

A Passive UHF Transponder with Readout Circuits for External Mechanical Switches

Tobias Feldengut, Abdel Moneim Marzouk, Stephan Kolnsberg, Rainer Kokozinski
Fraunhofer IMS, Duisburg, Germany

Summary

We present a passive sensor transponder with readout circuitry to evaluate the state of external passive switches. The tag operates at 868MHz and complies with the ISO/EPC standard 18000-6. The transponder contains four additional bond pads. The external switches can be connected between these pads and the ground pad. The tag then determines if the resistance between the two terminals is high or low. This way, the tag is able to detect the binary state of up to four external devices and the reader receives additional information about the environment, such as whether a door is open or closed.