



Test Report: 4W34616.1

Applicant: Dekolink Wireless Ltd.
16 Bazel St. Qiryat Arie
Petah Tikva, Israel
49510

**Equipment Under Test:
(EUT)** MW-CBDA-SMR-800-900-1W80A

FCC ID: OIWCBDA8009001W80

In Accordance With: **FCC Part 90, Subpart I**
Private Land Mobile Repeater

Tested By: Nemko Canada Inc.
303 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

A handwritten signature in blue ink, appearing to read 'Glen Westwell'.

Authorized By:

Glen Westwell, Wireless Technologist

Date: 21 January 2005

Total Number of Pages: 38

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

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EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 90, Subpart I.



New Submission



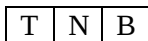
Production Unit



Class II Permissive Change



Pre-Production Unit



Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST
SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".



TESTED BY: _____ DATE: 21 January 2005
Jason Nixon, Telecom Specialist

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This report applies only to the items tested.

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	TIA EIA-603.3.2.6	N/A (1)
Audio Low-Pass Filter Response	TIA EIA-603.3.2.6	N/A (1)
Modulation Limiting	TIA EIA-603.3.2.6	N/A (1)
Occupied Bandwidth	2.1049	Complies
Spurious Emissions at Antenna Terminals	2.1051	Complies
Field Strength of Spurious Emissions	2.1053	Complies
Frequency Stability	2.1055	N/A (2)
Transient Frequency Behavior	—	

Footnotes For N/A's:

1. The apparatus does not modulate or demodulate the carrier and therefore does not contain any modulation circuitry.
2. The apparatus does not perform any frequency translation.

Indoor Temperature: 22°C
 Humidity: 12%

Outdoor Temperature: 12°C
 Humidity: 73%

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 2. General Equipment Specification

Manufacturer:	Dekolink Wireless Ltd.
Model No.:	MW-CBDA-SMR-800-900-1W80A
Serial No.:	0411D9030
Date Received In Laboratory:	November 30, 2004
Nemko Identification No.:	3
Supply Voltage Input:	110/220VAC, 50/60Hz
Frequency Range:	UpLink: 806-824 MHz 896-902 MHz DownLink: 851-869 MHz 935-941 MHz
Type(s) of Modulation:	iDEN(QAM), FSK
RF Power Output (rated):	UpLink: 0.3Watts, +24dBm DownLink: 0.3Watts, +24dBm
Emission Designator:	GXW (iDEN), F1D (FSK)

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 3. RF Power Output**Para. No.: 2.1046**

Test Performed By: Jason Nixon	Date of Test: January 12, 2005
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Minimum Standard: Para. No. 90.205(a).**Test Results:** Complies**Measurement Data:**

The power levels were measured at maximum input drive and gain. This device uses AGC to prevent saturation or over modulation.

UpLink

Channel Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)
806	23.41	24
815	23.15	24
824	23.67	24
896	23.70	24
899	24.00	24
902	23.48	24

DownLink

Channel Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)
851	23.96	24
860	23.82	24
869	23.56	24
935	23.71	24
938	23.99	24
941	23.85	24

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 7. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Jason Nixon	Date of Test: January 6, 2005
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Minimum Standard: Para. No. 90.210

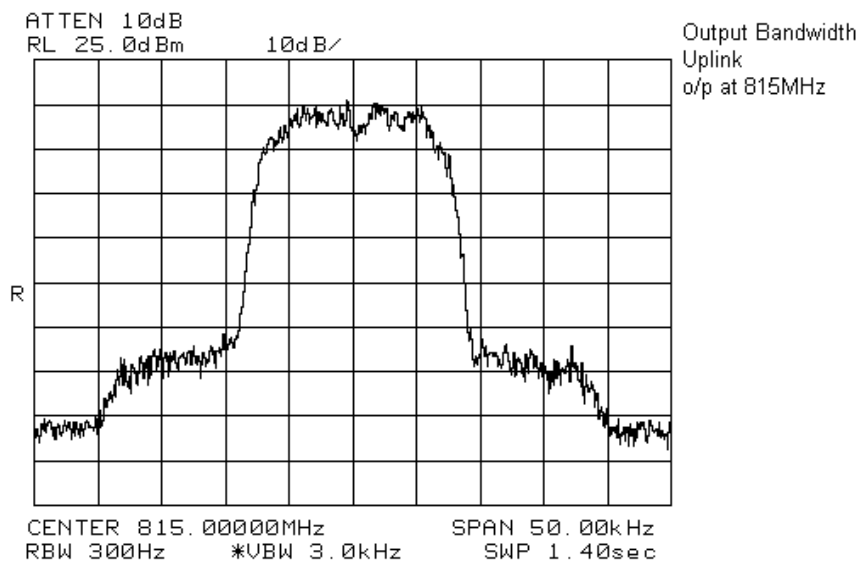
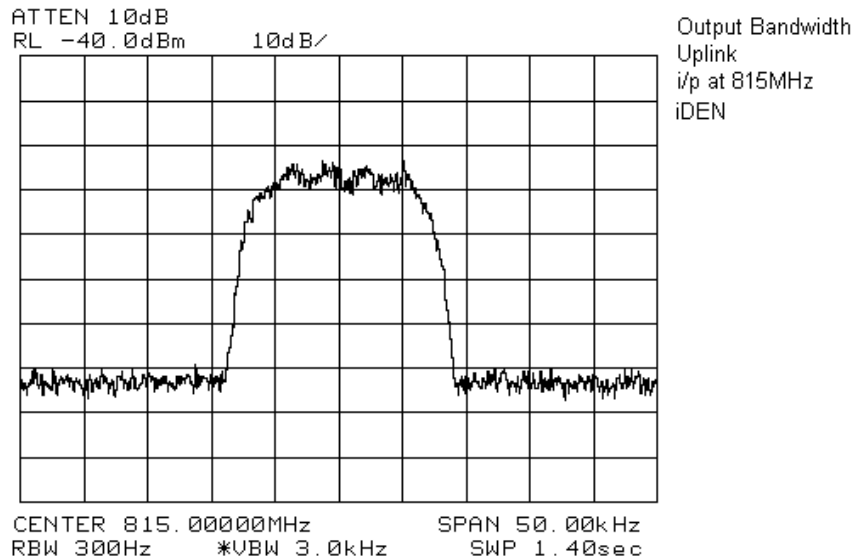
Test Results: Complies

Measurement Data: See attached graph(s).

The occupied bandwidth was measured by comparison of input from the signal generator to the output signal from the amplifier. This was done in order to determine if there was any degradation to the output signal due to the amplification and conversion through the repeater.

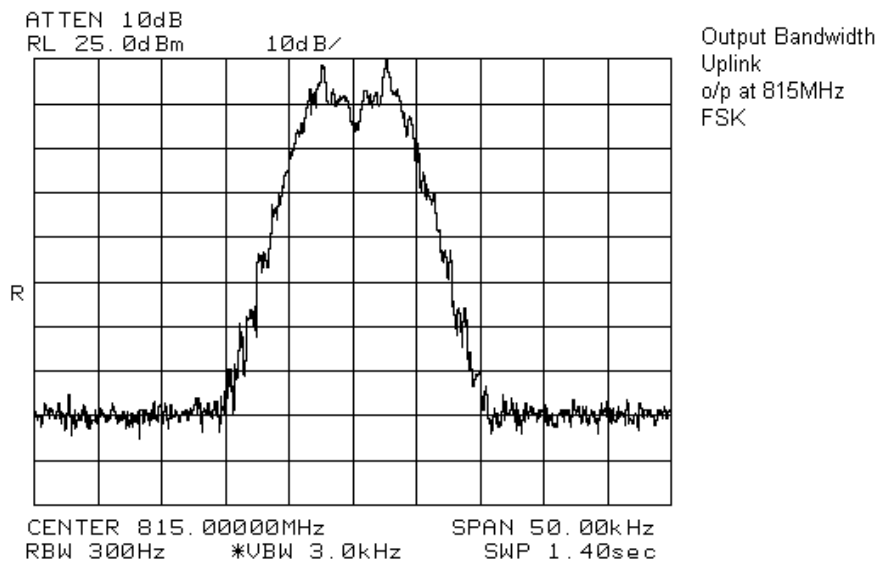
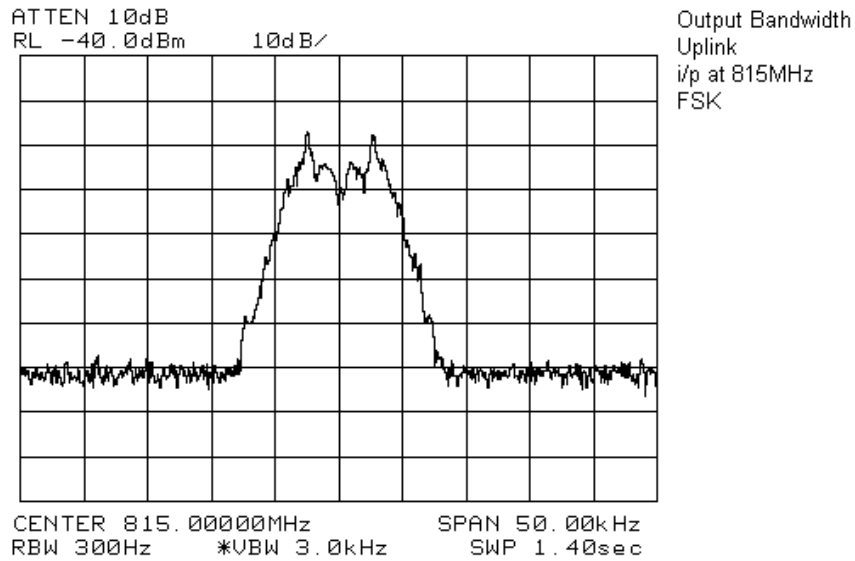
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

**UpLink, Input vs Output
806 to 821MHz Band iDEN**



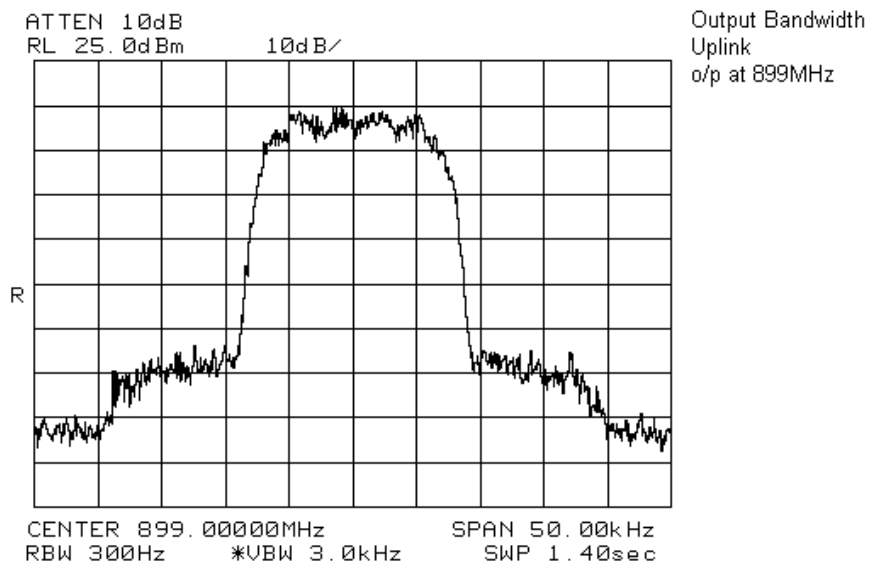
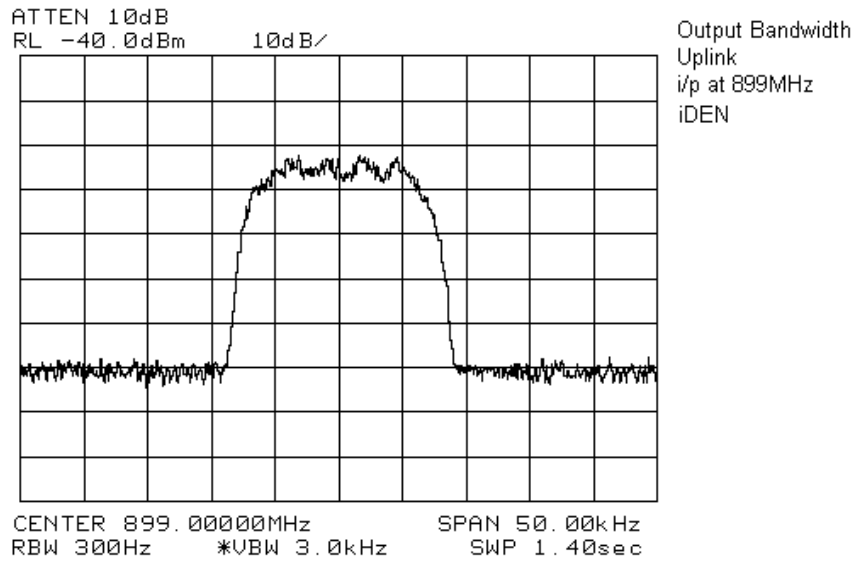
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FCC ID:OIWCBDA8009001W80

