FCC CFR47 PART 22 TYPE ACCEPTANCE

TEST REPORT

FOR

SINGLE CHANNEL CELLULAR AMPLIFIER

MODEL: NTGS86AA (SCA9XXX-25)

FCC ID: E675JS0030

REPORT NUMBER: 98E7383

ISSUE DATE: MAY 29, 1998

Prepared for
POWERWAVE TECHNOLOGIES,INC.
2026 McGAW AVENUE
IRVINE, CA 92614

Prepared by
COMPLIANCE CERTIFICATION SERVICES, INC.
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LAB CODE:200065-0

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1. FCC TYPE ACCEPTANCE INFORMATION

The following information is in accordance with FCC Rules, 47CFR Part2, Subpart J, Sections 2.983 – 2.999.

2.983(a) Applicant: POWERWAVE TECHNOLOGIES, INC.
2026 McGAW AVENUE
IRVINE, CA 92614

Contact person: GEORGE SOREMEKUN

Telephone number: (714) 757-6605

2.983(b) FCC ID: E675JS0030
Model: NTGS86AA(SCA9XXX-25)

2.983(c) Quantity production is planned

2.983(d) Technical Description

The NTGS86AA is a linear, single-channel power amplifier that operates in the 25MHz frequency band from 869 MHz to 894 MHz. It is designed as a self-contained module with EMI containment for use in both an indoor and outdoor North America Cellular Base Stations. Its flat base plate allows for mounting on a flat thermal-absorbing surface to provide adequate heat dissipation, thereby avoiding the use of any built-in fans.

Each amplifier module has a power, alarm, and control connector that allows the host system to monitor the amplifier module performance. Primary power for the amplifier is +26Vdc..
For more information about the product please refer to manual, which is included.

1) Type of emissions

F9W

2) Frequency Range

Minimum: 869MHz
Maximum: 894MHz

3) Range of Operation Power

Minimum : 27 dBm
Nominal : 33dBm
Maximum : 44dBm

4) Maximum Power Rating

25 Watts

5) Applied voltage and currents into the final transistor elements

Refer to **Attachment**: Schematics and Parts list. Confidentiality is requested for these items.

6) Function of Each Active Device

Refer to **Attachment**: Schematics and Parts list. Confidentiality is requested for these items.

7) Complete Circuit Diagrams and Functional Diagram

Refer to **Attachment**: Schematics and Parts list. Confidentiality is requested for these items.

8) Instructions/Installation Manual

Refer to **Attachment**: Installation and Service manual.

9) Tune-up/Optimizations Procedure

Refer to **Attachment**: Installation and Service manual.

10) Means for Frequency Stabilization

Not Applicable. Eut is a power amplifier

11) Means for Limiting Power.

A standard 18-Pin Molex connector is required to indicate that the SCPA has shutdown (for self-protection purposes) due to influences outside the normal operating range. When the SCPA has entered this self-protection state, it is said to be in Anxiety Mode. The normal voltage condition is +26Vdc, if overpower is detected (+28.5Vdc) power amplifier will enter into Anxiety mode and trip.

11) Means for Suppressing of Spurious Radiation.

Not Applicable.

12) Description of Digital Modulation Techniques

Not Applicable.

2.983(e) Standard Test Condition

The power amplifier was tested under the following conditions.

DC Supply Voltage: 26Vdc
AC Supply Voltage: 230Vac, 50Hz

The amplifier was aligned and tuned up according to manufacturer's alignment procedure, prior to testing. All data presented represents the worst case parameter being measured.

2.983(f) Equipment Identification

A drawing of the equipment identification nameplate appears under **Attachment**: PROPOSED FCC ID LABEL FORMAT.

2.983(g) Photographs

Photographs of the equipment, internal and external views, are found in the **Attachment**: Eut Photographs.

2.983 Description of Various Base Station Configuration

Not Applicable.

2.983 Use of Various Power Supplies
Normal operation is from 25.5 – 26.5 Vdc sources.

TYPE OF EQUIPMENT:	SCA9502-25 AMPLIFIER
MEASUREMENT DISTANCE:	3 METER
TECHNICAL LIMIT:	FCC 22.359, 22.917
FCC RULES:	PART 2, 15, AND 22
EQUIPMENT AUTHORIZATION PROCEDURE	TYPE ACCEPTANCE
MODIFICATIONS MADE ON EUT	☒ YES (REFER TO PAGE 8) ☐ NO

The above equipment was tested by Compliance Certification Services for compliance with the requirements set forth in the FCC CFR 47, PART 15 AND 22. The results of testing in this report apply to the product/system, which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By

MIKE C.I. KUO / VICE - PRESIDENT
COMPLIANCE CERTIFICATION SERVICES

2. TEST FACILITY

The open area test sites and conducted measurement facilities used to collect the radiated data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

3. ACCREDITATION AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code:200065-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (reference no: 31040/SIT (1300B3) and 31040/SIT(1300F2))

4. MEASUREMENT INSTRUMENTATION

Radiated emissions were measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, ridged waveguide liner horn. EMI receivers were used for line conducted readings, spectrum analyzers with pre-selectors and quasi-peak detectors were used to perform radiated measurements. Receiving equipment (i.e., receiver, analyzer, quasi-peak adapter, pre-selector) and LISNs conform to CISPR specification for “Radio Interference Measuring Apparatus and Measurement Methods,” Publication 16.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

5. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

6. UNITS OF MEASUREMENT

Measurements of radiated interference are reported in terms of dB(uV/m) at a specified distance. The indicated readings on the spectrum analyzer were converted to dB(uV/m) by use of appropriate conversion factors. Measurements of conducted interference are reported in terms of dB(uV).

The field strength is calculated by adding the Antenna Factor and Cable Factors, then by subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

Where FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain

Assume a receiver reading of 52.5 dBuV is obtained. The Antenna Factor of 7.4dB/m and a Cable Factor of 1.1dB is added. The Amplifier Gain of 29 dB is subtracted, giving a field strength of 32 dBuV/m. The 32 dBuV/m value was mathematically converted to its corresponding level in uV/m.

FS = 52.5 + 7.4 + 1.1 - 29 = 32 dBuV/m

Level in uV/m = Common Antilogarithm [(32 dBuV/m)/20] = 39.8 uV/m

7. CLASSIFICATION OF DIGITAL DEVICE

Class A includes digital devices that are marketed for use in commercial, industrial or business environments, excluding devices which are marketed for use by the general public or are intended to be used in the home.

Class B includes digital devices that are marketed for use in residential environments, notwithstanding use in commercial, business and industrial environments.

Note: The responsible party may also qualify a device intended to be marketed in a commercial, business or industrial environment as Class B device, and in fact is encouraged to do so provided the device complies with the technical specifications for a Class B digital device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B digital device, regardless of its intended use.

