Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report:	2W04824
Applicant:	Spotwave Wireless Inc. 3701 Carling Avenue Ottawa, Ontario K2H 8S2
Equipment Under Test: (EUT)	SpotCell 100 "B" Low Power Cellular Band Repeater
In Accordance With:	**FCC Part 22, Subpart H**
Tested By:	Nemko Canada Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	J. Harrington , RF Group Manager
Date:	15 March 2002
Total Number of Pages:	47

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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.

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: Glen Westwell, Wireless Technologist DATE: 11 March 2002

Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada. The tests included in this report are within the scope of this accreditation. The results apply only to the samples tested.

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This report applies only to the items tested.

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	2.1047	N/A
Audio Low-Pass Filter Response	2.1047	N/A
Modulation Limiting	2.1047	N/A
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	Complies
Transient Frequency Behavior	——	N/A

Note:
This device is certified by FCC for band “A” under FCC I.D # P3YSPOTCELL0001.

Indoor Temperature: 22 °C
Humidity: 31 %

Outdoor Temperature: 10 °C
Humidity: 38 %

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Section 2. General Equipment Specification

Manufacturer:	Spotwave Wireless Inc.
Model No.:	SpotCell 100 "B"
Serial No.:	DDU S/N A10051 SCU S/N B00062
Date Received In Laboratory:	Feb. 25, 2002
Nemko Identification No.:	DDU #1 SDU #2
Supply Input Voltage:	120 VAC
Frequency Range:	Downlink: 880 – 890 MHz 891.5 – 894 MHz Uplink: 835 – 845 MHz 846.5 – 849 MHz
RF Output (Rated):	Downlink: 0dBm Uplink: 20 dBm
Antenna Gain (Integral):	DDU (Uplink) = 10dBi SCU (Downlink) = 3dBi
Emission Designator:	CDMA DXW TDMA F9W AMPS F8W

Section 3. RF Power Output

Para. No.: 2.1046

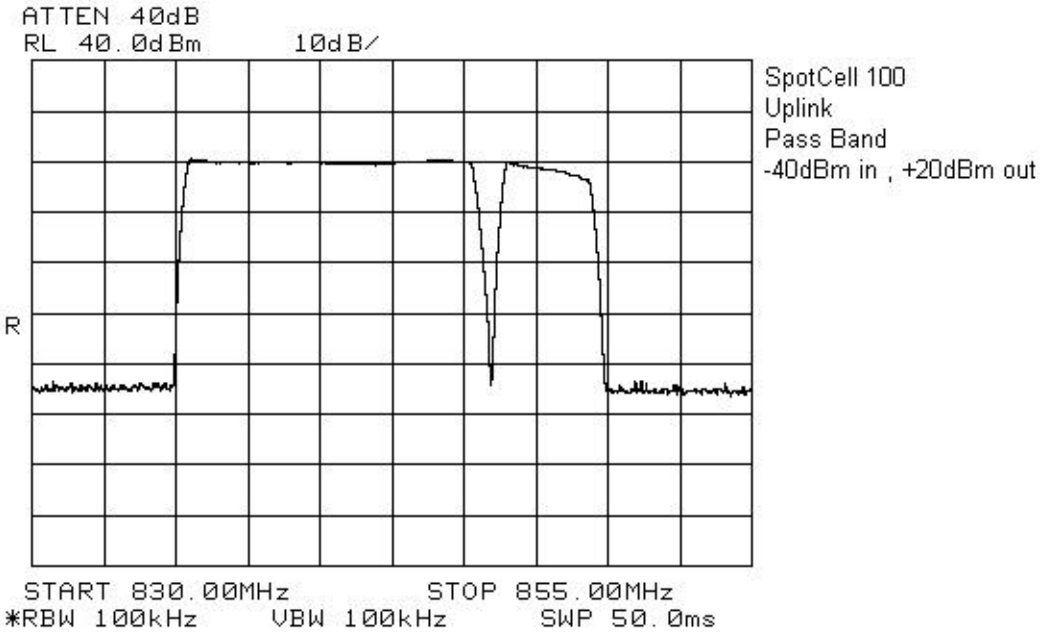
Test Performed By: Glen Westwell	**Date of Test:** 12 Mar. 2002

