TYPE OF EXHIBIT: TRANSMITTER EFFECTIVE RADIATED POWER

FCC PART: 95.639

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RQT-150

FCC ID: AIERIT09-150

DATE: May 15, 2001

PROCEDURE:

1. The measurement for effective radiated power was taken at the RITRON, Inc. 3 meter test site. The measurement was made in accordance with FCC Rules & Regulations Part 2.947 using the procedures of IEC Publication 106.

2. The RQT-150 was aligned for transmitter operation on 156.100 MHz at the 120 milliwatt maximum obtainable from the unit per the tune-up procedure outlined in the Preliminary Maintenance Manual. The unit was then terminated at the antenna port with the antenna sold with this product.

3. All field strength measurements were made with the Hewlett-Packard Model 8559A Spectrum Analyzer and an Electro-Metrics BDA-25 Dipole Antenna.

4. The height and polarization of the field strength measurement antenna and orientation of the RQT-150 were varied to provide maximum field strength.

5. A substitution antenna, an Electro-Metrics EM-6924 adjustable dipole, was substituted for the RQT-150 at the RQT-150's location. An RF signal generator was set for the frequency of the RQT-150 with the level at the substitution antenna noted.

6. The polarization of the substitution antenna was adjusted for maximum signal strength at the field strength measuring antenna. The level at the field strength antenna was noted.

TYPE OF EXHIBIT: TRANSMITTER EFFECTIVE RADIATED POWER

FCC PART: 95.639

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RQT-150

FCC ID: AIERIT09-150

DATE: May 15, 2001

EQUATIONS:

The substitution antenna is specified from the manufacturer in terms of antenna factor rather than antenna gain. The conversion is:

Ga(dbd) = 20 log f (MHz) – AF(dB) – 31.9

The effective radiated power (ERP) is then:

ERP(dBm) = Pr(dBm) + Pgen(dBm) – Ps(dBm) – Ga(dBd)

Where:

Pr is the power level of the radio's emission at the receiving antenna output.

Pgen is the RF signal generator level at the substitution antenna output.

Ps is the power level of the substitution antenna emission at the receiving antenna output.

Ga is the gain of the substitution antenna.

The ERP is converted to watts from dBm by:

ERP(watts) = $\text{antilog}_{10}((\text{ERP(dBm)} - 30)/10)$

TYPE OF EXHIBIT: TRANSMITTER EFFECTIVE RADIATED POWER

FCC PART: 95.639

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RQT-150

FCC ID: AIERIT09-150

DATE: May 15, 2001

RESULTS:

Antenna	Pr (dBm) (watts)	Pgen (dBm)	Ps (dBm)	Ga (dBd)	ERP (dBm)	ERP
AFB-1545	0.0	0.0	-19.0	-0.2	19.2	0.08