8. RADIATED EMISSION LIMITS

FCC PART 15 CLASS A

MEASURING DISTANCE OF 10 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	90	39.1
88-216	150	43.5
216-960	210	46.4
Above 960	300	49.5

FCC PART 15 CLASS B

MEASURING DISTANCE OF 3 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

9. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80 cm above the ground screen. Antenna to EUT distance is 3 meters . During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

EUT test configuration is according to Section 8 of ANSI C63.4/1992.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

COMPLIANCE CERTIFICATION SERVICES DOCUMENT NO:CCSUP4031A
1366 BORDEAUX DRIVE SUNNYVALE, CA 94089 USA TEL:(408) 752-8166 FAX:(408) 752-8168

10. AMBIENT CONDITIONS

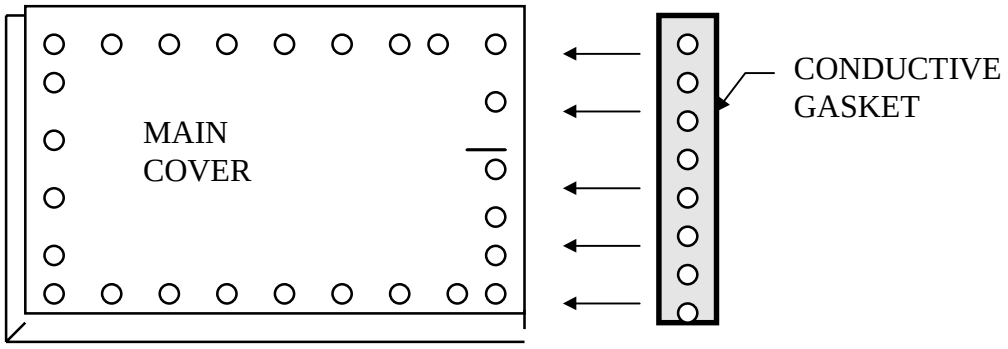
The ambient conditions at the time of final tests were as follows:

	Radiated Emission	Conducted Emission
Temperature	**15**^{o}C	**20**^{o}C
Humidity	**94%**	**74%**

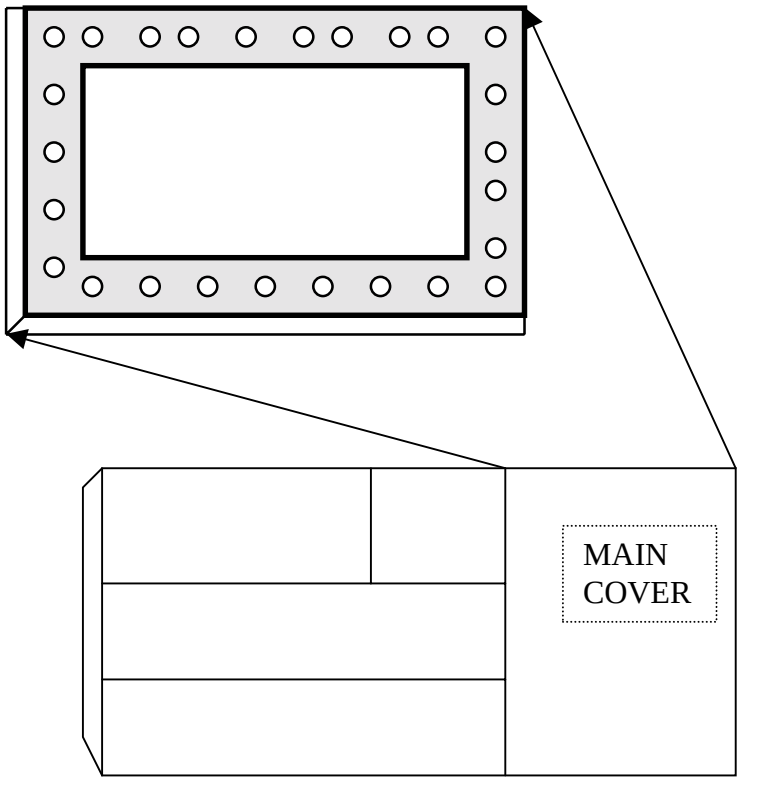
11. EQUIPMENT MODIFICATIONS

To achieve compliance for FCC PART 15/22 requirement, the following change(s) were made during compliance testing:

Mod.# 1 Added conductive gasket around main cover amp for better contact between cover and chassis.



RESULT:



TOP VIEW OF POWER AMPLIFIER

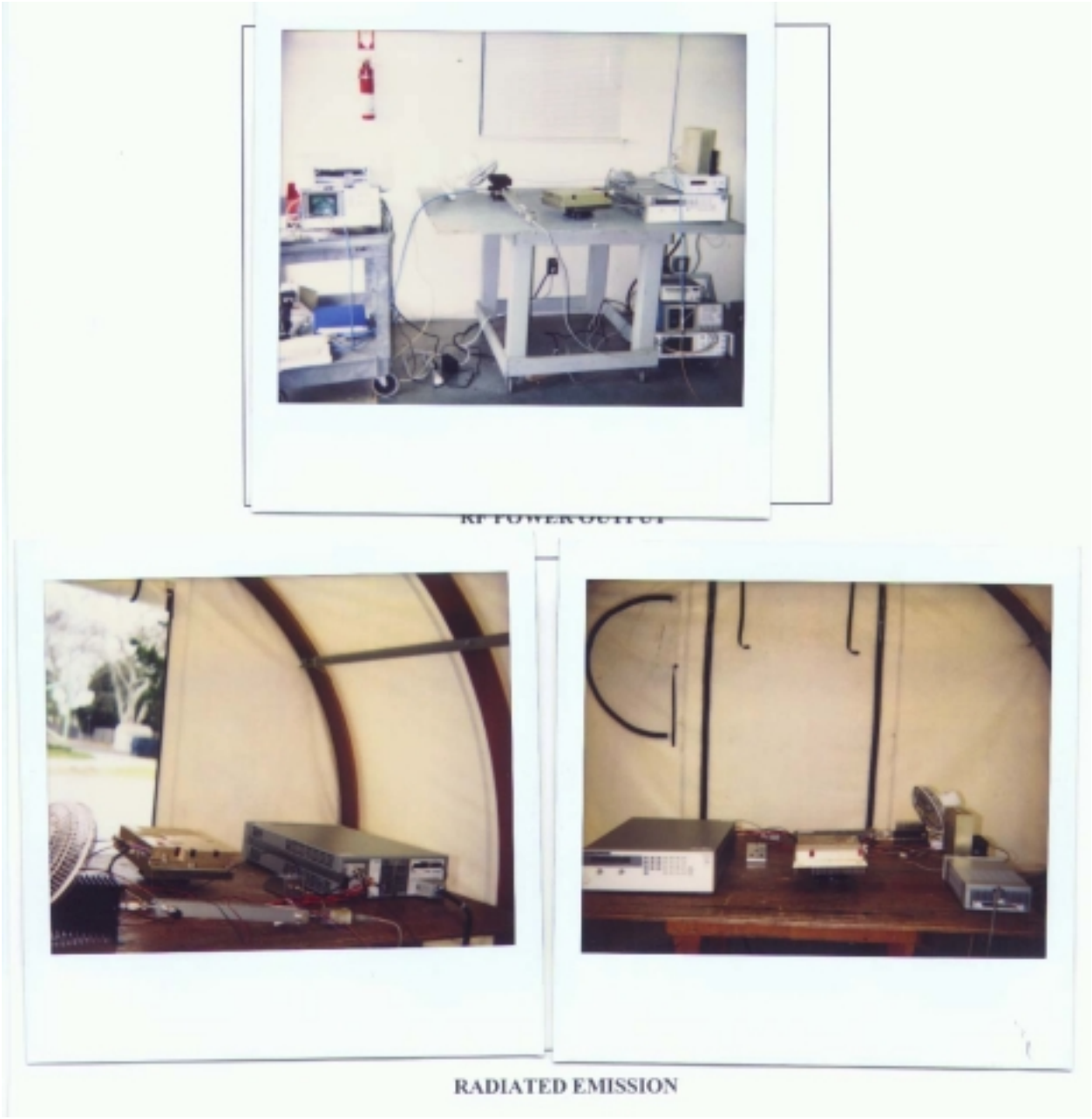
12. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model No.	Serial No.	Site	Cal Date	Due Date
Spectrum Analyzer	**H.P.**	**8593EM**	**3710A00205**	**A**	**05/98**	**05/99**
Receiver	**H.P.**	**8546A**	**3520A00259**	**A**	**03/98**	**03/99**
Bilog Antenna	**CHASE**	**CBL6112**	**2049**	**A**	**05/98**	**05/99**
Horn Antenna	**EMCO**	**3115**	**9001-3245**	**A**	**12/97**	**12/00**
Pre-Amp	**H.P. (1-26.5GHz)**	**8449B**	**3008A00369**	**A**	**04/98**	**04/99**

B) SUPPORT EQUIPMENT

Device Type	**Manufacturer**	**Model Number**	**Serial No.**	**FCC ID / DoC**
SIGNAL GENERATOR	H.P.	E4432A	US3626061A	N/A
POWER METER	H.P.	437B	3125722256	N/A
HIGH POWER ATTENUATOR	NARDA	269-30	06260	N/A
POWER SUPPLY	H.P.	6673A	3620A-01020	N/A
DC SUPPLY	H.P.	E3616A	KR73302167	N/A
SIGNAL BOOSTER	POWERWAVE	N/A	191690	N/A
DUAL DIRECTIONAL COUPLER	H.P.	778D	17086	N/A
WAVEFORM GENERATOR	TEXTRONIX	AWG2021	806159	N/A

13. EUT SETUP PHOTOS



RADIATED EMISSION

SUPPORT EQUIPMENT SETUP PHOTO

14. TEST RESULT SUMMARY FOR PART 15

FCC PART 15 Radiated Emission Test was conducted by operating the configuration as indicated below.

NTGS86AA							
OATS No: A / 3 Meter		Data Report No. 980602A1		Date 6/2/98		Tested By: JUAN MARTINEZ	
Six Highest Radiated Emission Readings							
Frequency Range Investigated				30 MHz TO 9000 MHz			
Freq. (MHz)	Meter Reading (dBuV)	C.F. (dB/m)	Corrected Reading (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading Type (P/Q/A)	Polar (H/V)
65	**18.7**	**+6.76**	**25.46**	**40.0**	**-14.54**	**P**	**H**
110	**12.5**	**+12.87**	**25.37**	**43.5**	**-18.13**	**P**	**H**
126	**11.8**	**+14.24**	**26.04**	**43.5**	**-17.46**	**P**	**V**
148	**16.2**	**+10.7**	**29.60**	**43.5**	**-13.90**	**P**	**V**
265	**9.2**	**+15.01**	**24.21**	**46.0**	**-21.79**	**P**	**V**
205.13	**19.9**	**+12.36**	**32.26**	**43.5**	**-11.24**	**P**	**V**

C.F.(Correction Factor)=Antenna Factor + Cable Loss-Amplifier Gain
Corrected Reading = Metering Reading + C.F. Margin = Corrected Reading - Limits
P= Peak Reading H= Horizontal Polarization/Antenna
Q= Quasi-peak V= Vertical Polarization/Antenna
A= Average Reading
Comments: N/A

15. FCC PART 2: TYPE ACCEPTANCE TEST REQUIREMENT:

SECTION 2.985 RF POWER OUTPUT

Please refer to configuration block diagram (**figure 1.)** for equipment connection. Power meter manufactured by Hewlett Packard was used to measure the RF power output for low, middle, and high channels.

NTGS86AA	
NO. OF AMPLIFIER	**MEASURED RF POWER OUTPUT**
1	**25W**

SECTION 2.987 MODULATION CHARACTERISTICS

Not applicable. EUT is a power amplifier.

SECTION 2.989 OCCUPIED BANDWIDTH

Test setup.

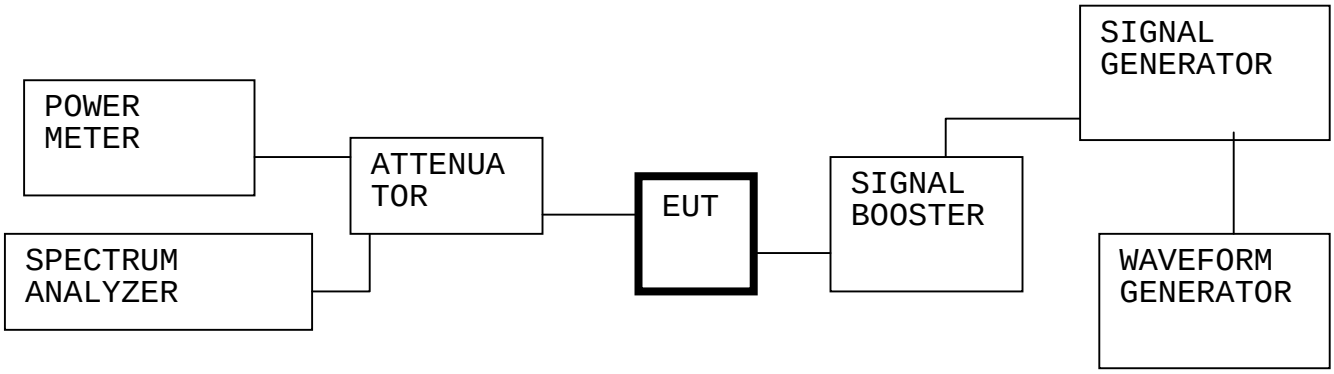
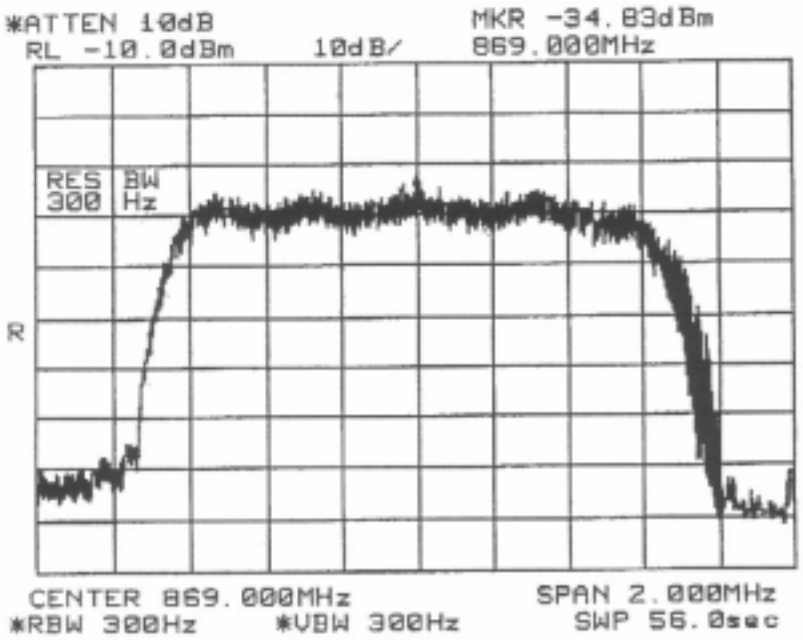


FIGURE 1.

Test results are presented in spectrum analyzer plots. Plots were made for the output of the amplifier and another for the input from signal generator, used to generate CDMA modulation. Measurements were done for low, middle, and high channels. Table shows order of plots.

NTGS86AA	
869MHz(LOW)	
MODULATION TYPE: CDMA	
	PLOT NUMBER
SPAN: 2MHz (OUTPUT OF AMPLIFIER)	**1**
SPAN: 2MHz (IN FROM SIGNAL GENERATOR)	**2**
881MHz(MIDDLE)	
MODULATION TYPE: CDMA	
	PLOT NUMBER
SPAN: 2MHz (OUTPUT OF AMPLIFIER)	**3**
SPAN: 2MHz (IN FROM SIGNAL GENERATOR)	**4**
894MHz(HIGH)	
MODULATION TYPE: CDMA	
	PLOT NUMBER
SPAN: 2MHz (OUTPUT OF AMPLIFIER)	**5**
SPAN: 2MHz (IN FROM SIGNAL GENERATOR)	**6**

#1



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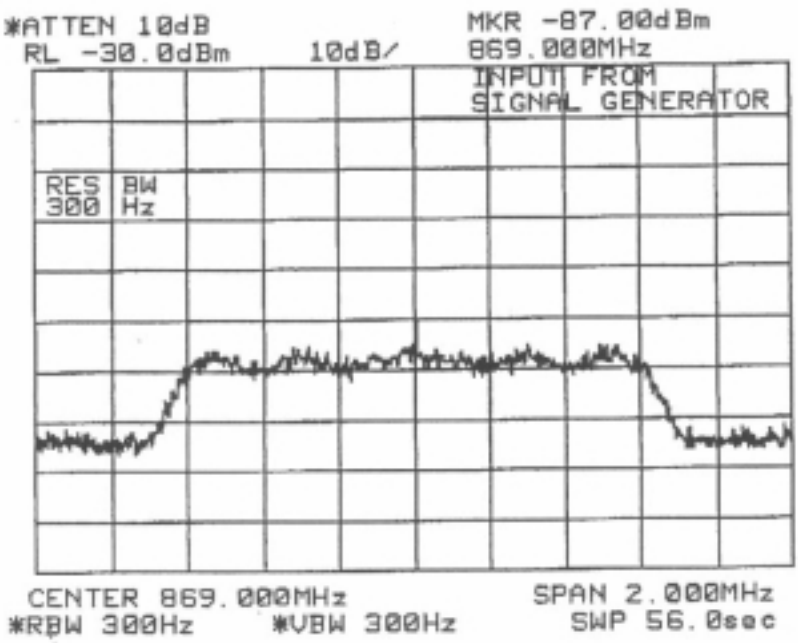

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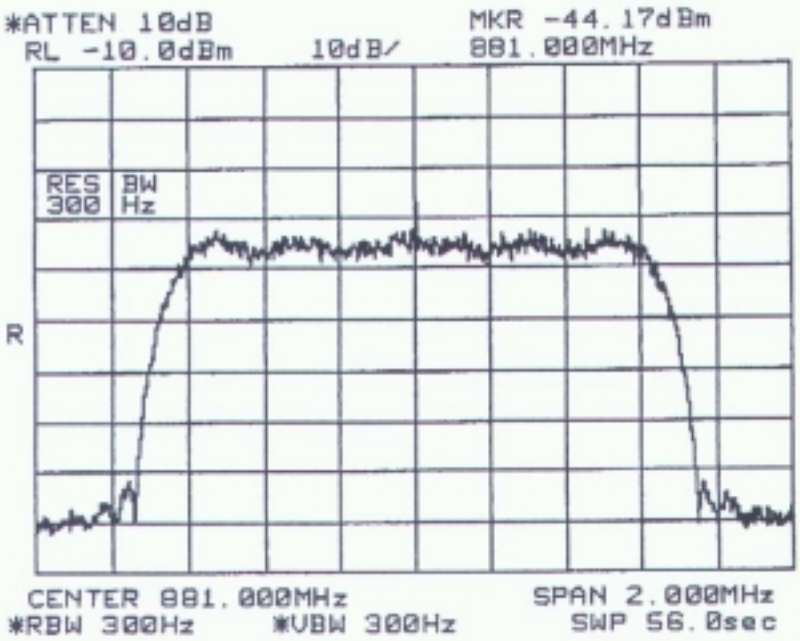

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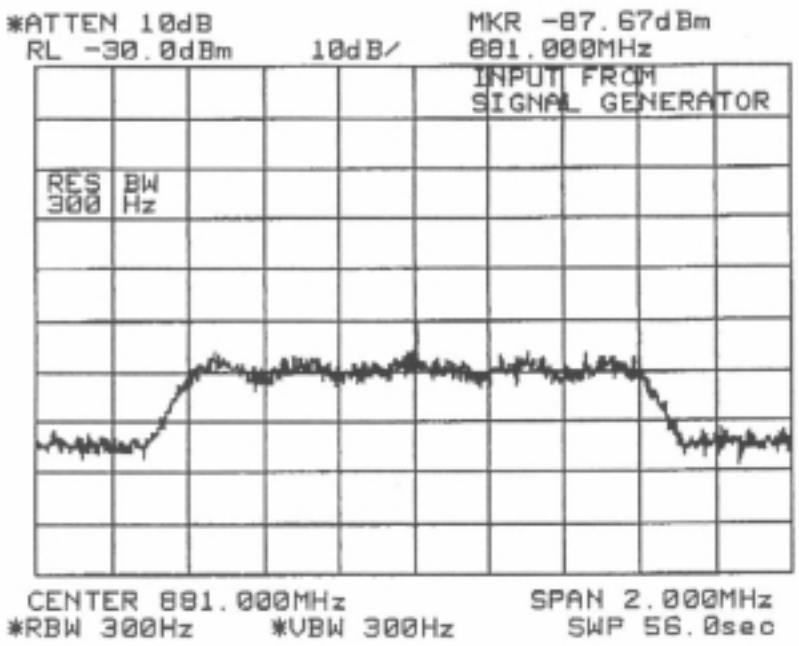

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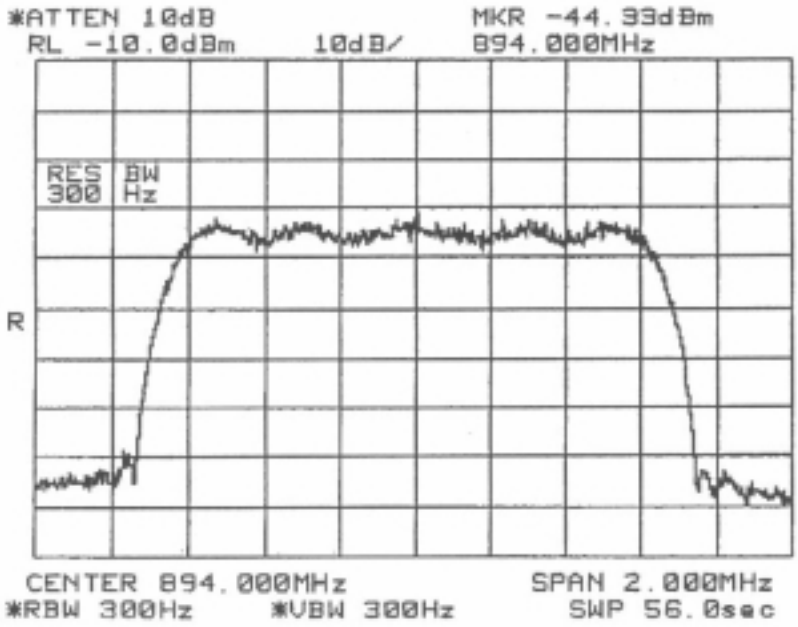

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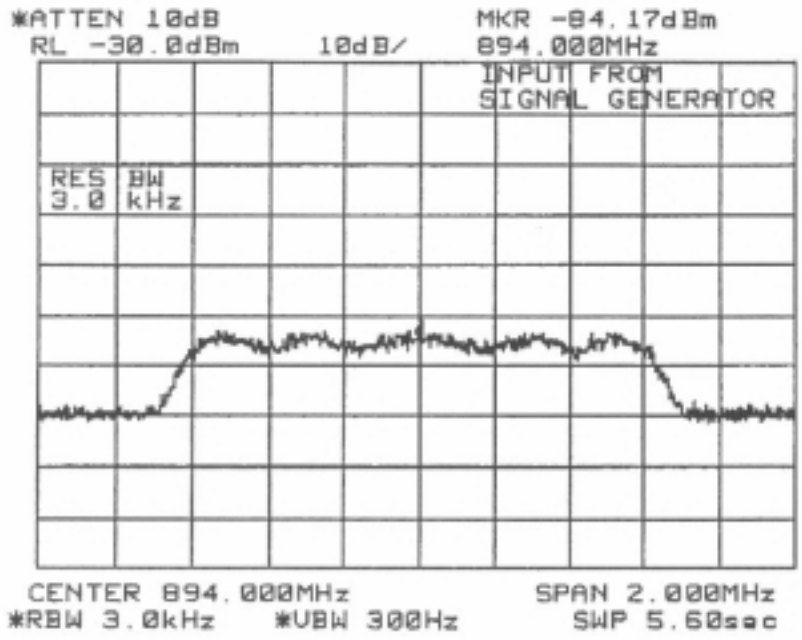


SECTION 2.991 SPURIOUS EMISSION AT ANTENNA TERMINALS

Refer to **figure 1.** for equipment setup. Spurious emission test was performed for a single input signal to amplifier. Spectrum was scanned for low, middle, and high channels from 30MHz - 10***f***o to search for spurious, harmonics, and intermodulation products emissions.

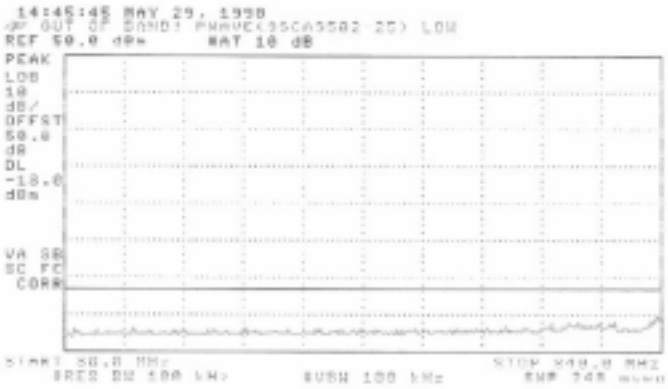
On all "OUT OF BAND" Plots, displayed in Peak mode, the second harmonic of the fundamental frequency fails the –13dBm (display line) limit for conducted.
Please note additional plots numbered 10, 15, and 20 which indicate (Average reading on second harmonic). These plots demonstrate that the second harmonic passes Average reading, conducted.

"OUT OF BAND" plots:
Margins on the second harmonic (*Average Readings*)

FREQ. (GHz)	READING (dBm)	LIMIT (dBm)	MARGIN (dBm)
1.737	-17.27	-13	-4.27 (Plot# 10)
1.762	-19.50	-13	-6.50 (Plot# 15)
1.787	-18.10	-13	-5.10 (Plot# 20)

Table shows the order of plots.

NTGS86AA	
869MHz(LOW)	
MODULATION TYPE: CDMA	
FREQUENCY RANGE	**PLOT NUMBER**
30 MHz TO 840 MHz	**7**
840 MHz TO 1GHz	**8**
1GHz TO 2.9 GHz	**9**
Average reading on second harmonic	**10**
2.9 GHz TO 8.69GHz	**11**



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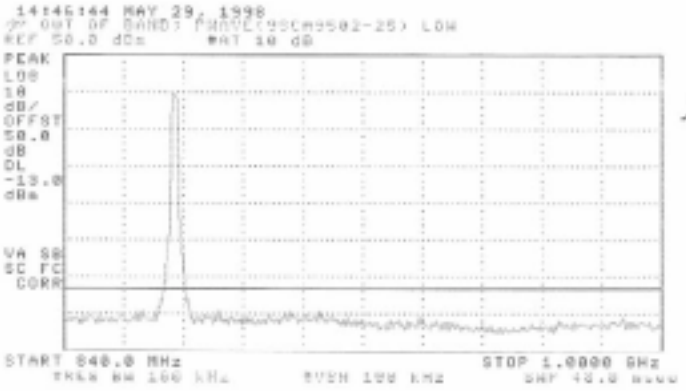

