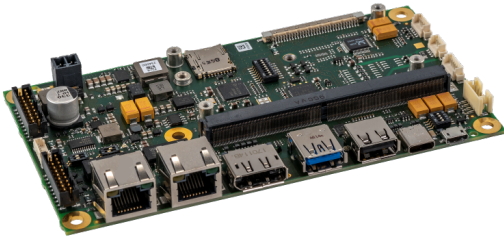


MSC SM2S-MB-EP5

/SimpleFlex,
Application-Ready Embedded
Platform SMARC[®] 2.x



146 x 80 mm



2 W



-40 +85

/SIMPLEFLEX



Description

SimpleFlex is the intelligent combination of a standard Computer-On-Module with a standard carrier board. It combines the advantages of Standard SBC and Custom SBC by choosing the COM from a huge portfolio of CPU and memory configuration.

This is the basis for innovative solutions in HMI systems, complex display systems, IoT gateways, professional infotainment systems, object recognition systems, transportation applications, medical devices, gaming systems and building automation, among others.

The ready-to-use platform is cost-efficiently adapted with the selected interfaces and assembled in-house at full-automatic production lines. For the customization, more than 30 pre-validated interface combinations are available. SimpleFlex is therefore best suited for series production with large quantities.

Highlights

- SMARC[™] 2.x carrier board for short size modules
- HDMI/DisplayPort connector
- USB Type-C (with DisplayPort)
- LVDS/eDP/MIPI-DSI connector
- Regulated backlight supply
- up to two Gigabit Ethernet ports
- Mini PCI Express Card slot
- M.2 key M slot
- One USB 3.0 Type A
- One USB 2.0 Type A
- One USB 2.0 OTG port
- Four UART, RS232, RS485
- Two CAN (one CAN opt. galv. isolated)
- SPI/eSPI, 12 GPIO
- HD or I2S audio interface with 2x 2.5W Stereo Amplifier
- MIPI CSI-2 camera interface
- µSD Card socket
- WLAN/BT/NFC with antenna (option)
- Fan connector
- RTC battery
- Input voltage 10 VDC to 36VDC
- Form Factor (146 x 80 mm)

Technical Data - MSC SM2S-MB-EP5

Technology	Carrier
Formfactor	146 x 80 mm
Flash	µSD Card Socket
Storage Interfaces	M.2 key M slot
USB	1x USB 3.0 host port 1x USB 3.0 Type C 3x USB 2.0 host port 1x USB 2.0 OTG port (MicroUSB) 1x USB 2.0 on Mini PCI Express slot
Serial Interfaces	4 x UART, RS232, RS485
Bus Interfaces	1x Mini PCI Express x1 Card slot 1 x M.2 key M slot (2 x PCI Express or SATA) 1x CAN 2.0B 1x CAN 2.0B isolated (option) 2x SPI, 12 GPIO
Display Interfaces	DisplayPort/HDMI connector LVDS/eDP/DSI on Jili30 connector and backlight connector MIPI CSI-2 camera interface
Network Interface	2x 10/100/1000BASE-T Ethernet on RJ45 connector, with two integrated status LED's
Audio Interface	HD or I2S Audio codec with amplifier (opt.)
Miscellaneous	fan connector, PWM controlled by module Socket for CR2032 type RTC battery (3V) WLAN/BT/NFC Module (SPB209A)
Feature Highlights	Support of listed carrier board features and interfaces depends on used module
Power Requirement	Input voltage 10VDC to 36VDC
Environment	Temperature Range: -40°C ... +85°C operating -40°C ... +85°C storage Humidity: 5 ... 90% (operating, non condensing) 5 ... 90% (storage, non-condensing)
Dimensions	146 x 80 mm
Certificates	UL / CE

Order Reference - MSC SM2S-MB-EP5

Order Number	Description	Reference	Cat*
85087	SMARC 2.x compatible embedded platform (146 x 80mm), 10-36V input voltage, 3x RS232, 1x RS485, dual RJ45 LAN with LED (1 x LAN i210), 1x M.2 2280 Key M slot, mPCIe slot, 1x USB 3.0 Type A, 1x USB 3.0/ DisplayPort Type C , 1x USB 2.0 Type A, 1x USB 2.0 internal, 1x µUSB 2.0 Host/Device, 2x SPI, I ² C, 12 GPIO on FC, 1x DisplayPort++ , LVDS/ eDP/DSI on JILI30 connector, µSD Card Slot, regulated backlight supply, HD Audio with amplifier, system fan connector, camera connector, RTC battery. Industrial temperature range -40..+85°C, x86 full version	MSC SM2S-MB-EP5-001 PCBFTX	PV
83977	SMARC 2.x compatible embedded platform (146 x 80mm), 10-36V input voltage, 3x RS232, 2x CAN, dual RJ45 LAN with LED (1 x LAN i210) , 1x M.2 2280 Key M slot, mPCIe slot, 1x USB 3.0 Type A, 1x USB 2.0 Type A, 1x USB 2.0 internal, 1x µUSB 2.0 Host/Device, 2x SPI, I ² C, 8 GPIO on FC, 1x HDMI, LVDS/eDP/DSI on JILI30 connector, µSD Card Slot, regulated backlight supply, I2S Audio, 1W Mono, camera connector, RTC battery. Industrial temperature range -40..+85°C, ARM full version	MSC SM2S-MB-EP5-002 PCBFTX	PV
83979	SMARC 2.x compatible embedded platform (146 x 80mm), 12V input voltage, 3x RS232, 1x RS485, dual RJ45 LAN with LED, 1x M.2 2280 Key M slot , 1x USB 2.0 Type A, 1x USB3.0 Type A, 1x USB 2.0 internal, 1x µUSB 2.0 Host/Device, 2x SPI, 12 GPIO on FC, 1x DisplayPort++ , LVDS/eDP/DSI on JILI30 connector, regulated backlight supply, RTC battery, Industrial temperature range -40..+85°C, x86 slim version	MSC SM2S-MB-EP5-003 PCBFTX	PV
83981	SMARC 2.x compatible embedded platform (146 x 80mm), 10-36V input voltage, 2x UART, 1x RS232, 2x CAN, 1x RJ45 LAN with LED, 1x USB 2.0 Type A, 1x USB3.0 Type A, 1x USB 2.0 internal, 1x µUSB 2.0 Host/Device, 2x SPI, 12 GPIO on FC, 1x HDMI , µSD Card Slot, LVDS/eDP/DSI on JILI30 connector, regulated backlight supply, RTC battery. Industrial temperature range -40..+85°C, ARM slim version	MSC SM2S-MB-EP5-004 PCBFTX	PV
113145	SMARC 2.x compatible embedded platform (146 x 80mm), 10-36V input voltage, 3x RS232, 1x RS485, 1x CAN, dual RJ45 LAN with LED, 1x M.2 2280 Key M slot (PCIeC, PCIeD), mPCIe slot (PCIeA), 1x USB 3.0 Type A, 1x USB 2.0 Type A, 1x USB 2.0 internal, 1x µUSB 2.0 Host/Device, 2x SPI, I ² C, 8 GPIO on FC, 1x HDMI, LVDS/eDP/DSI on JILI30 connector, µSD Card Slot, regulated backlight supply, I2S Audio, 1W Mono, camera connector, RTC battery. Industrial temperature range -40..+85°C, ARM Plus version	MSC SM2S-MB-EP5-006 PCBFTX	PV

*COM products are divided in two categories, „PV“ (preferred variant) and „OR“ (on request).

Accessories

Order Number	Description	Reference
10.1" Displaykit		
78879	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 10.1" WXGA 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 SETPAC
12.1" Displaykit		
78880	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 12.1" WXGA 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 SETPAC
5.0" Displaykit		
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 SETPAC
7" Displaykit		
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 SETPAC
Cable Kit for SMARC 2.x SimpleFlex Platform EP5		
1152416	Cable Kit for SMARC 2.0 SimpleFlex Platform EP5. Contains cables to connect to all interfaces available on MSC SM2S-MB-EP5: <ul style="list-style-type: none"> - Power Cable - Feature Connector Cable 1 (USB) - Feature Connector Cables 2,3 - Serial Connector Cable RS485/RS232 - Serial Connector Cable CAN/RS485 - Audio Connector Cable - Speaker Out Cables 1,2 	MSC CAB-SM2S-MB-EP5-KIT-001

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