

Product Accelerator Board

3PB1000 series for Rugged Applications

FEATURES

- Ready to use solution: start developing your product now
- Can be integrated in your product as-is or used as a starting point for a customization
- High performance, ready for IA-driven future
- Robust solution, ideal for rugged applications
- Powerful graphic performance, ideal to create next-generation HMIs
- Ideal for multimedia applications
- Supports all NXP i.MX8M Plus processor variants
- Compact dimensions only 160 x 100 mm
- Support 3SM2008 SoM Modules
- Flexible and expandable solution
- EGF SW Upgrade platform for updates through USB pendrives or OTA



SOM Module CPU

- NXP i.MX 8M Plus Dual / QuadLite / Quad Arm® Cortex®-A53 CPU
- Dual / Quad core versions
- CPU frequency up to 1800 MHz
- Additional Cortex-M7 Core up to 800 MHz
- Neural Processing Unit (NPU) depending on SoM configuration

Carrier Board

MULTIMEDIA AND HUMAN INTERFACE¹

- 4 display connectors available:
 - MIPI-DSI Display (4-Lane)
 - HDMI
 - 2 x LVDS
- 2 camera connectors available
 - MIPI-CSI Camera (4-Lane)
- Integrated Audio Codec
 - Headphone Jack (with mic)
 - Speaker output (8 ohm – 1W)
- Optical SPDIF output (optional)
- 2 x PDM digital microphones
- 7", 10.1", 15.6" and other custom size displays available on request

SYSTEM

- Single +12-24 VDC ±10% power supply
- On board regulators for all integrated functions
- Power consumption depends on application

STORAGE / BOOT MEMORY

- Up to 64 GB eMMC Flash memory

DRAM MEMORY

- Up to 4GB LPDDR4 memory with 32 bit wide Bus

I/O PERIPHERALS¹

- 1 x USB 3.1 Host Connector
- 1 x USB Type-C OTG Connector with DRP
- M.2 Key-B Connector for Modem or SSD expansion
- 2 x CAN BUS Interfaces with integrated High Speed Transceiver and CAN FD support up to 5 Mbit/s
- 2 x LAN 10/100/1000 RJ45 connectors
- 4 x RS-232 UART Connectors
- 2 x USB Debug Connectors with integrated FTDI Chip for Cortex-A53 and Cortex-M7 Debug

TEMPERATURE²

- 0 to 70° for commercial version
- -40 to 85°C for industrial version

OPERATING SYSTEMS

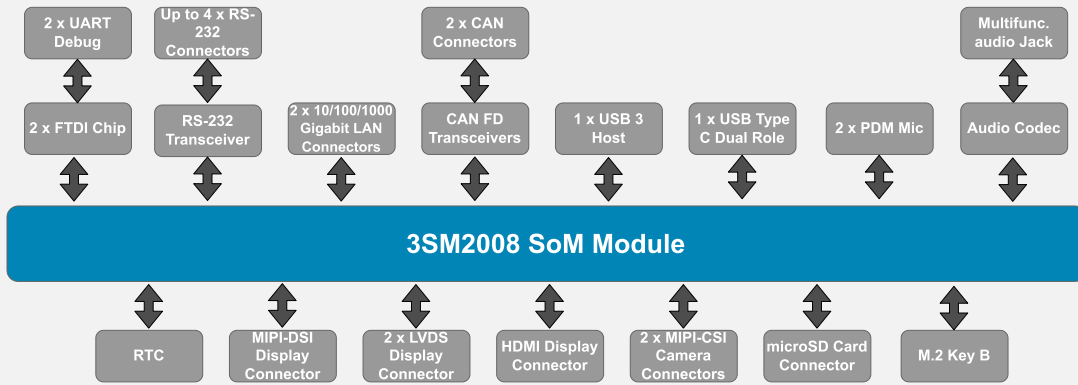
- Linux (Cortex® - A53 core) + FREERTOS (Cortex® - M7)

¹ Please note that not all the functions may be available simultaneously, due to pin mux limitation of CPU case. For more information, refer to NXP user's manual.

