ADDENDUM TO POWERWAVE TECHNOLOGIES, INC.
TEST REPORT FC08-005

FOR THE

WIDEBAND RADIO HEAD, RH800020/102 & RH800020/101

FCC PART 15 SUBPART B SECTIONS 15.107 CLASS B, 15.109 CLASS B & 15.111, FCC PART 90 AND RSS-131 ISSUE 2, JULY 2003

TESTING

DATE OF ISSUE: FEBRUARY 4, 2008

PREPARED FOR:

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

P.O. No.: 117420
W.O. No.: 87496

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: January 14-21, 2008

Report No.: FC08-005A

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ADMINISTRATIVE INFORMATION

DATE OF TEST: January 14-21, 2008

DATE OF RECEIPT: January 14, 2008

REPRESENTATIVE: Charlotte Yu

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

TEST LOCATION:
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

FREQUENCY RANGE TESTED: 9 kHz-10 GHz

TEST METHOD: ANSI C63.4 (2003), FCC Part 90, RSS-131 Issue 2 July 2003 and RSS GEN Issue 2 June 2007

PURPOSE OF TEST:
Original Report: To perform the testing of the Wideband Radio Head, RH800020/102 & RH800020/101 with the requirements for FCC Part 15 Subpart B Sections 15.107 Class B, 15.109 Class B and 15.111, FCC Part 90 and RSS-131 devices.
Addendum A: To correct the emissions designator on page 6 with no new testing.

APPROVALS

QUALITY ASSURANCE:

Steve Behm, Director of Engineering Services

TEST PERSONNEL:

Eddie Wong, EMC Engineer

SUMMARY OF RESULTS

Test	Specification/Method	Results
Mains Conducted Emissions	FCC Part 15 Subpart B Section 15.107 Class B	Pass
Radiated Emissions	FCC Part 15 Subpart B Section 15.109 Class B	Pass
Antenna Power Conducted Emissions	FCC Part 15 Subpart B Section 15.111	Pass
RF Power Output	FCC Part 90.635(b)	Pass
RF Power Output	RSS-131 Section 4.3	Pass
Input & Output	FCC 2.1049(I)	Pass
Spurious Emissions at Antenna Terminal	FCC Part 90.691(a)(2)	Pass
Field Strength of Spurious Emissions	FCC Part 90.691(a)(2)	Pass
Block Edge		Pass
Intermodulation		Pass
99% Bandwidth	RSS-131	Pass
Amplifier Gain and Bandwidth	RSS-131	Pass

CONDITIONS DURING TESTING

No modifications to the EUT were necessary during testing.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit. Wideband Radio Heads (WRH) work as on-frequency amplifiers used to fill out uncovered areas in wireless mobile systems such as base station fringe areas, tunnels, business, convention centers, airports and industrial buildings. It receives, amplifies and transmits signals to/from a base station to/from mobile stations. The standard WRH is used for analog or digital systems, such as iDEN. It has a fiber optic donor port and a RF port for a service antenna (or RF cable) and is designed to be connected to a BTS via a BMU or OCM.

The following models hav been tested by CKC Laboratories for receiver characteristics: **RH800020/102 & RH800020/101**

The following model has been tested by CKC Laboratories for transmitter characteristics: **RH800020/102**

The manufacturer states that the following additional models are identical electrically to the ones which were tested, or any differences between them do not affect their EMC characteristics, and therefore they meet the level of testing equivalent to the tested models. **RH800020/211, RH008002/000, RH008002/011, RH800020/212, RH008002/002, and RH008002/012**

EQUIPMENT UNDER TEST

Wideband Radio Head

Manuf:	Powerwave Technologies, Inc.
Model:	RH800020/102
Serial:	NA
FCC ID:	E675JS0099 (pending)

Wideband Radio Head

Manuf:	Powerwave Technologies, Inc.
Model:	RH800020/101
Serial:	NA
FCC ID:	E675JS0099 (pending)

PERIPHERAL DEVICES

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

Power Meter

Manuf:	Agilent
Model:	E4419B
Serial:	GB402019/12

Pre Amp

Manuf:	Mini Circuit
Model:	ZHL-4240
Serial:	D040405

Optical Converter

Manuf:	Powerwave
Model:	NA
Serial:	NA

ESG

Manuf:	Aeroflex
Model:	IFR 3413
Serial:	341005/078

Power Supply

Manuf:	HP
Model:	6032
Serial:	3542A12327

TEMPERATURE AND HUMIDITY DURING TESTING
The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

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

FCC 2.1033 (c)(4) TYPE OF EMISSIONS
D7W

FCC 2.1033 (c)(5) FREQUENCY RANGE
935 MHz – 940 MHz

FCC 2.1033 (c)(6) OPERATING POWER
20 Watts

FCC 2.1033 (c)(7) MAXIMUM POWER RATING
See CFR 47

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

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

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

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

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

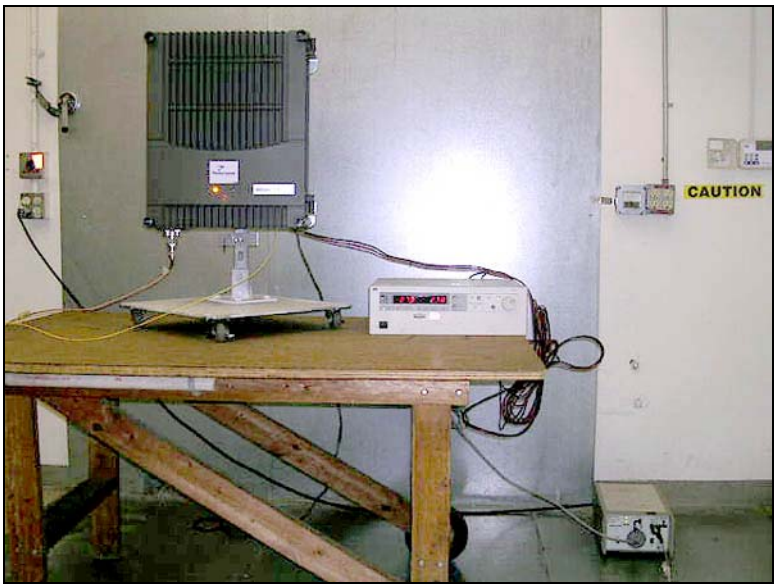
FCC 2.1033 (c)(13) MODULATION INFORMATION
iDEN

FCC 15.107 – AC CONDUCTED EMISSIONS

Test Setup Photos

AC

AC



DC

DC

Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.107 Class B COND [AVE]**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	10:54:11
Equipment:	**Wideband Radio Head**	Sequence#:	10
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/09/2008	01/09/2010	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. 21°C, 20% relative humidity.

Transducer Legend:

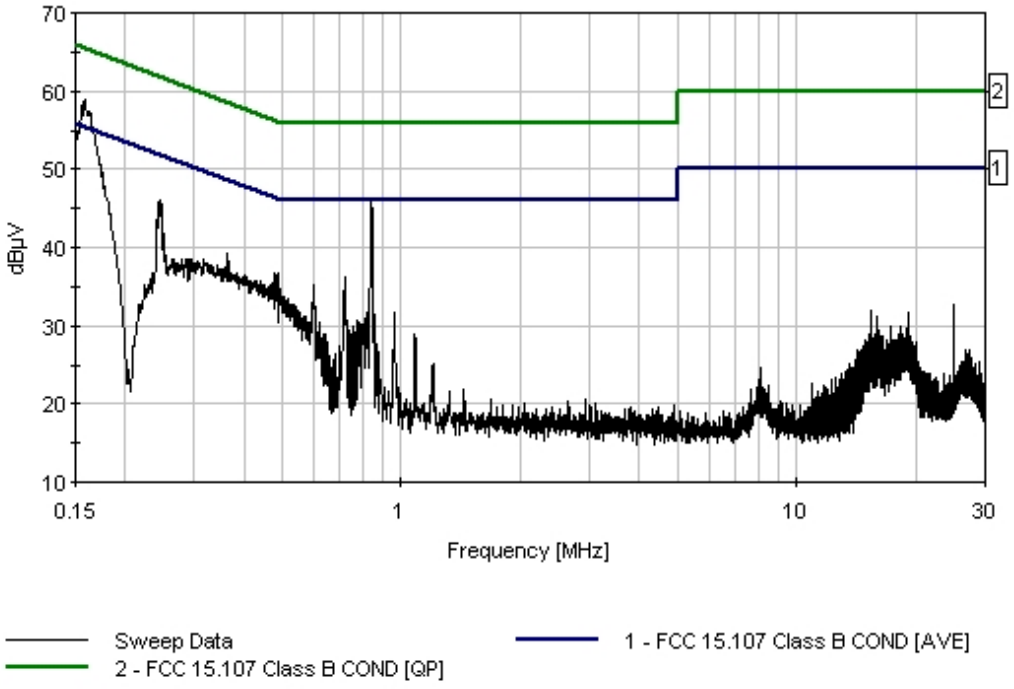
T1=150kHz HPF AN02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	841.196k Ave	37.1	+0.3	+6.1	+0.0	+0.1	+0.0	43.6	46.0	-2.4	Black
^	840.846k	39.4	+0.3	+6.1	+0.0	+0.1	+0.0	45.9	46.0	-0.1	Black
3	246.718k	39.6	+0.2	+6.1	+0.1	+0.1	+0.0	46.1	51.9	-5.8	Black

4	720.130k	29.7	+0.3	+6.1	+0.1	+0.1	+0.0	36.3	46.0	-9.7	Black
5	600.141k	28.8	+0.2	+6.1	+0.1	+0.1	+0.0	35.3	46.0	-10.7	Black
6	490.332k	28.7	+0.2	+6.2	+0.1	+0.1	+0.0	35.3	46.2	-10.9	Black
7	851.027k	26.5	+0.3	+6.1	+0.0	+0.1	+0.0	33.0	46.0	-13.0	Black
8	824.847k	25.5	+0.3	+6.1	+0.1	+0.1	+0.0	32.1	46.0	-13.9	Black
9	962.260k	25.1	+0.3	+6.1	+0.0	+0.1	+0.0	31.6	46.0	-14.4	Black
10	818.302k	24.6	+0.3	+6.1	+0.1	+0.1	+0.0	31.2	46.0	-14.8	Black
11	609.594k	24.4	+0.2	+6.1	+0.1	+0.1	+0.0	30.9	46.0	-15.1	Black
12	811.030k	24.3	+0.3	+6.1	+0.1	+0.1	+0.0	30.9	46.0	-15.1	Black
13	730.310k	24.1	+0.3	+6.1	+0.1	+0.1	+0.0	30.7	46.0	-15.3	Black
14	773.943k	24.0	+0.3	+6.1	+0.1	+0.1	+0.0	30.6	46.0	-15.4	Black
15	778.306k	23.9	+0.3	+6.1	+0.1	+0.1	+0.0	30.5	46.0	-15.5	Black
16 Ave	157.999k	16.0	+0.9	+6.2	+0.1	+0.1	+0.0	23.3	55.6	-32.3	Black
^	157.999k	51.7	+0.9	+6.2	+0.1	+0.1	+0.0	59.0	55.6	+3.4	Black

CKC Laboratories, Inc. Date: 1/21/2008 Time: 10:54:11 Powerwave Technologies, Inc. WO#: 87496
FCC 15.107 Class B COND [AVE] Test Lead: Black 110V 60Hz Sequence#: 10



Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.107 Class B COND [AVE]**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	10:50:32
Equipment:	**Wideband Radio Head**	Sequence#:	9
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/09/2008	01/09/2010	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. 21°C, 20% relative humidity.

