



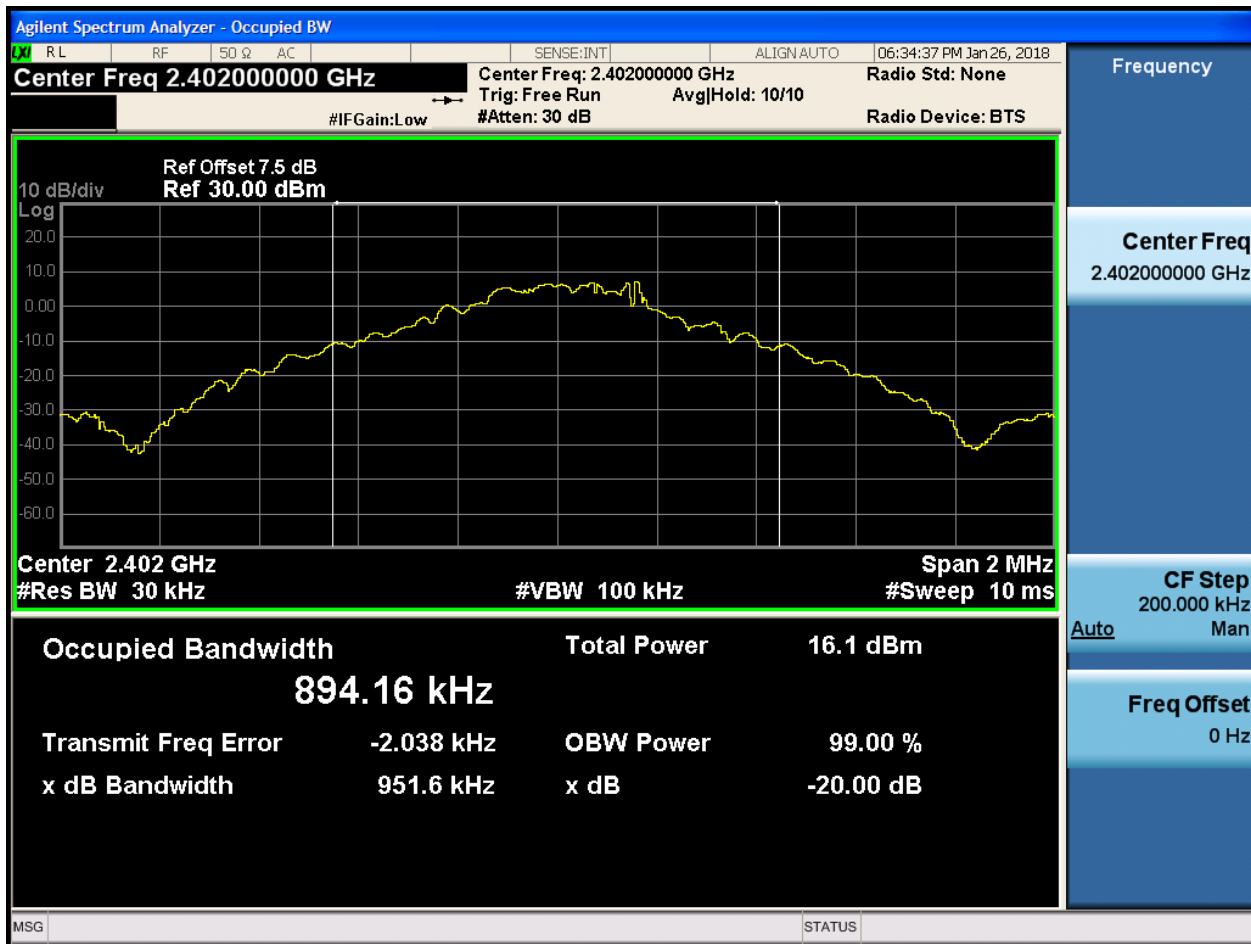
Appendix A: 20dB Emission Bandwidth (EBW)

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	1.28	Pass
TM2_2DH5_Ch78	1.28	Pass
TM3_3DH5_Ch0	1.28	Pass
TM3_3DH5_Ch39	1.28	Pass
TM3_3DH5_Ch78	1.28	Pass

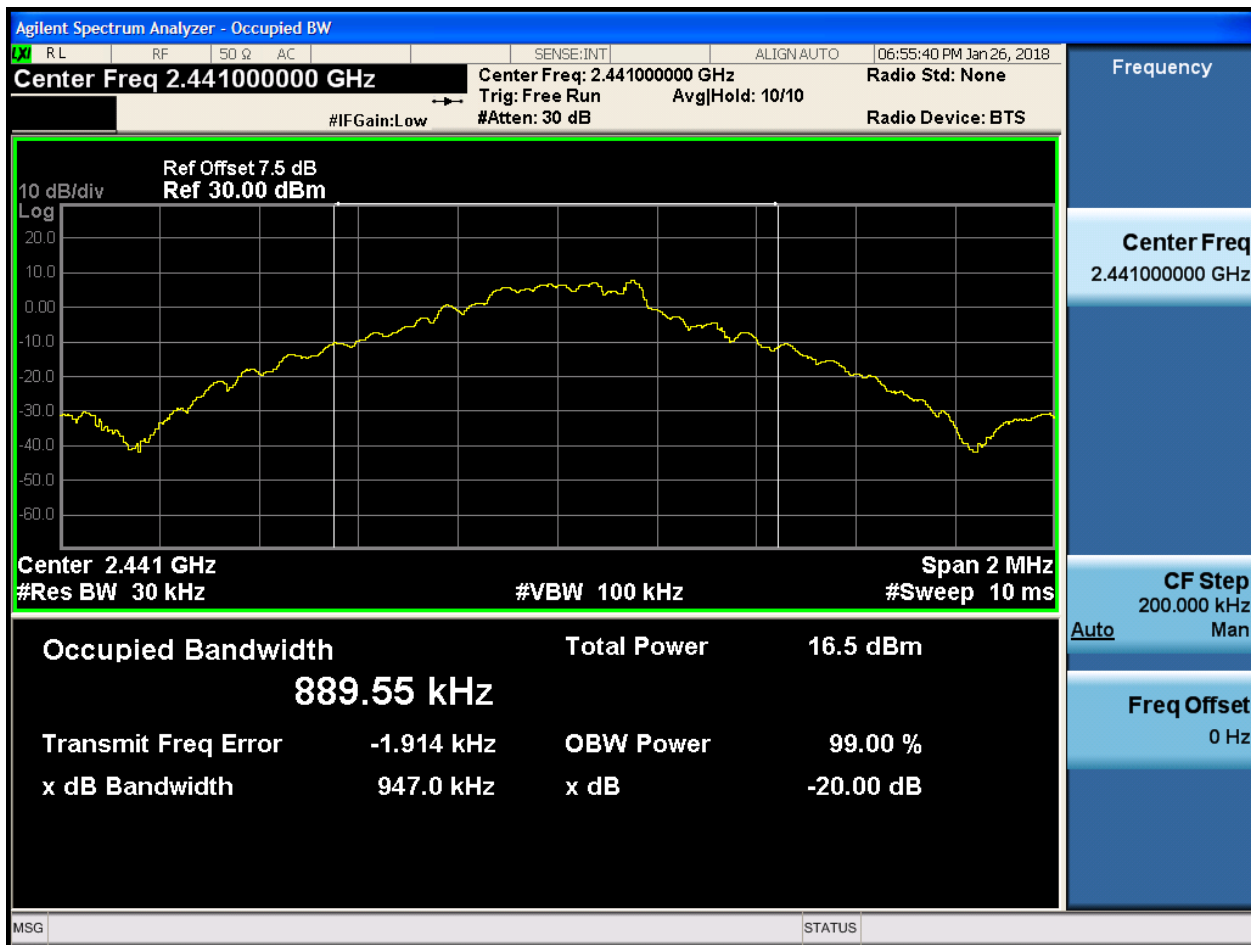
2 Test Plot

2.1 TM1_DH5_Ch0





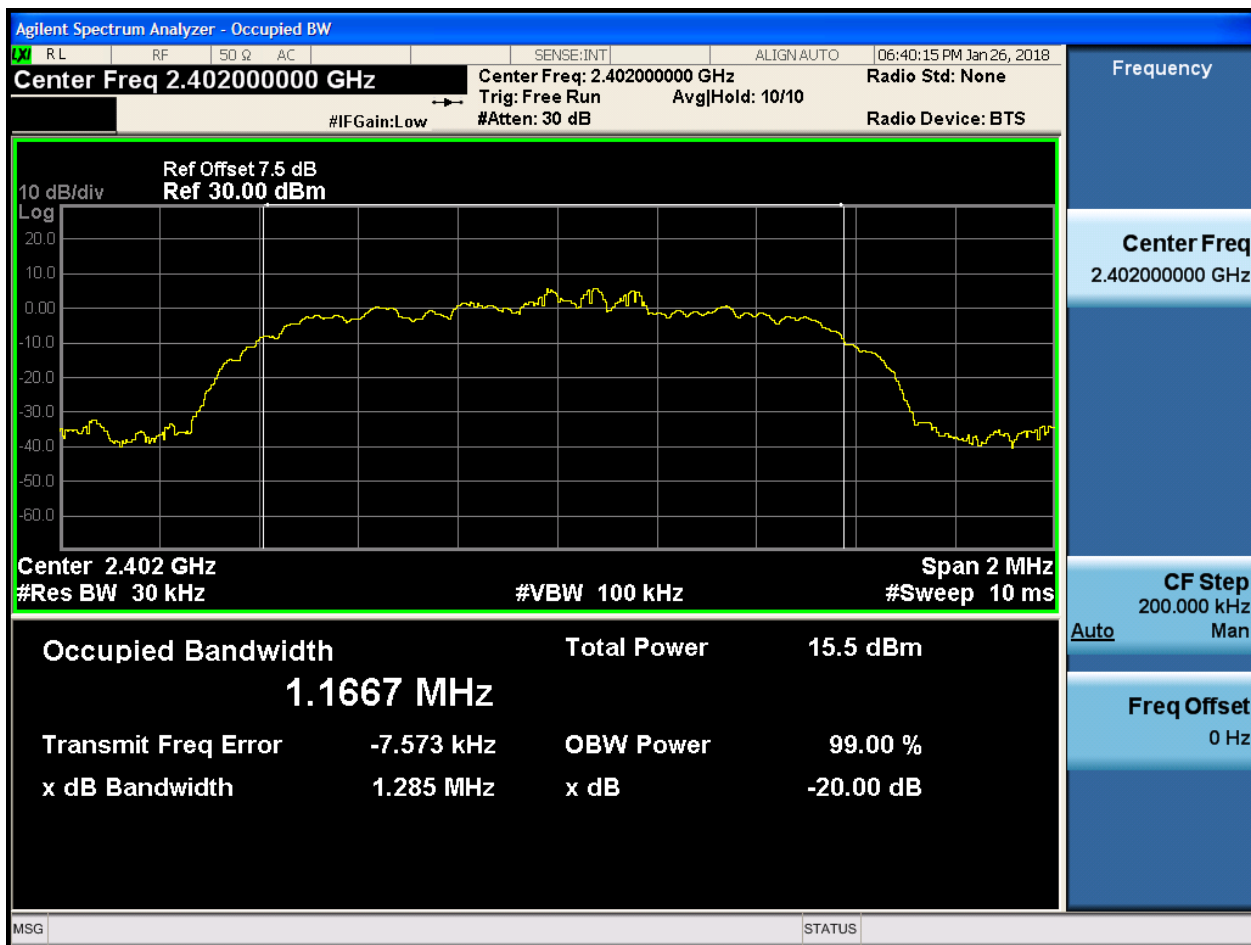
2.2 TM1_DH5_Ch39



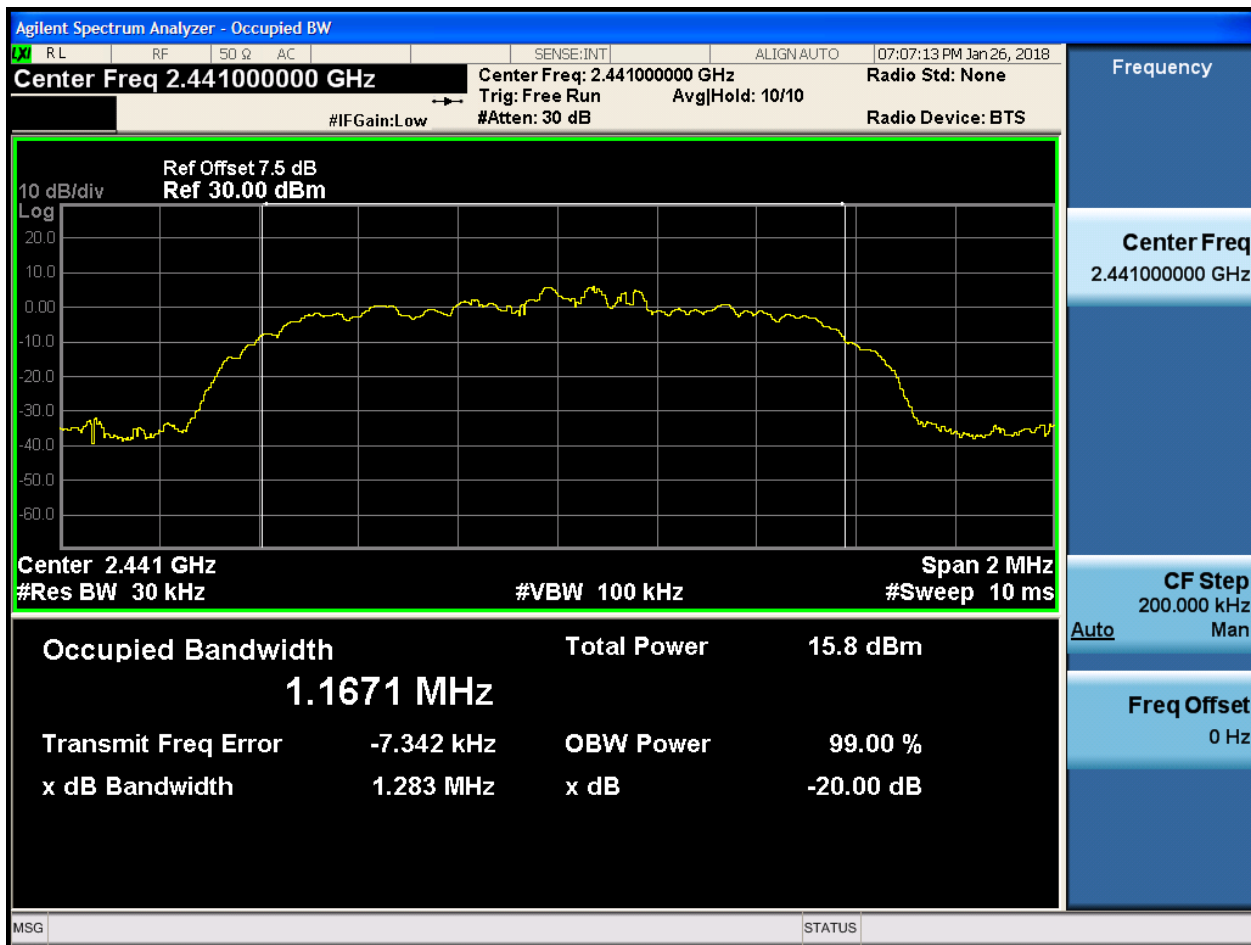
2.3 TM1_DH5_Ch78



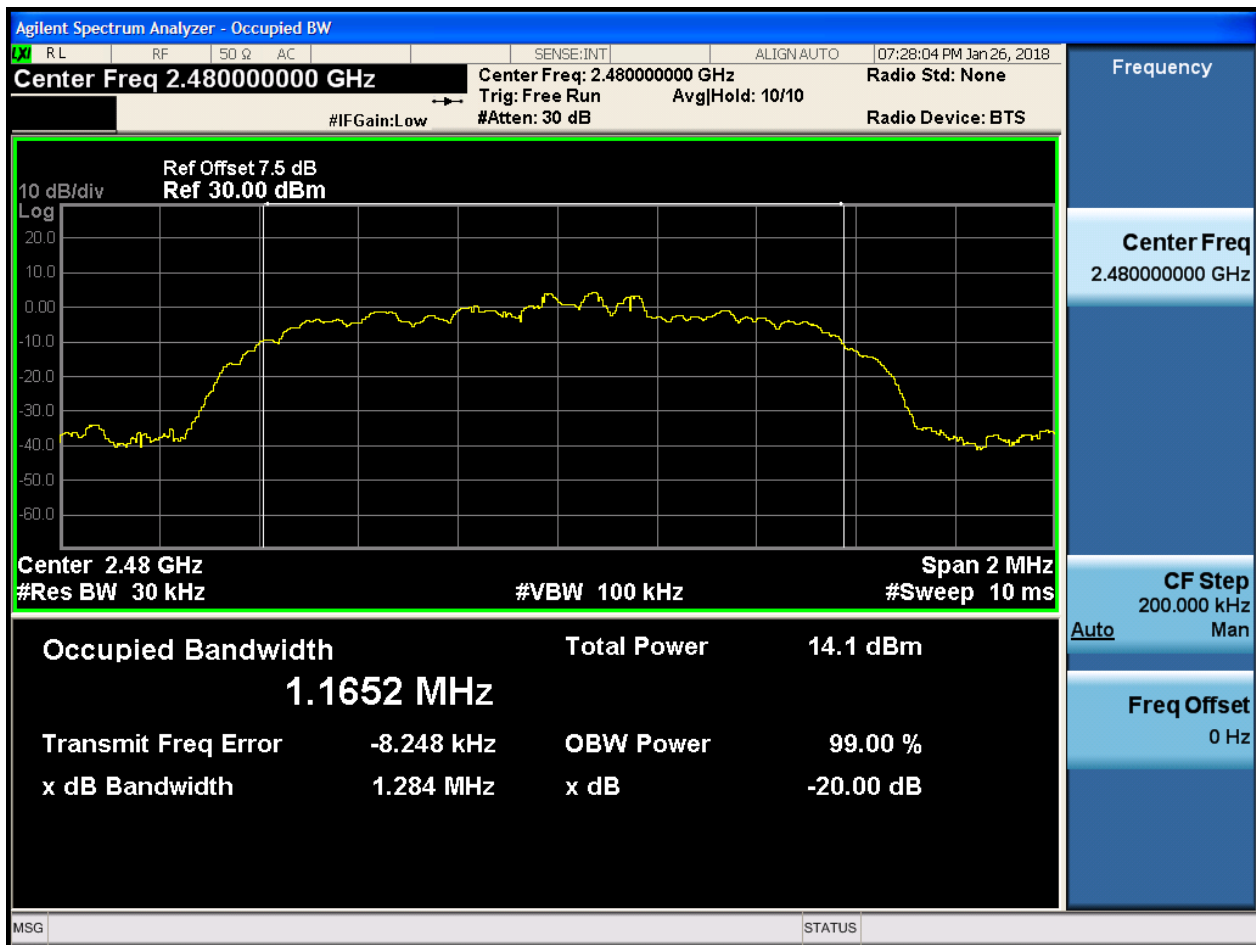
2.4 TM2_2DH5_Ch0



2.5 TM2_2DH5_Ch39

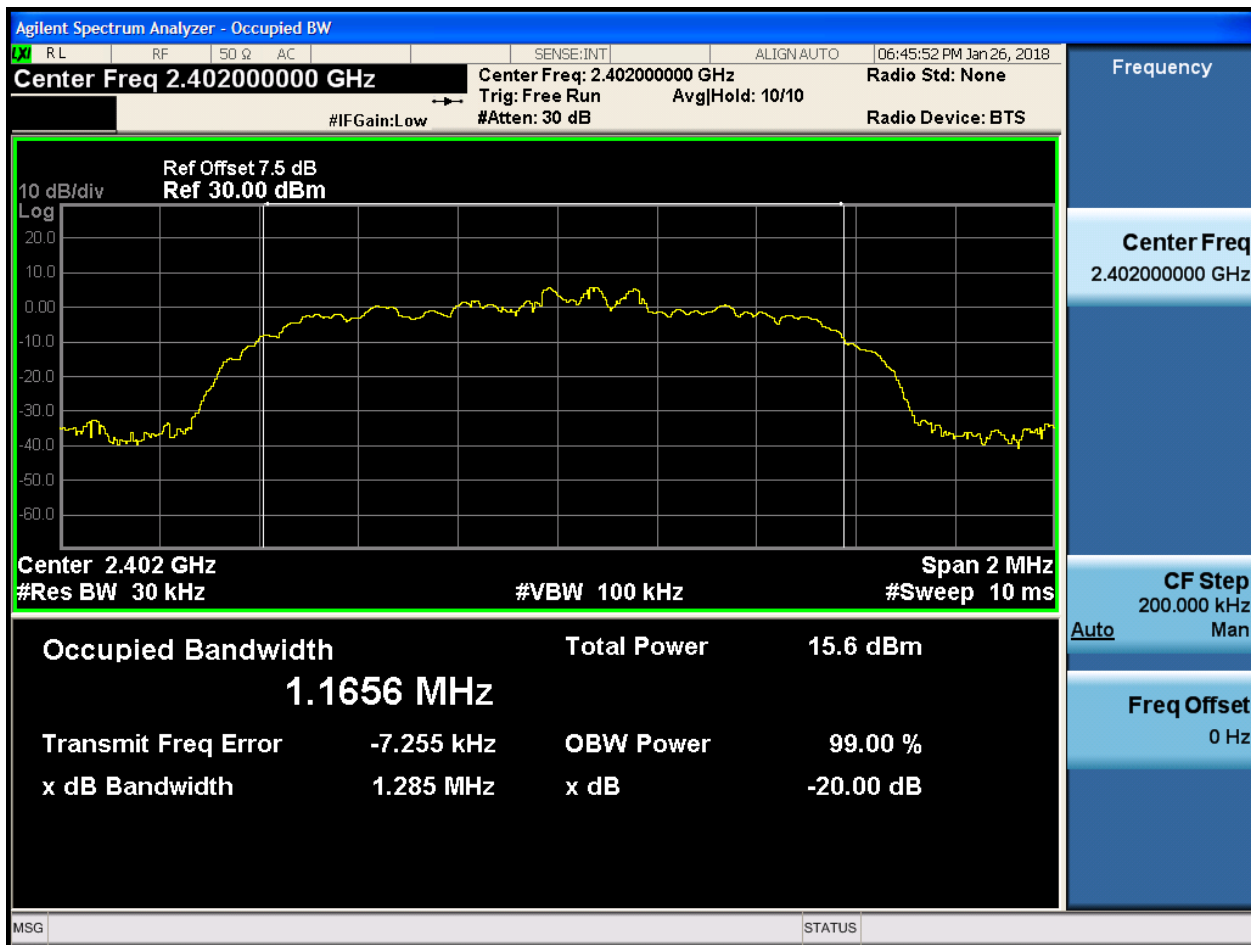


2.6 TM2_2DH5_Ch78



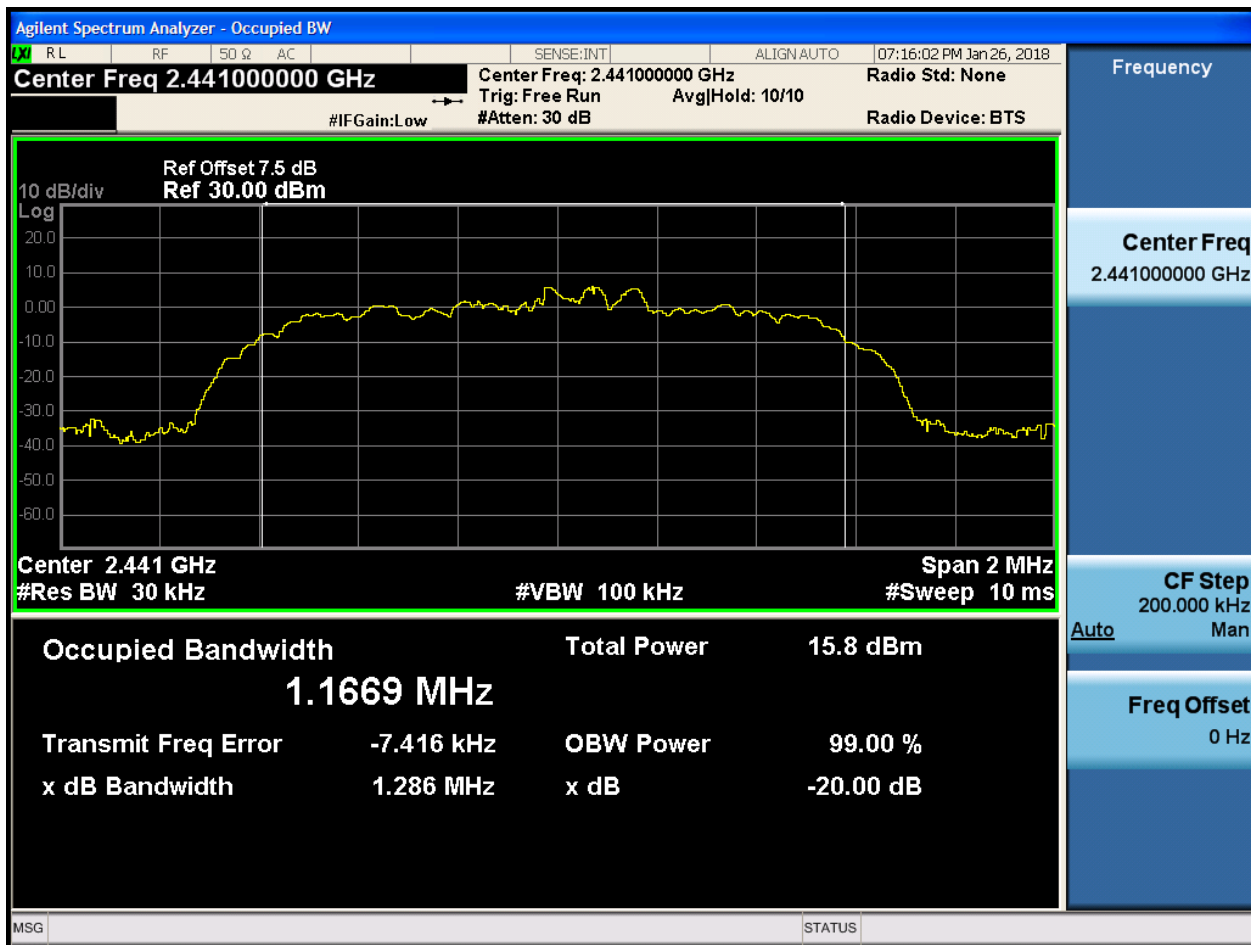


2.7 TM3_3DH5_Ch0



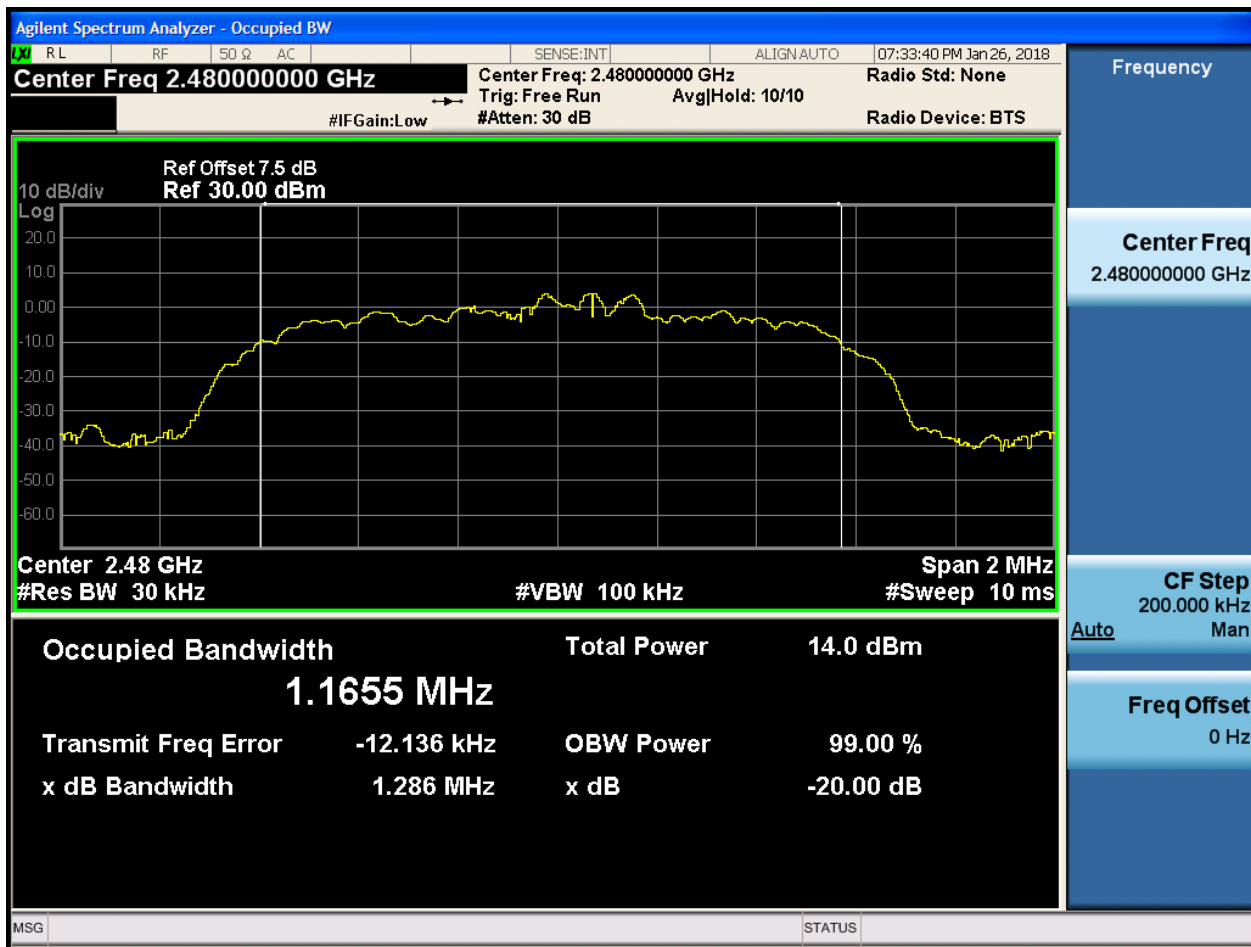


2.8 TM3_3DH5_Ch39





2.9 TM3_3DH5_Ch78



Appendix B: Carrier Frequency Separation



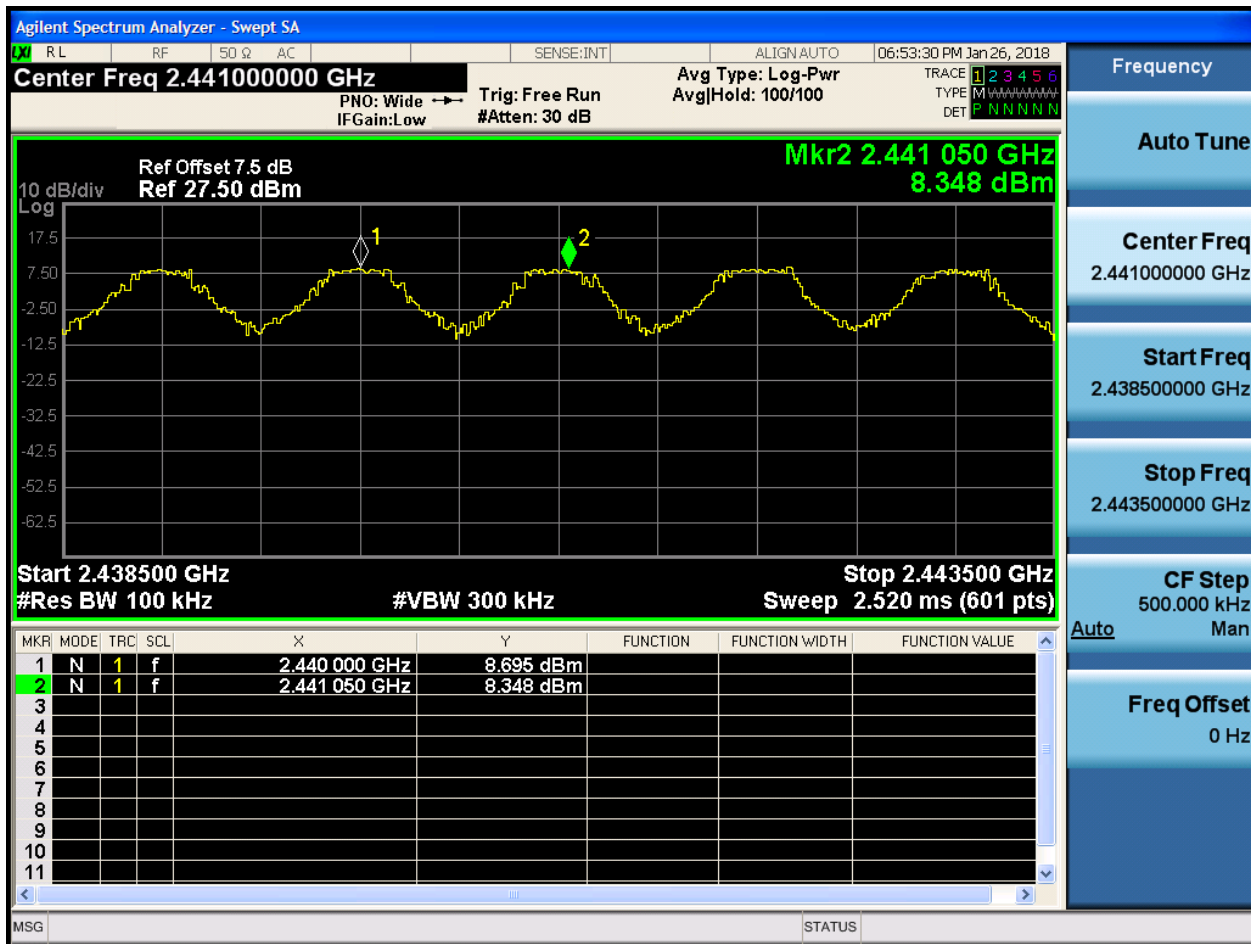
1 Result Table

EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.05	Pass
TM2_2DH5_Hop	1	Pass
TM3_3DH5_Hop	1.1	Pass



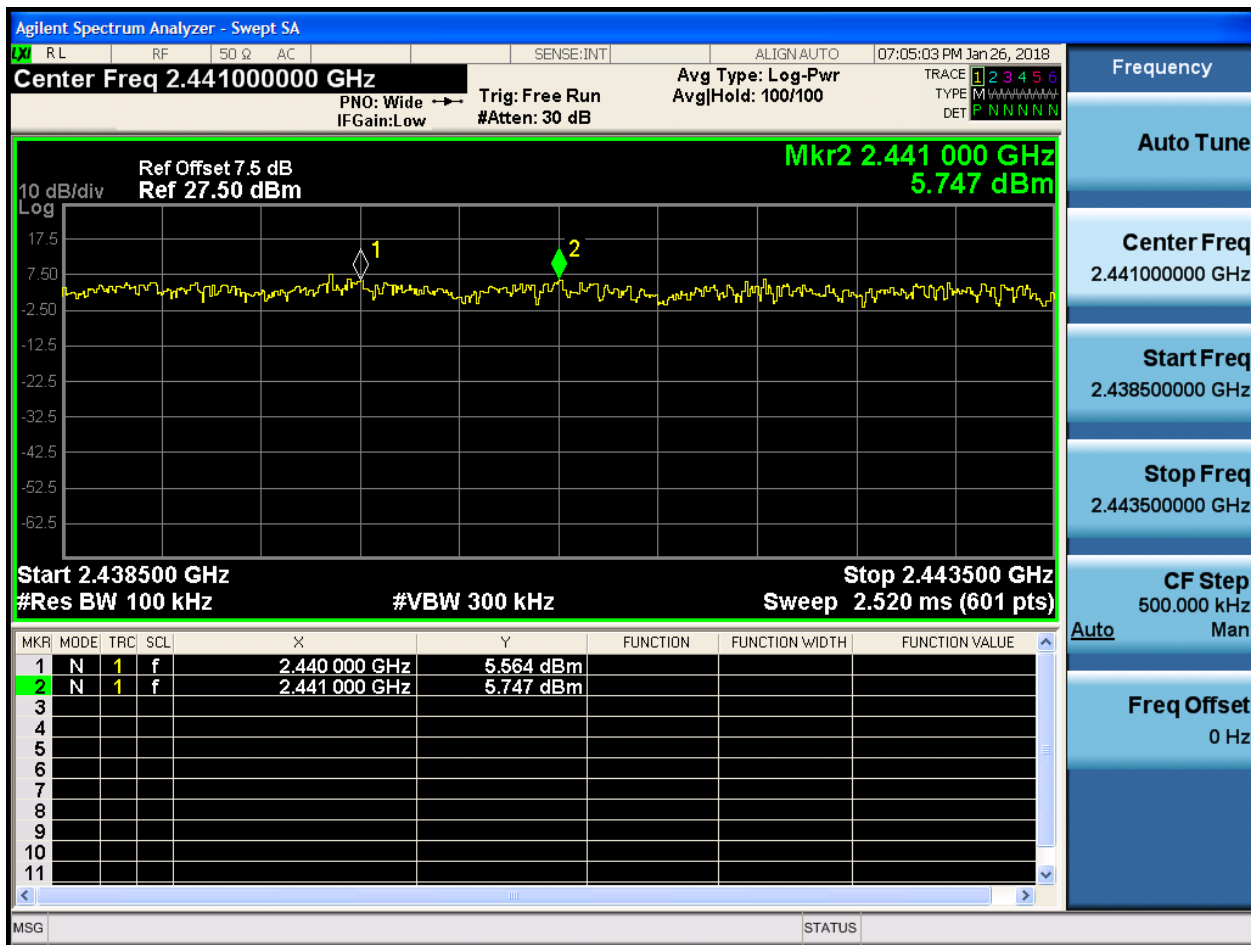
2 Test Plot

2.1 TM1_DH5_Hop



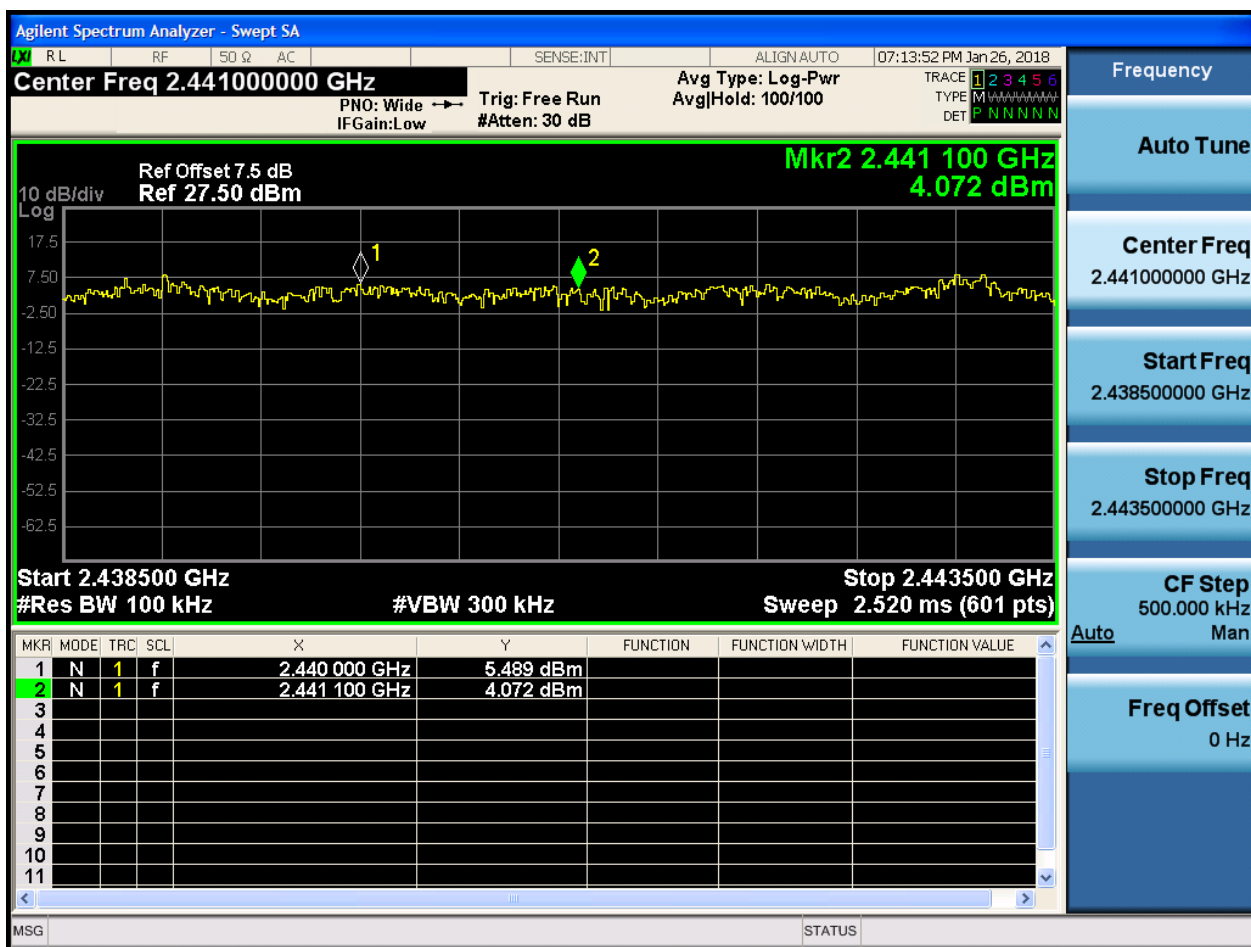


2.2 TM2_2DH5_Hop





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

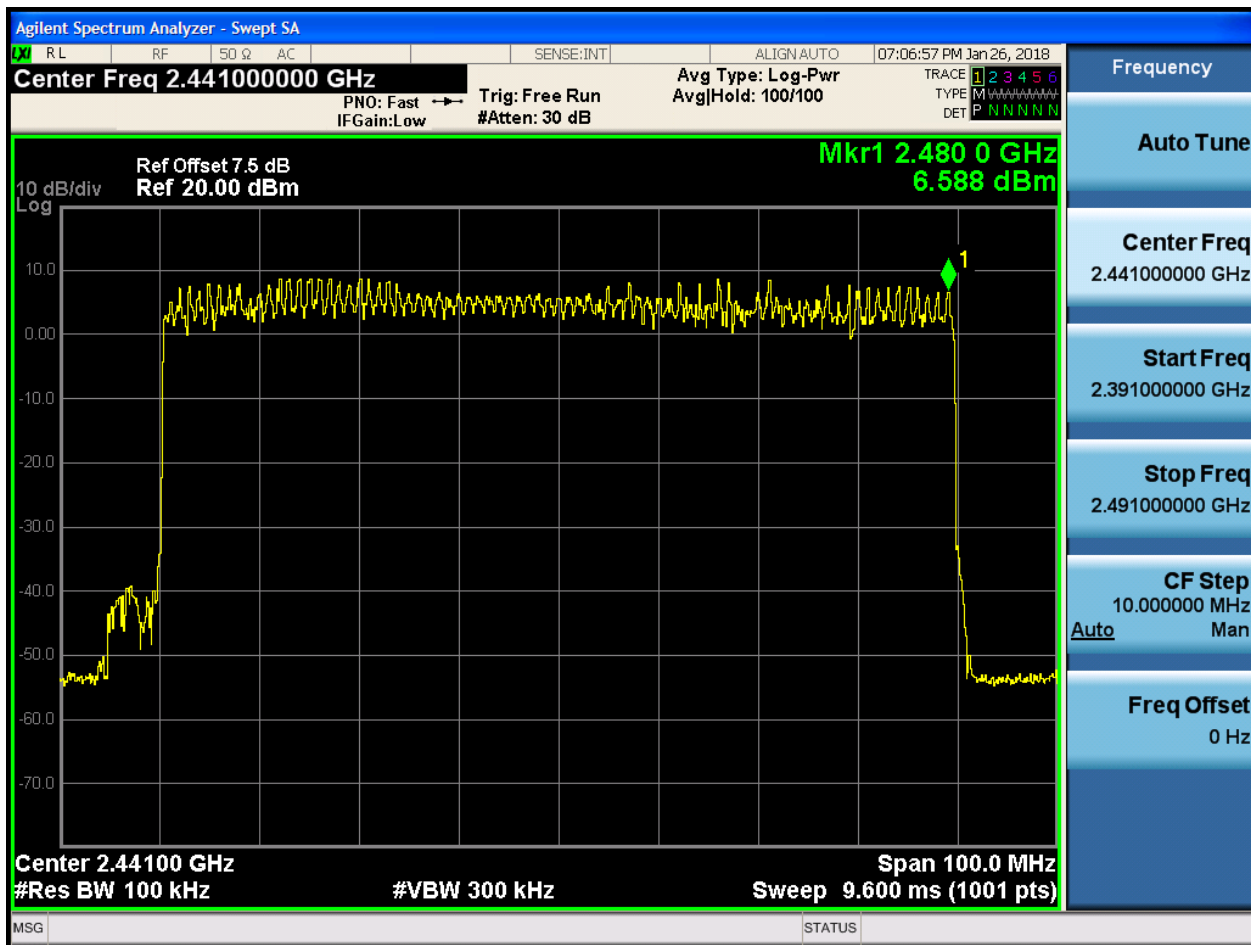
2 Test Plot

2.1 TM1_DH5_Hop



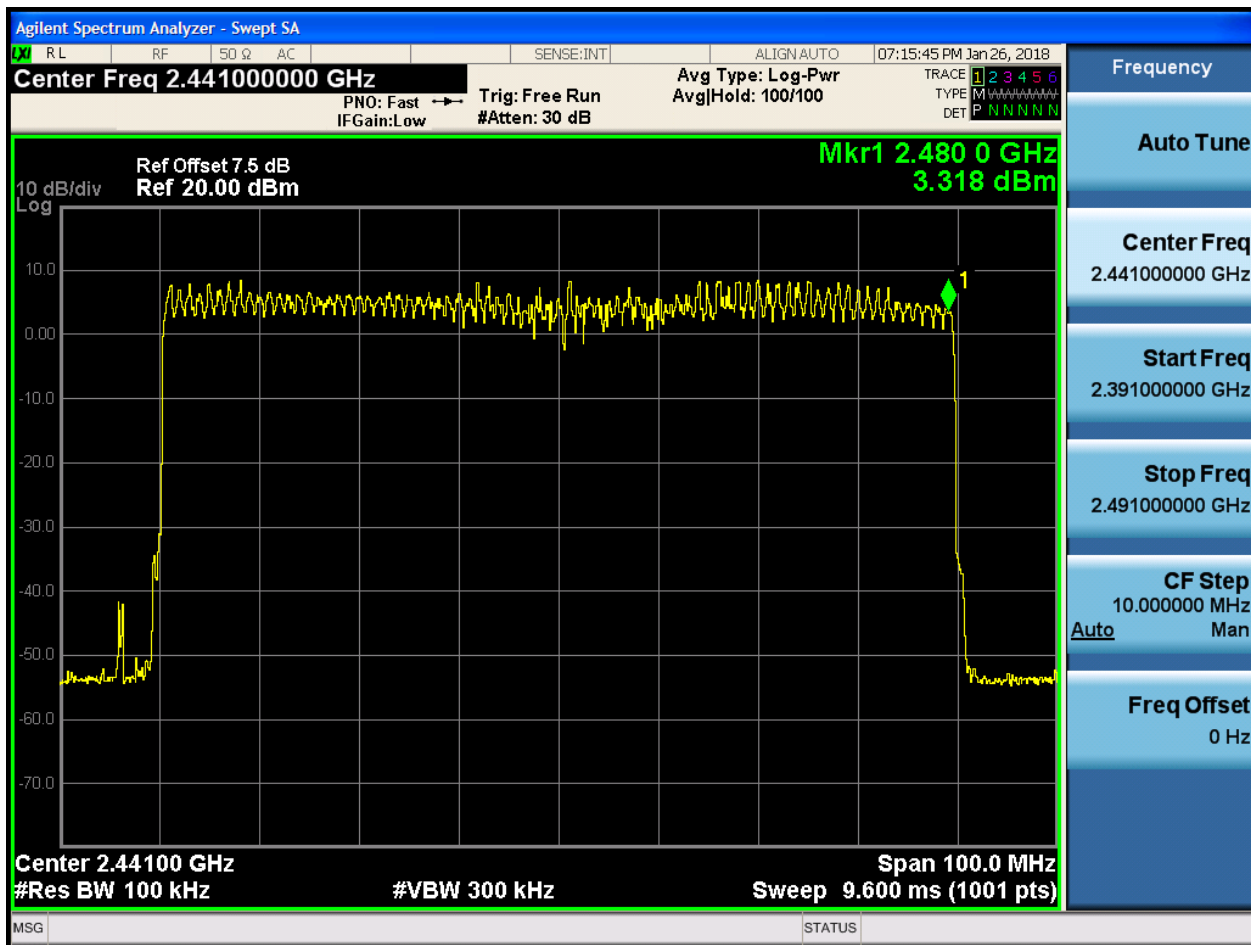


2.2 TM2_2DH5_Hop





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: $106.67 \text{ [hop*ch]} * \text{Burst Width [ms/hop/ch]}$.

