Test Report:	3W06532
Applicant:	Dekolink Wireless Ltd. 16 Bazel St. Qiryat-Arieh Petah-Tikva, 49510 Israel
Equipment Under Test: (EUT)	Bi-Directional Amplifier Model MW-BDA-800B-50W90
FCC ID:	OIW BDA800BB50W90
In Accordance With:	**FCC Part 22, Subpart H**
Tested By:	Nemko Canada Inc. 303 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	 Glen Westwell, Wireless Technologist
Date:	21 July 2003
Total Number of Pages:	65

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 22, Subpart H.

☒	New Submission	☒	Production Unit
☐	Class II Permissive Change	☐	Pre-Production Unit

A	M	P	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 July 2003
Russell Grant

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
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

Footnotes For N/A's:
This equipment does not have any frequency generating circuits.

Indoor	Temperature:	24°C
	Humidity:	41%
Outdoor	Temperature:	27°C
	Humidity:	45%

Section 2. General Equipment Specification

Manufacturer:	Dekolink Wireless Ltd.
Model No.	MW-BDA-800B-50W90
Serial No:	03066109
Date Received In Laboratory:	July 8, 2003
Nemko Identification No.:	1
Supply Voltage:	120VAC, 60Hz
Frequency Range:	Uplink: 835-849 MHz Downlink: 880-894MHz
RF Output Power (Rated):	Downlink: 40dBm Uplink: 30dBm
Emission Designator:	TDMA: DXW GSM: GXW CDMA: F9W

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Russell Grant	**Date of Test: July 14, 2003**

Minimum Standard: 22.913(a), 500 W ERP

Test Results: Complies The maximum output power is 12.0 Watts ERP. This is 16.2 dB below the specification limit. The measured output power is within 1 dB of the manufacturers rated output power.

Down Link Rated Output Power: 40 dBm
Up Link: Rated Output Power 30 dBm

	Measured Output Power	Typical Antenna Gain	ERP	
	(dBm)	(dB_d)	(dBm)	(Watts)
Up Link	30.1 to 30.3	8	38.3	6.8
Down Link	40.1 to 40.8	0	40.8	12.0

Note: Output power is reduced via AGC according to channel loading.

Down Link per channel power $= \left(\frac{10}{N}\right) Watts$, N=number of channels.

Up Link per channel power $= \left(\frac{1}{N}\right) Watts$, N=number of channels.

Section 4. Occupied Bandwidth

Para. No.: 2.1049

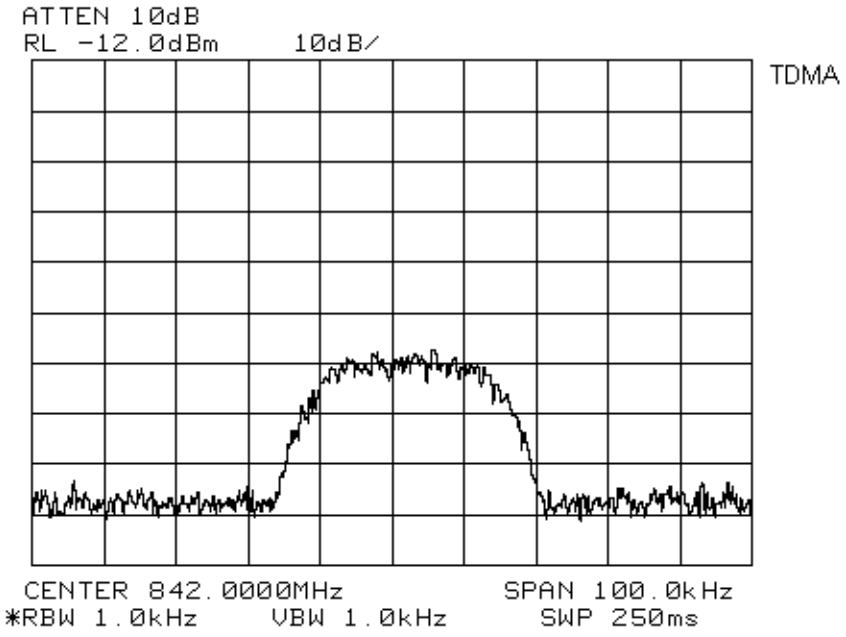
Test Performed By: Russell Grant	**Date of Test: July 16, 2003**

Minimum Standard: 22.917(a)

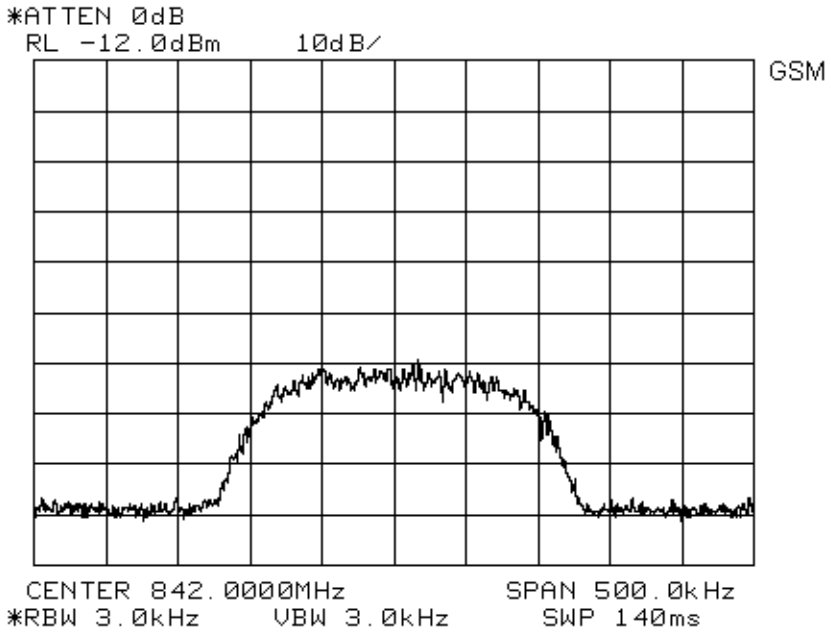
Test Results: Complies. There was no degradation in the occupied bandwidth.

Measurement Data: See attached graphs.

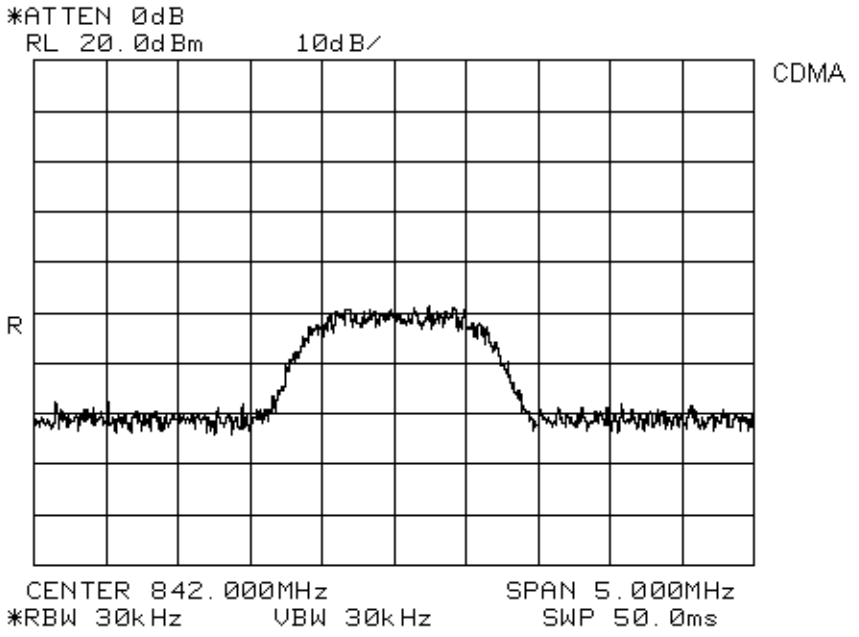
The occupied bandwidth was measured by comparison of input to the output signal. This was done in order to determine if there was any degradation to the output signal due to the amplification through the repeater.



