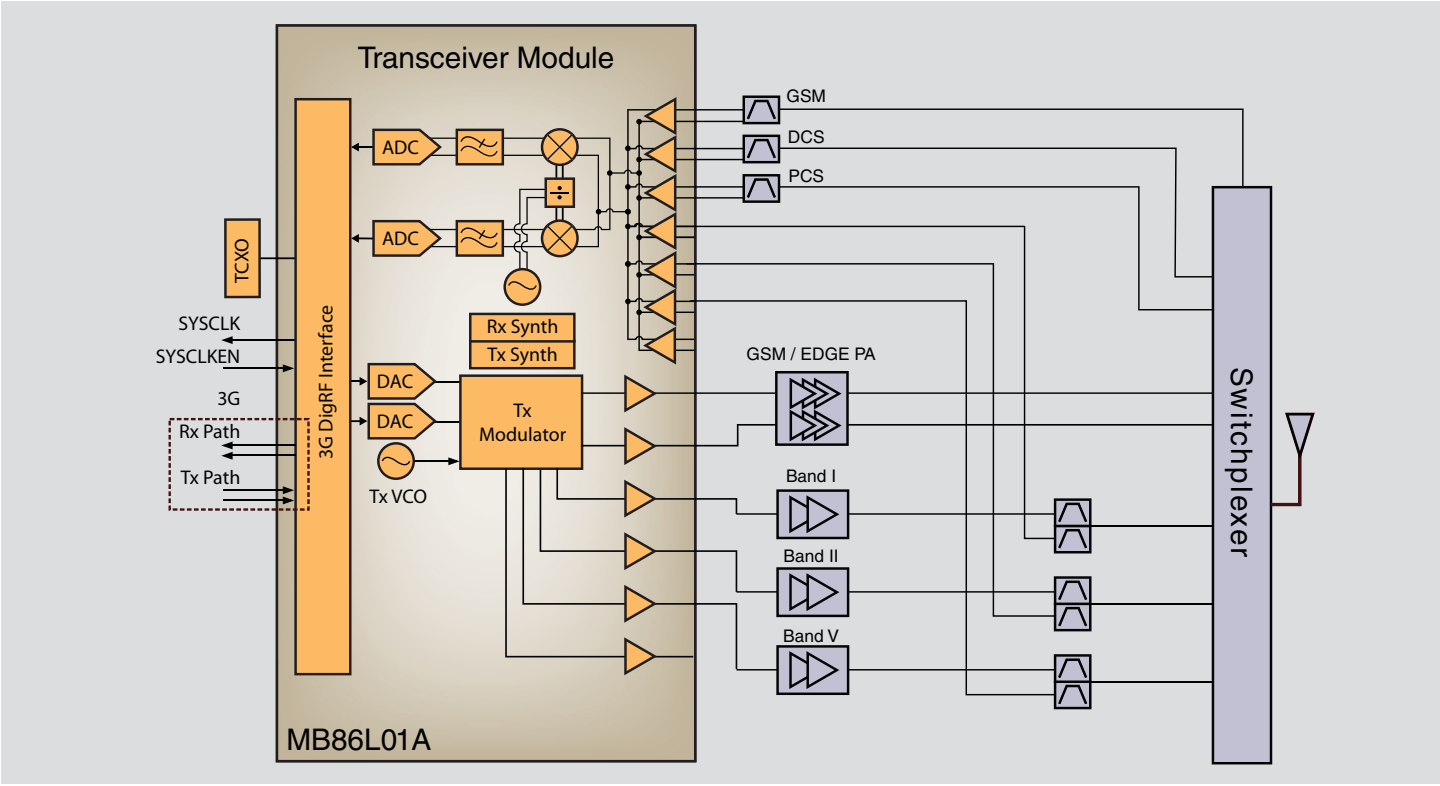
# WCDMA/EGPRS Transceiver Module MB86L01A




## Description

The Fujitsu MB86L01A is the industry's first commercial multi-mode transceiver to eliminate 3G TX and RX inter-stage SAW filters and low-noise amplifiers (LNAs). The transceiver features a high-level programming model for controlling the radio using an open standard digital interface (3G DigRF/MIPI), which is compatible with a wide range of industry basebands.

Using a revolutionary RF programming method that reduces development time – the time to first call – by up to 66 percent, the MB86L01A also improves 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.

The new, compact transceiver module enables cell phone manufacturers to reduce component count, board space and bill of materials. The transceiver includes six outputs that drive the power amplifier directly and eliminate the need for SAW filters. The receiver provides seven inputs that support WCDMA and GSM/EDGE, and uses the new RF front-end to eliminate the need for LNAs and SAW filters. The receiver also incorporates anti-aliasing filters, digital channel filters, digital gain control and high dynamic range ADCs.

The MB86L01A supports GSM bands (GSM850, EGSM900, DCS1800, PCS1900), WCDMA (bands I, II, III, IV, V, VI, VIII, IX, X, and XI), WCDMA HSDPA category 10 and HSUPA category 6. The transceiver includes a 3G DigRF interface to the baseband IC. It offers either SPI and/or GPOs to control PAs, switching regulators and antenna switch, with simplified timing and control enabled by a microcontroller unit in the transceiver.

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## Applications

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

## Features

- 7.1 mm × 5.9 mm × 1.0 mm, LGA package
- First multi-mode transceiver to eliminate both TX and RX inter-stage SAW filters, as well as LNAs
- GSM bands: GSM850, EGSM900, DCS1800, PCS1900
- Support for EGPRS Class 34 operation
- WCDMA bands: I, II, III, IV, V, VI, VIII, IX, X, and XI
- WCDMA FDD HSDPA category 10
- WCDMA FDD HSUPA with 4 E-DPDCH category 6
- Seven differential RF inputs for the receiver
- Six RF outputs on transmitter
- DigRF 3G interface to the baseband IC
- RX and TX auto calibration routines
- Auxiliary SPI to control PAs, switching regulators and antenna switch
- GPO ports for non-SPI components
- Simplified timing and control via a microcontroller unit core
- Minimized factory calibration time

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