

**RELM Communication, Inc.  
FCC Certification Application  
Aurora (APV5240 & APV5016)**

**July 15, 2000**

# MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **RELM Communication, Inc.**

MODEL: **Aurora (APV5240 & APV5016)**

FCC ID: **K95APV5**

DATE: **July 15, 2000**

This report concerns (check one): Original grant X  
Class II change \_\_\_\_\_

Equipment type: **VHF FM Transceiver**

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? yes \_\_\_\_\_ No X

If yes, defer until: \_\_\_\_\_  
date

N.A. agrees to notify the Commission by N.A.  
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

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3505 Francis Circle  
Alpharetta, GA 30004

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# **SECTION 1**

## **GENERAL INFORMATION**

## **GENERAL INFORMATION**

### **1.1 Product Description**

The Equipment Under Test (EUT) is a RELM Communication, Inc., Model Aurora (APV5240 & APV5016). The EUT is a VHF FM Portable transceiver which operates from 136.0 to 174.0 MHz in 2.5 kHz steps.

The APV5016 is a single bank sixteen-channel configuration. It is comprised of a main board assembly which consists of the micro-controller, EEPROM, transmitter, receiver, and audio circuits.

The APV5240 is a multi-bank unit with a capability of up to 240 channels. It is comprised of a main board assembly and front panel display assembly. The main board consists of the micro-controller, EEPROM, transmitter, receiver, and audio circuits. The front panel assembly of the keyboard/display consists of the LCD display, display controller circuit, and keypad.

The unit is manufactured by the following company:

BK Radio Inc.  
C/O RELM Communications Inc.  
7505 Technology Drive  
West Melbourne, FL 32904

## **1.2 Related Submittal(s)/Grant(s)**

The EUT will be used with part of a system to send/receive data. The transceiver presented in this report will be used with other like transceivers.

The EUT is subject to the following authorizations:

- a) Certification as a transmitter as specified by Parts 22, 74, 80, and 90.

The information contained in this report is presented for the certification authorization(s) for the EUT.

# **SECTION 2**

## **TESTS AND MEASUREMENTS**

## **TEST AND MEASUREMENTS**

### **2.1 Configuration of Tested System**

Prepared in accordance with the requirements of the FCC Rules and Regulations Part 2. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. A block diagram of the tested system is shown in Figure 1. Test configuration photographs for spurious emissions are shown in Figure 2.

The sample used for testing was received by U.S. Technologies on April 24, 2000 in good condition.

### **2.2 Test Facility**

Unless otherwise stated, testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and submitted to the FCC, and accepted in their letter marked 31040/SIT. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number IC2982.

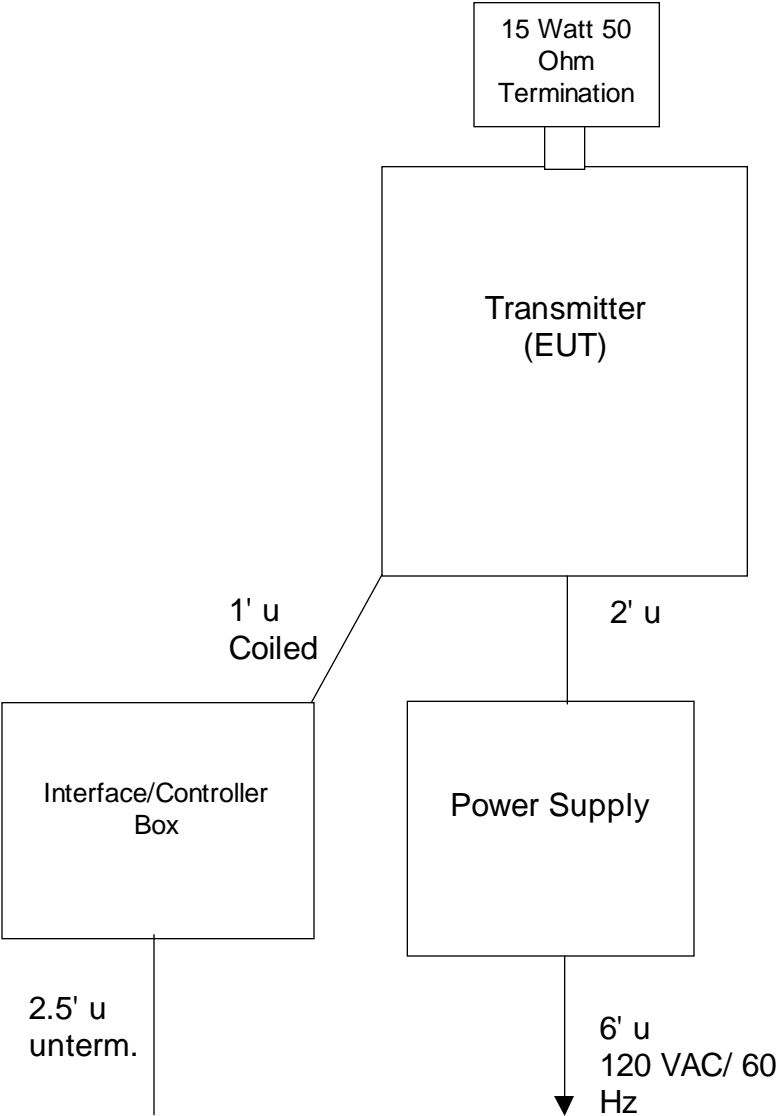
### **2.3 Test Equipment**

Table 2 describes test equipment used to evaluate this product.

### **2.4 Modifications**

No modifications were made by US Tech to bring the EUT into compliance with FCC limits for the transmitter portion of the EUT.

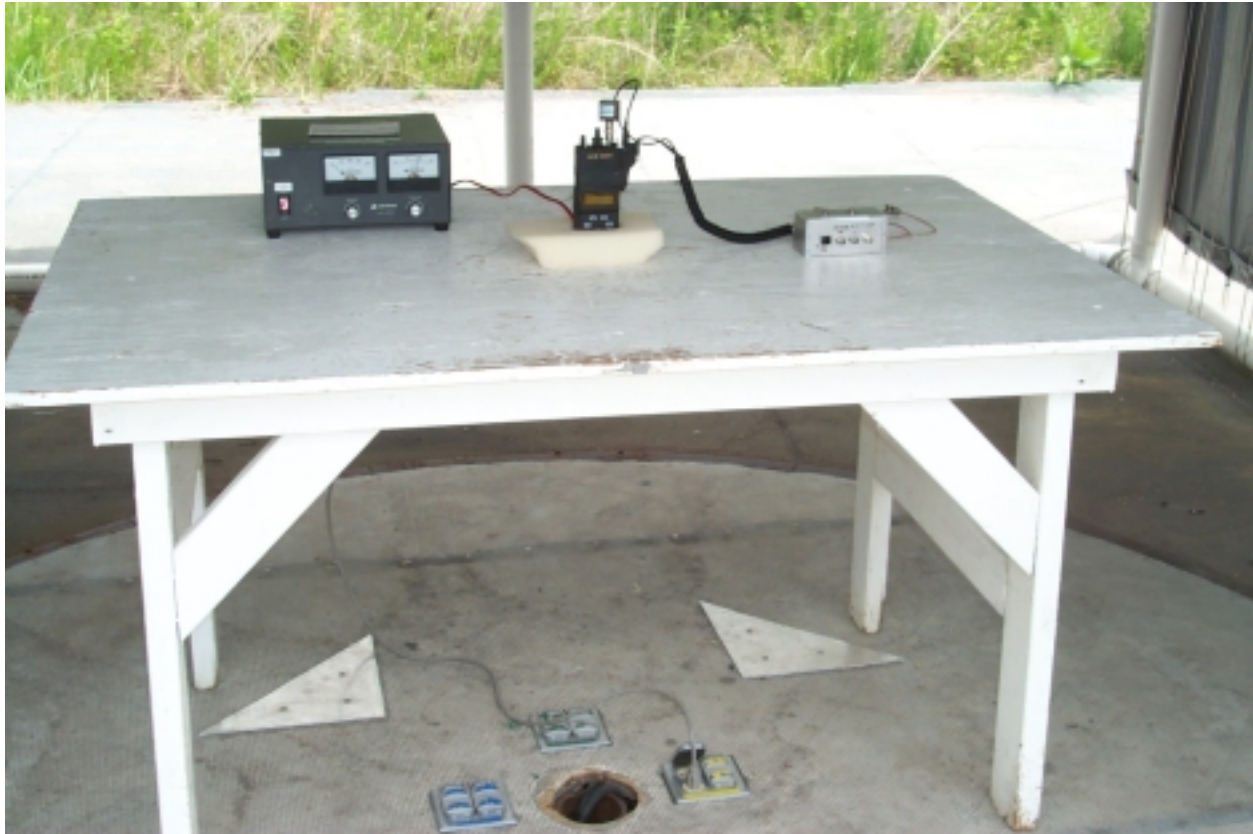
**FIGURE 1**  
**TEST CONFIGURATION**



**Test Date:** April 24, 2000 – May 11, 2000  
**UST Project:** 00-0167  
**Customer:** RELM Communication, Inc.  
**Model:** Aurora (APV5240 & APV5016)

**FIGURE 2a**

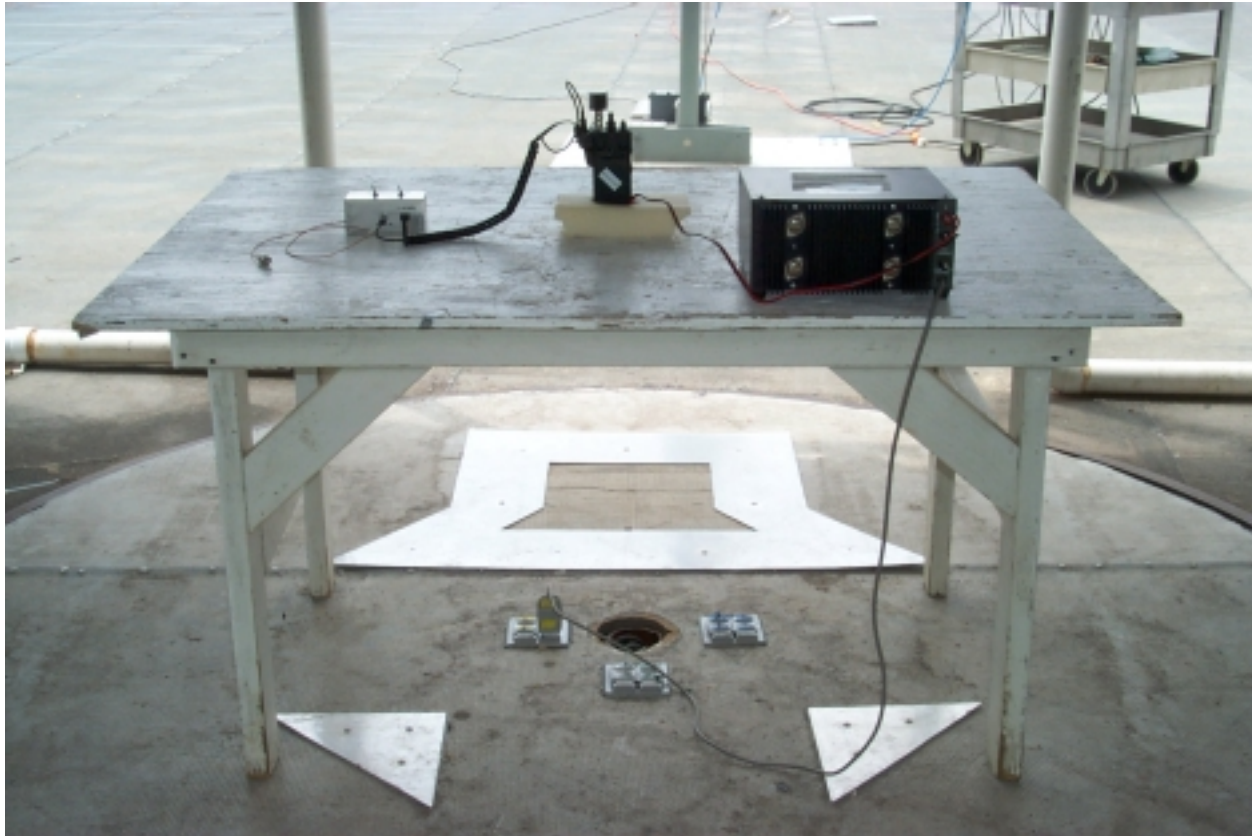
**Photograph(s) for Spurious Emissions (Front)**



**Test Date:** April 24, 2000 – May 11, 2000  
**UST Project:** 00-0167  
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**FIGURE 2b**

**Photograph(s) for Spurious Emissions (Back)**



**TABLE 1****EUT and Peripherals**

<b>PERIPHERAL MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>FCC ID:</b>	<b>CABLES P/D</b>
Transmitter (EUT) RELM Communication, Inc.	Aurora (APV5240 & APV5016)	A10007028	K95APV5 (Pending)	2' u
Interface/Controller Box RELM Communication, Inc.	None	None	None	1' u coiled 2.5' u unterm
Power Supply Astron	VS-35 M	Unknown	None	6' u 120 VAC/60Hz
Termination Component General, Inc.	CFT-15 BM	None	None	

**TABLE 2**  
**TEST INSTRUMENTS**

<b>TYPE</b>	<b>MANUFACTURER</b>	<b>MODEL</b>	<b>SN.</b>
SPECTRUM ANALYZER	HEWLETT-PACKARD	8593E	3205A00124
SPECTRUM ANALYZER	HEWLETT-PACKARD	8558B	2332A09900
S A DISPLAY	HEWLETT-PACKARD	853A	2404A02387
COMB GENERATOR	HEWLETT-PACKARD	8406A	1632A01519
RF PREAMP	HEWLETT-PACKARD	8447D	1937A03355
RF PREAMP	HEWLETT-PACKARD	8449B	3008A00480
HORN ANTENNA	EMCO	3115	3723
HORN ANTENNA	EMCO	3116	9505-2255
BICONICAL ANTENNA	EMCO	3110	9307-1431
LOG PERIODIC ANTENNA	EMCO	3146	9110-3600
TEMPERATURE CHAMBER	THERMOTRON	SM16	17095
MULTIMETER	FLUKE	85	53710469
PLOTTER	HEWLETT-PACKARD	7475A	2325A65394