RHEIN TECH LABORATORIES, INC.

Engineering Solutions & Electromagnetic Compatibility Services

FCC & IC Certification Report

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MODEL: XL-200P (International)
Multi-Band Portable Land Mobile Radio

FCC ID: OWDTR-0145-E
IC: 3636B-0145

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Standards Referenced for this Report	
Part 2: 2014	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
Part 15: 2014	Radio Frequency Devices
Part 22: 2015	Public Mobile Services
Part 74: 2015	Experimental Radio, Auxiliary, Special Broadcast and Other Program Distributional Services
Part 80: 2014	Stations in the Maritime Services
Part 90: 2014	Private Land Mobile Radio Services
TIA-603-D 2010	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
Industry Canada RSS-119 Issue 12	Land Mobile and Fixed Equipment Operating in the Frequency Range 27.41-960 MHz

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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 Transmit Power (W) (Conducted)	Frequency Tolerance (ppm)	Transmit Mode/ Emission Designator
136–174	1-6	0.4	16K0F3E (Analog Voice; WB)
136–174	1-6	0.4	16K0F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; WB)
136–174	1-6	0.4	11K0F3E (Analog Voice; NB)
136–174	1-6	0.4	11K7F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; NB)
136–174	1-6	0.4	7K10F1D/E (EDACS 2-level FSK 4800; Data/Digital Voice)
136–174	1-6	0.4	8K40F1D/E (4-level C4FM Data/Voice; P25 Phase 1)
136–174	1-6	0.4	8K10DXW (4-level H-CPM (TDMA) Data/Voice; P25 Phase 2)
378-522	1-5	0.7	16K0F3E (Analog Voice; WB)
378-522	1-5	0.7	16K0F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; WB)
378-522	1-5	0.7	11K0F3E (Analog Voice; NB)
378-522	1-5	0.7	11K7F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; NB)
378-522	1-5	0.7	7K10F1D/E (EDACS 2-level FSK 4800; Data/Digital Voice)
378-522	1-5	0.7	8K40F1D/E (4-level C4FM Data/Voice; P25 Phase 1)
378-522	1-5	0.7	8K10DXW (4-level H-CPM (TDMA) Data/Voice; P25 Phase 2)
768-776; 798-806[1]	0.5-3	0.8	11K0F3E (Analog Voice; NB)
768-776; 798-806[1]	0.5-3	0.8	11K7F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; NB)
768-776; 798-806[1]	0.5-3	0.8	15K4F9W (OpenSky; 4-level FSK Data/Voice [SMR]; WB)
768-776; 798-806[1]	0.5-3	0.8	8K40F9W (OpenSky; 4-level FSK Data/Voice [Narrowband]; WB)
768-776; 798-806[1]	0.5-3	0.8	8K40F1D/E (4-level C4FM Data/Voice; P25 Phase 1)
768-776; 798-806[1]	0.5-3	0.8	8K10DXW (4-level H-CPM (TDMA) Data/Voice; P25 Phase 2)

[1]Compliance with the 2 Watt ERP maximum requirement in the itinerant frequencies of the 700 MHz band is being met without reducing conducted power due to antenna losses that reduce the ERP. See the Subpart R attestation statement. Grant power for these should be 2.6W. ERP, given the antenna losses, is less than 2W.

Frequency Range (MHz)	Rated Transmit Power (W) (Conducted)	Frequency Tolerance (ppm)	Transmit Mode/ Emission Designator
806-824; 851-869	0.5-3	0.6	16K0F3E (Analog Voice; WB)
806-824; 851-869	0.5-3	0.6	16K0F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; WB)
806-824; 851-869	0.5-3	0.6	14K0F3E (EDACS Analog Voice) (NPSPAC)
806-824; 851-869	0.5-3	0.6	14K0F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice) (NPSPAC)
806-824; 851-869	0.5-3	0.6	11K0F3E (Analog Voice; NB)
806-824; 851-869	0.5-3	0.6	11K7F1D/E (EDACS 2-Level FSK 9600 Data/Digital Voice; NB)
806-824; 851-869	0.5-3	0.5	15K4F9W (OpenSky; 4-level FSK Data/Voice [SMR]; WB)
806-824; 851-869	0.5-3	0.5	12K1F9W (OpenSky; 4-level FSK Data/Voice [NPSPAC]; WB)
806-824; 851-869	0.5-3	0.5	8K40F9W (OpenSky; 4-level FSK Data/Voice [Narrowband]; WB)
806-824; 851-869	0.5-3	0.5	8K40F1D/E (4-level C4FM Data/Voice; P25 Phase 1)
806-824; 851-869	0.5-3	0.5	8K10DXW (4-level H-CPM (TDMA) Data/Voice; P25 Phase 2)

700 MHz Band Low Power Channels

Channel No. (6.25 kHz)	Channel No. (12.5 kHz)	12.5 kHz Channel Spaced Tx Center Frequencies	
		Original 700 MHz Band Plan (MHz)	Revised 700 MHz Band Plan (MHz)
1	1-2	764.006250	769.006250
2			
3	3-4	764.018750	769.018750
4			
5	5-6	764.031250	769.031250
6			
7	7-8	764.043750	769.043750
8			
9	9-10	764.056250	769.056250
10			
11	11-12	764.068750	769.068750
12			
949	949-950	775.931250	774.931250
950			
951	951-952	775.943750	774.943750
952			
953	953-954	775.956250	774.956250
954			
955	955-956	775.968750	774.968750
956			
957	957-958	775.981250	774.981250
958			
959	959-960	775.993750	774.993750
960			
961	961-962	794.006250	799.006250
962			
963	963-964	794.018750	799.018750
964			
965	965-966	794.031250	799.031250
966			
967	967-968	794.043750	799.043750
968			
969	969-9700	794.056250	799.056250
970			
971	971-972	794.068750	799.068750
972			
1909	1909-1910	805.931250	804.931250
1910			
1911	1911-1912	805.943750	804.943750
1912			

Channel No. (6.25 kHz)	Channel No. (12.5 kHz)	12.5 kHz Channel Spaced Tx Center Frequencies	
		Original 700 MHz Band Plan (MHz)	Revised 700 MHz Band Plan (MHz)
1913	1913-1914	805.956250	804.956250
1914			
1915	1915-19166	805.968750	804.968750
1916			
1917	1917-1918	805.981250	804.981250
1918			
1919	1919-19200	805.993750	804.993750
1920			

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1 Test Result Summary

Test	FCC & IC References	Result
RF Power Output	FCC 2.1046(a), 90.541(b), 90.542(a)(6), 80.215, 74.461 IC RSS-119 5.4	Compliant
Spurious Emissions at Antenna Terminals	FCC 2.1051, 90.210, 80.217, IC RSS-119 5.8:	Compliant
Field Strength of Spurious Radiation	FCC 2.1053(a), 90.543(c), (d), and (f) IC RSS-119 5.8, IC RSS-119 5.11	Compliant
Occupied Bandwidth/Emission Masks	FCC 2.1049(c)(1), 22.359(b), 80.205, 90.210, 74.462 IC RSS-119 5.8	Compliant
Adjacent Channel Power	FCC 90.543(b) IC RSS-119 5.8.9	Compliant
Frequency Stability vs. Temperature and Voltage	FCC 2.1055, 90.213, 90.539, 80.209, 74.464 IC RSS-119 5.3	Compliant
Modulation Characteristics	FCC 2.1047(a)(b), 80.213, 74.463	Compliant
Transient Frequency Response	FCC 90.214, 74.462(c) IC RSS-119 5.9	Compliant
Unintentional Digital/Receive Emissions	FCC 15B	Compliant

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 **XL-200P (International) Multi-Band Portable Land Mobile Radio; FCC ID: OWDTR-0145-E, IC: 3636B-0145.**

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 §2, 15, 22, 74, 80, 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 an Industry Canada Family Certification application, which includes 8 model numbers under IC: 3636B-0145:

XL-PFM2M	XL-PFM2Y	XL-PFM2B	XL-PFM2G
XL-PPM2M	XL-PPM2Y	XL-PPM2B	XL-PPM2G

2.3 Grant Notes

Manufacturer's Rated Power:

VHF: 6W,
UHF: 5W
700 MHz Bands: 3W
800 MHz Bands: 3W

2.4 Tested System Details

The test sample was received on December 18, 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 EUT includes a System model and a Scan model, the difference being that the System model has a DTMF keypad. The System model is considered to be representative of the radio family and to have the worst case emissions, and was therefore used for testing.

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

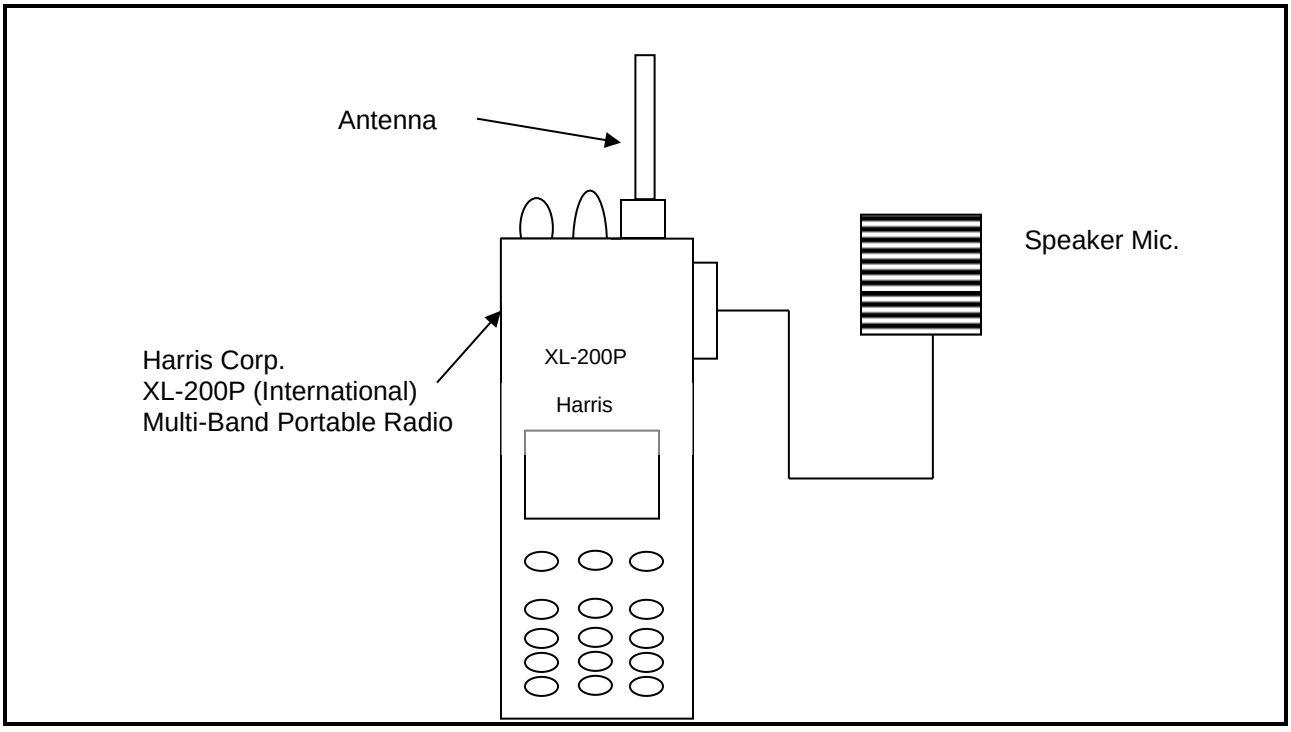
Table 2-1: Equipment Under Test (EUT)

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
Radio	Harris Corporation	XL-PFM2M (System)	14035-1000-51/ A40304000045	OWDTR-0145-E	21965

Table 2-2: Auxiliary Equipment

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
AC Adapter	FP	FWA020012A	002844	N/A	21549
Charger	Harris Corporation	Single Bay Charger	14035-1800-01/ 00060	N/A	21550
Speaker/ Microphone	Harris Corporation	EM105	N/A	N/A	21563
Full-Spectrum Multiband Antenna	Harris Corporation	14035-4000-01	T1-11	N/A	21556
Antenna (762-870 MHz)	Harris Corporation	14035-4440-02	N/A	N/A	21719
7.2V Li-Ion Battery	Harris Corporation	Li-Ion	22	N/A	21551
7.2V Li-Ion Battery	Harris Corporation	BAT	L-CASE-R-HR003	N/A	21552
Battery Eliminator	Harris Corporation	N/A	14035-4300-01	N/A	21553
Audio Breakout	Harris Corporation	12082-7980-01	ENG027	N/A	20599
Power Supply	Alinco	DM-33MVT 32A	1638	N/A	901124

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

VHF: 7.4 V / 1.88 A
UHF: 7.4 V / 1.94 A
700 MHz: 7.4 V / 1.79 A
800 MHz: 7.4 V / 1.55 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; Part 80.215: Transmitter Power; Part 74.461: Transmitter Power

4.1 Test Procedure

TIA-603-D 2010, section 2.2.1

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

§74.461 Transmitter Power

(a) Transmitter power is the power at the transmitter output terminals and delivered to the antenna, antenna transmission line, or any other impedance-matched, radio frequency load. For the purpose of this Subpart, the transmitter power is the carrier power.
(b) The authorized transmitter power for a remote pickup broadcast station shall be limited to that necessary for satisfactory service and, in any event, shall not be greater than 100 watts, except that a station to be operated aboard an aircraft shall normally be limited to a maximum authorized power of 15 watts. Specific authorization to operate stations on board aircraft with an output power exceeding 15 watts will be issued only upon an adequate engineering showing of need, and of the procedures that will be taken to avoid harmful interference to other licensees.

§80.215 Transmitter Power

(a) Transmitter power shown on the radio station authorization is the maximum power the licensee is authorized to use. Power is expressed in the following terms:
(5) For all other emissions: the carrier power multiplied by 1.67.

(e) Ship stations frequencies above 27500 kHz:
The maximum power must not exceed the values listed below.
(1) Ship stations 156–162 MHz: 25W
(2) Marine utility stations and hand-held portable transmitters: 156–162 MHz: 10W

Maximum Power Authorized to use: 10.02W for VHF, 8.35W for UHF

Manufacturer's Rated Power:
VHF: 6W
UHF: 5W
700 MHz Bands: 3W
800 MHz Bands: 3W

4.2 Test Data

Table 4-1: RF Conducted Output Power - Measured

Frequency (MHz)	Power (dBm)	Power (W)
136.0125	37.8	6.0
138.0125	37.9	6.2
141.0125	38.2	6.6
144.0125	38.3	6.8
148.0125	38.3	6.8
150.0125	38.3	6.8
156.8000	38.2	6.7
162.0125	38.1	6.5
173.9875	38.3	6.8
378.0125	37.5	5.6
406.1000	37.4	5.5
418.0125	37.3	5.4
430.0125	37.3	5.4
450.0125	37.4	5.5
454.0125	37.4	5.5
456.0125	37.4	5.5
459.0250	37.3	5.4
459.9750	37.3	5.4
470.0125	37.4	5.5
511.9875	37.3	5.4
521.9875	37.3	5.4
768.0125	34.3	2.7
769.0125	34.4	2.8
771.0125	34.4	2.8
775.0125	34.4	2.8
775.9875	34.4	2.8
798.0125	34.4	2.8
799.0125	34.4	2.8
806.0125	34.9	3.1
815.0000	35.0	3.2
823.9875	35.0	3.2
851.0125	35.0	3.2
860.0000	34.9	3.1
868.9875	34.9	3.1
806.0125	34.9	3.1
815.0000	35.0	3.2
823.9875	35.0	3.2

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	11/13/16
900948	Weinschel Corporation	47-10-43	Attenuator DC-18 GHz 10 dB 50W	BH1487	9/10/16
901536	Weinschel Corporation	48-40-34	Attenuator DC-18 GHz 40 dB 100W	CB6627	9/11/16

Test Personnel:

Daniel Baltzell		December 13, 2014; January 8, 2016
EMC Test Engineer	Signature	Dates of Test

5 FCC Rules and Regulations Part 2.1051: Spurious Emissions at Antenna Terminals; Part 90.210: Emission Limitations; Part 80.217: Suppression of Interference aboard Ships

5.1 Test Procedure

TIA-603-D 2010, 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.

§80.217 Suppression of Interference aboard Ships

(a) A voluntarily equipped ship station receiver must not cause harmful interference to any receiver required by statute or treaty.
(b) The electromagnetic field from receivers required by statute or treaty must not exceed the following value at a distance over sea water of one nautical mile from the receiver:

Frequency of Interfering Emissions	Power to Artificial Antenna in Microwatts
Below 30 MHz	0.1
30 to 100 MHz	3
100 to 300 MHz	1.0
Over 300 MHz	3.0

or

Deliver not more than the following amounts of power, to an artificial antenna having electrical characteristics equivalent to those of the average receiving antenna(s) use on shipboard:

Frequency of Interfering Emissions	Power to Artificial Antenna in Microwatts
Below 30 MHz	400 (4 dBm)
30 to 100 MHz	4,000 (6 dBm)
100 to 300 MHz	40,000 (16 dBm)
Over 300 MHz	400,000 (26 dBm)

5.2 Test Data

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

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

The following channels (in MHz) were investigated:

VHF: 136.0125, 138.0125, 141.0125, 144.0125, 148.0125, 150.0125, 156.8000, 162.0125, and 173.9875
UHF: 378.0125, 406.1000, 418.0125, 430.0125, 450.0125, 454.0125, 456.0125, 459.0250, 459.9750, 470.0125, 511.9875, and 521.9875
700 MHz: 768.0125, 769.0125, 771.0125, 775.0125, 775.9875, 798.0125, 799.0125, 801.0125, 805.0125, 805.9875
800 MHz: 806.0125, 815.0000, 823.9875, 851.0125, 860.0000, and 868.9875

Both high and low power settings were checked; high power was found to be worst case. All modes were investigated and analog mode is presented as representative data.

All frequencies were found to be greater than 20 dB below the limit except 430.0125 MHz, Narrowband, 1-4 GHz, shown in Plot 5-1 on the following page.

Plot 5-1: Spurious Emissions at Antenna Terminals – 430.0125 MHz; Narrowband; 1-4 GHz

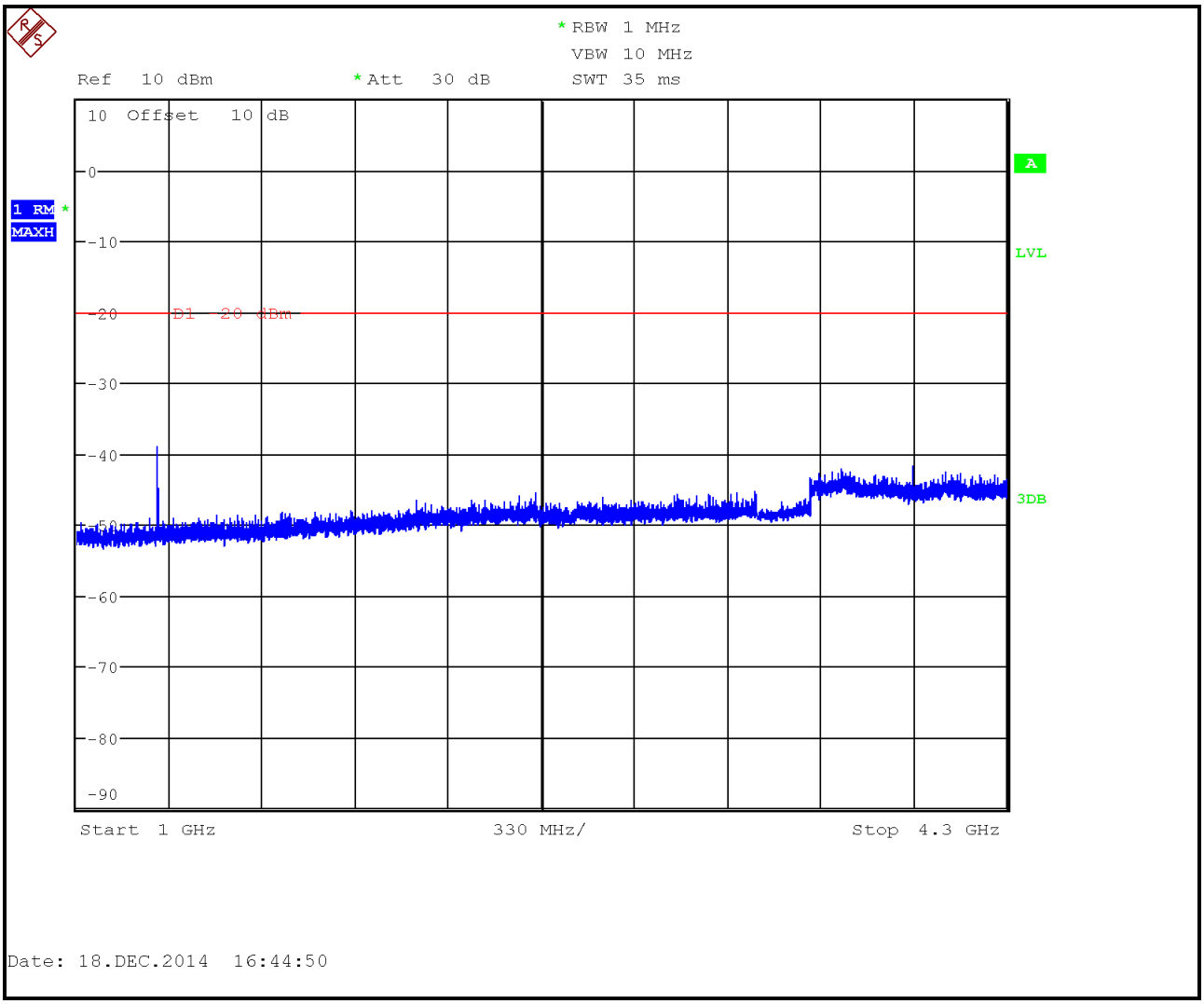


Table 5-1: Test Equipment Used For Testing Spurious Emissions

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901129	Par Electronics	188-174 (25W)	VHF Notch Filters	N/A	9/16/16
901135	Par Electronics	400-512 (25W)	UHF Notch Filter	N/A	9/16/16
901128	Par Electronics	806-902 (25W)	UHF Notch Filter	N/A	9/16/16
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/16
900948	Weinschel Corporation	47-10-43	Attenuator DC-18 GHz 10 dB 50W	BH1487	9/10/16
900819	Weinschel Corporation	2	10 dB Attenuator; 5 W	BF0830	9/10/16
901536	Weinschel Corporation	48-40-34	Attenuator DC-18 GHz 40 dB 100W	CB6627	9/11/16

Test Personnel:

Daniel Baltzell		December 18, 2014 and January 8, 2016
EMC Test Engineer	Signature	Date of Test

6 FCC Rules and Regulations Part 90.543(a): Emission Limitations: ACP Requirements

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

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

For a Portable 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 Portable 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 Part 90.543(b)

Setting Reference Level - Part 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 <400 kHz - Part 90.543(b)(2): Using a spectrum analyzer capable of adjacent channel power (ACP) measurements, set the measurement bandwidth as shown in 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 >400 kHz - Part 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 >400 kHz must be less than the values listed in the table.

6.2 Test Data

Plot 6-1: Adjacent Channel Power – 768.0125 MHz; Narrowband Analog; <400 kHz

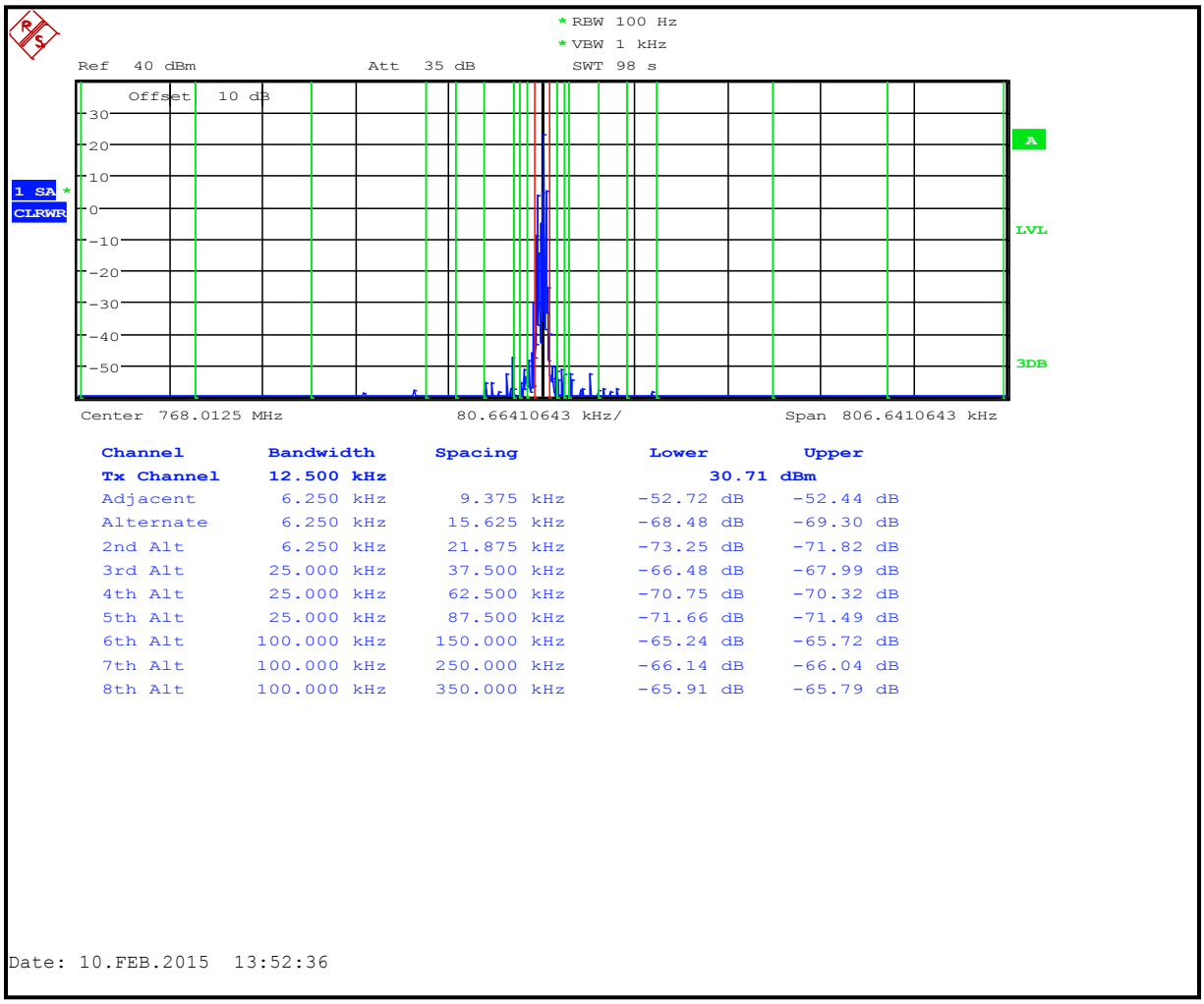


Table 6-1: Adjacent Channel Power – 768.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.1
12 MHz to receive band	30(s)	-75	-102.5
In receive band	30(s)	-100	-111.8

Plot 6-2: Adjacent Channel Power – 769.0125 MHz; Narrowband Analog; <400 kHz

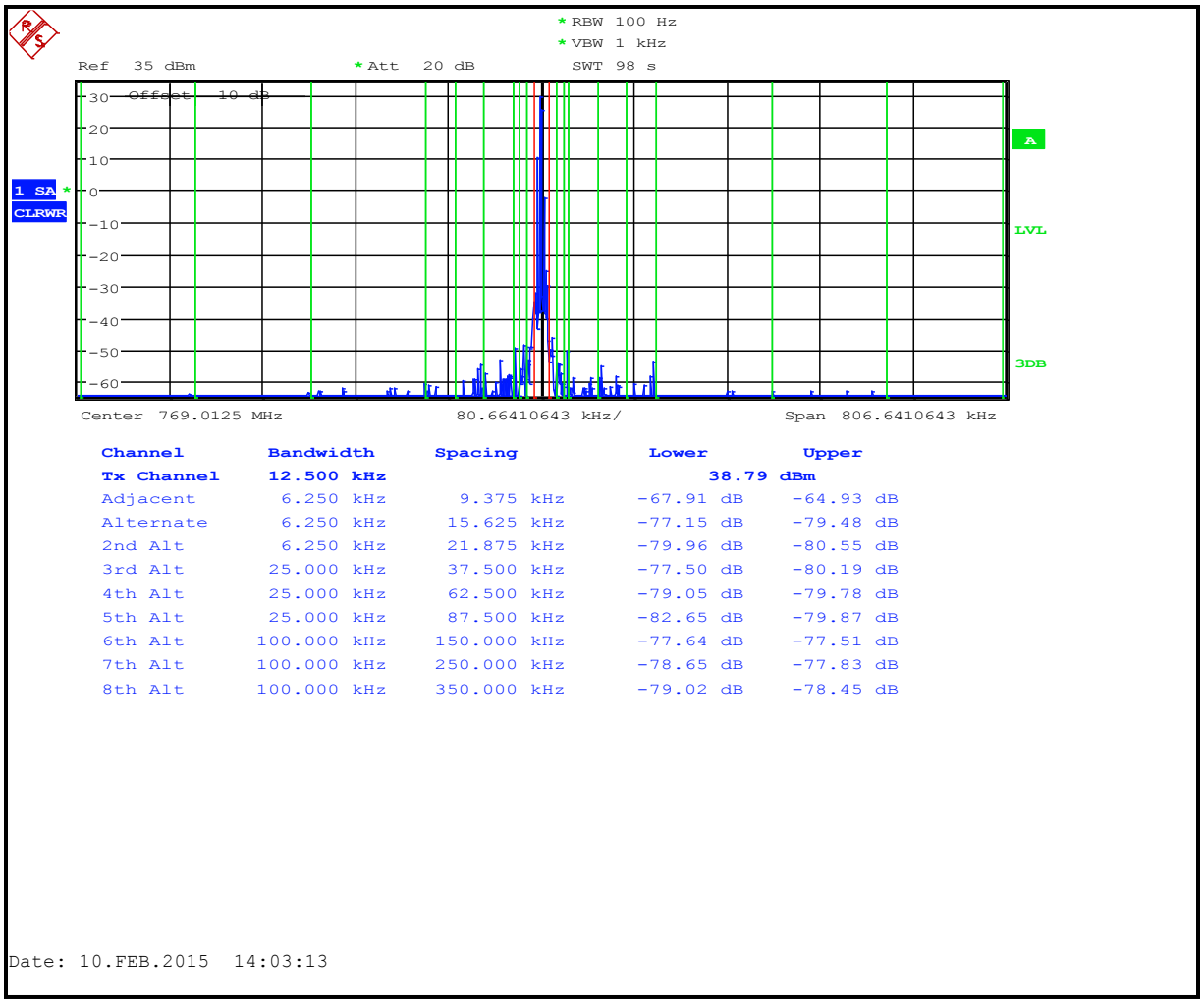


Table 6-2: Adjacent Channel Power – 769.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.7
12 MHz to receive band	30(s)	-75	-105.3
In receive band	30(s)	-100	-111.9

Plot 6-3: Adjacent Channel Power – 771.0125 MHz; Narrowband Analog; <400 kHz

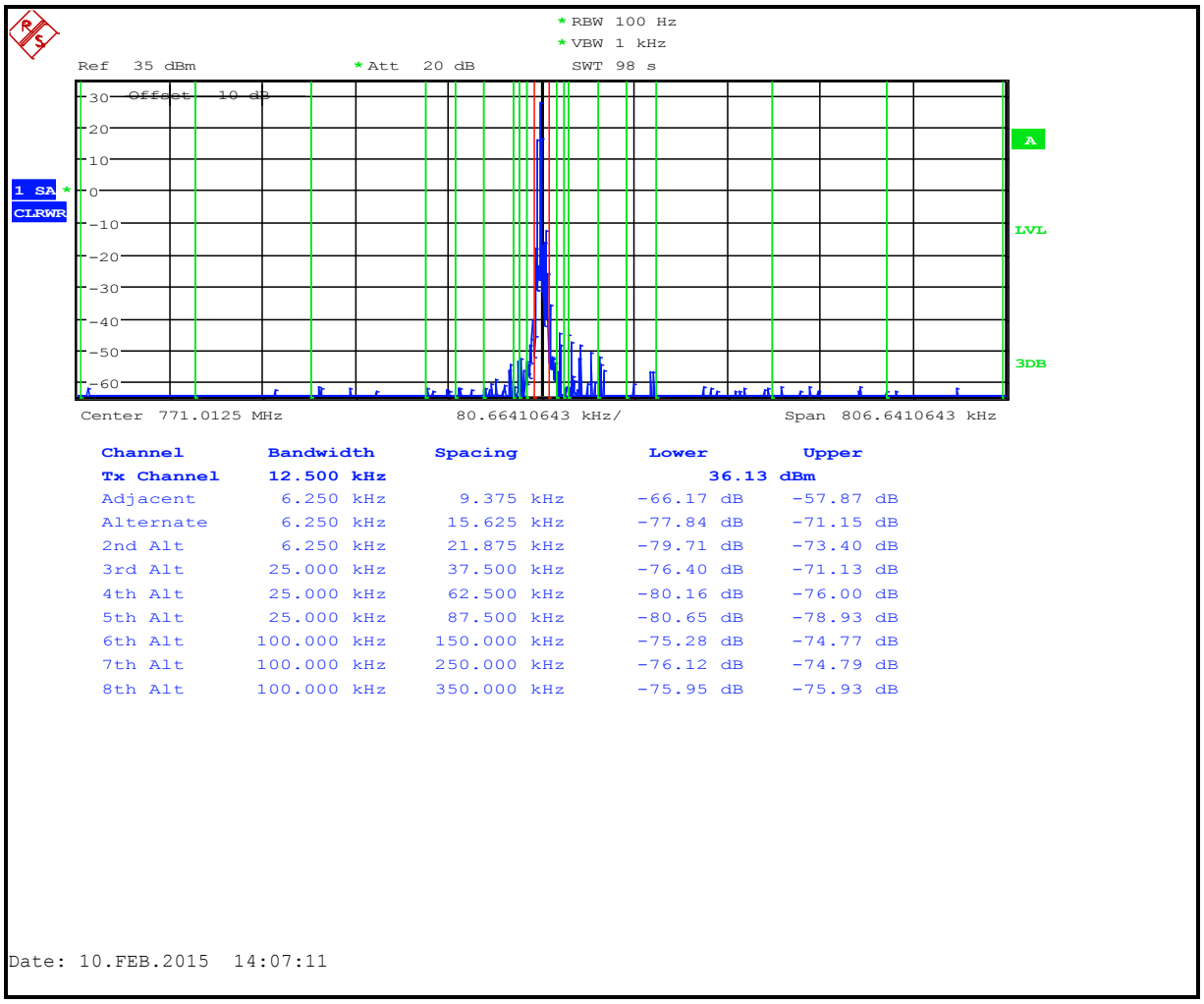


Table 6-3: Adjacent Channel Power – 771.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.4
12 MHz to receive band	30(s)	-75	-107.3
In receive band	30(s)	-100	-111.2

