



Nemko

**Test Report:**

5W46348

Applicant:

Dekolink Wireless Ltd.
16 Bazel St. Qiryat Arie
Petah Tikva, Israel
49510

**Equipment Under Test:
(EUT)**

MW-CBDA-SMR-1W80-PS8

FCC ID:

OIW CBDAPS81W80

In Accordance With:

FCC Part 90
Private Land Mobile Repeater

Tested By:

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

Authorized By:

Jason Nixon, Telecommunications Specialist

Date:

10 June 2005

Total Number of Pages:

28

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EQUIPMENT: MW-CBDA-SMR-1W80-PS8

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, Subpart I.



New Submission



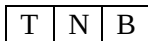
Production Unit



Class II Permissive Change



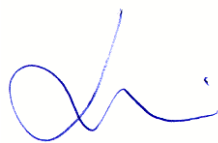
Pre-Production Unit



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: _____

Xu Jin, Wireless Specialist

DATE: 10 June 2005

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This report applies only to the items tested.

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Summary Of Test Data

Name Of Test	Clause	Test Method	Result
RF Power Output	90.205	2.1046	Complies
Occupied Bandwidth	2-11-04/EAB/RF	2.1049	Complies
Spurious Emissions at Antenna Terminals	90.210	2.1051	Complies
Field Strength of Spurious Emissions	90.210	2.1053	Complies
Frequency Stability	90.213	2.1055	N/A(1)
Transient Frequency Behavior	90.214	-----	N/A(2)
Out of band rejection	2-11-04/EAB/RF		Complies

Footnotes

1. The EUT does not contain any frequency conversion circuitry.
2. The EUT does not operate in the 150-174 MHz and 421-512 MHz frequency bands

Indoor Temperature: 22°C
 Humidity: 46%

Outdoor Temperature: 26°C
 Humidity: 76%

Note:

Customer has declared the EUT CDBA-SMR-1W80-PS8 has similar design with CDBA-SMR-10W80-PS8.

- The uplink path is exactly the same between the two models
- For the down link path, CDBA-SMR-1W80-PS8 has 1W amplifier whereas CDBA-SMR-10W80-PS8 has 10W amplifier.

In this report, the test only conducted against downlink path. The uplink path data presented in this report was taken from Nemko Report 5W44304, Issue 2 where CDBA-SMR-10W80-PS8 tested data has been fully addressed.

The FCC ID for CDBA-SMR-10W80-PS8 is OIW CBDAPS810W80.

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 2. General Equipment Specification

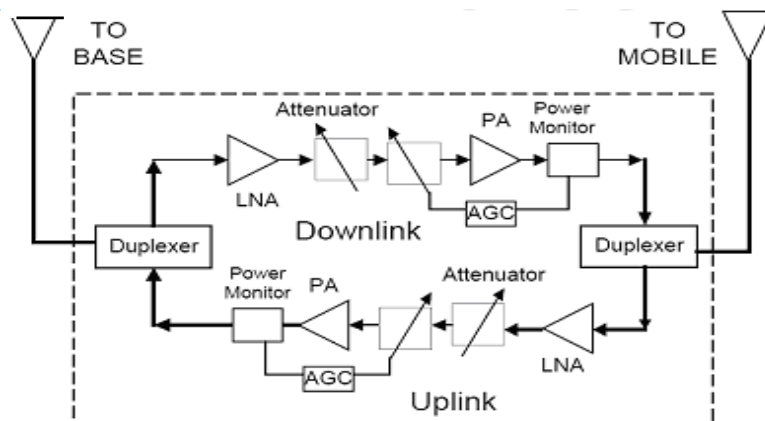
Manufacturer:	Dekolink Wireless Ltd.
Model No.:	MW-CBDA-SMR-1W80-PC8
Serial No.:	05029142
Date Received In Laboratory:	May 11, 2005
Nemko Identification No.:	1
Supply Voltage Input:	110 to 220VAC, 50-60Hz
Frequency Range:	UpLink: 806-824 MHz DownLink: 851-869 MHz.
Type(s) of Modulation:	iDEN, FM
RF Power Output (rated):	UpLink: 24dBm DownLink: 24dBm
Gain(rated)	UpLink: 80dB DownLink: 80dB
Emission Designator:	GXW, F3E

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Theory of Operation

The MW-CBDA-SMR-1W80-PS8 is a repeater/booster used to extend the coverage area of radio communication in building and RF shielded environment. The EUT is based on a duplexed path configuration. The Downlink path received the RF signal from base station, amplifies the signal and transmits to the subscriber. The Uplink path receives the RF signals from the subscriber, amplifier and transmits the signal to the base station. Two duplexers separate the signals to the proper amplifying path and isolate the two signals.

Block Diagram of the EUT



BDA RF BLOCK DIAGRAM

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 3. RF Power Output**Para. No.: 2.1046**

Test Performed By: Xu Jin	Date of Test: June 8, 2005
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Minimum Standard: Para. No. 90. 205 (a).**Test Results:** Complies**Measurement Data:** See attached charts. The maximum RF output power is within ± 1 dB of the manufacturer's rating.**UpLink**

Channel Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)
806	24.10	24
815	24.15	24
824	23.22	24

DownLink

Channel Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)
851	23.90	24
860	24.56	24
869	23.91	24

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Xu Jin	Date of Test: June 8, 2005
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Minimum Standard: Para. No. 90.210

Test Results: Complies

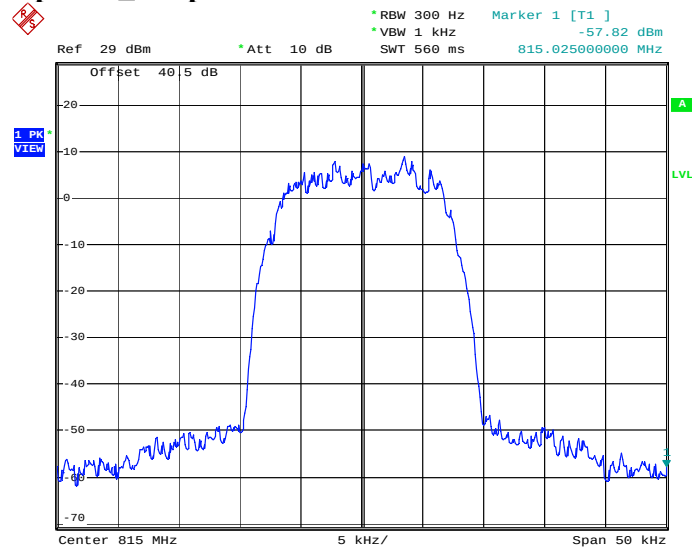
Measurement Data: See attached graph(s).

