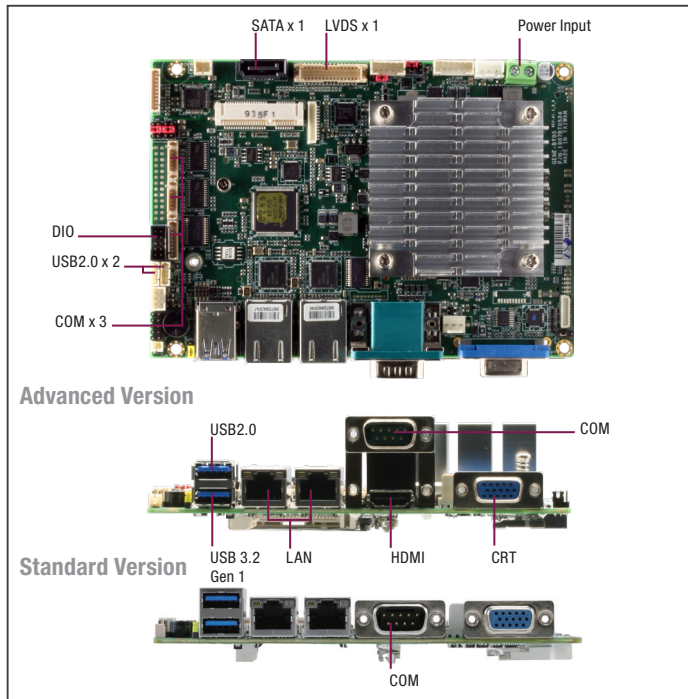


GENE-BT05

3.5" SubCompact Board with Intel® Atom® and Celeron® Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Atom® / Celeron® Processor: Celeron® J1900 (4C/4T, 2.00GHz, up to 2.42GHz, 10W) Celeron® N2930 (4C/4T, 1.83GHz, up to 2.16GHz, 7.5W) Celeron® N2807 (2C/2T, 1.58GHz, up to 2.16GHz, 4.3W) Atom® E3845 (4C/4T, 1.91 GHz, 10W) Atom® E3825 (2C/2T, 1.33 GHz, 6W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR3L up to 1333MHz, SODIMM x 1, up to 8GB, Non-ECC
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 1.2(Optional)
RTC Battery	Lithium Battery 3V/240mAh
Dimensions	5.75" x 4" (146mm x 101.7mm)
OS Support	Windows 7/10 (64bit) Linux Ubuntu 20.04.3/Kernel 5.11
Power	
Power Requirement	+12V Only
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector
Power Consumption	Intel® J1900, DDR3L 1600MHz 8GB, 1.73A @ +12V(TYPICAL) Intel® J1900, DDR3L 1600MHz 8GB, 1.88A @ +12V(MAX)
Display	
Controller	Intel® HD Graphics for Intel Atom® Processor Z3700 Series
LVDS/eDP	LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080
Display Interface	HDMI 1.4a x 1, up to 3840 x 2160 VGA x 1, up to 1920 x 1200
Multiple Display	Up to 3 Simultaneous Displays
Audio	
Codec	Realtek ALC897/892
Audio Interface	Line-In / Line-Out / Mic (Audio function not available for WITAS SKU)
Speaker	—
External I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base, RJ-45 x 2
USB	USB 3.2 Gen 1 x 1, USB 2.0 x 1
Serial Port	COM1 (RS232)
Video	VGA x 1, HDMI 1.4a x 1

Features

- Onboard Intel® Atom® and Celeron® Processor SoC
- DDR3L 1066/1333 MHz SODIMM x 1, Up to 8 GB
- Gigabit Ethernet x 2, RJ-45 x 2
- CRT, 18/24-bit Dual-Channel LVDS LCD, HDMI
- 2CH HD Audio
- SATA 3.0 Gb/s x 1, CFast™ x 1
- USB 3.2 Gen 1 x 1, USB2.0 x 3, COM x 4, 8-bit Digital I/O
- Mini-Card x 2 (Full-size x 1, Half-size x 1)
- DC 12V, AT/ATX Mode
- Onboard 4/5/8-wire Resistive Touch Screen Controller (Optional)
- AAEON Hi-Safe/SDK/Utility Supported
- mSATA x 1 (Optional, Share Mini-Card Interface)
- Onboard Trusted Platform Module (Optional)