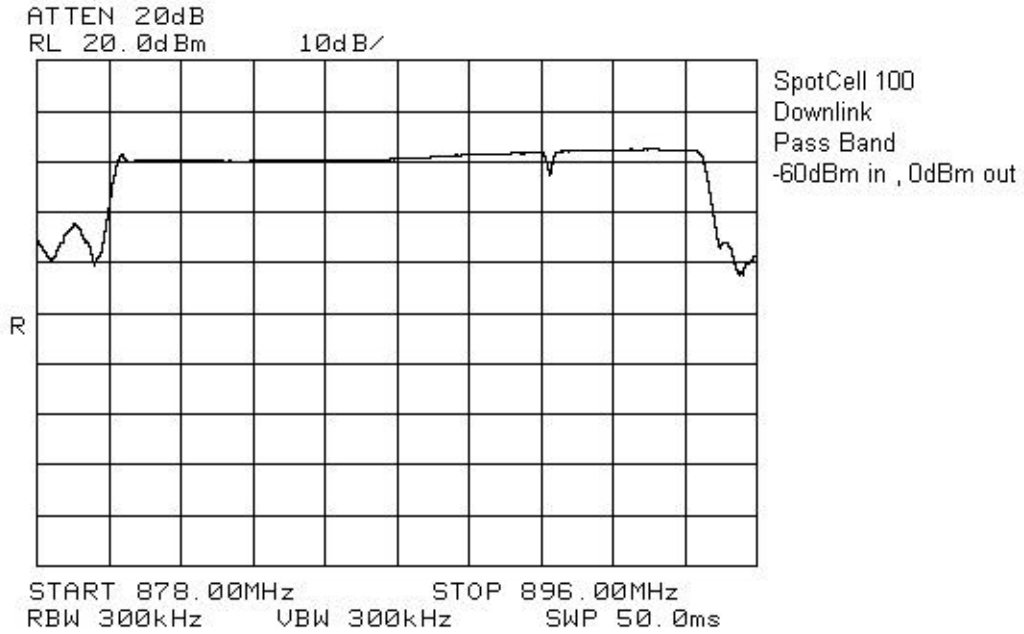
Minimum Standard: 22.913(a)

Test Results: Complies.

The maximum RF output power is within ± 1dB of the manufacturer's rating. The RF output power is de-rated according to the number of channels via AGE and is equal to Pmax –10LogN.

Pmax = Maximum RF Output Power
N = Number Of Channels


ATTEN 40dB
RL 40.0dBm
10dB/
R
SpotCell 100
Uplink
Pass Band
-40dBm in , +20dBm out
START 830.00MHz
STOP 855.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50.0ms


ATTEN 20dB
RL 20.0dBm
10dB/
R
SpotCell 100
Downlink
Pass Band
-60dBm in , 0dBm out
START 878.00MHz
STOP 896.00MHz
RBW 300kHz
VBW 300kHz
SWP 50.0ms

Section 4. Occupied Bandwidth

Para. No.: 2.1049

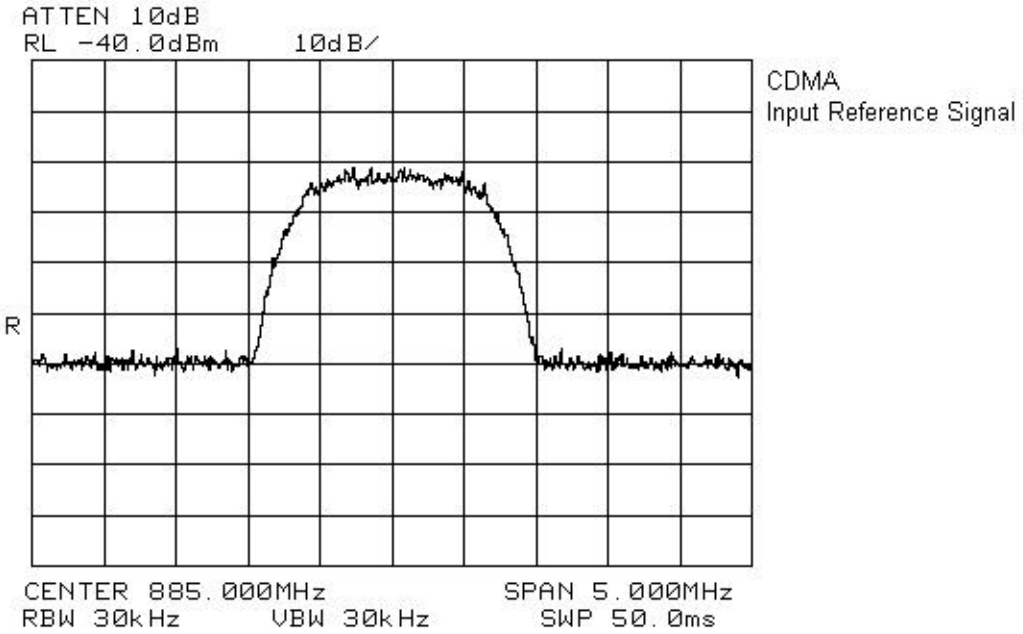
Test Performed By: Glen Westwell	**Date of Test:** 12 Mar. 2002

