

UP Squared i12

UP Squared i12 Developer Board with 12th/13th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC

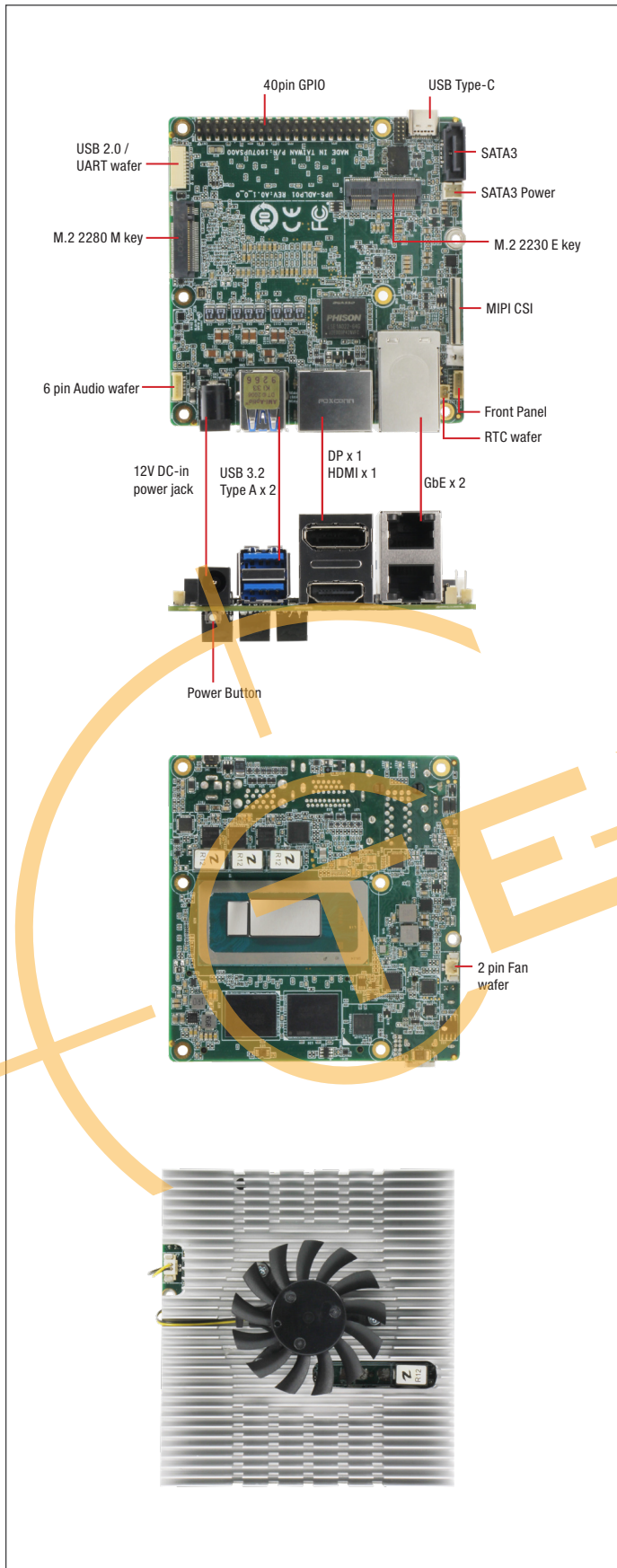
Features

- 12th/13th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- Up to 16GB Onboard LPDDR5
- Up to 128GB Onboard SSD
- M.2 2230 E-Key/M.2 2280 M-Key/SATA 6Gb/s x 1
- 1GbE x 2
- HDMI 1.4b/DP 1.2 Connector x 1, DP 1.4a via USB Type-C x 1
- USB 3.2 Gen 2 (Type-A) x 2, USB 3.2 Gen 2 (Type-C) x 1, 10-pin USB 2.0 x 2/UART x 1
- Audio Jack x 1 (Line out + Mic in)
- 40-pin GPIO x 1
- 12V DC-in
- TPM 2.0

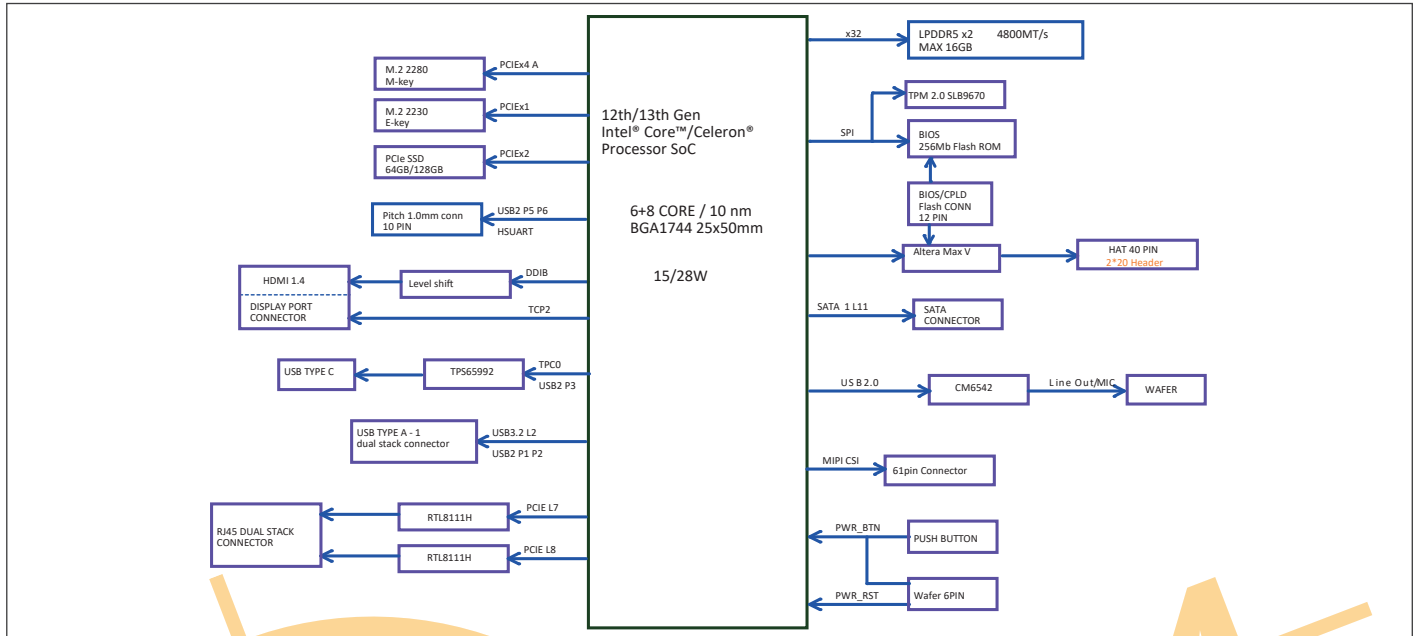


Specifications

System	
Processor	12th Gen Intel® Core™ Processor SoC Intel® Core i7-1270PE Intel® Core i7-1260P Intel® Core i5-1250PE Intel® Core i5-1240P Intel® Core i3-1220PE Intel® Celeron® 7305E 13th Gen Intel® Core™ Processor SoC Intel® Core™ i7-1370PE Intel® Core™ i7-1360P Intel® Core™ i5-1340PE Intel® Core™ i3-1320PE
Graphics	Intel® UHD Graphics
Memory	Up to 16GB Onboard LPDDR5
Storage	Up to 128GB Onboard SSD M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1
I/O	HDMI 1.4b/DP 1.2 STACK Connector x 1 DP 1.4a x 1 (via USB Type-C) 6-pin Audio Wafer x 1 (Line out + MIC in) 6-pin Front Panel x 1 2-pin Fan Wafer x 1 (12V) 2-pin RTC Battery Wafer x 1
Camera	MIPI CSI camera via 61pin wafer w/carrier board HDMI-in via 61pin wafer w/carrier board
USB	10-pin USB 2.0 x 2/UART x 1 USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C for DP 1.4) x 1
Expansion	40-pin GPIO x 1 M.2 2230 E-Key x 1 (CNVi & PCIe Gen 3.0 [x1]) M.2 2280 M-Key NVMe x 1 (PCIe Gen 4.0 [x4]) SATA 6Gb/s x 1
Display Interface	HDMI 1.4b/DP 1.2 STACK Connector x 1 DP 1.4a x 1 (via USB Type-C)
Ethernet	1GbE RJ45 x 2 (Dual Stacked) (Realtek 8111H CG)
Security	Onboard TPM 2.0
RTC	Yes
OS Support	Windows®10 IoT Enterprise LTSC 2021, Ubuntu 22.04, Yocto 4.0
Power Requirement	
Power	12V DC-in
Power Supply Type	AT/ATX (AT as default)
Power Consumption (Typical)	26W~39W
Mechanical	
Dimension	3.37" x 3.54" (85.6mm x 90mm)
Net Weight	0.59 lbs (0.27kg)
Gross Weight	0.84 lbs (0.38kg)
Environment	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow
Operation Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	522,716 Hours
Certification	CE/FCC Class A, RoHS Compliant, REACH

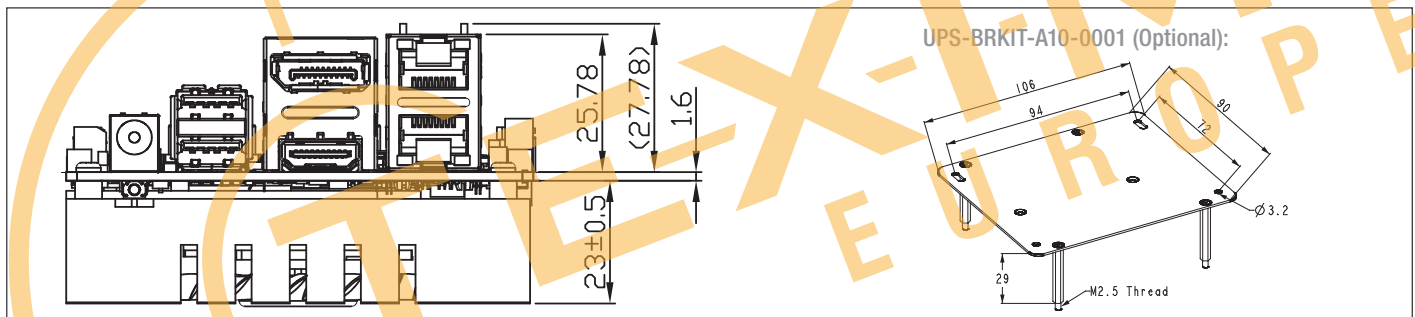


Block Diagram



Dimension

Unit: mm



Optional Accessories

Part Number	Description
1255X00088	(TF)AC/DC Adapter:100-240VAC.120W.12VDC/10A.W/O Lock.DC plug 2.1*5.5*12mm.FSP.FSP120-AHAN3/9NA1206756
170X000800	Power cord for EU.(TF)POWER CORD.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12
170X000799	Power cord for US.(TF)POWER CORD.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12
170203180J	Power cord for UK.(TF)Power Cord.3P.250V 10A.UK type.1830mm
170X000803	Power cord for Japan.(TF)Power cord.3P.125V/7A.1.8M.PSE YP12/YC12 Certificat
170X000815	Power cord for China.(TF)POWER CORD.3P(M).3P(F).1.8m.250V 10A 180D.CHINA.FAN-JET.YP-03/YC-12
170X000806	Power cord for Taiwan.(TF)Power Cord.3P-125VP.7A.180D.1.8M.TWN/BSMI.FANJET.YP-12/YC-12
1709070500	SATA cable.(TF)SATA CABLE.7P Pitch 1.27mm.50cm
1702150155	SATA power cable(15cm).(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm
1702150306	SATA power cable(30cm).(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).30cm
170010015G	UART to USB cable.(TF)USB Cable.10P 1.0mm Housing.USB A/F
9741364A00	(TF).M.2 2230 Wireless.802.11 ac/a/b/g/n + BT 5.0.2T2R,Enli QCNFA364A.w/2 sets of cable and antenna
9651926001	Wireless BT Kit (TF).M.2 2230 WiFi Kit.802.11ac.2.4G/5G.W/BT Intel.9260.NGWS.NV.958867w/2 cable & antenna
UPCR-CAN1-A10-0001	UP CAN Bus Carrier Board with USB/UART interface for UP product line
UPCR-CAMB-A10-0001	MIPI-CSI Camera RVP Converter Kit for UP Squared Pro 7000/UP Squared i12
UPCR-HDMI-A10-0001	HDMI IN carrier board for UPS i12, UPN 7000, UPX i12.REV.A1.0
UPS-BRKIT-A10-0001	Bracket KIT of board fixture for all UP series

Packing List

- UP Squared i12 with Active Heatsink

Ordering Information

Part Number	CPU	Core	Memory	Storage	Heatsink
UPS-ADLPCR-A10-0800	Intel® Celeron® 7305E	1P+4E	8GB	—	FAN
UPS-ADLP13-A10-0800	Intel® Core™ i3-1220PE	4P+4E	8GB	—	FAN
UPS-ADLP15-A10-0800	Intel® Core™ i5-1250PE	4P+8E	8GB	—	FAN
UPS-ADLP15-A10-08128	Intel® Core™ i5-1250PE	4P+8E	8GB	128GB	FAN
UPS-ADLP15C-A10-0800	Intel® Core™ i5-1240P	4P+8E	8GB	—	FAN
UPS-ADLP17-A10-0800	Intel® Core™ i7-1270PE	4P+8E	8GB	—	FAN
UPS-ADLP17-A10-16128	Intel® Core™ i7-1270PE	4P+8E	16GB	128GB	FAN
UPS-ADLP17C-A10-1600	Intel® Core™ i7-1260P	4P+8E	16GB	—	FAN
UPS-RAP13-A10-0800	Intel® Core™ i3-1320PE	4P+4E	8GB	—	FAN
UPS-RAP15-A10-0800	Intel® Core™ i5-1340PE	4P+8E	8GB	—	FAN
UPS-RAP17-A10-0800	Intel® Core™ i7-1370PE	4P+8E	8GB	—	FAN
UPS-RAP17C-A10-1600	Intel® Core™ i7-1360P	4P+8E	16GB	—	FAN

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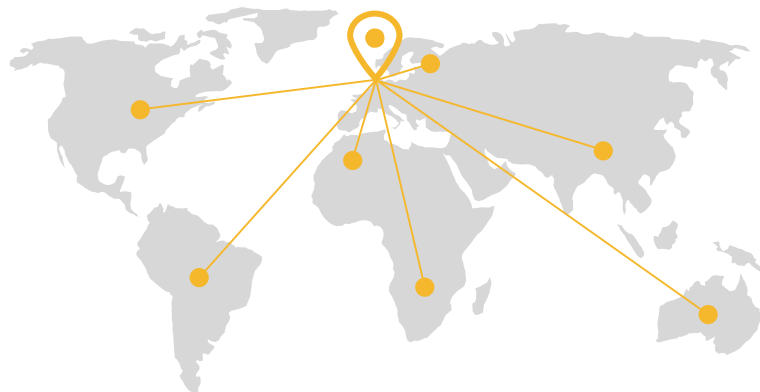
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All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

Please contact us if you have any questions about the contents of the datasheet.

This may not be the latest version of the datasheet. Please check with us if a later version is available.

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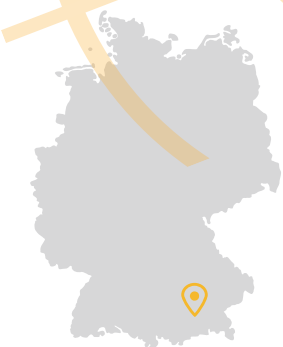
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