Engineering Solutions & Electromagnetic Compatibility Services

FCC & IC Certification Report

Harris Corporation
221 Jefferson Ridge Parkway
Lynchburg, VA 24501
Contact: Fred Shabestar
fshabestar@harris.com

XG-75M 700/800 MHz Mobile Radio
Model # XG-75M/M7300/M5300,35W

FCC ID: OWDTR-0132-E
IC: 3636B-0132

April 23, 2015

Standards Referenced for this Report	
Part 2: 2014	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
Part 90: 2014	Private Land Mobile Radio Services
TIA-EIA-603-C August 2004	Land Mobile FM or PM Communications Equipment – Measurement and Performance Standards
RSS-119 Issue 11	Land Mobile and Fixed Radio Transmitters and Receivers 27.41 to 960.0 MHz

Report Prepared By: Daniel Baltzell

Document Number: 2014021

These test(s) are accredited under Rhein Tech Laboratories, Inc. ISO/IEC 17025 accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation AT-1445.

Frequency Range (MHz)	Rated Conducted Output Power (W)	Frequency Tolerance (ppm)	Transmit Mode	Emission Designator
769 – 775 (FCC) 768 – 776 (IC) 799 – 805 (FCC) 798 – 806 (IC)	1.0 – 35.0	0.4	Analog FM (NB)	11K0F3E
806 - 824 851 – 869	1.0 – 35.0	0.4	Analog FM (NPSPAC)	14K0F3E
806 - 824 851 – 869	1.0 – 35.0	0.4	Analog FM (SMR)	16K0F3E
769 – 775 (FCC) 768 – 776 (IC) 806 - 824	1.0 – 35.0	0.4	4-level FSK, digitized data or voice, P25 Phase 1, 9.6 kbps	8K40F1D/E
806 - 824	1.0 – 35.0	0.4	2-level FSK, digitized data or voice, EDACS (NB 9600)	9K90F1D/E
799 – 805 (FCC) 798 – 806 (IC)	1.0 – 35.0	0.4	2-level FSK, digitized data or voice, EDACS (NB 4800)	7K10F1D/E
799 – 805 (FCC) 798 – 806 (IC) 806 - 824	1.0 – 35.0	0.4	2-level FSK, digitized data or voice, EDACS (NPSPAC)	11K9F1D/E
799 – 805 (FCC) 798 – 806 (IC) 806 - 824 851 - 869	1.0 – 35.0	0.4	2-level FSK, digitized data or voice, EDACS (SMR)	14K2F1D/E
799 – 805 (FCC) 798 – 806 (IC)	1.0 – 35.0	0.4	4-level FSK, digitized data or voice, OTP (NB)	8K10F9W
799 – 805 (FCC) 798 – 806 (IC) 806 - 824	1.0 – 35.0	0.4	4-level FSK, digitized data or voice, OTP (WB)	12K1F9W
799 – 805 (FCC) 798 – 806 (IC) 806 – 824	1.0 – 35.0	0.4	4-level FSK, digitized data or voice, OTP (NPSPAC)	12K1F9W
799 – 805 (FCC) 798 – 806 (IC) 806 - 824	1.0 – 35.0	0.4	P25 Phase 2	8K10DXW

700 MHz Band Low Power Channels		
Channel No. (6.25 kHz)	**Channel No. (12.5 kHz)**	**12.5 kHz Channel Spaced Tx Center Frequencies**
1	1-2	769.006250
2		
3	3-4	769.018750
4		
5	5-6	769.031250
6		
7	7-8	769.043750
8		
9	9-10	769.056250
10		
11	11-12	769.068750
12		
949	949-950	774.931250
950		
951	951-952	774.943750
952		
953	953-954	774.956250
954		
955	955-956	774.968750
956		
957	957-958	774.981250
958		
959	959-960	774.993750
960		
961	961-962	799.006250
962		
963	963-964	799.018750
964		
965	965-966	799.031250
966		
967	967-968	799.043750
968		
969	969-9700	799.056250
970		
971	971-972	799.068750
972		
1909	1909-1910	804.931250
1910		
1911	1911-1912	804.943750
1912		
1913	1913-1914	804.956250
1914		
1915	1915-19166	804.968750
1916		
1917	1917-1918	804.981250
1918		
1919	1919-19200	804.993750

1920		

* these itinerant channels in the above table below are limited to 2.0 W ERP per 90.531(b)(4)

Table of Contents

Table of Figures

Table of Tables

Table of Plots

Table of Appendixes

Table of Photographs

1 Test Result Summary

Test	FCC Reference	IC Reference	Result
RF Power Output	2.1046(a), 90.541(b), 90.542(a)(6)	RSS-119 5.4	Complies
Spurious Emissions at Antenna Terminals	2.1051, 90.210	RSS-119 5.5, 5.8	Complies
Field Strength of Spurious Radiation	2.1053(a), 90.543(c); 90.210	RSS-119 5.5, 5.8	Complies
Occupied Bandwidth/ Emission Masks	2.1049(c)(1), 90.543(d); 90.210	RSS-119 5.5, 5.8	Complies
Adjacent Channel Power	90.543	RSS-119 5.3	Complies
Frequency Stability vs. Temperature and Voltage	2.1055, 90.213, 90.539	N/A	Complies
Modulation Characteristics	2.1047(a)(b)	RSS-119 5.9	Complies
Transient Frequency Response	90.214	RSS-119 5.9	N/A

2 General Information

The following Certification Report is prepared on behalf of Harris Corporation in accordance with the Federal Communications Commission and Industry Canada rules and regulations. The Equipment Under Test (EUT) was the XG-75M 700/800 MHz Mobile radio; FCC ID: OWDTR-0132-E, IC: 3636B-0132.

The radio is subject to FCC DoC. DoC testing was performed and the data is contained in a separate DoC report.

All measurements contained in this application were conducted in accordance with the applicable sections of FCC Rules and Regulations CFR 47 Parts 2 and 90. Calibration checks are performed regularly on the instruments, and all accessories including high pass filter, coaxial attenuator, preamplifier and cables.

2.1 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the parking lot of Rhein Tech Laboratories, Inc. 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report submitted to, and approved by, the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

2.2 Related Submittal(s)/Grant(s)

This is a new certification application for FCC and Industry Canada.

2.3 Grant Notes

Power listed is manufacturer's rated antenna terminal power, and is continuously variable from 1 W to rated power 35 W. For the mobile configuration of this device, the antenna(s) used for this transmitter must be installed to provide a separation distance from all persons as specified in the filing, and power in the 700 MHz band is limited to 30 W. For the Desk Top station version of the product, RF exposure, antenna selection and co-location are determined at the time of site licensing per requirements of Section 1.1037(b)(3)

2.4 Tested System Details

The test sample was received on February 11, 2015. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

The device was programmed for multiple modes of operation and modulation types.

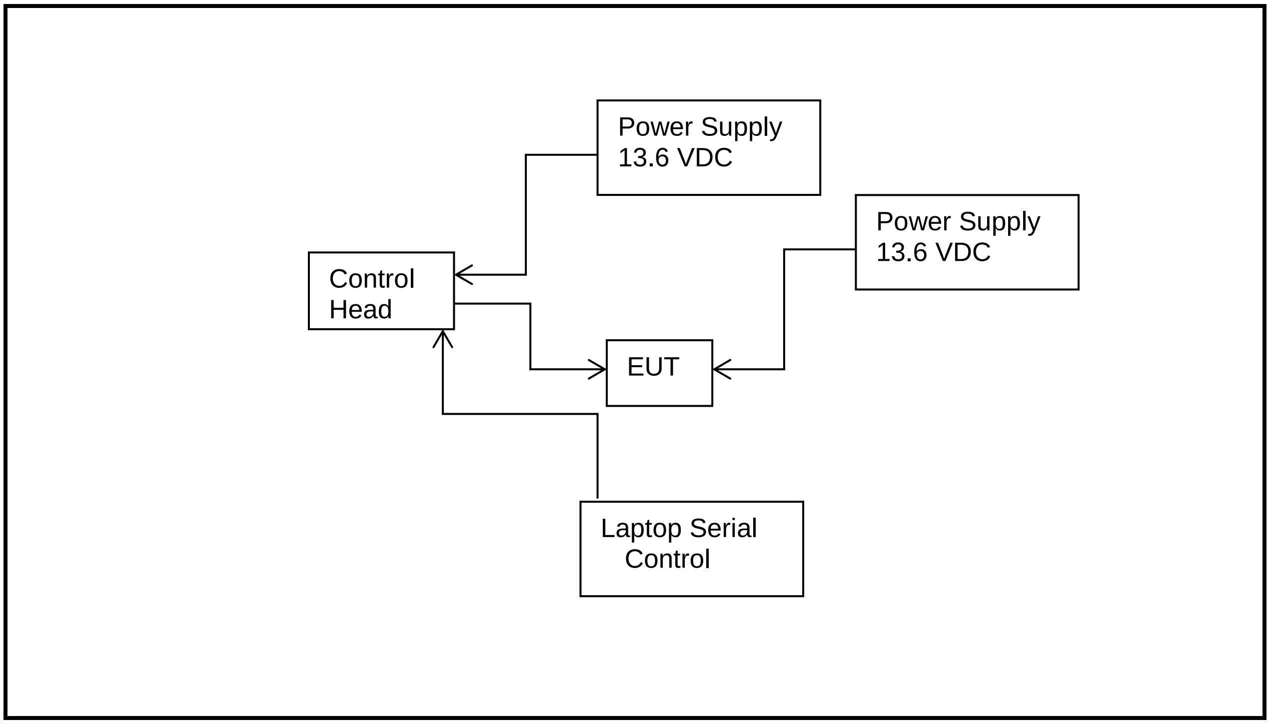
Table 2-1: Equipment Under Test (EUT)

Part	Manufacturer	Model #	PN/SN	FCC ID	RTL Bar Code
Mobile Radio	Harris Corporation	XG-75M/ M7300/M5300,35W	RU-144750-061 Rev. L/ A40209A00022 151	OWDTR-0132-E	21652

Table 2-2: Auxiliary Equipment

Part	Manufacturer	Model #	PN/SN	FCC ID	RTL Bar Code
13.8 VDC Power Supply	Alinco	DM-330MV	N/A	DoC	901438
Power Cable	Harris Corporation	N/A	N/A	N/A	N/A
Laptop	Sony	PCG-71314L	N/A	N/A	N/A
Control Head	Harris Corporation	CH-271	CU-23218-0004	N/A	21651
Microphone	Harris Corporation	N/A	MC-101616-041	N/A	21647
Dual Band 764-870 MHz 5 dBi Antenna Element	Harris Corporation	N/A	AN-225001-005	N/A	21655
Standard Roof Mount	Harris Corporation	N/A	AN-125001-006	N/A	N/A

Figure 2-1: Configuration of Tested System



3 FCC Rules and Regulations Part 2.1033(C)(8) Voltages and Currents through the Final Amplifying Stage

13.6 VDC / 12 A

4 FCC Rules and Regulations Part 2.1046(a): RF Power Output: Conducted, Part 90.541(b)/90.542(a)(6): Transmitting Power Limits; RSS-119 4.1 Transmitter Output Power

4.1 Test Procedure

ANSI/TIA/EIA-603-2004, section 2.2.1

The EUT was connected to a coaxial attenuator having a 50 Ω load impedance.

Manufacturer's rated power: 35 W; for the 2 W ERP used in the 700 MHz band on-scene incident channels, a power setting of 1.7 W is used.

4.2 Test Data

Table 4-1: RF Conducted Output Power – Measured

Frequency (MHz)	High Power (dBm)	High Power (W)	Low Power (dBm)	Low Power (W)
768.0125	45.8	38.0	32.2	1.7
769.0125	45.8	38.0	32.2	1.7
772.0125	45.8	37.7	32.2	1.7
774.9875	45.8	37.7	32.2	1.7
775.9875	45.8	37.6	32.2	1.7
798.0125	45.8	37.7	32.2	1.7
799.0125	45.8	37.6	32.2	1.7
801.0125	45.7	37.5	32.2	1.7
804.9875	45.7	37.2	32.1	1.6
806.0125	45.7	37.2	37.3	5.4
811.0125	45.7	37.2	37.3	5.4
815.9875	45.7	37.2	37.3	5.4
851.0125	45.7	37.2	37.3	5.4
856.0125	45.7	37.2	37.3	5.4
860.9875	45.6	36.3	37.2	5.2

Notes: Data presented is for analog mode. All other modes were investigated and found to have equivalent power within measurement tolerances.

Table 4-2: Test Equipment Used For Testing RF Power Output - Conducted

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/15
901536	Aeroflex	48-40-34	40 dB Attenuator	CB6627	10/6/15

Test Personnel:

Daniel Baltzell		March 10, 2015
EMC Test Engineer	Signature	Date of Test

5 FCC Rules and Regulations Part 2.1051: Spurious Emissions at Antenna Terminals; Part 90.210: Emission Limitations

5.1 Test Procedure

ANSI/TIA/EIA-603-2004, Section 2.2.13

The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer.

Device with digital modulation: Modulated to its maximum extent using a pseudo-random data sequence.

5.2 Test Data

Frequency range of measurement per Part 2.1057: 9 kHz to 10 x Fc

Limits: (43+10LOG P(W)) for wideband and 50 + 10 LOG P(W)) for narrowband

The following channels (in MHz) were investigated:

700 MHz	800 MHz
768.0125	806.0125
769.0125	811.0125
772.0125	815.9875
774.9875	851.0125
775.9875	856.0125
798.0125	860.9875
799.0125	
801.0125	
804.9875	

Both high and low power settings were checked; high power was found to be worst case and is presented. All modes were investigated and no emissions were found within 20 dB below the limit, no data is presented.

Table 5-1: Test Equipment Used For Testing Spurious Emissions

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/15
900948	Weinschel Corporation	47-10-43	Attenuator DC-18 GHz 10 dB 50W	BH1487	6/16/15
901128	Par Electronics	806-902 (25W)	UHF Notch Filter	N/A	7/1/15

Test Personnel:

Daniel Baltzell	Daniel W. Baltzell	March 10, 2015
EMC Test Engineer	Signature	Date of Test

6 FCC Rules and Regulations Part 90.543(a): Emission Limitations: ACP Requirements; RSS-119 4.3 Adjacent Channel Power (ACP) Measurement for Equipment in the Bands 764-776 MHz and 794-806 MHz

Effective October 23, 2007, transmitters designed to operate in the 769–775 MHz and 799–805 MHz frequency bands must meet the emission limitations in paragraphs (a) through (d) of this section. Transmitters operating in the 763–768 MHz and 793–798 MHz bands must meet the emission limitations in (e) of this section.

6.1 Test Procedure

ANSI/TIA-603-C-2004 2.2.14 Unwanted Emissions: Adjacent Channel Power Ratio

Device with digital modulation: Modulated to its maximum extent using a pseudo-random data sequence.

For a Mobile transmitter designed to operate with a 12.5 kHz channel bandwidth, the ACP shall be in accordance with the values in the following table:

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACP Relative (dBc)
(+/-)9.375	6.25	-40
(+/-)15.625	6.25	-60
(+/-)21.875	6.25	-60
(+/-)37.5	25	-60
(+/-)62.5	25	-65
(+/-)87.5	25	-65
(+/-)150	100	-65
(+/-)250	100	-65
(+/-)350	100	-65
>400 kHz to 12 MHz	30(s)	-75
12 MHz to paired receive band	30(s)	-75
In the paired receive band	30(s)	-100

For a Mobile transmitter designed to operate with a 25 kHz channel bandwidth, the ACP shall be in accordance with the values in the following table:

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACP Relative (dBc)
(+/-)15.625	6.25	-40
(+/-)21.875	6.25	-60
(+/-)37.5	25	-60
(+/-)62.5	25	-65
(+/-)87.5	25	-65
(+/-)150	100	-65
(+/-)250	100	-65
(+/-)350	100	-65
>400 kHz to 12 MHz	30(s)	-75
12 MHz to paired receive band	30(s)	-75
In the paired receive band	30(s)	-100

FCC Rules and Regulations 90.543(b)

Setting Reference Level - 90.543(b)(1): Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth to the channel size. Set the frequency offset of the measurement to zero and adjust the center frequency of the spectrum analyzer to give the power level in the measurement bandwidth. Record this power as the reference power level.

Measuring the power level at the frequency offset <600 kHz - §90.543(b)(2): Using a spectrum analyzer capable of adjacent channel power (ACP) measurements, set the measurement bandwidth as shown in the table. Measure ACP in dBm. These measurements are made at maximum power. Calculate the coupled power by subtracting the measurements made in this step from the reference power level. The absolute ACP values must be less than the values given in the table for each condition.

Measuring the power level at the frequency offset >600 kHz - §90.543(b)(3): Set the spectrum analyzer to 30 kHz resolution bandwidth, 1 MHz video bandwidth and sample detection mode. Sweep +/-6 MHz from the carrier frequency. Set the reference level to the RMS value of the transmitter power and note the power. The response at frequencies >600 kHz must be less than the values listed in the table.

6.2 Test Data

Plot 6-1: Adjacent Channel Power - 798.0125 MHz; Analog NB (9.375 kHz - 350 kHz)

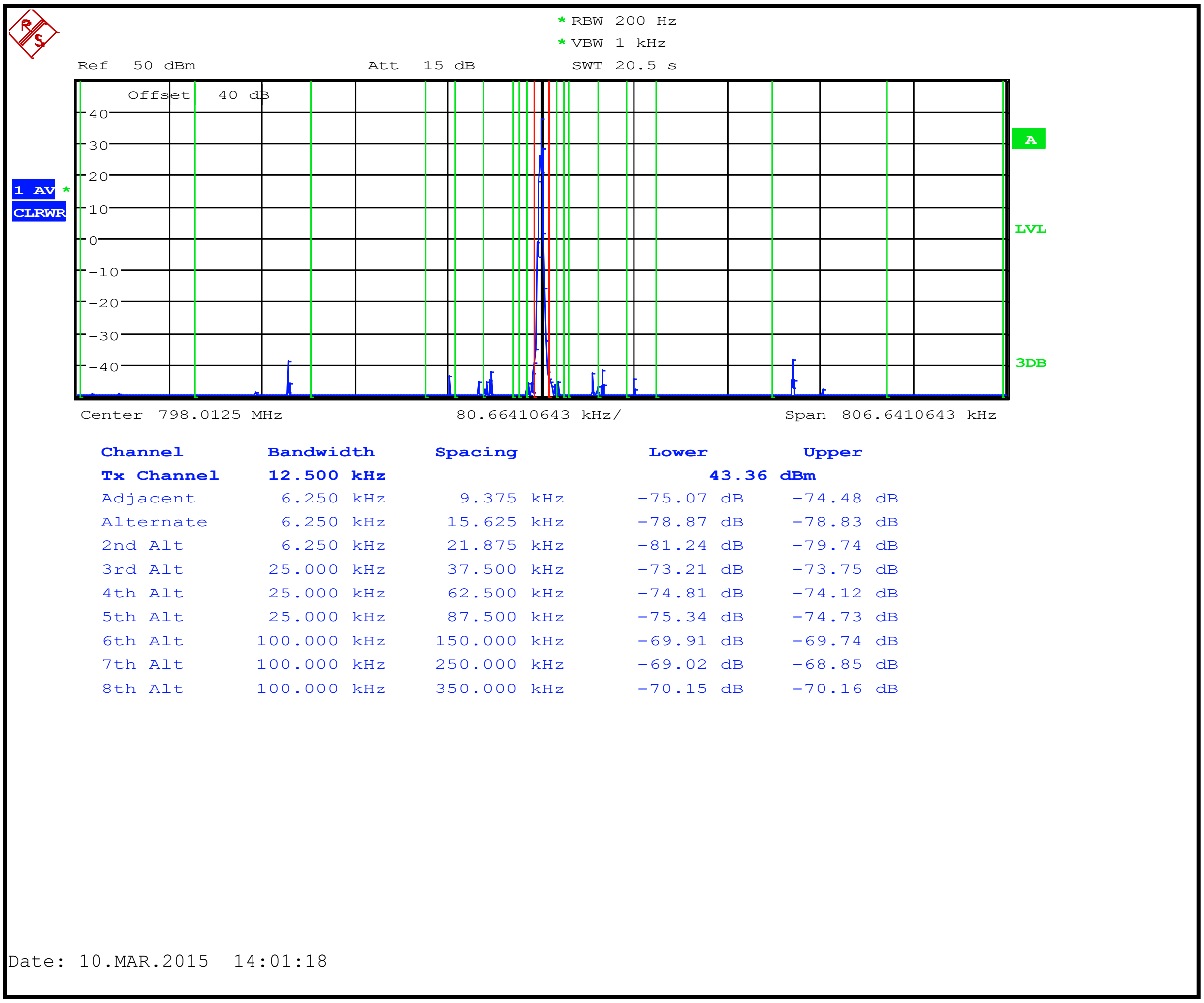


Table 6-1: Adjacent Channel Power - 798.0125 MHz; Analog NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-84.6
12 MHz to receive band	30(s)	-75	-102.4
In receive band	30(s)	-100	-104.1

Plot 6-2: Adjacent Channel Power – 799.0125 MHz; Analog NB (9.375 kHz - 350 kHz)

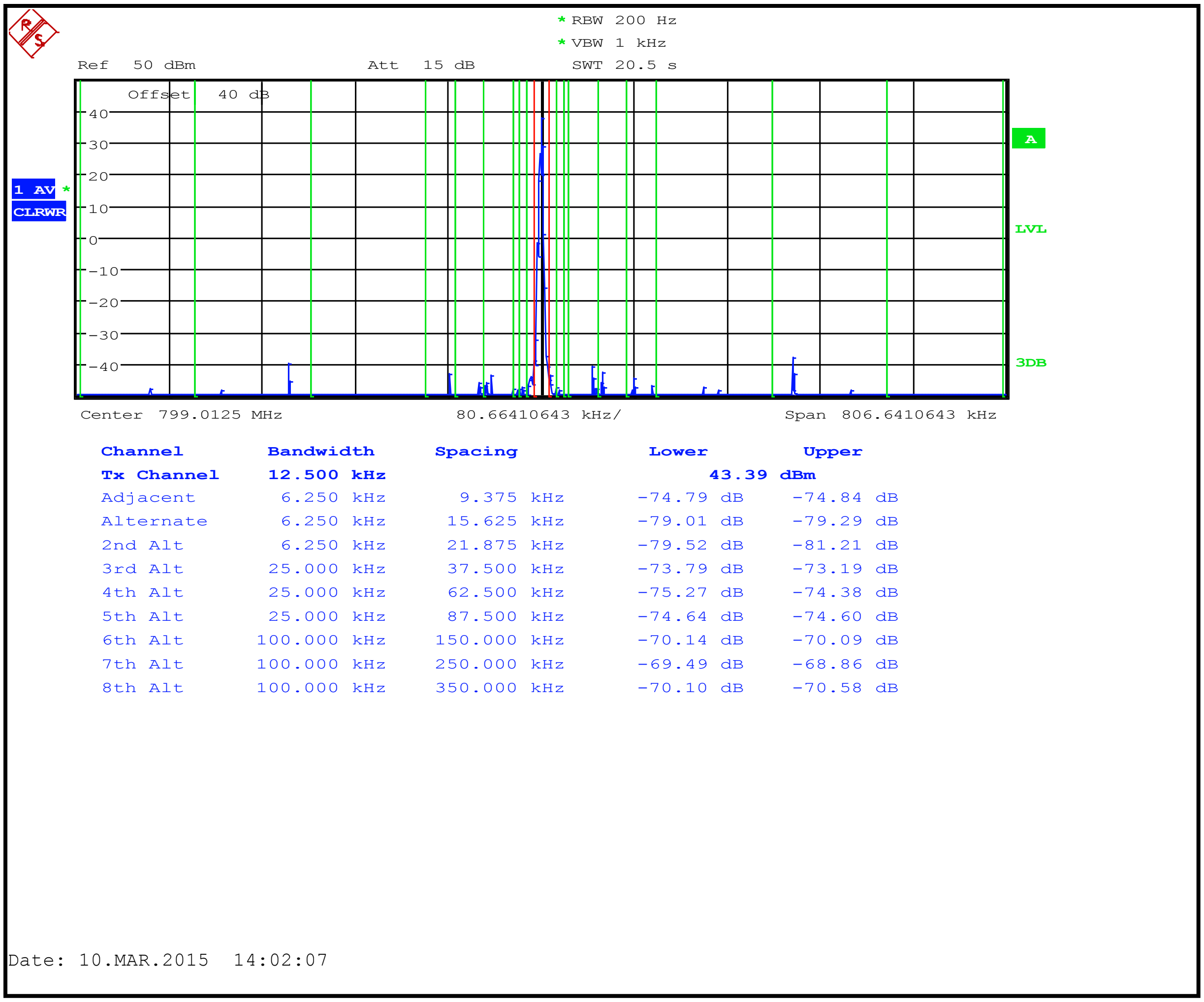


Table 6-2: Adjacent Channel Power – 799.0125 MHz; Analog NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.2
12 MHz to receive band	30(s)	-75	-98.8
In receive band	30(s)	-100	-103.7

Plot 6-3: Adjacent Channel Power – 801.0125 MHz; Analog NB (9.375 kHz - 350 kHz)

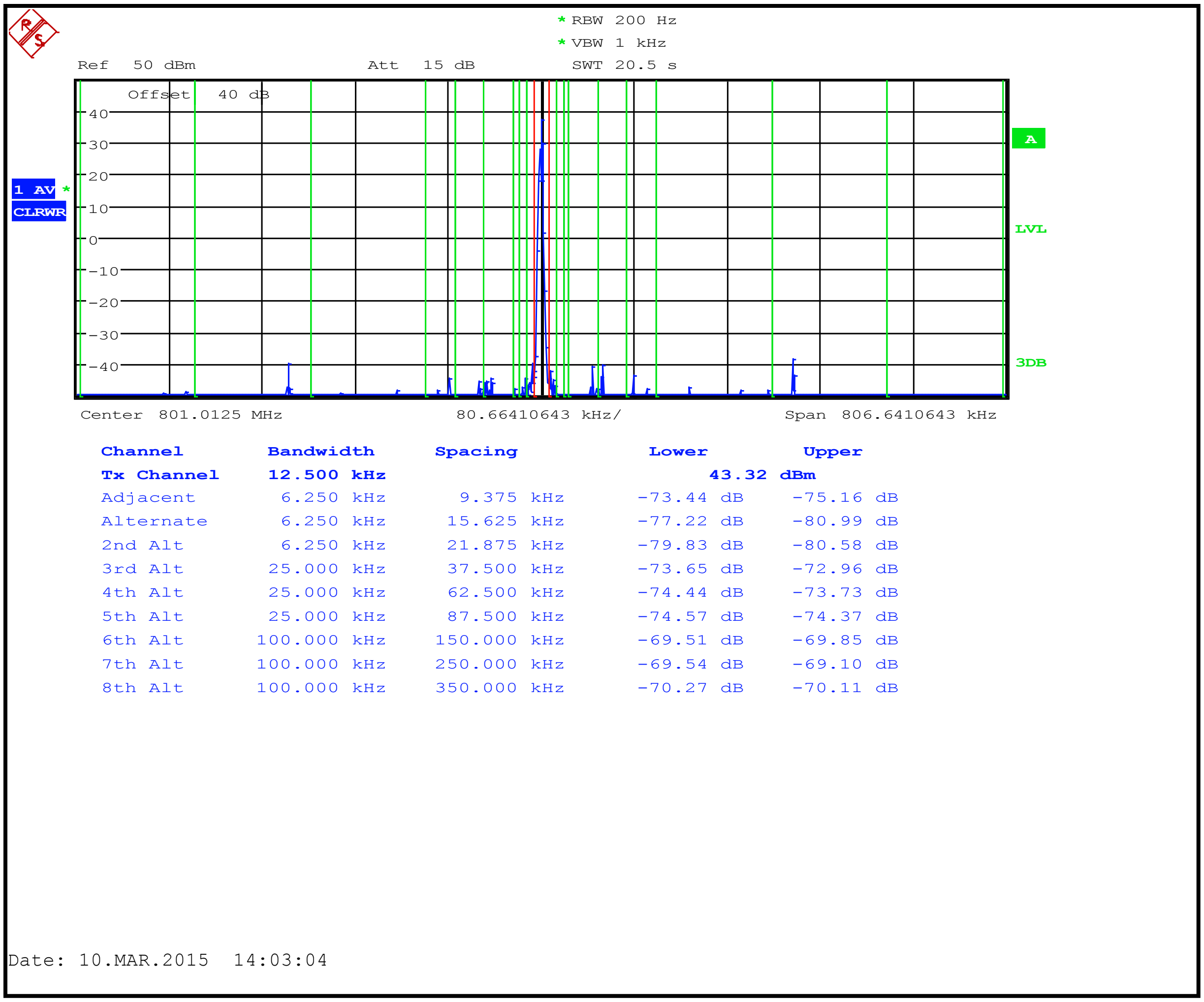


Table 6-3: Adjacent Channel Power – 801.0125 MHz; Analog NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-85.2
12 MHz to receive band	30(s)	-75	-101.8
In receive band	30(s)	-100	-103.7

Plot 6-4: Adjacent Channel Power - 804.9875 MHz; Analog NB (9.375 kHz - 350 kHz)

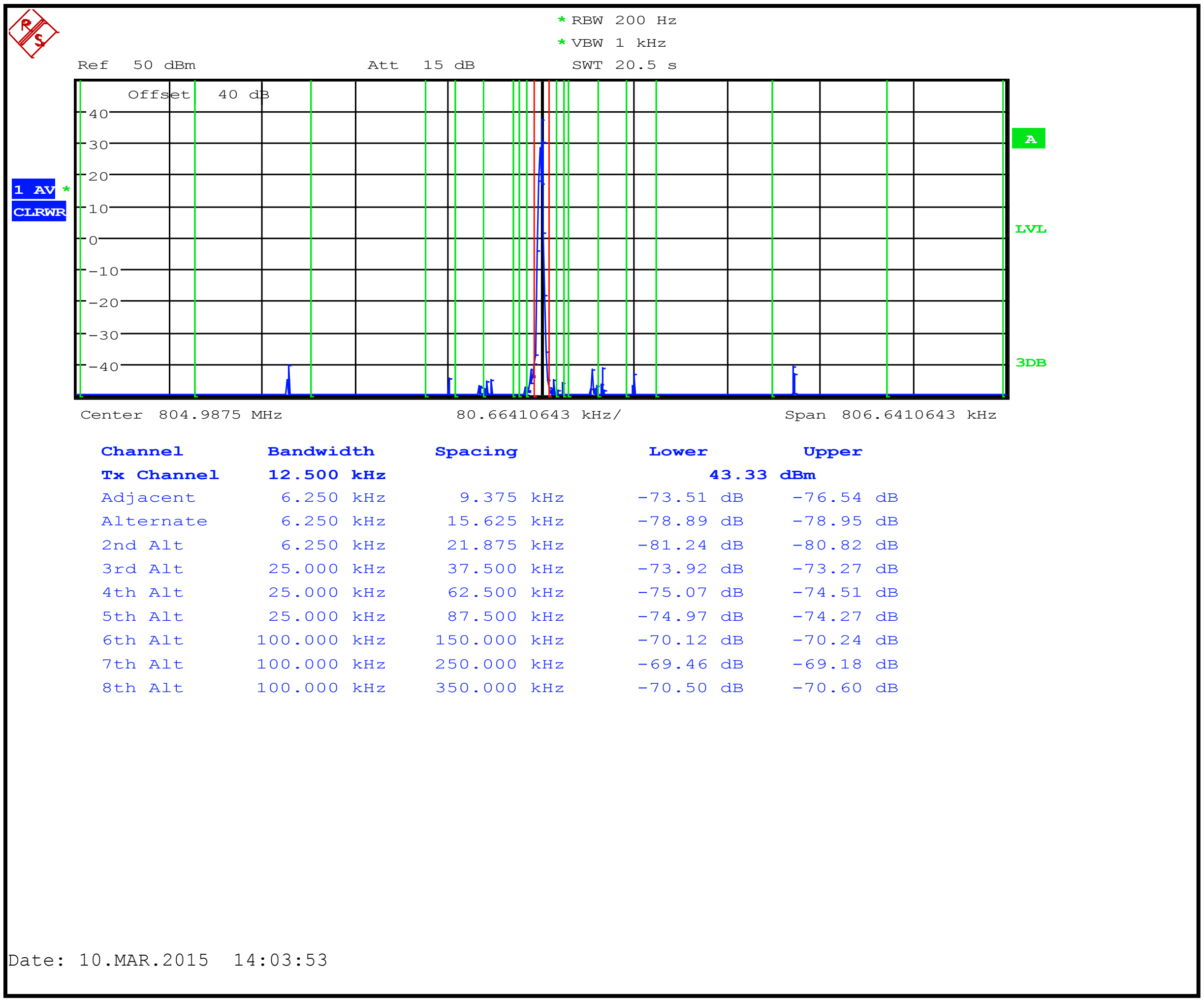
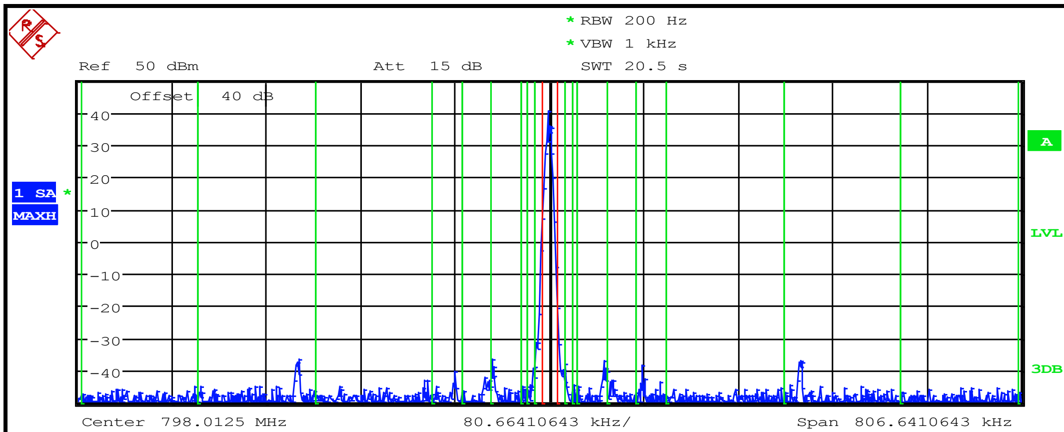


Table 6-4: Adjacent Channel Power – 804.9875 MHz; Analog NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-85.7
12 MHz to receive band	30(s)	-75	-100.7
In receive band	30(s)	-100	-104.2

Plot 6-5: Adjacent Channel Power – 798.0125 MHz; P25 (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	12.500 kHz		49.76 dBm	
Adjacent	6.250 kHz	9.375 kHz	-43.85 dB	-43.93 dB
Alternate	6.250 kHz	15.625 kHz	-78.99 dB	-78.96 dB
2nd Alt	6.250 kHz	21.875 kHz	-82.72 dB	-82.73 dB
3rd Alt	25.000 kHz	37.500 kHz	-74.66 dB	-74.13 dB
4th Alt	25.000 kHz	62.500 kHz	-76.76 dB	-76.65 dB
5th Alt	25.000 kHz	87.500 kHz	-76.59 dB	-75.84 dB
6th Alt	100.000 kHz	150.000 kHz	-71.87 dB	-72.27 dB
7th Alt	100.000 kHz	250.000 kHz	-70.32 dB	-70.54 dB
8th Alt	100.000 kHz	350.000 kHz	-72.30 dB	-72.32 dB

Date: 10.MAR.2015 14:53:08

Table 6-5: Adjacent Channel Power – 798.0125 MHz; P25 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.0
12 MHz to receive band	30(s)	-75	-97.9
In receive band	30(s)	-100	-104.0

Plot 6-6: Adjacent Channel Power – 799.0125 MHz; P25 (9.375 kHz - 350 kHz)

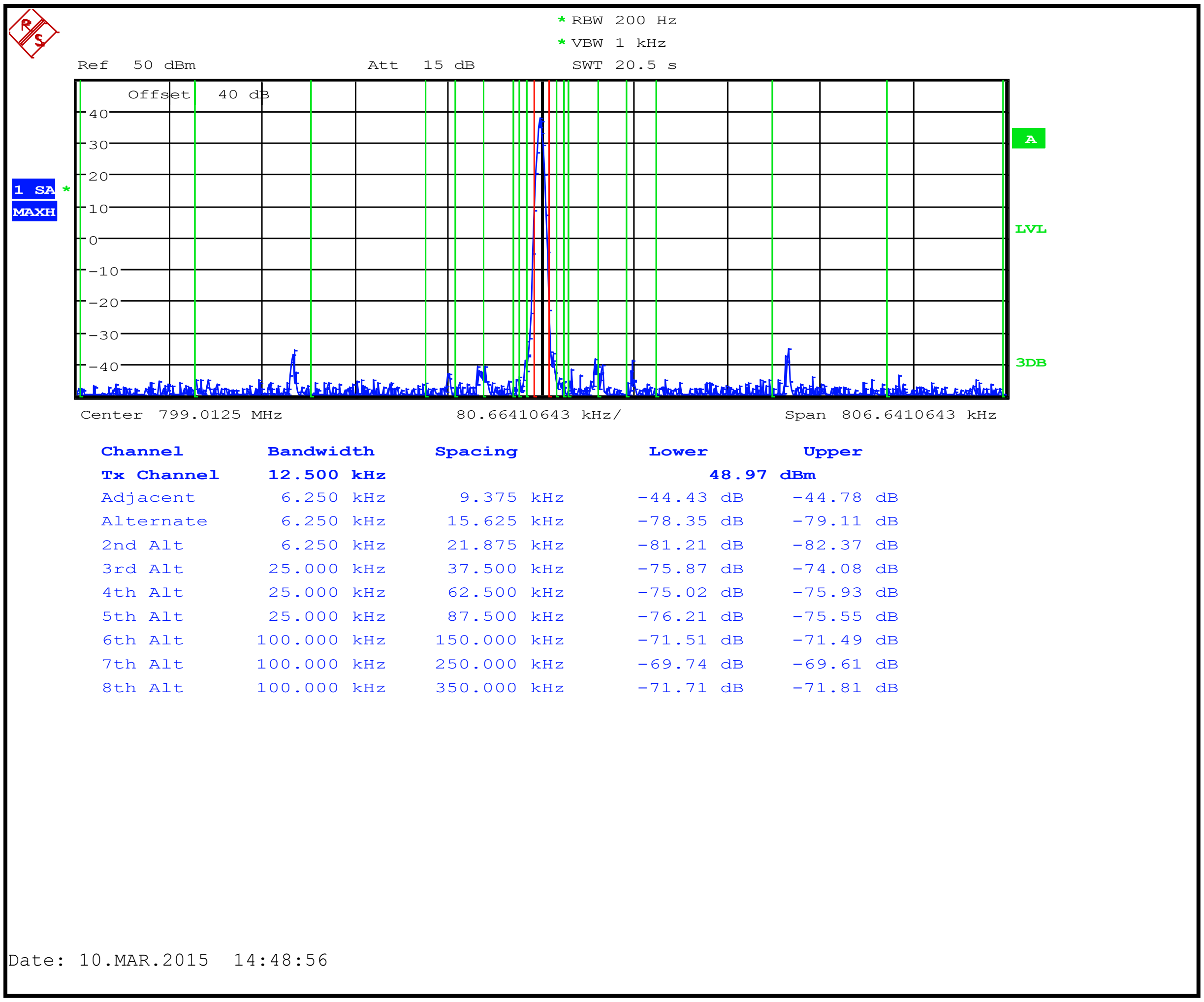


Table 6-6: Adjacent Channel Power – 799.0125 MHz; P25 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.8
12 MHz to receive band	30(s)	-75	-98.7
In receive band	30(s)	-100	-104.8

Plot 6-7: Adjacent Channel Power – 801.0125 MHz; P25 (9.375 kHz - 350 kHz)

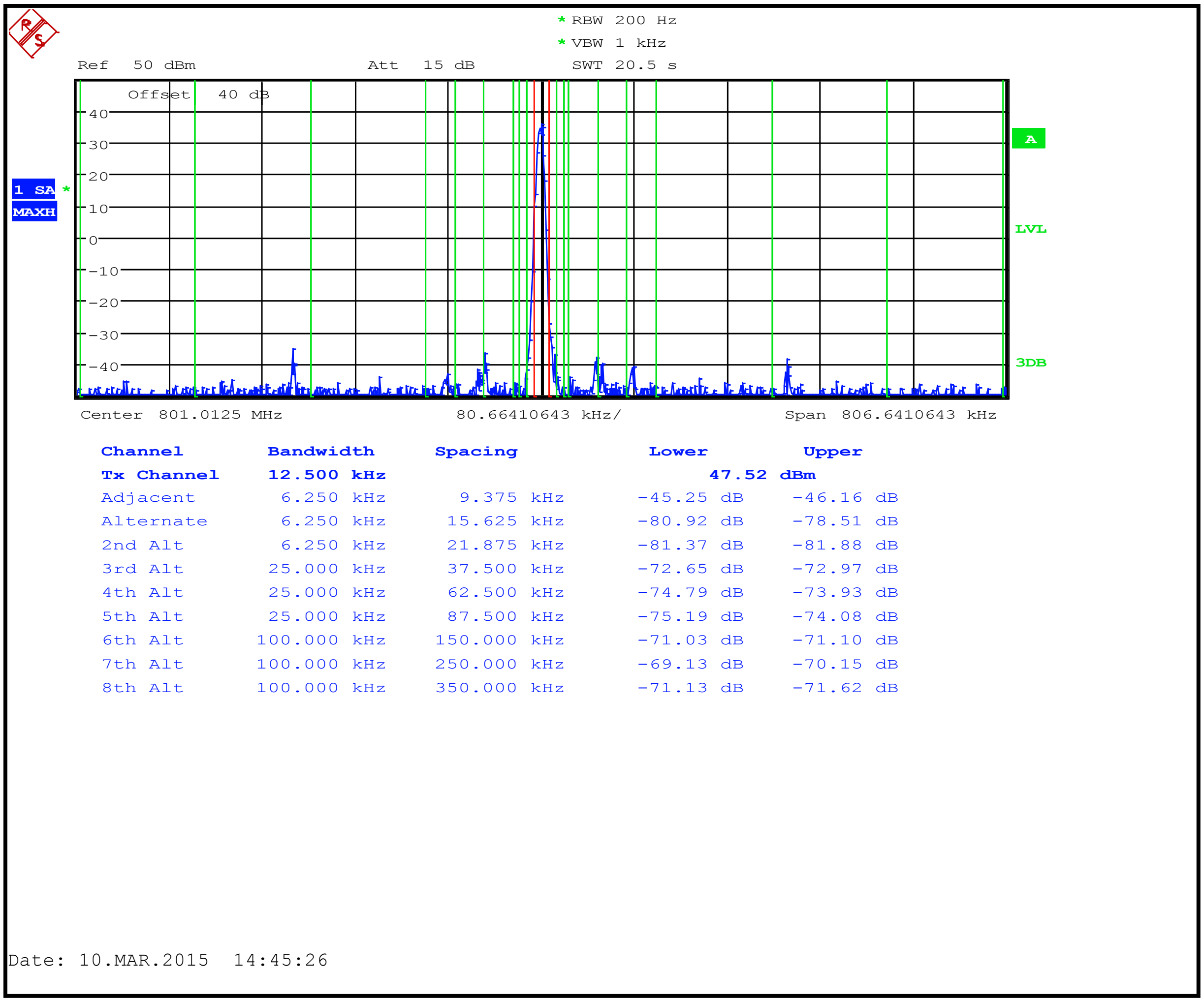
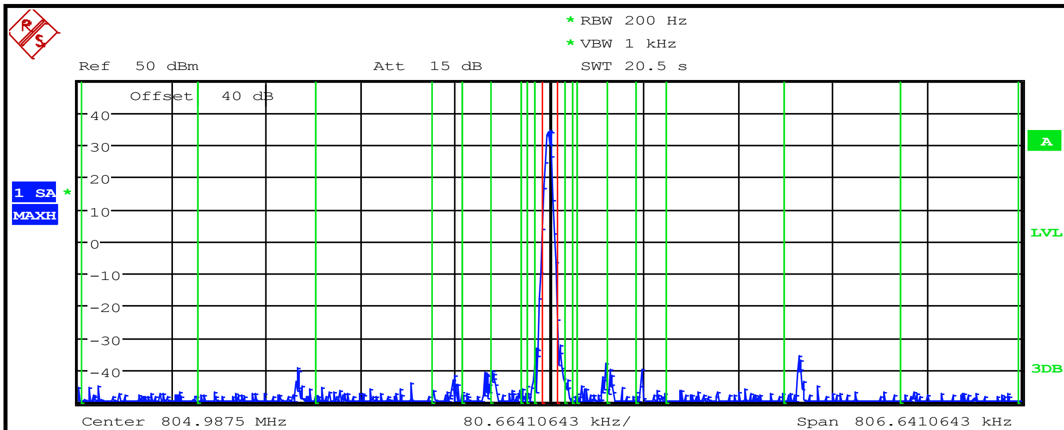


Table 6-7: Adjacent Channel Power – 801.0125 MHz; P25 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.3
12 MHz to receive band	30(s)	-75	-99.9
In receive band	30(s)	-100	-103.6

Plot 6-8: Adjacent Channel Power – 804.9875 MHz; P25 (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	12.500 kHz		46.73 dBm	
Adjacent	6.250 kHz	9.375 kHz	-43.22 dB	-45.88 dB
Alternate	6.250 kHz	15.625 kHz	-77.24 dB	-76.84 dB
2nd Alt	6.250 kHz	21.875 kHz	-80.23 dB	-81.94 dB
3rd Alt	25.000 kHz	37.500 kHz	-72.87 dB	-72.63 dB
4th Alt	25.000 kHz	62.500 kHz	-74.05 dB	-73.84 dB
5th Alt	25.000 kHz	87.500 kHz	-74.40 dB	-74.46 dB
6th Alt	100.000 kHz	150.000 kHz	-70.24 dB	-70.53 dB
7th Alt	100.000 kHz	250.000 kHz	-69.46 dB	-68.33 dB
8th Alt	100.000 kHz	350.000 kHz	-70.36 dB	-71.26 dB

Date: 10.MAR.2015 14:43:59

Table 6-8: Adjacent Channel Power – 804.9875 MHz; P25 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-78.8
12 MHz to receive band	30(s)	-75	-102.4
In receive band	30(s)	-100	-104.4

Plot 6-9: Adjacent Channel Power – 798.0125 MHz; P25 Phase 2 (9.375 kHz - 350 kHz)

