



Nemko

Test Report: 2W06347


Applicant: Coverage Solutions Corp.
2901 W. Busch Blvd.
Suite 900
Tampa, FL 33618, USA

**Equipment Under Test:
(EUT)** BDA-CELLB-1/1W-60A

FCC ID: QQRCELLB1W60

In Accordance With: **FCC Part 22, Subpart H**

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



Authorized By: Glen Westwell, Wireless Technologist

Date: 16 December 2002

Total Number of Pages: 30

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EQUIPMENT: BDA-CELLB-1/1W-60A

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.



TESTED BY: _____
Kevin Carr, EMC Specialist

DATE: 16 December 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.

EQUIPMENT: BDA-CELLB-1/1W-60A

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complied
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	Complied
Spurious Emissions at Antenna Terminals	2.1051	Complied
Field Strength of Spurious Emissions	2.1053	Complied
Frequency Stability	2.1055	N/A
Transient Frequency Behavior	——	N/A

All Tests were conducted with the AGC circuitry enabled, and verified with AGC disabled.
The EUT is a f1-f1 amplifier, as such frequency stability was not performed.
The EUT contains no audio limiting circuitry.

Indoor Temperature: 23°C
 Humidity: 10%

Outdoor Temperature: 05°C
 Humidity: 69%

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Section 2. General Equipment Specification

Manufacturer:	Coverage Solutions Corp.
Model No.:	BDA-CELLB-1/1W-60A
Serial No.:	02071041
Date Received In Laboratory:	3 Dec. 2002
Nemko Identification No.:	1
Supply Voltage:	120VAC, 60Hz
Frequency Range:	Downlink: 880-894MHz Uplink: 835-849MHz
RF Output Power (Rated):	24.0 dBm
RF Output Power (Measured):	Downlink, CDMA: 21.7 dBm Downlink, TDMA: 24.0 dBm Downlink, AMPS: 23.5 dBm Uplink, CDMA: 22.7 dBm Uplink, TDMA:24.0 dBm Uplink, AMPS: 23.7 dBm
Emission Designator:	CDMA, DXW TDMA, F9W AMPS, F8W

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Kevin Carr	Date of Test: 10 Dec. 2002
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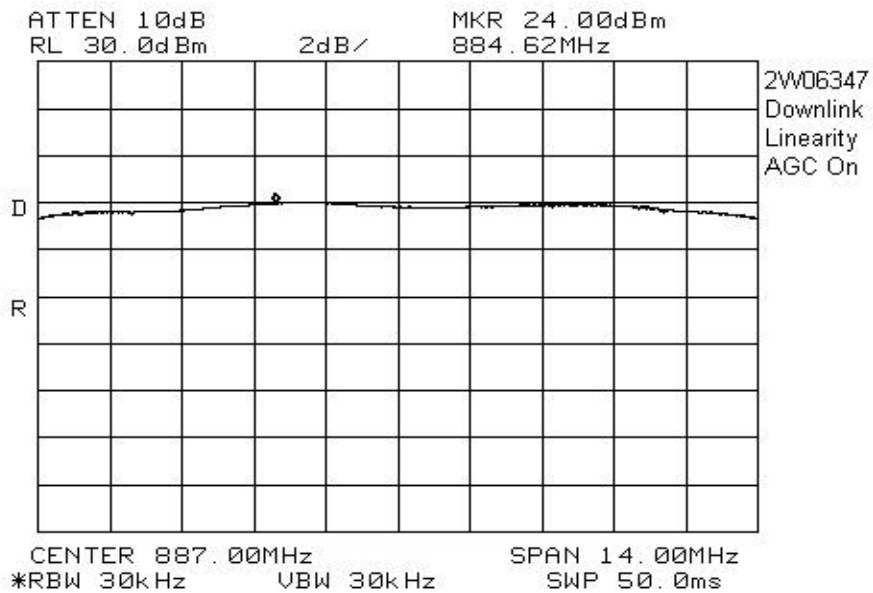
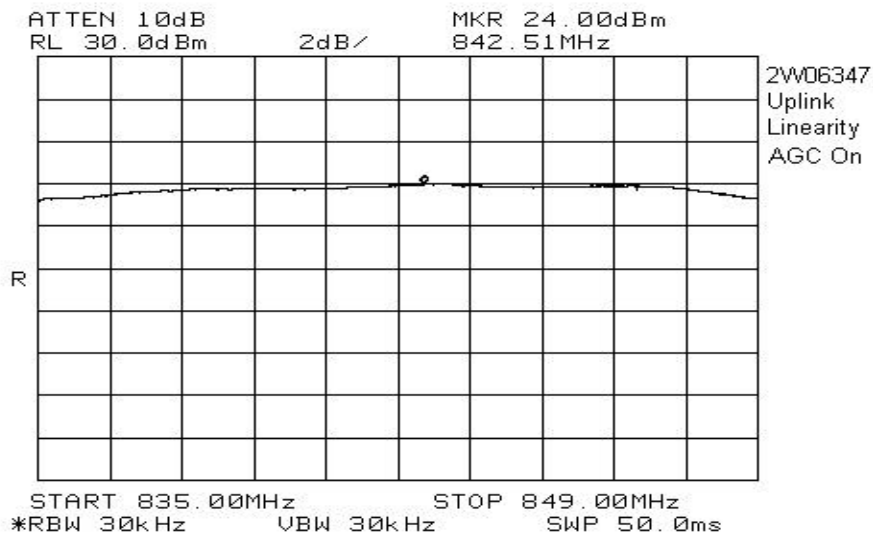
Minimum Standard: 22.913(a)

Test Results: Complied

Measurement Data: See Attached Graphs. The maximum RF output power is within ± 1 dB of the manufacturer's rating. The 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 RF Output Power
N = Number Of Channels

EQUIPMENT: BDA-CELLB-1/1W-60A



EQUIPMENT: BDA-CELLB-1/1W-60A

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Kevin Carr	Date of Test: 10 Dec. 2002
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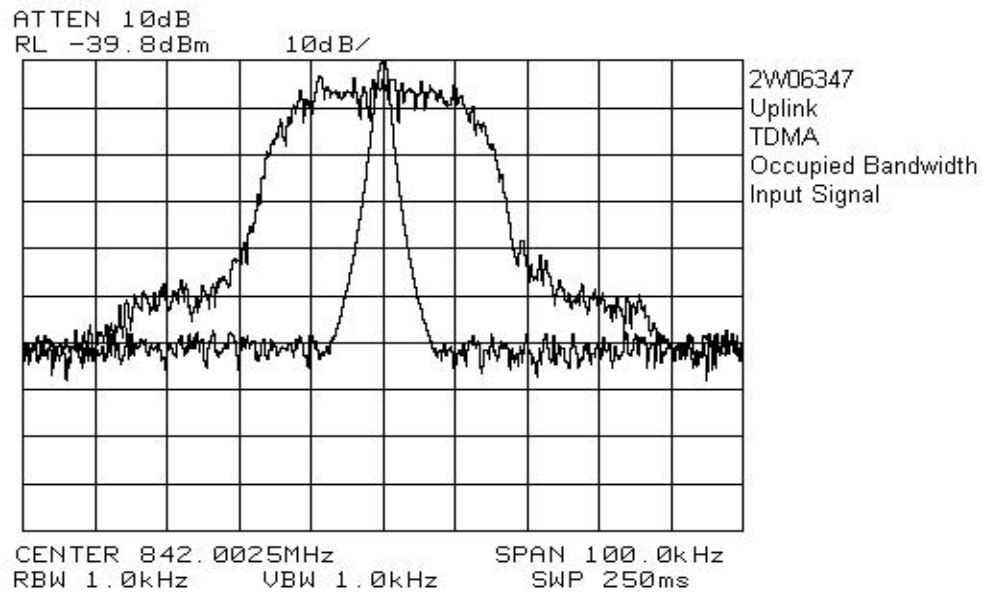
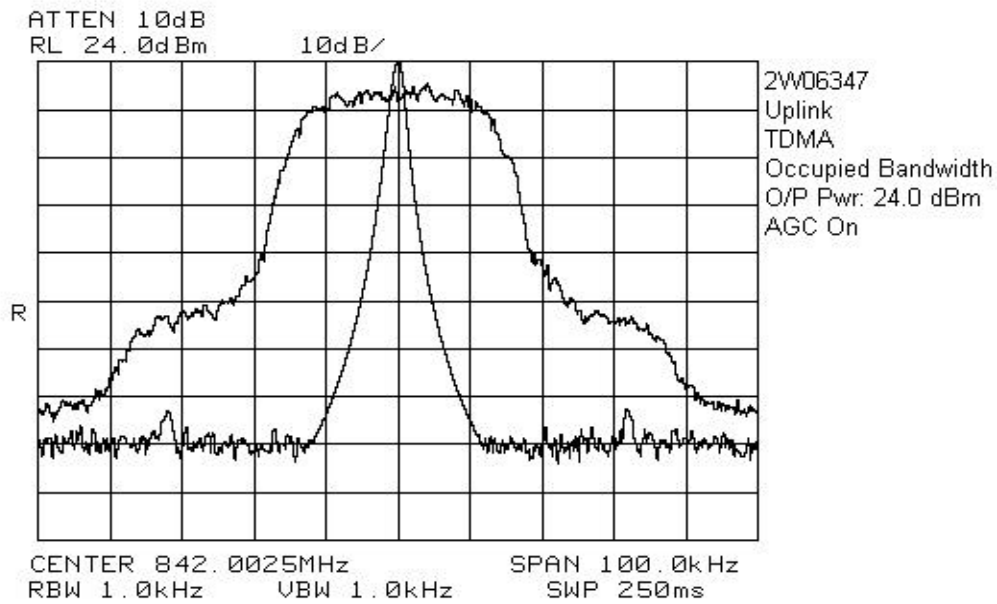
Minimum Standard: 22.917, Input vs Output

Test Results:

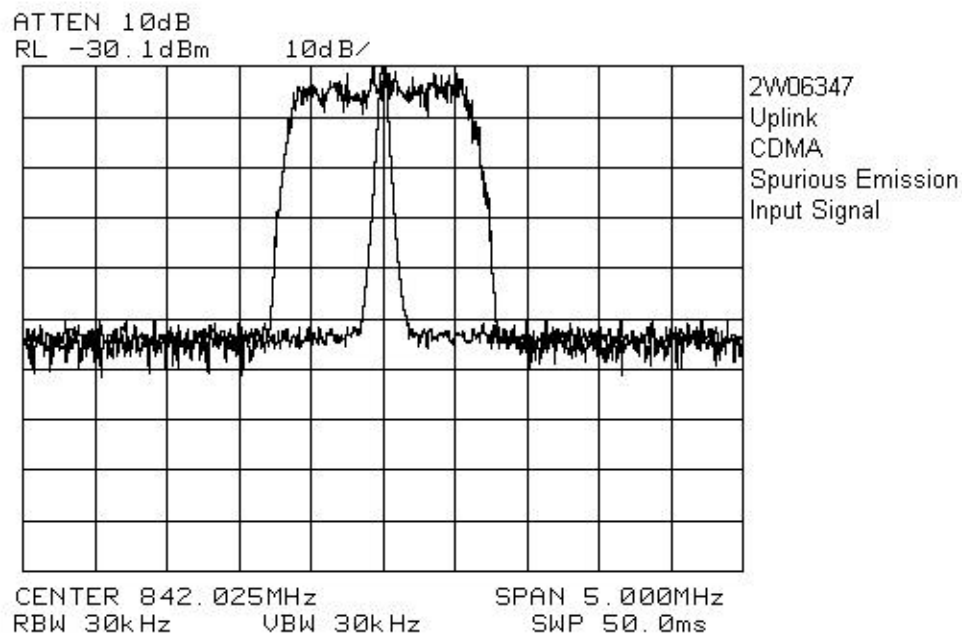
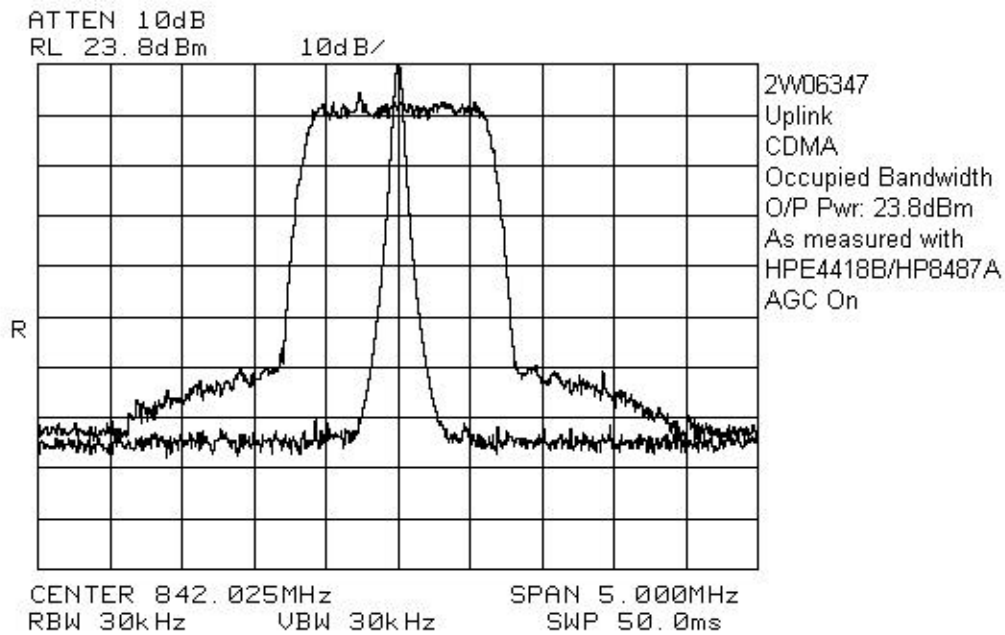
Measurement Data: See Attached Graphs

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.

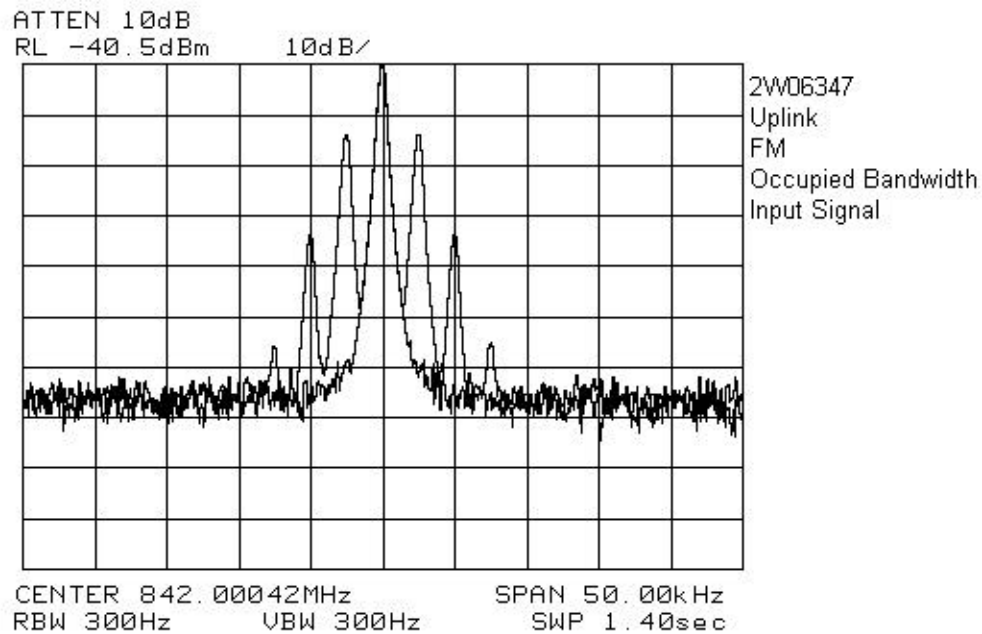
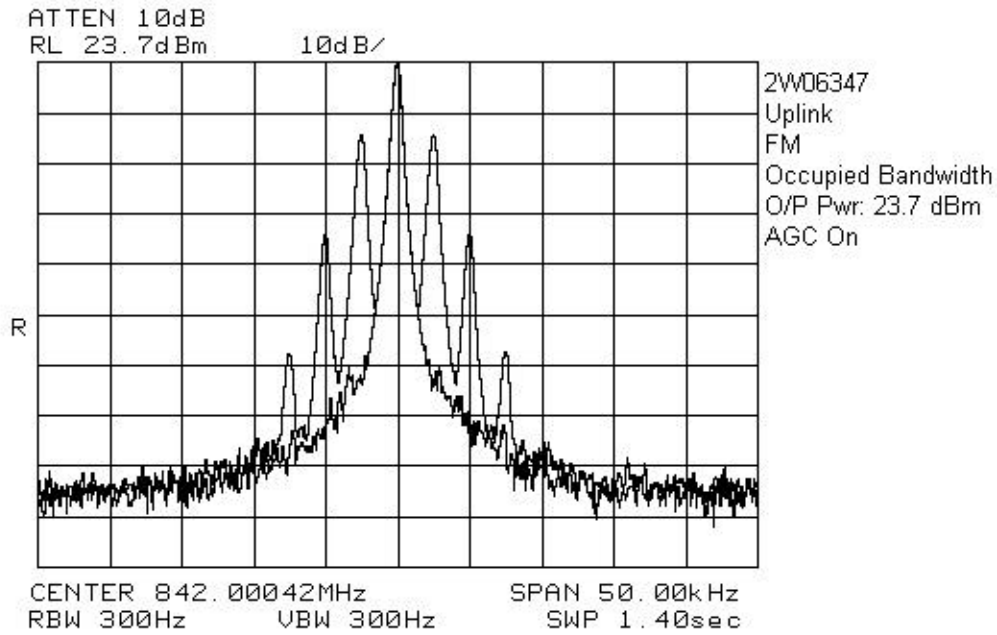
EQUIPMENT: BDA-CELLB-1/1W-60A



