



Consider the seven key questions below, matching them to the product selection tables to the left in order to identify the part number for the short-range radio that is most suitable for your application. Then locate the part number in this short-form catalog and select the development kit part number. **Order your development kit today!**

**Seven Key Questions (Match Question Number to Product Selection Tables at Left)**

**1 Frequency:**

In North or South America, if the application is for remote control choose 303 MHz or 433 MHz frequencies. If the application is for transmitting data choose 900 MHz.

In Europe, choose 433 MHz or 868 MHz for all applications.

In Asia and Pan Pacific, choose from any offered frequency. The RF power output is software programmable to meet the rules / regulations of a wide range of countries.

**2 Data rate and range:** Choose the data rate and distance / line-of-sight range over which the remote control is to be activated or over which the data is to be transmitted.

**3 RF Power and RX / TX Current:** Is long battery life or transmission distance primarily important? The lower the power / current the longer the battery life. The longer the transmission range the higher the power / current required to transmit over extended ranges.

Also, is the application to be powered by main or by battery? If battery, then obtaining the lowest power / current is critical.

**4 Modulation and Technology:** Does the application require noise immunity or resistance to fading? Modulation enables transmission across a single channel (OOK/ASK) or multi-channel (FSK) to affect desired level of noise immunity. FSK and FHSS offers highest immunity to interference.

**5 Features:** All SAW-based and RFIC short-range radios include a sleep mode feature to reduce power consumption.

Duty Cycle: Is programmable duty-cycle important (helps to regulate RF power output)? RFM 3rd generation SAW-based and RFIC short-range radios include a software programmable duty-cycle feature.

Clock Recovery: Is clock recovery needed within the RF device? RFM 3rd generation SAW-based and RFIC short-range radios have built-in clock recovery so that the microprocessor does not have to perform that function to minimize the processing overhead on the microprocessor. RFM 2nd generation short-range radios do not feature built-in clock recovery as they interface to encoders/decoders with built-in clock recovery.

Start Symbol: RFM's third generation SAW-based and RFIC short-range radios include a transmission start symbol option. The start symbol allows the receiver to automatically detect the start of a message, unloading this function from the host microprocessor. If automatic message detection by the radio is not mandatory, a second generation SAW-based radio can be used to achieve lowest receiver current.

**6 Interface to microprocessor:** Does your microprocessor have limited I/O? If so choose a short-range radio with serial (SPI) interface. Choose a short-range radio with digital interface if your microprocessor requires digital I/O.

**7 Package:** SAW-Based Short-range radios are encased in a rugged, self-shielding, metal ceramic, hybrid package. RFIC Short-range radios are encased in smaller plastic packages.

**Design Support.** Go to [www.RFM.com](http://www.RFM.com) to locate design support resources for RFM Short-Range Radio Products.

Design Support Tools	
<b>Product Brochure</b>	Describes Product Features, Benefits & Applications
<b>Application Circuit</b>	Complete circuit layout with Microcontroller, Antenna & Matching
<b>Development Kit - Multiple Frequencies</b>	Radio Boards which allow test and evaluation of product performance
<b>Field Applications Engineering Support</b>	Technical Support to reduce design cycle
<b>RFIC Design Assistant</b>	Tool to allow configuration and operation of radio
<b>C Code Firmware</b>	Register settings to configure radio
<b>RFIC User's Guide</b>	Guide to using the Development Kit
<b>Gerber Files - PCB Layout</b>	Electronic files for PCB Layout
<b>Product Samples</b>	Available for Qualified Design Opportunities
<b>Antenna Application Note</b>	Optimize radio performance
<b>Regulatory Application Note</b>	Assist in obtaining Regulatory Certification of radio design