Plot 6-4: Adjacent Channel Power – 775.0125 MHz; Narrowband Analog; <400 kHz

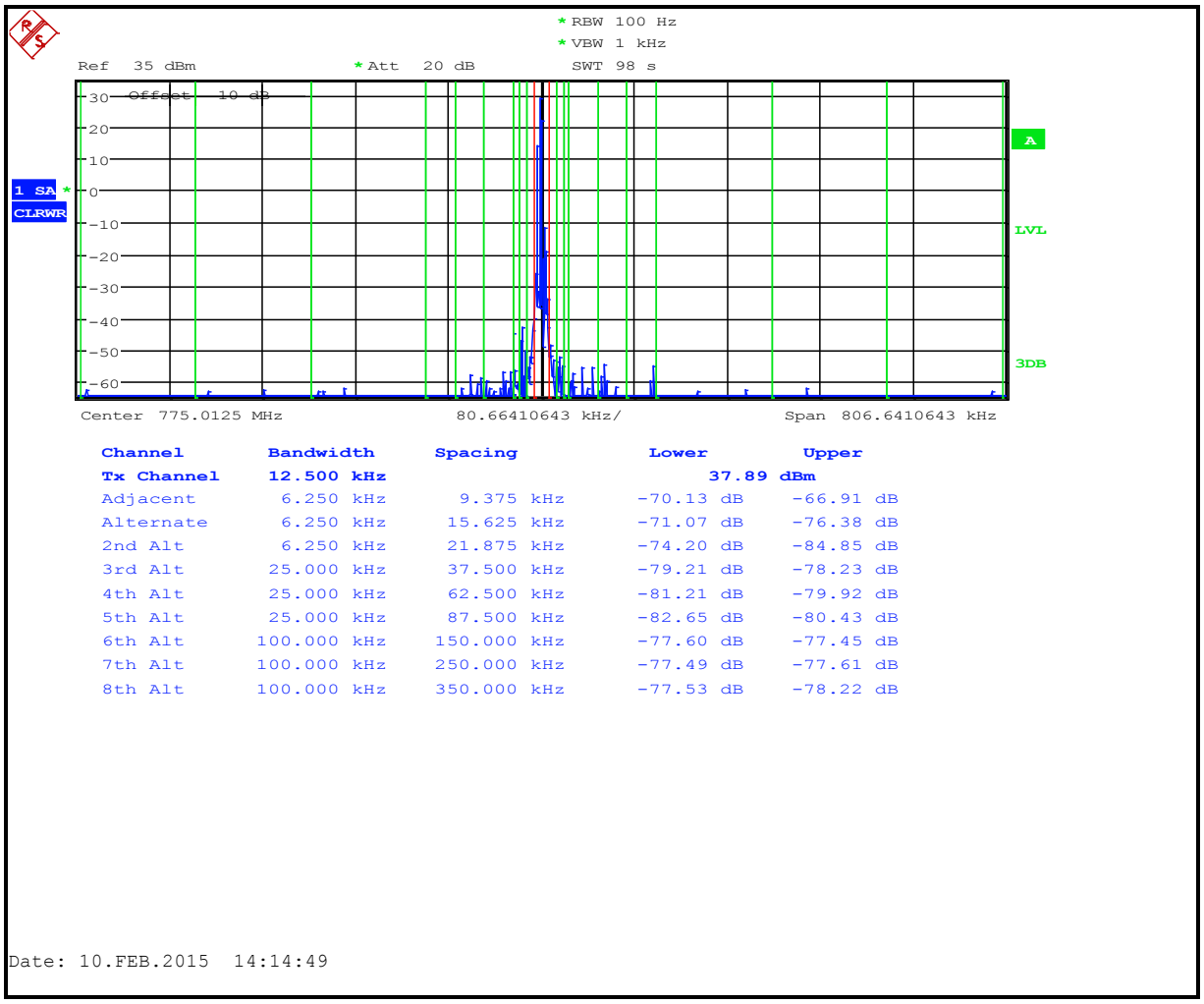


Table 6-4: Adjacent Channel Power – 775.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.0
12 MHz to receive band	30(s)	-75	-104.7
In receive band	30(s)	-100	-110.1

Plot 6-5: Adjacent Channel Power – 775.9875 MHz; Narrowband Analog; <400 kHz

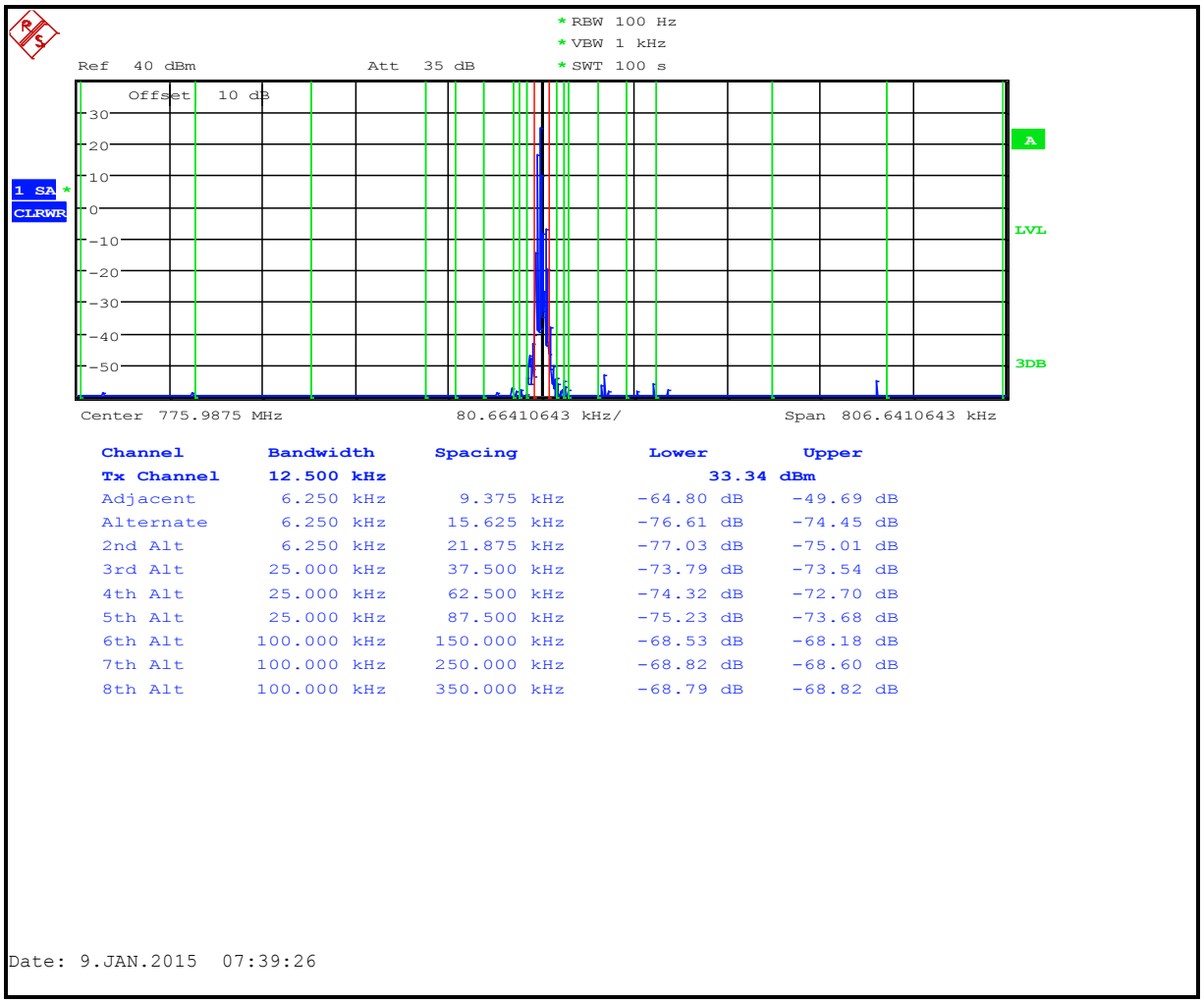


Table 6-5: Adjacent Channel Power – 775.9875 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.4
12 MHz to receive band	30(s)	-75	-101.4
In receive band	30(s)	-100	-107.8

Plot 6-6: Adjacent Channel Power – 798.0125 MHz; Narrowband Analog; <400 kHz

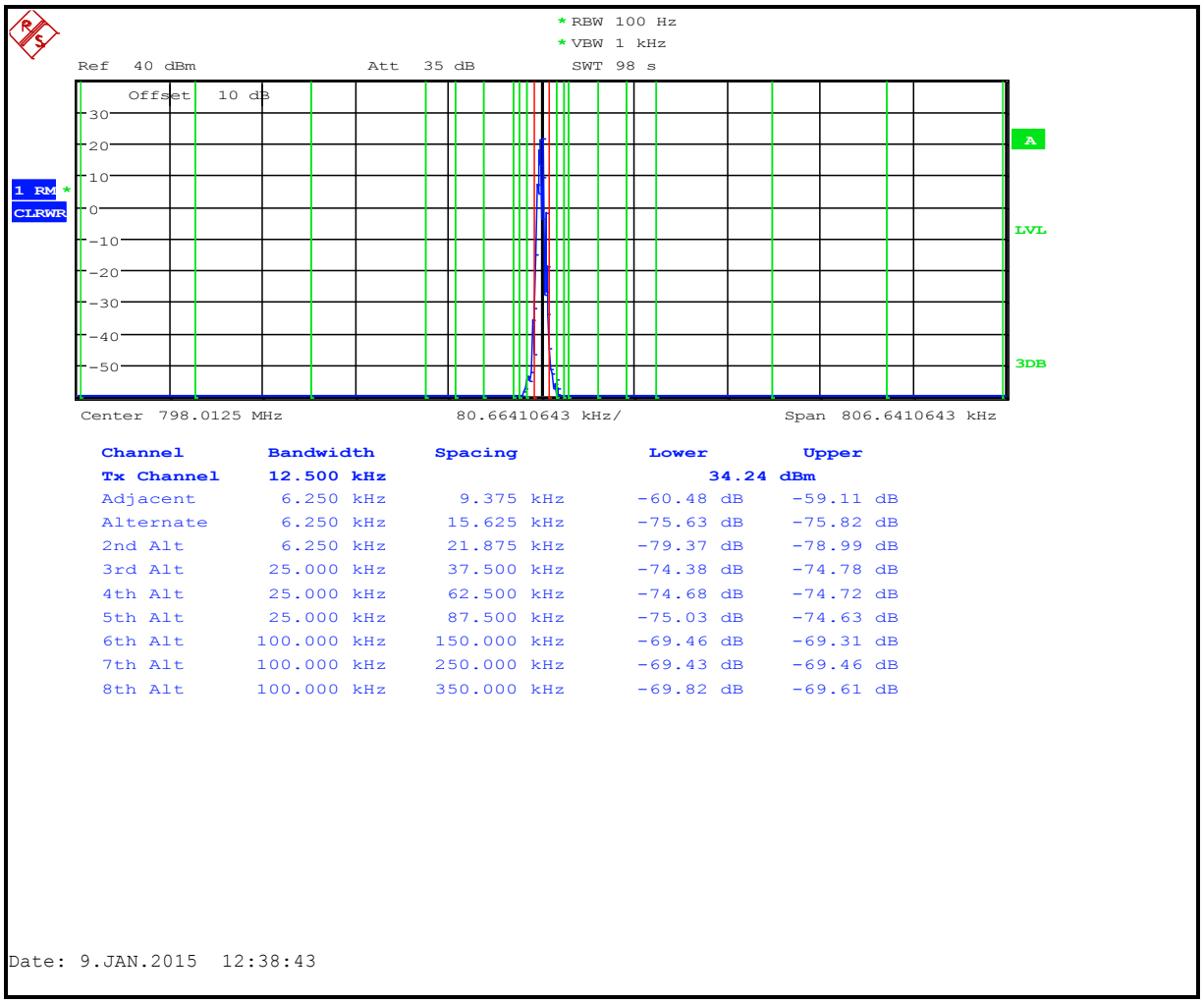


Table 6-6: Adjacent Channel Power – 798.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.4
12 MHz to receive band	30(s)	-75	-99.3
In receive band	30(s)	-100	-102.4

Plot 6-7: Adjacent Channel Power – 799.0125 MHz; Narrowband Analog; <400 kHz

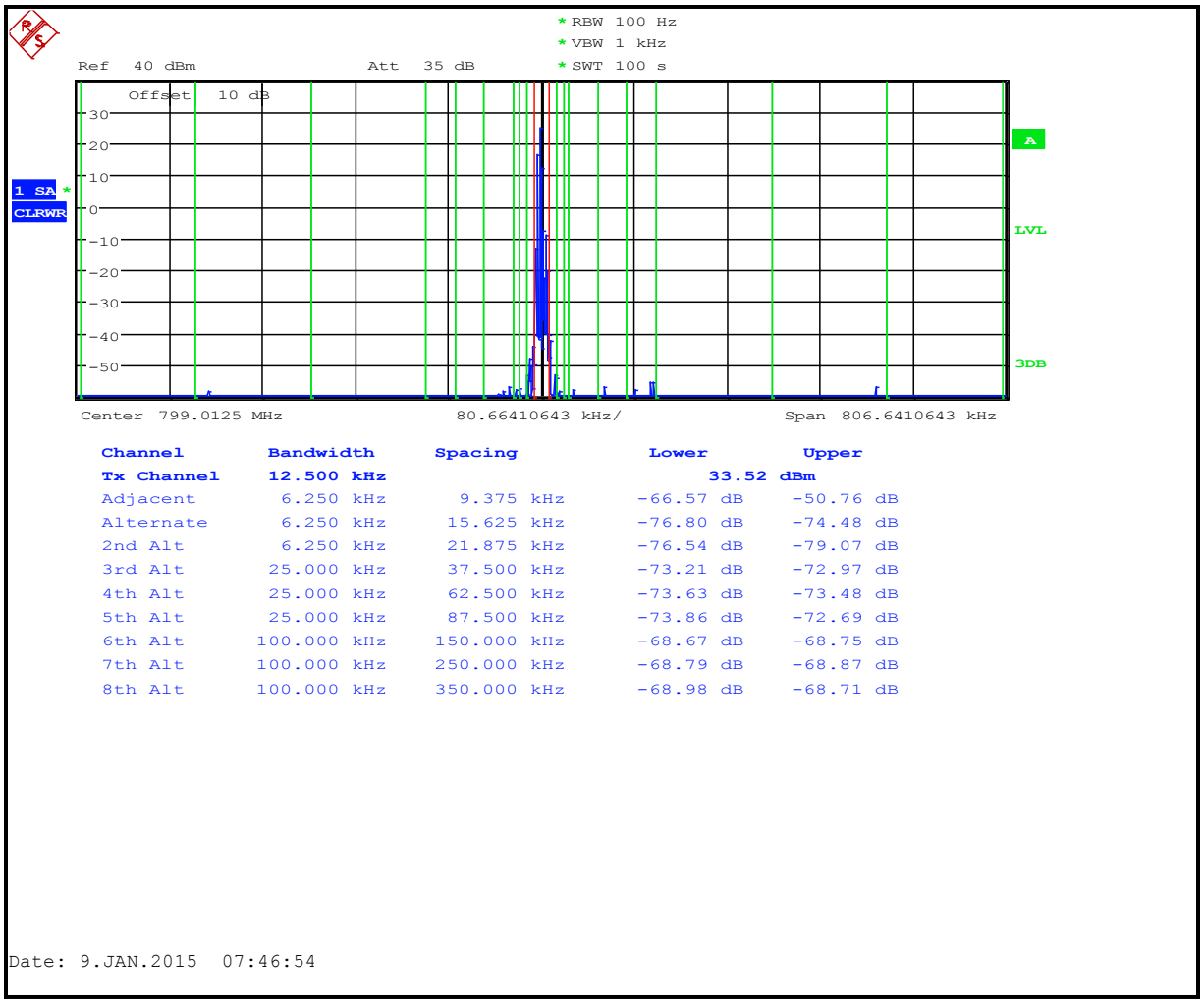


Table 6-7: Adjacent Channel Power – 799.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.5
12 MHz to receive band	30(s)	-75	-99.5
In receive band	30(s)	-100	-101.8

Plot 6-8: Adjacent Channel Power – 801.0125 MHz; Narrowband Analog; <400 kHz

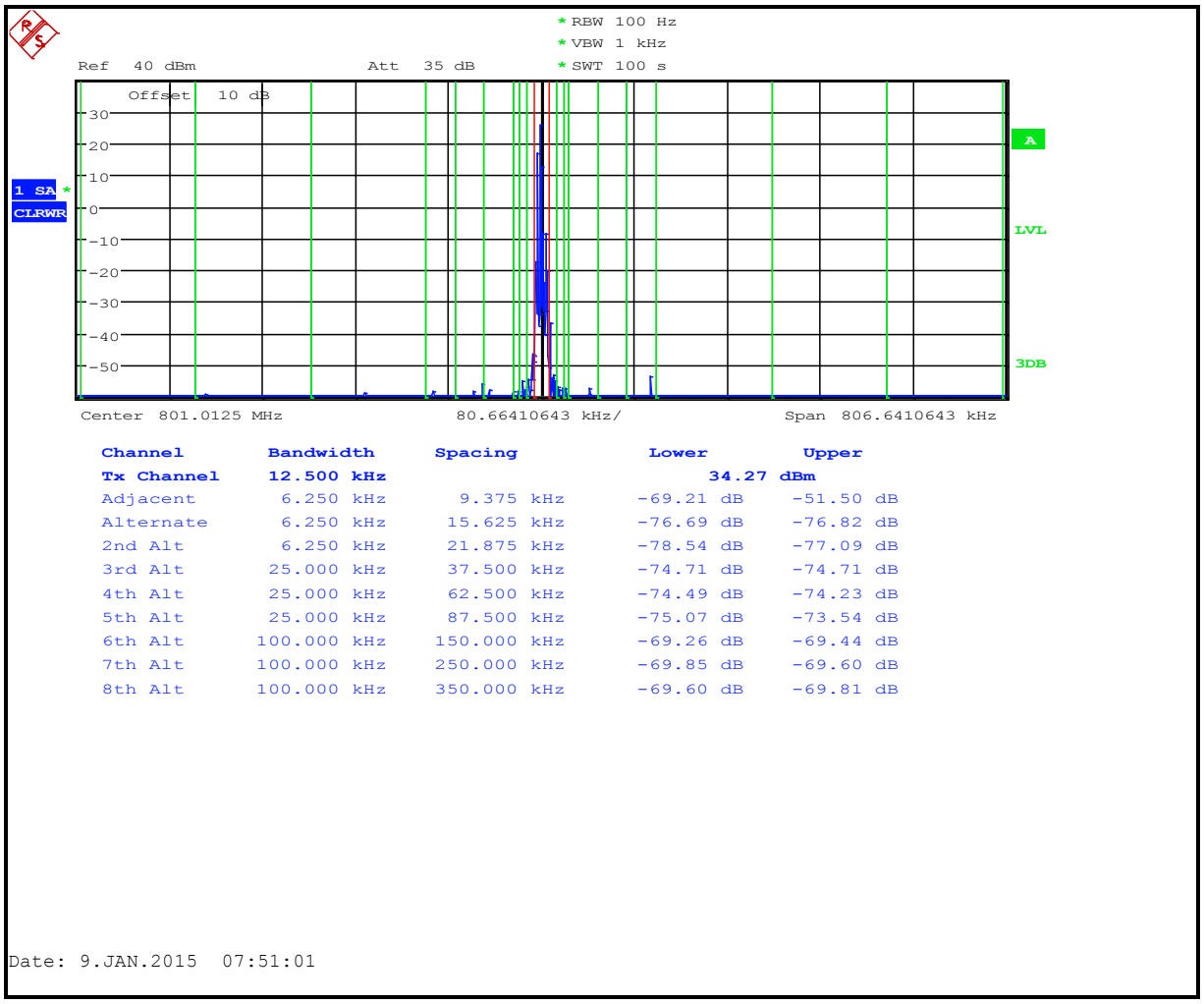


Table 6-8: Adjacent Channel Power – 801.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.1
12 MHz to receive band	30(s)	-75	-101.4
In receive band	30(s)	-100	-105.8

Plot 6-9: Adjacent Channel Power – 805.0125 MHz; Narrowband Analog; <400 kHz

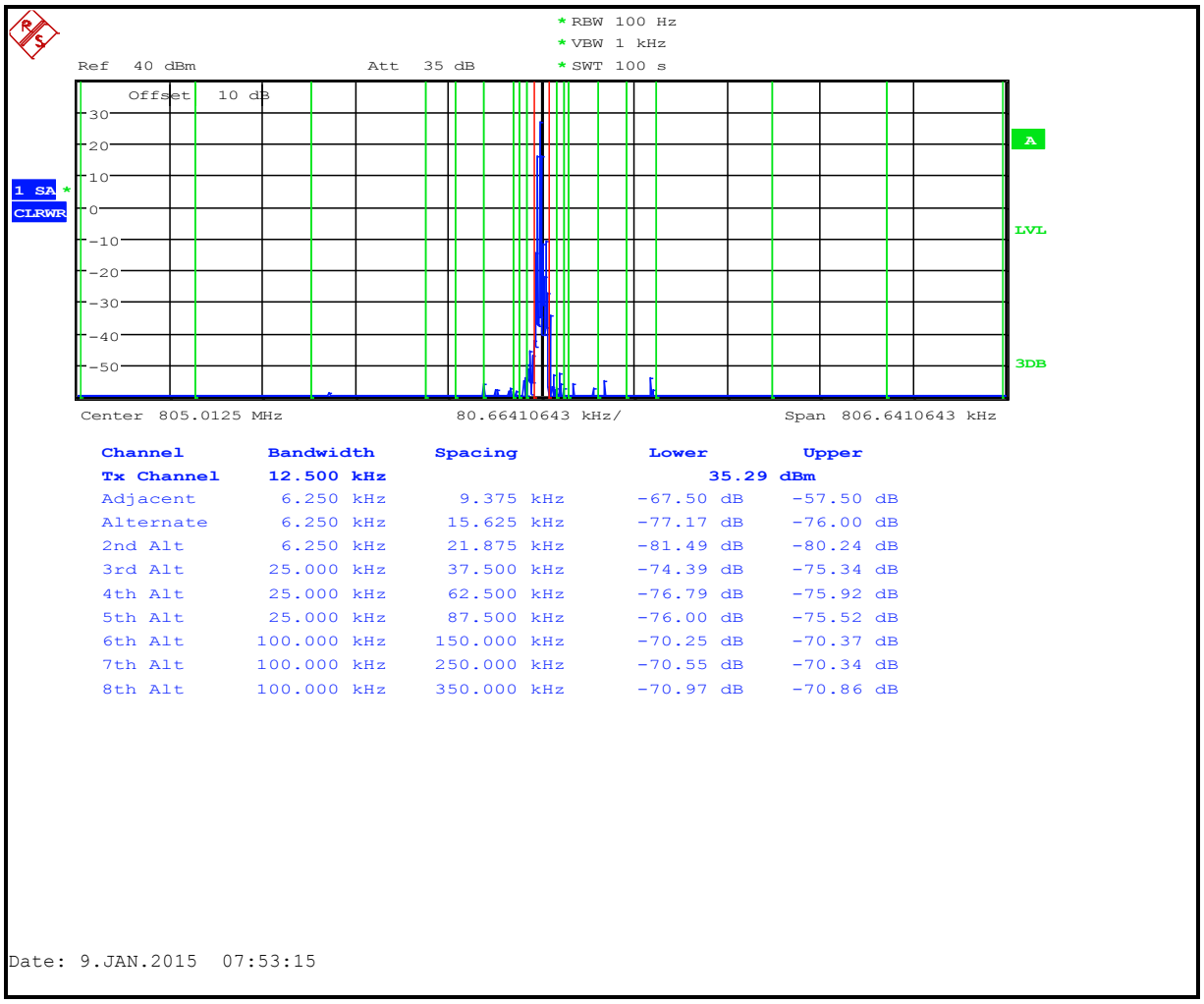


Table 6-9: Adjacent Channel Power – 805.0125 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.3
12 MHz to receive band	30(s)	-75	-93.6
In receive band	30(s)	-100	-107.6

Plot 6-10: Adjacent Channel Power – 805.9875 MHz; Narrowband Analog; <400 kHz

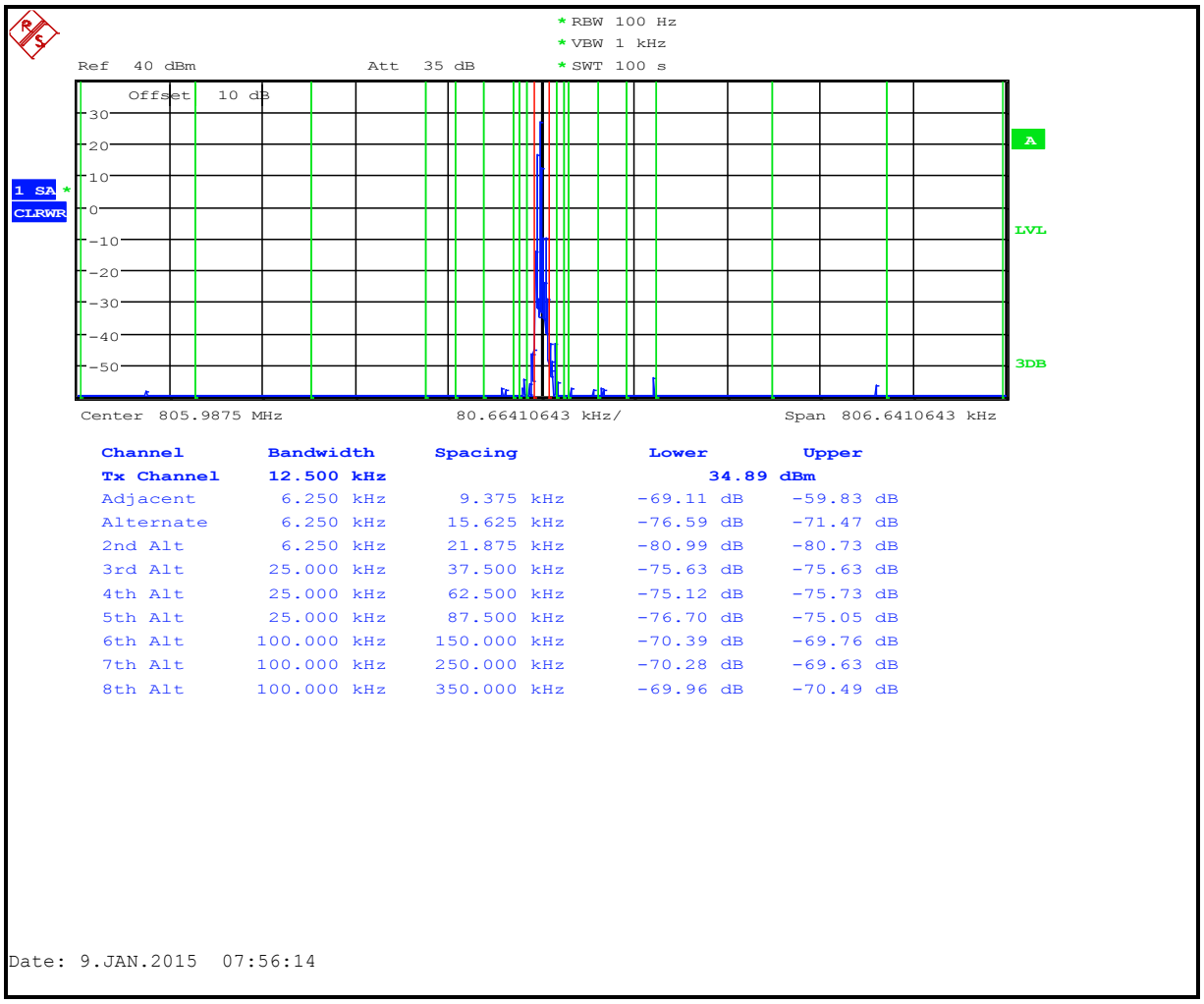


Table 6-10: Adjacent Channel Power – 805.9875 MHz; Narrowband Analog; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-77.1
12 MHz to receive band	30(s)	-75	-95.1
In receive band	30(s)	-100	-106.6

Plot 6-11: Adjacent Channel Power – 768.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

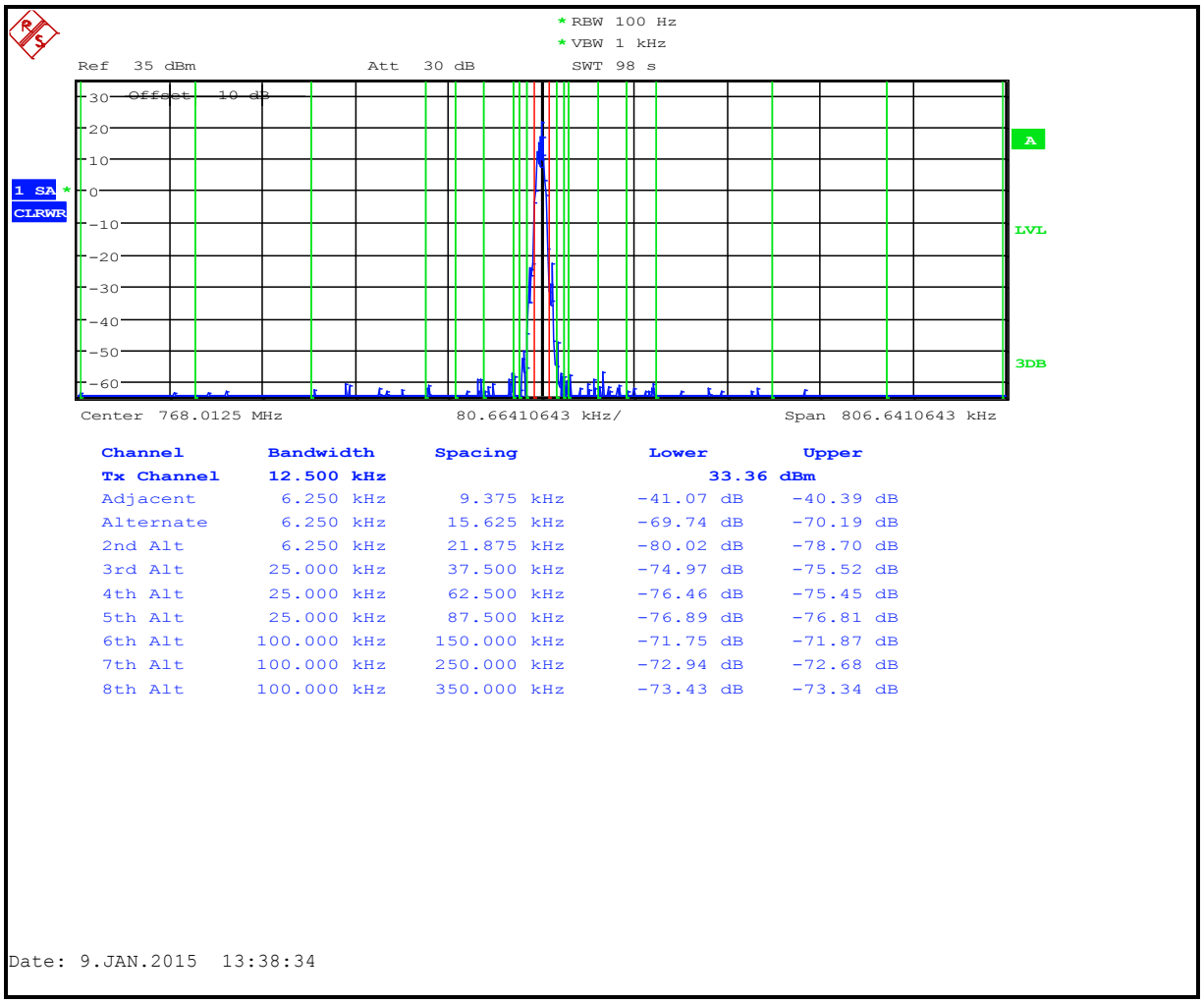
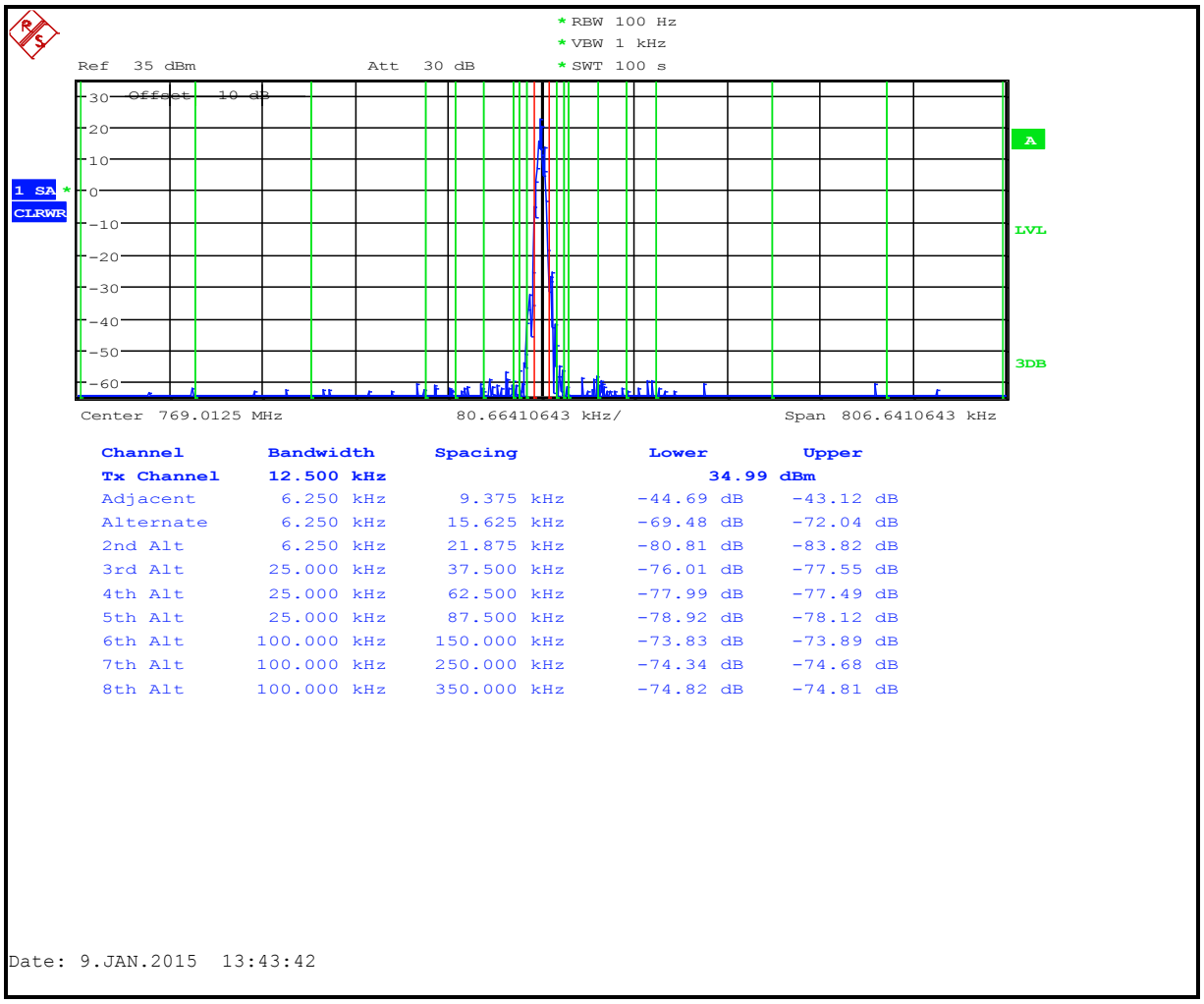


Table 6-11: Adjacent Channel Power – 768.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-86.2
12 MHz to receive band	30(s)	-75	-105.2
In receive band	30(s)	-100	-107.0

Plot 6-12: Adjacent Channel Power – 769.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz



Channel	Bandwidth	Spacing	Lower	Upper
Tx Channel	12.500 kHz		34.99 dBm	
Adjacent	6.250 kHz	9.375 kHz	-44.69 dB	-43.12 dB
Alternate	6.250 kHz	15.625 kHz	-69.48 dB	-72.04 dB
2nd Alt	6.250 kHz	21.875 kHz	-80.81 dB	-83.82 dB
3rd Alt	25.000 kHz	37.500 kHz	-76.01 dB	-77.55 dB
4th Alt	25.000 kHz	62.500 kHz	-77.99 dB	-77.49 dB
5th Alt	25.000 kHz	87.500 kHz	-78.92 dB	-78.12 dB
6th Alt	100.000 kHz	150.000 kHz	-73.83 dB	-73.89 dB
7th Alt	100.000 kHz	250.000 kHz	-74.34 dB	-74.68 dB
8th Alt	100.000 kHz	350.000 kHz	-74.82 dB	-74.81 dB

Table 6-12: Adjacent Channel Power – 769.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.4
12 MHz to receive band	30(s)	-75	-106.4
In receive band	30(s)	-100	-105.7

Plot 6-13: Adjacent Channel Power – 771.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

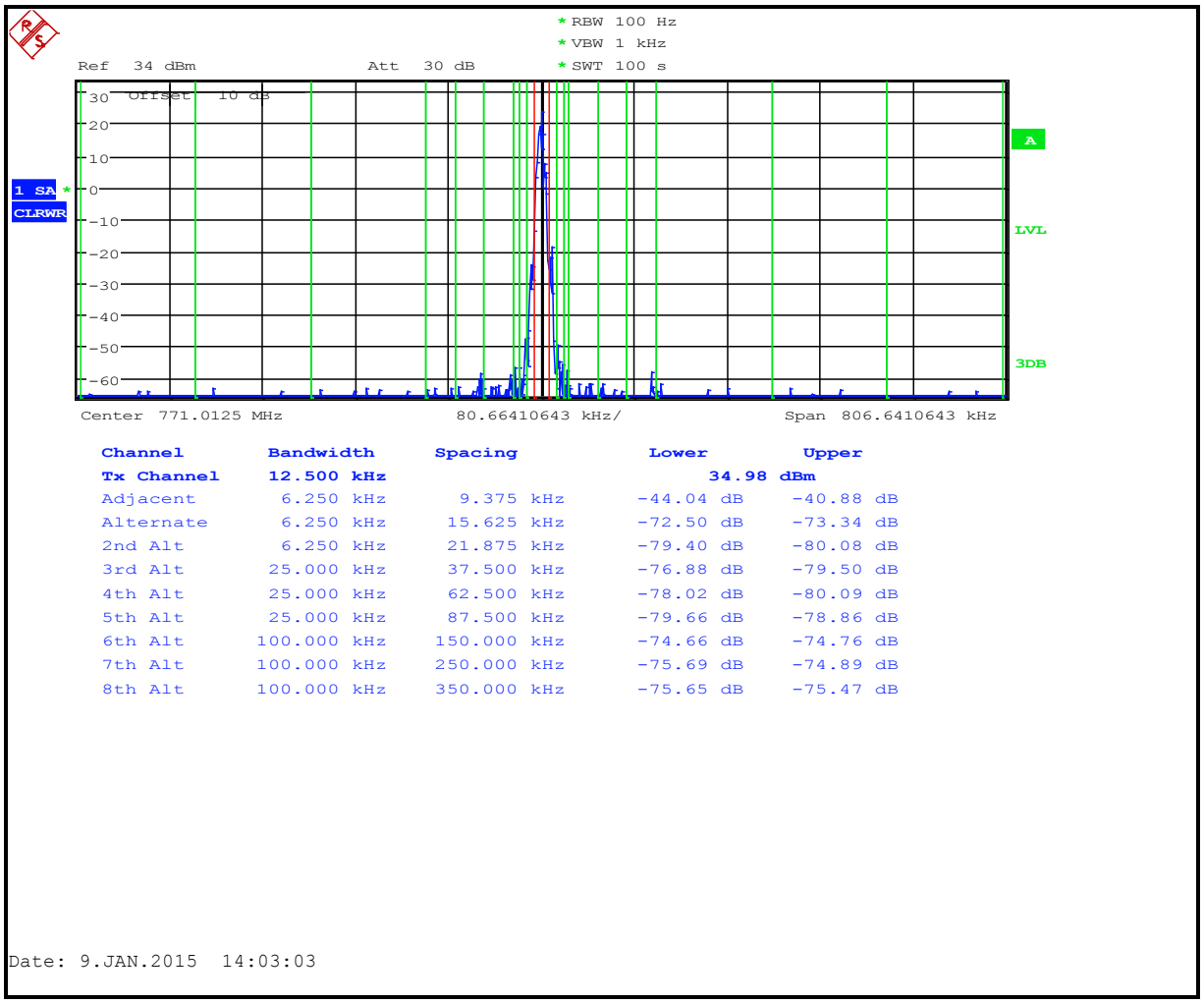


Table 6-13: Adjacent Channel Power – 771.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.8
12 MHz to receive band	30(s)	-75	-107.3
In receive band	30(s)	-100	-107.2

Plot 6-14: Adjacent Channel Power – 775.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

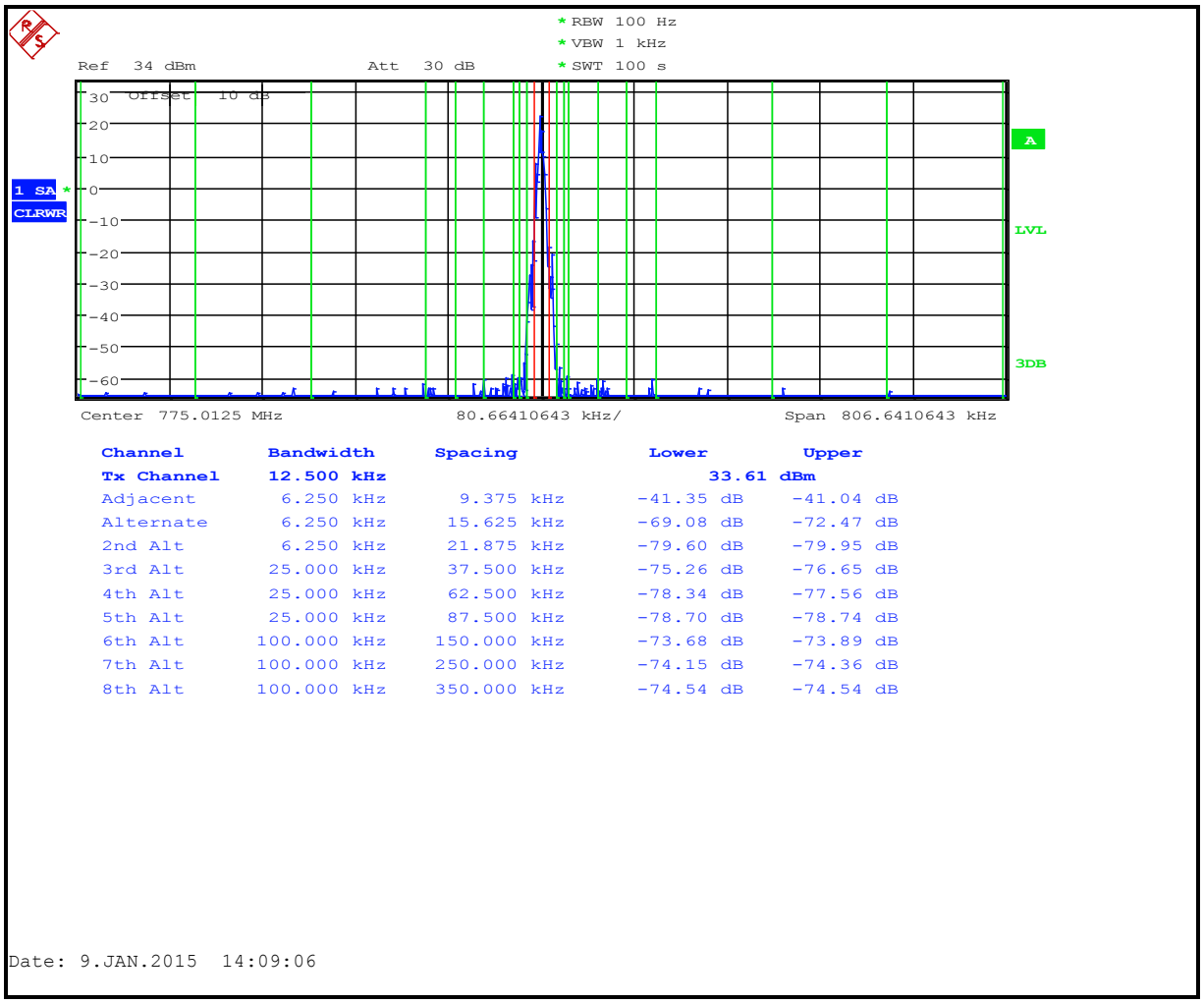


Table 6-14: Adjacent Channel Power – 775.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.3
12 MHz to receive band	30(s)	-75	-104.0
In receive band	30(s)	-100	-107.1

Plot 6-15: Adjacent Channel Power – 775.9875 MHz; EDACS 2-Level FSK 9600; <400 kHz

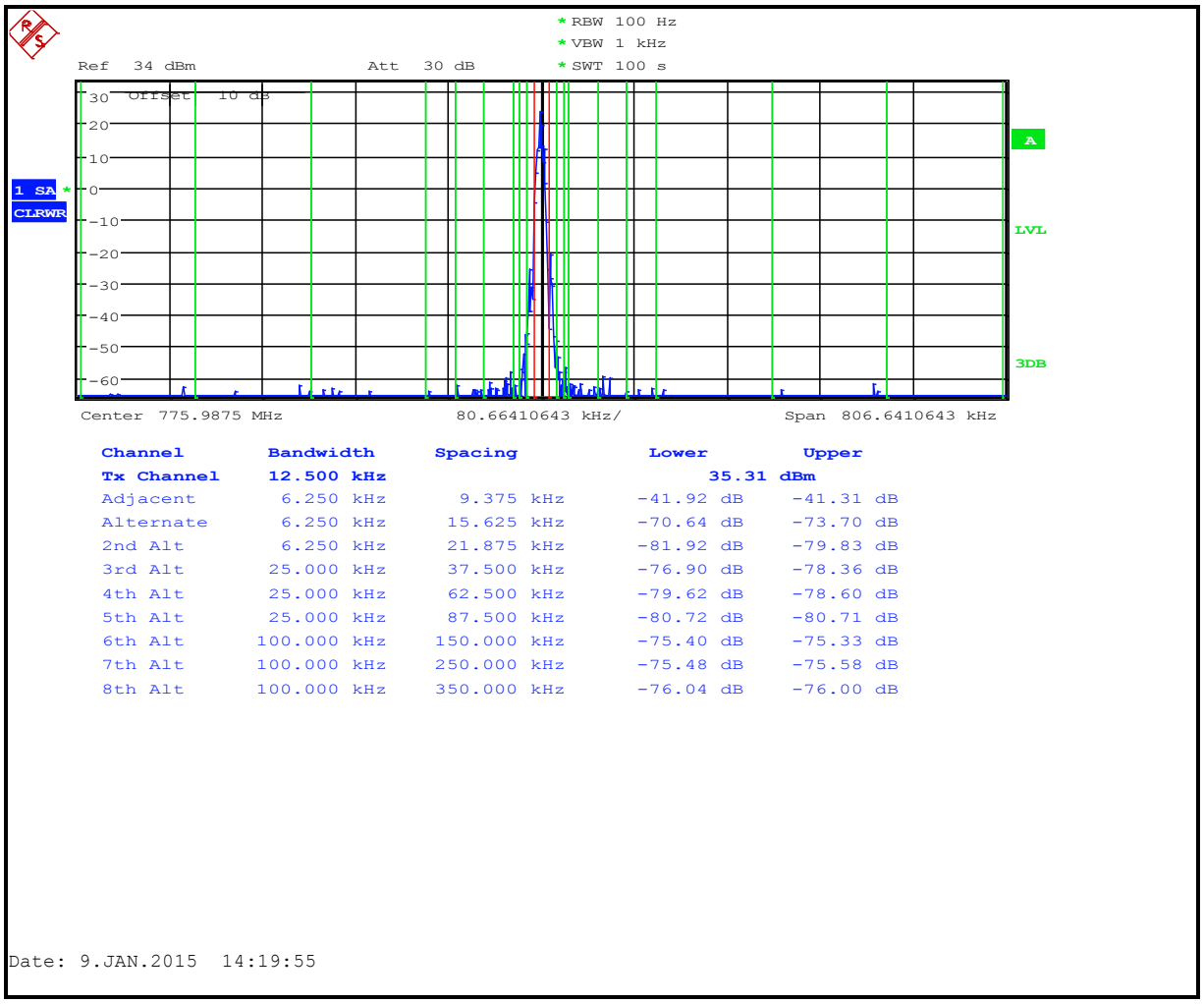


Table 6-15: Adjacent Channel Power – 775.9875 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-78.7
12 MHz to receive band	30(s)	-75	-101.4
In receive band	30(s)	-100	-106.7

Plot 6-16: Adjacent Channel Power – 798.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

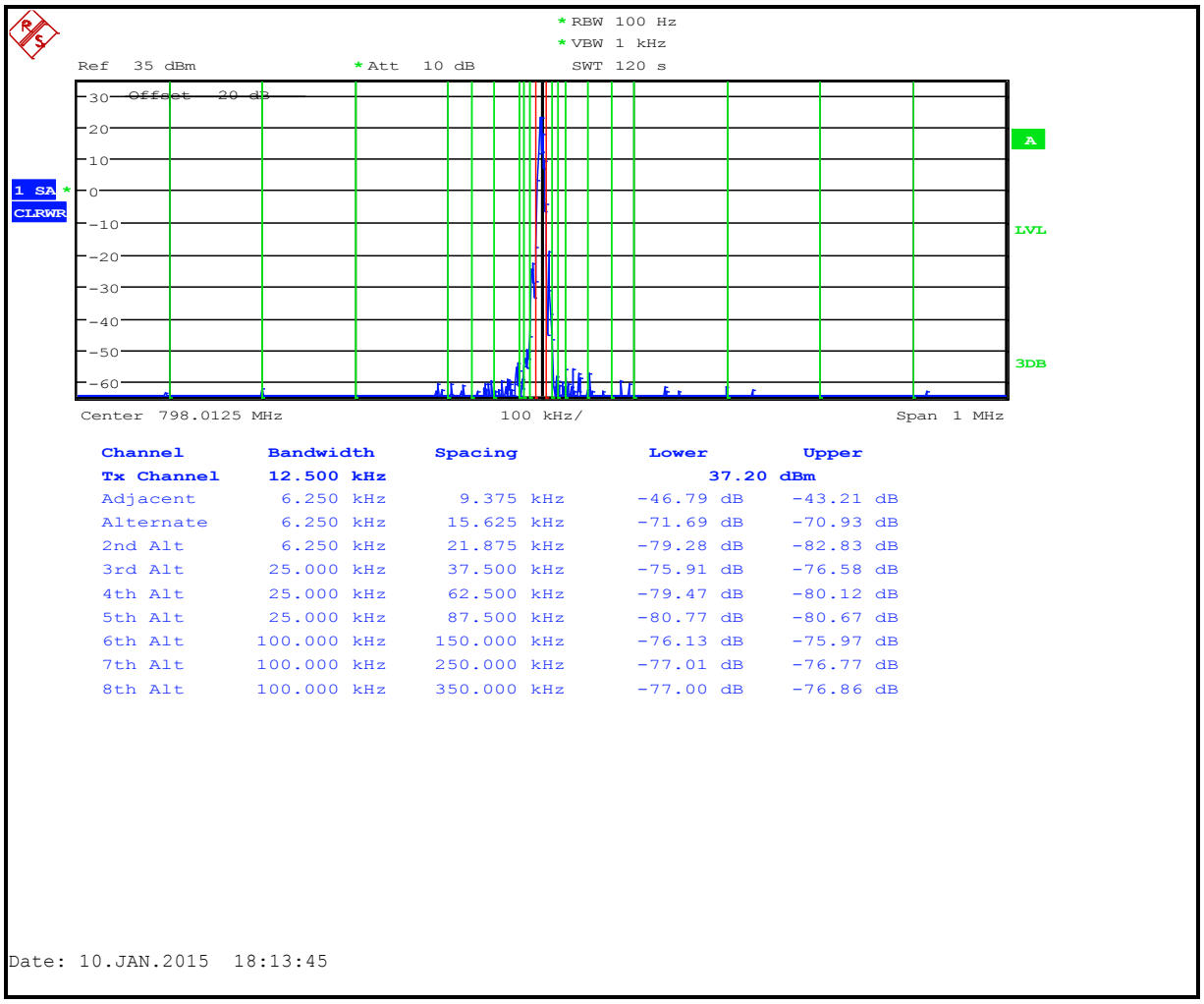


Table 6-16: Adjacent Channel Power – 798.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-85.6
12 MHz to receive band	30(s)	-75	-98.0
In receive band	30(s)	-100	-101.0

Plot 6-17: Adjacent Channel Power – 799.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

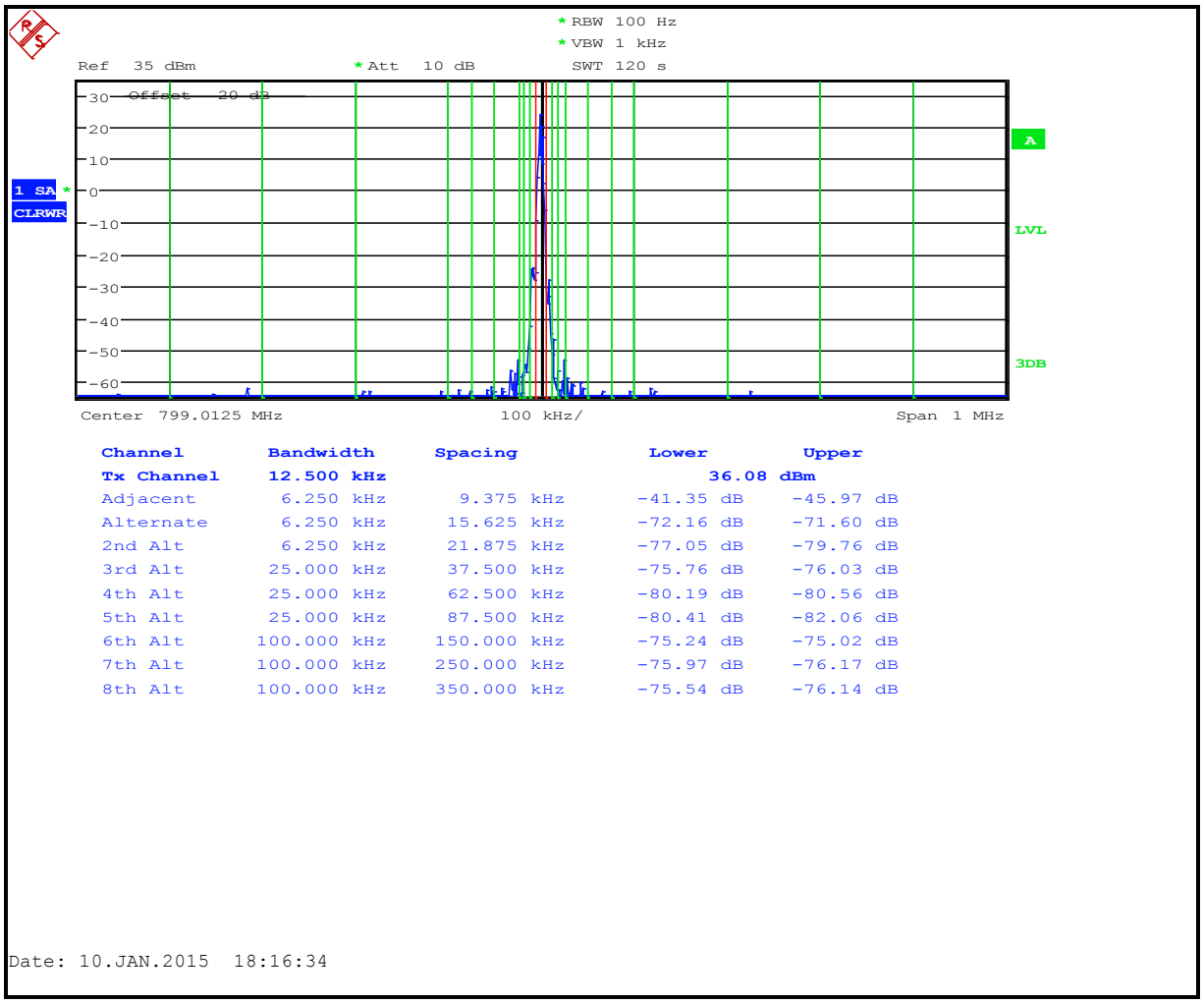


Table 6-17: Adjacent Channel Power – 799.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.0
12 MHz to receive band	30(s)	-75	-100.1
In receive band	30(s)	-100	-103.7

Plot 6-18: Adjacent Channel Power – 801.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

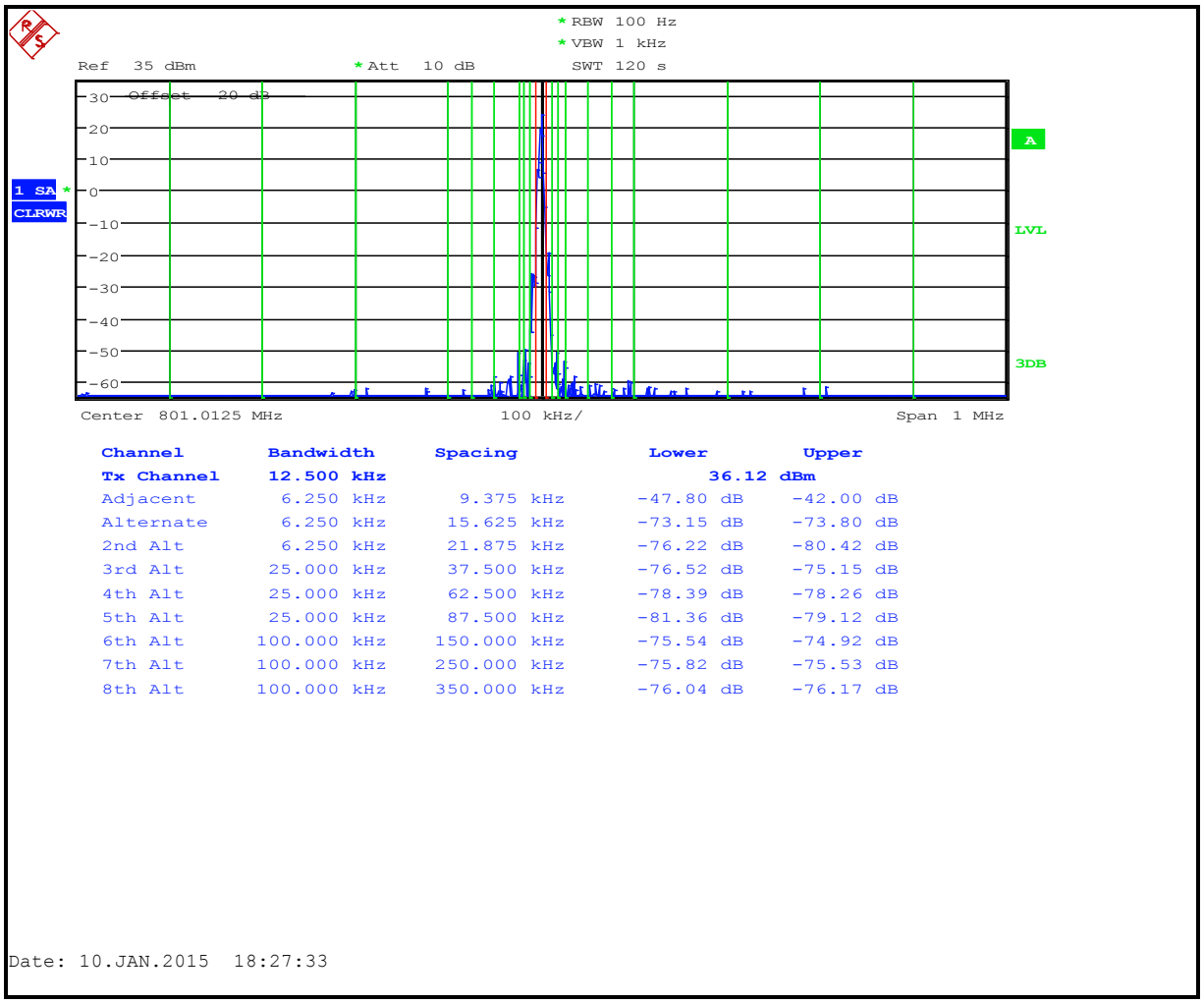


Table 6-18: Adjacent Channel Power – 801.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.3
12 MHz to receive band	30(s)	-75	-99.9
In receive band	30(s)	-100	-107.8

Plot 6-19: Adjacent Channel Power – 805.0125 MHz; EDACS 2-Level FSK 9600; <400 kHz

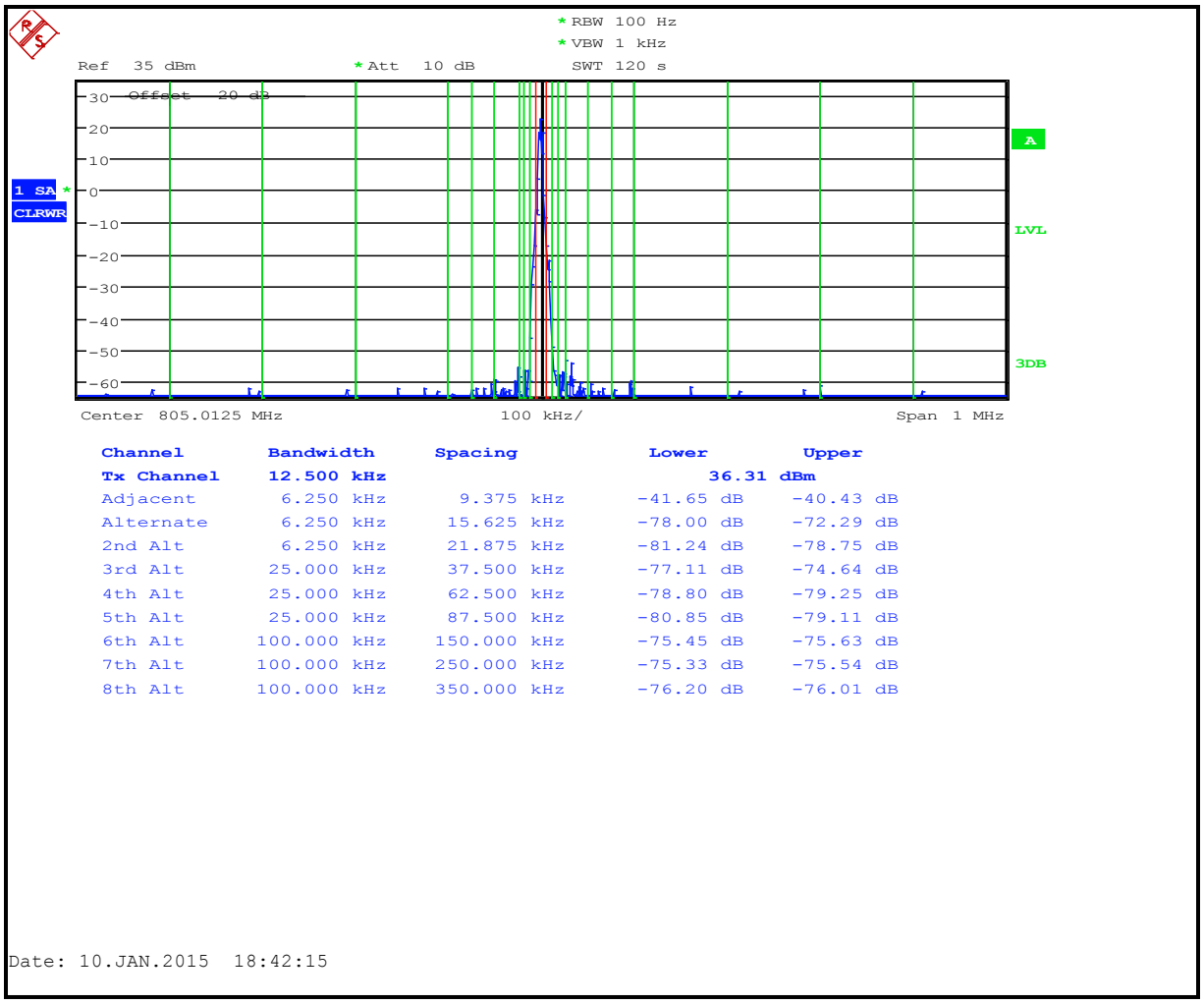


Table 6-19: Adjacent Channel Power – 805.0125 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.6
12 MHz to receive band	30(s)	-75	-94.5
In receive band	30(s)	-100	-108.0

Plot 6-20: Adjacent Channel Power – 805.9875 MHz; EDACS 2-Level FSK 9600; <400 kHz

