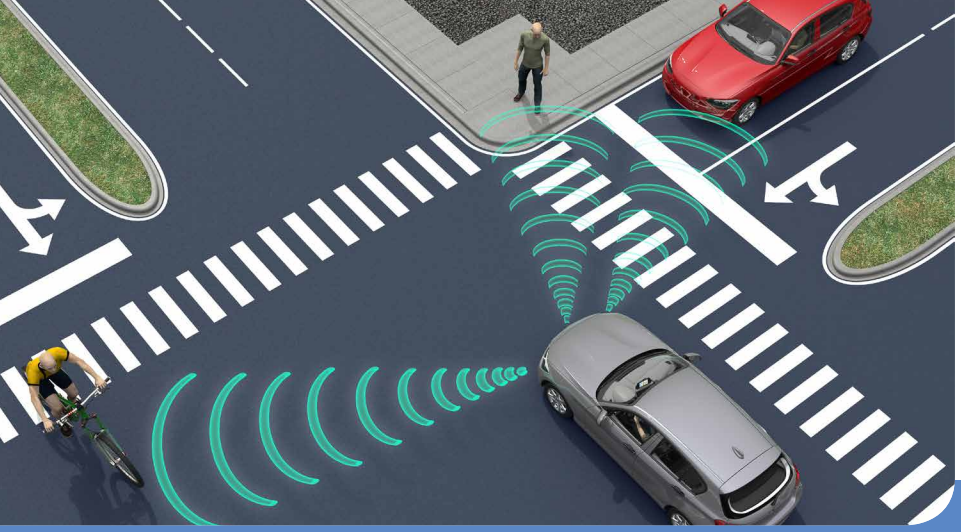


TEF810X 77GHz Automotive Radar Transceiver

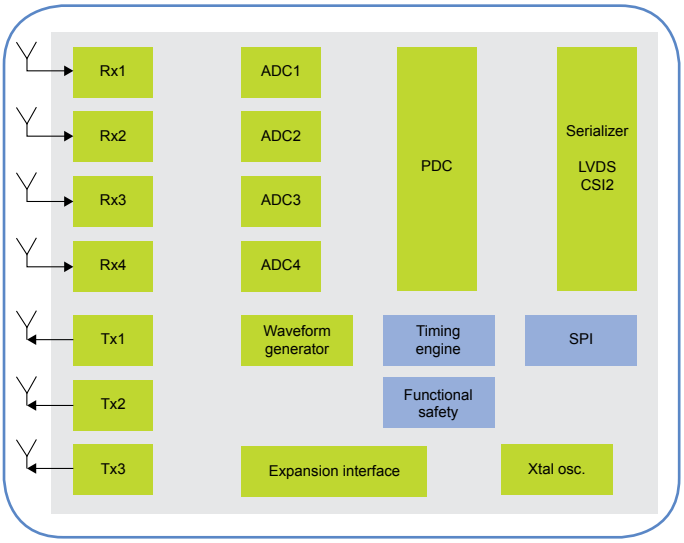
The TEF810X is a fully integrated RFCMOS 76-81GHz automotive Radar transceiver. The device enables key safety applications including autonomous emergency braking, adaptive cruise control, blind-spot monitoring, cross-traffic alert and automated-parking.

OVERVIEW

The TEF810X Car Radar Transceiver is a single-chip, low power automotive FMCW Radar transceiver for short-, medium- and long-range Radar applications, 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, 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 S32R27/37 Radar Microcontrollers

TEF810X BLOCK DIAGRAM



PRODUCT SPECIFICATIONS

Channels	3 TX (w/BPSK) & 4RX	**Cascading**	4 chips for up to 12TX and 16RX with Master Device
Frequency Range	76 – 81 GHz	**Package**	155 pin eWLB 7.5x7.5 mm
Output Power	12 dBm Typ (76-78 GHz) 11 dBm Typ (78-81 GHz)	**ADC sample Rate**	20 MS/s
Noise Figure	12 dBm Typ (76-77 GHz) 13 dBm Typ (77-81 GHz)	**Interface**	CSI-2 & LVDS
Phase Noise	-90 dBc/Hz Typ 0.5 GHz chirp (76-77 GHz)	**Temperature Range**	-40 to 135 °C Tj
Power	1.2 W Typical (2TX 50%)	**Chirp BW**	2 GHz

ORDERABLE SAMPLES

Part Number	Temperature Range	Interface	TX/RX Channels	Operating Freq (GHz)	Package
TEF8101	-40-135 °C Tj	LVDS	3/4	76-81	7.5x7.5 eWLB
TEF8102	-40-135 °C Tj	CSI2	3/4	76-81	7.5x7.5 eWLB