806 to 821MHz Band FSK



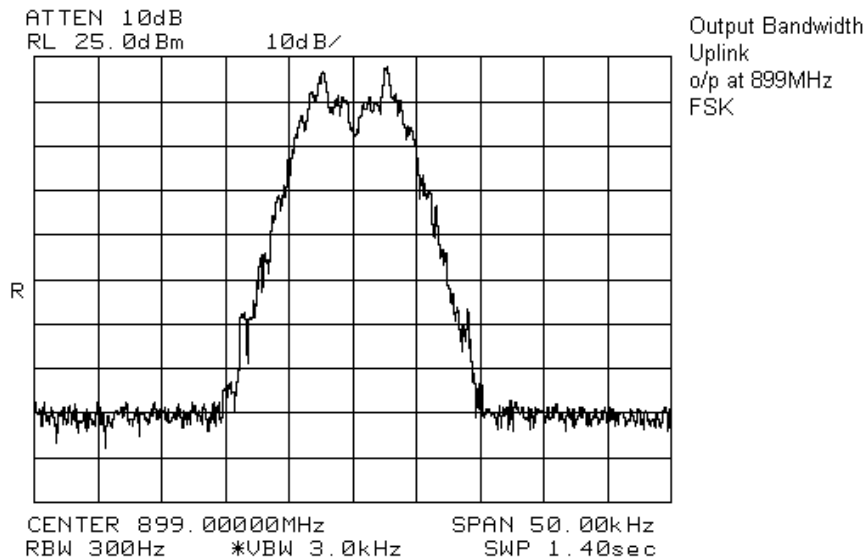
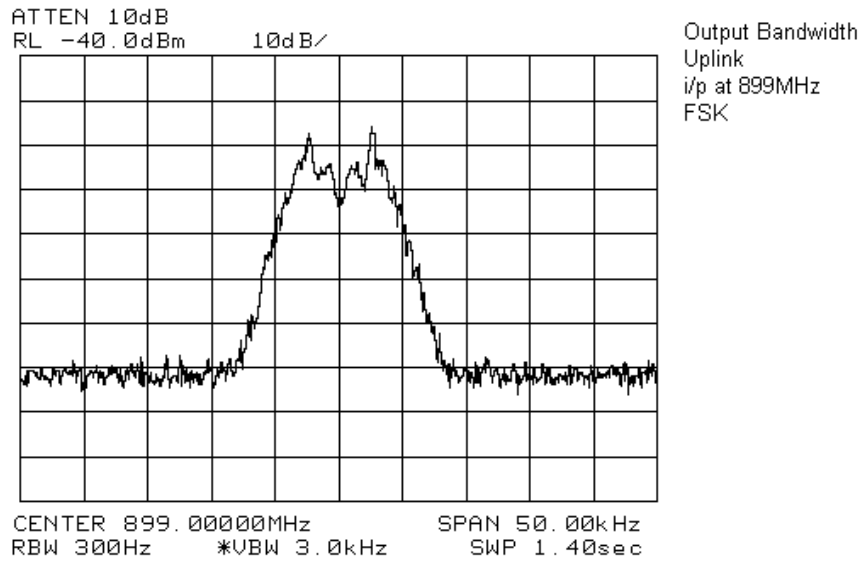
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FCC ID:OIWCBDA8009001W80

896 to 902MHz Band iDEN



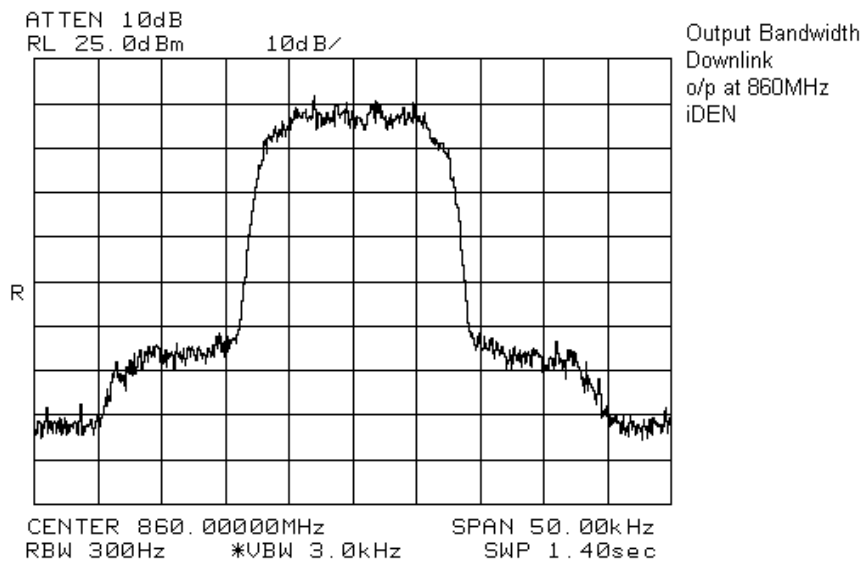
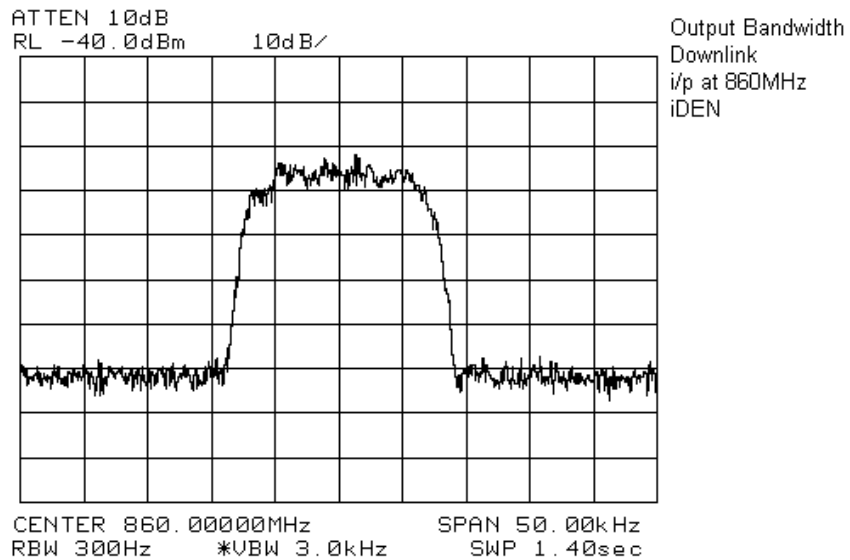
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896 to 902MHz Band FSK



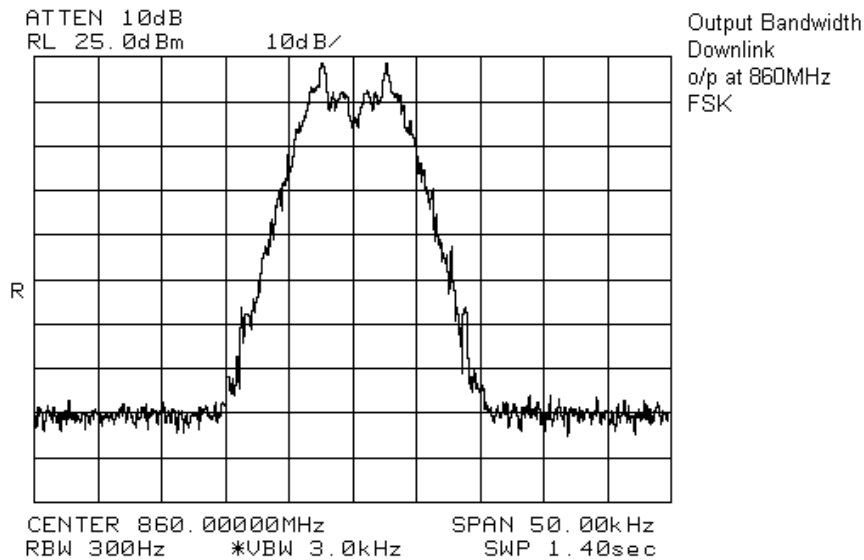
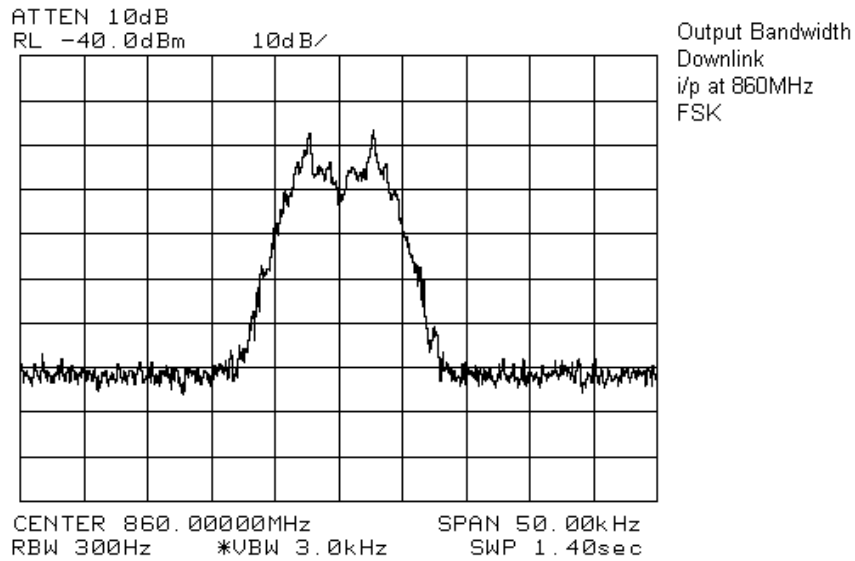
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

