

# BP-ECS9700/9600-GTX1050

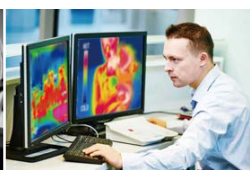
Quad Core Intel® Xeon®/Core™ i7 Processor (Skylake-H) Embedded System with Intel® CM236 & NVIDIA GeForce® GTX 1050 Ti/GTX 1050, NVIDIA Pascal™ architecture, 6 GigE LAN with 4 PoE+, 2 Front-access SSD Tray, 4 SIM, 6 USB 3.0, 4 COM, 32 Isolated DIO, 2 SUMIT Slots, High Performance, Independent Graphics, EN50155, EN50121



- Quad Core Intel® Xeon®/Core™ i7 Processor (Skylake-H) with CM236
- 2 DDR4 2133MHz, up to 32GB (ECC/Non-ECC)
- 6 independent GigE LAN with 4 IEEE 802.3at PoE+
- 4 SIM Card Socket for WiFi/3G/4G/LTE/GPRS/UMTS
- 10V to 36V DC-in with 80V Surge Protection
- Configurable Ignition Power Control
- NVIDIA GeForce® GTX 10 Series graphics engine supports NVIDIA Pascal™ GPU architecture, up to 8K resolution
- Display : 1 VGA, 2 DVI, 1 HDMI and 3 DisplayPort, up to 6 independent HD displays
- 2 Front-access 2.5" SSD Tray, 6 USB 3.0, 4 COM
- 32 Isolated DIO, 4 Mini PCIe/mSATA
- Optional supports full function SUMIT A, B



Machine Vision



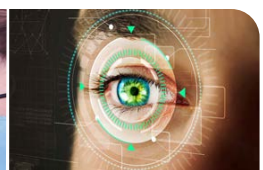
Embedded Workstation



Vehicle Computing



Telemedicine



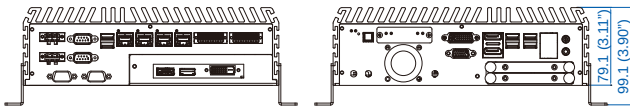
Deep Learning



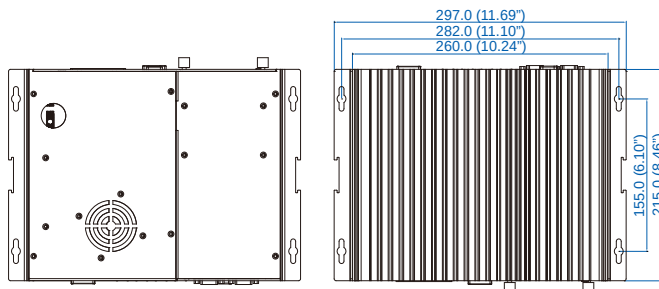
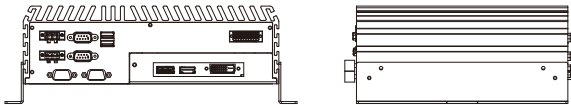
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## Dimensions & Drawing Unit: mm (inch)

### BP-ECS9740 GTX1050



### BP-ECS9600 GTX1050



## Specifications

### System

|           |                                                                |
|-----------|----------------------------------------------------------------|
| Processor | Intel® Xeon® E3-1505M v5/Core™ i7-6820EQ Processor (Skylake-H) |
| Chipset   | Intel® CM236                                                   |
| BIOS      | AMI                                                            |
| SIO       | IT8786E                                                        |
| Memory    | 2 DDR4 2133MHz SO-DIMM, up to 32GB (ECC/Non-ECC)               |

### I/O Interface

|              |                                                  |
|--------------|--------------------------------------------------|
| Serial       | 4 COM RS-232/422/485 (ESD 8KV)                   |
| USB          | • 6 USB 3.0 (External)<br>• 1 USB 2.0 (Internal) |
| Isolated DIO | 32 Isolated DIO : 16 DI, 16 DO                   |
| LED          | Power, HDD, PoE, Wireless                        |
| SIM Card     | 4 SIM Card Socket (3 External, 1 Internal)       |