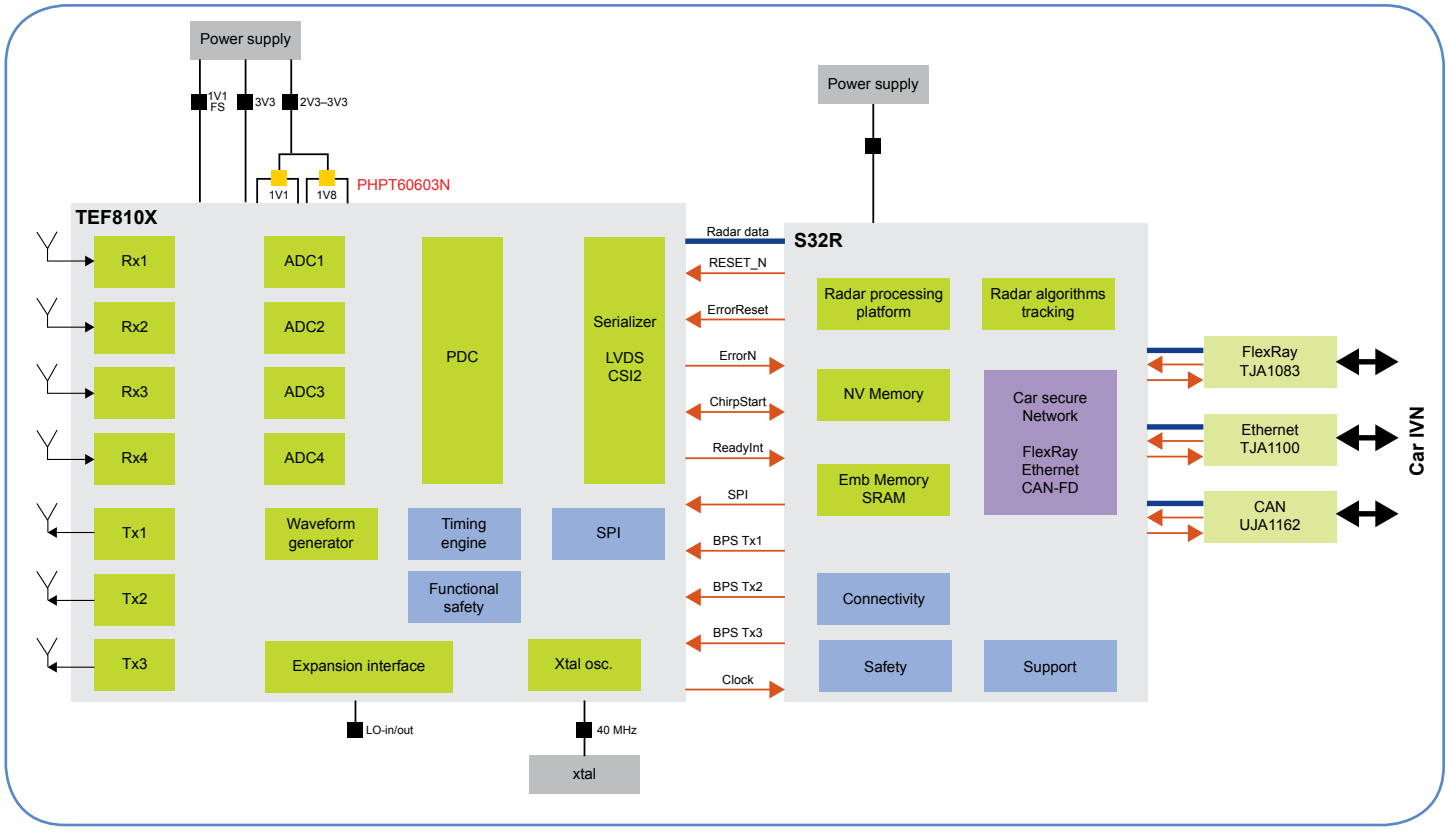
TARGET APPLICATIONS

- Adaptive Cruise Control
- Autonomous Emergency Braking
- Blind Spot Detection
- Corner / Cocoon Radar Functions
- Lane Change Assistance
- Parking (Ultrasonic substitution)

ENABLEMENT TOOLS

- Development Hardware:
  - RDK-S32R27 Automotive Radar Reference Platform

MAIN APPLICATION BLOCK DIAGRAM



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