Thermal Imaging Detection System for Security

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Sponsored by FLIR Systems, Inc.

Security is always in the first priority for everybody. Soldiers in the battlefield need to focus on the surrounding but would want to know if enemies are behind them; bicyclists want to know when a car is coming from behind them. One solution is to use an infrared camera that is capable to detect invisible infrared light emitted by warm human bodies and to alert the soldiers through various actuators. FLIR OWLIR is developed to explore the application of infrared cameras to enhance security.

FLIR OWLIR is a water resistant and shock resistant wearable device that uses infrared cameras to detect designated objects or humans and notify the users through various actuators. FLIR OWLIR consists of two parts: main housing (figure 1) and actuator housing. The infrared camera is in the main housing and it is called FLIR Lepton camera, which is the world's smallest infrared imager. Our system performs image processing to detect designated objects, such as a human enemy or an incoming car, depending on our customer's needs. If detected, our system will transmit a signal to the actuator housing to alert our users. Our system is fully customizable and our customers can choose different actuators, such as a vibrational motor, an LED light, or a speaker. FLIR OWLIR adds a sixth sense to enhance security.

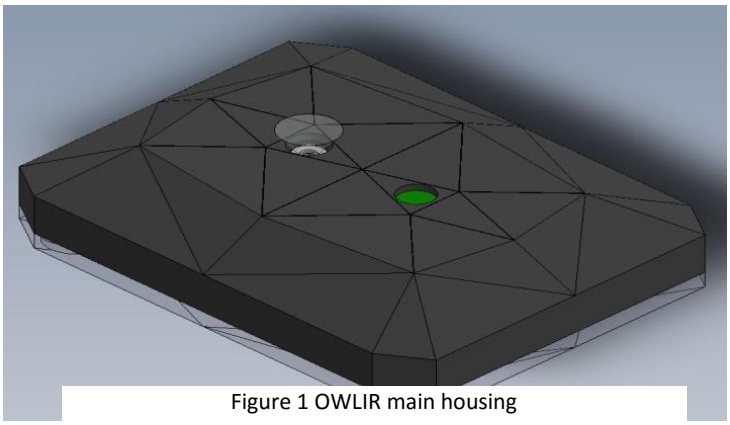

Figure 1 OWLIR main housing