Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report: 4W34616.2

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

Equipment Under Test: (EUT) MW-CBDA-SMR-800-900-1W65A

FCC ID: OIWCBDA8009001W65

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

Authorized By:

Glen Westwell, Wireless Technologist

Date: 21 January 2005

Total Number of Pages: 38

Table of Contents

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

T	N	B	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

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%

Section 2. General Equipment Specification

Manufacturer:	Dekolink Wireless Ltd.
Model No.:	MW-CBDA-SMR-800-900-1W65A
Serial No.:	0411D9031
Date Received In Laboratory:	November 30, 2004
Nemko Identification No.:	1
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)

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Jason Nixon	**Date of Test: January 12, 2005**

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	23.93	24
815	23.85	24
824	24.00	24
896	23.88	24
899	23.74	24
902	23.84	24

DownLink

Channel Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)
851	24.00	24
860	23.94	24
869	23.55	24
935	23.65	24
938	23.91	24
941	24.00	24

Section 7. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Jason Nixon	**Date of Test: January 6, 2005**

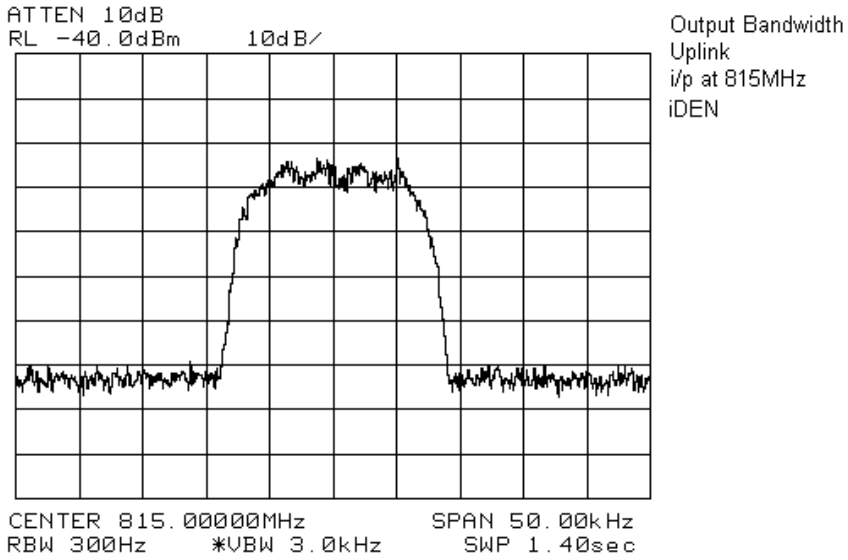
Minimum Standard: Para. No. 90.210

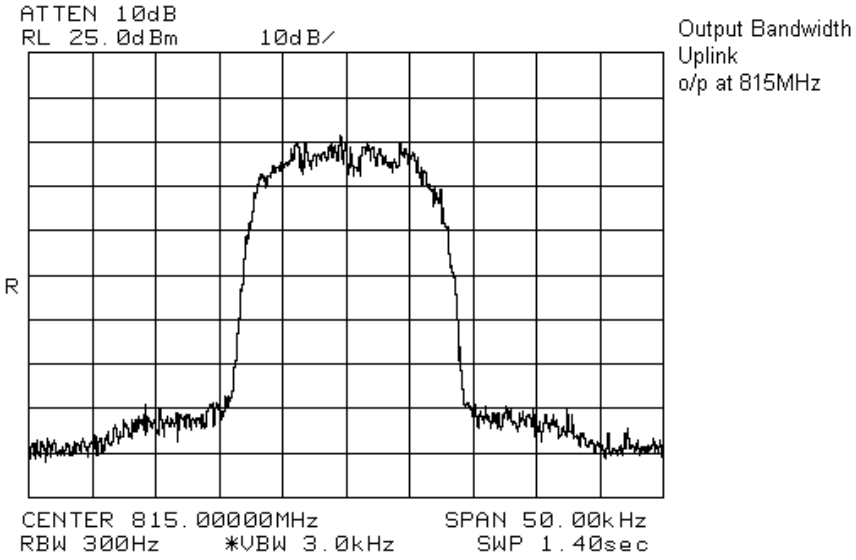
Test Results: Complies

Measurement Data: See attached graph(s).

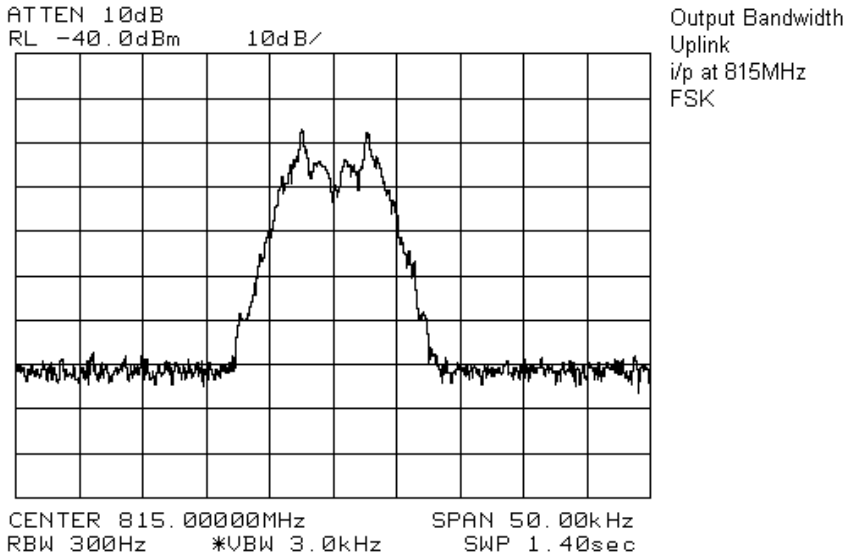
The occupied bandwidth was measured by comparison of input from the signal generator to the output signal from the amplifier. This was done in order to determine if there was any degradation to the output signal due to the amplification and conversion through the repeater.

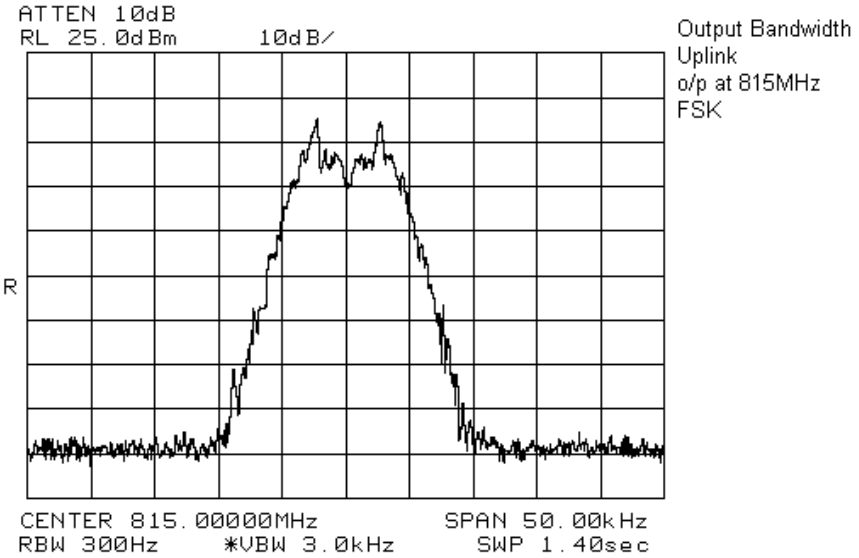
UpLink, Input vs Output
806 to 821MHz Band iDEN



