

SMARC™ -sAMX8X



SMARC™ Module with low power i.MX8X series processor

- ▶ Up to 4x Cortex®-A35 + Cortex®-M4 processor
- ▶ Up to 4 GByte RAM
- ▶ Dual channel LVDS interface, HDMI, DP
- ▶ Up to 2x GByte Ethernet, 3x PCIe, 6x USB 2.0, 1x USB 3.0
- ▶ Kontron APPROTECT security solution based on Wibu-Systems CodeMeter®

POSSIBILITIES START HERE

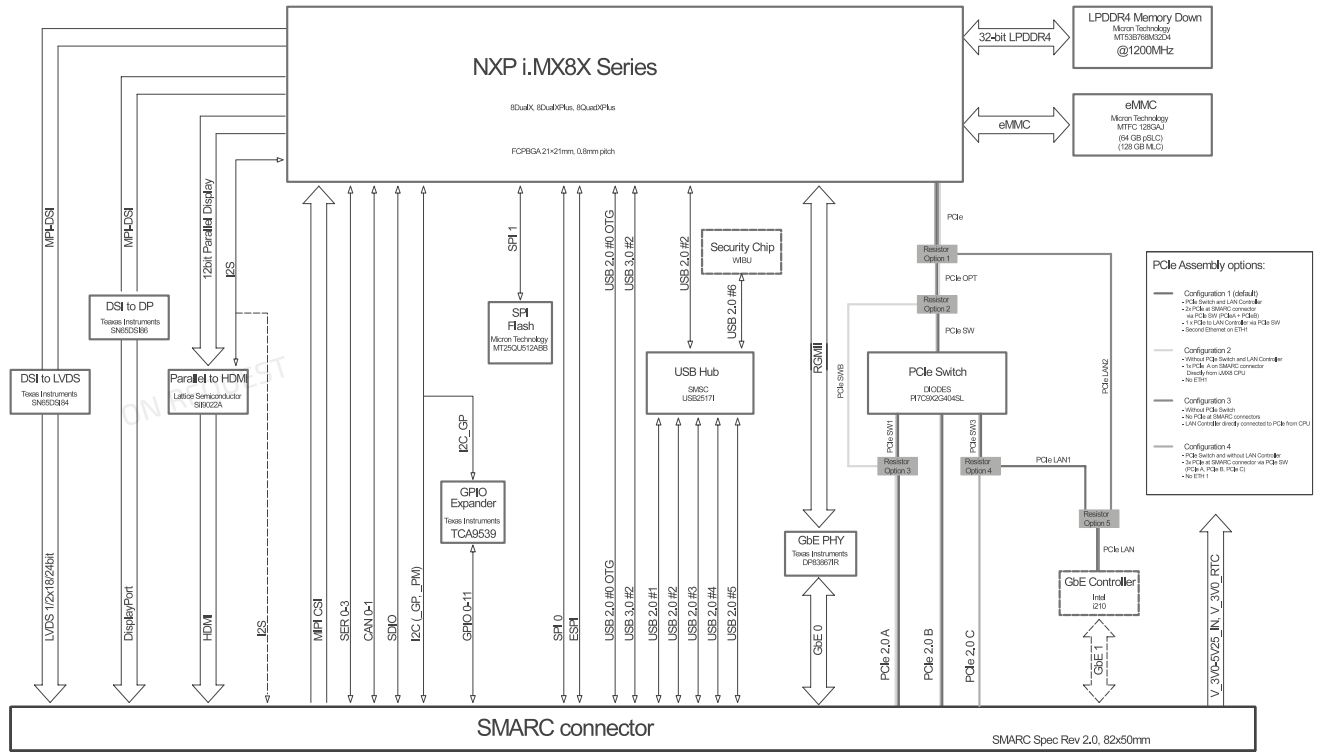
▶ TECHNICAL INFORMATION

COMPLIANCE	SMARCTM 2.0
DIMENSIONS (H X W X D)	82 x 50 mm
CPU	NXP dual/quad i.MX8X processor
MAIN MEMORY	Up to 3 GByte LP-DDR4
ETHERNET	up to 2x 10/100/1000 MBit Ethernet
STORAGE	1x SDIO
FLASH ONBOARD	2-64 GByte eMMC
PCI EXPRESS® SUPPORT	1x PCIe with dual core processor up to PCIe x3 (on request)
PANEL SIGNAL	1x LVDS dual channel
DISPLAY	HDMI, DP
USB	up to 6x USB 2.0, 1x USB 3.0
SERIAL	4x serial interfaces (2x RX/TX only)
OTHERS	I2S, 4x I2C, 2xSPI, MIPI CSI, 12x GPIO, 2x CAN
SPECIAL FEATURES	Security Chip (Support of Kontron Appprotect) on request
BOOT LOADER	Uboot
OPERATING SYSTEM	Yocto Linux
POWER SUPPLY	3 V – 5.25 V operates directly from single level Lithium Ion cells or fixed 3.3 V – 5 V power supplies
TEMPERATURE	Operating: extended consumer -40 °C to + 85 °C Non-Operating: -40 °C to +85 °C
HUMIDITY	93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78)

▶ CPU VARIANTS

CPU	NXP i.MX8X quadX+	NXP i.MX8X dualX+	NXP i.MX8X dual X
CORES	4	2	2
FREQUENCY BASE	1.20 GHz	1.20 GHz	1.20 GHz
FREQUENCY BURST	-	-	-
TDP	-	-	-
CACHE	512 KB with ECC	512 KB with ECC	512 KB with ECC

BLOCK DIAGRAM



VARIANTS

PART NO.	CPU	RAM	FLASH	DISPLAY	LAN	TPM	SECURITY CHIP	TEMPERATURE
51010-3008-12-4+	NXP i.MX8X quadX+	3 GByte LPDDR4	8 GByte eMMC pSLC	LVDS, DP	2x	yes	no	industrial E2
51010-1508-12-2+	NXP i.MX8X dualX+	1,5 GByte LPDDR4	8 GByte eMMC pSLC	LVDS, DP	2x	yes	no	industrial E2
51010-1004-12-2	NXP i.MX8X dual X	1 GByte LPDDR4	4 GByte eMMC pSLC	LVDS	1x	yes	no	industrial E2