POWERWAVE TECHNOLOGIES TEST REPORT

FOR THE

AMPLIFIER, MCA9129-90-A

FCC PART 22 & FCC PART 15 SUBPART B SECTION 15.109 CLASS B

COMPLIANCE

DATE OF ISSUE: DECEMBER 12, 2002

PREPARED FOR:

Powerwave Technologies
1801 E. St. Andrew Place
Santa Ana, CA 92705

P.O. No.: 61271
W.O. No.: 79866

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

Date of test: November 20-21, 2002

Report No.: FC02-103

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

DATE OF TEST:	November 20-21, 2002
DATE OF RECEIPT:	November 20, 2002
PURPOSE OF TEST:	To demonstrate the compliance of the Amplifier, MCA9129-90-A with the requirements for FCC Part 22 & FCC Part 15 Subpart B Section 15.109 Class B devices.
TEST METHOD:	ANSI C63.4 (1992) & FCC Part 22
FREQUENCY RANGE TESTED:	15 MHz – 8.94 GHz
MANUFACTURER:	Powerwave Technologies 1801 E. St. Andrew Place Santa Ana, CA 92705
REPRESENTATIVE:	Greg Butler
TEST LOCATION:	CKC Laboratories, Inc. 5473A Clouds Rest Mariposa, CA 95338

SUMMARY OF RESULTS

As received, the Powerwave Technologies Amplifier, MCA9129-90-A was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 22 & FCC Part 15 Subpart B Section 15.109 Class B using:
- ANSI C63.4 (1992) method

Canada

RSS-131 using:

- FCC Part 22 & FCC Part 15 Subpart B Section 15.109 Class B using:
- ANSI C63.4 (1992) method

See matrix below

FCC	Canada
1.1307 / 2.1093	RSS 131 (3.6) / RSS 102
22.917 / 2.1049	RSS 131 (5.1)
N/A	RSS 131 (5.1)
22.913 / 2.1046	RSS 131 (5.2)
Inter-modulation Test	RSS 131 (5.3)
22.917	RSS 131 (5.4)
N/A	RSS 131 (5.5)

CONDITIONS FOR COMPLIANCE

For compliance to FCC rules for AMPS modulation only, a band pass filter must be installed at the output of the amplifier.

APPROVALS

QUALITY ASSURANCE:

Steve Behm, Director of Engineering Services

Joyce Walker, Quality Assurance Administrative Manager

Chuck Kendall, Lab Manager

TEST PERSONNEL:

Randy Clark, EMC Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The Amplifier, MCA9129-90-A tested by CKC Laboratories was a production unit.

EQUIPMENT UNDER TEST

Amplifier
Manuf: Powerwave Technologies
Model: MCA9129-90-A
Serial: PD0000019E
FCC ID: Pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

EUT DC Power Supply
Manuf: Agilent
Model: 6674A
Serial: US36371542
FCC ID: NA

Directional Coupler
Manuf: HP
Model: 773D
Serial: 2839A01616
FCC ID: DoC

Attenuator
Manuf: Weinschel Corporation
Model: 33-10-34
Serial: BF6198
FCC ID: DoC

Power Meter
Manuf: HP
Model: E4418B
Serial: US39251692
FCC ID: DoC

Band Pass Filter
Manuf: Lorch Microwave
Model: WF11065
Serial: AB26
FCC ID: DoC

ESG-D
Manuf: Agilent
Model: E4433B
Serial: US40051329
FCC ID: DoC

Attenuator
Manuf: Weinschel Corporation
Model: 33-10-34
Serial: BJ1547
FCC ID: DoC

Power Sensor
Manuf: HP
Model: 8481A
Serial: US37298131
FCC ID: DoC

Attenuator
Manuf: Weinschel Corporation
Model: 53-20-34
Serial: MD973
FCC ID: DoC

TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

2.1033(c)(3) USER'S MANUAL
The necessary information is contained in a separate document.

2.1033 (c)(4) TYPE OF EMISSIONS
GXW, G7W, F9W, DXW and F8W

2.1033(c)(5) FREQUENCY RANGE
869-894 MHz (Note: actual frequency range tested is smaller due to upper and lower channels selected near the band edges.)

2.1033(c)(6) OPERATING POWER
120 Watts

2.1033(c)(7) MAXIMUM POWER RATING
500 Watts

2.1033(c)(8) DC VOLTAGES
The necessary information is contained in a separate document.

2.1033(c)(9) TUNE-UP PROCEDURE
The necessary information is contained in a separate document.

2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION
The necessary information is contained in a separate document.

2.1033(c)(11) LABEL AND PLACEMENT
The necessary information is contained in a separate document.

2.1033(c)(12) SUBMITTAL PHOTOS
The necessary information is contained in a separate document.

2.1033(c)(13) MODULATION INFORMATION
AMPS, CDMA, EDGE, GSM and TDMA

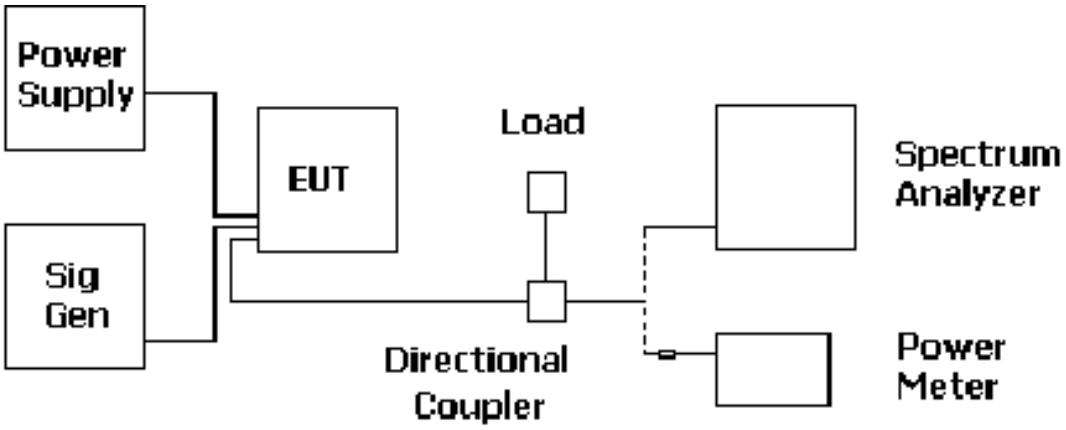
2.1033(c)(14)/2.1046/22.913 - RF POWER OUTPUT

Channel	Frequency (MHz)	RF Output Power (Watts)
Low	871.00	120.00
Middle	881.00	120.00
High	891.00	120.00

Note: The output power is measured with a power meter through suitable attenuation. The input to the amplifier is tuned such that the output power is set to its maximum rated power of 120 Watts.

Test Equipment

Description	***Manufacturer***	***Model #***	***Serial #***	***Asset #***	***Cal Date***	***Cal Due***
Directional Coupler	Narda	3002-30	436	P01906	7/17/02	7/17/03
Directional Coupler	Narda	3004-30	285	P01905	7/17/02	7/17/03
Directional Coupler	Narda	3003-30	886	P01904	7/17/02	7/17/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03
Cable #8 (6')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Attenuator	Bird	100-SA-MFN-30	9949	P01572	3/21/02	3/21/03
Directional Coupler	Werlatone	C5571	11363	2576	11/6/02	11/6/03



Antenna Conducted Test Setup Diagram

2.1033(c)(14)/2.1047(a)/22.915 - MODULATION CHARACTERISTICS - AUDIO FREQUENCY RESPONSE

This device does not create modulated signals; modulation characteristics input to the device are the same as at the output of the device.

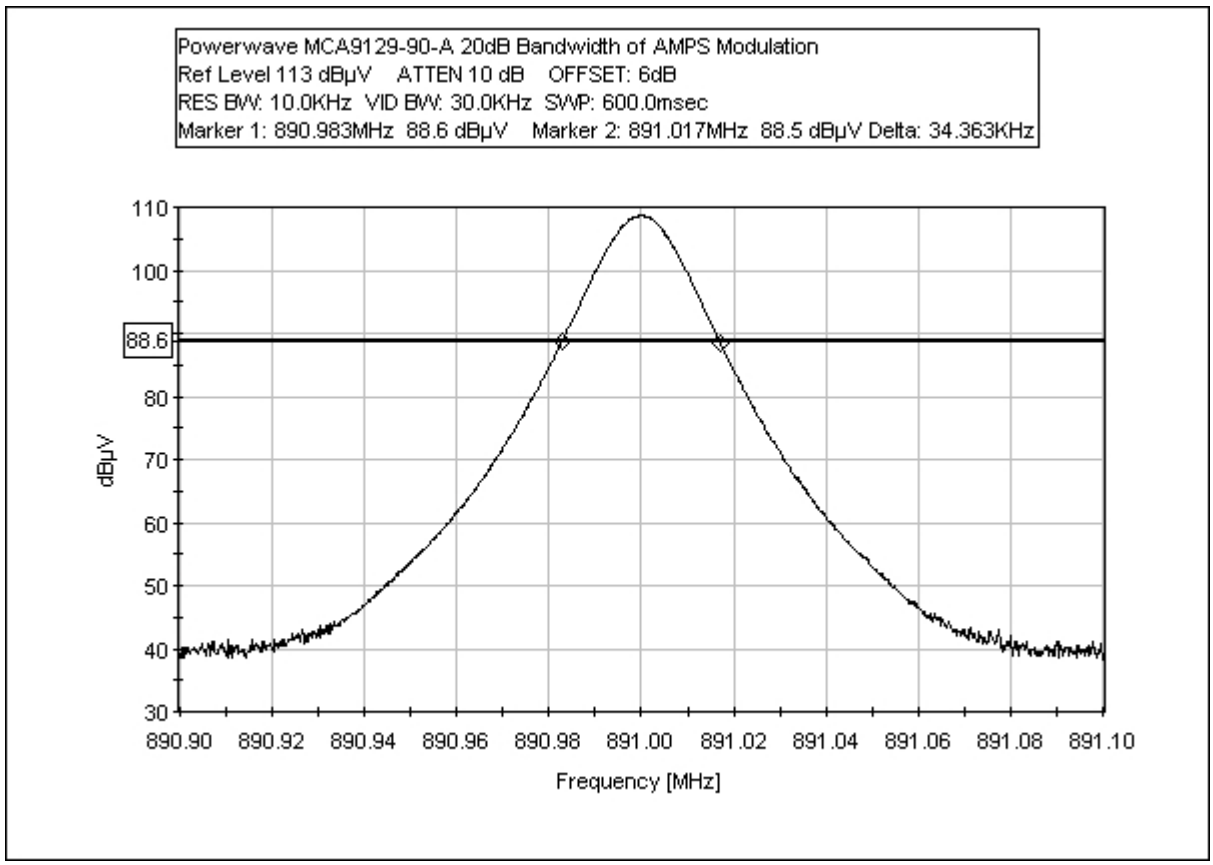
2.1033(c)(14)/2.1047(b)/22.915 - MODULATION CHARACTERISTICS – Modulation Limiting Response

Not applicable to this unit.

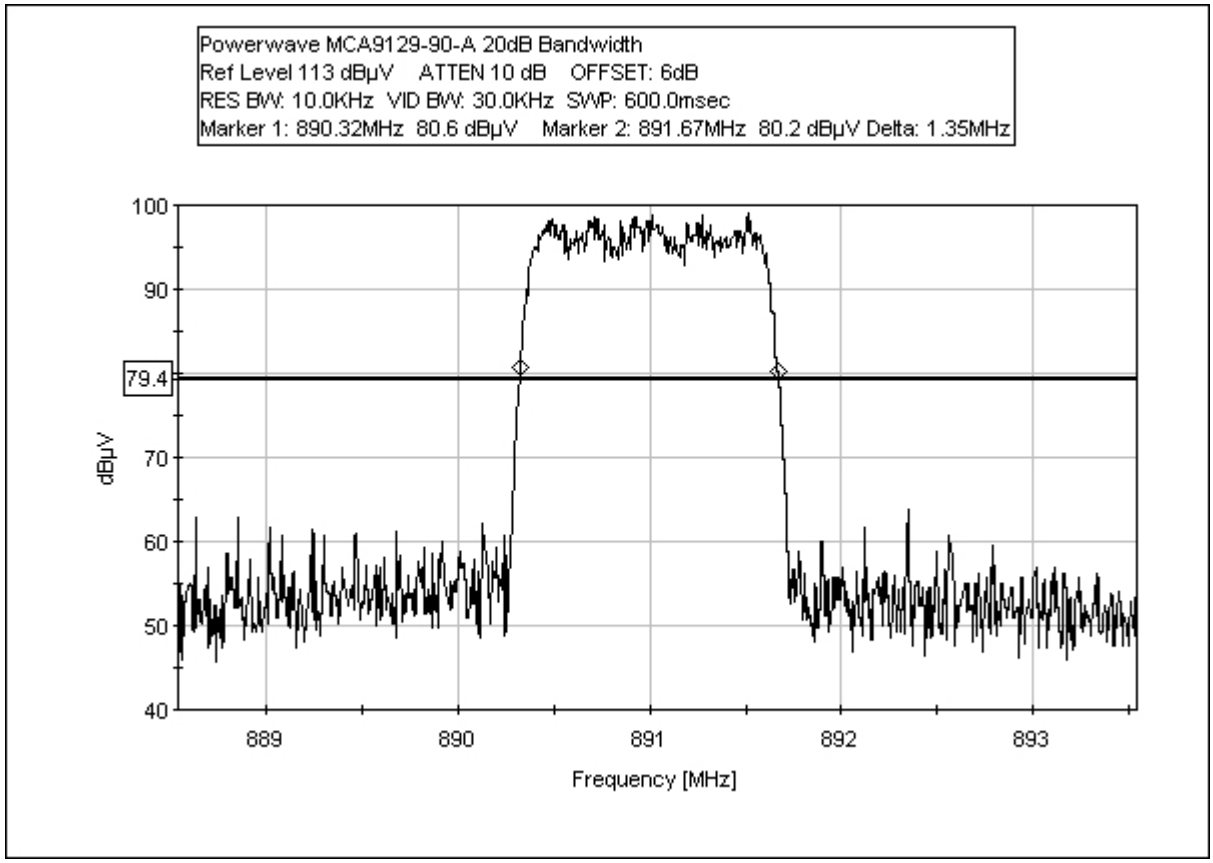
2.1033(c)(14)/2.1049(i)/22.917- OCCUPIED BANDWIDTH

Test Conditions: The EUT is connected directly to spectrum analyzer. Power input is tuned such that the output power is set to the maximum rated output.

