ETRX35x-LR ZigBee™ Module

Image not shown actual size; enlarged to show detail.

The Telegesis ETRX351-LR and ETRX357-LR modules are low power 2.4GHz ZigBee modules with an added PA and LNA for highest possible link budget.

Based on the latest Ember EM351 and EM357 single chip ZigBee™ solution the new long range modules are footprint compatible to the ETRX351 and ETRX357, thus representing a drop in replacement for all applications where a high link budget is required.

The module's unique AT-style command line interface allows designers to quickly integrate ZigBee technology without complex software engineering. For custom application development the ETRX35x series integrates with ease into Embers InSight development environment.

Module Features

- Small form factor, SMT module 25mm x 19mm
- 2 antenna options: Integrated chip antenna or U.FL coaxial connector
- Industries first ARM® Cortex-M3 based family of ZigBee modules
- Industry standard JTAG Programming and real time network level debugging via the Ember InSightPort
- 192kB (ETRX357) and 128kB (ETRX351) flash and 12kbytes of RAM
- Lowest Deep Sleep Current of sub 1uA and multiple sleep modes
- Wide supply voltage range (2.7 to 3.5V)
- Module ships with standard Telegesis AT-style command interface based on the ZigBee PRO feature set
- Can act as an End Device, Router or Coordinator
- 24 general-purpose I/O lines including analogue inputs (all GPIOs of the EM35x are accessible)
- Firmware upgrades via RS232 or over the air (password protected)
- Hardware supported encryption (AES-128)
- CE and FCC compliance, FCC modular approval pending
- Operating temperature range: -40°C to +85°C
- Standard version without LNA and PA available in the same form factor

Radio Features

- Based on the Ember EM351 and EM357 single chip ZigBee™/IEEE802.15.4 solutions
- 2.4GHz ISM Band
- 250kbit/s over the air data rate
- 16 channels (802.15.4 Channel 11 to 26)
- +18dBm output power (adjustable down to -21dBm)
- High sensitivity of -105dBm typ. @ 1% packet error rate
- RX Current: 28mA, TX Current: approx. 100mA at 18dBm

Suggested Applications

- AMR – ZigBee smart energy applications
- Wireless Alarms and Security
- Home/Building Automation
- Wireless Sensor Networks
- M2M Industrial Controls
- Lighting and ventilation control
- Remote monitoring
- Environmental monitoring and control

Development Kit

- New Development kit containing everything required to set up a mesh network quickly and evaluate range and performance of the ETRX35x and its long range version.
- AT-style software interface command dictionary can be modified for high volume customers.
- Custom software development available upon request.

Example AT-Style Commands

AT+BCAST	Sends a Broadcast
AT+UCAST:<address>	Sends a Unicast
AT+EN	Establish PAN network
AT+JN	Join PAN

At power-up the last configuration is loaded from non-volatile S-Registers, which can eliminate the need for an additional host controller.

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