RADIOCONTROLLI SRL

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WIRELESS MODULES

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Rev 1A

Benefit

of using a Radiocontrolli's module

- **Small Size, High Performance**
  Thanks to the extensive experience of RadioControlli engineers in the field of radio frequency, we are able to achieve compact and small designs with optimal RF performance.

- **Easy RF Integration in your project**
  All the RadioControlli modules are designed to be easily integrated into your project.

- **No certification problem**
  All the RadioControlli's module are certified to the required standard (CE RED or FCC).

- **Time to market reduction**
  Since all our modules are tested and designed for maximum RF performance and are already certified according to current regulations (CE RED / FCC) , the final device manufacturer can bring products to market faster, allowing more time to develop additional functions for the final product. Therefore, using a RadioControlli module minimizes development costs and reduces time to market.

Time-to-market Reduction

Our Company

Competence, determination, and passion are the core values of RadioControlli.

We are a young company with a solid foundation of experience. RadioControlli was founded by a group of managers with extensive backgrounds in electronics engineering and R&D, gained within some of the most prominent Italian industrial groups (Italtel, IPM Group, Olivetti). Over time, they were joined by highly skilled and professional collaborators.

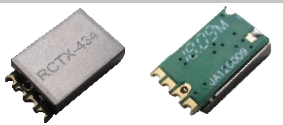
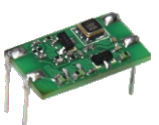
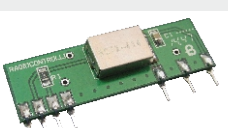
We specialize in the design and engineering of electronic devices, with a strong focus on the radiofrequency sector.. Our catalog consists of a wide range of sub-1GHz standard RF modules (433/868/915 MHz). :

- Transmitter Module
- Receiver Module
- Transceiver Module
- IoT Module
- LORA Module

In addition, we supply a series of IoT modules based on the latest technologies from Texas Instruments, STMicroelectronics, and others. These modules allow device manufacturers to bring products to market faster, providing more time to develop additional features and helping minimize development costs. All our modules are calibrated, fully tested, and certified (CE RED or FCC).

WE CONNECT EVERYTHING WIRELESSLY

TRANSMITTER MODULES

MODEL	DESCRIPTION	Vdc	Current	Frequency	RF Power	Data Rate	PICTURE
RCTX-434 **RCTX-434-L**	Very small ASK/OOK transmitter module with crystal oscillator at 433.92MHz. Metal shield. SMD mounting. 3Volt and 5Volt version. 315MHz version available	4 - 12 V 2.2-3.6 V	21mA 15mA	433.92 MHz	+11 dBm	50 Kbit/s	 Dimensions: 12 x 6.8 mm
RCTX-868-L	Very small ASK/OOK transmitter module with crystal oscillator at 868.35MHz. Metal shield. SMD mounting. 3Volt version. 915MHz version available	2.2-3.6 V	15mA	868.35 MHz	+9 dBm	50 Kbit/s	 Dimensions: 12 x 6.8 mm
RC-TX1-434	433.92MHz ASK transmitter module with SAW oscillator and power amplifier.	2 - 12 Volt	8 mA	433.92 MHz	+10 dBm	9.6 Kbit/s	 Dimensions: 17.9 x 10.1 mm
RC-TX2-434	433.92MHz ASK transmitter module with SAW oscillator and power amplifier.	2 - 12 Volt	8 mA	433.92 MHz	+10 dBm	9.6 Kbit/s	 Dimensions: 25.3 x 11.4 mm
RCBTX-434	ASK/OOK transmitter module with crystal oscillator at 433.92MHz. Metal shield. Standard Pin Out. 5Volt version and 3Volt version	4 - 12 V 2.2 - 3.6V	21mA 15mA	433.92 MHz	+11 dBm	50 Kbit/s	 Dimensions: 38 x 12 mm
RCQT4-XXX	Very small ASK/OOK transmitter module with crystal oscillator at 433.92 MHz. Metal shield.	4 - 12 V 2.2 - 3.6V	21mA 15mA	433.92 868.35 MHz	+11 +9 dBm	50 Kbit/s	 Dimensions: 25.3 x 11.4 mm

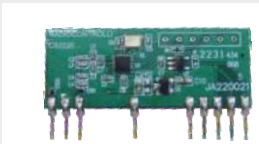
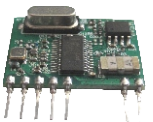
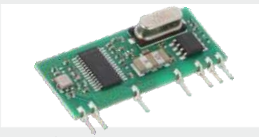
TRANSMITTER MODULES