DownLink, Input vs Output
851 to 866MHz Band iDEN



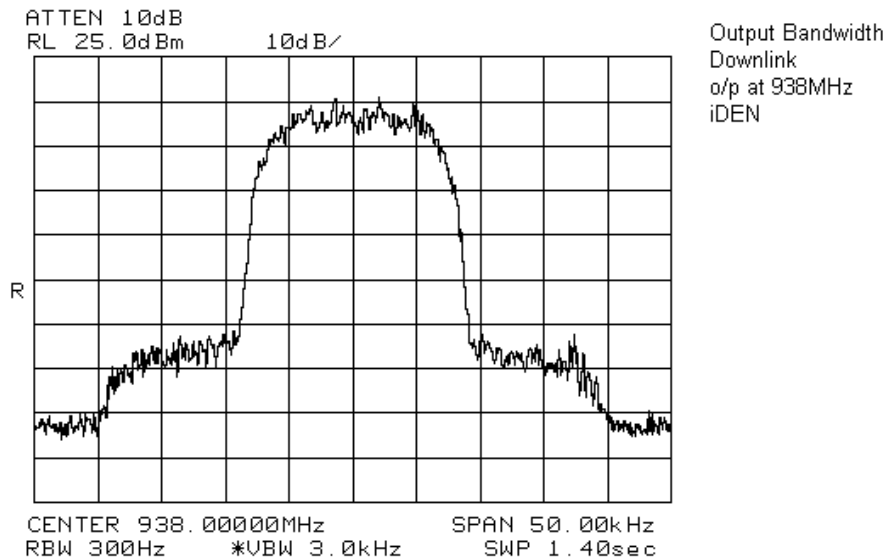
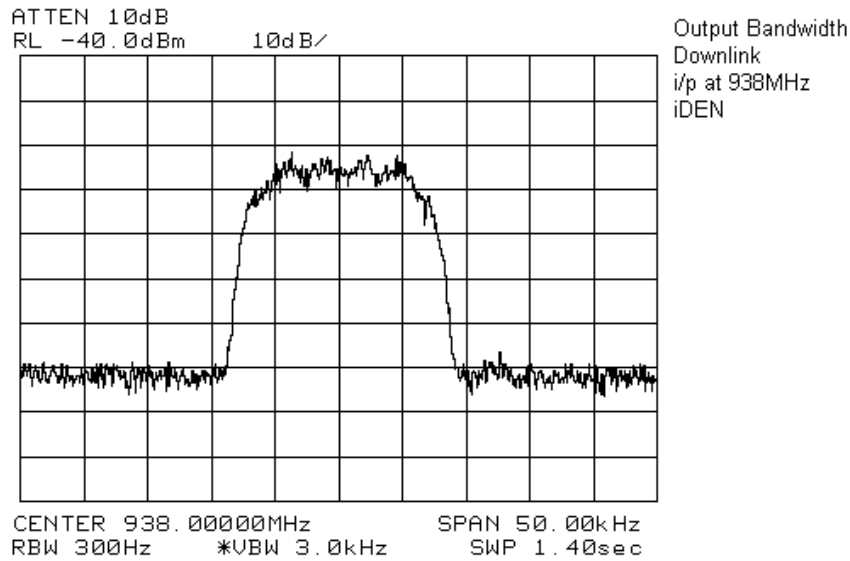
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851 to 866MHz Band FSK



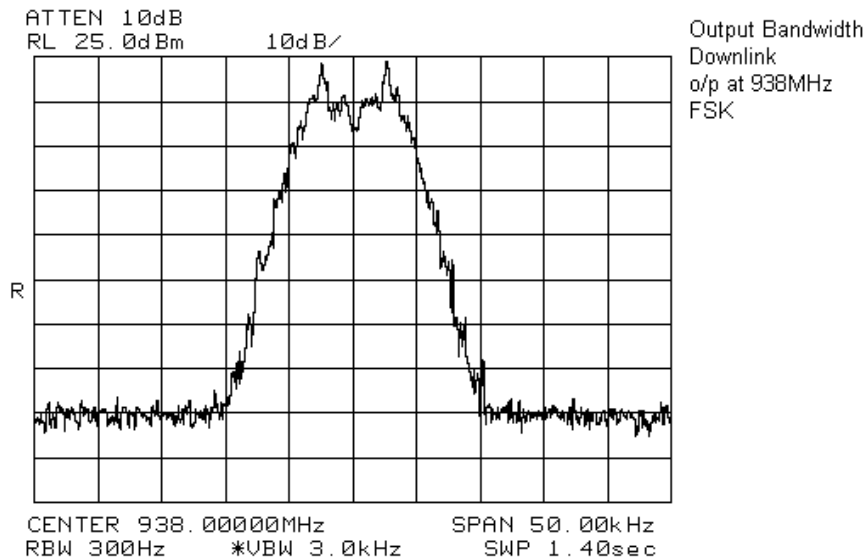
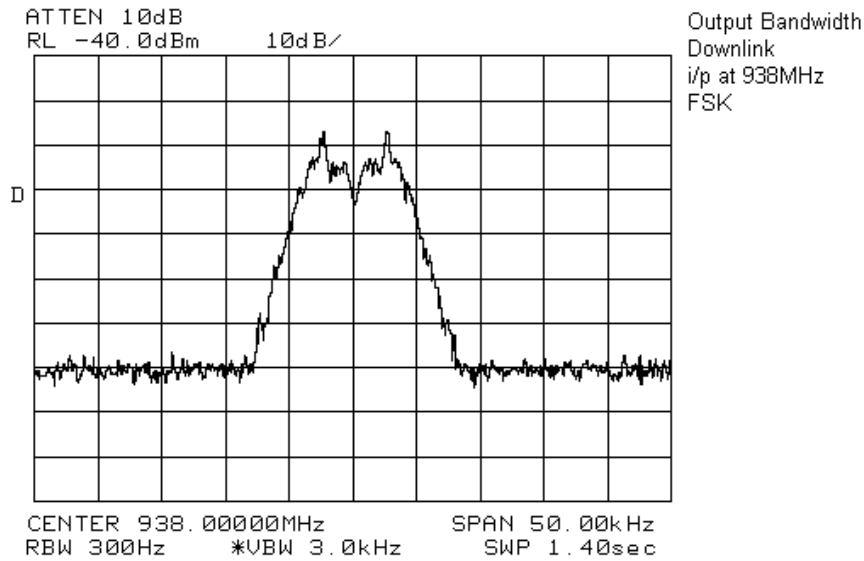
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

935 to 941MHz Band iDEN



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

935 to 941MHz Band FSK



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 8. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Jason Nixon	Date of Test: January 7, 2005
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Minimum Standard: -20dBm

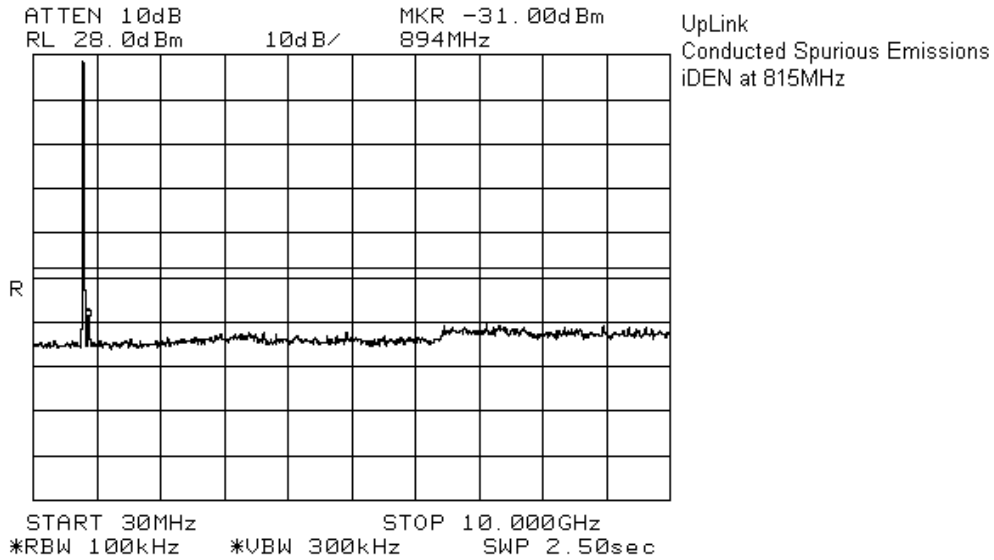
Test Results: Complies

Measurement Data: See attached graph(s).

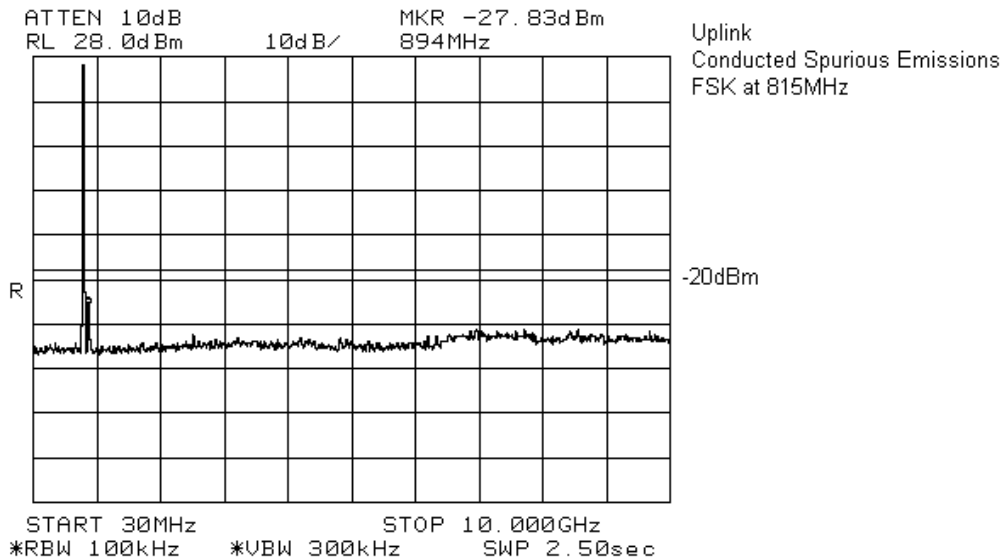
Spurious emissions were searched at low, medium and high ends of the bands for both uplink and downlink directions. Worst case plots have been included.

