
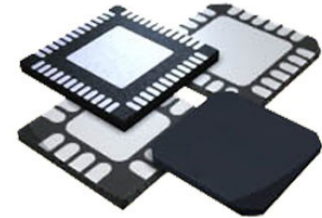


Quadrature Mod 48-Pin QFN EP T/R

Manufacturer:	Analog Devices, Inc
Package/Case:	QFN
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Obsolete



Images are for reference only

[Inquiry](#)

General Description

The HMC1197 is a low noise, high linearity Direct Quadrature Modulator with Fractional-N PLL&VCO RFIC which is ideal for digital modulation applications from 0.1 to 4.0 GHz including; Cellular/3G, LTE/WiMAX/4G, Broadband Wireless Access & ISM circuits housed in a compact 7x7 mm (LP7) SMT QFN package, the HMC1197 RFIC requires minimal external components & provides a low cost alternative to more complicated double upconversion architectures.

The RF output port is single-ended and matched to 50 Ohms with no external components.

Auxiliary LO output (differential or single-ended), enables the HMC1197 to distribute identical frequency and phase signals to multiple destinations. Individual gain settings ensure optimal signal levels tailored to each output.

External VCO input allows the HMC1197 to lock external VCOs, and enables cascaded LO architectures for MIMO radio applications. Two separate Charge Pump (CP) outputs enable separate loop filters optimized for both integrated and external VCOs, and seamless switching between integrated or external VCOs during operation. Programmable RF output phase feature can further phase adjust and synchronize multiple HMC1197s enabling scalable MIMO and beam-forming radio architectures.

Integrated programmable Low Pass Filter (LPF) on the modulator LO input ensures no LO harmonic contribution to modulator sideband rejection performance. Sixteen programmable LPF bands enable true wideband operation, eliminating the need for external band specific harmonic filtering hardware. Additional features include configurable LO output mute function. Exact Frequency Mode that enables the HMC1197 to generate fractional frequencies with 0 Hz frequency error and the ability to synchronously change frequencies without changing the phase of the output signal.

Key Features

Very Low Noise Floor, -160 dBm/Hz

Excellent Carrier & Sideband Suppression

Very High Linearity, +30 dBm OIP3

High Output Power, +10.5 dBm Output P1dB

High Modulation Accuracy

Maximum Phase Detector Rate: 100 MHz

Low Phase Noise: -110 dBc/Hz in Band Typical

PLL FOM:-230 dBc/Hz Integer Mode,-227 dBc/Hz Fractional Mode

160 fs Integrated RMS Jitter (10 kHz to 20 MHz)

Differential Auxiliary LO output

External LO Input

Exact Frequency Mode:0 Hz Fractional Frequency Error

Programmable RF Output Phase

Output Phase Synchronous Frequency Changes

Output Phase Synchronization

Internal LO Mute Function

48 Lead 7x7 mm QFN Package: 49 mm²

Application

Multiband/Multi-standard Cellular BTS Diversity Transmitters

Fixed Wireless or WLL

ISM Transceivers, 900 & 2400 MHz

GMSK, QPSK, QAM, SSB Modulators

Multiband Basestations & Repeaters

Recommended For You

HMC624ALP4E

Analog Devices, Inc
QFN24

HMC952ALP5GE

Analog Devices, Inc
QFN

HMC361S8GE

Analog Devices, Inc
SOP-8

HMC253AQS24E

Analog Devices, Inc
QFN

HMC346MS8G

Analog Devices, Inc
MSOP8

HMC1119LP4ME

Analog Devices, Inc
QFN

HMC659LC5

Analog Devices, Inc
QFN

HMC909LP4E

Analog Devices, Inc
QFN

HMC564LC4

Analog Devices, Inc
QFN

HMC1021LP4E

Analog Devices, Inc

QFN

HMC241AQS16E

Analog Devices, Inc

SSOP16

HMC424LP3E

Analog Devices, Inc

QFN

HMC662LP3E

Analog Devices, Inc

QFN

HMC8038LP4CE

Analog Devices, Inc

QFN16

HMC363S8G

Analog Devices, Inc

SOP8