CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

RF411A

922 MHz Spread-Spectrum Radio

Overview

The RF411A is a 900 MHz radio designed for license-free use in several countries, including Australia and New Zealand. It provides a hassle-free way to create long-distance wireless links between your computer, dataloggers, and measurement devices. The RF411A has a 920 to 928 MHz operating-frequency range and a configurable transmit-power output of 5 to 250 mW.

The RF411A is compatible with all of its RF400-series radio predecessors, including the RF410, RF411, and RF431. This also means that it is compatible with the CR210, CR211(X), and AVW211.

Note: The RF411A radios are recommended for existing installations that require compatibility with products such as the RF411, CR211, and AVW211. For new installations, Campbell Scientific recommends using the RF412 or RF451.

Benefits and Features

- Rugged, low-cost transceivers
- Can be used in the field as a transceiver or in the office as the base station
- Transmits up to one mile with omnidirectional antenna; up to 10 miles with higher gain directional antennas at ideal conditions
- Settings stored in non-volatile memory
- RS-232 port for connecting to a computer; CS I/O port for connecting to a datalogger
- Frequency-hops over 25 channels avoids interference from other spread spectrum radios
- Optional extended temperature testing
- Faster communication due to elimination of some small "link state packets"
- Ability to have stand-alone RF router/repeaters (up to 8 repeaters)
- Greater immunity to interference and RF collisions by using RF retries
- Reduced power consumption by the datalogger, as the radios perform "packet address filtering"
- Built-in setup menus allow access to advanced functionality
- Designed for use in PakBus networks

Detailed Description

The RF411A is a frequency hopping spread spectrum radio designed for 900 MHz license-free ISM band operation. It has a 920 to 928 MHz operating-frequency range and a configurable transmit power output of 5 to 250 mW. It provides one of three selectable active connections including CS I/O, RS-232, and USB. It has a reverse polarity SMA (RPSMA) antenna jack connection. It is over the air compatible with legacy 9XStream products including the RF410, RF411, RF431, CR210, CR211(X), and AVW211.

Specifications

Radio Type	Frequency Hopping Spread Spectrum (FHSS)
Frequency	920 to 928 MHz
Power Output	5 to 250 mW (software-selectable)
Receiver Sensitivity	-109 dBm (Campbell Scientific protocols will issue retries wherever a bit error occurs.)
Channel Capacity	7 hop sequences share 25 frequencies.
RF Throughput Data Rate	9.6 kbps
Data Rate	10 kbps
Antenna Connector	Reverse Polarity SMA (RPSMA) jack
LEDs	Power on, Tx, Rx, diagnostics
RS-232 Baud Rate	1200 to 115200 bps
CS I/O Modes	SDC 7, 8, 10, 11, and ME master
Average Current Drain	› Transmit: < 80 mA (250 mW TX power) › Receive: 15 mA › Stand-by: < 0.5 mA (depending on power saving mode)
Power	9 to 16 Vdc
Power Connector	2.5 mm DC power jack
Operating Temperature Range	› -25° to +50°C (standard) › -40° to +85°C (extended)
Communication Ports	› RS-232 9 pin D female › CS I/O 9 pin D male › USB Type B jack
Dimensions	11.1 x 6.9 x 2.7 cm (4.4 x 2.7 x 1.1 in) Dimensions are from the tip of antenna connector to other side of case, and from the bottom of case to the top of DB9 connector jack screw. The width includes the thickness of the screw heads on the screws that hold the case together.
Weight	› 136 g (4.8 oz) without "Ships With" items › 283.5 g (10 oz) with "Ships With" items

Certifications

United States (FCC Part 15.247)	MCQ-XB900HP
Industry Canada (IC)	1846A-XB900HP
C-TICK Australia	Yes, N3013

For comprehensive details, visit: **www.campbellsci.com.au/rf411a**