



# Industrial mmWave RADAR

## 60GHz AoP Module

### OVERVIEW

The Industrial mmWave RADAR on Module (60GHz) with Antenna on Package (AoP) SoC from Mistral is a low cost, ultra-compact, light-weight and easy to use module catering to wide range of industrial applications. Based on Texas Instruments IWR6843AoP ES2.0, an ultra-high-resolution single chip FMCW RADAR sensor, the AoP RADAR on Module is ideal for low power, self-monitored, ultra-accurate RADAR systems in industrial environment.

The highlight of the module is the IWR6843AoP ES2.0 Chipset, which comes with Integrated Antenna on Package, reducing RF PCB design challenges, product cost and footprint drastically.

The AoP RADAR on Module operates at frequency bands of 60-64GHz. Currently, the module is one of the most powerful and highly integrated in Industrial RADAR market. The module comes with advanced features such as FMCW Transceiver, DSP for Advanced Signal Processing, Hardware Accelerator (for FFT, Filtering, and CFAR Processing), ARM R4F Microcontroller, Built-in Calibration and Self-test in a compact form factor (46.25 X 15.76mm).

The module is powered via USB in standalone mode and delivers processed point cloud RADAR data. The AoP RADAR on Module comes with SDK 3.5, supporting object detection sample application.

Mistral's AoP RADAR Module comes with a mechanical mount option which also act as thermal plate.

As the AoP RADAR on Module is built around IWR6843AoP ES2.0 from Texas Instrument, this assures long lifecycle and support. Mistral adds value by supplying pre-certified AoP RADAR on Modules which helps customer to accelerate time to market, reduces certification risks and seamless product integration.



### HIGHLIGHTS



#### Compact Modular Design

Fully-integrated module based on Antenna on Package technology



#### Small Footprint

The standalone RoM measures 46.25 X 15.76mm



#### Self Calibrating

Ensures accuracy over a long time frame



#### USB Powered

Ideal for Low Power applications

## APPLICATIONS



- ▶ Building Automation
- ▶ Displacement Sensing
- ▶ Gesture Recognition
- ▶ Robotics
- ▶ Proximity and Position Sensing
- ▶ Security and Surveillance
- ▶ Factory Automation
- ▶ Safe zone Monitoring
- ▶ Motion Detection
- ▶ Occupancy Detection
- ▶ Industrial Fluid level sensing

## FEATURES

- ▶ Ultra-Compact Module (L x W x H): 46.25 x 15.76 x 5mm
- ▶ Integrated Antenna on Package (AoP)
- ▶ USB Powered
- ▶ Standalone boot up and programming support
- ▶ On board QSPI flash
- ▶ UART communication over USB for Configuration and RADAR Data
- ▶ Built-in Calibration and Self-test
- ▶ Thermal plate with mounting
- ▶ Operating Temperature: -40°C to 85°C

## CUSTOMIZATION

Mistral offers customization support for industrial customers on Enclosure Design, Connectivity, Data Processing and Applications Development. We develop products and System on Modules customized to customer specific requirements.

With our expertise in Industrial Automation, Industrial RADAR and related imaging sensors and video analytics, we can help developer's reduced time to market for their products while ensuring high reliability and low cost of development.

Mistral is a TI Design Network Platinum partner and has worked with Texas Instruments on the EVM [Evaluation Module] and reference design of IWR6843AoP Chipset.

## WHAT YOU WILL GET

- ▶ AoP RADAR Module
- ▶ Quick Start Guide (Online)
- ▶ Software Package and Documentation (Online).



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