

Product Brief

General Description

The KWS410 is a low-power low-jitter clock source whose output frequency can be programmed to any rate up to 1.2 GHz continuously, and up to 1.4 GHz at select frequencies. Generally used for precision clock conditioning or jitter attenuation, this product can replace a bank of external pullable or free-run oscillators in multi-band applications. The high-level of integration reduces the BoM yielding cost benefits. The device can also be configured to operate as a free-running oscillator. The output frequency is programmed through the I²C or SPI interface.

This IP block is tuned by pulling circuitry associated with the bypassable crystal interface. Together with Kaben's PLL loop technology, or a client-based PLL loop, the KWS410 can eliminate the need for off-chip or large on-chip analog loop filter components. The KWS410 targets a variety of wireline, optical, wireless and backhaul applications.

Integrated IP Solution

- IP ready for integration into customer's ASIC

Features

- Output Frequency Range to 1200 MHz continuous
- Clock or Crystal Reference Frequency 25 - 40 MHz
- Fine Step Size Resolution (<10 Hz)
- 0.35 pS at select frequencies, up to 0.5 pS rms jitter maximum
- 3.3/2.5 V Operation, single power supply pin
- Low Core PLL Current Consumption 25 mA typ.
- Auto Calibration prevents band changes over voltage and temperature
- I²C or SPI interface

Applications

- Eliminates multiple pullable or free-run oscillators
- Jitter Attenuation (JAT) / Clock Conditioning
- Frequency Translation, Gearbox/FEC frequencies
- SerDes, Serial Links
- Wireless, Wireline, Optical, Backhaul

