



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.

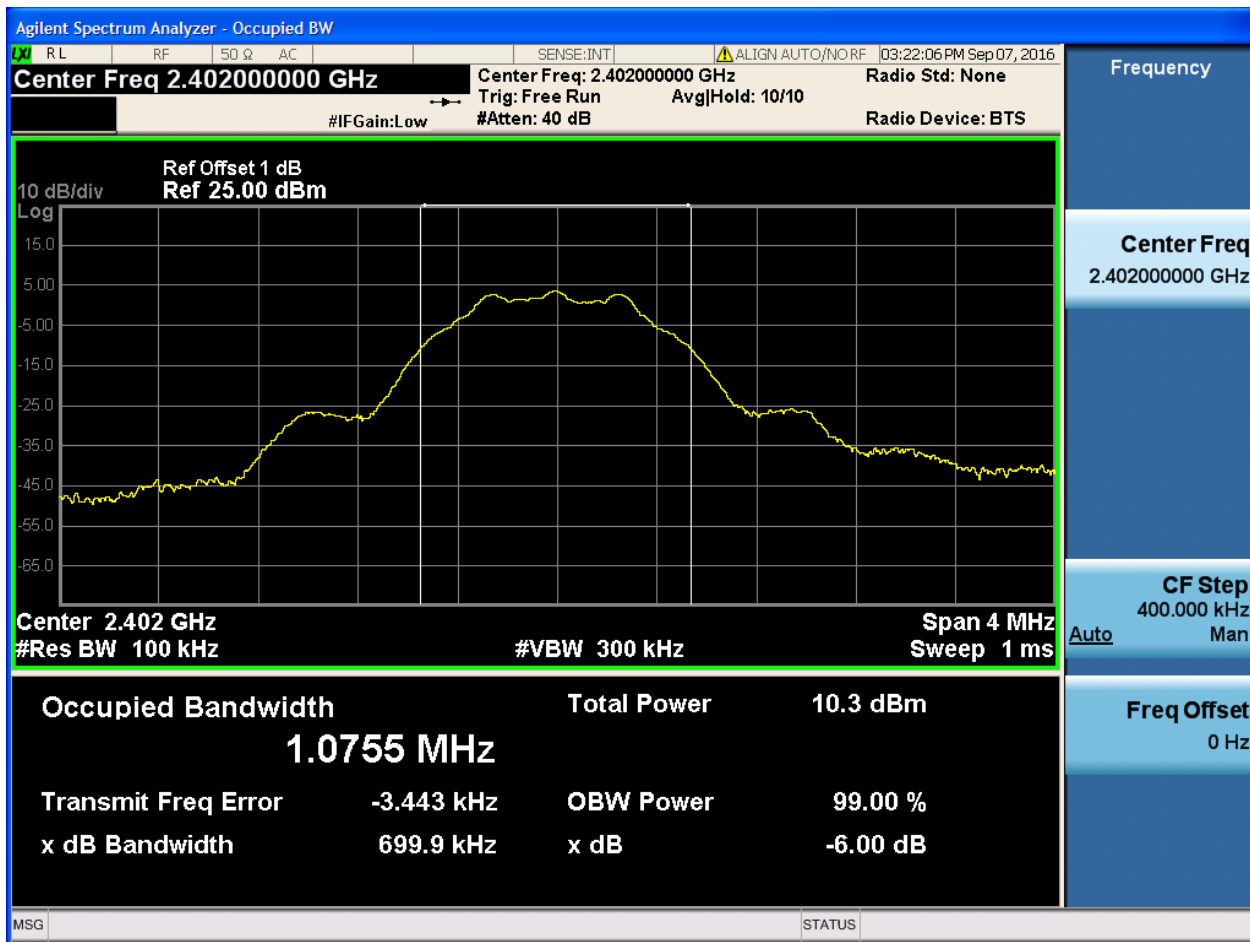
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	0.700	pass
TM1_Ch19	M	2440	Ant 1	0.704	pass
TM1_Ch39	H	2480	Ant 1	0.704	pass

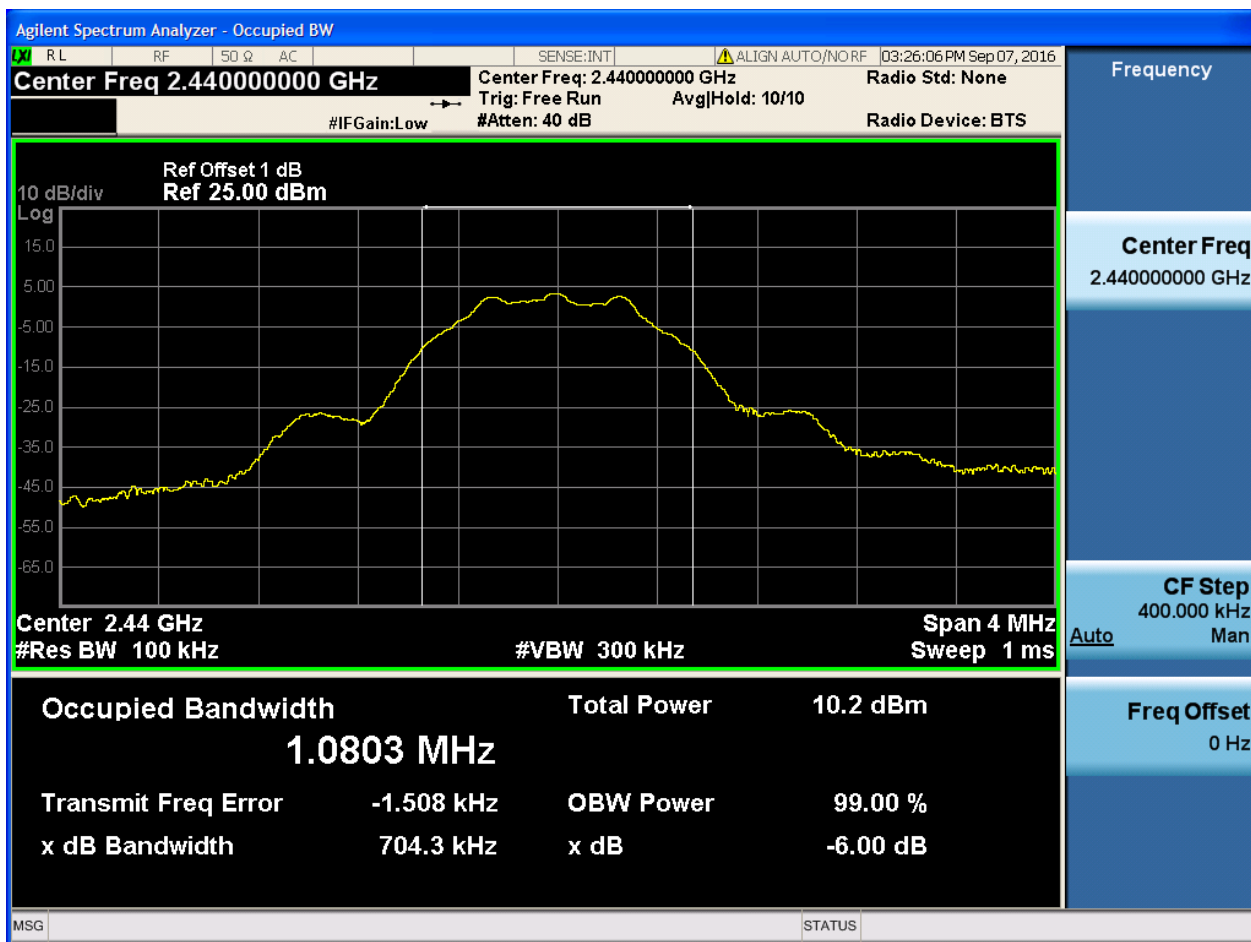
Part II - Test Plots

2.1TM1_Ch0@Ant 1



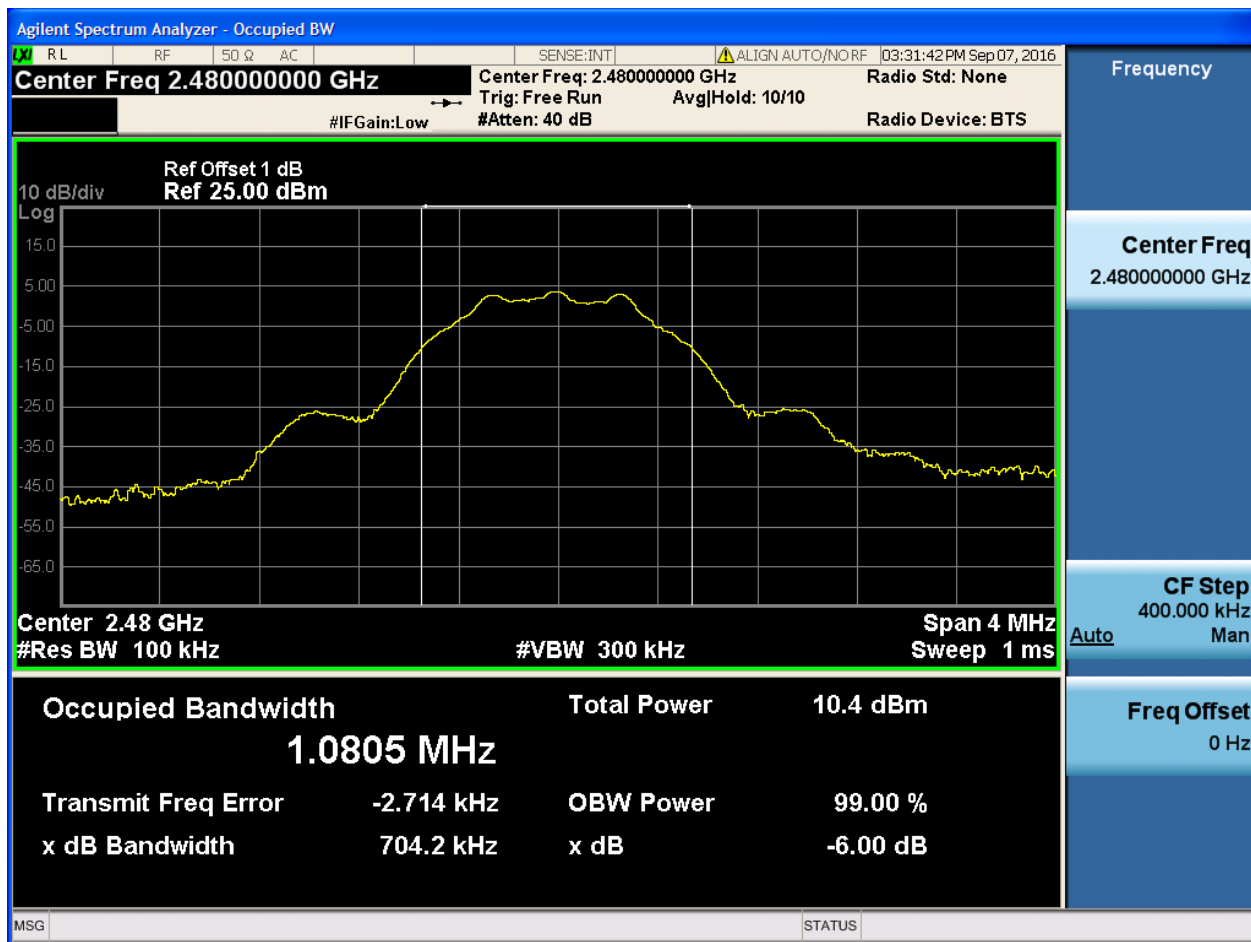


2.2TM1_Ch19@Ant 1





2.3TM1_Ch39@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.

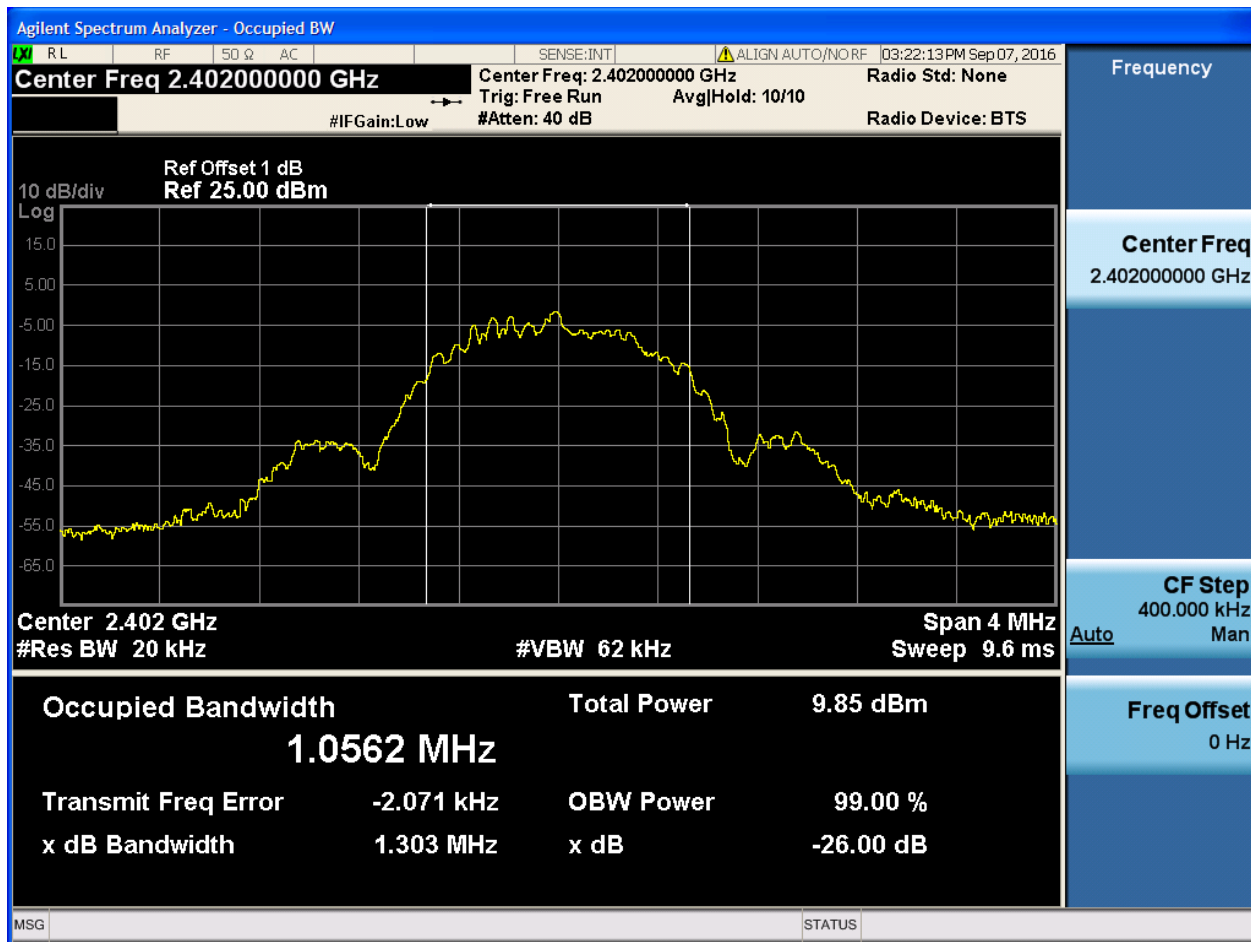
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	1.06	pass
TM1_Ch19	M	2440	Ant 1	1.06	pass
TM1_Ch39	H	2480	Ant 1	1.06	pass