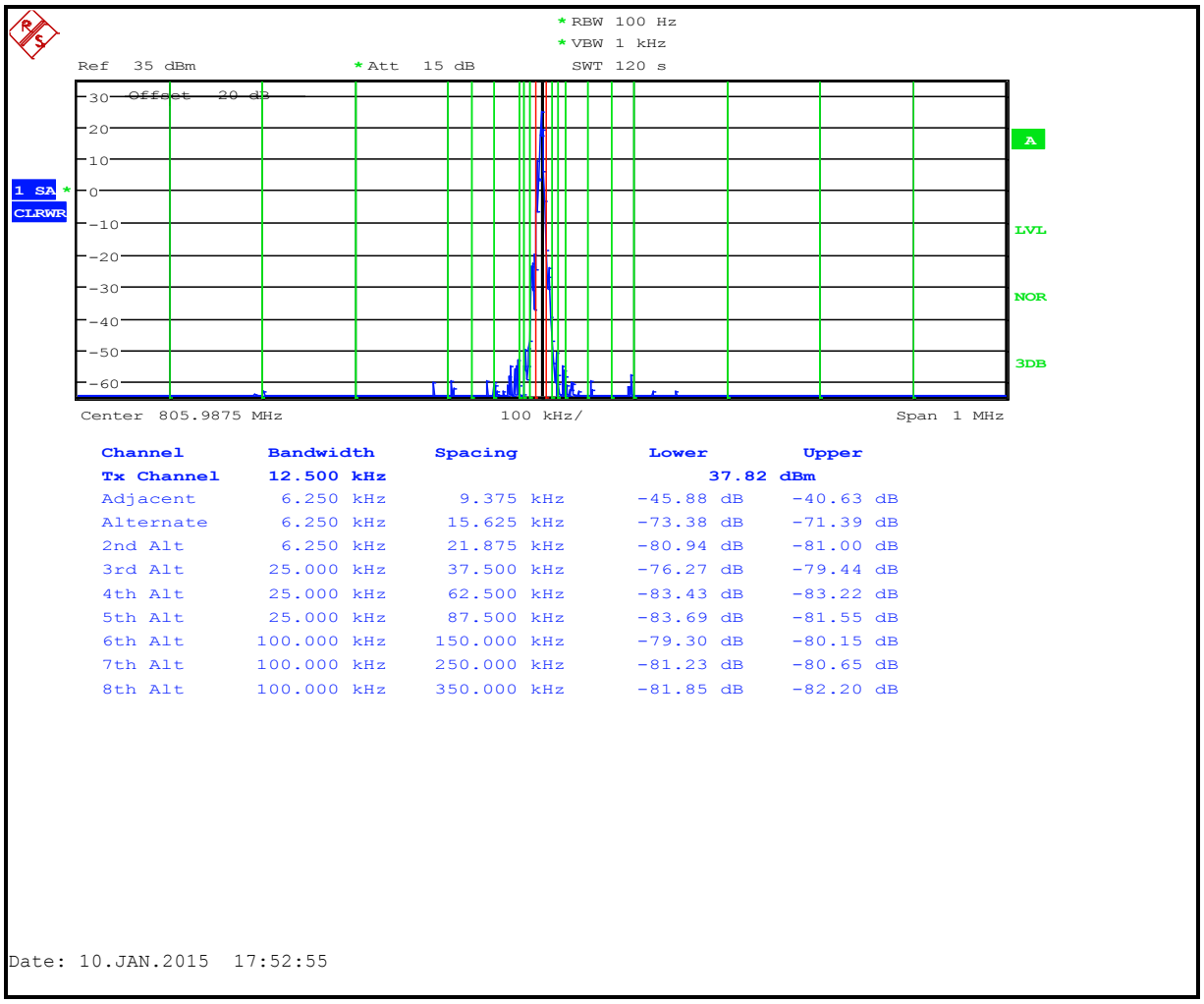


Table 6-20: Adjacent Channel Power – 805.9875 MHz; EDACS 2-Level FSK 9600; 400 kHz–RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.2
12 MHz to receive band	30(s)	-75	-94.1
In receive band	30(s)	-100	-107.3

Plot 6-21: Adjacent Channel Power – 768.0125 MHz; OTP SMR; <400 kHz

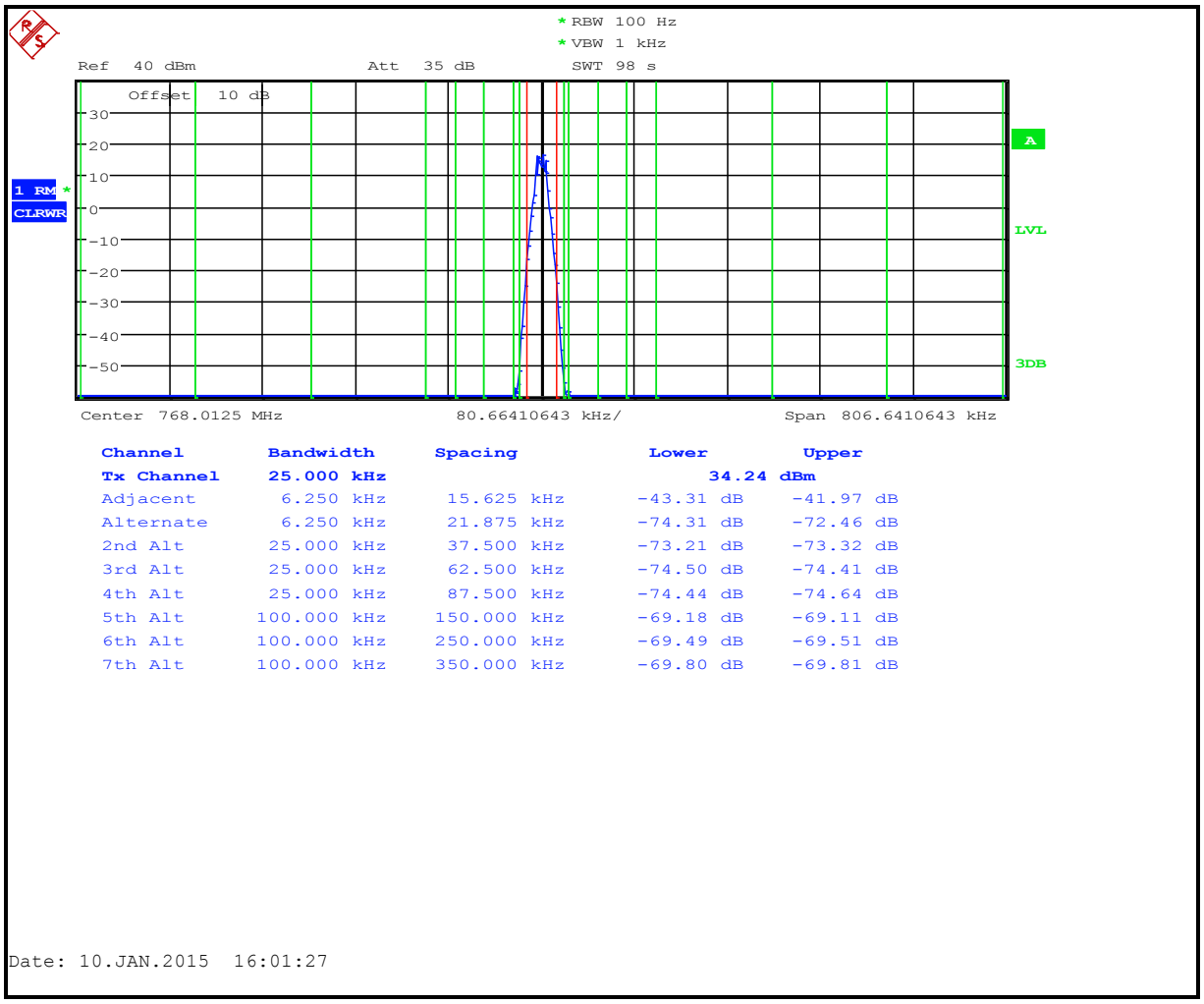


Table 6-21: Adjacent Channel Power – 768.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-86.3
12 MHz to receive band	30(s)	-75	-107.1
In receive band	30(s)	-100	-107.1

Plot 6-22: Adjacent Channel Power – 769.0125 MHz; OTP SMR; <400 kHz

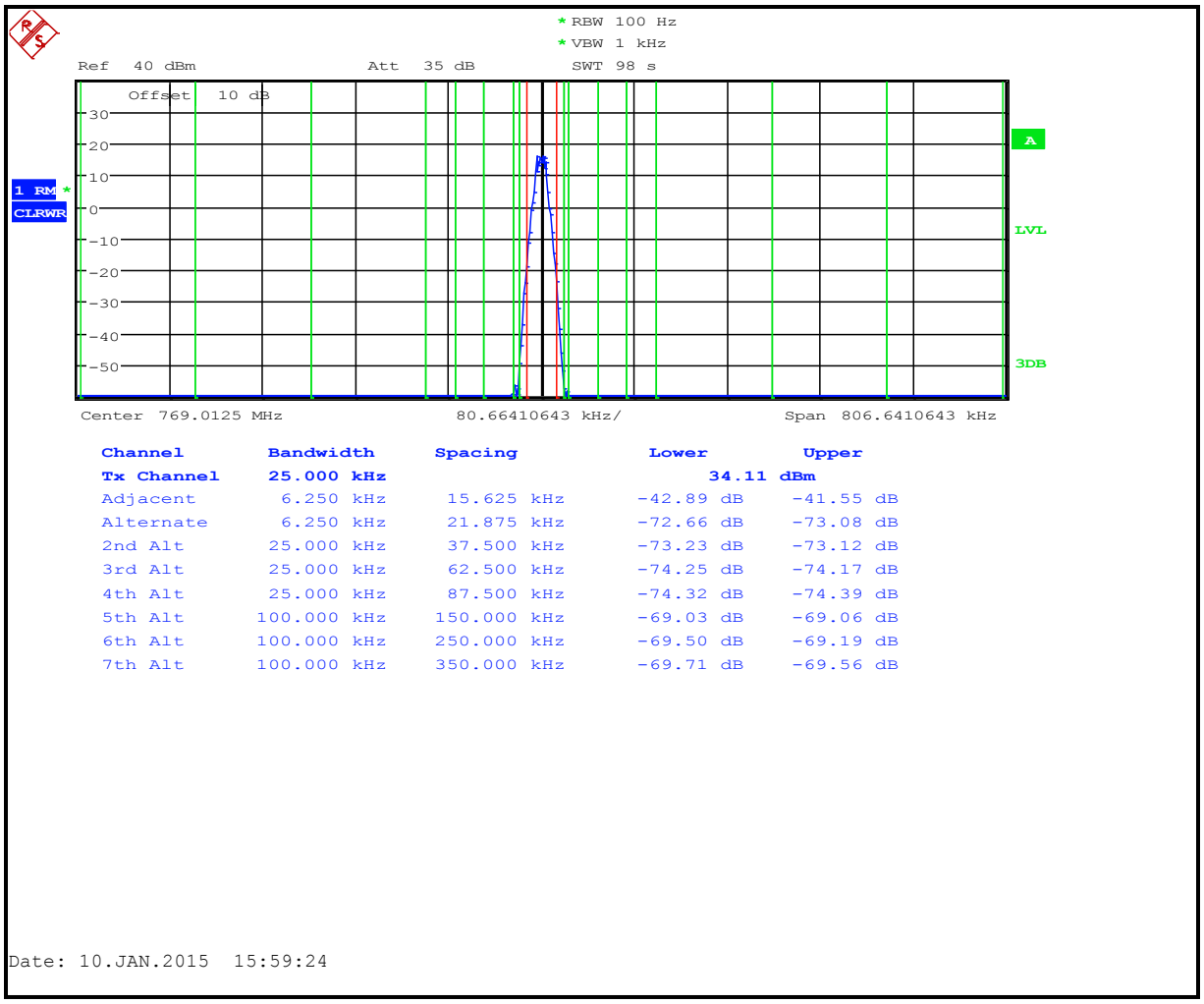


Table 6-22: Adjacent Channel Power – 769.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-78.6
12 MHz to receive band	30(s)	-75	-106.4
In receive band	30(s)	-100	-107.4

Plot 6-23: Adjacent Channel Power – 771.0125 MHz; OTP SMR; <400 kHz

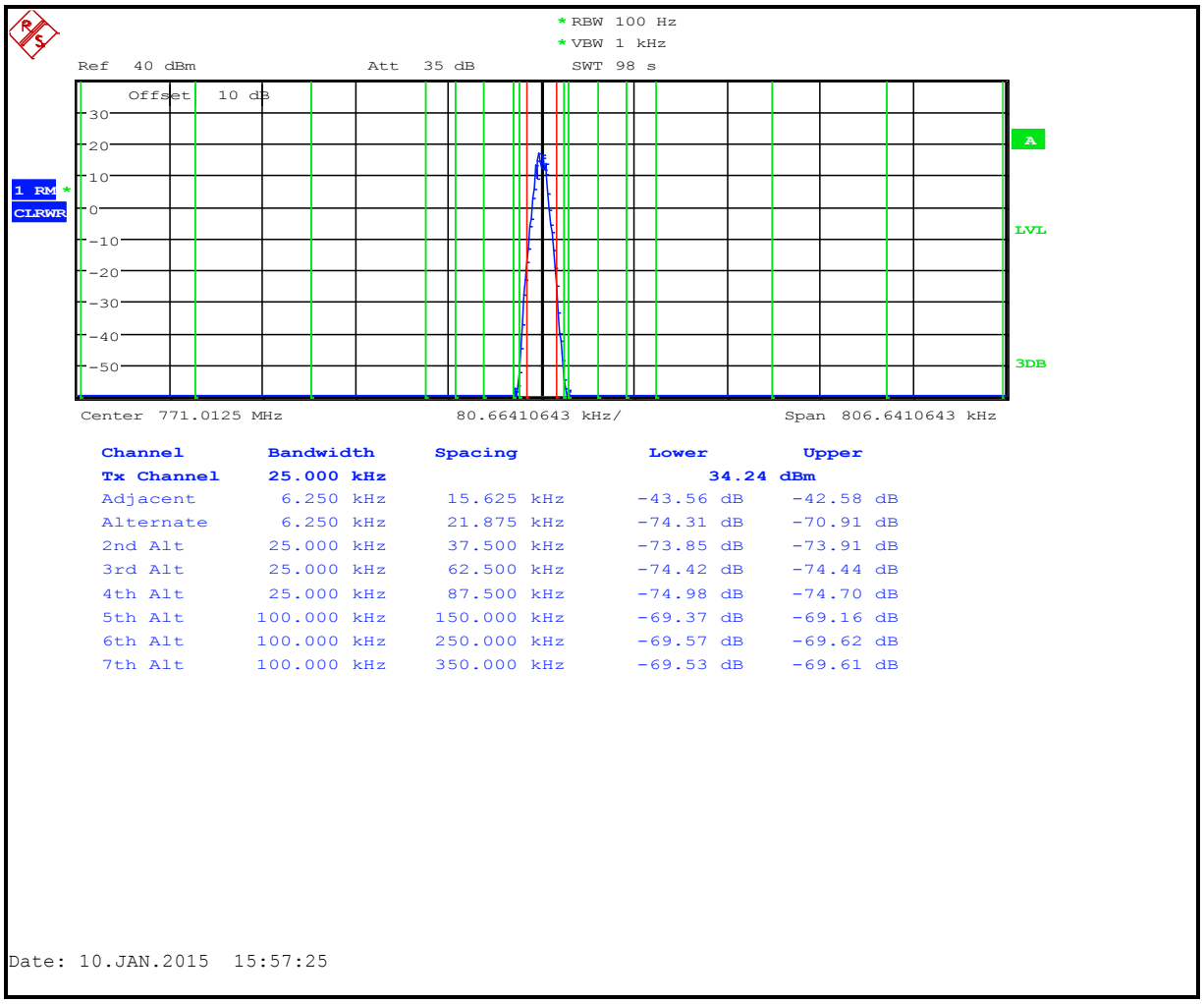


Table 6-23: Adjacent Channel Power – 771.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.5
12 MHz to receive band	30(s)	-75	-106.7
In receive band	30(s)	-100	-107.9

Plot 6-24: Adjacent Channel Power – 775.0125 MHz; OTP SMR; <400 kHz

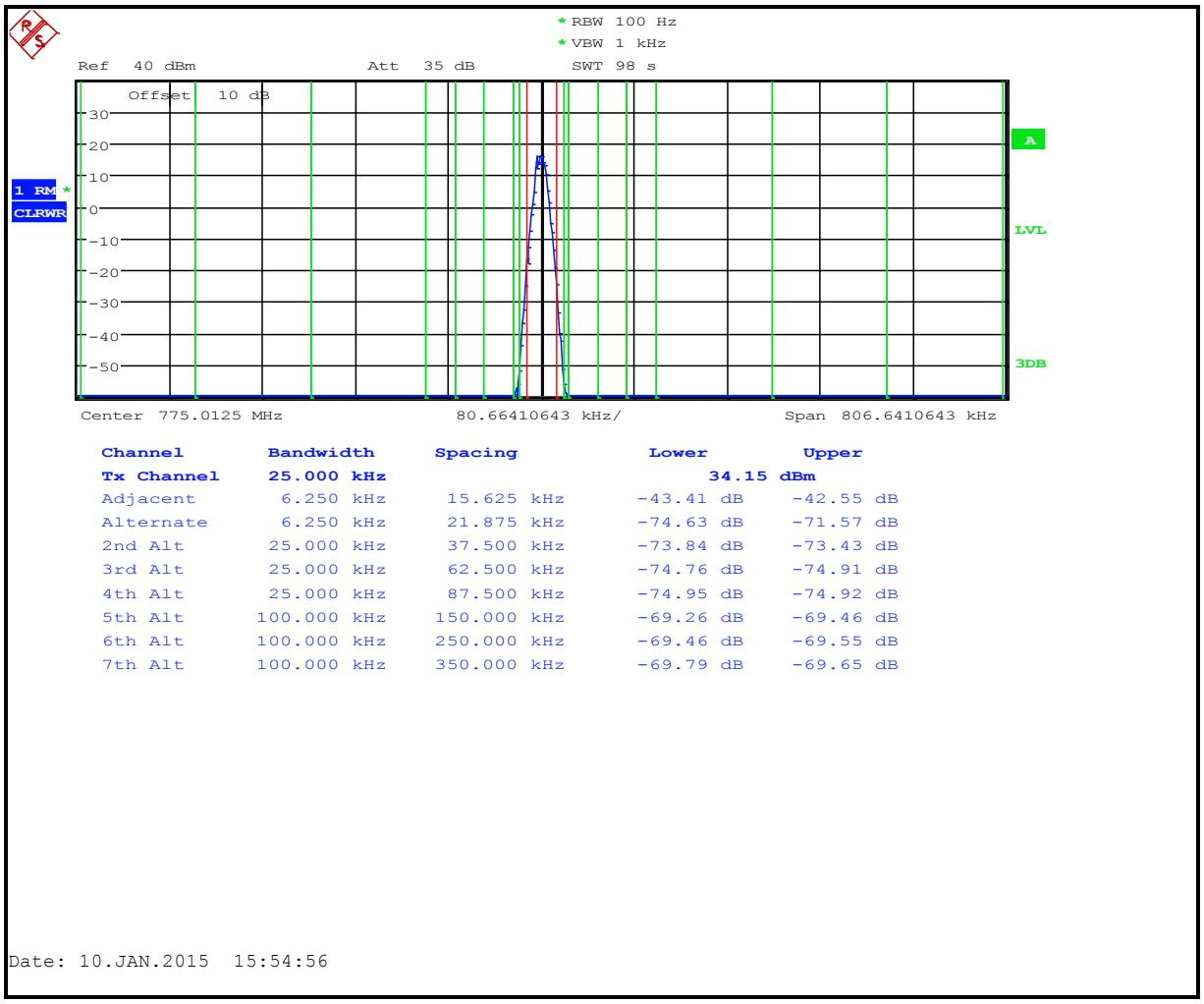


Table 6-24: Adjacent Channel Power – 775.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.1
12 MHz to receive band	30(s)	-75	-104.8
In receive band	30(s)	-100	-105.8

Plot 6-25: Adjacent Channel Power – 775.9875 MHz; OTP SMR; <400 kHz

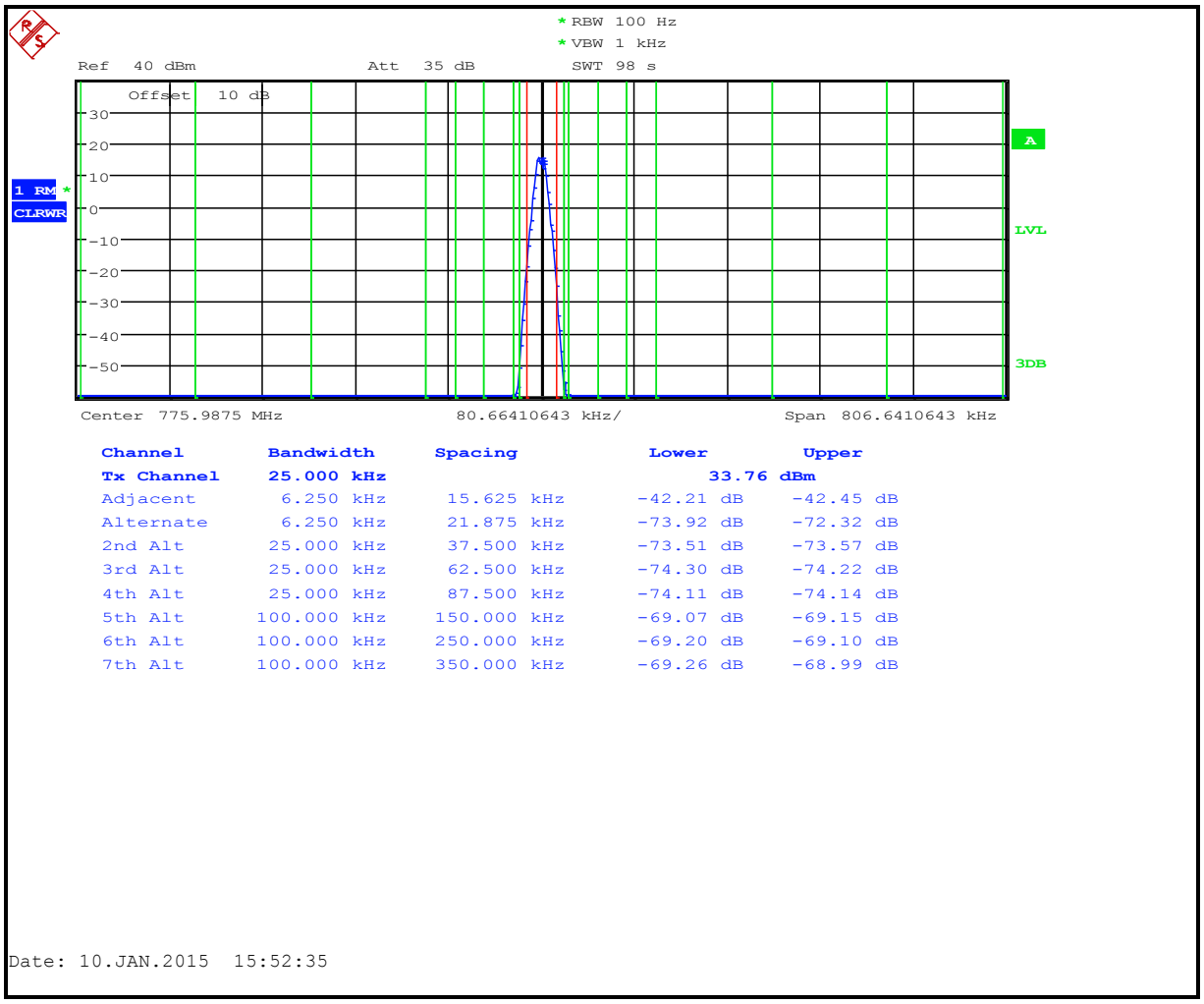


Table 6-25: Adjacent Channel Power – 775.9875 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	80.4
12 MHz to receive band	30(s)	-75	102.1
In receive band	30(s)	-100	106.9

Plot 6-26: Adjacent Channel Power – 798.0125 MHz; OTP SMR; <400 kHz

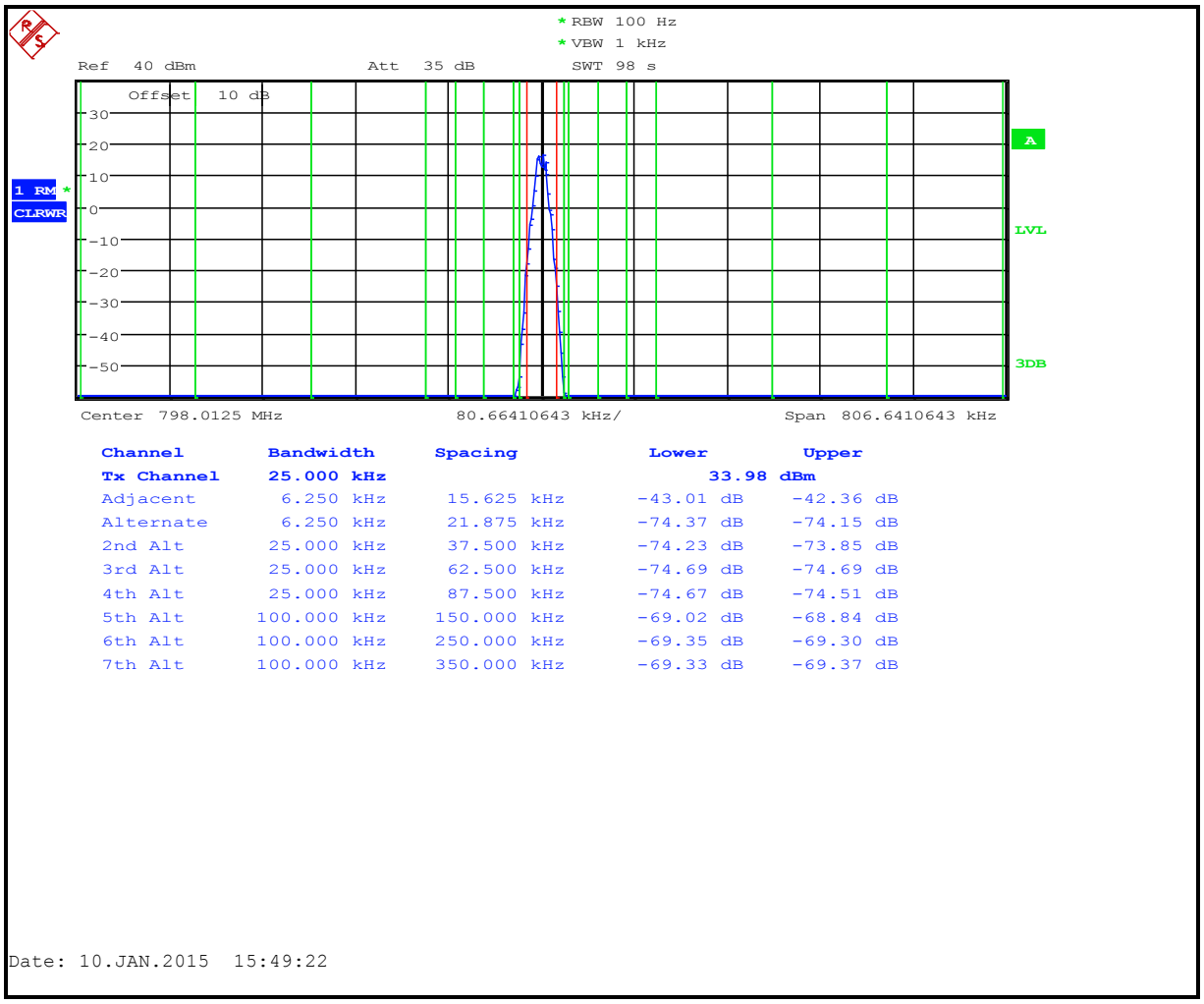


Table 6-26: Adjacent Channel Power – 798.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.0
12 MHz to receive band	30(s)	-75	-98.7
In receive band	30(s)	-100	-101.8

Plot 6-27: Adjacent Channel Power – 799.0125 MHz; OTP SMR; <400 kHz

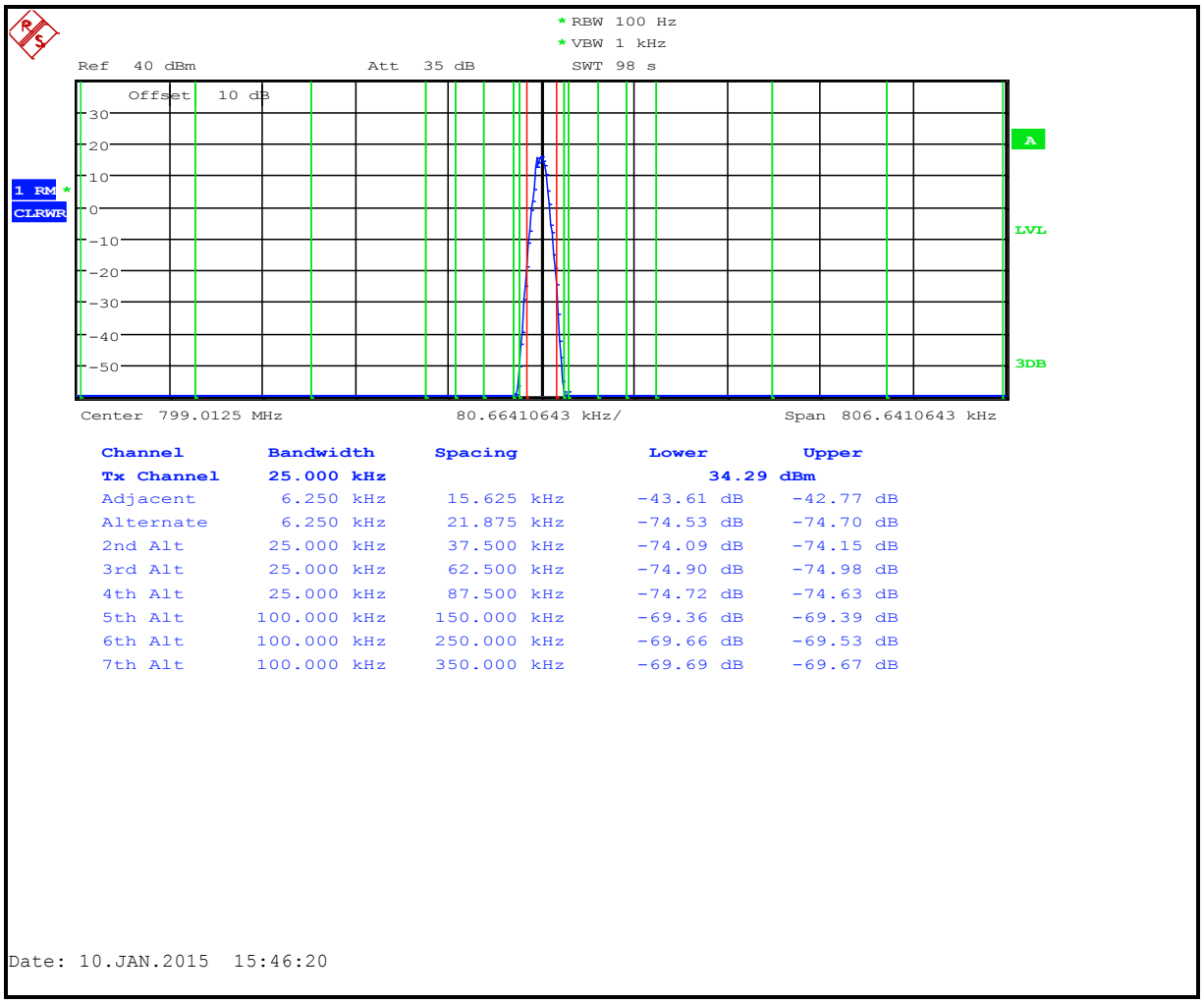


Table 6-27: Adjacent Channel Power – 799.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.6
12 MHz to receive band	30(s)	-75	-97.4
In receive band	30(s)	-100	-102.1

Plot 6-28: Adjacent Channel Power – 801.0125 MHz; OTP SMR; <400 kHz

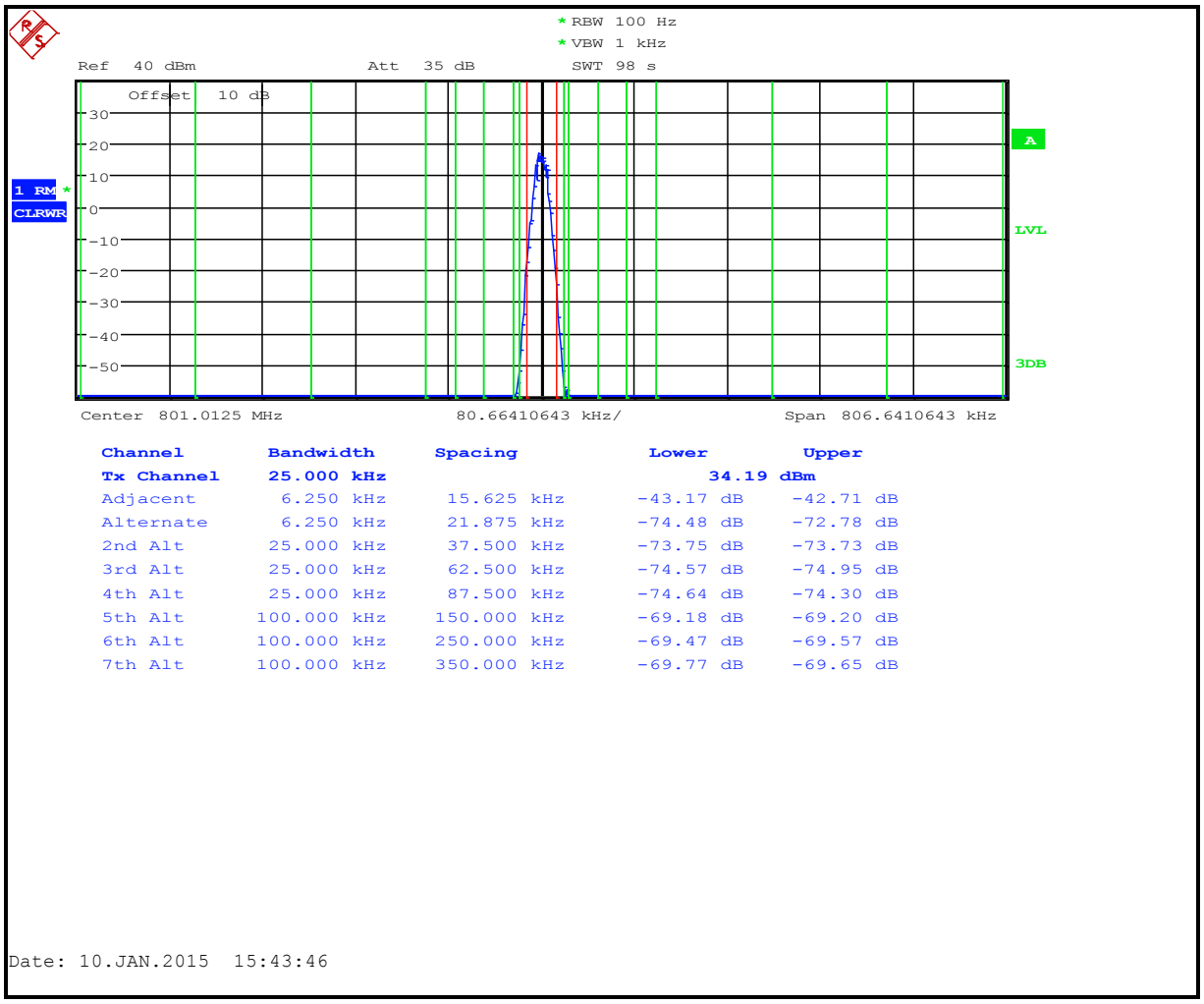


Table 6-28: Adjacent Channel Power – 801.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.1
12 MHz to receive band	30(s)	-75	-99.1
In receive band	30(s)	-100	-106.7

