

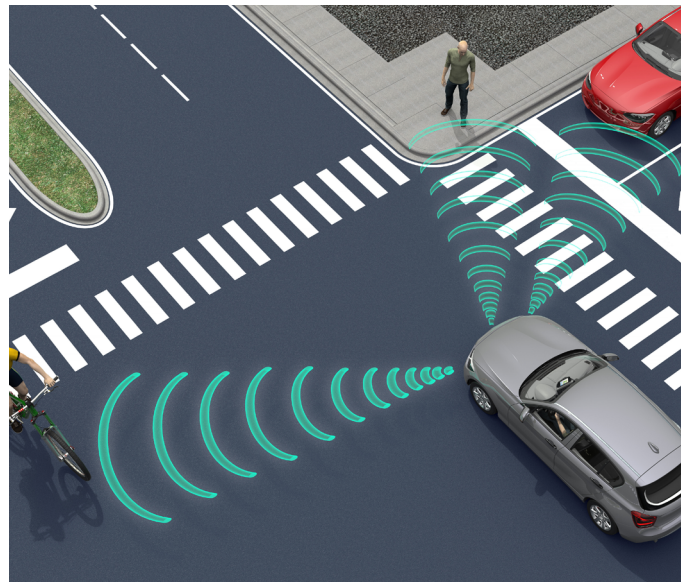
TEF82xx 77 GHz AUTOMOTIVE RADAR TRANSCEIVER

The TEF82xx is a fully integrated RFCMOS 76–81 GHz automotive radar transceiver. The device enables 360 degree sensing through key safety applications including automated emergency braking, adaptive cruise control, blind-spot monitoring, cross-traffic alert and automated-parking.

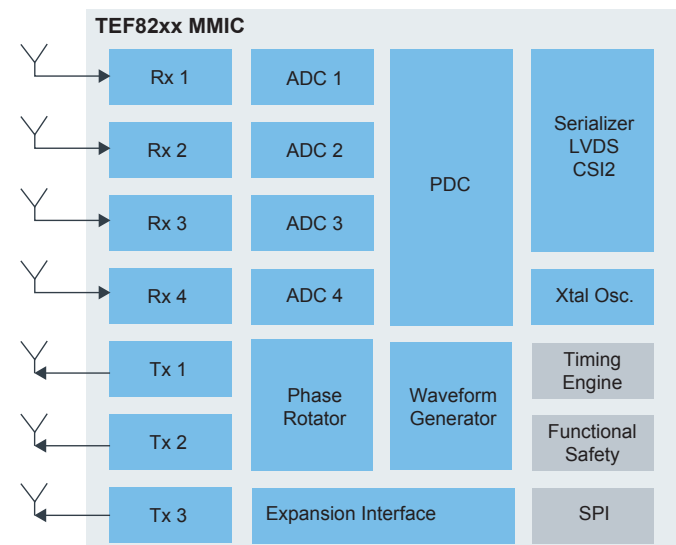
OVERVIEW

The TEF82xx car radar transceiver is a single-chip, low power automotive FMCW radar transceiver for short-, medium- and long-range radar applications including cascaded high-resolution imaging radar, covering the full car radar frequency band from 76 GHz to 81 GHz. The fully integrated RFCMOS chip contains 3 transmitters, 4 receivers, ADC conversion, phase rotator and a low-phase-noise VCO. The device also includes built-in safety monitors and external interface capability for MIPI-CSI2 and LVDS.

