PRODUCT BRIEF

CARKIT 8T8R CENTR

Infineon's RASIC™ 77 GHz radar module for rapid prototyping and radar data recording: accelerating radar module development

Infineon's CARKIT 8T8R CENTR is a comprehensive 77 GHz radar module designed for 4D imaging radars, integrating all essential components for operation – spanning RF, signal processing, interfacing, and application software – and ready for direct vehicle integration. It facilitates rapid prototyping, software tuning, and a raw radar data connection, significantly speeding up time-to-market.

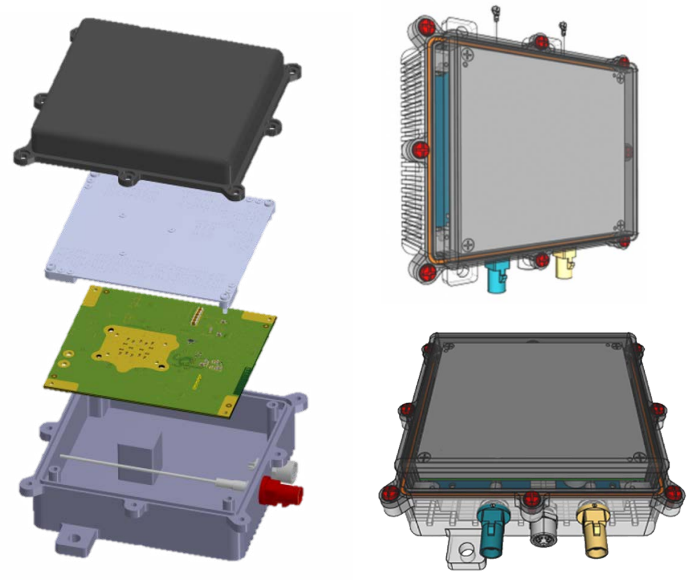
CARKIT 8T8R CENTR is designed to detect vehicles at long ranges exceeding 380 m while providing high resolution accuracy in both azimuth and elevation.

CARKIT 8T8R CENTR is available in two variants: supporting the APHY and GMSL2 modems, distinguished by their serializer interface technology. This allows radar placement at distances of up to 15 m from the processing unit.

The CARKIT 8T8R CENTR is optimized for central processing architectures, transmitting raw ADC radar data via a 5 Gbps link. Encased in IPX4-protected housing, the radar module includes mounting-ready protrusions for easy integration with vehicles. The hardware connects to a deserializer unit, which can then interface with a host computer through an Ethernet connection. This enables swift prototyping for Advanced Driver Assistance Systems (ADAS) applications such as:

- Lane-Change Assistant (LCA)
- Front/Rear Cross Traffic Alert (F/RCTA)
- Automatic Emergency Braking (AEB)
- Highway assist/pilot including Adaptive Cruise Control (ACC)
- Parking assist

For more details, please contact your local Infineon sales.



Key features

CARKIT 8T8R CENTR enables 4D-imaging radars for front and corner.

- 8 transmit & 8 receive channels
- Long detection-range of > 380 m for cars
- 4D radar with fine resolution in azimuth and elevation
- 2 variants for your preferred interface (APHY, GMSL2)
- 5 Gbps interface over 15 m coax for raw ADC data
- Flexibility to replace waveguide antenna with custom design
- Software framework for configuration and data acquisition
- IPX4 protection
- Small form factor: 97 x 84 x 53 mm^3
- Ready for vehicle mounting

Key benefits

- Easy to use radar module
- Ready for drive tests
- Power over coax
- Enables rapid prototyping and raw radar data connection

www.infineon.com/radar-sensors

The CARKIT 8T8R CENTR is a high-performance automotive radar module built around Infineon's RASIC™ CTRX8188F radar MMIC and an integrated data serializer.

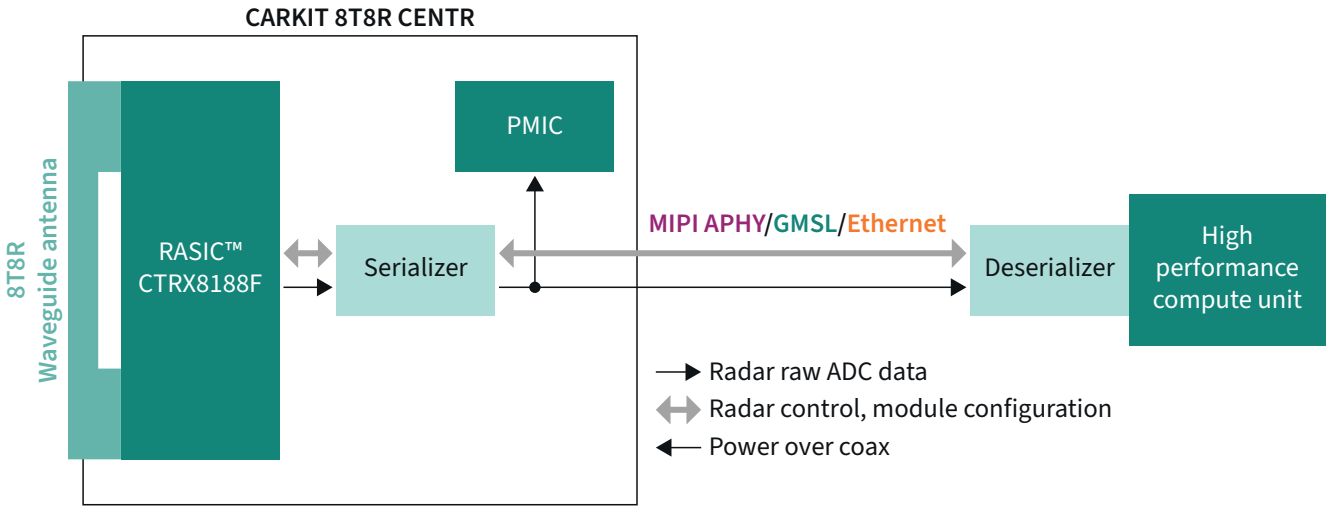
Multiple serializer variants are available, supporting industry-standard interfaces such as APHY, GMSL, and Ethernet to enable flexible system integration.

At its core, the CTRX8188F MMIC provides 8 transmit and 8 receive channels and is part of Infineon's latest generation of radar front ends. It combines excellent RF performance with high Signal-to-Noise Ratio (SNR) and linearity, making it suitable for demanding automotive radar applications.

The CARKIT 8T8R CENTR employs a waveguide antenna implemented with advanced manufacturing technology to achieve optimal RF transmission characteristics and overall system performance.

Each radar module is designed to operate with a corresponding deserializer interface board, which provides connectivity to an external high-performance compute unit (not included with the CARKIT). Firmware is provided up to point cloud output, helping streamline system evaluation and integration into ADAS and autonomous driving platforms.

Block diagram



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