Operational Description

Product: Android POS

Model: MINI RUNPAY

1. Overview:

MU709 works, UMTS band (UMTS Band II/UMTS Band V) in hardware. It can support HSDPA downlink and HSUPA uplink data rates

The majority of the EUT circuitry consists : the   Power Amplifier , the

Baseband Processor, single-die radio transceiver IC .There is also

a combination EMCP/DDR3-RAM . The system is powered by a rechargeable

lithium-ion battery with a nominal voltage of 7.4 volts.

1.1. Product technical parameters:

1. UMTS

Items	Band II	Band V
Frequency allocation	TX(Uplink):1850-1910MHz RX(Downlink):1930 -1990MHz	TX(Uplink):824-849MHz RX(Downlink):869-894MHz
Channel band width	5MHz	5MHz
Channel	9262-9538	4132-4233
Modulation	Uplink: QPSK, Downlink:QPSK,16QAM	Uplink: QPSK, Downlink:QPSK,16QAM
WCDMA	Power Class 3	Power Class 3
HSDPA	Power Class 3 Category 14	Power Class 3 Category 14
HSUPA	Power Class 3 Category 6	Power Class 3 Category 6
TX/RX channel space	80MHz	45MHz
(Fn)Freq. calculating formula	$Fn= 1852.4 +(N-9262)\times5$ N: Channel No. Unit: MHz	$Fn= 826.4+(N-4132)\times5$ N: Channel No. Unit: MHz

WIFI Specs:

Frequency range	2412 MHz – 2462MHz for b/g/n(HT20) 2422 MHz – 2452MHz for n(HT40)
IEEE	802.11b,802.11g,802.11n HT20/HT40
Modulation	DSSS/OFDM
Number of channels	11 for b/g/n(HT20) 7 for n(HT40)
Channel spacing	5MHz

RECOMMENDABLE OPERATION CONDITION:

Normal Supply Voltage (V d.c.)	7.4V
Maximum Extreme Supply Voltage (V d.c.)	8.2V
Minimum Extreme Supply Voltage (V d.c.)	6.3V

Minimum Extreme Temperature	-20℃
USIM Voltage	1.8 / 3V

3G PA

PA parameter	Specification		
UMTS	Min.	Typ.	Max.
Power supply voltage	3.3V	3.8V	4.2V
Power supply current	0.31	0.51	0.6A

For HSDPA and HSUPA power regulation

DC 3.3V/102mA power into MP1482/NX7101, and DC 3.3V/120mA for MU709 power supply, with 3.3v/140mA to amplifier, then with C227 C402 as filter to the anttena.

1.2. Receiver principle

The aerial signal mobile received go to RF Connector, and then transmit to transceiver via the selected band in RF switcher & SAW filter. Four IQ signals input to CPU,Go through A/D,DSP, and D/A section in CPU, then output to receiver.

1. U5 is main MCU (s5p4418) ,which processing the data from RF module,then will send the result to RF module

2. RF module will receive the data from Receiver" and send the received data to MCU processing.This module communicate with MCU with SDIO communication mode.

3.U15 is a 3G module. U15 communicates with U5 with USB communicate mode

When turn on the power of the controller, the 12MHZ crystal oscillator opens inspires, U1 and the module start to work. Than the controller is at the searching status, the LED indicators will twinkle, (U1 carries on communication channel searching with the frequency-hopping way and transmitting the connecting command via the RF module.) When the handle searches a goal equipment, U1 will judge whether to connection with it. If yes, the LED indicator will keep lighting, and U1 will generate a stochastic code, and this code will be stored in U2. At the same time the receiver will send out an request order for the Axis value and the key input value, and will be waiting for this input value from controller. If there are any input from a pressed keys, U2 will processes these values and then send them to the module for modulating, these signal will be transmitted out by the 50 ohm antennas. Receiver will judge and process the data after receiving, and then send them to the PS3 console.

Feature

Frequency Range:

Wifi:2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20))

WCDMA Band V: 826.4 MHz ~ 846.6 MHz

WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz

Modulation Type:

Wifi: DSSS, OFDM

Antenna Gain:

Wifi: 1.5dBi

WCDMA Band V: 3dBi WCDMA Band II : 3dBi

Antenna Type: Internal Antenna

Crystal: 32.768KHz, 24MHz, 40MHz, 12MHz