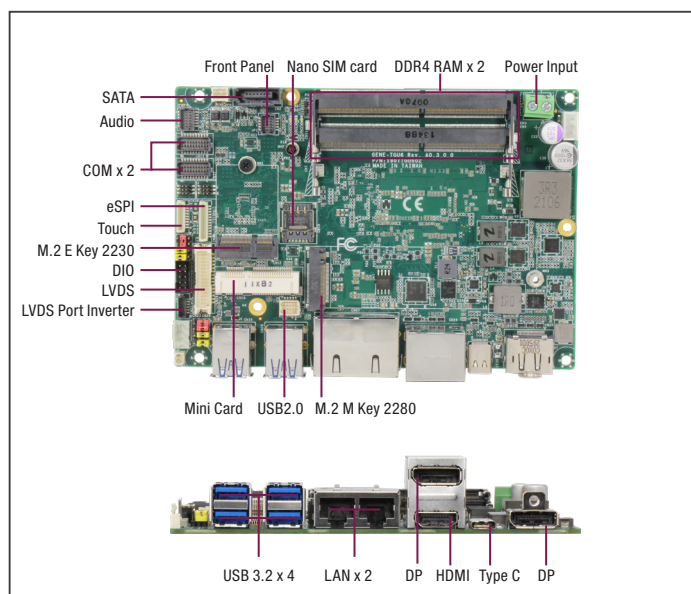


GENE-TGU6

3.5" SubCompact Board with 11th Generation Intel® Core™ i7/i5/i3/Celeron® Processor



Features

- DDR4 SODIMM Slot x 2, up to 64GB, support IB ECC
- HDMI 2.0 x 1, DP 1.4 x 2, Type-C DP x 1, LVDS/eDP x 1
- 2.5GbE x 1, GbE x 1
- USB 3.2 Gen 2 x 4, USB 2.0 x 2, USB Type-C x 1
- M.2 2280 M-Key x 1, M.2 2230 E-Key x 1
- Wide DC Input 9~36V (Optional: 12V Only)



Internal I/O	
USB	USB 2.0 x 2
Serial Port	COM 1, COM 3, COM 4 (RS-232/422/485) COM 2 (RS-232/422/485, supports 5V/12V/RI)
Video	LVDS/eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A)
SATA	SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1
Audio	Audio Header x 1 (Optional, Audio function not available for WITAS SKU)
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus/I2C x 1 (Default: SMBus)
Touch	4/5/8-wire Touch Controller x 1 (Optional)
Fan	4pins Smart Fan x 1
Sim	Nano SIM x 1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
Expansion	
Mini PCIe/mSATA	Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS)
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB 2.0)
Others	—
Environment & Certification	
Operating Temp.	32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU
Storage Temp.	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	329,884
EMC	CE/FCC Class A

Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	11th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W) Intel® Core™ i5-1145G7E (4C/8T, 1.5 GHz, 15W) Intel® Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel® Celeron® 6305E (2C/2T, 1.80 GHz, 15W) Intel® Core™ i7-1185GRE (4C/8T, 1.80 GHz, 15W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR4 3200, Dual Channel SODIMM x 2, Max.64GB, Non-ECC
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAh
Dimensions	5.75" x 4" (146mm x 101.7mm)
OS Support	Windows 10 (64bit) Linux Ubuntu 20.04.2/Kernel 5.8
Power	
Power Requirement	+9V~36V (Optional: +12V)
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector
Power Consumption	Intel® Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 4.96A @+12V (Typical) Intel® Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 7.32A @+12V (Max)
Display	
Controller	Intel® Iris® Xe Graphics Intel® UHD Graphics
LVDS/eDP	LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, up to 3840 x 2160 (Optional)
Display Interface	HDMI 2.0 x 1, up to 4K x 2K@60Hz DP 1.4 x 2, up to 4K x 2K@60Hz DP 1.4 x 1 (via USB Type-C), up to 4K x 2K@60Hz
Multiple Display	Up to 4 Simultaneous Displays
Audio	
Codec	Realtek ALC897
Audio Interface	Line-In / Line-Out / Mic (Audio function not available for WITAS SKU)
Speaker	—
External I/O	
Ethernet	Intel® I219 1GbE, RJ-45 x1 Intel® I225/I226 2.5GbE, RJ-45 x 1
USB	USB 3.2 Gen 2 x 4 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A)
Serial Port	—
Video	HDMI 2.0 x 1, DP 1.4 x 2, Type-C DP 1.4 x 1

