

RE Partner Solution

Ultra-Low-Power LoRaWAN Sensor



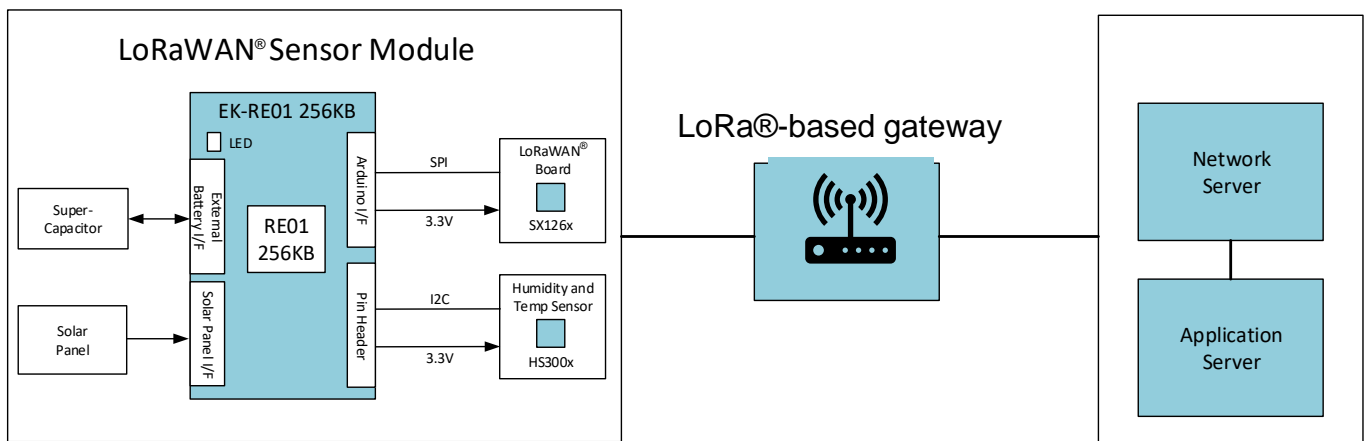
Solution Summary

Ultra-Low-Power LoRaWAN® Sensor uses [Renesas RE Family's energy harvesting functionality](#) to create an ultra-low power, highly efficient, maintenance-free solution. The system is capable of measuring temperature, relative humidity etc. and sending this information via Sub-GHz technology(LoRa®) to cloud. It maintains the energy balance by performing power management with zero human intervention.

Features/Benefits

- The SOTB MCU will be in software-standby (or off) mode most of the time.
- During its low-power mode, the Energy Harvesting Capability charges the rechargeable battery from solar panel, checking its voltage level periodically.
- Performs power management by maintaining the energy balance between power generation and power consumption.
- When there is enough power stored, the MCU wakes and communicates with the temperature & humidity sensors and gathers the data, then sent out via communication.
- Displays the temperature and relative humidity data on its LCD panel.

Diagrams/Graphics



Target Markets and Applications

- Smart Agriculture Sector
- Smart Metering
- Remote Sensing

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