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
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

ORDERABLE SAMPLES

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Temperature Range</th>
<th>Interface</th>
<th>TX/RX Channels</th>
<th>Operating Freq (GHz)</th>
<th>Package</th>
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<tbody>
<tr>
<td>TEF8101</td>
<td>-40-135 ºC Tj</td>
<td>LVDS</td>
<td>3/4</td>
<td>76-81</td>
<td>7.5x7.5 eWLB</td>
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<tr>
<td>TEF8102</td>
<td>-40-135 ºC Tj</td>
<td>CSI2</td>
<td>3/4</td>
<td>76-81</td>
<td>7.5x7.5 eWLB</td>
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MAIN APPLICATION BLOCK DIAGRAM