

Low Power Wireless Mesh Network over the TDMA Link for Connecting Things

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Abstract—In this paper, a low power wireless mesh network over channel hopped TDMA links is introduced as an area network for connecting things. The links and virtual links over the IEEE 802.15.4e DSME MAC are established and unbalanced cluster-tree based network formation provides routed link paths for the things to have deterministic-latency and scalable wireless mesh connectivity

Keyword— link path, wireless mesh network, IEEE 802.15.4e DSME MAC, virtual link, cluster-tree mesh routing



Seong-Soon Joo received his B.S. from Hanyang University in 1980, and received the M.S. and the Ph.D. degree from Seoul National University, Korea, in 1982 and 1989 respectively, all in electrical engineering. He joined ETRI (Electronics and Telecommunications Research Institute) in 1983. Since September 2004, he is a professor with University of Science and Technology, Taejeon, Korea. He has worked in a range of fields, including packet switching and frame relaying for ISDN switching system, call control for ATM networks, design of high-speed IP router and all-optical cross-connect system, a new transport mode for the post-Internet era, low power wireless communication for wireless sensor networks, and design of evolving Internet of Things Infrastructure. His research interests include soft computing, active network, intelligent control, network architecture for the future Internet, and the smart space.