

Theory of Operation

Description of Circuit Operation

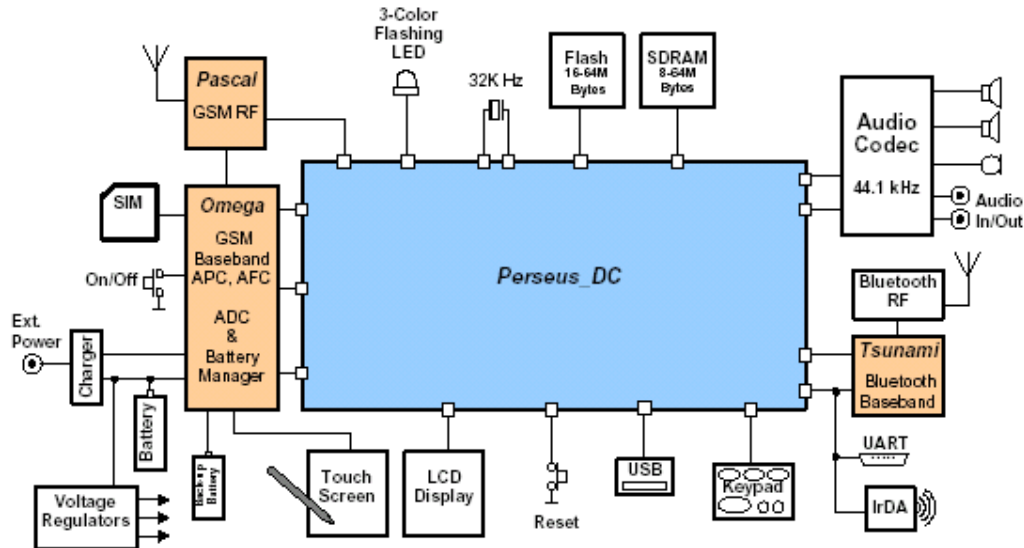


Figure 2: Perseus_DC Wireless PDA application overview

(1) Baseband :

The smartphone is using the TI solution with two ARM processor for PDA & GSM code called Perseus . Perseus can control LCD displayer, USB, Keypad, UART, IRDA, SDRAM, Flash(16-64Mbytes), Enhance Audio Codec with 44.1kHz. And it support 32kHz crystal for Big/Deep sleep function for Power consumption. It also include a DSP called Nausica (Omega) with ADC, Battery/charging manager, SIM and RF/BB interface function.

(2) Memory:

ARM9 will copy the flash to SDRAM to run the Stinger code(PDA) and GSM code in SDRAM during the power/on to the stinger operating system. In the same time, the DPLL clock will rise to 108Mhz.

(3) Audio Codec

The Perseus build in the Audio Codec function. It also support the I2C control interface for Enhance stereo audio D/A converter and Although the sampling rate can reach to 8khz but this sampling rate is not enough for MP3 player. Thus, the U401 TVL320DAC converter can enhance it to 44.1kHz. The audio can separate as earphone, speaker, and receiver path. Audio can change path by plugging in the earphone jack or