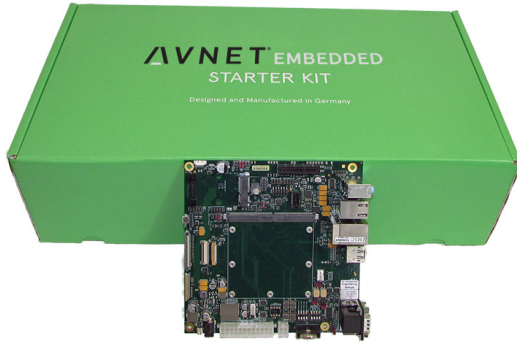


## MSC SM2-SK-IMX9-EP1

### SMARC 2.0 Starterkit for NXP i.MX 9 based Modules



170 x 170



### Description

The SMARC 2.0 Starterkit for SMARC modules with NXP i.MX 9 Series processors is based on a Mini-ITX SMARC 2.0 carrier board MSC SM2-MB-EP1 and contains all necessary products to quickly enable the user to run and evaluate the SM2S-IMX93 module range. The kit does not contain a SMARC module in order to give the user greater flexibility as to which particular module version and CPU speed variant is desired.

As part of the SMARC 2.0 Starterkit, the appropriate Heatsink/Heatspreader and a Flash SD Card with USB Reader will be supplied. A bootable Linux installation can be downloaded from the MSC Support website and stored on the SD Card. A power supply with cable kit is also included for convenience.

Direct screen output on a PC monitor is possible using the on-board HDMI output. As an option to the Starter Kit several suitable LCD kits of various resolutions and sizes are available upon request.

### Highlights

- SMARC 2.0 carrier board in Mini-ITX format with socket for SMARC 2.0/2.1.1 modules
- Heatspreader suitable for all module variants of the SM2S-IMX93 module family
- 12V power supply and cable kit included for immediate operation of the Starterkit
- Bootable Linux installation on Support Website, can be stored in SD Card (supplied with Card Reader)
- DP and HDMI graphics output
- LVDS graphics output on standard 30-pin connector; backlight connector includes adjustable backlight voltage and dimming
- Ethernet (10/100/1000 LAN) connector
- SATA, 4x USB 2.0 Host, USB Host/Client, UART, SD-Card socket
- Getting Started manual
- Optional TFT kits available

## Technical Data - MSC SM2-SK-IMX9-EP1

<b>Technology</b>	Kit with Carrier
<b>Formfactor</b>	Mini-ITX
<b>Storage Interfaces</b>	1x SATA-II (3Gbps) connector
<b>USB</b>	2x USB 3.0 host port 2x USB 2.0 host port 1x USB 2.0 OTG port (MicroUSB) 1x USB 2.0 on Mini PCI Express slot
<b>Serial Interfaces</b>	1x RS232 (UART0) on DB9 connector with 2-wire hand shake 1x RS232 (UART1) on pin header w/o hand shake
<b>Bus Interfaces</b>	PCI Express lanes from module can be connect to either 1x PCI Express x4 Gen.2 slot or 1x Mini PCI Express x1 Card slot 1x CAN 2.0B on DB9 connector 1x CAN 2.0B on pin header 1x eSPI connector SPI, SMBus, I2C, and GPIO on pin header
<b>Display Interfaces</b>	DisplayPort connector HDMI connector 40-pin eDP connector LVDS on Jili30 connector with EEPROM for display data and backlight connector MIPI CSI-2 camera interface on 15pin FFC connector
<b>Network Interface</b>	10/100/1000BASE-T Ethernet on RJ45 connector
<b>Audio Interface</b>	I2S Audio codec, routed to three audio jacks
<b>Miscellaneous</b>	4-pin fan connector, PWM controlled by module Socket for CR2032 type RTC battery (3V) Serial EEPROM for board data Serial EEPROM for LVDS display data SPI Boot Flash, socket Power and Reset button Confi guration switches/jumper
<b>Feature Highlights</b>	SMARC™ 2.0 carrier board for full and short size modules Support of listed carrier board features and interfaces depends on used module
<b>Power Requirement</b>	12V Power supply contained in Starterkit
<b>Environment</b>	Temperature Range: 0°C ... +60°C operating -20°C ... +85°C storage Humidity: 5 ... 90% (operating, non condensing) 5 ... 90% (storage, non-condensing)
<b>Dimensions</b>	170 x 170 mm
<b>Certificates</b>	UL / CE

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<b>Cooling</b>	included
<b>Carrier</b>	MINI-ITX

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## Order Reference - MSC SM2-SK-IMX9-EP1

Order Number	Description	Reference	Cat
97502	SMARC 2.0 Starterkit for NXP i.MX 9 based Modules. Includes MSC SM2-MB-EP1 Baseboard, Heatspreader/Heatsink, SD Card with USB Card Reader, Power Supply and suitable cable kit. The StarterKit does not include the MSC SM2S-IMX93 module. Please order your choice of module separately.	MSC SM2-SK-IMX9-EP1-KIT001 BRDFTX	PV

Accessories

Order Number	Description	Reference
<b>10.1" Displaykit</b>		
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
<b>12.1" Displaykit</b>		
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
<b>5.0" Displaykit</b>		
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
<b>7" Displaykit</b>		
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

Avnet Embedded GmbH  
 Industriestr. 16  
 76297 Stutensee

AvnetEmbedded@avnet.com  
[avnet.com/embedded](http://avnet.com/embedded)

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