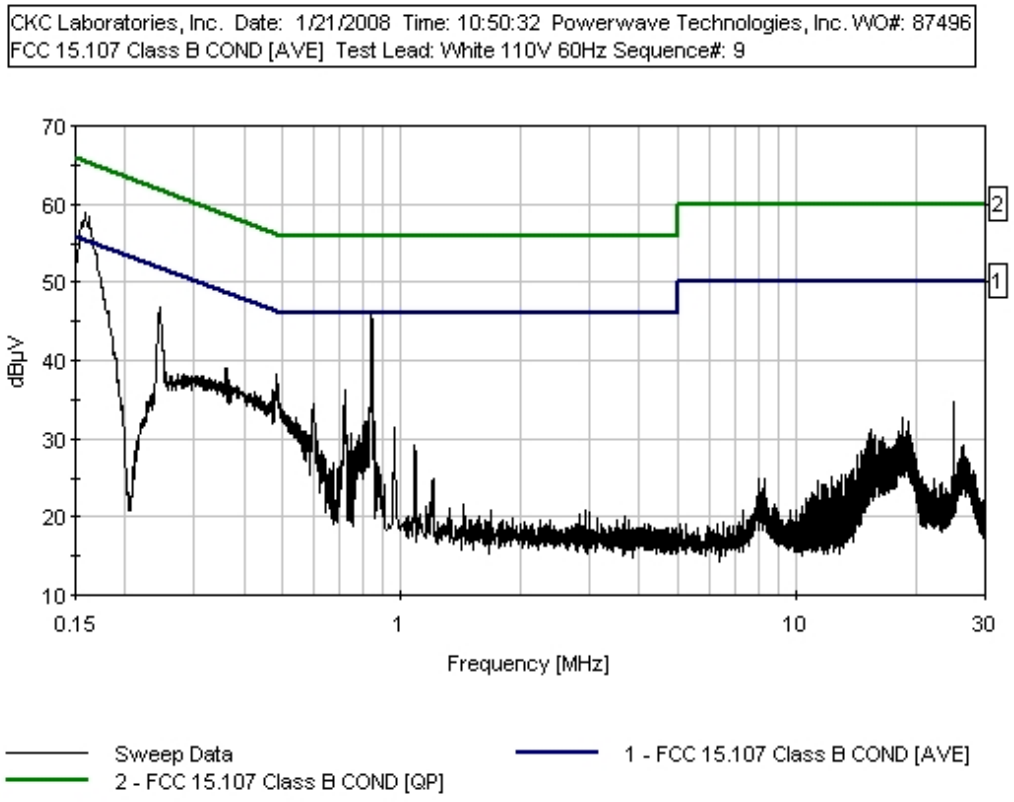
Transducer Legend:

T1=150kHz HPF AN02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	841.196k Ave	36.9	+0.3	+6.1	+0.0	+0.1	+0.0	43.4	46.0	-2.6	White
^	840.846k	39.2	+0.3	+6.1	+0.0	+0.1	+0.0	45.7	46.0	-0.3	White
3	245.991k	40.2	+0.2	+6.1	+0.1	+0.1	+0.0	46.7	51.9	-5.2	White

4	485.242k	31.7	+0.2	+6.2	+0.1	+0.1	+0.0	38.3	46.2	-7.9	White
5	240.236k Ave	35.9	+0.2	+6.1	+0.1	+0.2	+0.0	42.5	52.1	-9.6	White
6	720.857k	29.7	+0.3	+6.1	+0.1	+0.1	+0.0	36.3	46.0	-9.7	White
7	359.435k	32.3	+0.2	+6.2	+0.1	+0.1	+0.0	38.9	48.7	-9.8	White
8	363.071k	32.3	+0.2	+6.2	+0.1	+0.1	+0.0	38.9	48.7	-9.8	White
9	474.334k	29.5	+0.2	+6.2	+0.1	+0.1	+0.0	36.1	46.4	-10.3	White
10	365.980k	31.0	+0.2	+6.2	+0.1	+0.1	+0.0	37.6	48.6	-11.0	White
11	600.141k	27.9	+0.2	+6.1	+0.1	+0.1	+0.0	34.4	46.0	-11.6	White
12	827.756k	27.3	+0.3	+6.1	+0.1	+0.1	+0.0	33.9	46.0	-12.1	White
13	851.754k	26.5	+0.3	+6.1	+0.0	+0.1	+0.0	33.0	46.0	-13.0	White
14	826.302k	25.8	+0.3	+6.1	+0.1	+0.1	+0.0	32.4	46.0	-13.6	White
15	813.939k	25.7	+0.3	+6.1	+0.1	+0.1	+0.0	32.3	46.0	-13.7	White
16	823.393k	25.5	+0.3	+6.1	+0.1	+0.1	+0.0	32.1	46.0	-13.9	White
17	157.999k Ave	16.0	+0.9	+6.2	+0.1	+0.2	+0.0	23.4	55.6	-32.2	White
^	157.999k	51.6	+0.9	+6.2	+0.1	+0.2	+0.0	59.0	55.6	+3.4	White


CKC Laboratories, Inc. Date: 1/21/2008 Time: 10:50:32 Powerwave Technologies, Inc. WO#: 87496
FCC 15.107 Class B COND [AVE] Test Lead: White 110V 60Hz Sequence#: 9
70
60
50
40
30
20
10
dBµV
0.15
1
10
30
Frequency [MHz]
2
1
Sweep Data
2 - FCC 15.107 Class B COND [QP]
1 - FCC 15.107 Class B COND [AVE]

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.107 Class B COND [AVE]**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	10:30:55 AM
Equipment:	**Wideband Radio Head**	Sequence#:	7
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/09/2008	01/09/2010	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/102	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078
Power Supply	HP	6032	3542A12327

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. DC 27V (110Vac/60Hz source) 21°C, 20% relative humidity.

Transducer Legend:

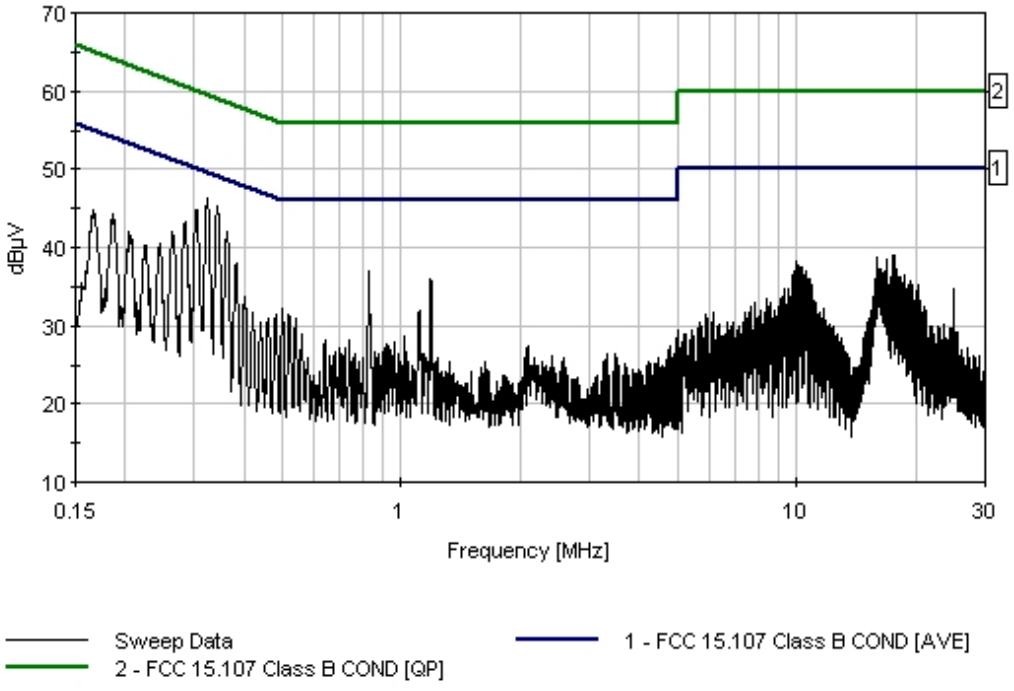
T1=150kHz HPF AN02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	322.348k	39.7	+0.2	+6.2	+0.1	+0.1	+0.0	46.3	49.6	-3.3	Black
2	341.982k	38.8	+0.2	+6.2	+0.1	+0.1	+0.0	45.4	49.2	-3.8	Black
3	303.441k	38.3	+0.2	+6.2	+0.1	+0.1	+0.0	44.9	50.1	-5.2	Black

