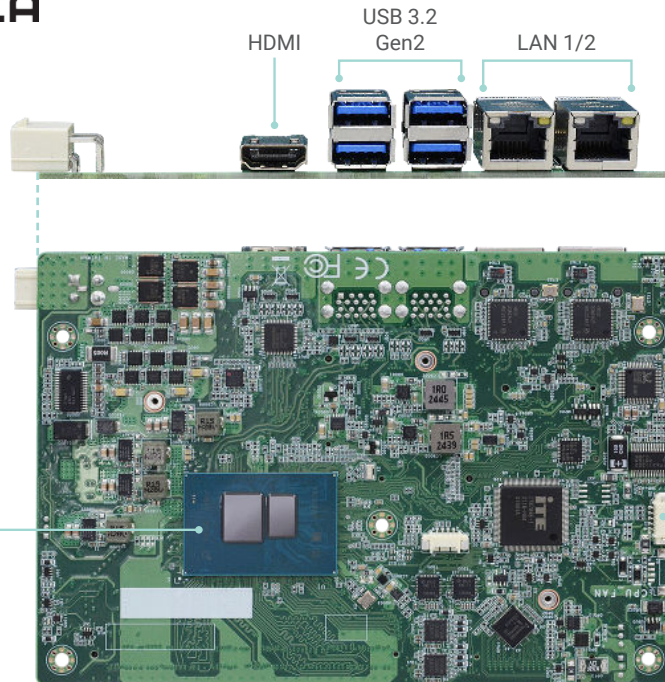


IRN556

Atom

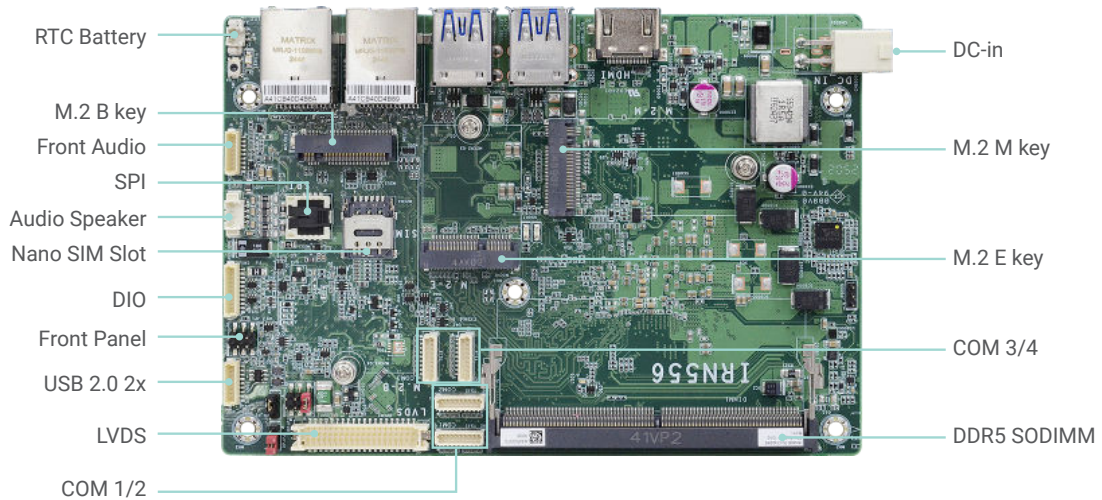
Intel® Atom® Processor X Series
Intel® Processor N Series
3.5" SBC



Intel® Atom® Processor X Series
Intel® Processor N Series

I2C/SMBus (Opt.)