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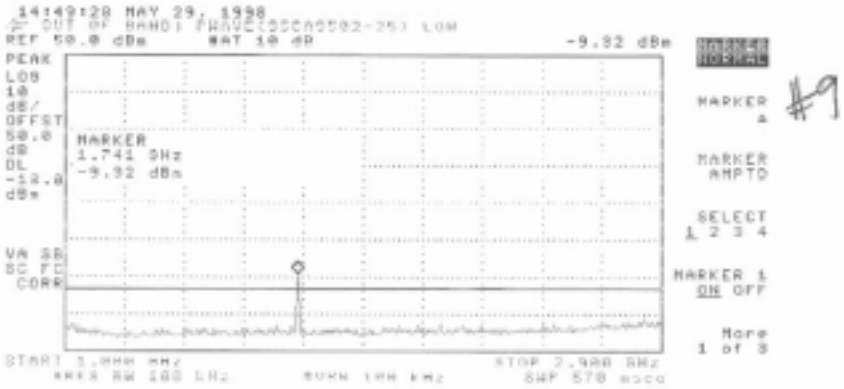
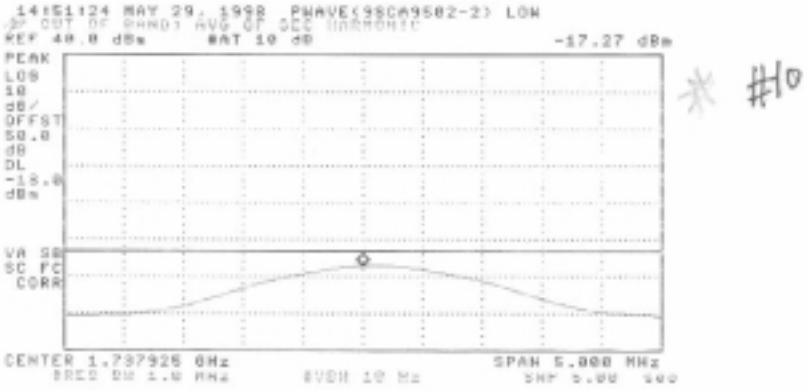
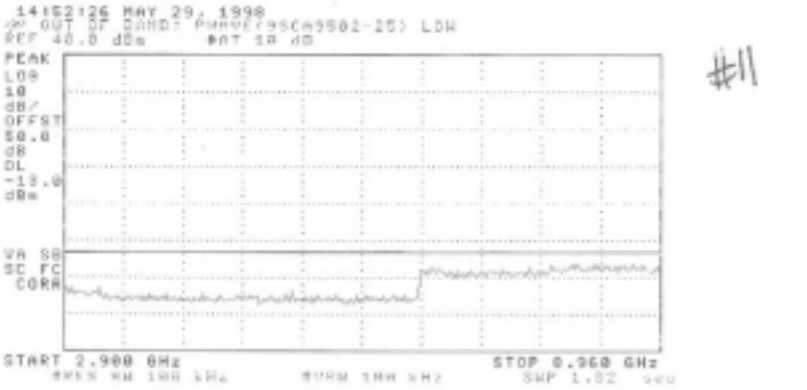
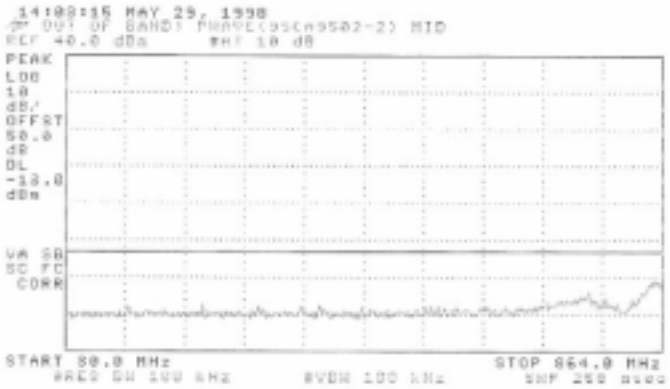






881MHz(MIDDLE)	
MODULATION TYPE: CDMA	
FREQUENCY RANGE	**PLOT NUMBER**
30 MHz TO 864 MHz	**12**
864 MHz TO 1GHz	**13**
1GHz TO 2.9 GHz	**14**
Average reading on second harmonic	**15**
2.9 GHz TO 8.81GHz	**16**
894MHz(HIGH)	
MODULATION TYPE: CDMA	
FREQUENCY RANGE	**PLOT NUMBER**
30 MHz TO 840MHz	**17**
840 MHz TO 1GHz	**18**
1GHz TO 2.9 GHz	**19**
Average reading on second harmonic	**20**
2.9 GHz TO 8.94GHz	**21**



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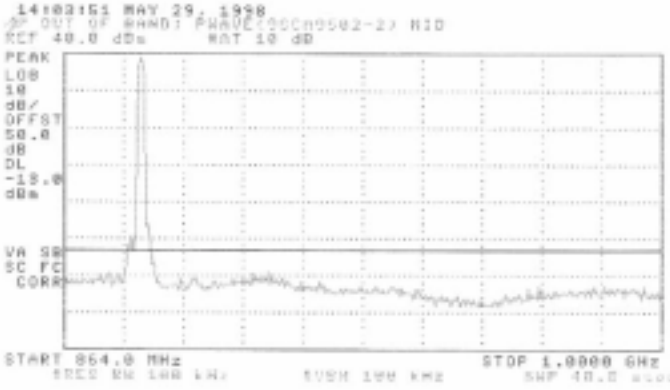

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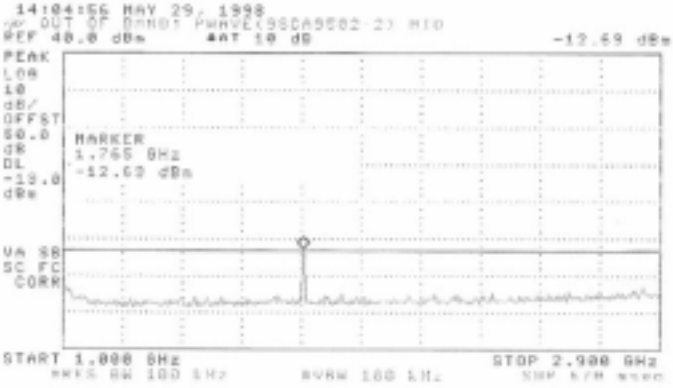

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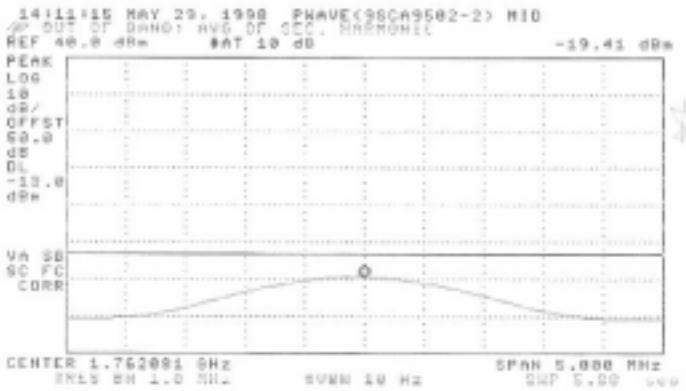

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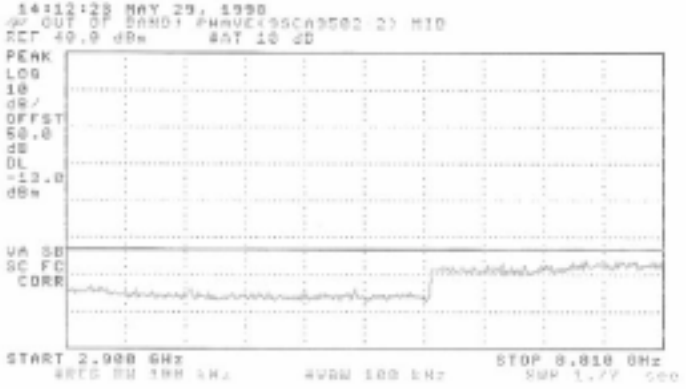

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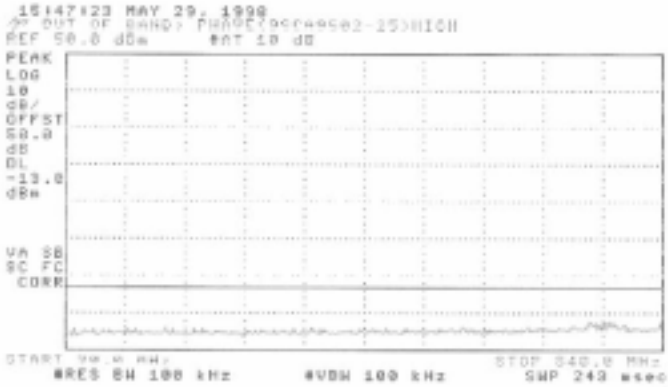

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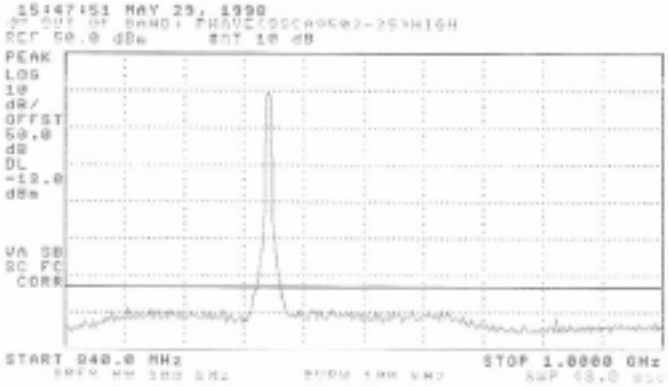

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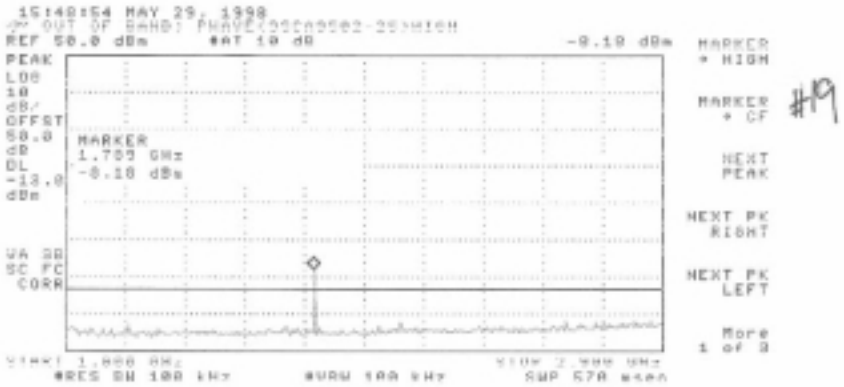
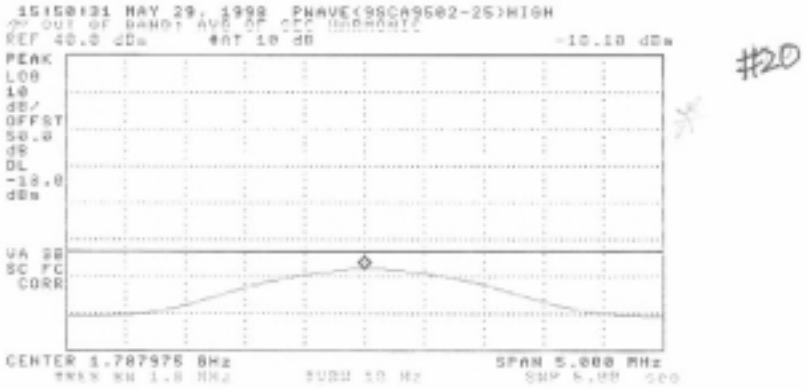
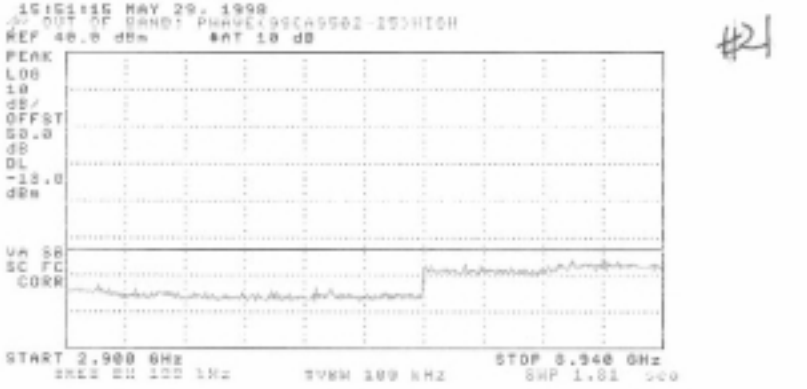


#19



#20



#21

SECTION 2.995 FREQUENCT STABILITY

Not Applicable. Device is a power amplifier.

SECTION 2.993 FIELD STRENGTH OF SPURIOUS RADIATION

Test setup

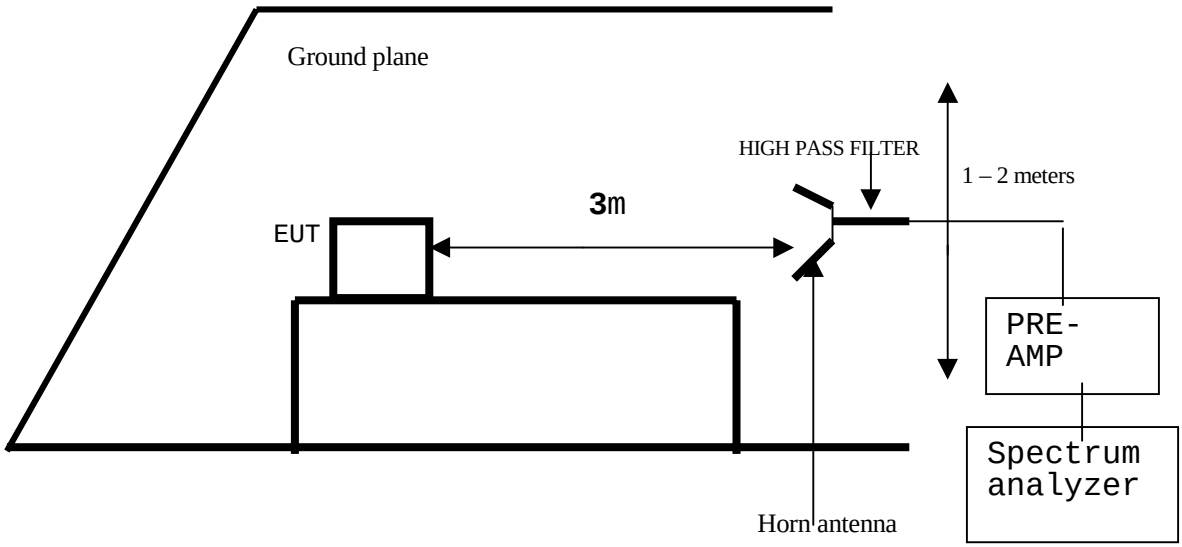


Figure 2. Radiated Emissions Configuration

Technical Limits applied Section 22.359, 22.917 emission masks

(a) Analog modulation applied.

All readings CDMA Vertical on second harmonic @1700MHZ

Fo=869MHz(LOW)
1 Amplifiers 25 WATTS OUTPUT

(√30*25) / 3 = 9.12 V/m = 139.2dBuV/m

Emission Masks=43 + 10 log (25) = 56.97

139.2 – 56.97 = 82.2

dBuV	AF	CL	AMP	dBuV/m	Limit	Margin
41.13	26.7	2.1	-35	69.93	82.2	-12.27

Fo=881MHz(MIDDLE)
1 Amplifier 25 WATTS OUTPUT

(√30*25) / 3 = 9.12 V/m = 139.2dBuV/m

Emission Masks=43 + 10 log(25) = 56.97

139.2 – 56.97 = 82.2

dBuV	AF	CL	AMP	dBuV/m	Limit	Margin
40.7	26.7	2.1	-35	69.5	82.2	-12.7

Fo=894MHz(HIGH)
1 Amplifier 25 WATTS OUTPUT

(√30*25) / 3 = 9.12 V/m = 139.2dBuV/m

Emission Masks=43 + 10 log(25) = 56.97

139.2 – 56.97 = 82.2

dBuV	AF	CL	AMP	dBuV/m	Limit	Margin
40.6	26.7	2.1	-35	69.4	82.2	-12.8

b) Radiation data of Fundamental harmonics at 3 meters from second harmonic to 10*fo* attached.

Radiated Emissions 6/2/98
FCC 22.359 Juan Martinez
Site A (3 meter)

Powerwave Technologies
SINGLE CHANNEL 25W AMPLIFIER (SCA9502-25)

fo **=** 881MHz (+18.1dBm)

F(MHz)	READING (dBuV)	AF (dB)	CL (dB)	Amp (dB)	DUTY (dB)	Other (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)
***fo*=881MHz**									
1.762P	41.13	26	2.1	0	0	0	69.23	82	-12.77
2.643P	76.01	30	3.96	-35	0	1	75.97	82	-6.03
3.524P	69.96	30	4.5	-35	0	1	70.46	82	-11.54
4.405P	64.4	33.1	5.04	-35	0	1	68.54	82	-13.46
5.286P	63.27	34.5	5.4	-35	0	1	69.17	82	-12.83
6.167P	48.83	35.3	5.94	-35	0	1	56.07	82	-25.93
7.048P	47.5	36.2	6.3	-35	0	1	56	82	-26
7.92P	46.7	37	7.2	-35	0	1	56.9	82	-25.1
8.81P	46.5	38	7.56	-35	0	1	58.06	82	-23.94
~~fo=869MHz~~									
1.758P	40.7	26	2.1	0	0	0	68.8	82	-13.2
2.607P	75.08	30	3.96	-35	0	1	75.04	82	-6.96
3.476P	71.82	30	4.5	-35	0	1	72.32	82	-9.68
4.345P	64.93	33.1	5.04	-35	0	1	69.07	82	-12.93
5.124P	53.26	34.5	5.4	-35	0	1	59.16	82	-22.84
6.082P	51.88	35.3	5.94	-35	0	1	59.12	82	-22.88
6.952P	48.37	36.2	6.3	-35	0	1	56.87	82	-25.13
7.821P	47.91	37	7.2	-35	0	1	58.11	82	-23.89
8.69P	47.7	38	7.56	-35	0	1	59.26	82	-22.74
~~fo=894MHz~~									
1.788P	40.6	26	2.1	0	0	0	68.7	82	-13.3
2.682P	75.8	30	3.96	-35	0	1	75.76	82	-6.24
3.576P	42.3	30	4.5	-35	0	1	42.8	82	-39.2
4.47P	64.02	33.1	5.04	-35	0	1	68.16	82	-13.84
5.364P	60.88	34.5	5.4	-35	0	1	66.78	82	-15.22
6.258P	54.09	35.3	5.94	-35	0	1	61.33	82	-20.67
7.152P	48.5	36.2	6.3	-35	0	1	57	82	-25
8.046P	48.46	37	7.2	-35	0	1	58.66	82	-23.34
8.94P	48.07	38	7.56	-35	0	1	59.63	82	-22.37

NOTE: ALL MEASUREMENTS TAKEN AT 3 METERS.

~~ANALYZER BANDWIDTH SETTI~~

	~~Res Bw:~~	~~Video Bw:~~
Peak(P):	1MHz	1MHz

OTHER: High pass filter insertion loss (**1.802GHz**)
AF: Antenna Factor **DUTY:** Duty Cycle correction factor
AMP: Pre-amp gain **CL:** CABLE LOSS

16. EXTERNAL I/O CABLE CONSTRUCTION DESCRIPTION

CABLE NO:1, 2	
I/O Port: : I & Q AT SIGNAL GENERATOR	Number of I/O ports of this type:1 OF EACH
Number of Conductors: 2	**Connector Type: BNC TYPE**
Capture Type: SNAP-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length:1 M**
Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 3	
I/O Port:: RF OUT FROM SIGNAL GENERATOR	Number of I/O ports of this type:1
Number of Conductors: 2	**Connector Type: N-TYPE TO SMA**
Capture Type: SCREW-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length:2.0M**
Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 4	
I/O Port: RF INPUT (EUT)	Number of I/O ports of this type:1
Number of Conductors: 2	**Connector Type: SMA**
Capture Type: SCREW-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length: 1.5M**
Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 5	
I/O Port: ATTENUATOR RF-OUT	Number of I/O ports of this type:1
Number of Conductors: 2	**Connector Type: N TYPE**
Capture Type: SCREW-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length:1.5M**
Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 6	
I/O Port: RF OUT FROM DIRECT COUPLER	Number of I/O ports of this type:1
Number of Conductors: 2	**Connector Type: N-TYPE**
Capture Type: SCREW-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length:1.5M**
Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 7	
I/O Port: RF OUT FROM DIRECT COUPLER	Number of I/O ports of this type:1
Number of Conductors: 2	**Connector Type: N-TYPE**
Capture Type: SCREW-IN	**Type of Cable used: SHIELDED**
Cable Connector Type: METAL	**Cable Length:15ft**

Bundled During Tests: NO	**Data Traffic Generated: YES**
Remark: N/A	

CABLE NO: 8	
I/O Port: POWER SUPPLY	Number of I/O ports of this type: DC INPUT
Number of Conductors: 2 WIRES	**Connector Type: N/A**
Capture Type: N/A	**Type of Cable used: SHIELDED**
Cable Connector Type: N/A	**Cable Length:1.5M**
Bundled During Tests: NO	**Data Traffic Generated: NO**
Remark: N/A	

CABLE NO: 9	
I/O Port: ANXIETY CONTROLLER	Number of I/O ports of this type: 1
Number of Conductors: 18	**Connector Type: MOLEX CONNECTOR**
Capture Type: SNAP-IN	**Type of Cable used: UN-SHIELDED**
Cable Connector Type: METAL	**Cable Length:2.0M**
Bundled During Tests: NO	**Data Traffic Generated: NO**
Remark: N/A	

17. CONFIGURATION BLOCK DIAGRAM