T-11 Suspicious Package Training Aid –Test Plan

Contributing Members

Jeremiah Franke

Devin Lorenzen

Edward Sayers

Seth Ward

Table of Contents

[1.0 Introduction 3](#_Toc404530519)

[1.1 This Document 3](#_Toc404530520)

[1.2 Conduct of System Tests 3](#_Toc404530521)

[1.3 Recording of Results, Witnessing and Authorities 3](#_Toc404530522)

[2.0 Reference Document 4](#_Toc404530523)

[2.1 Design Documentation 4](#_Toc404530524)

[2.2 Other 4](#_Toc404530525)

[3.0 SPTA Overview 4](#_Toc404530526)

[3.1 Operational Description 4](#_Toc404530527)

[3.2 Definition of Terminology 4](#_Toc404530528)

[3.3 Computational Methods 4](#_Toc404530529)

[4.0 Pretest Preparation 4](#_Toc404530530)

[4.1 Test Equipment 4](#_Toc404530531)

[4.2 Test Setup and Calibration 4](#_Toc404530532)

[5.0 System Tests 4](#_Toc404530533)

[5.1 Functional Checks 4](#_Toc404530534)

[5.1.1 Power Switch and Voltage Regulator 4](#_Toc404530535)

[5.1.2 Power Supply and Current levels 4](#_Toc404530536)

[5.2 Vibration Sensor 4](#_Toc404530537)

[5.3 RF Power Measurement 4](#_Toc404530538)

[5.4 Microcontroller 4](#_Toc404530539)

[5.5 Audio and Visual 4](#_Toc404530540)

[5.5.1 RF Failure LED 4](#_Toc404530541)

[5.5.2 Vibration Failure LED 4](#_Toc404530542)

[5.5.3 Buzzer 4](#_Toc404530543)

[5.6 Usability Testing 4](#_Toc404530544)

[6.0 Appendix: Test Record Sheets 5](#_Toc404530545)

# Introduction

The SPTA (Suspicious Package Training Aid) is intended to be used by security personnel for training simulations in the event of locating an abandoned or otherwise suspicious package in the workplace. This device will give an audio indication to indicate if the simulation has failed. It will also give a visual indication of the point of failure in the simulation.

## This Document

The purpose of this document is to detail the test plan for the SPTA circuit board. The tests on this device will be broken up into sections and will test the input and output, the individual components (RF, power, MCU, and audio visual indicators), and the usability of the device.

## Conduct of System Tests

Testing of this device will be divided up between the contributors to this project after the first initial test. Initial testing will be done as a group and focus on key modules such as the power systems of the device. Later tests will be run concurrently by individual contributors. All tests will be reviewed by individual contributors and retested as needed. Integration and usability testing will be done as a group. Lastly, usability testing will be done with individuals unfamiliar with the device.

## Recording of Results, Witnessing and Authorities

Results of the testing will be recorded by the contributing members of the project. All tests conducted will be reviewed by contributing members as a group. Results of the testing will be recorded and uploaded to the project GitHub website.

# Reference Document

## Design Documentation

## 2.2 Other

# SPTA Overview

## Operational Description

## Definition of Terminology

## 3.3 Computational Methods

# Pretest Preparation

## Test Equipment

## 4.2 Test Setup and Calibration

# System Tests

## Functional Checks

### Power Switch and Voltage Regulator

### Power Supply and Current levels

## Vibration Sensor

## RF Power Measurement

## Microcontroller

## Audio and Visual

### RF Failure LED

### Vibration Failure LED

### Buzzer

## Usability Testing

# Appendix: Test Record Sheets