

KHN1132

Analog Front End IC

■ GENERAL DESCRIPTION

The KHN1132 is a highly integrated analog front-end IC (AFE) for the home networking applications such as G.hn, HomePNA or Powerline communication. Data rates up to 200MSPS 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 KHN1132 is shown below. The Tx signal path consists of a x2 low-pass interpolation filter, 12-bit 400MSPS DAC, and line driver (lamp). The Rx signal path consists of a programmable gain amplifier (PGA), a 400MSPS ADC and a decimation filter to generate a 200MSPS digital output word.

A 3.125GHz AFE SerDes interface (ASI) with the digital back-end provides 200MSPS data rate. Not only digital data transfer but also commands can be sent via ASI.

■ FEATURES

- Home Networking Analog Front End IC covering full spec G.hn
- High resolution and wide frequency range
- Up to 200MSPS data rate (half-duplex)

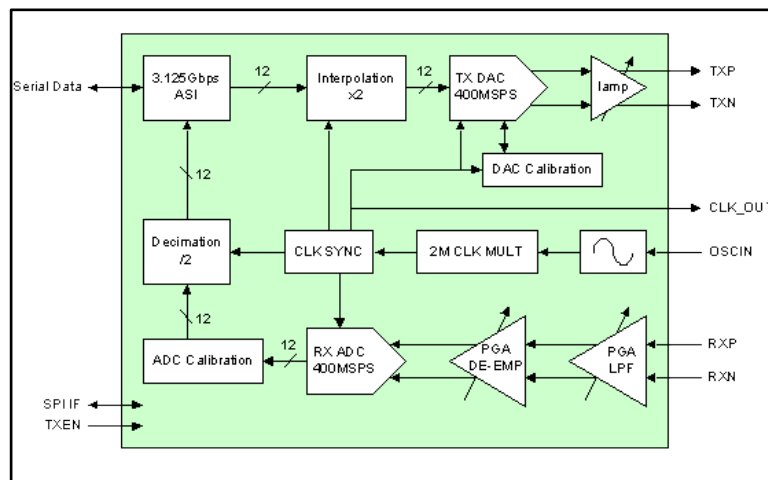
Tx path

- 12bit 400MSPS DAC
- x2 interpolation filter
- Integrated 160mA line driver with 28.6dB gain control

Rx path

- 12bit 400MSPS ADC
- /2 decimation filter
- -18 dB to +42dB low-noise PGA
- LPF with 90MHz cut-off frequency
- Internal clock multiplier (PLL)
- 3.125Gbps AFE Serial Interface (ASI)
- Integrated fine and accurate foreground calibration on Tx and Rx path
- 88 Quad Flat No-Lead package (QFN)
- Industrial Temp range (-40 ~+85°C)

■ BLOCK DIAGRAM



MegaChips Corporation			MegaChips Technology America Corporation
Corporate Headquarters Shin-Osaka Hankyu Building 1-1-1 Miyahara, Yodogawa-ku Osaka 532-0003, Japan	Makuhari Office 1-3, Nakase, Mihama-ku, Chiba 261-8501, Japan	Tokyo Office 17-6 Ichibancho, Chiyoda-ku, Tokyo 102-0082, Japan	2033 Gateway Place, Suite 400, San Jose, CA 95110, USA
Tel +81-6-6399-2884 Fax +81-6-6399-2886	Tel +81-43-296-7414 Fax +81-43-296-3285	Tel: +81-3-3512-5083 Fax: +81-3-3262-3358	Tel: +1 (408) 570-0555 Fax: +1 (408) 570-0567 E-mail: info@megachips.us
www.megachips.co.jp			www.megachips.us