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-CBDA-SMR-1W80-PS8

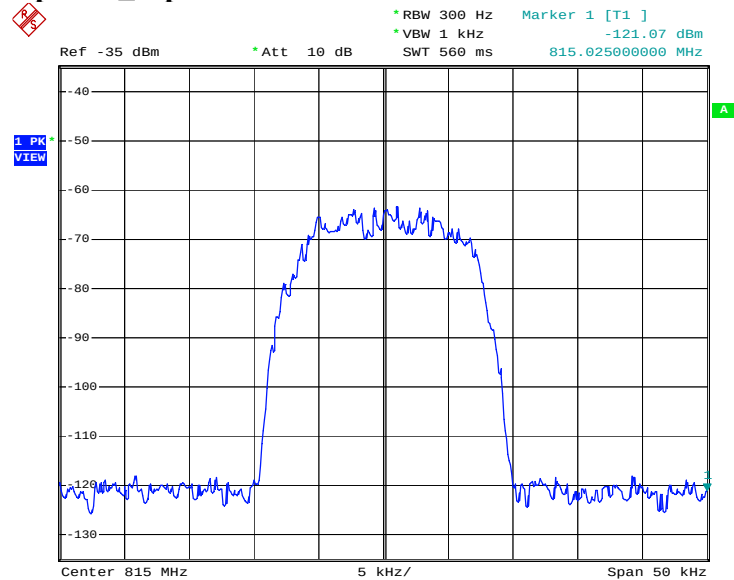
iDEN

UpLink_Output



Date: 16.MAY.2005 20:20:02

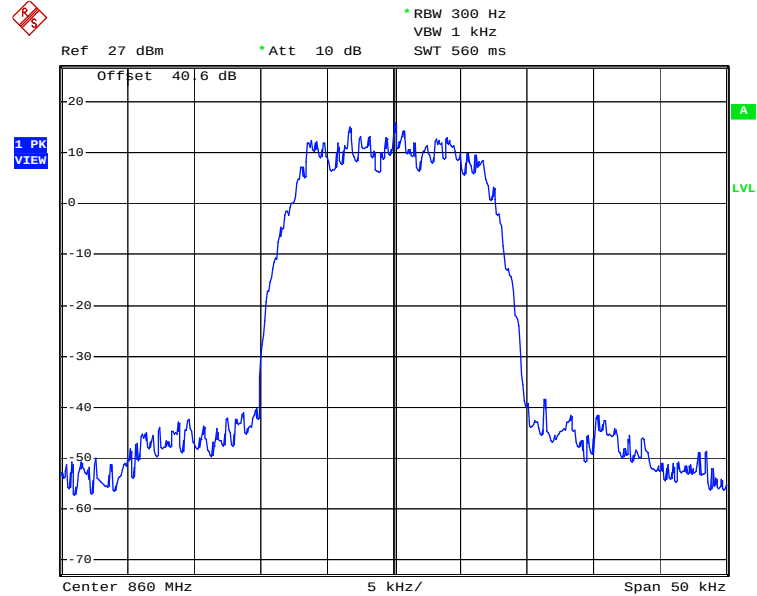
UpLink_Input



Date: 16.MAY.2005 20:25:03

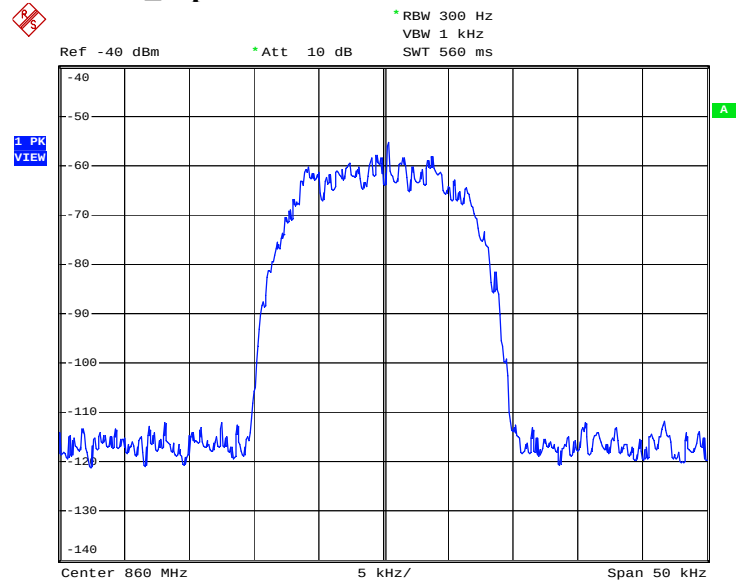
EQUIPMENT: MW-CBDA-SMR-1W80-PS8

DownLink_Output



Date: 8.JUN.2005 22:08:32

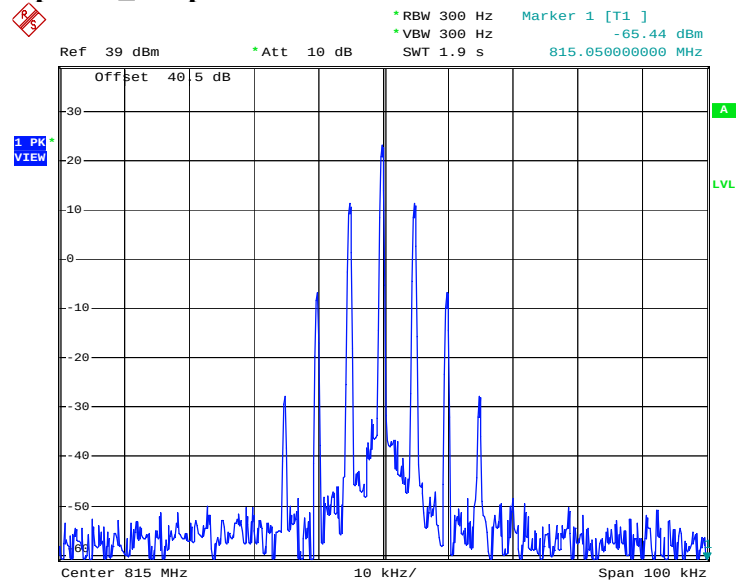
Downlink_Input



Date: 8.JUN.2005 22:10:12

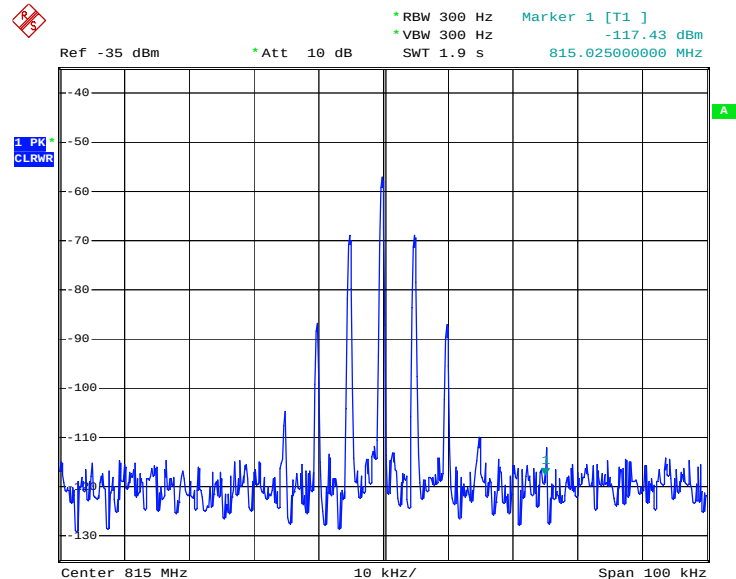
