# Remote Access Identification Device IC TMS37126

The Remote Access Identification Device (RAID) IC combines 3 functions in one device:

- 3D Analog Front End (3D AFE)
- Proven TI DST+ transponder
- Sophisticated power management

The RAID has an SPI interface to connect it to an external microcontroller, ideally suited for Passive Entry applications. The 3D AFE is an improved version of the TMS37122/127 devices, and offers high sensitivity to receive LF signals between 120 kHz and 140kHz and has several other features, such as RSSI measurement and bi-directional LF signalling.
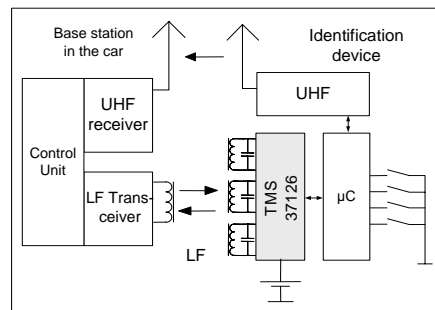
The embedded transponder offers a high level of security through its encryption, mutual authentication and after-theft diagnosis features. It operates without battery and can be accessed in terms of its memory and encryption through the SPI interface. The power management features, in addition to battery charge/check, a battery backup function that allows operation of all functions (including the microcontroller) with low or even no battery. The energy in this case is generated by the LF field.

Specifications:

Part Number	RI-TMS37126
Features	3D Analog Front End with LF bi-directional signaling; RSSI output current; battery back-up and battery charge functions; compatible with TI's Digital Signature Transponder (DST).
Supply Voltage (Vbatt)	1.8 V to 3.6 V
3D Analog Front End:	
Operating Frequency	120 kHz to 140 kHz
Quiescent Current	1.4 µA (typ.)
Standby Current	5.3 µA (typ., 3 ant. active); 4.0 µA (typ., 2 ant. active); 2.7 µA (typ., 1 ant. active)
Active Current	28µA (typ.)
Maximum Antenna Sensitivity	4.5 mVpp to 6.0 mVpp; 4.9 mVpp (typ.)
Data Rate	4 kbit/s max.
Wake Pattern Length	4-bit / 8-bit / 16-bit
Sensitivity Adjustment	Ant1 / Ant2 / Ant3
Wake / Re-Wake Time	2 ms
Transponder Transmission Principle	HDX (Half Duplex), FDX (Full Duplex using Amplitude Modulation)
Operating Frequency	134.2 kHz, 125 kHz
Security	TI Challenge / Response; Mutual Authentication; Secure Issuer Access Mode
EEPROM Memory	91-bytes (lockable) for User data, 66 bytes for Encryption Keys, serial#, configuration
Operating Temperature	-40°C to +85°C
Package	30 Pin TSSOP DBT

For more information, contact the sales office or distributor nearest you. The contact information can be found: **http://www.ti.rfid.com**