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FCC ID: PBT3088-123

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TEST EQUIPMENT LIST

- 1._X_Spectrum Analyzer: HP 8566B-Opt 462, S/N 3138A07786, w/
preselector HP 85685A, S/N 3221A01400, Quasi-Peak Adapter
HP 85650A, S/N 3303A01690 & Preamplifier HP 8449B-OPT H02,
S/N 3008A00372 Cal. 8/31/01 Due 8/31/02
- 2._X_Biconnical Antenna: Eaton Model 94455-1, S/N 1057,
Cal. 10/1/01 Due 10/1/02
- 3._ Biconnical Antenna: Electro-Metrics Model BIA-25, S/N 1171
Cal. 4/26/01 Due 4/26/03
- 4._ Log-Periodic Antenna: Electro-Metrics Model EM-6950, S/N 632
Char. 3/15/00 Due 3/15/01
- 5._X Log-Periodic Antenna: Electro-Metrics Model LPA-30, S/N 409
Char. 3/15/00 Due 3/15/01
- 6._X Double-Ridged Horn Antenna: Electro-Metrics Model RGA-180,
1-18 GHz, S/N 2319 Cal. 4/27/99 Due 4/27/00
- 7._ 18-26.3GHz Systron Donner Standard Gain Horn #DBE-520-20
No Cal Required
- 8._ Horn 40-60GHz: ATM Part #19-443-6R No Cal Required
- 9._ Line Impedance Stabilization Network: Electro-Metrics Model
EM-7820, w/NEMA Adapter S/N 2682 Cal. 3/16/01 Due 3/16/02
- 10._ Temperature Chamber: Tenney Engineering Model TTRC, S/N 11717-7
Char. 1/27/01 Due 1/27/02
- 11._ Frequency Counter: HP Model 5385A, S/N 3242A07460
Char. 11/20/00 Due 11/20/01
- 12._ Peak Power Meter: HP Model 8900C, S/N 2131A00545
Char. 1/26/01 Due 1/26/02
- 13._X_Open Area Test Site #1-3meters Cal. 12/22/99
- 14._ Signal Generator: HP 8640B, S/N 2308A21464
Cal. 11/15/01 Due 11/15/02
- 15._ Passive Loop Antenna: EMC Model 6512, 9KHz to 30MHz, S/N
9706-1211 Char. 6/10/00 Due 6/10/01
- 16._ Dipole Antenna Kit: Electro-Metrics Model TDA-30/1-4, S/N 153
Char. 11/24/00 Due 11/24/01
- 17._ AC Voltmeter: HP Model 400FL, S/N 2213A14499
Cal. 10/9/01 Due 10/09/02
- 18._X_Digital Multimeter: Fluke Model 77, S/N 43850817
Cal. 11/16/00 Due 11/16/01
- 19._ Oscilloscope: Tektronix Model 2230, S/N 300572
Char. 2/1/01 Due 2/1/02

TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC. The UUT was transmitting a test signal during the testing.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a preselector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the UUT was 76oF with a humidity of 35%.

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TEST PROCEDURES CONTINUED

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz)	METER READING + ACF = FS
33	20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-1992 10.1.7 MEASUREMENT PROCEDURES: The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The UUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

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FCC ID: PBT3088-123

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.249, 15.209

REQUIREMENTS:

FIELD STRENGTH	FIELD STRENGTH	S15.209
of Fundamental: 902-928 MHz 2.4-2.4835 GHz 94 dBuV/m @3m	of Harmonics 30 - 88 MHz 88 -216 MHz 216 -960 MHz 54 dBuV/m @3m	40 dBuV/m @3M 43.5 46 ABOVE 960 MHz 54dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

TEST RESULTS: This unit DOES meet the FCC requirements.

TEST DATA:

Emission Frequency MHz	Meter Reading dBuv	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuv/m	Margin dB
2414.10	44.60	V	1.09	29.04	74.73	19.27
4828.20R	15.60	V	1.45	33.93	50.99	3.01
7242.30	3.80	H	1.82	36.65	42.26	11.74
9656.40	11.80	H	2.11	38.60	52.51	1.49
12070.50R	6.60	H	2.34	38.55	47.49	6.51

TEST PROCEDURE: ANSI STANDARD C63.4-1992 using a Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Preselector, a Hewlett Packard Model 85650A Quasi-Peak adapter, and an appropriate antenna. The bandwidth of spectrum analyzer was 100 kHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth(10) harmonic of the fundamental.

PERFORMED BY: JOSEPH SC oglIO DATE: 8/16/01

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NAME OF TEST: Occupied Bandwidth

RULES PART NO.: 15.249

REQUIREMENTS: The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

THE PLOTS ON THE NEXT PAGES REPRESENTS THE EMISSIONS TAKEN FOR THIS DEVICE.

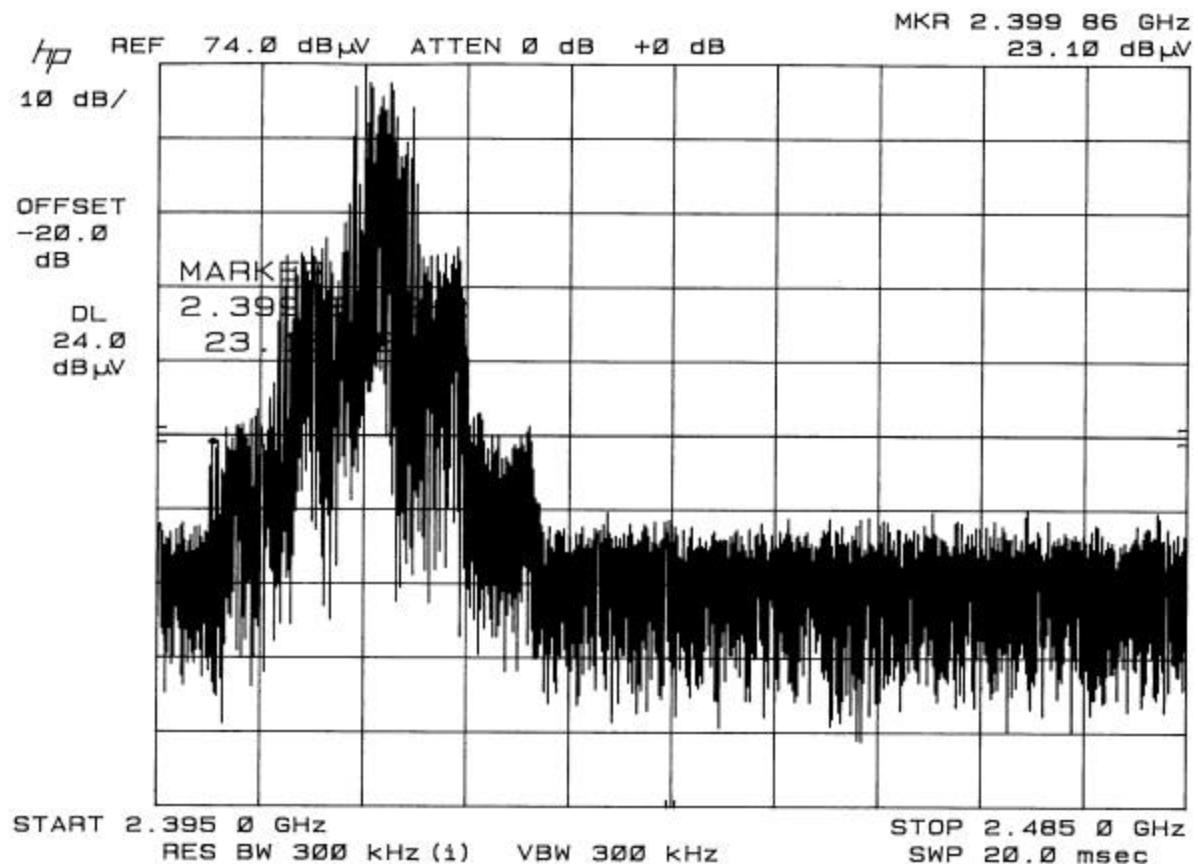
METHOD OF MEASUREMENT: A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to 10 dB per division. The horizontal scale is set to 2 MHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

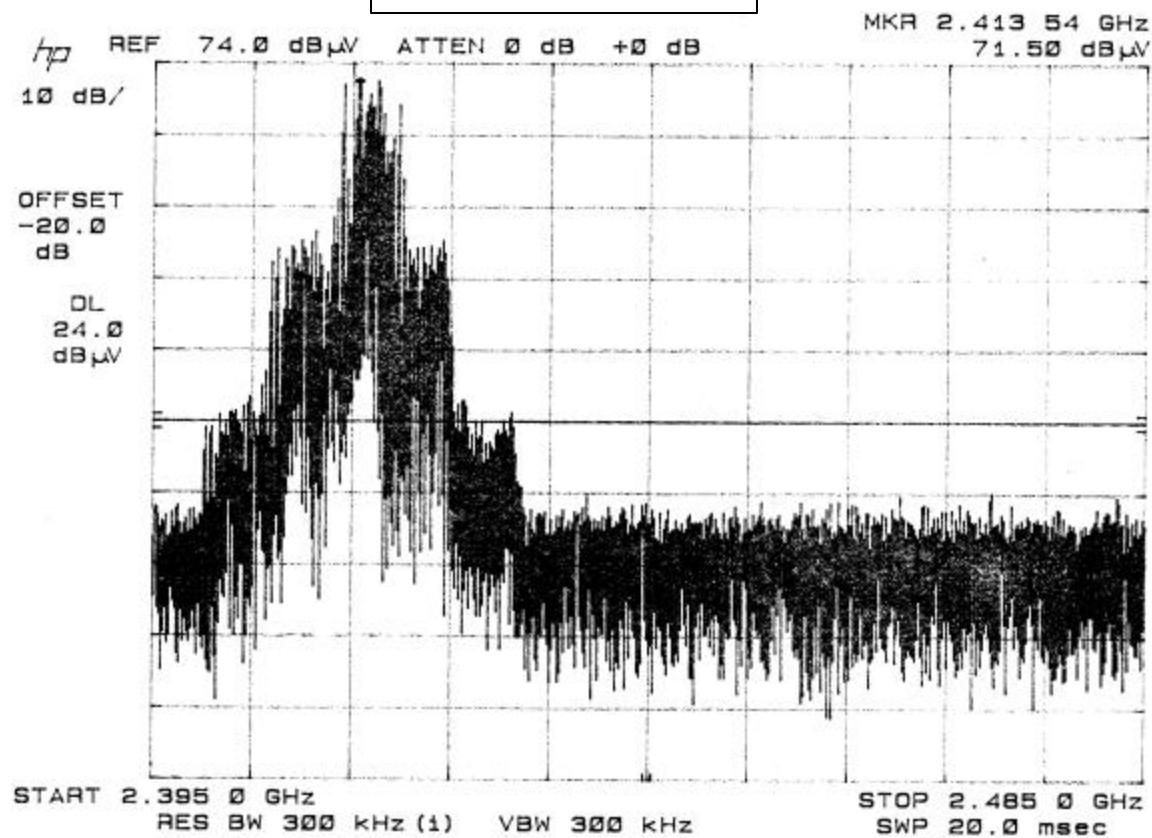
PERFORMED BY: JOSEPH SCOGLIO DATE: 8/16/01

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Occupied Bandwidth



Occupied Bandwidth



Occupied Bandwidth - Idle