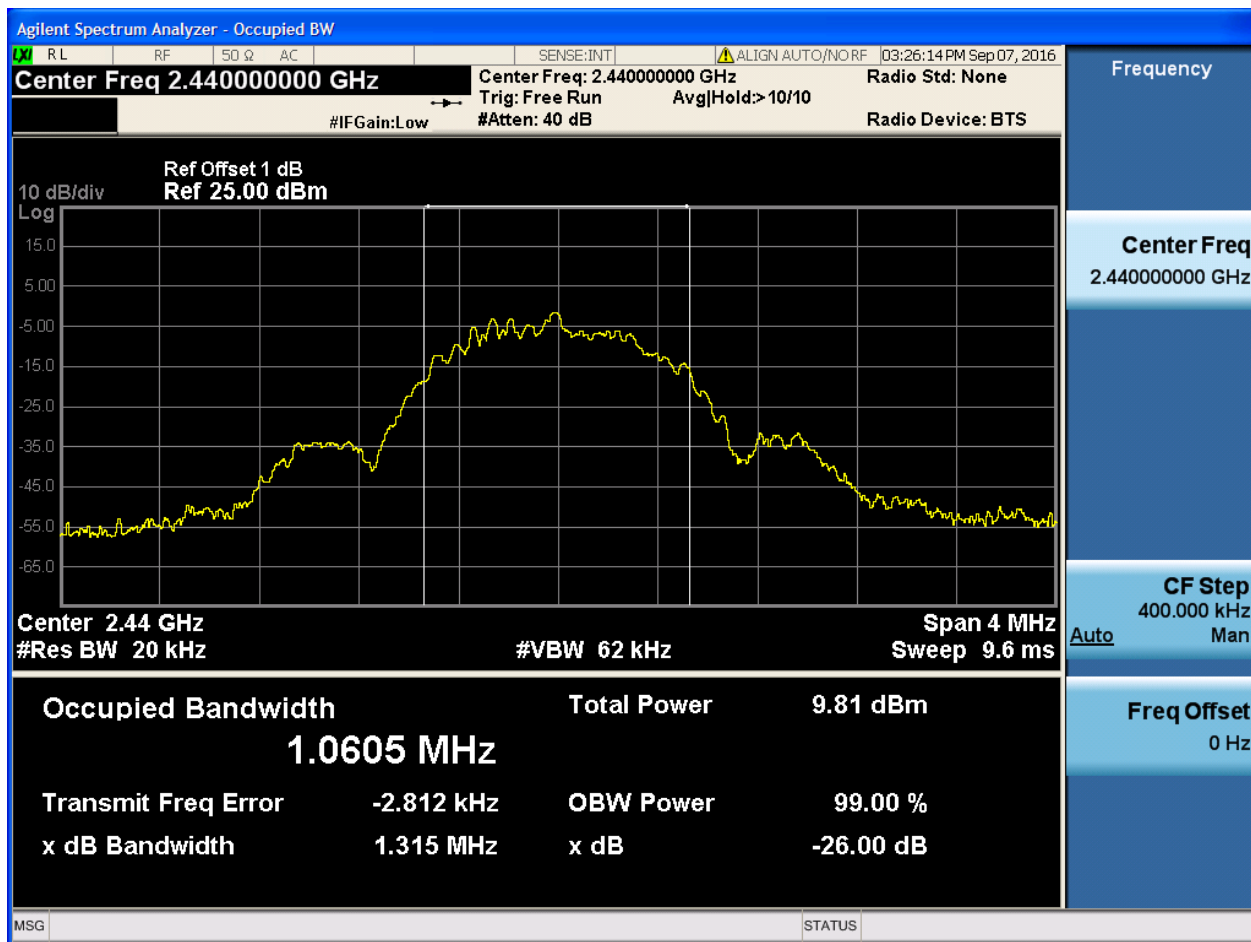
Part II - Test Plots

2.1TM1_Ch0@Ant 1



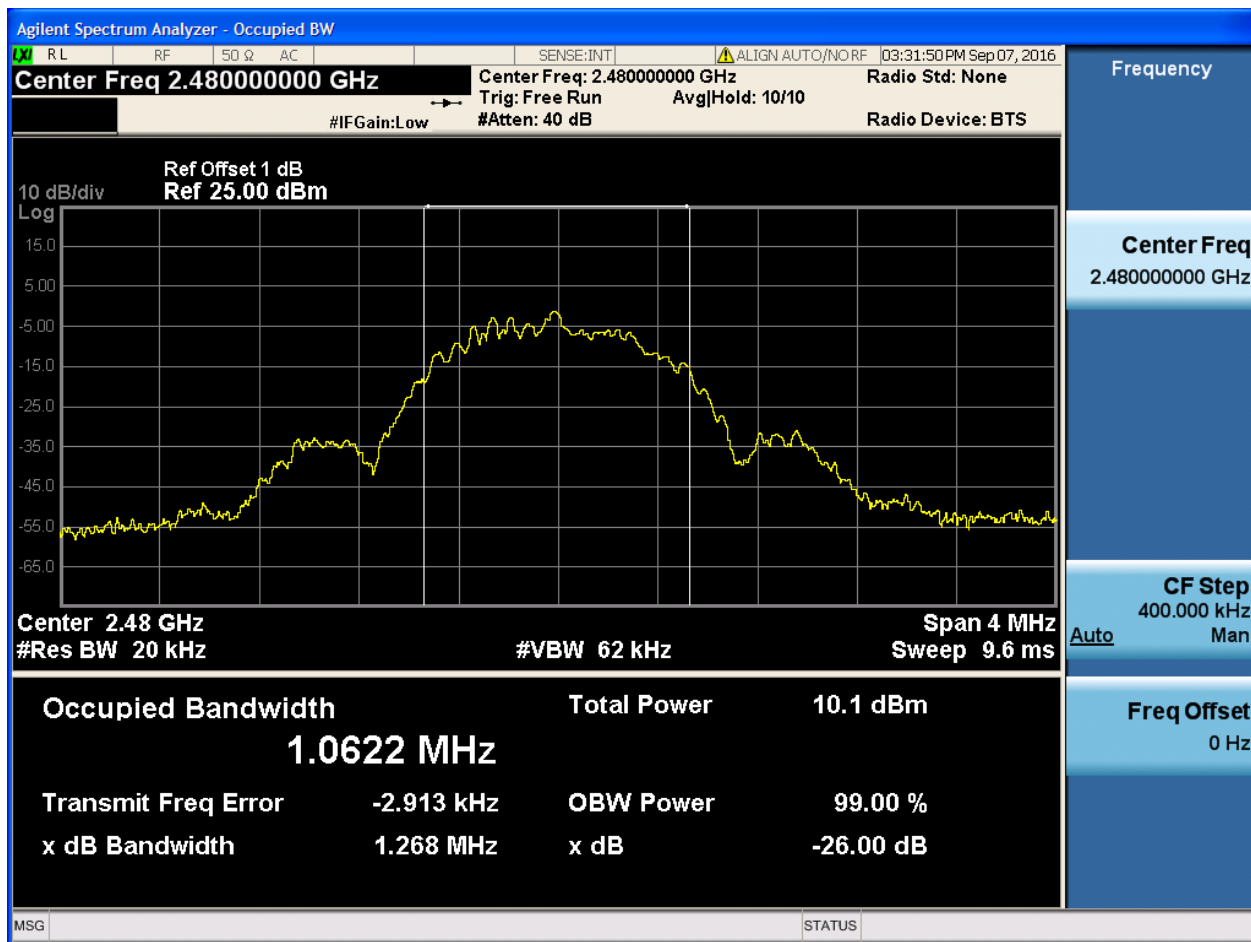


2.2TM1_Ch19@Ant 1





2.3TM1_Ch39@Ant 1





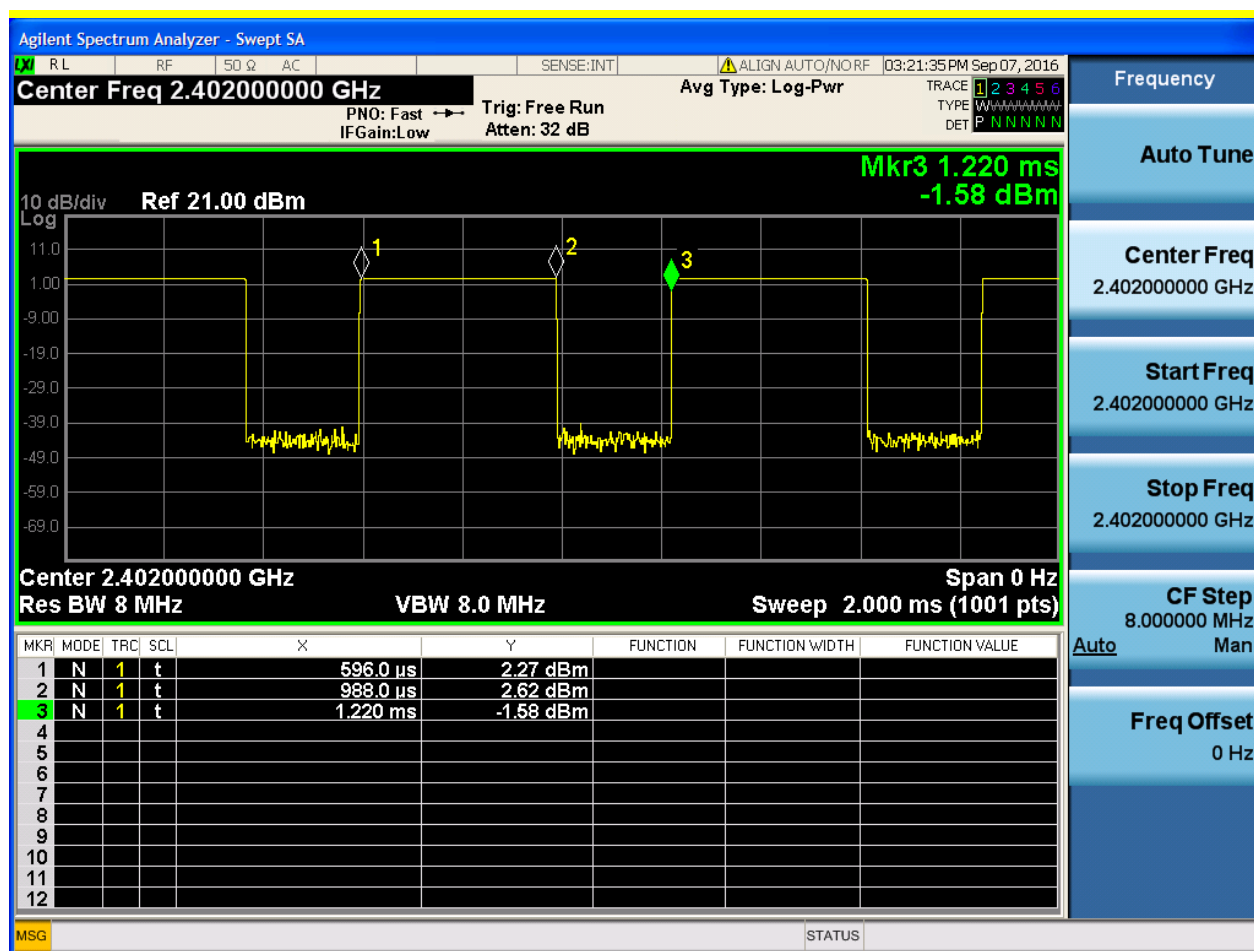
Appendix C: Duty Cycle

Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	62.2

Part II - Test Plots

2.1 BLE



Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
TM1_Ch0	L	2402	Ant 1	3.27	pass
TM1_Ch19	M	2440	Ant 1	3.37	pass
TM1_Ch39	H	2480	Ant 1	3.70	pass



