IoT Solutions for the Aerospace Industry

Tensor TACRF-001 IEPE Node Datasheet

Features / Specifications

- Voltage Input Range: 2VDC – 4.5VDC
- Number of Inputs: 3 single IEPE devices or 1 tri-axial IEPE accelerometer
- Simultaneous sampling of all 3 channels at 330ksps with 16-bit resolution
- IEPE input channels will accept range of +/-5V or +/-10V
- IEPE inputs supplied with a compliance voltage of 18-24VDC and an excitation current of 4mA
- IEPE HW Filter Corner Frequency at 8kHz
- TX/RX in the 2.4GHz Band
- 32-bit 38.4MHz ARM Cortex-M4 with DSP instruction and floating point unit
- 512kB Flash Program Memory
- TX at 500kbps GFSK (Up to +2Mbit/sec with decrease in RX Sensitivity)
- TX Power: 0dBm (up to +19dBm)
- RX Sensitivity: -98dBm
- Size: 31mm x 34mm
- Weight: 5.1g (bare boards)
- Battery Life:
  - 18hours under maximum operating conditions
  - +3months in low power mode
- Operating Temperature: -40°C to 85°C
- FCC Part 15, B: Intentional Radiator Certification
  - FCC ID: QOQ13

Typical Applications

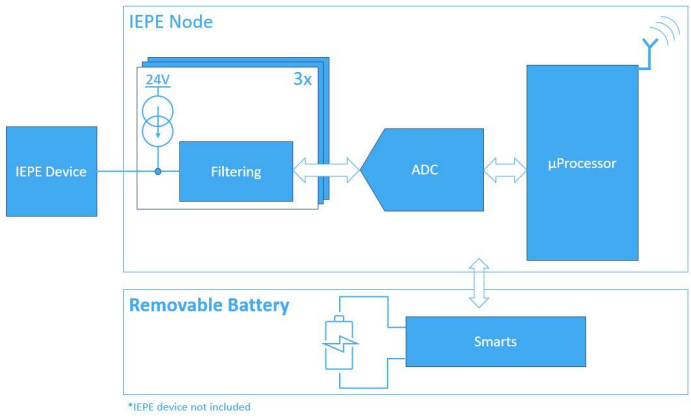
- Vibration and/or Shock Load Sensing
- Aircraft, Drones or Launch Vehicles
- Rotating Machinery
- Medical Devices
- Modal Testing

General Description

Tensor's wireless data acquisition nodes feature sensor data capture capabilities with direct-to-PC data transfer tailored for all of your sensor needs.

The TACRF node provides input for up to 3 IEPE devices, such as an accelerometer, buffet microphone, or input from a single tri-axial IEPE accelerometer – all in a node size of 31mm x 34mm.

In addition, every Tensor node comes complete with Tensor's innovative mesh network geared to support drop-in sensor additions to any existing mesh network, enabling a truly modular and flexible mesh. Tensor's low power design also makes it possible for nodes to run independent of user interaction for months at a time.



Data Acquisition for the Modern World

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