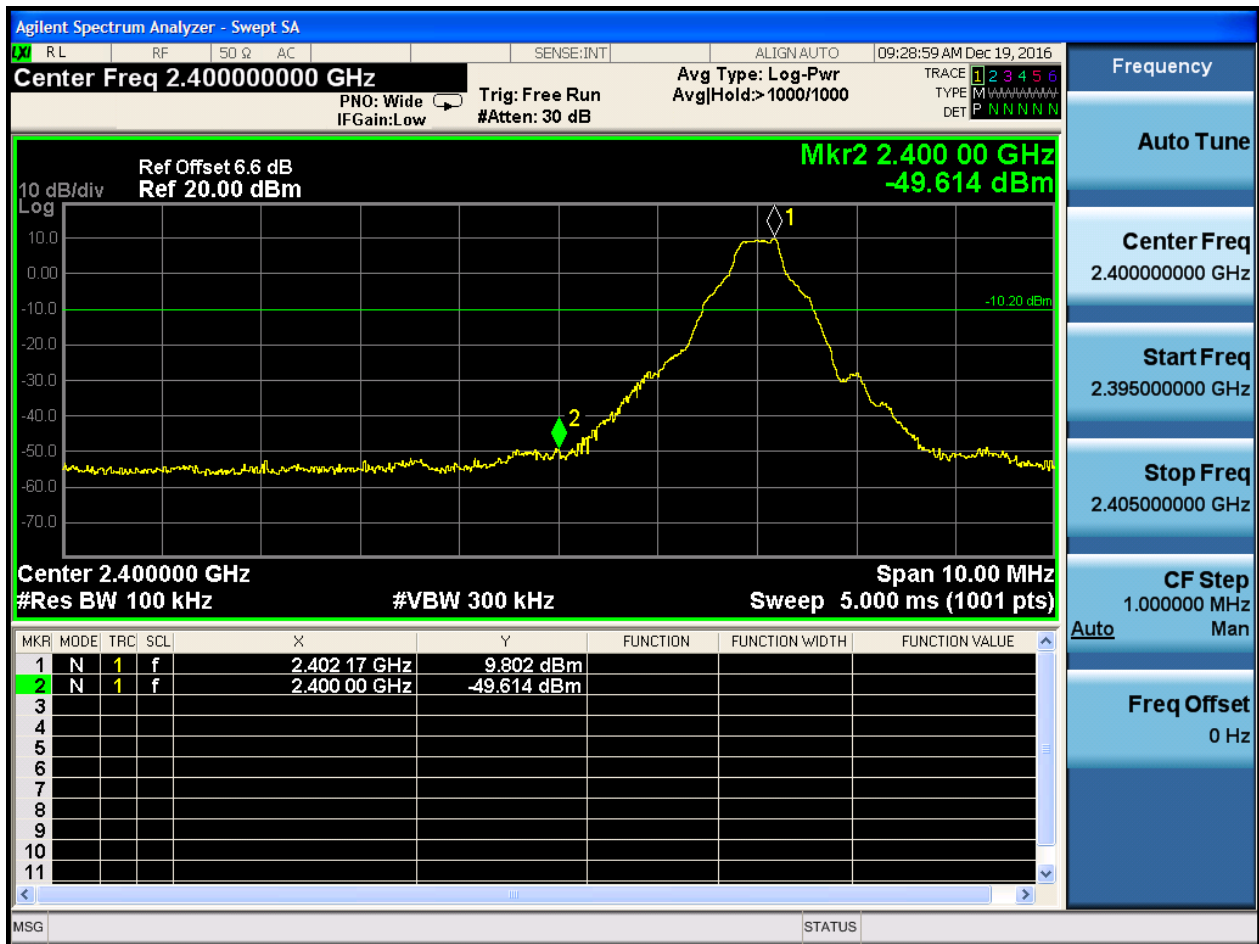
| EUT Conf.     | Channel No. | Carrier Frequency [MHz] | Max. Spurious Level [dBm] | Frequency Hopping | Carrier Power [dBm] | Limit [dBm] | Result |
|---------------|-------------|-------------------------|---------------------------|-------------------|---------------------|-------------|--------|
| TM1_DH5_Ch0   | 0           | 2402                    | -49.614                   | Off               | 9.802               | -10.198     | Pass   |
|               | -           | -                       | -52.616                   | On                | 9.445               | -10.555     | Pass   |
| TM1_DH5_Ch78  | 78          | 2480                    | -54.539                   | Off               | 10.358              | -9.642      | Pass   |
|               | -           | -                       | -55.254                   | On                | 9.838               | -10.162     | Pass   |
| TM2_2DH5_Ch0  | 0           | 2402                    | -45.312                   | Off               | 9.791               | -10.209     | Pass   |
|               | -           | -                       | -51.31                    | On                | 9.993               | -10.007     | Pass   |
| TM2_2DH5_Ch78 | 78          | 2480                    | -54.026                   | Off               | 10.394              | -9.606      | Pass   |
|               | -           | -                       | -56.884                   | On                | 10.337              | -9.663      | Pass   |
| TM3_3DH5_Ch0  | 0           | 2402                    | -45.652                   | Off               | 9.848               | -10.152     | Pass   |
|               | -           | -                       | -48.186                   | On                | 9.655               | -10.345     | Pass   |
| TM3_3DH5_Ch78 | 78          | 2480                    | -52.569                   | Off               | 10.363              | -9.637      | Pass   |
|               | -           | -                       | -54.166                   | On                | 5.796               | -14.204     | Pass   |



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

No hopping



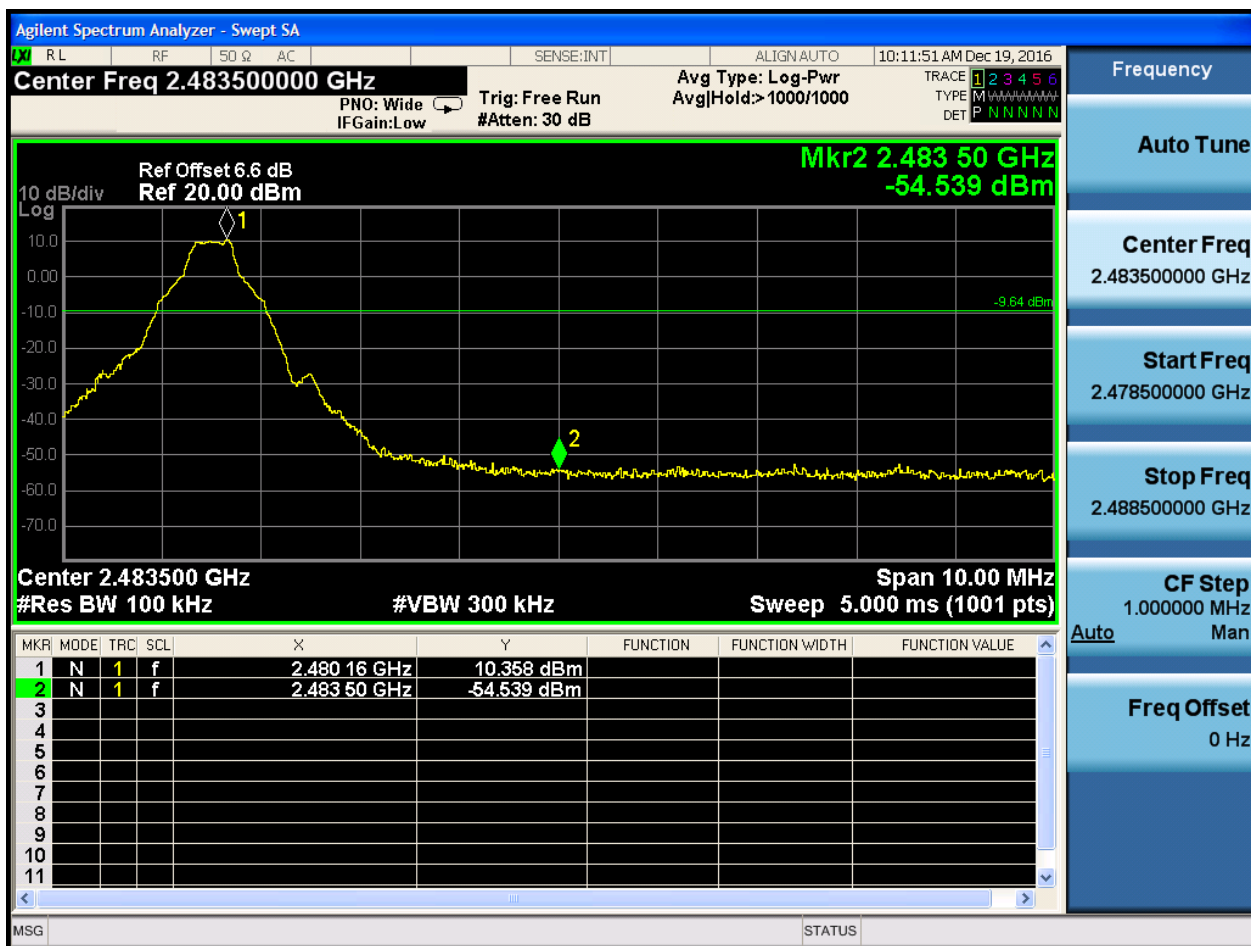


## With hopping



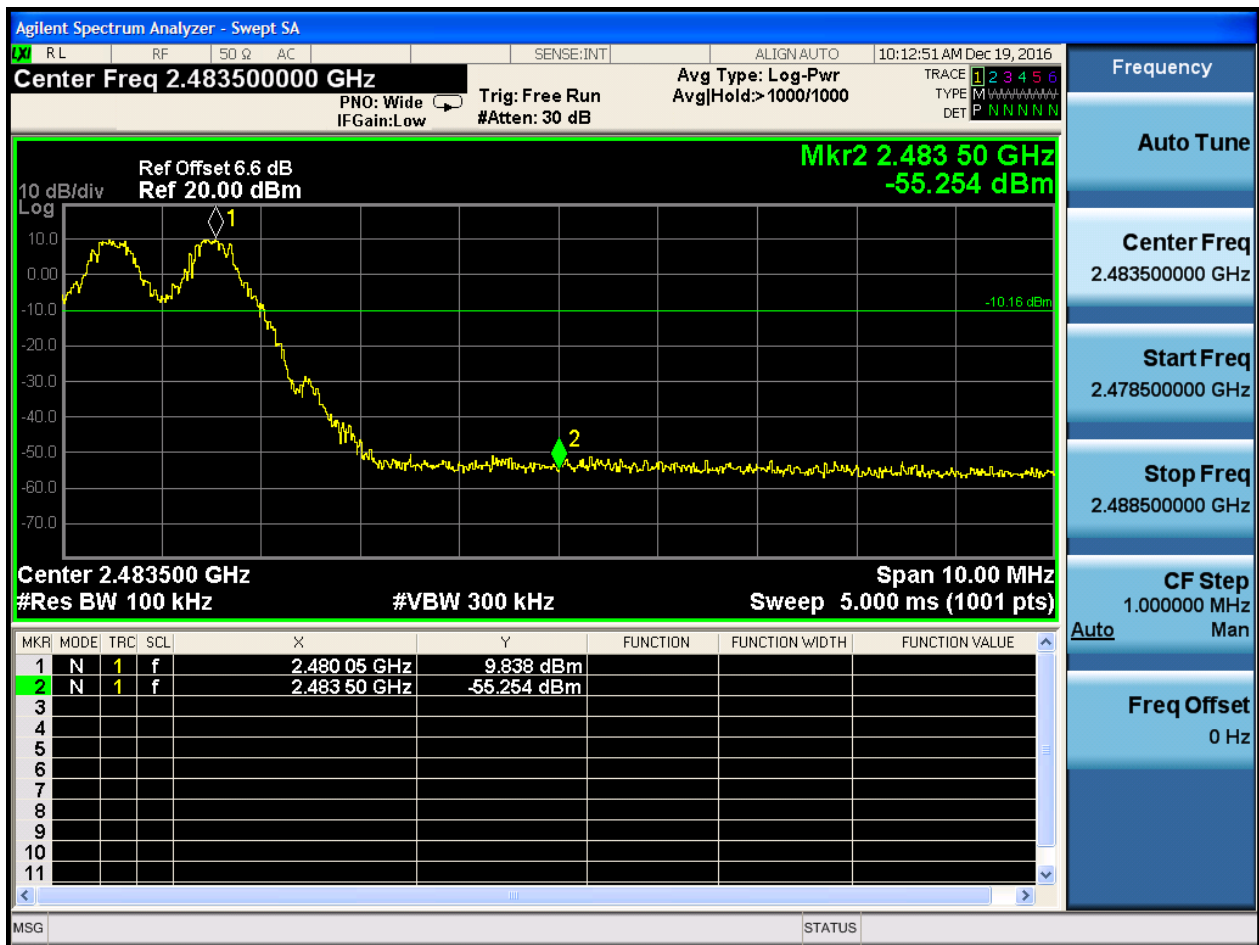
## 2.2 TM1\_DH5\_Ch78

No hopping



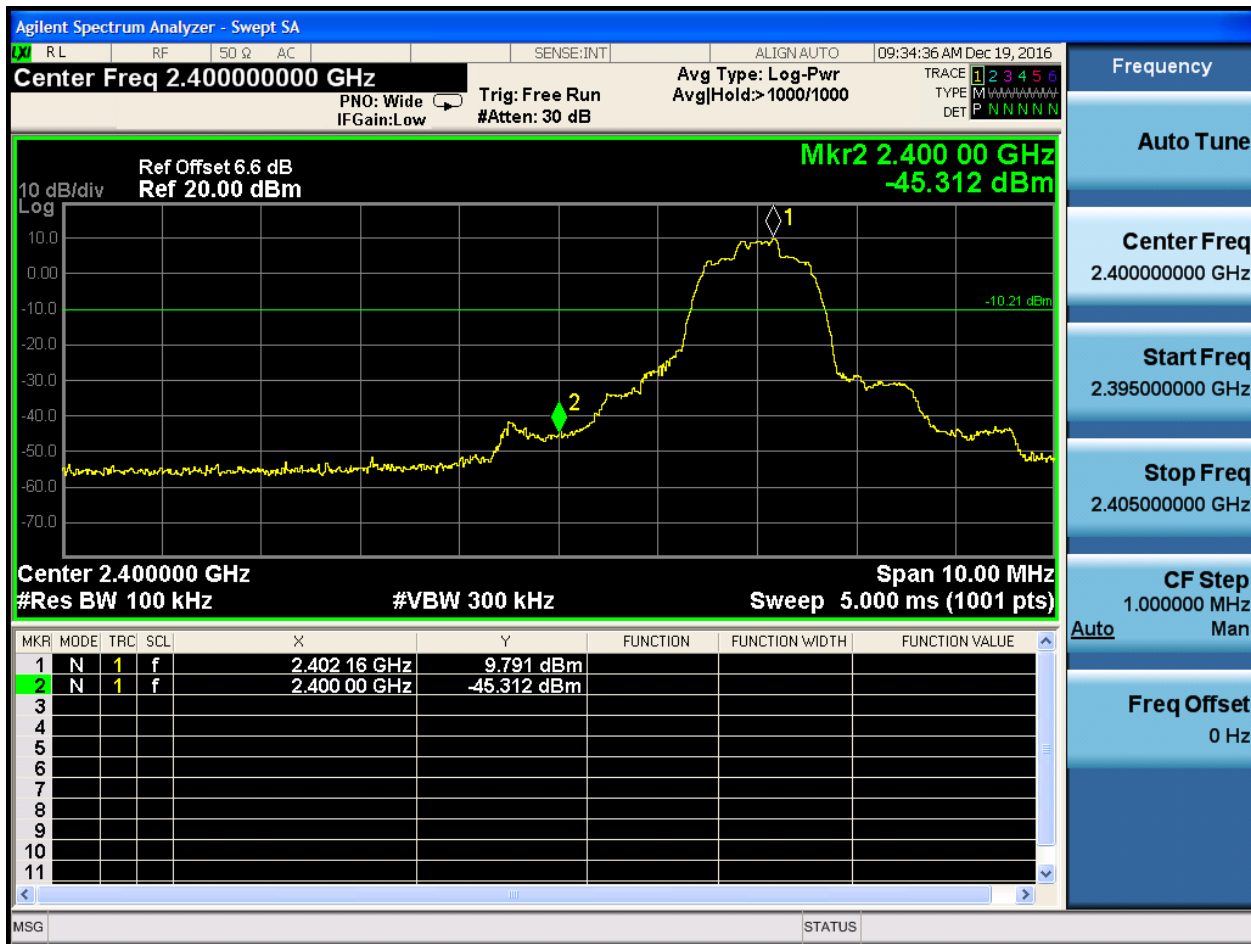


## With hopping



## 2.3 TM2\_2DH5\_Ch0

No hopping





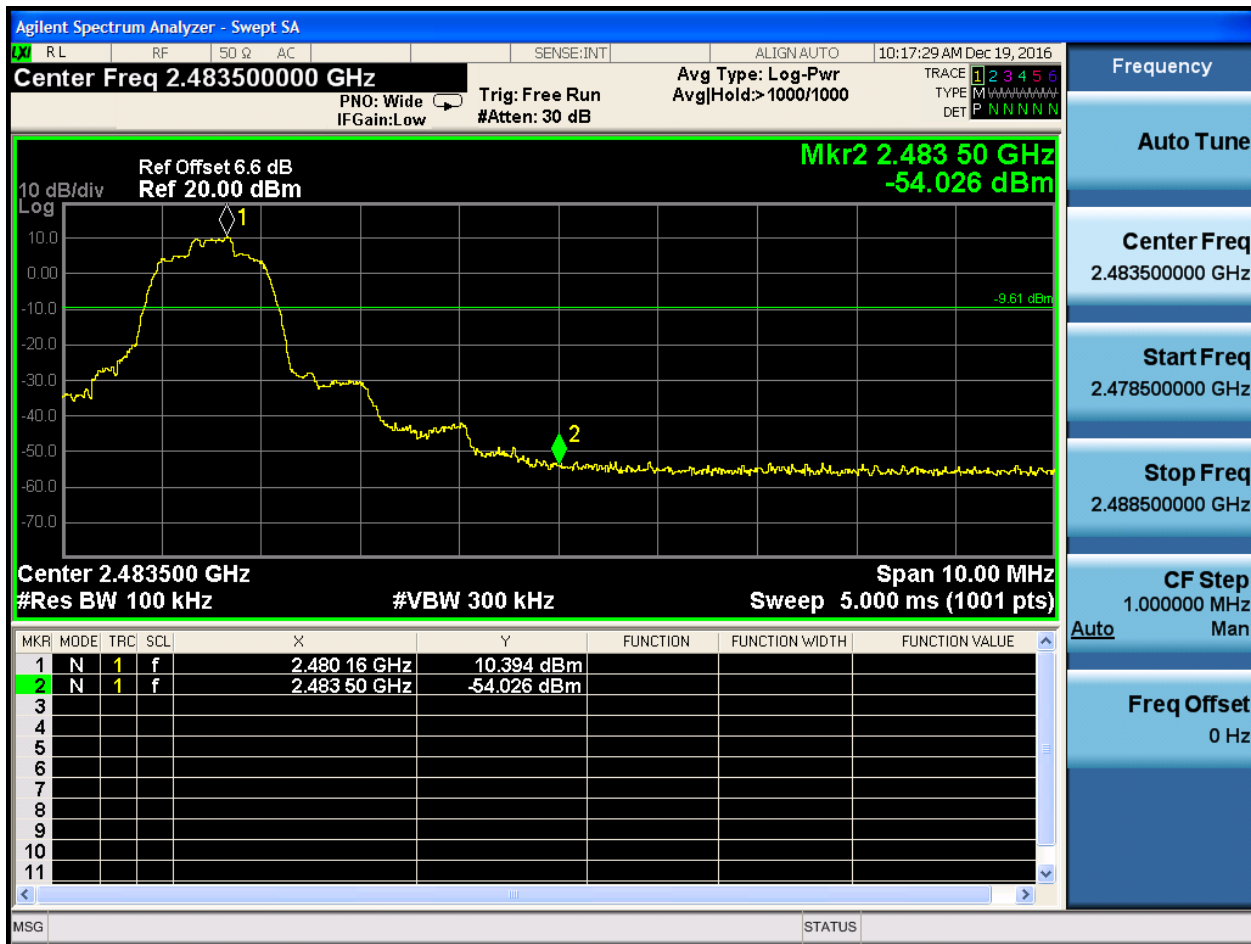
## With hopping





## 2.4 TM2\_2DH5\_Ch78

No hopping





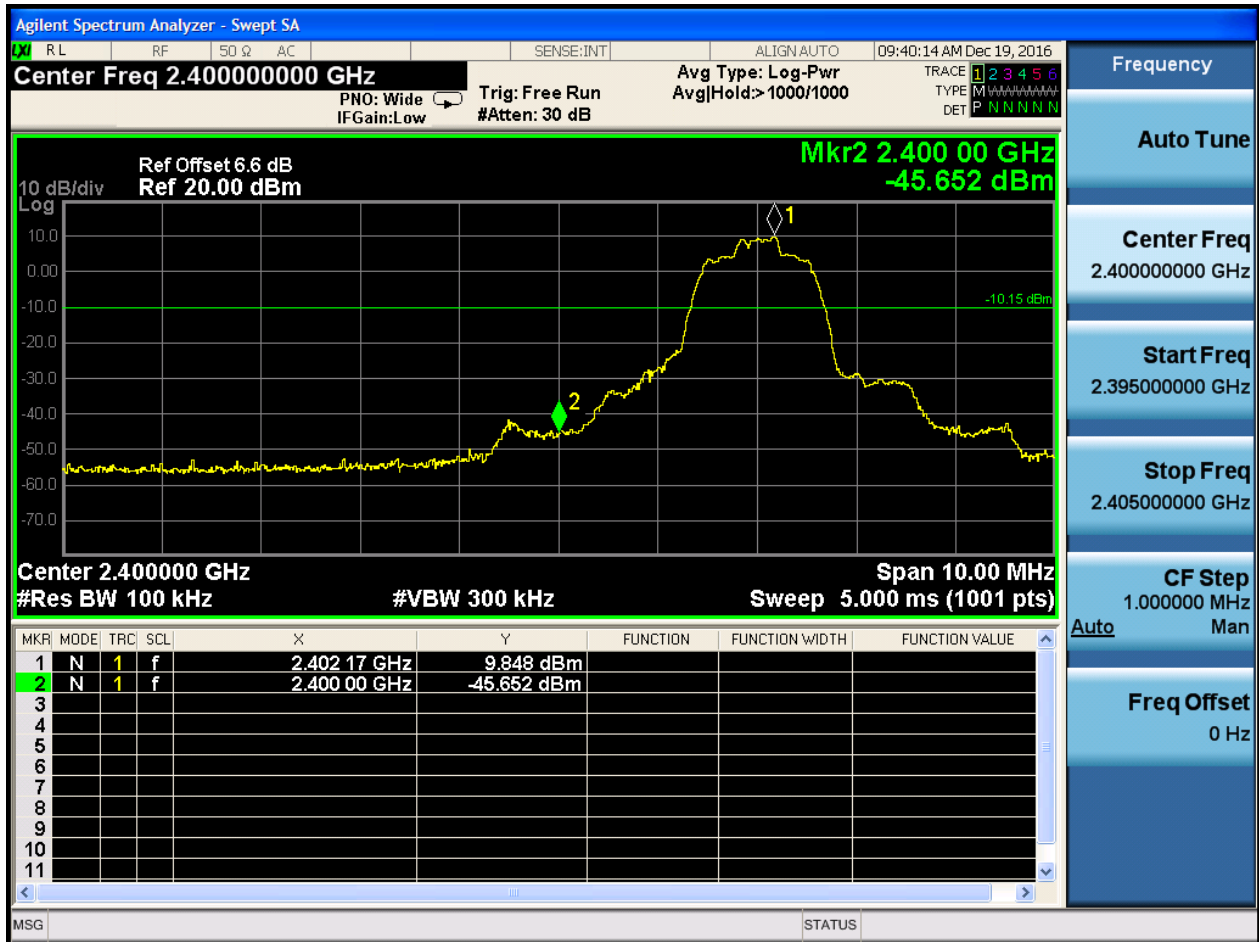
## With hopping





## 2.5 TM3\_3DH5\_Ch0

No hopping





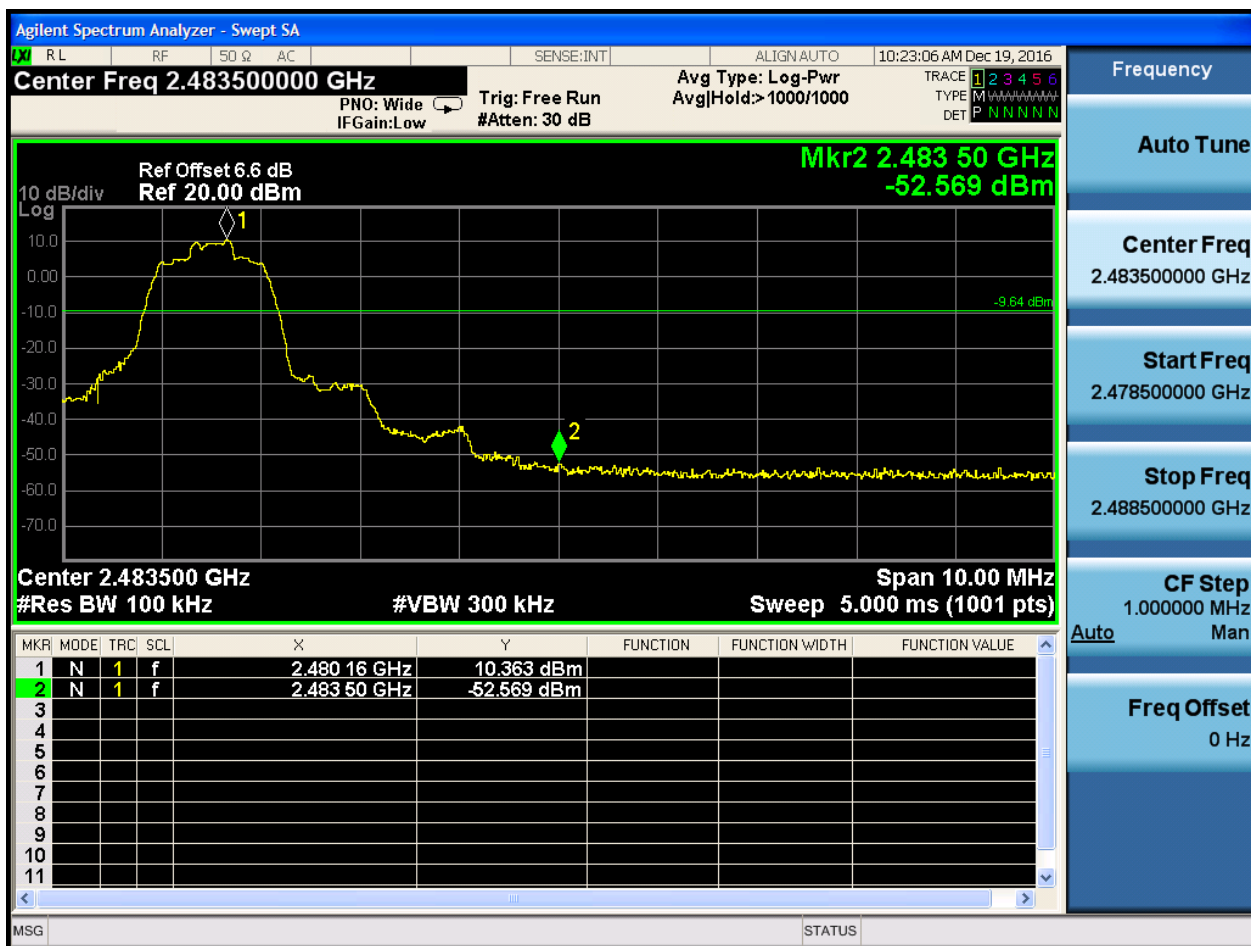
## With hopping





## 2.6 TM3\_3DH5\_Ch78

No hopping



### With hopping





# Appendix G: Conducted RF Spurious Emission

## 1 Result Table

In this Appendix, the “Pref” refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, the “Puw” refers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where  $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$ . As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

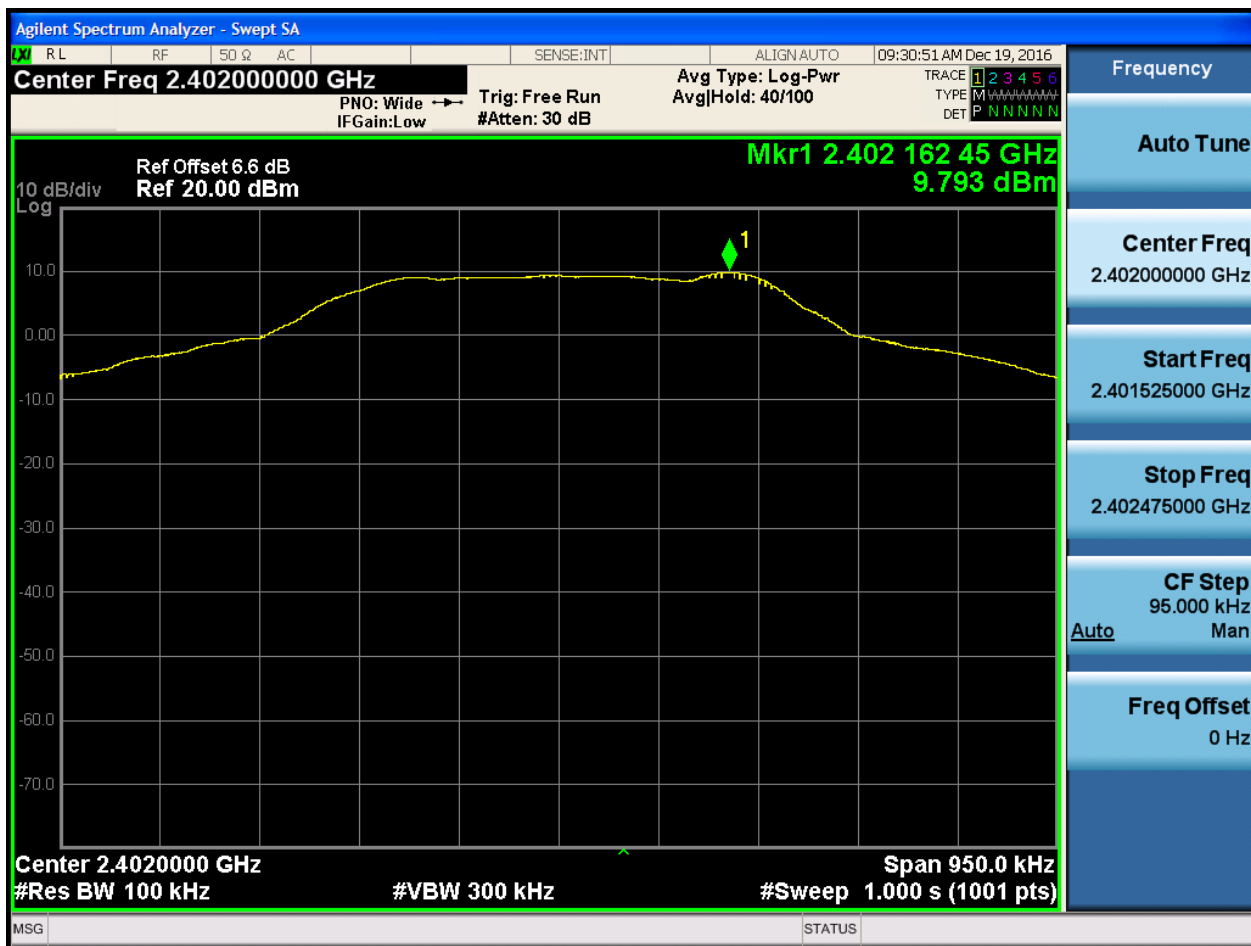
| EUT Conf.     | Pref [dBm/100 kHz] | Puw [dBm/100 kHz] | Verdict |
|---------------|--------------------|-------------------|---------|
| TM1_DH5_Ch0   | 9.793              | < Limit           | Pass    |
| TM1_DH5_Ch39  | 9.642              | < Limit           | Pass    |
| TM1_DH5_Ch78  | 10.398             | < Limit           | Pass    |
| TM2_2DH5_Ch0  | 9.849              | < Limit           | Pass    |
| TM2_2DH5_Ch39 | 9.653              | < Limit           | Pass    |
| TM2_2DH5_Ch78 | 10.385             | < Limit           | Pass    |
| TM3_3DH5_Ch0  | 9.846              | < Limit           | Pass    |
| TM3_3DH5_Ch39 | 9.691              | < Limit           | Pass    |
| TM3_3DH5_Ch78 | 10.388             | < Limit           | Pass    |