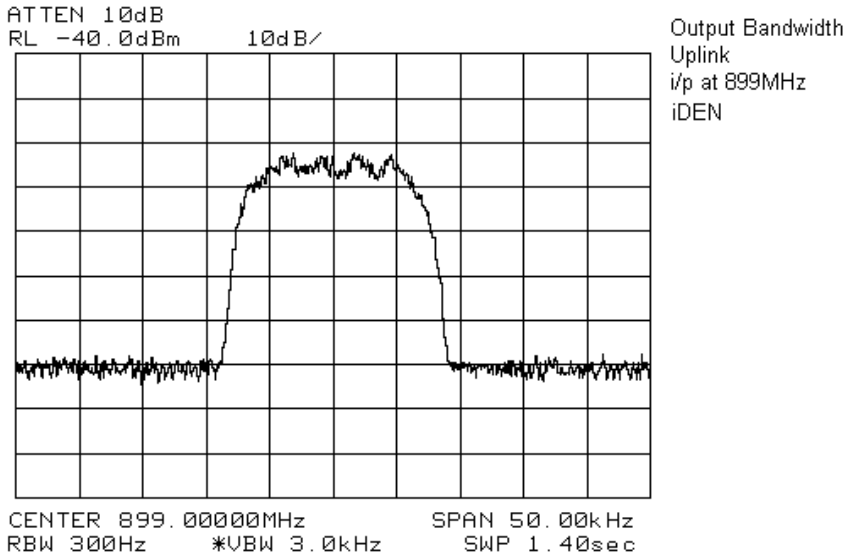


806 to 821MHz Band FSK

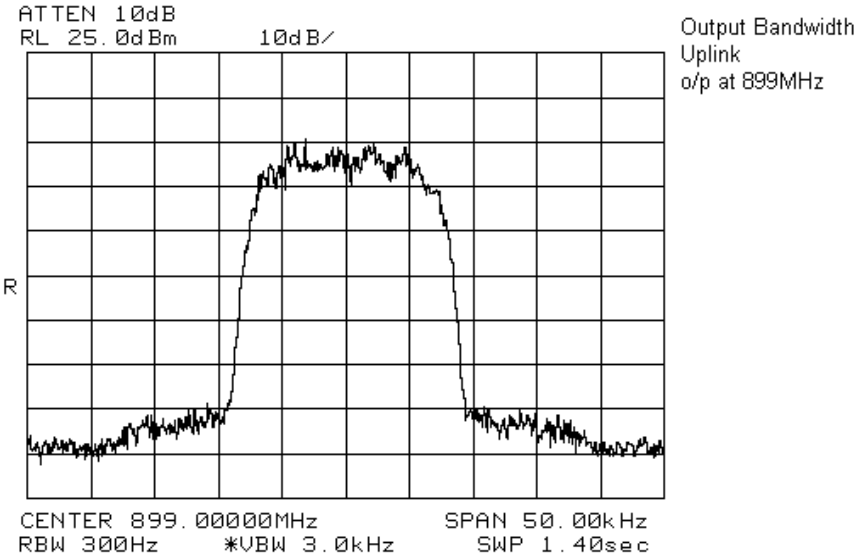




896 to 902MHz Band iDEN

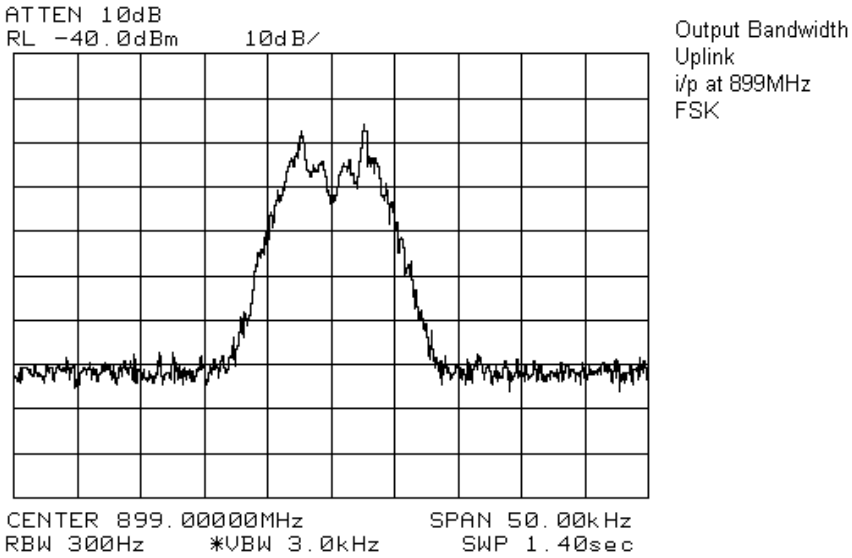


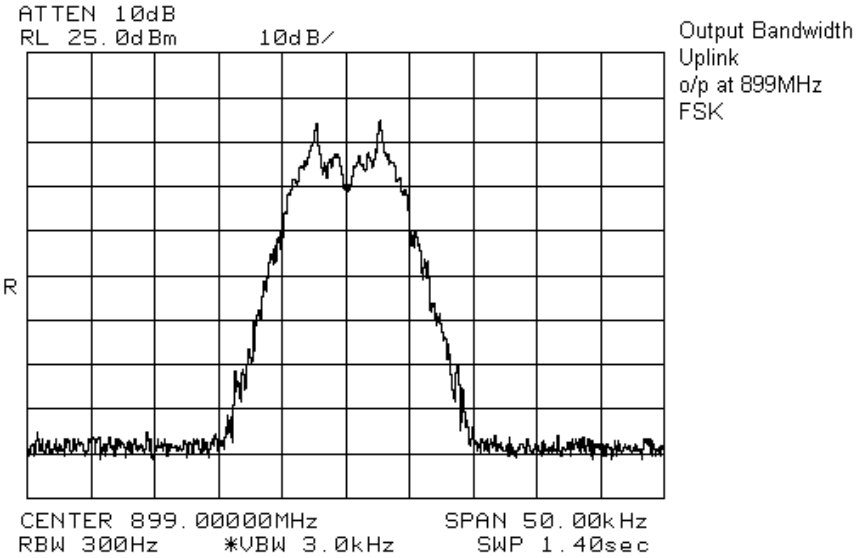
Output Bandwidth
Uplink
i/p at 899MHz
iDEN