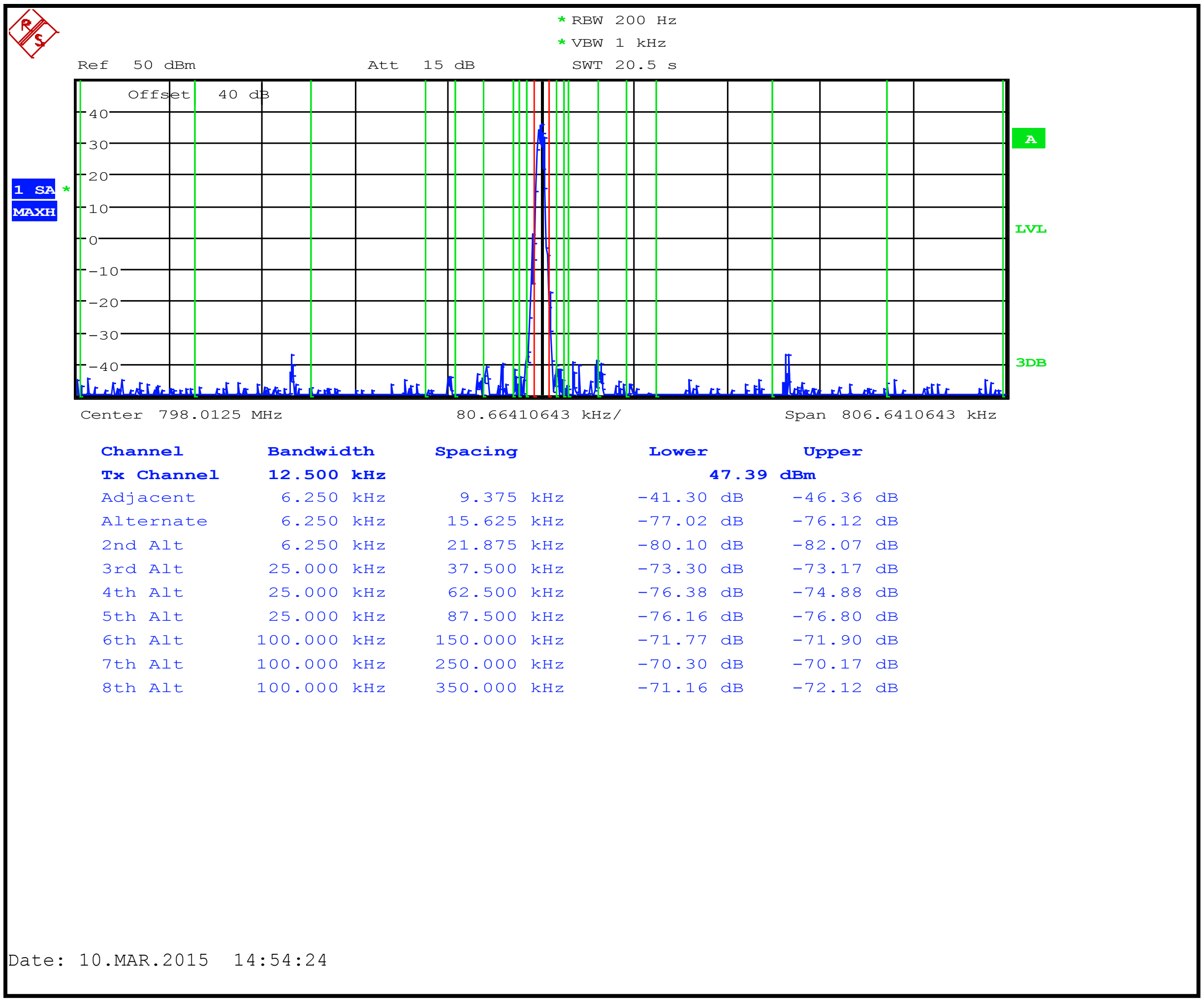


Table 6-9: Adjacent Channel Power – 798.0125 MHz; P25 Phase 2 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.7
12 MHz to receive band	30(s)	-75	-100.9
In receive band	30(s)	-100	-102.2

Plot 6-10: Adjacent Channel Power – 799.0125 MHz; P25 Phase 2 (9.375 kHz - 350 kHz)

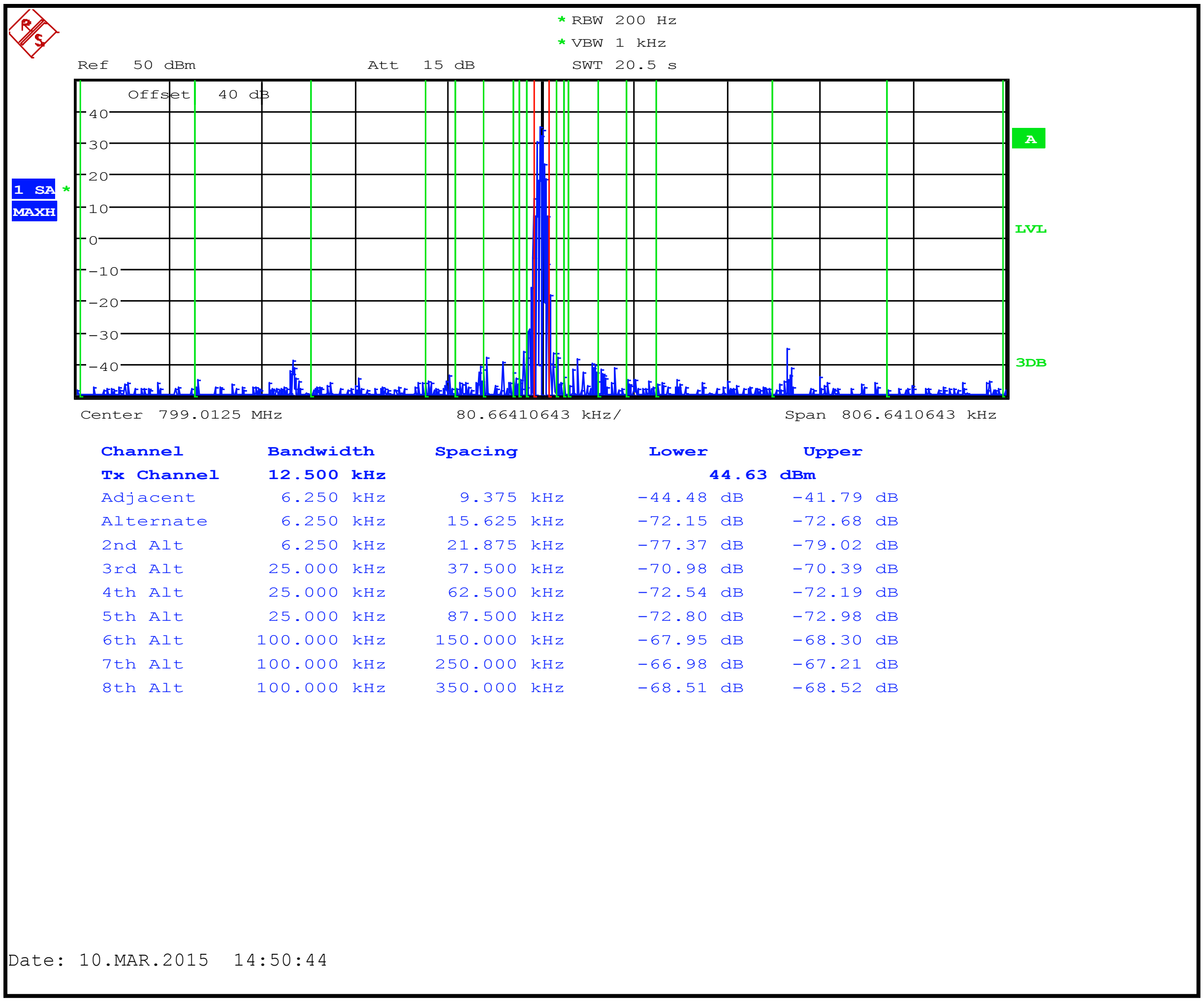
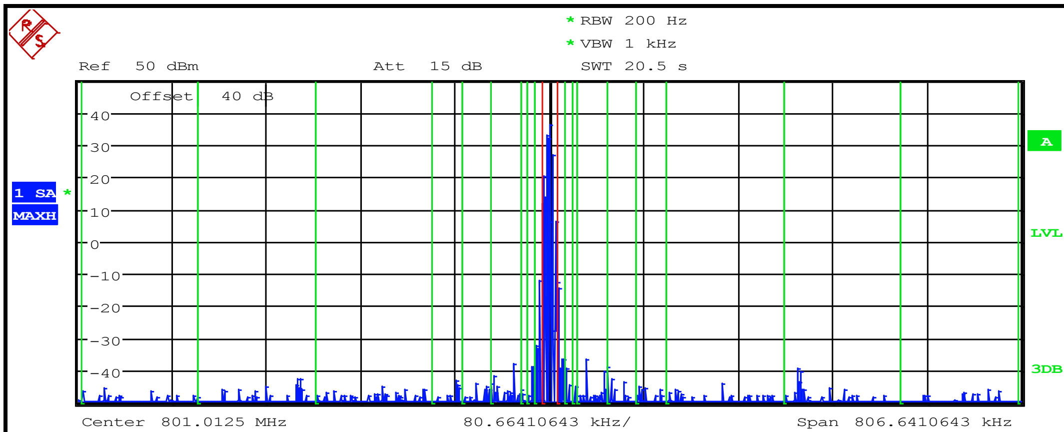


Table 6-10: Adjacent Channel Power – 799.0125 MHz; P25 Phase 2 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.6
12 MHz to receive band	30(s)	-75	-98.9
In receive band	30(s)	-100	-103.0

Plot 6-11: Adjacent Channel Power – 801.0125 MHz; P25 Phase 2 (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	12.500 kHz		44.35 dBm	
Adjacent	6.250 kHz	9.375 kHz	-40.99 dB	-45.04 dB
Alternate	6.250 kHz	15.625 kHz	-74.06 dB	-74.90 dB
2nd Alt	6.250 kHz	21.875 kHz	-79.34 dB	-79.54 dB
3rd Alt	25.000 kHz	37.500 kHz	-71.53 dB	-70.64 dB
4th Alt	25.000 kHz	62.500 kHz	-73.69 dB	-73.38 dB
5th Alt	25.000 kHz	87.500 kHz	-73.85 dB	-73.89 dB
6th Alt	100.000 kHz	150.000 kHz	-68.31 dB	-68.61 dB
7th Alt	100.000 kHz	250.000 kHz	-68.50 dB	-67.94 dB
8th Alt	100.000 kHz	350.000 kHz	-68.87 dB	-68.91 dB

Date: 10.MAR.2015 14:46:39

Table 6-11: Adjacent Channel Power – 801.0125 MHz; P25 Phase 2 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.0
12 MHz to receive band	30(s)	-75	-100.9
In receive band	30(s)	-100	-103.3

Plot 6-12: Adjacent Channel Power – 804.9875 MHz; P25 Phase 2 (9.375 kHz - 350 kHz)

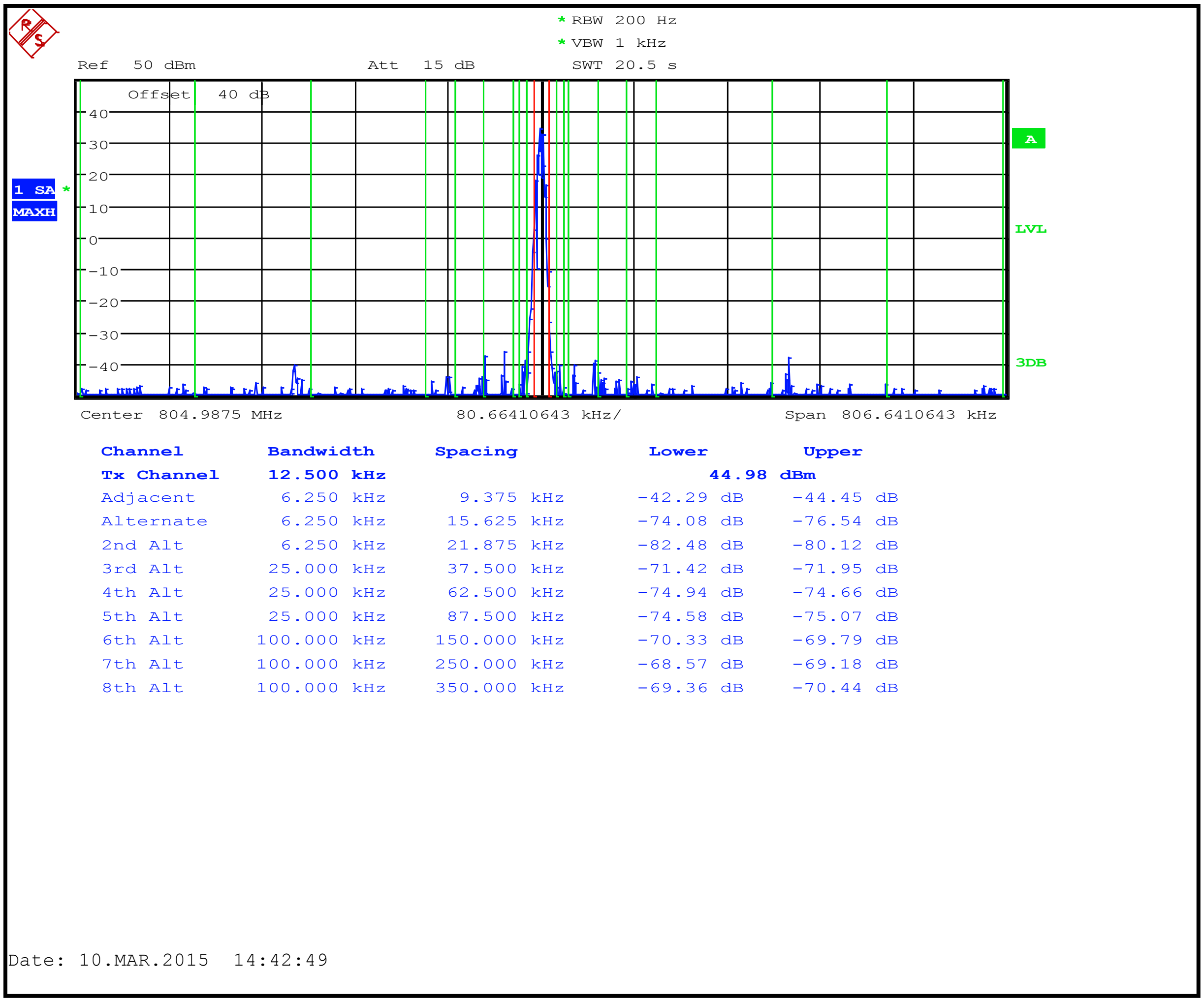


Table 6-12: Adjacent Channel Power – 804.9875 MHz; P25 Phase 2 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.3
12 MHz to receive band	30(s)	-75	-101.0
In receive band	30(s)	-100	-104.3

Plot 6-13: Adjacent Channel Power - 798.0125 MHz; EDACS NPSPAC (9.375 kHz - 350 kHz)

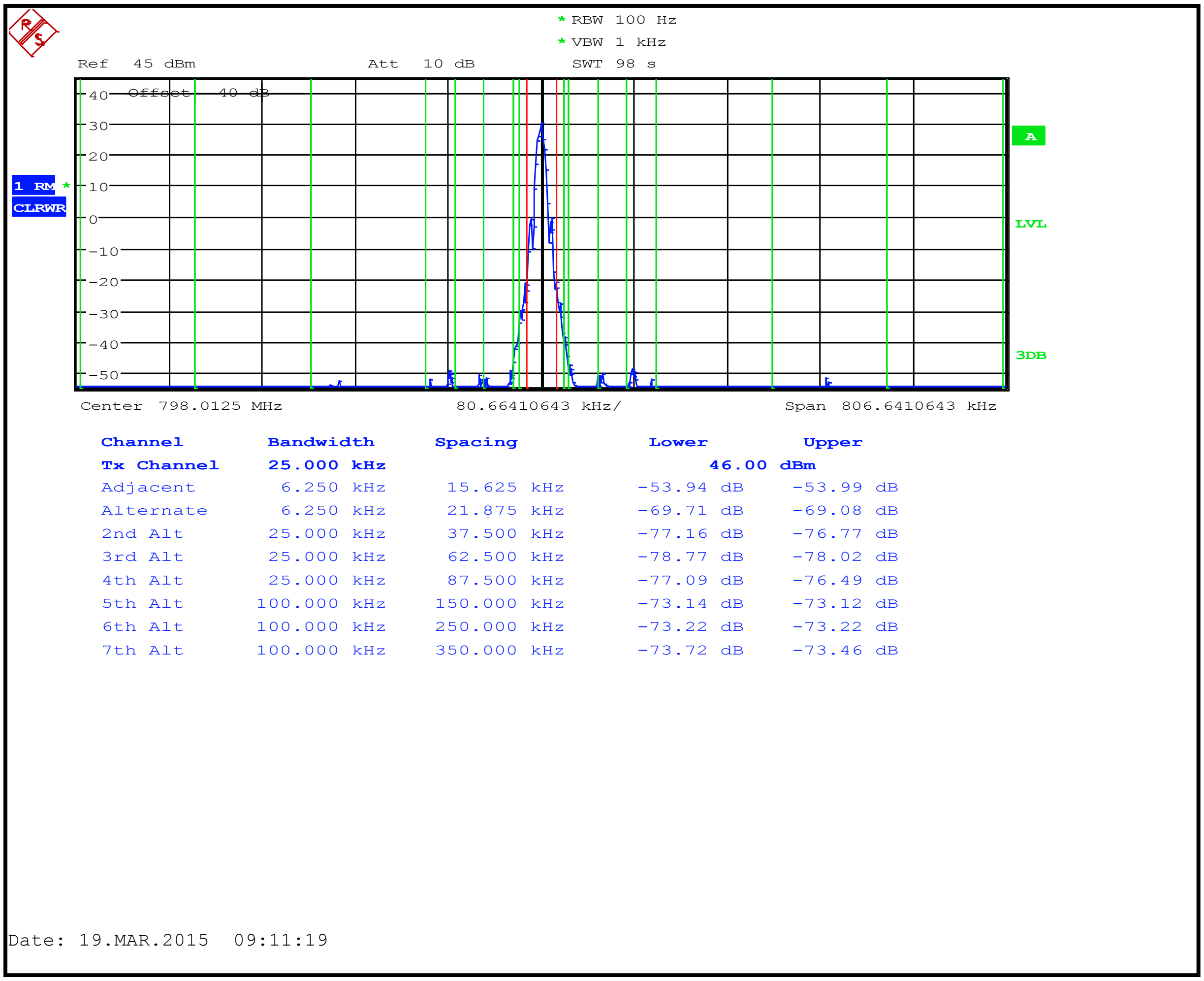
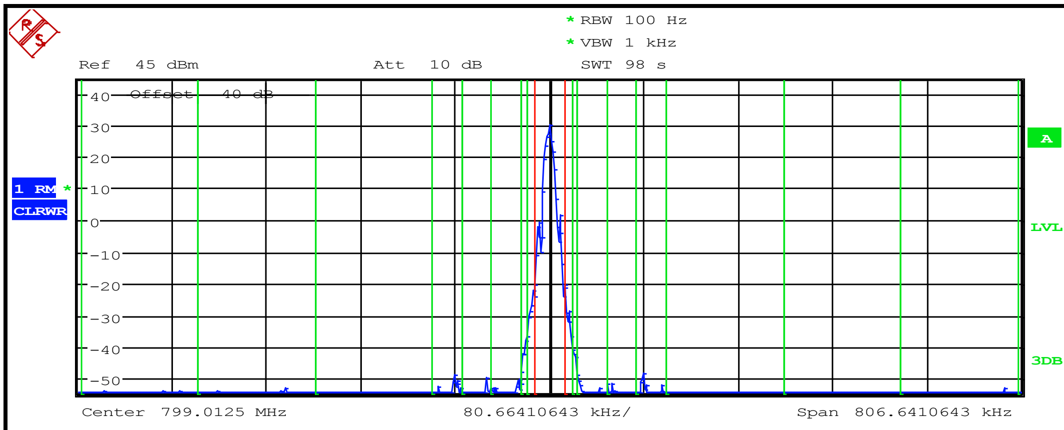


Table 6-13: Adjacent Channel Power - 798.0125 MHz; EDACS NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.0
12 MHz to receive band	30(s)	-75	-95.7
In receive band	30(s)	-100	-101.3

Plot 6-14: Adjacent Channel Power - 799.0125 MHz; EDACS NPSPAC (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	25.000 kHz		45.41 dBm	
Adjacent	6.250 kHz	15.625 kHz	-53.49 dB	-52.72 dB
Alternate	6.250 kHz	21.875 kHz	-69.46 dB	-68.62 dB
2nd Alt	25.000 kHz	37.500 kHz	-76.71 dB	-76.82 dB
3rd Alt	25.000 kHz	62.500 kHz	-78.02 dB	-77.92 dB
4th Alt	25.000 kHz	87.500 kHz	-76.19 dB	-76.12 dB
5th Alt	100.000 kHz	150.000 kHz	-72.48 dB	-72.41 dB
6th Alt	100.000 kHz	250.000 kHz	-72.78 dB	-72.65 dB
7th Alt	100.000 kHz	350.000 kHz	-73.02 dB	-72.98 dB

Date: 19.MAR.2015 09:14:24

Table 6-14: Adjacent Channel Power - 799.0125 MHz; EDACS NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.8
12 MHz to receive band	30(s)	-75	-90.1
In receive band	30(s)	-100	-101.8

Plot 6-15: Adjacent Channel Power - 801.0125 MHz; EDACS NPSPAC (9.375 kHz - 350 kHz)

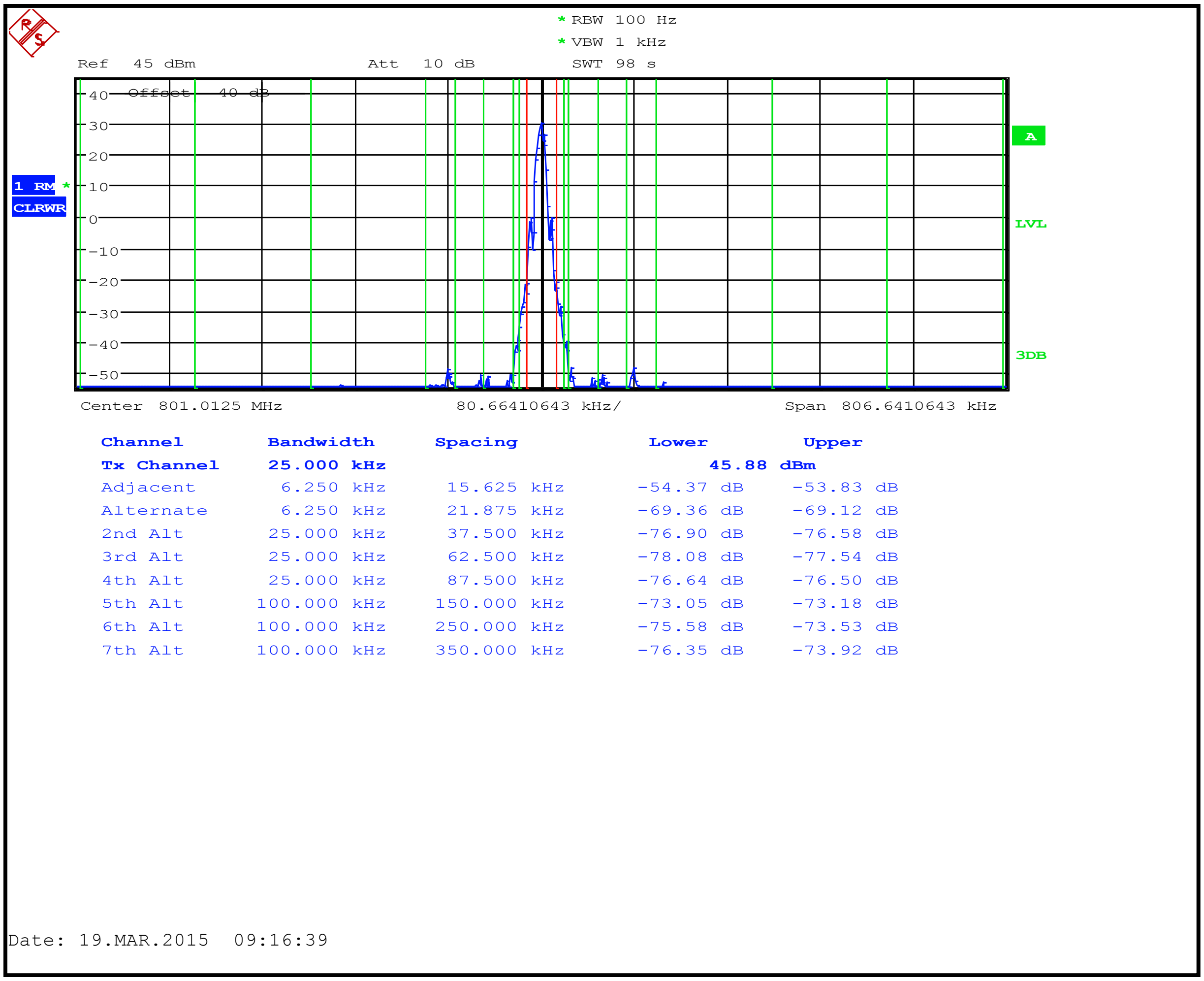
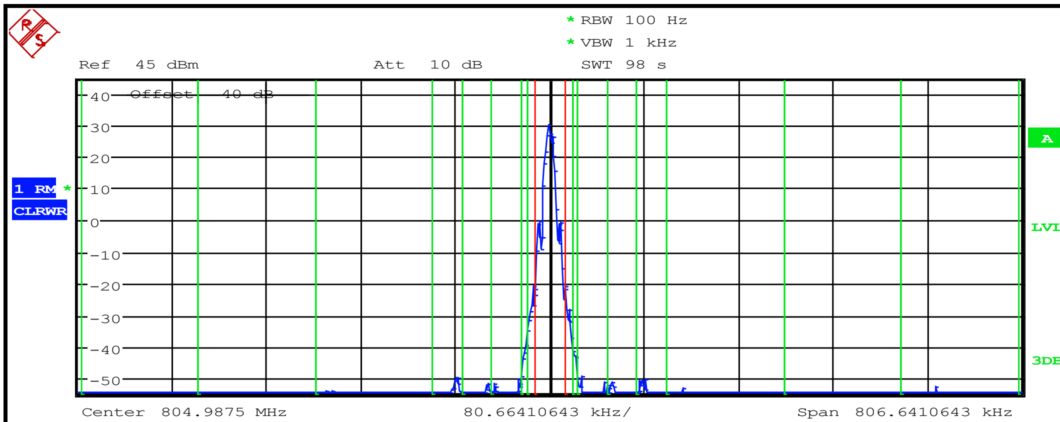


Table 6-15: Adjacent Channel Power - 801.0125 MHz; EDACS NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.3
12 MHz to receive band	30(s)	-75	-98.8
In receive band	30(s)	-100	-103.0

Plot 6-16: Adjacent Channel Power - 804.9875 MHz; EDACS NPSPAC (9.375 kHz - 350 kHz)



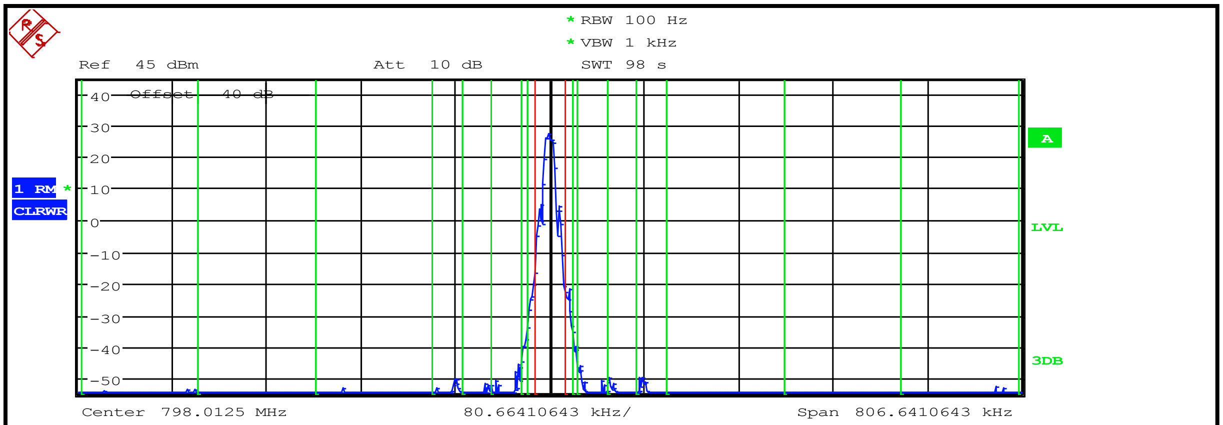
Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	25.000 kHz		45.61 dBm	
Adjacent	6.250 kHz	15.625 kHz	-53.93 dB	-53.22 dB
Alternate	6.250 kHz	21.875 kHz	-69.14 dB	-69.05 dB
2nd Alt	25.000 kHz	37.500 kHz	-76.96 dB	-77.23 dB
3rd Alt	25.000 kHz	62.500 kHz	-78.07 dB	-77.61 dB
4th Alt	25.000 kHz	87.500 kHz	-77.05 dB	-76.63 dB
5th Alt	100.000 kHz	150.000 kHz	-72.91 dB	-72.72 dB
6th Alt	100.000 kHz	250.000 kHz	-73.13 dB	-73.10 dB
7th Alt	100.000 kHz	350.000 kHz	-73.57 dB	-73.47 dB

Date: 19.MAR.2015 09:26:17

Table 6-16: Adjacent Channel Power - 804.9875 MHz; EDACS NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.0
12 MHz to receive band	30(s)	-75	-102.9
In receive band	30(s)	-100	-106.2

Plot 6-17: Adjacent Channel Power - 798.0125 MHz; EDACS SMR (9.375 kHz - 350 kHz)



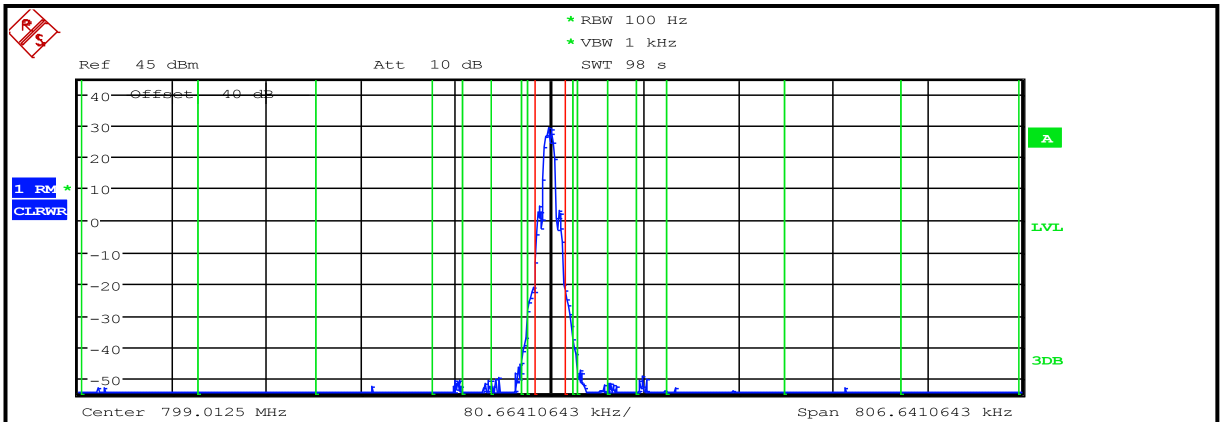
Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	**25.000 kHz**		**45.26 dBm**	
Adjacent	6.250 kHz	15.625 kHz	-51.62 dB	-51.16 dB
Alternate	6.250 kHz	21.875 kHz	-66.41 dB	-65.24 dB
2nd Alt	25.000 kHz	37.500 kHz	-74.58 dB	-74.52 dB
3rd Alt	25.000 kHz	62.500 kHz	-77.45 dB	-76.95 dB
4th Alt	25.000 kHz	87.500 kHz	-76.08 dB	-75.83 dB
5th Alt	100.000 kHz	150.000 kHz	-72.41 dB	-72.45 dB
6th Alt	100.000 kHz	250.000 kHz	-72.42 dB	-72.55 dB
7th Alt	100.000 kHz	350.000 kHz	-72.94 dB	-72.69 dB

Date: 19.MAR.2015 09:52:59

Table 6-17: Adjacent Channel Power - 798.0125 MHz; EDACS SMR (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.4
12 MHz to receive band	30(s)	-75	-95.6
In receive band	30(s)	-100	-101.3

Plot 6-18: Adjacent Channel Power - 799.0125 MHz; EDACS SMR (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	25.000 kHz		46.23 dBm	
Adjacent	6.250 kHz	15.625 kHz	-51.61 dB	-52.46 dB
Alternate	6.250 kHz	21.875 kHz	-66.12 dB	-66.49 dB
2nd Alt	25.000 kHz	37.500 kHz	-75.36 dB	-76.25 dB
3rd Alt	25.000 kHz	62.500 kHz	-78.48 dB	-78.34 dB
4th Alt	25.000 kHz	87.500 kHz	-77.42 dB	-76.84 dB
5th Alt	100.000 kHz	150.000 kHz	-73.19 dB	-73.21 dB
6th Alt	100.000 kHz	250.000 kHz	-73.26 dB	-73.45 dB
7th Alt	100.000 kHz	350.000 kHz	-73.62 dB	-73.79 dB

Date: 19.MAR.2015 09:50:53

Table 6-18: Adjacent Channel Power - 799.0125 MHz; EDACS SMR (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.5
12 MHz to receive band	30(s)	-75	-89.9
In receive band	30(s)	-100	-101.2

Plot 6-19: Adjacent Channel Power - 801.0125 MHz; EDACS SMR (9.375 kHz - 350 kHz)

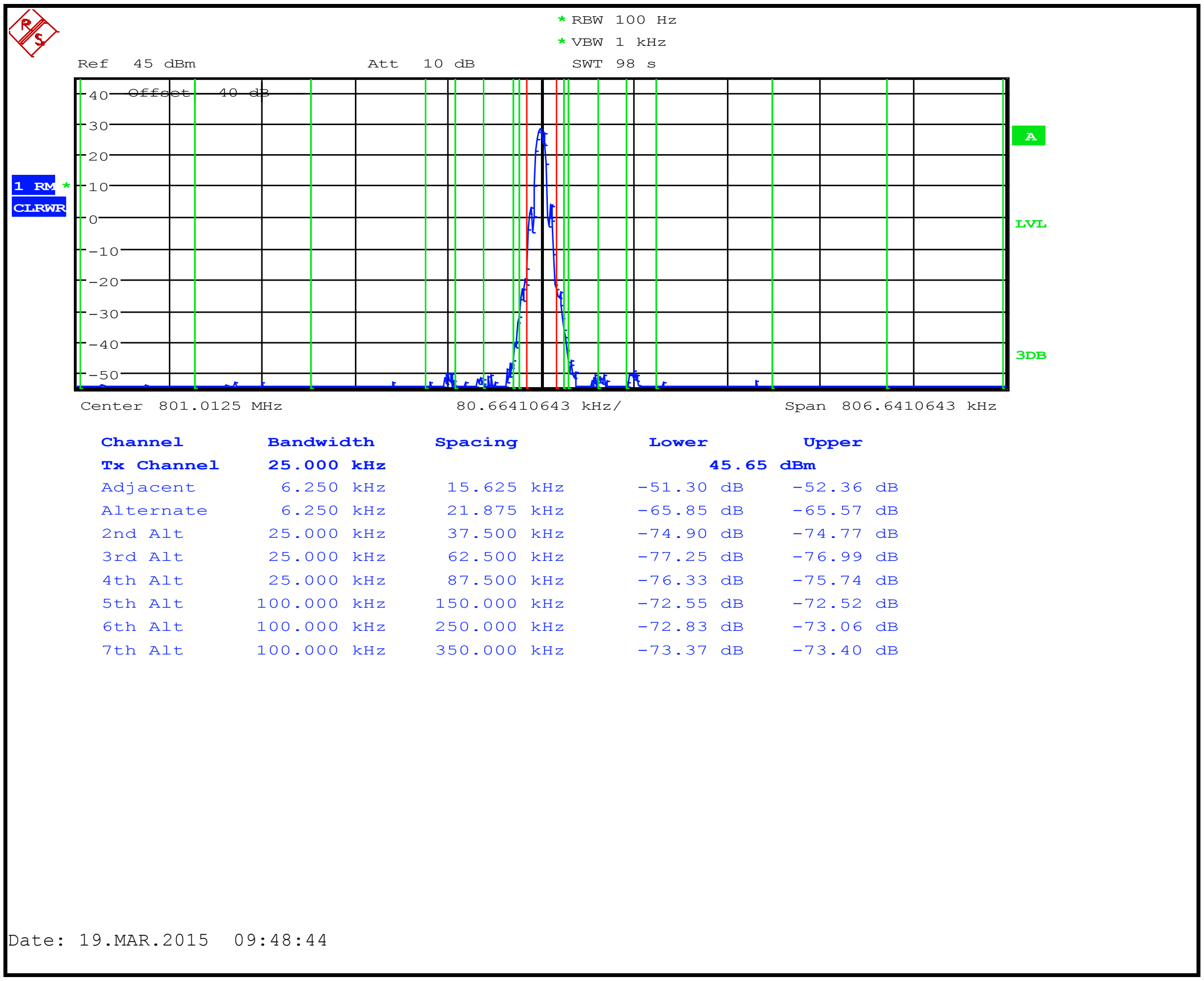
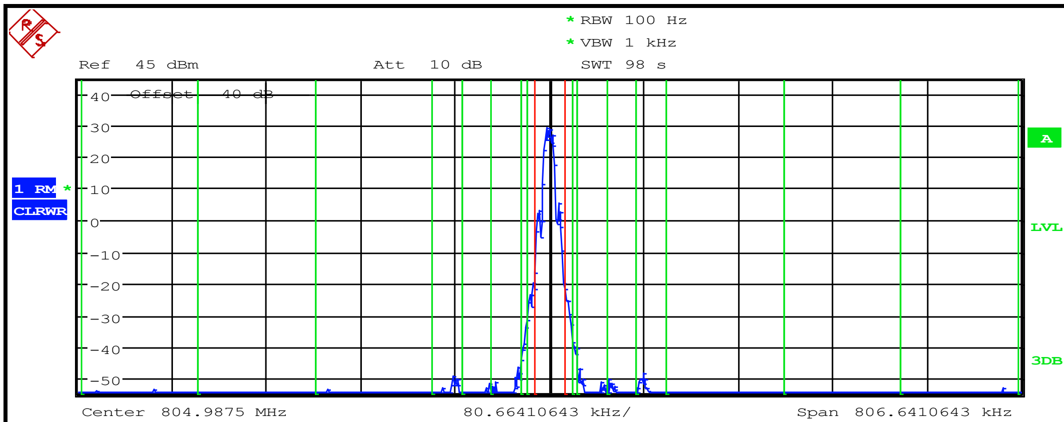


Table 6-19: Adjacent Channel Power - 801.0125 MHz; EDACS SMR (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-84.1
12 MHz to receive band	30(s)	-75	-99.7
In receive band	30(s)	-100	-103.7

Plot 6-20: Adjacent Channel Power - 804.9875 MHz; EDACS SMR (9.375 kHz - 350 kHz)



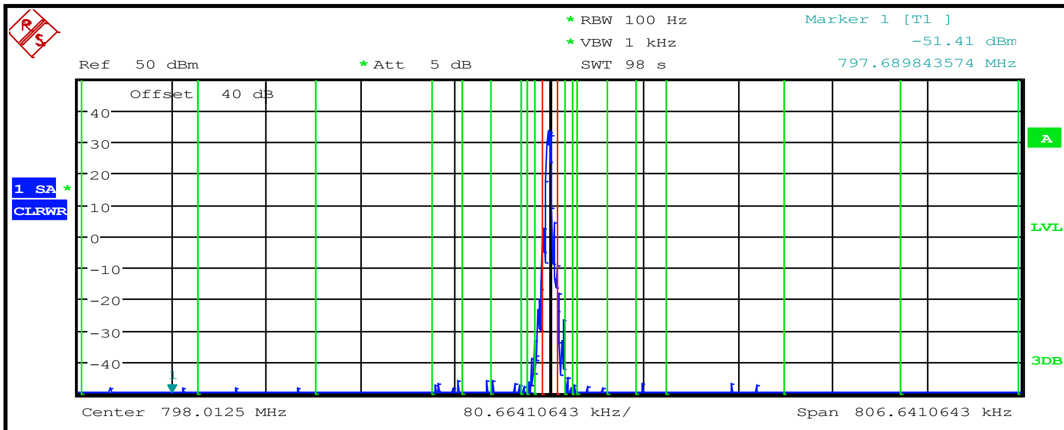
Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	**25.000 kHz**		**46.20 dBm**	
Adjacent	6.250 kHz	15.625 kHz	-51.84 dB	-52.58 dB
Alternate	6.250 kHz	21.875 kHz	-66.05 dB	-66.33 dB
2nd Alt	25.000 kHz	37.500 kHz	-76.06 dB	-76.23 dB
3rd Alt	25.000 kHz	62.500 kHz	-78.62 dB	-78.23 dB
4th Alt	25.000 kHz	87.500 kHz	-77.09 dB	-76.57 dB
5th Alt	100.000 kHz	150.000 kHz	-73.46 dB	-73.42 dB
6th Alt	100.000 kHz	250.000 kHz	-73.66 dB	-73.56 dB
7th Alt	100.000 kHz	350.000 kHz	-73.82 dB	-73.90 dB

Date: 19.MAR.2015 09:44:49

Table 6-20: Adjacent Channel Power - 804.9875 MHz; EDACS SMR (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-84.1
12 MHz to receive band	30(s)	-75	-101.6
In receive band	30(s)	-100	-103.5

Plot 6-21: Adjacent Channel Power - 798.0125 MHz; EDACS NB 4800 (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	**12.500 kHz**		**47.07 dBm**	
Adjacent	6.250 kHz	9.375 kHz	-52.70 dB	-47.55 dB
Alternate	6.250 kHz	15.625 kHz	-73.99 dB	-74.30 dB
2nd Alt	6.250 kHz	21.875 kHz	-80.53 dB	-81.69 dB
3rd Alt	25.000 kHz	37.500 kHz	-75.77 dB	-76.80 dB
4th Alt	25.000 kHz	62.500 kHz	-77.17 dB	-77.40 dB
5th Alt	25.000 kHz	87.500 kHz	-76.14 dB	-76.45 dB
6th Alt	100.000 kHz	150.000 kHz	-71.76 dB	-71.38 dB
7th Alt	100.000 kHz	250.000 kHz	-71.48 dB	-71.48 dB
8th Alt	100.000 kHz	350.000 kHz	-71.58 dB	-71.59 dB

Date: 19.MAR.2015 10:38:58

Table 6-21: Adjacent Channel Power - 798.0125 MHz; EDACS NB 4800 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.1
12 MHz to receive band	30(s)	-75	-94.8
In receive band	30(s)	-100	-101.8

Plot 6-22: Adjacent Channel Power - 799.0125 MHz; EDACS NB 4800 (9.375 kHz - 350 kHz)

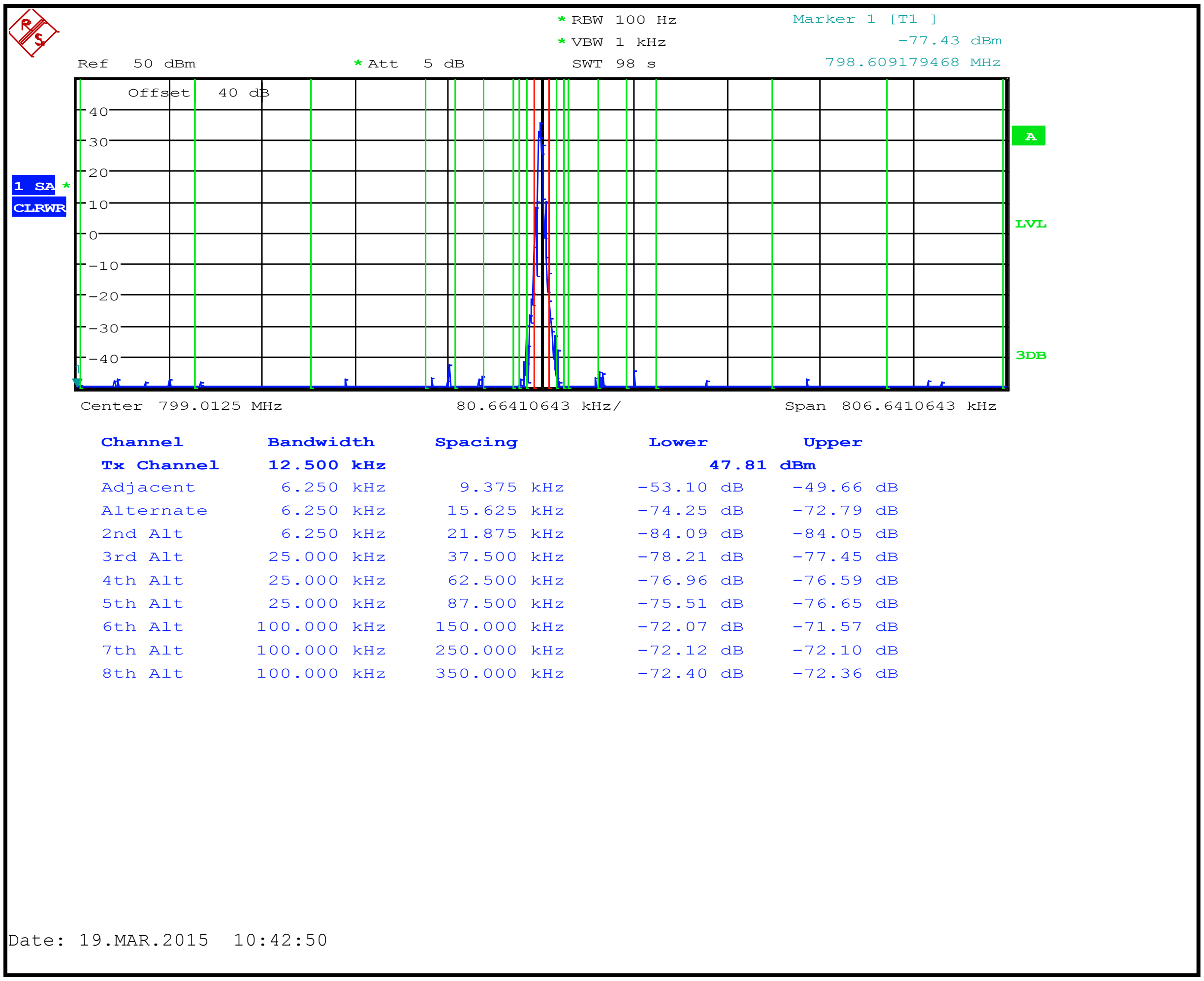


Table 6-22: Adjacent Channel Power - 799.0125 MHz; EDACS NB 4800 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.7
12 MHz to receive band	30(s)	-75	-87.9
In receive band	30(s)	-100	-101.1

Plot 6-23: Adjacent Channel Power - 801.0125 MHz; EDACS NB 4800 (9.375 kHz - 350 kHz)

