**Sofia Software & A4 Asset Tag**

**Sample Test Plan by Ellie Mirzaei**

**Version 1.0**

Table of Contents

[1 Introduction 3](#_Toc181603958)

[1.1 Purpose 3](#_Toc181603959)

[1.2 Project Overview 3](#_Toc181603960)

[2 Objectives and Goals 3](#_Toc181603961)

[3 Testing Strategy 3](#_Toc181603962)

[3.1 Test Objectives 3](#_Toc181603963)

[3.2 Test Items 4](#_Toc181603964)

[3.3 Testing Scope 4](#_Toc181603965)

[3.4 Testing Strategy 5](#_Toc181603966)

[4 Test Cases 5](#_Toc181603967)

[5 Execution Strategy 6](#_Toc181603968)

[5.1 Entry Criteria 6](#_Toc181603969)

[5.2 Exit criteria 6](#_Toc181603970)

[5.3 Validation and Defect Management 7](#_Toc181603971)

[6 Environment Requirements 7](#_Toc181603972)

[6.1 Test Environments 7](#_Toc181603973)

[7 Schedule 7](#_Toc181603974)

[8 Dependencies 8](#_Toc181603975)

[9 Risk and Contingencies 8](#_Toc181603976)

# Introduction

## Purpose

The objective is to validate and verify the integration and functionality of the new Sofia Software with five enhanced asset-tracking features alongside the A4 Asset Tag’s new firmware (FW V2). This test plan focuses on confirming the system-level functionality and enabling the creation of a deployment guide for customers.

## Project Overview

This project involves testing the updated Sofia Software that includes five new asset-tracking features. The A4 Asset Tag firmware has been updated to enable communication with both Cisco Access Points and the newly developed G3.G BLE to WiFi Gateway. This test will ensure compatibility and reliability across the two FW versions, providing a seamless tracking solution for customers.

# Objectives and Goals

* Verify that the updated Sofia Software correctly incorporates 5 new asset-tracking features.
* Validate the A4 Asset Tag’s ability to communicate reliably through:
  + Cisco Access Points
  + G3.G BLE to WiFi Gateway
* Assess the complete system's performance, stability, and compatibility across two firmware versions.
* Produce documentation for a deployment guide covering setup, configuration, and best practices.

# Testing Strategy

## Test Objectives

* Verify that the updated Sofia Software correctly incorporates 5 new asset-tracking features.
* Validate the A4 Asset Tag’s ability to communicate reliably through:
  + Cisco Access Points
  + G3.G BLE to WiFi Gateway
* Assess the complete system's performance, stability, and compatibility across two firmware versions.
* Produce documentation for a deployment guide covering setup, configuration, and best practices.

## Test Items

* **Software:** Sofia Software Version [X.X]
* **Firmware Versions:**
  + FW V1 (Existing version for baseline)
  + FW V2 (Updated version with new communication capability)
* **Hardware:**
  + A4 Asset Tag with FW V1 and V2
  + Cisco Access Points
  + G3.G BLE to WiFi Gateway

## Testing Scope

|  |  |  |
| --- | --- | --- |
| **Test Type** | **Description** | **Responsible Parties** |
| System Testing | Validate overall functionality of Sofia Software’s new features. | QA |
| Compatibility Testing | Check both FW V1 and V2 of A4 Asset Tag with Cisco AP and G3.G Gateway. | QA |
| Feature Testing | Verify each new asset tracking feature independently and in combination. | QA |
| Performance Testing | Ensure consistent connectivity, data accuracy, and signal strength. | QA |

## Testing Strategy

|  |  |  |
| --- | --- | --- |
| **Test Type** | **Description** | **Responsible Parties** |
| System Integration | Focus on the end-to-end functionality of the software-hardware integration. | QA |
| Regression Testing | Validate that the new release does not affect existing features. | QA |
| Functional Testing | Testing each of the five new tracking features individually and collectively | QA |
| Performance Testing | Check connectivity and data transfer rates through Cisco AP and G3.G Gateway. | QA |

# Test Cases

**Test Case 1: System Functionality with FW V1**

* *Objective*: Validate system-level functionality with FW V1.
* *Steps*:
  1. Configure A4 tag with FW V1 to connect via Cisco AP.
  2. Verify all tracking features in Sofia Software operate as expected.
  3. Perform functional checks for each new asset-tracking feature.
* *Expected Results*: Sofia Software operates as expected with FW V1, all features are functional.

**Test Case 2: System Functionality with FW V2**

* *Objective*: Validate system-level functionality with FW V2.
* *Steps*:
  1. Configure A4 tag with FW V2 to connect via Cisco AP and G3.G Gateway.
  2. Test connectivity and data transfer rates between Sofia Software and A4 tag.
  3. Validate that each of the new tracking features operates correctly.
* *Expected Results*: All new tracking features function properly, communication is reliable.

**Test Case 3: Performance & Reliability Test across Access Points**

* *Objective*: Ensure the stability and reliability of communication through Cisco AP and G3.G Gateway.
* *Steps*:
  1. Perform multiple connection and disconnection tests for Cisco AP.
  2. Repeat tests for G3.G BLE to WiFi Gateway.
* *Expected Results*: The system maintains stable communication without data loss.

# Execution Strategy

## Entry Criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **Entry Criteria** | **Test Team** | **Technical Team** | **Notes** |
| Test environment(s) is available |  | |  | | --- | | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  | | --- | |  | |  |
| Test data is available | |  | | --- | | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  | | --- | |  | |  |  |
| Code has been merged successfully | |  | | --- | | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  | | --- | |  | | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |
| Development has completed unit testing |  | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |
| Test scripts are completed, reviewed and approved by the Project Team | |  | | --- | | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  | | --- | |  | |  |  |

## Exit criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **Exit Criteria** | **Test Team** | **Technical Team** | **Notes** |
| 100% Test Scripts executed | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| 90% pass rate of Test Scripts | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| No open Critical and High severity defects | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |
| All remaining defects are either cancelled or documented as Change Requests for a future release | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| All expected and actual results are captured and documented with the test script | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| All test metrics collected based on reports from daily and Weekly Status reports | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| All defects logged in Defect Tracker/Spreadsheet | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |
| Test environment cleanup completed and a new back up of the environment | C:\Users\arxp\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7F9Z3IW4\MC900441310[1].png |  |  |

## Validation and Defect Management

Testers are responsible for executing test scripts, identifying defects, and managing defect tracking through the defect tracker. Defects are categorized by severity, with priority assigned based on impact.

|  |  |
| --- | --- |
| **Severity** | **Impact** |
| 1 (Critical) | * Functionality is blocked and no testing can proceed * Application/program/feature is unusable in the current state |
| 2 (High) | * Functionality is not usable and there is no workaround but testing can proceed |
| 3 (Medium) | * Functionality issues but there is workaround for achieving the desired functionality |
| 4 (Low) | * Unclear error message or cosmetic error which has minimum impact on product use. |

# Environment Requirements

## Test Environments

* **Hardware Requirements**: Cisco Access Point, G3.G BLE to WiFi Gateway, A4 Asset Tag.
* **Software Requirements**: Sofia Software Version [X.X].
* **Network**: Secure and stable WiFi and BLE networks.

# Schedule

**Start Date:** September 17, 2024

**End Date:** November 4, 2024

**Milestones:**

* Initial Setup: 7 days
* Test Case Execution: 30 days
* Documentation & Report Generation: 7 days

# Dependencies

Dependencies include firmware availability, network stability, and access to Cisco AP and G3.G Gateway for testing.

# Risk and Contingencies

* **Risk:** Network instability affecting test results.
* **Mitigation:** Use a controlled network environment for testing.
* **Risk:** Compatibility issues with Cisco AP and G3.G Gateway.
* **Mitigation:** Ensure firmware updates are compatible with both AP and Gateway.