TriQuint SEMICONDUCTOR

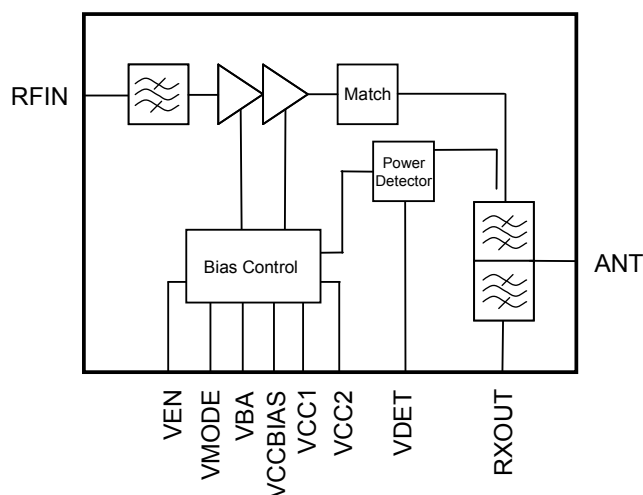## WCDMA / HSUPA Band IV Tritium III PA Duplexer Module™

Functional Block Diagram

Product Description

The Tritium III PAD™ is an integrated 3V Linear Power Amplifier, Duplexer and Transmit Filter Module including a highly accurate Output Power Detector designed for mobile UMTS handset applications, supporting HSUPA operation with transmission data-rates up to 10Mb/s.

It features 2 output power modes, additional continuous bias in low power mode, low off and standby currents, and a separate pin for module enable. RF input and output matching is included within the module; therefore, minimal external circuitry is required. The Tritium III PAD™ gives excellent RF performance with low current consumption resulting in longer talk times in portable applications. The tiny 7x4x1.1 mm³ surface mount package is ideal for new generation slim, small and light phones.

Electrical Specifications

Parameter	Min	Typ	Max	Units
Frequency	1710		1755	MHz
Linear P_{OUT}(HSUPA) high power mode	25.0			dBm
Typical current high power mode		400		mA
Idle current low power mode		16		mA
ACPR (HSUPA) 5 MHz		-43		dBc
ALPR (HSUPA) 10 MHz		-60		dBc
Ant-to-RX Insertion Loss		2.2		dB

Test Conditions: $V_{CC1} = V_{CC2} = 3.8$ V, Ta = 25°C

Features

- Handset Tritium III PAD™ (PA-Duplexer) Module for UMTS Band IV
- Specified for HSUPA Modulation
- Integrates Power Amplifier, Highly Accurate Output Power Detector, Transmit Filter and Duplexer
- No Regulated Voltage Required
- Separate 'Module Enable' Pin
- All RF Ports Matched to 50 Ω
- Low Current Consumption:
  – 2 Power Modes
  – Continuous Bias in Low Power Mode
  – Low Idle Current (16mA typ.) in Low Power Mode
- Compatible for Low Collector Voltage Operation with DC-DC-Converters

Applications

- 3G UMTS Handsets and Data-Cards

Package Style

- Compact 7 x 4 x 1.1 mm³ 16-Pin LGA Package