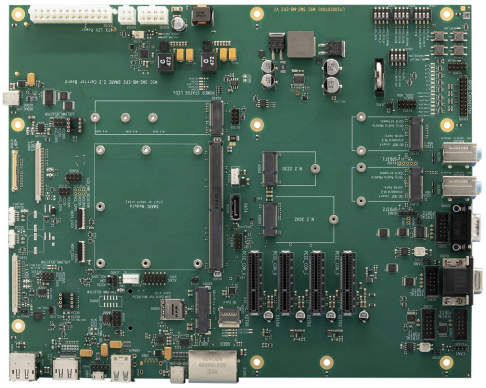
TRIA SM2-MB-EP2

SMARC™ 2.2 Carrier Board

244 x 305 mm



5 W

0°C...+60°C

Highlights

- SMARC™ 2.2 carrier board for full size and short size modules
- HDMI and 2x DisplayPort connectors
- 2x LVDS JILI30 connectors & eDP connectors
- Two Gigabit Ethernet ports
- 4x PCI Express x1 Gen 3 slots
- 1x Mini PCI Express x1 Card slot and 2x M.2 slots
- One SATA-III connector or M.2 slot
- Full USB 2.0 / 3.0 support
- Different USB Connectors: Type A, Type C, MicroUSB, Serial Debug)
- Full Legacy Interface support
    - CAN, SPI, eSPI, SMBus, I2C and GPIO
- HD or I2S audio interface
- 2x MIPI CSI-2 camera interface
- SD Card socket
- Fan connector
- CMOS battery
- ATX Power Connector or single power jack with wide range power input (8-24V)

- ATX Form Factor (244 x 305 mm)

Technical Data

Technology	Carrier
Formfactor	ATX
Flash	SD Card Socket
Storage Interfaces	• 1x SATA-III (6Gbps) connector, separate floppy type power connector • or 1x M.2 Key M (2242) SATA only (supports also 2260 and 2280)

USB	• 1x USB 3.0 host port
	• 2x USB 2.0 host port
	• 1x USB 3.0 Client/OTG port (Typ C)
	• 1x USB 2.0 Client/OTG port (MicroUSB)
	• 1x USB 2.0 Debug port (Typ C) (Serial Port on USB)
	• 1x USB 2.0 via Hub on:
	  • Mini PCI Express slot
	  • M.2 Key-B
	  • M.2 Key-E
	  • Pin Header

UART Interfaces	• 1x RS232 (UART0) on DB9 connector with 2-wire hand shake (optional serial to USB conversion for debug interface on USB) • 1x RS232 (UART2) on pin header w/o hand shake also usable for RS-422 and RS-485, TTL or LVTTL and capable for Highspeed upto 5Mbit/s • 1x RS232 (LVTTL - UART1) on pin header w/o hand shake • 1x RS232 (LVTTL - UART3) on pin header w/o hand shake

PCIe Interfaces	• PCI Express lanes from module can be connect to either
	4x PCI Express x1 Gen 3 slot* or
	  • 1x Mini PCI Express x1 Card slot with µSIM Slot
	  • 1x M.2 Key B (3042) w/ nano SIM socket for LTE/5G cards with µSIM Slot
	  • 1x M.2 Key E (2230) for WiFi cards
	  • PCIe Port D can be used as SERDES Interface (Ethernet)
	* x4 PCIe connectors are placed on the board but operate at x1