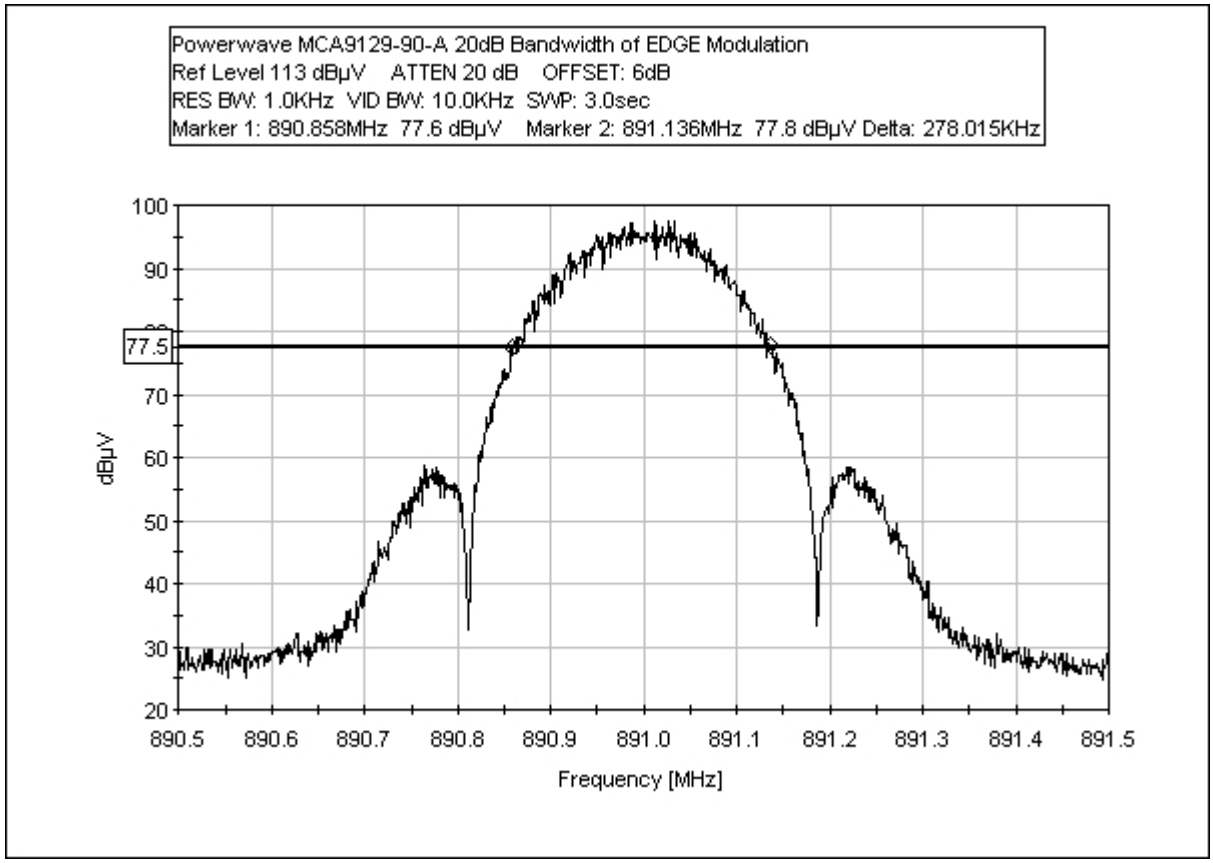
Occupied Bandwidth - AMPS



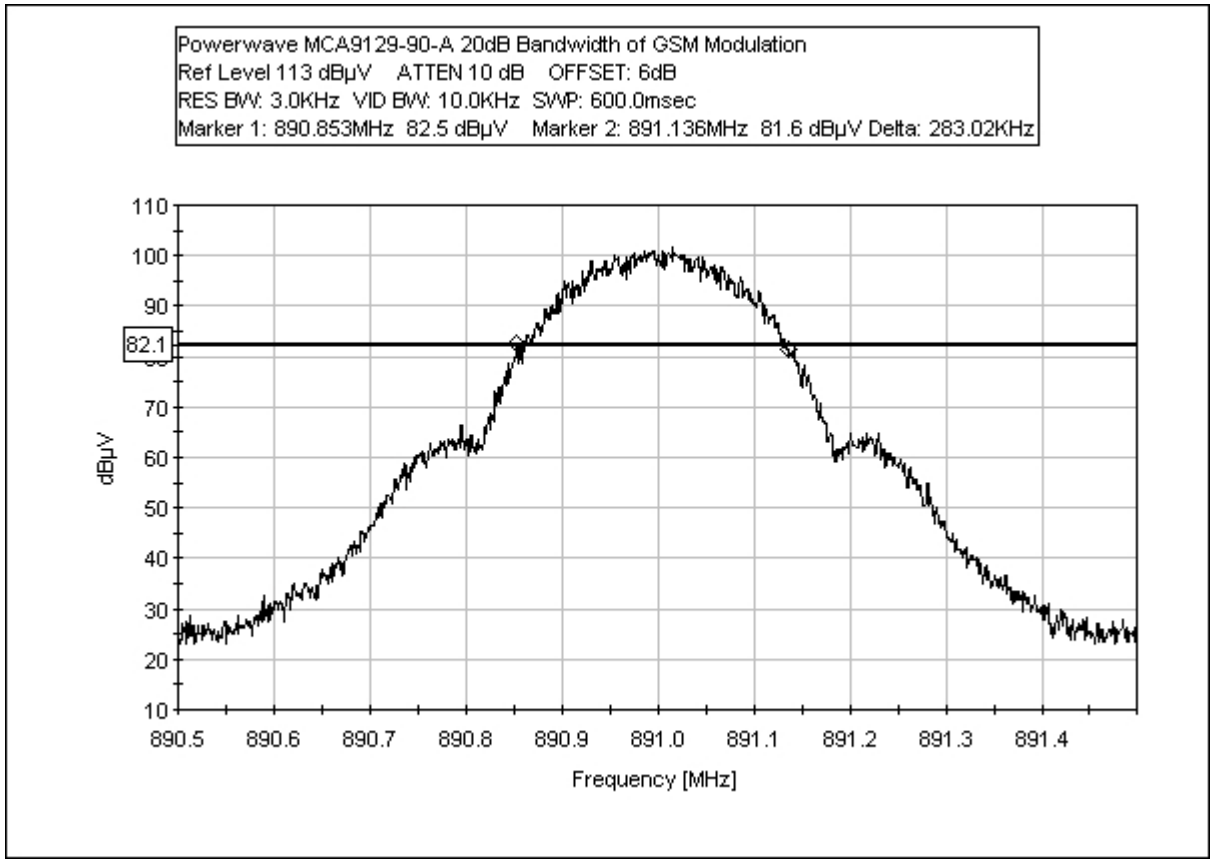
Occupied Bandwidth - CDMA



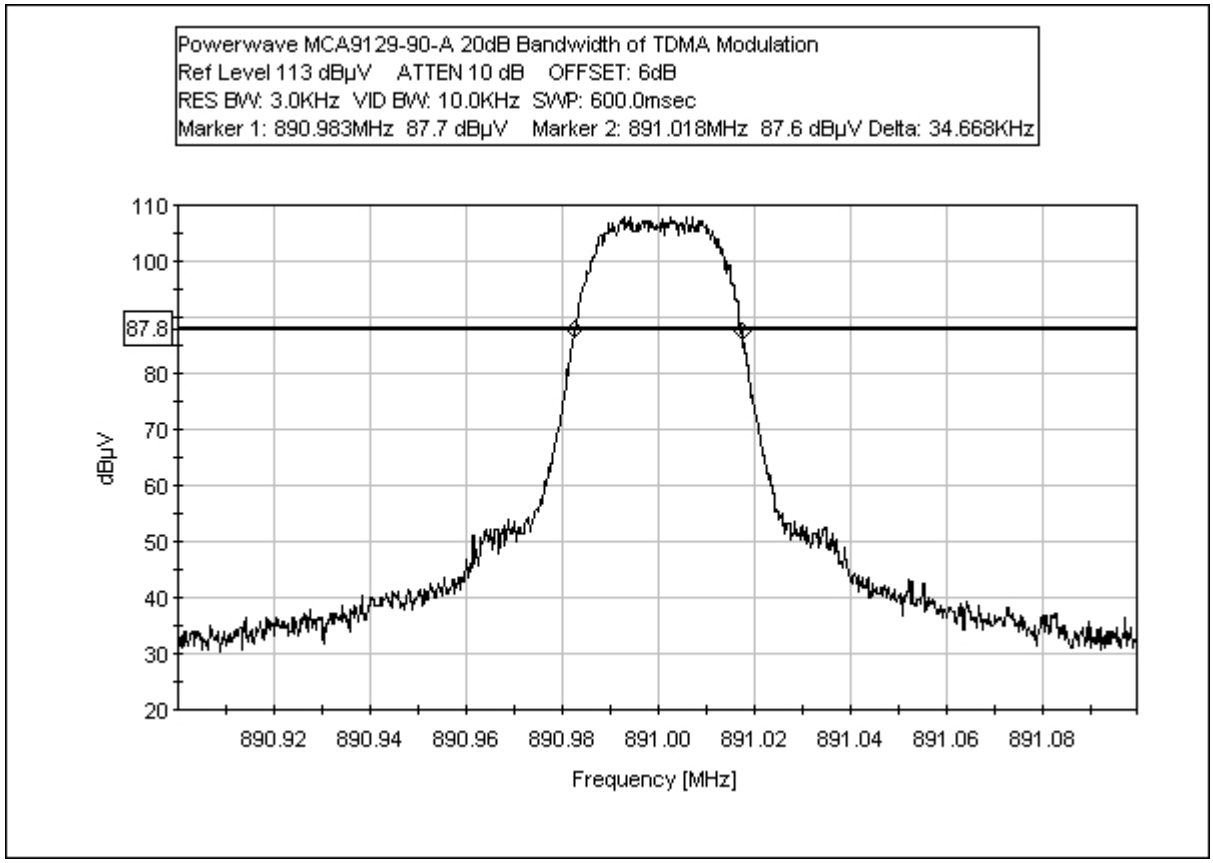
Occupied Bandwidth - EDGE



Occupied Bandwidth - GSM

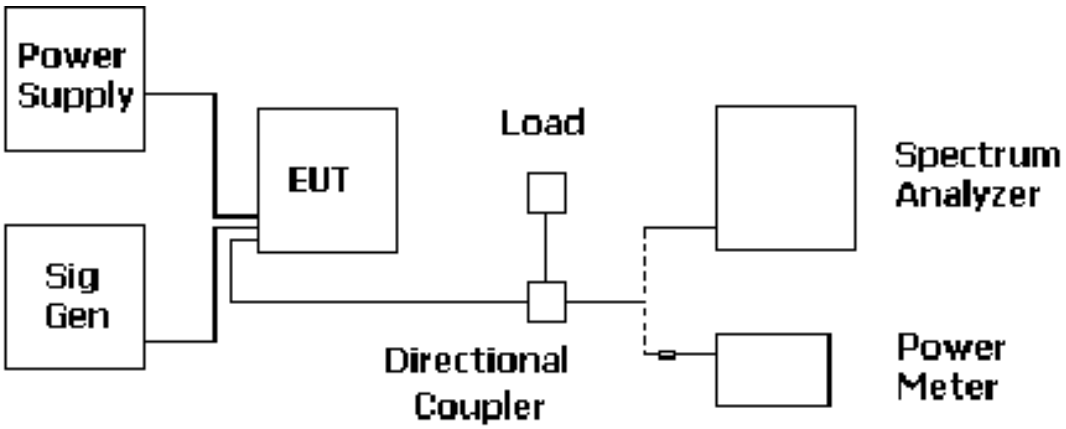


Occupied Bandwidth - TDMA



Test Equipment

Description	*Manufacturer*	*Model #*	*Serial #*	*Asset #*	*Cal Date*	*Cal Due*
Directional Coupler	Narda	3002-30	436	P01906	7/17/02	7/17/03
Directional Coupler	Narda	3004-30	285	P01905	7/17/02	7/17/03
Directional Coupler	Narda	3003-30	886	P01904	7/17/02	7/17/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03
Cable #8 (6')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Attenuator	Bird	100-SA-MFN-30	9949	P01572	3/21/02	3/21/03
Directional Coupler	Werlatone	C5571	11363	2576	11/6/02	11/6/03



Antenna Conducted Test Setup Diagram

2.1033(c)(14)/2.1051/22.917 - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Bandwidth settings: 300 Hz within and including 60 kHz from the carrier. 30 kHz outside of 60 kHz removed from the carrier. The VBW is set the same as the RBW.

Test Location: CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)

Customer:	**Powerwave Technologies**		
Specification:	**FCC 22.917**		
Work Order #:	**79866**	Date:	11/21/2002
Test Type:	**Conducted Emissions**	Time:	13:42:14
Equipment:	**Amplifier**	Sequence#:	6
Manufacturer:	Powerwave Technologies	Tested By:	Randal Clark
Model:	MCA9129-90-A		27 VDC
S/N:	PD0000019E		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542
ESG-D	Agilent	E4433B	US40051329
Directional Coupler	HP	773D	2839A01616
Attenuator	Weinschel Corporation	33-10-34	BJ1547
Attenuator	Weinschel Corporation	33-10-34	BF6198
Power Sensor	HP	8481A	US37298131
Power Meter	HP	E4418B	US39251692
Attenuator	Weinschel Corporation	53-20-34	MD973

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 120 Watts. Input modulation is set to GSM. Input frequencies are set to 871, 881 and 891 MHz. Power supplied to EUT is 27VDC.

