

ORNL INSTRUMENT EVALUATION SUMMARY

Rad/COMM “Cricket”

Description: The Rad/COMM “Cricket” is a radiation detection system designed to detect radioactive material in scrap metal.

Ranges Tested: N/A

Report Date: May 29, 2003

General Comments:

1. Confidence intervals used to ascertain whether results are conclusive or inconclusive are determined using the 0.95 quantile of the student’s t distribution (95% confidence interval).
2. Testing was performed with detectors removed from their housing.

RADIATION RESPONSE – Radiation response tests were performed as part of a general analysis of the detection system. Specific results are in ORNL/TM-2002/94.

Probe Surface Sensitivity: N/A.

Energy Response: N/A

Response Linearity: N/A

ELECTRONIC and MECHANICAL REQUIREMENTS and TESTS

Line Noise: N/A

Power Line Variations: N/A

Conducted Radio Frequency: N/A

INTERFERING RESPONSES TEST RESULTS

Radio Frequency/Microwave: Not performed

Electric Fields: Not performed.

Magnetic Fields: Not performed.

Interfering Ionizing Radiations: Not performed.

ENVIRONMENTAL FACTORS

Temperature: No susceptibilities were observed over the temperature test range of -10 to 50 °C (+14 to +122 °F).

Temperature Shock: N/A

Humidity: No susceptibilities were observed when exposed to a relative humidity level of 95% (non-condensing) for 24 hours.

Vibration: Not performed.