



# Appendix for Testreport

## 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.

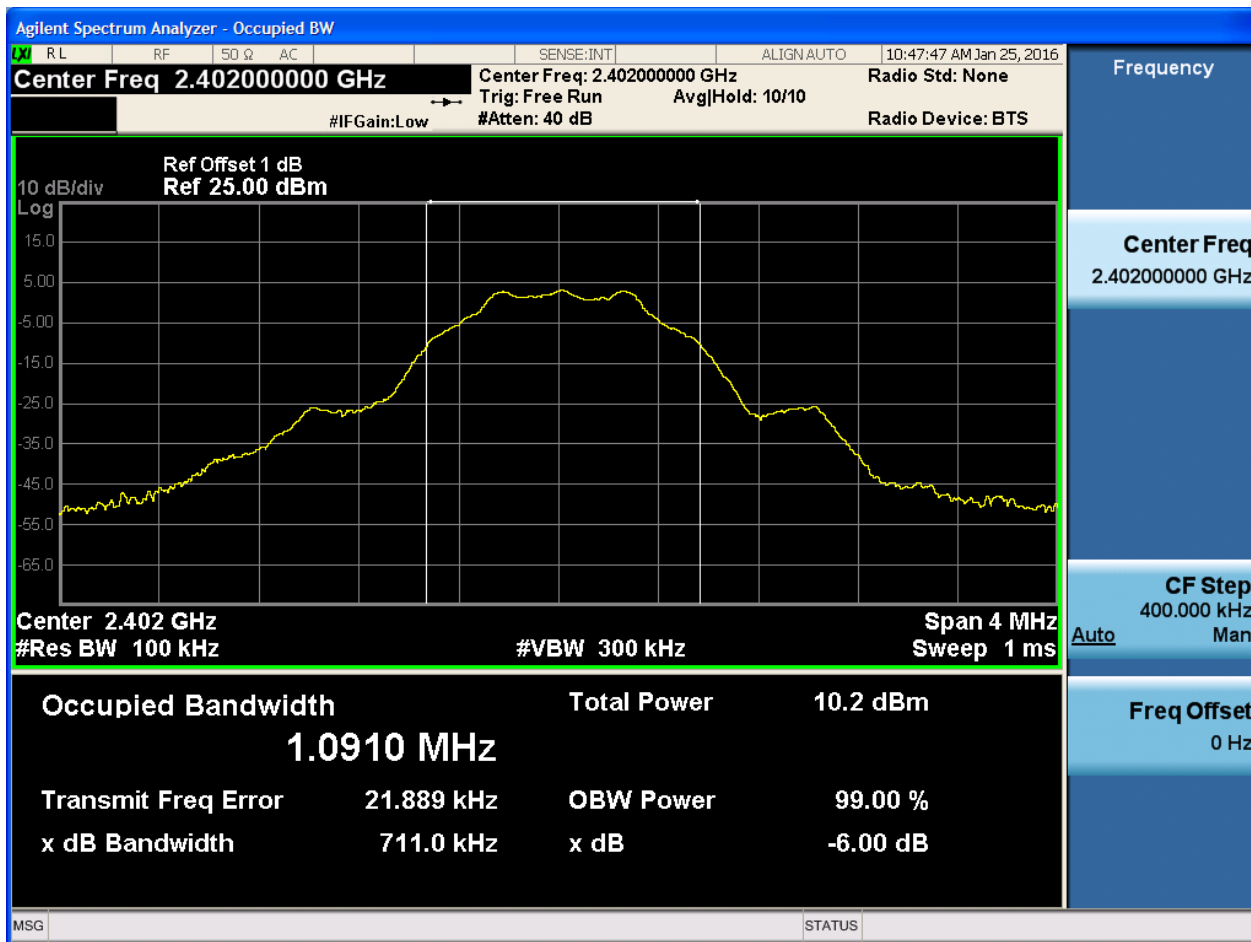
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1 _Ch0	L	2402	0.71	pass
TM1 _Ch19	M	2440	0.71	pass
TM1 _Ch39	H	2480	0.72	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	1.06	pass
TM1 _Ch19	M	2440	1.06	pass
TM1 _Ch39	H	2480	1.07	pass



## Part II - Test Plots

## 2.1 TM1\_Ch0\_L





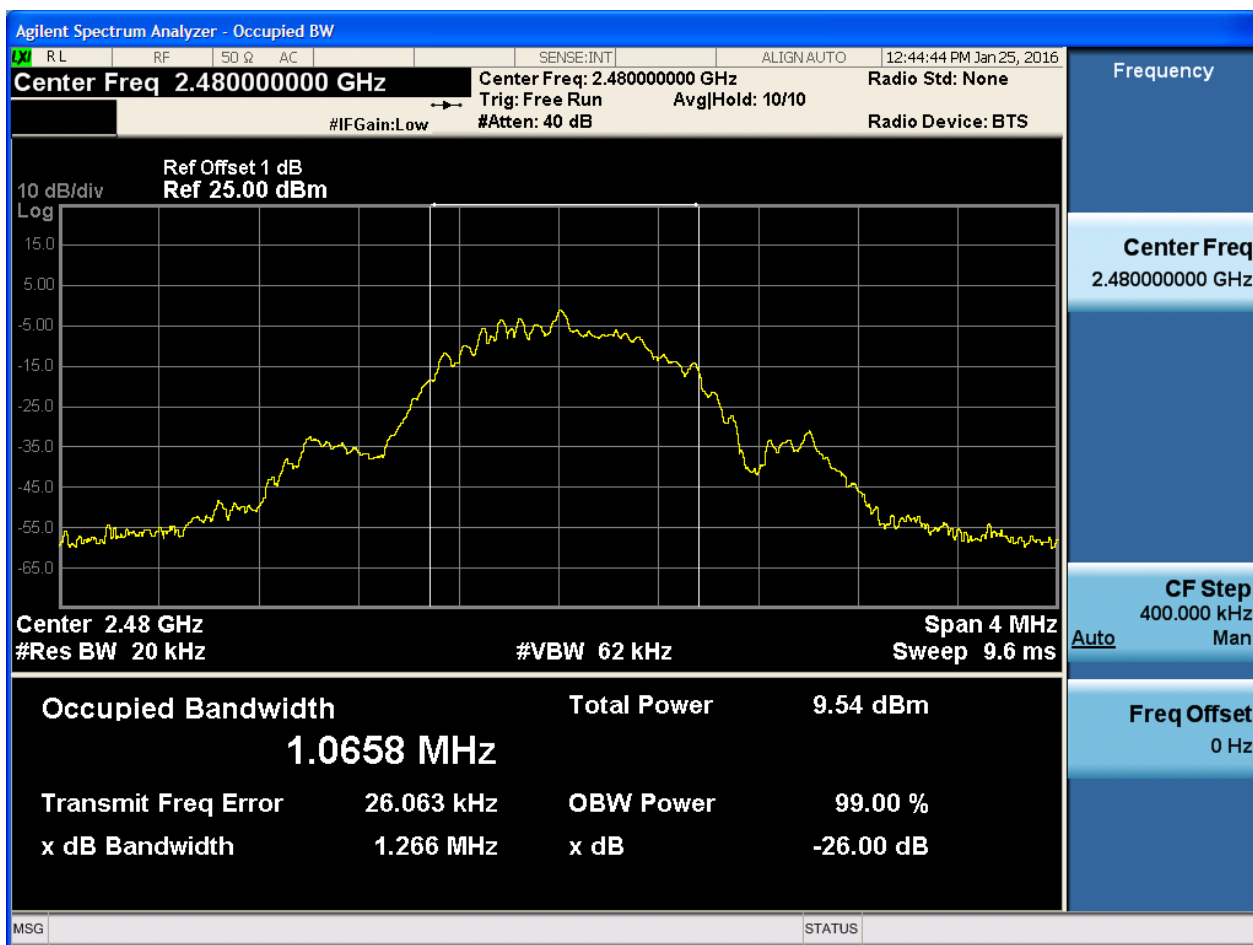
## 2.2 TM1\_Ch19\_M







## 2.3 TM1\_Ch39\_H





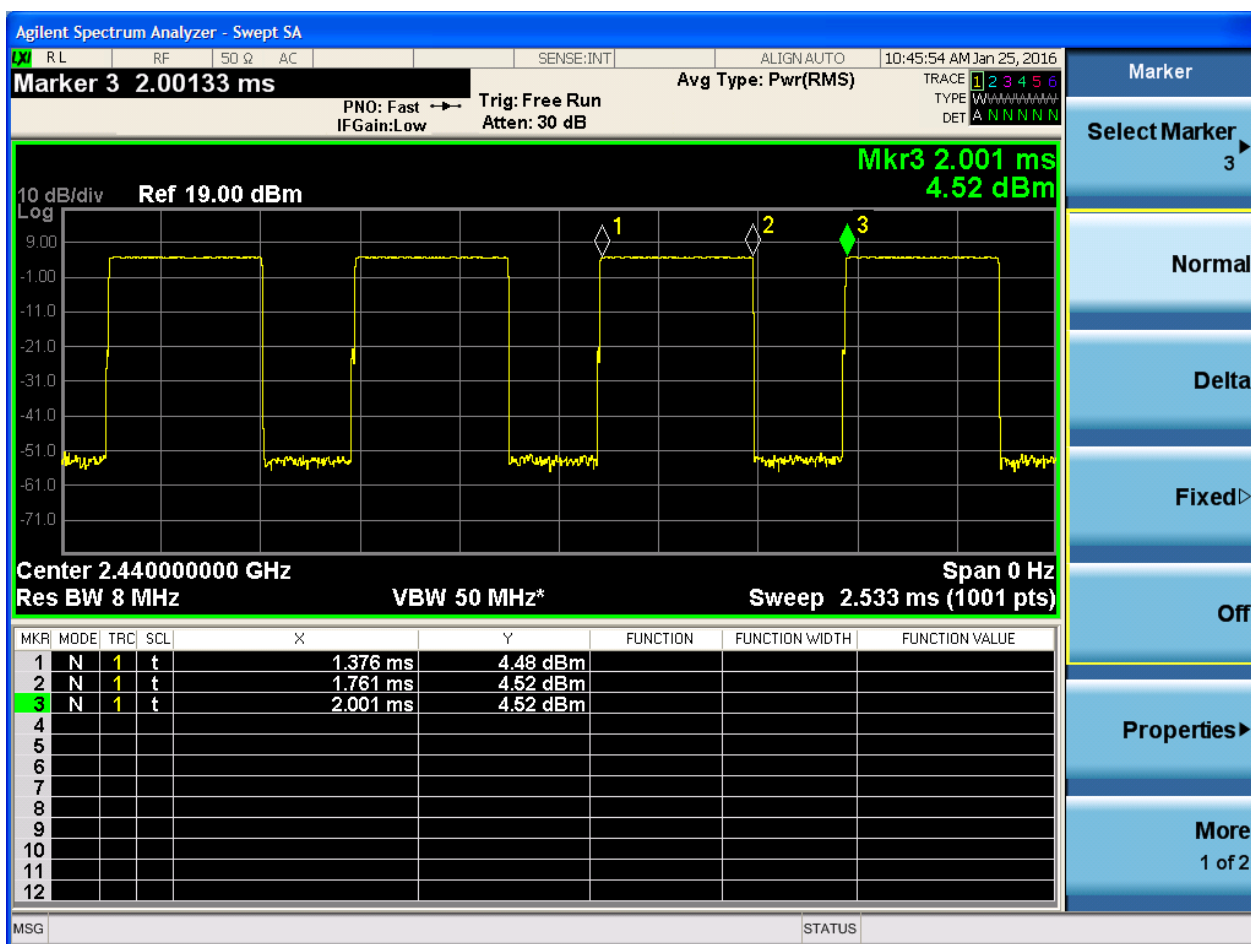
## Appendix C: Duty Cycle

### Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	62

### Part II - Test Plots

#### 2.1 TM1



## Appendix D: Maximum Conducted Average Output Power

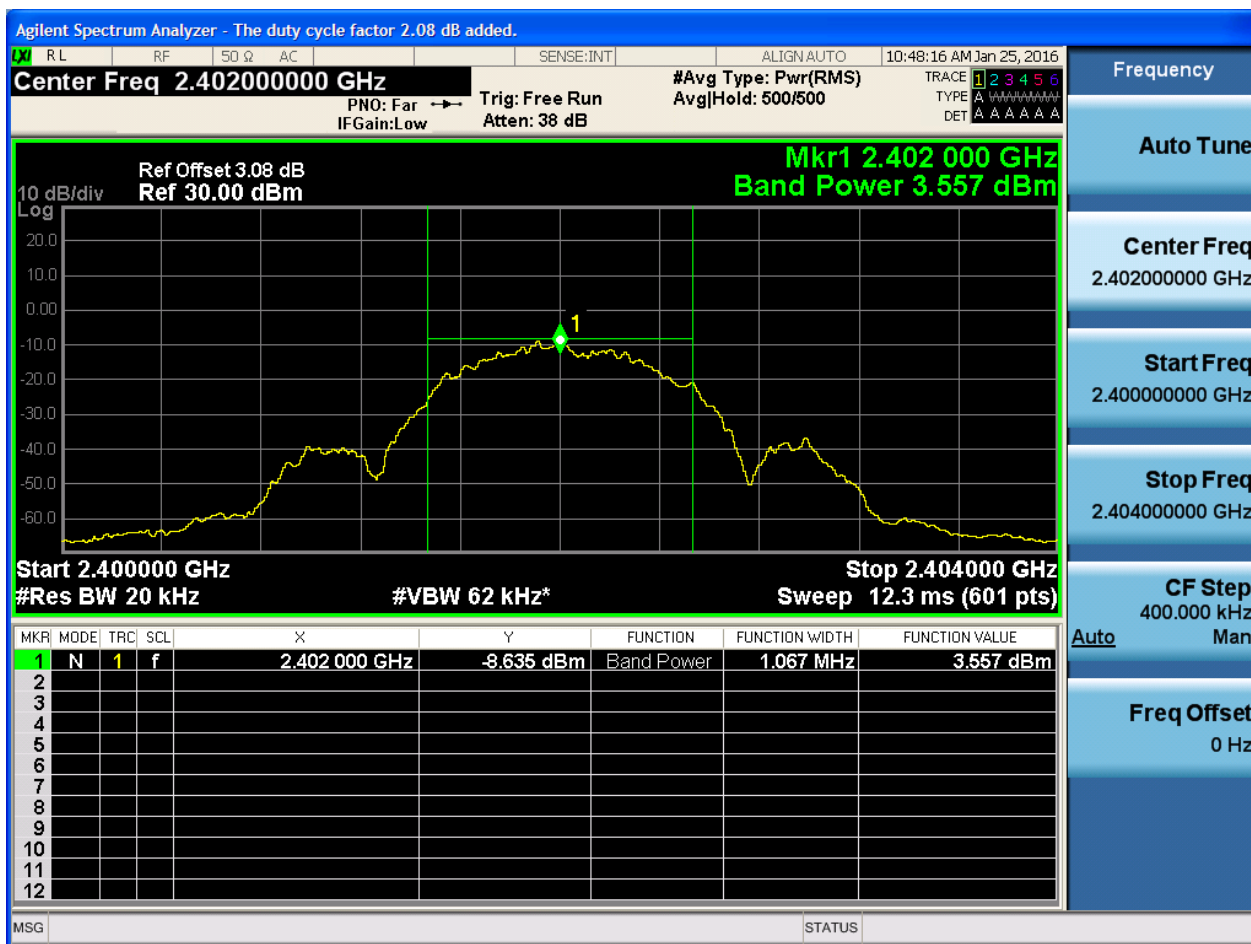
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	Power[dBm]	Verdict
TM1 _Ch0	L	2402	62	3.56	pass
TM1 _Ch19	M	2440	62	5.51	pass
TM1 _Ch39	H	2480	62	3.13	pass



