



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.

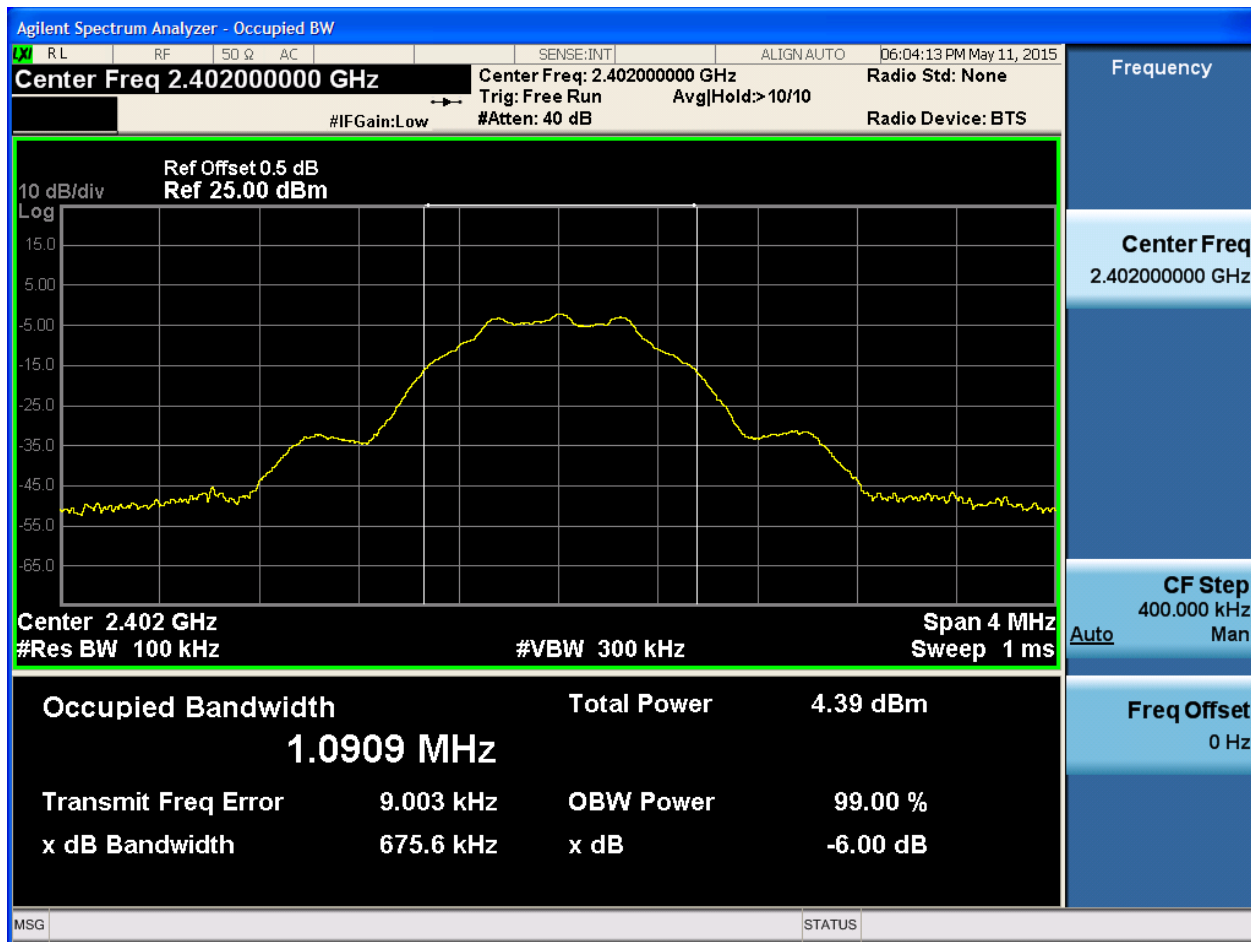
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1_Ch0	L	2402	0.68	pass
TM1_Ch19	M	2440	0.67	pass
TM1_Ch39	H	2480	0.67	pass



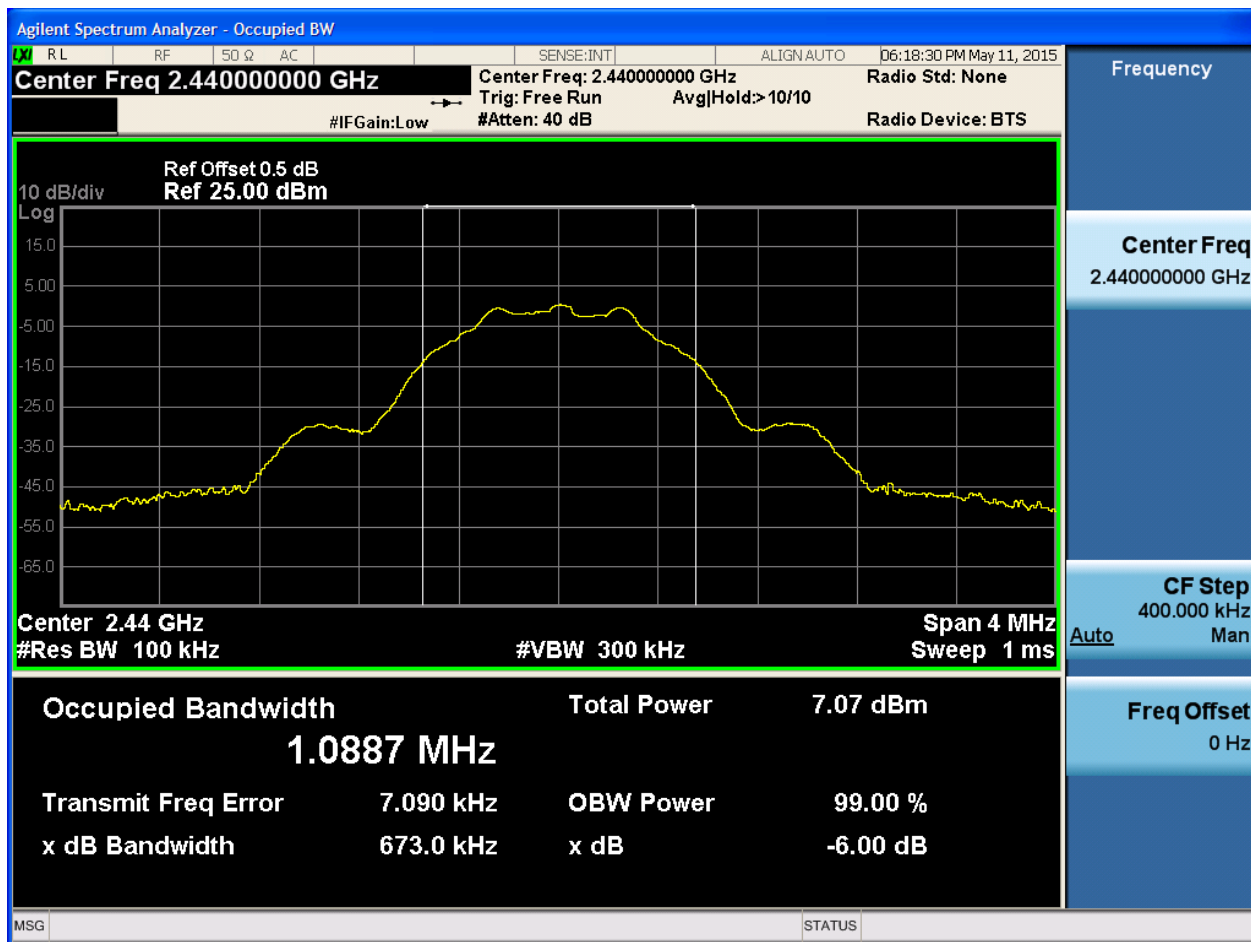
Part II - Test Plots

2.1 TM1_Ch0_L



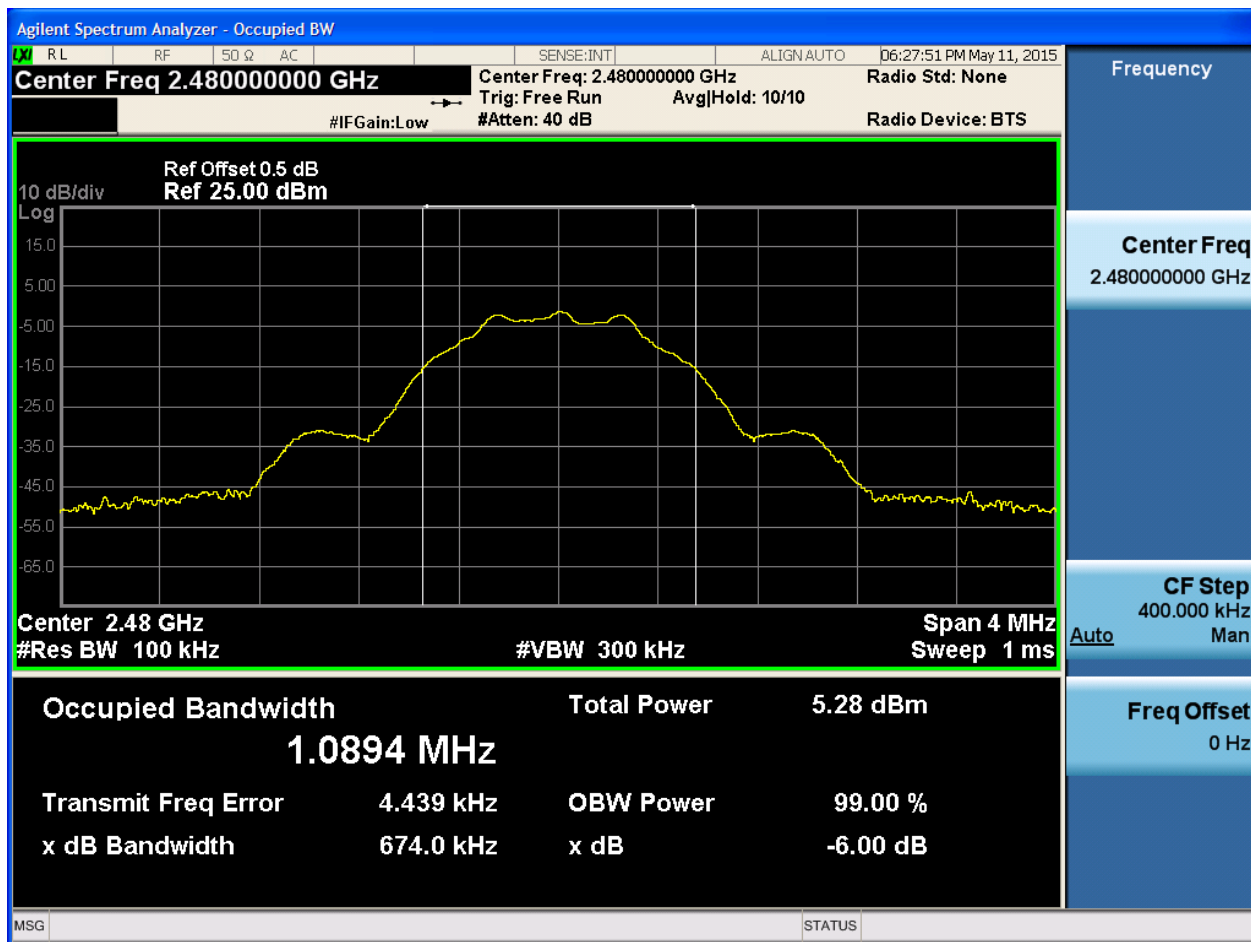


2.2 TM1_Ch19_M





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.

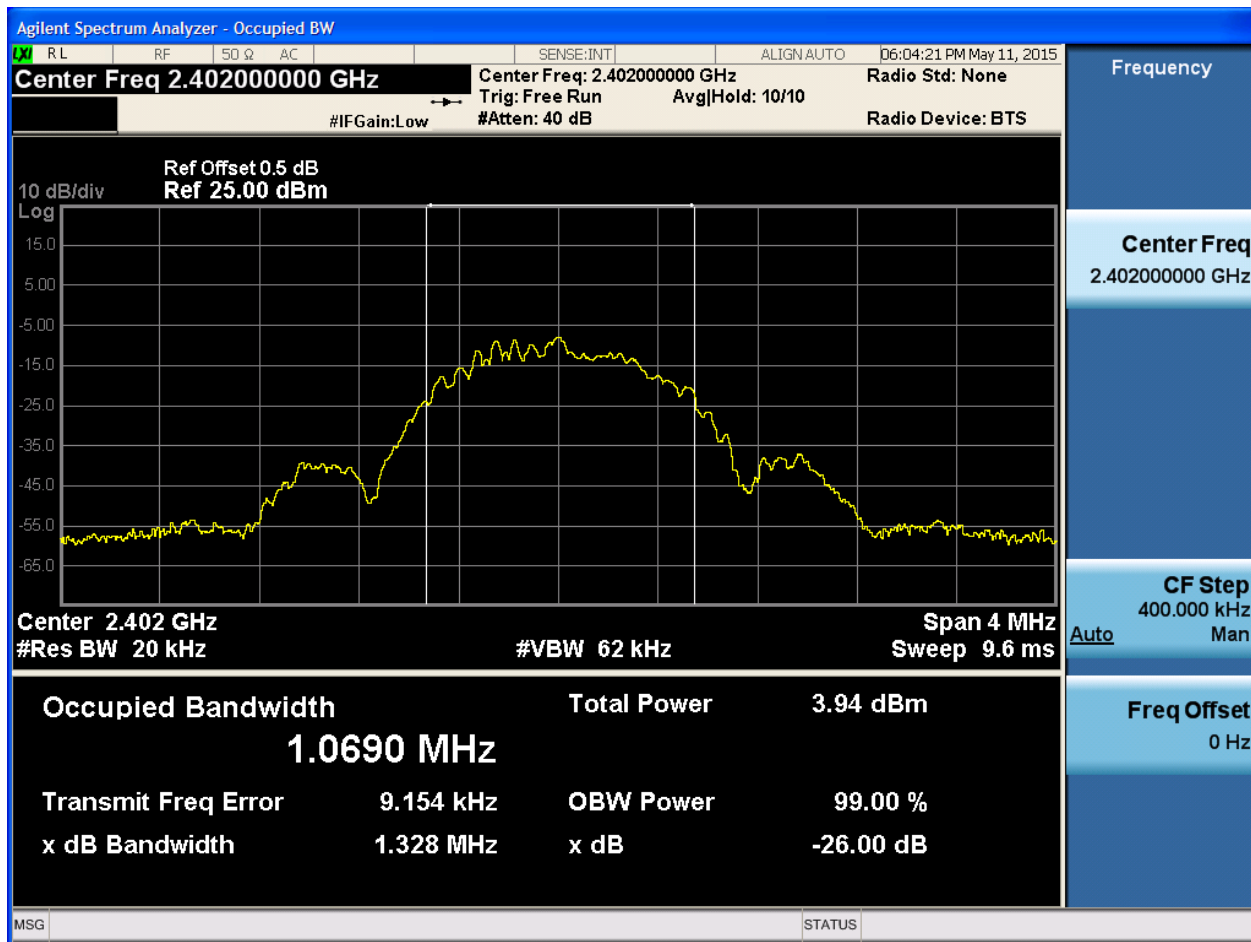
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Occupied Bandwidth [MHz]	Verdict
TM1 _Ch0	L	2402	1.07	pass
TM1 _Ch19	M	2440	1.07	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





