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# Accelerate Proximity and Sensing Designs With the TSSP™ Sensor Evaluation Board

The Arduino-based Vishay TSSP™ Sensor Kit is a compact evaluation board that enables fast, reliable development of infrared (IR)-based presence and proximity sensing applications. It combines Vishay's advanced TSSP IR receivers with a configurable IR emitter, providing designers with immediate insight into real-world sensor behavior and system performance.

## Key Customer Benefits

- Rapid concept validation for presence, fast proximity, and long distance proximity sensing
- Flexible evaluation across multiple sensing ranges and environments
- Reduced design risk through proven Vishay sensor technology
- Shorter time to market with ready to use hardware and software

## Core Functions

- Presence sensing: straightforward object detection (object / no object) with fast response and low power operation
- Fast proximity sensing: detects motion toward or away from the sensor by dynamically adapting the emitter's pulse length and frequency
- Long distance proximity sensing: uses AGC-based signal evaluation to estimate distance over extended ranges

## Design and Evaluation Highlights

- Arduino-based control
  - Open, familiar microcontroller platform simplifies experimentation and prototyping
- Interchangeable apertures support testing under bright ambient light and varying fields of view  
Visual feedback of detection state, relative distance, and measurement speed
- Dual IR receiver architecture
  - TSSP53000: fixed-gain, wideband receiver for presence and fast proximity sensing
  - TSSP4P38: AGC-optimized receiver for long range proximity sensing
- Configurable emitter intensity
  - Selectable series resistors enable easy tuning of detection distance
- TSSP-HA housing with integrated optical barrier minimizes crosstalk
- Adaptable to real conditions
- Power-efficient concepts included
- Demonstrates burst operation and duty-cycle control for low power applications



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## Applications

- Consumer electronics and appliances
- Industrial sensors
- Touchless interfaces
- Smart devices

## Useful Links

- <https://www.vishay.com/doc?80345>
- <https://www.vishay.com/doc?82904>
- [TSSP53000](#)

## Contact Information

For technical questions and orders please contact: [IRR@vishay.com](mailto:IRR@vishay.com)