Plot 6-29: Adjacent Channel Power – 805.0125 MHz; OTP SMR; <400 kHz

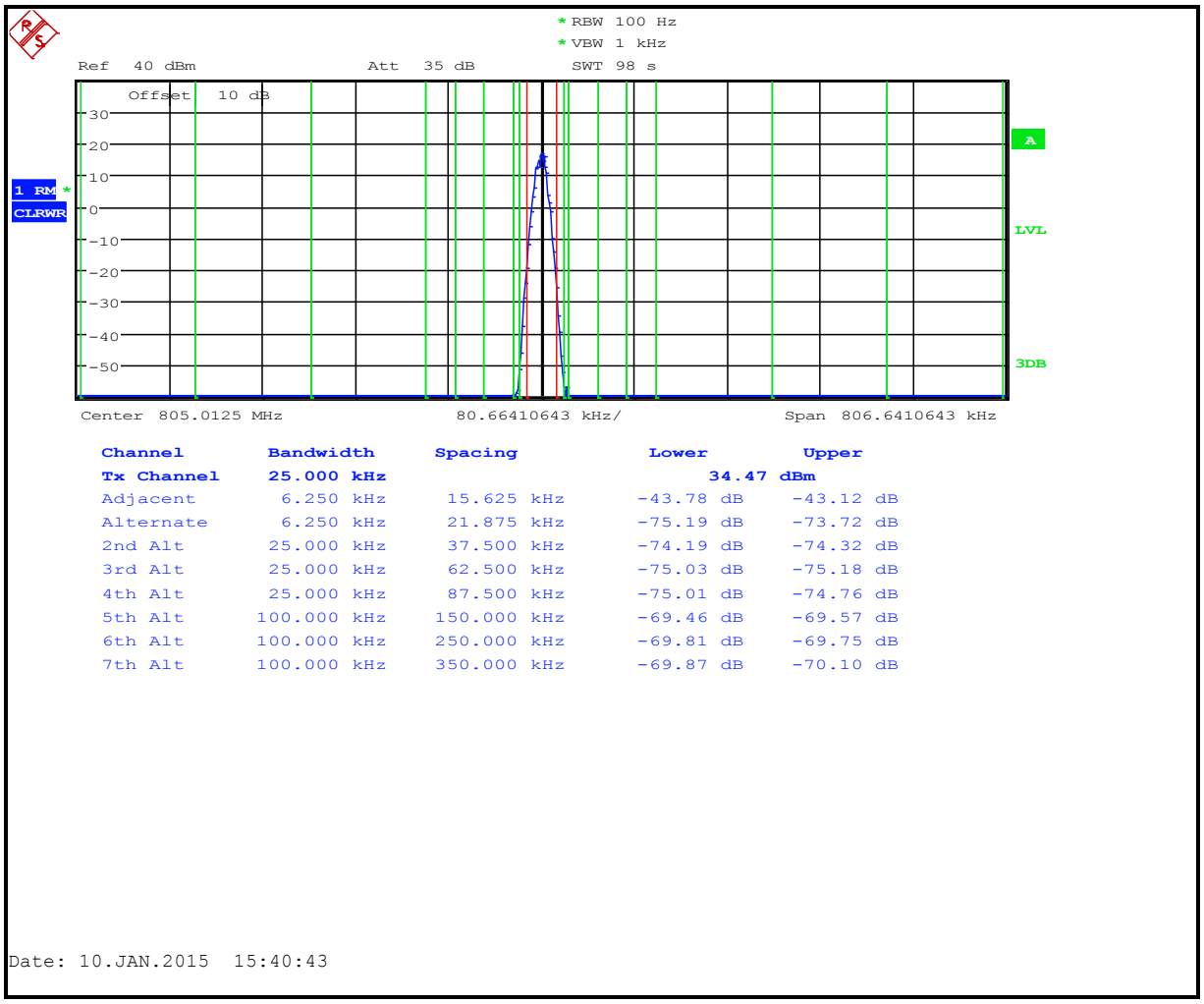


Table 6-29: Adjacent Channel Power – 805.0125 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-78.7
12 MHz to receive band	30(s)	-75	-96.1
In receive band	30(s)	-100	-106.1

Plot 6-30: Adjacent Channel Power – 805.9875 MHz; OTP SMR; <400 kHz

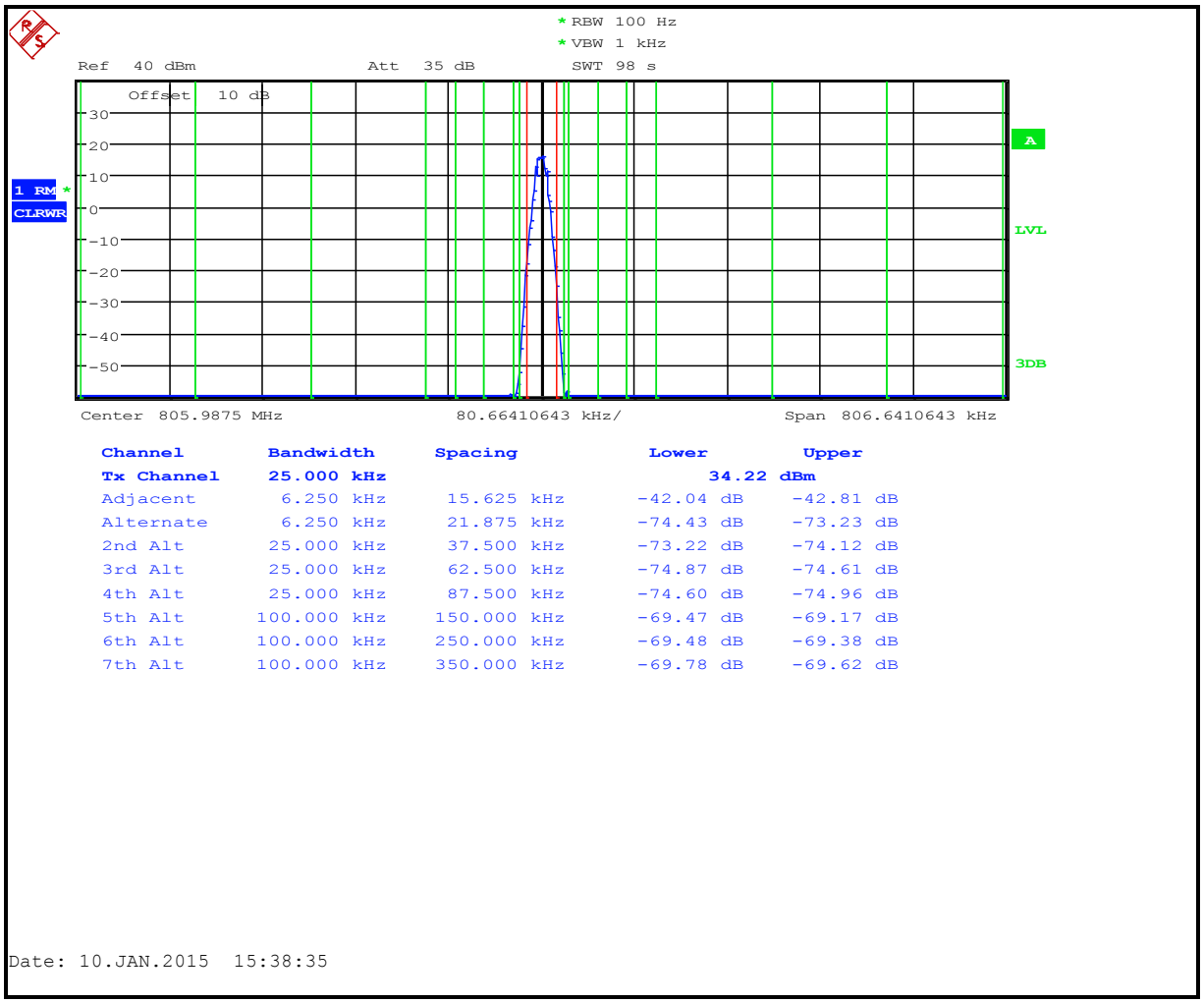


Table 6-30: Adjacent Channel Power – 805.9875 MHz; OTP SMR; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.5
12 MHz to receive band	30(s)	-75	-95.4
In receive band	30(s)	-100	-106.2

Plot 6-31: Adjacent Channel Power – 768.0125 MHz; OTP Narrowband; <400 kHz

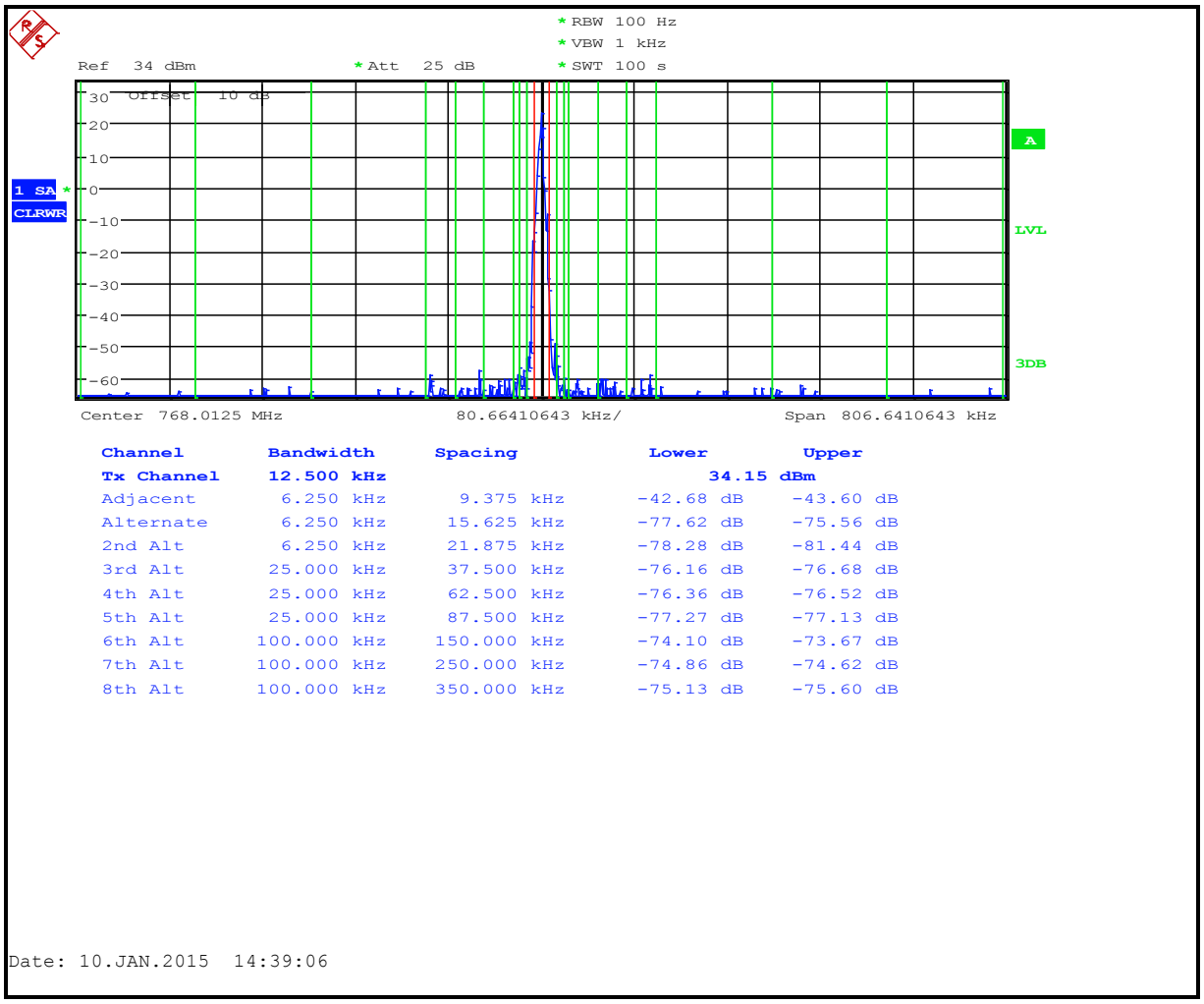


Table 6-31: Adjacent Channel Power – 768.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-86.6
12 MHz to receive band	30(s)	-75	-106.2
In receive band	30(s)	-100	-106.3

Plot 6-32: Adjacent Channel Power – 769.0125 MHz; OTP Narrowband; <400 kHz

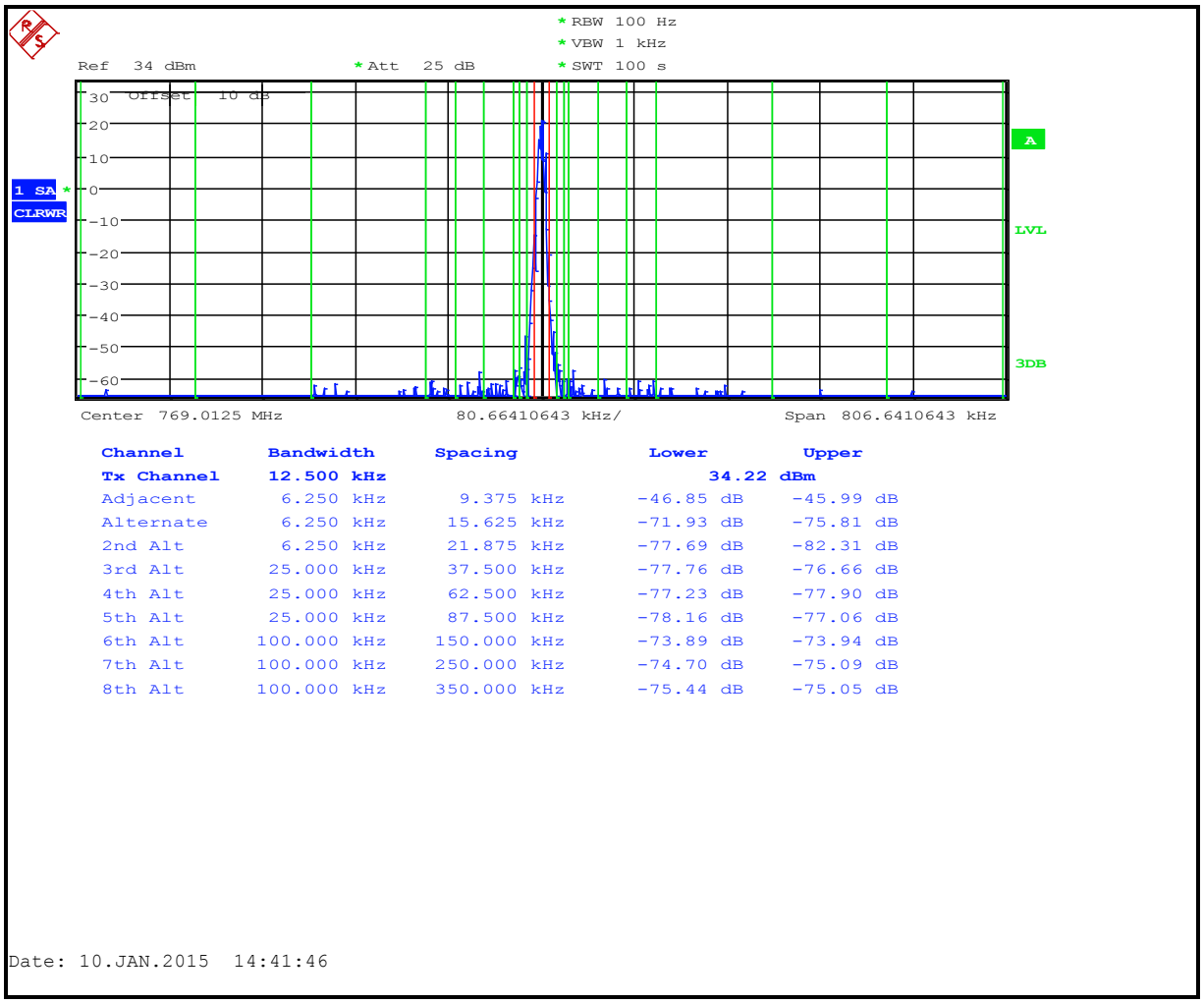


Table 6-32: Adjacent Channel Power – 769.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.9
12 MHz to receive band	30(s)	-75	-107.1
In receive band	30(s)	-100	-104.3

Plot 6-33: Adjacent Channel Power – 771.0125 MHz; OTP Narrowband; <400 kHz

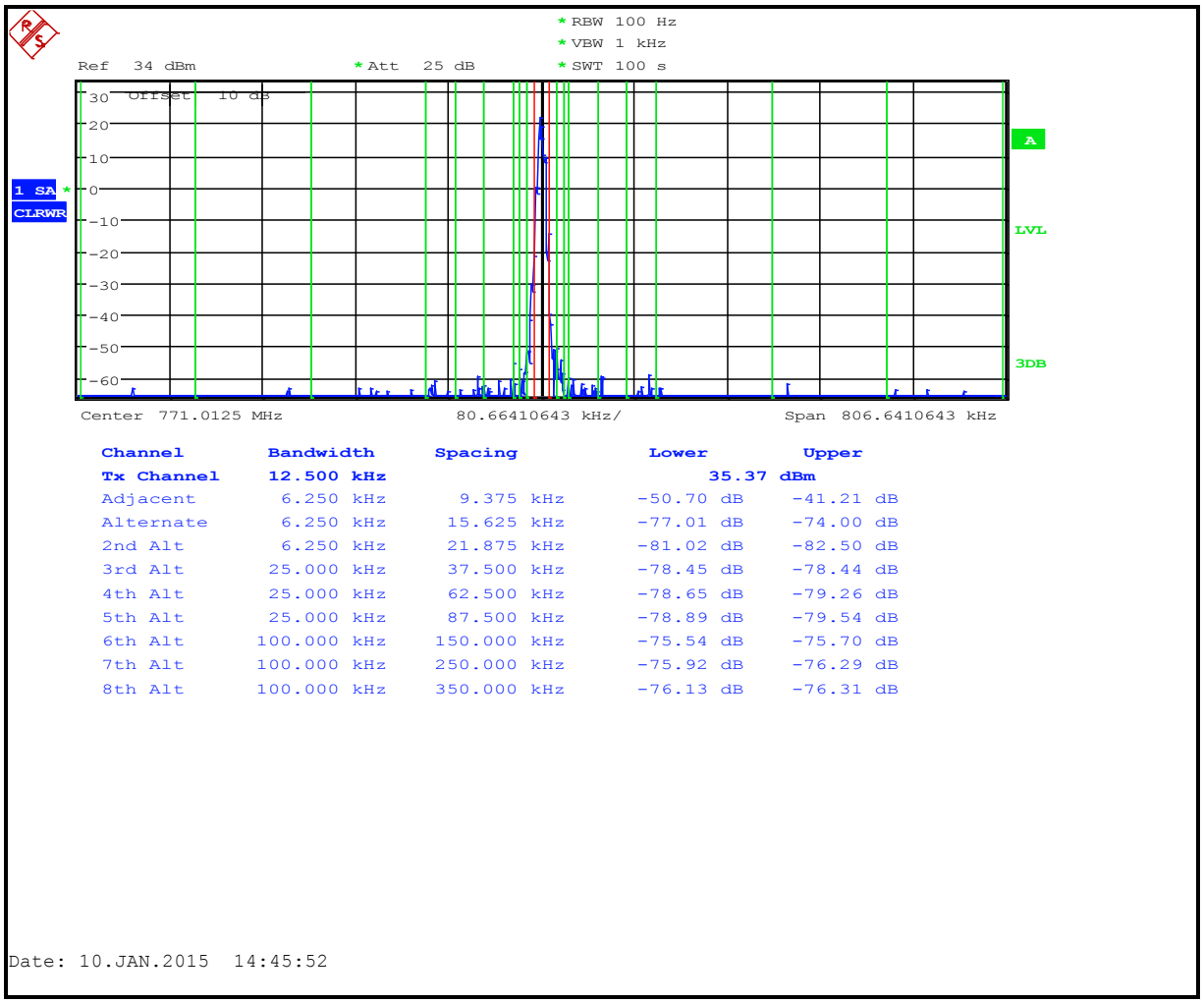


Table 6-33: Adjacent Channel Power – 771.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.2
12 MHz to receive band	30(s)	-75	-106.2
In receive band	30(s)	-100	-106.5

Plot 6-34: Adjacent Channel Power – 775.0125 MHz; OTP Narrowband; <400 kHz

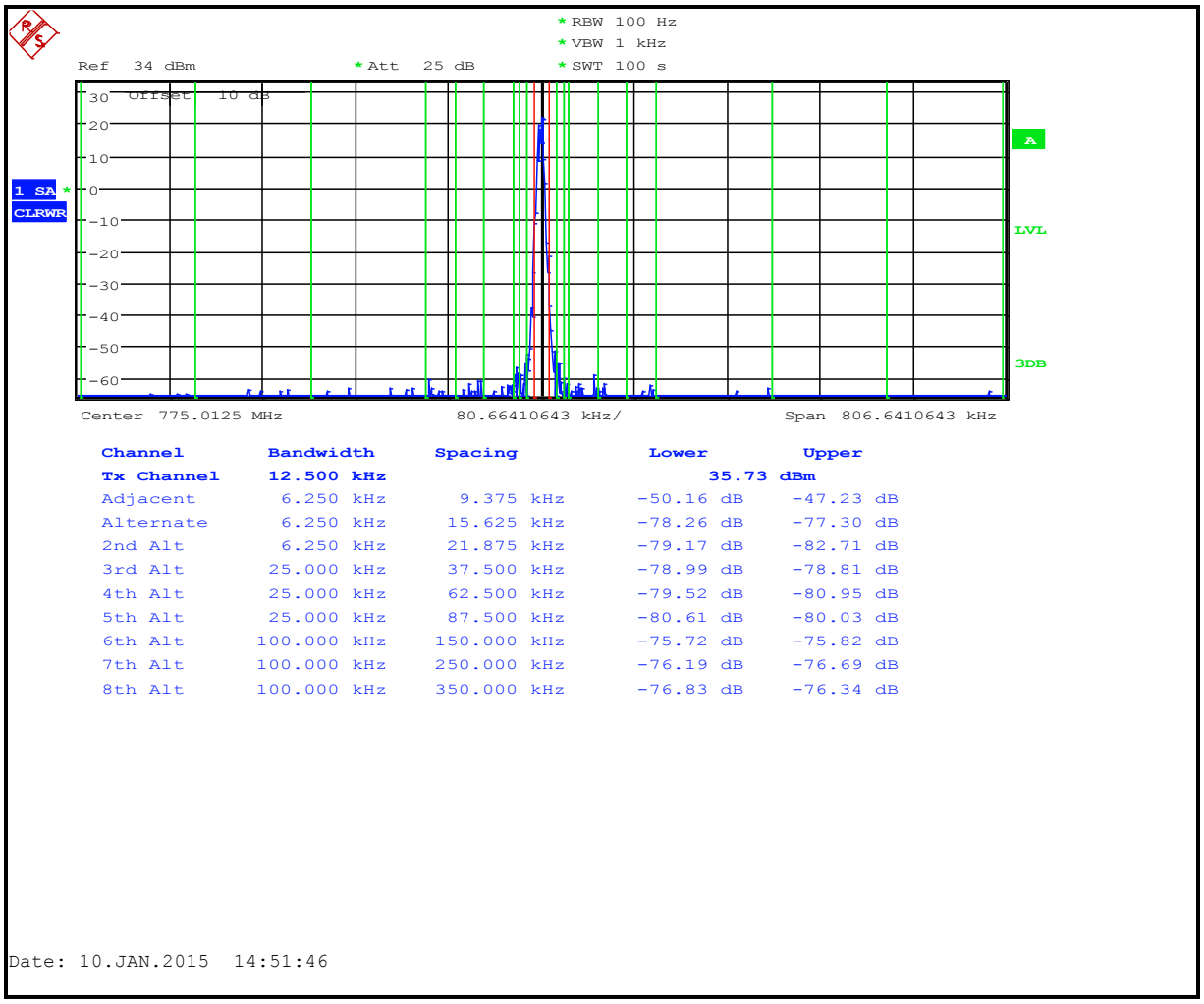


Table 6-34: Adjacent Channel Power – 775.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.7
12 MHz to receive band	30(s)	-75	-104.0
In receive band	30(s)	-100	-107.2

Plot 6-35: Adjacent Channel Power – 775.9875 MHz; OTP Narrowband; <400 kHz

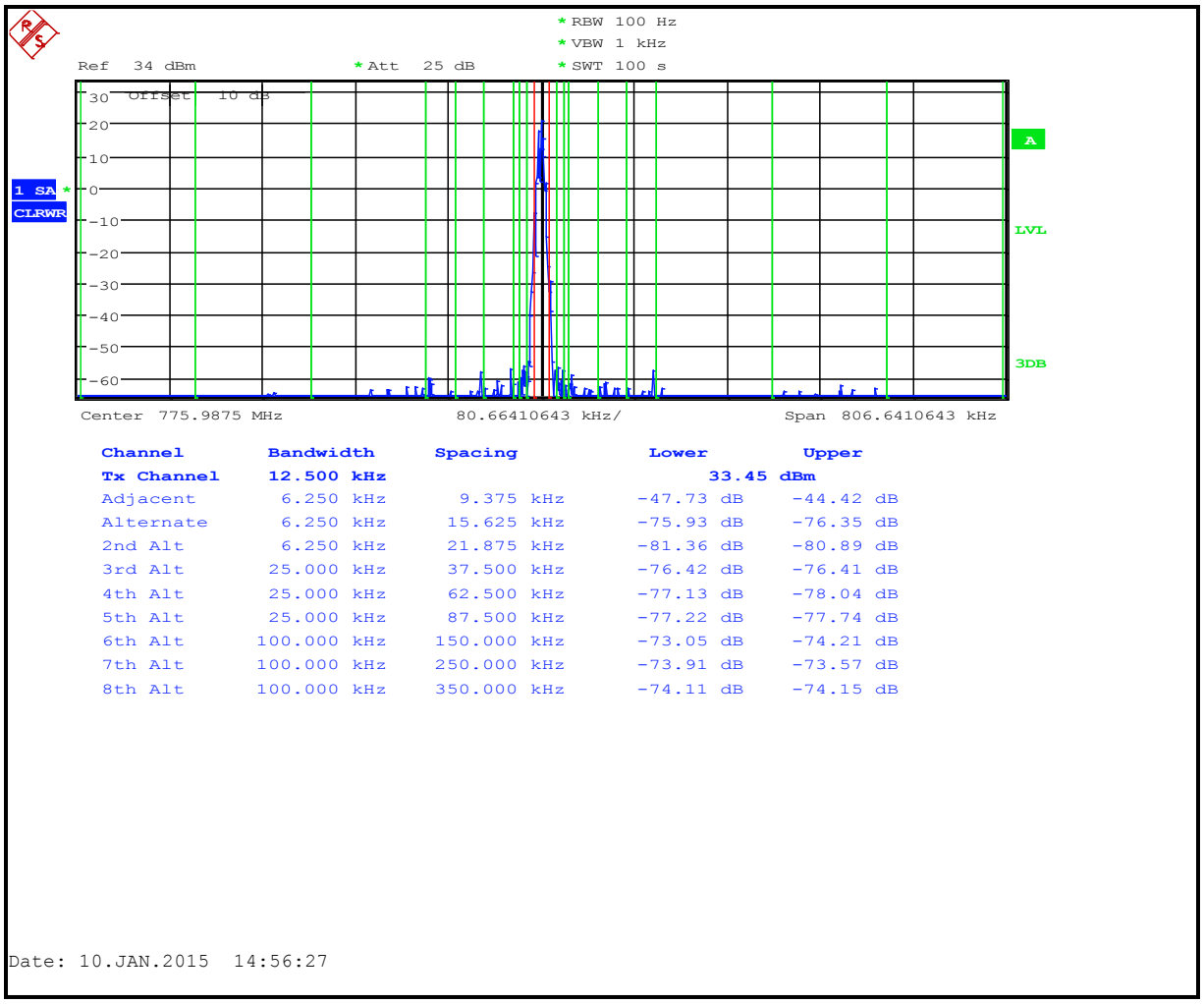


Table 6-35: Adjacent Channel Power – 775.9875 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.7
12 MHz to receive band	30(s)	-75	-100.1
In receive band	30(s)	-100	-106.3

Plot 6-36: Adjacent Channel Power – 798.0125 MHz; OTP Narrowband; <400 kHz

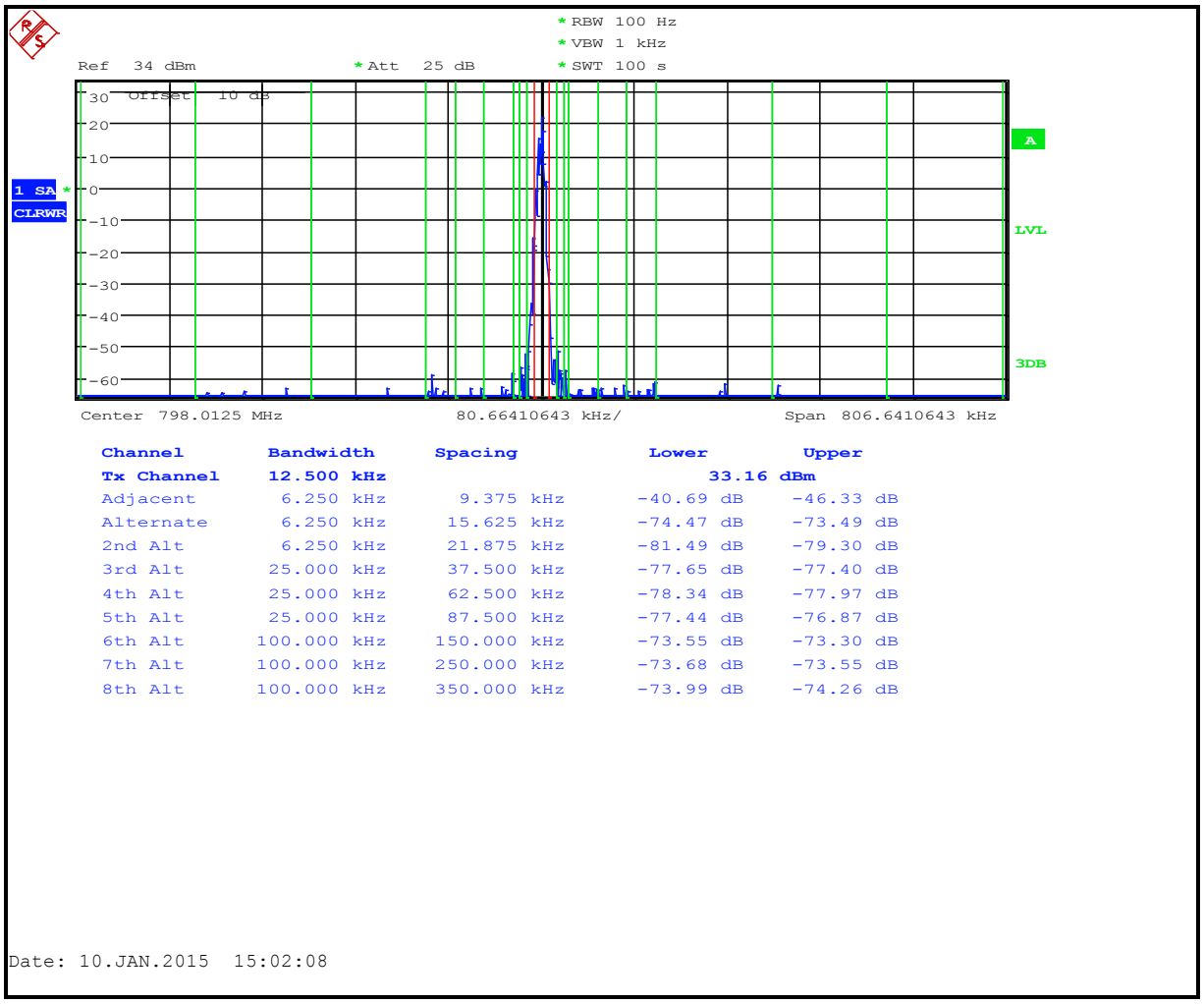


Table 6-36: Adjacent Channel Power – 798.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.3
12 MHz to receive band	30(s)	-75	-98.6
In receive band	30(s)	-100	-101.8