Part II - Test Plots

2.1TM1_Ch0@Ant 1





2.2TM1_Ch19@Ant 1





2.3TM1_Ch39@Ant 1





Appendix E: Maximum Power Spectral Density Level

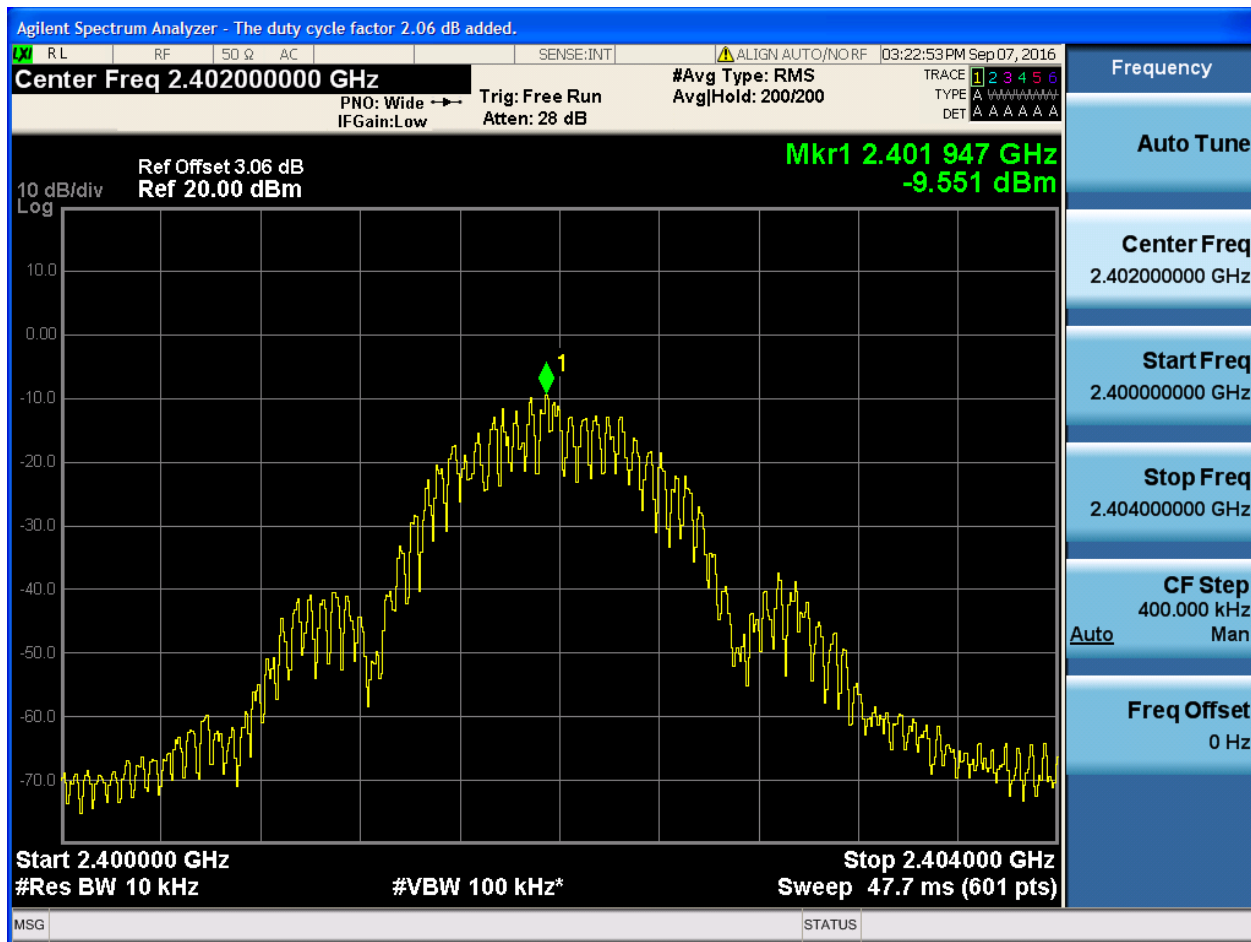
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	-9.55	pass
TM1_Ch19	M	2440	Ant 1	-9.69	pass
TM1_Ch39	H	2480	Ant 1	-9.49	pass



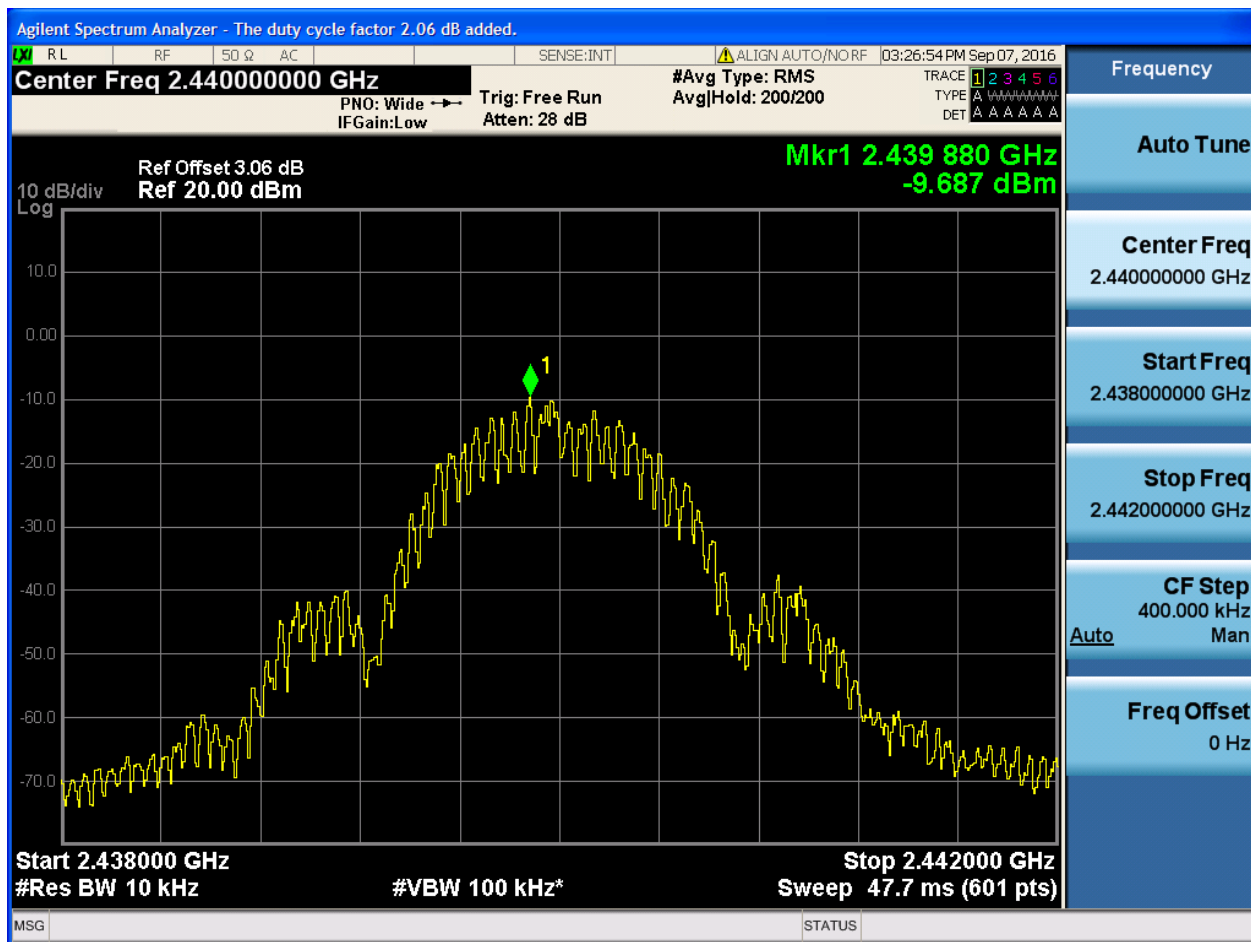
Part II - Test Plots

2.1TM1_Ch0@Ant 1



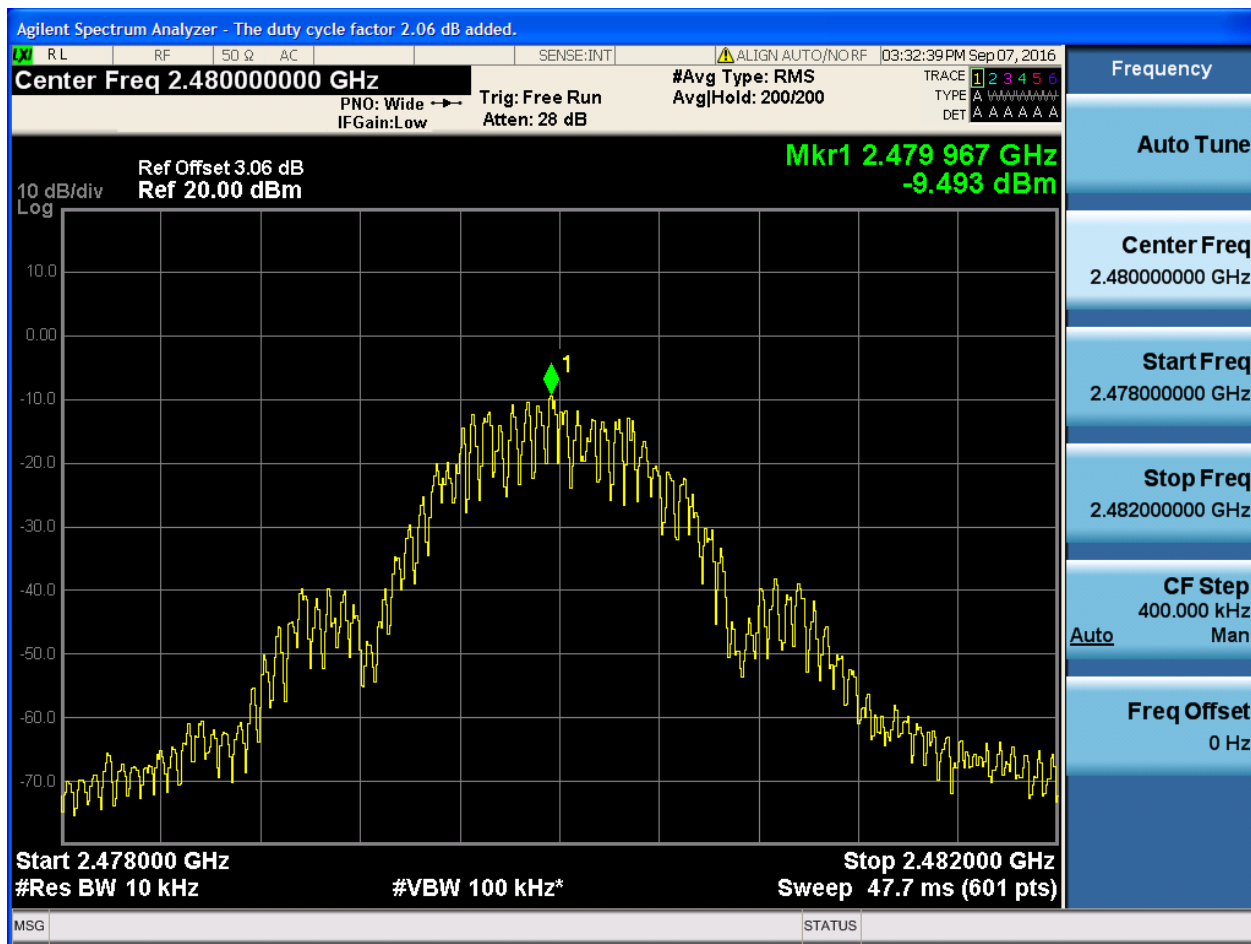


2.2TM1_Ch19@Ant 1





2.3TM1_Ch39@Ant 1



Appendix F: Band Edges Compliance

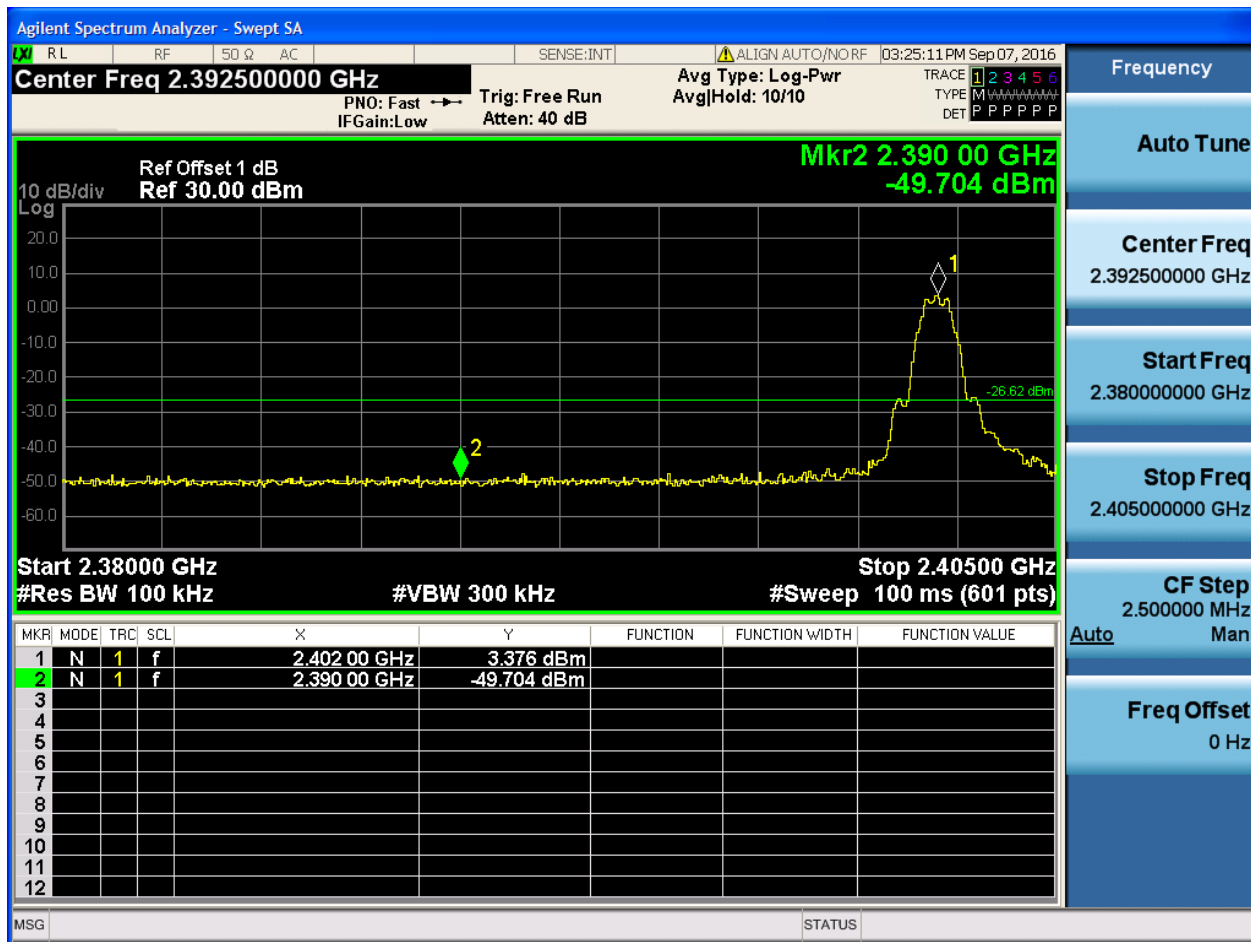
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	3.38	-49.70	pass
TM1_Ch39	H	2480	3.47	-47.18	pass



