

# RF Transceiver Student Learning Kit

## Featuring the MC13192 family

Easily add RF capability to course or projects

Can be used in simple MAC (SMAC) or ZigBee® configurations

### Common Course Applications

- Wireless sensing and control
- Introduction to communication protocols
- Wireless home automation

### Use for courses/projects which:

- Require low-power, medium data rate wireless communication
- Illustrate a variety of network deployment configurations
- Are targeted for intermediate to advanced level students

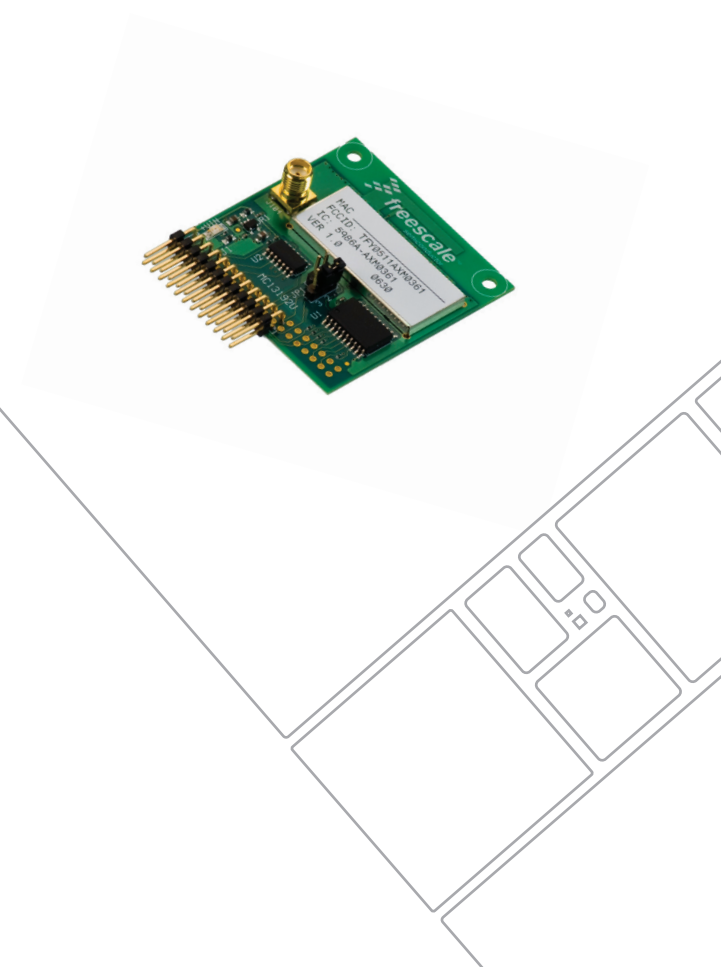
### This application module can be:

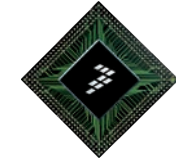
- Connected to an application module\*
  - Plug the RF transceiver directly into the application module
- Connected to the Freescale project board (PBMCUSLK) for:
  - Increased I/O features
  - A more hands-on approach
  - Acceptance of multiple microcontrollers
  - Integrated USB-BDM interface
  - Larger bread-board area

To order, search by part number on [www.freescale.com](http://www.freescale.com).

Part Number	Description
AP13192USLK	802.15.4 RF Transciever

\*Additional hardware may be required





## Features

### MC13192; QFN 32

- On-board antenna
- 250 Kbps RF data rate
- Voltage indicator
- 3V on-board voltage regulator
- Low operating power of 60 ma with transmit enabled
- Three power saving modes
- Full spread spectrum encode and decode
- 16 RF channels with 5 MHz of separation
- Transmit and receive data buffers for low MCU overhead
- Packet or stream data transfer modes
- Four timers to reduce host controller overhead
- Optional programmable clock output
- SPI slave mode serial communication—8 Mbps maximum
- Two SPI selectable signal inputs
- J1 I/O connector: 2 x 12 R/A 0.1" grid
  - Compatible pin connection with application modules and the MCUSLK development board
- SPI signals
  - SIN
  - SOUT
  - SCLK
  - SELECT 1 or 2
- Status signals
  - Valid CRC
  - Idle
  - IRQ
- Control signals
  - RESET In
  - ANT CTRL, Tx or Rx mode
  - RXTXEN, optional transfer control
  - ATTN\_IN, wake up control

### Specifications

- Module Size: 2" x 2.1"
- Power Input: 3.3V to 5.5V operation