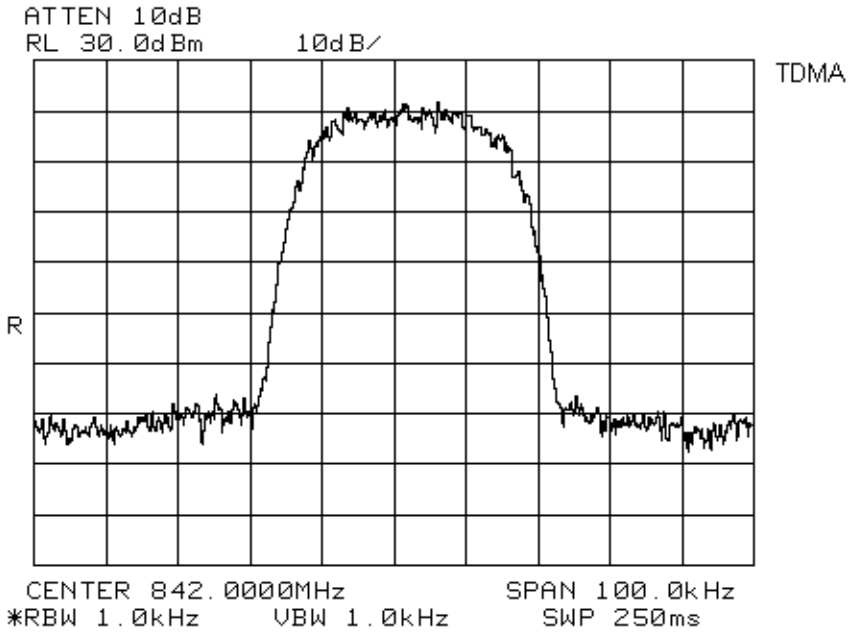
TDMA Input Signal



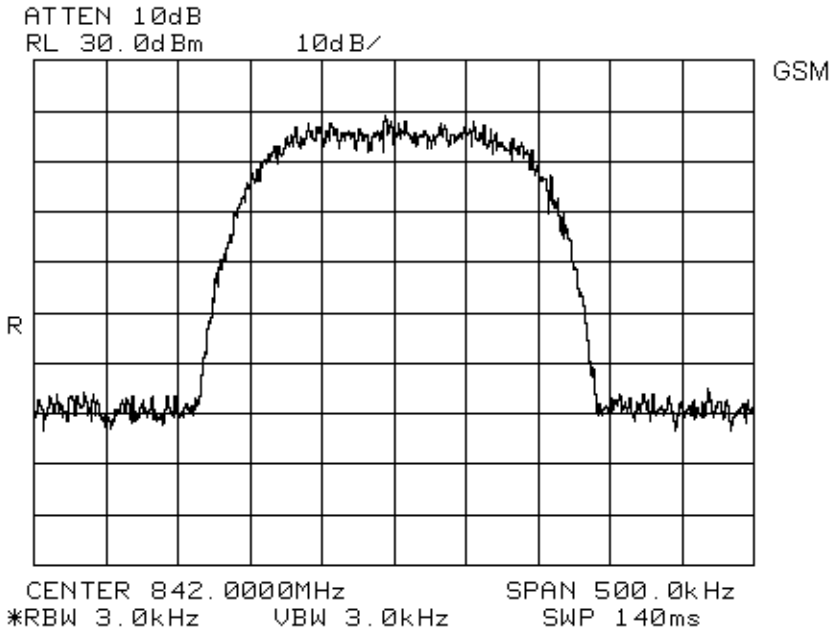
GSM Input Signal



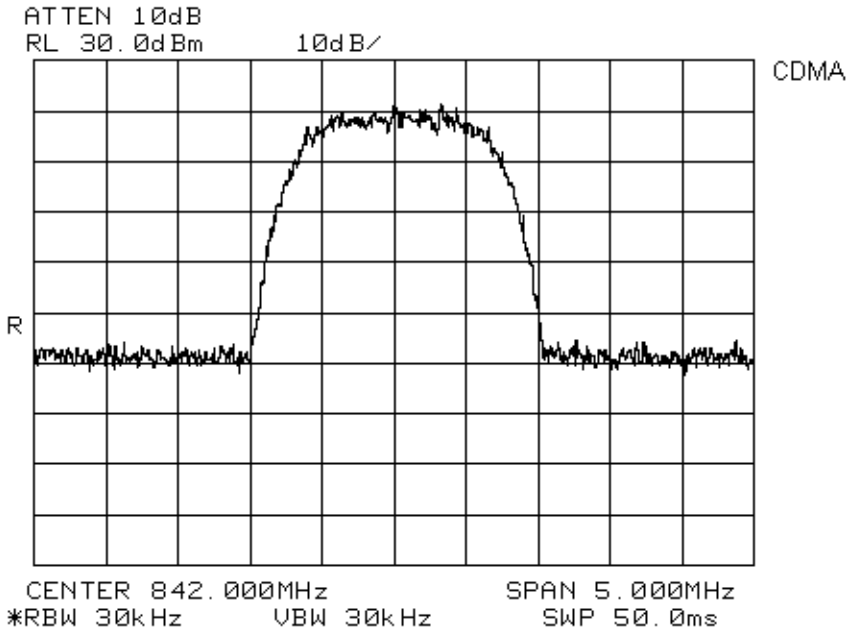
CDMA Input Signal



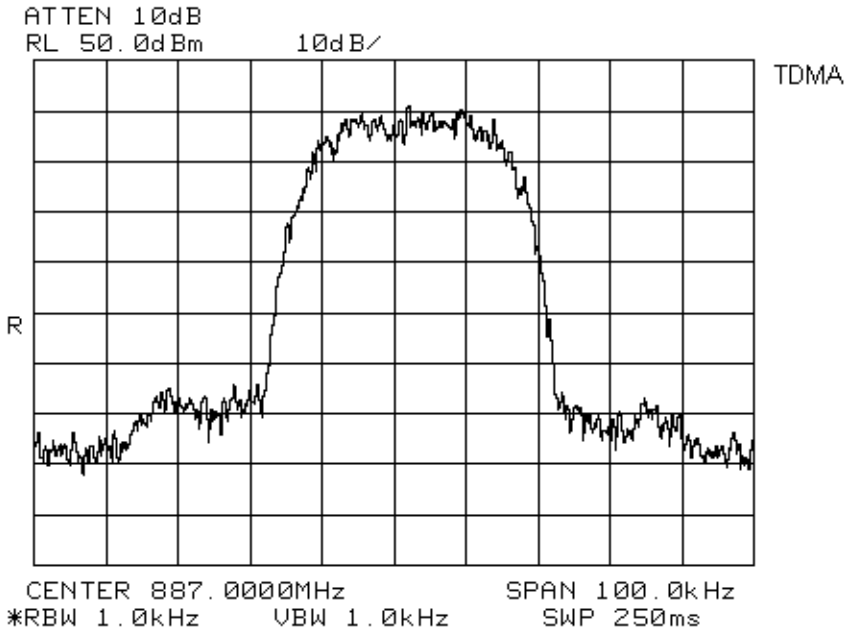
Up Link TDMA Occupied Bandwidth



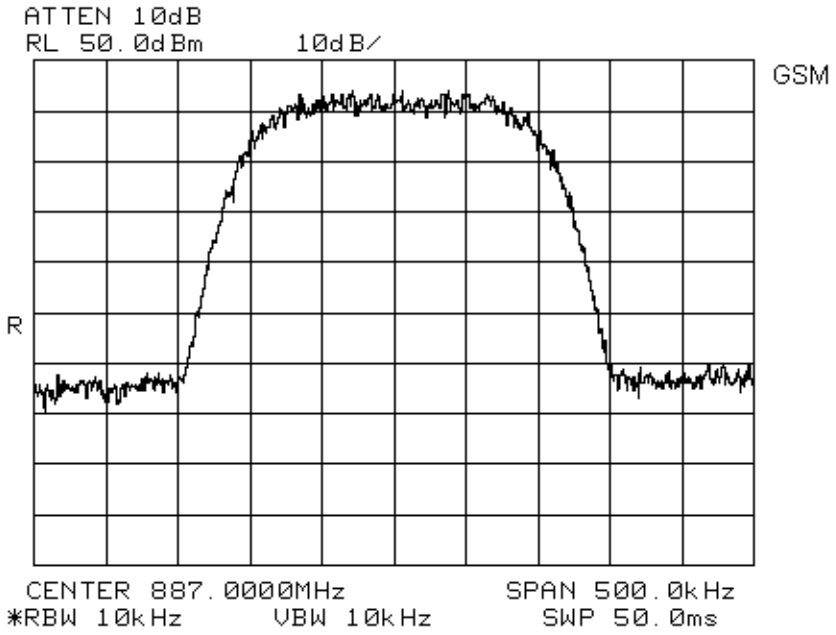
Up Link GSM Occupied Bandwidth



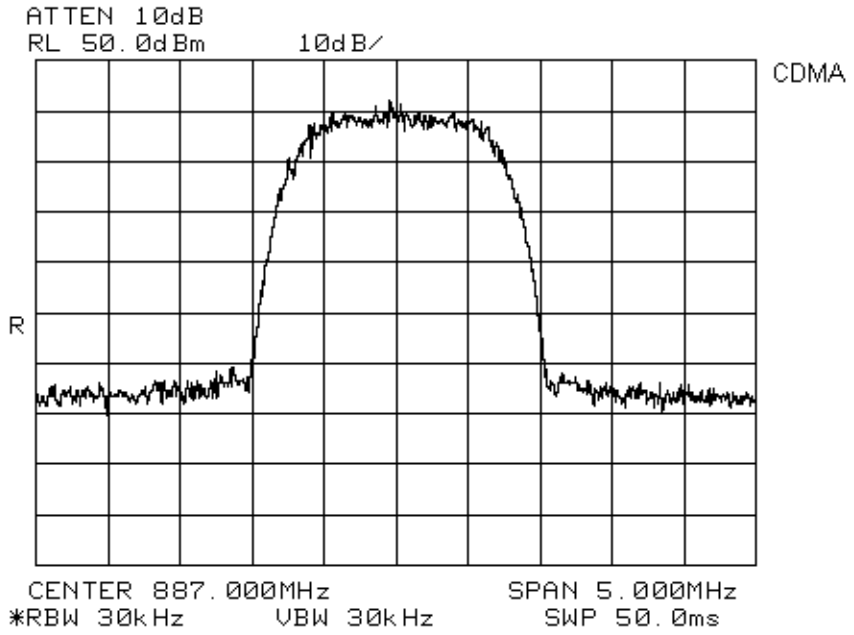
Up Link CDMA Occupied Bandwidth



Down Link TDMA Occupied Bandwidth



Down Link GSM Occupied Bandwidth



Down Link CDMA Occupied Bandwidth

Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

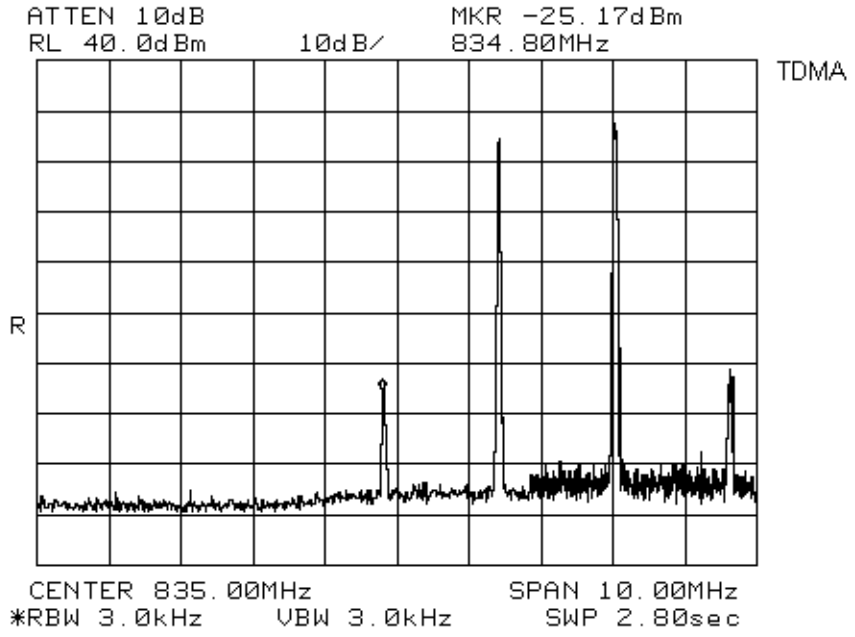
Test Performed By: Russell Grant	**Date of Test: July 16, 2003**

Minimum Standard: 22.917(a), -13 dBm

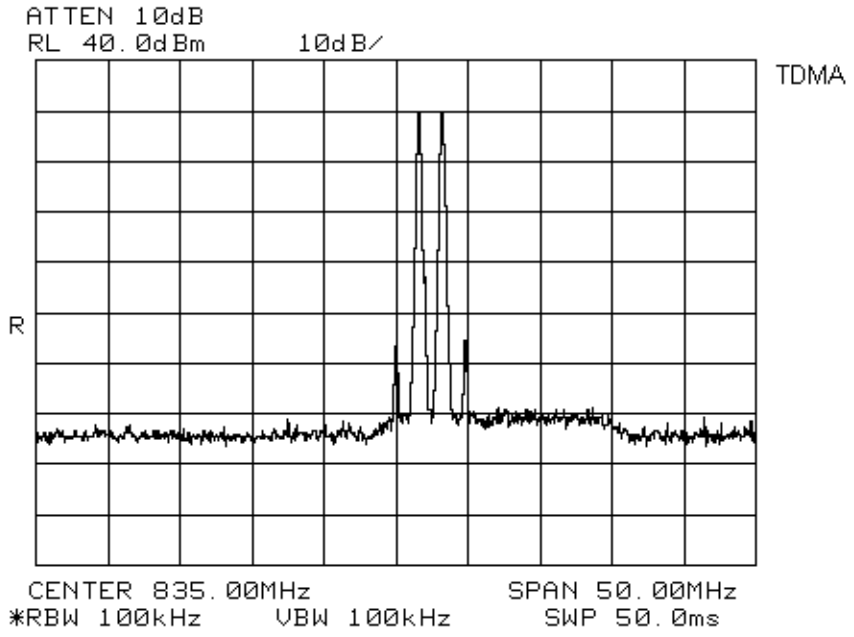
Test Results: Complies. The worst case emission is –18.3 dBm at 878.3 MHz. This is 5.3 dB below the specification limit.

The spectrum was search from 30 MHz up to the 10^{th} harmonic of the fundamental frequency of operation. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission was used.

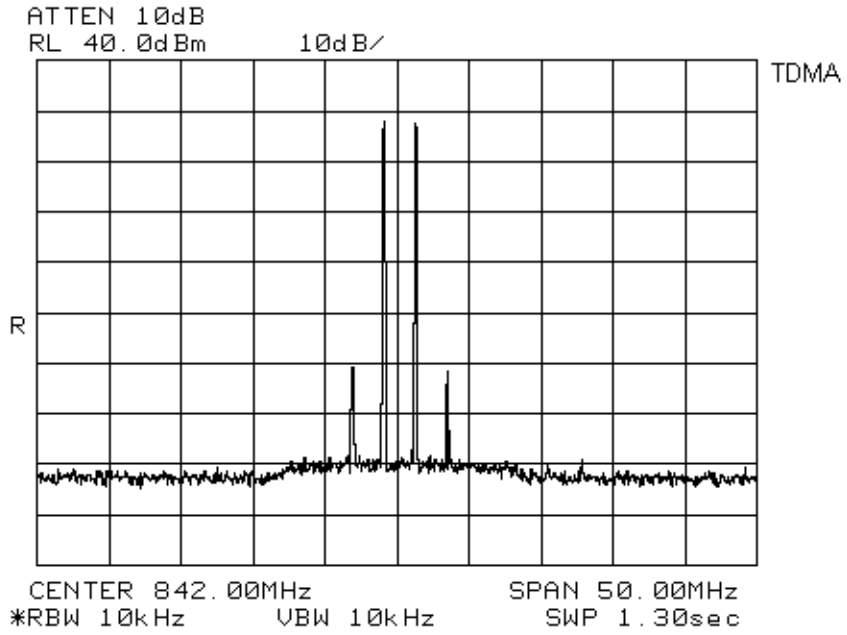
Measurement Data: See attached graph(s).



