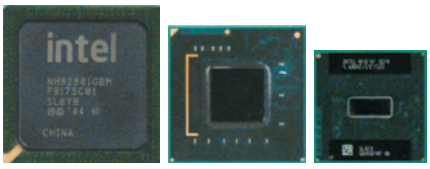
IEI Bay Trail Embedded Board as Best N270+945GSE Replacement Solution

Bay Trail embedded board series is powered by Intel® Bay Trail quad-core SoC which is three times faster than the single-core Intel® Atom™ N270 CPU. It upgrades the specifications to USB 3.0 and DDR3L to provide faster data transmission and reduce power consumption which can greatly enhance work efficiency. This series also supports an extended operating temperature ranged from -40°C to +85°C for industrial applications in tough and rugged environments.

Windows 7 (Pro/WES7/WEC7), Windows 8.1 (Pro/WE8), Windows 10 and Android operating systems are all supported by the low power consumption, fanless Bay Trail embedded board series to offer multiple options for users. IEI Bay Trail industrial board series combines high resolution, great efficiency and low power consumption. Improving the overall function of the system allows users to replace Navy Pier series seamlessly and satisfies their various requirements.

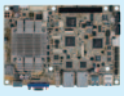
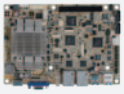
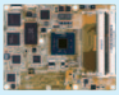
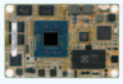
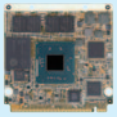
	Navy Pier (N270+945GSE)	Bay Trail Family
Available CPU Types	N270	J1900, N2930, N2807, E3845, E3827, E3826, E3825, E3815
TDP	ICH7M: 1.9W 9.9W 945GSE: 5.5W N270: 2.5W	4.3W N280F: 4.3W
Memory	DDR2 2GB 533MHz	DDR3L 8GB 1333MHz
Display Output	VGA LVDS Up to 2048x1536 @ 60Hz	VGA LVDS DP DVI HDMI Up to 2560x1600 @ 60Hz

Specification Comparison Between N270+945GSE & Bay Trail



	Navy Pier (N270+945GSE)	Bay Trail Family
Launch	Q2'08	Q4'13
Process	45nm	22nm
Processor Frequency &TDP	N270: 1.6GHz/2.5W	**Celeron®:** J1900: 2 GHz /10W N2930: 1.83 GHz /7.5W N2807: 1.58 GHz /4.3W **Atom™:** E3845: 1.91 GHz /10W E3827: 1.75 GHz /8W E3826: 1.46 GHz /7W E3825: 1.33 GHz /6W E3815: 1.46 GHz /5W
Chipset TDP	Intel® 945GSE: 5.5W Intel® ICH7M: 1.9W	N/A
Memory	DDR2 533MHz (Max. 2G)	DDR3L 1333MHz for J1900/N2930/E3845/E3827 (Max. 8GB) DDR3L 1333MHz for N2807 (Max. 4GB) DDR3L 1066MHz for E3826/E3825/E3815 (Max. 8GB)
Graphics	2 Independent Displays DirectX9, OpenGL1.4 Gfx @ up to 133MHz	2 Independent Displays Gen 7 4 EUs DirectX11.1 , OpenGL 4.0 Gfx @ up to 854MHz (J1900/N2930)
Video Decode	MPEG2	MPEG4, h.264, VC-1/WMV9 VP8 up to 1080p
Stroage & IO	IDE, SATA, 6 USB 2.0	SATA 3Gb/s, 1 USB 3.0, 3 USB 2.0, eMMC 4.51, SD card

IEI Intel® Bay Trail Embedded Board Selection Guide

Product		Replaced Model	Power Input	Expansion Slot	HDMI	Storage			USB 3.0	IPMI	iSMM+	Operating Temp.	Supply Guarantee
						CFast	mSATA	microSD					
	eKINO-BT	KINO-PV-D5252/ D4252 eKINO-945GSE	DC input +9~26V	1 x PCIe Mini 1 x PCIe x1		v	v		v		v	-20~60°C	3 years
	KINO-ABT	KINO-945GSE KINO-945GSE3	ATX	1 x PCIe Mini 1 x PCIe x1	v		v		v	iRIS-2400	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	KINO-DBT	KINO-PVN-D5251 KINO-945GSE2	DC input +12V	1 x PCIe Mini 1 x PCIe x4			v	v	v		v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**NANO-BT**	NOVA-945GSE NANO-PV-D5251 NANO-PV-D5252 NANO-945GSE	DC input +12V	1 x PCIe Mini 1 x PCI/104	v		v	v	v	iRIS-1010	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**NANO-BTW2**	NANO-945GSE2	DC input +12V								v	-40°C 85°C Extreme Environment -40~85°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	WAFER-BT	WAFER-PV-D5251 WAFER-PV-D5252 WAFER-PV-D5253 WAFER-945GSE WAFER-945GSE2 PM-945GSE	DC input +12V	1 x PCIe Mini			v		v	iRIS-1010	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	WAFER-BTW2		DC input +12V	2 x PCIe Mini			v	v	v		v	-40°C 85°C Extreme Environment -40~85°C	Estimated Launch Date: 2015 Q4
	HYPER-BT	PM-945GSE PM-PV	DC input +12V						v		v	-20~60°C	3 years
	**ICE-BT-T6**	IEM-945GSE ICE-PV ICE-945GSE	DC input +12V		v				v		v	-20~60°C	3 years
	**ICE-BT-T10**		DC input +12V		v				v		v	-40°C 85°C Extreme Environment -40~85°C	3 years
	**iQ7-BT**		DC input +12V		v				v		v	-20~60°C	3 years
	iQ7-BTW2		DC input +12V		v				v		v	-40°C 85°C Extreme Environment -40~85°C	3 years