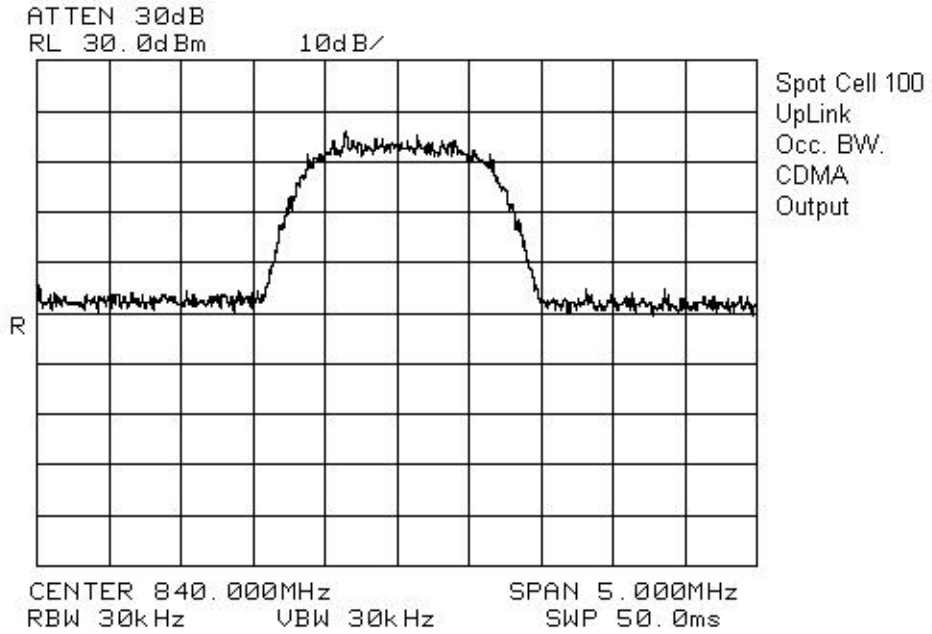
Minimum Standard: 22.917

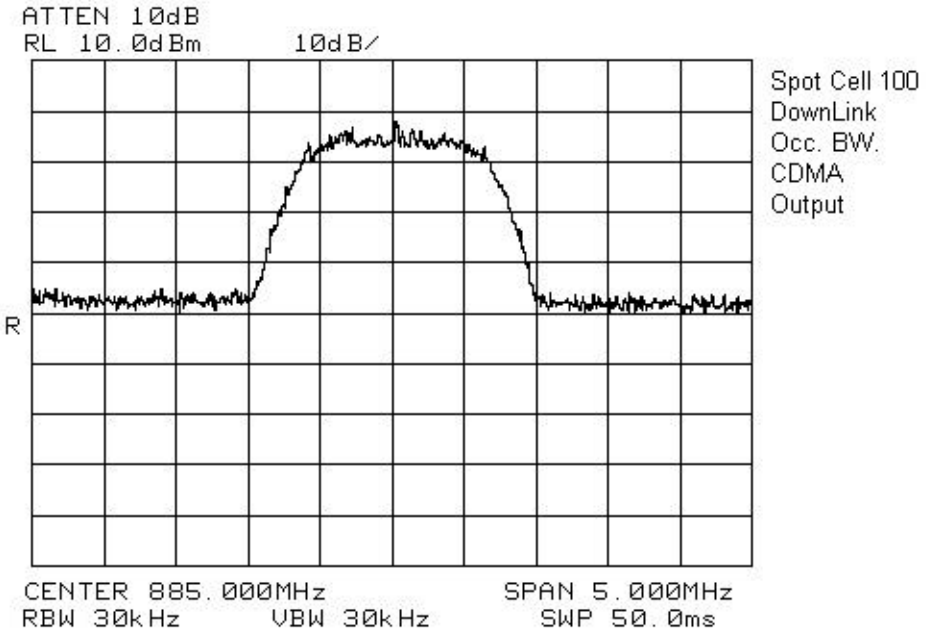
Test Results: Complies.