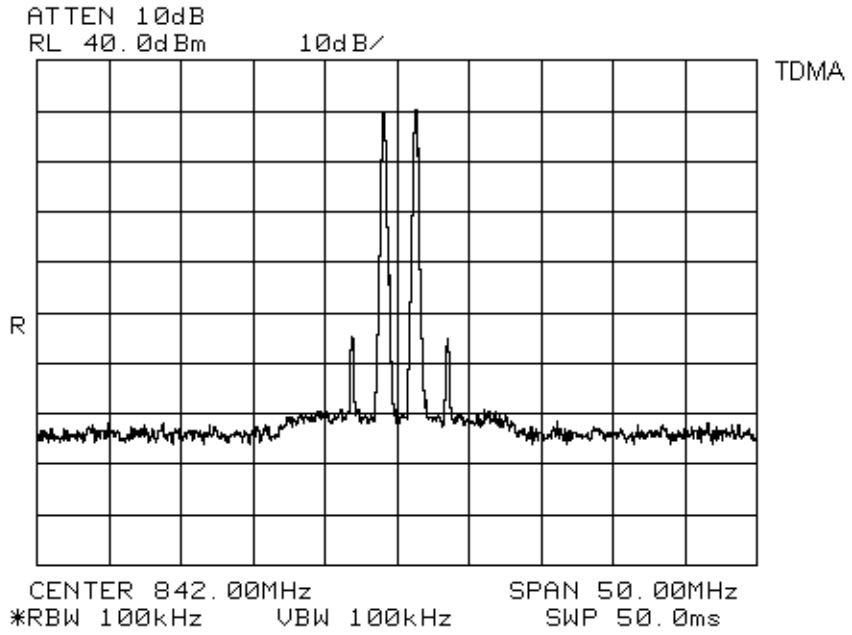
UP LINK
TX 836.4 MHz, 838 MHz
0.5 Watts per carrier



UP LINK
TX 836.4 MHz, 838 MHz
0.5 Watts per carrier



UP LINK
TX 840.9 MHz, 843.1 MHz
0.5 Watts per carrier



UP LINK
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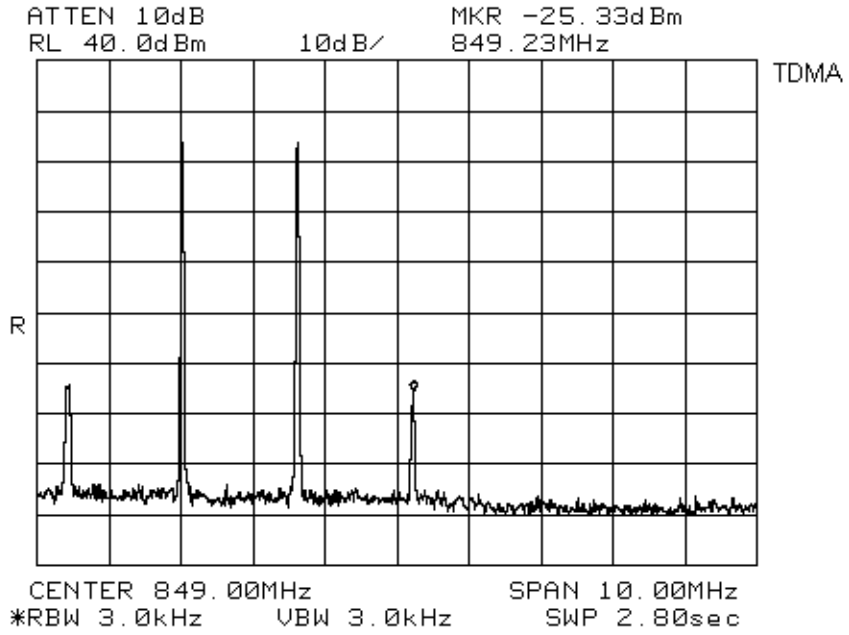
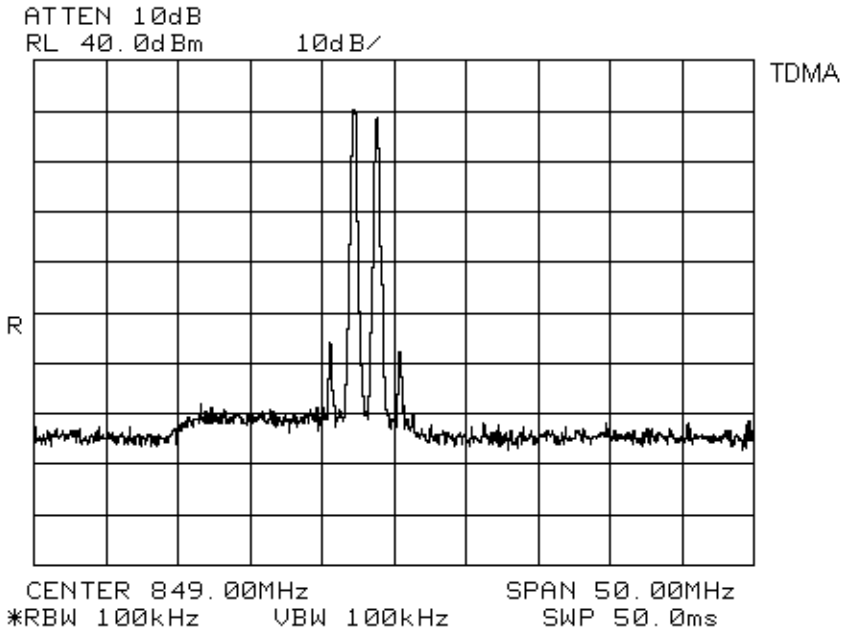
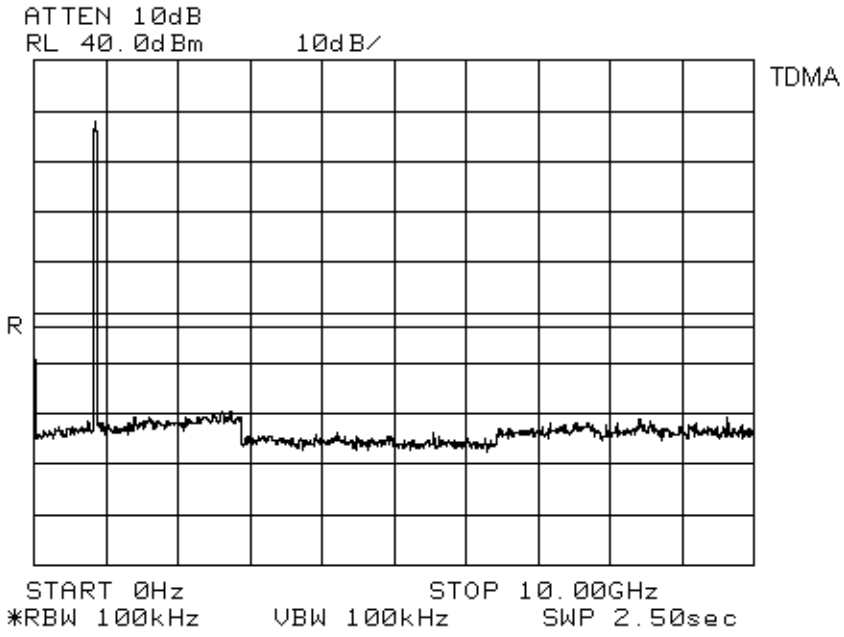
0.5 Watts per carrier

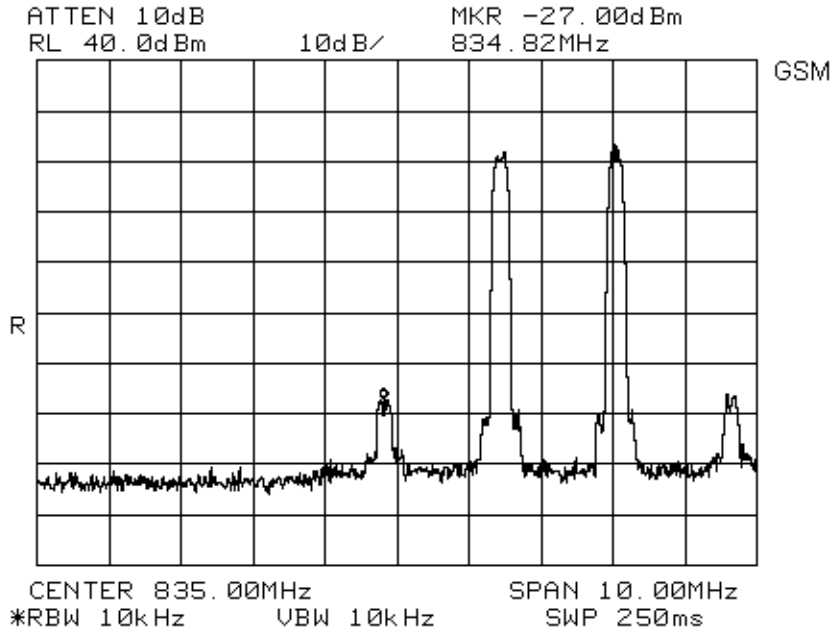


UP LINK
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier

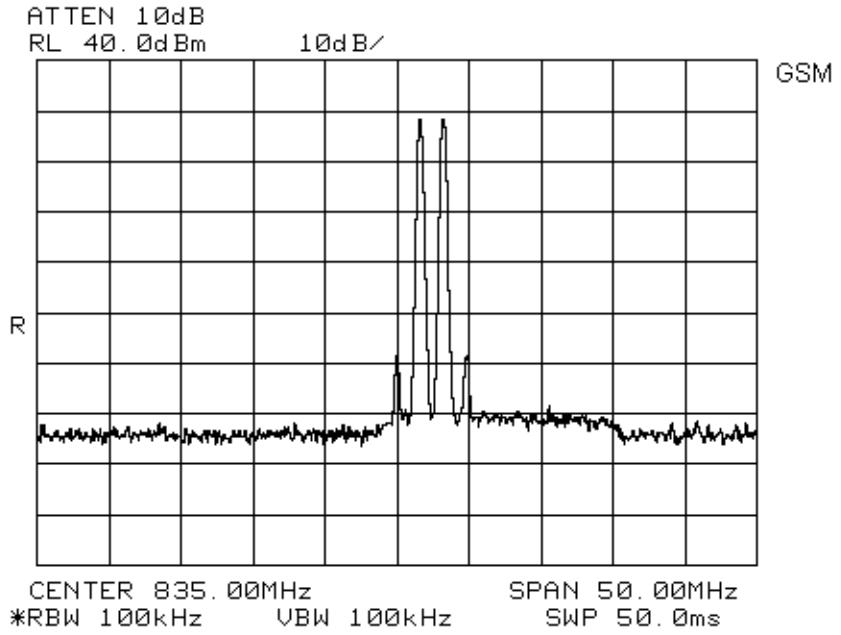


UP LINK
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier


ATTEN 10dB
RL 40.0dBm
10dB/
TDMA
R
START 0Hz
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec



UP LINK
TX 836.4 MHz, 838 MHz
0.5 Watts per carrier



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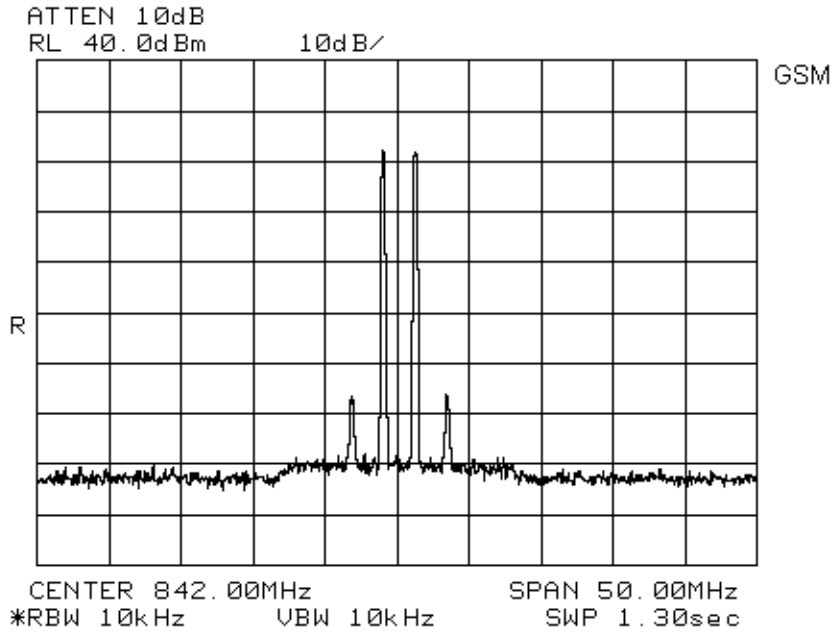
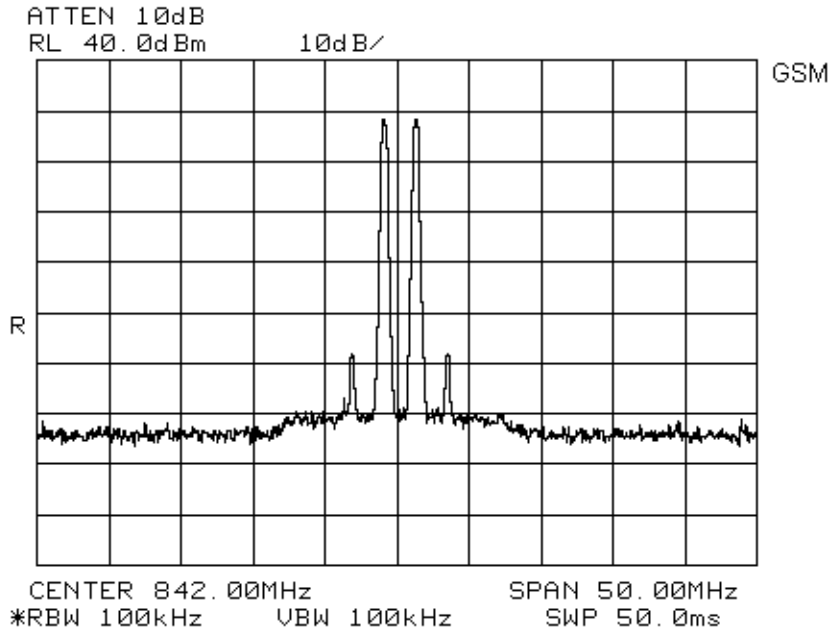
TX 836.4 MHz, 838 MHz
0.5 Watts per carrier



