



«THE TARGET»

- The technology behind self-powered wireless sensors and actors is one of the fastest growing and most interesting technologies of the world. No batteries, no external energy, the highest possible level of energy efficiency – this are the ingredients of future.
- Recognizing this trend, IK Elektronik is design and production partner of the world-leading company in energy harvesting technology, sensors, and RF (radio frequency) communication in a single solution for building and home automation, lighting, industrial, automated meter reading and environmental applications.
- Creating wireless modules with the lowest power consumption, the highest possible data rate, the lowest component count at a specific functional diversity and with highest technical quality – this is the project target.

«THE SYSTEM»

- The system consists of different functional blocks:
 - Energy harvesters
 - Motion converters
 - Solar cells
 - Thermal converters
 - Rotation converters
 - Vibration converters
 - Energy management and radio technology
 - Energy efficient radio transmitters and receivers
 - Energy saving modulation methods and protocols
 - Intelligent algorithms and efficient electronics for energy management
 - Intelligent software stacks
 - Pre-defined standard applications like switching
 - Easy-to-use and universal application interfaces

«THE FEATURES»

- The radio transceiver module is a central component in the system.
- The modules are available in different versions:
 - For European and American market,
 - For Thru-hole and SMT Mount.
- Characteristics

▪ Radio Transceiver	Chipcon CC1101
▪ Microcontroller	Microchip PIC18F65J11
▪ Dimensions	max. 42.0 x 18.0 x 5.5mm ³
▪ Frequency	315.0 (US) or 868.3MHz (EU)
▪ Modulation	ASK
▪ Data Rate	120kbps
▪ Transmit Power (50Ω)	typ. +6dBm
▪ Receive Sensitivity (50Ω)	typ. -97dBm
▪ Supply Voltage	2.7 to 5.5V
▪ Current Consumption	max. 32mA Rx / max. 50mA Tx
▪ Transmission Range	typ. 500m (LOS)
▪ Interface	Digital and analog inputs Digital outputs (push-pull or open-collector 100mA) Antenna Power Supply