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

**UpLink Conducted Emissions
806 to 821MHz Band iDEN**

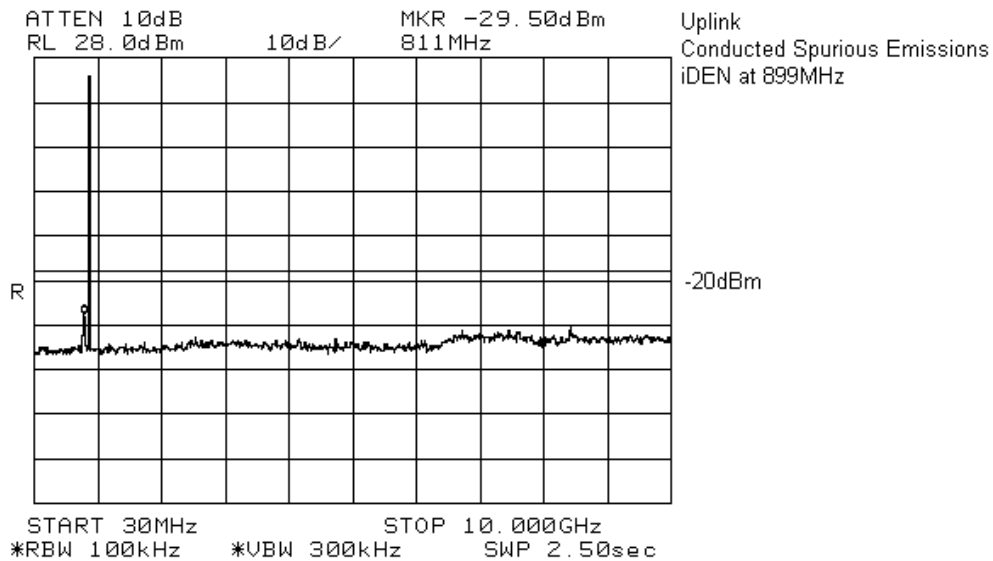


806 to 821MHz Band FSK

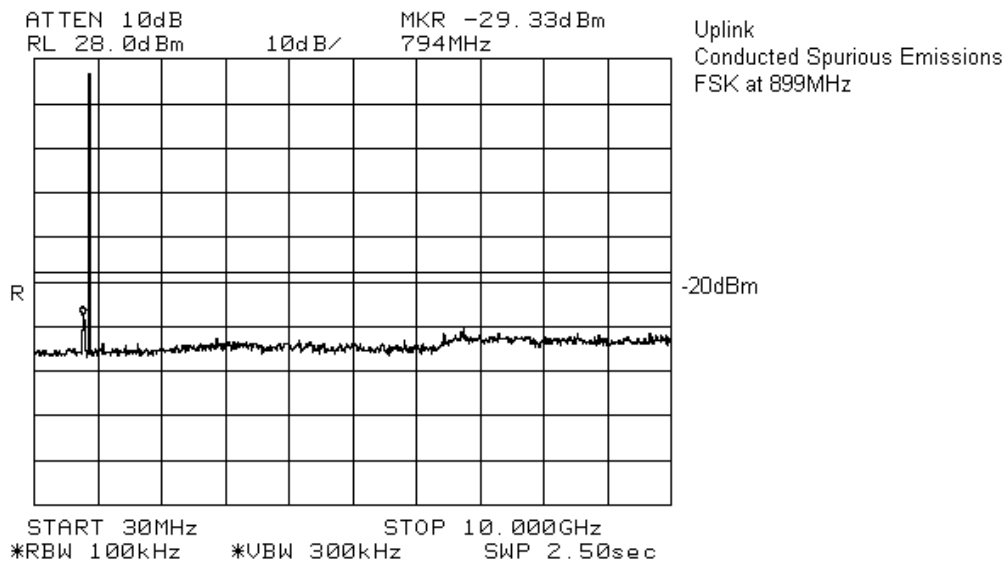


EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

896 to 902MHz Band iDEN

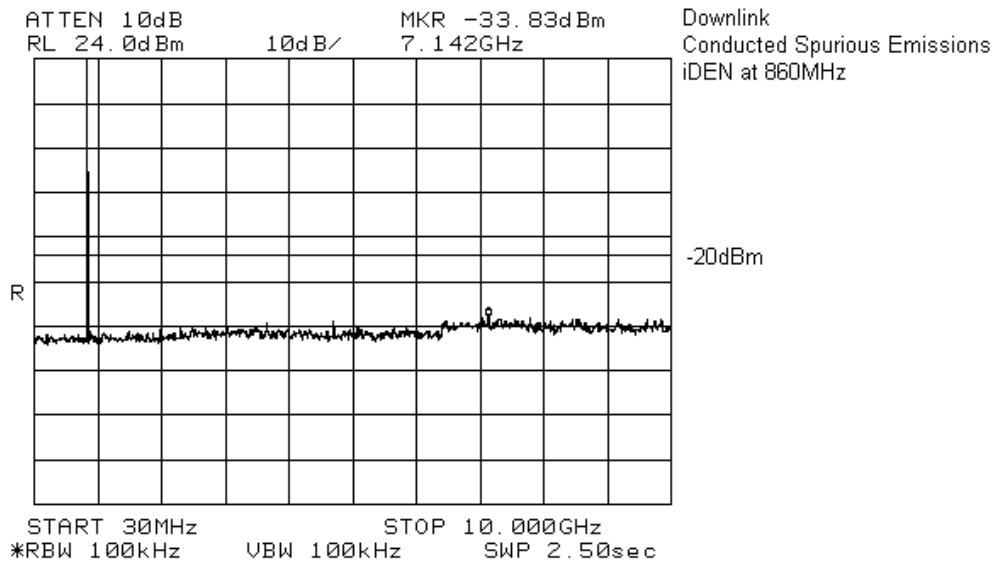


896 to 902MHz Band FSK

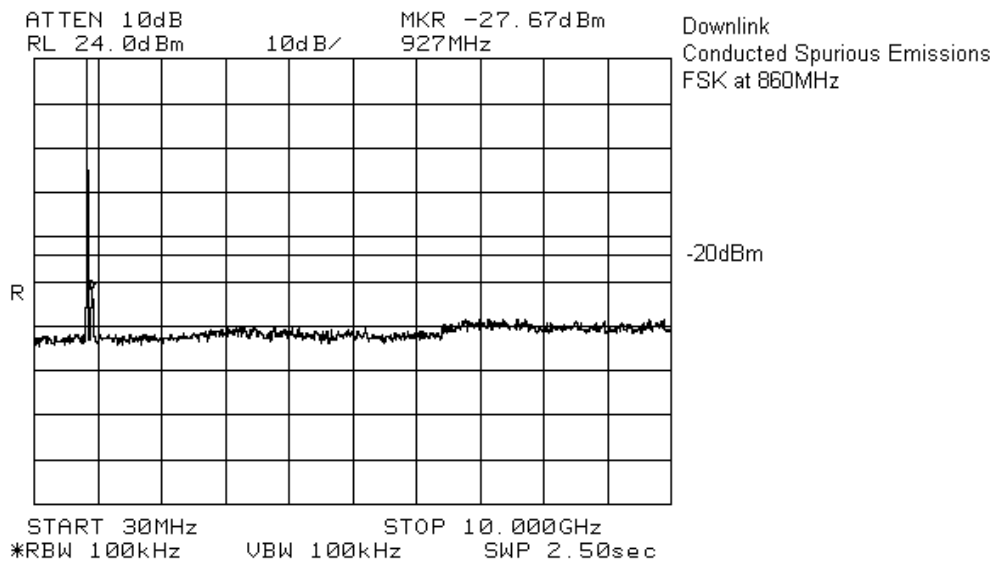


EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

DownLink Conducted Emissions 851 to 866MHz Band iDEN

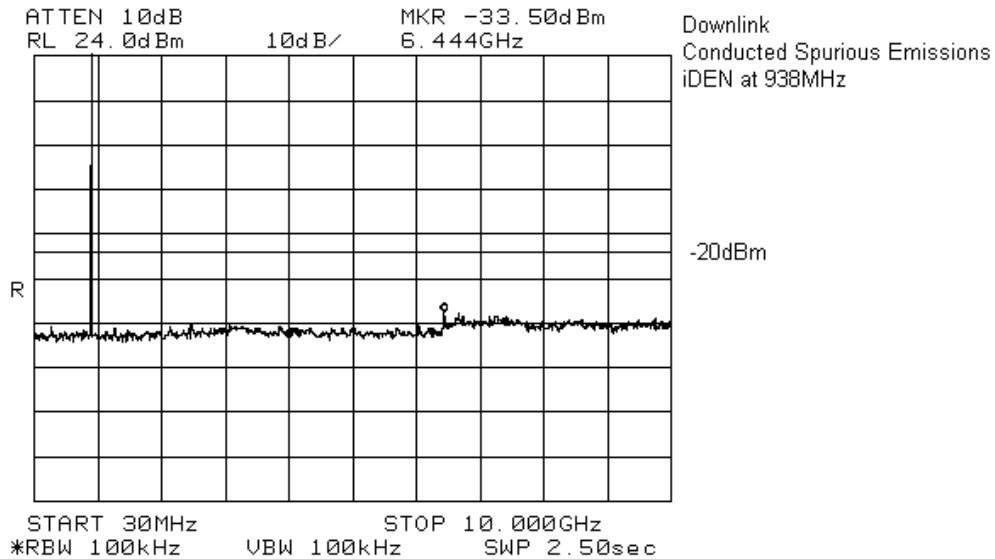


851 to 866MHz Band FSK

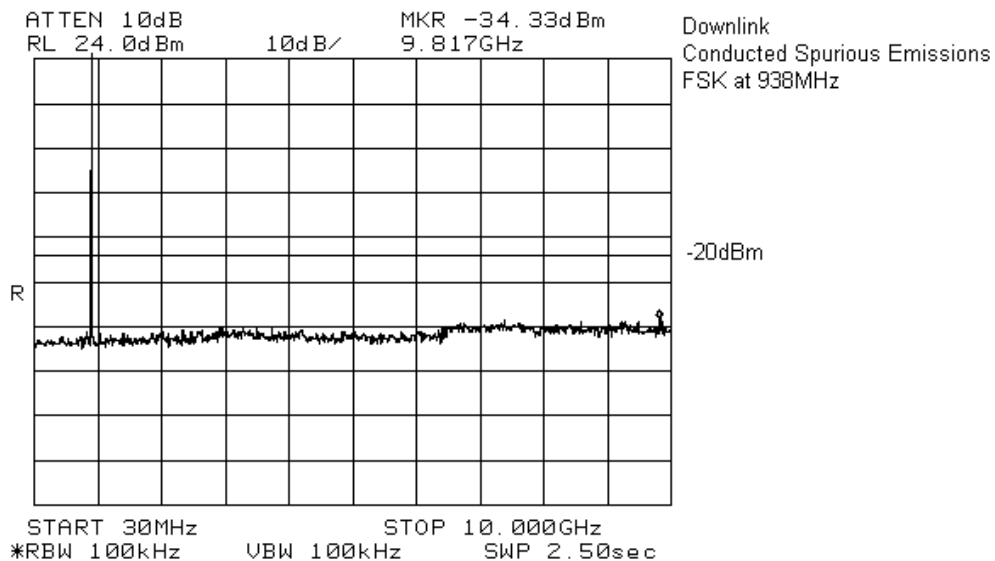


EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