EQUIPMENT: MW-CBDA-SMR-1W80-PS8

FM UpLink_Output



Date: 16.MAY.2005 20:47:47

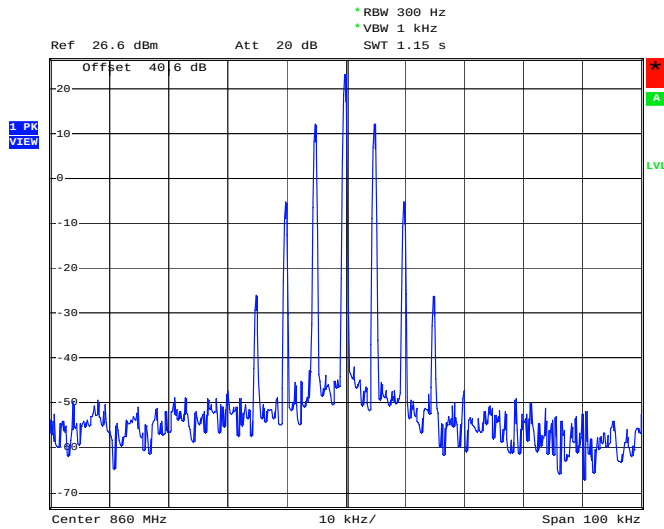
UpLink_Input



Date: 16.MAY.2005 20:41:56

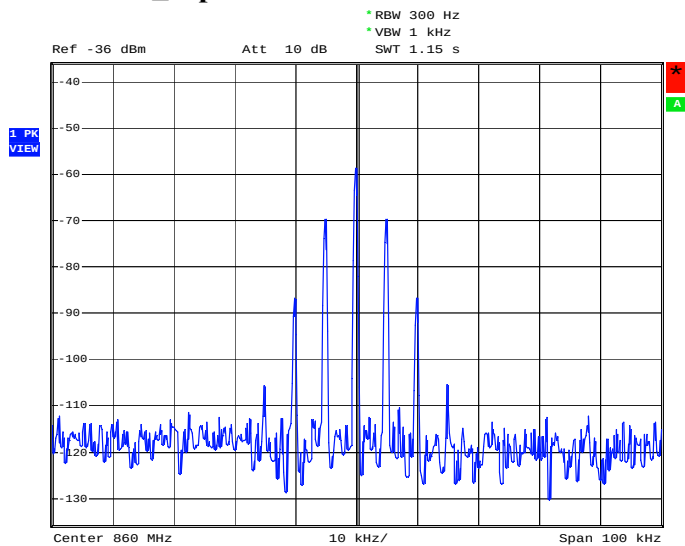
EQUIPMENT: MW-CBDA-SMR-1W80-PS8

DownLink_Output



Date: 8.JUN.2005 11:17:35

DownLink_Input



Date: 8.JUN.2005 11:19:21

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Xu Jin	Date of Test: June 8, 2005
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Minimum Standard: -13dBm

Test Results: Complies

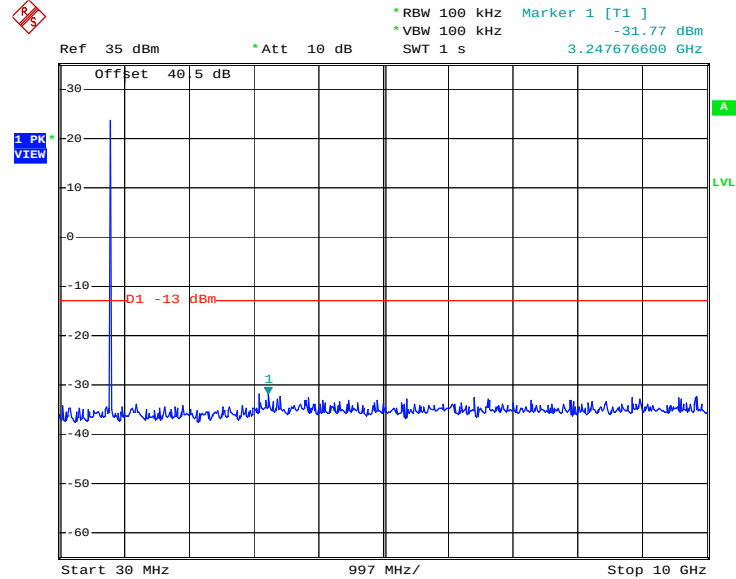
Measurement Data: See attached graphs.

Conducted measurement was performed from 30MHz to 10GHz.
See attached graph(s). Worst cases have been presented.

