



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.

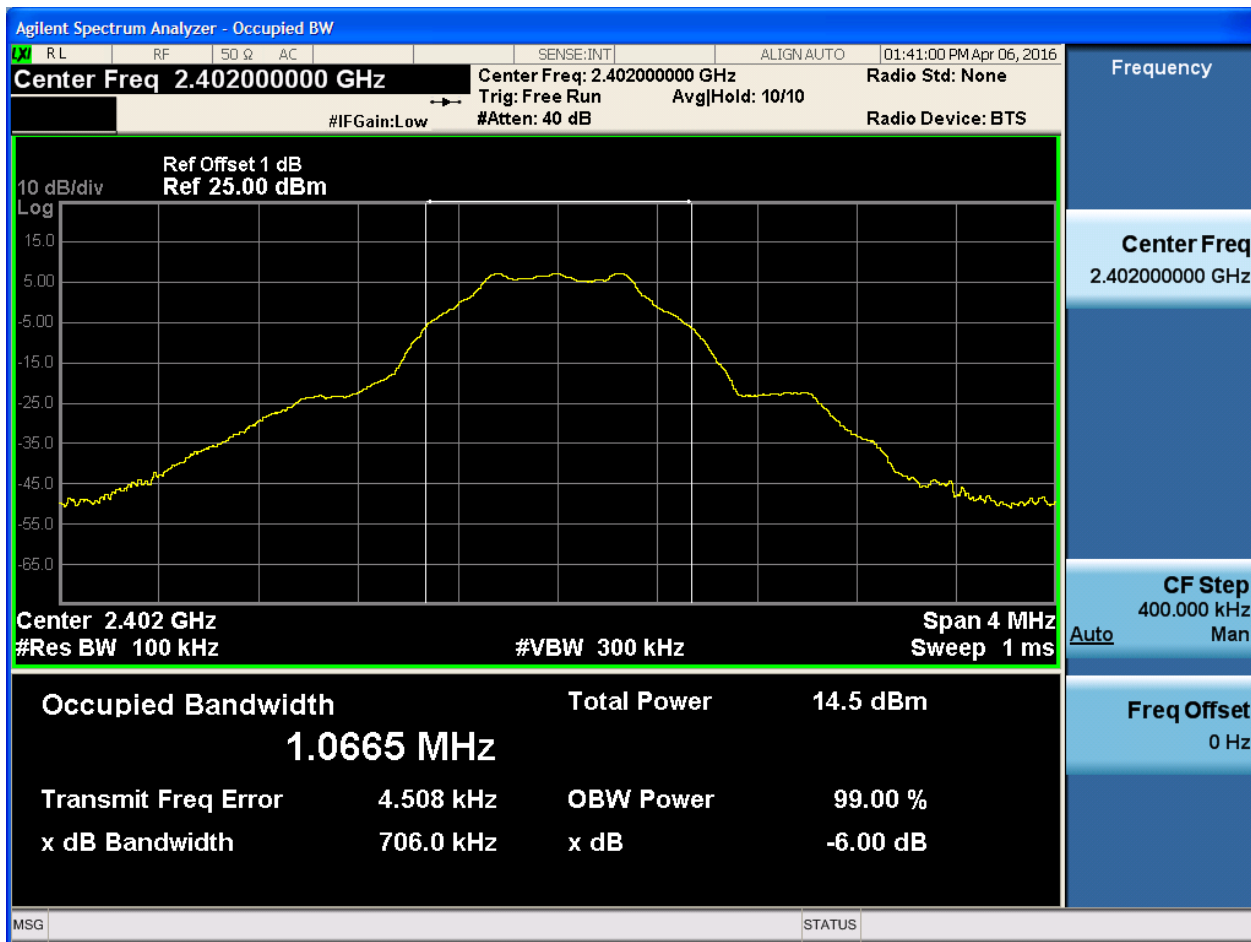
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1	L	2402	0.71	pass
TM1	M	2440	0.71	pass
TM1	H	2480	0.70	pass



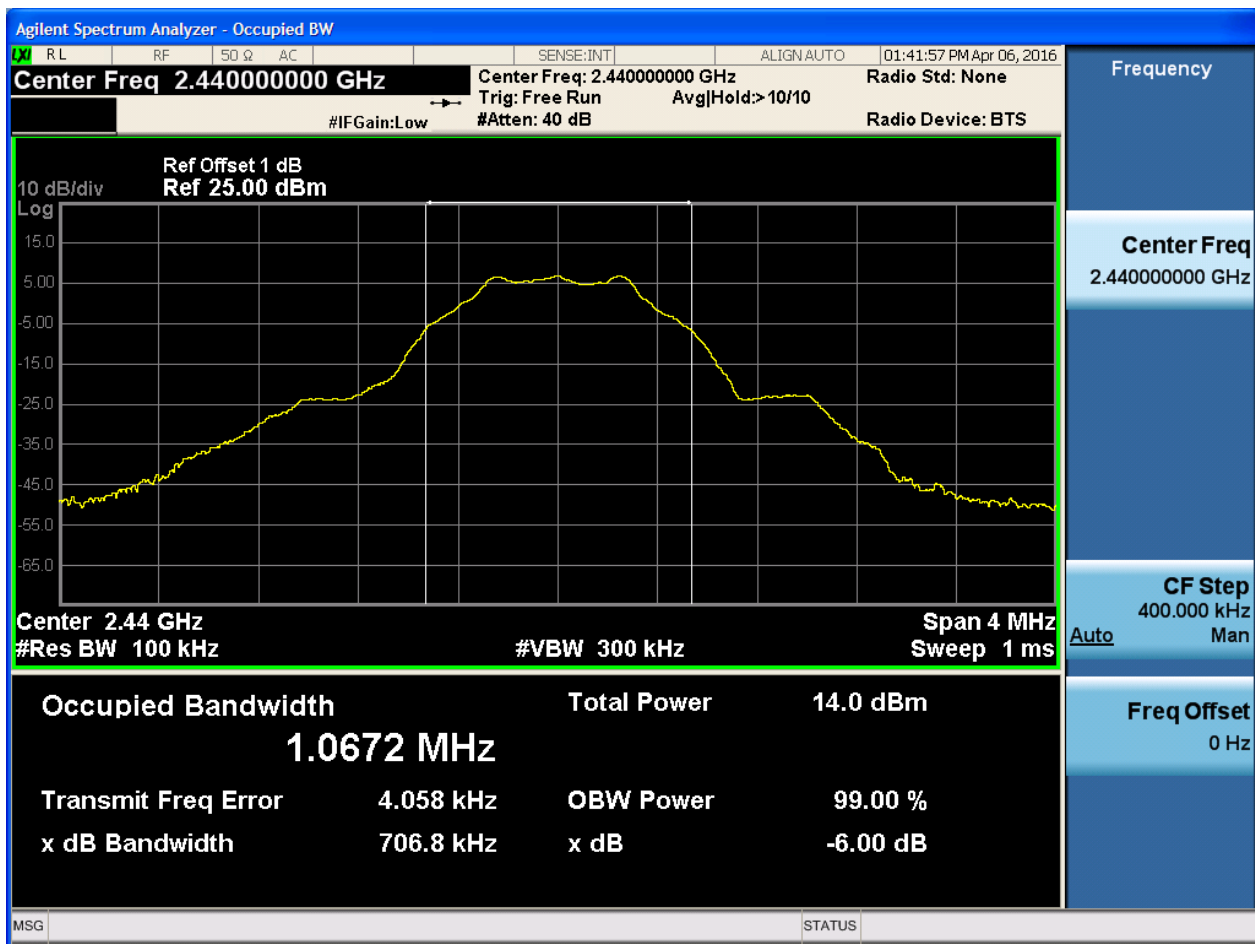
Part II - Test Plots

2.1 TM1_L@Ant 1



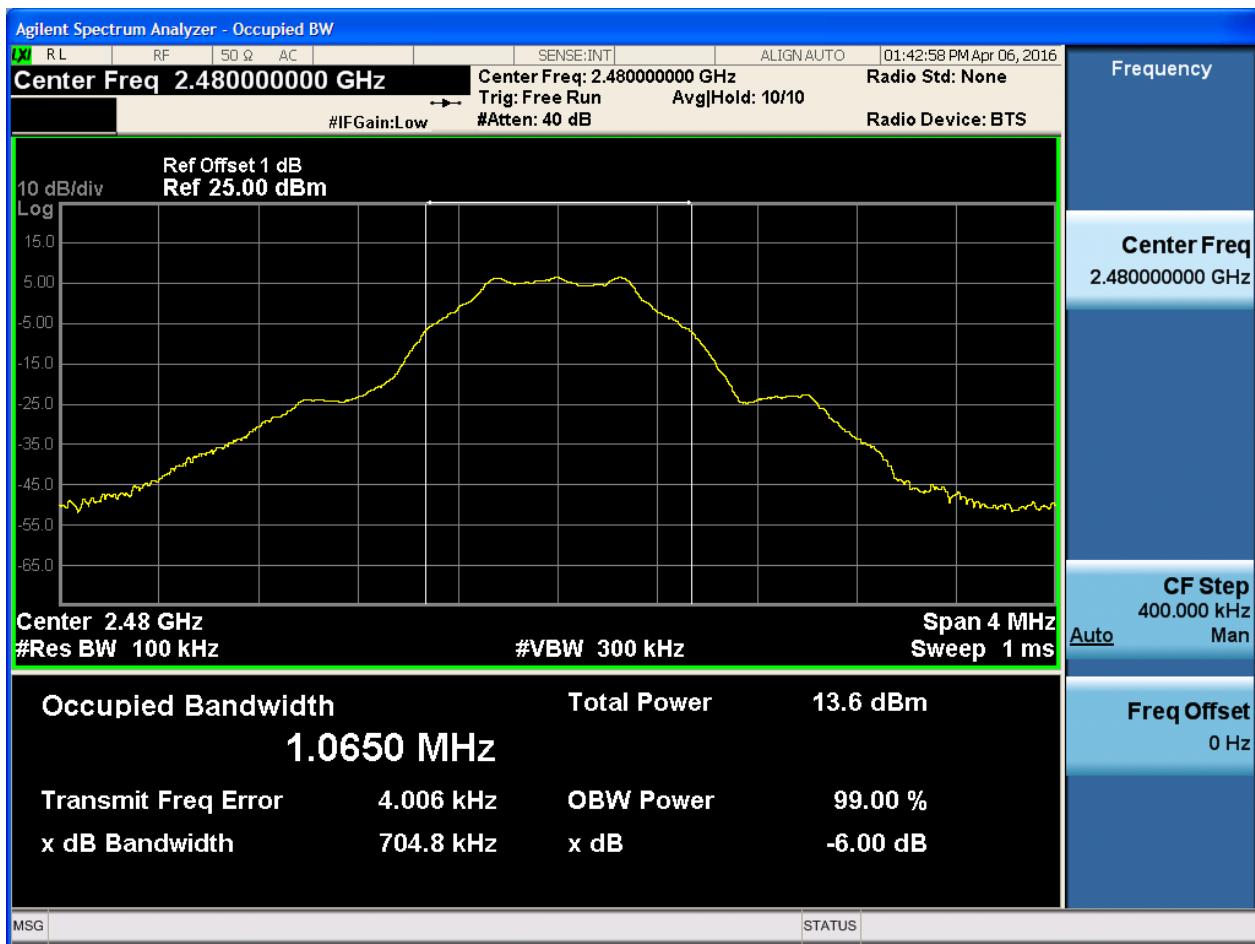


2.2 TM1_M@Ant 1





2.3 TM1_H@Ant 1





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.

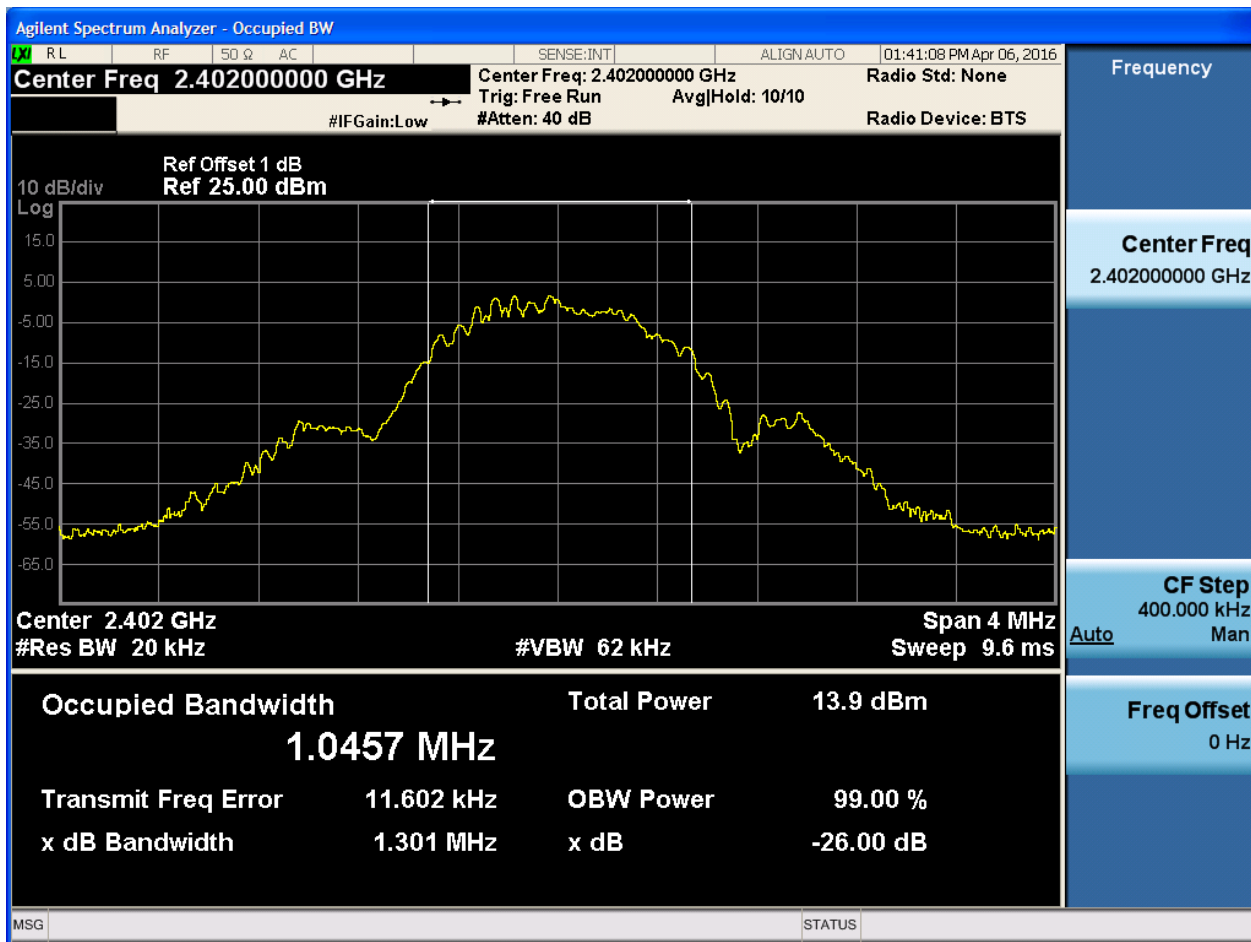
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Occupied Bandwidth [MHz]	Verdict
TM1	L	2402	1.05	pass
TM1	M	2440	1.05	pass
TM1	H	2480	1.04	pass



