



NXP 12-bit, up to 80 Msps ADC1207S080 for ultra-high IF sampling

Catch the fastest signals from the air

Our 12-bit analog-to-digital converter (ADC) ADC1207S080 offers outstanding broadband input capabilities. The ideal choice for single- and multiple-carrier data conversion. And it's just one from our extensive range of advanced, high-speed data converters for wireless, medical and industrial applications.

Key benefits

- ▶ Ultra-high IF data conversion (up to 225 MHz)
- ▶ Programmable acquisition output clock

Key features

- ▶ Direct IF sampling up to 225 MHz
- ▶ 12-bit resolution
- ▶ Sampling rate up to 80 Msps
- ▶ S/N ratio
 - 71 dBc @ $f_{in} = 225$ MHz (BW = 5 MHz)
 - 67 dBc @ $f_{in} = 175$ MHz (Nyquist)
- ▶ SFDR
 - 89 dBc @ $f_{in} = 225$ MHz (BW = 5 MHz)
 - 74 dBc @ $f_{in} = 175$ MHz (Nyquist)
- ▶ HTQFP48 package
- ▶ Industrial temperature range (-40 °C to +85 °C)

Key applications

- ▶ 2.5G and 3G radio transceivers
- ▶ Fixed network
- ▶ Wireless infrastructure
- ▶ Cable modems
- ▶ CMTS/DOCSIS
- ▶ GPS navigation
- ▶ Digital radio
- ▶ Data acquisition
- ▶ Digital storage scope
- ▶ Portable system tester
- ▶ Spectrum analyzer
- ▶ General-purpose applications

Our ADC1207S080 is a 12-bit ADC for direct / ultra-high IF conversion. Its optimized design reduces both architecture complexity and overall system cost. Up to 80 dB adjacent channel selectivity (ACS) even up to 200 MHz input carriers, the IC delivers improved analog performance.

With its ultra-high IF conversion capabilities, the ADC1207S080 offers the highest sensitivity in multi-carrier support. In addition, it boasts sampling rates up to 80 Msp/s, input analog frequencies as high as 225 MHz, and support for various Nyquist and high IF sampling operating points. Consequently, it's a highly competitive solution for W-CDMA, CDMA2000 and GSM / EDGE transmitters, as well as high data rate radio services such as WLL, LMDS and BWA.

Dynamic performance examples

f_{in} (MHz)	IF BW (MHz)	f_{CLK} (Msp/s)	SNR (dBc)	SFDR (dBc)
225	5	80	71	89
190	1.25	40	73	84
175	Nyquist	80	66	72
93	Nyquist	80	66	74
20	Nyquist	80	67	82

Typical application