### Expansion

|            |                                                                                                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------|
| Mini PCIe  | 4 Mini PCIe Socket :<br>• 3 Full-size for PCIe/USB/External SIM Card/mSATA<br>• 1 Full-size for PCIe/Internal SIM Card/mSATA |
| SUMIT A, B | 2 SUMIT Slot (Optional)                                                                                                      |

### Graphics

|           |                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor | • Intel® HD Graphics P530/530<br>• NVIDIA GeForce® GTX 1050 Ti/GTX 1050                                                                                                                                                                |
| Interface | 7 Display interfaces :<br>• 2 DVI : Up to 1920 x 1200 @ 60 Hz<br>• 1 DisplayPort : Up to 7680 x 3840 @ 60Hz<br>• 2 DisplayPort : Up to 4096 x 2304 @ 60Hz<br>• 1 VGA : Up to 1920 x 1200 @ 60Hz<br>• 1 HDMI : Up to 4096 x 2160 @ 60Hz |

### Storage

|                |                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------|
| SATA           | 4 SATA III support S/W RAID 0, 1, 5, 10 :<br>• 3 SATA III (6Gbps)<br>• 1 SATA III co-lay with Mini PCIe (6Gbps)        |
| mSATA          | 4 mSATA connections :<br>• 3 SATA III (Mini PCIe Type, 6Gbps)<br>• 1 SATA III co-lay with SATA (Mini PCIe Type, 6Gbps) |
| Storage Device | 1 CFast Socket, Push-in/Push-out Ejector<br>2 Front-access 2.5" SSD/HDD Tray                                           |

### Audio

|                 |                                          |
|-----------------|------------------------------------------|
| Audio Codec     | Realtek ALC888S-VD, 7.1 Channel HD Audio |
| Audio Interface | 1 Mic-in, 1 Line-out                     |

### Ethernet

|       |                                           |
|-------|-------------------------------------------|
| LAN 1 | Intel® I219LM GigE LAN supports iAMT 11.0 |
| LAN 2 | Intel® I210 GigE LAN                      |

### PoE (BP-ECS9700)

|       |                                                   |
|-------|---------------------------------------------------|
| LAN 3 | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210 |
| LAN 4 | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210 |
| LAN 5 | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210 |
| LAN 6 | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210 |

### Power

|                  |                                             |
|------------------|---------------------------------------------|
| Power Input      | 10V to 36V, DC-in                           |
| Power Interface  | 3-pin Terminal Block : V+, V-, Frame Ground |
| Ignition Control | 16 Mode (Internal)                          |
| Remote Switch    | 3-pin Terminal Block                        |
| Surge Protection | Up to 80V/1ms Transient Power               |

### Others

|                  |                                                                               |
|------------------|-------------------------------------------------------------------------------|
| TPM              | Optional Infineon SLB9665 supports TPM 2.0, LPC Interface                     |
| Watchdog Timer   | Reset : 1 to 255 sec./min. per step                                           |
| Smart Management | Wake on LAN, PXE supported                                                    |
| HW Monitor       | Monitoring temperature, voltages. Auto throttling control when CPU overheats. |

### Software Support

|    |                                           |
|----|-------------------------------------------|
| OS | Windows 10, Windows 8.1, Windows 7, Linux |
|----|-------------------------------------------|

### Mechanical

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Dimensions (WxLxH) | 260mm x 215mm x 79mm (10.2" x 8.5" x 3.1")                                                  |
| Weight             | 4.3 kg (9.48 lb)                                                                            |
| Mounting           | • Wallmount by mounting bracket<br>• DIN Rail Mount (Optional)<br>• 2U Rackmount (Optional) |

### Environment

|                   |                                                                                  |
|-------------------|----------------------------------------------------------------------------------|
| Operating Temp.   | -20°C to 60°C (-4°F to 140°F)                                                    |
| Storage Temp.     | -40°C to 85°C (-40°F to 185°F)                                                   |
| Humidity          | 5% to 95% Humidity, non-condensing                                               |
| Relative Humidity | 95% at 60°C                                                                      |
| Shock             | • IEC 60068-2-27<br>• SSD : 50G @ wallmount, Half-sine, 11ms<br>• IEC 60068-2-64 |
| Vibration         | • SSD : 5Grms, 5Hz to 500Hz, 3 Axis                                              |
| EMC               | E13, CE, FCC, EN50155, EN50121-3-2                                               |

## Order Information

|                          |                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| BP-ECS9740-505M-GTX1050T | • BP-ECS9700, Intel® Xeon® E3-1505M v5, NVIDIA GeForce® GTX 1050 Ti, 6 GigE LAN w/4 PoE+, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO (ECC supported) |
| BP-ECS9740-505M-GTX1050  | • BP-ECS9700, Intel® Xeon® E3-1505M v5, NVIDIA GeForce® GTX 1050, 6 GigE LAN w/4 PoE+, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO (ECC supported)    |
| BP-ECS9740-820Q-GTX1050T | • BP-ECS9700, Intel® Core™ i7-6820EQ, NVIDIA GeForce® GTX 1050 Ti, 6 GigE LAN w/4 PoE+, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO                   |
| BP-ECS9740-820Q-GTX1050  | • BP-ECS9700, Intel® Core™ i7-6820EQ, NVIDIA GeForce® GTX 1050, 6 GigE LAN w/4 PoE+, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 32 Isolated DIO                      |
| BP-ECS9600-505M-GTX1050T | • BP-ECS9600, Intel® Xeon® E3-1505M v5, NVIDIA GeForce® GTX 1050 Ti, 2 GigE LAN, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO (ECC supported)          |
| BP-ECS9600-505M-GTX1050  | • BP-ECS9600, Intel® Xeon® E3-1505M v5, NVIDIA GeForce® GTX 1050, 2 GigE LAN, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO (ECC supported)             |
| BP-ECS9600-820Q-GTX1050T | • BP-ECS9600, Intel® Core™ i7-6820EQ, NVIDIA GeForce® GTX 1050 Ti, 2 GigE LAN, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO                            |
| BP-ECS9600-820Q-GTX1050  | • BP-ECS9600, Intel® Core™ i7-6820EQ, NVIDIA GeForce® GTX 1050, 2 GigE LAN, 2 SSD, 6 USB 3.0, 4 COM, 4 SIM, 16 Isolated DIO                               |
| DDR4 16G                 | • Certified DDR4 16GB 2133MHz RAM                                                                                                                         |
| DDR4 8G                  | • Certified DDR4 8GB 2133MHz RAM                                                                                                                          |
| DDR4 4G                  | • Certified DDR4 4GB 2133MHz RAM                                                                                                                          |
| PWA-280W-WT              | • 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C                                                   |
| PWA-160W-WT              | • 160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C                                                   |
| VESA Mount               | • VESA Mounting Kit                                                                                                                                       |
| DIN-RAIL                 | • DIN Rail Kit                                                                                                                                            |
| Rack Mount               | • 2U Rackmount Kit                                                                                                                                        |
| TMK2-20P-100             | • Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm                                                                                             |
| TMK2-20P-500             | • Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm                                                                                             |
| TMB-TMBK-20P             | • Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting                                                                           |
| 3G Module                | • Mini PCIe 3G/GPS Module with Antenna                                                                                                                    |
| 4G Module                | • Mini PCIe 4G/GPS Module with Antenna                                                                                                                    |
| WiFi & Bluetooth Module  | • Mini PCIe WiFi & Bluetooth Module with Antenna                                                                                                          |

BP-ECS9700/9600 GTX1050-20210322

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