

LMS6002

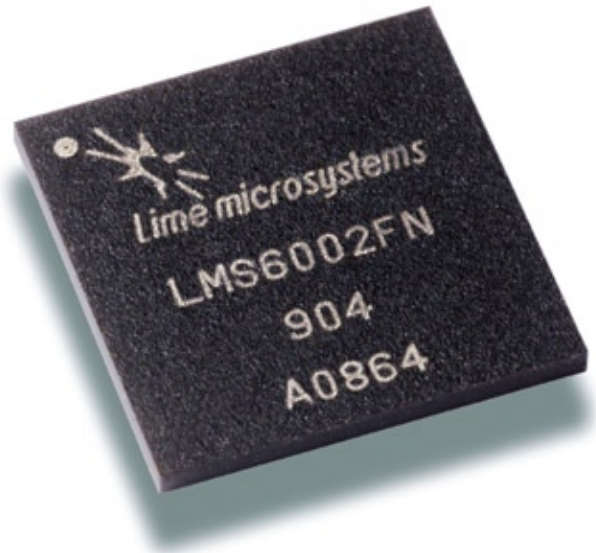
Multi-band multi-standard transceiver

GENERAL DESCRIPTION

LMS6002 is a fully integrated, multi-band, multi-standard RF transceiver for 3GPP (WCDMA/HSPA and LTE), 3GPP2 (CDMA2000) and WiMAX applications. As well as GSM Pico BTS and GSM MS RX for 'listen' mode. It combines LNA, PA driver, RX/TX mixers, RX/TX filters, synthesizer, RX gain control, and TX power control with very few external components.

SUMMARY 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 both 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
- Power down
- Serial interface



APPLICATIONS

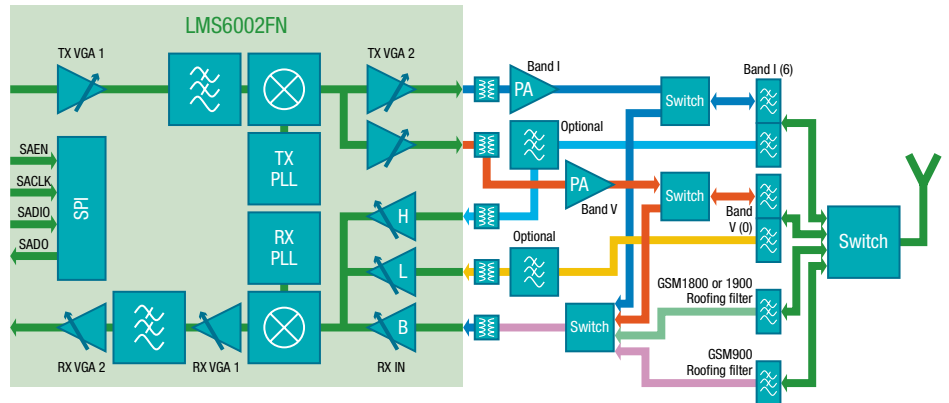
- Femtocell and picocell basestations
- Broadband wireless communication devices for IEEE® 802.16x, CDMA, WCDMA/HSPA and LTE radios

General Specifications						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
REFCLK	Reference Clock	No gaps in Freq resolution.	26	-	41	MHz
PN	Phase Noise	1MHz Offset		-130		dBc/Hz
Transmit						
WEVM	Transmitter EVM	UMTS test model 1		2		%
WACLR1	1st Adjacent channel Leakage				-50	dBc
GTx	Transmit Gain control range	TXVGA1, TXVGA2, 1dB steps		60		dB
Receive						
RX NF	Noise figure			5.5		dB
SENS GSM	GSM Sensibility (Listen Mode)	GSM (2dB FE loss)		-105		dBm
WSens	UMTS Sensitivity (Full duplex)	12.2kBs Single Code (2dB FE loss)			-115	dBm

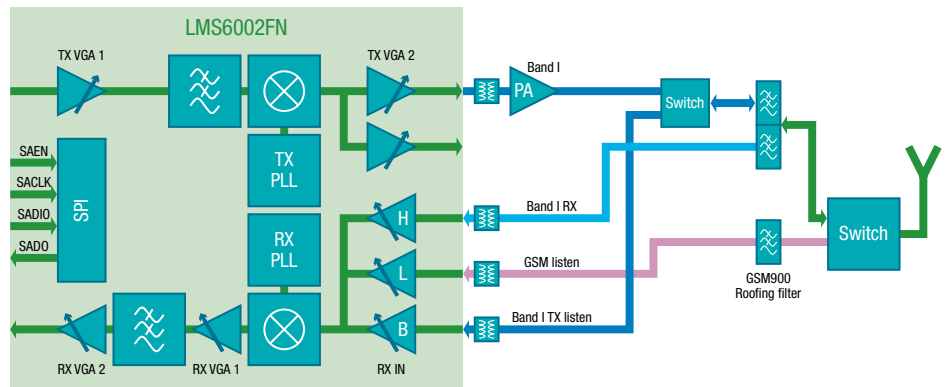
APPLICATION EXAMPLES

The LMS6002FN multi-standard transceiver operates over a wide frequency range of 375MHz to 4GHz. The flexibility of the device allows the designer to address all global markets without changing the transceiver design in the RF front end of the radio solution.

An example of a system using LMS6002FN for WCDMA bands I & V and CDMA bands 0 & 6, allowing for a highly flexible design for multiple standards and frequencies of operation.



Cost optimised single band option can use the same PCB design, benefiting from global economies of scale, by only populating the components for the required band.



3GPP Operating Band	3GPP2 Band Class	BW	Duplex	Uplink (BTS Rx)			Downlink (BTS Tx)		
				Bottom	Top	Frequency Key	Bottom	Top	Frequency Key
I (WCDMA)	6 (CDMA)	60	190	1920	1980	←→	2110	2170	←→
V (WCDMA)	0 (CDMA)	25	45	824	849	←→	869	894	←→
VIII (E-GSM)	9	35	45	880	915	←→	925	960	
III (GSM1800)	8	75	95	1710	1785	←→	1805	1880	
II (GSM1900)	1	60	80	1850	1910	←→	1930	1990	

Full data sheet of the reference design available upon request

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