![maxim integrated logo]

System Board 5996

MPOS-STD2: TURNKEY PCI-PTS MOBILE POS (MPOS) TERMINAL

ⓘ All versions are No Longer Available.

Introduction

MPOS-STD2 is a complete Mobile POS reference platform that embeds a color TFT display, keypad, mag stripe reader, smartcard reader, Bluetooth®, contactless interface, and LiPo rechargeable battery. The device is a complete MPOS-in-a-box solution that has been pre-evaluated by security labs for compliance with PCI-PTS 4.0 standards. It is a full turnkey solution that comes with an extensive hardware and software bundle that includes all the pieces required to successfully modify, adapt, build, program, certify, and manufacture a Mobile POS terminal and thus, in large quantities.

The MPOS-STD2 reference design is based on the MAX32550 Secure Flash-based Cortex® M3 microcontroller that embeds most of the peripherals and analog interfaces required to operate a Mobile POS with a limited number of external components.

A block diagram of the system is shown in **Figure 1**.
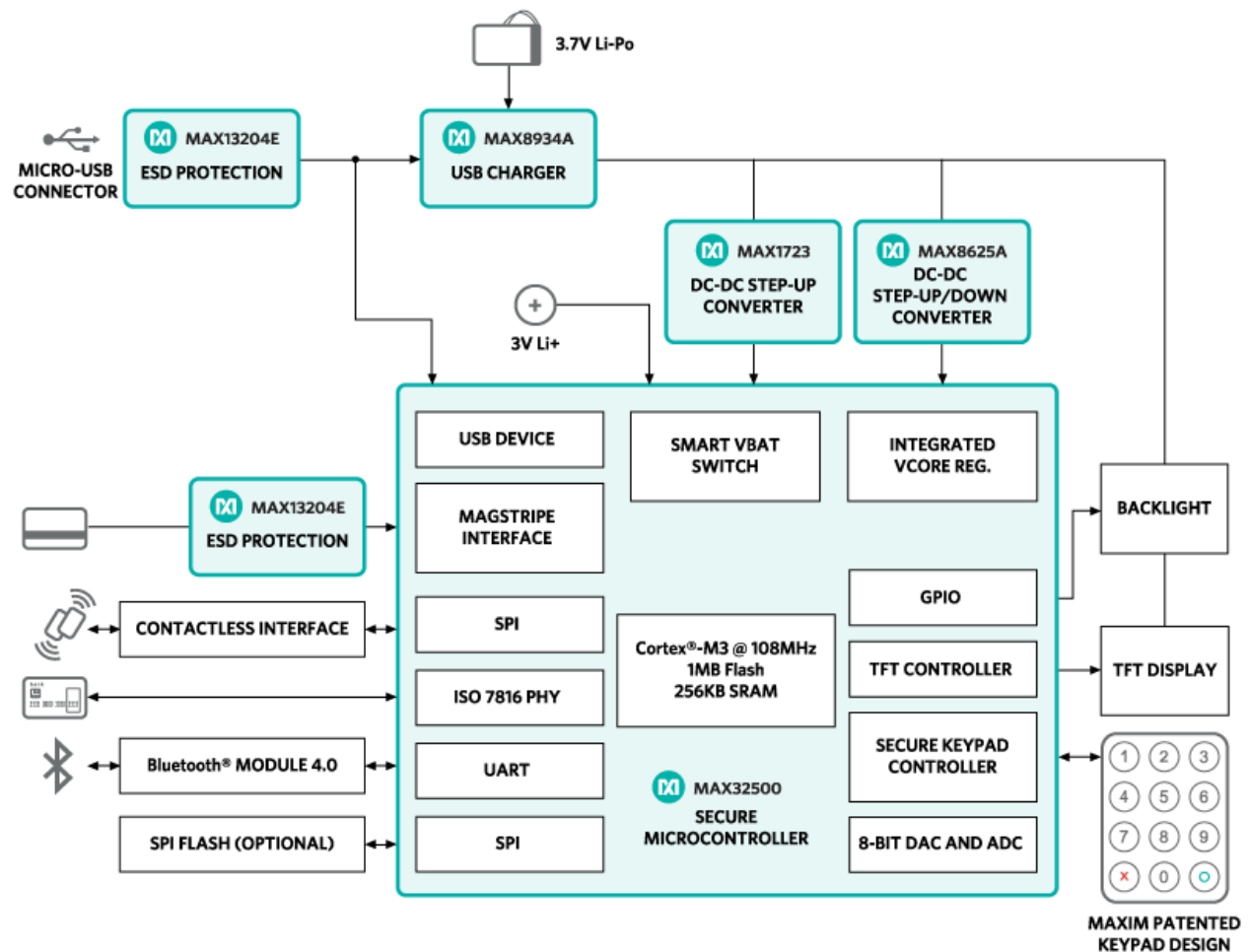
Features

- 320 x 320 graphical color TFT display
- 12-key patented secure keypad
- 2-track magnetic card reader
- EMV-L1 smartcard reader
- Contactless reader
- USB full-speed device port
- Bluetooth® 4.0 controller
- Secure Flash-based Cortex M3 microcontroller
- Rechargeable lithium polymer battery
- Lithium backup battery
- -10°C to +40°C operating range
- -40°C to +85°C storage range
- Support and certification assistance

Applications

- MPOS
- Pin pads

Benefits

- Quick time to market
- Reduced R&D expense
- Accelerated certification
- Secure supply chain
  - Description of what each option of the reference design contains.
  - **MPOS-STD2-REF#:** MPOS Standard II Reference Design that contains all the design files, software and reports. Does not include physical hardware.
  - **MPOS-STD2-PRO#:** MPOS Standard II Prototype that is a working prototype with casing of the full MPOS. Does not include design files, software and reports.
  - **MPOS-STD2-KIT#:** MPOS Standard II Evaluation Kit is an development kit based upon the MPOS-STD2 reference design. Does not include design files, software and reports.

Detailed Description of the Reference Design
Features

- MAX32550 Secure Microcontroller:
  - 108MHz 32-bit ARM® Cortex M3 core with MPU
  - 256KB of SRAM
  - 1MB of Flash
  - 64KB of ROM
  - 4KB of OTP
  - 8KB of encryptable NVSRAM
- External memory (optional):
  - 1MB external SPI flash (optional)
- User Interface:
  - 320 x 240 dots graphic color TFT with backlight
  - 12-key patented secure keypad
- Magnetic Card Reader:
  - 2-tracks magnetic card reader
- Smartcard Reader:
  - EMV Level 1 4.2, ISO7816, 3V/1.8V/5V support, T=0 and T=1 protocols
- Contactless Reader:
  - NXP CLRC633 interface
- Connectivity:
  - USB device from MAX32550
  - Bluetooth 4.0, PAN1026 complete certified module
- Environmental
  - Operating temperature range from -10°C to +40°C

- o   Storage temperature range from -40°C to +85°C
- Dimensions
    - o   121mm x 75mm x 17.25mm (L x W x H)
- Power
    - o   3.7V/230mAh Lithium Polymer rechargeable through USB
    - o   125mAh MNO2 battery backup
    - o   MAX8934 USB charger
    - o   MAX8625 step-up/down converter
    - o   MAX1723 step-up DC-DC converter for 5V smart cards
- ESD protection
    - o   2 x MAX13204 ESD protections on USB and magnetic head

- **Deliverables**

	Description
Software	Development environment
	Full BSP package
	Cryptographic library
	Demo application
Documentation	Schematic and hardware
	PCI-PTS 4.0 evaluation report
	Development environment user guide
	Evaluation kit user guide
Support	Technical support
	Certification assistance
Schematic & PCB	Schematics
	Layout

	PCB manufacturing	
	Pick and place	
	Netlist	
	BOM	
Mechanical design	2D design files	
	3D design files	
Hardware	MPOS-STD2 prototype unit	
	MPOS-STD2 evaluation kit	

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