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

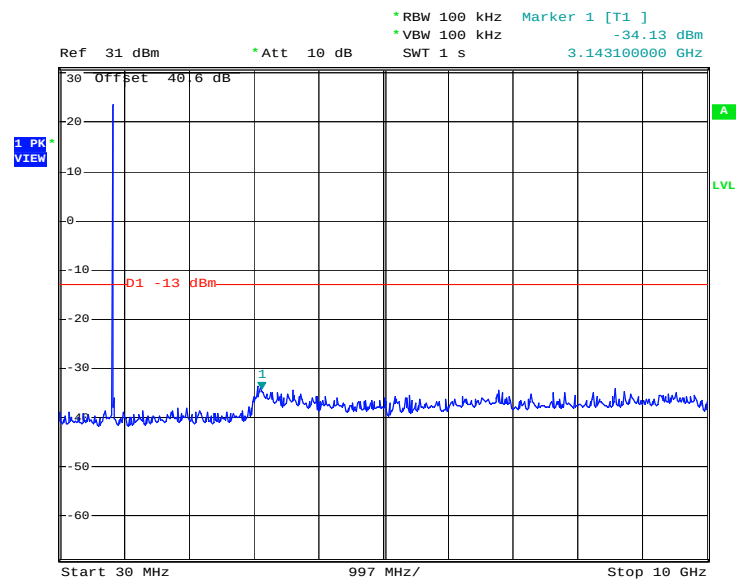
iDEN

UpLink Conducted Emissions



Date: 17.MAY.2005 19:39:29

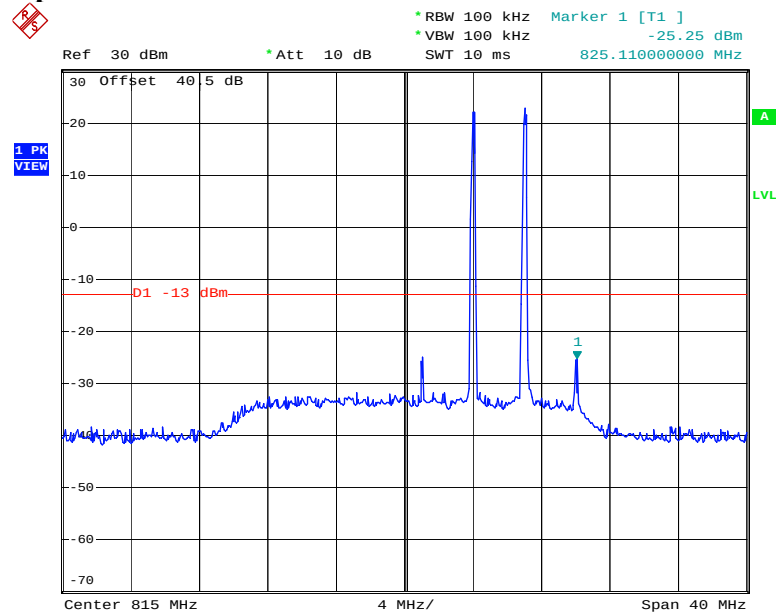
DownLink Conducted Emissions



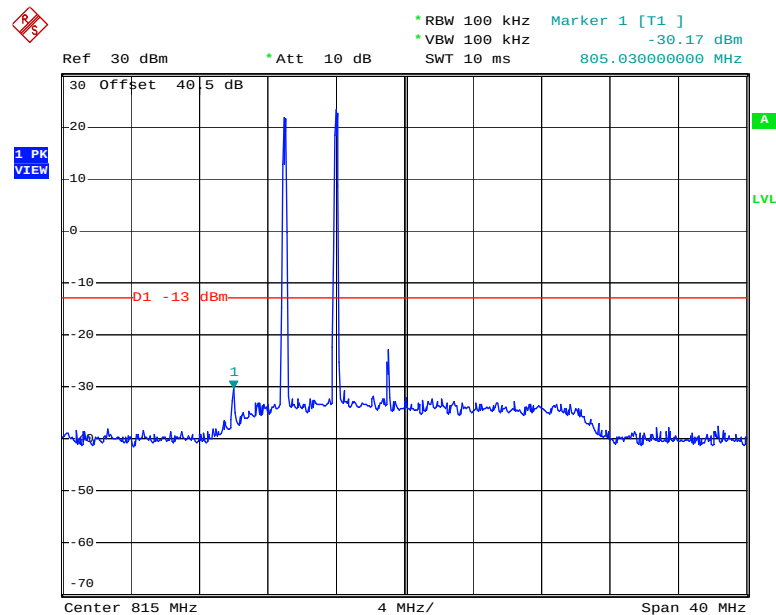
Date: 8.JUN.2005 13:30:30

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

3rd Order Inter-modulation __iDEN UpLink



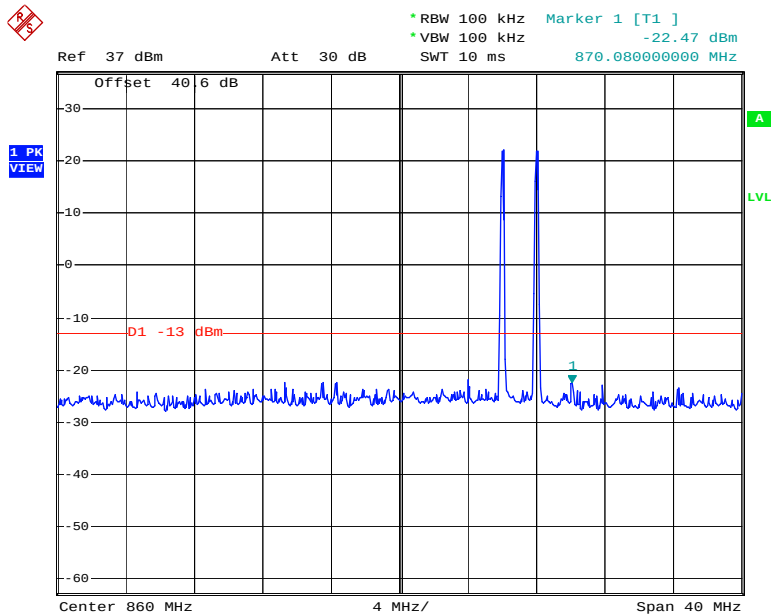
Date: 17.MAY.2005 14:31:14



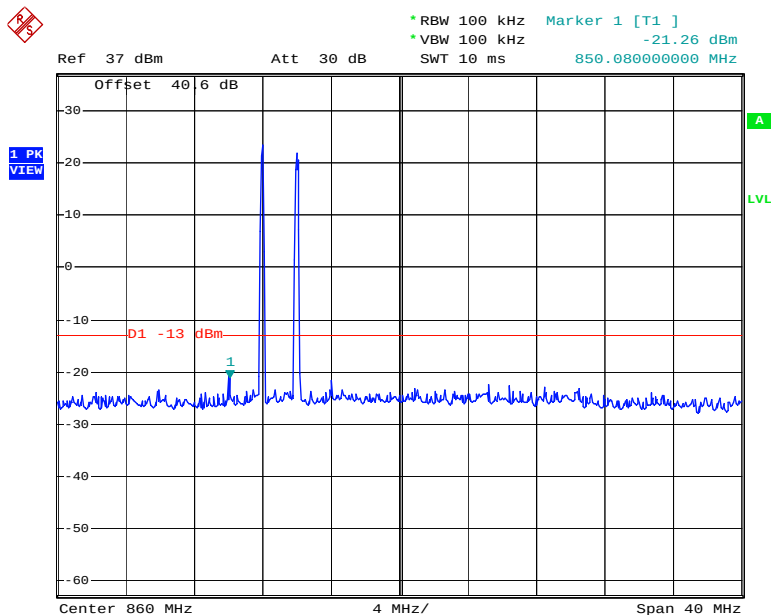
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EQUIPMENT: MW-CBDA-SMR-1W80-PS8

