
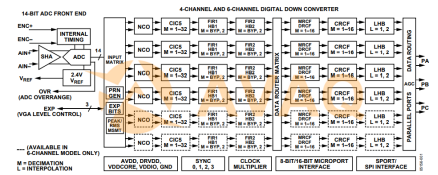


## RF Receiver 1.8V/3.3V/5V 256-Pin CSP-BGA Tray

<b>Manufacturer:</b>	Analog Devices, Inc
<b>Package/Case:</b>	BGA
<b>Product Type:</b>	Communication & Networking ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	NRND



Images are for reference only

[Inquiry](#)

### General Description

The AD6654 is a mixed-signal IF-to-baseband receiver consisting of a 14-bit, 92.16 MSPS analog-to-digital converter (ADC) and a 4-/6-channel, multimode digital down-converter (DDC) capable of processing up to six WCDMA (wideband code division multiple access) channels. The AD6654 has been optimized for the demanding filtering requirements of wideband standards such as CDMA2000, UMTS, and TD-SCDMA, but is flexible enough to support wider standards such as WiMAX. It is typically used as part of a radio system that digitally demodulates and filters IF sampled signals.

Frequency translation is accomplished with a 32-bit complex numerically controlled oscillator (NCO). The NCO has greater than 110 dBc SDFR. This stage translates a real input signal from an intermediate frequency (IF) to a baseband complex digital output. Phase and amplitude dither can be enabled onchip to improve spurious performance of the NCO. A 16-bit phase-offset word is available to create a known phase relationship between multiple AD6654 chips or channels. The NCO can also be bypassed.

### Key Features

- SNR = 90 dB in 1.25 MHz bandwidth to Nyquist
- SNR = 87 dB in 1.25 MHz bandwidth to 200 MHz
- Integrated 14-bit, 92.16 MSPS ADC
- IF sampling frequencies to 200 MHz
- Internal 2.4 V reference, 2.2 V p-p analog input range
- Internal differential track-and-hold analog input
- Processes 4/6 wideband carriers simultaneously
- Fractional clock multiplier to 200 MHz
- Programmable decimating FIR filters, interpolating half-band filters and programmable AGC loops with 96 dB range
- Three 16-bit configurable parallel output ports
- User-configurable built-in self-test (BIST) capability
- 8-/16-bit microport and SPORT/SPI® serial port control

### Application

- Multicarrier, multimode digital receivers
- GSM, EDGE, PHS, UMTS, WCDMA, CDMA2000, TD-SCDMA, WiMAX
- Micro and pico cell systems, software radios
- Wireless local loop
- Smart antenna systems
- In-building wireless telephony
- Broadband data applications
- Instrumentation and test equipment

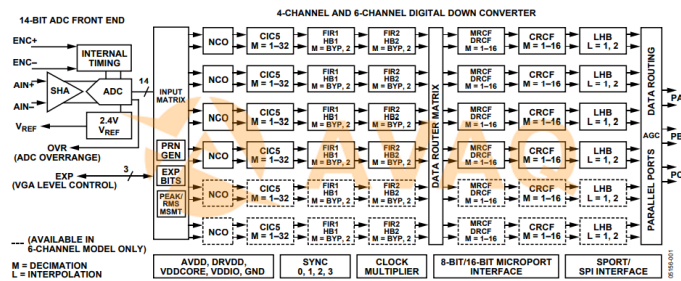
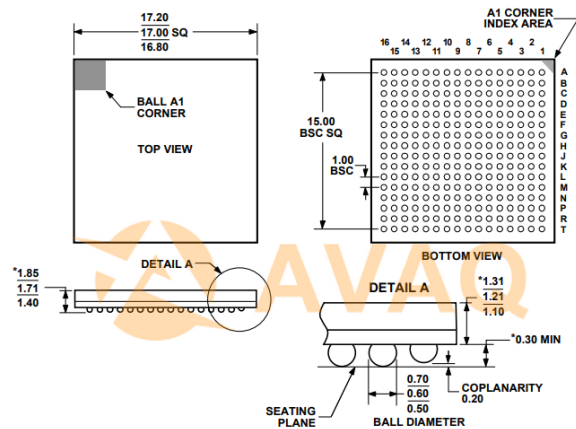


Figure 1.



COMPLIANT TO JEDEC STANDARDS MO-192-AAF-1 EXCEPT FOR DIMENSIONS INDICATED BY A \*\*\* SYMBOL.  
 Figure 77. 256-Lead Chip Scale Package Ball Grid Array (CSPBGA) (BC-256-2)  
 Dimensions shown in millimeters

## Recommended For You

### AD7305BRZ

Analog Devices, Inc  
 SOP20

### AD5447YRUZ

Analog Devices, Inc  
 TSSOP

### AD537JH

Analog Devices, Inc  
 CAN10

### AD7740YRMZ

Analog Devices, Inc  
 MSOP8

### AD7291BCPZ

Analog Devices, Inc  
 LFCSP20

### AD9910BSVZ

Analog Devices, Inc  
 TQFP100

### AD5302BRMZ

Analog Devices, Inc  
 MSOP10

### AD652AQ

Analog Devices, Inc  
 DIP

### AD9914BCPZ

Analog Devices, Inc  
 LFCSP

### AD9954YSVZ

Analog Devices, Inc  
 QFP

### AD9831ASTZ

Analog Devices, Inc  
 QFP

### AD5531BRUZ

Analog Devices, Inc  
 TSSOP16

### AD654JN

Analog Devices, Inc  
 DIP8

### AD73311ARSZ

Analog Devices, Inc  
 SSOP20

### AD2S1205YSTZ

Analog Devices, Inc  
 LQFP44