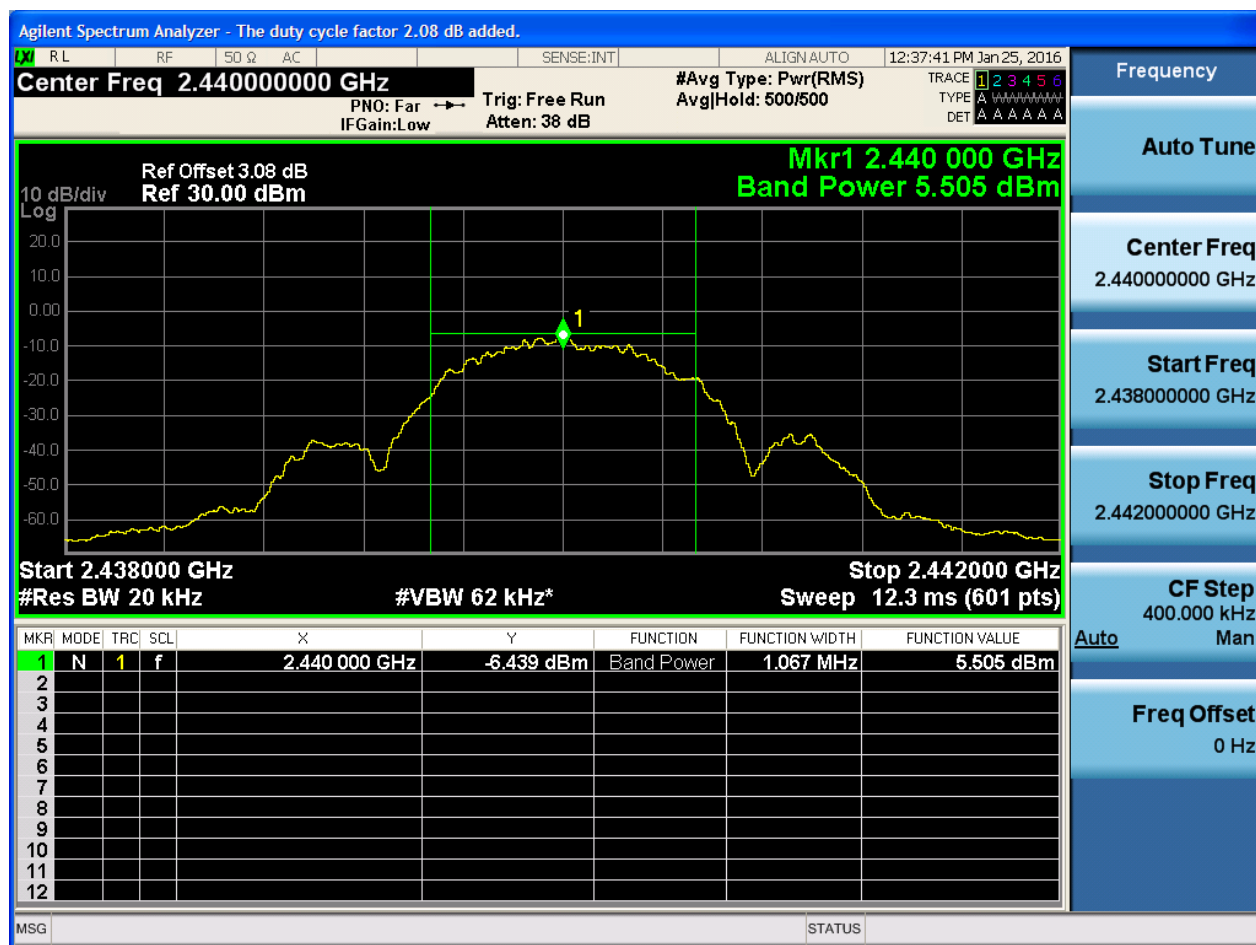
## Part II - Test Plots

## 2.1 TM1\_Ch0\_L



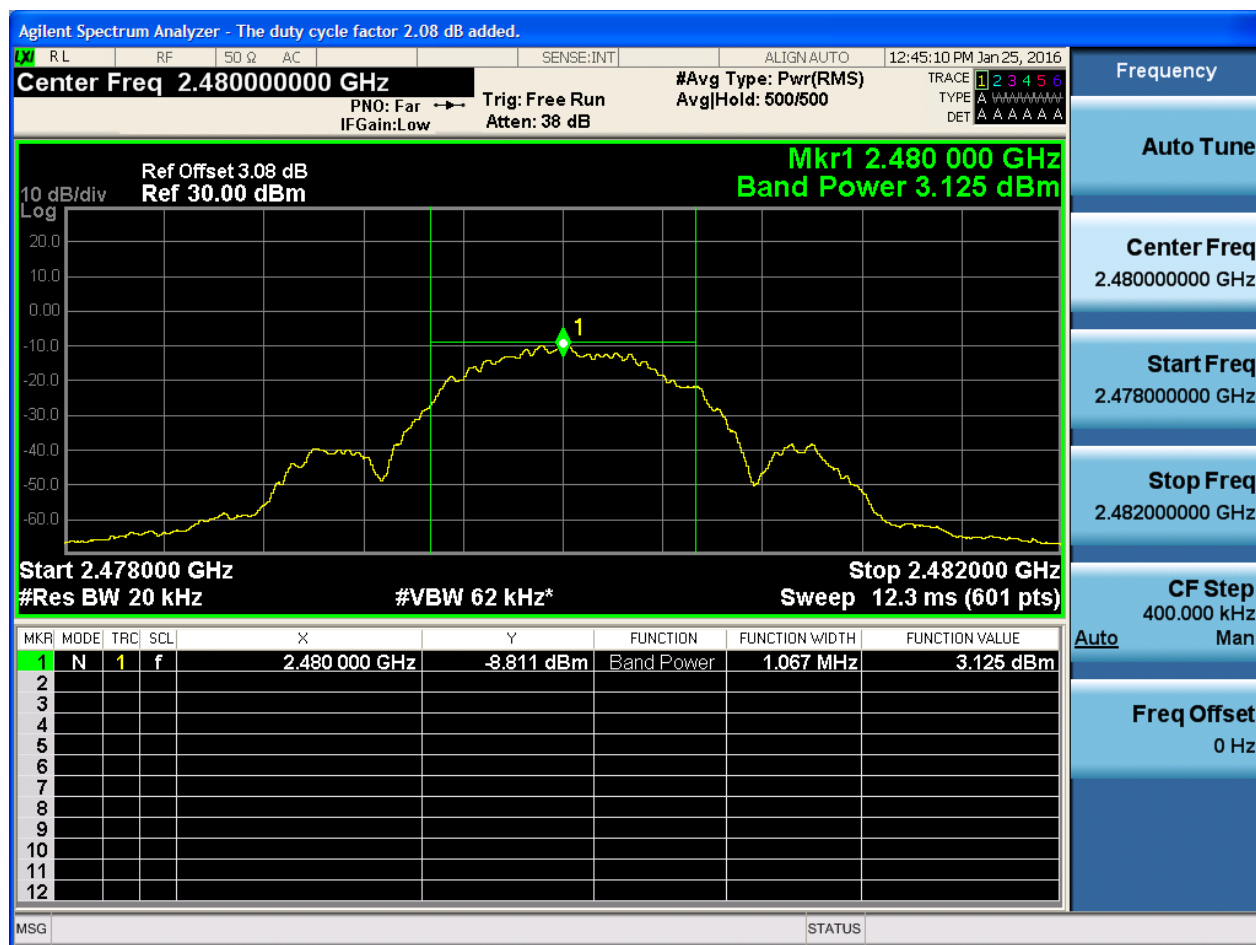


## 2.2 TM1\_Ch19\_M





## 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	62	-10.85	pass
TM1 _Ch19	M	2440	62	-8.84	pass
TM1 _Ch39	H	2480	62	-11.20	pass

## Part II - Test Plots

### 2.1 TM1\_Ch0\_L







## 2.2 TM1\_Ch19\_M





Agilent Spectrum Analyzer - The duty cycle factor 2.08 dB added.

Center Freq 2.48000000 GHz

Ref Offset 3.08 dB  
Ref 20.00 dBm

Mkr1 2.479 993 GHz  
-11.197 dBm

Start 2.478000 GHz  
#Res BW 10 kHz

Stop 2.482000 GHz  
Sweep 47.7 ms (601 pts)

#VBW 100 kHz\*

10 dB/div  
Log

1

Frequency

Auto Tune

Center Freq  
2.48000000 GHz

Start Freq  
2.478000000 GHz

Stop Freq  
2.482000000 GHz

CF Step  
400.000 kHz  
Man

Auto

Freq Offset  
0 Hz

MSG

STATUS

The image shows a screenshot of an Agilent Spectrum Analyzer. The main display area shows a frequency spectrum with a yellow trace. A peak is marked with a green diamond and labeled '1'. The peak frequency is 2.479 993 GHz and the power is -11.197 dBm. The center frequency is set to 2.48000000 GHz. The reference level is 20.00 dBm with a 3.08 dB offset. The span is from 2.478000 GHz to 2.482000 GHz. The resolution bandwidth is 10 kHz and the video bandwidth is 100 kHz. The sweep time is 47.7 ms. The display is set to 10 dB/div and Log scale. On the right side, there is a list of parameters: Frequency, Auto Tune, Center Freq (2.48000000 GHz), Start Freq (2.478000000 GHz), Stop Freq (2.482000000 GHz), CF Step (400.000 kHz, Man), Auto, Freq Offset (0 Hz). At the bottom, there are fields for MSG and STATUS.

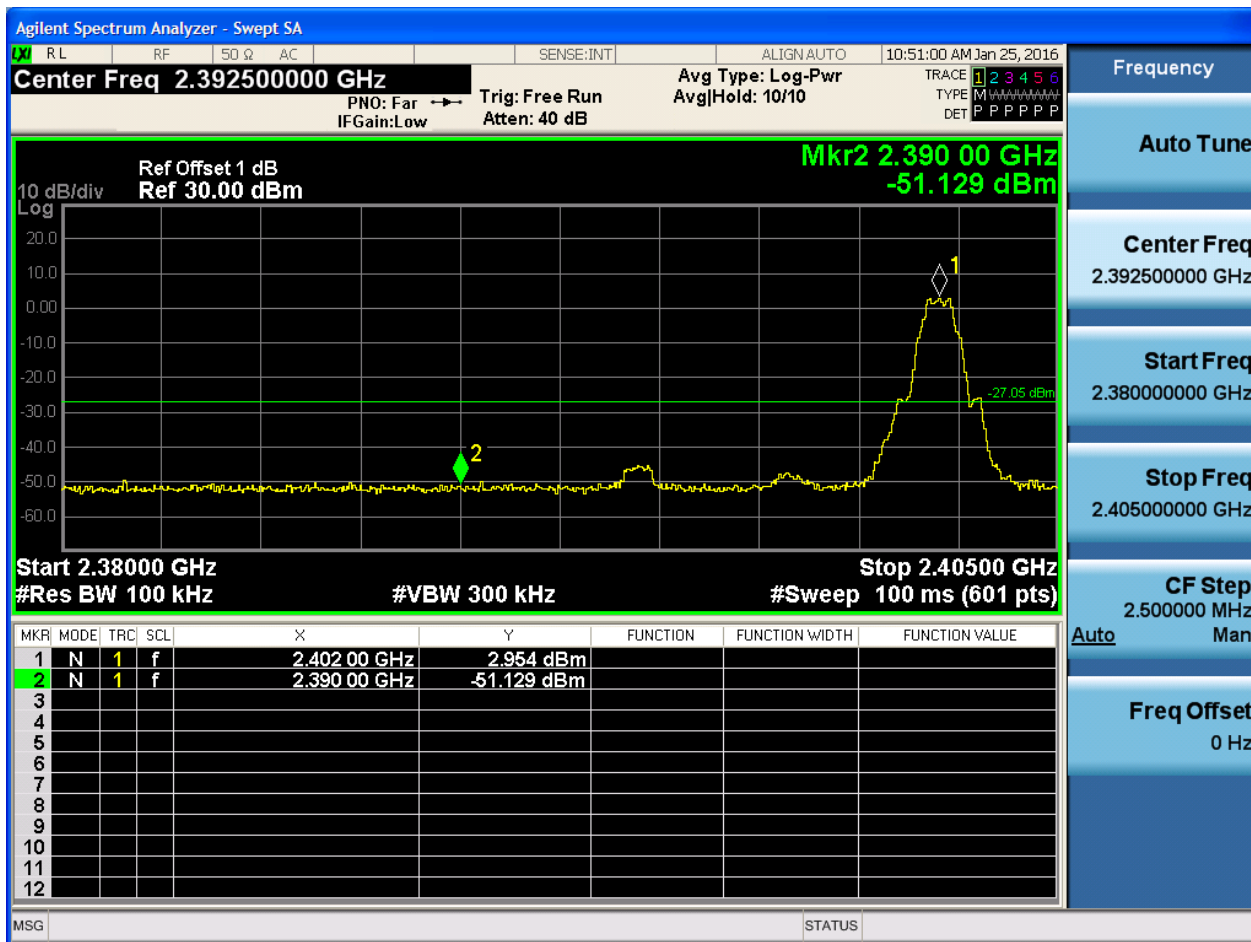
## Appendix F: Band Edges Compliance

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	2.95	-51.13	pass
TM1_Ch39	H	2480	2.56	-49.22	pass