Plot 6-37: Adjacent Channel Power – 799.0125 MHz; OTP Narrowband; <400 kHz

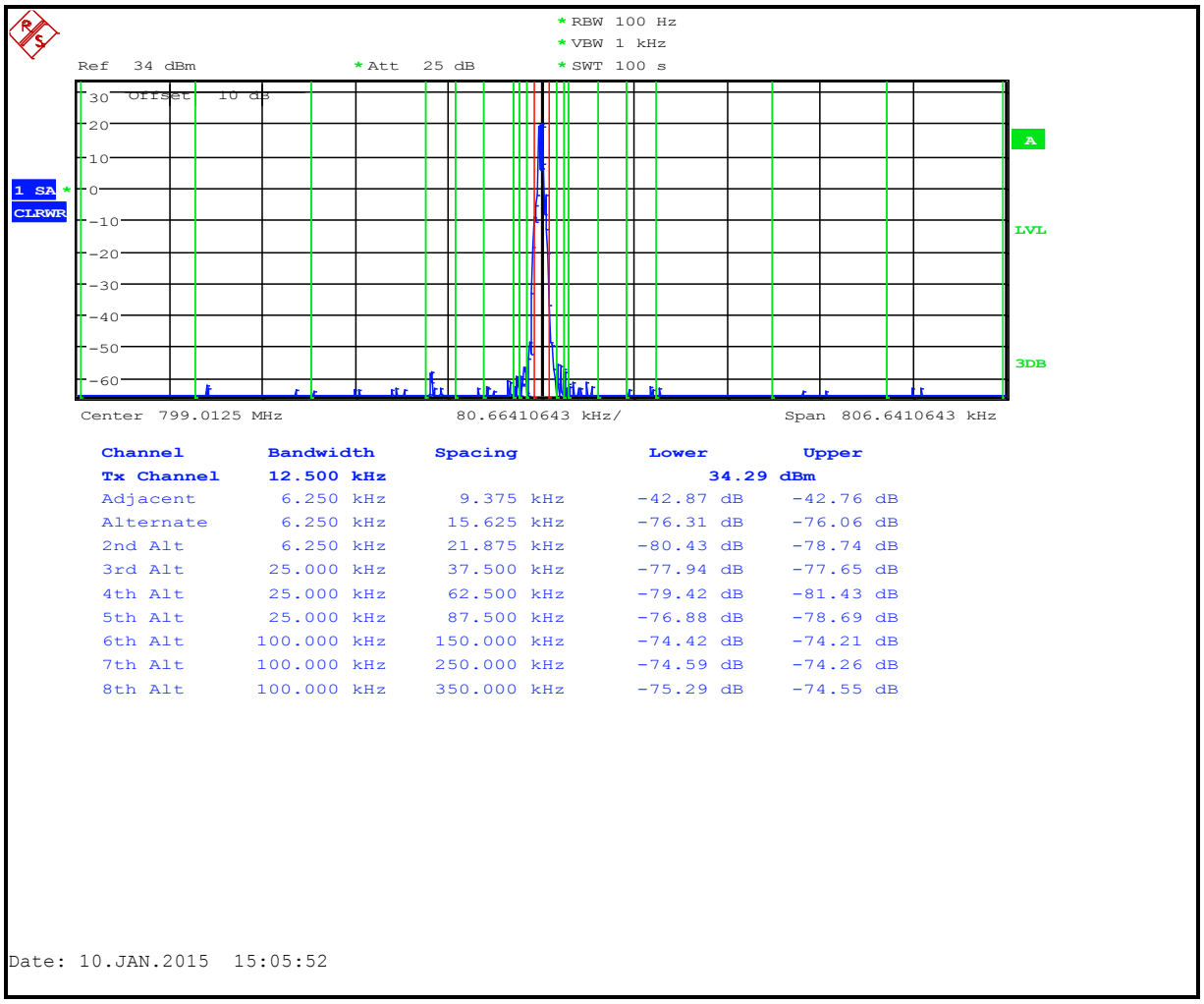


Table 6-37: Adjacent Channel Power – 799.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.0
12 MHz to receive band	30(s)	-75	-98.7
In receive band	30(s)	-100	-102.6

Plot 6-38: Adjacent Channel Power – 801.0125 MHz; OTP Narrowband; <400 kHz

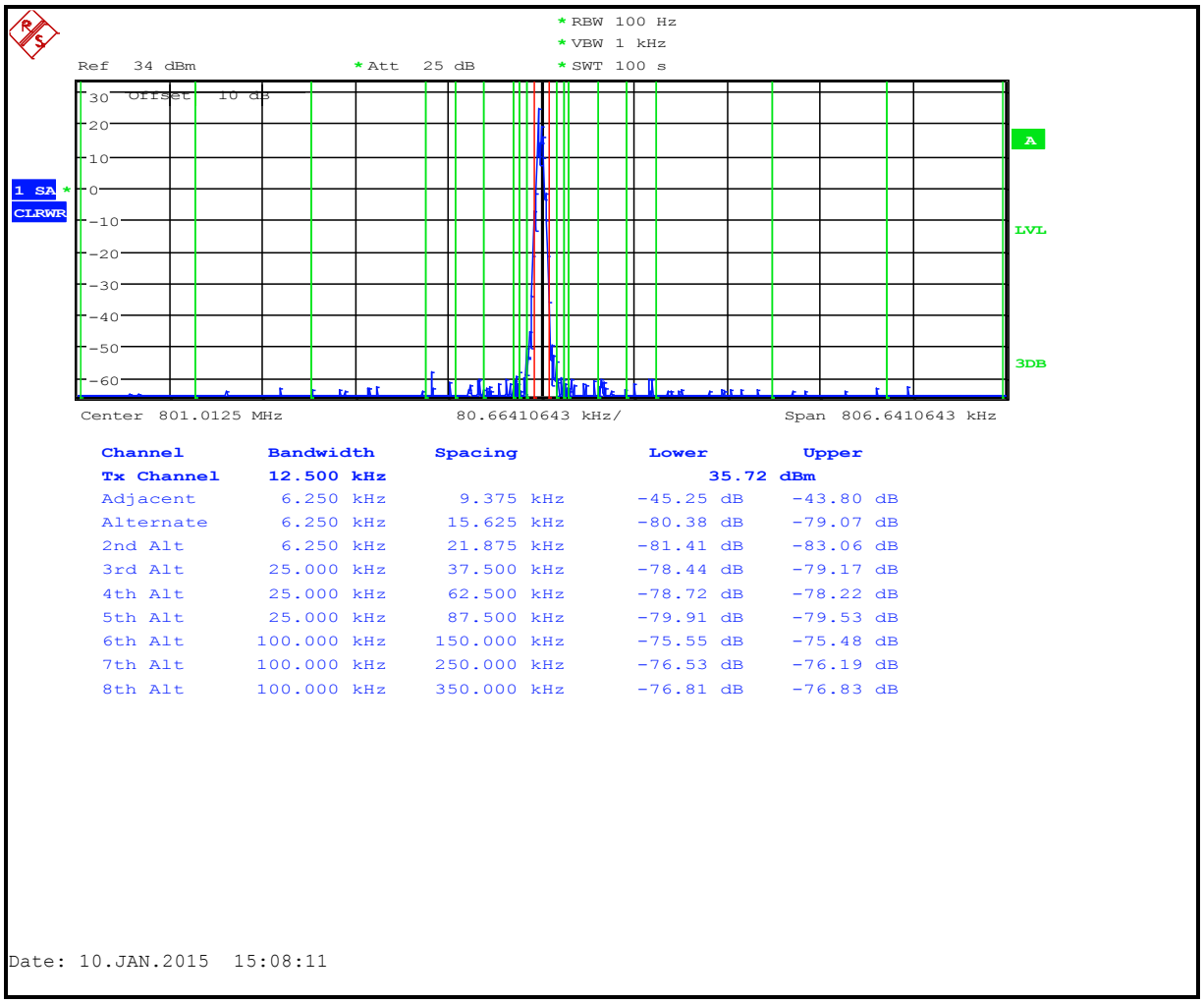


Table 6-38: Adjacent Channel Power – 801.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.7
12 MHz to receive band	30(s)	-75	-98.9
In receive band	30(s)	-100	-102.8

Plot 6-39: Adjacent Channel Power – 805.0125 MHz; OTP Narrowband; <400 kHz

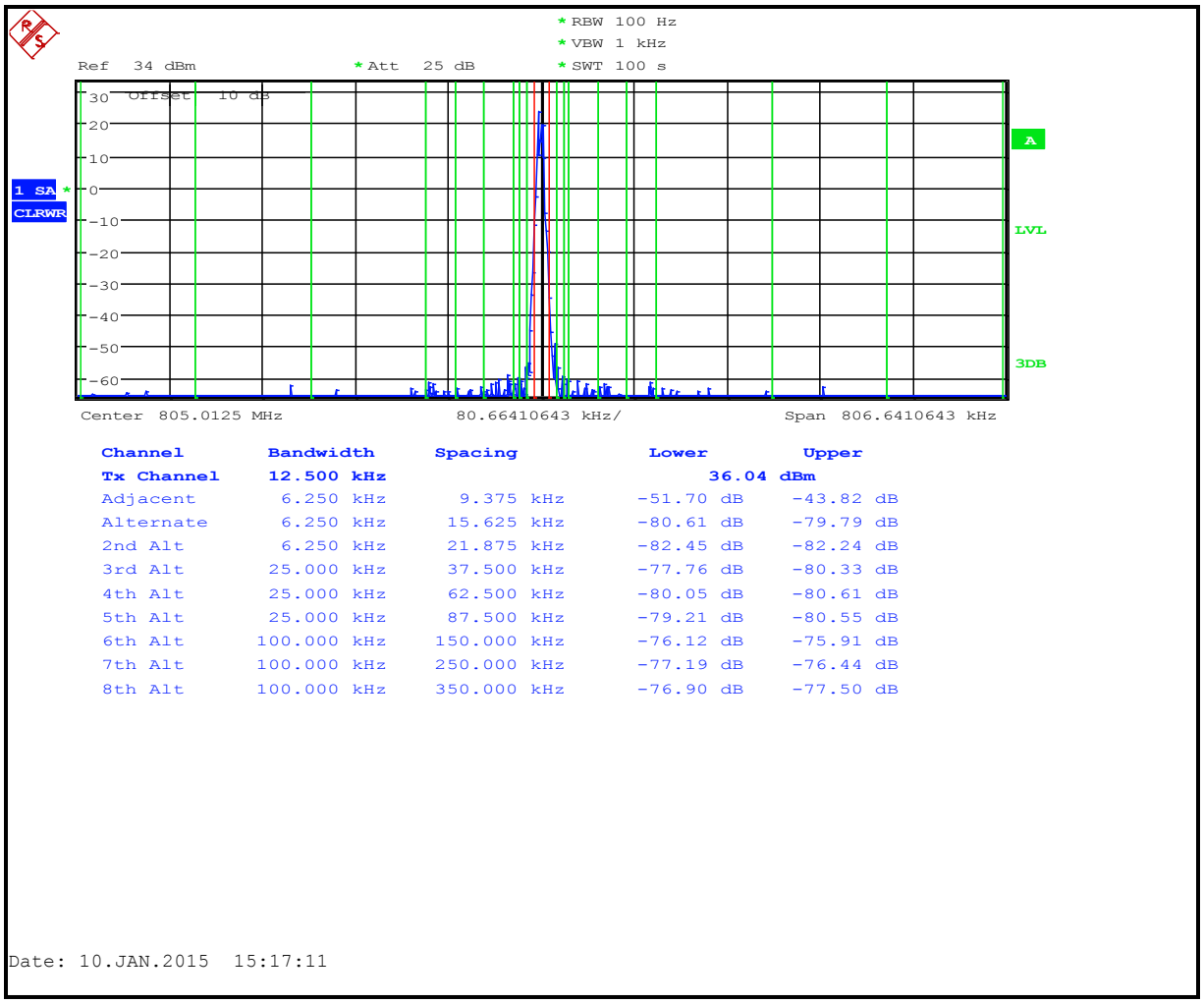


Table 6-39: Adjacent Channel Power – 805.0125 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.4
12 MHz to receive band	30(s)	-75	-94.7
In receive band	30(s)	-100	-106.0

Plot 6-40: Adjacent Channel Power – 805.9875 MHz; OTP Narrowband; <400 kHz

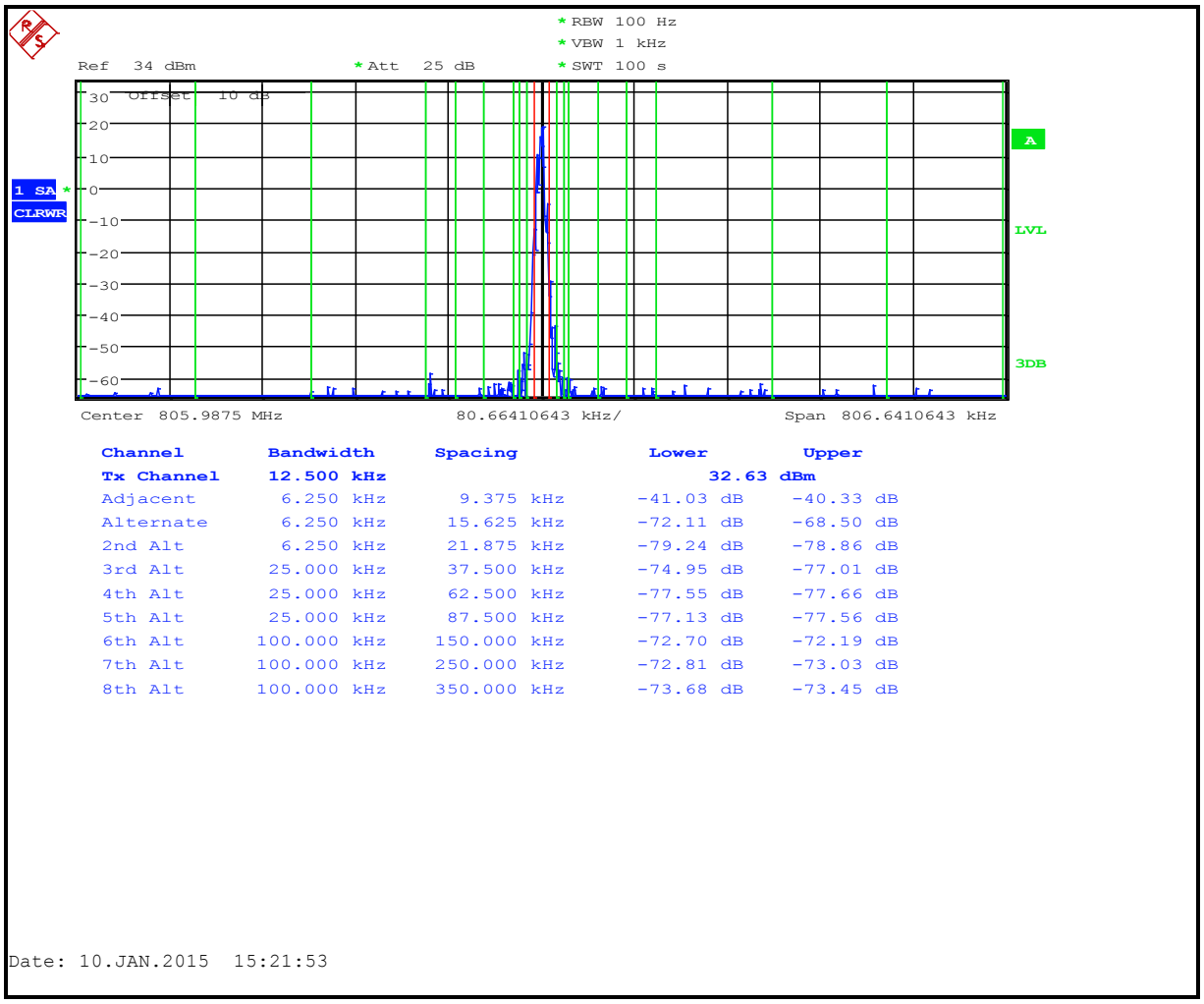


Table 6-40: Adjacent Channel Power – 805.9875 MHz; OTP Narrowband; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.0
12 MHz to receive band	30(s)	-75	-93.4
In receive band	30(s)	-100	-107.2

Plot 6-41: Adjacent Channel Power – 768.0125 MHz; P25; <400 kHz

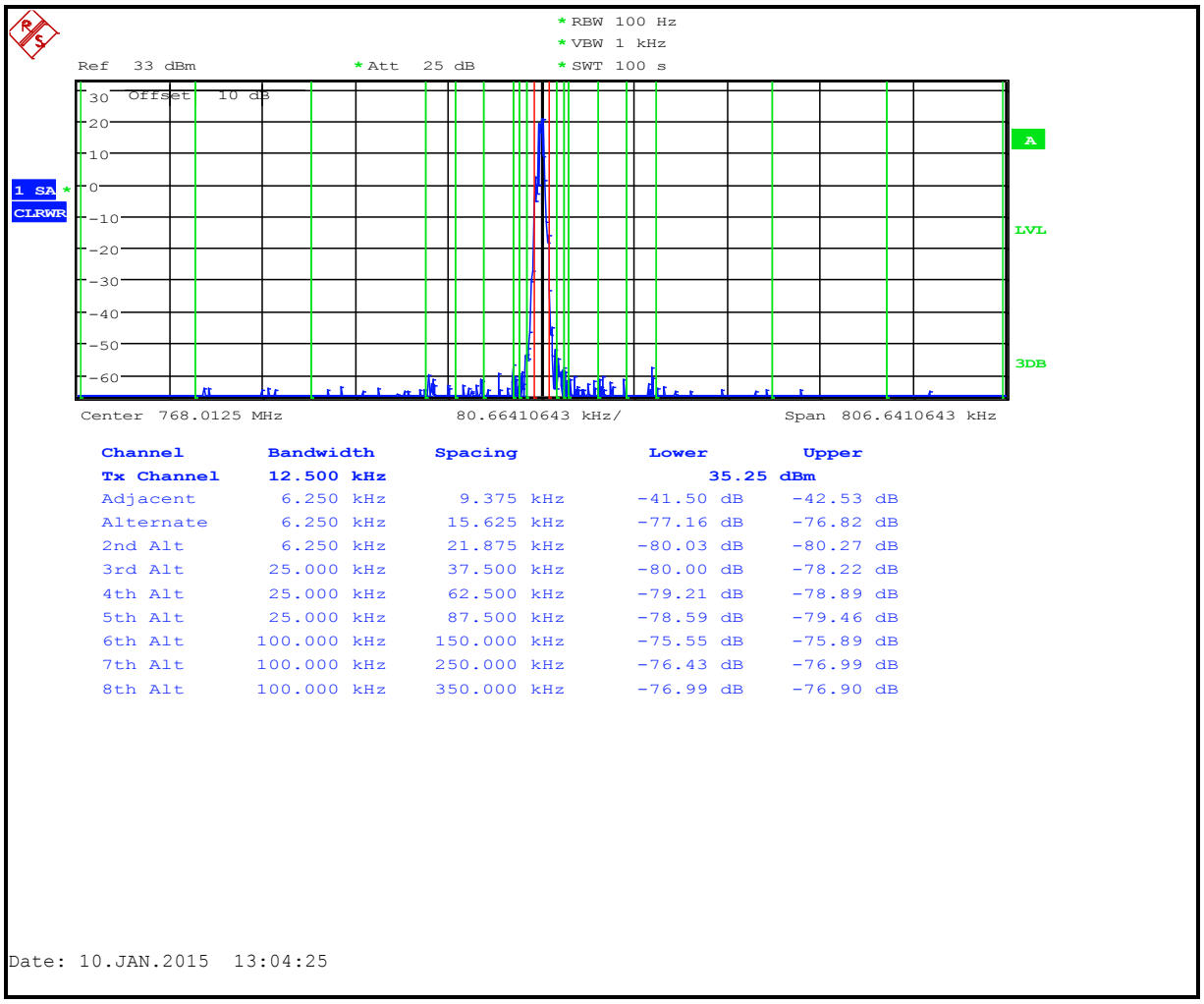


Table 6-41: Adjacent Channel Power – 768.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-86.1
12 MHz to receive band	30(s)	-75	-108.3
In receive band	30(s)	-100	-107.5

Plot 6-42: Adjacent Channel Power – 769.0125 MHz; P25; <400 kHz

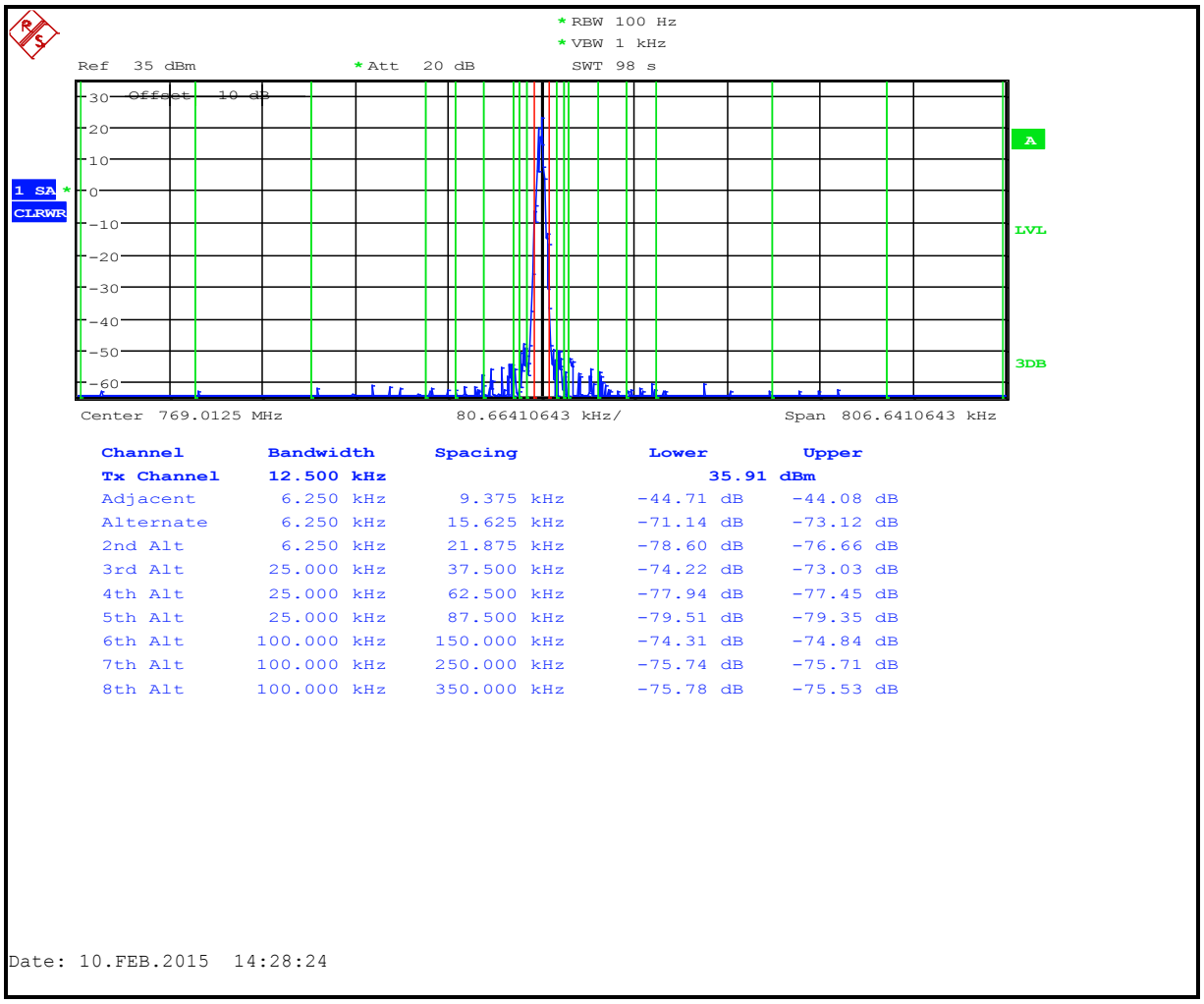


Table 6-42: Adjacent Channel Power – 769.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.6
12 MHz to receive band	30(s)	-75	-105.0
In receive band	30(s)	-100	-107.0

Plot 6-43: Adjacent Channel Power – 771.0125 MHz; P25; <400 kHz

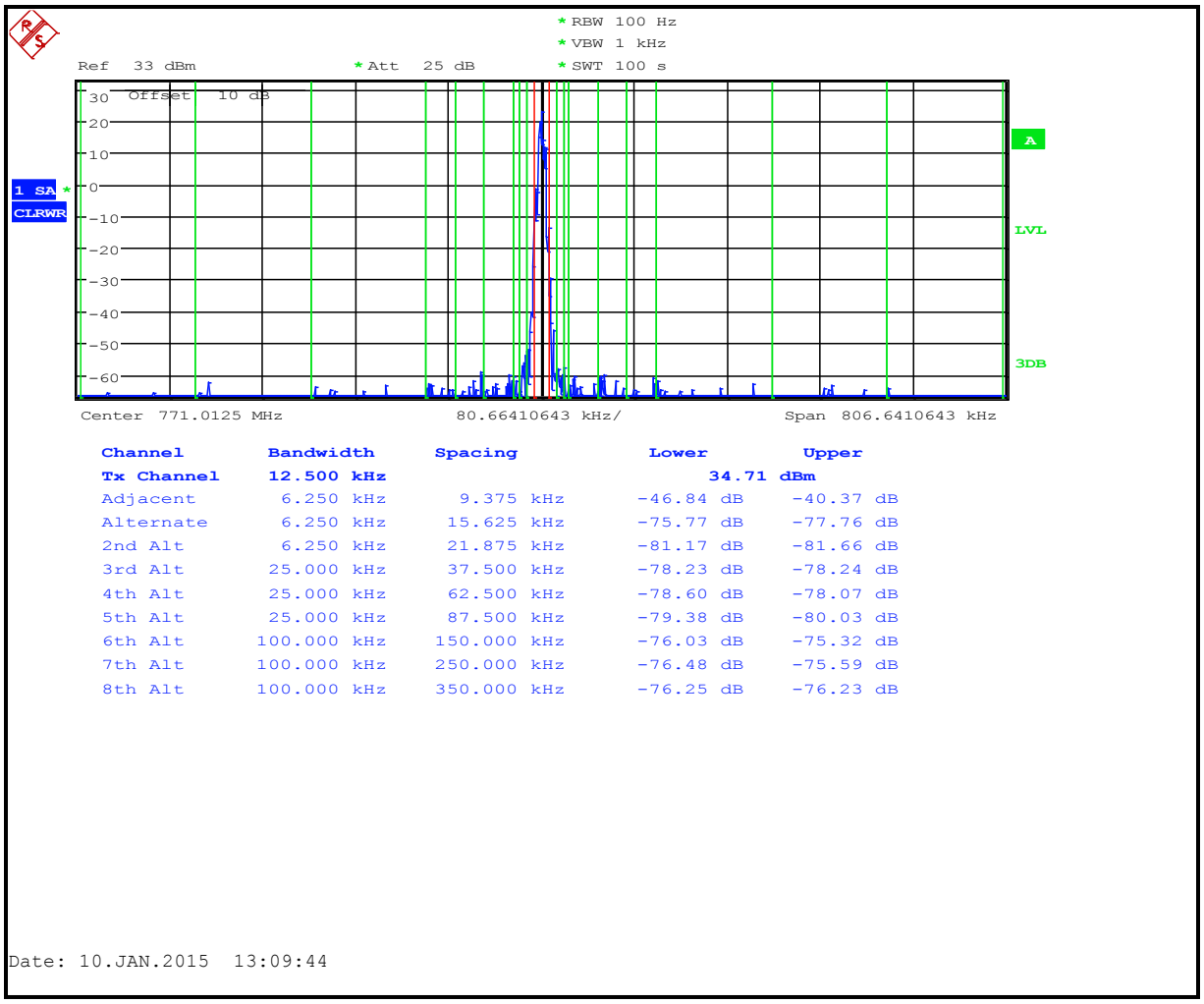


Table 6-43: Adjacent Channel Power – 771.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-82.6
12 MHz to receive band	30(s)	-75	-106.8
In receive band	30(s)	-100	-106.5

Plot 6-44: Adjacent Channel Power – 775.0125 MHz; P25; <400 kHz

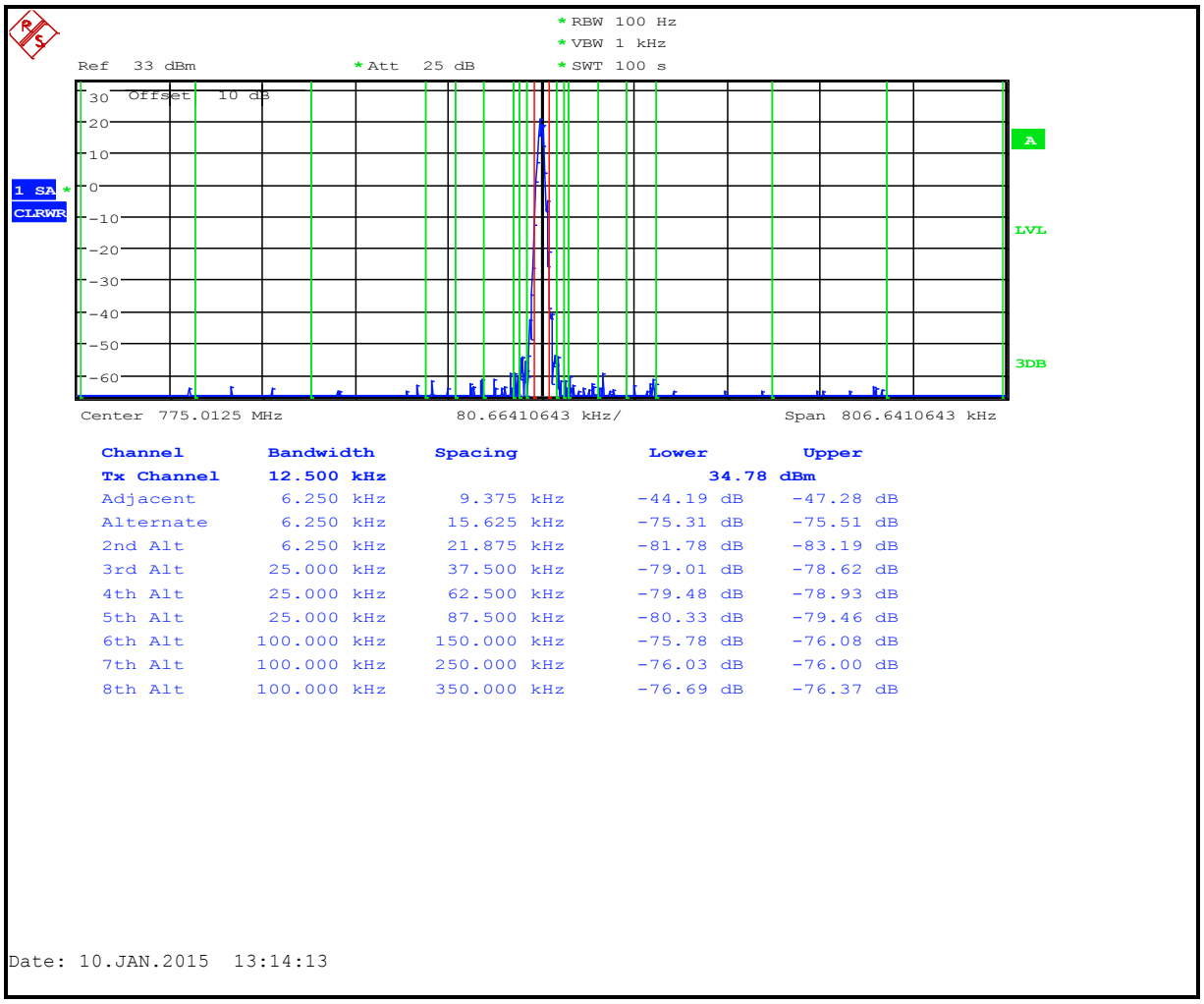


Table 6-44: Adjacent Channel Power – 775.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-77.2
12 MHz to receive band	30(s)	-75	-103.0
In receive band	30(s)	-100	-107.5

Plot 6-45: Adjacent Channel Power – 775.9875 MHz; P25; <400 kHz

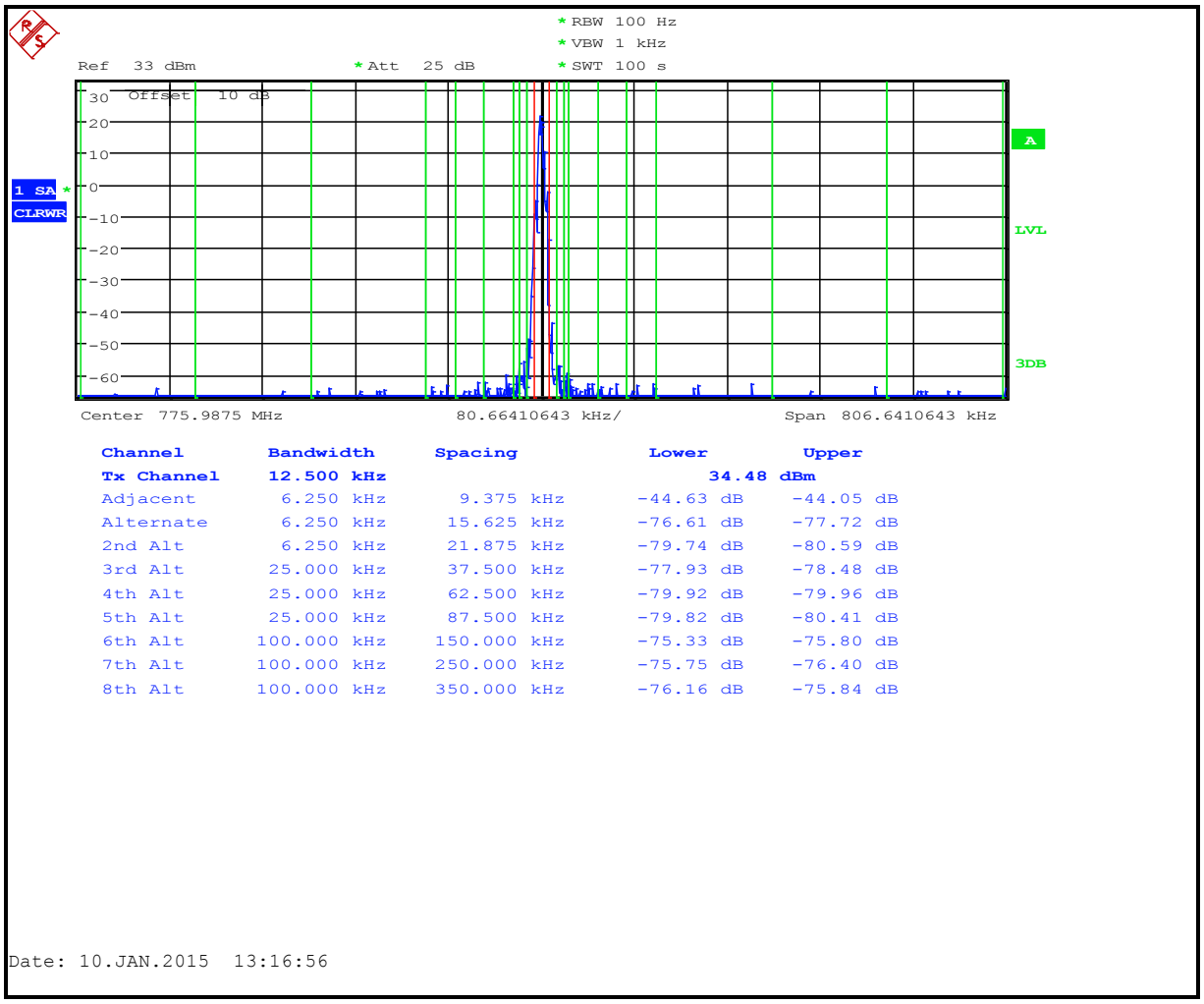


Table 6-45: Adjacent Channel Power – 775.9875 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.7
12 MHz to receive band	30(s)	-75	-101.2
In receive band	30(s)	-100	-106.1