## 2 Test Plot

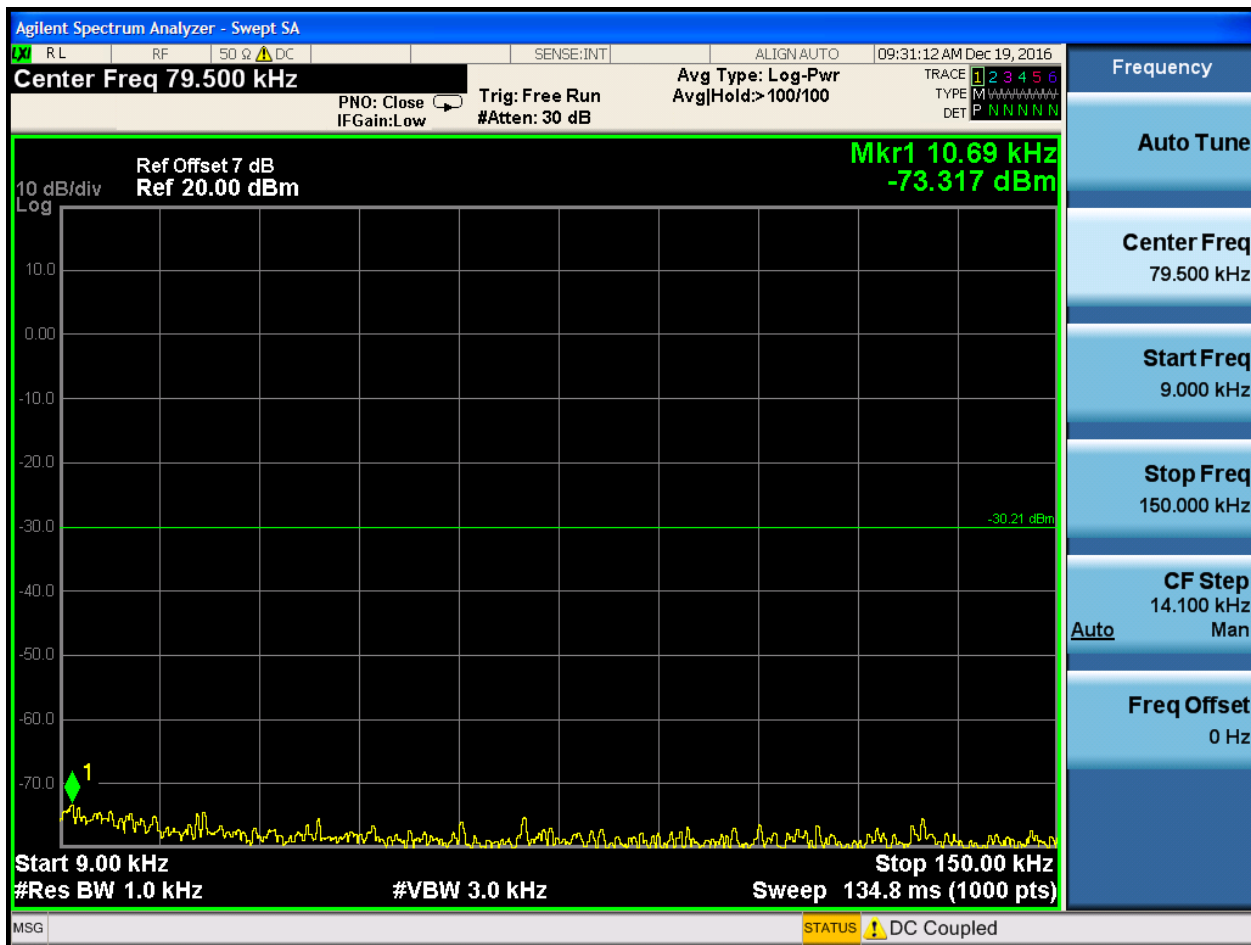
### 2.1 TM1\_DH5\_Ch0

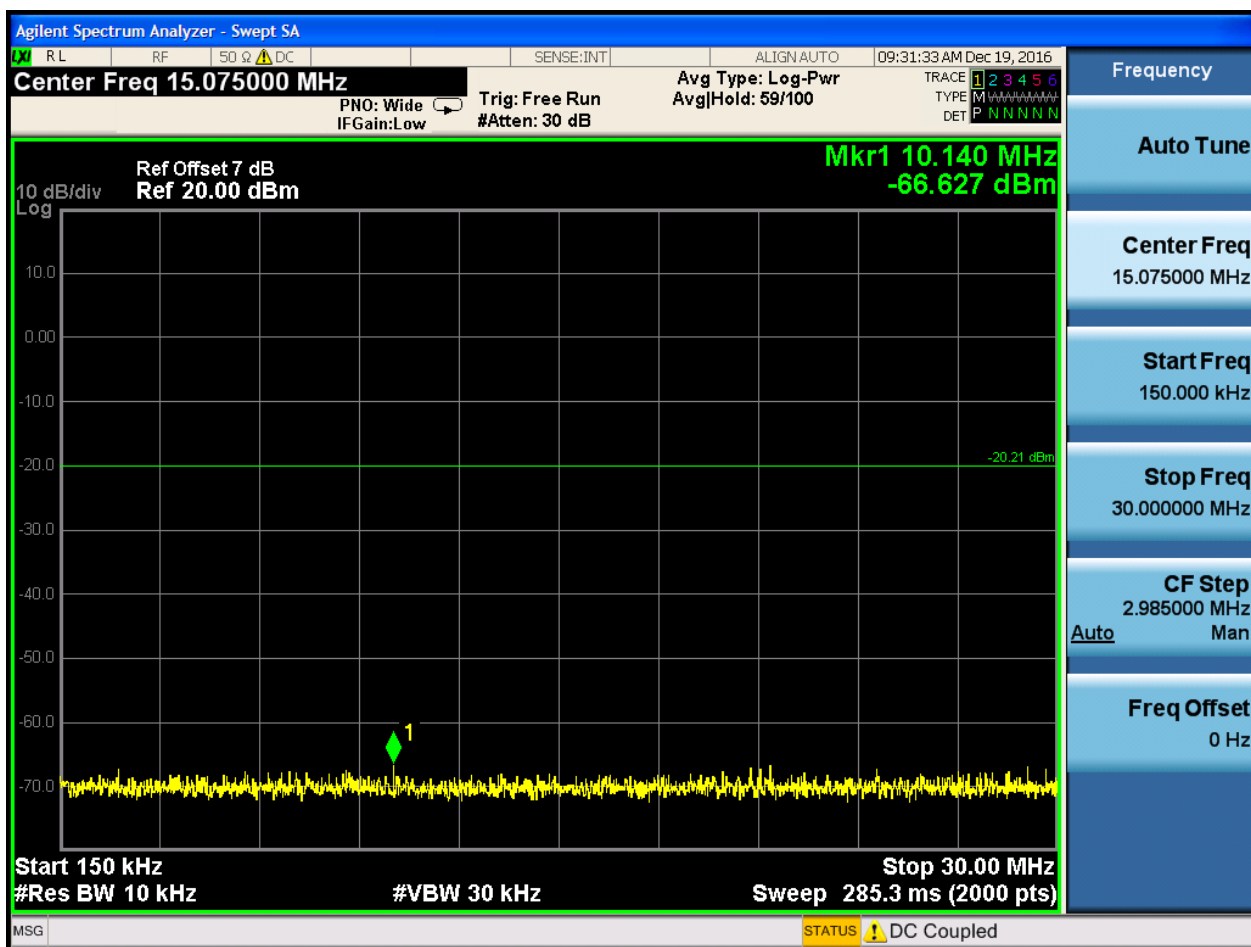
#### 2.1.1 Pref

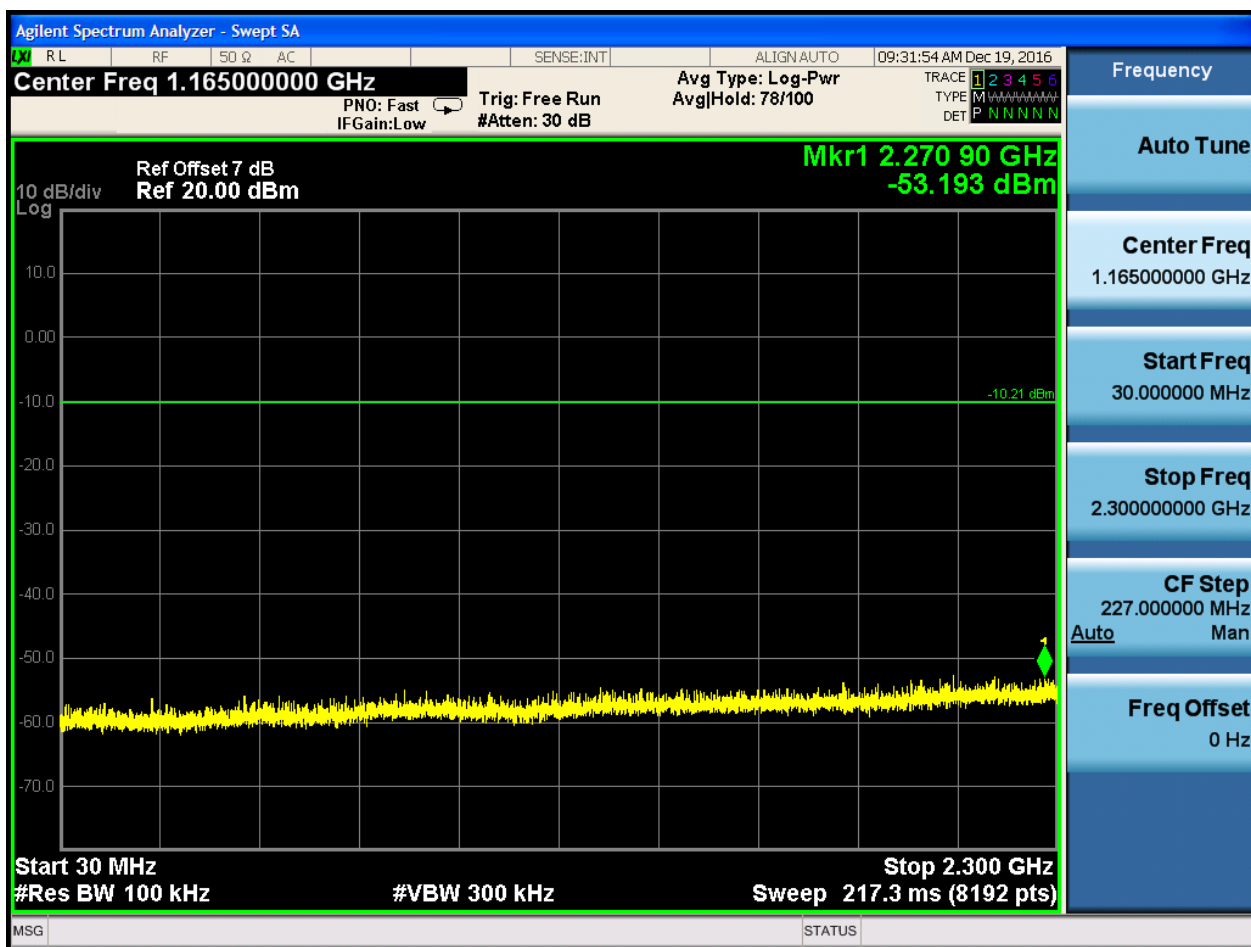


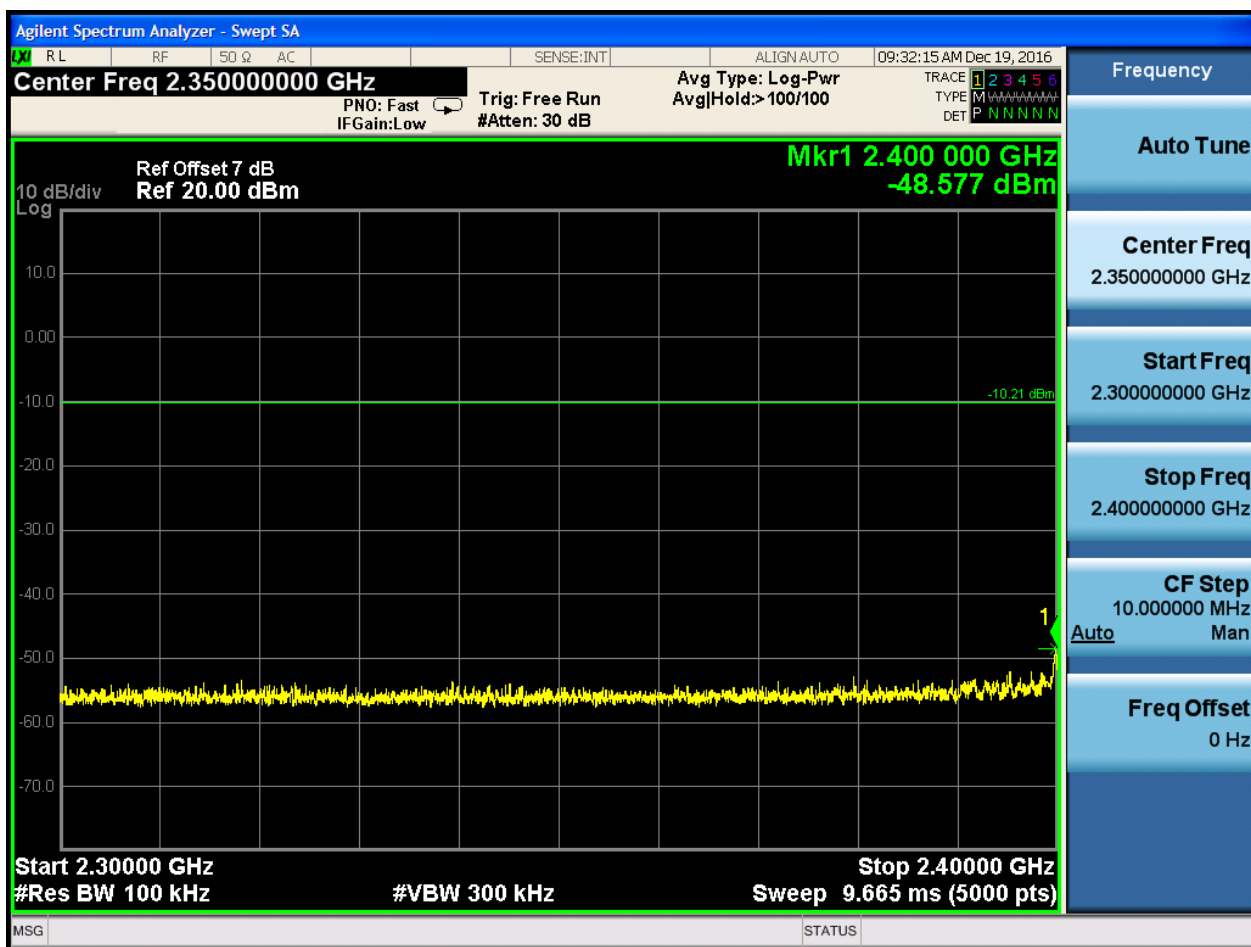


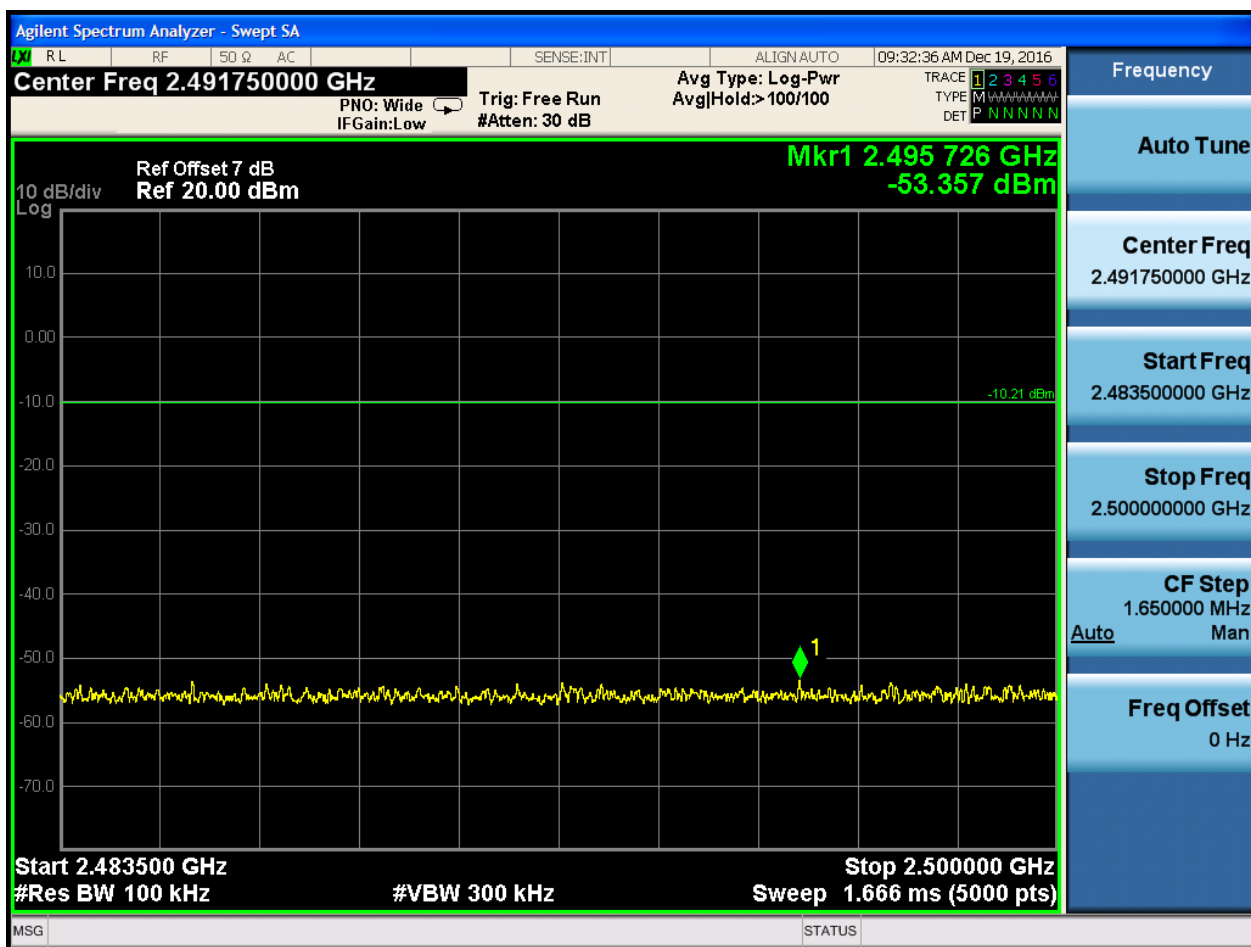
## 2.1.2 Puw







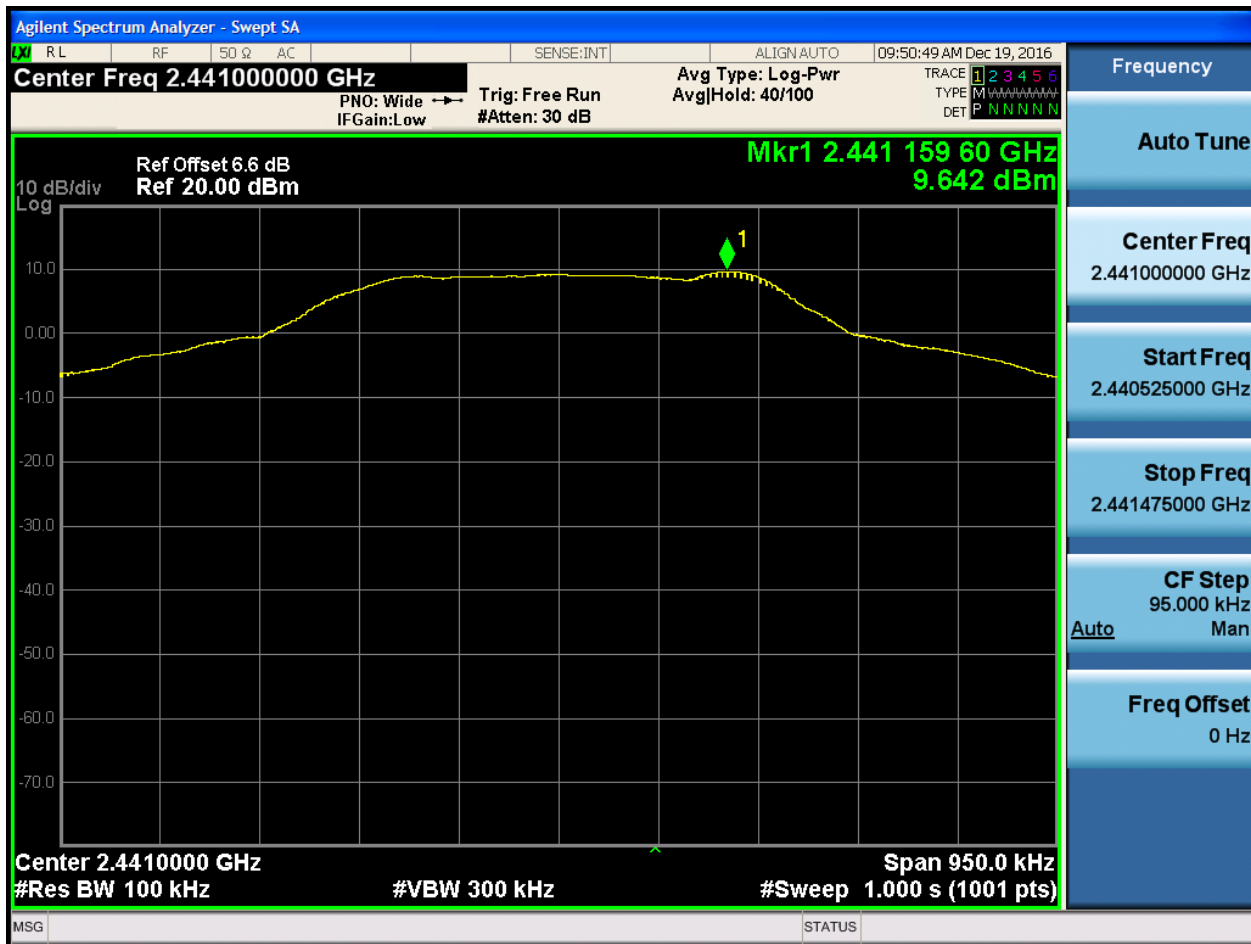




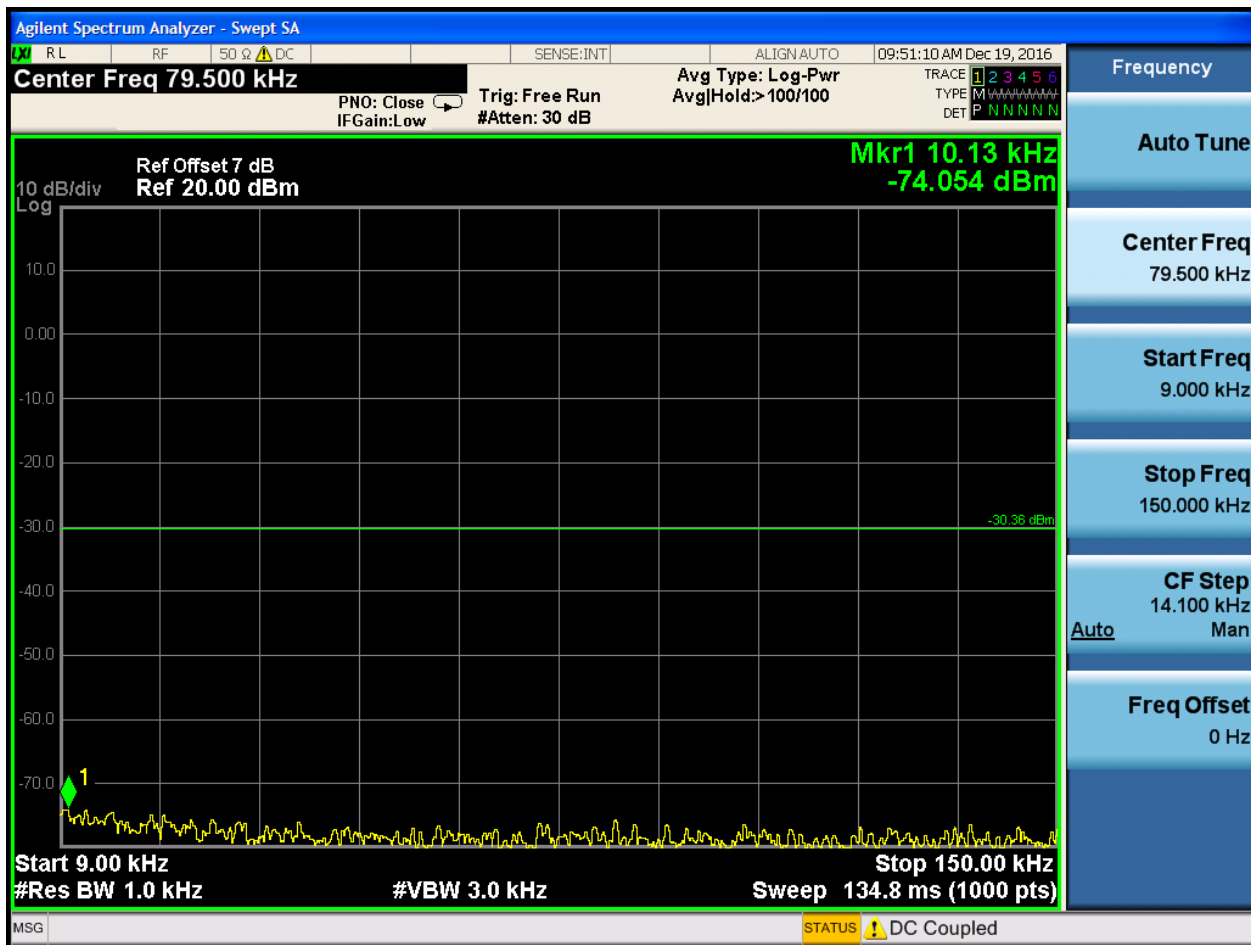


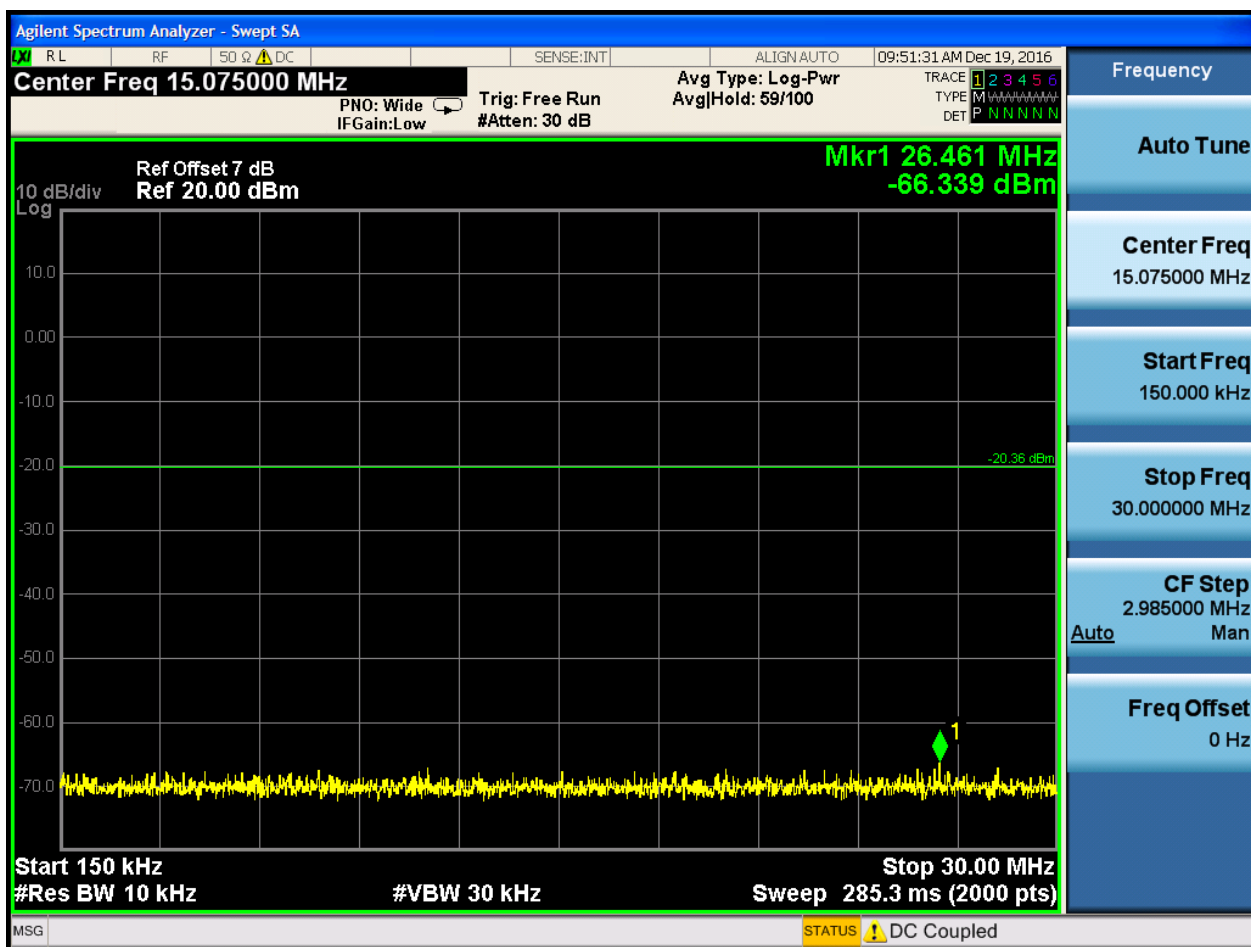
## 2.2 TM1\_DH5\_Ch39

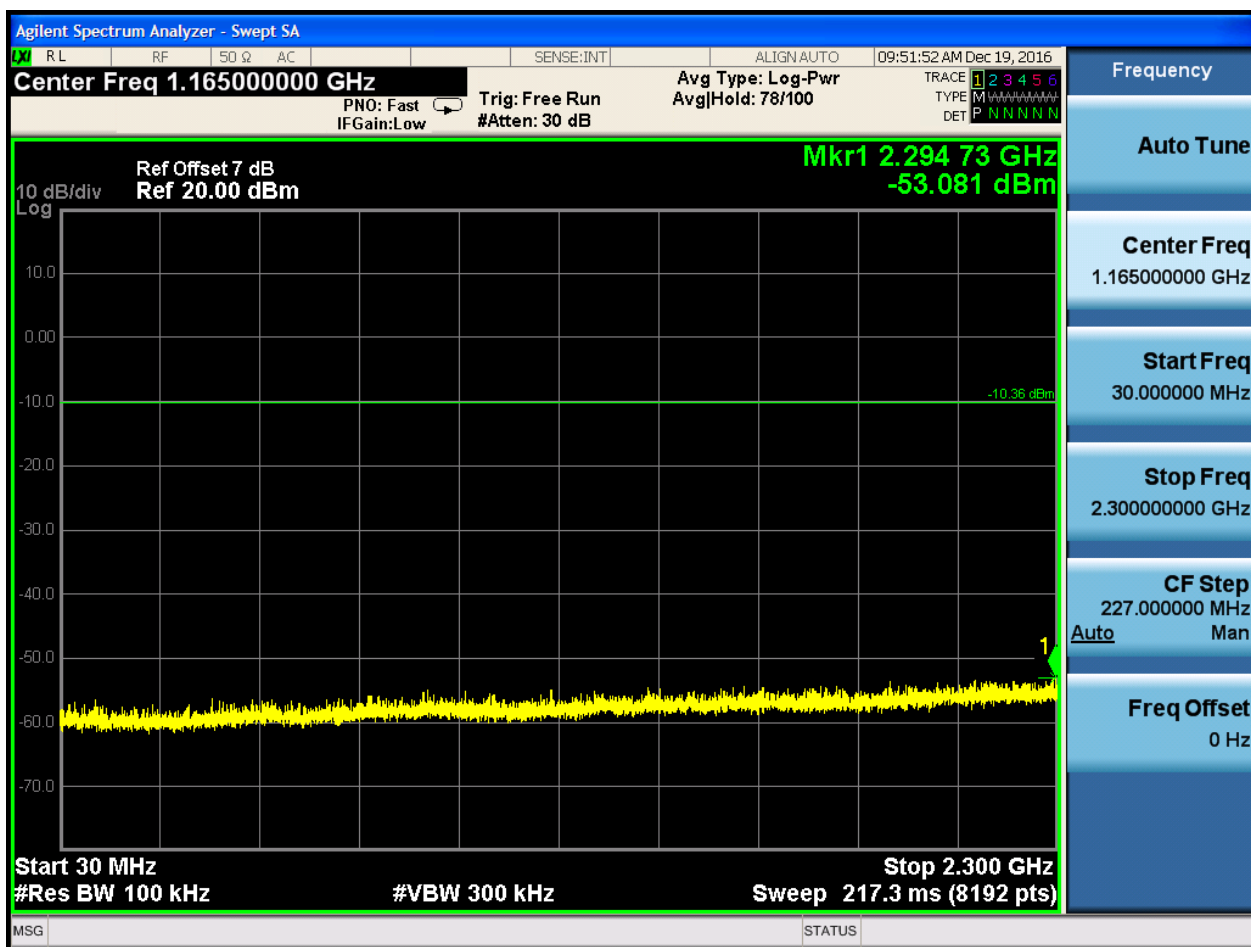
### 2.2.1 Pref

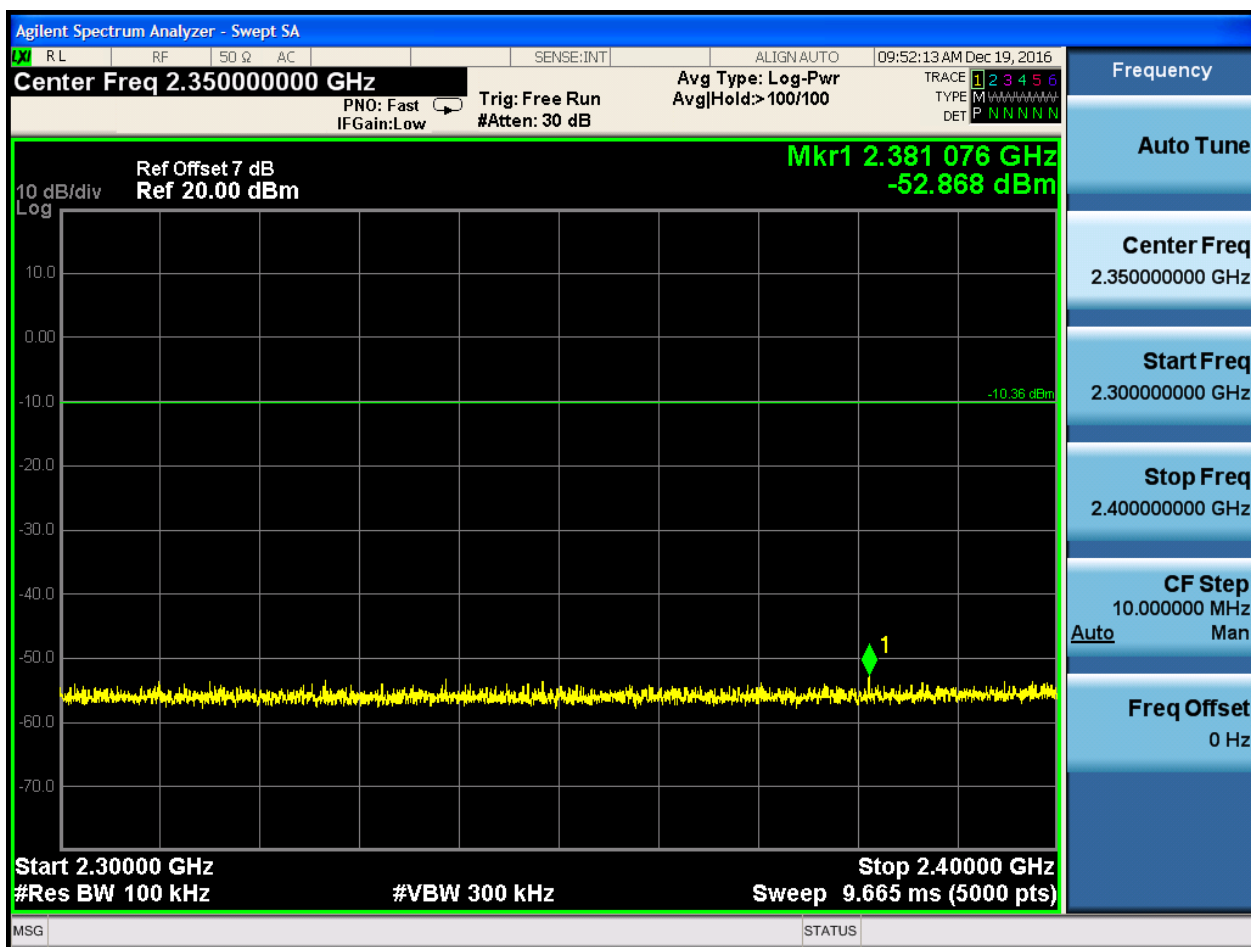


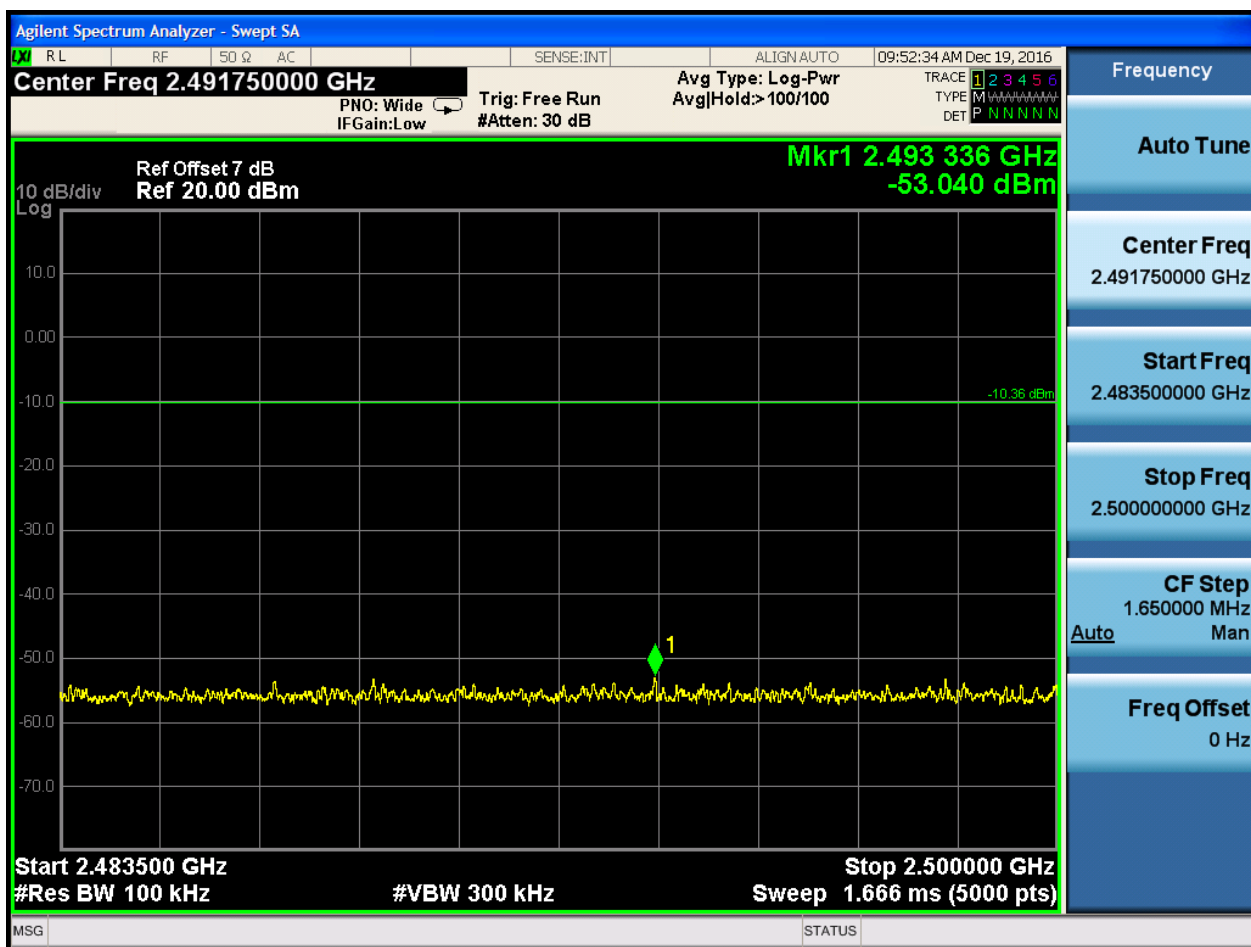
## 2.2.2 Puw









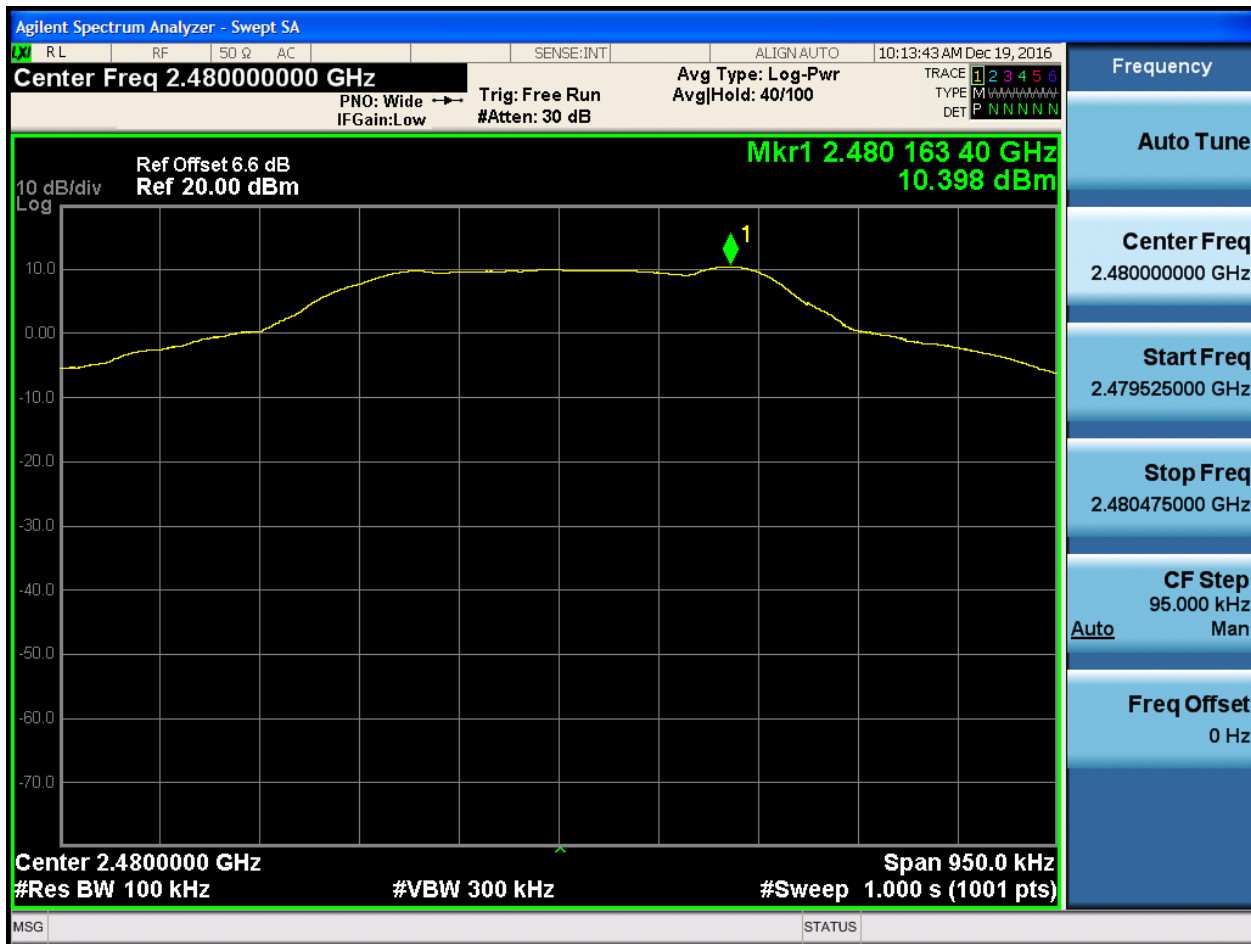






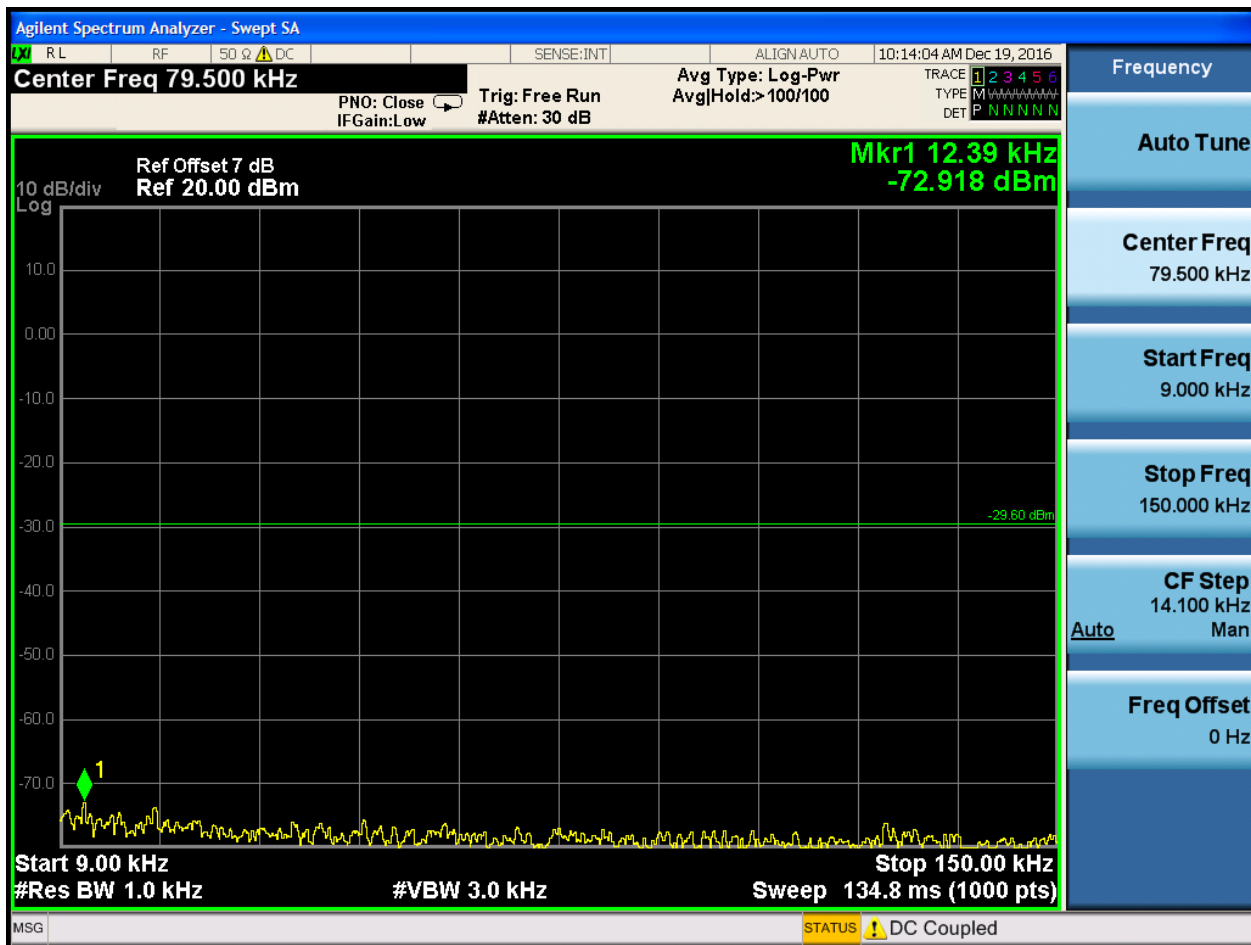
## 2.3 TM1\_DH5\_Ch78

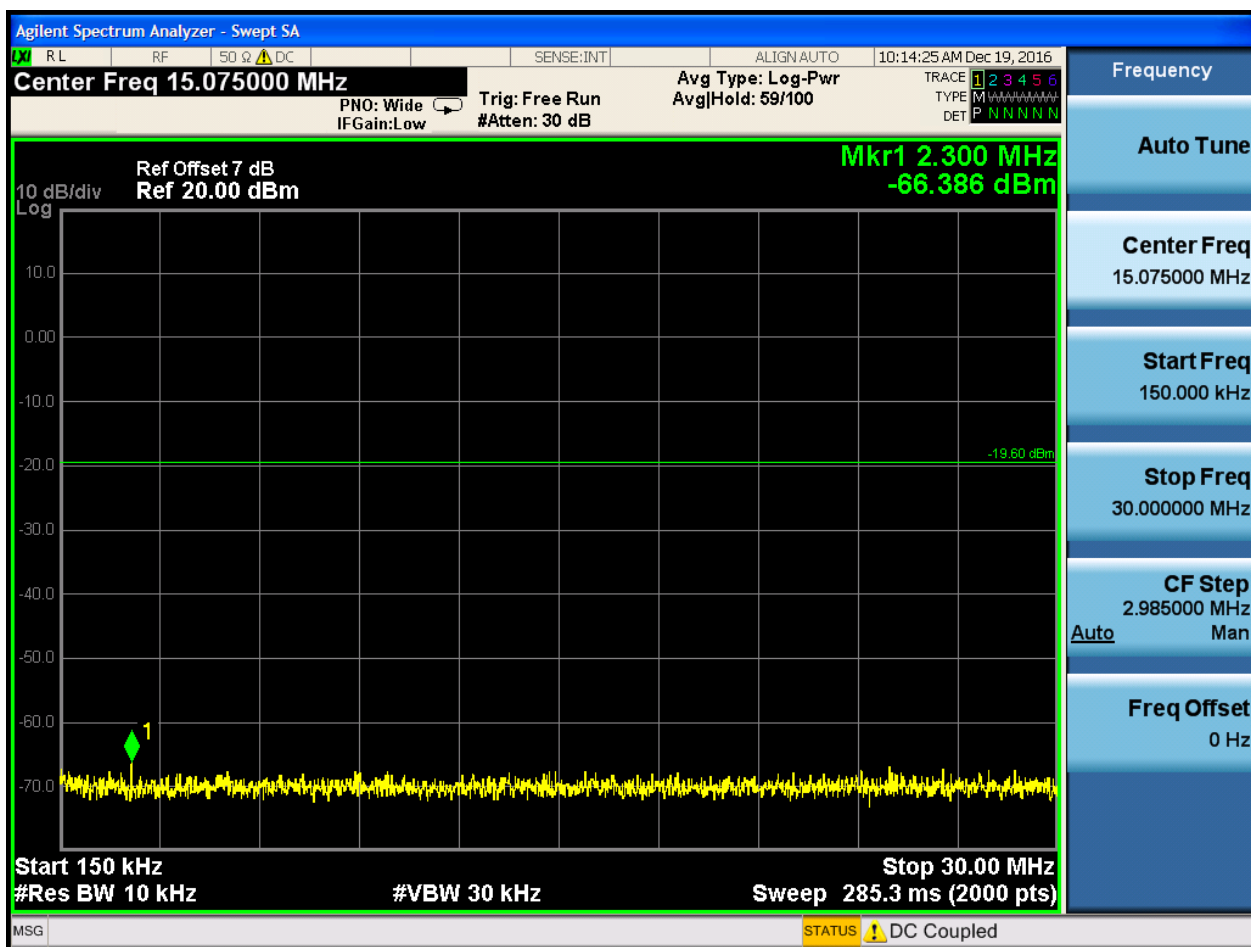
### 2.3.1 Pref

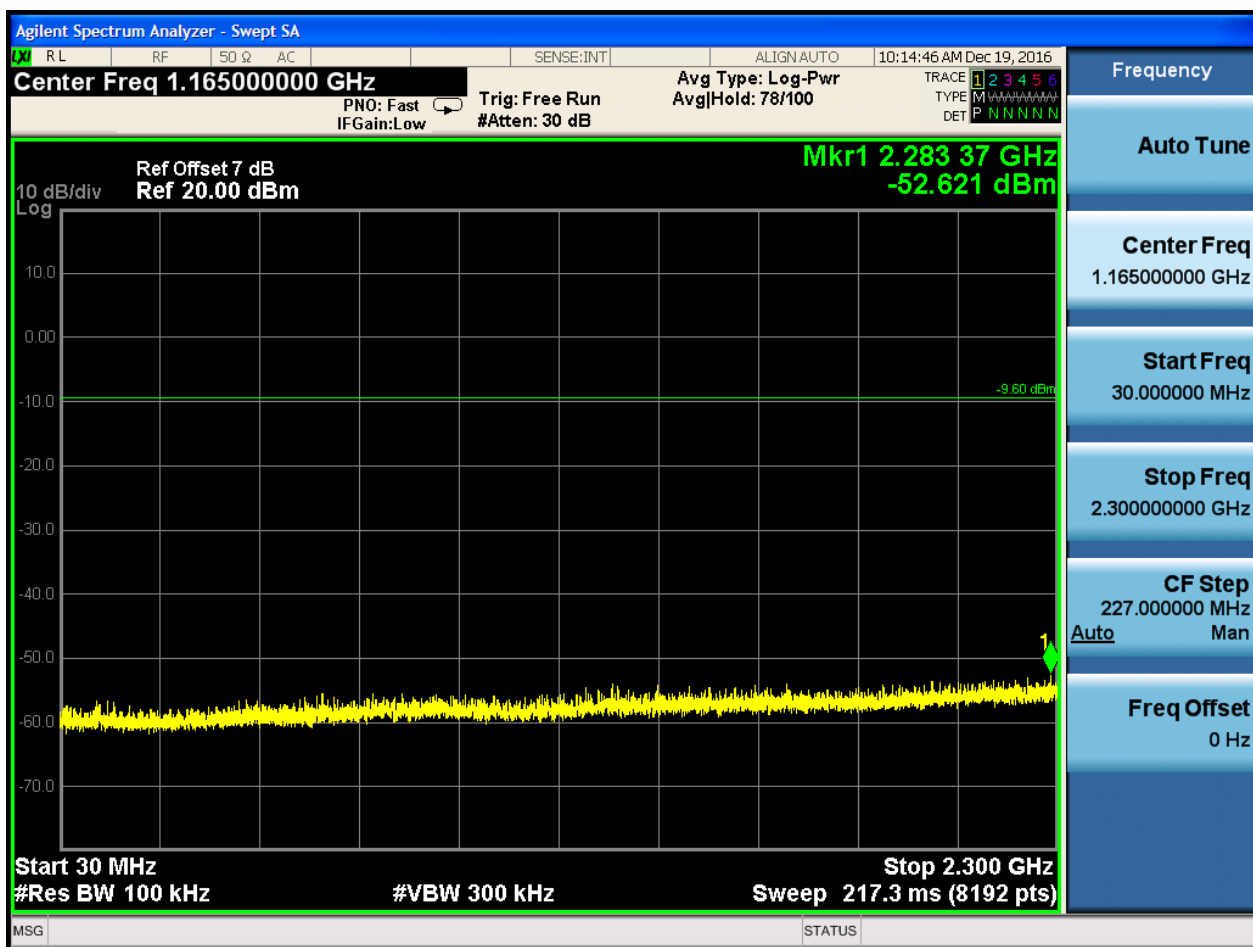


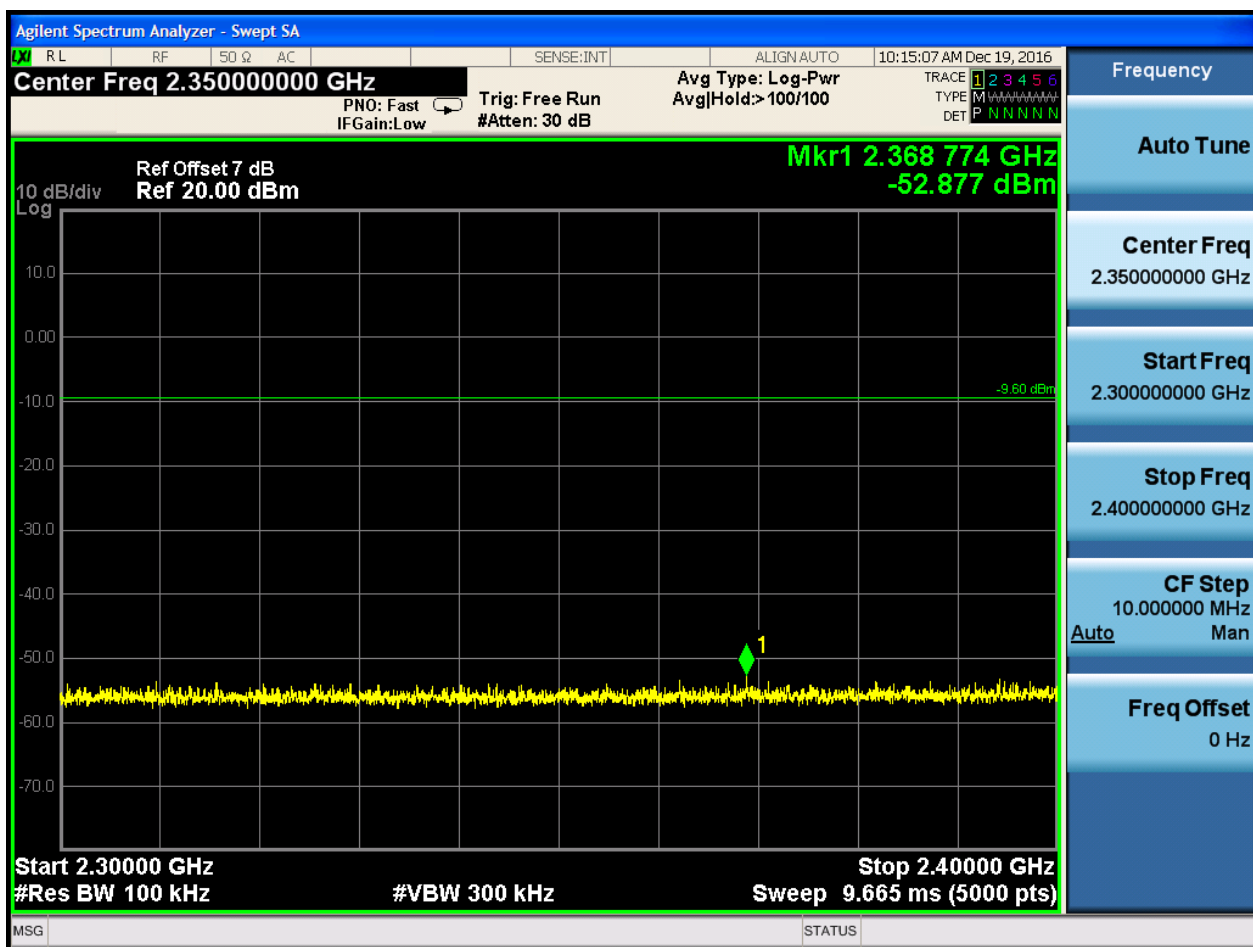


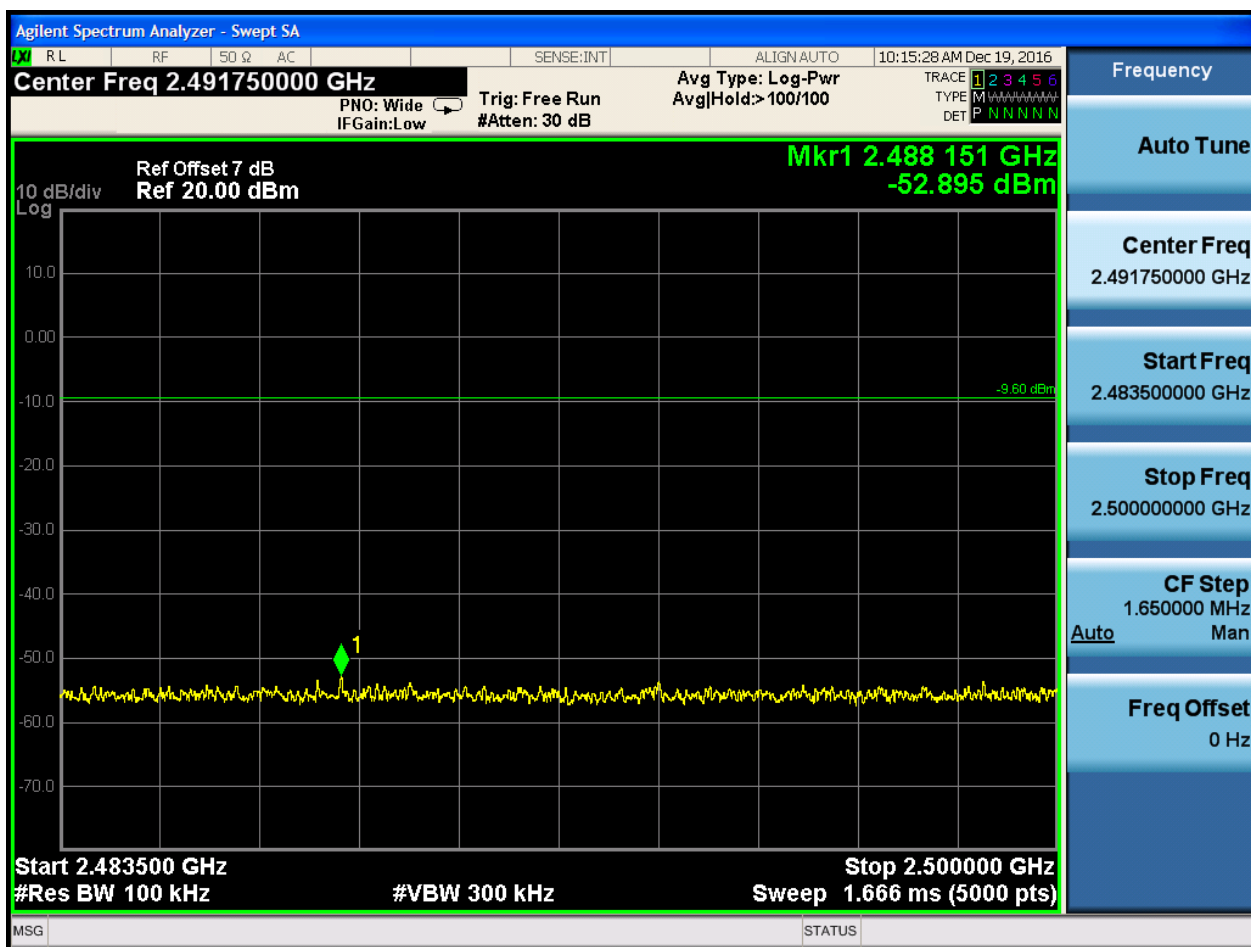
## 2.3.2 Puw







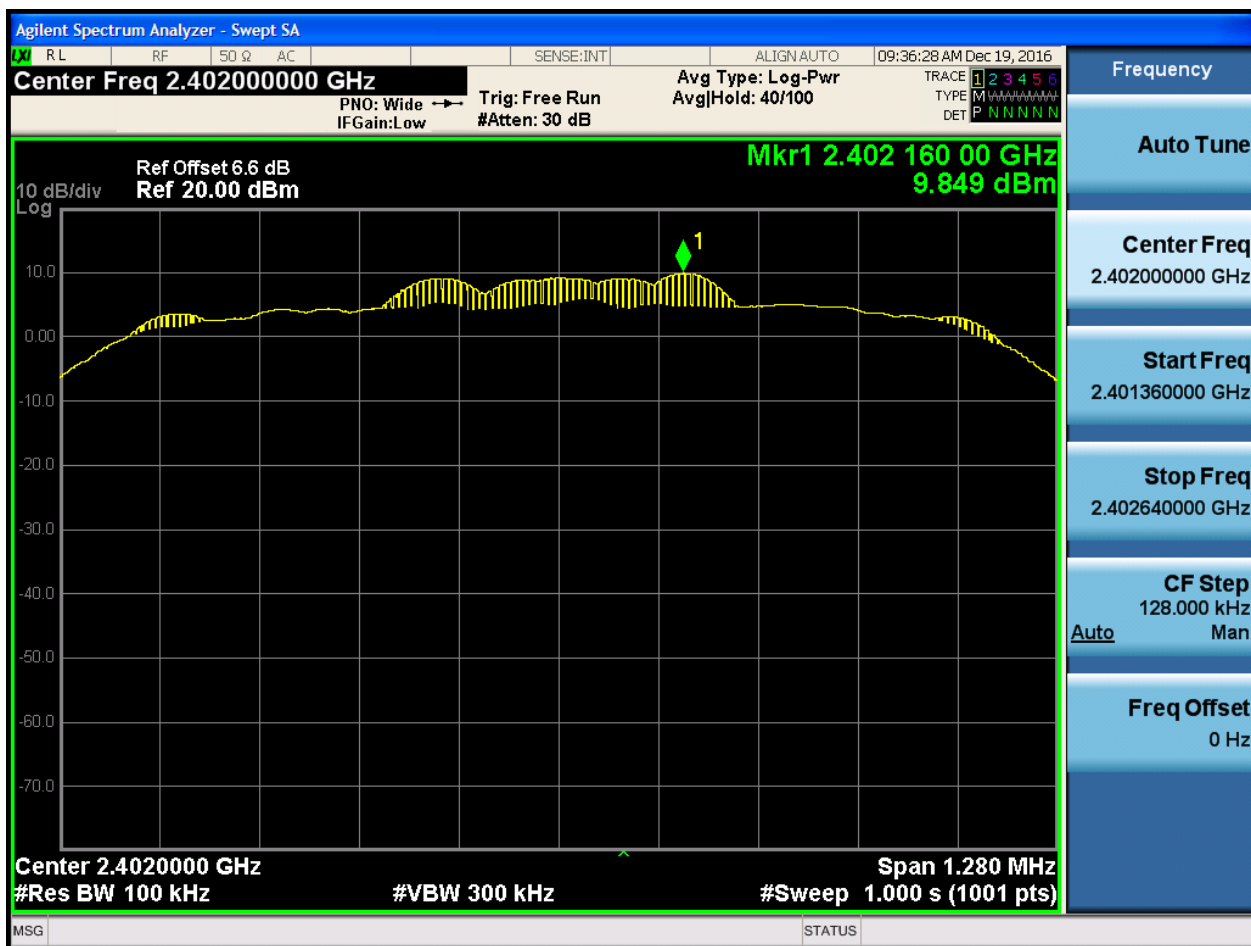




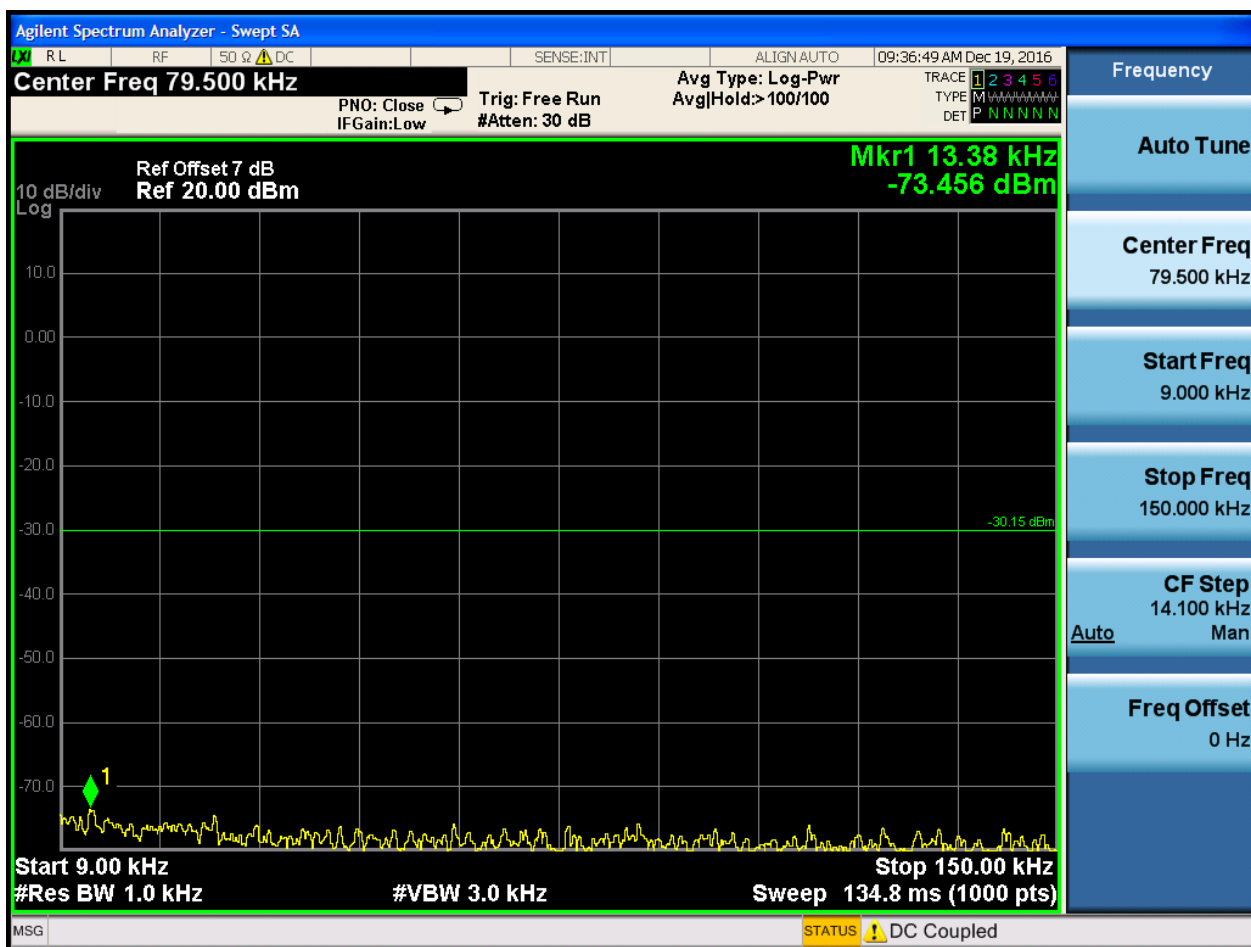


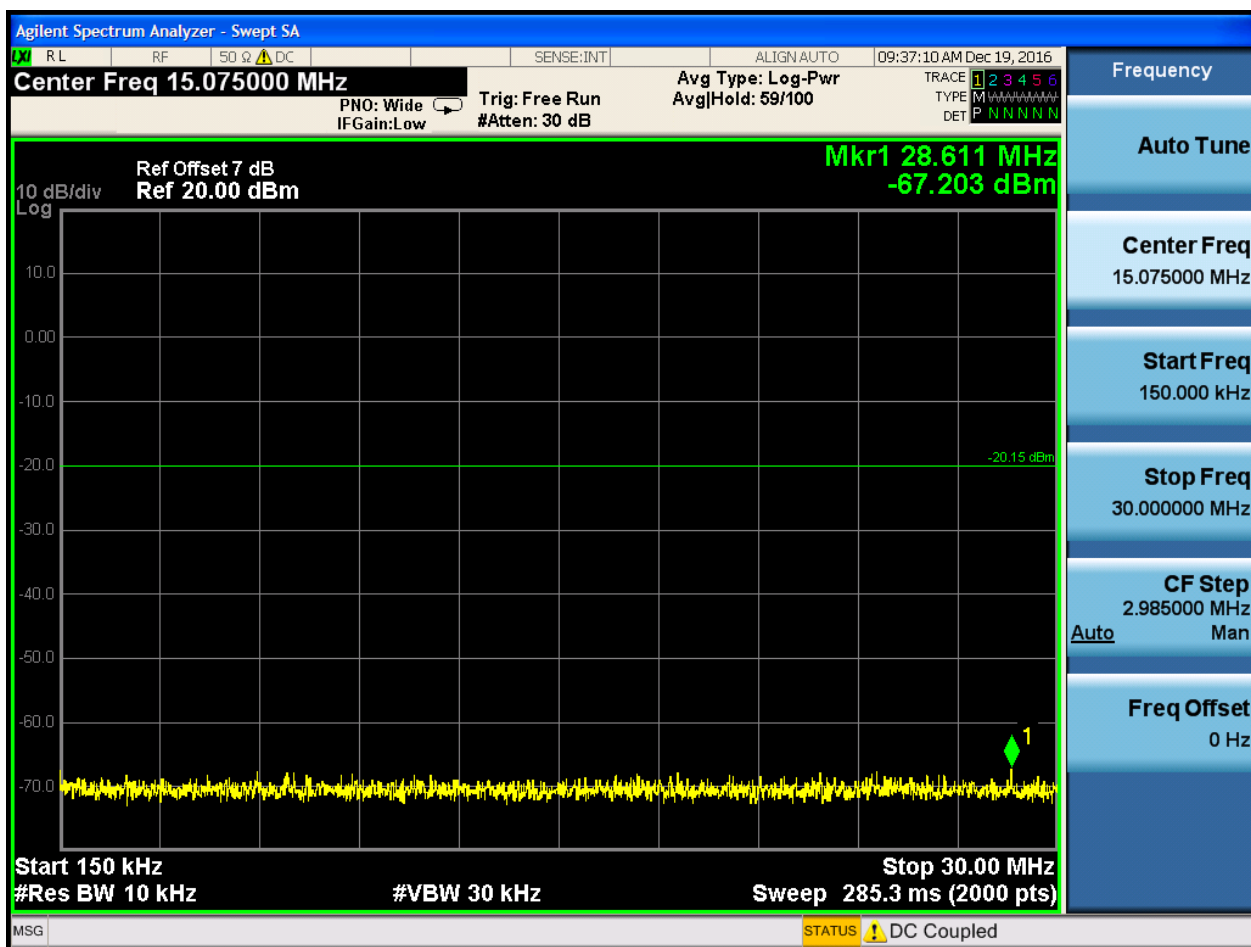
## 2.4 TM2\_2DH5\_Ch0

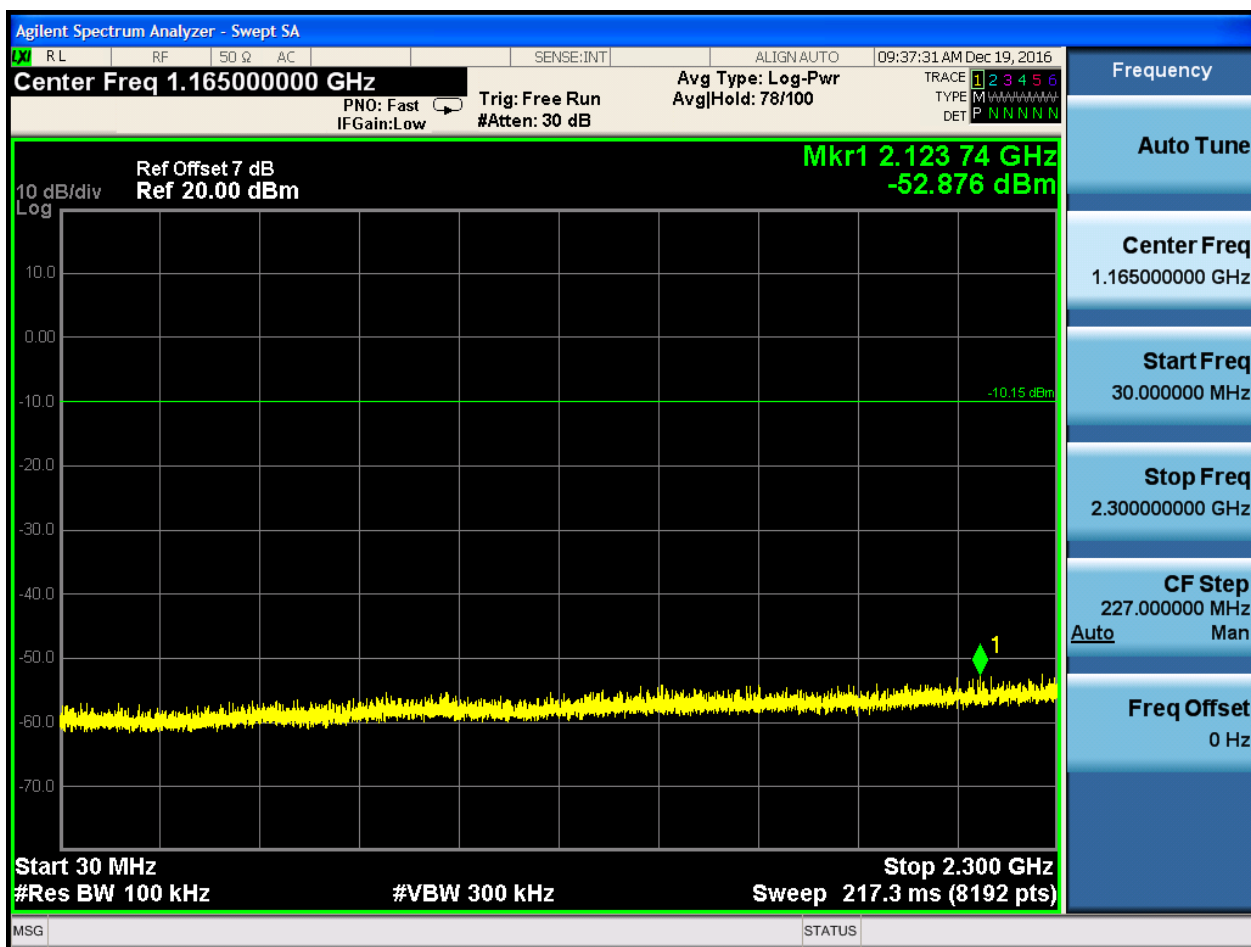
### 2.4.1 Pref

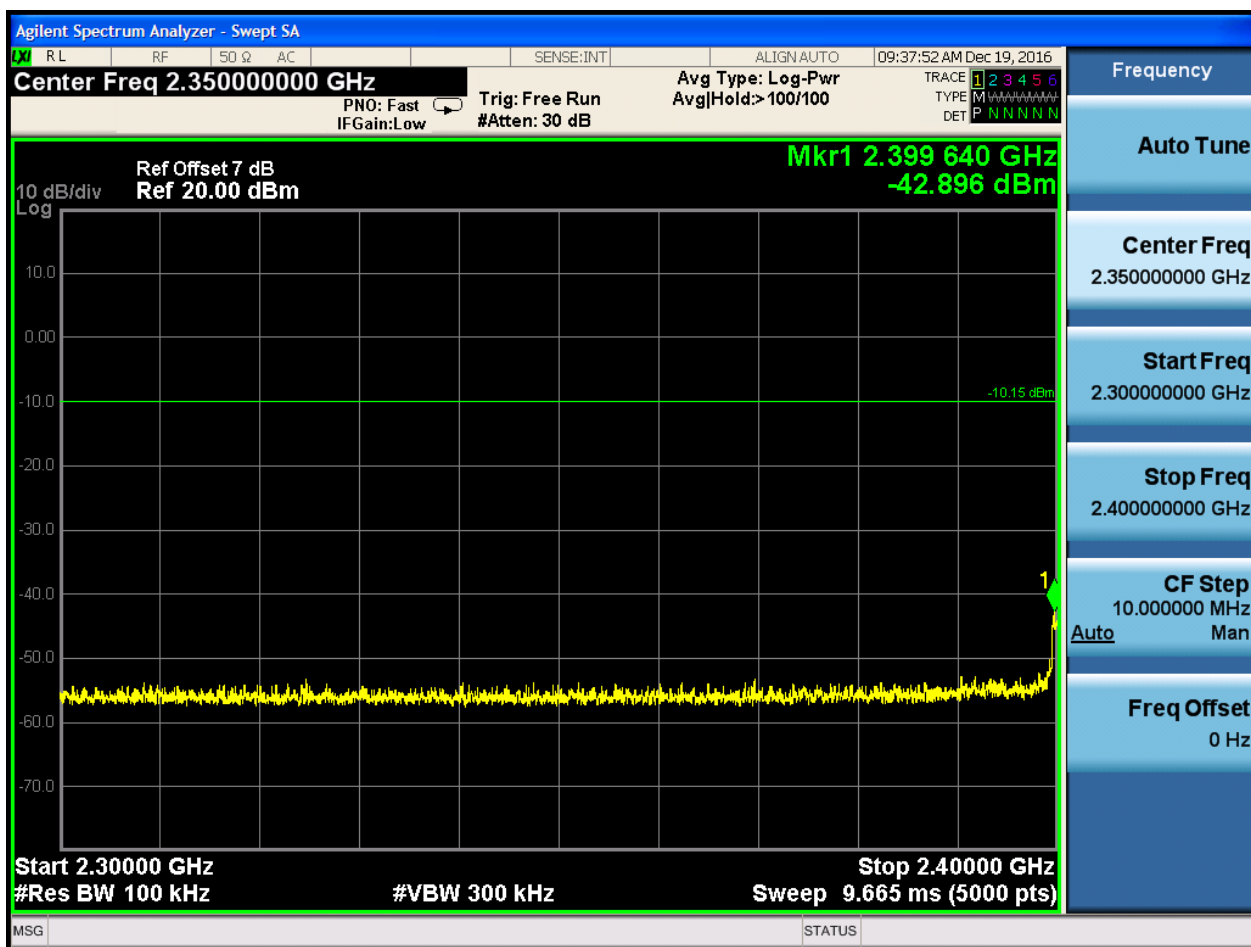


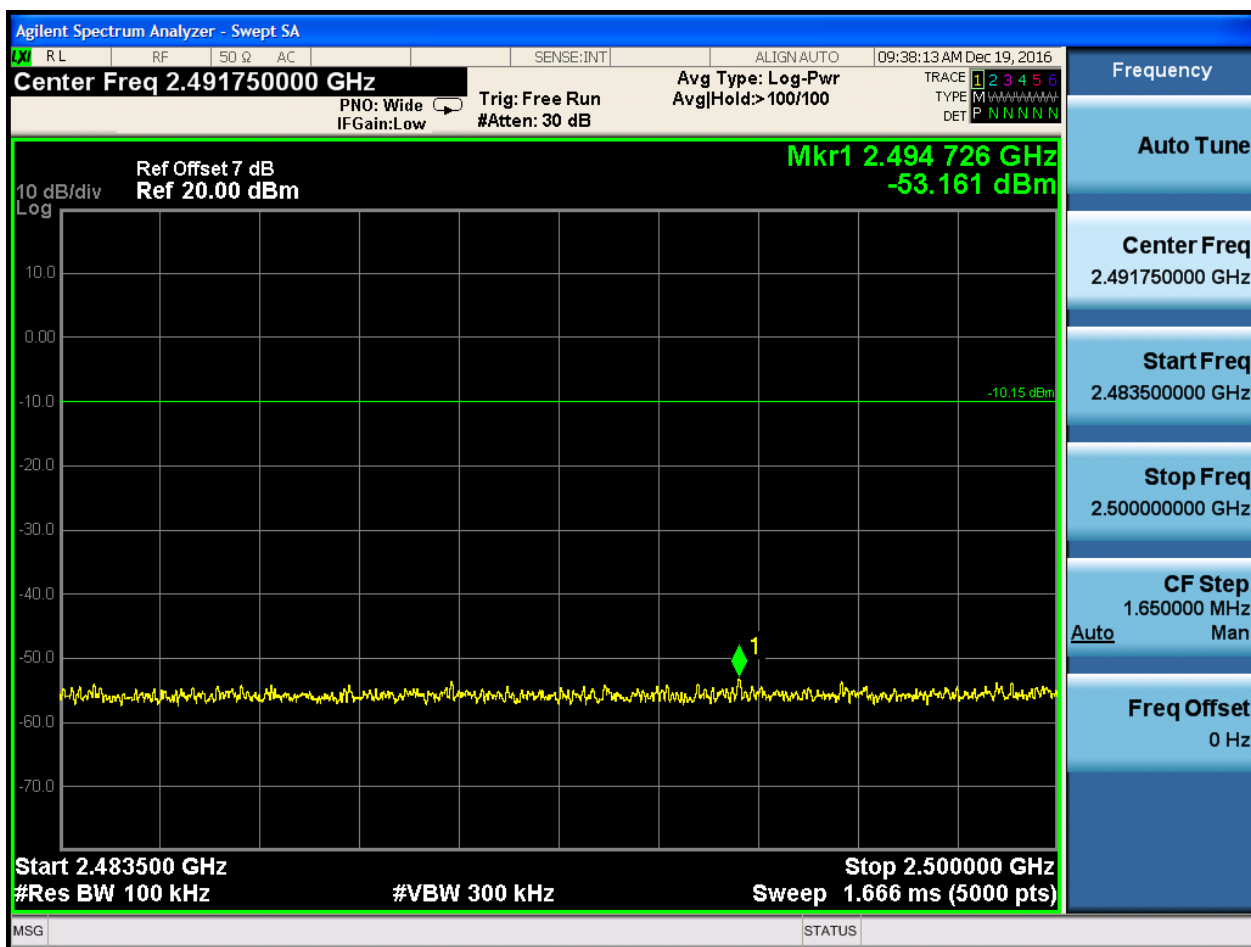
## 2.4.2 Puw







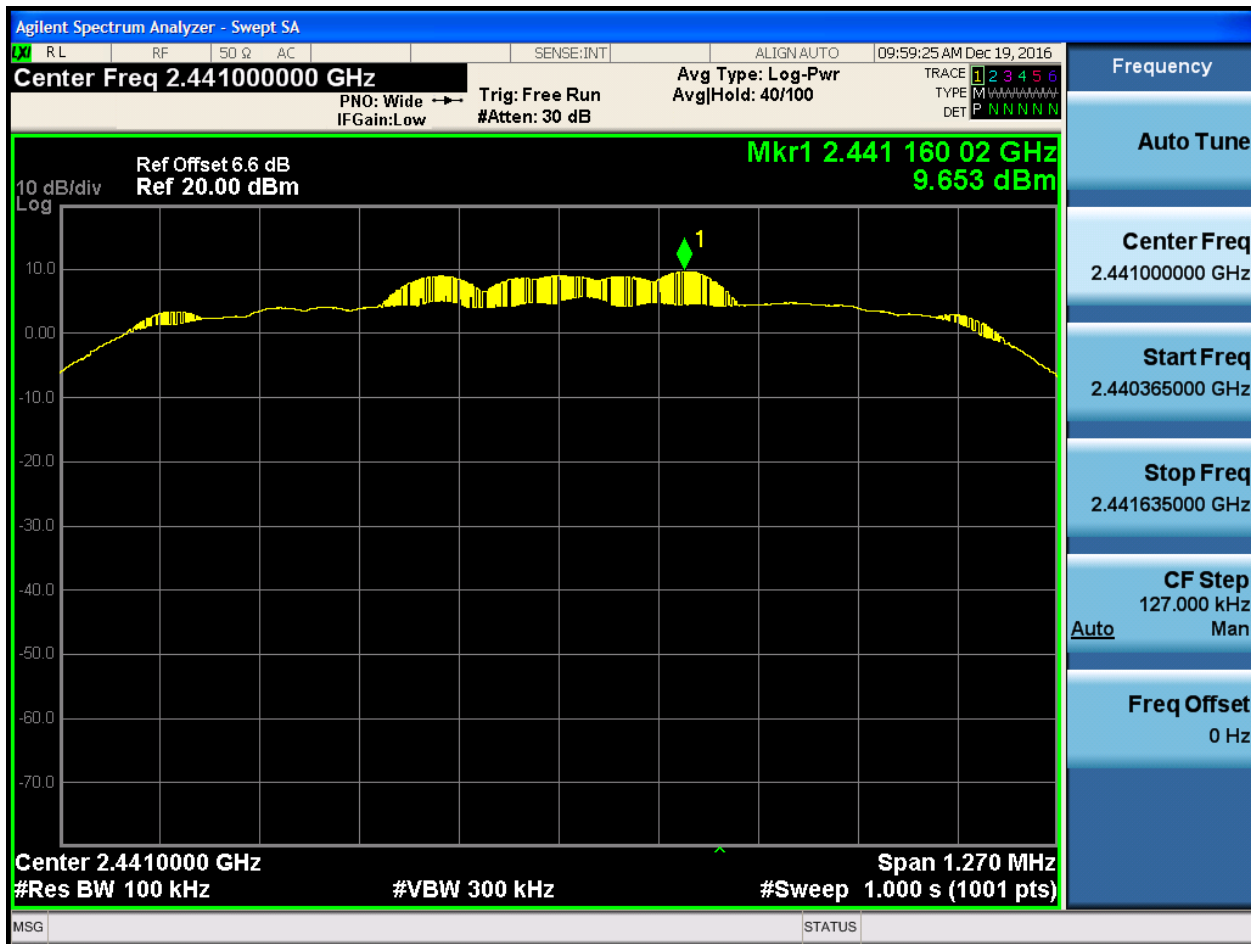




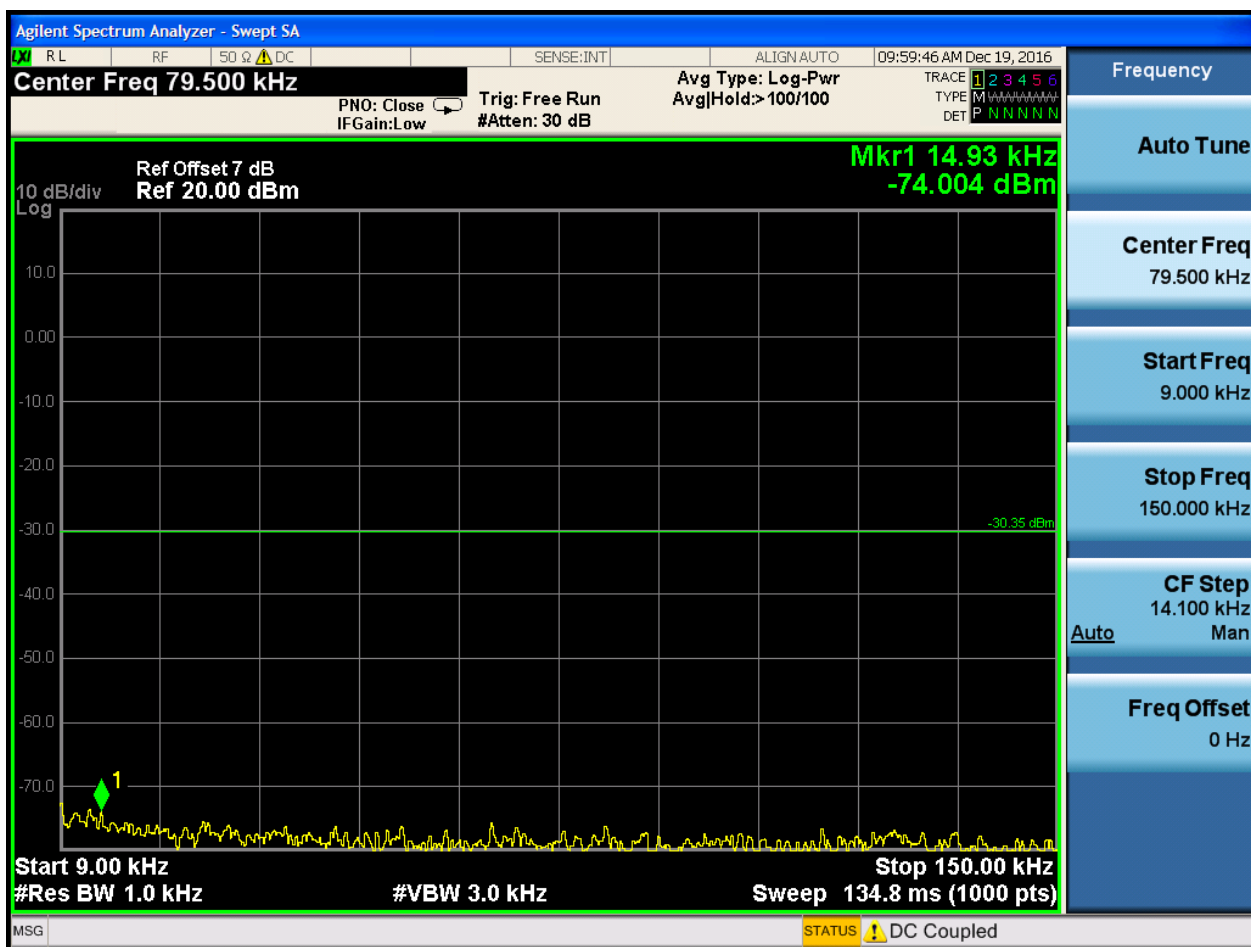


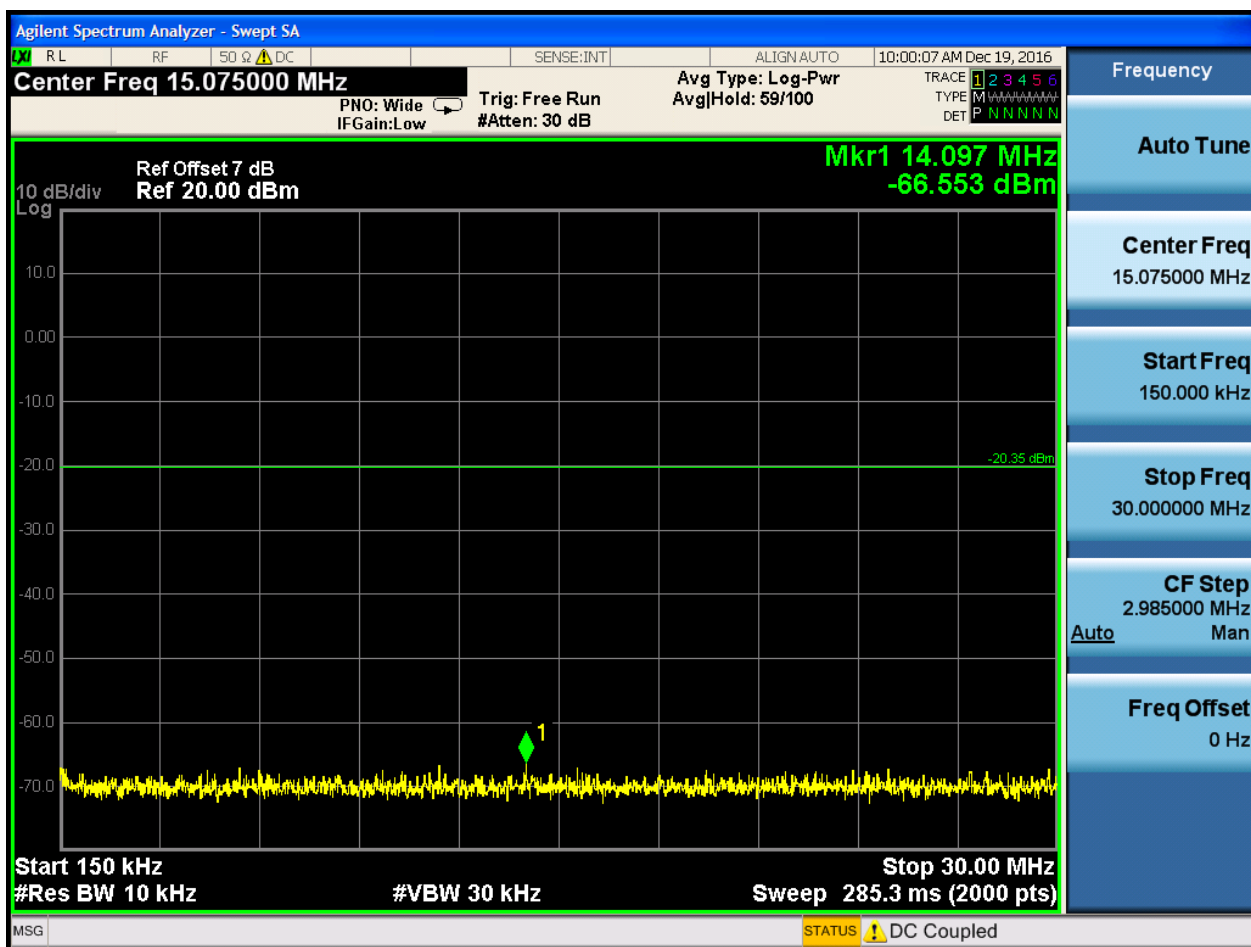
## 2.5 TM2\_2DH5\_Ch39

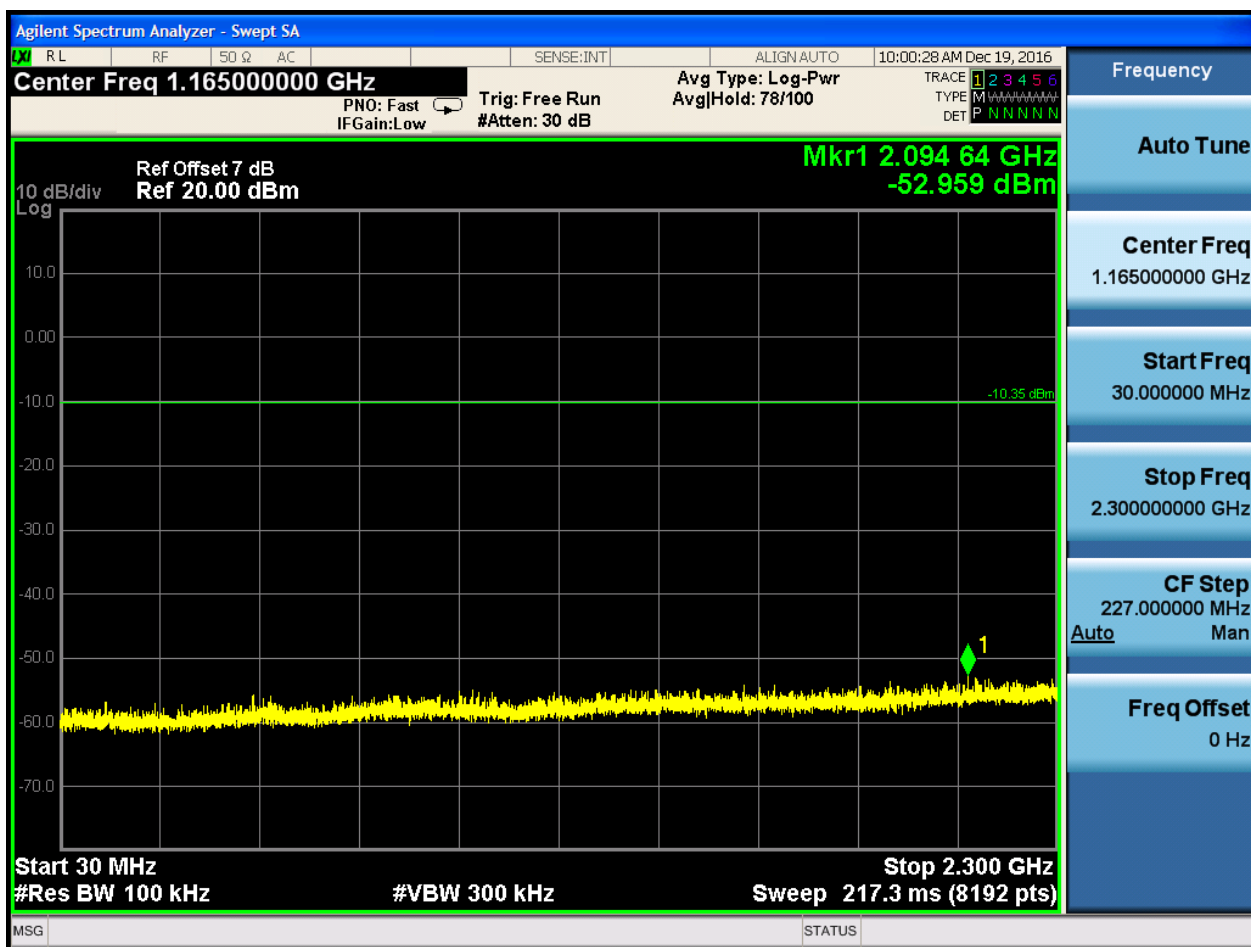