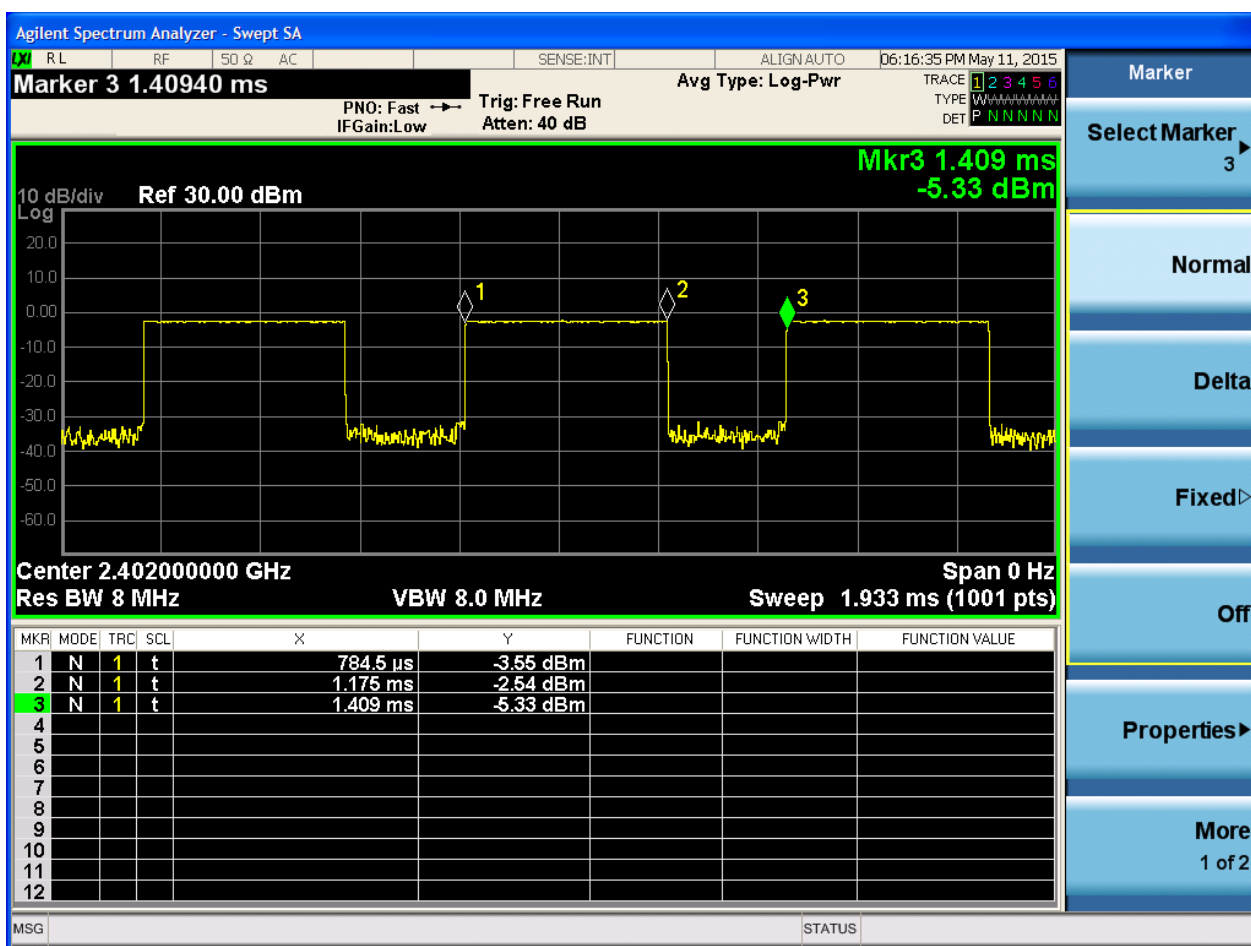
Appendix C: Duty Cycle

Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	63

Part II - Test Plots

2.1 TM1



Appendix D: Maximum Conducted Average Output Power

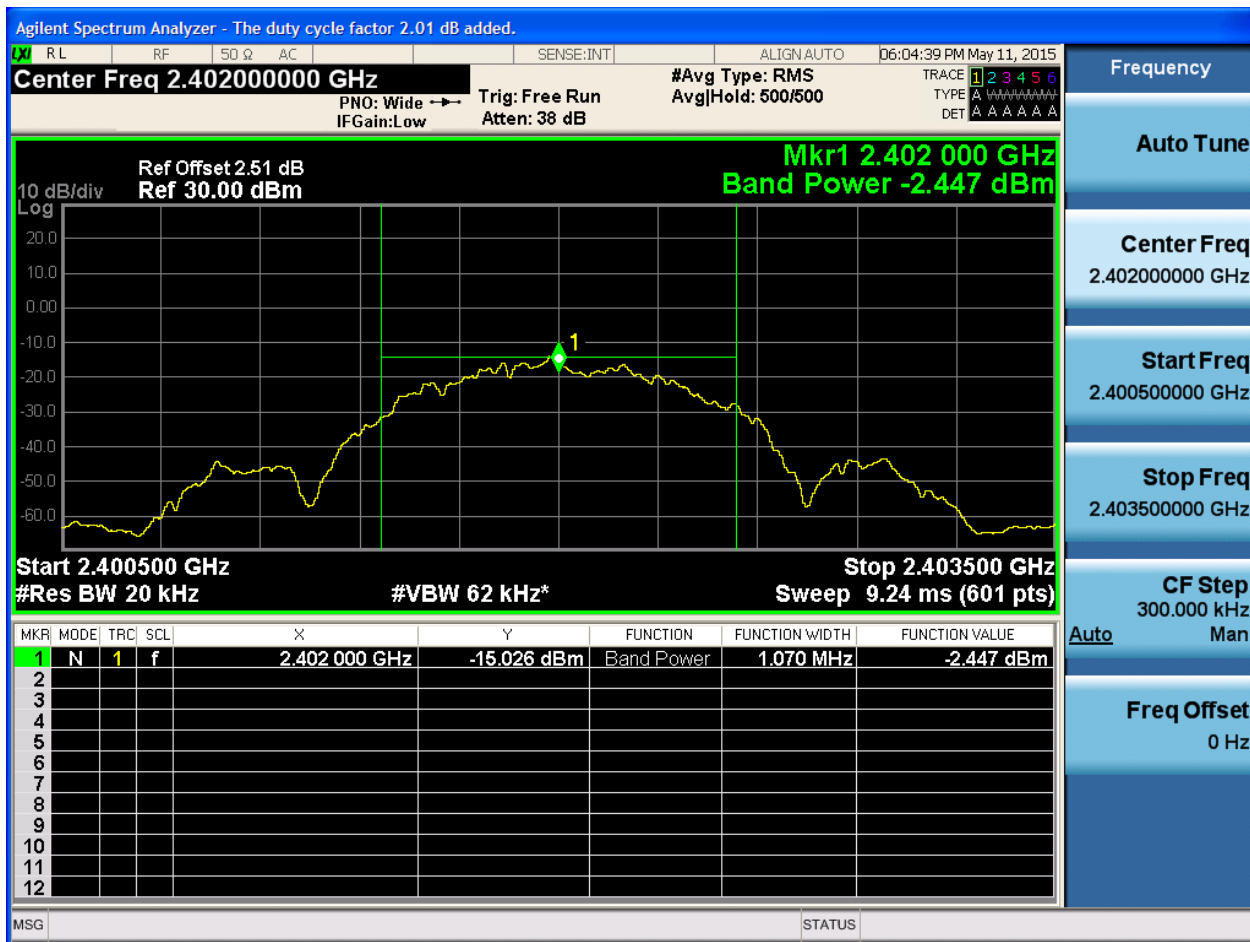
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	Power[dBm]	Verdict
TM1_Ch0	L	2402	63	-2.45	pass
TM1_Ch19	M	2440	63	0.25	pass
TM1_Ch39	H	2480	63	-1.52	pass



Part II - Test Plots

2.1 TM1_Ch0_L



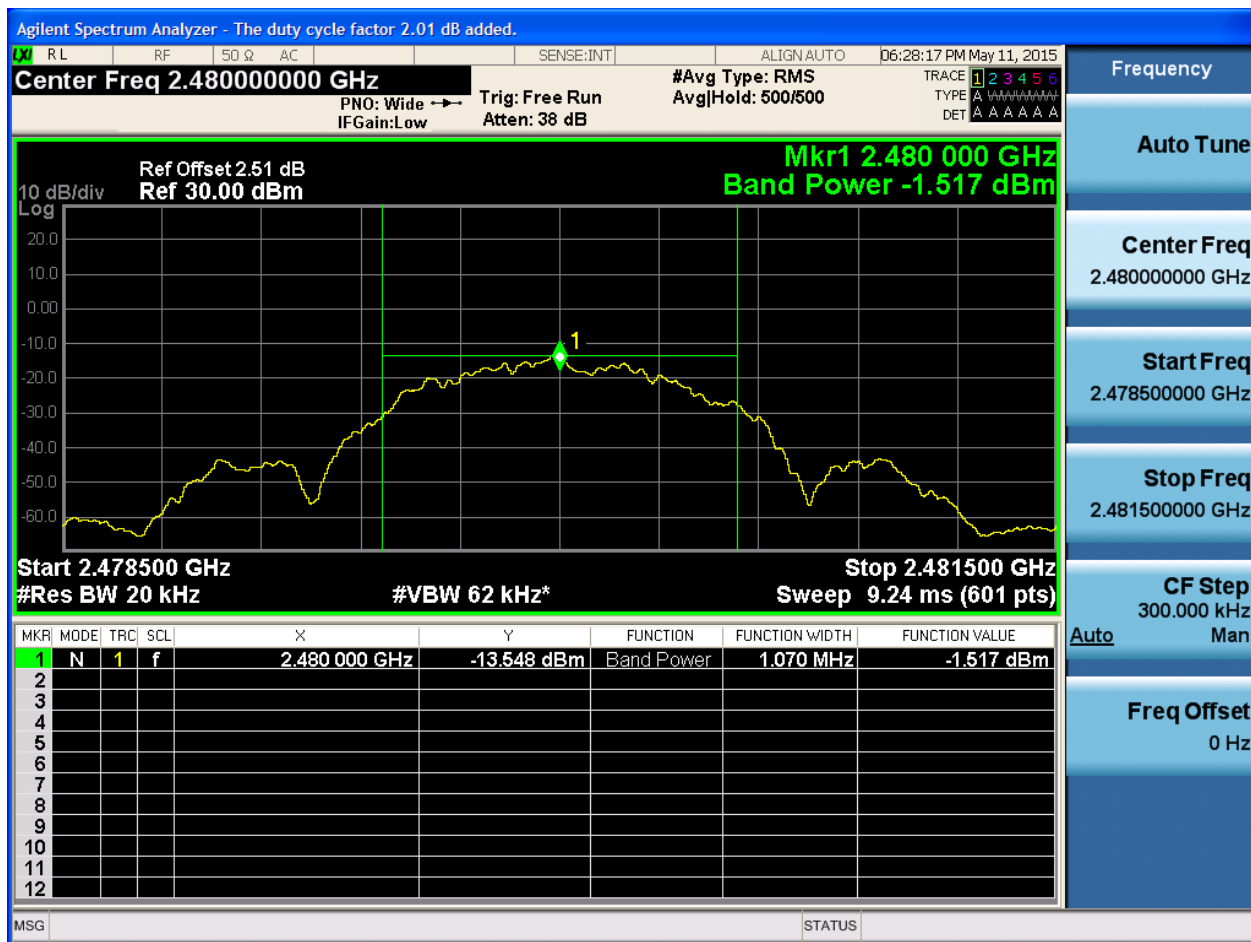


2.2 TM1_Ch19_M





2.3 TM1_Ch39_H



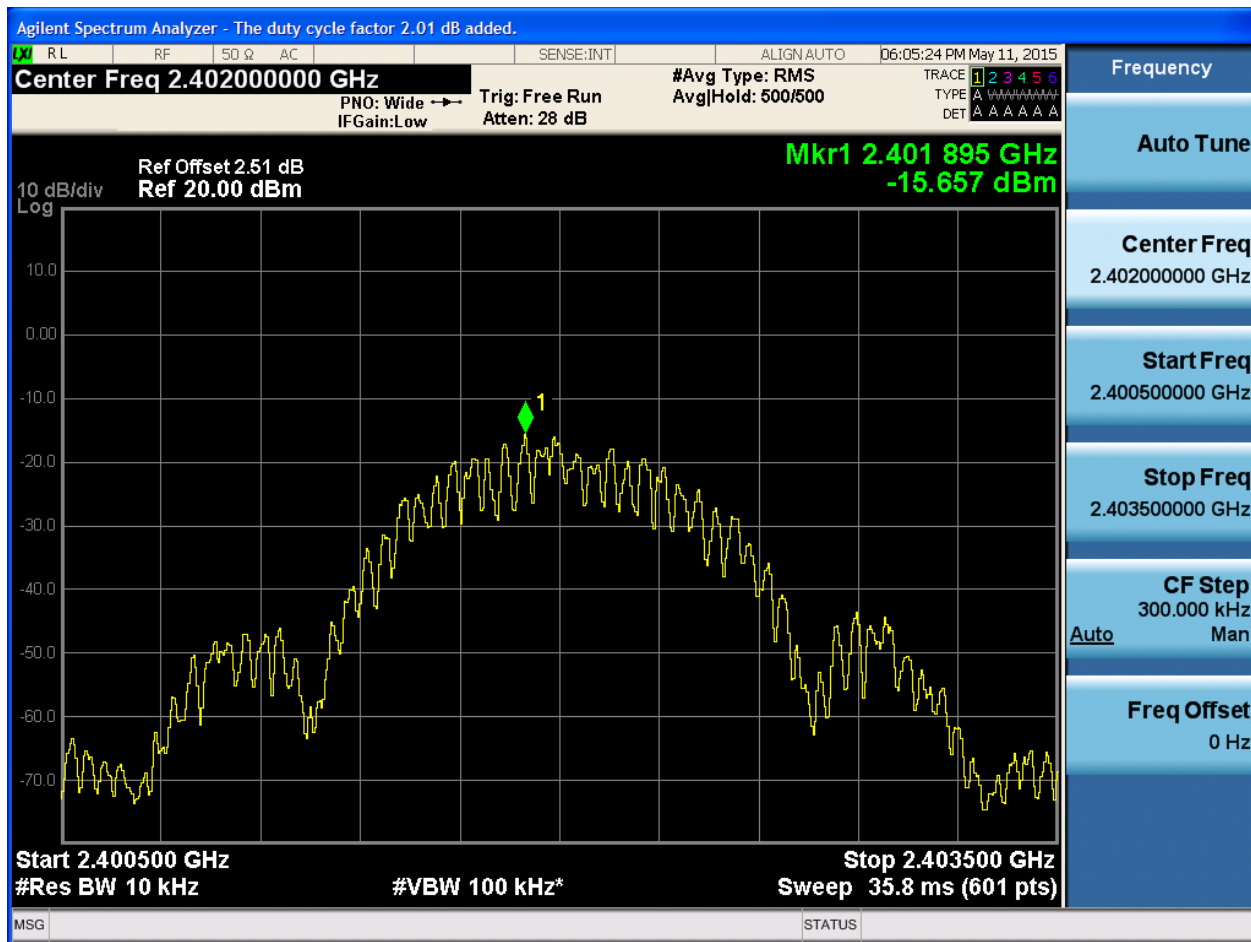
Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	PD[MHz]	Verdict
TM1_Ch0	L	2402	63	-15.66	pass
TM1_Ch19	M	2440	63	-12.99	pass
TM1_Ch39	H	2480	63	-15.16	pass

