

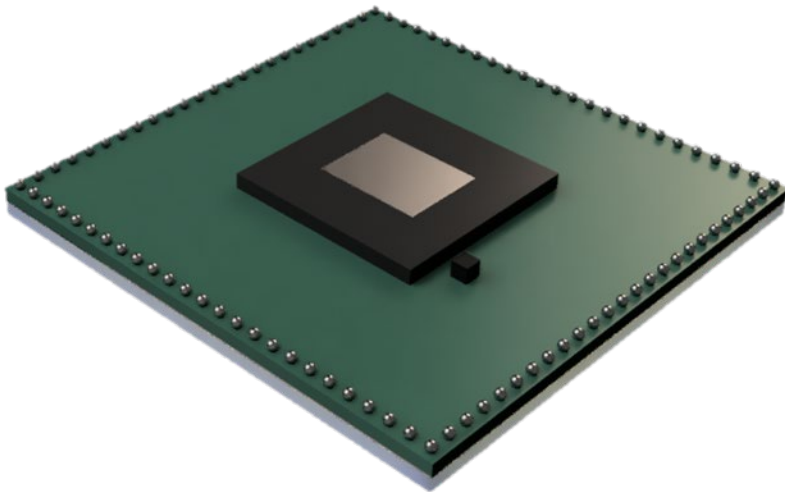


Highly integrated, state of the art 5G NR RFIC

Sivers Semiconductors pushes ahead with more 5G innovations.

The TRB03901 support the full frequency range from 37.0 – 43.5 GHz with speeds up to 5 Gbit/s. The unique level of integration enables support for different markets and frequency bands using the same hardware. Explore how this groundbreaking RFIC will improve and speed-up your licensed 5G rollout.

TRB03901 is a 32 channel beam forming transceiver Radio Frequency Integrated Circuit (RFIC). With support for both Zero-IF and IF baseband interface, it may easily be integrated to your product with any 5G mmWave modem.



Key features

- 37.0 GHz-43.5 GHz
- Wide band transmit and receive antenna array optimized for the 28 and 39 GHz bands
- Designed for 3GPP NR 5G Fixed Wireless Access (FWA) applications
- Beamforming transceiver with 32 (2x16 H+V) ports enabling two data streams supporting 2 MIMO layers
- RF tiling of multiple transceivers for large array antenna configurations
- Integrated T/R-switches, linear power and low noise amplifiers
- Excellent RF performance providing best in class EVM performance
- High-performance synthesizer
- Connection to the baseband modem through:
 - Analog IQ-interface (Zero IF) or
 - IF-interface
- Integrated programmable baseband filters
- Easy to use with autonomous calibration routines and simple baseband interface

The unique high level of integration enables full transceiver design. Several RFICs may be tiled together in bigger arrays for longer reach and greater performance.

Less components means less cost and higher quality - critical parameters to consider when designing a Customer Premises Equipment (CPE) or small "hot spot" base stations. The transceiver IC supports unique wide band coverage of 37.0 – 43.5 GHz, superior link budget, excellent Error Vector Magnitude (EVM) performance enabling more than 256 QAM OFDM modulation, full temperature range of -40 to +85 deg C, small form-factor and flexible channelization. All of which make the RFIC uniquely well fitted for outdoor infrastructure 5G mmWave applications.

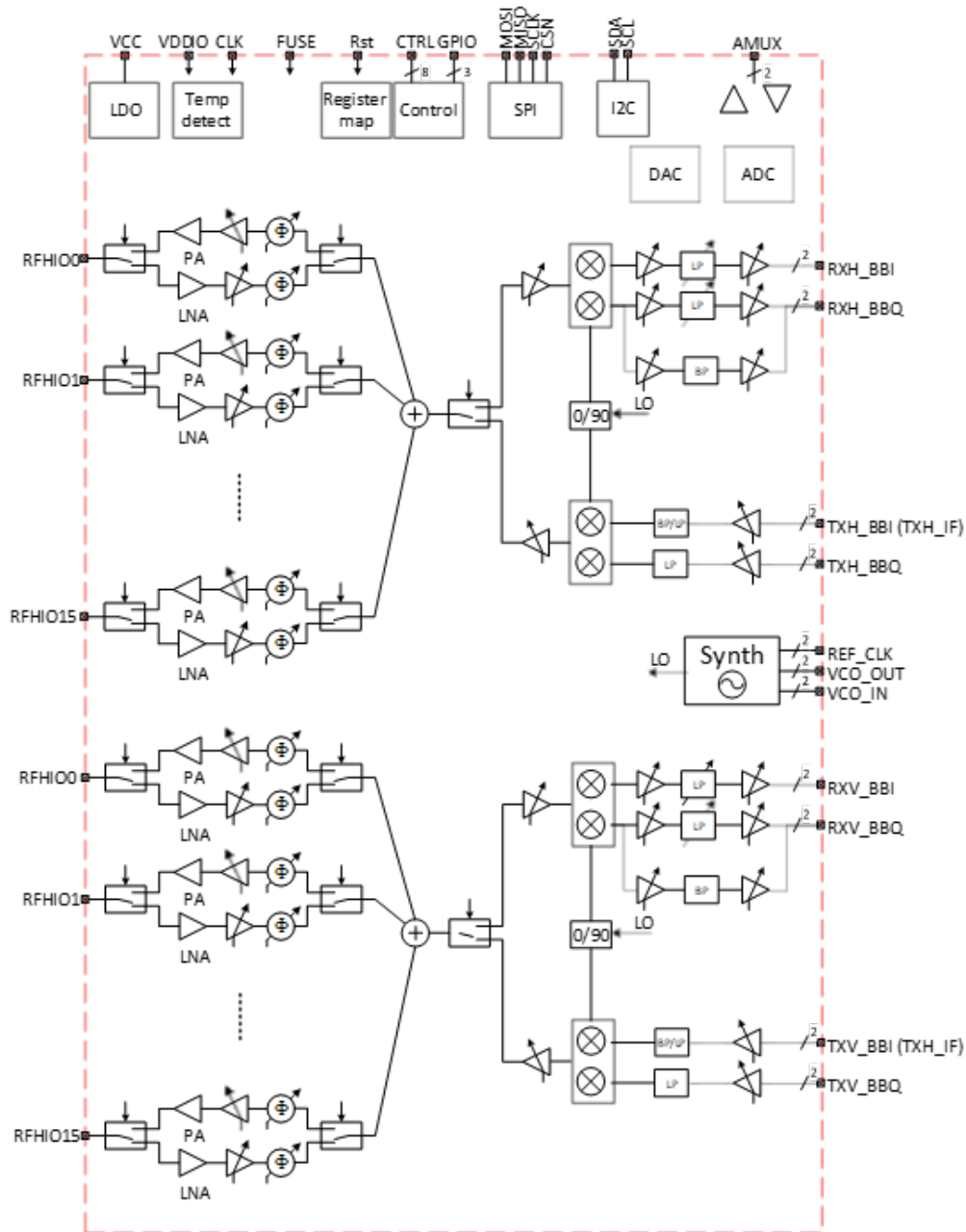


Figure 1. Block schematics TRB03901