



Spread-Spectrum Radios

Minimize noise and interference from RF sources



Spread-spectrum radios are very popular for creating wireless communication links to and between data loggers. These low-cost devices provide robust links ranging in speeds from 10 to 200 kbps and distances of 3 to 50 miles, depending on the radio model and operating conditions. These radios consume little power and are easy to install and maintain, as they have been designed for low-power, non-licensed operation. Spread-spectrum radios spread the normally narrow-band information signal over a relatively wide band of frequencies. This allows the communication to be highly immune to noise and interference from RF (radio-frequency) sources.

RF407

900 MHz Spread-Spectrum Radio

Popular



902 to 928 MHz

US, Canada

- Transmission Distance**
- ▶ -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.
 - ▶ Up to 1.61 km (1 mi) with omnidirectional antenna; up to 16.09 km (10) mi with higher-gain directional antennas at ideal conditions

RF451

900 MHz 1 W Spread-Spectrum Radio




Popular






902 to 928 MHz

US, Canada, Australia

- Transmission Distance**
- ▶ -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.
 - ▶ 20.92 to 96.56 km (13 to 60 mi) depending on antenna and line-of-sight

	Frequency	Country Used In	Transmission Distance
RF412 922 MHz Spread-Spectrum Radio 	915 to 928 MHz	Australia, New Zealand	<ul style="list-style-type: none"> Up to 1.61 km (1 mi) with omnidirectional antenna; up to 16.09 km (10 mi) with higher-gain directional antennas at ideal conditions -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.
RF422 868 MHz SRD860 Radio 	863 to 870 MHz	EMEA (Europe, Middle East, and Africa)	<ul style="list-style-type: none"> Up to 5 km (3.11 mi) depending on antenna and line-of-sight -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.
RF427 905 MHz + 920 MHz Spread-Spectrum Radio 	905/920 MHz	Brazil	<ul style="list-style-type: none"> Up to 1.61 km (1 mi) with omnidirectional antenna; up to 16.09 km (10 mi) with higher-gain directional antennas at ideal conditions -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.

		Frequency	Country Used In	Transmission Distance
RF401A 900 MHz Spread-Spectrum Radio 		910 to 918 MHz	US, Canada	▶ -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance. ▶ Up to 1.61 km (1 mi) with omnidirectional antenna; up to 16.09 km (10 mi) with higher-gain directional antennas at ideal conditions
RF411A 922 MHz Spread-Spectrum Radio 		920 to 928 MHz	Australia, New Zealand	▶ -Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance. ▶ Up to 1.61 km (1 mi) with omnidirectional antenna; up to 16.09 km (10 mi) with higher-gain directional antennas at ideal conditions
RF416 2.4 GHz Spread-Spectrum Radio 		2.450 to 2.482 GHz	Any country where 2.4 GHz Wi-Fi communications are allowed	0.4 km (0.25 mi) with omnidirectional antenna (outdoors); up to 0.8 km (0.5 mi) with higher-gain directional antennas at ideal conditions

For comprehensive details, visit: www.campbellsci.com/spread-spectrum-radios 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | www.campbellsci.com
 AUSTRALIA | BRAZIL | CANADA | CHINA | COSTA RICA | FRANCE | GERMANY | INDIA | SOUTH AFRICA | SPAIN | THAILAND | UK | [USA](#)

© 2021 Campbell Scientific, Inc. | 03/17/2021