Part II - Test Plots

2.1 TM1_Ch0_L



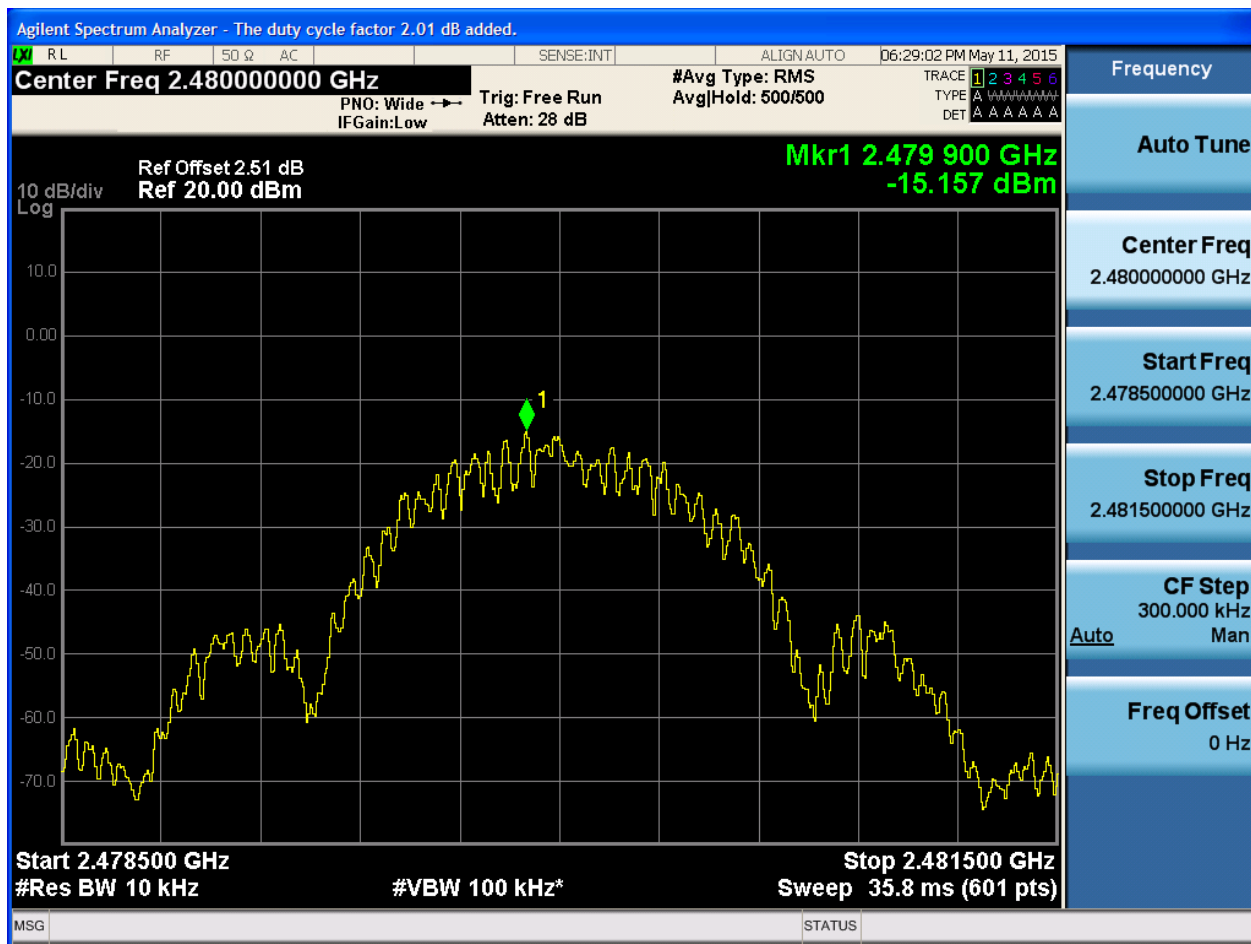


2.2 TM1_Ch19_M





2.3 TM1_Ch39_H



Appendix F: Band Edges Compliance

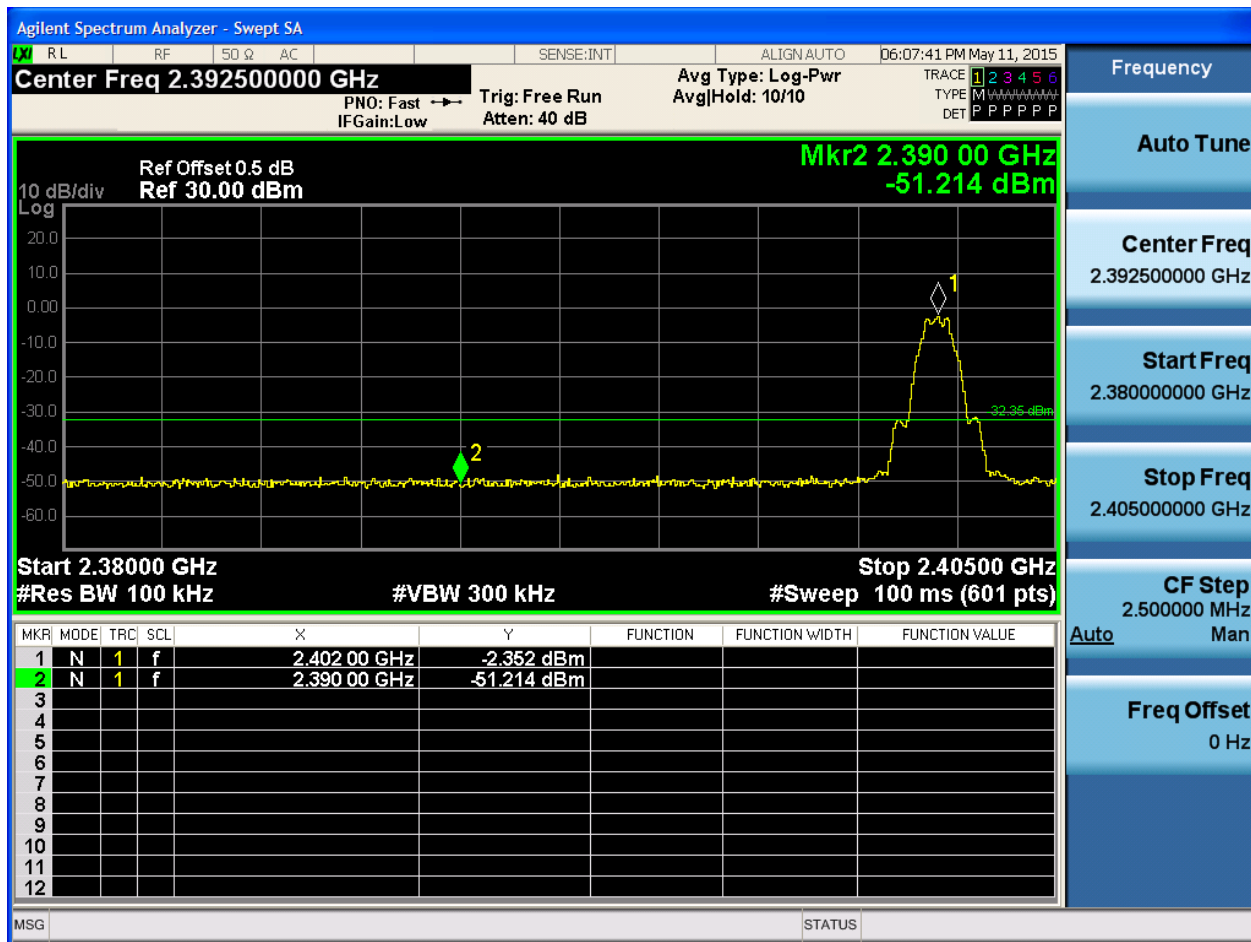
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	-2.35	-51.21	pass
TM1_Ch39	H	2480	-1.40	-50.89	pass



Part II - Test Plots

2.1 TM1_Ch0_L





Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 06:31:30 PM May 11, 2015

Center Freq 2.483500000 GHz Avg Type: Log-Pwr Avg/Hold: 100/100

PNO: Fast Trg: Free Run
IFGain: Low Atten: 40 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W W W
DET P P P P P P

Ref Offset 0.5 dB
Ref 30.00 dBm

**Mkr2 2.483 50 GHz
-50.886 dBm**

10 dB/div
Log

Start 2.47350 GHz Stop 2.49350 GHz
#Res BW 100 kHz #VBW 300 kHz #Sweep 100 ms (601 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 00 GHz	-1.401 dBm			
2	N	1	f	2.483 50 GHz	-50.886 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

MSG STATUS

Frequency
Auto Tune
Center Freq 2.483500000 GHz
Start Freq 2.473500000 GHz
Stop Freq 2.493500000 GHz
CF Step 2.000000 MHz Man
Freq Offset 0 Hz

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".

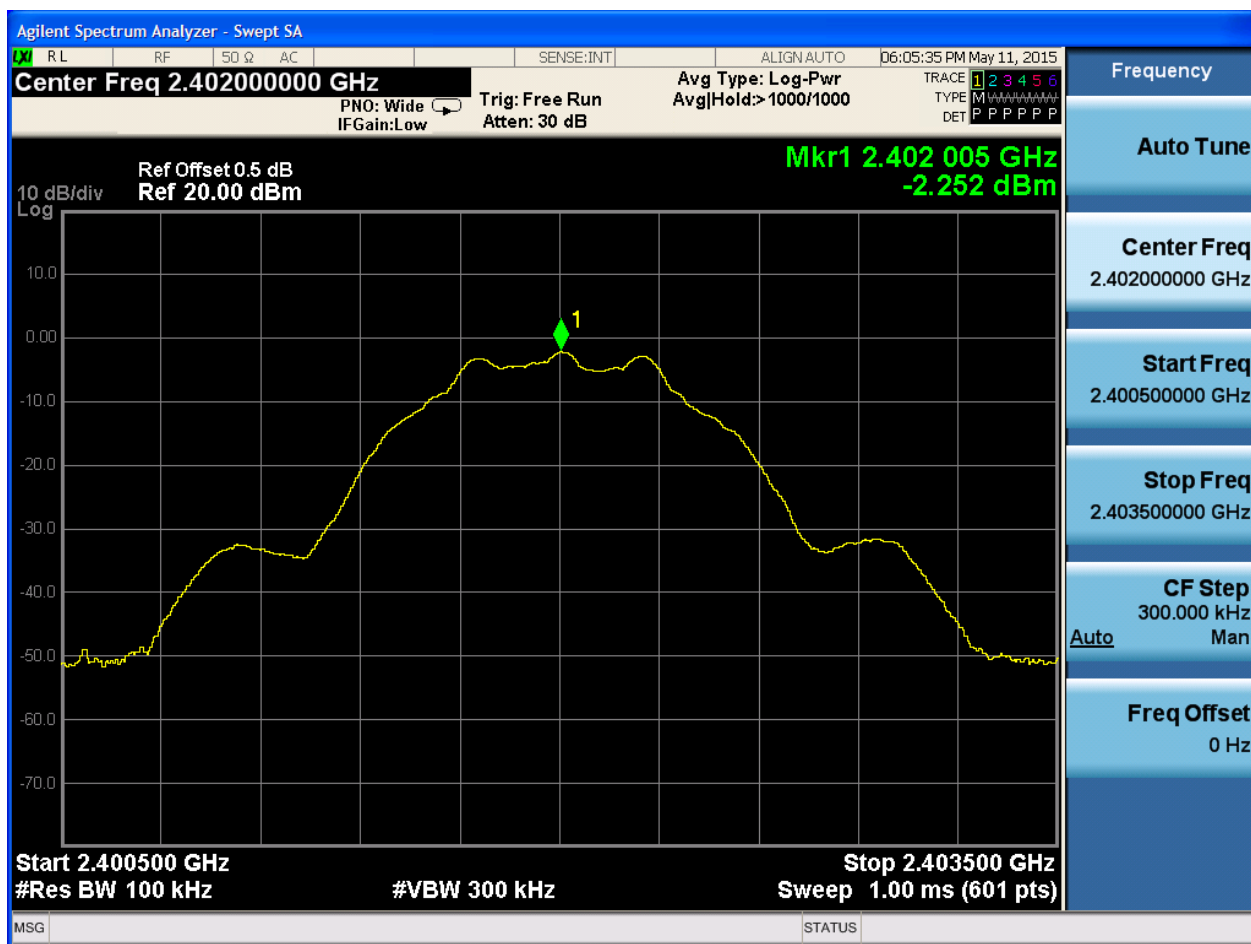
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	-2.25	<limit	pass
TM1_Ch19	M	2440	0.44	<limit	pass
TM1_Ch39	H	2480	-1.29	<limit	pass

Part II - Test Plots

2.1 TM1_Ch0_L

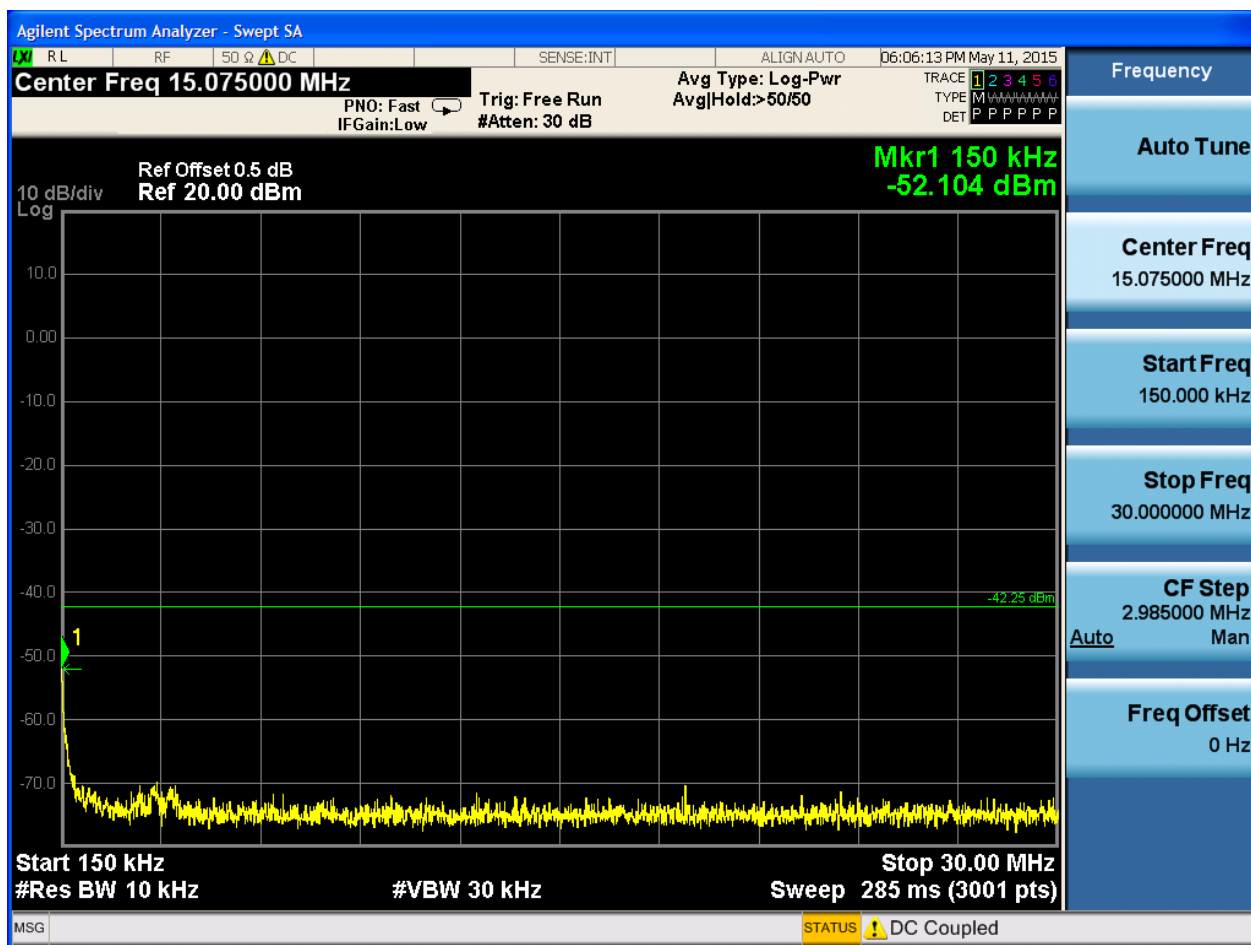
Pref:

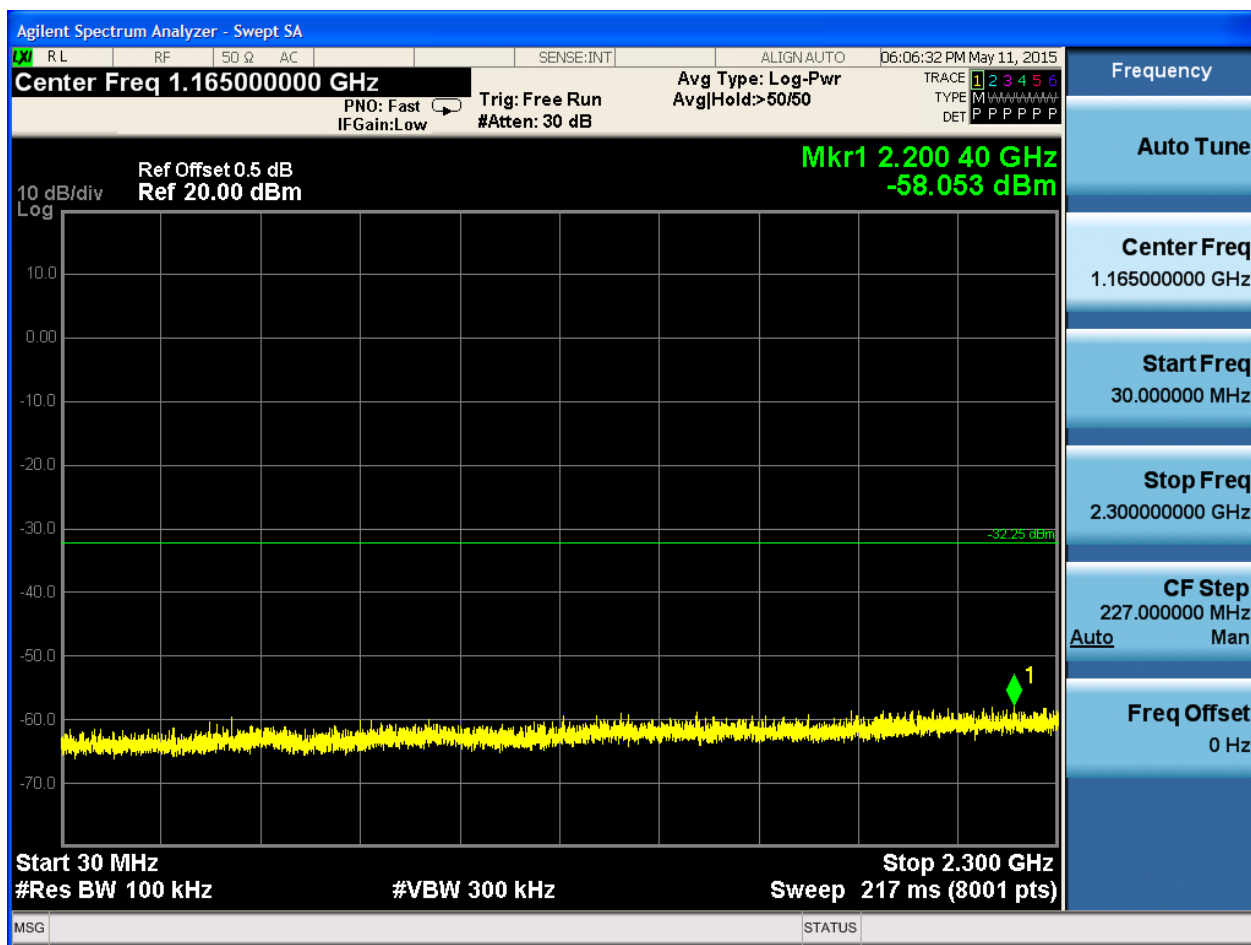


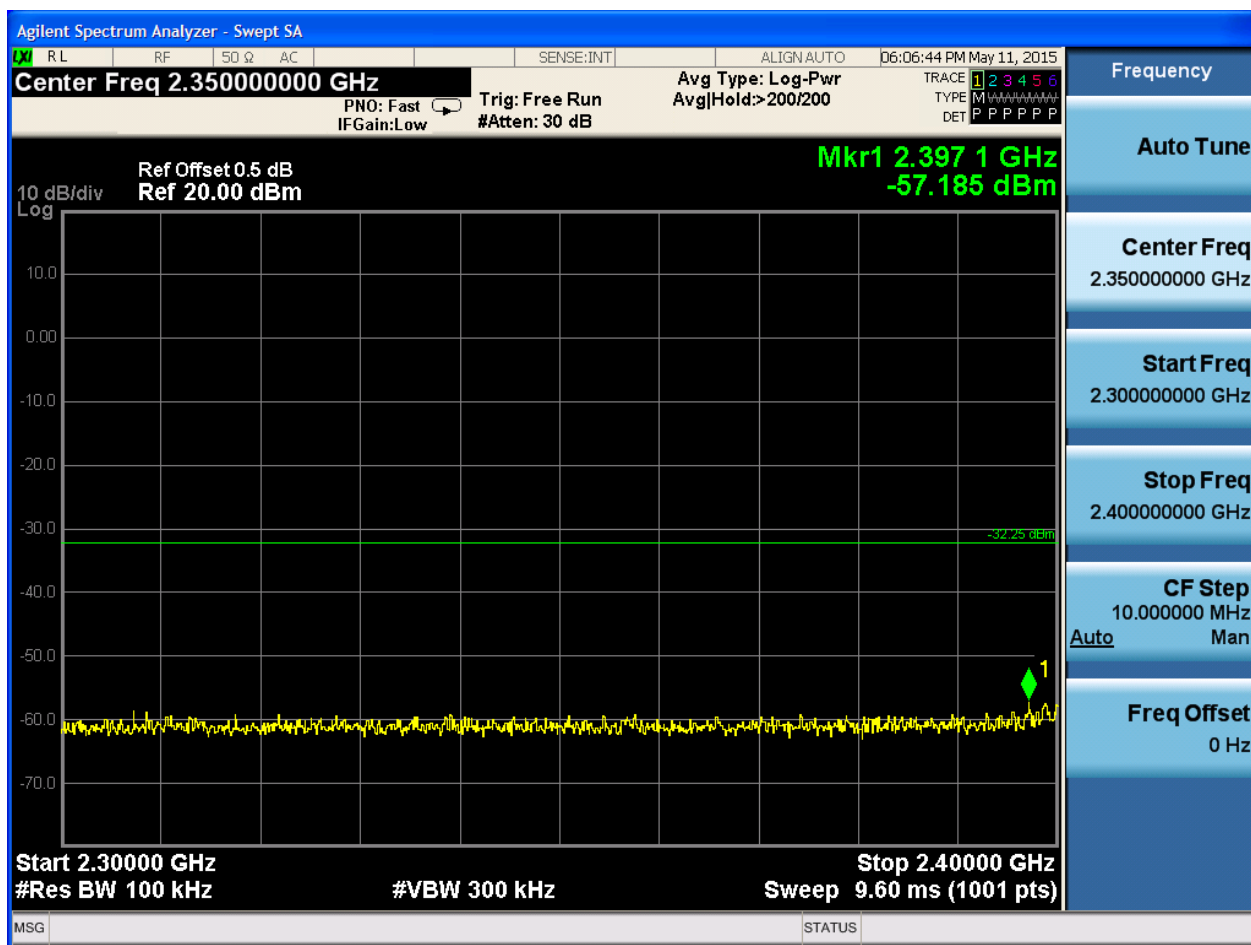


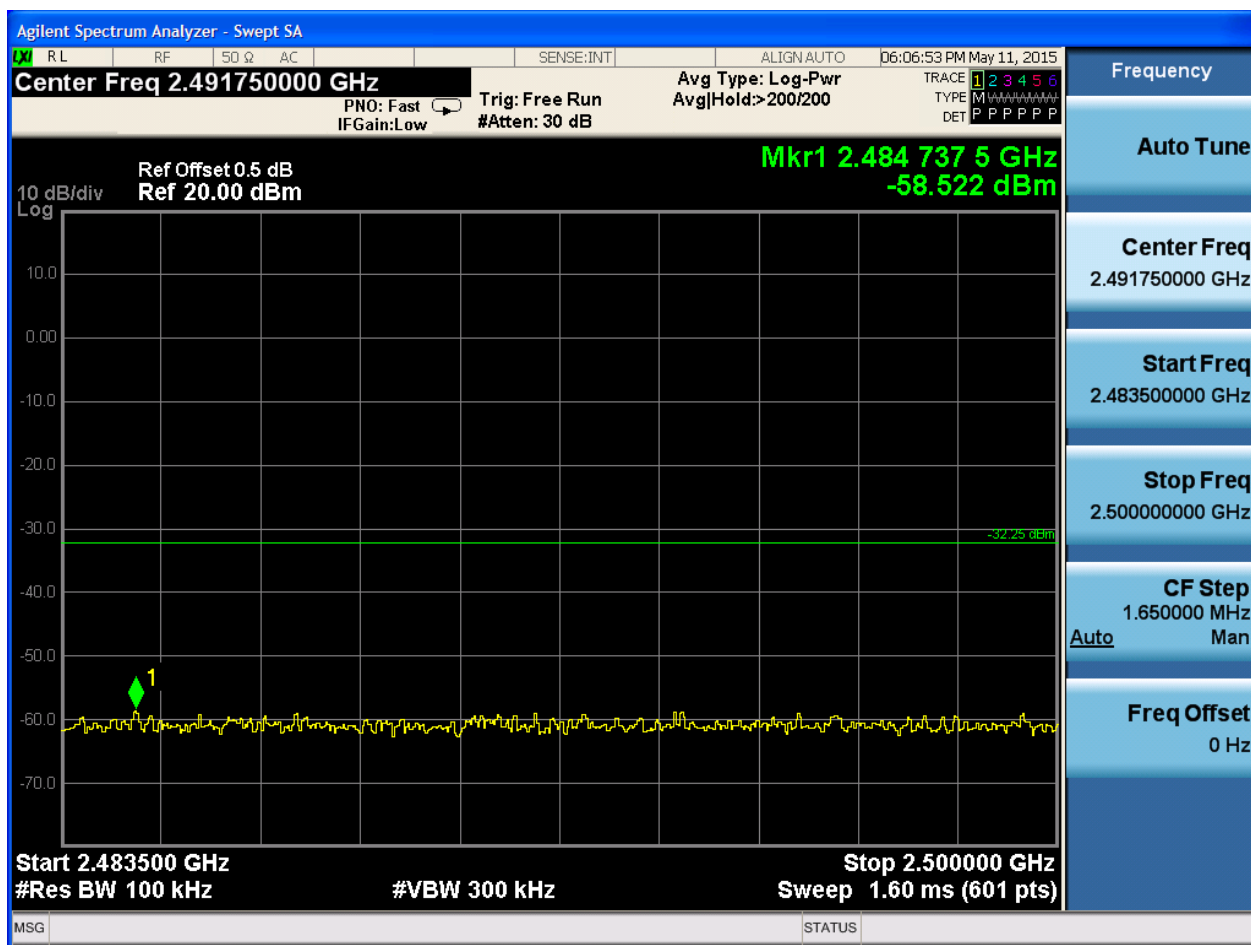
Puw:







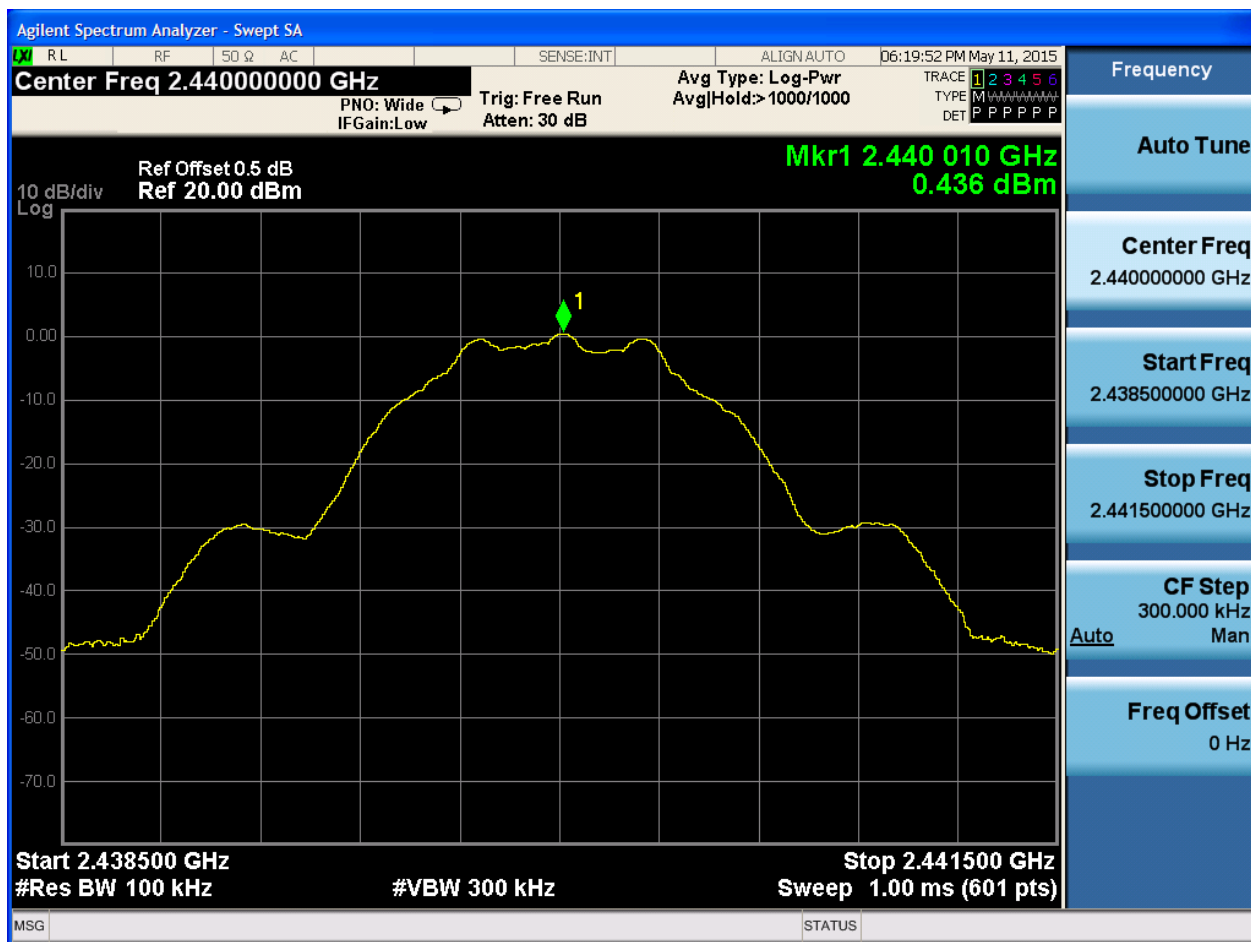






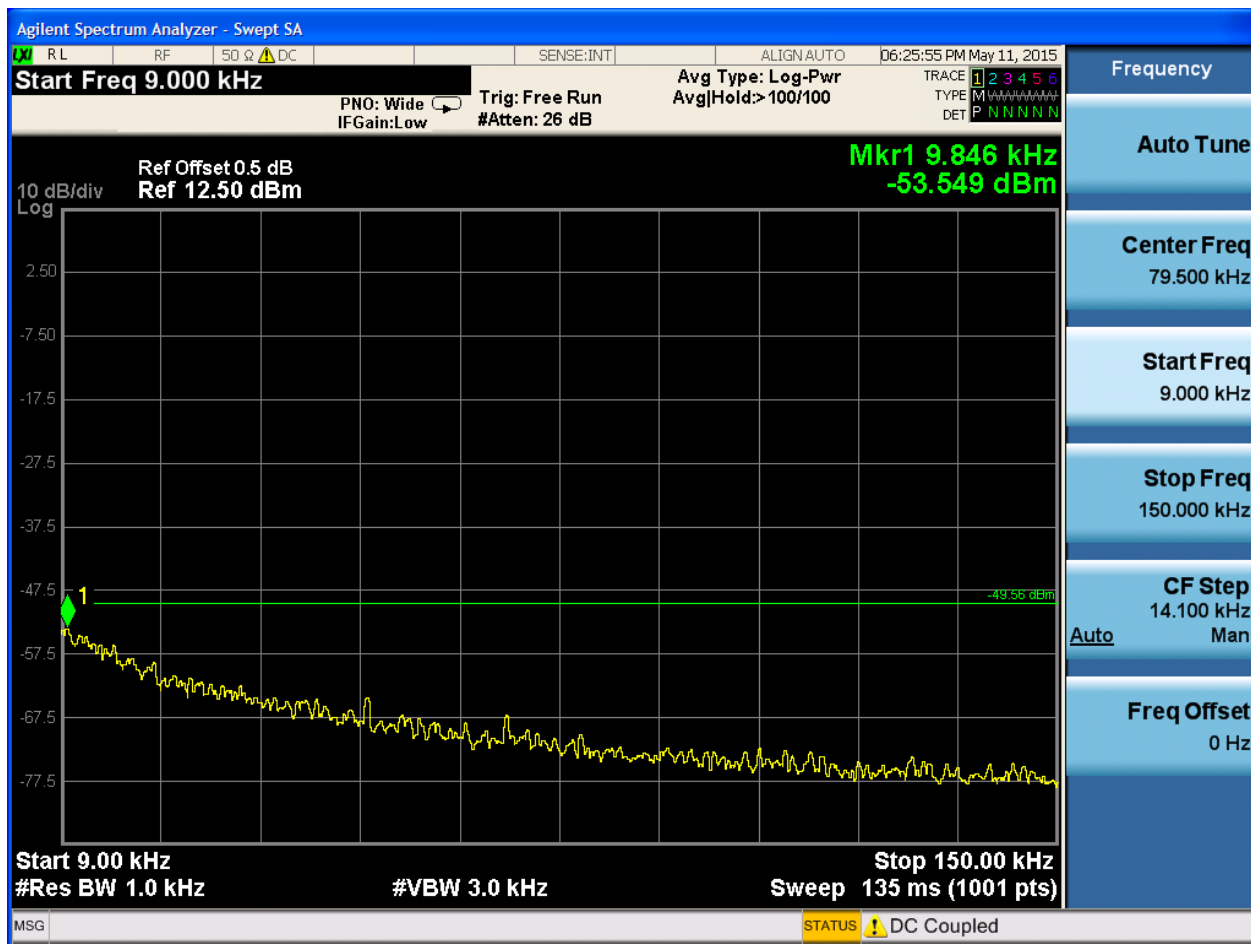
2.2 TM1_Ch19_M

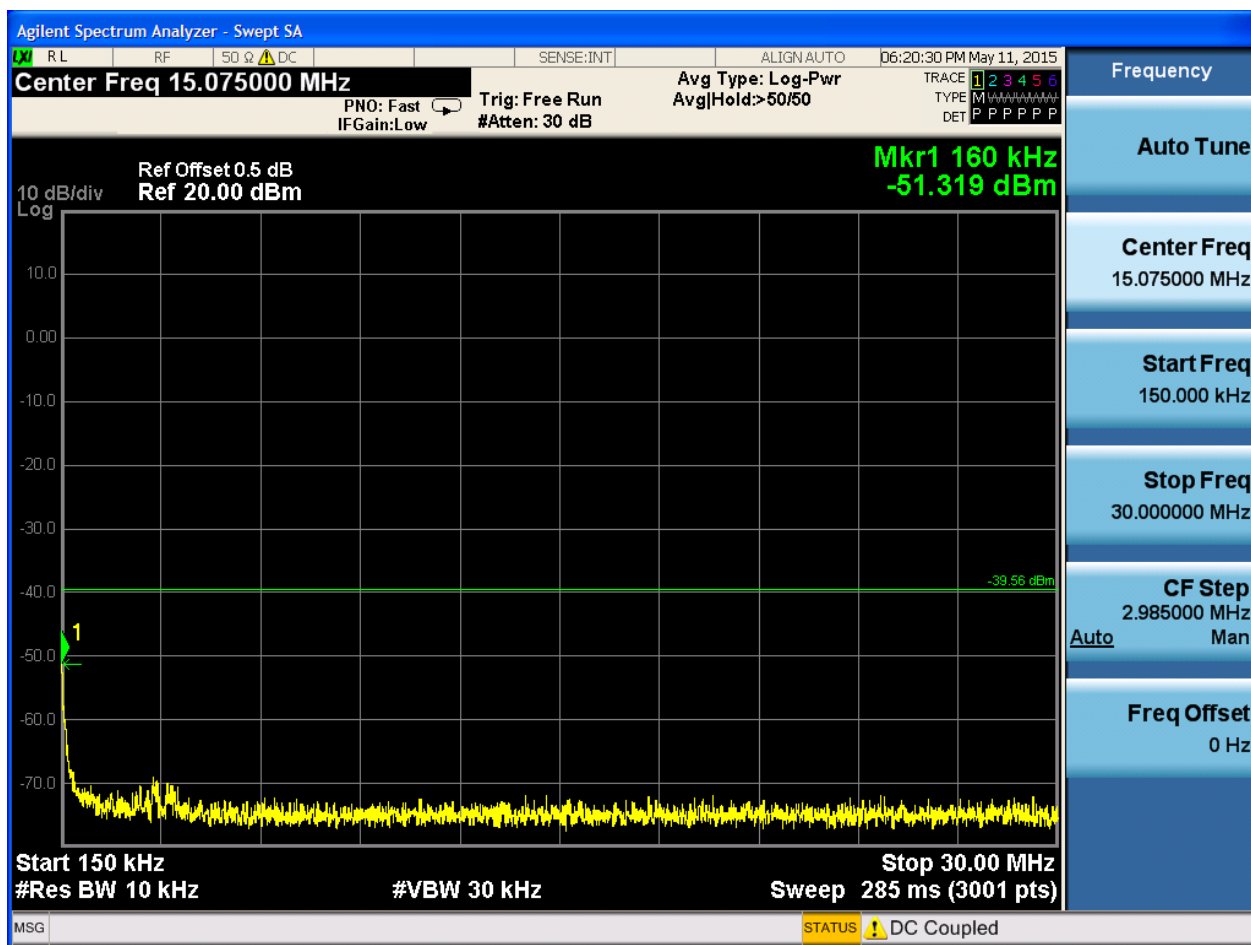
Pref:

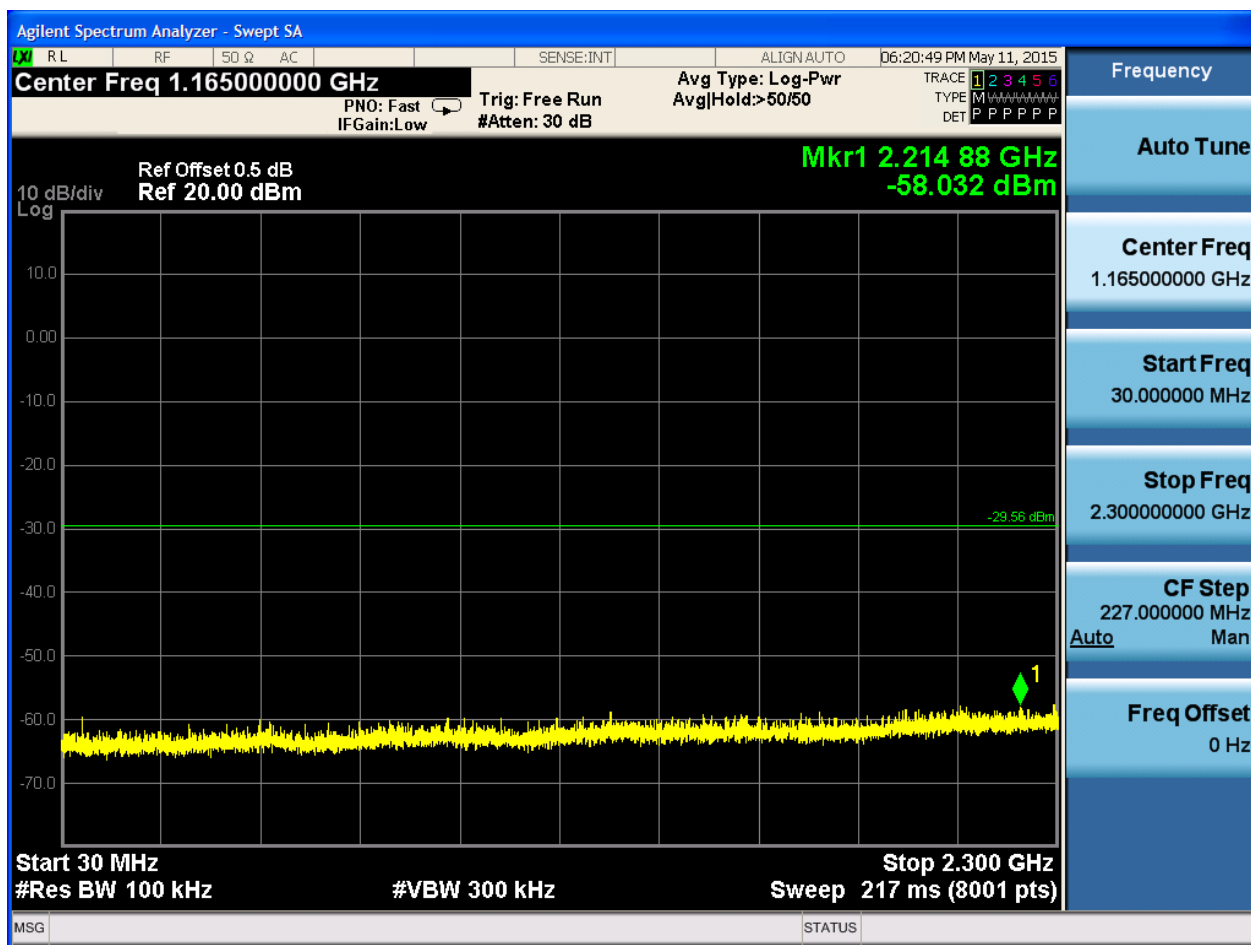


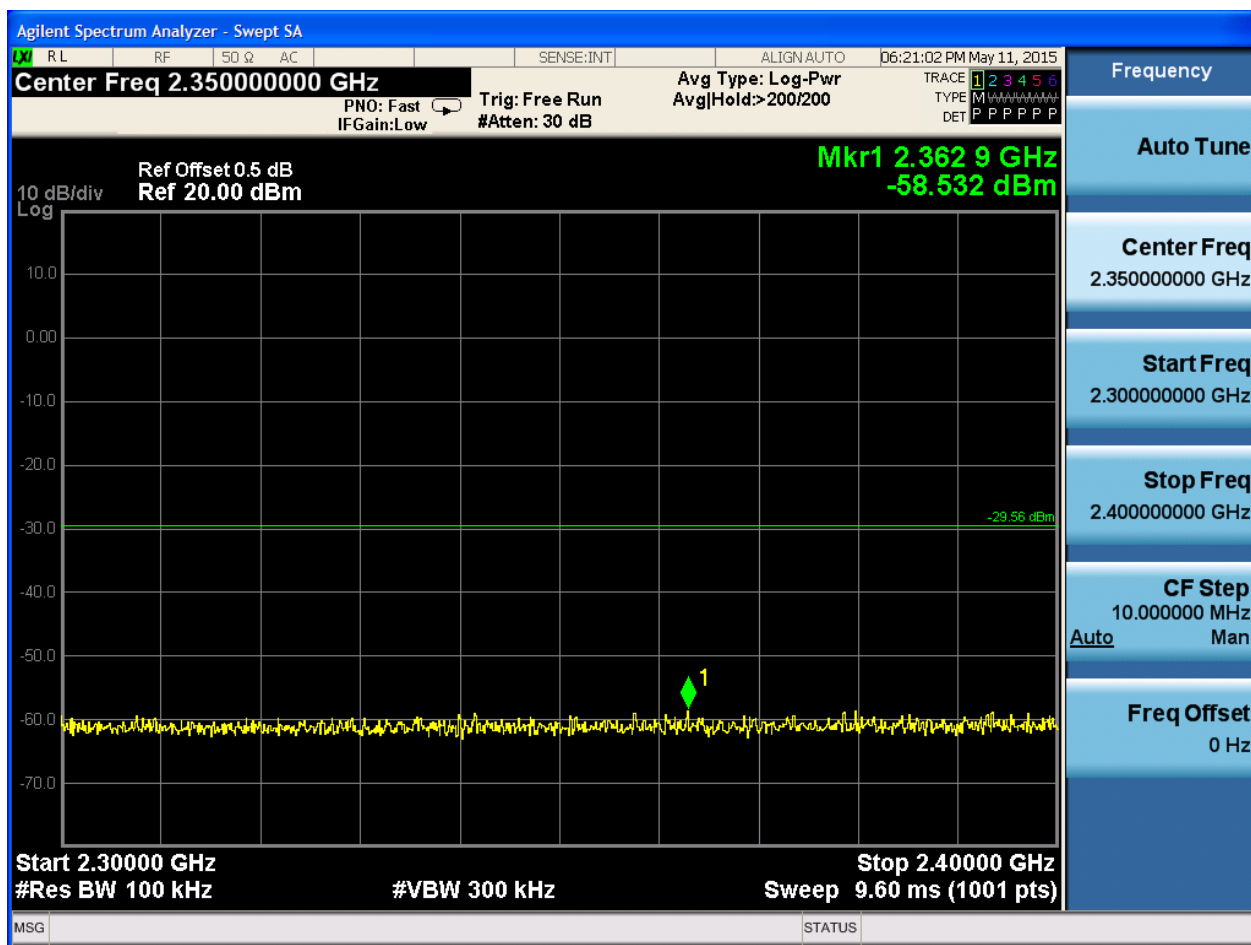


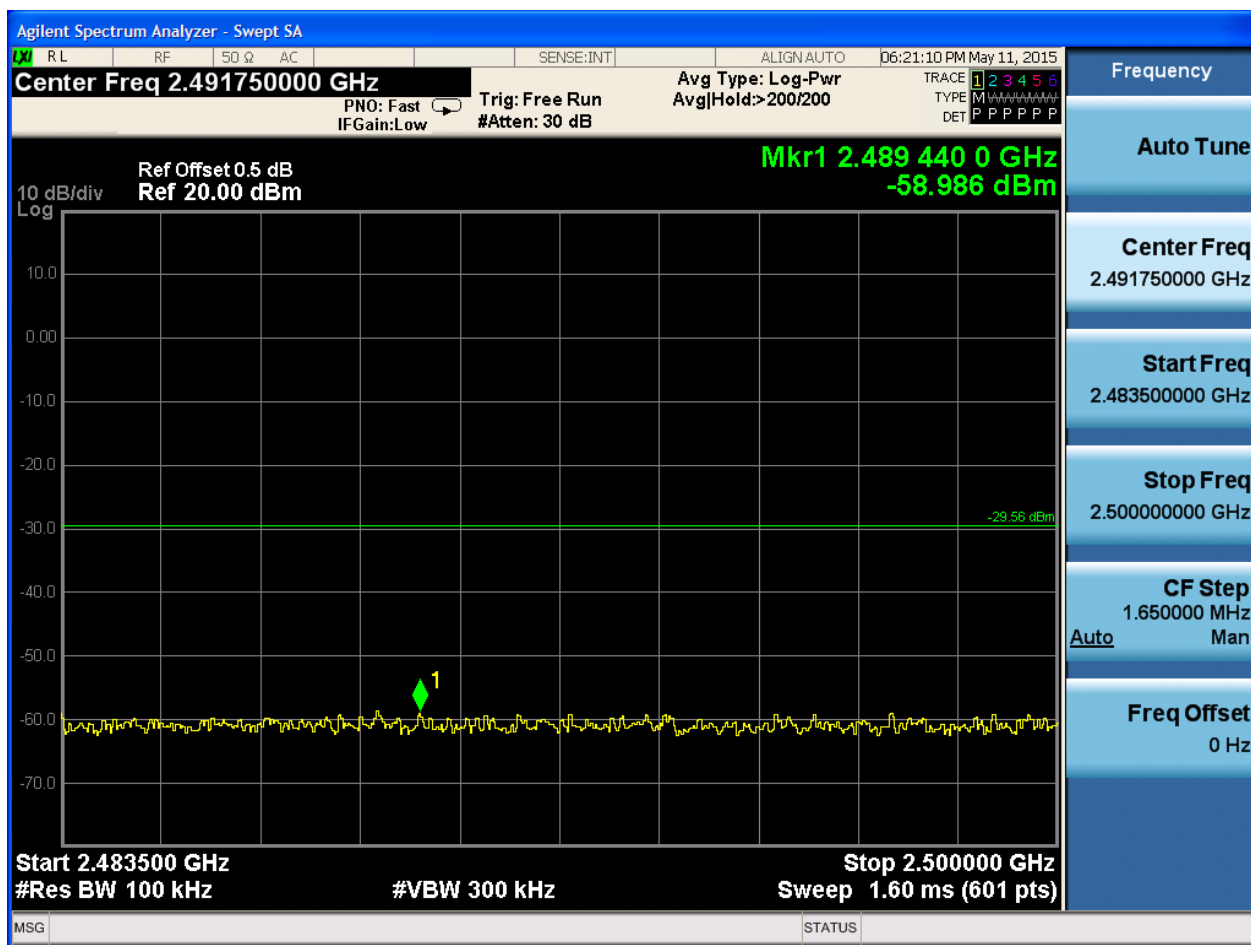
Puw:







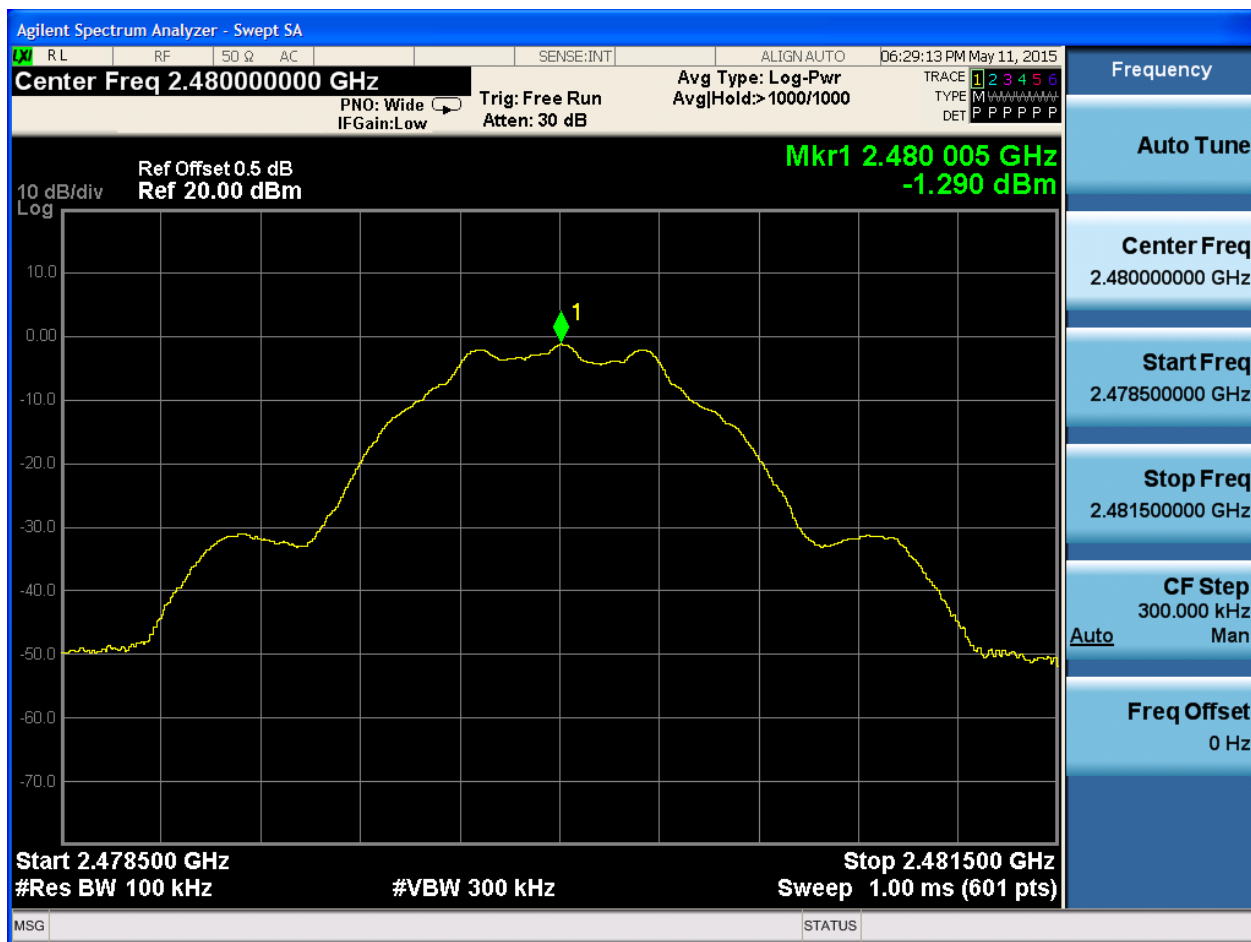






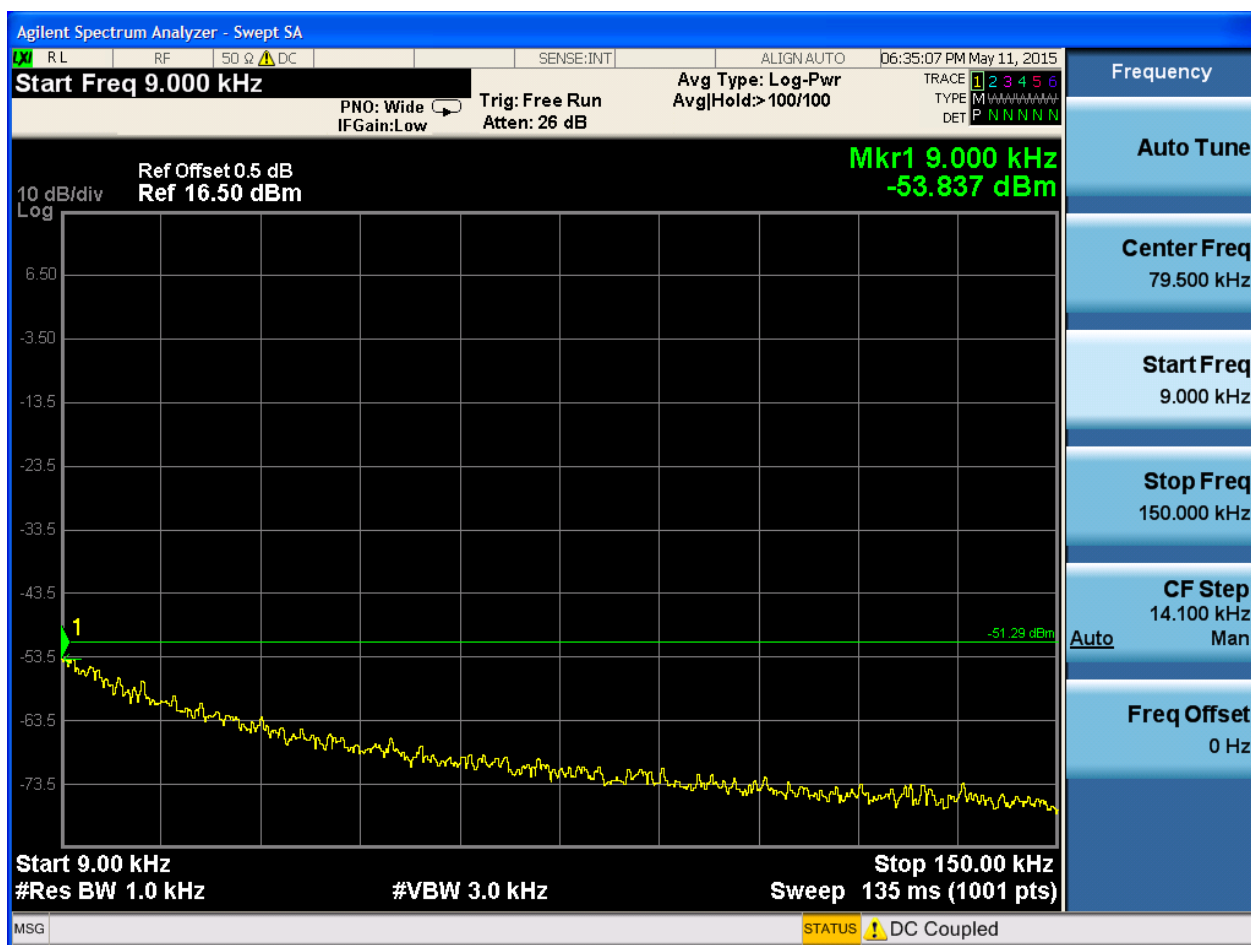
2.3 TM1_Ch39_H

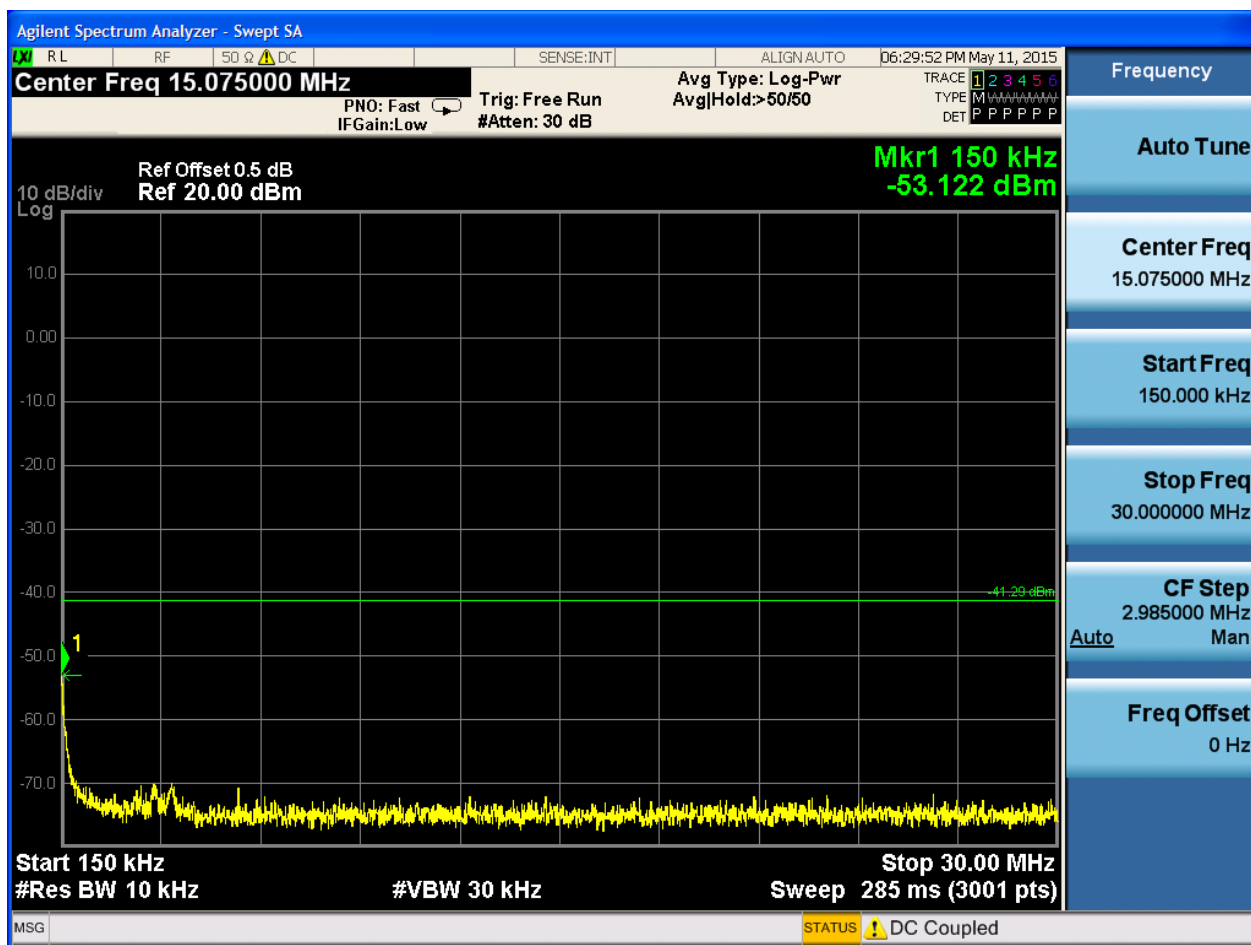
Pref:

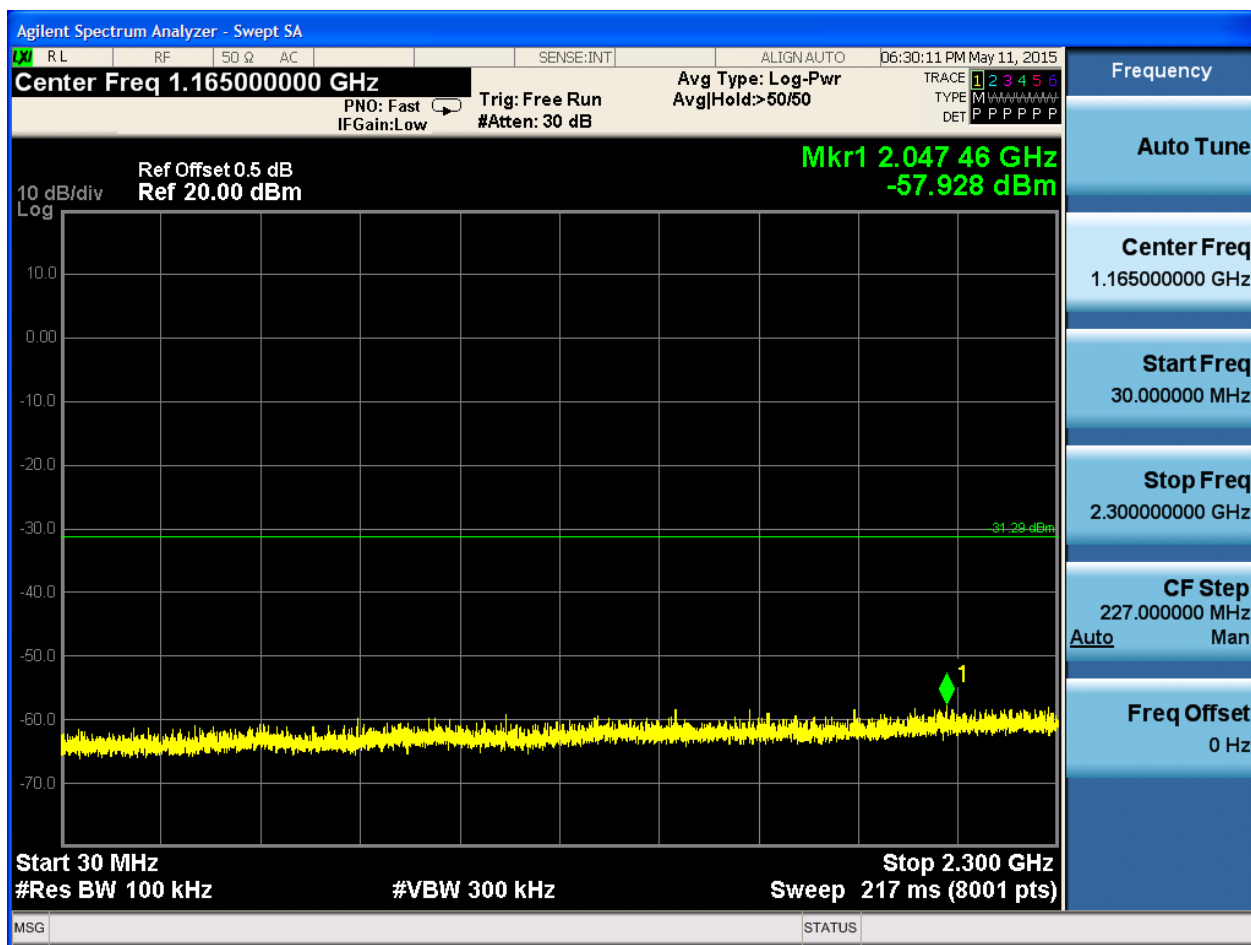


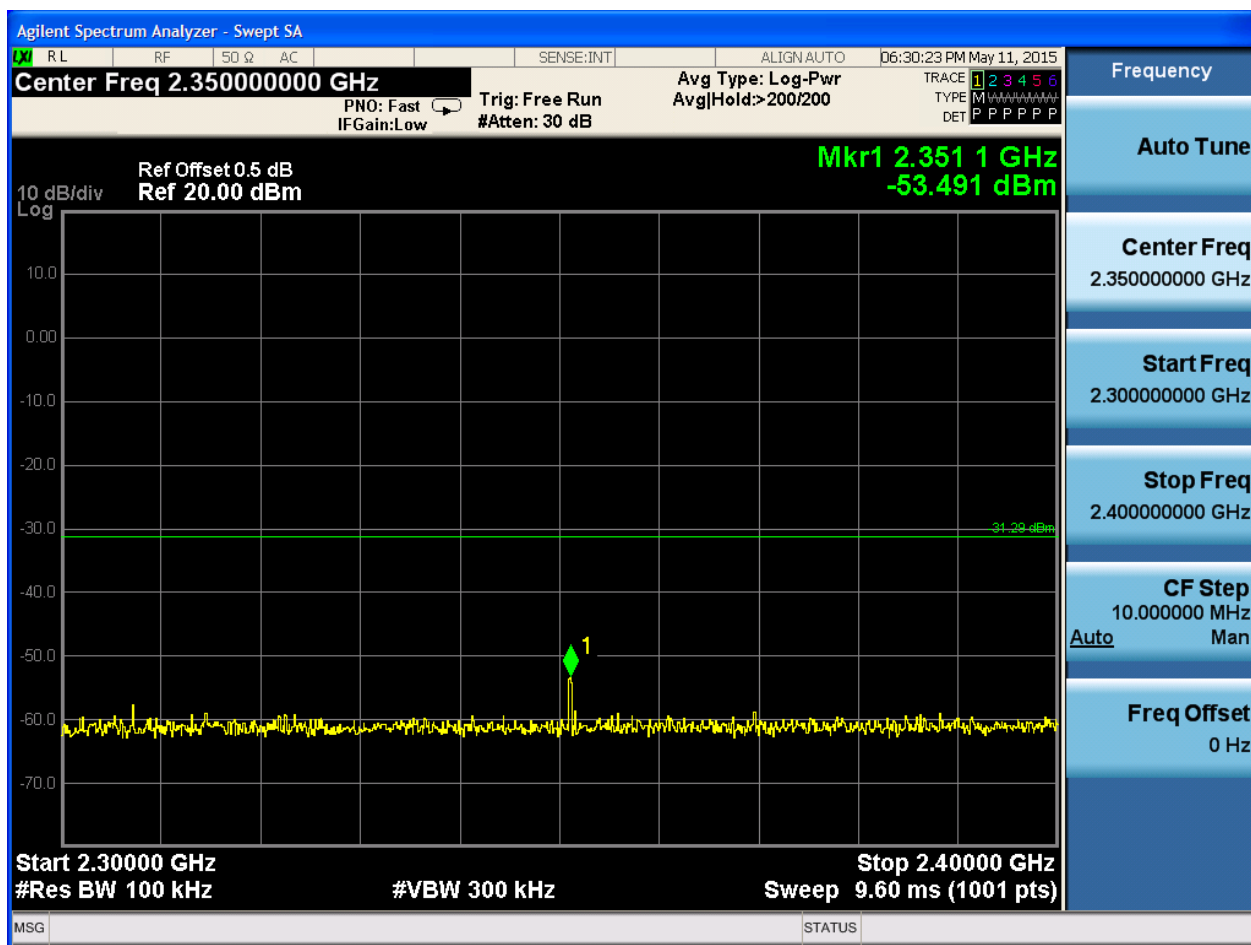


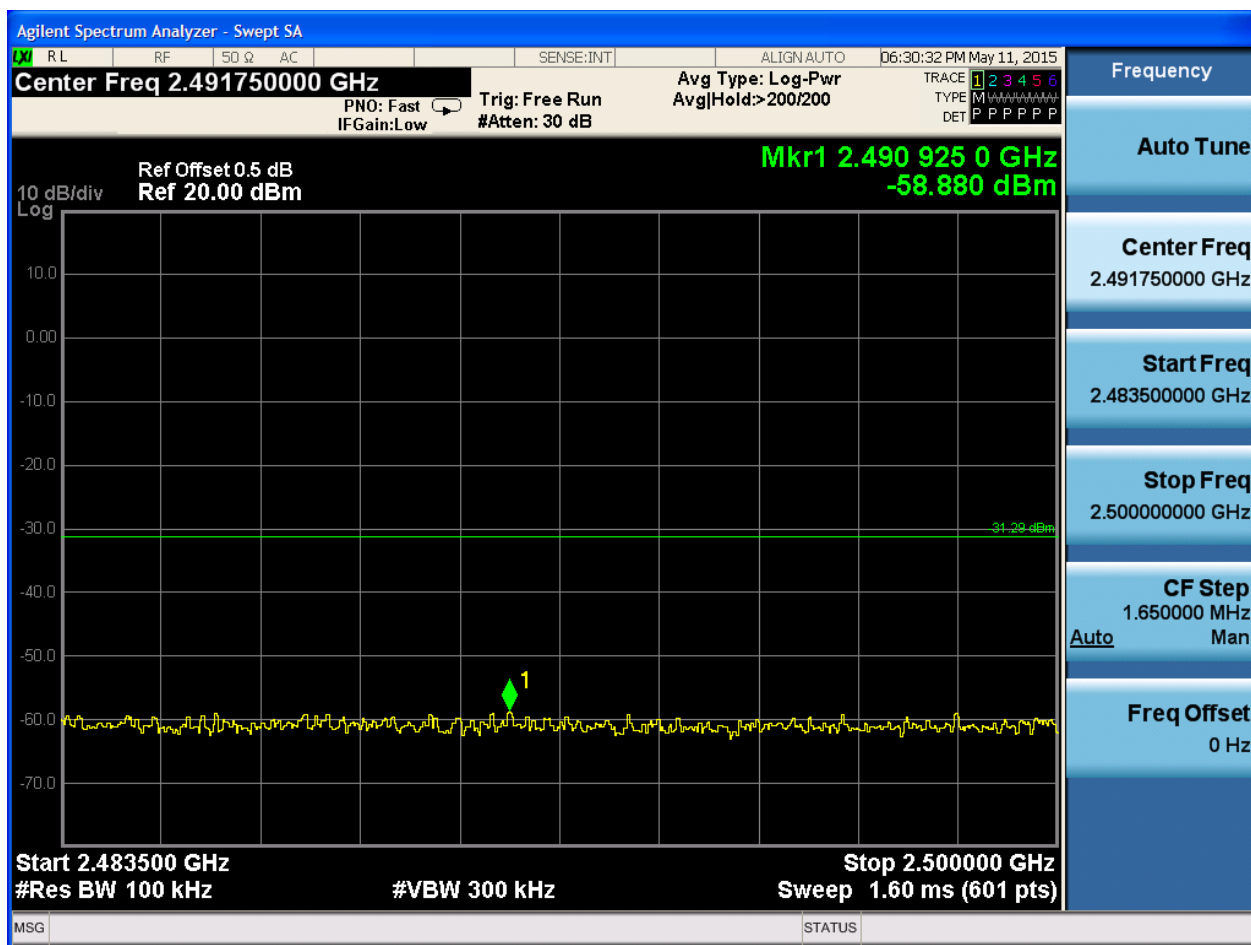
Puw:













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

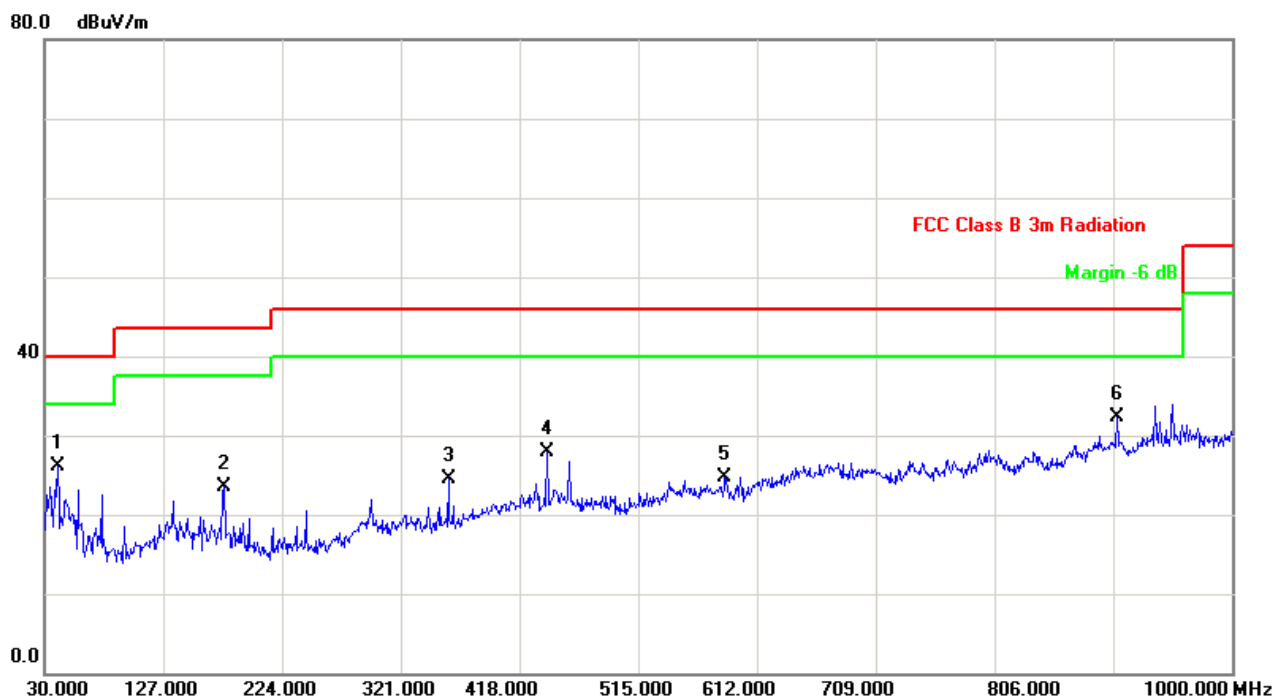
Part 1: Testing Range of “9 kHz to 30MHz”

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

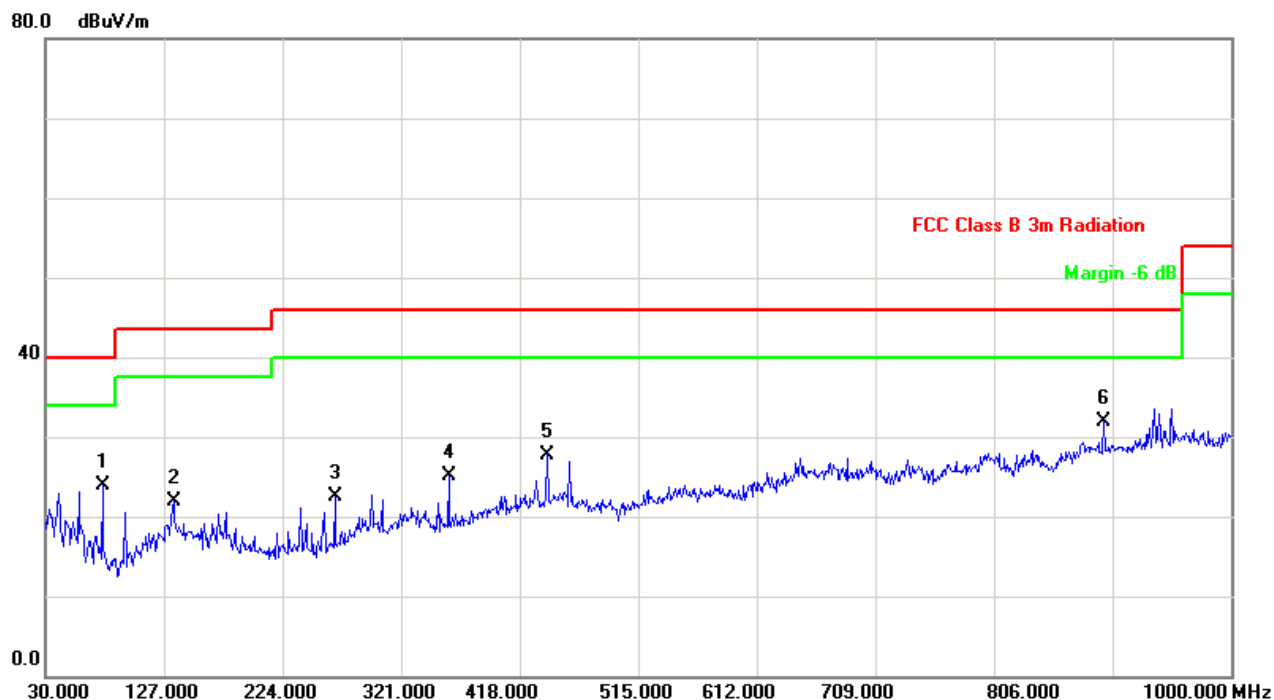
Part 2: Testing Range of “30 MHz to 1 GHz”

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).



No.	Mk.	Freq. MHz	Reading Level dBuA	Correct Factor dB	Measure- ment dBuA	Limit dBuA	Margin dB	Plarization
1		40.67	38.62	-12.49	26.13	40.00	-13.87	VERTICAL
2		176.47	34.91	-11.35	23.56	43.50	-19.94	VERTICAL
3		359.80	33.87	-9.40	24.47	46.00	-21.53	VERTICAL
4		440.31	34.01	-6.15	27.86	46.00	-18.14	VERTICAL
5		585.81	29.31	-4.63	24.68	46.00	-21.32	VERTICAL
6		905.910	30.39	1.84	32.23	46.00	-13.77	VERTICAL



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Plarization
1		76.5600	39.30	-15.40	23.90	40.00	-16.10	HORIZONTAL
2		134.7600	33.45	-11.54	21.91	43.50	-21.59	HORIZONTAL
3		266.6800	34.52	-12.07	22.45	46.00	-23.55	HORIZONTAL
4		359.8000	34.50	-9.40	25.10	46.00	-20.90	HORIZONTAL
5		440.3100	33.95	-6.15	27.80	46.00	-18.20	HORIZONTAL
6	*	895.2400	30.42	1.53	31.95	46.00	-14.05	HORIZONTAL



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

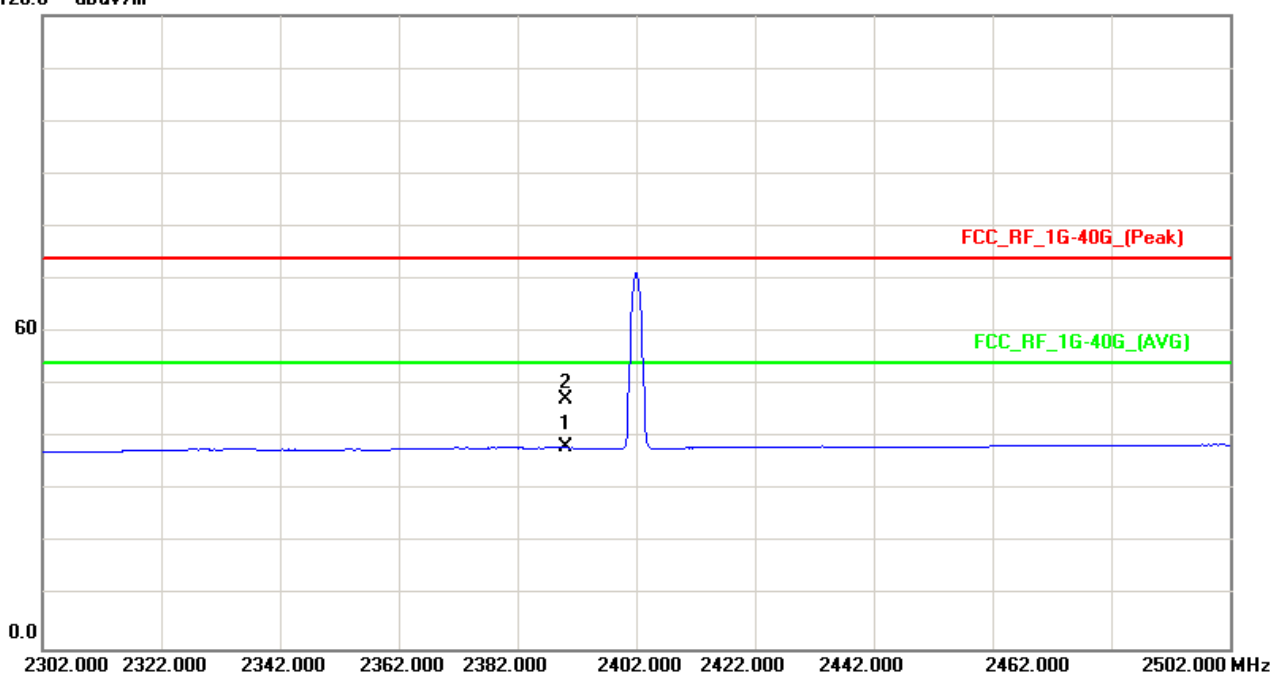
NOTE1: No peak found in the Test Range of “18 GHz to 26.5 GHz”

Part 4: Testing Range of “2.3GHz to 2.5GHz”

- Note 1: The testing range of “2.3 GHz to 2.5 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

Vertical

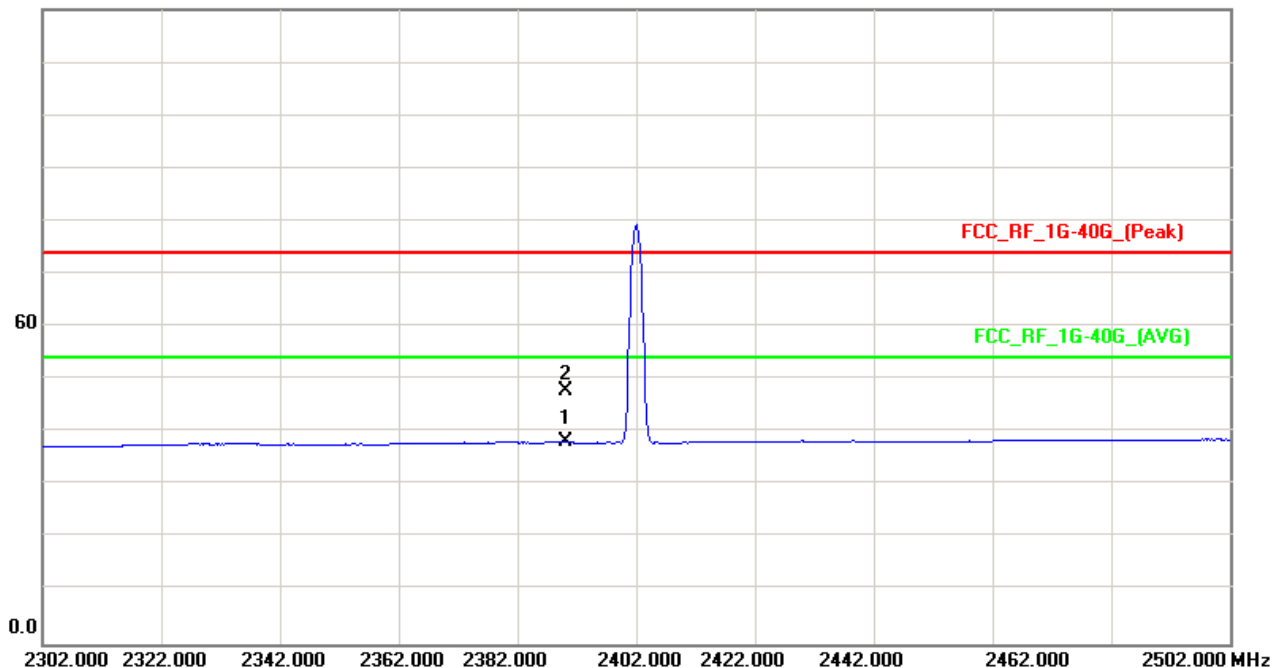
120.0 dB μ V/m


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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dB μ V	dB	dB μ V/m	dB μ V/m	dB	Detector	Polarization
1	*	2390.000	2.27	35.88	38.15	54.00	-15.85	AVG	VERTICAL
2		2390.000	11.51	35.88	47.39	74.00	-26.61	peak	VERTICAL

Horizontal

120.0 dBuV/m



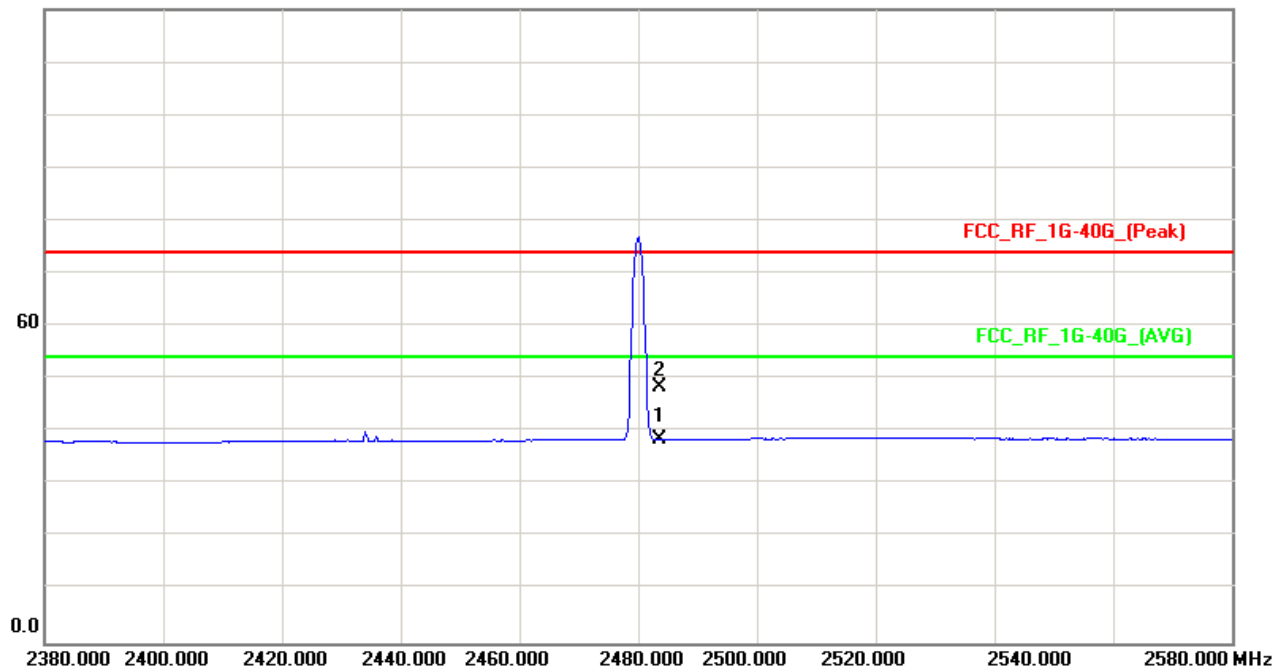
Note: The peak exceeds the limit line is carrier frequency.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Polarization
1	*	2390.000	2.22	35.88	38.10	54.00	-15.90	AVG	HORIZONTAL
2		2390.000	11.85	35.88	47.73	74.00	-26.27	peak	HORIZONTAL