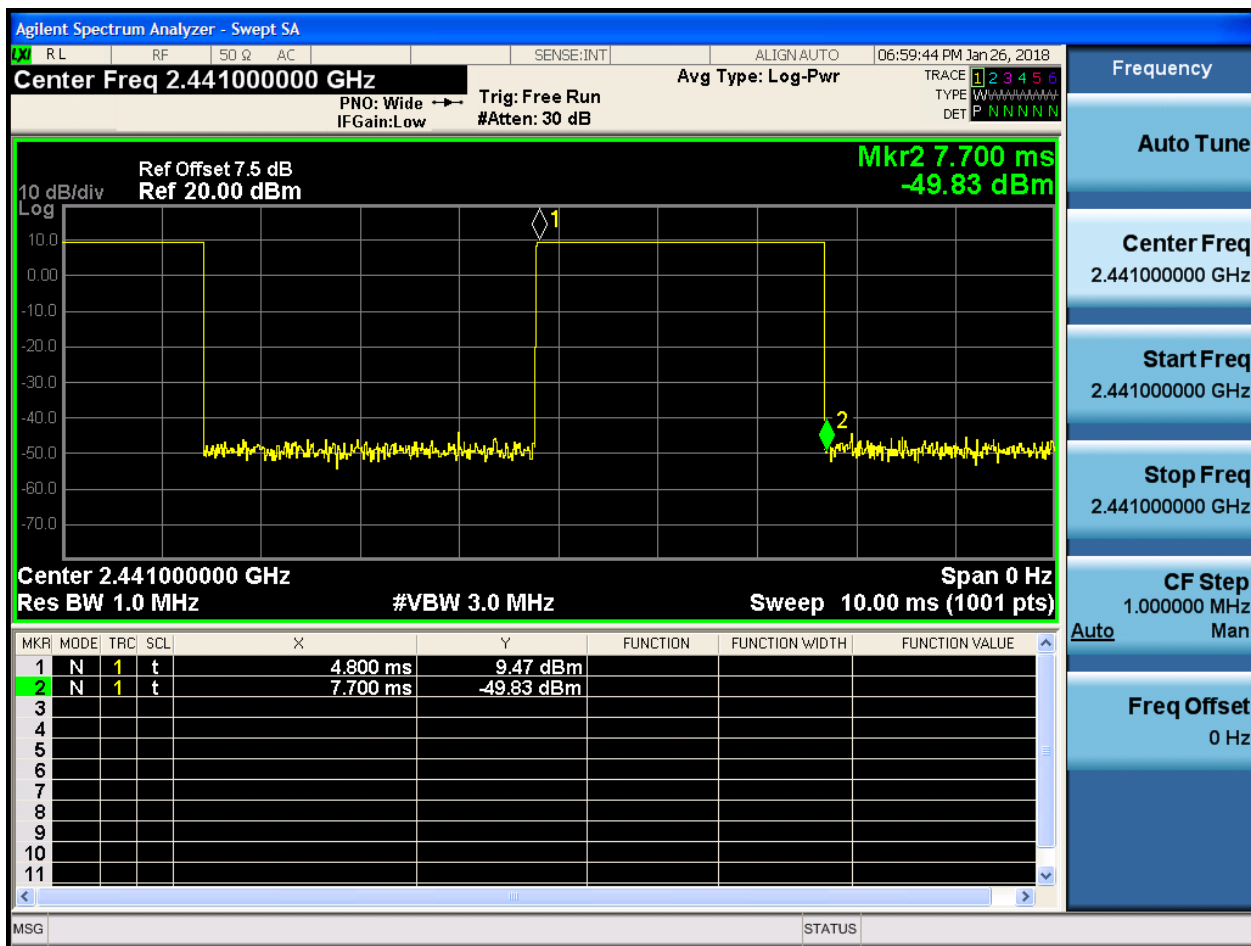
EUT Conf.	Burst Width [s/hop/ch]	Total Hops [hop*ch]	Dwell Time [ms]	Verdict
TM1_DH5_Ch39	0.0029	106.67	0.309	Pass
TM2_2DH5_Ch39	0.0029	106.67	0.309	Pass
TM3_3DH5_Ch39	0.0029	106.67	0.309	Pass



2 Test Plot

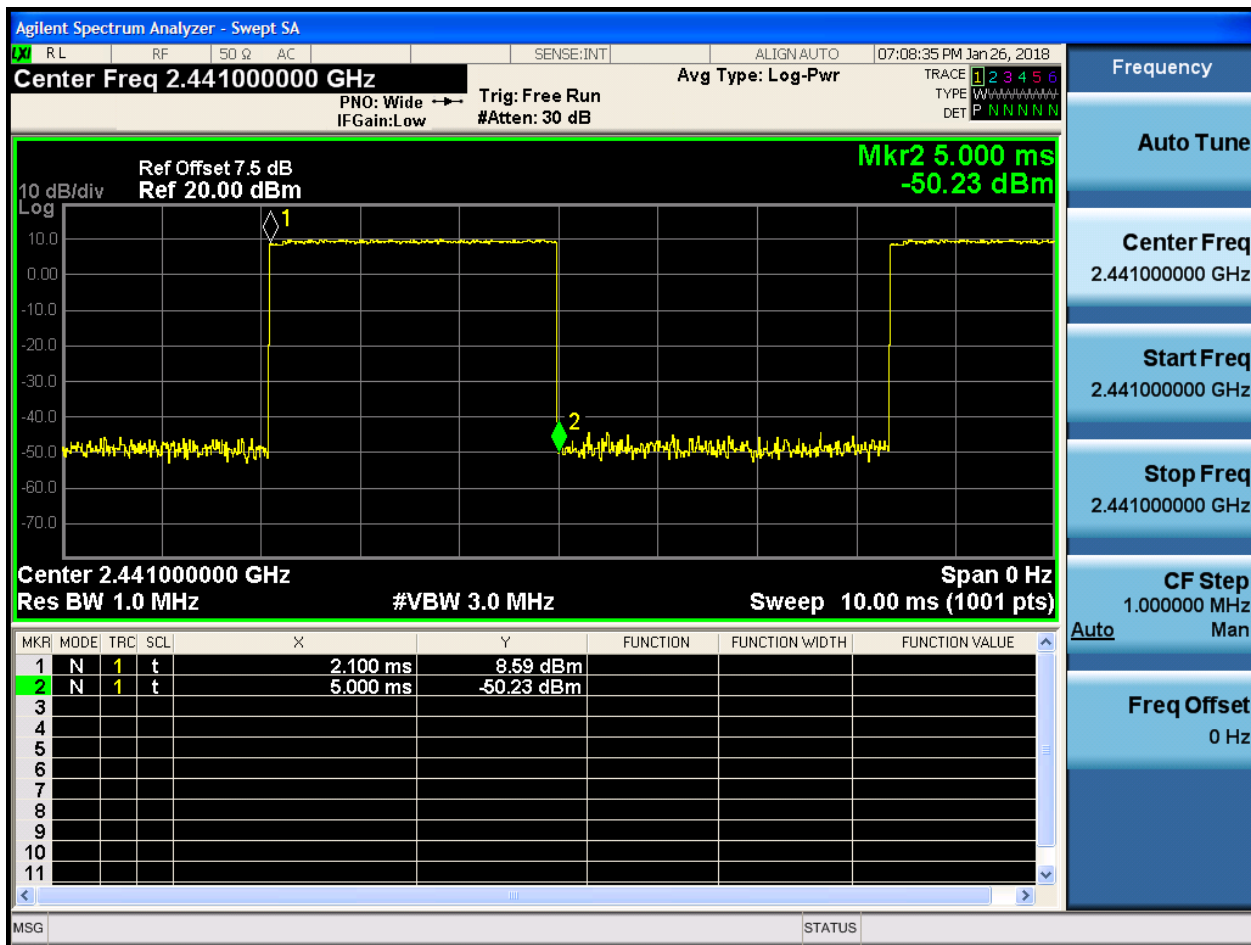
NOTE: The test plots are only for Burst Width measurements.

2.1 TM1_DH5_Ch39



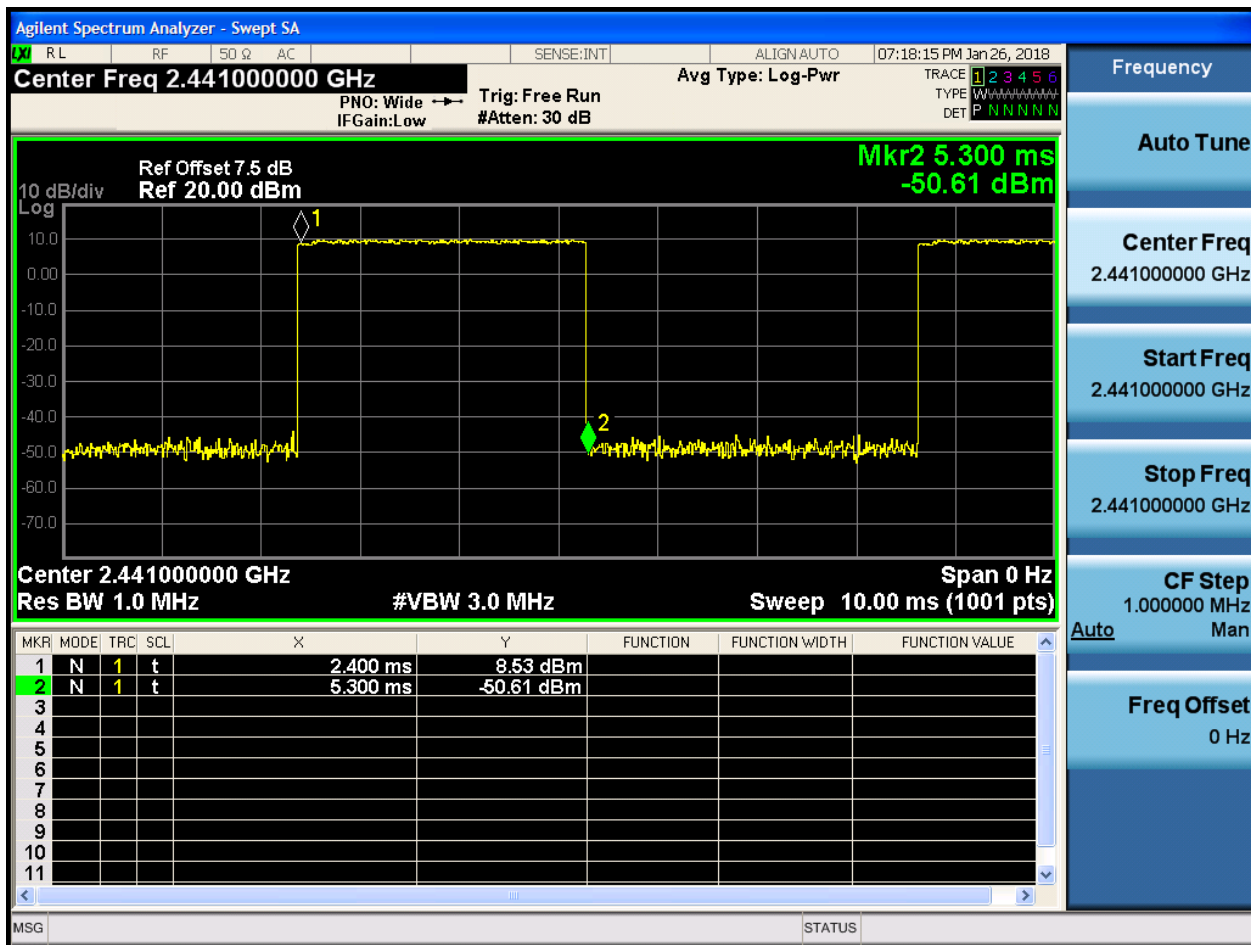


2.2 TM2_2DH5_Ch39





2.3 TM3_3DH5_Ch39



Appendix E: Maximum Peak Conducted Output Power

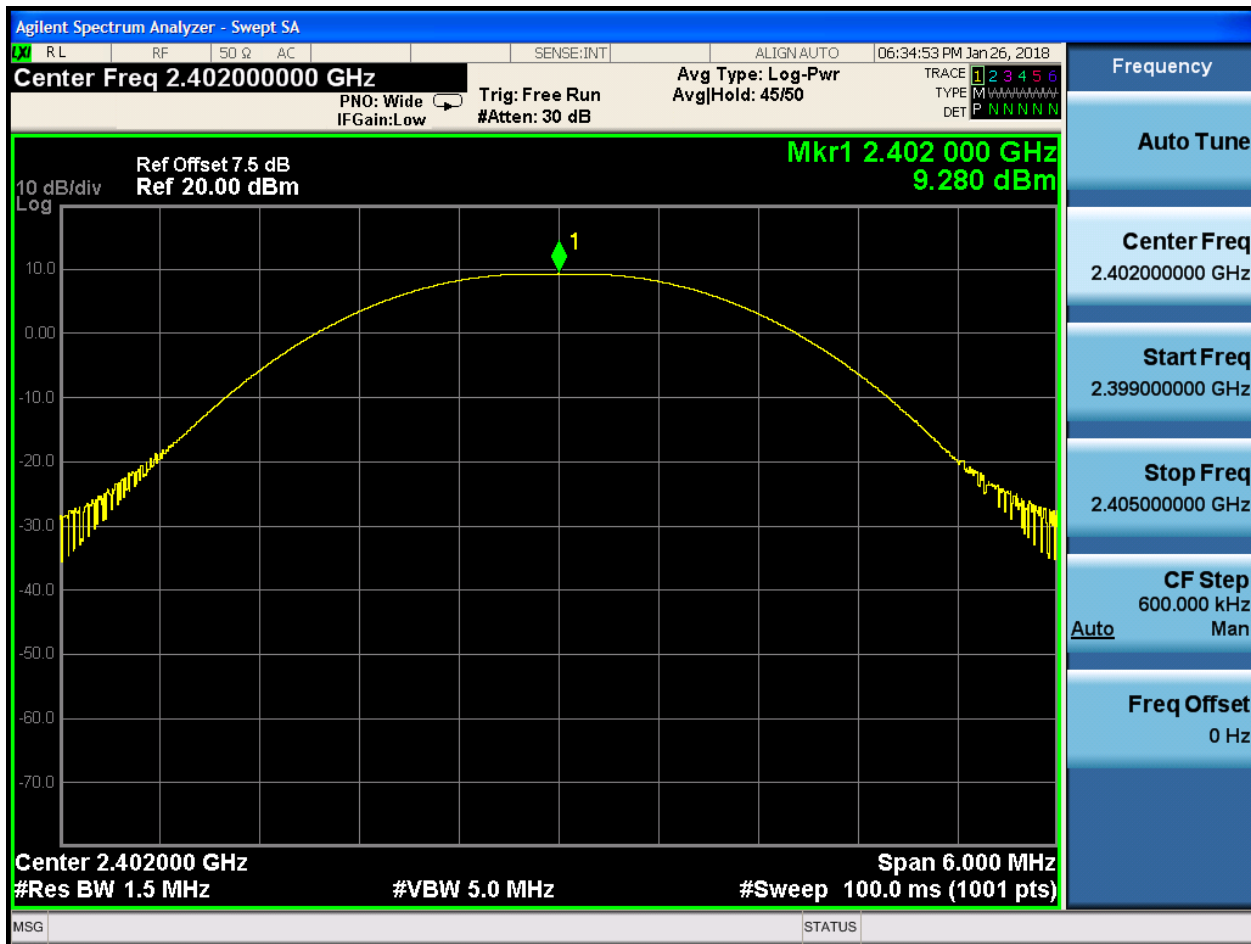


1 Result Table

EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	9.28	Pass
TM1_DH5_Ch39	13.316	Pass
TM1_DH5_Ch78	7.867	Pass
TM2_2DH5_Ch0	10.072	Pass
TM2_2DH5_Ch39	10.314	Pass
TM2_2DH5_Ch78	8.576	Pass
TM3_3DH5_Ch0	10.075	Pass
TM3_3DH5_Ch39	10.336	Pass
TM3_3DH5_Ch78	8.433	Pass

