TYPE OF TEST: Radio Frequency Power Output

FCC PART: 2.985

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

MODEL: RRX-452

TYPE OF UNIT: UHF-FM Voice and Data Full Duplex Repeater

FCC ID: AIERIT05-452

DATE: August 25, 1998

PROCEDURE:

A variable source of DC power was applied to the RRX-452 rear panel connector. This simulates the full range of operating voltages that may be applied to the unit via the external DC power input connector.

The RRX-452 transmitter module was connected to the 50 Ohm power termination of an HP 435B Power Meter for RF Power measurements.

The RRX-452 was aligned for transmitter operation on 464.600 MHz. (Fo) per the tune-up procedure outlined in the preliminary manual.

The collector supply line to Q209, the final RF amplifier transistor, was broken on the Supply side of Z205. A Beckman Industrial, 4.5 digit, model 4410 DMM was connected in series to measure the collector current during transmit. Supply voltage was measured, also at Z205, using another DMM, during transmit. The voltage was measured after any voltage drop caused by inserting the ammeter.

With 12.6 VDC applied, the power was adjusted using the power adjust control R243 to show operation at various power levels. With higher supply voltages, R243 was set to provide maximum power output.

TYPE OF TEST: Radio Frequency Power Output (page 2)

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TYPE OF UNIT: UHF-FM Voice and Data Full Duplex Repeater

FCC ID: AIERIT05-452

DATE: August 25, 1998

TEST FREQUENCY: 464.600 MHz

TEST DATA:

Input Volts (VDC)	Input Current (Amps)	Input DC Power (Watts)	Output RF Power (Watts)	Efficiency (%)
12.60	0.3325	4.19	1.00	23.9
12.60	0.4729	5.96	2.00	33.6
12.60	1.084	13.67	8.00	58.5
13.60*	1.2036	16.37	9.00	55.0
14.00*	1.2500	17.50	9.40	53.7

* The internal DC power supply of the RRX-452 is specified to be set to12.6 VDC. These higher voltages could be experienced if the unit is externally powered by a DC source such as a “float charged” or solar power battery system.

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Certifying Engineer: Arnal Cook
Date: August 26, 1998