Channel 39

Vertical

120.0 dBuV/m

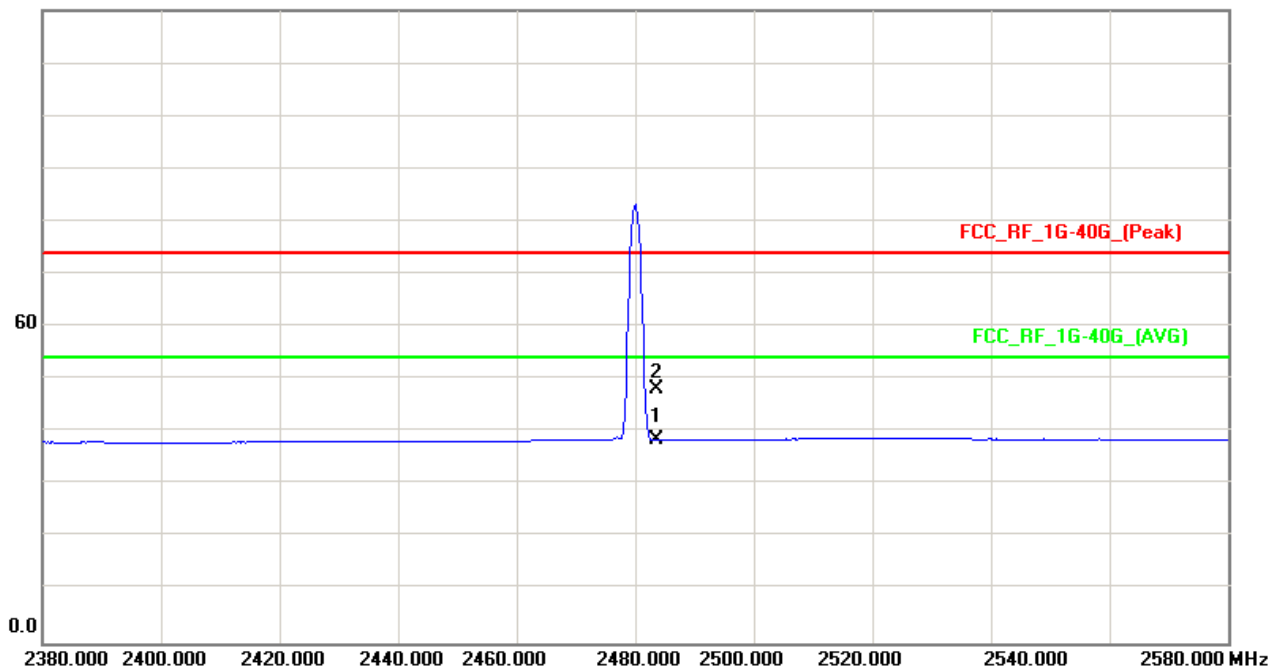


Note: The peak exceeds the limit line is carrier frequency.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Polarization
1	*	2483.500	2.20	36.39	38.59	54.00	-15.41	AVG	VERTICAL
2		2483.600	12.01	36.39	48.40	74.00	-25.60	peak	VERTICAL

Horizontal

120.0 dBuV/m



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

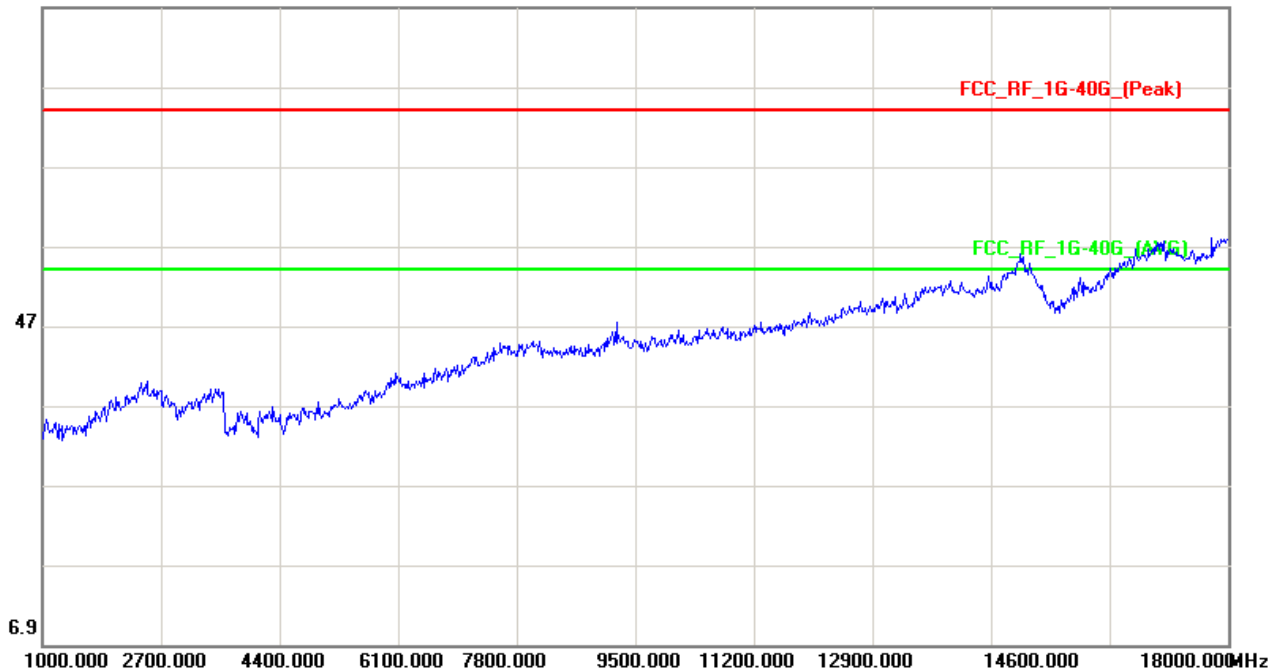
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Polarization
1	*	2483.500	2.21	36.39	38.60	54.00	-15.40	AVG	HORIZONTAL
2		2483.600	11.65	36.39	48.04	74.00	-25.96	peak	HORIZONTAL

Part 5: Testing Range of “1 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “1 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 “1 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 dBμV/m) and Average Limit (54 dBμV/m).

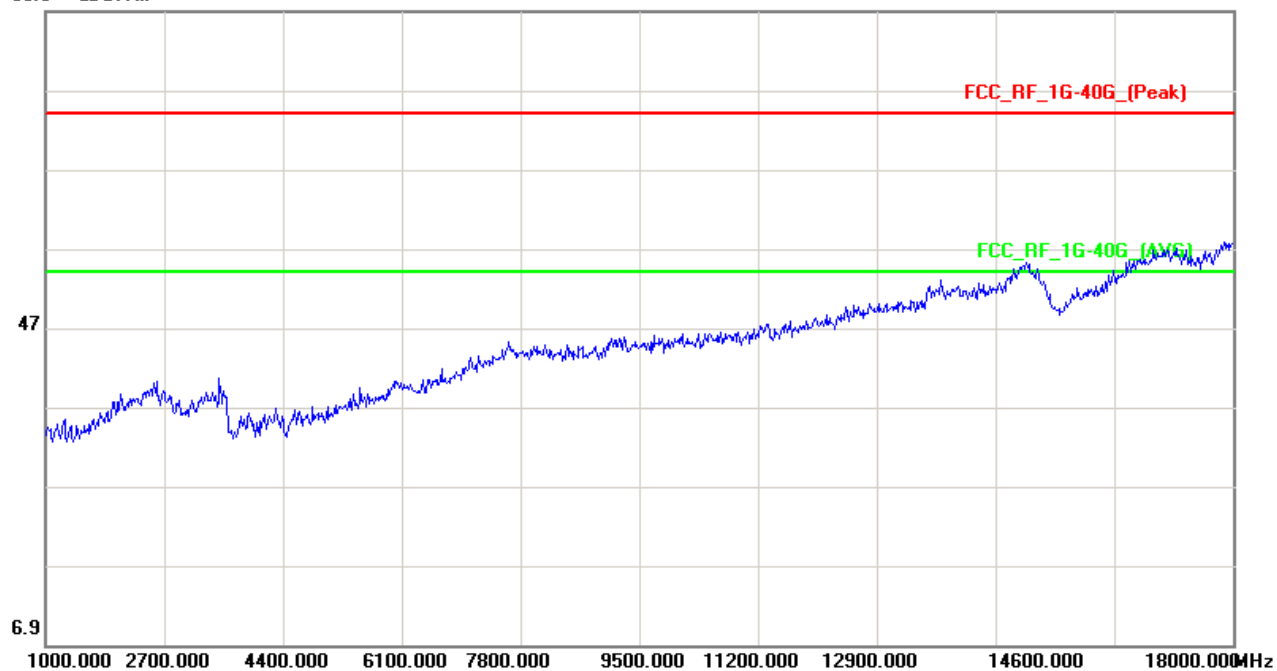
Vertical

86.9 dBμV/m



Horizontal

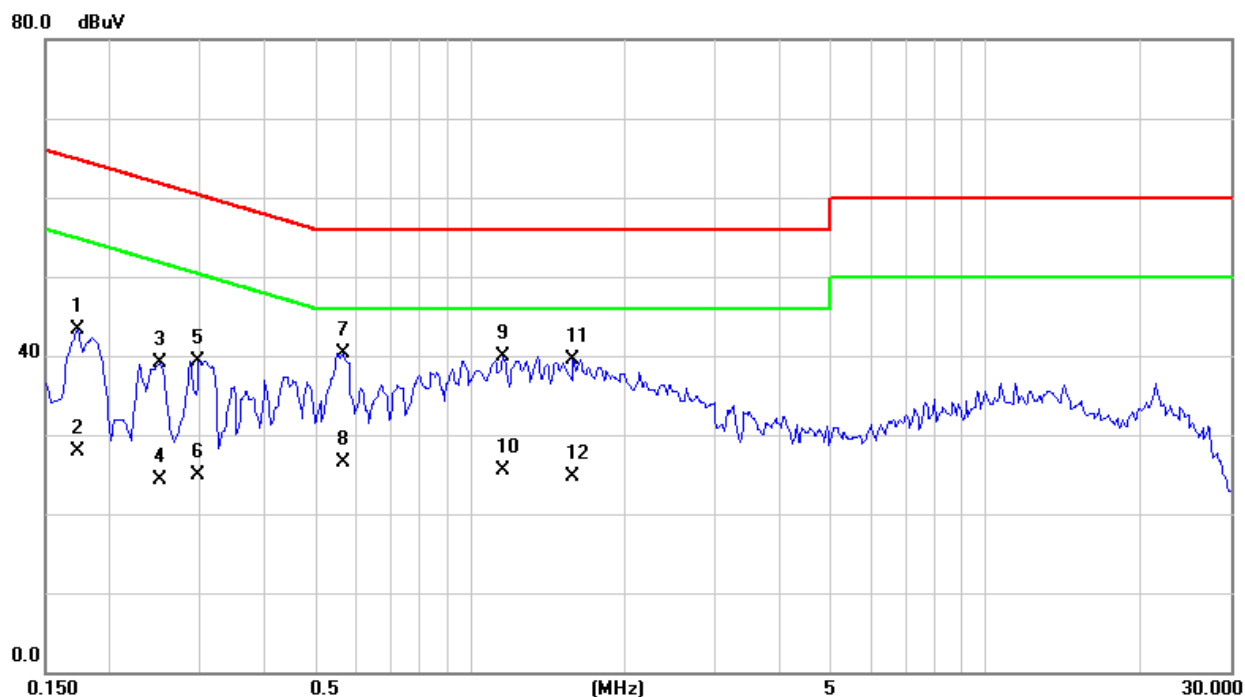
86.9 dBuV/m



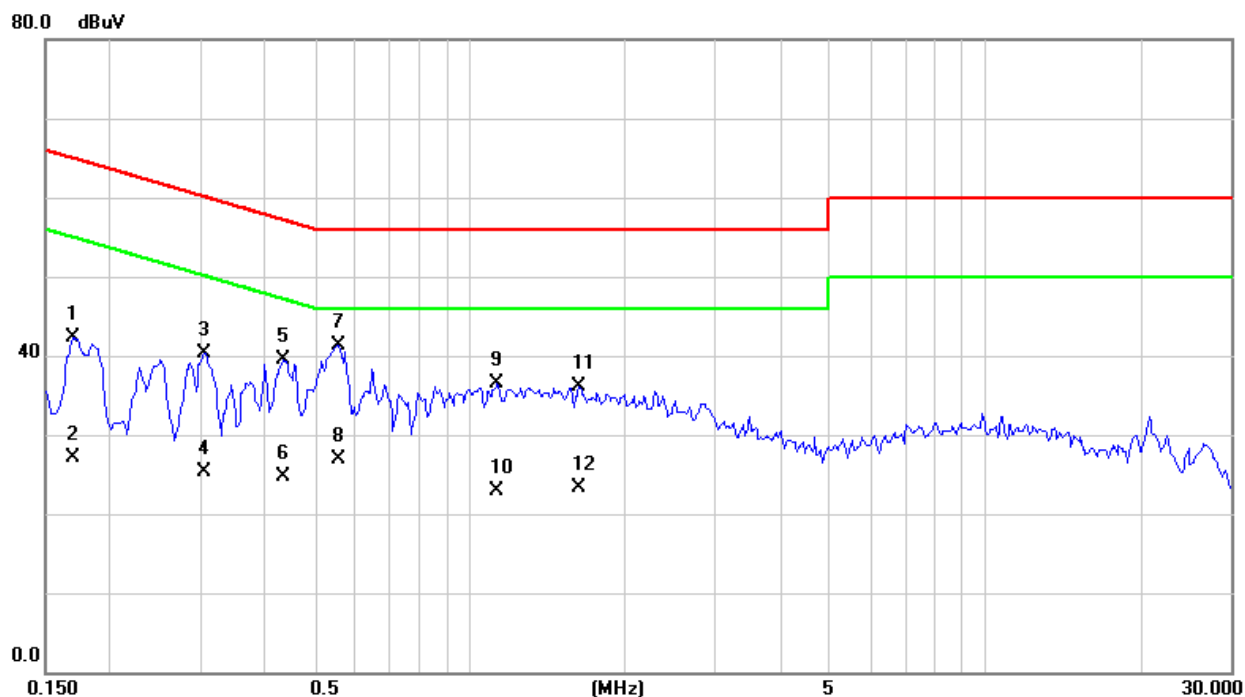
8 Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

Channel 39



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Line
1	0.1734	33.55	9.69	43.24	64.80	-21.56	QP	L1
2	0.1734	18.30	9.69	27.99	54.80	-26.81	AVG	L1
3	0.2515	29.31	9.73	39.04	61.71	-22.67	QP	L1
4	0.2515	14.60	9.73	24.33	51.71	-27.38	AVG	L1
5	0.2983	29.58	9.76	39.34	60.29	-20.95	QP	L1
6	0.2983	15.20	9.76	24.96	50.29	-25.33	AVG	L1
7	0.5680	30.48	9.84	40.32	56.00	-15.68	QP	L1
8	0.5680	16.70	9.84	26.54	46.00	-19.46	AVG	L1
9	1.1656	29.98	10.01	39.99	56.00	-16.01	QP	L1
10	1.1656	15.40	10.01	25.41	46.00	-20.59	AVG	L1
11	1.5914	29.56	9.91	39.47	56.00	-16.53	QP	L1
12	1.5914	14.80	9.91	24.71	46.00	-21.29	AVG	L1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Line
1	0.1695	32.65	9.60	42.25	64.98	-22.73	QP	N
2	0.1695	17.60	9.60	27.20	54.98	-27.78	AVG	N
3	0.3063	30.72	9.63	40.35	60.07	-19.72	QP	N
4	0.3063	15.60	9.63	25.23	50.07	-24.84	AVG	N
5	0.4352	29.82	9.64	39.46	57.15	-17.69	QP	N
6	0.4352	15.10	9.64	24.74	47.15	-22.41	AVG	N
7	0.5563	31.60	9.67	41.27	56.00	-14.73	QP	N
8	0.5563	17.30	9.67	26.97	46.00	-19.03	AVG	N
9	1.1344	26.64	9.80	36.44	56.00	-19.56	QP	N
10	1.1344	13.20	9.80	23.00	46.00	-23.00	AVG	N
11	1.6305	26.17	9.85	36.02	56.00	-19.98	QP	N
12	1.6305	13.50	9.85	23.35	46.00	-22.65	AVG	N

END