Nemko Test Report:	13548RUS1
Applicant:	Andrew Corporation 2601 Telecom Parkway Richardson, Texas 75082 USA
Equipment Under Test: (E.U.T.)	E/O Transceiver Amp 800
In Accordance With:	**CFR 47 Part 90, Subpart I** Private Land Mobile Repeater
Tested By:	Nemko USA Inc. 802 N. Kealy Lewisville, TX 75057-3136

TESTED BY: _____ **DATE:** **28 May, 2008**

David Light, Senior Wireless Engineer

APPROVED BY: _____ **DATE:** **30 May, 2008**

Frontline Manager

Number of Pages: 23

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Section 1. Summary of Test Results

Manufacturer: Andrew Corporation

Model No.: E/O Transceiver Amp 800

Serial No.: None

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with CFR Part 90, Subpart I.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP®
LAB CODE: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	RESULT
RF Power Output	90.205		Complies
Occupied Bandwidth	90.210	Input/Output	Complies
Spurious Emissions at Antenna Terminals	90.210(h)	-13 dBm	Complies
Field Strength of Spurious Emissions	90.210(h)	-13 dBm	Complies
Frequency Stability	90.213	1 ppm	NA

Footnotes For N/A's:

(1) Since the E.U.T. does not contain modulation circuitry modulation testing was not performed.
(2) Since the E.U.T. is not a keyed carrier system, Transient Frequency Behavior was not performed.

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Section 2. General Equipment Specification

Supply Voltage Input: 120 Vac

Frequency Range: 851 to 856 MHz

Tunable Bands: 851 to 856 MHz

Type(s) of Modulation:

F3E (Voice)	F1D	F2D	D7W (QAM)	G9E (C4FM)
☐	☐	☐	☐	☒

Gain: 48 dB

Output Impedance: 50 ohms

RF Power Output (rated):

1.0	W (single carrier)
+30	dBm (single carrier)
795	mW (multi-carrier)
+29	dBm (multi-carrier)

Channel Spacing(s): 12.5 kHz

Operator Selection of Operating Frequency: none

Frequency Translation:

F1-F1	F1-F2	N/A
☐	☐	☒

Band Selection:

Software	Duplexer Change	Fullband Coverage
☐	☐	☒

Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
TESTED BY: David Light	DATE: 28 May 2008

Test Results: Complies.

Measurement Data:

Direction	Modulation	Output per Channel (dBm)	Composite Power (dBm)	Composite Power (W)	Carrier
Uplink	C4FM	NA			
Downlink	C4FM	30	30	1.0	1
Uplink	C4FM	NA			
Downlink	C4FM	26	29	0.795	2

Total power output will be lowered to +29 dBm for multi-carrier applications.

Equipment Used: 1036-1082-1472-1469

Measurement Uncertainty: +/- 1.7 dB

Temperature: 22 °C

Relative Humidity: 42 %

Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.989
TESTED BY: David Light	DATE: 28 May 2008

Test Results: Complies.

Test Data: See attached plot(s).