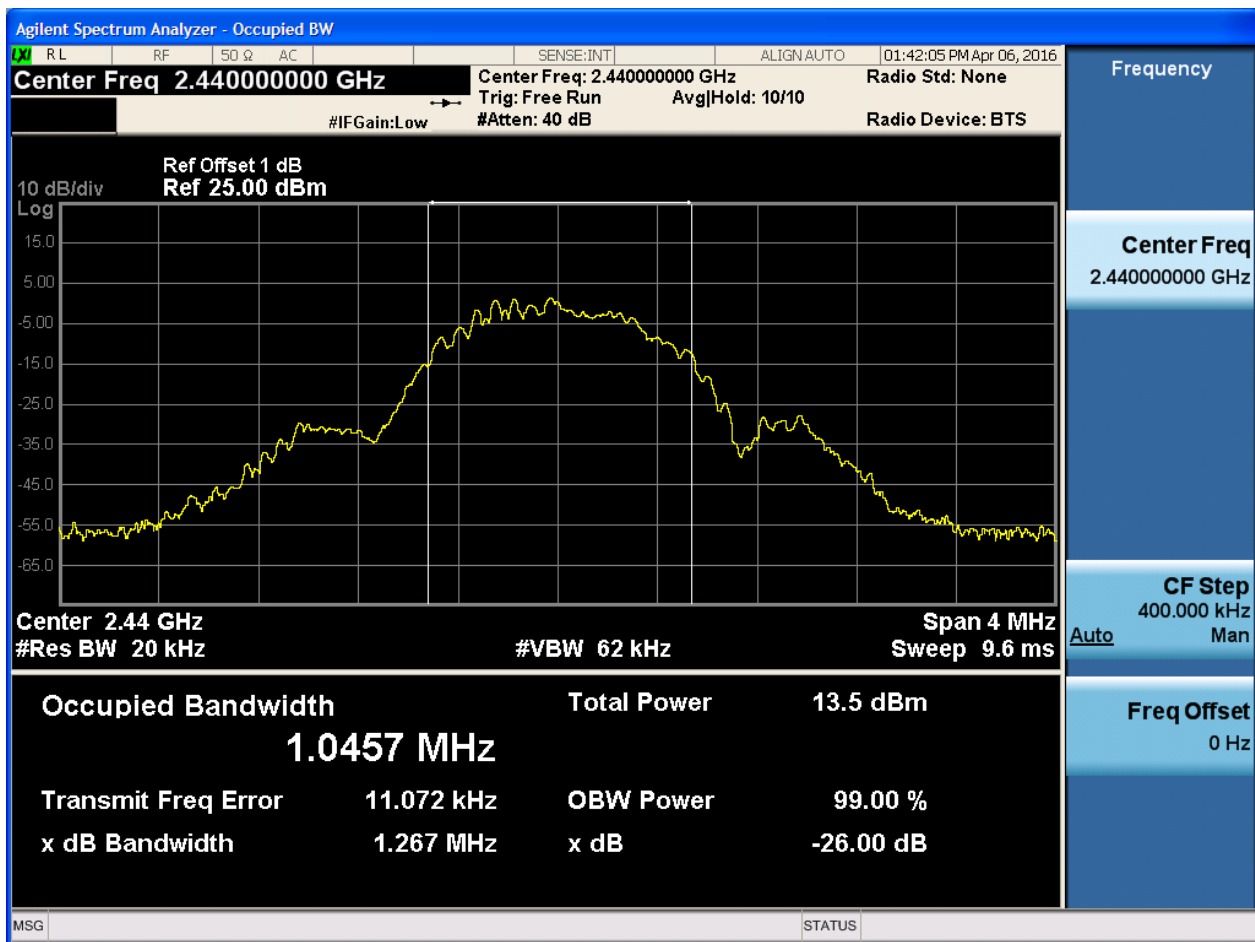
Part II - Test Plots

2.1 TM1_L@Ant 1



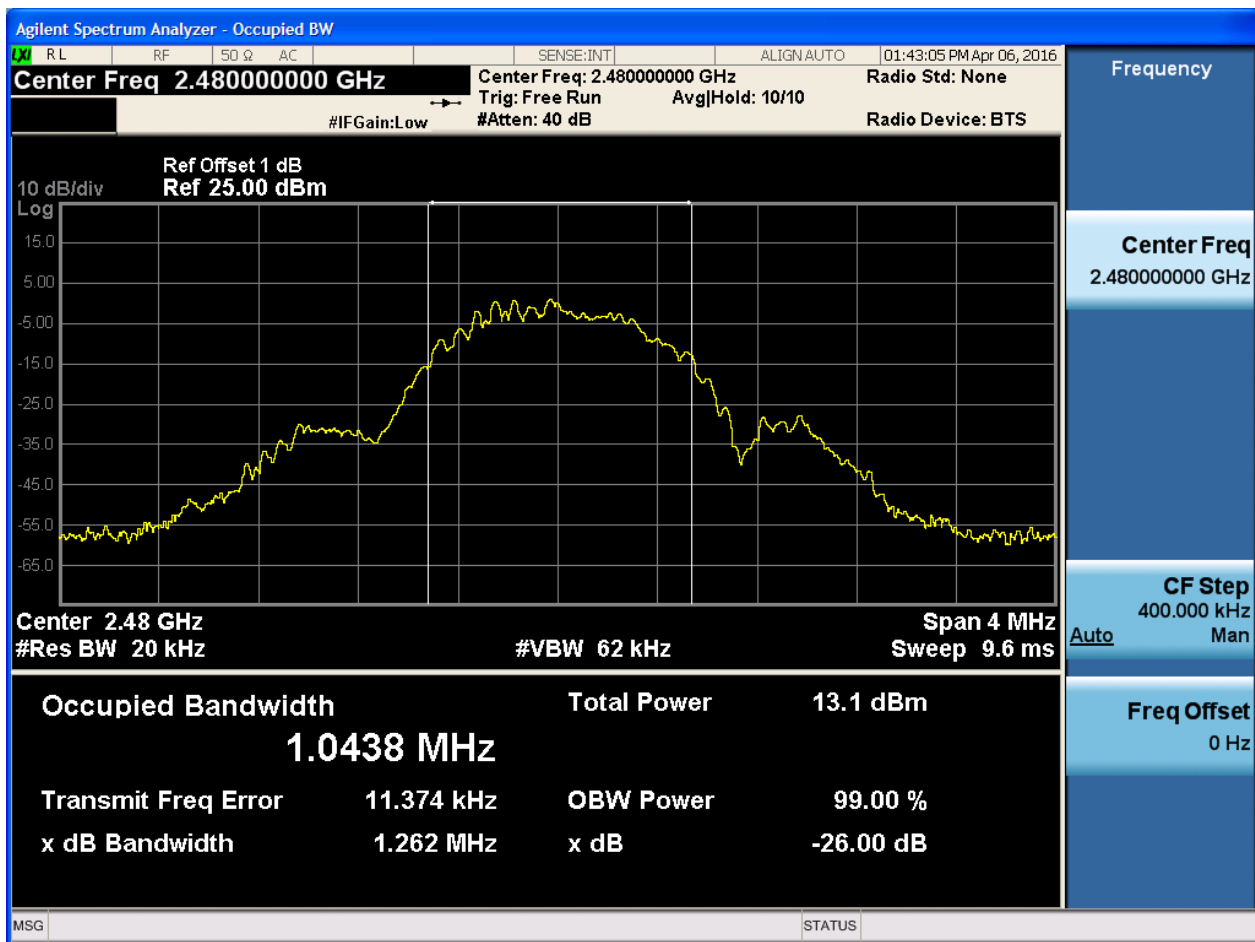


2.2 TM1_M@Ant 1





2.3 TM1_H@Ant 1





Appendix C: Duty cycle

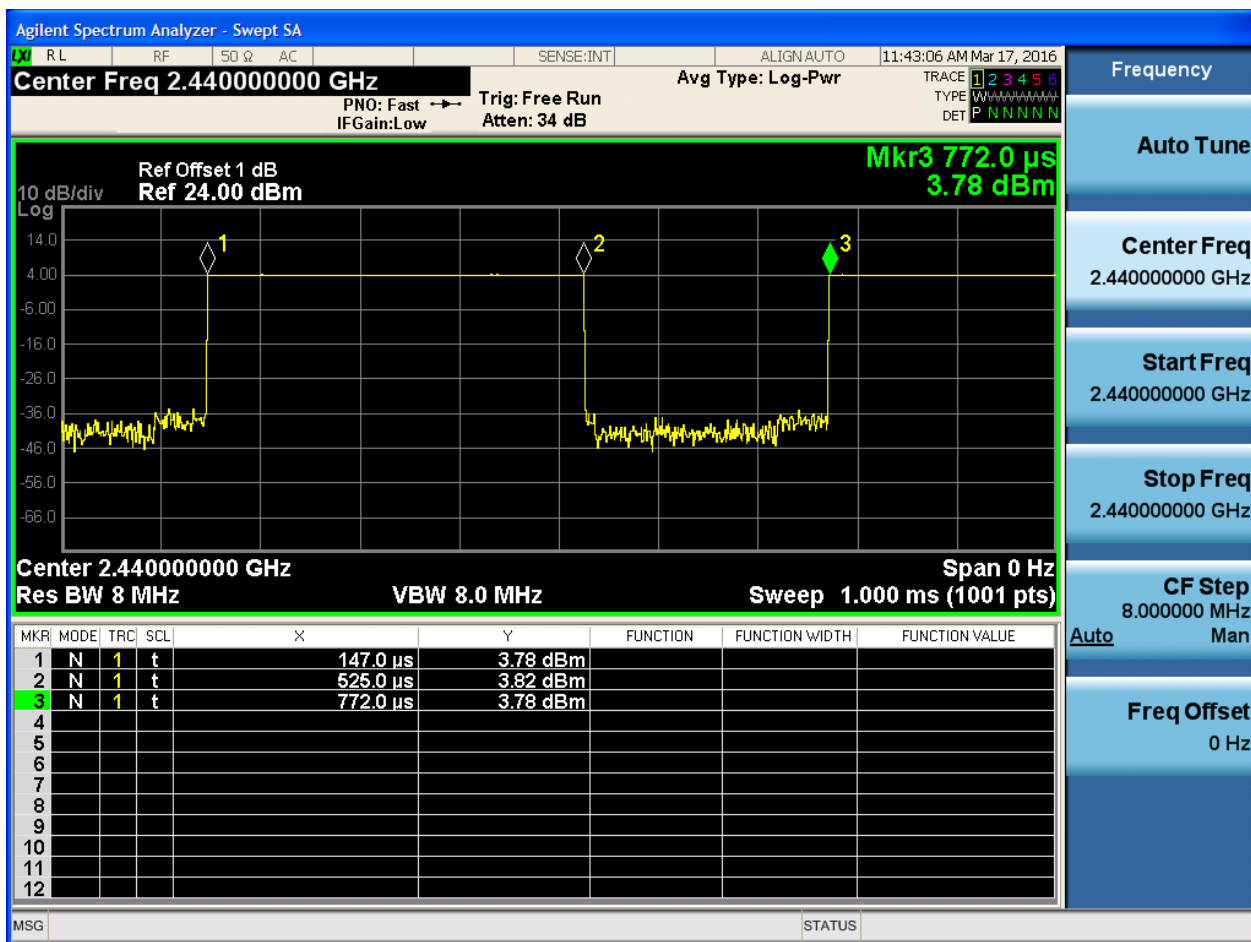
Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	60



Part II - Test Plots

2.1 TM1_M@Ant 1





Appendix D: Maximum Conducted Average Output Power

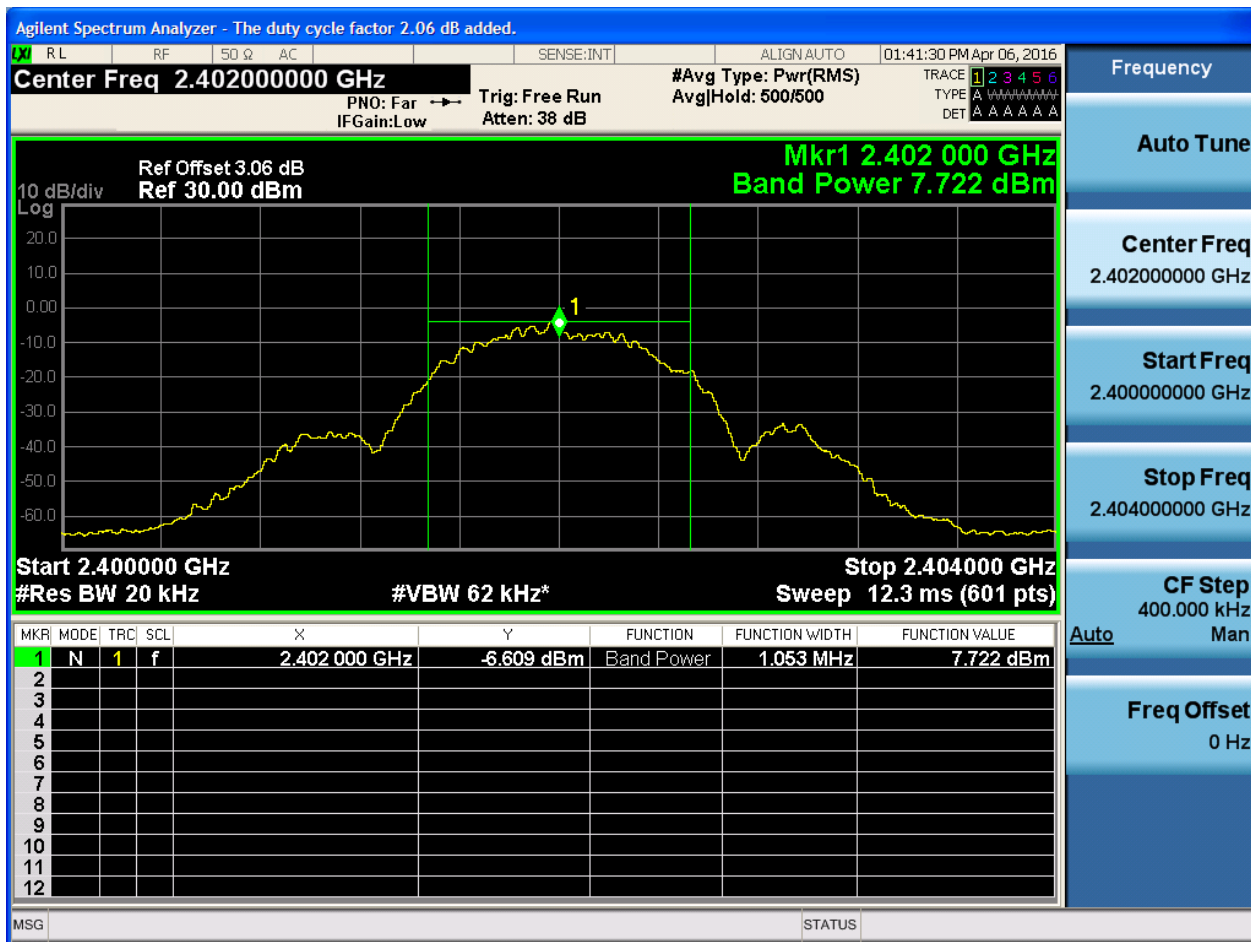
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Power[dBm]	Verdict
TM1	L	2402	7.72	pass
TM1	M	2440	7.37	pass
TM1	H	2480	6.91	pass



