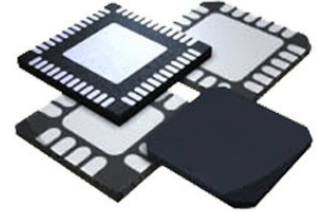



## RF Transceiver ASK/FSK 2.5V/3.3V 48-Pin LFCSP EP Tray



Images are for reference only

[Inquiry](#)

<b>Manufacturer:</b>	<a href="#">Analog Devices, Inc</a>
<b>Package/Case:</b>	QFN
<b>Product Type:</b>	Communication & Networking ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active

### General Description

The ADF7020-1 is a low power, highly integrated FSK/ GFSK/ ASK/ OOK/ GOOK transceiver designed for operation in the low UHF and VHF bands. The ADF7020-1 uses an external VCO inductor that allows users to set the operating frequency anywhere between 135 MHz and 650 MHz. Using the divide-by-2 circuit allows users to operate the device as low as 80 MHz. The typical range of the VCO is about 10% of the operating frequency. A complete transceiver can be built using a small number of external discrete components, making the ADF7020-1 very suitable for price-sensitive and area-sensitive applications. The transmit section contains a VCO and low noise fractional-N PLL with output resolution of <1 ppm. This frequency agile PLL allows the ADF7020-1 to be used in frequency-hopping spread spectrum (FHSS) systems. The VCO operates at twice the fundamental frequency to reduce spurious emissions and frequency pulling problems.

The transmitter output power is programmable in 63 steps from -20 dBm to +13 dBm. The transceiver RF frequency, channel spacing, and modulation are programmable using a simple 3-wire interface. The device operates with a power supply range of 2.3 V to 3.6 V and can be powered down when not in use. A low IF architecture is used in the receiver (200 kHz), minimizing power consumption and the external component count and avoiding interference problems at low frequencies. The ADF7020-1 supports a wide variety of programmable features, including Rx linearity, sensitivity, and IF bandwidth, allowing the user to trade off receiver sensitivity and selectivity for current consumption, depending on the application. The receiver also features a patent-pending automatic frequency control (AFC) loop, allowing the PLL to compensate for frequency error in the incoming signal.

An on-chip ADC provides readback of an integrated temperature sensor, an external analog input, the battery voltage, or the RSSI signal, which provides savings on an ADC in some applications. The temperature sensor is accurate to  $\pm 10^{\circ}\text{C}$  over the full operating temperature range of  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . This accuracy can be improved by doing a 1-point calibration at room temperature and storing the result in memory.

## Key Features

Low power, low IF transceiver

Frequency bands

135 MHz to 650 MHz, direct output

80 MHz to 325 MHz, divide-by-2 mode

Data rates supported

0.15 kbps to 200 kbps, FSK

0.15 kbps to 64 kbps, ASK

2.3 V to 3.6 V power supply

Programmable output power

Receiver sensitivity

Low power consumption

17.6 mA in receive mode

21 mA in transmit mode (10 dBm output)

On-chip VCO and fractional-N PLL

On-chip 7-bit ADC and temperature sensor

Fully automatic frequency control loop (AFC) compensates for lower tolerance crystals

Digital RSSI

Integrated TRx switch

Leakage current <1  $\mu$ A in power-down mode

## Application

Low cost wireless data transfer

Wireless medical applications

Remote control/security systems

Wireless metering

Keyless entry

Home automation

Process and building control

## Recommended For You

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### ADF4153BCPZ

Analog Devices, Inc  
QFN

### ADF5355BCPZ

Analog Devices, Inc  
LFCSP32

### AD8318ACPZ

Analog Devices, Inc  
LFCSP

### AD6620ASZ

Analog Devices, Inc  
QFP

### ADF4107BCPZ

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### ADL5513ACPZ-R7

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LFCSP-16

### AD8319ACPZ

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### ADRF6755ACPZ

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### ADL5535ARKZ-R7

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