

Circuit Description

1. Product function introduce

The product is an Android5.1 system MID device with capacitive touch screen. It has functions of visiting internet with WiFi, playing audio and video in EMMC flash or TF card, audio/video recorder, alarm clock, calendar, real-time clock, camera and so on.

2. Structure

2.1 Structure Introduce

The system is consist of SOC (MT8321), MediaTek MT8321 is a highly integrated 3G System-on-chip (SoC) which incorporates advanced features, e.g. Quad-core ARM® Cortex-A7 MPCore™, 3D graphics (OpenGL|ES 2.0), 8M camera, high-definition 1080p video decoder, and built-in RF transceiver for multi-band GSM, GPRS, EDGE and W-CDMA cellular systems. MT8321 helps tablet manufacturers build high-performance 3G smart device with PC-like browser, 3D gaming and cinema class home entertainment experiences. one piece of EMMC Flash, 1 pieces of IPS LCD, 7" TFT panel, GSM/WCDMA, WiFi/BT module, TF socket, 30W front camera (GC0310), 200W rear camera (GC2355), PMU (MT6350), and some other power conversions IC.

2.2 Description

When you stir the switch of power about 3 seconds, the system is powered on. When you choose any icon in the GUI of Android 5.1 using your finger or others, the product first judge what happened and then give it to the ARM or DSP in the core of MT8321 proceeding.

The main oscillator signals are amplified by the power amplifier, routed to the match net and finally delivered to the antenna. The directional coupler samples the output RF signal which is subsequently detected by a temperature compensated Schottky diode RF detector. The detected signal is used in the integrating power control loop which resides internal to the transceiver IC for setting and controlling the output power. The power settings are calibrated at the factory and stored in the flash memory IC. These settings are used as the reference level for the power control loop. Power ramping functions are also controlled by the mixed signal device.

The mixed signal device digitizes the baseband I/Q signals using Sigma-Delta DACs and sends them to the baseband processor through a serial digital interface. This IC also has analog-to-digital converters (ADCs) and digital-to-analog converters (DACs) to directly interface to the handset speaker and microphone. The voiceband Codec section provides a 32 ohm interface to the speaker and microphone and also provides Line In/Out signals for the headset. Additional the mixed signal device contains all required system power supply regulators.

WIFI /BT Module

Frequency Range	2412-2462MHz for 802.11b/g/n20; 2422-2452MHz for 802.11n40 BT:2402-2480MHz
Modulation:	Wifi: OFDM,DSSS BT:GFSK,4/11DQPSK,8DPSK
Type of Antenna:	FPC antenna
Antenna Gain:	1.87dBi

GSM/WCDMA:

Frequency Range	GSM850:824-849MHz(TX),869-894MHz(RX) PCS1900:1850-1910MHz(TX),1930-1990MHz (RX) WCDMA850: 824-849MHz(TX),869-894MHz(RX) WCDMA1900: 1850-1910MHz(TX),1930-1990MHz (RX)
Modulation:	GSM/PCS:GMSK;8PSK WCDMA:BPSK,QPSK,16QAM,64QAM
Type of Antenna:	FPC antenna
Antenna Gain:	1.67dBi

2.3 Power

It can use adaptor of 5V*2A when the system display the battery remain a little of power or exhaust.