

Theme	Wireless software upgrade of control module of ZigBee communication (BP3)
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Key Words	ZigBee communication protocol, open components TinyOS
Specification	Wireless communication is spread more and more in industrial automation. It offers flexible modifications of component connection or component mobility independent of fixed wires connection. It has advantage e.g. in production backup to avoid unplanned shut-downs. The aim of the theme is realization of wireless upgrade of utility software for control module of ZigBee communication.
Tasks	<ol style="list-style-type: none"> 1. Study ZigBee communication protocol. 2. Design and modify utility software for control module. 3. Realize and verify designed utility software module for wireless software upgrade of control module of ZigBee communication.
Literature	<ol style="list-style-type: none"> 1. ZigBee Alliance home page http://www.zigbee.org. 2. Rychnovský, V.: Řídicí systém s využitím bezdrátové komunikace ZigBee, Diplomová práce, ČVUT v Praze 2011. 3. Online Manuals: Using MATLAB, Simulink; The MathWorks, Inc. http://www.mathworks.com/. 4. Other full-text sources: http://cmp.felk.cvut.cz/~pisa/ http://as.utia.cas.cz/asc - Link to GPC pages.
Note	Theme for bachelor project or master's thesis.