Bottom View



Top View

KEY FEATURES



DDR5

1 DDR5 SO-DIMM



4K High Resolution

Supports 4K/ 2K resolution



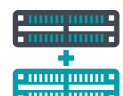
Dual Display

1 HDMI, 1 LVDS



Rich I/O Connectivity

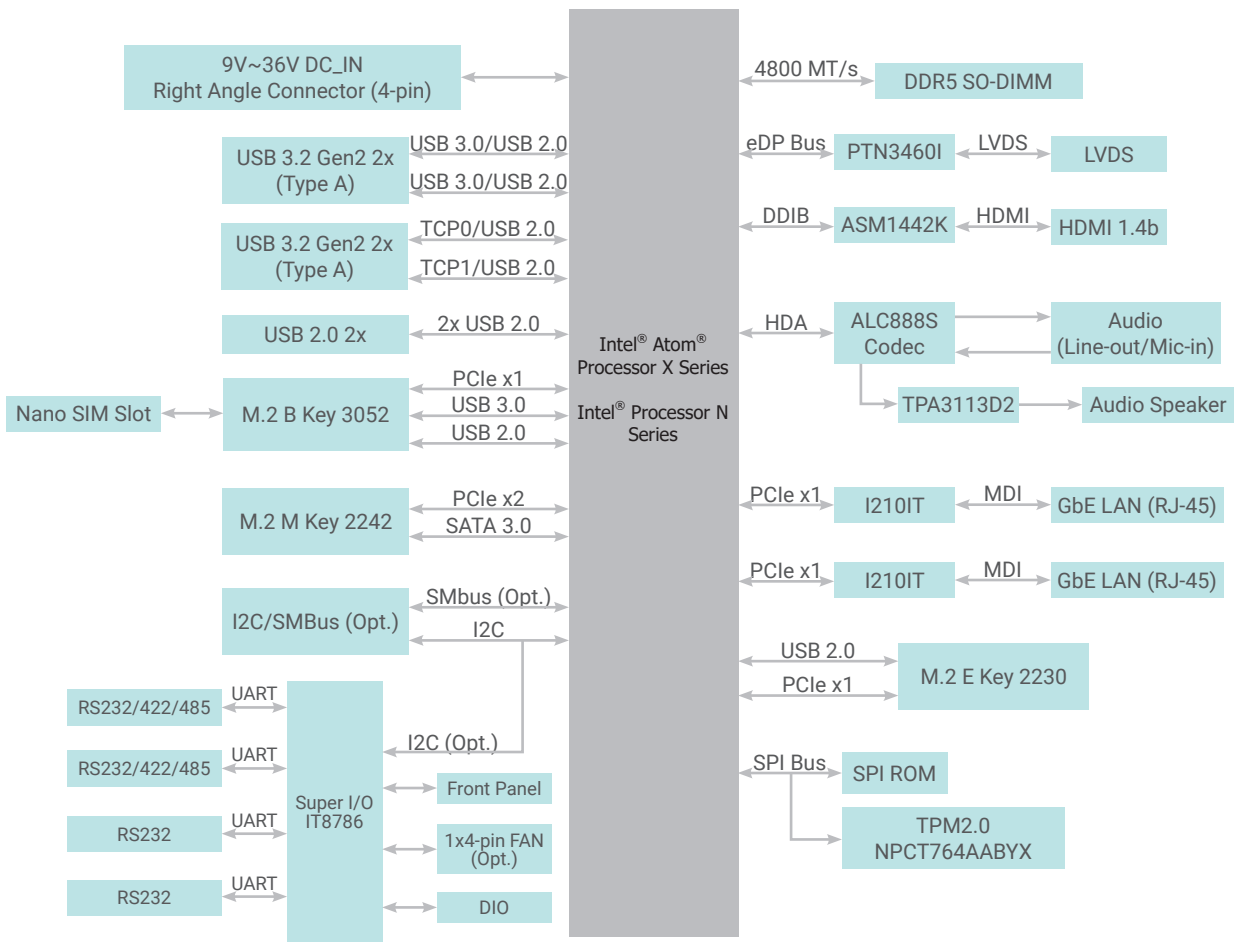
2 GbE LAN, 4 USB 3.2, 2 USB 2.0



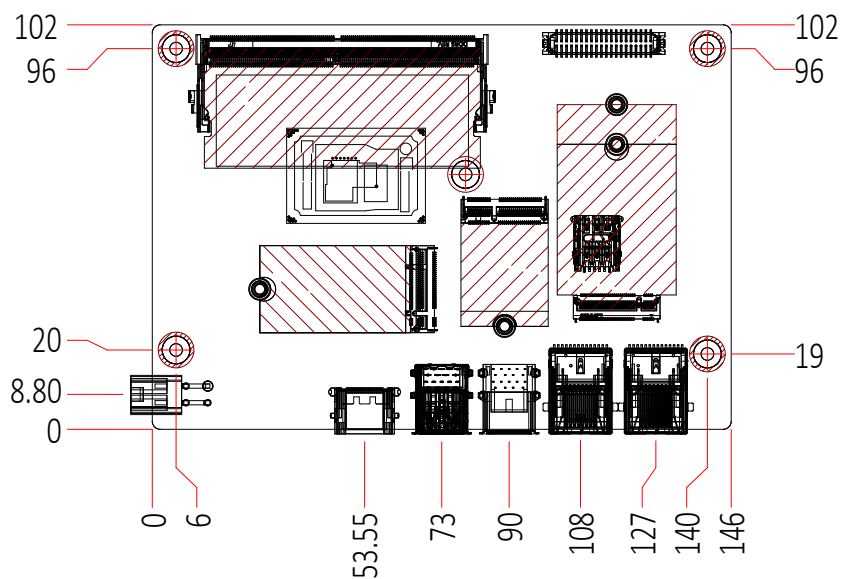
Multiple Expansion

1 M.2 M Key,
1 M.2 B Key,
1 M.2 E Key

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	Intel Atom® Processor X Series (Code Name: Amston Lake) Intel Atom® Processor x7211RE, 2 Cores, 1.0~3.2 GHz, 6 W Intel Atom® Processor x7433RE, 4 Cores, 1.5~3.4 GHz, 9 W Intel Atom® Processor x7835RE, 8 Cores, 1.3~3.6 GHz, 12 W Intel® Processor N series (Code Name: Twin Lake) Intel® Processor N150, 4 Cores, 1.0~3.6 GHz, 6W Intel® Core™ 3 Processor N355, 8 Cores, 1.8~3.9 GHz, 15W	
	Memory	One 262-pin SODIMM up to 16GB Single Channel DDR5 4800MHz	
	BIOS	AMI SPI 256Mbit	
GRAPHICS	Controller	Intel® UHD Graphics	
	Feature	OpenGL 4.6, Direct X 12.1, OpenCL 3.0 HW Decode: HEVC, VP9, AV1, AVC HW Encode: HEVC, VP9, AVC	
	Display	1 x HDMI 1 x LVDS	HDMI: resolution up to 4096x2160 @ 24Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz
	Dual Display	HDMI + LVDS	
EXPENSION	Interface	1 x M.2 M key 2242 (PCIe Gen3 x2/SATA3.0) 1 x M.2 B key 3052 (PCIe x1/USB3.0/USB2.0) 1 x nano SIM slot 1 x M.2 E key 2230 (USB2.0/PCIe x1)	
AUDIO	Audio Codec	Realtek ALC888S	
ETHERNET	Controller	2 x Intel® i210IT(10/100/1000Mbps)	
REAR I/O	Ethernet	2 x GbE (RJ-45)	
	USB	4 x USB 3.2	
	Display	1 x HDMI	
INTERNAL I/O	Serial	2 x RS-232/422/485 (1.0mm pitch) 2 x RS-232 (1.0mm pitch)	
	USB	2 x USB 2.0 (1.0mm pitch)	
	Display	1 x LVDS LCD Panel Connector	
	Audio	1 x Audio (Line-out/Mic-in) 1 x Speaker out (5W/8ohm)	
	DIO	1 x 8-bit DIO	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	dTPM2.0	
POWER	Type	9~36V DC	
	Connector	Right Angle Connector (4-pin)	