MODEL	DESCRIPTION	Vdc	Current	Frequency	RF Power	Data Rate	PICTURE
RC-TXASK-XXX RC-TXASK-433 = 433.92MHz RC-TXASK-433.42 = 433.42MHz RC-TXASK-434.15 = 434.15MHz RC-TXASK-434.50 = 434.50MHz RC-TXASK-868 = 868.35MHz RC-TXASK-868.95 = 868.95MHz RC-TXASK-869.50 = 869.50MHz	OOK/ASK Radio transmitter module with crystal oscillator ,dual line package operating at 3.3Volt. Output Power 10dBm. We can customize the Frequency range: **from 433.00MHz to 435.00MHz** **from 867.00MHz to 870.00MHz**	2.2 ÷ 3.6 Volt	21mA	433.00 ÷ 435.00 867.00 ÷ 870.00 MHz	+10 dBm	50 Kbit/s	 Dimensions: 20.32 x 11.43 mm
RC-TXFSK-XXX RC-TXFSK-433 = 433.92MHz RC-TXFSK-433.42 = 433.42MHz RC-TXFSK-434.15 = 434.15MHz RC-TXFSK-434.50 = 434.50MHz RC-TXFSK-868 = 868.35MHz RC-TXFSK-868.95 = 868.95MHz RC-TXFSK-869.50 = 869.50MHz	FSK Radio transmitter module with crystal oscillator ,dual line package operating at 3.3Volt. Output Power 10dBm. We can customize the Frequency range: **from 433.00MHz to 435.00MHz** **from 867.00MHz to 870.00MHz**	2.2 ÷ 3.6 Volt	21mA	433.00 ÷ 435.00 867.00 ÷ 870.00 MHz	+10 dBm	50 Kbit/s	 Dimensions: 20.3 x 11.4 mm
RC-TFSK4-433N RC-TFSK4-433N = 433.92MHz RC-TFSK4-433.42N = 433.42MHz RC-TFSK4-434.15N = 434.15MHz RC-TFSK4-434.50N = 434.50MHz RC-TFSK4-868N = 868.35MHz RC-TFSK4-868.95N = 868.95MHz RC-TFSK4-869.50N = 869.50MHz	FSK Radio transmitter module with crystal oscillator ,dual line package operating at 3.3Volt. RF Power 10dBm. **from 433.00MHz to 435.00MHz** **from 867.00MHz to 870.00MHz**	2.2 ÷ 3.6 Volt	21 mA	433.00 ÷ 435.00 867.00 ÷ 870.00 MHz	+10 dBm	40 Kbit/s	 Dimensions: 30.5 x 10.6 mm

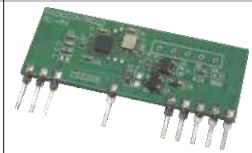
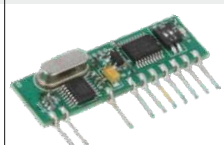
RECEIVER MODULES - Miniaturized Version

MODEL	DESCRIPTION	Vdc Ic	Sensitivity	Frequency	-3dB BW	Data Rate	PICTURE
RCRX-434 **RCRX-434-L**	Very small ASK/OOK Superhet data receiver with PLL. Low Cost. High Performance. Metal Shield .	3 V / 5 V 5.5mA	-108 dBm	433.92 MHz	600 KHz	10 Kbit/s	 Dimensions: 14 x 9.5 mm
RCRX-868 **RCRX-868-L**	Very small ASK/OOK Superhet data receiver with PLL. Low Cost. High Performance. Metal Shield .	3 V / 5 V 5.5mA	-110 dBm	868.35 MHz	360 KHz	10 Kbit/s	 Dimensions: 14 x 9.5 mm

RECEIVER MODULES

MODEL	DESCRIPTION	Vdc Ic	Sensitivity	Frequency	-3dB BW	Data Rate	PICTURE
RCRX1-434 Very Low Cost	ASK/OOK Superhet data receiver. Standard pin out version. Coated version available	2.0 ÷ 5.5V 4.2mA	-110 dBm	433.92 MHz	±350 KHz	10 Kbit/s	 Dimensions: 38 x 12 mm
RCBRX-434 **RCBRX-434-L**	ASK/OOK Superhet data receiver with PLL. Metal Shield. Standard pin out version. 5Volt version and 3Volt version 434.5 MHz version available	3V / 5V 5.5mA	-108 dBm	433.92 MHz	600 KHz	10 Kbit/s	 Dimensions: 38 x 14 mm
RCBRX-868-M	ASK/OOK Superhet data receiver with PLL. Metal Shield. Standard pin out version. 5 Volt Version. 868.95 MHz version available	5V 5.5mA	-110 dBm	868.35 MHz	360 KHz	10 Kbit/s	 Dimensions: 35.5 x 12.5 mm
RC-RXASK-XXX RC-RXASK-315 = 315.00MHz RC-RXASK-433 = 433.92MHz RC-RXASK-433.42 = 433.42MHz RC-RXASK-434.15 = 434.15MHz RC-RXASK-434.50 = 434.50MHz RC-RXASK-868 = 868.35MHz RC-RXASK-868.95 = 868.95MHz RC-RXASK-869.50 = 869.50MHz	ASK Superhet data receiver with PLL sinthesizer crystal oscillator. Standard pin out version. We can customize the Frequency range: **from 314.00MHz to 316.00MHz** **from 433.00MHz to 435.00MHz** **from 867.00MHz to 870.00MHz**	5V 6mA	-110 dBm	314.00÷316.00MHz 433.00÷435.00MHz 867.00÷870.00MHz	150 KHz	4.8 Kbit/s	 Dimensions: 38 x 14.5mm
RCASK3-434-CH	AM Superhet data receiver with SAW Front End filter and output noise filter to obtain high immunity to electromagnetic interference. **Ideal for application that needs high immunity.**	5V 7.5mA	-113 dBm	433.92 MHz	150 KHz	4.8 Kbit/s	 Dimensions: 25.4 x 19.5 mm
RCASK4-434-CH	AM Superhet data receiver with SAW Front End filter and output noise filter to obtain high immunity to electromagnetic interference. **Ideal for application that needs high immunity.**	5V 7.5mA	-113 dBm	433.92 MHz	150 KHz	4.8 Kbit/s	 Dimensions: 38 x 14.5 mm

