

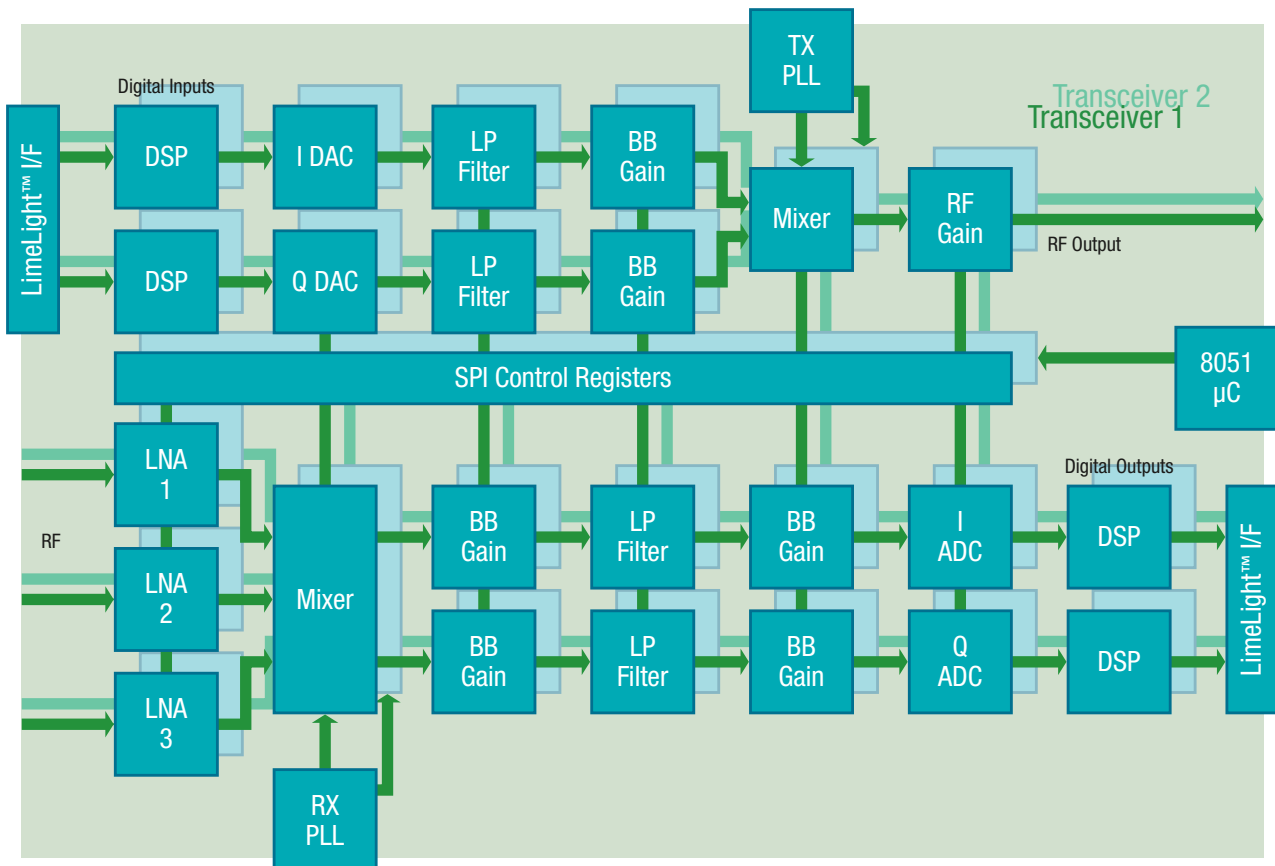
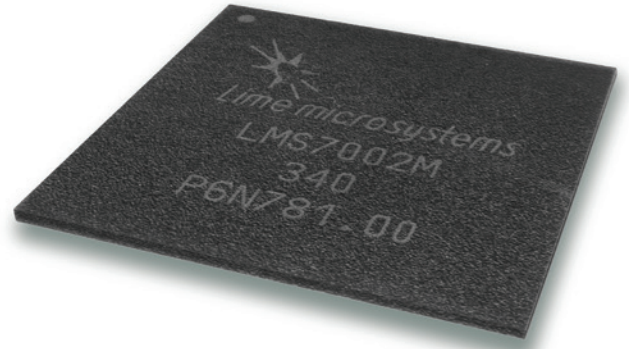
LMS7002M Product Brief

Second Generation Field Programmable Radio Frequency MIMO Transceiver

The LMS7002M opens up exciting new product possibilities with its flexibility, low power and cost-effectiveness.

The second generation field programmable RF (FPRF) transceiver IC, from the leader in highly integrated transceivers, matches the needs of a wide range of consumer and professional applications.

The new device uses state of the art transceiver design on CMOS technology to significantly reduce cost and power consumption. It integrates a dual transceiver architecture to support 2x2 MIMO along with significant digital functionality on the chip. The LMS7002M can run on any mobile communications standard - including all 2G, 3G and 4G variants and WiFi - and on any commonly used mobile communications frequency - both licensed and unlicensed - making it ideal for any wireless communications and broadband project.



Applications

The LMS7002M is ideal for a wide range of consumer and professional applications, including:

- Small cell communications equipment
- M2M networks
- Open source radio
- Broadband wireless

- Netbooks and tablet PCs
- Test equipment

Lime's proven FPRF technology has been used by private companies, governmental and military organisations to create a myriad of wireless broadband technologies from whitespace radios to disaster relief networks to communications infrastructure devices: see our customer case studies section.

Key Capabilities

- **Single chip dual transceiver.** The LMS7002M is 3GPP compliant and supports all cellular standards and frequencies including TDD, FDD and MIMO. The highly integrated device features multiple 12 bit ADC and DACs, LNAs, filters and mixers to provide two transmit and receive paths for continuous coverage over the 50 MHz to 3.8 GHz range.
- **Low power operation.** Minimizing power consumption was a major design objective, and the device can operate from a single supply rail of 1.8V. Individual blocks can be powered down for further power optimization.
- **Low cost solution.** The FPRF is built to be cost effective in high volume applications, with external components minimized, and with set-up and calibration time greatly reduced by using an internal Microcontroller.
- **Field programmable.** Lime introduced the world's first fully programmable RF device and this second generation chip features enhanced capabilities, including an on-chip microcontroller, to simplify calibration and installation.
- **Digital Signal Processing.** LMS7002M features extensive on-chip DSP that is programmed to enhance functionality and greatly reduces distortion and non-linearities. The DSP supplements the analog gain with digital control and is an important factor in reducing the power consumption.

About Lime

Lime Microsystems creates field programmable RF transceiver ICs that can be configured to operate on any frequency, and standard and for any application.

Lime's technology enables the creation of LTE, 3G, white space and open source radio platforms that work in all the key licensed and unlicensed spectra.

With so many LTE and 3G frequency / standard variants in use around the world, the transceiver gives OEMs the design flexibility to make a single product for all markets and gain access to greater economies of scale.

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