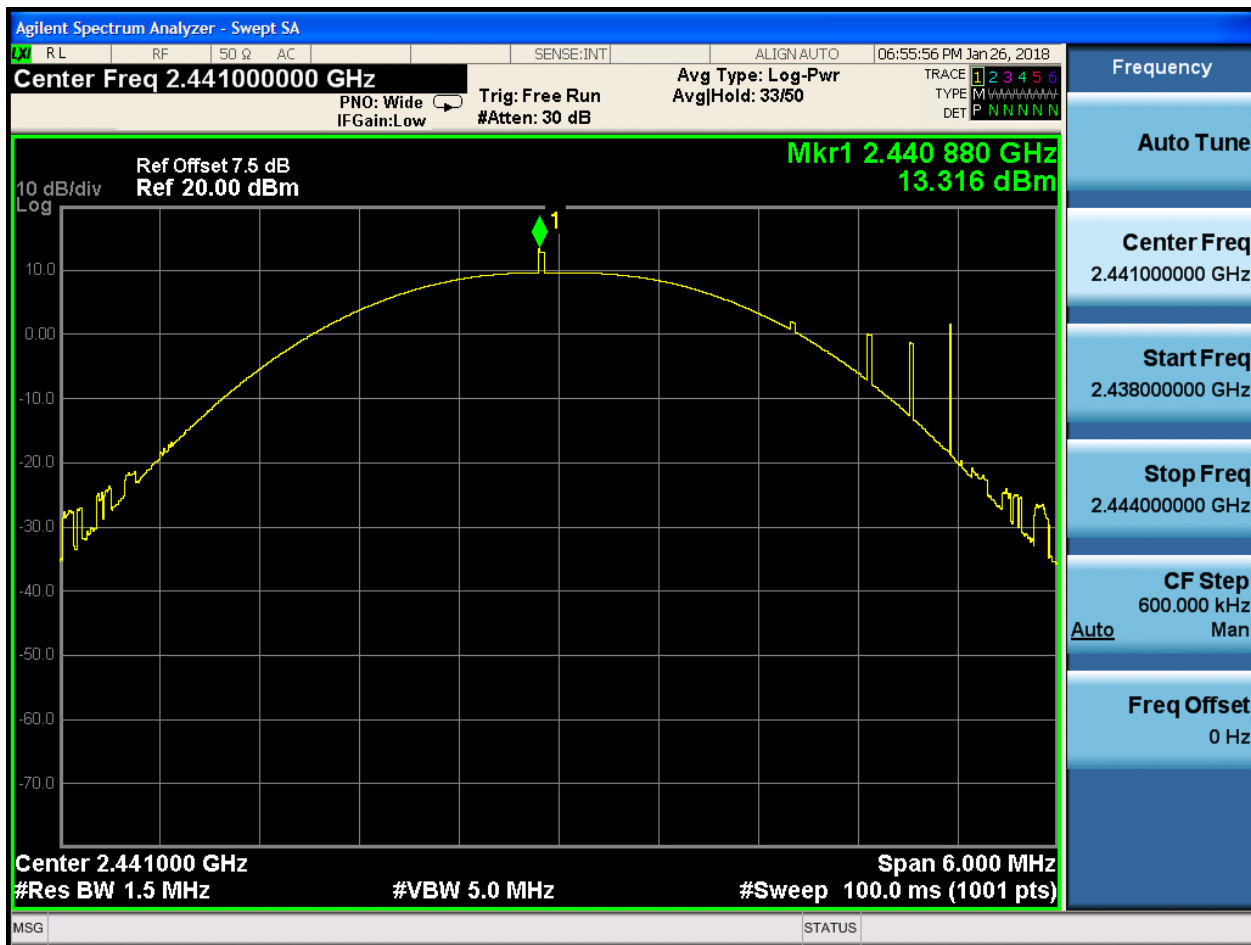
2 Test Plot

2.1 TM1_DH5_Ch0



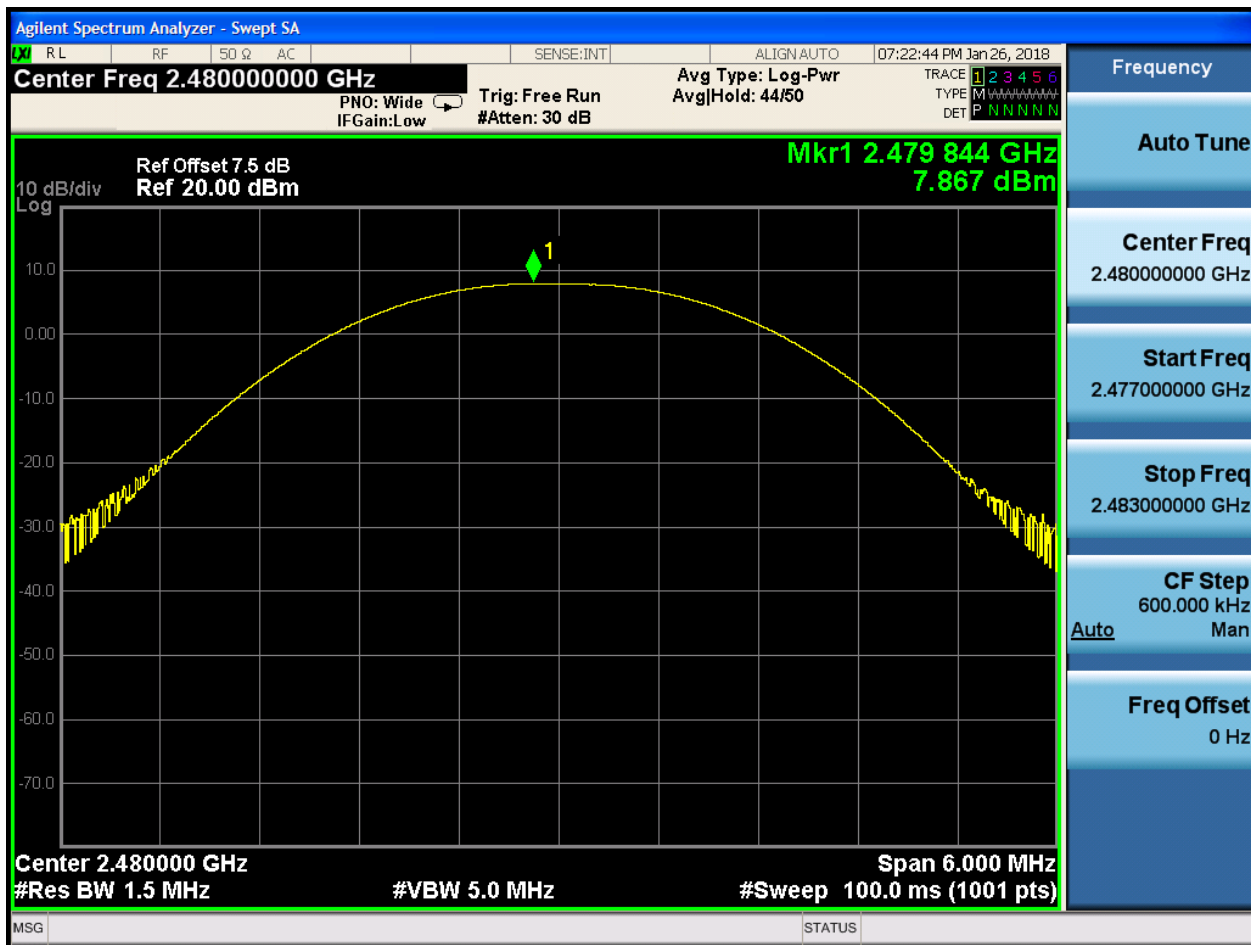


2.2 TM1_DH5_Ch39

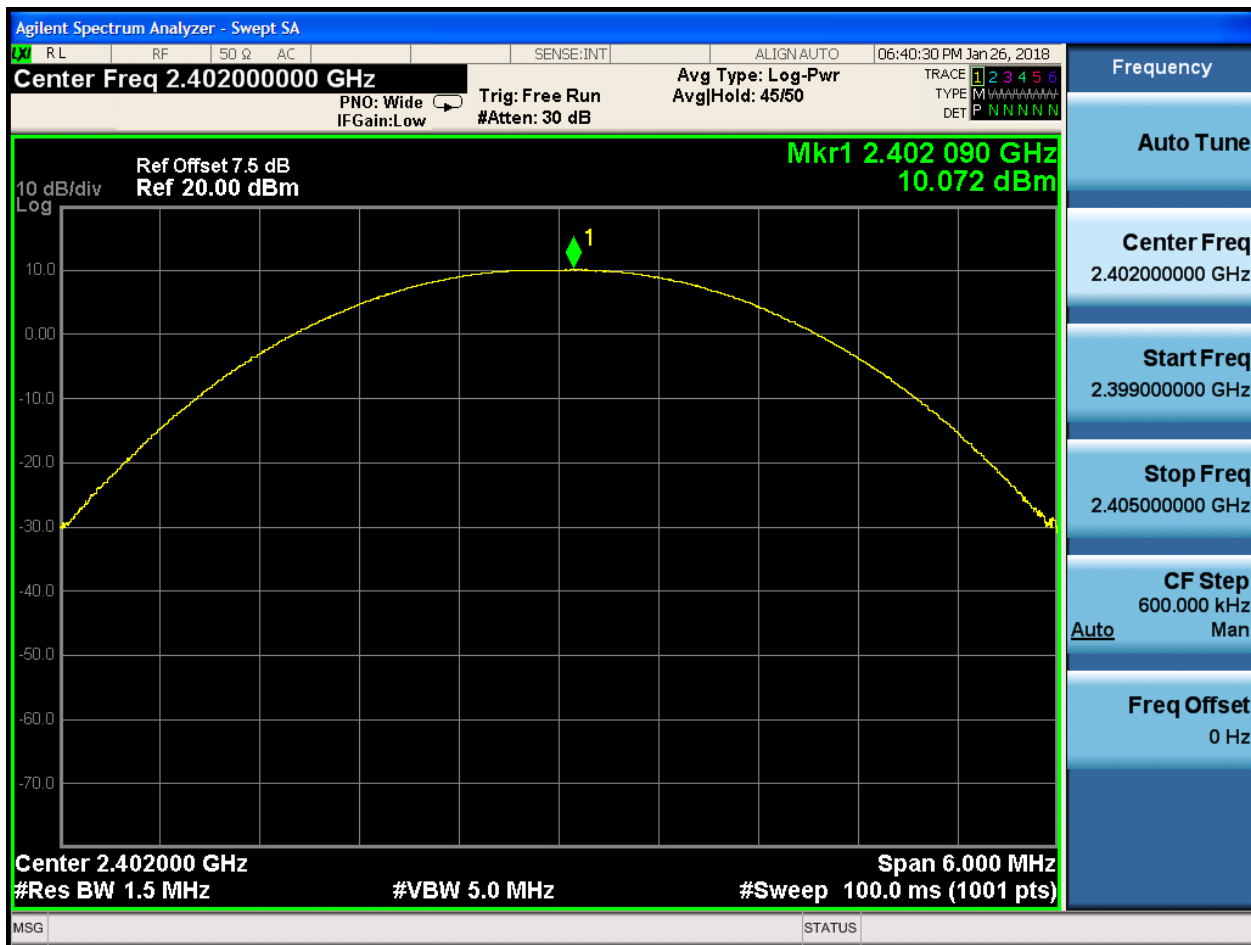




2.3 TM1_DH5_Ch78

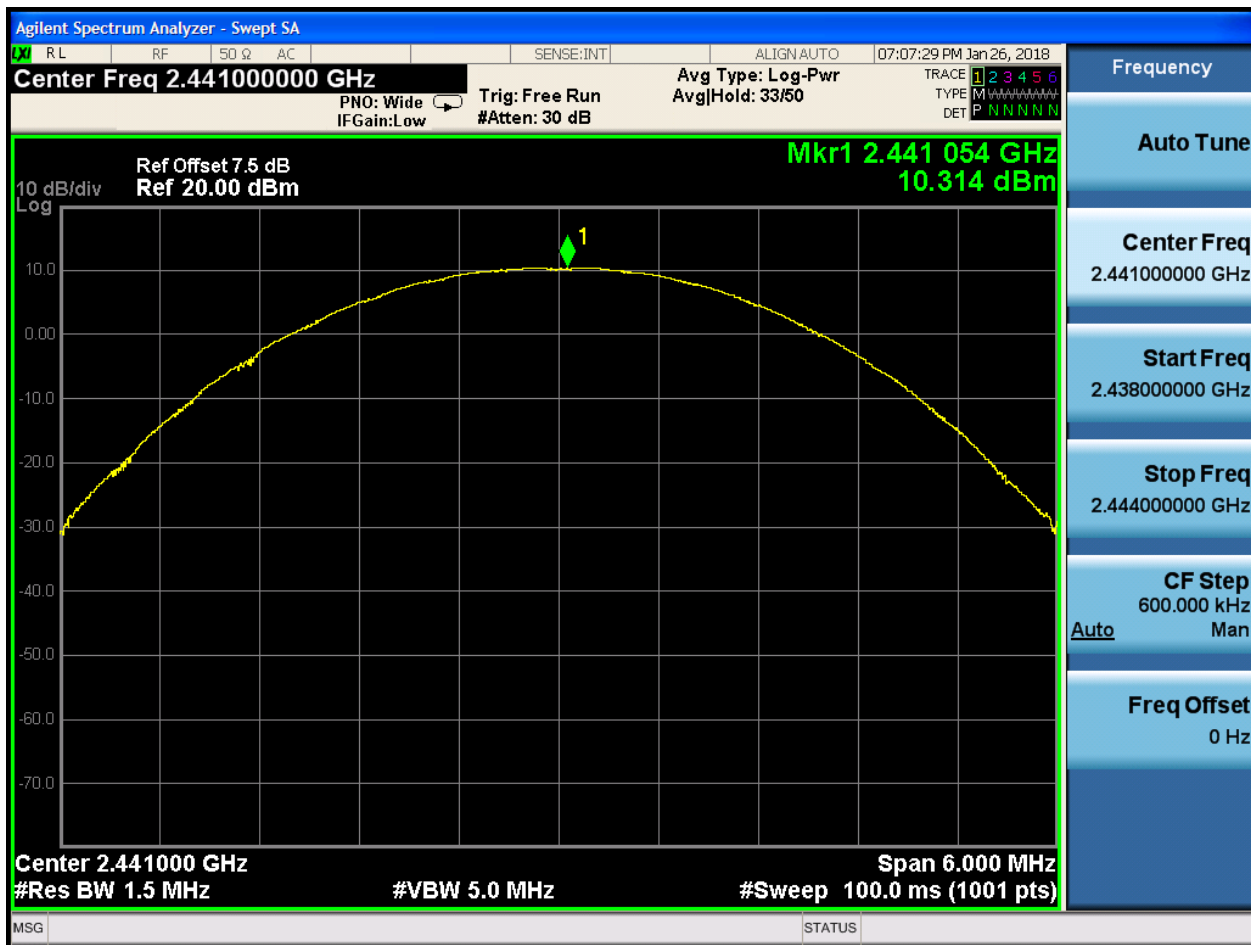


2.4 TM2_2DH5_Ch0

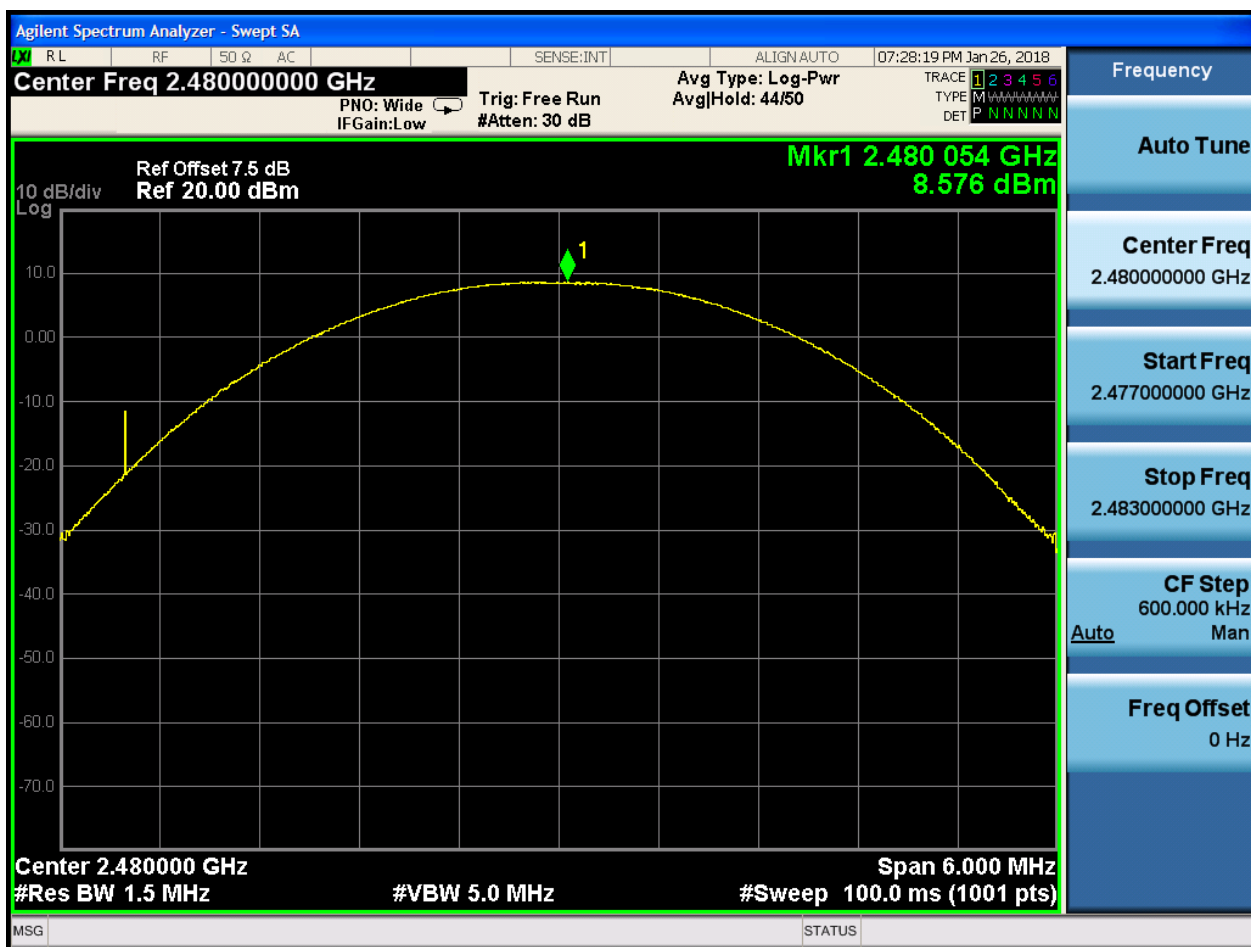




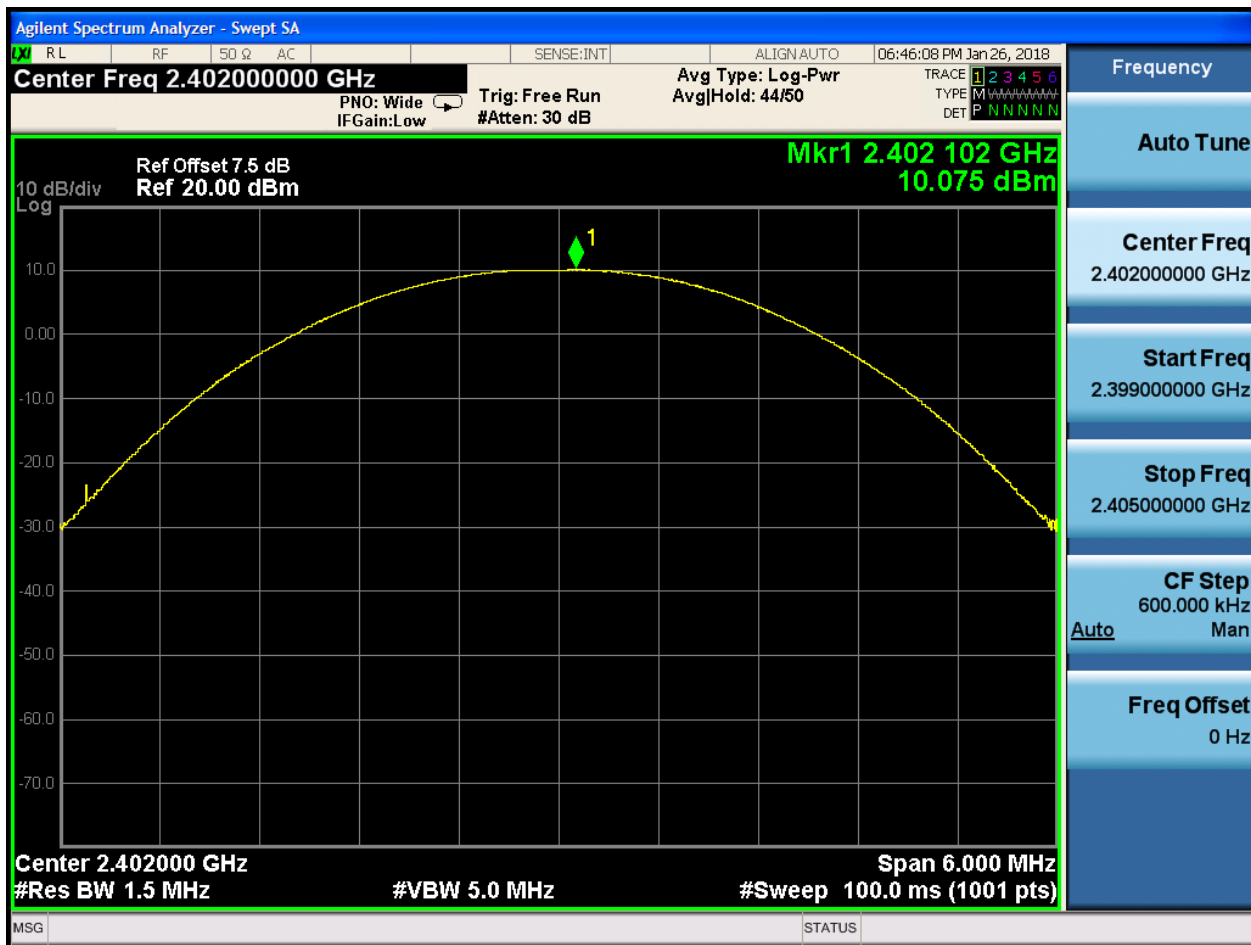
2.5 TM2_2DH5_Ch39



2.6 TM2_2DH5_Ch78

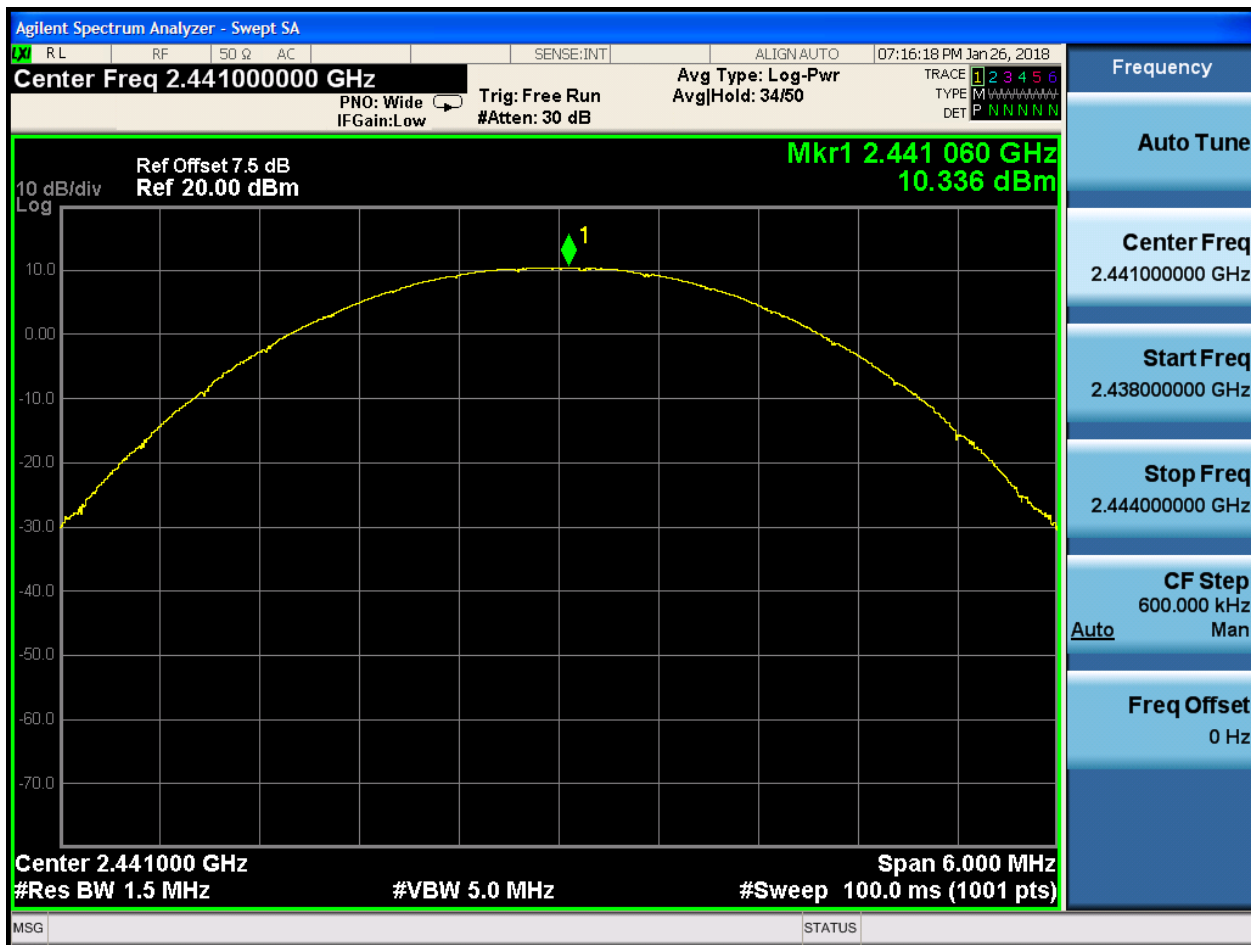


2.7 TM3_3DH5_Ch0



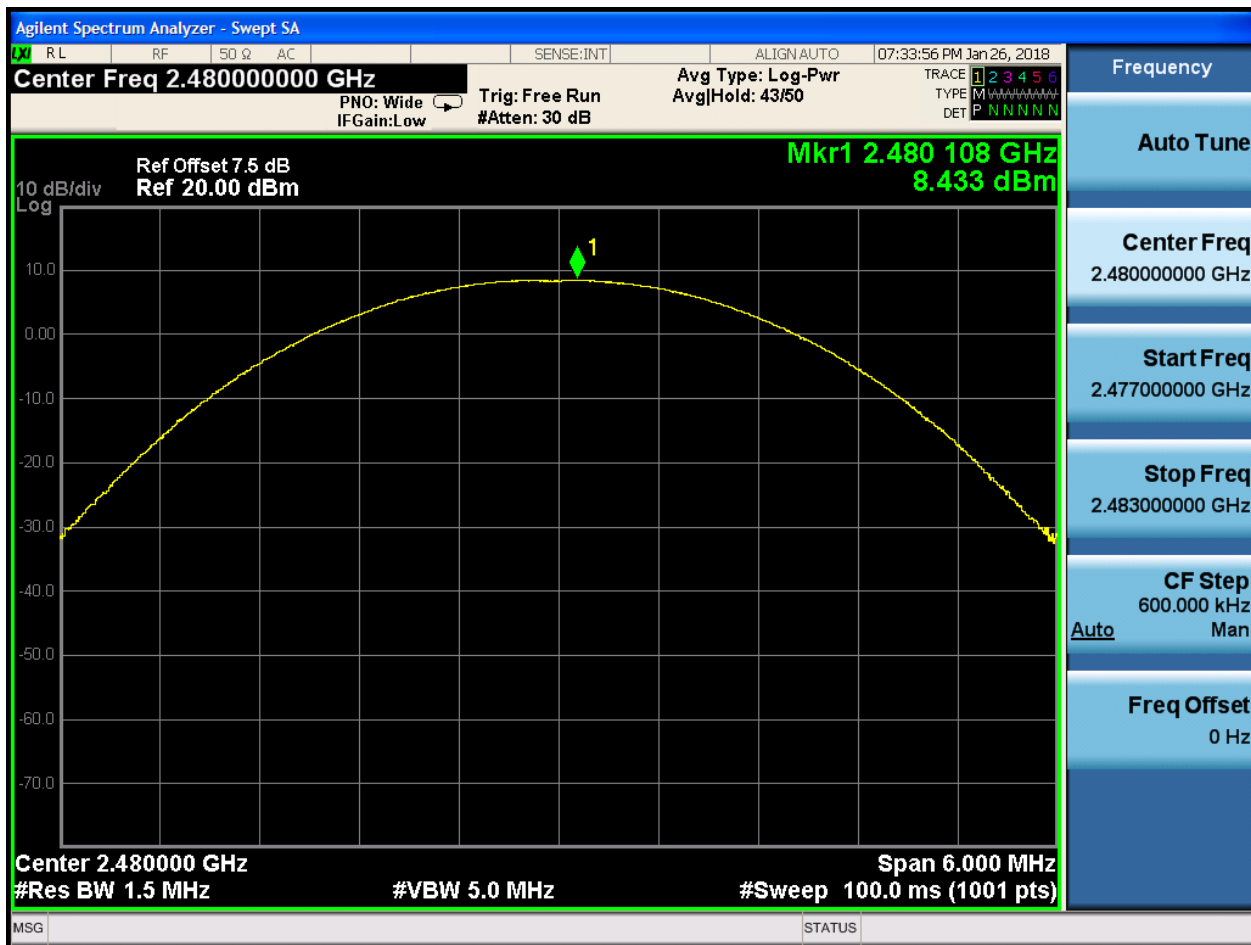


2.8 TM3_3DH5_Ch39





2.9 TM3_3DH5_Ch78

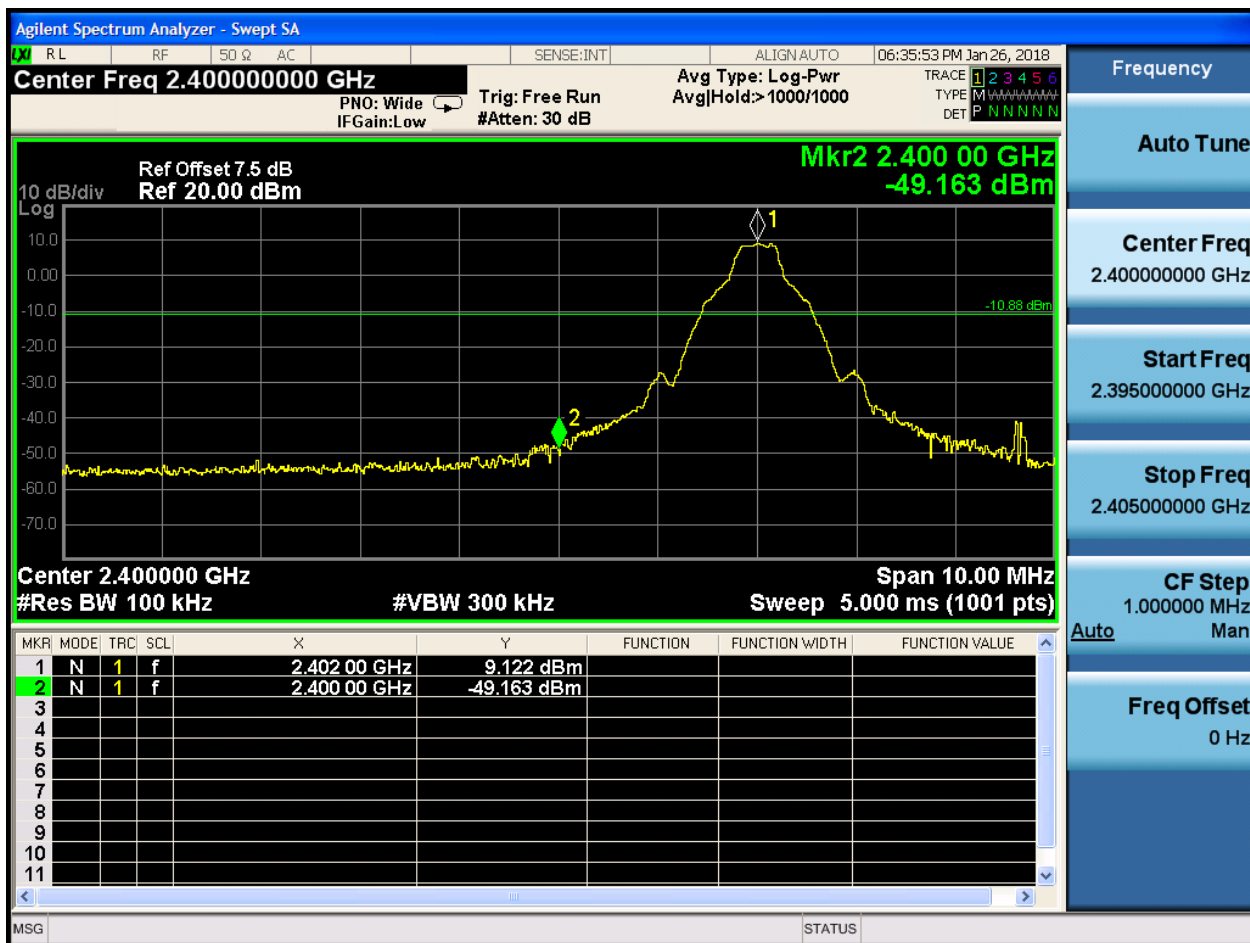


Appendix F: Band edge spurious emission

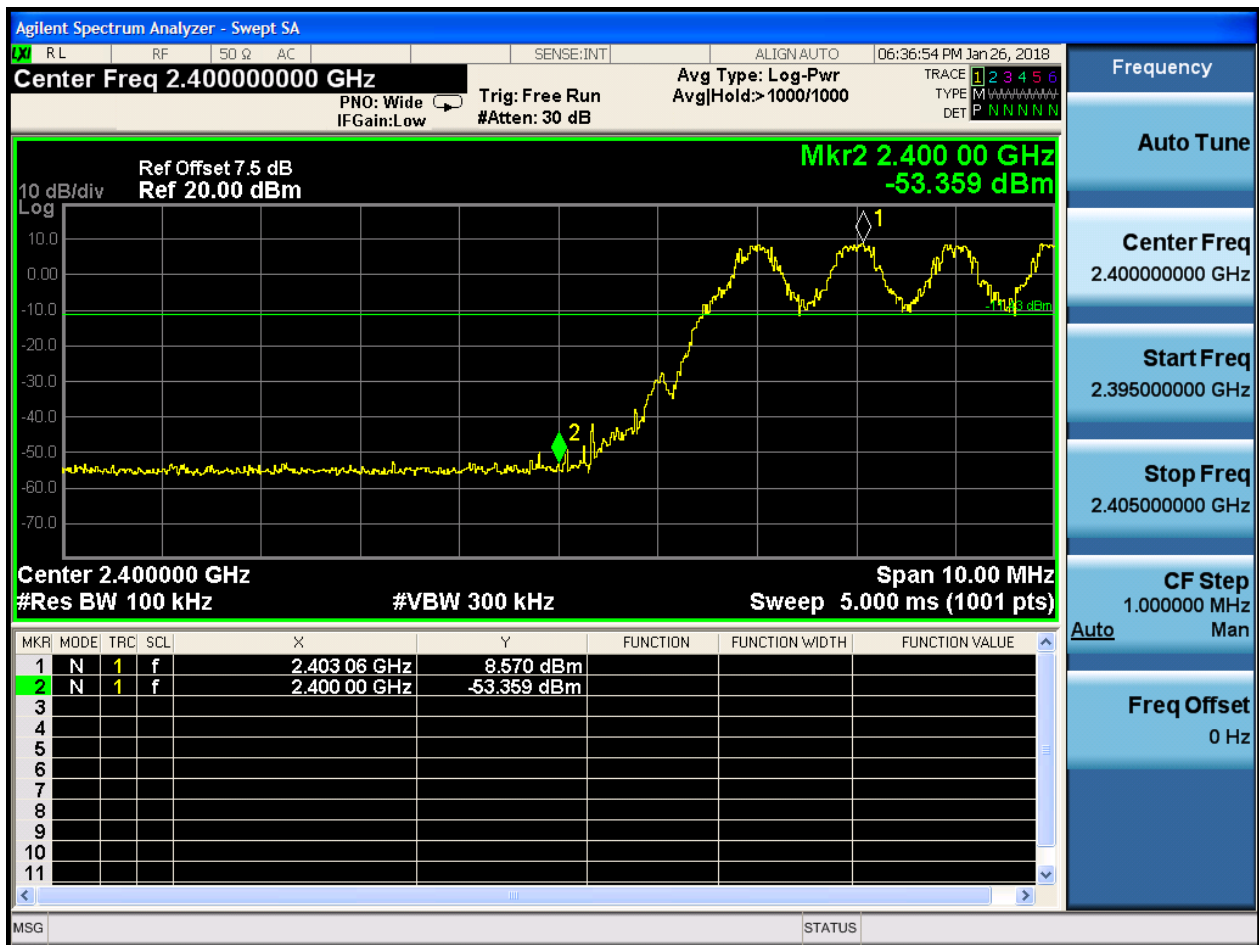
1 Result Table

EUT Conf.	Chan nel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5_Ch0	0	2402	-49.163	Off	9.122	-10.878	Pass
	-	-	-53.359	On	8.57	-11.43	Pass
TM1_DH5_Ch78	78	2480	-54.303	Off	7.65	-12.35	Pass
	-	-	-54.662	On	7.765	-12.235	Pass
TM2_2DH5_Ch0	0	2402	-48.971	Off	8.2	-11.8	Pass
	-	-	-54.575	On	8.184	-11.816	Pass
TM2_2DH5_Ch78	78	2480	-54.377	Off	6.607	-13.393	Pass
	-	-	-54.952	On	5.872	-14.128	Pass
TM3_3DH5_Ch0	0	2402	-48.957	Off	8.198	-11.802	Pass
	-	-	-54.331	On	8.057	-11.943	Pass
TM3_3DH5_Ch78	78	2480	-55.071	Off	6.523	-13.477	Pass
	-	-	-55.404	On	4.309	-15.691	Pass

2.1 TM1_DH5_Ch0



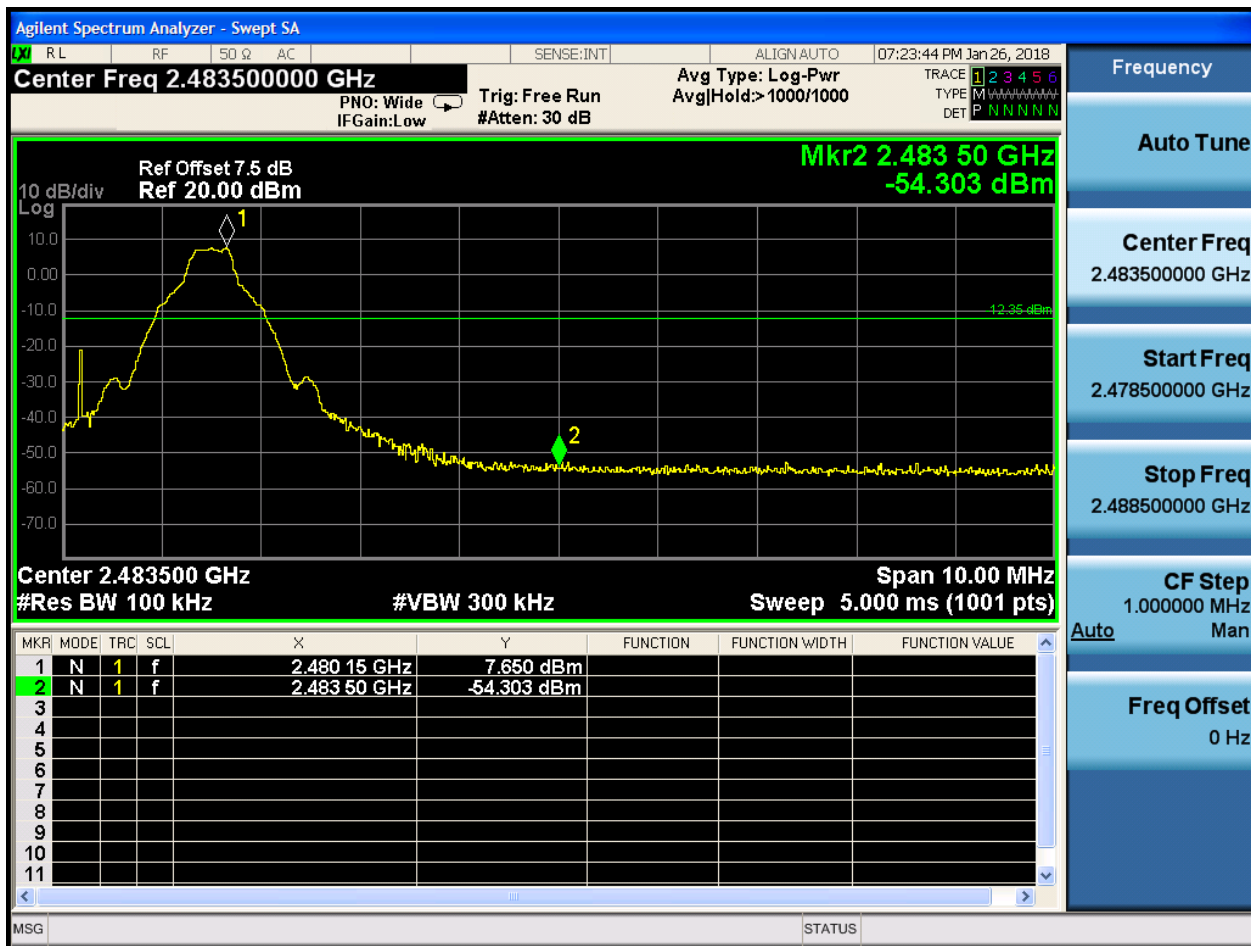
With hopping





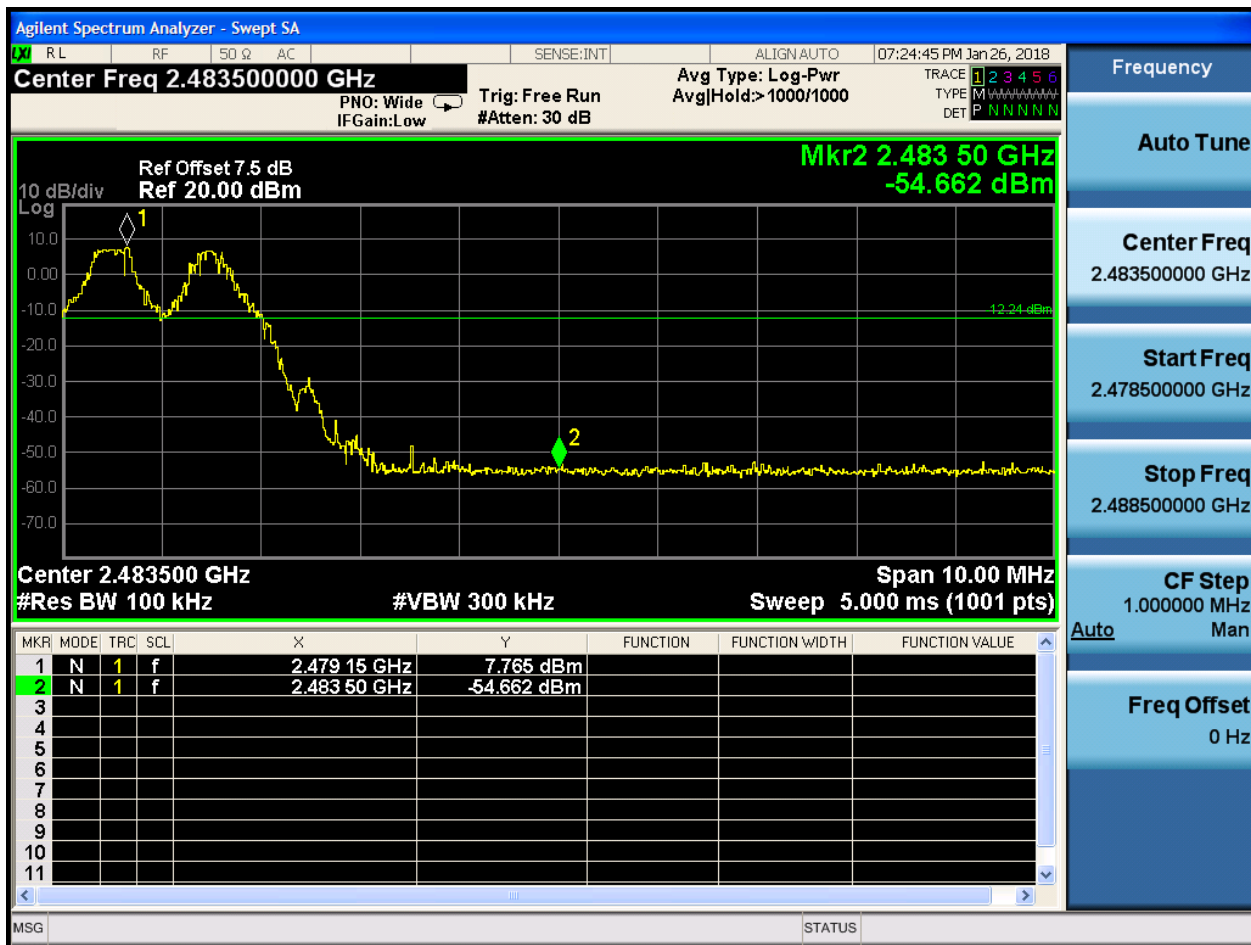
2.2 TM1_DH5_Ch78

No hopping





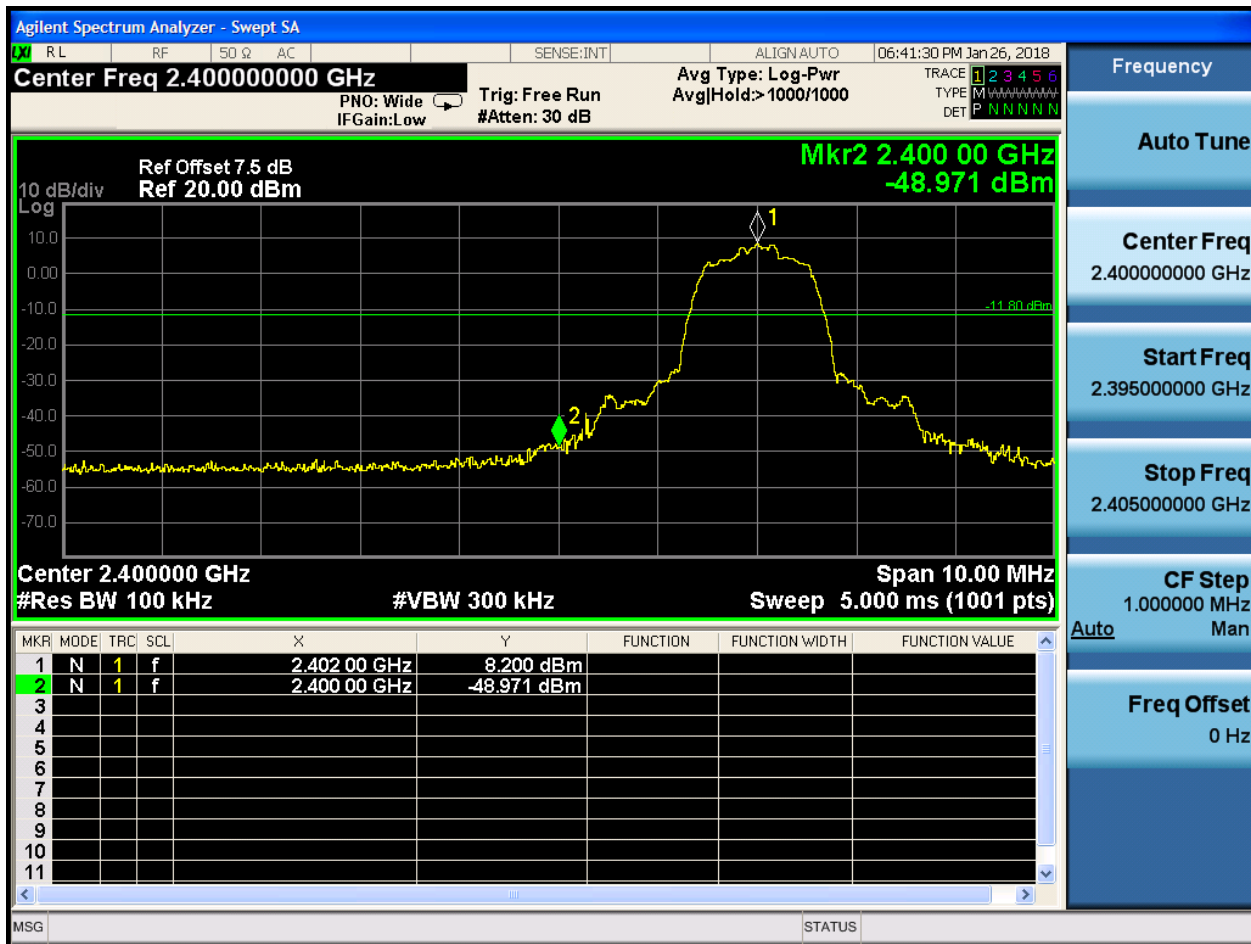
With hopping





2.3 TM2_2DH5_Ch0

No hopping



Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40000000 GHz

Ref Offset 7.5 dB
Ref 20.00 dBm

Mkr2 2.400 00 GHz
-54.575 dBm

10 dB/div
Log

Center 2.400000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 10.00 MHz
Sweep 5.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.403 15 GHz	8.184 dBm			
2	N	1	f	2.400 00 GHz	-54.575 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
2.40000000 GHz

Start Freq
2.395000000 GHz

Stop Freq
2.405000000 GHz

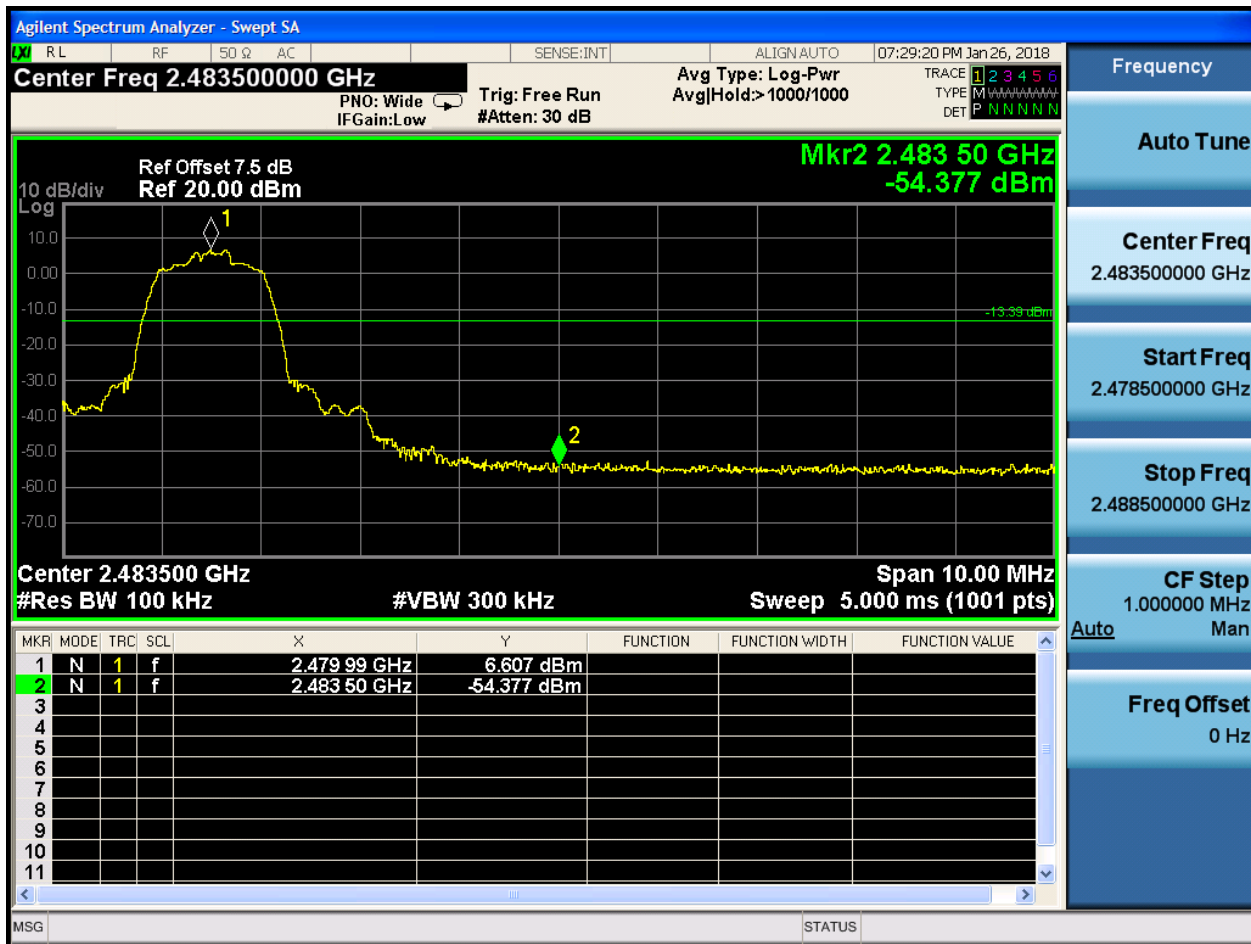
CF Step
1.000000 MHz
Man

Freq Offset
0 Hz



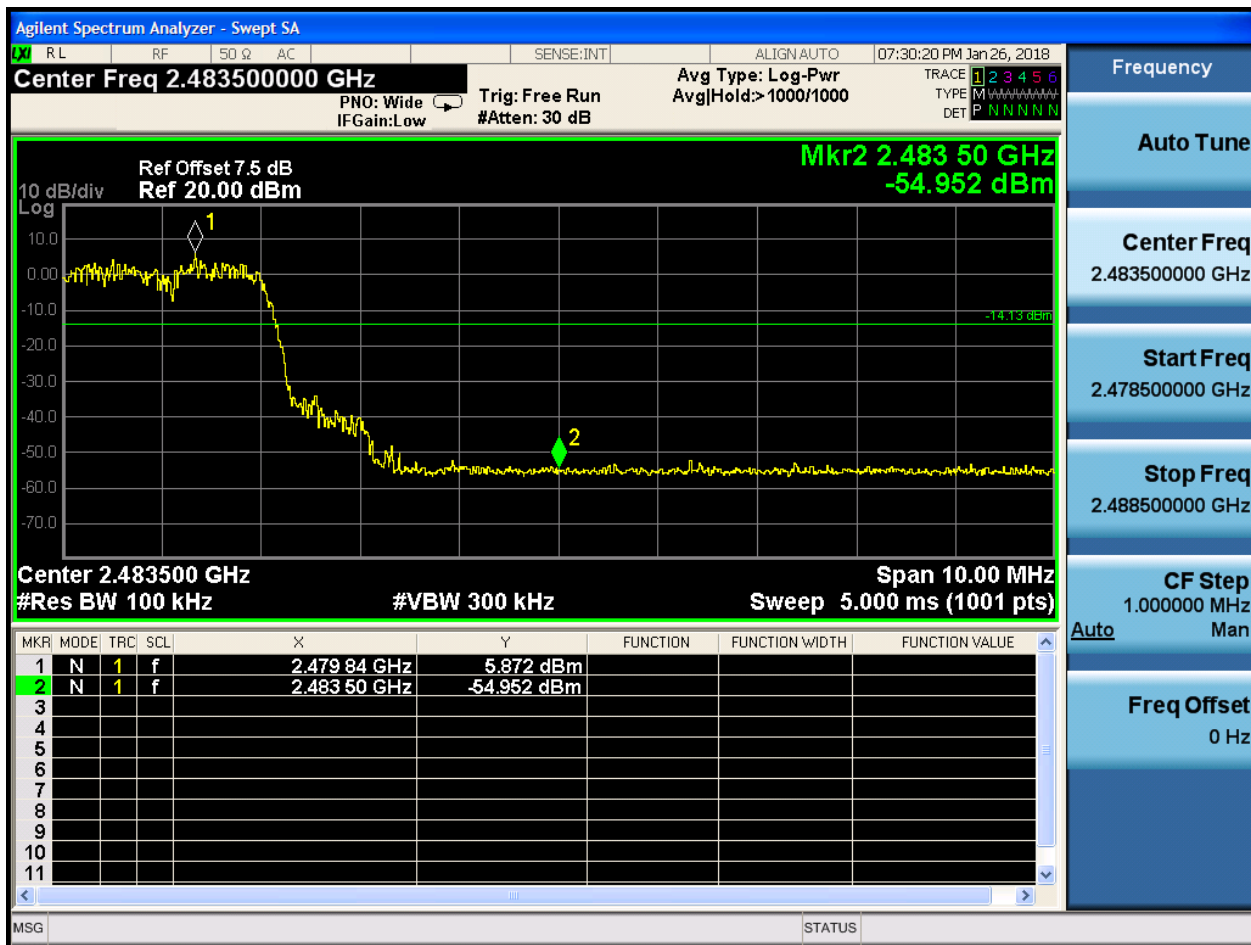
2.4 TM2_2DH5_Ch78

No hopping





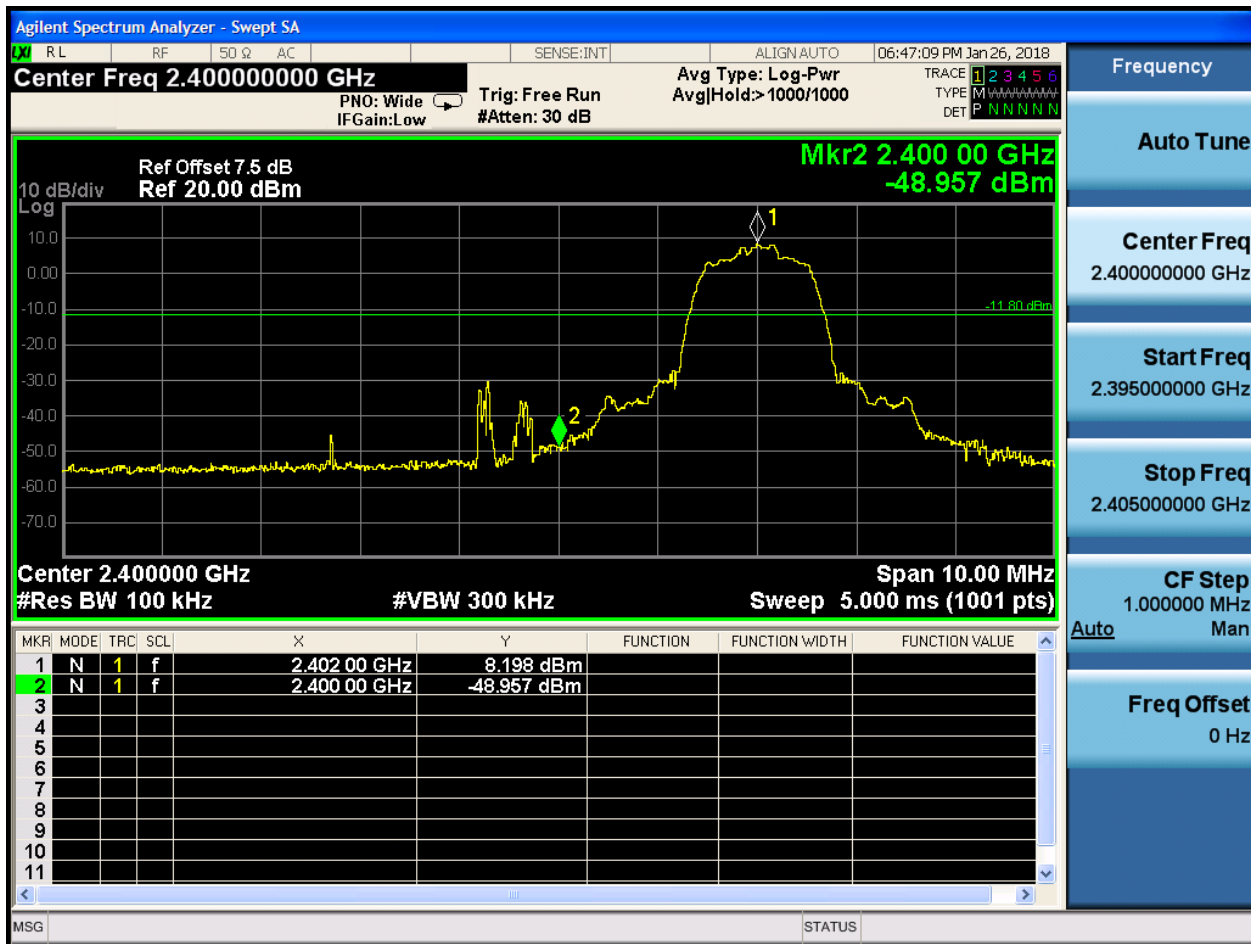
With hopping





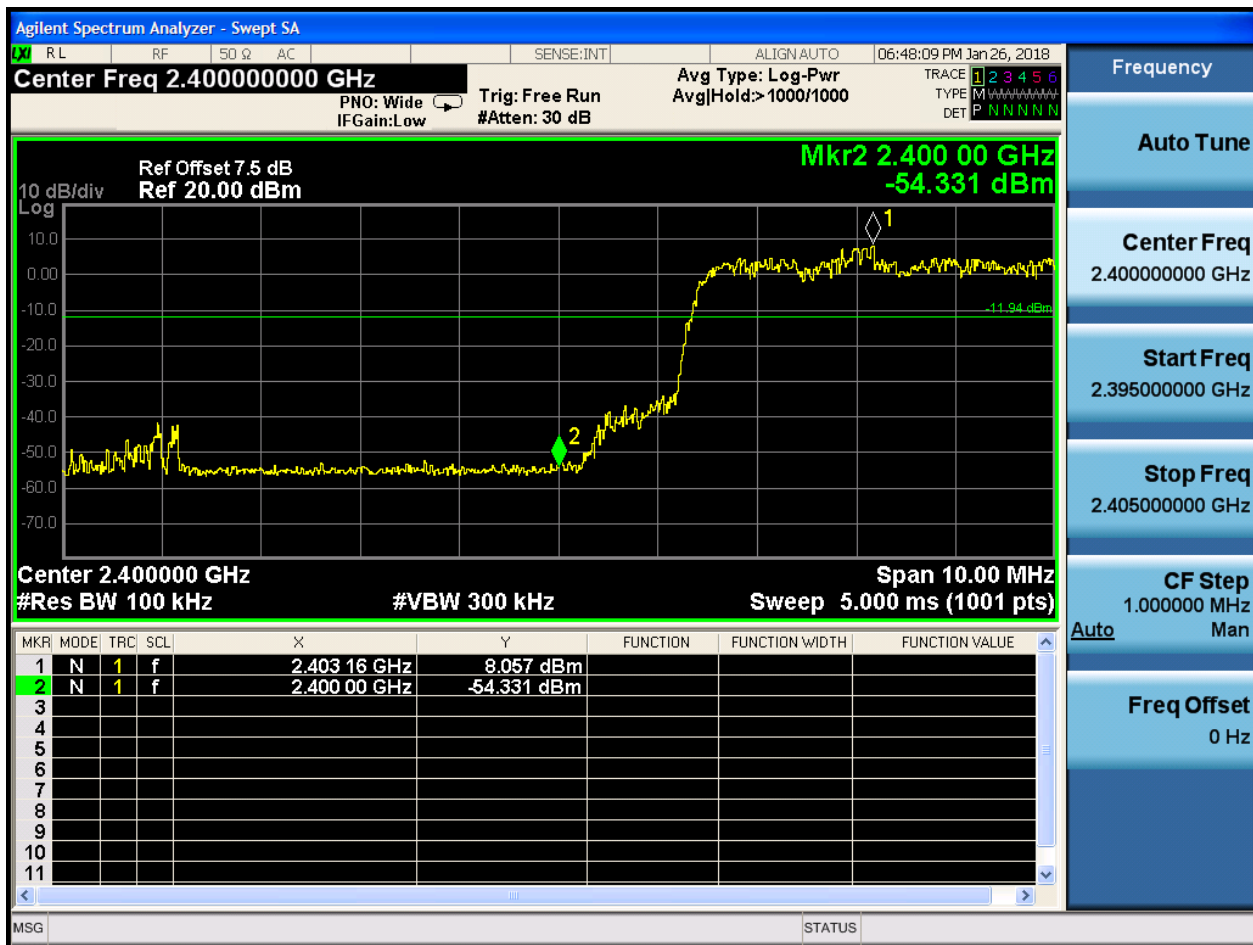
2.5 TM3_3DH5_Ch0

No hopping





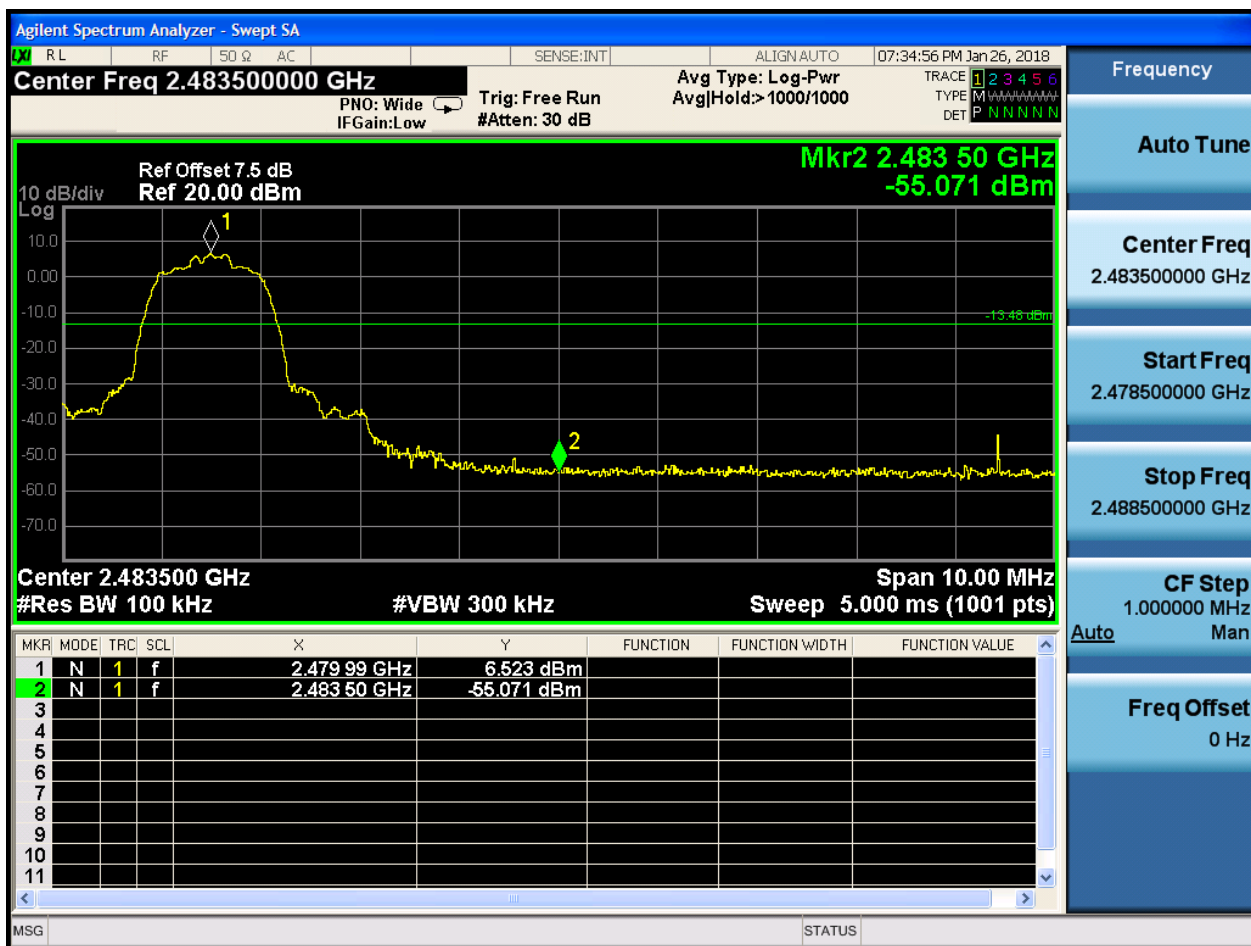
With hopping





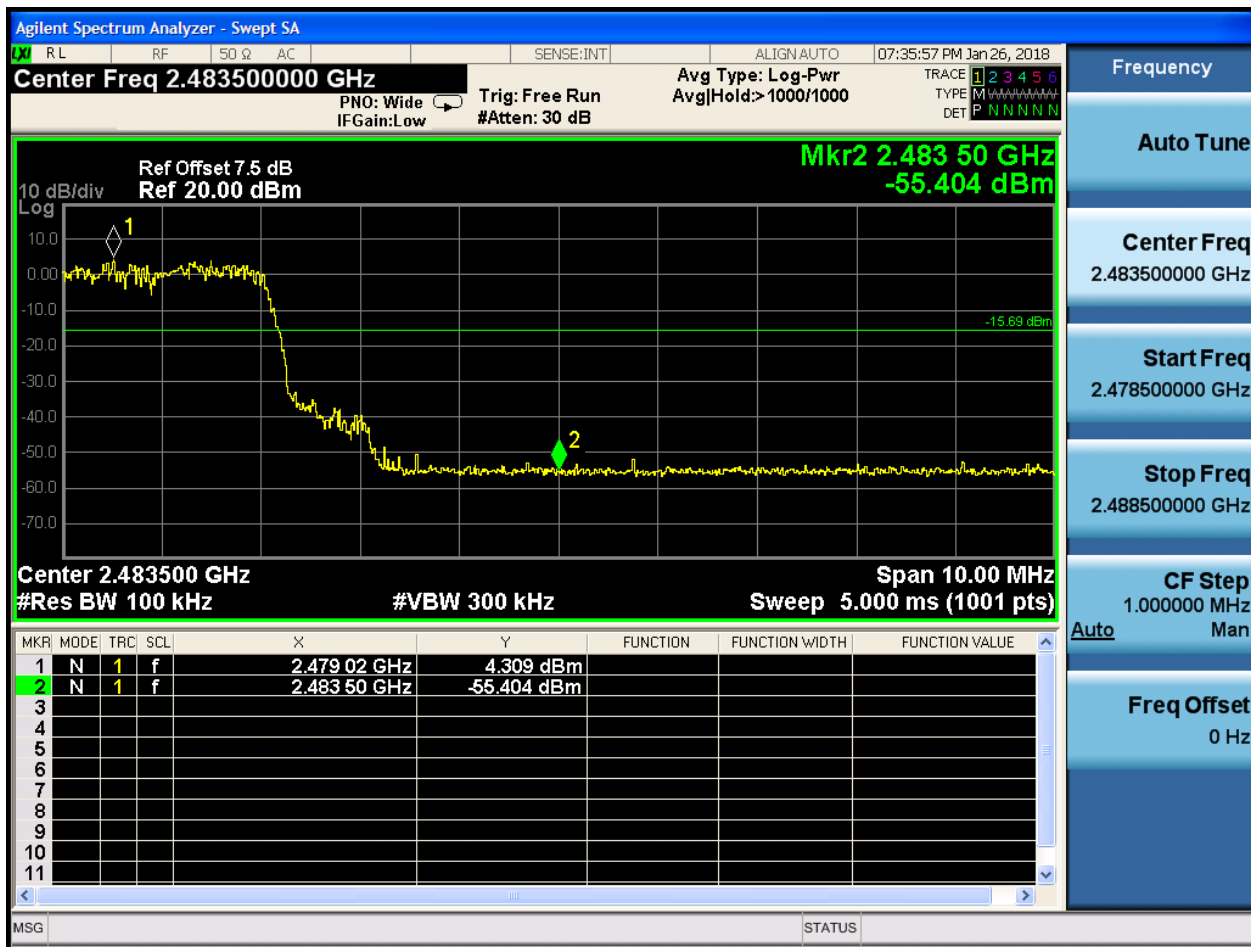
2.6 TM3_3DH5_Ch78

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”.

