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FCC ID: KR5MIS-I

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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. 10/17/99
2. X Biconnical Antenna: Eaton Model 94455-1, S/N 1057
3.    Biconnical Antenna: Electro-Metrics Model BIA-25, S/N 1171
4. X Log-Periodic Antenna: Electro-Metrics Model EM-6950, S/N 632
5.    Log-Periodic Antenna: Electro-Metrics Model LPA-30, S/N 409
6.    Double-Ridged Horn Antenna: Electro-Metrics Model RGA-180,  
1-18 GHz, S/N 2319
7.    Horn 40-60GHz: ATM Part #19-443-6R
8.    Line Impedance Stabilization Network: Electro-Metrics Model  
ANS-25/2, S/N 2604 Cal. 2/9/00
9.    Temperature Chamber: Tenney Engineering Model TTRC, S/N 11717-7
10.    Frequency Counter: HP Model 5385A, S/N 3242A07460 Cal 10/6/99
11.    Peak Power Meter: HP Model 8900C, S/N 2131A00545
12. X Open Area Test Site #1-3meters Cal. 12/22/99
13.    Signal Generator: HP 8640B, S/N 2308A21464 Cal. 9/23/99
14.    Signal Generator: HP 8614A, S/N 2015A07428
15. X Passive Loop Antenna: EMCO Model 6512, 9KHz to 30MHz, S/N  
9706-1211 Cal. 6/10/00
16.    Dipole Antenna Kit: Electro-Metrics Model TDA-30/1-4, S/N 153  
Cal. 11/24/99
17.    AC Voltmeter: HP Model 400FL, S/N 2213A14499 Cal. 9/21/99
18.    Digital Multimeter: Fluke Model 8012A, S/N 4810047 Cal 9/21/99
19.    Digital Multimeter: Fluke Model 77, S/N 43850817 Cal 9/21/99
20.    Oscilloscope: Tektronix Model 2230, S/N 300572 Cal 9/23/99

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the written approval of TIMCO ENGINEERING, INC.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD  
C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a prese-  
lector. In the frequency range 10KHz to 30MHz the RBW was 10KHz and  
from 30-1000MHz the RBW of the spectrum analyzer was 100 kHz with an  
appropriate sweep speed. 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. The ambient temperature of  
the UUT was 80oF with a humidity of 51%.

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TEST PROCEDURE 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

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 FCC ID: KR5MIS-I  
 NAME OF TEST: RADIATION INTERFERENCE  
 RULES PART NO.15.109(a) and 15.209  
 REQUIREMENTS: CARRIER FREQUENCY WILL NOT EXCEED 2400/F(KHz) AT 300 Meters.

OUT-OF-BAND EMISSIONS SHALL NOT EXCEED THE LEVEL OF THE FUNDAMENTAL.

9 to 490 KHz: 2400/F(KHz) uV/m @ 300 METERS  
 490 to 1705 KHz: 24000/F(KHz) uV/m @ 30 METERS  
 1705 to 30 MHz: 29.54 dBuV/M @ 30 METERS  
 30 to 88 MHz: 40.00 dBuV/M @ 3 METERS  
 88 to 216 MHz: 43.50 dBuV/M  
 216 to 960 MHz: 46.02 dBuV/M  
 ABOVE 960 MHz: 54.00 dBuV/M

#### TEST

CONFIGURATION: The INTENTIONAL RADIATOR was connected to an power source and a harness simulator cable box. The device was tested in transmitting modes.

#### TEST DATA:

EMISSION FREQUENCY MHz	METER READING AT 3 METERS dBuV	ANTENNA CORRECTION FACTOR dB	FIELD STRENGTH dBuV/m@3m	ANT. POL.
0.136	20.80	13.00	41.80	V
1.80	15.70	-11.00	4.70	V

THE MEASUREMENTS WERE MADE AT 3.0Meters.

The spectrum was scanned from 10KHz to 1000MHz.

SAMPLE CALCULATION: FSdBuV/m = MR(dBuV) + ACFdB.

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NAME OF TEST: RADIATION INTERFERENCE

TEST PROCEDURE: ANSI C63.4-1992 Section 8.2.1. The EUT was placed on a non-conducting table 80CM above the ground plane with the EUT located in the center of the table. With the antenna vertical a preliminary scan was done at 1 meters distance, the EUT was moved to a 3.0 meter distance and the antenna height varied and also placed in a horizontal position. The frequency was scanned from 9.0KHz to 1.0GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The EUT was measured in three(3) orthogonal planes. The unit was measured at TIMCO ENGINEERING, INC. located at 849 N.W. State Road 45 Newberry, Florida 32669.

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY: \_\_\_\_\_ DATE: 3 JULY 2000

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