UP LINK
TX 840.9 MHz, 843.1 MHz
0.5 Watts per carrier



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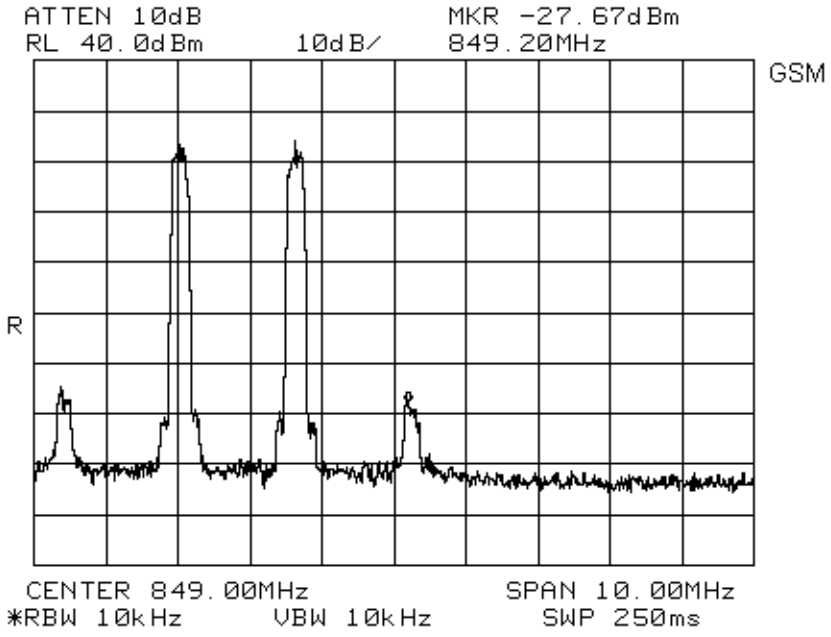
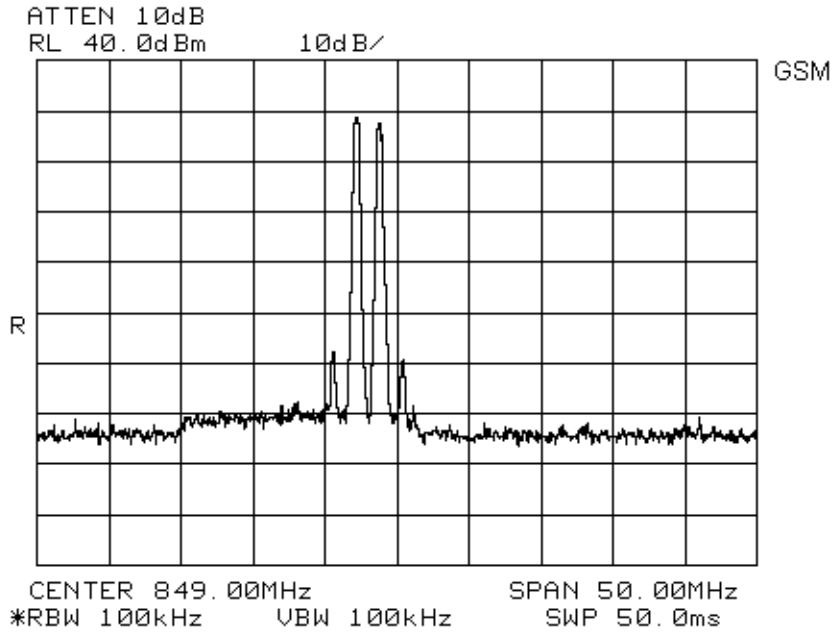
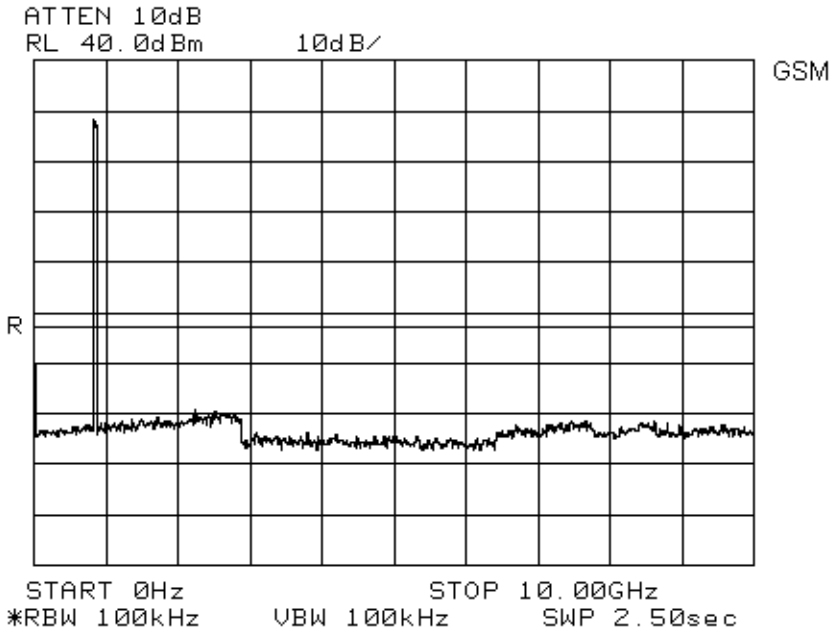


UP LINK
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier



UP LINK
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier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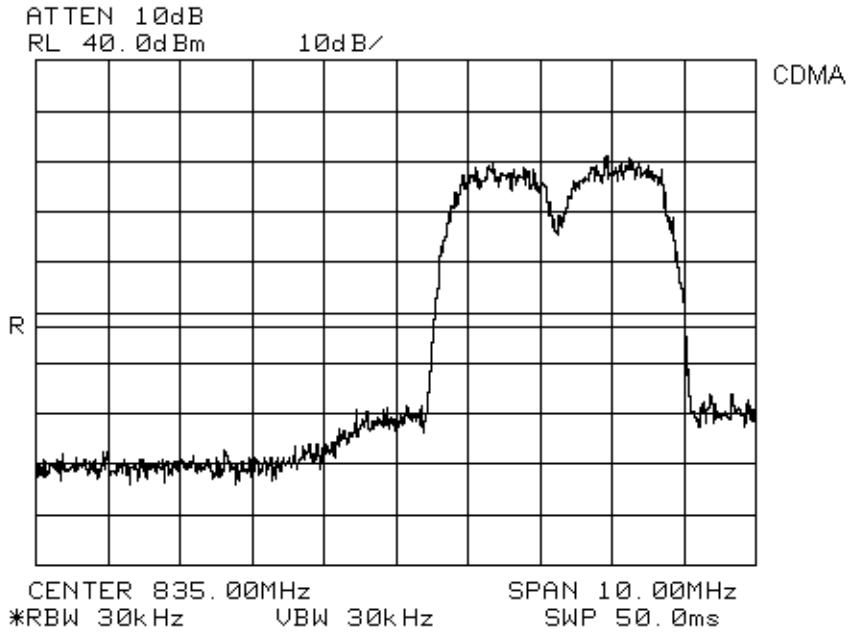
10dB/
GSM
R
START 0Hz
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec



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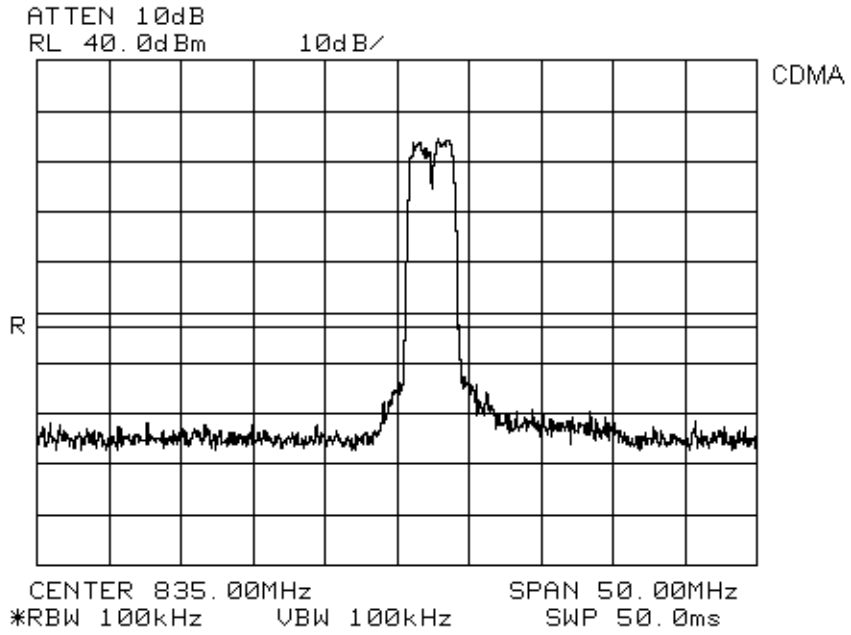
0.5 Watts per carrier



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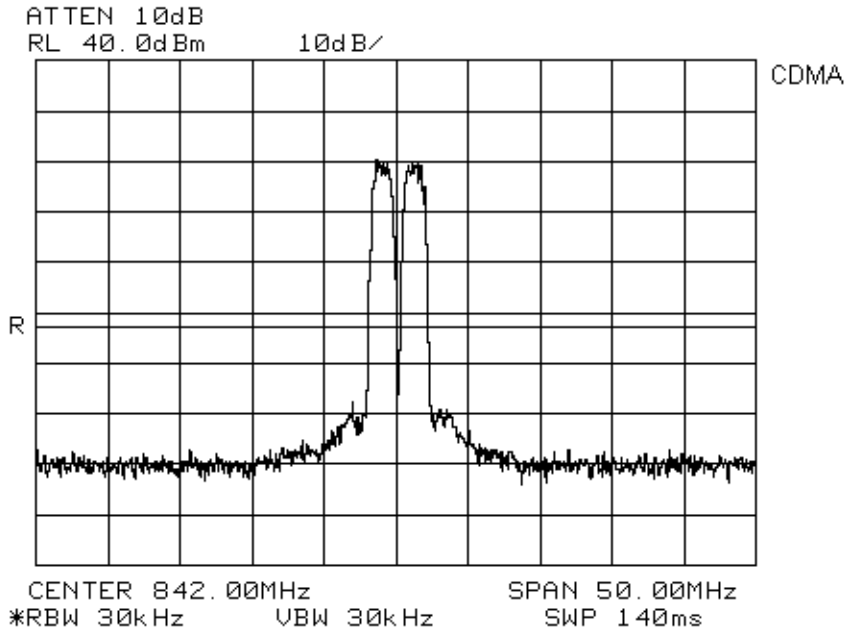
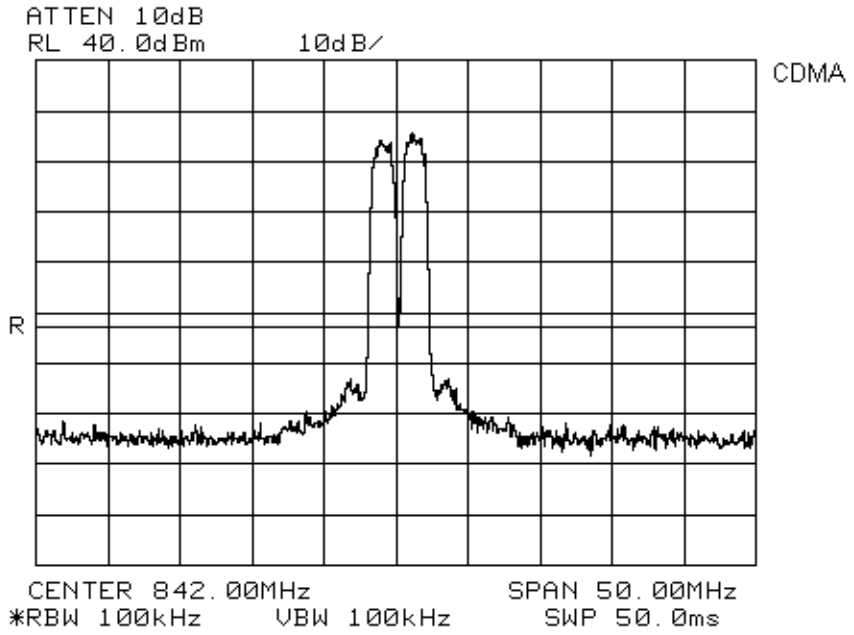
TX 836.4 MHz, 838 MHz
0.5 Watts per carrier



