NAMTSO	A10-N305	SBC-263	MS-CF03
Processor			
CPU	Intel® Core™ i3-N305	Intel® Alder Lake-N SoC Processors	Intel® IOTG Alder Lake-N Core i3-N305,
Cores	8 Cores	4 Cores	8 Cores
Frequency	1.8GHz, Max turbo of 3.8GHz	Up to 3.6GHz	Up to 3.8GHz
Graphics	Intel UHD Graphics, Up to 1.25GHz	Intel® UHD Graphics	Intel® UHD Graphics
Cache	6MB L3-Cache	-	6MB L2 Cache
BIOS	AMI EFI 128Mbit	AMI SPI 256 Mbit	AMI
SPI Flash	32MB	-	-
Memory			
Technology[1]	64-bit LPDDR5 4800MT/s	DDR5 4800 MHz	DDR5 4800MHz
Capacity	8GB/16GB	32GB	Up to 16GB
Storage[2]			
UFS	128GB/256GB	-	-
Display			
HDMI	Type-A Female, 4K@60fps HDMI2.1, Dynamic HDR, CEC, DSC 1.1 and HDCP 2.2	1 × HDMI	1 × HDMI
DP	USB Type-C Female, 4K@60fps	1 × DP	1 × DP
Multiple Displays[3]	2 (HDMI + DP)	3 (HDMI + DP + LVDS or eDP)	3 independent displays
Network			
LAN	1 × RJ45, 2.5 Gigabit Ethernet	2 × Gigabit LAN	2 × Intel® I225-V 2.5 GbE LAN
Wireless Communication	Expansion E-KEY M.2 Slot Wi-Fi 6/6E Support, IEEE 802.11 ax/ac/a/b/g/n	-	-
Audio			
Chipset	Senary SN6140, Low Power HD Audio Codec, Line-in, Line-out	Realtek ALC256 HD, High Definition Audio	Realtek® ALC897 HD Audio Codec
Interface	1 × 6-pin 1.27mm Header, Headphone Jack 1 × 4-pin 1.27mm Header, DMIC	-	-
Interfaces			
USB	2 × USB 3.2 Gen1, Type-A Female 1 × USB 3.2 Gen1 + PD +DP, Type-C Female 2 × USB2.0, 6-pin 1.27mm Header 1 × USB 3.2 Gen1, 12-pin 1.27mm Header	3 × USB 3.2 1 × USB 2.0	4 × USB3.2 6 × USB2.0
LED	2 × LEDs, Power LED (Red) + System LED (White)	-	-
Buttons	1 × Button, Power	-	-
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)	-	-
SPI	1 × SPI, 6-pin 1.27mm Header	-	-
UART	2 × UART, 4-pin 1.27mm Header 1 × Debug UART, 3-pin 1.27mm Header	6 × UART	2 × UART
GPIO	4 × Normal GPIO, 4-pin 1.27mm Header	4 × GPI 4 × GPO	4 × GPI 4 × GPO
KEY	1 × PWR KEY, 4-pin 1.27mm Header	-	-
FAN	1 × 4-pin 1.27mm Header	-	1 × FAN
Expansion			
NAMTSO Link[4]	1 × 4-lane + 2 × 1-lane PCIe 1 × USB 3.2 + 1 × USB 2.0 1 × HDMI 1 × I2C + 2 × UART + 1 × Debug UART	3 × USB 3.2 + 1 × USB 2.0 6 × UART 3 × M.2 1 × HDMI	6 × USB 2.0 + 4 × USB3.2 2 × UART 2 × M.2 1 × HDMI
M.2 Slot	1 × E-KEY M.2 Slot, Wi-Fi 6 Module Support	1 × M.2 Key E, 1 × M.2 Key M, 1 × M.2 Key B	1 × M.2 B key, 1 × M.2 E key
Power			
USB-C PD Input	12 ~ 24V	-	-
DC Power Input	12V ~ 24V, 4-pin 2.54mm Header	9~36V DC-In	9~36V DC-In
NAMTSO Link	Power Input: 12V ~ 24V Power Output: 12V ~ 24V	-	-
Priority[5]	NAMTSO Link > DC Power Input > USB-C PD Input	-	-
Environment			
Operational Temperature	-20°C ~ 80°C, 95% RH Non-Condensing	-22°C ~ 70°C	-10 ~ 60°C
Non-Operational Temperature	-40°C ~ 85°C, 95% RH Non-Condensing	-40°C ~ 85°C	-20 ~ 80°C
Physical			
Dimension	145.0 mm × 101.2 mm × 13.3 mm	147 mm × 102 mm × 26 mm	146 mm × 102 mm
Weight	93.7g	-	0.58 kg
Mounting Holes	4 × Size M2 + 4 × Size M3	-	-
Operating System[6]			
Linux	Ubuntu 22.04	-	Ubuntu 22.04
Windows	Windows 11	-	Windows 10 Windows 11
Certification	CE, FCC, UCKA, TELEC, RoHS	-	CE, FCC Class B, BSMI, VCCI, RCM, UKCA
Namtso Only	SPI Flash: 32MB UFS: 128GB / 256GB Wireless Communication: Expansion E-KEY M.2 Slot, Wi-Fi 6/6E Support, IEEE 802.11 ax/ac/a/b/g/n Interface: 1 6 ×-pin 1.27mm Header, Headphone Jack, 1 × 4-pin 1.27mm Header, DMIC LED: 2 × LEDs, Power LED (Red) + System LED (White) Buttons: 1 × Button, Power 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) SPI: 1 × SPI, 6-pin 1.27mm Header KEY: 1 × PWR KEY, 4-pin 1.27mm Header USB-C PD Input: 12 ~ 24V NAMTSO Link: Power Input: 12V ~ 24V, Power Output: 12V ~ 24V Mounting Holes: 4 × Size M2 + 4 × Size M3		

[1] i3-N305 compatible JEDEC standards DDR4 (3200MT/s)/DDR5 (4800MT/s)/LPDDR5 (4800MT/s).

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

[3] HDMI is not available through NAMTSO Link.

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

[5] Switching power supplies after power-on will result in a power outage and system restart.

[6] Tested on the official system; other versions are expected to work without issues.