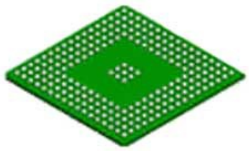
AD9363ABCZ

Data Sheet

RF Transceiver 144-Pin CSP-BGA Tray

Manufacturers	Analog Devices, Inc
Package/Case	144-LFBGA, CSPBGA
Product Type	RF Integrated Circuits
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for AD9363ABCZ or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The AD9363 is a high performance, highly integrated RF agiletransceiver designed for use in 3G and 4G femtocell applications.Its programmability and wideband capability make it ideal for abroad range of transceiver applications. The device combines anRF front end with a flexible mixed-signal baseband section andintegrated frequency synthesizers, simplifying design-in byproviding a configurable digital interface to a processor. TheAD9363 operates in the 325 MHz to 3.8 GHz range, coveringmost licensed and unlicensed bands. Channel bandwidths fromless than 200 kHz to 20 MHz are supported.

The two independent direct conversion receivers have state-of-the-artnoise figure and linearity. Each Rx subsystem includesindependent automatic gain control (AGC), dc offset correction,quadrature correction, and digital filtering, thereby eliminatingthe need for these functions in the digital baseband. The AD9363also has flexible manual gain modes that can be externallycontrolled. Two high dynamic range ADCs per channel digitizethe received I and Q signals and pass them through configurabledecimation filters and 128-tap finite impulse response (FIR)filters to produce a 12-bit output signal at the appropriatesample rate.

The transmitters use a direct conversion architecture that achieveshigh modulation accuracy with ultralow noise. This transmitterdesign produces a best-in-class Tx EVM of −34 dB, allowingsignificant system margin for the external power amplifier (PA)selection. The on-board Tx power monitor can be used as apower detector, enabling highly accurate Tx powermeasurements.

The fully integrated phase-locked loops (PLLs) provide lowpower fractional N frequency synthesis for all receive andtransmit channels. Channel isolation, demanded by FDDsystems, is integrated into the design. All voltage controlledoscillators (VCOs) and loop filter components are integrated.The core of the AD9363 can be powered directly from a 1.3 Vregulator. The IC is controlled via a standard 4-wire serial portand four real-time I/O control pins. Comprehensive power-downmodes are included to minimize power consumption duringnormal use. The AD9363 is packaged in a 10 mm × 10 mm,144-ball chip scale package ball grid array (CSP_BGA).

Features

Radio frequency (RF) 2 × 2 transceiver with integrated 12-bit DACs and ADCs

Wide bandwidth: 325 MHz to 3.8 GHz

Supports time division duplex (TDD) and frequency division duplex (FDD) operation

Tunable channel bandwidth (BW): up to 20 MHz

Receivers: 6 differential or 12 single-ended inputs

Superior receiver sensitivity with a noise figure: 3 dB

Receive (Rx) gain control

Real-time monitor and control signals for manual gain

Independent automatic gain control (AGC)

Dual transmitters: 4 differential outputs

Highly linear broadband transmitter

Transmit (Tx) error vector magnitude (EVM): −34 dB

Tx noise: ≤−157 dBm/Hz noise floor

Tx monitor: 66 dB dynamic range with 1 dB accuracy

Integrated fractional N synthesizers

2.4 Hz local oscillator (LO) step size

CMOS/LVDS digital interface

Application

3G enterprise femtocell base stations

4G femtocell base stations

Wireless video transmission

Related Products

ADL5330ACPZ

Analog Devices, Inc

LFCSP24

ADL5240ACPZ-R7

Analog Devices, Inc

LFCSP-32

AD630SD

Analog Devices, Inc

20 ld Side-BrazedCerDIP

ADRF5040BCPZ

Analog Devices, Inc

HIGH ISOLATION, SP4T, 9KHZ - 12G

[AD607ARSZ-REEL]

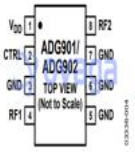
Analog Devices, Inc

SSOP-20

[AD831AP]

Analog Devices, Inc

20 ld PLCC



[ADG901BRM]

Analog Devices, Inc

MSOP-8

[ADL5350ACPZ]

Analog Devices, Inc

LFCSP-8