



Test Report: 4W06835

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

**Equipment Under Test:
(EUT)** MW-IBDB-ESMR 10W40
Indoor Bi-Directional Amplifier

FCC ID: OIWIBDBESMR10W40

In Accordance With: **FCC Part 90**

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

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

Date: 22 June 2004

Total Number of Pages: 21

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EQUIPMENT: MW-IBDB-ESMR 10W40

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.

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: 22 June 2004

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This report applies only to the items tested.

EQUIPMENT: MW-IBDB-ESMR 10W40

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
Out of Band Rejection		Complied
Frequency Stability	2.1055	N/A(2)

Note:

- (1) This device does not modulate or demodulated the carrier and therefore does not contain any modulation circuitry.
- (2) This device contains no frequency translation capabilities.

Indoor Temperature: 22.9°C
 Humidity: 36%

Outdoor Temperature: 23°C
 Humidity: 44%

EQUIPMENT: MW-IBDB-ESMR 10W40

Section 2. General Equipment Specification

Manufacturer:	Dekolink Wireless LTD.
Model No.:	MW-IBDB-ESMR-10W40
Serial No.:	04057581
Date Received In Laboratory:	16 June 2004
Nemko Identification No.:	#1
Supply Input Voltage:	110/220 VAC
Frequency Range:	Downlink: 851-866MHz Uplink: 806-821MHz
Rated Output Power:	Downlink: 1.0Watts, 30dBm Uplink: 0.25Watts, 24dBm
Emission Designator	G7W (iDen)

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Glen Westwell	Date of Test: 18 June 2004
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Minimum Standard: 90.205

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)
851	29.0	30.0
858	30.0	30.0
866	29.3	30.0

Uplink

Channel Frequency (MHZ)	Measured Power (dBm)	Rated Power (dBm)
806	23.1	24.0
813	24.0	24.0
821	23.2	24.0

EQUIPMENT: MW-IBDB-ESMR 10W40

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Glen Westwell	Date of Test: 18 June 2004
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Minimum Standard: 90.209

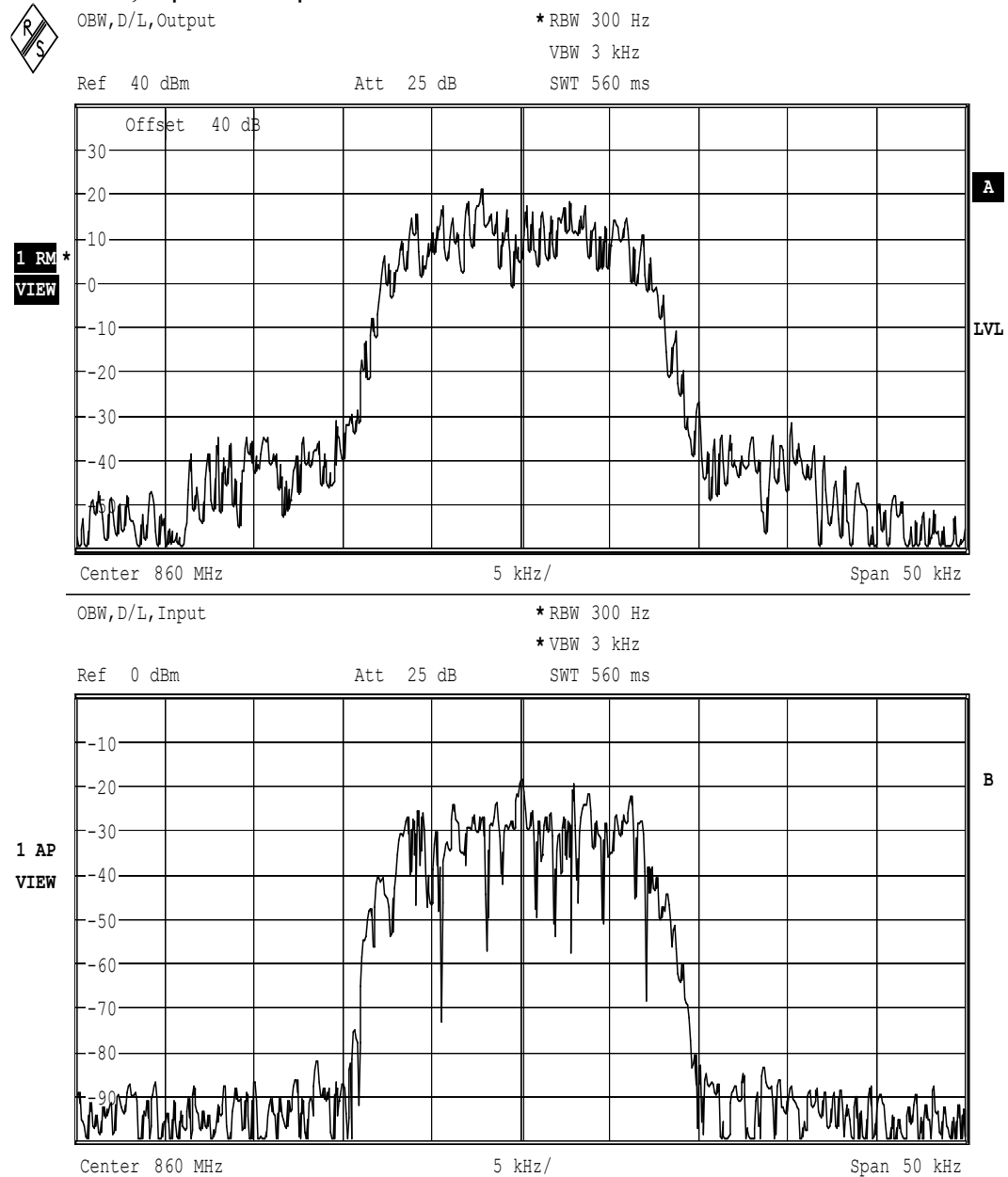
Test Results: Complies.

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: MW-IBDB-ESMR 10W40

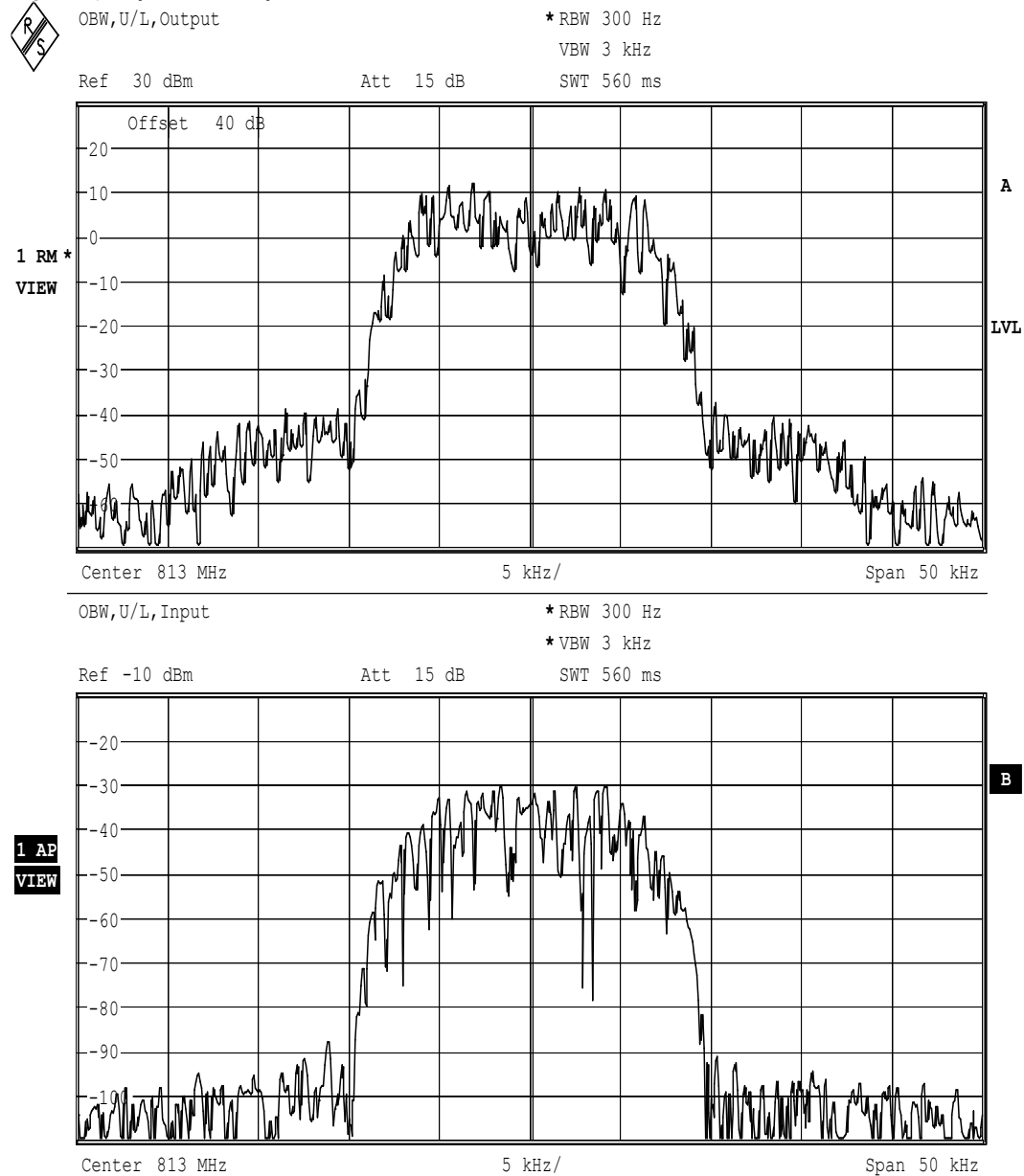
Downlink, Input vs Output



Date: 17.JUN.2004 04:11:34

EQUIPMENT: MW-IBDB-ESMR 10W40

Uplink, Input vs Output



Date: 17.JUN.2004 04:25:22

EQUIPMENT: MW-IBDB-ESMR 10W40

Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Glen Westwell	Date of Test: 17 June 2004
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Minimum Standard: -13dBm

Test Results: Complies.

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

Measurement Data: See Attached Graphs.

EQUIPMENT: MW-IBDB-ESMR 10W40



U/L, IDen, 24dBm, Compos

* RBW 100 kHz

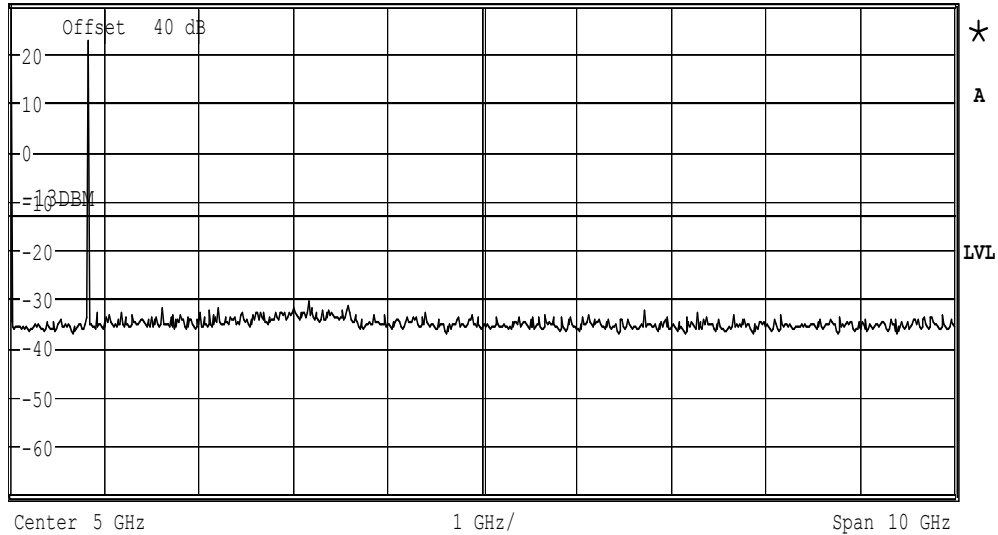
VBW 300 kHz

Ref 30 dBm

Att 15 dB

SWT 1 s

1 PK
VIEW



D/L, IDen, 30dBmComposi

* RBW 100 kHz

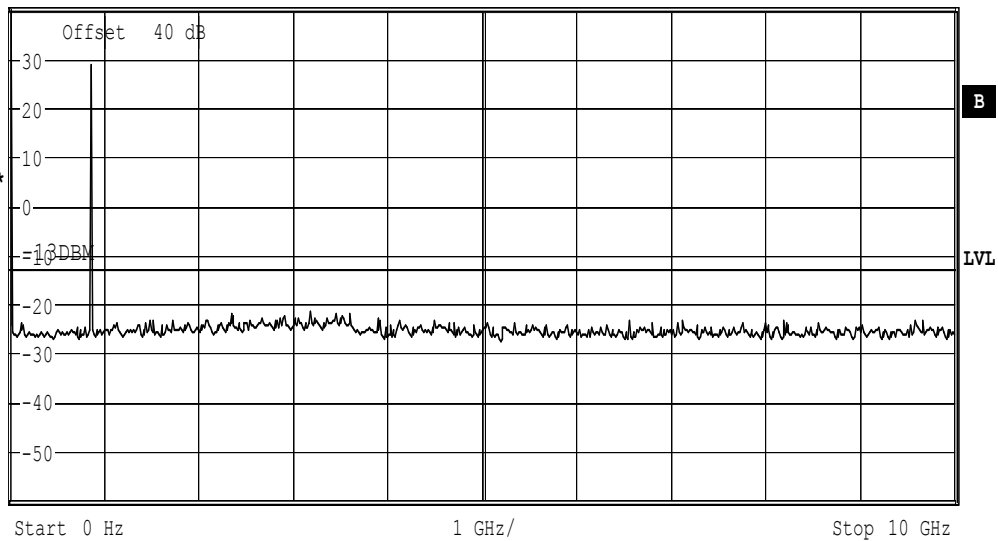
VBW 300 kHz

Ref 40 dBm

Att 25 dB

SWT 1 s

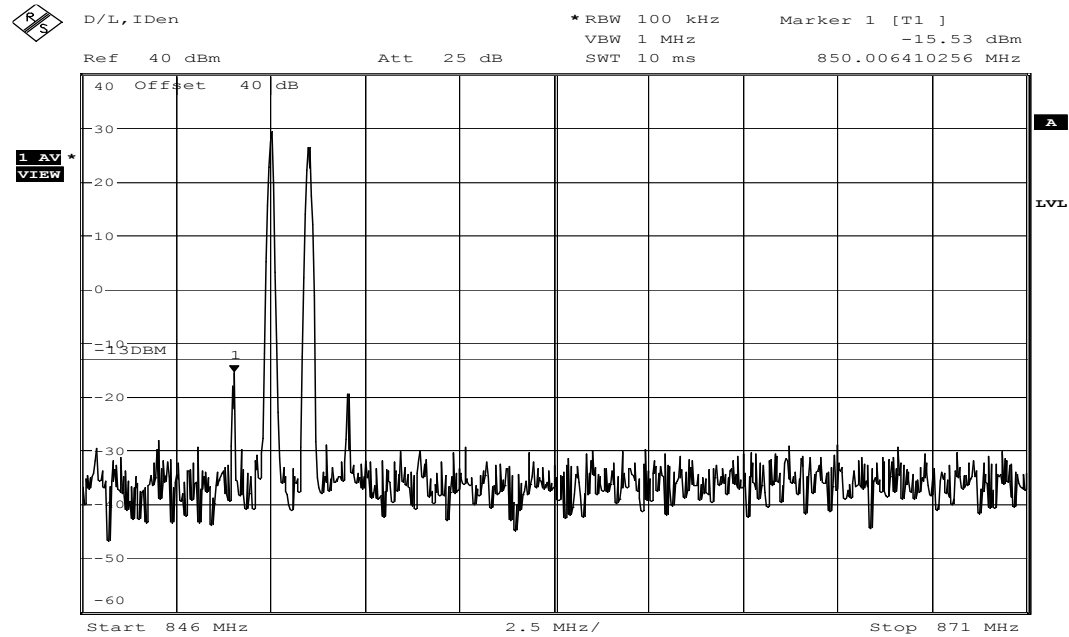
1 PK *
VIEW



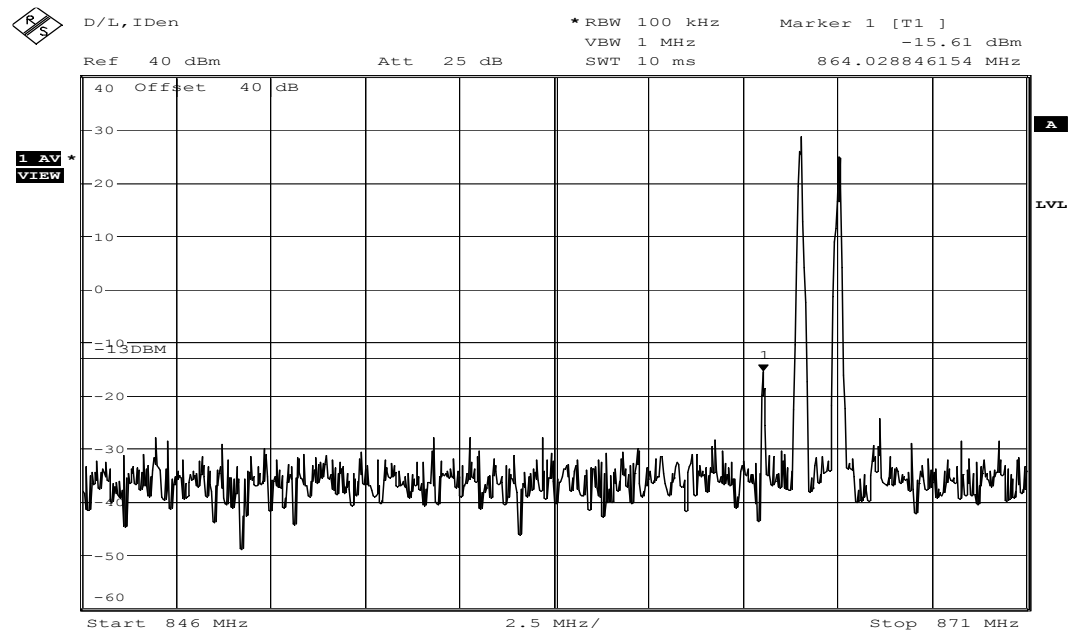
Date: 17.JUN.2004 03:07:12

EQUIPMENT: MW-IBDB-ESMR 10W40

3rd Order Inter-modulation Plots

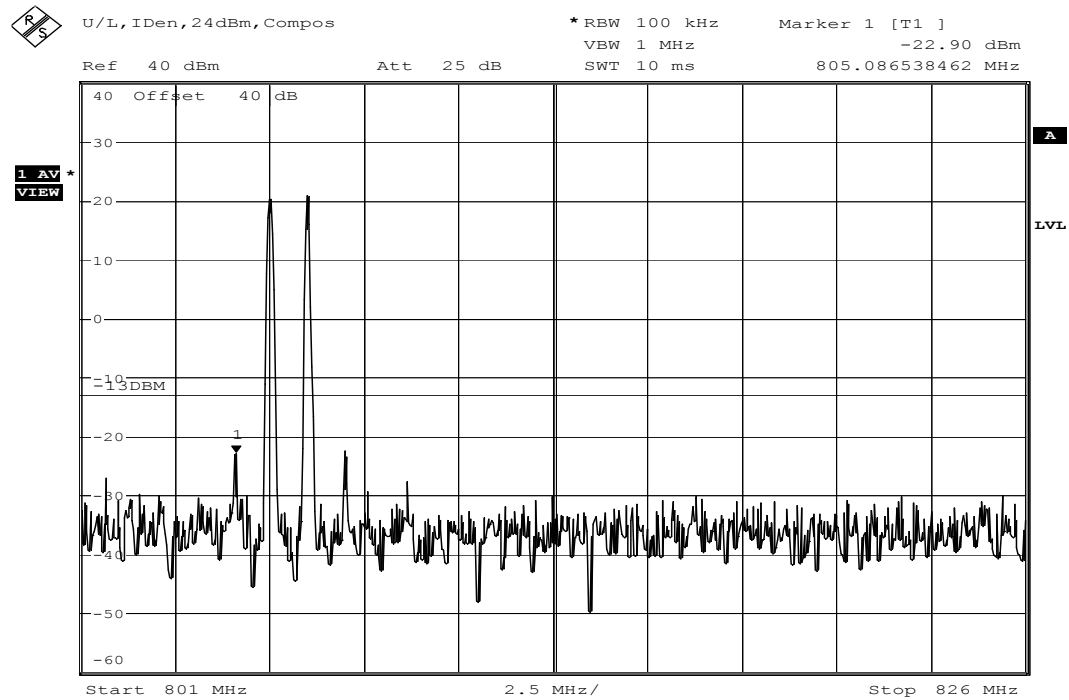


Date: 16.JUN.2004 03:59:38

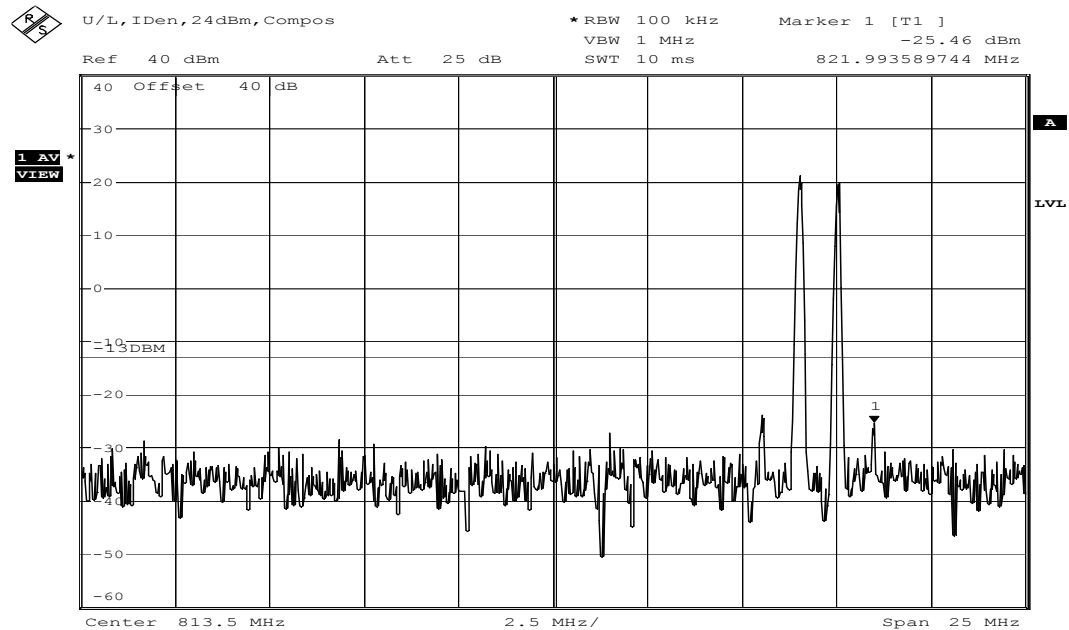


Date: 16.JUN.2004 04:05:31

EQUIPMENT: MW-IBDB-ESMR 10W40



Date: 16.JUN.2004 20:39:38



Date: 16.JUN.2004 20:42:02

EQUIPMENT: MW-IBDB-ESMR 10W40

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Glen Westwell	Date of Test: 18 June 2004
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Minimum Standard: -13dBm

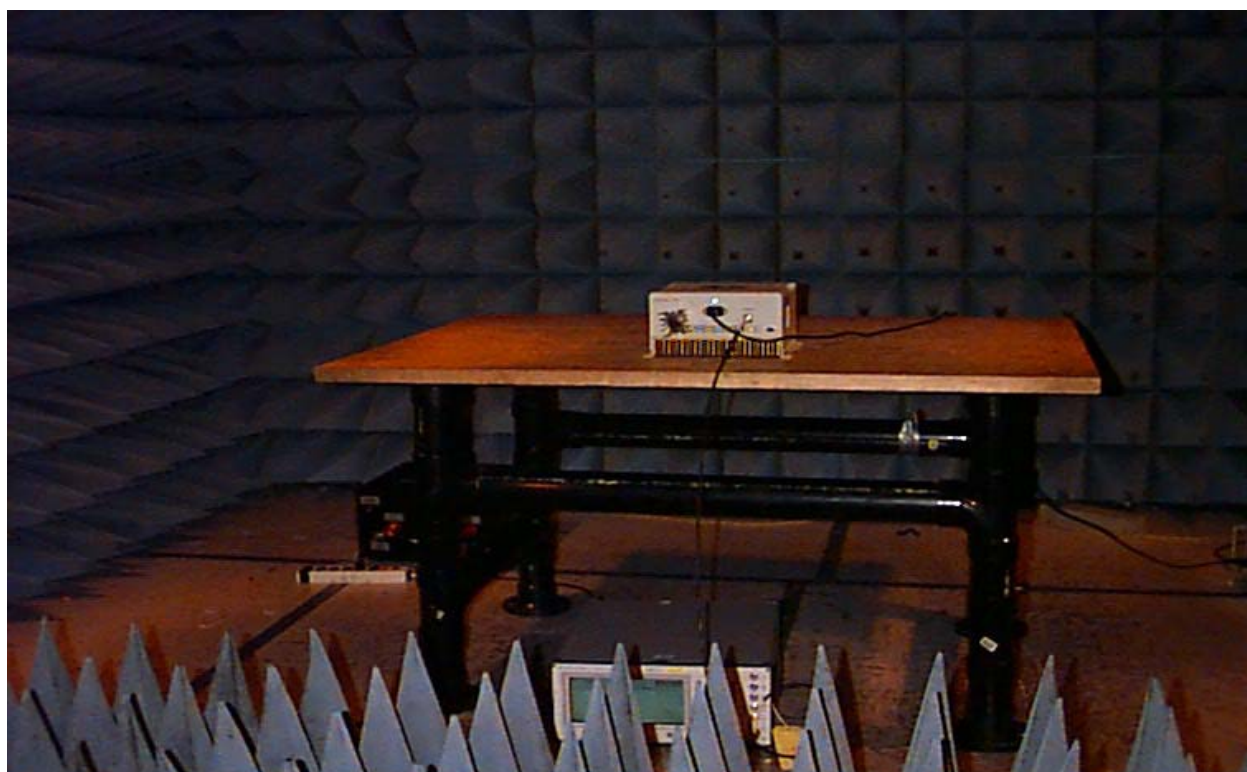
Test Results: Complied.

Measurement Data: No Emissions Detected.

The EUT was searched on both uplink and downlink directions at top, mid & bottom of the bands.

EQUIPMENT: MW-IBDB-ESMR 10W40

Emissions Search Photos



EQUIPMENT: MW-IBDB-ESMR 10W40

Section 7. Out of Band Rejection

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

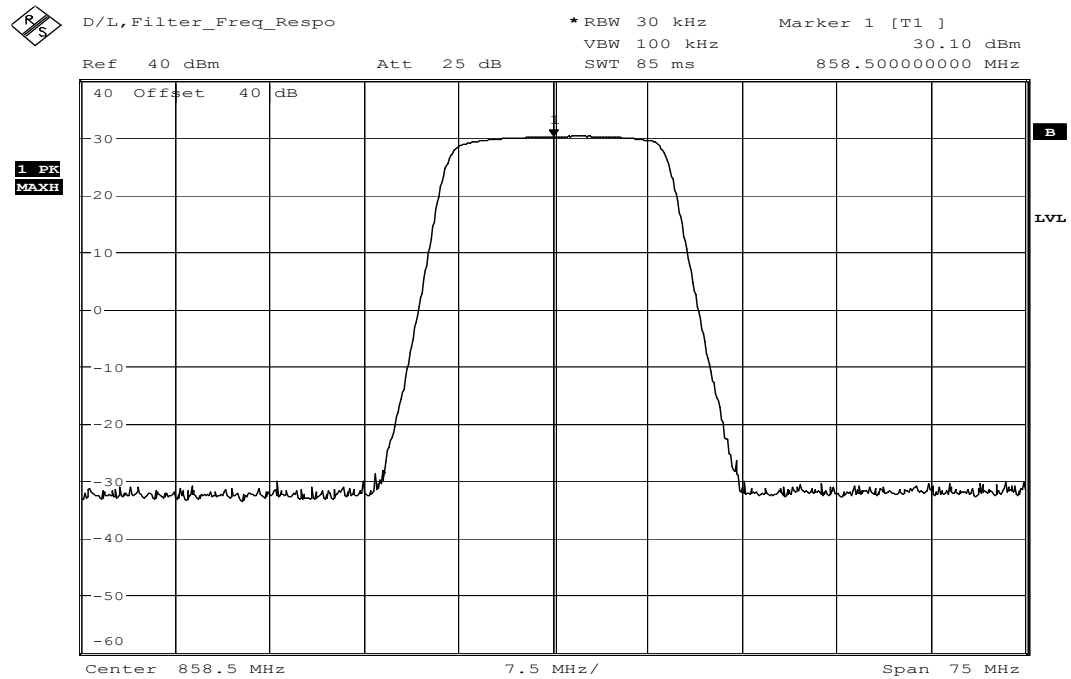
Test Performed By: Glen Westwell	Date of Test: 18 June 2004
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Limit: -13dBm

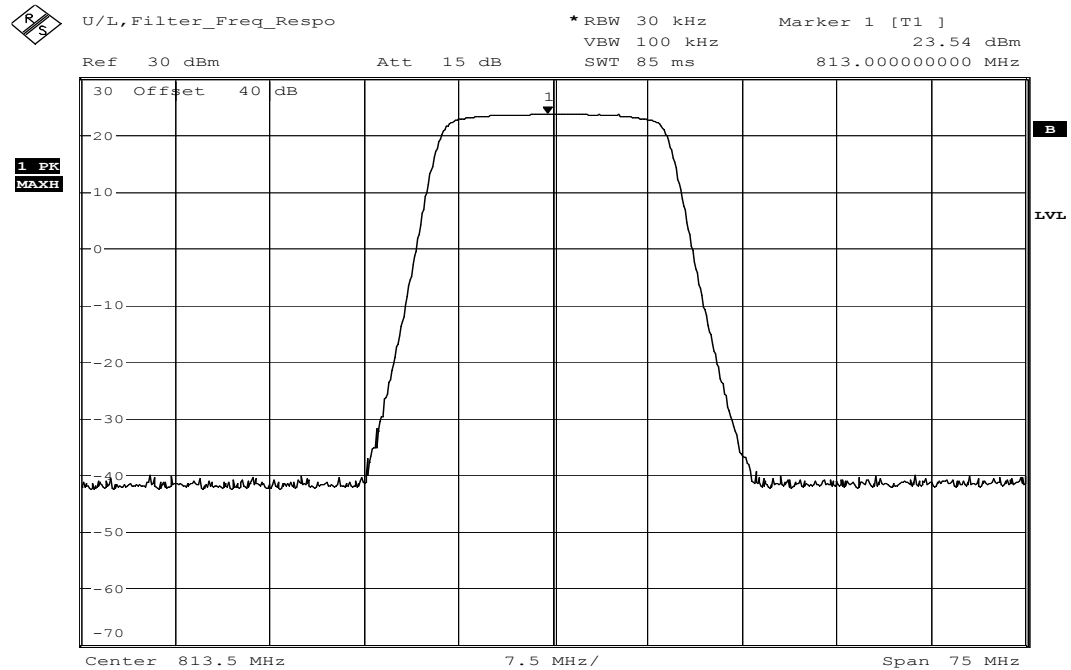
Test Results: Complied.

Measurement Data: See attached plots.

EQUIPMENT: MW-IBDB-ESMR 10W40



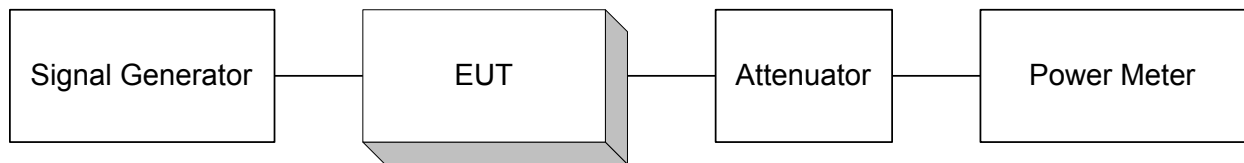
Date: 17.JUN.2004 21:09:46



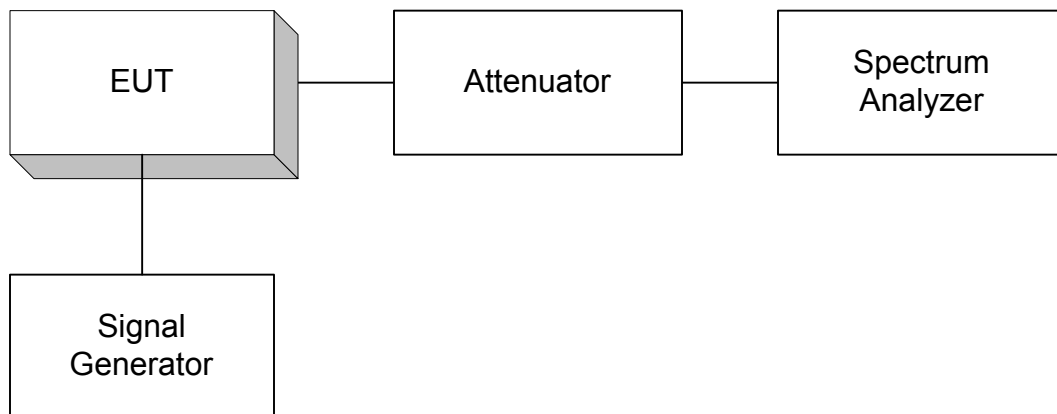
Date: 17.JUN.2004 21:02:09

Section 8. Block Diagrams

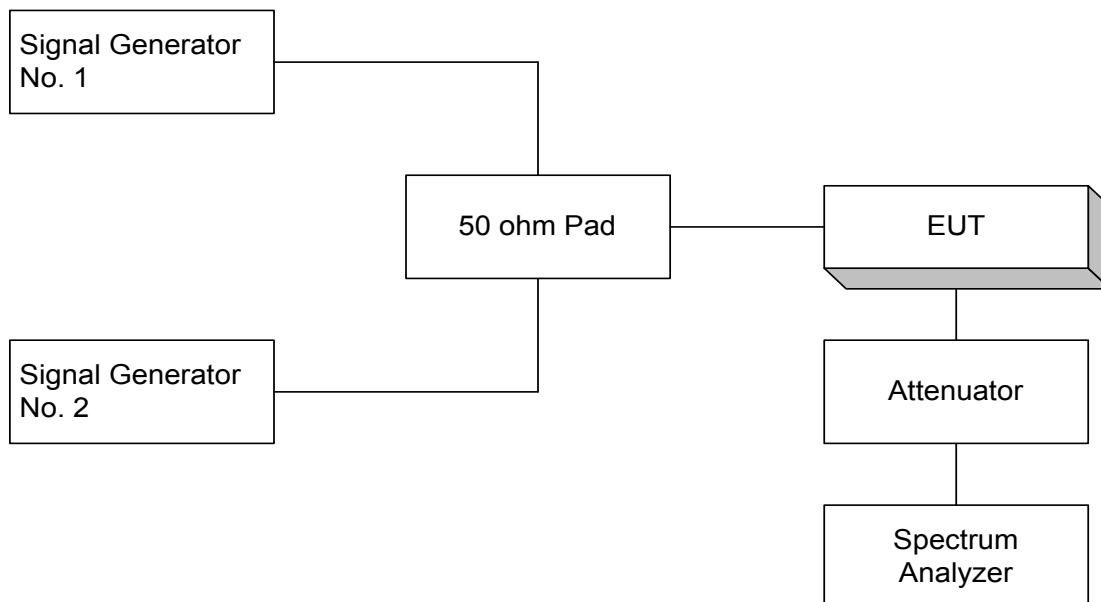
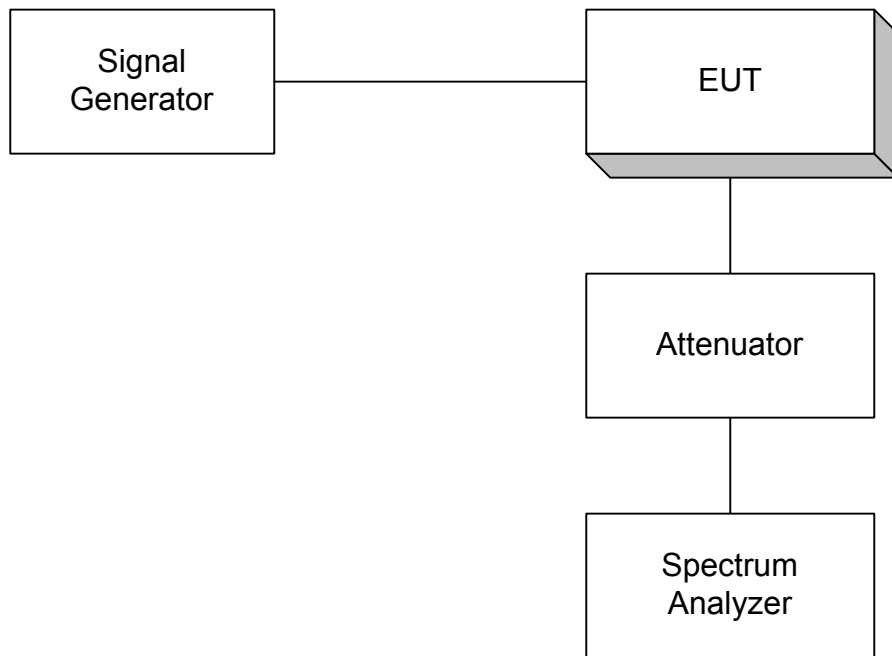
Para. No. 1046 - R.F. Power Output



Para. No. 2.1049 - Occupied Bandwidth

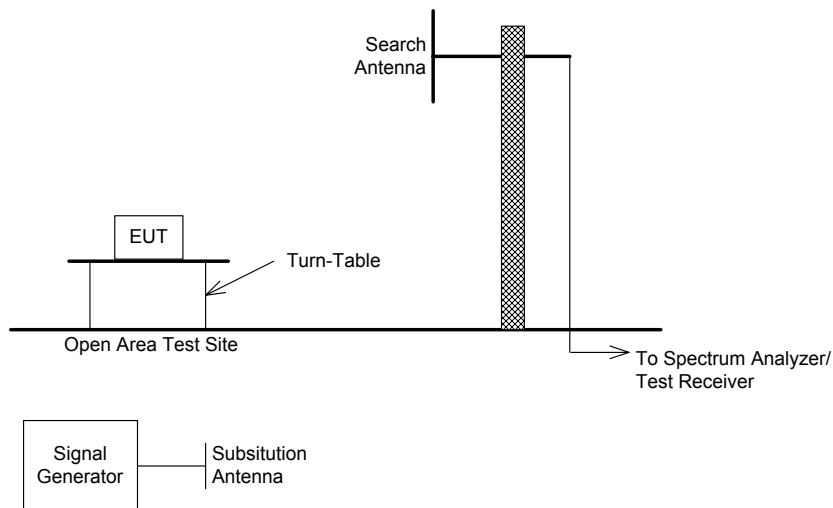


Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



EQUIPMENT: MW-IBDB-ESMR 10W40

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



*EQUIPMENT: MW-IBDB-ESMR 10W40***Section 9. Test Equipment List**

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Rhode & Schwarz	FSU46	FA001877	26 May 04	26 May 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 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	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