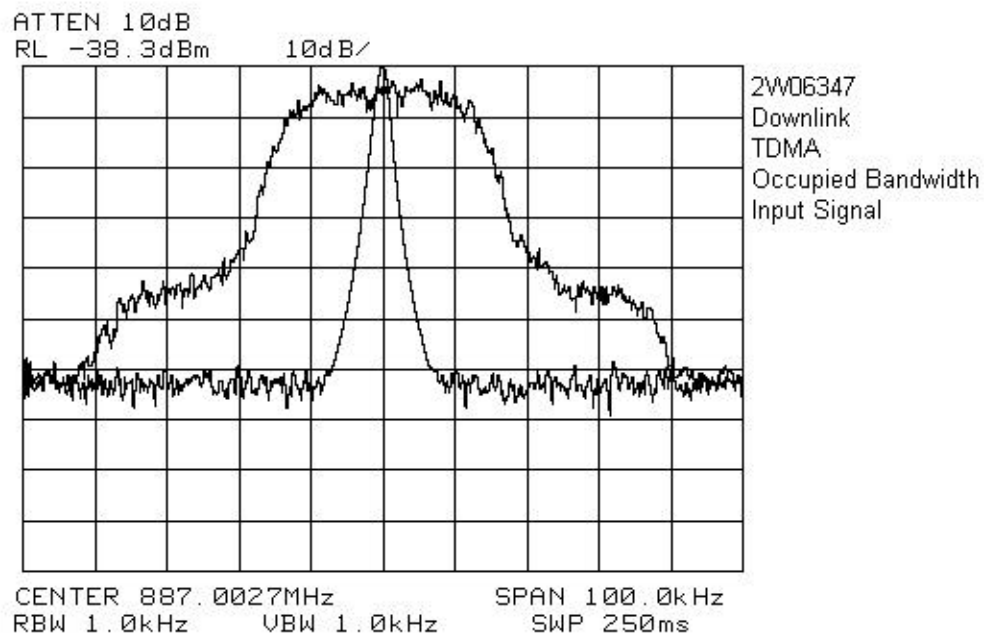
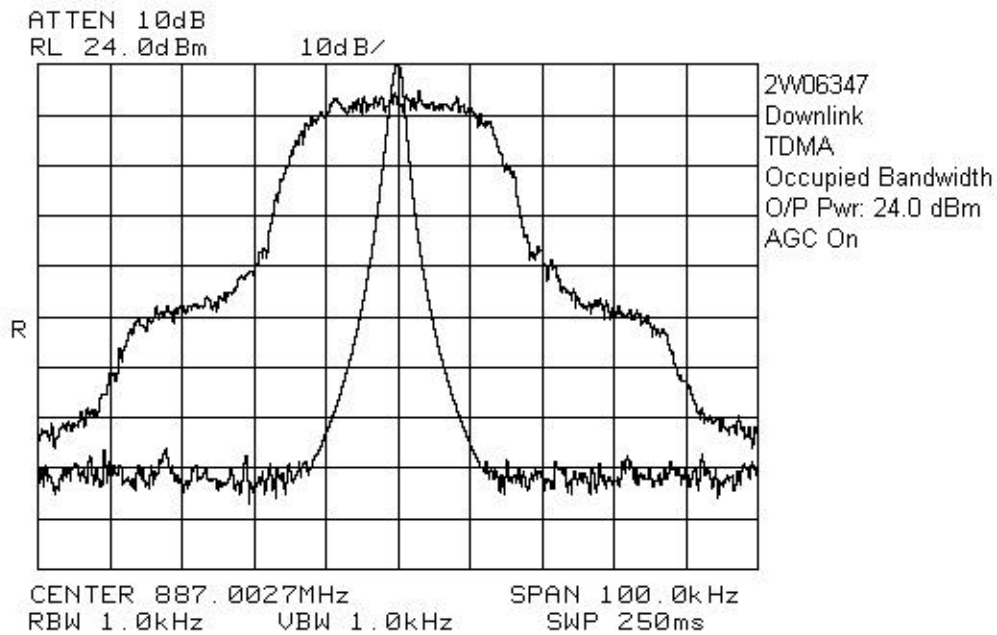
EQUIPMENT: BDA-CELLB-1/1W-60A



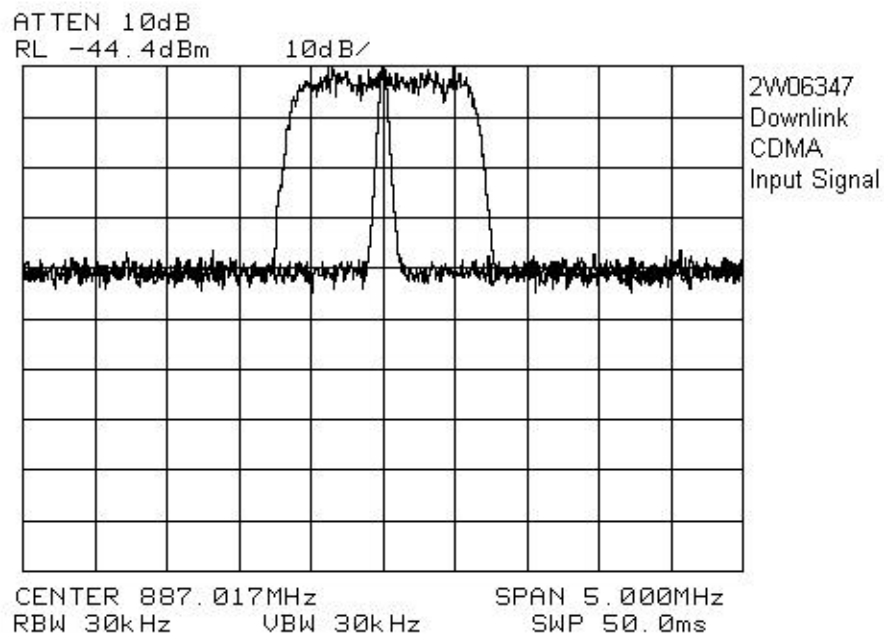
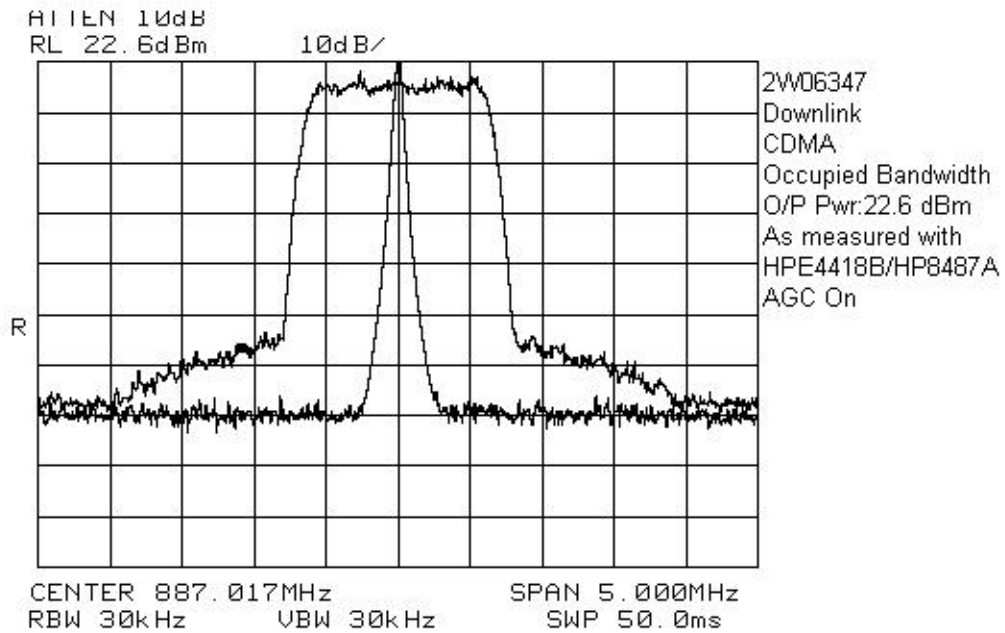
EQUIPMENT: BDA-CELLB-1/1W-60A



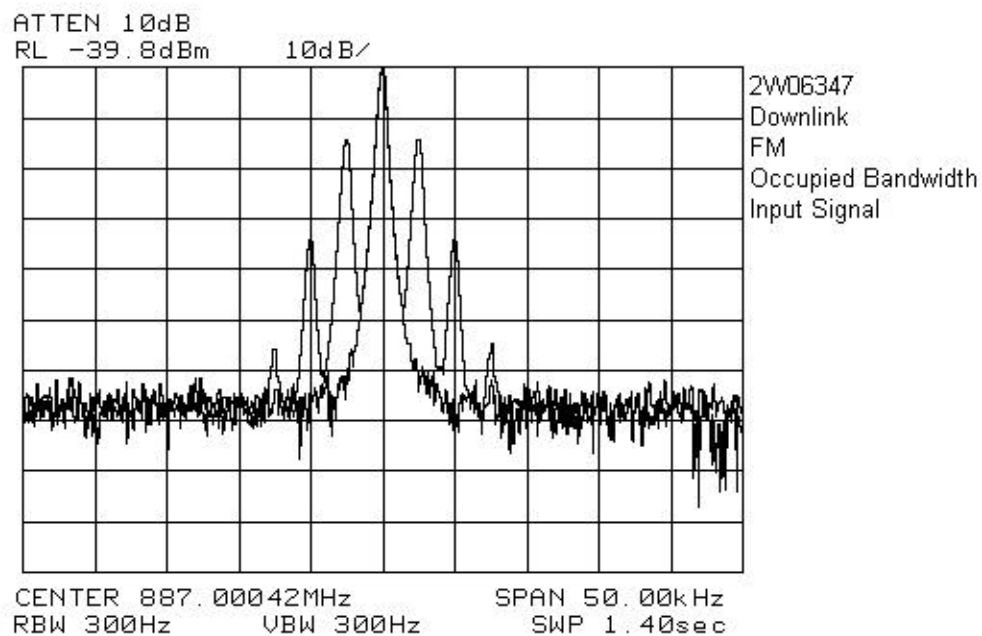
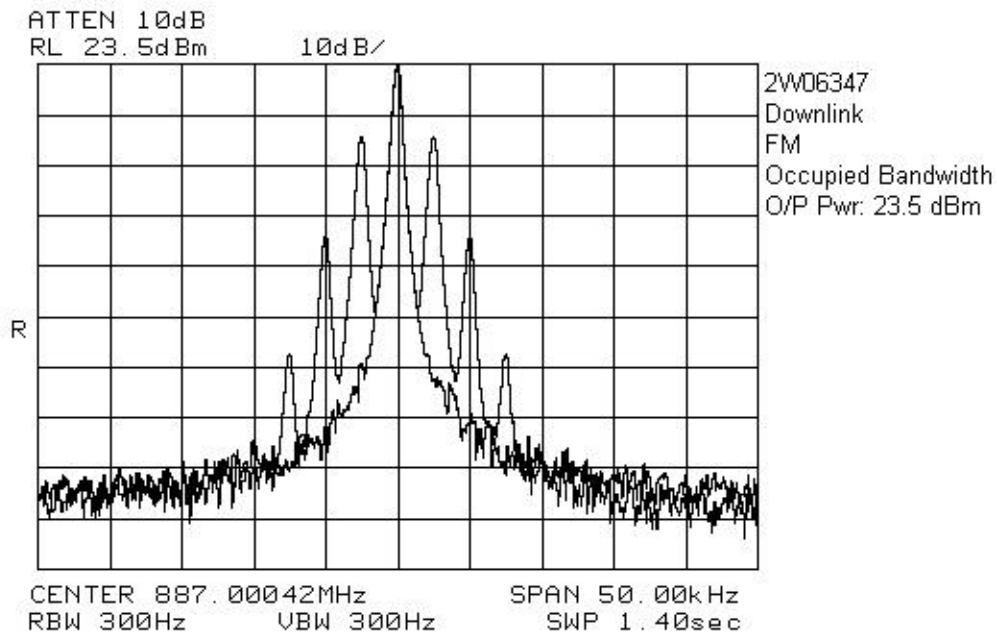
EQUIPMENT: BDA-CELLB-1/1W-60A