Internal I/O	
USB	USB2.0 x 2
Serial Port	COM2, COM3 (RS232/422/485, supports 5V/12V/RI), COM4 (RS232)
Video	LVDS x 1
SATA	SATA III x 1, +5V SATA Power Connector x 1
Audio	Audio Header x 1 (Audio function not available for WITAS SKU)
DIO/GPIO	8-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
Touch	4/5/8-wire Touch Controller x 1 (optional)
Fan	DC Fan x 1 (optional: Smart Fan)
Sim	SIM X1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	CFast™ (option with mSATA by BOM, occupies one Mini Card location)
Expansion	
Mini PCIe/mSATA	Full-Size mPCIe/ USB2.0 x 1 Half-Size mSATA/ mPCIe x 1 (BOM optional)
M.2	—
Others	—
Environment & Certification	
Operating Temp.	32°F ~ 140°F (0°C ~ 60°C) or WITAS 2 (E3825)
Storage Temp.	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	344,859
EMC	CE/FCC Class A

Packing List

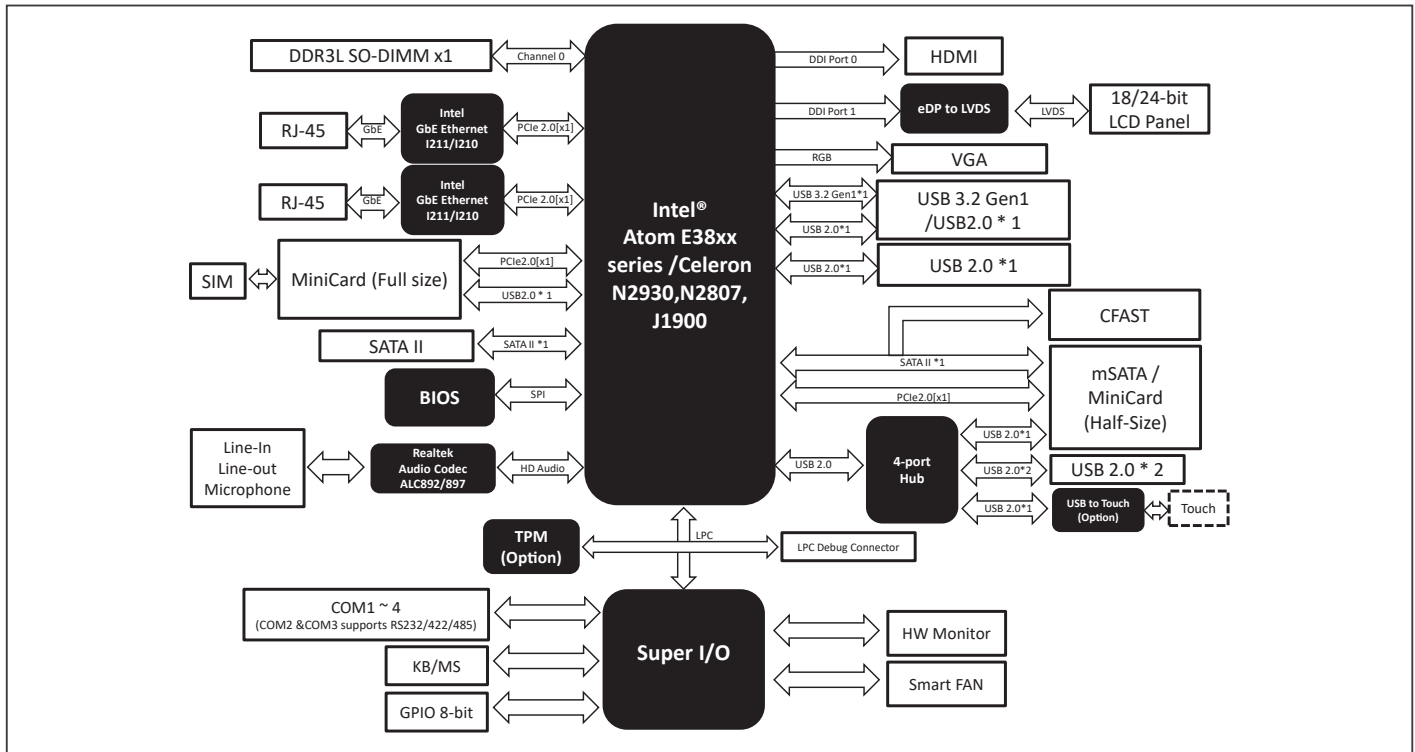
Part Number	Description	QTY
GENE-BT05	GENE-BT05 MB	1
M16BT07020	Heatsink	1

Optional Accessories

Part Number	Description	QTY per Board
1700050207	USB Cable, 20cm	2
1701090150	COM Cable, 15cm	3
1709100254	Audio Jack Cable, 25cm	1
1709070500	SATA CABLE, 50cm	1
170204010R	Power Cable, 10cm	1
1702150155	SATA Power Cable, 15cm	1
170220020B	ATX Power Cable, 20cm	1

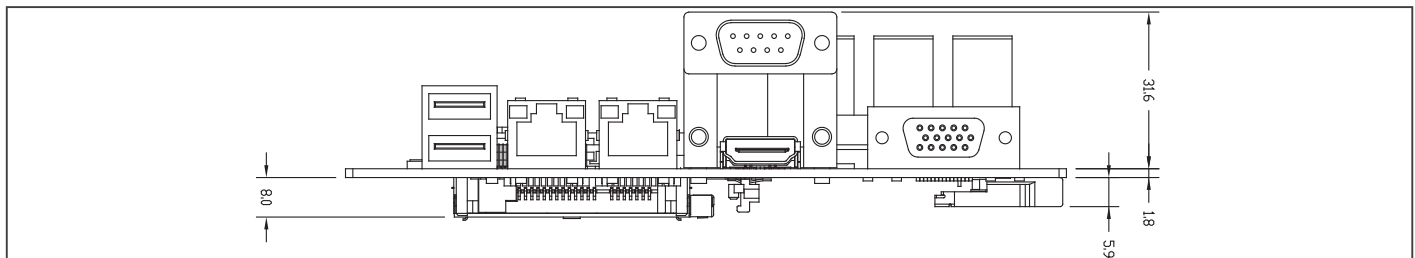


Block Diagram



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-BT05-A12-0001	Intel®Celeron® N2930	CRT + LVDS LVDS + HDMI HDMI + CRT	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 CFast x 1	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	1.2	+12V, AT/ATX	0°C ~ 60°C	Audio, Touch, SIM, GPIO x 8
GENE-BT05-A12-0002	Intel®Celeron® N2930	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	0°C ~ 60°C	Audio, GPIO x 8
GENE-BT05-A12-0003	Intel®Celeron® N2807	CRT + LVDS LVDS + HDMI HDMI + CRT	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 CFast x 1	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	1.2	+12V, AT/ATX	0°C ~ 60°C	Audio, Touch, SIM, GPIO x 8
GENE-BT05-A12-0004	Intel®Celeron® N2807	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	0°C ~ 60°C	Audio, GPIO x 8
GENE-BT05-A12-0005	Intel® Atom™ E3845	CRT + LVDS LVDS + HDMI HDMI + CRT	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 CFast x 1	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	1.2	+12V, AT/ATX	0°C ~ 60°C	Audio, Touch, SIM, GPIO x 8
GENE-BT05-A12-0006	Intel® Atom™ E3845	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	0°C ~ 60°C	Audio, GPIO x 8
GENE-BT05-A12-0007	Intel® Atom™ E3825	CRT + LVDS LVDS + HDMI HDMI + CRT	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 CFast x 1	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	1.2	+12V, AT/ATX	0°C ~ 60°C	Audio, Touch, SIM, GPIO x 8
GENE-BT05-A12-0008	Intel® Atom™ E3825	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	0°C ~ 60°C	Audio, GPIO x 8
GENE-BT05-A12-0009	Intel®Celeron® J1900	CRT + LVDS LVDS + HDMI HDMI + CRT	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 CFast x 1	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	1.2	+12V, AT/ATX	0°C ~ 60°C	Audio, Touch, SIM, GPIO x 8
GENE-BT05-A12-0010	Intel®Celeron® J1900	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	0°C ~ 60°C	Audio, GPIO x 8
GENE-BT05W2-A12-0006	Intel® Atom™ E3845	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	WTAS 2(-40°C~85°C)	GPIO x 8
GENE-BT05W2-A12-0008	Intel® Atom™ E3825	CRT + LVDS	Gbe x 2	USB3.0 x 1 USB2.0 x 3	2	2	SATA x 1 mSATA x 1 (Half Size)	Mini Card x 1 (Full-Size)	—	+12V, AT/ATX	WTAS 2(-40°C~85°C)	GPIO x 8