	Consumption	Typical: x7835RE, 36V @ 0.35A (12.6W) Max: x7835RE, 36V @ 1.25A (45.0W) Typical: i3-N355, 36V @ 0.35A (12.6W) Max: i3-N355, 36V @ 1.08A (38.88W) Typical: N150, 36V @ 0.34A (12.24W) Max: N150, 36V @ 0.55A (19.8W)	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	OS Support (UEFI Only)	Windows 11 & 10 IoT Enterprise (64-bit) Linux	
ENVIRONMENT	Temperature	Operating: -40°C ~ 85°C, -5°C ~ 65°C Storage: -40°C ~ 85°C	
	Humidity	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH	
	MTBF	809,938 hrs @ 25°C; 458,347 hrs @ 45°C; 291,792 hrs @ 60°C; 215,309 hrs @ 70°C; 136,953 hrs @ 85°C Calculation Model: Telcordia Issue 4 Environment: GB, GC - Ground Benign, Controlled	
MECHANISM	Dimensions	3.5" SBC Form Factor 146mm (5.75") x 102mm (4.02")	
	Height	PCB: 1.6mm	
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, RoHS, UKCA	

ORDERING INFORMATION

Model Name	P/N	Processor	Memory	Display	GbE	RS232/ 422/485	RS232	USB 3.2	USB 2.0	Power	Thermal	Temp.
IRN556-TN-x7385RE	770-IRN5561-000G	Intel Atom® x7835RE, 8C, 12W	1 DDR5 SODIMM	HDMI + LVDS	2	2	2	2	2	9~36 VDC	Fanless	-40~85°C
IRN556-TN-x7433RE	770-IRN5561-100G	Intel Atom® x7433RE, 4C, 9W										-40~85°C
IRN556-TN-x7211RE	770-IRN5561-200G	Intel Atom® x7211RE, 2C, 6W										-40~85°C
IRN556-BN-N355	770-IRN5561-300G	Intel® Core™ 3 N355, 8C, 15W										-5~65°C
IRN556-BN-N150	770-IRN5561-400G	Intel® N150, 4C, 6W										-5~65°C

PACKING LIST

• 1 IRN556 board	
• 1 Heat sink (Height: 29 mm)	A71-008359-000G

OPTIONAL ITEMS

• Power adapter (60W, 12V)	671-106012-000G
• 4-pin power to DC jack cable (Length: 100mm)	A81-004051-016G
• 1 COM port cable (Length: 250mm, 1x COM port)	A81-015130-018G
• USB 2.0 cable (Length: 200mm, 2 USB ports)	A81-001201-018G
• Front panel cable (Length: 250mm)	A81-009307-001G
• Audio cable (Length: 200mm)	A81-022043-054G
• Heat spreader (Height: 11mm)	A71-808366-000G