arm

Arm Cordio-E154

Product features

- 802.15.4 modem, protocol processing logic
- 802.15.4-2006 MAC
- Optional AES encryption engine

Implementation

- RTL for modem and protocol processing logic
- Narrow digital interface to RF front end (RF interface)
- Designed as an AMBA peripheral
- MAC layer firmware delivered as source code
- Zigbee/Thread compliant platform through third party stacks
- Enables flexibility to support different geometries and foundries

Design deliverables

- RTL for modem and protocol processing logic
- MAC firmware delivered as source code
- Test vectors, timing and physical abstraction models
- Scripts for simulation and synthesis with Cadence tools
- Integration manual and release notes

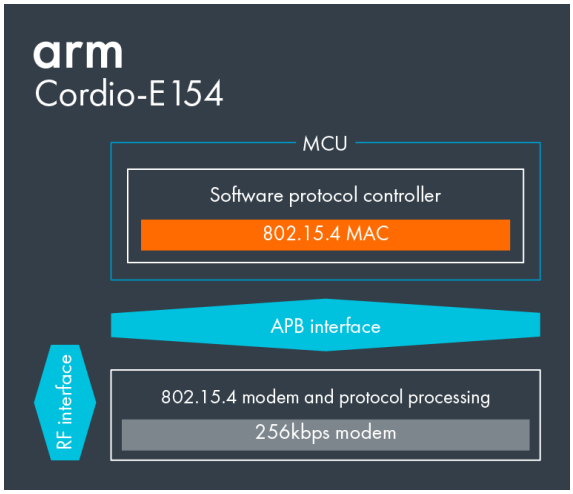
Support deliverables

- Evaluation kit – An Arm mbed™ enabled platform with a demonstration chip containing the Cordio-E154 IP
- Thread/Zigbee qualification/certification and regulatory guides

Overview

The Arm® Cordio®-E154 is an 802.15.4-2006 modem, protocol processing logic delivered as soft IP, with power intent and implementation IP, associated test-benches and MAC firmware. The 802.15.4 MAC has features to support both Thread and Zigbee Pro upper layer stacks.

The design is optimized for low-power with support for the 802.15.4 standard, ideal for designers who want to implement the latest features with a qualified/certified solution for reduced risk and reduced time to market.



Standard features

- MAC features for Thread and Zigbee PRO support
- Support for Zigbee PRO, Zigbee IP and RF4CE
- Third party upper layer stacks, each stack a Zigbee certified product
- Arm Thread stack will be one of the first to go through the certification program
- Compatible with third party Thread stack

802.15.4-2006 MAC features

- Baseline features:
  - Scan
  - Data send and receive
  - Data poll
- Features for Zigbee:
  - Association and disassociation
- Features for Zigbee:
  - MAC security

PPA	TSMC 55LP/ULP	TSMC 40LP/ULP
Performance/Sensitivity (dBm)	-101	-101
Power active (RX/TX) (mW)*	< 1	< 1
Power sleep (nW)*	< 200	< 200
Area ** (mm^2)	< 0.32/0.28	< 0.12

* Power consumption numbers at 1-volt, preliminary estimates
** Digital gates only, memory requirements would be additional

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For more information
Web: www.arm.com/Cordio

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