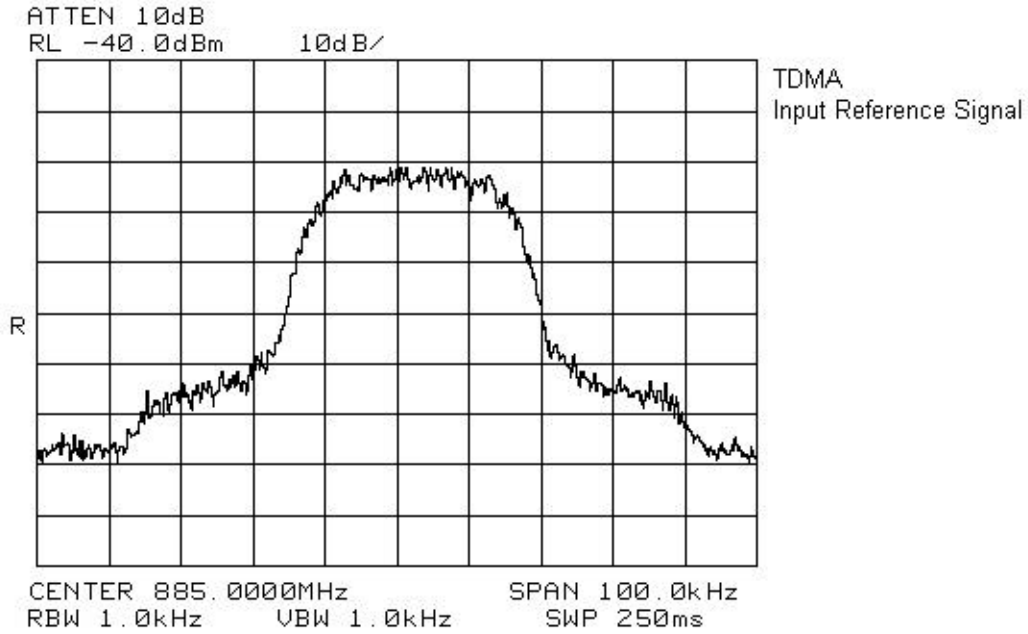
Measurement Data: See attached graphs.

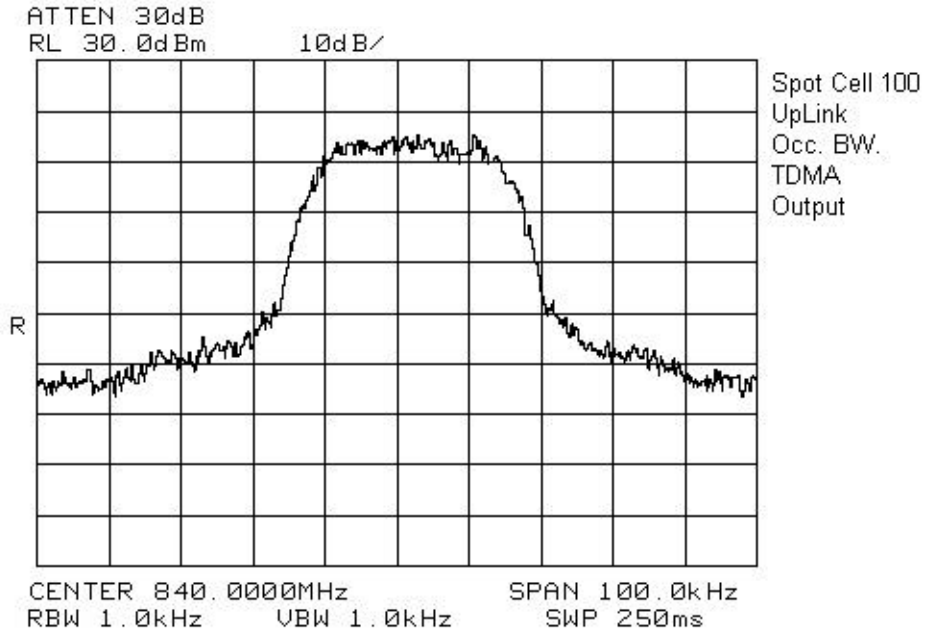
The occupied bandwidth was measured by comparison of input to the output signal. This was done in order to determine if there was any degradation to the output signal due to the amplification through the repeater.

