Sub-1GHz Low Cost Mesh Network

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(ACTIVE) TIDM-SUB1GHZ-MESH-NETWORK

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Sub-1GHz Low Cost Mesh Network

Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

Description

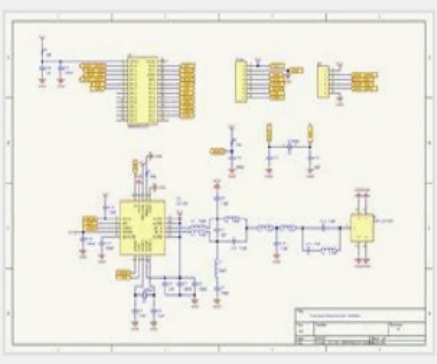
This solution implements a mesh network within Sub-1GHz frequency band. Using the MSP430G2533 MCU and CC1101 RF module, user can easily establish a self-organization network with multi-hops, low cost, and quick response. The ability to actively join and periodically data report makes this network suitable for many sensing network application fields.

Features

- Self-organization, self-maintenance, no manual collocation needed
- Multi-hop communication to enlarge network coverage
- Multi-route to avoid the effect of the failure of a single node
- Low-cost, low-power consumption
- Combination of on-demand query and periodical report
- Turnkey solution for IoT applications

Schematic/Block Diagram

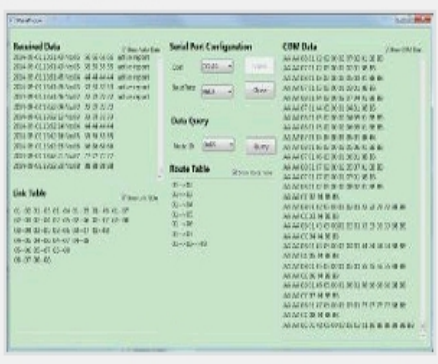
Quickly understand overall system functionality.



Download Schematic

Design Guide

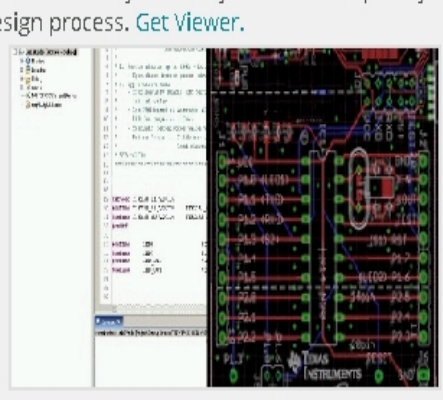
Get results faster with test and simulation data that's been verified.



Download Design Guide

Source Files

Download ready-to-use system files to speed your design process. Get Viewer.



Download Source Files

Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

TI Devices (2)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
CC1101	Low-Power Sub-1GHz RF Transceiver	Wireless Connectivity	Sample & Buy	View Design Kits & Evaluation Modules
MSP430G2533	MSP430G2x33, MSP430G2x03 Mixed Signal Microcontroller	Ultra-low Power	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
CC1101	VQFN (RGP) | 20	Download	-
	(RTK) | 20	Download	-
MSP430G2533	TSSOP (PW) | 20	Download	Download
	TSSOP (PW) | 28	Download	Download
	VQFN (RHB) | 32	Download	-

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

Step 2: Download the Symbol and Footprint .bxl file.

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Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
Sub-1GHz Low Cost Mesh Network Design Guide		PDF	2865	19 Sep 2014	39

Design Files (4)

Title	Abstract	Type	Size (KB)	Date	Views
Sub-1GHz Low Cost Mesh Network Gerber Files		ZIP	39	17 Oct 2014	5
Sub-1GHz Low Cost Mesh Network Layer Plots (PDBs)		ZIP	493	17 Oct 2014	14
Sub-1GHz Low Cost Mesh Network Bill of Materials (BOM)		PDF	53	17 Oct 2014	6
Sub-1GHz Low Cost Mesh Network Schematic		PDF	60	17 Oct 2014	29

Related Tools & Software

Software (1)

Sub-1GHz Low Cost Mesh Network Software
(ZIP, 50 KB) 41 views, 17 Oct 2014

Applications

- Field Transmitter: Temperature sensor
- Smoke Detector

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