FCC CERTIFICATION TEST REPORT

COMPANY:	**MICROTEK Lab, Inc.**
PRODUCT(S):	**Personal Sentry System** **Model MED-002**
REPORT No:	**MLI-004A**
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1.0 PROJECT DESCRIPTION

Equipment: Personal Sentry System

Model: Model MED-004A

Equipment Serial No: N/A

Voltage/Phase: 3.6 VDC (powered by a rechargeable battery pack)

Client: MICROTEK Lab, Inc.
3715 Doolittle Drive
Redondo Beach, CA 90278

Test Standard(s): CFR No. 47 - October 1997. FCC Part 15 Subpart C.
INTENTIONAL RADIATOR

Date Sample Submitted: October 21, 1999

Test Work Started: October 21, 1999

Test Work Completed: October 28, 1999

2.0 TEST SUMMARY

When configured and operated as specified in this report, the product was tested to the requirements as indicated below.

Test Standard	Test	Comment
FCC Part 15 Subpart C		
Section 15.207	Conducted Emissions	Note 1
Section 15.209	Radiated Emissions	PASS
Section 15.249	Intentional Radiator (5725 - 5875 MHz)	PASS

Note 1: The Conducted Emissions test was not performed due to the fact that the EUT is powered by batteries.

3.0 PRODUCT DESCRIPTION

The EUT is a Personal Microwave Electronic Warning device. It is a personal sentry device designed to provide immediate warning of an incoming intruder for personal security, privacy, protection and alert applications.

It incorporates microwave detection technology. The personal sentry can detect moving objects through various materials such as bricks, plaster walls, wooden structures, doors and windows.

A two stage beeping sound and alarm can be selected to alert the user of an intruder. It operates at 5.8 GHz incorporating a pulse doppler measurement method. The EUT is effective up to 15 feet of monitoring distance at 110-degree angle.

The EUT incorporates a 3.6 VDC power supply, using three (3) AAA-pack batteries.

3.1 TEST CONFIGURATION

Refer to ***Section 10.0*** for test setups. The product was powered with three (3) AAA battery pack.

3.2 SUPPORT EQUIPMENT/SERVICES

N/A

3.3 MODE OF OPERATION

The EUT was operating as intended under normal condition.

4.0 TEST PROCEDURES

4.1 Radiated Emissions

Testing was performed in accordance with ANSI C63.4.

Initially the product was placed in a 7 m x 3.7 m x 3.0 m anechoic chamber and a prescan was performed with the antenna at a 3 meters measurement distance. The scan was made with the receiver in peak mode, the IF bandwidth was 120 kHz and the step size was 50 KHz.

Final measurements will be performed on a 3 m open area test site which meets the site attenuation requirements of CISPR 16. The site consists of an 18 m x 4.8 m 16 gage galvanized steel ground plane with a flush mounted 2.3 m diameter turntable at one end. The site is free from reflecting objects over an elliptical area of 20 m x 17.4 m as required by the standard.

The maximum peak readings determined from the prescan were then investigated on the open area test site. At each frequency the turntable was rotated through 360 degrees, the height of the antenna was adjusted between 1 and 4 meters and the polarization was adjusted between vertical and horizontal to determine the maximum Quasi Peak reading.

5.0 TEST RESULTS

Standard: FCC Part 15 Subpart C, Section 15.209
Test: Radiated Emissions
Frequency Range: 30 MHz to 1000 MHz
Limits: Class B
Measurement Distance: 3 meters

No signals were found or detected.

Frequency	**Level**	**Mode/Polarization**	**Limit**	**PASS/FAIL**
MHz	**(dBµV/m)**	**N/A**	**(dBµV/m)**	
N/A				

Note 2: Original test chart can be found in ***section 7*** of this report.

Standard: FCC Part 15 Subpart C, Section 15.249
Test: Radiated Emissions – Operation within the band of 5725 - 5875 MHz

Test Setup:

The EUT was setup on the OATS in a typical installation configuration. The EUT was connected to the grounding system in accordance with installation practices. Configuration of the EUT was consistent with typical applications.

The EUT was placed 80 centimeters above the ground plane on a non-conductive tabletop 1.0 meters wide x 1.5 meters long.

Test Procedure:

Suspect frequency list was generated by looking at the crystal oscillators installed in the EUT. The highest emissions were maximized by rotating the turntable 360 degrees and varying the antenna height 1 - 4 meters. Measurements were made in vertical and horizontal antenna polarization.

The measurements were made using an EMCO horn antenna. The measurements were first made at 3 meters. If a signal was not seen, the antenna was then moved to 1 meter distance. If a signal was not seen at 1 meter, then the antenna was moved even closer to verify no signal was emanating from the EUT.

Frequency	**Level**	**Mode/Polarization**	**Limit**	**PASS/FAIL**
GHz	**(dBμV/m)**	**N/A**	**(dBμV/m)**	
05.778	72.57	PK/V	94.0	PASS
05.778	63.97	PK/H	94.0	PASS
11.556	49.46	AVG/V	54.0	PASS
11.556	47.36	AVG/H	54.0	PASS

Note 3: No detectable signals were found above 11564 MHz. The spectrum analyzer average reading noise floor < FCC limit.

6.0 TEST EQUIPMENT

Radiated Emissions

IN No	Description	Serial No.	Cal Due	Tick if Used
540	HP8546A EMI Receiver RF Section	3549A00261	03/29/00	T
539	HP85460A RF Filter Section	3448A00265	03/29/00	T
532	Chase 6112 Bilog Antenna	2040	04/03/00	T
576	Spectrum Analyzer (HP – 8566B)	2747A05747	04/01/00	T
577	Spectrum Analyzer Display (HP)	2848A17517	04/01/00	T
578	Pre-Amplifier (HP – 8449B)	3008A00357	10/14/00	T
599	EMCO Horn Antenna (3115)	9511-4575	01/27/00	T
536	EMCA Standard Emissions Software	051796021INCH00	N/A	T
535	Compaq Model Prolinear 590 PC	3610HLD66040	N/A	T

Conducted Emissions

IN No	Description	Serial No.	Cal Due	Tick if Used
540	HP8546A EMI Receiver RF Section	3549A00261	03/29/00	T
539	HP85460A RF Filter Section	3448A00265	03/29/00	T
546	EMCO 3816/2NM 16A LISN	1039	11/03/00	T
536	EMCA Standard Emissions Software	051796021INCH00	N/A	T
535	Compaq Model Prolinear 590 PC	3610HLD66040	N/A	T

7.0 TEST DATA PRINTOUTS

7.1 Radiated Emissions (See File attachments)

8.0 USER'S MANUAL (See File Attachments)

9.0 BLOCK DIAGRAM/SCHEMATICS (See File Attachments)

10.0 PHOTOGRAPHS OF TEST SETUPS (See File Attachments)

10.0 PHOTOGRAPHS OF EUT (See File Attachments)