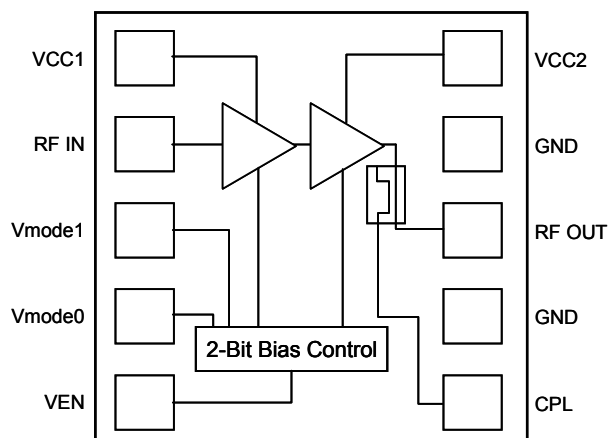


WCDMA / HSUPA Band 1 4x4mm Power Amplifier Module w/ Coupler

Functional Block Diagram



Product Description

The TQM776003 is fully matched Power Amplifier Module designed for use in WCDMA handsets. Its compact 4x4mm package (including coupler) makes it ideal for today's extremely small data enabled phones. Its RF performance meets the stringent linearity requirements of HSUPA operation.

The TQM776003 is designed on TriQuint's advanced InGaP HBT GaAs technology offering state of the art reliability, temperature stability and ruggedness. The module includes built-in regulator functionality as well as a high performance coupler for maximum integration and space savings. The 3-Gain state PA die operates in LPM, MPM and HPM to maximize talk time over the entire range of operating conditions. To achieve the majority of the current savings and simplify the cost/time of calibration in production the TQM776003 can be used in 1-bit operation LPM/HPM with only 6mA of I_{CQ} up to +13dBm in LPM.

Electrical Specifications

Parameter	Min	Typ	Max	Units
Frequency		1950		MHz
WCDMA mode maximum P_{out}^1			28	dBm
LPM Quiescent Current		6		mA
ACLR5		-43		dBc
ACLR10		-60		dBc
Power Supply Current @ 28dBm		450		mA
Rx Band Noise		-140		dBm/Hz

Note 1: Test Conditions 3GPP Test Mode: $V_{CC}=3.4VDC$, $V_{EN}=HIGH$, $T_C=25^\circ C$

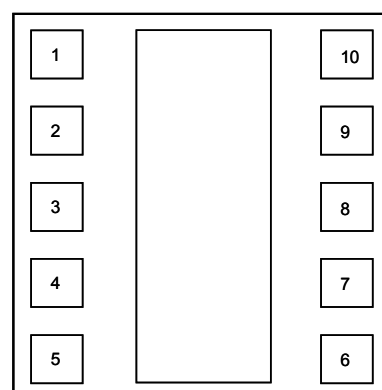
Features

- GaAs InGaP HBT PA Technology
- Typical Quiescent Current values:
LPM: 6mA
(LPM able to operate up to +13dBm)
MPM: 20mA
HPM: 85mA
- Excellent Linearity in all modes
- Integrated high performance coupler
- Built-in voltage regulator functionality eliminating any external switch circuitry
- Optimized for 50 Ω system
- Small 10-pin, 4x4mm module
- Lead-free 260 $^\circ C$ RoHS compliant
- Full ESD protection
- Halogen-Free

Applications

- WCDMA Handsets
- HSUPA Applications

Package Style



10-Pin Laminate Module
Top View (through package)