Radiocrafts
Embedded Wireless Solutions

RC2301DK

RC2301DK Demonstration Kit Quick Start
ZNM-ready Location Engine demo
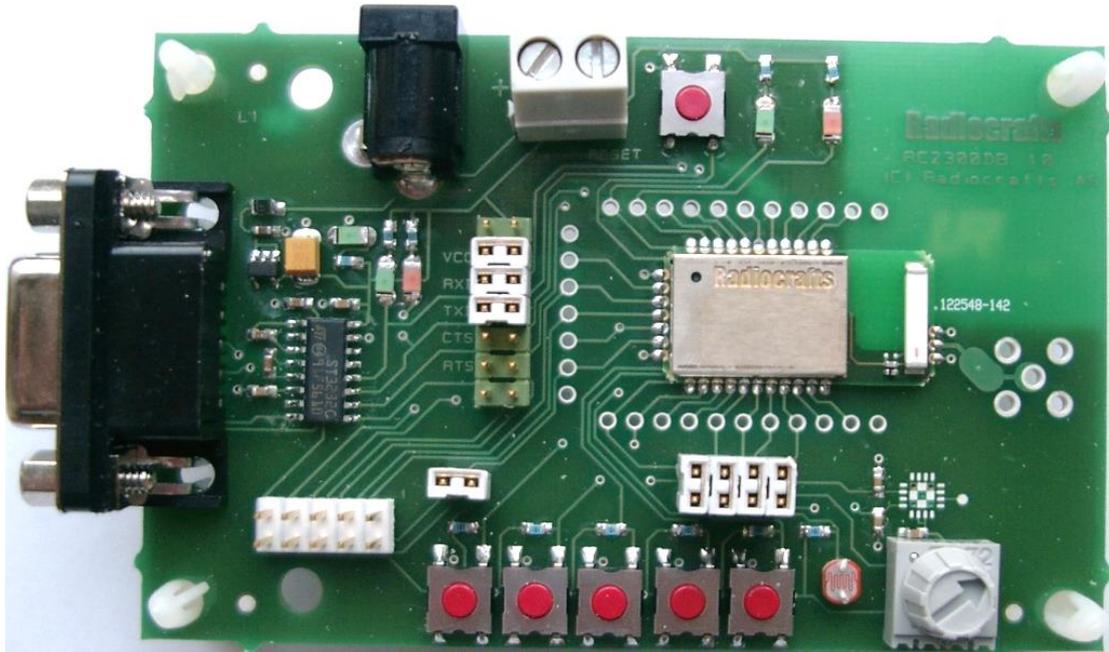
Introduction

The RC2301DK demonstration kit shows a ZNM-ready location demo application on the Figure 8 Wireless Z-stack from Texas Instruments. To make the demonstration a minimum of 8 nodes are required:

- One Location Dongle (D) configured as network coordinator
- Six reference nodes (R1 to R6) configured as network routers
- One blind node (B) with RC2301 configured as network router

The kit contains all 8 boards and each board has an identifier label on the reverse side.

Quick Start Guide

1. Download location demo PC application

Download the latest verion of the location demo PC(Z-Location Engine) SW from TI (http://www.ti.com/litv/zip/swrc070c) and install it on your PC.

2. Set up the Location Dongle

Start the Z-location Engine program on the PC. Power up the Location Dongle and connect it to a COM-port on your computer. Make sure the "Select COM port field at the bottom of the application window correspond to the correct port. The program does not support USB-Com port, only pure RS232 COM ports.

Press the "►" button in the application and observe that the application connects to the dongle at the bottom of the application window.
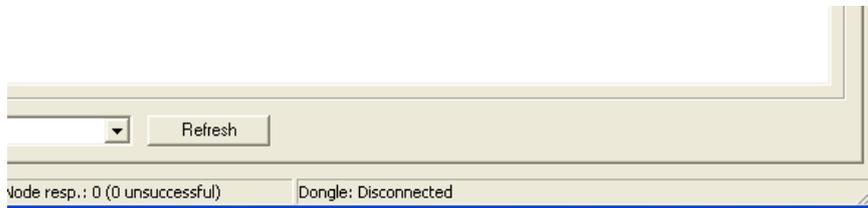
Figure 1. Before connection
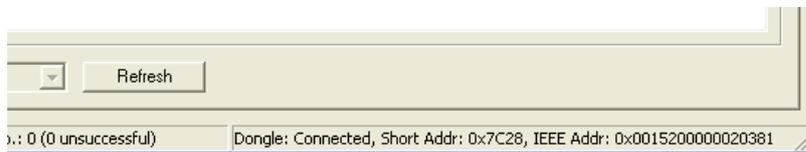
Figure 2. After connection

3. Add a background image

Select the *Background* tab in the application window. Select a Background Image and type in the width and height. Displacement should be 0 if the image shall be placed in the top left corner of the image window in the application.
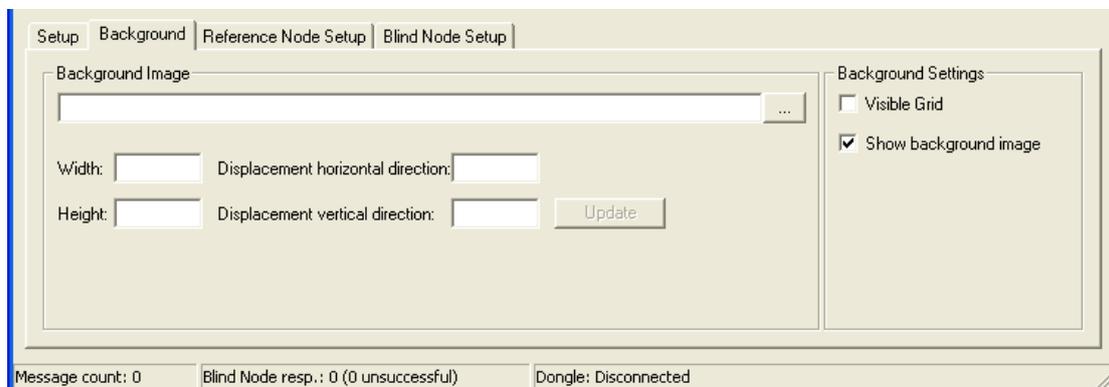
Figure 3 Background tab

Press *Update*, and the picture should become visible in the application window.

4. Power up reference nodes

Connect power to reference node 1 (R1). Make sure that it is in range of the location dongle. The reference node will appear in the Reference Node Setup tab in the application, and will also appear in the graphical window as a yellow ball.
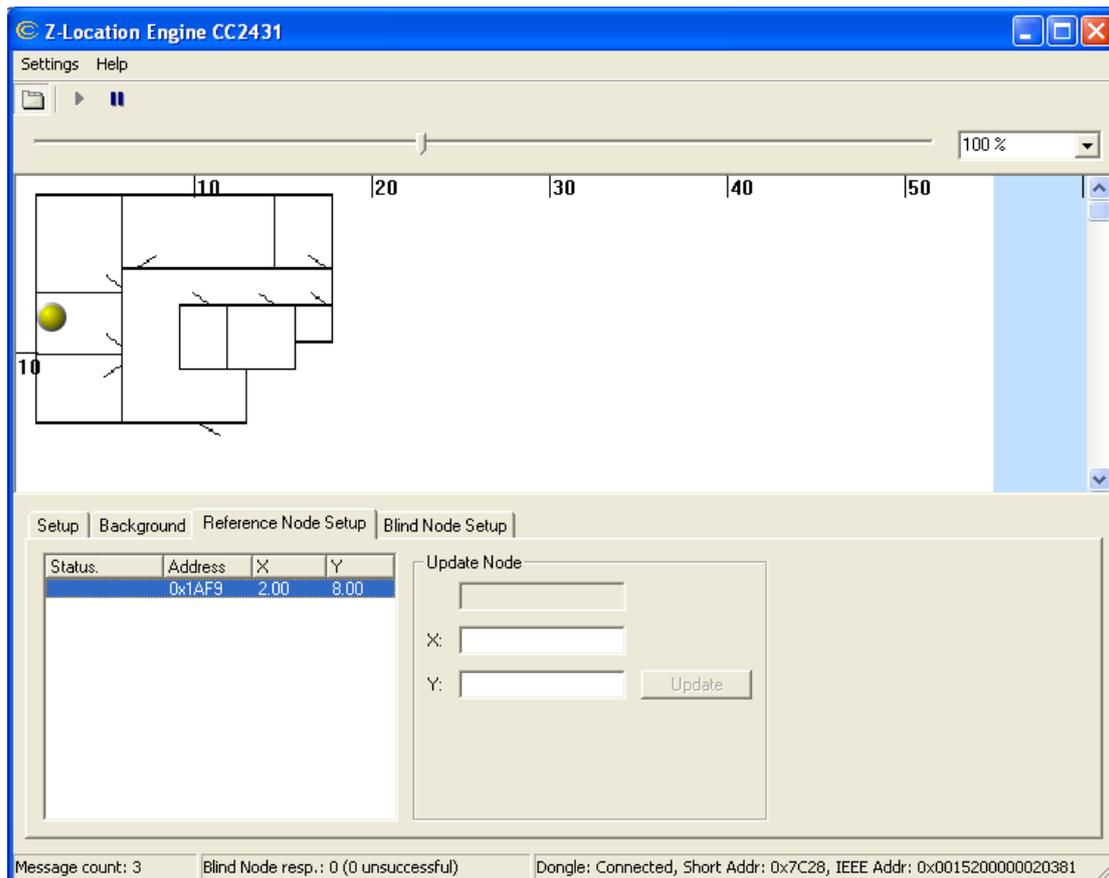
Figure 4. Reference Node Setup tab

Double-click on the node in the list and change the location coordinates. Press update. Status of the device will be *updating.* When the update is complete, double-click the node again to make sure the updating was successful. Then place the node at the specified location.

Repeat for nodes R2 to R6.

5. Activate blind node

Activate the blind node by connecting it to a battery. After a few seconds the blind node will appear in the application window as a green ball.

6. Tuning the application

The application can be tuned by changing the parameters that the location engine in RC2301 uses. This is done in the Blind Node Setup tab. Double-click on the blind node you want to change, set the parameters and press update. For a description of the parameters see the

chapter on Blind Node Configuration in the Z-Stack Location Profile document by TI (Document Number: F8W-2006-0002).
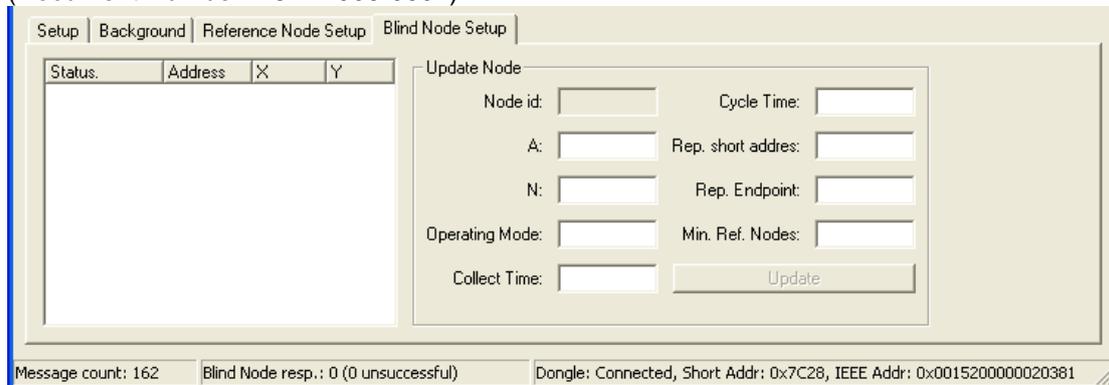
Some parameters of the application can also be tuned in the Settings window.
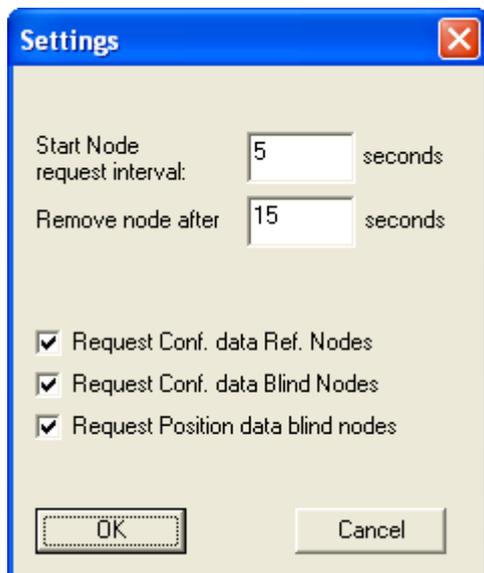
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