UP LINK
TX 840.9 MHz, 843.1 MHz
0.5 Watts per carrier



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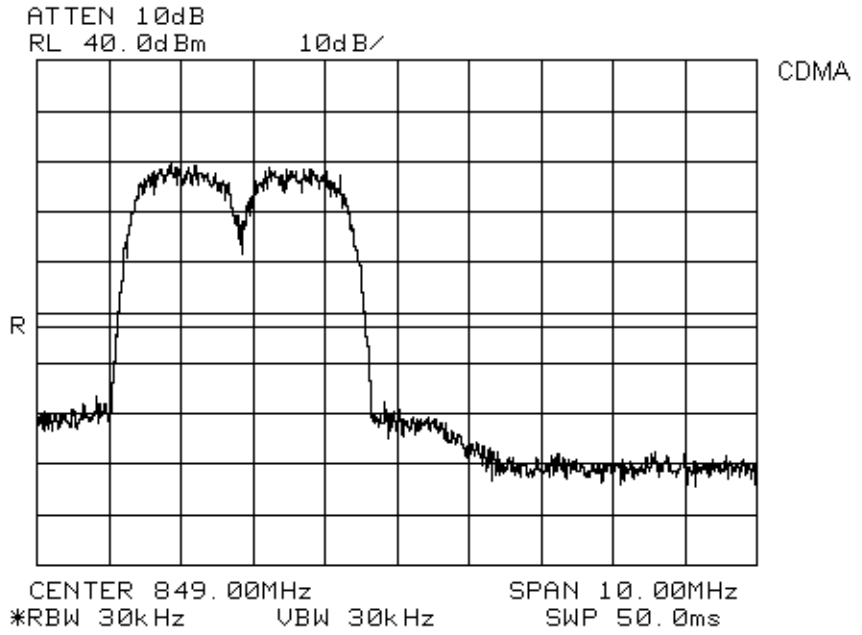
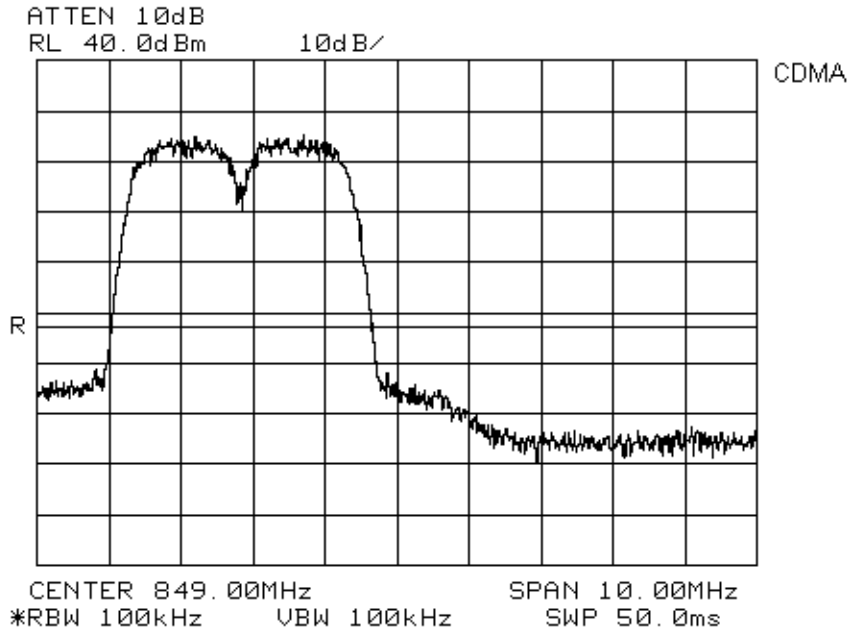
0.5 Watts per carrier



UP LINK
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier



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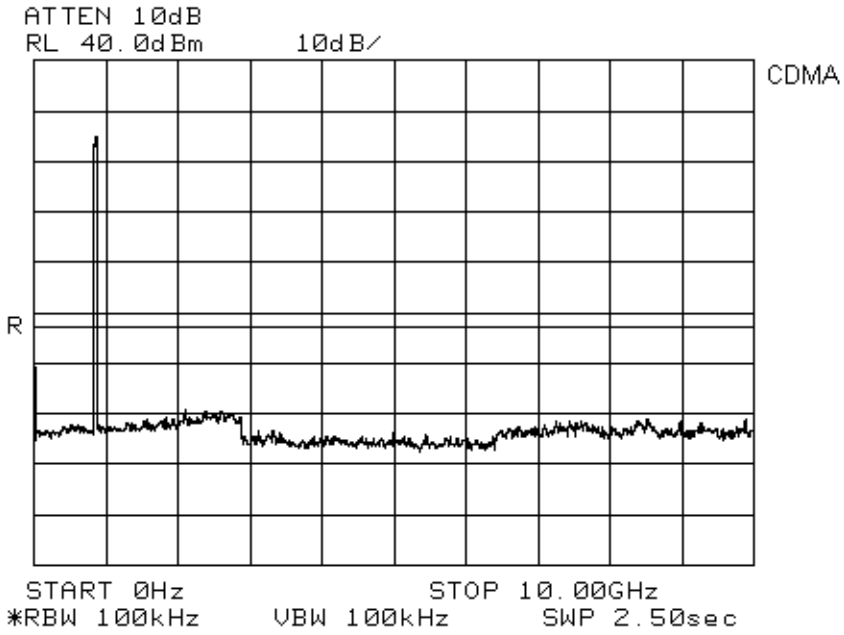
TX 846 MHz, 847.6 MHz
0.5 Watts per carrier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10dB/
CDMA
R
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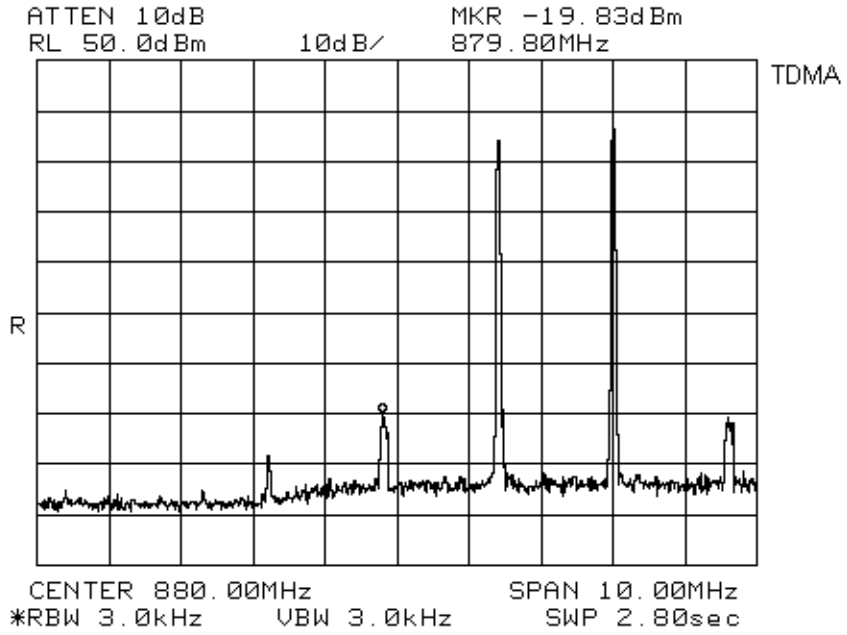
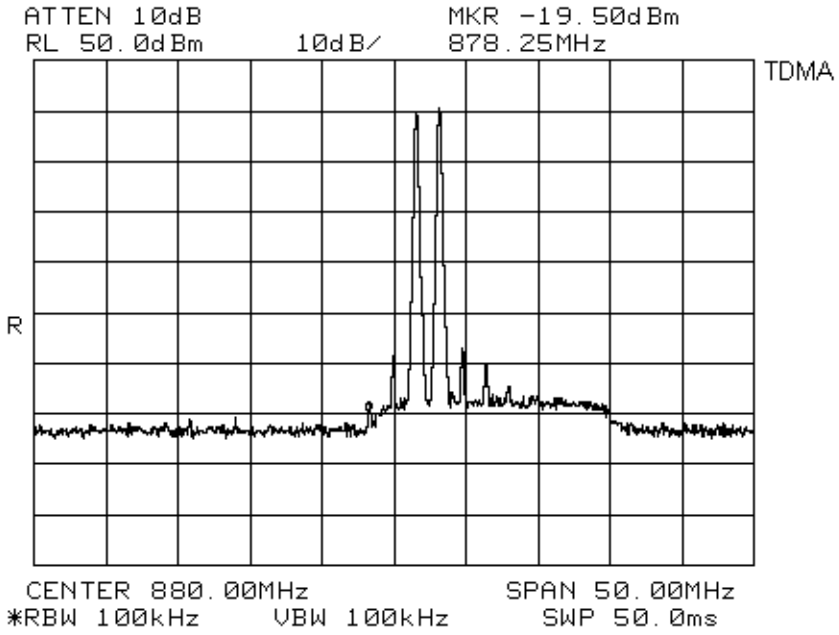
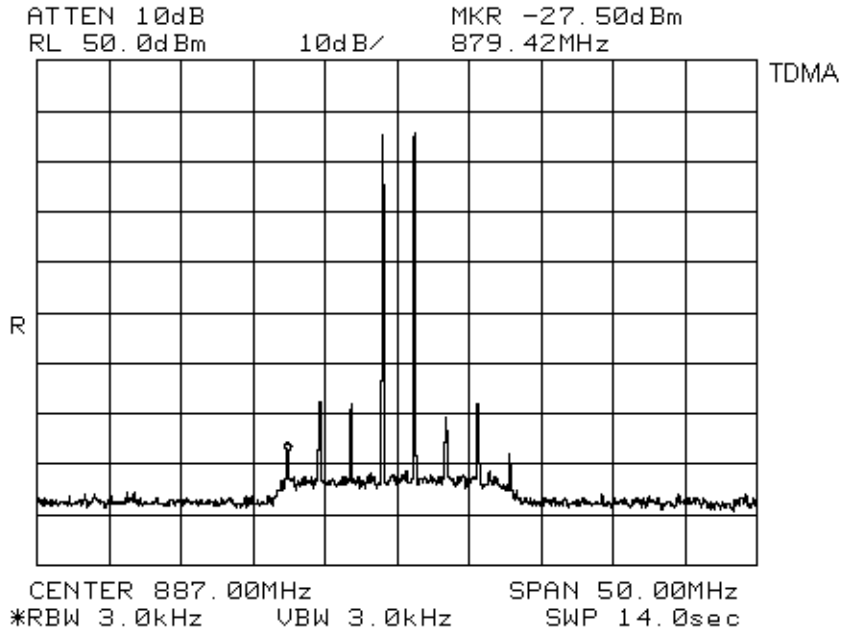
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec



DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



DOWN LINK
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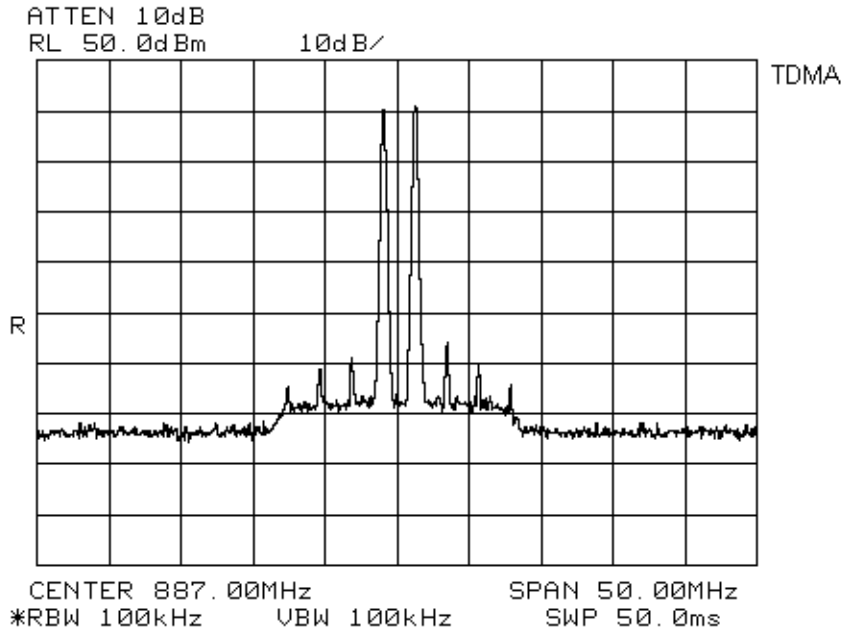
5 Watts per carrier



DOWN LINK
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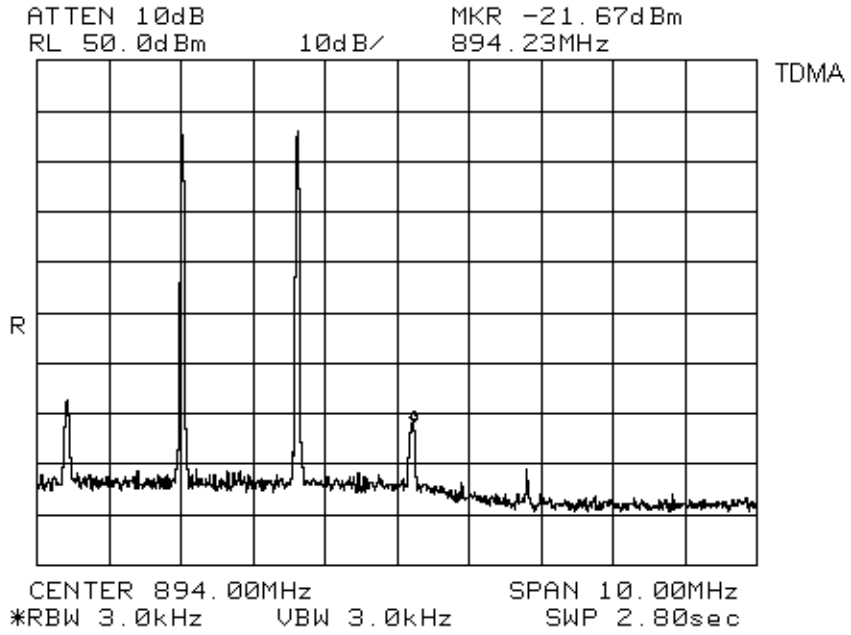
5 Watts per carrier



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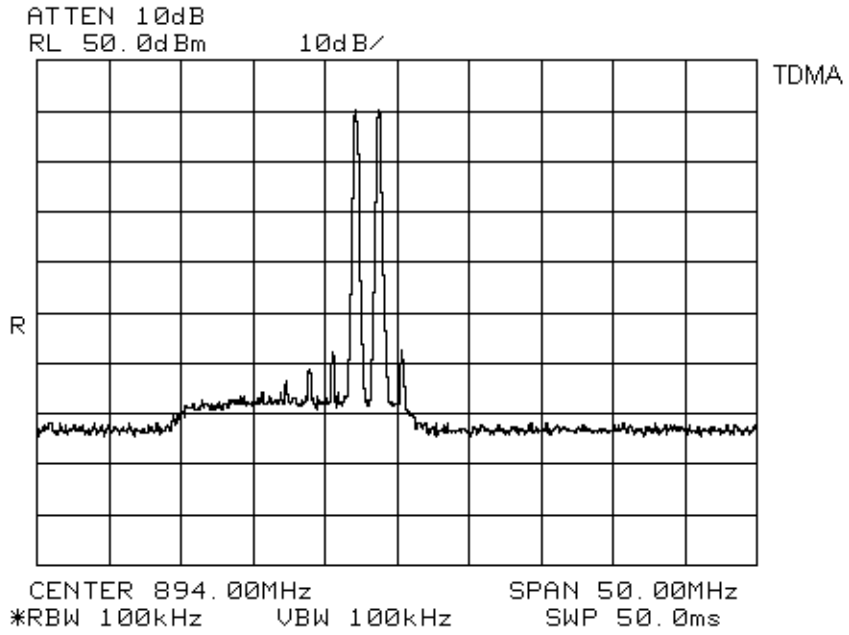

DOWN LINK
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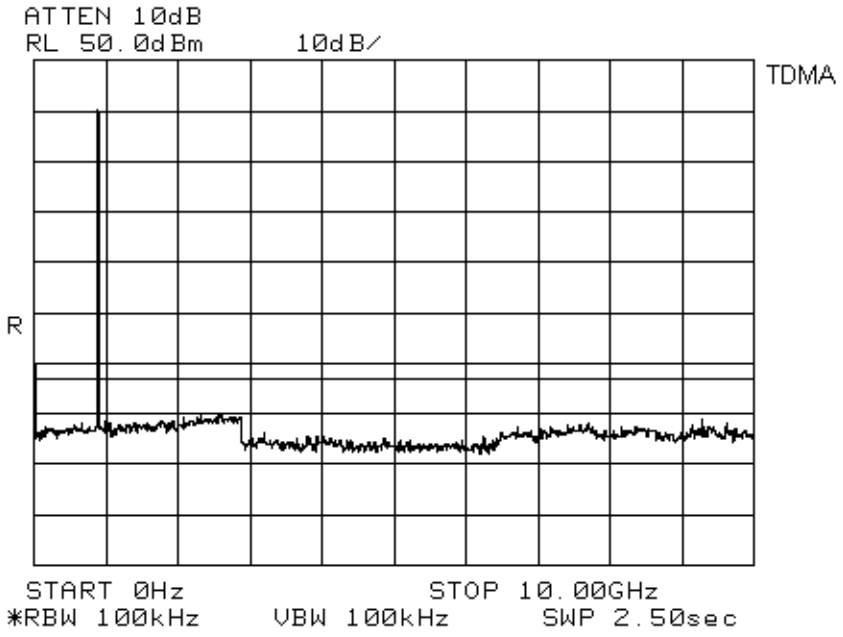
5 Watts per carrier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10dB/
TDMA
R
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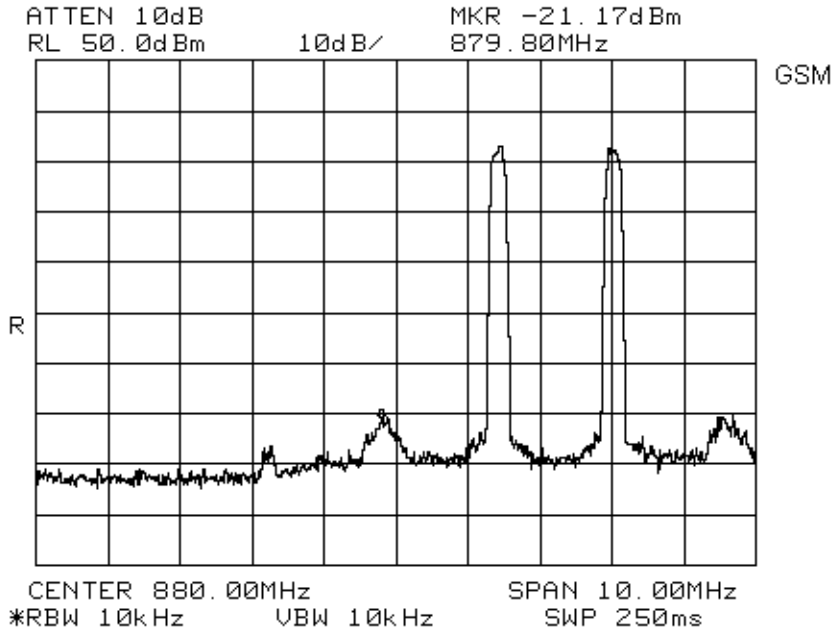
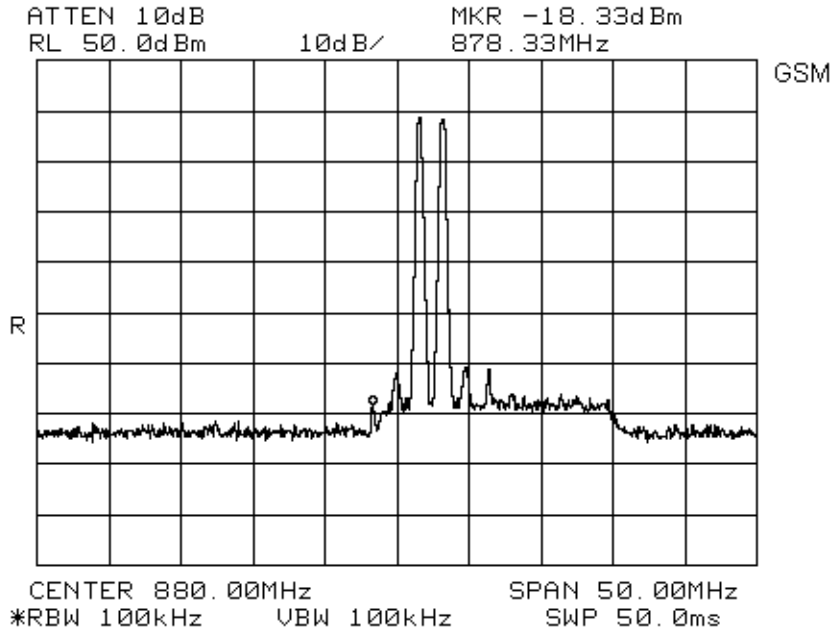
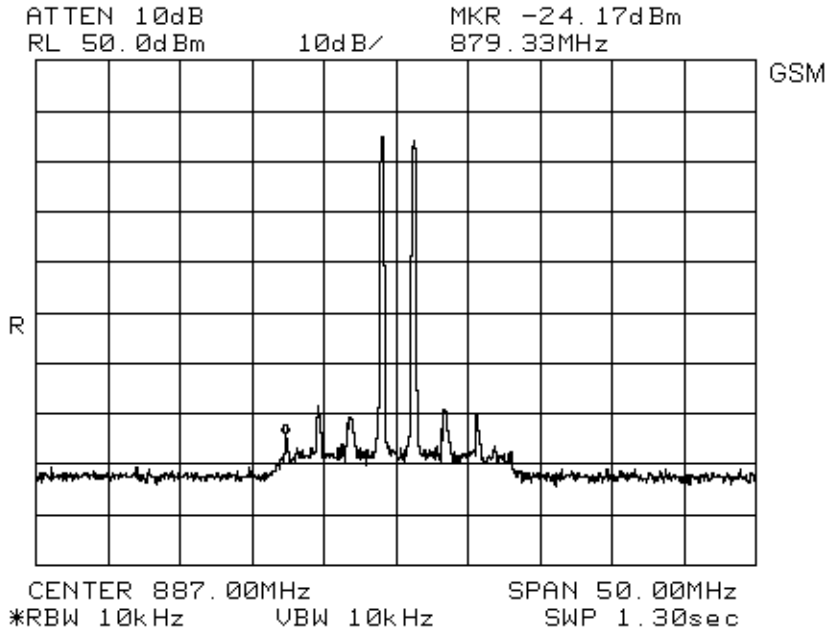
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec



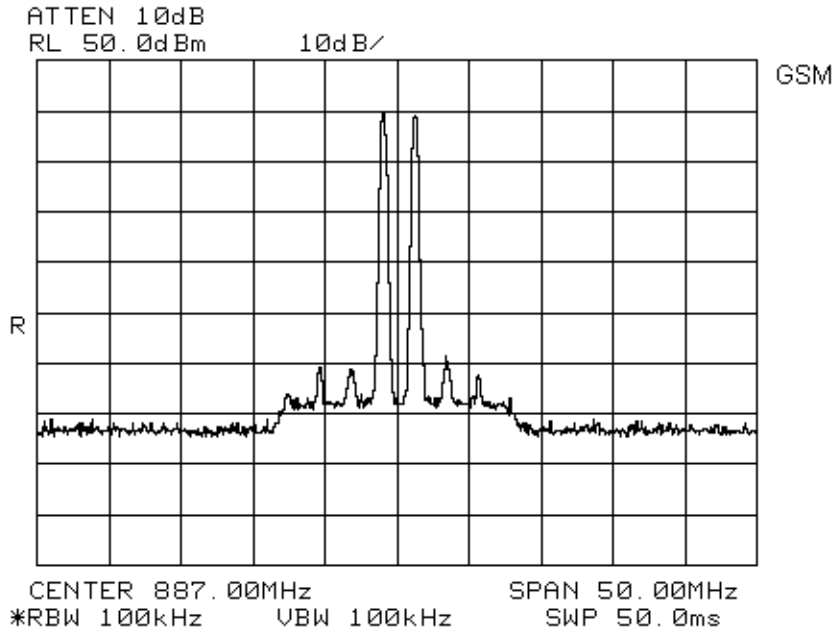
DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



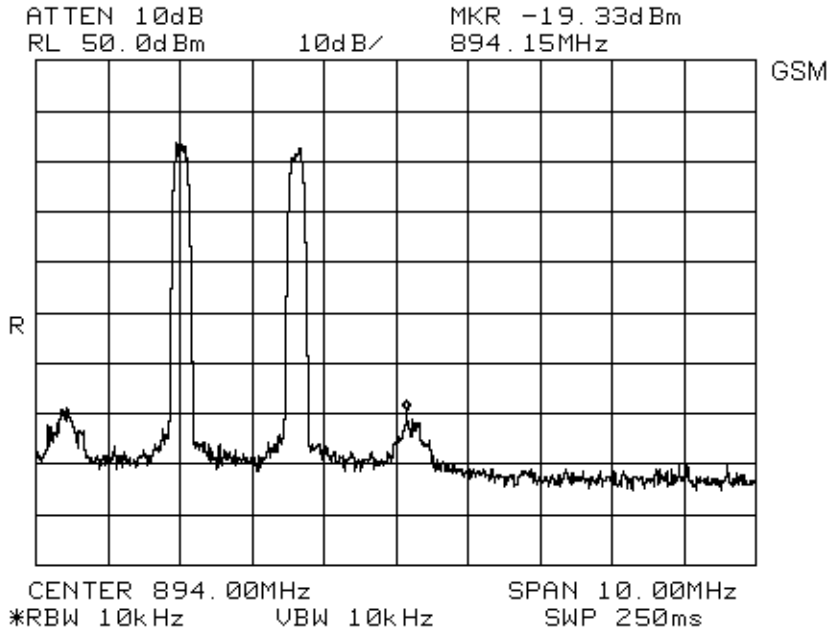
DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