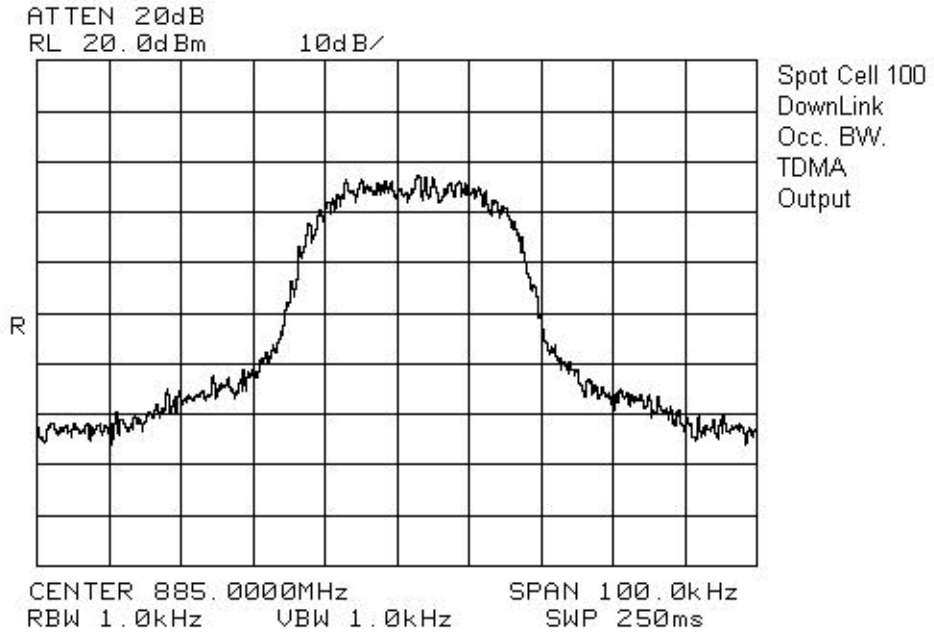

ATTEN 10dB
RL -40.0dBm
10dB/
R
CDMA
Input Reference Signal
CENTER 885.000MHz
RBW 30kHz
VBW 30kHz
SPAN 5.000MHz
SWP 50.0ms

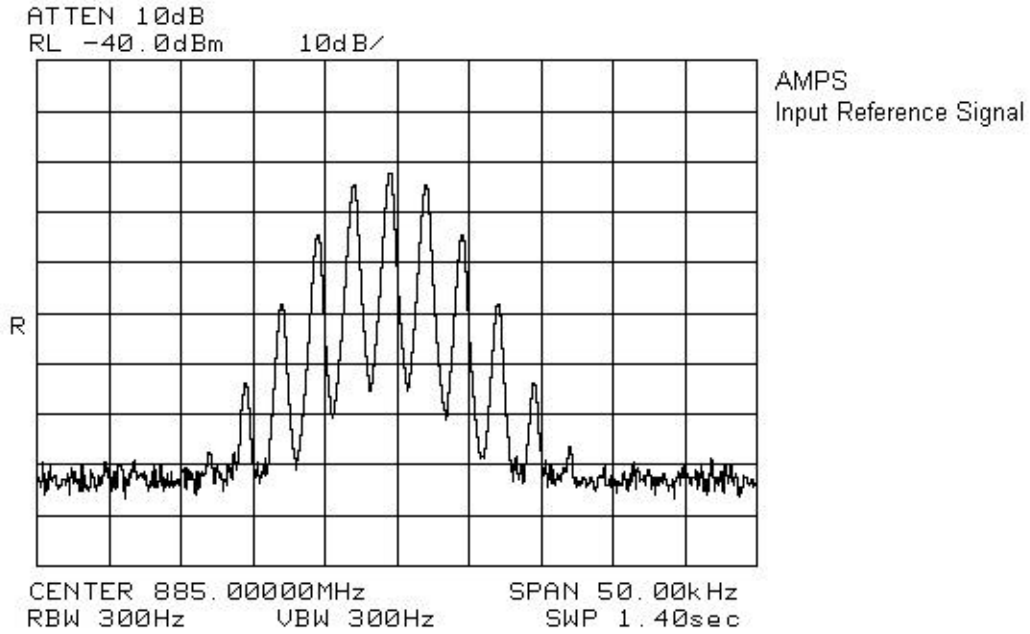

ATTEN 30dB
RL 30.0dBm
10dB/
R
Spot Cell 100
UpLink
Occ. BW.
CDMA
Output
CENTER 840.000MHz
RBW 30kHz
VBW 30kHz
SPAN 5.000MHz
SWP 50.0ms