935 to 941MHz Band iDEN



935 to 941MHz Band FSK

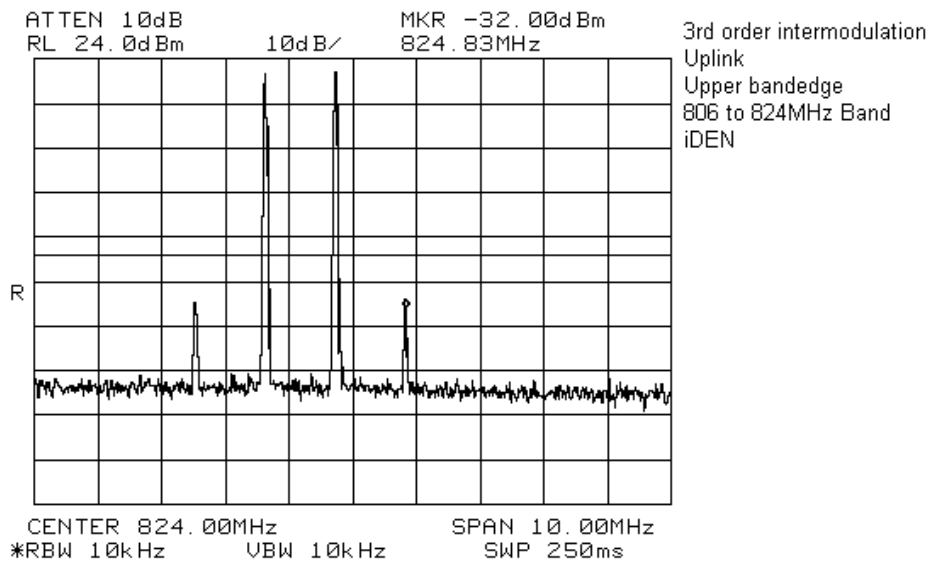
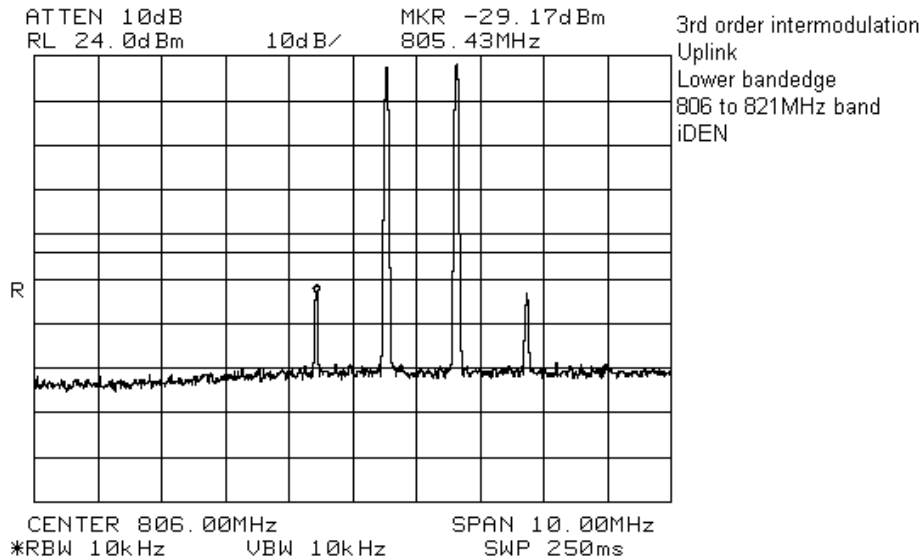


EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

3rd Order Inter-modulation Plots

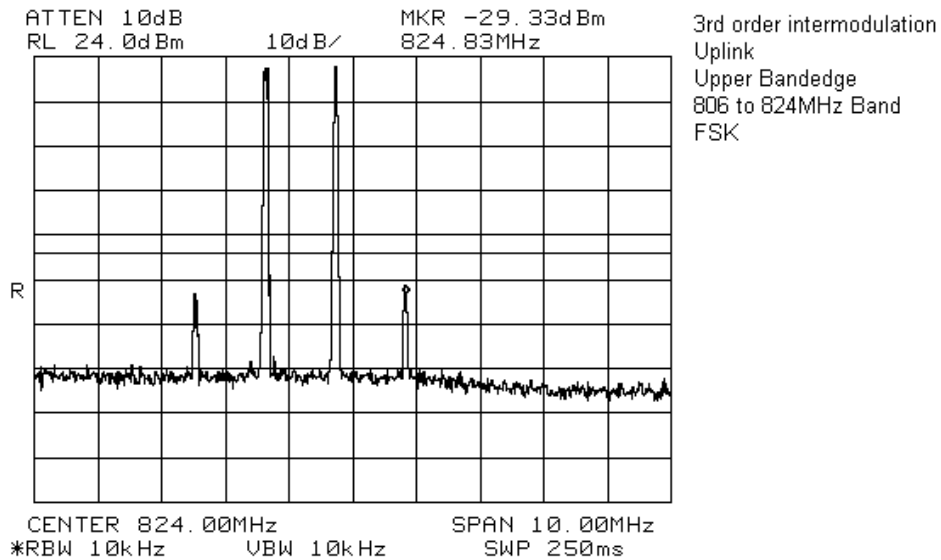
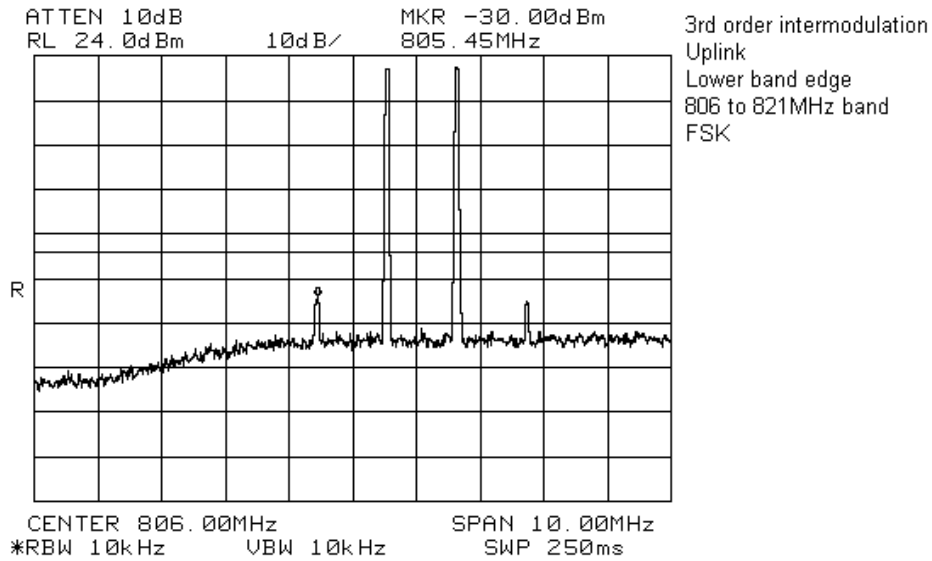
UpLink

806 to 821MHz Band iDEN



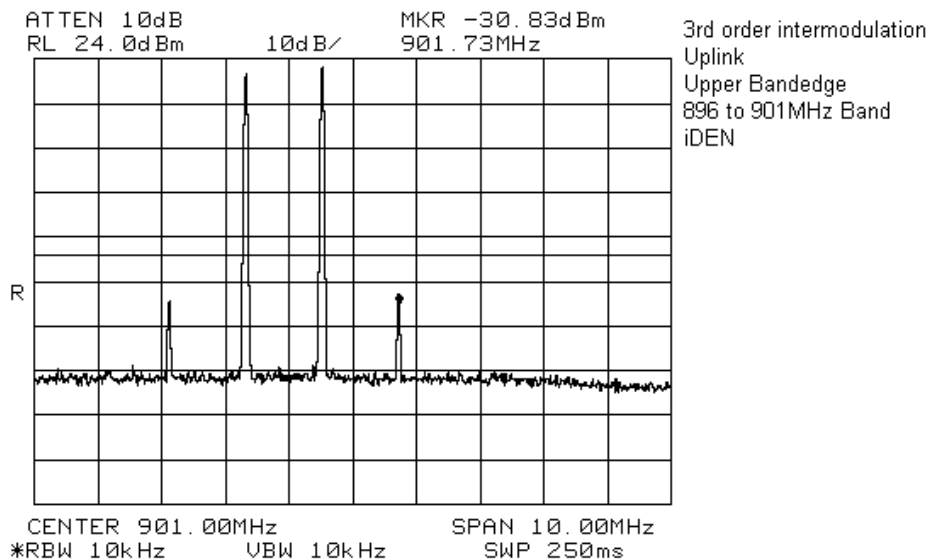
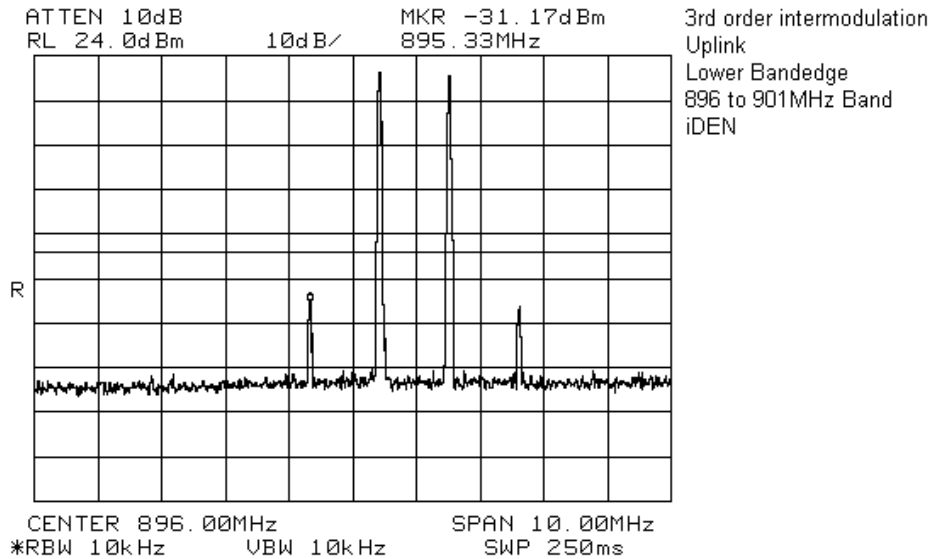
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FCC ID:OIWCBDA8009001W80

806 to 821MHz Band FSK



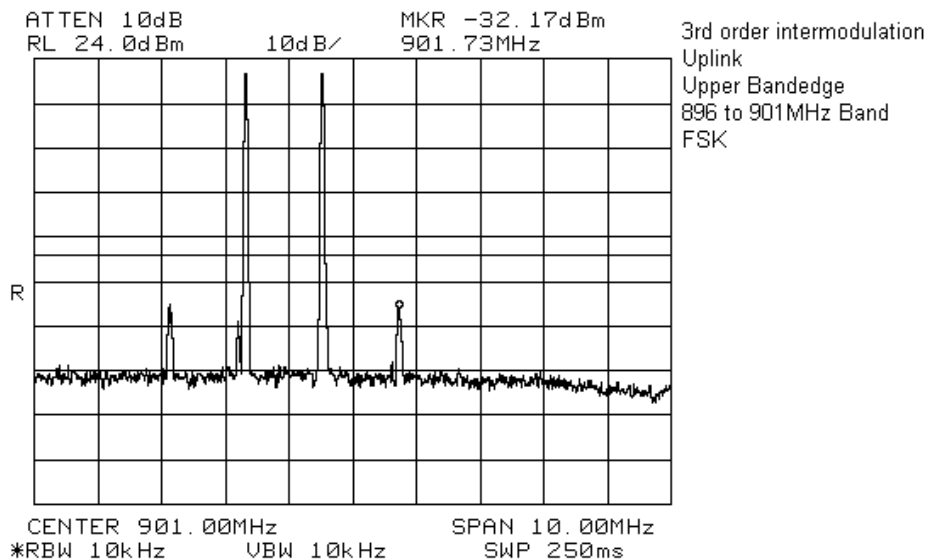
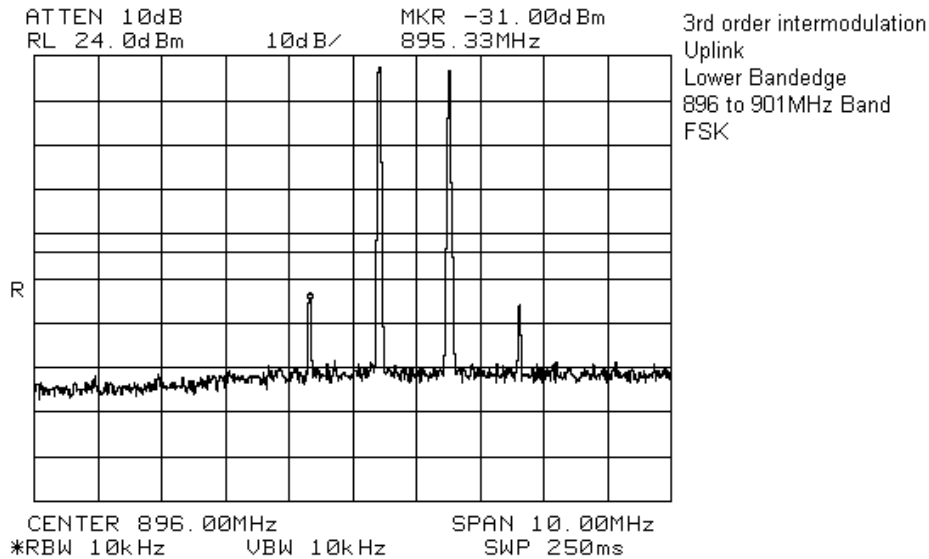
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