Equipment Used: 1036-1082-1472-1469

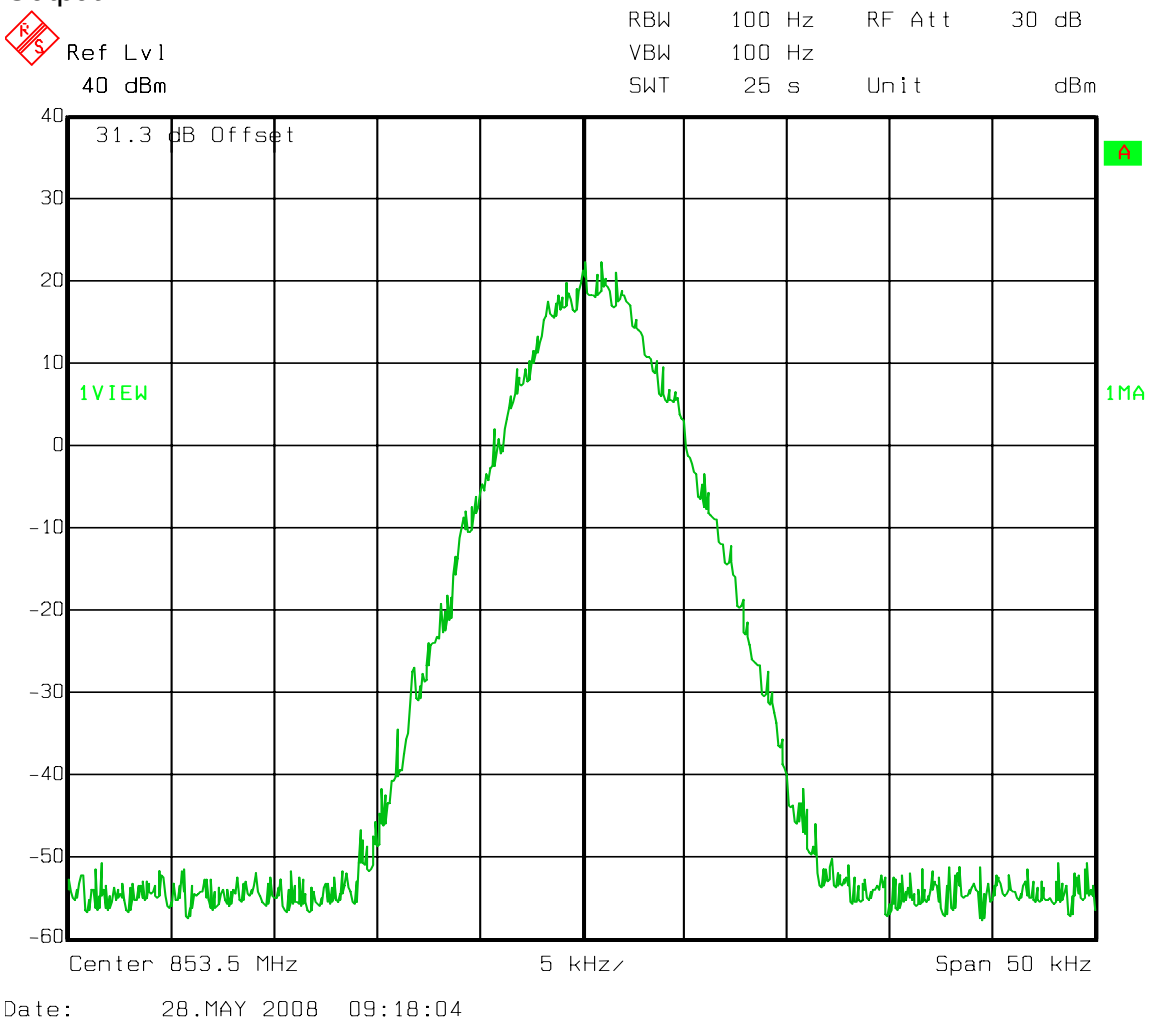
Measurement Uncertainty: $1X10^{-7}$ ppm