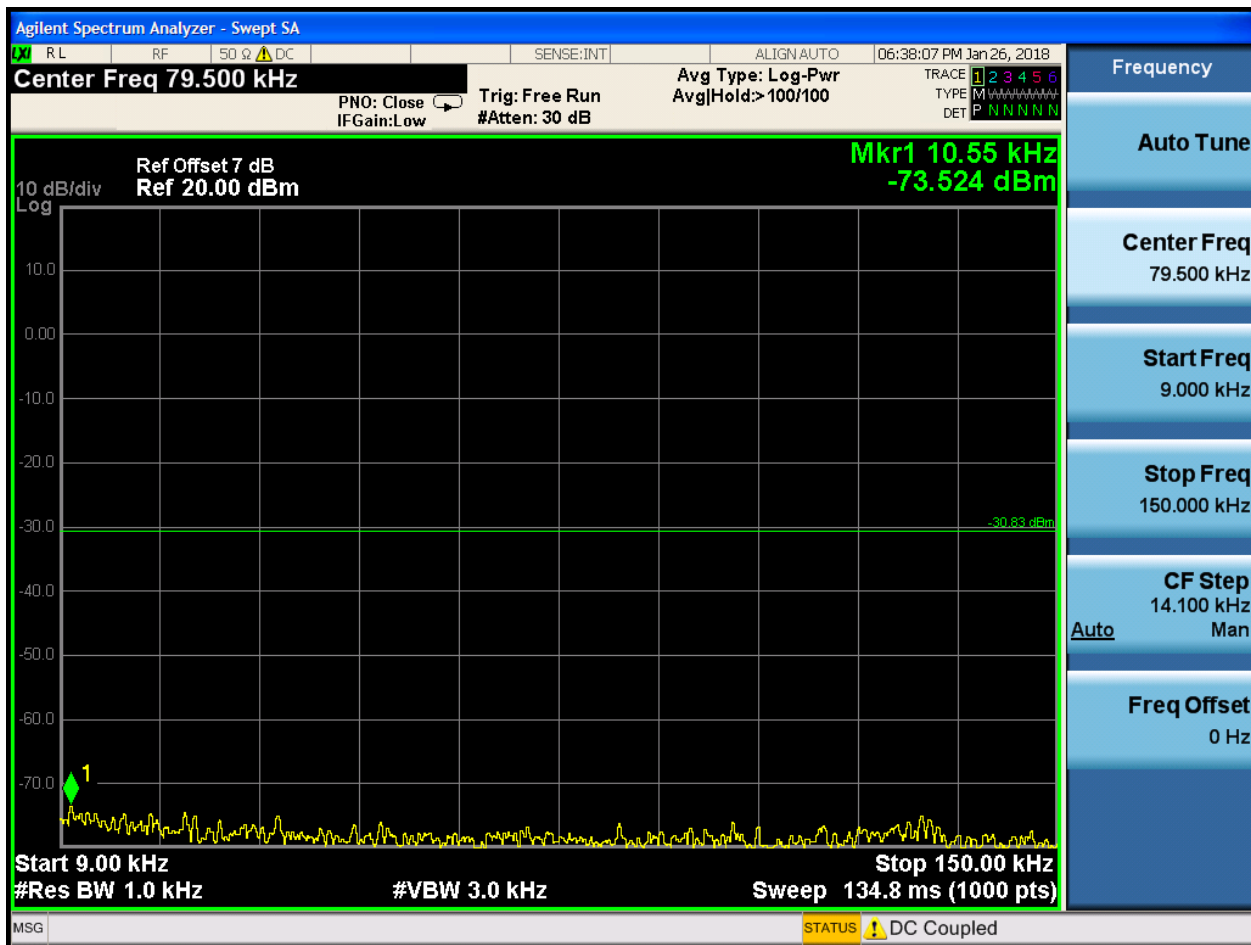
EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	9.173	< Limit	Pass
TM1_DH5_Ch39	9.444	< Limit	Pass
TM1_DH5_Ch78	7.66	< Limit	Pass
TM2_2DH5_Ch0	8.21	< Limit	Pass
TM2_2DH5_Ch39	8.475	< Limit	Pass
TM2_2DH5_Ch78	6.591	< Limit	Pass
TM3_3DH5_Ch0	8.191	< Limit	Pass
TM3_3DH5_Ch39	8.495	< Limit	Pass
TM3_3DH5_Ch78	6.556	< Limit	Pass

