

NAMTSO	A10-3588	A10-3588Q (Commercial)	SiRider S1
Processor			
CPU	Rockchip RK3588	Rockchip RK3588	Siengine SE1000
Cores	8 Cores, Quad Core ARM Cortex-A76 + Quad Core ARM Cortex-A55	8 Cores, Quad Core ARM Cortex-A76 + Quad Core ARM Cortex-A55	8 Cores
Frequency	Cortex-A76 up to 2.4GHz Cortex-A55 up to 1.8GHz	4 × Cortex-A76 + 4 × Cortex-A55 Up to 2.4GHz	Cluster0: 4 × A76, Maximum Frequency: 2.4GHz 2 × A55, Maximum Frequency: 1.8GHz Cluster1: 2 × A55, Maximum Frequency: 1.8GHz
Graphics	ARM Mali-G610 MP4, up to 1GHz	ARM Mali-G610 MP4 Quad-core GPU	Contains 3D GPU0, 3D GPU1, and a 2D/2.5D graphics core
Video Codec	8K@60fps H.265/VP9, 4K@60fps AV1 Decoding 8K@30fps H.264/H.265 Encoding	8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 8K@30fps H.265/H.264	4K@120fps Decoding 4K@60fps Encoding
NPU	Build-in 6 TOPS	Up to 6TOPS (INT8)	NPU0: 3.34TOPS, NPU1: 3.5 TOPS
SPI Flash	32MB	-	-
MCU	STM32G031K6	-	1 × MCU
Memory			
Technology[1]	64-bit LPDDR4X 2112 MHz	LPDDR4/LPDDR4X/LPDDR5	LPDDR4/LPDDR4X/LPDDR5
Capacity[2]	8GB/16GB	4GB/8GB/16GB, up to 32GB	up to 16G
Storage[3]			
eMMC	32/64GB	16GB/32GB/64GB/128GB optional	up to 128G
SD Card	Molex Slot, Spec. Version 2.x/3.x/4.x (SDSC/SDHC/SDXC), UHS-III	1 × TF Card Slot	1 × TF Card Slot
Display			
HDMI	Type-A Female, 8K@60fps HDMI2.1, Dynamic HDR, CEC, DSC 1.2a and HDCP 2.3	1 × HDMI2.1 (8K@60fps or 4K@120fps)	1 × HDMI
DP	USB Type-C Female, 8K@30fps	1 × DP1.4 (8K@30fps, via USB-C)	-
MIPI Display	1 × 30-pin 0.5mm FPC Connector 4-lane MIPI-DSI Interface, Resolution up to 4K@60Hz	2 × MIPI-DSI (4K@60fps)	1 × DSI
Touch Display	1 × 40-pin 0.5mm FPC Connector 4-lane MIPI-DSI Interface, Resolution up to 4K@60Hz I2C and GPIO for Touch Panel	-	-
Multiple Displays[4]	4 (HDMI + DP + MIPI Display+ Touch Display)	1 × HDMI2.1, 1 × DP1.4, 1 × VGA 1 × eDP1.3, 2 × MIPI-DSI Support six displays	-
Network			
LAN	1 × RJ45, 1.0 Gigabit Ethernet	2 × 1000Mbps Ethernet (RJ45)	2 × 1000M
Wireless Communication[5]	Expansion E-KEY M.2 Slot Wi-Fi 6 Support, IEEE 802.11 ax/ac/a/b/g/n	2.4GHz/5GHz dual-band WiFi 6 (802.11a/b/g/n/ac/ax) Bluetooth 5.0, 5G/4G LTE expansion	-
Audio			
Chipset	Everest ES8316, Low Power Audio Codec, Line-in, Line-out	-	-
Interface	1 × 6-pin 1.27mm Header, Headphone Jack 1 × 2-pin 1.27mm Header, AMIC	3.5mm Audio MIC	-
Interfaces			
USB	2 × USB 3.1 Gen1, Type-A Female 1 × USB 3.1 Gen1 + PD +DP, Type-C Female 2 × USB2.0, 6-pin 1.27mm Header 1 × USB 3.1 Gen1, 12-pin 1.27mm Header	4 × USB 3.1 3 × USB 2.0 1 × USB-C	4 × USB2.0 4 × USB3.0
LED	2 × LEDs, Power LED (Red) + System LED (White)	-	-
Buttons	3 × Buttons, Reset + Func + Power	3 × Buttons, Power Key + Recovery + Reset	2 × Button, Power + FastBoot
Sensor	TDK ICM-42670-P, 6-axis Digital Accelerometer	-	-
I2C	2 × I2C, 4-pin 1.27mm Header + 6-pin 1.27mm Header (2 × Normal GPIO)	1 × I2C	2 × I2C
SPI	1 × SPI, 6-pin 1.27mm Header	1 × SPI	-
UART	2 × UART, 4-pin 1.27mm Header 1 × Debug UART, 3-pin 1.27mm Header	2 × RS232 1 × RS485, 1 × Debug	1 × Debug 1 × RS485/RS232 1 × UART
ADC/PWM	2 × ADC + 2 × PWM, 4-pin 1.27mm Header	1 × ADC	-
KEY	1 × PWR KEY, 4-pin 1.27mm Header	Power Key, Recovery, Reset	-
FAN	1 × 4-pin 1.27mm Header	12V 4P-1.25mm	1 × FAN
CAN	1 × 2-pin 1.27mm Header	-	1 × CAN
Expansion			
NAMTSO Link[6]	1 × 4-lane + 2 × 1-lane PCIe 1 × USB 3.1 + 1 × USB 2.0 1 × HDMI + 1 × eDP 1 × I2C + 2 × UART + 1 × Debug UART	2 × RS232 1 × RS485 1 × Debug 1 × 20P-2.0 pin (GPIO, ADC, SPI, I2C, LED\REV\PWR\RST)	4 × USB2.0 4 × USB3.0 2 × 2 lan MIPI CSI 1 × DSI 1 × 40-pin GPIO Header
M.2 Slot	1 × E-KEY M.2 Slot, Wi-Fi 6 Module Support 1 × 1-lane PCIe + 1 × USB 2.0 + 1 × UART	1 × M.2 SATA 3.0	2 × M.2
Power			
USB-C PD Input	9V ~ 20V	-	A Type-C Power Port
DC Power Input	12V ~ 24V, 4-pin 2.54mm Header	DC 12V	8 ~ 12V DC In
NAMTSO Link	Power Input: 12V ~ 24V Power Output: 12V ~ 24V	-	-
Priority[7]	NAMTSO Link > DC Power Input > USB-C PD Input	-	-
Environment			
Operational Temperature	-20°C ~ 80°C, 95% RH Non-Condensing	-20°C ~ 60°C	-
Non-Operational Temperature	-40°C ~ 85°C, 95% RH Non-Condensing	-	-
Physical			
Dimension	145.8 mm × 101.2 mm × 13.3 mm	146 mm × 102 mm × 37.5 mm	100 mm × 150 mm
Weight	86.2g	-	-
Mounting Holes	4 × Size M2 + 4 × Size M3	-	-
Operating System			
Linux	Ubuntu 22.04 / Yocto	Ubuntu, Debian, Buildroot	Ubuntu
Android	Android 13	Android 12.0	-
Certification	CE, FCC, UCKA, TELEC, RoHS	-	-
NamtsO Only	SPI Flash: 32MB Touch Display: 1 × 40-pin 0.5mm FPC Connector, 4-lane MIPI-DSI Interface, Resolution up to 4K@60Hz, I2C and GPIO for Touch Panel Chipset: Everest ES8316, Low Power Audio Codec, Line-in, Line-out LED: 2 × LEDs, Power LED(Red) + System LED(White) Sensor: TDK ICM-42670-P, 6-axis Digital Accelerometer NAMTSO Link: Power Input: 12V ~ 24V, Power Output: 12V ~ 24V Mounting Holes: 4 × Size M2 + 4 × Size M3 Certification: CE, FCC, UCKA, TELEC, RoHS		

[1] RK3588 compatible JEDEC standards LPDDR4/LPDDR4X/LPDDR5.

[2] RK3588 has up to 32GB of addressable space.

[3] SSD and SATA can be accessed through NAMTSO Link.

[4] HDMI and eDP is not available through NAMTSO Link.

[5] The officially supported Wi-Fi module is Ampak AP6275P (2T2R).

[6] NAMTSO Link: High-speed connector developed by NAMTSO.

[7] Switching power supplies after power-on will cause the A10-3588 to restart.