

The B.E.S.T. — Better, Easier, and Smaller Transceivers

The MICRF505/506 are the latest additions to Micrel's RadioWire[®] family of frequency-hopping FSK transceivers.

Offering a combination of best-in-class integration, packaging, and performance, the MICRF505/506 provides a smaller, easier, better solution for wire replacement in a wide range of low-cost applications. A frequency error estimator and on-board crystal tuning reduces system cost by allowing the use of relatively low precision, low cost crystals. This high level of integration results in a low Bill of Materials cost.

Key Specifications

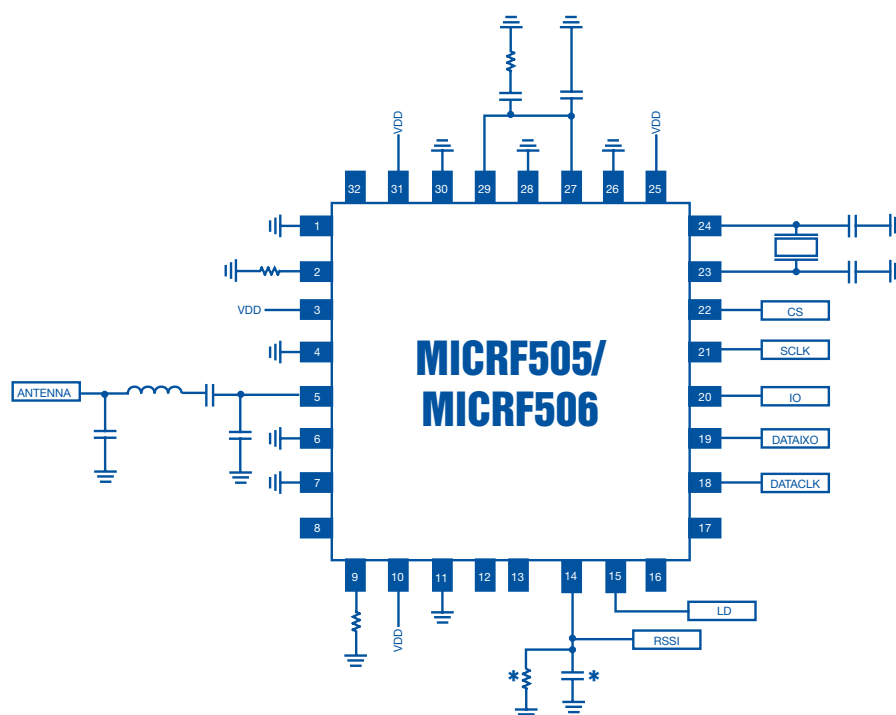
	MICRF505	MICRF506	Unit
Frequency Range	850 - 950	410 - 450	MHz
Data Rate	<200	<200	kbps
Sensitivity	-112	-113	dBm
Output Power	+10	+11	dBm
Tx Current	28	21.5	mA
Rx Current	13	12	mA

Benefits

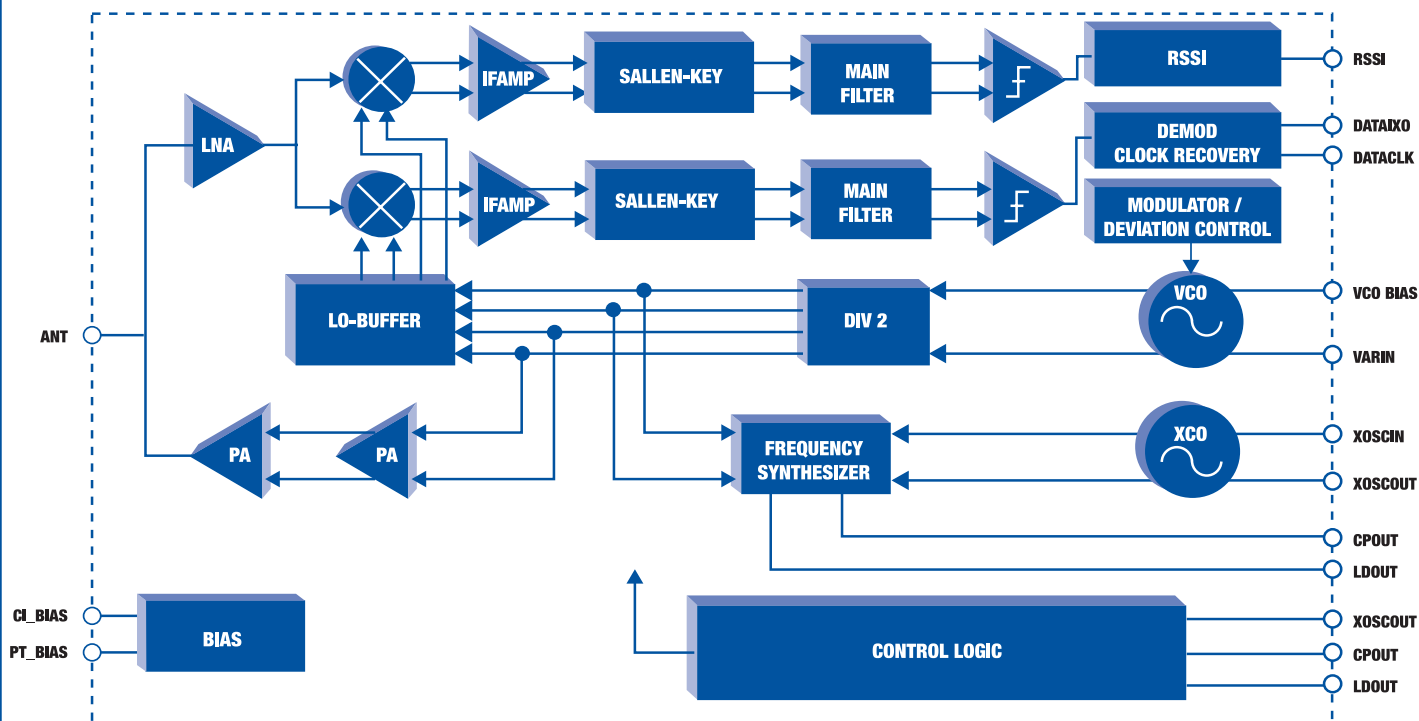
- ▶ Better
 - High sensitivity
 - High transmit power
- ▶ Easier
 - Fewer components to select
 - No production tuning
 - Design software available
- ▶ Smaller
 - High integration
 - Small 5mm x 5mm MLF[™] package

Features

- ▶ Fully-programmable PLL for frequency hopping
- ▶ Programmable transmit power
- ▶ Integrated T/R switch
- ▶ Integrated clock recovery circuit
- ▶ Digital crystal tuning capability



MICRF505/506 Block Diagram



RadioWire® Transceiver Family

Part Number	Frequency Range	Sensitivity (10 ⁻³ @2.4kbps)	Transmit Power	Maximum Rate	Tx Supply Current	Rx Supply Current	Package
MICRF500BLQ	700MHz – 1.1GHz	-105dBm	+10dBm	128kbps	50mA	12mA	TQFP-44
MICRF501BLQ	300MHz – 600MHz	-115dBm	+12dBm	128kbps	45mA	8mA	TQFP-44
MICRF505BML	850MHz – 950MHz	-112dBm	+10dBm	200kbps	28mA	13mA	5x5mm MLF™
MICRF506BML	410MHz – 450MHz	-113dBm	+11dBm	200kbps	21.5mA	12mA	5x5mm MLF™

RadioWire® Development Systems

Part Number	Frequency Range	Sensitivity (38.4kbps)	Transmit Power	Data Rate	RS232 Data Format	PC-PC Com. Test	Range Test
MICRF505DEV1	850MHz – 950MHz	-103dBm	+10dBm	38.4kbps	9600-8-N-1	Yes	Yes
MICRF506DEV1	410MHz – 450MHz	-105dBm	+11dBm	38.4kbps	9600-8-N-1	Yes	Yes

Contact Micrel Semiconductor

Location	Address	Telephone	Fax
Corporate HQ	2180 Fortune Drive San Jose, CA 95131 USA	+1 (408) 944-0800	+1-408-944-0970
Eastern USA	93 Branch Street Medford, NJ 08055 USA	+1 (609) 654-0078	+1 (609) 546-0989
Central USA	722 S. Denton Tap Suite 130 Coppell, TX 75019 USA	+1 (972) 393-2533	+1 (972) 393-2540
Western USA	2180 Fortune Drive San Jose, CA 95131 USA	+1 (408) 944-0800	+1 (408) 914-7878
China	Rm 712, Bldg. B, Int'l Chamber of Commerce Mansion, Fuhua Rd. 1, Futian Dist. Shenzhen, PR China 518048	+86-755-8302-7618	+86-755-8302-7637
Korea	4F, KTB Building, 826-14, Yeoksam-dong, Kangnam-ku Seoul 135-080 Korea	+82 (2) 3466-3000	+82 (2) 3466-2999
Taiwan	4F, No. 18 Lane 321, Yang-Guang Street, Nei-Hu Chu Taipei, Taiwan, R.O.C.	+886 (2) 2705-4976	+886 (2) 2705-4977
Japan	1-16-15 Dogenzaka, Shibuyaku Tokyo 150-0043 Japan	+81 (3) 5428-0871	+81 (3) 5428-0872
Europe	1st Floor, 3 Lockside Place, Mill Lane Newbury, Berks RG14 5QS UK	+44 1635 524455	+44 1635 524466
Western Europe	10, avenue du Quebec, Villebon BP116 Courtatouef Cedex 91944 France	+33 (0) 1.6092.4190	+33 (0) 1.6092.4189