Plot 6-46: Adjacent Channel Power – 798.0125 MHz; P25; <400 kHz

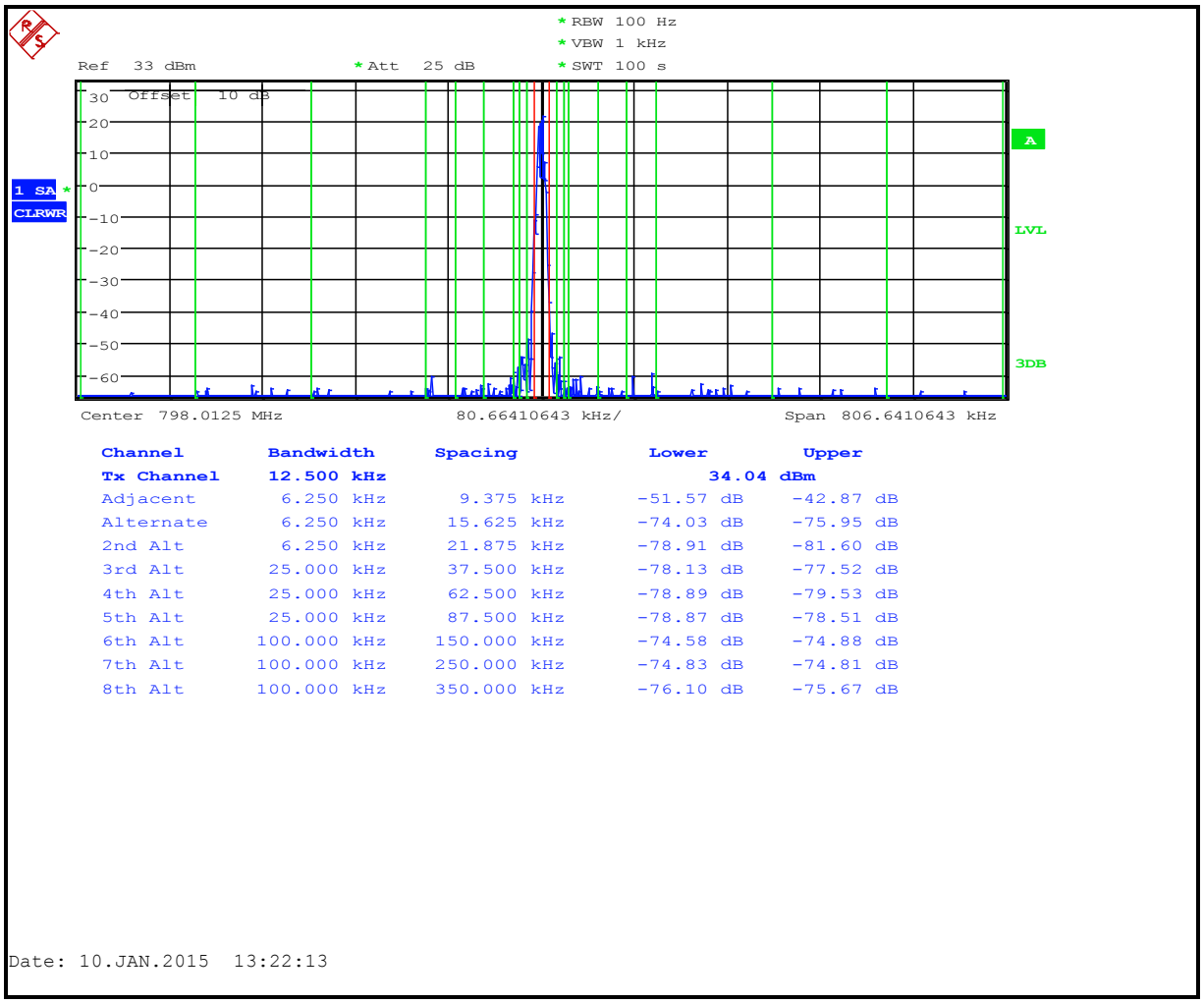


Table 6-46: Adjacent Channel Power – 798.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-78.6
12 MHz to receive band	30(s)	-75	-96.4
In receive band	30(s)	-100	-100.9

Plot 6-47: Adjacent Channel Power – 799.0125 MHz; P25; <400 kHz

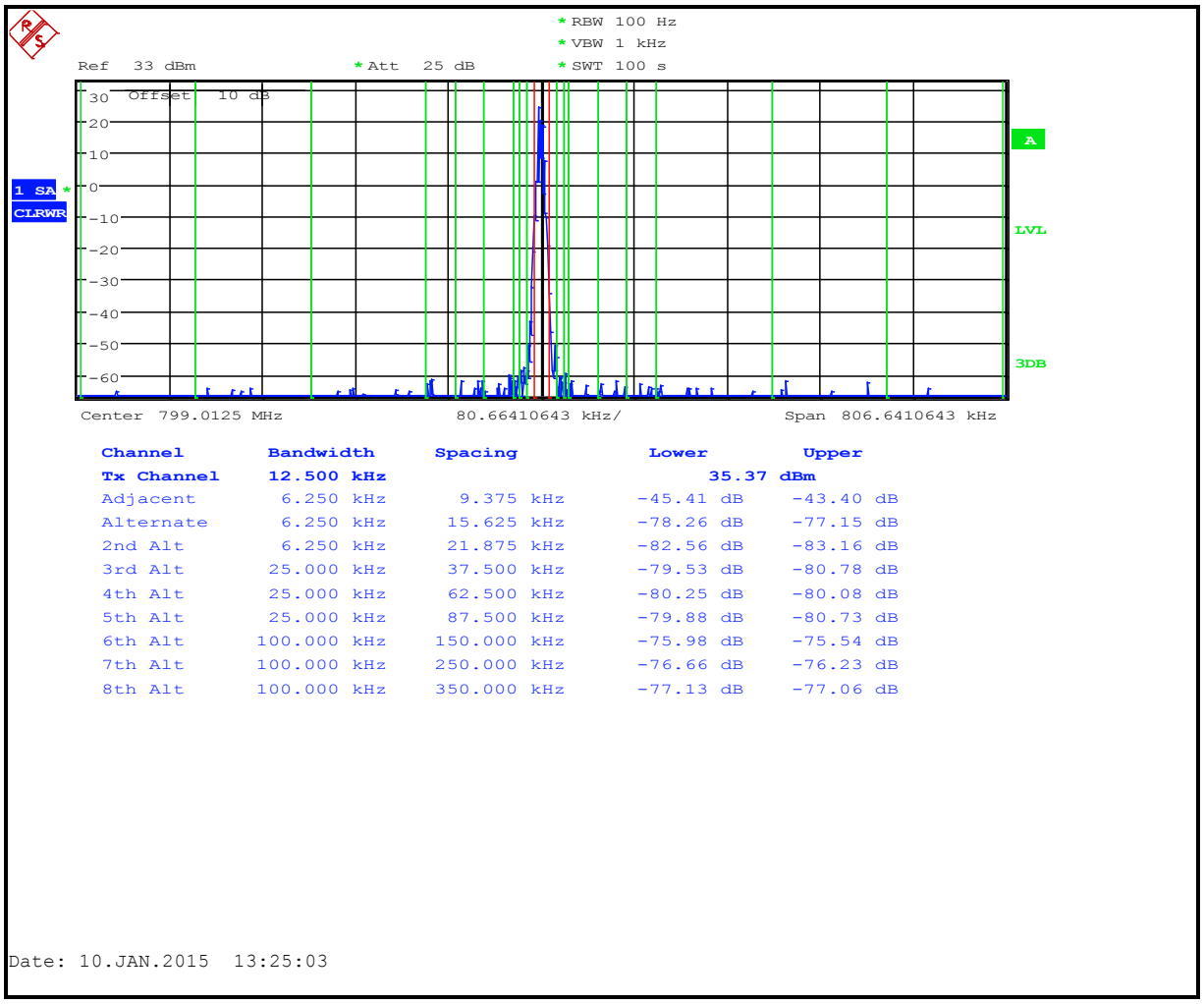


Table 6-47: Adjacent Channel Power – 799.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.6
12 MHz to receive band	30(s)	-75	-99.1
In receive band	30(s)	-100	-101.6

Plot 6-48: Adjacent Channel Power – 801.0125 MHz; P25; <400 kHz

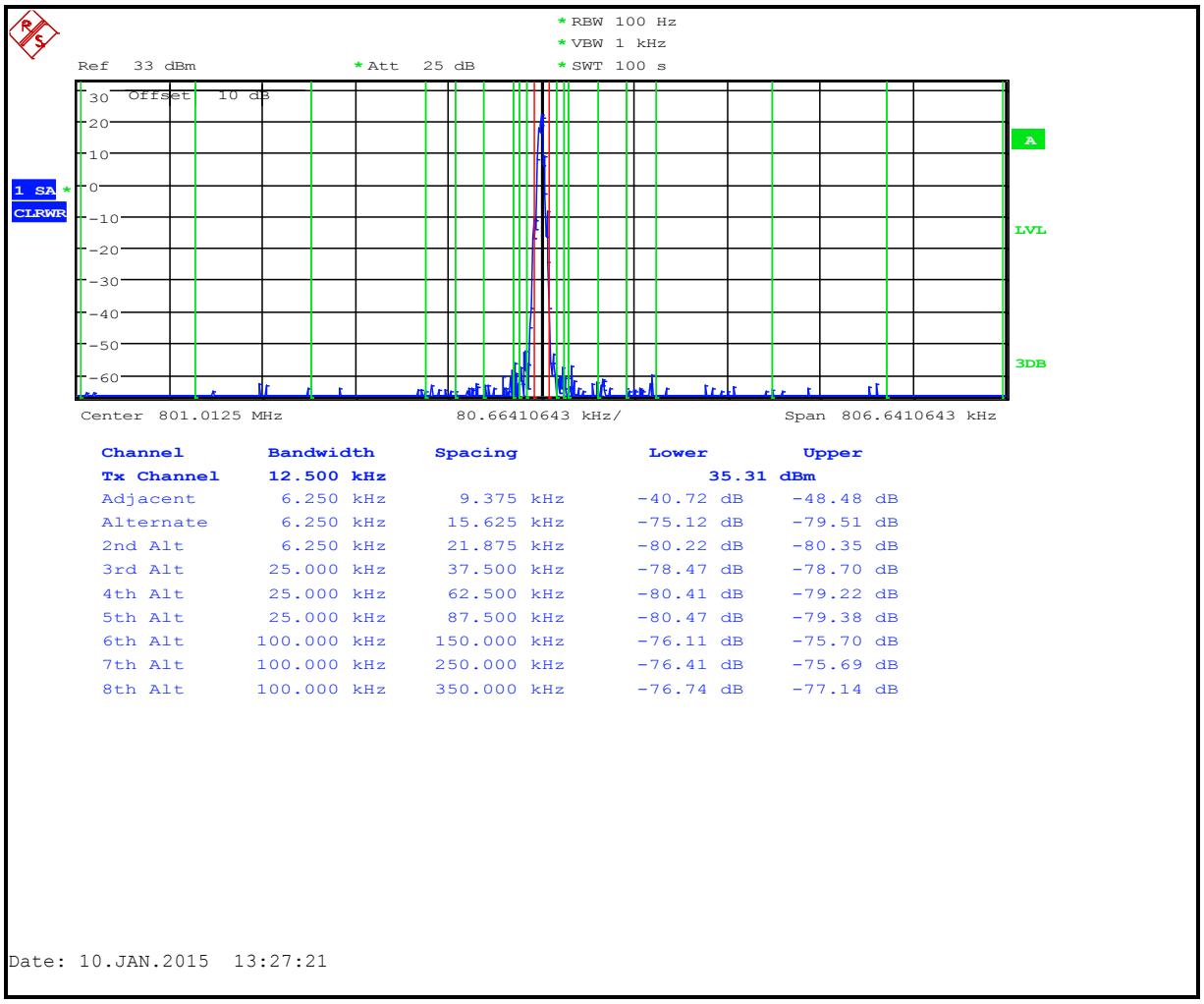


Table 6-48: Adjacent Channel Power – 801.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.9
12 MHz to receive band	30(s)	-75	-100.0
In receive band	30(s)	-100	-105.8

Plot 6-49: Adjacent Channel Power – 805.0125 MHz; P25; <400 kHz

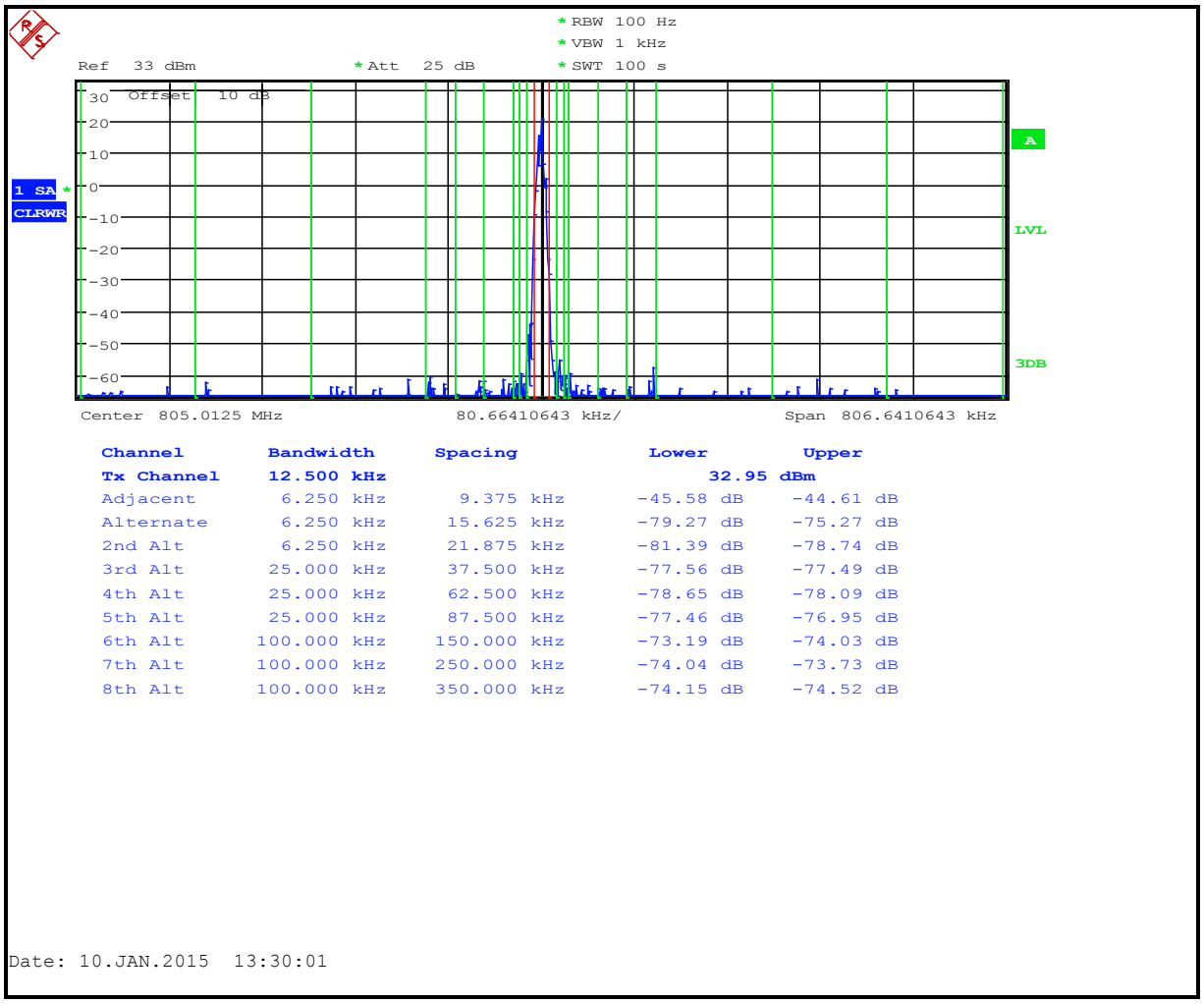


Table 6-49: Adjacent Channel Power – 805.0125 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.9
12 MHz to receive band	30(s)	-75	-96.5
In receive band	30(s)	-100	-107.4

Plot 6-50: Adjacent Channel Power – 805.9875 MHz; P25; <400 kHz

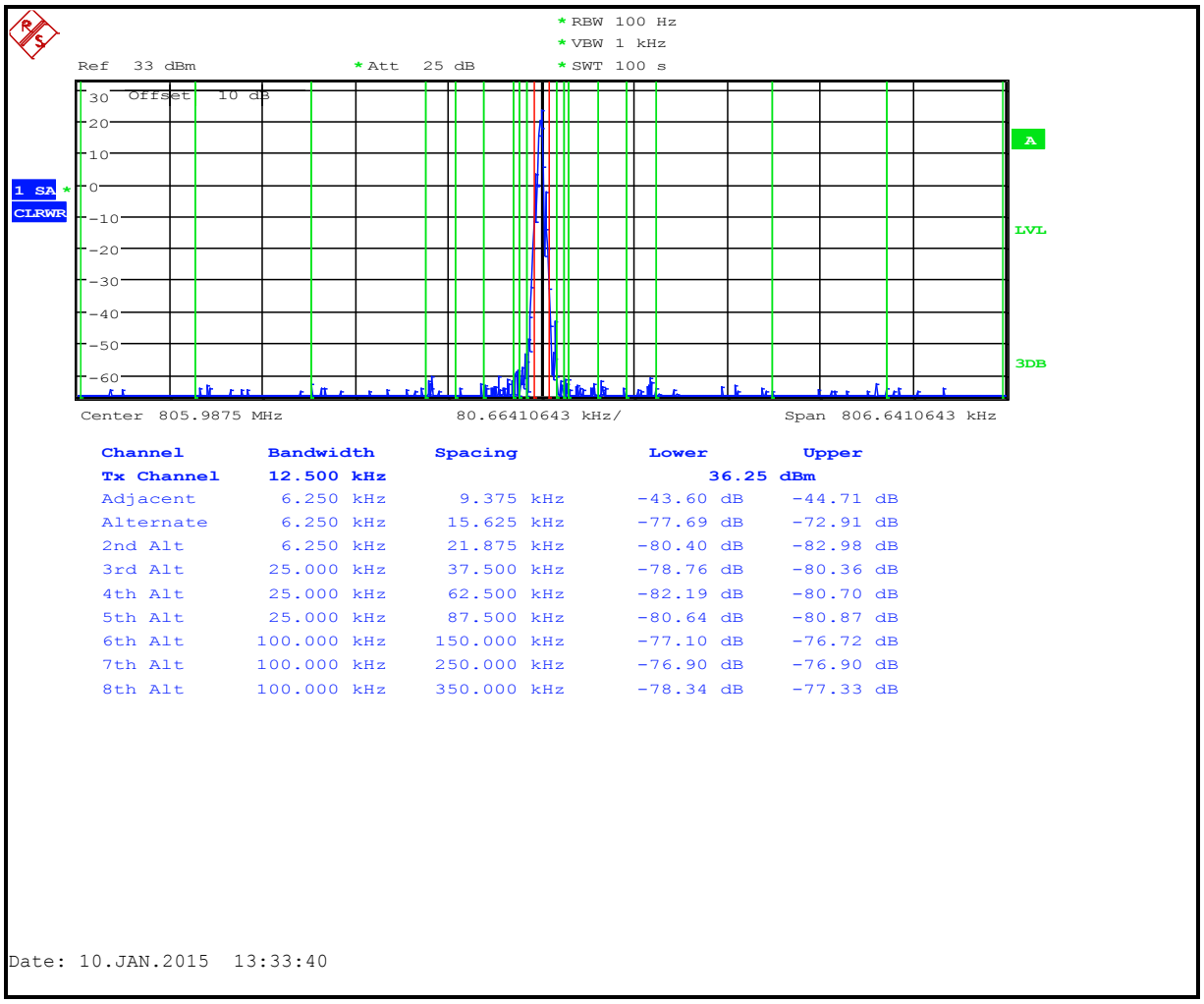


Table 6-50: Adjacent Channel Power – 805.9875 MHz; P25; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.2
12 MHz to receive band	30(s)	-75	-95.8
In receive band	30(s)	-100	-106.8

Plot 6-51: Adjacent Channel Power – 768.0125 MHz; P25 Phase 2; <400 kHz

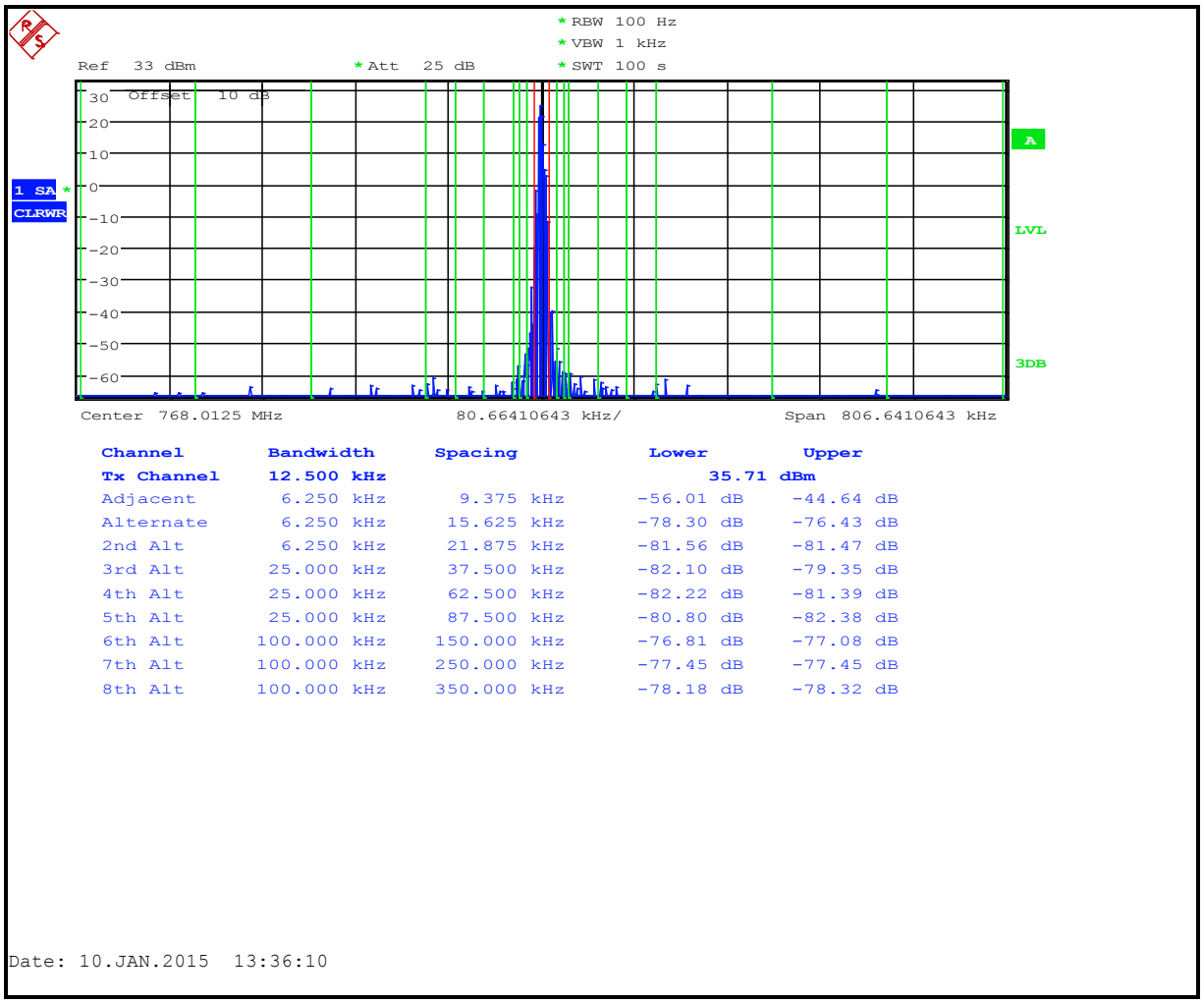


Table 6-51: Adjacent Channel Power – 768.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-87.3
12 MHz to receive band	30(s)	-75	-108.6
In receive band	30(s)	-100	-107.8

Plot 6-52: Adjacent Channel Power – 769.0125 MHz; P25 Phase 2; <400 kHz

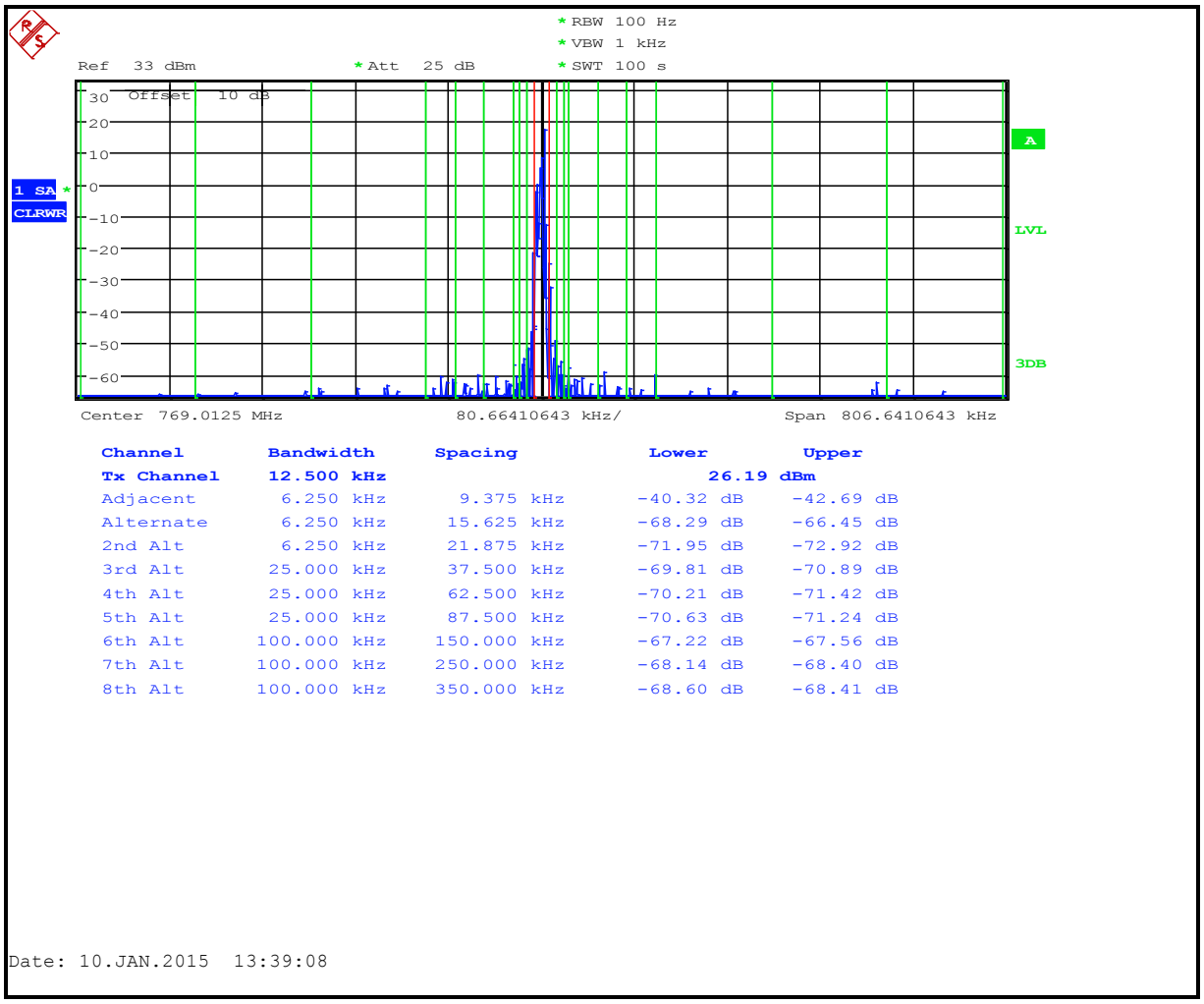


Table 6-52: Adjacent Channel Power – 769.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-79.5
12 MHz to receive band	30(s)	-75	-105.1
In receive band	30(s)	-100	-108.7

Plot 6-53: Adjacent Channel Power – 771.0125 MHz; P25 Phase 2; <400 kHz

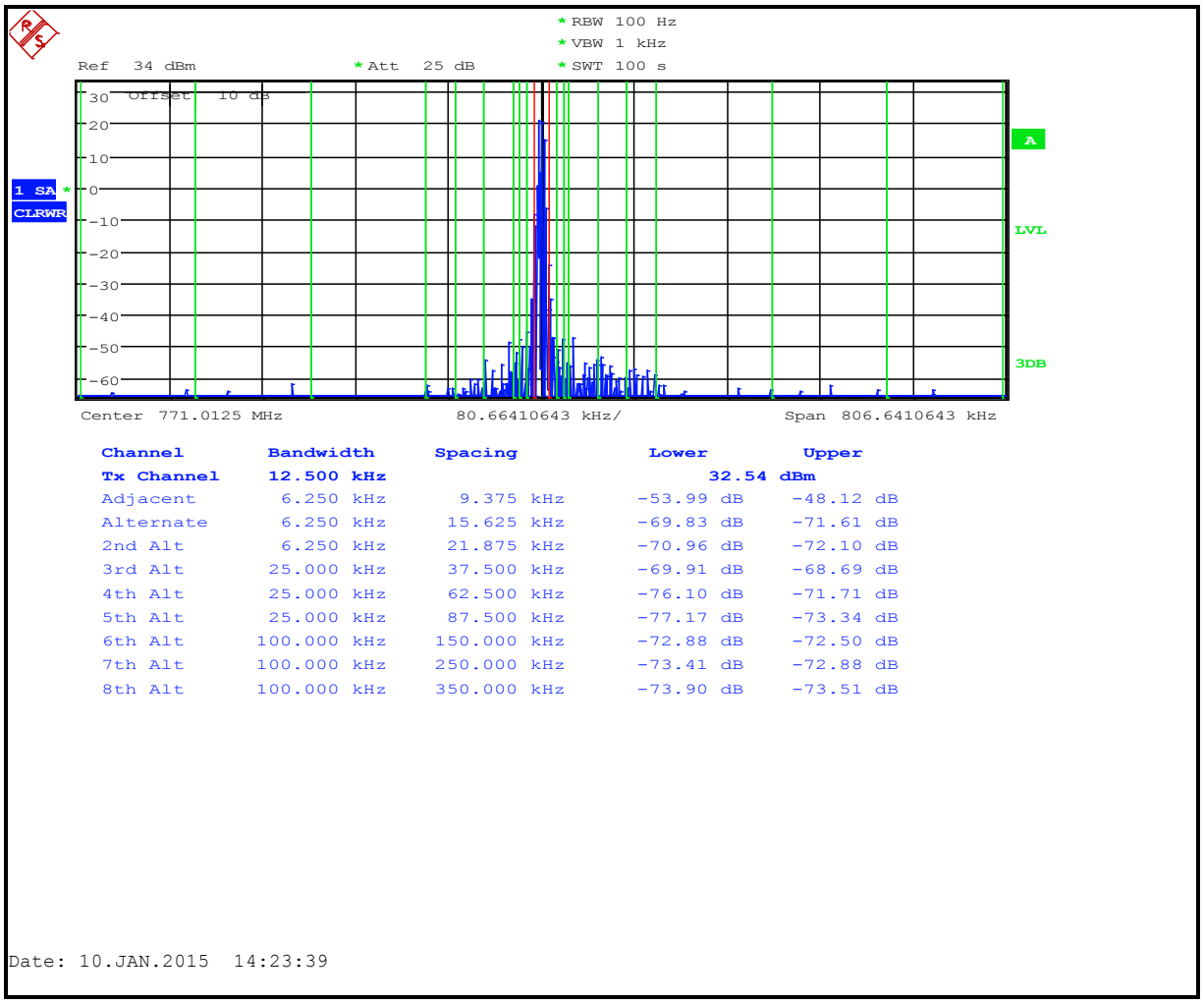


Table 6-53: Adjacent Channel Power – 771.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.1
12 MHz to receive band	30(s)	-75	-106.1
In receive band	30(s)	-100	-107.2