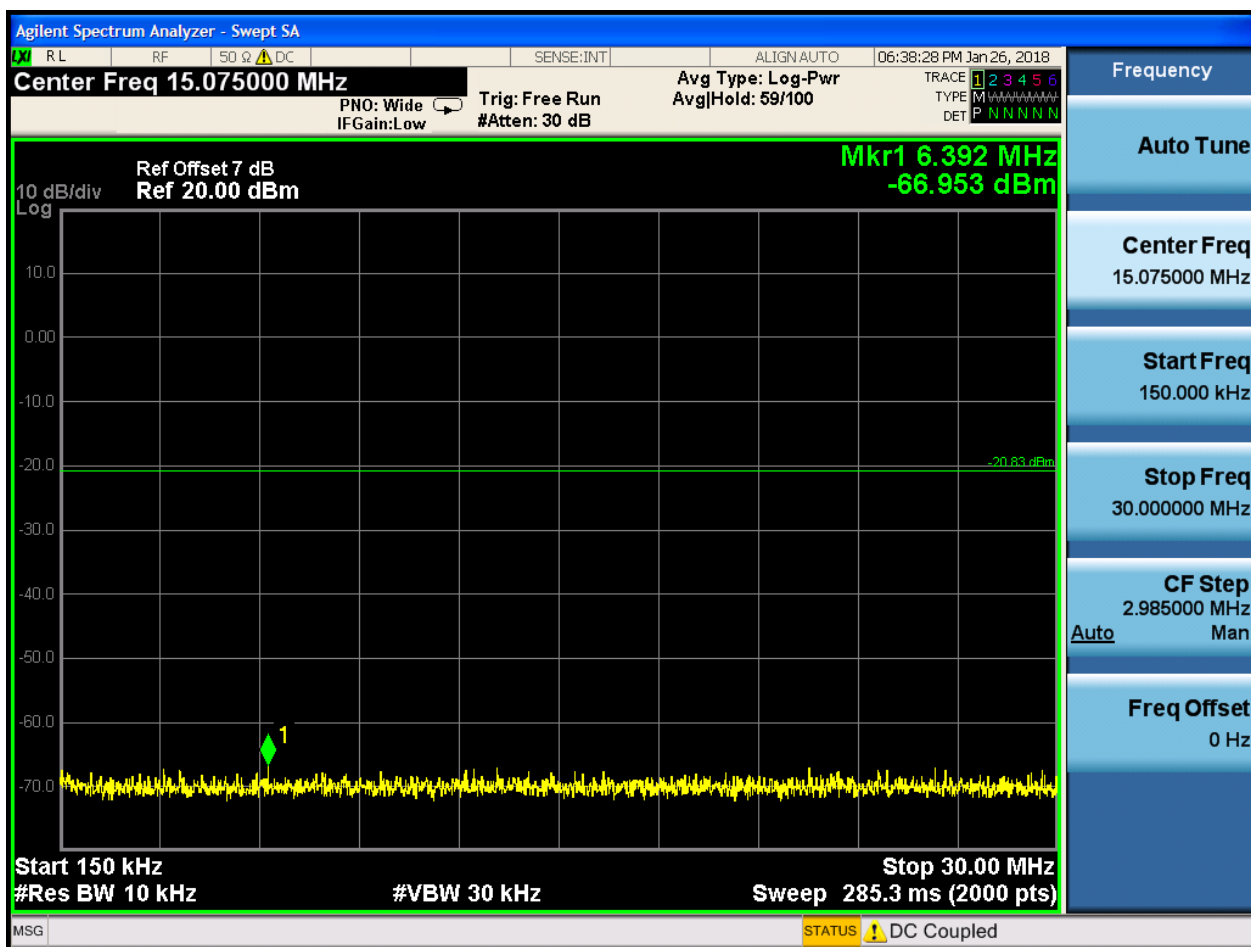
2.1.1 Pref

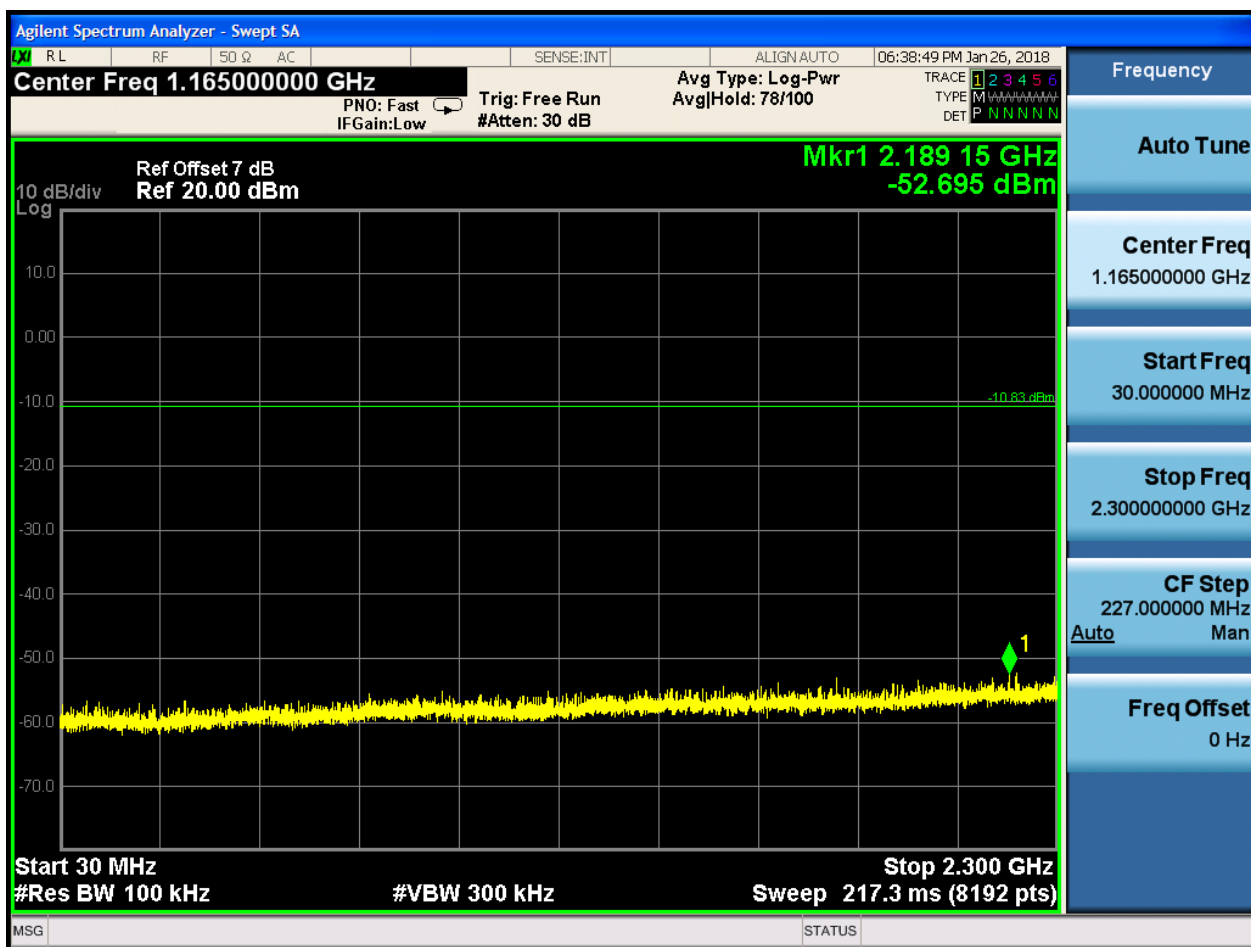


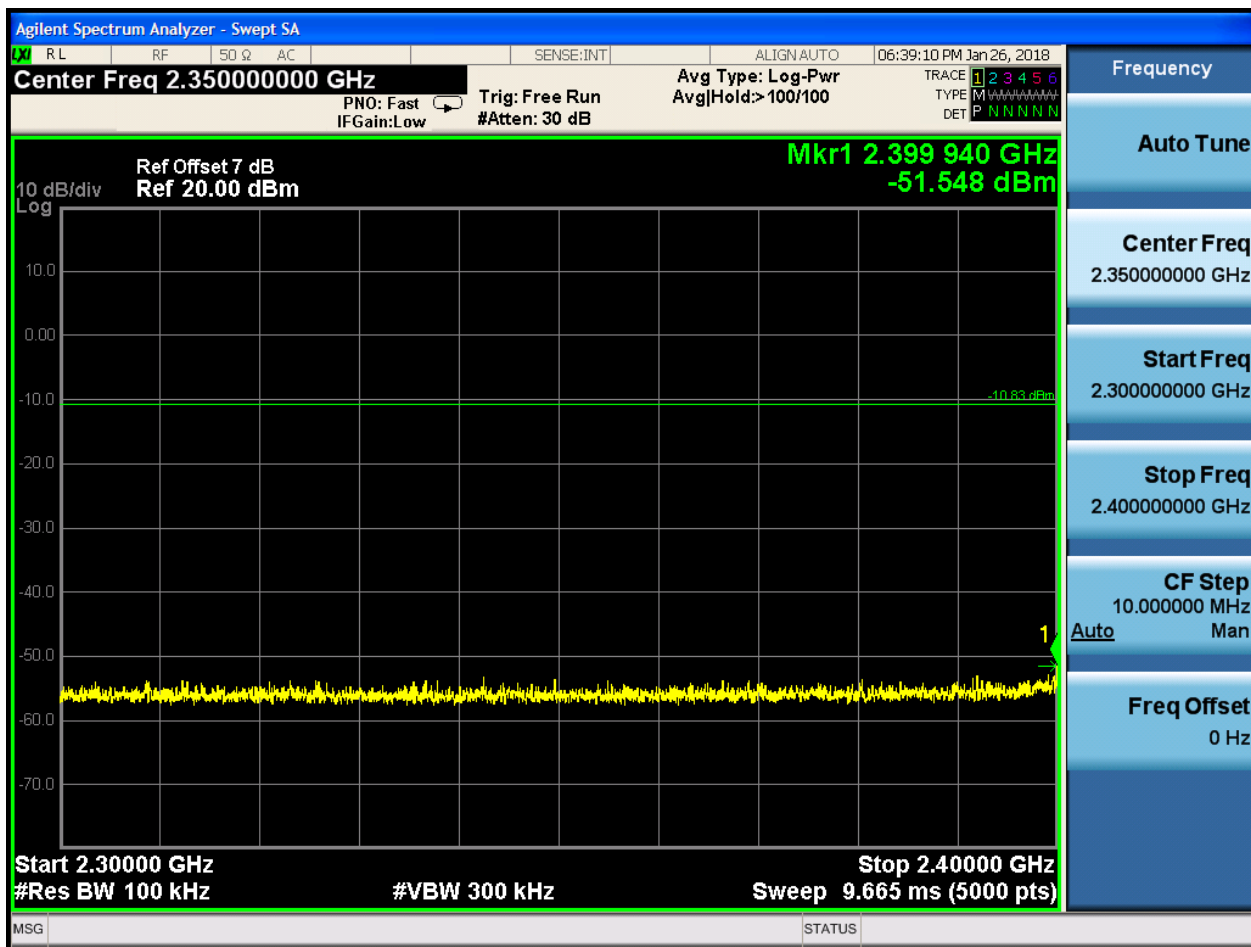


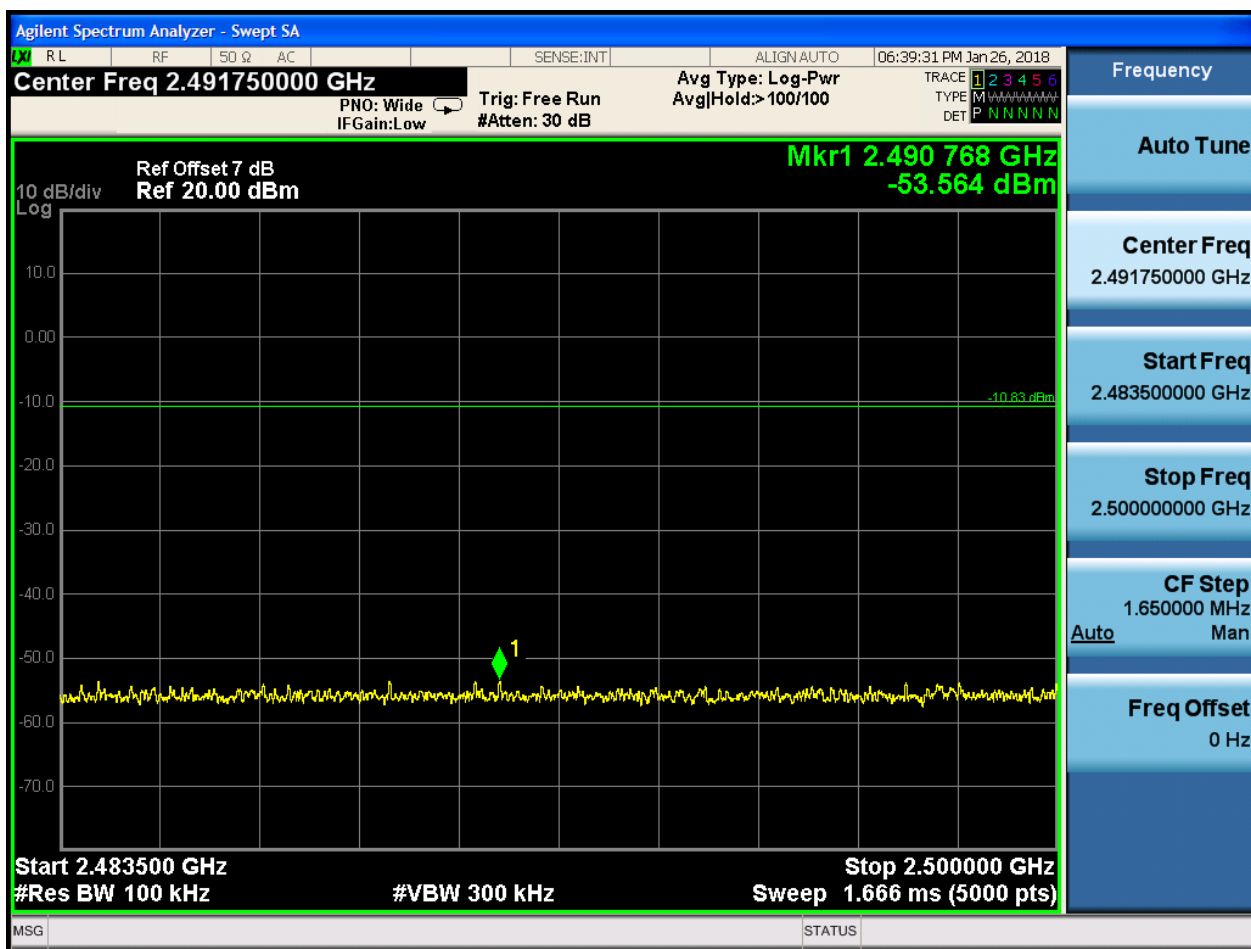
2.1.2 Puw







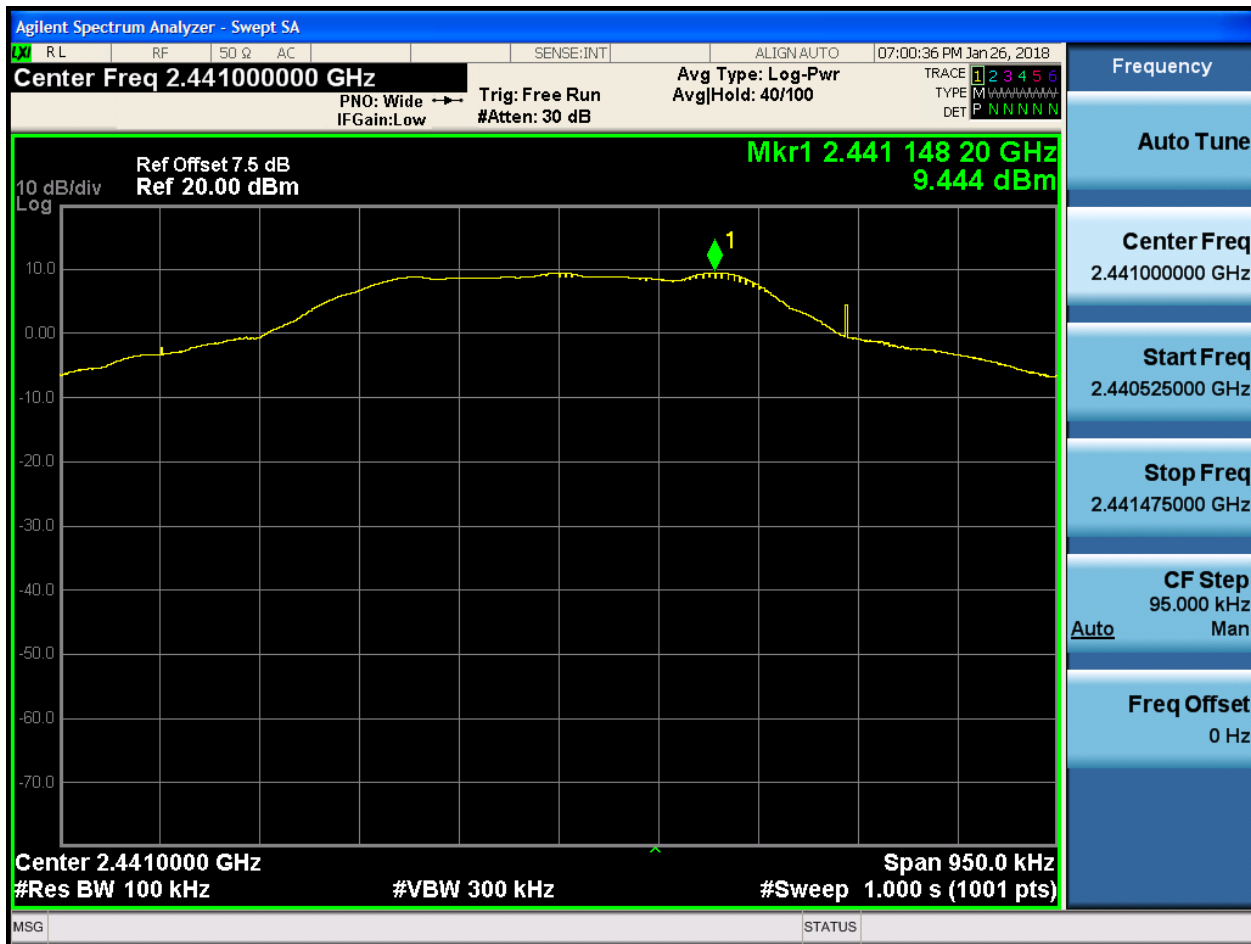






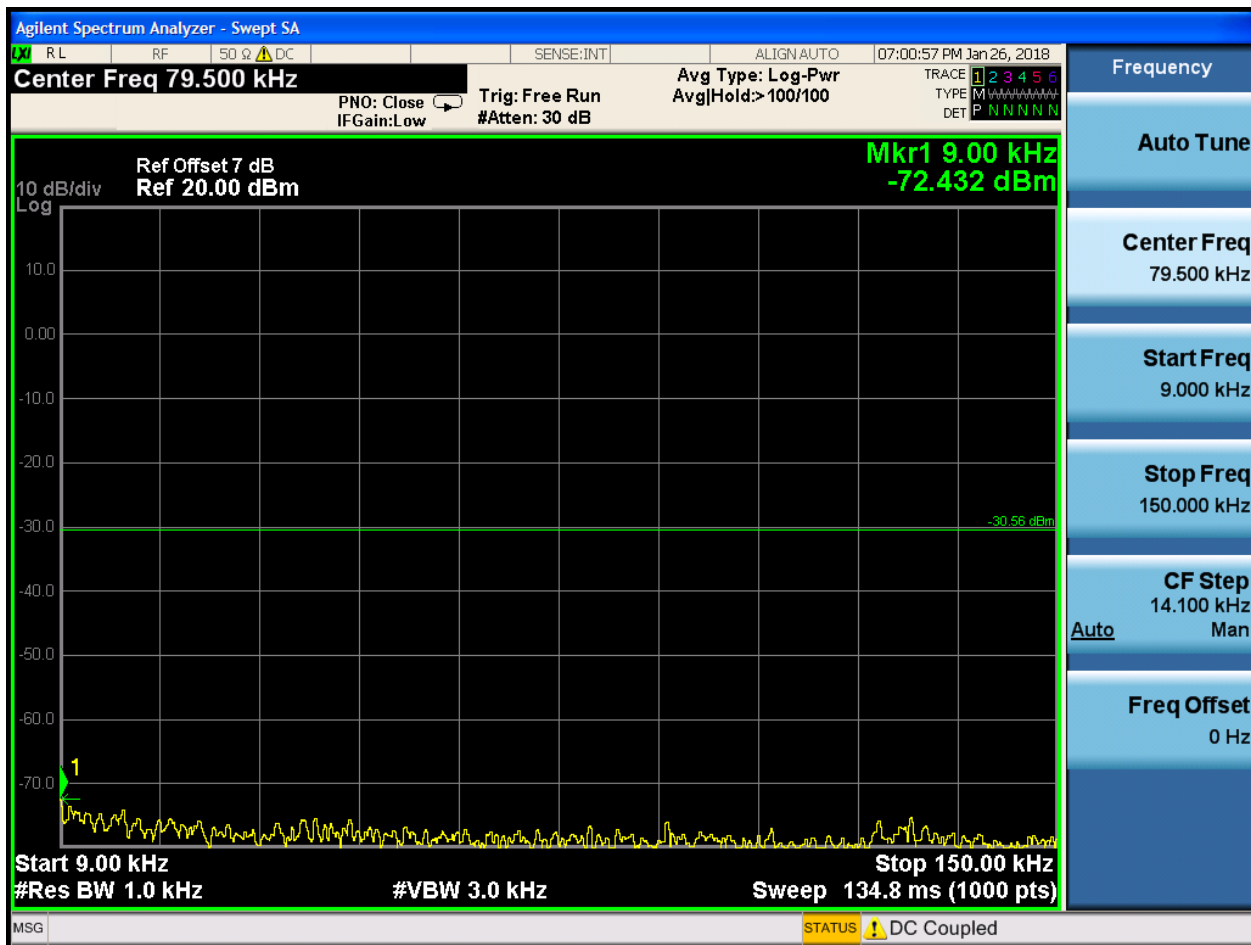
2.2 TM1_DH5_Ch39

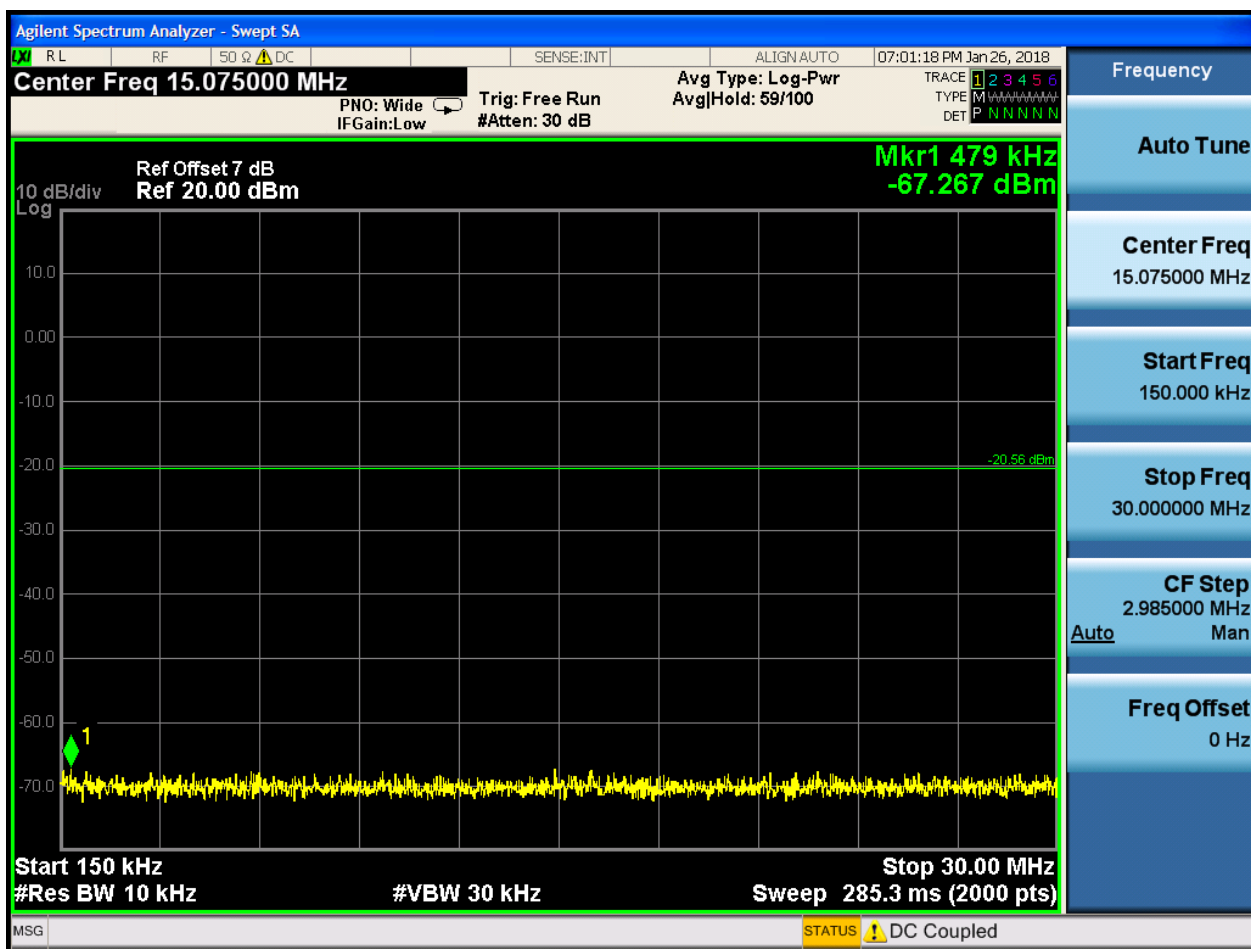
2.2.1 Pref

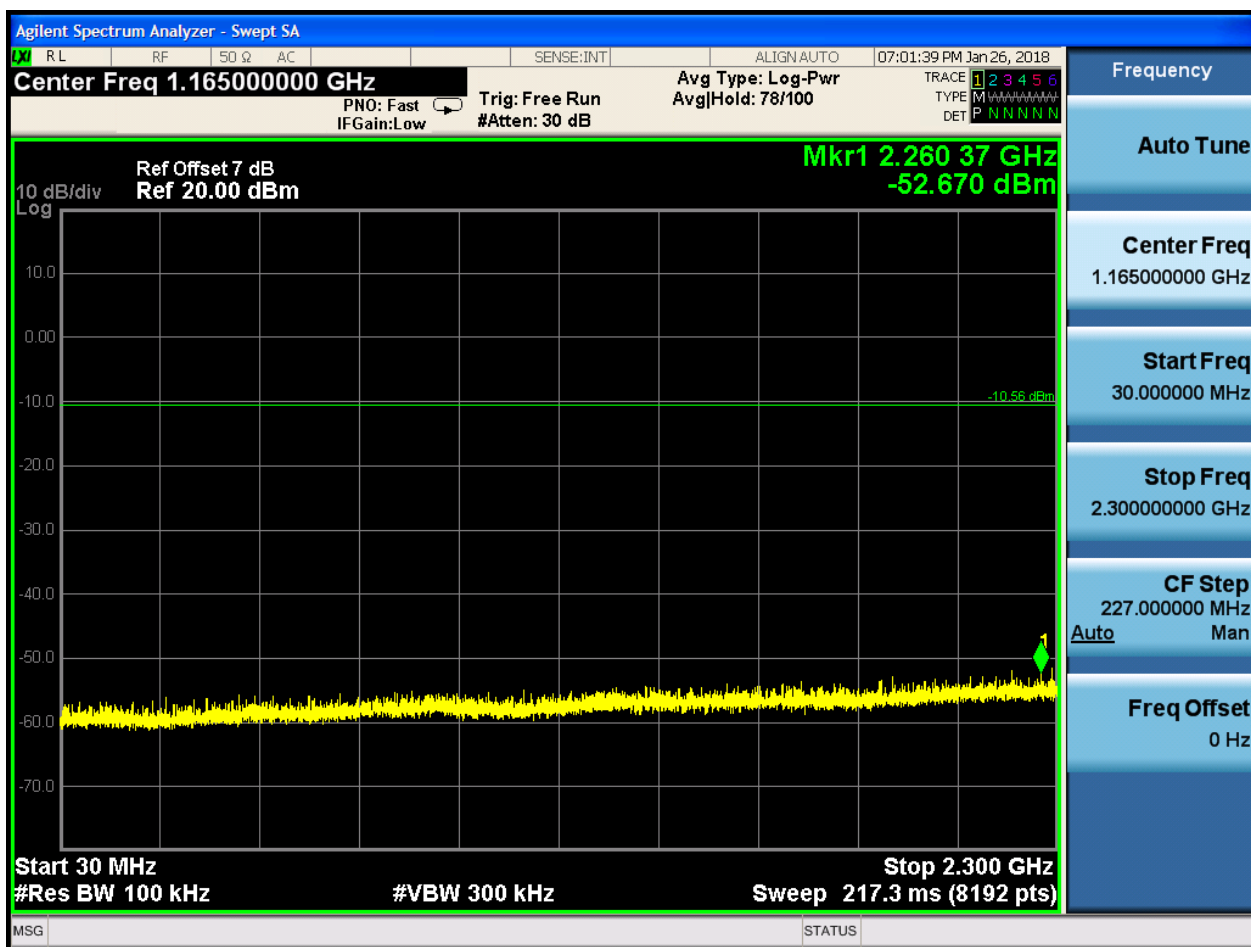


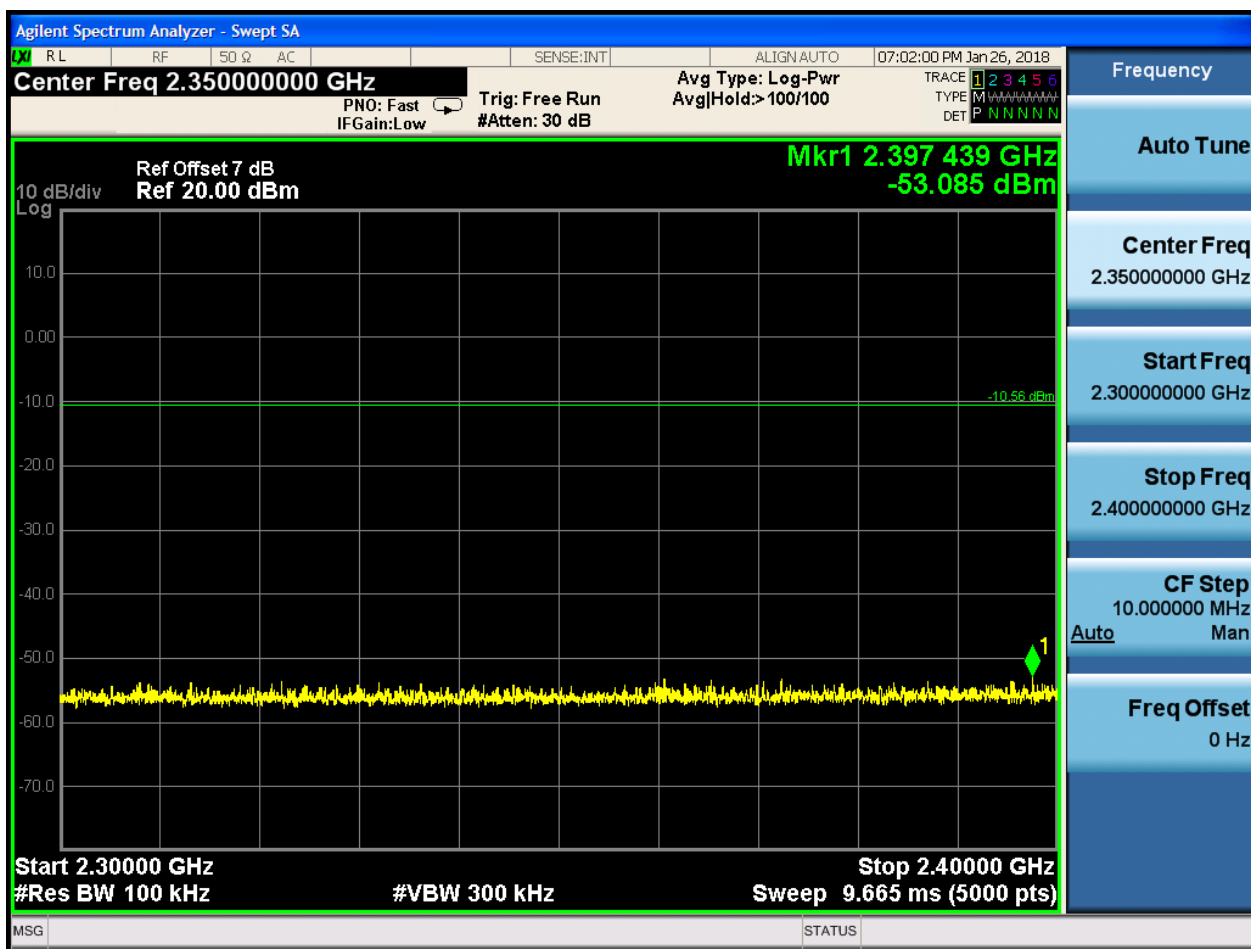


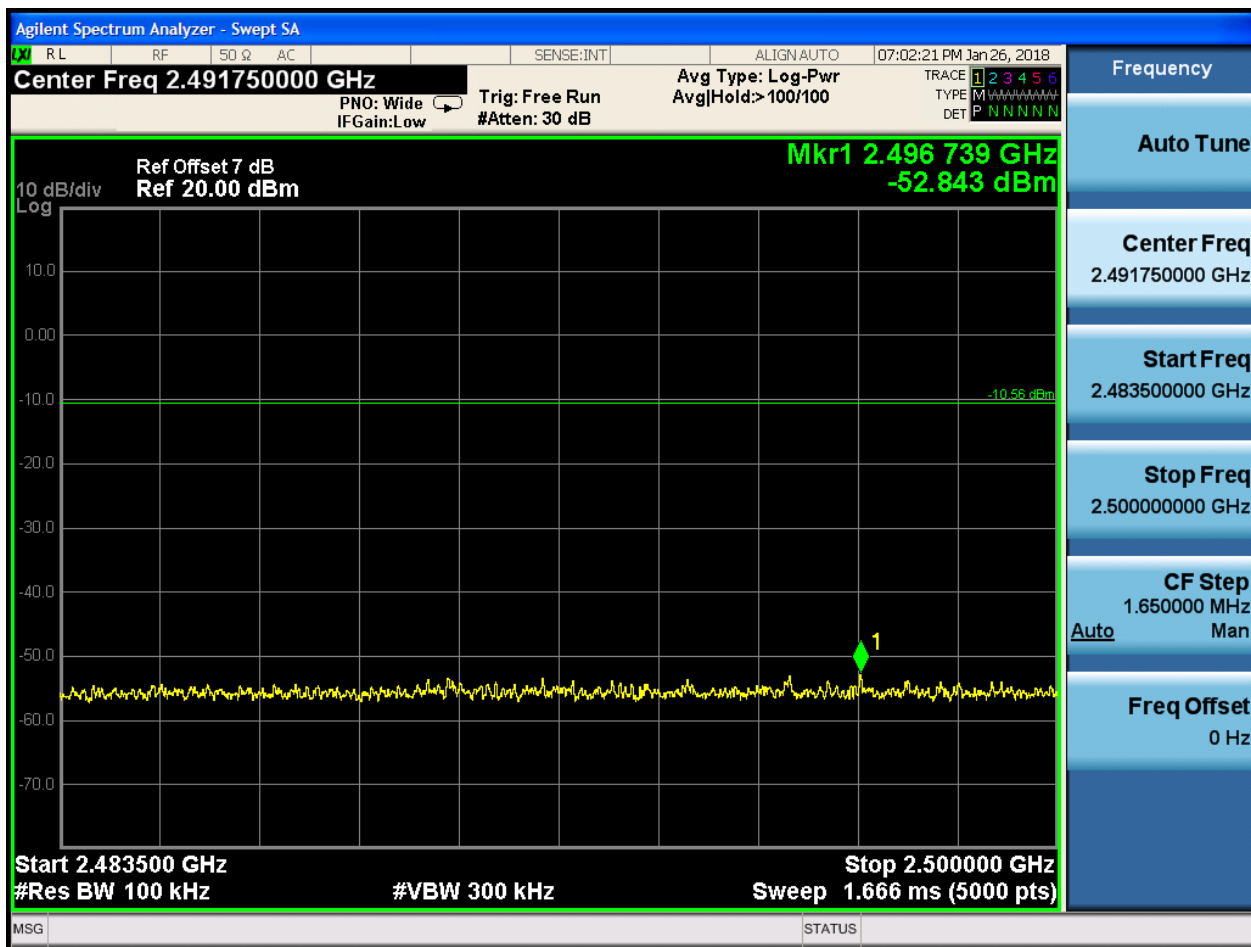
2.2.2 Puw







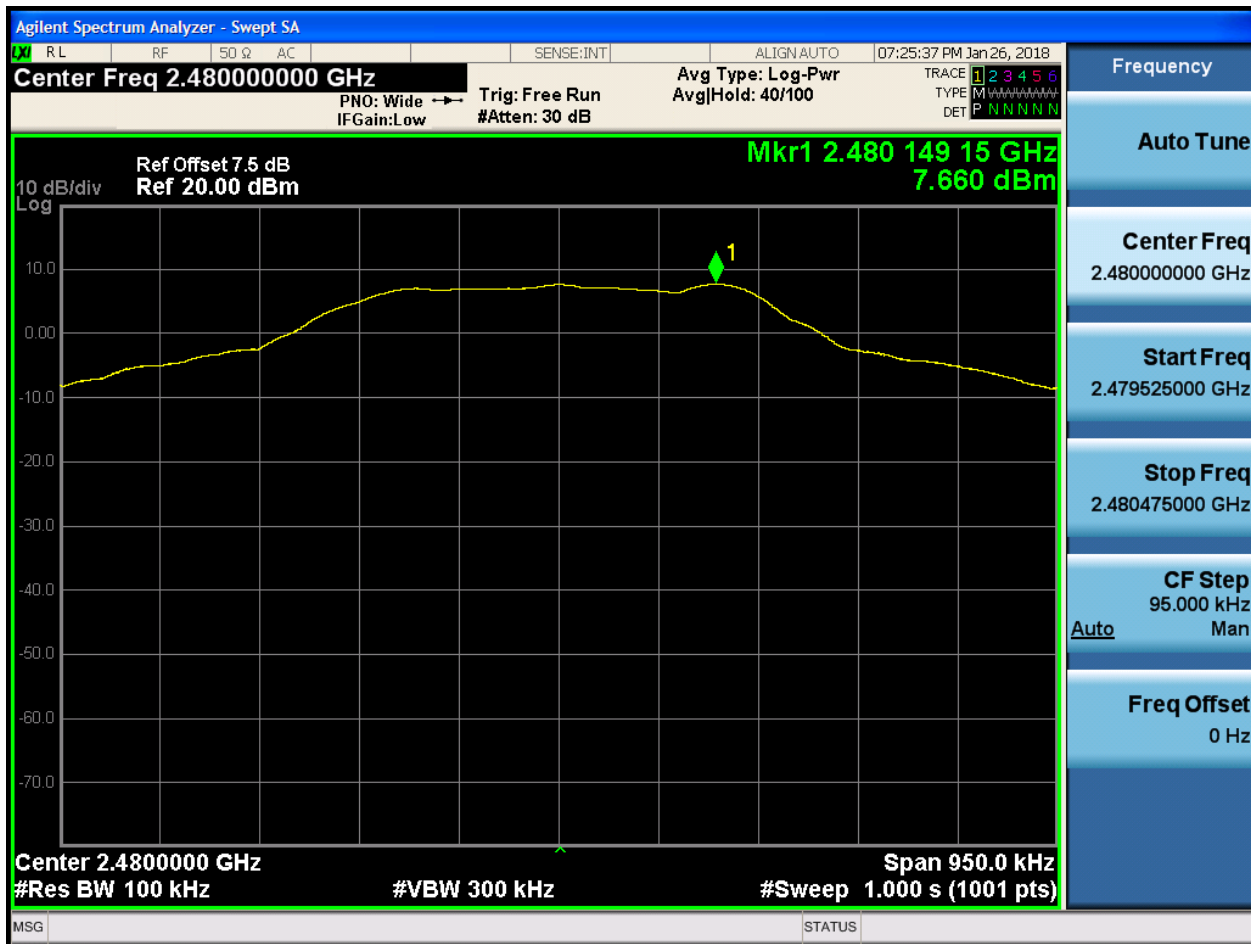






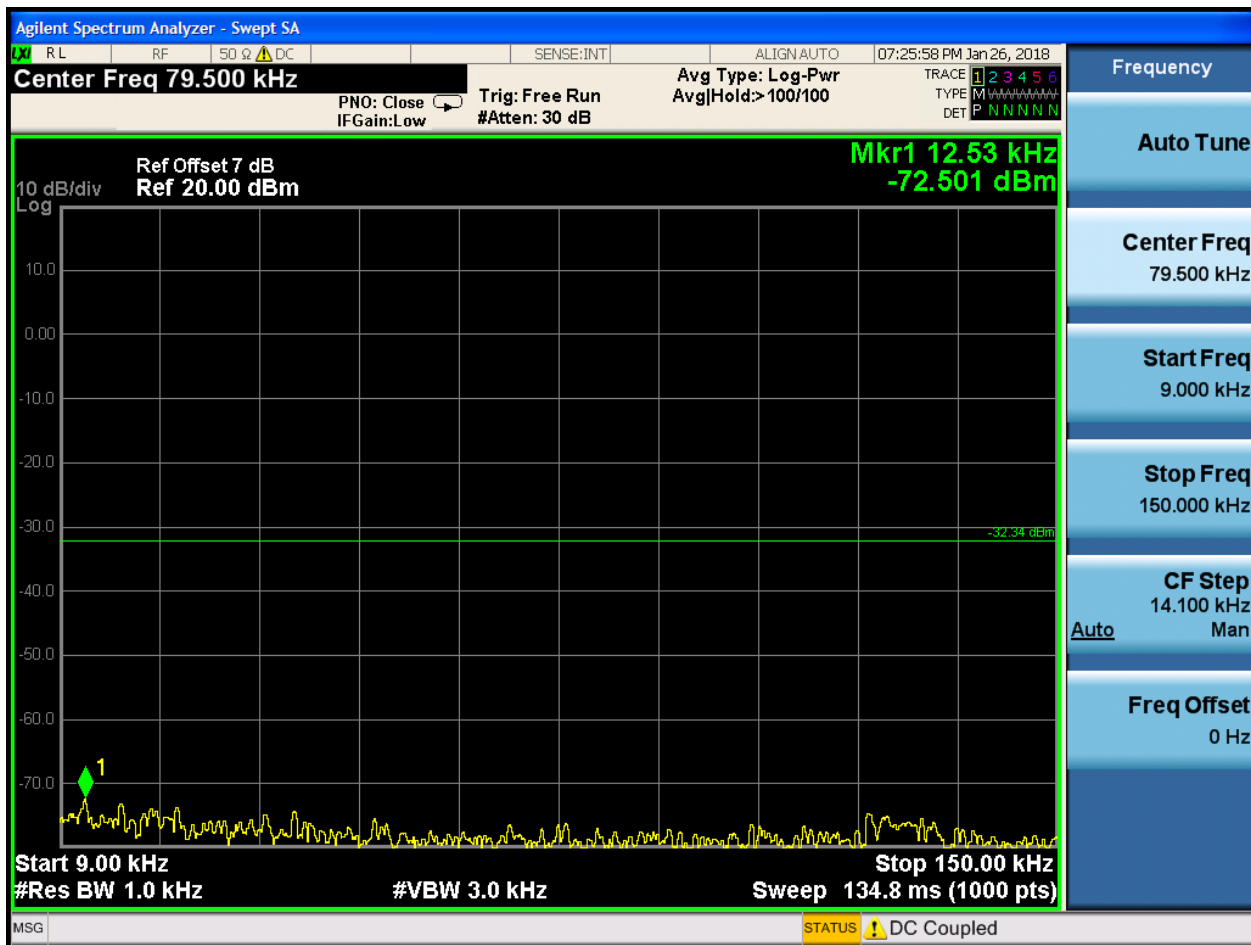
2.3 TM1_DH5_Ch78

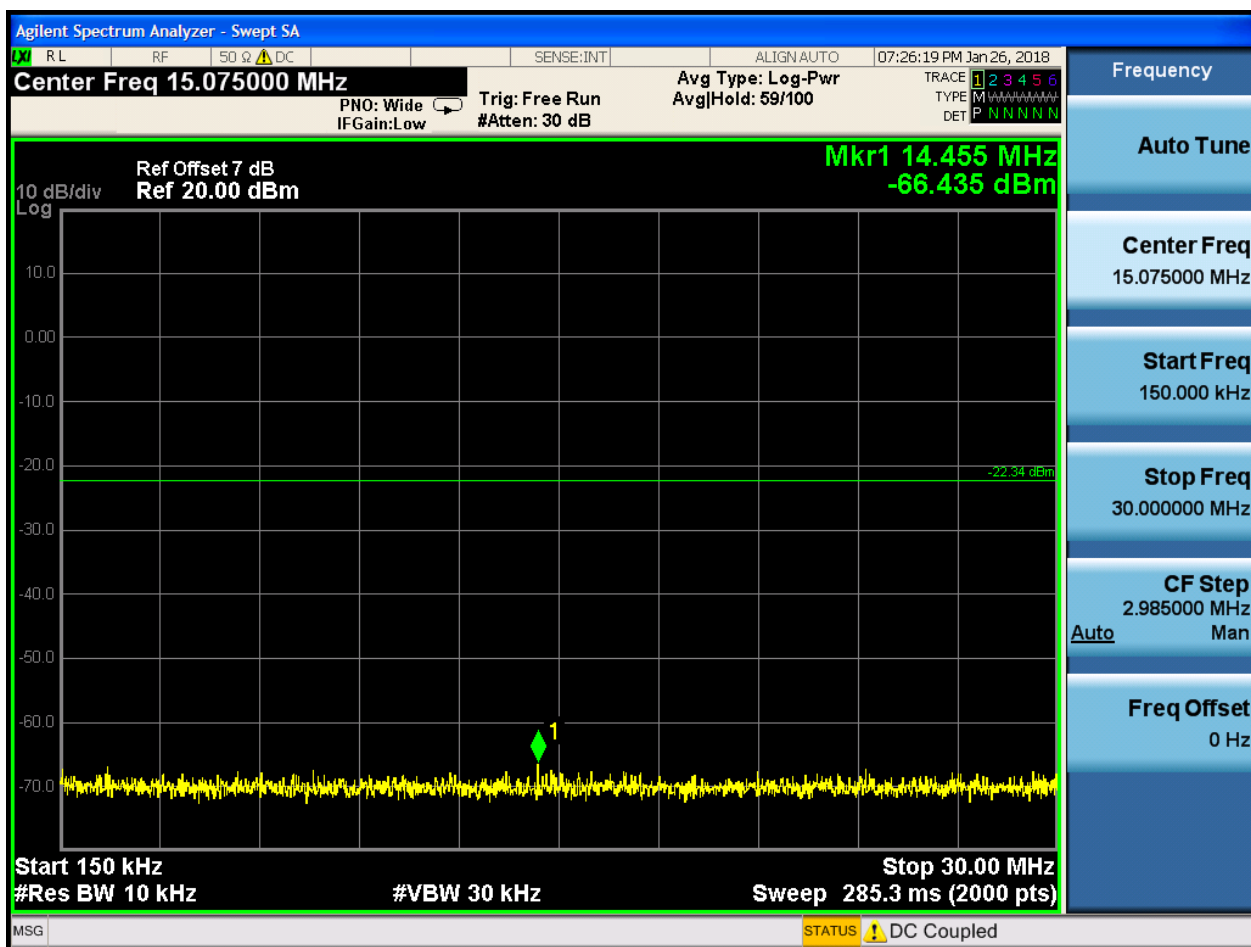
2.3.1 Pref

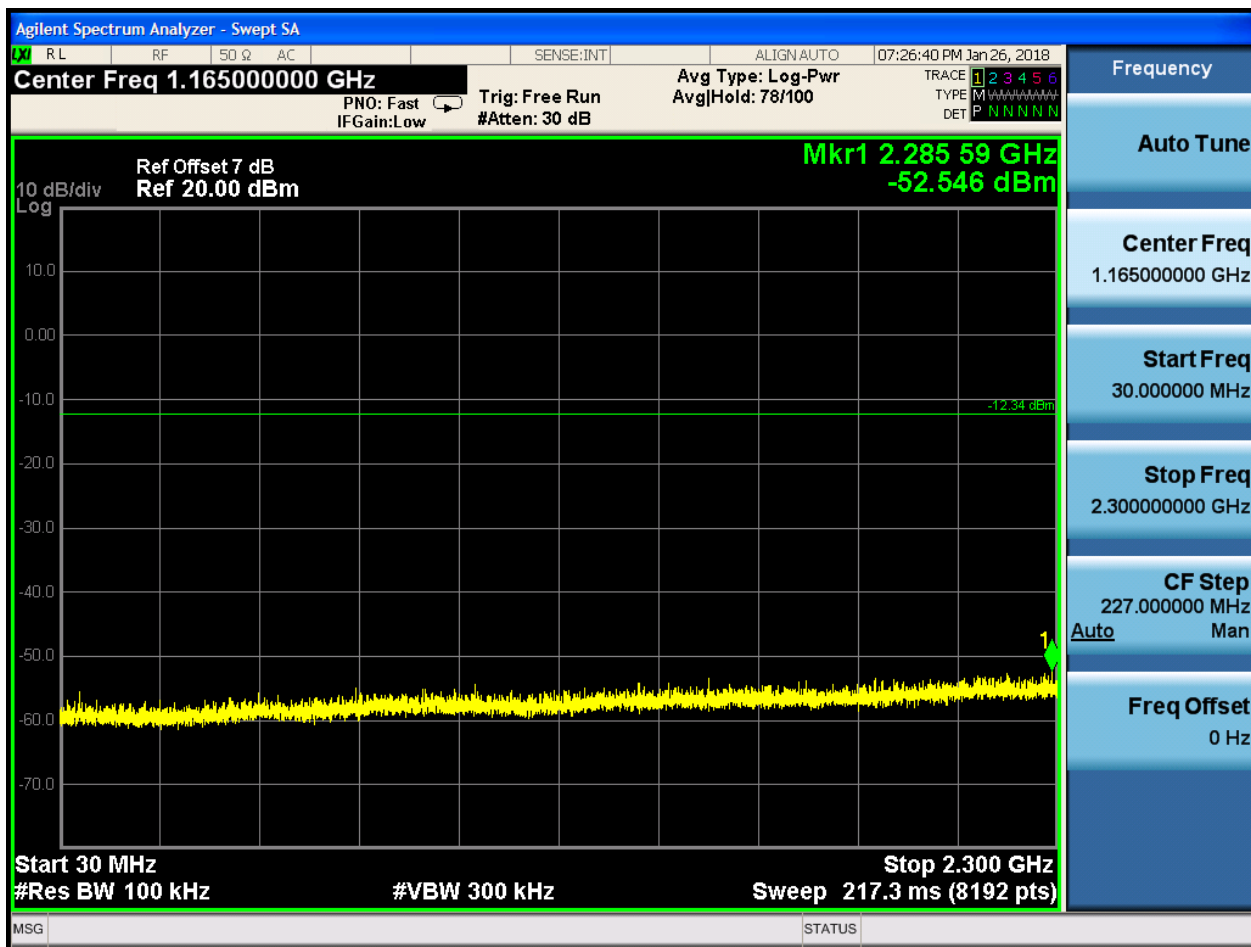


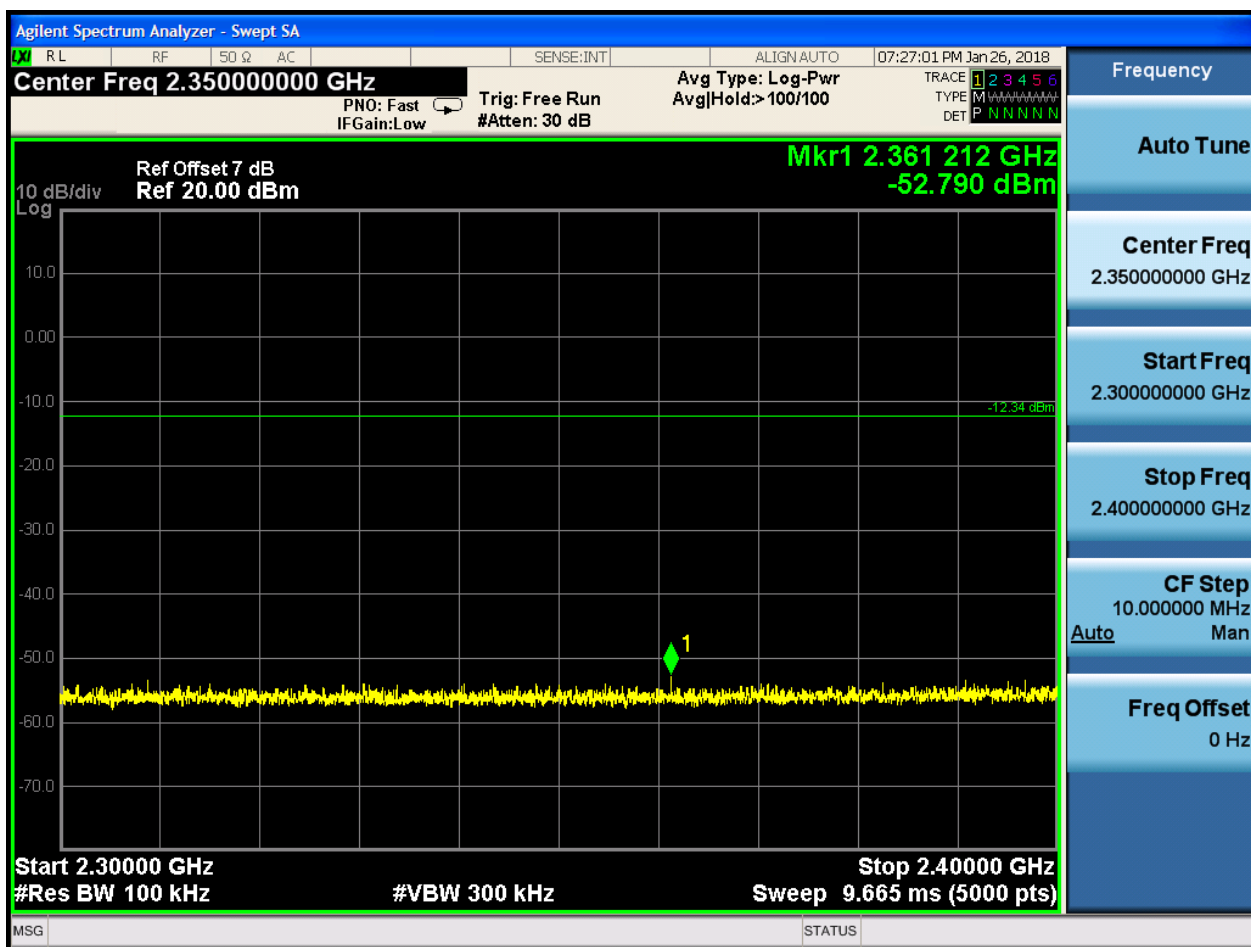


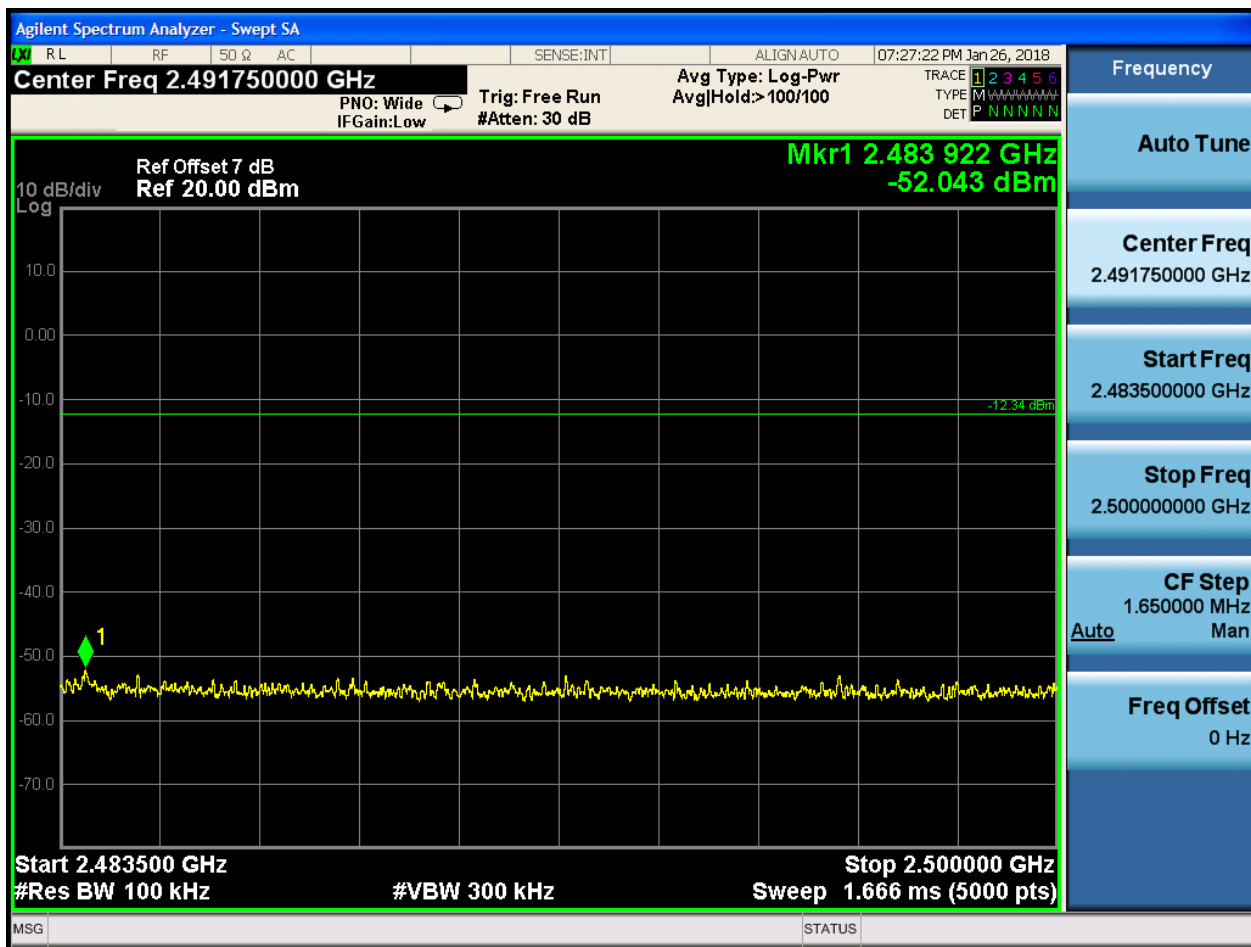
2.3.2 Puw







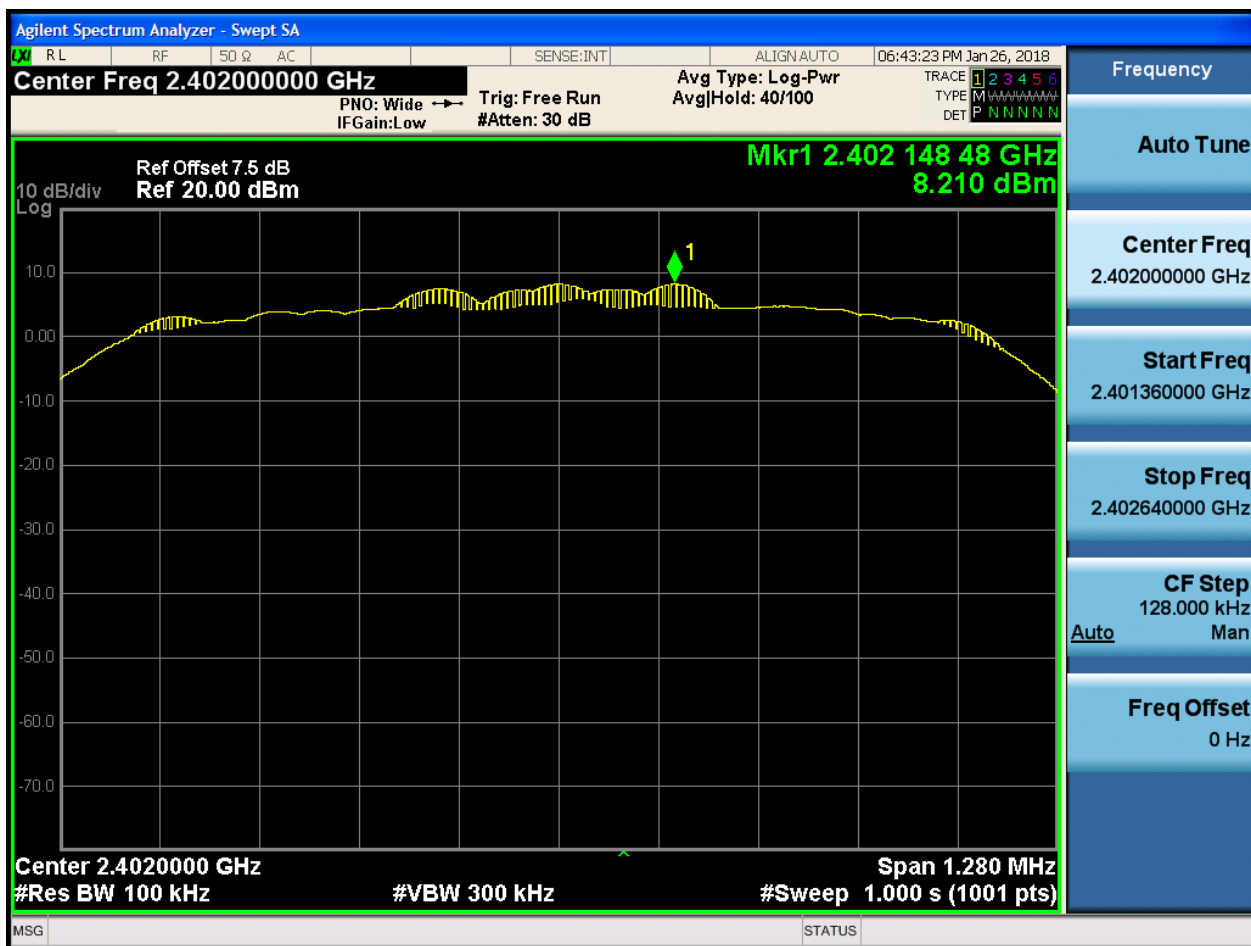




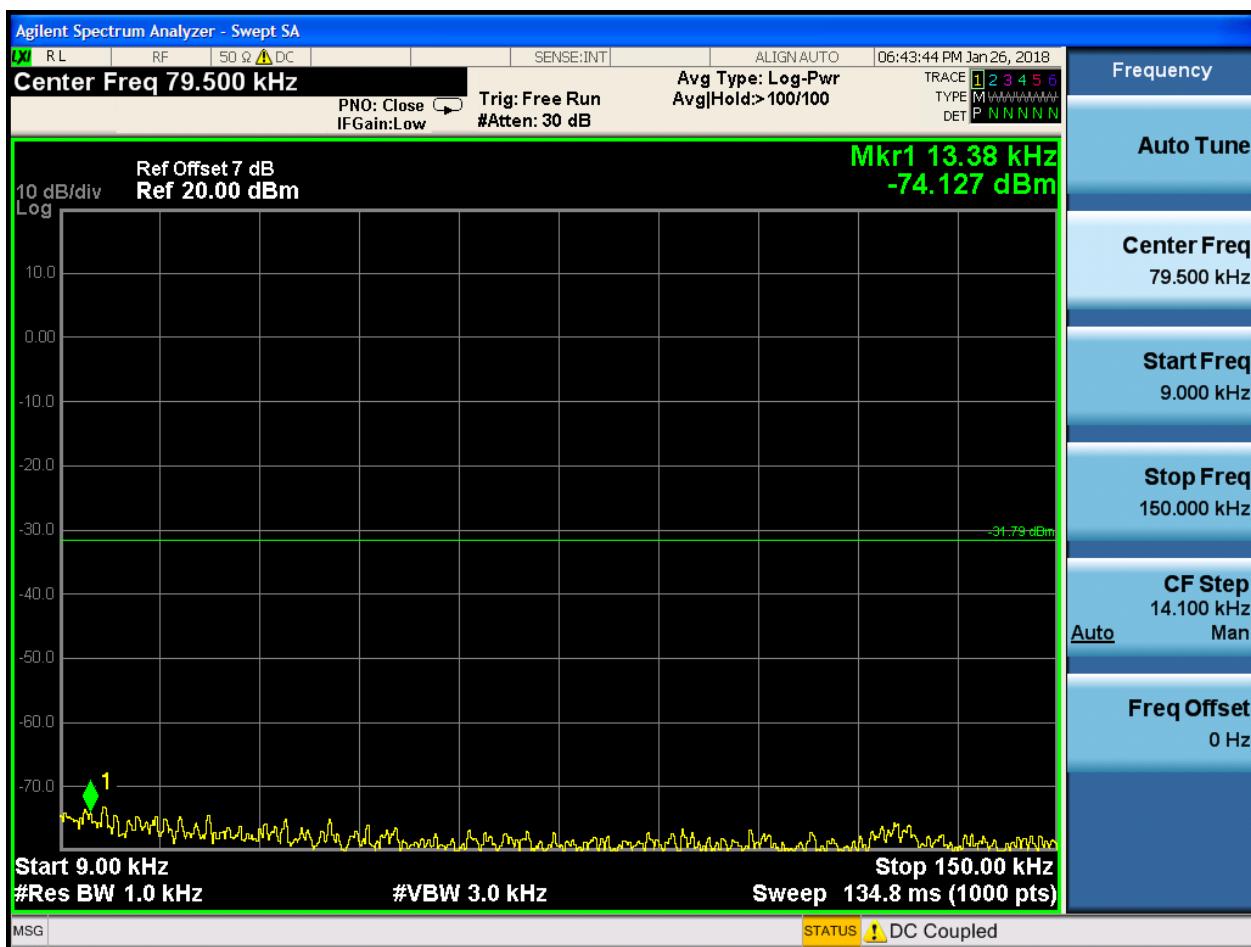


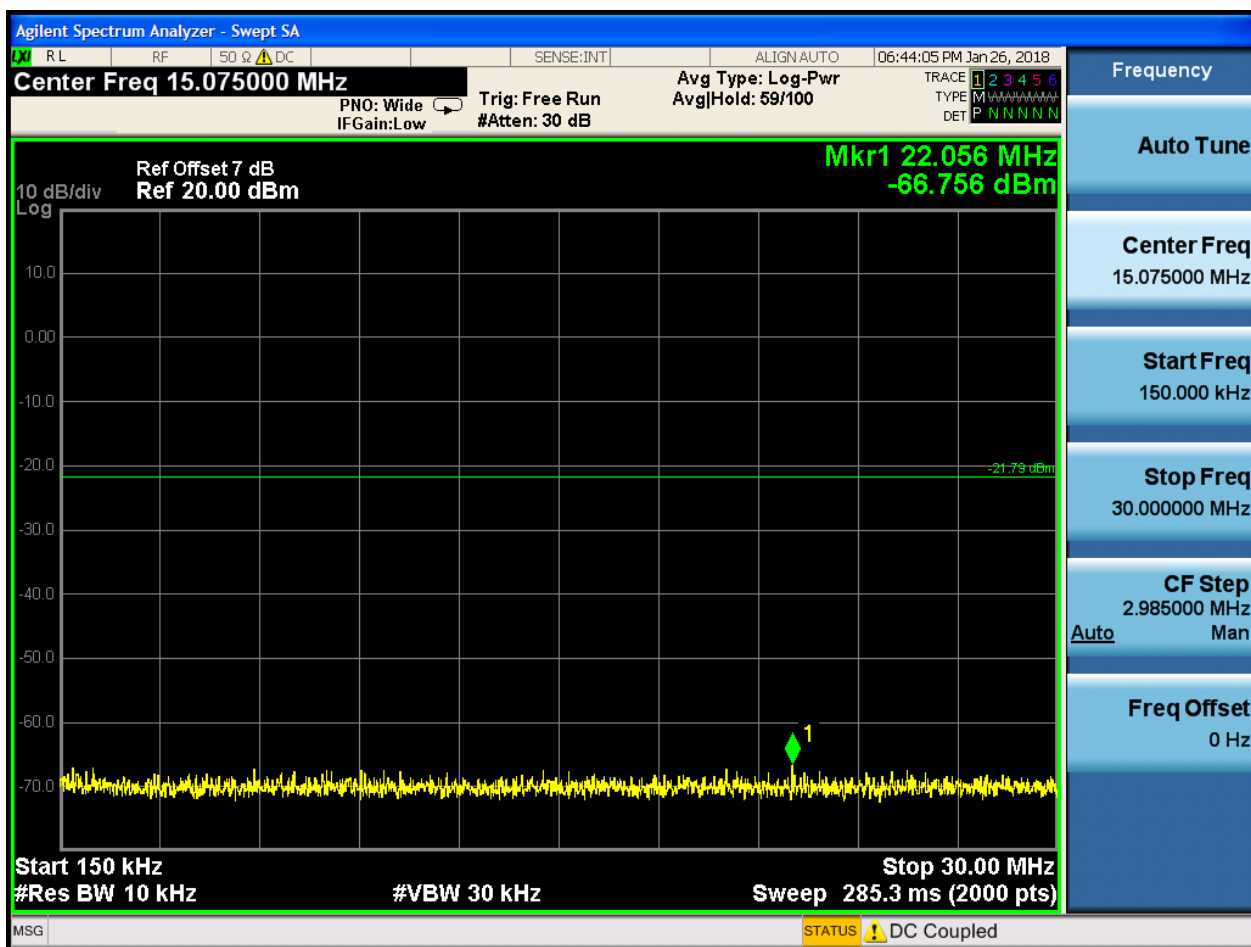
2.4 TM2_2DH5_Ch0

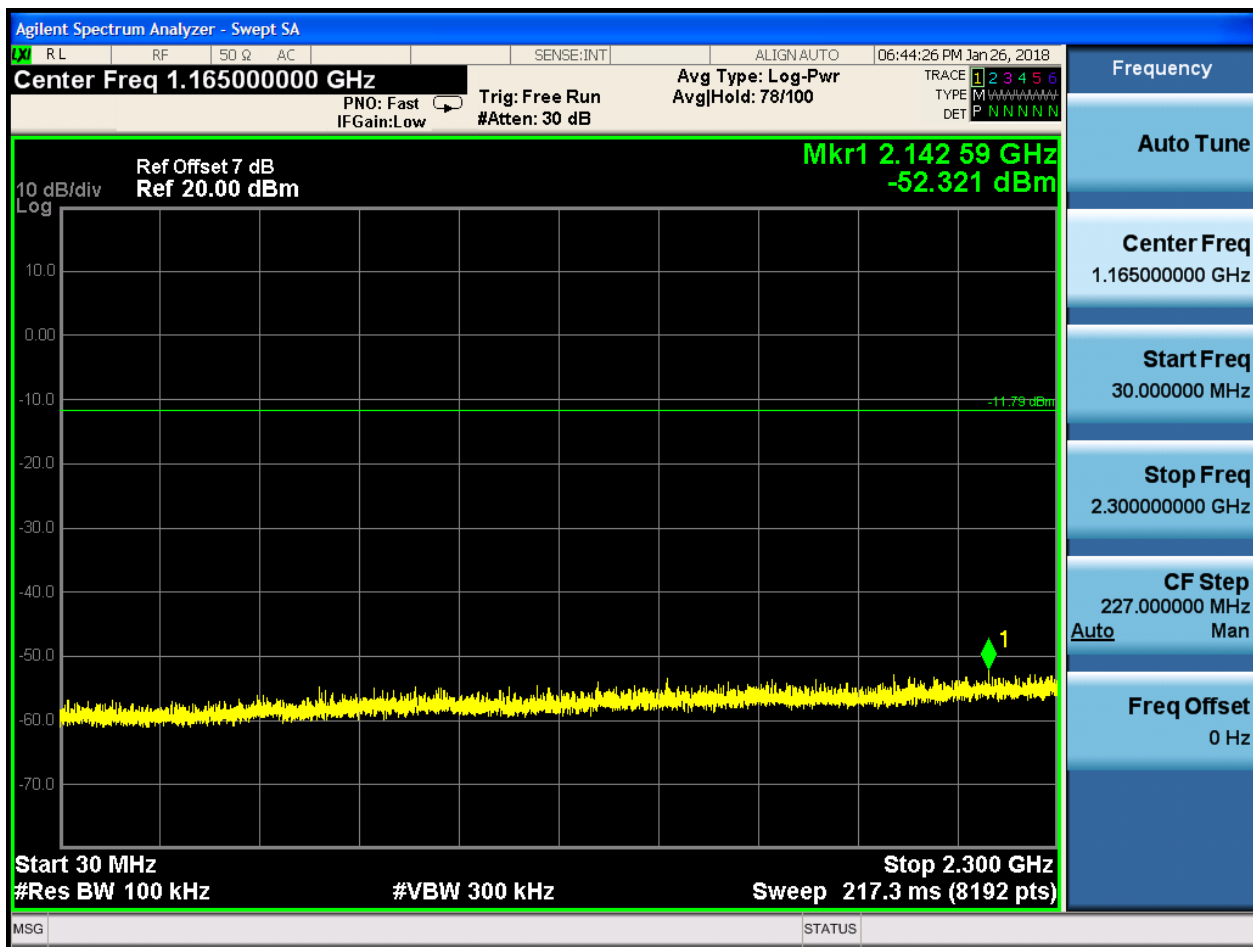
2.4.1 Pref

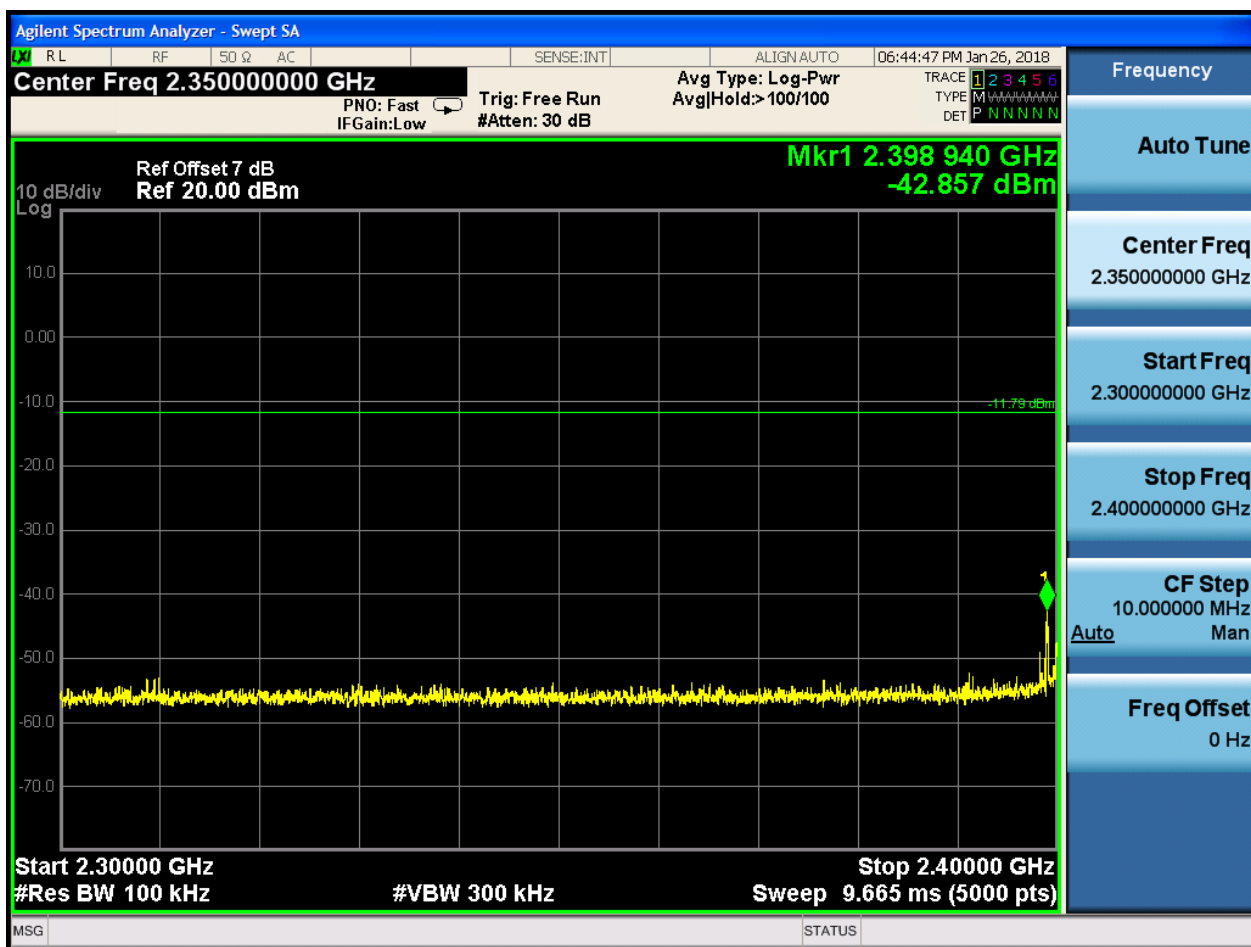


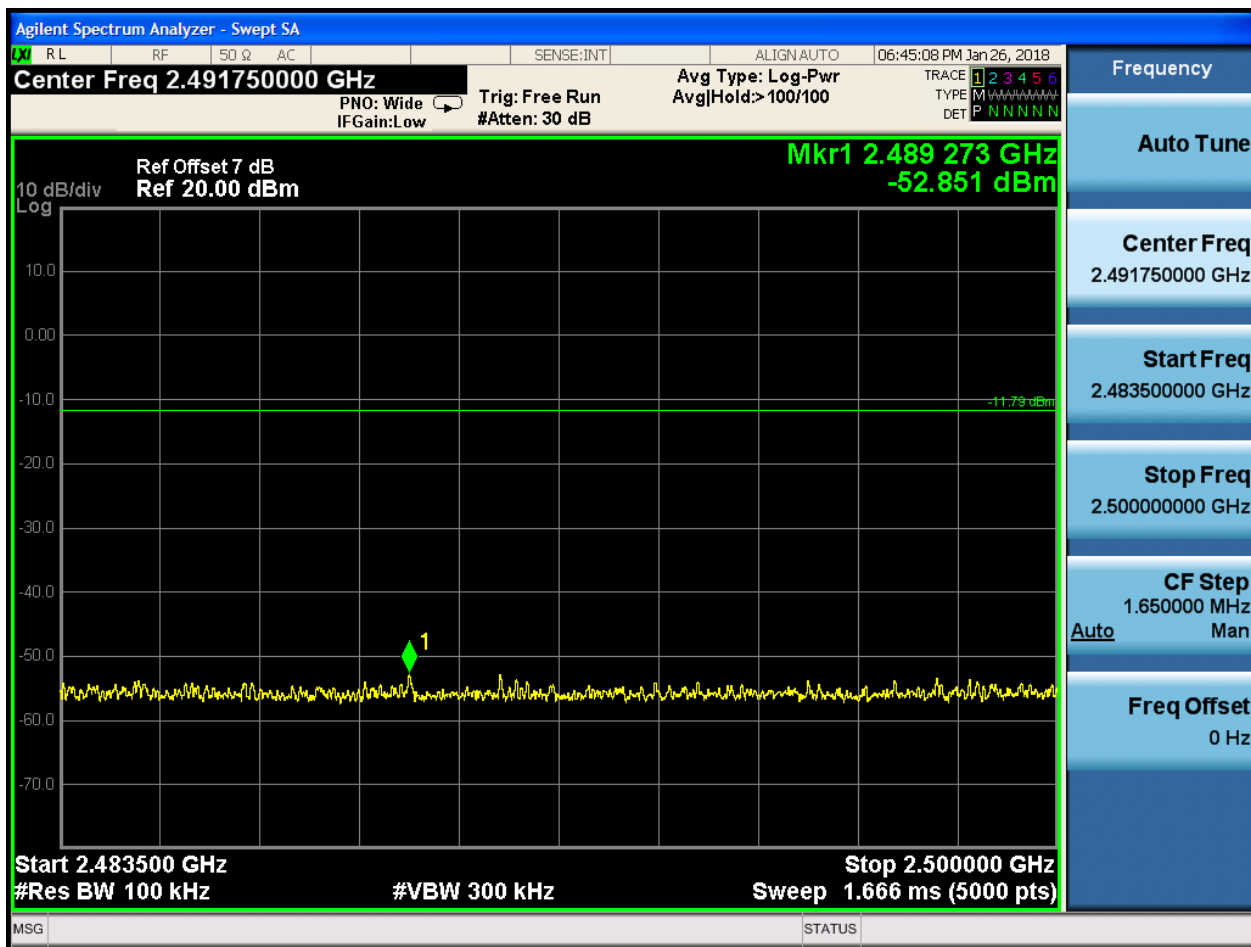
2.4.2 Puw

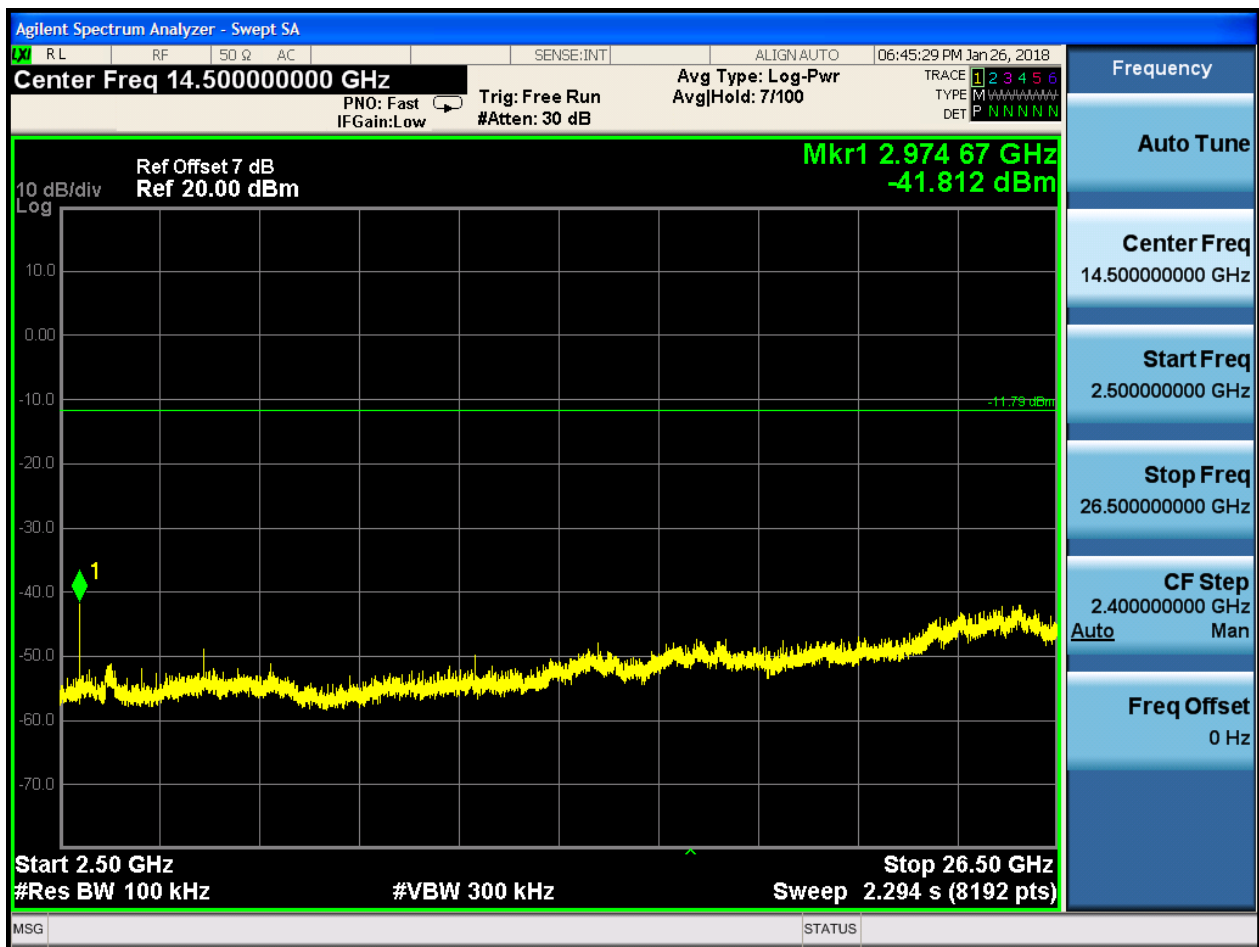










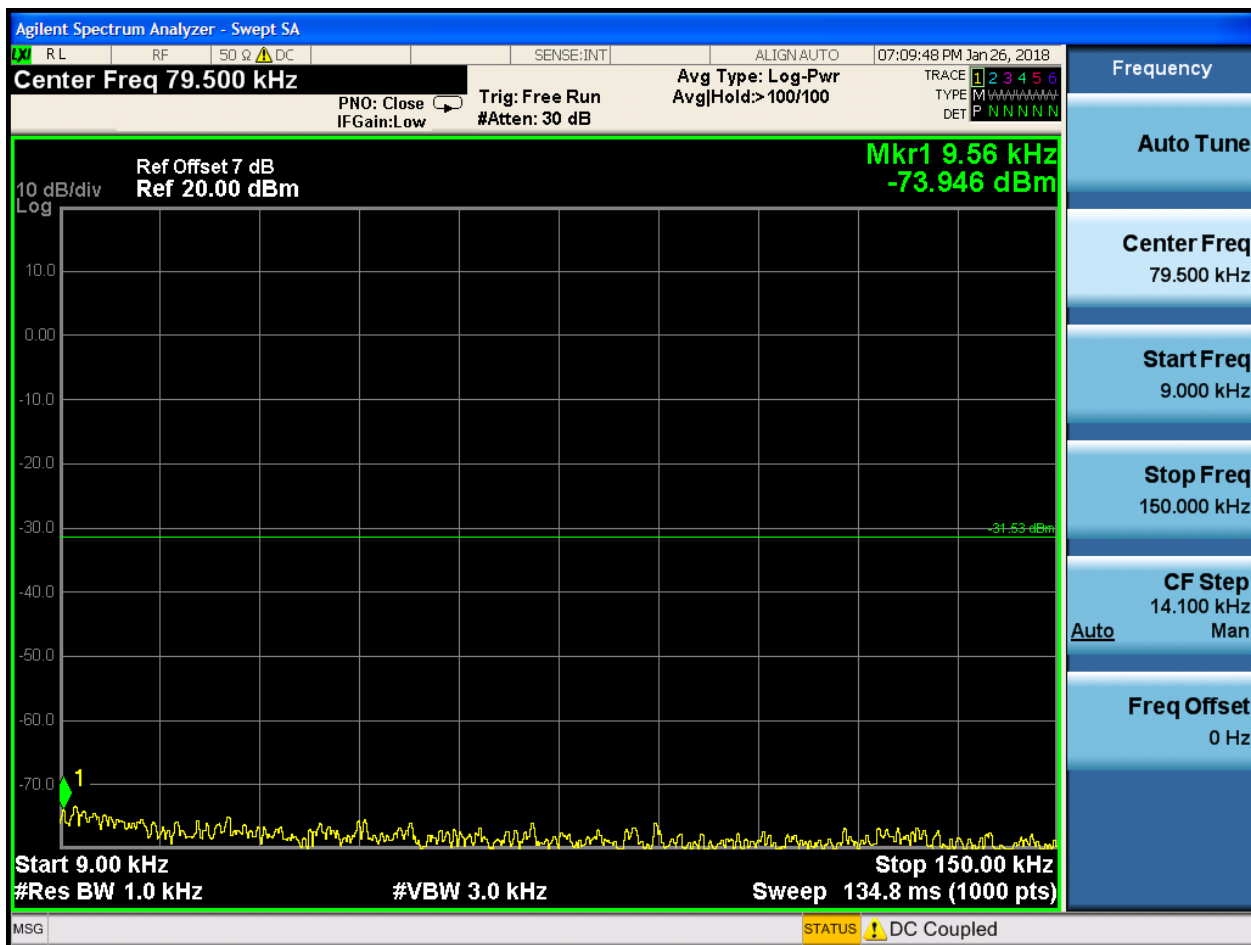


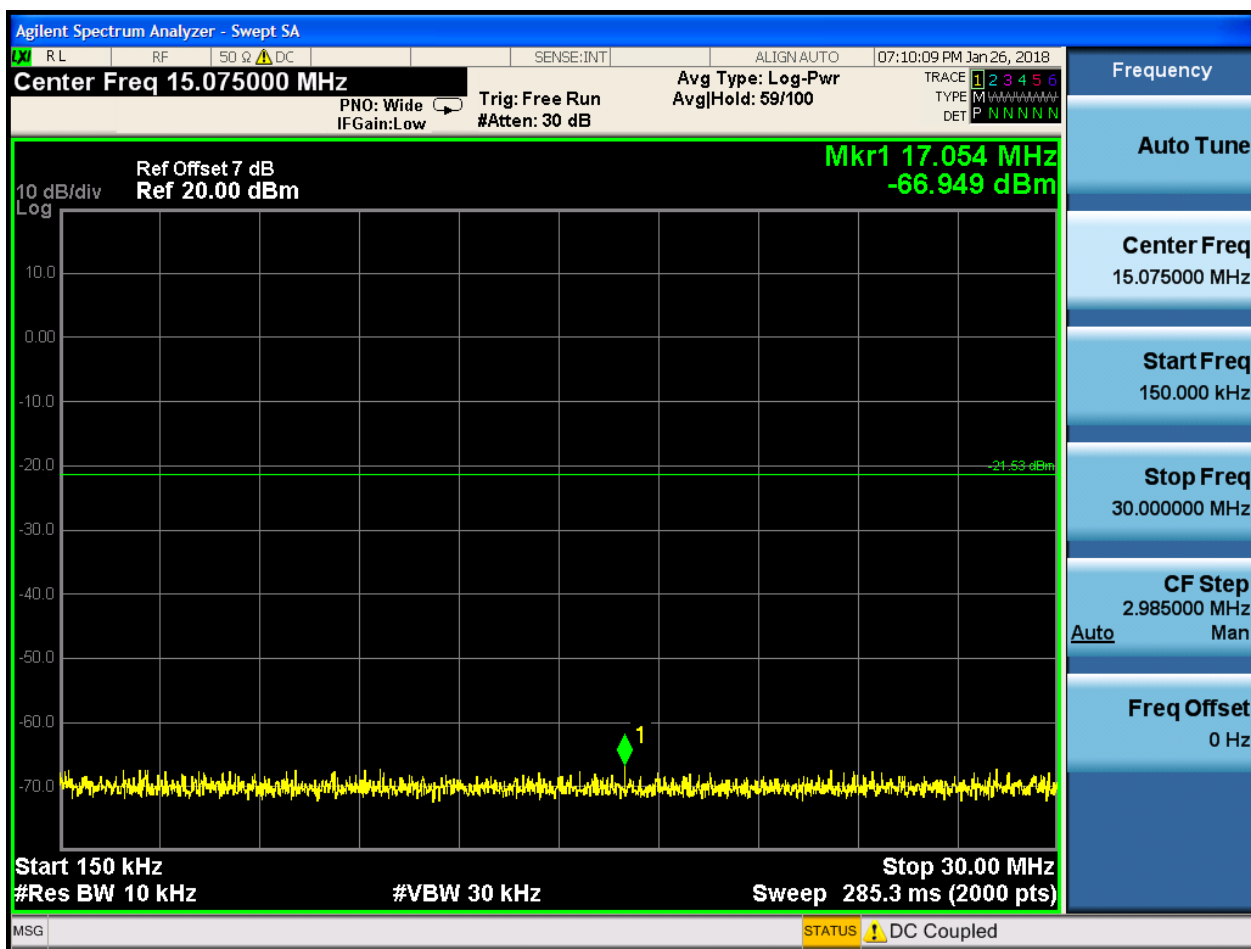
2.5 TM2_2DH5_Ch39

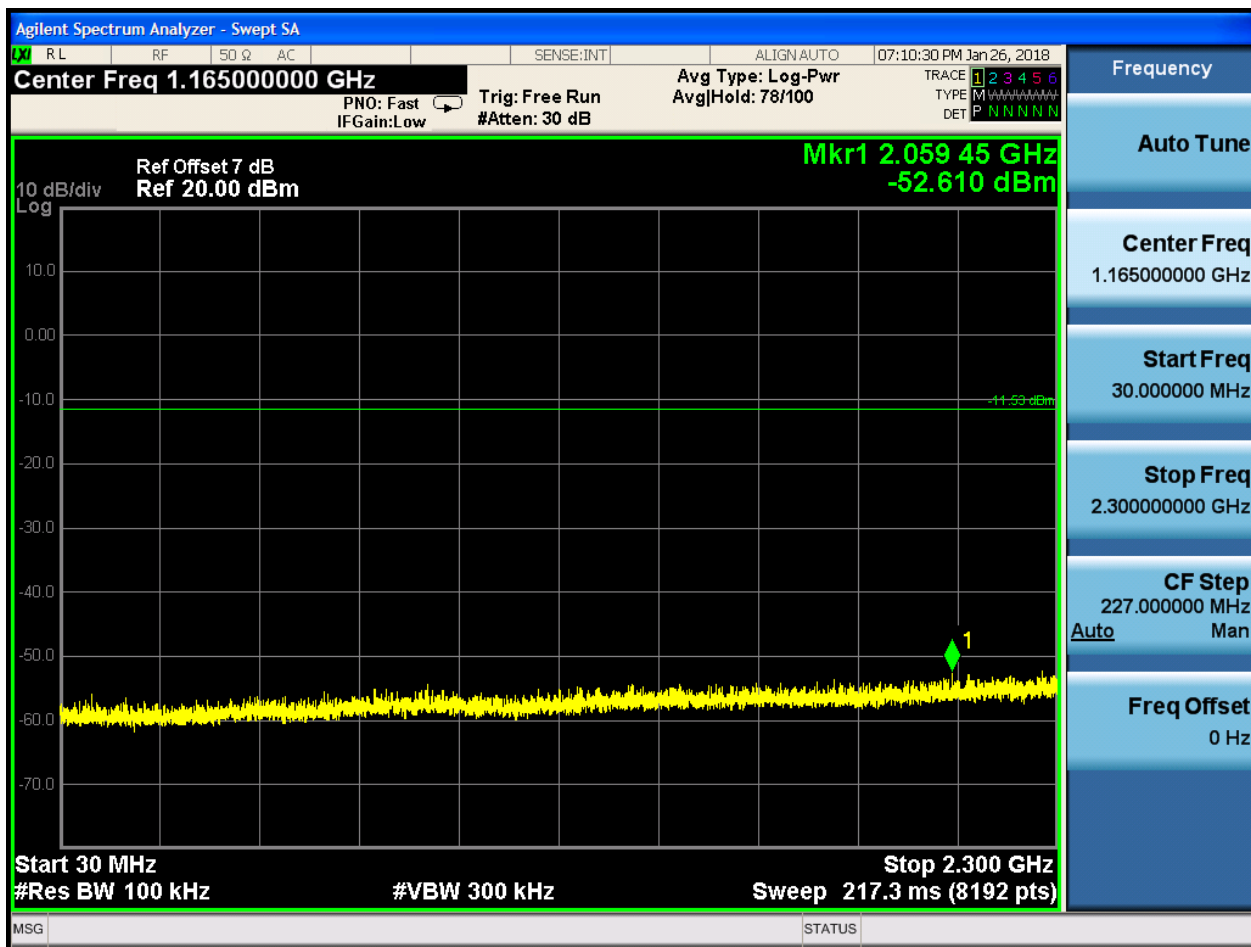
2.5.1 Pref

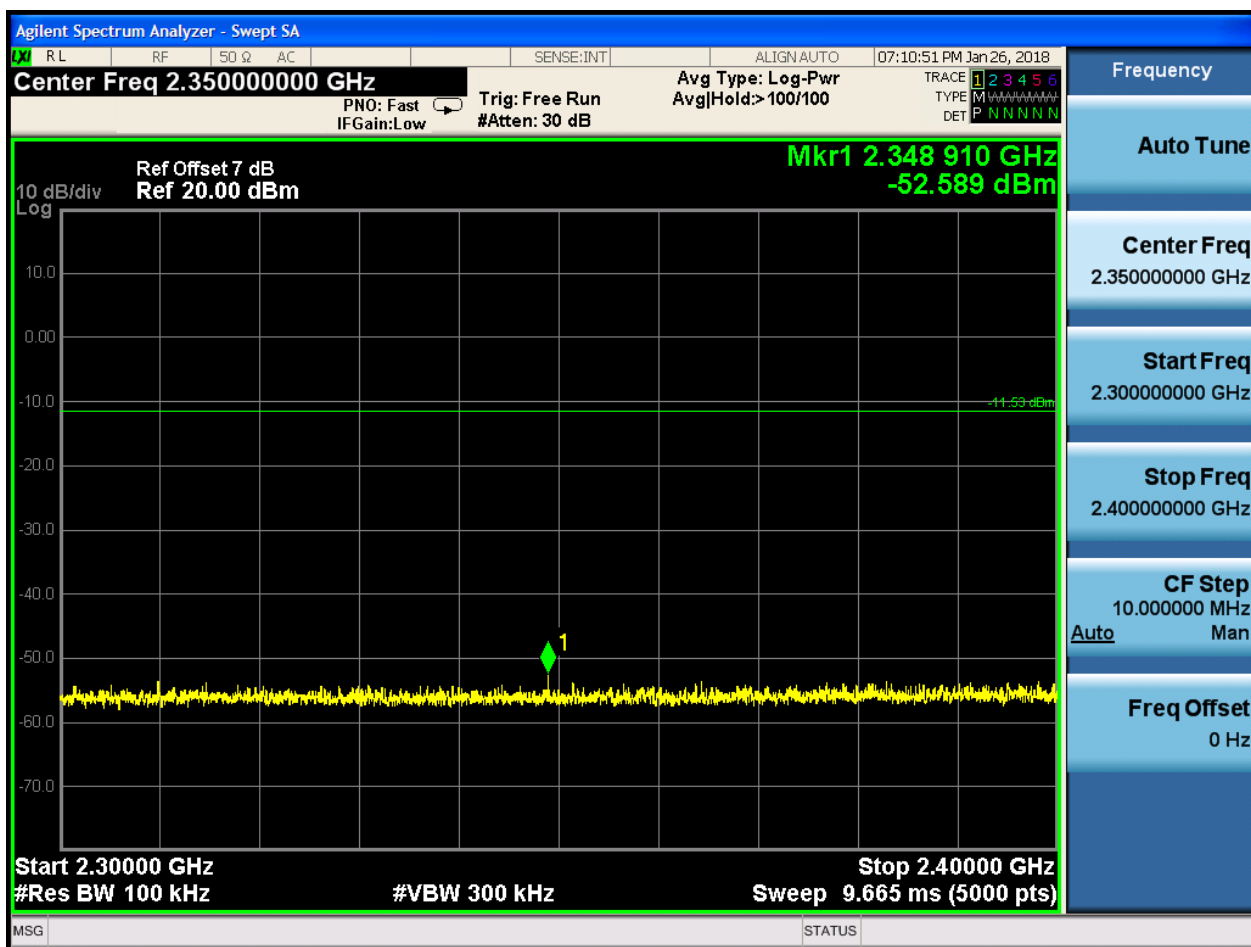


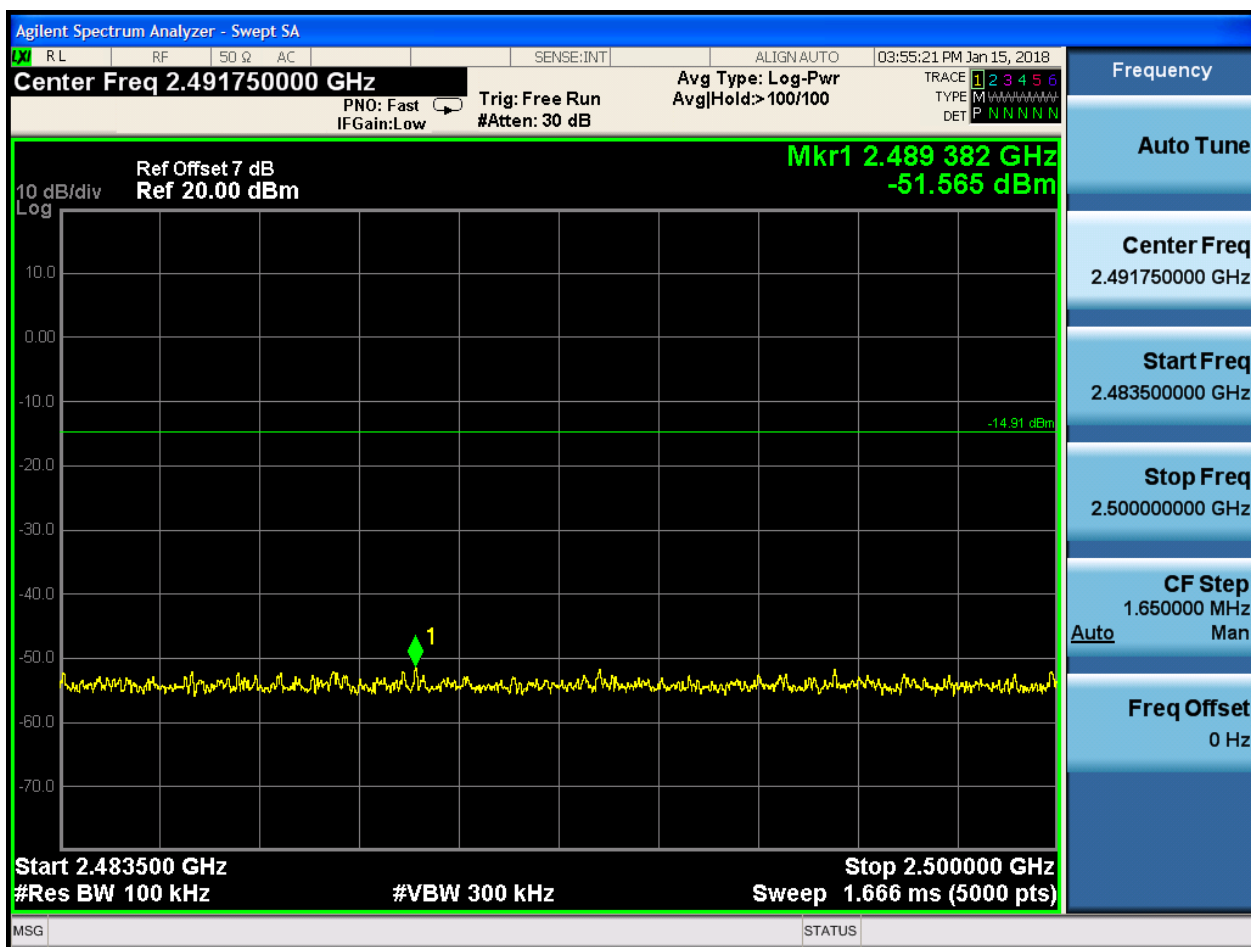
2.5.2 Puw







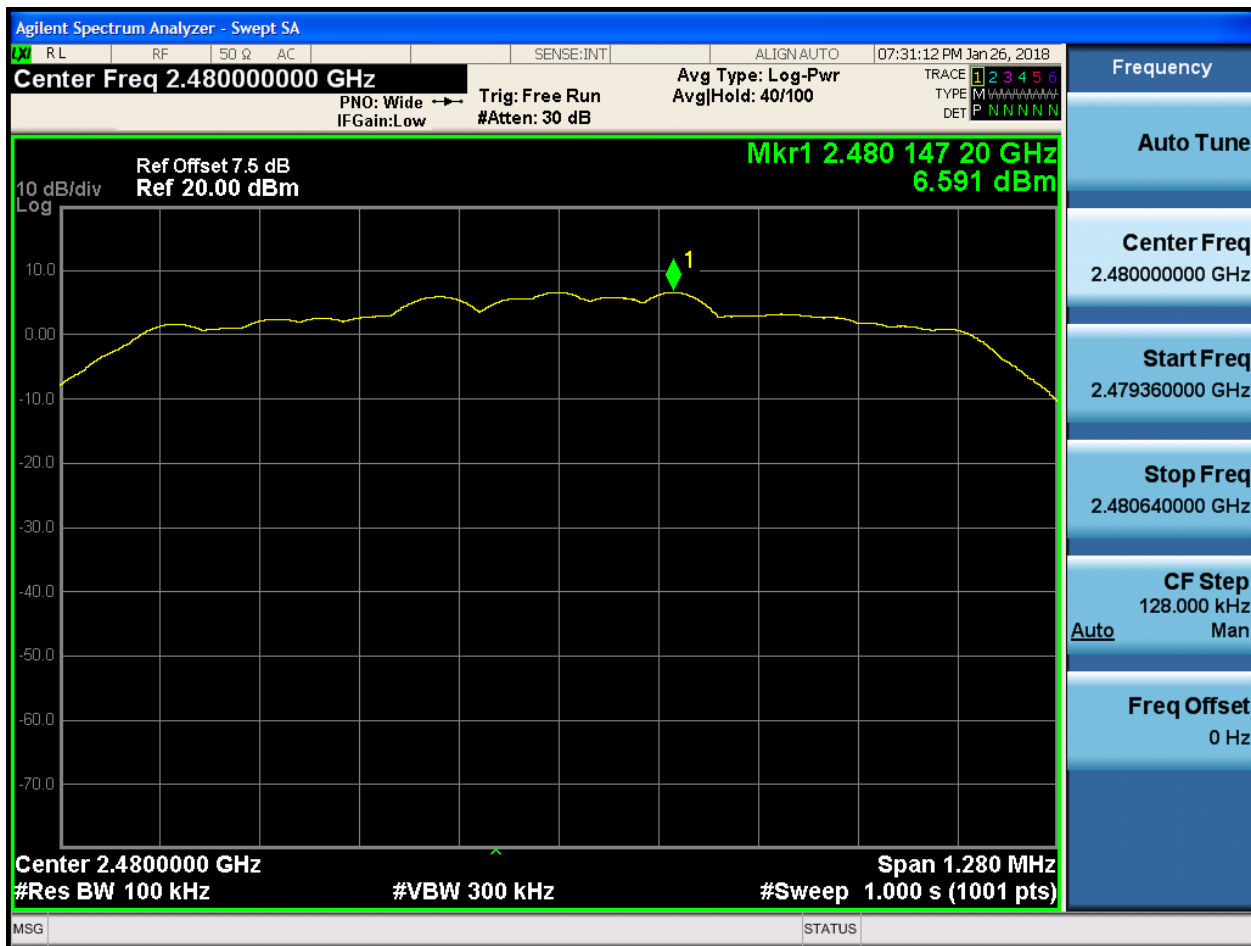


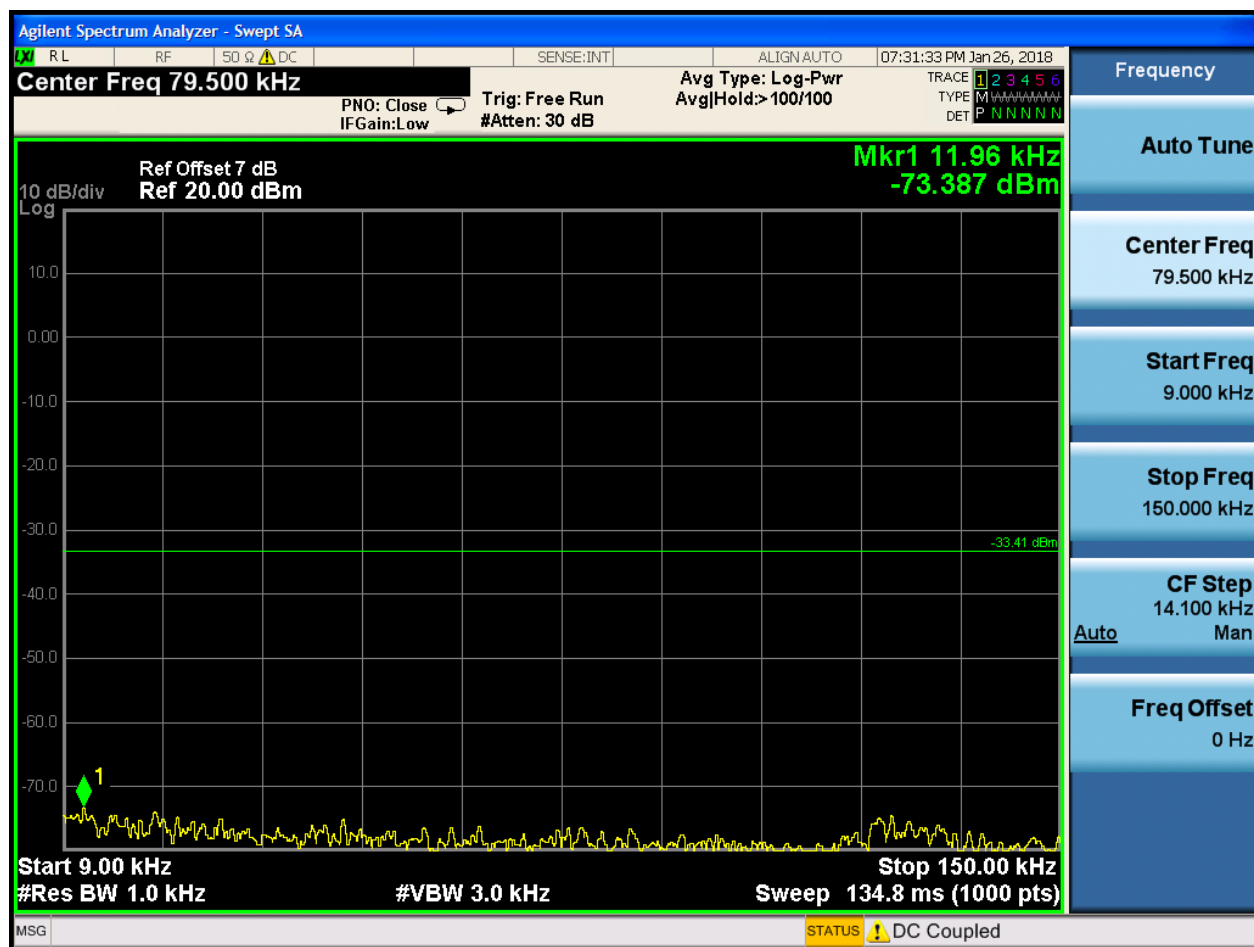


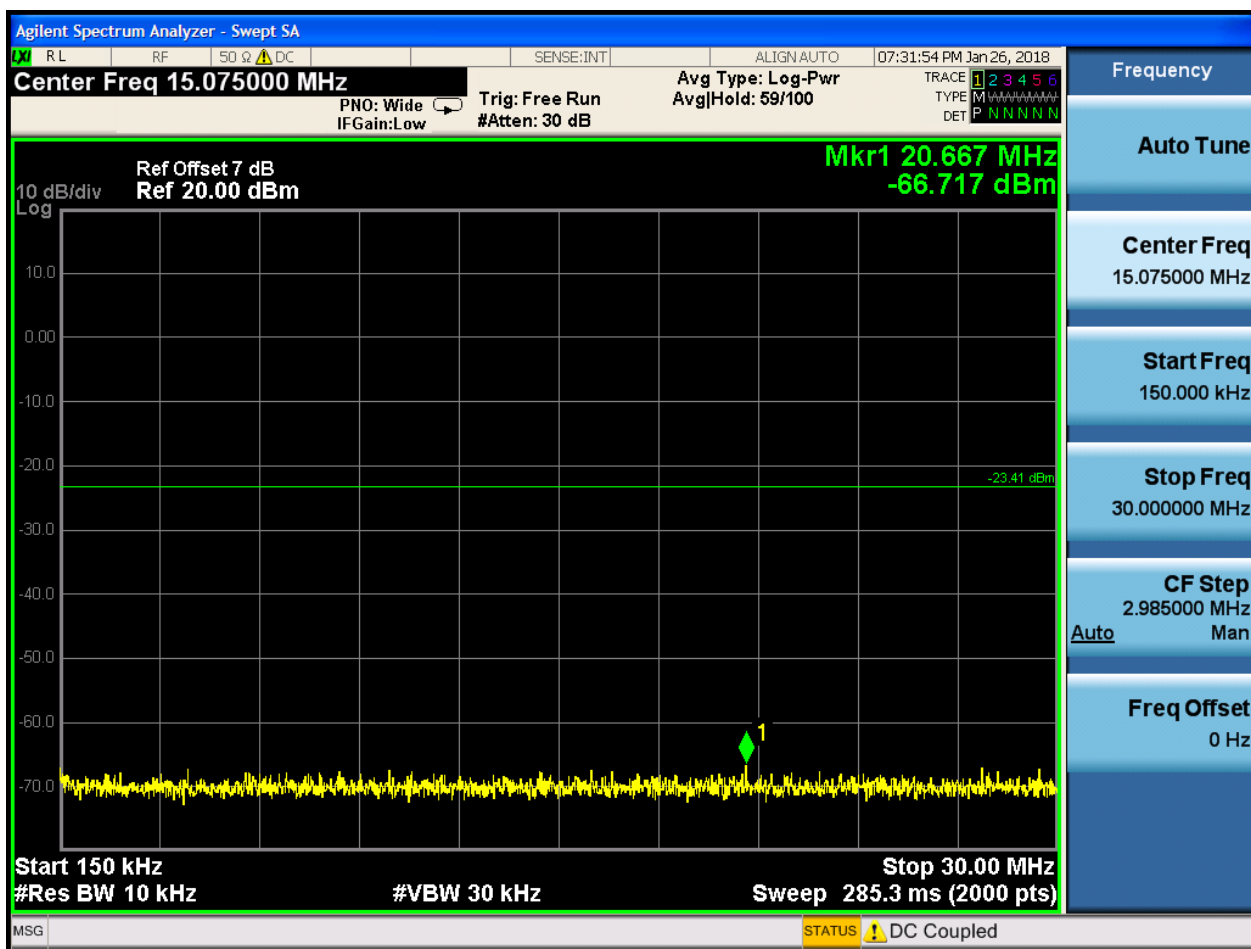


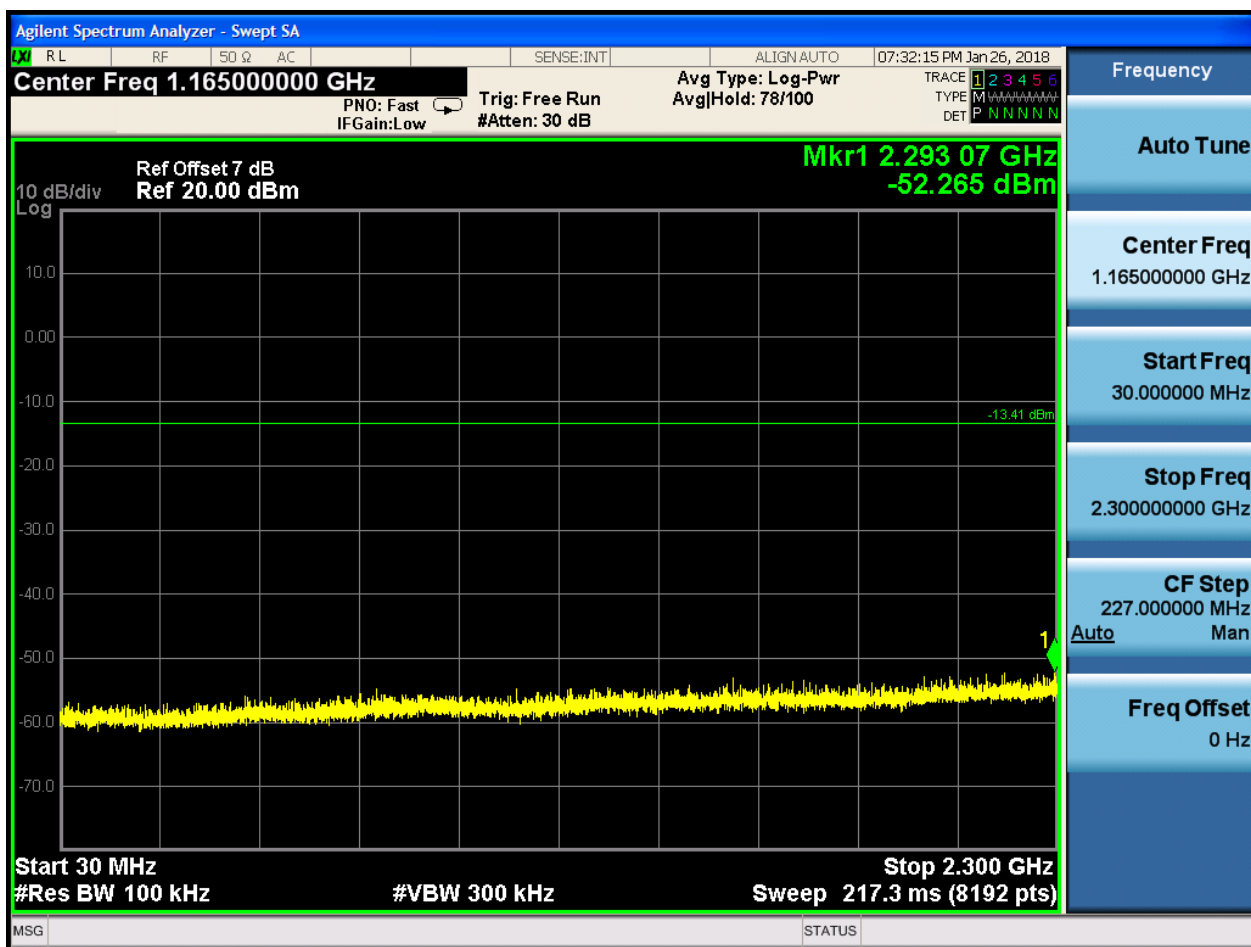
2.6 TM2_2DH5_Ch78

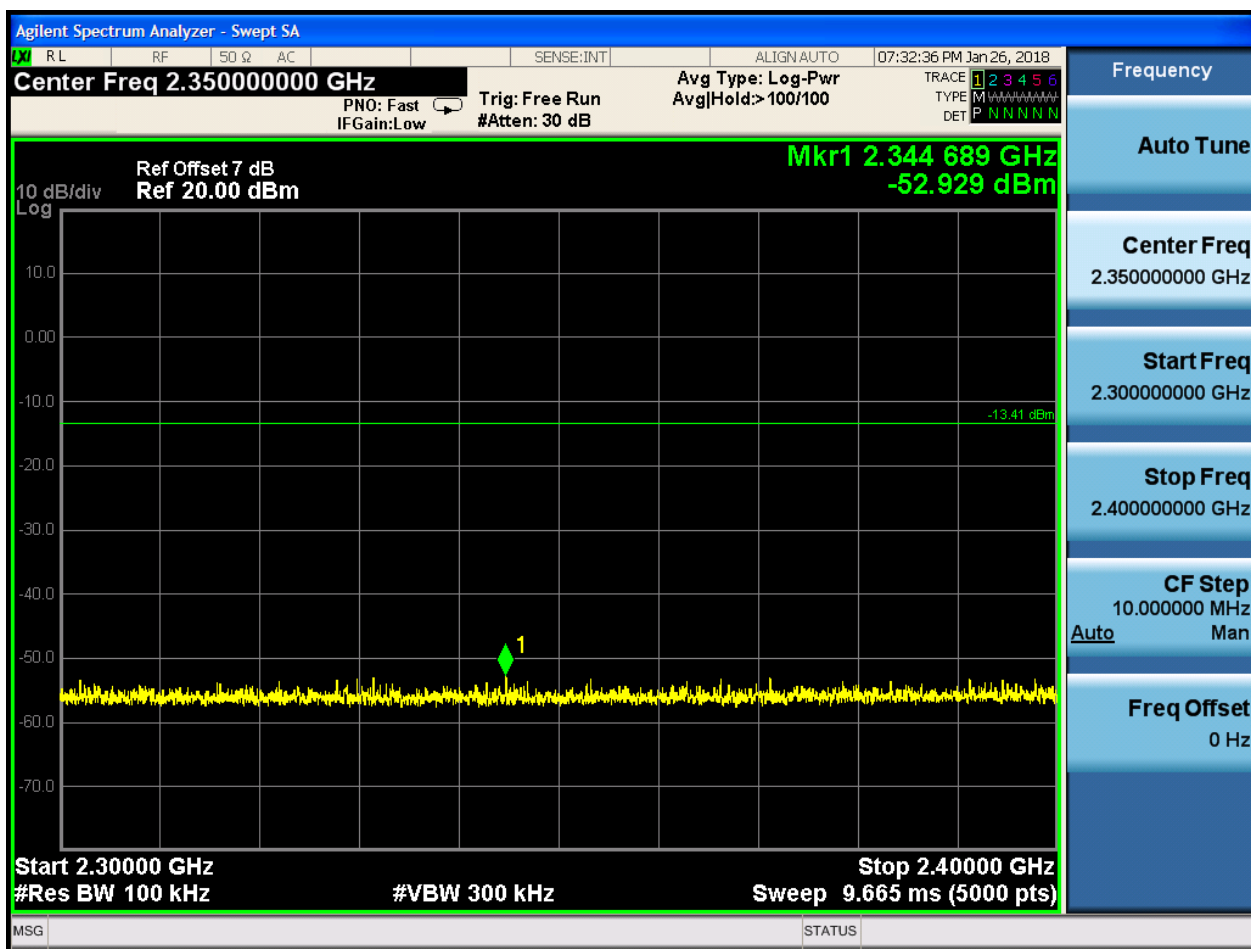
2.6.1 Pref

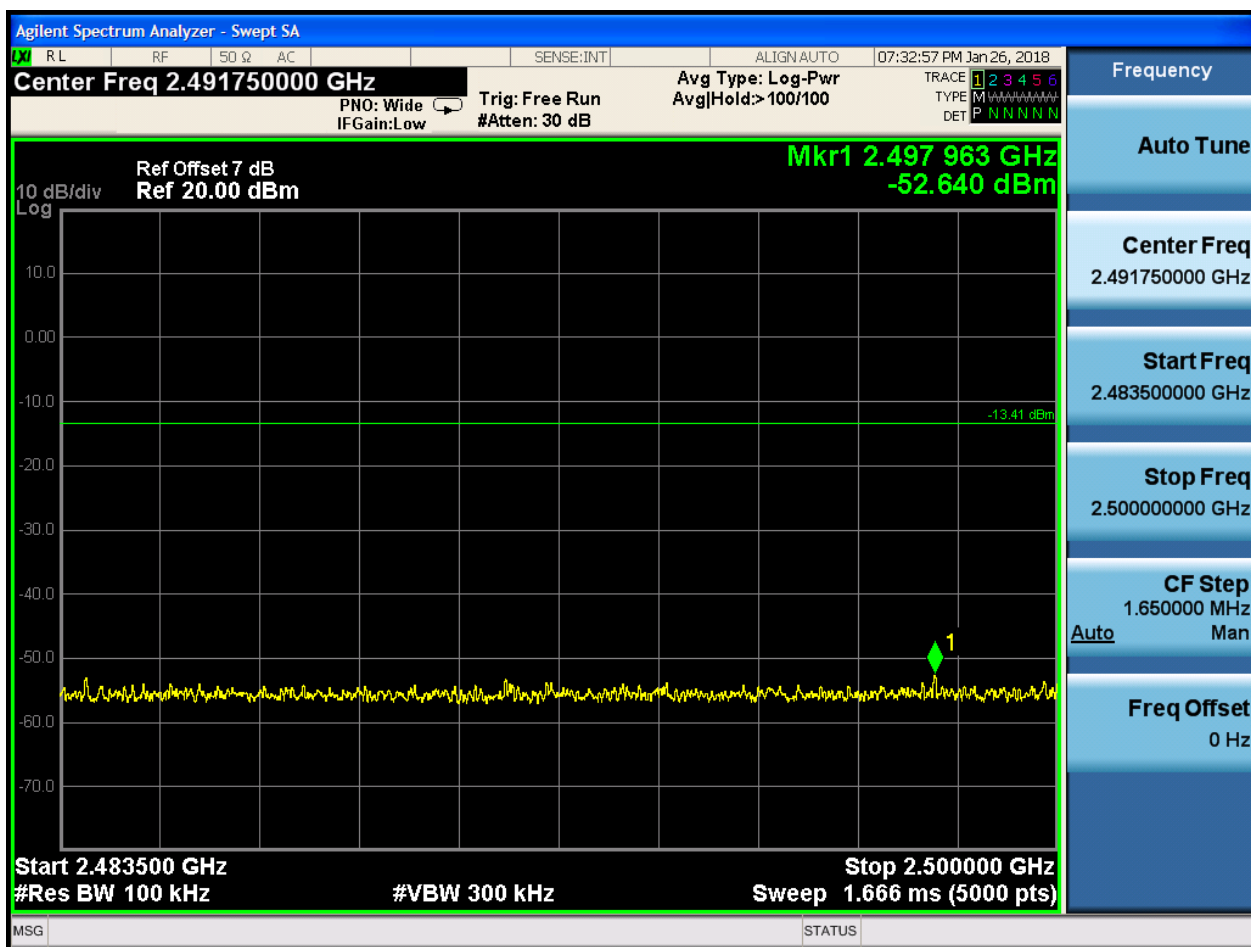


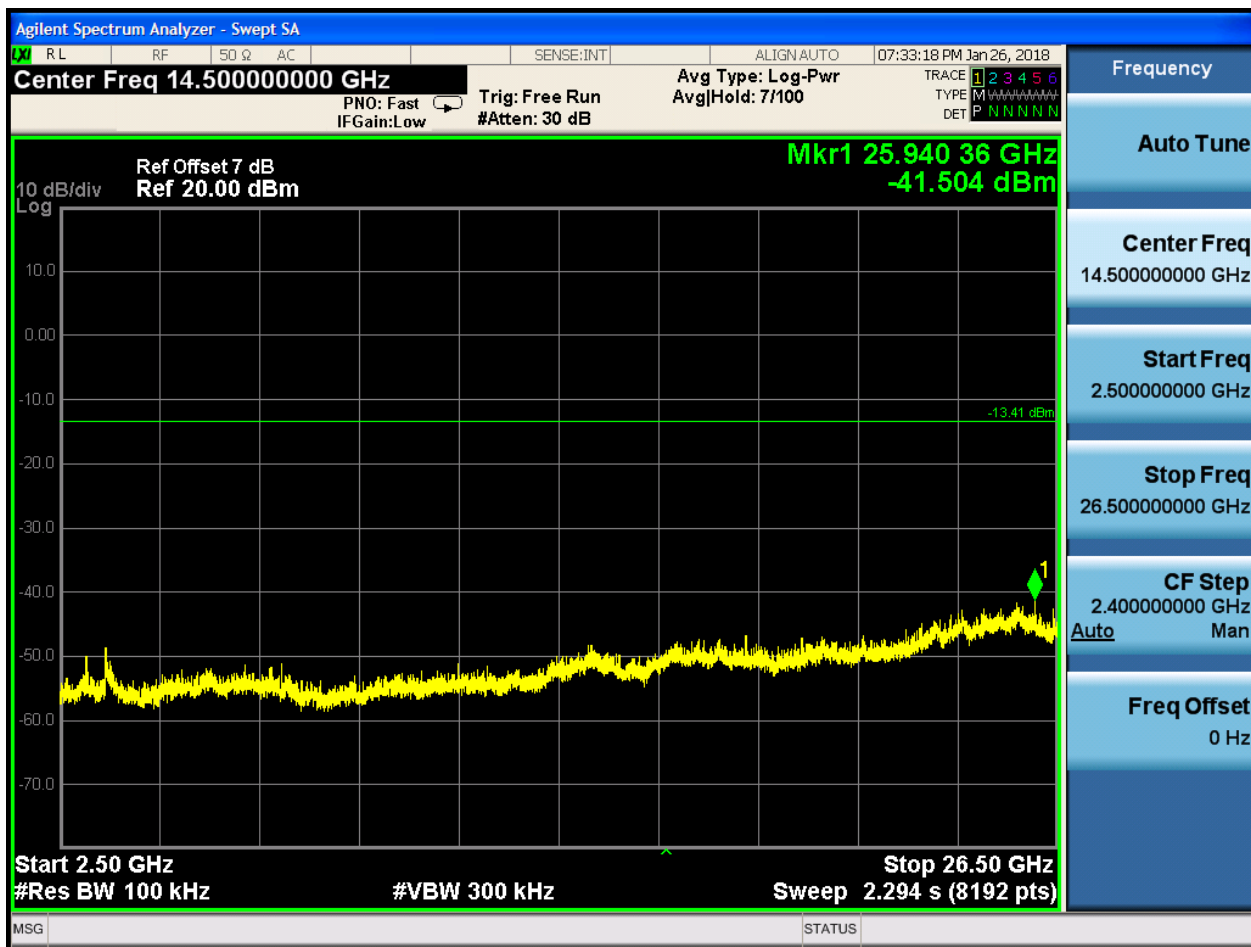






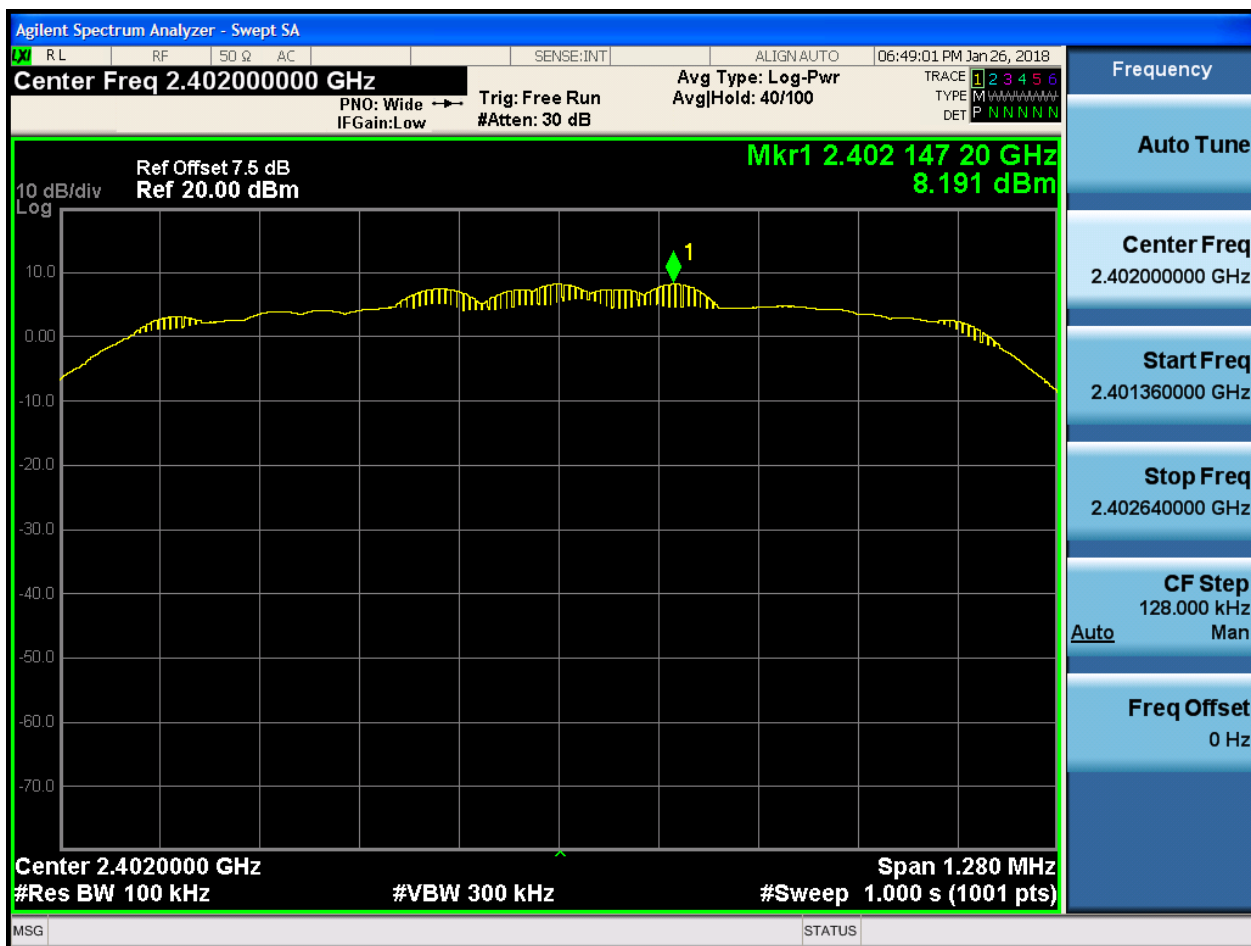




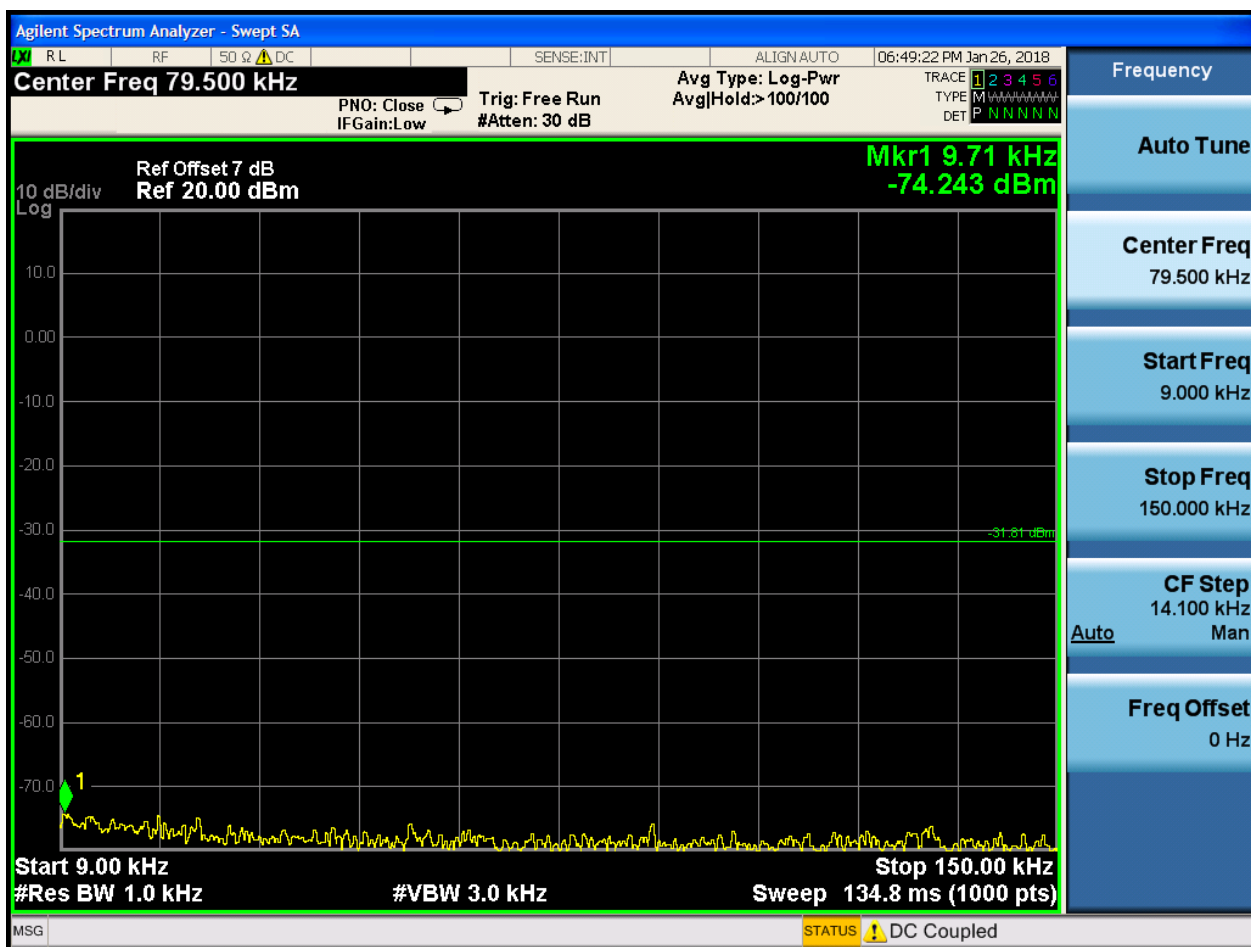


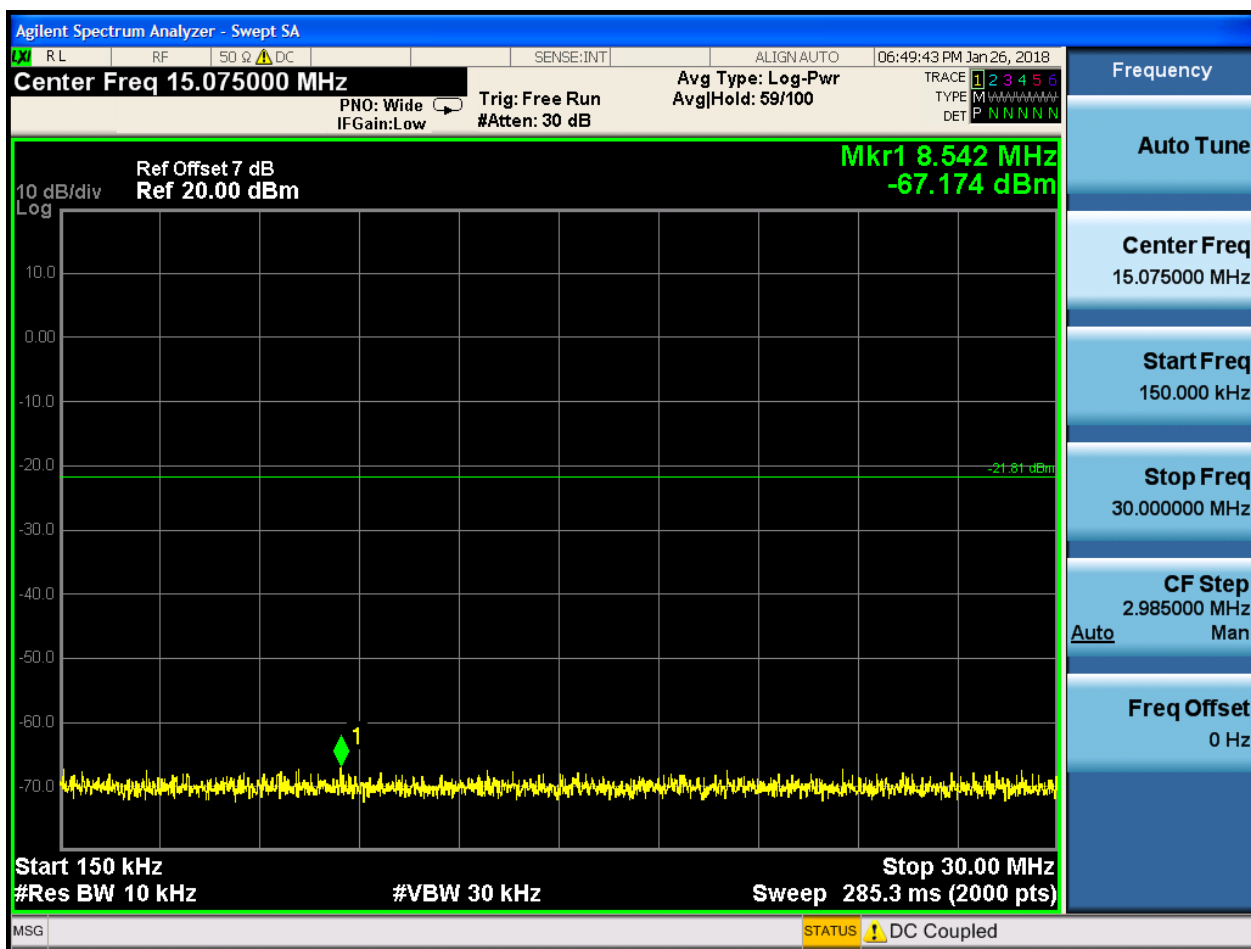
2.7 TM3_3DH5_Ch0

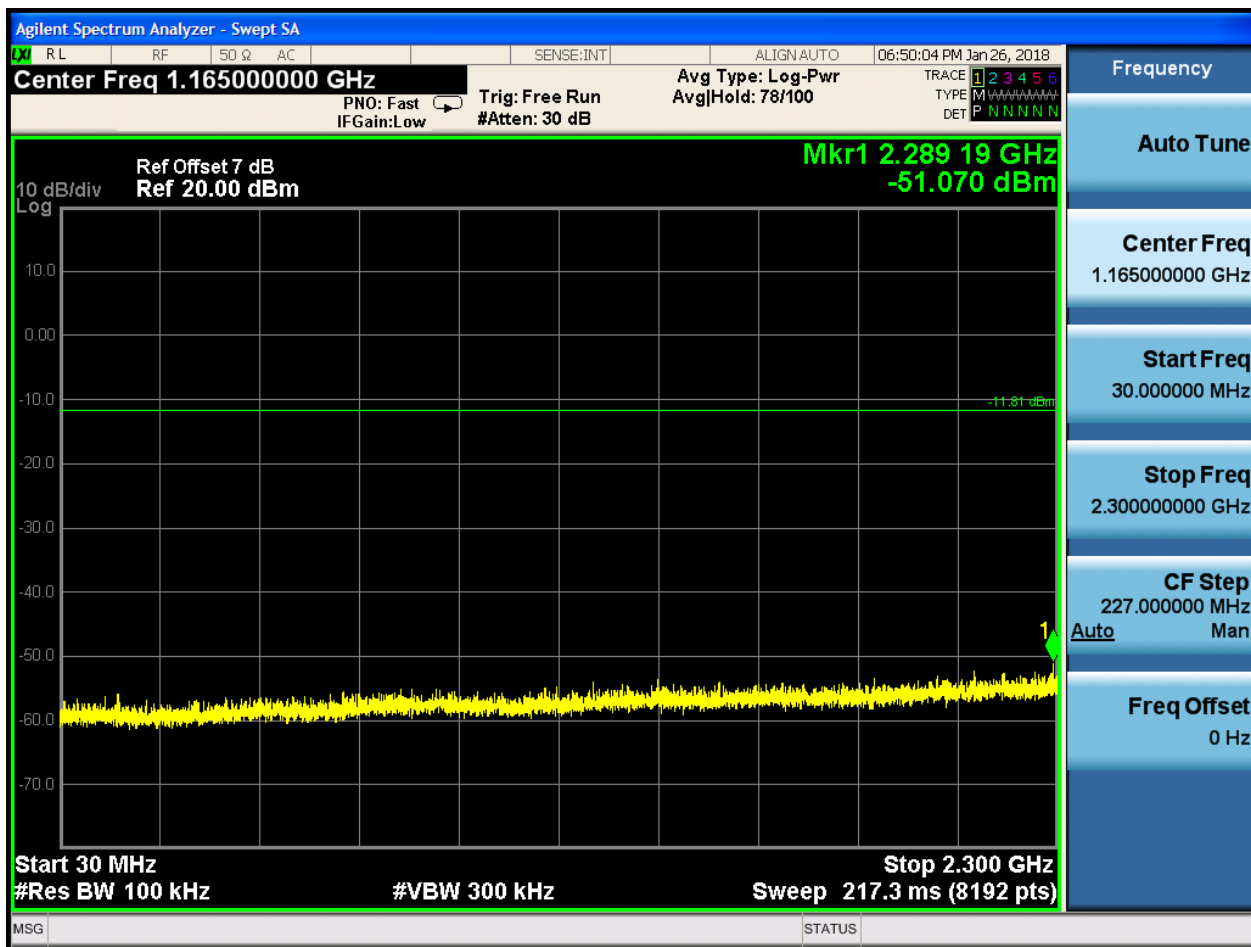
2.7.1 Pref

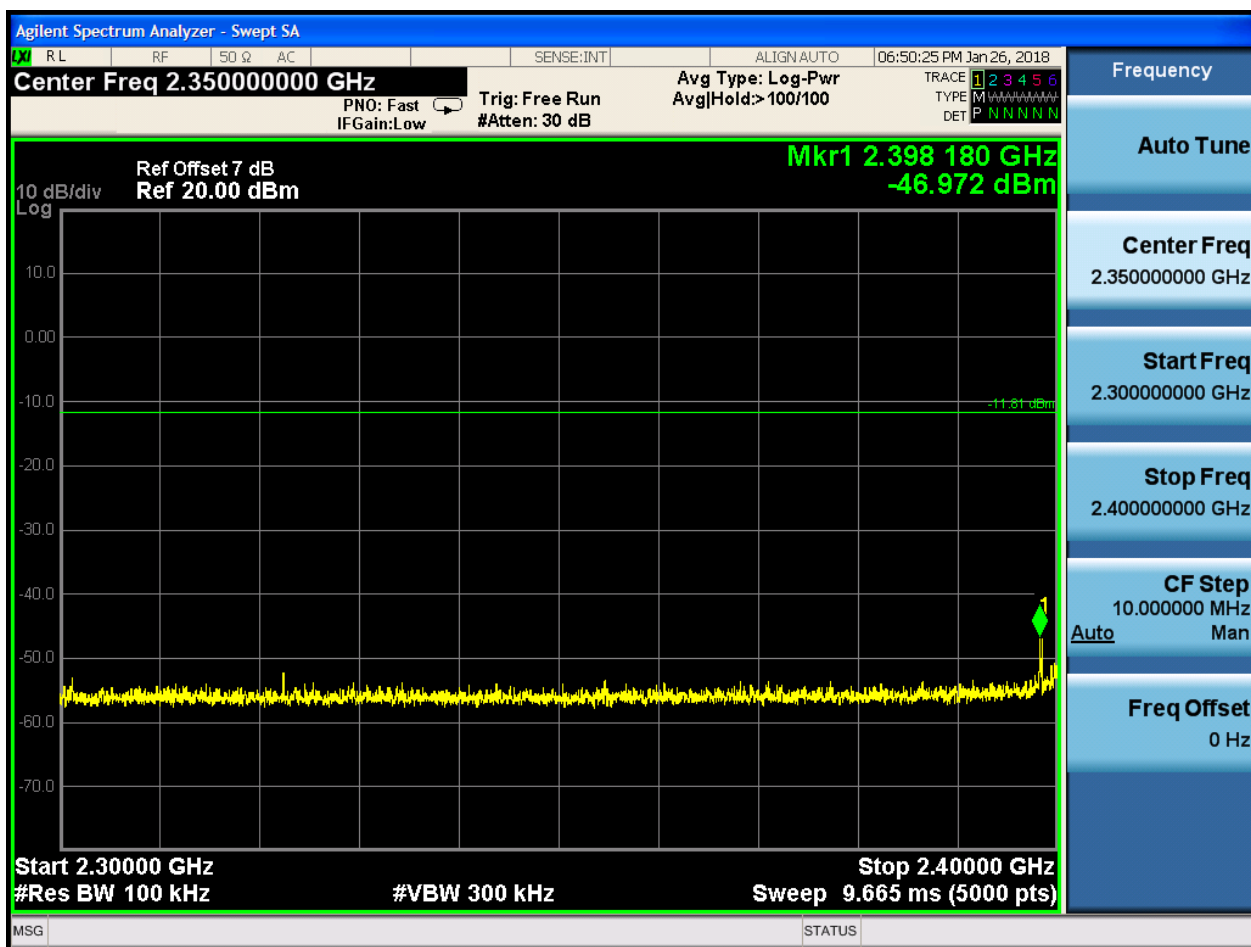


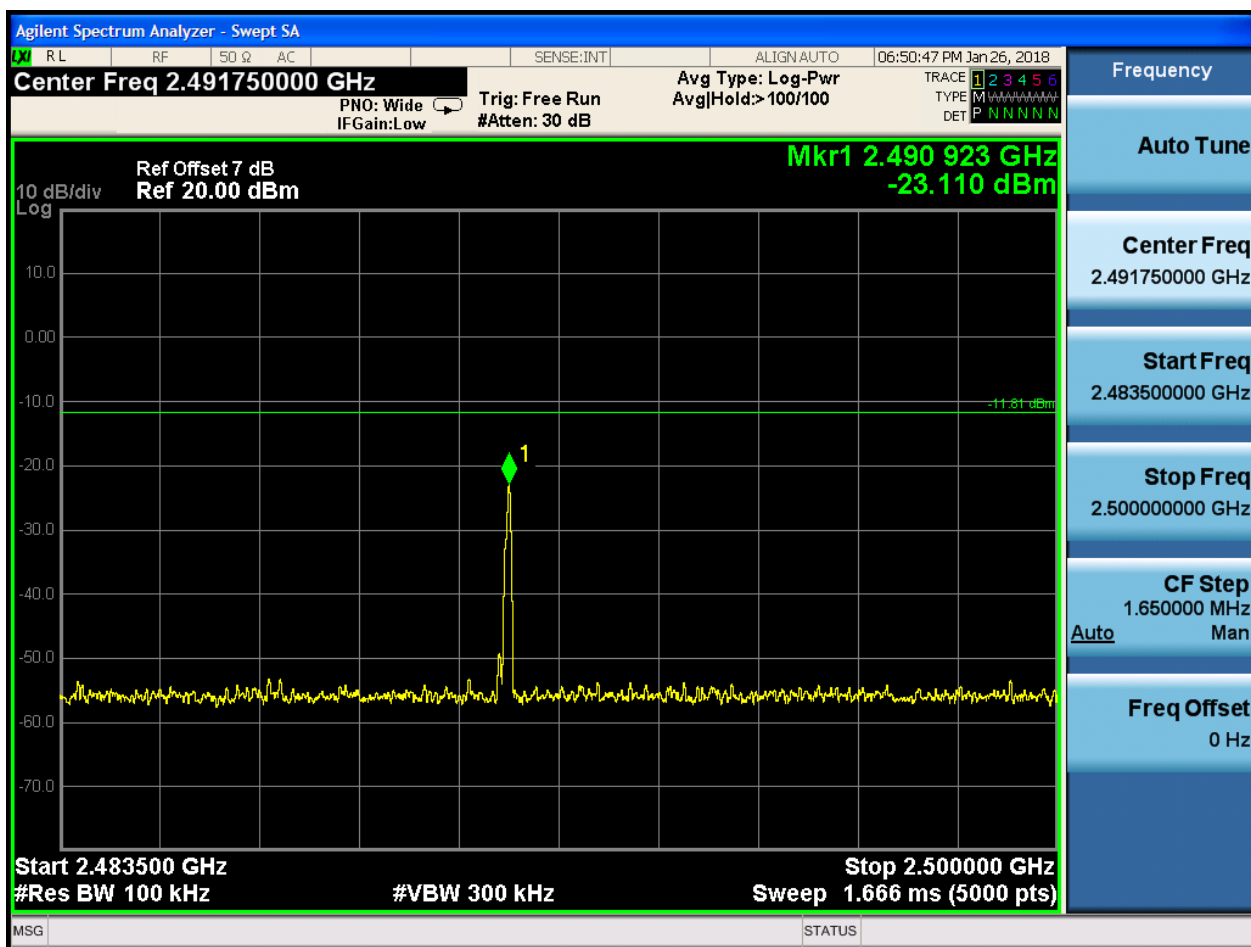
2.7.2 Puw

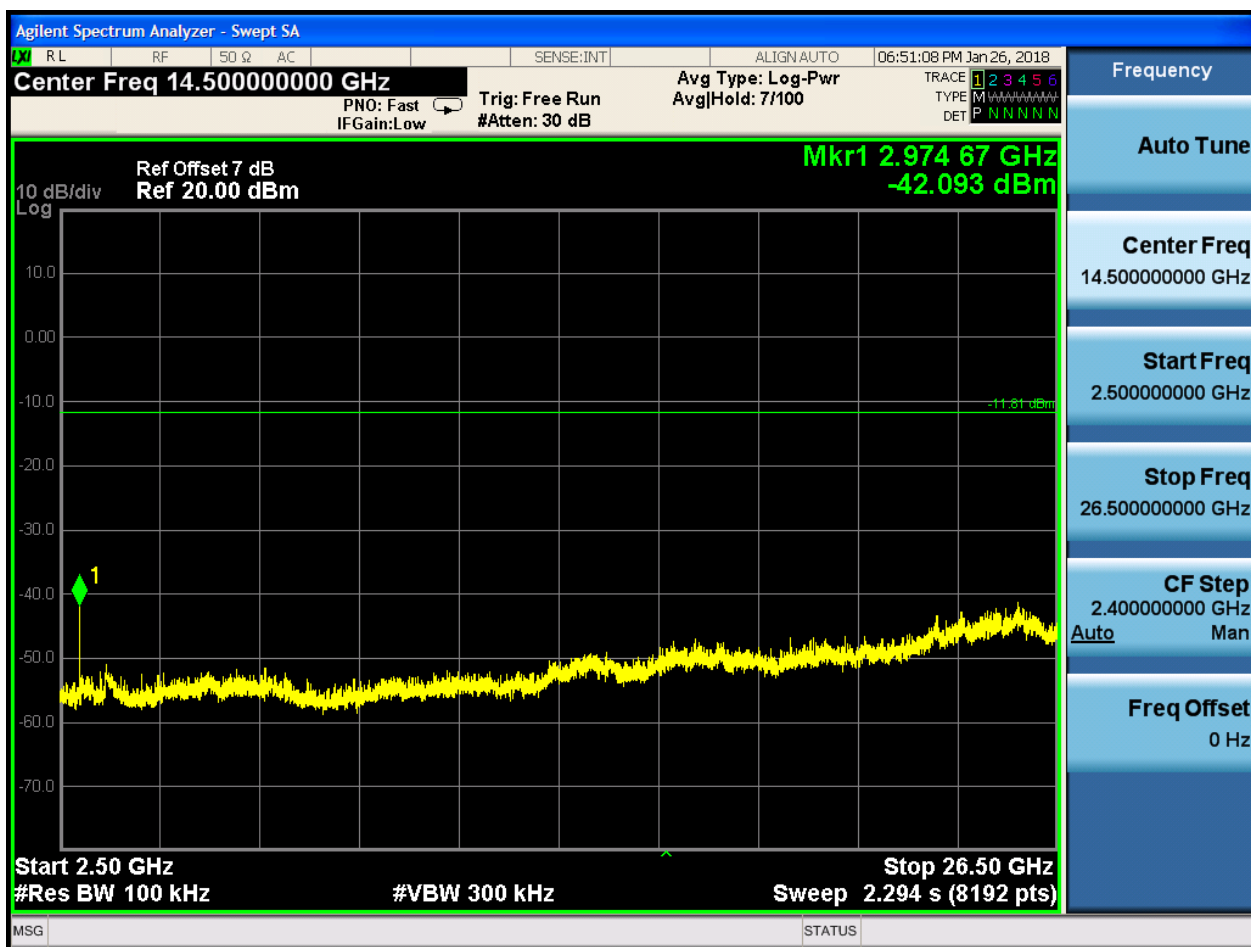














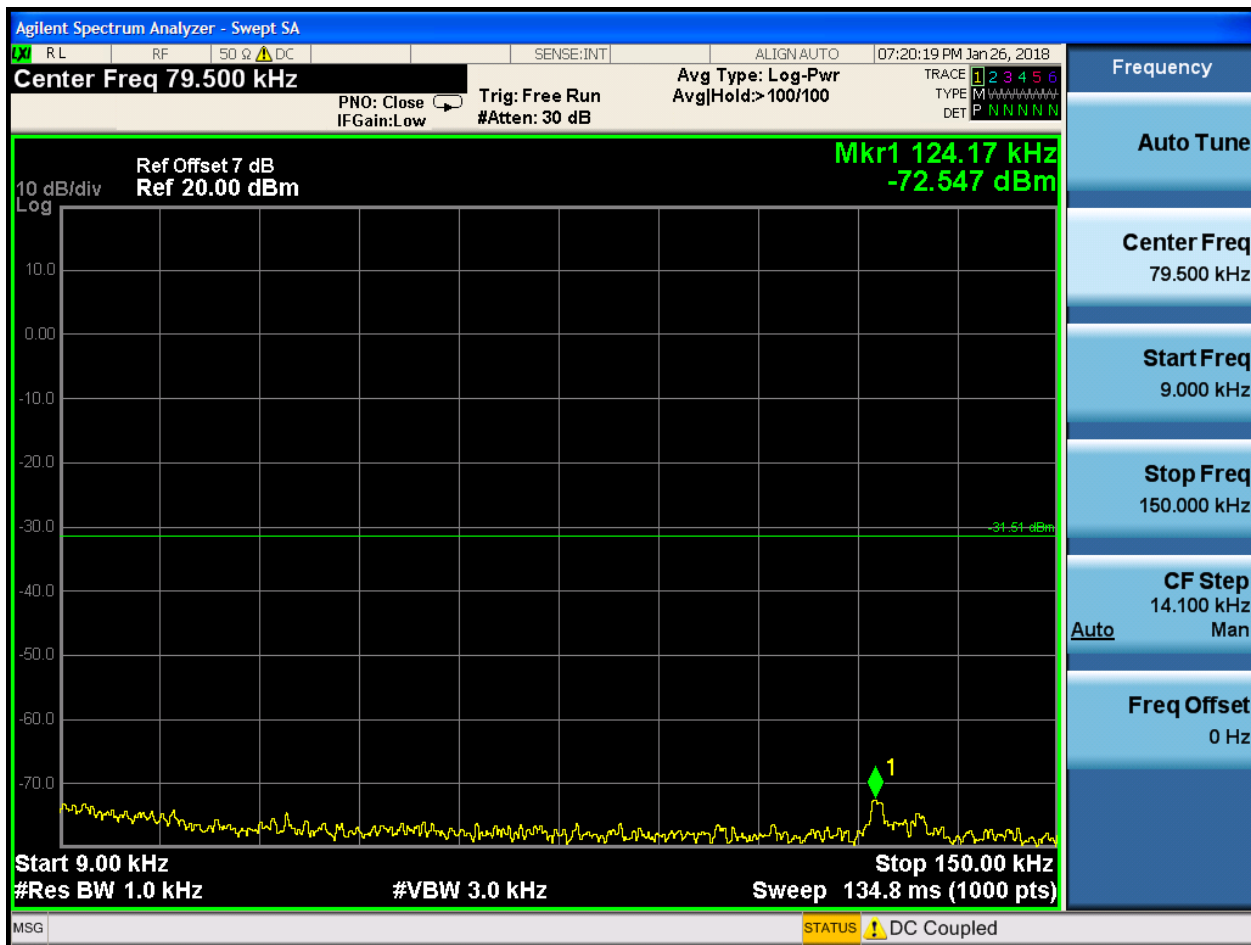
2.8 TM3_3DH5_Ch39

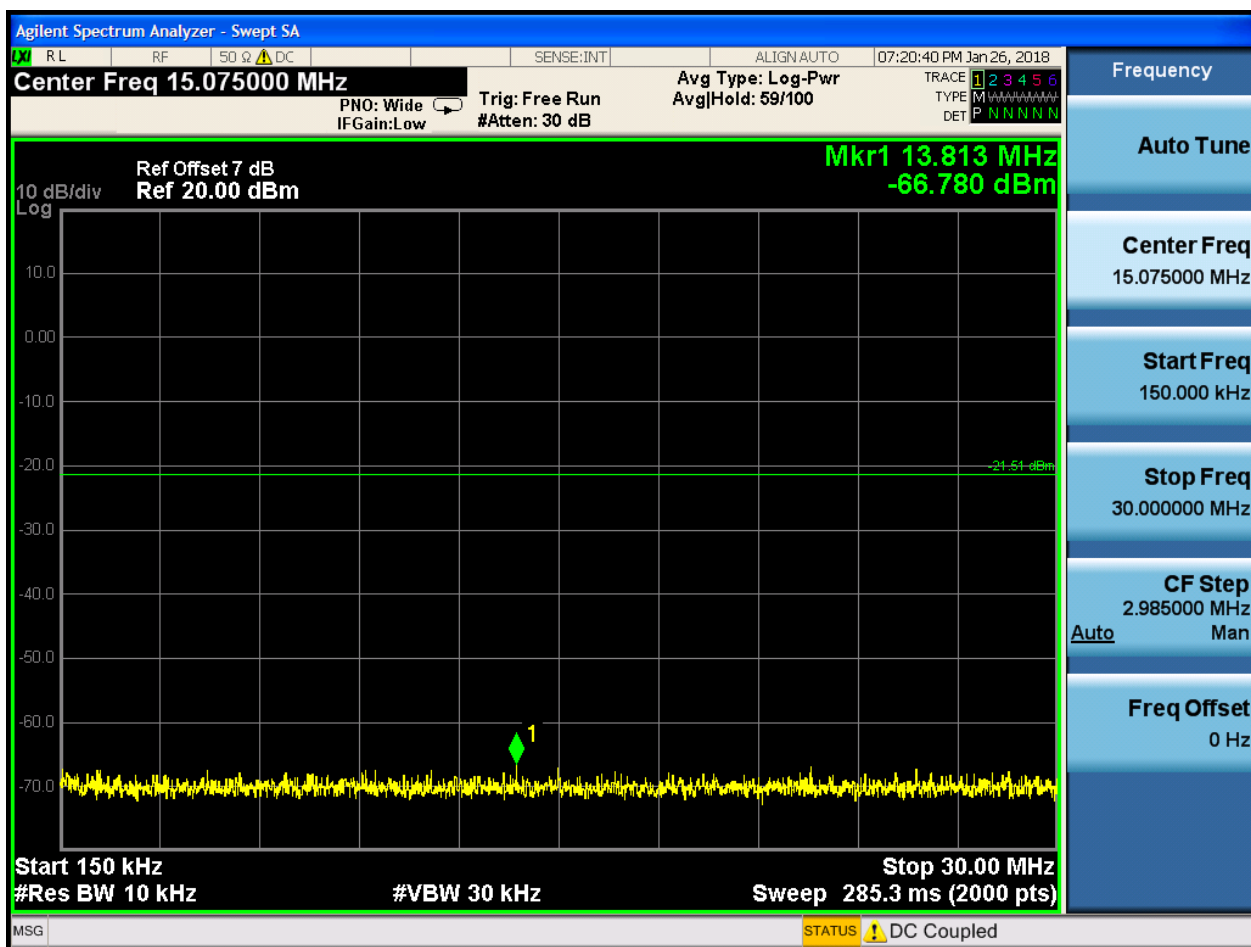
2.8.1 Pref

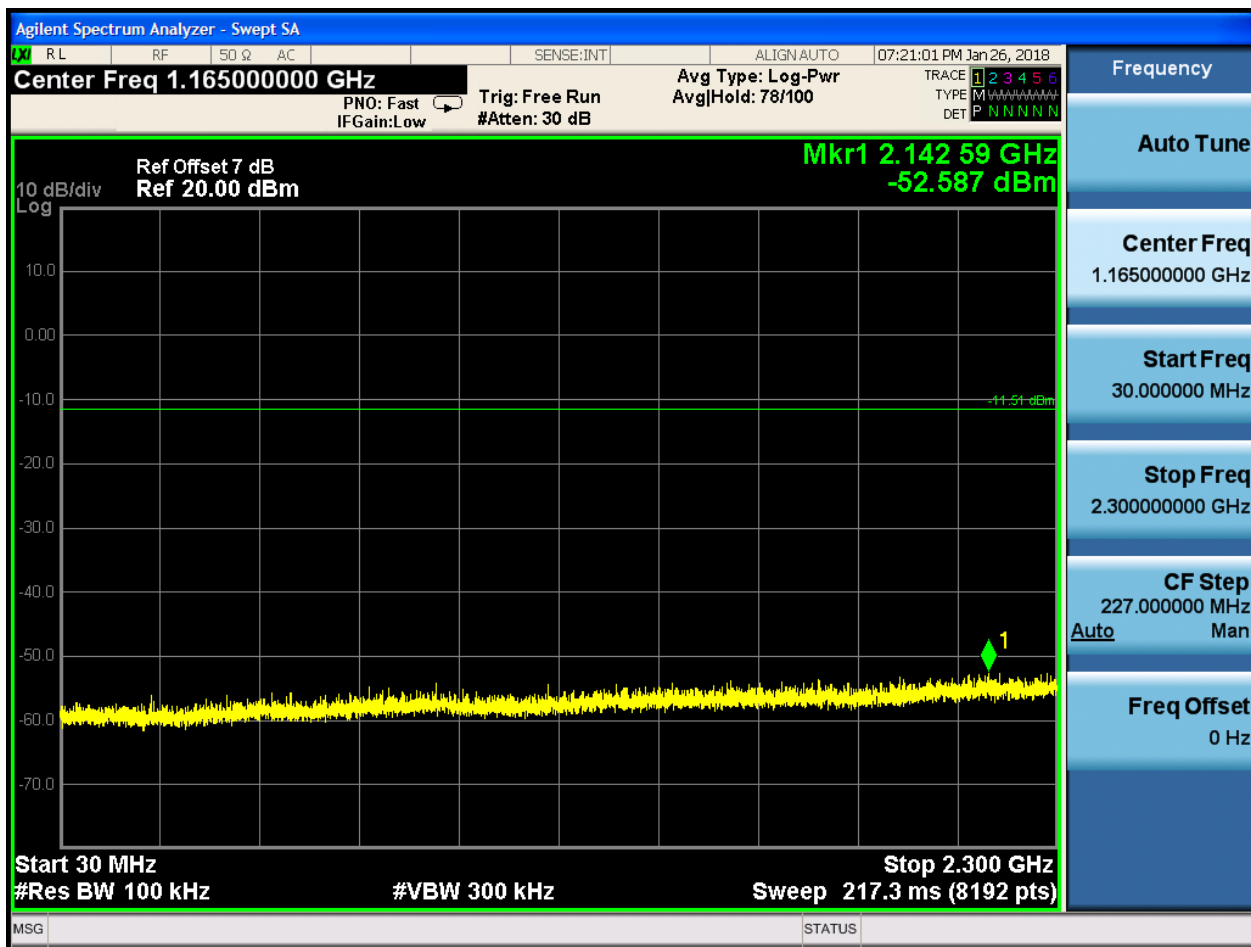


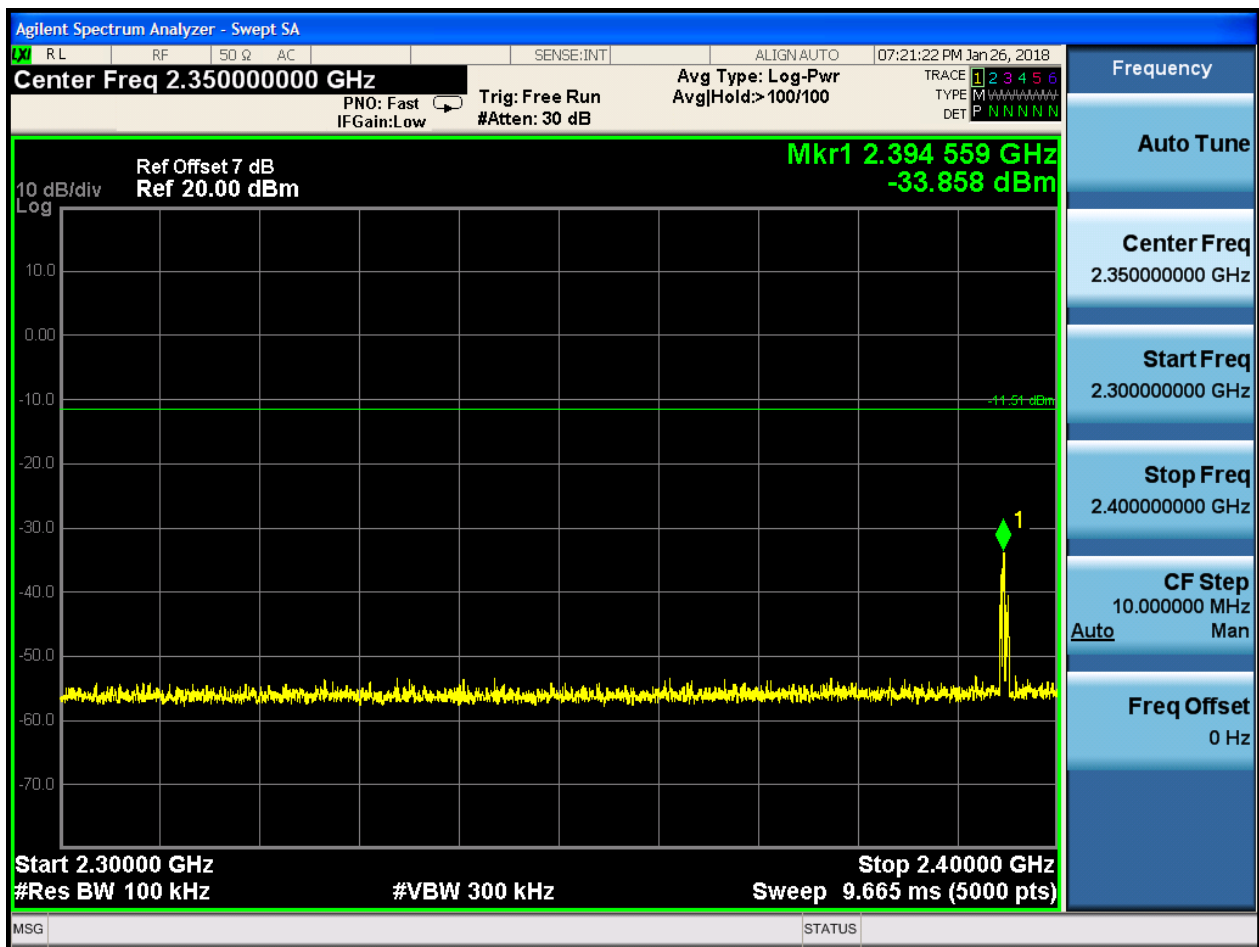


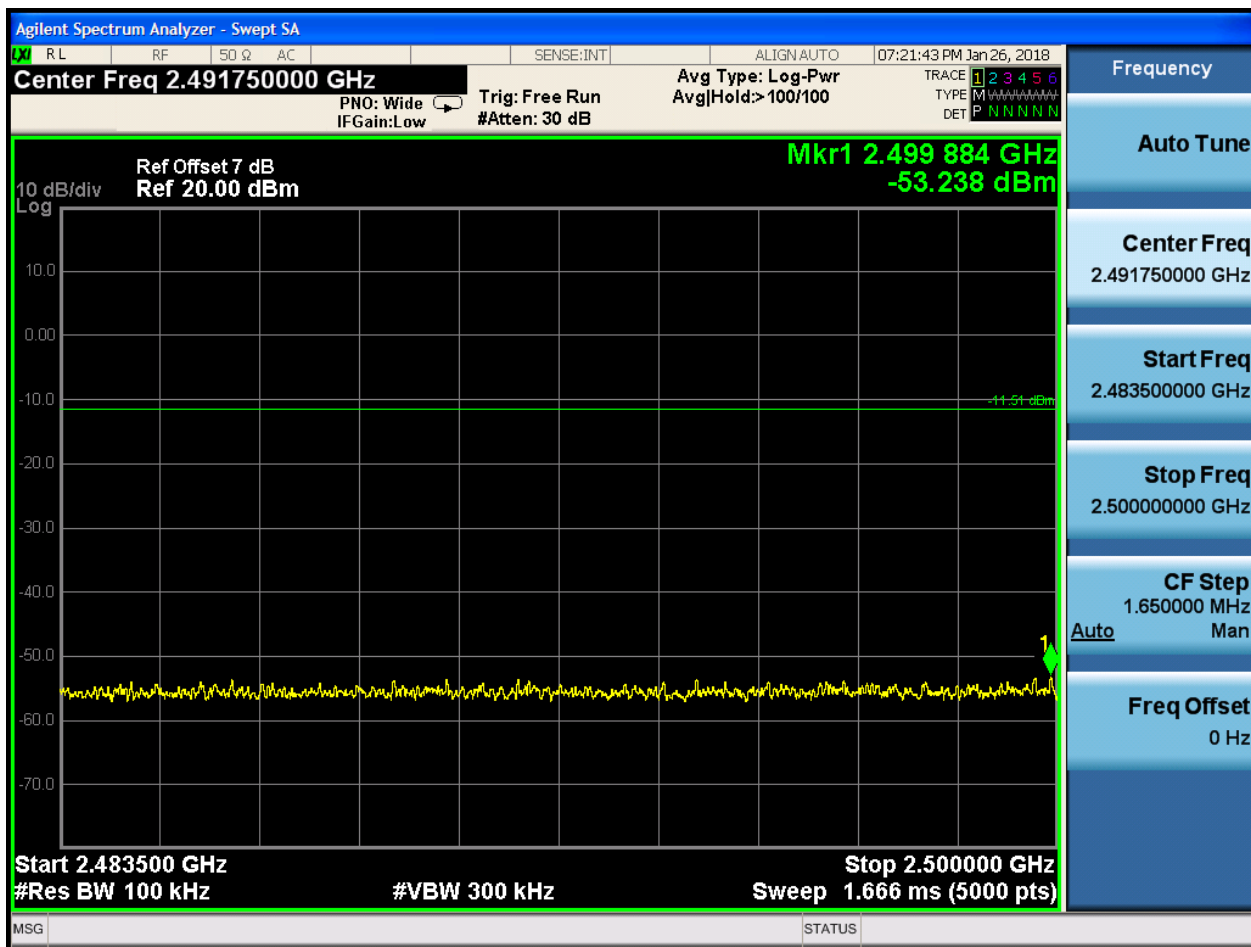
2.8.2 Puw







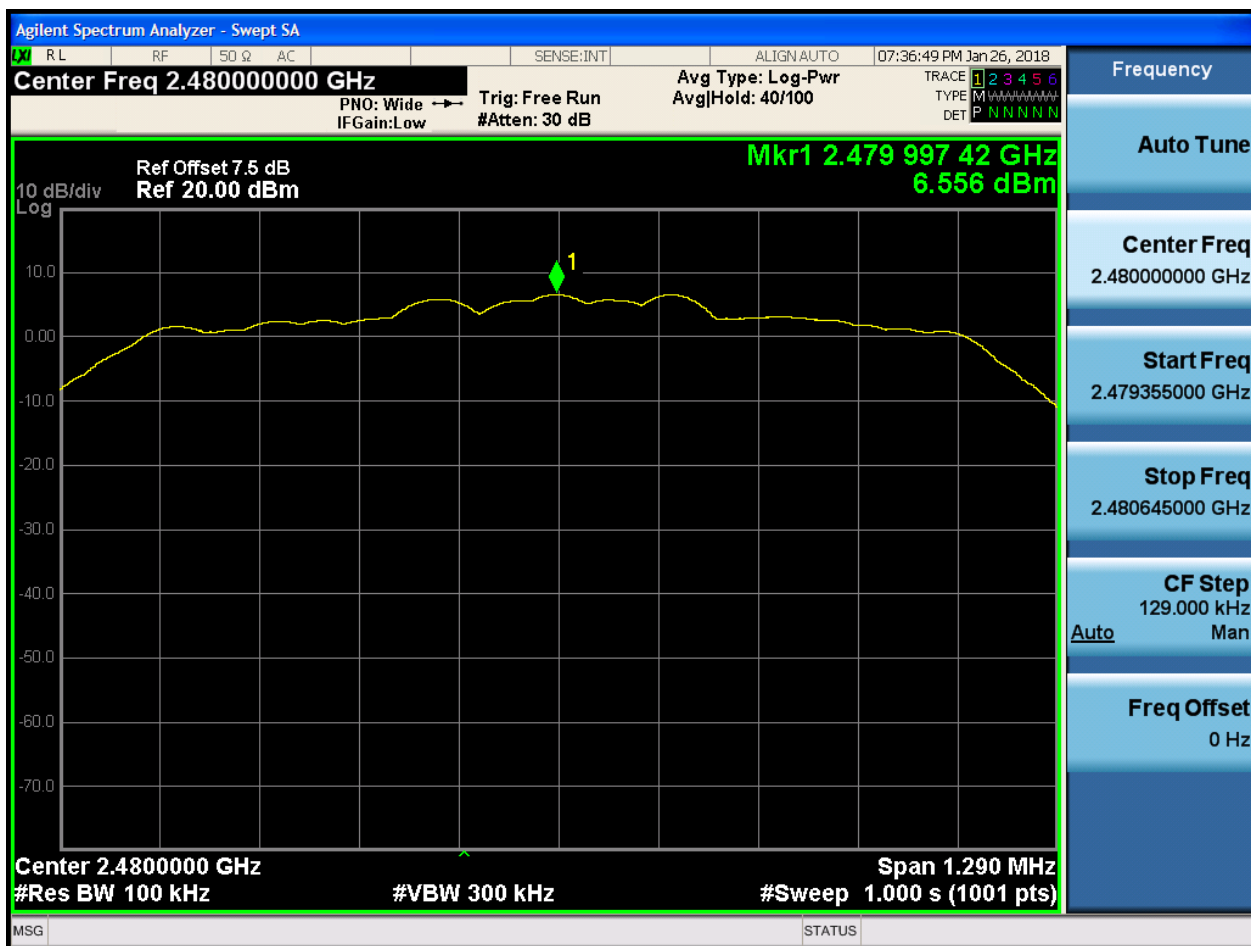






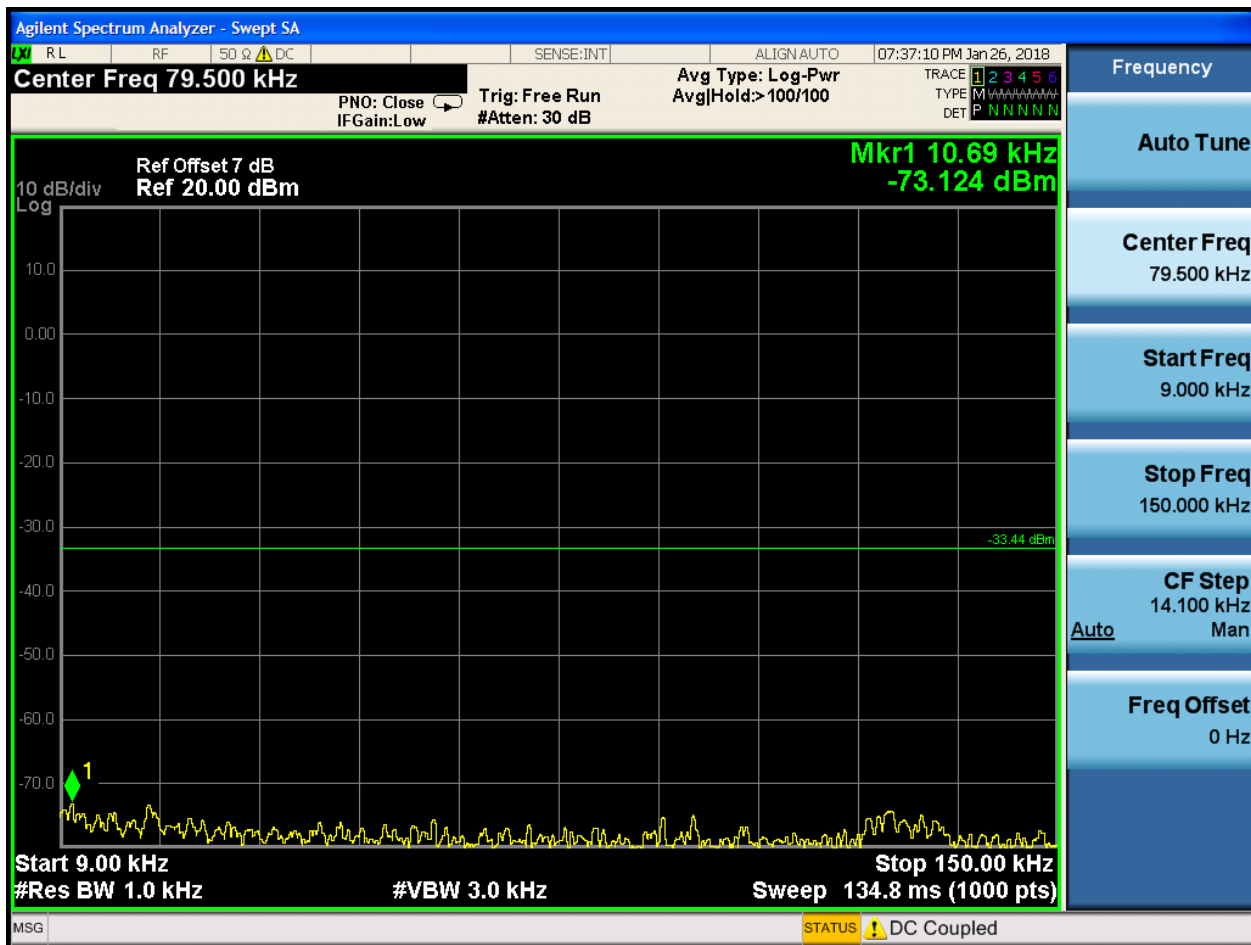
2.9 TM3_3DH5_Ch78

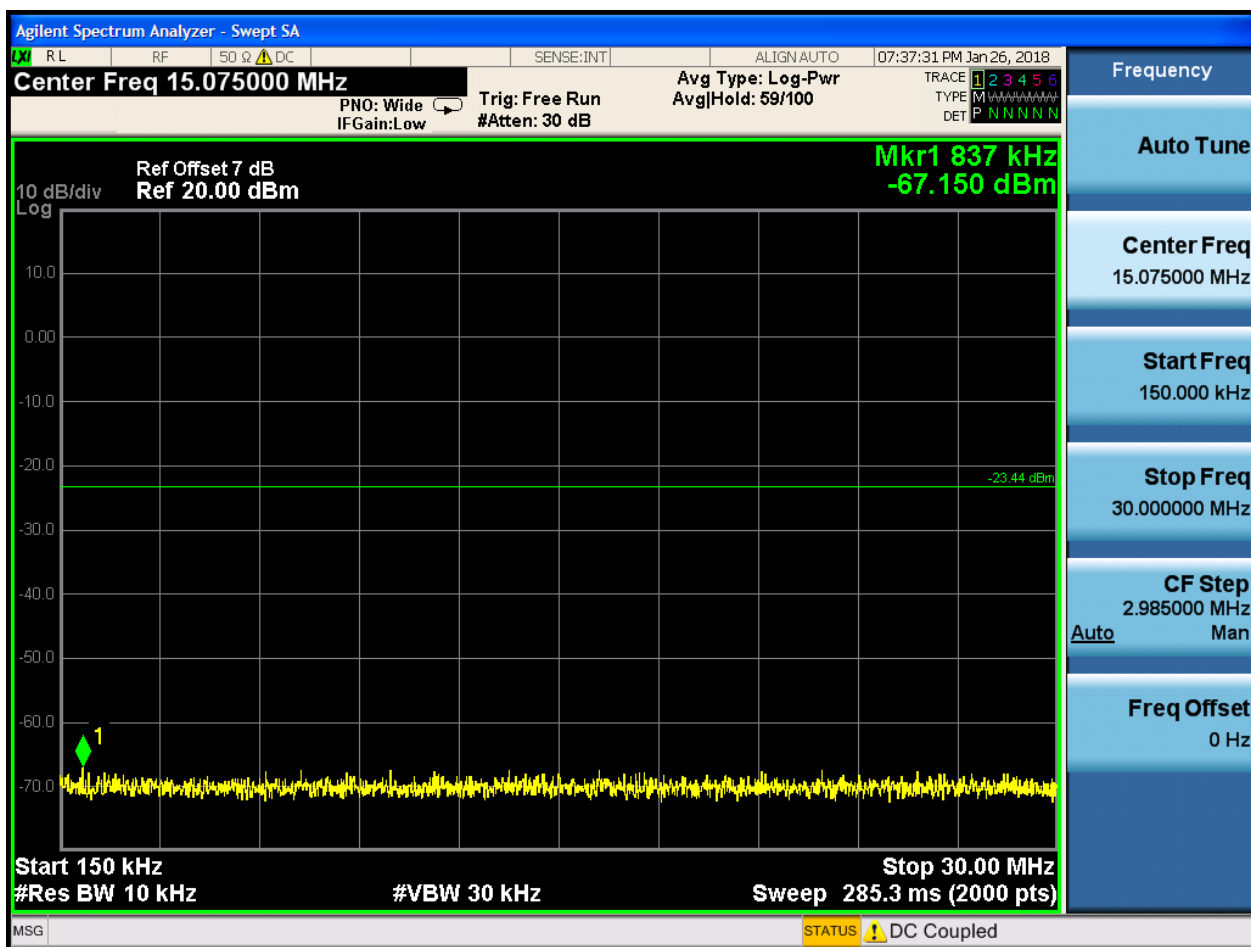
2.9.1 Pref

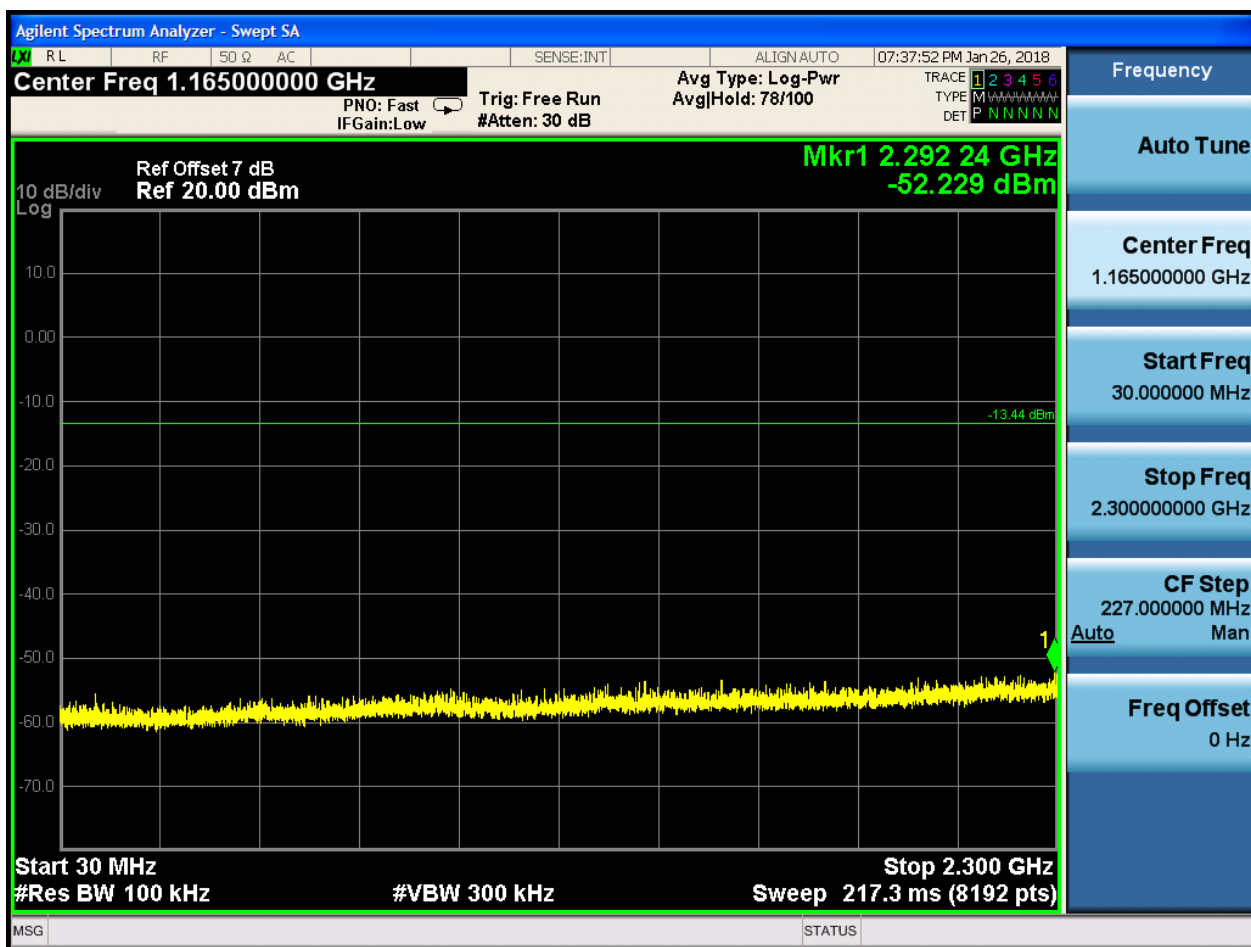


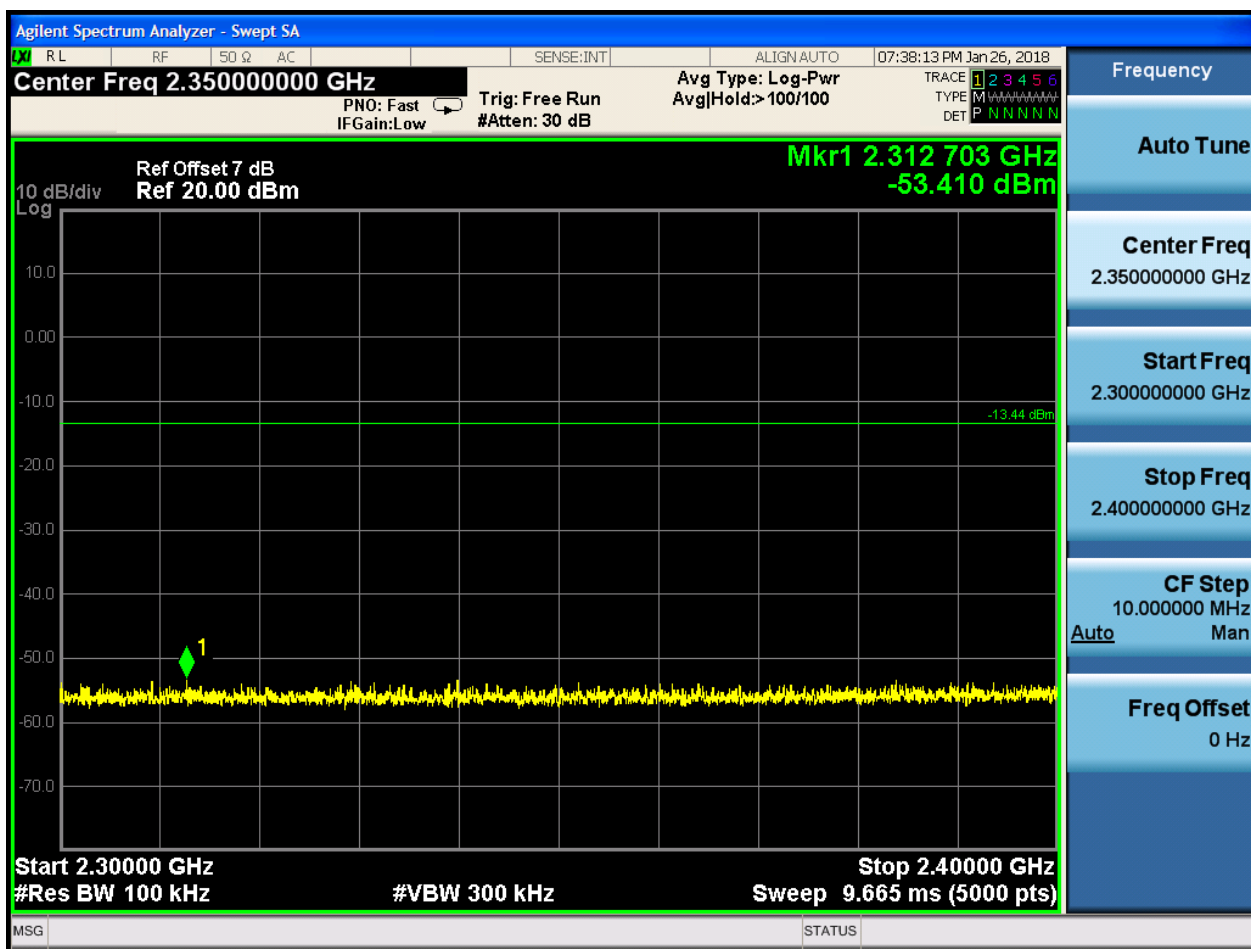


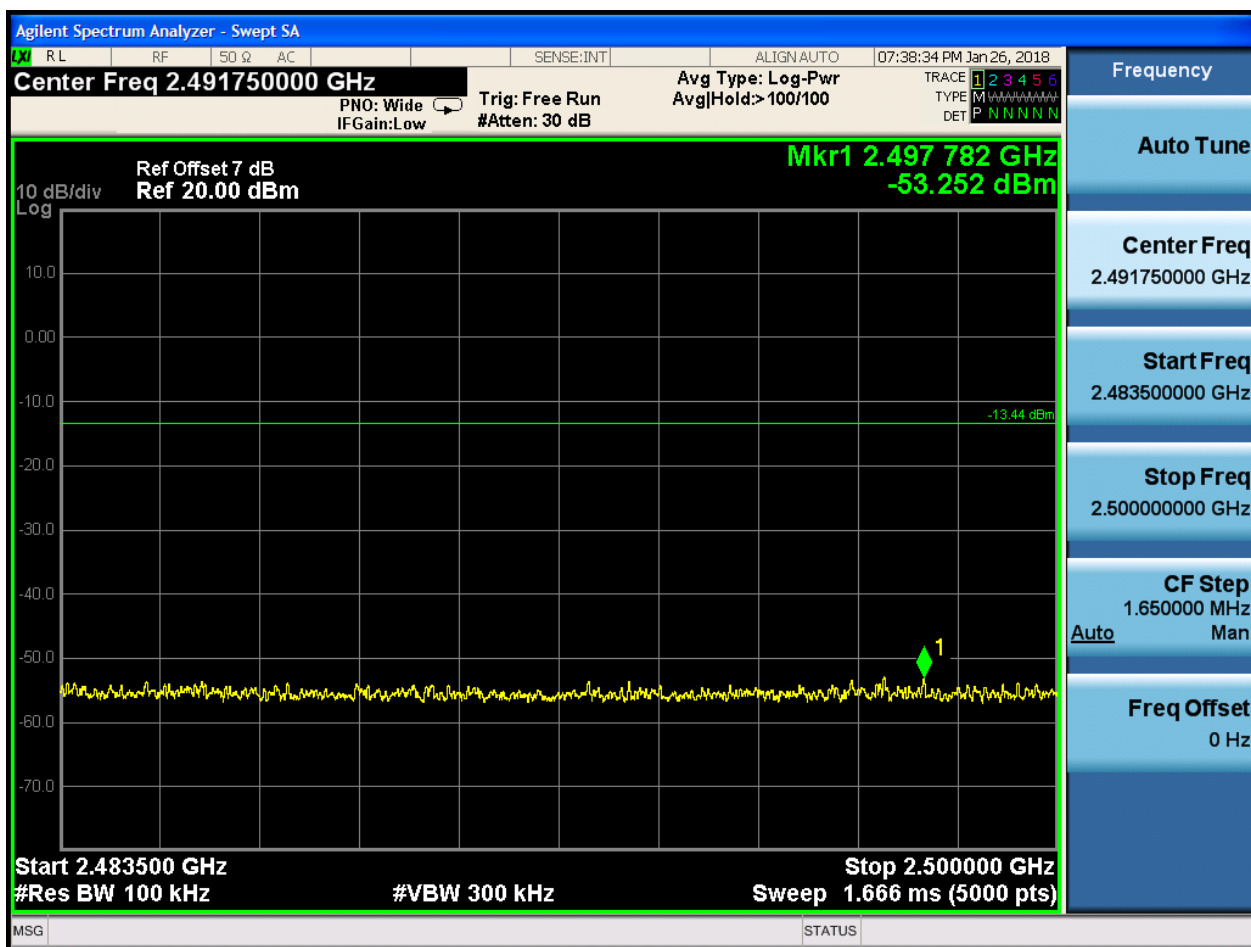
2.9.2 Puw













Appendix H: Radiated Emissions in the Restricted Bands

1 Result Table

The whole testing range is from “9KHz to 26.5 GHz (10th harmonics)” is divided into 5 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.

2 Result Plot

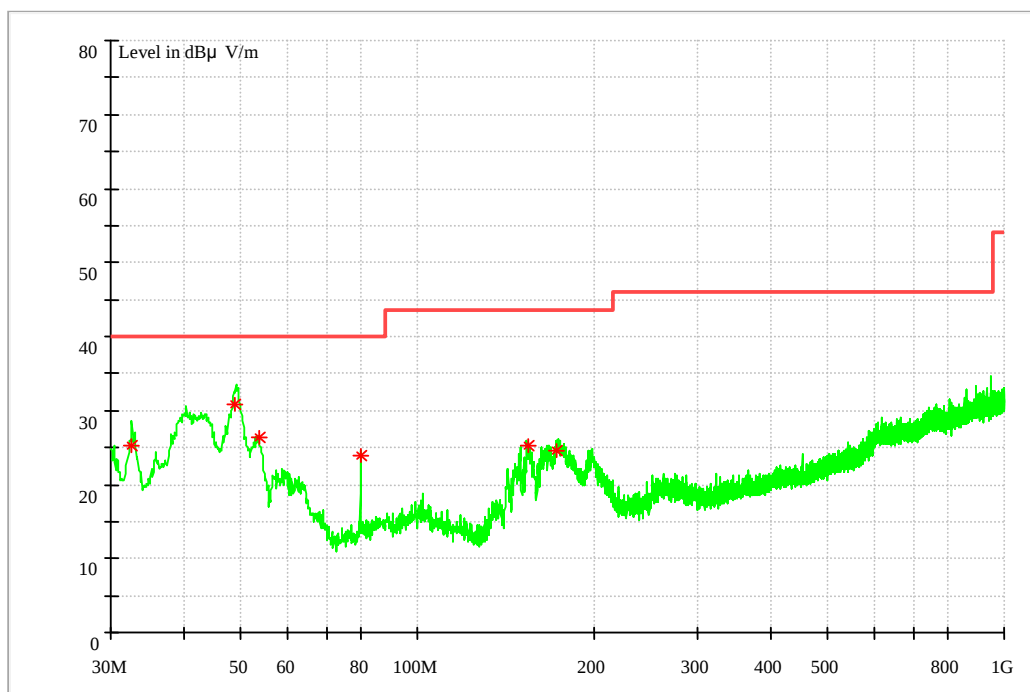
Part 1: Testing Range of “9 kHz to 30MHz”

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).



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Trans d. (dB)
32.5455	25.28	40	14.72	100	V	15	14.2
48.9461	30.88	40	9.12	100	V	301	15.5
53.77565	26.42	40	13.58	107	V	350	14.8
79.99385	23.88	40	16.12	136	V	280	10.7
154.2881	25.24	43.5	18.26	100	V	230	10.6
172.91015	24.57	43.5	18.93	107	V	123	11.3

Note:

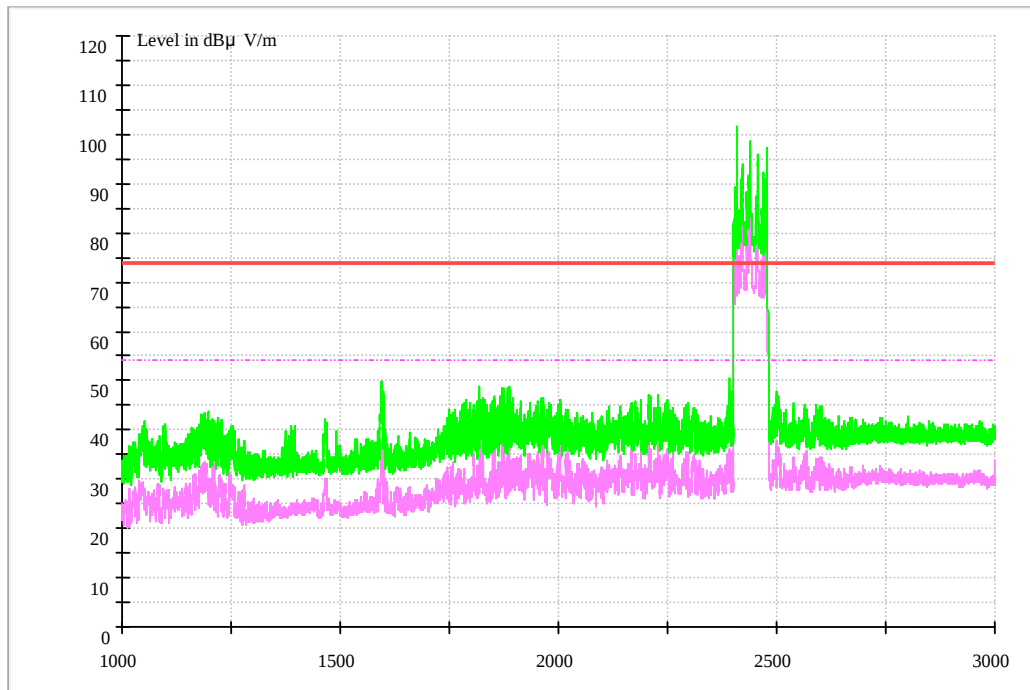
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

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

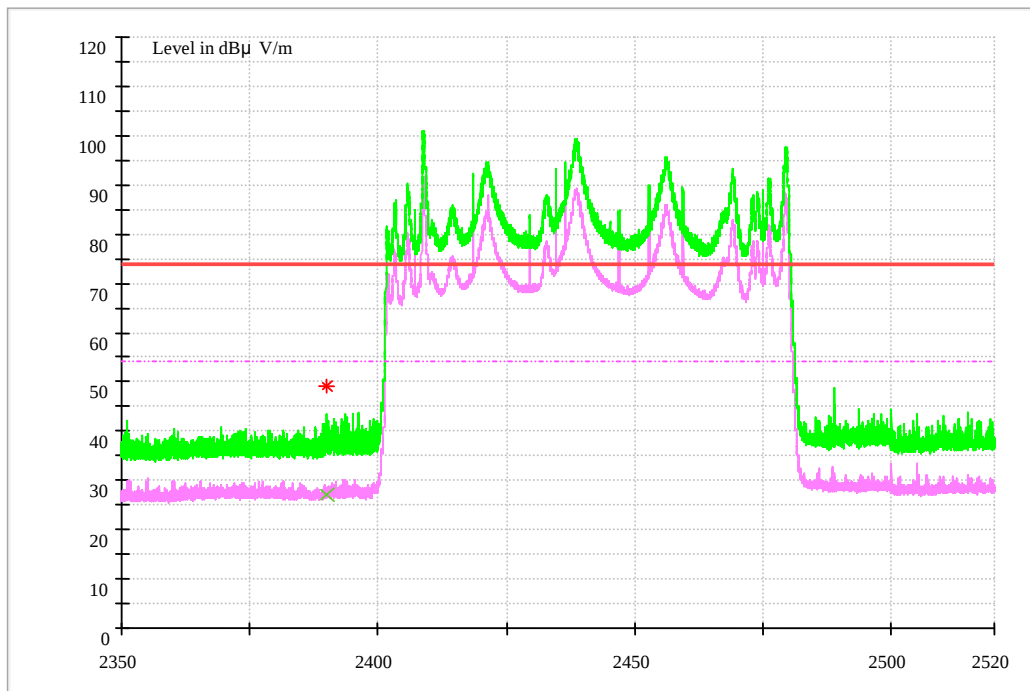
2, Margin=Limit - Level

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 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.



Channel 0



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2390.0	27.08	54.00	26.92	150.0	V	57.0	-10.2

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2390.0	49.20	74.00	24.80	150.0	V	135.0	-10.2

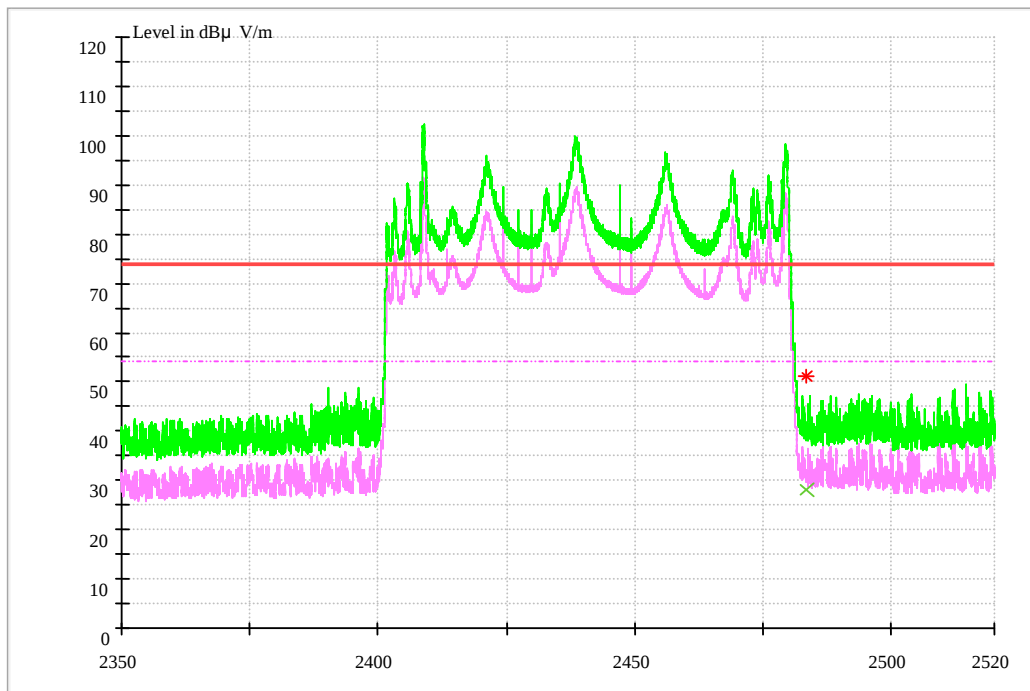
Note:

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

