

# Quick Start Instructions

Rev. 1.1

## CC1000DK Development Kit

### Introduction

The CC1000DK Development Kit is designed to make it very easy for the user to evaluate the transceiver's performance and in a short time develop his own applications.

The Development Kit includes two Evaluation Boards with a complete CC1000 transceiver, voltage regulator and PC interface circuitry. Using the Evaluation Board connected to a PC running the SmartRF® Studio software, various system parameters can be changed and tested via software. The evaluation board includes a significant number of components for great flexibility. However, only a minor part of these components are required in an actual application. Check the datasheet for a typical application circuit.

### Important:

*The use of radio transceivers is regulated by international and national rules. Before transmitting a RF signal out on the antenna, please contact your local telecommunication authorities to check if you are licensed to operate the transceiver.*

## Step-by-step

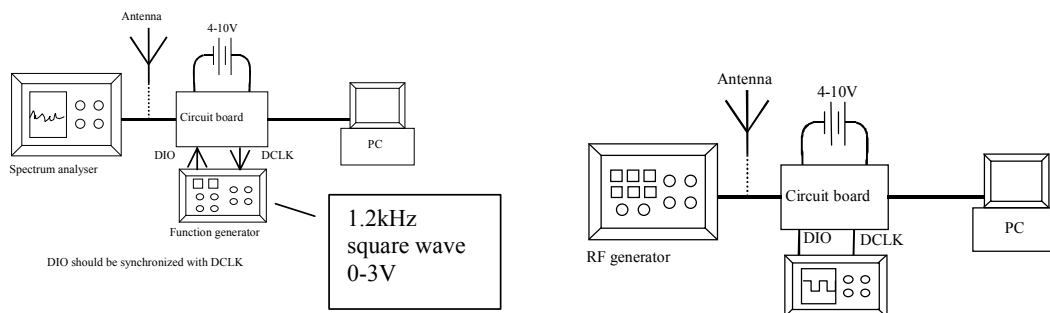
To get the Evaluation Board up and running follow these steps:

1. Connect the board to an external power supply. If you are using a 4-10V supply, connect it to the 4-10V and 0V terminals on the power connector. If you are using a 3V regulated supply, connect it to the 3V and 0V terminals. Set the voltage selector switch to the correct position.
2. If you are going to measure the current consumption of the CC1000 IC, insert an amperemeter between the I\_IN and I\_OUT terminals on the power connector, otherwise make sure that a jumper is inserted between these terminals.
3. There are three preselector filter options: LC-filter, SAW filter, or no filter used. Each of the three filter alternatives is equipped with a female SMA antenna connector. To choose between the three filters there is a zero ohm resistor that can be moved (R61-R63). Default is with no filter.
4. Connect the parallel cable supplied between the Evaluation Board and the PC.
5. Start up the SmartRF® Studio software.
6. Select system parameters or load optimal ISM frequency data from register view (\*.eep)
7. Select Reset.
8. Click Update Device.
9. Select Calibrate.

Three options are available for the data transmission format used over RF: Synchronous NRZ, Synchronous Manchester and Transparent UART mode. In Manchester mode, the data rate will be half the baud rate, while in UART or NRZ mode, the data rate and baud rate will be equal. When measuring the carrier frequency, use the NRZ or UART mode, as in Manchester mode the carrier will be modulated when the DIO signal is static. Regardless of the mode selected, data at the DIO pin is in NRZ format.

The kit is available in two versions: 434 and 868 MHz. The tuning range is centered on 434 MHz and 868 MHz, respectively. The tuning range can be moved by changing passive components, see the data sheet for more information.

In Manchester and NRZ mode, the CC1000 outputs a clock. Data must be synchronous with this clock. In other words, when in TX mode, the signal source connected to the DIO pin must be synchronized with DCLK, otherwise the received data will have periodic glitches.



The above figures show typical evaluation connections for TX (left) and RX (right). Optimal settings for achieving the best possible sensitivity are available for download from the Chipcon web site. Chipcon recommends that these settings be used when maximum range is paramount. For details on how to use the SmartRF® Studio software please refer to the SmartRF® Studio User Manual.

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