

微功率无线数据传输协议的研究及实现

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摘要: 为了实现智能电网中无线自动抄表的应用, 国家电网公司在 Sub-GHz 频段上提出微功率无线数据传输协议. 通过研究微功率无线数据传输协议, 采用 VC 和 LabVIEW 协同设计的方法分层实现协议栈, 并在 PC 和 USRP 组成的验证平台上完成对协议栈功能如组网、数据收发、收集节点电能信息的验证. 该设计具有开发周期短, 便于移植等特点.

关键词: 微功率无线数据传输协议; 协议栈; USRP; LabVIEW

Research and Implementation of Micro-Power Wireless

Data Transmission Protocol

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Abstract: In order to realize the application of wireless automatic meter reading in Smart Grid, the Micro-Power Wireless Data Transmission Protocol is proposed by state grid Corp. on the Sub-GHz band. Through the research of Micro-Power Wireless Data Transmission Protocol, the method of VC6.0 and labVIEW collaborative design is adopted to implement the protocol stack, and the function of this protocol stack, such as networking, data transmission and reception, collection of node power information are verified on the verification platform composed of PC and USRP. The design has the advantages of short development cycle, easy to transplant and so on.

Key words: micro-power wireless data transmission protocol; protocol stack; USRP; LabVIEW

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