Vehicle Key Features
- Low-frequency (LF) transceiver device with four channels for passive entry/passive start, immobilizer and wireless charging
- LF transmitter device with eight half-bridge drivers for passive entry/passive start
- LF transceiver device for passive entry/passive start and immobilizer function

Key fob Key Features
- Integrated IC with 3D wake receiver, 3D immobilizer and MSP430 microcontroller
- Integrated IC with LF immobilizer function plus MSP430 microcontroller
- Plastic wedge transponder

Car access product family

The new car access product family from Texas Instruments encompasses solutions for both vehicles and keys, such as transponders for mechanical keys and integrated MSP430™ ultra-low-power microcontroller-based devices. TI’s solutions are Advanced Encryption Standard-128 embedded and include low-frequency, ultra-high-frequency and microcontroller functions.

Features include ultra-low current consumption in both active and standby mode, an extended communication range for active wakeup, passive immobilizer function, a 3D immobilizer and wireless charging. Optimized timing in receive mode allows for ultra-low-energy polling to reduce overall power consumption. Designs will also benefit from digital RSSI, transport keys, anti-collision functionality and ciphered modes. For more information, see www.ti.com/solution/car_access_system.
## Devices

<table>
<thead>
<tr>
<th>Devices car (ECU)</th>
<th>Supply voltage Channels</th>
<th>Tx Frequency</th>
<th>Modulation</th>
<th>Rx Standby current</th>
<th>I/Os</th>
<th>Package</th>
<th>Temperature</th>
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<tbody>
<tr>
<td>TRF4140</td>
<td>3-20 V</td>
<td>1</td>
<td>1.4 GHz</td>
<td>0-500 kHz</td>
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<td>6</td>
<td>48SOP</td>
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<td>0.94 GHz</td>
<td>134 kHz</td>
<td>50 µA</td>
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<td>7-38 V</td>
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<td>0.94 GHz</td>
<td>125 kHz</td>
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<td>0.24 GHz</td>
<td>134 kHz</td>
<td>15 µA</td>
<td>50 µA</td>
<td>SO16</td>
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<tr>
<td>CC1131-01</td>
<td>3 V</td>
<td>1</td>
<td>10 dBm</td>
<td>Sub-1 GHz</td>
<td>0.7 µA</td>
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<td>32QFN</td>
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<td>CC1110-01</td>
<td>3 V</td>
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<td>10 dBm</td>
<td>Sub-1 GHz</td>
<td>0.7 µA</td>
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<td>32QFN</td>
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<thead>
<tr>
<th>Devices key fob</th>
<th>Encryption</th>
<th>Flash</th>
<th>RAM</th>
<th>EEPROM</th>
<th>Immobilizer</th>
<th>Wake receiver</th>
<th>Standby current</th>
<th>I/Os</th>
<th>Package</th>
<th>Temperature</th>
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<tbody>
<tr>
<td>RF430F5144</td>
<td>CRAID AES</td>
<td>16 kB</td>
<td>1 kB</td>
<td>1024 B</td>
<td>3D</td>
<td>3D</td>
<td>4.9 µA</td>
<td>15+8</td>
<td>48FN</td>
<td>-40° to +85°C</td>
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<tr>
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<td>CRAID AES</td>
<td>16 kB</td>
<td>1 kB</td>
<td>2048 B</td>
<td>3D</td>
<td>3D</td>
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<td>48FN</td>
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<td>RF430F5175</td>
<td>CRAID AES</td>
<td>32 kB</td>
<td>2 kB</td>
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<td>3D</td>
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<td>-40° to +85°C</td>
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<td>MR92615</td>
<td>RAID AES</td>
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<td>TRPW521</td>
<td>DST AES</td>
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<td>—</td>
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<td>TRP8527</td>
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<td>—</td>
<td>Black</td>
<td>-40° to +85°C</td>
<td></td>
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</table>

**BAST**: Basestation transceiver; **BAST2**: Basestation transceiver/transmitter

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### Internet

**TI Worldwide Technical Support**

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e2e.ti.com

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<thead>
<tr>
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<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>Automotive and Transportation</td>
</tr>
<tr>
<td>Amplifiers</td>
<td>Communications and Telecom</td>
</tr>
<tr>
<td>Data Converters</td>
<td>Computers and Peripherals</td>
</tr>
<tr>
<td>DLP® Products</td>
<td>Consumer Electronics</td>
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<tr>
<td>DSP</td>
<td>Energy and Lighting</td>
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<td>Security</td>
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<tr>
<td>Power Mgmt</td>
<td>Space, Avionics and Defense</td>
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<tr>
<td>Microcontrollers</td>
<td>Video and Imaging</td>
</tr>
<tr>
<td>RFID</td>
<td></td>
</tr>
<tr>
<td>OMAP Applications Processors</td>
<td>TI E2E Community</td>
</tr>
<tr>
<td>Wireless Connectivity</td>
<td>e2e.ti.com</td>
</tr>
</tbody>
</table>

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