

### ***LDO's Miserly $I_q$ Prolongs Battery Life While 1-mm<sup>2</sup> Footprint Saves Space***

[Microchip Technology's](#) MCP1811 linear low dropout regulator (LDO) is said to extend battery life in portable devices up to four times longer than traditional ultra-low quiescent ( $I_q$ ) LDOs. With an  $I_q$  of 250 nA versus the approximately 1  $\mu$ A of traditional devices, the 150-mA MCP1811 LDO saves battery life. Available in package options as small as 1 mm x 1 mm, the MCP1811 consumes minimal board space to meet the needs of compact portable electronic designs (see the figure).

Well suited for IoT and battery-operated applications such as wearables, remotes and hearing aids, the 250-nA  $I_q$  reduces power consumption in applications by minimizing standby or shutdown current. Reducing standby power consumption is critical in remote, battery-powered sensor nodes, where battery replacement is difficult and operating life requirements are high.

According to Microchip, an additional benefit of the MCP1811 is faster load line and transient response when compared to other ultra-low  $I_q$  LDOs. Faster response times can accelerate wake-up speed in devices such as monitors or sensors that require immediate attention. Faster transient response can also help designers avoid undervoltage and overvoltage lockout measures used in sensitive applications where transient spikes can lead to catastrophic results.

The MCP1811 is available for sampling and in volume production starting at \$0.28 each in quantities of 10,000 units for a 1-mm x 1-mm DFN package. For more information, see the MCP1811 [page](#).



*Figure. Well suited for IoT and battery-operated applications such as wearables, remotes and hearing aids, the MCP1811 LDO's 250-nA  $I_q$  reduces power consumption by minimizing standby or shutdown current. Offered in packages as small as a 1-mm x 1-mm DFN, the LDO saves critical board space.*