

**ETC Cyber Security Lab**

**Pentest Report**

**Proprietary Statement**

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**Project Name: PROJECT\_NAME**

**Software Rev:**

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# **Executive Summary**

ETC Cyber Security Team was contracted by TK Team to conduct a penetration test on Jolt system in development phase, to determine its exposure to a targeted attack on **14th July 2022.** Product security team started penetration testing on release after receiving the necessary details and hardware on **1st Aug 2022**. All activities were conducted in a manner that simulated a malicious actor engaged in a targeted attack against Jolt system controller with the goals of:

* Identifying if a remote attacker could attack.
* Determining the impact of a security breach on:
  + Product Information Leakage
  + Kernel Security

Efforts were placed on the identification and exploitation of security weaknesses that could allow an attacker to gain unauthorized access to data or information. The attacks were conducted with the level of access that a general Internet user would have. The assessment was conducted in accordance with the recommendations outlined in NIST SP 800-1151 with all tests and actions being conducted under controlled conditions.

Final report on release has been shared with the project team SPOC on **29th Aug 2022.**

## **Scope:**

1. Jolt System with IA3 Controller
2. Communication with USB over ethernet

## **Out of Scope:**

1. GPS/GSM communication

## **Summary of Findings:**

## **Summary of Recommendation/ Remediation:**

It is recommended to test the Jolt System with release firmware.

Recommendations been mentioned against the found vulnerabilities in subsequent sections. These recommendations are as per best industry practices, recommendations like OWASP testing guidelines, PTES Technical Guidelines. It is advised to recheck the found vulnerabilities against every component and apply mitigations throughout the application.

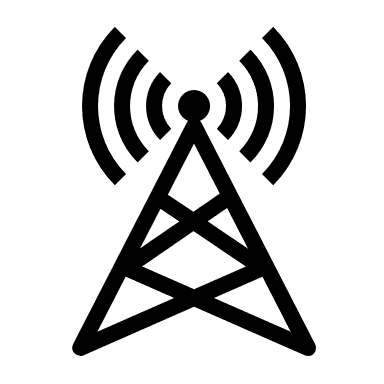
It is recommended to follow NIST guidelines. <https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-115.pdf>

# **Attack Narrative**

IA3 Controller

**Jolt**

**Pentest System**



USB over ethernet

GPS/GSM

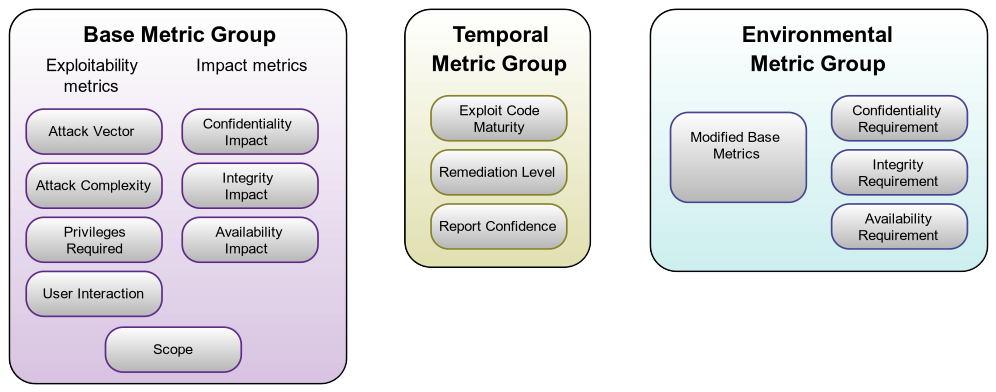
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# **Risk and Ratings**

As per industry best practices, ETC Cyber Security Lab practices rating of vulnerabilities based on CVSS V3.0 (Common Vulnerability Scoring System). CVSS is well suited as a standard measurement system for industries, organizations, and governments that need accurate and consistent vulnerability severity scores. Two common uses of CVSS are calculating the severity of vulnerabilities discovered on one's systems and as a factor in prioritization of vulnerability remediation activities.

The Common Vulnerability Scoring System (CVSS) is an open framework for communicating the characteristics and severity of software vulnerabilities. CVSS consists of three metric groups: Base, Temporal, and Environmental. The Base metrics produce a score ranging from 0 to 10, which can then be modified by scoring the Temporal and Environmental metrics.

The metrics are depicted below:



CVSS is owned and managed by FIRST.Org, Inc. (FIRST), a US-based non-profit organization, whose mission is to help computer security incident response teams across the world. The official CVSS documentation can be found at <https://www.first.org/cvss/>

Vulnerability Severity Ratings (CVSS 3.0):

|  |  |
| --- | --- |
| Severity | Base Score Range |
| None | 0.0 |
| Low | 0.1-3.9 |
| Medium | 4.0-6.9 |
| High | 7.0-8.9 |
| Critical | 9.0-10.0 |

For understanding the standards, follow the free self-paced online training course at <https://www.first.org/cvss/training>

# **Vulnerability Details and Mitigation**

## **List of Vulnerabilities**

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Vulnerability | Severity | Status |
| 1 | Denial of Service Attack through Websockets | Medium | Open |

## **Vulnerability Details**