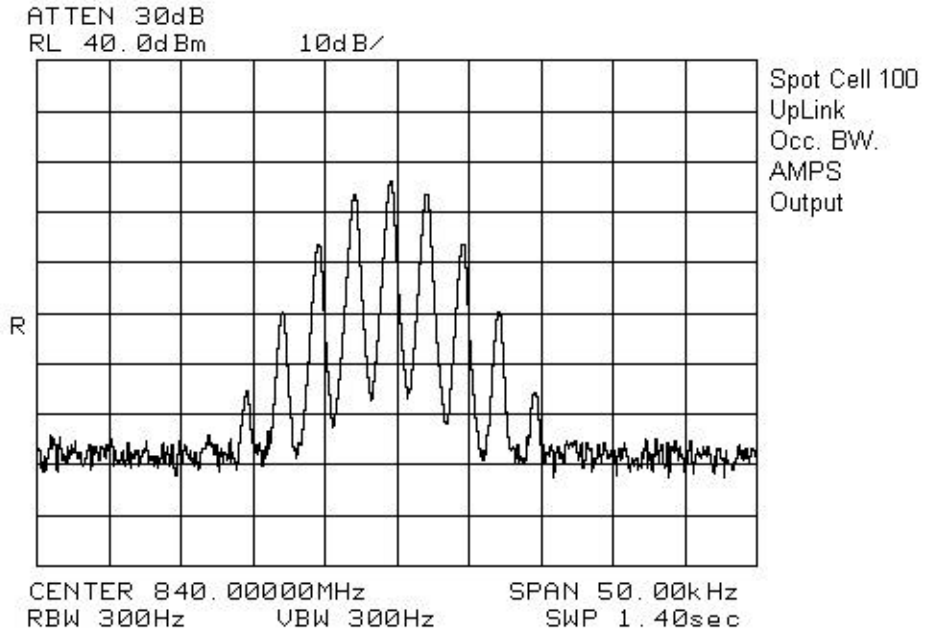

ATTEN 10dB
RL 10.0dBm
10dB/
R
Spot Cell 100
DownLink
Occ. BW.
CDMA
Output
CENTER 885.000MHz
RBW 30kHz
VBW 30kHz
SPAN 5.000MHz
SWP 50.0ms

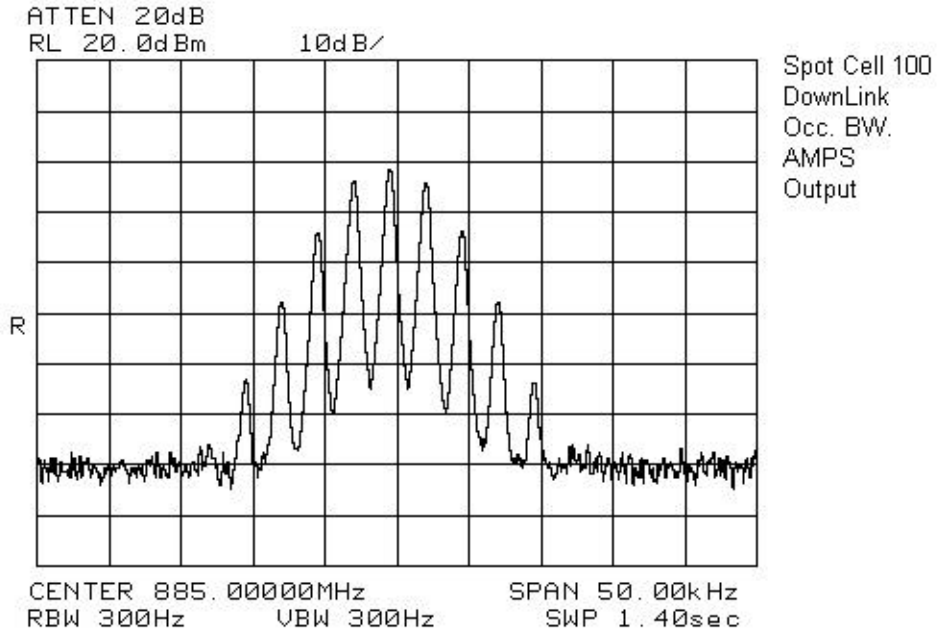

ATTEN 10dB
RL -40.0dBm
10dB/
R
TDMA
Input Reference Signal
CENTER 885.0000MHz
SPAN 100.0kHz
RBW 1.0kHz
VBW 1.0kHz
SWP 250ms


ATTEN 30dB
RL 30.0dBm
10dB/
R
Spot Cell 100
UpLink
Occ. BW.
TDMA
Output
CENTER 840.0000MHz
SPAN 100.0kHz
RBW 1.0kHz
VBW 1.0kHz
SWP 250ms


ATTEN 20dB
RL 20.0dBm
10dB/
R
Spot Cell 100
DownLink
Occ. BW.
TDMA
Output
CENTER 885.0000MHz
SPAN 100.0kHz
RBW 1.0kHz
VBW 1.0kHz
SWP 250ms


ATTEN 10dB
RL -40.0dBm
10dB/
AMPS
Input Reference Signal
R
CENTER 885.00000MHz
SPAN 50.00kHz
RBW 300Hz
VBW 300Hz
SWP 1.40sec


ATTEN 30dB
RL 40.0dBm
10dB/
R
Spot Cell 100
UpLink
Occ. BW.
AMPS
Output
CENTER 840.00000MHz
SPAN 50.00kHz
RBW 300Hz
VBW 300Hz
SWP 1.40sec


ATTEN 20dB
RL 20.0dBm
10dB/
R
Spot Cell 100
DownLink
Occ. BW.
AMPS
Output
CENTER 885.00000MHz
SPAN 50.00kHz
RBW 300Hz
VBW 300Hz
SWP 1.40sec

Section 5. Spurious Emissions At Antenna Terminals

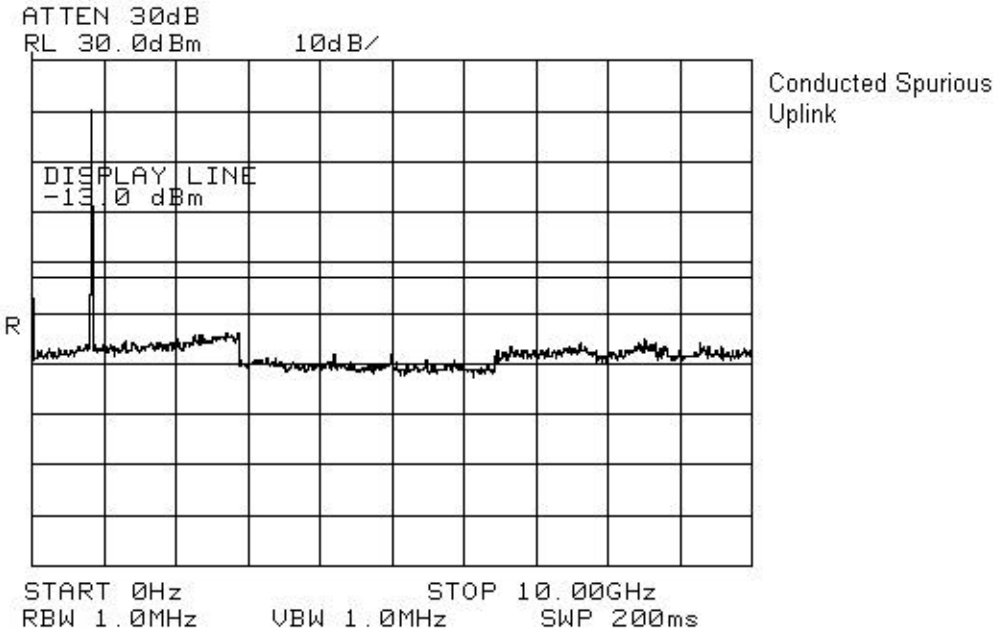
Para. No.: 2.1051

Test Performed By: Glen Westwell	**Date of Test:** 14 Mar. 2002

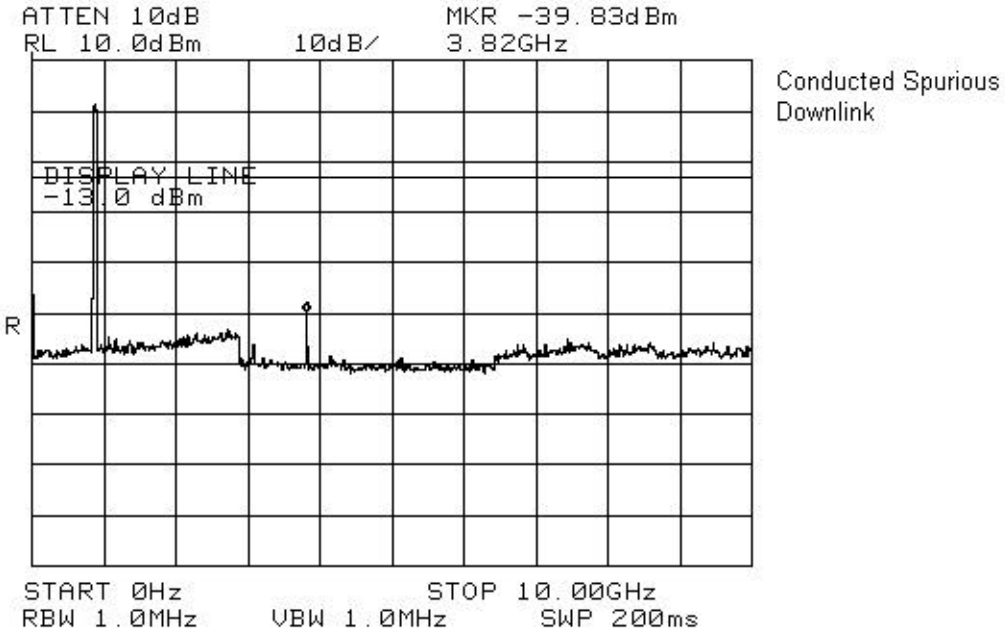
Minimum Standard: 22.917 (e); -13 dBm
(f); -80 dBm Conducted

Test Results: Complies.