4	363.071k	35.6	+0.2	+6.2	+0.1	+0.0	+0.0	42.1	48.7	-6.6	Black
5	284.533k	36.7	+0.2	+6.2	+0.1	+0.1	+0.0	43.3	50.7	-7.4	Black
6	828.483k	30.5	+0.3	+6.1	+0.1	+0.1	+0.0	37.1	46.0	-8.9	Black
7	264.171k	35.5	+0.2	+6.1	+0.1	+0.1	+0.0	42.0	51.3	-9.3	Black
8	185.633k	37.6	+0.3	+6.1	+0.1	+0.1	+0.0	44.2	54.2	-10.0	Black
9	381.979k	31.6	+0.2	+6.2	+0.1	+0.0	+0.0	38.1	48.2	-10.1	Black
10	1.188M	29.4	+0.3	+6.1	+0.0	+0.1	+0.0	35.9	46.0	-10.1	Black
11	166.726k	37.8	+0.5	+6.2	+0.1	+0.1	+0.0	44.7	55.1	-10.4	Black
12	17.481M	31.1	+0.3	+6.1	+0.4	+1.0	+0.0	38.9	50.0	-11.1	Black
13	17.697M	31.1	+0.3	+6.1	+0.4	+1.0	+0.0	38.9	50.0	-11.1	Black
14	16.004M	31.0	+0.3	+6.1	+0.4	+0.9	+0.0	38.7	50.0	-11.3	Black
15	16.977M	30.8	+0.3	+6.1	+0.4	+1.0	+0.0	38.6	50.0	-11.4	Black

CKC Laboratories, Inc. Date: 1/21/2008 Time: 10:30:55 AM Powerwave Technologies, Inc. WO#: 87496
FCC 15.107 Class B COND [AVE] Test Lead: Black 110V 60Hz Sequence#: 7



Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.107 Class B COND [AVE]**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	10:34:27 AM
Equipment:	**Wideband Radio Head**	Sequence#:	8
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
LISN	1104	11/10/2006	11/10/2008	00847
6dB Attenuator	None	11/21/2006	11/21/2008	P05611
150kHz HPF	G7755	01/09/2008	01/09/2010	02610
Conducted Emission Cable	Cable #21	05/09/2006	05/09/2008	P04358

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/102	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078
Power Supply	HP	6032	3542A12327

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. DC 27V (110Vac/60Hz source) 21°C, 20% relative humidity.

Transducer Legend:

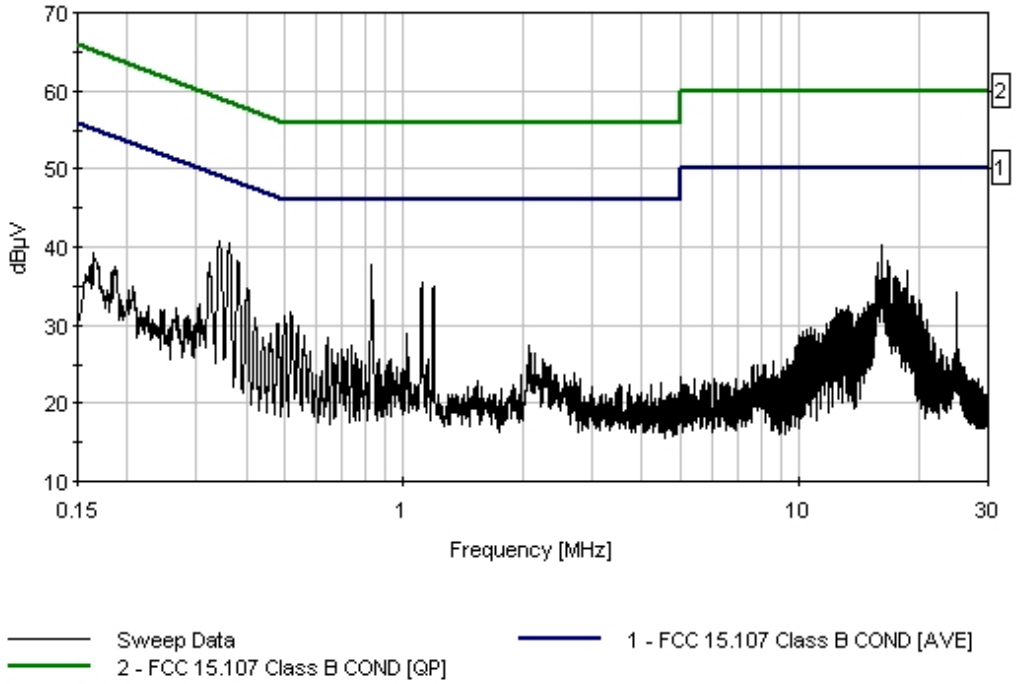
T1=150kHz HPF AN02610	T2=6dB Attenuator P05611
T3=Cable #21 Conducted Site A 050908	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	361.617k	33.9	+0.2	+6.2	+0.1	+0.1	+0.0	40.5	48.7	-8.2	White
2	830.665k	31.2	+0.3	+6.1	+0.1	+0.1	+0.0	37.8	46.0	-8.2	White
3	343.437k	34.2	+0.2	+6.2	+0.1	+0.1	+0.0	40.8	49.1	-8.3	White

4	16.229M	32.5	+0.3	+6.1	+0.4	+0.9	+0.0	40.2	50.0	-9.8	White
5	381.252k	31.6	+0.2	+6.2	+0.1	+0.1	+0.0	38.2	48.3	-10.1	White
6	1.111M	28.9	+0.3	+6.1	+0.0	+0.1	+0.0	35.4	46.0	-10.6	White
7	1.192M	28.5	+0.3	+6.1	+0.0	+0.1	+0.0	35.0	46.0	-11.0	White
8	322.348k	31.5	+0.2	+6.2	+0.1	+0.1	+0.0	38.1	49.6	-11.5	White
9	16.725M	30.4	+0.3	+6.1	+0.4	+1.0	+0.0	38.2	50.0	-11.8	White
10	15.797M	30.3	+0.3	+6.1	+0.4	+0.9	+0.0	38.0	50.0	-12.0	White
11	16.959M	29.7	+0.3	+6.1	+0.4	+1.0	+0.0	37.5	50.0	-12.5	White
12	16.184M	29.6	+0.3	+6.1	+0.4	+0.9	+0.0	37.3	50.0	-12.7	White
13	15.725M	29.5	+0.3	+6.1	+0.4	+0.9	+0.0	37.2	50.0	-12.8	White
14	16.058M	29.5	+0.3	+6.1	+0.4	+0.9	+0.0	37.2	50.0	-12.8	White
15	18.643M	29.1	+0.3	+6.1	+0.4	+1.1	+0.0	37.0	50.0	-13.0	White

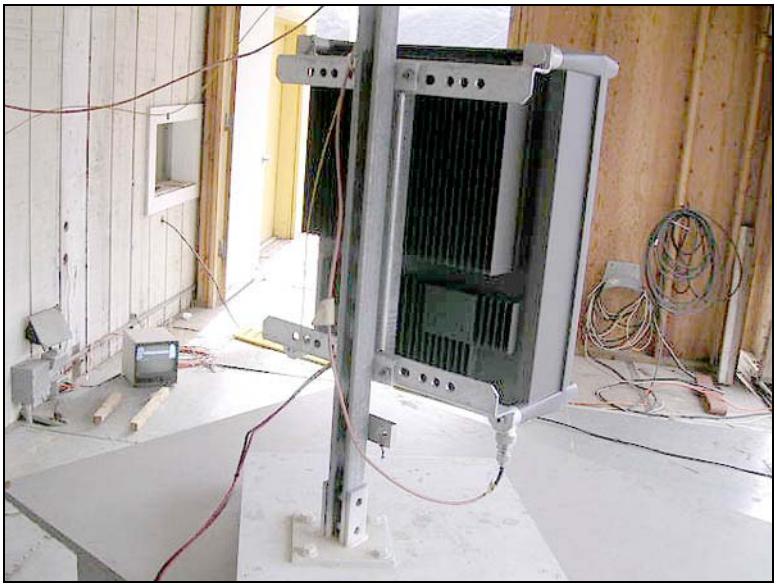
CKC Laboratories, Inc. Date: 1/21/2008 Time: 10:34:27 AM Powerwave Technologies, Inc. WO#: 87496
FCC 15.107 Class B COND [AVE] Test Lead: White 110V 60Hz Sequence#: 8



FCC 15.109 – RADIATED EMISSIONS

Test Setup Photos

DC



DC

Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Powerwave Technologies, Inc.**
Specification: **FCC 15.109 Class B**
Work Order #: **87496** Date: 1/18/2008
Test Type: **Radiated Scan** Time: 16:10:40
Equipment: **Wideband Radio Head** Sequence#: 5
Manufacturer: Powerwave Technologies, Inc. Tested By: E. Wong
Model: RH800020/101
S/N: NA

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
Bilog Antenna	431	07/11/2007	07/11/2009	565
Log Antenna	331	07/17/2007	07/17/2009	300
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
2'-40GHz cable	NA	09/18/2007	09/18/2009	P2948
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. 21°C, 20% relative humidity. Frequency range of measurement = 30 MHz - 10 GHz. Frequency 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10,000 MHz RBW=1 MHz, VBW=1 MHz.

Transducer Legend:

T1=Bico AN00565	T2=Log AN00300
T3=Preamp 8447D 060108	T4=Cable #10 051609
T5=Cable #15, Site A, 010509	

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	69.616M	47.1	+9.3 +1.5	+0.0	-27.7	+0.0	+0.0	30.2	40.0	-9.8	Vert
2	68.866M	45.2	+9.3 +1.5	+0.0	-27.7	+0.0	+0.0	28.3	40.0	-11.7	Vert
3	423.392M	39.1	+0.0 +3.8	+16.5	-27.7	+0.4	+0.0	32.1	46.0	-13.9	Vert
4	443.333M	38.4	+0.0 +4.0	+16.8	-27.6	+0.4	+0.0	32.0	46.0	-14.0	Vert
5	840.017M	29.3	+0.0 +5.7	+22.9	-27.1	+0.6	+0.0	31.4	46.0	-14.6	Horiz
6	344.408M	34.6	+0.0 +3.5	+19.7	-27.6	+0.3	+0.0	30.5	46.0	-15.5	Horiz

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.109 Class B**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Radiated Scan**	Time:	09:51:52
Equipment:	**Wideband Radio Head**	Sequence#:	6
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
Bilog Antenna	431	07/11/2007	07/11/2009	565
Log Antenna	331	07/17/2007	07/17/2009	300
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
2'-40GHz cable	NA	09/18/2007	09/18/2009	P2948
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/102	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078
Power Supply	HP	6032	3542A12327

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a remote RF signal source. Optical port is connected to a support Optical converter. RF signal is sent to the antenna port of the EUT, the EUT converts the received RF signal to optical signal and sends the optical signal to a remote optical converter. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. DC 27V (110Vac/60Hz source) 21°C, 20% relative humidity. Frequency range of measurement = 30 MHz - 10 GHz. Frequency 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10,000 MHz RBW=1 MHz, VBW=1 MHz.