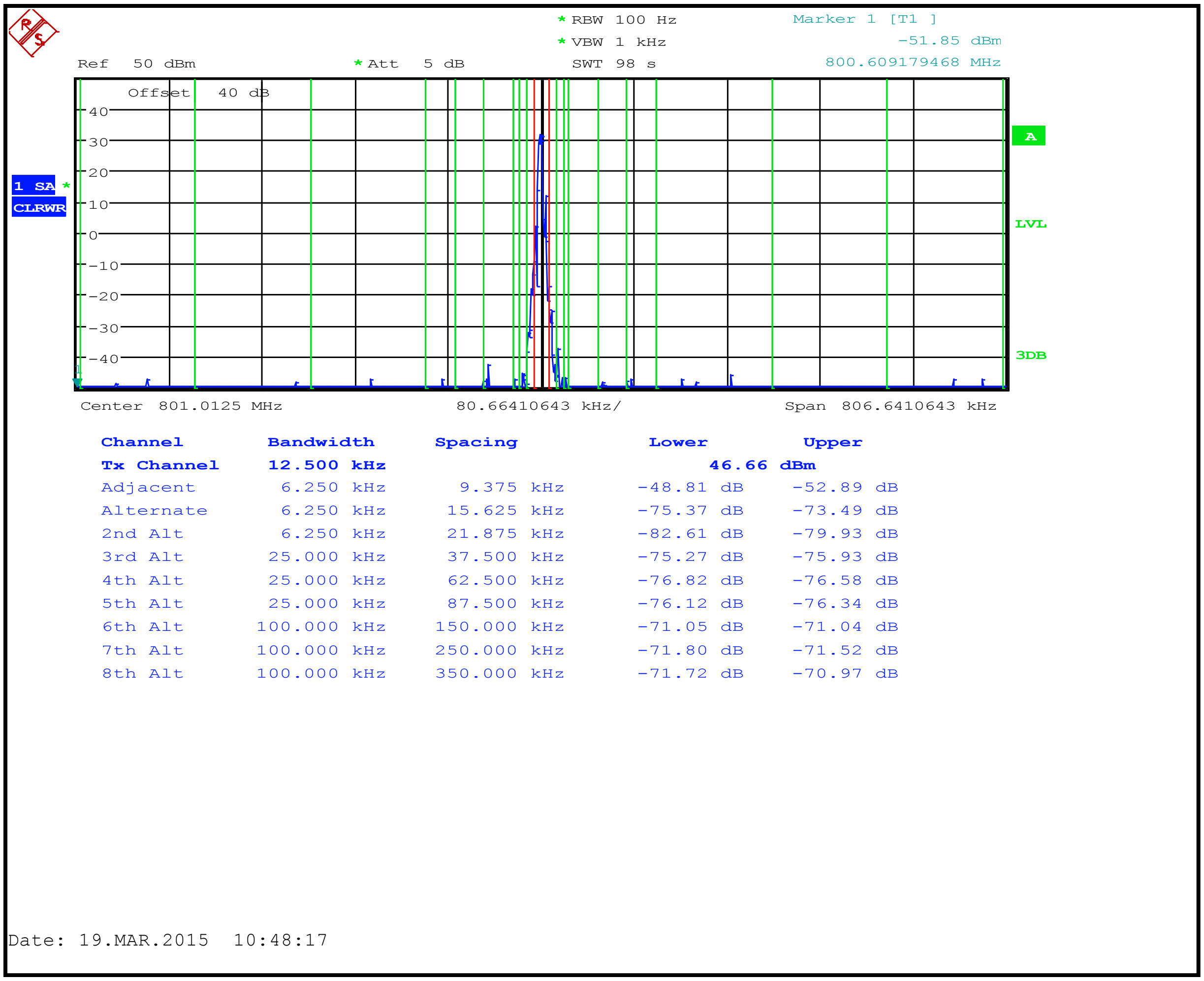


Table 6-23: Adjacent Channel Power - 801.0125 MHz; EDACS NB 4800 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.4
12 MHz to receive band	30(s)	-75	-98.8
In receive band	30(s)	-100	-102.9

Plot 6-24: Adjacent Channel Power - 804.9875 MHz; EDACS NB 4800 (9.375 kHz - 350 kHz)

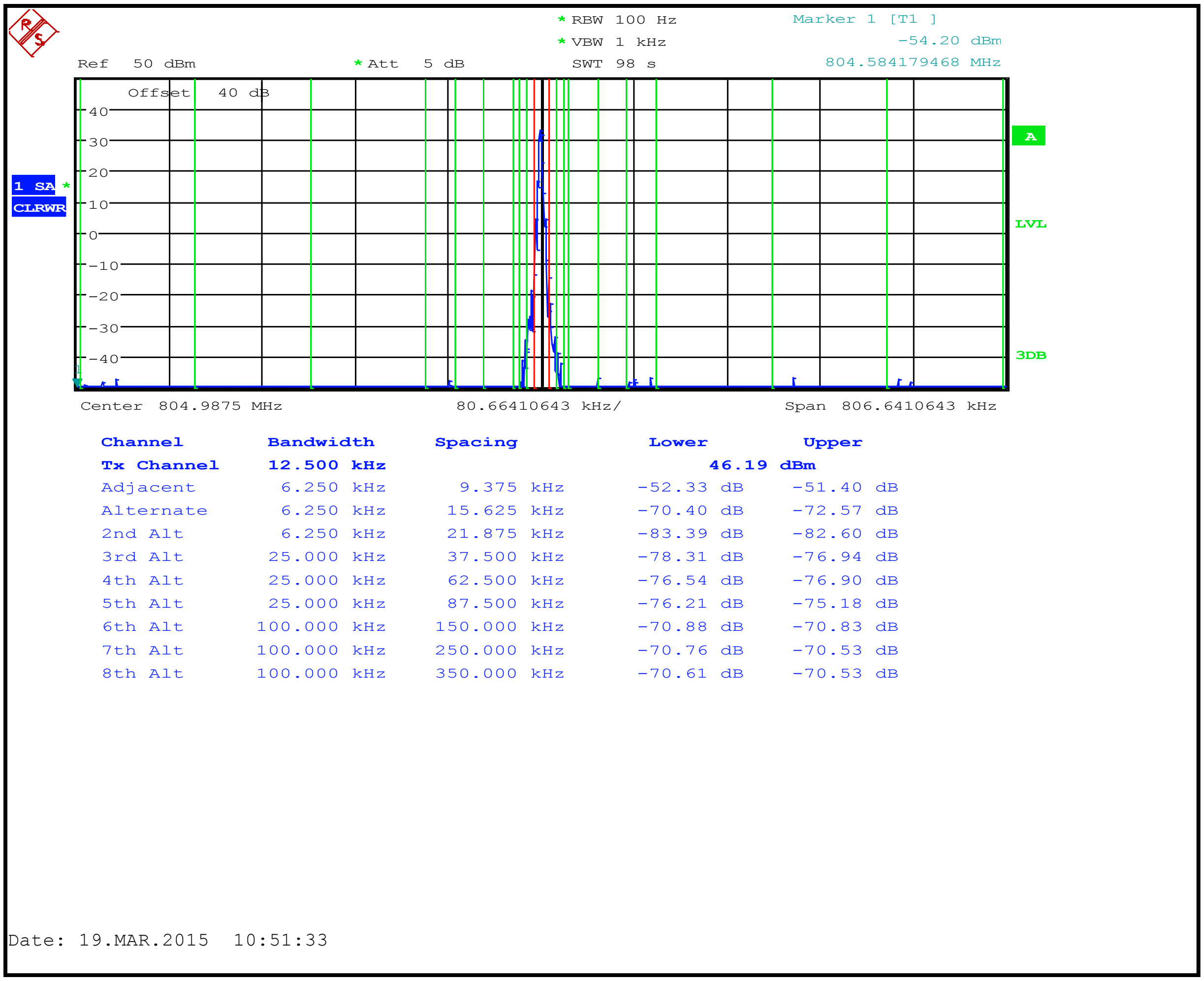


Table 6-24: Adjacent Channel Power - 804.9875 MHz; EDACS NB 4800 (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.1
12 MHz to receive band	30(s)	-75	-100.5
In receive band	30(s)	-100	-105.0

Plot 6-25: Adjacent Channel Power - 798.0125 MHz; OTP NPSPAC (9.375 kHz - 350 kHz)

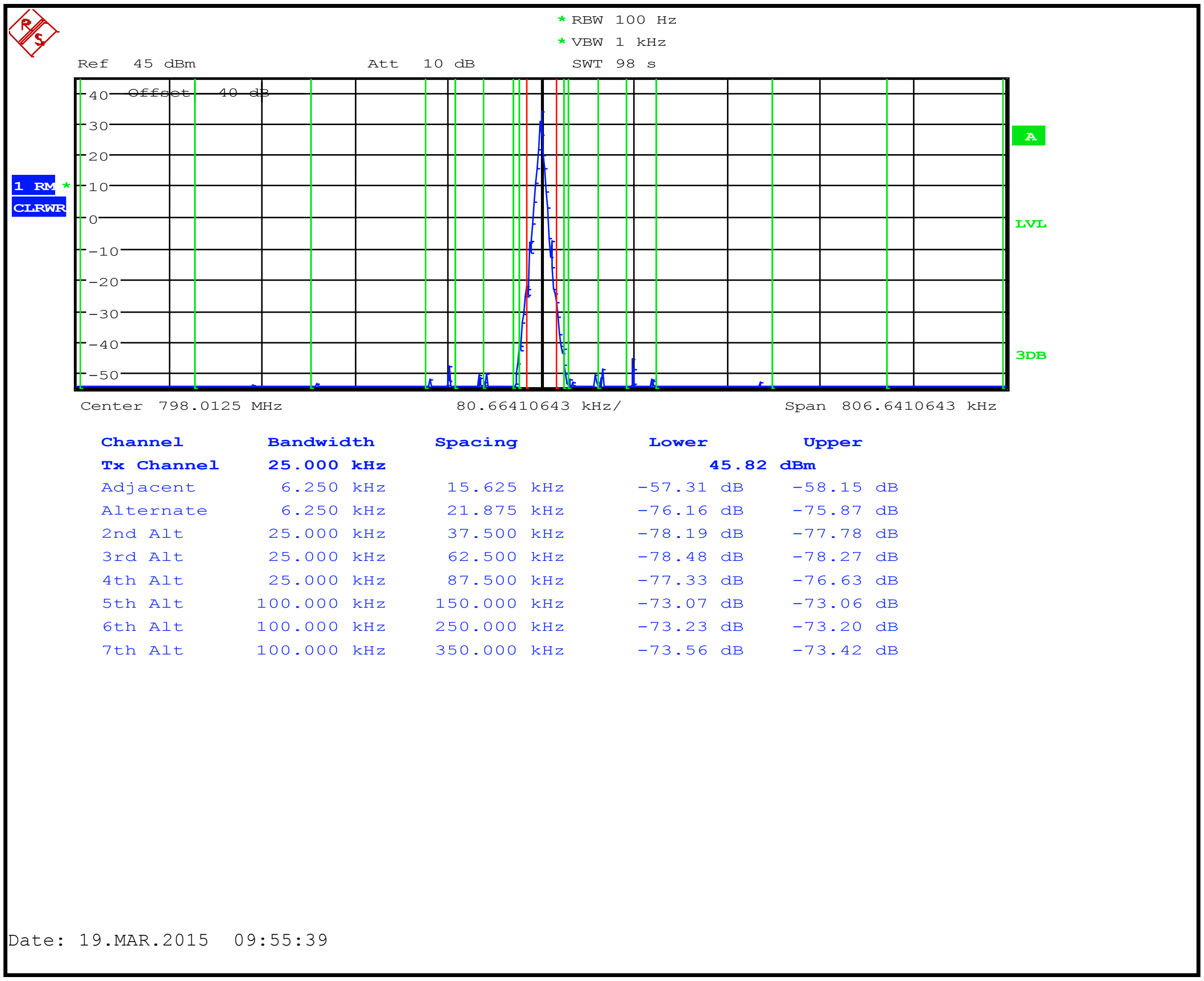


Table 6-25: Adjacent Channel Power - 798.0125 MHz; OTP NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.3
12 MHz to receive band	30(s)	-75	-95.1
In receive band	30(s)	-100	-100.9

Plot 6-26: Adjacent Channel Power - 799.0125 MHz; OTP NPSPAC (9.375 kHz - 350 kHz)

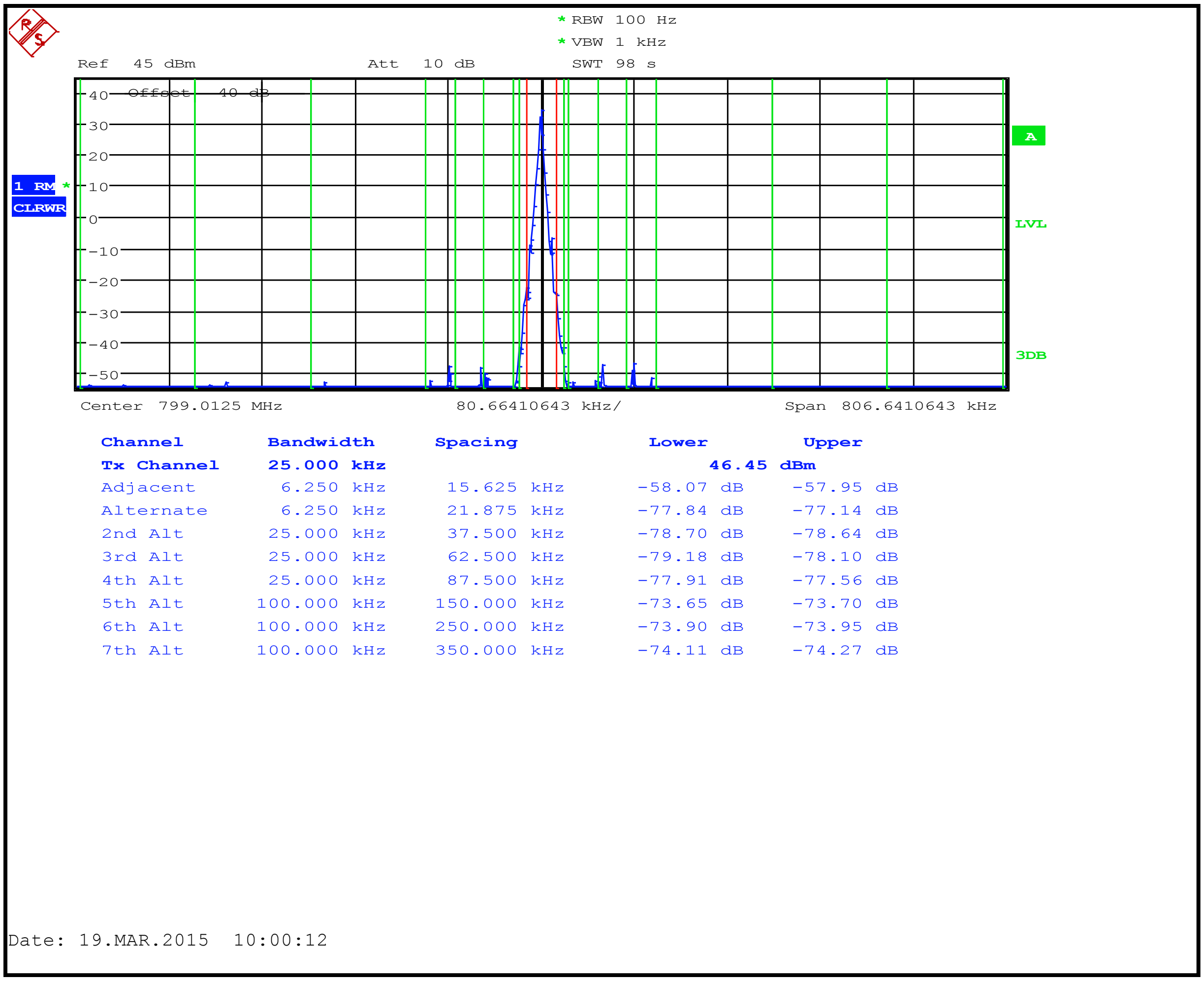
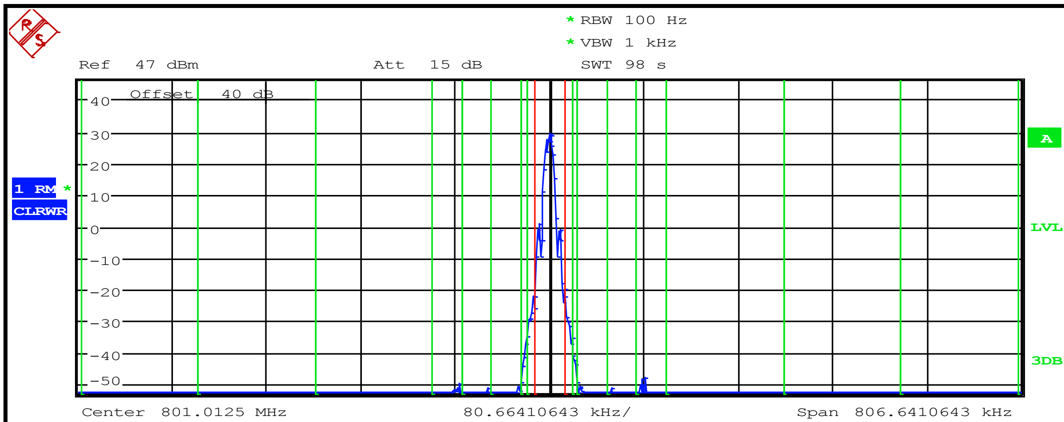


Table 6-26: Adjacent Channel Power - 799.0125 MHz; OTP NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.6
12 MHz to receive band	30(s)	-75	-88.8
In receive band	30(s)	-100	-102.2

Plot 6-27: Adjacent Channel Power - 801.0125 MHz; OTP NPSPAC (9.375 kHz - 350 kHz)



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	25.000 kHz		45.77 dBm	
Adjacent	6.250 kHz	15.625 kHz	-54.61 dB	-53.38 dB
Alternate	6.250 kHz	21.875 kHz	-69.12 dB	-68.91 dB
2nd Alt	25.000 kHz	37.500 kHz	-76.51 dB	-76.59 dB
3rd Alt	25.000 kHz	62.500 kHz	-77.14 dB	-77.45 dB
4th Alt	25.000 kHz	87.500 kHz	-76.55 dB	-75.84 dB
5th Alt	100.000 kHz	150.000 kHz	-72.13 dB	-72.05 dB
6th Alt	100.000 kHz	250.000 kHz	-72.49 dB	-72.30 dB
7th Alt	100.000 kHz	350.000 kHz	-72.64 dB	-72.54 dB

Date: 19.MAR.2015 11:48:34

Table 6-27: Adjacent Channel Power - 801.0125 MHz; OTP NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.7
12 MHz to receive band	30(s)	-75	-98.6
In receive band	30(s)	-100	-103.0

Plot 6-28: Adjacent Channel Power - 804.9875 MHz; OTP NPSPAC (9.375 kHz - 350 kHz)

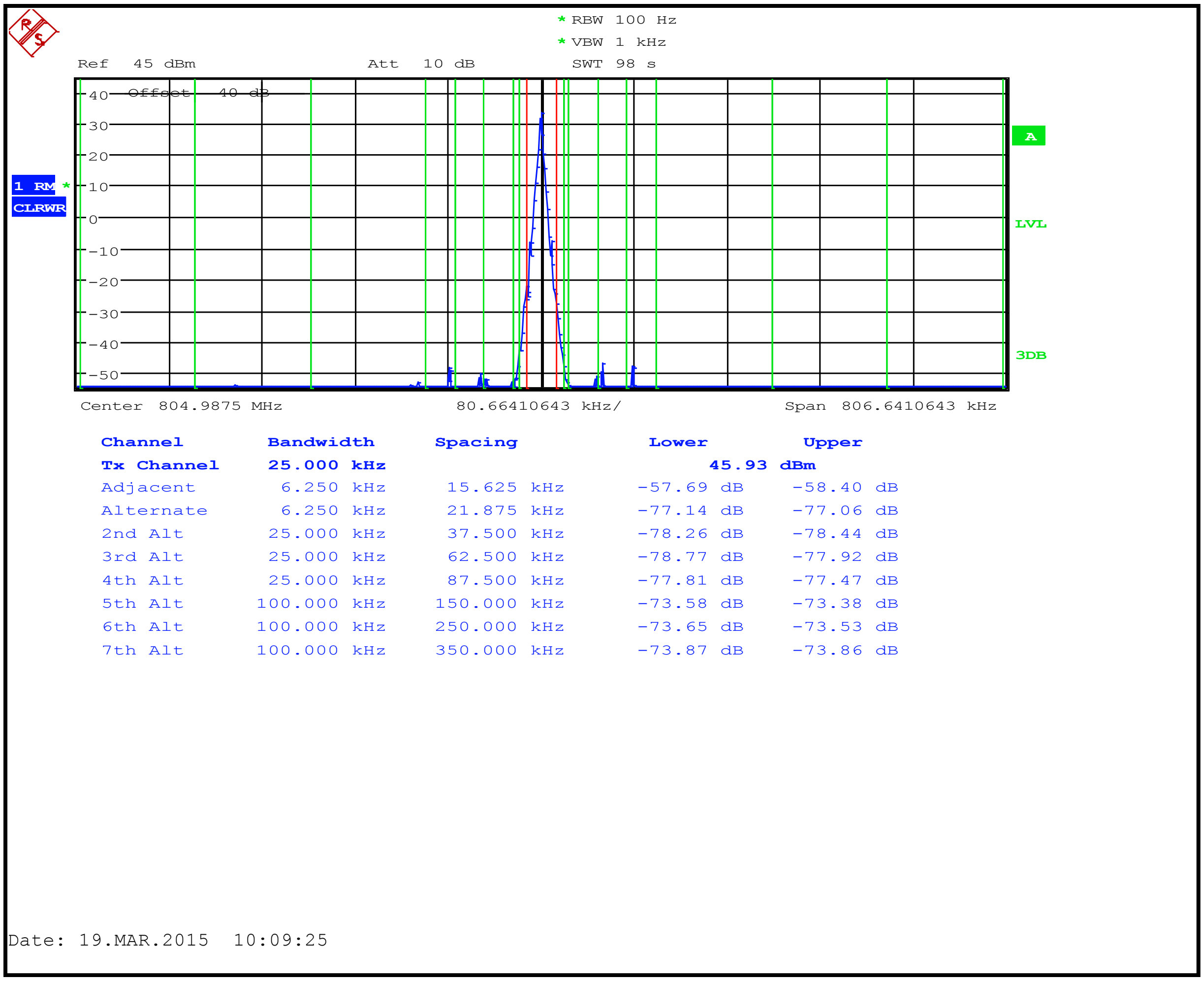


Table 6-28: Adjacent Channel Power - 804.9875 MHz; OTP NPSPAC (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.4
12 MHz to receive band	30(s)	-75	-100.5
In receive band	30(s)	-100	-105.8

Plot 6-29: Adjacent Channel Power - 798.0125 MHz; OTP NB (9.375 kHz - 350 kHz)

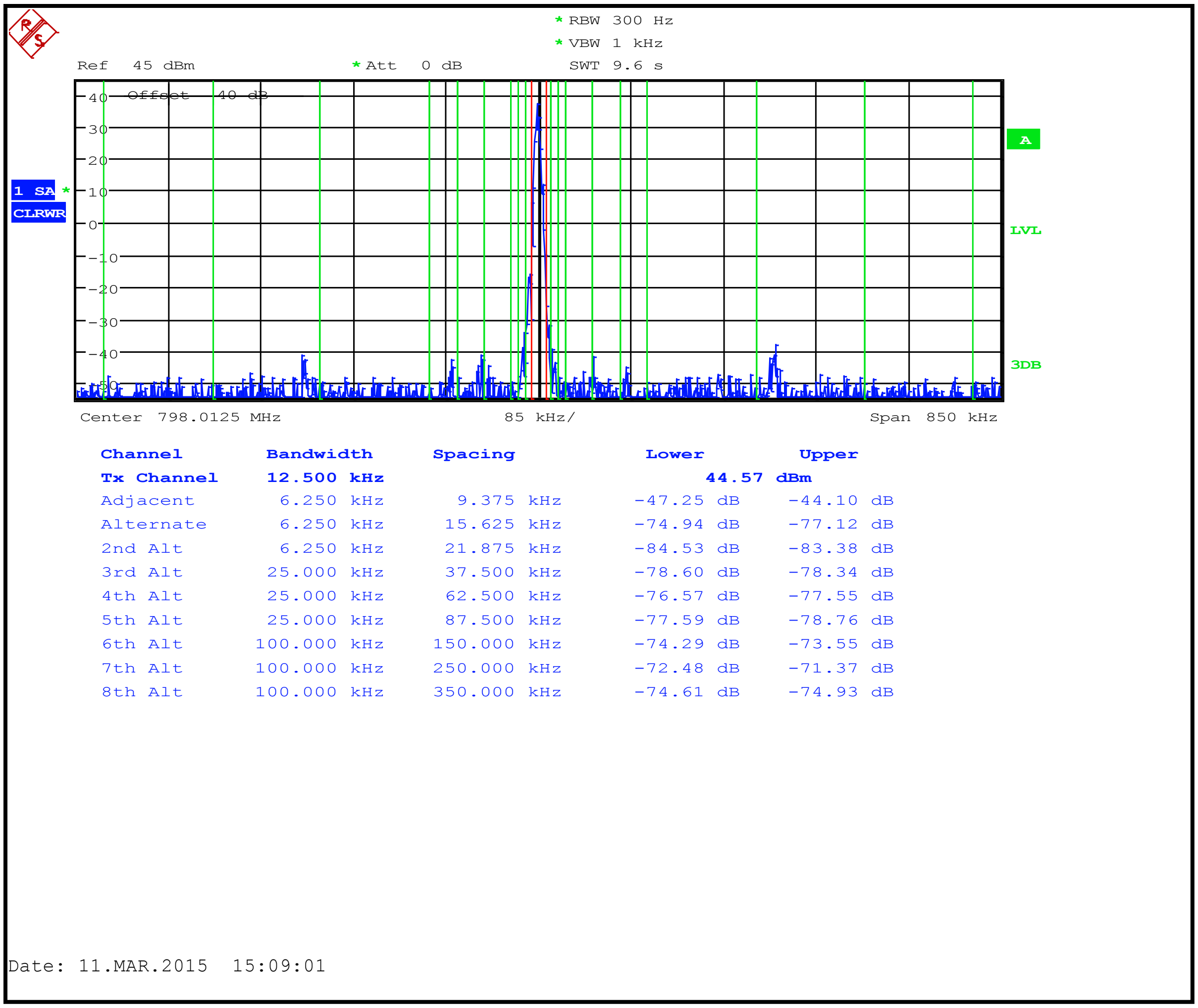


Table 6-29: Adjacent Channel Power - 798.0125 MHz; OTP NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.3
12 MHz to receive band	30(s)	-75	-99.1
In receive band	30(s)	-100	-104.7

Plot 6-30: Adjacent Channel Power - 799.0125 MHz; OTP NB (9.375 kHz - 350 kHz)

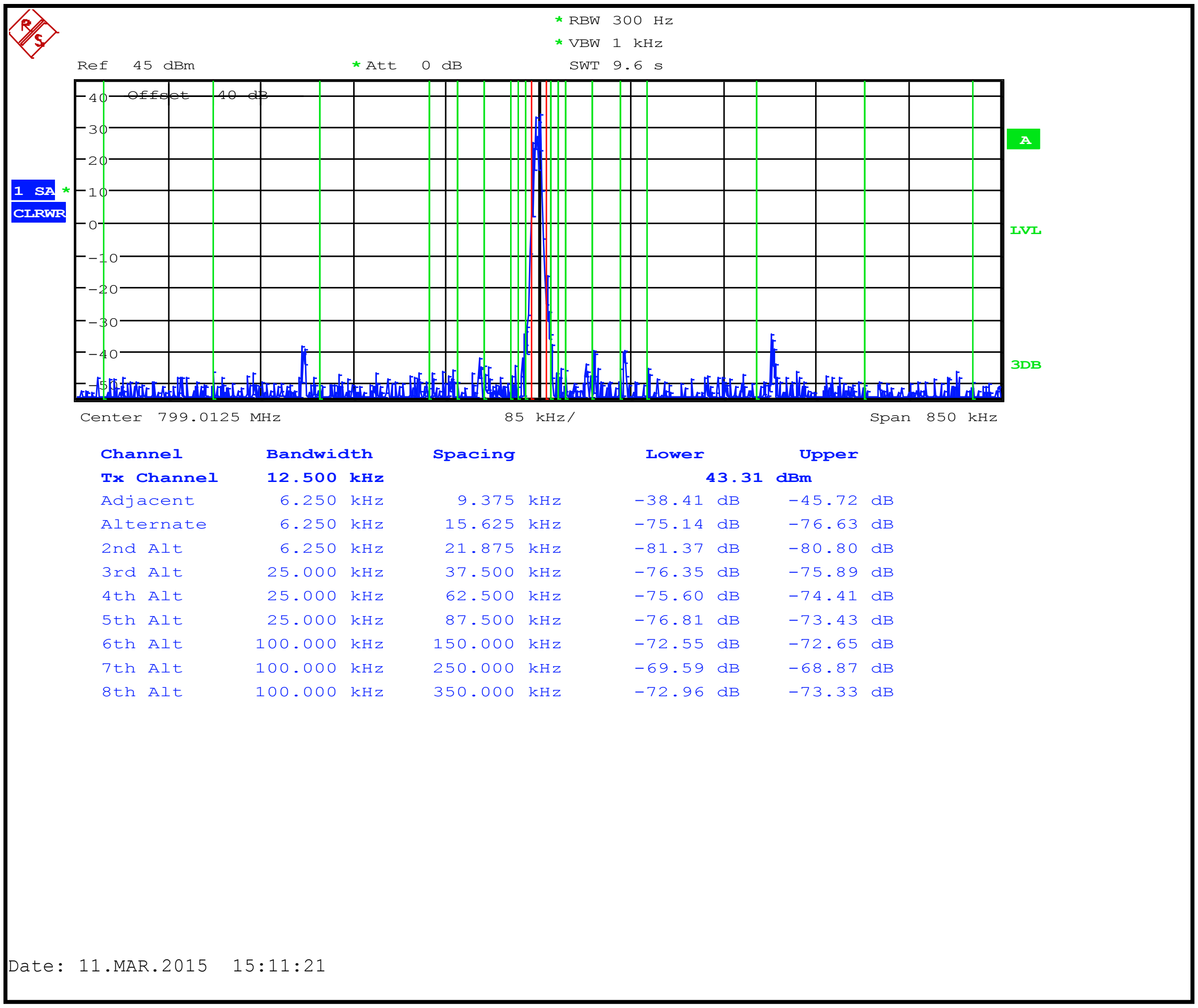


Table 6-30: Adjacent Channel Power - 799.0125 MHz; OTP NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.6
12 MHz to receive band	30(s)	-75	-99.2
In receive band	30(s)	-100	-103.1

Plot 6-31: Adjacent Channel Power - 801.0125 MHz; OTP NB (9.375 kHz - 350 kHz)

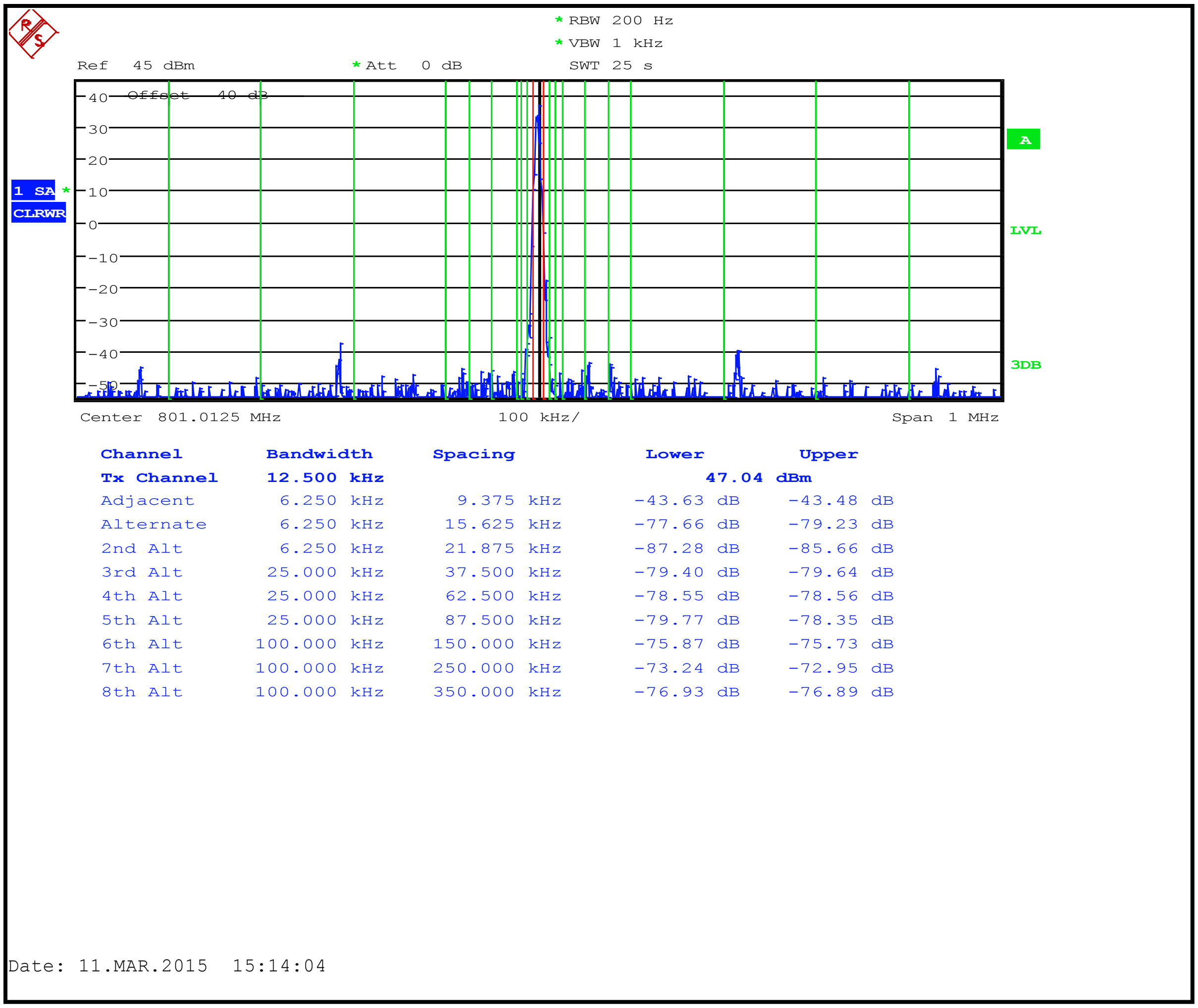


Table 6-31: Adjacent Channel Power - 801.0125 MHz; OTP NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.0
12 MHz to receive band	30(s)	-75	-100.2
In receive band	30(s)	-100	-103.8

Plot 6-32: Adjacent Channel Power - 804.9875 MHz; OTP NB (9.375 kHz - 350 kHz)

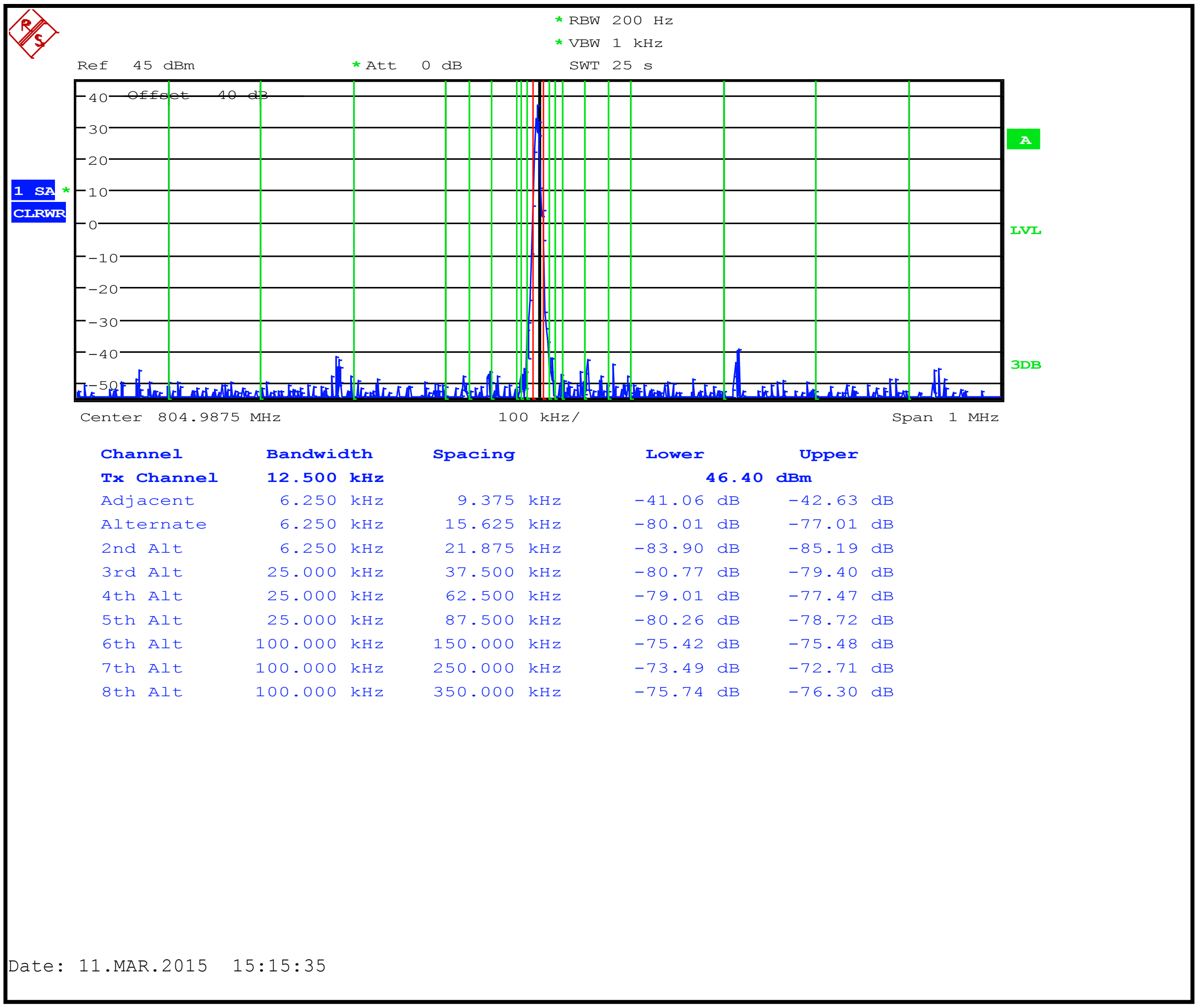


Table 6-32: Adjacent Channel Power - 804.9875 MHz; OTP NB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.2
12 MHz to receive band	30(s)	-75	-101.0
In receive band	30(s)	-100	-103.4

Plot 6-33: Adjacent Channel Power - 798.0125 MHz; OTP WB (9.375 kHz - 350 kHz)

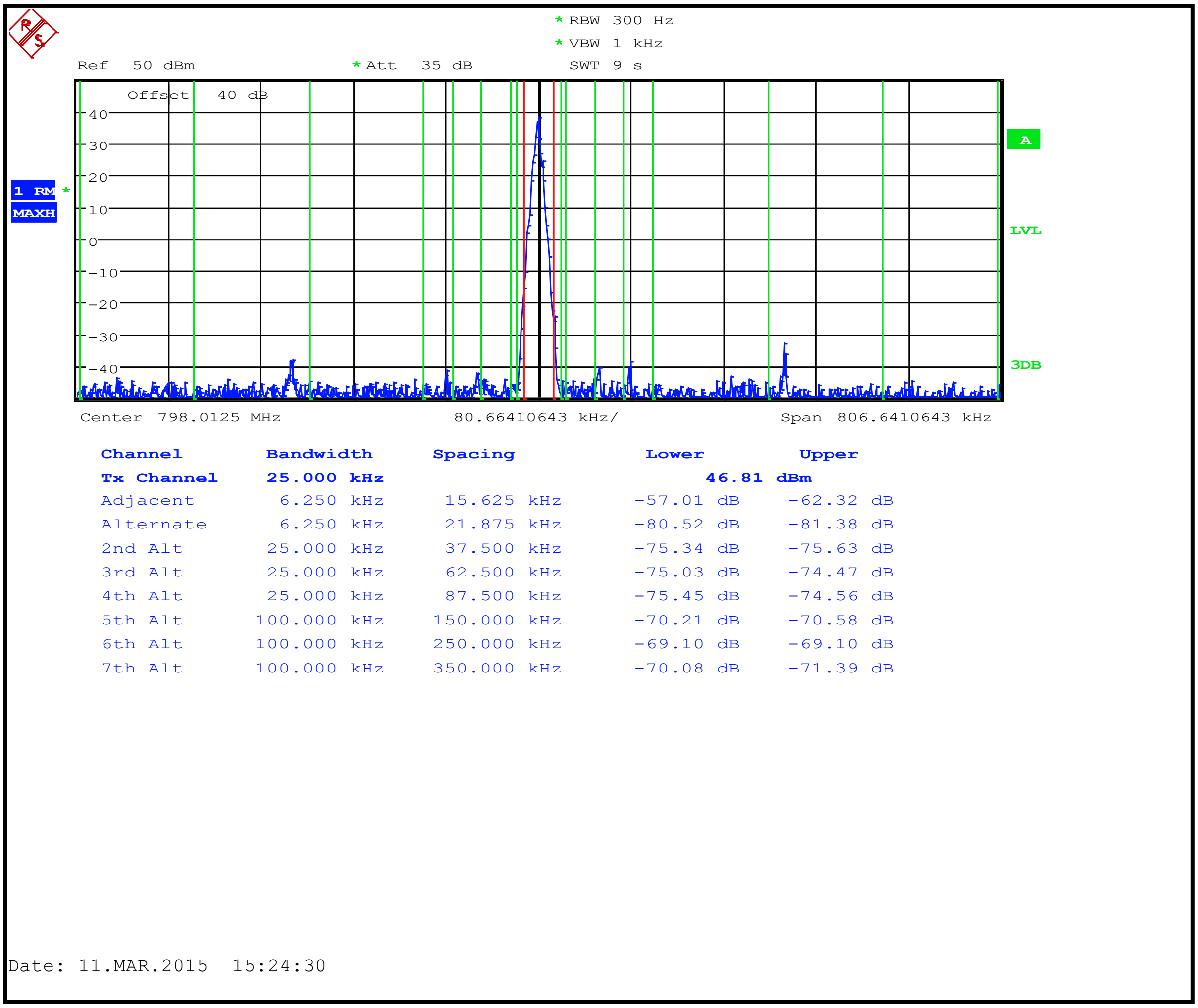


Table 6-33: Adjacent Channel Power - 798.0125 MHz; OTP WB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.6
12 MHz to receive band	30(s)	-75	-100.2
In receive band	30(s)	-100	-102.7

Plot 6-34: Adjacent Channel Power - 799.0125 MHz; OTP WB (9.375 kHz - 350 kHz)

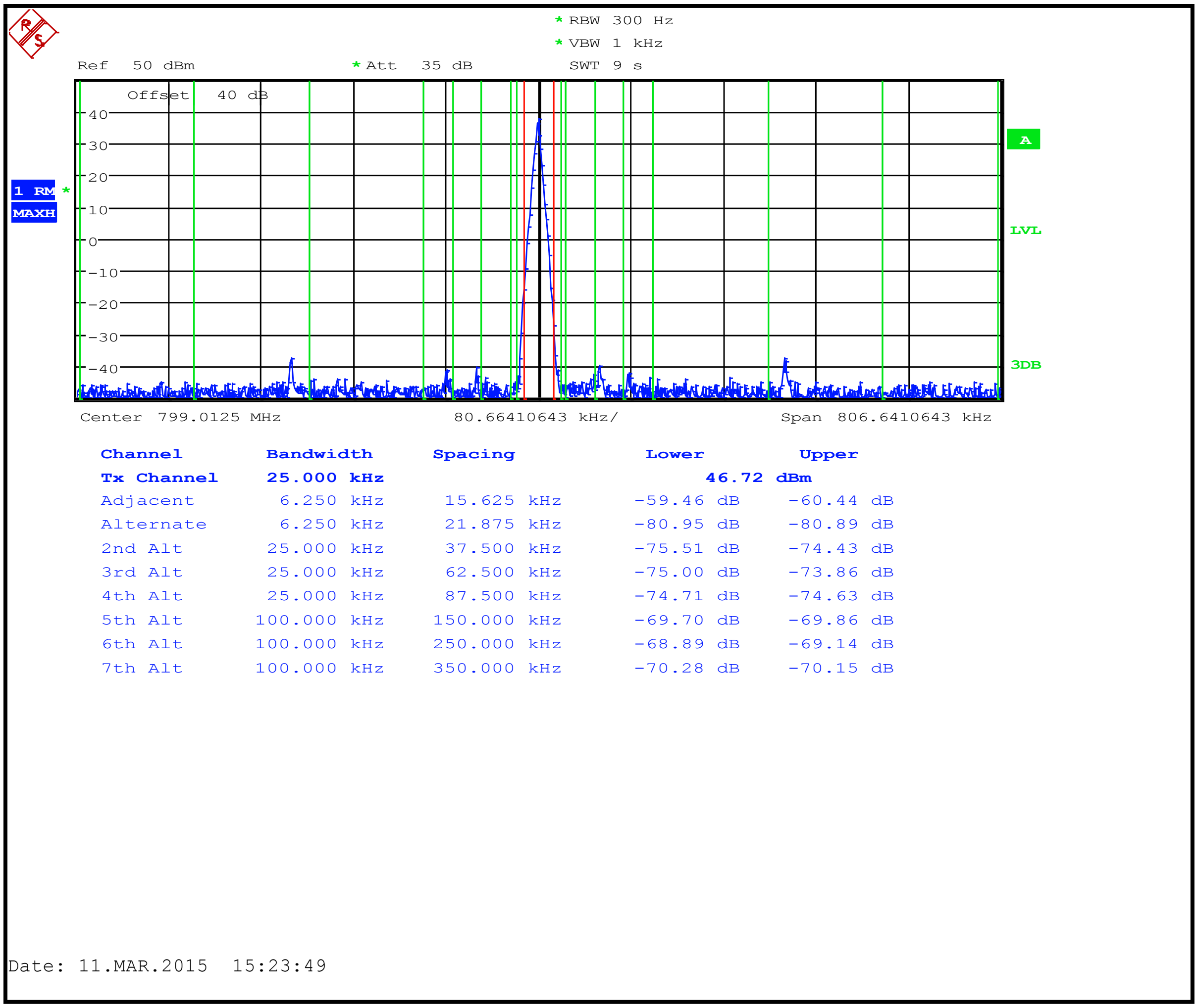


Table 6-34: Adjacent Channel Power - 799.0125 MHz; OTP WB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.2
12 MHz to receive band	30(s)	-75	-99.2
In receive band	30(s)	-100	-102.8

