ISSN: 2320-5407
International Journal of Advanced Research
Publisher's Name: Jana Publication and Research LLP
www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: IJAR- 58925

Title: "Joint SoC-Aware Resource Allocation and Power Control for Future Cellular IoT Networks "

Recommendation:
Accept

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

Reviewer Name: Dr. Ashish Yadav

Detailed Reviewer's Report

Reviewer's Comment for Publication.
Acceptance Comment are mentioned below suitable for the paper titled "Joint SoC-Aware Resource Allocation and Power Control for Future Cellular IoT Networks "

Reviewer Comments: Accept

Reviewer Comments –

1. Introduction:

The manuscript addresses an important and timely problem in future cellular IoT networks, where spectrum scarcity, co-channel interference, and limited battery capacity create significant challenges for reliable and sustainable communication. The motivation for jointly considering resource allocation and device State of Charge (SoC) is clearly presented and highly relevant to ultra-dense IoT deployments. The introduction establishes a strong connection between communication performance and energy sustainability. Overall, it provides a clear and appropriate foundation for the proposed research.

2. Literature Review:

The study is well positioned within the broader research area of radio resource management, power control, interference management, and energy-efficient cellular IoT communications. The proposed SoC-aware perspective provides an interesting extension beyond conventional channel- and interference-based resource allocation approaches. The manuscript addresses an important research gap by incorporating battery sustainability directly into transmission decisions. The literature context therefore supports the relevance and potential novelty of the proposed framework.

ISSN: 2320-5407
International Journal of Advanced Research
Publisher's Name: Jana Publication and Research LLP
www.journalijar.com

REVIEWER'S REPORT

3. Solution Approach / Methodology:

The proposed joint resource allocation and power control framework is technically appropriate for the considered interference-limited cellular IoT environment. Formulating the problem under QoS, interference, and power constraints and developing a low-complexity heuristic solution provides a practical balance between optimization performance and computational complexity. The explicit integration of SoC, channel conditions, and interference levels is a strong feature of the methodology. The approach is well aligned with the requirements of scalable and energy-aware IoT network management.

4. Results and Discussion:

The reported simulation results demonstrate the effectiveness of the proposed scheme across different network densities and resource configurations. Improvements in throughput, fairness, and energy efficiency, together with reduced unnecessary transmit power and increased battery lifetime, provide convincing evidence of the benefits of SoC-aware resource management. The results also indicate that communication performance can be improved without compromising long-term device sustainability. Overall, the discussion successfully demonstrates the practical significance of the proposed framework for future cellular IoT deployments.

5. Conclusion:

The conclusion is consistent with the objectives and findings of the study and clearly emphasizes the advantages of jointly optimizing radio resources and transmit power according to device SoC. The work makes a meaningful contribution to sustainable and reliable resource management for ultra-dense cellular IoT networks. The combination of performance, fairness, interference management, and battery sustainability strengthens the practical relevance of the research.