DownLink



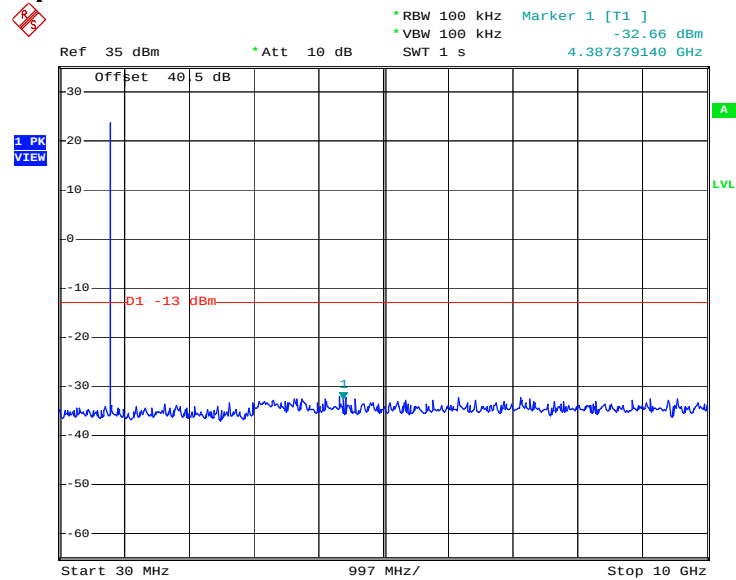
Date: 9.JUN.2005 15:05:55



Date: 9.JUN.2005 15:07:57

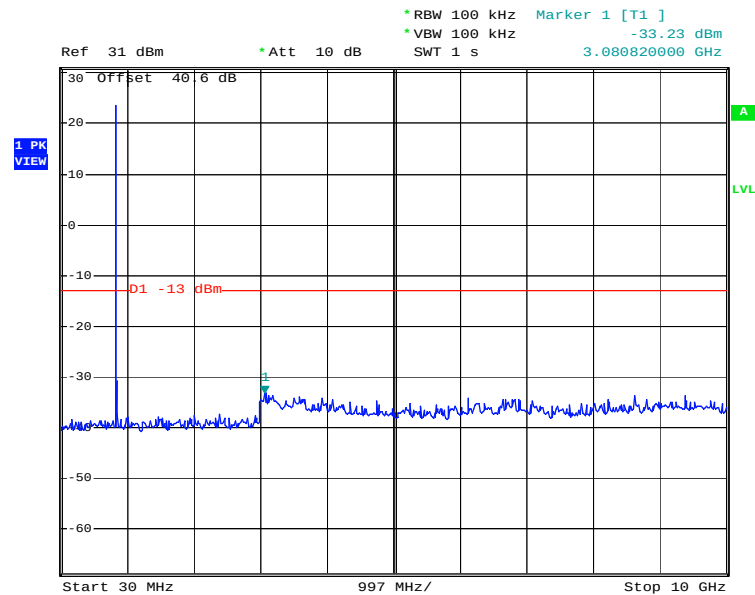
EQUIPMENT: MW-CBDA-SMR-1W80-PS8

FM UpLink Conducted Emissions



Date: 17.MAY.2005 19:29:59

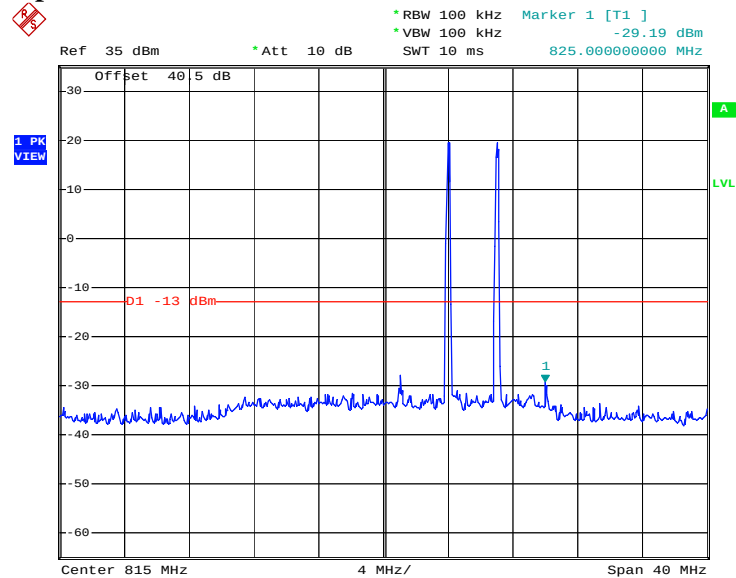
DownLink Conducted Emissions



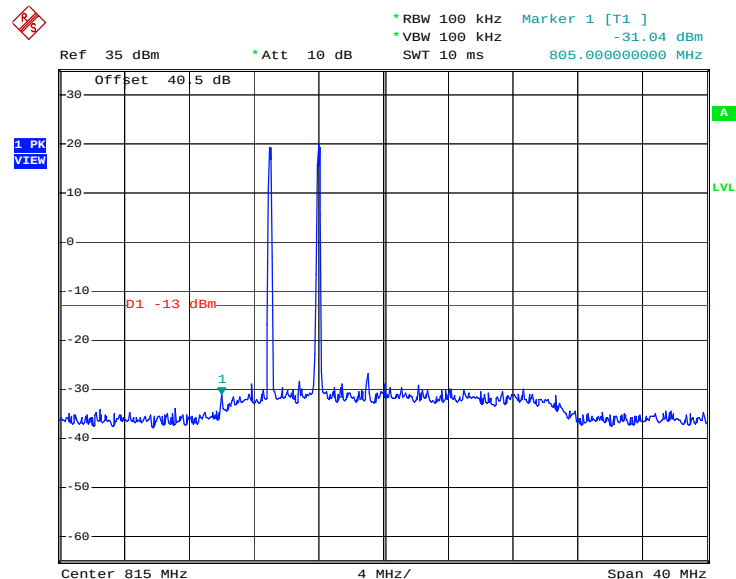
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EQUIPMENT: MW-CBDA-SMR-1W80-PS8

3rd Order Inter-modulation __FM Up-Link



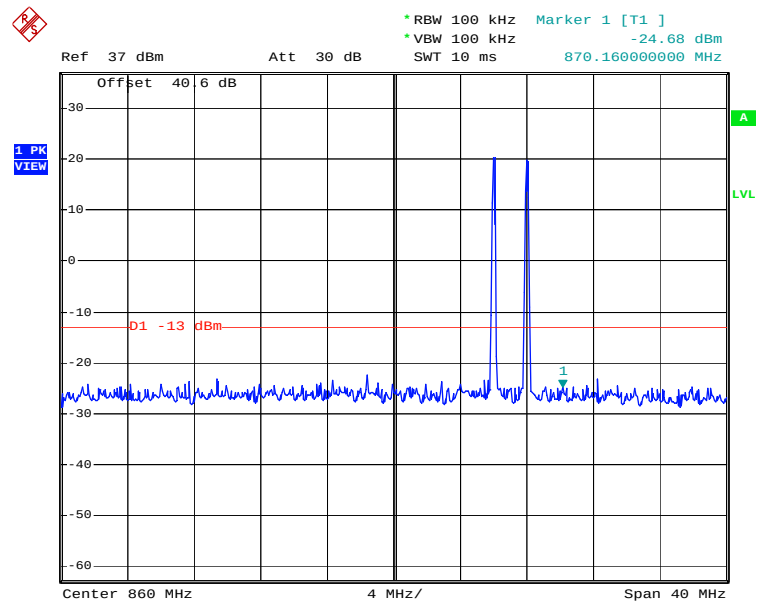
Date: 17.MAY.2005 16:02:46



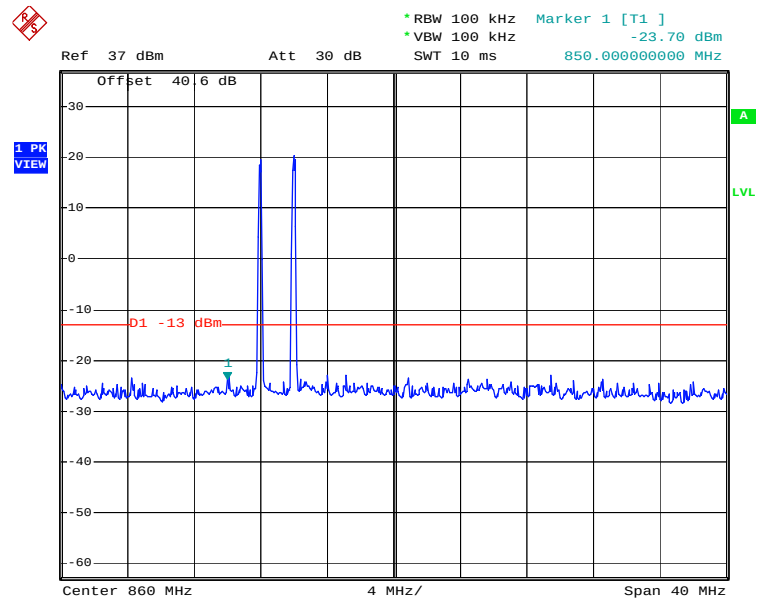
Date: 17.MAY.2005 16:01:28

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Down-Link



Date: 9.JUN.2005 15:28:16



Date: 9.JUN.2005 15:27:33

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Xu Jin	Date of Test: June 8, 2005
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Minimum Standard: Para. No. 90.210

Test Results: Complies

Measurement Data: See attached graph(s).

The EUT was searched from 30MHz to 10GHz and in both UL and DL directions.

No emissions were detected within 20dB below the limit.

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Radiated Emissions Setup Photos

Front View



EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Rear View



EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Section 7. Out of Band Rejection

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

Test Performed By: Xu Jin	Date of Test: June 8, 2005
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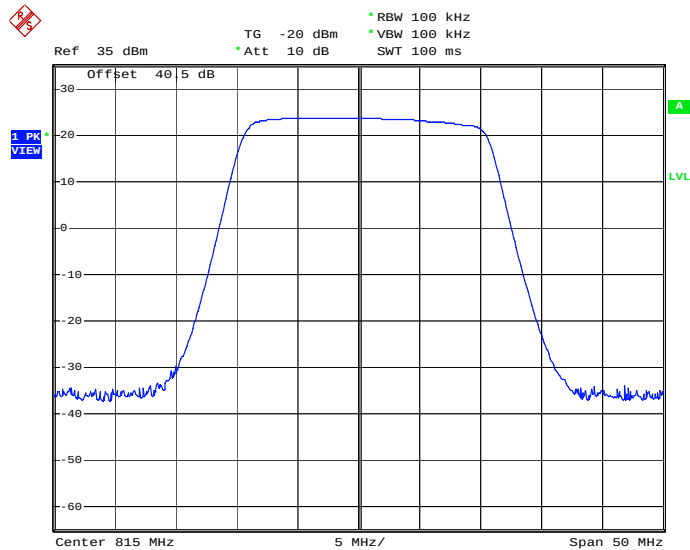
Minimum Standard: Filter frequency response was required to be presented.

Test Results: Complies

Measurement Data: See attached plots.