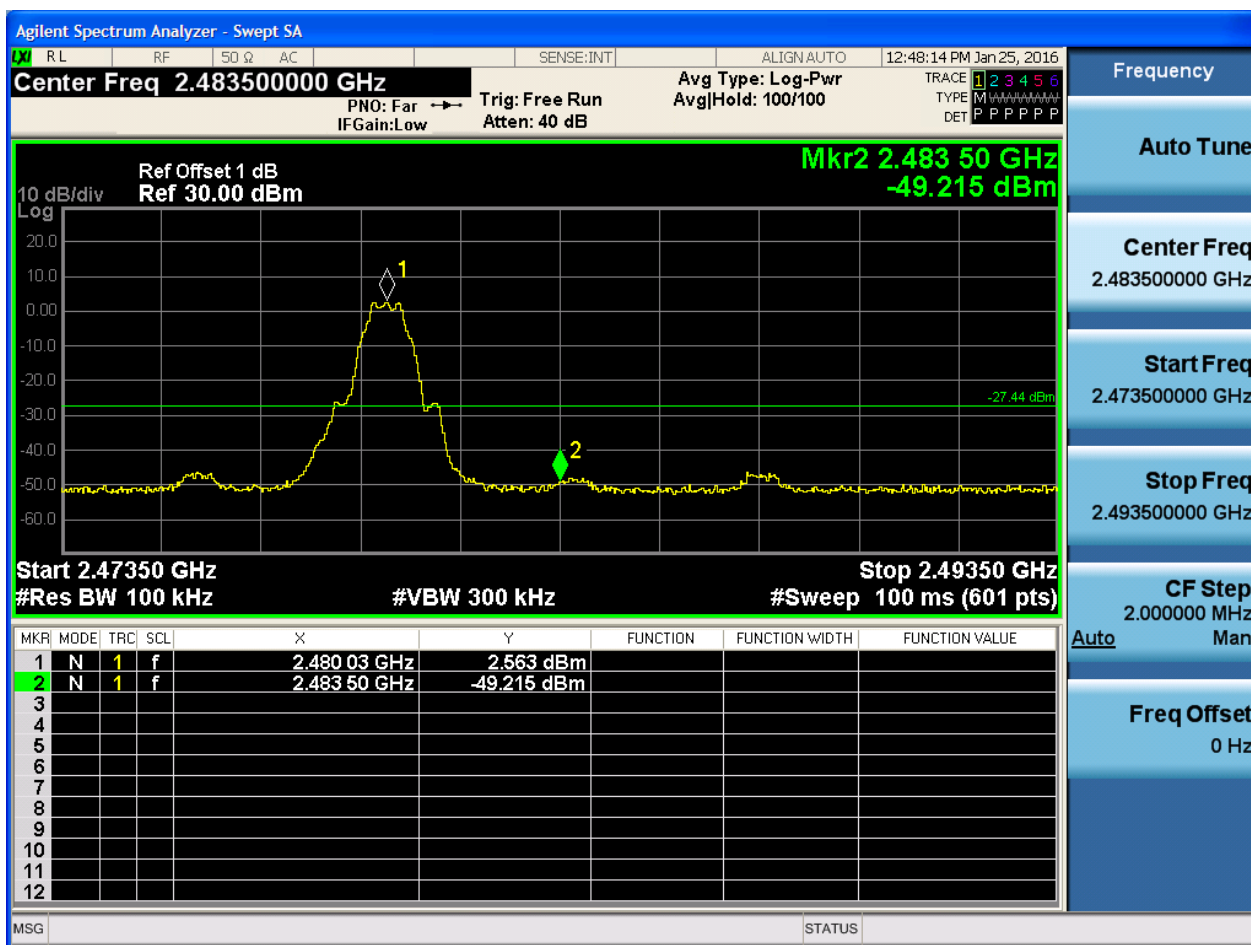
## Part II - Test Plots

### 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" 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.

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

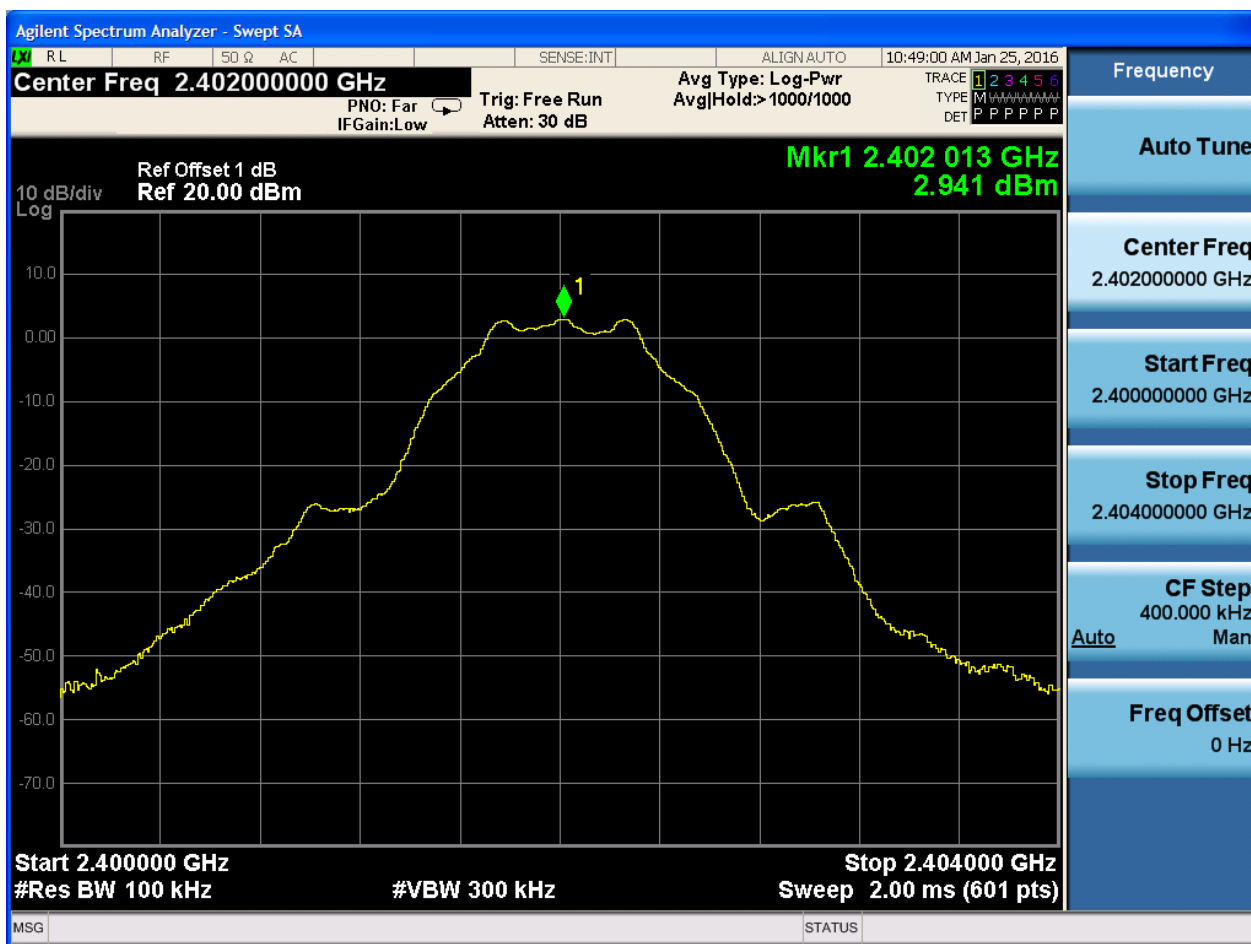
Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	2.94	<limit	pass
TM1_Ch19	M	2440	4.98	<limit	pass
TM1_Ch39	H	2480	2.56	<limit	pass



## Part II - Test Plots

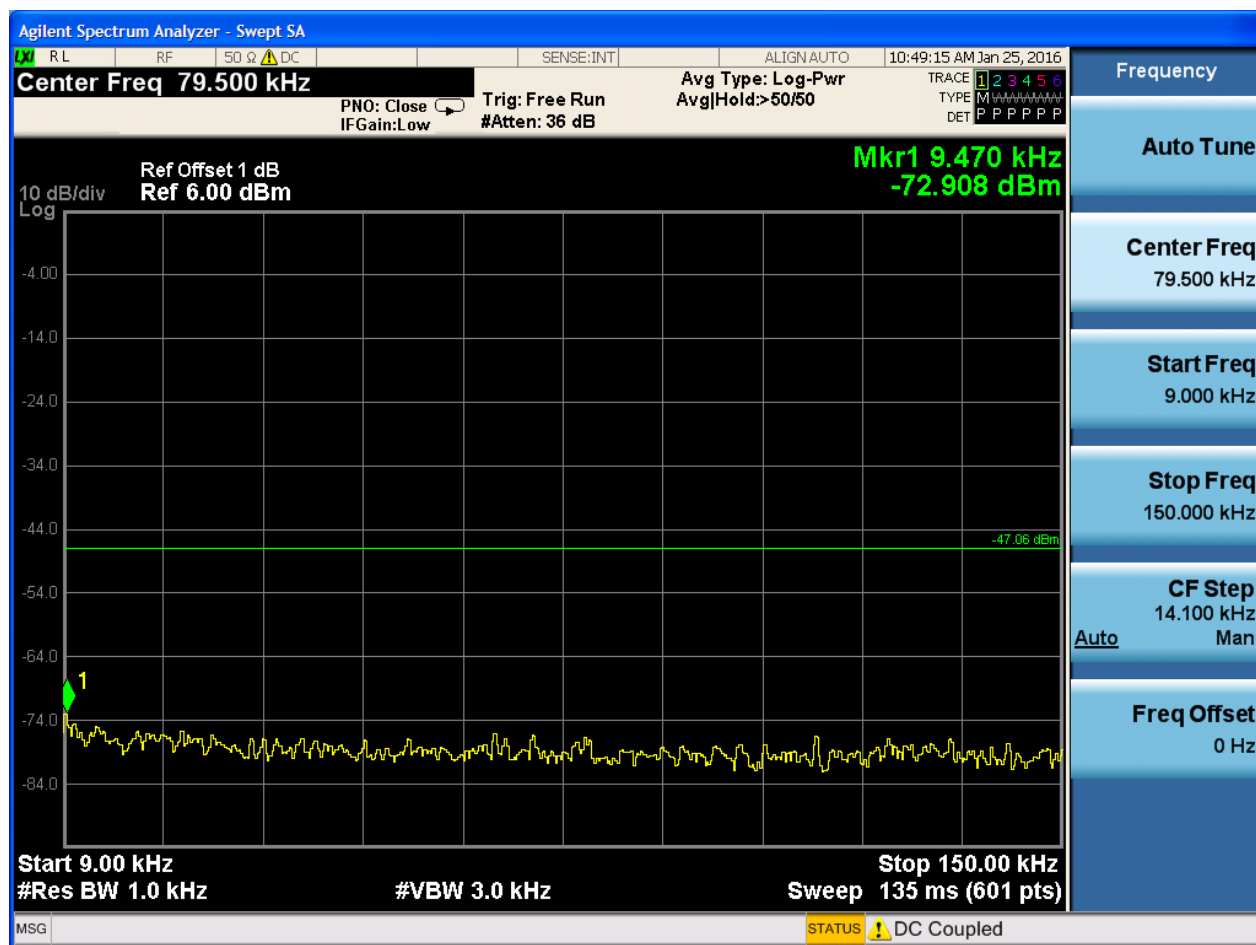
## 2.1 TM1\_Ch0\_L

Pref:

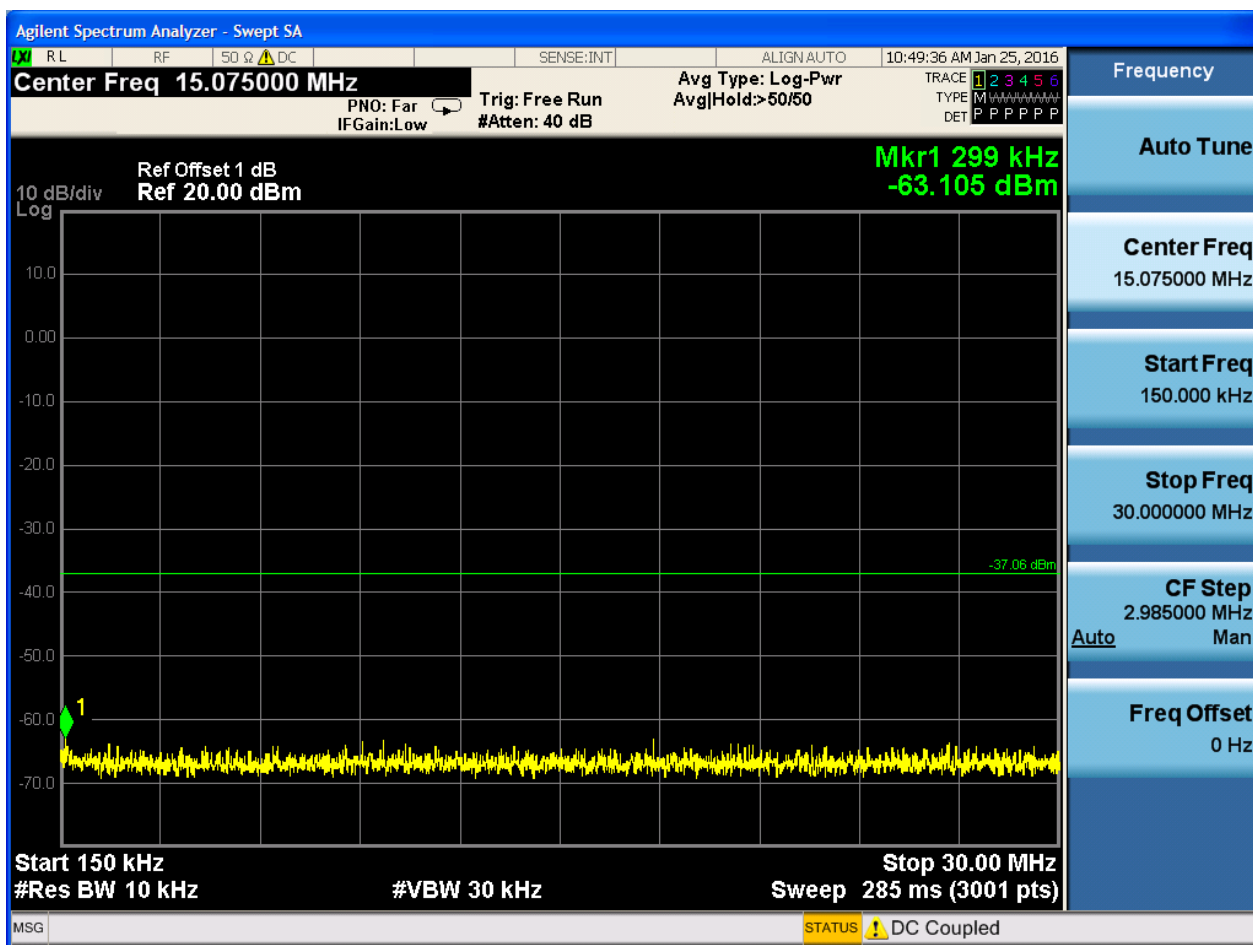


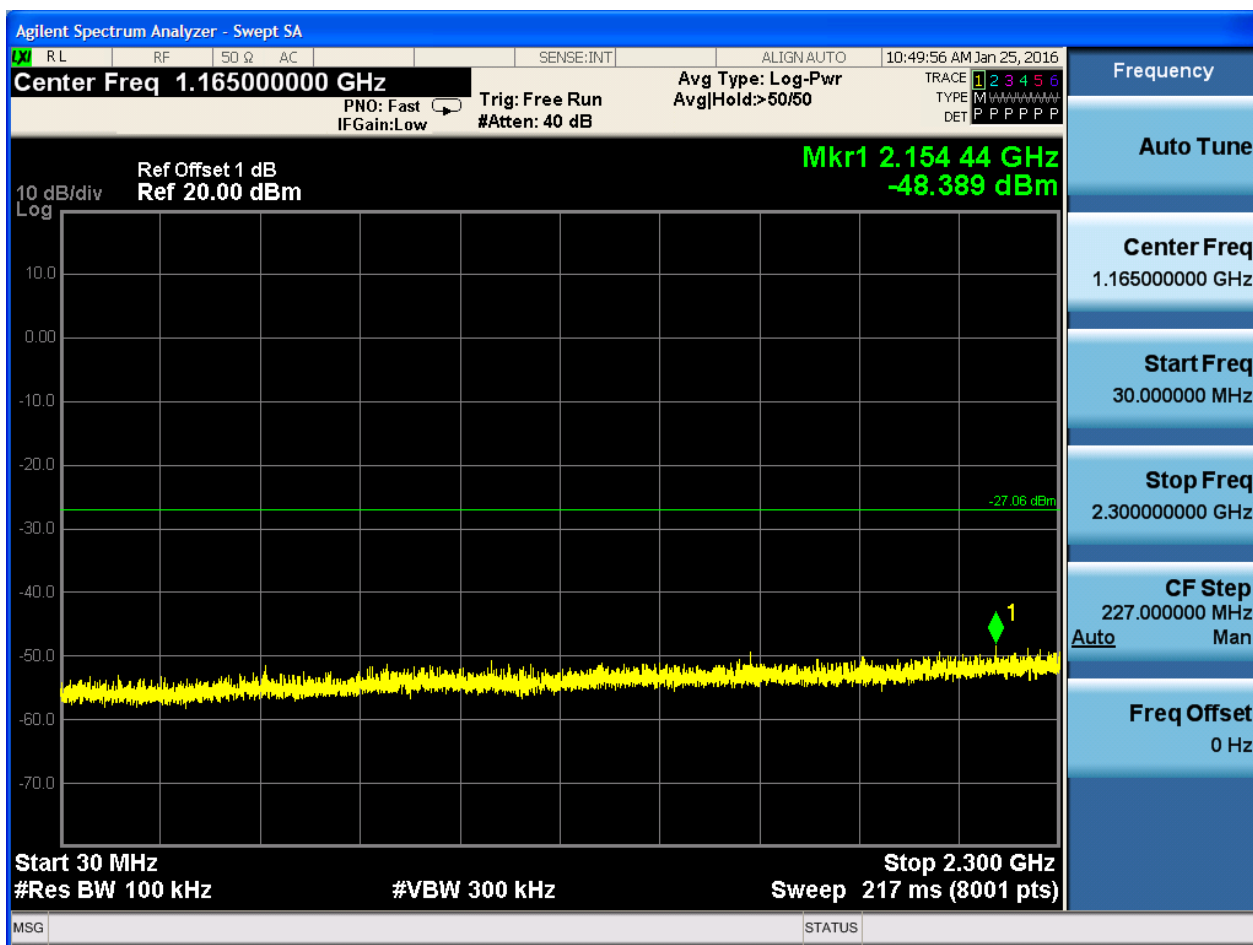


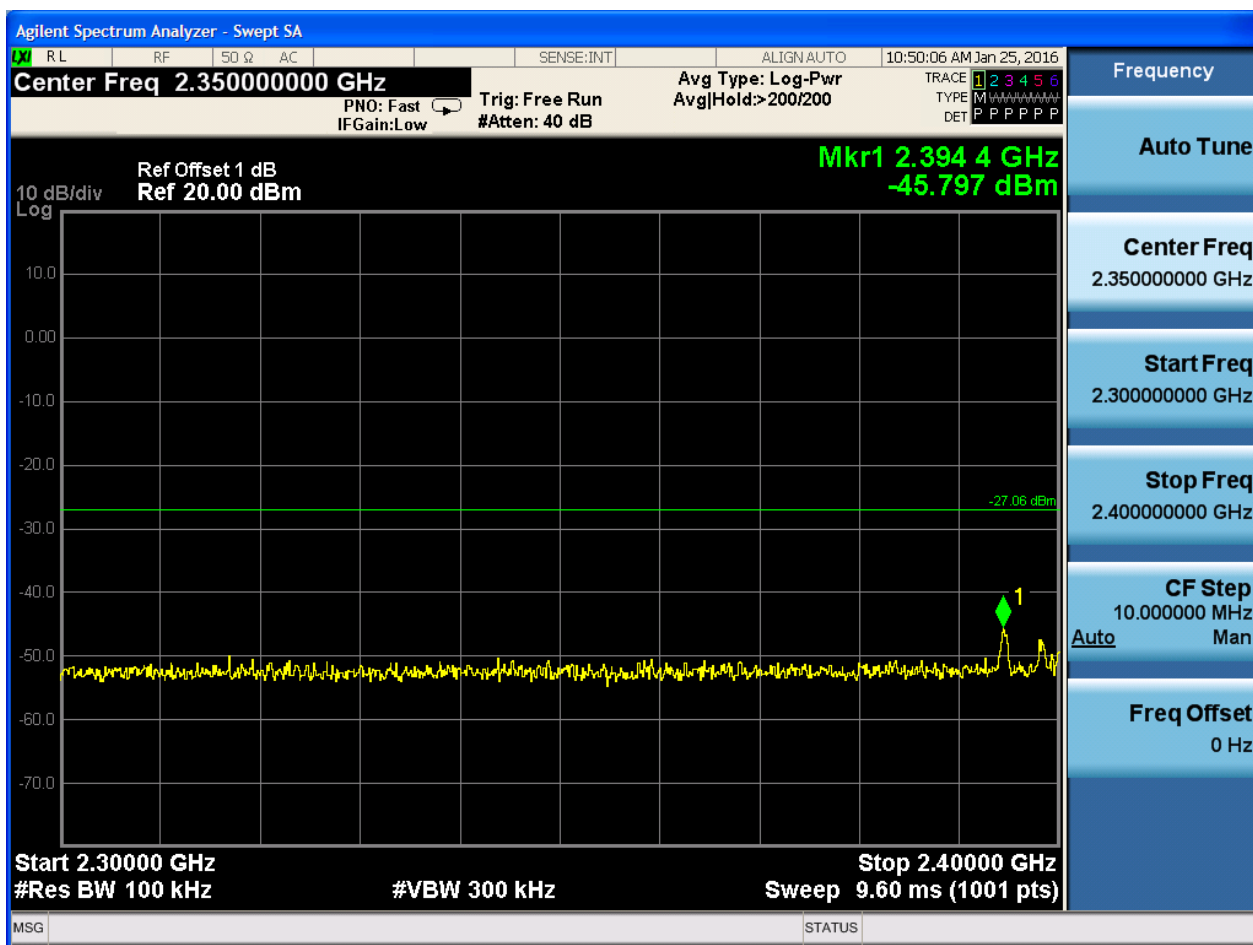
Puw:

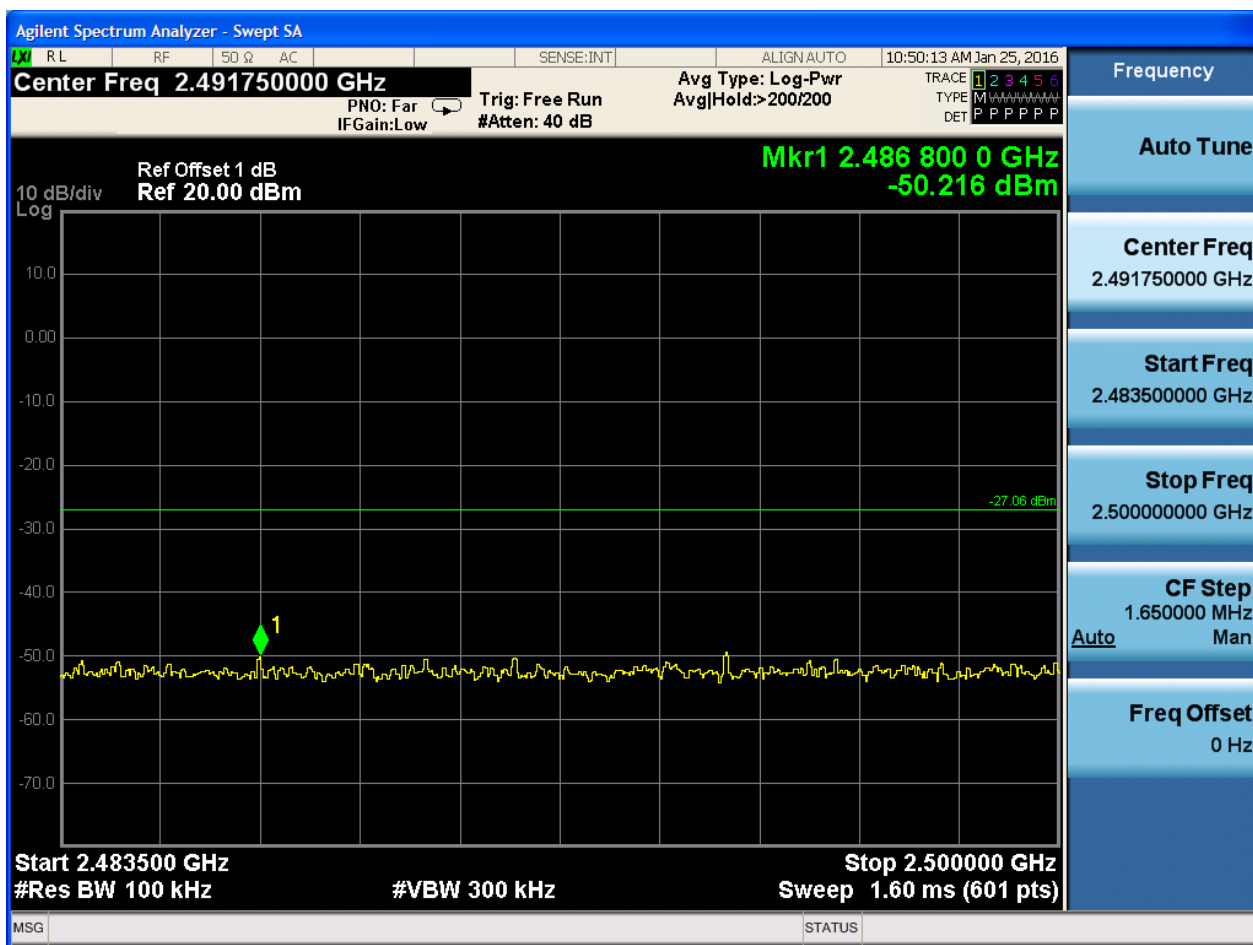


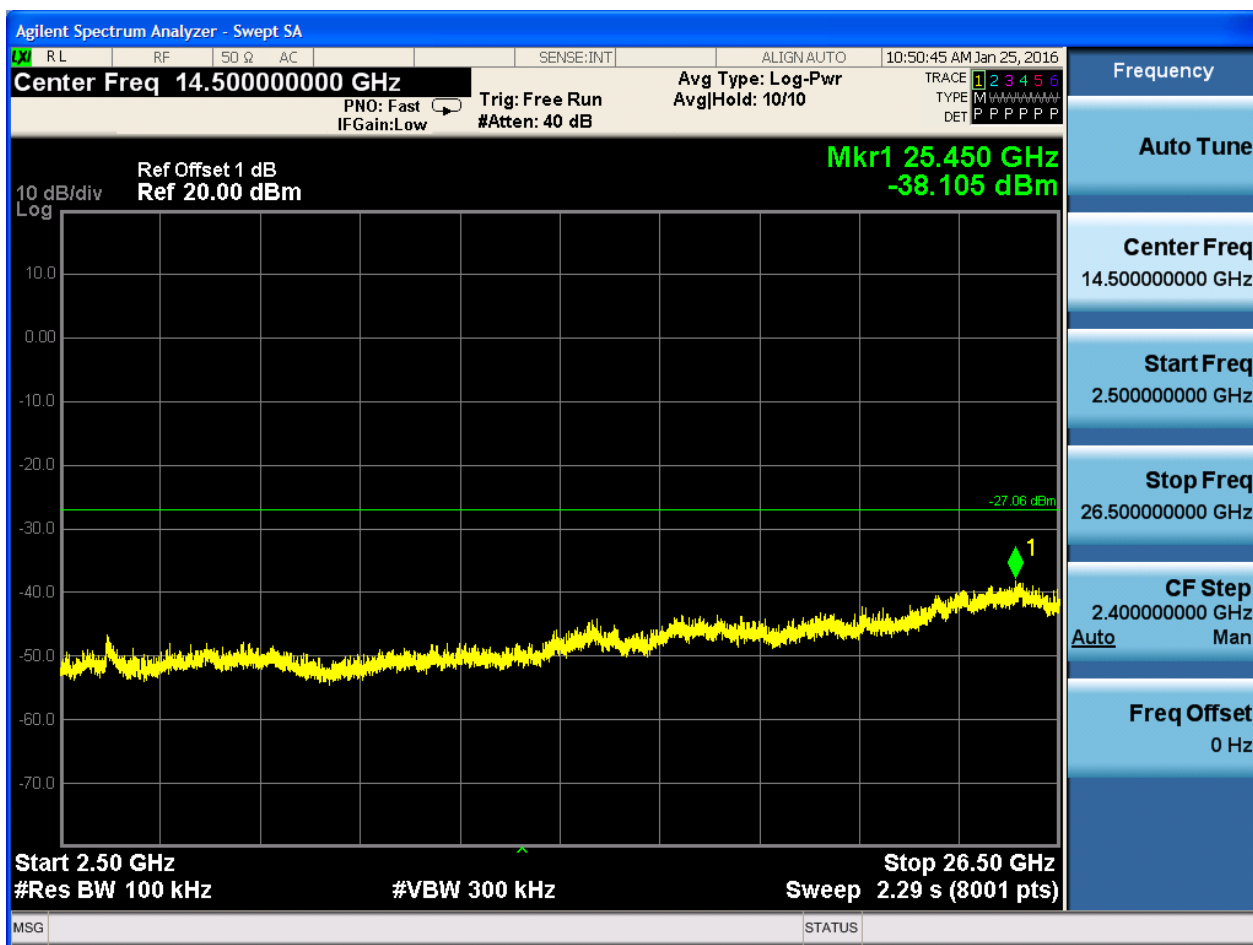








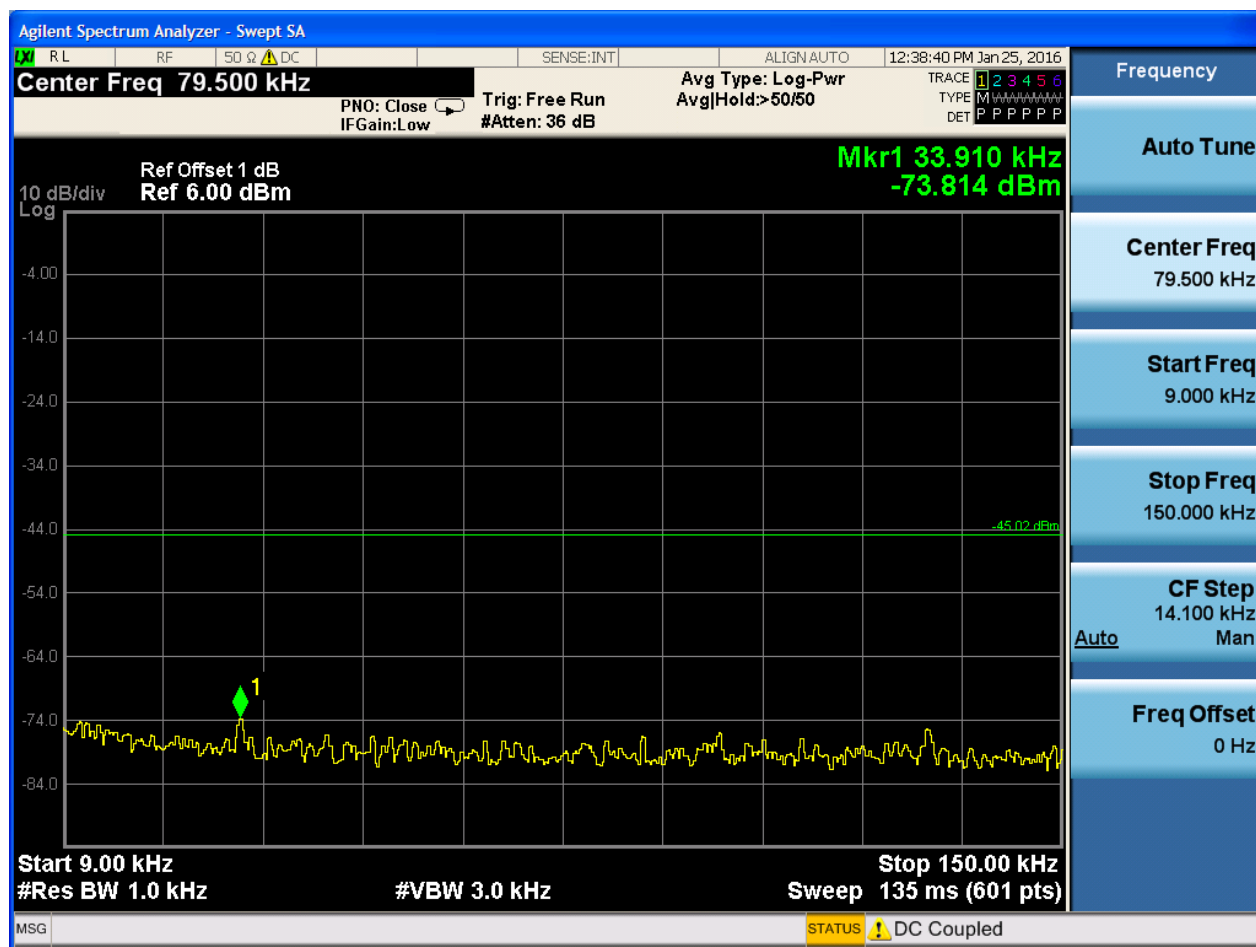


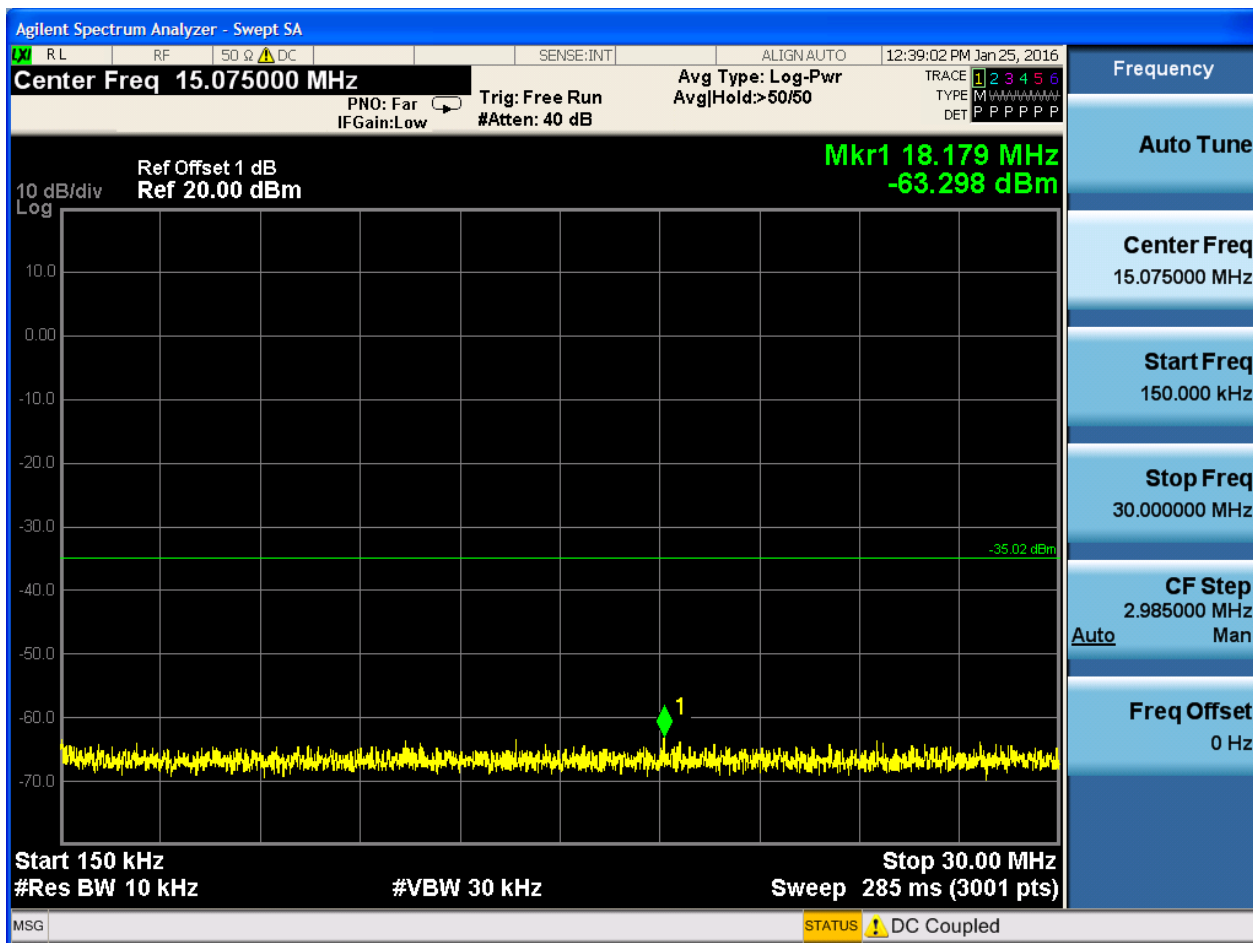


## 2.2 TM1\_Ch19\_M

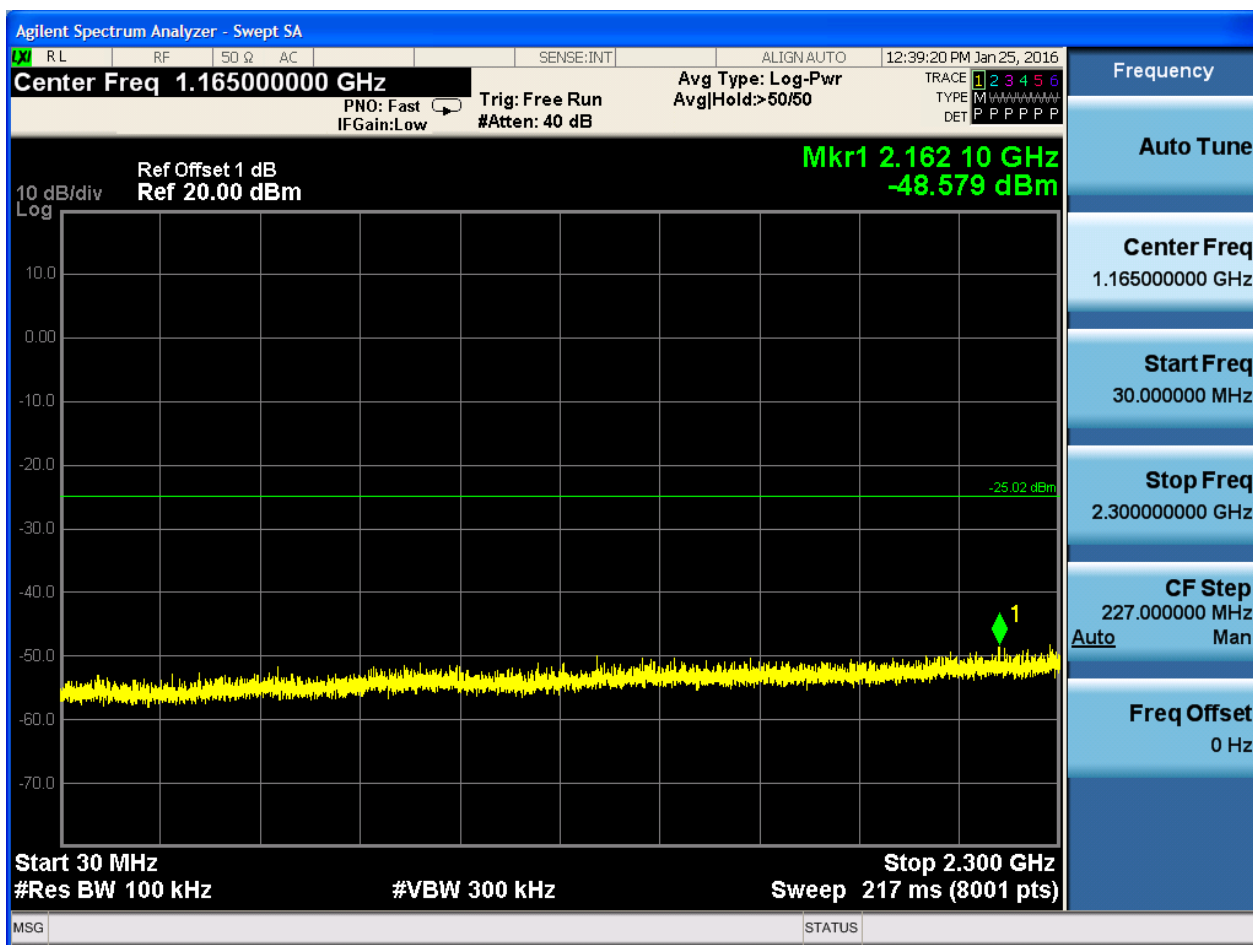
Pref:

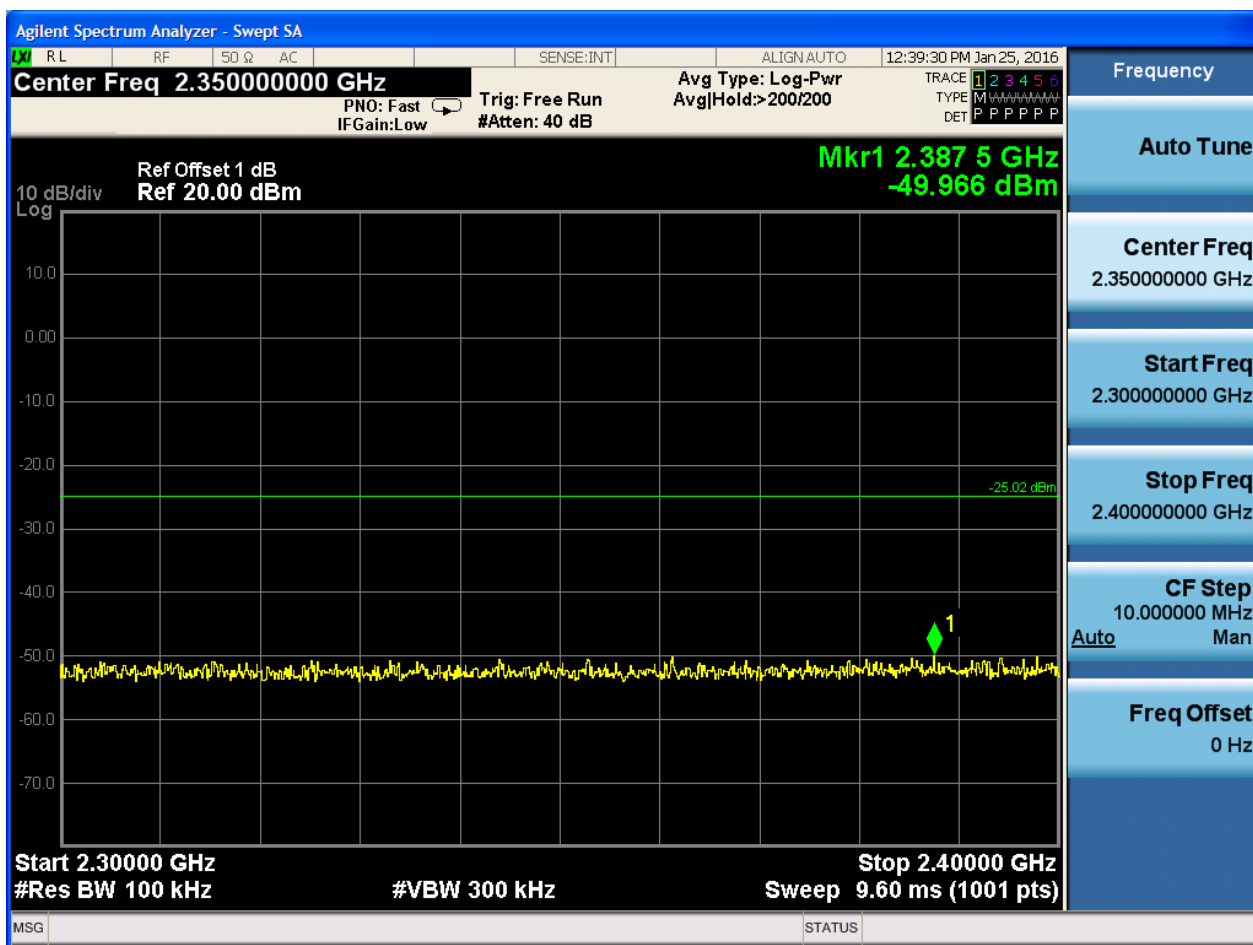


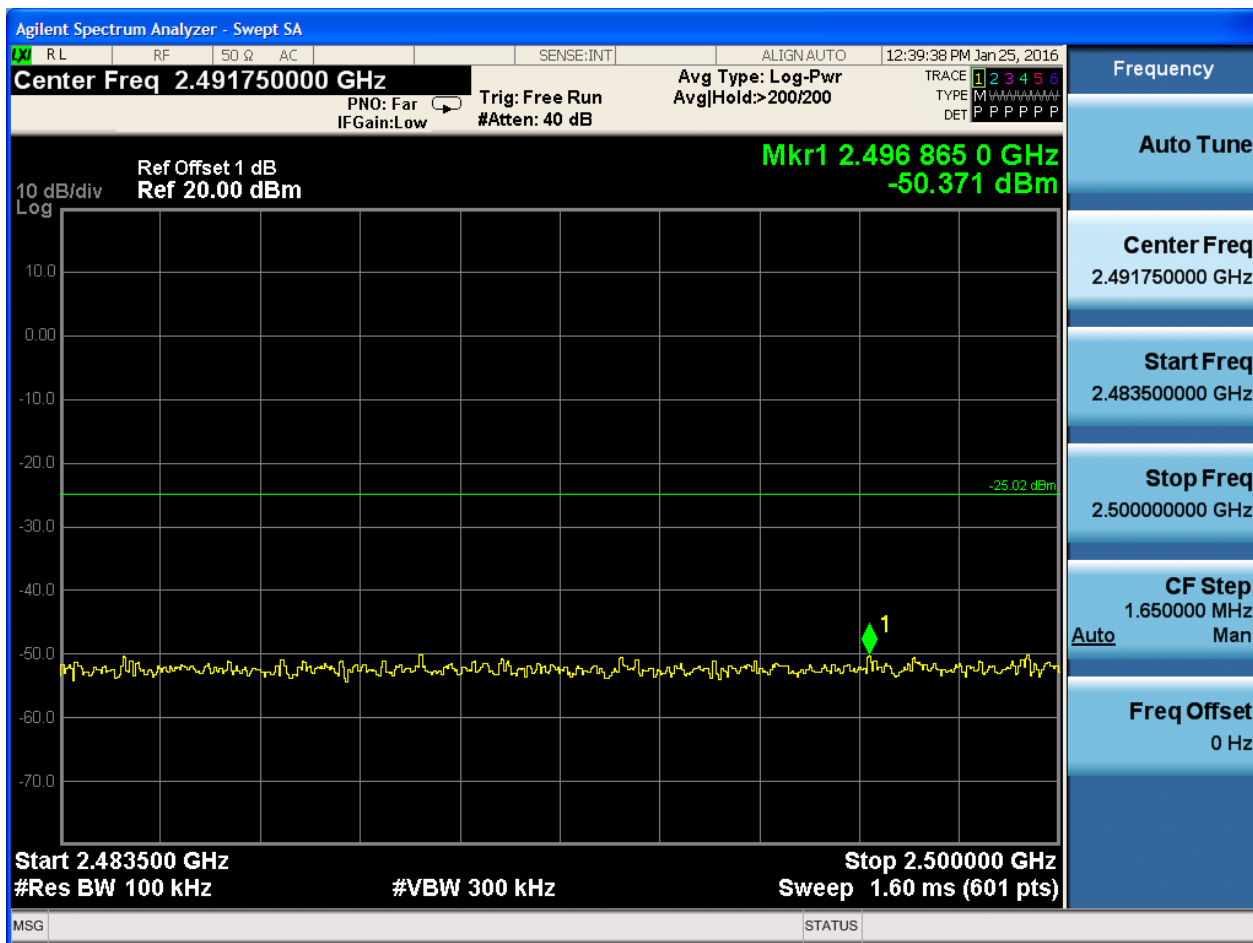
P<sub>u</sub>w:









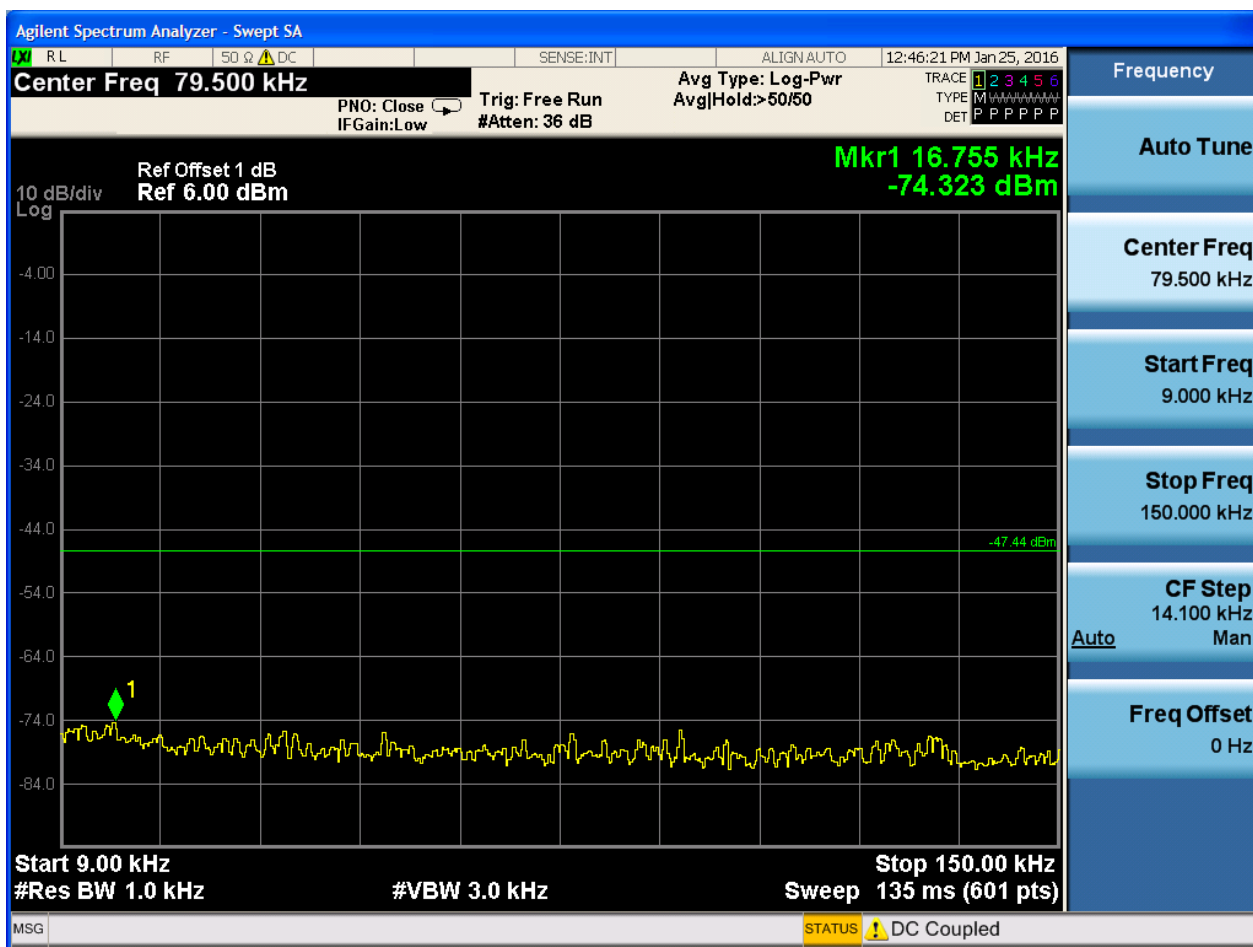


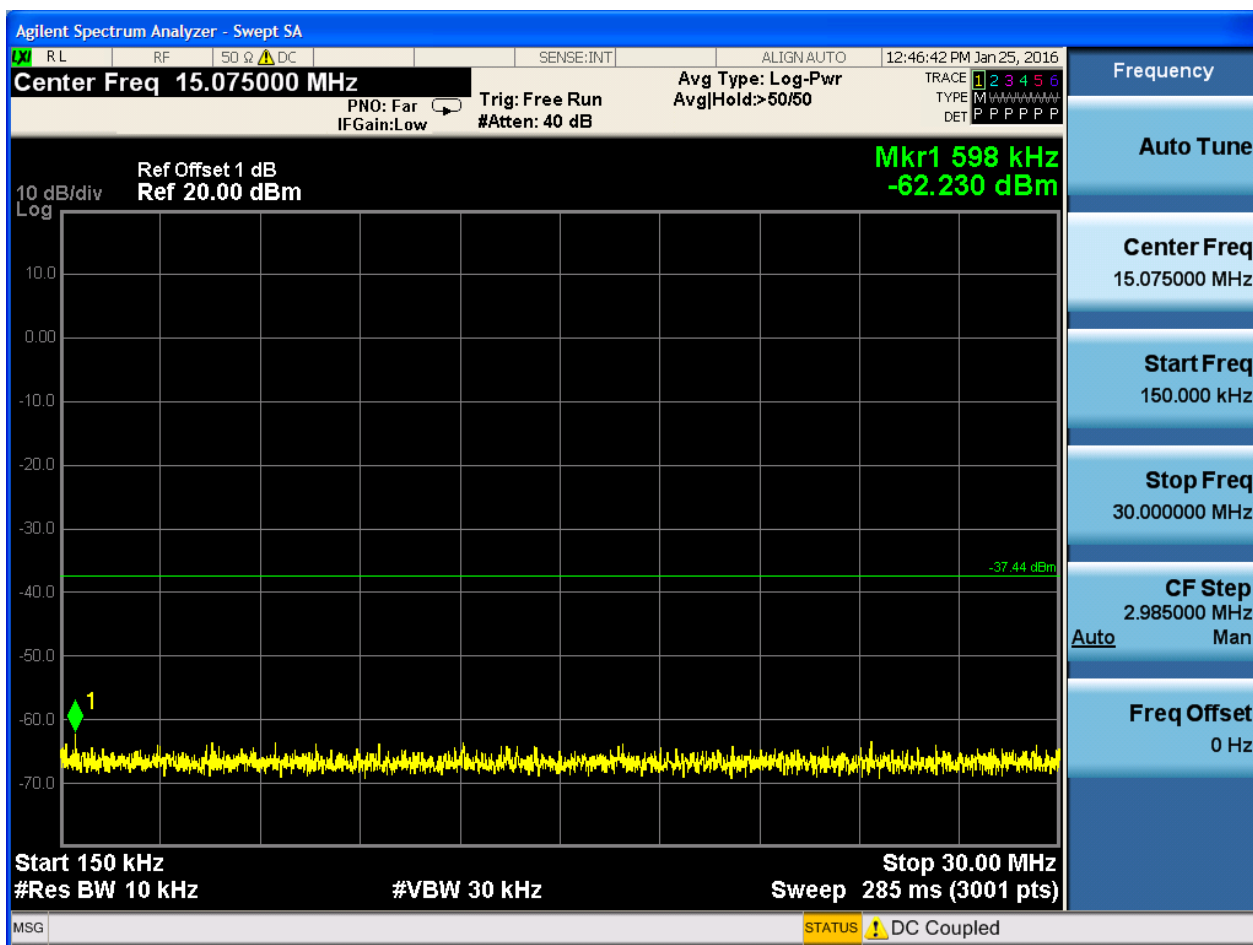


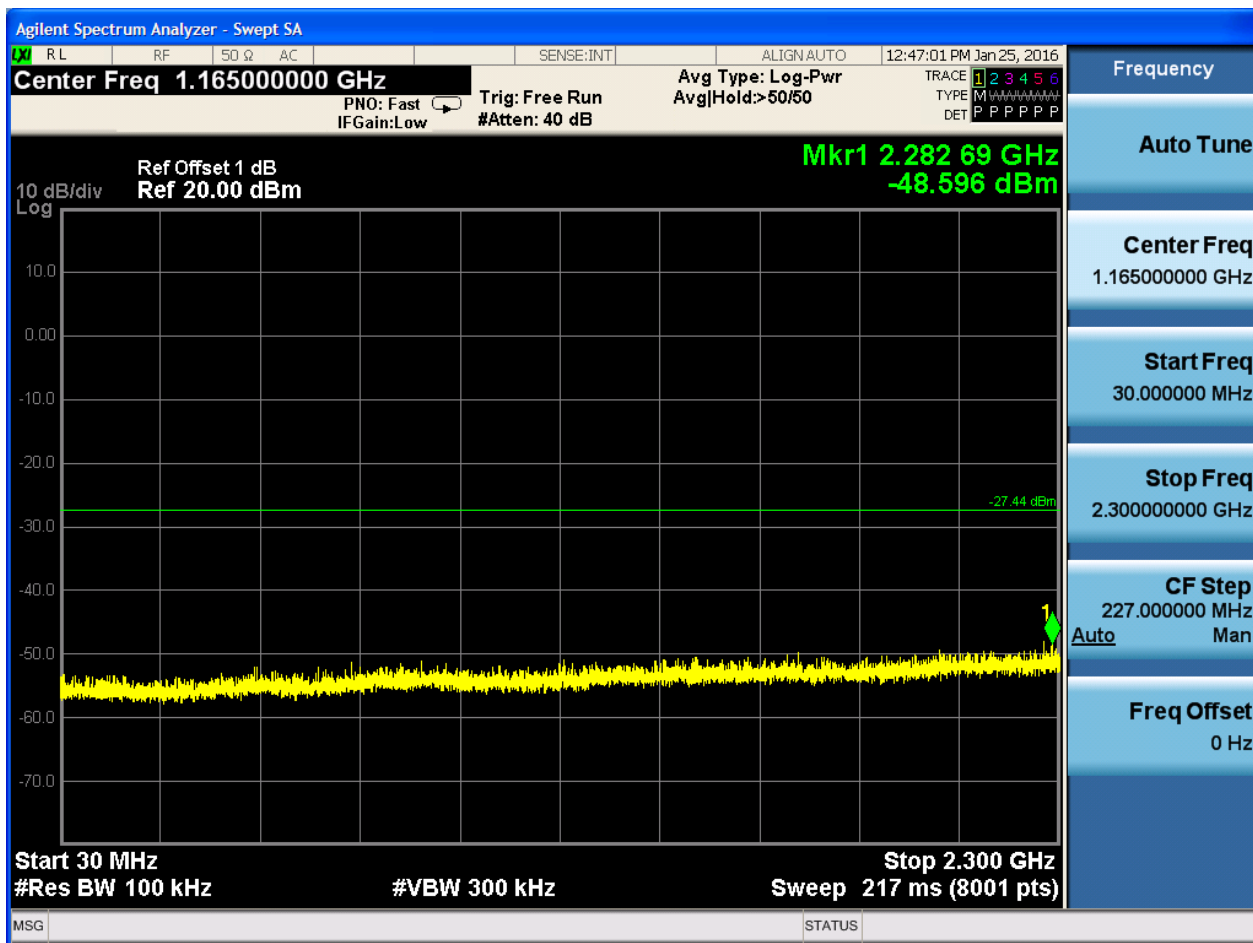
## 2.3 TM1\_Ch39\_H

Pref:

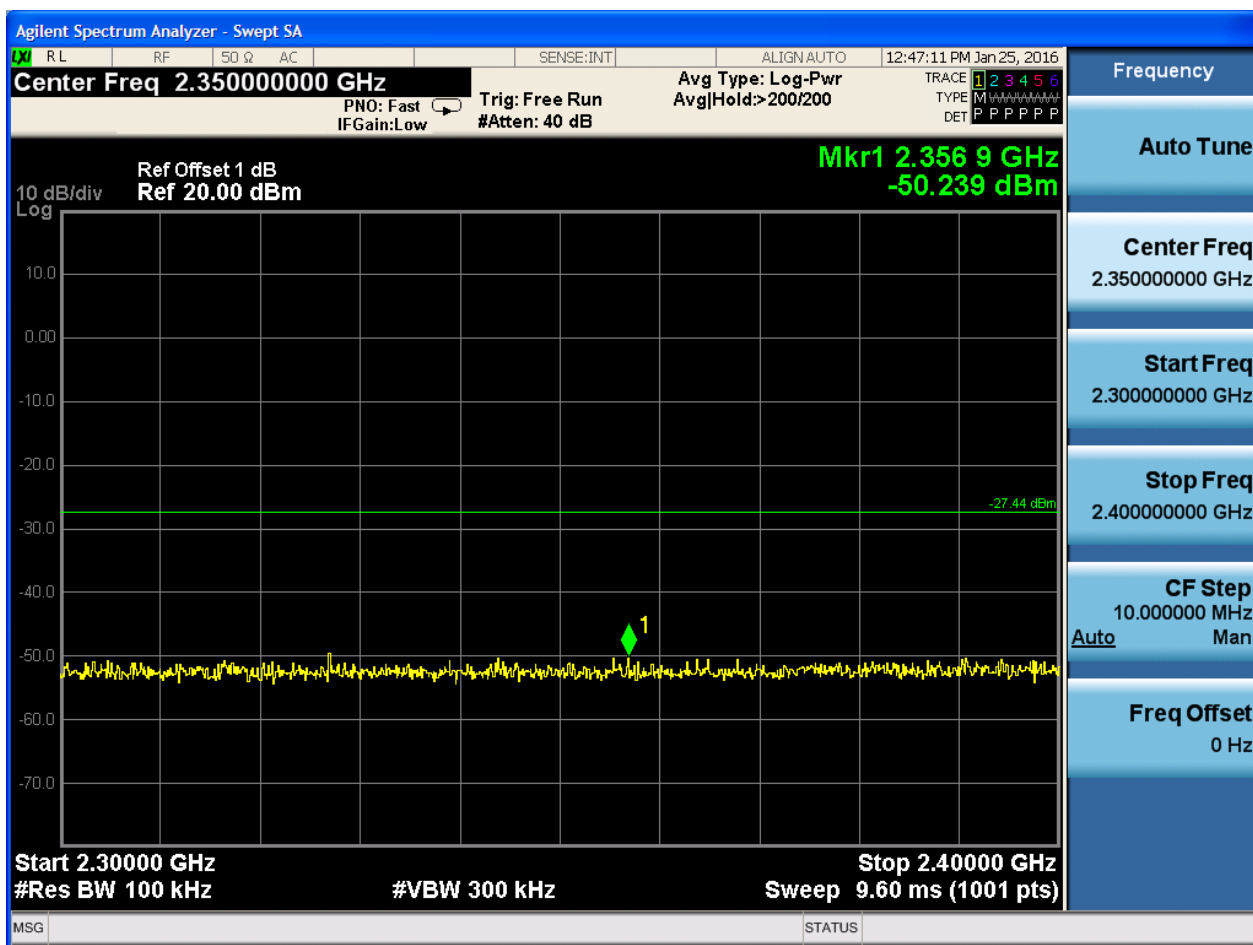


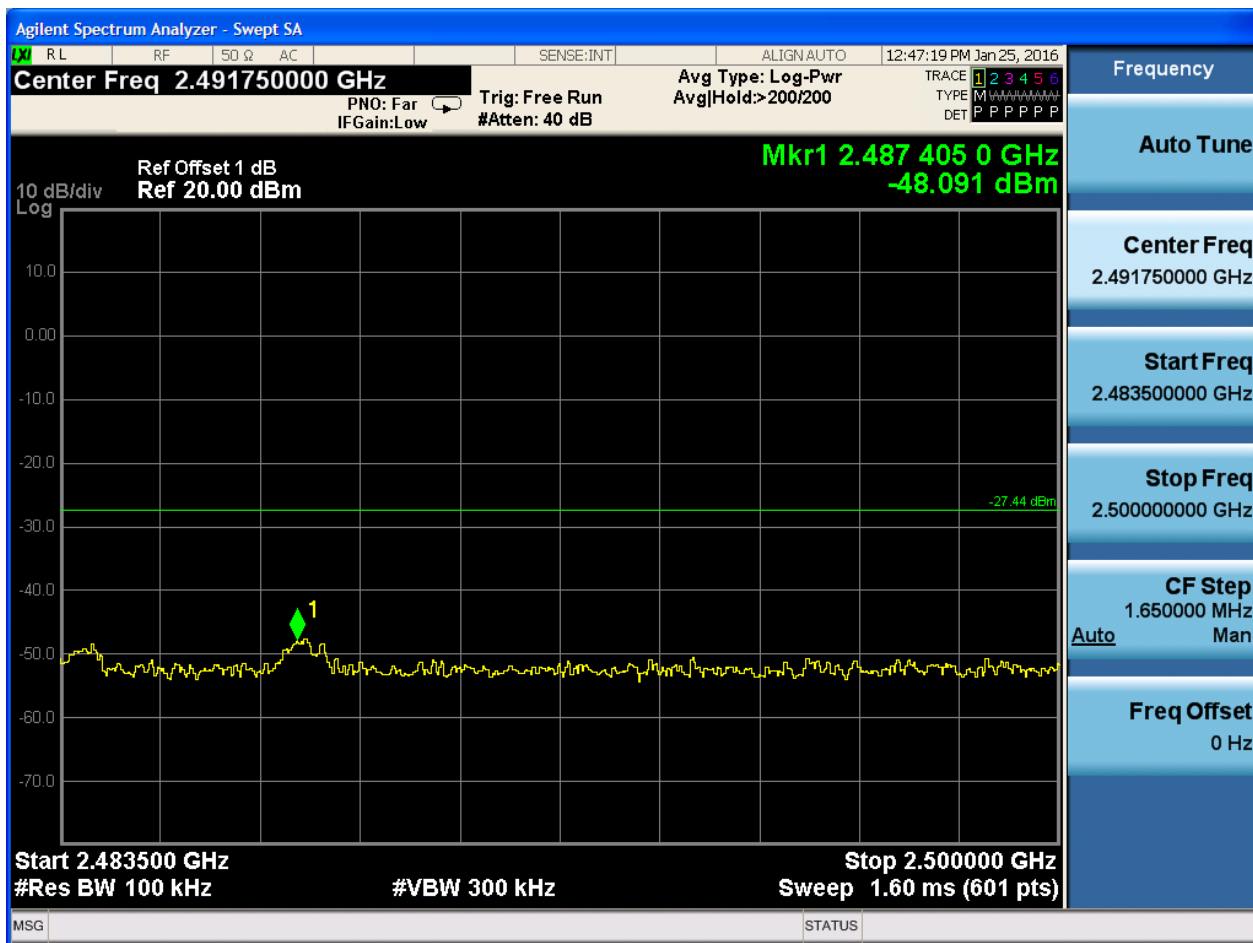
P<sub>u</sub>w:













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

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

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

The simultaneous transmission has been considered

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

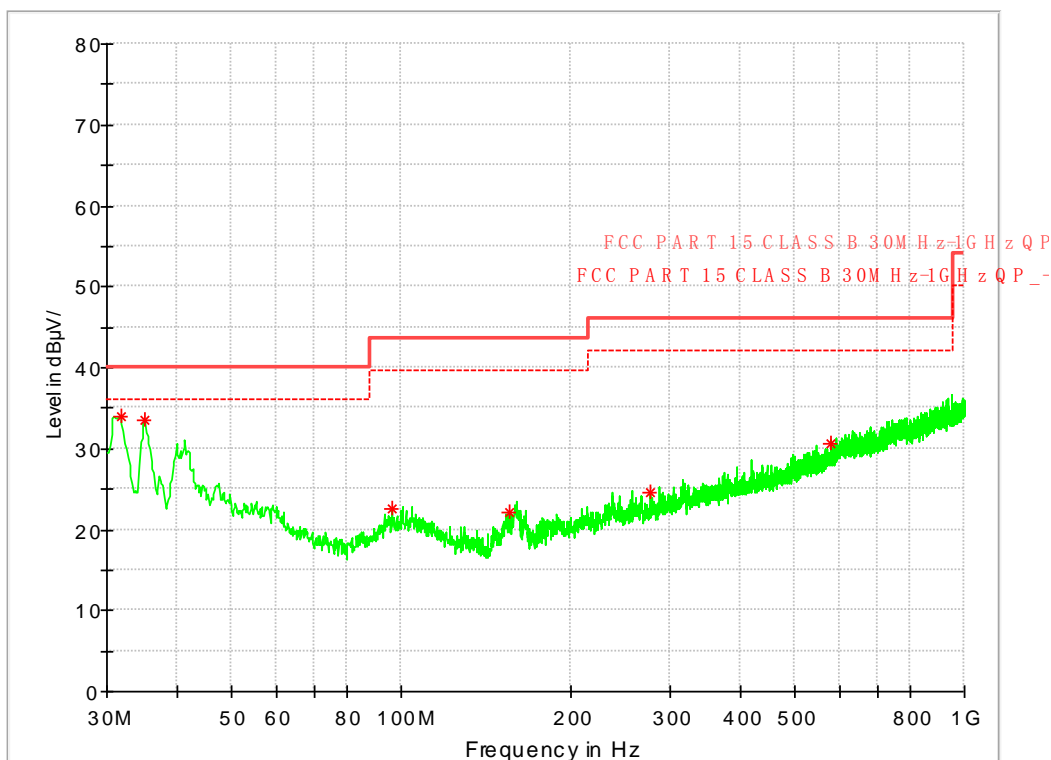
## Part 1: Testing Range of “9 kHz to 30MHz”