Plot 6-35: Adjacent Channel Power - 801.0125 MHz; OTP WB (9.375 kHz - 350 kHz)

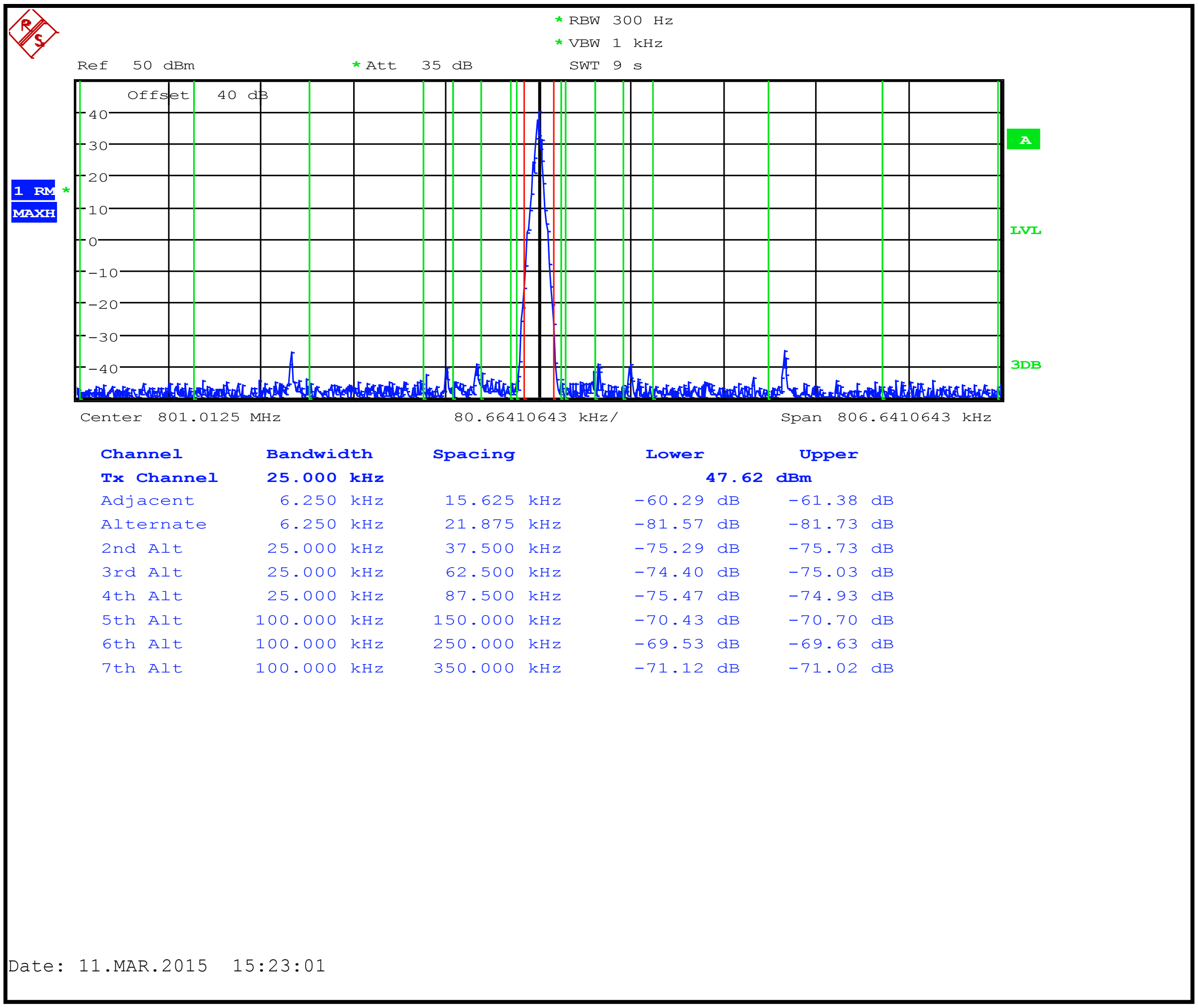


Table 6-35: Adjacent Channel Power - 801.0125 MHz; OTP WB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.8
12 MHz to receive band	30(s)	-75	-99.4
In receive band	30(s)	-100	-103.2

Plot 6-36: Adjacent Channel Power - 804.9875 MHz; OTP WB (9.375 kHz - 350 kHz)

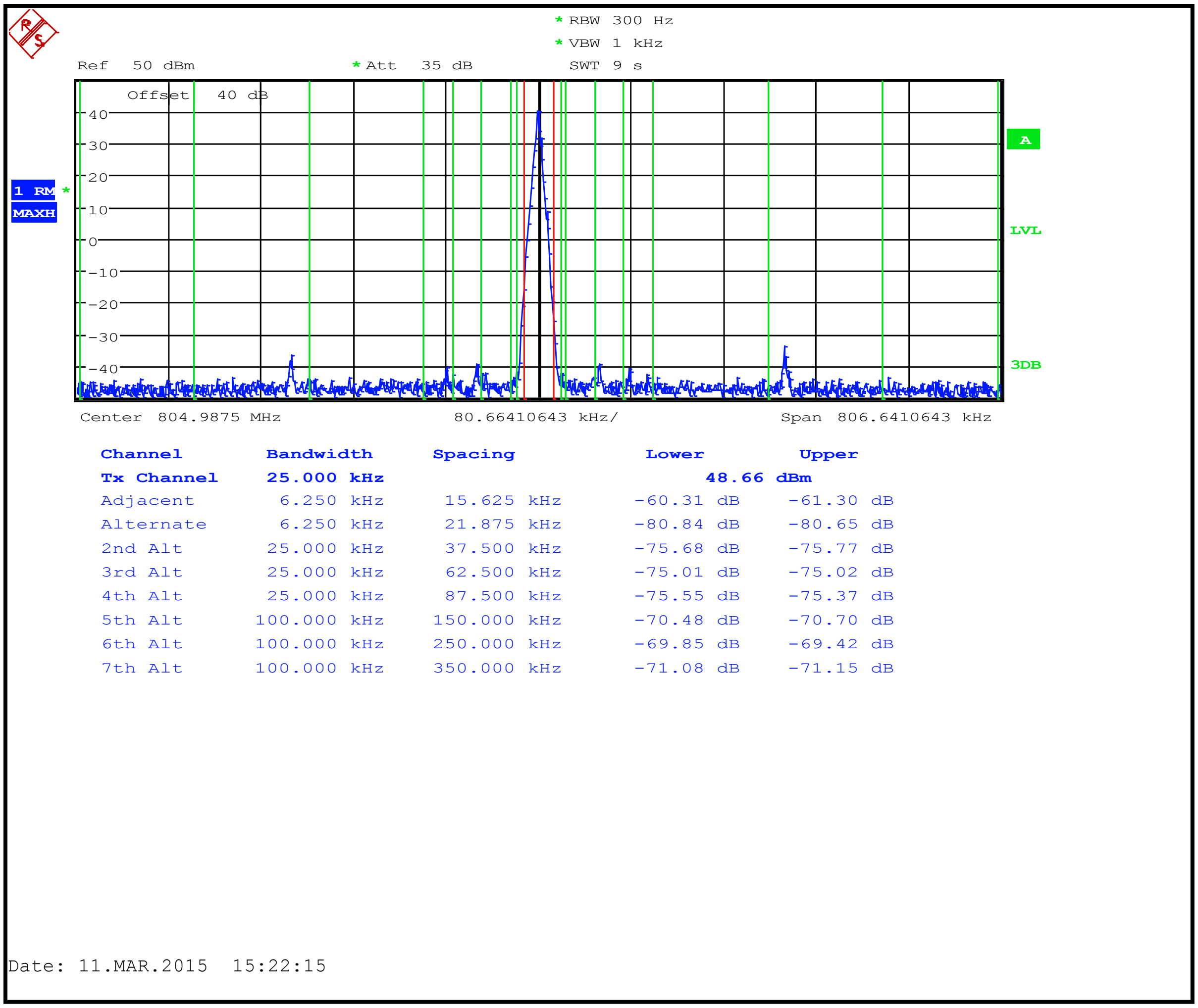


Table 6-36: Adjacent Channel Power - 804.9875 MHz; OTP WB (>400 kHz - RX Band)

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Measured ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.9
12 MHz to receive band	30(s)	-75	-101.2
In receive band	30(s)	-100	-102.9

Table 6-37: Test Equipment Used For Testing ACP Requirements

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/15
901536	Aeroflex	48-40-34	40 dB Attenuator	CB6627	10/6/15

Test Personnel:

Daniel Baltzell	Daniel W. Baltzell	March 10-11, 2015
EMC Test Engineer	Signature	Dates of Tests

7 FCC Rules and Regulations Part 90.210(g) and Part 2.1053(a): Field Strength of Spurious Radiation; Part 90.543(f): Out of Band Emissions Limit; RSS-119 5.8.9.2 Out-of-band Emission Limit

7.1 Test Procedure

ANSI/TIA-603-2004, section 2.2.12

The device uses digital modulation modulated to its maximum extent using a pseudo-random data sequence.

The spurious emissions levels were measured, and the device under test was replaced by a substitution antenna connected to a signal generator. This signal generator level was then corrected by subtracting the cable loss from the substitution antenna to the signal generator, and the gain of the antenna (dBi) was added to achieve the EIRP level, then converted from the corrected signal generator level (dBm) to dBc, or dBW for 700 MHz band, and compared to the limit.

For emissions in the 1559-1610 band, Part 90.543(f) states: "For operations in the 763–775 MHz and 793–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation."

7.2 Test Data

Table 7-1: Field Strength of Spurious Radiation – 768.0125 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1536.0250	-0.5	-73.4	0.4	8.4	111.1	-45.3
2304.0375	8.4	-70.3	0.5	9.0	107.6	-41.8
3072.0500	19.5	-57.4	0.7	9.0	94.8	-29.0
3840.0625	15.9	-58.9	0.8	8.6	96.9	-31.1
4608.0750	22.5	-48.9	0.9	10.8	84.9	-19.1
5376.0875	16.8	-54.6	1.0	10.3	91.1	-25.3
6144.1000	14.6	-56.1	1.2	10.8	92.3	-26.5
6912.1125	2.9	-67.0	1.3	11.5	102.6	-36.8
7680.1250	13.8	-55.0	1.4	11.2	91.0	-25.2

Table 7-2: Field Strength of Spurious Radiation – 769.0125 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1538.0250	-0.5	-73.5	0.4	8.5	111.2	-45.4
2307.0375	15.9	-60.7	0.5	9.0	98.0	-32.2
3076.0500	17.3	-59.6	0.7	9.0	97.0	-31.2
3845.0625	13.3	-60.4	0.8	8.6	98.4	-32.6
4614.0750	22.5	-48.9	0.9	10.8	84.9	-19.1
5383.0875	17.9	-54.0	1.0	10.3	90.5	-24.7
6152.1000	12.3	-58.4	1.2	10.8	94.6	-28.8
6921.1125	1.2	-68.7	1.3	11.5	104.3	-38.5
7690.1250	13.8	-55.0	1.4	11.2	91.0	-25.2

Table 7-3: Field Strength of Spurious Radiation – 772.0125 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1544.0250	-3.0	-78.3	0.4	8.5	116.0	-50.2
2316.0375	15.2	-61.4	0.5	9.0	98.7	-32.9
3088.0500	19.0	-57.9	0.7	9.0	95.4	-29.6
3860.0625	15.9	-57.8	0.8	8.7	95.8	-30.0
4632.0750	21.6	-49.8	0.9	10.7	85.8	-20.0
5404.0875	20.6	-51.3	1.0	10.3	87.9	-22.1
6176.1000	12.9	-57.8	1.2	10.8	94.0	-28.2
6948.1125	9.6	-60.3	1.3	11.5	95.9	-30.1
7720.1250	17.6	-51.2	1.4	11.2	87.2	-21.4

Table 7-4: Field Strength of Spurious Radiation – 774.9875 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1549.9750	-2.4	-75.2	0.4	8.5	112.9	-47.1
2324.9625	14.3	-62.3	0.5	9.0	99.7	-33.9
3099.9500	14.3	-61.0	0.7	8.9	98.5	-32.7
3874.9375	20.0	-54.7	0.8	8.7	92.6	-26.8
4649.9250	19.1	-52.3	0.9	10.7	88.3	-22.5
5424.9125	20.7	-50.7	1.1	10.3	87.3	-21.5
6199.9000	14.3	-56.3	1.2	10.8	92.5	-26.7
6974.8875	9.0	-60.9	1.3	11.6	96.4	-30.6
7749.8750	17.3	-51.5	1.4	11.2	87.4	-21.6

Table 7-5: Field Strength of Spurious Radiation – 775.9875 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1551.9750	-0.5	-75.9	0.4	8.5	113.6	-47.8
2327.9625	7.4	-71.2	0.5	9.0	108.6	-42.8
3103.9500	13.3	-61.9	0.7	8.9	99.4	-33.6
3879.9375	16.9	-57.8	0.8	8.7	95.7	-29.9
4655.9250	22.7	-48.7	0.9	10.7	84.7	-18.9
5431.9125	15.2	-56.2	1.1	10.3	92.8	-27.0
6207.9000	21.6	-49.0	1.2	10.8	85.2	-19.4
6983.8875	14.8	-55.1	1.3	11.6	90.6	-24.8
7759.8750	12.4	-56.4	1.4	11.2	92.4	-26.6

Table 7-6: Field Strength of Spurious Radiation – 798.0125 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1596.0250	6.5	-66.3	0.4	8.7	103.8	-38.0
2394.0375	7.0	-71.5	0.5	9.0	108.8	-43.0
3192.0500	9.9	-66.6	0.7	8.9	104.2	-38.4
3990.0625	6.6	-66.8	0.8	9.3	104.1	-38.3
4788.0750	10.3	-61.6	0.9	10.6	97.7	-31.9
5586.0875	9.3	-61.9	1.1	10.5	98.3	-32.5
6384.1000	-7.1	-77.8	1.2	11.3	113.5	-47.7
7182.1125	-3.5	-73.3	1.3	11.1	109.3	-43.5
7980.1250	-11.7	-80.3	1.4	11.1	116.4	-50.6

Table 7-7: Field Strength of Spurious Radiation – 799.0125 MHz

Conducted Power 45.8 dBm; 38.0 W; Limit=50+10LogP=65.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1598.0250	9.5	-63.2	0.4	8.7	100.7	-34.9
2397.0375	13.2	-63.3	0.5	9.0	100.6	-34.8
3196.0500	11.3	-65.2	0.7	8.9	102.9	-37.1
3995.0625	-7.3	-81.7	0.8	9.3	119.0	-53.2
4794.0750	2.9	-68.7	1.0	10.6	104.8	-39.0
5593.0875	4.1	-67.1	1.1	10.5	103.5	-37.7
6392.1000	-10.5	-80.9	1.2	11.3	116.6	-50.8
7191.1125	-12.1	-81.7	1.3	11.1	117.7	-51.9
7990.1250	-12.3	-80.9	1.4	11.1	117.0	-51.2

Table 7-8: Field Strength of Spurious Radiation – 801.0125 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1602.0250	18.8	-54.1	0.4	8.7	91.5	-25.8
2403.0375	12.3	-66.1	0.5	9.0	103.4	-37.7
3204.0500	11.8	-64.7	0.7	8.9	102.3	-36.6
4005.0625	12.0	-58.9	0.8	9.3	96.1	-30.4
4806.0750	9.1	-62.5	1.0	10.6	98.5	-32.8
5607.0875	3.9	-67.8	1.1	10.6	103.9	-38.2
6408.1000	-12.6	-83.0	1.2	11.4	118.6	-52.9
7209.1125	-10.6	-80.2	1.3	11.0	116.2	-50.5
8010.1250	-13.6	-81.8	1.4	11.1	117.8	-52.1

Table 7-9: Field Strength of Spurious Radiation – 804.9875 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1609.9750	7.5	-65.2	0.4	8.7	102.6	-36.9
2414.9625	8.6	-69.8	0.6	9.0	107.1	-41.4
3219.9500	12.3	-64.2	0.7	8.9	101.7	-36.0
4024.9375	13.8	-57.4	0.8	9.4	94.5	-28.8
4829.9250	11.3	-60.3	1.0	10.6	96.3	-30.6
5634.9125	4.9	-66.4	1.1	10.7	102.4	-36.7
6439.9000	-4.6	-75.0	1.2	11.4	110.5	-44.8
7244.8875	-9.9	-79.5	1.3	10.9	115.6	-49.9
8049.8750	-12.1	-78.6	1.5	11.1	114.6	-48.9

Table 7-10: Field Strength of Spurious Radiation – 806.0125 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1612.0250	18.8	-54.0	0.4	8.7	91.4	-25.7
2418.0375	21.3	-55.1	0.6	9.0	92.4	-26.7
3224.0500	10.6	-65.9	0.7	8.9	103.4	-37.7
4030.0625	14.6	-56.6	0.8	9.5	93.6	-27.9
4836.0750	1.4	-70.2	1.0	10.6	106.2	-40.5
5642.0875	1.3	-69.9	1.1	10.7	105.9	-40.2
6448.1000	-7.8	-78.1	1.2	11.5	113.6	-47.9
7254.1125	-10.0	-79.6	1.3	10.9	115.8	-50.1
8060.1250	-12.1	-78.2	1.5	11.1	114.2	-48.5

Table 7-11: Field Strength of Spurious Radiation – 811.0125MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1622.0250	19.6	-53.0	0.4	8.7	90.4	-24.7
2433.0375	22.5	-53.9	0.5	9.0	91.2	-25.5
3244.0500	10.3	-66.1	0.7	8.9	103.6	-37.9
4055.0625	17.5	-53.7	0.8	9.3	91.0	-25.3
4866.0750	0.3	-71.3	0.9	10.6	107.3	-41.6
5677.0875	12.2	-59.0	1.1	10.5	95.2	-29.5
6488.1000	6.4	-64.0	1.2	11.3	99.5	-33.8
7299.1125	-6.0	-75.5	1.3	11.1	111.4	-45.7
8110.1250	-9.6	-73.6	1.4	11.1	109.6	-43.9

Table 7-12: Field Strength of Spurious Radiation – 815.9875 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1631.9750	24.5	-48.1	0.4	8.7	85.5	-19.8
2447.9625	23.1	-53.4	0.5	9.0	90.6	-24.9
3263.9500	9.5	-66.9	0.7	8.9	104.4	-38.7
4079.9375	15.8	-55.1	0.8	9.3	92.4	-26.7
4895.9250	9.3	-62.4	1.0	10.6	98.4	-32.7
5711.9125	5.0	-66.2	1.1	10.5	102.4	-36.7
6527.9000	-8.3	-79.0	1.2	11.3	114.5	-48.8
7343.8875	-10.9	-80.2	1.3	11.1	116.1	-50.4
8159.8750	-11.8	-73.8	1.4	11.1	109.8	-44.1

Table 7-13: Field Strength of Spurious Radiation – 851.0125 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1702.0250	25.4	-47.1	0.4	8.7	84.5	-18.8
2553.0375	28.9	-47.3	0.5	9.0	84.6	-18.9
3404.0500	23.1	-52.9	0.7	8.9	90.4	-24.7
4255.0625	16.5	-54.9	0.8	9.3	92.1	-26.4
5106.0750	14.3	-57.4	1.0	10.6	93.4	-27.7
5957.0875	10.5	-60.4	1.1	10.6	96.6	-30.9
6808.1000	11.0	-59.0	1.2	11.4	94.5	-28.8
7659.1125	12.0	-56.8	1.3	11.0	92.8	-27.1
8510.1250	-13.1	-74.2	1.4	11.1	110.2	-44.5

Table 7-14: Field Strength of Spurious Radiation – 856.0125 MHz

Conducted Power 45.7 dBm; 37.2 W; Limit=50+10LogP=65.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1712.0250	23.5	-49.0	0.4	8.7	86.4	-20.7
2568.0375	30.0	-46.2	0.6	9.0	83.4	-17.7
3424.0500	24.4	-51.6	0.7	8.9	89.1	-23.4
4280.0625	18.8	-52.3	0.8	9.4	89.4	-23.7
5136.0750	14.5	-57.2	1.0	10.6	93.2	-27.5
5992.0875	13.4	-57.5	1.1	10.7	93.6	-27.9
6848.1000	3.1	-66.9	1.2	11.4	102.3	-36.6
7704.1125	14.3	-54.5	1.3	10.9	90.6	-24.9
8560.1250	-13.4	-74.6	1.5	11.1	110.6	-44.9

Table 7-15: Field Strength of Spurious Radiation – 860.9875 MHz

Conducted Power 45.6 dBm; 36.3 W; Limit=50+10LogP=65.6 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBc)	Margin (dB)
1721.9750	19.9	-52.7	0.4	8.7	90.0	-24.4
2582.9625	29.4	-46.8	0.6	9.0	83.9	-18.3
3443.9500	23.8	-52.1	0.7	8.9	89.5	-23.9
4304.9375	20.1	-51.3	0.8	9.5	88.3	-22.7
5165.9250	8.7	-63.0	1.0	10.6	98.9	-33.3
6026.9125	13.3	-57.5	1.1	10.7	93.5	-27.9
6887.9000	7.7	-62.3	1.2	11.5	97.6	-32.0
7748.8875	17.6	-51.2	1.3	10.9	87.3	-21.7
8609.8750	-13.1	-74.5	1.5	11.1	110.4	-44.8

Table 7-16: Part 90.543(f): Out of Band Emissions Limit

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBW)	Limit (dBW)	Margin (dB)
1596.025	6.5	-66.3	0.4	6.7	-90.0	-70.0	-20.0
1598.025	9.5	-63.2	0.4	6.7	-86.9	-70.0	-16.9
1602.025	18.8	-54.1	0.4	6.8	-77.7	-70.0	-7.7
1609.975	7.5	-65.2	0.4	8.7	-86.9	-70.0	-16.9

Table 7-17: Test Equipment Used For Testing Field Strength of Spurious Radiation

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900878	Rhein Tech Laboratories	AM3-1197-0005	3 meter antenna mast, polarizing	OATS1	N/A
901592	Insulated Wire Inc.	KPS-1503-3600-KPR	SMK RF Cables 20'	NA	9/3/15
901593	Insulated Wire Inc.	KPS-1503-360-KPR	SMK RF Cables 36"	NA	9/3/15
901594	Insulated Wire Inc.	KPS-1503-360-KPR	SMK RF Cables 36"	NA	9/3/15
901242	Rhein Tech Laboratories	WRT-000-0003	Wood rotating table	N/A	N/A
900791	Chase	CBL6111B	Bilog Antenna (30 MHz – 2000 MHz)	N/A	6/11/17
900321	EMCO	3161-03	Horn Antennas (4 – 8 GHz)	9508-1020	4/20/15
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/20/15
901582	Rohde & Schwarz	1167.0000.02	Signal Generator	101903	11/14/15
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/15

Test Personnel:

Daniel Baltzell	Daniel W. Baltzell	March 29, 2015
Test Engineer	Signature	Date of Tests

8 FCC Rules and Regulations Part 2.1049(c)(1): Occupied Bandwidth; Part 90.210 Authorized Bandwidth; RSS-119 5.5 Channel Spacing, Authorized Bandwidth, Occupied Bandwidth and Spectrum Masks

Occupied Bandwidth - Compliance with the Emission Masks

8.1 Test Procedure

ANSI/TIA/EIA-603-2004, section 2.2.11 and TIA/EIA-102.CAAA-2002 section 2.2.5

Device with digital modulation: Modulated to its maximum extent using a pseudo-random data sequence.

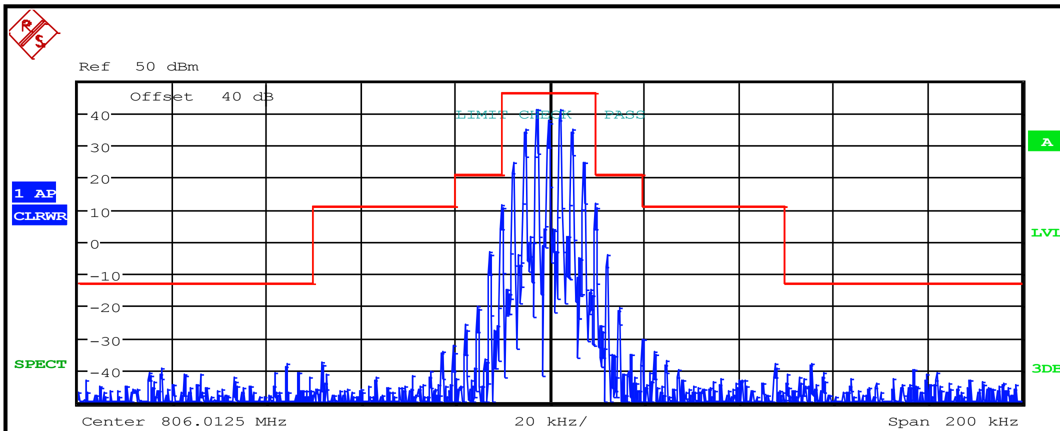
Applicable Emission Masks

Frequency Band (MHz)	Mask for Equipment With Audio Low Pass Filter	Mask for Equipment Without Audio Low Pass Filter
Below 25 [1]......................	A or B	A or C
25–50............................	B	C
72–76............................	B	C
150–174 [2]	B, D, or E	C, D, or E
150 Paging-only	B	C
220–222	F	F
421–512 [2]	B, D, or E	C, D, or E
450 Paging-only	B	G
806–809/851–854	B	H
809–824/854–869 [3]	B	G
896–901/935–940	I	J
902–928	K	K
929–930	B	G
4940–4990 MHz ……….	L or M	L or M
5850–5925 [4].................		
All other bands	B	C

[1] Equipment using single sideband J3E emission must meet the requirements of Emission Mask A. Equipment using other emissions must meet the requirements of Emission Mask B or C, as applicable.
[2] Equipment designed to operate with a 25 kHz channel bandwidth must meet the requirements of Emission Mask B or C, as applicable. Equipment designed to operate with a 12.5 kHz channel bandwidth must meet the requirements of Emission Mask D, and equipment designed to operate with a 6.25 kHz channel bandwidth must meet the requirements of Emission Mask E.
[3] Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of §90.691.
[4] DSRCS Roadside Unit equipment in the 5850–5925 MHz band is governed under subpart M of this part.

8.2 Test Data

Plot 8-1: Occupied Bandwidth – 806.0125 MHz; Wideband Analog; Mask B



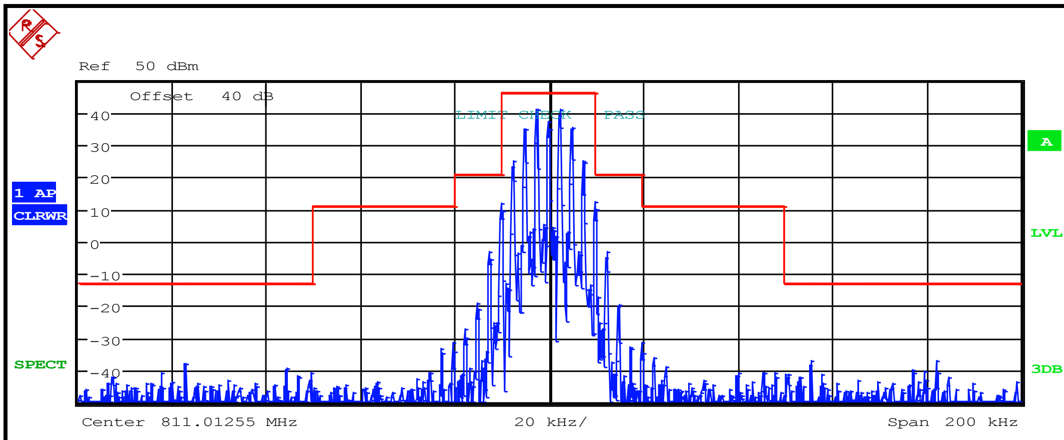
Tx Channel | **None**

Bandwidth 300 Hz | Peak Power 40.90 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.935256 M	-38.81	-85.24	-25.81
-50.000 k	-20.000 k	300.00	805.991987 M	-32.22	-78.65	-43.02
-20.000 k	-10.000 k	300.00	806.002244 M	11.35	-35.07	-9.45
10.000 k	20.000 k	300.00	806.022500 M	10.55	-35.88	-10.25
20.000 k	50.000 k	300.00	806.032500 M	-30.48	-76.91	-41.28
50.000 k	100.000 k	300.00	806.067949 M	-37.89	-84.32	-24.89

Date: 13.MAR.2015 09:07:59

Plot 8-2: Occupied Bandwidth – 811.0125 MHz; Wideband Analog; Mask B



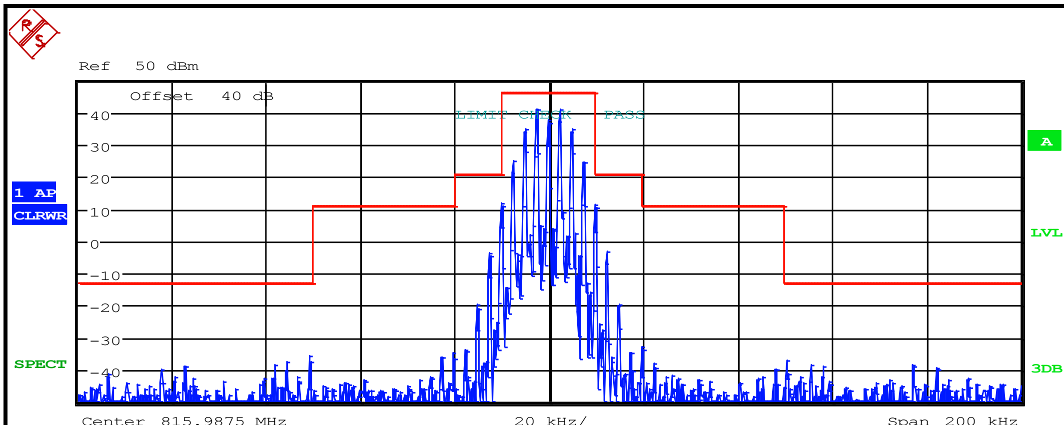
Tx Channel — **None**

Bandwidth 300 Hz — Peak Power 40.98 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.934986 M	-38.13	-84.34	-25.13
-50.000 k	-20.000 k	300.00	810.992037 M	-31.36	-77.58	-42.16
-20.000 k	-10.000 k	300.00	811.002294 M	11.68	-34.53	-9.12
10.000 k	20.000 k	300.00	811.022550 M	9.86	-36.35	-10.94
20.000 k	50.000 k	300.00	811.032550 M	-34.53	-80.74	-45.33
50.000 k	100.000 k	300.00	811.067999 M	-37.28	-83.49	-24.28

Date: 13.MAR.2015 09:07:37

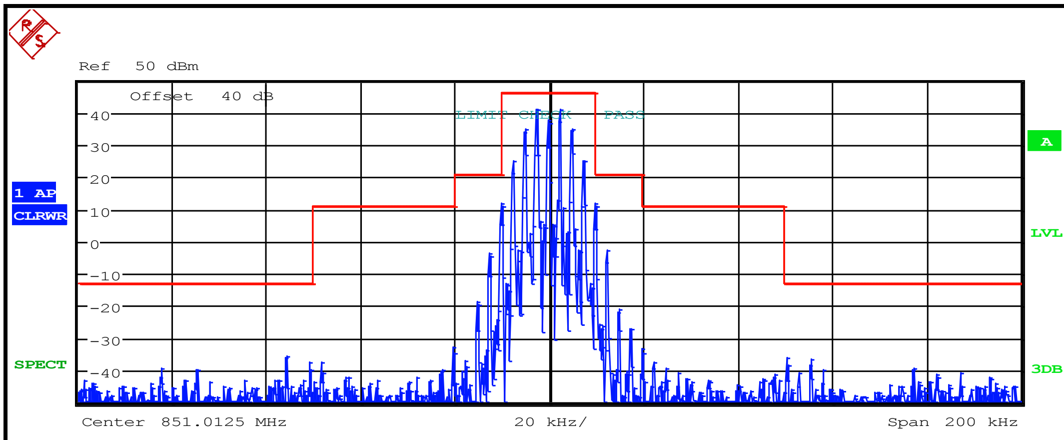
Plot 8-3: Occupied Bandwidth – 815.9875 MHz; Wideband Analog; Mask B



Tx Channel						None
Bandwidth		300 Hz	Peak Power			41.02 dBm
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.936538 M	-35.79	-82.30	-22.79
-50.000 k	-20.000 k	300.00	815.966987 M	-34.84	-81.35	-45.64
-20.000 k	-10.000 k	300.00	815.977244 M	11.59	-34.92	-9.21
10.000 k	20.000 k	300.00	815.997500 M	10.51	-36.00	-10.29
20.000 k	50.000 k	300.00	816.007500 M	-33.96	-80.46	-44.76
50.000 k	100.000 k	300.00	816.037821 M	-37.28	-83.78	-24.28

Date: 13.MAR.2015 09:07:09

Plot 8-4: Occupied Bandwidth – 851.0125 MHz; Wideband Analog; Mask B



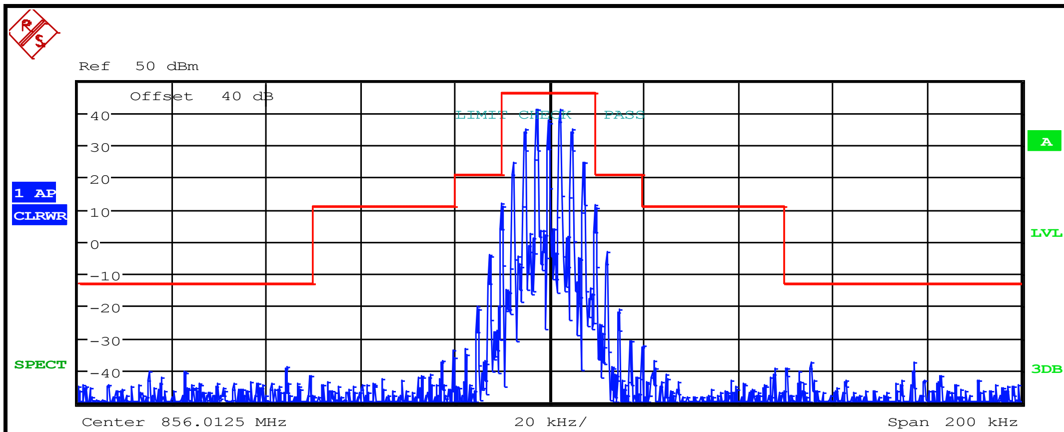
Tx Channel **None**

Bandwidth 300 Hz Peak Power 41.01 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	850.961538 M	-37.89	-84.40	-24.89
-50.000 k	-20.000 k	300.00	850.991987 M	-32.56	-79.06	-43.36
-20.000 k	-10.000 k	300.00	851.002244 M	11.90	-34.60	-8.90
10.000 k	20.000 k	300.00	851.022500 M	10.60	-35.90	-10.20
20.000 k	50.000 k	300.00	851.032500 M	-34.97	-81.47	-45.77
50.000 k	100.000 k	300.00	851.062821 M	-35.97	-82.48	-22.97

Date: 13.MAR.2015 09:06:21

Plot 8-5: Occupied Bandwidth – 856.0125 MHz; Wideband Analog; Mask B

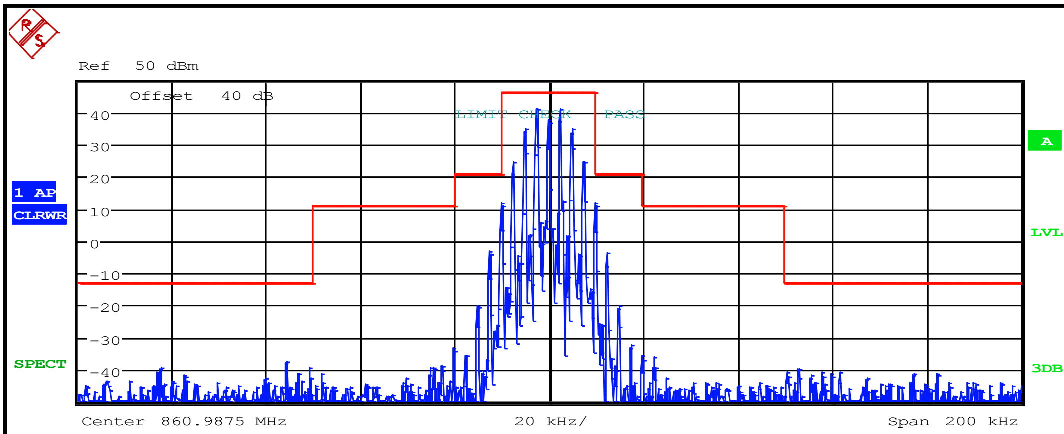


Tx Channel **None**
Bandwidth 300 Hz Peak Power 41.01 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	855.961538 M	-37.89	-84.43	-24.89
-50.000 k	-20.000 k	300.00	855.991987 M	-33.96	-80.49	-44.76
-20.000 k	-10.000 k	300.00	856.002244 M	11.37	-35.16	-9.43
10.000 k	20.000 k	300.00	856.022500 M	10.78	-35.76	-10.02
20.000 k	50.000 k	300.00	856.032500 M	-34.68	-81.22	-45.48
50.000 k	100.000 k	300.00	856.067949 M	-37.71	-84.25	-24.71

Date: 13.MAR.2015 09:05:30

Plot 8-6: Occupied Bandwidth – 860.9875 MHz; Wideband Analog; Mask B

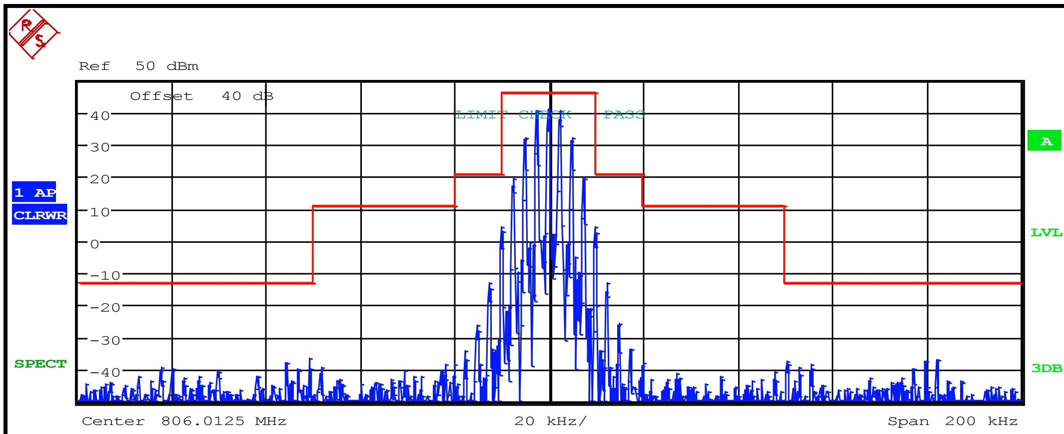


Tx Channel | **None**
Bandwidth 300 Hz | Peak Power 40.94 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	860.931731 M	-37.49	-83.98	-24.49
-50.000 k	-20.000 k	300.00	860.966987 M	-33.56	-80.04	-44.36
-20.000 k	-10.000 k	300.00	860.977244 M	11.50	-34.98	-9.30
10.000 k	20.000 k	300.00	860.997500 M	10.86	-35.62	-9.94
20.000 k	50.000 k	300.00	861.009615 M	-35.97	-82.46	-46.77
50.000 k	100.000 k	300.00	861.040064 M	-39.83	-86.32	-26.83

Date: 13.MAR.2015 09:05:00

Plot 8-7: Occupied Bandwidth – 806.0125 MHz; Analog NPSPAC; Mask B



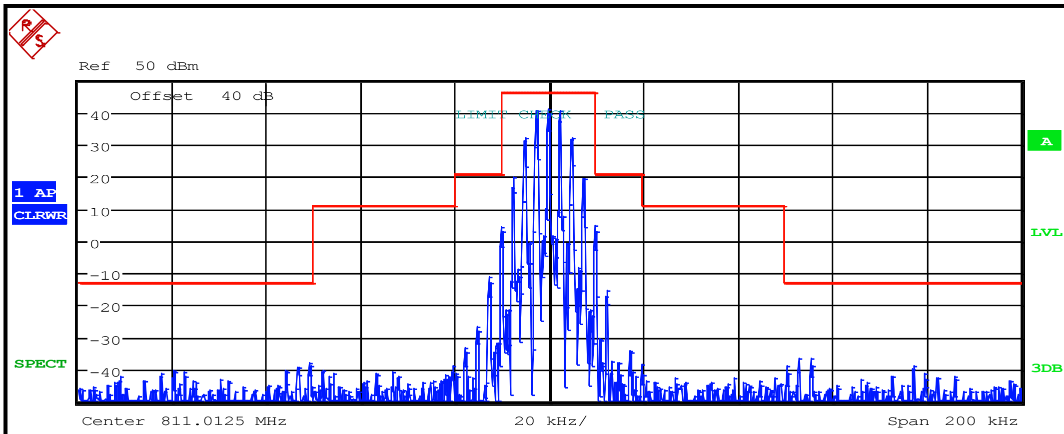
Tx Channel — **None**

Bandwidth 300 Hz — Peak Power 41.03 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.958974 M	-37.07	-83.54	-24.07
-50.000 k	-20.000 k	300.00	805.991987 M	-38.61	-85.08	-49.41
-20.000 k	-10.000 k	300.00	806.002244 M	4.19	-42.28	-16.61
10.000 k	20.000 k	300.00	806.022500 M	2.58	-43.90	-18.22
20.000 k	50.000 k	300.00	806.032500 M	-38.61	-85.08	-49.41
50.000 k	100.000 k	300.00	806.067949 M	-35.14	-81.61	-22.14

Date: 13.MAR.2015 09:12:56

Plot 8-8: Occupied Bandwidth – 811.0125 MHz; Analog NPSPAC; Mask B



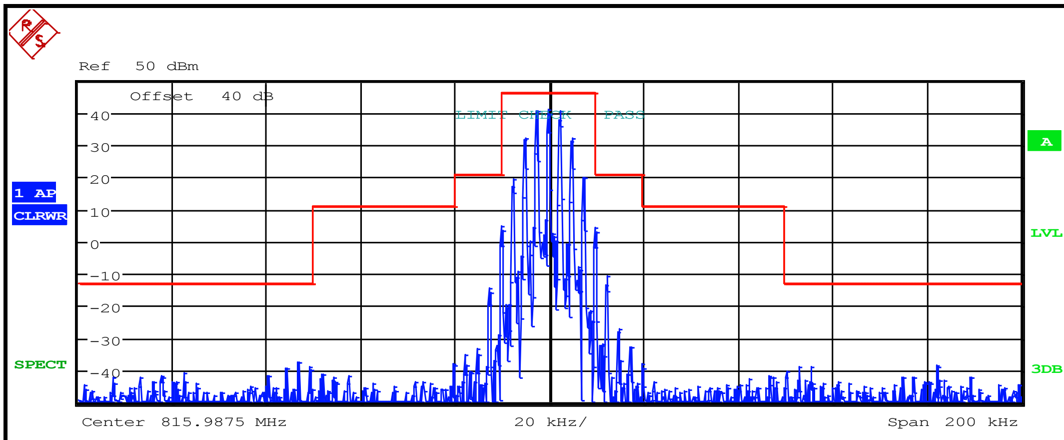
Tx Channel **None**

Bandwidth 300 Hz Peak Power 40.99 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.932692 M	-37.89	-84.39	-24.89
-50.000 k	-20.000 k	300.00	810.964103 M	-35.48	-81.97	-46.28
-20.000 k	-10.000 k	300.00	811.002244 M	4.45	-42.04	-16.35
10.000 k	20.000 k	300.00	811.022500 M	2.64	-43.86	-18.16
20.000 k	50.000 k	300.00	811.060256 M	-38.81	-85.31	-49.61
50.000 k	100.000 k	300.00	811.062821 M	-36.50	-83.00	-23.50

Date: 13.MAR.2015 09:13:40

Plot 8-9: Occupied Bandwidth – 815.9875 MHz; Analog NPSPAC; Mask B



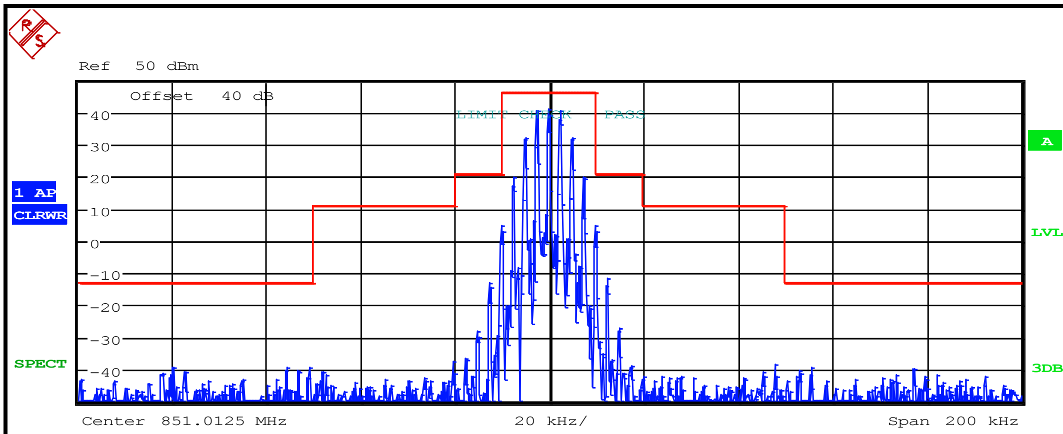
Tx Channel None

Bandwidth 300 Hz Peak Power 40.95 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.933974 M	-37.49	-83.91	-24.49
-50.000 k	-20.000 k	300.00	815.966987 M	-38.13	-84.54	-48.93
-20.000 k	-10.000 k	300.00	815.977244 M	4.64	-41.78	-16.16
10.000 k	20.000 k	300.00	815.997500 M	2.63	-43.79	-18.17
20.000 k	50.000 k	300.00	816.007500 M	-39.33	-85.75	-50.13
50.000 k	100.000 k	300.00	816.069551 M	-38.61	-85.03	-25.61