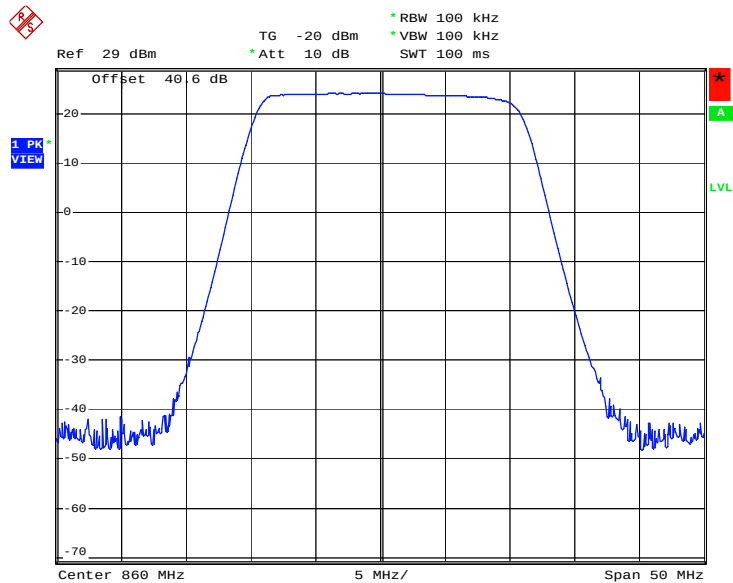
EQUIPMENT: MW-CBDA-SMR-1W80-PS8

UpLink



Date: 17.MAY.2005 20:12:44

DownLink



Date: 8.JUN.2005 20:17:44

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

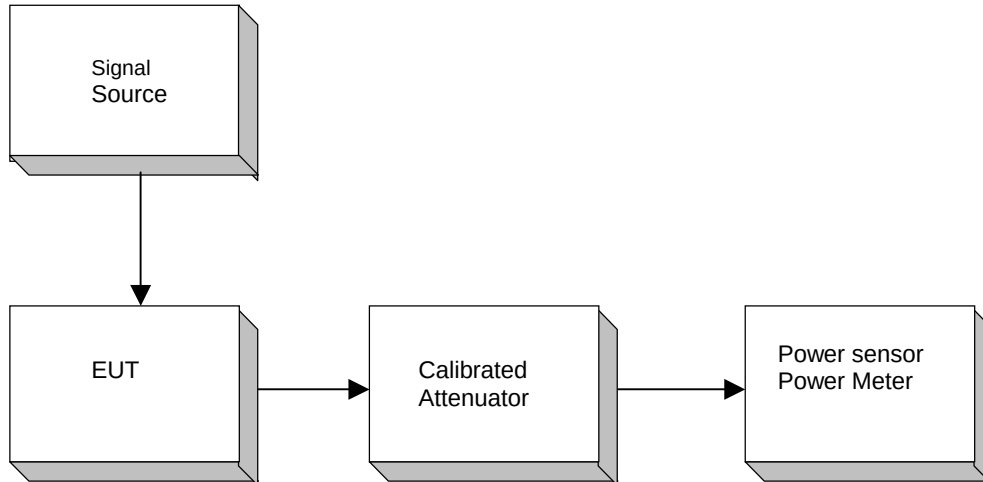
Section 8. Test Equipment List

Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Rohde & Schwarz	FSP	FA001920	Mar 22/05	Mar 22/06
Power Meter	HP	E4418B	FA001413	May 17/05	May 17/06
Power Sensor	HP	8487A	FA001908	Mar 10/05	Mar 10/06
Signal Generator	Rohde & Schwarz	SMIQ 03E	FA001269	March 3/05	March 3/06
Signal Generator	Rohde & Schwarz	SMIQ 03	FA001091	Aug 20/05	Aug 20/06
Receiver	Rohde & Schwarz	ESVS-30	FA001437	July 26/04	July 26/05
Biconical (1) Antenna	EMCO	3109	FA000805	April 22/05	April 22/06
Horn Antenna #2	EMCO	3115	FA000825	Dec. 14/04	Dec. 14/05
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June 18/04	June 18/05
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June 18/04	June 18/05
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	June 18/04	June 18/05

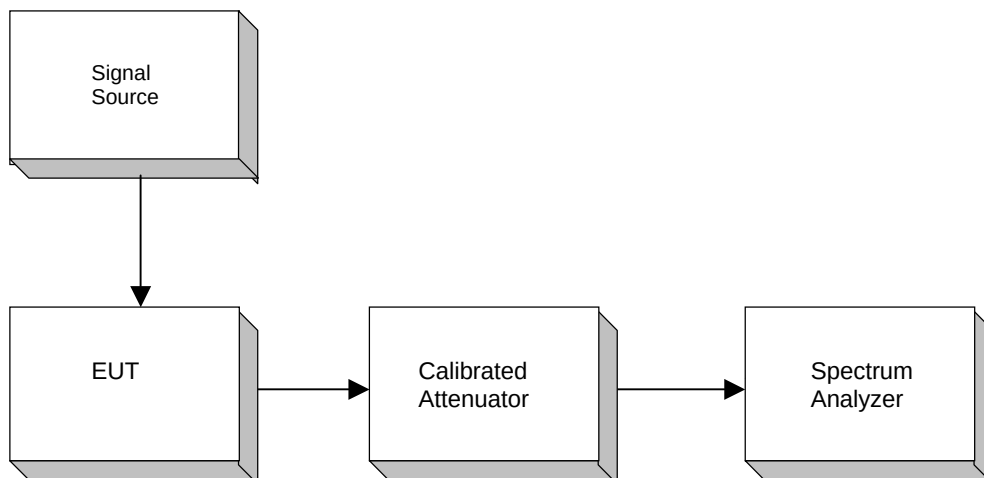
Annex A
Test Diagrams

EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Para. No. 2.1046 - R.F. Power Output

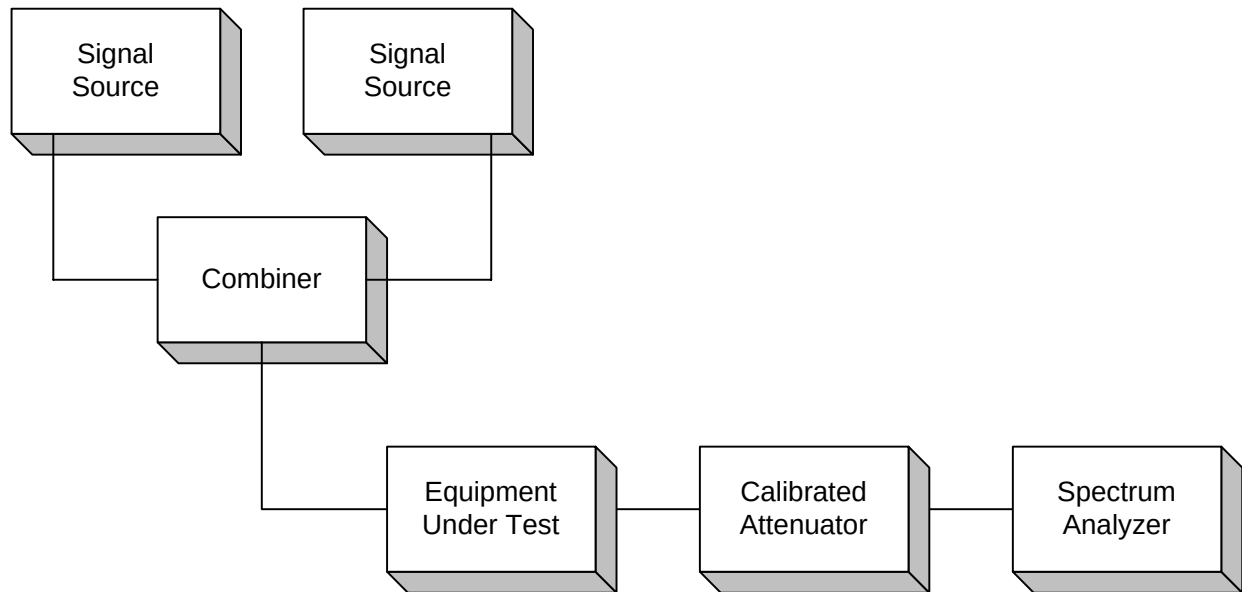


Para. No. 2.1049 - Occupied Bandwidth



EQUIPMENT: MW-CBDA-SMR-1W80-PS8

Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation

