RC-S2LP-XXX-EK

Radio((**C**ontrolli
Wireless Modules

Sub-1 GHz transceiver development kit based on RC-S2LP-XXX module.

The **RC-S2LP-XXX**-**EW** board is based on RC-S2LP-XXX RadioControlli's module. This device is a high performance ultra low power RF transceiver designed for RF wireless application in the sub 1GHz band.

For more information and details, please refer to :
-RC-S2LP-XXX datasheet (www.radiocontrolli.com)
-S2LP   datasheet (www.st.com).
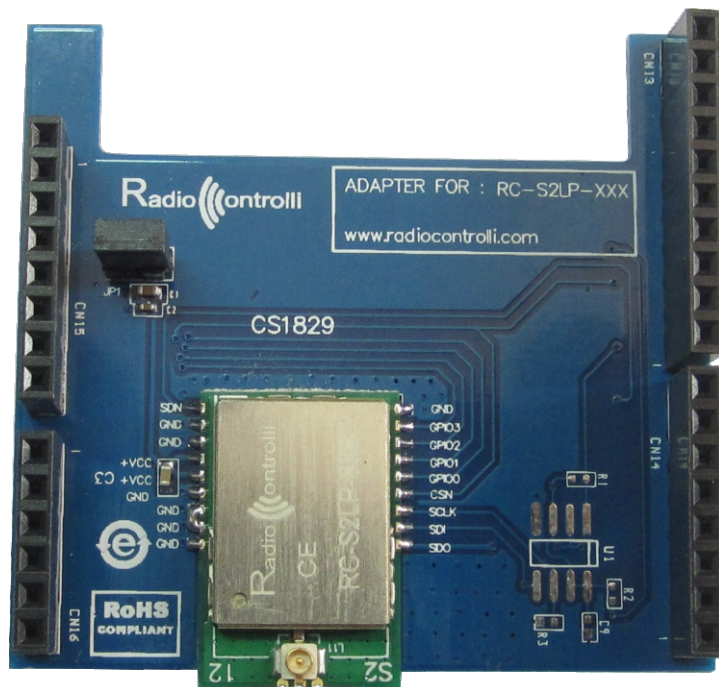
RC-S2LP - XXX - EK

Frequency

434=434MHz
868=868MHz
915=915MHz

*(*) the package includes the Antenna kit*

The **RC-S2LP-XXX-EK** is an evaluation board based on the RC-S2LP-XXX module. This module is based on STMicroelectronics chip (S2-LP) that is a sub-1 GHz ultra-low power low data-rate transceiver, suitable for ISM bands and Wireless M-Bus.

The Evaluation board can be used instead of those provided by the chip manufacter (www.st.com) denominated STEVAL-FKIXXXV2. With this board it is possible to use all the SW resources provided for the development activity, in particular :

Development kit with **STEVAL-FKI868V1**
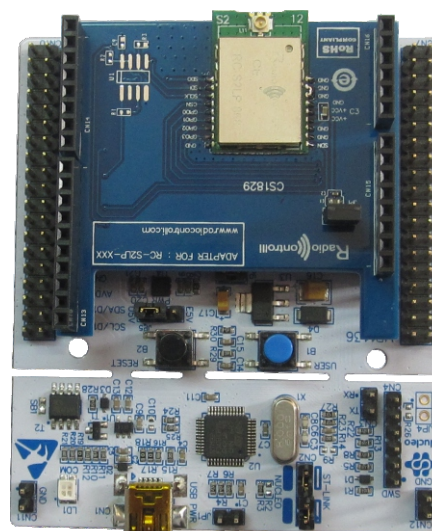
Development kit with **RC-S2LP-868-EK**

www.radiocontrolli.com

Hardware description

The RC-S2LP-XXX-EK evaluation boards are designed to work in the sub 1GHz band (433/868/915 versions).
Some features on the boards are (see the picture below) :
• RC-S2LP-XXX module (A)
• Two rows with Arduino compliant connectors (D1-4)
• UFL connector (B)
• A NUCLEO-L152RE or NUCLEO-L053R8 evaluation board (G)
• A jumper for RC-S2LP-XXX current measurement (H)