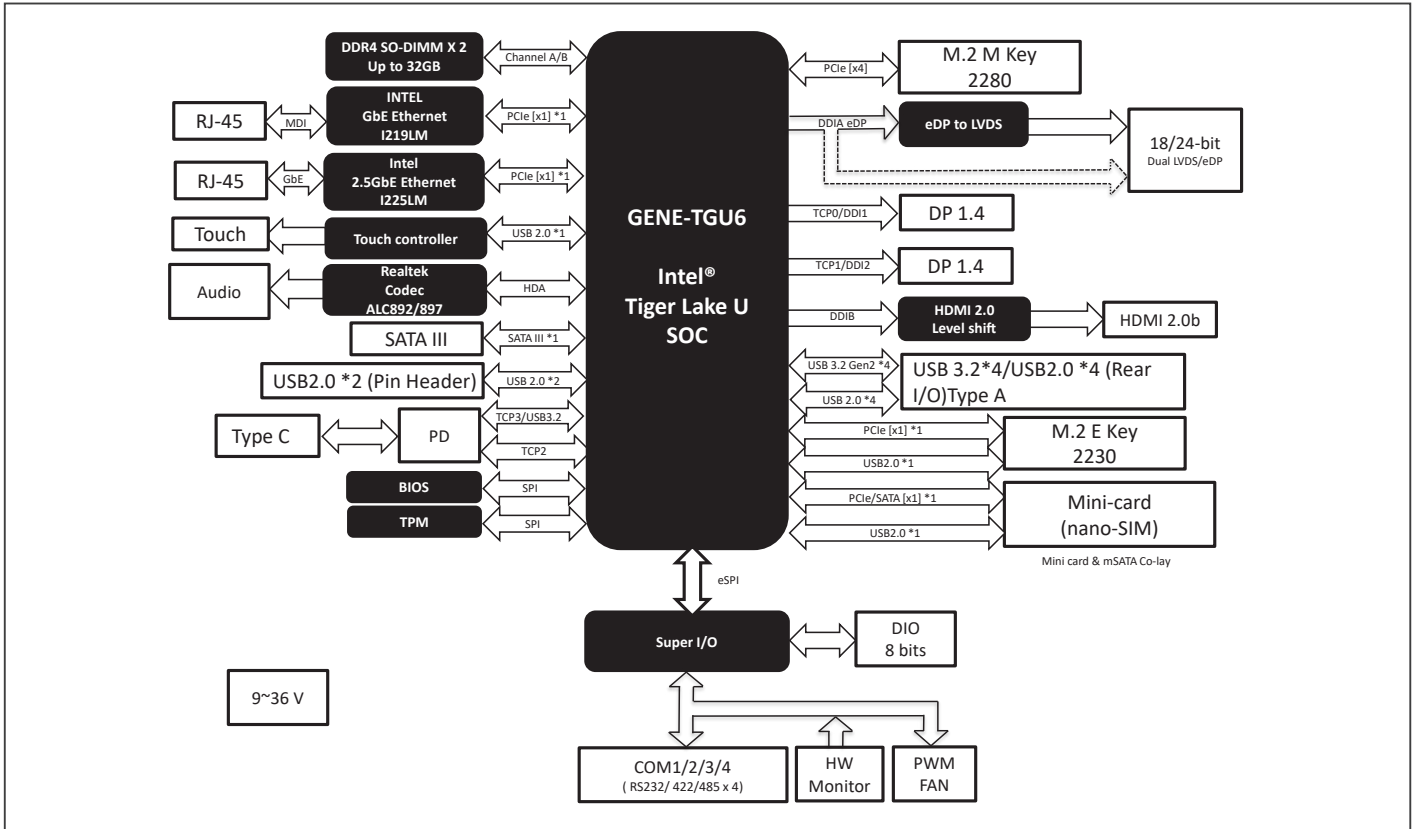
Optional Accessories

Part Number	Description	QTY per Board
GENE-TGU6-FAN01	CPU Cooler.3600RPM	1
GENE-TGU6-HSK01	Heatsink	1
GENE-TGU6-HSP01	HeatSpreader	1
1702150155	SATA HDD Power, Cable 15cm	1
170204010R	Power Cable,10cm	1
170X000156	Audio Cable, 25cm	1
170X000231	COM Port Cable, 30cm	2
170010010D	USB 2.0 Cable, 10cm	1

Packing List

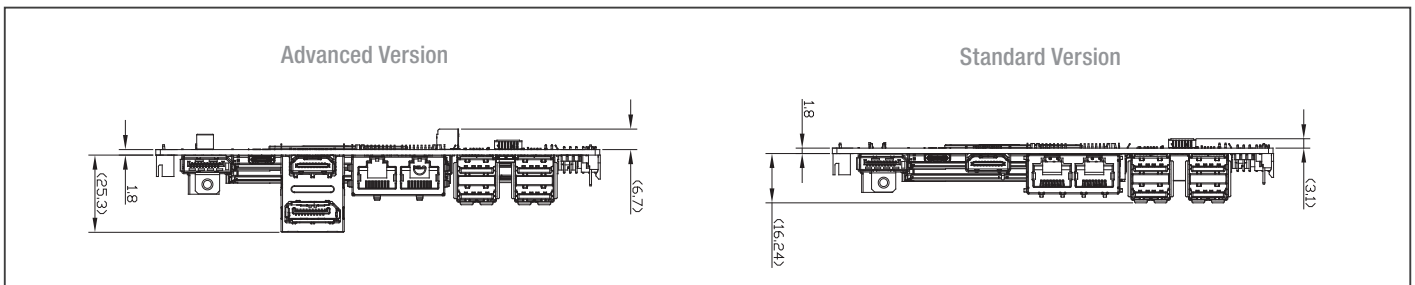
Part Number	Description	QTY
GENE-TGU6	GENE-TGU6 MB	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232	RS-232/422/485	Storage	Expansion Slot	TPM	Power	Operating Temp	Others
GENE-TGU6-A10-0011	Intel® Core™ i7-1185G7E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0012	Intel® Core™ i7-1185G7E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0013	Intel® Core™ i5-1145G7E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller,
GENE-TGU6-A10-0014	Intel® Core™ i5-1145G7E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0015	Intel® Core™ i3-1115G4E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0016	Intel® Core™ i3-1115G4E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0017	Intel® Celeron® 6305E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6W2-A10-0018	Intel® Core™ i7-1185GRE	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	W2(-40°C ~ 85°C)	DIO x 8, nano SIM