RECEIVER MODULES

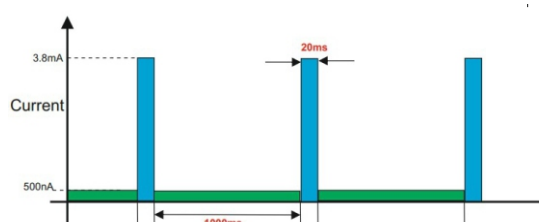
MODEL	DESCRIPTION	Vdc Ic	Sleep Current	Frequency	Sensitivity	Data Rate	PICTURE
RC-RFSK1-XXXN RC-RFSK1-433N = 433.92MHz RC-RFSK1-433.42N = 433.42MHz RC-RFSK1-434.15N = 434.15MHz RC-RFSK1-434.50N = 434.50MHz RC-RFSK1-868N = 868.35MHz RC-RFSK1-868.95N = 868.95MHz RC-RFSK1-869.50N = 869.50MHz Coated version available	FSK Superhet data receiver with PLL sinthesizer crystal oscillator. Standard pin out version. We can customize the Frequency range: **from 433.00MHz to 435.00MHz** **from 867.00MHz to 870.00MHz**	5V 8 mA	100 nA	433.00 ÷ 435.00 867.00 ÷ 870.00 MHz	-115 dBm	4.8 Kbit/s	 Dimensions: 38.1 x 14.4 mm
RC-RFSK4-433	FSK Radio Receiver Module with PLL Synthesizer and crystal oscillator.This receiver module is based on Infineon TDA5240 chip, controlled by a STM32 microcontroller ; RSSI Output.This module was designed to replace all stand-alone receivers FSK module based on the obsolete TDA5210 chip.	5V 14 mA	100 nA	433.92 MHz	-110 dBm	4.8 Kbit/s	 Dimensions: 38.1 x 18.3 mm
RC-RHCS-4CH	is a 433.92MHz ASK Receiver Module with integrated HCS an «Learning Code» decoding and 4 output channels (open collector output).	5V 6.8mA	100 nA	433.92MHz	-108 dBm	4.8 Kbit/s	 Dimension: 38.1 x 11 mm

Wake Up RECEIVER MODULE

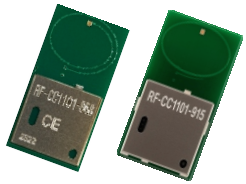
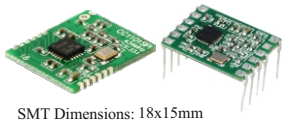
MODEL/DESCRIPTION	Vdc	Average Current	Frequency	Sensitivity	Data Rate	PICTURE
RC-RXASK-433-LP ultra-low-power OOK RF receiver module operating at 433.92 MHz, designed for battery-powered.	1.8÷3.6V	75µA	433.92MHz	-108 dBm	4.8Kbit/s	 Dimensions: 38.1 x 14.4 mm

Duty-Cycle Receive Operation
To minimize power consumption, the receiver operates in a duty-cycled mode, alternating between sleep and RX active windows.
Default configuration: Sleep time = 1000 ms RX Time = 20 ms
Resulting average current **is 75µA**, ideal for long-life battery.

Custom duty-cycle configurations are available on request.



CC1101 TRANSCEIVER MODULES

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	
RF-CC1101-XXX New	This module is based on Texas Instruments CC1101 transceiver chip. Programmable from external microcontroller via SPI interface. **PCB Antenna onboard** **Miniaturized version 16 x 9 x 2.5mm**	1.8÷ 3.6V	20mA (RX) 38mA (TX)	868 MHz 915 MHz	-112 dBm +12 dBm	 Miniaturized version with Antenna onboard Dimension 16 x 9 x 2.5mm
RC-CC1101-XXX SMT version THT version	Low-cost sub 1GHz multichannels radio transceiver based on CC1101 Texas Instruments device. Programmable from external microcontroller via SPI interface.	1.8÷ 3.6V	15mA (RX) 29mA (TX)	433 MHz 868 MHz	-110 dBm +10 dBm	 SMT Dimensions: 18x15mm THT Dimensions: 21.5x15.6mm
RC-CC1101-SPI-915	Low-cost sub 1GHz multichannels radio transceiver based on CC1101 Texas Instruments device. Programmable from external microcontroller via SPI interface.	1.8÷ 3.6V	15mA (RX) 29mA (TX)	915 MHz	-110 dBm +10 dBm	 SMT Version Dimensions: 18x15mm

Do you need technical support for radiofrequency issues ?

Do you need to adapt your application for a radio RX/TX ?

Do you need to customize the radio parameters of your receiver ?

