

High-Performance, Low-Current SIGFOX™ Gateway



GENERAL DESCRIPTION

TDnext's TD1207R devices are high performance, low current SIGFOX™ gateways. The combination of a powerful radio transceiver and a state-of-the-art ARM Cortex M3 baseband processor achieves extremely high performance while maintaining ultra-low active and standby current consumption.

The TD1207R device offers an outstanding RF sensitivity of -126 dBm while providing an exceptional output power of up to $+16$ dBm with unmatched TX efficiency. The TD1207R device versatility provides the gateway function from a local Narrow Band ISM network to the long-distance Ultra Narrow Band SIGFOX™ network at no additional cost.

The broad range of analog and digital interfaces available in the TD1207R module allows any application to interconnect easily to the SIGFOX™ network. The LVTTTL low-energy UART, the I2C bus, the multiple timers with pulse count input / PWM output capabilities, the high-resolution / high-speed ADC and DAC, along with the numerous GPIOs can control any kind of external sensors or activators.

Featuring an AES encryption engine and a DMA controller, the powerful 32-bit ARM Cortex-M3 baseband processor can implement highly complex and secure protocols in an efficient environmental and very low consumption way.

Key FEATURES

- SIGFOX™/LAN

BOARD FEATURES

- 2.3V to 3.3V Power supply
- 1.8 μ A sleep mode consumption
- LGA25 (25.4x12.7x3.81mm) Land Grid Array package with castellated pads
- High CAF Resistance

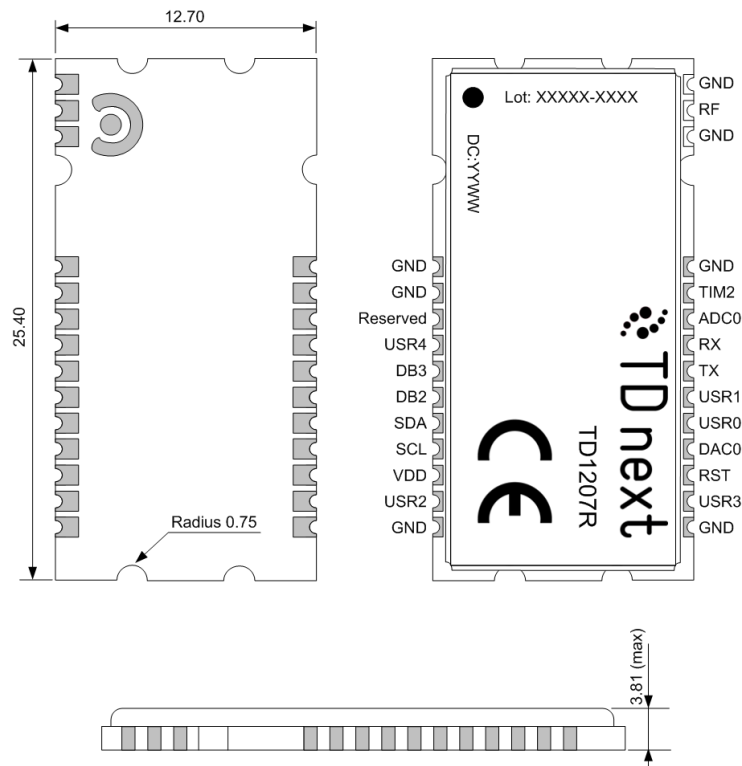
RF FEATURES

- SIGFOX™ transceiver certified
- 145 dB maximum link budget
- (G)FSK, 4(G)FSK, GMSK, OOK modulation
- Receive sensitivity = -126 dBm
- $+16$ dBm maximum output power
- Frequency range = ISM 868 MHz
- Low active radio power consumption (3.3V)
 - 13/16 mA RX
 - 32mA Tx @ $+10$ dBm
 - 41mA Tx @ $+14$ dBm
 - 51mA Tx @ $+16$ dBm

APPLICATIONS

- SIGFOX™ transceiver (fully certified)
- Sensor network
- Health monitors
- Remote control
- Home security and alarm
- Telemetry
- Industrial control

Pin Assignments



Block Diagram

