Anaren Integrated Radio (AIR)

Low-power RF modules, firmware & development tools that make it easy to 'go wireless'

1101 Series

The A1101R08A is a high-performance, ETSI-compliant radio module that incorporates the Texas Instruments CC1101 transceiver chip, all in the industry's smallest package: 9 x 16 x 2.5mm.
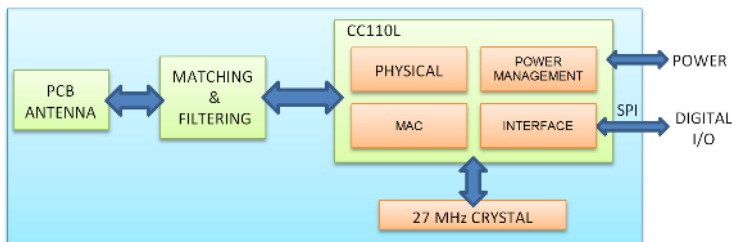
A1101R08A

Features

- Frequency range: 868-870 MHz
- ETSI-compliant, shielded package
- Digital RSSI output
- Programmable output power up to +10dBm
- High sensitivity (1.2 kBaud, 1% packet error rate) -112 dBm at 869 MHz (compliant to ETSI)
- Ultra-small package size: 9 x 16 x 2.5mm
- LGA footprint
- RoHS compliant
- Operating temperature -40 to +85°C
- Impedance-controlled, multi-layer PCB
- 1.8 to 3.6 VDC
- Low current consumption (15 mA in RX, 1.2 kBaud, 868 MHz)
- 200 nA sleep mode current consumption
- Efficient SPI interface; all registers can be programmed with one "burst" transfer
- Available in tape & reel and matrix tray
- Module weight approximately 0.4 grams

Benefits

- Minimal RF engineering experience necessary
- No additional "Intentional Radiator" certification required (ETSI EN 300 220)
- Minimal real estate required
- Easily implemented on a two layer PCB
- No additional harmonic filtering required
- 100% RF-tested in production
- Common footprint for similar products in family
- No additional DC decoupling required
- Integrated analog temperature sensor
- Excellent receiver selectivity and blocking performance
- Suitable for frequency hopping systems, thanks to a fast-settling frequency synthesizer with 90 µs settling time
- Impedance-matched balun for optimized efficiency
- Support for asynchronous and synchronous serial receive/transmit mode for backwards compatibility with existing radio communication protocols

PLEASE NOTE: Additional information on the Texas Instruments CC1101 device can be found in the company's latest datasheet release at http://www.ti.com

Block diagram

The item described in this product brief is part of our total *AIR Support* solution. To learn more, visit our website or just ask us!

TEXAS INSTRUMENTS
Design Network

Anaren®
What'll we think of next?®

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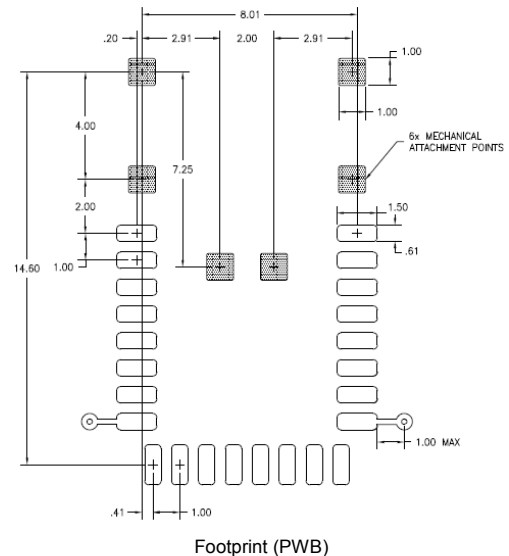
Product overview

The A1101R08A is a high-performance, ETSI-compliant radio module that incorporates the Texas Instruments CC1101 transceiver chip in the industry's smallest package (9 x 16 x 2.5mm) and is compatible with all TI-approved software stacks.

With an LGA pad footprint, this module is designed to effortlessly integrate into a wide range of applications, including: industrial control, building automation, low-power wireless sensor networks, lighting control, and automated meter reading.
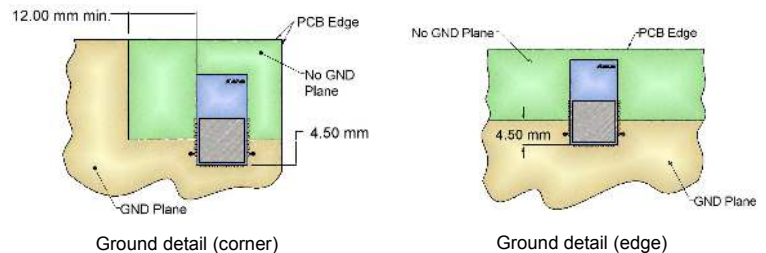
The A1101R08A has an RoHS-compliant ENIG finish and is packaged on tape & reel or in matrix trays for high-volume automated manufacturing.

Layout Information

Refer to User's Manual for additional layout guidelines.
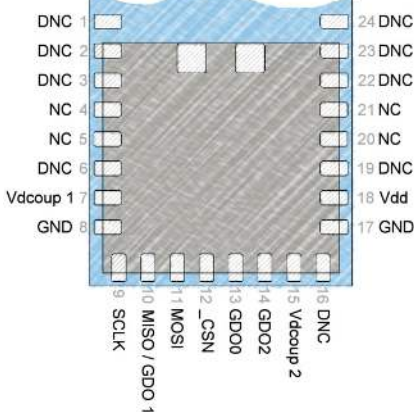Dimensions in mm.

Footprint (PWB)

Ground detail (corner)

Ground detail (edge)

Pin diagram

Viewed from top side

NC = "NO Connection"
Pin is NOT connected internally.

DNC = "Do Not Connect"
Pin reserved for internal use, ensure mating footprint pads are **isolated**.

GND = "Ground"
Connect the maximum number possible (minimum **one** for proper operation).

Nomenclature

A1101R08A00GR

Position	Description	Value
A		(Anaren)
1	Chip series	(CC1101, CC110L, CC2500)
2	Function	(R = radio only)
3	Frequency band	(x100MHz)
4	Form factor	(A = Internal Antenna, C = Connector)
5	Design ID	(00 = Default)
6	Application	(G = General)
7	Packaging	(R = Tape/Reel, M = Matrix Tray)

Caution! ESD sensitive device. Precautions should be used when handling the device in order to prevent permanent damage.

MSL 3

For more information see product User's Manual, available online.

1308a

What'll we think of next?®