RC-S2LP-XXX signal test points are split across two rows which are Arduino compliant connectors: CN1, CN2 and Cn3, CN4. The RC-S2LP-XXX shield is connected to the Nucleo motherboard via the Arduino compliant connectors.
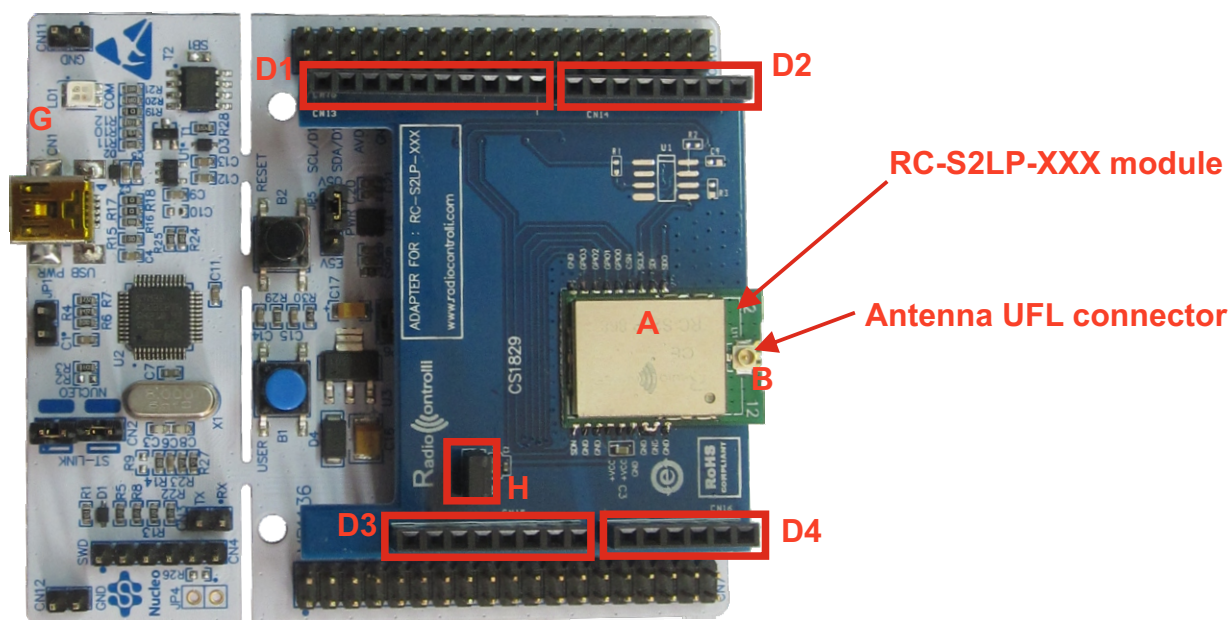

RadioControlli Module		ARDUINO Connector			
Pin	Name	CN1 (D1)	CN2 (D2)	CN3 (D3)	CN4 (D4)
1	SDO	Pin 5 (MISO)			
2	SDI	Pin 4 (MOSI)			
3	SCLK		Pin 4 (SCLK)		
4	CSn				Pin 2 (CS)
5	GPIO-0				Pin 1 (GPIO-0)
6	GPIO-1				Pin 3 (GPIO-1)
7	GPIO-2				Pin 4 (GPIO-2)
8	GPIO-3				Pin 6 (GPIO-3)
9	GND	Pin 7		Pin 6, 7	
10	SDN		Pin 8 (SDN)		
11	GND	Pin 7		Pin 6, 7	
12	GND	Pin 7		Pin 6, 7	
13	VCC			Pin 4	
14	VCC			Pin 4	
15	GND	Pin 7		Pin 6, 7	
16	GND	Pin 7		Pin 6, 7	
17	GND	Pin 7		Pin 6, 7	
18	GND	Pin 7		Pin 6, 7	

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Antenna Kit

The Antenna kit is composed by :

1) Antenna 433MHz or 868MHz or 915MHz with SMA connector
   (http://www.radiocontrolli.com/en/categories/11/antenne/)

2) Connection cable UFL/SMA

connect to a ground plane
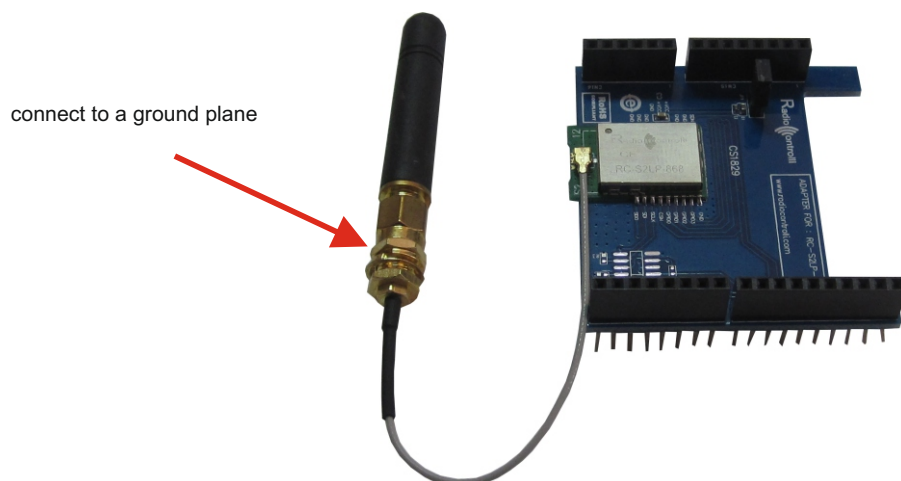
Hardware Setup

The board can be powered by the Nucleo evaluation board mini USB connector.
When the JP1 jumper is fitted (H) in the previous figure, the radio section is supplied.
By removing this jumper and connecting a power meter, you can measure the RC-S2LP-XXX current consumption.

1) Connect an antenna to the SMA connector
2) Ensure the jumper configuration on the board is correct
3) Connect the STM32 Nucleo board to the PC through a USB cable (via CN5 connector)

To use the application Notes STSW-S2LP-DK follow step by step the document «*Getting Started with the S2-LP development kit*» from STMicroelectronics denominated UM2149.pdf.

Radiocontrolli s.r.l refuses any responsibility for irregular uses of the devices and for any possible lack or inaccuracy of the data and reserves the right to change in whole or in part these information without notice.

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