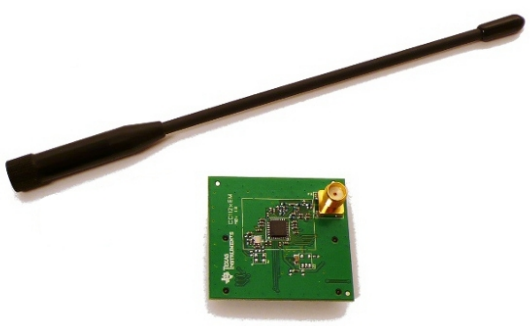
CC1175 Evaluation Module Kit Quick Start Guide

1. Kit Contents



1 x CC1175 Evaluation Modules
1 x Pulse W5017 Antenna
Documentation

The EMK is an add-on kit to supplement the CC1120DK with evaluation boards supporting related devices and additional frequency bands.

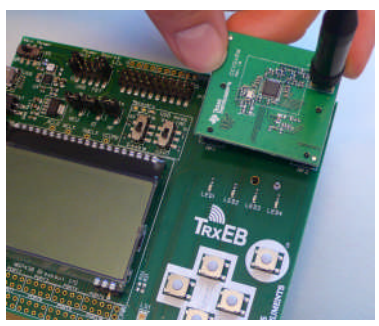
2. How to use the Module

The CC1175EM boards can be plugged into several development boards from Texas Instruments. Most notably, you can use the SmartRF Transceiver EB (TrxEB), which is included in the CC1120DK. This board has an MSP430 microcontroller which can be used to control the CC1175 radio.

Software examples for the TrxEB and MSP430 can be downloaded from the CC1120DK web page (http://www.ti.com/tool/cc1120dk)

The TrxEB also makes it easy to control CC1175 from SmartRF™ Studio and it can be used as a general purpose test and development platform. This guide will show how to use the CC1175EM with SmartRF Studio.

3. Plug the EM into a TrxEB

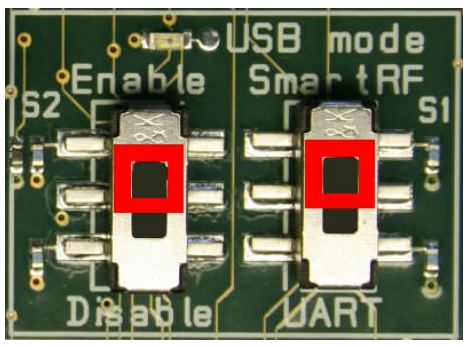


Insert the CC1175EM into a TrxEB. The connectors will only fit in one position so that the EM cannot be inserted the wrong way. Do not use excessive force on the EM. Remember to mount the antenna.

Caution! The kit contains ESD sensitive components. Handle with care to prevent permanent damage. To minimize risk of injury, avoid touching components during operation if symbolized as hot.

4. Select Board Mode

Use the switches S1 and S2 to select the operating mode of the TrxEB. For the sake of this quick start guide, please select “Enable” and “SmartRF”. This configuration will make it possible to control the CC1175 device from SmartRF Studio.



5. Power Options

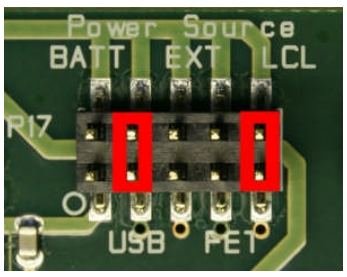
There are several ways of applying power to the TrxEB.

- 2 x 1.5 V AA batteries
- USB
- External Power Supply
- MSP430 Debugger

For the batteries and USB, there are voltage regulators on the TrxEB that will set the on-board voltage to 3.3 V. The external power supply should set a voltage that does not exceed 3.3 V. By default, the MSP430 debugger supplies 3.0 V. **Note that there should only be one active power source at any one time.**

Warning! To minimize risk of personal injury or property damage, never use rechargeable batteries to power the board.

6. Select Power Source



Depending on the power source, make sure you connect jumpers to the appropriate pins on the “Power Source” header. For operation of SmartRF Studio, it might be convenient to use the USB connection also for powering the board. Place the jumper such that pin 3-4 are shorted. A jumper should also be in position 9-10.

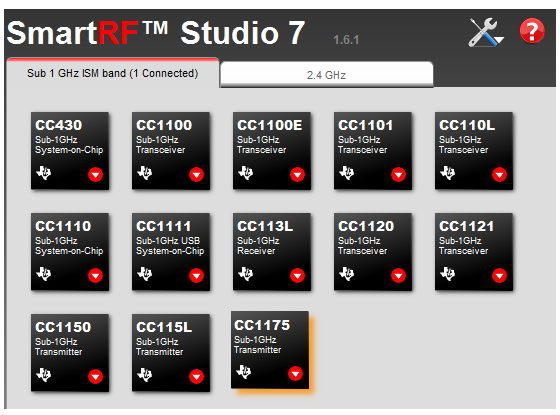
Caution! Do not leave the EVM powered when unattended.

7. Download and Install Studio

Before connecting SmartRF TrxEB to your PC, download and install SmartRF Studio from www.ti.com/smartrfstudio.

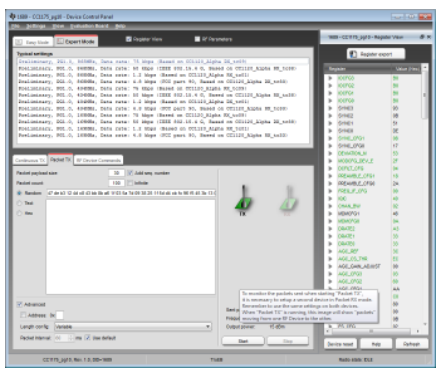
The USB driver for the evaluation board will be installed together with SmartRF Studio.

8. Packet Error Rate Test



After installing the tool, connect the TrxEB to the PC using the USB cable and start SmartRF Studio. Select the “Sub 1 GHz” tab and double click the highlighted CC1175 device icon.

9. Test the Radio



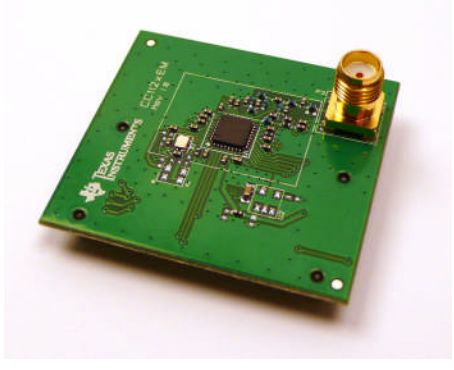
With SmartRF Studio, you can generate the register values required to operate the CC1175 correctly from your embedded software.

In addition, you can use it to actively control the radio and run performance tests. Since CC1175 is a transmitter only, you can use Studio to generate a continuous signal (carrier signal) or send custom packets. The packets can be received by e.g. a CC1120 or CC1121 device connected to another TrxEB.

10. References

Please visit http://www.ti.com/product/cc1175 for additional documentation, links to the kit web pages, updated software examples and software tools like SmartRF Studio.

You will also find a lot of information on the TI E2E forum at http://e2e.ti.com



We hope that you will enjoy working with the CC1175 device.

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