

Advanced Product Brief

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General Description

The KWS430 is a low-power Jitter Attenuator whose output frequency can be programmed to any frequency up to 1GHz continuously, and up to 1.33GHz at select frequencies. Generally used for precision clock conditioning or jitter attenuation, this product can replace a bank of external VCXOs and associated loop circuitry in multi-band applications. The reduced BoM offers significant cost benefits.

Equivalent low-jitter VCXO functionality and performance exists on-chip, and is tuned by pulling circuitry associated with the internal crystal interface. Kaben's PLL loop technology allows the KWS430 to operate with or without an optional external off-chip analog loop filter. This component targets a variety of wire-line, optical, wireless and backhaul applications.

The JAT PD can be bypassed and the device used as an NCO controlled via the serial interface.

Features

- Operational Frequency Range 10 -1330MHz
- Can apply NRZ data input up to 1330 Mb/s
- NCO Mode max. update rate is 12µs
- Clock or Crystal Reference Frequency 25/40MHz

- Frequency Resolution <10Hz in Frac-N mode
- 0.35ps rms at select frequencies
- Nominal 3.3V Operation, single power supply pin
- Low Core PLL Current Consumption 30mA typ.
- Auto Calibration prevents band changes over voltage and temperature
- Operating Junction Temperature -20 to 110°C
- Standard Serial Interface, I2C (default) or SPI
- Optional OTP Interface (with NVM option)

Applications

- Jitter Attenuation (JAT) / Clock conditioning
- Replaces VCXO(s) with a single, external XTAL.
- Frequency Translation, Gearbox/FEC frequencies
- SerDes, Serial Links
- Sonet/SDH, GigE, FC, PCI-Ex, Video Broadcast
- Wireless, Wireline, Optical, Backhaul

IP or Turnkey Solutions

- IP ready for integration into client's SoC
- Standalone , packaged component