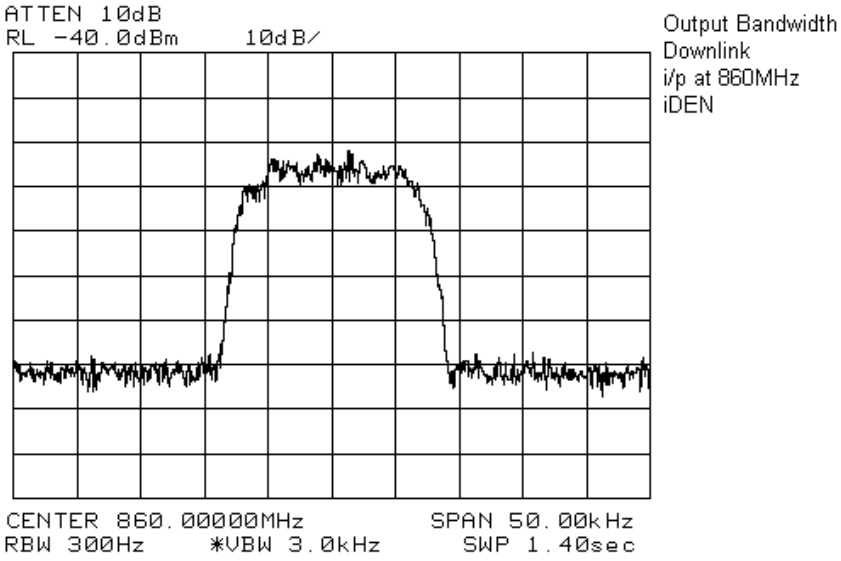
Output Bandwidth
Uplink
o/p at 899MHz

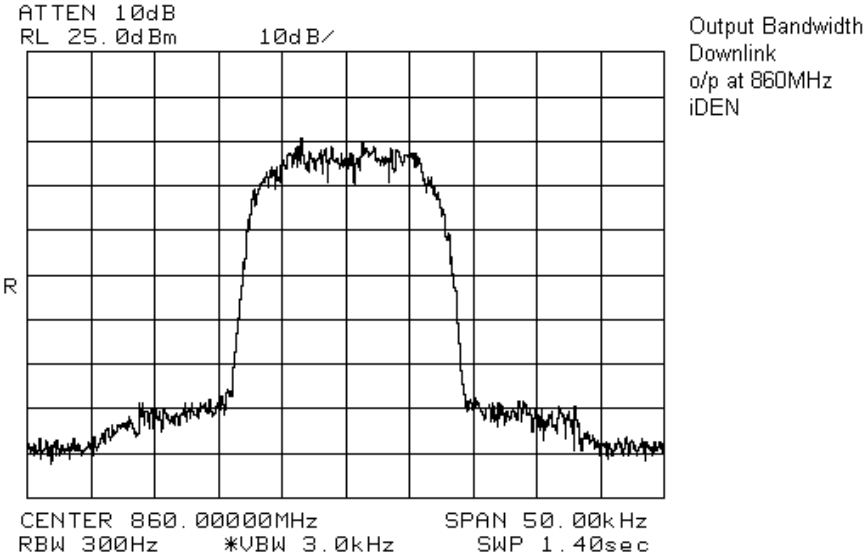
896 to 902MHz Band FSK



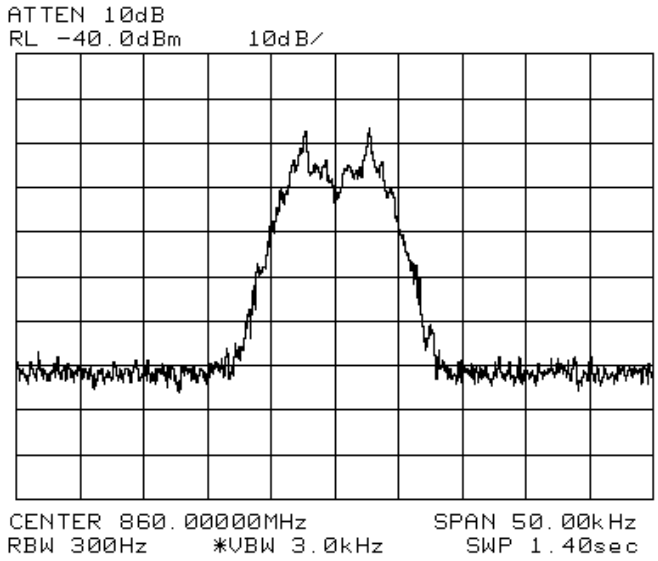


DownLink, Input vs Output
851 to 866MHz Band iDEN

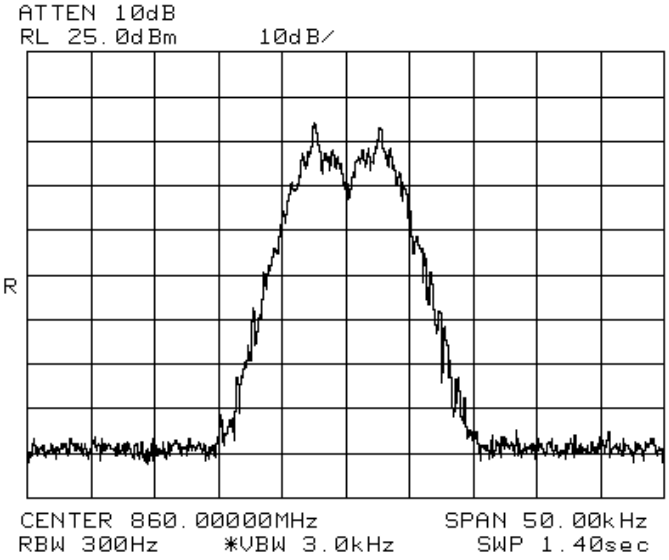




851 to 866MHz Band FSK

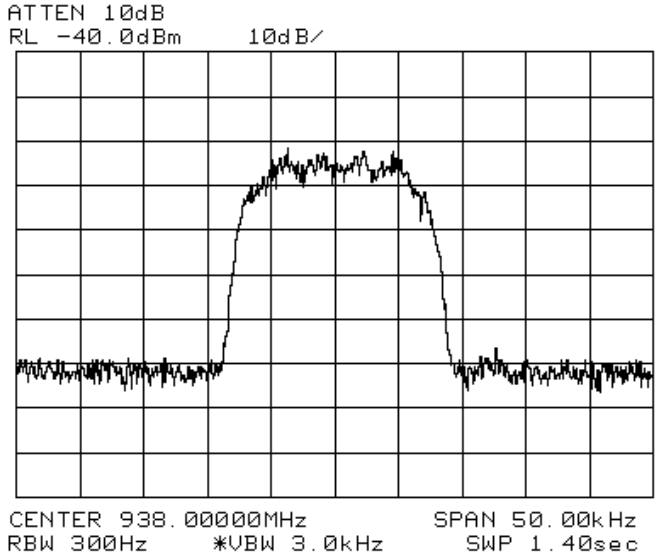


Output Bandwidth
Downlink
i/p at 860MHz
FSK

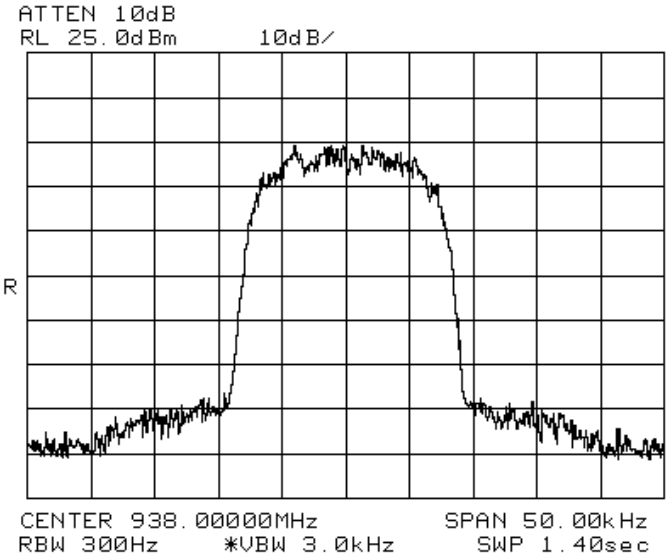


Output Bandwidth
Downlink
o/p at 860MHz
FSK

935 to 941MHz Band iDEN

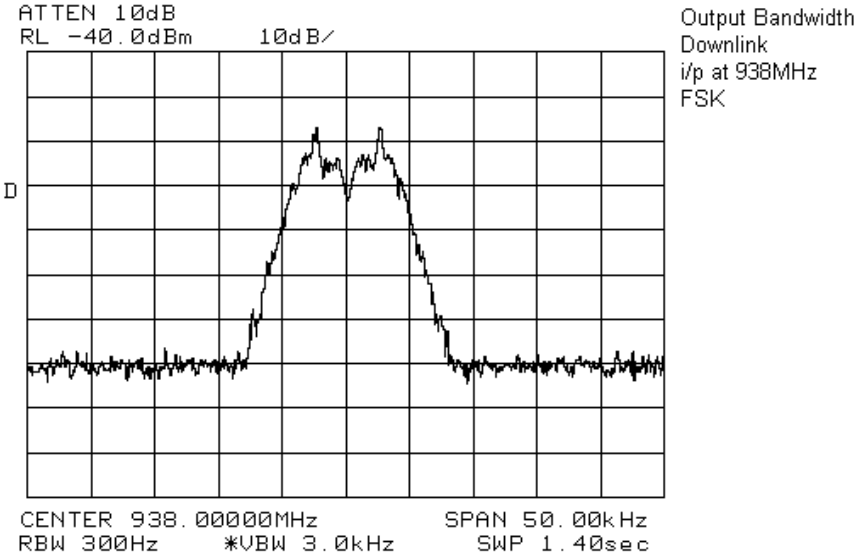


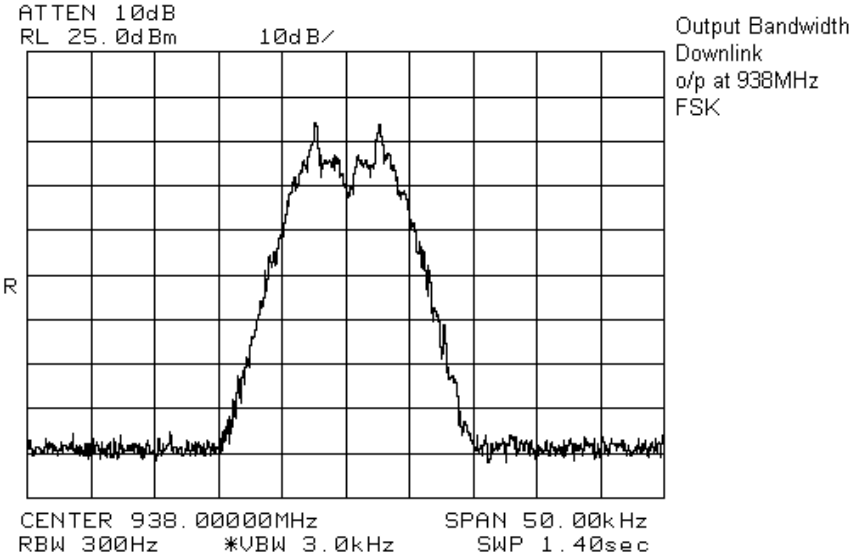
Output Bandwidth
Downlink
i/p at 938MHz
iDEN



Output Bandwidth
Downlink
o/p at 938MHz
iDEN

935 to 941MHz Band FSK





Section 8. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Jason Nixon	**Date of Test: January 7, 2005**

Minimum Standard: -20dBm

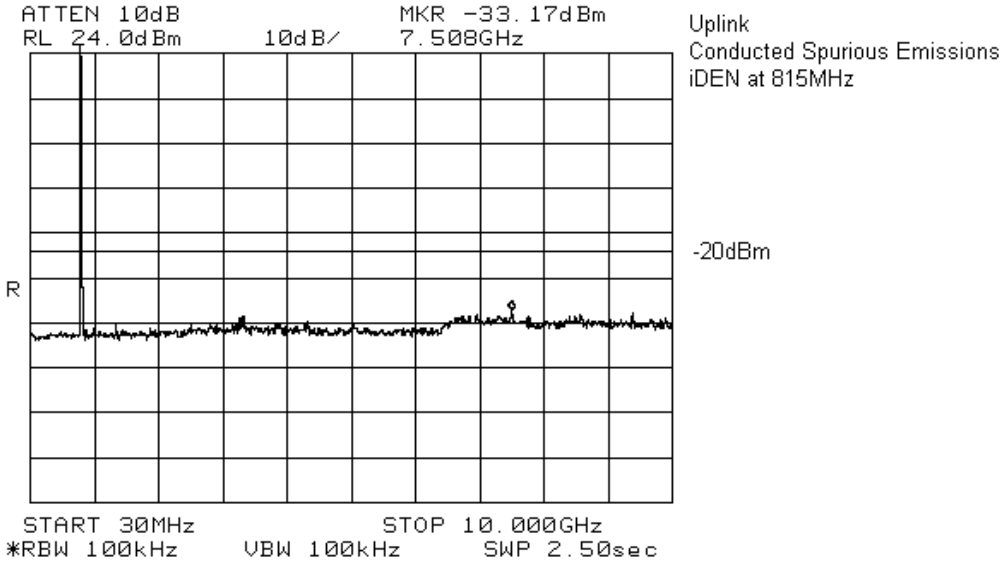
Test Results: Complies

Measurement Data: See attached graph(s).

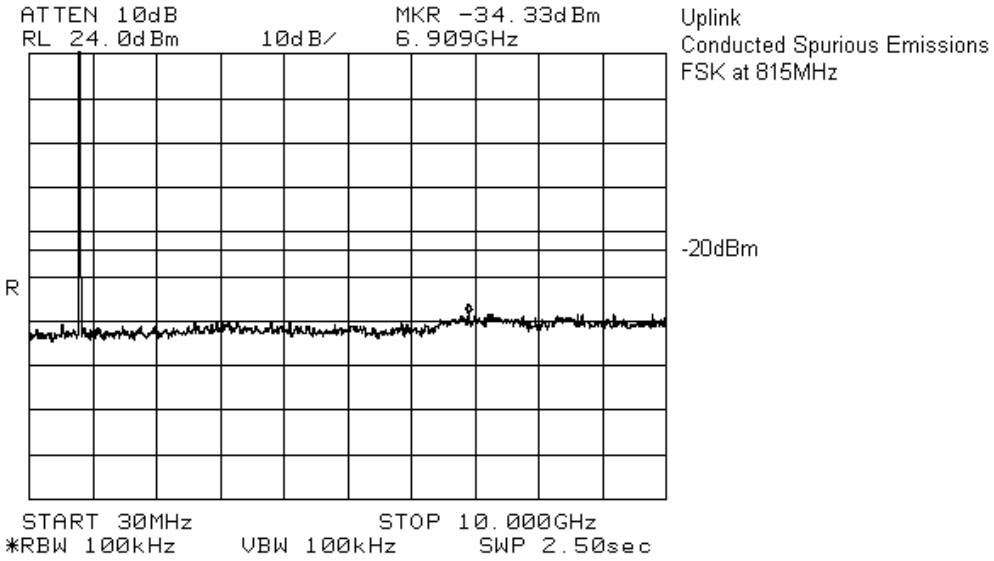
Spurious emissions were searched at low, medium and high ends of the bands for both uplink and downlink directions. Worst case plots have been included.

