CIRCUIT DESCRIPTION

1. Scope

The equipment under test (EUT) is a dual-mode mobile with GSM mode(GSM850/EGSM900/DCS1800/PCS1900) and UMTS mode (Band2+Band5). The mobile phone has two SIM slot. The two SIM cards can not keep calling at same time.This document is shown and provided the more detail information about the platform used in. The basic description for the Baseband and RF section are also included.

2. Baseband

MT6572 is a highly integrated baseband platform incorporating both modem and applicaition processing subsystems to enable 3G smart phone applications,with integrated Bluetooth,WiLAN and GPS modules.The chip integrates a Dual-core ARM Cortex-A7 ®MPCore operating up to 1.2GHz,an ARM Cortex-R4 MCU and a powerful multi-standard video accelerator.MT6572 supports various interfaces,including parallel/serial NAND flash memory and 32-bit LPDDR2 for optimal performance,and supports booting from eMMC to minimize the overall BOM cost. In addition,an extensive set of interfaces and connectivity peripherals are included to interface to cameras,touch-screen displays,MMC/SD cards.

3. PMU

MT6323 is a power management system chip optimized for 2G/3G handsets and smart phones,especially based on the MediaTek MT6572 system solution.MT6323 contains 3 buck converters and 23 LDOs,which are optimized for specific 2G/3G/smart phone subsystems.

MT6323 provides mono 0.7W into 8ohm,high efficiency Class AB/D audio amplifiers and flexibility for various applications of indicator LED drivers.It supports up to 4 channel LEDs with independent controlled.Flexible control includes:register mode,PWM mode and breath mode. Sophisticated controls are available for power up,battery charging and the RTC alarm.MT6323 supports lithium-ion(Li-ion) battery and provides pre-charge indication.The charger input voltage can be up to 10V and allows USB charging,too.Some multi-purpose pins enable MT6323 to be configured in various applications.

4. Radio transceiver

MT6166 is a RF transceiver targeted at high speed 2G/3G-FDD/TDD multi-mode smart phone and tablet computers implanted in 40nm CMOS.The RF transceiver function is fully integrated.This document briefly introduces the RF macros in MT6166.The key features are listed as below:

1).Full multi-mode RF solution(GGE/WCDMA/TDSCDMA)

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

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

4).Low supply current& operation directly from DC-DC converter

5).26MHz intenal DCXO or external VCTCXO operation(with integrated AFC

DAC)

6).Support RF calibration features for key Rx and Tx specifications(Image rejection,LO feedthrough,DC offset)

5. Radio PA

The VC5282 is a quad-band (GSM850/EGSM900/DCS1800/PCS1900) GSM/GPRS, Class 12 compliant transmit module with two symmetrical receive ports and two high linearity UMTS ports. This transmit module builds upon RFMD's leading power amplifier with PowerStar® integrated power control technology, pHEMT switch technology, and integrated transmit filtering for best-in-class harmonic performance.

The results are high performance, reduced solution size, and ease of implementation. The device is designed for use as the final portion of the transmitter section in a GSM850/EGSM900/DCS1800/PCS1900 and UMTS handset and eliminates the need for a PA-to antenna switch module matching network.The device provides 50Ohm matched input and output ports requiring no external matching components.

The VC5282 features VANCHIP's latest integrated power-flattening circuit, which significantly reduces current and power variation into load mismatch. Additionally, a VBATT tracking feature is incorporated to maintain switching performance as supply voltage decreases. The VC5282 also integrates an ESD filter to provide excellent ESD protection at the antenna port.

6. WLAN/BT Chip MT6627

For WiFi and Bluetooth, MT6627 provides an advanced switching mechanism which allows fast switching between WiFi and BT modes.Hardware sharing and reuse is maximized.The transceiver front-ends are on MT6627 while the ADC/DAC(analog-to-digital converter/digital-to-analog converter) are in the companion modem chip.The interface driver/receiver buffer are in the companion modem chip.The interface driver/receiver buffer are designed to driver PCB trace loading.