Our radiofrequency laboratory can provide the answer you need!

contact us : sales@radiocontrolli.com

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	PICTURE
RF-CC1310 Sub 1GHz New	This module is based on the Texas Instruments CC1310F128 component. Very low power transceiver with a powerful 48MHz Cortex M3 microcontroller. Very small size version.	1.8 ÷ 3.6V	5.5mA (RX) 23mA (TX)	868 MHz 915 MHz	-124 dBm +14 dBm	 Dimensions: 13 x 13mm
RC-CC1310-XXX **RC-CC1310-XXX-H** Sub 1GHz	This module is based on the Texas Instruments CC1310F128 component. Very low power transceiver with a powerful 48MHz Cortex M3 microcontroller. Available as standard version (UFL connector) or in «H» version antenna output directed towards the pad. 433/868/915MHz.	1.8 ÷ 3.6V	5.5mA (RX) 23mA (TX)	434 MHz 868 MHz 915 MHz	-124 dBm +14 dBm	 Dimensions: 22 x 15mm
RC-CC1312R-XXX **RC-CC1312R-XXX-H** Sub 1GHz	This module is based on the Texas Instruments CC1312R1F3RGZ component. Very low power transceiver with a powerful 48MHz arm Cortex M4F cpur. Available as standard version (UFL connector) or in «H» version antenna output directed towards the pad. 433/868/915MHz.	1.8 ÷ 3.6V	5.5mA (RX) 23mA (TX)	434 MHz 868 MHz 915 MHz	-121 dBm +14 dBm	 Dimensions: 22 x 15mm
RC-CC1314R **RC-CC1314R-H** Sub 1GHz New	This module is based on the Texas Instruments CC1314R106T0RGZ component. Very low power transceiver with a powerful 48MHz arm Cortex M33 processor. Available as standard version (UFL connector) or in «H» version antenna output directed towards the pad. 868/915MHz.	1.8 ÷ 3.8V	5.8mA (RX) 24mA (TX)	868 MHz 915 MHz	-121 dBm +14 dBm	 Dimensions: 22 x 15mm

IOT MODULES - TEXAS INSTRUMENTS BASED

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	PICTURE
RC-CC1352-XXX Sub 1GHz & 2.4GHz	Dual band sub 1GHz and 2.4GHz Multichannels Radio Transceiver. This module is based on the Texas Instruments CC1352R. The CC1352R device is a multiprotocol sub-1GHz and 2.4GHz.	1.8 ÷ 3.6V	8.1mA (RX) 24mA (TX)	433 MHz 868 MHz 915 MHz 2.4 GHz	-122 dBm +14 dBm +5 dBm	 Dimensions: 29.86 x 19.98mm
RC-CC1352P Sub 1GHz & 2.4GHz	The **RC-CC1352P** module is based on Texas Instruments CC1352P component. The CC1352P device is a multiprotocol Sub-1 GHz and 2.4-GHz. Powerful ARM Cortex-M4F processor 352KB flash program memory 80KB SRAM.	1.8 ÷ 3.6V	8.1mA (RX) 24mA (TX)	868 MHz 915 MHz 2.4 GHz	-122 dBm +20 dBm +3 dBm	 Dimensions: 29.86 x 19.98mm
RC-CC1352P7 Sub 1GHz & 2.4GHz New	The **RC-CC1352P**7 module is based on Texas Instruments CC1352P7 component. The CC1352P7 device is a multiprotocol Sub-1 GHz and 2.4-GHz. Powerful ARM Cortex-M4F processor 704KB flash program memory 256KB SRAM.	1.8 ÷ 3.6V	8.1mA (RX) 24mA (TX)	868 MHz 915 MHz 2.4 GHz	-122 dBm +20 dBm +3 dBm	 Dimensions: 29.86 x 19.98mm
RC-CC2652PA Multiprotocol	The **RC-CC2652PA** module is designed based on CC2652R and CC2592 of Texas Instruments. The **RC-CC2652PA** module is designed based on CC2652R and CC2592 of Texas Instruments.	2.0 ÷ 3.6V	15.0mA (RX) 180mA (TX)	2.4 GHz	-103dBm +19 dBm	 Dimensions: 27.5 x 16mm

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	PICTURE
RC-CC2640-B Bluetooth	**RC-CC2640-B** is based on CC2640R2F128 Bluetooth Smart (BLE4.2) System-on-Chip, fully supports the single mode Bluetooth Low Energy operation. ARM Cortex M3 inside.	1.8 ÷ 3.8V	5.9mA (RX) 6.1mA (TX)	2.4 GHz	-97 dBm +5 dBm	 Dimensions: 12 x 15 mm
RC-CC2640-A Bluetooth Miniaturized	**RC-CC2640-A** is based on CC2640R2F128 Bluetooth Smart (BLE4.2) System-on-Chip, fully supports the single mode Bluetooth Low Energy operation. ARM Cortex M3 inside.	1.8 ÷ 3.8V	5.9mA (RX) 6.1mA (TX)	2.4 GHz	-94 dBm +2 dBm	 Dimensions: 8 x 8.35 mm
RC-CC2340 Bluetooth 5.3 Low Energy	The **RC-CC2340** module is designed based on CC2340 of TI. The SimpleLink™ CC2340R5 device is a 2.4 Ghz wireless microcontroller (MCU) targeting Bluetooth® 5.3 Low Energy, Zigbee®, IEEE 802.15.4.	1.8 ÷ 3.8V	5.3mA (RX) 12mA (TX)	2.4 GHz	-102 dBm +8 dBm	 Dimensions: 22.13 x 12 mm
RC-CC3200 Wi-Fi	Wi-Fi Module is based on CC3200 Texas Instrument chip. The **RC-CC3200** module is the second-generation series of modules in the SimpleLink family and consists of an applications microcontroller unit (MCU).	2.3 ÷ 3.6V	59mA (RX) 229mA (TX)	2.4 GHz	-94.7 dBm +17 dBm	 Dimensions: 18 x 15mm