UpLink Conducted Emissions

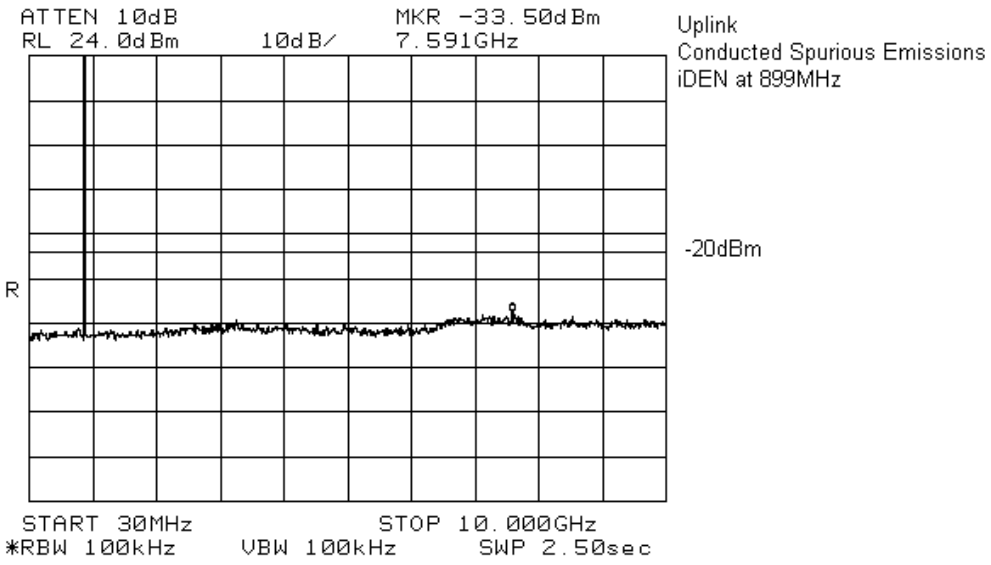
806 to 821MHz Band iDEN



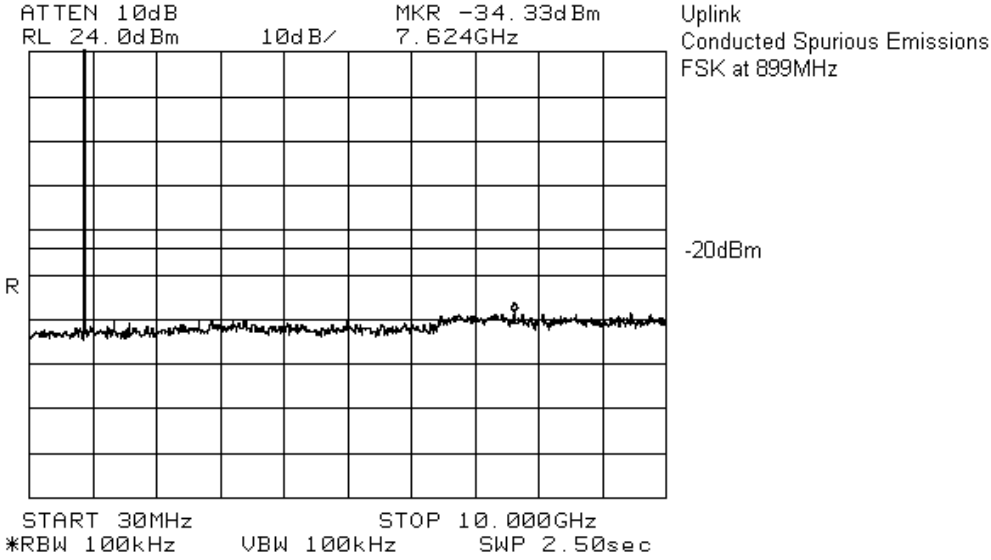
806 to 821MHz Band FSK



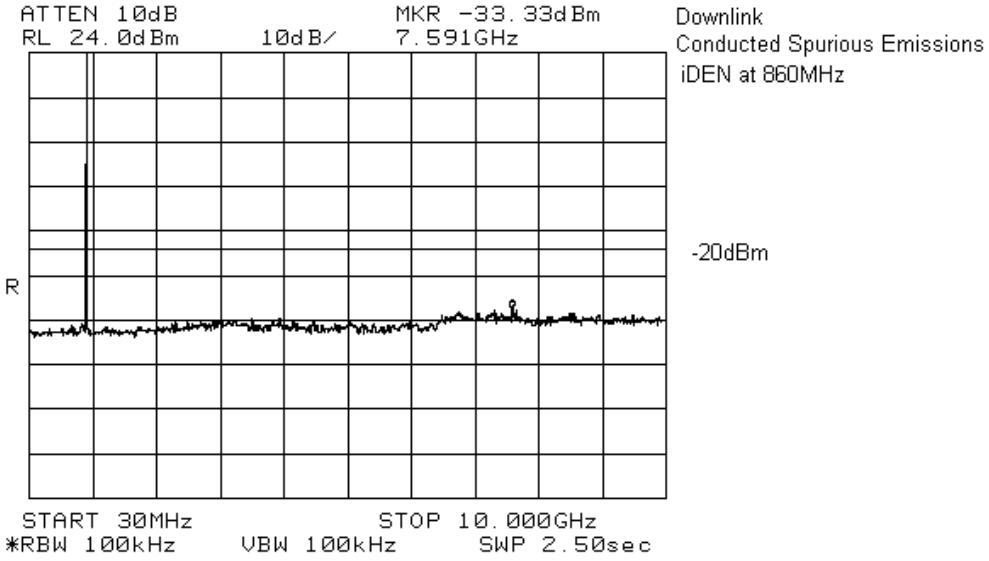
896 to 902MHz Band iDEN



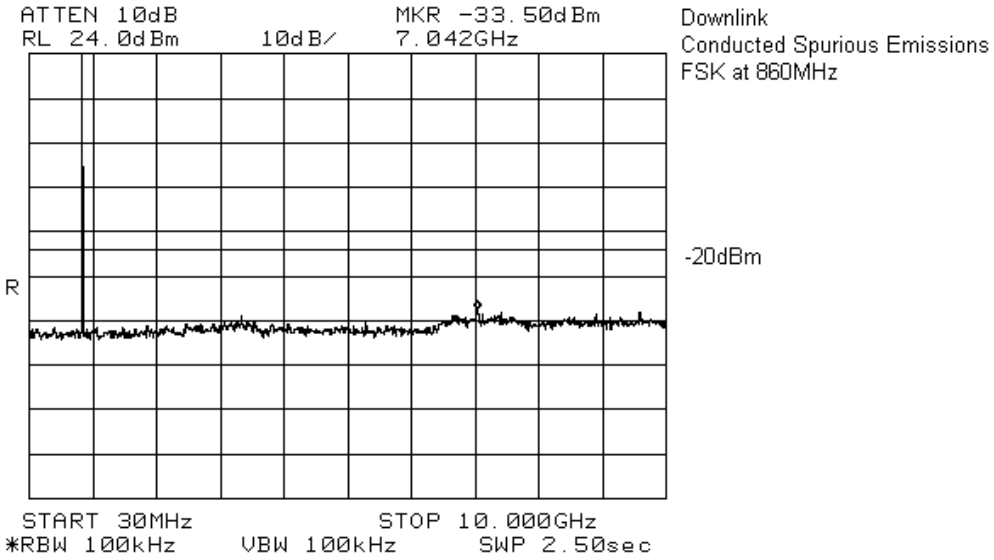
896 to 902MHz Band FSK



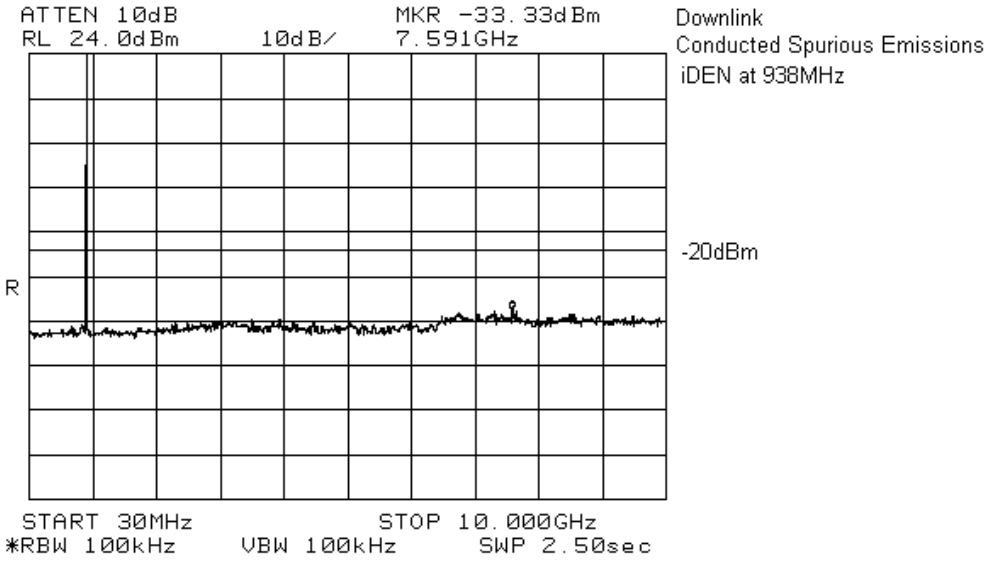
DownLink Conducted Emissions
851 to 866MHz Band iDEN



