Long range, low energy consumption and flexible adaption to customer requirements combined with the need for high quality and reliability. Impossible? Not with our high sensitivity, low-power, multichannel transceiver TDA5340. Due to its high level of integration all of those requirements are covered with a minimum of external components.

### Long Range
- Highest receive sensitivity with integrated LNA:
  - typ. -118dBm for FSK; typ. -116dBm for ASK
- High efficient class C power amplifier with up to +14dBm output power (adjustable in fine tuning steps)
- Integrated antenna switch allows for antenna diversity to further enhance the link reliability and as such the range of coverage.

### Low Energy Consumption
- Very low current consumption: (values typ.)
  - Receive mode: 11.5mA
  - Transmit mode at 10dBm and 434MHz: 12.5mA
  - Power down mode: 0.9µA
  - Additional sleep and deep sleep modes available
- Autonomous receiver functionality and RF channel scanning: The SmartLEWIS™ TRX provides fully recovered payload data to the microcontroller. As such, the MCU keeps asleep as long as unwanted RF-signals are received.

### Highest Flexibility and Functionality
- All frequencies covered with one device and one crystal
- Multi-protocol handling to support various applications with one TRX only (up to 4 parameter sets and 16 different frequency channels while operating in autonomous mode)
- Easy product configuration / programming to adapt for various protocols
- One PCB design for uni- and bi-directional applications possible (based on TDA5240 receiver family and TDA5340 transceiver)
- Low cost or highest performance with the same device. Save external components if performance requirements allow for it:
  - No external SAW and IF filter and/or usage of internal antenna switch

### Highest Quality
- Wide temperature range: -40°C to +110°C
- Automotive quality grade standing beside high qualification standards for zero defect culture with minimum ppm rates and long product availability

Main Features
- Multiband / Multi-channel: 300–320MHz, 415–495MHz, 863–960MHz
- Highest efficiency available while achieving the highest sensitivity and low current draw
- Programmable power amplifier with up to +14dBm output power
- ASK/FSK capability with programmable Gaussian data shaping
- On-chip IF filter with selectable bandwidth (optional an external CER-filter is possible)
- Sigma-delta fractional-N PLL synthesizer with high resolution
- Automatic Frequency Control function (AFC) for offset carrier frequency
- Multi protocol handling: Up to 4 parameter sets for autonomous scanning and receiving from different sources independent of modulation or data rates
- Wake-up generator & polling timer unit
- Brownout detector & on-chip temperature sensor
- Integrated 4-wire SPI bus interface
- 32-bit wide unique ID on chip
- Supply voltage range: 3.0 to 3.6V and 4.5 to 5.5V
- Temperature range: -40°C to +110°C
- PG-TSSOP-28 package

www.infineon.com/tda5340
SmartLEWIS™ TRX – TDA5340
Multi-Channel Transceiver for Sub 1GHz

Block Diagram TDA5340

Development Tooling
Infineon offers evaluation boards optimized for the major sub 1GHz ISM frequency bands. The TDA5340 “Explorer” Tool enables an easy configuration of TDA5340 and certain protocol examples additionally ease your design and development.

Type | Frequency | Output Power | Order Code  
---|---|---|---
TDA5340_315_BOARD | 315MHz | 10dBm | SP000926798
TDA5340_434_BOARD | 434MHz | 10dBm | SP000926802
TDA5340_868_BOARD | 868MHz | 13dBm | SP000926808
TDA5340_915_BOARD | 915MHz | 13dBm | SP000926812

Applications
- Bi-directional remote control systems
- Bi-directional RKE (with integrated TPMS and Passive Entry functionality)
- Smart Meters/Automated Meter Reading (AMR)
- Security and alarm systems
- Home automation
- Industrial control
- Low bit-rate communication systems

High Performance or Low Cost
No matter what your requirements are, SmartLEWIS™ TRX offers all the flexibility you need:

Highest system performance is achievable, when using an external antenna switch, a SAW filter, an external IF filter and an enhanced matching network. Such a high system performance design is supported by SmartLEWIS™ TRX with 21 external components. However, you can also save these costly components and still achieve high performance with 18 external components only.