### 2.5.1 Pref

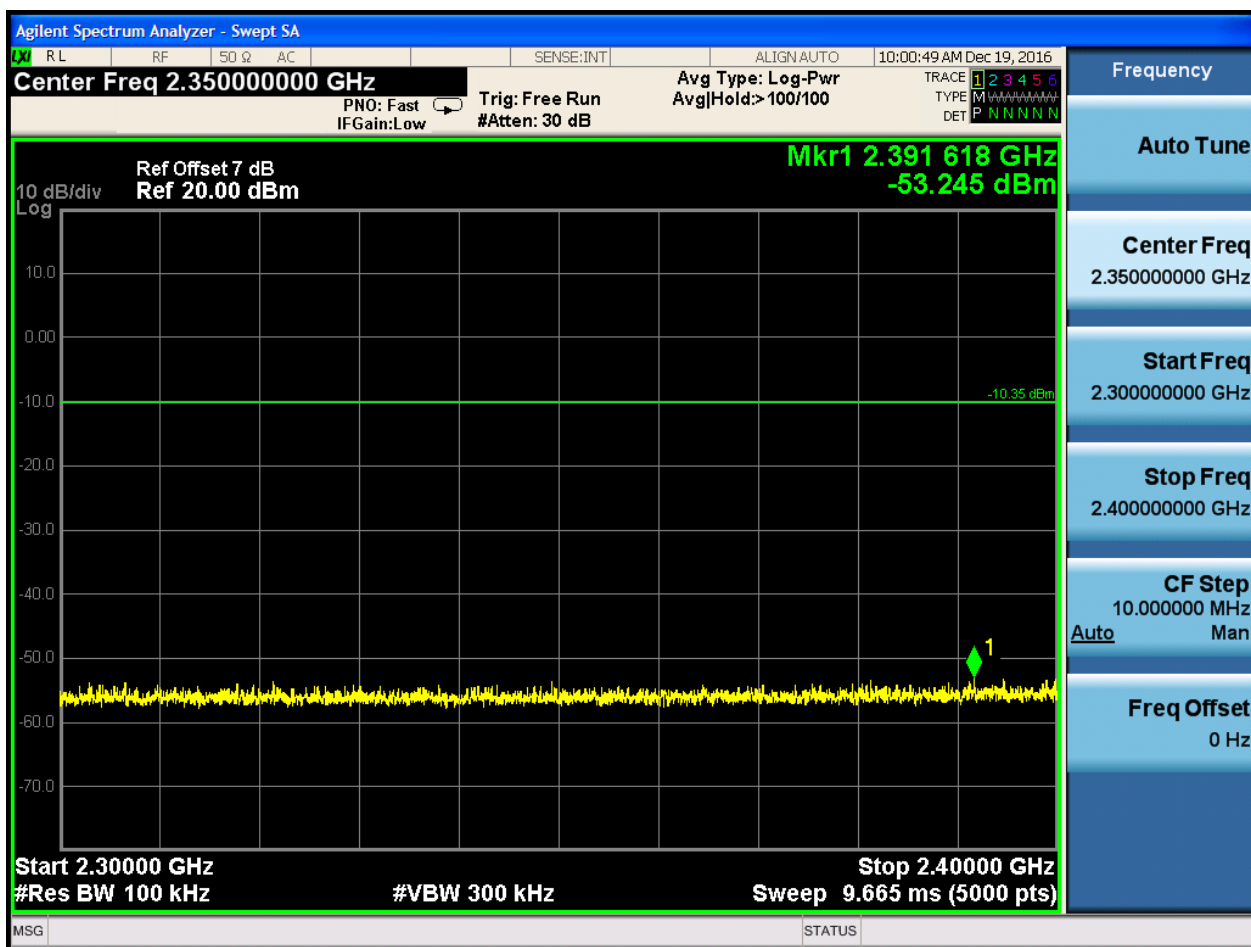


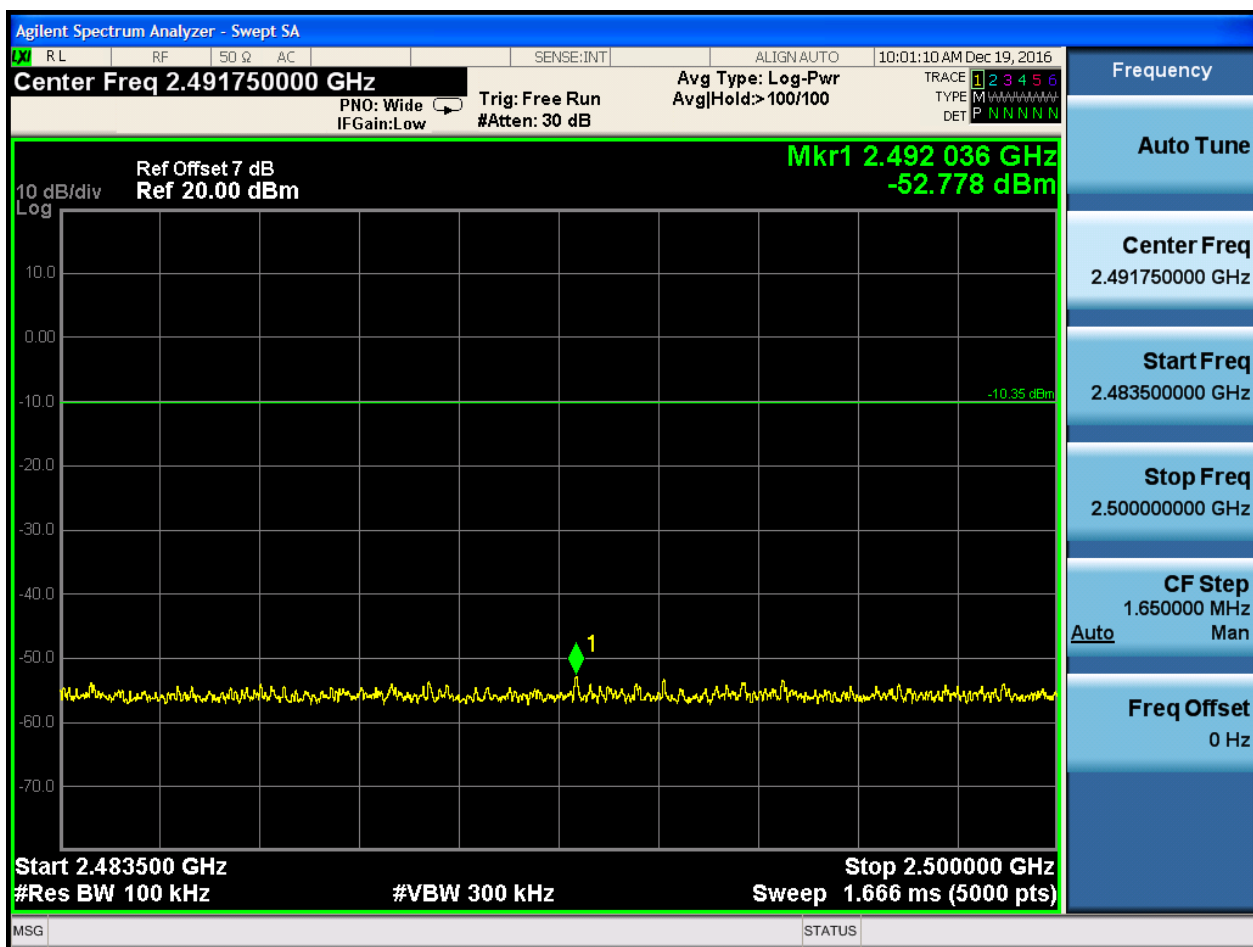
## 2.5.2 Puw







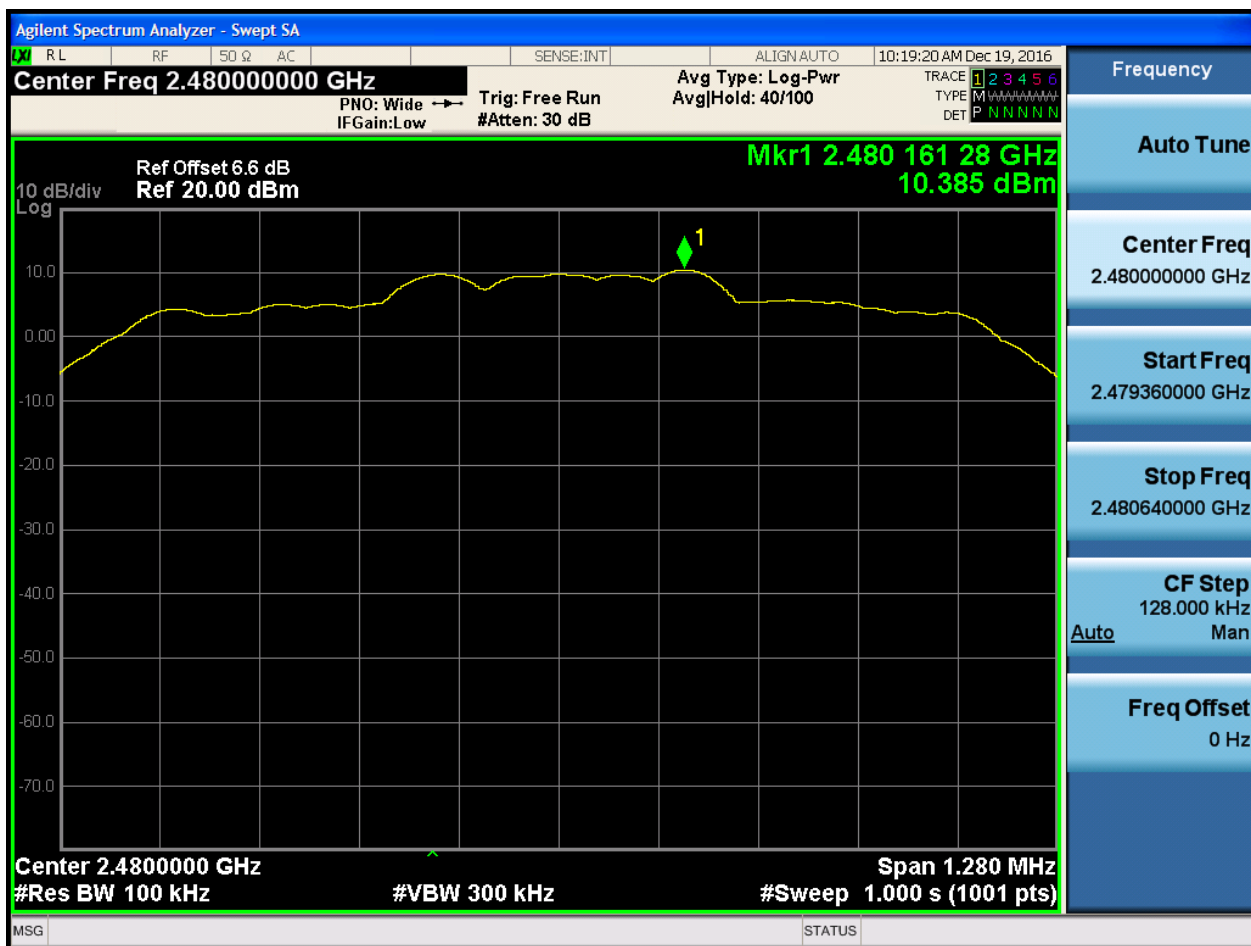




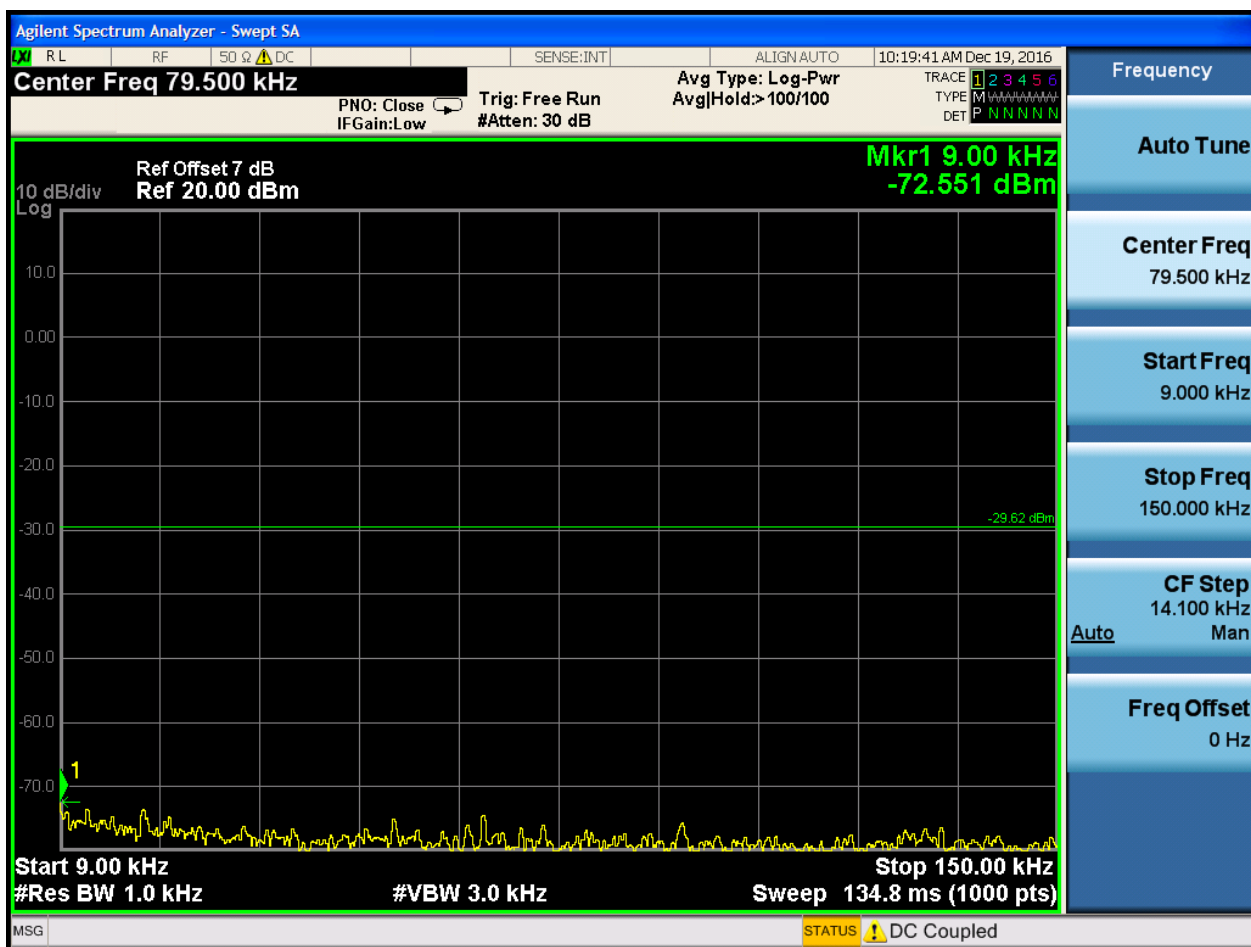


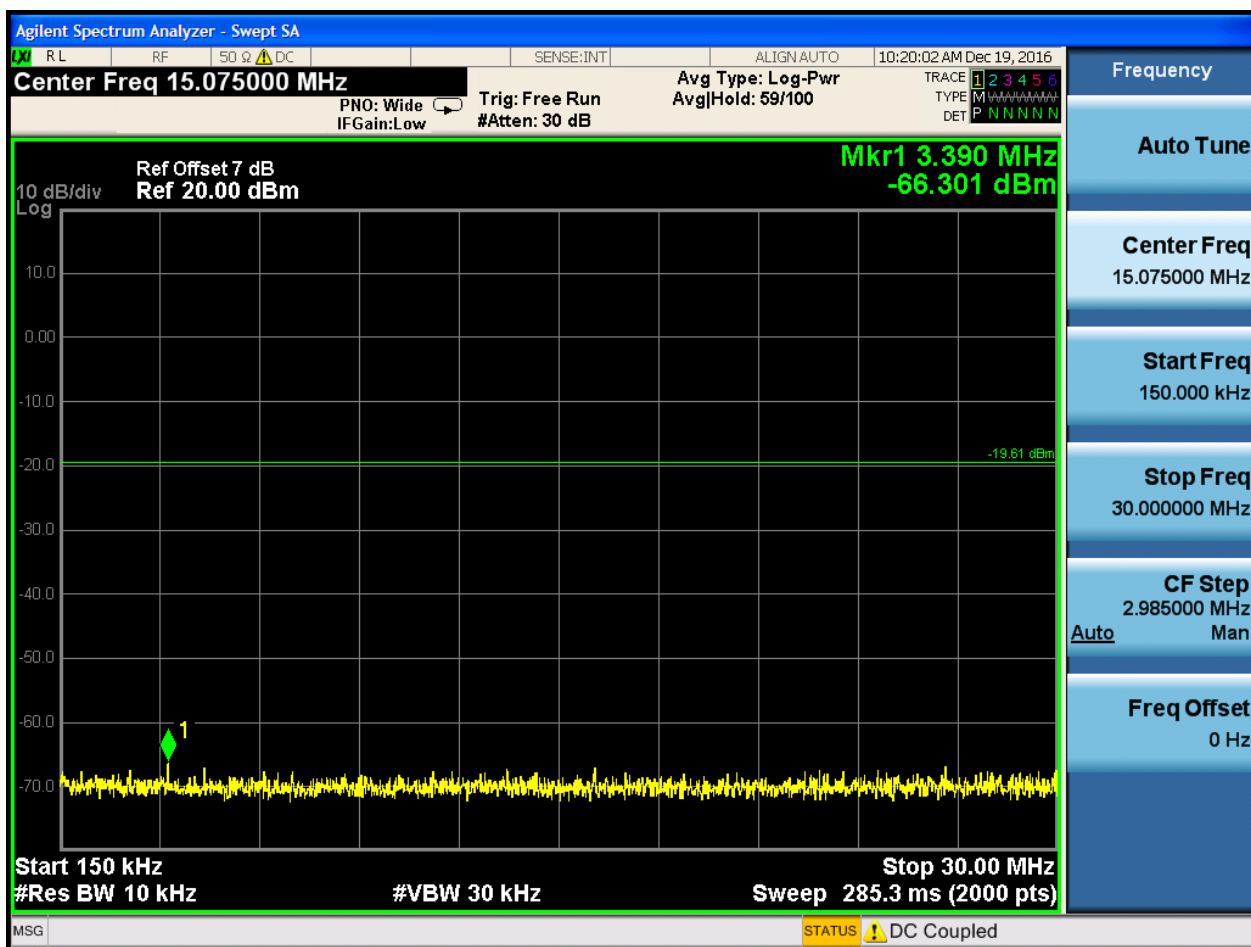
## 2.6 TM2\_2DH5\_Ch78

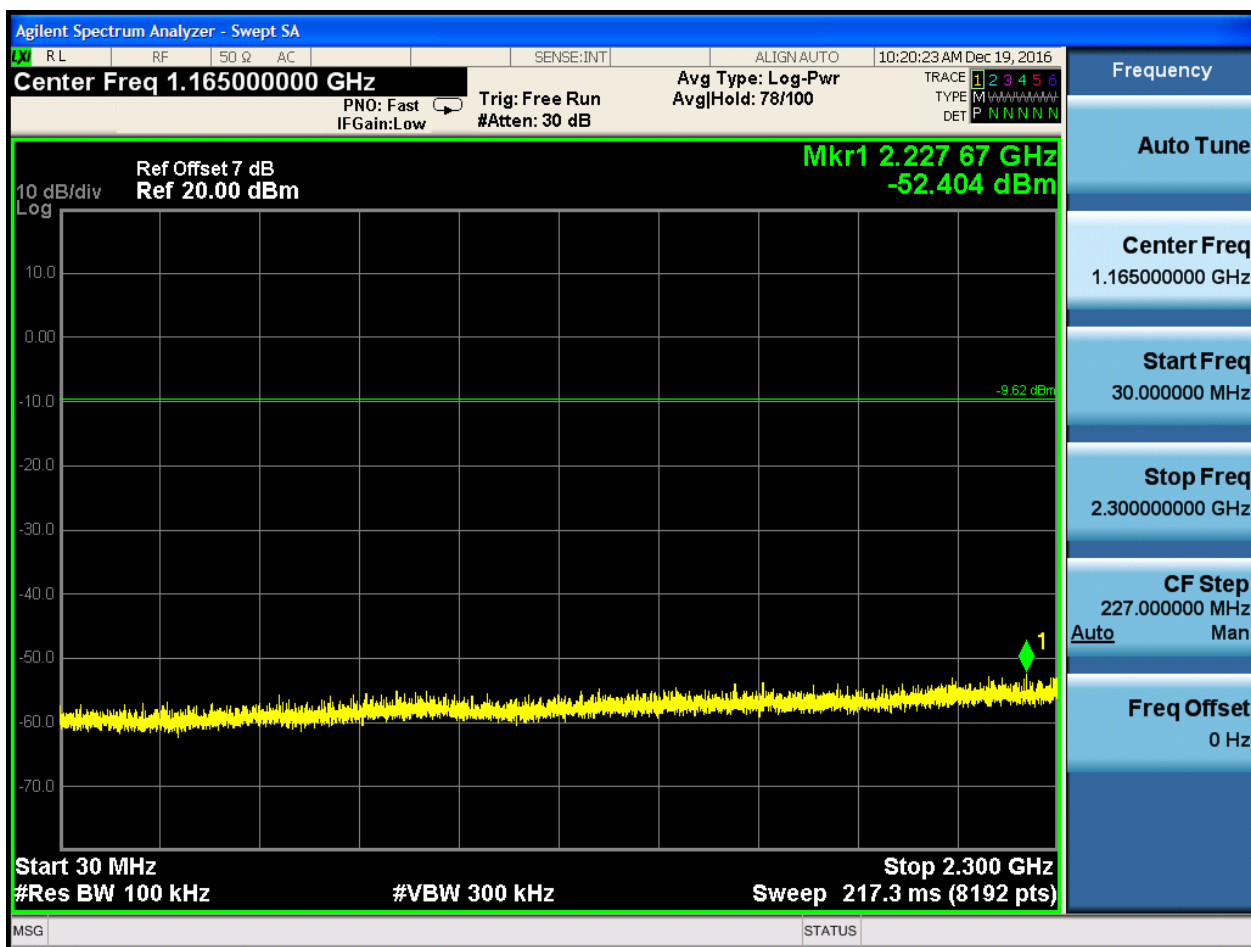
### 2.6.1 Pref

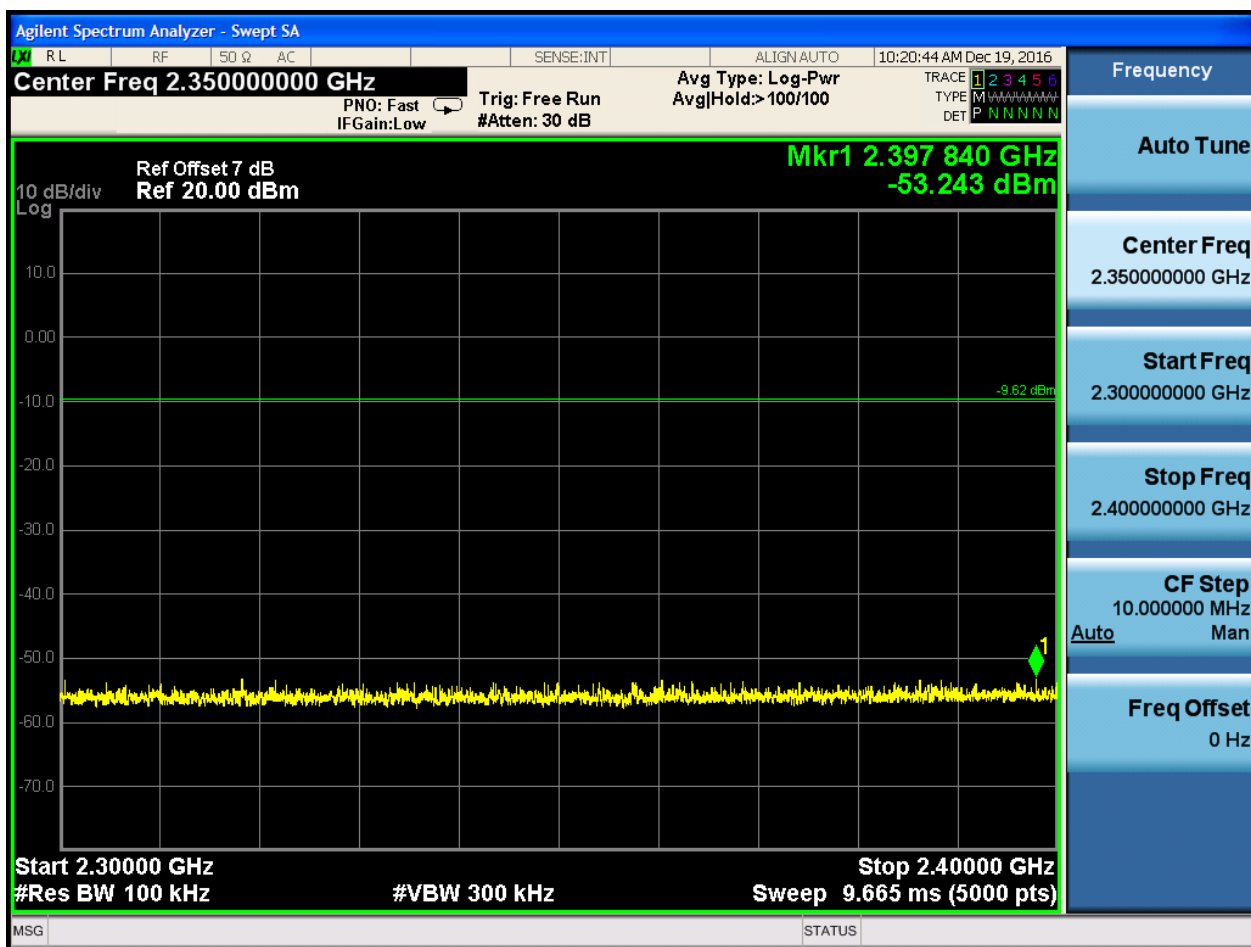


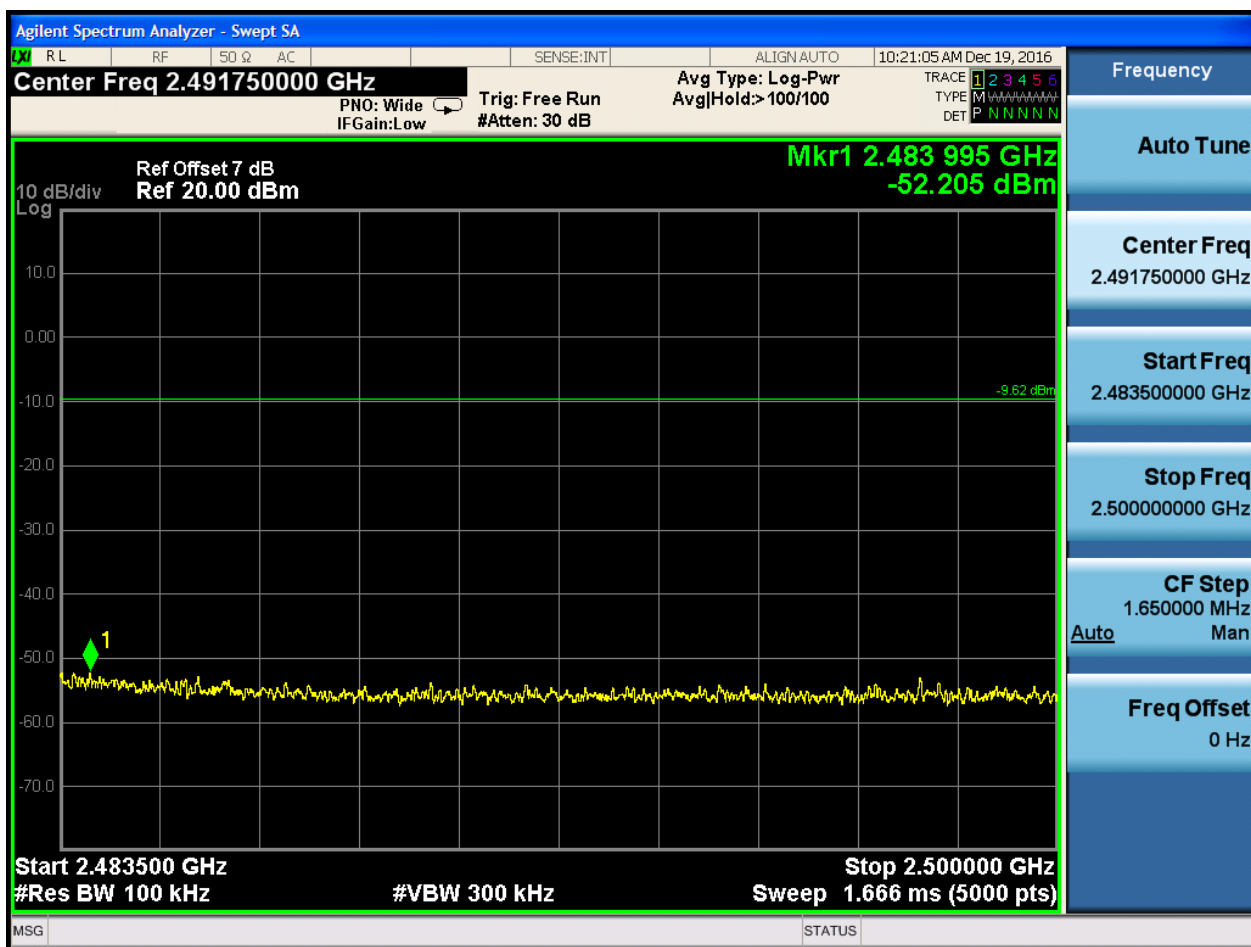
## 2.6.2 Puw







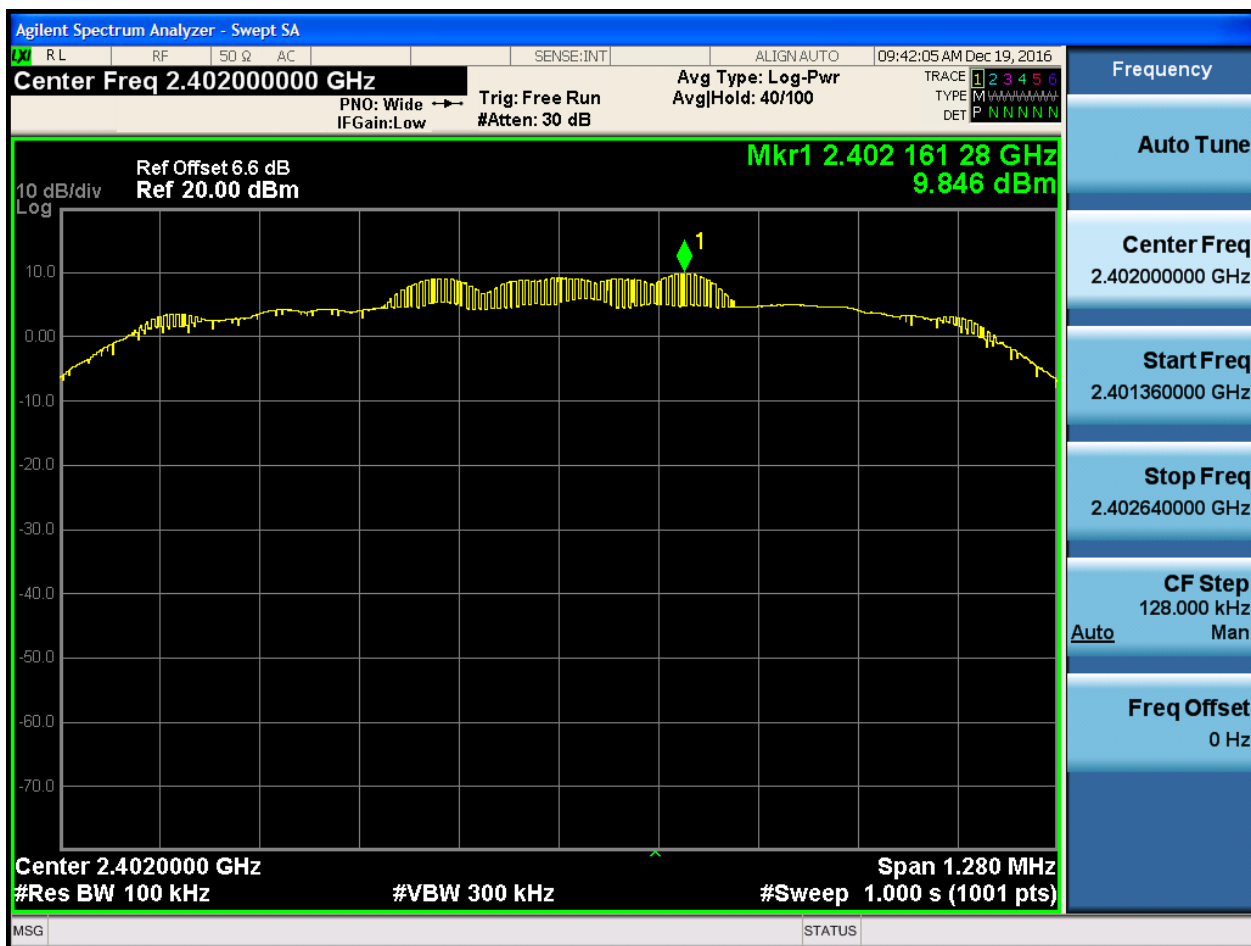




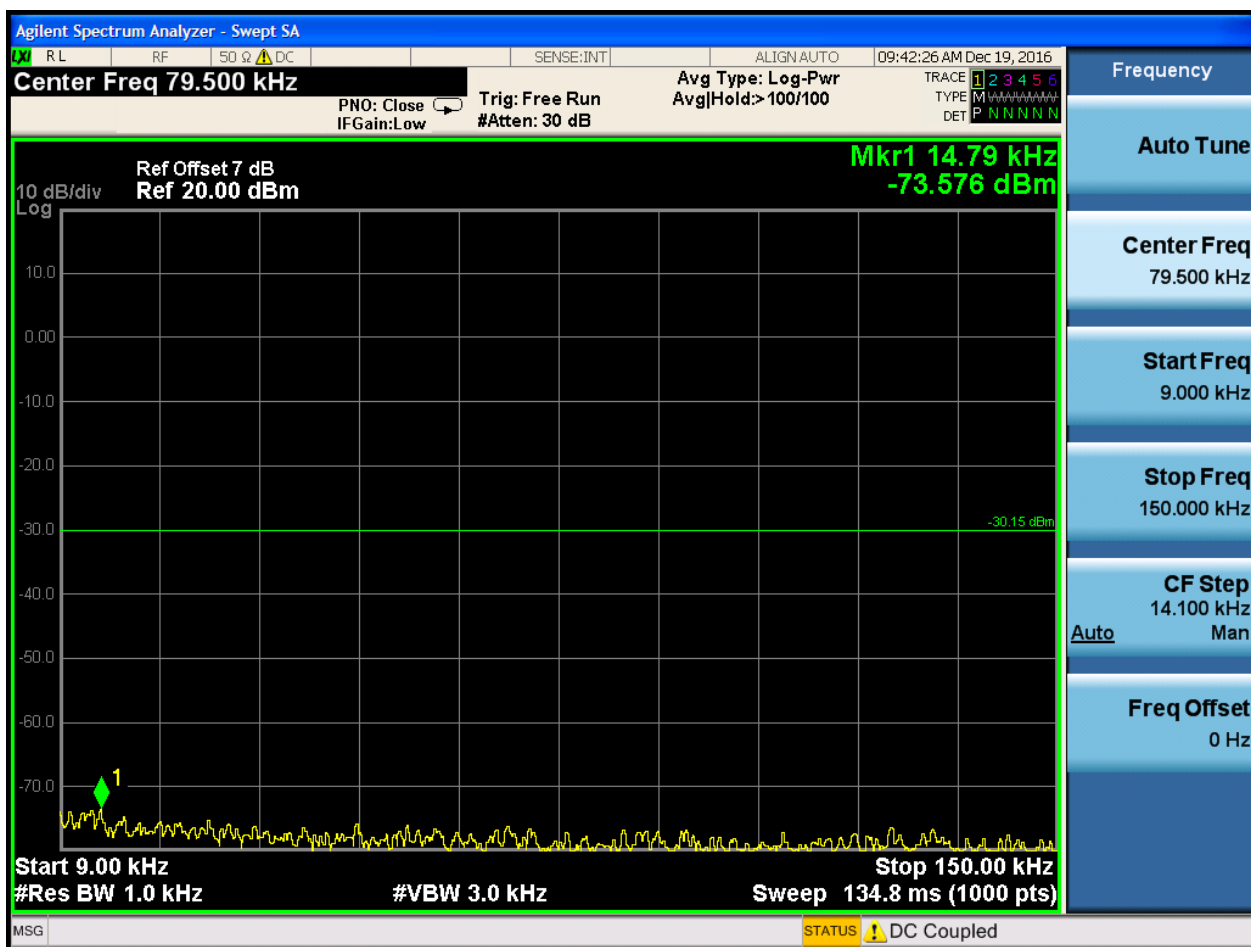


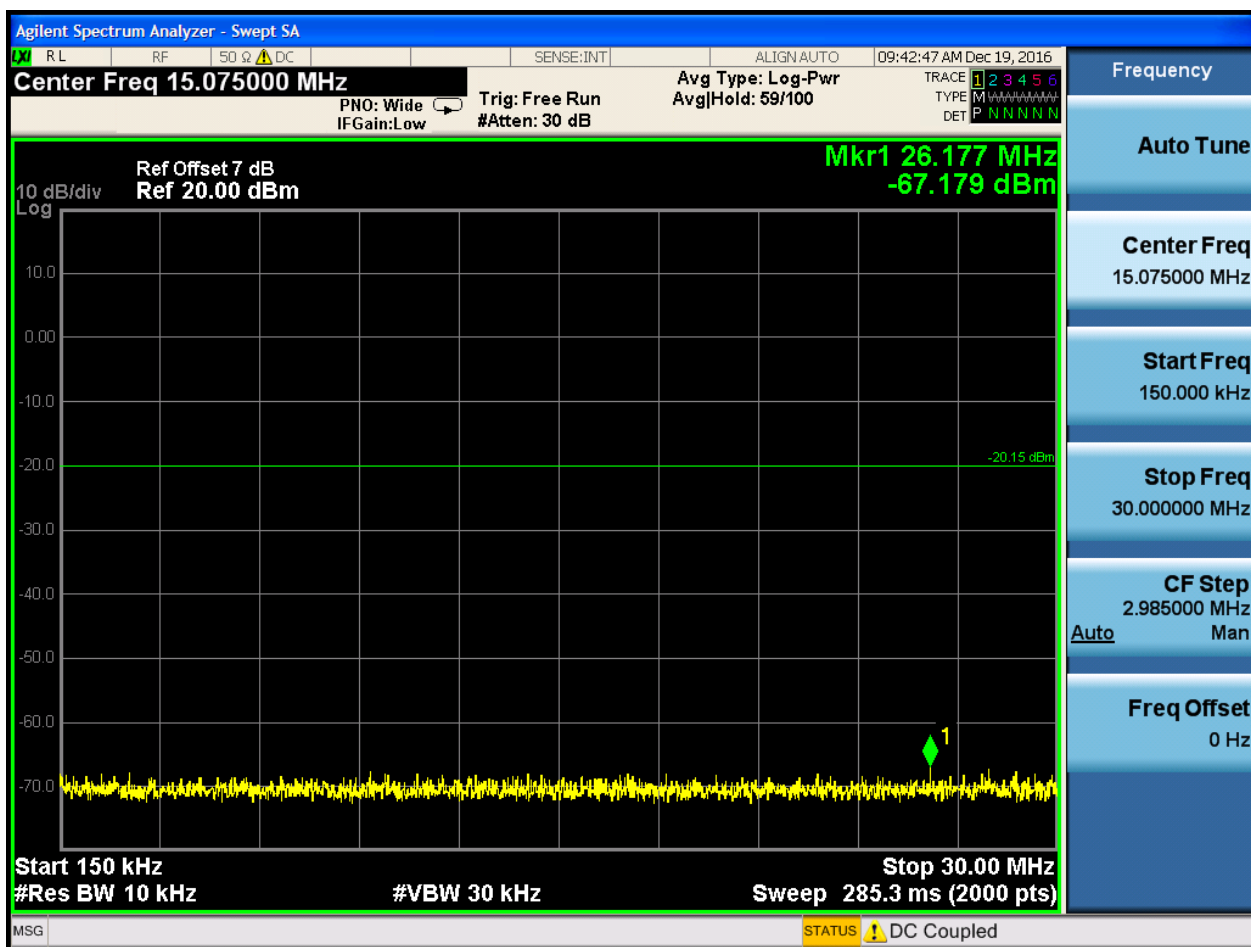
## 2.7 TM3\_3DH5\_Ch0

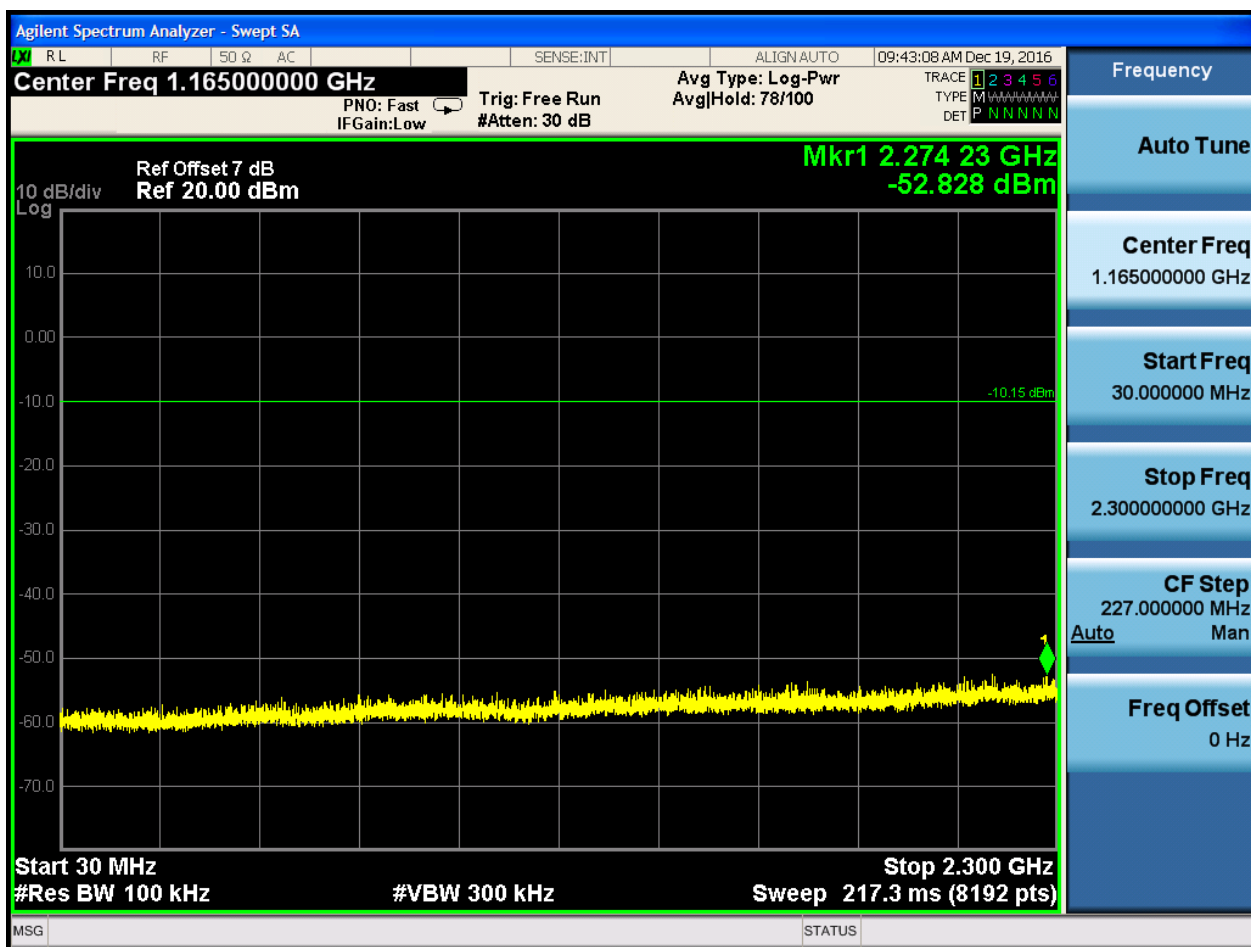
### 2.7.1 Pref

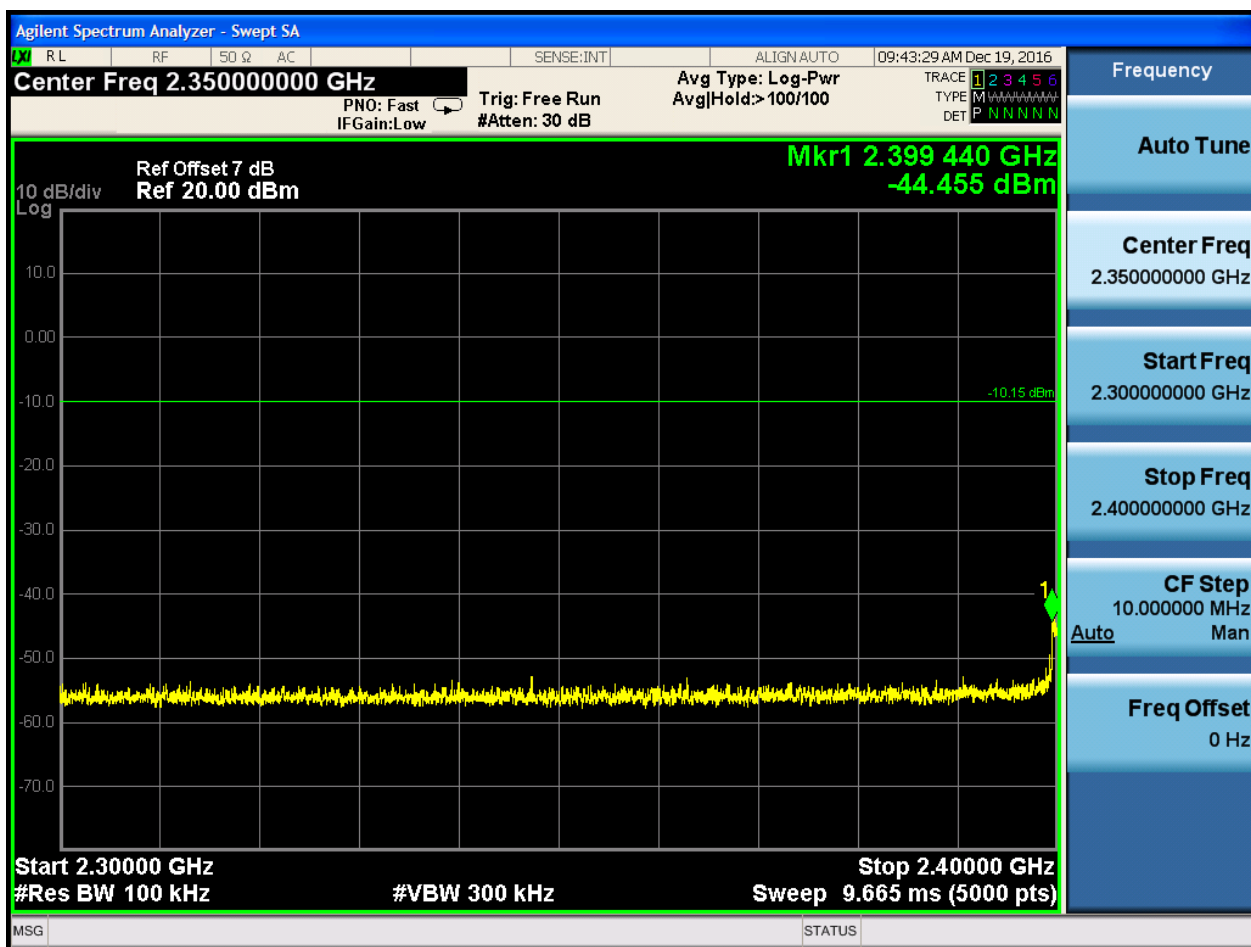


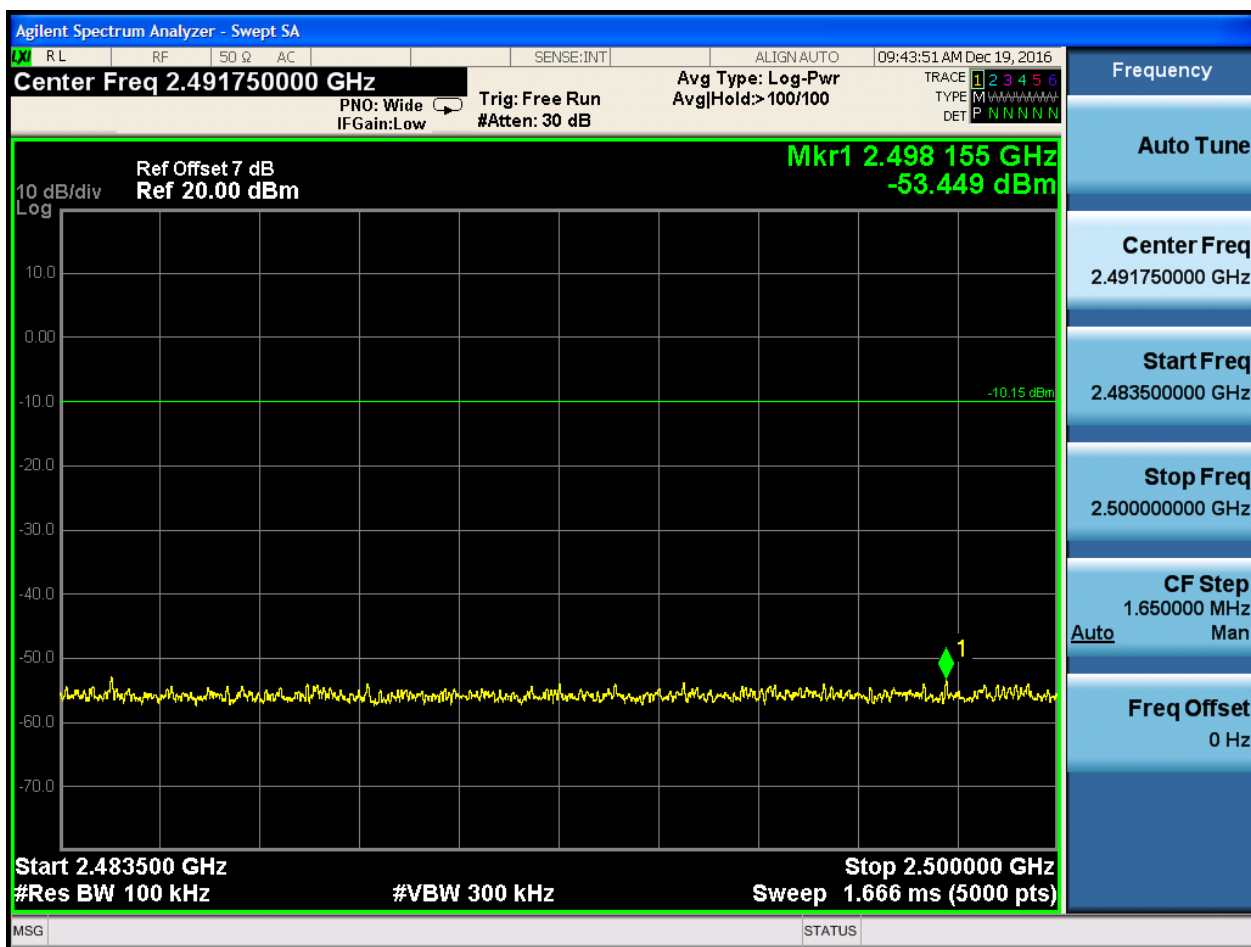
## 2.7.2 Puw







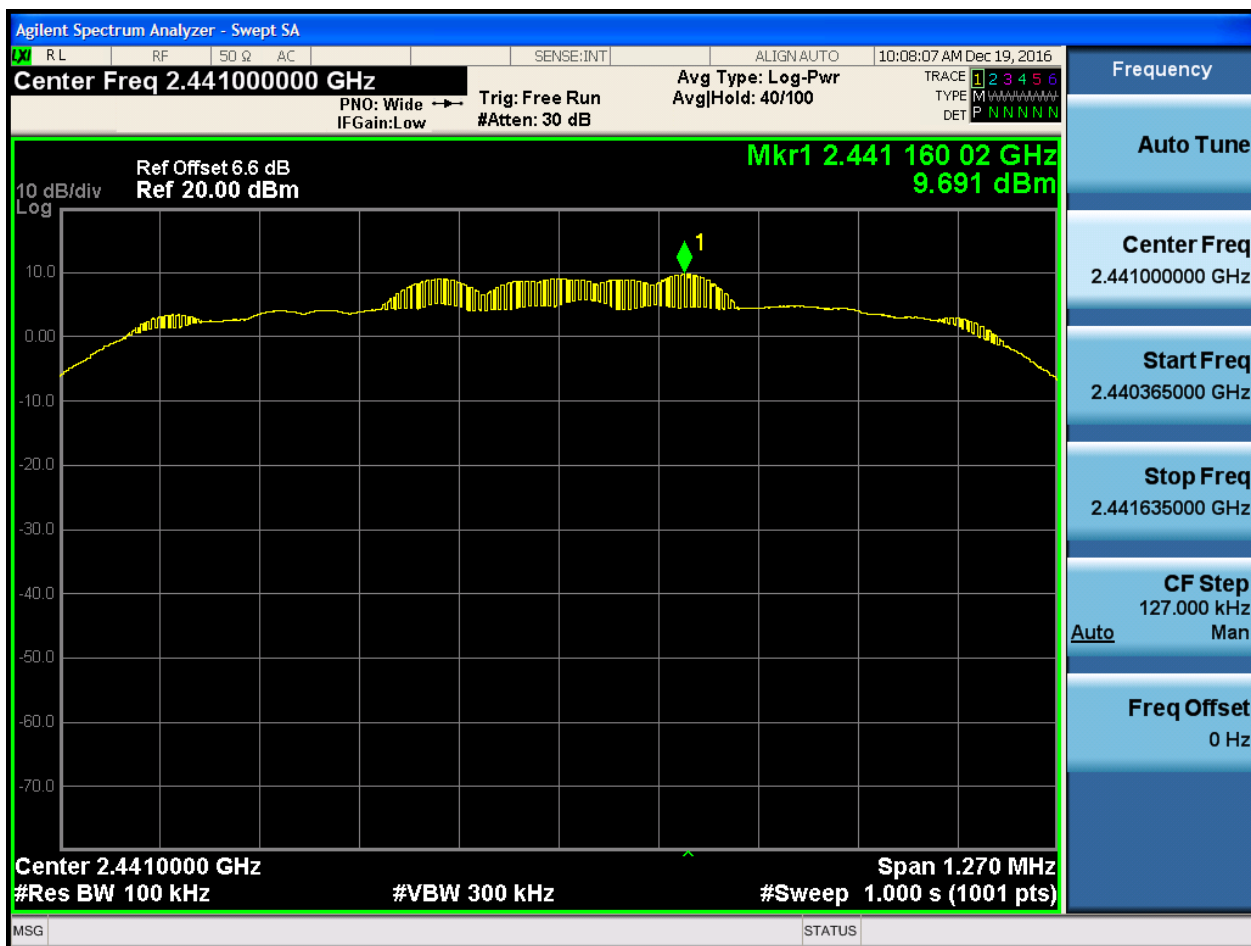




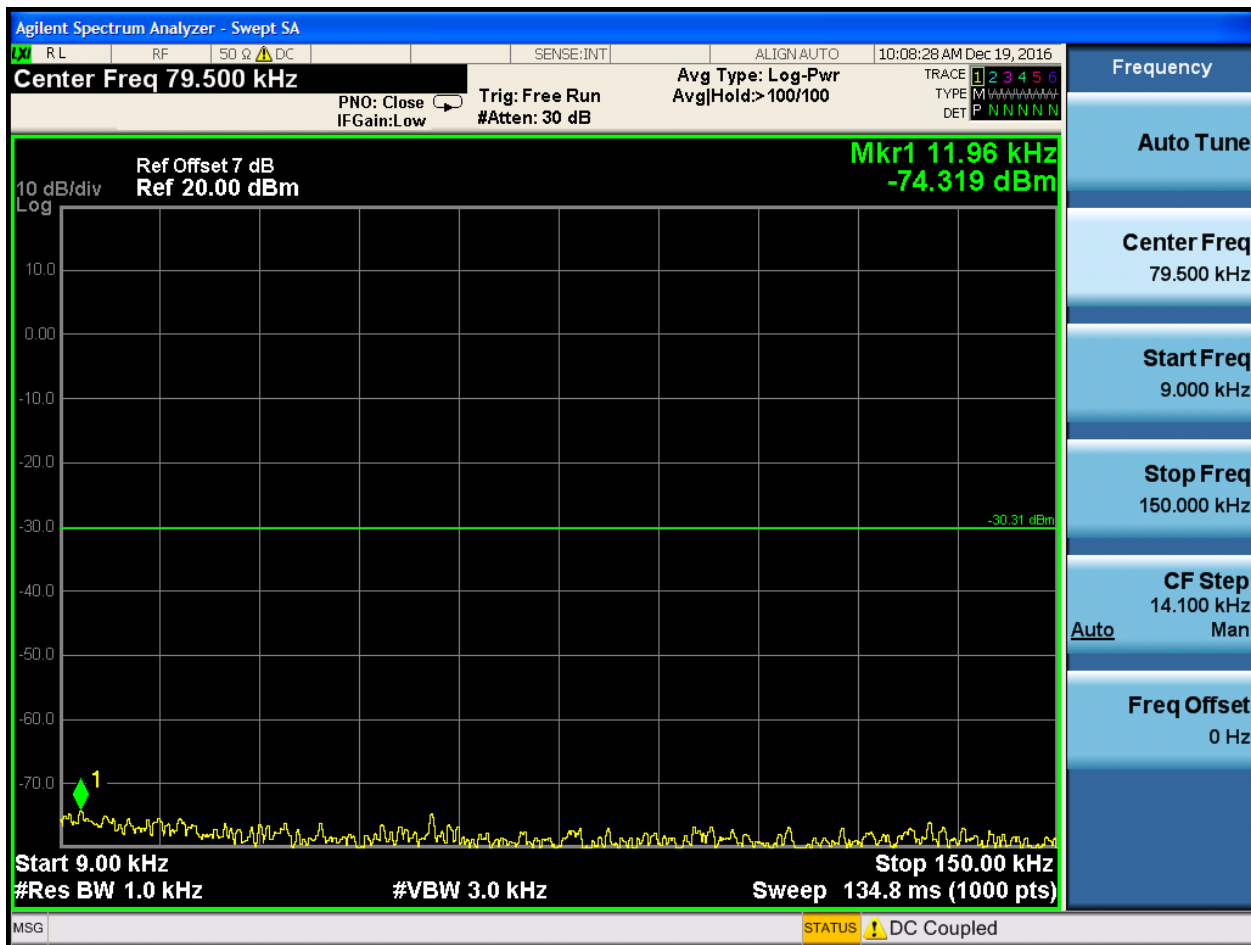


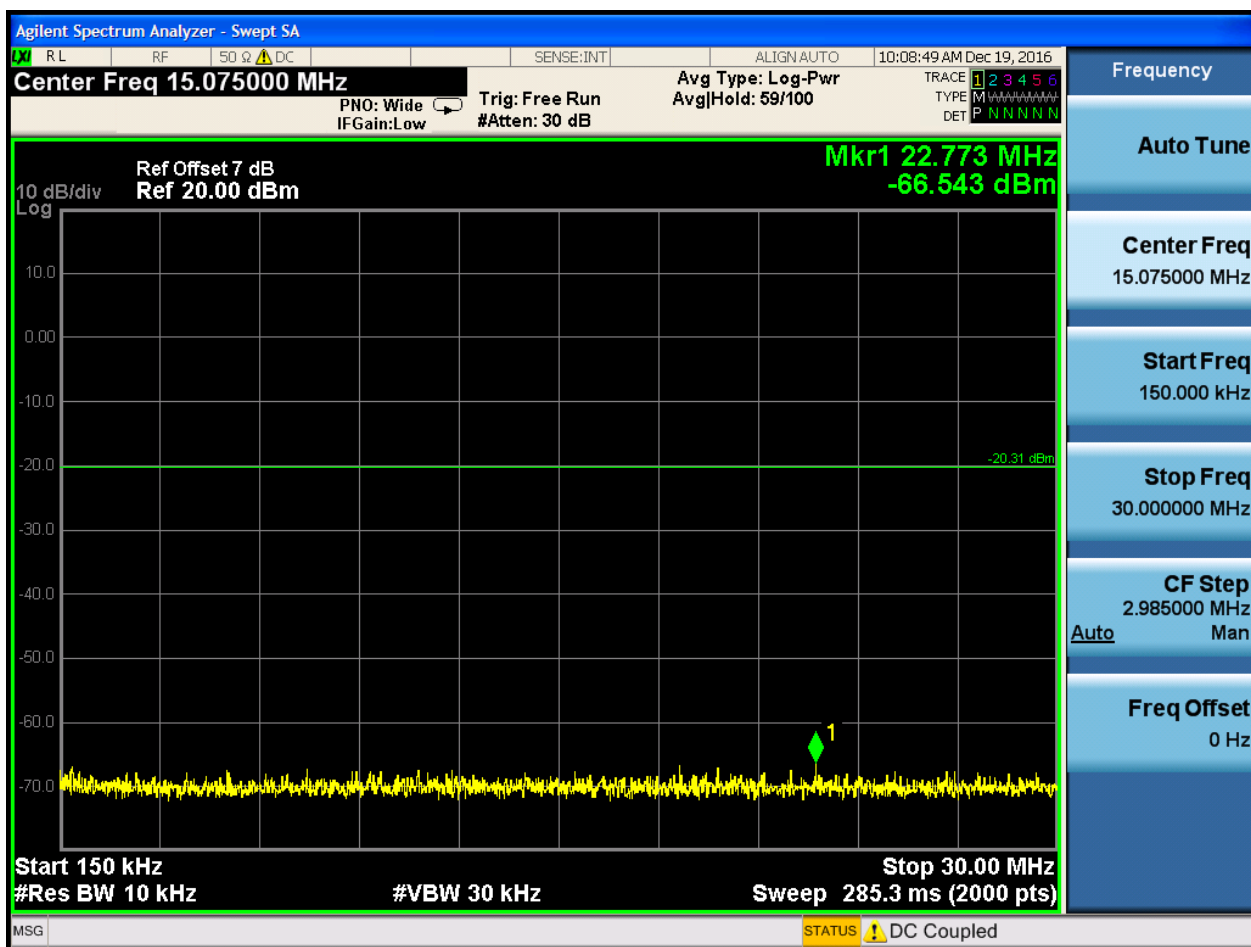
## 2.8 TM3\_3DH5\_Ch39

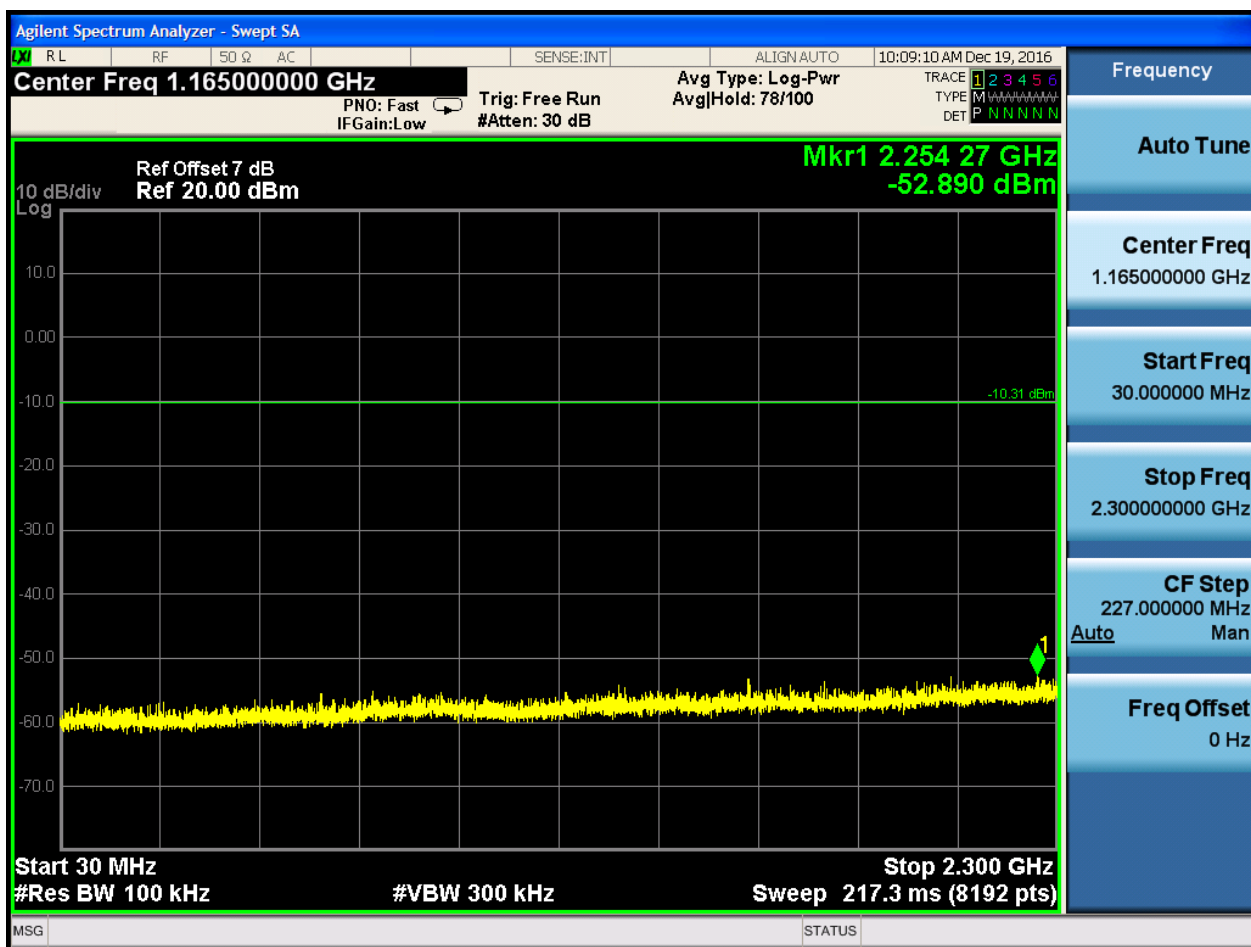
### 2.8.1 Pref

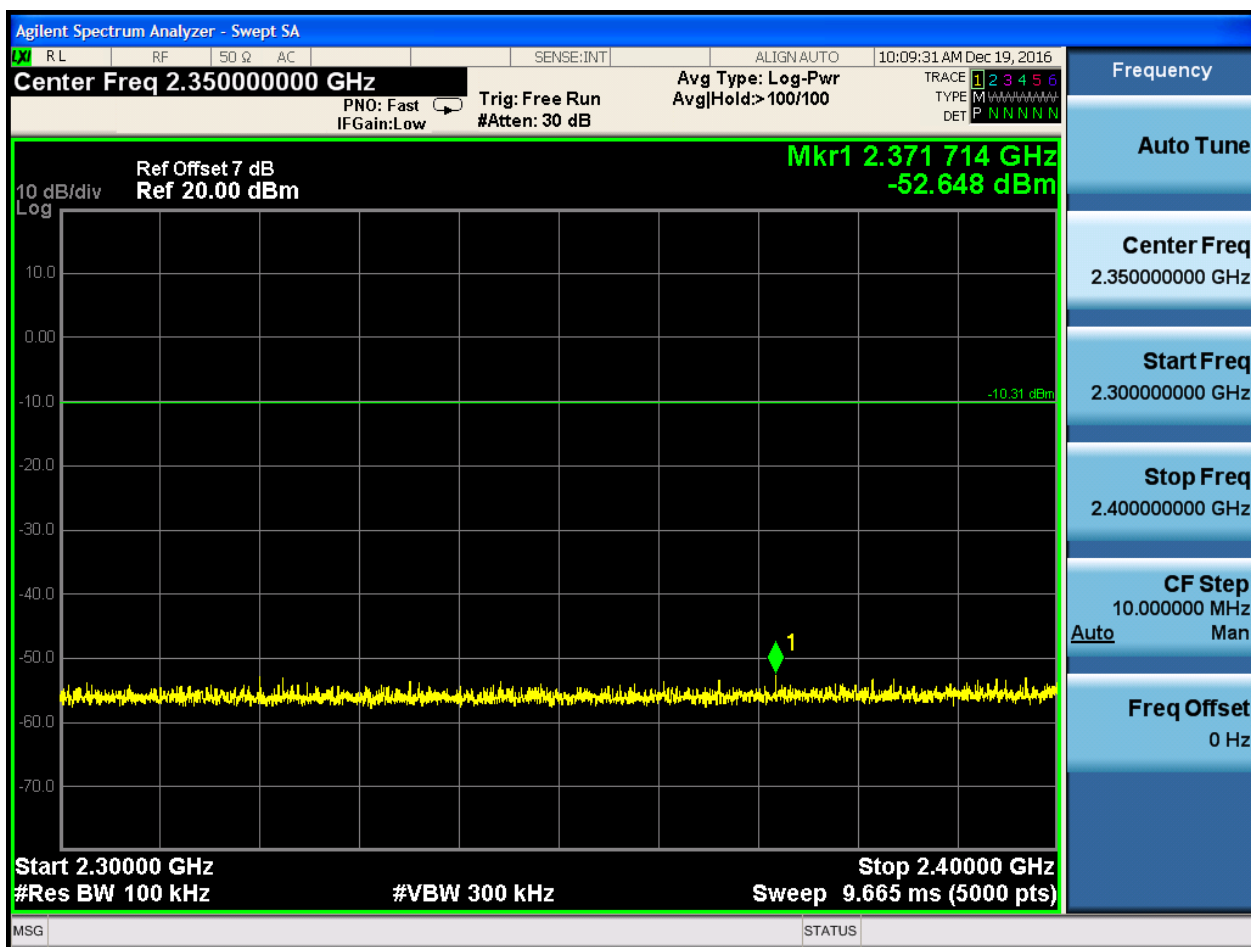


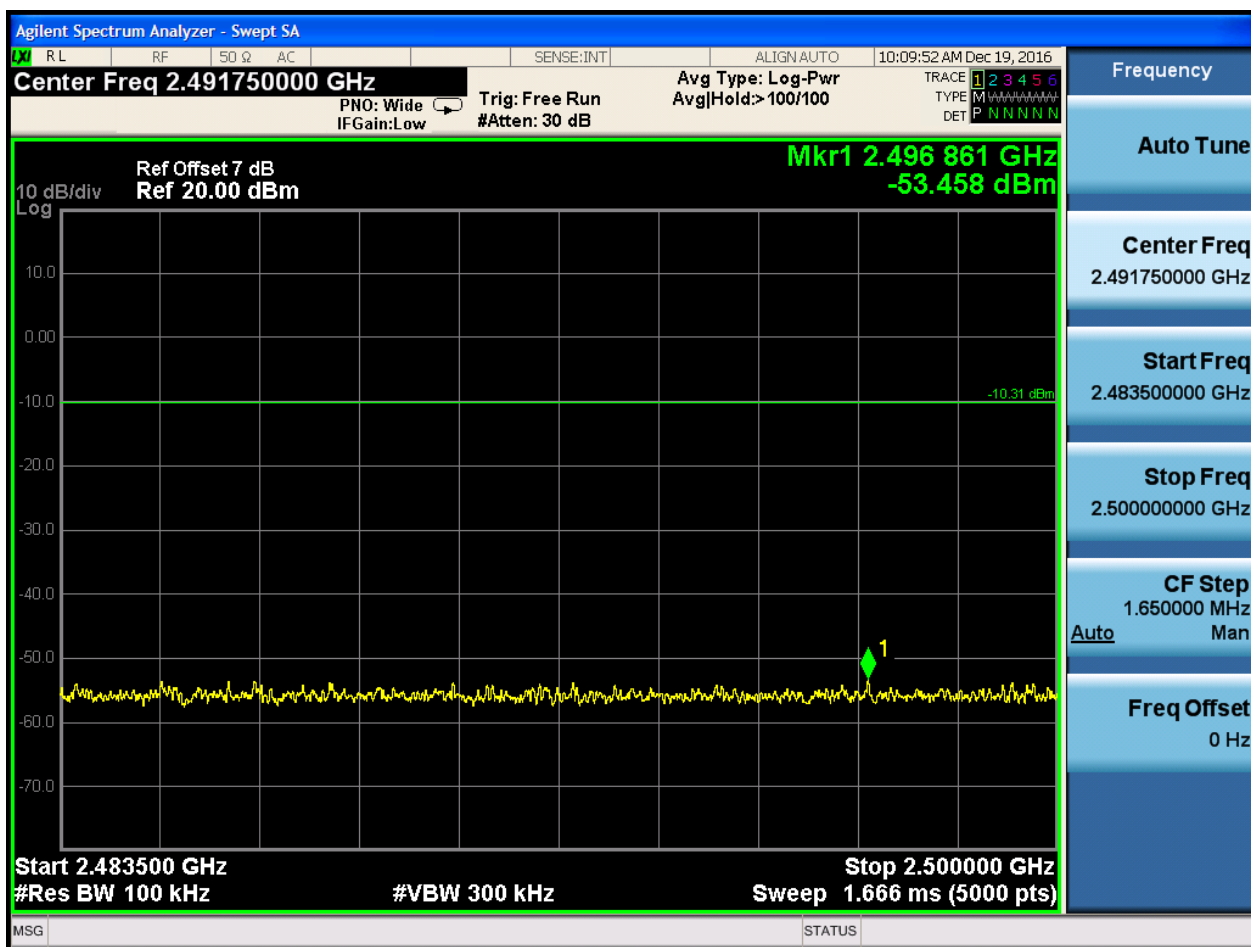
## 2.8.2 Puw







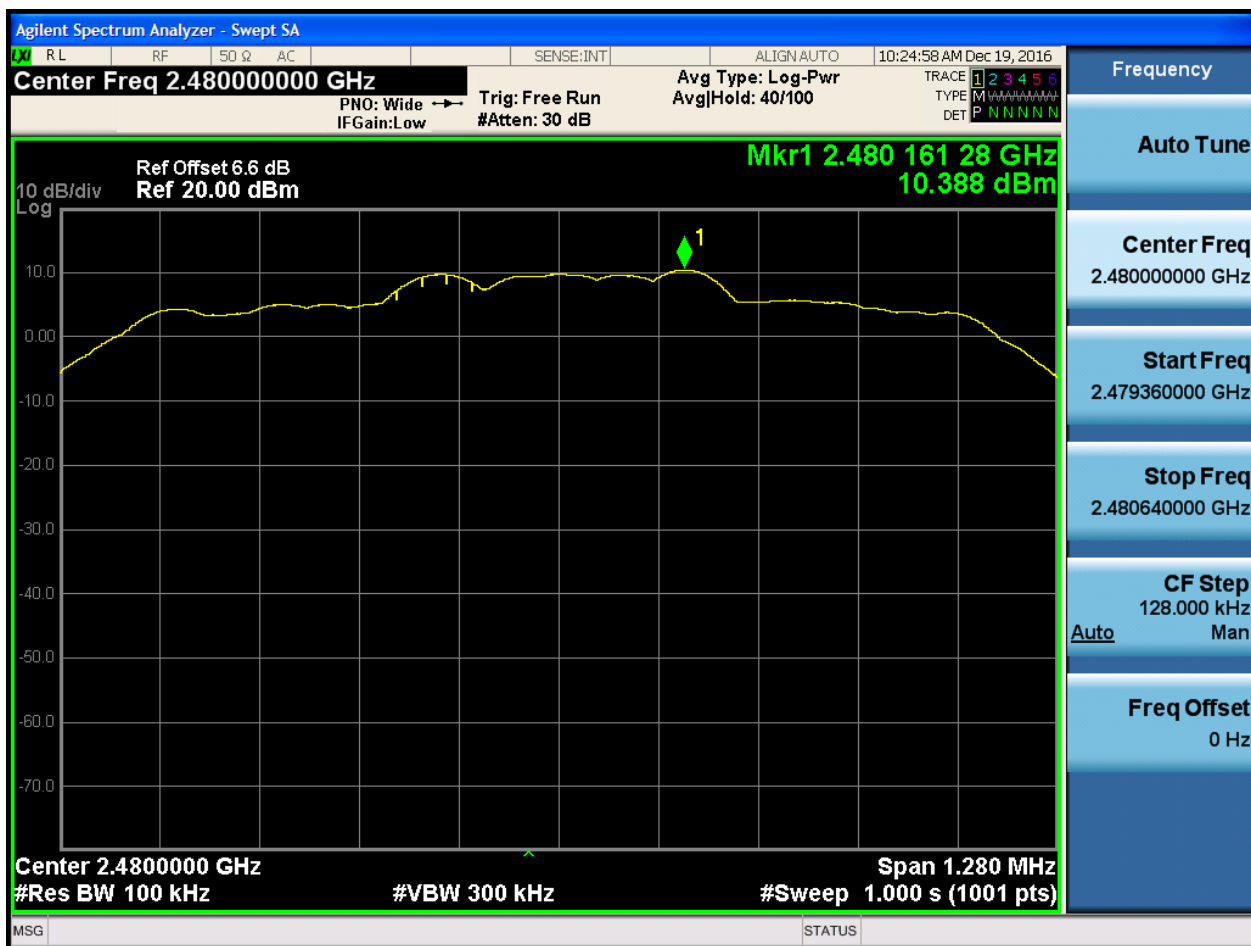






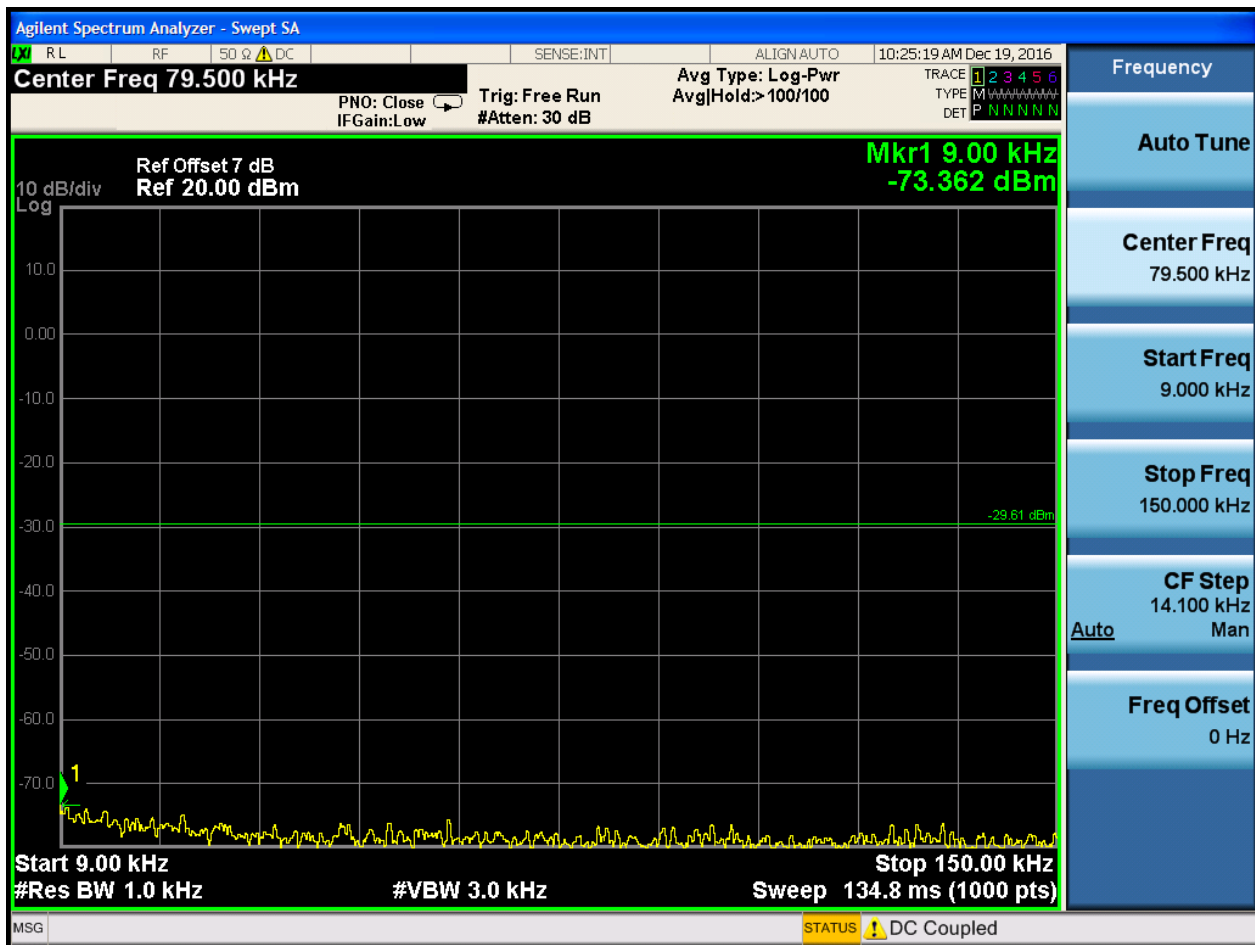
## 2.9 TM3\_3DH5\_Ch78

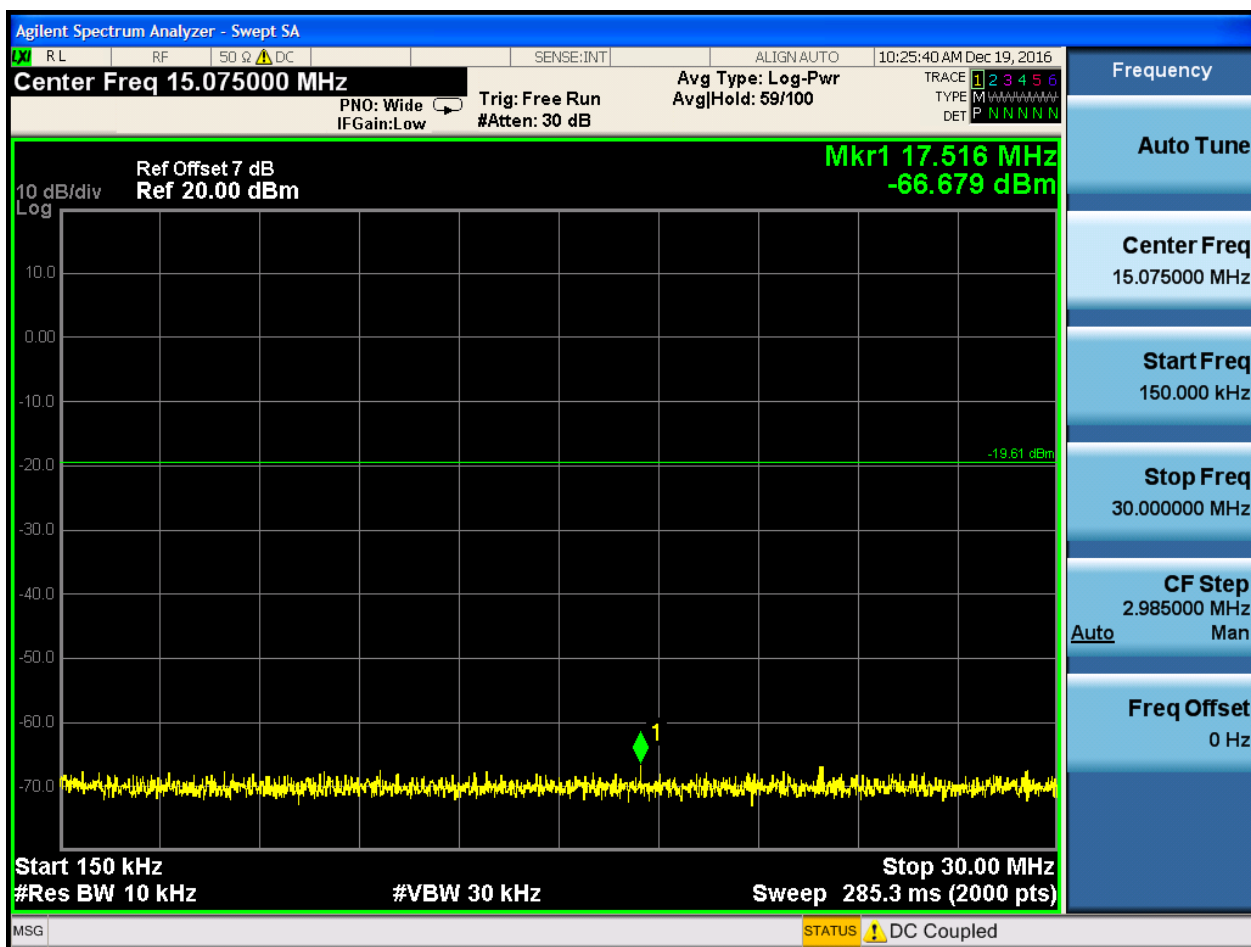
### 2.9.1 Pref

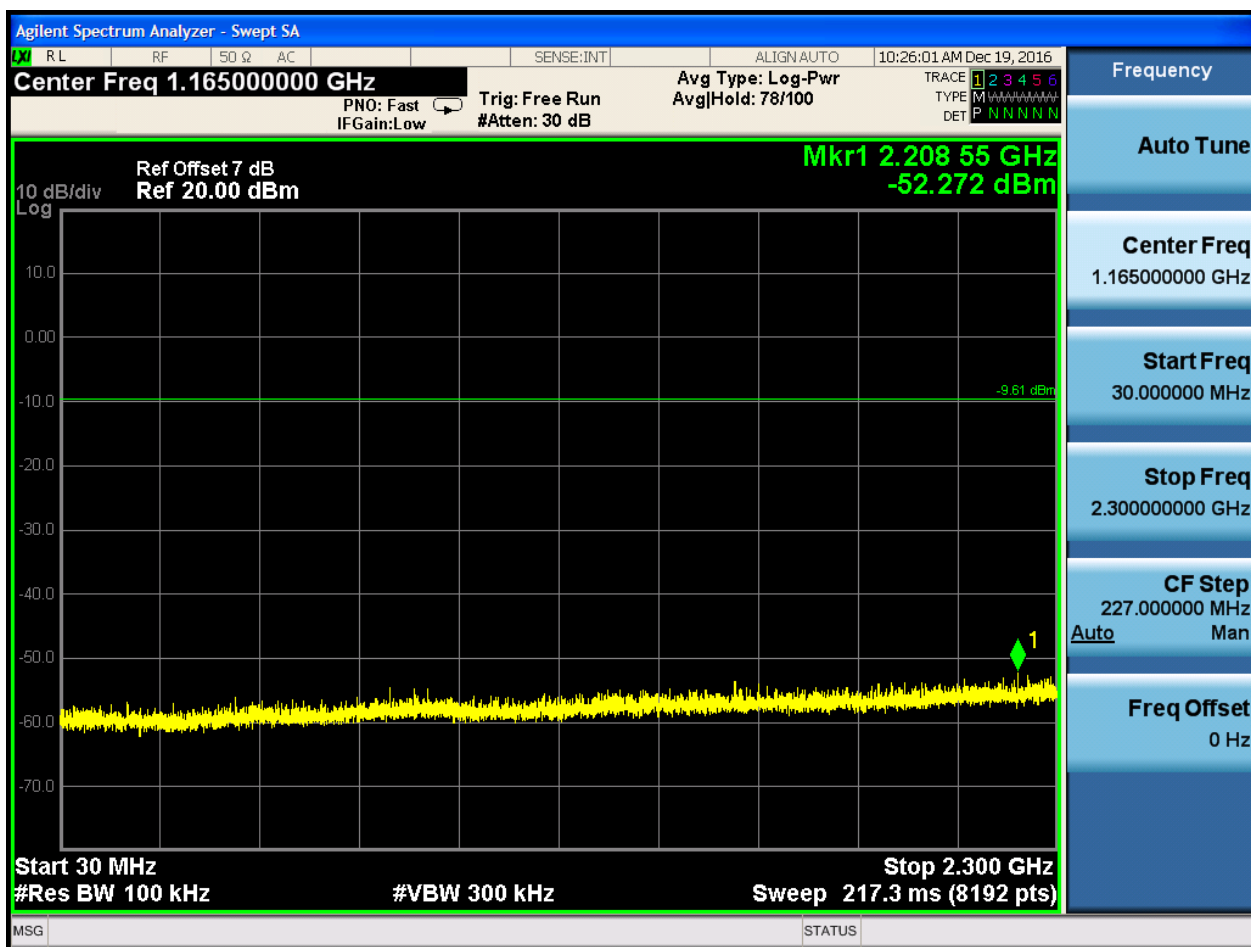


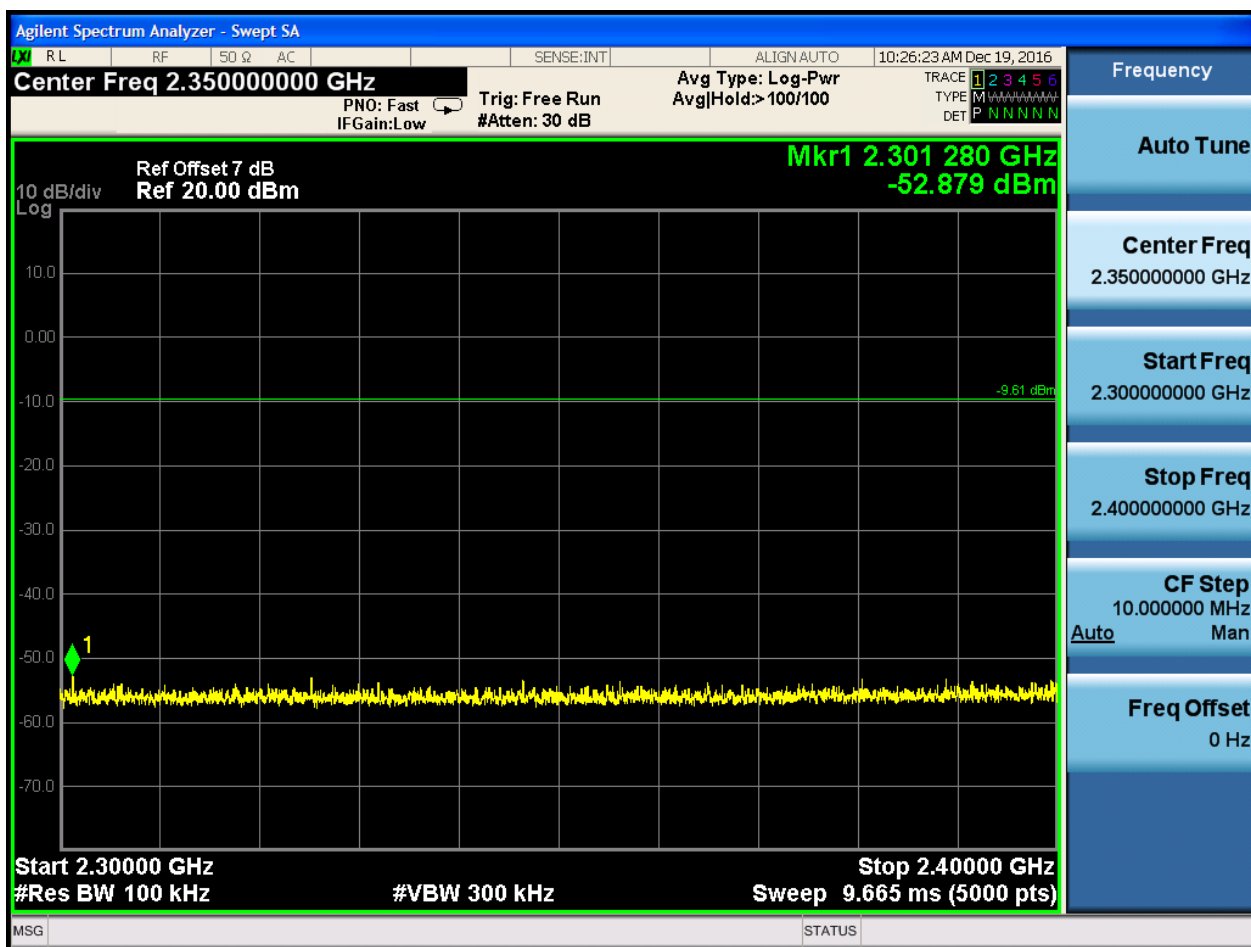


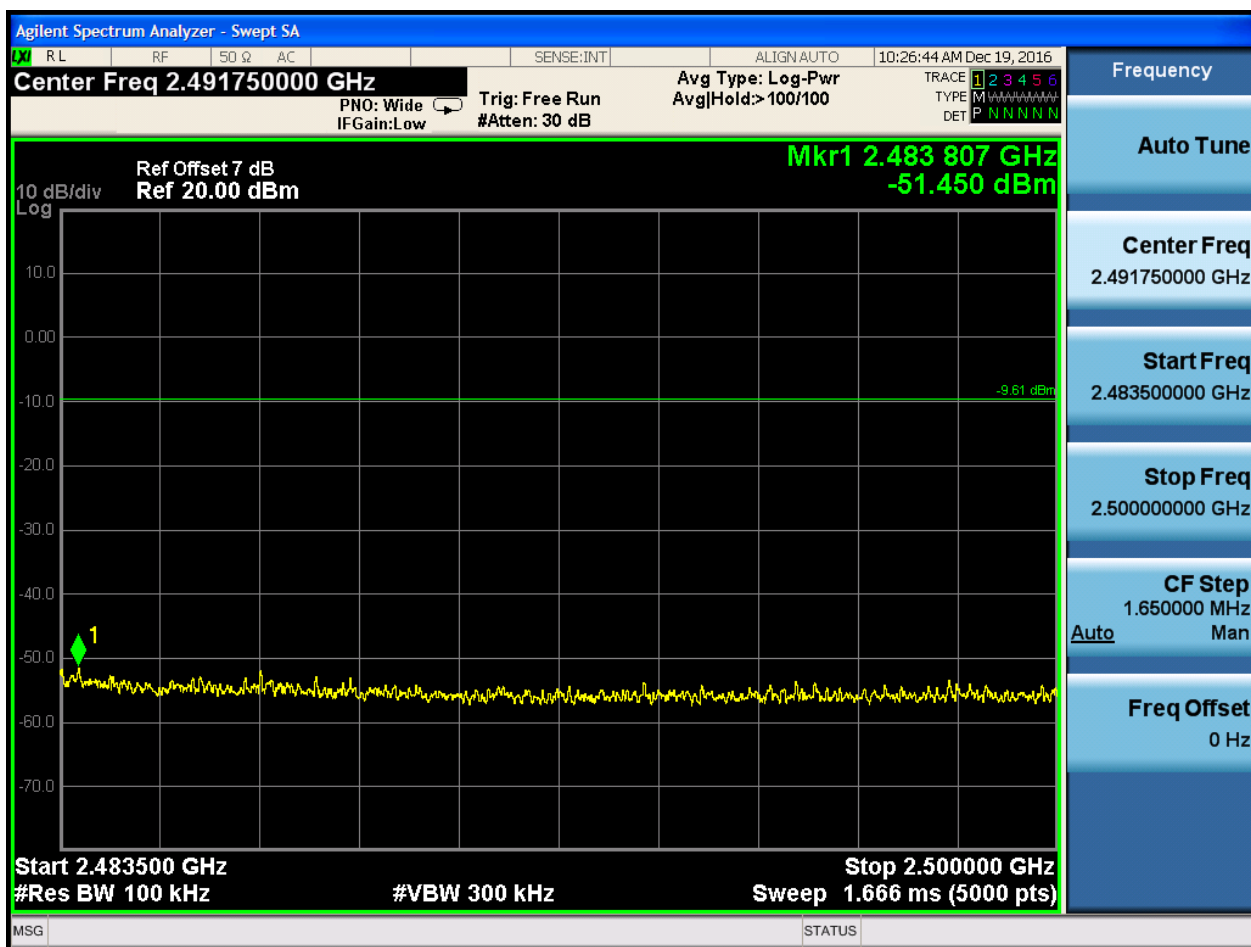