896 to 902MHz Band iDEN



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
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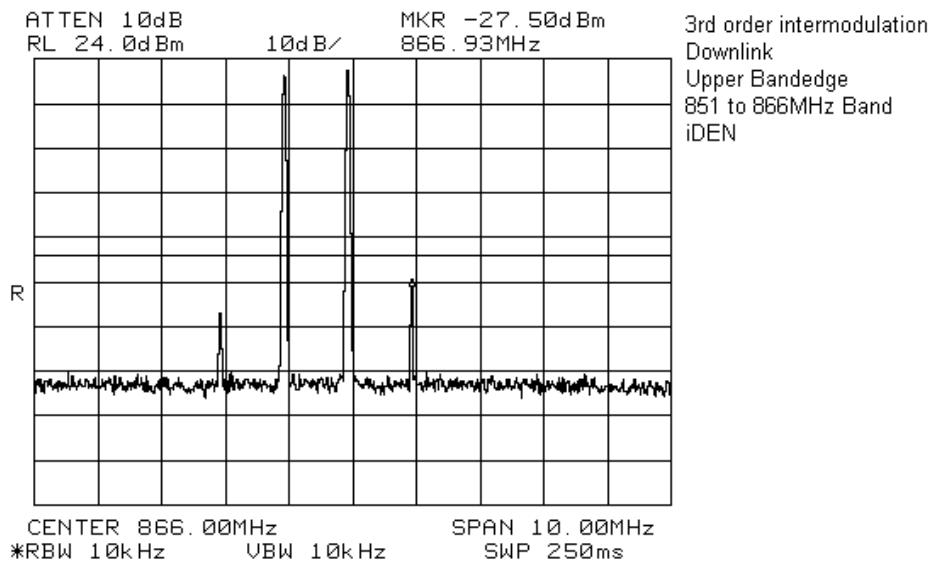
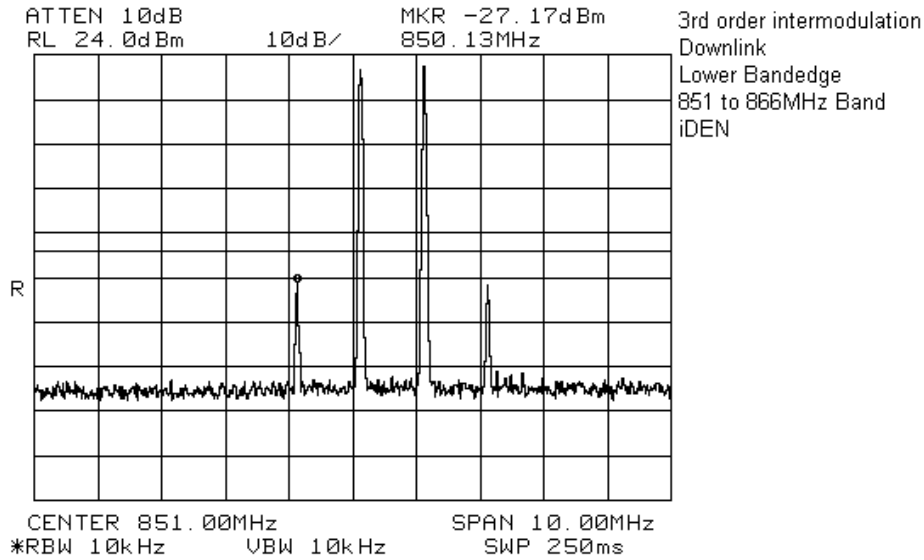
896 to 902MHz Band FSK



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

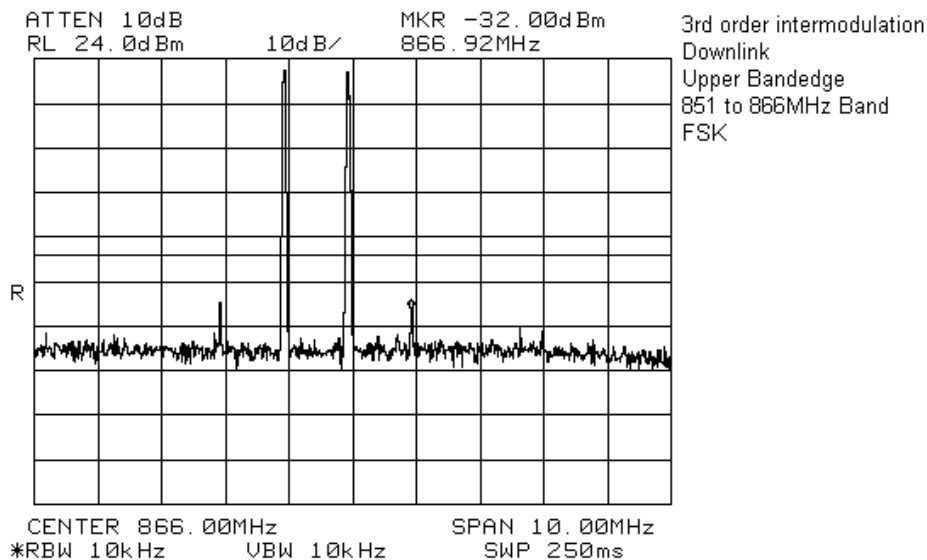
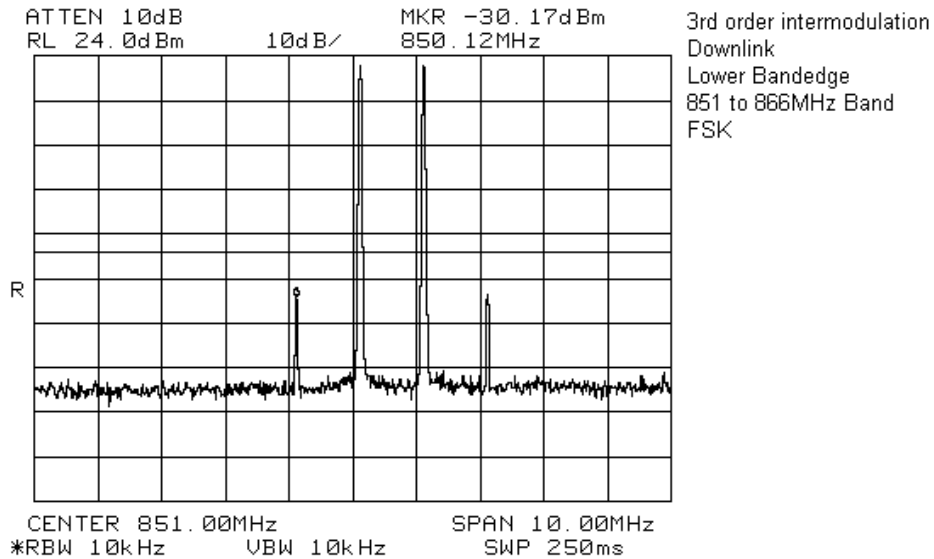
DownLink

851 to 866MHz Band iDEN



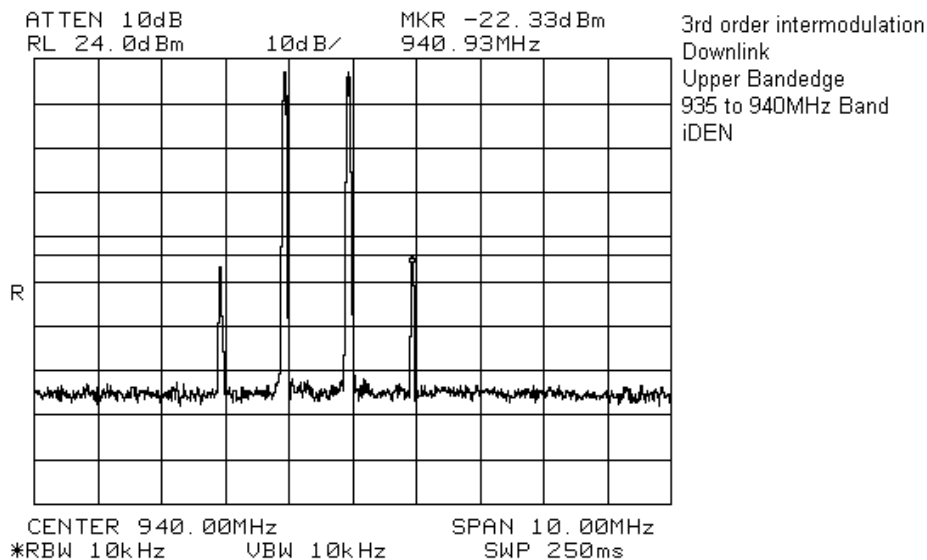
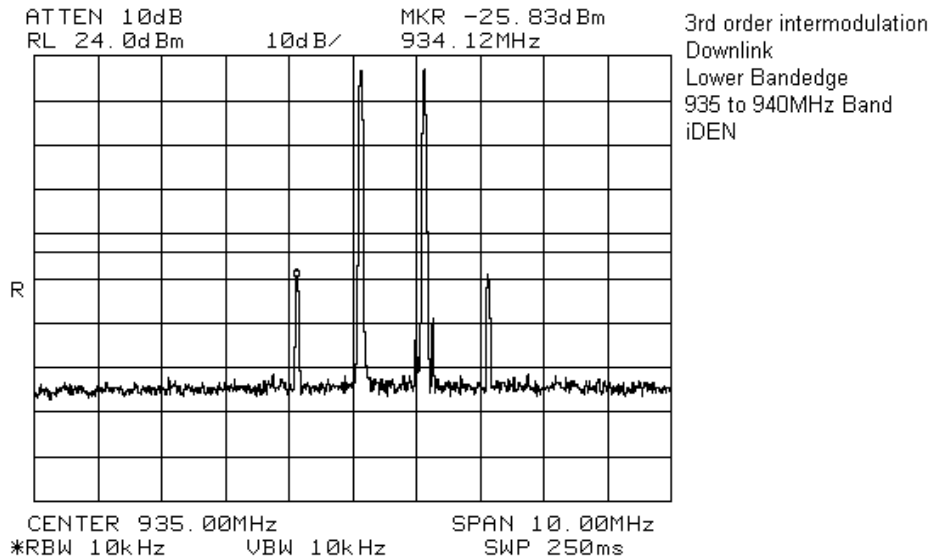
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

