

# ORNL INSTRUMENT EVALUATION SUMMARY

## Siemens Electronic Personal Dosemeter Model Mark 2

**Description:** The Siemens Electronic Personal Dosemeter Model Mark 2 (MK2) is a portable device designed to detect Neutron/Gamma dose rates while being worn by the user.

**Ranges Tested:** N/A

**Report Date:** February 11, 2003

### General Comments:

1. Three Seimens MK2s were tested; Serial Numbers 00033545, 00033880 and 00033739.
2. Tests were performed using RF intensity levels that may be adopted by the IEC in a new standard for EPDs.
3. 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).

### RADIATION RESPONSE

**Probe Surface Sensitivity:** N/A.

**Energy Response:** Not performed

**Response Linearity:** Not performed

### ELECTRONIC and MECHANICAL REQUIREMENTS and TESTS

**Line Noise:** Not performed

**Power Line Variations:** Not performed

**Conducted Radio Frequency:** Not performed

### INTERFERING RESPONSES TEST RESULTS

**Radio Frequency/Microwave:** No susceptibilities were observed when exposed to an RF scan from 20MHz to 1GHz at  $50\pm 2$  volts/meter amplitude modulated with 1kHz at 80%.

No susceptibilities were observed when exposed to an RF scan from 20MHz to 1GHz at  $100\pm 2$

volts/meter amplitude modulated with 1kHz at 80%.

**Electric Fields:** Not performed.

**Magnetic Fields:** Not performed

**Interfering Ionizing Radiations:** Not performed.

## **ENVIRONMENTAL FACTORS**

**Temperature:** Not performed

**Temperature Shock:** Not performed

**Humidity:** Not performed

**Vibration:** Not performed.