

## Low-Cost Printable Wireless Sensors for Buildings Applications

### **Disclosure Number**

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### **Technology Summary**

This invention identifies sensor and transmission characteristics required to establish end-to-end system design for future low-cost wireless sensors particularly for buildings applications. Core components in our approach are printable sensors (metal and semiconductor) and circuit elements on plastic substrates. These include, but are not limited to, temperature and humidity sensors on plastic substrates along with vibration, motion, light, and pollutant sensing. A combination of rectenna (Radio Frequency power harvesting), photovoltaic, and vibration harvesters coupled with thin film batteries will self-power wireless sensors. The wireless communication is achieved through low-power encoding scheme to transmit sensor information.

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