EQUIPMENT: BDA-CELLB-1/1W-60A



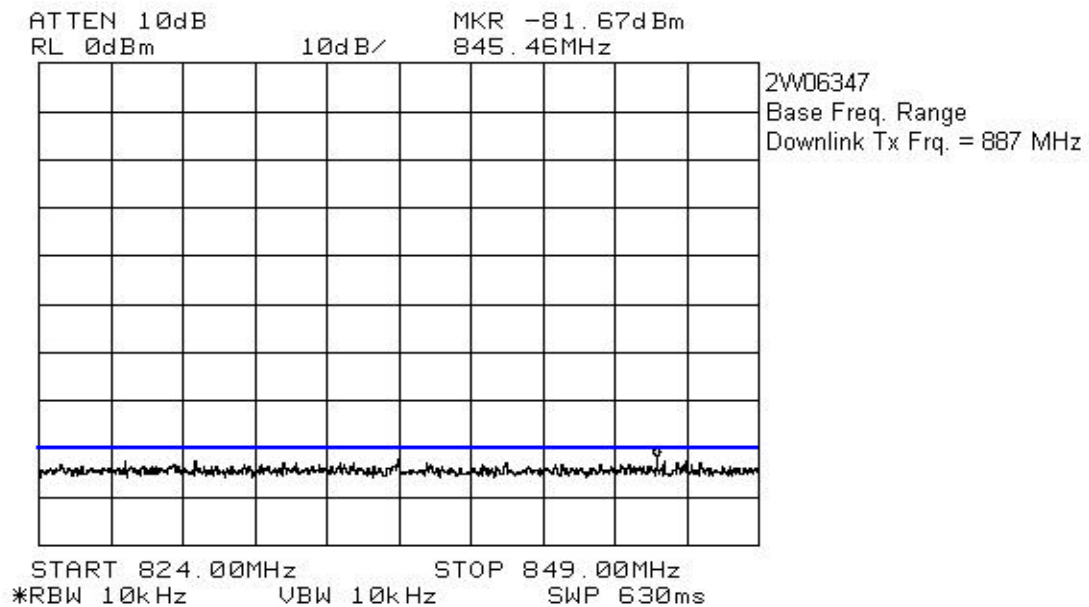
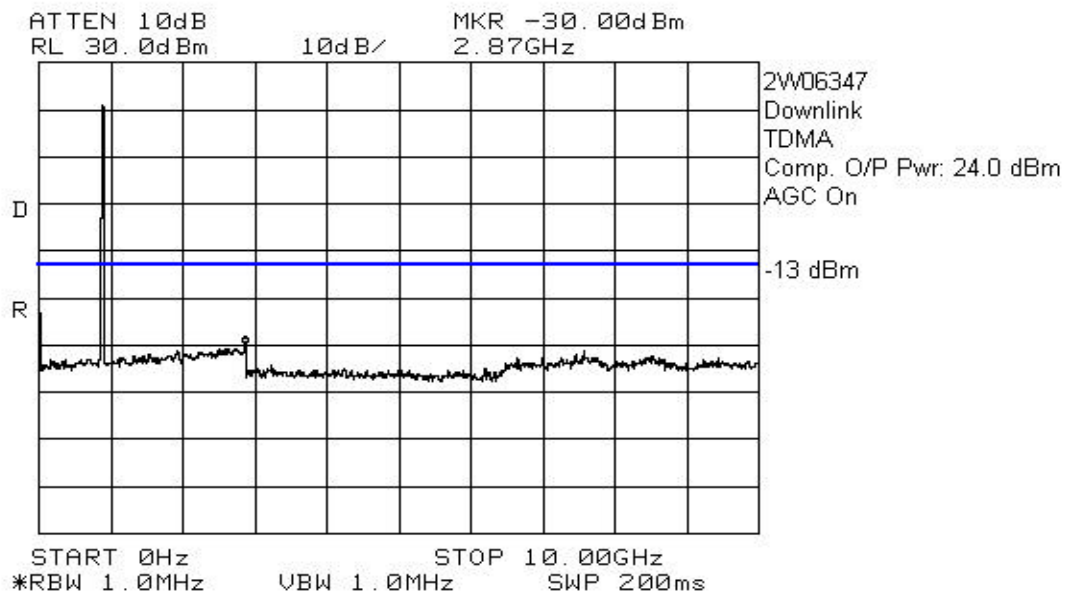
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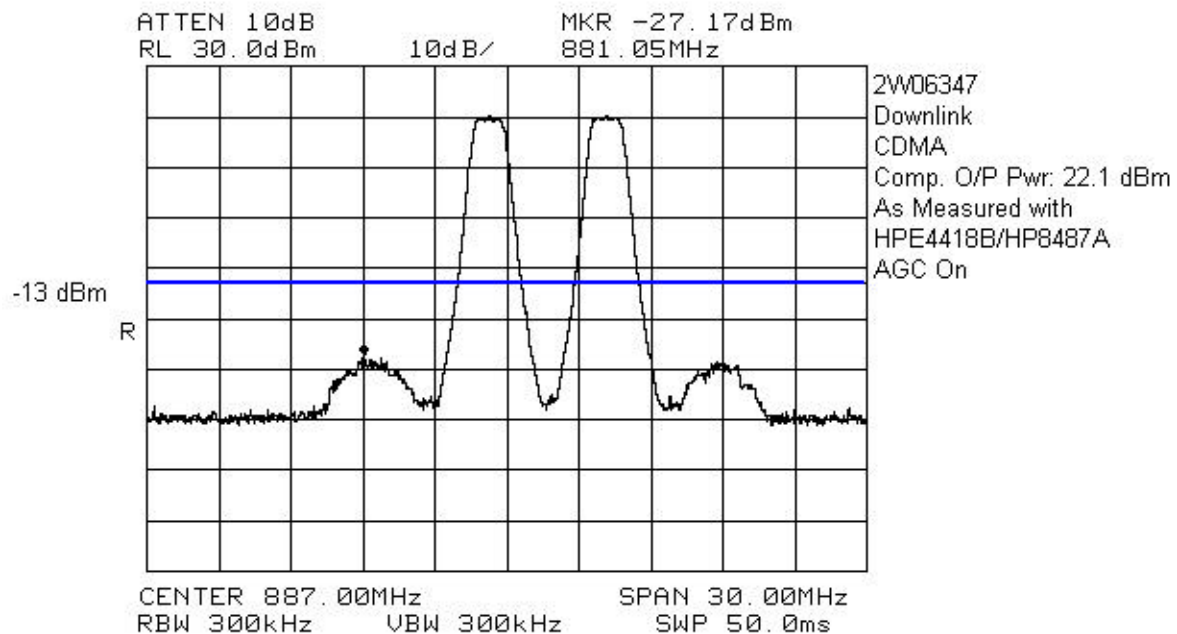
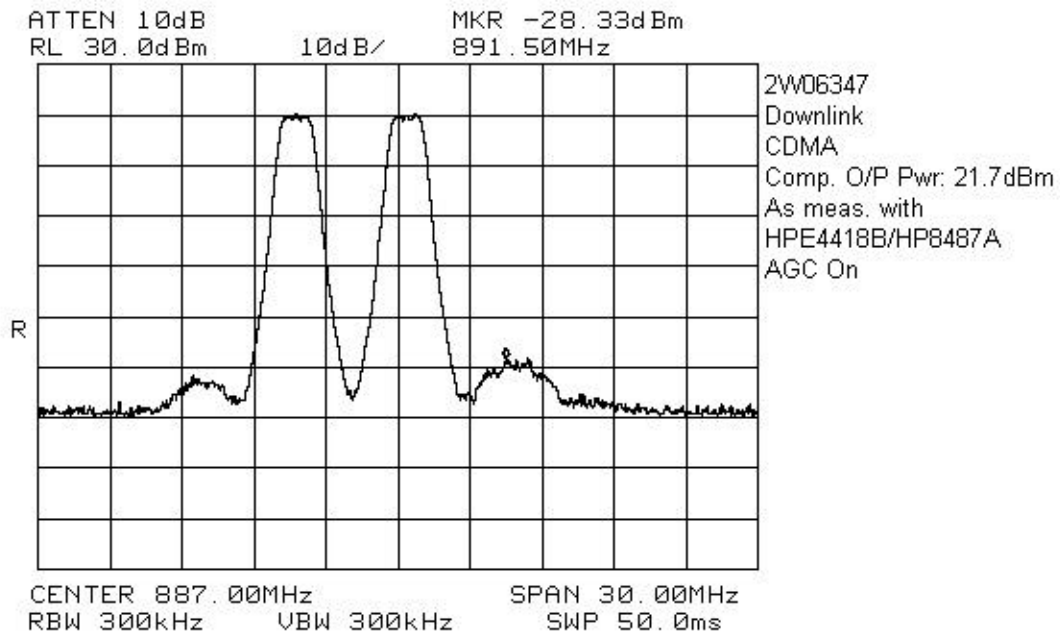
Test Performed By: Kevin Carr	Date of Test: 10 Dec. 2002
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Measurement Data: See attached graphs. Only worst case has been reported

