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APPLICANT: RITVIK HOLDINGS INC.

FCC ID: OX4 8914

TEST REPORT CONTAINING:



EXHIBITS CONTAINING:

## 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 8565OA, S/N 3303A01690 & Preamplifier HP 8449B-OPT H02, S/N 3008A00372 Cal. 10/17/99
2.___Signal Generator: HP 8640B, S/N 2308A21464 Cal. 9/23/99
3.___Signal Generator: HP 8614A, S/N 2015A07428 Cal. 5/29/99
4.___Passive Loop Antenna: EMCO Model 6512, 9KHz to 30MHz, S/N 9706-1211 Cal. 6/23/97
5._X_Biconnical Antenna: Eaton Model 94455-1, S/N 1057
6._X_Log-Periodic Antenna: Electro-Metrics Model EM-6950, S/N 632
7.___Dipole Antenna Kit: Electro-Metrics Model TDA-30/1-4, S/N 153 Cal. 11/24/99
8.___Double-Ridged Horn Antenna: Electro-Metrics Model RGA-180, 1-18 GHz, S/N 2319 Cal. 4/27/99
9.___Horn 40-60GHz: ATM Part #19-443-6R
10.___Line Impedance Stabilization Network: Electro-Metrics Model ANS-25/2, S/N 2604 Cal. 2/9/00
11.___Line Impedance Stabilization Network: Electro-Metrics Model EM-7820, S/N 2682 Cal. 12/1/99
12.___Temperature Chamber: Tenney Engineering Model TTRC, S/N 11717-7
13.___AC Voltmeter: HP Model 400FL, S/N 2213A14499 Cal. 9/21/99
14.___Digital Multimeter: Fluke Model 8012A, S/N 4810047 Cal 9/21/99
15.___Digital Multimeter: Fluke Model 77, S/N 43850817 Cal 9/21/99
16.___Oscilloscope: Tektronix Model 2230, S/N 300572 Cal 9/23/99
17.___Frequency Counter: HP Model 5385A, S/N 3242A07460 Cal 10/6/99

## TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without 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 preselector. The bandwidth 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 72o with a humidity of 75%.

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 |

CIRCUIT DESCRIPTION:

In the transmit mode the momentary switches SW-L, SW-R, SW-B, & SW-F provide input to the encoder integrated circuit U1. The output of U1 modulated the RF oscillator Q1 by varying the emitter current of that stage. The RF frequency is determined by the crystal Y1. The output of Q1 is coupled through C10 to the base of the RF amplifier Q2. From Q2 the signal is fed into the tuned circuit made up of L3/C5 & then to the low pass filter made up of C7/L2/C8 and is then fed to the antenna.

ANTENNA AND GROUND CIRCUITRY

This unit makes use of a short antenna. The antenna is inductively coupled. The antenna is self contained, no provision is made for an external antenna. This unit is powered from a 9.0V battery.

No ground connection is provided. The unit relies on the ground tract of the printed circuit board.

APPLICANT: RITVIK HOLDINGS INC.

FCC ID: OX4 8914

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NO.: 15.227

REQUIREMENTS: CARRIER FREQUENCY WILL NOT EXCEED 80 dBuV/m AT 3M.
OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

| | | |
|---|---|---|
| 30 - 88 MHz | 40.0 dBuV/M | MEASURED AT 3 METERS |
| 88 - 216 MHz | 43.5 dBuV/M | |
| 216 - 960 MHz | 46.0 dBuV/M | |
| ABOVE 960 MHz | 54.0 dBuV/M | |

TEST DATA:

| EMISSION FREQUENCY MHz | METER READING AT 3 METERS dBuV | COAX LOSS dB | ANTENNA CORRECTION FACTOR dB | PEAK FIELD STRENGTH dBuV/m@3m | MARGIN dB | ANT. POL. |
|---|---|---|---|---|---|---|
| 27.15 | 34.00 | 0.20 | 11.75 | 45.95 | 34.05 | V |
| 54.29 | 12.00 | 0.80 | 9.61 | 22.41 | 17.59 | V |
| 81.44 | 12.00 | 0.80 | 12.13 | 24.93 | 15.07 | V |
| 108.58 | 7.00 | 0.80 | 8.38 | 16.18 | 27.32 | V |
| 190.02 | 9.10 | 0.90 | 13.67 | 23.67 | 19.83 | H |
| 217.16 | 4.60 | 1.20 | 12.42 | 18.22 | 27.78 | V |
| 244.31 | 5.50 | 1.20 | 13.21 | 19.91 | 26.09 | V |
| 271.45 | 9.10 | 1.40 | 14.00 | 24.50 | 21.50 | H |
| 298.60 | 19.30 | 1.40 | 15.61 | 36.31 | 9.69 | V |
| 325.74 | 11.80 | 1.40 | 14.85 | 28.05 | 17.95 | V |
| 352.89 | 4.70 | 1.40 | 15.63 | 21.73 | 24.27 | V |

SAMPLE CALCULATION:

FSdBuV/m = MR(dBuV) + ACFdB.

TEST PROCEDURE: The procedure used was ANSI STANDARD C63.4-1992. The spectrum was scanned from 30 MHz to 1000 MHz. 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 UUT was tested in 3 orthogonal planes.

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY:_____ DATE: MARCH 17, 2000

APPLICANT: RITVIK HOLDINGS INC.

FCC ID: OX4 8914

NAME OF TEST: Occupied Bandwidth

RULES PART NO.: 15.227

REQUIREMENTS: The field strength of any emissions appearing outside the 26.96-27.28 MHz band shall not exceed 100 uV/m (15.209).

THE GRAPH IN EXHIBIT 11 REPRESENTS THE WORSE CASE OCCUPPIED BANDWIDTH EMISSIONS FOR THIS DEVICE.

METHOD OF MEASUREMENT: A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was taken. The vertical scale is set to -10 dBm per division. The horizontal scale is set to 5 kHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

PERFORMED BY:_____ MARCH 17, 2000