



Test Report: 4W08196

Applicant: Spotwave Wireless Inc.
1 Hines Rd.
Ottawa, Ontario
K2K 3C7

**Equipment Under Test:
(EUT)** Spotcell 612

In Accordance With: FCC Part 24, Subpart E.

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

A handwritten signature in blue ink that reads 'Kevin Carr'.

Authorized By: Kevin Carr, EMC/EMI/Wireless Specialist.

Date: 30 June 2004

Total Number of Pages: 21

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EQUIPMENT: Spotcell 612

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 24.

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.



TESTED BY: _____
Glen Westwell, Wireless Specialist.

DATE: 29 June 2004

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This report applies only to the items tested.

EQUIPMENT: Spotcell 612

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complied
Occupied Bandwidth	2.1049	Complied
Spurious Emissions at Antenna Terminals	2.1051	Complied
Field Strength of Spurious Emissions	2.1053	Complied
Out of Band Rejection	EAB/RF-2-11-04	Complied
Frequency Stability	2.1055	N/A(1)

Note:

(1) This device contains no frequency translation capabilities.

Indoor Temperature: 23°C
 Humidity: 40%

Outdoor Temperature: 20°C
 Humidity: 40%

EQUIPMENT: Spotcell 612

Section 2. General Equipment Specification

Manufacturer:	Spotwave Wireless Inc.
Model No.:	Spotcell 612
Serial No.:	70013
Date Received In Laboratory:	24 June 2004
Nemko Identification No.:	#1
Supply Input Voltage:	110 VAC
Frequency Range:	Downlink: 1930-1970MHz
Rated Output Power (conducted composite):	Downlink: 18.5dBm, 0.071W
Emission Designator	G7W (GSM) G9W (CDMA)

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Glen Westwell	Date of Test: 28 June 2004
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Minimum Standard: 24.232

Test Results: Complied.

Measurement Data:

The maximum RF output power is within +1dB of the manufacturer's rating. The Composite RF output power is de-rated according to the number of channels via AGC and is equal to $P_{max} - 10\log N$.

P_{max} = Maximum Composite RF Output Power
N = Number Of Channels

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

Downlink

Channel Frequency (MHZ)	Measured Power (dBm)	Rated Power (dBm)
1931	16.2	18.5
1938	18.3	18.5
1944	18.5	18.5
1950	18.3	18.5
1970	18.5	18.5

Note: Power measurements from 1931-1944MHz are used to characterize the power across to 15MHz filter band. Power measurements across the band of certification have also been presented, 1930-1970MHz.

EQUIPMENT: Spotcell 612

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Glen Westwell	Date of Test: 28 June 2004
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Minimum Standard: 24.238