Plot 6-54: Adjacent Channel Power – 775.0125 MHz; P25 Phase 2; <400 kHz

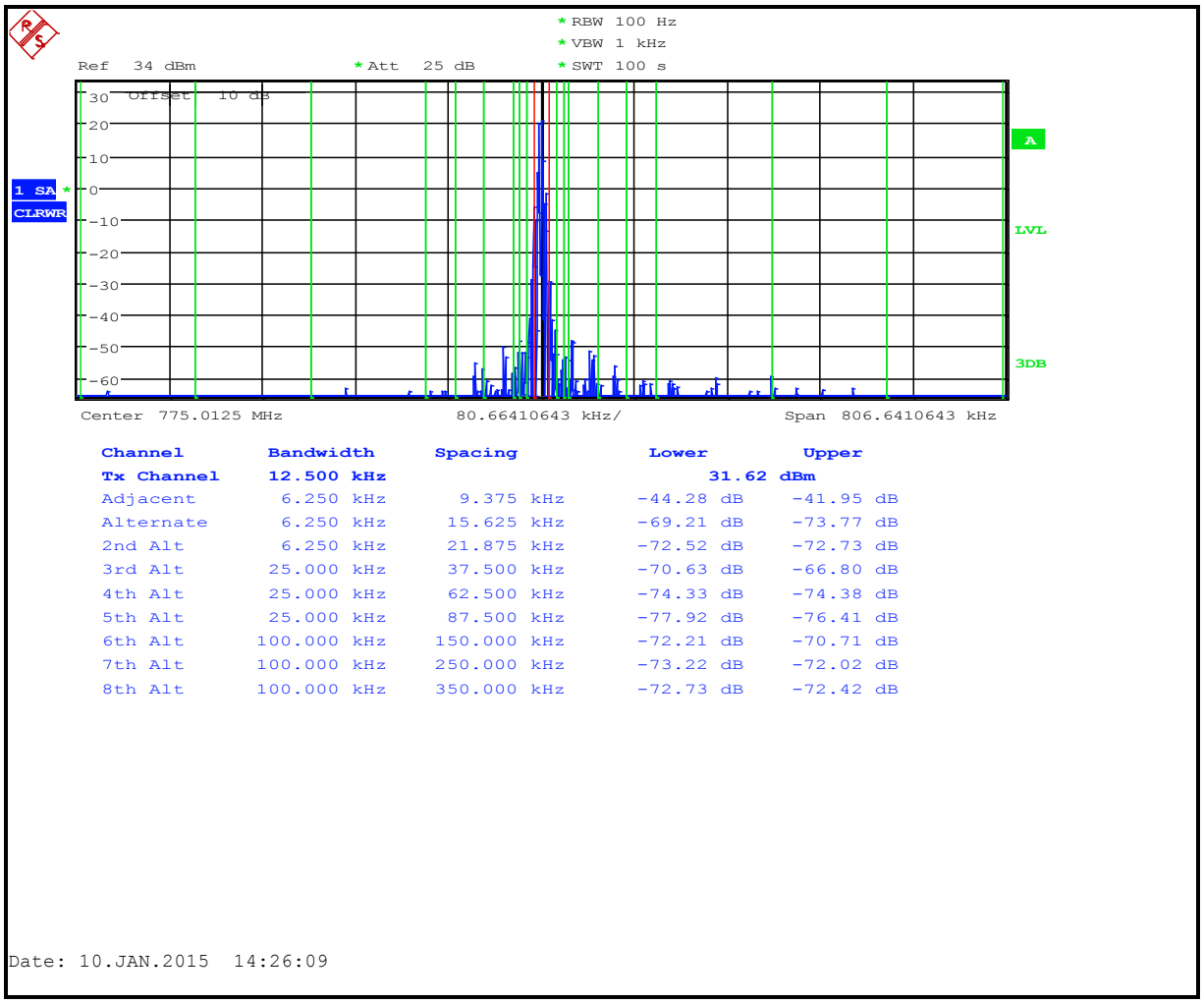


Table 6-54: Adjacent Channel Power – 775.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.5
12 MHz to receive band	30(s)	-75	-101.9
In receive band	30(s)	-100	-105.4

Plot 6-55: Adjacent Channel Power – 775.9875 MHz; P25 Phase 2; <400 kHz

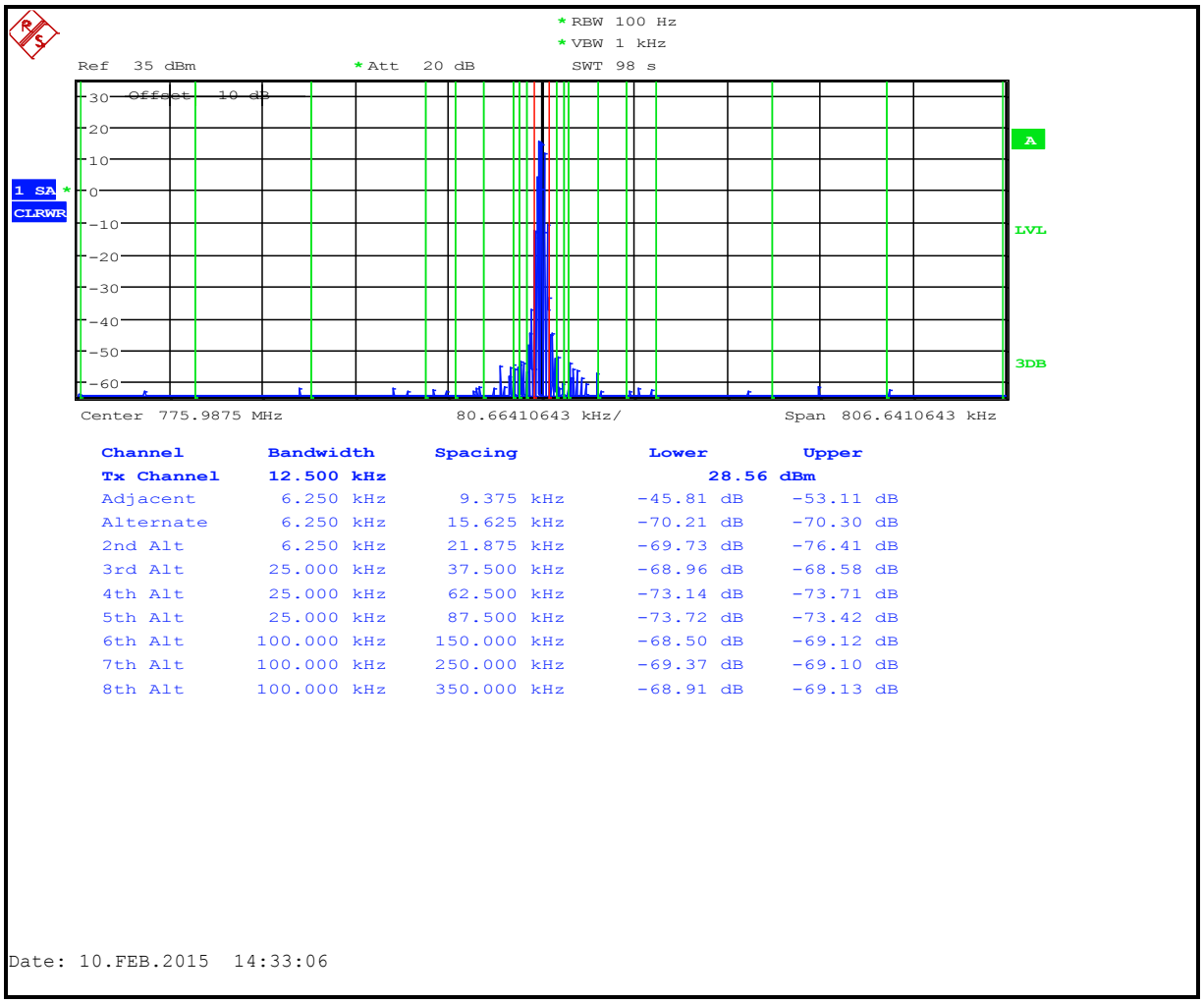


Table 6-55: Adjacent Channel Power – 775.9875 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.6
12 MHz to receive band	30(s)	-75	-100.1
In receive band	30(s)	-100	-105.2

Plot 6-56: Adjacent Channel Power – 798.0125 MHz; P25 Phase 2; <400 kHz

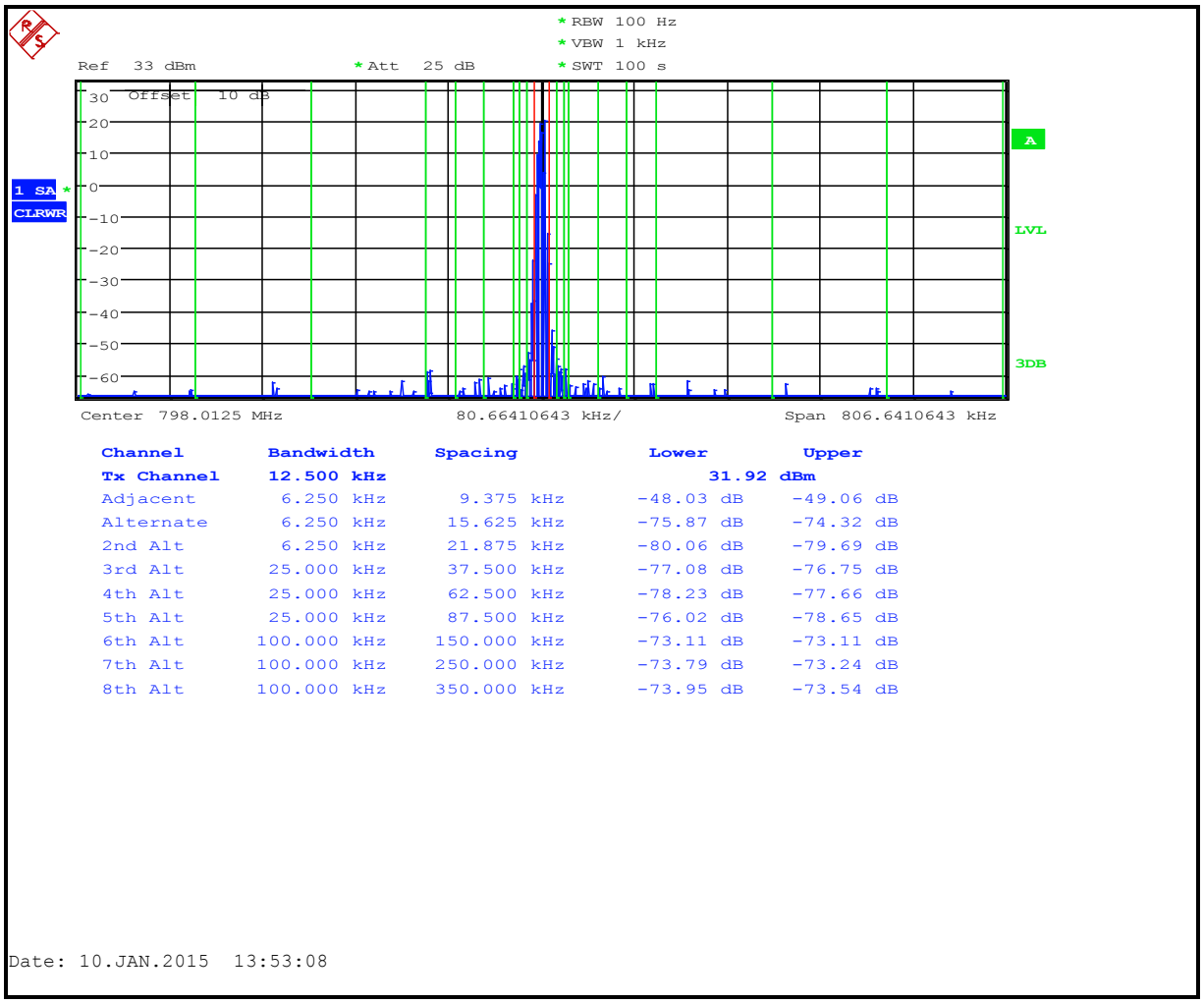


Table 6-56: Adjacent Channel Power – 798.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-80.6
12 MHz to receive band	30(s)	-75	-101.4
In receive band	30(s)	-100	-101.7

Plot 6-57: Adjacent Channel Power – 799.0125 MHz; P25 Phase 2; <400 kHz

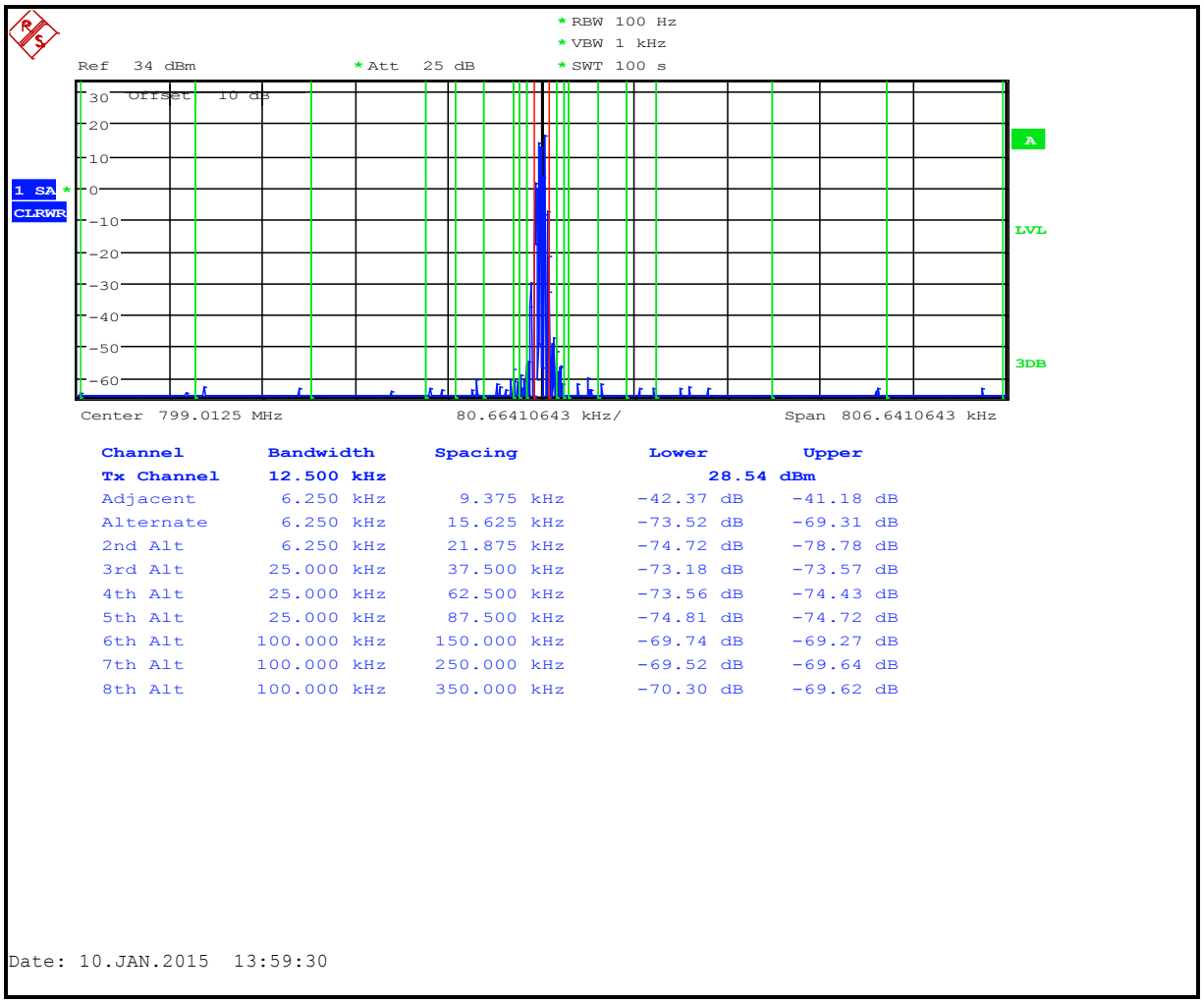


Table 6-57: Adjacent Channel Power – 799.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.4
12 MHz to receive band	30(s)	-75	-99.1
In receive band	30(s)	-100	-103.0

Plot 6-58: Adjacent Channel Power – 801.0125 MHz; P25 Phase 2; <400 kHz

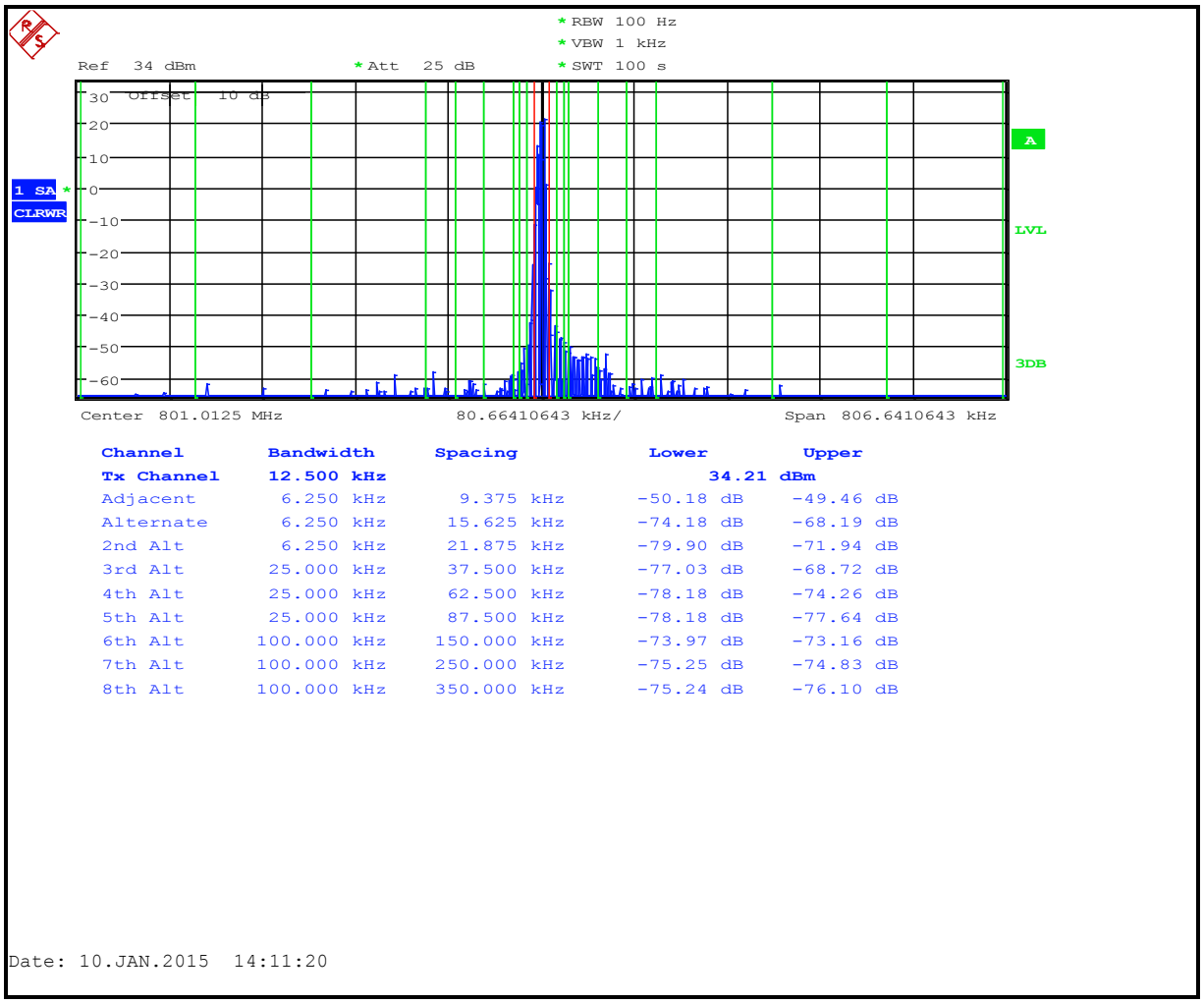


Table 6-58: Adjacent Channel Power – 801.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-83.1
12 MHz to receive band	30(s)	-75	-100.4
In receive band	30(s)	-100	-106.0

Plot 6-59: Adjacent Channel Power – 805.0125 MHz; P25 Phase 2; <400 kHz

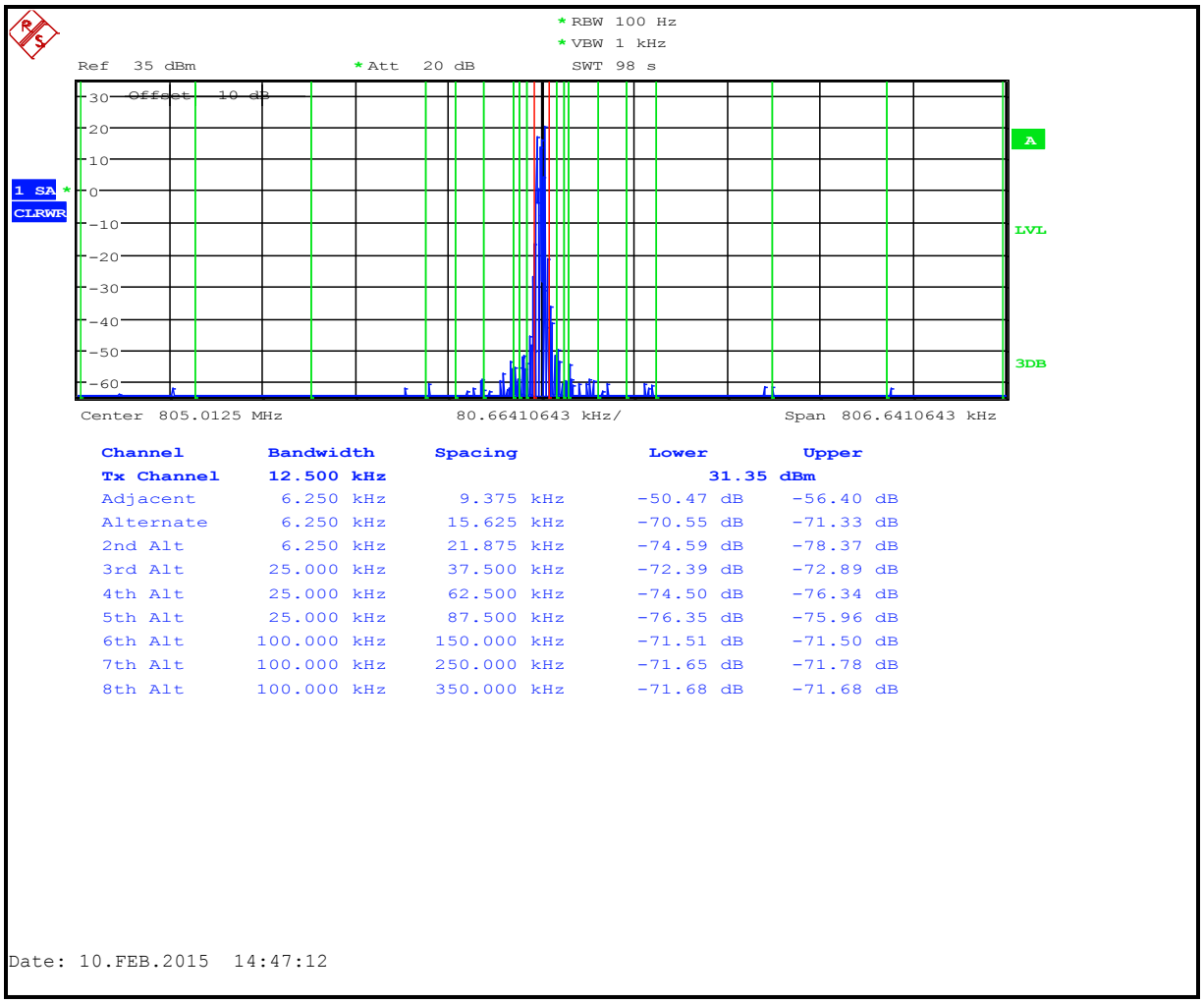


Table 6-59: Adjacent Channel Power – 805.0125 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.7
12 MHz to receive band	30(s)	-75	-96.2
In receive band	30(s)	-100	-107.7

Plot 6-60: Adjacent Channel Power – 805.9875 MHz; P25 Phase 2; <400 kHz

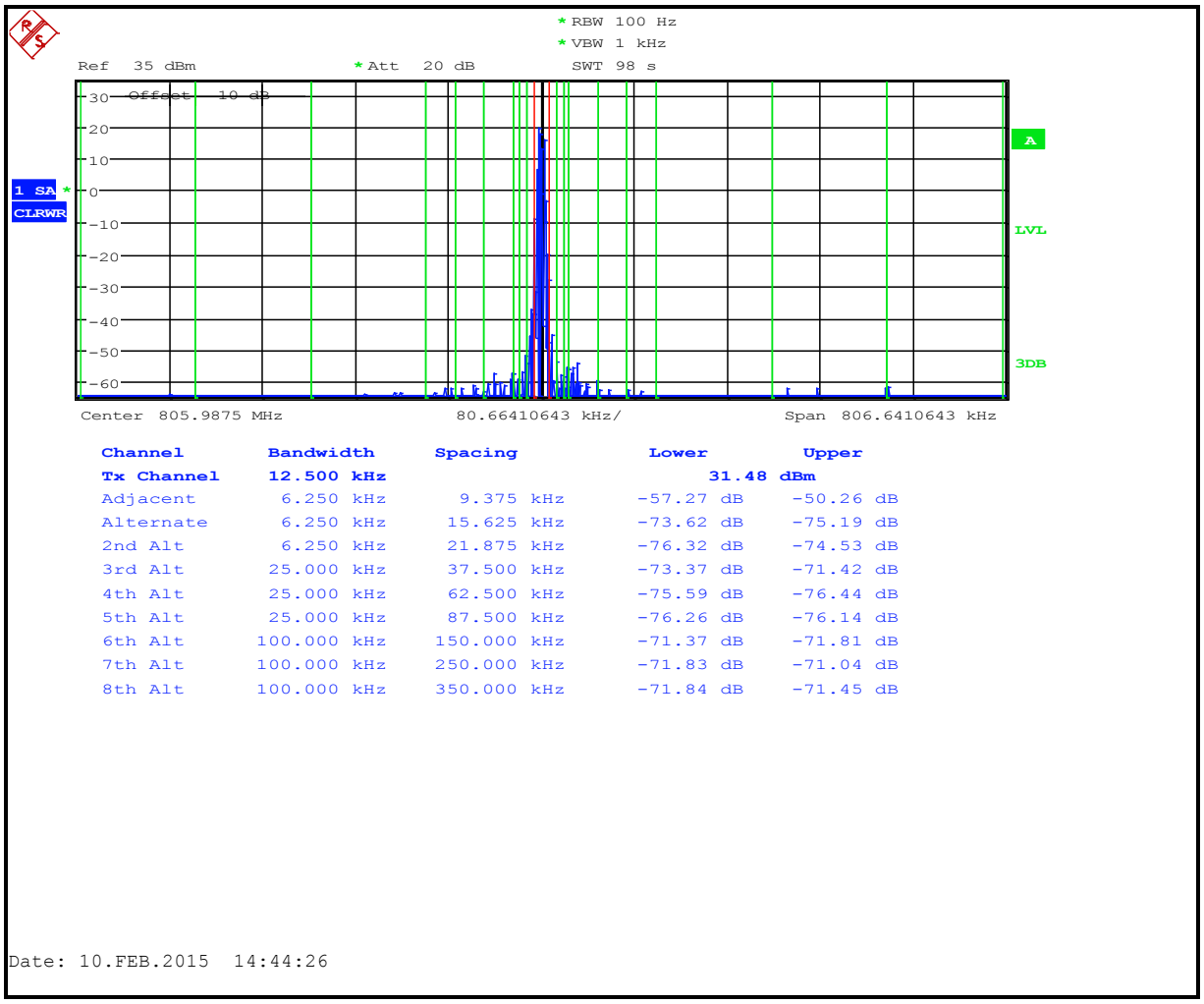


Table 6-60: Adjacent Channel Power – 805.9875 MHz; P25 Phase 2; 400 kHz – RX band

Offset from Center Frequency (kHz)	Measurement BW (kHz)	Max ACP (dBc)	Max ACP (dBc)
>400 to 12 MHz	30(s)	-75	-81.0
12 MHz to receive band	30(s)	-75	-94.8
In receive band	30(s)	-100	-105.2

Table 6-61: 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
900948	Weinschel Corporation	47-10-43	Attenuator DC-18 GHz 10 dB 50W	BH1487	6/16/15
900819	Weinschel Corporation	2	10 dB Attenuator; 5 W	BF0830	7/1/15
901139	Weinschel Corporation	48-20-34 DC-18GHz	Attenuator, 100W 20dB	BK5859	3/25/16

Test Personnel:

Daniel Baltzell		January 9-10 & February 10, 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

7.1 Test Procedure

TIA-603-D 2010, section 2.2.12

Analog Modulation: The transmitter is terminated with a 50 Ω load and is modulated with a 2,500 Hz sine wave at an input level 16 dB greater than that required to produce 50% of the rated system deviation at 1,000 Hz.

Device with digital modulation: Modulated to its maximum extent using a pseudo-random data sequence – 19,200 bps for OTP and 9,600 bps for P25 and EDACS modes.

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 dBW for the GNSS band and compared to the limit.

For emissions in the 1559-1610 band, Part 15.543(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

7.2.1 CFR 47 Part 90.210 Requirements

The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

The following emissions were found to be within a 20 dB margin of the limit. All other emissions are not listed.

Table 7-1: Field Strength of Spurious Radiation - 378.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
756.025	41.5	-31.4	0.2	0.9	68.3	-10.8

Table 7-2: Field Strength of Spurious Radiation - 406.1000 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
812.2	38.2	-35.9	0.3	0.6	73.1	-15.6
1218.3	43.2	-30.3	0.3	6.6	61.5	-4.0

Table 7-3: Field Strength of Spurious Radiation - 418.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
836.025	47.3	-27.3	0.3	0.7	64.4	-6.9

Table 7-4: Field Strength of Spurious Radiation - 430.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
860.025	42.1	-32.4	0.3	0.0	70.1	-12.6

Table 7-5: Field Strength of Spurious Radiation - 450.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
900.025	45.4	-28.7	0.3	0.7	65.8	-8.3

Table 7-6: Field Strength of Spurious Radiation - 454.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
908.025	43.9	-30.0	0.3	0.9	66.9	-9.4

Table 7-7: Field Strength of Spurious Radiation - 456.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
912.025	45.4	-28.6	0.3	0.9	65.5	-8.0

Table 7-8: Field Strength of Spurious Radiation - 459.0250 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
918.05	42.8	-31.3	0.3	1.0	68.1	-10.6

Table 7-9: Field Strength of Spurious Radiation - 459.9750 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
919.95	44.5	-29.6	0.3	1.0	66.4	-8.9

Table 7-10: Field Strength of Spurious Radiation - 470.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
940.025	43.0	-30.8	0.3	1.1	67.5	-10.0

Table 7-11: Field Strength of Spurious Radiation – 806.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2418.038	41.7	-34.7	0.5	9.5	69.6	-14.7

Table 7-12: Field Strength of Spurious Radiation – 815 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2445.000	31.6	-46.8	0.5	9.5	72.8	-17.8

Table 7-13: Field Strength of Spurious Radiation – 823.9875 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2471.963	34.6	-41.8	0.5	9.5	67.8	-12.8

Table 7-14: Field Strength of Spurious Radiation – 851.0125 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2553.038	31.0	-45.2	0.5	9.5	71.2	-16.2

Table 7-15: Field Strength of Spurious Radiation – 860 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2580.000	33.2	-45.3	0.5	9.6	71.1	-16.2

Table 7-16: Field Strength of Spurious Radiation – 868.9875 MHz

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Substitution Measurement (dBm)	Substitution Cable Loss (dB)	Substitution Antenna Gain (dBi)	Corrected Signal Generator Level (dBd)	Margin (dB)
2606.963	35.7	-42.3	0.5	9.6	68.1	-13.2

7.2.2 CFR 47 Part 90.543(f) Requirements

The worst-case emissions test data are shown.

Limit: -80 dBW EIRP for discrete emissions

Table 7-17: Field Strength of Spurious Radiation

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Signal Generator Level (dBm)	Cable Loss to Transmit Antenna (dB)	Antenna Gain (dBi)	Corrected Signal Generator Level (dBW)	Margin (dB)
1536.025	25.6	-48.6	0.4	8.0	-71.0	-1.0
1538.025	22.8	-51.8	0.4	8.0	-74.2	-4.2
1542.025	23.5	-50.7	0.4	8.1	-73.0	-3.0
1596.025	23.1	-52.0	0.4	8.8	-73.6	-3.6
1598.025	26.1	-48.8	0.4	8.9	-70.3	-0.3
1602.025	22.0	-52.8	0.4	8.9	-74.3	-4.3

Table 7-18: Test Equipment Used for Testing Field Strength of Spurious Radiation

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900932	Hewlett Packard	8449B OPT H02	Preamplifier (1 - 26.5 GHz)	3008A00505	9/10/16
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	9/4/16
901593	Insulated Wire Inc.	KPS-1503-360-KPR	SMK RF Cables 36”	NA	9/4/16
901594	Insulated Wire Inc.	KPS-1503-360-KPR	SMK RF Cables 36”	NA	9/4/16
901242	Rhein Tech Laboratories	WRT-000-0003	Wood rotating table	N/A	N/A
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	11/13/16
901582	Rohde & Schwarz	1167.0000.02	Signal Generator	101903	11/14/16
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	4/9/18
900323	EMCO	3160-07	Horn Antennas (8.2 – 12 GHz)	9605-1054	4/9/18
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/9/18
901132	Par Electronics	806-902 (25W)	UHF Notch Filter	N/A	9/16/16
901133	Par Electronics	806-902 (25W)	UHF Notch Filter	N/A	9/16/16

Test Personnel:

Daniel Baltzell		January 13-February 9, 2015, January 12, 2016
Test Engineer	Signature	Dates of Tests