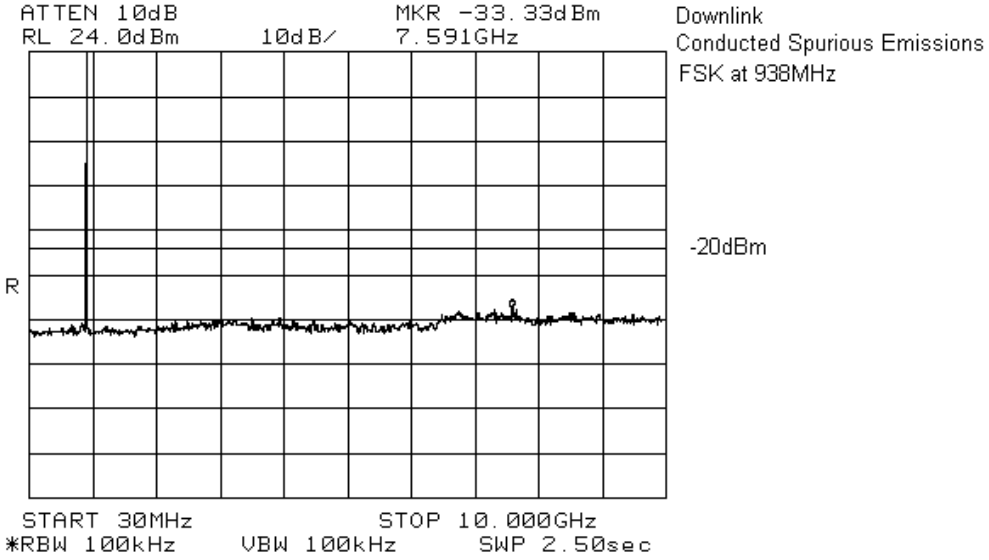
851 to 866MHz Band FSK



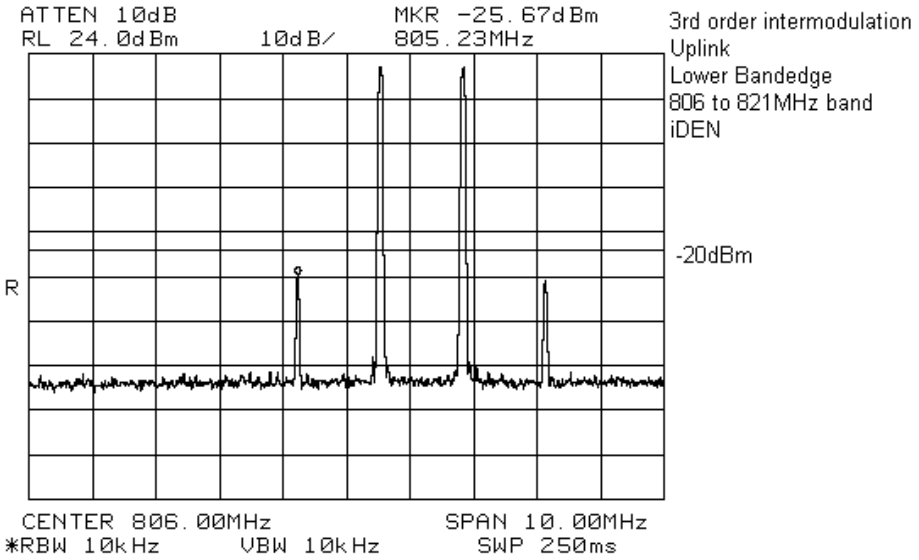
935 to 941MHz Band iDEN

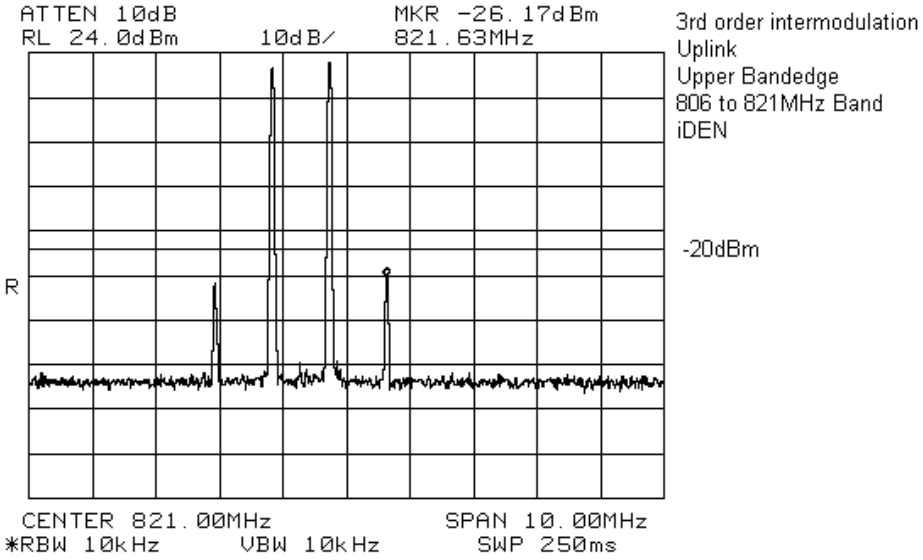


935 to 941MHz Band FSK

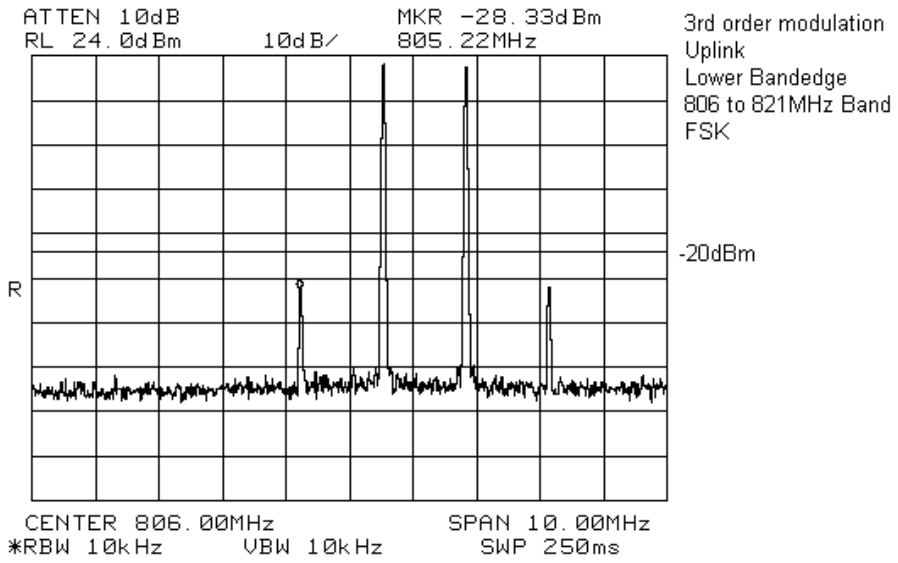


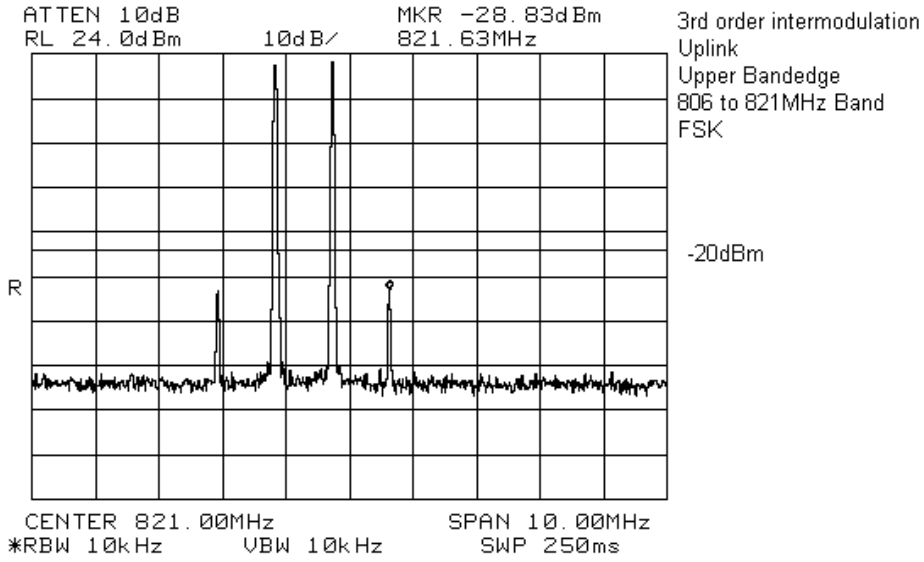
3rd Order Inter-modulation Plots
UpLink
806 to 821MHz Band iDEN



