FS SMMX8MP™

SMARC module with NXP i.MX 8MP

SMARC
module

SMARC Specification: 2.1

Description

The SMARC® ("Smart Mobility ARChitecture") is a versatile small form factor computer Module definition targeting applications that require low power, low costs, and high performance. Two Module sizes are defined: 82mm x 50mm and 82mm x 80mm. The Module PCBs have 314 edge fingers that mate with a low profile 314 pin 0.5mm pitch right angle connector (the connector is sometimes identified as a 321 pin connector, but 7 pins are lost to the key).
The Modules are used with application specific Carrier Boards that implement other features such as audio CODECs, touch controllers, wireless devices, etc.
The modular approach allows scalability, fast time to market and upgradability while still maintaining low costs, low power and small physical size.
F&S Elektronik Systeme has been developing and producing embedded boards in Stuttgart for more than 25 years and offers a wide range of modules with NXP CPUs (i.MX 6, i.MX 8 and i.MX9) on different form factors (plug-on modules with connectors or with finger contacts and also SBC solutions in PicoITX).
At the heart of the processor is a scalable core complex with up to 4 ARM® Cortex®-A53 cores running at up to 1.8GHz, plus an ARM® Cortex®-M7 core for real-time processing at 800 MHz.
The i.MX 8M Plus features dual image signal processors and two camera inputs for an effective vision system. 2D and 3D graphics provide a rich visual HMI experience.
Displays may be connected via MIPI-DSI, LVDS and DVI up to 4k.
Available until minimum 2035.

In addition to the SMARC module, F&S Elektronik also offers the development and production of a suitable baseboard and then delivers the complete unit soldered, tested and, if desired, with the customer's software installed, so all you have to do is unpack, install and switch on.
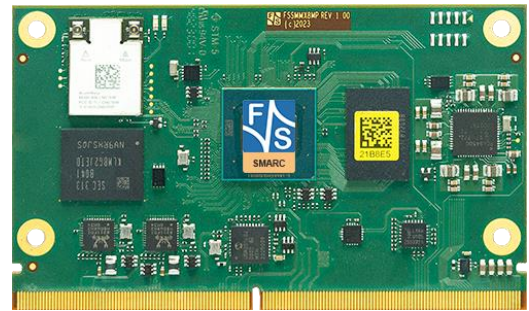
Standard Versions/ Order Notations

FS SMMX8MP-V4I-LIN
Cortex®-A53 – 1600MHz Quad-Core, 2GB RAM, 32GB eMMC, 64k EEPROM, Audio, 2x Ethernet, WLAN/BT*, DVI (4k), 2x LVDS
-20°C - +85°C, Linux

WLAN/BT: -30°C - +85°C

Minimum Order Quantity for Special Versions:
Customer-specific software: 500 pieces
Assembly Variant: 1000 pieces

Technical Data

Power Supply:	+5VDC
Power Consumption:	4W typ.
Interfaces:	1-2x GigaBit Ethernet 1-4x USB Host, 1x USB Device, 2x I2S (Audio), 4x Serial, 5x I²C, 2x CAN, 2x SPI, 1x SDIO, 1x PCIe, 3x PWM, Watchdog, RTC, SE050
Display:	2x LVDS 24Bit up to FullHD, MIPI-DSI up to 4 lanes, DVI up to 4k
Camera:	1-2x MIPI-CSI up to 4 Lanes
RAM:	LPDDR4 up to 8GB
Program Memory:	eMMC up to 64GB, EEPROM
Processor:	Dual/ Quad ARM® Cortex®-A53-up to 1800MHz & ARM® Cortex®-M7 -800MHz
WLAN/BT:	WLAN 802.11 ac/ BT 5.0
Temperature Range:	-20°C+85°C opt. -40°C +85°C
Size:	82mm x 50mm
Connector:	314 Pin (MXM3)
Weight:	20g

Starter KIT

FS SMMX8MP-SKIT-LIN or -W10
The starterkit contains of a base board with FS SMMX8MP-V4I-LIN or -W10 module, a cable kit, as well as a 10.1" TFT, cable kit, access data to the F&S download area (BSP, documentation, …).
The forum with 3000+ registered customers offers example programs and is always online for support requests.
For an easy start of development we also offer workshops.