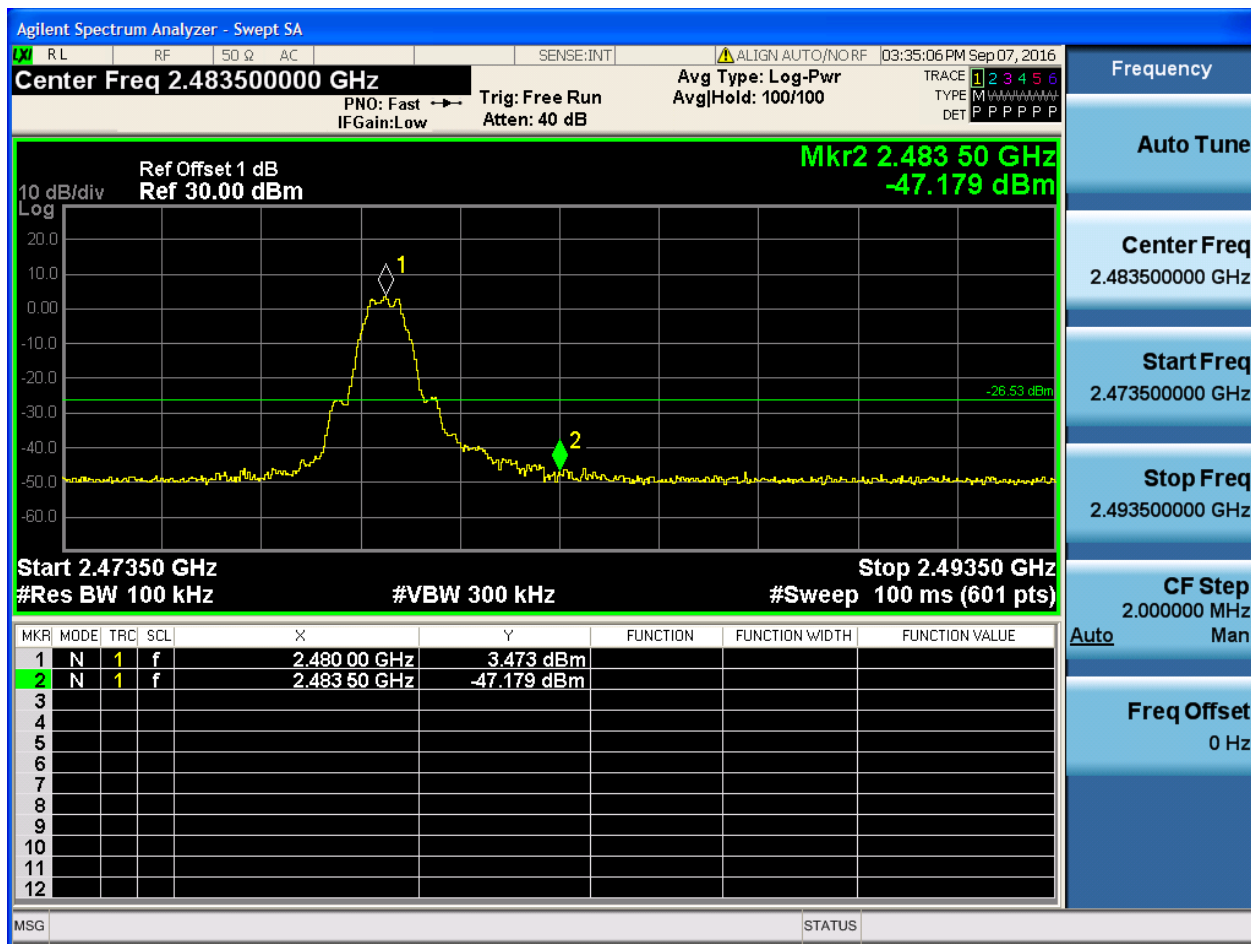
Part II - Test Plots

2.1TM1_Ch0@Ant 1





2.2TM1_Ch39@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]-20[dBm], see test plots for detailed".

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	Ant 1	3.49	<limit	pass
TM1_Ch19	M	2440	Ant 1	3.41	<limit	pass
TM1_Ch39	H	2480	Ant 1	3.65	<limit	pass



Part II - Test Plots

2.1TM1_Ch0@Ant 1

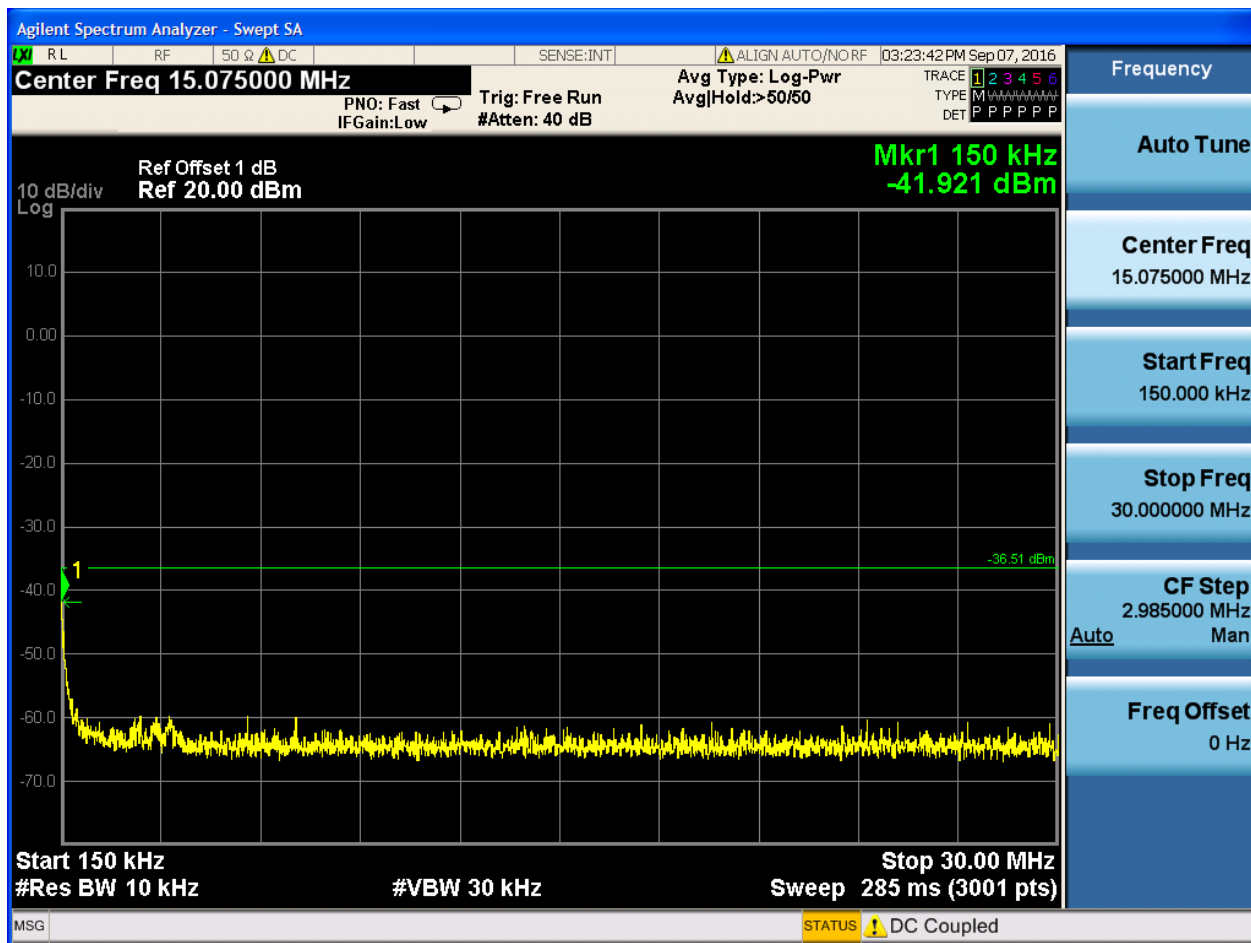
Pref:

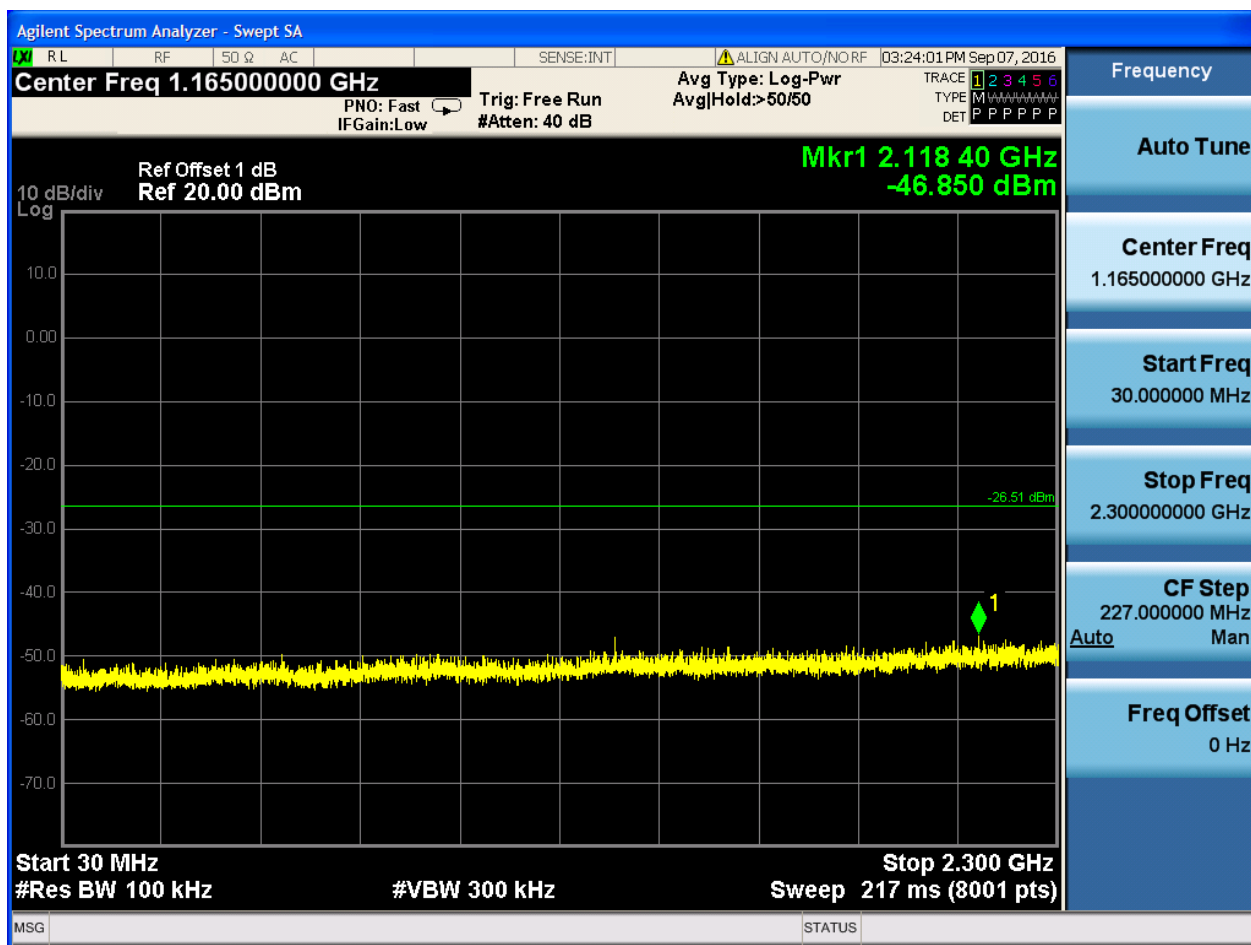


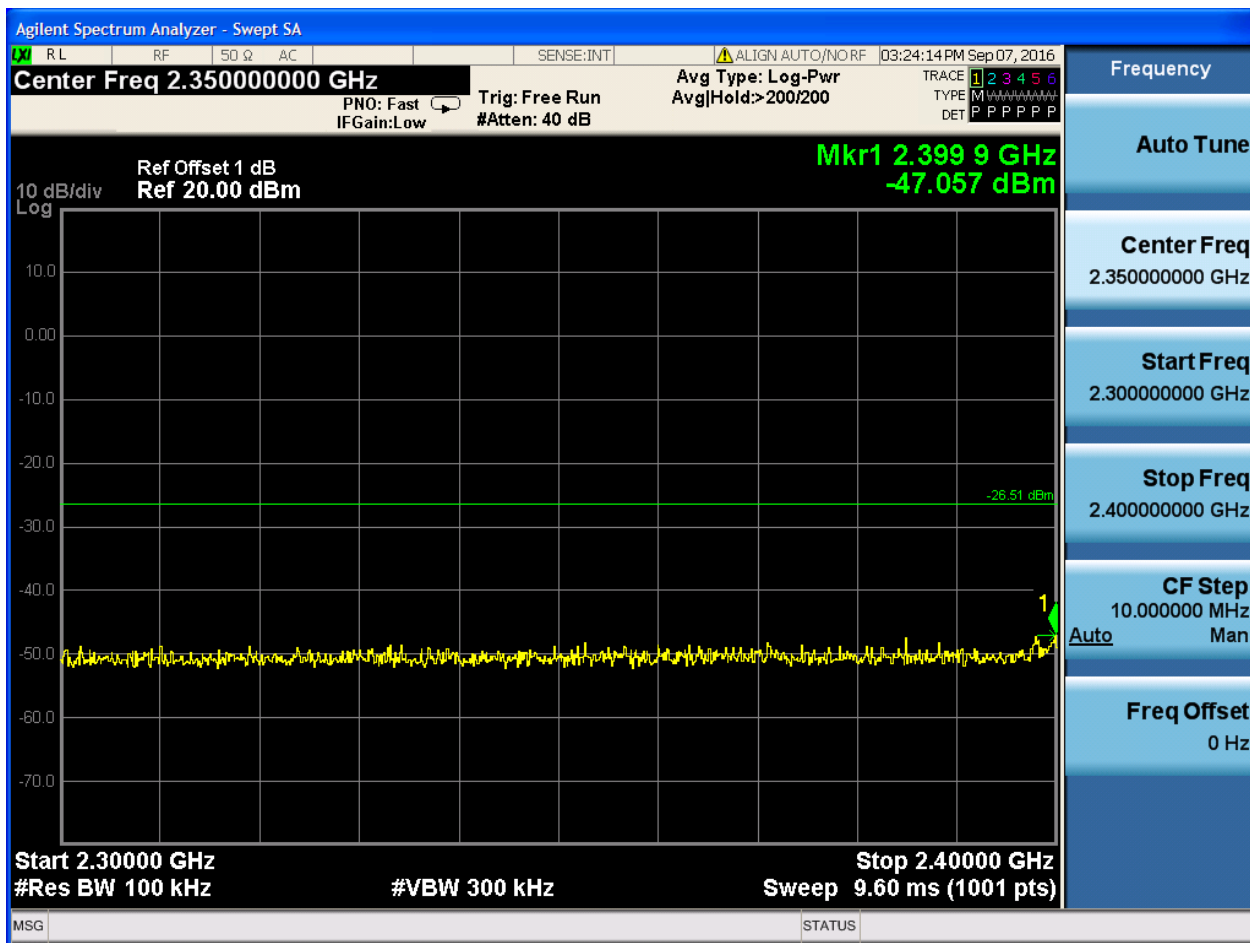


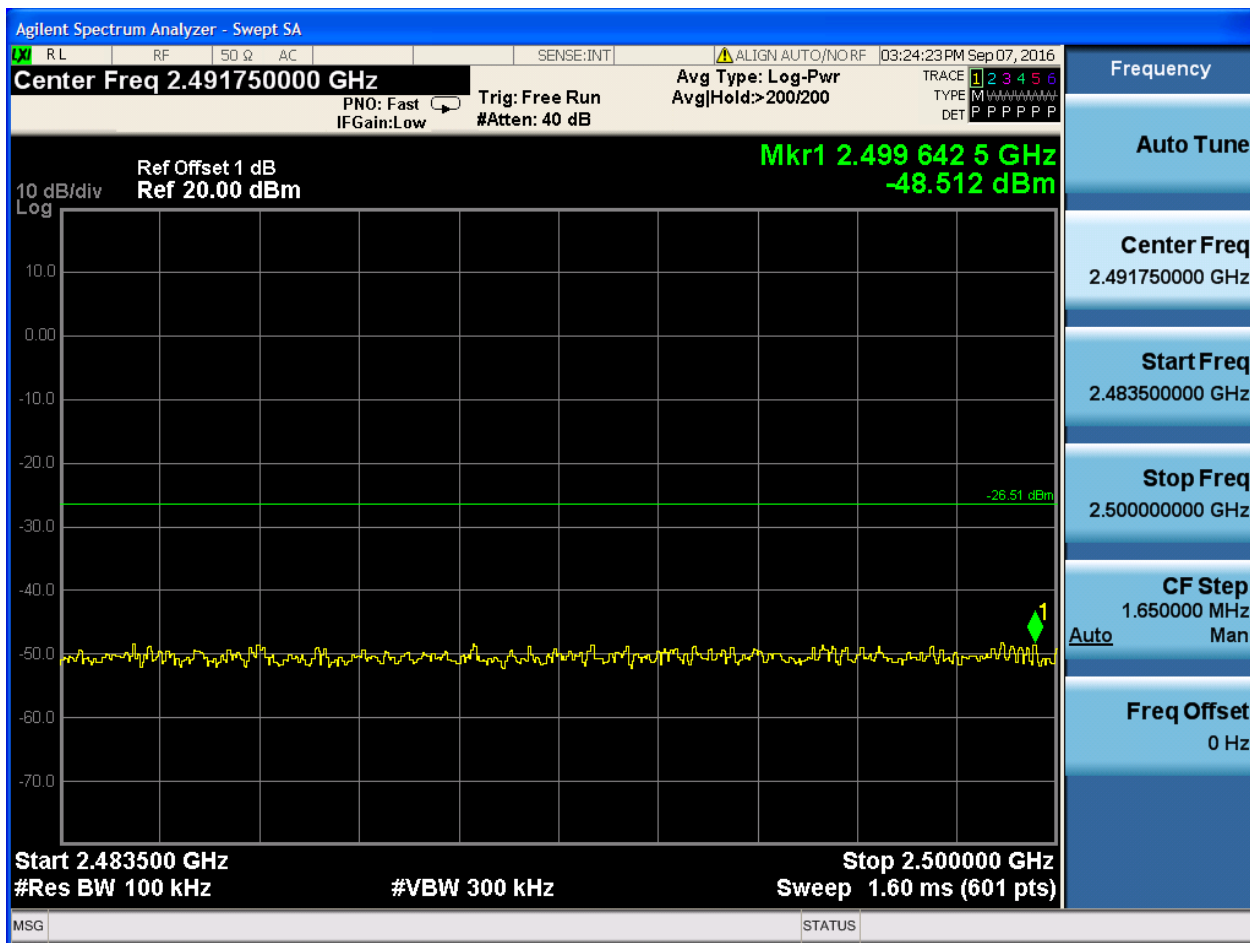
Puw:







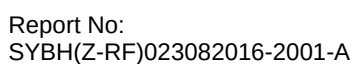








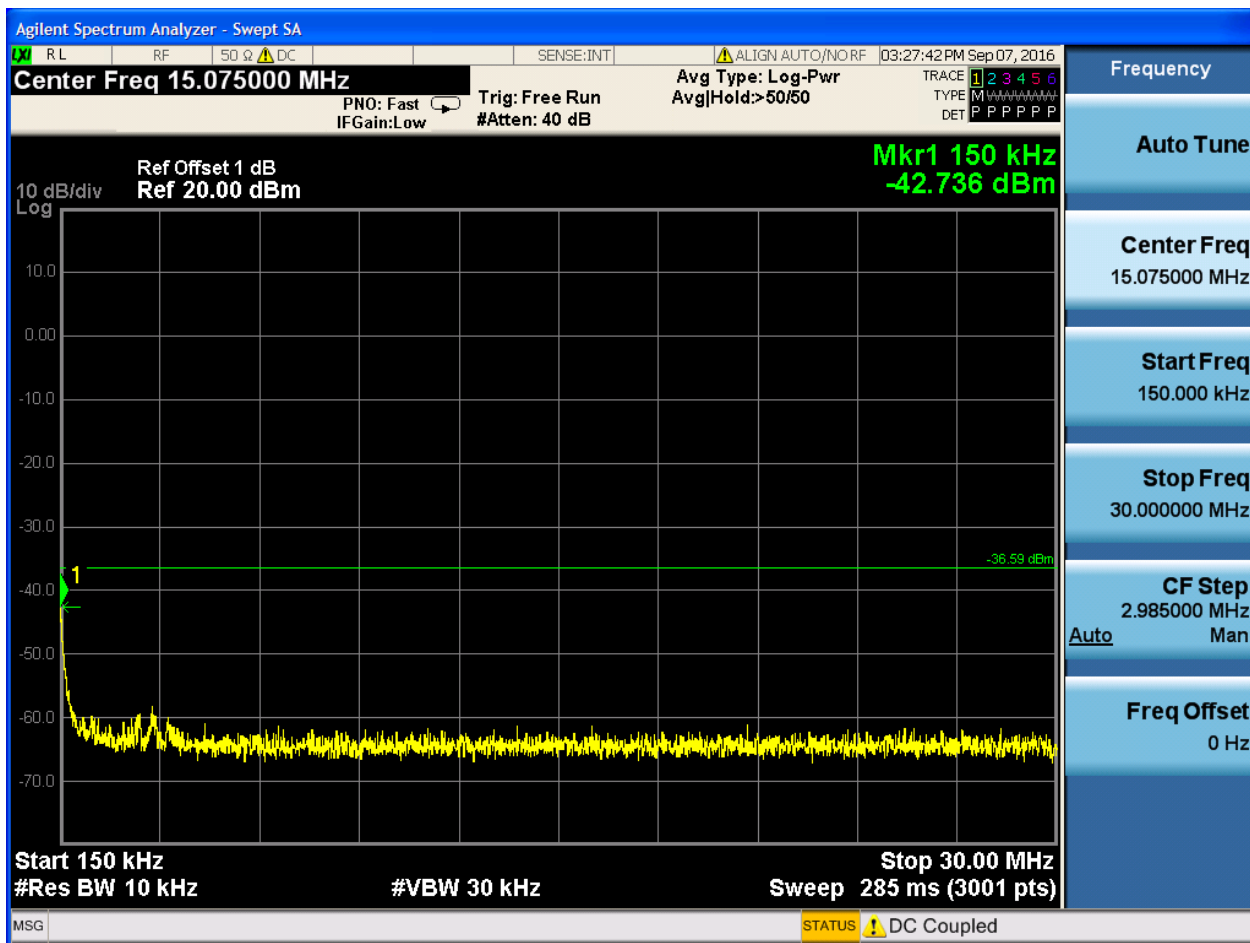
Pref:

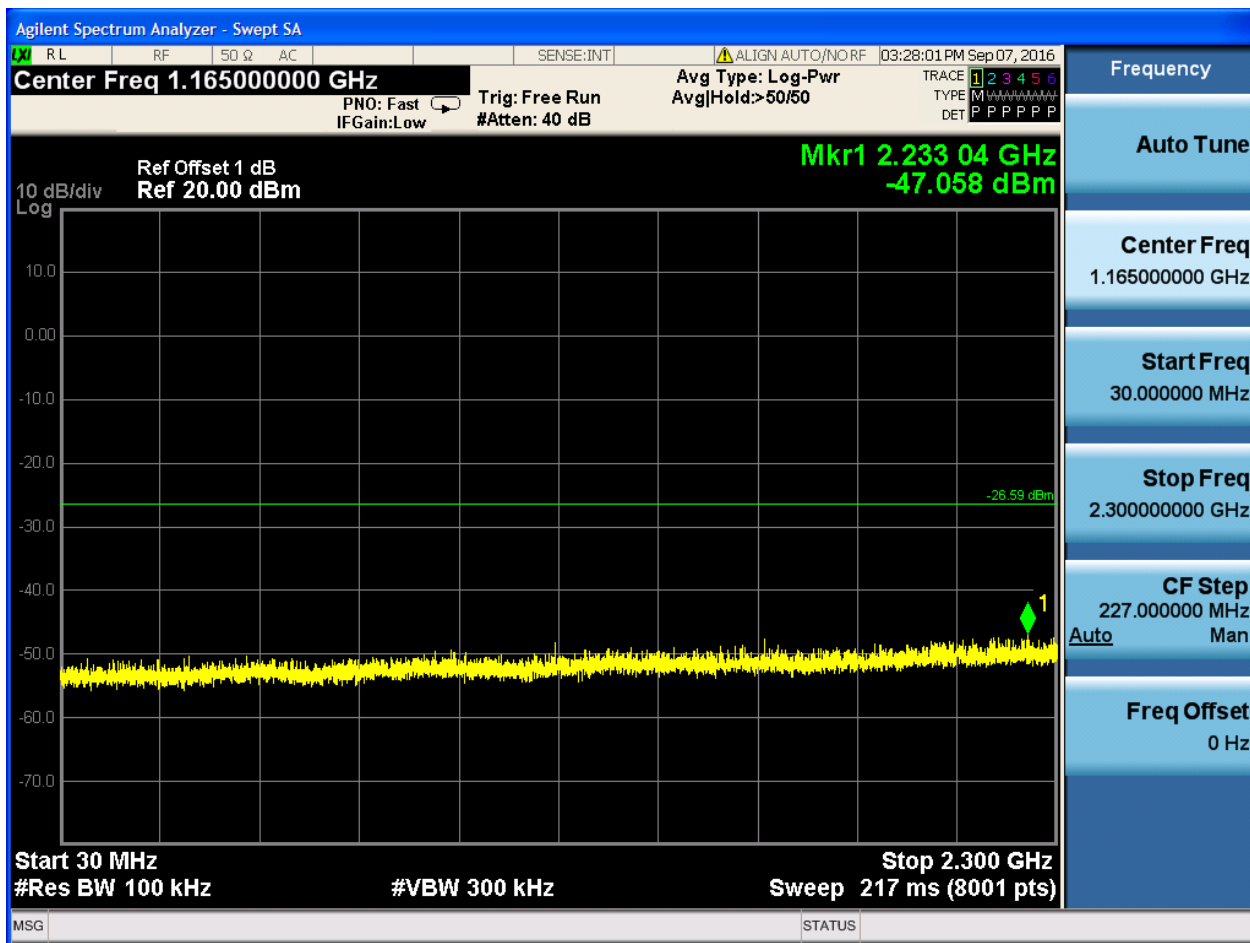


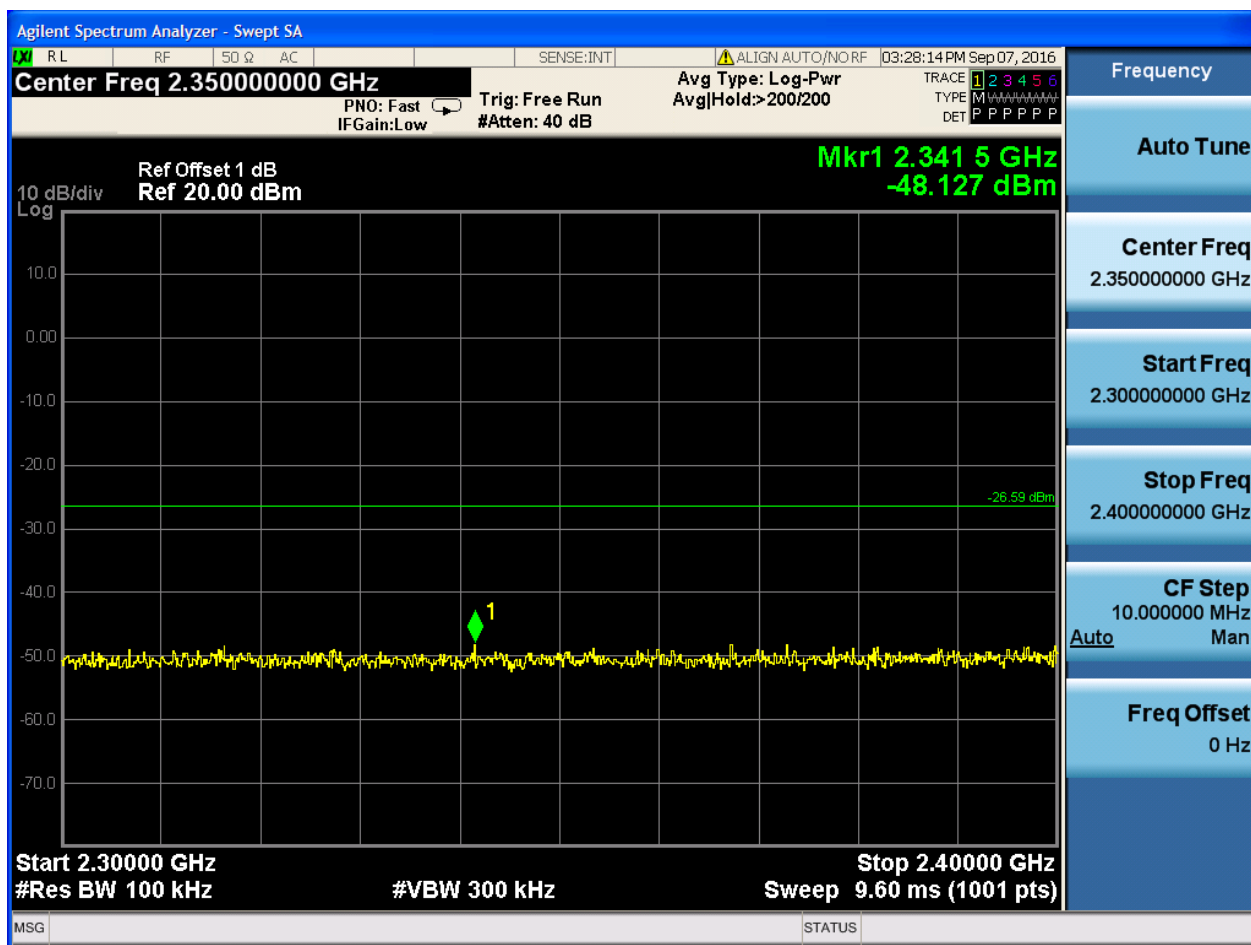


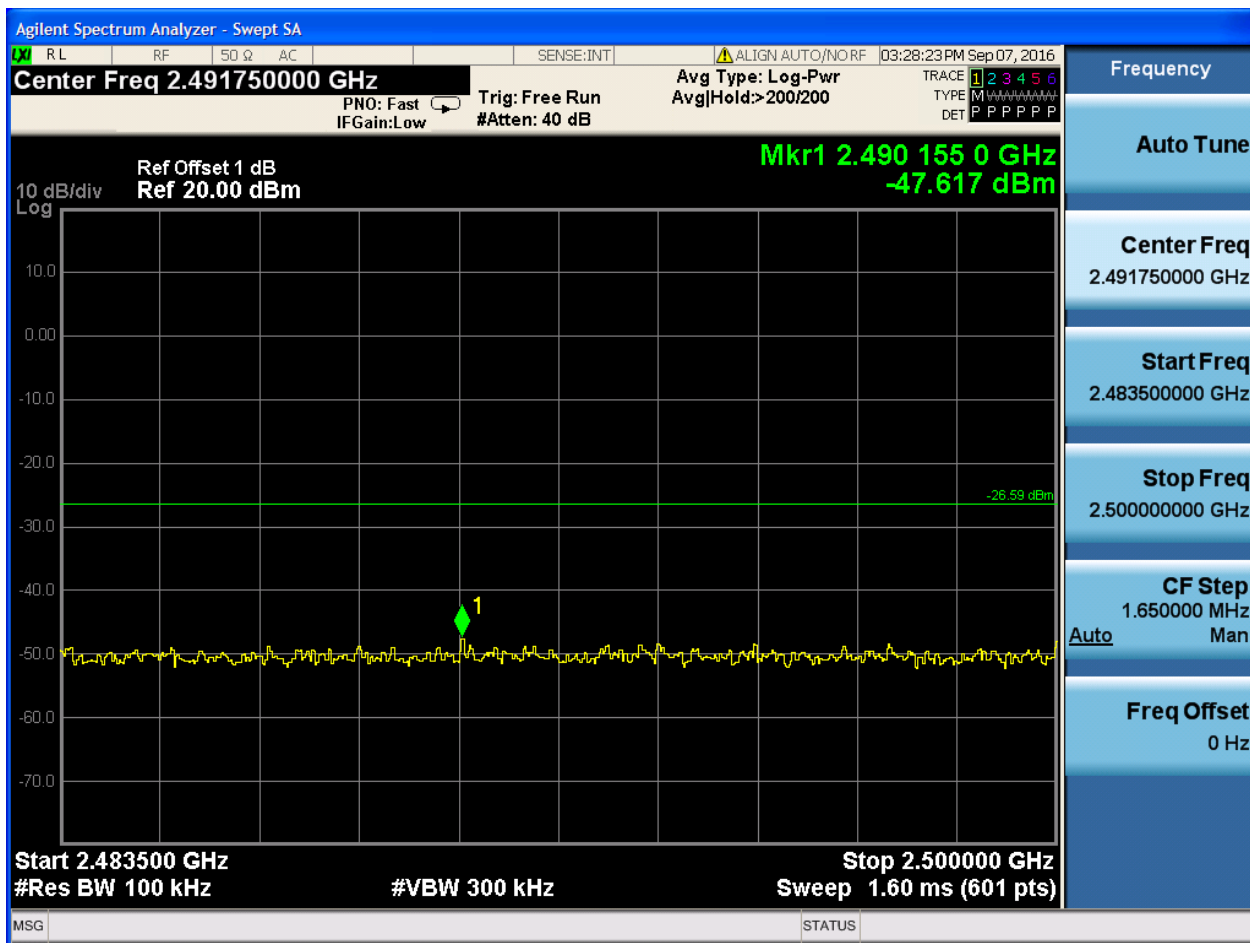
Puw:

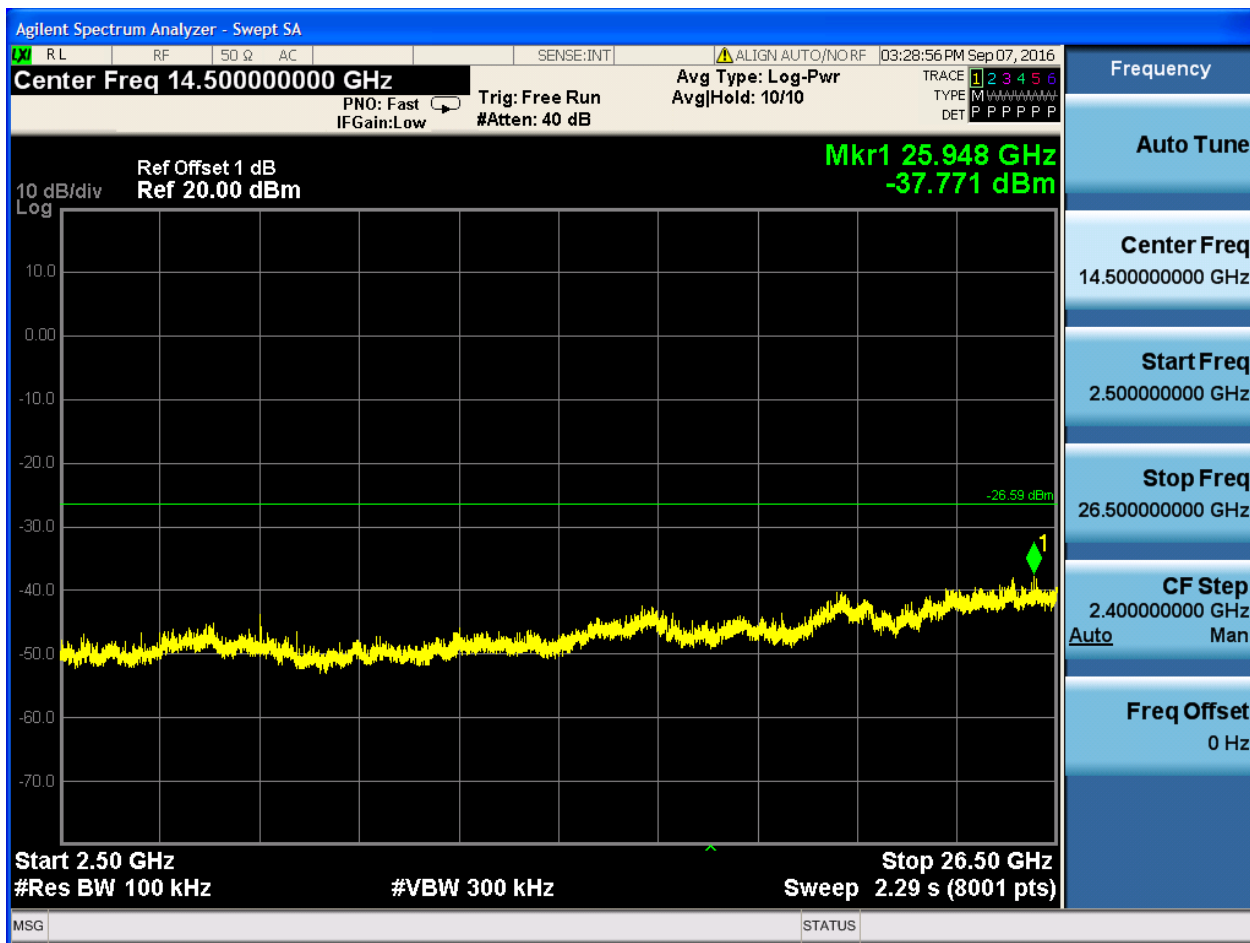












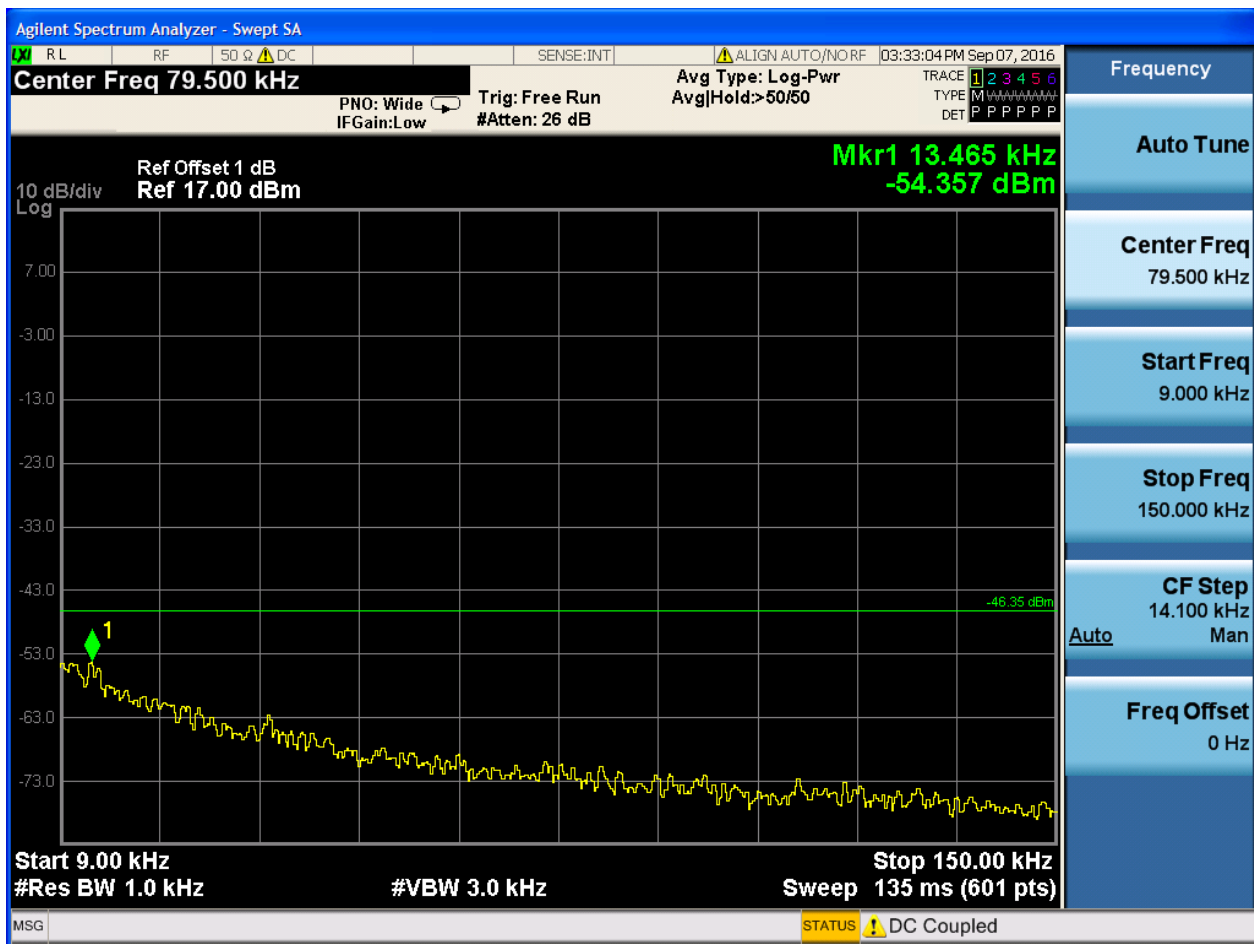
2.3TM1_Ch39@Ant 1

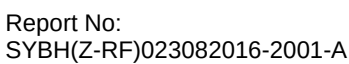
Pref:

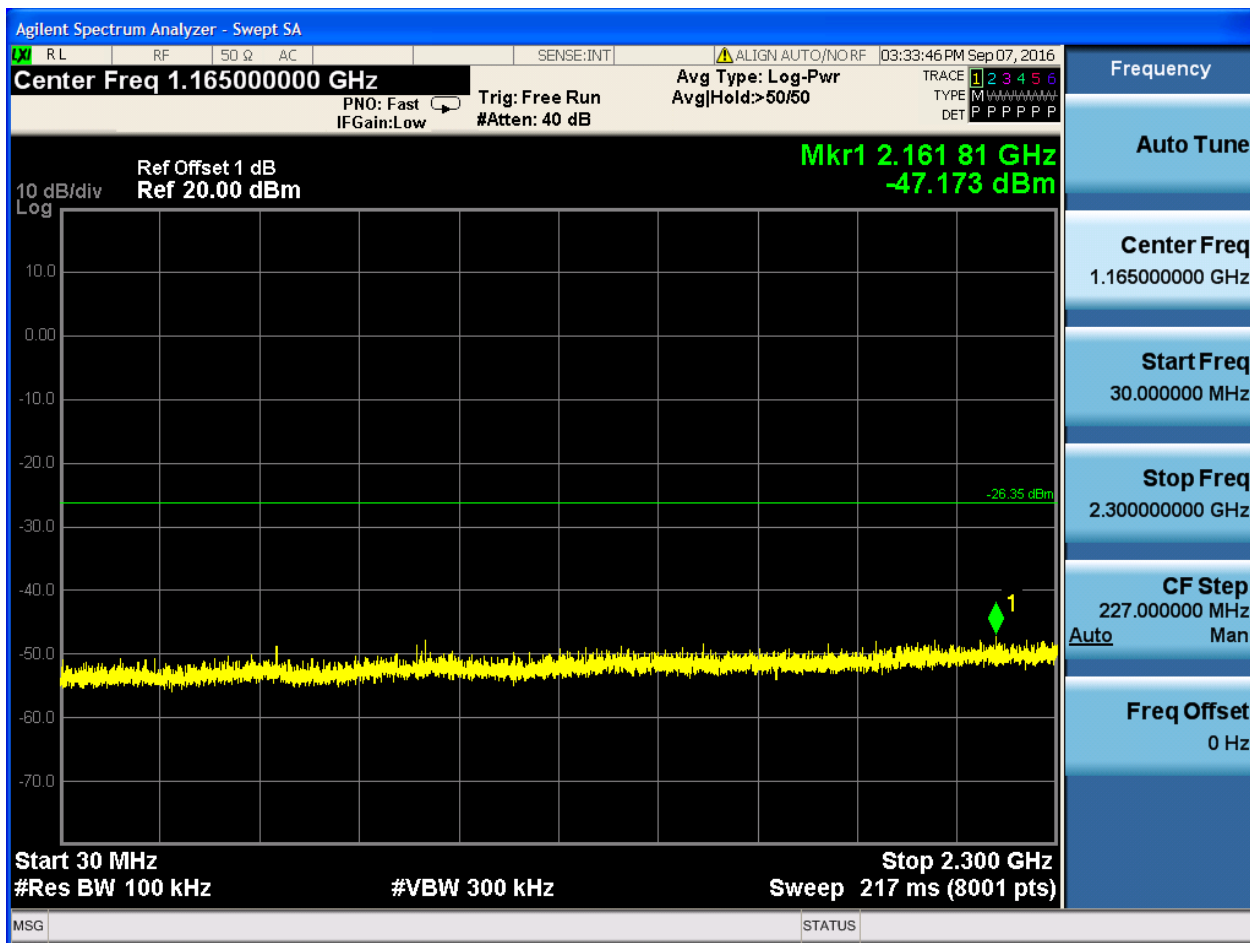


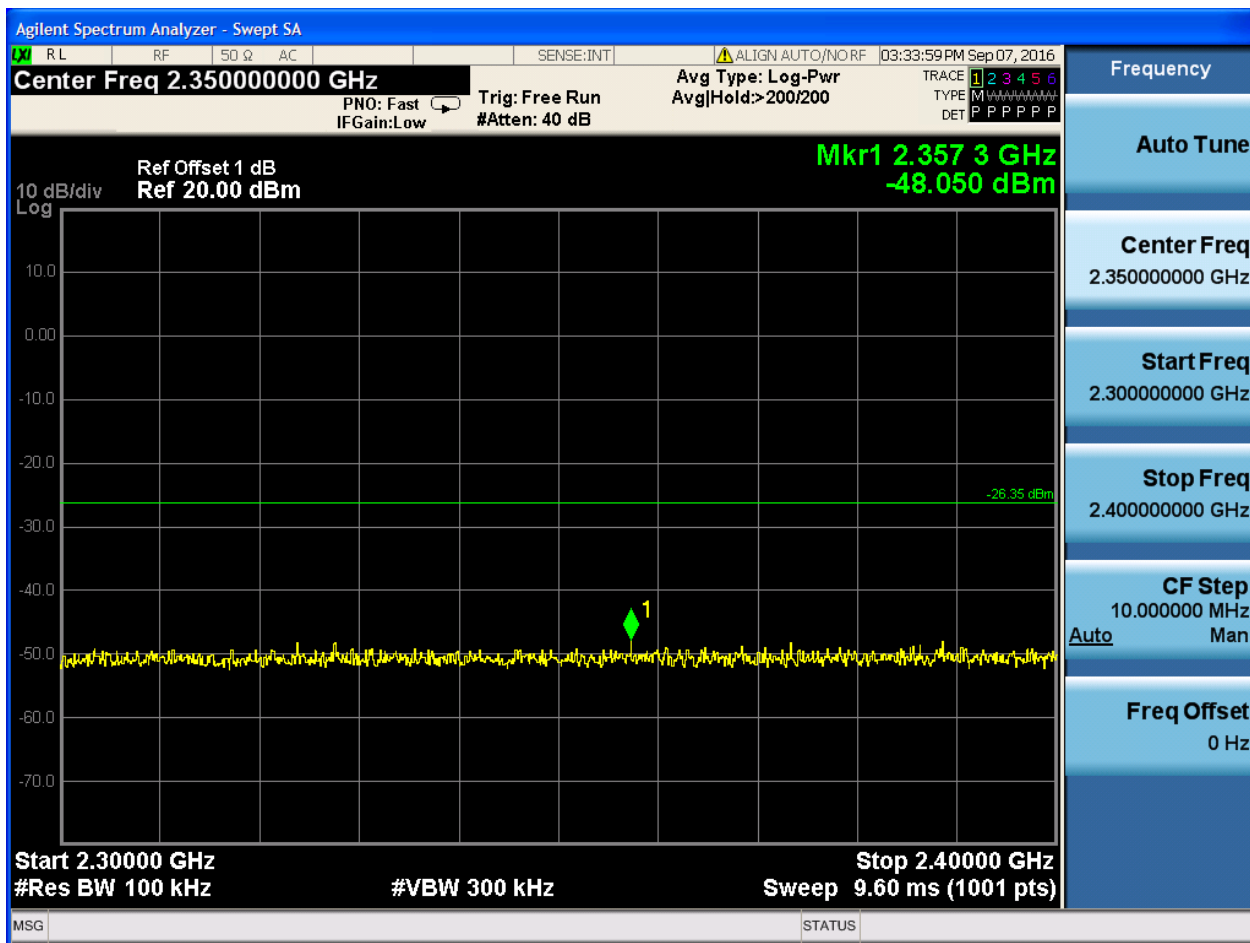


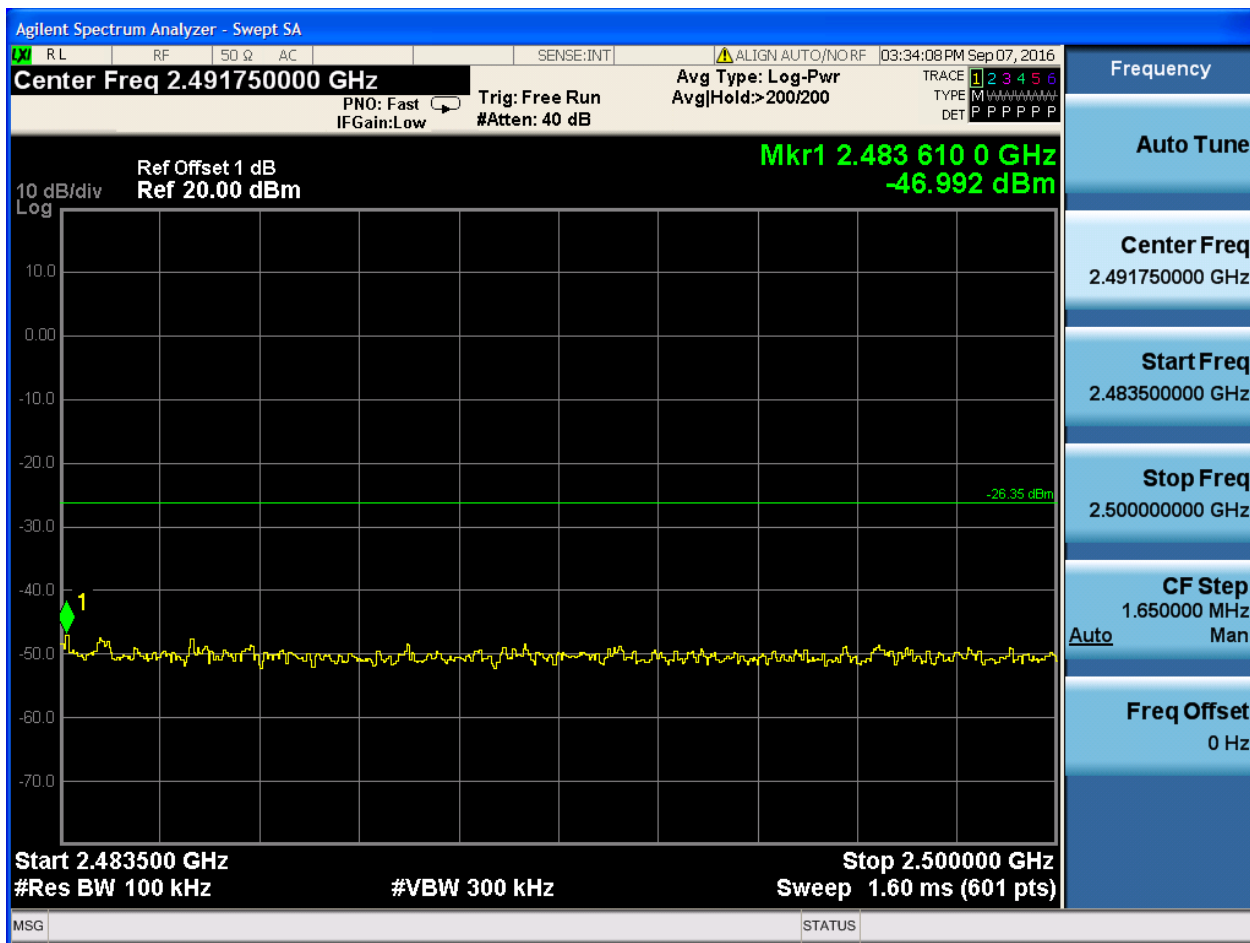
Puw:













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

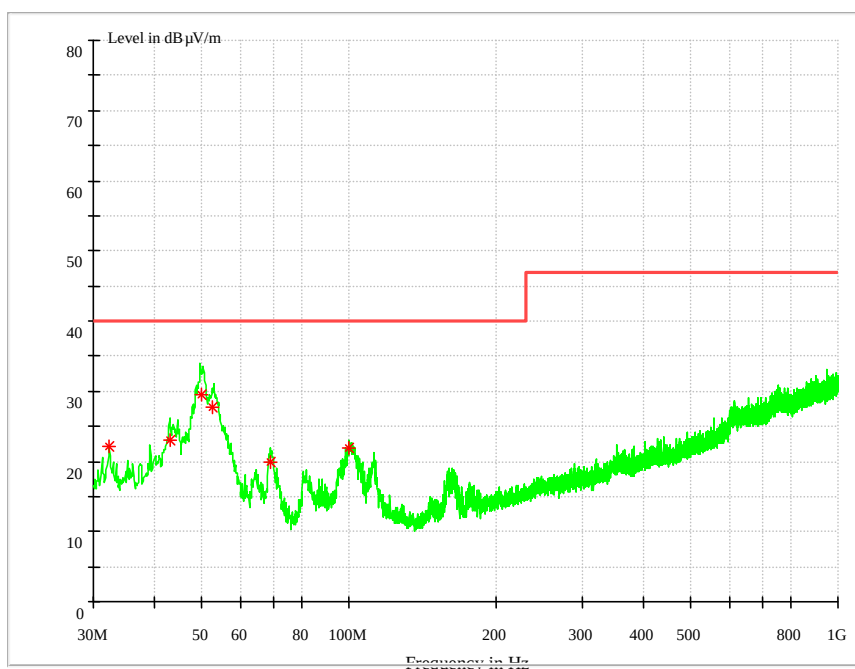
1.1 Part 1: Testing Range of “9 kHz to 30MHz”