Date: 13.MAR.2015 09:14:13

Plot 8-10: Occupied Bandwidth – 851.0125 MHz; Analog NPSPAC; Mask B



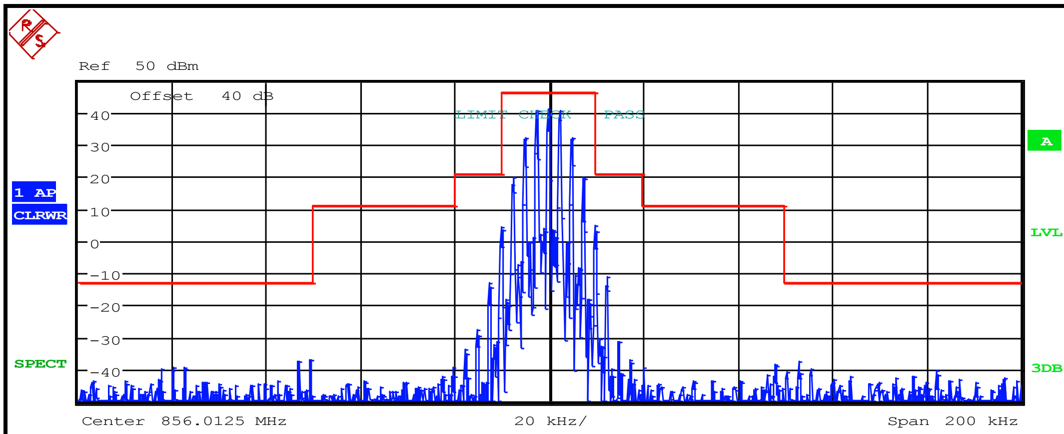
Tx Channel **None**

Bandwidth 300 Hz Peak Power 40.89 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	850.934936 M	-38.13	-84.57	-25.13
-50.000 k	-20.000 k	300.00	850.991987 M	-37.49	-83.93	-48.29
-20.000 k	-10.000 k	300.00	851.002244 M	4.55	-41.89	-16.25
10.000 k	20.000 k	300.00	851.022500 M	2.91	-43.53	-17.89
20.000 k	50.000 k	300.00	851.060256 M	-38.36	-84.81	-49.16
50.000 k	100.000 k	300.00	851.067949 M	-39.61	-86.05	-26.61

Date: 13.MAR.2015 09:14:46

Plot 8-11: Occupied Bandwidth – 856.0125 MHz; Analog NPSPAC; Mask B



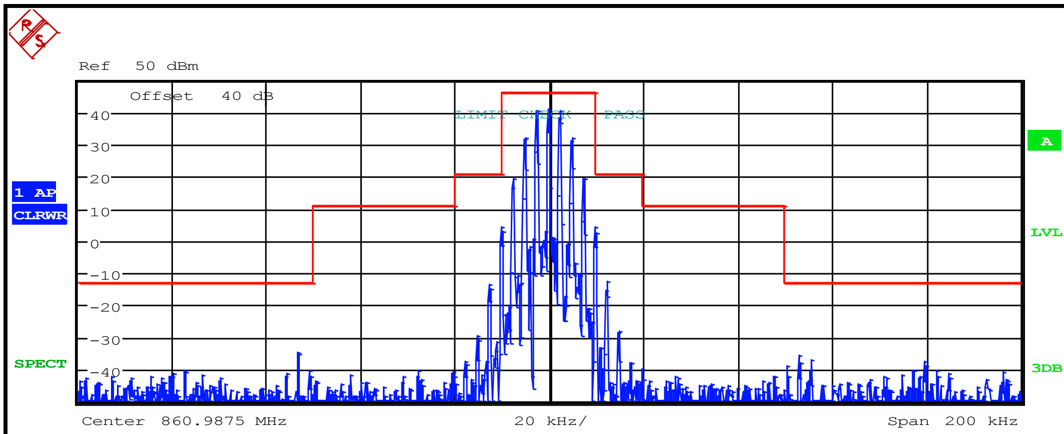
Tx Channel | **None**

Bandwidth 300 Hz | Peak Power 40.90 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	855.961538 M	-37.28	-83.81	-24.28
-50.000 k	-20.000 k	300.00	855.991987 M	-39.33	-85.87	-50.13
-20.000 k	-10.000 k	300.00	856.002244 M	4.33	-42.20	-16.47
10.000 k	20.000 k	300.00	856.022500 M	2.64	-43.89	-18.16
20.000 k	50.000 k	300.00	856.060256 M	-38.36	-84.90	-49.16
50.000 k	100.000 k	300.00	856.065385 M	-37.49	-84.03	-24.49

Date: 13.MAR.2015 09:15:12

Plot 8-12: Occupied Bandwidth – 860.9875 MHz; Analog NPSPAC; Mask B



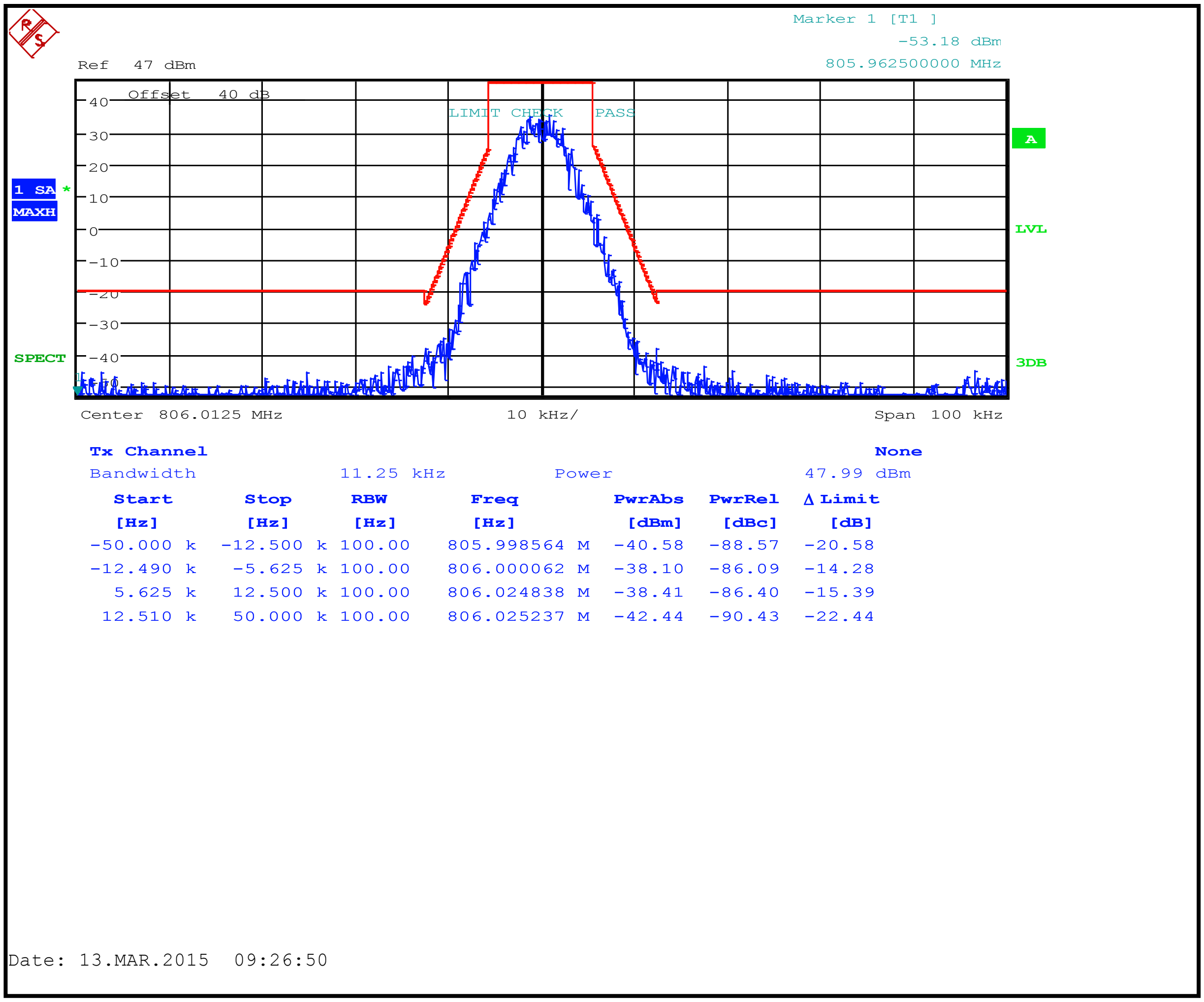
Tx Channel **None**

Bandwidth 300 Hz Peak Power 40.98 dBm

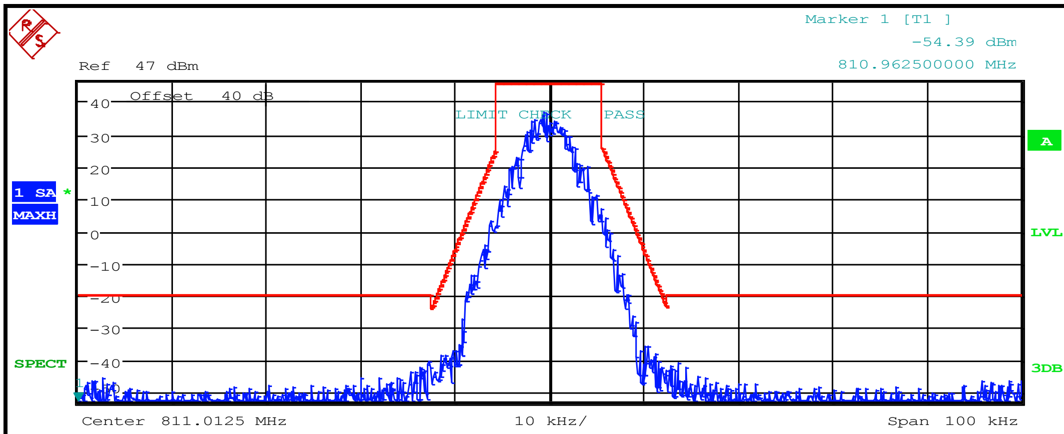
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	860.936538 M	-37.07	-83.53	-24.07
-50.000 k	-20.000 k	300.00	860.939103 M	-39.07	-85.53	-49.87
-20.000 k	-10.000 k	300.00	860.977244 M	4.26	-42.20	-16.54
10.000 k	20.000 k	300.00	860.997500 M	2.51	-43.96	-18.29
20.000 k	50.000 k	300.00	861.014103 M	-42.33	-88.80	-53.13
50.000 k	100.000 k	300.00	861.040385 M	-35.79	-82.26	-22.79

Date: 13.MAR.2015 09:15:35

Plot 8-13: Occupied Bandwidth – 806.0125 MHz; P25; Mask D



Plot 8-14: Occupied Bandwidth – 811.0125 MHz; P25; Mask D



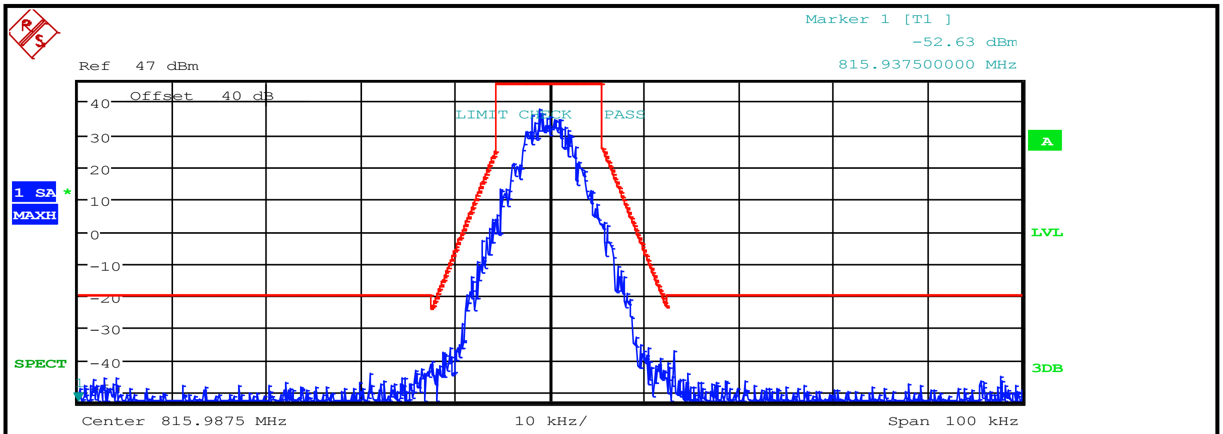
Tx Channel **None**

Bandwidth 11.25 kHz Power 48.66 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	810.999663 M	-40.49	-89.15	-20.49
-12.490 k	-5.625 k	100.00	811.000062 M	-41.91	-90.57	-18.09
5.625 k	12.500 k	100.00	811.018444 M	4.22	-44.44	-19.26
12.510 k	50.000 k	100.00	811.026136 M	-41.22	-89.88	-21.22

Date: 13.MAR.2015 09:28:12

Plot 8-15: Occupied Bandwidth – 815.9875 MHz; P25; Mask D



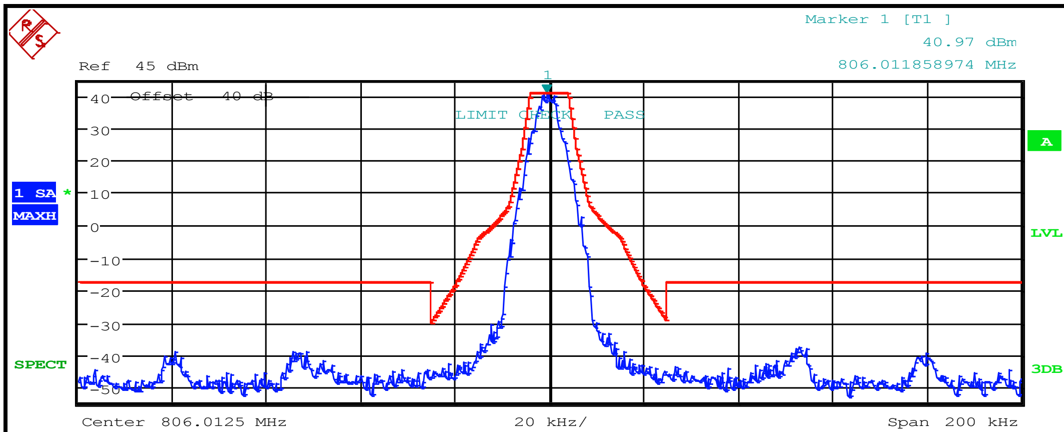
Tx Channel **None**

Bandwidth 11.25 kHz Power 49.33 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	815.974863 M	-41.42	-90.75	-21.42
-12.490 k	-5.625 k	100.00	815.975062 M	-40.49	-89.82	-16.67
5.625 k	12.500 k	100.00	815.999938 M	-41.12	-90.45	-17.38
12.510 k	50.000 k	100.00	816.000637 M	-37.22	-86.54	-17.22

Date: 13.MAR.2015 09:28:59

Plot 8-16: Occupied Bandwidth – 806.0125 MHz; P25; Mask H



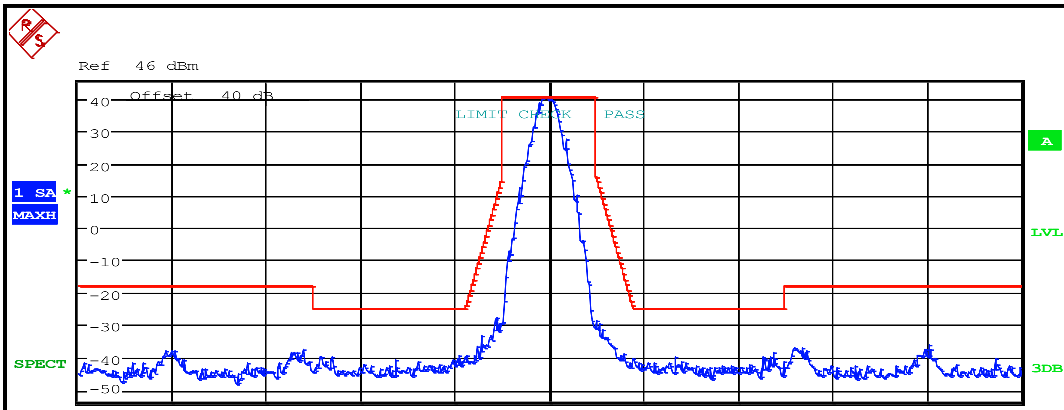
Tx Channel | **None**

Bandwidth 300 Hz | Peak Power 40.97 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.933013 M	-39.23	-89.92	-21.40
-25.000 k	-19.400 k	300.00	805.987821 M	-45.47	-96.15	-16.07
-19.400 k	-15.000 k	300.00	805.993100 M	-43.64	-94.32	-26.31
-15.000 k	-11.290 k	300.00	805.999679 M	-34.01	-84.70	-32.92
-11.290 k	-8.500 k	300.00	806.003526 M	-10.72	-61.40	-15.84
-8.500 k	-5.800 k	300.00	806.006090 M	11.57	-39.11	-8.10
-5.800 k	-4.000 k	300.00	806.008013 M	26.84	-23.84	-9.45
4.000 k	5.800 k	300.00	806.017949 M	12.37	-38.32	-14.68
5.800 k	8.500 k	300.00	806.019231 M	2.29	-48.39	-15.28
8.500 k	11.290 k	300.00	806.021154 M	-19.36	-70.04	-25.33

Date: 13.MAR.2015 09:47:35

Plot 8-17: Occupied Bandwidth – 811.0125 MHz; P25; Mask G

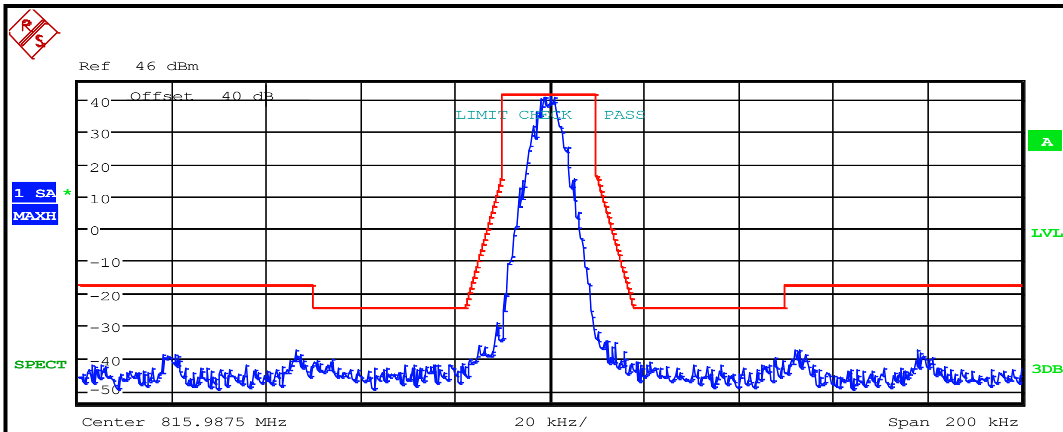


Tx Channel						**None**
Bandwidth		300 Hz	Peak Power			40.53 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.960256 M	-37.81	-89.08	-19.54
-50.000 k	-17.800 k	300.00	810.993269 M	-39.48	-90.74	-14.20
-17.800 k	-10.000 k	300.00	810.994700 M	-40.05	-91.31	-14.78
10.000 k	17.800 k	300.00	811.030128 M	-40.78	-92.05	-16.41
17.800 k	50.000 k	300.00	811.059936 M	-38.97	-90.24	-13.70
50.000 k	100.000 k	300.00	811.092949 M	-36.56	-87.83	-18.29

Date: 13.MAR.2015 11:12:29

Plot 8-18: Occupied Bandwidth – 815.9875 MHz; P25; Mask G



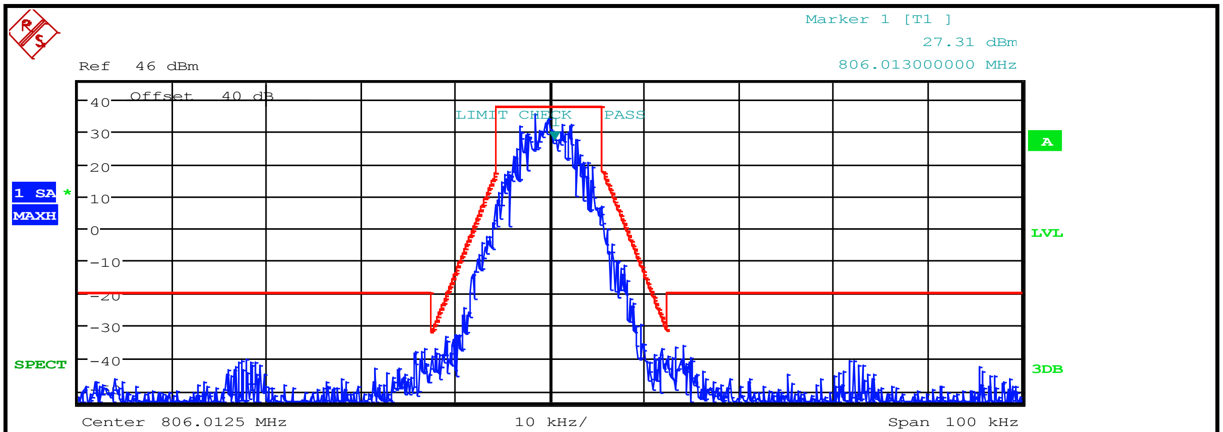
Tx Channel | **None**

Bandwidth 300 Hz | Peak Power 41.37 dBm

Start [Hz]	**Stop [Hz]**	**RBW [Hz]**	**Freq [Hz]**	**PwrAbs [dBm]**	**PwrRel [dBc]**	**Δ Limit [dB]**
-100.000 k	-50.000 k	300.00	815.933654 M	-37.81	-88.86	-20.38
-50.000 k	-17.800 k	300.00	815.941346 M	-40.50	-91.55	-16.07
-17.800 k	-10.000 k	300.00	815.969700 M	-42.91	-93.96	-18.48
10.000 k	17.800 k	300.00	816.005128 M	-43.44	-94.49	-19.91
17.800 k	50.000 k	300.00	816.035256 M	-40.16	-91.21	-15.73
50.000 k	100.000 k	300.00	816.065385 M	-37.81	-88.86	-20.38

Date: 13.MAR.2015 11:14:35

Plot 8-19: Occupied Bandwidth – 806.0125 MHz; P25 Phase 2; Mask D



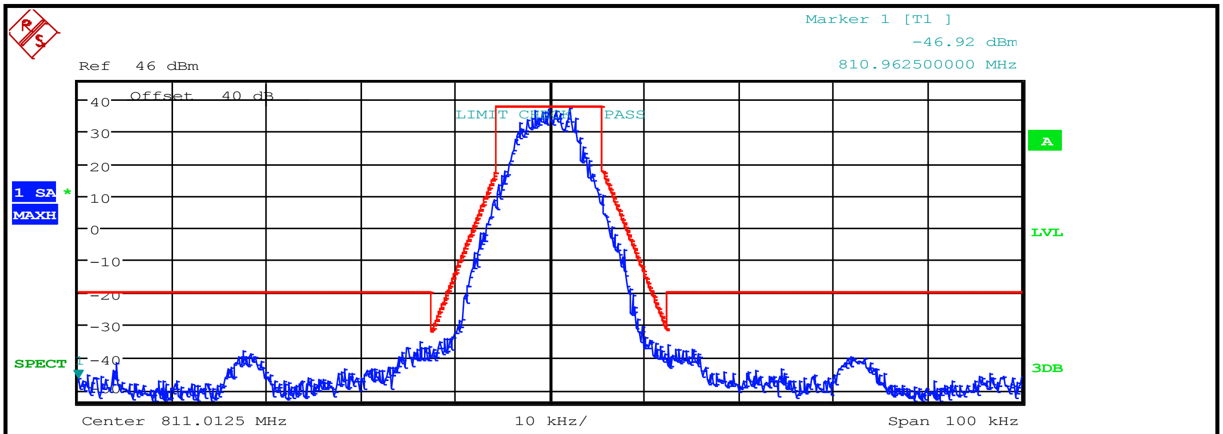
Tx Channel **None**

Bandwidth 11.25 kHz Power 46.96 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	805.999163 M	-37.41	-84.37	-17.41
-12.490 k	-5.625 k	100.00	806.000262 M	-37.32	-84.28	-6.96
5.625 k	12.500 k	100.00	806.024938 M	-39.85	-86.80	-8.10
12.510 k	50.000 k	100.00	806.026536 M	-36.58	-83.54	-16.58

Date: 13.MAR.2015 11:52:48

Plot 8-20: Occupied Bandwidth – 811.0125 MHz; P25 Phase 2; Mask D



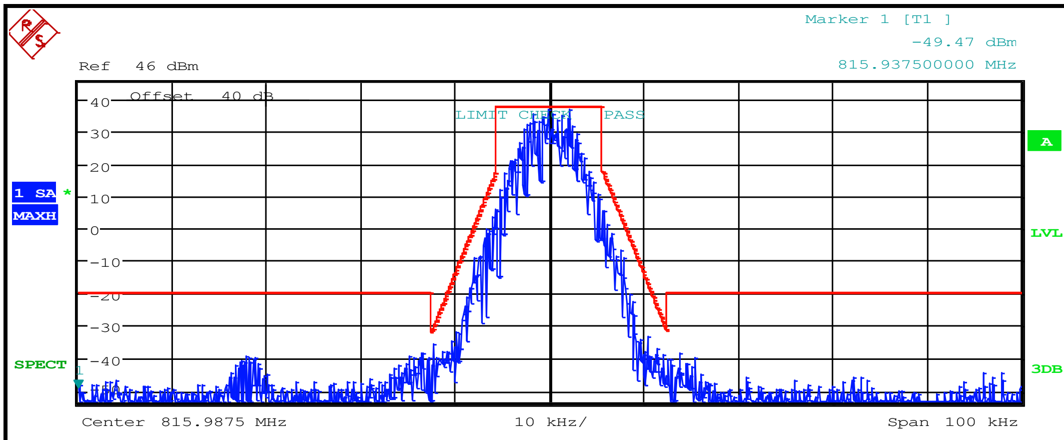
Tx Channel | **None**

Bandwidth 11.25 kHz | Power 51.13 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	810.998764 M	-35.38	-86.52	-15.38
-12.490 k	-5.625 k	100.00	811.006356 M	7.30	-43.83	-6.72
5.625 k	12.500 k	100.00	811.024938 M	-38.86	-89.99	-7.11
12.510 k	50.000 k	100.00	811.025837 M	-37.86	-89.00	-17.86

Date: 13.MAR.2015 11:59:25

Plot 8-21: Occupied Bandwidth – 815.9875 MHz; P25 Phase 2; Mask D



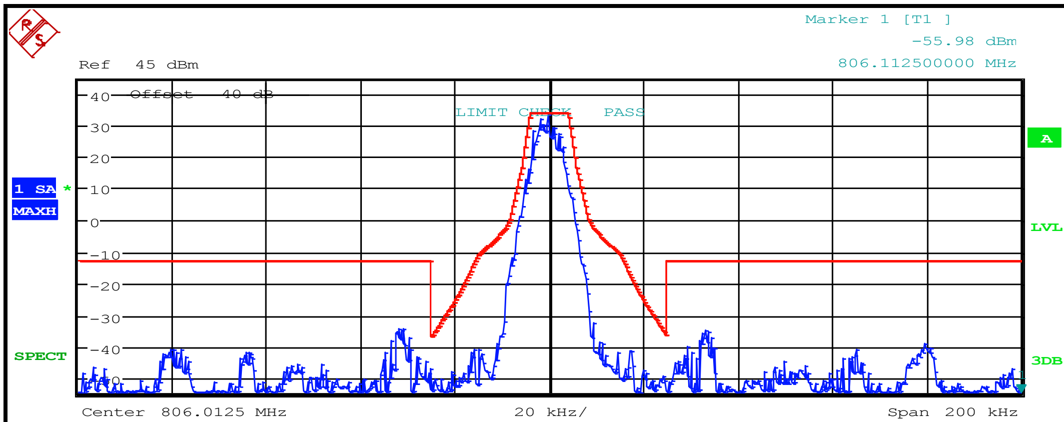
Tx Channel | **None**

Bandwidth 11.25 kHz | Power 48.14 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	815.955282 M	-39.48	-87.61	-19.48
-12.490 k	-5.625 k	100.00	815.975162 M	-35.93	-84.07	-4.84
5.625 k	12.500 k	100.00	815.999538 M	-39.35	-87.49	-10.51
12.510 k	50.000 k	100.00	816.001336 M	-38.84	-86.98	-18.84

Date: 13.MAR.2015 12:02:24

Plot 8-22: Occupied Bandwidth – 806.0125 MHz; P25 Phase 2; Mask H

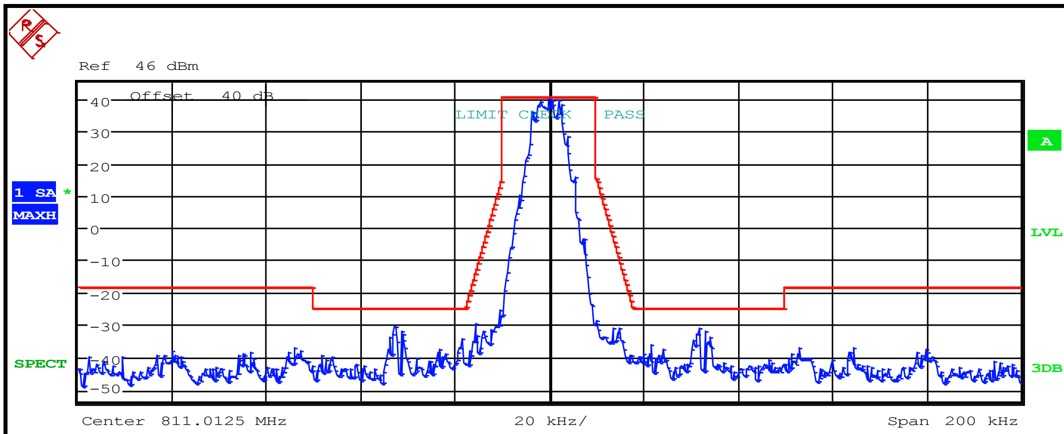


Tx Channel | **None**
Bandwidth 300 Hz | Peak Power 33.51 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.981410 M	-34.42	-76.27	-21.42
-25.000 k	-19.400 k	300.00	805.988141 M	-50.50	-92.35	-14.86
-19.400 k	-15.000 k	300.00	805.995833 M	-42.17	-84.03	-26.13
-15.000 k	-11.290 k	300.00	805.997500 M	-41.10	-82.96	-30.10
-11.290 k	-8.500 k	300.00	806.003205 M	-20.49	-62.34	-18.07
-8.500 k	-5.800 k	300.00	806.006090 M	0.89	-40.96	-11.81
-5.800 k	-4.000 k	300.00	806.007372 M	12.79	-29.06	-10.37
4.000 k	5.800 k	300.00	806.017628 M	7.79	-34.07	-15.37
5.800 k	8.500 k	300.00	806.018300 M	-1.48	-43.34	-18.18
8.500 k	11.290 k	300.00	806.021154 M	-29.41	-71.27	-28.41

Date: 13.MAR.2015 15:23:58

Plot 8-23: Occupied Bandwidth – 811.0125 MHz; P25 Phase 2; Mask G



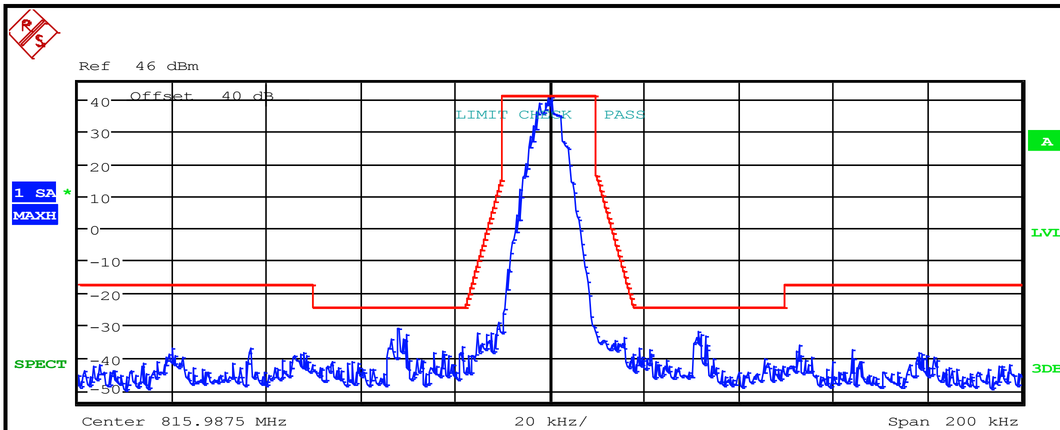
Tx Channel **None**

Bandwidth 300 Hz Peak Power 40.44 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.958333 M	-37.56	-88.65	-19.20
-50.000 k	-17.800 k	300.00	810.979487 M	-30.53	-81.63	-5.17
-17.800 k	-10.000 k	300.00	810.996795 M	-29.89	-80.98	-15.49
10.000 k	17.800 k	300.00	811.030128 M	-40.78	-91.88	-16.32
17.800 k	50.000 k	300.00	811.044231 M	-31.40	-82.50	-6.04
50.000 k	100.000 k	300.00	811.065385 M	-37.42	-88.52	-19.06

Date: 13.MAR.2015 12:08:21

Plot 8-24: Occupied Bandwidth – 815.9875 MHz; P25 Phase 2; Mask G



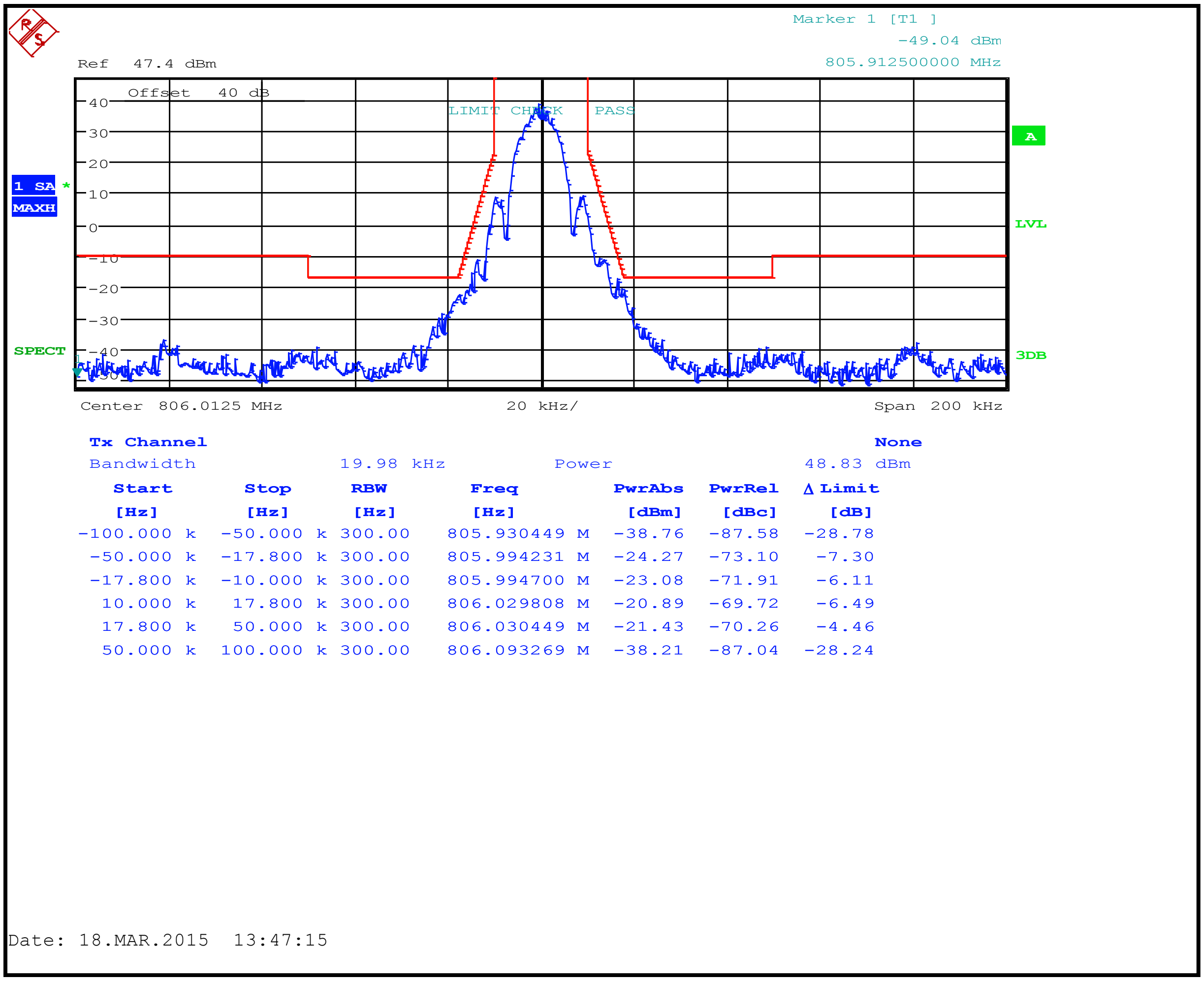
Tx Channel **None**

Bandwidth 300 Hz Peak Power 41.25 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.924038 M	-37.42	-87.66	-19.87
-50.000 k	-17.800 k	300.00	815.955128 M	-31.26	-81.51	-6.71
-17.800 k	-10.000 k	300.00	815.970192 M	-39.54	-89.79	-17.57
10.000 k	17.800 k	300.00	816.005128 M	-39.24	-89.48	-15.59
17.800 k	50.000 k	300.00	816.018910 M	-32.01	-82.25	-7.46
50.000 k	100.000 k	300.00	816.040385 M	-36.32	-86.56	-18.77

Date: 13.MAR.2015 12:09:23

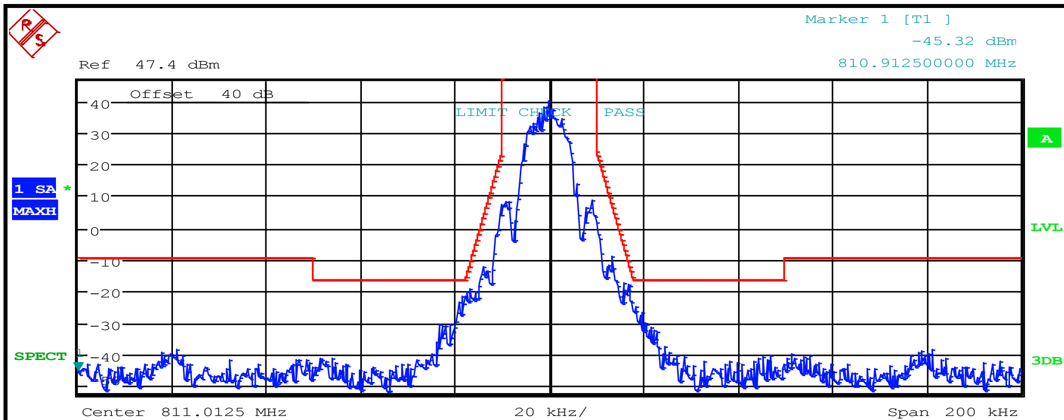
Plot 8-25: Occupied Bandwidth – 806.0125 MHz; EDACS (NPSPAC); Mask G



Tx Channel						None
Bandwidth		19.98 kHz		Power		48.83 dBm
Start [Hz]	**Stop [Hz]**	**RBW [Hz]**	**Freq [Hz]**	**PwrAbs [dBm]**	**PwrRel [dBc]**	**Δ Limit [dB]**
-100.000 k	-50.000 k	300.00	805.930449 M	-38.76	-87.58	-28.78
-50.000 k	-17.800 k	300.00	805.994231 M	-24.27	-73.10	-7.30
-17.800 k	-10.000 k	300.00	805.994700 M	-23.08	-71.91	-6.11
10.000 k	17.800 k	300.00	806.029808 M	-20.89	-69.72	-6.49
17.800 k	50.000 k	300.00	806.030449 M	-21.43	-70.26	-4.46
50.000 k	100.000 k	300.00	806.093269 M	-38.21	-87.04	-28.24

Date: 18.MAR.2015 13:47:15

Plot 8-26: Occupied Bandwidth – 811.0125 MHz; EDACS (NPSPAC); Mask G



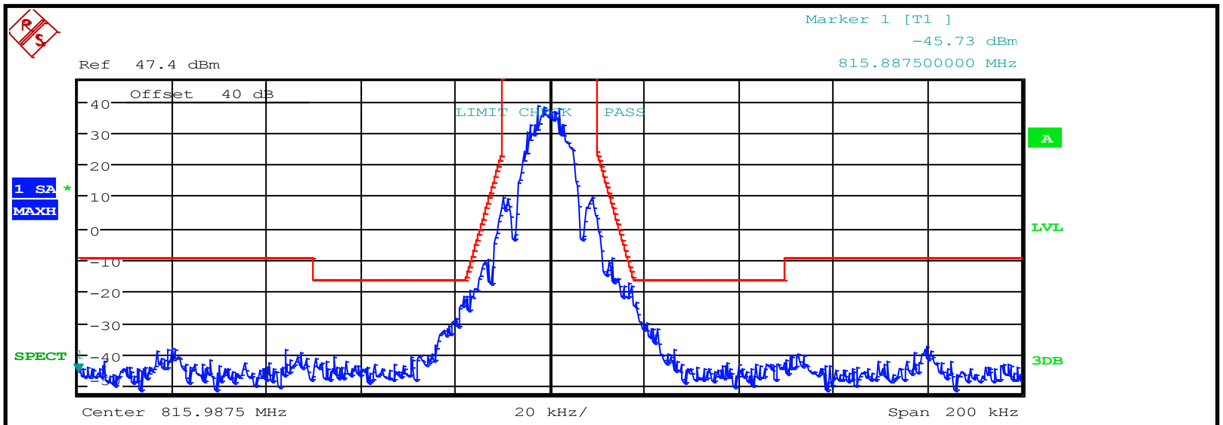
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.29 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.933333 M	-38.91	-88.20	-29.26
-50.000 k	-17.800 k	300.00	810.993910 M	-21.86	-71.14	-5.21
-17.800 k	-10.000 k	300.00	810.994872 M	-20.54	-69.83	-4.79
10.000 k	17.800 k	300.00	811.029487 M	-18.45	-67.74	-6.06
17.800 k	50.000 k	300.00	811.030769 M	-25.15	-74.44	-8.50
50.000 k	100.000 k	300.00	811.093590 M	-38.76	-88.05	-29.11

Date: 18.MAR.2015 13:47:50

Plot 8-27: Occupied Bandwidth – 815.9875 MHz; EDACS (NPSPAC); Mask G



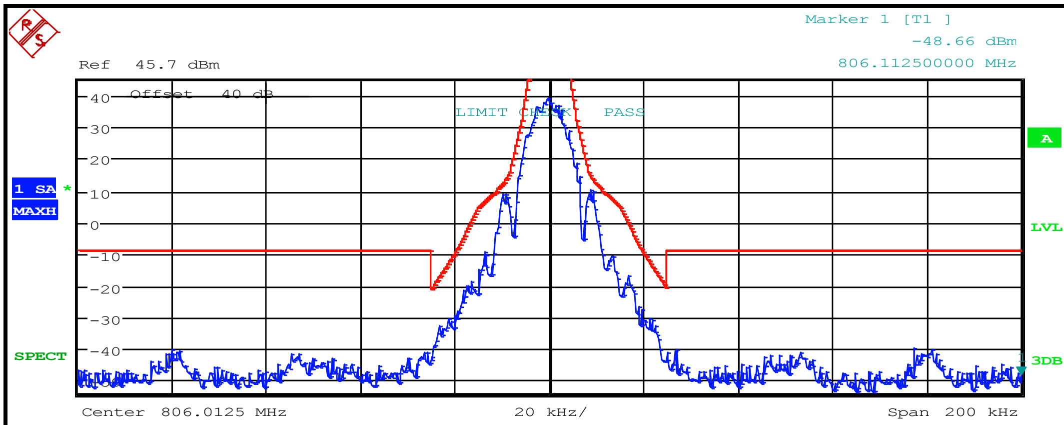
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.20 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.907372 M	-38.39	-87.59	-28.79
-50.000 k	-17.800 k	300.00	815.969231 M	-21.91	-71.10	-5.30
-17.800 k	-10.000 k	300.00	815.969700 M	-22.69	-71.88	-6.08
10.000 k	17.800 k	300.00	816.004808 M	-18.71	-67.91	-4.69
17.800 k	50.000 k	300.00	816.005769 M	-23.94	-73.14	-7.34
50.000 k	100.000 k	300.00	816.067308 M	-37.74	-86.93	-28.13

Date: 18.MAR.2015 13:48:29

Plot 8-28: Occupied Bandwidth – 806.0125 MHz; EDACS (NPSPAC); Mask H



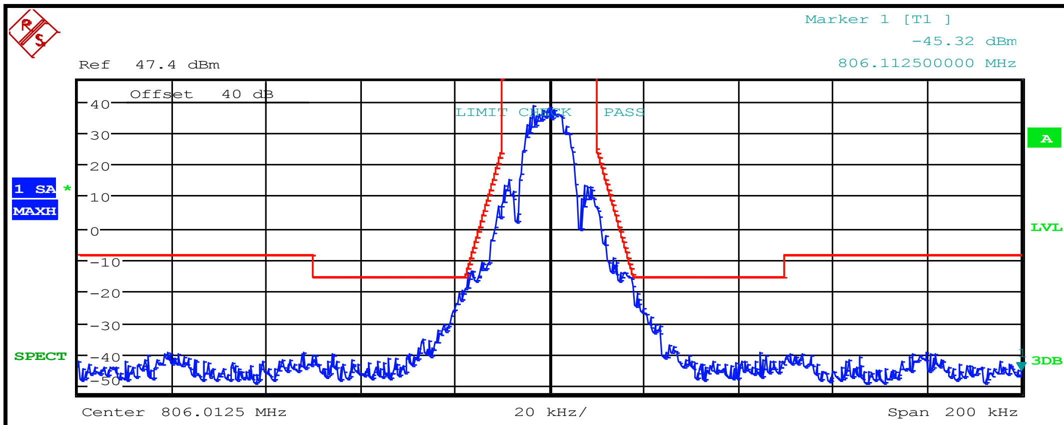
Tx Channel **None**

Bandwidth 8 kHz Power 49.83 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.933974 M	-40.78	-90.61	-31.78
-25.000 k	-19.400 k	300.00	805.989103 M	-32.88	-82.71	-15.14
-19.400 k	-15.000 k	300.00	805.994231 M	-21.69	-71.52	-16.51
-15.000 k	-11.290 k	300.00	806.000962 M	-3.42	-53.25	-12.78
-11.290 k	-8.500 k	300.00	806.002564 M	8.73	-41.10	-3.40
-8.500 k	-5.800 k	300.00	806.004000 M	6.75	-43.08	-7.95
-5.800 k	-4.000 k	300.00	806.007372 M	27.31	-22.51	-11.54
4.000 k	5.800 k	300.00	806.017628 M	22.94	-26.89	-15.91
5.800 k	8.500 k	300.00	806.020833 M	8.71	-41.11	-7.08
8.500 k	11.290 k	300.00	806.021795 M	9.94	-39.88	-3.33

