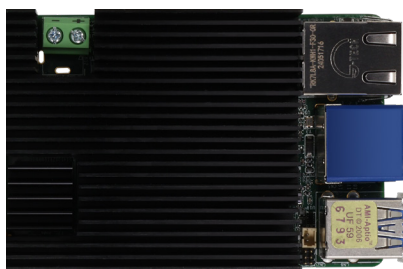
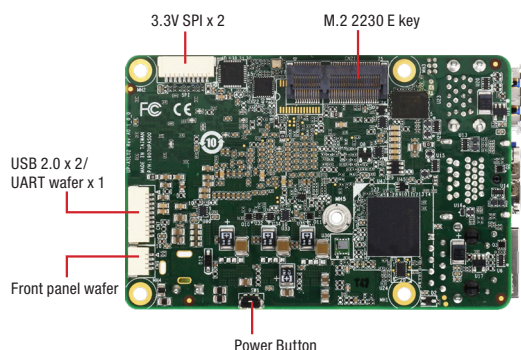
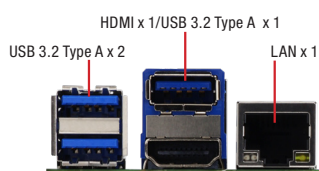
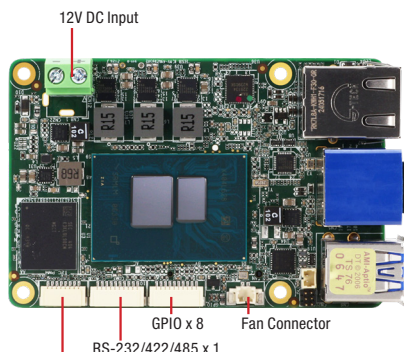
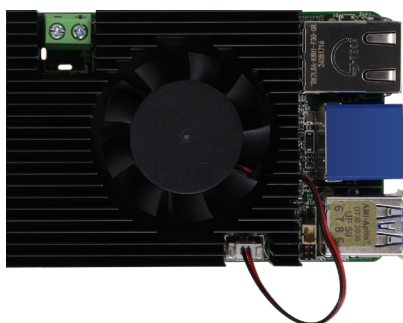


UP TWLS

UP TWLS Developer Board with Intel® Processor N-series Processor



Activer Cooler Version(Optional):



Features

- Intel® Processor N-series
- Onboard LPDDR5 Memory, up to 8GB
- Onboard eMMC Storage, up to 128GB
- GbE x 1
- HDMI 1.4b x 1
- USB 3.2 (Type-A) x 3
- M.2 2230 E-Key x 1
- 12V DC-in, 5A
- TPM 2.0



Specifications

System	
Processor	Intel® Core™ 3 Processor N355 Intel® Processor N250 Intel® Processor N150 (formerly Twin Lake)
Graphics	Intel® UHD Graphics for 12th Gen Intel® Processors
Memory	Up to 8GB LPDDR5
Storage	Up to 128GB eMMC
I/O	HDMI 1.4b 3.3V I2C x 2 + PWM x 2 via 8-Pin Wafer 3.3V SPI x 2 via 10-Pin Wafer GPIO x 8 via 10-Pin wafer RS-232/422/485 x 1 via 10-Pin Wafer
Camera	—
USB	10-pin USB 2.0 x 2/UART x 1 USB 3.2 Gen 2 Type A x 3
Expansion	M.2 2230 E-Key x 1
Display Interface	HDMI 1.4b x 1
Ethernet	GbE, RJ-45 x 1
Security	Onboard TPM 2.0
RTC	Yes
OS Support	Microsoft Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1
Power Requirement	
Power	12V DC-in, 5A
Power Supply Type	AT/ATX
Power Consumption (Typical)	30~36W
Mechanical	
Dimension	3.34" x 2.20" (85mm x 56mm)
Net Weight	0.33 lb. (0.15Kg)
Gross Weight	0.44 lb. (0.20Kg)
Environment	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow, WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C) with active cooler
Operation Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	685,218 Hours
Certification	CE/FCC Class A, RoHS Compliant, REACH

Packing List

- UP TWLS with Passive Heatsink



ES France - Mobilité & Systèmes Embarqués
127 rue de Buzenval BP 26 - 92380 Garches

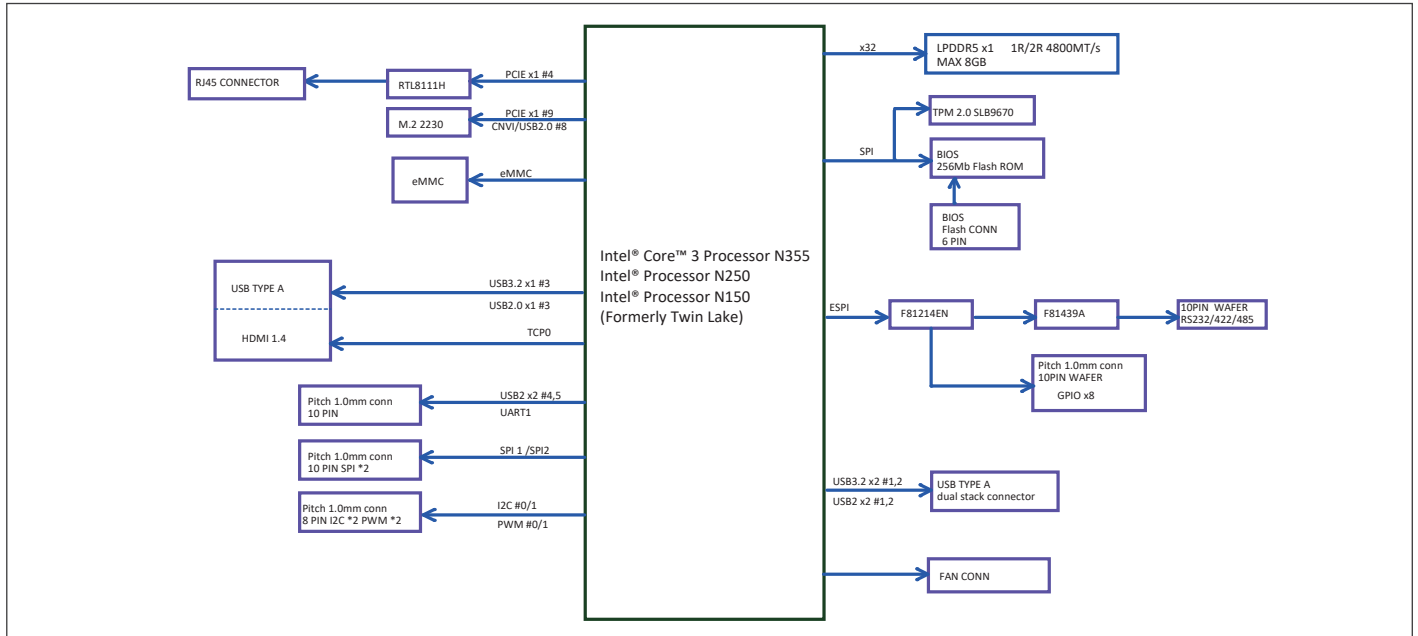


Tél. 01 47 95 99 80
Fax. 01 47 01 16 22



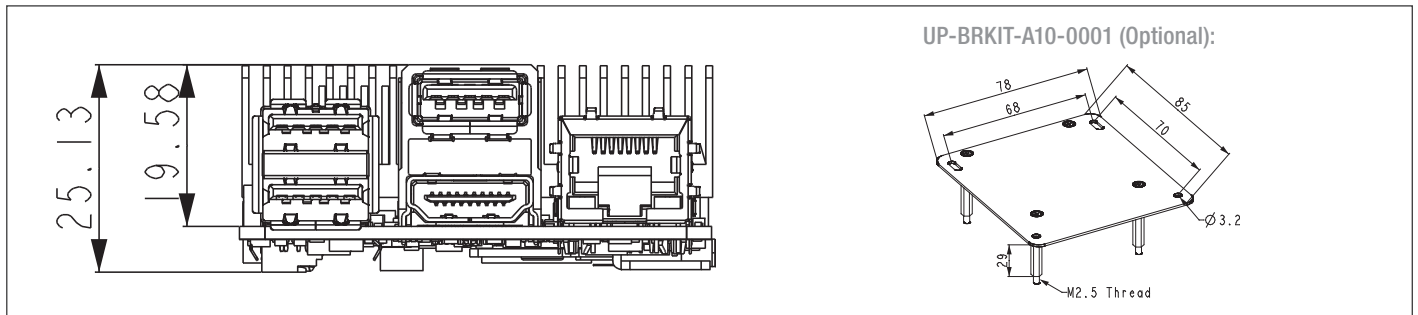
e-mail : mse@es-france.com
Site Web : www.es-france.com

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Core	TDP	Memory	Storage
UP-TWL02N150-A10-0864	Intel® Processor N150	4	6W	8GB	64GB

Optional Accessories

Part Number	Description
1701100180	COM Cable
170010015G	UART to USB cable
1702030200	Power cable (Phoenix type to lockable DC5.5*2.5 Jack).20cm
UP-ASL02-COOLER-A01	Active cooler Kit