851 to 866MHz Band FSK



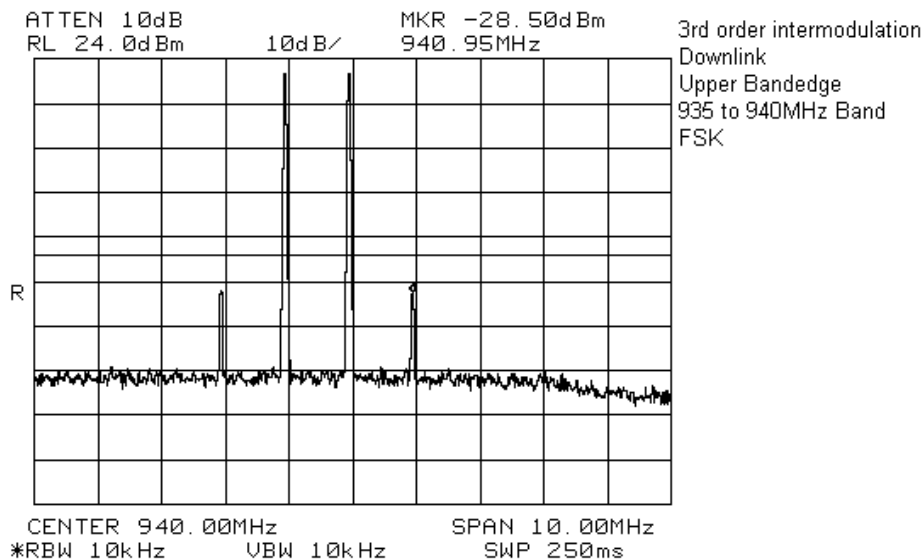
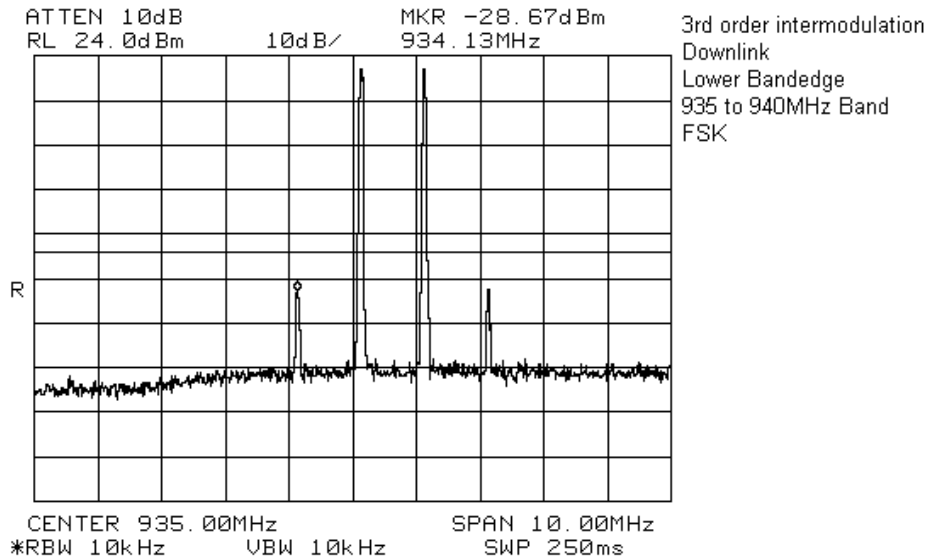
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

935 to 941MHz Band iDEN



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

935 to 941MHz Band FSK



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 9. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Jason Nixon	Date of Test: January 14, 2005
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Minimum Standard: Para. No. 90.210

Test Results: Complies

Measurement Data: See attached graph(s).

The EUT was searched in both the uplink and downlink directions at top, mid and bottom of the bands. The worst case results have been included.

All emissions were measured using signal substitution relative to a half wave dipole antenna and are reported as ERP.

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

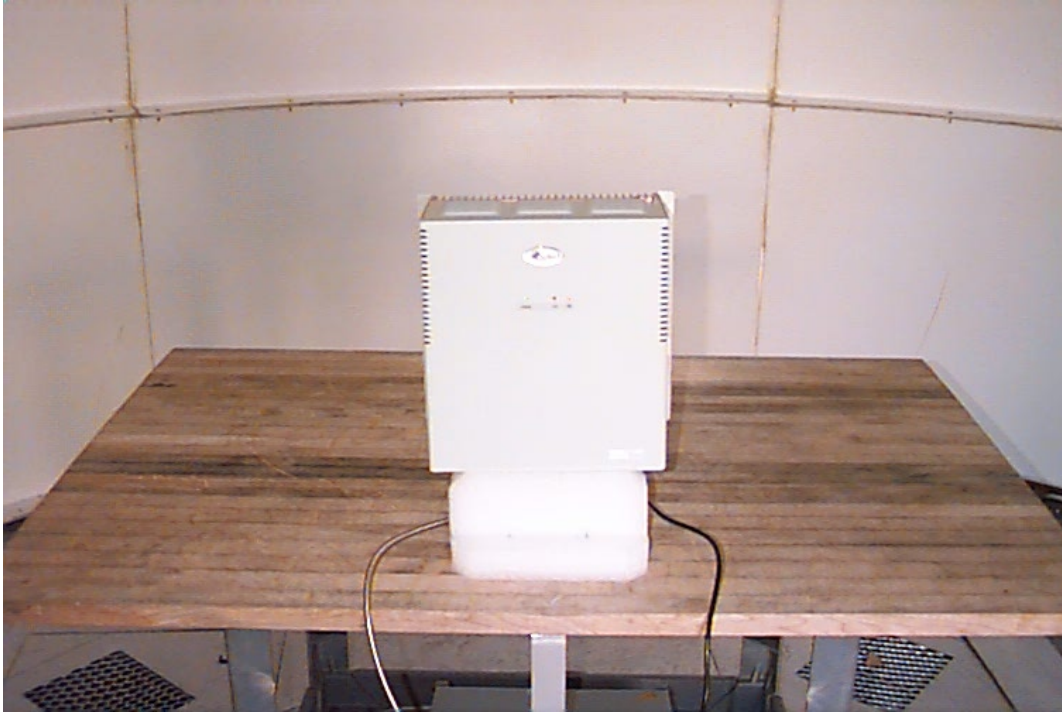
Test Data - Radiated Emissions

Test Distance (meters) : 3m		Range: 1		Receiver: 8564E	RBW: 1MHz		Detector: Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBμV/m)	Signal Substitution Factor** (dB)	Dist. Corr. (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1876.0000	Horn2	V	63.2	-115.4	N/A	-52.3	-20.0	32.3
1876.0000	Horn2	H	57.8	-116.3	N/A	-58.5	-20.0	38.5
2814.0000	Horn2	V	75.3	-122.6	N/A	-47.3	-20.0	27.3
2814.0000	Horn2	H	71.3	-123.7	N/A	-52.4	-20.0	32.4
3752.0000	Horn2	V	73.0	-116.4	N/A	-43.4	-20.0	23.4
3752.0000	Horn2	H	67.3	-119.5	N/A	-52.2	-20.0	32.2
Notes: BC = Biconical, BL = Biconilog, LP = Log-Periodic, DP = Dipole * Re-measured using dipole antenna. ** Includes Cable Loss () Denotes failing emission level. N.D. = Not Detected								

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Photographs of Test Setup (Worst Case Configuration)

Front View



Rear View



Nemko Canada Inc.

FCC PART 90, SUBPART I
PRIVATE LAND MOBILE REPEATER
PROJECT NO.: 4W34616.1

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 7. Out of Band Rejection

Para. No.: EAB/RF-2-11-04

Test Performed By: Jason Nixon	Date of Test: January 17, 2005
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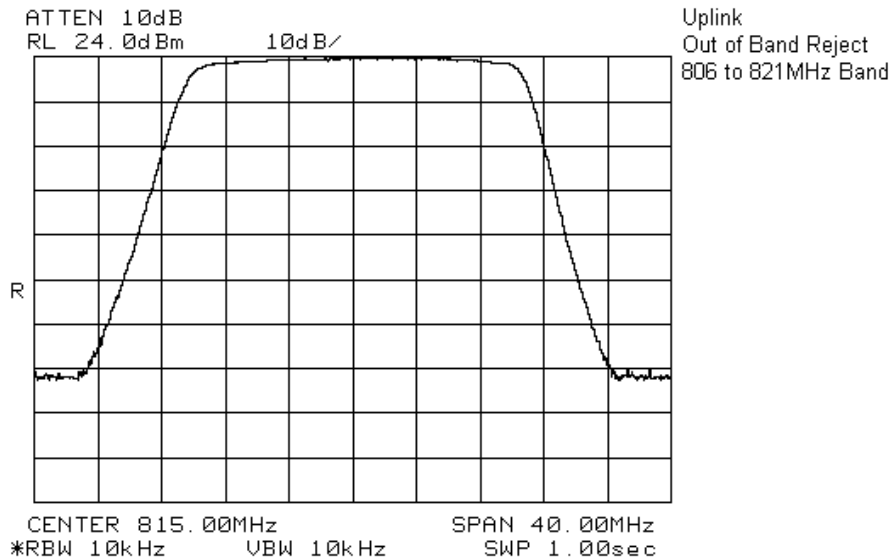
Minimum Standard: -20dBm

Test Results: Complies

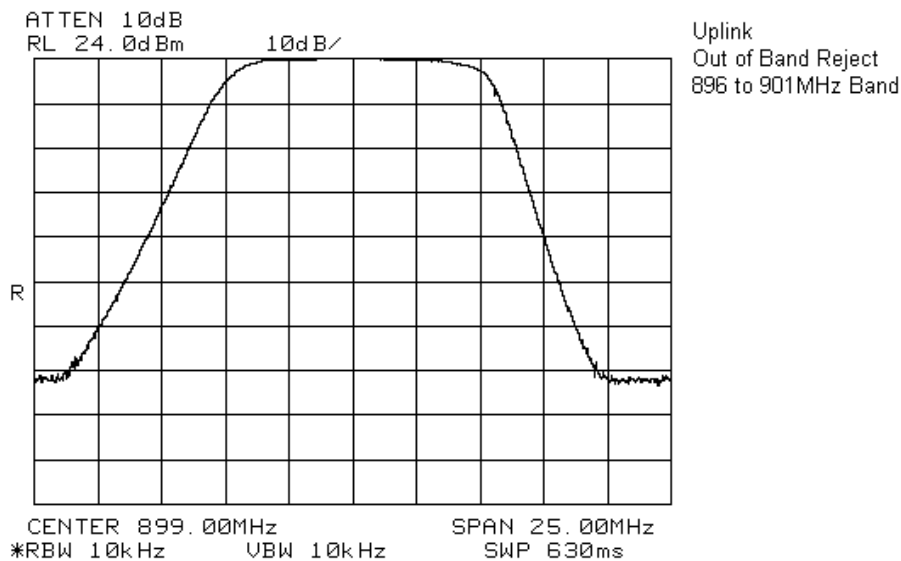
Measurement Data: See attached plots.

