



Nemko

Test Report:

3W06788

Applicant:

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

**Equipment Under Test:
(EUT)**

BDA-SMR-1/10W-80

FCC ID:

QQRBSMR10W80

In Accordance With:

FCC Part 90, Subpart I
Private Land Mobile Repeater

Tested By:

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

Authorized By:

Glen Westwell, Wireless Technologist

Date:

Jan 9, 2003

Total Number of Pages:

37

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

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EQUIPMENT: BDA-SMR-1/10W-80
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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: Russell Grant, Senior Regulatory Approvals Eng. DATE: 9 January 2003

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This report applies only to the items tested.

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.985	Complied
Audio Frequency Response	TIA EIA-603.3.2.6	N/A
Audio Low-Pass Filter Response	TIA EIA-603.3.2.6	N/A
Modulation Limiting	TIA EIA-603.3.2.6	N/A
Occupied Bandwidth	2.989	Complied
Spurious Emissions at Antenna Terminals	2.991	Complied
Field Strength of Spurious Emissions	2.993	Complied
Frequency Stability	2.995	N/A
Transient Frequency Behavior	—	N/A

Footnotes For N/A's:

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 Circuitry

Indoor Temperature: 23°C
 Humidity: 15%

Outdoor Temperature: 7°C
 Humidity: 95%

.

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 2. General Equipment Specification

Manufacturer:	Coverage Solutions Corp.
Model No.	BDA-SMR-1/10W-80
Serial No:	02111096
Date Received In Laboratory:	Jan 7, 2003
Nemko Identification No.:	1
Supply Voltage:	120VAC, 60Hz
Frequency Range:	Downlink: 851-866 MHz Uplink: 806-821 MHz
RF Output Power (Rated):	DL 33 dBm, UL 25 dBm
RF Output Power (Measured):	Downlink: 33 dBm Uplink: 25 dBm
Emission Designator:	FSK F2D QAM D7W

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 3. RF Power Output

Para. No.: 2.985

Test Performed By: Russell Grant	Date of Test: Jan 8, 2003
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Minimum Standard: Para. No. 90.205(a).

Test Results: Complied.

Measurement Data:

Frequency (MHz)	Measured Power (dBm)	Measured Power (Watts)
806-821	25	0.316
851-866	33	2.0

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 4. Occupied Bandwidth

Para. No.: 2.989

Test Performed By: Russell Grant	Date of Test: Jan 8, 2003
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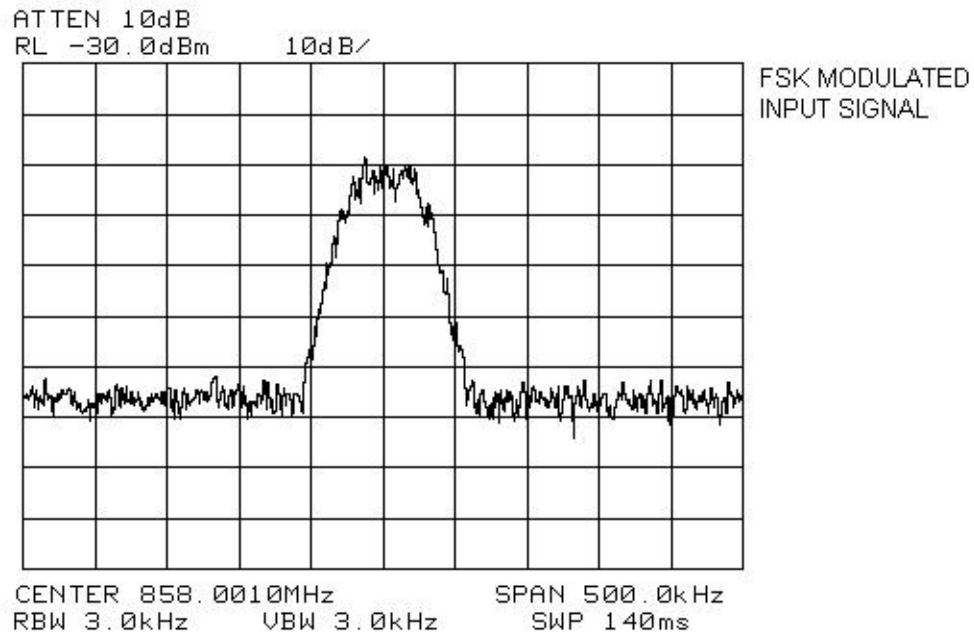
Minimum Standard: Para. No. 90.210

Test Results: Complied.

Measurement Data: See attached graph(s).

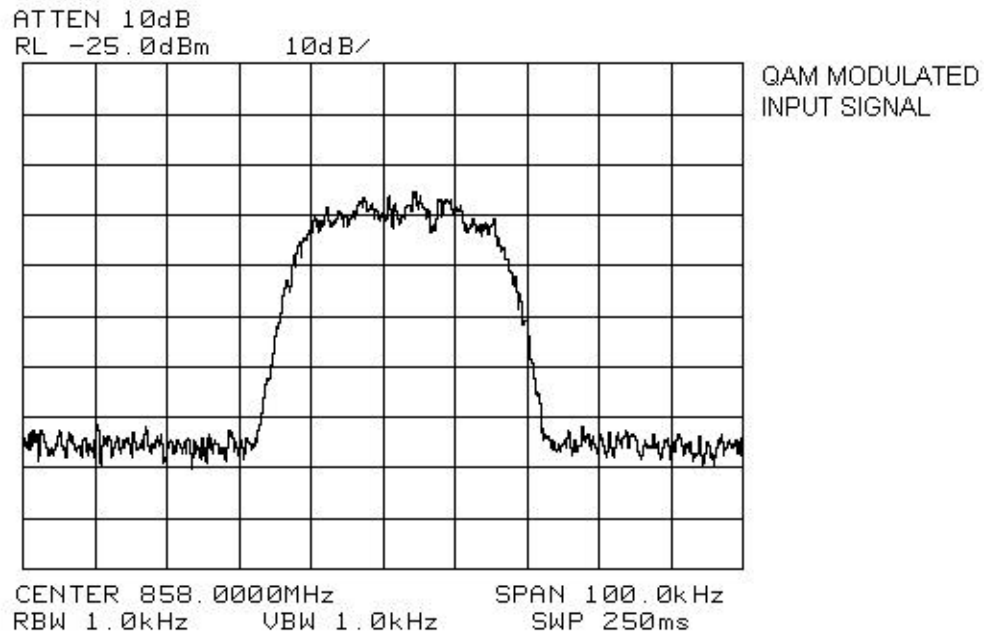
EQUIPMENT: BDA-SMR-1/10W-80

FCC ID:QQRBSMR10W80



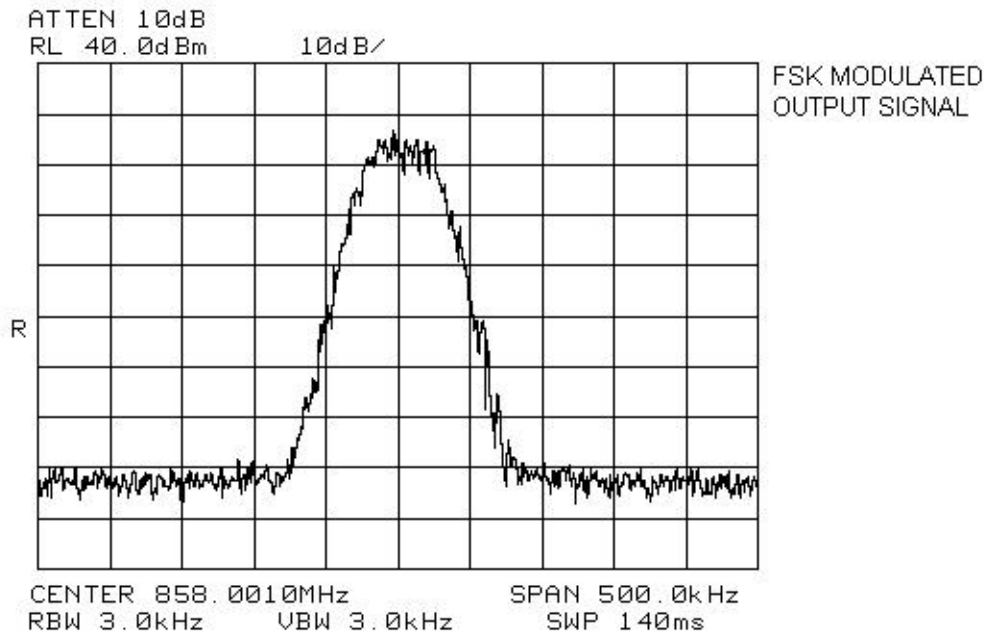
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FCC ID:QQRBSMR10W80



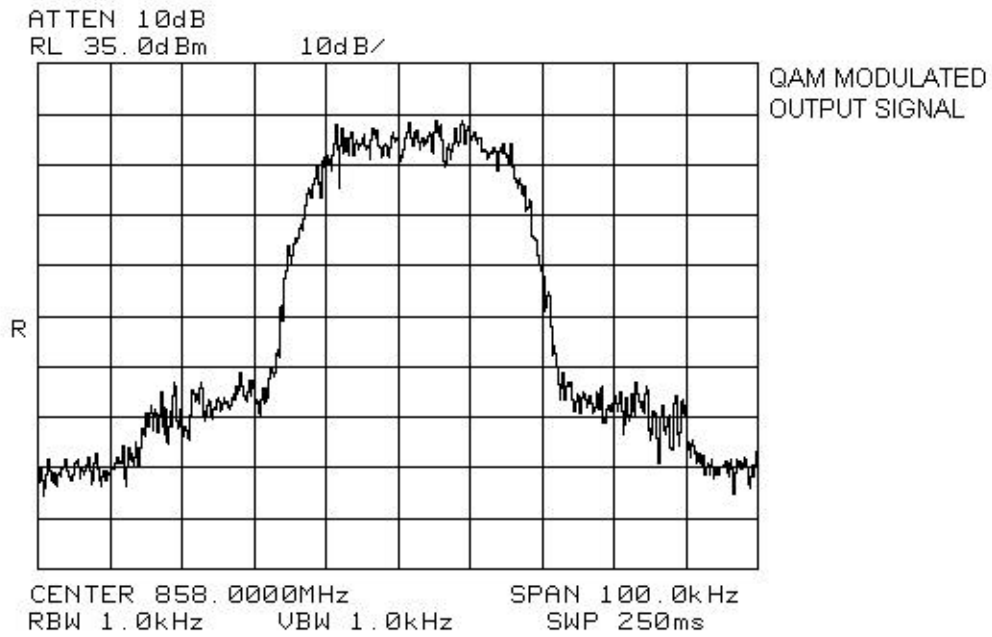
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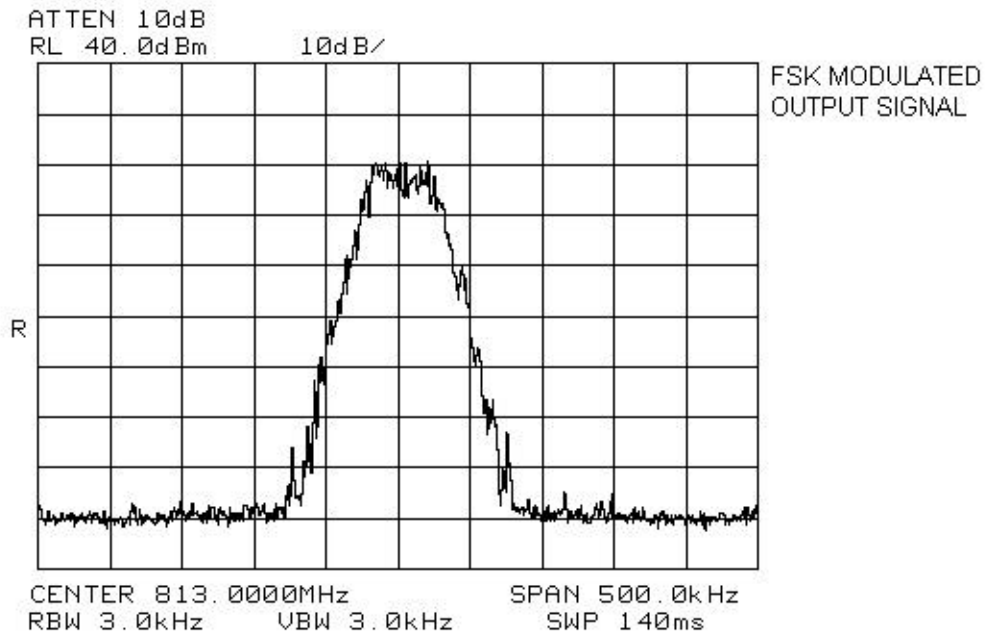
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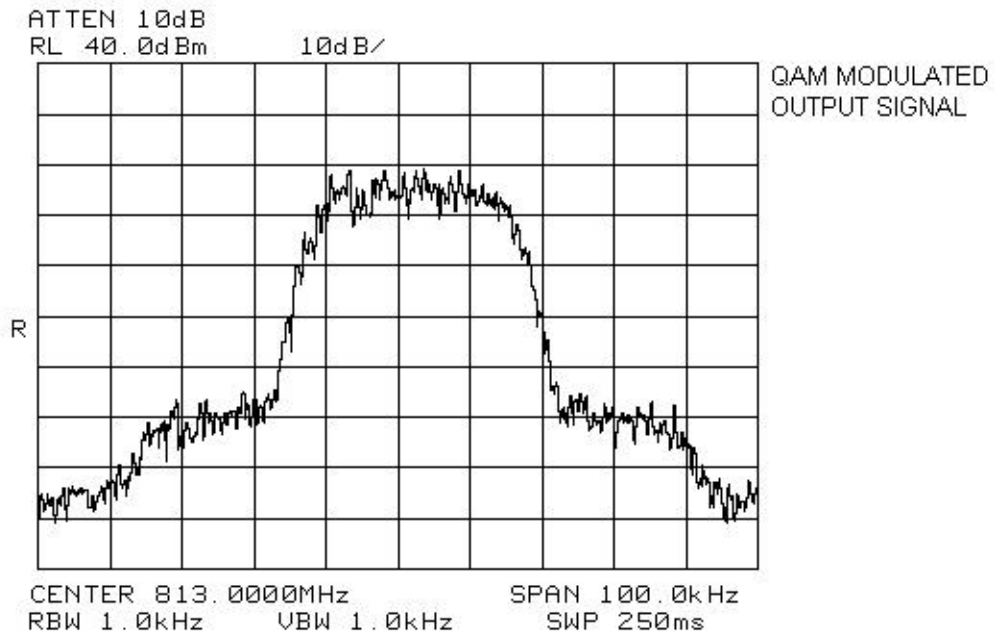
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EQUIPMENT: BDA-SMR-1/10W-80

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EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.991

Test Performed By: Russell Grant	Date of Test: Jan 8, 2003
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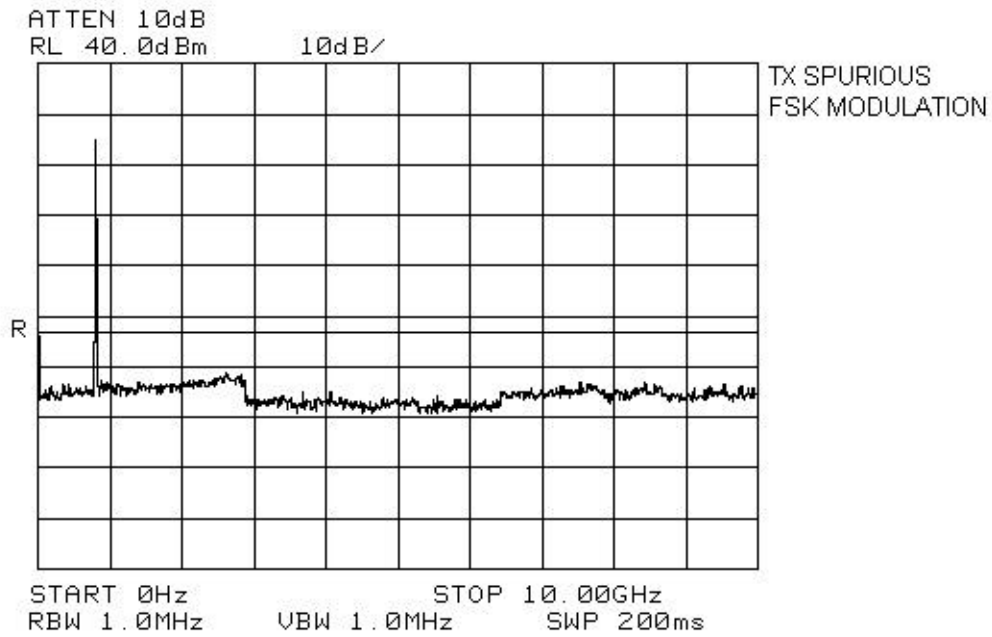
Minimum Standard: -13 dBm

Test Results: Complied.

Measurement Data: See attached graph(s).

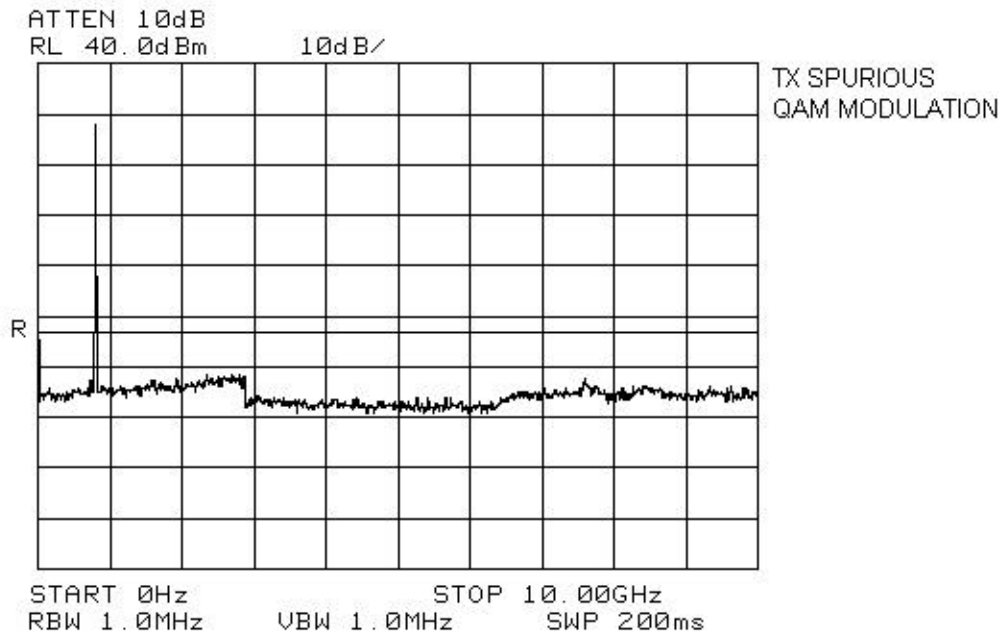
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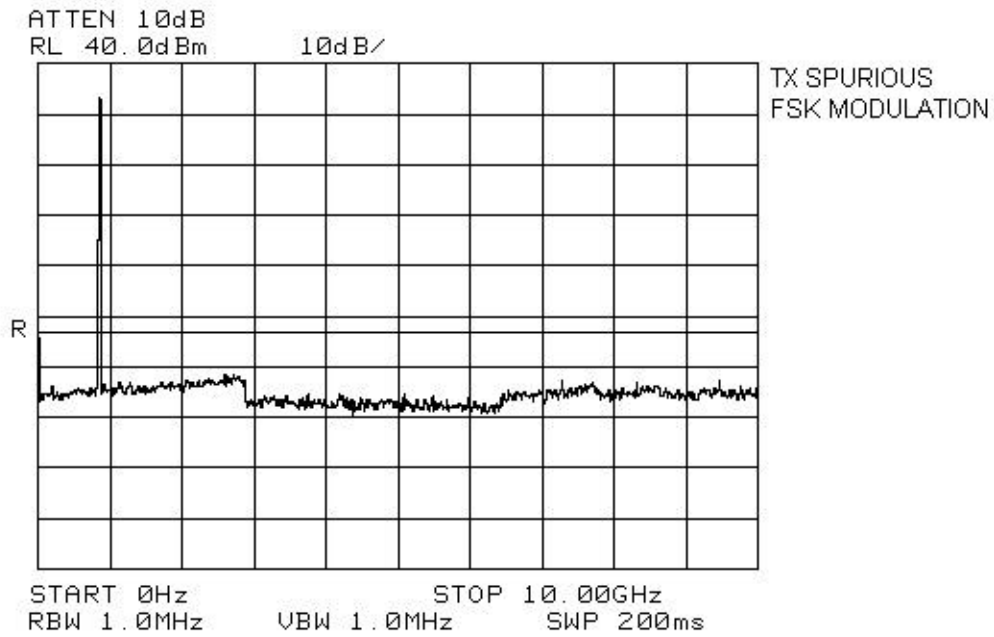
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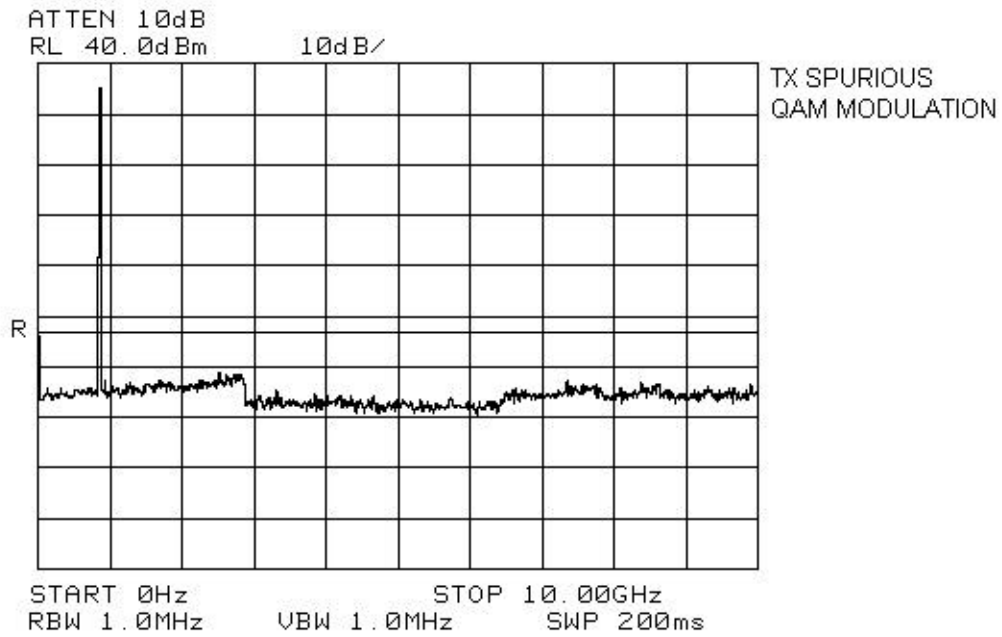
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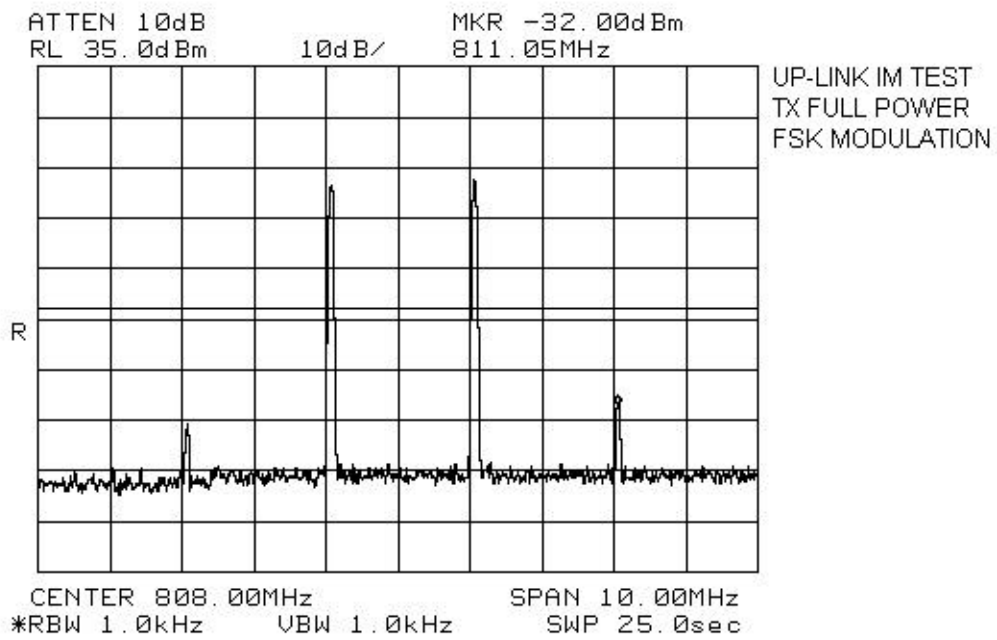
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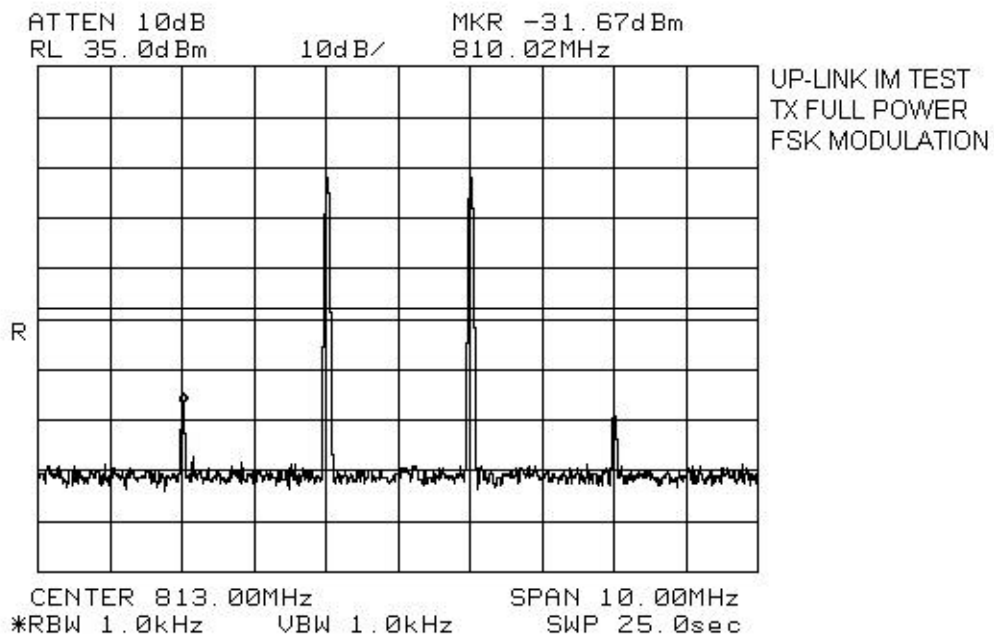
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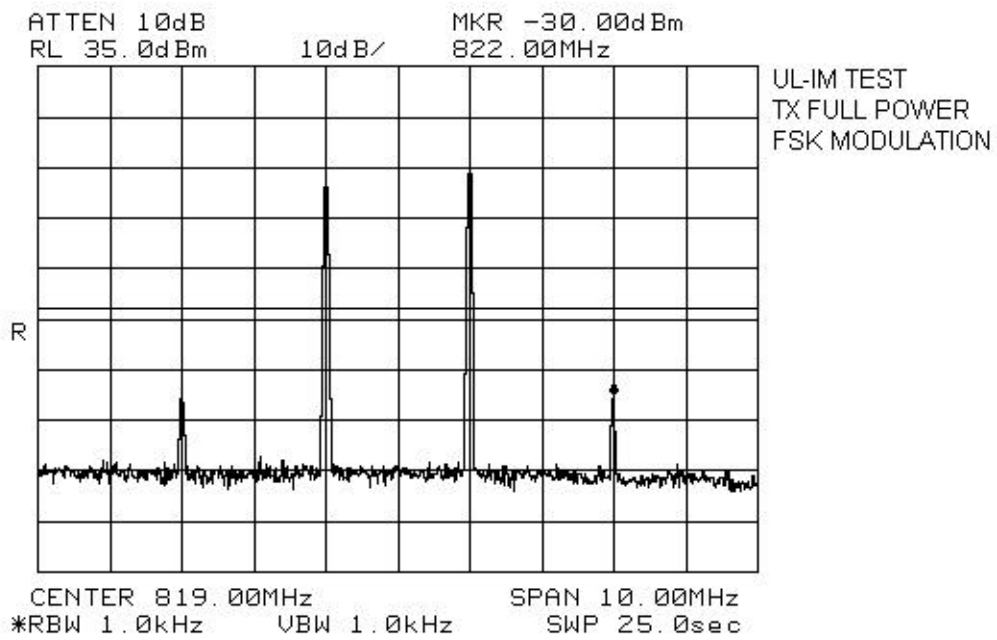
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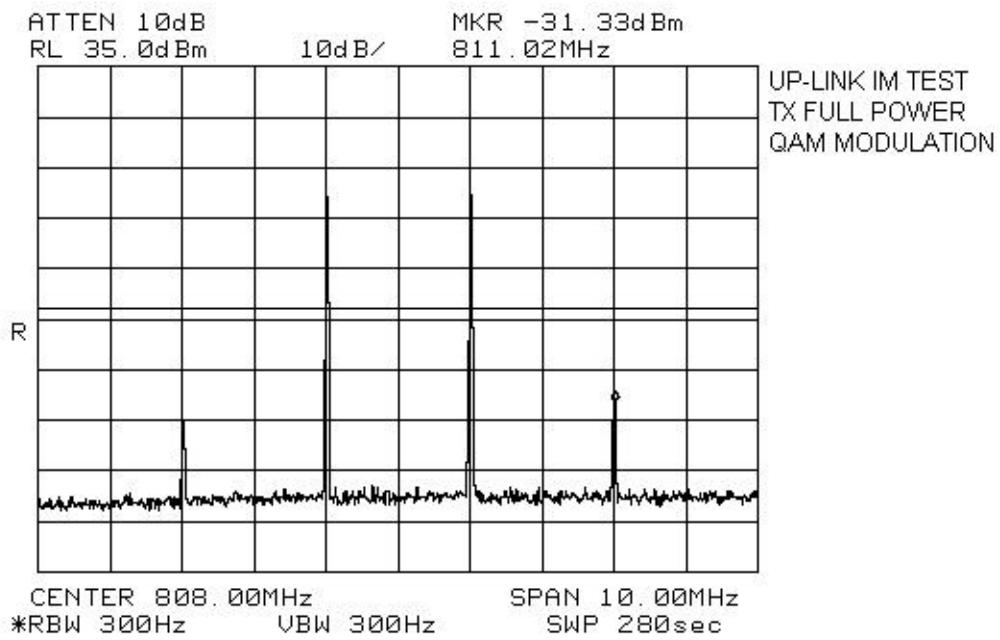
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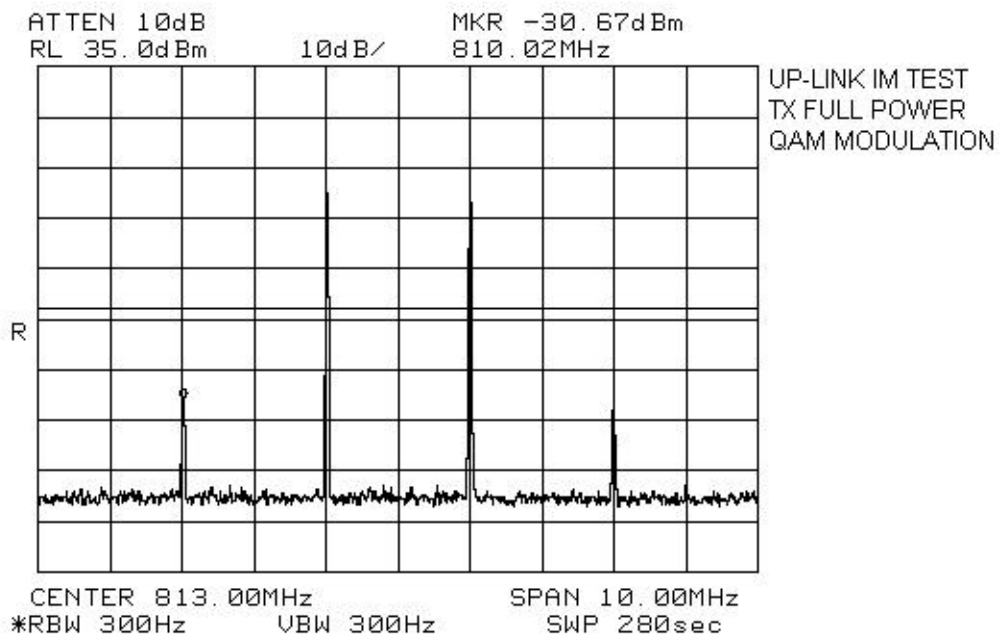
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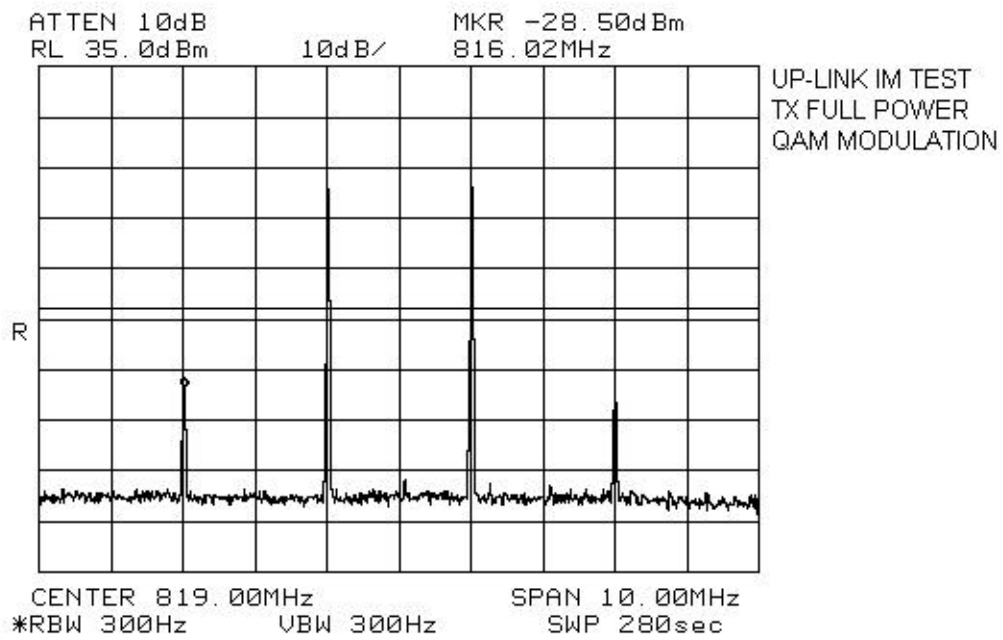
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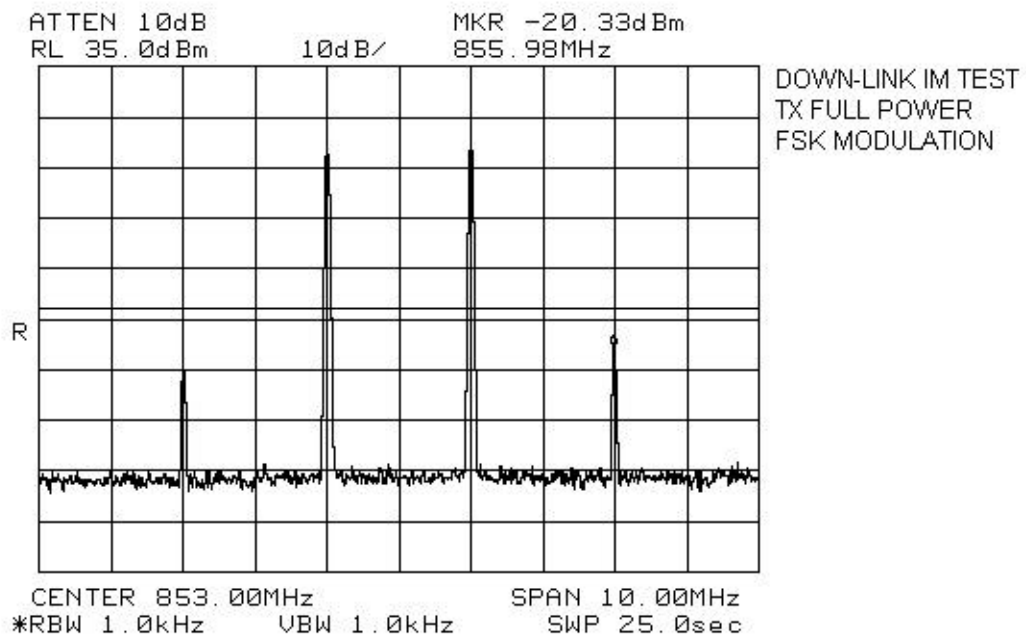
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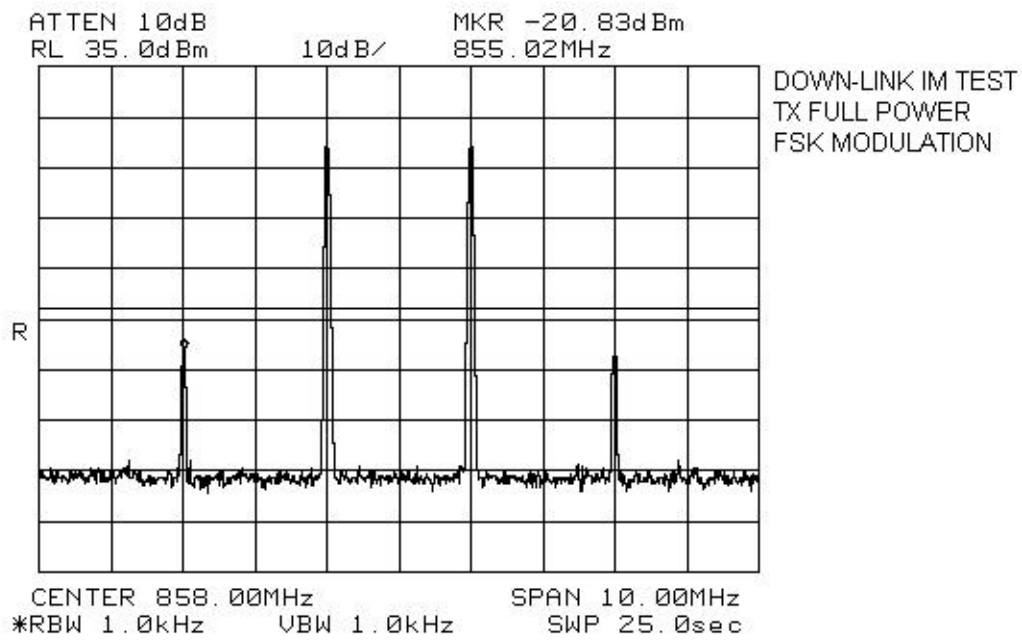
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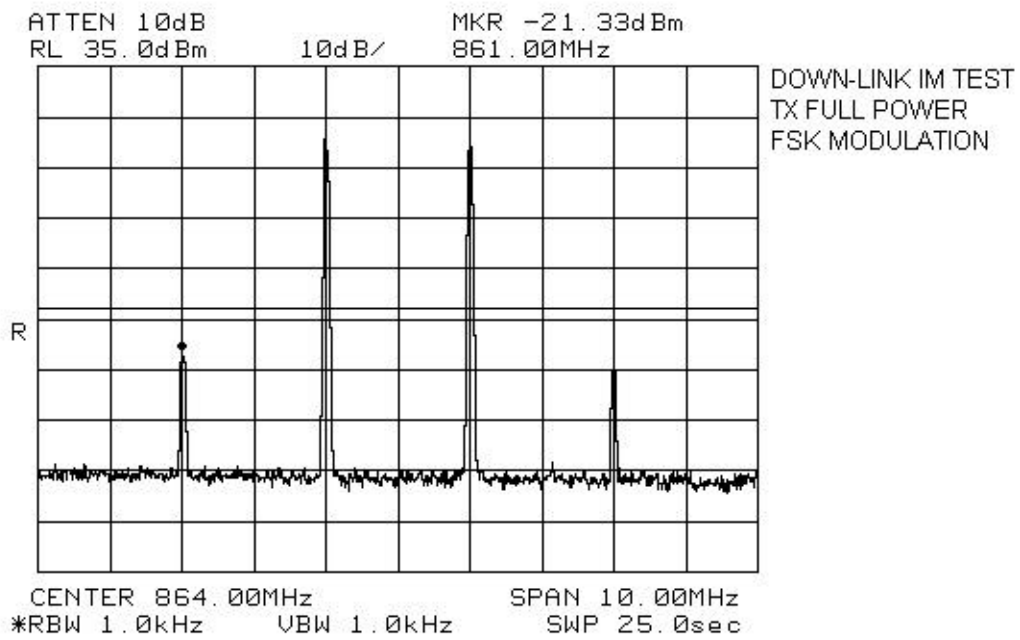
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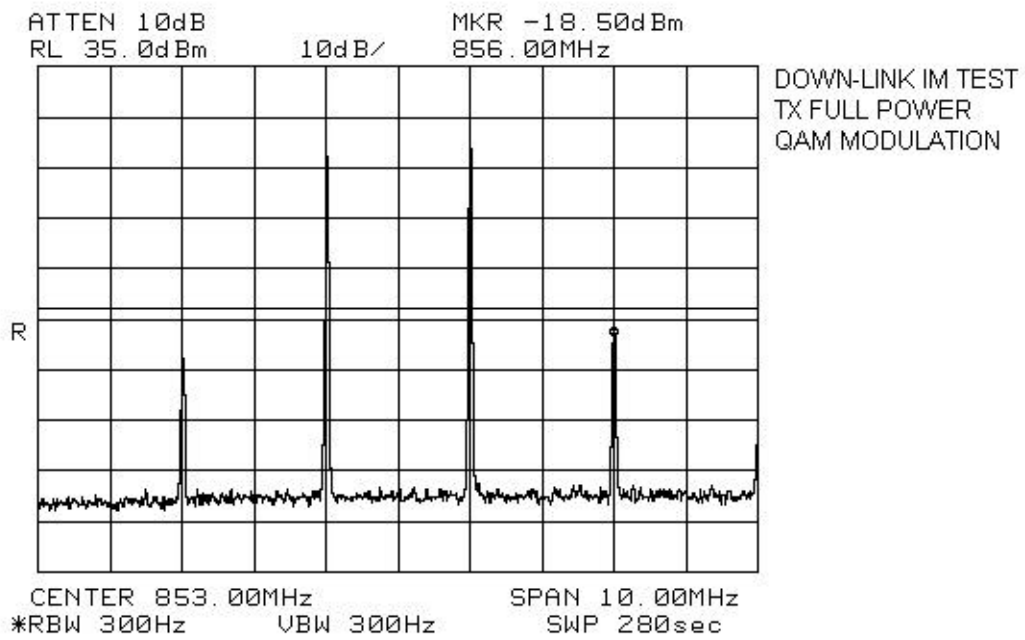
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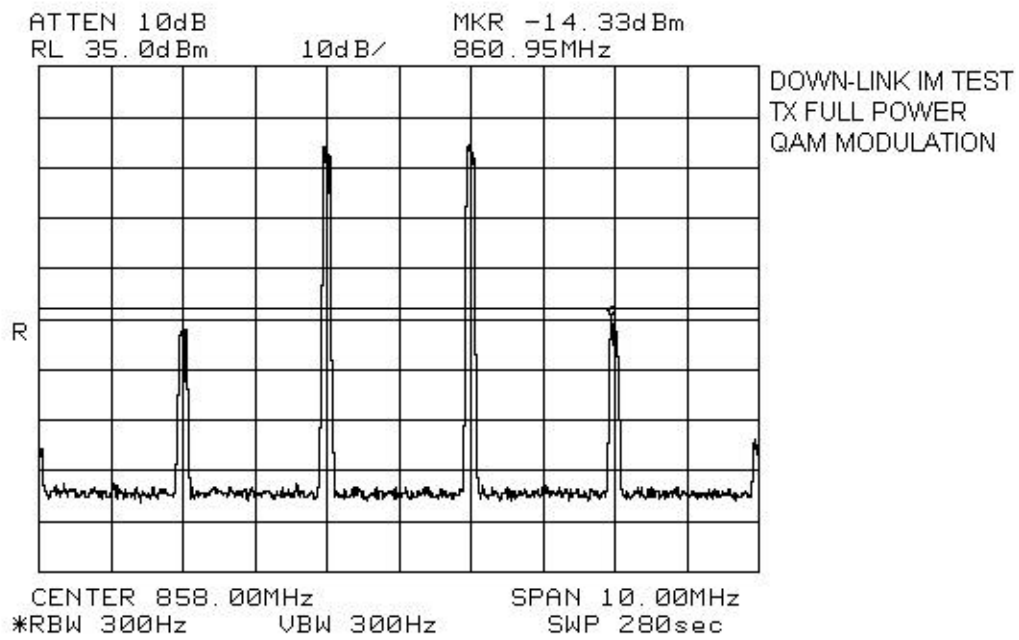
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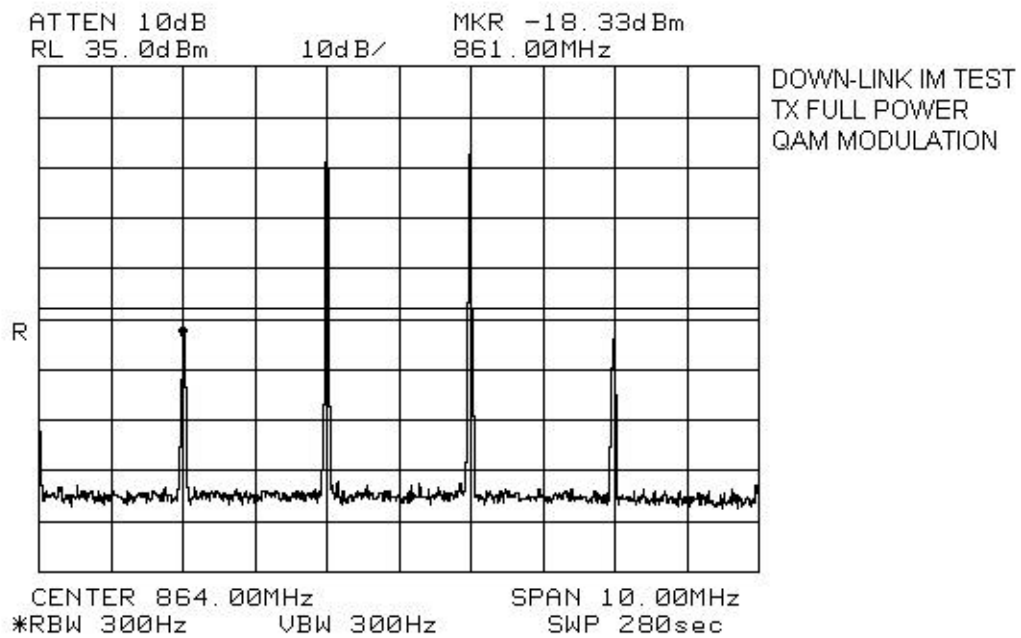
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EQUIPMENT: BDA-SMR-1/10W-80

FCC ID:QQRBSMR10W80



EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.993

Test Performed By: Russell Grant	Date of Test: Jan 8, 2003
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Minimum Standard: Para. No. 90.210

Test Results: Complied.

Measurement Data: See attached graph(s).

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Test Data - Radiated Emissions

Standard: Signal Substitution

Date: 09-Jan-03

Tester: Done # 1

Tower: A Distance: 3m

Location: Ottawa Test Lab

Receiver: 8565E Comment:

Temp: Humidity:

Frequency (MHz)	Antenna	Polarity	RCVD Signal (dBuV)	Ant. Factor (dB)	Sig. Sub. Factor	Amp. Gain (dB)	Duty Cycle Corr.	Cable Loss (dB)	Field Str. (dBm)	Limit (dBm)	Margin (dB)	Detector	Amp.
1 1620.0000	Hom2	V	51.5			-121.6		3.5	-66.6	-13.0	53.6	Peak	1-2GHz
2 1620.0000	Hom2	H	42.2			-121.9		3.5	-76.2	-13.0	63.2	Peak	1-2GHz
3 2430.0000	Hom2	V	64.5			-127.9		5.0	-58.3	-13.0	45.3	Peak	2-4GHz
4 2430.0000	Hom2	V	60.3			-127.9		5.0	-62.5	-13.0	49.5	Peak	2-4GHz
5 3240.0000	Hom2	V	56.8			-125.3		5.6	-62.9	-13.0	49.9	Peak	2-4GHz
6 3240.0000	Hom2	H	53.7			-125.6		5.6	-66.3	-13.0	53.3	Peak	2-4GHz
7 4860.0000	Hom2	V	41.2			-120.7		7.8	-71.7	-13.0	58.7	Peak	4-8GHz
8 4860.0000	Hom2	H	43.0			-120.4		7.8	-69.5	-13.0	56.5	Peak	4-8GHz
9													
10 1720.0000	Hom2	V	33.5			-120.0		3.8	-82.6	-13.0	69.6	Peak	1-2GHz
11 1720.0000	Hom2	H	38.2			-120.4		3.8	-78.4	-13.0	65.4	Peak	1-2GHz
12 2580.0000	Hom2	V	52.0			-127.6		6.0	-69.6	-13.0	56.6	Peak	2-4GHz
13 2580.0000	Hom2	H	41.8			-127.8		6.0	-80.0	-13.0	67.0	Peak	2-4GHz
14 3440.0000	Hom2	V	52.2			-125.8		5.7	-67.9	-13.0	54.9	Peak	2-4GHz
15 3440.0000	Hom2	H	47.3			-127.4		5.7	-74.4	-13.0	61.4	Peak	2-4GHz
16 4300.0000	Hom2	V	38.3			-120.1		6.7	-75.1	-13.0	62.1	Peak	2-4GHz
17 4300.0000	Hom1	H	41.8			-119.8		6.7	-71.4	-13.0	58.4	Peak	4-8GHz

EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Photographs of Test Setup (Worst Case Configuration)



EQUIPMENT: BDA-SMR-1/10W-80
FCC ID:QQRBSMR10W80

Section 7. 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

Nemko Canada Inc.

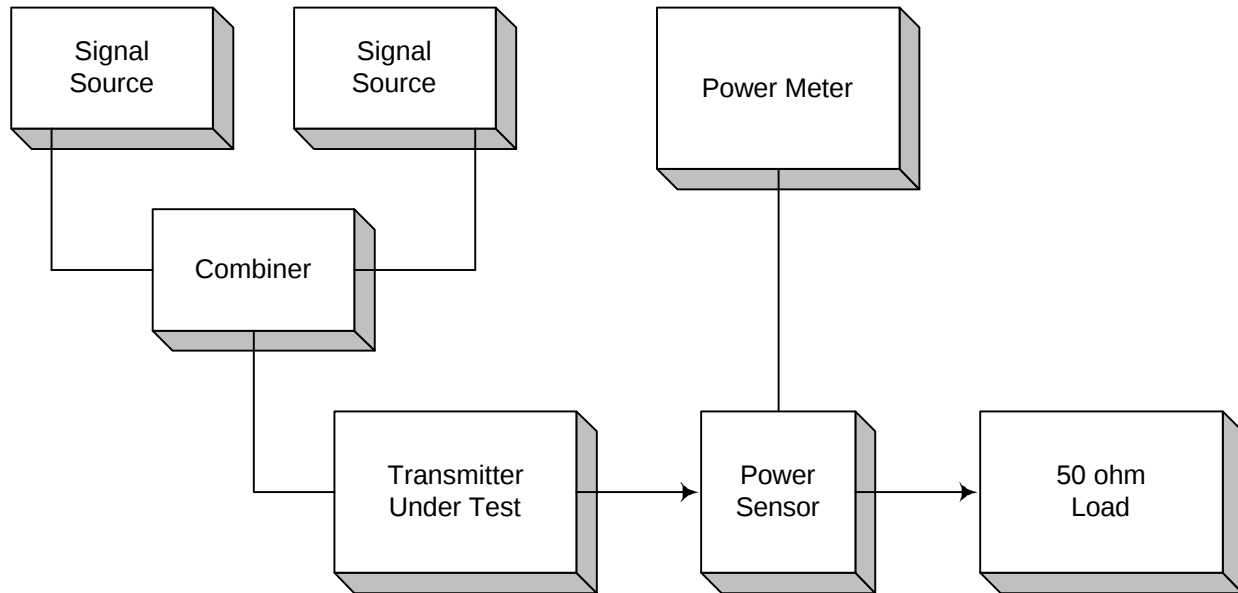
FCC PART 90, SUBPART I
PRIVATE LAND MOBILE REPEATER
PROJECT NO.:3W06788
ANNEX A

EQUIPMENT: BDA-SMR 1/10W-80
FCC ID:QQRBSMR10W80

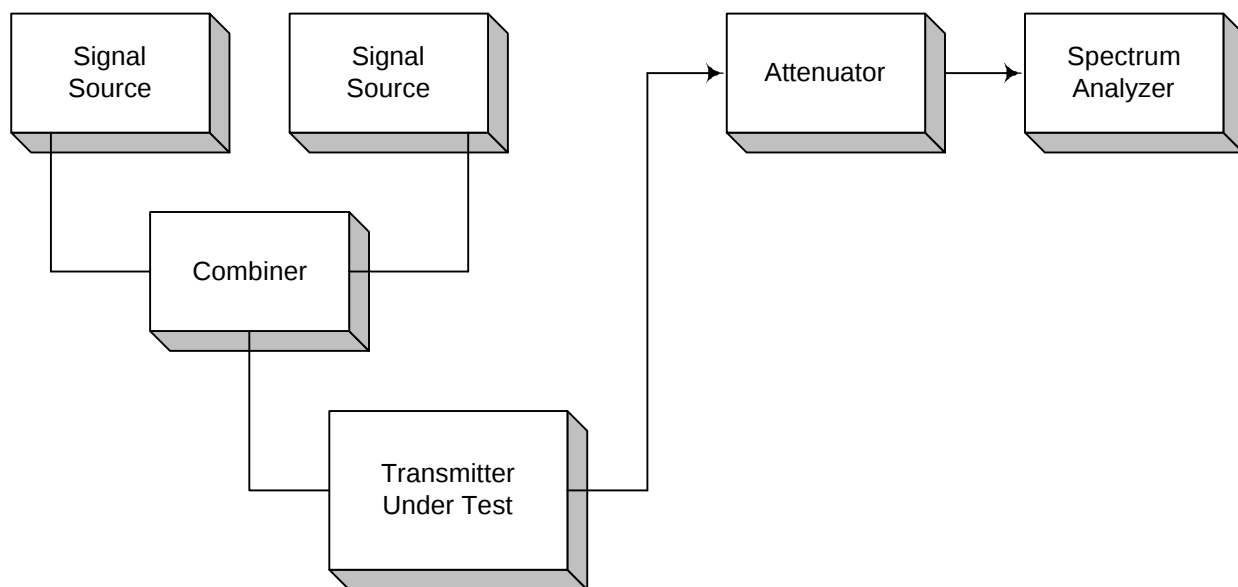
Annex A
Test Diagrams

EQUIPMENT: BDA-SMR 1/10W-80
FCC ID:QQRBSMR10W80

Para. No. 2.985 - R.F. Power Output

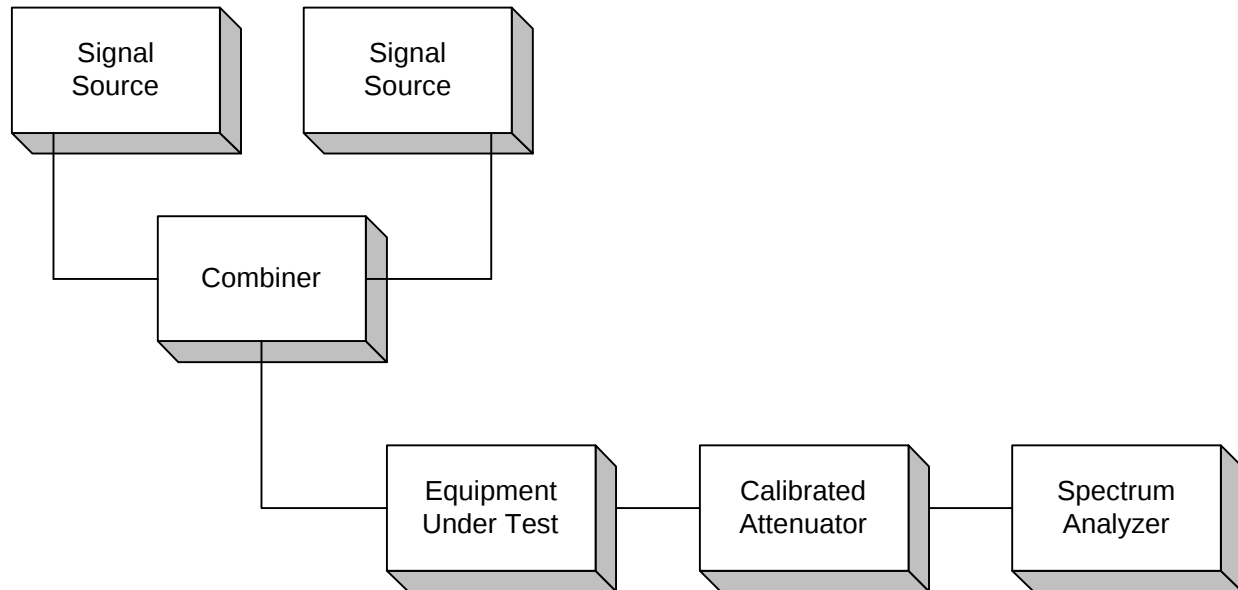


Para. No. 2.989 - Occupied Bandwidth



EQUIPMENT: BDA-SMR 1/10W-80
FCC ID:QQRBSMR10W80

Para. No. 2.991 - Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation

