Product brief

XENSIV™ BGT60LTR11AIP
A completely autonomous 60GHz radar sensor

The BGT60LTR11AIP is a fully integrated microwave motion sensor including Antennas in Package (AIP) as well as built-in detectors for motion and direction of motion. A state machine enables operation of the sensor without any external microcontroller. In this autonomous mode, it detects a human target up to 5 m with a low power consumption of less than 5 mW.

The BGT60LTR11AIP enables radar technology for everyone, since it does not require know-how in RF, antenna design or radar signal processing. These features make the small sized radar solution a compelling smart and cost-effective replacement for conventional PIR sensors in low power or battery-powered applications.

The BGT60LTR11AIP adds ‘smartness’ to traditional motion sensing applications and beyond:
› Smart home devices (thermostats, smoke detectors, smart speakers, etc.)
› Smart appliances (vacuum cleaners, kitchen appliances, etc.)
› Smart lighting systems
› Security systems including IP cameras
› Automated door openers
› Screen based systems (TV, notebook, tablet, etc.)

This XENSIV™ radar sensor can be integrated into such systems to ‘wake’ them up, put them to sleep or auto-lock when no motion is detected for a defined amount of time. It can also trigger another functionality based on motion or direction of motion detection.

This way, it can be a smart power saving feature for many devices. Furthermore, the radar sensor can be hidden in the end product since radar operates through non-metallic materials. Therefore, the BGT60LTR11AIP enables a seamless integration of radar technology in our day-to-day lives.

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The XENSIV™ radar sensor has four quad-state (QS1-4) input pins that give the performance parameters flexibility even when it is running in autonomous mode. For instance, the user can easily select between four threshold values at QS2 to increase or reduce the detector sensitivity in order to change detection sensitivity and detection range. The table on the left displays the QS parameter settings.

In the SPI mode (selected via QS1 pin), the radar raw data can be extracted from BGT60LTR11AIP for signal processing on PC or an external MCU. This sampled radar data can be used for developing customized algorithms.