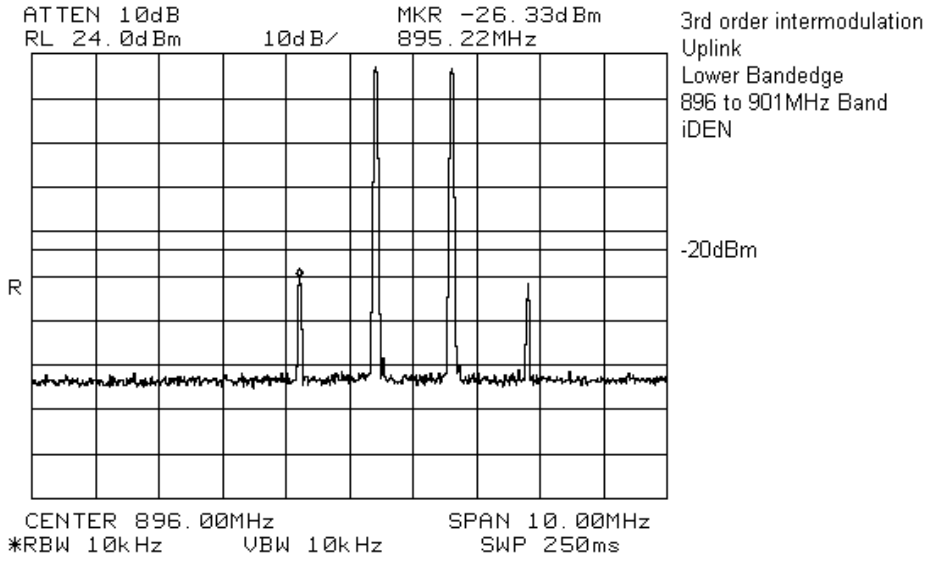


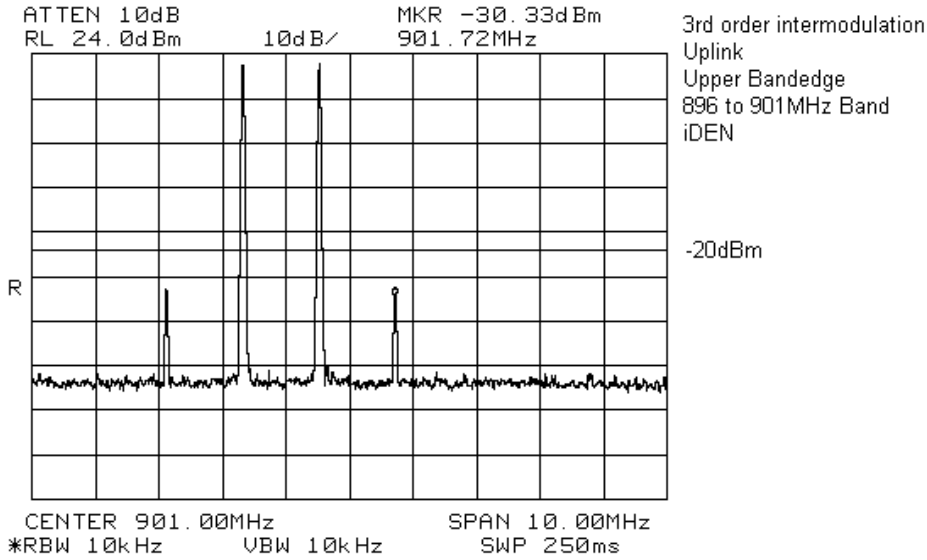
806 to 821MHz Band FSK



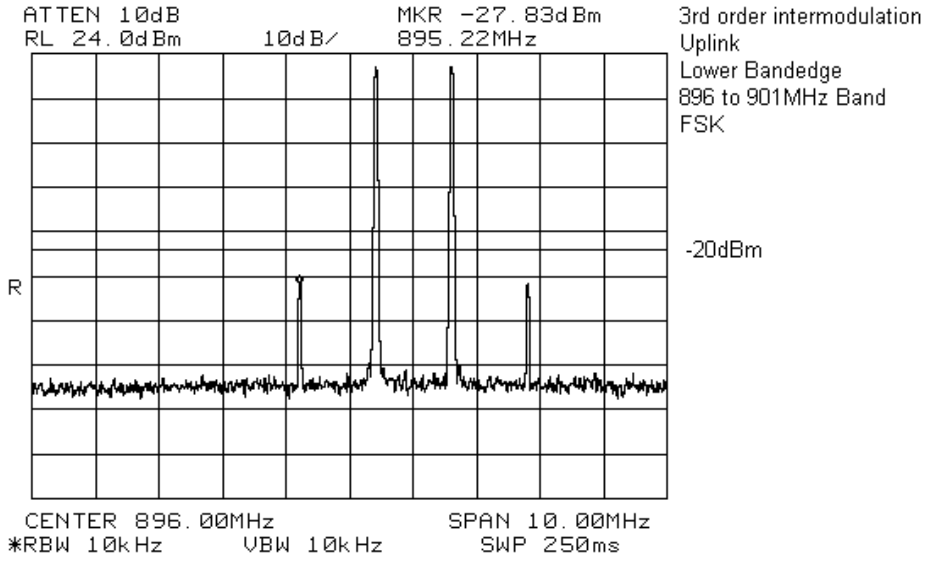


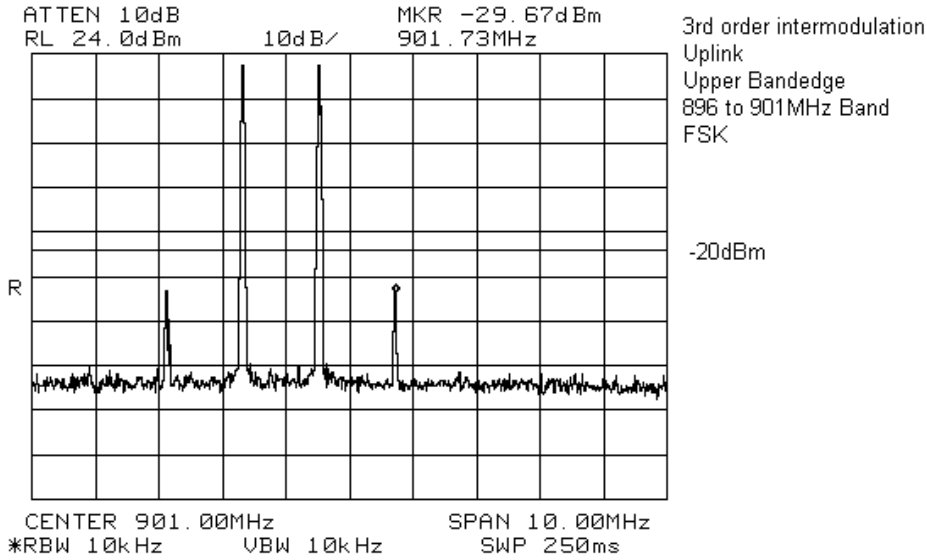
896 to 902MHz Band iDEN



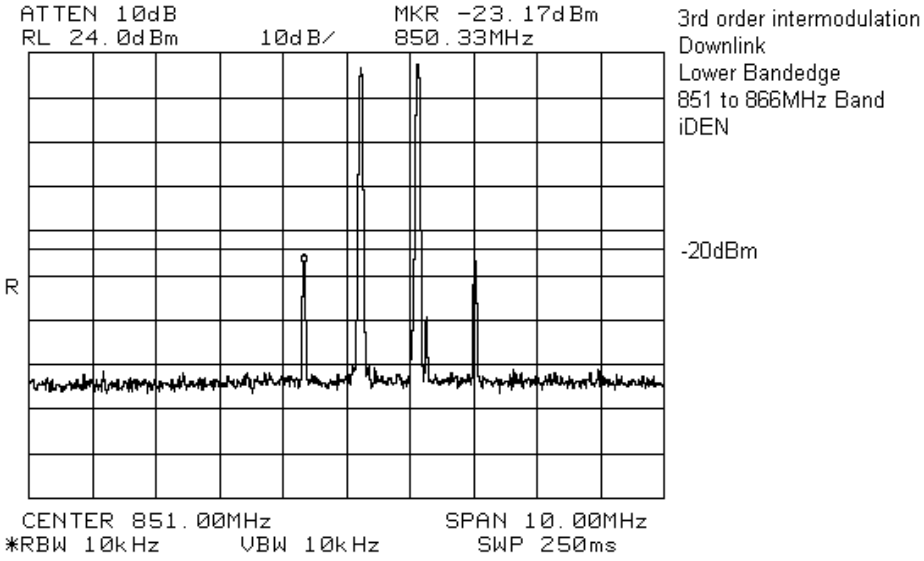


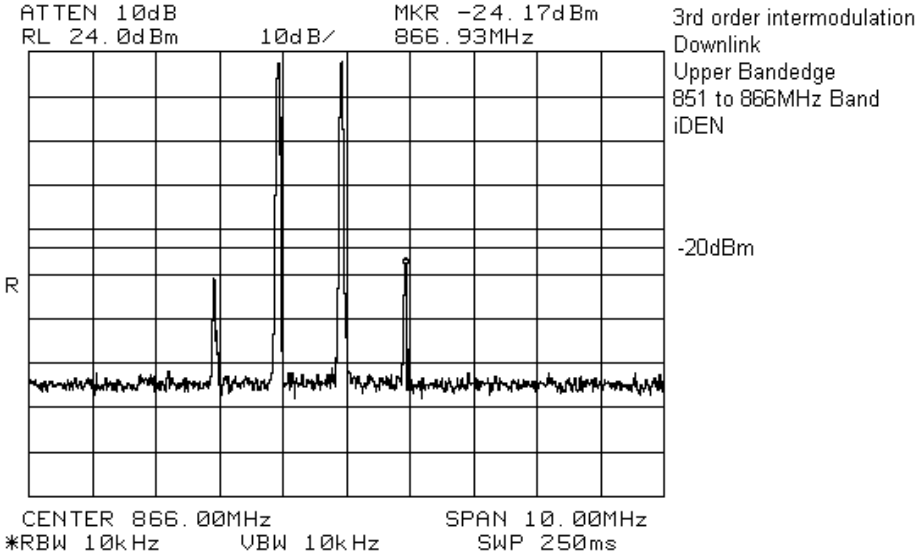
896 to 902MHz Band FSK



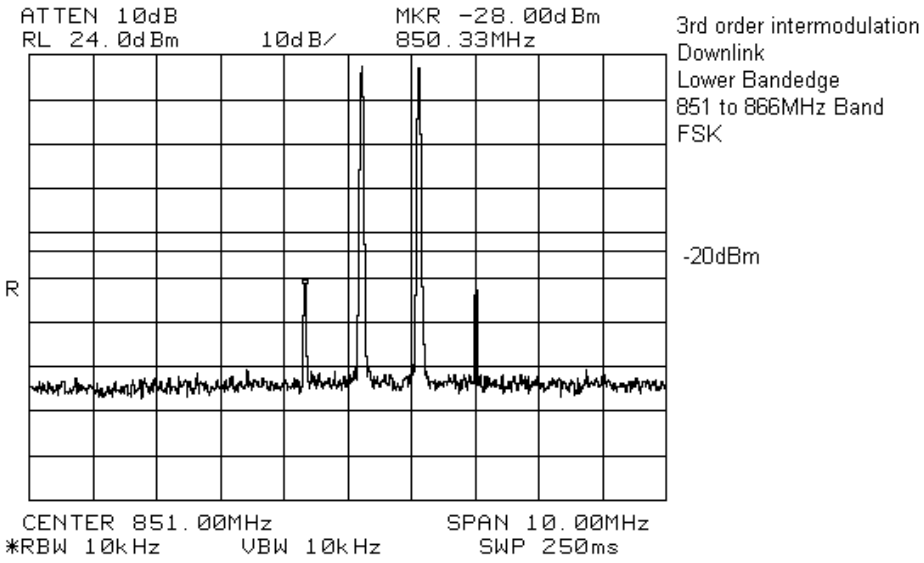


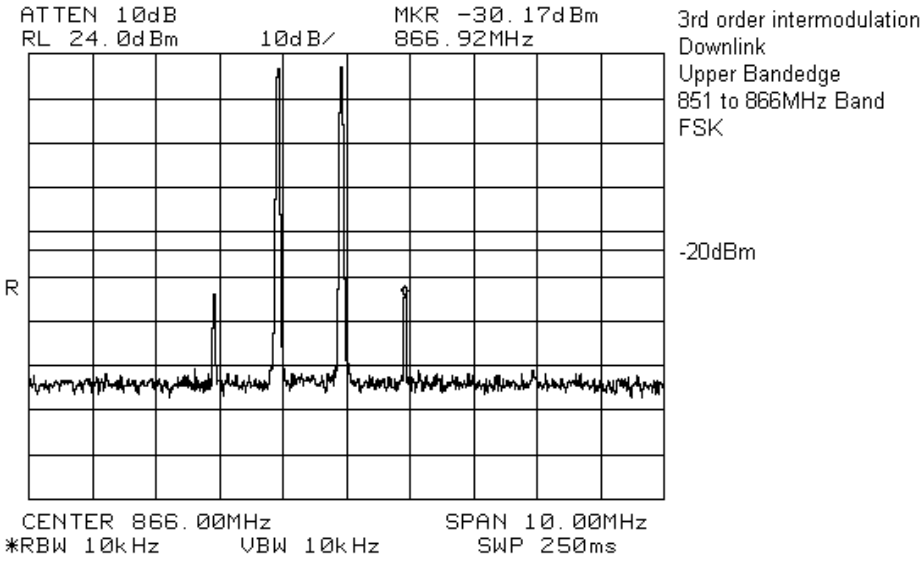
DownLink
851 to 866MHz Band iDEN



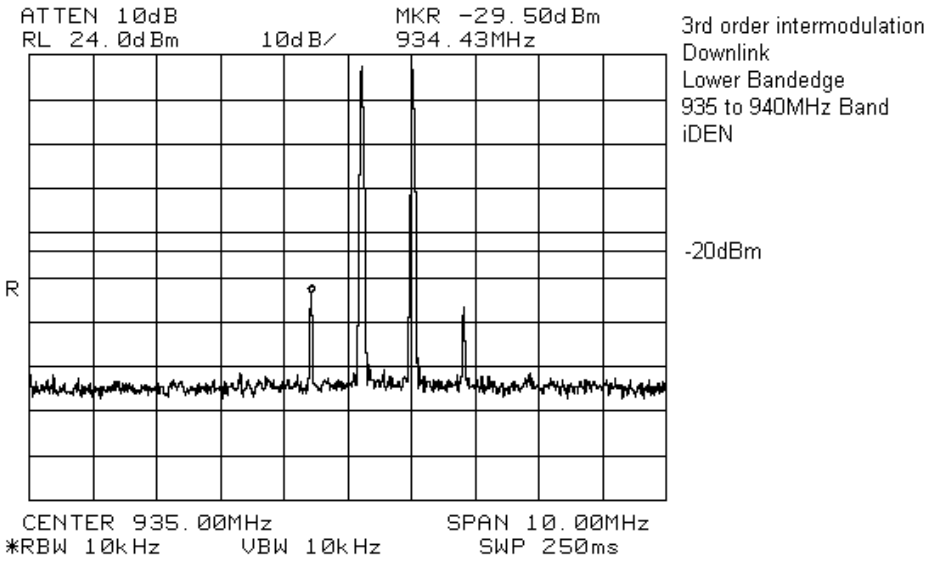


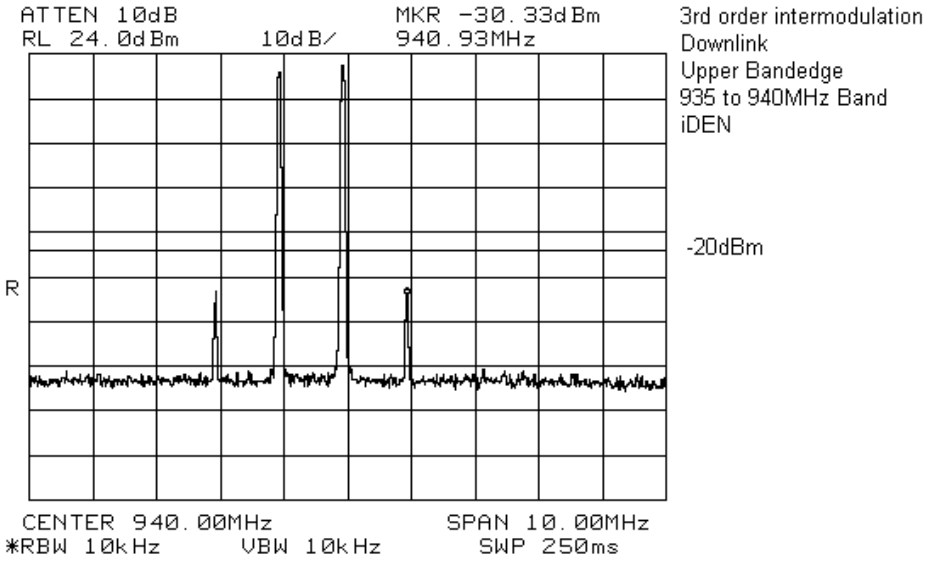
851 to 866MHz Band FSK



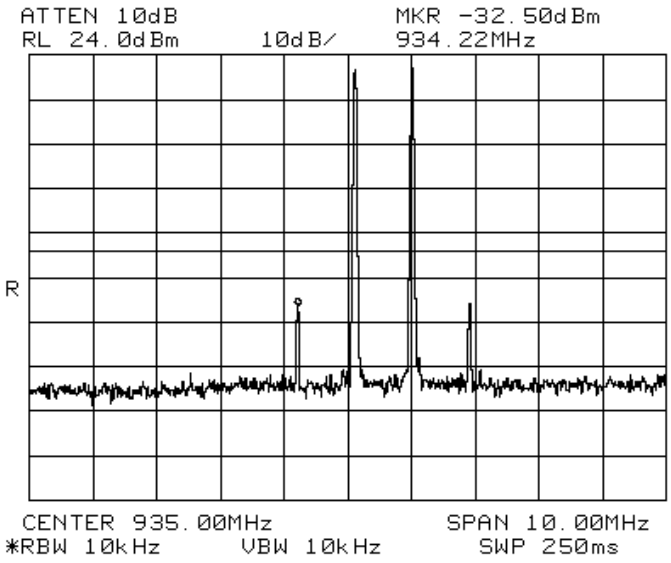


935 to 941MHz Band iDEN



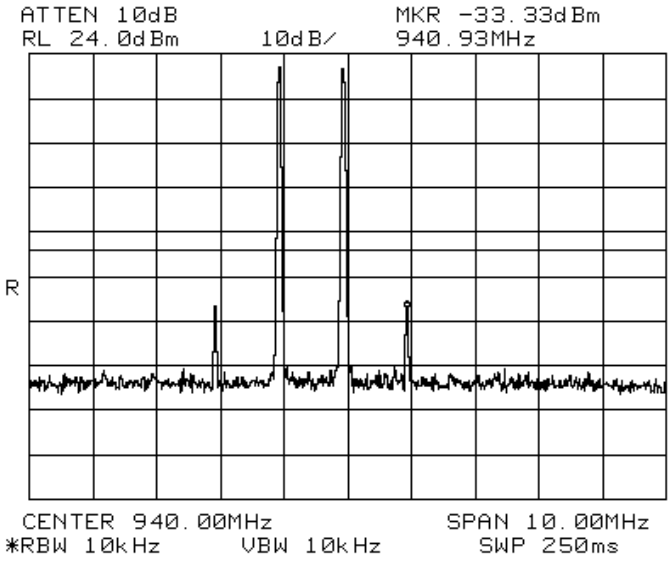


935 to 941MHz Band FSK



3rd order intermodulation
Downlink
Lower Bandedge
935 to 940MHz Band
FSK

-20dBm



3rd order intermodulation
Downlink
Upper Bandedge
935 to 940MHz Band
FSK

-20dBm