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	28.06	54.00	25.94	150.0	V	141.0	-6.8

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	51.00	74.00	23.00	150.0	V	141.0	-6.8

Note:

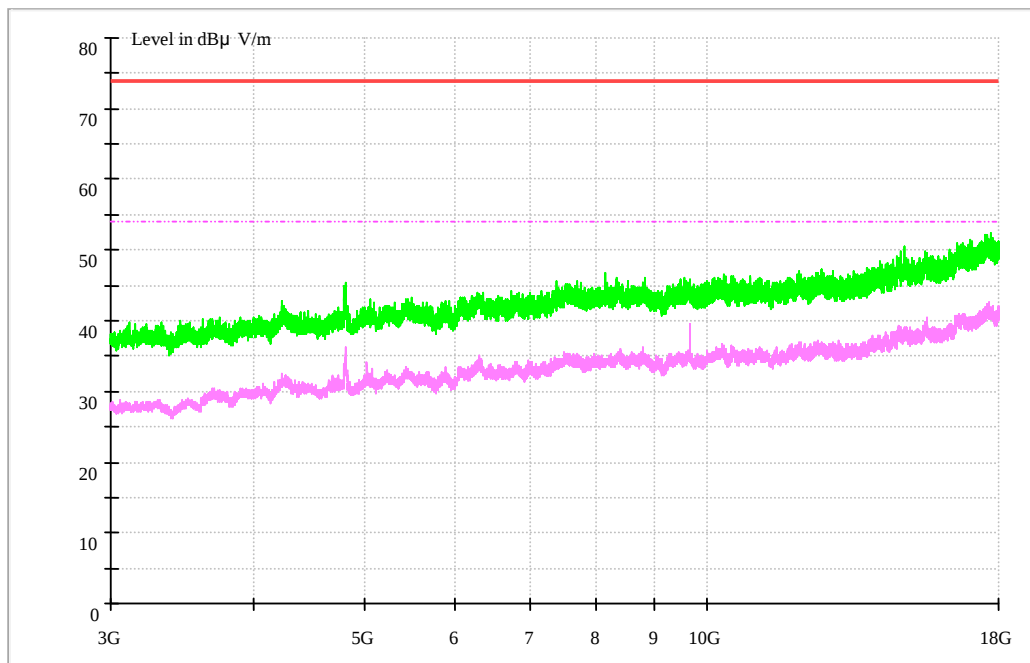
1, Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

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

2, Margin = Limit - Level

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 dB μ V/m) and Average Limit (54 dB μ V/m).





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



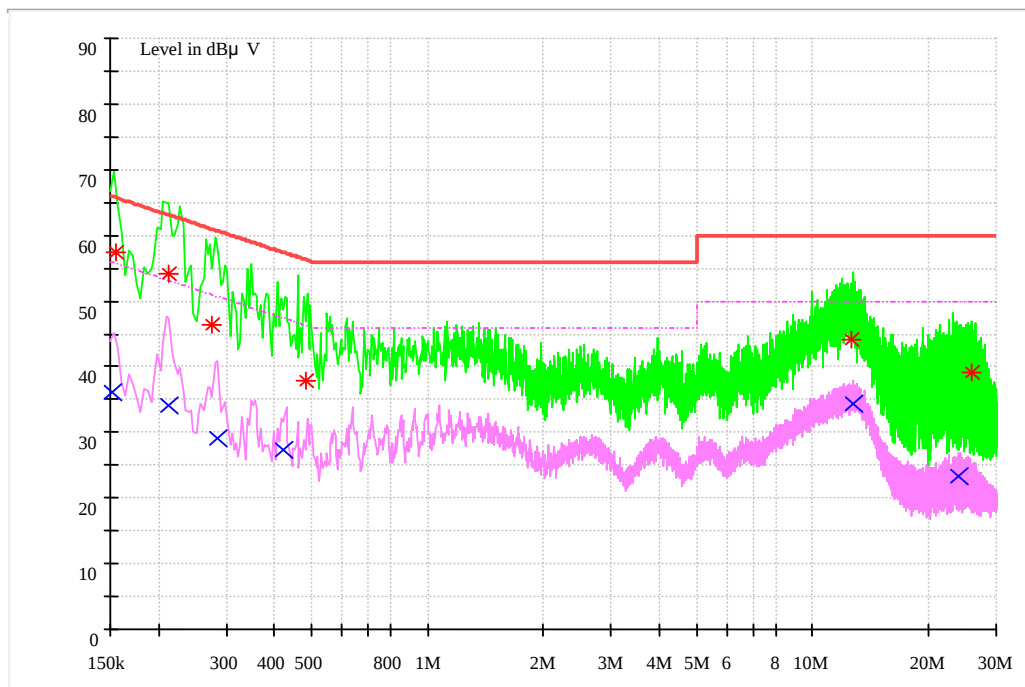
1 Result Table

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: PK Detector

Frequency (MHz)	Level (dBμ V)	Limit (dBμ V)	Transd. (dB)	Margin (dB)	Line	PE
0.154848	57.50	65.74	9.7	8.24	L1	FLO
0.211916	54.21	63.13	9.7	8.92	L1	FLO
0.276166	46.38	60.93	9.7	14.55	N	FLO
0.485533	37.90	56.24	9.7	18.34	N	FLO
12.687396	44.07	60	10	15.93	L1	FLO
25.903571	39.23	60	10.3	20.77	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμ V)	Limit (dBμ V)	Transd. (dB)	Margin (dB)	Line	PE
0.151279	36.14	55.93	9.7	19.79	N	FLO
0.211718	34.17	53.14	9.7	18.97	N	FLO
0.283232	28.96	50.72	9.7	21.76	N	FLO
0.423674	27.35	47.38	9.7	20.03	N	FLO
12.716302	34.41	50	10	15.59	L1	FLO



24.008401	23.39	50	10.2	26.61	L1	FLO
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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