AK1589

AK1589 Leaflet

Femtocell LTE/W-CDMA RF Transceiver

1. Features

AK1589 is a multi-band Femtocell LTE/WCDMA RF transceiver LSI supporting multi bands with MIMO architecture. Application target are FDD-LTE, TDD-LTE, WCDMA and TDS-CDMA small cell.

WCDMA & LTE

Receiver

- Direct conversion architecture
- Integrated LNAs
- 6-path balanced 100 ohm inputs
- (RXAIN : 3-path, RXBIN : 3-path)
- Integrated Local signal generator
- Integrated 2-CH sigma-delta ADC
- Programmable gain amplifier

Transmitter

- Direct conversion architecture
- 6-path single-ended 50 ohm outputs (TXAOUT : 3-path, TXBOUT : 3-path)
- Integrated Local signal generator
- Eliminates External SAW Filters
- Integrated 2-channel DAC
- Maximum output: minimum 0dBm
- Integrated Gain control amplifier
- (Dynamic range: minimum 55dB)

Peripheral Circuits

- 10-bit ADCs for Power Detect
- 10-bit DACs for PA bias control
- Temperature Sensor

Frequency Bands

- Band: 1/I, II, 3, 4, 5/V, 7, 13, 17,25, 38, 40, 41

Sniffer LTE/WCDMA/GSM (Sniffer)

Receiver

- Direct conversion architecture
- Integrated LNAs
- Quad-path balanced 150 ohm inputs
- Integrated Local signal generator
- Integrated Programmable gain amplifier

Common

Data Interface

- LVCMOS (JESD207)
- LVDS (ANSI/TIA/EIA-644)

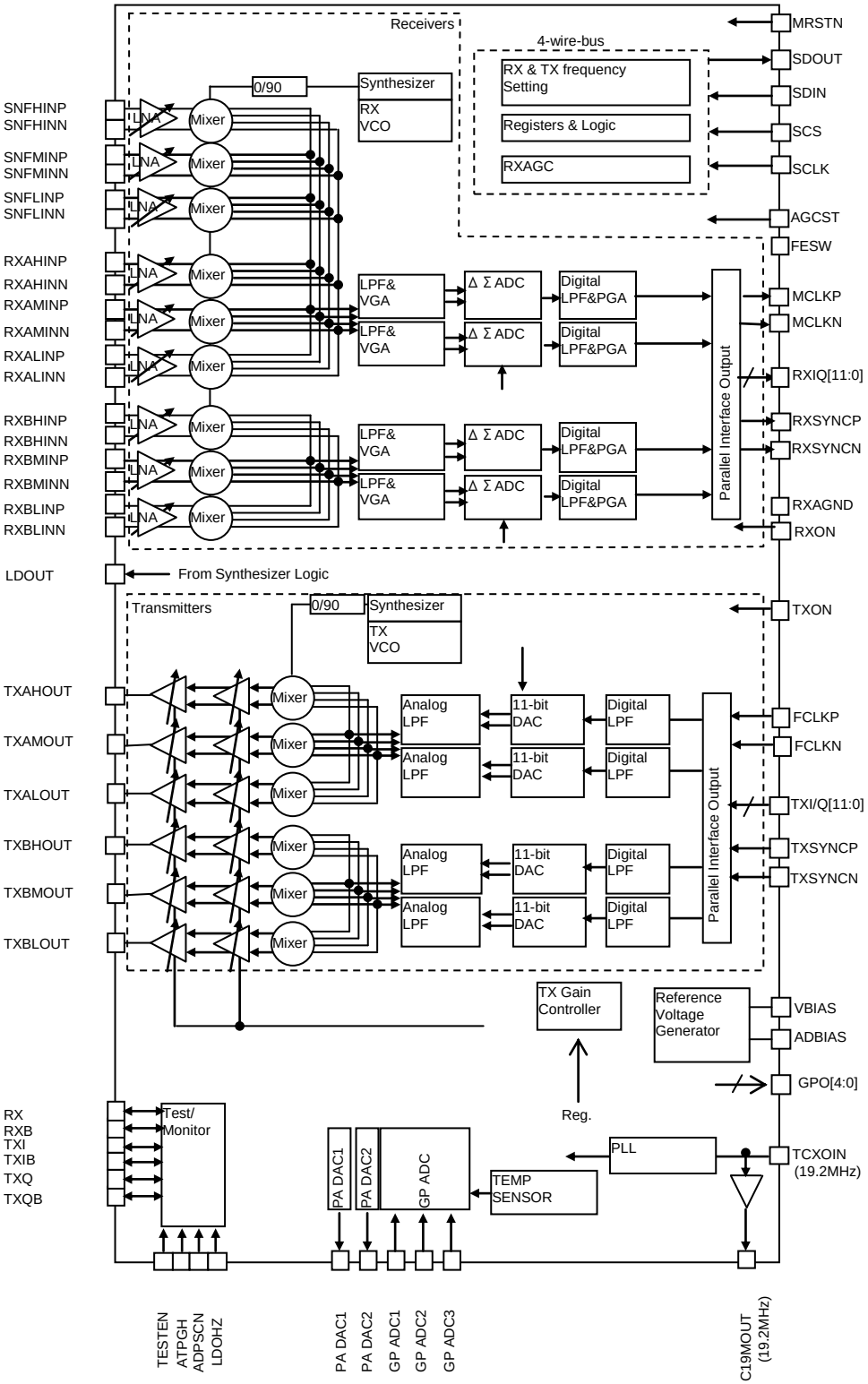
Clock/ Package

- 19.2 MHz 1Vpp typ. TCXO clock input
- 129pin FBGA (0.65mm pitch, 9mm×9mm)

Supply Voltage/ Operating Temperature

- Supply Voltage

Analog	1.5V
	2.8V
Digital	1.5V
I/O	1.8V to 3.3V
BBIF	
LVCMOS	1.8 V to 3.3V
LVDS	1.8V to 2.5V

- Operating Temperature -30 to 85 °

Overall Block Diagram