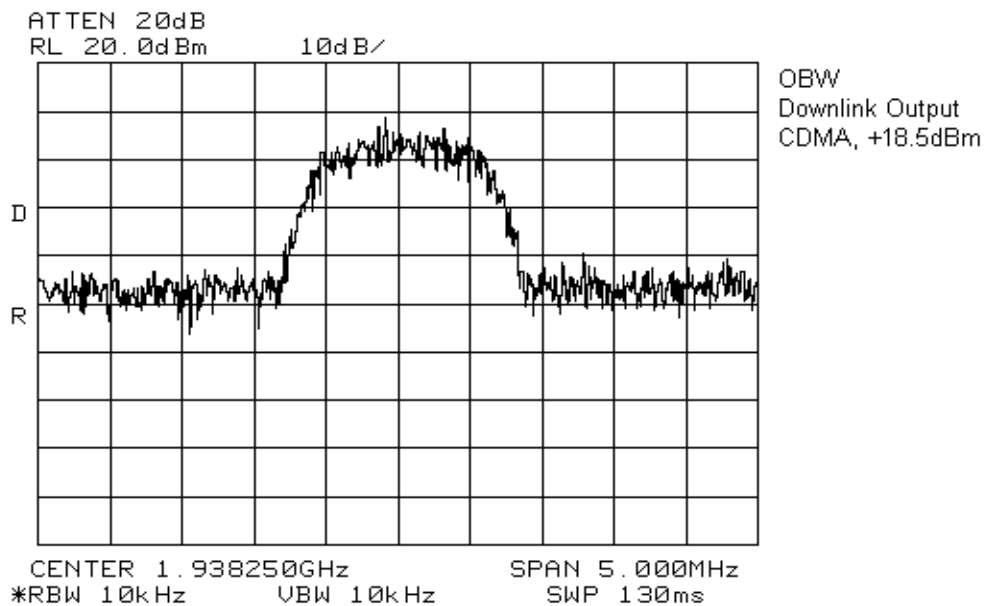
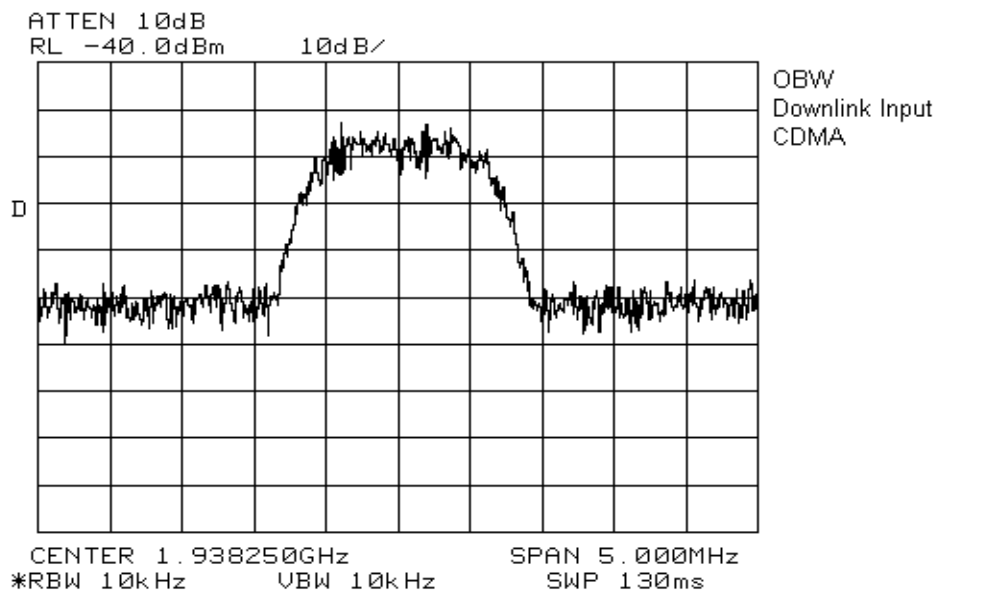
Test Results: Complies.

Measurement Data: See attached graphs.

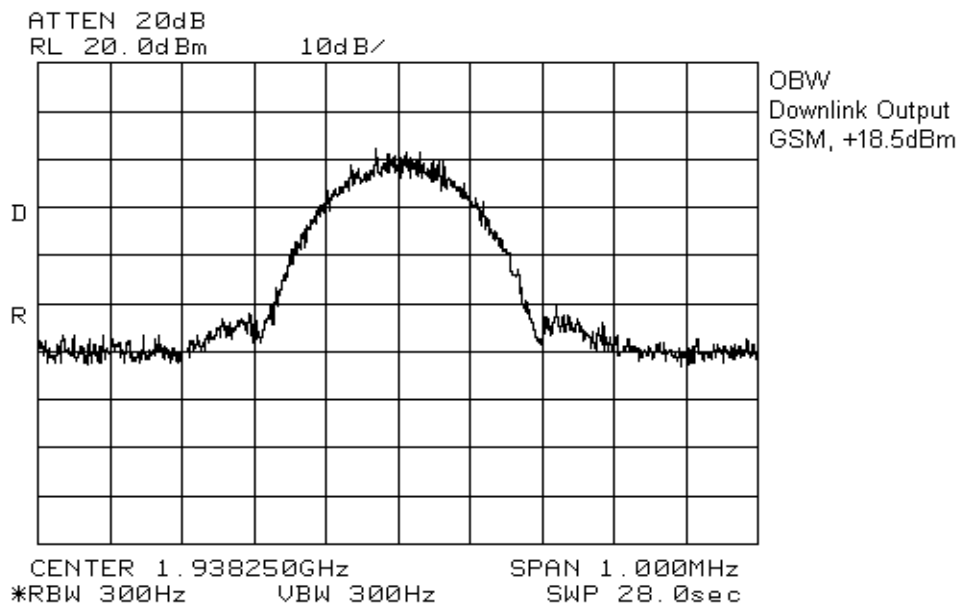
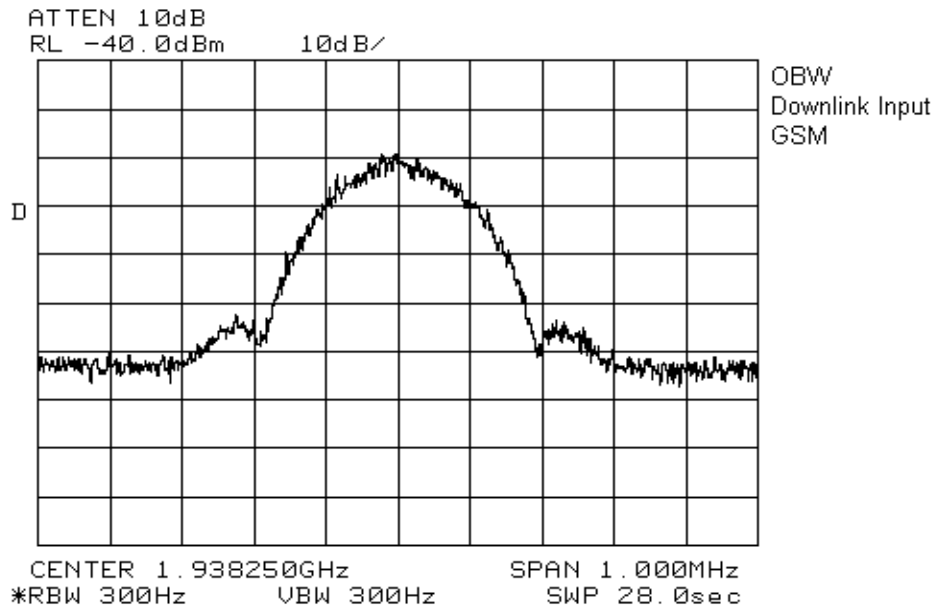
The occupied bandwidth was measured by comparison of input from the signal generator to the output signal from the amplifier. This was done in order to determine if there was any degradation to the output signal due to the amplification and conversion through the repeater.

EQUIPMENT: Spotcell 612

Downlink, Input vs Output



EQUIPMENT: Spotcell 612



EQUIPMENT: Spotcell 612

Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

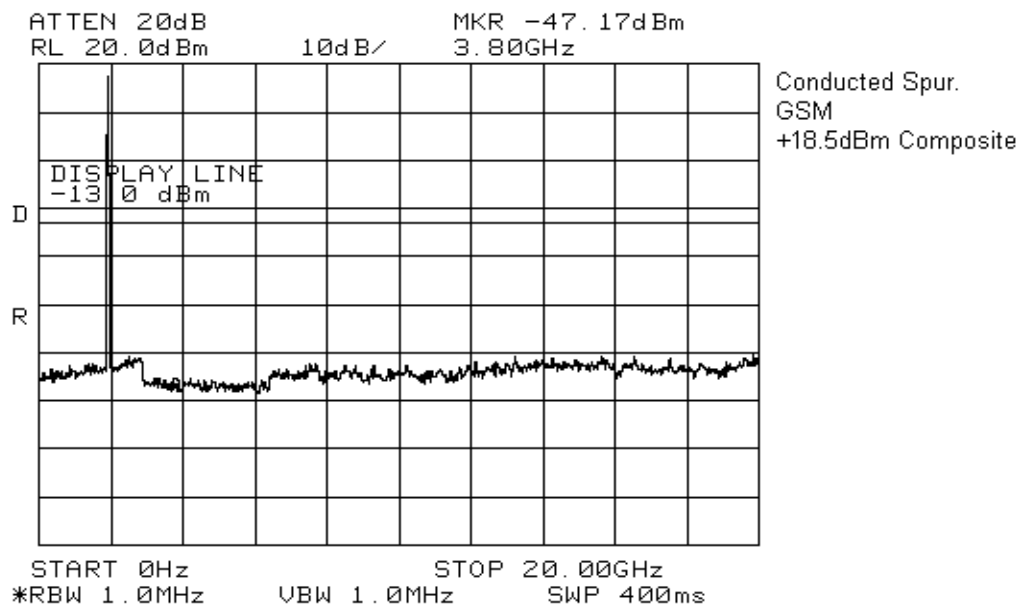
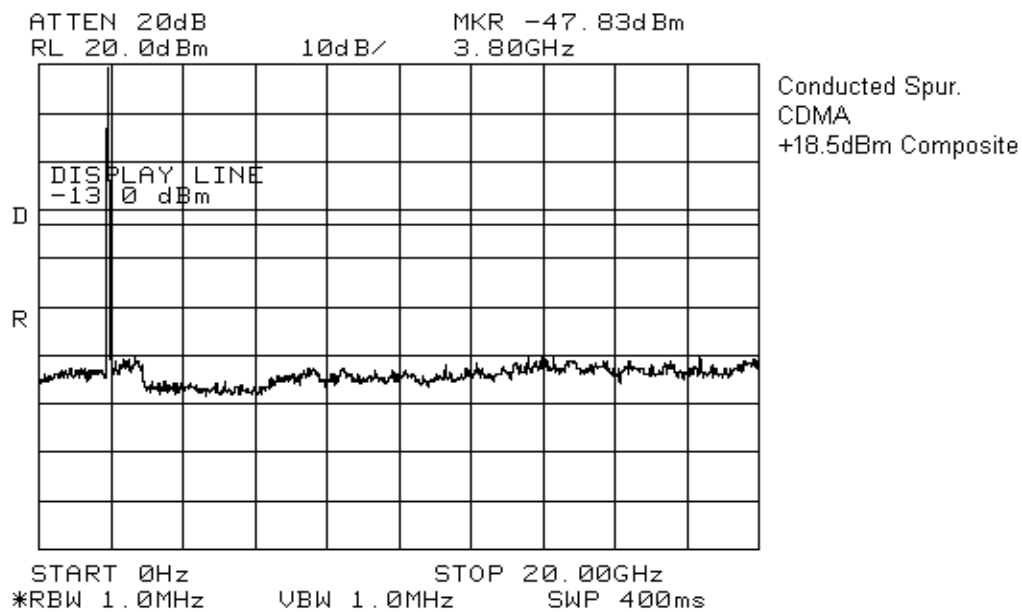
Test Performed By: Glen Westwell	Date of Test: 25 June 2004
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Minimum Standard: 24.238, -13dBm

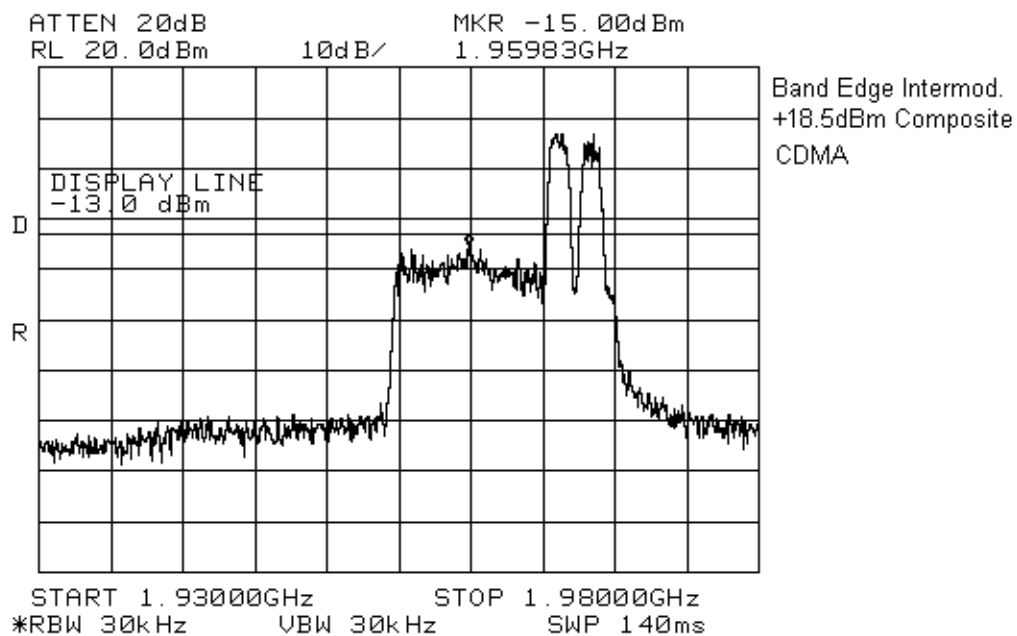
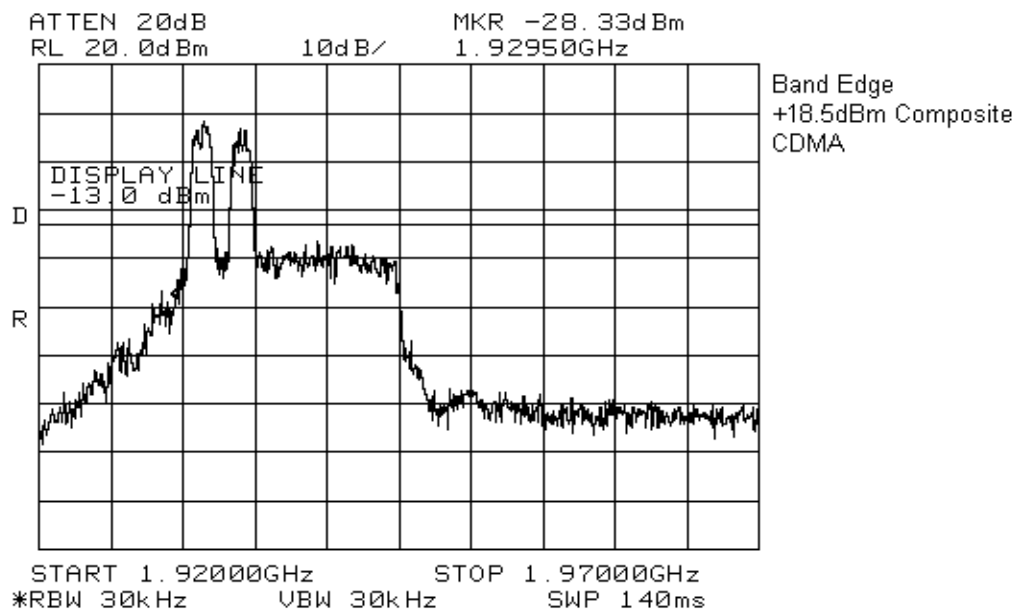
Test Results: Complies.
Spurious emissions were searched at low, mid & high ends of the band. Worst case plots have been included.

Measurement Data: See Attached Graphs.

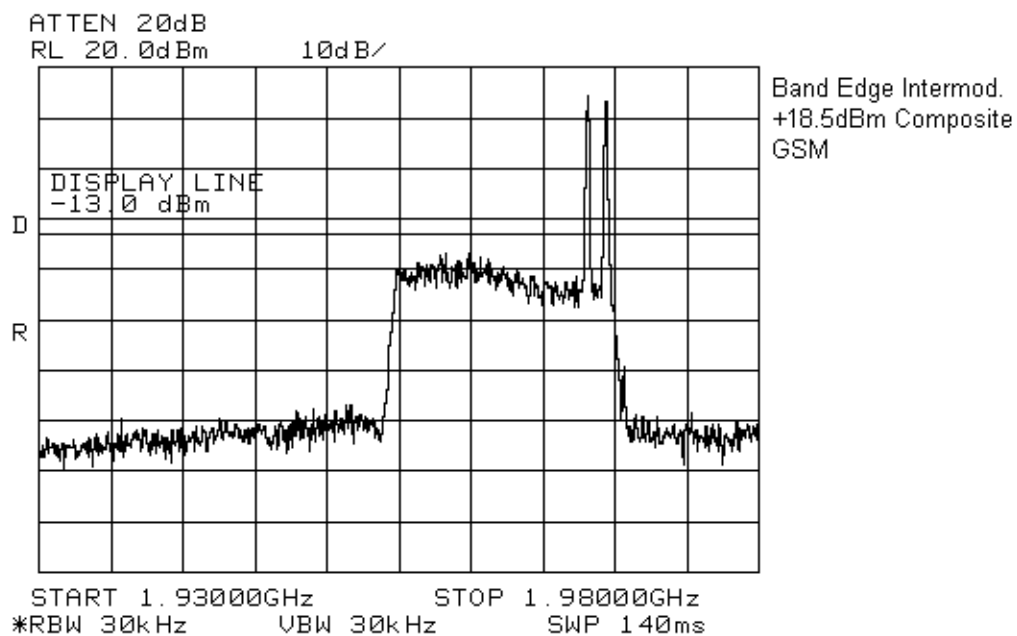
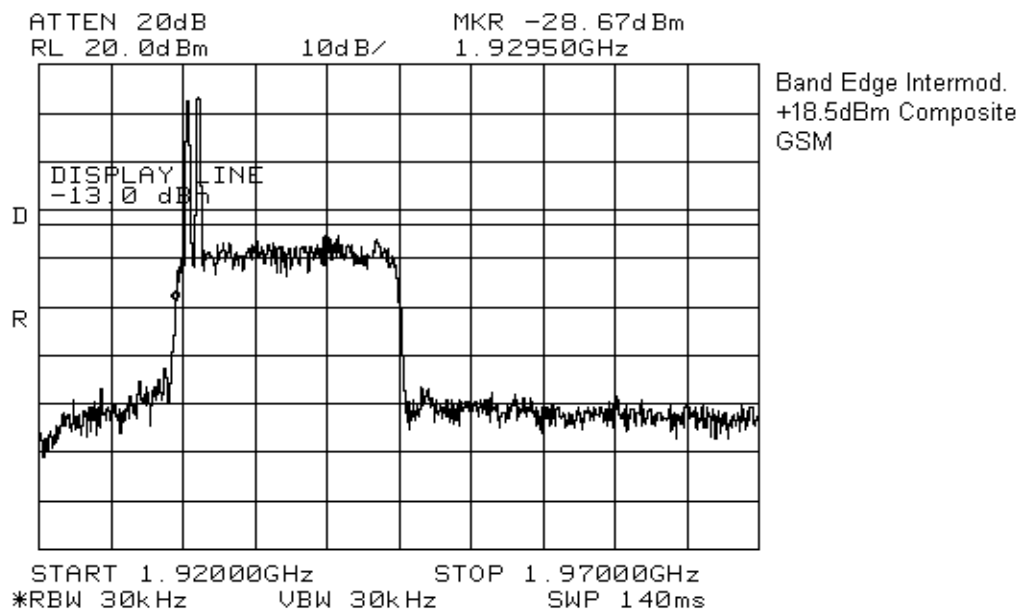
EQUIPMENT: Spotcell 612



EQUIPMENT: Spotcell 612



EQUIPMENT: Spotcell 612



EQUIPMENT: Spotcell 612

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Glen Westwell	Date of Test: 28 June 2004
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Minimum Standard: 24.238, -13dBm

Test Results: Complied.

Measurement Data: No Emissions Detected.

The EUT was searched on the downlink direction at top, mid & bottom of the band.

EQUIPMENT: Spotcell 612

Emissions Search Photos
Spotcell 612



EQUIPMENT: Spotcell 612

Section 7. Out of Band Rejection

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

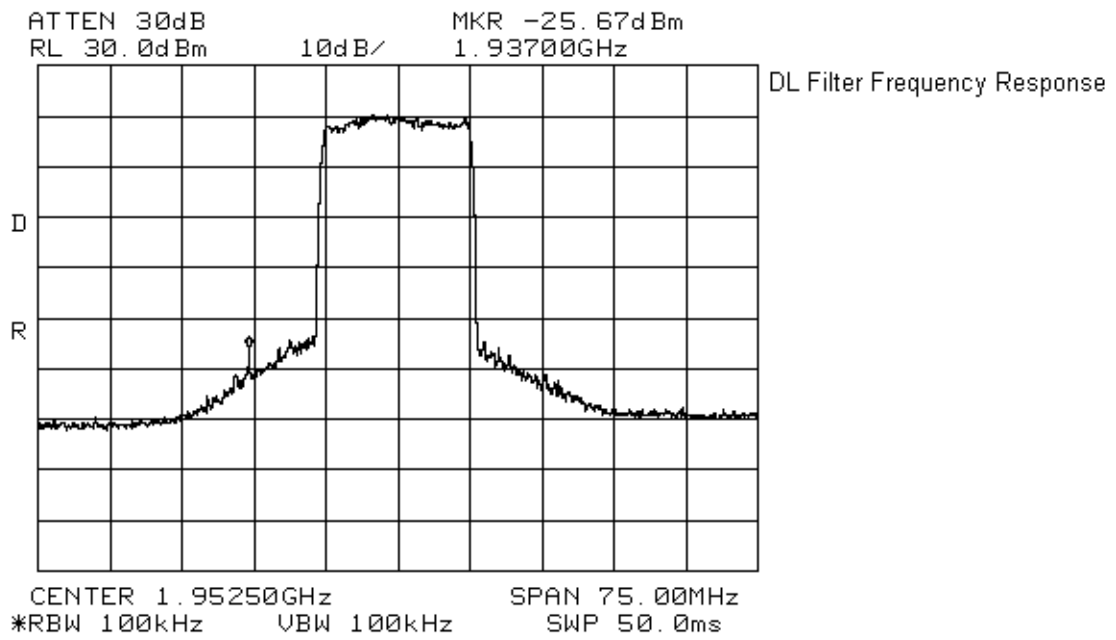
Test Performed By: Glen Westwell	Date of Test: 28 June 2004
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Limit: -13dBm

Test Results: Complied.

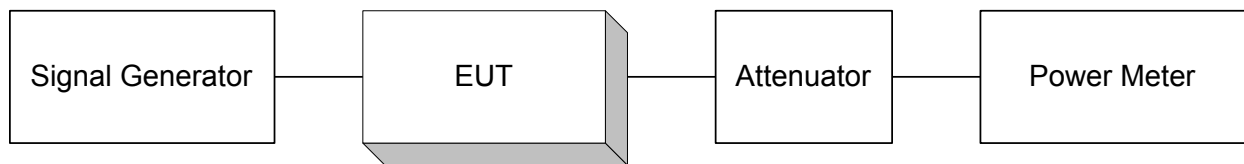
Measurement Data: See attached plots.

EQUIPMENT: Spotcell 612

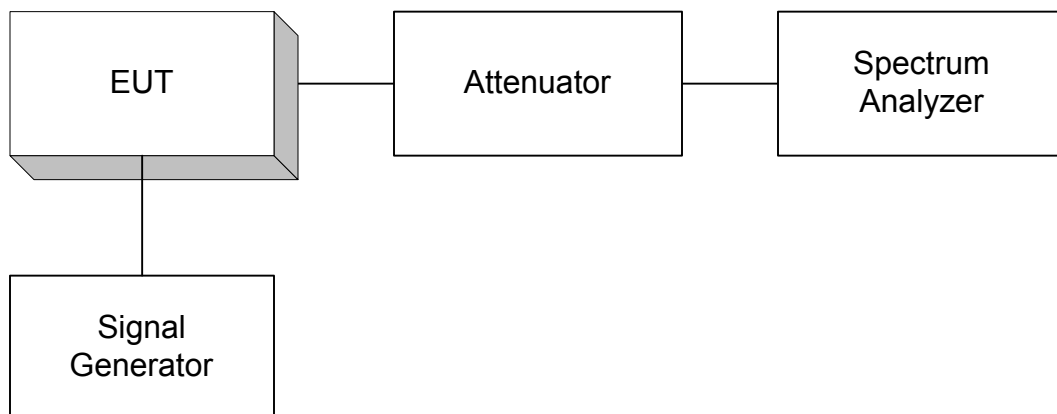


Section 8. Block Diagrams

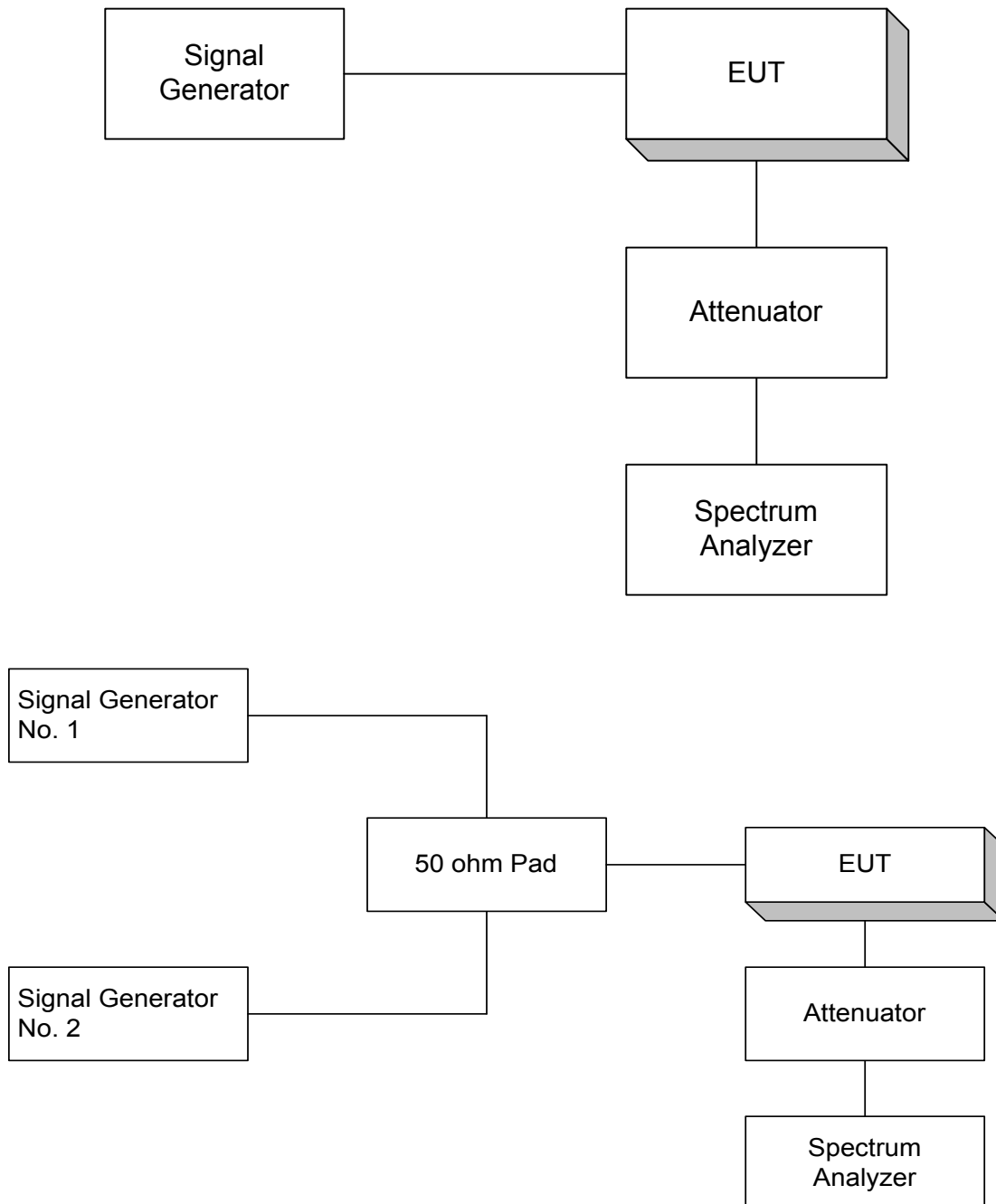
Para. No. 1046 - R.F. Power Output



Para. No. 2.1049 - Occupied Bandwidth

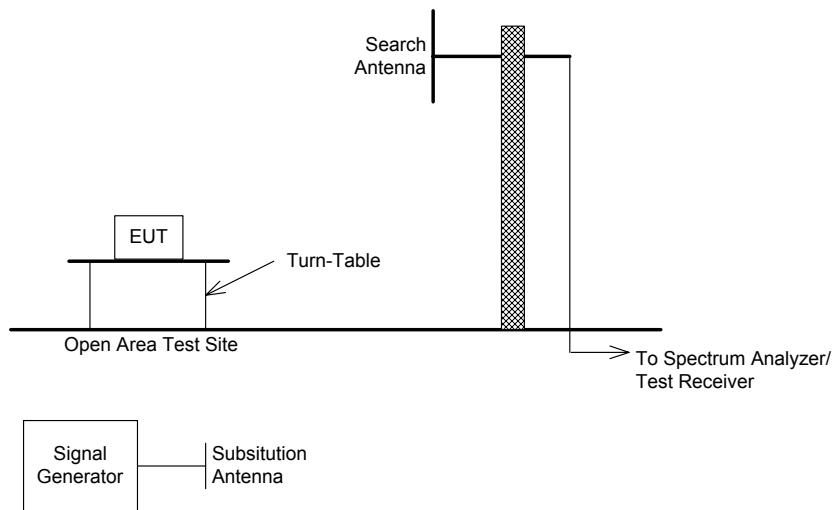


Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



EQUIPMENT: Spotcell 612

Para. No. 2.1053 - Field Strength of Spurious Radiation
TIA/EIA 603, Signal Substitution Method



*EQUIPMENT: Spotcell 612***Section 9. Test Equipment List**

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	FA001367	13 May 04	28 Jun 05
3 Year	Signal Generator	Rhode & Schwarz	SM1Q03E	FA001269	09 Jan 04	09 Jan 05
3 Year	Signal Generator	Rohde & Schwarz	SM1Q03	FA001091	25 Sep 03	25 Sep 06
1 Year	Power Meter	Hewlett Packard	E4418B	FA001678	27 Feb 04	27 Feb 05
1 Year	Power Sensor	Hewlett Packard	8487A	Rental	11 Mar 04	11 Mar 05
1 Year	RF AMP	JCA	4-8 GHz	FA001497	18 June 04	18 June 05
1 Year	RF AMP	JCA	2-4 GHz	FA001496	18 June 04	18 June 05
1 Year	RF AMP	JCA	1-2 GHz	FA001498	18 June 04	18 June 05
1 Year	Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 28/04	May 28/05
1 Year	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 28/04	May 28/05
NCR	Bilog	Schaffner	CBL6112B	FA001504	NCR	NCR
1 Year	Horn Antenna	EMCO #1	3115	FA000649	18 Dec 03	18 Dec 04

NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use