Technical Description of sETRX357-LRS family

The Telegesis sETRX357-LRS and sETRX357HR-LRS modules are fully integrated low power 2.4GHz ZigBee® modules with an integrated frontend module containing an power amplifier as well as a low noise amplifier. On this module family an IEEE802.15.4-2003 compliant DSSS transceiver integrated into the Ember EM357 family of System-on-Chips together with an 32-bit ARM® Cortex™-M3 processor is used. The SoC's integrated receive channel filtering allows for robust co-existence with other communication standards in the 2.4 GHz spectrum, such as IEEE 802.11-2007 and Bluetooth. To maintain the strict timing requirements imposed by the ZigBee and IEEE 802.15.4-2003 standards, the EM357 integrates a number of MAC functions, AES128 encryption accelerator, and automatic CRC handling into the hardware. The MAC hardware handles automatic ACK transmission and reception, automatic backoff delay, and clear channel assessment for transmission, as well as automatic filtering of received packets.

The "HR" variants have a coaxial antenna output following the RF tuning and filtering whereas the non "HR" variants host an Antenova Rufa chip antenna as well as the appropriate tuning circuits.

Finally an optional "8" suffix indicates that an additional 8Mbit flash chip is populated onto the module. The flash chip can be switched off using a MOSFET transistor to achieve maximum power savings.