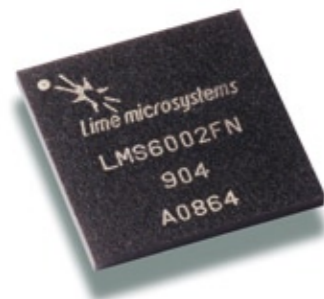


**Transceiver design enabling
personal broadband**

Device technology

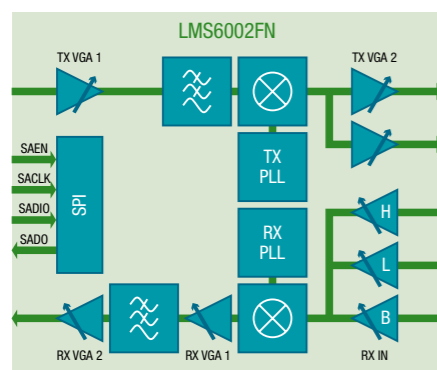


LMS6002 device features

- Single chip transceiver covering 375MHz-4GHz.
- Fully differential baseband signals
- Few external components
- Programmable modulation bandwidth: 1.5, 1.75, 2.5, 2.75, 3, 3.84, 5, 5.5, 6, 7, 8.75, 10, 12, 14, 20 and 28MHz
- Supports FDD and TDD full duplex
- Low voltage operation, 1.8V and 3.3V
- Standby current less than 1mA
- Tx RF output +6dBm, continuous wave
- 116 pin DQFN package
- Provision for full calibration
- Transmit power and envelope detection for calibration
- Low power and shut down modes
- Serial interface

Applications

- Femtocell and Picocell basestations
- Broadband wireless communication devices for IEEE® 802.16x, CDMA, WCDMA/HSPA and LTE radios



Lime Microsystems solutions for broadband wireless

Lime Microsystems has developed a disruptive and future-proof technology for the implementation of high performance, digitally configurable transceivers. Lime's core IP is based on novel algorithms, architectures and circuit techniques, resulting in a single-chip transceiver design that is sufficiently frequency-agile to allow multi-band and multi-standard operation.

Lime's integrated circuits are implemented on standard CMOS and mature SiGe technologies. This approach ensures design portability, low cost and security of supply through access to multiple silicon foundries.

Design flexibility for femtocells

Lime's proprietary technology has enabled development of a single-chip multi-band multi-standard broadband transceiver IC with outstanding RF performance. The transceiver supports a variety of different standards and frequencies, including WiMAX, WCDMA, CDMA, GSM and LTE. The configurable nature of Lime's transceiver allows considerable design flexibility and utilises industry standard interfaces. This is particularly important to makers of small cell basestations, who have to contend with standards and frequency bands which are constantly emerging and developing.

Minimise cost and inventory

The 'one transceiver for multiple standards' approach significantly simplifies the bill of materials for a typical femtocell product range. The same transceiver can operate in the frequency bands required in different countries, reducing costs and inventory for global OEMs.

Ready-to-use transceiver and development platforms

Lime Microsystems has developed the world's first transceiver board in microTCA format. This board can be used out-of-the-box as a plug-in transceiver to accelerate basestation development and deployment. It also serves as a reference design or technology platform for the development of custom transceivers based on Lime's integrated circuits and IP.

The EVB6002-1 is a general purpose evaluation board intended to allow evaluation and testing of the LMS6002 family of multi-band, multi-standard RF transceiver ICs. It is also intended to act as a guide to the best layout, decoupling and matching practices for implementing front end radio designs.

System and design expertise

One of Lime's key strengths is its design expertise, covering RFIC design right through to end system applications. The company has established an international reputation for its analogue, mixed-mode, RF and high speed designs. Our customers are able to rapidly evaluate and use Lime products, knowing that the product will meet the required standards and specifications for the air interface and frequency selected.

Industry partnerships

Lime works closely with industry partners to optimise RF and Baseband solutions to ensure the ecosystem for the entire end equipment design is in place. Lime's partnerships help our end customers achieve high performance with lower device and manufacturing costs, less design resource and optimised inventory. Lime is also an active member of the Femto Forum, promoting the adoption of femtocells worldwide and standardising the interface at component and system level.

Lime solutions solve the technical challenges presented by this emerging market at the price points required for high volume production.

Board technology



WRF1001 microTCA board features

- General purpose board to evaluate Lime transceiver covering 2GHz-4GHz frequency range
- Fully differential baseband signals
- High channel bandwidth: up to 28MHz
- 12-bit baseband ADCs and DACs
- FPGA-based DSP resampling to various sampling rates
- Serial rapid IO backplane interface (up to 3.125Gb/s) I/Q and control traffic
- No separate clock port needed
- I/Q record/playback capability for testing purposes
- Full speed USB 2.0 for PC operation
- Single-width, full-height AMC form factor (180.6 x 73.5 mm)



EVB6002 eval board features

- General purpose board to evaluate Lime single chip transceiver covering 375MHz-4GHz frequency range
- Fully differential baseband signals
- Single Voltage input (5V)



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