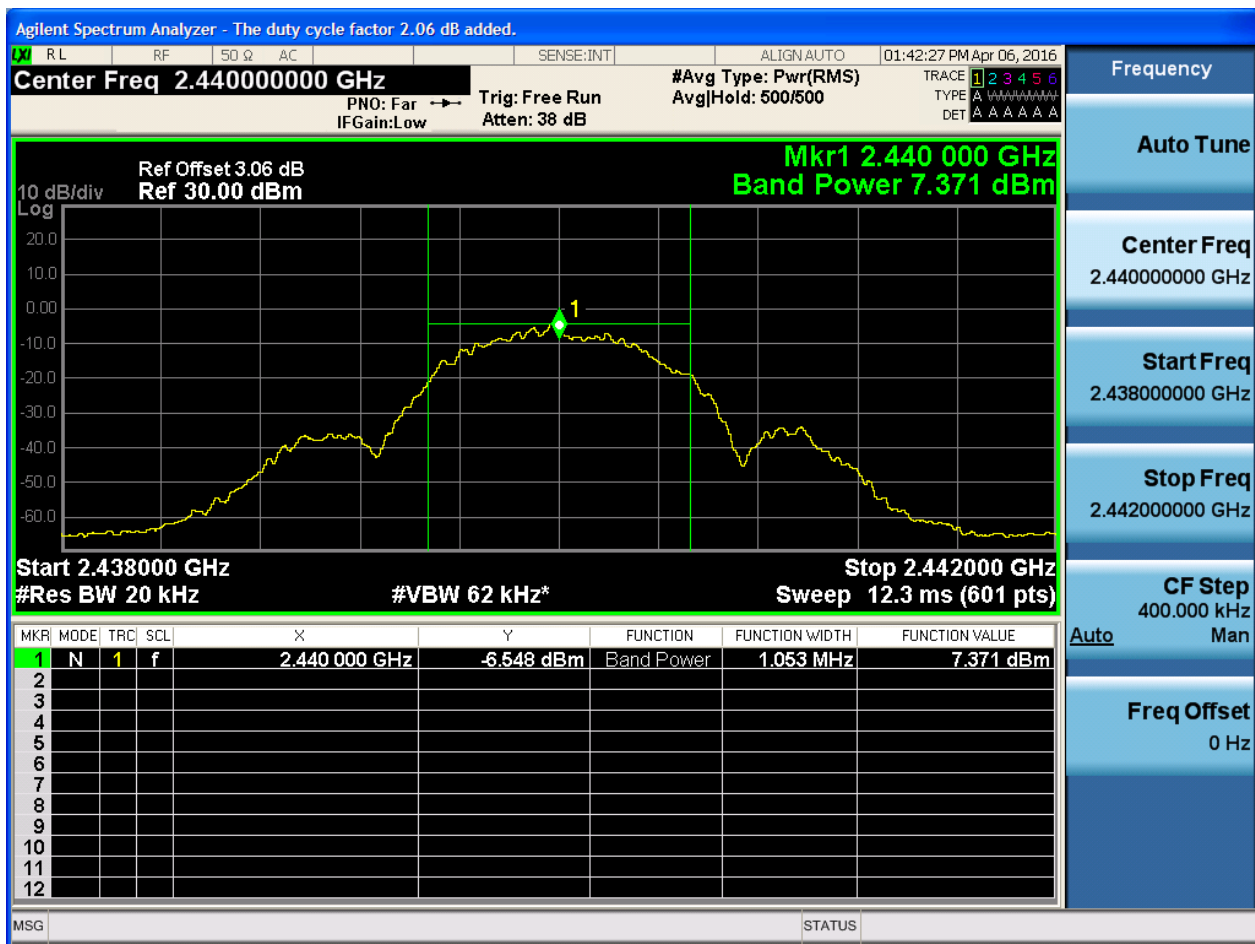
Part II - Test Plots

2.1 TM1_L@Ant 1



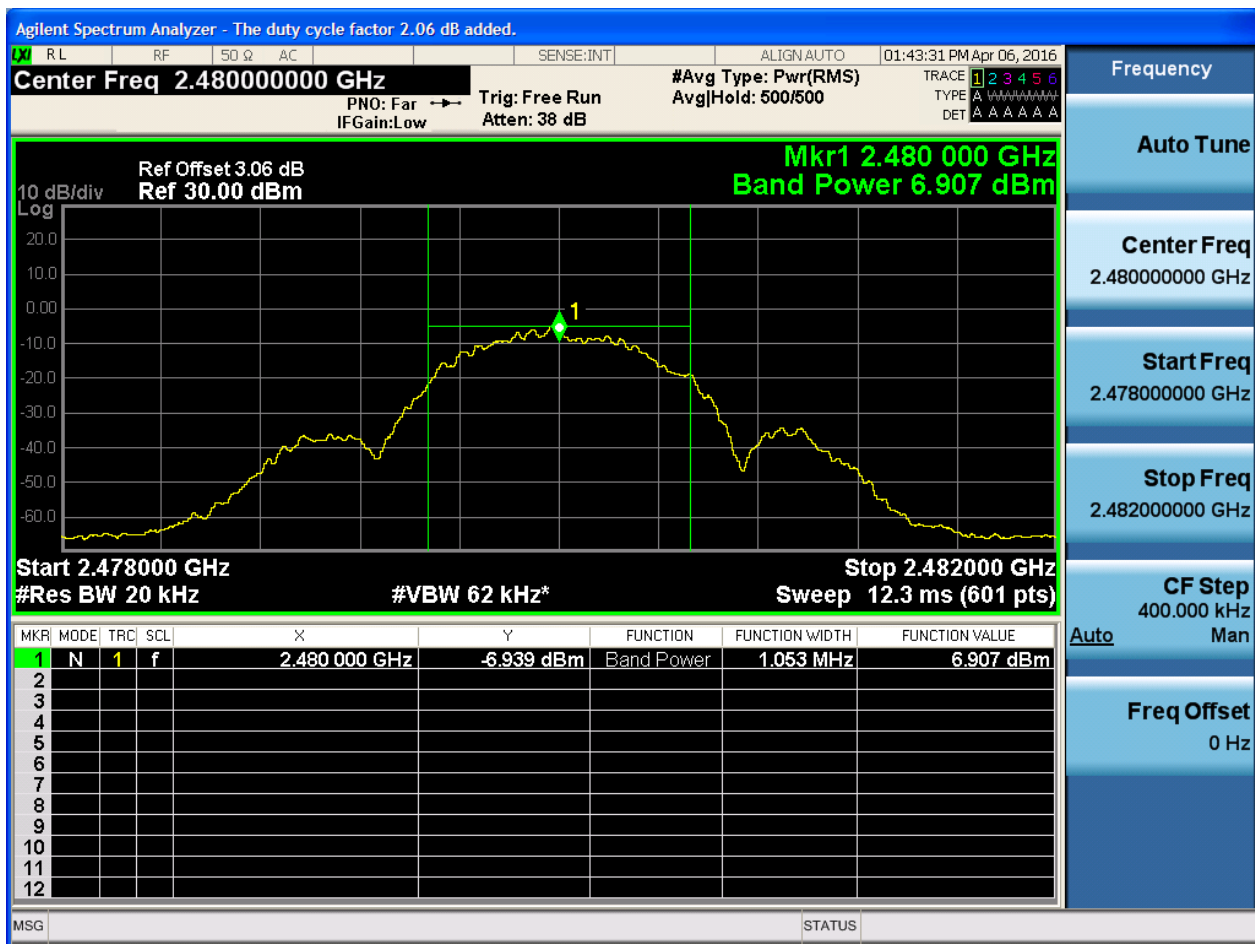


2.2 TM1_M@Ant 1





2.3 TM1_H@Ant 1





Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
TM1	L	2402	-4.74	pass
TM1	M	2440	-6.66	pass
TM1	H	2480	-7.08	pass

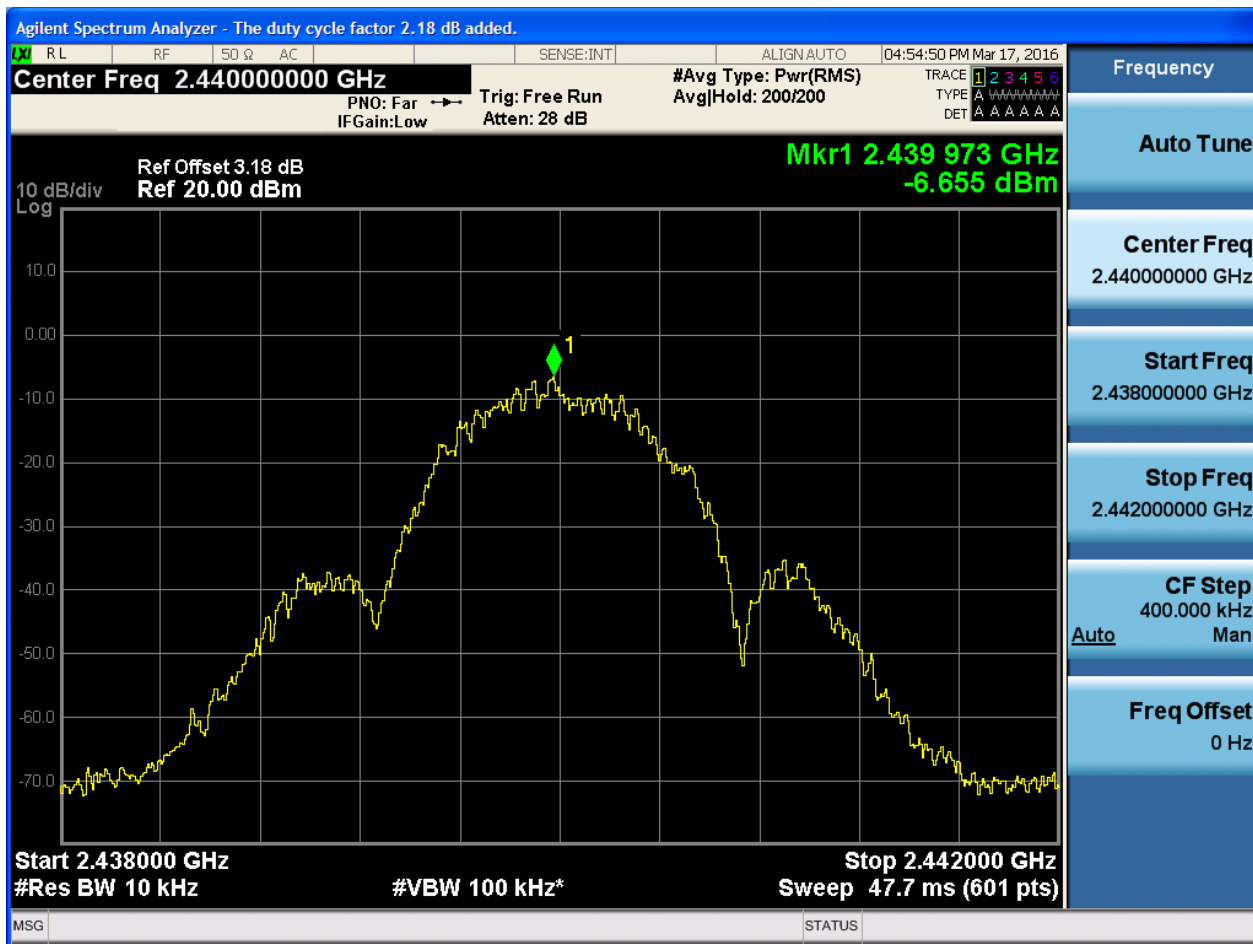
Part II - Test Plots

2.1 TM1_L@Ant 1





2.2 TM1_M@Ant 1





Agilent Spectrum Analyzer - The duty cycle factor 2.18 dB added.

Center Freq 2.48000000 GHz

Ref Offset 3.18 dB
Ref 20.00 dBm

10 dB/div
Log

Mkr1 2.479 973 GHz
-7.082 dBm

Start 2.478000 GHz
#Res BW 10 kHz

Stop 2.482000 GHz
Sweep 47.7 ms (601 pts)

#VBW 100 kHz*

Trig: Free Run
Atten: 28 dB

PNO: Far
IFGain: Low

#Avg Type: Pwr(RMS)
Avg/Hold: 200/200

ALIGN AUTO

04:58:45 PM Mar 17, 2016

TRACE 1 2 3 4 5 6
TYPE A A A A A A
DET A A A A A A

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 2.479973 GHz and the power level is -7.082 dBm. The center frequency is set to 2.48000000 GHz. The reference level is 20.00 dBm with a 3.18 dB offset. The resolution bandwidth (RBW) is 10 kHz and the video bandwidth (VBW) is 100 kHz. The sweep time is 47.7 ms. The display also shows various settings like PNO: Far, IFGain: Low, and Trig: Free Run. The right side of the screen has a blue sidebar with buttons for Frequency, Auto Tune, Center Freq, Start Freq, Stop Freq, CF Step, Auto, Freq Offset, and a bottom section for MSG and STATUS.



Appendix F: Band Edges Compliance

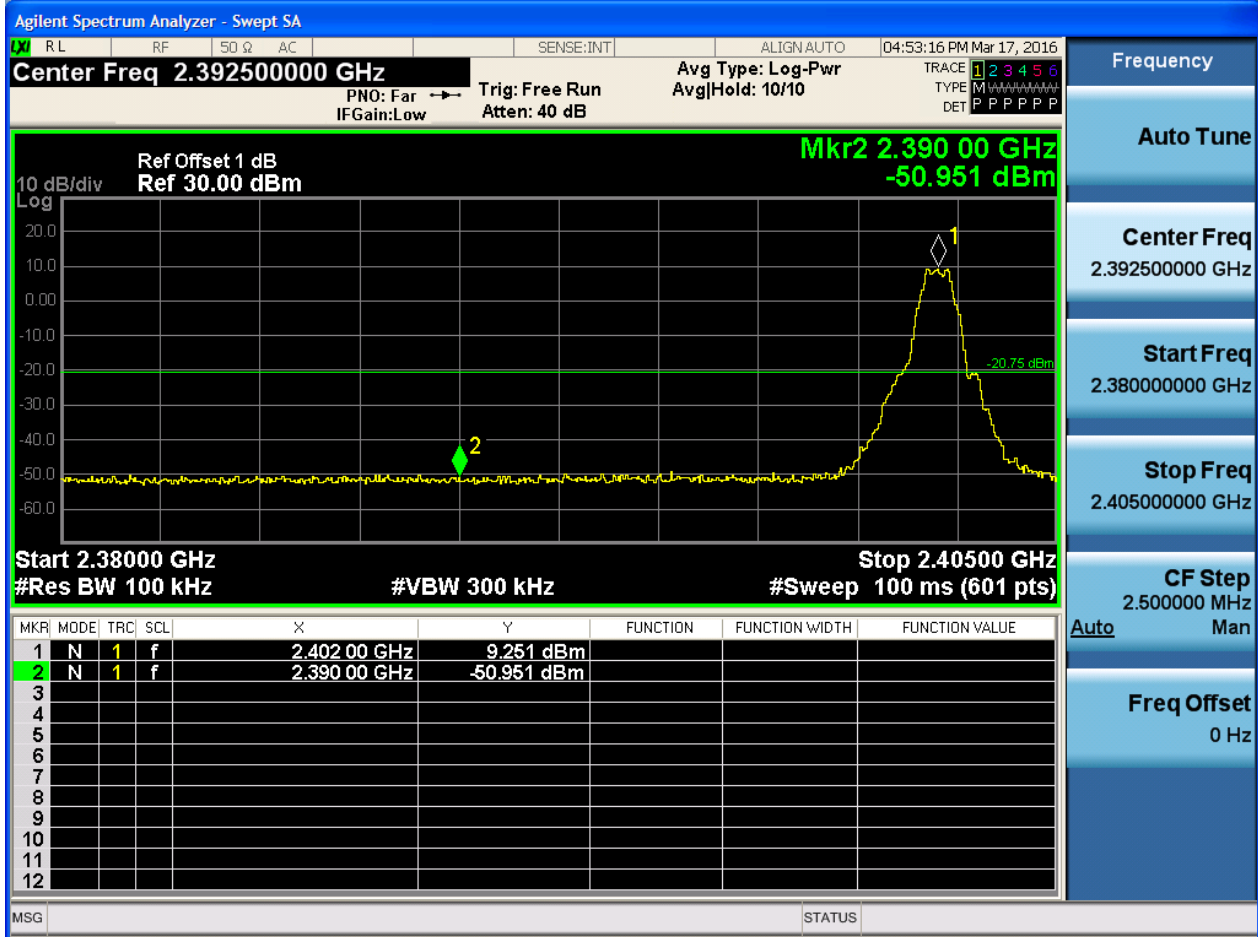
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1	L	2402	9.25	-50.95	pass
TM1	H	2480	7.04	-50.28	pass



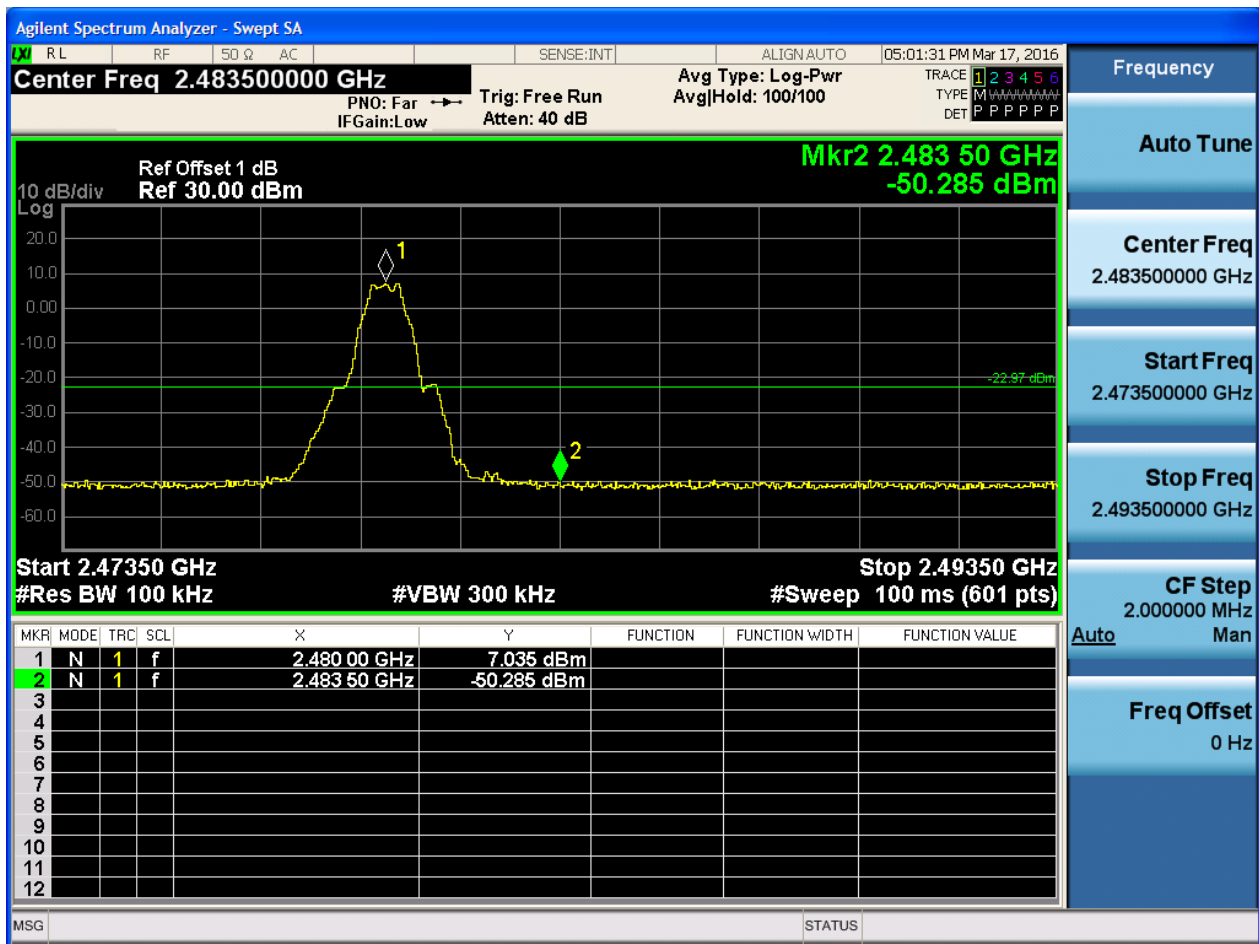
Part II - Test Plots

2.1 TM1_L@Ant 1





2.2 TM1_H@Ant 1



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".