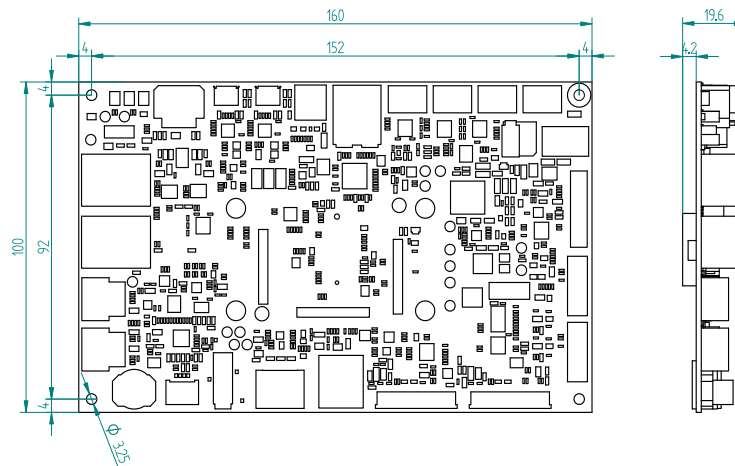
² These temperatures are the ambient operating temperature ranges for the components used into SoM, with exception of iMX8M Plus processor, which is specified on junction operating temperature range, 0-95°C for commercial version and -40-105°C for industrial version. SoM ambient operating temperature depends on the application and on the cooling measures applied



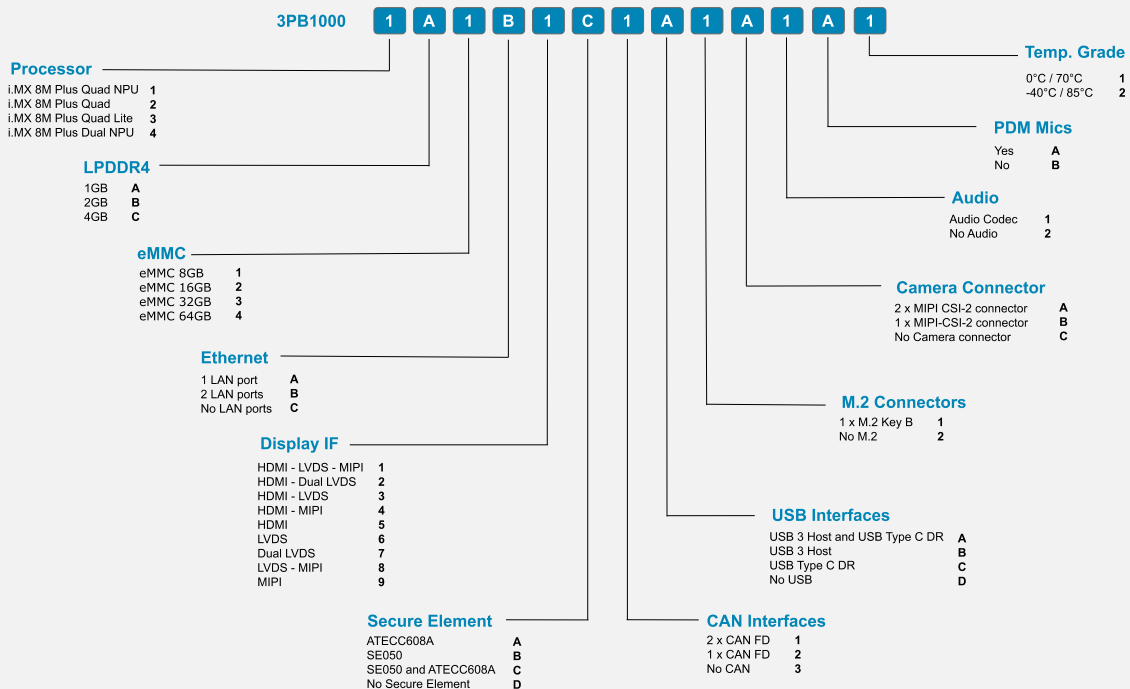
BOARD DIAGRAM



DIMENSIONS (mm)



ORDERING INFORMATION OPTIONS



Default configuration:

3PB10001A1B1C1A1A1A1 i.MX 8M Plus Quad NPU, 1GB LPDDR4, 8GB eMMC, 2 Gigabit LAN Ports, HDMI, Dual LVDS and MIPI-DSI, SE050, ATECC608A, 2 CAN FD, USB Host, USB Type C, M.2 Key B, 2 MIPI Camera Connector, Audio, PDM Mics, Commercial Range

Some code combinations are not allowed and others are available on customizations only, for more information please contact Eletronica GF sales dept.