Date: 18.MAR.2015 14:24:44

Plot 8-29: Occupied Bandwidth – 806.0125 MHz; EDACS (SMR); Mask G



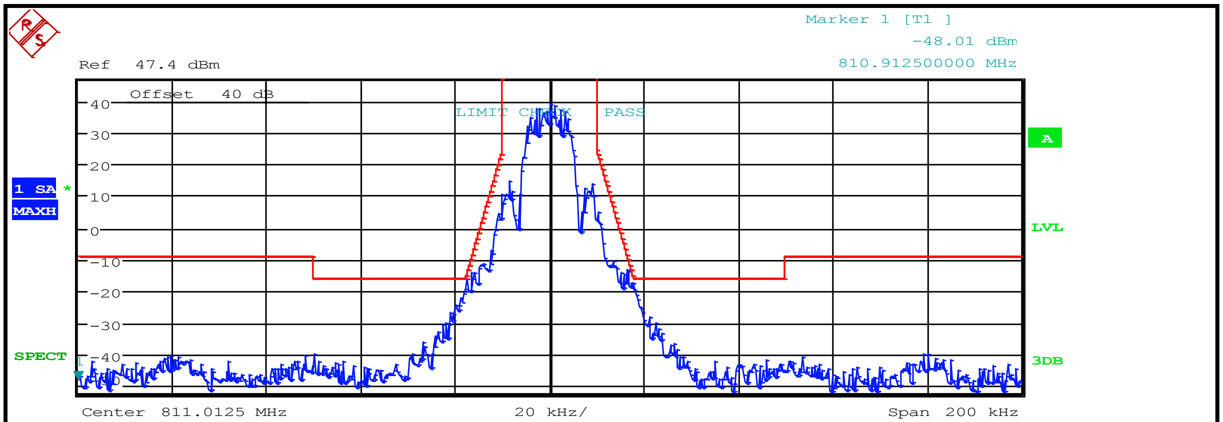
Tx Channel **None**

Bandwidth 19.98 kHz Power 50.20 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.931410 M	-39.67	-89.86	-31.06
-50.000 k	-17.800 k	300.00	805.993910 M	-19.89	-70.09	-4.29
-17.800 k	-10.000 k	300.00	805.995192 M	-14.25	-64.45	-1.23
10.000 k	17.800 k	300.00	806.030128 M	-16.46	-66.66	-1.75
17.800 k	50.000 k	300.00	806.030449 M	-18.95	-69.15	-3.35
50.000 k	100.000 k	300.00	806.092308 M	-39.88	-90.07	-31.27

Date: 18.MAR.2015 14:32:50

Plot 8-30: Occupied Bandwidth – 811.0125 MHz; EDACS (SMR); Mask G



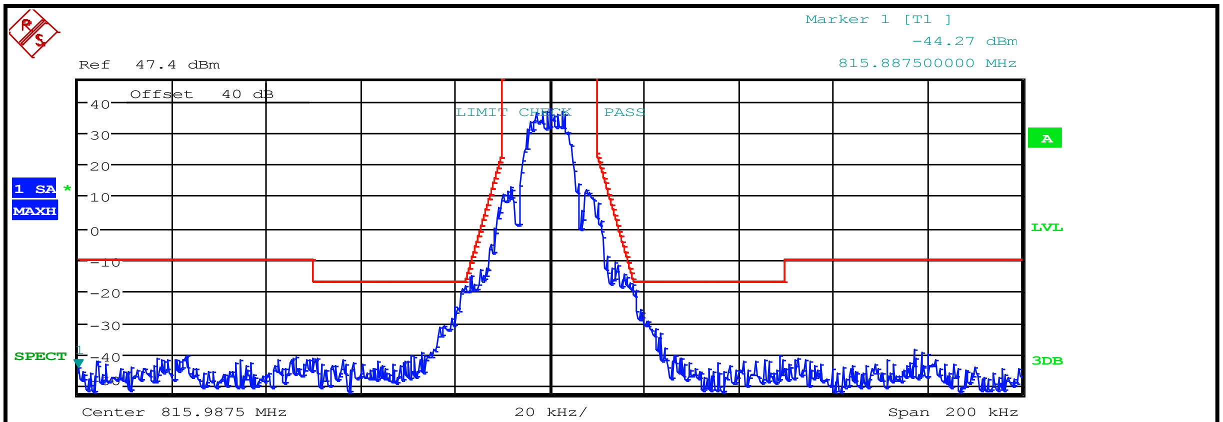
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.66 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.932051 M	-40.73	-90.39	-31.46
-50.000 k	-17.800 k	300.00	810.994231 M	-21.08	-70.74	-4.82
-17.800 k	-10.000 k	300.00	810.994872 M	-16.36	-66.03	-1.00
10.000 k	17.800 k	300.00	811.029167 M	-13.65	-63.32	-3.32
17.800 k	50.000 k	300.00	811.030449 M	-19.87	-69.53	-3.61
50.000 k	100.000 k	300.00	811.091667 M	-40.09	-89.76	-30.83

Date: 18.MAR.2015 14:33:22

Plot 8-31: Occupied Bandwidth – 815.9875 MHz; EDACS (SMR); Mask G



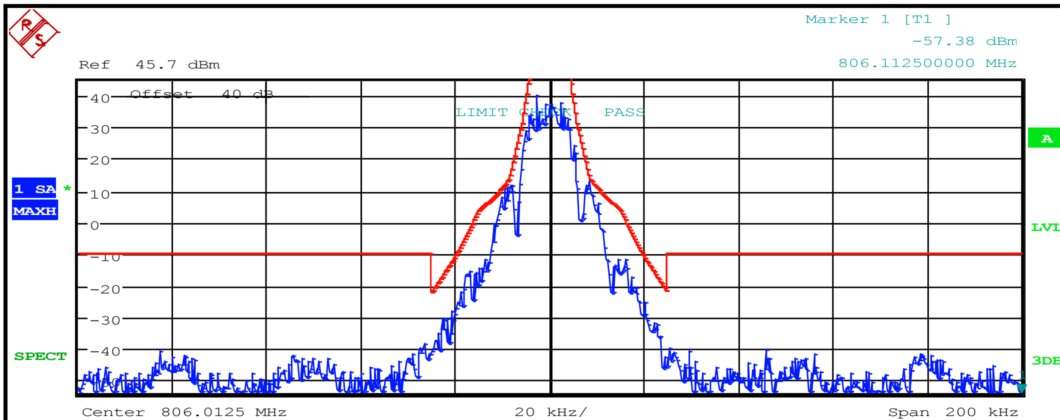
Tx Channel **None**

Bandwidth 19.98 kHz Power 48.81 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.910577 M	-40.73	-89.54	-30.74
-50.000 k	-17.800 k	300.00	815.968910 M	-19.57	-68.38	-2.58
-17.800 k	-10.000 k	300.00	815.969700 M	-18.63	-67.44	-1.64
10.000 k	17.800 k	300.00	816.005128 M	-17.94	-66.75	-1.85
17.800 k	50.000 k	300.00	816.005769 M	-19.95	-68.76	-2.96
50.000 k	100.000 k	300.00	816.064744 M	-38.76	-87.57	-28.77

Date: 18.MAR.2015 14:33:58

Plot 8-32: Occupied Bandwidth – 806.0125 MHz; EDACS (SMR); Mask H

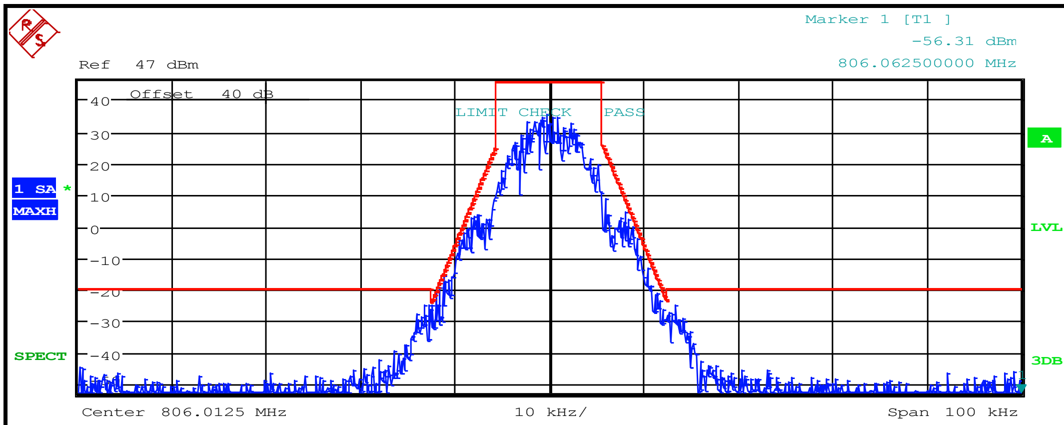


Tx Channel **None**
Bandwidth 8 kHz Power 48.75 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.985897 M	-38.65	-87.41	-27.91
-25.000 k	-19.400 k	300.00	805.989744 M	-30.55	-79.31	-12.54
-19.400 k	-15.000 k	300.00	805.994872 M	-16.62	-65.37	-11.63
-15.000 k	-11.290 k	300.00	806.000962 M	-0.90	-49.65	-8.52
-11.290 k	-8.500 k	300.00	806.002885 M	10.51	-38.25	-0.45
-8.500 k	-5.800 k	300.00	806.004167 M	11.88	-36.87	-2.17
-5.800 k	-4.000 k	300.00	806.006731 M	22.90	-25.86	-7.77
4.000 k	5.800 k	300.00	806.017628 M	24.24	-24.52	-12.88
5.800 k	8.500 k	300.00	806.020833 M	13.20	-35.55	-0.85
8.500 k	11.290 k	300.00	806.021795 M	9.21	-39.55	-2.33

Date: 18.MAR.2015 14:31:42

Plot 8-33: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 9600); Mask D



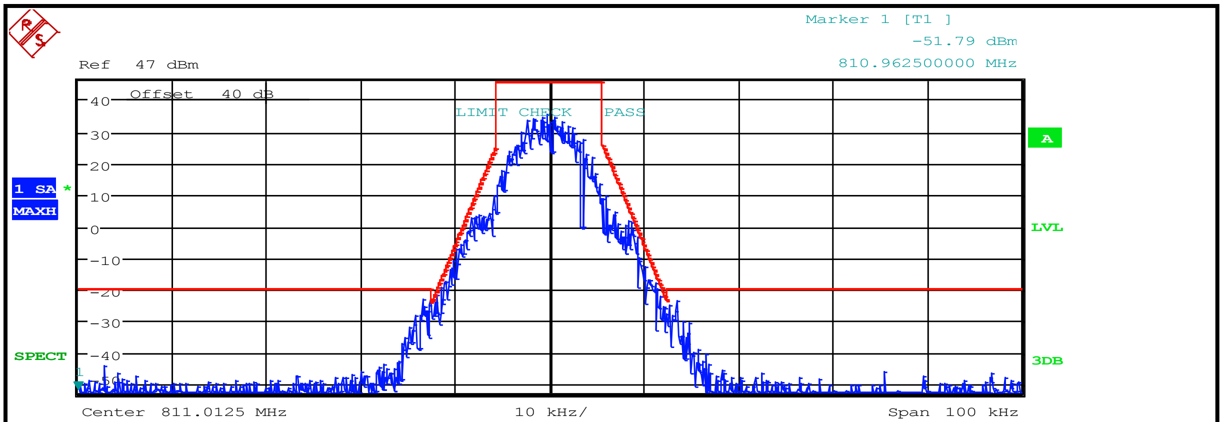
Tx Channel | **None**

Bandwidth 11.25 kHz | Power 48.10 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	805.999763 M	-24.92	-73.02	-4.92
-12.490 k	-5.625 k	100.00	806.001261 M	-15.63	-63.73	-0.55
5.625 k	12.500 k	100.00	806.021741 M	-4.07	-52.17	-3.58
12.510 k	50.000 k	100.00	806.025837 M	-25.05	-73.15	-5.05

Date: 18.MAR.2015 15:50:38

Plot 8-34: Occupied Bandwidth – 811.0125 MHz; EDACS (NB 9600); Mask D



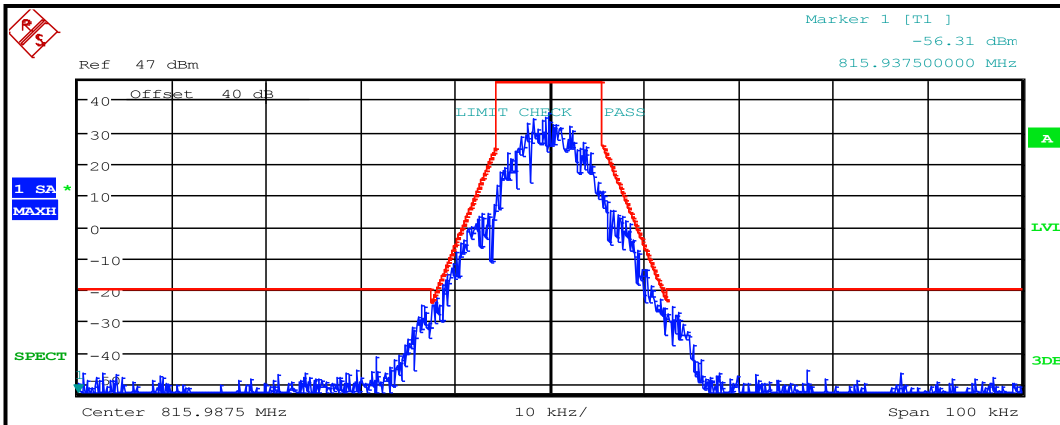
Tx Channel | **None**

Bandwidth 11.25 kHz Power 48.50 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	810.999863 M	-23.04	-71.54	-3.04
-12.490 k	-5.625 k	100.00	811.000010 M	-25.53	-74.03	-1.33
5.625 k	12.500 k	100.00	811.021141 M	1.15	-47.35	-2.71
12.510 k	50.000 k	100.00	811.025937 M	-23.83	-72.33	-3.83

Date: 18.MAR.2015 15:51:35

Plot 8-35: Occupied Bandwidth – 815.9875 MHz; EDACS (NB 9600); Mask D



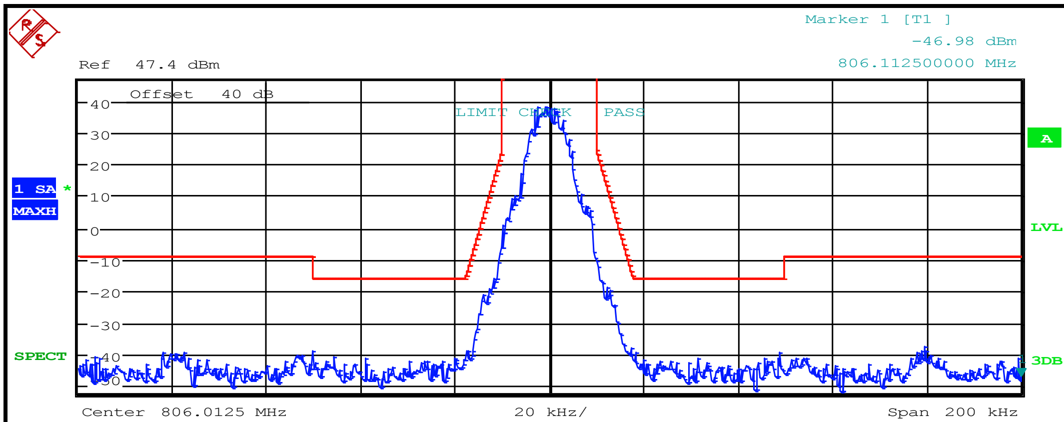
Tx Channel **None**

Bandwidth 11.25 kHz Power 47.44 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	815.973964 M	-25.05	-72.49	-5.05
-12.490 k	-5.625 k	100.00	815.975062 M	-25.05	-72.49	-1.23
5.625 k	12.500 k	100.00	815.999738 M	-25.79	-73.23	-3.50
12.510 k	50.000 k	100.00	816.000537 M	-25.53	-72.98	-5.53

Date: 18.MAR.2015 15:52:37

Plot 8-36: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 9600); MaskG



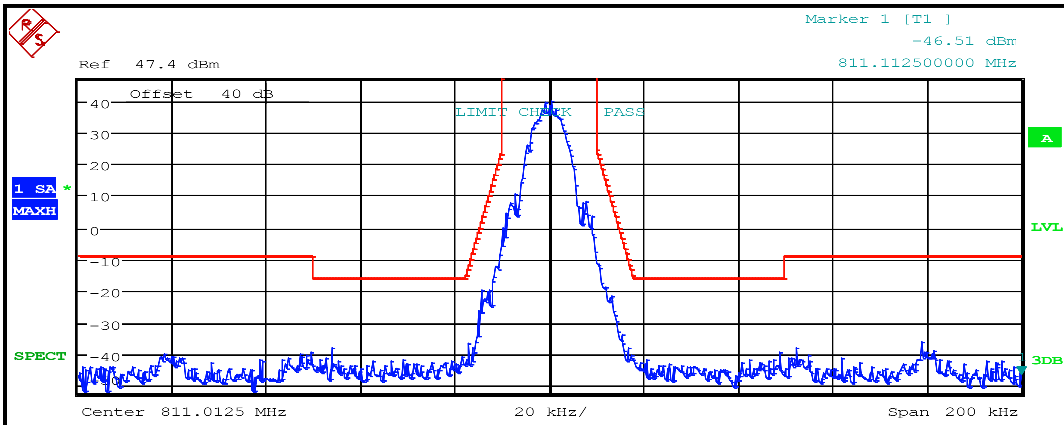
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.57 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.962179 M	-39.10	-88.67	-29.87
-50.000 k	-17.800 k	300.00	805.966667 M	-40.96	-90.53	-24.73
-17.800 k	-10.000 k	300.00	805.994872 M	-39.38	-88.95	-24.05
10.000 k	17.800 k	300.00	806.030128 M	-39.79	-89.36	-24.46
17.800 k	50.000 k	300.00	806.030769 M	-39.67	-89.24	-23.44
50.000 k	100.000 k	300.00	806.091987 M	-37.74	-87.31	-28.51

Date: 18.MAR.2015 14:45:17

Plot 8-37: Occupied Bandwidth – 811.0125 MHz; EDACS (NB 9600); Mask G



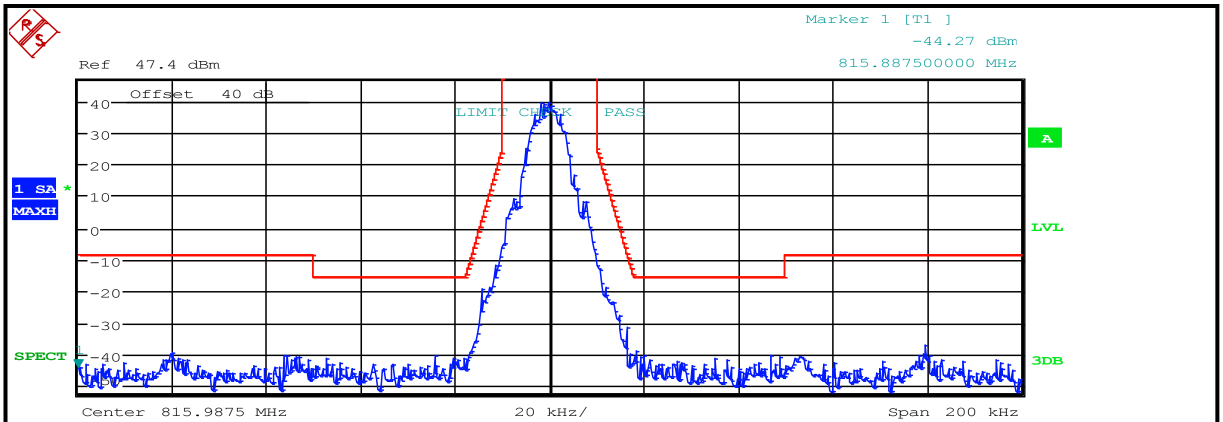
Tx Channel — None

Bandwidth 19.98 kHz — Power 49.79 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.961859 M	-39.88	-89.66	-30.69
-50.000 k	-17.800 k	300.00	810.966346 M	-38.39	-88.18	-22.21
-17.800 k	-10.000 k	300.00	810.998077 M	-19.95	-69.74	-21.43
10.000 k	17.800 k	300.00	811.030128 M	-42.26	-92.05	-26.98
17.800 k	50.000 k	300.00	811.030449 M	-41.21	-91.00	-25.03
50.000 k	100.000 k	300.00	811.091346 M	-36.56	-86.34	-27.37

Date: 18.MAR.2015 14:44:32

Plot 8-38: Occupied Bandwidth – 815.9875 MHz; EDACS (NB 9600); Mask G



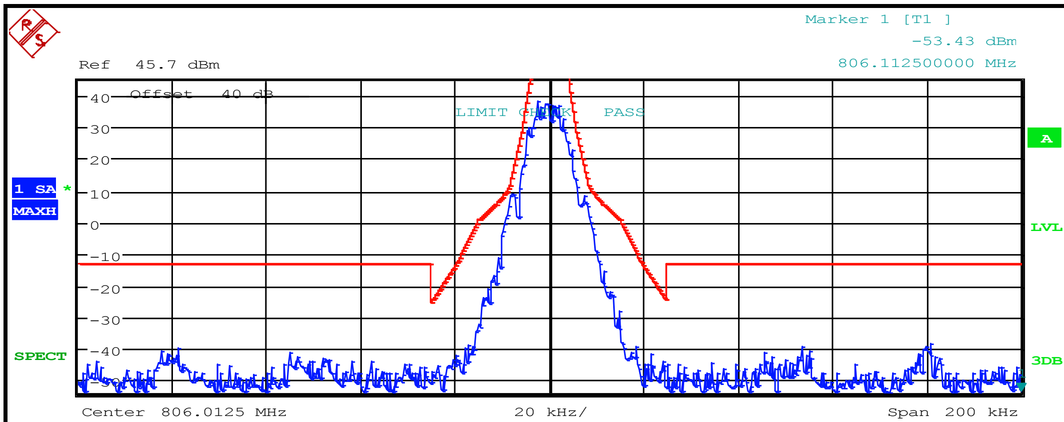
Tx Channel **None**

Bandwidth 19.98 kHz Power 50.10 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.907372 M	-39.50	-89.60	-30.63
-50.000 k	-17.800 k	300.00	815.963141 M	-40.73	-90.82	-24.85
-17.800 k	-10.000 k	300.00	815.973077 M	-19.64	-69.74	-21.42
10.000 k	17.800 k	300.00	816.003846 M	-31.88	-81.98	-23.61
17.800 k	50.000 k	300.00	816.005769 M	-39.30	-89.40	-23.42
50.000 k	100.000 k	300.00	816.066987 M	-37.57	-87.67	-28.70

Date: 18.MAR.2015 14:43:43

Plot 8-39: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 9600); Mask H



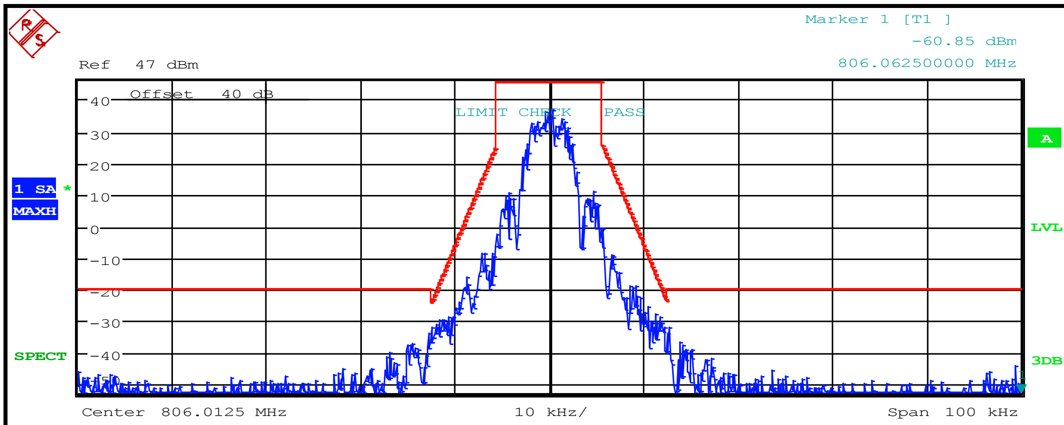
Tx Channel | **None**

Bandwidth 8 kHz Power 48.81 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.933654 M	-40.07	-88.88	-27.07
-25.000 k	-19.400 k	300.00	805.987500 M	-47.49	-96.30	-22.09
-19.400 k	-15.000 k	300.00	805.993100 M	-43.72	-92.53	-31.12
-15.000 k	-11.290 k	300.00	806.000641 M	-17.09	-65.90	-22.02
-11.290 k	-8.500 k	300.00	806.003526 M	2.05	-46.76	-7.80
-8.500 k	-5.800 k	300.00	806.004167 M	8.28	-40.53	-3.52
-5.800 k	-4.000 k	300.00	806.007692 M	28.94	-19.87	-9.05
4.000 k	5.800 k	300.00	806.017308 M	23.16	-25.65	-14.82
5.800 k	8.500 k	300.00	806.020833 M	4.72	-44.09	-7.09
8.500 k	11.290 k	300.00	806.021154 M	1.18	-47.63	-9.52

Date: 18.MAR.2015 14:45:52

Plot 8-40: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 4800); Mask D



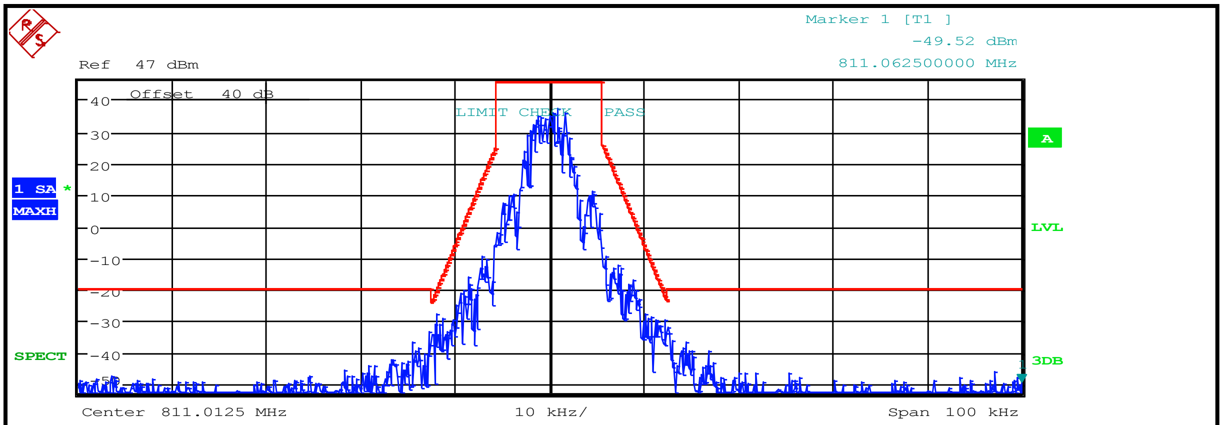
Tx Channel **None**

Bandwidth 11.25 kHz Power 48.50 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	805.999763 M	-35.01	-83.51	-15.01
-12.490 k	-5.625 k	100.00	806.000010 M	-33.47	-81.98	-9.27
5.625 k	12.500 k	100.00	806.024238 M	-28.89	-77.39	-10.23
12.510 k	50.000 k	100.00	806.025137 M	-31.94	-80.44	-11.94

Date: 18.MAR.2015 15:58:46

Plot 8-41: Occupied Bandwidth – 811.0125 MHz; EDACS (NB 4800); Mask D

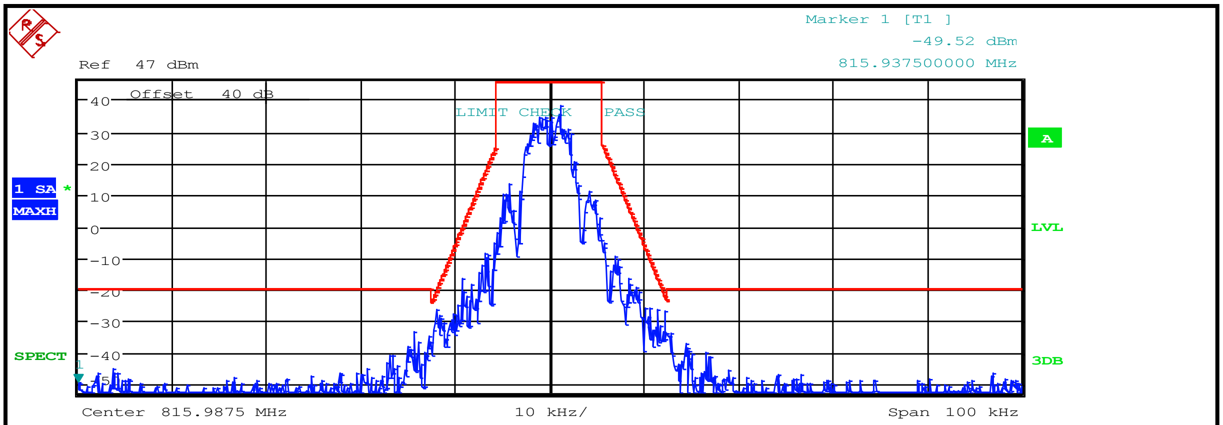


Tx Channel			**None**
Bandwidth 11.25 kHz	Power	47.98 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	810.999663 M	-33.47	-81.46	-13.47
-12.490 k	-5.625 k	100.00	811.000462 M	-27.84	-75.83	-6.94
5.625 k	12.500 k	100.00	811.024638 M	-29.96	-77.94	-8.40
12.510 k	50.000 k	100.00	811.025137 M	-33.63	-81.61	-13.63

Date: 18.MAR.2015 15:58:00

Plot 8-42: Occupied Bandwidth – 815.9875 MHz; EDACS (NB 4800); Mask D



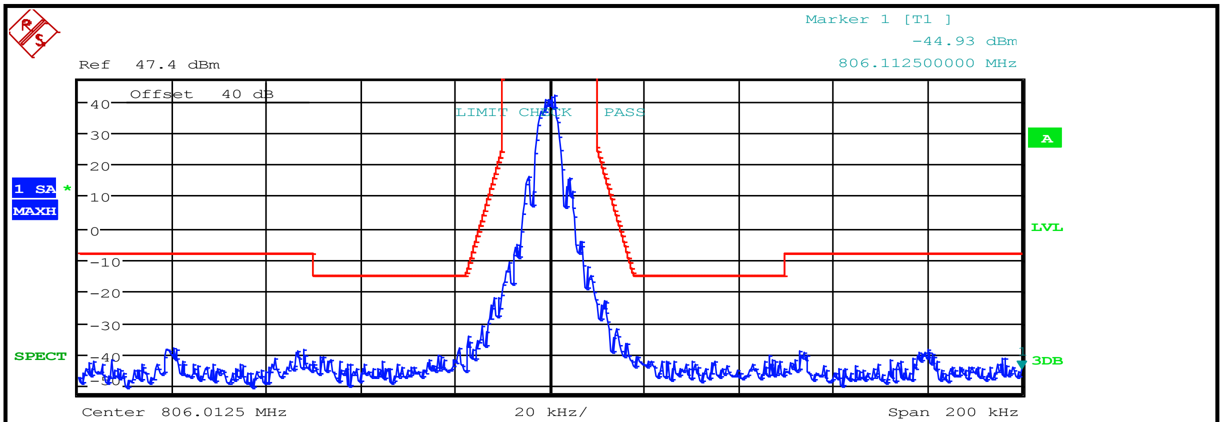
Tx Channel — **None**

Bandwidth 11.25 kHz — Power 48.02 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-12.500 k	100.00	815.973064 M	-33.55	-81.58	-13.55
-12.490 k	-5.625 k	100.00	815.975562 M	-26.35	-74.38	-6.17
5.625 k	12.500 k	100.00	815.999638 M	-26.85	-74.87	-5.28
12.510 k	50.000 k	100.00	816.000237 M	-34.21	-82.23	-14.21

Date: 18.MAR.2015 15:57:13

Plot 8-43: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 4800); Mask G



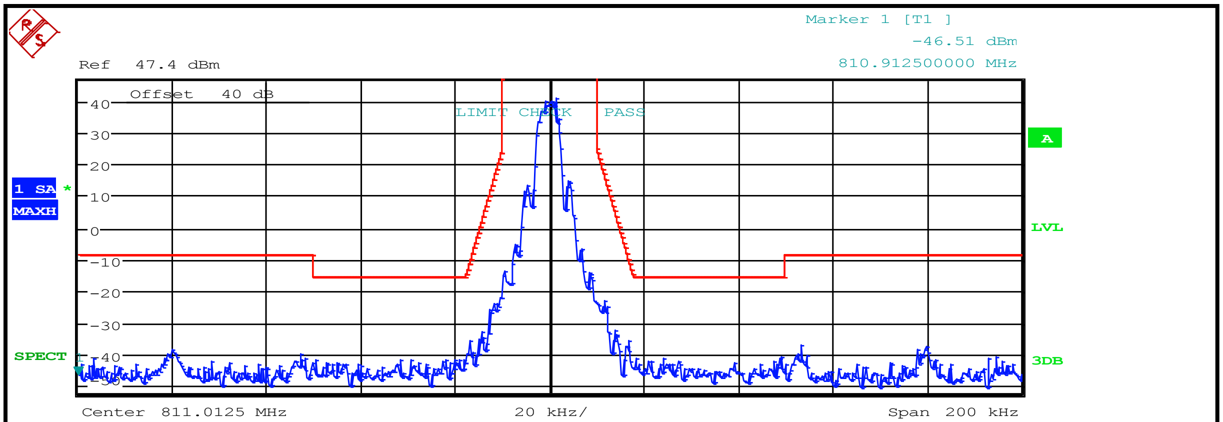
Tx Channel **None**

Bandwidth 19.98 kHz Power 50.40 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.932692 M	-38.39	-88.79	-29.96
-50.000 k	-17.800 k	300.00	805.993269 M	-38.21	-88.61	-22.78
-17.800 k	-10.000 k	300.00	805.995192 M	-34.56	-84.96	-21.71
10.000 k	17.800 k	300.00	806.030128 M	-41.51	-91.91	-26.98
17.800 k	50.000 k	300.00	806.058974 M	-40.49	-90.89	-25.06
50.000 k	100.000 k	300.00	806.092628 M	-38.76	-89.16	-30.33

Date: 18.MAR.2015 16:00:29

Plot 8-44: Occupied Bandwidth – 811.0125 MHz; EDACS (NB 4800); Mask G



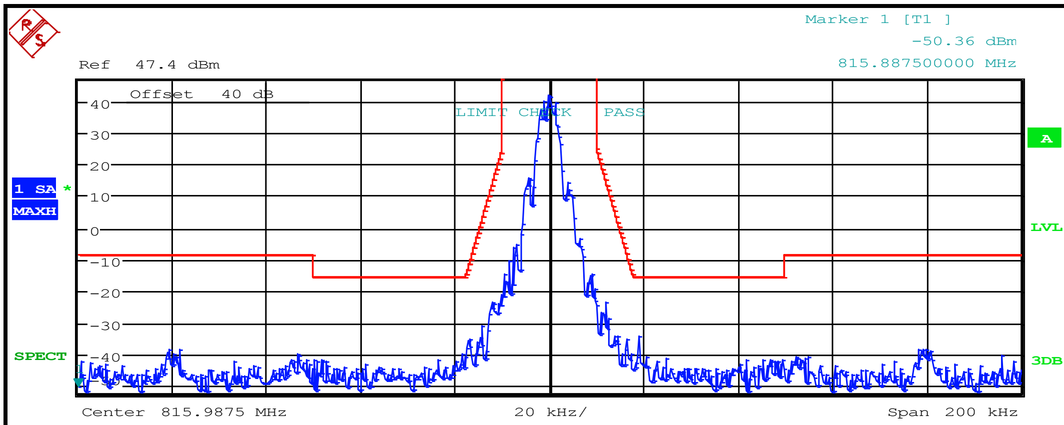
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.96 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.932372 M	-38.76	-88.72	-29.92
-50.000 k	-17.800 k	300.00	810.990385 M	-41.93	-91.89	-26.09
-17.800 k	-10.000 k	300.00	810.995513 M	-36.10	-86.06	-24.52
10.000 k	17.800 k	300.00	811.029167 M	-35.99	-85.95	-26.08
17.800 k	50.000 k	300.00	811.061538 M	-40.96	-90.93	-25.13
50.000 k	100.000 k	300.00	811.065705 M	-37.57	-87.53	-28.73

Date: 18.MAR.2015 16:01:05

Plot 8-45: Occupied Bandwidth – 815.9875 MHz; EDACS (NB 4800); Mask G



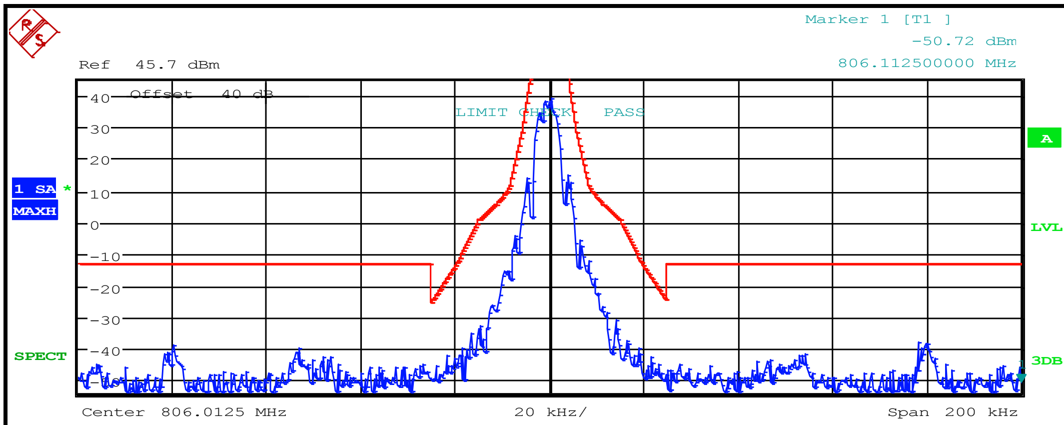
Tx Channel — **None**

Bandwidth 19.98 kHz — Power 49.97 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.908974 M	-38.57	-88.54	-29.74
-50.000 k	-17.800 k	300.00	815.968910 M	-40.31	-90.28	-24.48
-17.800 k	-10.000 k	300.00	815.970192 M	-35.99	-85.96	-22.74
10.000 k	17.800 k	300.00	816.004808 M	-40.18	-90.15	-26.92
17.800 k	50.000 k	300.00	816.006410 M	-34.38	-84.35	-18.55
50.000 k	100.000 k	300.00	816.067308 M	-38.57	-88.54	-29.74

Date: 18.MAR.2015 16:01:55

Plot 8-46: Occupied Bandwidth – 806.0125 MHz; EDACS (NB 4800); Mask H



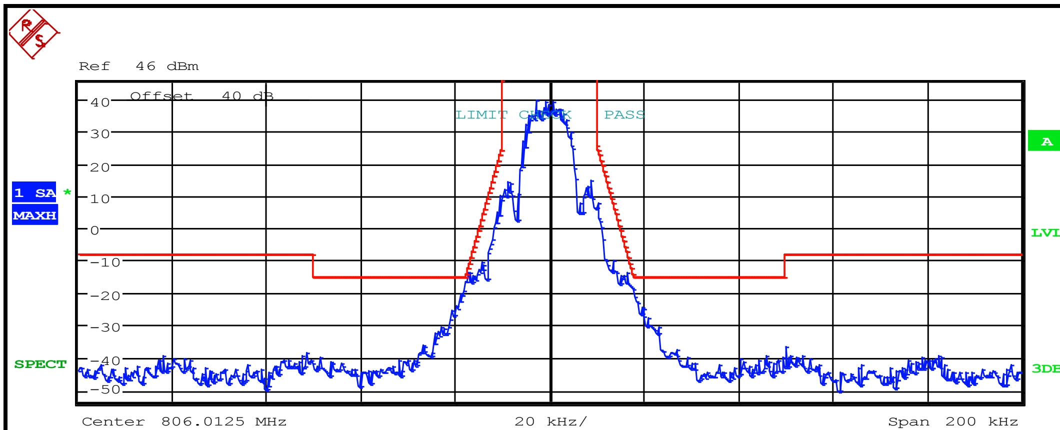
Tx Channel **None**

Bandwidth 8 kHz Power 47.95 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.932692 M	-38.96	-86.91	-25.96
-25.000 k	-19.400 k	300.00	805.988462 M	-45.74	-93.69	-22.54
-19.400 k	-15.000 k	300.00	805.993910 M	-40.18	-88.13	-30.03
-15.000 k	-11.290 k	300.00	806.000000 M	-26.84	-74.79	-30.91
-11.290 k	-8.500 k	300.00	806.002885 M	-15.58	-63.53	-24.28
-8.500 k	-5.800 k	300.00	806.005128 M	-4.34	-52.29	-22.48
-5.800 k	-4.000 k	300.00	806.007692 M	13.93	-34.02	-24.05
4.000 k	5.800 k	300.00	806.016987 M	12.74	-35.21	-28.31
5.800 k	8.500 k	300.00	806.020833 M	-12.16	-60.11	-23.97
8.500 k	11.290 k	300.00	806.022115 M	-18.12	-66.07	-26.82

Date: 18.MAR.2015 15:59:41

Plot 8-47: Occupied Bandwidth – 806.0125 MHz; OTP (WB); Mask G



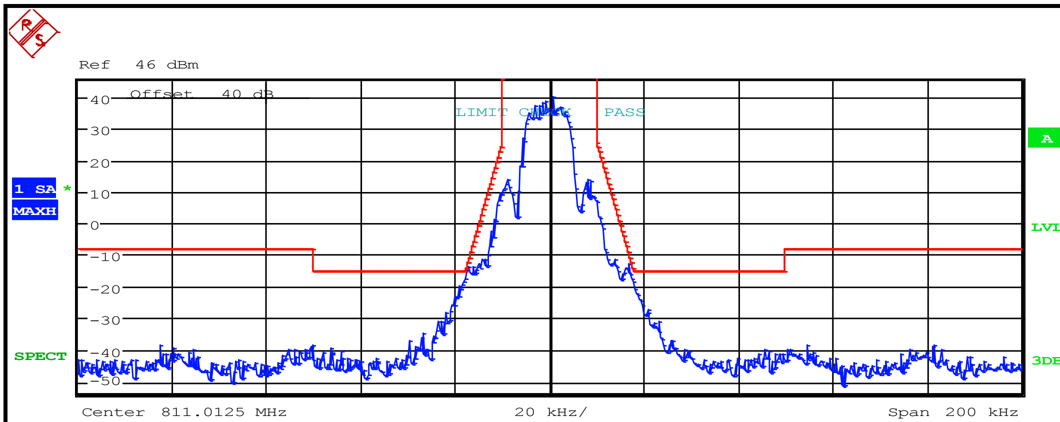
Tx Channel | | **None**

Bandwidth 19.98 kHz Power 50.71 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.960897 M	-38.68	-89.39	-30.56
-50.000 k	-17.800 k	300.00	805.994231 M	-19.48	-70.19	-4.36
-17.800 k	-10.000 k	300.00	805.995192 M	-13.77	-64.48	-1.23
10.000 k	17.800 k	300.00	806.030128 M	-18.26	-68.97	-4.04
17.800 k	50.000 k	300.00	806.030449 M	-19.42	-70.13	-4.30
50.000 k	100.000 k	300.00	806.066026 M	-39.48	-90.19	-31.36

Date: 17.MAR.2015 14:01:31

Plot 8-48: Occupied Bandwidth – 811.0125 MHz; OTP (WB); Mask G



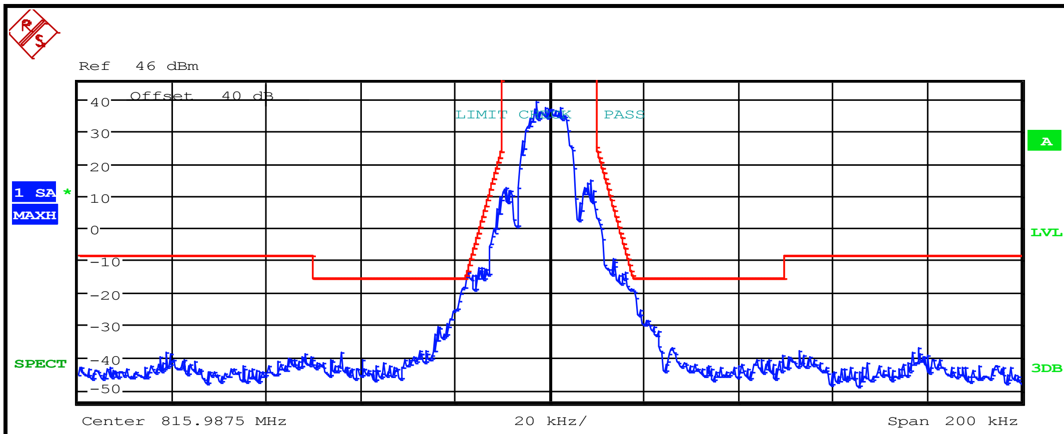
Tx Channel **None**

Bandwidth 19.98 kHz Power 50.69 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.929808 M	-38.97	-89.67	-30.82
-50.000 k	-17.800 k	300.00	810.994231 M	-18.55	-69.24	-3.40
-17.800 k	-10.000 k	300.00	810.994872 M	-14.88	-65.57	-0.63
10.000 k	17.800 k	300.00	811.029808 M	-15.40	-66.10	-2.83
17.800 k	50.000 k	300.00	811.030449 M	-19.07	-69.76	-3.92
50.000 k	100.000 k	300.00	811.066987 M	-38.84	-89.54	-30.69

Date: 17.MAR.2015 14:02:49

Plot 8-49: Occupied Bandwidth – 815.9875 MHz; OTP (WB); Mask G



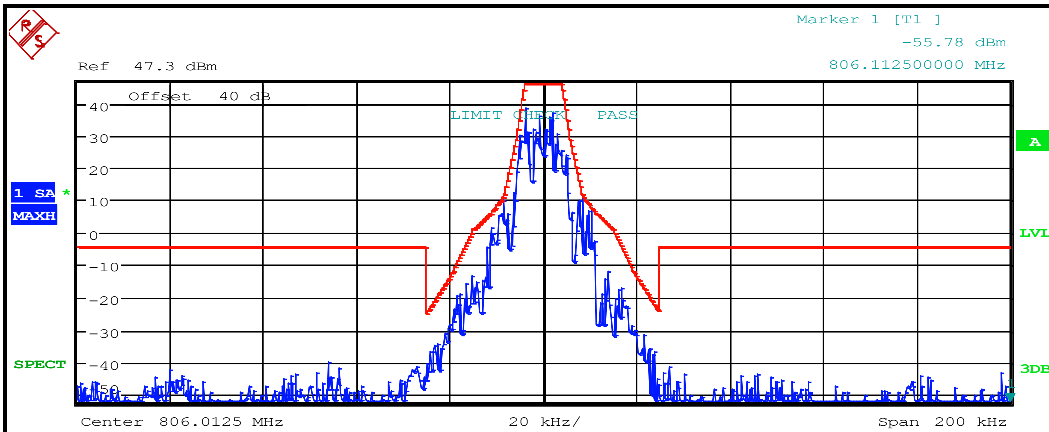
Tx Channel **None**

Bandwidth 19.98 kHz Power 50.06 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.906090 M	-38.68	-88.74	-29.94
-50.000 k	-17.800 k	300.00	815.969231 M	-18.46	-68.52	-2.72
-17.800 k	-10.000 k	300.00	815.970192 M	-13.73	-63.79	-0.57
10.000 k	17.800 k	300.00	816.005128 M	-18.59	-68.65	-3.75
17.800 k	50.000 k	300.00	816.005449 M	-20.01	-70.07	-4.27
50.000 k	100.000 k	300.00	816.065705 M	-37.56	-87.62	-28.82