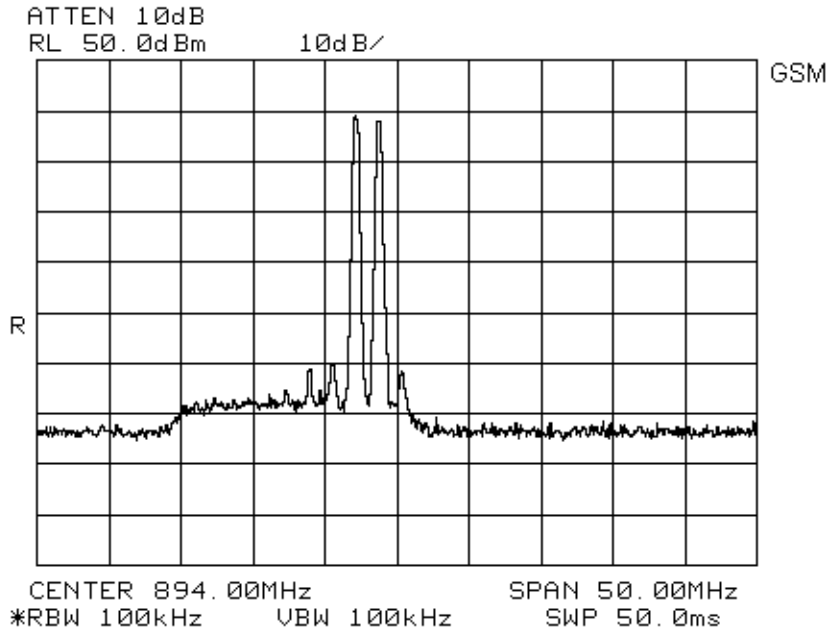
DOWN LINK
TX 885.9 MHz, 888.1 MHz
5 Watts per carrier



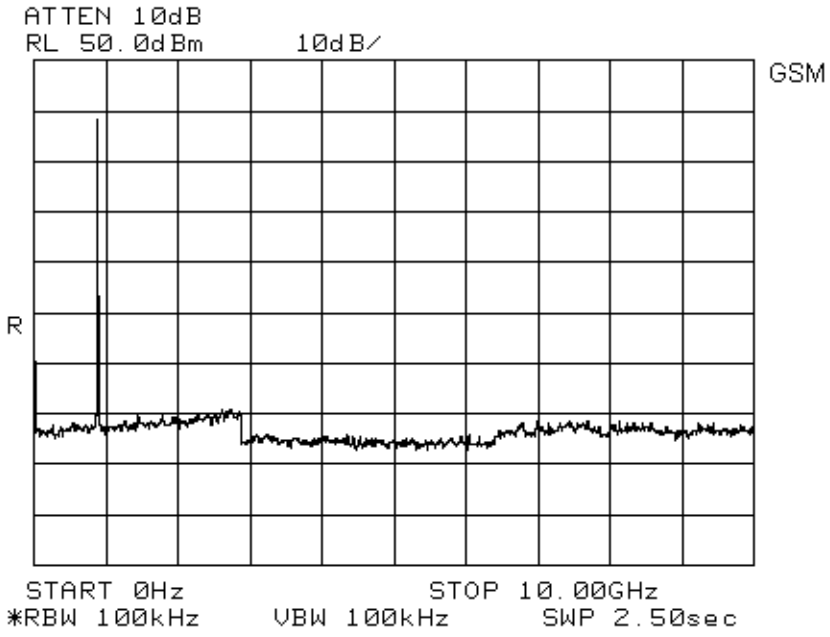
DOWN LINK
TX 885.9 MHz, 888.1 MHz
5 Watts per carrier



DOWN LINK
TX 891 MHz, 892.6 MHz
5 Watts per carrier



DOWN LINK
TX 891 MHz, 892.6 MHz
5 Watts per carrier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10dB/
GSM
R
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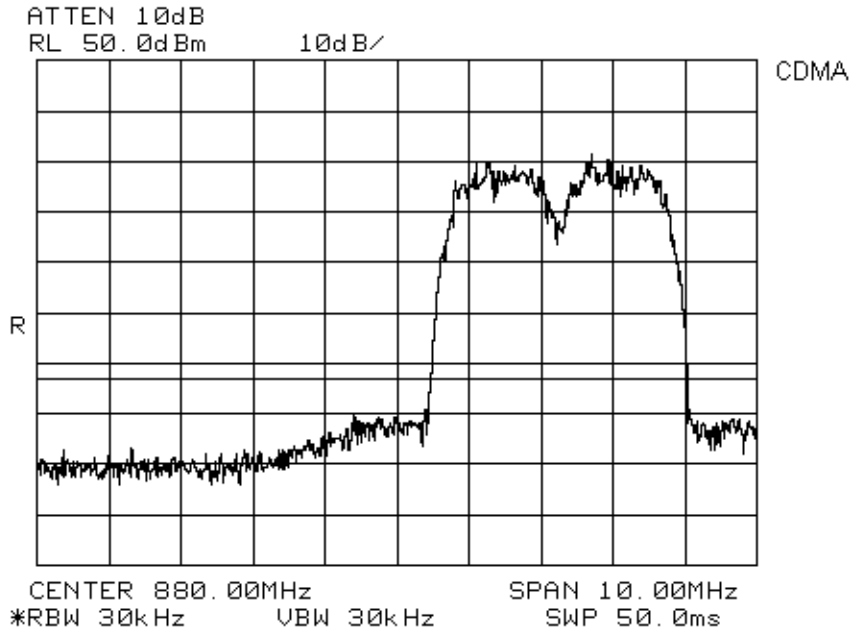
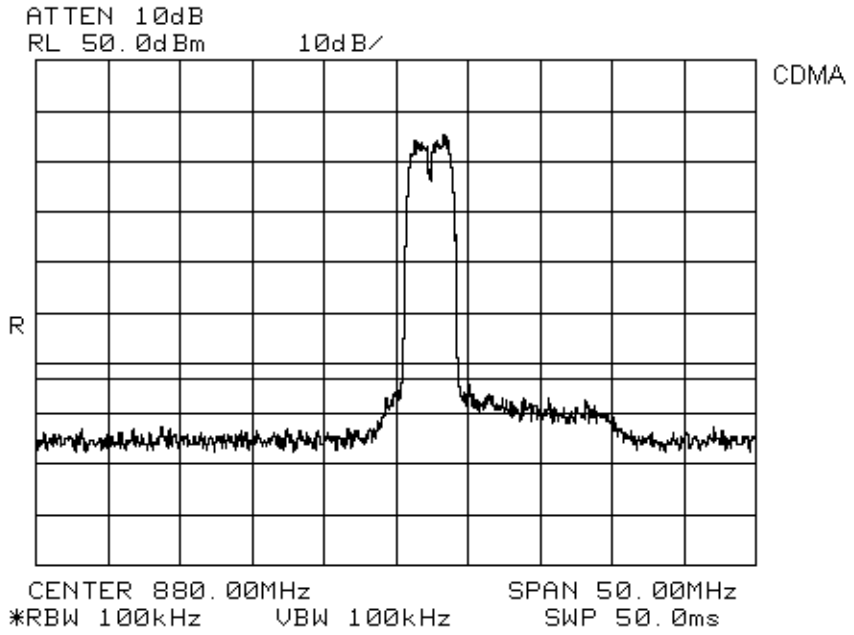
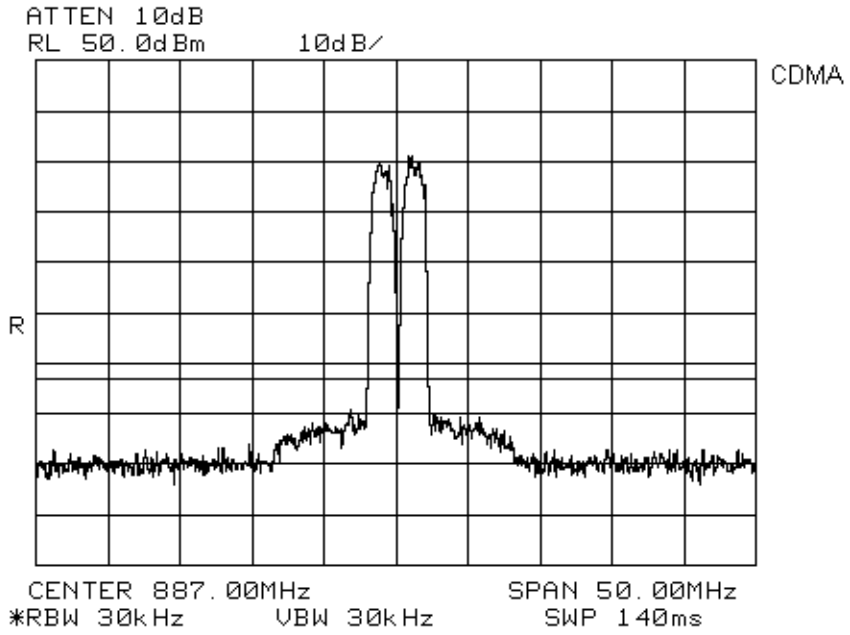
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec



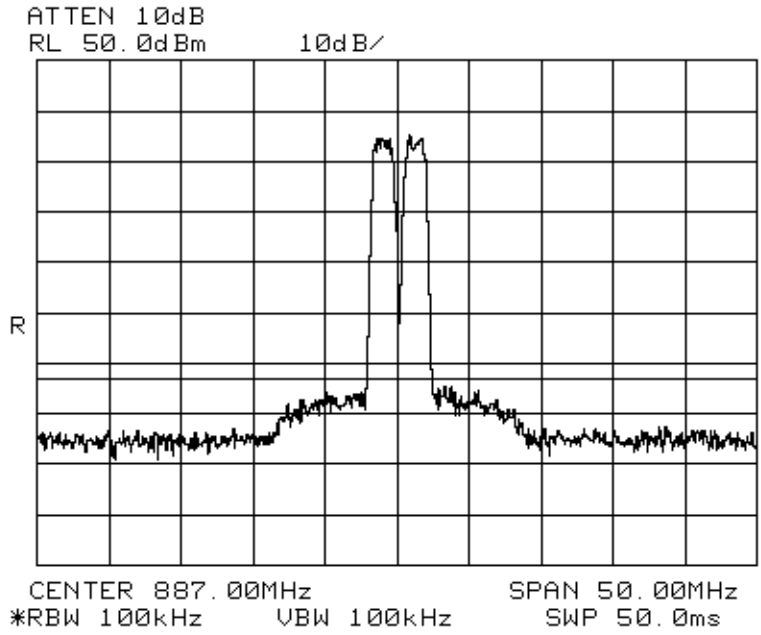
DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



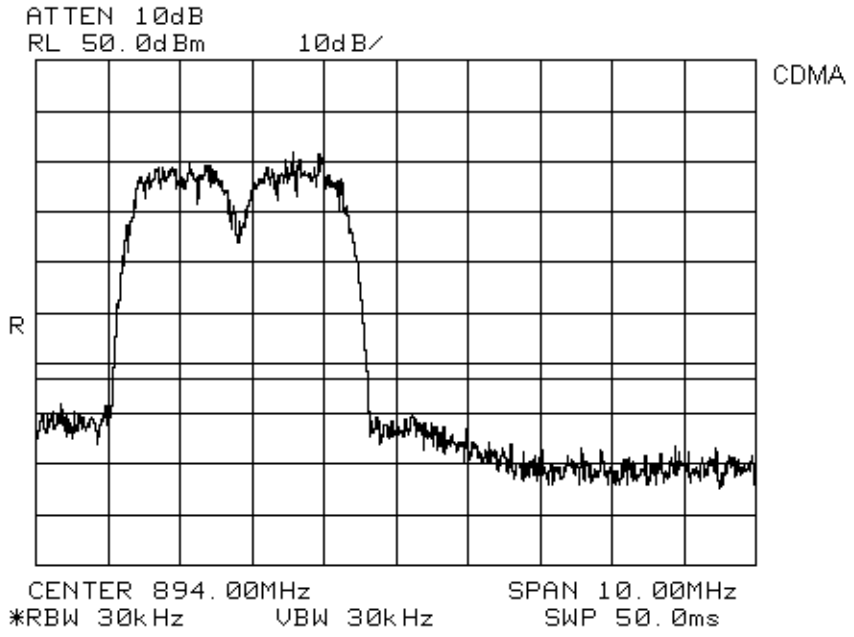
DOWN LINK
TX 881.4 MHz, 883 MHz
5 Watts per carrier