## 2.9.2 Puw













## **Appendix H: Radiated Emissions in the Restricted Bands**

### 3 Result Table

The whole testing range is from “30 MHz to 26.5 GHz (10th harmonics)” is divided into 4 parts according to the test site settings, which are:

- (Part 1): Test range of “9 KHz to 30 MHz”,
- (Part 2): Test range of “30 GHz to 1 GHz”,
- (Part 3): Test range of “1 GHz to 3 GHz”.
- (Part 4): Test range of “3 GHz to 18 GHz”,
- (Part 5): Test range of “18 GHz to 26.5 GHz”.

In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

| Test Range         | EUT Conf.                  | Emissions | Verdict |
|--------------------|----------------------------|-----------|---------|
| 30 MHz to 1 GHz    | TM1_DH5_Ch0 (Worst Conf.)  | < Limit   | Pass    |
| 1 GHz to 3 GHz     | TM1_DH5_Ch0 (Worst Conf.)  | < Limit   | Pass    |
|                    | TM1_DH5_Ch78 (Worst Conf.) | < Limit   | Pass    |
| 3 GHz to 18 GHz    | TM1_DH5_Ch0 (Worse Conf.)  | < Limit   | Pass    |
| 18 GHz to 26.5 GHz | TM1_DH5_Ch0 (Worst Conf.)  | < Limit   | Pass    |

Note: We tested all modes, but the data presented below is the worst case.

## 4 Result Plot

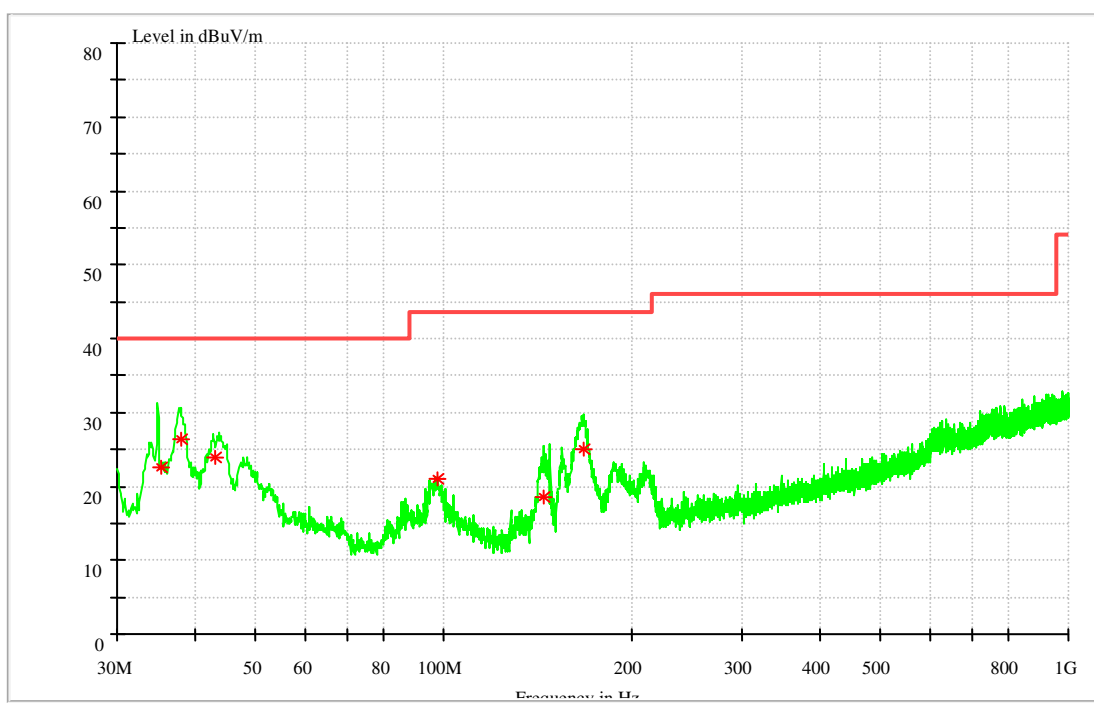
### Part 1: Testing Range of “9 kHz to 30MHz”

NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

### Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



| Frequency (MHz) | Level (dBμ V/m) | Limit (dBμ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Transd. (dB) |
|-----------------|-----------------|-----------------|-------------|-------------|-----|---------------|--------------|
| 35.393300       | 22.64           | 40.00           | 17.36       | 117.0       | V   | 126.0         | 15.2         |
| 37.922150       | 26.32           | 40.00           | 13.68       | 100.0       | V   | 158.0         | 15.4         |
| 43.203600       | 23.90           | 40.00           | 16.10       | 124.0       | V   | 358.0         | 15.3         |
| 97.903500       | 21.01           | 43.50           | 22.49       | 130.0       | V   | 25.0          | 13.6         |
| 145.046950      | 18.53           | 43.50           | 24.97       | 107.0       | V   | 290.0         | 10.3         |
| 167.020150      | 25.03           | 43.50           | 18.47       | 100.0       | V   | 314.0         | 10.9         |

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

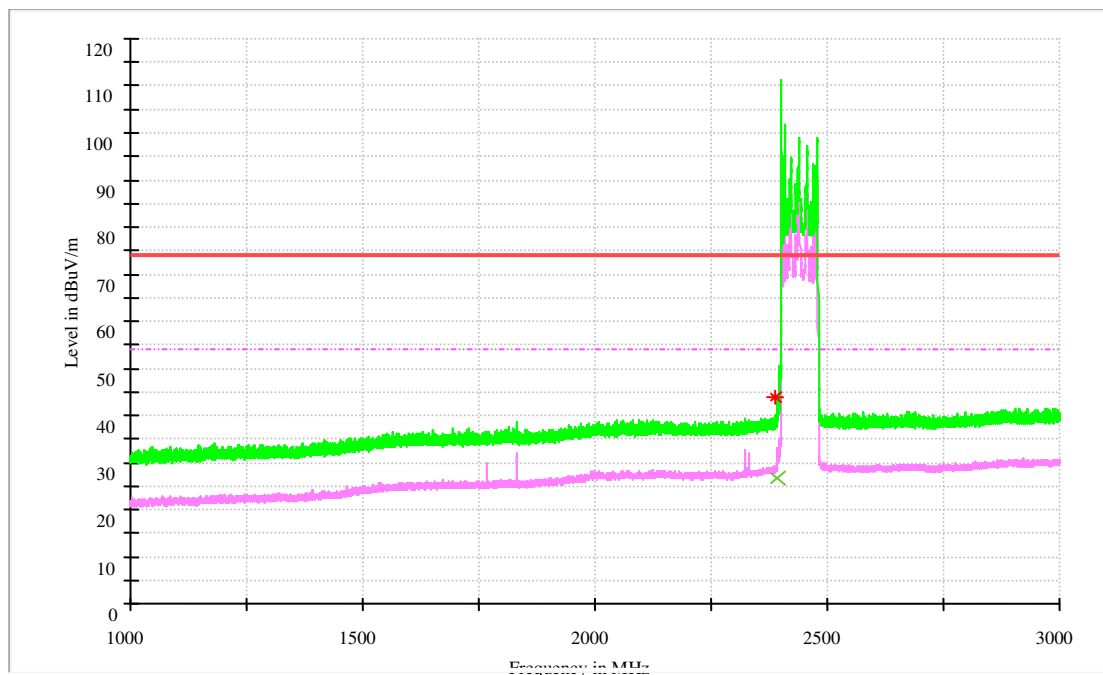
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

### Part 3: Testing Range of “1GHz to 3GHz”

- Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

#### Channel 0



#### MEASUREMENT RESULT: AV Detector

| Frequency (MHz) | Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth h | Transd. (dB) |
|-----------------|----------------------|----------------------|-------------|-------------|-----|-----------|--------------|
| 2390            | 26.79                | 54.00                | 27.21       | 100.0       | H   | 70.0      | -7.6         |

#### MEASUREMENT RESULT: PK Detector

| Frequency (MHz) | Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth h (deg) | Transd. (dB) |
|-----------------|----------------------|----------------------|-------------|-------------|-----|-----------------|--------------|
| 2390            | 43.69                | 74.00                | 30.31       | 100.0       | V   | 152.0           | -7.6         |

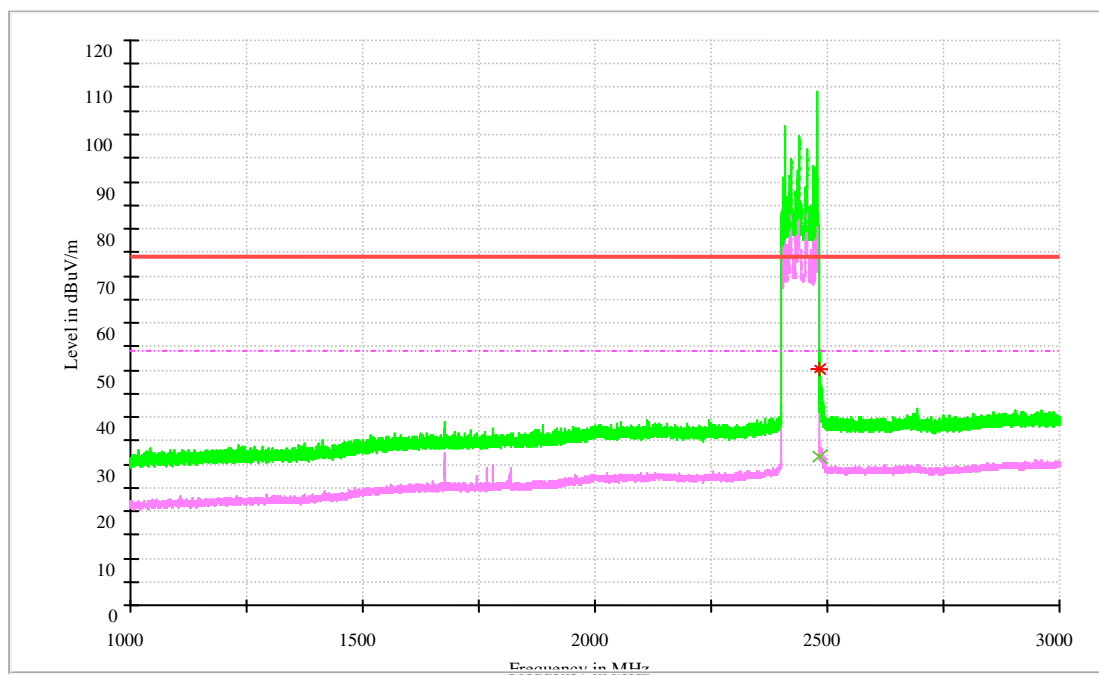
Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

## Channel 78



### MEASUREMENT RESULT: AV Detector

| Frequency (MHz) | Level (dBμ V/m) | Limit (dBμ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth h | Transd. (dB) |
|-----------------|-----------------|-----------------|-------------|-------------|-----|-----------|--------------|
| 2483.5          | 31.48           | 54.00           | 22.52       | 110.0       | H   | 204.0     | -5.4         |

### MEASUREMENT RESULT: PK Detector

| Frequency (MHz) | Level (dBμ V/m) | Limit (dBμ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth h (deg) | Transd. (dB) |
|-----------------|-----------------|-----------------|-------------|-------------|-----|-----------------|--------------|
| 2483.5          | 50.16           | 74.00           | 23.84       | 100.0       | H   | 258.0           | -5.4         |

