

ROBUST HUMAN PRESENCE SENSING WITH 60 GHZ RADARS

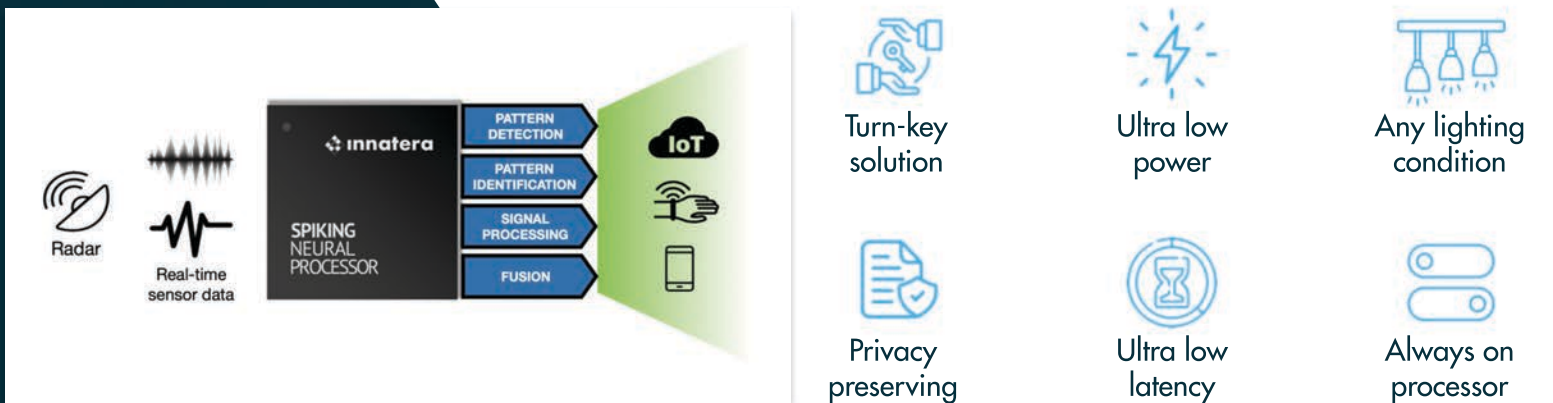


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The detection of human presence is important in a wide range of indoor and outdoor applications:

- **Security cameras:** Identify the presence of a human prior to activating the main camera sensor
- **Smart lighting:** Activate lighting and HVAC only when a human target is present
- **Video doorbells:** Identify human targets and ignore non-human and other moving targets e.g. bushes
- **Smart TVs:** Recognize the presence of a viewer, and pause playing content when the viewer leaves the vicinity of the device

Intelligent radar-based solutions enable these functions to be realized in an always-on manner with remarkable accuracy, recognition speed, and power-efficiency, while preserving privacy of the monitored environment. Innatera's reference design utilizes a 60GHz Radar sensor to robustly identify human presence based on the electromagnetic signature of human targets, unlike traditional solutions that use the motion of the target as a proxy for presence. Consequently, the solution allows accurate detection of human targets even in the presence of moving objects (e.g. bushes, oscillating fans), discrimination from non-human targets (e.g. pets), and continued detection even when targets remain still (e.g. a seated TV viewer).



KPI	Innatera
Accuracy	91%
Power	0.4mW
Latency	<1ms

