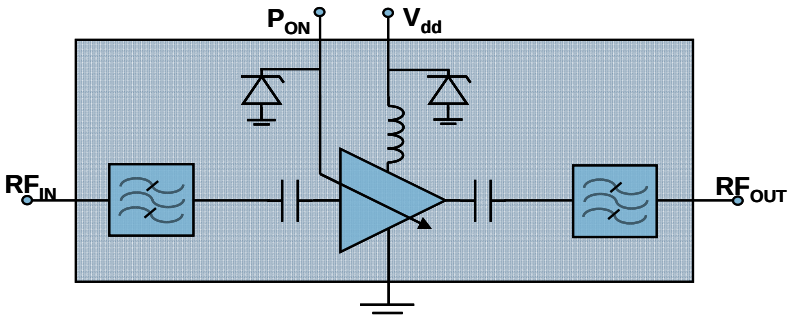
TQM640002

Data Sheet

GPS LNA-Filter Receive Module

Functional Block Diagram



Product Description

TQM640002 RF front end module (FEM) is an active device for GPS applications (center frequency 1575.42 MHz). It is designed for simultaneous GPS + voice in multi-function handsets. The FEM is comprised of a low-power flip-chip LNA die, a pair of high-performance SAW filters, and integrated passive matching circuitry. The module will operate at 1.8v or 2.8v bias and its current consumption – typically 5.0 mA – is not changed by DC supply, making it suitable for use in low-power applications & during low-battery situations. The FEM performance exhibits high in-band gain and excellent rejection in all the key cellular & WLAN/Bluetooth bands. The device also exhibits both a high intercept point & a low noise figure, which optimally addresses today's most stringent GPS front end receiver requirements.

Electrical Specifications

Typical performance, 1.8v bias

Parameter	Typ	Units	Comments / Conditions
Gain	16	dB	Under standard conditions
Noise Figure	1.56	dB	50 Ω system
Out of band Input P1dB	>23	dBm	GSM800 / GSM900
	>16	dBm	PCS / DCS / WCDMA
Rejection			
5 --- 980MHz	78	dBc	All Rejection measurements are referenced to 1575 MHz peak Gain and network analyzer power set to -30 dBm.
1620 --- 1720 MHz	74	dBc	
1720 --- 1785 MHz	70	dBc	
1850 --- 1980 MHz	70	dBc	
2400 --- 2500 MHz	68	dBc	

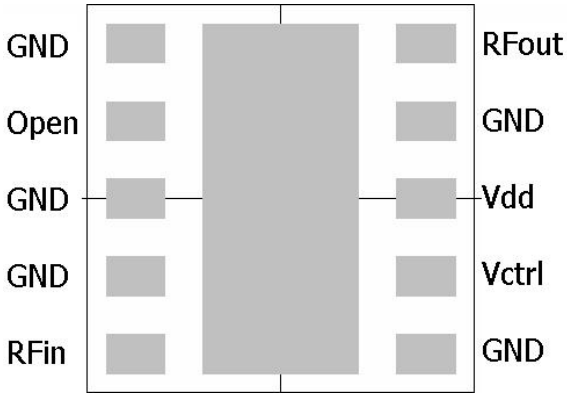
Features

- Low noise figure & high associated gain for high IP3 receiver stages for 1575 MHz
- NF = 1.56 dB; Gain=16 dB @ 1.8V
- No external matching components required
- Low current consumption & low voltage operation
- High immunity against inband compression due to out-of-band interferers during simultaneous GPS + voice operation
- Input and output internally pre-matched to 50 Ω
- Low cost miniature package 3 x 3 x 1.0 mm – suitable for low profile handset applications
- Power-up control for the LNA
- Designed to operate at 1.8V, with enhanced linearity performance at 2.8V
- Halogen-free

Applications

- 1575.42 MHz, L1 band GPS applications
- Personal Navigation Devices
- Cellular Handsets: Simultaneous GPS + voice calls

Package Style



Preliminary Data Sheet: Subject to change without notice

For additional information and latest specifications, see our website: www.triquint.com