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID: OIWCBDA8009001W80

UpLink 806 to 821MHz Band

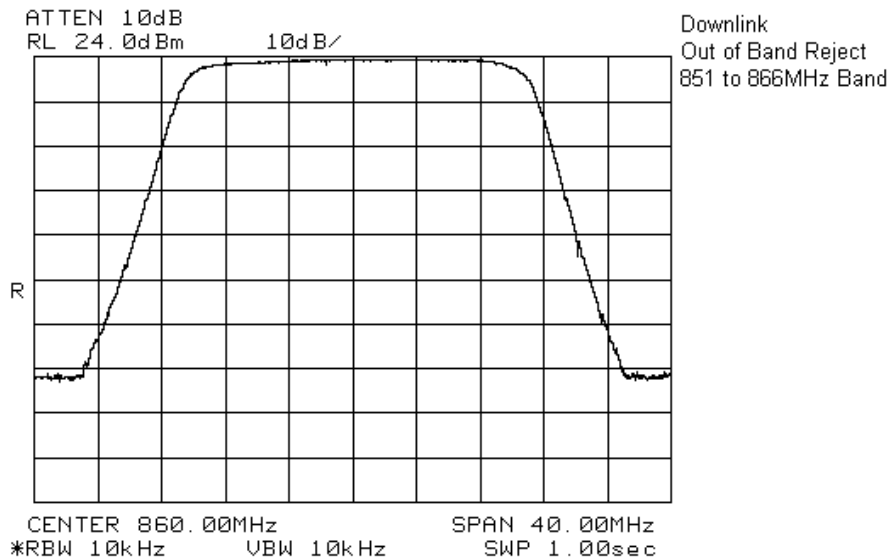


896 to 902MHz Band

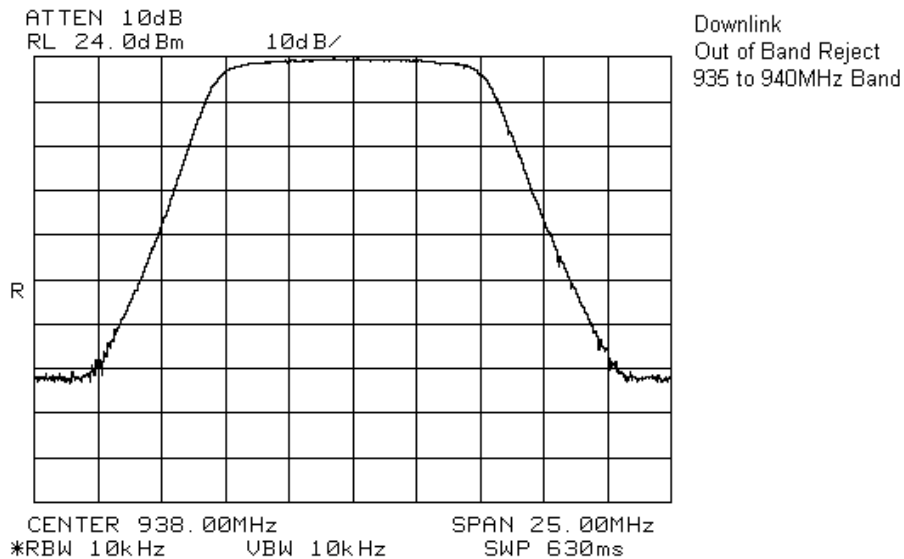


EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID: OIWCBDA8009001W80

DownLink
851 to 866MHz Band



935 to 941MHz Band



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Section 12. Test Equipment List

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Spectrum Analyzer	Hewlett-Packard	8564E	3943A01798	Dec 22/04	Dec 22/05
1 Year	Biconical (1) Antenna	EMCO	3109	FA000805	April 23/04	April 23/05
1 Year	Horn Antenna #2	EMCO	3115	FA000825	Dec 14/04	Dec 14/05
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 26/04	Aug. 26/05
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June 18/04	June 18/05
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June 18/04	June 18/05
1 Year	4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	June 18/04	June 18/05
1 Year	Power Meter	Hewlett Packard	E4418B	FA001413	May 25/04	May 25/05
1 Year	Power Sensor	Hewlett Packard	8487A	FA001908	Mar 11/04	Mar 11/05
1 Year	Signal Generator	Rohde & Schwarz	SMIQ03	FA001091	Aug 20/04	Aug 20/05
1 Year	Signal Generator	Rohde & Schwarz	SMIQ	FA001878	May 18/04	May 18/05
-	Attenuator	Narda	776B-20	FA001153	COU	COU
-	Attenuator	Narda	769-20	FA001394	COU	COU
-	Mixer	Mini-circuits	ZA3PD-2	FA001155	COU	COU

Nemko Canada Inc.

FCC PART 90, SUBPART I
PRIVATE LAND MOBILE REPEATER
PROJECT NO.: 4W34616.1

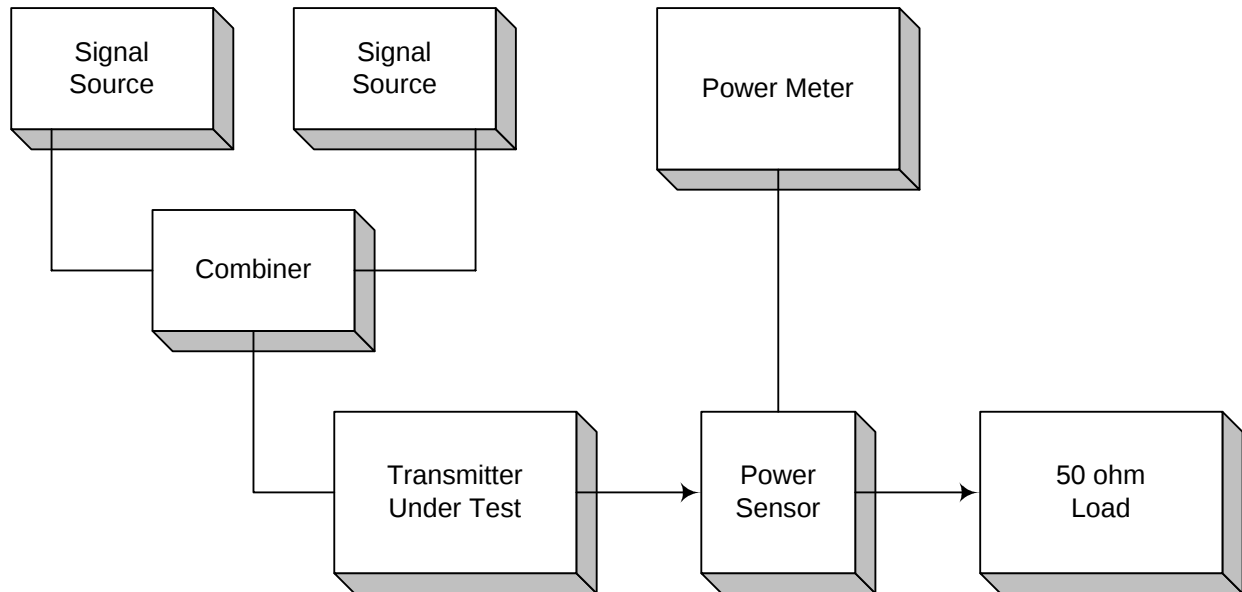
EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Annex A

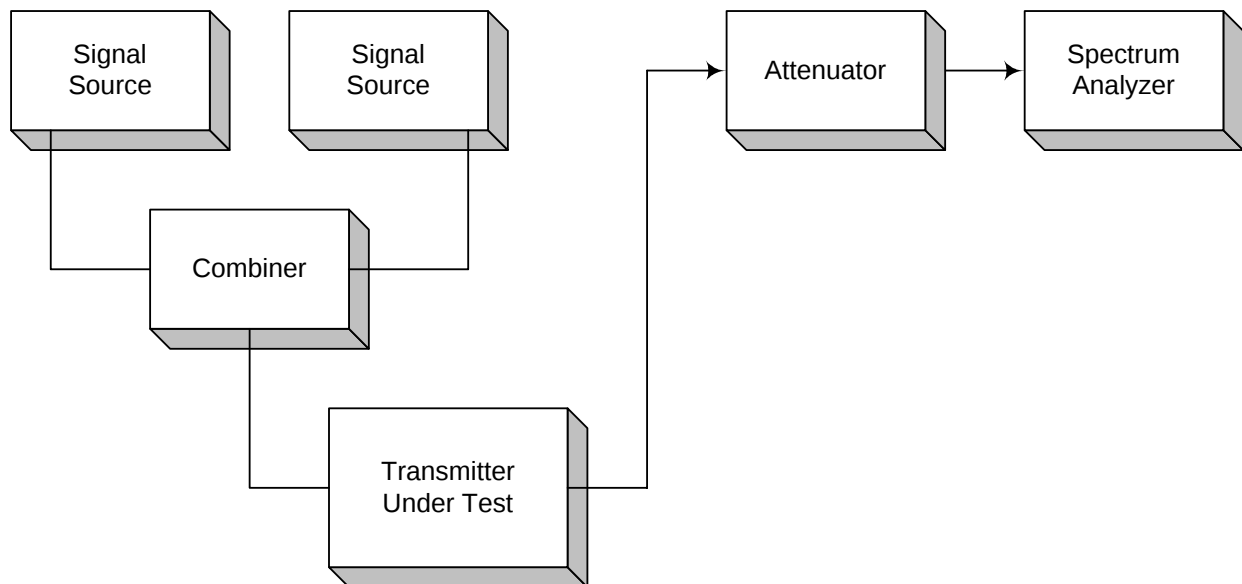
Test Diagrams

EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Para. No. 2.1046 - R.F. Power Output

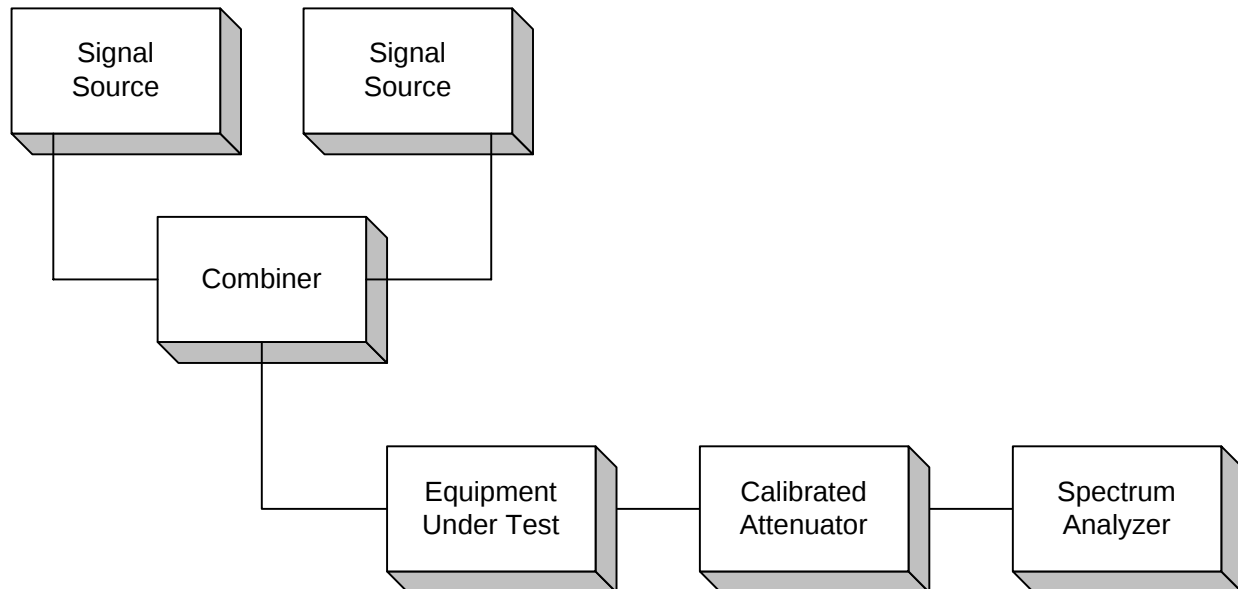


Para. No. 2.1049 - Occupied Bandwidth



EQUIPMENT: MW-CBDA-SMR-800-900-1W80A
FCC ID:OIWCBDA8009001W80

Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation