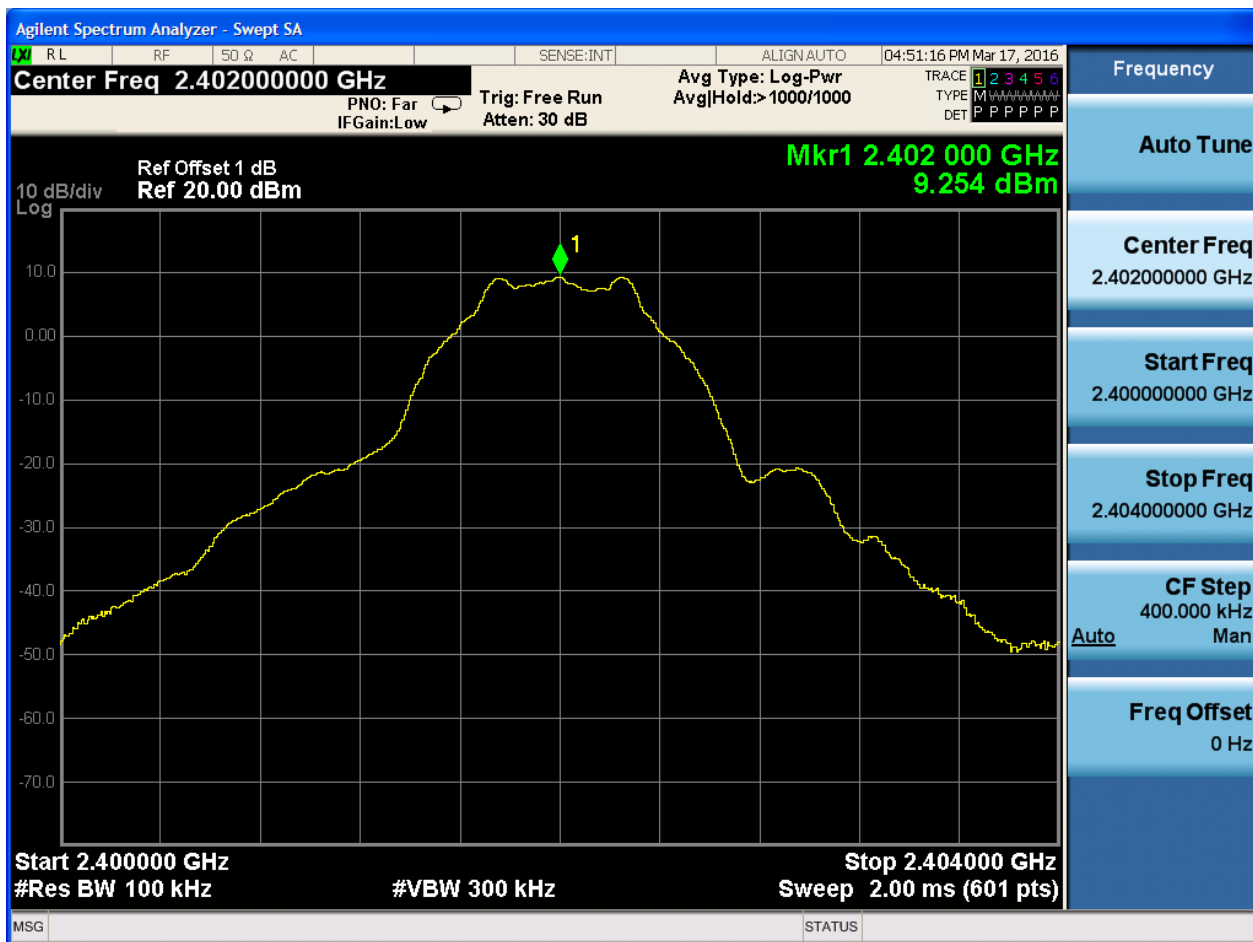
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1	L	2402	9.25	<limit	pass
TM1	M	2440	7.37	<limit	pass
TM1	H	2480	7.01	<limit	pass

Part II - Test Plots

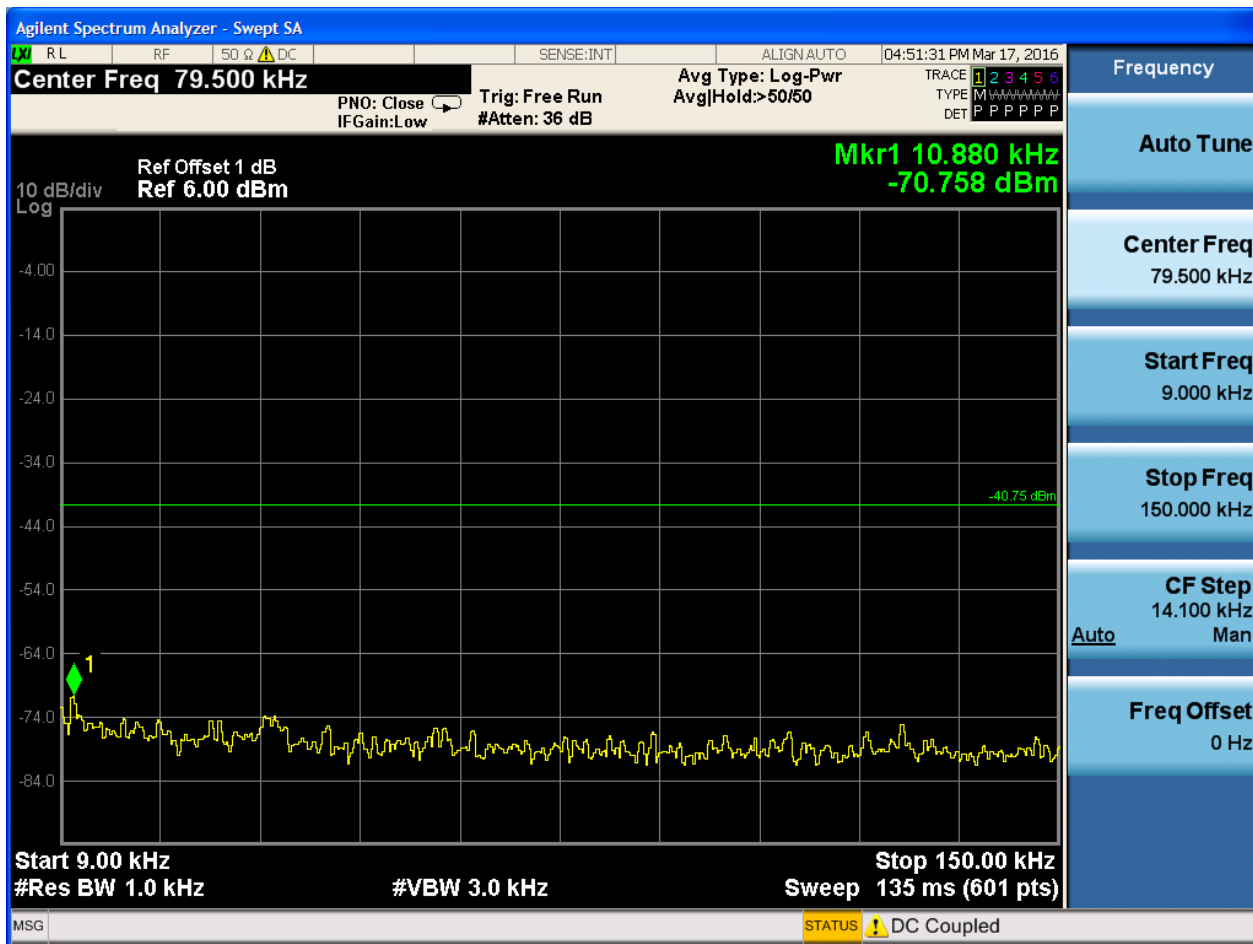
2.1 TM1_L@Ant 1

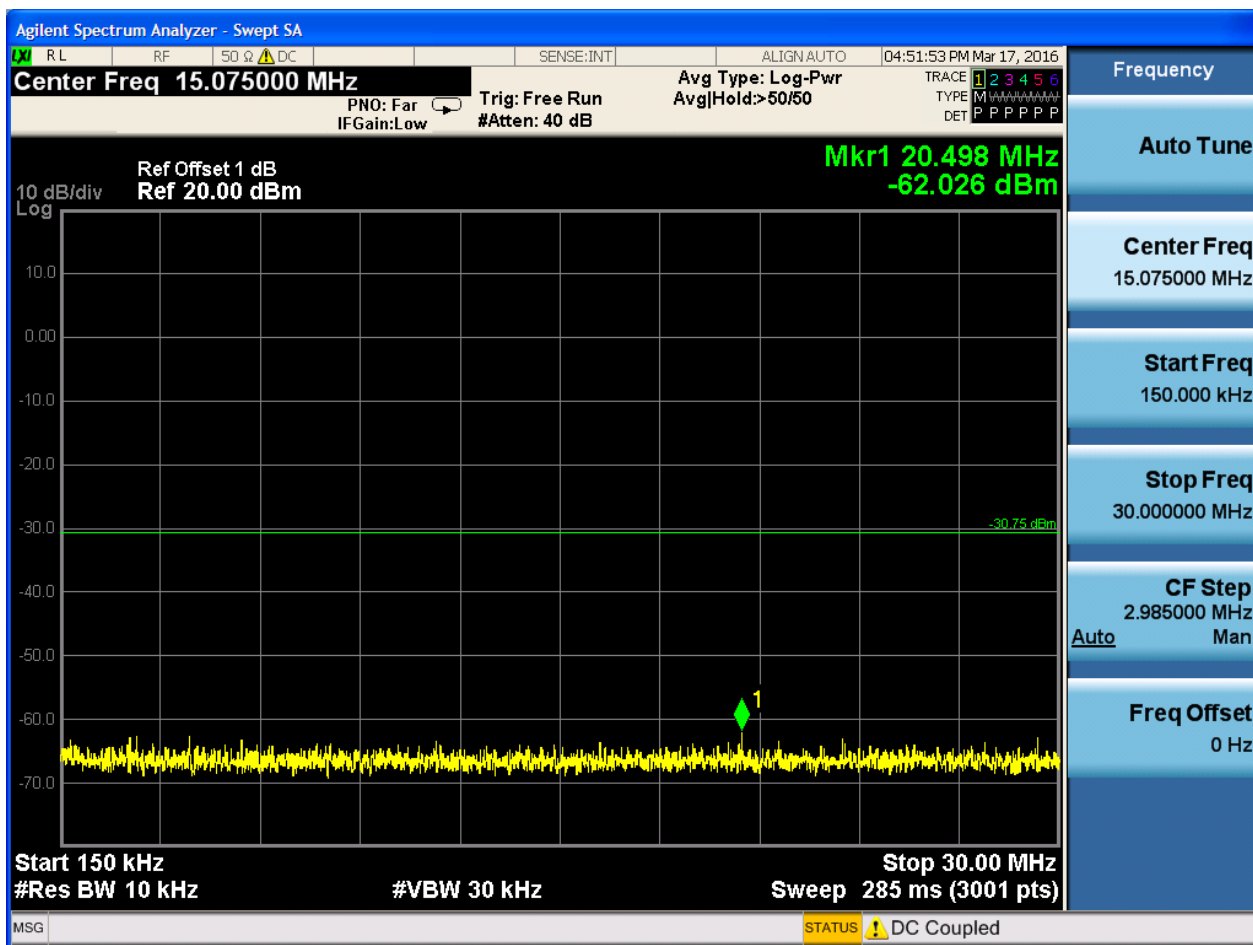
Pref:

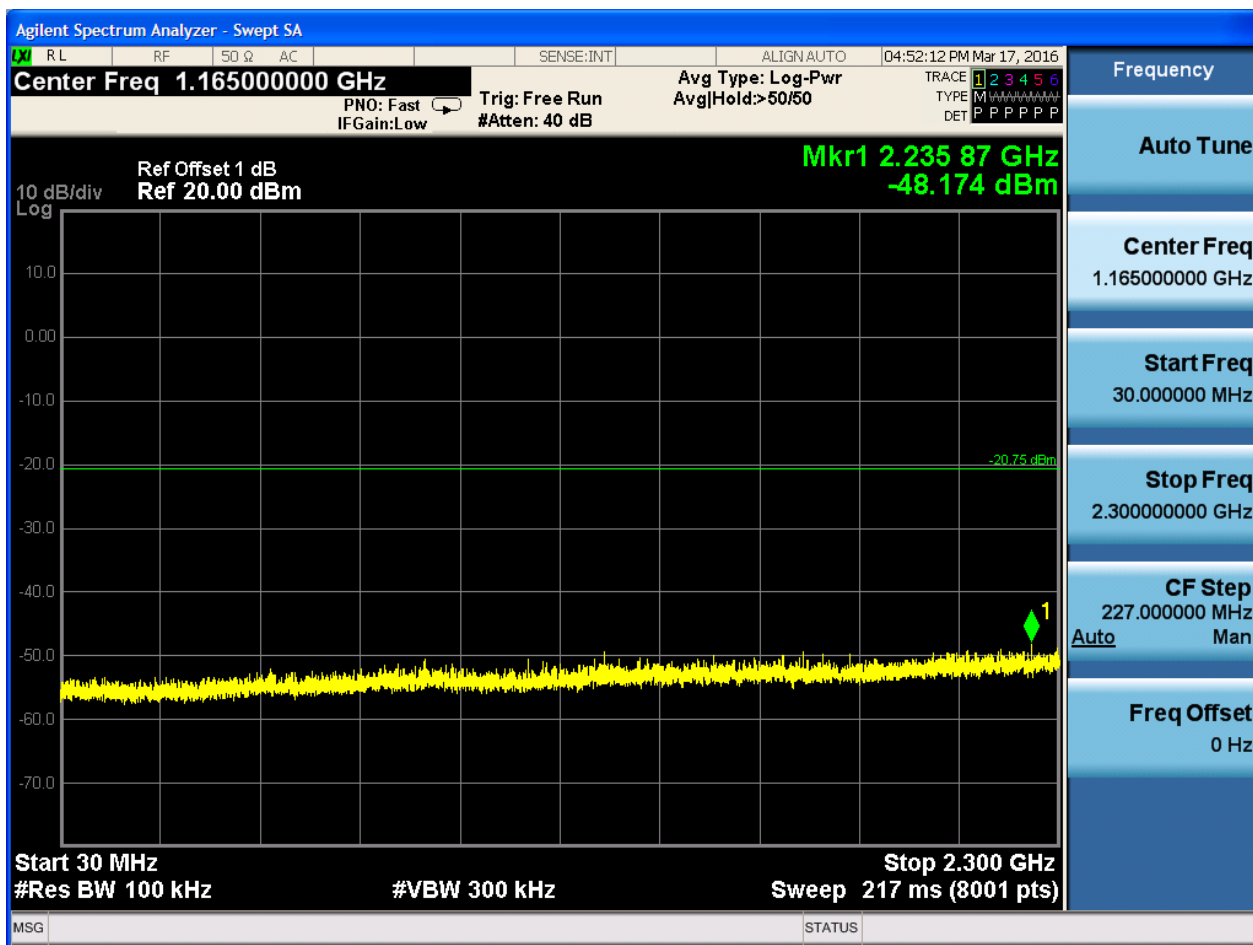


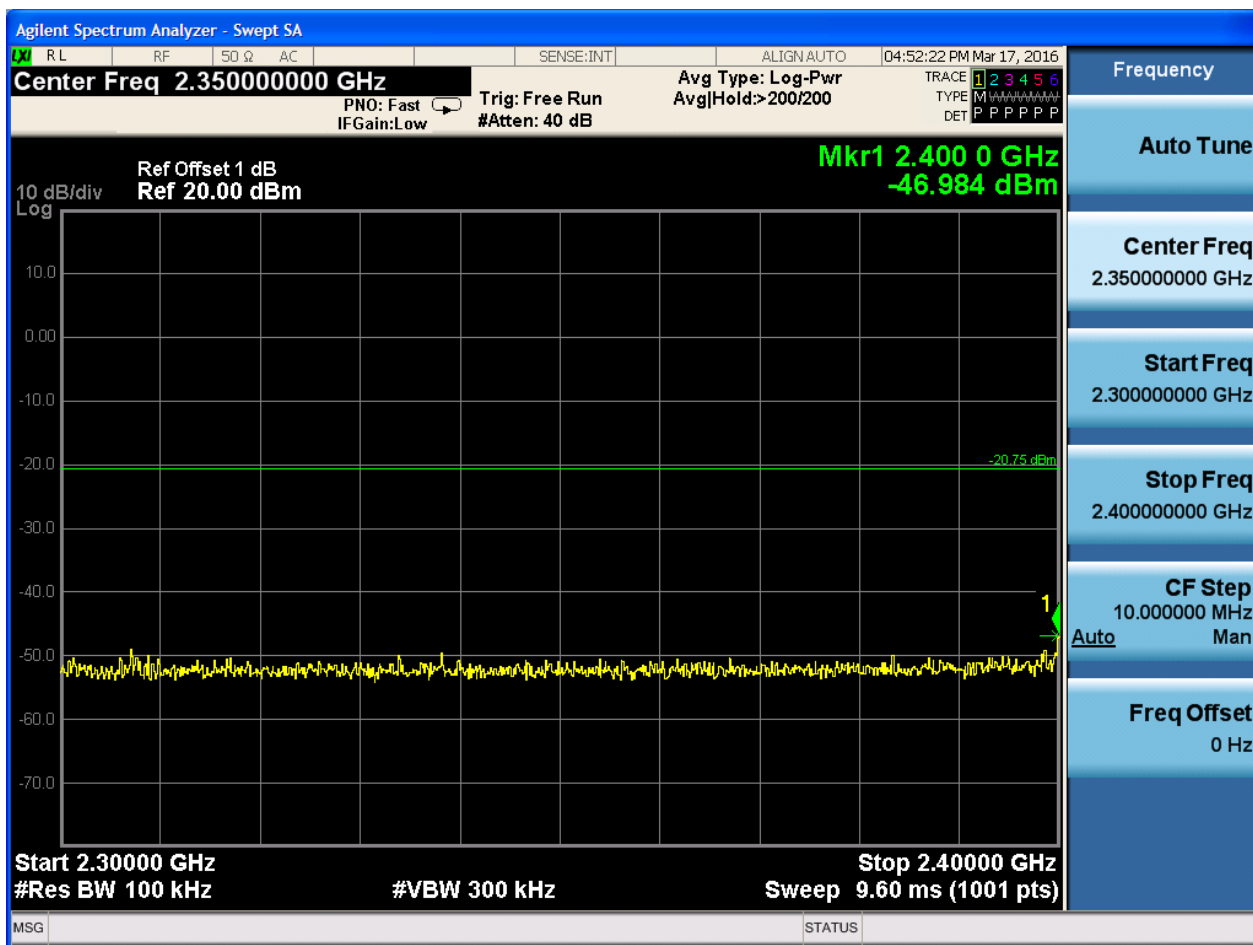


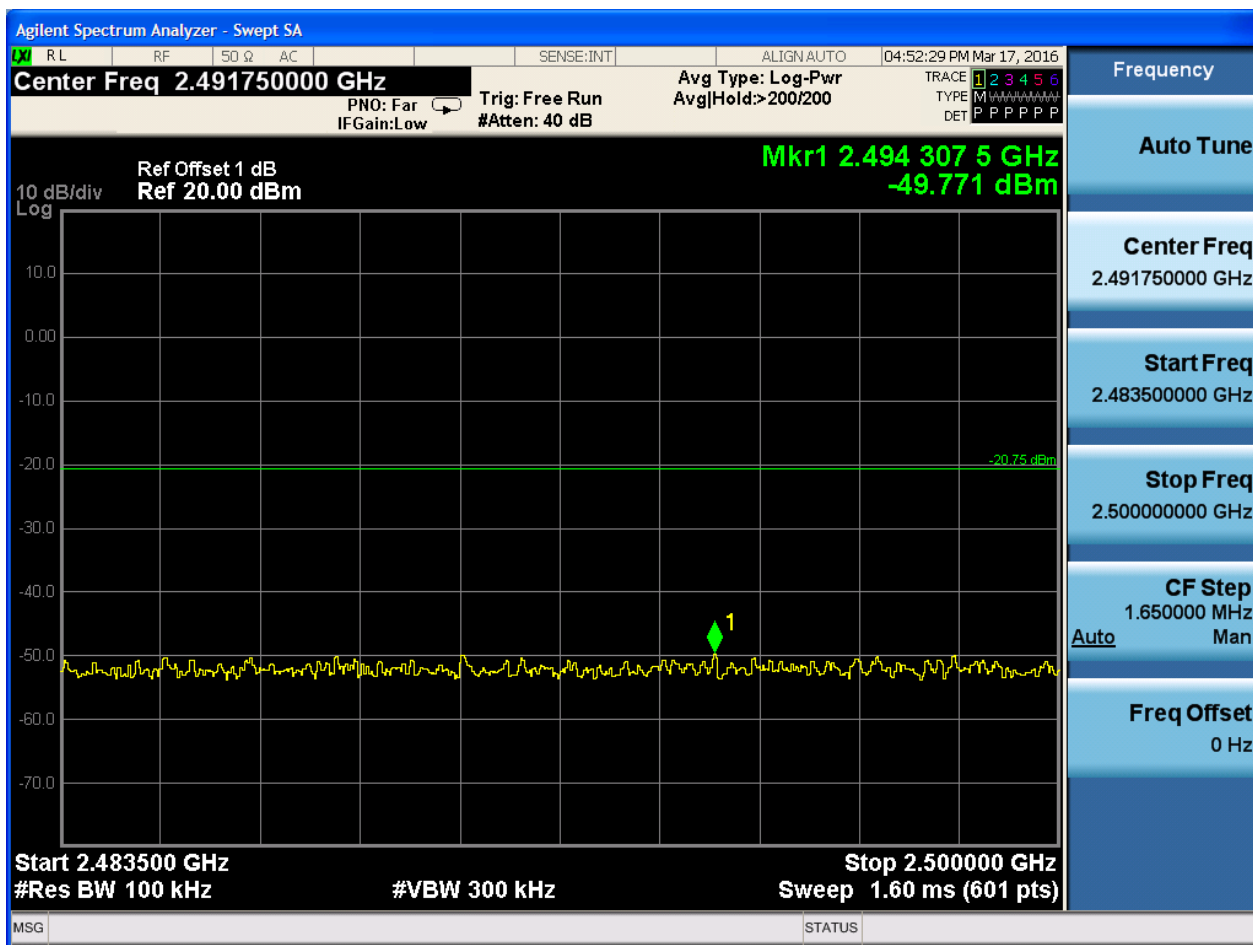
Puw:









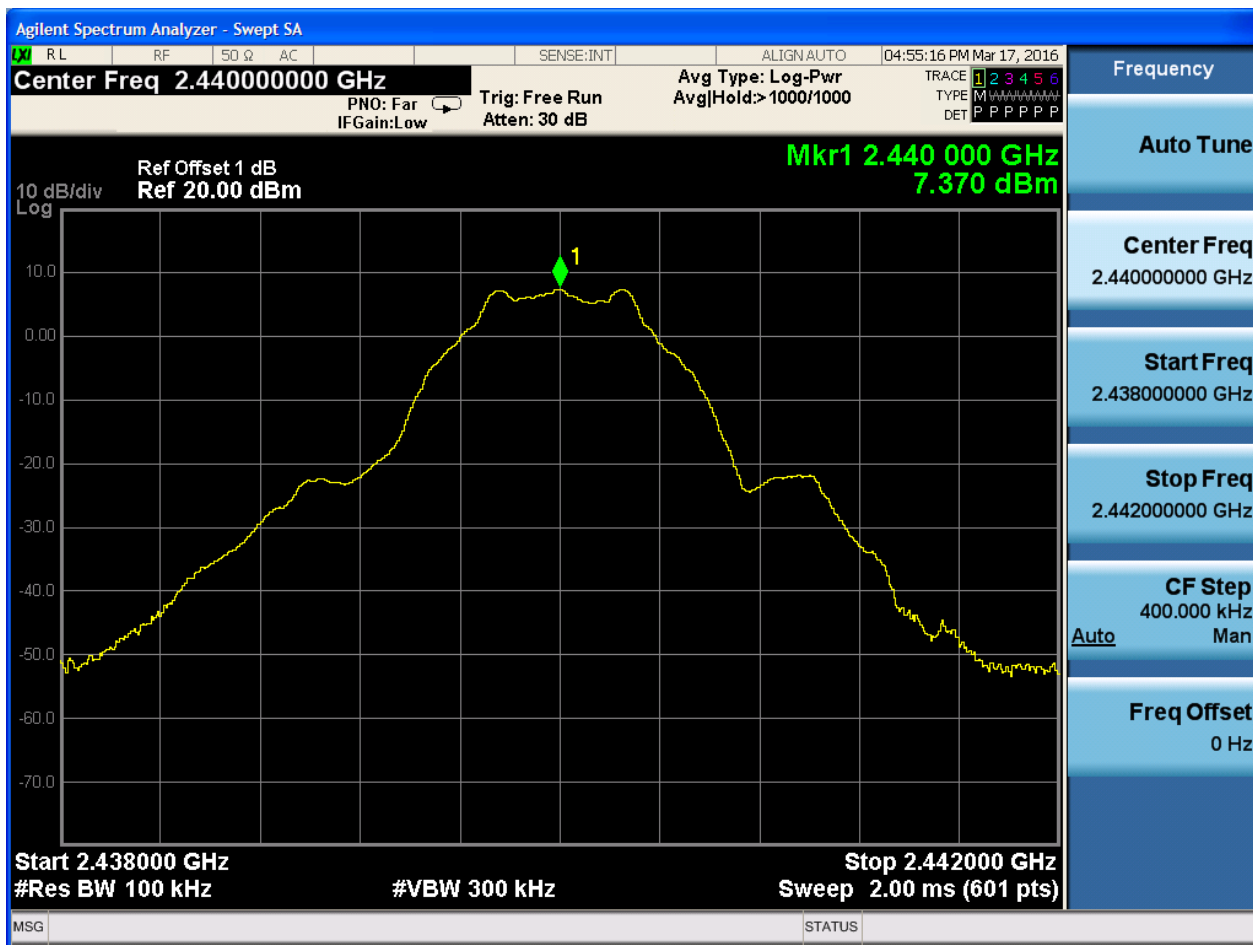






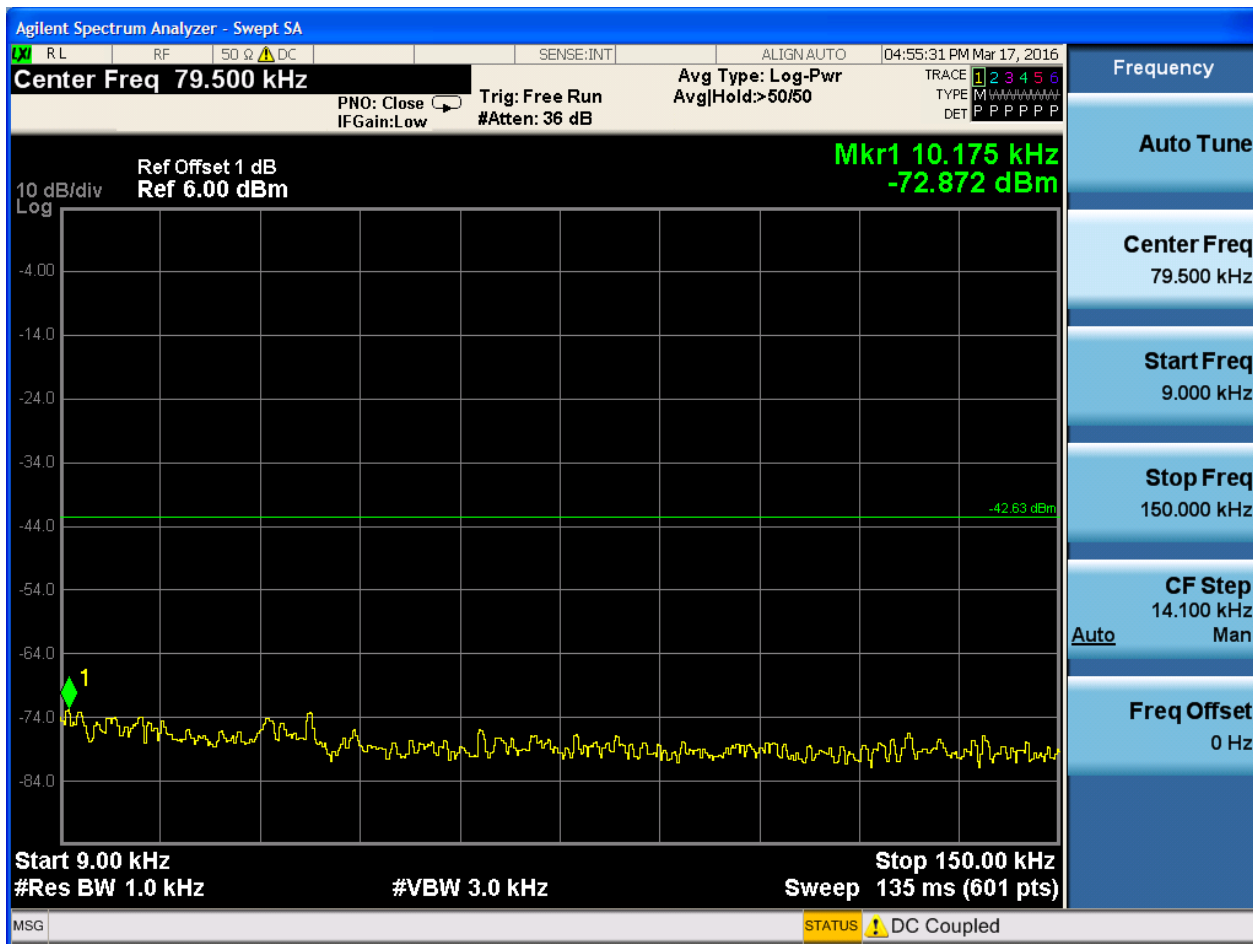
2.2 TM1_M@Ant 1

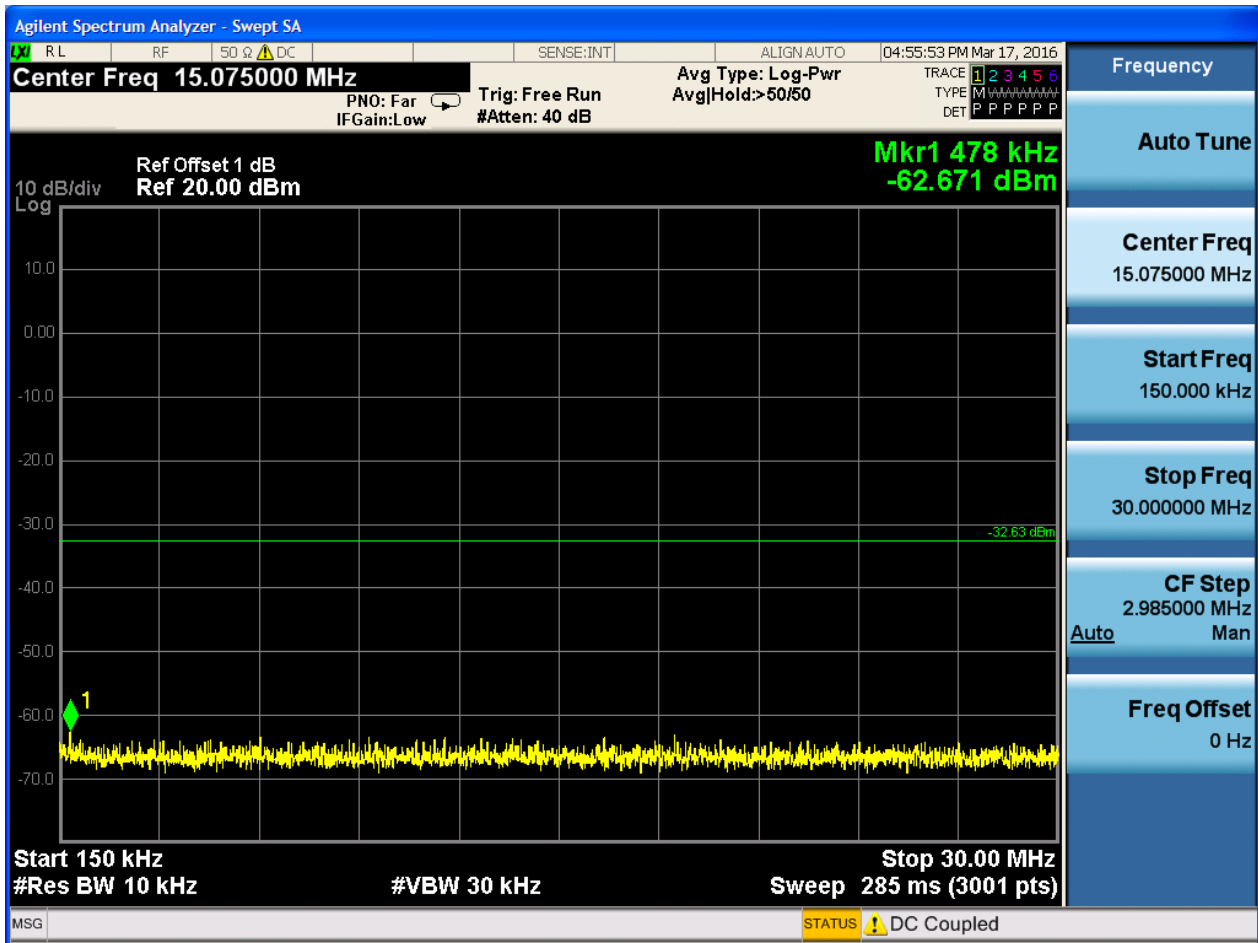
Pref:

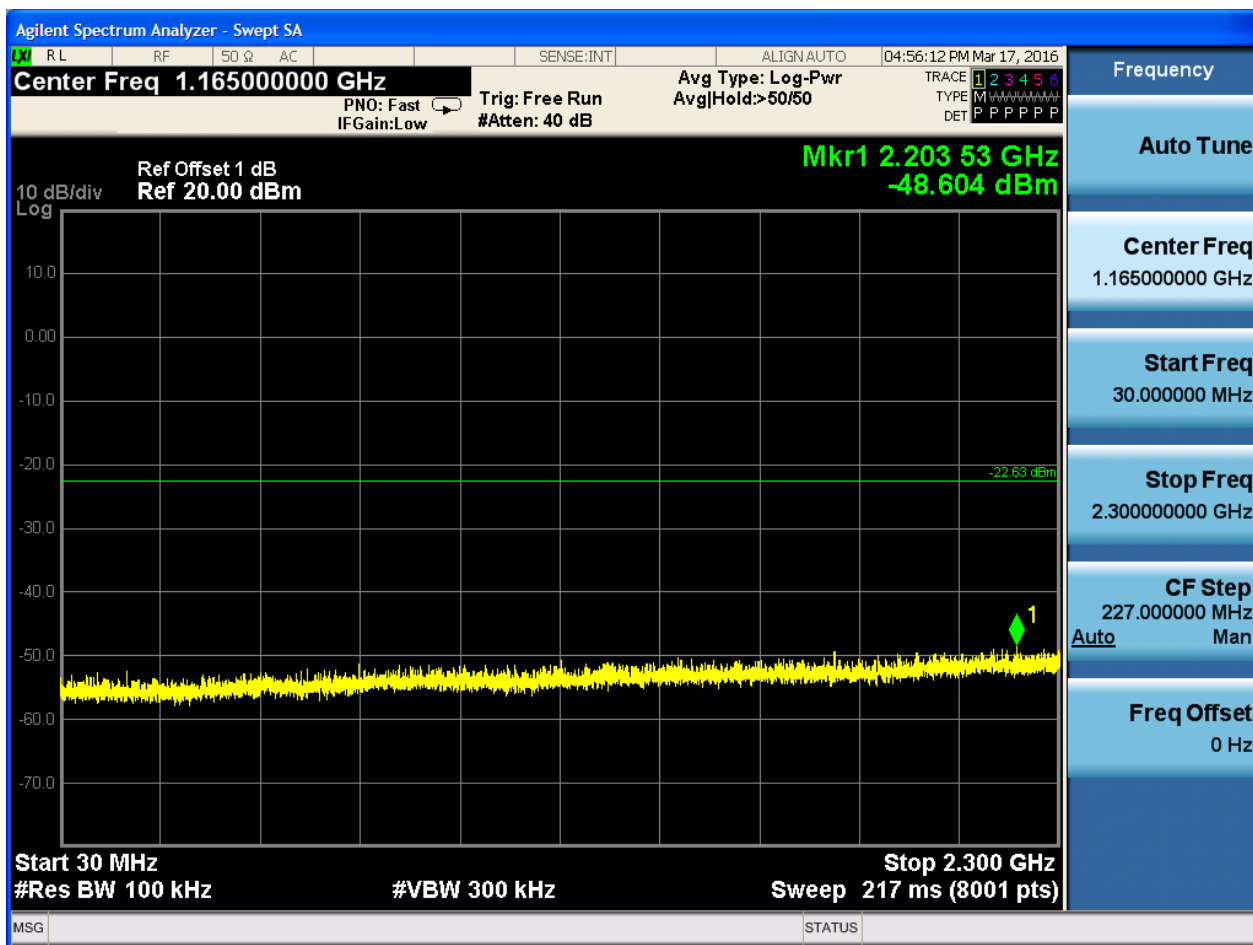


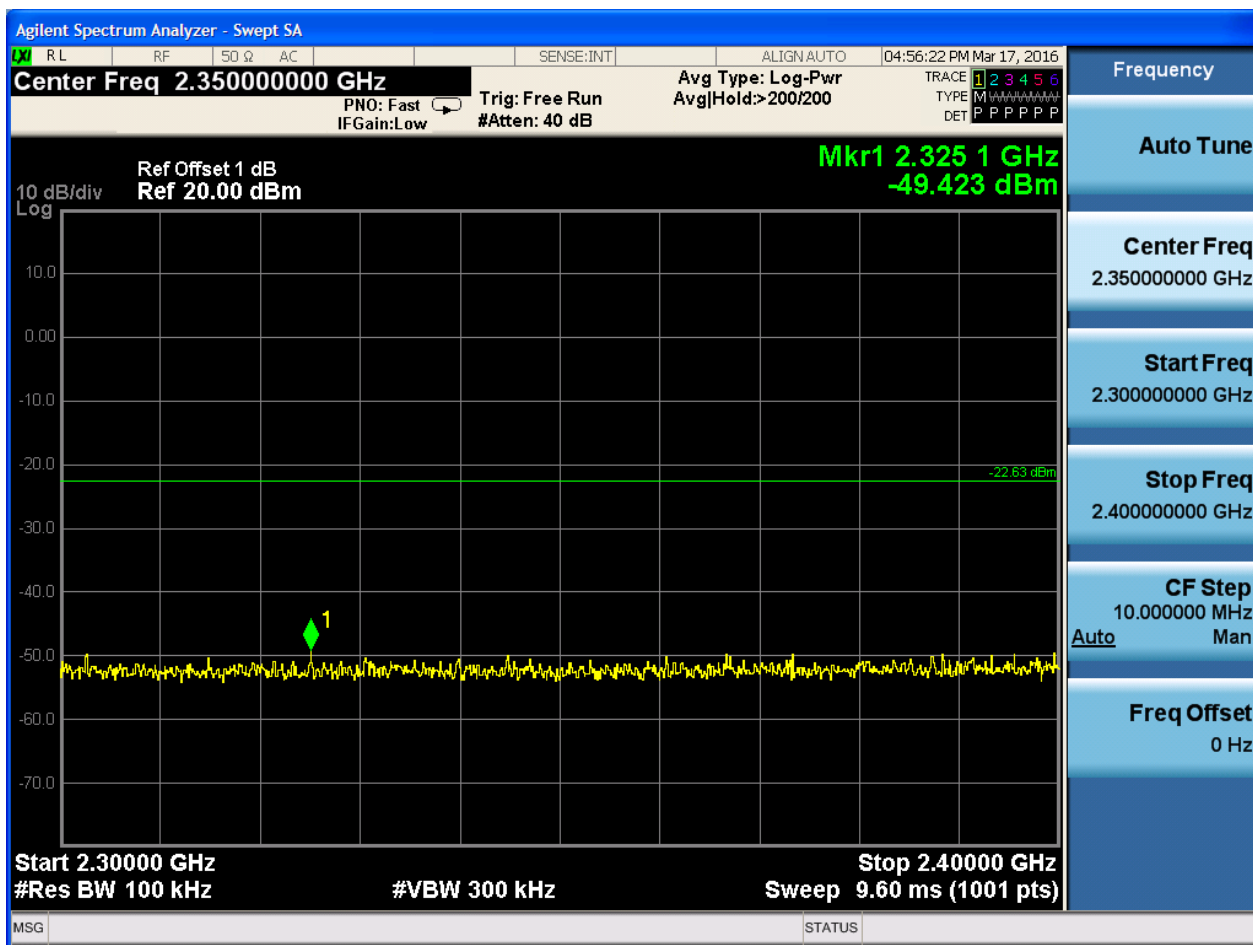


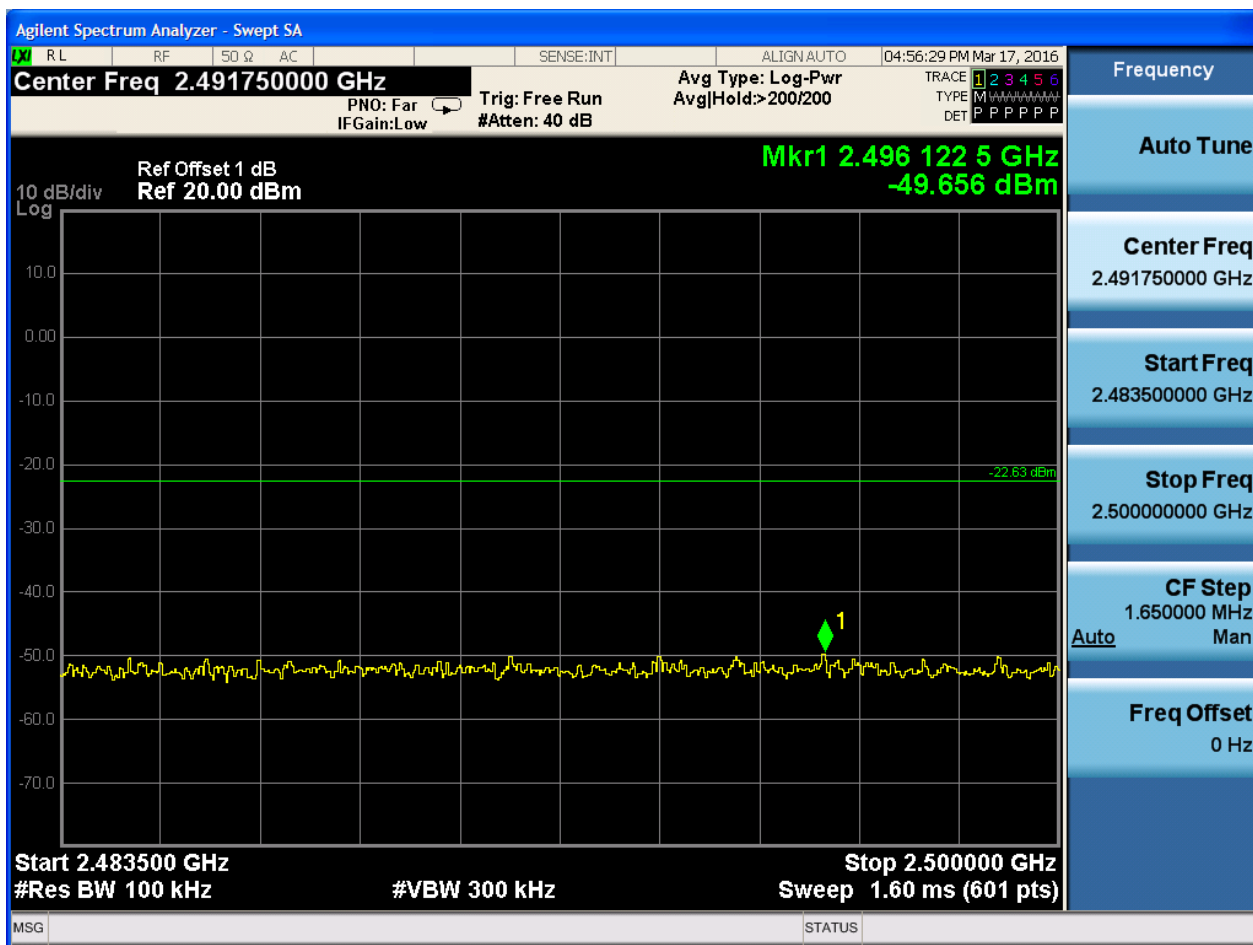
Puw:

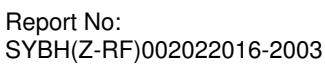








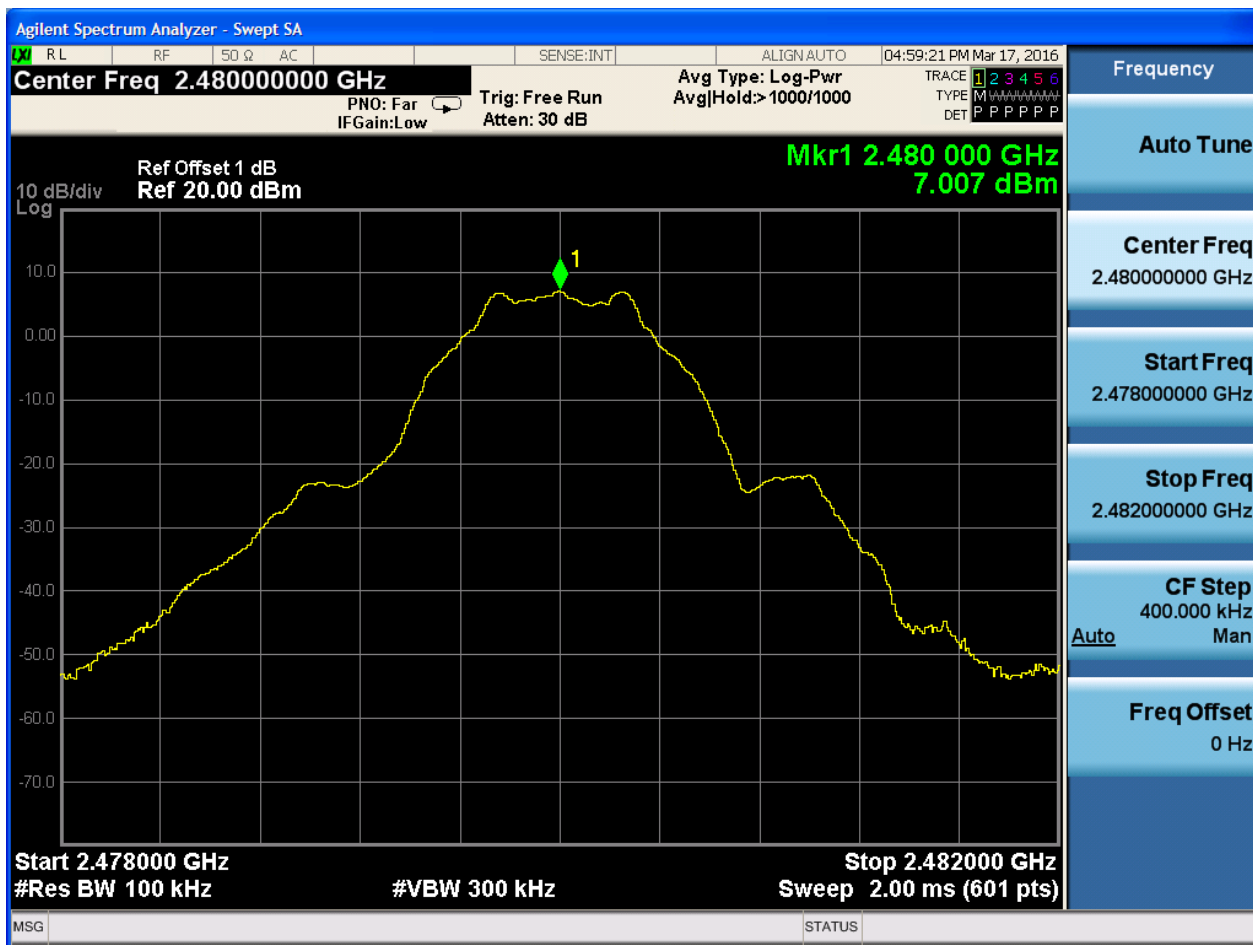






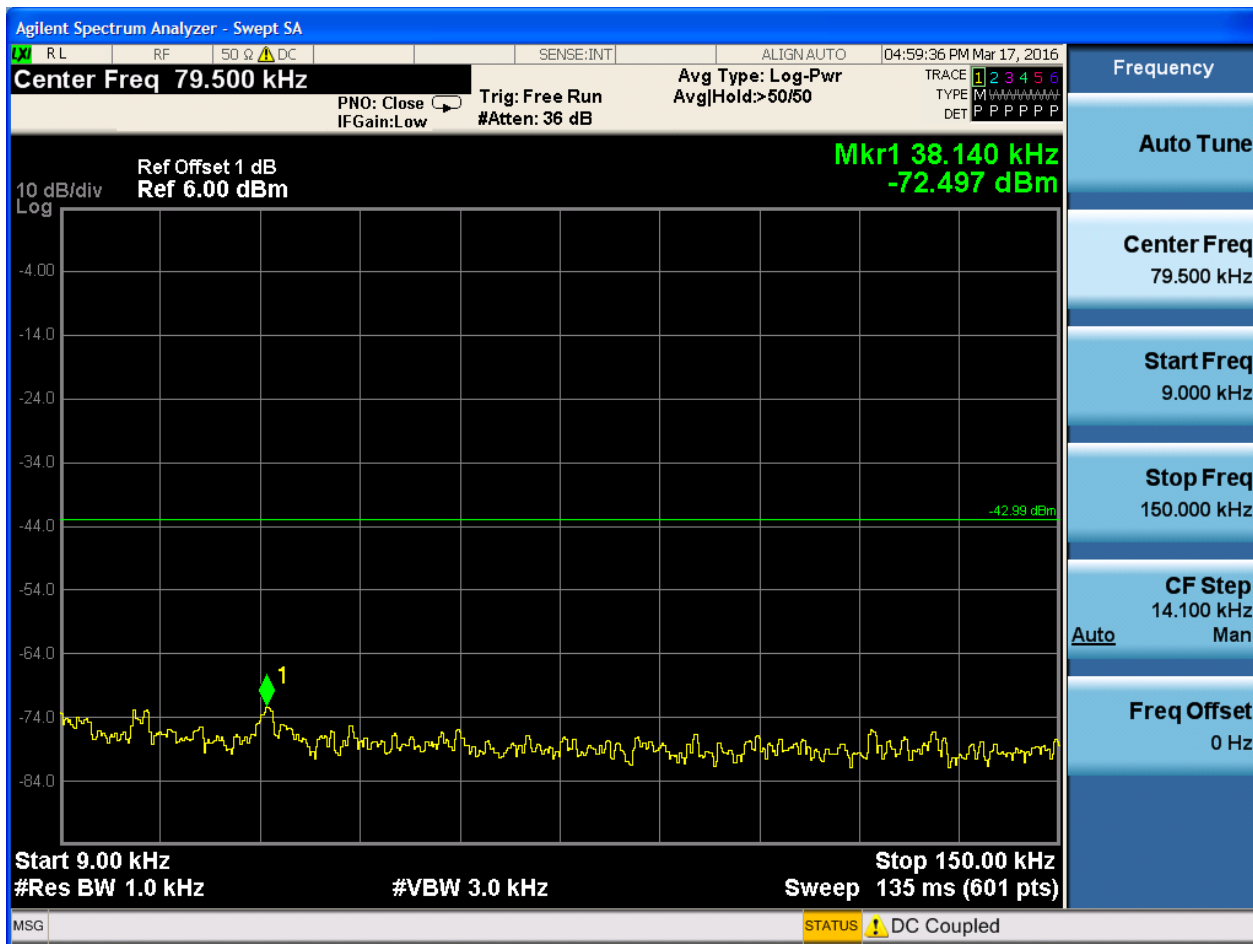
2.3 TM1_H@Ant 1

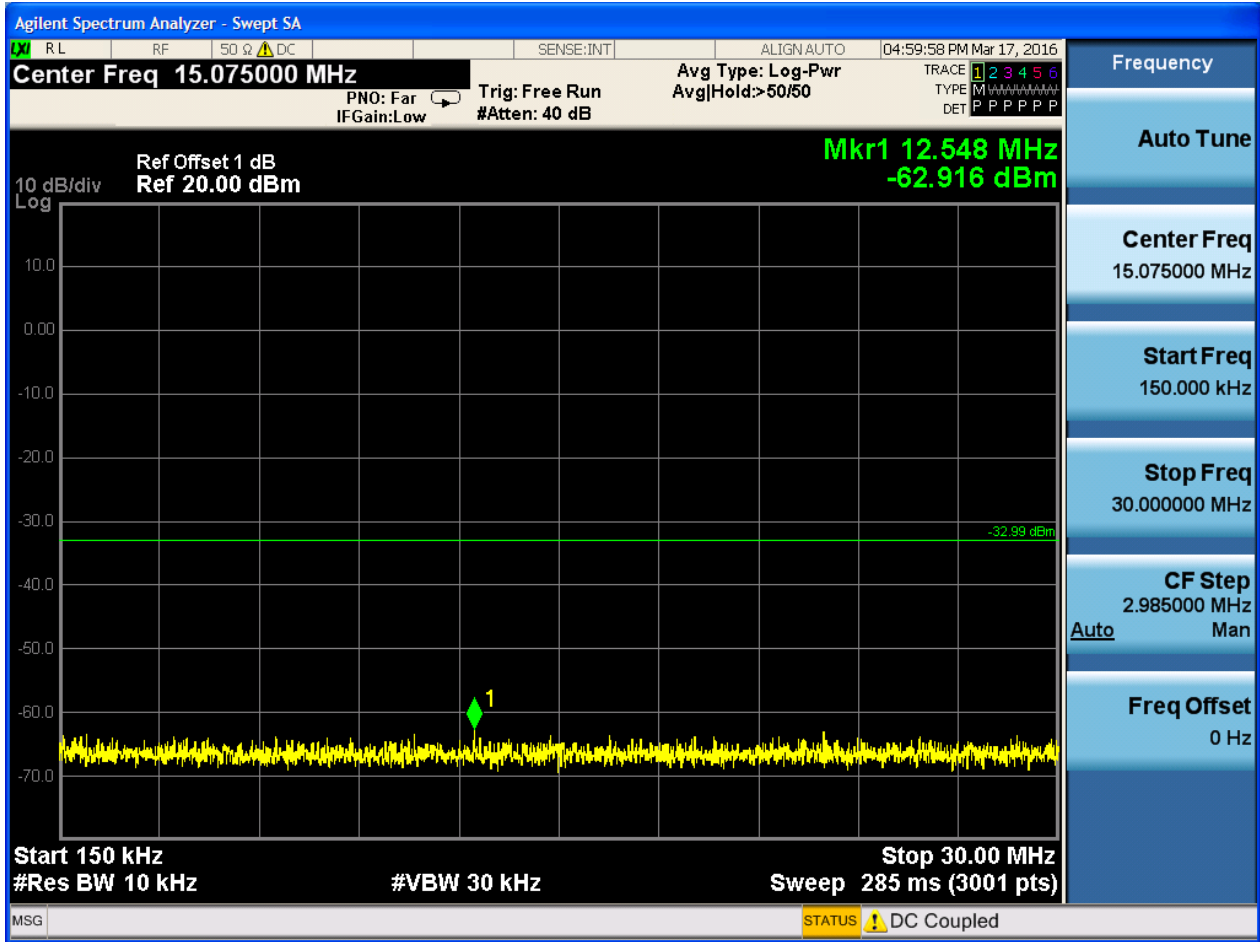
Pref:

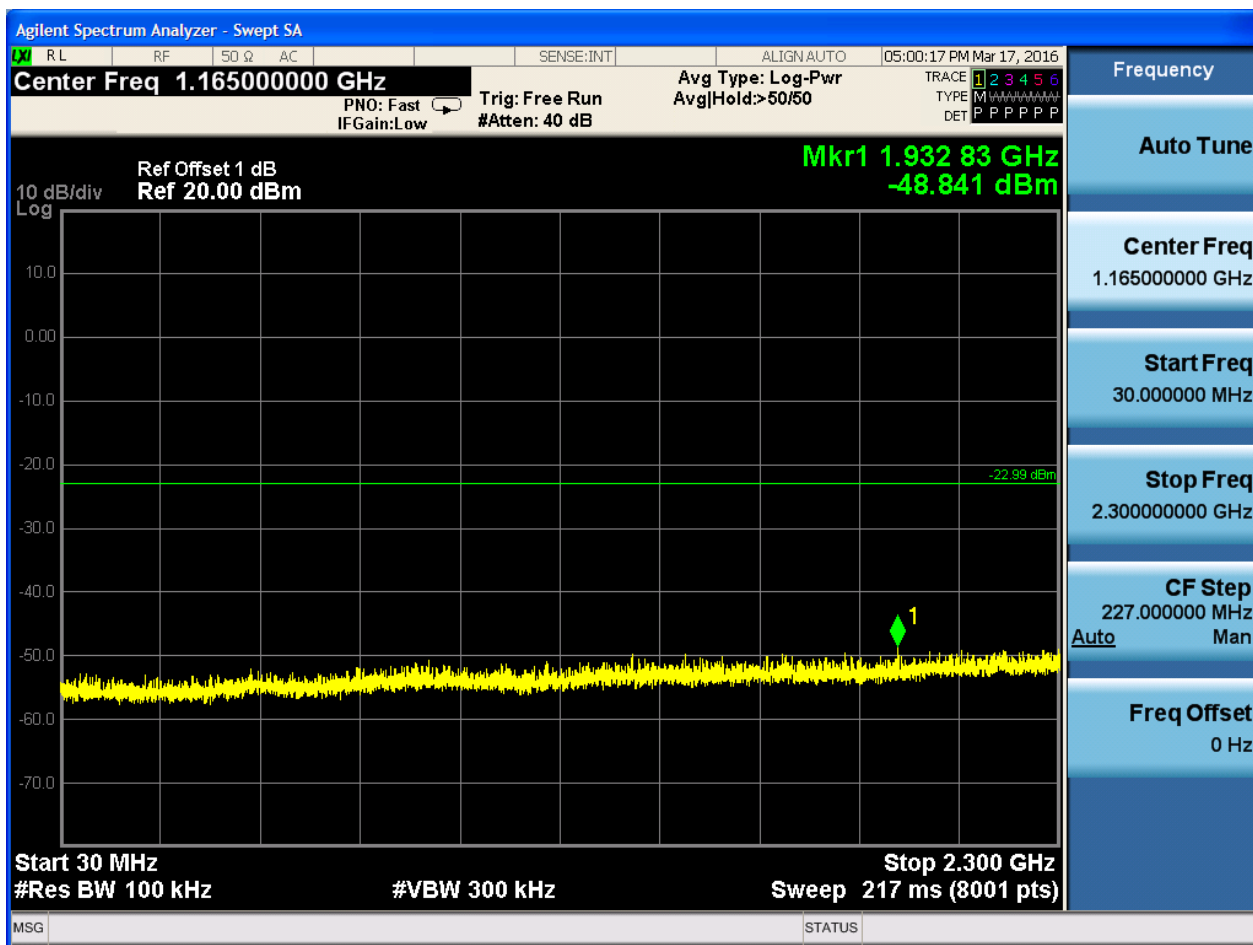


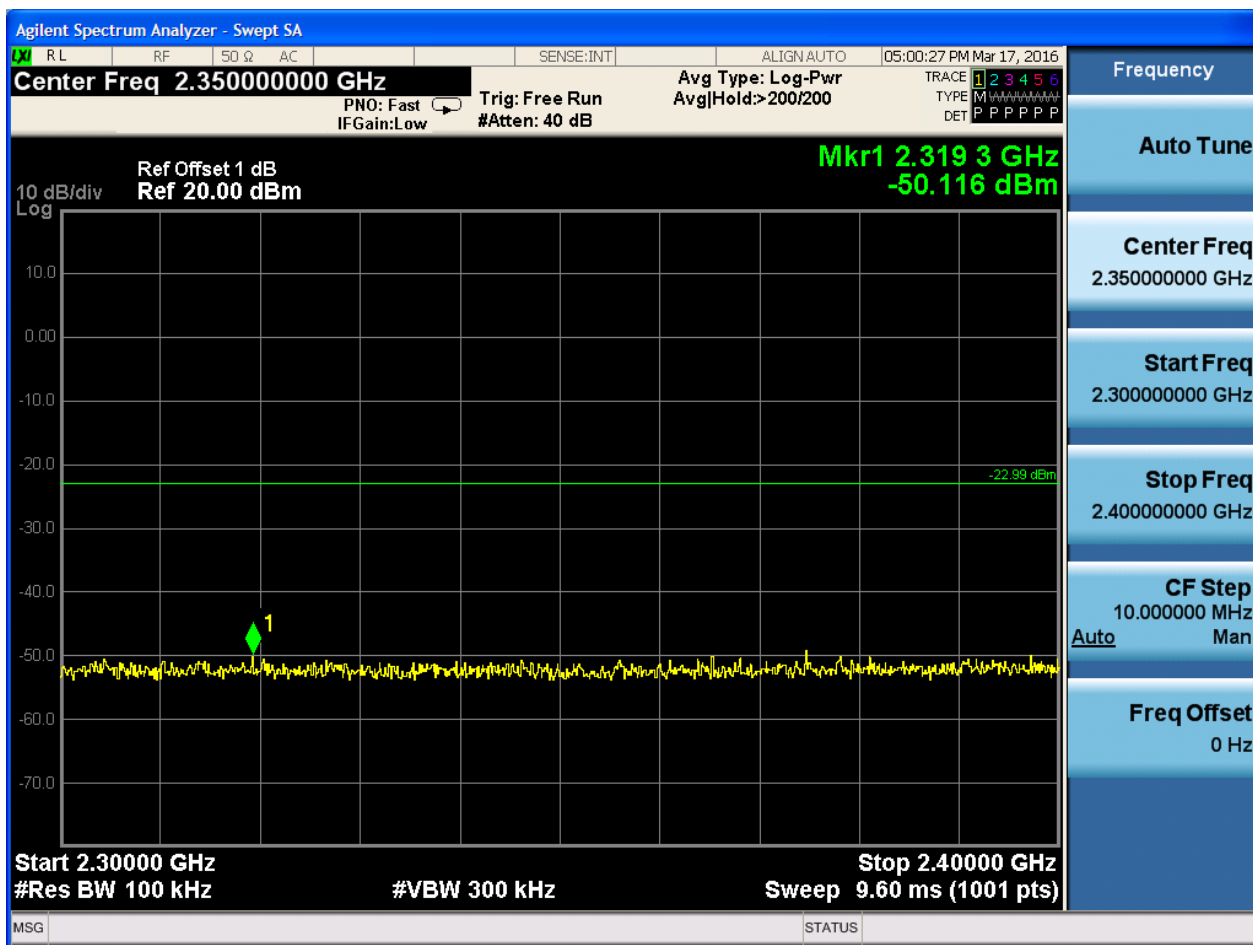


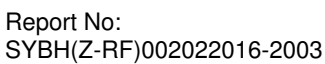
Puw:













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

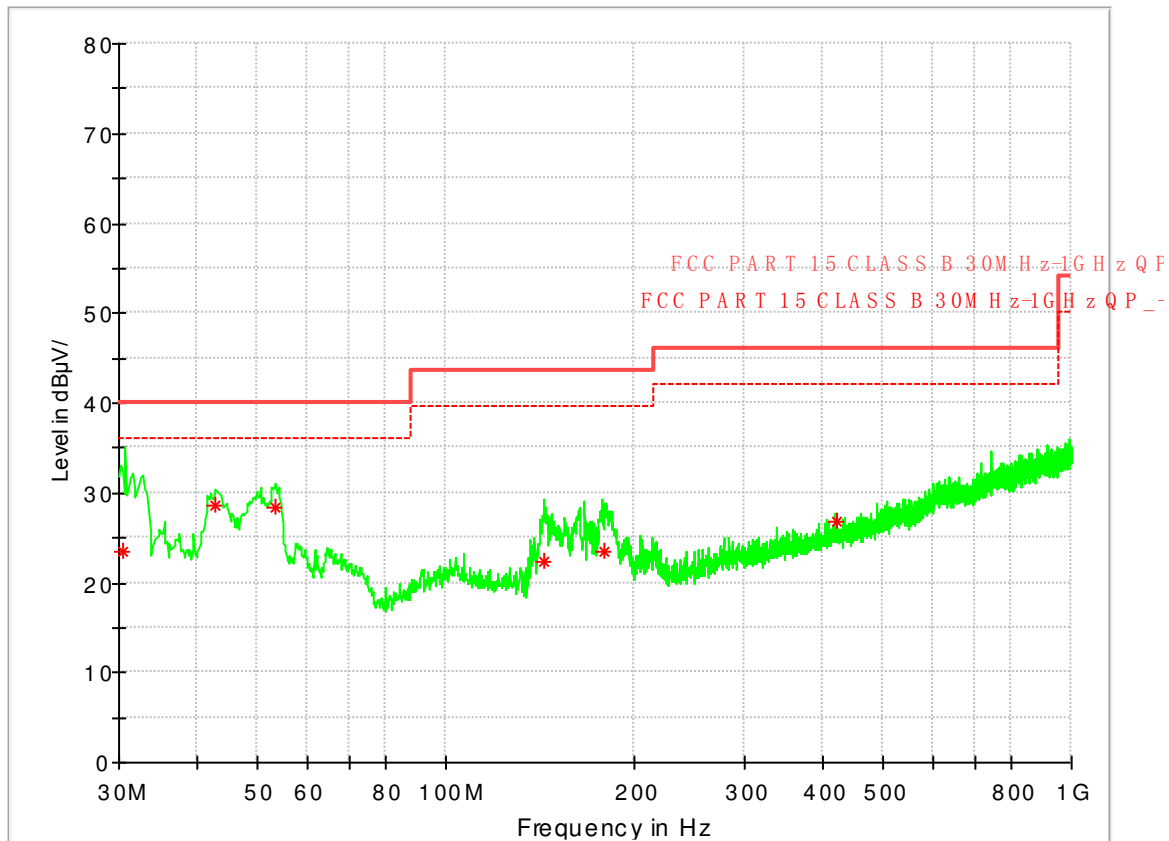
7.1Part 1: Testing Range of “9 kHz to 30MHz”

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

7.2Part 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).