- Capability: Fully integrated RFCMOS automotive radar transceiver for 76–81 GHz
- Quality: ISO26262 compliant, ASIL Level B
- Functionality: Optimized for fast chirp modulation
- System: Fully compatible with NXP S32R29x and S32R45x radar microcontrollers



TEF82xx BLOCK DIAGRAM



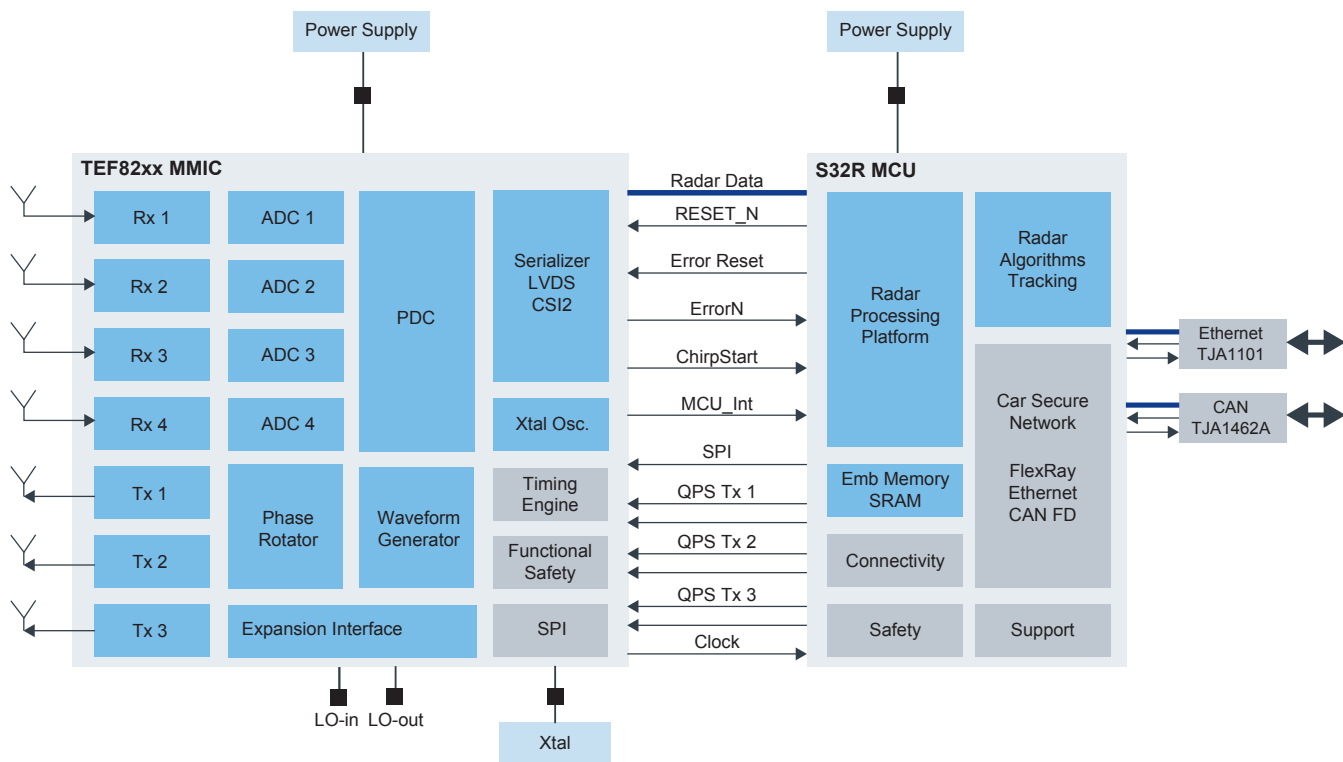
PRODUCT SPECIFICATIONS

Channels	3 Tx (w/ phase rotator) and 4 Rx	Cascading	4 chips for up to 12 Tx and 16 Rx
Frequency Range	76–81 GHz	Package	165 pin eWLB 7.5 x 7.5 mm
Output Power	13.5 dBm	ADC Sample Rate	40 MS/s
Noise Figure	11.5 dB	Interface	CSI-2 or LVDS
Phase Noise	-95 dBc/Hz	Temperature Range	-40 to 135 °C Tj
Power Consumption	1.5 W (2 Tx 50%)	Effective Chirp BW	4 GHz

TARGET APPLICATIONS

- Cascaded imaging radar
- Adaptive cruise control
- Autonomous emergency braking
- Blind spot detection
- Front/Rear cross-traffic-functions
- Lane change assistance
- Parking

MAIN APPLICATION BLOCK DIAGRAM



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