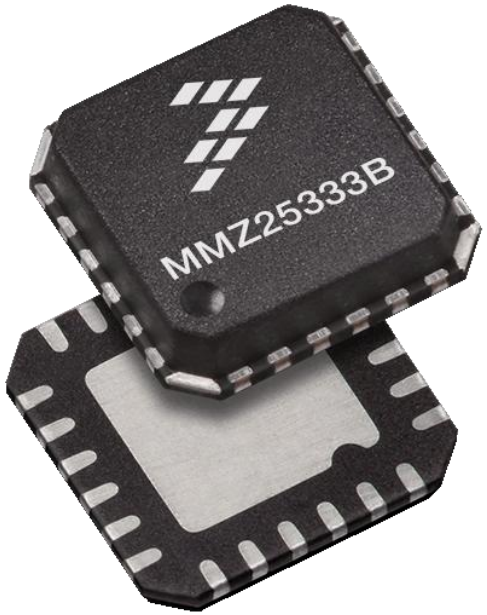
MMZ25333B 2 Watt High Gain Power Amplifier for Cellular Infrastructure

Versatile and High Performing

Small Signal & Low Power RF Products

MARCH 24, 2014

MMZ25333B Overview



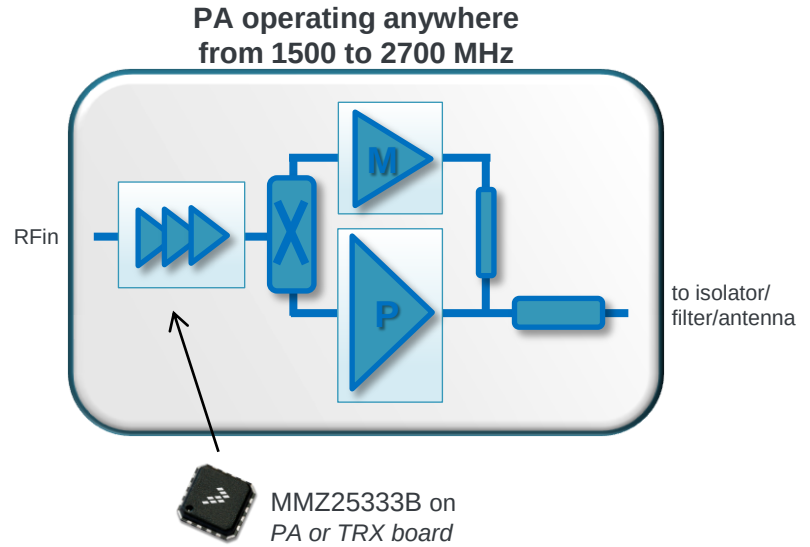
- The industry’s first integrated multi-stage amplifier covering 1500 to 2700 MHz with more than 40 dB of gain
- Versatile design
  - Matching networks can be adjusted on PCB to optimize performance in target band anywhere from 1500 to 2700 MHz
  - Quiescent bias currents adjustable for optimum efficiency-linearity trade-off for a given application
- Output power up to 33 dBm (2 Watts)
- Convenient 5 V supply voltage
- QFN 4 × 4 package with 24 pins

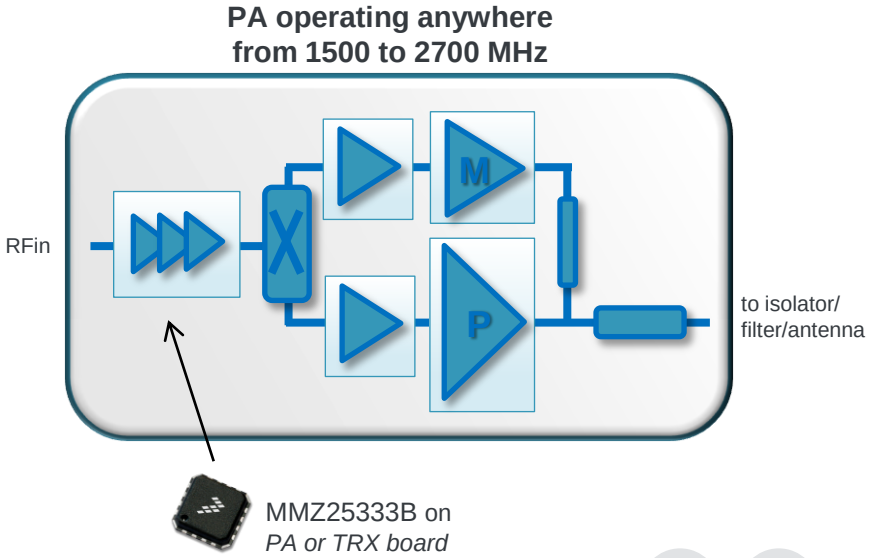
MMZ25333B – Target Markets and Customers

- Target market: cellular infrastructure equipment
  - Pre-driver or driver for macro and micro base transceiver stations (BTS)
  - Final stage for small cells
  - Repeaters
- Flexible implementation allows use in other RF applications
  - This device can be used for any general RF application from 1500 to 2700 MHz where high gain and power off of a 5 V supply are required

Applications – Pre-driver or Driver for Macro and Micro BTS PAs

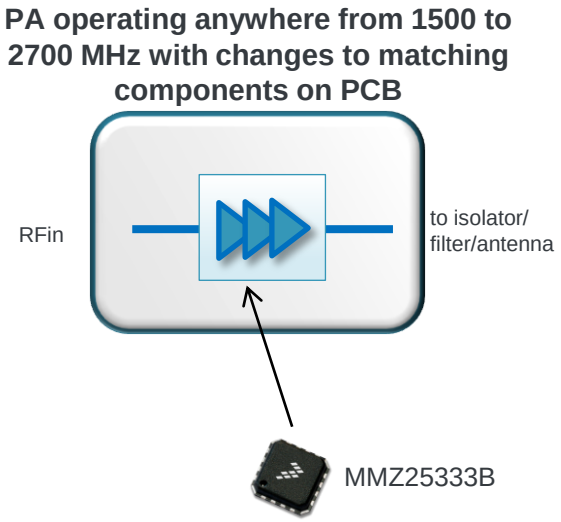
- Systems generally use Doherty power amplifiers in the final stage and are pre-distorted using DPD systems
- The MMZ25333B can be used as a driver (or pre-driver) to these Doherty amplifiers
- It can be located either on the PA board (as one of the first components) or on the TRX board (as one of the last components)
- The device has very high gain (> 40 dB), eliminating additional gain stages, and can be reused for many different projects from 1500 to 2700 MHz
- Consider two out of many implementation examples on the right



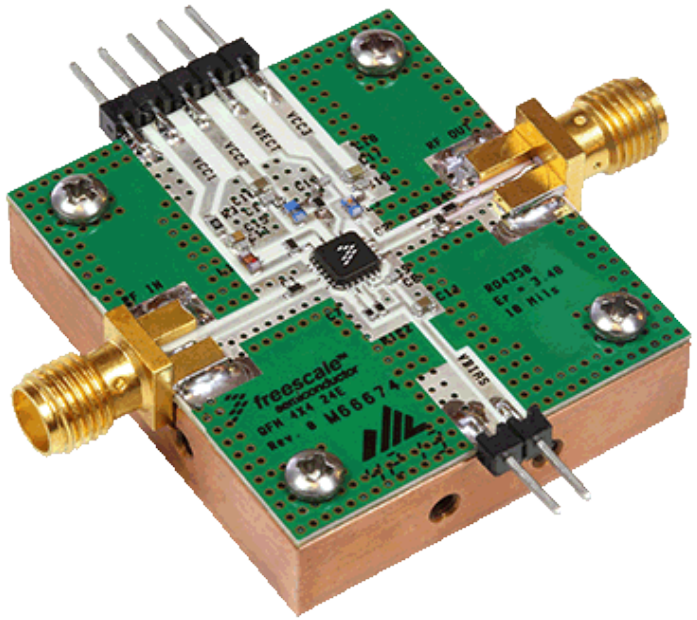


Applications – Small Cell Final Stage PA

- In non-linearized systems the quiescent current should be increased to improve linearity of the device
- In linearized systems using either digital pre-distortion (DPD) or analog pre-distortion (APD), a.k.a. RF pre-distortion (RFPD), such as Scintera's RFPAL, quiescent current can remain low for improved efficiency
- Versatility design allows use at all frequency bands from 1500 to 2700 MHz



Development Tools



- Visit Freescale's website for the latest information and design tools
  - www.freescale.com/RFlowpower
  - www.freescale.com/RFMMIC
- Evaluation boards for various frequency bands and applications have been designed, and more are under development
- Contact your Freescale or Distribution Sales representative to request an evaluation board specific to your needs

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