Date: 17.MAR.2015 14:41:57

Plot 8-50: Occupied Bandwidth – 806.0125 MHz; OTP (WB); Mask H

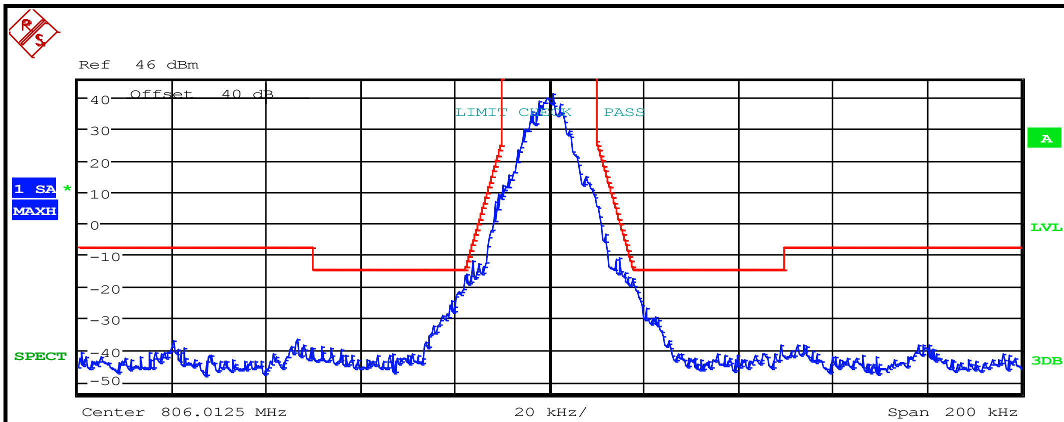


Tx Channel **None**
Bandwidth 8 kHz Power 45.91 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.968590 M	-42.01	-87.92	-37.62
-25.000 k	-19.400 k	300.00	805.988141 M	-37.14	-83.05	-13.42
-19.400 k	-15.000 k	300.00	805.993910 M	-19.45	-65.35	-9.50
-15.000 k	-11.290 k	300.00	806.000321 M	-4.46	-50.36	-9.17
-11.290 k	-8.500 k	300.00	806.002885 M	5.47	-40.43	-3.43
-8.500 k	-5.800 k	300.00	806.004000 M	10.17	-35.73	-0.73
-5.800 k	-4.000 k	300.00	806.007372 M	30.15	-15.76	-4.92
4.000 k	5.800 k	300.00	806.017628 M	23.35	-22.56	-11.72
5.800 k	8.500 k	300.00	806.020833 M	10.26	-35.65	-1.74
8.500 k	11.290 k	300.00	806.022756 M	7.58	-38.32	-0.18

Date: 17.MAR.2015 11:51:03

Plot 8-51: Occupied Bandwidth – 806.0125 MHz; OTP (NPSPAC); Mask G



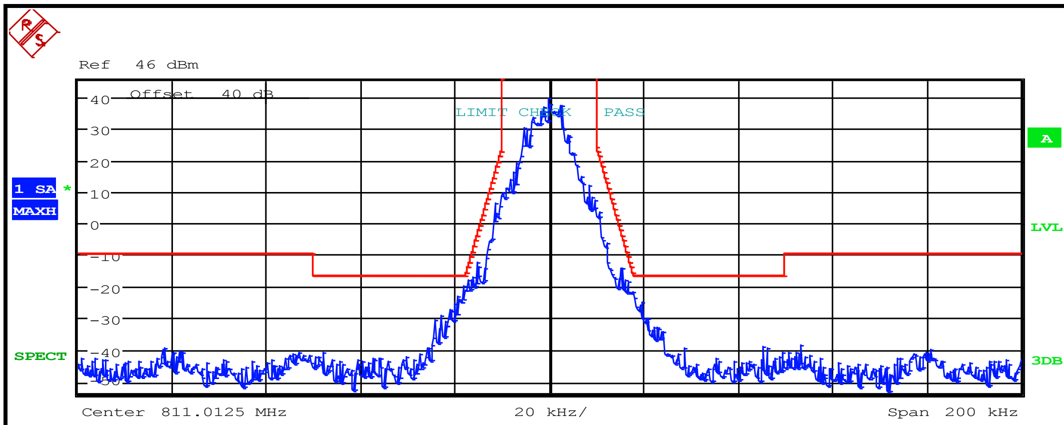
Tx Channel **None**

Bandwidth 19.98 kHz Power 51.15 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	805.932692 M	-37.28	-88.43	-29.52
-50.000 k	-17.800 k	300.00	805.994231 M	-20.95	-72.10	-6.19
-17.800 k	-10.000 k	300.00	805.994872 M	-16.42	-67.56	-2.55
10.000 k	17.800 k	300.00	806.030128 M	-17.63	-68.78	-3.77
17.800 k	50.000 k	300.00	806.030449 M	-18.90	-70.04	-4.13
50.000 k	100.000 k	300.00	806.090705 M	-38.53	-89.67	-30.76

Date: 17.MAR.2015 15:08:59

Plot 8-52: Occupied Bandwidth – 811.0125 MHz; OTP (NPSPAC); Mask G



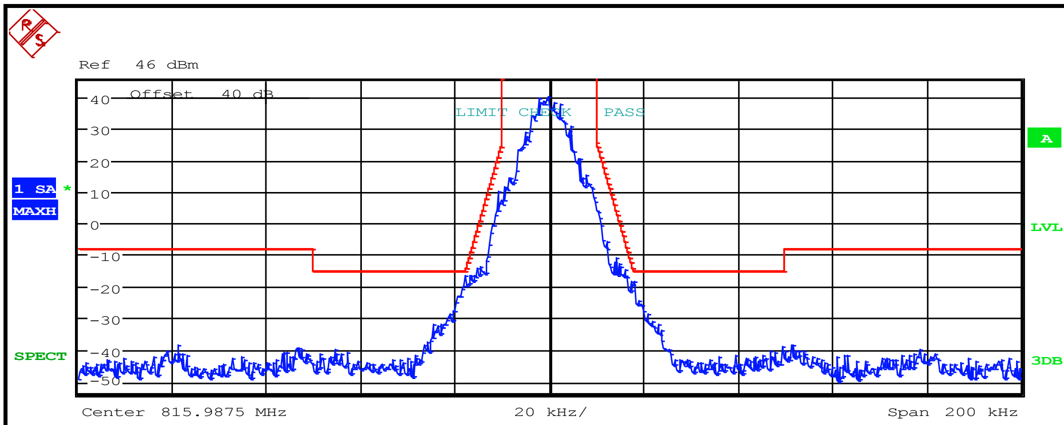
Tx Channel **None**

Bandwidth 19.98 kHz Power 49.23 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	810.930769 M	-39.79	-89.02	-30.22
-50.000 k	-17.800 k	300.00	810.994231 M	-19.82	-69.05	-3.25
-17.800 k	-10.000 k	300.00	810.995192 M	-17.90	-67.13	-3.90
10.000 k	17.800 k	300.00	811.030128 M	-22.07	-71.30	-6.40
17.800 k	50.000 k	300.00	811.030449 M	-21.49	-70.72	-4.92
50.000 k	100.000 k	300.00	811.065705 M	-38.97	-88.20	-29.40

Date: 17.MAR.2015 15:09:50

Plot 8-53: Occupied Bandwidth – 815.9875 MHz; OTP (NPSPAC); Mask G



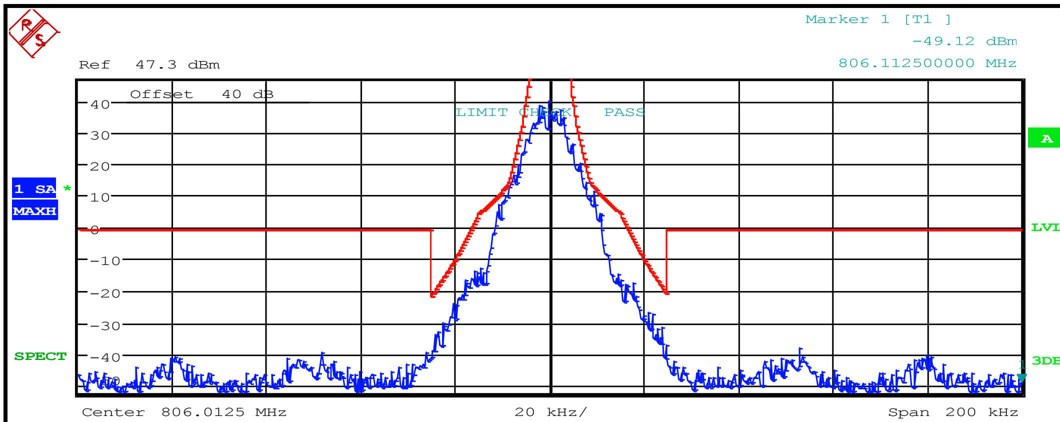
Tx Channel | **None**

Bandwidth 19.98 kHz | Power 50.63 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-50.000 k	300.00	815.908654 M	-38.53	-89.16	-30.36
-50.000 k	-17.800 k	300.00	815.969231 M	-20.11	-70.75	-4.95
-17.800 k	-10.000 k	300.00	815.969700 M	-16.90	-67.53	-1.73
10.000 k	17.800 k	300.00	816.005128 M	-19.59	-70.22	-5.32
17.800 k	50.000 k	300.00	816.005449 M	-18.61	-69.24	-3.44
50.000 k	100.000 k	300.00	816.038782 M	-38.68	-89.32	-30.51

Date: 17.MAR.2015 15:10:58

Plot 8-54: Occupied Bandwidth – 806.0125 MHz; OTP (NPSPAC); Mask H



Tx Channel None

Bandwidth 8 kHz Power 49.29 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-100.000 k	-25.000 k	300.00	805.986218 M	-39.58	-88.87	-38.57
-25.000 k	-19.400 k	300.00	805.991987 M	-24.14	-73.43	-12.58
-19.400 k	-15.000 k	300.00	805.994551 M	-16.90	-66.18	-12.27
-15.000 k	-11.290 k	300.00	806.000962 M	0.68	-48.60	-8.27
-11.290 k	-8.500 k	300.00	806.003205 M	10.18	-39.11	-2.68
-8.500 k	-5.800 k	300.00	806.004000 M	12.89	-36.39	-1.39
-5.800 k	-4.000 k	300.00	806.006731 M	23.55	-25.74	-8.44
4.000 k	5.800 k	300.00	806.017628 M	25.75	-23.53	-12.69
5.800 k	8.500 k	300.00	806.020192 M	13.97	-35.31	-5.61
8.500 k	11.290 k	300.00	806.021795 M	11.16	-38.12	-1.70

Date: 17.MAR.2015 15:16:24

Table 8-1: Test Equipment Used For Testing Occupied Bandwidth

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/15
901536	Aeroflex	48-40-34	40 dB Attenuator	CB6627	10/6/15
901057	Hewlett Packard	3336B	Synthesizer/Level Generator	2514A02585	4/17/15

Test Personnel:

Daniel Baltzell		March 13-18, 2015
EMC Test Engineer	Signature	Dates of Test

9 FCC Rules and Regulation Part 2.1055: Frequency Stability; Part 90.213, 90.539: Frequency Stability; RSS-119 5.3 Transmitter Frequency Stability

9.1 Test Procedure

ANSI/TIA/EIA-603-2004, section 2.2.2

The carrier frequency stability is the ability of the transmitter to maintain an assigned carrier frequency.

The EUT was evaluated over the temperature range -30°C to +60°C. The AFC was not locked to the base station.

The temperature was initially set to -30°C and a 1-hour period was observed for stabilization of the EUT. The frequency stability was measured within one minute after application of primary power to the transmitter. The temperature was raised at intervals of 10 degrees centigrade through the range. A ½-hour period was observed to stabilize the EUT at each measurement step and the frequency stability was measured within one minute after application of primary power to the transmitter. Additionally, the power supply voltage of the EUT was varied +/-15% nominal input voltage.

Part 90.213: Mobile stations over 2 W operating power - 1.5 ppm.

Part 90.213 Frequency Stability

(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

MINIMUM FREQUENCY STABILITY
[Parts per million (ppm)]

Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1,2,3] 100	100	200
25–50	20	20	50
72–76	5	....	50
150–174	[5,11] 5	[6] 5	[4,6] 50
216–220	1.0	....	1.0
220–222 [12]	0.1	1.5	1.5
421–512	[7,11,14] 2.5	[8] 5	[8] 5
806–809	[14] 1.0	1.5	1.5
809–824	[14] 1.5	2.5	2.5
851–854	1.0	1.5	1.5
854–869	1.5	2.5	2.5
896–901	[14] 0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928 [13]	2.5	2.5	2.5
929–930	1.5	....	....
935–940	0.1	1.5	1.5
1427–1435	[9] 300	300	300
Above 2450 [10]	....	....	....

Part 90.539 Frequency Stability

Transmitters designed to operate in 769–775 MHz and 799–805 MHz frequency bands must meet the frequency stability requirements in this section.

(a) Mobile, Mobile and control transmitters must normally use automatic frequency control (AFC) to lock on to the base station signal.
(b) The frequency stability of base transmitters operating in the narrowband segment must be 100 parts per billion or better.
(c) The frequency stability of mobile, Mobile and control transmitters operating in the narrowband segment must be 400 parts per billion or better when AFC is locked to the base station. When AFC is not locked to the base station, the frequency stability must be at least 1.0 ppm for 6.25 kHz, 1.5 ppm for 12.5 kHz (2 channel aggregate), and 2.5 ppm for 25 kHz (4 channel aggregate).
(d) The frequency stability of base transmitters operating in the wideband segment must be 1 part per million or better.
(e) The frequency stability of mobile, Mobile and control transmitters operating in the wideband segment must be 1.25 parts per million or better when AFC is locked to a base station, and 5 parts per million or better when AFC is not locked.

The EUT was tested while the AFC was not locked, therefore, the limit is 1.5 ppm. The worst-case deviation was found to be 0.5 ppm.

9.2 Test Data

Table 9-1: Temperature Frequency Stability – 769.0125 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	769.012142	-0.47
-20	769.012237	-0.34
-10	769.012306	-0.25
0	769.012509	0.01
10	769.012489	-0.01
20 (reference)	769.012500	0.00
30	769.012552	0.07
40	769.012589	0.12
50	769.012605	0.14
55	769.012548	0.06

Table 9-2: Temperature Frequency Stability – 799.0125 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	799.012128	-0.47
-20	799.012238	-0.33
-10	799.012310	-0.24
0	799.012507	0.01
10	799.012487	-0.02
20 (reference)	799.012500	0.00
30	799.012555	0.07
40	799.012608	0.14
50	799.012608	0.14
55	799.012553	0.07

Table 9-3: Temperature Frequency Stability – 815.9875 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	815.987117	-0.47
-20	815.987242	-0.32
-10	815.987314	-0.23
0	815.987504	0.00
10	815.987482	-0.02
20 (reference)	815.987500	0.00
30	815.987555	0.07
40	815.987612	0.14
50	815.987606	0.13
55	815.987553	0.06

Table 9-4: Temperature Frequency Stability – 860.9875 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	860.987097	-0.47
-20	860.987238	-0.30
-10	860.987313	-0.22
0	860.987503	0.00
10	860.987480	-0.02
20 (reference)	860.987500	0.00
30	860.987560	0.07
40	860.987620	0.14
50	860.987610	0.13
55	860.987557	0.07

Table 9-5: Test Equipment Used For Testing Frequency Stability

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901350	Meterman	33XR	Multimeter	040402802	3/20/15
901300	Agilent Technologies	53131A (225 MHz)	Universal Frequency Counter	MY40001325	3/5/16
900819	Weinschel Corp	2	10 dB Attenuator; 5 W	BF0830	7/1/15

Test Personnel:

Daniel Baltzell	Daniel W. Baltzell	March 12, 2015
EMC Test Engineer	Signature	Date of Test

9.2.1 Frequency Stability/Voltage Variation

Table 9-6: Frequency Stability/Voltage Variation – 769.0125 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
11.56	769.012484	-0.02
13.6 (reference)	769.012500	0.00
15.64	769.012509	0.01

Table 9-7: Frequency Stability/Voltage Variation – 799.0125 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
11.56	799.012483	-0.02
13.6 (reference)	799.012500	0.00
15.64	799.012511	0.01

Table 9-8: Frequency Stability/Voltage Variation – 815.9875 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
11.56	815.987480	-0.02
13.6 (reference)	815.987500	0.00
15.64	815.987510	0.01

Table 9-9: Frequency Stability/Voltage Variation – 860.9875 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
11.56	860.987482	-0.02
13.6 (reference)	860.987500	0.00
15.64	860.987511	0.01

Table 9-10: Test Equipment Used For Testing Frequency Stability

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901350	Meterman	33XR	Multimeter	040402802	3/20/15
901300	Agilent Technologies	53131A (225 MHz)	Universal Frequency Counter	MY40001325	2/29/15
901139	Weinschel Corp.	48-20-34 DC-18GHz	Attenuator, 100W 20dB	BK5859	3/25/16

Test Personnel:

Daniel Baltzell	Daniel W. Baltzell	March 12, 2015
EMC Test Engineer	Signature	Date of Test

10 FCC Part 2.1047: Modulation Characteristics; RSS-119 5.8 Types of Modulation

10.1 Test Procedures

10.1.1 Audio Frequency Response

ANSI/TIA/EIA-603-2004, section 2.2.6

The audio frequency response is the degree of closeness to which the frequency deviation of the transmitter follows a prescribed characteristic.

The input audio level at 1000 Hz was set to produce 20% of the rated system deviation. This point is shown as the 0 dB reference level, noted DEVref. The audio signal generator was varied from 100 Hz to 5 kHz with the input level held constant. The deviation in kHz was recorded using a modulation analyzer as DEVfreq. The response in dB relative to 1 kHz was calculated as follows:

Audio Frequency Response = 20 LOG (DEVfreq/DEVref)

10.1.2 Audio Low Pass Filter Response

ANSI/TIA/EIA-603-2004, 2.2.15

The Audio Low Pass Filter Response is the frequency response of the post limiter low pass filter circuit above 3000 Hz.

10.1.3 Modulation Limiting

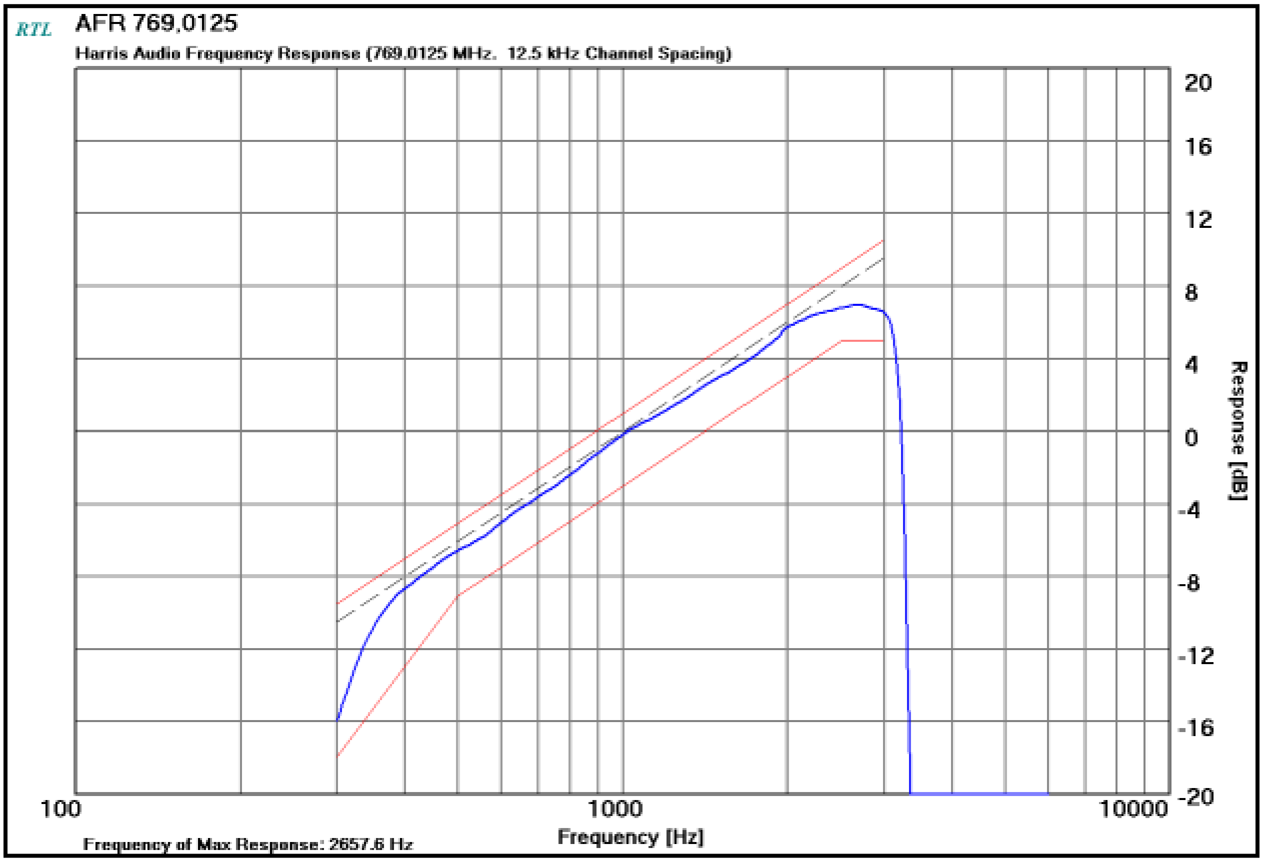
ANSI/TIA/EIA-603-2004, section 2.2.3

The transmitter was adjusted for full rated system deviation. The audio input level was adjusted for 60% of rated system deviation at 1000 Hz. Using this level (0 dB) as a reference, the audio input level was varied from the reference +/-20 dB for modulation frequencies of 300 Hz, 1,000 Hz, and 2,500 Hz. The system deviation obtained as a function of the input level was recorded. Both positive and negative peak deviations were recorded.

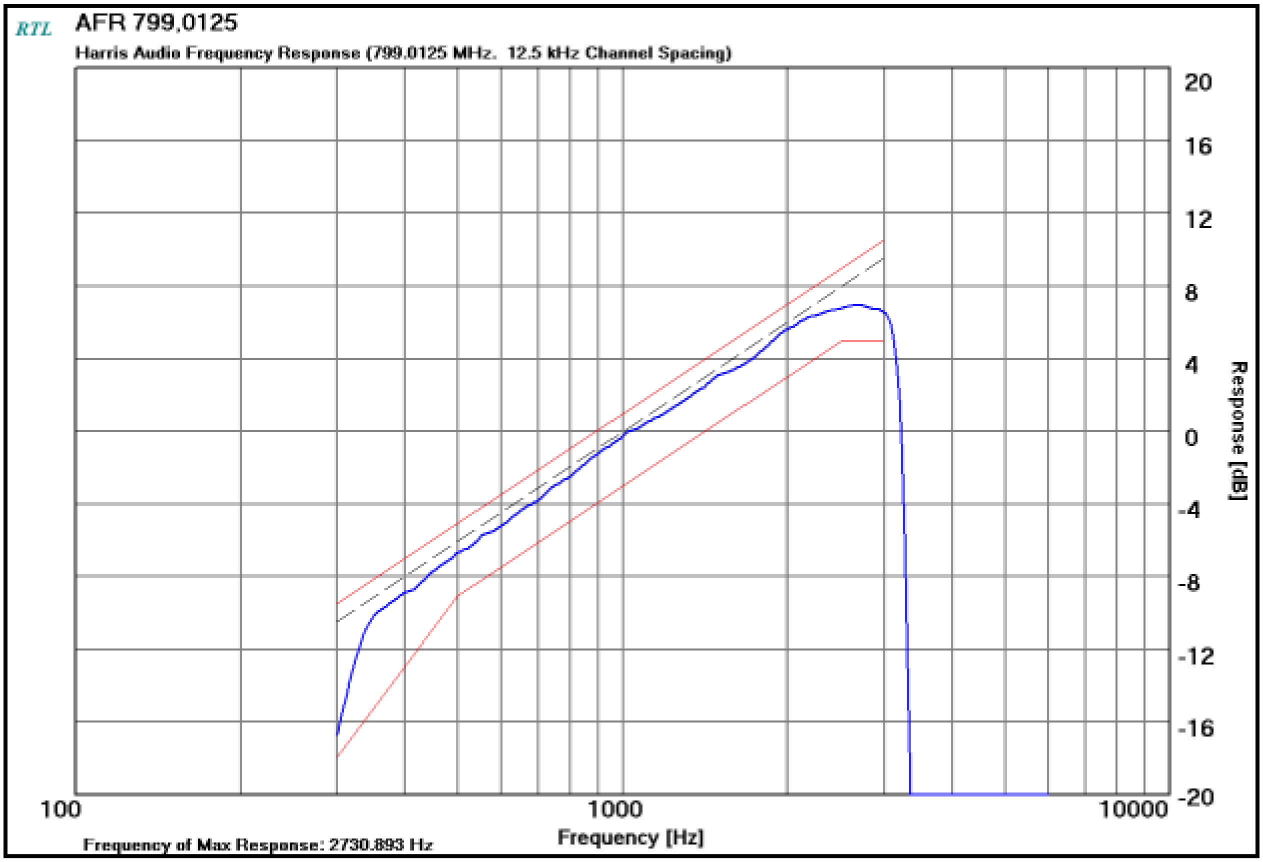
10.2 Test Data

10.2.1 Audio Frequency Response

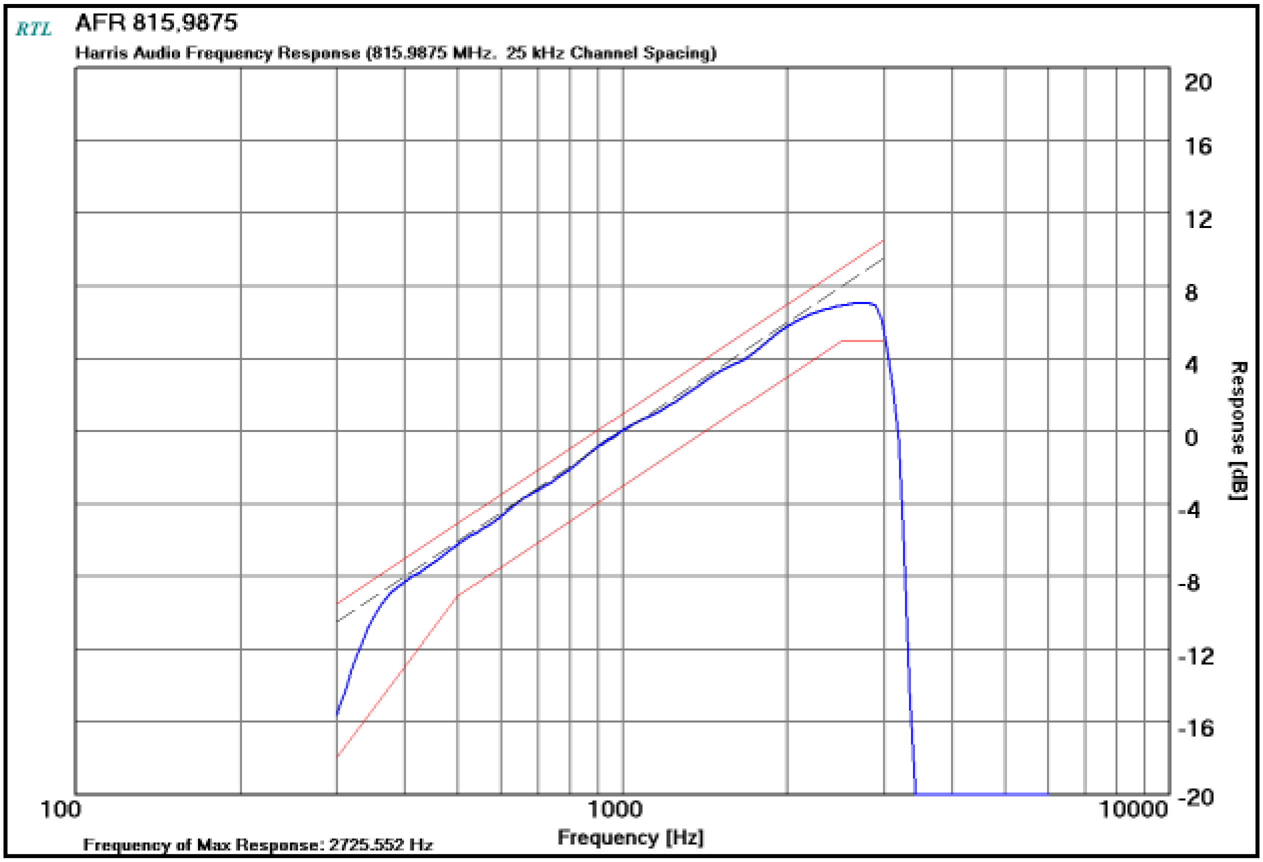
Plot 10-1: Modulation Characteristics - Audio Frequency Response – 769.0125; MHz NB



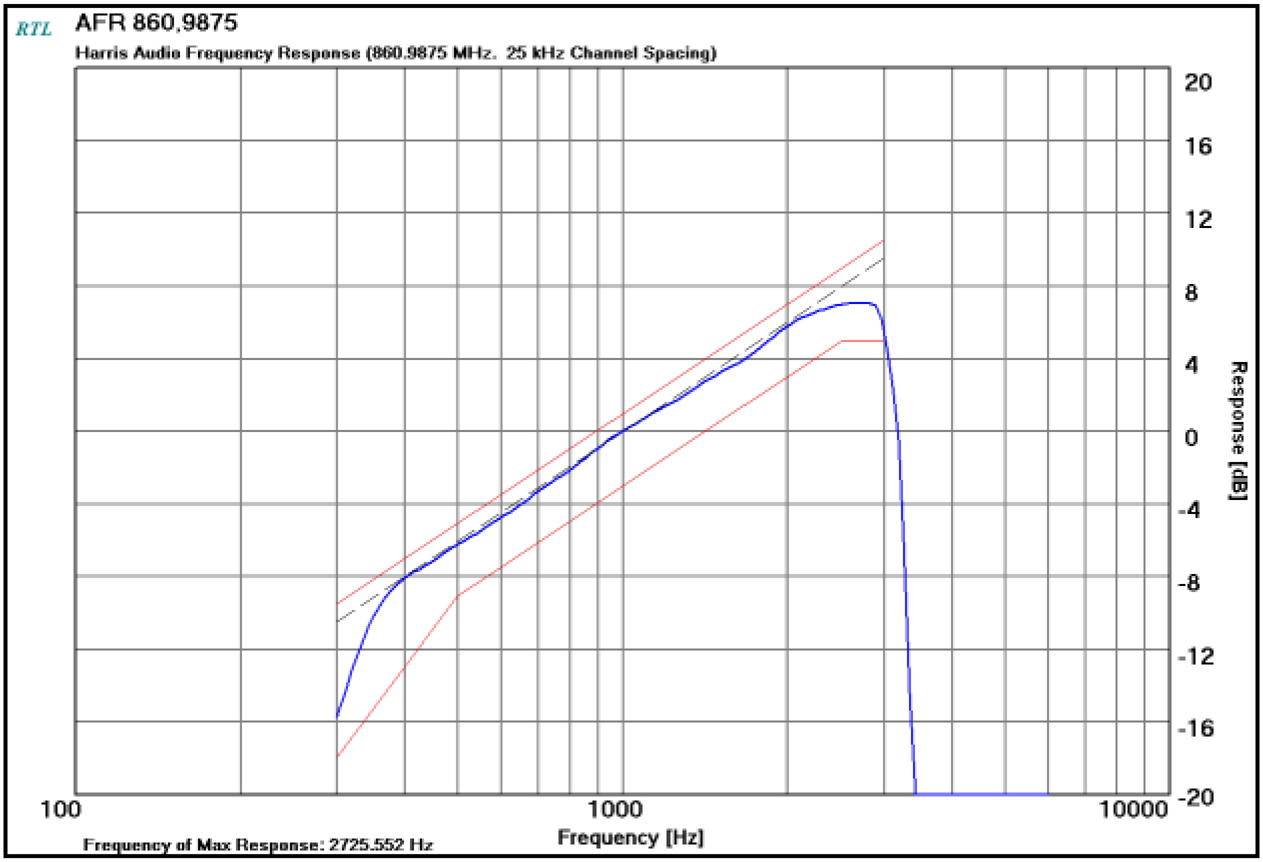
Plot 10-2: Modulation Characteristics - Audio Frequency Response – 799.0125 MHz; NB



Plot 10-3: Modulation Characteristics - Audio Frequency Response – 815.9875 MHz; WB

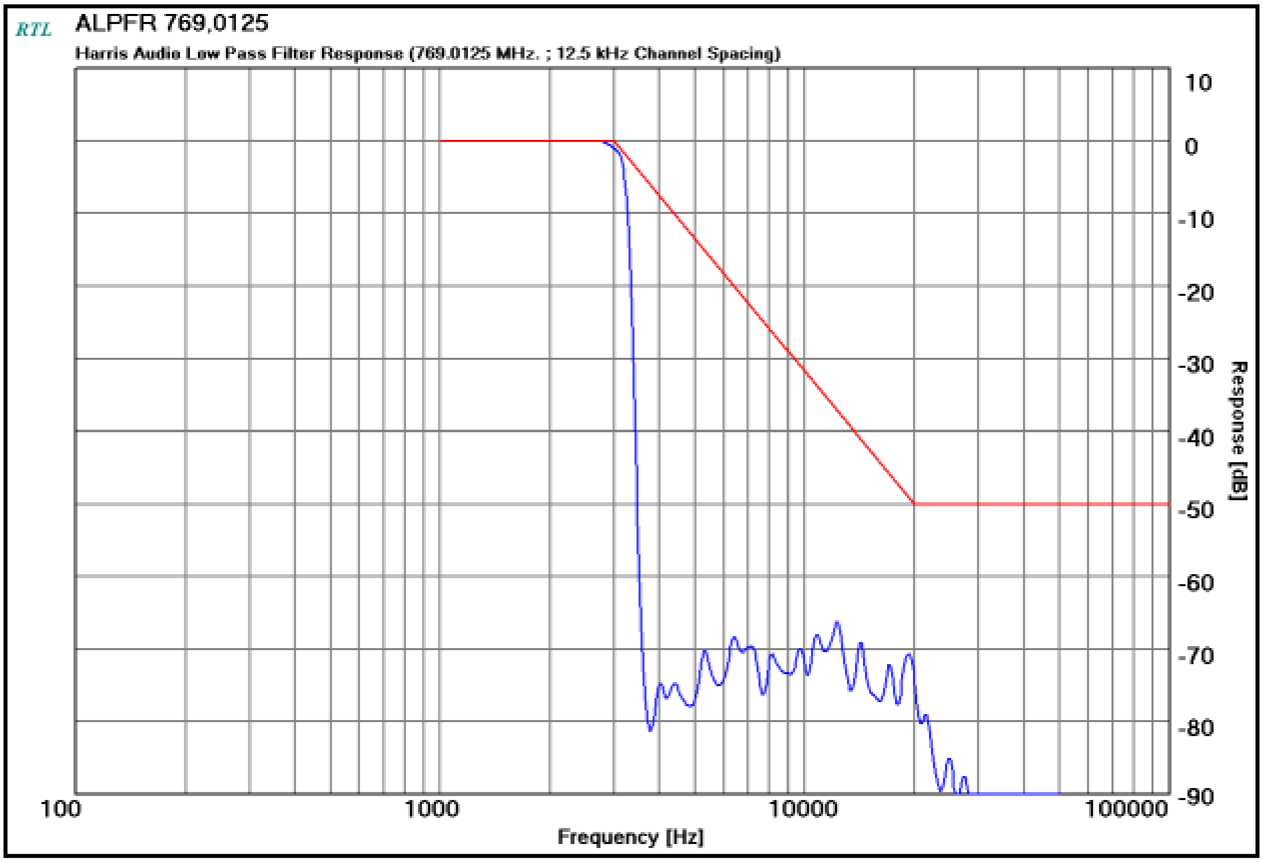


Plot 10-4: Modulation Characteristics - Audio Frequency Response – 860.9875 MHz; WB

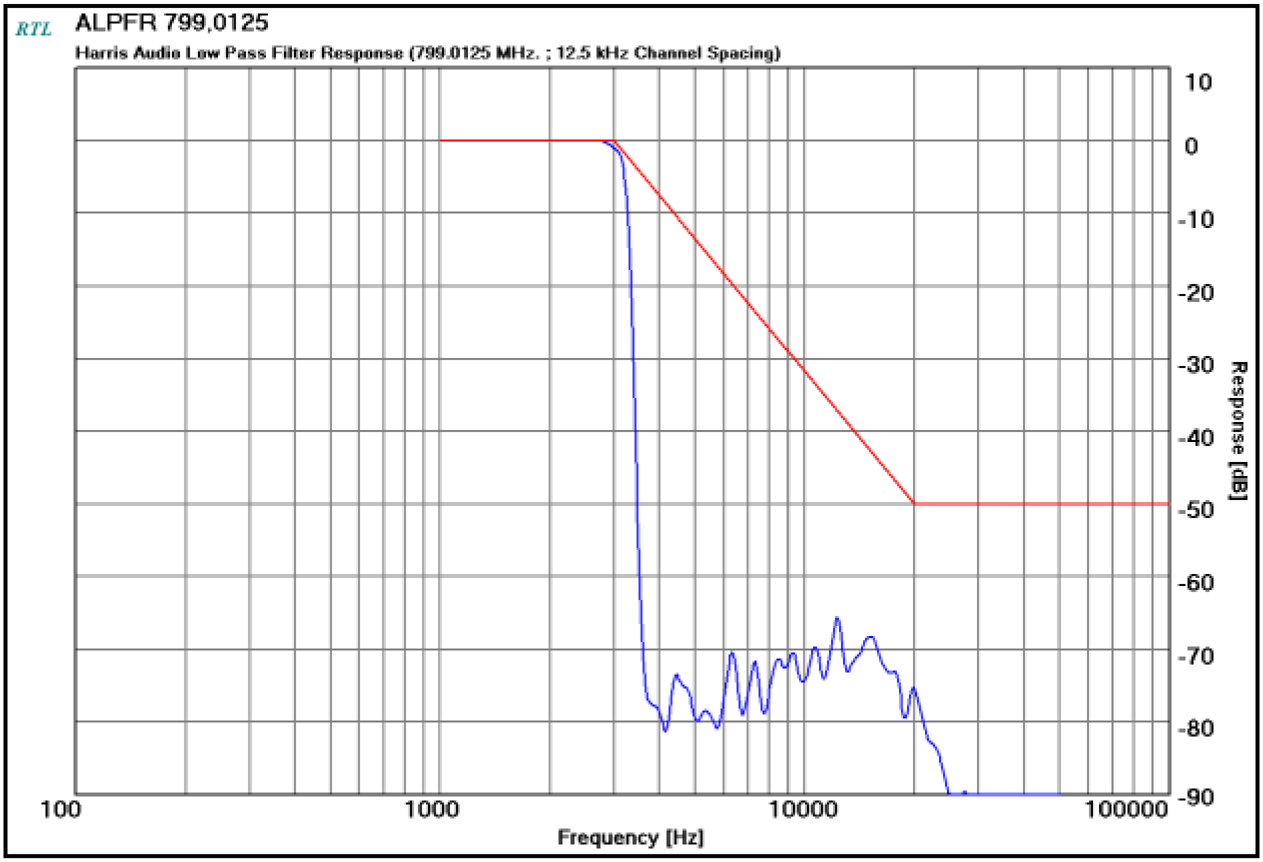


10.2.2 Audio Low Pass Filter Response

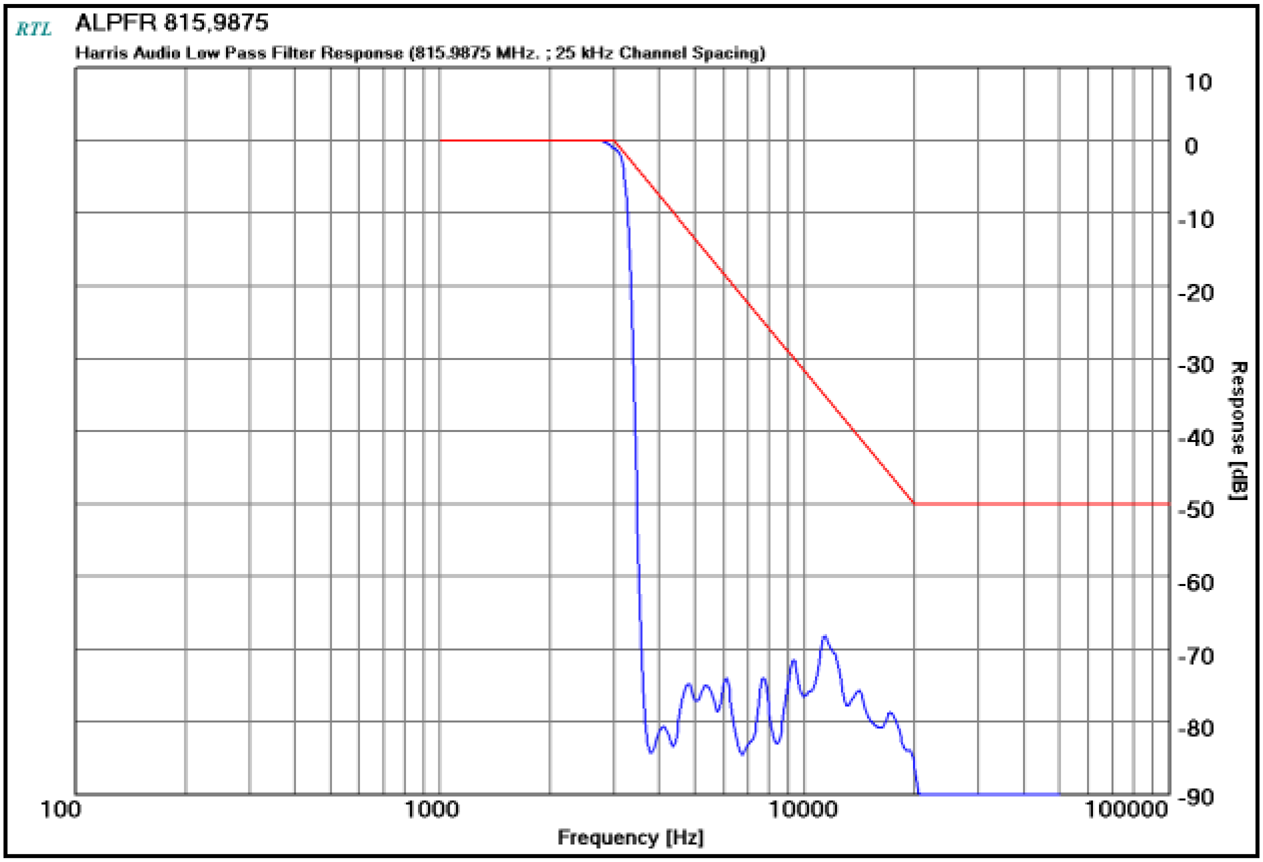
Plot 10-5: Modulation Characteristics – Audio Low Pass Filter – 769.0125 MHz; NB



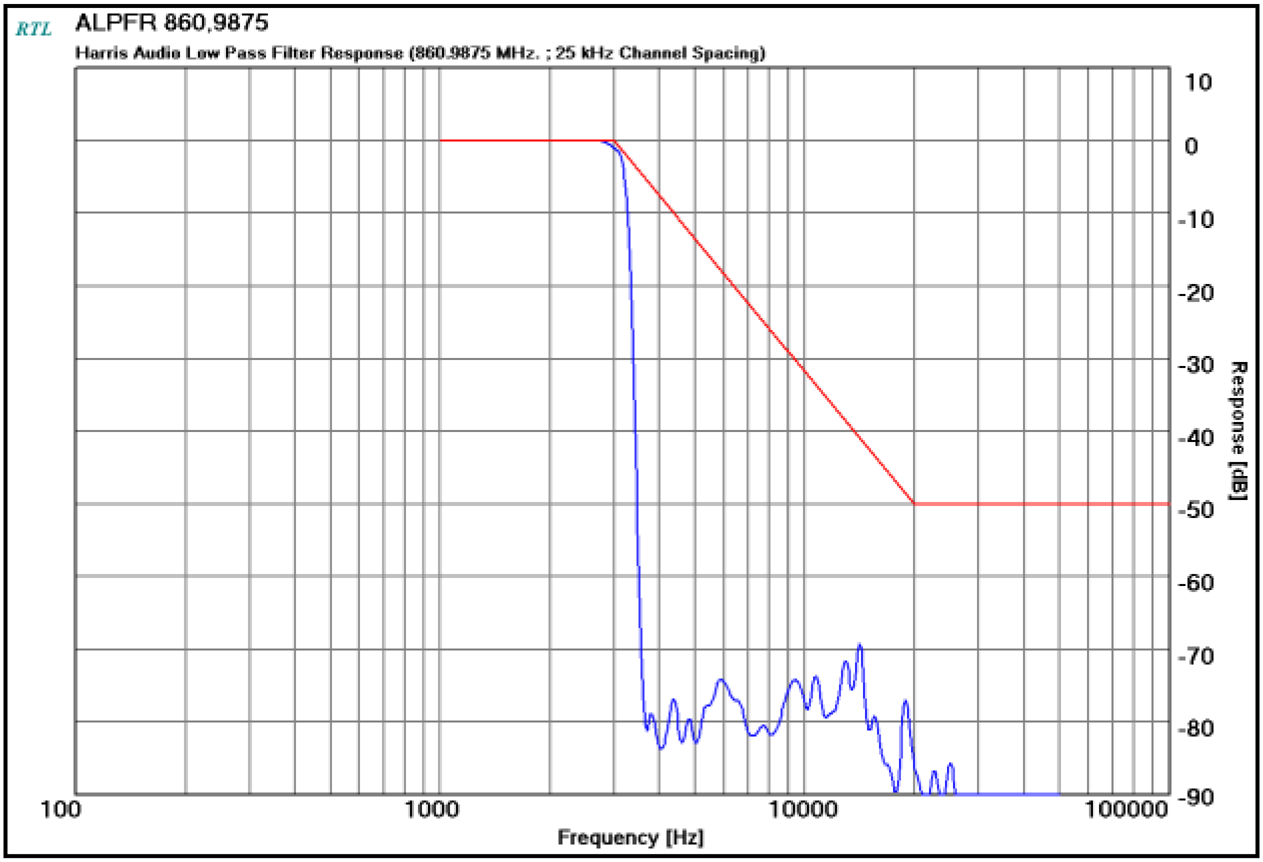
Plot 10-6: Modulation Characteristics – Audio Low Pass Filter – 799.0125 MHz; NB



Plot 10-7: Modulation Characteristics – Audio Low Pass Filter – 815.9875 MHz; WB

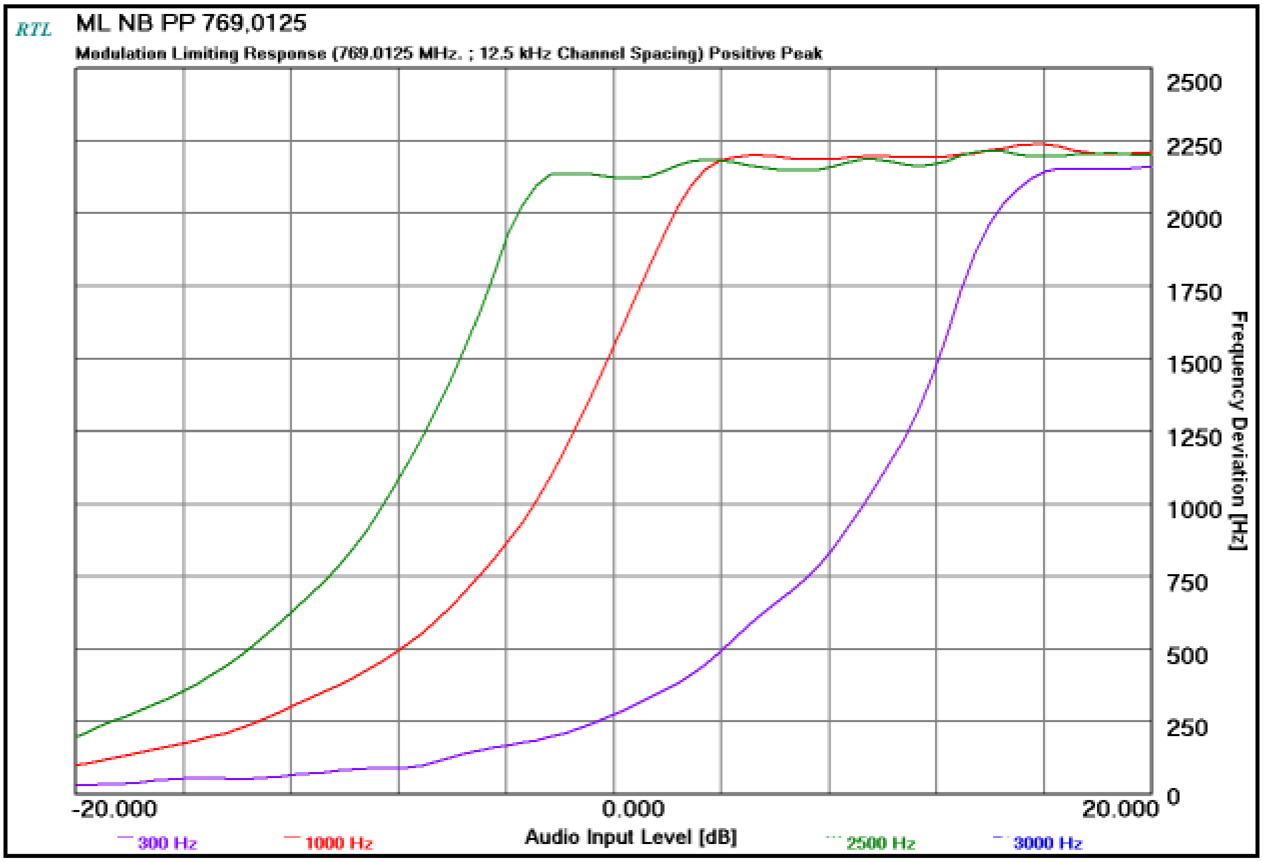


Plot 10-8: Modulation Characteristics – Audio Low Pass Filter – 860.9875 MHz; WB

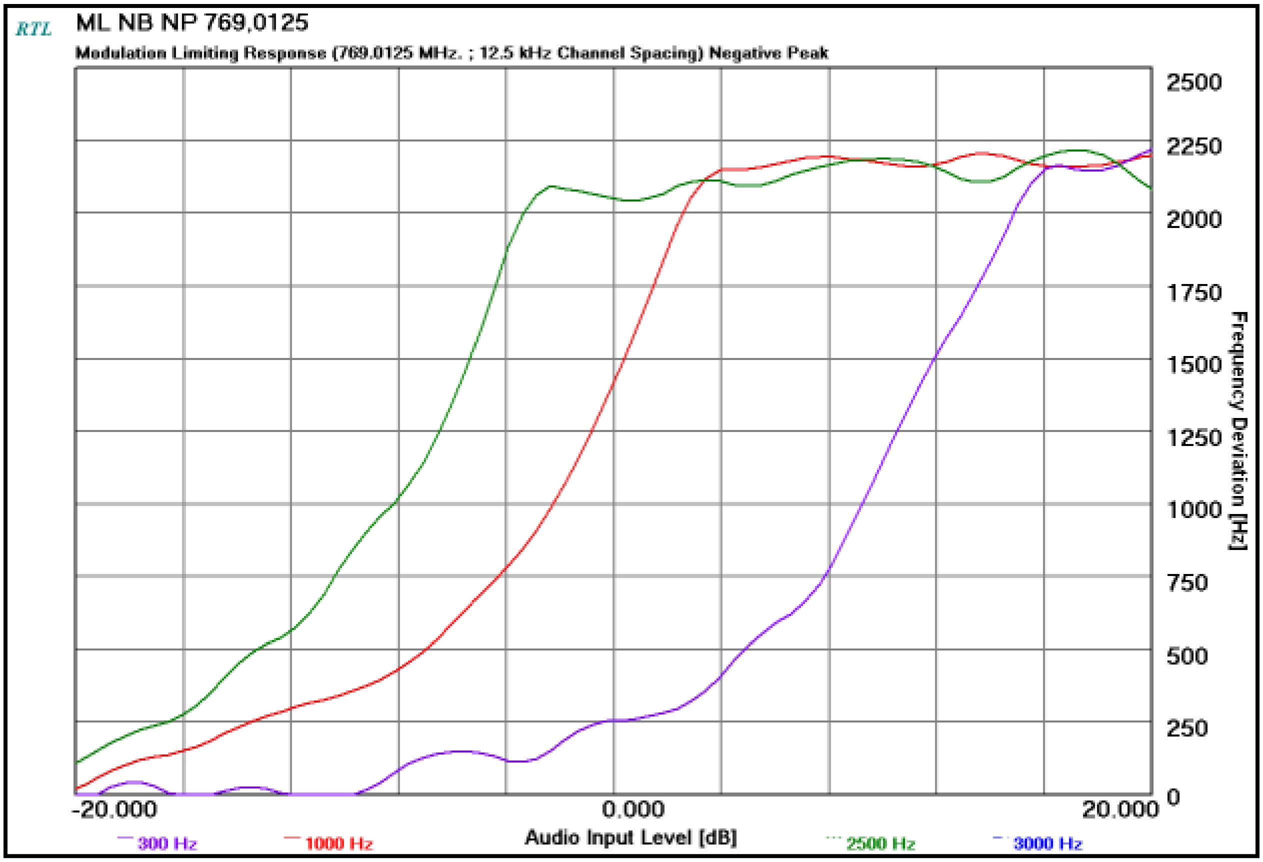


10.2.3 Modulation Limiting

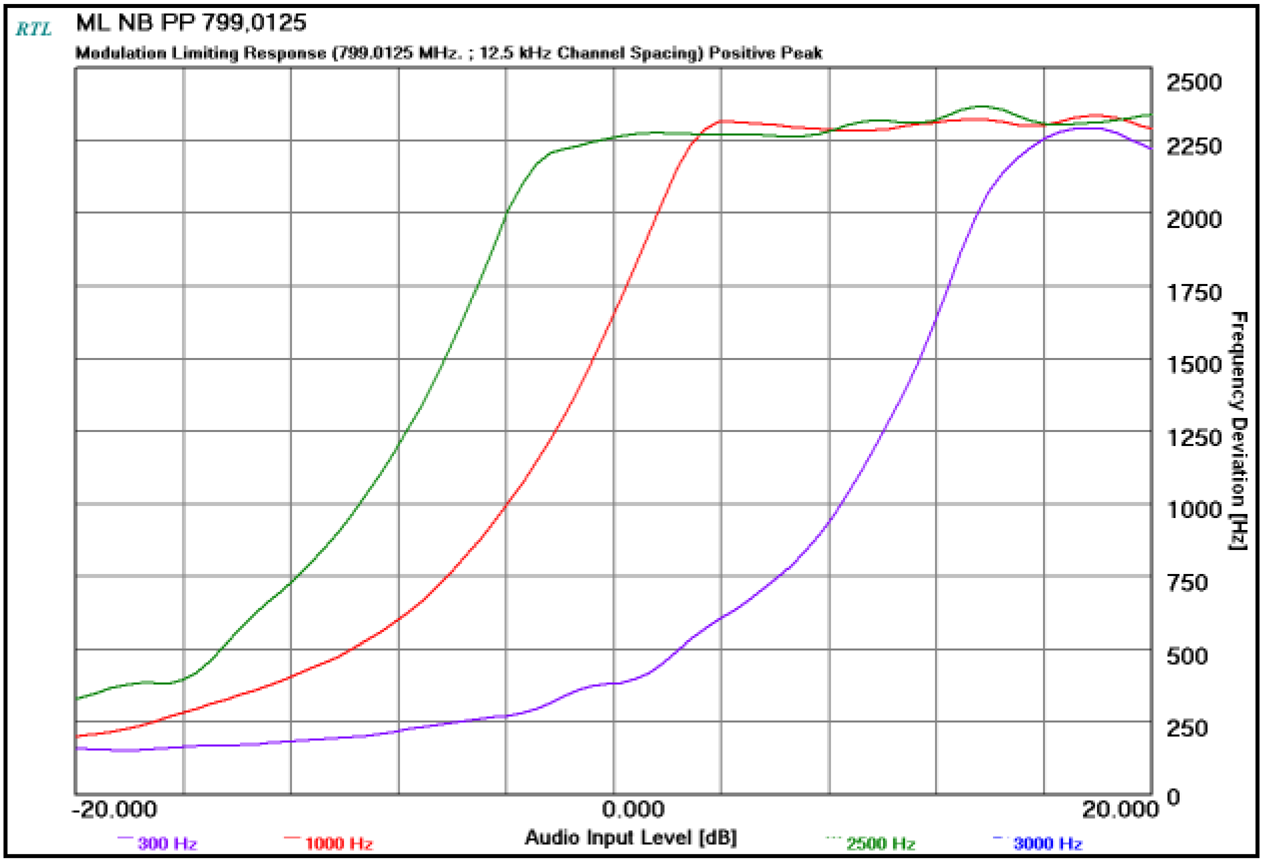
Plot 10-9: Modulation Characteristics – Modulation Limiting – 769.0125 MHz; NB; Positive Peak



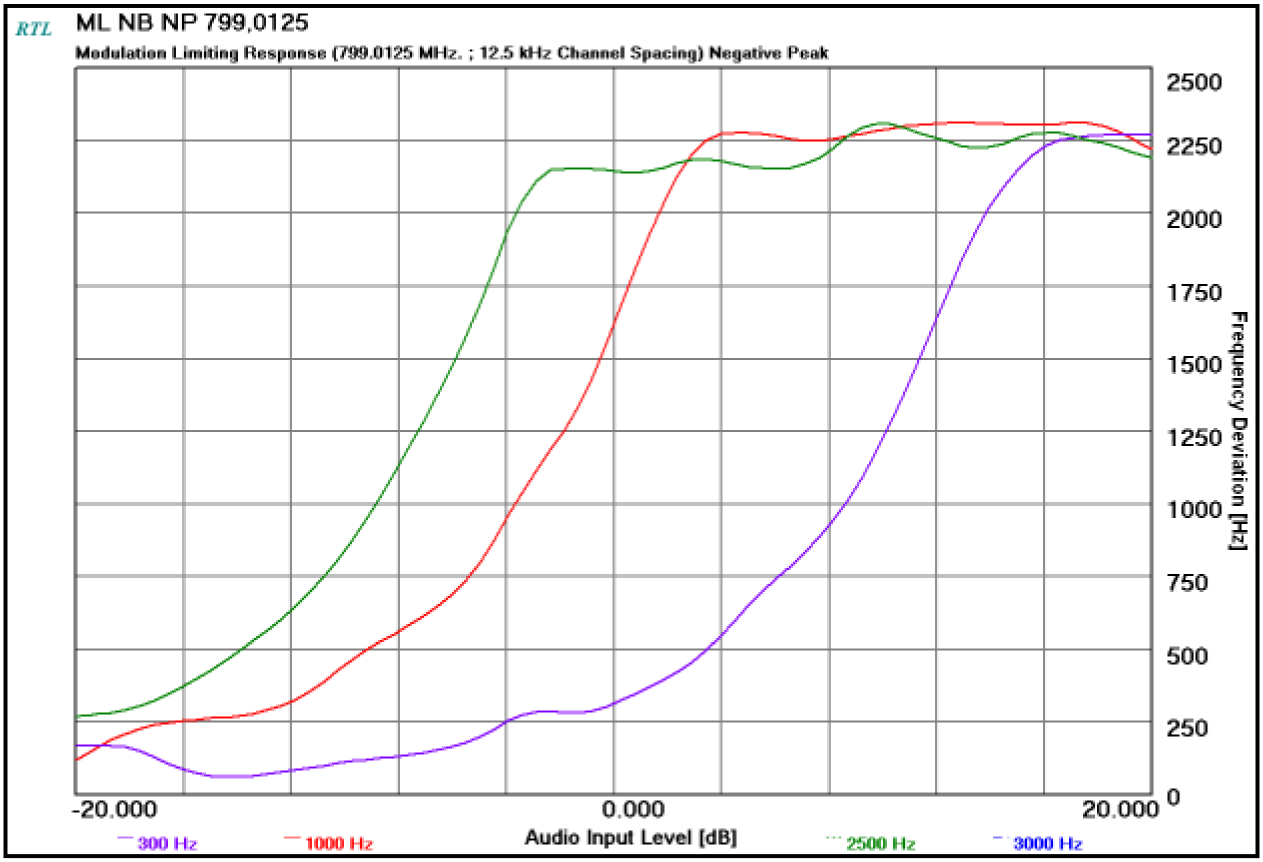
Plot 10-10: Modulation Characteristics – Modulation Limiting - 769.0125 MHz; NB; Negative Peak



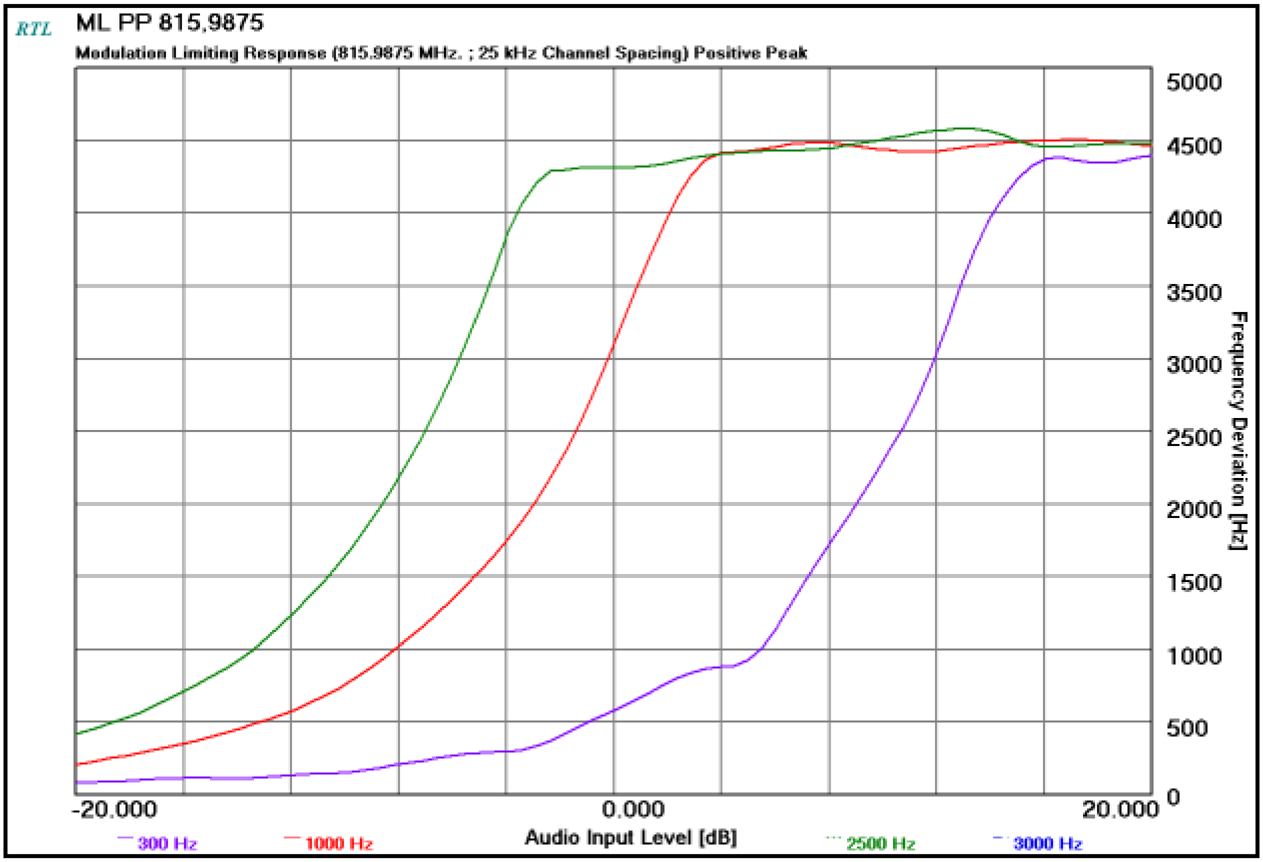
Plot 10-11: Modulation Characteristics – Modulation Limiting – 799.0125 MHz; NB; Positive Peak



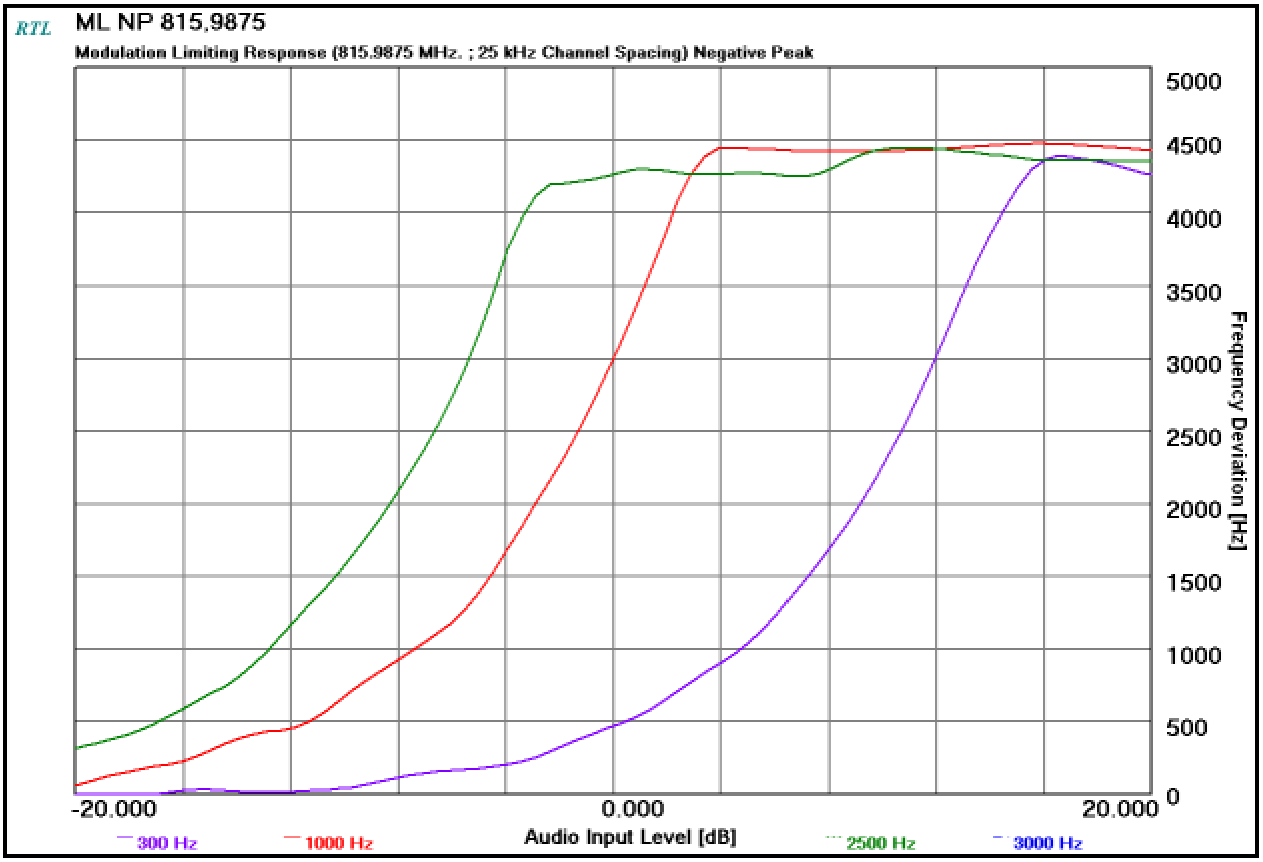
Plot 10-12: Modulation Characteristics – Modulation Limiting - 799.0125 MHz; NB; Negative Peak



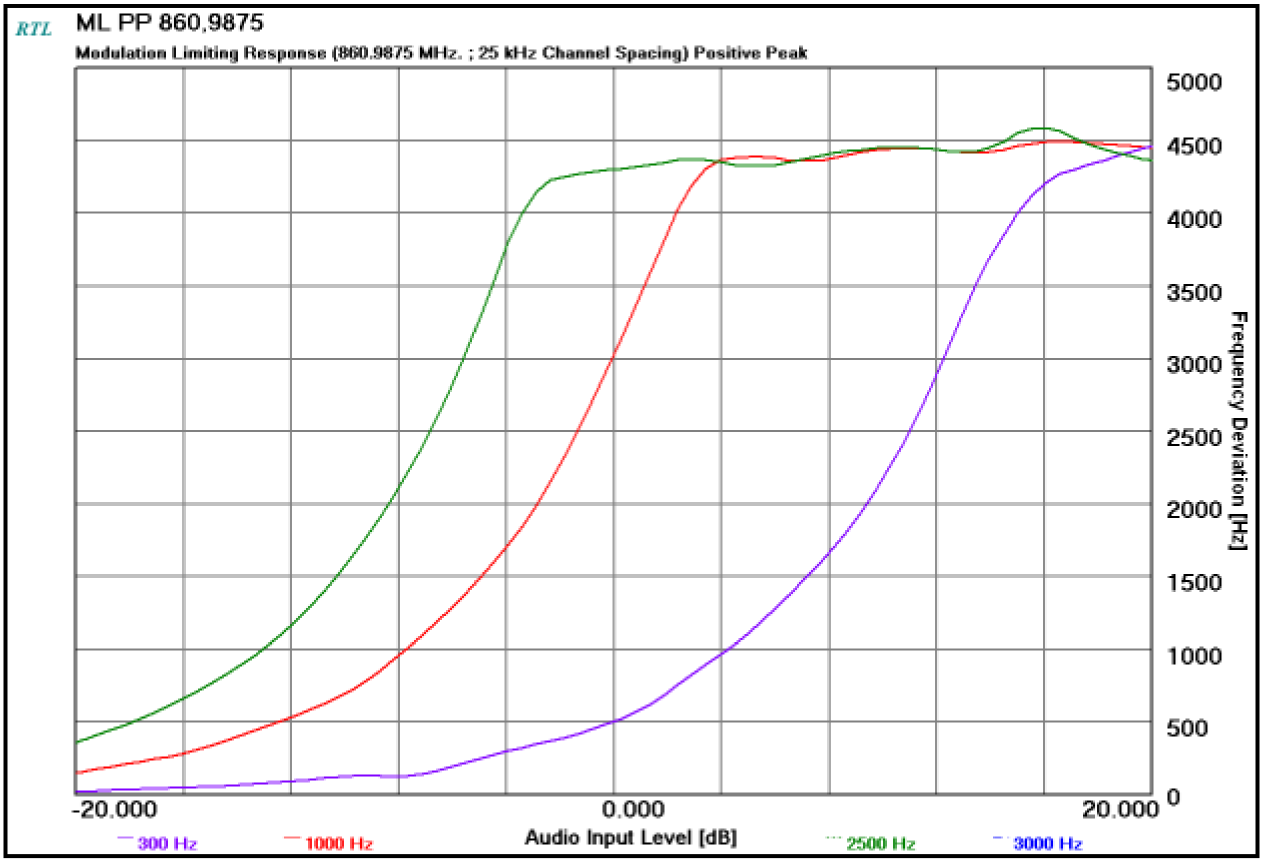
Plot 10-13: Modulation Characteristics – Modulation Limiting – 815.9875 MHz; WB; Positive Peak



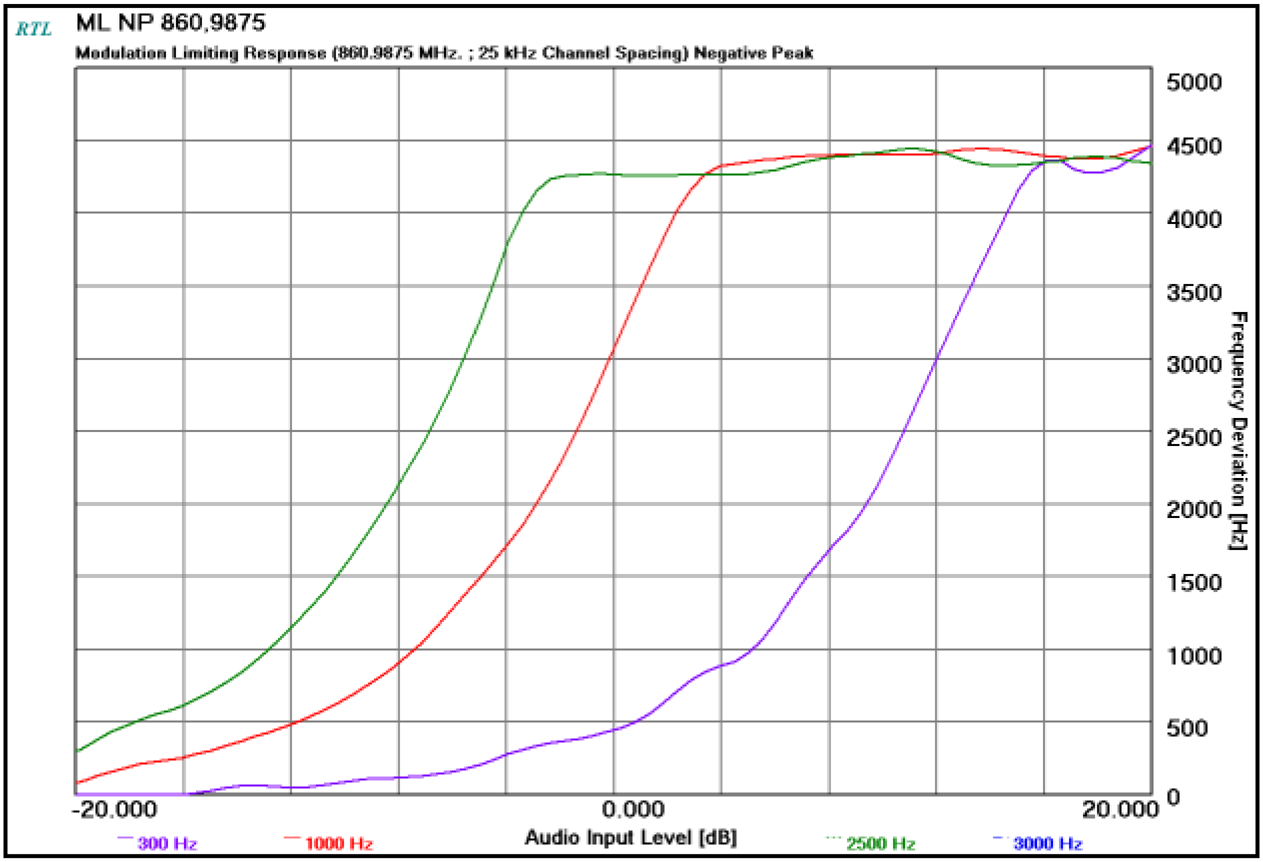
Plot 10-14: Modulation Characteristics – Modulation Limiting – 815.9875 MHz; WB; Negative Peak



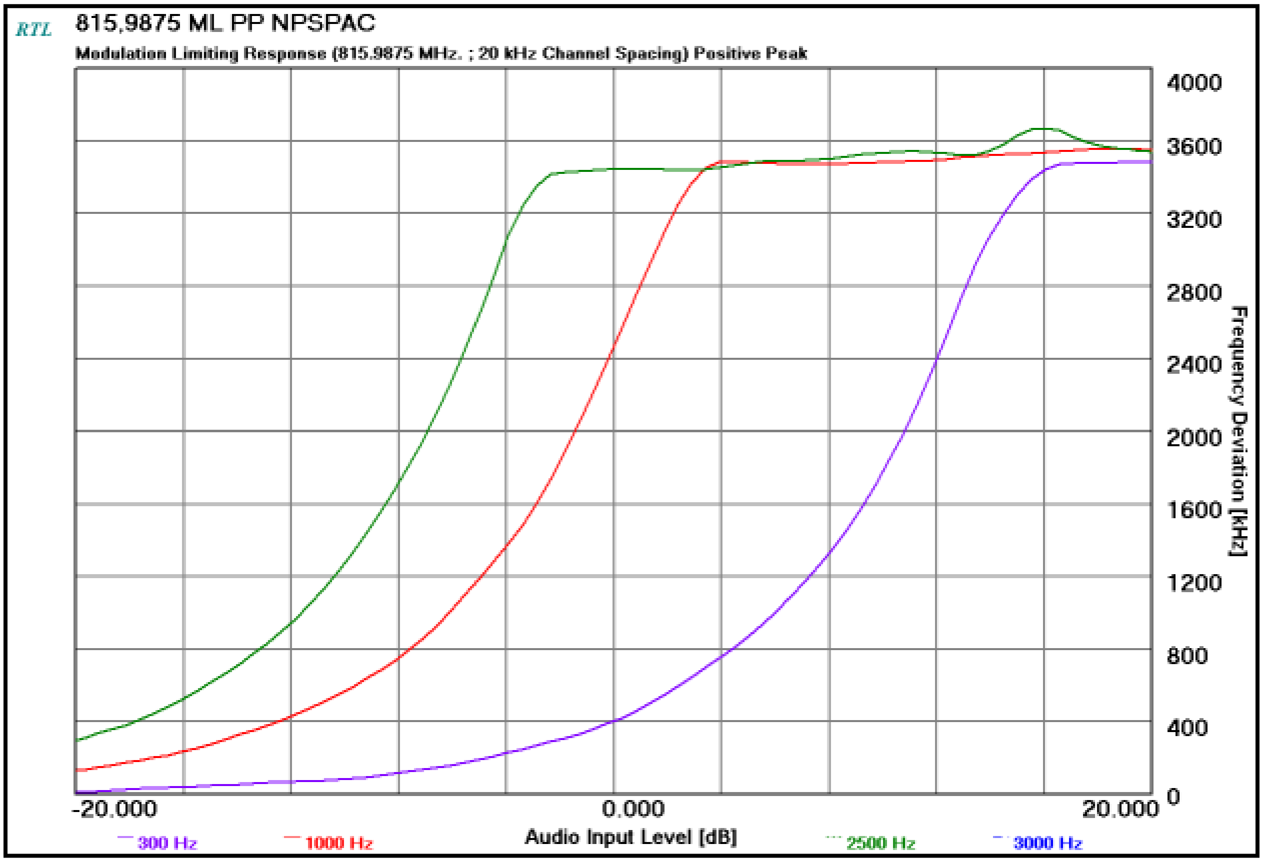
Plot 10-15: Modulation Characteristics – Modulation Limiting – 860.9875 MHz; WB; Positive Peak



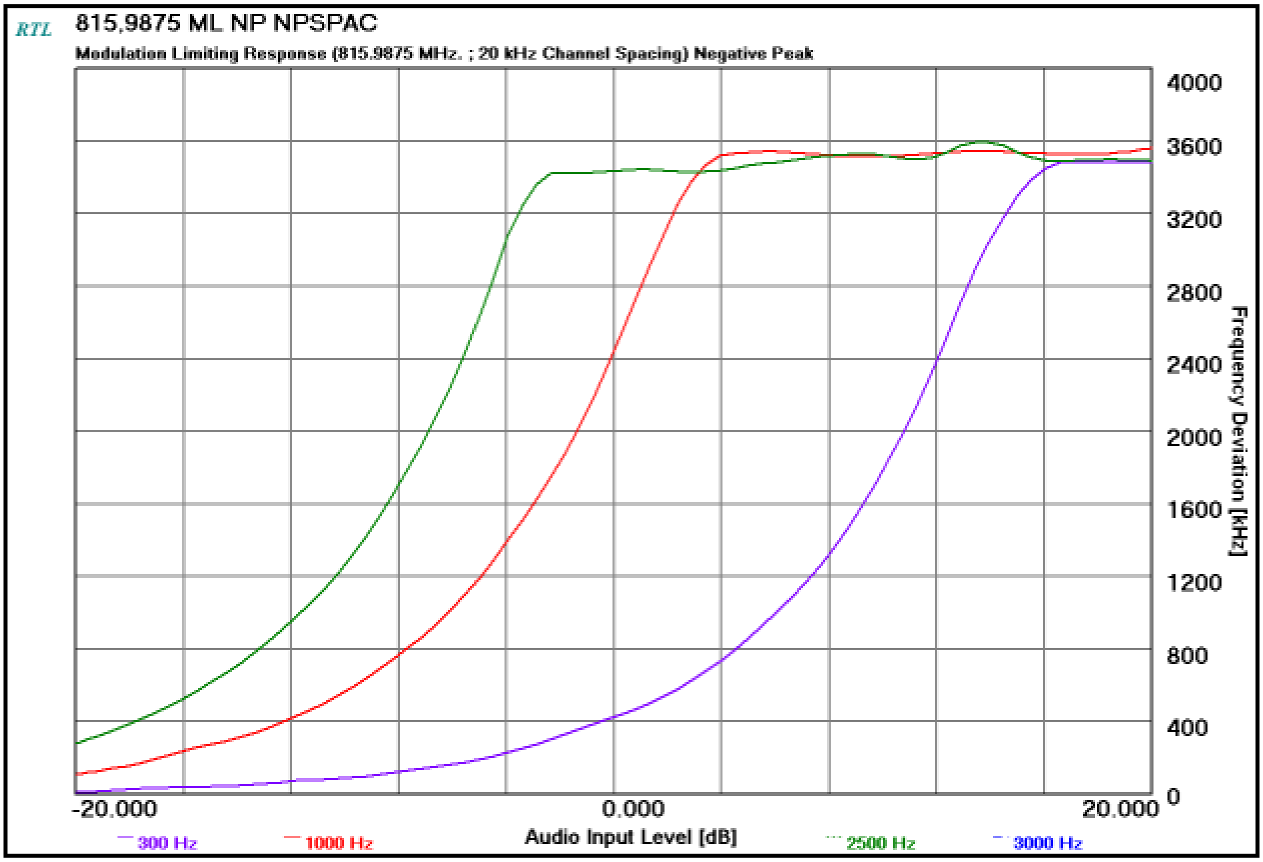
Plot 10-16: Modulation Characteristics – Modulation Limiting – 860.9875 MHz; WB; Negative Peak



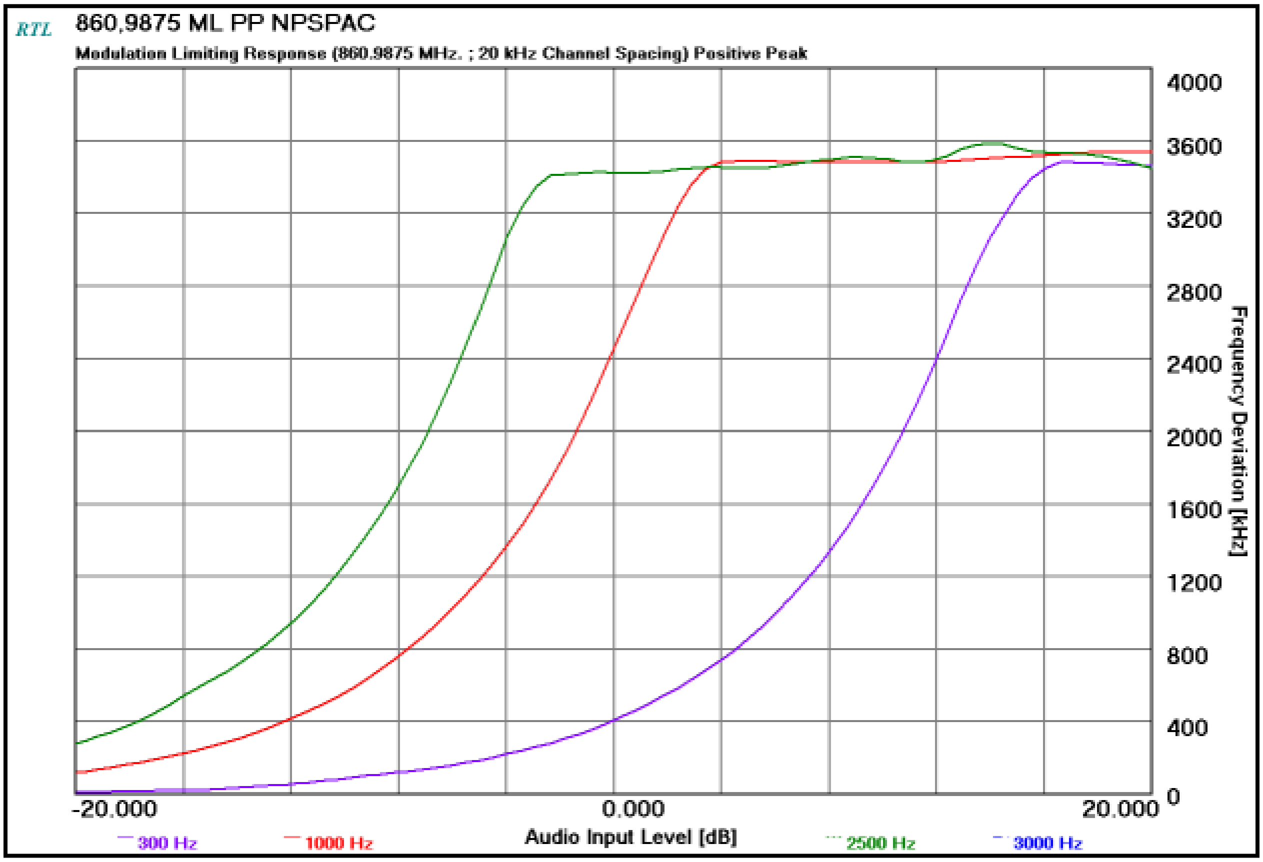
Plot 10-17: Modulation Characteristics – Modulation Limiting – 815.9875 MHz; WB (NPSPAC); Positive Peak



Plot 10-18: Modulation Characteristics – Modulation Limiting – 815.9875 MHz; WB (NPSPAC); Negative Peak



Plot 10-19: Modulation Characteristics – Modulation Limiting – 860.9875 MHz; WB (NPSPAC); Positive Peak



Plot 10-20: Modulation Characteristics – Modulation Limiting – 860.9875 MHz; WB (NPSPAC); Negative Peak

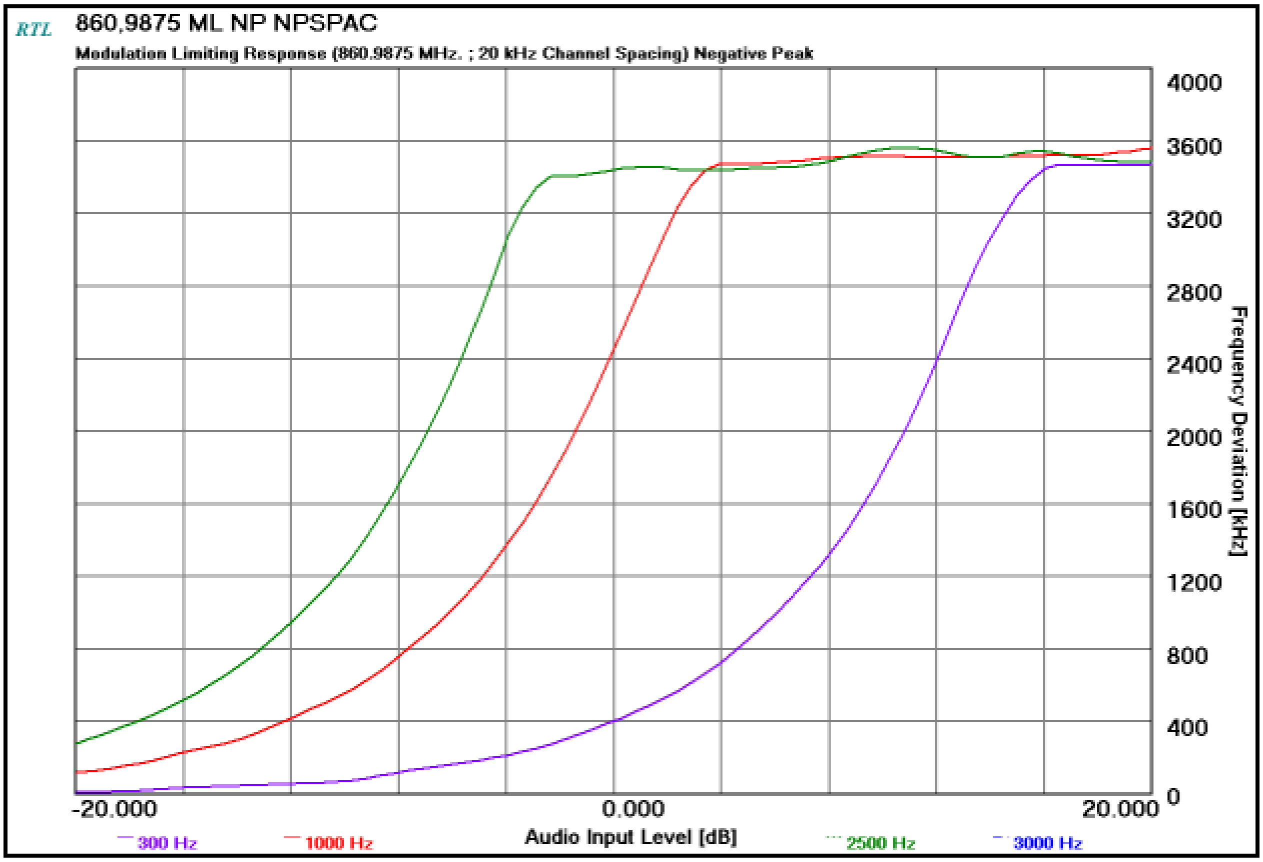


Table 10-1: Test Equipment Used For Testing Modulation Requirements

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901057	Hewlett Packard	3336B	Synthesizer/ Level Generator	2514A02585	4/17/15
901118	Hewlett Packard	8901A Opt. 002-003	Modulation Analyzer	2406A00178	4/1/15
901536	Aeroflex	48-40-34	40 dB Attenuator	CB6627	10/6/15

Test Personnel:

Daniel Baltzell		March 12, 2015
EMC Test Engineer	Signature	Dates of Test

11 FCC Rules and Regulations Part 2.202: Necessary Bandwidth and Emission Bandwidth

Analog

Voice – 12.5 kHz channel separation
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 2.5
Constant factor (K): 1 (assumed)
Bn = 2xM+2xDK = 11.0 kHz
Emission designator: 11K0F3E

Voice – 25 kHz channel separation (NPSPAC)
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 4
Constant factor (K): 1 (assumed)
Bn = 2xM+2xDK = 14.0 kHz
Emission designator: 14K0F3E

Voice – 25 kHz channel separation
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 5
Constant factor (K): 1 (assumed)
Bn = 2M+2DK = 16.0 kHz
Emission designator: 16K0F3E

Digitized Data or Voice

EDACS (NPSPAC), 2-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 2400
Bn = 3.86D+ 0.27RK = 3.86(2400) + 0.27(9600)(1) =11,856 =11.9K
Emission designator: 11K9F1D/E

EDACS (SMR), 2-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 3000
Bn = 3.86D+ 0.27RK = 3.86(3000) + 0.27(9600)(1) =14,172 =14.2K
Emission designator: 14K2F1D/E

EDACS (NB 9600), 2-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 1900
2D/R = 0.396
Bn = 3.86D + 0.27R = 3.86(1900) + 0.27(9600) = 9.926 kHz
Emission designator: 9K9F1D, 9K9F1E

EDACS (NB 4800), 2-level FSK
Calculation:
Data rate in bps (R) = 4800
Peak deviation of carrier (D) = 1500
2D/R = 0.625
Bn = 3.86D + 0.27R = 3.86(1500) + 0.27(4800) = 7.086 kHz
Emission designator: 7K1F1D, 7K1F1E

P25 – 9600 bps 4-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 1800
Bn = [9600/$\log_2$(4) + 2 (1800) (1) = 8.400 kHz
Emission designator: 8K40F1D, 8K40F1E

P25 Phase 2 – 9600 bps 4-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 1650
Bn = [9600/$\log_2$(4) + 2 (1650) (1) = 8.100 kHz
Emission designator: 8K10DXW

OTP (SMR) – 4-level FSK
Calculation:
Data rate in bps (R) = 19200
Peak deviation of carrier (D) = 3750
Bn = [19200/$\log_2$(4) + 2 (3750) (.335) = 12.114 kHz = 12.1K
Emission designator: 12K10F9W

OTP (NPSPAC) – 4-level FSK
Calculation:
Data rate in bps (R) = 19200
Peak deviation of carrier (D) = 3750
Bn = [19200/$\log_2$(4) + 2 (3750) (.335) = 12.114 kHz = 12.1K
Emission designator: 12K10F9W

OTP (NB) – 4-level FSK
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 1650
Bn = [9600/$\log_2$(4) + 2 (1650) (1) = 8.1 kHz = 8.1K
Emission designator: 8K10F9W

12 Conclusion

The data in this measurement report shows that the Harris Corporation XG-75M 700/800 MHz Mobile Radio, Model # XG-75M/M7300/M5300,35W, FCC ID: OWDTR-0132-E, IC: 3636B-0132, complies with all the applicable requirements of Parts 90 and 2 of the FCC Rules and Industry Canada RSS-119.