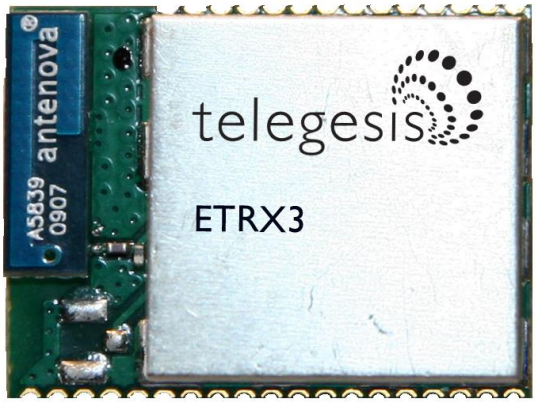
ETRX35x ZigBee™ Module



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The Telegesis ETRX351 and ETRX357 modules are low power 2.4GHz ZigBee modules, based on the latest Ember EM351 and EM357 single chip ZigBee™ / IEEE802.15.4 solution.

They have been designed to be integrated into any device without the need for RF experience and expertise. Utilizing the EmberZNet ZigBee stack, the ETRX35x enables you to add powerful wireless networking capability to your products and quickly bring them to market.

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
- Side Castellations for easy soldering
- 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 InSight Port
- 192kB (ETRX357) and 128kB (ETRX351) flash and 12kbytes of RAM
- Lowest Deep Sleep Current of sub 1µA and multiple sleep modes
- Wide supply voltage range (2.1 to 3.6V)
- 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 serial port 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
- Long Range version with a link budget of up to 124dB 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)
- +3dBm output power (+8dBm in boost mode)
- High sensitivity of -99dBm (-101dBm in boost mode) typ. @ 1% packet error rate
- RX Current: 25mA, TX Current: 31mA at 3dBm

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.

Telegesis
Marlow Business Centre
84 Station Road
Marlow, Bucks
SL7 1NX, United Kingdom
Telephone: +44 (0) 1628 894347
Fax: +44 (0) 1628 894333
Email: sales@telegesis.com

www.telegesis.com