Bus Interfaces	• 1x CAN 2.0B on DB9 connector • 1x CAN 2.0B on pin header • 1x eSPI (QSPI/SPI1) on pin header • 1x SPI0 on pin header (compliant to dediprog) • SMBus, I2C, and GPIO on pin header
Display Interfaces	• 2x DisplayPort connector • HDMI connector • 40-pin eDP connector • 2x single channel LVDS on 2x Jili30 connector with EEPROM for display data and 2x backlight connector. Note: All display and backlight signals are available on the Jili30 connector to allow an easy one cable display connection.
Camera Interfaces	2x MIPI CSI-2 camera interface on two SMARC compliant 22 pin FFC connectors
Network Interface	2x 10/100/1000BASE-T Ethernet on RJ45 connector, with two integrated status LED's
Audio Interface	HDA and I2S Audio codec, routed to three audio jacks for each codec Note: Audio codec is placed on universa laudio** adapter board ** TRIA provides M.2 connector based audio boards, with differen audio codecs for this use case.
Miscellaneous	4-pin fan connector, PWM controlled by module Socket for CR2032 type RTC battery (3V) Serial EEPROM for board data Two Serial EEPROMs for each SMRAC LVDS interface for storing display data SPI Boot Flash, socket Power and Reset button Configuration switches/jumper

SMARC

Feature Highlights	SMARC™ 2.2 carrier board for full and short size modules Support of listed carrier board features and interfaces depends on used module
Power Supply	ATX or DC-Input Jack with wide range power input of 8-24V
Environment	Temperature Range: 0°C ... +60°C operating -20°C ... +85°C storage Humidity: 5 ... 90% (operating, non condensing) 5 ... 90% (storage, non-condensing)
Dimensions	244 x 305 mm
Certificates	UL / CE

Technical Data for TRIA SM2-MB-EP2

Order Reference

Order No.	Description	Reference	Status*
115161	SMARC 2.2 Evaluation Carrier Board, Full size ATX,with 4x PCI Express x1 slots, GbE, SATA, USB 3.0, USB 2.0, USB 2.0 OTG, RS232, CAN, SPI, eSPI, SMBus, I2C and GPIO interface, LVDS/eDP, DisplayPort and HDMI display interface, HD/I2S audio interface, MIPI CSI-2 camera interface, mini PCI Express and m.2 card slots, SD card slot, fan connector, CMOS battery, ATX form factor (244 x 305 mm), ATX power connector and single 8-24V power jack, commercial temperature range 0..+60°C	MSC SM2-MB-EP2 ES1 PCBES	PV
122542	SMARC 2.2 Evaluation Carrier Board, Full size ATX,with 4x PCI Express x1 slots, GbE, SATA, USB 3.0, USB 2.0, USB 2.0 OTG, RS232, CAN, SPI, eSPI, SMBus, I2C and GPIO interface, LVDS/eDP, DisplayPort and HDMI display interface, HD/I2S audio interface, MIPI CSI-2 camera interface, mini PCI Express and m.2 card slots, SD card slot, fan connector, CMOS battery, ATX form factor (244 x 305 mm), ATX power connector and single 8-24V power jack, commercial temperature range 0..+60°C	MSC SM2-MB-EP2 ES2 PCBES	PV

Ordering Information for TRIA SM2-MB-EP2

*PV = Preferred variant; OR = on Request (in OEM quantities only)

Accessories

Display Kits

Order No.	Description	Reference
78879	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 10.1" WVGA LCD with PCAP Touch Sensor and Touch Controller. Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch).	MSC DIS-AM1280800-101-KIT BRDFTX

10.1″ Display kit

Order No.	Description	Reference
78880	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 12.1" WVGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM1280800-121-KIT BRDFTX

12.1″ Display kit

Order No.	Description	Reference
81871	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 5.0" WVGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM800480-050-KIT BRDFTX

5.0″ Display kit

Order No.	Description	Reference
78911	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 7.0" WVGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM800480-070-KIT BRDFTX

7″ Display kit

Tria Technologies GmbH
Industriestr. 16
76297 Stutensee
info@tria-technologies.com
tria-technologies.com

Copyright © 2024 Tria Technologies GmbH. All data is for information purposes only and is subject to change without notice. No guarantee for legal purposes is implied. Information in this document has been carefully checked, however, no responsibility for inaccuracies has to be assumed. All brand or product names may be trademarks and property of their respective owners.