Section 9. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Jason Nixon	**Date of Test: January 14, 2005**

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.

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	71.7	-115.4	N/A	-43.8	-20.0	23.8
1876.0000	Horn2	H	66.7	-116.3	N/A	-49.7	-20.0	29.7
2814.0000	Horn2	V	71.3	-122.6	N/A	-51.3	-20.0	31.3
2814.0000	Horn2	H	66.2	-123.7	N/A	-57.5	-20.0	37.5

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

Photographs of Test Setup (Worst Case Configuration)

Front View

Rear View

Section 7. Out of Band Rejection

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

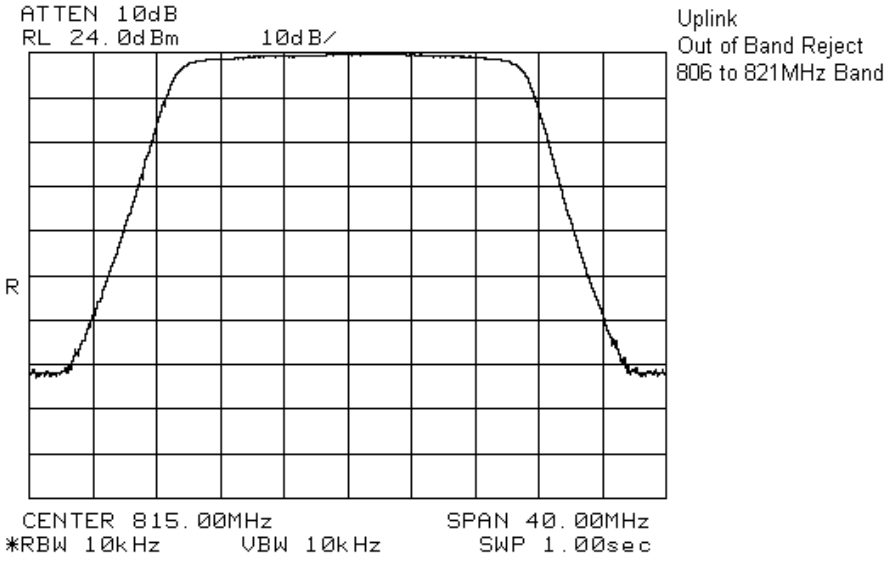
Test Performed By: Jason Nixon	**Date of Test: January 17, 2005**

Minimum Standard: -20dBm

Test Results: Complies

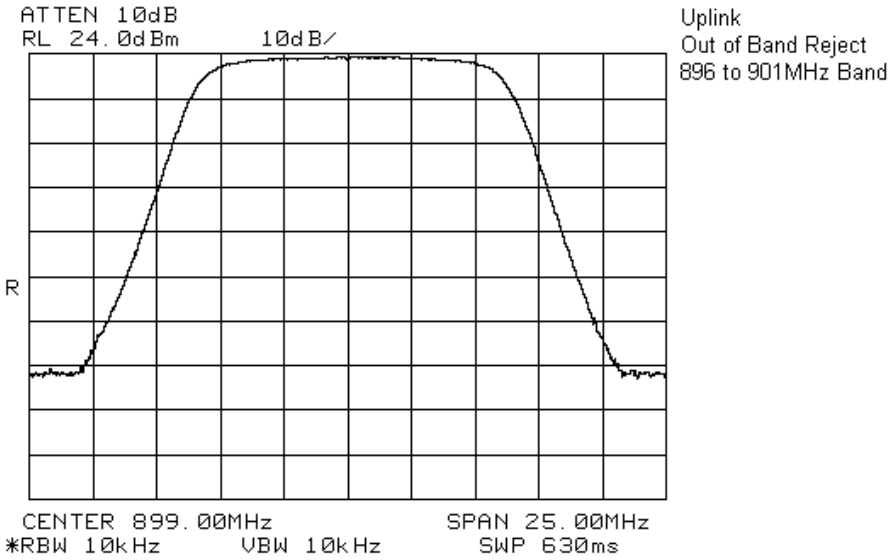
Measurement Data: See attached plots.

