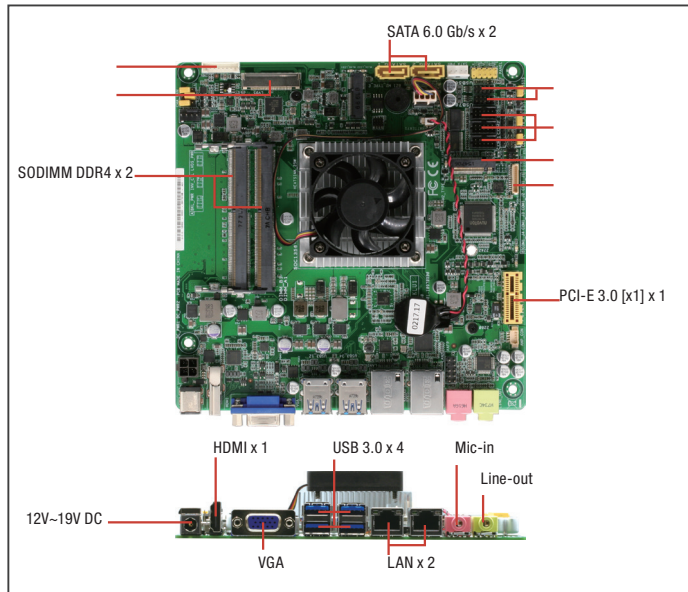


Mini-ITX, 14nm, FCBGA1356 7th Generation Intel® Core™ i7-7600U/ i5-7300U/ i3-7100U/ Celeron® 3965U/Core™ i5-7200U, 15~25W TDP



Features

- DDR4 SODIMM x 2, Up to 32GB
- Three Independent Display: eDP x 1, LVDS x 1, VGA (Default) or HDMI
- Intel® LAN i211AT x 1, 219LM for iAMT 12.0 x 1
- M.2 Slot (M-key) x 1
- M.2 Slot (E-key) x 1
- PCIe3.0 [x1] x 1



Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	—

Rear Panel I/O Ports

USB	USB 3.0 x 4
Display I/O	VGA x 1, HDMI Colay (default: VGA x 1)
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	LAN (RJ45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack x 1

Internal I/O Connectors

Storage	M.2 M key (22 x 80mm) for PCIe [x4]/SATA storage x 1 SATA 6.0Gb/s x 2 4-pin SATA power x 1
USB	USB 2.0 pin header x 2 support additional 4 USB ports
Display I/O	40-pin LVDS connector x 1 40-pin eDP connector x 1 LCD backlight connector (inverter) x 1
Audio I/O	Speaker for 2W/4Ω x 1 AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 2 for COM (COM1: RS-232/422/485 supports 5V/12V/RI)
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out) x 1
FAN	4-pin Chassis Fan connector x 1 4-pin CPU Fan connector x 1
Power	2x2 Pin DC-in 12~19V(-5%~+5%) x 1 AT/ATX mode select jumper x 1
Others	Clear CMOS jumper x 1
OS	
OS Support	Windows 10 64 bit, Ubuntu 16.04.LTS

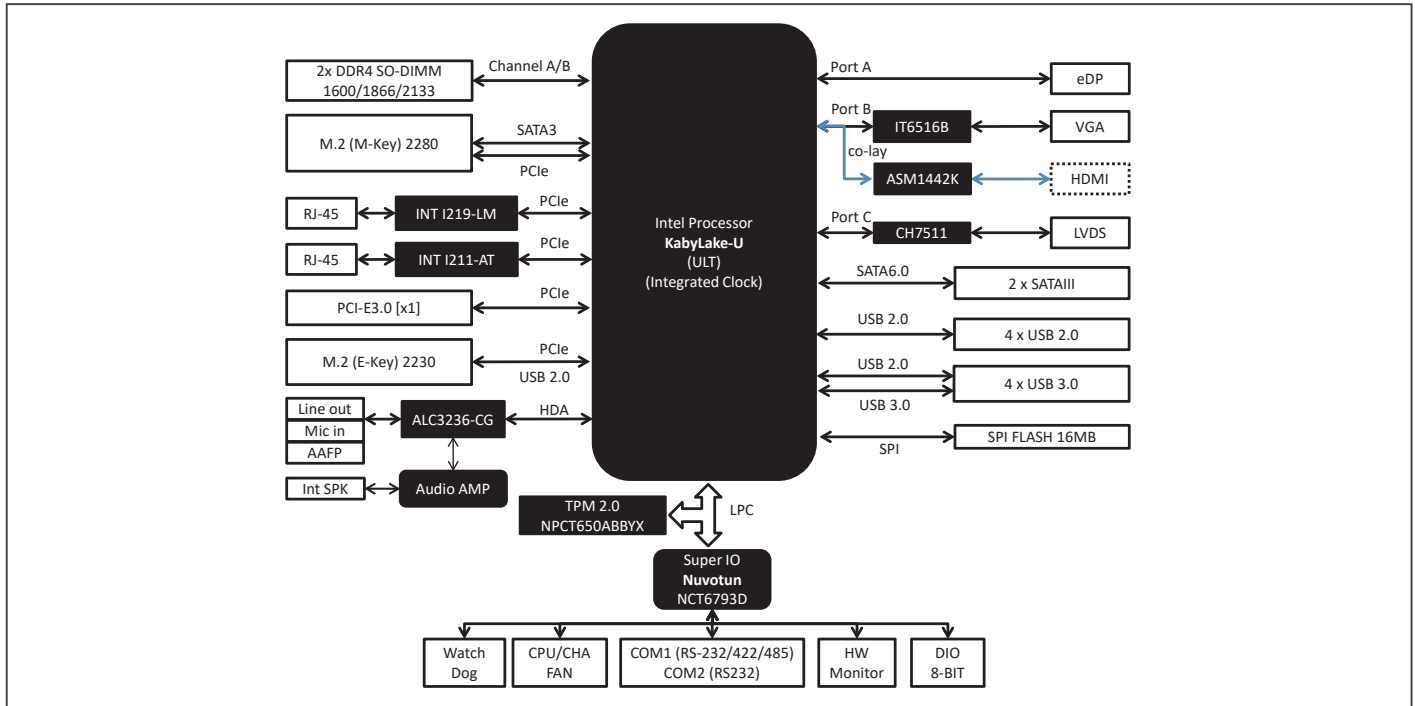
Specifications

System	
Processor	14nm 7th Generation Core™ i7-7600U, 2C/4C, 2.8/3.9(turbo)GHz, 4M, 300MHz/1.15GHz (Turbo) GFX, ~15W TDP Core™ i5-7300U, 2C/4C, 2.6/3.5(turbo)GHz, 3M, 300MHz/1.10GHz (Turbo) GFX, ~15W TDP Core™ i3-7100U, 2C/4C, 2.4GHz, 3M, 300MHz/1.00GHz (Turbo) GFX, ~15W TDP Celeron® 3965U, 2C, 2.2GHz, 2M, 300MHz/900MHz (Turbo) GFX, ~15W TDP Core™ i5-7200U, 2C/4C, 2.5/3.1(turbo)GHz, 3M, 300MHz/1.00GHz (Turbo) GFX, ~15W TDP (no long term support)
Chipset	—
Memory	SODIMM x 2, max. 32GB, DDR4-2133 non-ECC, un-buffered memory
Graphics	Intel® HD Graphics
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro (i7-7600U/i5-7300U) x 1 Intel® PCIe Gb LAN 211AT x 1
Audio	Realtek® ALC887
TPM	Nuvoton NPCT650xxxx TPM2.0 onboard (default: No)
Expansion Slots	PCIe 3.0 [x4] x 1 M.2 M key (22 x 80mm) x 1 at Bottom side, SATA & PCIe [x4] M.2 E key (22 x 30mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	Three Independent Display
VGA	Up to 1920 x 1200 @60 Hz colay with HDMI (default: VGA)
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2340 @24Hz colay with VGA (default: VGA)
Display Port	—
LVDS	LVDS Up to 1920 x 1080 @60Hz, Dual Channel 18/24 bit (via CH7511)
eDP	eDP UP to 4096 x 2340 @ 60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12(-5%)~19V(+5%) DC
Power Compliance	—
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)

Packing List

- Heatsink
- SATA Cable
- SATA Power Cable
- I/O Shield
- Product CD
- EMB-KLU1

Block Diagram



Dimension

Unit: mm

Launching in Q1

Ordering Information

Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-KLU1-A10-7600	i7-7600U	SODIMM x 2	Fan	VGA, LVDS, eDP	SATA3 x 2, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB3.1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-KLU1-A10-7300	i5-7300U	SODIMM x 2	Fan	VGA, LVDS, eDP	SATA3 x 2, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB3.1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-KLU1-A10-7100	i3-7100U	SODIMM x 2	Fanless	VGA, LVDS, eDP	SATA3 x 2, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB3.1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-KLU1-A10-3965	Celeron® 3965U	SODIMM x 2	Fanless	VGA, LVDS, eDP	SATA3 x 2, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB3.1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-KLU1-A10-7200	i5-7200U	SODIMM x 2	Fan	VGA, LVDS, eDP	SATA3 x 2, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB3.1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
1702151201	SATA Power Cable (4P, 120MM, p=2.5mm)
1255900846	Adapter 12V/84W