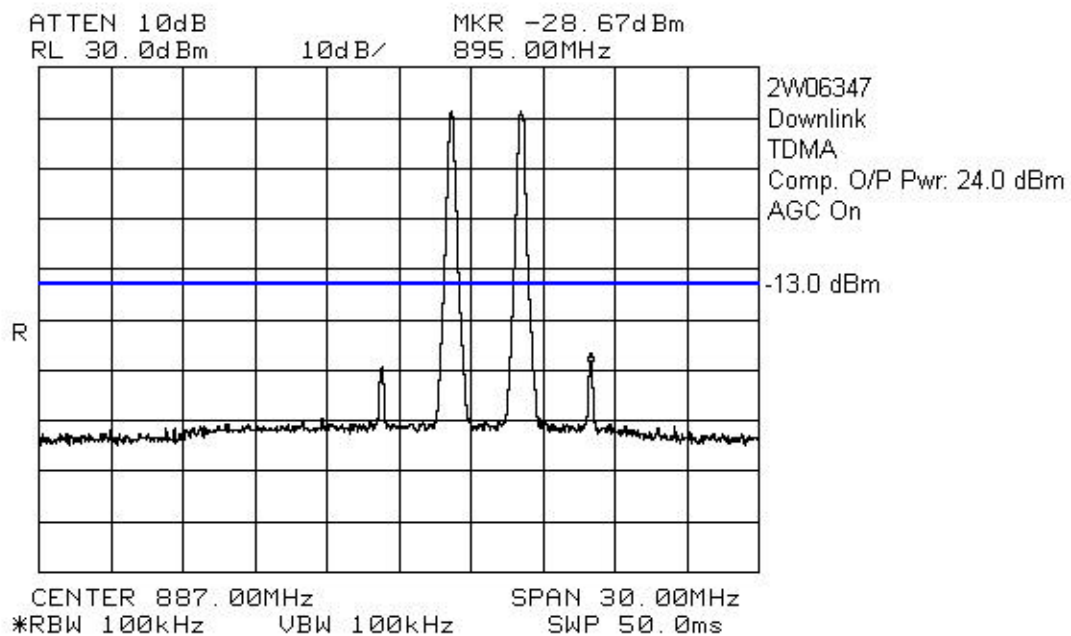
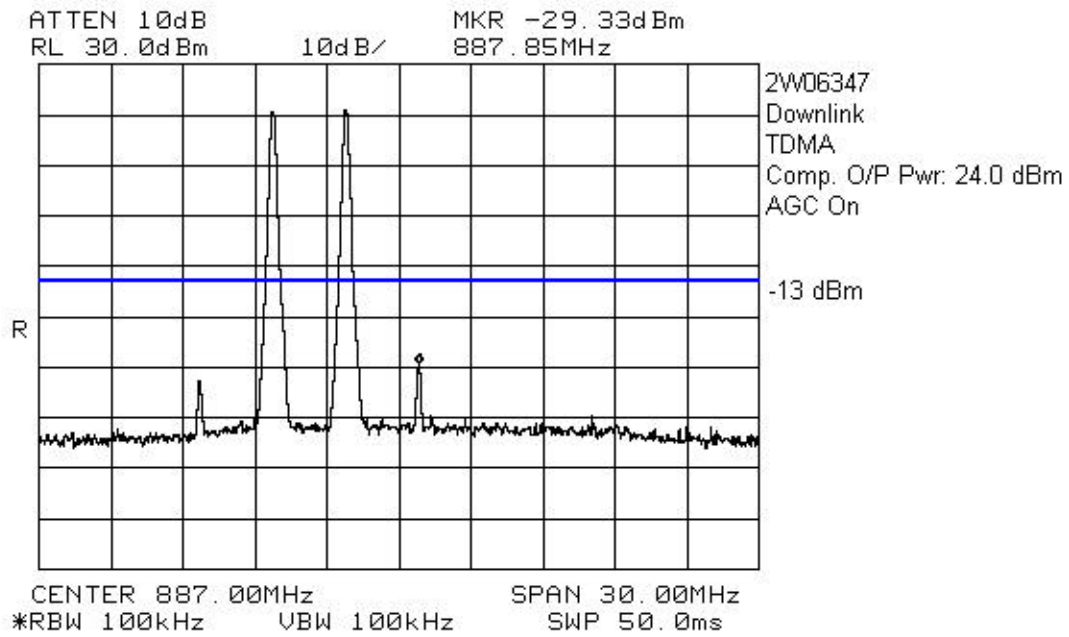
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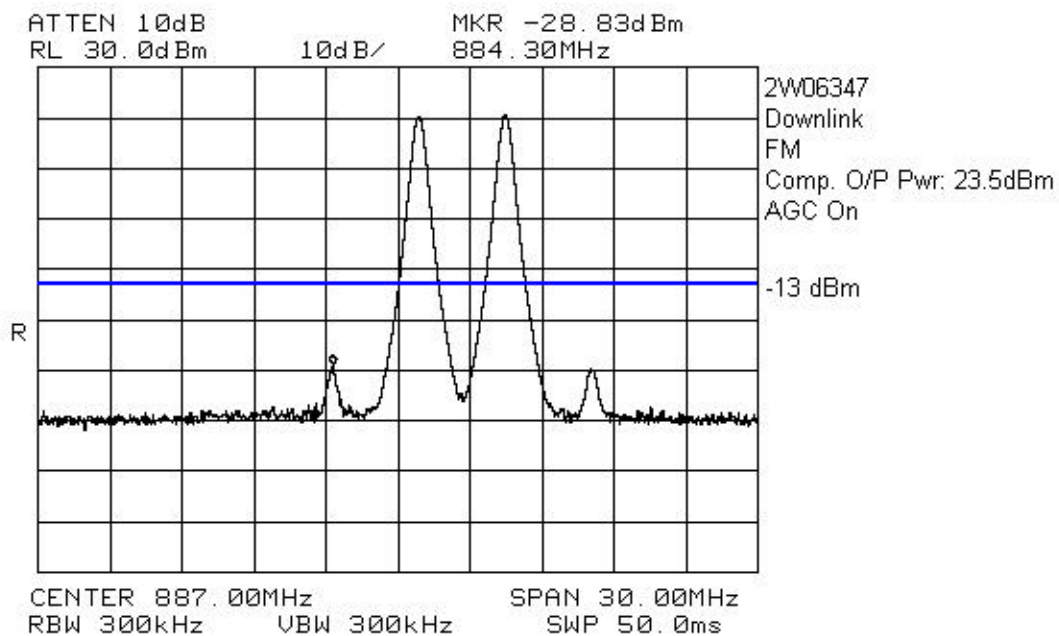
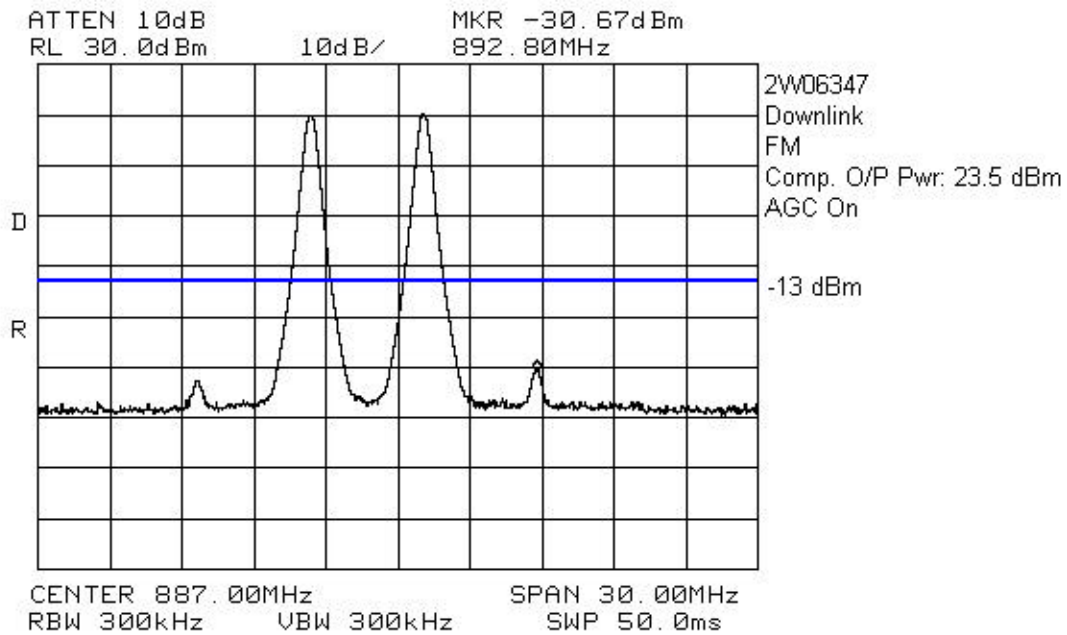
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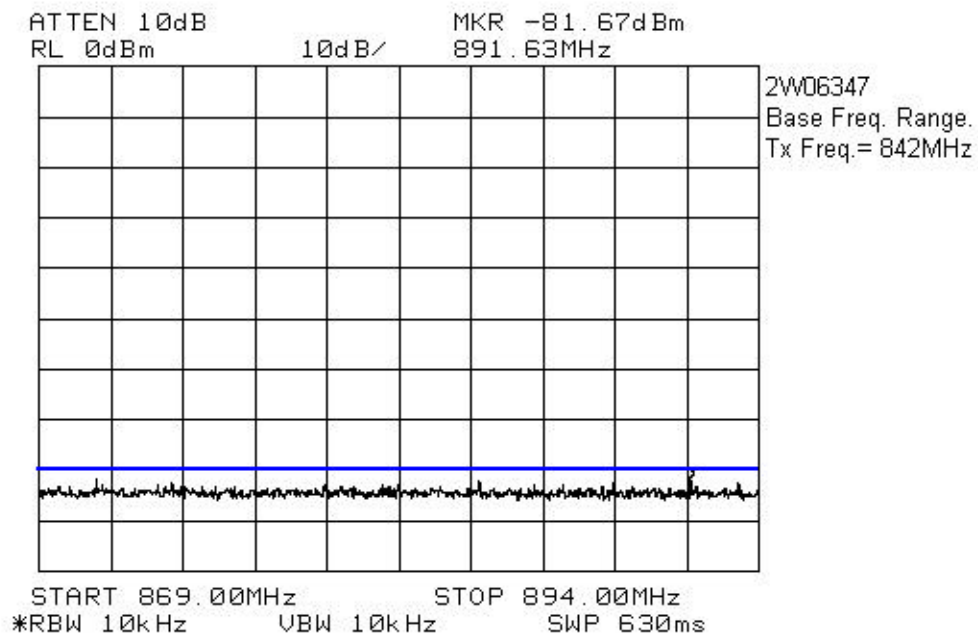
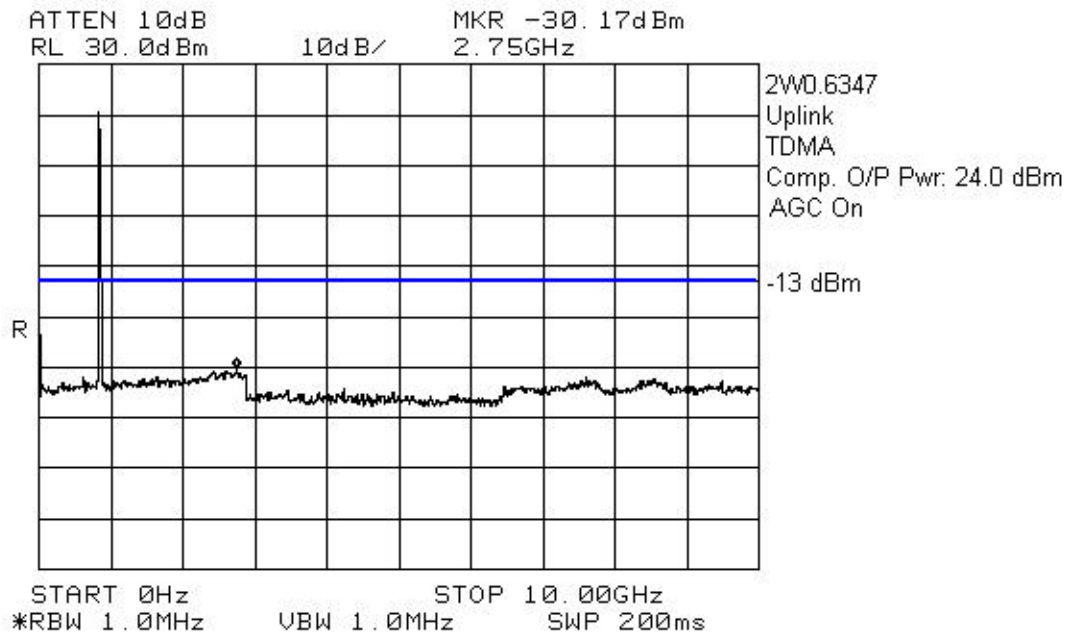
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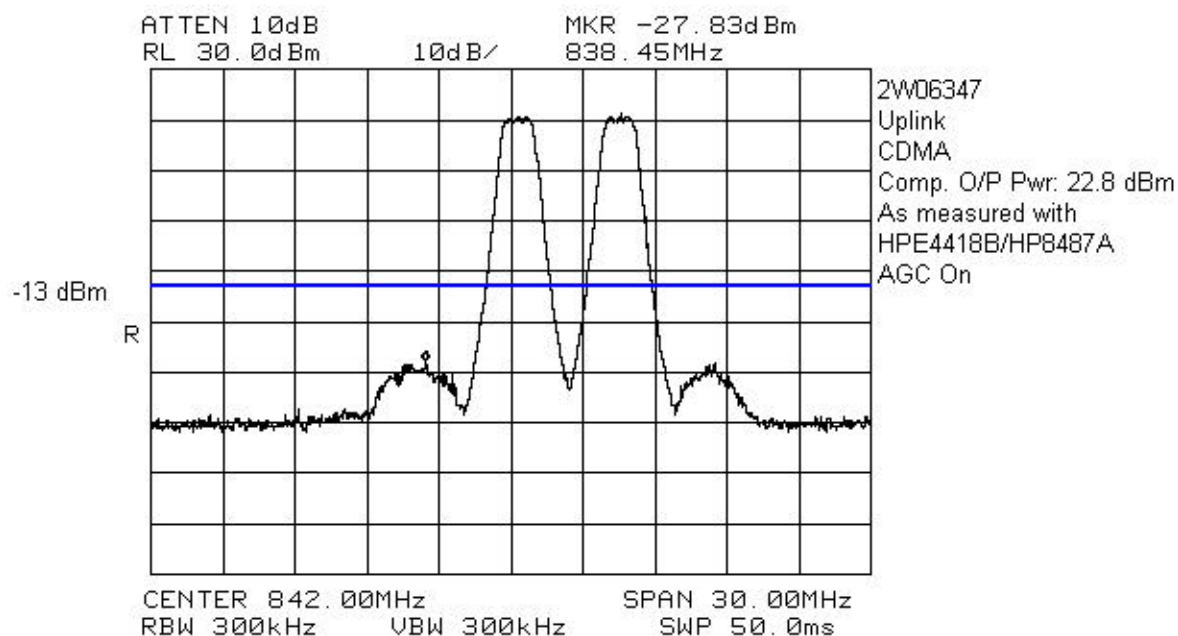
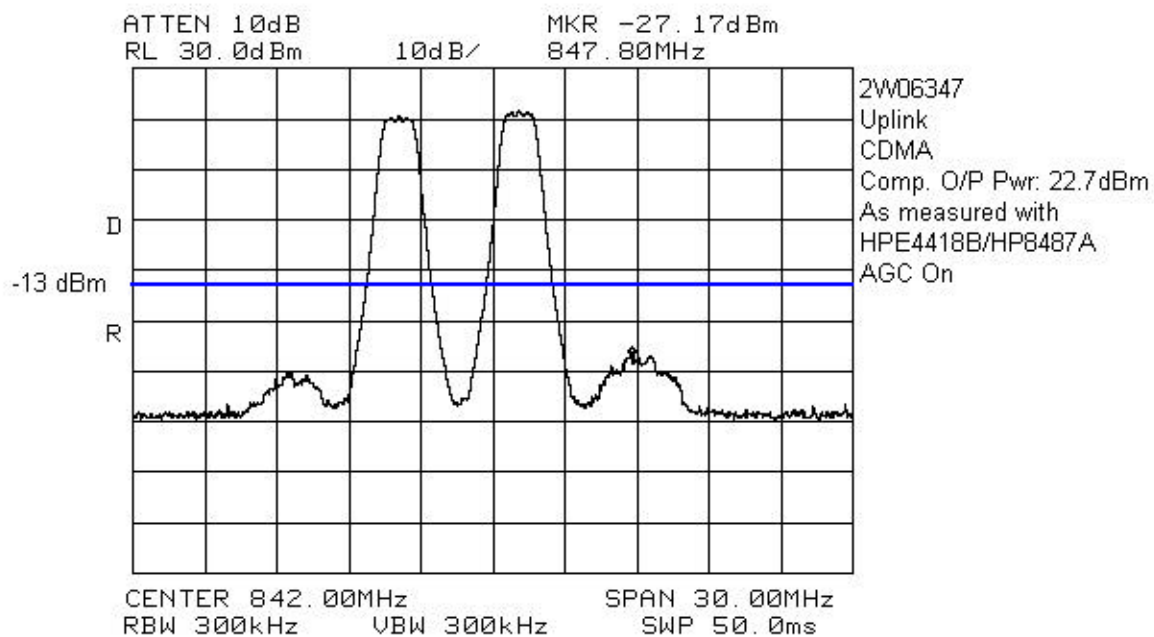
EQUIPMENT: BDA-CELLB-1/1W-60A



