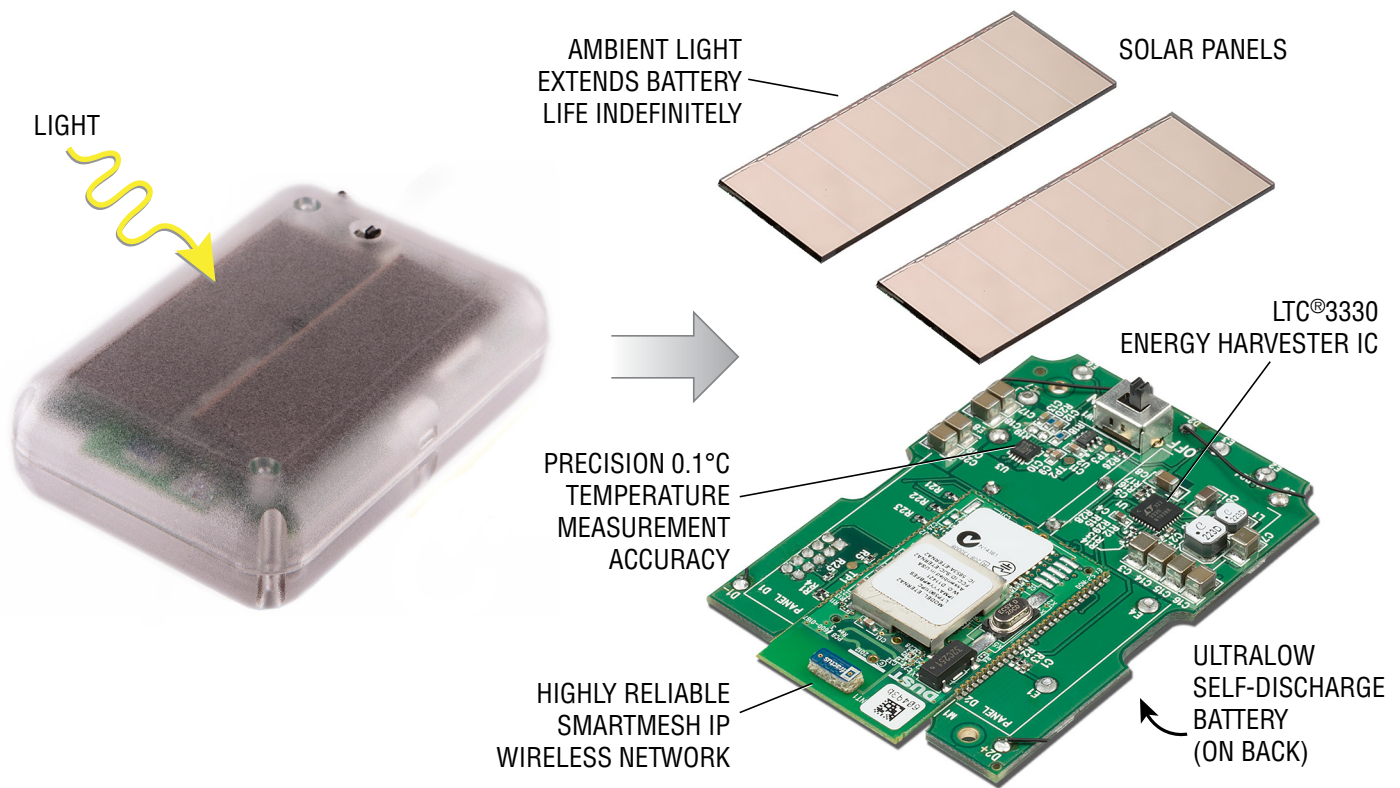


Wireless Temperature Sensor



The DC2126A is a high accuracy wireless temperature sensor, powered from ambient light, built using Linear Technology integrated circuits. A 24-bit delta-sigma ADC reads a thermistor biased from a precision voltage reference. A switching power supply harvests energy from the built-in solar panel, and automatically switches over to the internal battery when no ambient light is available. A SmartMesh IP™ wireless radio module provides the wireless mesh connectivity and communicates the temperature to a central access point (manager).

DC2126A Components

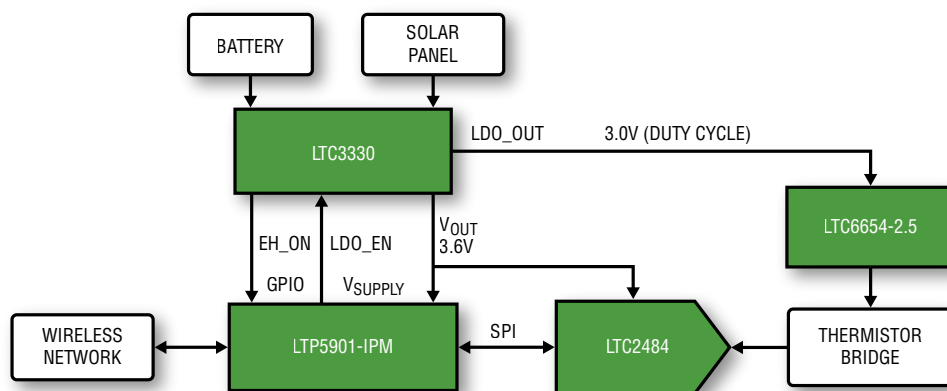


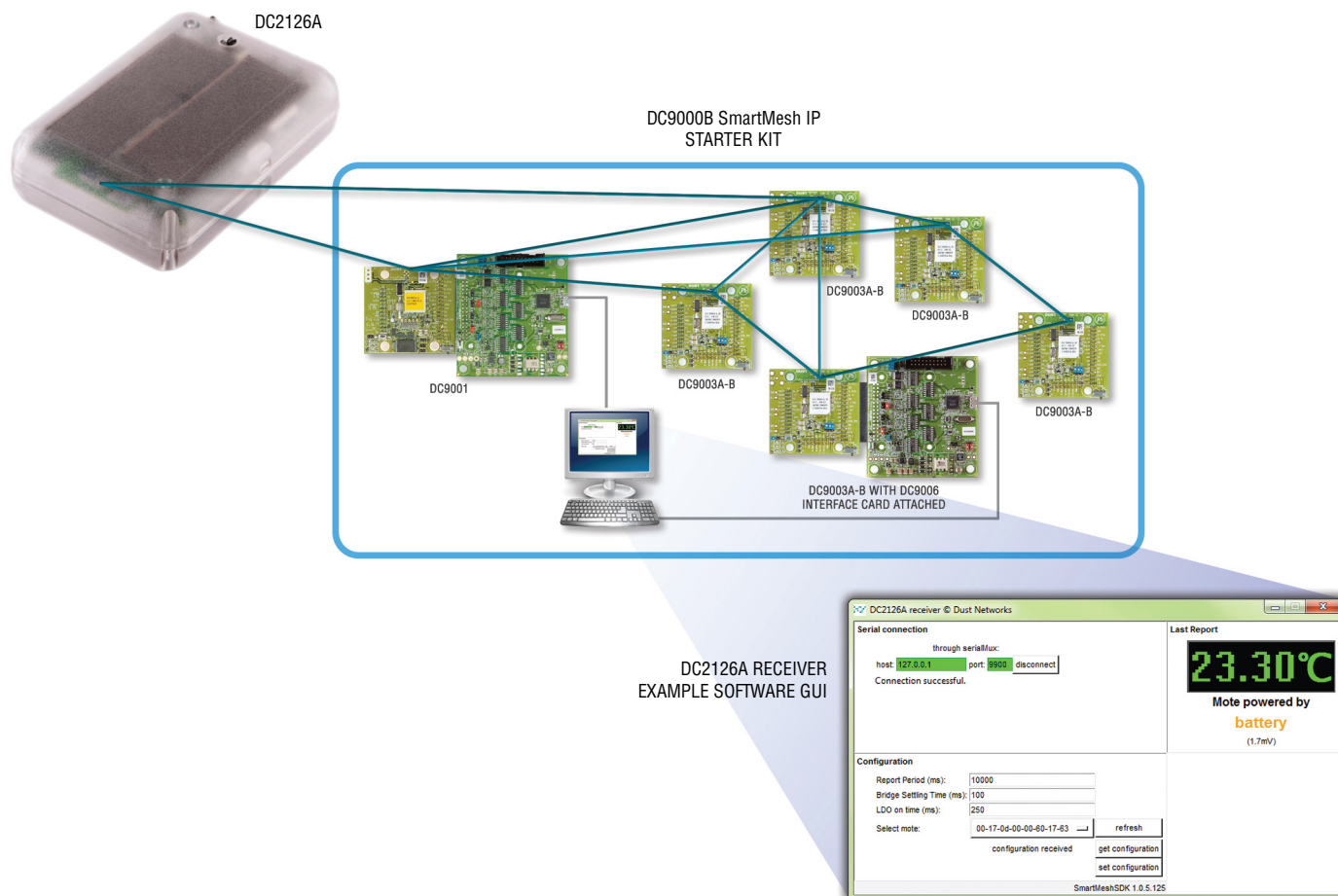
Figure 1. A Wireless temperature sensor is formed by connecting a wireless radio module to an ADC, reference and thermistor. The circuit is powered by an energy harvester that can take power from a battery or solar panel.



DC2126A Components

Part Number	Function	Benefits
LTC2484	24-Bit Delta-Sigma ADC, Reads Thermistor	Easy Drive™ Inputs Allow Direct Hook-Up of Thermistor
LT®6654	Low Noise Voltage Reference	Bias Thermistor for Low Noise Reading of Temperature
LTP™5901-IPM	SmartMesh IP Mote PCB Module	Automatically Forms Low Power, Reliable Wireless Mesh Network. Built-In Microprocessor Manages ADC and Power Supplies
LTC3330	Energy Harvesting DC/DC Converter	Prioritizes Between Solar Power and Battery Power

The DC2126A acts as a wireless node, or mote, in a [SmartMesh IP](#) network. Temperature readings are sent through the mesh network to a demonstration PC software GUI that displays temperature, and whether the DC2126A is running on solar power or on battery.



DC2126A Software Utilities

ADDITIONAL REFERENCES

Online Description of the DC2126A with documentation www.linear.com/demo/DC2126A

Step By Step Instructions to Operate the DC2126A www.linear.com/docs/45351

Article Describing Theory of Operation of the DC2126A Circuit www.linear.com/docs/45098

Other SmartMesh IP Demo Boards www.linear.com/starterkits

