

KHN11112

Analog Front End IC

■ GENERAL DESCRIPTION

The KHN11112 is a highly integrated analog front-end IC (AFE) for the home networking applications such as HomePNA and broadband/narrowband PLC. Data rates up to 80MSPS are supported in both Rx and Tx path. The on-chip PLL multiplier and synthesizer provide all the required clock signals from a single crystal or clock source.

The functional block diagram of the KHN11112 is shown in the figure below. The Tx signal path consists of a x2 low-pass interpolation filter, 12-bit 160MSPS DAC, and line driver (IAMP). The Rx signal path consists of a programmable amplifier (PGA), a 160MSPS ADC and a decimation filter to generate a 80MSPS digital output word

■ FEATURES

- Home Networking Analog Front End IC covering HomePNA 3.1 and Broadband PLC (HD-PLC, HPAV, etc)
- High speed sampling rate and low power consumption

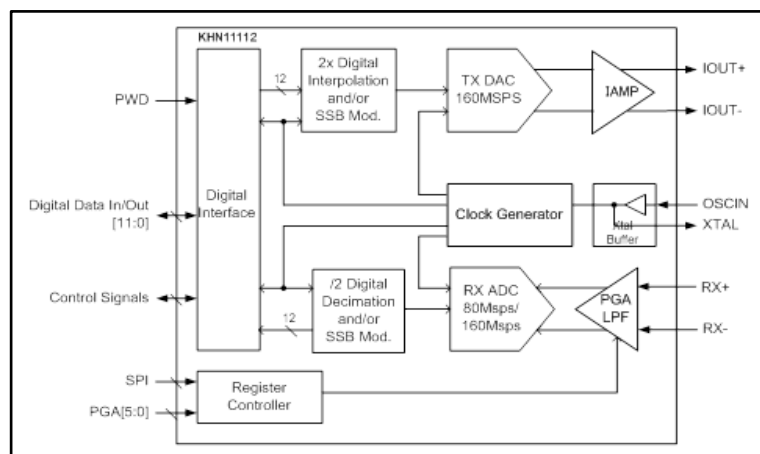
Tx path

- 12bit 160MSPS DAC with 0.5dB gain step
- x2 interpolation filter
- Configurable SSB modulation
- Integrated maximum 20.3dBm current sink line driver with 1dB gain step

Rx path

- 12bit 160MSPS ADC
- /2 decimation filter
- Configurable SSB modulation
- -18 dB to +42dB low-noise PGA with 1dB gain step
- 14MHz - 90MHz configurable LPF cutoff frequency
- Integrated fine and accurate foreground calibration on Tx and Rx path
- 64 Exposed Quad Flat No-Lead package (VQFN)
- Industrial Temp range (-40 ~+85°C)

■ BLOCK DIAGRAM



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