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azi mut	Corr. (dB)
30.535280	23.42	40.00	-16.58	123.0	H	3.0	14.8
42.600480	28.63	40.00	-11.37	100.0	V	314.	15.2
53.239600	28.45	40.00	-11.55	100.0	V	312.	14.6
143.87008	22.35	43.50	-21.15	106.0	V	240.	10.1
178.80616	23.37	43.50	-20.13	100.0	V	256.	11.2
420.29592	26.82	46.00	-19.18	198.0	V	7.0	18.3

7.3Part 3: Testing Range of “18 GHz to 26.5 GHz”

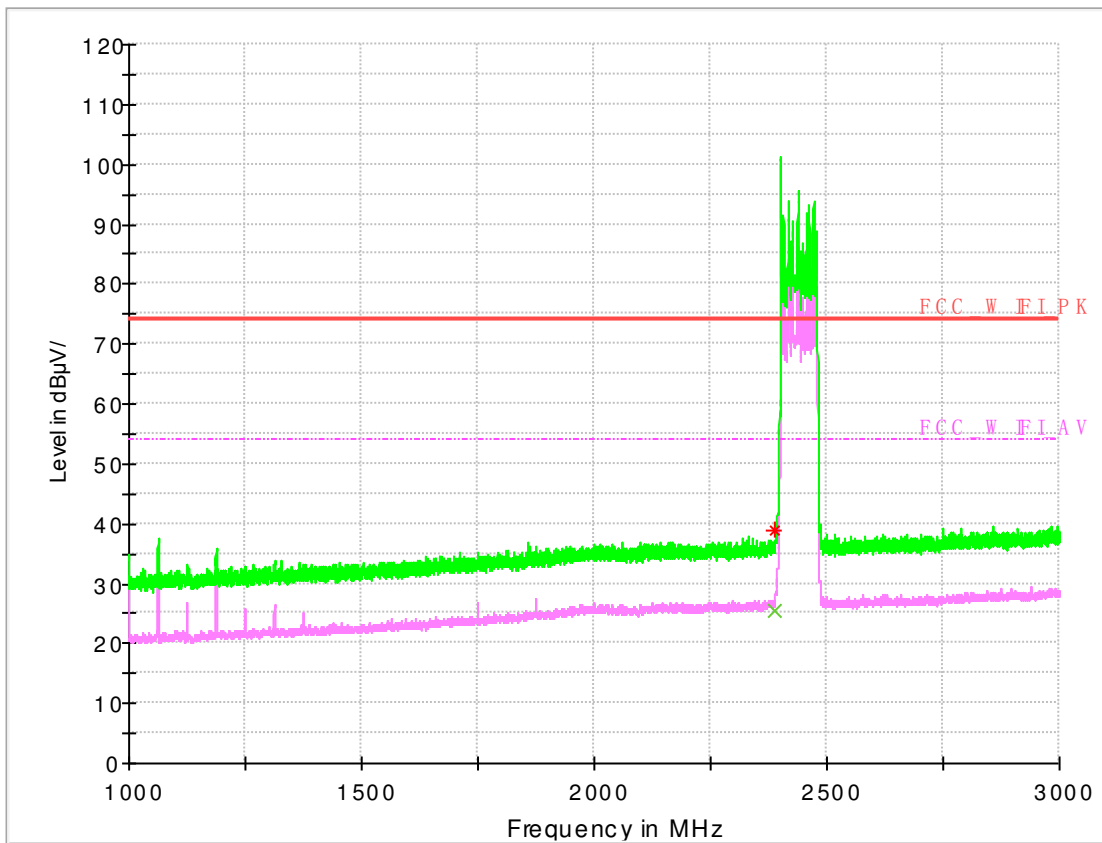
NOTE: No peak found in the Test Range of “18 GHz to 26.5GHz”

7.4Part 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 μ V/m) and Average Limit (54 dB μ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.
- Test Mode:

7.4.1Test Mode: TM1

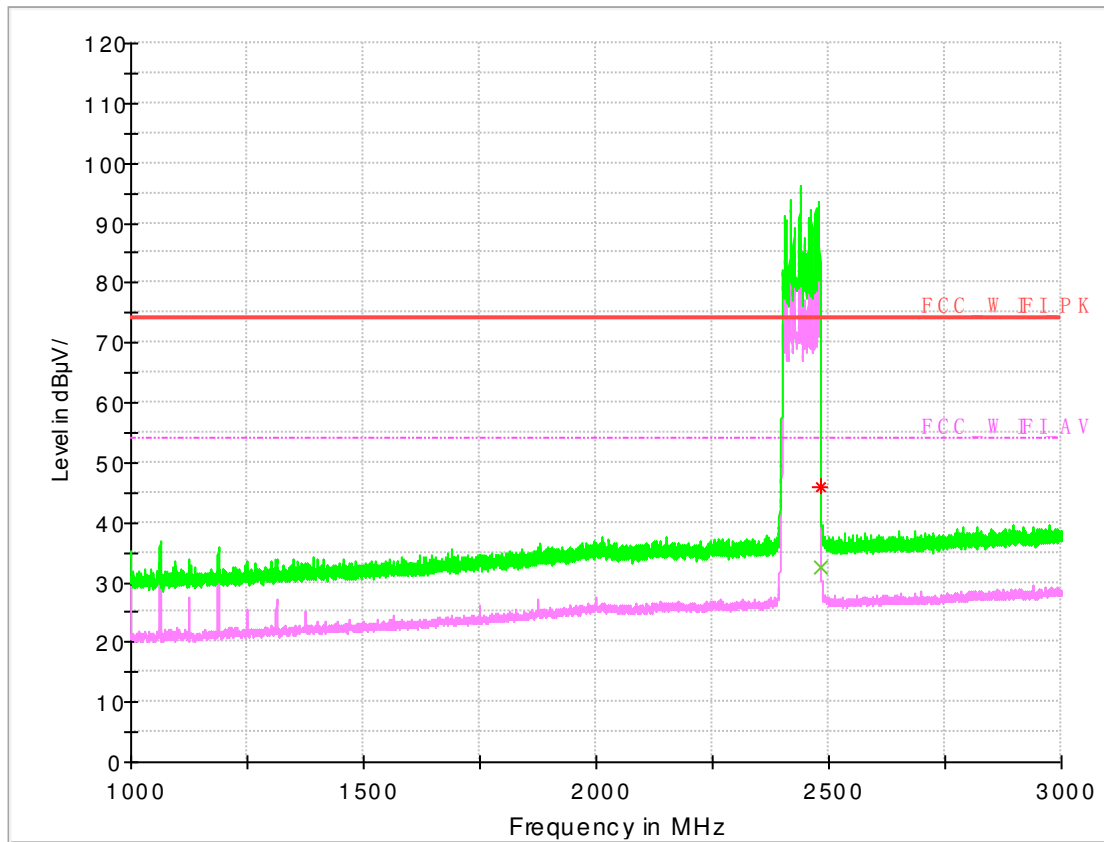
7.4.1.1Channel 0



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

Frequency (MHz)	MaxP eak	Average (dBμV/	Limit (dBμV/	Margi n	Height (cm)	Pol	Azim uth	Cor r.
2390.000000	38.87	---	74.00	-35.13	148.0	V	322.0	-8.3
2390.000000	---	25.49	54.00	-28.51	118.0	V	337.0	-7.9

7.4.1.2 Channel 39



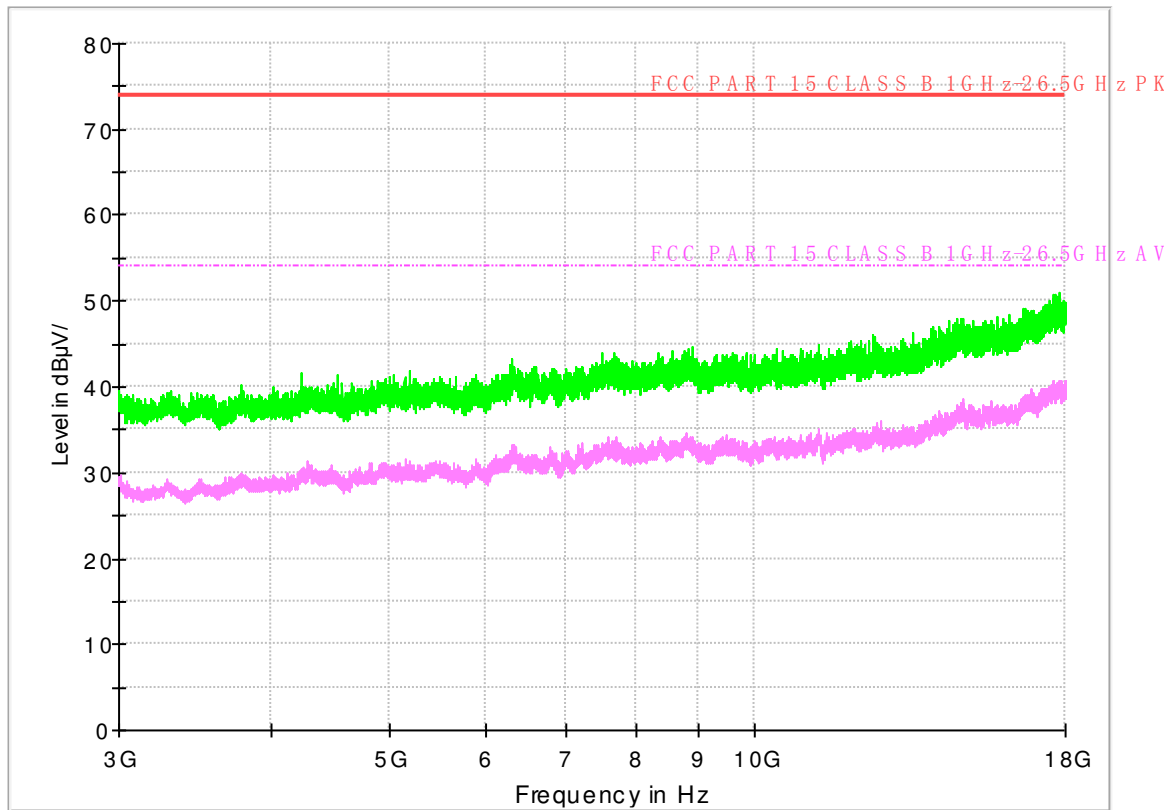
Note: The peak exceeds the limit line is carrier frequency.

Frequency (MHz)	MaxPeak	Average (dBμV)	Limit (dBμV)	Margin	Height (cm)	Pol	Azimuth	Corr.
2483.500000	45.80	---	74.00	-28.20	200.0	H	121.0	-0.5
2483.500000	---	32.66	54.00	-21.34	106.0	H	192.0	-0.5

7.5Part 5: Testing Range of “3 GHz to 18 GHz”

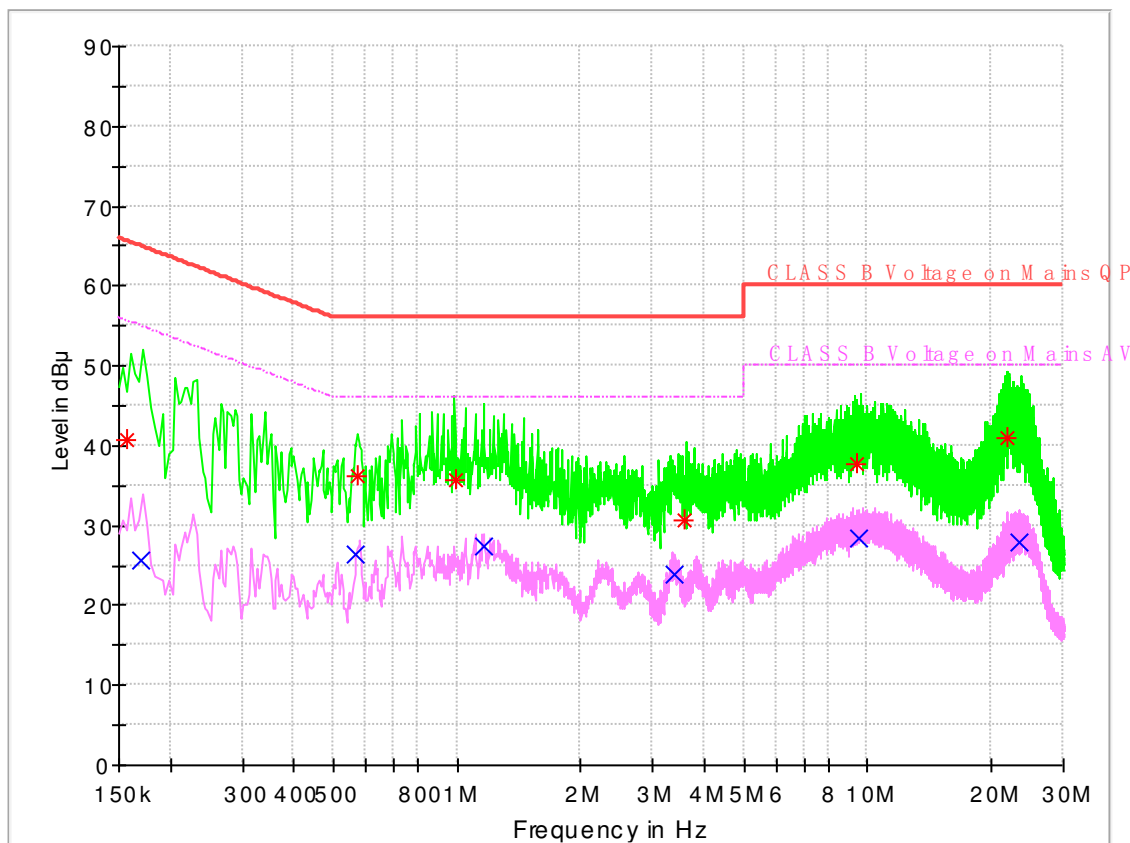
- Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located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

Full Spectrum



Appendix I: Conducted Emission at Power Port

Note: RBW = 9 kHz, VBW = 30 kHz



Final Result 1

Frequency	QuasiPea	Average	Limit	Margin	Line	Filter	Corr.
0.157328	40.75	---	65.60	-24.85	N	ON	9.7
0.169551	---	25.76	54.98	-29.22	N	ON	9.7
0.567362	---	26.32	46.00	-19.68	L1	ON	9.7
0.569782	36.29	---	56.00	-19.71	L1	ON	9.7
0.989931	35.70	---	56.00	-20.30	L1	ON	9.7
1.159804	---	27.36	46.00	-18.64	L1	ON	9.7
3.384576	---	23.84	46.00	-22.16	N	ON	9.7
3.583934	30.77	---	56.00	-25.23	N	ON	9.7
9.418807	37.75	---	60.00	-22.25	N	ON	9.9
9.474768	---	28.51	50.00	-21.49	N	ON	9.9
21.792894	41.08	---	60.00	-18.92	N	ON	10.2
23.513747	---	27.99	50.00	-22.01	N	ON	10.2

END