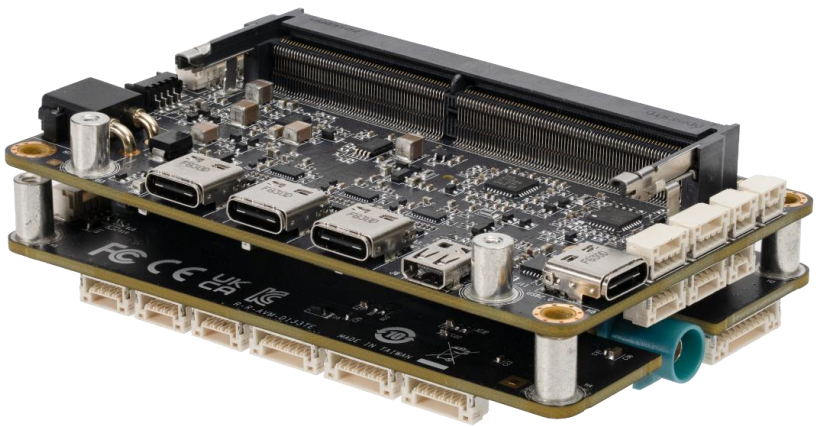
AVerMedia D137

Applies to NVIDIA® Jetson Orin NX / Orin Nano Module



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Preface

Disclaimer

The information contained in this user manual, including but not limited to any product specification, is subject to change without notice. AVerMedia assumes no liability for any damage incurred directly or indirectly from any technical or typographical errors or omissions contained herein or for discrepancies between the product and the user manual.

Technical Support

If you experience the difficulty after reading this manual and/or using the product, please contact the reseller from which you purchased the product. In most cases, the reseller can help you with the product installation and the difficulty you encountered.

In case the reseller is not able to resolve your problem, our highly capable global technical support team can certainly assist you. Our technical support section is available 24 hours a day and 7 days a week through our website, with the click here. For more contact information, you may find it in the section of AVerMedia Global Offices.

Contact Enquiry

For more information of our products, pricing, and order placement, please fill in our inquiry form here, we will contact you within 24 hours.

Download User Manual

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Revision History

Revision	Date	Updates
V0.1	Aug 26, 2026	1st Released
V0.2	Nov 03, 2026	Renew product photo

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ESD Warning

Electronic components and circuits are sensitive to Electrostatic Discharge (ESD). When handling any circuit board assemblies including AVerMedia products, it is highly recommended that ESD safety precautions can be observed. ESD safe best practices can include but are not limited to the following ones.

1. Leave the circuit board in the antistatic package until it is ready to be installed.
2. Use a grounded wrist strap when handling the circuit board. At a minimum, you need to touch a grounded metal object to dissipate any static charge, which may be present on you.
3. Avoid handling the circuit board in the carpeted areas.
4. Handle the board by the edges and avoid contact with the components.
5. Only handle the circuit boards in ESD safe areas, which may include ESD floor and/or table mats, wrist strap stations, and ESD safe lab coats.

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Safety Precaution:

1. All cautions and warnings on the device should be noted.
2. For safety consideration, do NOT open the device if not a qualified service stuff.
3. Place the device on a solid surface during installation to prevent falls.
4. Keep the device away from humidity.
5. Do NOT leave this device in an un-controlled environment with temperatures beyond the device's permitted storage temperature to avoid damage.
6. All adaptors and cables supplied by AVerMedia are verified. Do NOT use any others not supplied by AVerMedia to avoid any malfunction or fires.
7. Make sure the power source matches the power rating of the device.
8. Place the power cord where people cannot step on it. Do not put anything on the power cord.
9. Always completely disconnect the power while the device is not used or idle for a long time.
10. Disconnect the device from any AC supply before cleaning. While cleaning, use damp cloth instead of liquid or spray detergents.
11. Make sure the device is installed near a power outlet and easy for accessibility.
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out the heatsink or heat spreader of the device when the system is running.
14. Never pour any liquid into the openings. This could cause fire or electrical shock.
15. The static electricity should be noted while installing any internal components. Consider using a grounding wrist strap and put all electronic parts in static-shielded containers.
    If the following situations occur, please contact our service personnel:
    (1) The device is dropped or damaged
    (2) Damaged power cord or plug
    (3) Exposure to moisture
    (4) Liquid intrusion into the device
    (5) Any obvious signs of damage displayed on the device
    (6) The device is not working as expected or in a manner as described in this manual
16. The static electricity should be noted while installing any internal components. Consider to

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1.0 Introduction

The D137 Carrier Board is a compact, high-density platform built around the NVIDIA® Jetson Orin NX module.

Delivering AI performance in space- and weight-constrained designs. Its small size and robust layout make it well suited for defense-grade unmanned aircraft, radar and other edge systems.
With native GMSL2 and MIPI CSI-2 camera interfaces, the carrier board supports flexible multi-camera configurations, from long-range zoom and low-light sensors to wide-angle situational-awareness views. This enables rich computer-vision workloads such as object detection, tracking, and perception directly at the edge.

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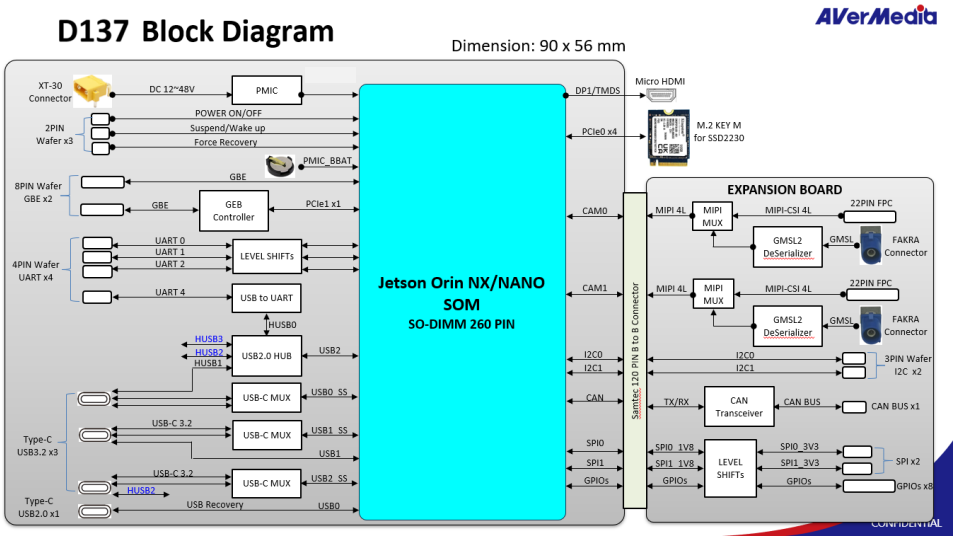
1.1 Product Specifications

NVIDIA Jetson SoM	NVIDIA® Jetson Orin NX / Orin Nano module
Networking	2x Ethernet GH1.25/ 9 pin Wafer (10/100/1000/Gigabit Ethernet)
SIM Slot	2x SIM slots for 4G/5G module; dual SIM capability depends on the installed cellular module
Display Output	1 x Micro HDMI output (HDMI 1.4, 1080P)
MIPI Camera Inputs	2 x 4 lane MIPI CSI-2, 22 pin FPC 0.5mm Pitch/GMSL Camera Inputs
USB	• 1x USB 2.0 Type C (For BSP Installation) • 3x USB 3.2 Type C
Storage	1x M.2. key M 2230 for NVMe
Expansion Connector	• 4x UART GH1.25/4pin Wafer • 1x Expansion Power Button GH1.25/2pin Wafer • 1x Expansion Suspend/Wakeup GH1.25/2pin Wafer • 1x Expansion Recovery GH1.25/2pin Wafer • 1x CAN Bus GH1.25/ 4 pin wafer • 2x SPI GH1.25/6 pin wafer • 1x PWMs*4 GH1.25/6pin Wafer • 2x I2C (Master) GH1.25/4pin Wafer • 1x GPIOs*8 GH1.25/10pin Wafer
RTC Battery	Support RTC battery and Battery Life Monitoring by MCU
Internal Buttons	Power and Recovery and Suspend/Wakeup
Thermal solution	4 pin Fan Wafer solution
Power Input	XT30 DC-IN 12V~50V
Temperature	Operating Temperature -10°C~60°C (Board Level)
Certifications	CE, FCC,VCCI, KC (TBA)
PCB/Electronics Mechanical Info	90mm (L) x 56mm (W) x 30.7mm (H) (Stacking with SOM)
Weight	80g
Package	1x Carrier Board (Mother board + Daughter board)

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1.2 Product Overview

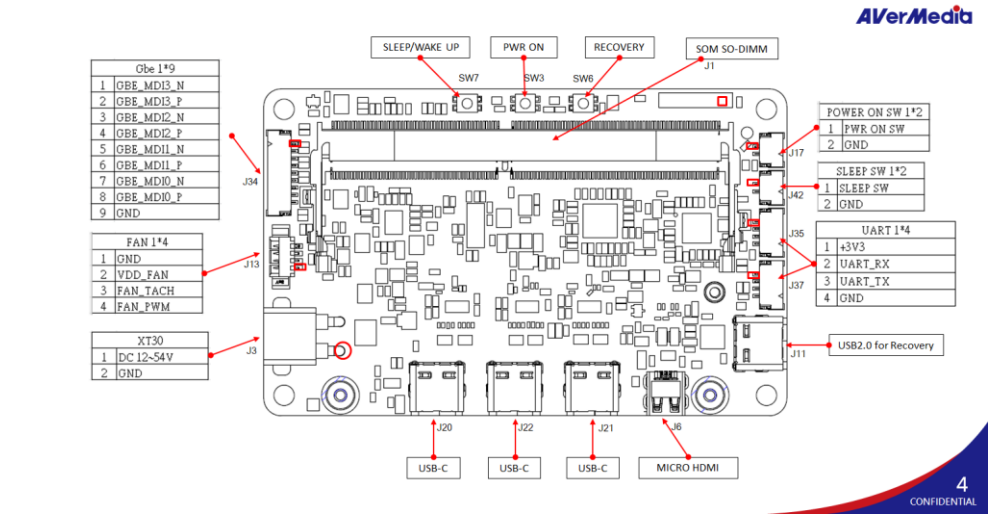
Block Diagram



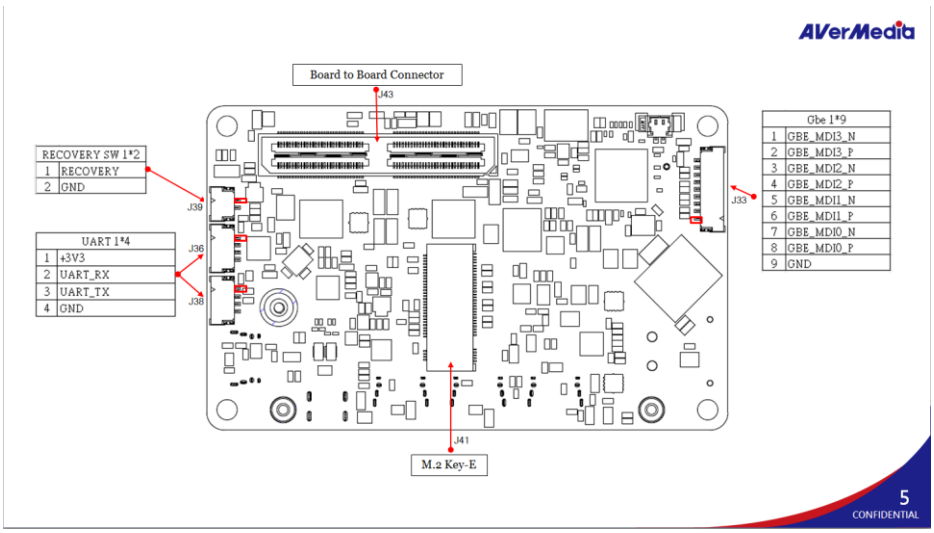
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Front View and Back View of Carrier board

Top View Interface



Bottom View Interface



1.3 Connector Summary

J1	260-pin SO-DIMM connector for NVIDIA Jetson Orin Nano
J3	XT30 DC-IN
J6	Micro HDMI connector
J11	USB 2.0 Type C (For BSP Installation
J13	SOM FAN Wafer (1x4pin 1.25mm 180° Pitch)
J17	Expansion Power Button Wafer (1x2pin 1.25mm 90° Pitch)

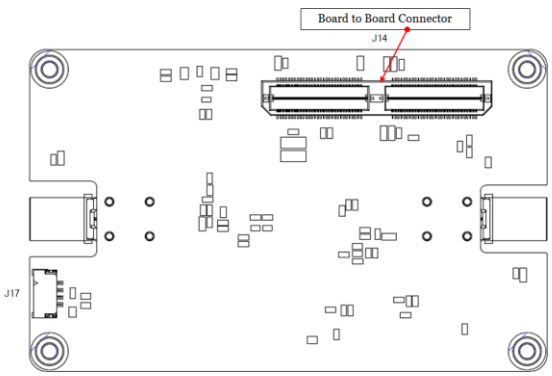
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J20	USB 3.2 Type C
J21	USB 3.2 Type C
J22	USB 3.2 Type C
J34	Ethernet Wafer (1x9pin 1.25mm 90° Pitch)
J35	UART Wafer (1x4pin 1.25mm 90° Pitch)
J37	UART Wafer (1x4pin 1.25mm 90° Pitch)
J42	Expansion Sleep/Wake up Button Wafer (1x2pin 1.25mm 90° Pitch)
SW3	Power Button
SW6	Recovery Button
SW7	Suspend/Wakeup Button
J2	RTC Battery Connector
J33	Ethernet Wafer (1x9pin 1.25mm 90° Pitch)
J36	UART Wafer (1x4pin 1.25mm 90° Pitch)
J38	UART Wafer (1x4pin 1.25mm 90° Pitch)
J39	Expansion Recovery Button Wafer (1x2pin 1.25mm 90° Pitch)
J41	2230 M.2 KEY E PCI Express Gen2.0 from Orin
J43	Board to Board Connector

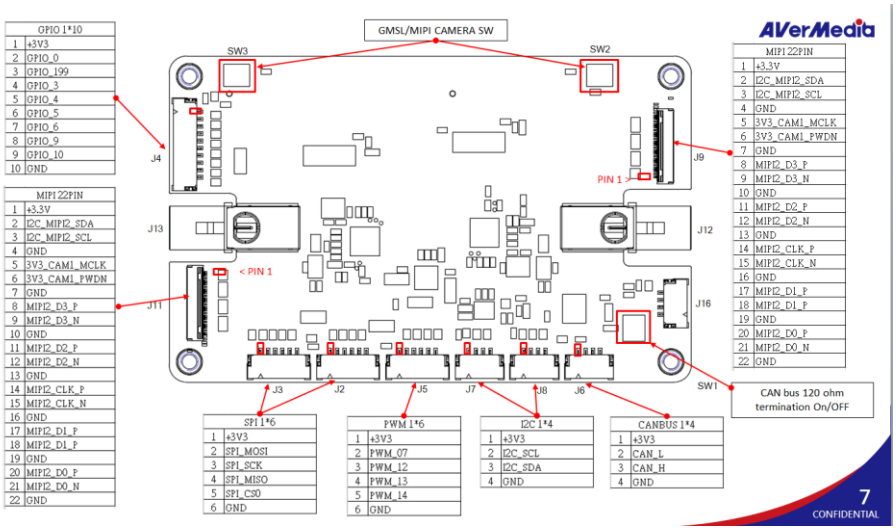
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1.4 D137 Daughter Board

Top View Interface



Bottom View Interface



J14	Board to Board Connector
J17	Extend power Wafer (1x4pin 1.25mm 90° Pitch)
J2	SPI0 Wafer (1x6pin 1.25mm 90° Pitch)
J3	SPI1 Wafer (1x6pin 1.25mm 90° Pitch)
J4	GPIO*8 Wafer (1x10pin 1.25mm 90° Pitch)
J5	PWM*4 Wafer (1x6pin 1.25mm 90° Pitch)
J6	CAN Bus Wafer (1x4pin 1.25mm 90° Pitch)
J7	I2C0 Wafer (1x4pin 1.25mm 90° Pitch)
J8	I2C1 Wafer (1x4pin 1.25mm 90° Pitch)
J9	MIPI CSI-1 22pin connector
J11	MIPI CSI-2 22pin connector

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J12	GMSL1 FAKRA connector
J13	GMSL2 FAKRA connector
J16	Extend power Wafer (1x4pin 1.25mm 90° Pitch)
SW1	CAN bus 120 ohm termination On/OFF
SW2	MIPI CSI1/GMSL1(J13) camera switch
SW3	MIPI CSI2/GMSL2(J12) camera switch

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2.0 D137 Carrier Board Feature Description

2.1 Jetson module Connector

Function	Provide connection with NVIDIA® Jetson Orin™ NX /Orin Nano module	
Location	J1	
Type Description	SOCKET_DDR4 SO-DIMM_260PIN_90°	
Manufacturer and Part Number	Foxconn ASAA826-EASB0-7H	
Mating Connector	NVIDIA® Jetson Orin™ NX/Orin Nano	
Pinout	Please refer to NVIDIA Jetson System-on-Module datasheet for pinout details.	
Remarks	https://developer.nvidia.com/embedded/downloads	

2.2 RTC Battery Connector

Function	RTC battery for module	
Location	J13	
Type Description	WAFER_1*2PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	宏致_50273-00271-001	
Mating Connector	Molex 51021-8602	
Pinout	Pin # / Description PIN1 / GND PIN2 / 3V Power	
Remarks	RTC Battery: KTS BCR2032TH5.5VM1MB	

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2.3 Power Supply Connector

Function	Power Supply	
Location	J3	
Type Description	JACK_XT30_1*2P(M)_90°_DIP-L3 ㎜	
Manufacturer and Part Number	泰砰電能 SYA03025012	
Mating Connector	XT30U-F	
Pinout	PIN# / Description / Color #1 / 12-48V / White #2 / GND / Black	
Remarks	None	

2.4 Gigabit Ethernet Wafer

Function	WAFER_1*9PIN for 1Gb Ethernet port used to connect to the host system.	
Location	J33, J34	
Type Description	WAFER_1*9PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0090N-001	
Mating Connector	A12514H -09PN0WNPN00G	
Pinout	Gbe 1*9 1 GBE_MDI3_N 2 GBE_MDI3_P 3 GBE_MDI2_N 4 GBE_MDI2_P 5 GBE_MDI1_N 6 GBE_MDI1_P 7 GBE_MDI0_N 8 GBE_MDI0_P 9 GND	
Remarks	NA	

2.5 USB 3.2 Gen2 Type-C Connector

Function	USB 3.2 Gne2 Type-C connector	
Location	J20, J21, J22	
Type Description	Dual-port USB 3.2 Type-A female connector	
Manufacturer and Part Number	ACES 57988-0240D-001	

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Mating Connector	Any USB 3.2 standard Type-C interface cable or device.	
Pinout	Please refer to USB 3.2 standard.	
Remarks	None	

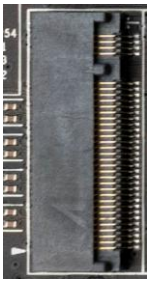
2.6 HDMI OUTPUT

Function	HDMI output connector	
Location	J6	
Type Description	HDMI_TYPE D(F)_ 90°_PIP-L0.75/0.99 ㎜	
Manufacturer and Part Number	光桀 HDFMA001-190MRRH	
Mating Connector	Any HDMI standard Type-D interface cable or device.	
Pinout	Please refer to HDMI standard.	
Remarks	None	

2.7 USB type C Connector

Function	BSP Installation as recovery mode	
Location	J11	
Type Description	JACK_USB_C TYPE(F)_90°_PIP-L1.45 ㎜	
Manufacturer and Part Number	ACES, 57988-0240D-001	
Mating Connector	Any USB type C standard interface cable	
PIN OUT	Please refer to USB type C standard.	

2.8 M.2 M key 2280

Function	M.2 M key	
Location	J15	
Type Description	SOCKET_M.2-KEY M_75PIN_90°_SMD	
Manufacturer and Part Number	宏致_ACES 51757-0750C-012_P0.5 ㎜-H5.5 ㎜	
Mating Connector	Any M.2 M key 2280 card standard interface device.	
Pinout	Please refer to M.2 M key card standard for the pinout details.	

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Remarks	None

2.9 UART Wafer

Function	WAFER_1*4PIN for UART interface.	
Location	J35, J36, J37, J38	
Type Description	WAFER_1*4PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0040N-001	
Mating Connector	A12514H -04PN0WNPN00G	
Pinout	UART 1*4 1 +3V3 2 UART_RX 3 UART_TX 4 GND	
Remark	None	

2.10 Power Button

Function	Power on Switch	
Location	SW3	
Type Description	Button	
Manufacturer and Part Number	冠泰 Champway, TS106V1M-018BR-R	
Pinout	N/A	
Remark	None	

Function	Expansion Power on Switch Wafer	
Location	J17	
Type Description	WAFER_1*2PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0020N-001	
Mating Connector	A12514H -02PN0WNPN00G	
Pinout	POWER ON SW 1*2 1 PWR ON SW 2 GND	
Remark	None	

2.11 Recovery Button

Function	Recovery Switch	
Location	SW6	

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Type Description	Button	
Manufacturer and Part Number	冠泰 Champway, TS106V1M-018BR-R	
Pinout	N/A	
Remark	None	

Function	Expansion Recovery Switch Wafer	
Location	J39	
Type Description	WAFER_1*2PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0020N-001	
Mating Connector	A12514H -02PN0WNPN00G	
Pinout	SLEEP SW 1*2 1 SLEEP SW 2 GND	
Remark	None	

2.12 Sleep/Wake up Button

Function	Sleep/Wake up Switch	
Location	SW7	
Type Description	Button	
Manufacturer and Part Number	冠泰 Champway, TS106V1M-018BR-R	
Pinout	N/A	
Remark	None	

Function	Expansion Sleep/Wake up Switch	
Location	J39	
Type Description	WAFER_1*2PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0020N-001	
Mating Connector	A12514H -02PN0WNPN00G	
Pinout	SLEEP SW 1*2 1 SLEEP SW 2 GND	
Remark	None	

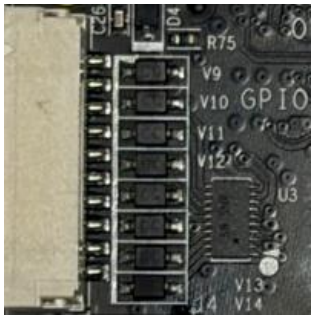
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D137 Daughter Board Feature Description

2.13SPI Wafer

Function	WAFER_1*6PIN for SPI interface	
Location	J2, J3	
Type Description	WAFER_1*2PIN_1.25㎜_90°_SMD	
Manufacturer and Part Number	ACES 51451-0090N-001	
Mating Connector	A12514H -06PN0WNPN00G	
Pinout	SPI 1*6 1 +3V3 2 SPI_MOSI 3 SPI_SCK 4 SPI_MISO 5 SPI_CS0 6 GND	
Remarks	NA	

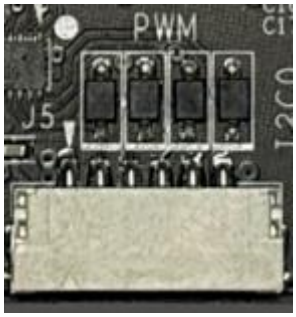
2.14GPIO*8 Wafer

Function	WAFER_1*10PIN for SPI interface	
Location	J4	
Type Description	WAFER_1*10PIN_1.25㎜_90°_SMD	
Manufacturer and Part Number	ACES 51451-0100N-001	
Mating Connector	A12514H -10PN0WNPN00G	
Pinout	GPIO 1*10 1 +3V3 2 GPIO_0 3 GPIO_199 4 GPIO_3 5 GPIO_4 6 GPIO_5 7 GPIO_6 8 GPIO_9 9 GPIO_10 10 GND	
Remarks	NA	

2.15PWM*4 Wafer

Function	WAFER_1*6PIN for PWM signal	
Location	J4	
Type Description	WAFER_1*10PIN_1.25㎜_90°_SMD	

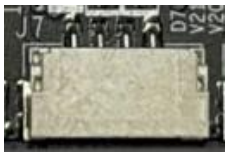
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Manufacturer and Part Number	ACES 51451-0060N-001	
Mating Connector	A12514H -06PN0WNPN00G	
Pinout	PWM 1*6 1 +3V3 2 PWM_07 3 PWM_12 4 PWM_13 5 PWM_14 6 GND	
Remarks	NA	

2.16I2C Wafer

Function	WAFER_1*4PIN for I2C interface	
Location	J7, J8	
Type Description	WAFER_1*4PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0040N-001	
Mating Connector	A12514H -04PN0WNPN00G	
Pinout	I2C 1*4 1 +3V3 2 I2C_SCL 3 I2C_SDA 4 GND	
Remarks	NA	

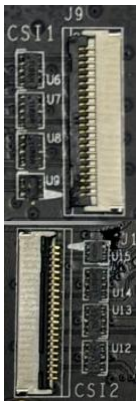
2.17CAN Bus Wafer

Function	WAFER_1*4PIN for CAN Bus interface	
Location	J7, J8	
Type Description	WAFER_1*4PIN_1.25 ㎜ _90°_SMD	
Manufacturer and Part Number	ACES 51451-0040N-001	
Mating Connector	A12514H -04PN0WNPN00G	
Pinout	CANBUS 1*4 1 +3V3 2 CAN_L 3 CAN_H 4 GND	
Remarks	NA	

2.18MIPI CSI-2 DPHY Lanes

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Function	MIPI camera module connector
Location	J9 , J11
Type Description	WAFER_22PIN_0.5 ㎜_180°
Manufacturer and Part Number	宏致_ACES, 52506-0220M-001/P22 0.5mm ZIF FPC CONN. SMT S/T TYPE
Mating Connector	4 Lane MIPI CSI-2 camera connector (22Pin)



Pinout

J9

Description	22-pin Index		Description
+3V3_MIPI	Pin1	Pin2	CAM0_I2C_SDA
CAM0_I2C_SCL	Pin3	Pin4	GND
CAM0_MCLK	Pin5	Pin6	CAM0_PWDN_LS
GND	Pin7	Pin8	CSI1_D1_P
CSI1_D1_N	Pin9	Pin10	GND
CSI1_D0_P	Pin11	Pin12	CSI1_D0_N
GND	Pin13	Pin14	CSI0_CLK_P
CSI0_CLK_N	Pin15	Pin16	GND
CSI0_D1_P	Pin17	Pin18	CSI0_D1_N
GND	Pin19	Pin20	CSI0_D0_P
CSI0_D0_N	Pin21	Pin22	GND

J11

Description	22-pin Index		Description
+3V3_MIPI	Pin1	Pin2	CAM1_I2C_SDA
CAM1_I2C_SCL	Pin3	Pin4	GND
CAM1_MCLK	Pin5	Pin6	CAM1_PWDN_LS
GND	Pin7	Pin8	CSI3_D1_P
CSI3_D1_N	Pin9	Pin10	GND
CSI3_D0_P	Pin11	Pin12	CSI3_D0_N
GND	Pin13	Pin14	CSI2_CLK_P
CSI2_CLK_N	Pin15	Pin16	GND
CSI2_D1_P	Pin17	Pin18	CSI2_D1_N
GND	Pin19	Pin20	CSI2_D0_P
CSI2_D0_N	Pin21	Pin22	GND

2.19GMSL2 FAKRA

Function	GMSL2 FAKRA connector
Location	J12, J13
Type Description	JACK_FAKRA_CODING Z/M-沉板式 _90°_PIP-L2 ㎜
Manufacturer and Part Number	安費諾亮泰 2FA1-NZSP-PCBD3
Mating Connector	FAKRA-Z
Remarks	NA



2.20MIPICSI2/GMSL Camera input Selection

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<table>
<tr><td>Function</td><td>MIPI CSI2/GMSL Camera input Selection</td><td rowspan="4"></td></tr>
<tr><td>Location</td><td>SW2, SW3</td></tr>
<tr><td>Type Description</td><td>2 SPST DIP switch</td></tr>
<tr><td>Manufacturer and Part Number</td><td>冠泰: NDSVM-02Q-T-R</td></tr>
<tr><td>Pinout</td><td colspan="2">DIP Switch(SW2)
Camera input selection
<table><tr><th>Position No.</th><th>Position Description</th><th>Switch ON</th><th>Switch OFF</th></tr><tr><td>1</td><td>Camera input type</td><td>GMSL1</td><td>CSI1(MIMP)</td></tr><tr><td>2</td><td>X</td><td>X</td><td>NA</td></tr></table>
DIP Switch(SW3)
Camera input selection
<table><tr><th>Position No.</th><th>Position Description</th><th>Switch ON</th><th>Switch OFF</th></tr><tr><td>1</td><td>Camera input type</td><td>GMSL2</td><td>CSI2(MIMP)</td></tr><tr><td>2</td><td>X</td><td>X</td><td>NA</td></tr></table></td></tr>
<tr><td>Remark</td><td colspan="2">Default SW1 OFF for MIPI CSI</td></tr>
</table>

2.21CAN Bus 120 ohm termination Resistor On/OFF

<table>
<tr><td>Function</td><td>120 ohm termination resistor On/Off</td><td rowspan="4"></td></tr>
<tr><td>Location</td><td>SW1</td></tr>
<tr><td>Type Description</td><td>2 SPST DIP switch</td></tr>
<tr><td>Manufacturer and Part Number</td><td>冠泰: NDSVM-02Q-T-R</td></tr>
<tr><td>Pinout</td><td colspan="2">DIP Switch(SW1)
CAN Terminal Resistor
<table><tr><th>Position No.</th><th>Position Description</th><th>Switch ON</th><th>Switch OFF</th></tr><tr><td>1</td><td>CAN Terminal Resistorl</td><td>120 Ohm</td><td>NA</td></tr><tr><td>2</td><td>X</td><td>X</td><td>NA</td></tr></table></td></tr>
<tr><td>Remark</td><td colspan="2">Default SW1 all OFF</td></tr>
</table>

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3.0 Installation

- Check and ensure all external system power supplies are turned off.
- Connect the power cord to CB/devkit/Box PC DC in jack or ATX 4pin
- Connect the USB Type-C cable to CB/devkit/Box PC connector.
- Press and hold on the Recover button
- Plug in AC power

  (Since the DCINJACK is slightly tight, be careful not to shake it when inserting the CB/devkit/Box PC)

3.1 BSP Setup Instructions

BSP (board support package) file: AVERMEDIA_JETPACK-R2.*.*.*.* _desktop.tar.gz for D137
JetPack Version: Start from JP 7.2.1

If you want to get the BSP download link, please contact AVerMedia FAE.

Default login username/password of the BSP is nvidia/nvidia

If you have difficulties to access the BSP download link, please visit AVerMedia website at https://www.avermedia.com/professional/download, or contact technical support at https://www.avermedia.com/professional/technical_support or e-mail us at eusupport@avermedia.com for further assistance.

BSP Installation steps for NVIDIA Jetson board: (Important Note: Please backup your personal files before re-flashing BSP)
After you download the BSP file and put the file in a Linux PC, please refer to the steps below to re-flash BSP.

1. Let the JETSON Orin NX/Orin Nano initiate recovery mode.
You have to keep pressing “Recovery” button and then power on the NVIDIA Jetson board to initiate recovery mode.

When connecting a NVIDIA Jetson board to a Linux PC via a USB Type-C to USB cable, you can check kernel messages with `dmesg` command in the Linux PC.
Once you see similar messages as below, it means that the NVIDIA Jetson board is in the recovery mode.
[24685.229129] usb 1-7: Product: APX
[24685.229132] usb 1-7: Manufacturer: NVIDIA Corp

2. Using the commands below in the Linux PC to start re-flashing BSP.
# sudo is required to extract BSP
$ sudo tar zxvf AVERMEDIA_JETPACK- R2.*.*.*.*_desktop.tar.gz
$ cd JetPack_*.**_desktop/Linux_for_Tegra
$ installation steps: refer to AVERMEDIA_JETPACK- R2.*.*.*.*_ReleaseNote.txt

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4.0 Software

This section describes BSP's features for D137

1. Power Mode

   Power mode can be modified by the UI on the upper-right corner of Ubuntu or the following commands.

```
# get current power mode
$ sudo nvpmodel -q
# setup power mode
# where <x> is power mode number, please refer to
https://docs.nvidia.com/jetson/archives/r39.2.1/DeveloperGuide/SD/PlatformPowerAndPerformance/JetsonOrinNanoSeriesJetsonOrinNxSeriesAndJetsonAgxOrinSeries.html#supported-modes-and-power-efficiency%20for%20more
$ sudo nvpmodel -m <x>
```

   RTC Battery

   The following command can get RTC battery voltage.

```
$ sudo avt_tool -a | grep -oP "AIN5.*\[\K[^\]]*"
```

2. Fan Speed

   The following commands can get PWM fan information.

```
# get current speed setting of PWM Fan (0 ~ 255)
$ cat /sys/devices/platform/pwm-fan/hwmon/hwmon<x>/pwm1

# get Fan RPM value
 $ cat /sys/class/hwmon/hwmon<y>/rpm

* Where <x> and <y> are dynamic hwmon indexes.
```

3. CAN Bus (removed to daughter board)

4. Camera (removed to daughter board)

5. GPIO usage

   (1) Locate the GPIO Pin:

```
Use the gpiofind command to determine the pin's location in the system. For example,

to locate the SODIMM Pin 99, which corresponds to PX.04, execute:

$ sudo gpiofind PX.04

# This command will return the GPIO chip and offset. For example, it might return gpiochip0 118, indicating that PX.04 is at offset 118 on gpiochip0
```

   (2) Set the GPIO Pin Voltage:

```
Set High Voltage: To set the pin to a high voltage (logic level 1), use the following command:
```

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```
$ sudo gpioset --mode=wait 0 118=1
```

Set Low Voltage: To set the pin to a low voltage (logic level 0), use this command:

```
$ sudo gpioset --mode=wait 0 118=0
```

For L4T (Linux for Tegra) BSP support and the other software support associated with NVIDIA® Jetson AGX Thor, please visit AVerMedia website to contact our technical support function. (https://www.avermedia.com/tw/support/contact)

5.0 Force Recovery Mode

USB Type-C port (J11) of D137 can be used to re-program NVIDIA® Jetson Orin NX/Orin Nano by using the other host system running NVIDIA JetPack, as the procedure described below.

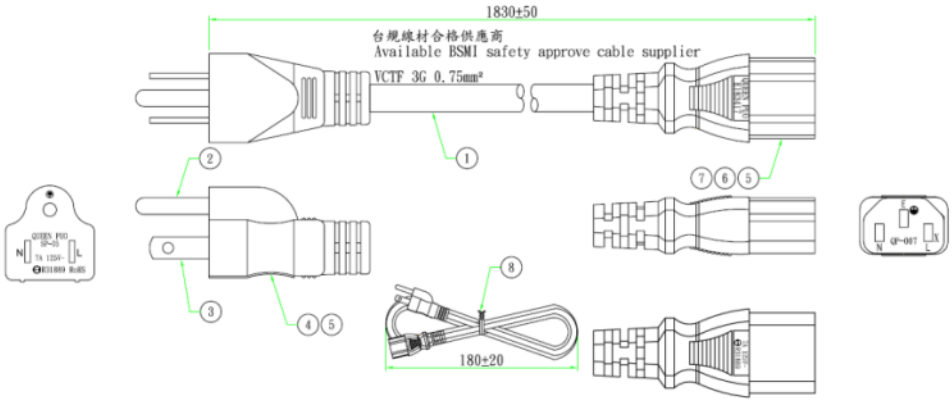
1. Before you start
   - Please make sure to use a Linux host PC with Ubuntu 22.04 or 20.04 operating system.
   - Please use a native setup (no virtual machine) installation file in the following steps.
   - You will also need a high-quality standard USB Type C connector.
   - Download installation file from Avermedia.
2. Connect carrier board to host PC
3. Connect the system to the Linux host PC. Please use a USB Type C cable (J11 on the carrier board).
4. After connecting to the host PC powering up the system. The system will detect the host PC and automatically enter the flashing state (also called force recovery mode).
5. Check that the connection is established with the lsusb command. You should find one entry with Nvidia Corp. as highlighted below.
6. Flashing of system
   - Use the flash cmd script in the extracted bootloader folder to transfer the software into the Jetson compute module and flash it.
   - Please connect a monitor to the system. After the flashing process has completed the should automatically boot and show the Ubuntu desktop.
   - You now have a functioning system ready for your needs.

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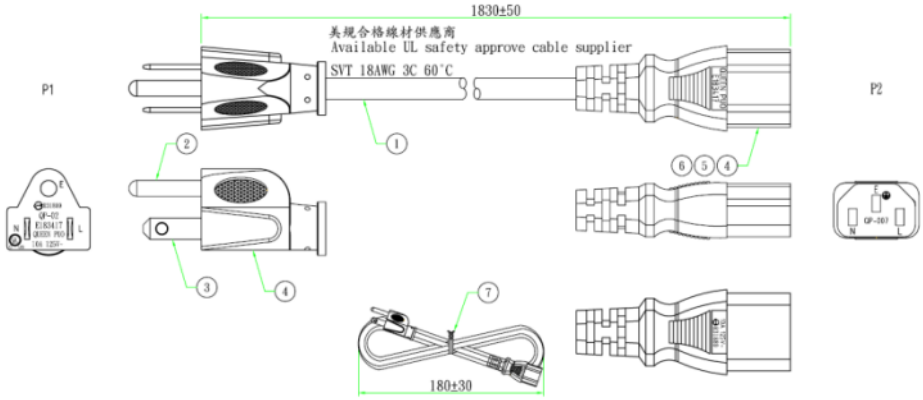
6.0 Accessory Drawings (Optional)

6.1 Power Cord

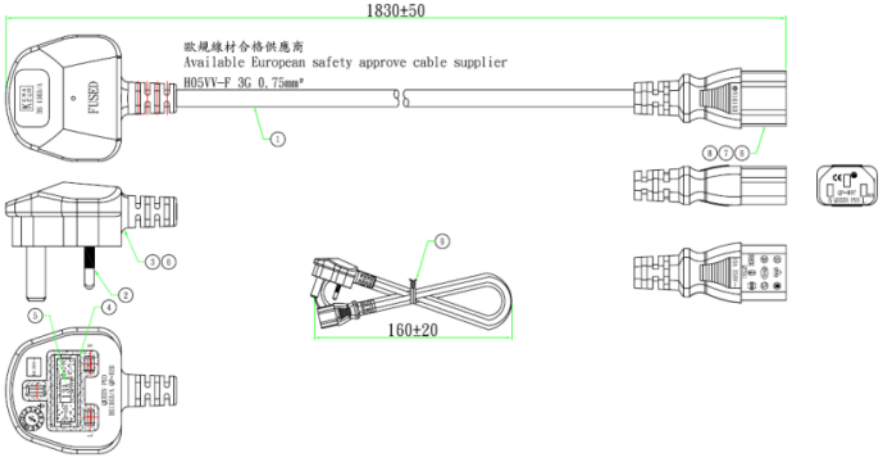
064APOWERBRX-IPD (TW version)



064APOWERBR2-IPD (US version)

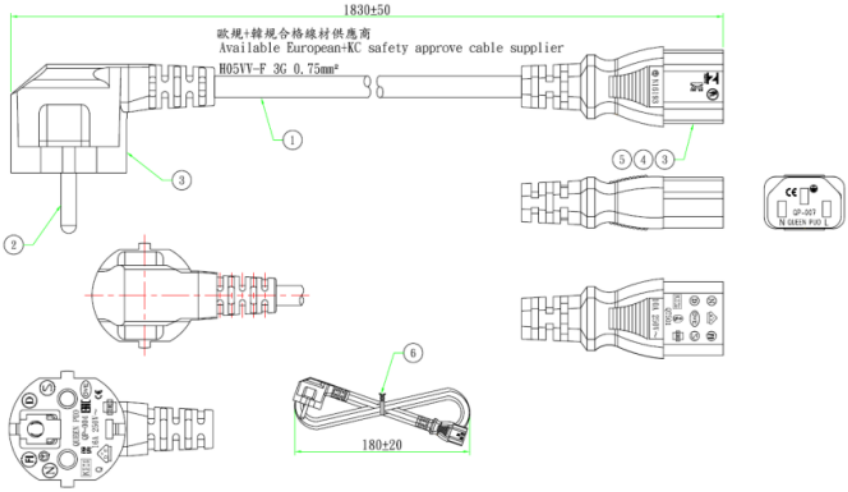


064APOWERBRW-IPD (UK version)



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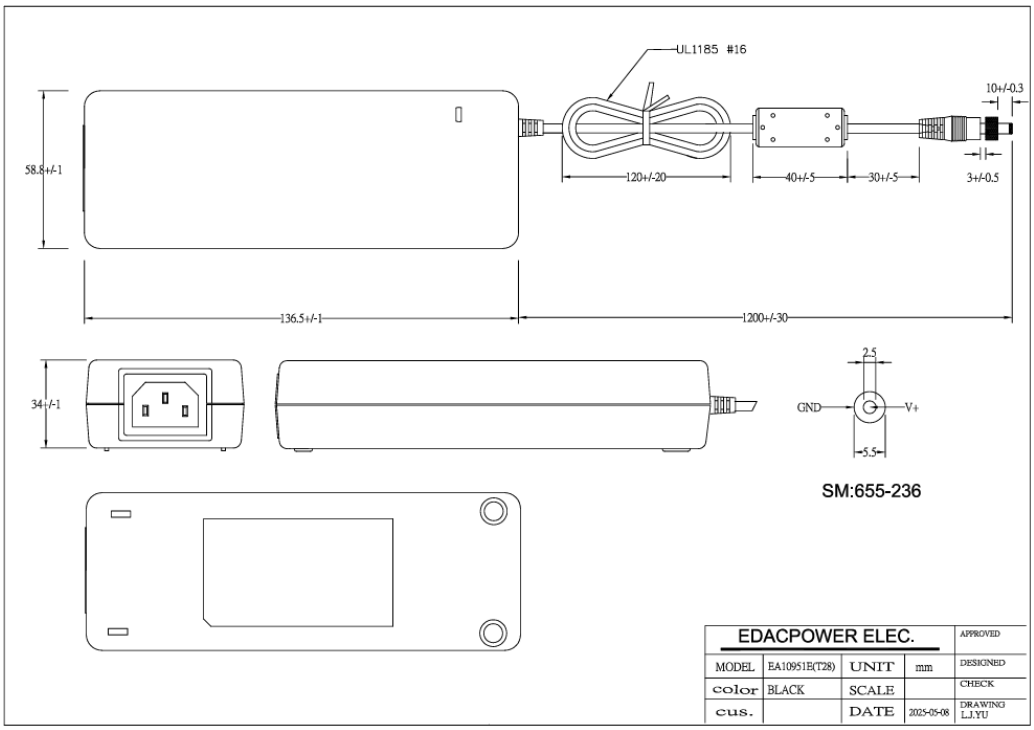
064APOWERBR5-IPD (EU version)



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6.2 Adapter

041312GOYANW (19V)



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