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	QuasiPeak	Limit	Margin	Height	Pol	Azimuth	Corr.
31.746000	34.07	40.00	-5.93	100.0	V	0.0	14.7
35.044000	33.52	40.00	-6.48	100.0	V	1.0	15.1
96.348000	22.58	43.50	-20.92	100.0	V	116.0	13.3
156.100000	22.11	43.50	-21.40	100.0	V	75.0	10.3
277.156000	24.59	46.00	-21.41	100.0	H	334.0	15.0
578.244000	30.54	46.00	-15.46	100.0	V	44.0	21.3



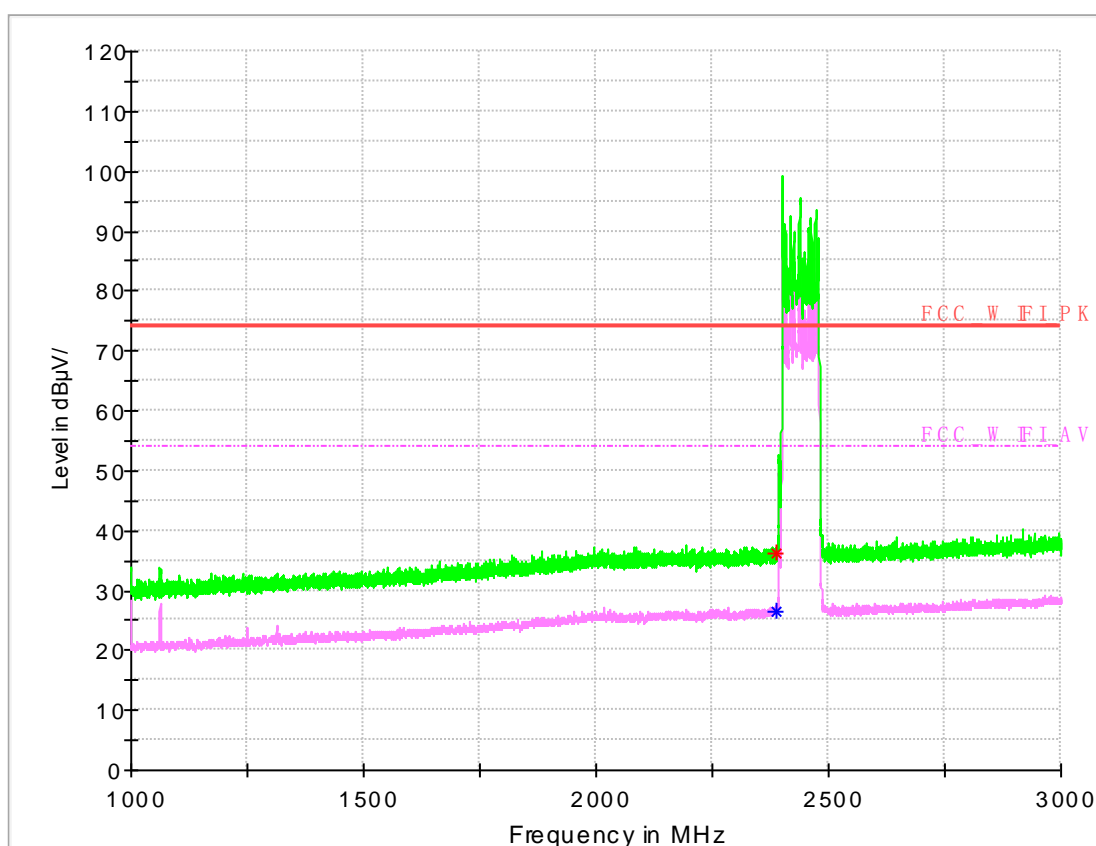
### **Part 3: Testing Range of “18 GHz to 26.5 GHz”**

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

## Part 4: 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.

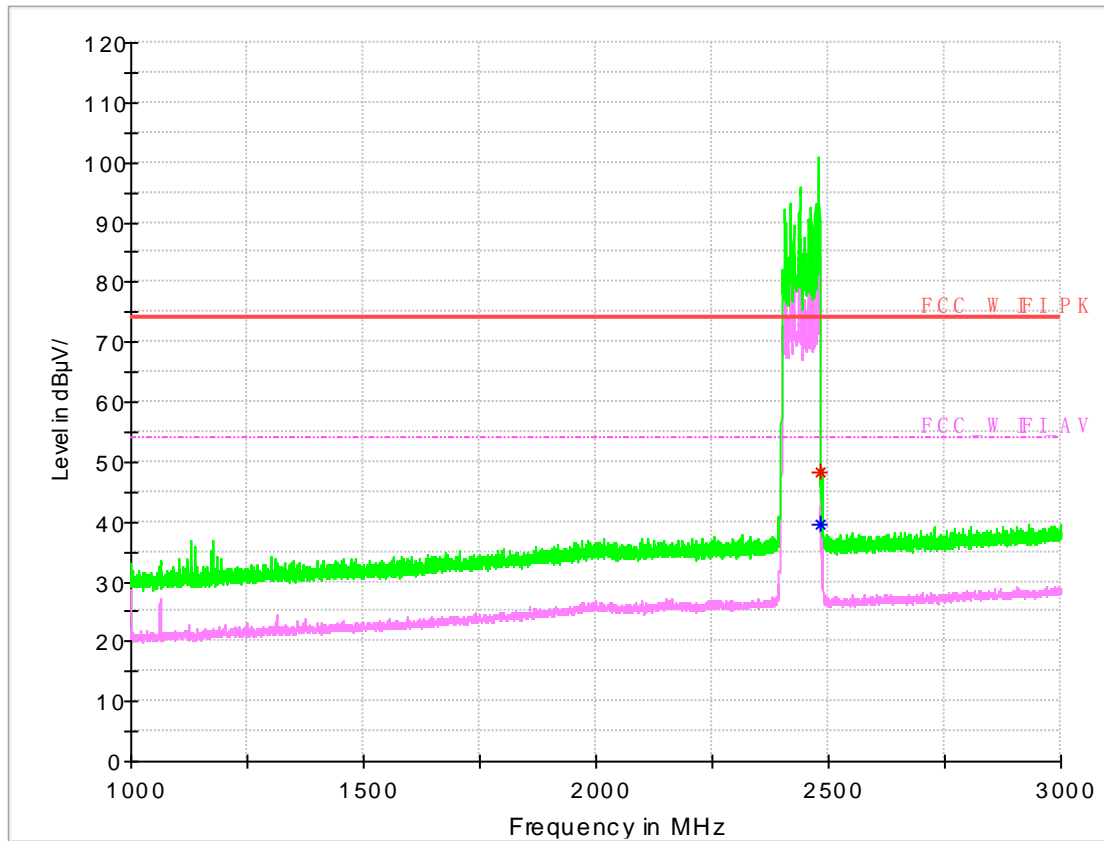
### Channel 0



**Note: The peak exceeds the limit line is carrier frequency.**

Frequency	MaxPeak	Average	Limit	Margin	Height	Pol	Azimuth	Corr.
2390.000000	---	26.35	54.00	-27.65	100.0	H	263.0	-7.8
2390.000000	36.25	---	74.00	-37.75	100.0	H	263.0	-7.8

## Channel 39



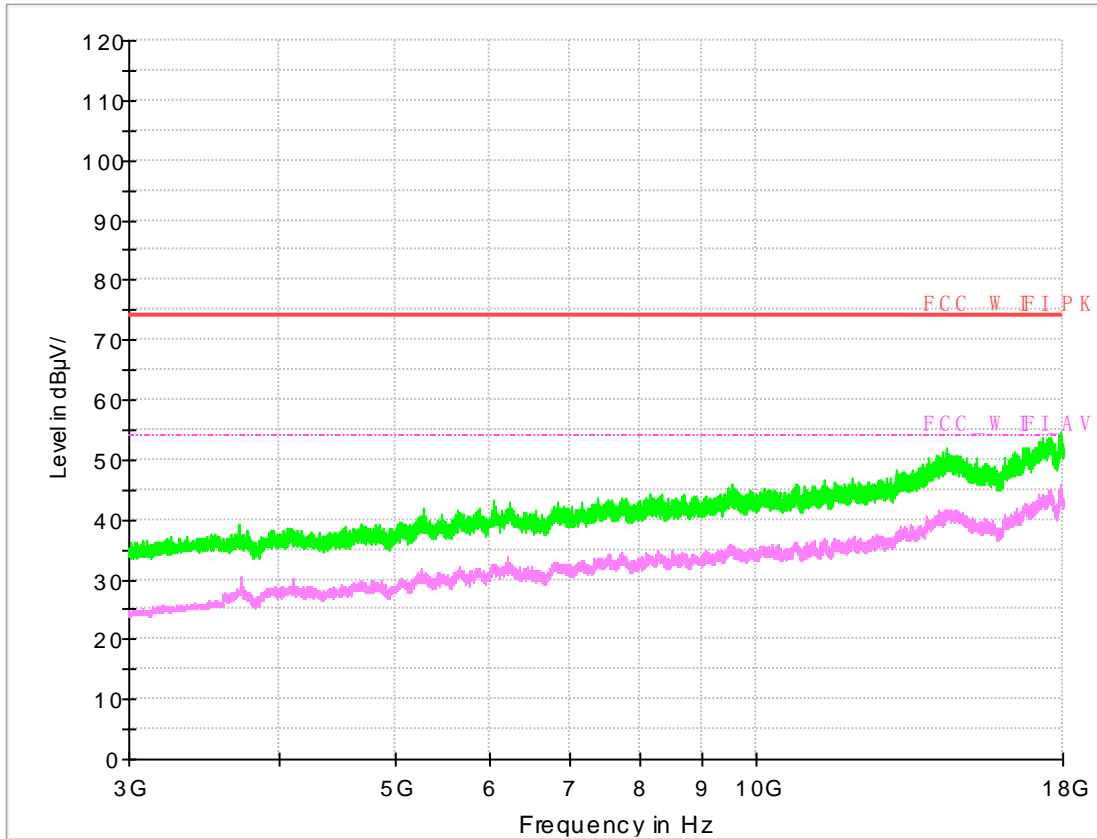
**Note: The peak exceeds the limit line is carrier frequency.**

Frequency	MaxPeak	Average	Limit	Margin	Height	Pol	Azimuth	Corr.
2483.500000	---	39.45	54.00	-14.55	100.0	H	200.0	-0.4
2483.500000	48.14	---	74.00	-25.86	100.0	H	200.0	-0.4



## Part 5: Testing Range of “3 GHz to 18 GHz”

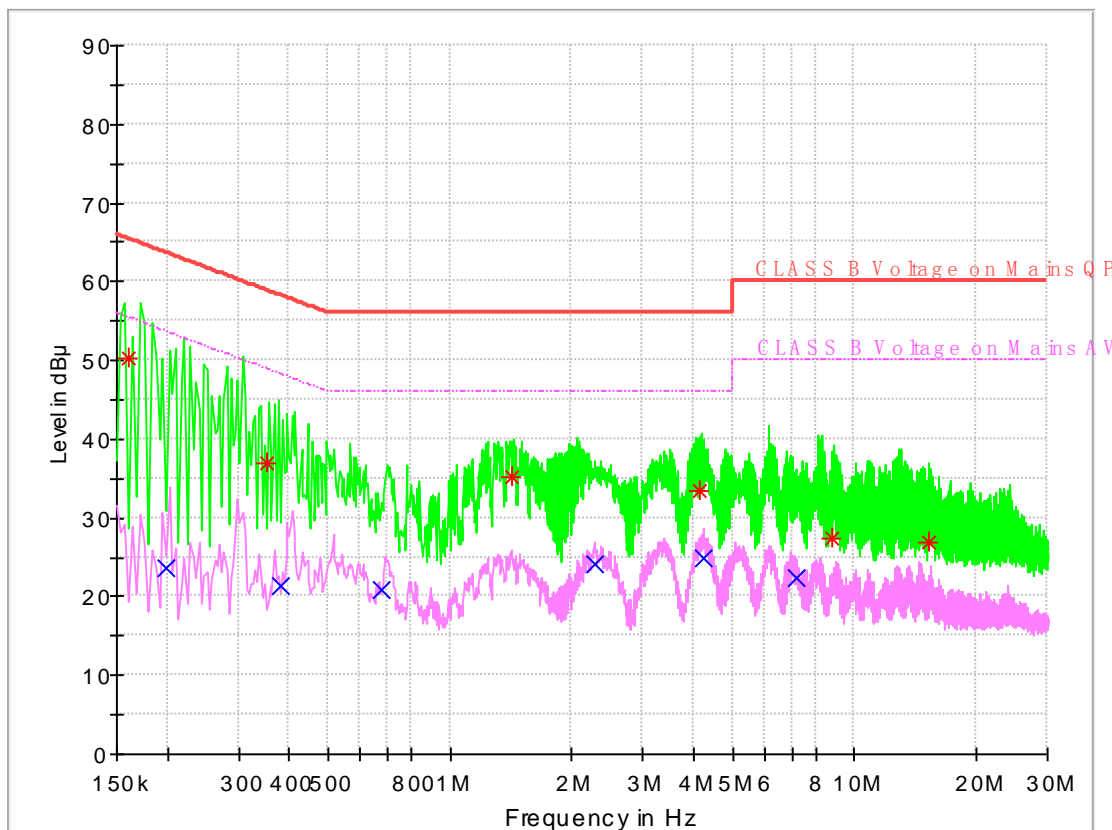
- Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located 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).



## Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

### Channel 39



Frequency	QuasiPeak	Average	Limit	Margin	Line	Filter	Corr.
15.310244	26.95	---	60.00	-33.05	N	ON	10.1
8.839035	27.36	---	60.00	-32.64	N	ON	9.9
4.152720	33.34	---	56.00	-22.66	N	ON	9.8
1.424375	35.25	---	56.00	-20.75	N	ON	9.7
0.351470	36.85	---	58.93	-22.08	L1	ON	9.7
0.160421	50.28	---	65.44	-15.16	N	ON	9.7
7.161228	---	22.34	50.00	-27.66	L1	ON	9.9
0.197945	---	23.54	53.70	-30.16	N	ON	9.7
4.236019	---	24.89	46.00	-21.11	L1	ON	9.8
0.381286	---	21.30	48.25	-26.95	L1	ON	9.7
2.271360	---	24.15	46.00	-21.85	L1	ON	9.7
0.675094	---	20.91	46.00	-25.09	L1	ON	9.7

END