Temperature: 22 °C

Relative Humidity: 42 %

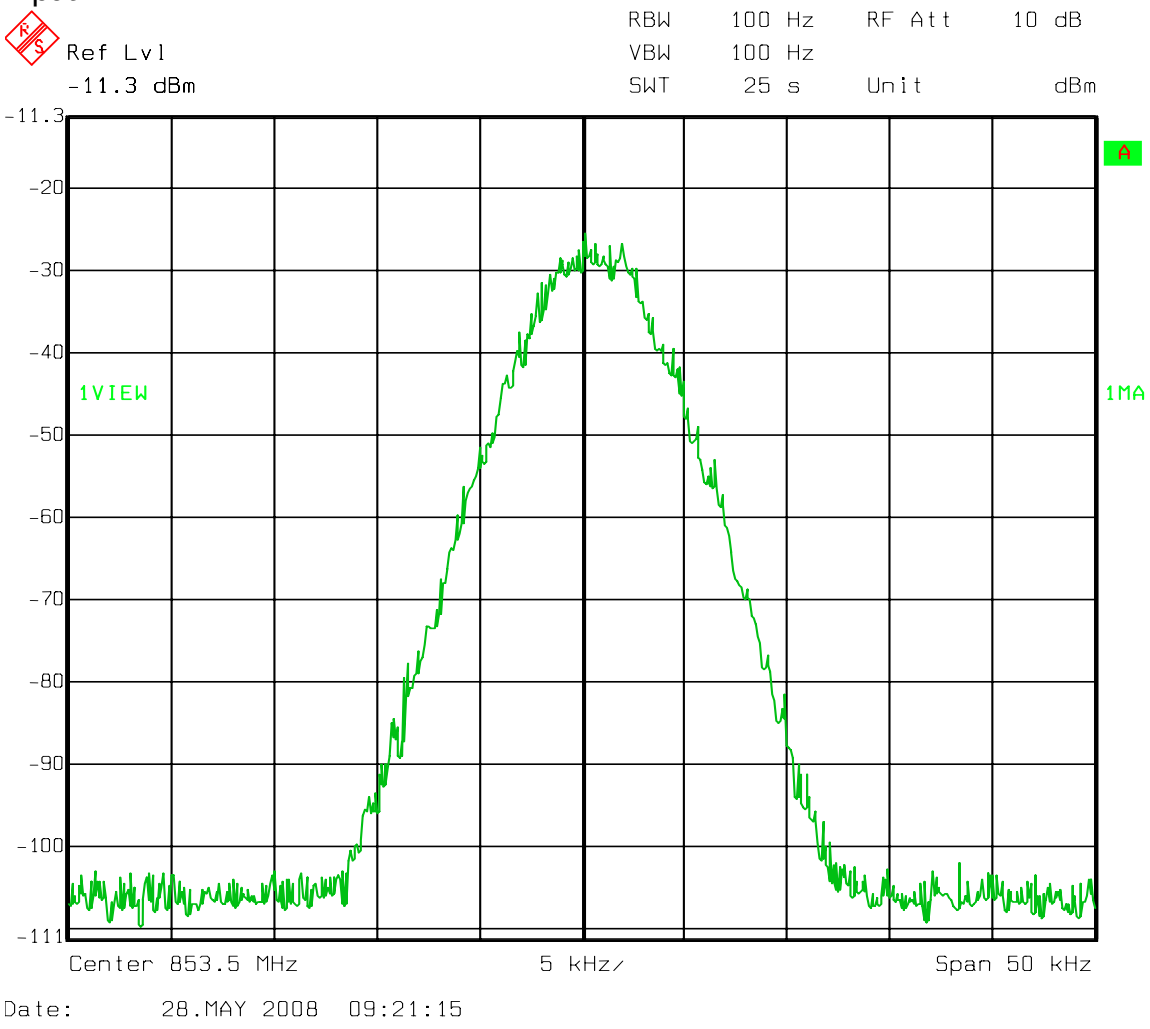
Test Data – Occupied Bandwidth

Output



Test Data – Occupied Bandwidth

Input



Section 5. Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions @ Antenna Terminals	PARA. NO.: 2.991
TESTED BY:	DATE: 28 May 2008

Test Results: Complies.

Test Data: See attached plot(s).