Transducer Legend:

T1=DC Narda 1-2GHz	T2=Cable GHz #6
T3=DC AN 02576	T4=Cable B-003-32

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	1764.150M	51.4	+29.6	+2.4	+0.0	+0.0	+0.0	83.4	94.0	-10.6	Anten
2	1762.150M	51.3	+29.6	+2.4	+0.0	+0.0	+0.0	83.3	94.0	-10.7	Anten
3	896.000M	39.8	+0.0	+0.0	+39.3	+2.3	+0.0	81.4	94.0	-12.6	Anten
4	868.000M	39.2	+0.0	+0.0	+39.2	+2.2	+0.0	80.6	94.0	-13.4	Anten

5	1744.100M	47.2	+29.6	+2.4	+0.0	+0.0	+0.0	79.2	94.0	-14.8	Anten
6	1741.950M	40.5	+29.6	+2.4	+0.0	+0.0	+0.0	72.5	94.0	-21.5	Anten
7	1746.250M	39.4	+29.6	+2.4	+0.0	+0.0	+0.0	71.4	94.0	-22.6	Anten

Test Location: CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)

Customer: **Powerwave Technologies**
Specification: **FCC 22.917**
Work Order #: **79866** Date: 11/21/2002
Test Type: **Conducted Emissions** Time: 11:24:10
Equipment: **Amplifier** Sequence#: 5
Manufacturer: Powerwave Technologies Tested By: Randal Clark
Model: MCA9129-90-A 27 VDC
S/N: PD0000019E

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542
ESG-D	Agilent	E4433B	US40051329
Directional Coupler	HP	773D	2839A01616
Attenuator	Weinschel Corporation	33-10-34	BJ1547
Attenuator	Weinschel Corporation	33-10-34	BF6198
Power Sensor	HP	8481A	US37298131
Power Meter	HP	E4418B	US39251692
Attenuator	Weinschel Corporation	53-20-34	MD973

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 120 Watts. Input modulation is set to CDMA. Input frequencies are set to 871, 881 and 891 MHz. Power supplied to EUT is 27VDC.

Transducer Legend:

T1=DC Narda 1-2GHz	T2=DC Narda 2-4GHz
T3=Cable GHz #6	T4=DC AN 02576
T5=Cable B-003-32	

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	1762.400M	48.0	+29.6	+0.0	+2.4		+0.0	80.0	94.0	-14.0	Anten
2	1744.200M	43.9	+29.6	+0.0	+2.4		+0.0	75.9	94.0	-18.1	Anten
3	853.800M	34.5	+0.0 +2.2	+0.0	+0.0	+39.1	+0.0	75.8	94.0	-18.2	Anten
4	910.400M	33.7	+0.0 +2.4	+0.0	+0.0	+39.2	+0.0	75.3	94.0	-18.7	Anten
5	929.200M	30.4	+0.0 +2.5	+0.0	+0.0	+39.1	+0.0	72.0	94.0	-22.0	Anten
6	834.200M	29.3	+0.0 +2.2	+0.0	+0.0	+39.0	+0.0	70.5	94.0	-23.5	Anten

7	948.000M	26.5	+0.0 +2.6	+0.0	+0.0	+39.1	+0.0	68.2	94.0	-25.8	Anten
8	1782.600M	35.6	+29.7	+0.0	+2.4		+0.0	67.7	94.0	-26.3	Anten
9	965.200M	24.5	+0.0 +2.6	+0.0	+0.0	+39.0	+0.0	66.1	94.0	-27.9	Anten
10	1724.400M	33.8	+29.6	+0.0	+2.3		+0.0	65.7	94.0	-28.3	Anten
11	814.400M	23.6	+0.0 +2.3	+0.0	+0.0	+39.0	+0.0	64.9	94.0	-29.1	Anten
12	17.960M	23.8	+0.0 +0.3	+0.0	+0.0	+39.7	+0.0	63.8	94.0	-30.2	Anten
13	20.000M	23.1	+0.0 +0.3	+0.0	+0.0	+39.7	+0.0	63.1	94.0	-30.9	Anten
14	1801.200M	29.4	+29.7	+0.0	+2.4		+0.0	61.5	94.0	-32.5	Anten
15	1706.400M	24.5	+29.6	+0.0	+2.3		+0.0	56.4	94.0	-37.6	Anten
16	1820.200M	21.6	+29.8	+0.0	+2.4		+0.0	53.8	94.0	-40.2	Anten
17	2634.600M	14.0	+0.0	+29.4	+3.0		+0.0	46.4	94.0	-47.6	Anten
18	2615.100M	12.8	+0.0	+29.5	+2.9		+0.0	45.2	94.0	-48.8	Anten
19	2635.000M	12.2	+0.0	+29.4	+3.0		+0.0	44.6	94.0	-49.4	Anten
20	2654.100M	10.6	+0.0	+29.4	+3.0		+0.0	43.0	94.0	-51.0	Anten
21	2614.900M	9.7	+0.0	+29.5	+2.9		+0.0	42.1	94.0	-51.9	Anten
22	2655.200M	9.6	+0.0	+29.4	+3.0		+0.0	42.0	94.0	-52.0	Anten
23	2672.900M	6.6	+0.0	+29.4	+3.0		+0.0	39.0	94.0	-55.0	Anten

Test Location:	CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)		
Customer:	**Powerwave Technologies**		
Specification:	**FCC 22.917**		
Work Order #:	**79866**	Date:	11/21/2002
Test Type:	**Conducted Emissions**	Time:	15:33:19
Equipment:	**Amplifier**	Sequence#:	7
Manufacturer:	Powerwave Technologies	Tested By:	Randal Clark
Model:	MCA9129-90-A		27 VDC
S/N:	PD0000019E		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542
ESG-D	Agilent	E4433B	US40051329
Directional Coupler	HP	773D	2839A01616
Attenuator	Weinschel Corporation	33-10-34	BJ1547
Attenuator	Weinschel Corporation	33-10-34	BF6198
Power Sensor	HP	8481A	US37298131
Power Meter	HP	E4418B	US39251692
Attenuator	Weinschel Corporation	53-20-34	MD973
Band Pass Filter	Lorch Microwave	WF11065	AB 26

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 120 Watts. Input modulation is set to AMPS with a 1kHz tone. Input frequencies are set to 871, 881 and 891 MHz. Power supplied to EUT is 27VDC. Band pass filter installed at the output of the amplifier.

Transducer Legend:

T1=DC Narda 1-2GHz	T2=Cable GHz #6
T3=DC AN 02576	T4=Cable B-003-32

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	969.080M	45.1	+0.0	+0.0	+38.9	+2.6	+0.0	86.6	94.0	-7.4	Anten
2	853.180M	44.9	+0.0	+0.0	+39.1	+2.2	+0.0	86.2	94.0	-7.8	Anten
3	967.080M	42.1	+0.0	+0.0	+39.0	+2.6	+0.0	83.7	94.0	-10.3	Anten
4	861.480M	42.1	+0.0	+0.0	+39.2	+2.2	+0.0	83.5	94.0	-10.5	Anten
5	815.080M	37.0	+0.0	+0.0	+39.0	+2.3	+0.0	78.3	94.0	-15.7	Anten
6	1764.001M	45.5	+29.6	+2.4	+0.0	+0.0	+0.0	77.5	94.0	-16.5	Anten
7	813.080M	31.4	+0.0	+0.0	+39.0	+2.3	+0.0	72.7	94.0	-21.3	Anten

Test Location: CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)

Customer: **Powerwave Technologies**
Specification: **FCC 22.917**
Work Order #: **79866** Date: 11/21/2002
Test Type: **Conducted Emissions** Time: 15:48:09
Equipment: **Amplifier** Sequence#: 9
Manufacturer: Powerwave Technologies Tested By: Randal Clark
Model: MCA9129-90-A 27 VDC
S/N: PD0000019E

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542
ESG-D	Agilent	E4433B	US40051329
Directional Coupler	HP	773D	2839A01616
Attenuator	Weinschel Corporation	33-10-34	BJ1547
Attenuator	Weinschel Corporation	33-10-34	BF6198
Power Sensor	HP	8481A	US37298131
Power Meter	HP	E4418B	US39251692
Attenuator	Weinschel Corporation	53-20-34	MD973
Band Pass Filter	Lorch Microwave	WF11065	AB 26

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 120 Watts. Input modulation is set to EDGE. Input frequencies are set to 871, 881 and 891 MHz. Power supplied to EUT is 27VDC.

Transducer Legend:

T1=DC Narda 1-2GHz	T2=Cable GHz #6
T3=DC AN 02576	T4=Cable B-003-32

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	813.200M	42.7	+0.0	+0.0	+39.0	+2.3	+0.0	84.0	94.0	-10.0	Anten
2	814.950M	42.7	+0.0	+0.0	+39.0	+2.3	+0.0	84.0	94.0	-10.0	Anten
3	1764.160M	48.2	+29.6	+2.4	+0.0	+0.0	+0.0	80.2	94.0	-13.8	Anten
4	1762.110M	47.8	+29.6	+2.4	+0.0	+0.0	+0.0	79.8	94.0	-14.2	Anten
5	1744.060M	45.8	+29.6	+2.4	+0.0	+0.0	+0.0	77.8	94.0	-16.2	Anten
6	1742.070M	41.1	+29.6	+2.4	+0.0	+0.0	+0.0	73.1	94.0	-20.9	Anten
7	1746.010M	39.8	+29.6	+2.4	+0.0	+0.0	+0.0	71.8	94.0	-22.2	Anten

Test Location: CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)

Customer: **Powerwave Technologies**
Specification: **FCC 22.917**
Work Order #: **79866** Date: 11/21/2002
Test Type: **Conducted Emissions** Time: 15:31:21
Equipment: **Amplifier** Sequence#: 8
Manufacturer: Powerwave Technologies Tested By: Randal Clark
Model: MCA9129-90-A 27 VDC
S/N: PD0000019E

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542
ESG-D	Agilent	E4433B	US40051329
Directional Coupler	HP	773D	2839A01616
Attenuator	Weinschel Corporation	33-10-34	BJ1547
Attenuator	Weinschel Corporation	33-10-34	BF6198
Power Sensor	HP	8481A	US37298131
Power Meter	HP	E4418B	US39251692
Attenuator	Weinschel Corporation	53-20-34	MD973
Band Pass Filter	Lorch Microwave	WF11065	AB 26

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 120 Watts. Input modulation is set to TDMA. Input frequencies are set to 871, 881 and 891 MHz. Power supplied to EUT is 27VDC.

Transducer Legend:

T1=DC Narda 1-2GHz	T2=Cable GHz #6
T3=DC AN 02576	T4=Cable B-003-32

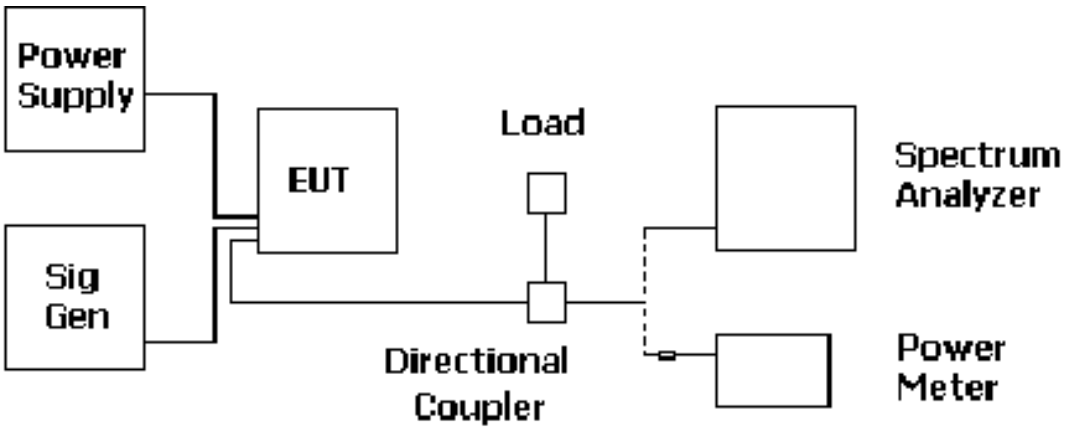
Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	1763.990M	56.9	+29.6	+2.4	+0.0	+0.0	+0.0	88.9	94.0	-5.1	Anten
2	815.080M	47.3	+0.0	+0.0	+39.0	+2.3	+0.0	88.6	94.0	-5.4	Anten
3	813.080M	46.5	+0.0	+0.0	+39.0	+2.3	+0.0	87.8	94.0	-6.2	Anten
4	1761.995M	55.7	+29.6	+2.4	+0.0	+0.0	+0.0	87.7	94.0	-6.3	Anten
5	833.180M	46.1	+0.0	+0.0	+39.0	+2.2	+0.0	87.3	94.0	-6.7	Anten
6	833.080M	45.4	+0.0	+0.0	+39.0	+2.2	+0.0	86.6	94.0	-7.4	Anten
7	1744.030M	54.2	+29.6	+2.4	+0.0	+0.0	+0.0	86.2	94.0	-7.8	Anten

8	969.060M	44.3	+0.0	+0.0	+38.9	+2.6	+0.0	85.8	94.0	-8.2	Anten
9	969.080M	44.0	+0.0	+0.0	+38.9	+2.6	+0.0	85.5	94.0	-8.5	Anten
10	811.130M	44.1	+0.0	+0.0	+38.9	+2.3	+0.0	85.3	94.0	-8.7	Anten
11	953.080M	43.4	+0.0	+0.0	+39.0	+2.6	+0.0	85.0	94.0	-9.0	Anten
12	966.980M	43.4	+0.0	+0.0	+39.0	+2.6	+0.0	85.0	94.0	-9.0	Anten
13	853.000M	43.2	+0.0	+0.0	+39.1	+2.2	+0.0	84.5	94.0	-9.5	Anten
14	793.080M	43.0	+0.0	+0.0	+38.9	+2.3	+0.0	84.2	94.0	-9.8	Anten
15	795.180M	43.0	+0.0	+0.0	+38.9	+2.3	+0.0	84.2	94.0	-9.8	Anten
16	835.230M	42.9	+0.0	+0.0	+39.0	+2.2	+0.0	84.1	94.0	-9.9	Anten
17	955.000M	42.2	+0.0	+0.0	+39.0	+2.6	+0.0	83.8	94.0	-10.2	Anten
18	965.020M	42.2	+0.0	+0.0	+39.0	+2.6	+0.0	83.8	94.0	-10.2	Anten
19	973.040M	41.7	+0.0	+0.0	+38.9	+2.6	+0.0	83.2	94.0	-10.8	Anten
20	971.100M	41.4	+0.0	+0.0	+38.9	+2.6	+0.0	82.9	94.0	-11.1	Anten
21	1742.020M	48.5	+29.6	+2.4	+0.0	+0.0	+0.0	80.5	94.0	-13.5	Anten
22	1746.010M	45.4	+29.6	+2.4	+0.0	+0.0	+0.0	77.4	94.0	-16.6	Anten

Test Equipment

Description	***Manufacturer***	***Model #***	***Serial #***	***Asset #***	***Cal Date***	***Cal Due***
Directional Coupler	Narda	3002-30	436	P01906	7/17/02	7/17/03
Directional Coupler	Narda	3004-30	285	P01905	7/17/02	7/17/03
Directional Coupler	Narda	3003-30	886	P01904	7/17/02	7/17/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03
Cable #8 (6')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Attenuator	Bird	100-SA-MFN-30	9949	P01572	3/21/02	3/21/03
Directional Coupler	Werlatone	C5571	11363	2576	11/6/02	11/6/03



Antenna Conducted Test Setup Diagram

2.1033(c)(14)/2.1053/22.917 - FIELD STRENGTH OF SPURIOUS RADIATION

Test Conditions: EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input to the amplifier is tuned such that the output is set to 90 Watts. Worst case modulation input is used (CDMA). Input frequency is set to a representative low channel of 871 MHz, mid channel of 881 MHz and high channel of 891 MHz. Power supplied to EUT is 27VDC.

Bandwidth settings: 300 Hz within and including 60 kHz from the carrier. 30 kHz outside of 60 kHz removed from the carrier. The VBW is set the same as the RBW.

Operating Frequency: 871 MHz
Channels: Low
Highest Measured Output Power: 50.79 ERP(dBm)= 120 ERP(Watts)*
Distance: 3 meters
Limit: 43+10Log(P)= 63.79 dBc
*assuming unity antenna gain

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
2,612.96	-17.5	Vert	68.29
3,484.02	-20.40	Vert	71.19
2,613.15	-21.20	Horiz	71.99
4,355.27	-25.50	Horiz	76.29
4,355.53	-28.40	Vert	79.19
1,741.97	-28.80	Vert	79.59
1,742.03	-32.50	Horiz	83.29
1,742.03	-39.80	Horiz	90.59
863.08	-41.30	Horiz	92.09
863.06	-46.50	Vert	97.29
6,097.26	-52.20	Vert	102.99
6,097.44	-54.60	Horiz	105.39
345.06	-55.30	Horiz	106.09
345.07	-57.90	Vert	108.69
345.06	-64.50	Vert	115.29
420.08	-66.20	Horiz	116.99

Operating Frequency: 881 MHz
Channels: Middle
Highest Measured Output Power: 50.79 ERP(dBm)= 120 ERP(Watts)*
Distance: 3 meters
Limit: 43+10Log(P)= 63.79 dBc
*assuming unity antenna gain

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
3,524.01	-25.1	Vert	75.89
4,405.51	-29.40	Horiz	80.19
3,524.00	-30.10	Horiz	80.89
2,642.60	-32.20	Vert	82.99
4,405.01	-34.20	Vert	84.99
1,762.31	-34.80	Vert	85.59
1,762.00	-35.40	Horiz	86.19
863.08	-41.30	Horiz	92.09
863.06	-46.50	Vert	97.29
6,167.04	-51.80	Horiz	102.59
6,167.04	-54.30	Vert	105.09
345.06	-55.30	Horiz	106.09
345.07	-57.90	Vert	108.69
345.06	-64.50	Vert	115.29
420.08	-66.20	Horiz	116.99

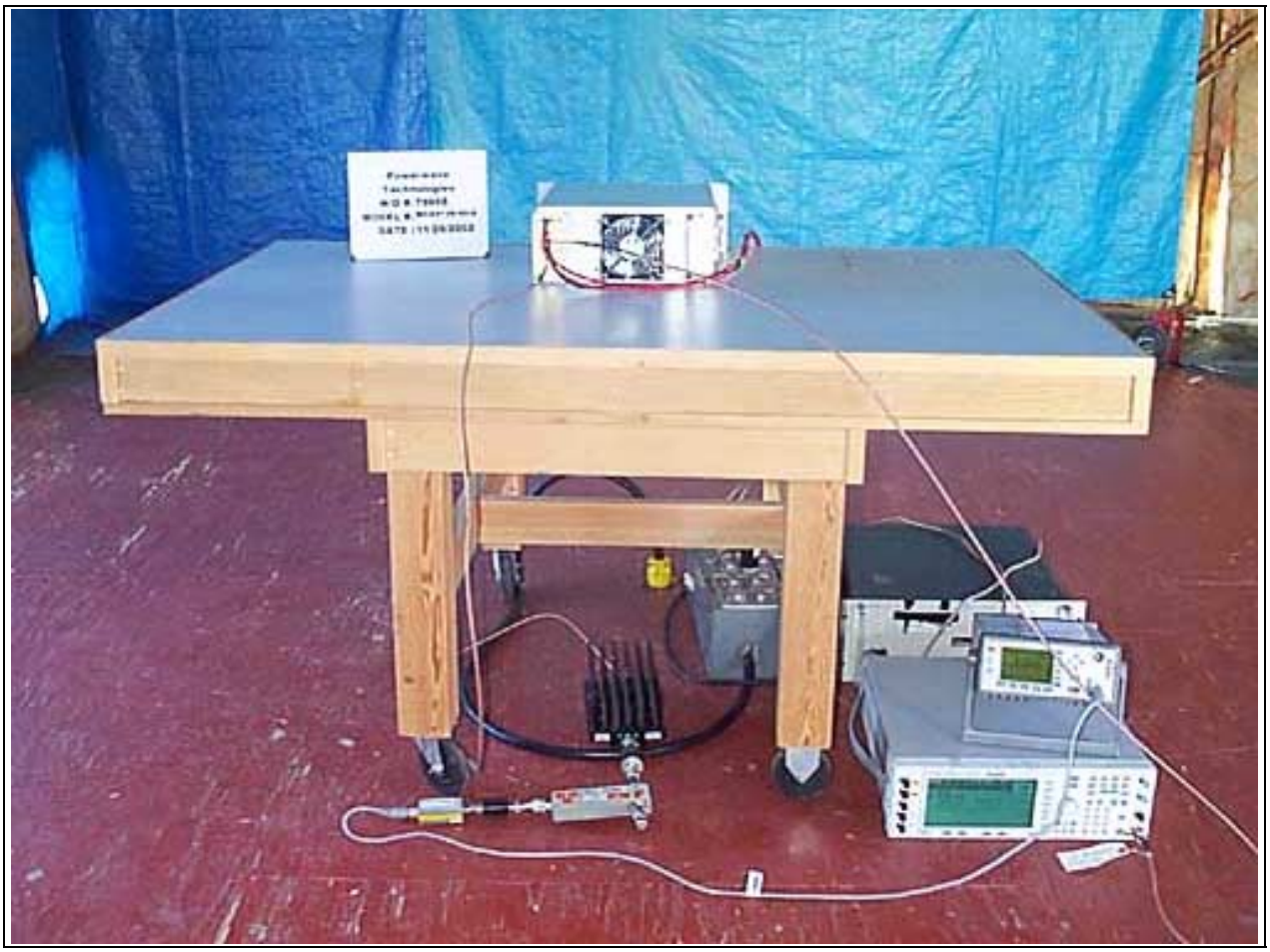
Operating Frequency: 891 MHz
Channels: High
Highest Measured Output Power: 50.79 ERP(dBm)= 120 ERP(Watts)*
Distance: 3 meters
Limit: 43+10Log(P)= 63.79 dBc
*assuming unity antenna gain

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
2,672.95	-29.2	Vert	79.99
3,564.00	-32.70	Horiz	83.49
2,673.20	-35.50	Horiz	86.29
4,454.96	-35.90	Horiz	86.69
1,782.00	-37.20	Vert	87.99
3,563.99	-38.40	Vert	89.19
1,782.61	-38.70	Horiz	89.49
863.08	-41.30	Horiz	92.09
4,455.30	-44.10	Vert	94.89
863.06	-46.50	Vert	97.29
345.06	-55.30	Horiz	106.09
345.07	-57.90	Vert	108.69
6,237.33	-63.50	Horiz	114.29
345.06	-64.50	Vert	115.29
420.08	-66.20	Horiz	116.99

Test Equipment

Description	***Manufacturer***	***Model #***	***Serial #***	***Asset #***	***Cal Date***	***Cal Due***
Antenna, Bicon	A&H	SAS-200/542	156	00225	12/06/01	12/6/02
Antenna, Log Periodic	A&H	SAS-200/510	154	01330	6/19/02	6/19/03
Antenna, Loop	EMCO	6502	1074	00226	6/5/02	6/5/03
Preamp	HP	8449B	3008A00301	02010	10/18/02	10/18/03
Preamp	HP	8447D	1937A02604	00099	3/21/02	3/21/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03
Antenna, Horn 1-18GHz	EMCO	3115	9307-4085	00656	3/19/02	3/19/03
Cable #1 (30')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Cable #2 (2')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Cable #4 (50')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions – Part 22

2.1033(c)(14)/2.1055 - FREQUENCY STABILITY

Not applicable to this unit.

15.109 – RADIATED EMISSIONS

Bandwidth settings: 300 Hz within and including 60 kHz from the carrier. 30 kHz outside of 60 kHz removed from the carrier. The VBW is set the same as the RBW.

Test Location: CKC Laboratories Inc. •5473A Clouds Rest • Mariposa CA 95338 • 1 800 500 4EMC (4362)

Customer: **Powerwave Technologies**
Specification: **15.109 CLASS B**
Work Order #: **79866** Date: 11/20/2002
Test Type: **Radiated Scan** Time: 15:11:02
Equipment: **Amplifier** Sequence#: 1
Manufacturer: Powerwave Technologies Tested By: Randal Clark
Model: MCA9129-90-A
S/N: PD0000019E

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Amplifier*	Powerwave Technologies	MCA9129-90-A	PD0000019E

Support Devices:

Function	Manufacturer	Model #	S/N
EUT DC Power Supply	Agilent	6674A	US36371542

Test Conditions / Notes:

EUT is an amplifier with an operating band of 869 - 895 MHz with a maximum power rating of 120 Watts. Input and output ports to the amplifier are terminated in characteristic impedance. Power supplied to EUT is 27VDC. Frequency range investigated: 30-1000 MHz.

Transducer Legend:

T1=Amp - S/N 604	T2=Bicon 156
T3=Log s/n 154	T4=Cable - 10 Meter

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	270.083M QP	49.0	-26.1	+18.8	+0.0	+2.8	+0.0	44.5	46.0	-1.5	Horiz
^	270.074M	52.3	-26.1	+18.8	+0.0	+2.8	+0.0	47.8	46.0	+1.8	Horiz
3	270.075M QP	47.9	-26.1	+18.8	+0.0	+2.8	+0.0	43.4	46.0	-2.6	Vert
^	270.067M	51.7	-26.1	+18.7	+0.0	+2.8	+0.0	47.1	46.0	+1.1	Vert
5	277.579M QP	46.3	-26.1	+19.8	+0.0	+2.8	+0.0	42.8	46.0	-3.2	Horiz
^	277.559M	50.7	-26.1	+19.8	+0.0	+2.8	+0.0	47.2	46.0	+1.2	Horiz
7	307.594M	43.4	-26.2	+0.0	+21.7	+3.1	+0.0	42.0	46.0	-4.0	Horiz
8	345.073M	45.3	-26.4	+0.0	+19.3	+3.4	+0.0	41.6	46.0	-4.4	Horiz

9	262.585M QP	47.3	-26.1	+17.6	+0.0	+2.8	+0.0	41.6	46.0	-4.4	Horiz
^	262.569M	50.9	-26.1	+17.6	+0.0	+2.8	+0.0	45.2	46.0	-0.8	Horiz
^	262.573M	50.7	-26.1	+17.6	+0.0	+2.8	+0.0	45.0	46.0	-1.0	Horiz
12	255.069M	48.5	-26.1	+16.5	+0.0	+2.7	+0.0	41.6	46.0	-4.4	Horiz
13	315.091M	43.5	-26.3	+0.0	+21.2	+3.1	+0.0	41.5	46.0	-4.5	Horiz
14	307.567M	42.7	-26.2	+0.0	+21.7	+3.1	+0.0	41.3	46.0	-4.7	Horiz
15	330.056M	44.0	-26.3	+0.0	+20.2	+3.2	+0.0	41.1	46.0	-4.9	Horiz
16	285.087M QP	43.4	-26.1	+20.9	+0.0	+2.9	+0.0	41.1	46.0	-4.9	Horiz
^	285.082M	48.1	-26.1	+20.9	+0.0	+2.9	+0.0	45.8	46.0	-0.2	Horiz
18	285.075M	43.3	-26.1	+20.9	+0.0	+2.9	+0.0	41.0	46.0	-5.0	Vert
19	277.561M	44.1	-26.1	+19.8	+0.0	+2.8	+0.0	40.6	46.0	-5.4	Vert
20	255.052M	47.2	-26.1	+16.5	+0.0	+2.7	+0.0	40.3	46.0	-5.7	Horiz
21	240.061M	47.7	-26.1	+16.1	+0.0	+2.6	+0.0	40.3	46.0	-5.7	Horiz
22	150.064M	49.1	-26.5	+13.0	+0.0	+1.9	+0.0	37.5	43.5	-6.0	Horiz
23	240.076M	47.2	-26.1	+16.1	+0.0	+2.6	+0.0	39.8	46.0	-6.2	Horiz
24	337.556M	42.9	-26.4	+0.0	+19.8	+3.3	+0.0	39.6	46.0	-6.4	Horiz
25	255.069M	45.6	-26.1	+16.5	+0.0	+2.7	+0.0	38.7	46.0	-7.3	Vert
26	382.584M	44.3	-26.7	+0.0	+17.2	+3.6	+0.0	38.4	46.0	-7.6	Horiz
27	292.578M	39.6	-26.2	+21.9	+0.0	+2.9	+0.0	38.2	46.0	-7.8	Horiz
28	195.075M	41.9	-26.3	+17.6	+0.0	+2.4	+0.0	35.6	43.5	-7.9	Horiz
29	345.061M	41.3	-26.4	+0.0	+19.3	+3.4	+0.0	37.6	46.0	-8.4	Vert
30	360.070M	41.4	-26.5	+0.0	+18.5	+3.5	+0.0	36.9	46.0	-9.1	Horiz
31	375.048M	42.3	-26.6	+0.0	+17.6	+3.6	+0.0	36.9	46.0	-9.1	Horiz
32	375.048M	42.3	-26.6	+0.0	+17.6	+3.6	+0.0	36.9	46.0	-9.1	Horiz
33	390.073M	43.1	-26.7	+0.0	+16.8	+3.6	+0.0	36.8	46.0	-9.2	Horiz

34	300.081M	37.5	-26.2	+0.0	+22.2	+3.0	+0.0	36.5	46.0	-9.5	Horiz
35	360.068M	40.7	-26.5	+0.0	+18.5	+3.5	+0.0	36.2	46.0	-9.8	Vert
36	547.563M	40.0	-27.5	+0.0	+18.5	+4.7	+0.0	35.7	46.0	-10.3	Vert
37	135.077M	44.3	-26.6	+13.6	+0.0	+1.8	+0.0	33.1	43.5	-10.4	Horiz
38	322.546M	37.4	-26.3	+0.0	+20.7	+3.2	+0.0	35.0	46.0	-11.0	Horiz
39	465.067M	40.4	-27.2	+0.0	+17.5	+4.2	+0.0	34.9	46.0	-11.1	Horiz
40	480.098M	40.0	-27.3	+0.0	+17.8	+4.3	+0.0	34.8	46.0	-11.2	Horiz
41	120.075M	43.0	-26.6	+14.2	+0.0	+1.7	+0.0	32.3	43.5	-11.2	Vert
42	262.560M	40.4	-26.1	+17.6	+0.0	+2.8	+0.0	34.7	46.0	-11.3	Vert
43	352.563M	38.5	-26.4	+0.0	+18.9	+3.4	+0.0	34.4	46.0	-11.6	Vert
44	225.047M	41.3	-26.2	+16.8	+0.0	+2.5	+0.0	34.4	46.0	-11.6	Horiz
45	352.564M	38.1	-26.4	+0.0	+18.9	+3.4	+0.0	34.0	46.0	-12.0	Horiz
46	165.073M	41.6	-26.4	+14.2	+0.0	+2.1	+0.0	31.5	43.5	-12.0	Horiz
47	525.075M	38.1	-27.4	+0.0	+18.3	+4.6	+0.0	33.6	46.0	-12.4	Vert
48	375.038M	39.0	-26.6	+0.0	+17.6	+3.6	+0.0	33.6	46.0	-12.4	Vert
49	585.062M	37.4	-27.5	+0.0	+18.9	+4.8	+0.0	33.6	46.0	-12.4	Horiz
50	165.070M	41.2	-26.4	+14.2	+0.0	+2.1	+0.0	31.1	43.5	-12.4	Vert
51	232.585M	40.7	-26.2	+16.4	+0.0	+2.6	+0.0	33.5	46.0	-12.5	Horiz
52	367.571M	38.3	-26.5	+0.0	+18.0	+3.5	+0.0	33.3	46.0	-12.7	Vert
53	585.070M	37.0	-27.5	+0.0	+18.9	+4.8	+0.0	33.2	46.0	-12.8	Horiz
54	555.062M	37.0	-27.5	+0.0	+18.6	+4.7	+0.0	32.8	46.0	-13.2	Vert
55	547.573M	37.1	-27.5	+0.0	+18.5	+4.7	+0.0	32.8	46.0	-13.2	Horiz
56	367.578M	37.6	-26.5	+0.0	+18.0	+3.5	+0.0	32.6	46.0	-13.4	Horiz
57	472.554M	37.9	-27.2	+0.0	+17.6	+4.2	+0.0	32.5	46.0	-13.5	Horiz
58	495.073M	37.0	-27.3	+0.0	+18.0	+4.5	+0.0	32.2	46.0	-13.8	Vert

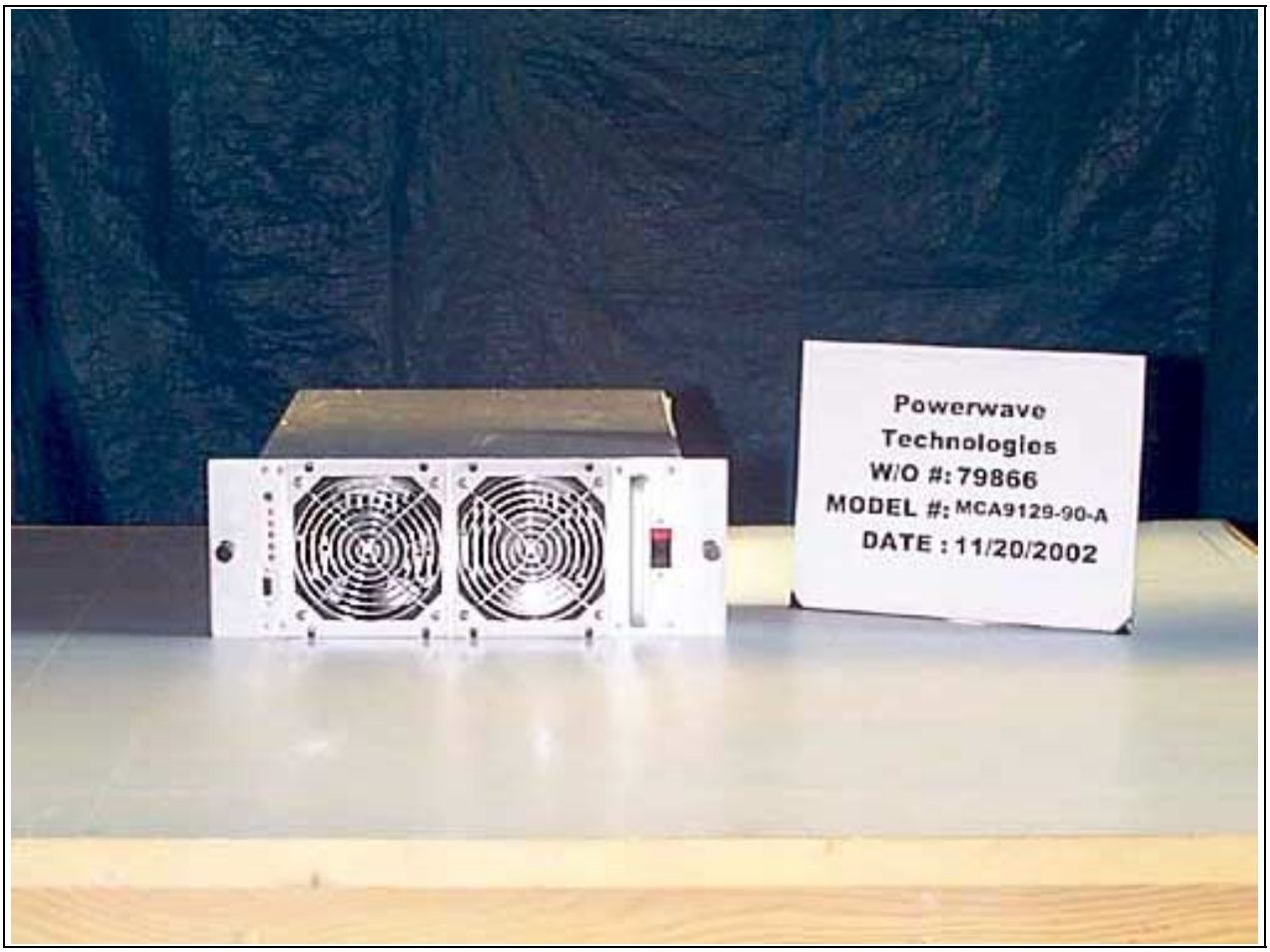
59	562.558M	36.2	-27.5	+0.0	+18.7	+4.7	+0.0	32.1	46.0	-13.9	Horiz
60	442.553M	38.0	-27.1	+0.0	+17.1	+4.0	+0.0	32.0	46.0	-14.0	Horiz
61	300.065M	32.9	-26.2	+0.0	+22.2	+3.0	+0.0	31.9	46.0	-14.1	Vert
62	150.074M	40.8	-26.5	+13.0	+0.0	+1.9	+0.0	29.2	43.5	-14.3	Vert
63	622.577M	34.5	-27.5	+0.0	+19.5	+4.9	+0.0	31.4	46.0	-14.6	Horiz
64	450.066M	37.2	-27.2	+0.0	+17.3	+4.0	+0.0	31.3	46.0	-14.7	Horiz
65	592.563M	34.8	-27.5	+0.0	+18.9	+4.8	+0.0	31.0	46.0	-15.0	Horiz
66	292.549M	32.3	-26.2	+21.9	+0.0	+2.9	+0.0	30.9	46.0	-15.1	Vert
67	630.075M	33.6	-27.6	+0.0	+19.7	+5.0	+0.0	30.7	46.0	-15.3	Horiz
68	457.560M	36.4	-27.2	+0.0	+17.4	+4.1	+0.0	30.7	46.0	-15.3	Horiz
69	136.028M	39.5	-26.6	+13.5	+0.0	+1.8	+0.0	28.2	43.5	-15.3	Vert
70	457.568M	36.3	-27.2	+0.0	+17.4	+4.1	+0.0	30.6	46.0	-15.4	Vert
71	210.068M	34.5	-26.3	+17.5	+0.0	+2.4	+0.0	28.1	43.5	-15.4	Horiz
72	172.591M	36.2	-26.4	+15.7	+0.0	+2.2	+0.0	27.7	43.5	-15.8	Horiz
73	562.567M	34.1	-27.5	+0.0	+18.7	+4.7	+0.0	30.0	46.0	-16.0	Vert
74	247.542M	37.4	-26.1	+15.8	+0.0	+2.7	+0.0	29.8	46.0	-16.2	Horiz
75	135.070M	38.5	-26.6	+13.6	+0.0	+1.8	+0.0	27.3	43.5	-16.2	Vert
76	217.568M	36.2	-26.2	+17.1	+0.0	+2.5	+0.0	29.6	46.0	-16.4	Horiz
77	420.072M	36.0	-27.0	+0.0	+16.7	+3.8	+0.0	29.5	46.0	-16.5	Vert
78	570.063M	33.6	-27.5	+0.0	+18.7	+4.7	+0.0	29.5	46.0	-16.5	Horiz
79	532.572M	33.6	-27.4	+0.0	+18.4	+4.6	+0.0	29.2	46.0	-16.8	Vert
80	120.073M	37.3	-26.6	+14.2	+0.0	+1.7	+0.0	26.6	43.5	-16.9	Horiz
81	577.577M	32.9	-27.5	+0.0	+18.8	+4.8	+0.0	29.0	46.0	-17.0	Horiz
82	420.066M	35.5	-27.0	+0.0	+16.7	+3.8	+0.0	29.0	46.0	-17.0	Horiz
83	442.588M	34.7	-27.1	+0.0	+17.1	+4.0	+0.0	28.7	46.0	-17.3	Vert

84	600.058M	32.3	-27.5	+0.0	+19.0	+4.8	+0.0	28.6	46.0	-17.4	Vert
85	607.570M	31.5	-27.5	+0.0	+19.2	+4.8	+0.0	28.0	46.0	-18.0	Vert
86	405.067M	33.7	-26.8	+0.0	+16.4	+3.7	+0.0	27.0	46.0	-19.0	Vert
87	427.577M	33.3	-27.0	+0.0	+16.8	+3.9	+0.0	27.0	46.0	-19.0	Horiz
88	247.567M	34.5	-26.1	+15.8	+0.0	+2.7	+0.0	26.9	46.0	-19.1	Vert
89	405.057M	32.3	-26.8	+0.0	+16.4	+3.7	+0.0	25.6	46.0	-20.4	Horiz
90	30.094M	33.6	-26.9	+11.7	+0.0	+0.7	+0.0	19.1	40.0	-20.9	Horiz

Test Equipment

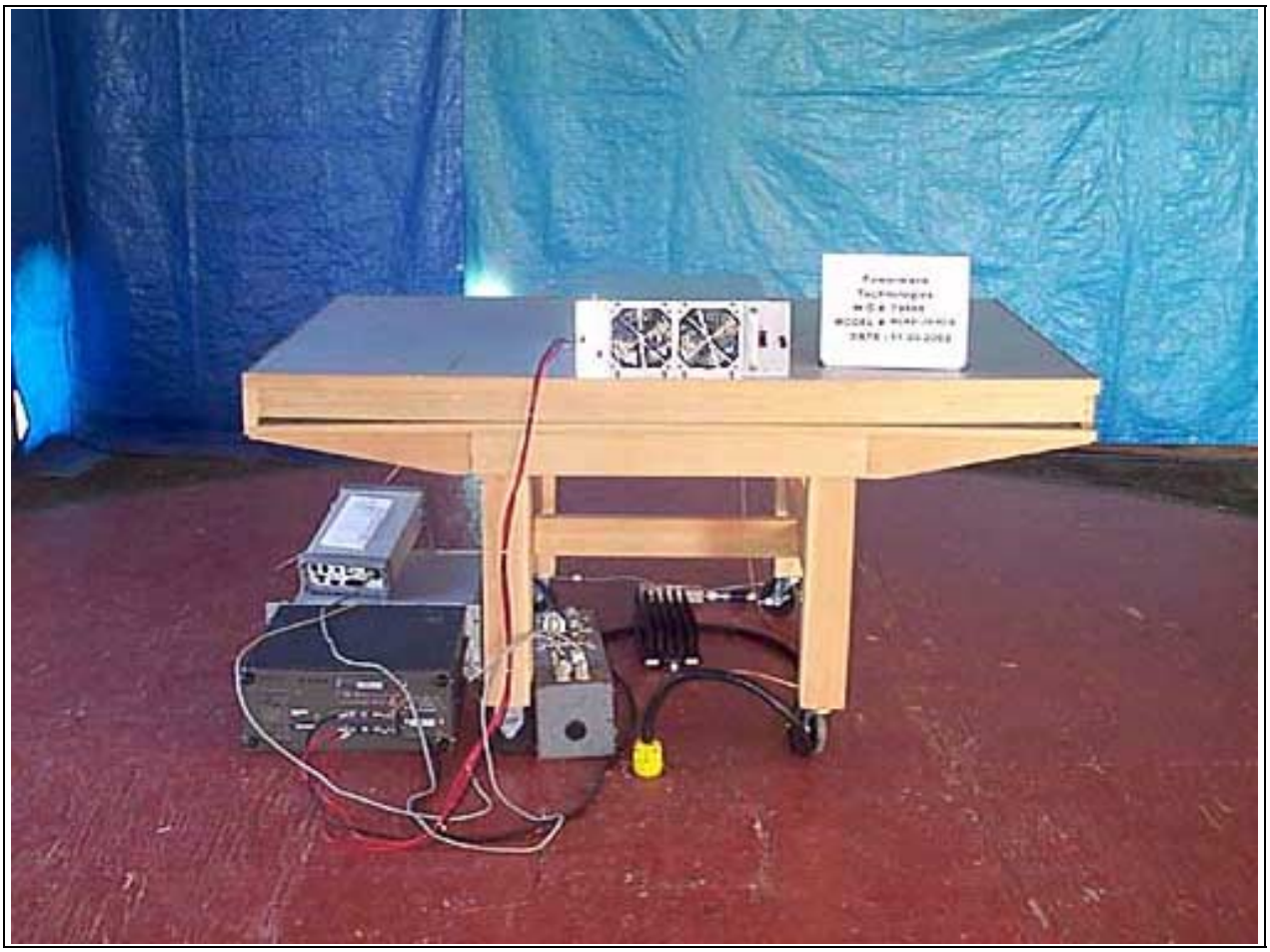
Description	***Manufacturer***	***Model #***	***Serial #***	***Asset #***	***Cal Date***	***Cal Due***
Antenna, Bicon	A&H	SAS-200/542	156	00225	12/06/01	12/6/02
Antenna, Log Periodic	A&H	SAS-200/510	154	01330	6/19/02	6/19/03
Preamp	HP	8447D	1937A02604	00099	3/21/02	3/21/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

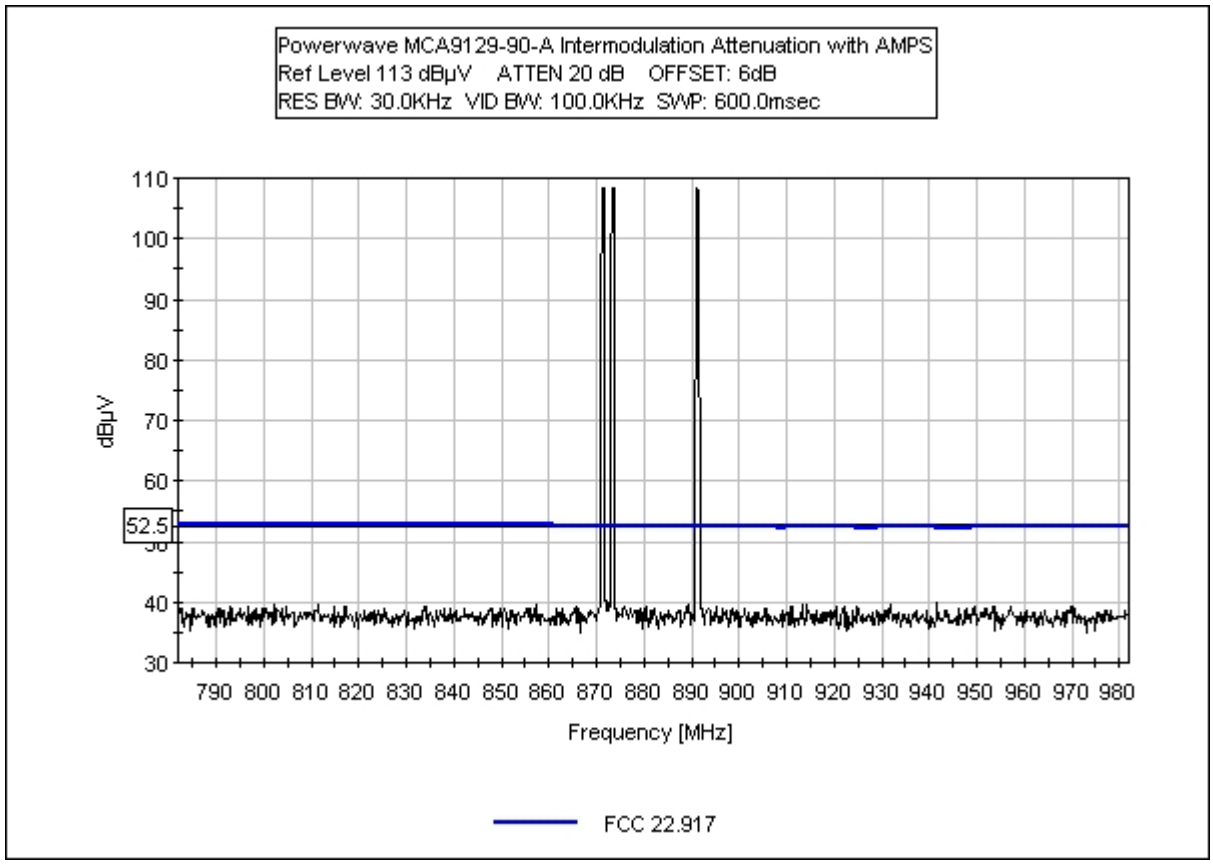


Radiated Emissions - Back View

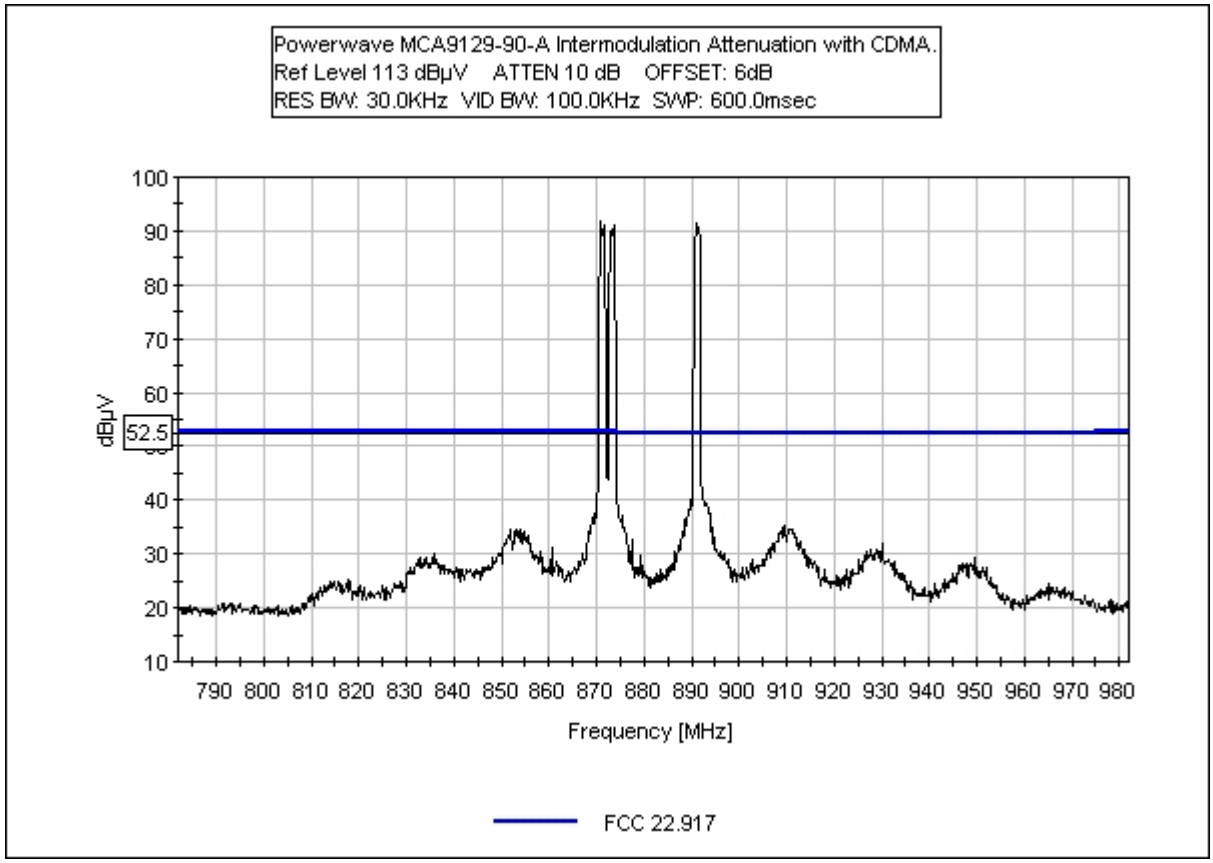
Intermodulation - AMPS

Test Conditions: The EUT is connected directly to spectrum analyzer. Power input is tuned such that the output power is set to the maximum rated output.

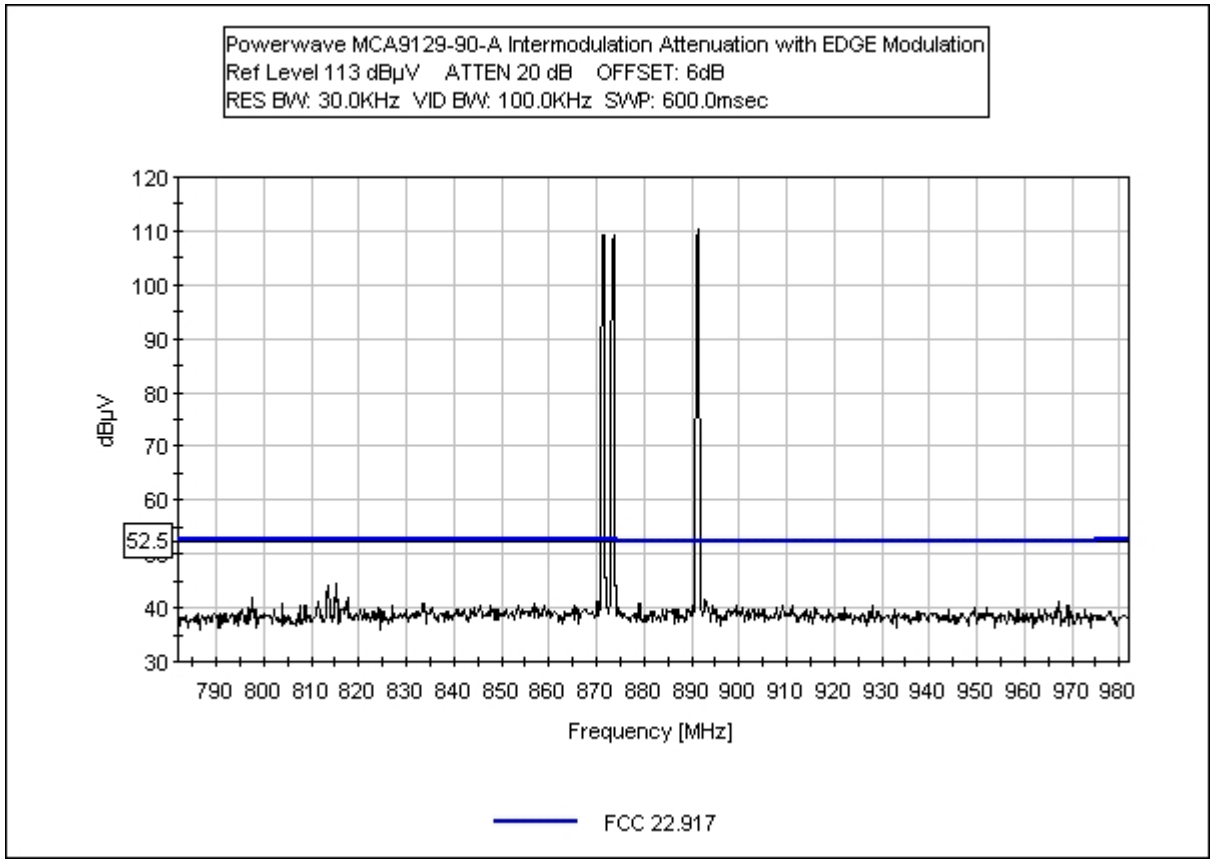
Bandwidth settings: 300 Hz within and including 60 kHz from the carrier. 30 kHz outside of 60 kHz removed from the carrier. The VBW is set the same as the RBW.



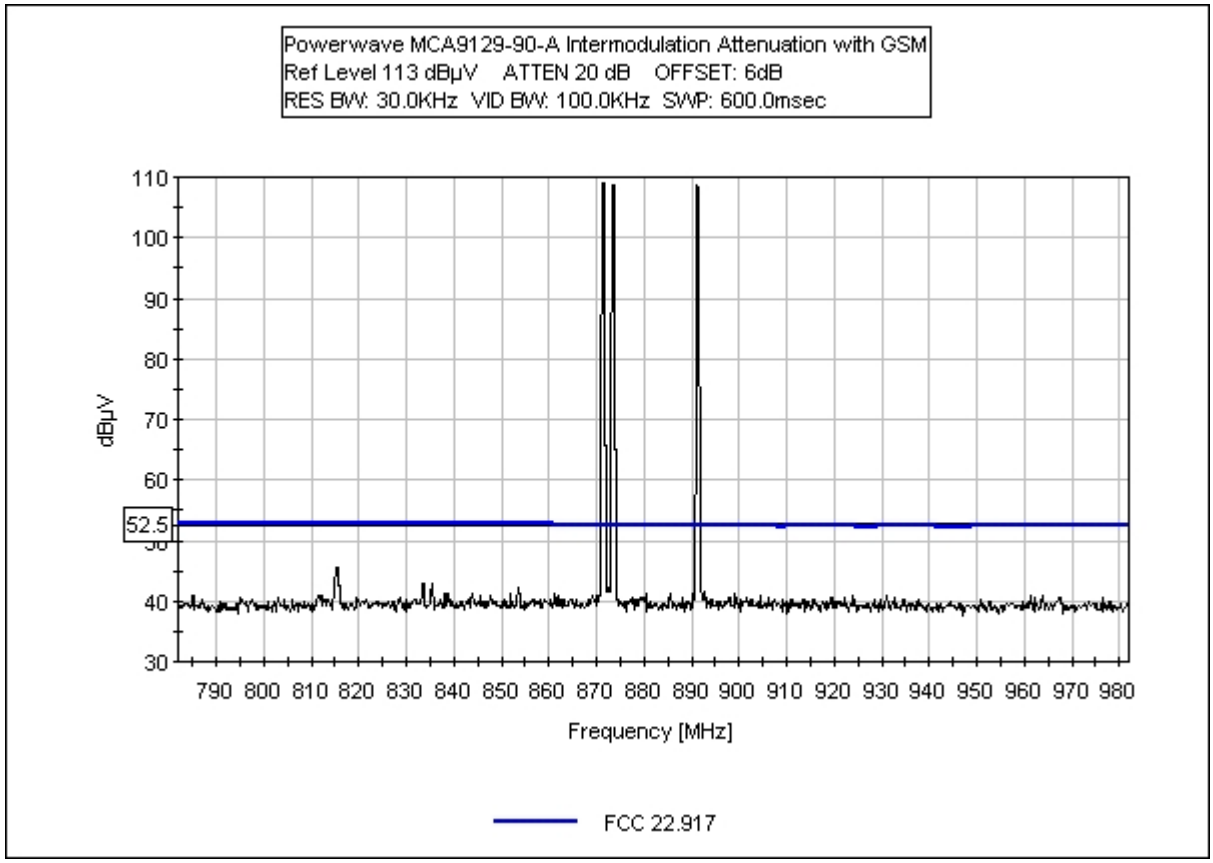
Intermodulation - CDMA



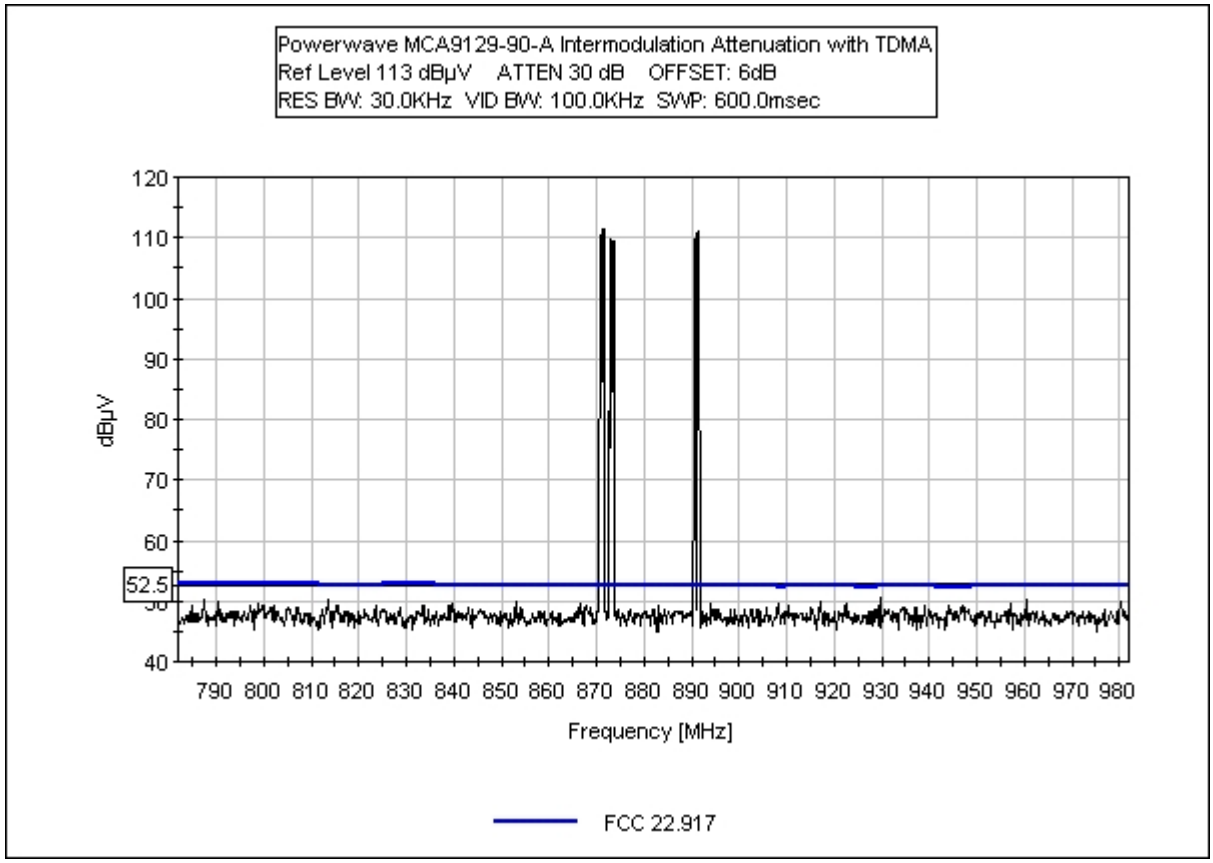
Intermodulation - EDGE



Intermodulation - GSM

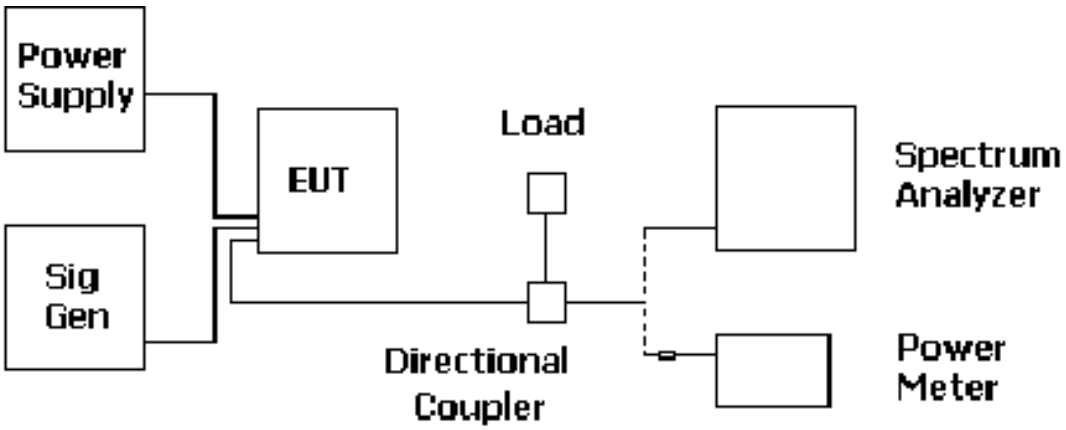


Intermodulation - TDMA



Test Equipment

Description	*Manufacturer*	*Model #*	*Serial #*	*Asset #*	*Cal Date*	*Cal Due*
Directional Coupler	Narda	3002-30	436	P01906	7/17/02	7/17/03
Directional Coupler	Narda	3004-30	285	P01905	7/17/02	7/17/03
Directional Coupler	Narda	3003-30	886	P01904	7/17/02	7/17/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
Spectrum Analyzer Display	HP	8566B	2403A08241	00489	1/30/02	1/30/03
Spectrum Analyzer QP Adapter	HP	85650A	2811A01267	00478	1/30/02	1/30/03
Cable #8 (6')	Andrew	FSJ1-50A	N/A	N/A	4/16/02	4/16/03
Attenuator	Bird	100-SA-MFN-30	9949	P01572	3/21/02	3/21/03
Directional Coupler	Werlatone	C5571	11363	2576	11/6/02	11/6/03

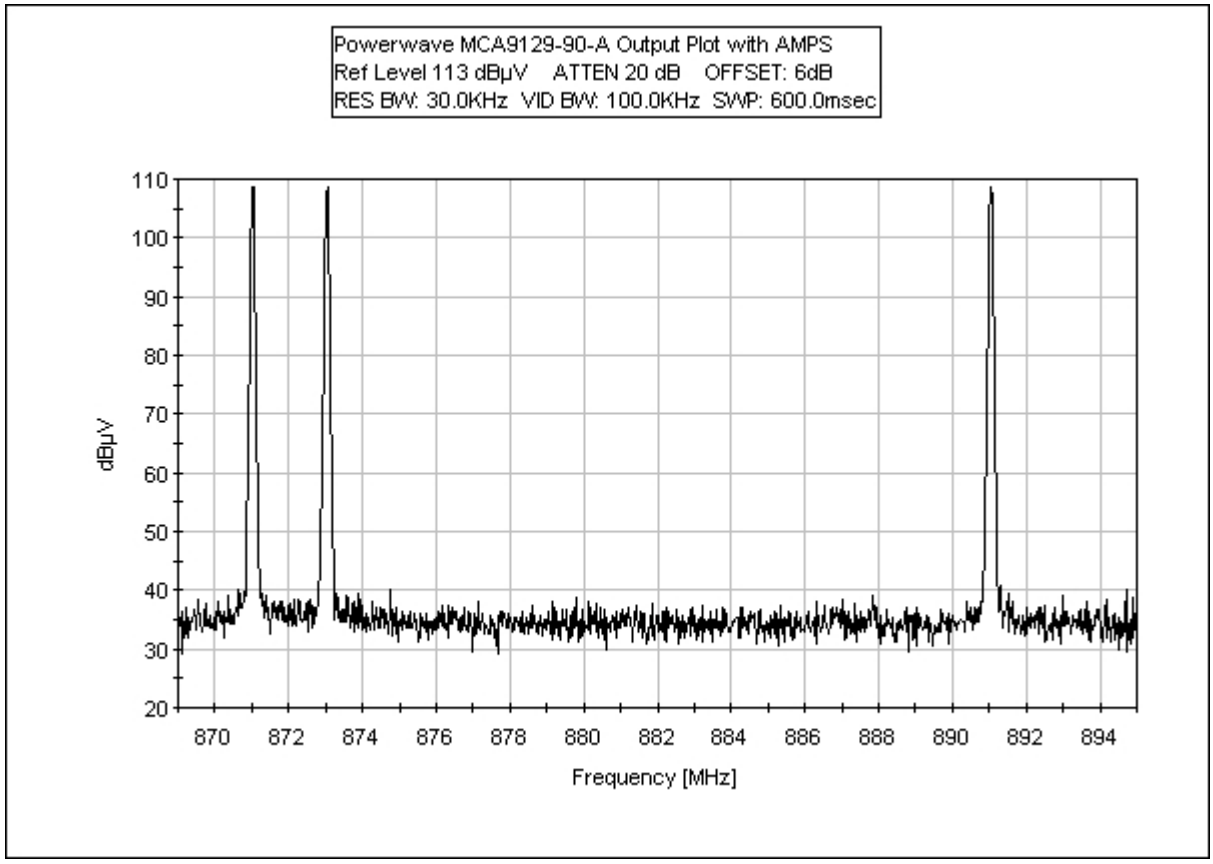


Antenna Conducted Test Setup Diagram

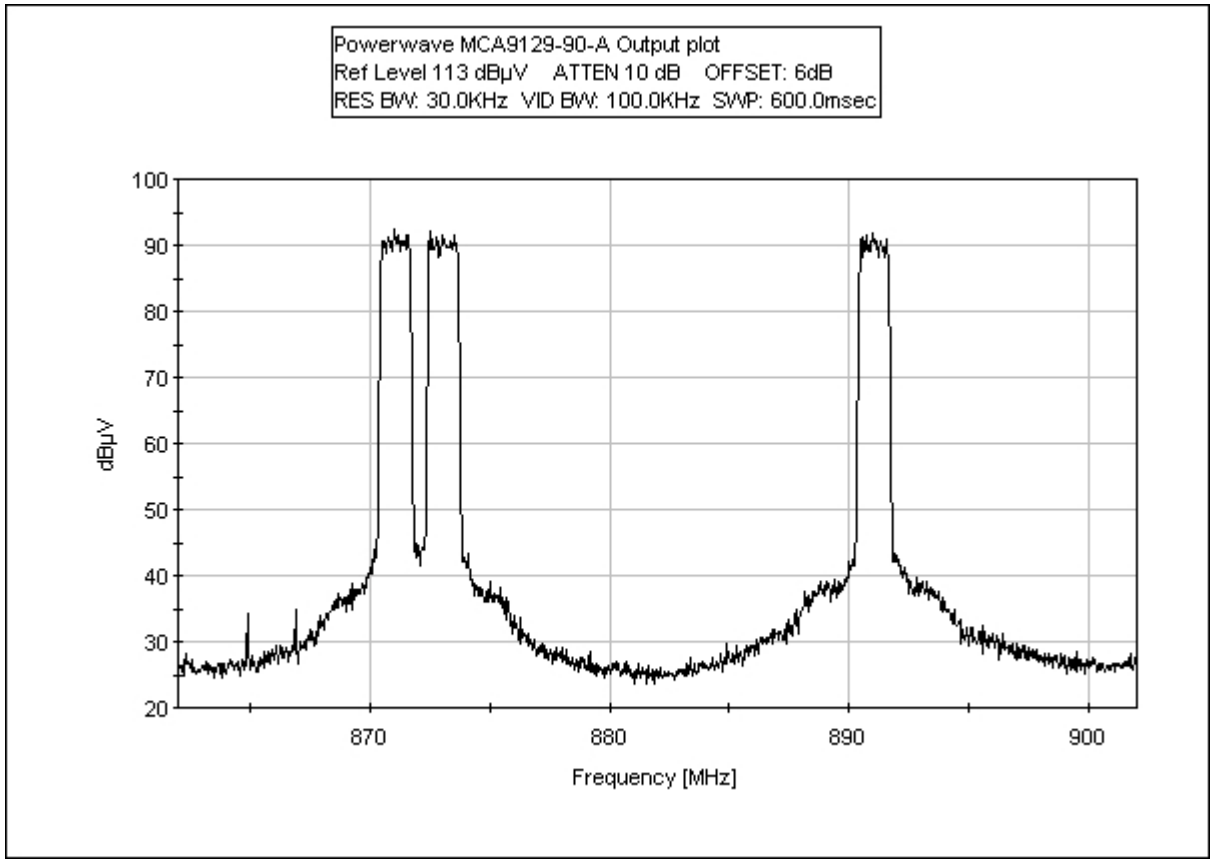
Output Plot - AMPS

Test Conditions: The EUT is connected directly to spectrum analyzer. Power input is tuned such that the output power is set to the maximum rated output.

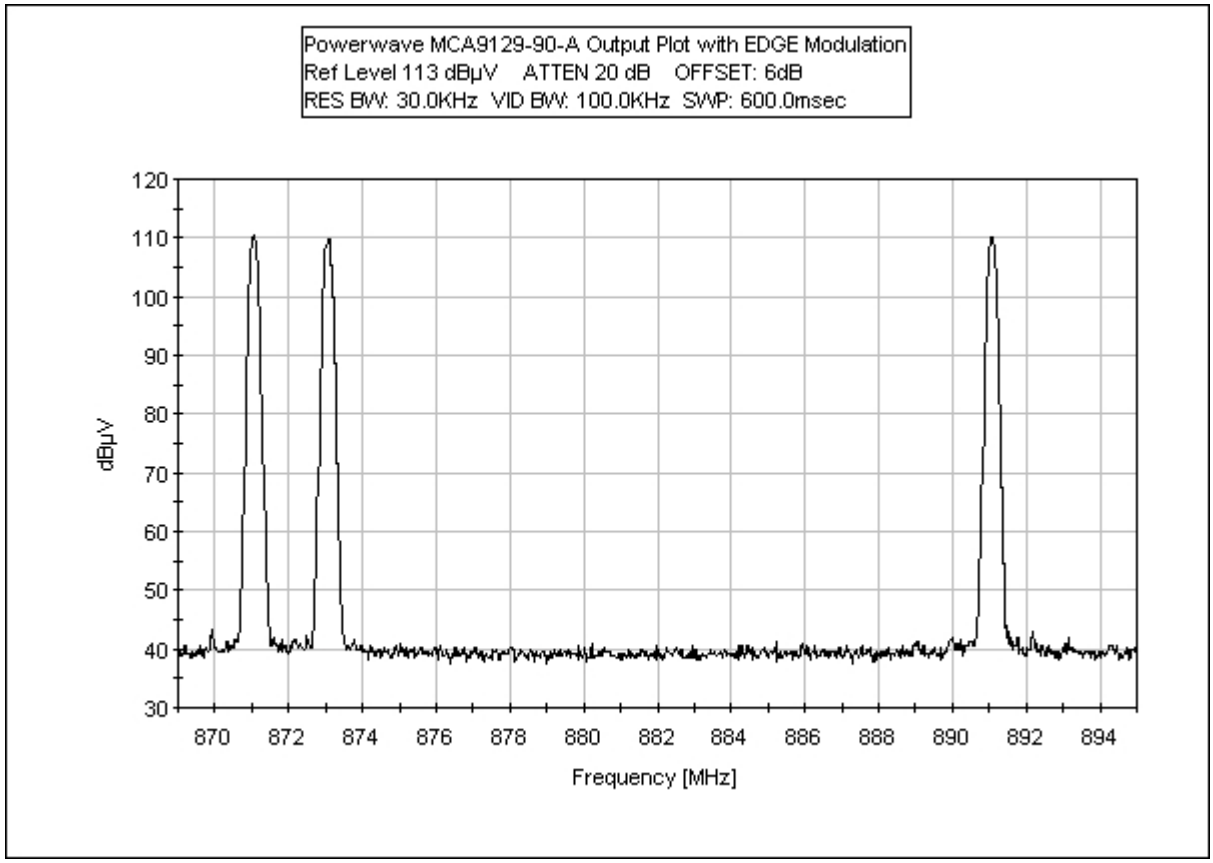
Bandwidth settings: 300 Hz within and including 60 kHz from the carrier. 30 kHz outside of 60 kHz removed from the carrier. The VBW is set the same as the RBW.



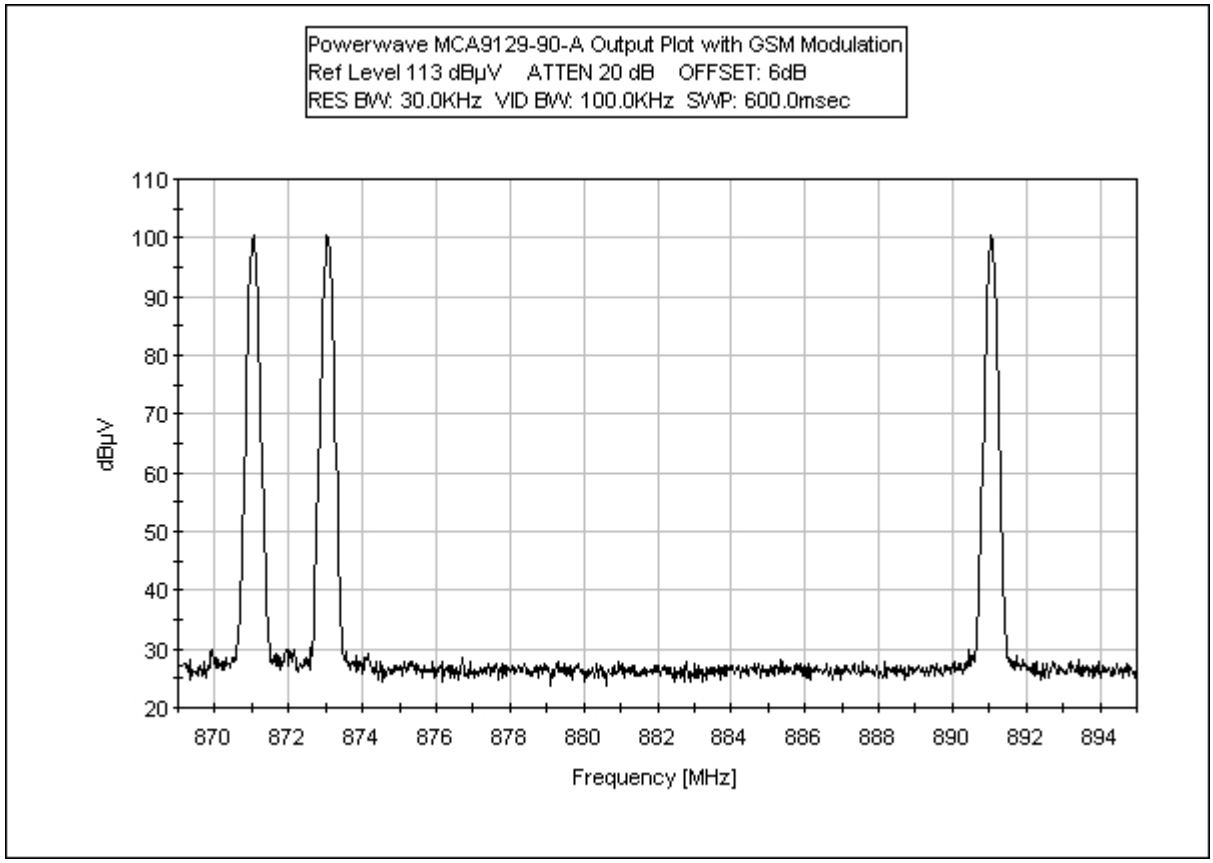
Output Plot - CDMA



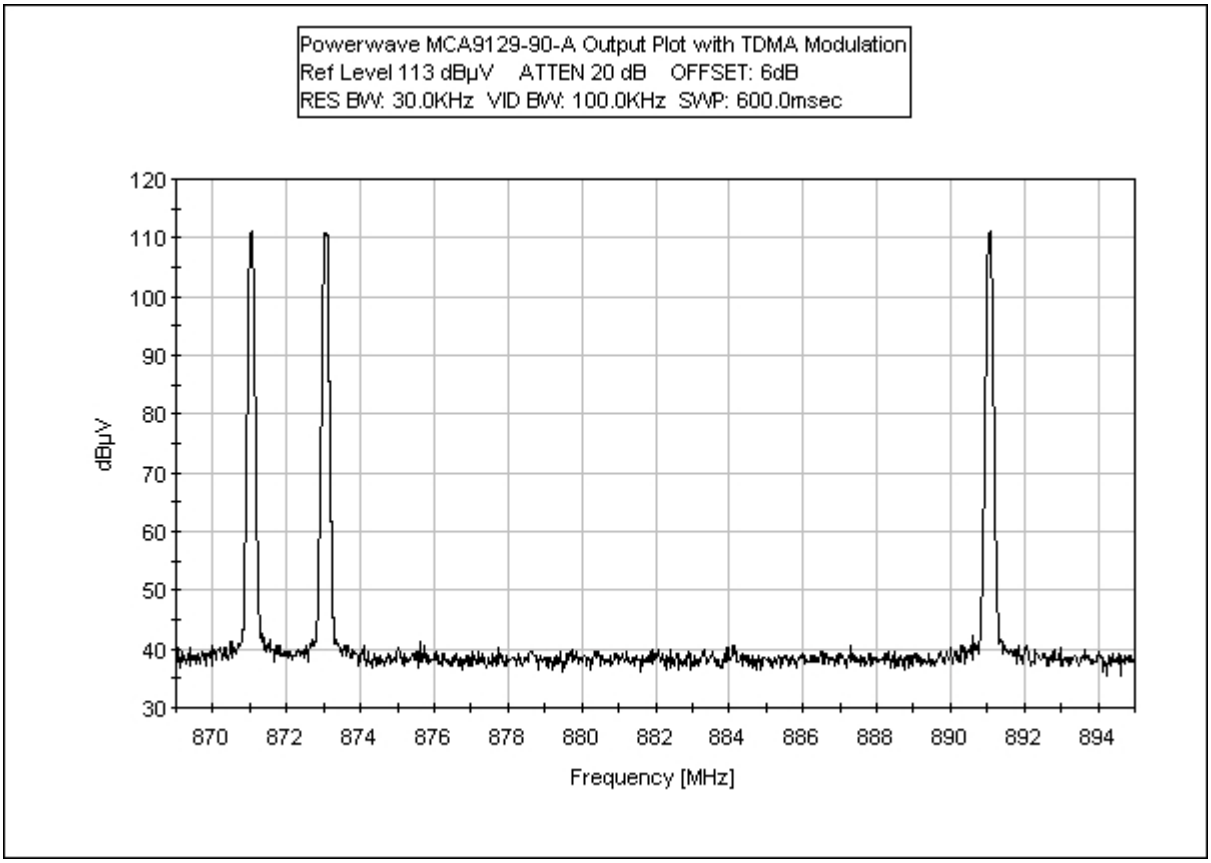
Output Plot - EDGE



Output Plot - GSM



Output Plot - TDMA



Test Equipment

Description	*Manufacturer*	*Model #*	*Serial #*	*Asset #*	*Cal Date*	*Cal Due*
Directional Coupler	Narda	3002-30	436	P01906	7/17/02	7/17/03
Directional Coupler	Narda	3004-30	285	P01905	7/17/02	7/17/03
Directional Coupler	Narda	3003-30	886	P01904	7/17/02	7/17/03
Spectrum Analyzer 100Hz - 22.5GHz	HP	8566B	2209A01404	00490	1/30/02	1/30/03
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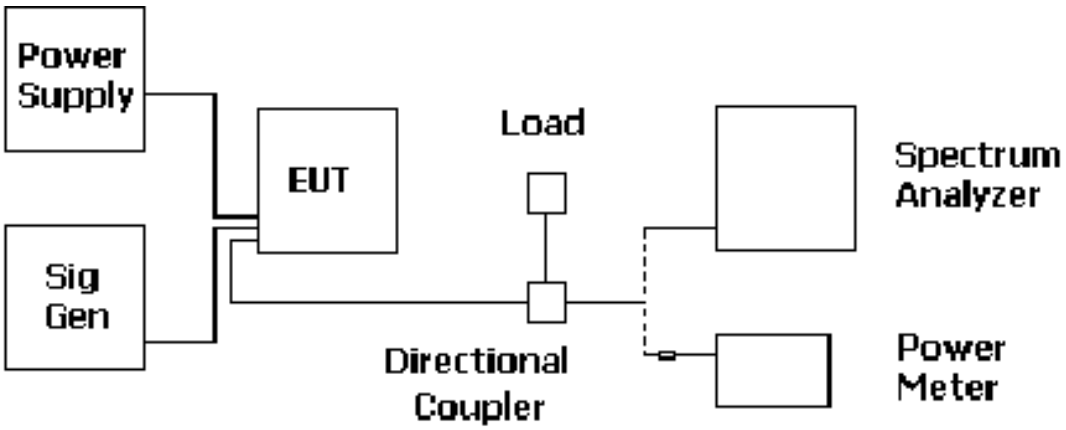
Attenuator	Bird	100-SA-MFN-30	9949	P01572	3/21/02	3/21/03
Directional Coupler	Werlatone	C5571	11363	2576	11/6/02	11/6/03



Antenna Conducted Test Setup Diagram