

MT6167 Introduction

1.1 Overview

The MT6167 is an RF transceiver targeted at high speed 3G smart phone and tablet computers

implemented in 40nm CMOS. The RF transceiver function is fully integrated. This document

described the performance targets for the RF macro to be embedded in the overall product.

1.2 Key features

Full multi-mode RF solution (GGE/WCDMA) through to 3GPP Release 8 (HSPA+)

- o 42.2Mbps peak DL (Cat. 24: 64QAM, Dual-Cell HSDPA)
- o 11.5Mbps peak UL (Cat. 7: 16QAM)
- o Supports receiver diversity (RxD)
- o Quad-band support in GGE mode (GSM850/900/1800/1900)
- o 3G bands support: Band I –VI , VIII-XI (including Softbank, JPN), XIX

Direct Conversion (3G), Two Point Modulation (TPM) for GMSK and Small Signal Polar for 8-

PSK

- o No external SAW filters required for transmitter (WCDMA//GGE)
- o Dedicated power detection circuits for 3G TX power control over specific power range

Hybrid Direct-Conversion (3G) / Low-IF (GGE, DC-HSDPA) receiver

- o No external SAW filters required for receive (WCDMA/HSDPA)
- o Flexible support for a variety of bands configuration (5 Rx & 3 RxD)

Quad-band Rx GGE co-banded with 4 Rx WCDMA/HSDPA/DC-HSPA bands

II,III,V,VIII

Additional Rx input for other 3G bands

Three Rx/D inputs can cover up to five bands through external band diplexing

Low supply current & operation directly from DC-DC converter

26MHz internal DCXO or external VCTCXO operation (with integrated AFC DAC)

- o Three low noise additional Clock Drivers for clocking connectivity / peripheral IC's
- o Ultra Low power 32KHz mode

Support RF Calibration features for key Rx and Tx specifications (Image rejection, LO feed through, DC offset)