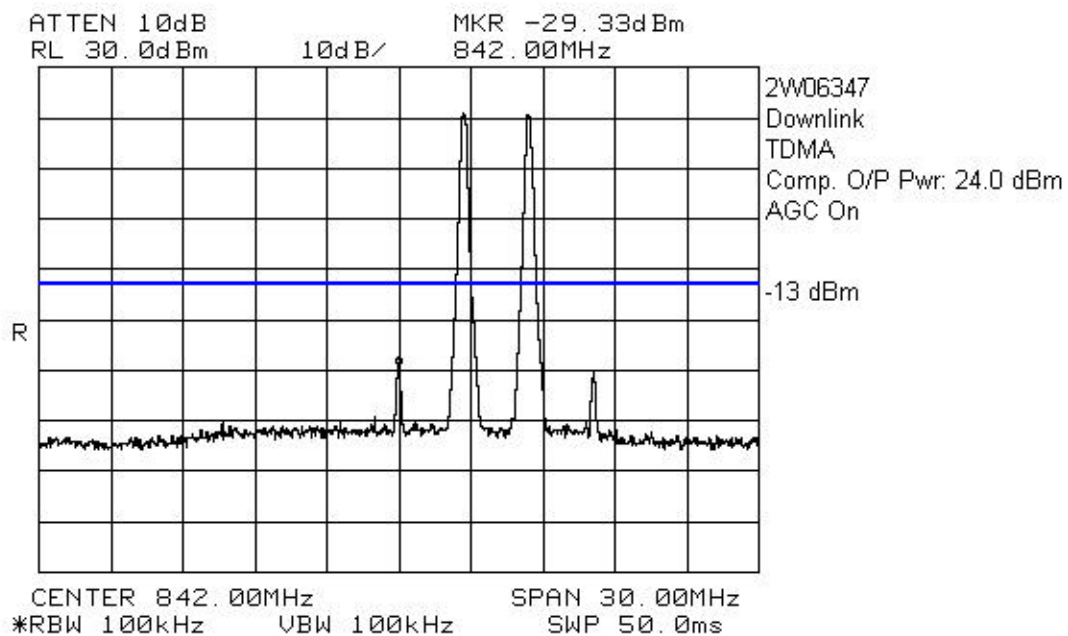
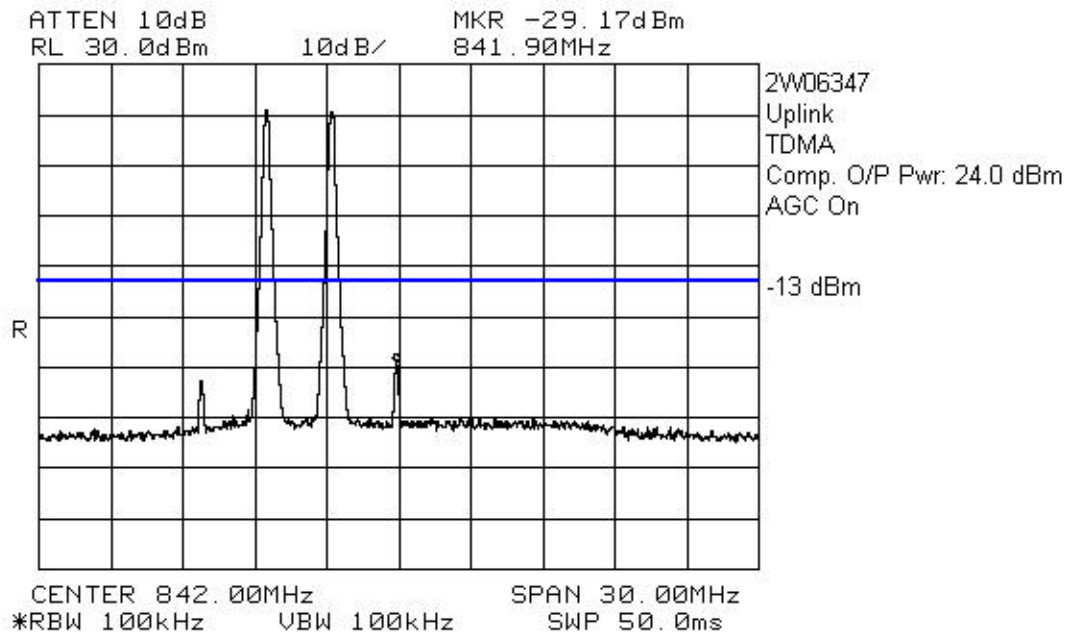
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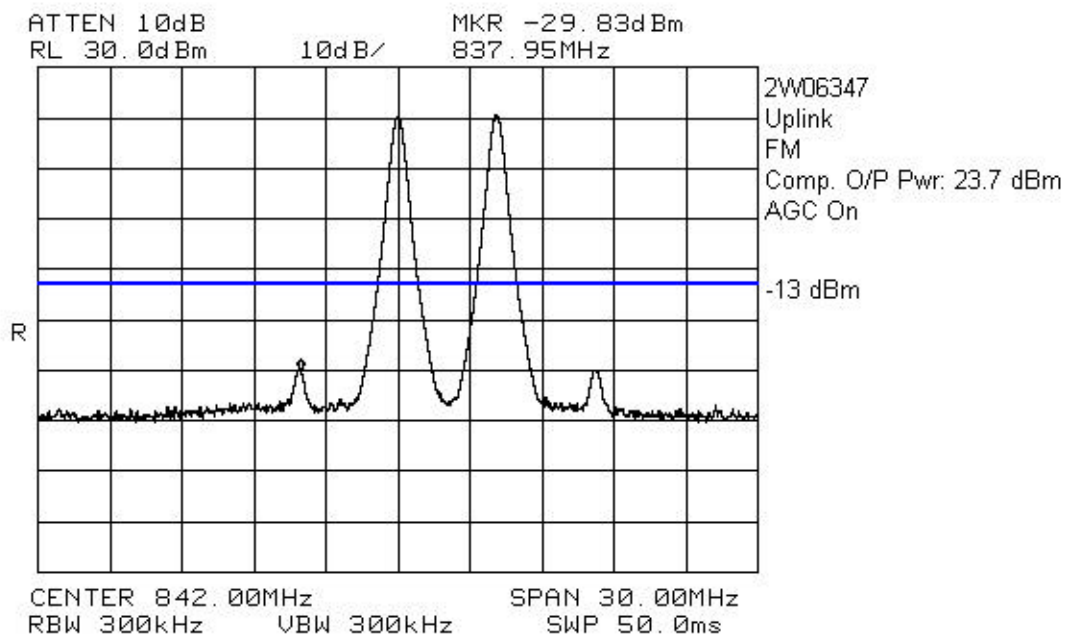
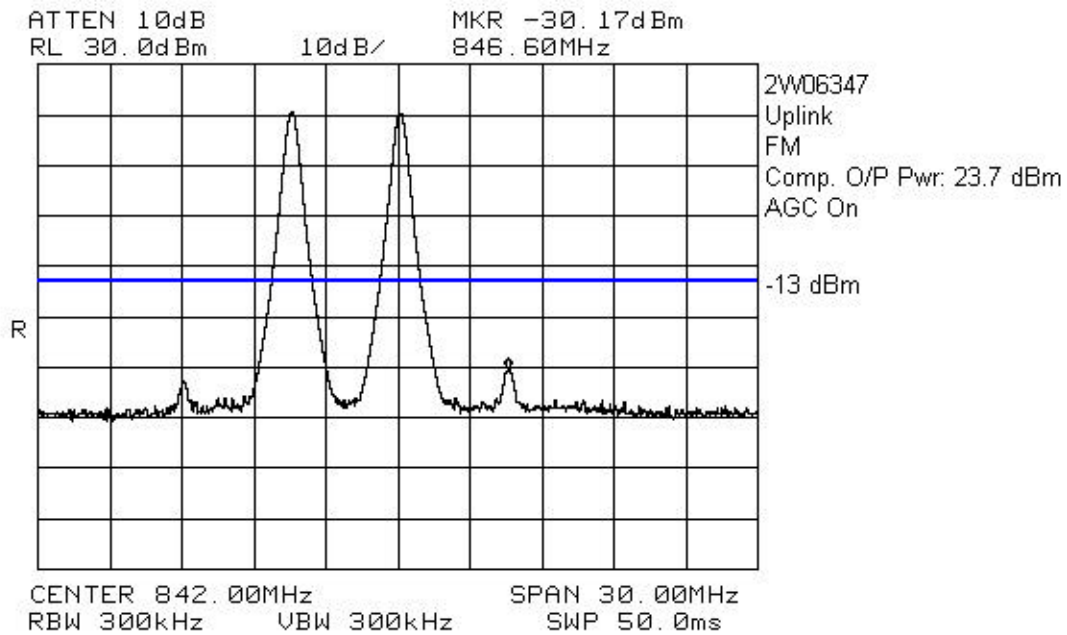
EQUIPMENT: BDA-CELLB-1/1W-60A



EQUIPMENT: BDA-CELLB-1/1W-60A



EQUIPMENT: BDA-CELLB-1/1W-60A



EQUIPMENT: BDA-CELLB-1/1W-60A

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Kevin Carr	Date of Test: 5 Dec. 2002
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Minimum Standard: 22.917(e): -13dBm

Test Results: Complied.

Measurement Data: See attached chart.

EQUIPMENT: BDA-CELLB-1/1W-60A

Radiated Disturbance Test Data:

Test Date: 5 Dec. 2002											
Engineer's Name: Kevin Carr											
Temperature (C°): Indoor: 21, Outdoor: 5							Humidity %: Indoor 11, Outdoor: 69				
Tested as per (Table Top/Floor Standing): Table Top											
Test Distance (meters): 3							Range: A				
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Sig Sub. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Signal Substitution Power (dBm)	Limit (dBm)	Margin (dB)	Detector	Amp.
51.6	BC1	V	21.1	-86.8	N/A	0.8	-64.9	-13	51.9	Peak	N/A
51.6	BC1	H	7.2	-85.2	N/A	0.8	-77.2	-13	64.2	Peak	N/A
1684	Horn 2	V	56.3	-120.5	N/A	3.6	-60.6	-13	47.6	Peak	N/A
1684	Horn 2	H	58.1	-120.9	N/A	3.6	-59.2	-13	46.2	Peak	N/A
2526	Horn 2	V	69.5	-127.6	N/A	5.9	-52.2	-13	39.2	Peak	N/A
2526	Horn 2	H	70.8	-127.4	N/A	5.9	-50.7	-13	37.7	Peak	N/A
3368	Horn 2	V	64.0	-125.6	N/A	5.4	-56.1	-13	43.1	Peak	N/A
3368	Horn 2	H	64.0	-126.7	N/A	5.4	-57.2	-13	44.2	Peak	N/A
4210	Horn 2	V	56.3	-119.9	N/A	6.5	-57.1	-13	44.1	Peak	N/A
4210	Horn 2	H	58.7	-119.9	N/A	6.5	-54.3	-13	41.3	Peak	N/A
1774	Horn 2	V	55.8	-119.4	N/A	3.8	-59.7	-13	46.7	Peak	N/A
1774	Horn 2	H	57.2	-119.9	N/A	3.8	-58.9	-13	45.9	Peak	N/A
2661	Horn 2	V	69.7	-127.5	N/A	7.8	-50.0	-13	37.0	Peak	N/A
2661	Horn 2	H	79.2	-128.4	N/A	7.8	-41.4	-13	28.4	Peak	N/A
3548	Horn 2	V	61.2	-125.6	N/A	5.5	-59.0	-13	46.0	Peak	N/A
3548	Horn 2	H	60.3	-127.5	N/A	5.5	-61.7	-13	48.7	Peak	N/A
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:		AGC off									

EQUIPMENT: BDA-CELLB-1/1W-60A

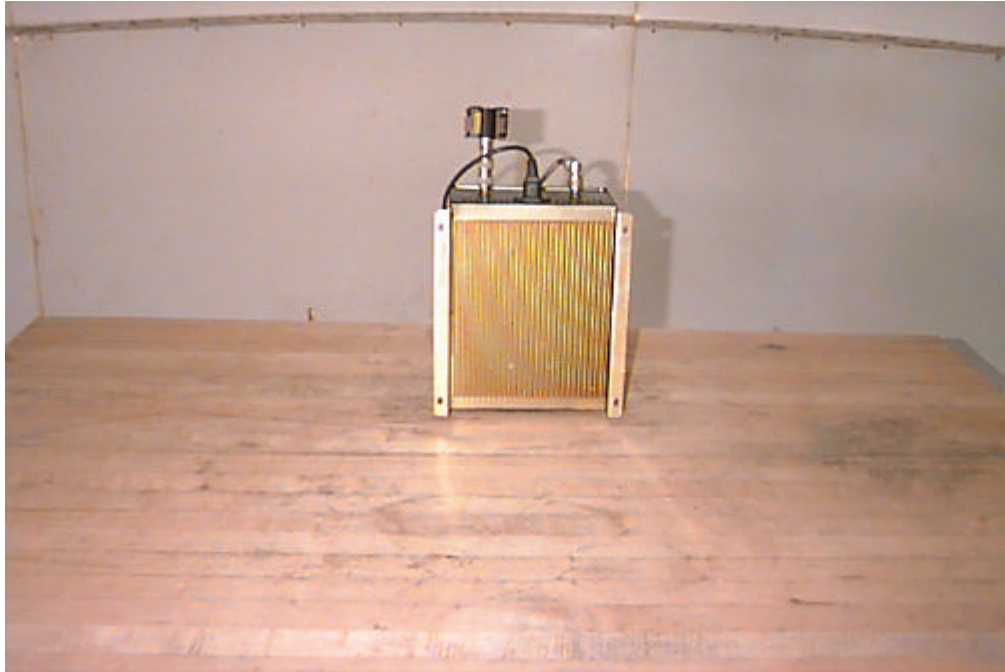
Radiated Disturbance Results(Cont.):

Final Test Result (Please Check One):		<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Were their deviations from the standard test procedure?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, document:			
Has rented equipment been used?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, document:			
Exercise Program: The mode used to exercise the various system components in a manner similar to typical use.	There are no computer or microprocessor parts installed that contain software. The EUT was tested at Mid. frequency of each band, at full O/P power into a 50 ohm load.		

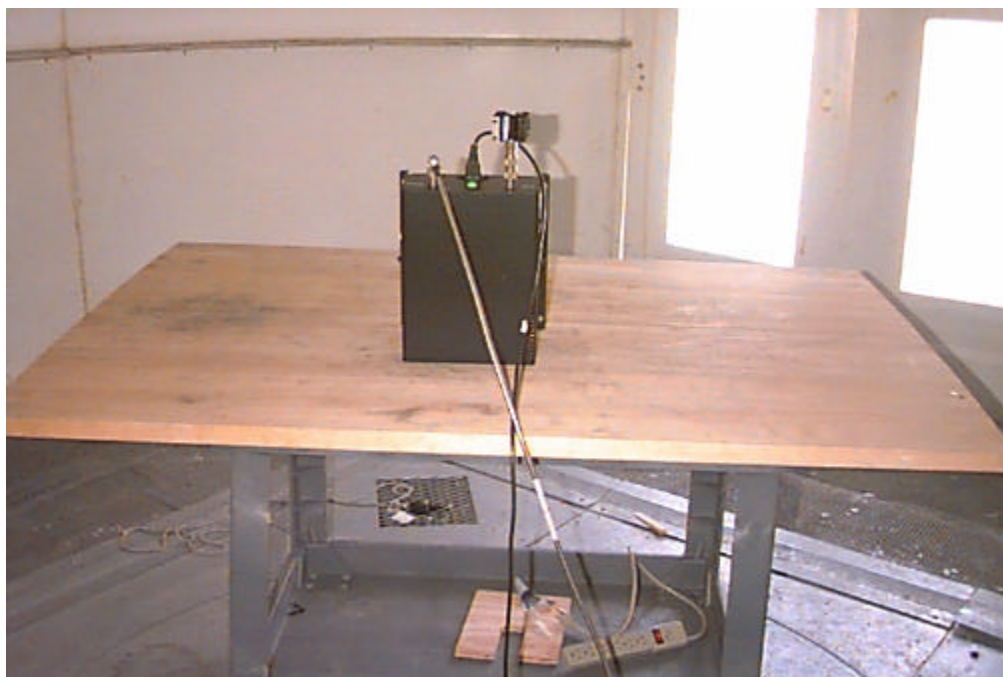
EQUIPMENT: BDA-CELLB-1/1W-60A

Radiated Disturbance Detailed Setup Photos:

Rear

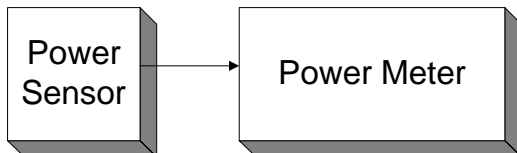


Front

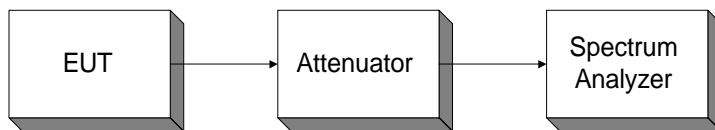


Section 7. Block Diagrams

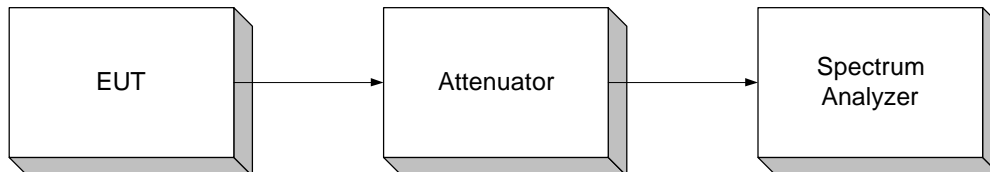
Para. No. 2.1046 - R.F. Power Output



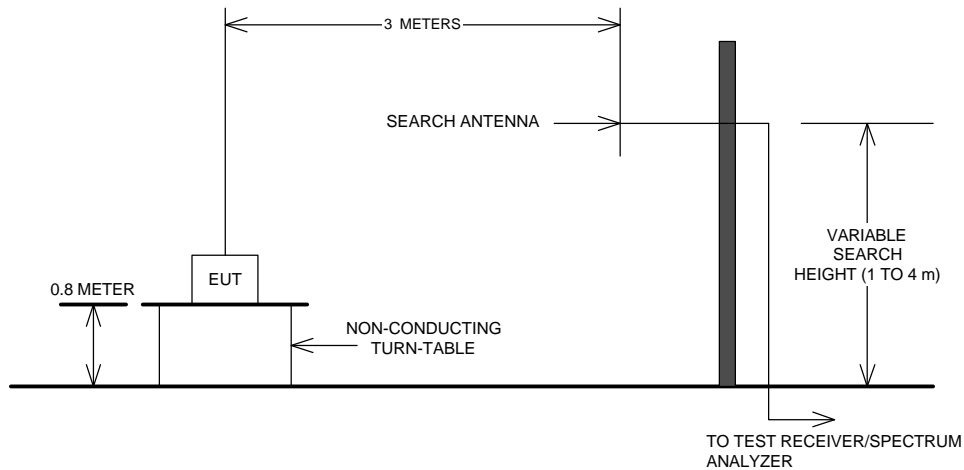
Para. No. 2.1049 - Occupied Bandwidth



Para. No. 2.1051 - Spurious Emissions at Antenna Terminals

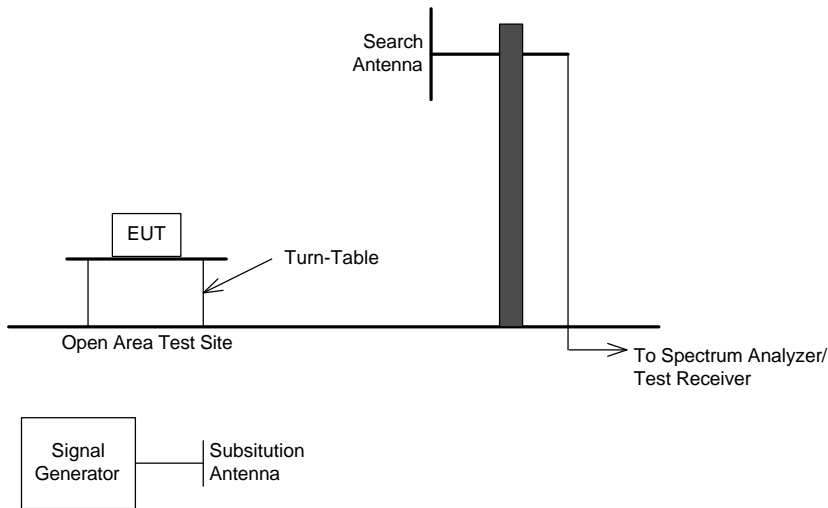


Para. No. 2.1053 - Field Strength of Spurious Radiation



TIA/EIA 603

**Effective Radiated Power
Spurious Emissions**



EQUIPMENT: BDA-CELLB-1/1W-60A

Section 8. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	3846A01407
1 Year	Spectrum Analyzer-1	Hewlett Packard	8566B	2311A02238
1 Year	Spectrum Analyzer Display-1	Hewlett Packard	8566B	2314A04759
1 Year	Attenuator	Narda	768-20	9507
1 Year	Attenuator	Narda	768-10	9707
1 Year	Receiver	Rohde & Schwarz	ESVS-30	843710/002
1 year	Biconilog Antenna	EMCO	3143	1038
1 Year	Horn Antenna	EMCO #2	3115	4336
1 Year	Log Periodic Antenna 1	EMCO	LPA-25	1141
1 Year	Biconical (1) Antenna	EMCO	3109	9204-2708
1 year	50 Ω Termination	Wiltron	26N50	605248
1 Year	50 ohm Combiner Pad	Mini Circuits	ZA3PD-2	9746
3 Year	Signal Generator	Rohde & Schwarz	SM1Q03	DE22004
3 Year	Signal Generator	Rhode & Schwarz	SM1Q03E	FA001269
1 Year	RF AMP	JCA	2-4 GHz	FA001496
1 Year	RF AMP	JCA	1-2 GHz	FA001498
1 Year	RF AMP	JCA	4-8 GHz	FA001497
1 Year	Power Meter	Hewlett Packard	E4418B	FA001413
1 Year	Power Sensor	Hewlett Packard	8487A	FA001419