



RF Sensor Platform

Aplica's advanced RF Sensor platform provides a cost effective solution for the deployment of a wireless network of remote sensors and automatic meter reading (AMR) elements.

The "RF Module Sensor 2.4G" is an end-point device of a general use wireless network application.

It enables implementation of a transparent link of data transmission from a PC to any remote RS232 terminal. It also enables transmission of discrete signals to and from a PC application,

The wireless network of point to multipoint topology shall include single RF Dongle 2.4G device and up to 5 RF Sensor devices.

The advanced platform is based on Texas Instruments state-of-the-art RF transceiver System on Chip (SoC) CC251x. These SOC's combine the excellent performance of the CC251x with an industry-standard enhanced 8051 MCU, up to 32 KByte of in-system programmable flash memory and 4 KByte of RAM, and many other powerful features.

The RF Sensor Platform supports a sub GHz operating frequency or a 2.4 GHz frequency and has an on-board 2.4 GHz meandered inverted F-Antenna. A 50 ohm SMA output is available for a user selected antenna.

The RF Sensor Platform provides an RS232 or an RS485 serial interface and a USB 2.0 controller (the Dongle is attached to a USB port of the customer PC).

Characteristics	Specification
System on Chip	
Assembly options	CC251x SoC
Operating Frequencies ISM Bands	
CC251x	2.4 GHz
Supported Antennas	
On-Board	2.4GHz Meandered Inverted F-Antenna
External option	50 ohm SMA female output
Data Rate	
Rate	500 kbps maximum
Modulation Formats	FSK/GFSK/MSK/OOK/ASK
Sensitivity	
CC111x	Sub 1GHz: -110dBm
CC251x	2.4GHz: -88dBm@250kbps; -98dBm@10kbps (1% PER)
Serial Port	
Interface	RS232 or RS485
Connector	DB9 pin, Male
USB	
Ports	1 USB 2.0 port
Connector	Mini USB 5 Pin Female SMD, B-Type
General Purpose I/O	
Discrete Inputs	8 Inputs for dry-contacts/open drain/5V tolerant
Discrete Outputs	3 TTL compatible
Connector	Weidmuller 22-pin connector, P/N: S2L-SMT3.5/22/90 SN
A/D	
Channels	3 A/D channels, 12bit resolution. Input range (default): 0-12V
Connector	Weidmuller 22-pin connector, P/N: S2L-SMT3.5/22/90 SN
Indicators	
LEDs	3 General Purpose LEDs (shared with discrete outputs)
Power	
Supply Voltage	Option#1: External 6-24VDC via EJ508A connector, or 2 pin; Option#2: External 3-6VDC via 2 pin header
Environment	
Operating Temperature	Industrial: -40°C - 85°C
Compliance	Designed to conform ESTI EN 300 220 and FCC CFR 47, part 15