

# Datasheet

## FORTEC Integrated

### SBC NPA-2009

5.25" Single-Board Computer with Intel Tiger Lake-U CPU and unique V-by-One / eDP / USB Docking Connector

PC-61-206 SBC NPA-2009-1145G7E



Version 0.1  
08.03.2022



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# Table of Contents

- 1 Revision History ..... 4
- 2 Description..... 4
- 3 Features ..... 4
- 4 Specification..... 5
- 5 Connectors / Interfaces ..... 6
- 6 Operating System – Windows 10 IoT Enterprise ..... 6
- 7 Docking Board (only with optional Docking Connector)..... 7

## 1 Revision History

Date	Rev.No.	Description	Page
08.03.2022	0.1	Preliminary Version	All

## 2 Description

The 5.25-inch single board computer (SBC) is designed specifically for industrial and low-cost applications. It is developed for 24/7 operation. The Intel® Tiger Lake-U UP3 Low Power Series processor of the 11th generation is available for the long term and designed for industrial applications. The SBC is equipped with the Intel® i5-1145G7E. Optionally, the SBC is available with the embedded processors Intel® i7-1185G7E, i3-1115G4E or Celeron® 6305E for a small MOQ.

As a special feature, the SBC has an internal V-by-One and eDP interface. Optionally the SBC can be equipped with a unique docking connector, which has V-by-One, eDP and USB interface. Additionally, the board can be powered with 24V DV-in via the docking connector.

The 5.25" SBC has a variety of other interfaces, such as 2x Gigabit Ethernet, 3x M.2 socket, audio with 6W amplifier, 3x USB 3.2, USB-C Alt Mode, 2x USB 2.0, 1x RS232, 1x RS232/422/485. In addition to V-by-One and eDP connectors, three DisplayPort connectors (once via the USB-C connector) are available as graphics interfaces.

## 3 Features

- 11th Gen. Intel® Tiger Lake Core™ i5-1145G7E embedded processor  
Optional Intel® i7-1185G7E, i3-1115G4E or Celeron® 6305E
- **V-by-One** and **eDP**, optional via Unique docking connector
- 3x DisplayPort (1x USB-C Alt mode)
- 2x Intel® Gigabit Ethernet
- 1x RS232, 1x RS232/422/485
- 24V DC-in

## 4 Specification

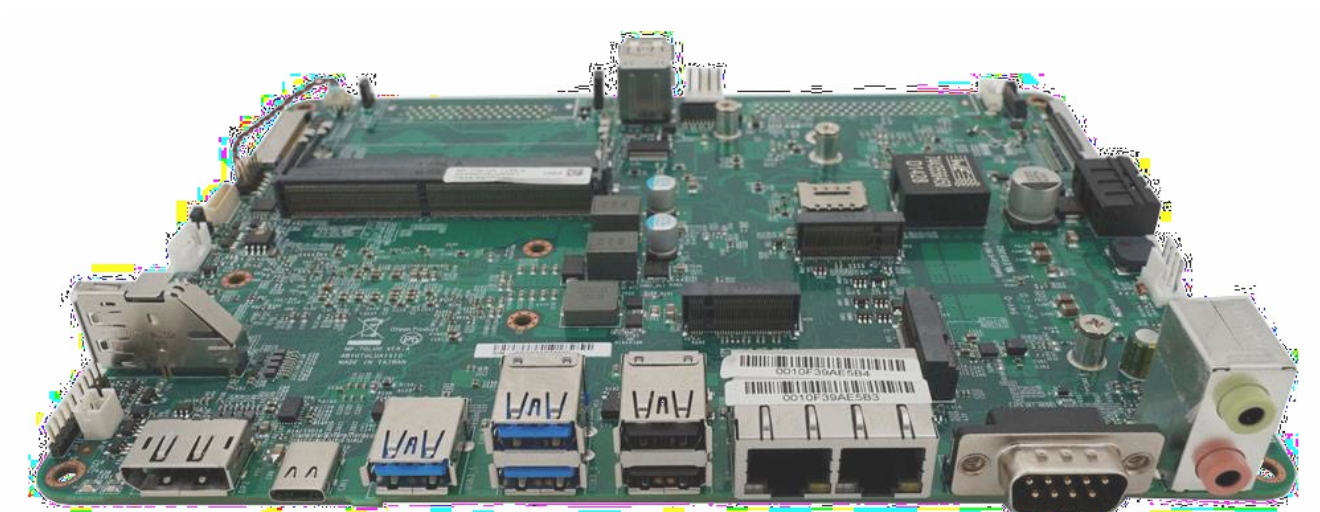
<b>Processor</b>	CPU	11th Gen. Intel® Core™ <b>i5-1145G7E</b> Optional: i7-1185G7E, i3-1115G4E or 6305E
	Chipset	PCH integrated in 11 <sup>th</sup> Gen. processor
	Frequency	1.5 GHz (i5-1145G7E), up to 4.1 GHz
	Cores / Threads	4 / 8
	Technology	vPro™ (i5,i7), iAMT 11.0
	Embedded Version	Yes
<b>Memory</b>	Max. capacity	64GB
	Technology	DDR4-3200
	Socket	2x SO-DIMM (1.2V)
<b>Graphics</b>	Processor Graphics	Intel® Gen12 Graphics
	DisplayPort	3x (1x USB-C Alt Mode)
	V-by-one	Supports up to 4K@60Hz
	eDP	1/2/4 Lanes up to 2K/4K/UHD
<b>Ethernet</b>	LAN 1	Intel® 10/100/1000
	LAN 2	Intel® 10/100/1000
<b>Storage/ Extension</b>	M.2	1x M.2 2280 Key M (PCIe x4/SATAIII) 1x M.2 2230 Key E for Wifi/BT 1x M.2 2242/3042/3052 Key B w. SIM for 4G LTE/5G
	<b>Rear I/O</b>	USB
	Serial Port	1x RS232/422/RS485
	Ethernet	2x
	DisplayPort	2x (1x see USB-C)
	Audio	1x Line-Out, 1x Mic-in
	<b>Front I/O</b>	Docking Connector (optional)
	USB	2x USB 2.0 (only available if no Docking Board is connected)
<b>Right I/O</b>	Power Supply	24V DC-in (+/- 10%)
<b>Left I/O</b>	Display Port	1x
<b>Internal I/O</b>	Serial Port	1x RS232
	V-by-One	1x
	eDP	1x
	USB	2x 2.0
	I2C	1x
	GPIO	4in/4out
<b>Other</b>	TPM	2.0
	Watchdog Timer	Yes
	Audio	ALC888s with 6W Amplifier, 1x Line-Out, 1x Mic-in
<b>General</b>	Operating Temperature	0°...+60°C
	Storage Temperature	-20...+70°C
	Operating humidity	0%...90% Relative Humidity, non-condensing
	Storage humidity	5%...95% Relative Humidity, non-condensing
	Dimensions	203 x 146 mm
	Power consumption	tbd.
	Weight	tbd.
	Certifications	CE, FCC
Operating System	Windows 10, Ubuntu Linux	

**Ordering Information**

Order Nr.	Description
PC-61-206	5.25" V-by-One / eDP Single-Board Computer with Intel 11th Gen. Tiger Lake-U UP3 Series Processor

\*Note that only one DC input may be connected to a power supply.

**5 Connectors / Interfaces**



**6 Operating System – Windows 10 IoT Enterprise**

The Box PC comes optional with pre-installed “ready-to-use” Windows 10 IoT Enterprise 2019 LTSC Standard Image for worldwide use.

## 7 Docking Board (only with optional Docking Connector)

With the Docking Connector the internally used V-by-One, eDP signal or additional USB 2.0 can be easily routed to the outside and power the single-board computer. With this unique standard feature it is very easy to extend or add an external V-by-One or eDP TFT display to the SBC and add e.g. Webcam / PCAP Touch etc.



Our company network supports you worldwide with offices in Germany, Austria, Switzerland, the UK and the USA.  
For more information please contact:

## Headquarters

Germany



**FORTEC**  
GROUP

FORTEC Elektronik AG  
Augsburger Str. 2b  
82110 Germering

Phone: +49 89 894450-0  
E-Mail: [info@fortecag.de](mailto:info@fortecag.de)  
Internet: [www.fortecag.de](http://www.fortecag.de)

## Fortec Group Members

Austria



**FORTEC**  
INTEGRATED

FORTEC Integrated GmbH Office Vienna  
Nuschinggasse 12  
1230 Wien

Phone: +43 1 8673492-0  
E-Mail: [info@fortec-integrated.de](mailto:info@fortec-integrated.de)  
Internet: [www.fortec-integrated.de](http://www.fortec-integrated.de)

Germany



**FORTEC**  
INTEGRATED

FORTEC Integrated GmbH  
Augsburger Str. 2b  
82110 Germering

Phone: +49 89 894363-0  
E-Mail: [info@fortec-integrated.de](mailto:info@fortec-integrated.de)  
Internet: [www.fortec-integrated.de](http://www.fortec-integrated.de)

Switzerland



**FORTEC**  
SWITZERLAND

FORTEC Switzerland AG  
Bahnhofstraße 3  
5436 Würenlos

Phone: +41 44 7446111  
E-Mail: [info@fortec.ch](mailto:info@fortec.ch)  
Internet: [www.fortec.ch](http://www.fortec.ch)

United Kingdom



**FORTEC**  
UNITED KINGDOM

FORTEC Technology UK Ltd.  
Osprey House, 1 Osprey Court  
Hinchingsbrooke Business Park  
Huntingdon, Cambridgeshire, PE29 6FN

Phone: +44 1480 411600  
E-Mail: [info@fortec.uk](mailto:info@fortec.uk)  
Internet: [www.fortec.uk](http://www.fortec.uk)

USA



 **APOLLO DISPLAY  
TECHNOLOGIES**  
A FORTEC GROUP MEMBER

Apollo Display Technologies, Corp.  
87 Raynor Avenue, Unit 1  
Ronkonkoma, NY 11779

Phone: +1 631 5804360  
E-Mail: [info@apolloDisplays.com](mailto:info@apolloDisplays.com)  
Internet: [www.apolloDisplays.com](http://www.apolloDisplays.com)