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.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>AP13192USLK</td>
<td>802.15.4 RF Transciever</td>
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*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