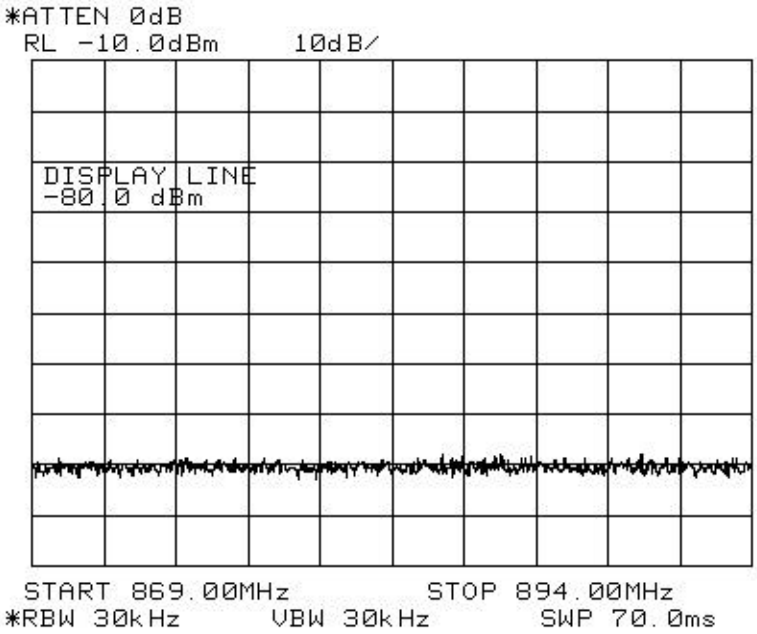
Measurement Data: See attached graphs (worst case).



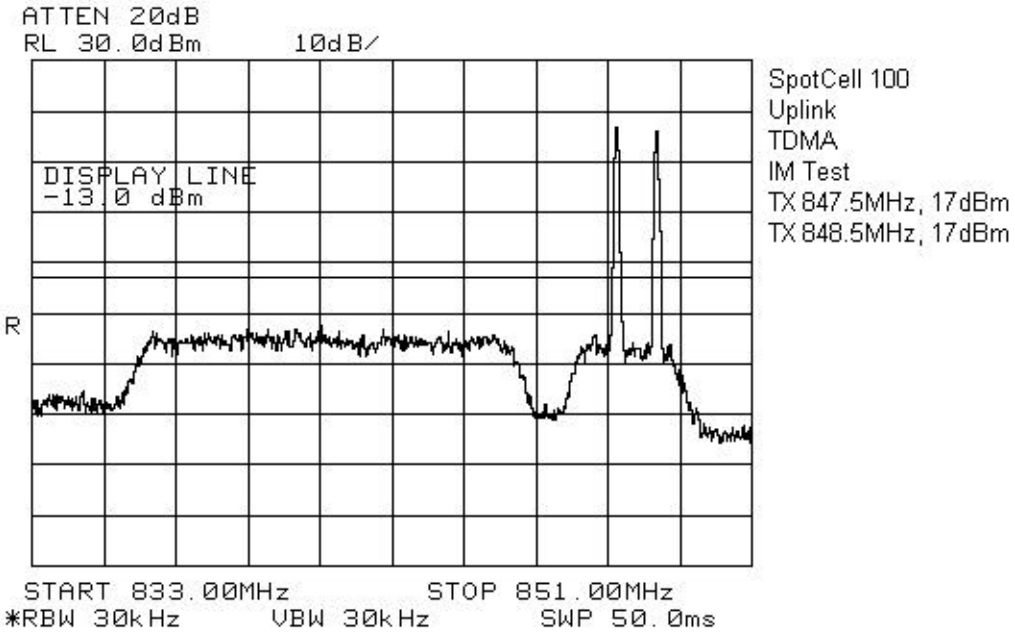
Conducted Spurious
Uplink



Conducted Spurious
Downlink



Mobile Emissions in the
Base Freq. Range
Uplink TX= 840MHz
-30dBm in, +20dBm out


ATTEN 20dB
RL 30.0dBm
10dB/
DISPLAY LINE
-13.0 dBm
R
SpotCell 100
Uplink
TDMA
IM Test
TX 847.5MHz, 17dBm
TX 848.5MHz, 17dBm
START 833.00MHz
STOP 851.00MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms