Test Report:	4W08059
Applicant:	Dekolink Wireless LTD. 16 Bazel St. Qiryat-Arieh Petah-Tikva, 49510 Israel
Equipment Under Test: **(EUT)**	MW-FBDA-PCS-DF-50W Fiber Optic Repeater
FCC ID:	OIWFBDAPCSDF50W
In Accordance With:	**FCC Part 24, Subpart E**
Tested By:	Nemko Canada Inc. 303 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	 Kevin Carr, EMC/EMI/Wireless Specialist.
Date:	27 April 2004
Total Number of Pages:	24

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 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.
The EUT is a repeater which connects to a base station, therefore only the Downlink direction was tested.

TESTED BY: _____ DATE: 27 April 2004
Glen Westwell, Wireless Specialist.

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complied
Modulation Characteristics	2.1047	N/A(1)
Occupied Bandwidth	2.1049	Complied
Spurious Emissions at Antenna Terminals	2.1051	Complied
Field Strength of Spurious Emissions	2.1053	Complied
Frequency Stability	2.1055	Complied

Note:
(1) This device does not modulate or demodulated the carrier and therefore does not contain any modulation circuitry. It receives the modulated signal from the BTS via fiber connection then converts this modulated light signal back to RF for amplification and transmission in the downlink direction.

(2) The EUT is a repeater which connects to the base station uplink via fiber, therefore only the downlink direction was tested.

Indoor Temperature: 23°C
Humidity: 36%

Outdoor Temperature: 12°C
Humidity: 50%

Section 2. General Equipment Specification

Manufacturer:	Dekolink Wireless LTD.
Model No.:	FBDA-PCS-DF-50W
Serial No.:	04049509
Date Received In Laboratory:	12 April 2004
Nemko Identification No.:	1
Supply Input Voltage:	110/220 VAC
Frequency Range:	Downlink: 1945-1975MHz
RF Output (Rated):	Downlink: 10Watts, 40dBm
Emission Designator	GXW (GSM) DXW (TDMA) F9W (CDMA)

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Glen Westwell	**Date of Test: 26 April 2004**

Minimum Standard: 24.232

Test Results: Complied.

Measurement Data:

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 AGC and is equal to Pmax – 10LogN.

Pmax = Maximum RF Output Power
N = Number Of Channels

Channel Frequency (MHZ)	Measured Power (dBm)	Rated Power (dBm)
1975	40.0	40.0
1967	40.4	40.0
1945	40.4	40.0

Section 4. Occupied Bandwidth

Para. No.: 2.1049

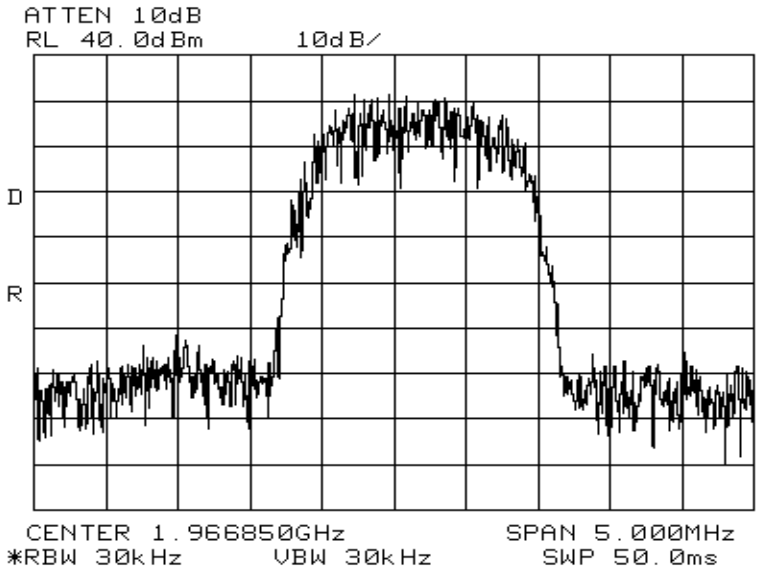
Test Performed By: Glen Westwell	**Date of Test: 26 April 2004**

Minimum Standard: 24.238

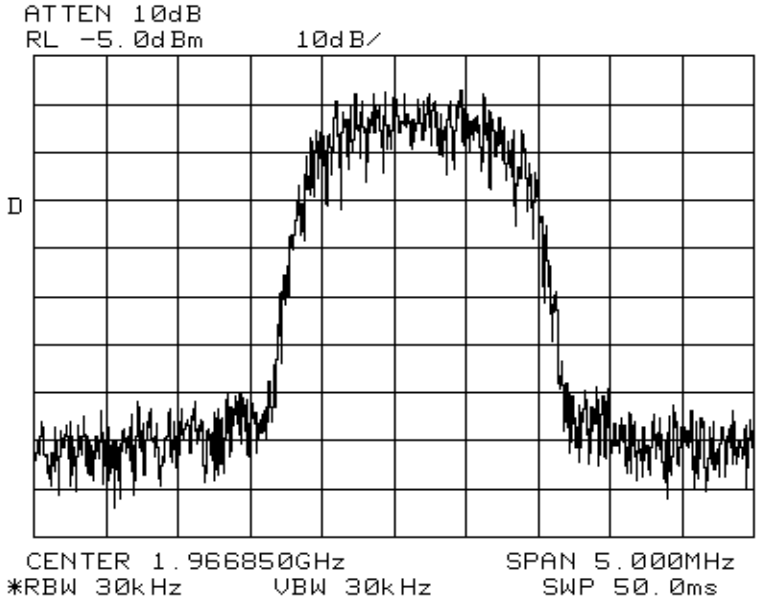
Test Results: Complies.

Measurement Data: See attached graphs.

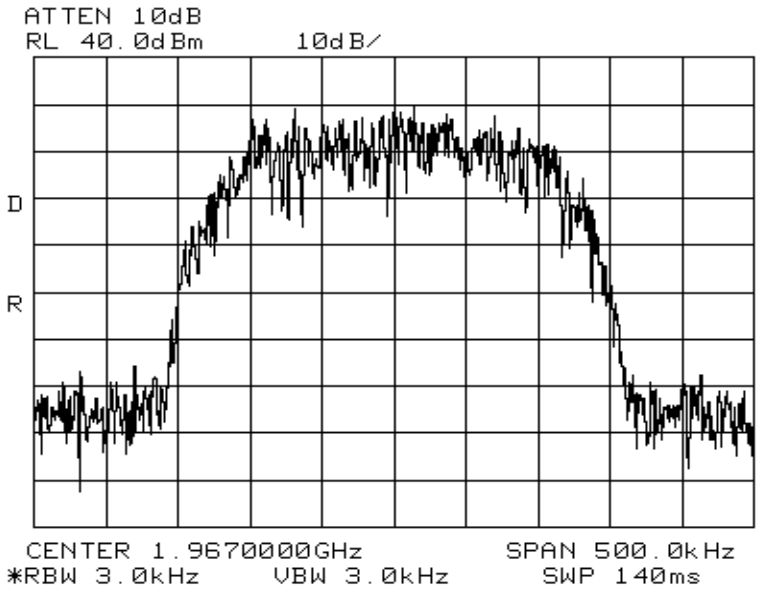
The occupied bandwidth was measured by comparison of input from the signal generator to the output signal from the amplifier. This was done in order to determine if there was any degradation to the output signal due to the amplification and conversion through the repeater.



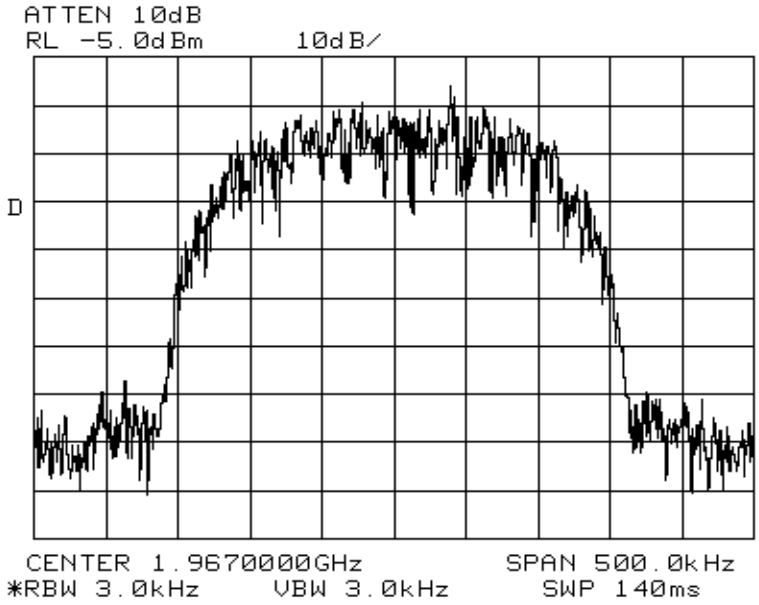
Occupied Bandwidth
CDMA, 10W Composite Pwr.



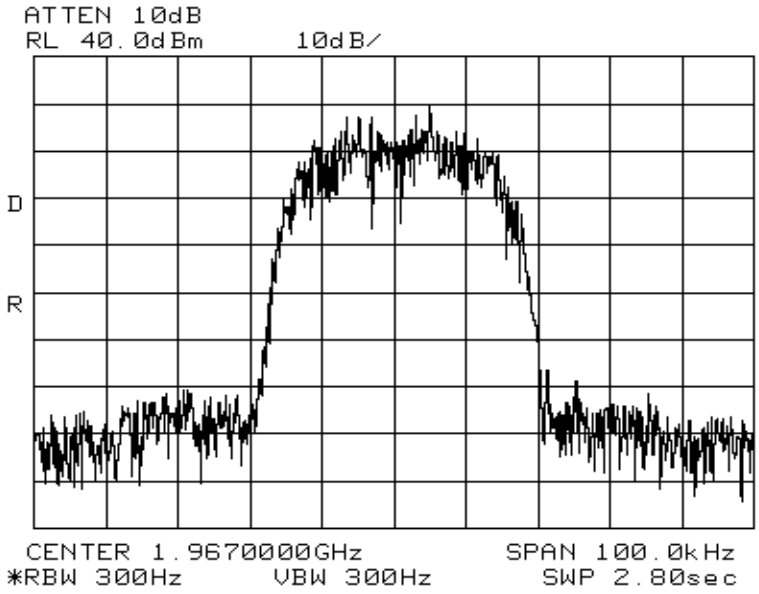
CDMA Reference Level Input to
Fiberoptic Transceiver
Occupied Bandwidth



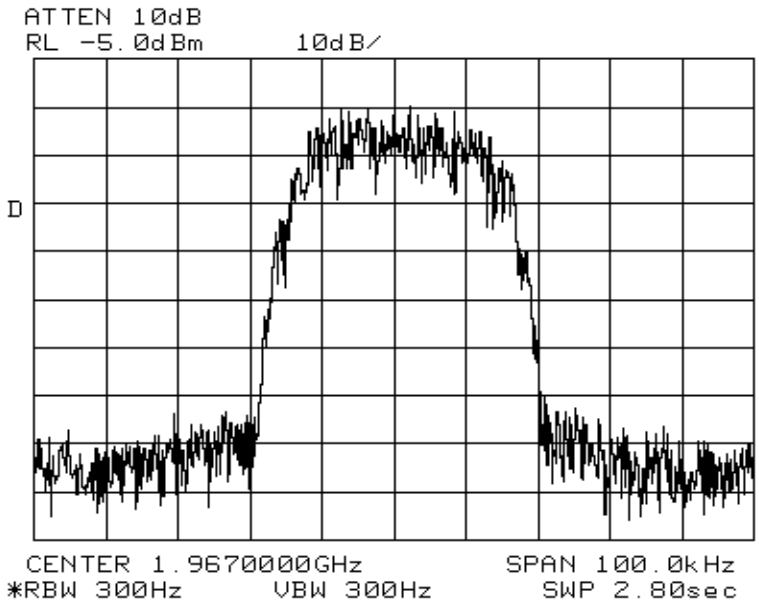
Occupied Bandwidth
GSM, 10W Composite Pwr.



GSM Reference Level Input to
Fiberoptic Transceiver
Occupied Bandwidth



Occupied Bandwidth
TDMA, 10W Composite Pwr.



TDMA Reference Level Input to
Fiberoptic Transceiver
Occupied Bandwidth

Section 5. Spurious Emissions at Antenna Terminals

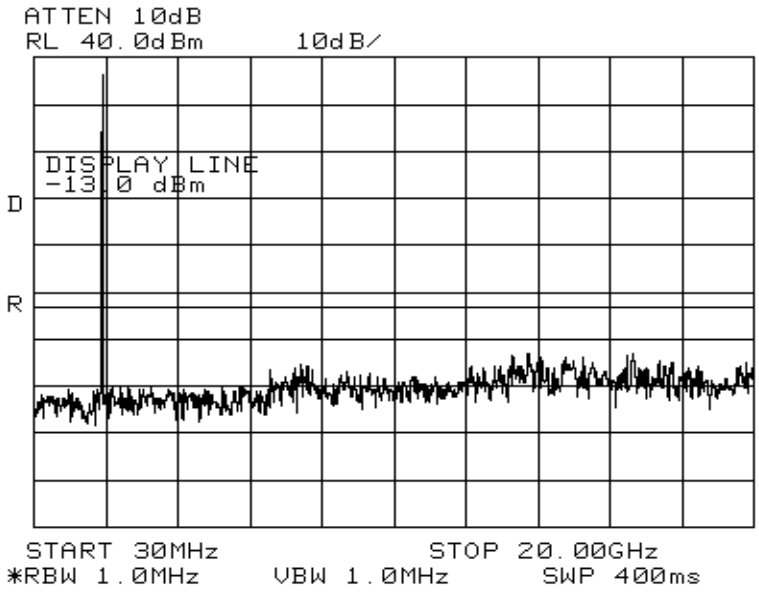
Para. No.: 2.1051

Test Performed By: Glen Westwell	**Date of Test: 27 April 2004**

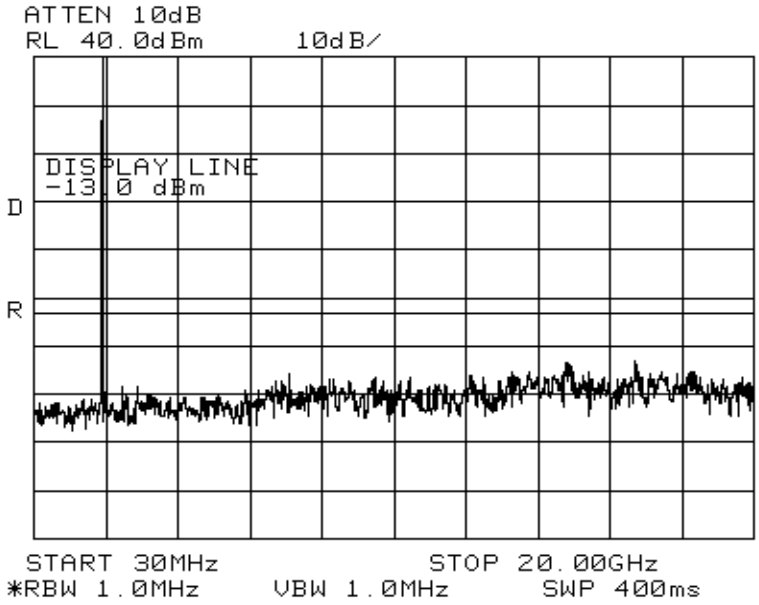
Minimum Standard: -13dBm

Test Results: Complies.

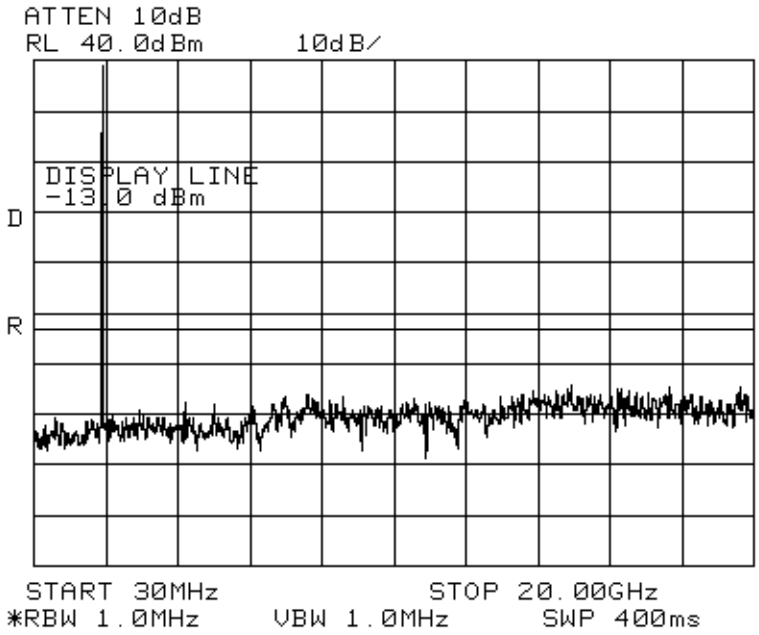
Measurement Data: See Attached Graphs.



Out of Band Spurious
Emissioms
CDMA, 10W Composite Pwr.

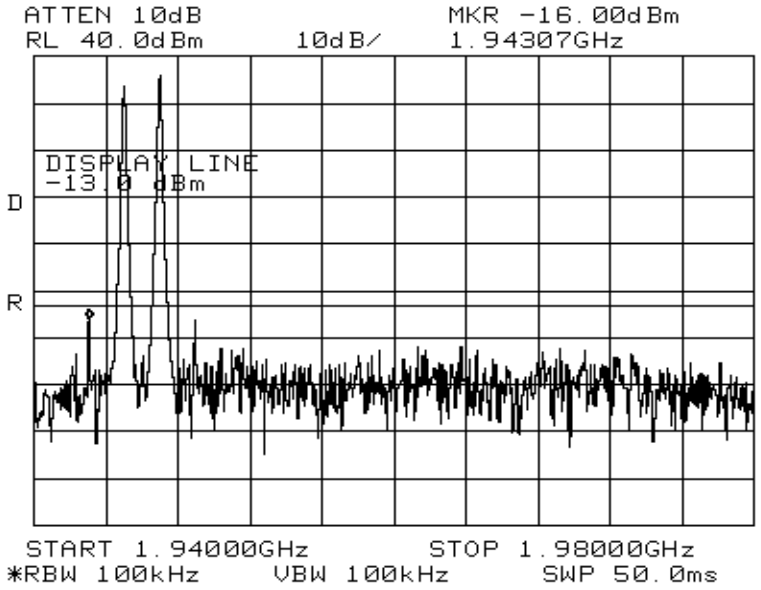


Out of Band Spurious
Emissioms
TDMA, 10W Composite Pwr.

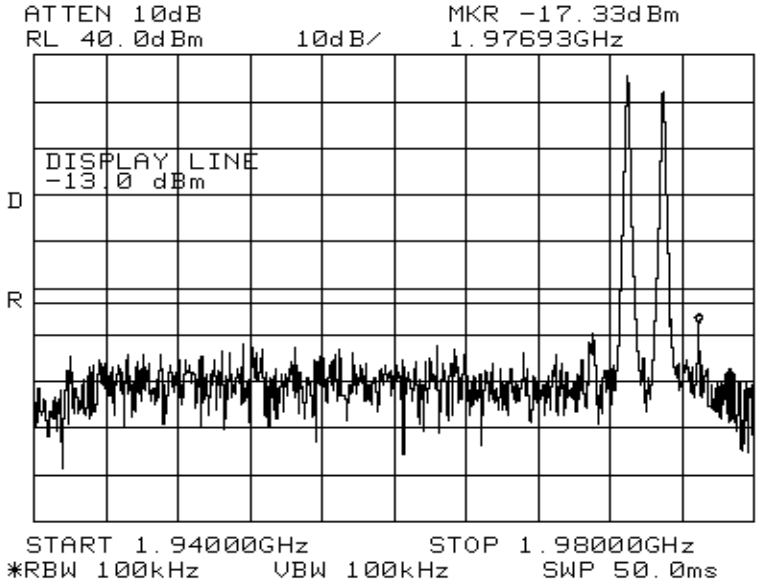


Out of Band Spurious Emissioms
GSM, 10W Composite Pwr.

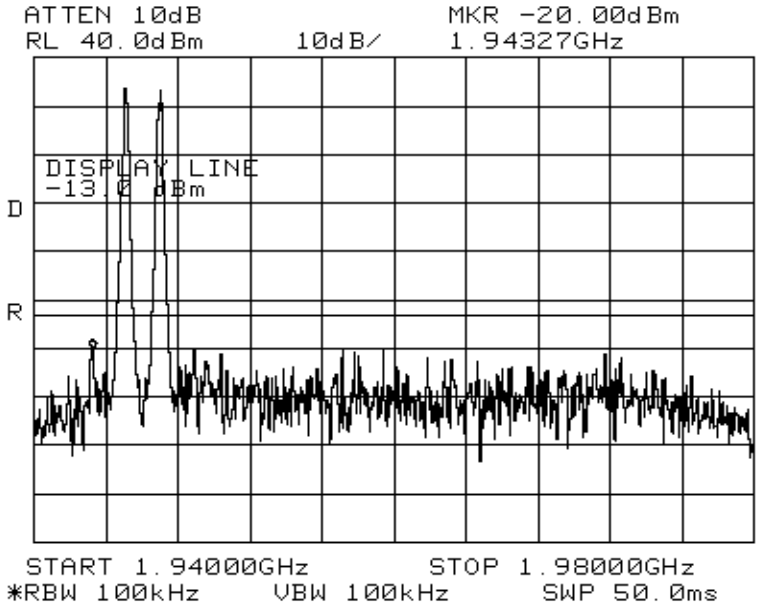
3rd Order Inter-modulation Plots



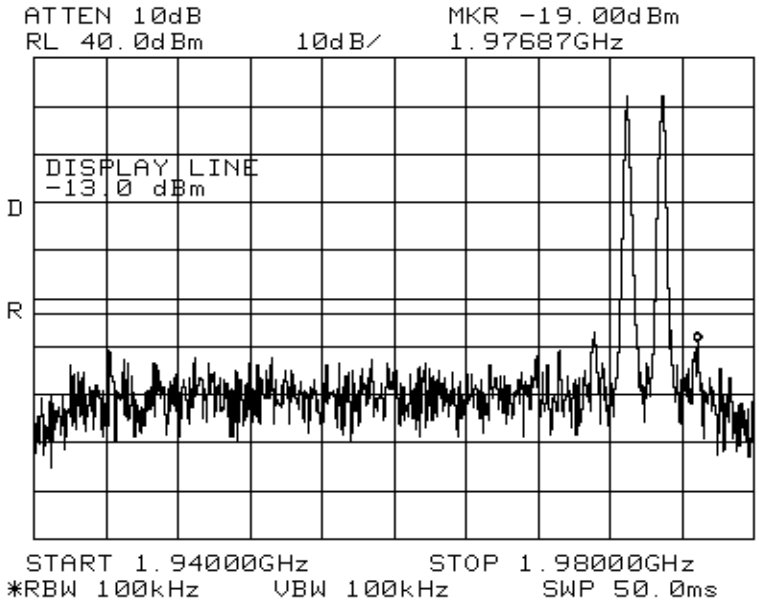
Out of Band Spurious
Emissioms
TDMA, 10W Composite Pwr.



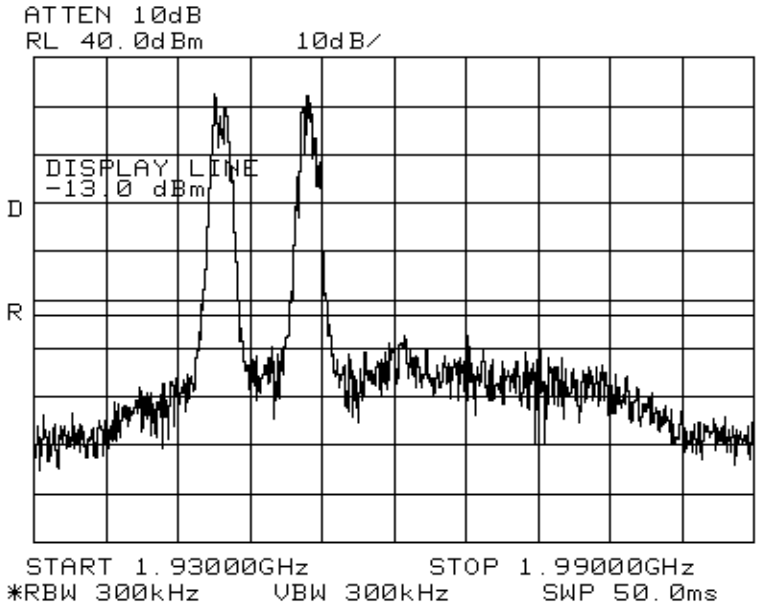
Out of Band Spurious
Emissioms
TDMA, 10W Composite Pwr.



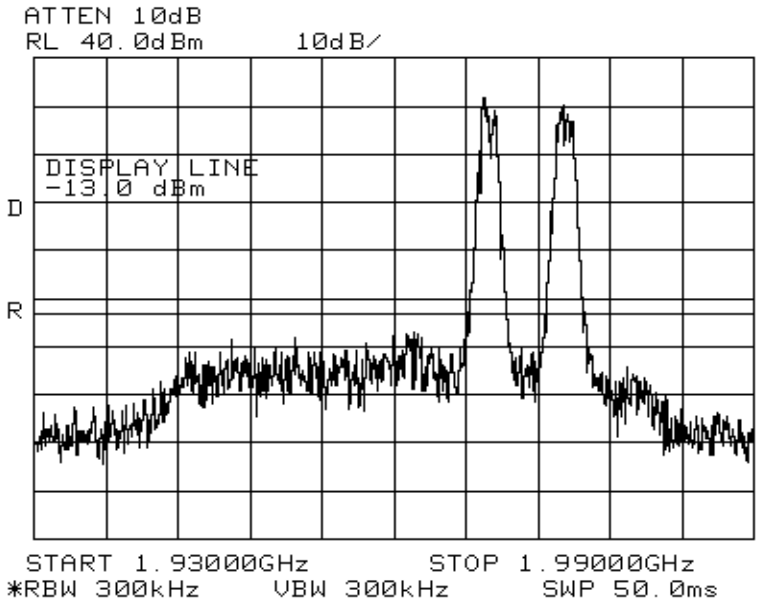
Out of Band Spurious
Emissioms
GSM, 10W Composite Pwr.



Out of Band Spurious
Emissioms
GSM, 10W Composite Pwr.



Out of Band Spurious
Emissioms
CDMA, 10W Composite Pwr.



Out of Band Spurious
Emissioms
CDMA, 10W Composite Pwr.

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Glen Westwell	**Date of Test: 27 April 2004**

Minimum Standard: -13dBm

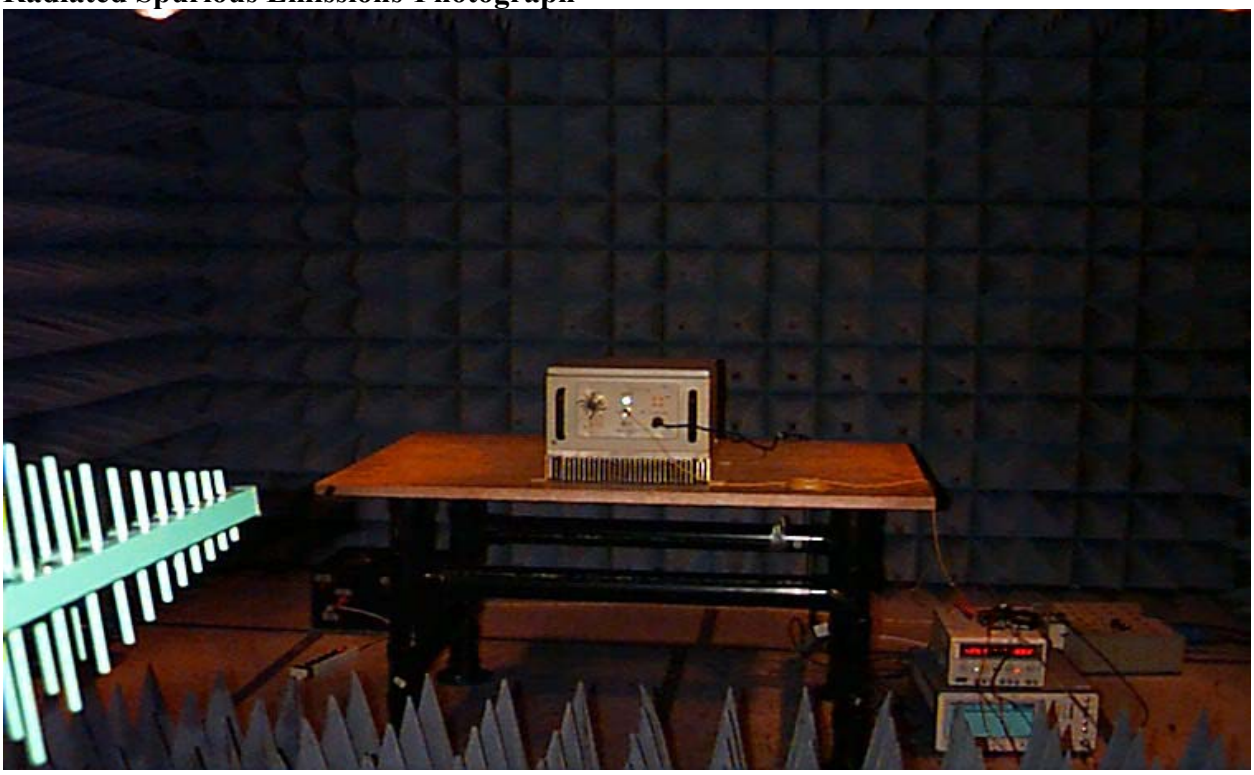
Test Results: Complied.

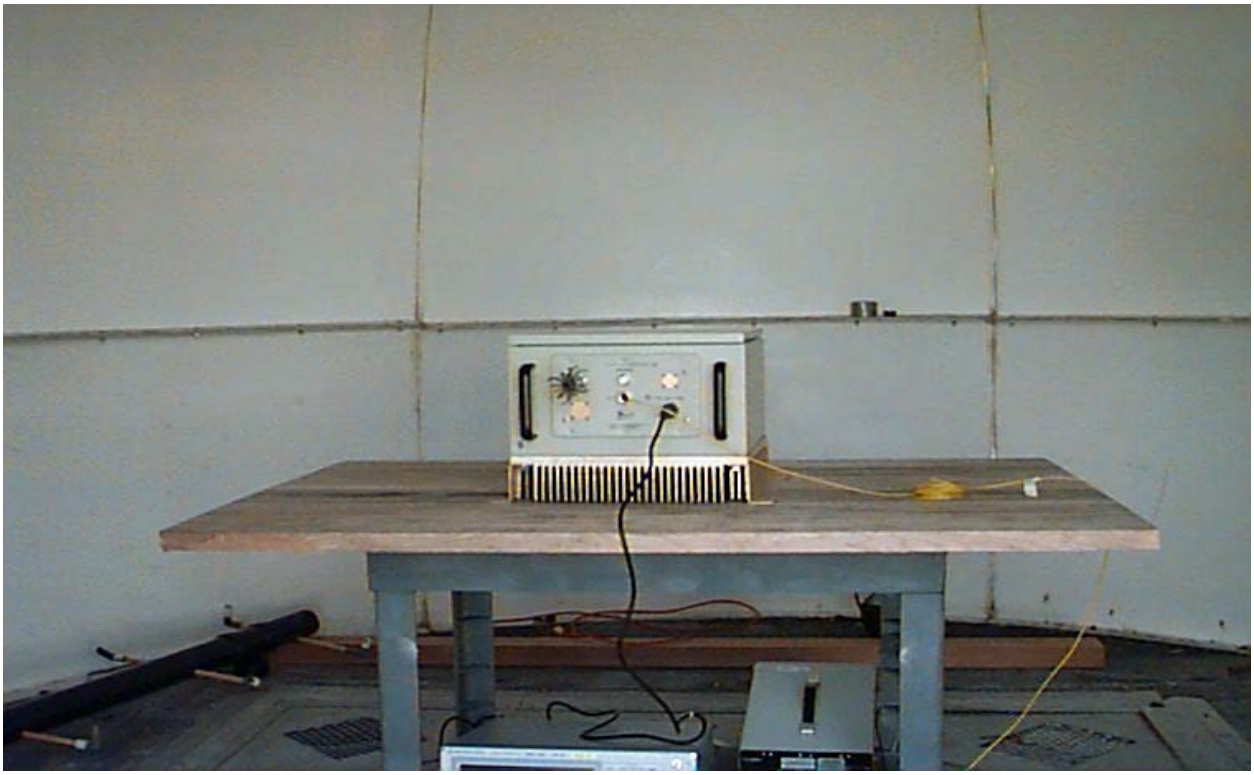
Measurement Data: See attached data.

Test Data-Field Strength of Harmonic & Spurious Emissions

Test Distance (meters) : 3	**Range:** A	**Receiver: ESVS 30 HP8564E**	**RBW(kHz): 120/1000**	**Detector: Q-Peak/Peak**		
Freq. (MHz)	**Ant.**	**Pol (V/H)**	**RCVD Signal (dBμV)**	**Signal Substitution Level (dBm)**	**Limit (dBm)**	**Margin (dB)**
39.2000	BC2	V	23.0	-64.7	-13.0	51.7
109.0000	BC2	V	30.7	-57.0	-13.0	44.0
3934.0000	Horn1	V	62.2	-53.8	-13.0	40.8
3934.0000	Horn1	H	60.1	-57.6	-13.0	44.6
All spurious and harmonic emissions to the 10^{th} harmonic were searched.						

Radiated Spurious Emissions-Photograph





Section 7. Frequency Stability

Para. No.: 2.1055

Test Performed By: Glen Westwell	**Date of Test: 27 April 2004**

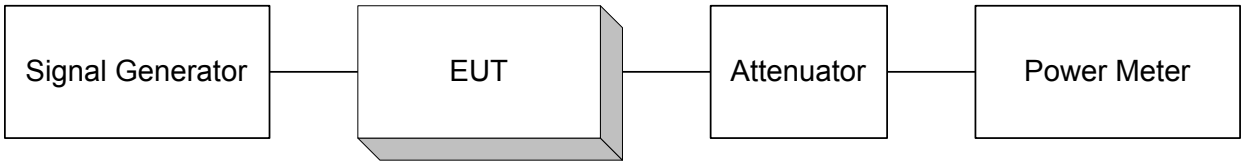
Limit: 24.235

Test Results: Complied. The maximum frequency drift was 0Hz.

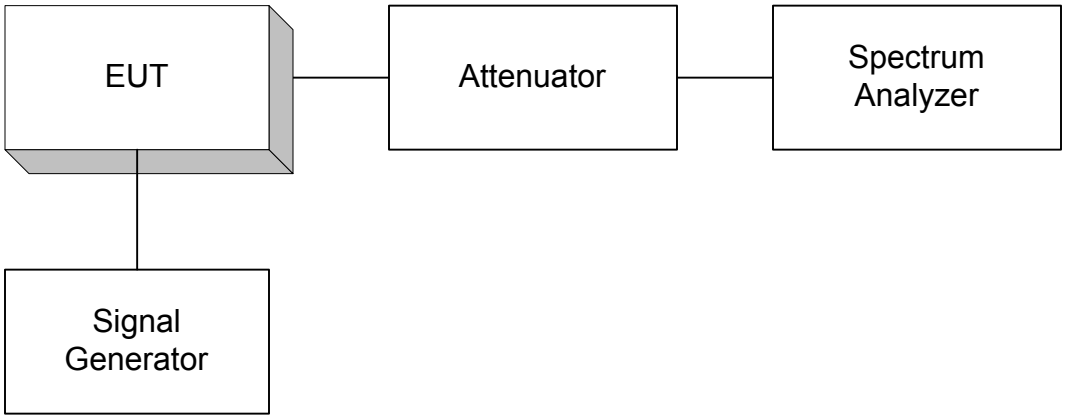
Measurement Data: Temperature Range : -30Deg. C to 50 Deg. C.
Downlink, Test Frequency: 1967MHz.
+/- 15% of the standard input voltage of 120Vac.

Section 8. Block Diagrams

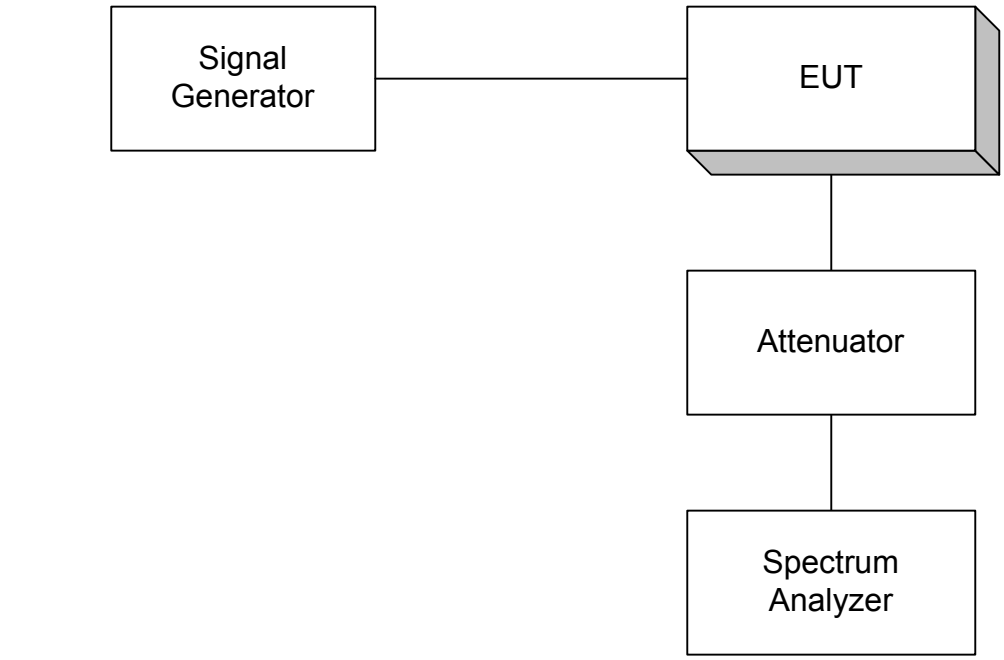
Para. No. 1046 - R.F. Power Output

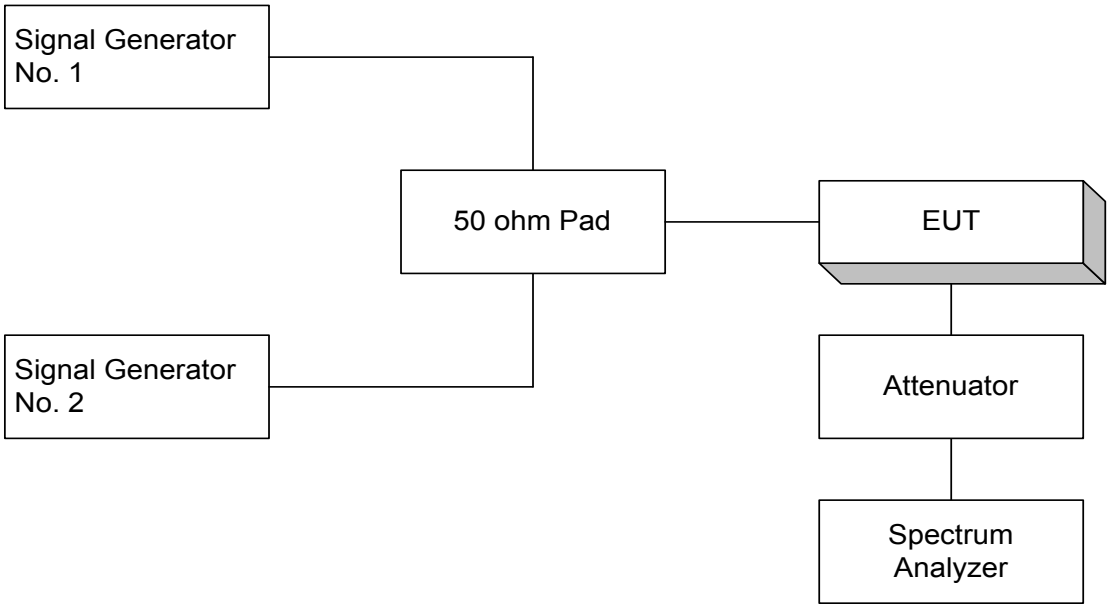


Para. No. 2.1049 - Occupied Bandwidth



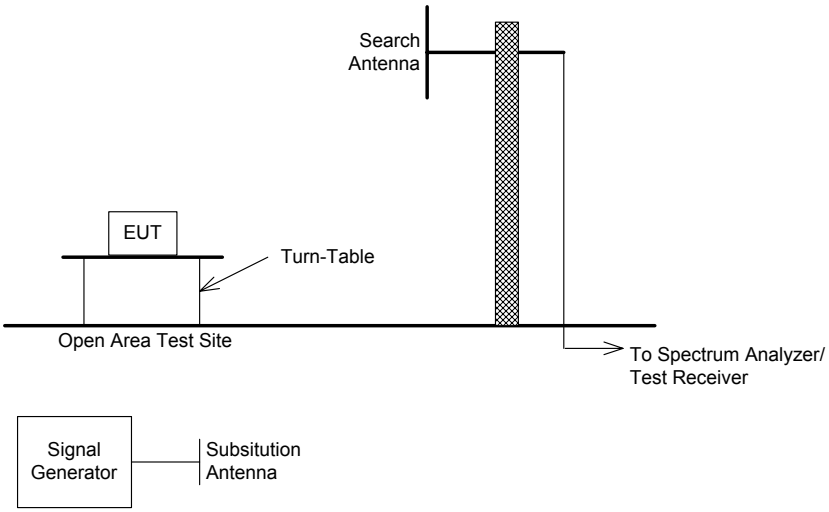
Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



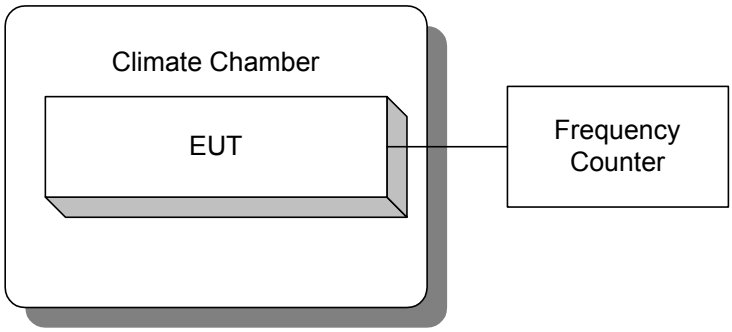


Para. No. 2.1053 - Field Strength of Spurious Radiation

TIA/EIA 603, Signal Substitution Method



Para. No. 2.1055 - Frequency Stability



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 03	13 May 04
1 Year	Climate Chamber	Thermotron	SM-16C	15649-S	COU	COU
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	FA001741	28 Mar 03	14 Jul 04
1 Year	RF AMP	JCA	4-8 GHz	FA001497	18 June 03	18 June 04
1 Year	RF AMP	JCA	2-4 GHz	FA001496	18 June 03	18 June 04
1 Year	RF AMP	JCA	1-2 GHz	FA001498	18 June 03	18 June 04
1 Year	Frequency Counter	Hewlett Packard	HP5350A	FA000086	19 Feb 04	19 Feb 05
1 Year	Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	June. 05/03	June. 05/04
1 Year	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	June. 05/03	June. 05/04
NCR	Bilog	Schaffner	CBL6112B	FA001504	NCR	NCR
1 Year	Horn Antenna	EMCO #1	3115	FA000649	18 Dec 03	18 Dec 04
1 Year	Themocuple	Fluke	52k	FA001247	17Feb04	17Feb05
1 Year	Biconical (2) Antenna	EMCO	3109	FA000904	July. 24/03	July. 24/04

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