REVIEWER'S REPORT

Manuscript No.: IJAR-53722   Date: 08/09/2025

Title: *A Secure & Scalable Embedded Systems Framework for Remote Healthcare Monitoring*

Recommendation:

✓ Accept as it is ....
Accept after minor revision.................
Accept after major revision ....
Do not accept (*Reasons below*) ....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Reviewer Name: Dr. S. K. Nath   Date: 08/09/2025

Reviewer's Comment for Publication:

The paper proposes a well-structured, security-conscious framework for embedded healthcare devices, emphasizing modularity, interoperability, and real-time processing. Its alignment with established standards suggests that it has potential for practical deployment. However, to transition from concept to real-world application, further work involving prototyping, empirical validation, and addressing deployment challenges is necessary.

Reviewer's Comment / Report

Strengths

- **Comprehensive Layered Architecture:** The framework covers end-to-end data flow, from sensing to integration, ensuring modularity and scalability.
- **Focus on Security:** Emphasizes lightweight encryption suitable for resource-constrained embedded systems, addressing a critical challenge in device security.
- **Interoperability:** Supports integration with established health data standards like HL7 FHIR, facilitating communication with hospital information systems.
- **Real-time Data Processing:** Incorporates local processing to detect anomalies or critical events, reducing latency and reliance on cloud infrastructure.
- **Alignment with Standards:** Strong adherence to existing interoperability and security standards, suggesting practical applicability.

Weaknesses

- **Lack of Implementation Details:** The paper describes a conceptual framework but offers limited specifics on implementation, validation, or prototypes.
- **No Empirical Evaluation:** The framework's effectiveness, performance, and security robustness are not demonstrated through simulations, experiments, or case studies.
- **Potential Scalability Concerns:** While scalability is claimed, there's little discussion on how the framework manages large-scale deployments or multiple simultaneous devices.
- **Limited Discussion on Challenges:** The paper doesn't delve into potential obstacles such as resource constraints, network reliability, or regulatory compliance complexities in real-world settings.
- **Future Work Not Fully Addressed:** The paper mentions future testing and implementation but lacks concrete plans or timelines.