

## ENGINEERING STATEMENT

In Regard to Measurements on

Model No. RCI-5054DX-100

RANGER COMMUNICATIONS INC.

FCC ID: C2R5054DX100

### A. INTRODUCTION

Hyak Laboratories, Inc. has been authorized by Ranger Communications Inc. to perform measurements on a receiver to determine compliance with FCC rules, Part 15, Para. 15.109.

The receiver operates in the 50 - 54 MHz band and is intended for use as a 6 meter amateur radio receiver.

### B. DESCRIPTION OF RECEIVER

The device incorporates a dual conversion superheterodyne design.

The following information is supplied as requested in FCC Bulletin OCE 24:

1. Service in which the receiver will be used: Part 15.
2. Function of receiver: Amateur Radio.
3. Tuning range: 50 - 54 MHz.
4. IFs used: 10.695 MHz; 455 kHz
5. Fundamental frequency of all oscillators in the receiver:  
1<sup>st</sup> L.O.:  $(F_c - 10.695)$  MHz  
2<sup>nd</sup> L.O.: 10.24 MHz

C. DESCRIPTION OF MEASUREMENT PROCEDURE: RADIATED EMISSIONS

Measurements of receiver radiation field strength were made using ANSI 63.4 (1992) as the basic procedure. Measurements were made with 3 meter spacing between the receiver under test and the test equipment antenna. The receiver was operated with an external antenna.

The receiver under test was placed on a rotatable table 80 cm in height.

Measurement of field strength was made through use of a TEK 494P spectrum analyzer in conjunction with Singer DM-105A series calibrated dipoles. The receiver was tuned to low and high channels.

For each spurious emission identified between 30 to 2000 MHz, the test sample was rotated for maximum pickup, the test antenna varied in elevation, and the test antenna polarization shifted between horizontal to vertical in order to maximize observed signals.

D. REPORT OF RADIATED EMISSIONS

All signals observed from 30 to 2000 MHz were more than 20 dB below the limits of paragraph 15.109 of the FCC Rules.

E. DESCRIPTION OF MEASUREMENT PROCEDURE; AC-LINE CONDUCTED

Not applicable; operates from vehicle 13.8 V supply.

F. STATEMENT

Technical test data are from tests performed by me or under my supervision. My qualifications are a matter of record with the Federal Communications Commission. I personally attest to the accuracy of the test data submitted as a part of this engineering statement.

---

Rowland S. Johnson

Dated: April 2, 2002