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

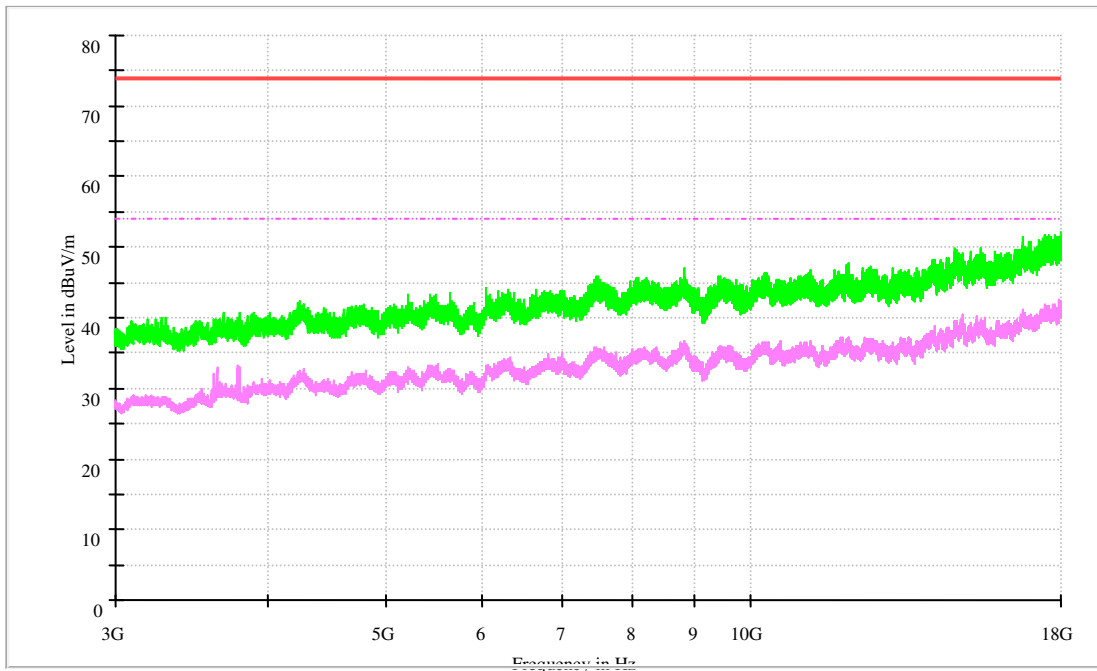
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

#### Part 4: Testing Range of “3 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

Full Spectrum





## **Part 5: Testing Range of “18 GHz to 26.5 GHz”**

NOTE1: No peak found in the Test Range of “18 GHz to 26.5GHz”



# Appendix I: AC Power Line Conducted Emissions

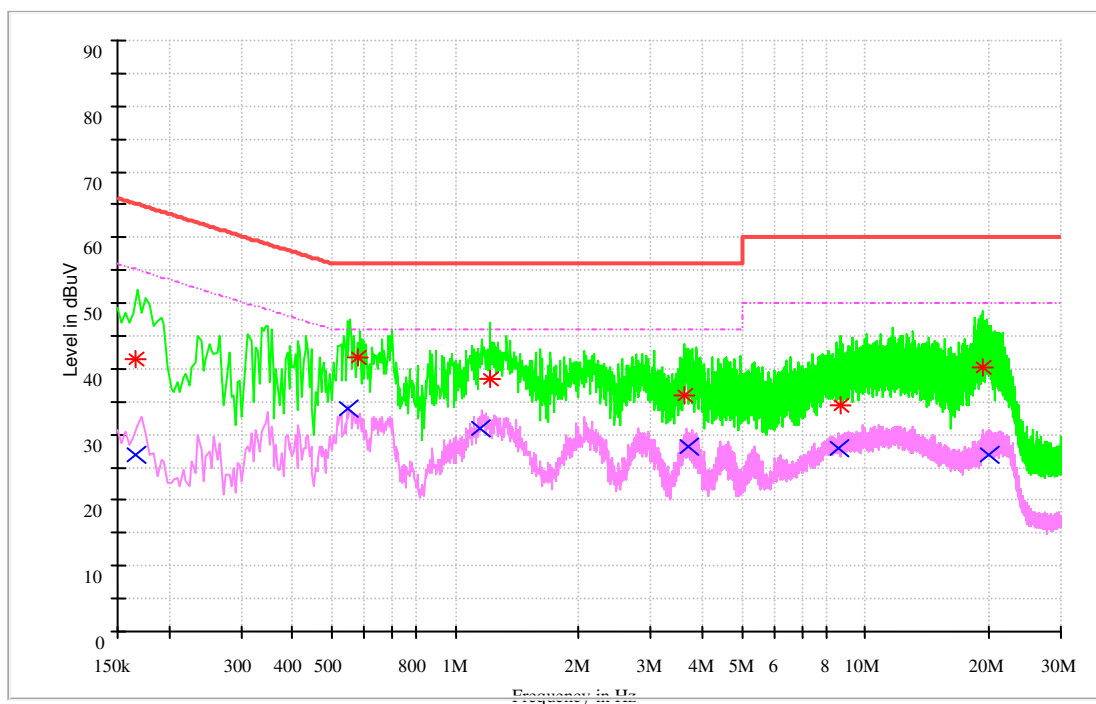
## 1 Result Table

In this Appendix, only the test results and plots under the worst case can be reported.

| EUT Conf.    | Maximum Emissions                                                                    | Verdict |
|--------------|--------------------------------------------------------------------------------------|---------|
| TM1_DH5_Ch39 | Not found obvious spikes or see marked spikes on plots and listed emissions records. | Pass    |

## 2 Result Plot

### Channel 39



**MEASUREMENT RESULT: AV Detector**

| Frequency<br>(MHz) | Level<br>(dBμ V) | Limit<br>(dBμ V) | Transd.<br>(dB) | Margin<br>(dB) | Line | PE  |
|--------------------|------------------|------------------|-----------------|----------------|------|-----|
| 0.166514           | 26.88            | 55.13            | 9.7             | 28.25          | L1   | FLO |
| 0.548381           | 33.95            | 46.00            | 9.7             | 12.05          | L1   | FLO |