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 (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Trans d. (dB)
32.21735	22.12	40	17.88	150	V	160	14.9
43.13335	23.10	40	16.90	142	V	55	15.3
49.93275	29.45	40	10.55	100	V	131	15.2
52.51990	27.72	40	12.28	100	V	259	15.0
68.90420	19.85	40	20.15	100	H	315	11.4
100.24580	21.97	40	18.03	150	H	277	13.8

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

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

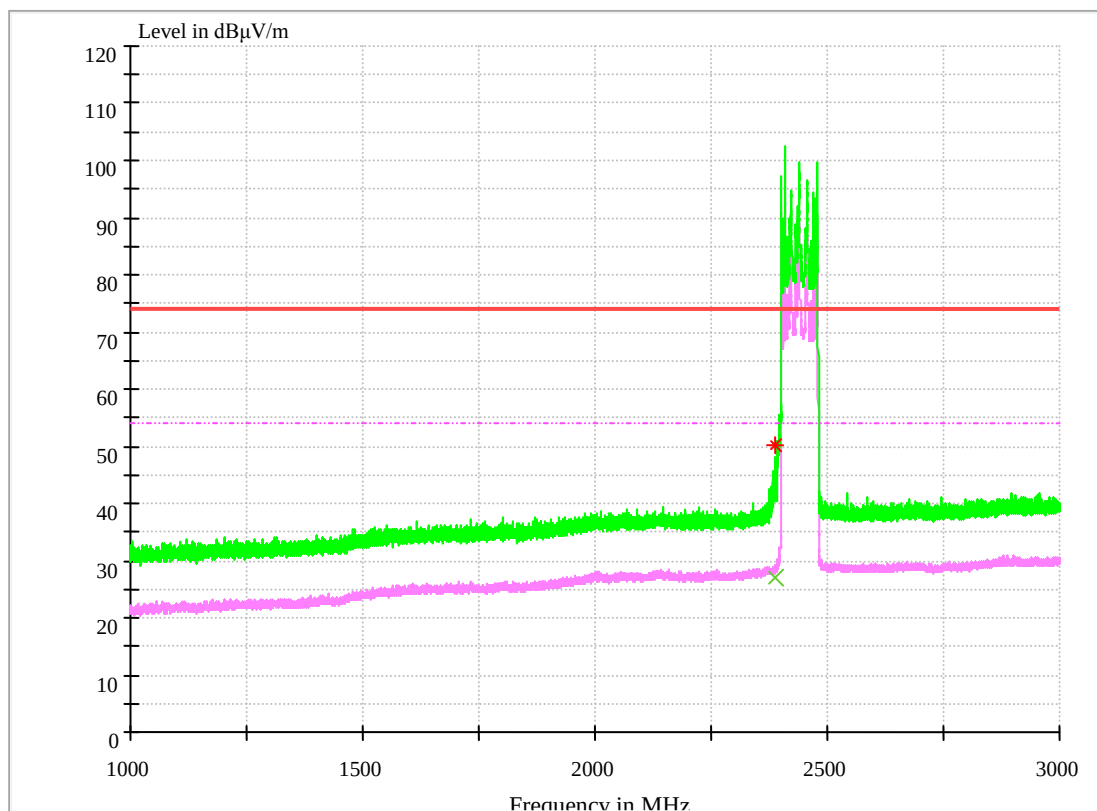
Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Test Mode:

1.4.1 Test Mode: TM1

1.4.1.1 Channel 0

Full Spectrum



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390.000000	27.01	54.00	26.99	135.0	H	276.0	-7.6

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2390.000000	50.15	74.00	23.85	135.0	V	197.0	-7.6

Note2:

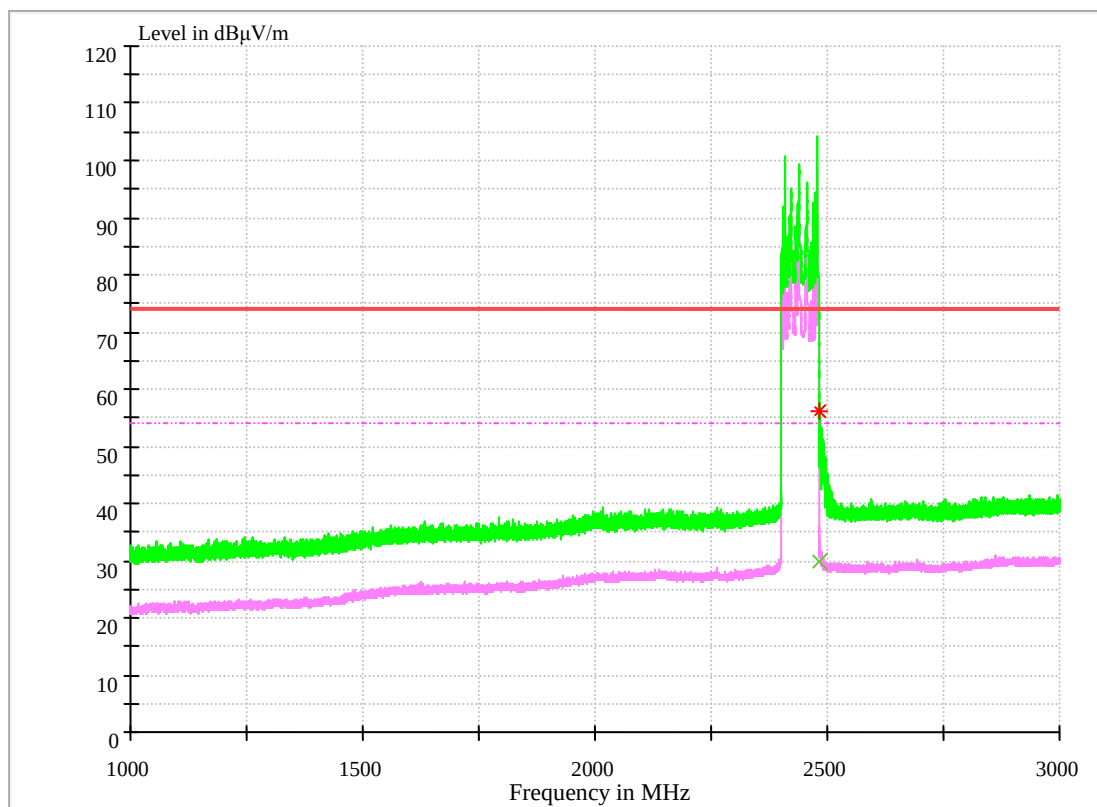
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

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

2, Margin=Limit - Level

1.4.1.2 Channel 39

Full Spectrum



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.500000	31.39	54.00	22.61	150.0	H	208.0	-5.9

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.500000	52.81	74.00	21.19	150.0	V	290.0	-5.9

Note2:

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

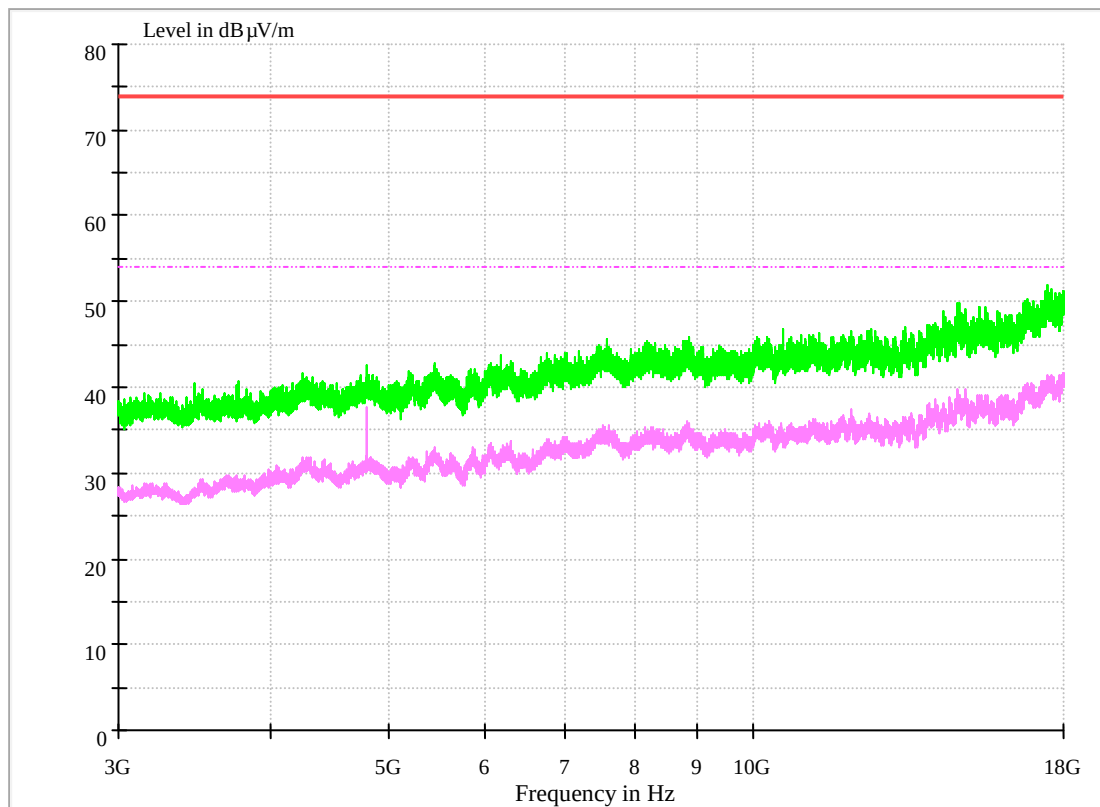
The reading level is calculated by software which is not shown in the sheet.

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 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

Full Spectrum



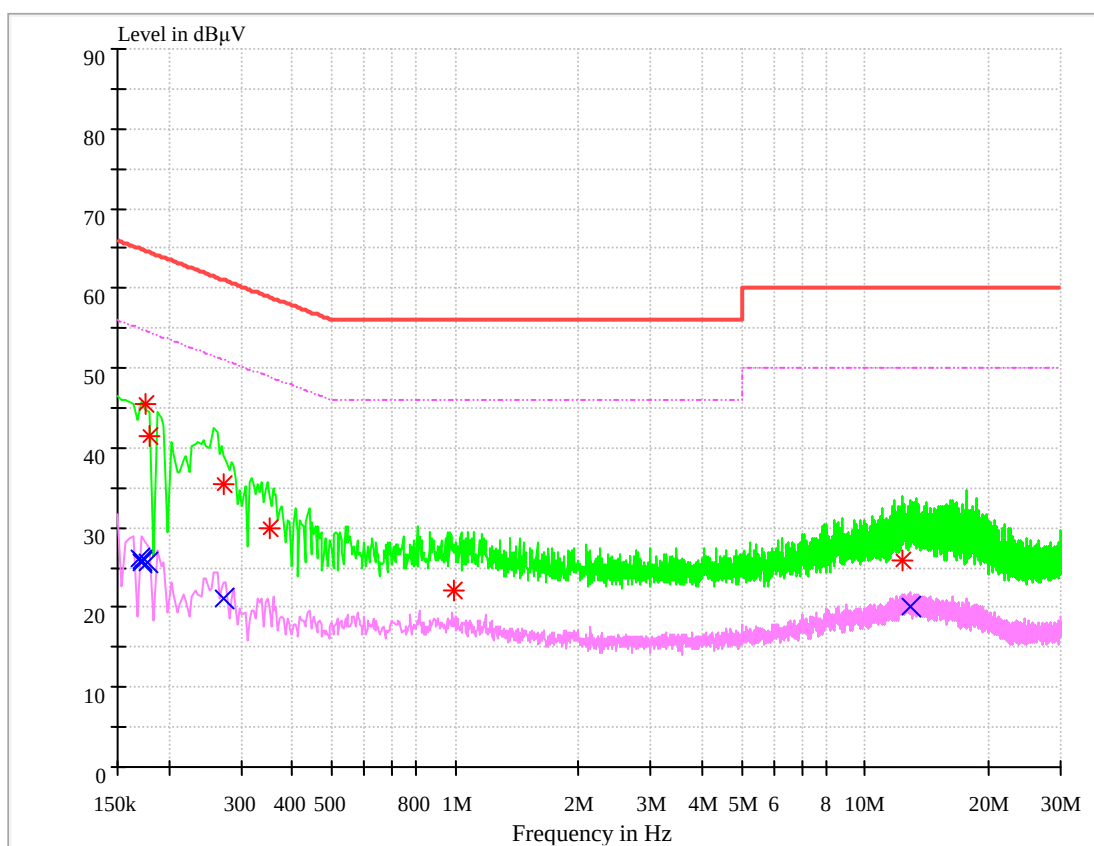
1.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

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
0.169675	26.2	54.98	9.7	28.78	N	FLO
0.171424	25.87	54.89	9.7	29.02	N	FLO
0.172498	25.55	54.84	9.7	29.29	N	FLO
0.17855	25.6	54.55	9.7	28.95	L1	FLO
0.272381	21.14	51.05	9.7	29.91	N	FLO
12.857506	20.16	50	10	29.84	L1	FLO

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V)	Limit (dBμ V)	Transd. (dB)	Margin (dB)	Line	PE
0.176321	45.43	64.66	9.7	19.23	N	FLO
0.179219	41.54	64.52	9.7	22.98	N	FLO
0.2728	35.33	61.03	9.7	25.7	L1	FLO
0.354638	29.95	58.85	9.7	28.9	N	FLO
0.995423	22.04	56	9.7	33.96	N	FLO
12.342268	25.98	60	10	34.02	L1	FLO

Note2:

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