UpLink
806 to 821MHz Band



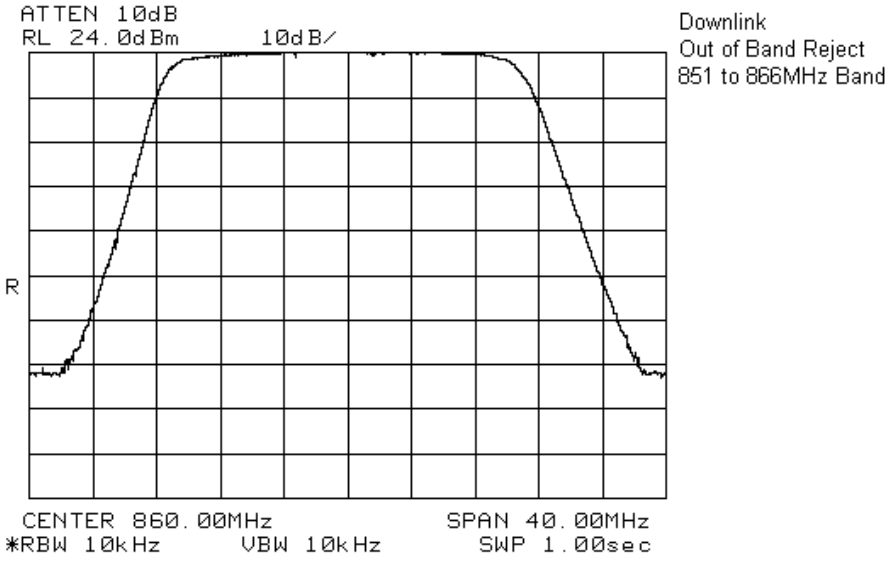
Uplink
Out of Band Reject
806 to 821MHz Band

896 to 902MHz Band

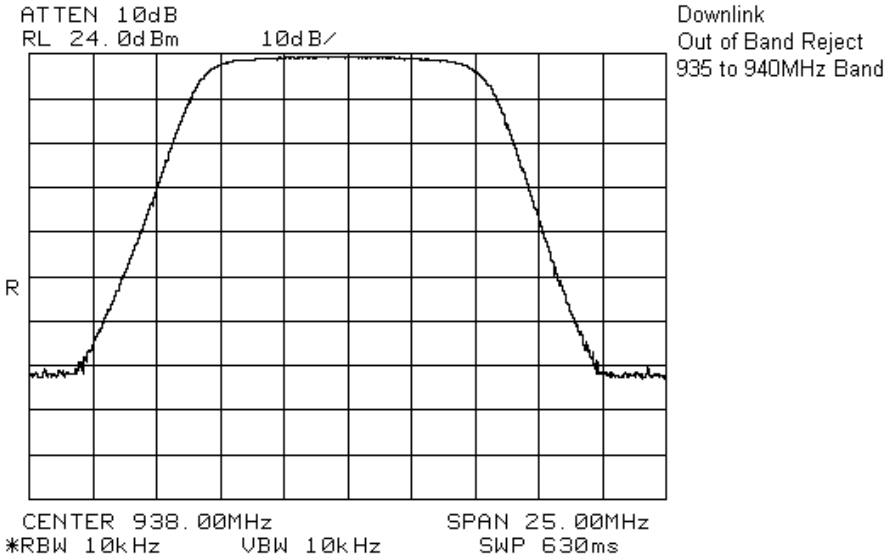


Uplink
Out of Band Reject
896 to 901MHz Band

DownLink
851 to 866MHz Band



935 to 941MHz Band



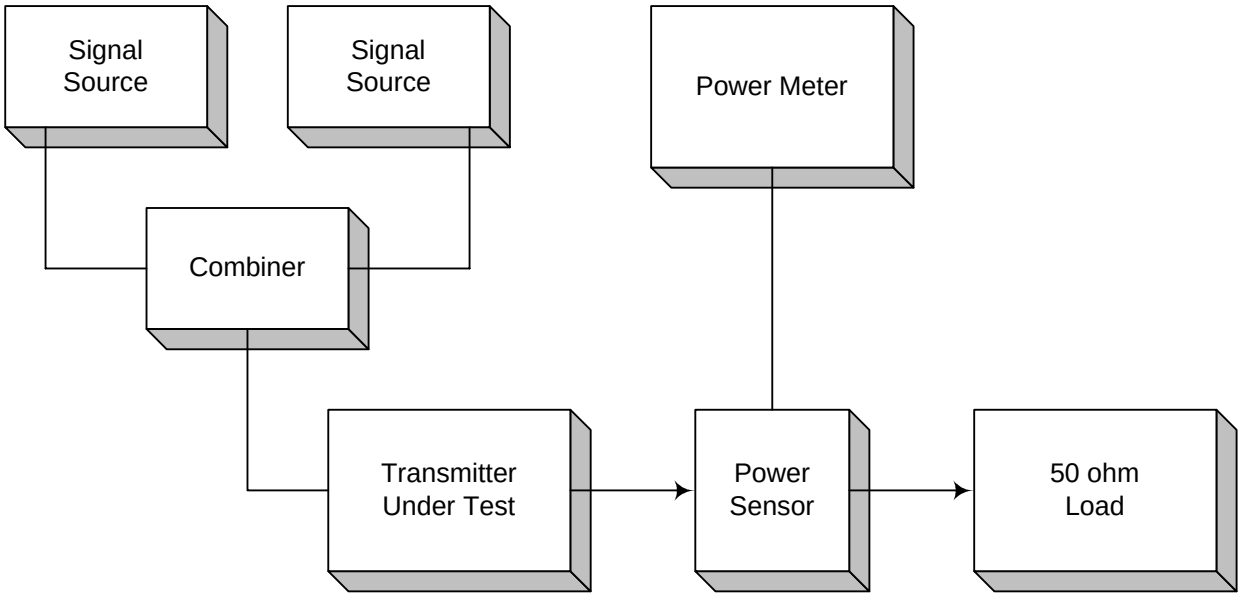
Section 12. Test Equipment List

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

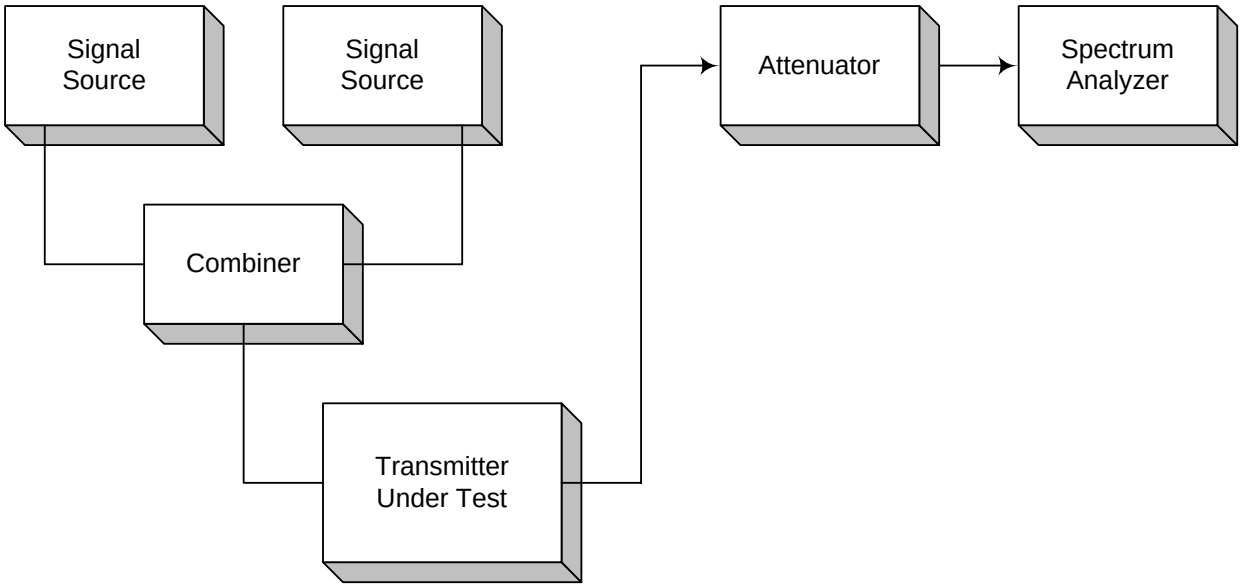
Annex A

Test Diagrams

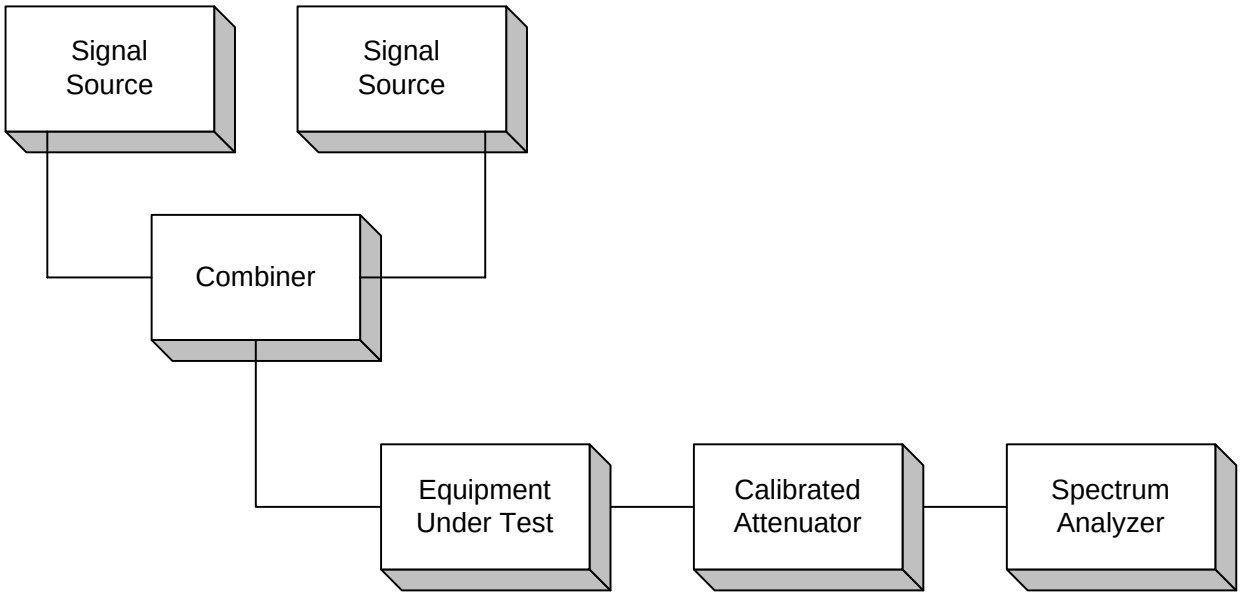
Para. No. 2.1046 - R.F. Power Output



Para. No. 2.1049 - Occupied Bandwidth



Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation