

MB86L11A 2G/3G/4G LTE Transceiver

Ideal for TD-SCDMA, Multimode, Multiband LTE, UMTS and EDGE Mobile Handsets



Description

The Fujitsu MB86L11A, a successor to the MB86L12A, eliminates external LNAs and inter-stage SAW filters from the TX and RX paths of both 3G and LTE lineups. The MB86L11A adds support for TD-SCDMA bands 34 and 39, while reducing the package size to 6.6mm x 6.6mm.

A high-level programming model controls the radio using an open standard digital interface (3G and 4G DigRF/ MIPI), which is compatible with a wide range of industry basebands. Simultaneous support of both 3G and 4G interfaces allows the MB86L11A to be paired with one or two baseband processor ICs as needed.

Building on the revolutionary short-cycle RF programming method used in Fujitsu's MB86L01A, the MB86L11A speeds RF subsystem implementations with simplified layer-one programming and embedded intelligence. With this revolutionary approach, an engineer enters a single command stating the desired channel and power level. This command sets the parameters and times the events so that system compliance is virtually assured.

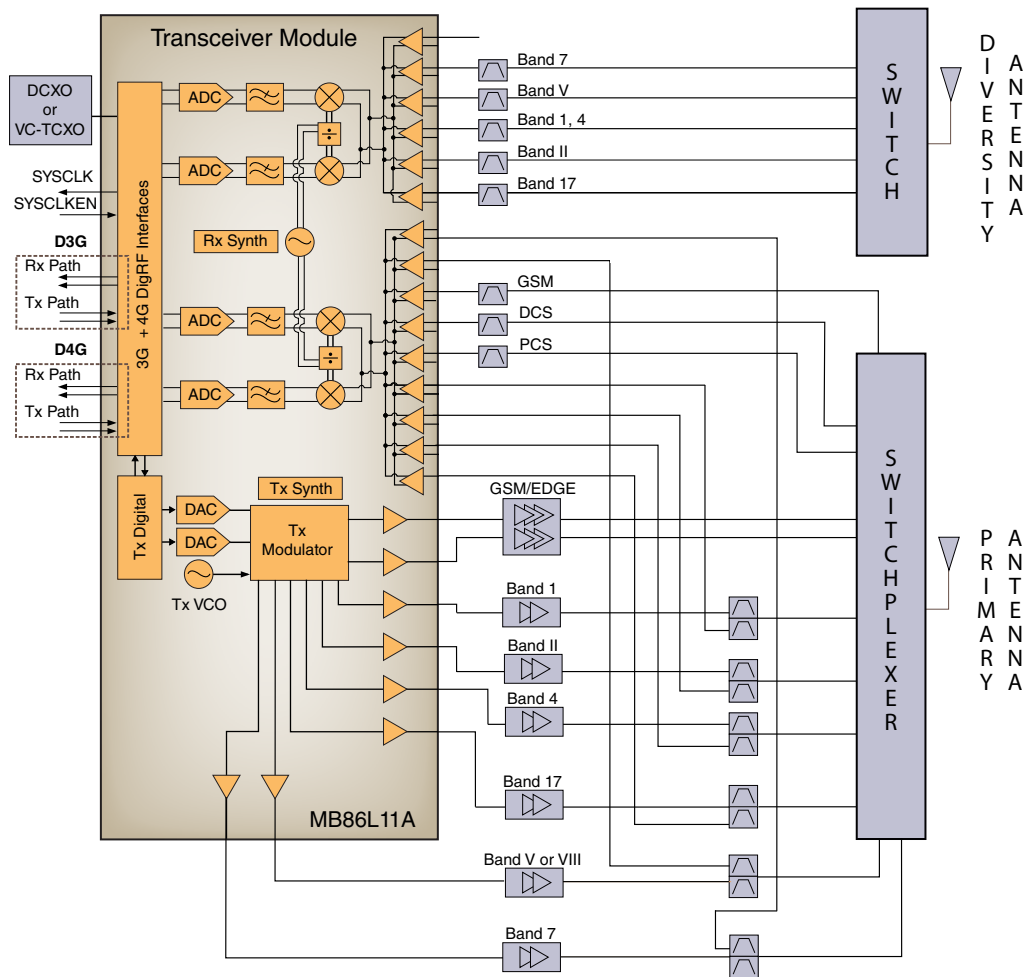
Eight outputs directly drive the power amplifier and eliminate the need for TX inter-stage SAW filters. The new RF front-end eliminates the need for LNAs and RX inter-stage SAW filters. Nine primary and six secondary inputs support LTE, WCDMA and GSM/EDGE. The receiver also incorporates anti-aliasing filters, digital channel filters, digital gain control and high-dynamic-range ADCs.

The transceiver offers SPI or MIPI RFFE and/or GPOs to control PAs, switching regulators and the antenna switch. A microcontroller unit in the transceiver enables simplified timing and control.

The compact module enables cell-phone manufacturers to reduce component count, board space and bill of materials.

Applications

- Mobile phones
- Mobile Internet devices
- Data cards
- Embedded modules



MB86L11A Block Diagram

Key Features

- Successor to the MB86L12A, which eliminates external LNAs, as well as both TX and RX inter-stage SAW filters from 3G and 4G paths, in a smaller package.
- GSM/EDGE/EDGE-EVO/CDMA/TD-SCDMA/WCDMA/HSPA+/LTE-FDD/LTE-TDD
- Quad band GSM/EDGE/EDGE-EVO
- FDD Bands 1-21, 23-25
- TDD Bands 33-41
- CDMA BC0, BC1, BC6, BC15
- TD-SCDMA 34,39
- Support for:
 - EGPRS Class 34 operation
 - WCDMA FDD HSDPA category 28
 - WCDMA FDD HSUPA with 4 E-DPDCH category 6
 - LTE category 4 data rate
- 15 differential RF inputs for the receiver
 - 9 differential RF inputs on the primary receiver
 - 6 differential RF inputs on the diversity receiver
- 8 RF outputs on transmitter
- Optimized design minimizes factory calibration time
- Multiband and Multimode PA support
- DigRF/MIPI 3G (Version 3.09) and 4G (Version 1.1)
- RX and TX auto calibration routines
- Auxiliary SPI or MIPI RFFE to control PAs, DC-DC converters, switching regulators and antenna switch
- Optional GPO ports available for non-SPI components
- Simplified timing and control via an RF API
- 6.6mm × 6.6mm BGA package

For more information about wireless products and solutions, visit <http://us.fujitsu.com/semi-wireless>

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