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	PICTURE
RC-S2LP-XXX Sub 1GHz	The **RC-S2LP-XXX** module is based on STMicroelectronics S2-LP transceiver. SMD mounting. Metal Shield RC-S2LP-434 = 433MHz Version RC-S2LP-868 = 868MHz Version RC-S2LP-915 = 915MHz Version	1.8 ÷ 3.6V	7.2mA (RX) 20mA (TX)	433 MHz 868 MHz 915 MHz	-128 dBm +16 dBm	 Dimensions: 22 x 15mm
RC-S2LP-XXX-HA Sub 1GHz	The **RC-S2LP-868-HA** module is based on STMicroelectronics S2-LP transceiver. SMD mounting (15x 22mm) - Metal shield.With helical Antenna. RC-S2LP-868-HA = 868MHz Version RC-S2LP-915-HA = 915MHz Version	1.8 ÷ 3.6V	7.2mA (RX) 20mA (TX)	868 MHz 915 MHz	-128 dBm +16 dBm	 Dimensions: 22 x 15mm
RC-SPIRIT2-XXX **RC-SPIRIT2-XXX-NA** Sub 1GHz	This module is based on S2LP transceiver by STMicroelecronics . Pin to pin compatible with the SPSGRF family modules, manufactured from STM. Available as standard version (UFL connector) or in «NA» version antenna output directed towards the pad. RC-SPIRIT2-433(NA) = 433MHz Version RC-SPIRIT2-868 (NA)= 868MHz Version RC-SPIRIT2-915 = 915MHz Version	1.8 ÷ 3.6V	7.2mA (RX) 20mA (TX)	433 MHz 868 MHz 915 MHz	-128 dBm +16 dBm	 Dimensions: 13.5 x 11.5mm
RC-WLE5-XXX LORAWAN	**RC-WLE5-XXX** is an ultra low power long range device designed by RadioControlli. The module is based on STM32WLE5J8 device by STMicroelectronics. Multiprotocol LPWAN 32bit Arm®Cortex® M4 MCUs, LoRa®, (G)FSK, (G)MSK, BPSK . RC-WLE5-433 = 433MHz Version RC-WLE5-868 = 868MHz Version	2.5 ÷ 3.7V	5.0mA (RX) 120mA (TX)	433MHz 868MHz	-140 dBm +20 dBm -140 dBm +10 dBm	 Dimensions: 22 x 15mm

MODEL	DESCRIPTION	Vdc	Current	Frequency	Sensibility Power	PICTURE
RC-WLE5-XXX-HA **LORAWAN**	**RC-WLE5-XXX-HA** is an ultra low power long range device designed by RadioControlli. The module is based on STM32WLE5J8 device by STMicroelectronics. Multiprotocol LPWAN 32bit Arm®Cortex® M4 MCUs, LoRa®, (G)FSK, (G)MSK, BPSK . With Helical Antenna.	2.5 ÷ 3.7V	5.0mA (RX) 120mA (TX)	868MHz	-140 dBm +10 dBm	 Dimensions: 13.5 x 11.5mm

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Adapter for NUCLEO1/Arduino

This Evaluation board can be used with the modules :
- RC-SPIRIT2-XXX
- RC-S2LP-XXX

With this board it is possible to use all the SW resources provided for the development activity.

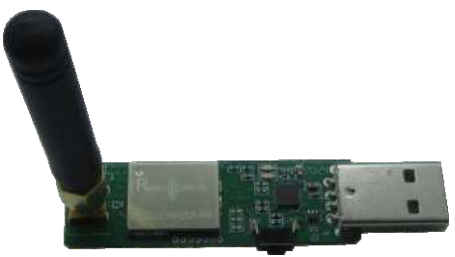
RC-S2LP-XXX-EK

RC-SPIRIT2-XXX-EK

LORA MODULES - SEMTECH BASED

MODEL	DESCRIPTION	Vdc	Current	Frequency	Power Sensitivity	PICTURE
RC-SM1276-XXX LORA	The **RC-SM1276-XXX** module is based on SX1276 from Semtech. Programmable with external microcontroller via SPI interface.	1.8 ÷ 3.6V	12mA (RX) 120mA (TX)	868 MHz 915 MHz	-139 dBm +19 dBm	 Dimensions: 23.5 x 15 mm
RC-SM1278-433 LORA	The **RC-SM1278-433** module is based on SX1278 from Semtech. Programmable with external microcontroller via SPI interface.	1.8 ÷ 3.6V	12mA (RX) 120mA (TX)	433 MHz	-139 dBm +18 dBm	 Dimensions: 23.5 x 15 mm
RC-LLCC68-868 LORA	LoRa Smart Home (based on LLCC68) is a sub-GHz LoRa® RF Transceiver . SPI interface. The LLCC68 can transmit up to +22 dBm with highly efficient integrated power amplifiers.	1.8 ÷ 3.7V 1.8 ÷ 3.7V	4.90mA (RX) 120mA (TX)	868 MHz	-148 dBm +20dBm	 Dimensions: 19.0 x 13 mm

CC1310 USB DONGLE

MODEL	DESCRIPTION	PICTURE
RC-CC1310-USB-XXX	Ultra Low Power sub 1GHz Multchannels Radio Transceiver with USB interface. **RC-CC1310-USB-XXX** module is based on the Texas Instruments CC1310F128 component. This device combines a flexible very low power RF transceiver with a powerful 48MHz Cortex M3 microcontroller in a platform supporting multiple physical layers and RF standard. In addition the transceiver is connected to a single chip Cp2102 (Silicon Labs), to allow the USB to UART data transfer. Available at 868MHz and 915MHz for the US market. RC-CC1310-USB-868 = 868.00MHz RC-CC1310-USB-915 = 915.00MHz	

MODEL	DESCRIPTION	Vdc	Current	Frequency	Power RF Sensibility	PICTURE
RCQ5-XXX **RCQ5-XXX-H** **Radio Modem + OTA**	**Radio Modem** is a radio modem with UART interface usable with AT commands for long distance communication with FSK modulation. Wake on Radio intelligent energy managment. Working into the following bandwidth : 433/868/915MHz. **OTA Command / Remote I/O Functionality** The module has the ability to manage No. 4 digital outputs and No. 4 digital inputs both locally and remotely (OTA Command) by sending simple AT commands.The hardware is based on the module	1.8÷ 3.6V	9.0mA (RX) 13.4mA (TX) 45µA (WOR)	433 MHz 868 MHz 915 MHz	+14 dBm -118 dBm	 RCQ5-868 RCQ5-868-H

RCQ5-XXX – The multifunctional module you've been waiting for!

433/868/915 MHz version - AT Command - Low Power - CE RED and FCC Certification

1) Low Power Features : Wake-On-Radio
WOR intelligent energy management - For battery-powered devices

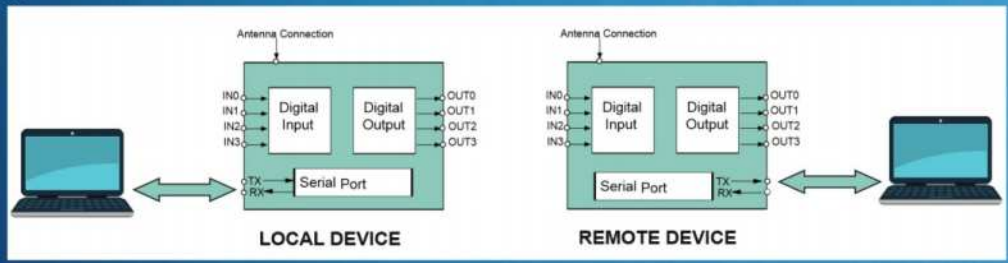
2) Radio Modem Communication
UART RF link up to 200kbps - Work also in Long Range Mode.

3) Over The Air Command
4 Digital Output + 4 Digital Input manageable via OTA command.

4) Alarm Function
monitor the status of a specific digital input to a remote UART.

***5)* Remote I/O Functionality**
transmission bidirectional used in the field of automatic controls.

6) Listen Before Send
This protocol used in radio frequency (RF) communications to avoid interference.

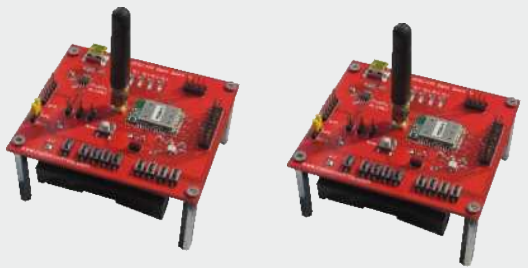


For more explanation, please contact : ***sales@radiocontrolli.com***

LORA RADIO MODEM

MODEL	DESCRIPTION	Vdc	Current	Frequency	Power RF Sensibility	PICTURE
RC-RICK-XXX **RC-RICK-868-HA** **LORA Radio Modem**	is a radio modem with UART interface usable with AT commands for long distance communication with LoRa modulation (LoRa Transparent Transmission Protocol). Working into European bandwidth : 433/868MHz. The hardware is based on the module RC-WLE5-XXX designed by RadioControlli (STM32WLE5J8 based).	2.5 ÷ 3.7V	5mA (RX) 120mA (TX)	433 MHz 868 MHz	+10 dBm -140 dBm +20 dBm -140 dBm	
RC-RICK-XXX-EV **LORA Radio Modem**	EVALUATION KIT (N.2 USB Dongle) The pourpose of this evaluation kits is to verify all the features and technical characteristics about the Radio Modem RC-RICK-XXX with a point to point connection. It is composed by N. 2 USB Dongle with : - The module RC-RICK-XXX onboard - CP2102 USB/Serial Interface - Antenna	2.5 ÷ 3.7V	5mA (RX) 120mA (TX)	433 MHz 868 MHz	+10 dBm -140 dBm +20 dBm -140 dBm	

MODEL	DESCRIPTION	Vdc	Current	Frequency	Power RF Sensibility	PICTURE
RF-CC1310-AT Radio Modem New	**Radio Modem** is a radio modem with UART interface usable with AT commands for long distance communication with FSK modulation. Working into the following bandwidth : 868MHz. **OTA Command / Remote I/O Functionality** The module has the ability to manage No. 2 digital outputs and No. 2 digital inputs both locally and remotely (OTA Command) by sending simple AT commands.The hardware is based on the module RF-CC1310 designed by RadioControlli (CC1310 chip based).	1.8 ÷ 3.6V	5.5mA (RX) 23mA (TX)	868 MHz	+14 dBm -124 dBm	 Dimensions: 13 x 13mm
RF-CC1310-AT-EV Radio Modem Evaluation KIT	**Radio Modem Evaluation Kit** is a radio modem with UART interface usable with AT commands for long distance communication with FSK modulation. Working into the following bandwidth : 868MHz. Composed by : - N.2 Evaluation board - N.2 868MHz Antenna - N.2 USB cable	1.8 ÷ 3.6V	5.5mA (RX) 23mA (TX)	868 MHz	+14 dBm -124 dBm	
RCQ3-XXX Wireless Switch	**Wireless switch Long Range** It is a 4 channels wireless switch module with pairing function, it provides maximum 4 channel signal input and maximum 4 channel control output (bistable and monostable mode). Distance: 1000meters in open field. The hardware is based on the module RC-CC1310-XXX designed by RadioControlli (CC1310 chip based).	1.8 ÷ 3.6V	5.5mA (RX) 24mA (TX)	433 MHz 868 MHz 915MHz	+14 dBm -110 dBm (50kbps) -122 dBm (2.5kbps)	 Dimensions: 22 x 15 mm

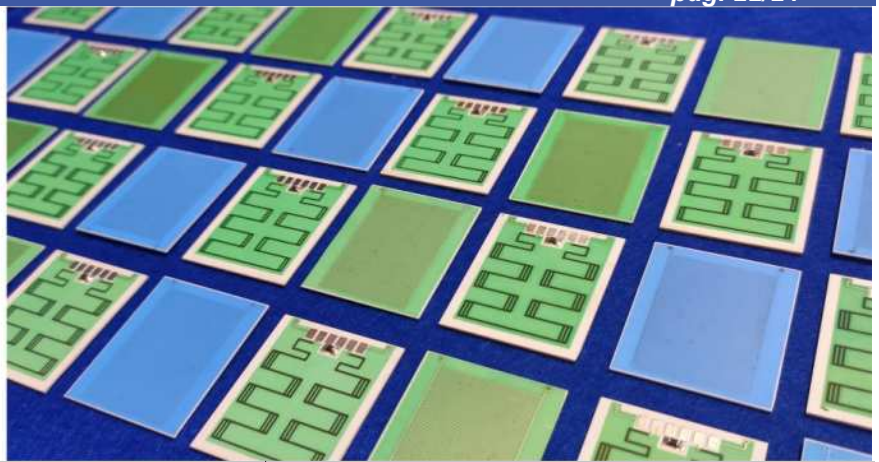
MODEL	DESCRIPTION	PICTURE
TBLO-869	**Long Range Bidirectional Remote Control** 869MHz Bidirectional wireless system for home automatior composed by a bidirectional remote control and a receiver unit with the possibility to switch up to N.8 relays. TBLO-869-4 = 4 channels TBLO-869-8 = 8 channels 1000meters in open field **On request, we can supply 433MHz / 915MHz versions**	
RCQ3-XXX-EV	**EVALUATION KIT** Composed by N.2 Evaluation board with Antenna and USB/RS232 cable. With this equipment it is possible to verify all the functionality of the Wireless Switch (RCQ3).	
RCQ5-XXX-EV	**EVALUATION KIT** Composed by N.2 Evaluation board with Antenna and USB/RS232 cable. With this equipment it is possible to verify all the functionality of the RCQ5 device : - Multichannels radio modem with AT command - Over The Air Commands - Remote I/O Functionality - UART Alarm	

MODEL	DESCRIPTION	Vdc	Keys	Frequency	Encoder	PICTURE
RCTV-02	**RCTV-02** is a 2 channels keyfob transmitter with SAW oscillator and HCS300 rolling code encoder. Manufactoring Code = RadioControlli Color : Black Dimension : 52/31/12mm	3 Volt CR2032 battery	2 keys	433.92MHz	HCS 300	
RCTV-03	**RCTV-03** is a 4 channels keyfob transmitter with SAW oscillator and Learning Code EV1527. Ev1527 is an OTP encoder with 20bit can storage 1048576 combinations. Ideal for application in remote control systems and in anti-theft control units. Color : Blue Dimension : 59/35/11mm	6 Volt	4 keys	433.92MHz	EV1527	
RCTV-04	**RCTV-04** is a 4 channels keyfob transmitter with SAW oscillator and Learning Code EV1527. Ev1527 is an OTP encoder with 20bit can storage 1048576 combinations. Ideal for application in remote control systems and in anti-theft control units. Color : Blue/White Dimension : 59/32/9.5mm	3 Volt CR2016 battery	4 keys	433.92MHz	EV1527	
RCTV-05	**RCTV-05** is a 4 channels keyfob transmitter with SAW oscillator and HCS300 rolling code encoder. Manufactoring Code = RadioControlli Color : Green Dimension : 59/35/11mm	6 Volt	4 keys	433.92MHz	HCS 300	
RCTV-07	**RCTV-07** is a 2 channels keyfob transmitter with SAW oscillator and HCS300 rolling code encoder. Manufactoring Code = RadioControlli Color : White Dimension : 62/37/13mm	12 Volt	2 keys	433.92MHz	HCS 300	

MODEL	DESCRIPTION	Frequency	Gain	Lenght / Diameter	PICTURE
RC-ANT-868-BE New	**RC-ANT-868-BE** is a 868MHz spring Antenna, compact dimensions, clever structure, easy installation, stable performance, with good anti-vibration and aging capacity.	855÷890MHz	2.15dBm	11.0mm / 7.0mm	
RC-ANT-XXX-EL	**RC-ANT-XXX-EL** is an helical antenna that can be used for wireless data transmission / meter communication systems. Frequency : 433/868/915MHz	433 ± 5MHz 868± 5MHz 915± 5MHz	0.0dBi 0.0dBi 0.0dBi	18mm / 4.5mm 6.8mm / 4.5mm 6.6mm / 4.5mm	
RC-ANT-434-FPC	**RC-ANT-434-FPC** is an antenna that can be used for wireless data transmission / meter communication systems. Frequency : 433MHz Flexible Print Circuit Material	433 ± 3MHz	3.0dBi	Dimensions : 27 x 17mm	
RC-ANT-868-FPC	**RC-ANT-868-FPC** is an antenna that can be used for wireless data transmission / meter communication systems. Frequency : 868MHz Flexible Print Circuit Material	868 ± 5MHz	2-15dBi	Dimensions : 33x 8mm	
RC-ANT-XXX-SMA	It is an antenna with SMA connector that can be used for wireless data transmission / meter communication systems. Frequency : 433/868/915MHz	433 ± 5MHz 868± 5MHz 915± 5MHz	2.5 dBi 2.2 dBi 2.15 dBi	50mm / 8mm	

MODEL	DESCRIPTION	Frequency	Gain	Lenght / Diameter	PICTURE
RC-ANT-XXXV-SMA	It is an antenna with SMA connector that can be used for wireless data transmission / meter communication systems. Frequency : 433/868/915MHz	433 ± 5MHz 868± 5MHz	2.5 dBi 2.2 dBi	47mm / 8mm	
RC-ANT-433A-SMA	**RC-ANT-433A-SMA** is an antenna with SMA connector that can be used for 433MHz wireless data transmission / meter communication systems.	433 ± 5MHz	3.0dBi	195mm / 13mm	
RC-ANT-868A-SMA **RC-ANT-868B-SMA**	**RC-ANT-868X-SMA** is an antenna with SMA connector that can be used for 868MHz wireless data transmission / meter communication systems. RC-ANT-868A-SMA 3dBi RC-ANT-868B-SMA 5dBi	868 ± 3MHz	3.0dBi 5.0dBi	153mm / 13mm 197mm / 13mm	
RC-ANT-433H-SMA	**RC-ANT-433H-SMA** is an antenna with SMA connector HIGH GAIN.	433 ± 3MHz	5.0dBi	670mm / 70mm	
RC-ANT-2.4-SMA	**RC-ANT-2.4-SMA** is a 2.4GHz WIFI Swivel Antenna with SMA Male connector. The dipole Antenna is primarilly designed for use with WIFI modules.	2400÷2500MHz	2.5dBi	108mm / 13mm	

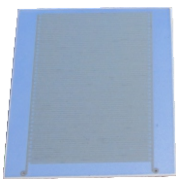
RC-SPC1K-NI - RC-SPC1KA
are thick film technology rain sensors.
This device is realized in Aluminia (Al203) substrate, this material is endowed a big reliability from an electrical thermal point of view.
The sensor consists of three parts :
1) Capacitive sensor (Face A)
2) Heater generator
3) Temperature Sensor.
The Face A is the sensitivity area (capacitive sensor); this area is exposed to natural agents (rain). In dry condition the value of the capacitor is nominal 100pF; In presence of rain the capacitance goes to high value respect the dry condition. The difference between the two versions lies in the different sensitivity of the area; With the same amount of water falling on the surface, the variation of the capacity is different between the two versions.

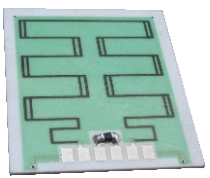


MODEL	CAPACITIVE CHANGE CHARACTERISTIC	PICTURE

RC-SPC1K-NI

Sensitive area		Capacitance
% Dry	% water	pF
100	0	100
75	25	180
60	40	280
50	50	390
0	100	>550

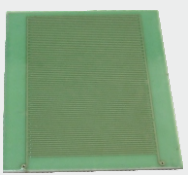

Face A

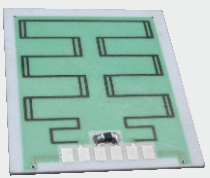

Face B

Dimensions: 33.56 x 30.48 mm

RC-SPC1KA

Sensitive area		Capacitance
% Dry	% water	pF
100	0	100
75	25	320
60	40	450
50	50	2000
0	100	>3000


Face A


Face B

Dimensions: 33.56 x 30.48 mm

RC-DTU-LORA

RC-DTU-LORA is a wireless information transmission unit based on LoRa, which mainly uses Lora Modulation Technology for date transmission.
This DTU can run in two modes:
1. General transparent transmission mode, receiving or sending through AT instruction.
2. Master-Slave transparent transmission mode, which can be set as Master or Slave, can interact according to Modbus protocol.

Product features

- Point-to-point communication protocol
- Support fixed-point sending mode
- Support master-slave mode
- Support data encryption transmission
- AT command configuration, supporting setting tools
- 4000 meters transmission distance
- 148dBm receiving sensitivity (10.4 kHz, SF 12)
- RS232/RS485 interface
- 12 - 36 VDC power supply
- ESD protection (level4)
- Power surge protection (level 3)
- RS232/RS485 surge protection (Grade 3)
- Hardware watchdog

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