

# MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **Radio Systems Corporation**

MODEL: **TC-100**

FCC ID: **KE3TC100**

DATE: **August 30, 1999**

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

Equipment type: **Low Power Transmitter**

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.

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## **GENERAL INFORMATION**

### **Product Description**

The Equipment Under Test (EUT) is a Radio Systems Corporation, Model TC-100 Pet Training and Containment System. The EUT incorporates a 303.825 MHz receiver and a 10.7 kHz dog fence transmitter. The receiver accepts commands from a small handheld transmitter. This report covers only the transmitter (dog fence) portion of the device.

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

The EUT is subject to the following authorizations:

- a) Certification as a low power receiver (10.7 kHz)
- b) Certification or DoC, as a low power receiver (303.825 MHz)

The information contained in this report is presented for the Certification authorization for the transmitter portion of the EUT. A separate report has been generated for the DoC authorization of the receiver portion of the EUT.

The EUT will also be used with a hand-held transmitter submitted and previously approved under FCC ID: PPT101.

## TESTS AND MEASUREMENTS

### Configuration of Tested System

The sample was tested per ANSI C63.4, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Range of 30 MHz -1 GHz (1992). Conducted and radiated emissions data were taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 100 Hz (9 kHz – 150 kHz), 9kHz (150 kHz - 30 MHz), and 120 kHz (30 MHz - 1 GHz) respectively. 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 and fundamental emissions are shown in Figure 2.

The EUT was set up with a 300' length of wire connected to it, to simulate a typical installation. The wire was not buried, as it would be in a typical installation (approximately 2 -3 inches). Measurements were taken at all three antenna polarities on each side of the square and intervals in between, at a distance of 3 meters. The side with the worst case results was re-measured at a distance of 10 meters. Results between 100 kHz and 30 MHz were corrected to 30 meters by the following  $40 \log (300/10) = 59.1$  dB. Those results below 100 kHz were corrected to 300 meters by the following  $60 \log (300/10) = 88.6$  dB (which is allowed per previous discussion with Greg Czumak at the FCC).

### Test Facility

Conducted testing was performed at US Tech's measurement facility as described to the FCC and acknowledged in their letter marked 31040/SIT/USTECH.

Additional radiated testing was performed at a vacant area that would allow measurements to be made 10 meters away from the EUT with the 300' length of wire connected to it.

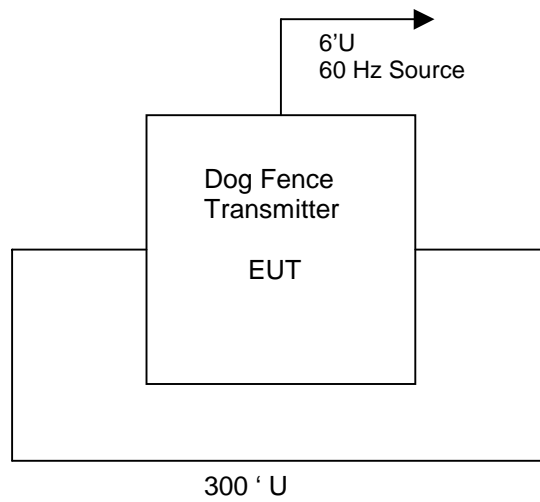
### Test Equipment

Table 2 describes test equipment used to evaluate this product.

### Modifications

No modifications were made to bring the EUT into compliance with FCC Part 15, Class B Requirements:

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



**FIGURE 2**

**Photograph(s) for Spurious and Fundamental Emissions**



**FIGURE 2**

**Photograph(s) for Spurious and Fundamental Emissions**