Equipment Used: 1036-1082-1472-1469

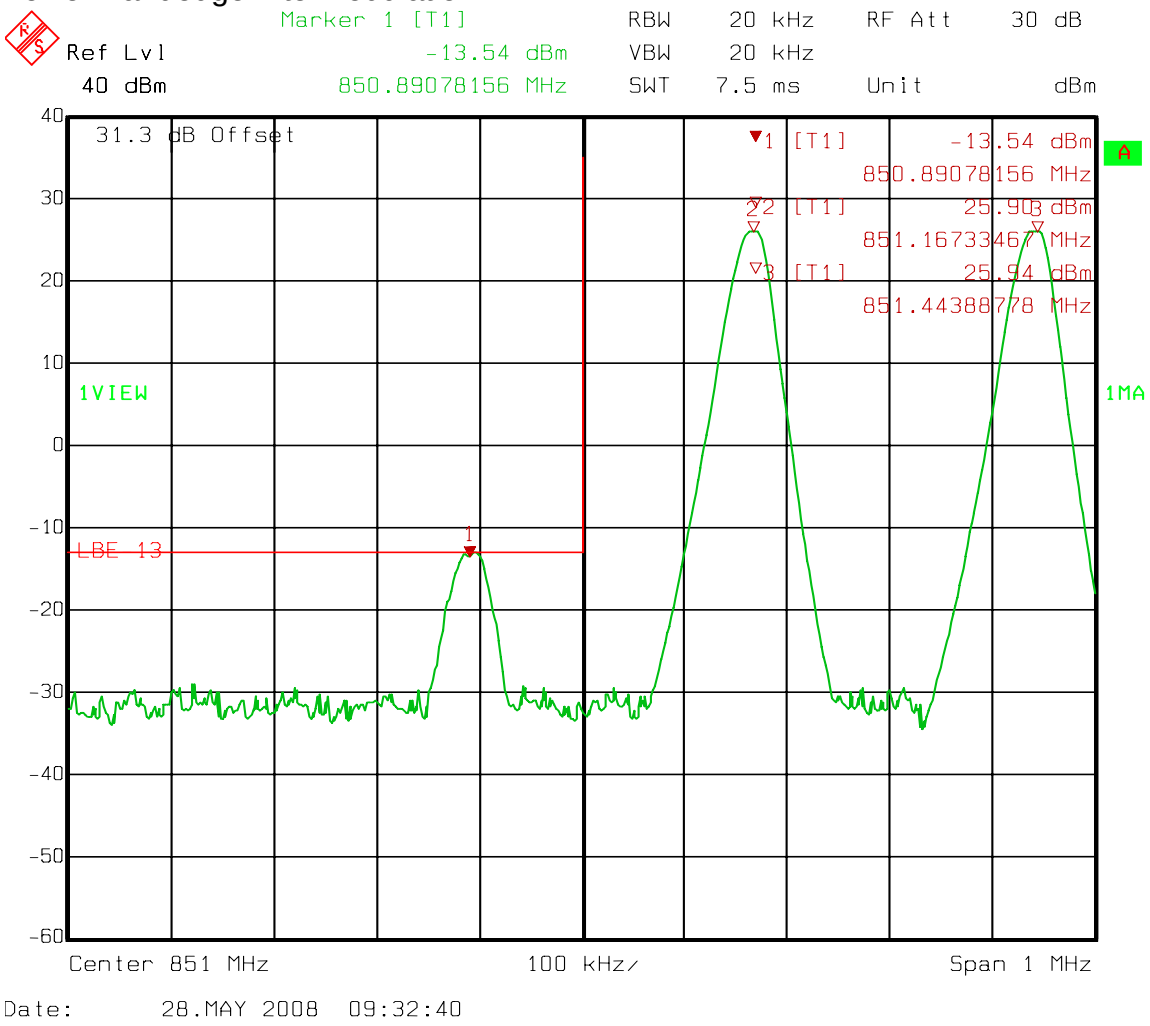
Measurement Uncertainty: +/- 1.7 dB

Temperature: 22 °C

Relative Humidity: 42 %

Test Data – Spurious Emissions at Antenna Terminals

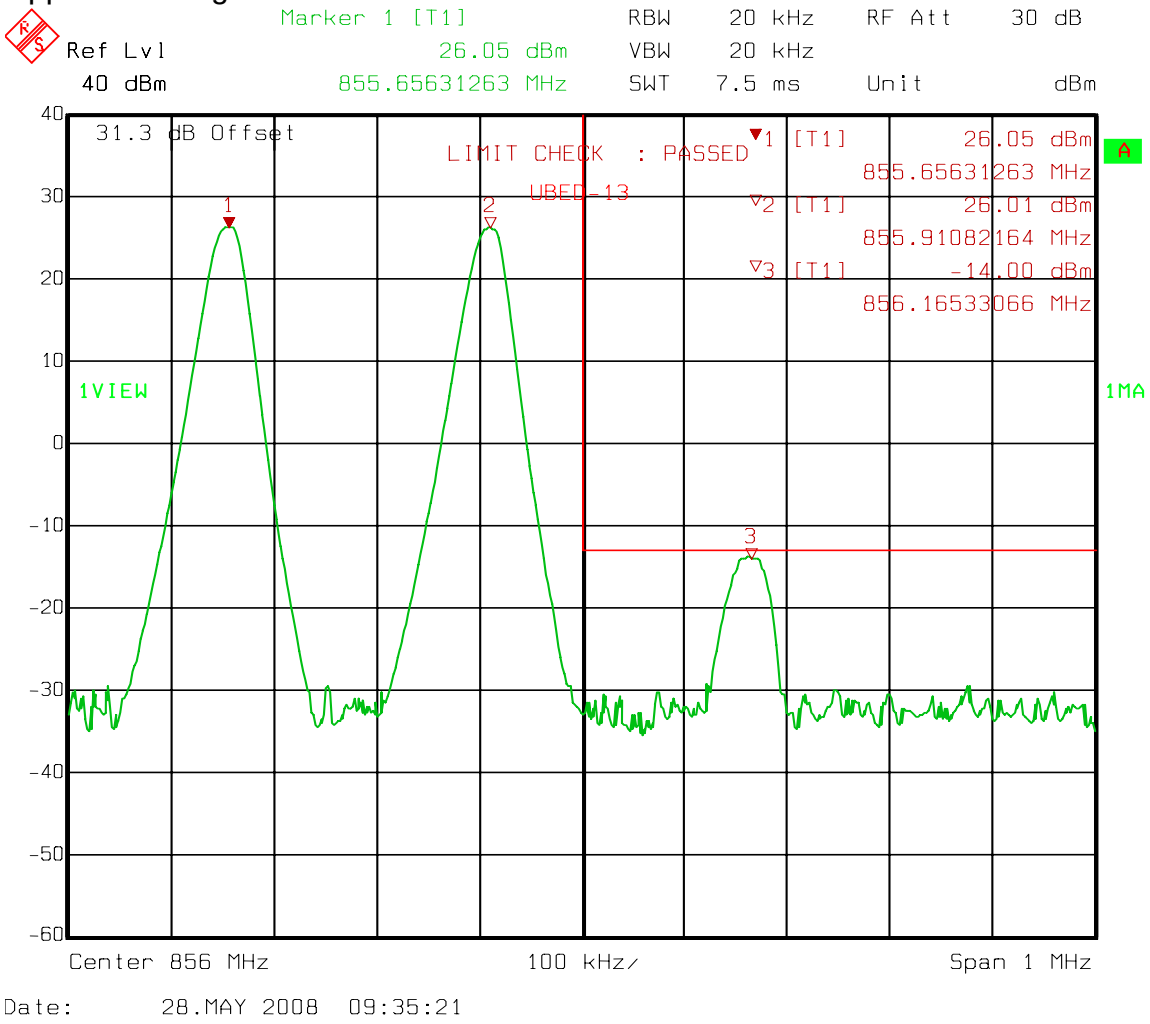
Lower Bandedge Intermodulation



Two carriers at +26 dBm each.

Test Data – Spurious Emissions at Antenna Terminals

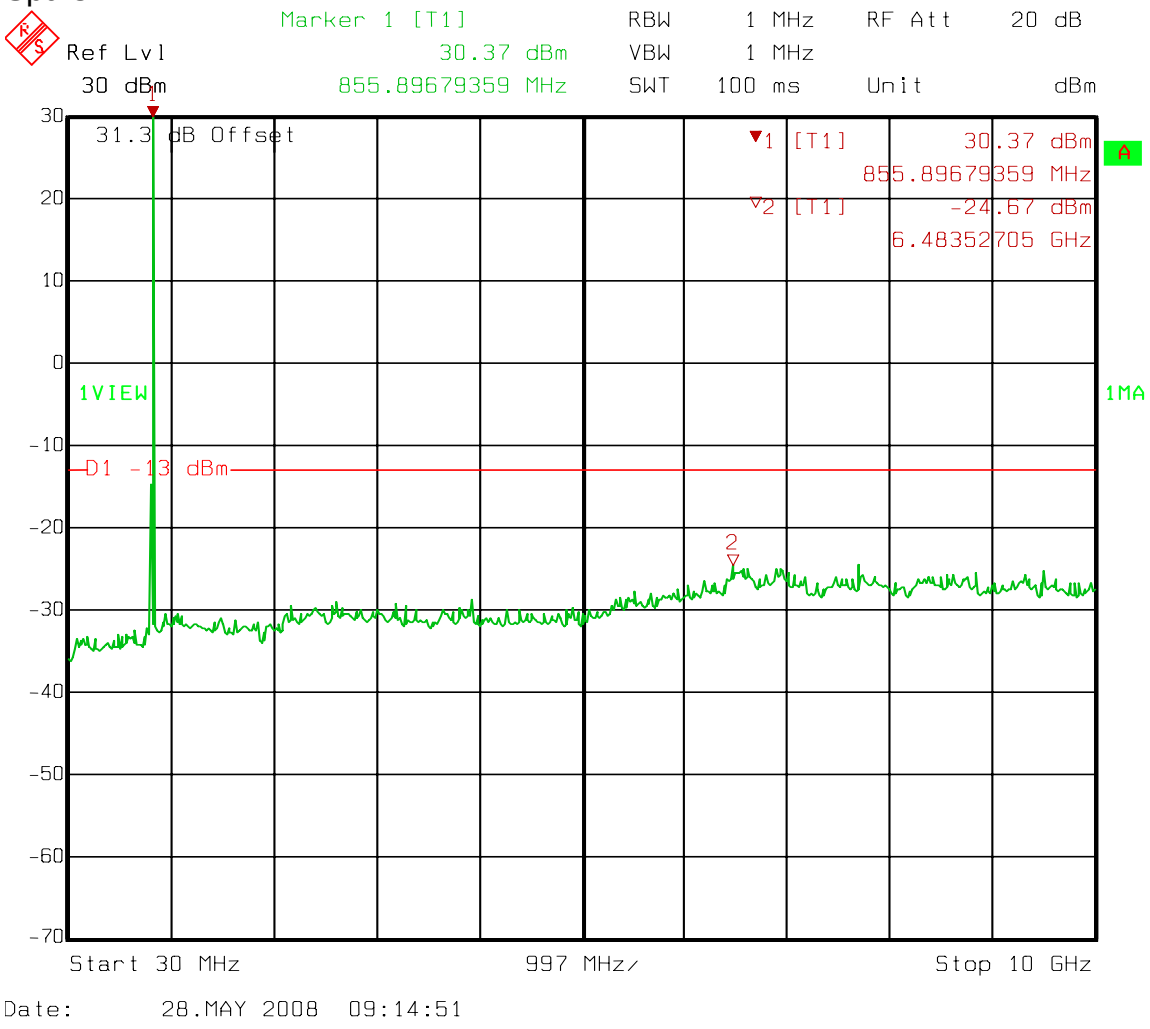
Upper Bandedge Intermodulation



Two carriers at +26 dBm each.

Test Data – Spurious Emissions at Antenna Terminals

Spurs



Section 6. Field Strength of Spurious Emissions

NAME OF TEST: Field Strength of Spurious Emissions	PARA. NO.: 2.993
TESTED BY: David Light	DATE: 28 May 2008

Test Results: Complies.

Test Data: There were no emissions detected above the noise floor which was at least 20 dB below the specification limit of -13 dBm.

The spectrum was searched from 30 MHZ to 10 GHz.

RBW/VBW = 1 MHz

Equipment Used: 1464-1484-1485-1016-993

Measurement Uncertainty: +/-1.7 dB

Temperature: 22 °C

Relative Humidity: 42 %

Note: See page A5 for applicable limit.

Section 7. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	05/30/06	05/30/08
1082	CABLE 2m	Astrolab 32027-2-29094-72TC	N/A	CBU	N/A
1472	20db Attenuator DC 18 Ghz	Omni Spectra 20600-20db	NONE	CBU	N/A
1469	10 db Attenuator DC 18 Ghz	MCL Inc. BW-S10W2 10db-2WDC	NONE	CBU	N/A
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/24/07	01/24/09
1484	Cable	Storm PR90-010-072	N/A	05/07/08	05/07/09
1485	Cable	Storm PR90-010-216	N/A	05/07/08	05/07/09
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	05/07/08	05/07/09
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/31/07	08/30/08

ANNEX A - TEST METHODOLOGIES

NAME OF TEST: RF Power Output	**PARA. NO.: 2.985**

Minimum Standard: Para. No. 90.205(a). The maximum allowable station ERP is dependent upon the stations HAAT and required service area and will be authorized in accordance with Table 1 of 90.205(d).

Method Of Measurement:

Detachable Antenna:
The peak power at antenna terminals is measured using an in-line peak power meter. Power output is measured with the maximum rated input level.

Integral Antenna:
The antenna substitution method is used to determine the equivalent radiated power at spurious frequencies. The spurious emissions are measured at a distance of 3 meters. The EUT is then replaced with a reference substitution antenna with a known gain referenced to an isotropic radiator. This antenna is fed with a signal at the spurious frequency. The level of the signal is adjusted to repeat the previously measured level. The resulting eirp is the signal level fed to the reference antenna corrected for gain referenced to an isotropic radiator.

NAME OF TEST: Spurious Emissions at Antenna Terminals **PARA. NO.: 2.991**

Minimum Standard: 90.210, Table 1

Table 1

Frequency Band (MHz)	Mask for equipment with Low Pass Filter	Mask for equipment without Low Pass Filter
Below 25	A or B	A or C
25 - 50	B	C
72 - 76	B	C
150 - 174	B, D or E	C, D or E
150 Paging only	B	C
220 - 222	F	F
421 - 512	B, D or E	C, D or E
450 paging only	B	H
806 - 821/ 851 - 866	B	G
821 - 824/ 866 - 869	B	H
896 - 901/ 935 - 940	I	J
902 - 928	K	K
929 - 930	B	G
Above 940	B	C
All other bands	B	C

MASK	Spurious Limit	FS Limit Below 1 GHz	FS Limit Above 1 GHz
A,B,C,G,H,I	-13dBm	84.4 dBμV/m@3m	82.2 dBμV/m@3m
D,J	-20dBm	77.4 dBμV/m@3m	75.2 dBμV/m@3m
E,F,K	-25dBm	72.4 dBμV/m@3m	70.2 dBμV/m@3m

Test Method: RBW: 1% of emission bandwidth in the 0 - 1 GHz range.
1 MHz at frequencies above 1 GHz.
VBW: $\Rightarrow$ RBW

The spectrum is searched up to 10 times the fundamental frequency.

NAME OF TEST: Occupied Bandwidth **PARA. NO.: 2.989**

Minimum Standard: Not defined. Input/Output

Method Of Measurement:

Analog

Spectrum analyzer settings:
RBW=VBW=300 Hz
Span: 100 kHz
Sweep: Auto

iDEN

RBW=VBW= 300 Hz
Span: 100 kHz
Sweep: Auto

NAME OF TEST: Field Strength of Spurious **PARA. NO.: 2.993**

Minimum Standard: Para. No. 90.210, see table 1 for applicable mask.

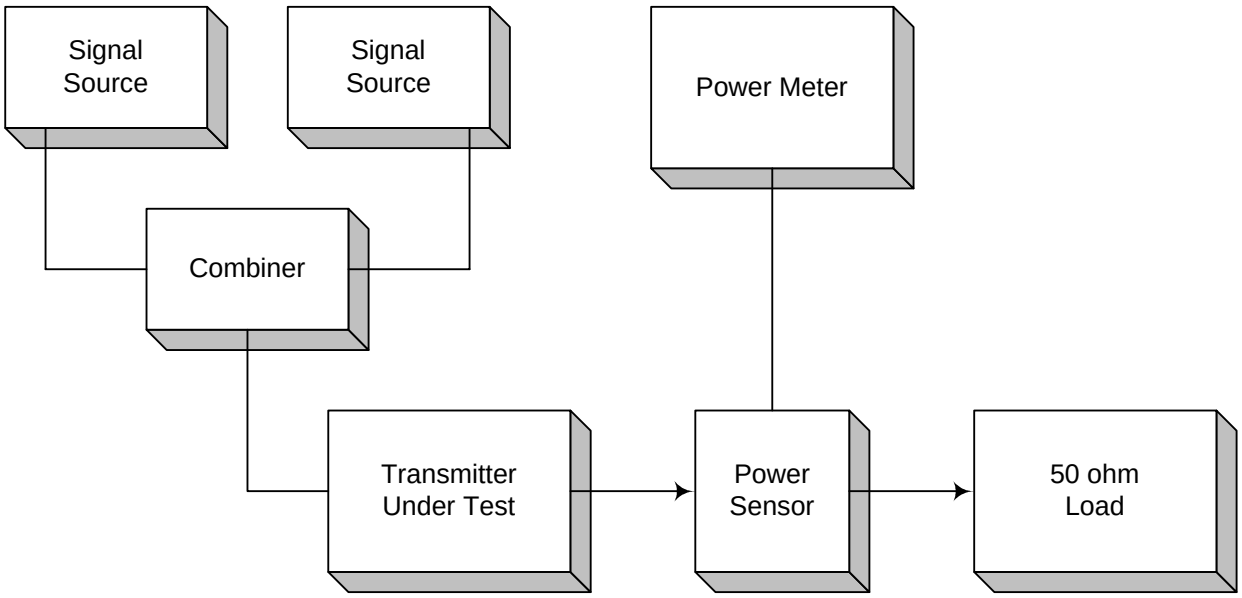
Method Of Measurement: TIA/EIA-603-1992

The antenna substitution method is used to determine the equivalent radiated power at spurious frequencies. The spurious emissions are measured at a distance of 3 meters. The EUT is then replaced with a reference substitution antenna with a known gain referenced to an isotropic radiator. This antenna is fed with a signal at the spurious frequency. The level of the signal is adjusted to repeat the previously measured level. The resulting eirp is the signal level fed to the reference antenna corrected for gain referenced to an isotropic radiator.

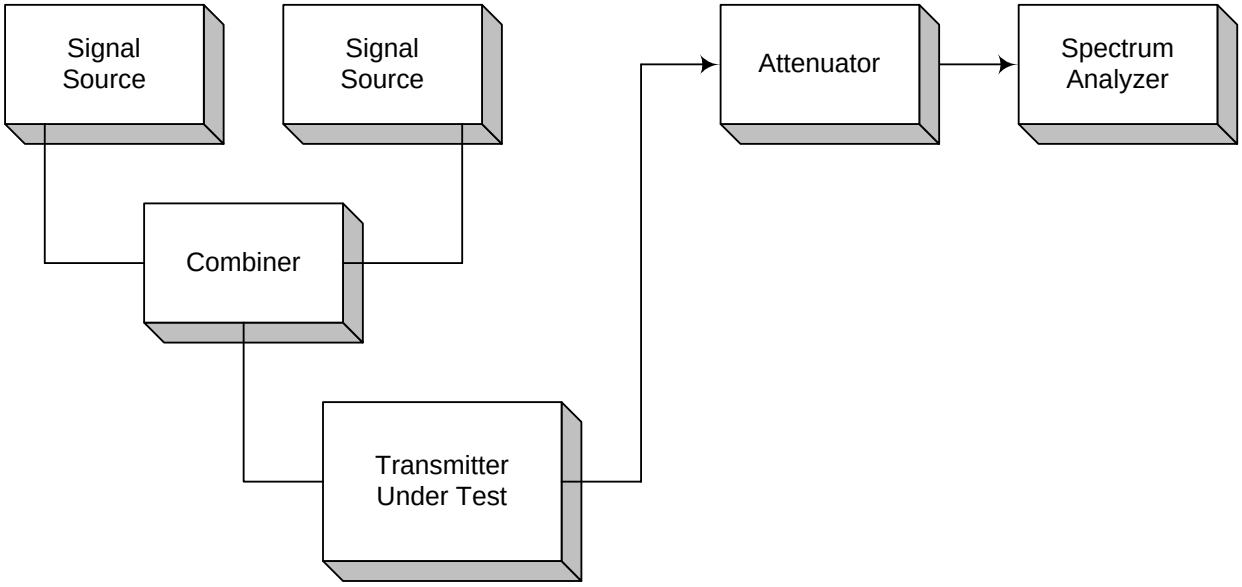
MASK	Spurious Limit	FS Limit Below 1 GHz	FS Limit Above 1 GHz
A,B,C,G,H,I	-13dBm	84.4 dBμV/m@3m	82.2 dBμV/m@3m
D,J	-20dBm	77.4 dBμV/m@3m	75.2 dBμV/m@3m
E,F,K	-25dBm	72.4 dBμV/m@3m	70.2 dBμV/m@3m

ANNEX B - TEST DIAGRAMS

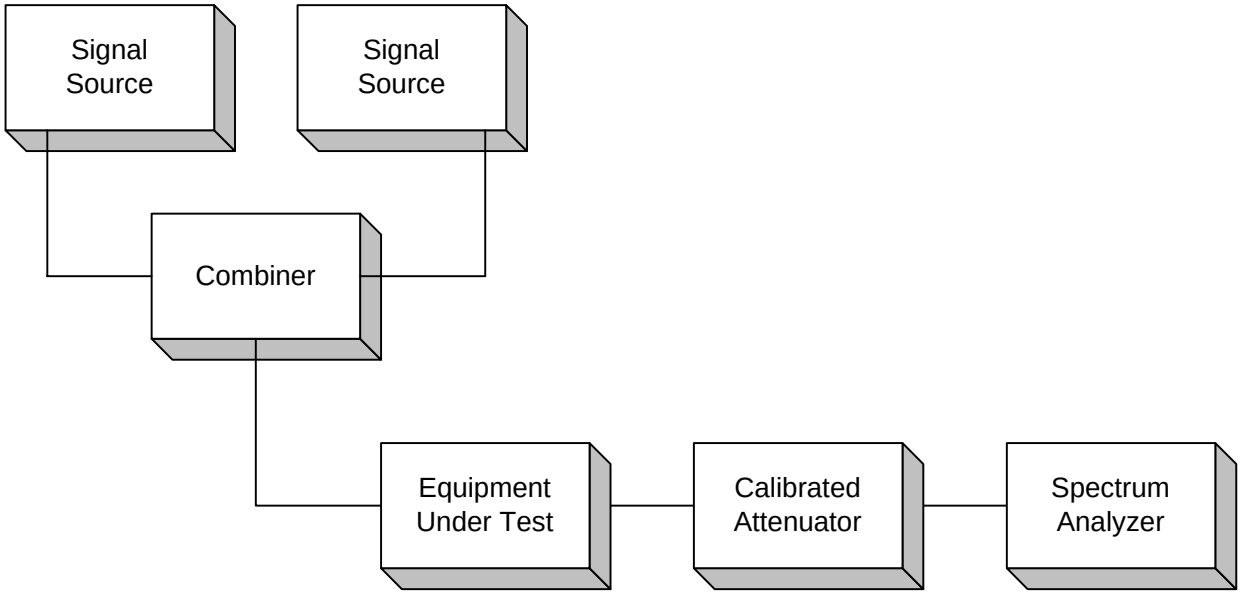
Para. No. 2.985 - R.F. Power Output



Para. No. 2.989 - Occupied Bandwidth



Para. No. 2.991 - Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation