

Product Bulletin

TRF6903 and TRF4903 RF Transceiver and Transmitter Support 315, 433, 868 and 915 MHz Operation

To meet the low power requirements and reduce the overall system cost of low data rate wireless applications such as metering, security systems, fire detectors, and HVAC systems, Texas Instruments (TI) has introduced a multiband radio frequency (RF) transceiver, TRF6903, and transmitter, TRF4903. These devices can transmit and/or receive up to 64 kbps of data for the 315, 433, 868 and 915 MHz Industrial, Scientific and Medical (ISM) bands.

The TRF6903 and the TRF4903 are single-chip solutions for use as low-cost multiband Frequency Shift Keying (FSK) or On/Off Keying (OOK) devices to establish a frequency-programmable, half-duplex, bidirectional RF link. The ICs operate down to 2.2 V

and are designed for low power consumption. The synthesizer has a typical channel spacing of better than 200 kHz and features a fully-integrated voltage controlled oscillator (VCO). Only the phase-locked loop (PLL) filter is external to the device.

For frequency hopping systems, these products are the fastest and most efficient hoppers in the market. The TRF6903 and TRF4903 require no calibration when switching to a new frequency. This makes them highly efficient at high data rates.

To access datasheets for these products, visit us at www.ti.com/ismrf

Tools Available

- Samples
- Evaluation Modules (EVM):

Applications

- Metering
- HVAC Systems
- Alarm/Security
- Fire Detection

Key Features

- TRF6903 (transceiver) and TRF4903 (transmitter) available July
- 315, 433, 868 and 915 MHz operation
- 8 dBm typical output power
- Operates in FSK and OOK mode
- Fully integrated VCO
- 2.2 V to 3.6 V operation

- MSP-TRF6903-DEMO

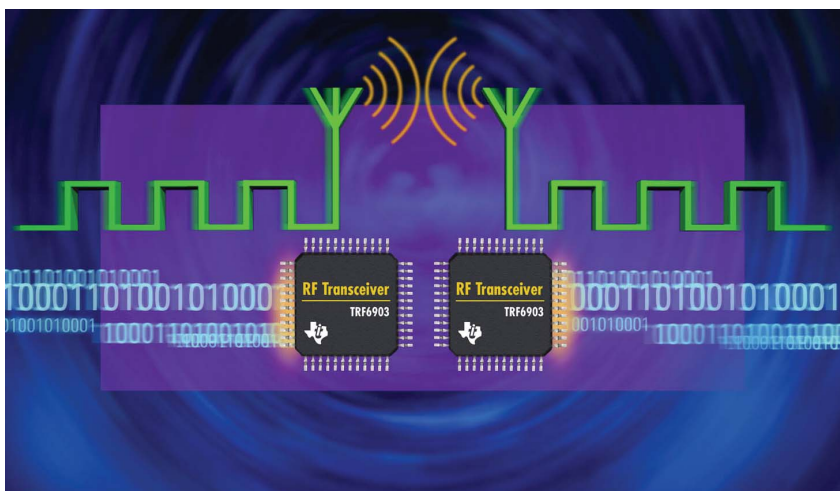
Two boards equipped with TRF6903 and MSP430F449 ultra low power MCU.
Price \$149.00

- MSP-TRF4903-DEMO

Two boards equipped with TRF4903 and MSP430F449 ultra low power MCU.
Price \$149.00

- The EVM for the TRF6903 and TRF4903 are used to demonstrate a bidirectional RF link between the two boards and to prototype by downloading new software code to the MSP430F449 using a JTAG connector. The schematics and layout of the boards can be used as a reference design, if desired. A User's Guide is included with the EVM.
- Easy RF for TRF6903: Calculates values for PLL filter, LNA, PA matching, crystal switch caps, IF matching and S&H capacitors.
- Easy RF for TRF4903: Calculates values for PLL filter, PA matching and crystal switch caps.

Please contact your local TI Sales Representative for availability of these tools.

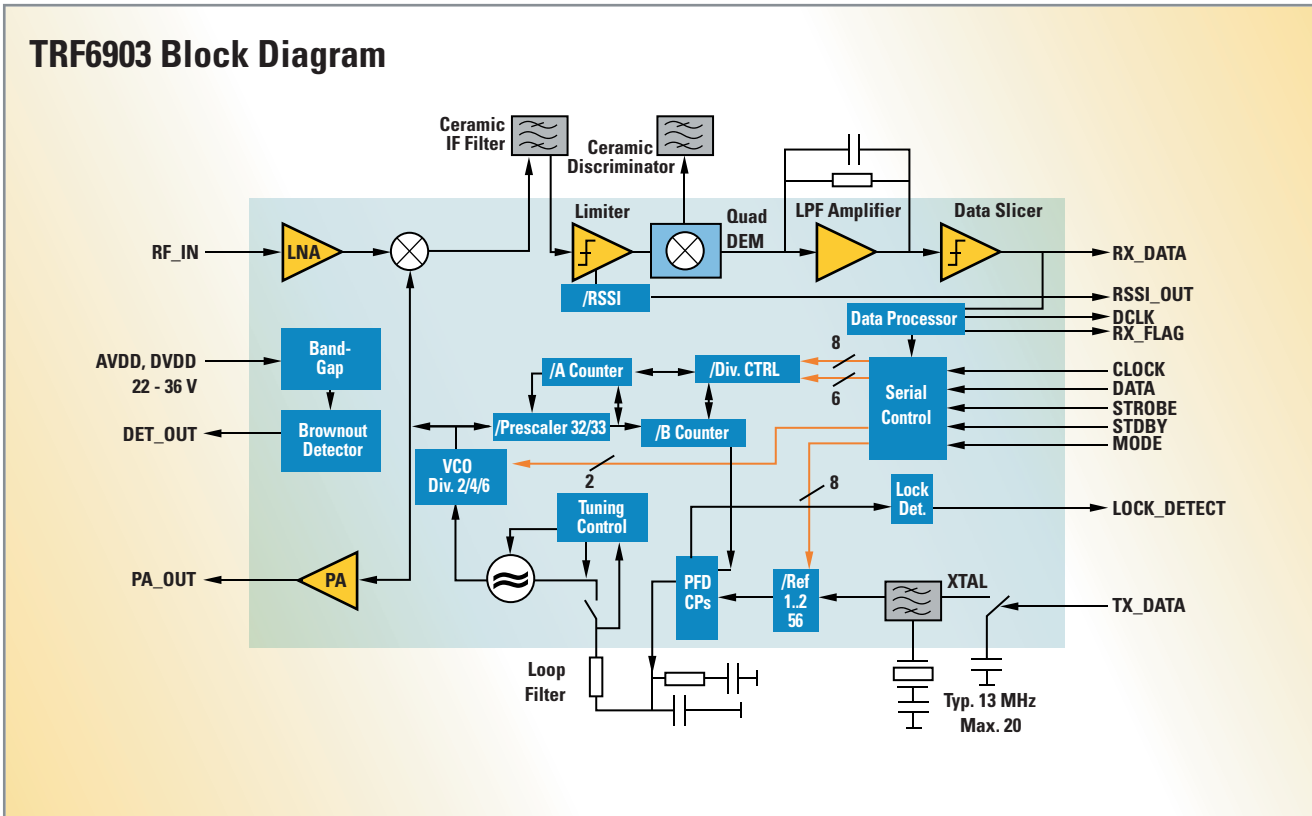


Specifications for ISM RF Transmitters and Transceivers

Device Name	Description	Frequency		Standard Supported	Output Power (dBm)	Operating Voltage		Current (μ A)	Standby Package	Price ¹
		Min (MHz)	Max (MHz)			Min (V)	Max (V)			
TRF6903*	RF Transceiver	315	915	FSK, OOK	8	2.2	3.6	0.6	48-Pin PQFP	2.85
TRF6901	RF Transceiver	860	930	FSK, OOK	8	1.8	3.6	0.6	48-Pin PQFP	2.70
TRF6900A	RF Transceiver	850	950	FSK, Narrow-Band FM	5	2.2	3.6	0.5	48-Pin PQFP	3.20
TRF5901	RF Transceiver	902	928	FSK, Narrow-Band FM	5	3	3.6	0.5	48-Pin PQFP	3.20
TRF4903*	RF Transmitter	315	915	FSK, OOK	8	2.2	3.6	0.6	24-Pin TSSOP	2.00
TRF4900	RF Transmitter	850	950	FSK, Narrow-Band FM	7	2.2	3.6	0.5	24-Pin TSSOP	1.90
TRF4400	RF Transmitter	420	450	FSK, Narrow-Band FM	7	2.2	3.6	0.5	24-Pin TSSOP	1.90

¹Suggested resale price in U.S. dollars in quantities of 1,000.

*Available July 2004



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