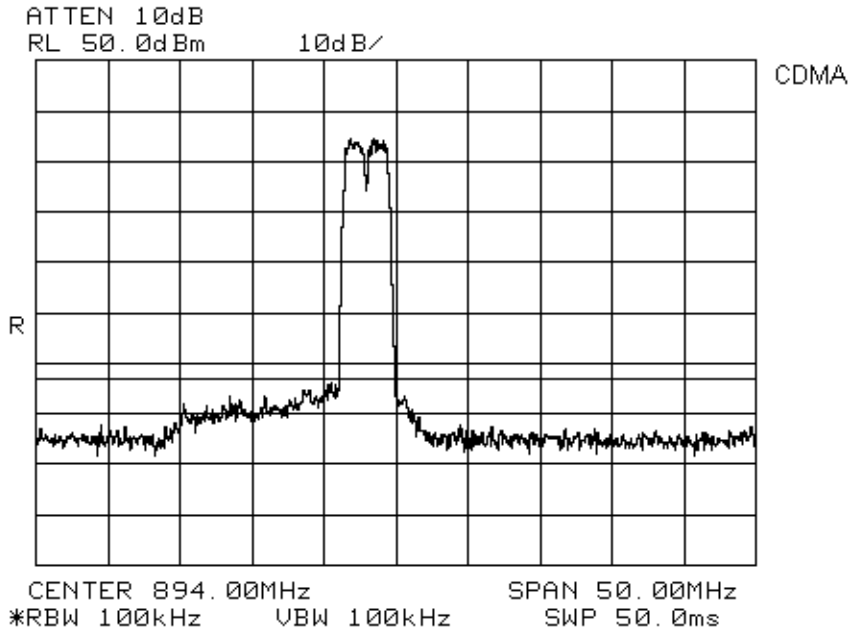
DOWN LINK
TX 885.9 MHz, 888.1 MHz
5 Watts per carrier



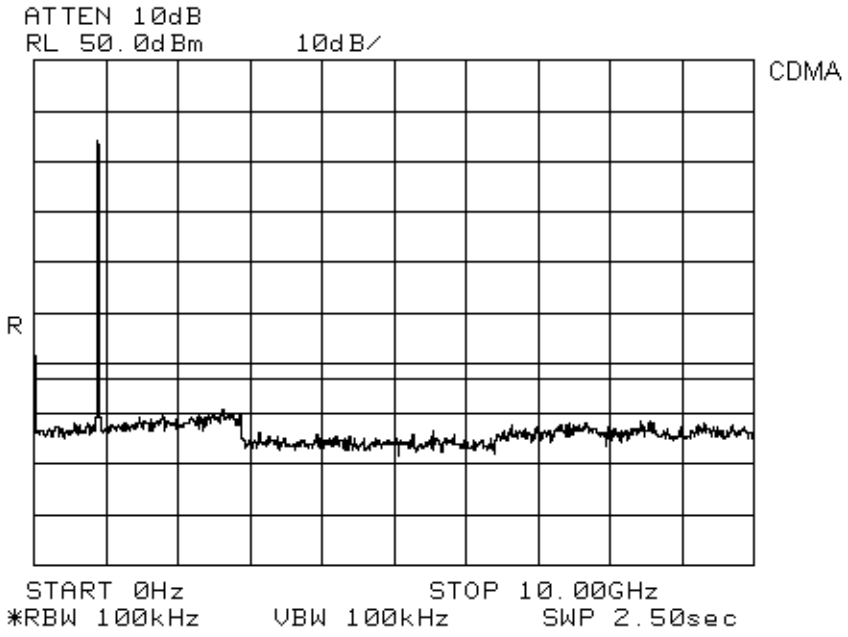
DOWN LINK
TX 885.9 MHz, 888.1 MHz
5 Watts per carrier



DOWN LINK
TX 891 MHz, 892.6 MHz
5 Watts per carrier



DOWN LINK
TX 891 MHz, 892.6 MHz
5 Watts per carrier


ATTEN 10dB
RL 50.0dBm
10dB/
CDMA
R
START 0Hz
STOP 10.00GHz
*RBW 100kHz
VBW 100kHz
SWP 2.50sec

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Russell Grant	**Date of Test: July 17, 2003**

Minimum Standard: 22.917(a), -13 dBm

Test Results: Complies. The strongest emission is –20.4 dBm at 1774 MHz. This is 7.4 dB below the specification limit.

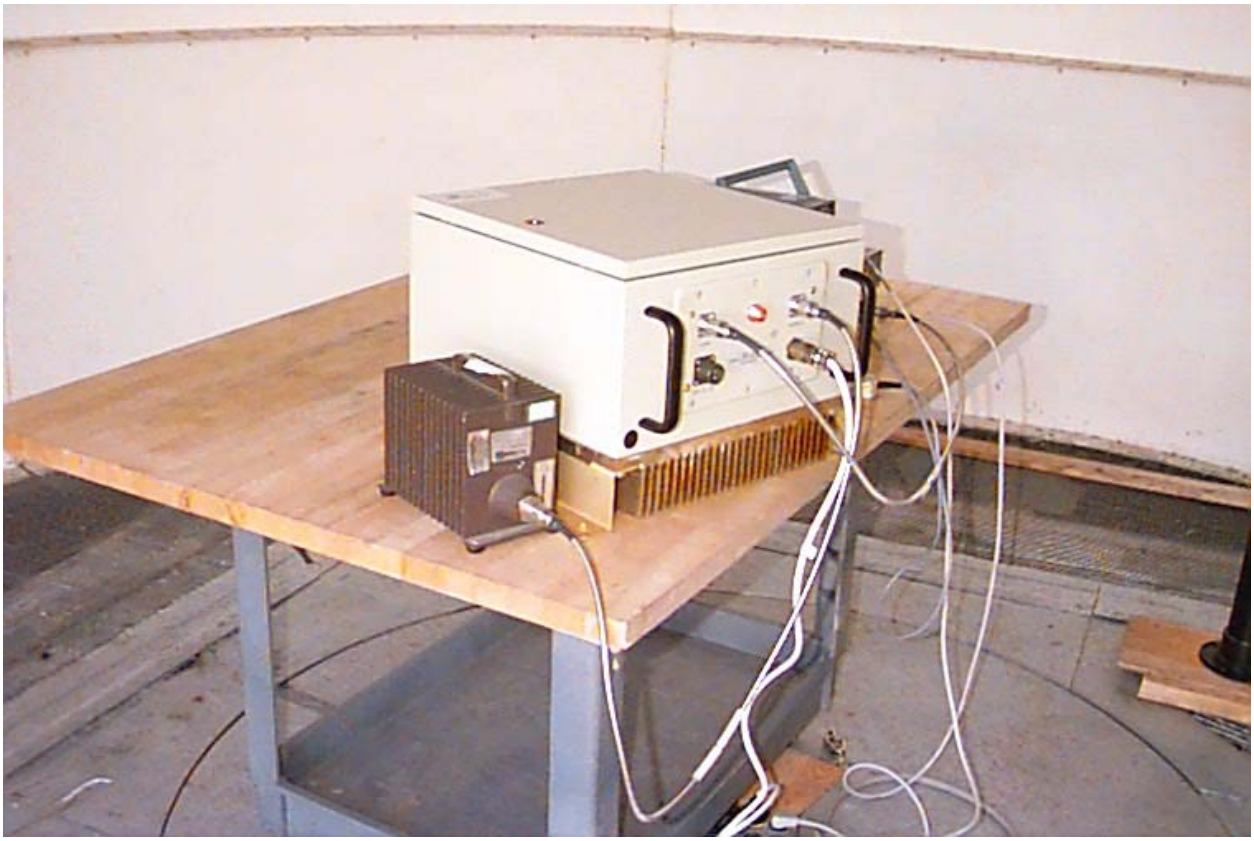
Measurement Data: See attached graph(s).

The spectrum was searched up to the 10^{th} harmonic for both up link and down link.
All emissions within 20 dB of the specification limit were measured and reported.
Worst case data has been presented.

Test Data - Radiated Emissions
Measured: Spectrum Analyzer, 1 MHz RBW/VBW, Positive Peak Max Hold Detector
DOWN LINK

Frequency of Emission (MHz)	Pol	Received Signal (dBuV)	Correction Factor (dB)	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1774	V	97	-117.4	-20.4	-13	7.4
1774	H	91	-116.9	-25.9	-13	12.9

UP LINK
No emissions detected.



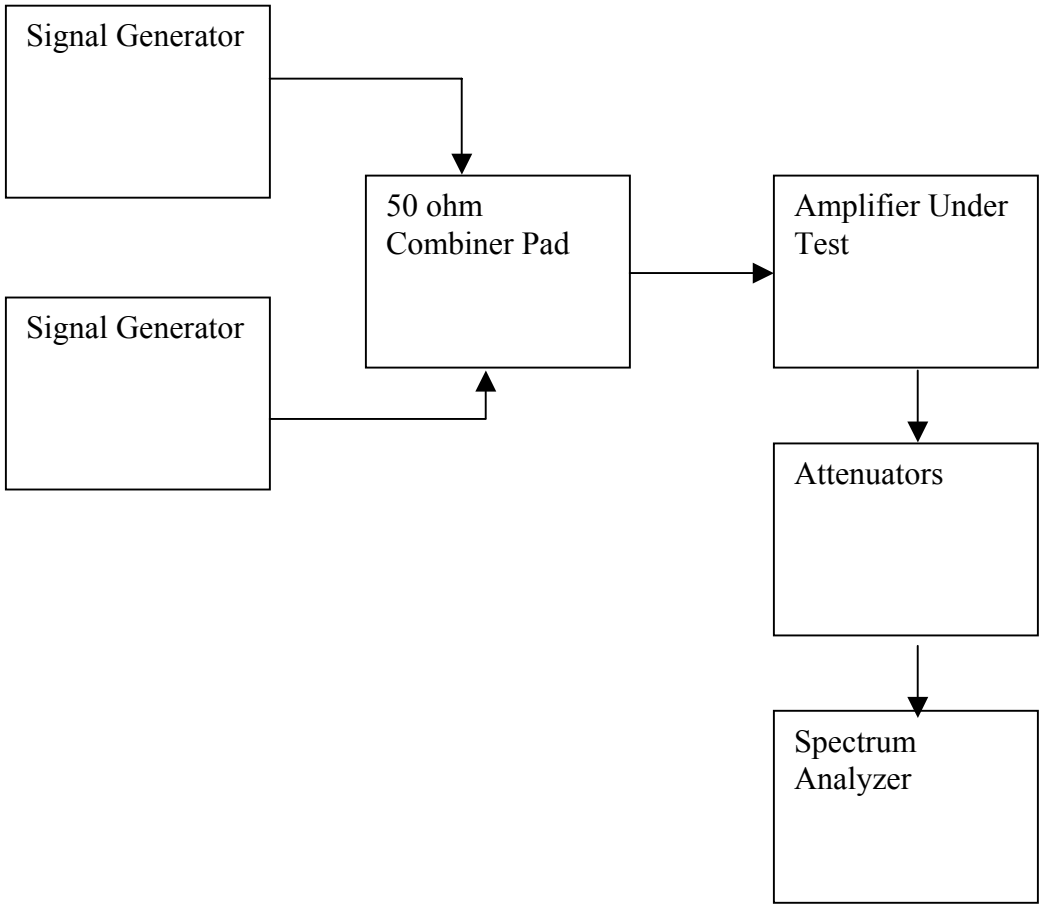
Section 7. Test Equipment List

Equipment	Asset No. or Serial No.	Calibration
R&S SMIQ Signal Generator	FA001269	Dec 2002, Dec 2003
R&S SMIQ Signal Generator	FA001091	Sept 2000, Sept 2003
20 dB Narda Attenuator 769-20	FA001394	Calibrated*
20 dB Narda Attenuator 776B-20	FA001153	Calibrated*
10 dB Narda Attenuator	SN 9709	Calibrated*
HP 8565E Spectrum Analyzer	FA000981	July 2003, July 2004
Horn 1 Antenna	FA000649	Dec 2002, Dec 2003
50 ohm Load	FA000764	Verified on use.
HP 8564E Spectrum Analyzer	FA001367	May 2003, May 2004
1-2 GHz Amplifier	FA001498	June 2003, June 2004
2-4 GHz Amplifier	FA001496	June 2003, June 2004
4-8 GHz Amplifier	FA001497	June 2003, June 2004
Agilent E4418B Power Meter	FA001678	April 2003, April 2004
Agilent 8487A Power Sensor	FA001471	March 2003, March 2004

* All cables and attenuators are calibrated for insertion loss on use.

Section 8. Block Diagrams

Output Power
Occupied Bandwidth
Antenna Conducted Emissions



Radiated Emissions

Emission levels are measured in terms of ERP. All emissions within 20 dB of the specification limit are maximized along 360° azimuth and further maximized by raising and lowering the search antenna from 1 to 4 m. The transmitter under test is replaced with a dipole antenna and calibrated signal generator. The level and frequency of the signal generator are adjusted in order to reproduce the previously detected emission and maximized by varying the height of the search antenna. This procedure is performed for both horizontal and vertical polarization of the detected signal. This test procedure is adopted from ANSI/TIA-603.