

# WG Tech Solutions Pvt Ltd

## ENTRANCE COUNTER APPLICATION

### Overview

The Application for Entrance Counter is designed to accurately count the number of people entering and exiting a room or designated area. Leveraging Infineon's XENSIV™ 60GHz radar sensor and optimized for low-power edge devices, this model enables real-time people counting for applications such as smart buildings, retail stores, offices, and public spaces. It provides a robust, privacy-preserving solution by processing data locally without cloud dependency, reducing development time and expertise needed for deployment.

### Key Features

- **Accurate People Counting:** Detects and classifies human movement to increment a counter when a person enters (IN) and decrement when a person exits (OUT) a room area.
- **Radar-Based Detection:** Utilizes Infineon's XENSIV™ 60GHz radar sensor for high-precision detection of human presence and direction, robust against environmental variations like lighting or temperature.
- **Low Resource Usage:** Optimized for low memory footprint and fast inference time, ideal for resource-constrained embedded systems such as PSoC™ 6, PSoC™ Edge microcontrollers.
- **Privacy-Focused:** Processes all data locally on the edge device, ensuring no personal data is sent to the cloud.
- **Neural Network Inference:** Employs a robust neural network model for precise and reliable detection in real-time.
- **Edge AI Integration:** Fully optimized for edge devices, ensuring low latency and efficient performance.
- **Versatile Applications:** Suitable for smart buildings, retail occupancy monitoring, conference room management, and restroom availability tracking.

### Use Cases

- **Smart Buildings:** Monitor occupancy in meeting rooms or offices to optimize space usage and prevent overcrowding.
- **Retail Stores:** Track customer foot traffic to analyze peak hours and manage store capacity.
- **Public Facilities:** Indicate restroom or venue availability by displaying real-time occupancy status.

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- **Safety and Compliance:** Ensure adherence to occupancy limits in restaurants, theatres, or other public spaces.

## Specification and Compatibility

### Sensor Settings – Radar

- Sample Rate: 200000Hz
- Features: Range, velocity, doppler

### Supported Devices

- Infineon PSoC™ 6
- Infineon XENSIV™ BGT60TR13C