| 1.143236           | 30.91            | 46.00            | 9.7             | 15.09          | L1   | FLO |
| 3.682077           | 28.18            | 46.00            | 9.8             | 17.82          | L1   | FLO |
| 8.602742           | 27.81            | 50.00            | 9.9             | 22.19          | N    | FLO |
| 20.102828          | 26.97            | 50.00            | 10.1            | 23.03          | L1   | FLO |

**MEASUREMENT RESULT: PK Detector**

| Frequency<br>(MHz) | Level<br>(dBμ V) | Limit<br>(dBμ V) | Transd.<br>(dB) | Margin<br>(dB) | Line | PE  |
|--------------------|------------------|------------------|-----------------|----------------|------|-----|
| 0.165437           | 41.38            | 65.19            | 9.7             | 23.81          | N    | FLO |
| 0.578146           | 41.67            | 56.00            | 9.7             | 14.33          | L1   | FLO |
| 1.218130           | 38.58            | 56.00            | 9.7             | 17.42          | L1   | FLO |
| 3.618395           | 36.00            | 56.00            | 9.8             | 20.00          | L1   | FLO |
| 8.712034           | 34.46            | 60.00            | 9.9             | 25.54          | N    | FLO |
| 19.397250          | 40.31            | 60.00            | 10.1            | 19.69          | L1   | FLO |

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

END