Transducer Legend:

T1=Bico AN00565	T2=Log AN00300
T3=Preamp 8447D 060108	T4=Cable #10 051609
T5=Cable #15, Site A, 010509	T6=Pre amp 1- 26GHz 071908
T7=54' Heliax Cable 091808 P05565	T8=Hi Freq_40GHz_2ft-ANP02948-091809
T9=Horn 00849_062908	

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

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	359.399M	44.1	+0.0 +3.5 +0.0	+18.7 +0.0	-27.6 +0.0	+0.3 +0.0	+0.0	39.0	46.0	-7.0	Horiz
2	400.000M	43.7	+0.0 +3.7 +0.0	+16.2 +0.0	-27.8 +0.0	+0.4 +0.0	+0.0	36.2	46.0	-9.8	Horiz
3	350.017M	38.8	+0.0 +3.5 +0.0	+19.4 +0.0	-27.6 +0.0	+0.3 +0.0	+0.0	34.4	46.0	-11.6	Horiz
4	35.311M	42.9	+12.0 +1.0 +0.0	+0.0 +0.0	-27.8 +0.0	+0.1 +0.0	+0.0	28.2	40.0	-11.8	Vert
5	375.017M	39.2	+0.0 +3.6 +0.0	+17.7 +0.0	-27.7 +0.0	+0.4 +0.0	+0.0	33.2	46.0	-12.8	Horiz
6	367.383M	37.6	+0.0 +3.6 +0.0	+18.2 +0.0	-27.7 +0.0	+0.3 +0.0	+0.0	32.0	46.0	-14.0	Horiz
7	384.050M	38.0	+0.0 +3.6 +0.0	+17.2 +0.0	-27.7 +0.0	+0.4 +0.0	+0.0	31.5	46.0	-14.5	Horiz
8	2541.700M	43.9	+0.0 +0.0 +28.9	+0.0 -38.5	+0.0 +3.5	+0.0 +0.4	+0.0	38.2	54.0	-15.8	Horiz
9	310.217M	29.0	+0.0 +3.3 +0.0	+22.2 +0.0	-27.6 +0.0	+0.2 +0.0	+0.0	27.1	46.0	-18.9	Horiz
10	332.717M	28.9	+0.0 +3.4 +0.0	+20.6 +0.0	-27.6 +0.0	+0.3 +0.0	+0.0	25.6	46.0	-20.4	Vert

FCC 15.111 – ANTENNA POWER CONDUCTED EMISSIONS

Test Setup Photos

Test Data Sheets

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC 15.111**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	11:20:34
Equipment:	**Wideband Radio Head**	Sequence#:	11
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/102		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
3'-40GHz cable	NA	09/18/2007	09/18/2009	P02945

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF antenna port is connected to a spectrum analyzer. Optical port is connected to a support Optical converter. The EUT is set in receive mode, RX spurious emission is evaluated at the antenna port. RX range: 896-902MHz. Mode: receive. Frequency = 899 MHz. Modulation: iDEN. 21°C, 20% relative humidity. Frequency range of measurement = 30 MHz - 10 GHz. Frequency 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10,000 MHz RBW=1 MHz, VBW=1 MHz. No emission found, recorded data represent noise floor level.

Transducer Legend:

T1=Hi Freq_40GHz_3ft_CAB-ANP02945-091809

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

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4530.000M	32.1	+0.7				+0.0	32.8	50.0	-17.2	Anten

FCC 2.1033(c)(14)/2.1046/90.635(b) - RF POWER OUTPUT

Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
RF Power meter	02778	HP	EPM-441A	GB37170458	012706	012708
Power Sensor	02777	HP	E4412A	MY41499662	012706	012708

Test Setup Photos

Test Conditions

The EUT is a RF amplifier. The manufacturer does not provide an antenna for sale with the product, hence EIRP is not measured nor calculated. The end user of this product is to exercise proper engineering judgment to select the appropriate antenna to comply with the EIRP limitation set forth by FCC 90.635(b).

The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal converts the signal to optic and sends to the EUT. The EUT decodes the optical signal, and generates a RF signal. The RF output power of the EUT was measured at the antenna port, the measured conducted output power meets the rated output power of the product.

Test Data

Part90

Modulation: iDEN	Power (dBm)	Power (Watts)
935.5MHz	43	20
937.5.0 MHz	43	20
939.5 MHz	43	20

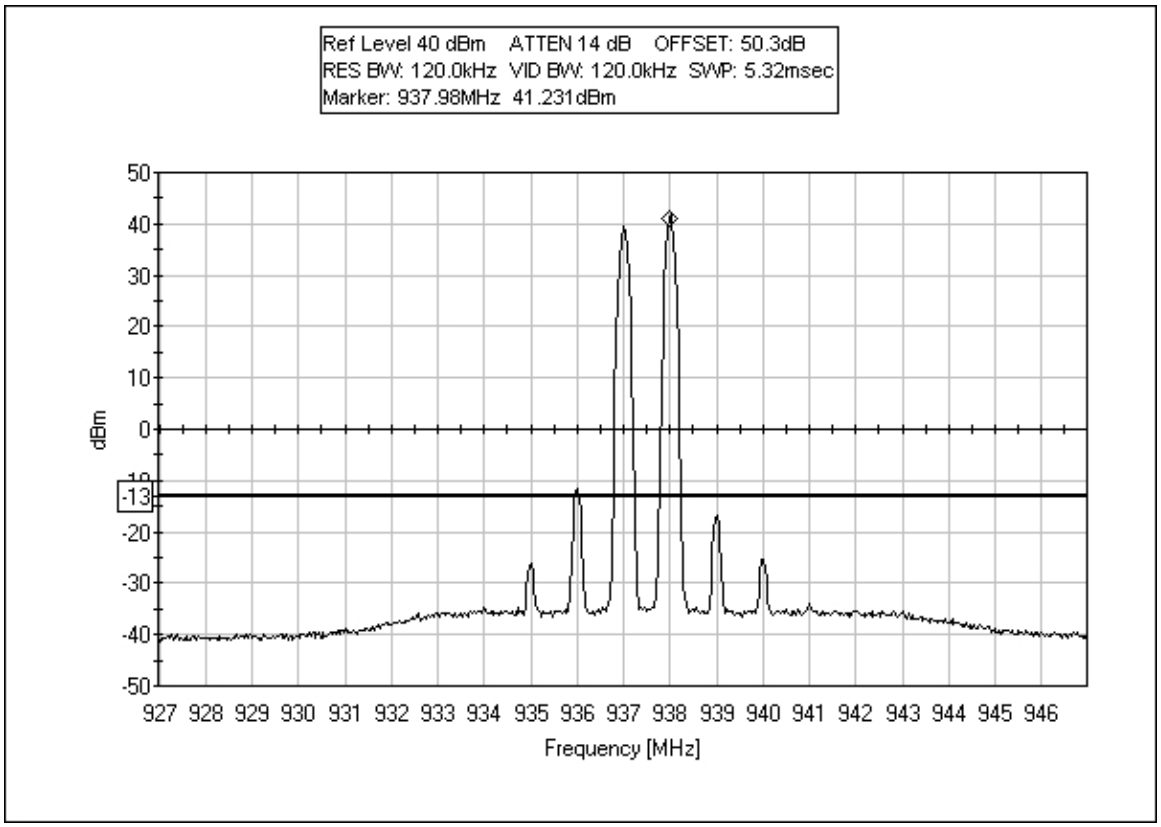
RSS-131 - RF POWER OUTPUT

Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309

Test Setup Photos

Test Data
4.3 Mean Output power.



Test Conditions: The EUT is a RF amplifier. The manufacturer does not provide an antenna for sale with the product, hence EIRP is not measured nor calculated. The RF power of the EUT was measured at the antenna port in accordance with RSS 131, 4.3.1 requirement.

Measured Po1 =+ 41.2 dBm

P mean = Po1 + 3 dB = 41.2 **+ 3** dBm = 44.2 dBm **= 26W**

FCC 2.1033(c)(14)/2.1049(i)- INPUT AND OUTPUT PLOTS

Test Equipment

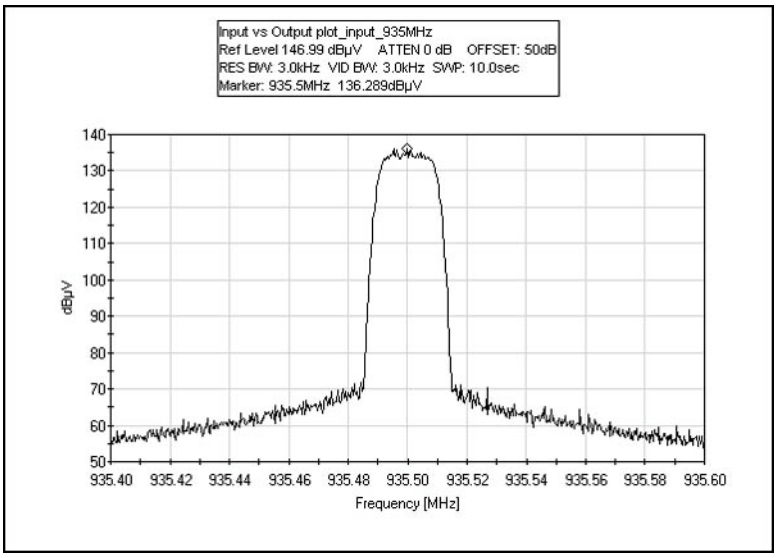
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309

Test Conditions: The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends it to the EUT. The EUT decodes the optical signal, and generates a RF signal. Output Emission profile evaluated at the RF antenna port. Modulation: iDEN.

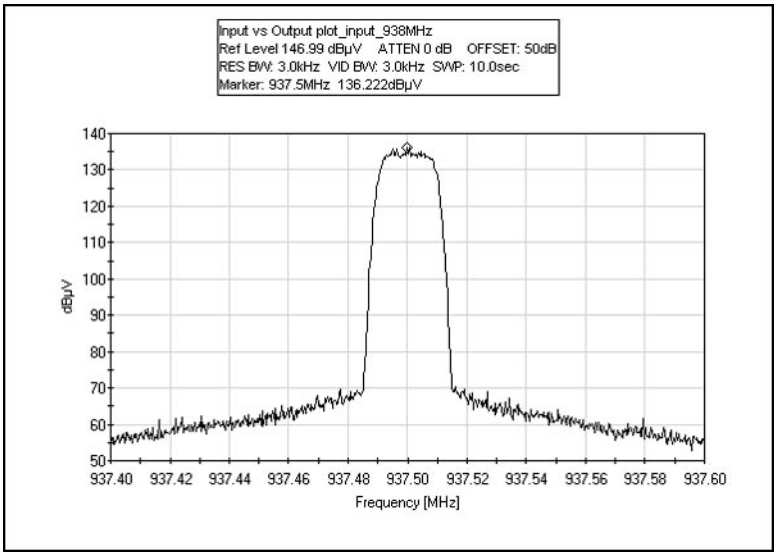
Test Setup Photos

Test Plots

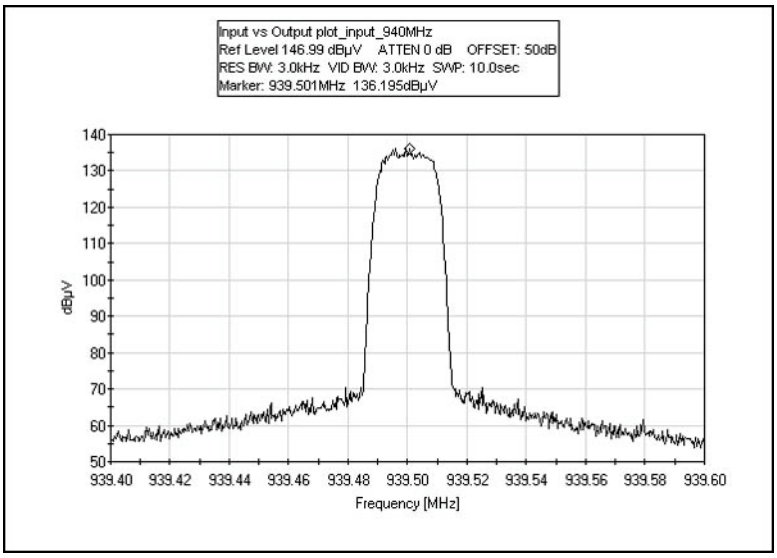
INPUT PLOT 935MHz



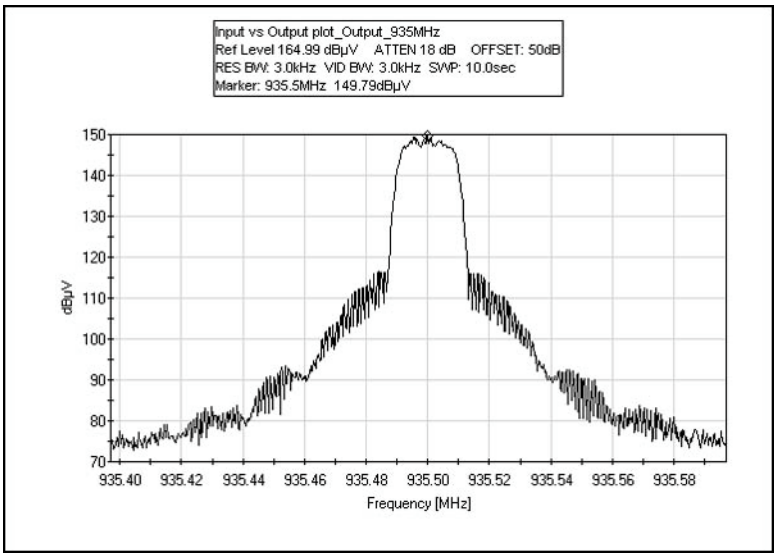
INPUT PLOT 938MHz



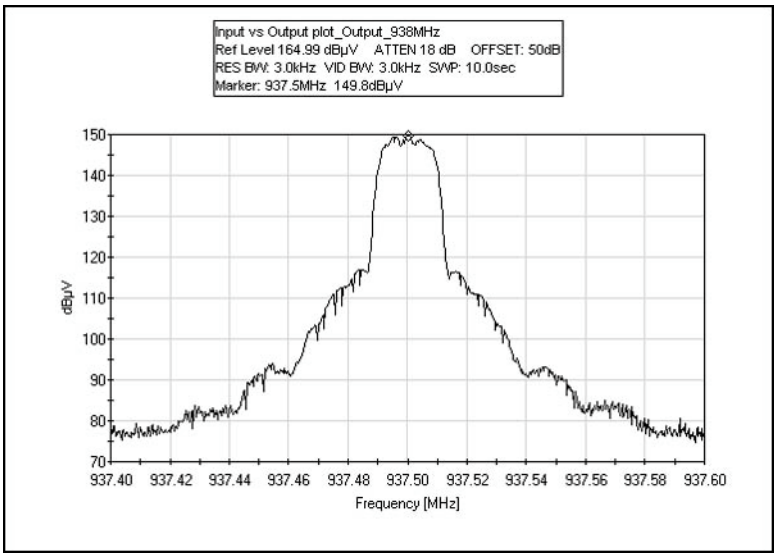
INPUT PLOT 940MHz



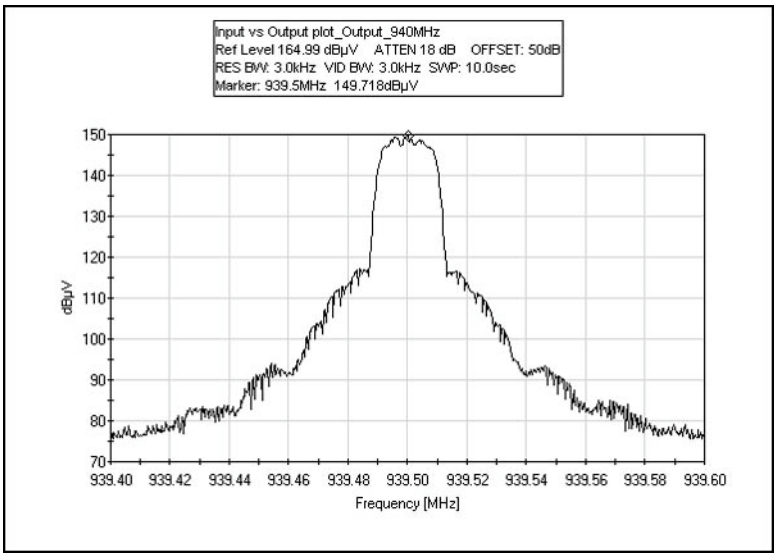
OUTPUT PLOT 935MHz



OUTPUT PLOT 938MHz



OUTPUT PLOT 940MHz



FCC 2.1033(c)(14)/2.1051/90.691(a)(2) - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Test Data

Limit line for Spurious Conducted Emission

Required Attenuation = 43+10 Log P dB

Limit line (dBuV) = V_{dBuv} - Attenuation

V_{dBuV} = $20 \text{ Log } \frac{V}{1 \text{ x } 10^{-6}}$

= $20\left(\text{Log } V - \text{Log } 1 \text{ x } 10^{-6}\right)$

= $20 \text{ Log } V - 20 \text{ Log} 1 \text{ x } 10^{-6}$

= $20 \text{ Log } V - 20(-6)$

= $20 \text{ Log } V + 120$

Attenuation = $43 + 10 \text{ Log } P$

= $43 + 10 \text{ Log } \frac{V^2}{R}$

= $43 + 10\left(\text{Log } V^2 - \text{Log } R\right)$

= $43 + 10(2 \text{ Log } V - \text{Log } R)$

= $43 + 20 \text{ Log } V - 10 \text{ Log } R$

Limit line = V_{dBuv} - Attenuation

= 20 Log V + 120 – (43 + 20 Log V – 10Log R)

= 20 Log V + 120 – 43 – 20 Log V + 10Log R

= 20 Log V + 120 – 43 – 20 Log V + 10Log R

= 120 – 43 + 10 Log 50 Note : R = 50 Ω

= 120 –43 + 16.897

= 94 dBuV at any power level

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**FCC90.691 (a) Conducted Spurious emission**		
Work Order #:	**87496**	Date:	1/21/2008
Test Type:	**Conducted Emissions**	Time:	13:20:54
Equipment:	**Wideband Radio Head**	Sequence#:	12
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/101		110V 60Hz
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
1.0 GHz HPF	1	03/07/2006	03/07/2008	02749
3'-40GHz cable	NA	09/18/2007	09/18/2009	P02945

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends to the EUT. The EUT decodes the optical signal, and generates a RF signal. RF profile evaluated at the RF antenna port. Operating range: 935-940MHz. Power = 20 watts. Frequency = 935.5MHz, 937.5MHz, 939.5MHz. Modulation: iDEN. 21°C, 20% relative humidity. Frequency range of measurement = 9 kHz - 10 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10,000 MHz RBW=1 MHz, VBW=1 MHz.

Transducer Legend:

T1=Hi Freq_40GHz_3ft_CAB-ANP02945-091809	T2=Filter 1GHz HP AN02749

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

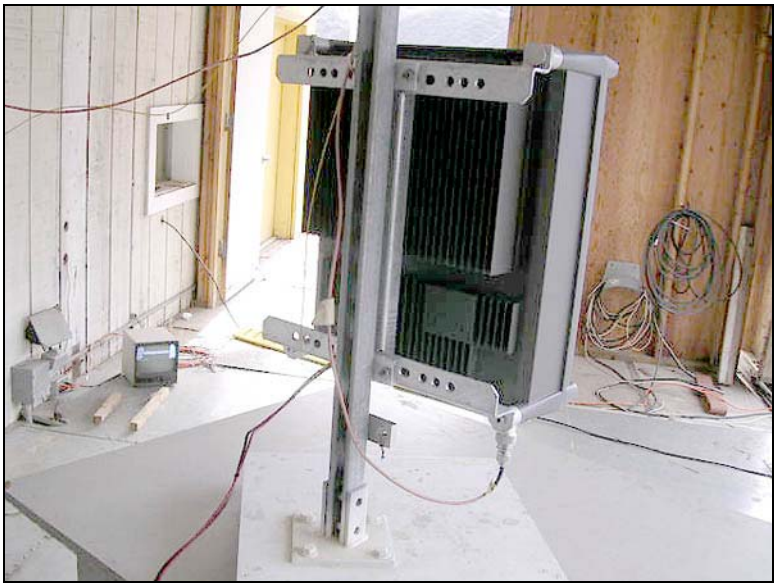
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	1878.833M Ave	76.3	+0.5	+0.3			+0.0	77.1	94.0	-16.9	Anten
^	1878.833M	90.8	+0.5	+0.3			+0.0	91.6	94.0	-2.4	Anten
3	1870.933M Ave	75.5	+0.5	+0.3			+0.0	76.3	94.0	-17.7	Anten
^	1870.933M	90.3	+0.5	+0.3			+0.0	91.1	94.0	-2.9	Anten

5	1874.767M Ave	75.0	+0.5	+0.3	+0.0	75.8	94.0	-18.2	Anten
^	1874.767M	90.3	+0.5	+0.3	+0.0	91.1	94.0	-2.9	Anten
7	2818.650M Ave	71.2	+0.6	+0.4	+0.0	72.2	94.0	-21.8	Anten
^	2818.650M	88.7	+0.6	+0.4	+0.0	89.7	94.0	-4.3	Anten
9	2812.500M Ave	71.0	+0.6	+0.4	+0.0	72.0	94.0	-22.0	Anten
^	2812.500M	88.0	+0.6	+0.4	+0.0	89.0	94.0	-5.0	Anten
11	2806.417M Ave	69.9	+0.6	+0.4	+0.0	70.9	94.0	-23.1	Anten
^	2806.417M	88.4	+0.6	+0.4	+0.0	89.4	94.0	-4.6	Anten

FCC 2.1033(c)(14)/2.1053/90.691(a)(2) - FIELD STRENGTH OF SPURIOUS RADIATION

Test Setup Photos

DC



DC

Test Data

Test Location: CKC Laboratories, Inc. •110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer:	**Powerwave Technologies, Inc.**		
Specification:	**90.691(a) Radiated Spurious Emission**		
Work Order #:	**87496**	Date:	1/18/2008
Test Type:	**Radiated Scan**	Time:	11:06:47
Equipment:	**Wideband Radio Head**	Sequence#:	2
Manufacturer:	Powerwave Technologies, Inc.	Tested By:	E. Wong
Model:	RH800020/101		
S/N:	NA		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	US44300438	01/03/2007	01/03/2009	02672
Bilog Antenna	431	07/11/2007	07/11/2009	565
Log Antenna	331	07/17/2007	07/17/2009	300
Pre amp to SA Cable	Cable #10	05/16/2007	05/16/2009	P05050
Cable	Cable15	01/05/2007	01/05/2009	P05198
Pre Amp	1937A02548	06/01/2006	06/01/2008	00309
Horn Antenna	6246	06/29/2006	06/29/2008	00849
Microwave Pre-amp	3123A00281	07/19/2006	07/19/2008	00786
2'-40GHz cable	NA	09/18/2007	09/18/2009	P2948
Heliax Antenna Cable	P5565	09/18/2006	09/18/2008	P05565
1.0 GHz HPF	1	03/07/2006	03/07/2008	02749
Loop Antenna	2014	06/14/2006	06/14/2008	00314

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

Function	Manufacturer	Model #	S/N
Wideband Radio Head*	Powerwave Technologies, Inc.	RH800020/101	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Power Meter	Agilent	E4419B	GB402019/12
Pre Amp	Mini Circuit	ZHL-4240	D040405
Optical Converter	Powerwave	NA	NA
ESG	Aeroflex	IFR 3413	341005/078

Test Conditions / Notes:

The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends to the EUT. The EUT decodes the optical signal, and generates a RF signal. Operating range: 935-940MHz. Power = 20 watts. Frequency = 935.5 MHz, 937.5 MHz, 939.5 MHz. Modulation: iDEN. 21°C, 20% relative humidity. Frequency range of measurement = 9 kHz - 10 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 10,000 MHz RBW=1 MHz, VBW=1 MHz. No emission detected. Recorded data represents noise floor level.

Operating Frequency: 935.5 MHz – 939.5 MHz
Channels: Low, Mid and High
Highest Measured Output Power: 43.01 ERP(dBm)= 20 ERP(Watts)
Distance: 3 meters
Limit: 43+10Log(P) 56.01 dBc

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
2,806.50	-54.8	Horiz	97.81
2,806.50	-55	Vert	98.01
1,871.00	-60.2	Vert	103.21
2,812.50	-54.6	Horiz	97.61
1,875.00	-60.1	Horiz	103.11
3,752.12	-53.2	Vert	96.21
1,877.12	-60.5	Vert	103.51

BAND EDGE

Test Equipment

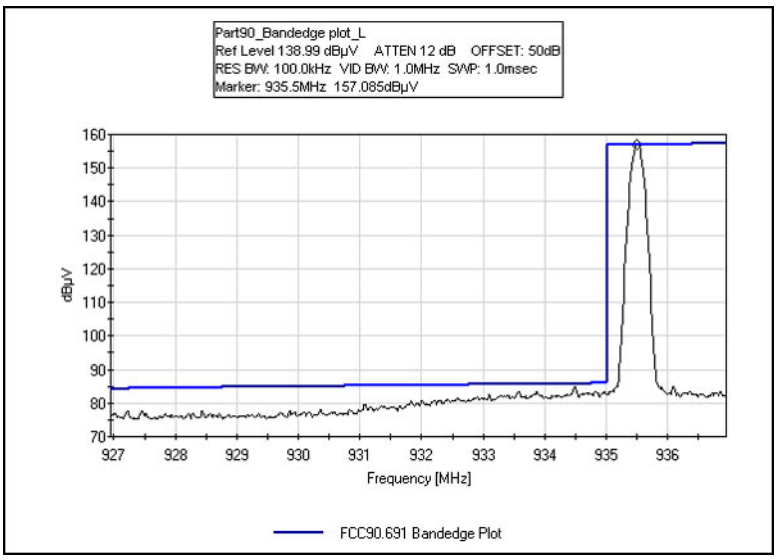
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309

Test Conditions: The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends it to the EUT. The EUT decodes the optical signal, and generates a RF signal. Emission profile evaluated at the RF antenna port. Modulation: iDEN.

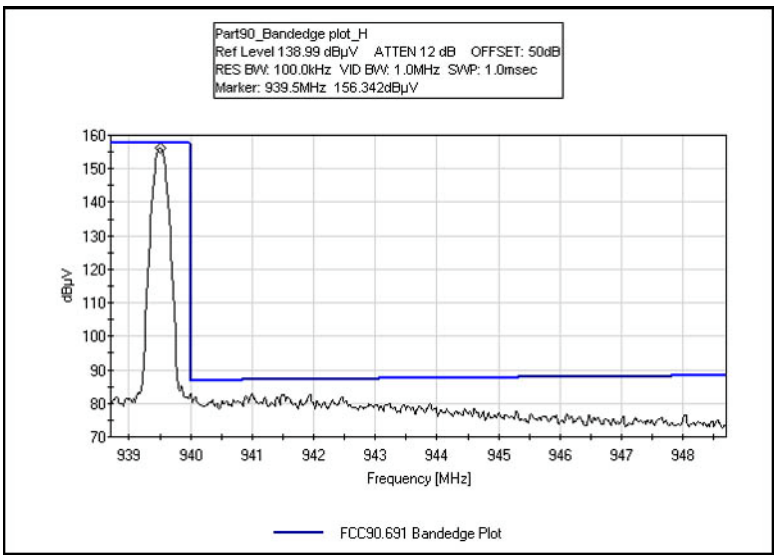
Test Setup Photos

Test Plots

FCC PART 90 BANDEDGE PLOT - LOW



FCC PART 90 BANDEDGE PLOT - HIGH



INTERMODULATION

Test Equipment

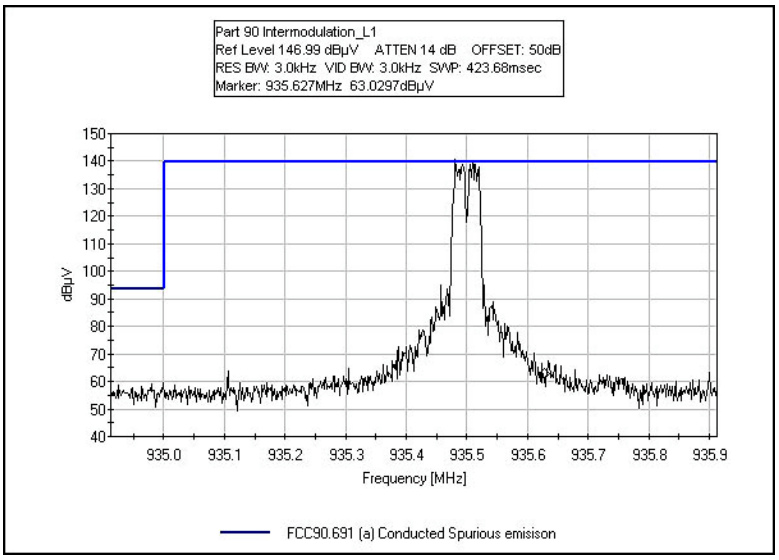
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309

Test Conditions: The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends it to the EUT. The EUT decodes the optical signal, and generates a RF signal. Two RF signals spaced a channel apart were injected to the EUT. Emission profile evaluated at the RF antenna port. Modulation: iDEN.

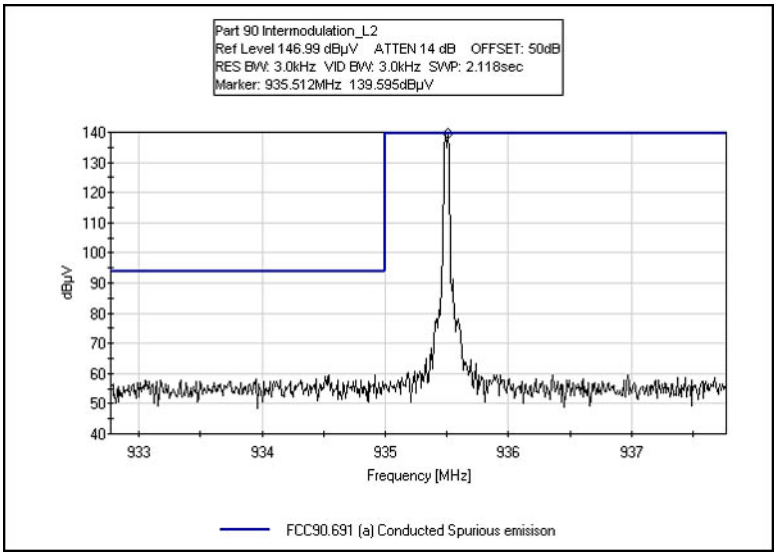
Test Setup Photos

Test Plots

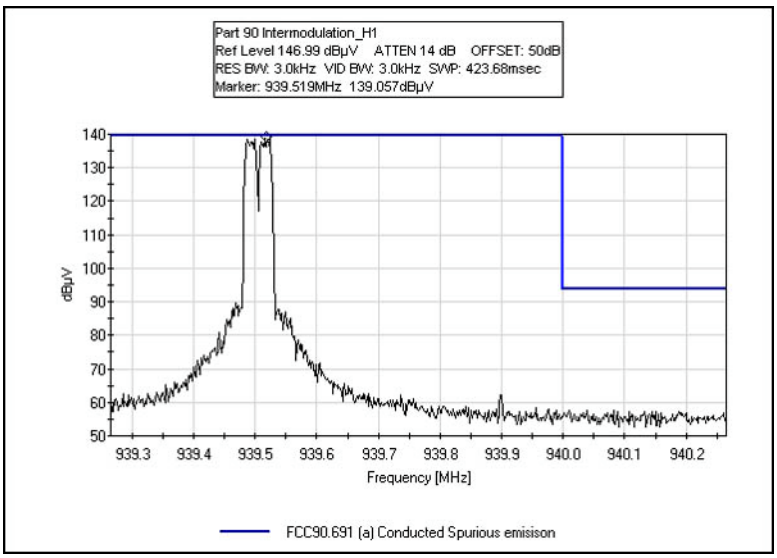
INTERMODUATION L1



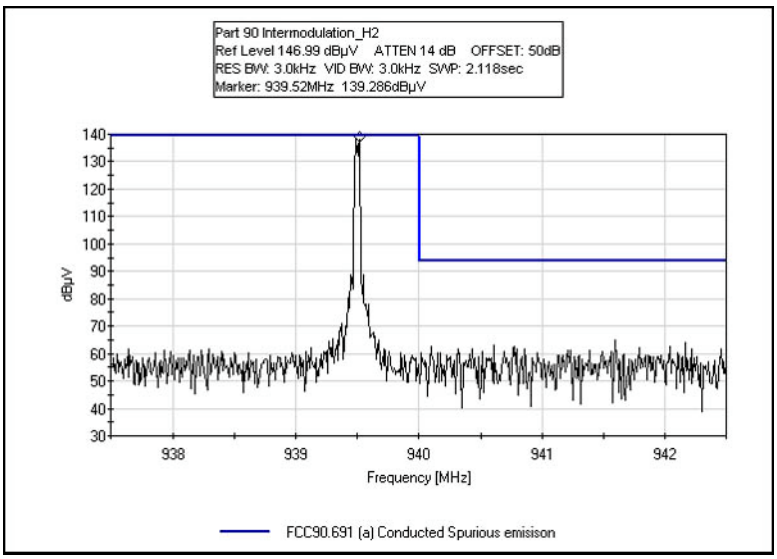
INTERMODUATION L2



INTERMODUATION H1



INTERMODUATION H2



99% BANDWIDTH

Test Equipment

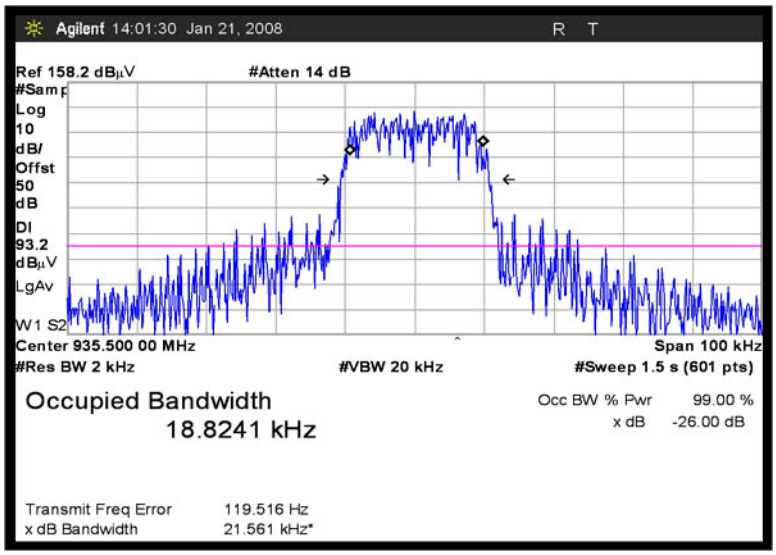
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	010307	010309

Test Conditions: The EUT is placed on the wooden table. The RF Output port is connected to a load string. Optical in port is connected to a support Optical converter. Support optical converter receives RF signal, converts the signal to optic and sends it to the EUT. The EUT decodes the optical signal, and generates a RF signal. Emission profile evaluated at the RF antenna port. Modulation: iDEN.

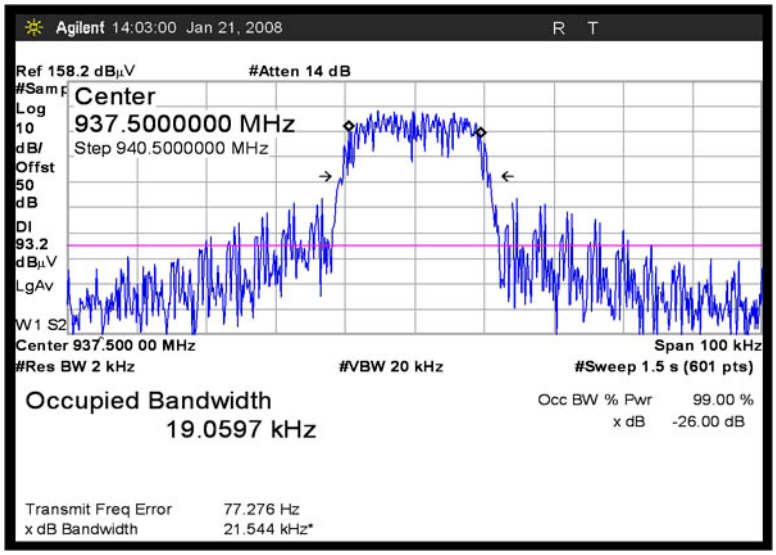
Test Setup Photos

Test Plots

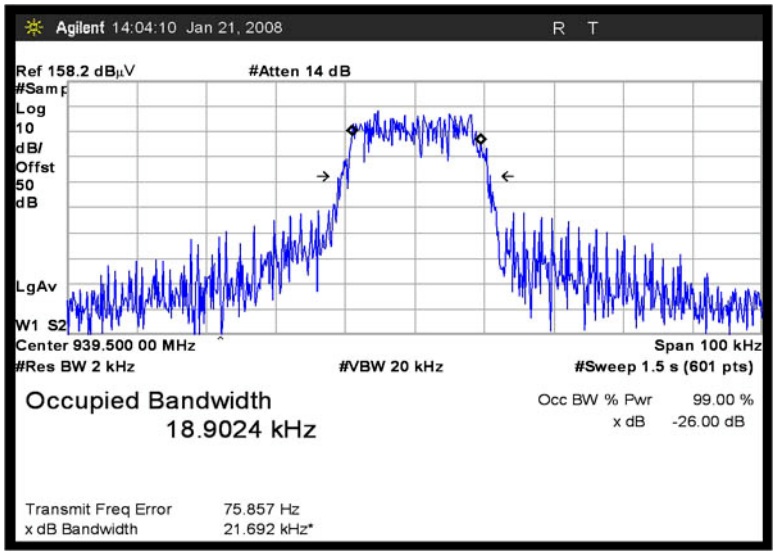
99% BANDWIDTH 935MHz



99% BANDWIDTH 938MHz



99% BANDWIDTH 940MHz



RSS-131 AMPLIFIER GAIN AND BANDWIDTH

Test Equipment

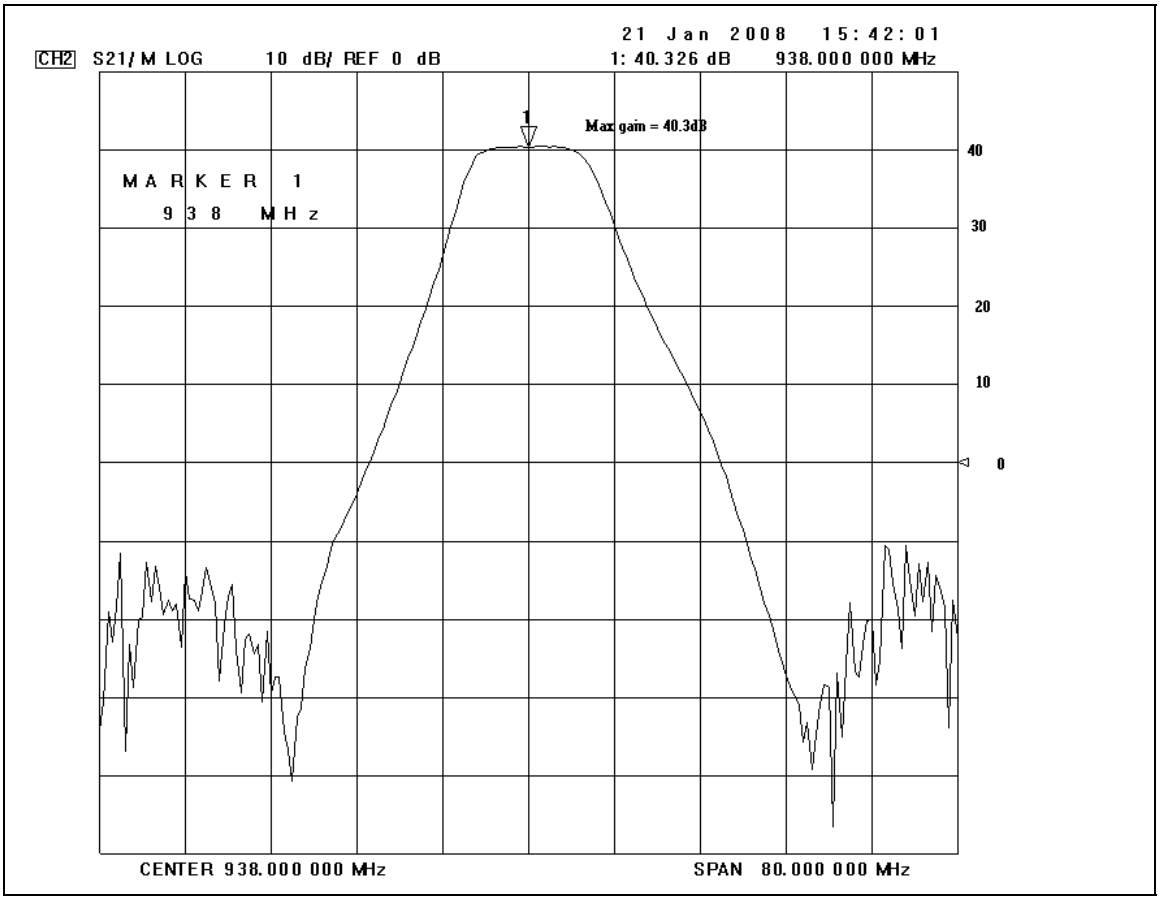
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Network analyzer	C00012	HP	8753E	Us38432770	052006	052008

Test Setup Photos

Test Plots

RSS 131 Amplifier gain and Bandwidth:

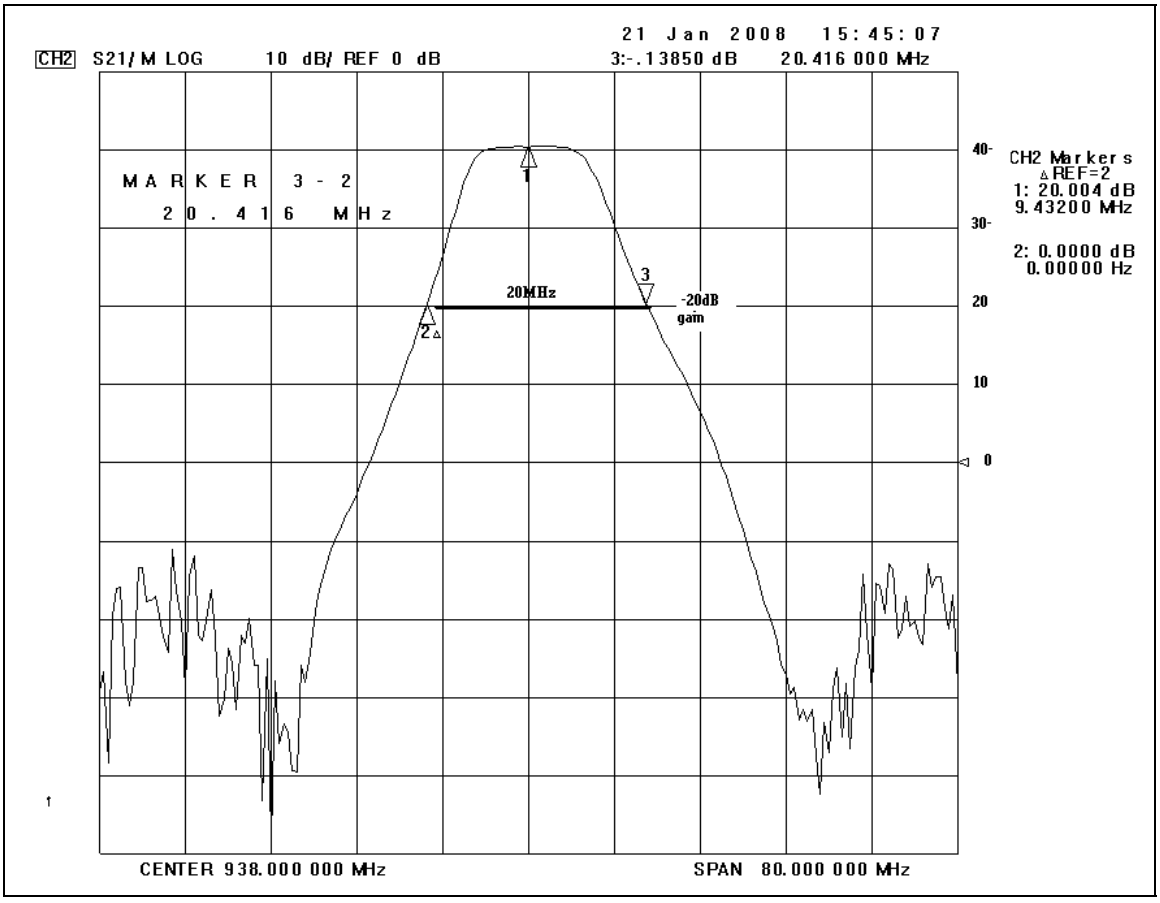
Setup



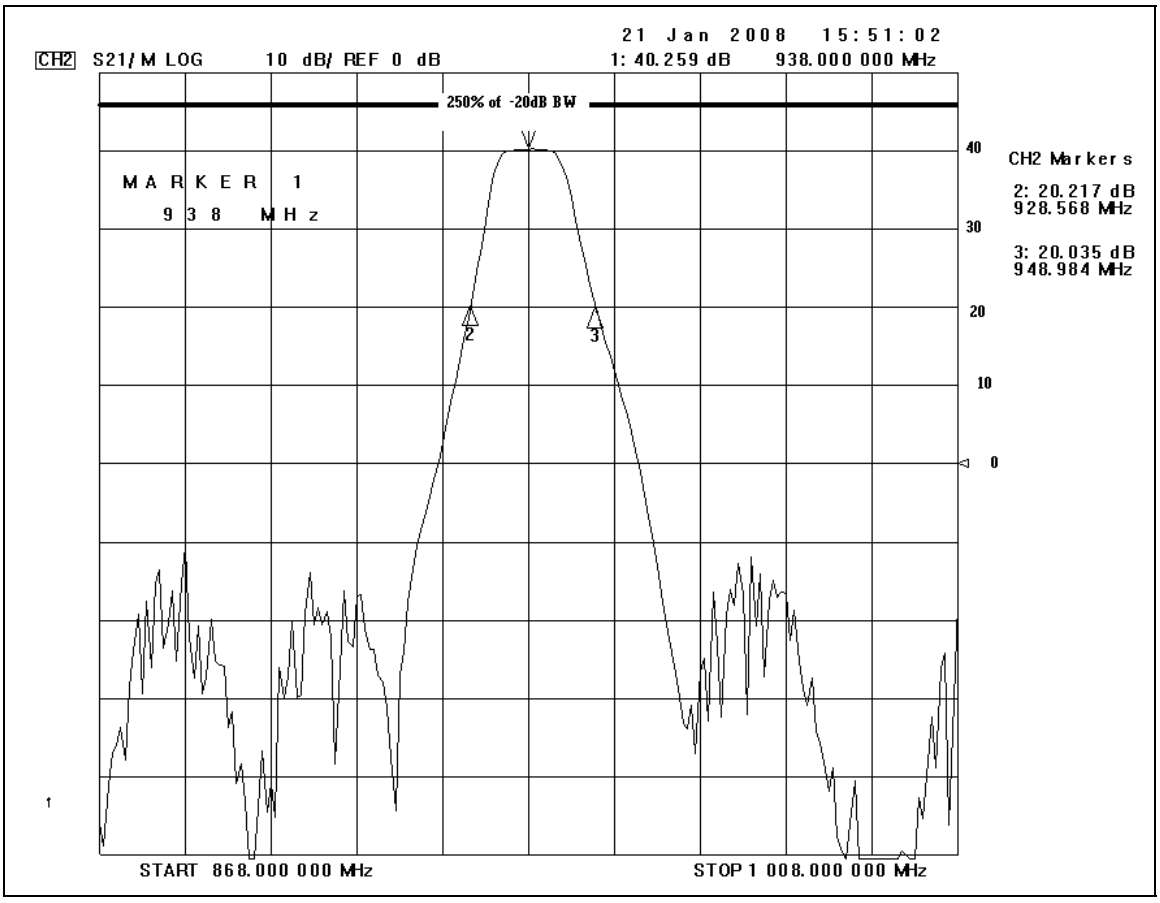
Measured gain = Output – Reference (dB)

The nominal bandwidth and nominal pass band gain (dB) of the RF enhancer or translator shall be stated by the manufacturer or equipment certification applicant and indicated in the test report.

Manufacturer stated gain = 45-70 dB
The internal control is adjusted to the nominal gain for which equipment certification is sought.
Maximum measured gain = 40.3dB



With the aid of a Vector Network analyzer, the 20 dB Bandwidth is measured.



The gain-versus-frequency response of the amplifier from the mid band Fo of the pass band up to at least fo + - 250% of the 20dB Bandwidth.

Minimum standard:
The pass band gain response shall not exceed the nominal gain by more than 1 dB. The 20 dB bandwidth shall not exceed the nominal bandwidth that is stated by the manufacturer.

Outside of the 20dB bandwidth the gain shall not exceed that at the 20dB point.