Description

The F5280 is a 4-channel TRX half-duplex silicon IC designed using a SiGe BiCMOS process for 28GHz 5G phased-array applications. The core IC has very flexible gain and phase control on each channel to achieve fine beam steering and gain compensation between radiating channels. The core design includes standard SPI protocol that operates up to 50MHz with fast-beam switching, fast beam-state loading, and fast four on-chip beam storage.

Competitive Advantage

- High integration
- Fast switching
- Fast and flexible state programming and loading
- Minimal footprint

Typical Applications

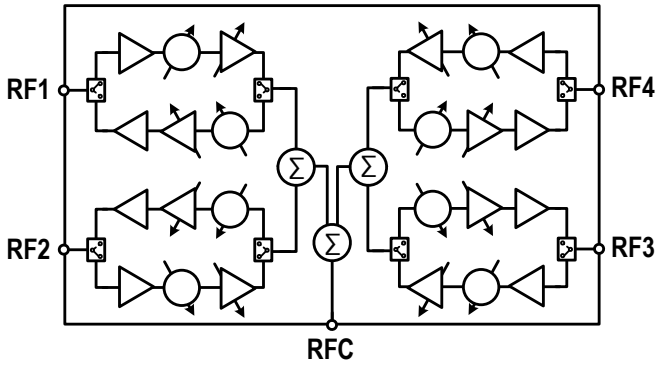
- 5G Phased-Array
- Beam Steering

Features

- 25GHz to 31GHz operation
- 4 radiation channels
- 100ns typical RF switch Tx/Rx mode switching time
- 20ns typical gain and phase settling time
- 3° typical RMS phase error
- 0.4dB typical RMS gain error
- Advanced SPI with 4 state memory
- 6-bit chip address
- Integrated PTAT with external biasing
- Internal temperature sensor
- Up to 50MHz SPI control
- Programmable on-chip memory
- Supply voltage: +2.3V to +2.7V
- -40°C to +105°C ambient operating temperature range
- 3.6 × 3.6 mm, 49-BGA package

Block Diagram

Figure 1. Block Diagram



Ordering Information

Orderable Part Number	Description and Package	MSL Rating	Carrier Type	Temperature
F5280AVGK	3.6 × 3.6 × 0.9 mm BGA	MSL 3	Tray	-40° to +105°C
F5280AVGK8	3.6 × 3.6 × 0.9 mm BGA	MSL 3	Reel	-40° to +105°C
F5280EVB	F5280 Evaluation Board			
F5280EVS	F5280 Evaluation Kit System, including Evaluation Board, 2x THRU Reference Fixture, FT2232H Mini-Module Microcontroller, Digital Cable, Power Cable, and USB-to-Mini Cable.			

Revision History

Revision Date	Description of Change
November 6, 2018	Initial release.