# Appendix for Test report

# Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

**Part I - Test Results**

| Test Mode | Test Channel | Frequency[MHz] | DTS6dBBW[MHz] | Verdict |
|---|---|---|---|---|
| TM1 _Ch0 | L | 2402 | 0.69 | pass |
| TM1 _Ch19 | M | 2440 | 0.70 | pass |
| TM1 _Ch39 | H | 2480 | 0.70 | pass |

## Part II - Test Plots

### 2.1 TM1_Ch0_L

### 2.2 TM1_Ch19_M

### 2.3 TM1_Ch39_H

# Appendix B: Occupied Bandwidth

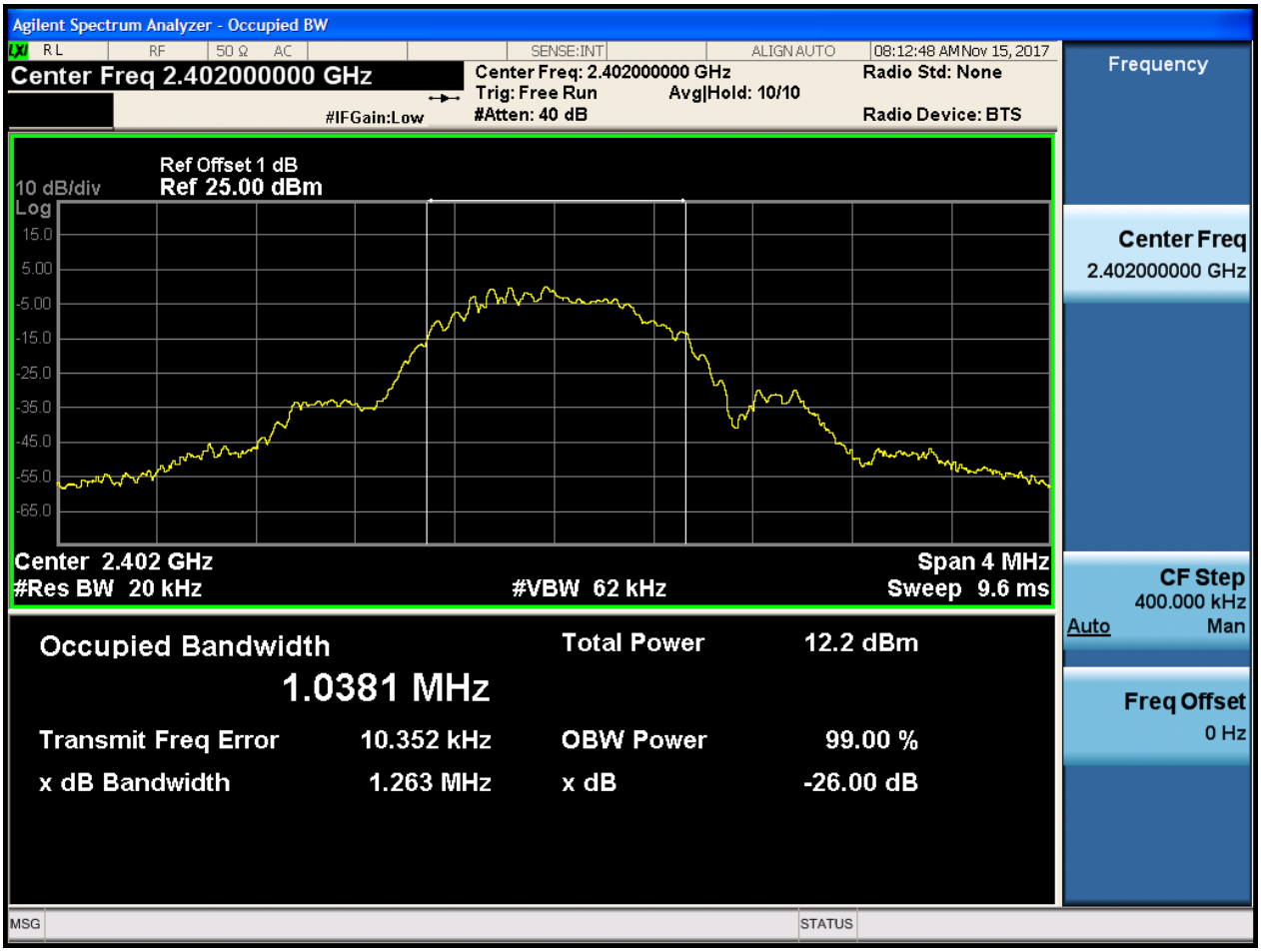
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

**Part I - Test Results**

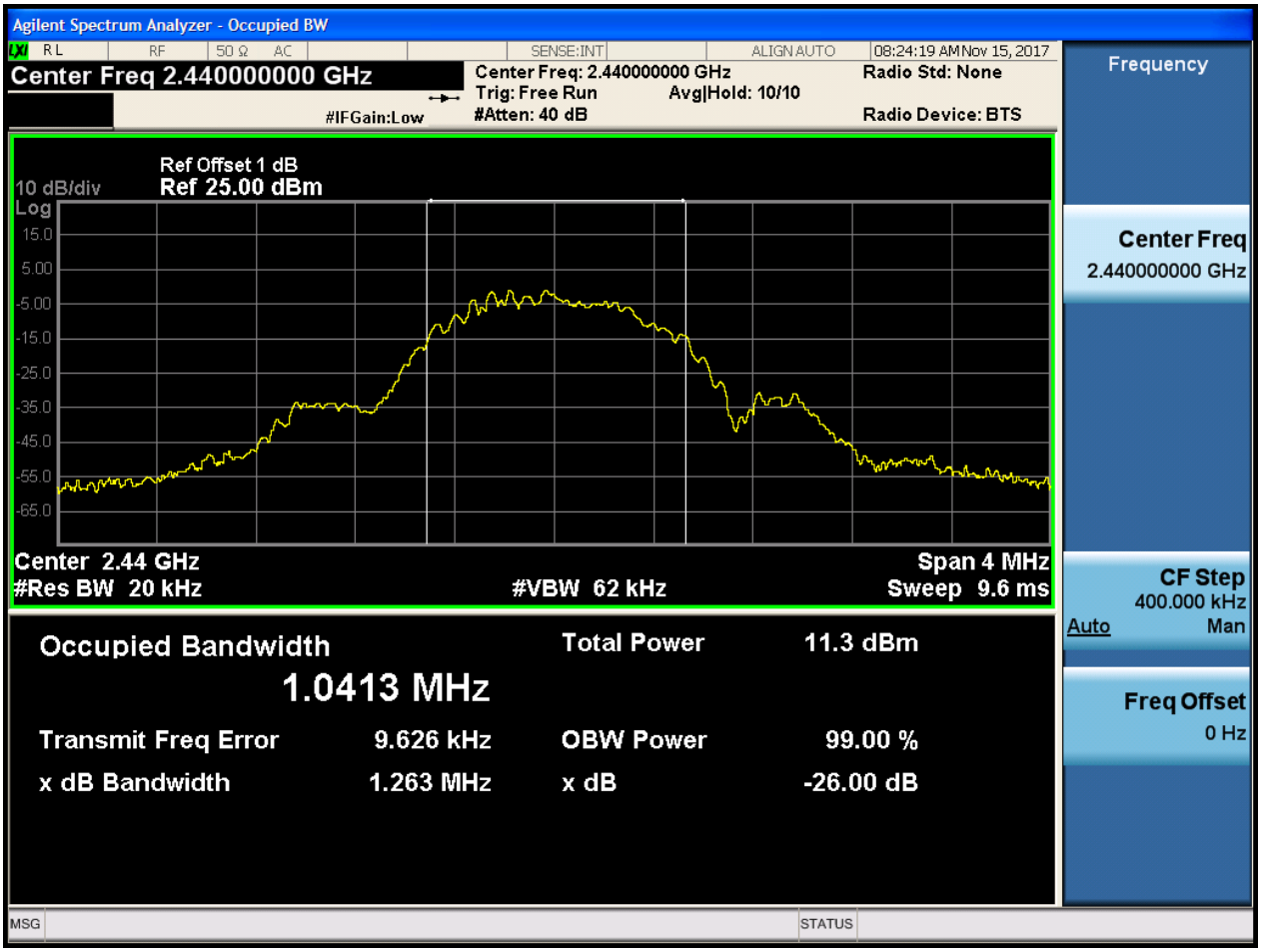
| Test Mode | Test Channel | Frequency[MHz] | Occupied Bandwidth [MHz] | Verdict |
|---|---|---|---|---|
| TM1 _Ch0 | L | 2402 | 1.04 | pass |
| TM1 _Ch19 | M | 2440 | 1.04 | pass |
| TM1 _Ch39 | H | 2480 | 1.04 | pass |

## Part II - Test Plots

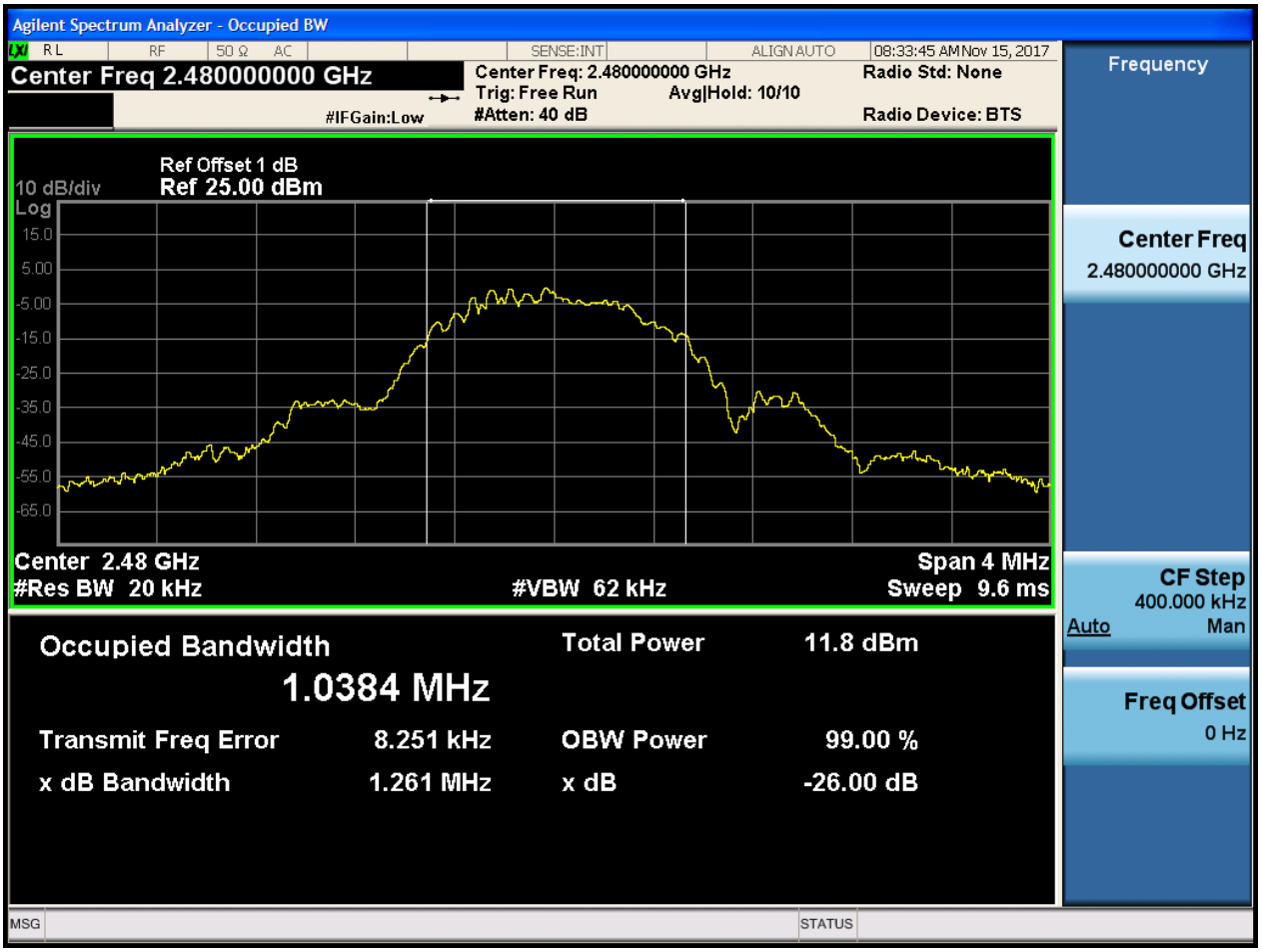
### 2.1 TM1_Ch0_L



### 2.2 TM1_Ch19_M



### 2.3 TM1_Ch39_H



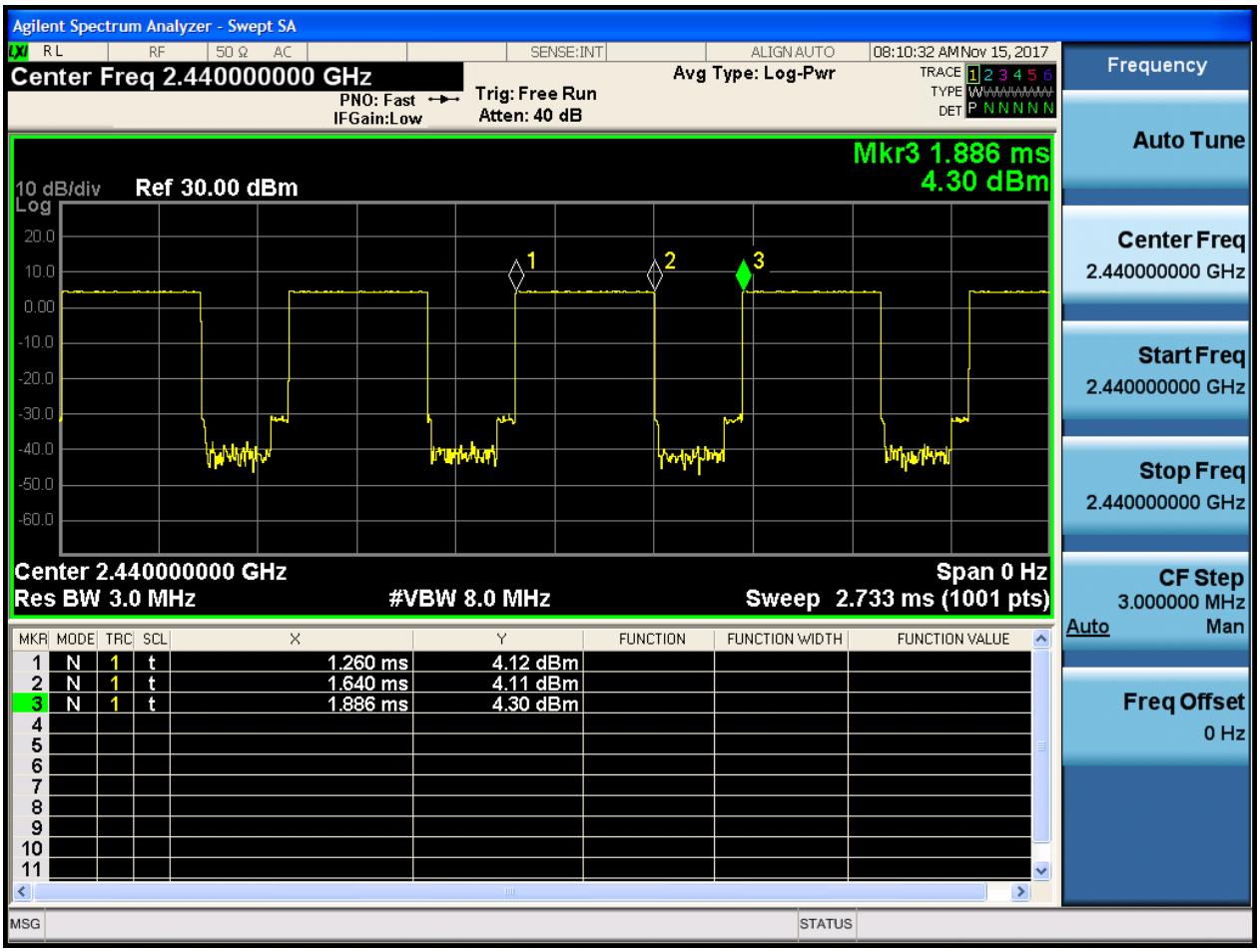
# Appendix C: Duty Cycle

### Part I - Test Results

| Test Mode | TX Freq. [MHz] | Duty cycle [%] |
|---|---|---|
| TM1 | CH0,CH19,CH39 | 61 |

### Part II - Test Plots

### 2.1 TM1



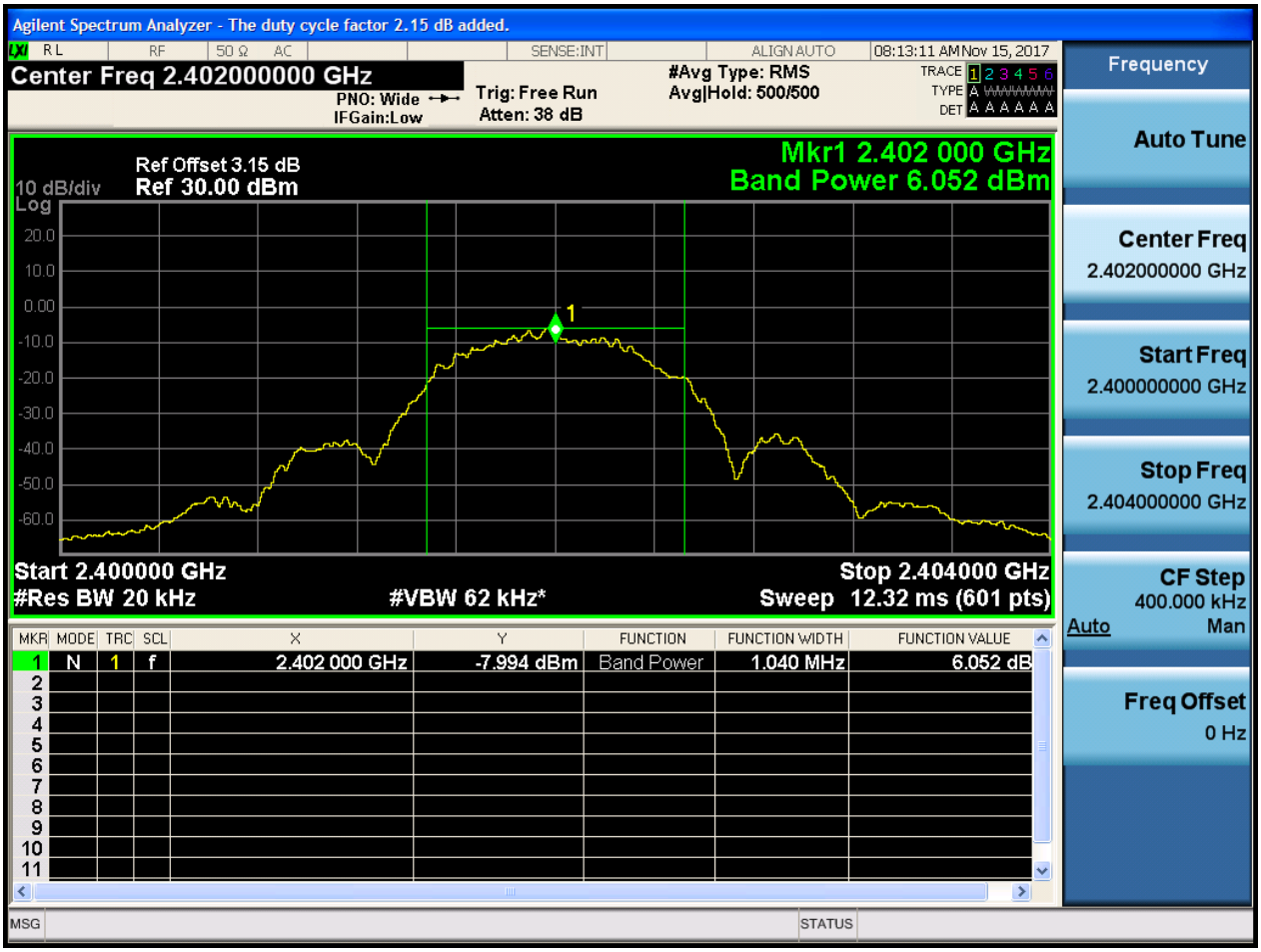
# Appendix D: Maximum Conducted Average Output Power

**Part I - Test Results**

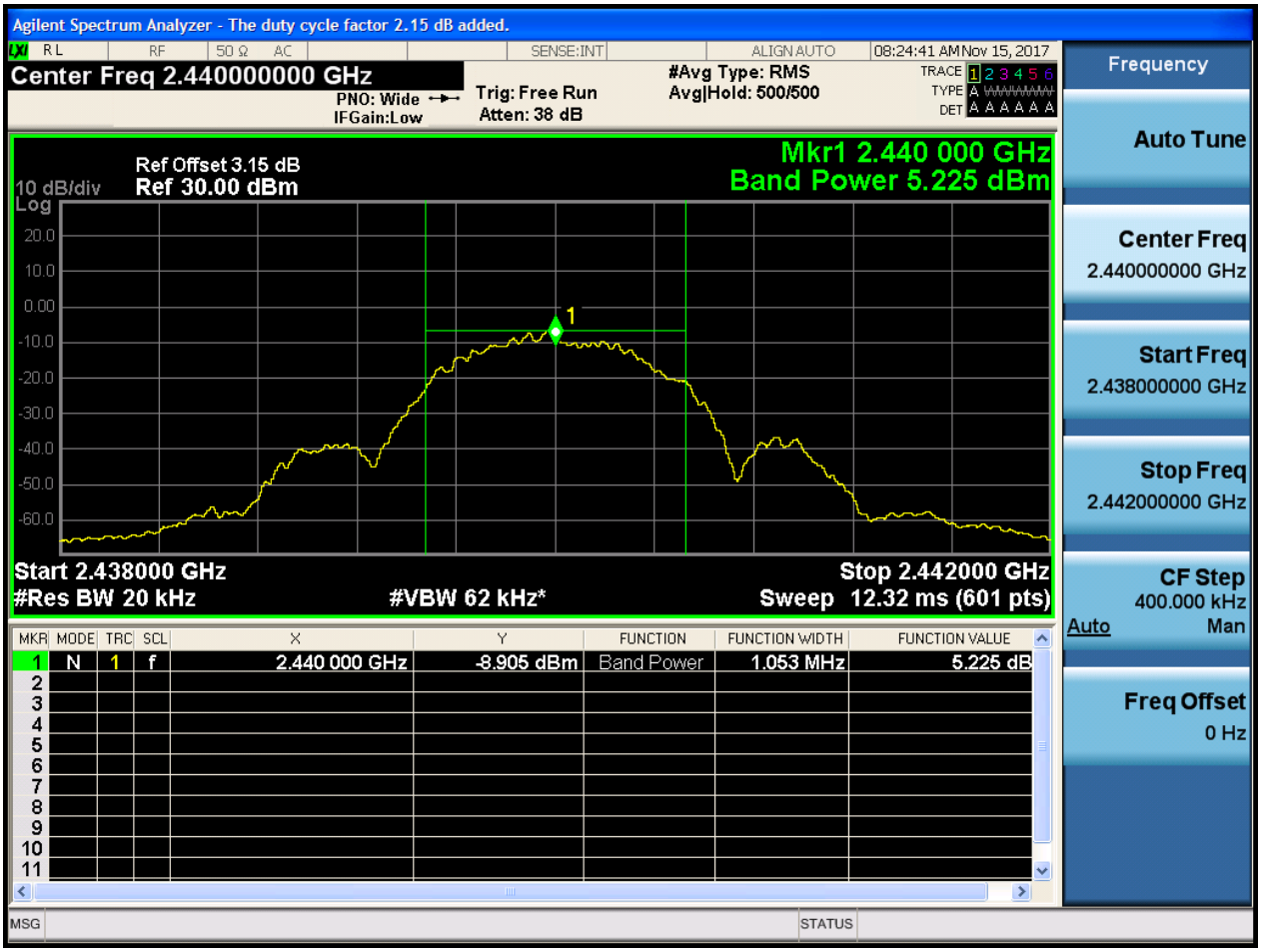
| Test Mode | Test Channel | Frequency[MHz] | Duty Cycle [%] | Power[dBm] | Verdict |
|---|---|---|---|---|---|
| TM1 _Ch0 | L | 2402 | 61 | 6.05 | pass |
| TM1 _Ch19 | M | 2440 | 61 | 5.23 | pass |
| TM1 _Ch39 | H | 2480 | 61 | 5.76 | pass |

## Part II - Test Plots

### 2.1 TM1_Ch0_L



### 2.2 TM1_Ch19_M



### 2.3 TM1_Ch39_H

# Appendix E: Maximum Power Spectral Density Level

**Part I - Test Results**

| Test Mode | Test Channel | Frequency[MHz] | Duty Cycle [%] | PD[MHz] | Verdict |
|---|---|---|---|---|---|
| TM1 _Ch0 | L | 2402 | 61 | -8.17 | pass |
| TM1 _Ch19 | M | 2440 | 61 | -9.38 | pass |
| TM1 _Ch39 | H | 2480 | 61 | -8.58 | pass |

## Part II - Test Plots

### 2.1 TM1_Ch0_L

### 2.2 TM1_Ch19_M

### 2.3 TM1_Ch39_H

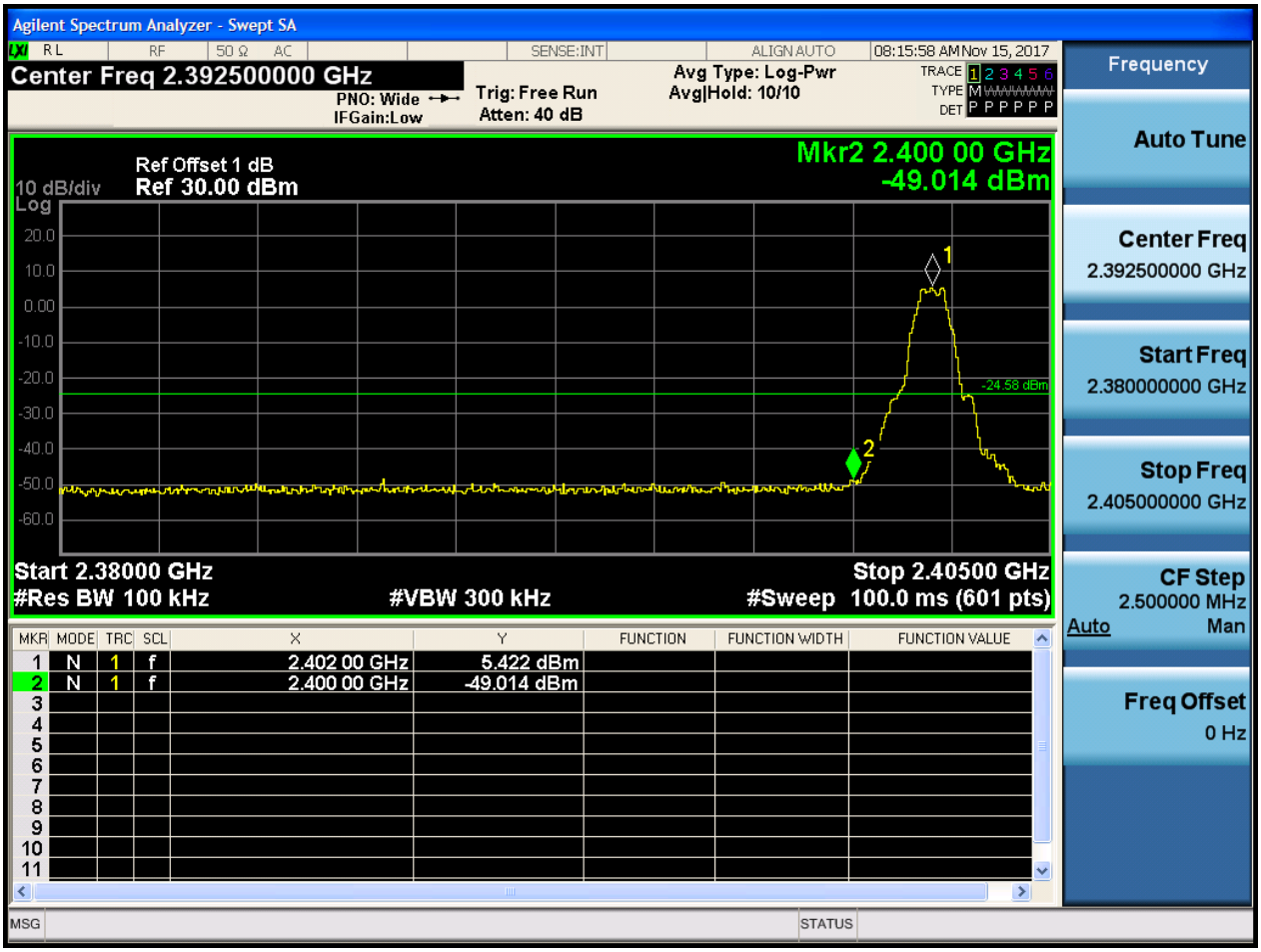
# Appendix F: Band Edges Compliance

**Part I - Test Results**

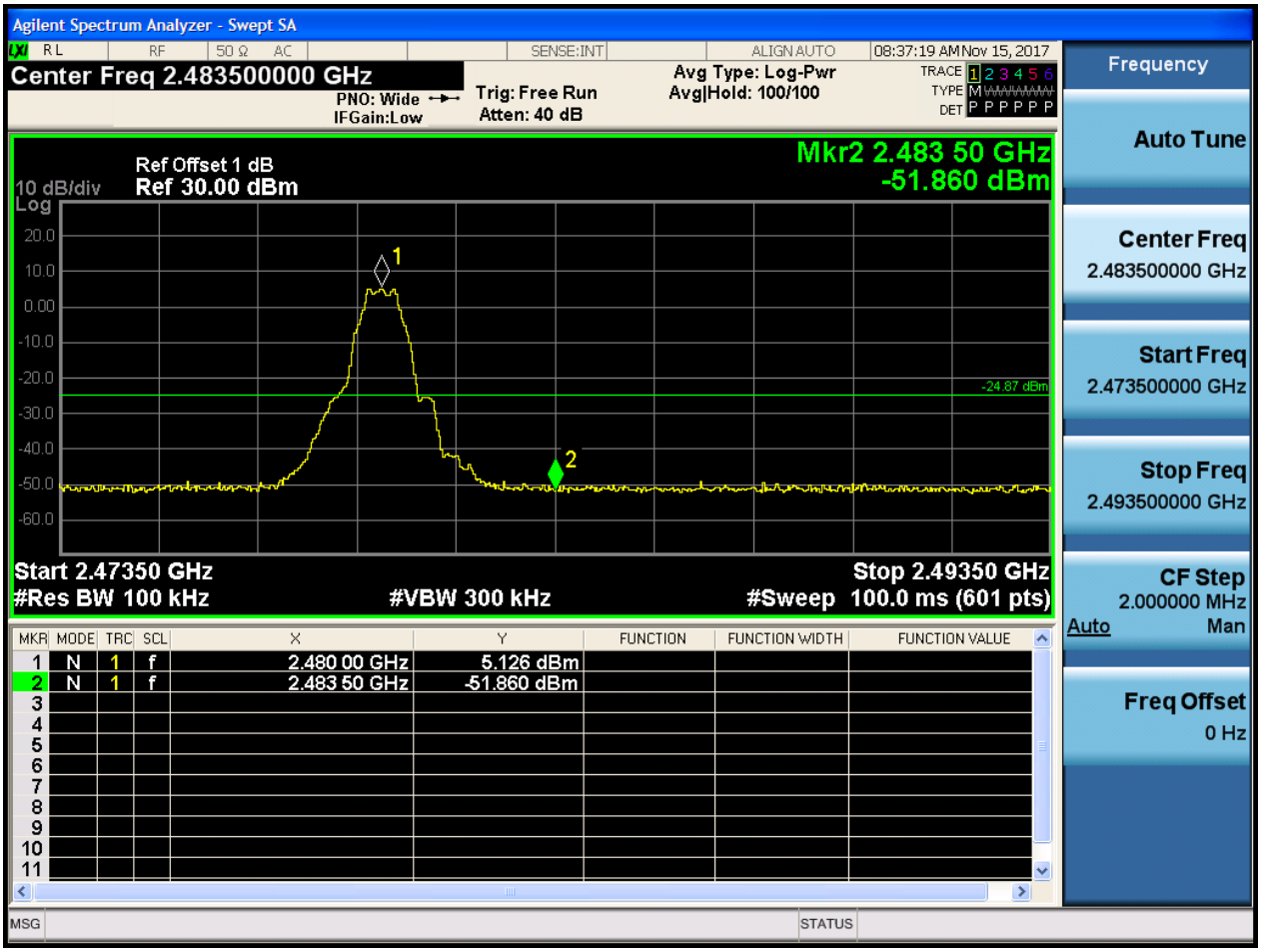
| Test Mode | Test Channel | Frequency[MHz] | Carrier Power[dBm] | Max.Spurious Level[dBm] | Verdict |
|---|---|---|---|---|---|
| TM1_Ch0 | L | 2402 | 5.42 | -49.01 | pass |
| TM1_Ch39 | H | 2480 | 5.13 | -51.86 | pass |

## Part II - Test Plots

### 2.1 TM1_Ch0_L



### 2.2 TM1_Ch39_H



# Appendix G: Unwanted Emissions into Non-Restricted Frequency Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, the "Puw" referrers 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 x lg(100 [kHz]/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.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref[dBm]-30[dBm],see test plots for detailed".

**Part I - Test Results**

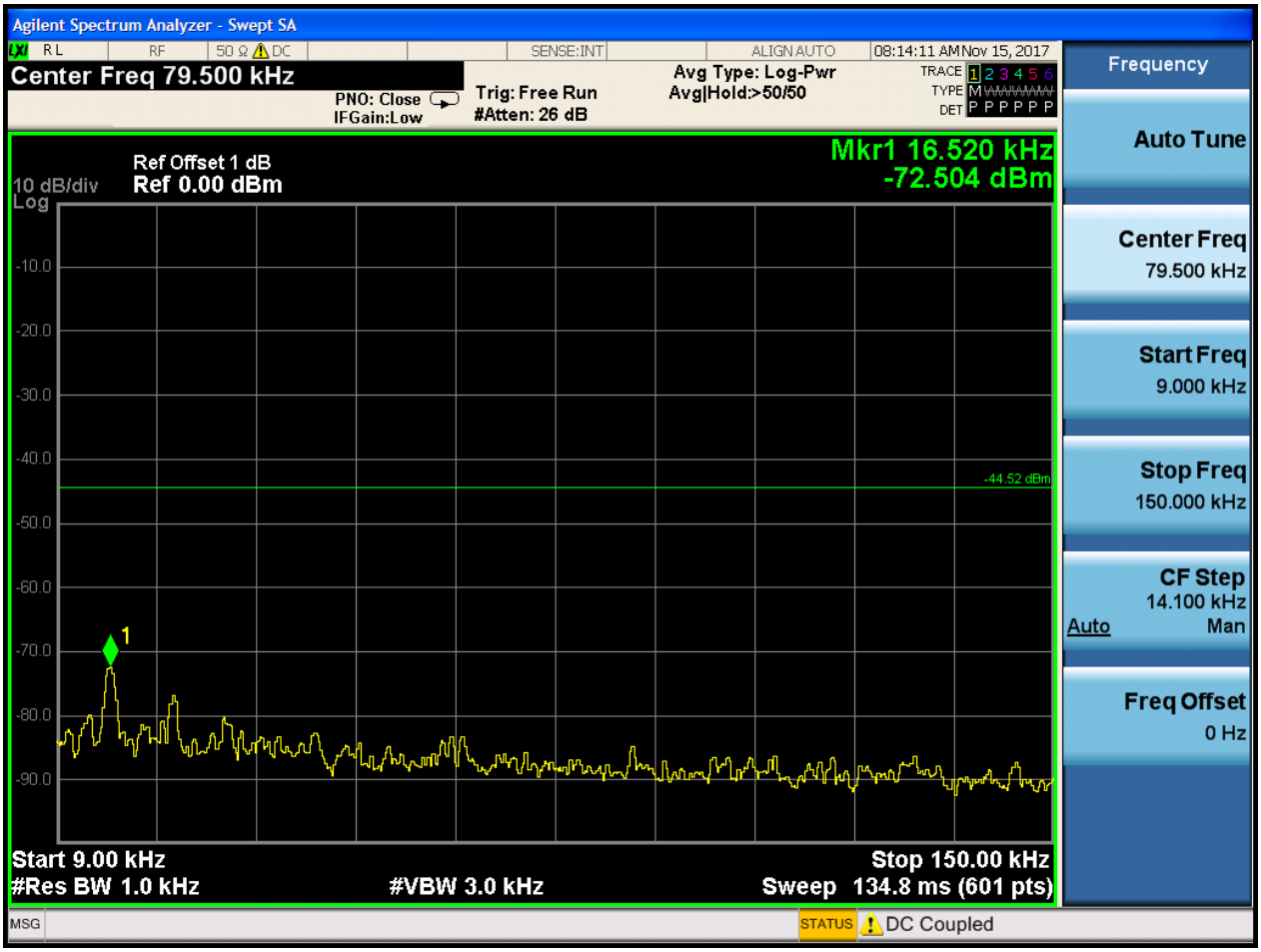
| Test Mode | Test Channel | Frequency[MHz] | Pref[dBm] | Puw[dBm] | Verdict |
|---|---|---|---|---|---|
| TM1_Ch0 | L | 2402 | 5.48 | <limit | pass |
| TM1_Ch19 | M | 2440 | 4.62 | <limit | pass |
| TM1_Ch39 | H | 2480 | 5.13 | <limit | pass |

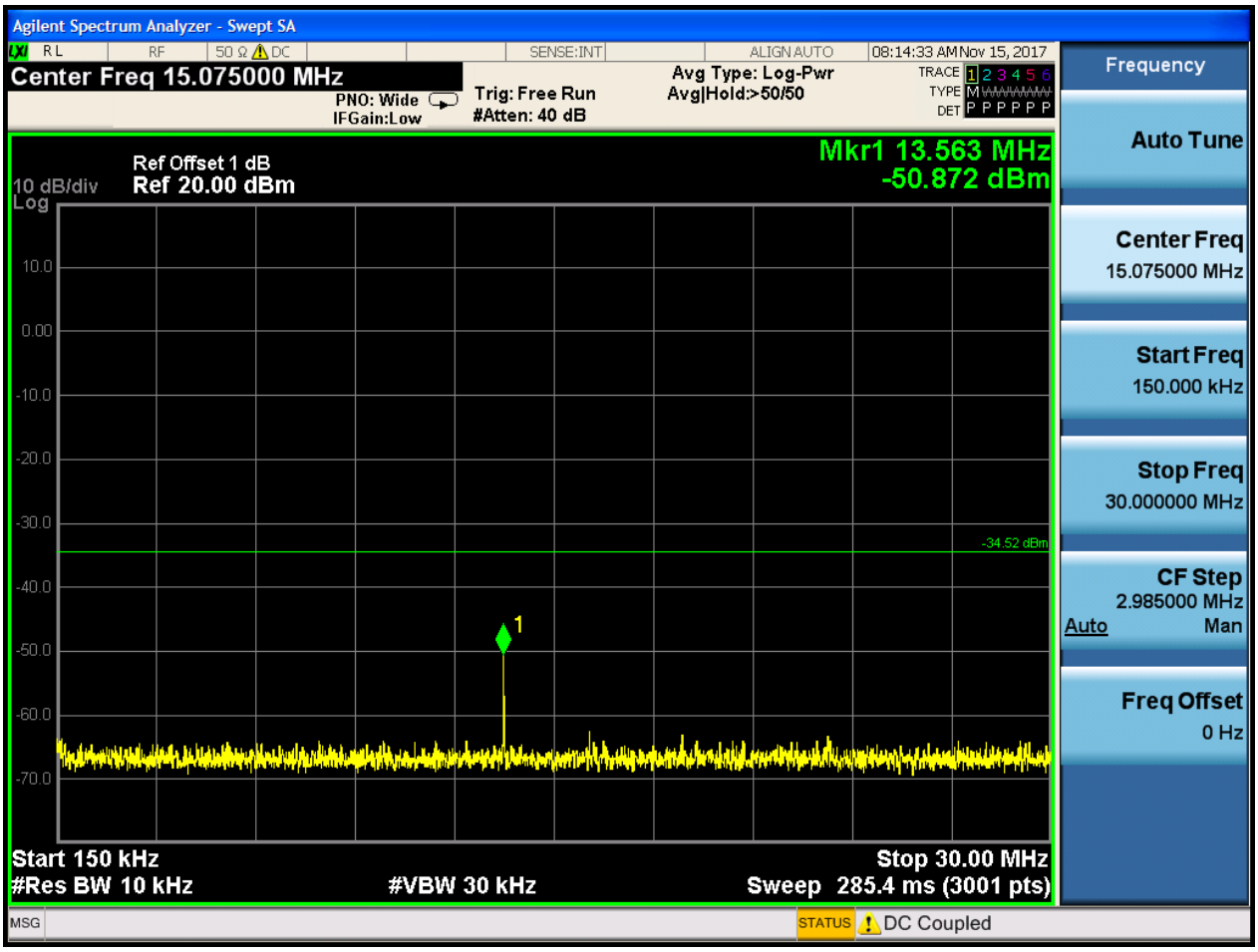
**Part II - Test Plots**

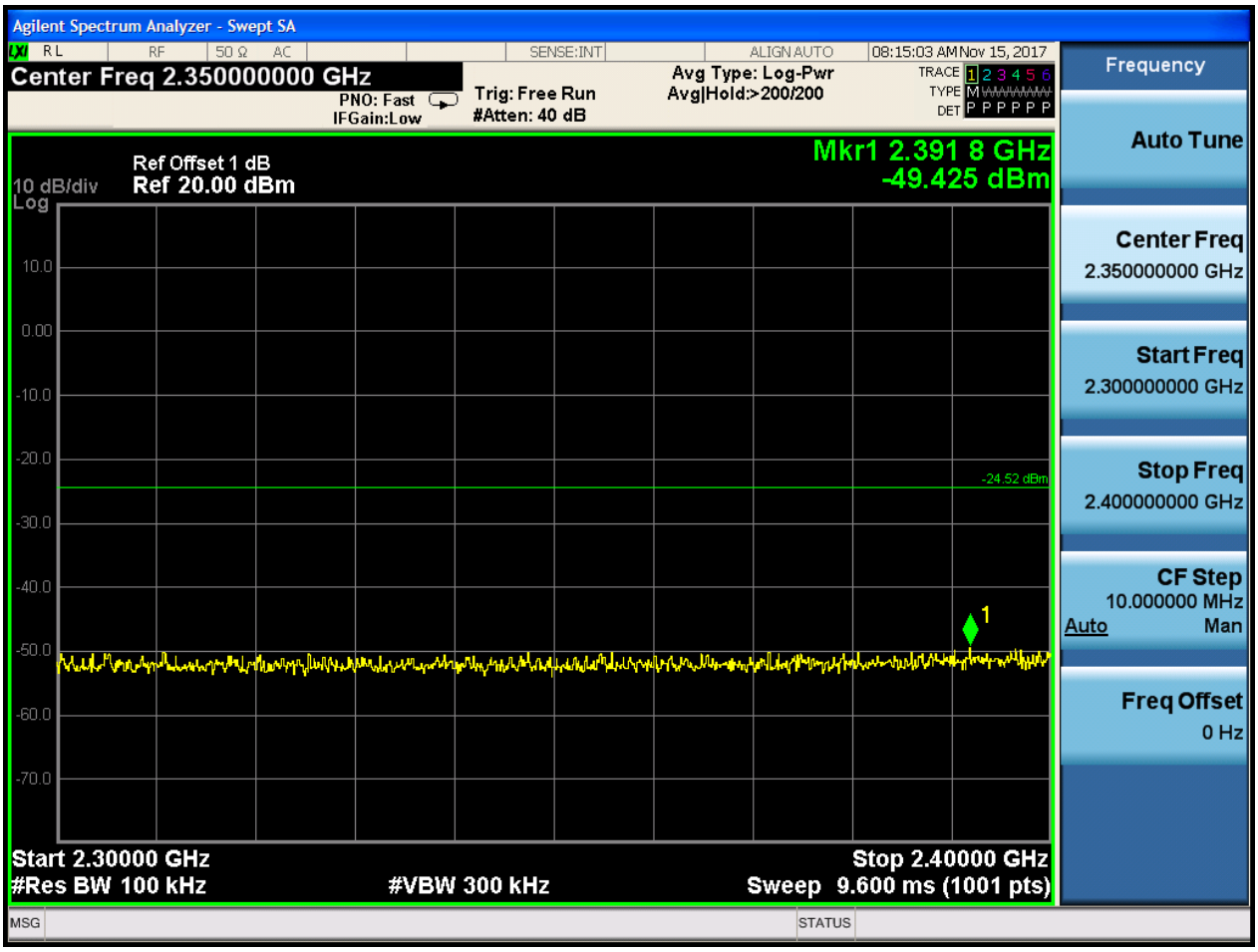
**2.1 TM1_Ch0_L**

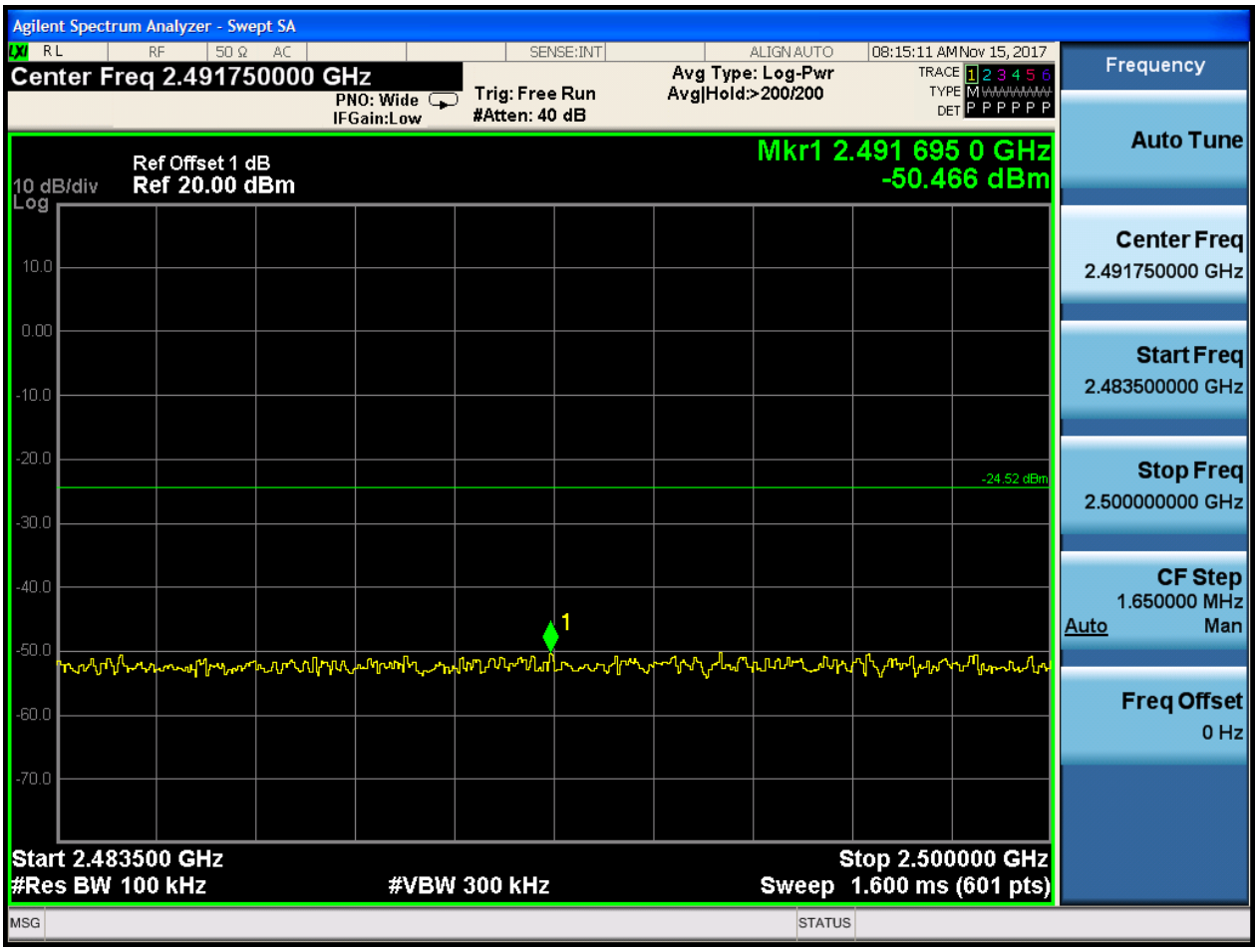
**Pref:**

**Puw:**





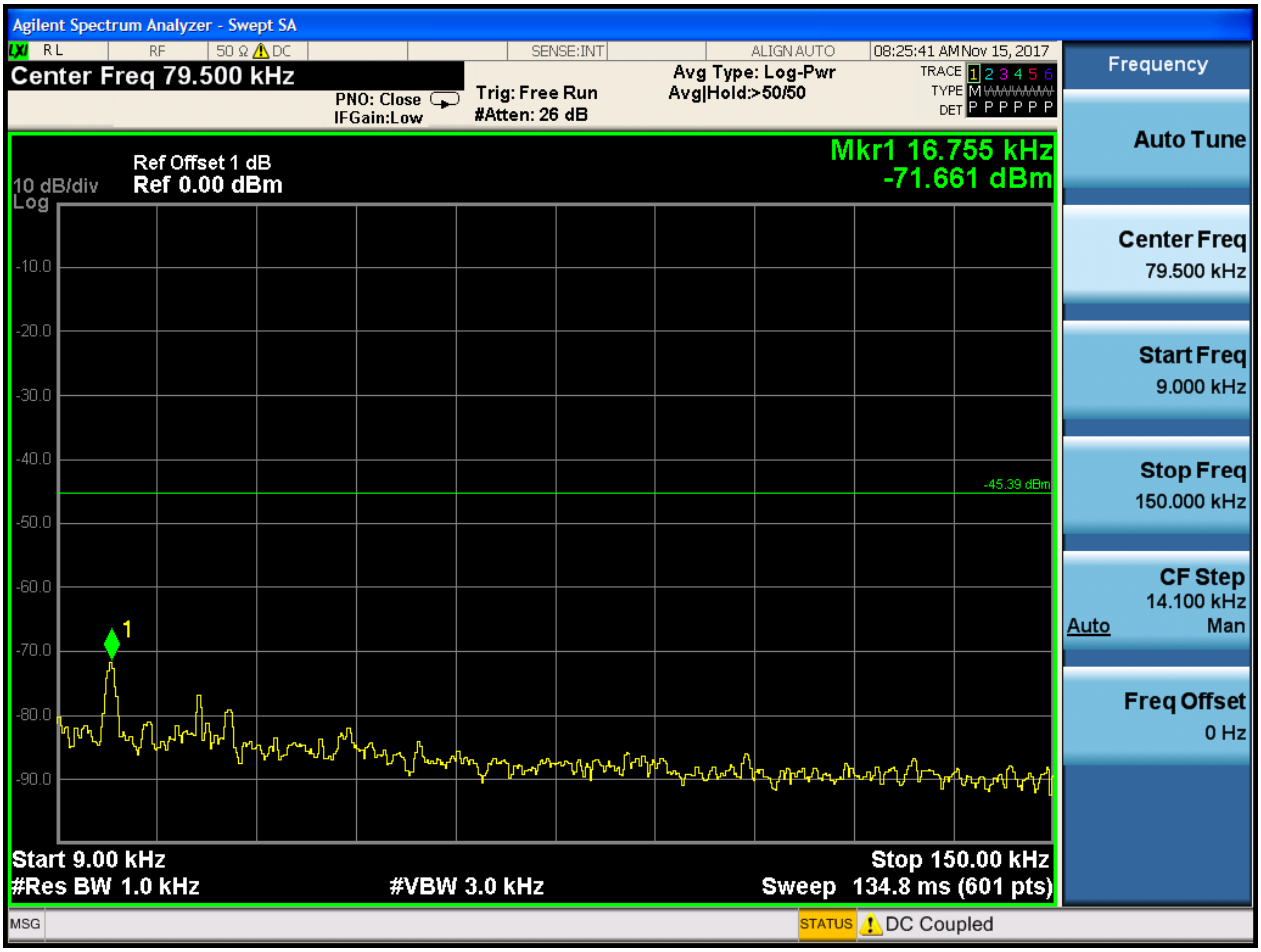


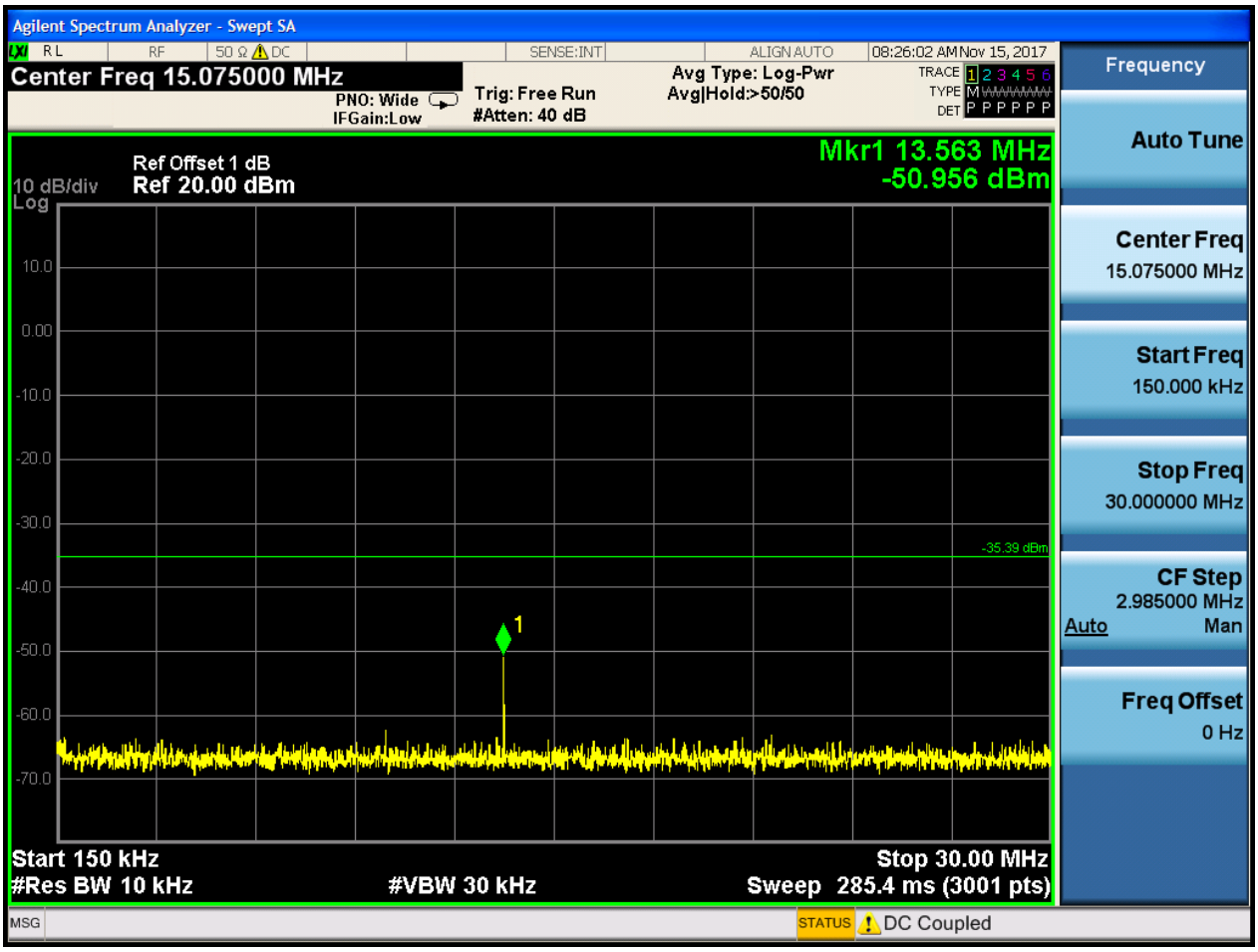


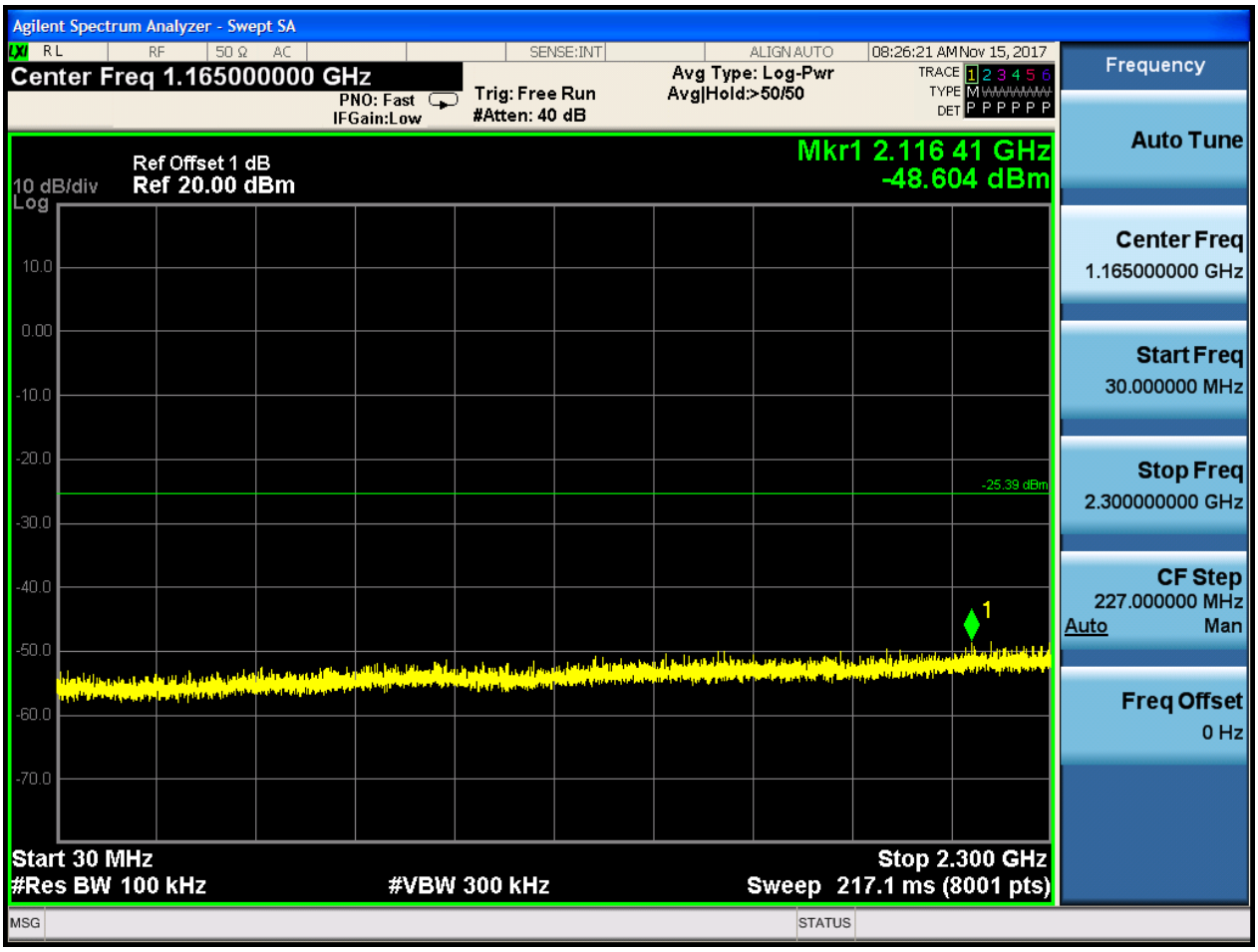
### 2.2 TM1_Ch19_M

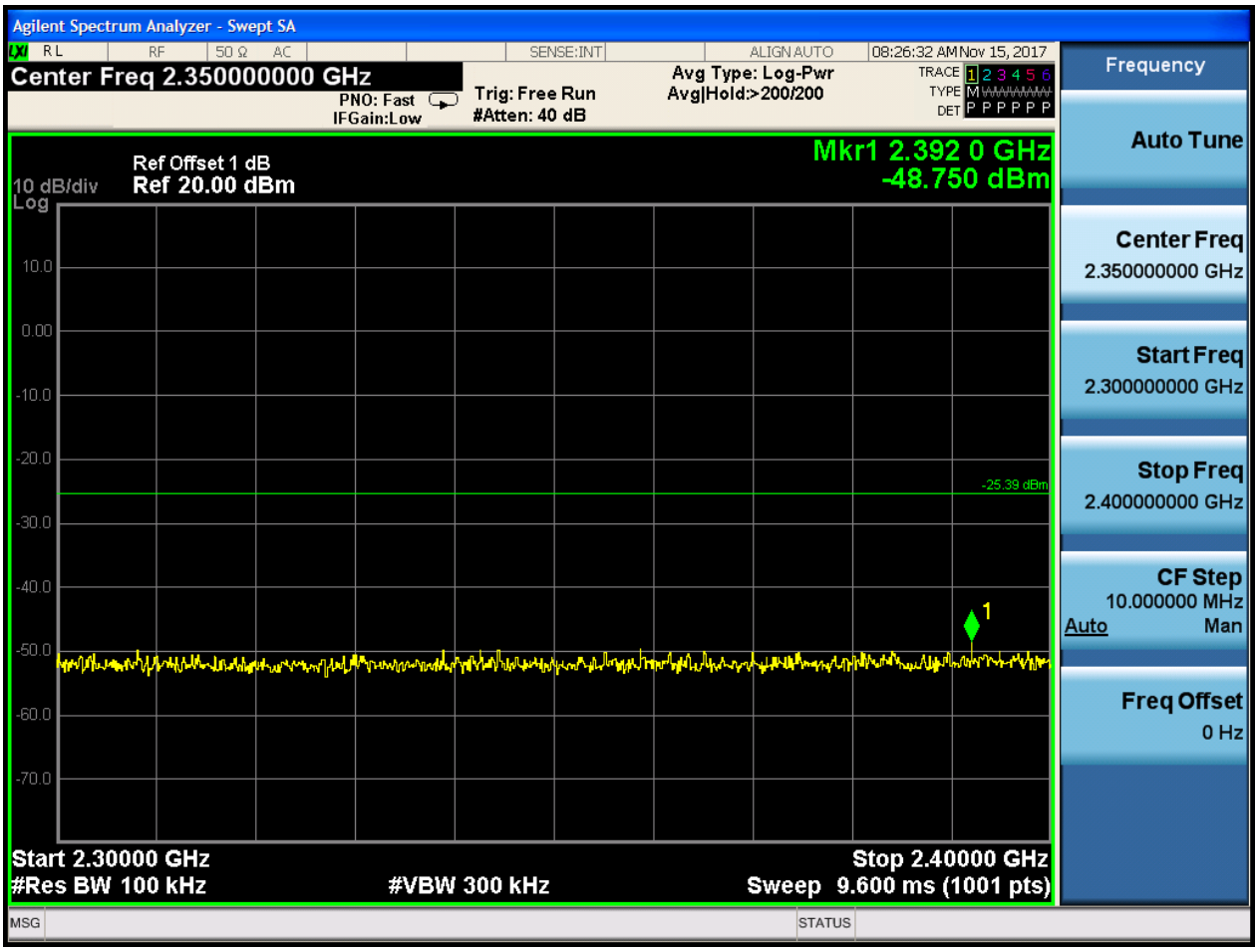
**Pref:**

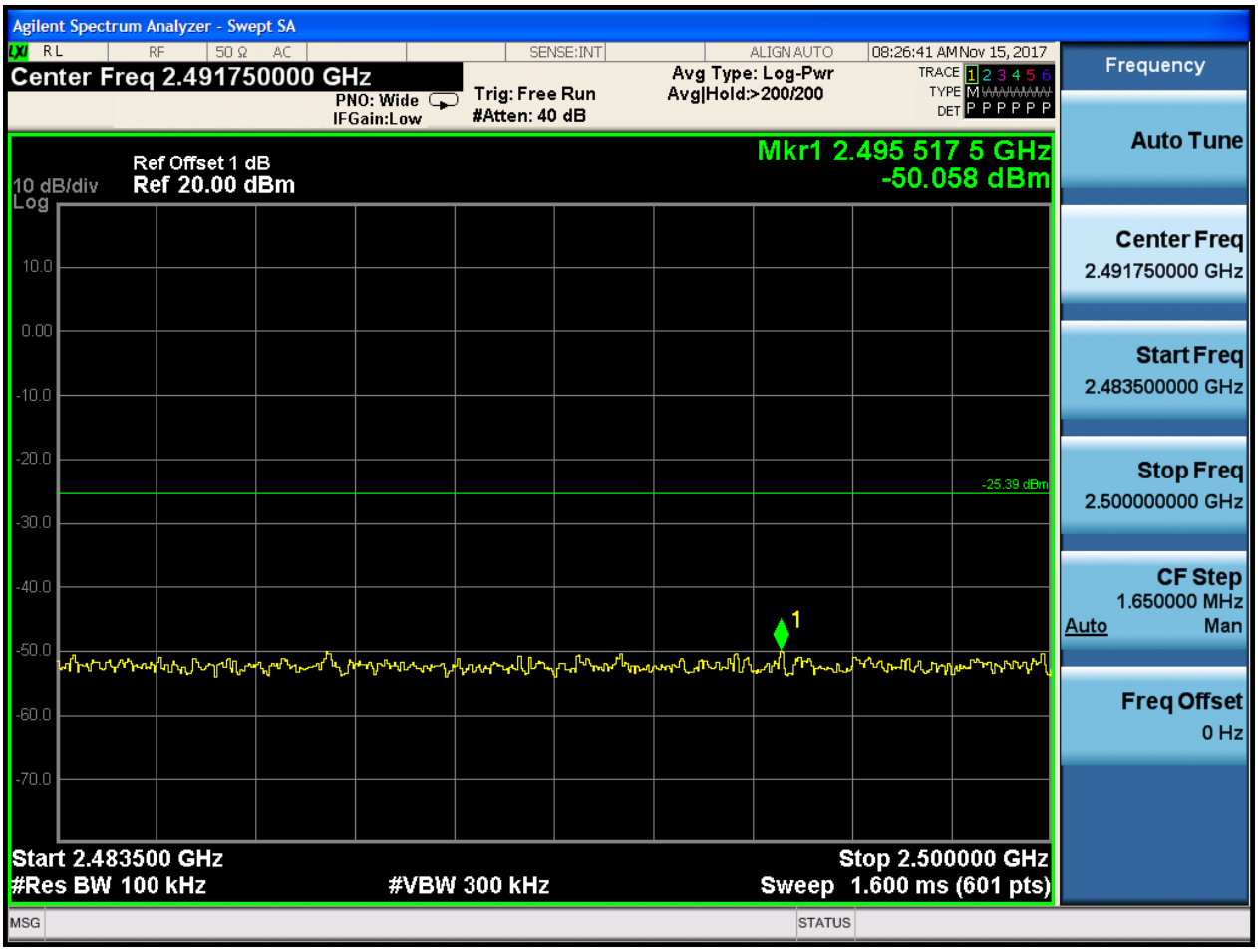
**Puw:**







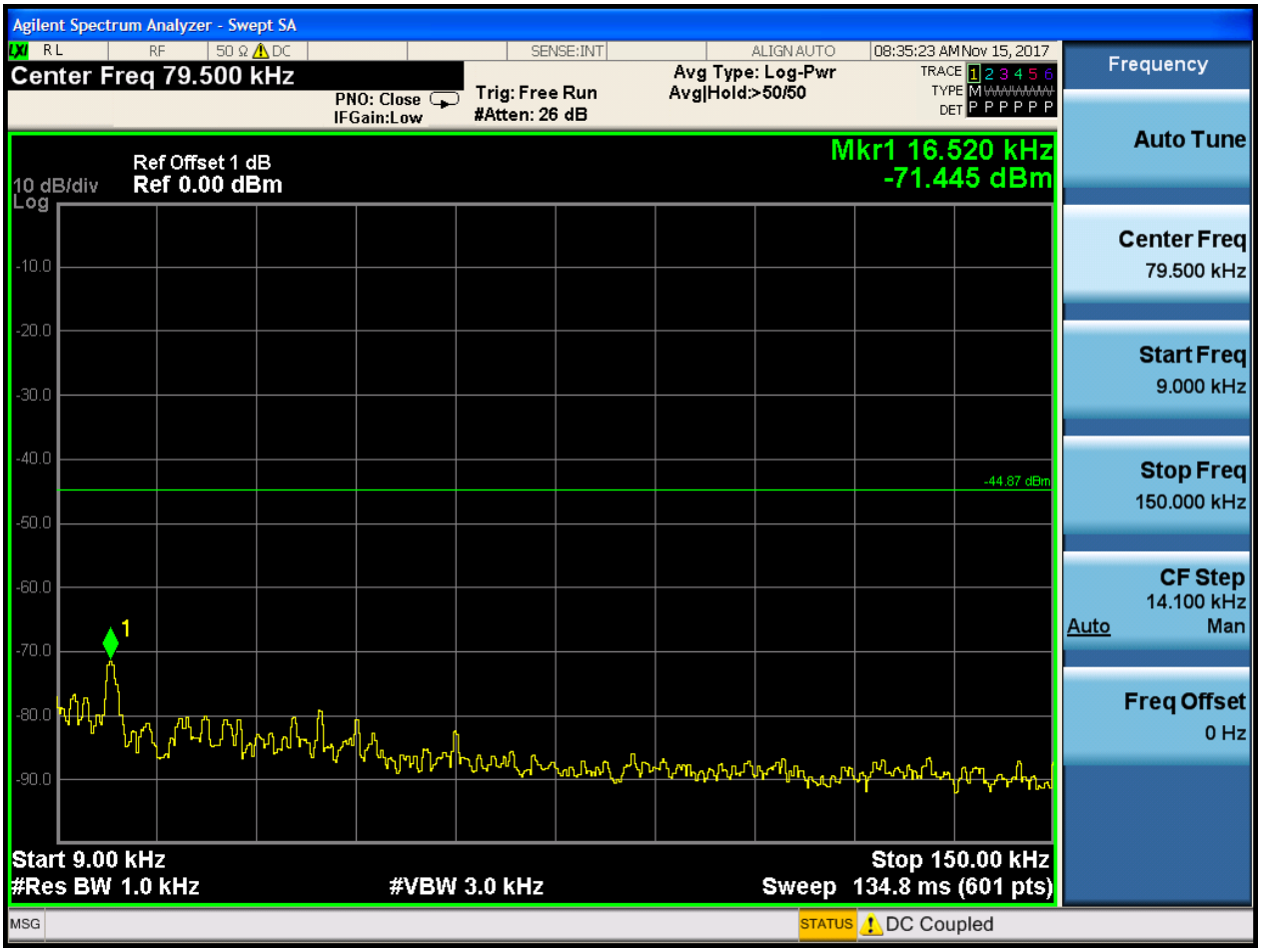


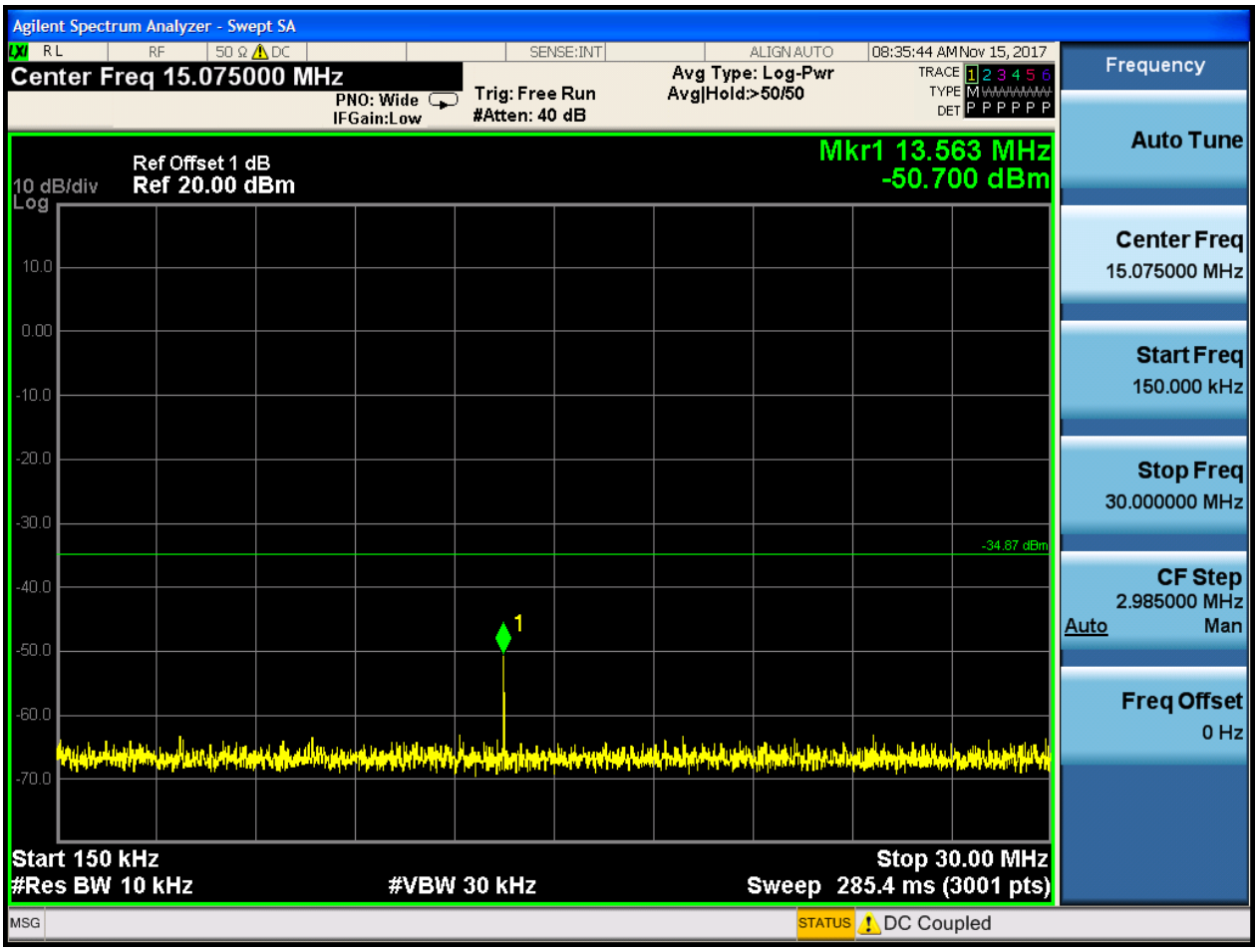


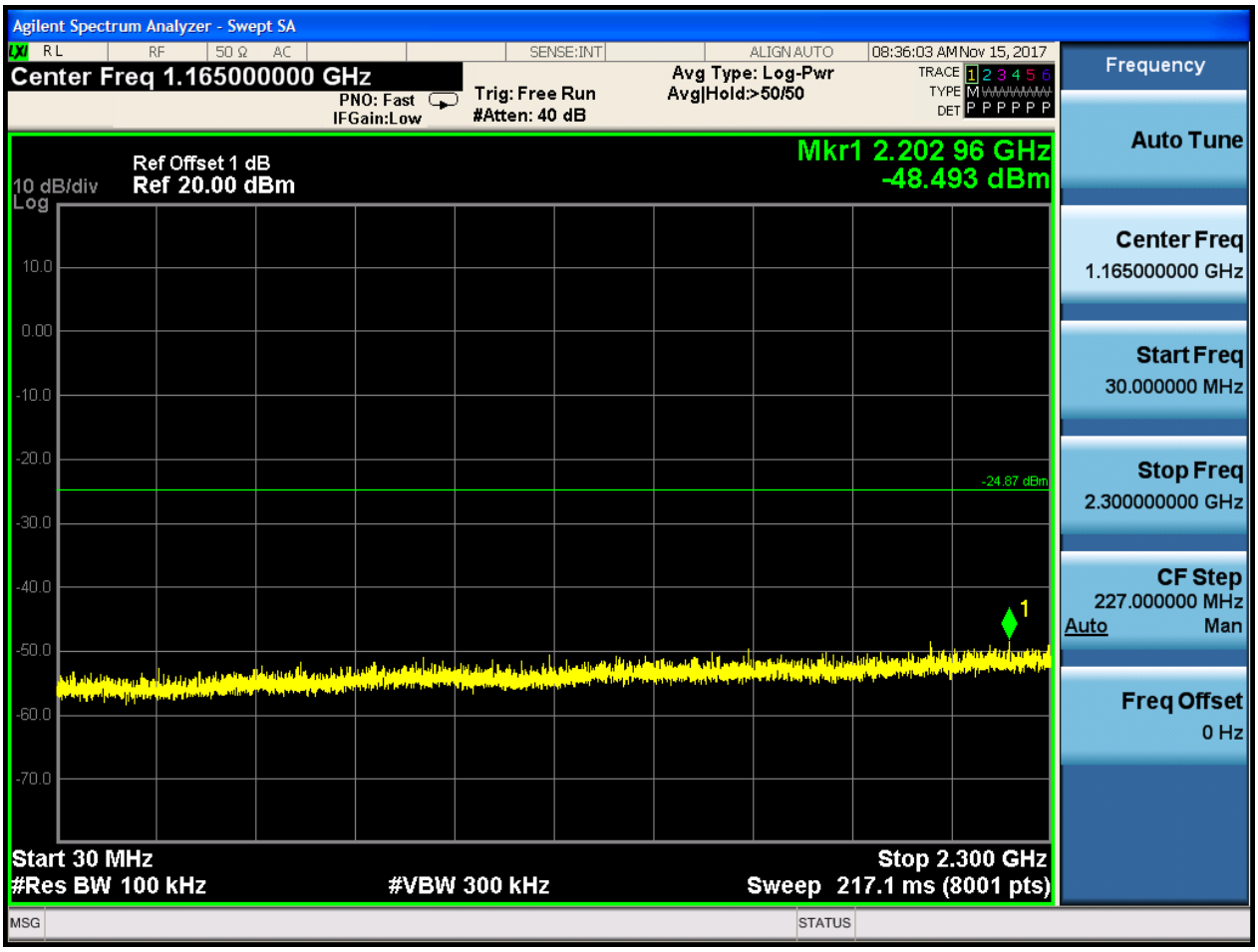
### 2.3 TM1_Ch39_H

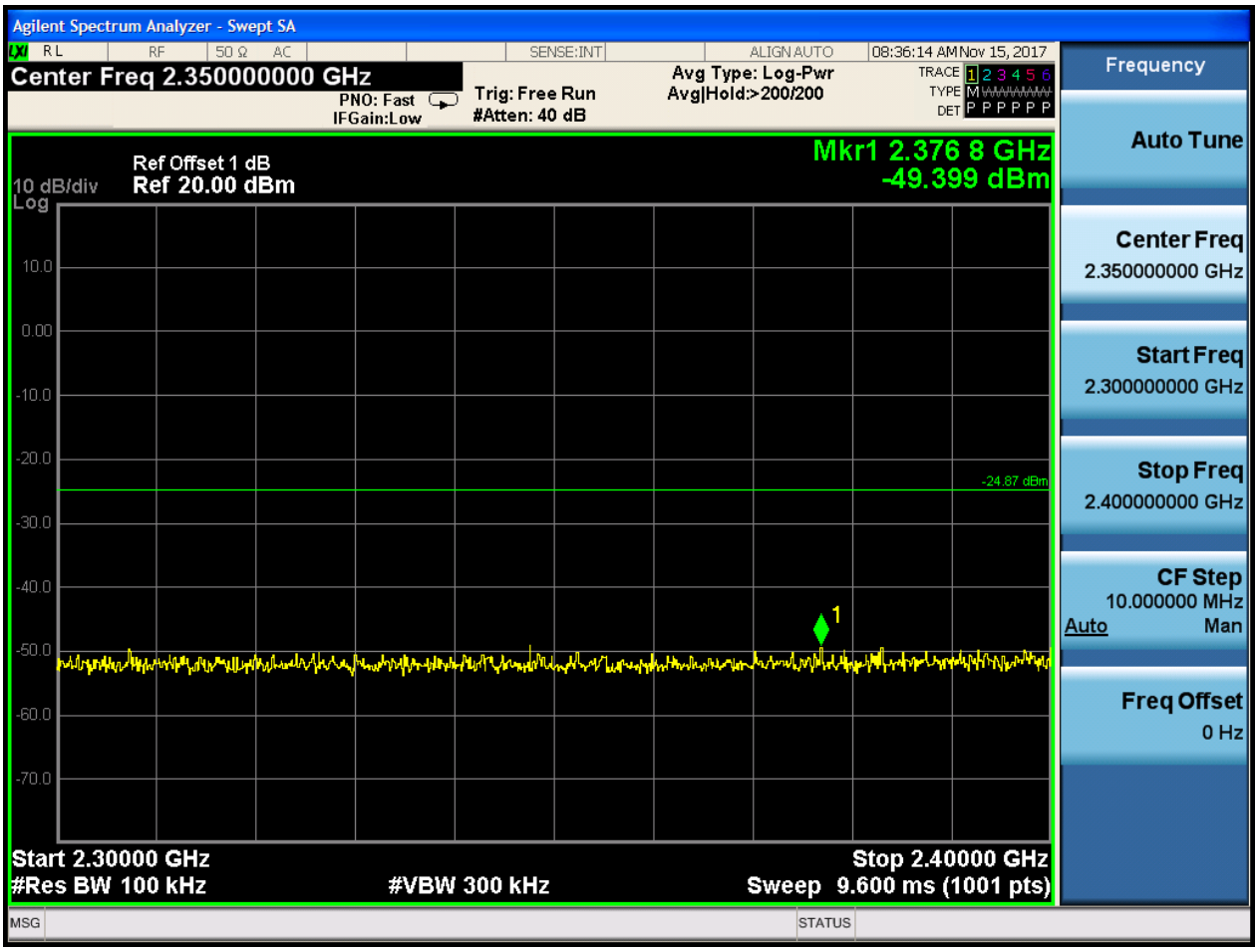
**Pref:**

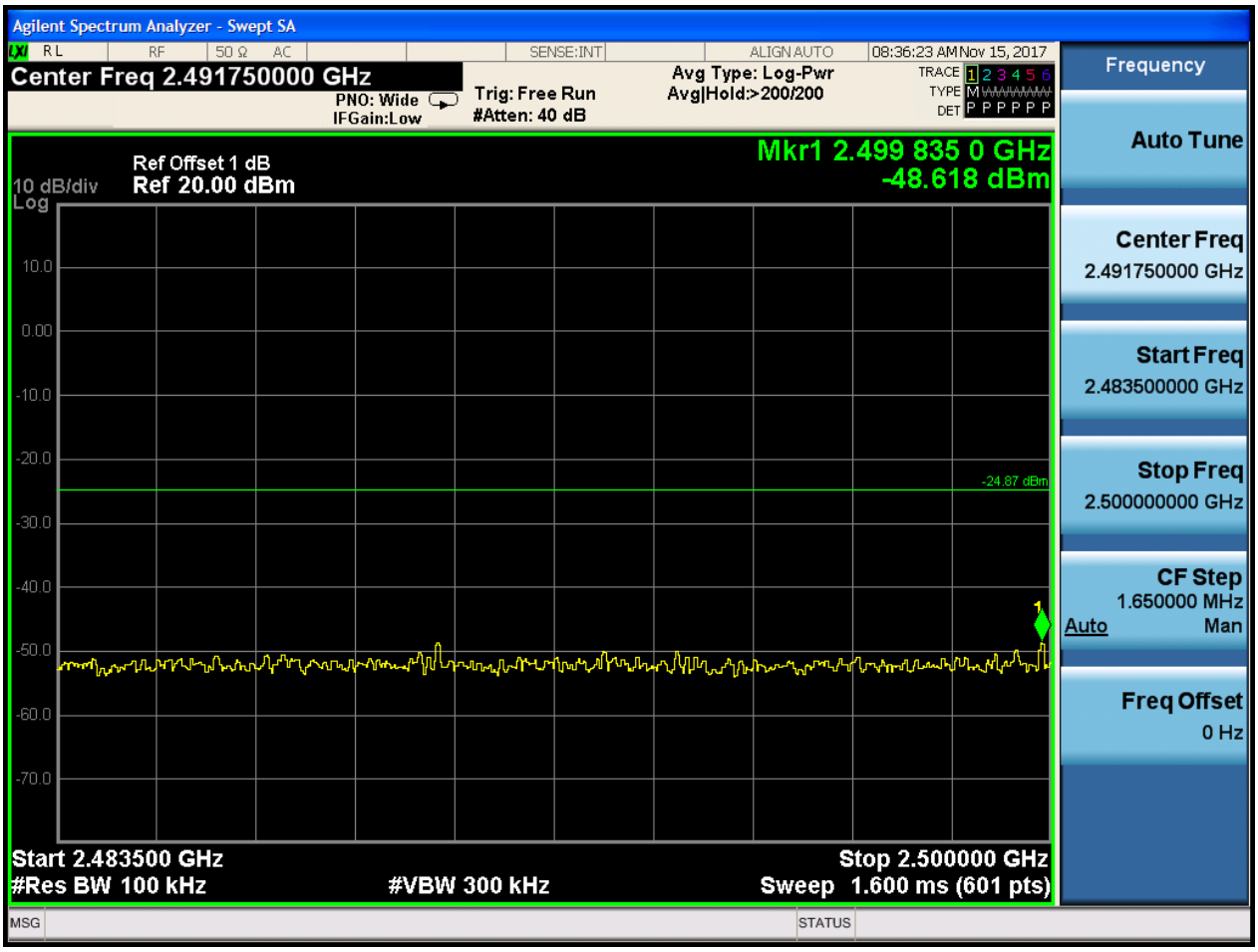
**Puw:**











# Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

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

Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

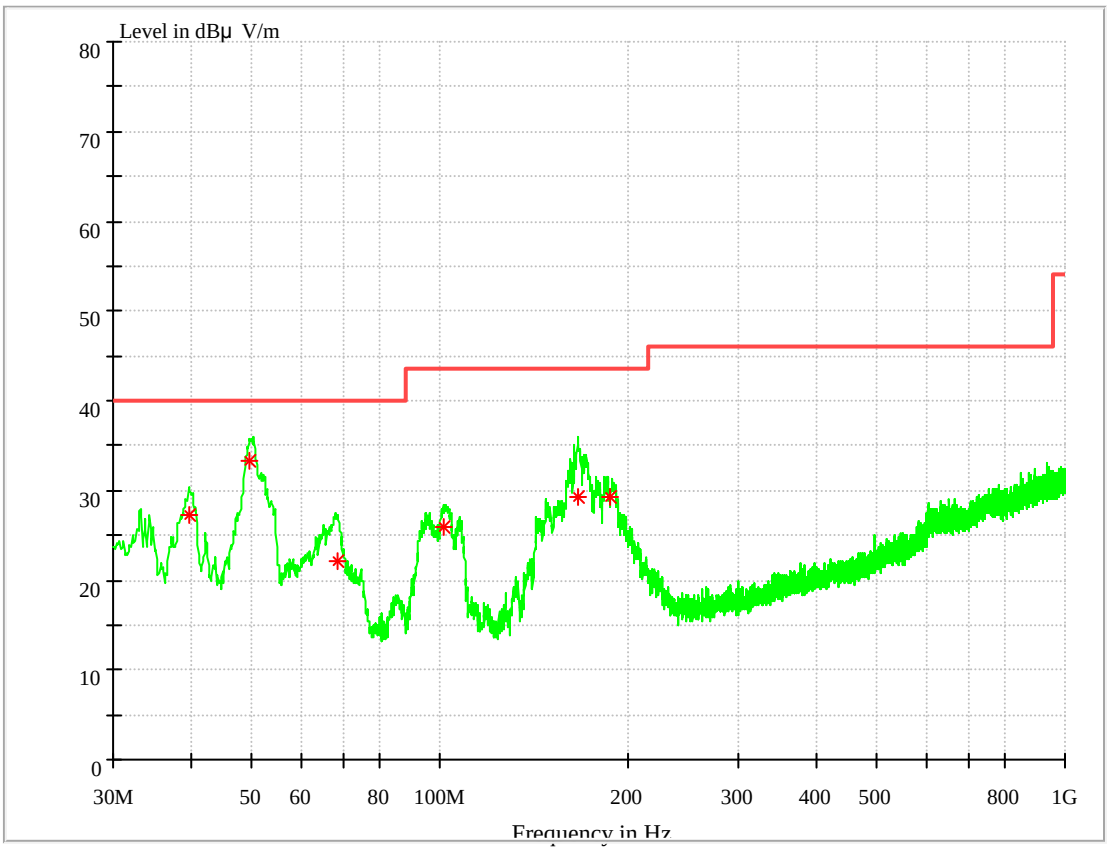
### 1.1 Part 1: Testing Range of “9 kHz to 30MHz”

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

### 1.2 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) |
|---|---|---|---|---|---|---|---|
| 39.7463 | 27.35 | 40.00 | 12.65 | 100.0 | V | 322.0 | 15.1 |
| 49.6921 | 33.38 | 40.00 | 6.62 | 100.0 | V | -6.0 | 15.4 |
| 68.5012 | 22.1 | 40.00 | 17.9 | 106.0 | V | 0.0 | 11.2 |
| 101.6375 | 26.02 | 43.50 | 17.48 | 106.0 | V | 3.0 | 13.7 |
| 166.8968 | 29.19 | 43.50 | 14.31 | 100.0 | V | 251.0 | 10.9 |
| 186.6088 | 29.19 | 43.50 | 14.31 | 100.0 | V | 312.0 | 12.4 |

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

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

Note 1: The testing range of “1GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

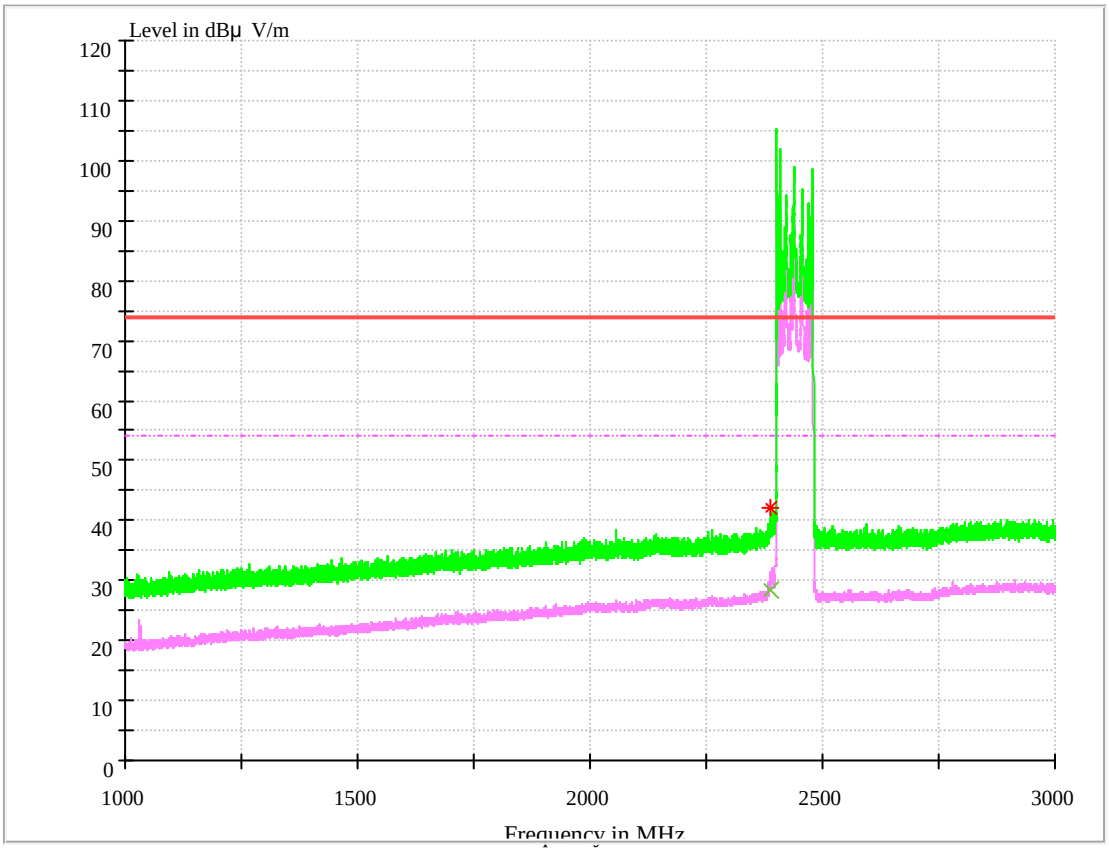
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).

Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Test Mode:

#### 1.3.1Test Mode: TM1

##### 1.3.1.1 Channel 0



MEASUREMENT RESULT: AV Detector

| Frequency (MHz) | Level (dBμ V/m) | Limit (dBμ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth | Transd. (dB) |
|---|---|---|---|---|---|---|---|
| 2390 | 28.55 | 54.00 | 25.45 | 150.0 | H | 45.0 | -8.6 |

MEASUREMENT RESULT: PK Detector

| Frequency (MHz) | Level (dBμ V/m) | Limit (dBμ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Transd. (dB) |
|---|---|---|---|---|---|---|---|
| 2390 | 42.15 | 74.00 | 31.85 | 150.0 | H | 106.0 | -8.6 |

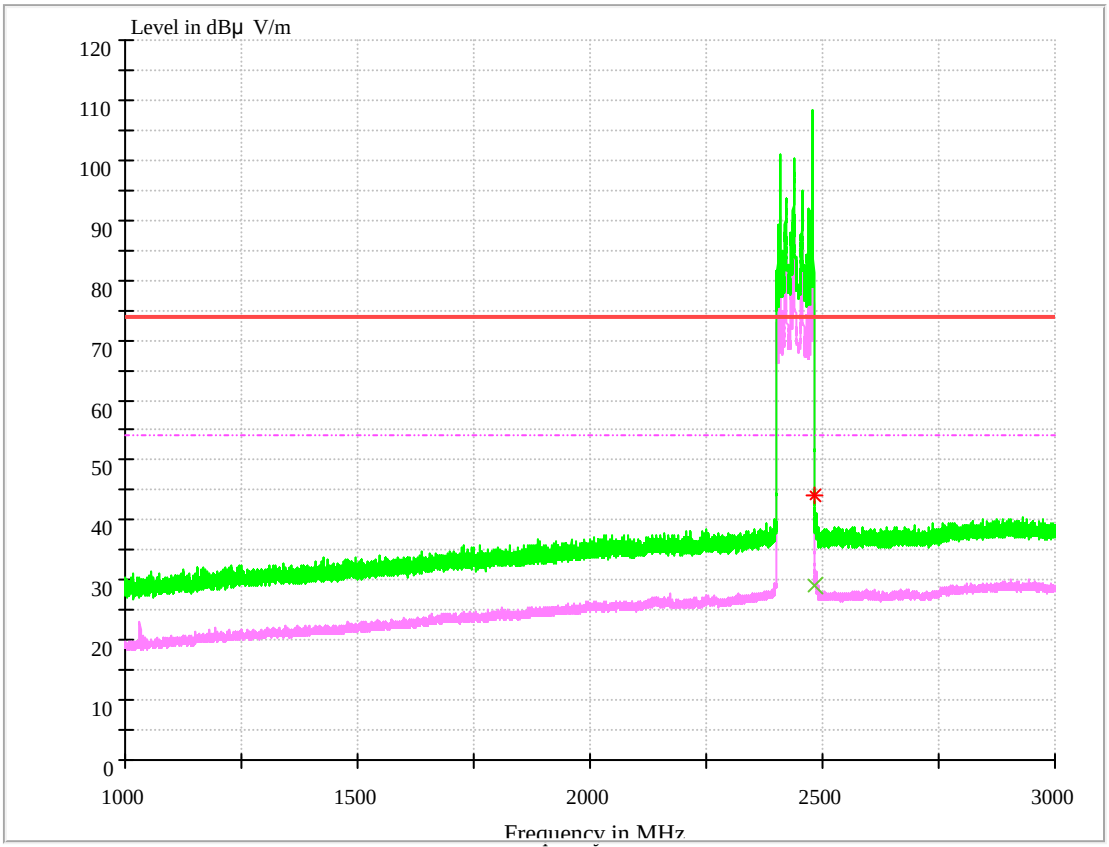
Note:

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

### 1.3.1.2 Channel 39




MEASUREMENT RESULT: AV Detector

| Frequency (MHz) | Level (dBµ V/m) | Limit (dBµ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth(deg) | Transd. (dB) |
|---|---|---|---|---|---|---|---|
| 2483.5 | 29.12 | 54.00 | 24.88 | 150.0 | H | 57.0 | -6.8 |

MEASUREMENT RESULT: PK Detector

| Frequency (MHz) | Level (dBµ V/m) | Limit (dBµ V/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Transd. (dB) |
|---|---|---|---|---|---|---|---|
| 2483.5 | 44.13 | 74.00 | 29.87 | 150.0 | H | 187.0 | -6.8 |

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.

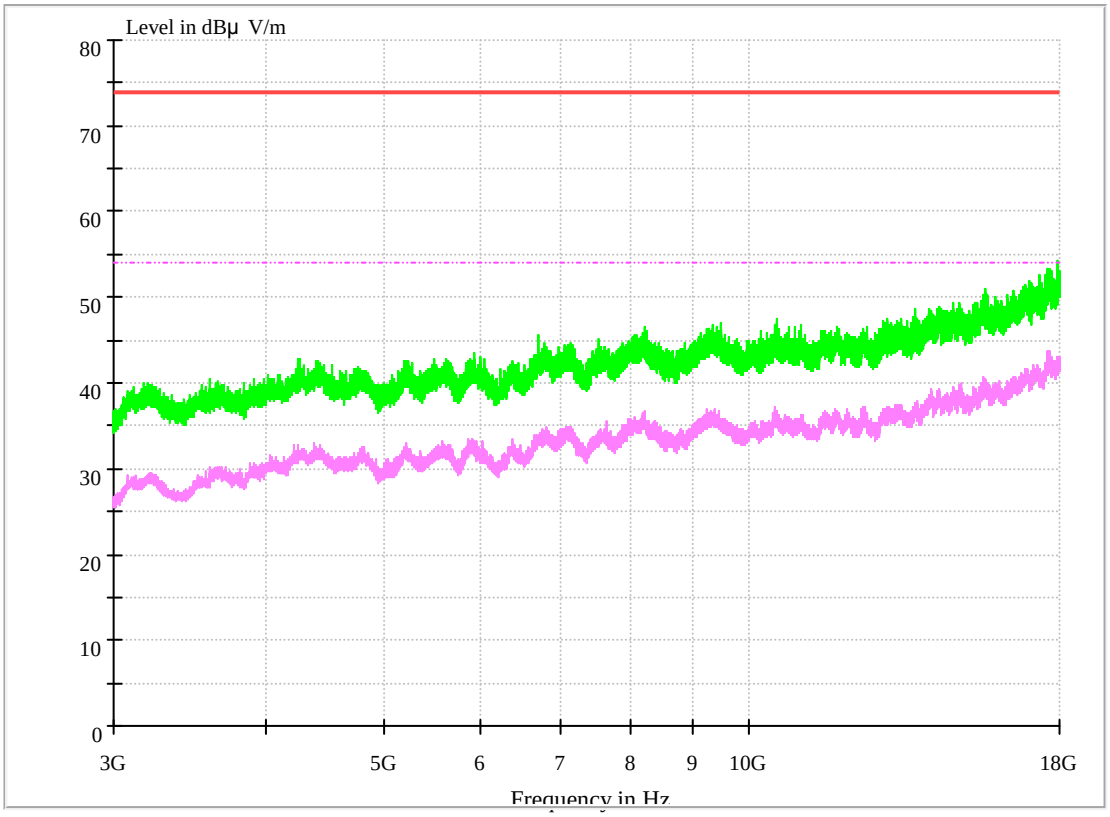
2, Margin=Limit - Level

### 1.4 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 3 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).



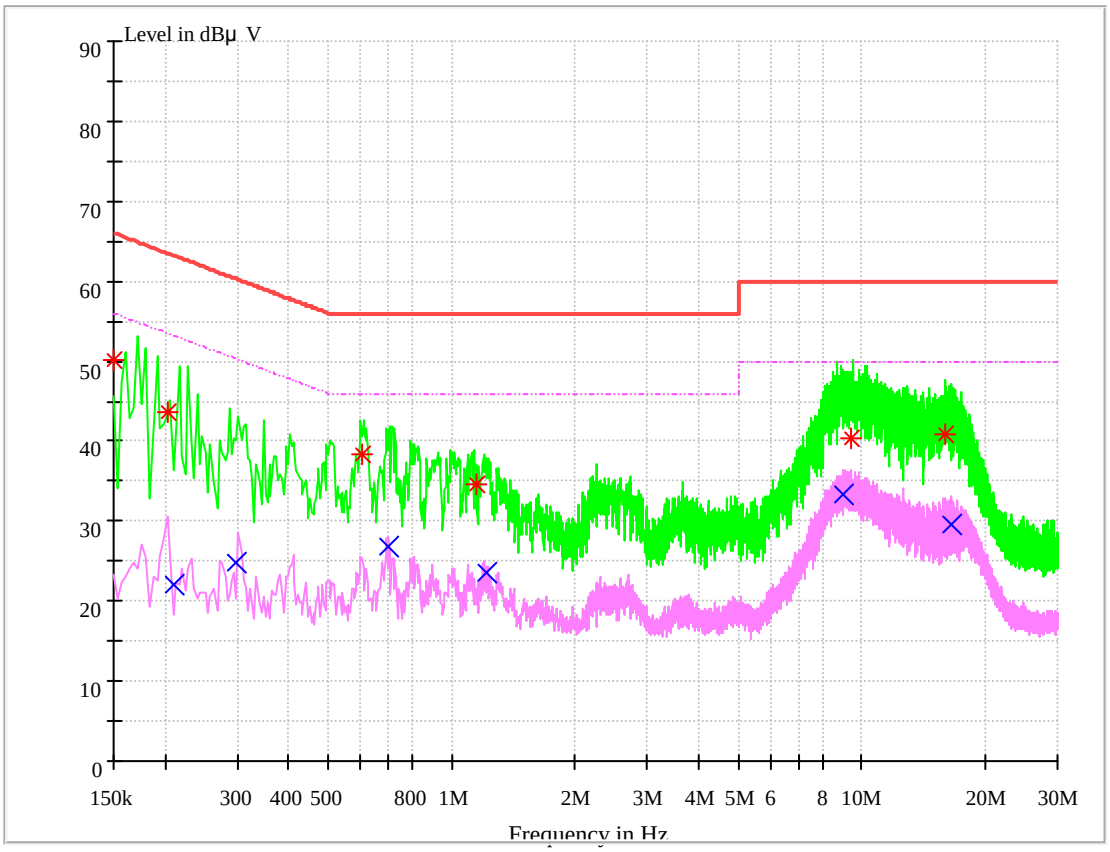

### 1.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

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

## Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

# Channel 39




**MEASUREMENT RESULT: AV Detector**

| Frequency (MHz) | Level (dBµ V) | Limit (dBµ V) | Transd. (dB) | Margin (dB) | Line | PE |
|---|---|---|---|---|---|---|
| 0.21108 | 22.02 | 53.17 | 9.7 | 31.15 | N | FLO |
| 0.299538 | 24.85 | 50.26 | 9.7 | 25.41 | N | FLO |
| 0.696548 | 26.73 | 46 | 9.7 | 19.27 | N | FLO |
| 1.22056 | 23.57 | 46 | 9.7 | 22.43 | N | FLO |
| 9.022694 | 33.45 | 50 | 9.9 | 16.55 | N | FLO |
| 16.436961 | 29.67 | 50 | 10.1 | 20.33 | N | FLO |

**MEASUREMENT RESULT: PK Detector**

| Frequency (MHz) | Level (dBμ V) | Limit (dBμ V) | Transd. (dB) | Margin (dB) | Line | PE |
|---|---|---|---|---|---|---|
| 0.150253 | 50.05 | 65.99 | 9.7 | 15.94 | N | FLO |
| 0.204103 | 43.57 | 63.44 | 9.7 | 19.87 | N | FLO |
| 0.607252 | 38.46 | 56 | 9.7 | 17.54 | N | FLO |
| 1.143238 | 34.53 | 56 | 9.7 | 21.47 | N | FLO |
| 9.457938 | 40.37 | 60 | 9.9 | 19.63 | L1 | FLO |
| 15.98592 | 40.87 | 60 | 10.1 | 19.13 | N | FLO |

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

END