

**SMITH ELECTRONICS, INC.
ELECTROMAGNETIC COMPATIBILITY LABORATORIES**

**RADIO-FREQUENCY STABILITY vs. AC-LINE VOLTAGE VARIATION
TEST REPORT**

FOR

HEXAGRAM, INC.

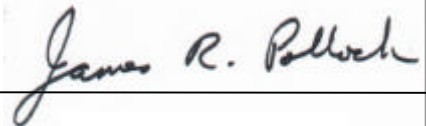
ELECTRIC METER TRANSMITTING UNIT (MTU)

Model 7330

FCC ID: LLB7330

November 22, 2002

Prepared by:

A handwritten signature in black ink that reads "James R. Pollock". The signature is written in a cursive style and is positioned above a horizontal line that extends across the width of the signature area. To the right of the signature, there is a vertical line that extends from the top of the signature area down to the printed name below.

James R. Pollock

Prepared for:

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FREQUENCY STABILITY vs. AC-LINE VOLTAGE (Supplied Voltage)

The frequency stability was determined as a function of the power line input voltage. A variable transformer was used to set the voltage between about 85% and 115% of the nominal 220 VAC input. To cover the voltage range of 187 V to 253 V, measurements were made every 10 V between 180 V and 260 V. When the voltage was set to a measurement point, the transmitter was instructed to transmit and the signal captured by the spectrum analyzer and the frequency value determined. The data for these measurements are found in Table 1. It can be seen that all values obtained are within the 2.5 ppm allowed.

TABLE 1

FREQUENCY STABILITY vs. SUPPLY VOLTAGE

INPUT AC Volts	Measured Frequency MHz	Dev. Hz	Dev. ppm
	Expected = 460.00000		
260	459.99905	-950	-2.07
250	459.99925	-750	-1.63
240	459.99955	-450	-0.98
230	459.99935	-650	-1.41
220	459.99950	-500	-1.09
210	459.99965	-350	-0.76
200	459.99895	-1050	-2.28
190	459.99895	-1050	-2.28
180	459.99975	-250	-0.54

TEST INFORMATION

SUMMARY

The Hexagram Electric Meter Transmitting Unit transmitter, has been shown to be capable of complying with those requirements of the Federal Communications Commission for a Part 90 transmitter that are covered by this report.

EQUIPMENT UNDER TEST

“Electric MTU” Transmitter, Model 7330

MANUFACTURER

Hexagram, Inc.
23905 Mercantile
Cleveland, OH 44122

TEST DATE

October16, 2002

TEST LABORATORY

Smith Electronics, Inc.
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MEASUREMENT EQUIPMENT

Hewlett-Packard Spectrum Analyzer
Type 8568B with 8560A RF Section
S/N 2216A02120
85662A Display Section S/N 2152A03686
85650A Quasi-Peak Adapter
S/N 2043A00350 Calibrated 6/02

Fluke digital voltmeter Model 23

ANTENNAS

EMCO Model 3146 Log-Periodic antenna,
Frequency range of 200 MHz - 1000 MHz

MISCELLANEOUS

12.2 m RG-214/U coaxial cable

Variable voltage source was a Superior
Electric Co. Type 1226 Powerstat.