An Industrial IoT MAC Protocol Based on IEEE 802.15.4e TSCH for A Large-Scale Network

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***Abstract*—IEEE 802.15.4e TSCH MAC is widely used for the industrial market, which require ultra-high reliability and ultra-low power. However, the significance of the TSCH is missing, which is a management function to build and maintain the communication schedule. We address several limitations for Ipv6 over IEEE 802.15.4e TSCH in a large-scale network and propose an enhanced scheme which deals with the configuration of Slotframes, Linkset slots, EB(Enhanced Beacon) management and scheduling information. It supports a dynamic schedule management based on observed resource usage, which achieves industrial-grade performance in terms of jitter, latency, scalability, reliability and low-power consumption.**

***Keyword*—About TSCH(Time Synchronization Channel Hopping), Slotframe, Linkset Slot, Enhanced Beacon.**

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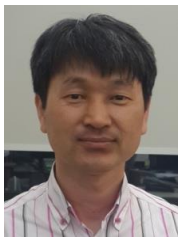

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