

深圳金亚太科技有限公司
Shenzhen Geniatech Co.,Ltd.

SPECIFICATION

MODEL:AIM-B2



Confirmation

REVISION HISTORY					
VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2025/1/8		7	Initial Spec	

APPROVED BY GENIATECH		
PREPARED BY 编写	CHECKED BY 审核	APPROVED BY 批准

Please return the original copy after approved by your company with stamp and signature.
请在贵公司盖章并签字后寄回正本一份。

APPROVED BY CUSTOMER		
COMMENTS 确认意见	APPROVED BY 批准签字	COMPANY STAMP 盖章

Website: www.geniatech.com

Address: Room 02-04, 10 / F, Block A, Building 8, Shenzhen International Innovation Valley, Dashi Road, Nanshan District, Shenzhen, Guangdong, China.

CONTENT

1. GENERAL DESCRIPTION	1
2. PRODUCT PICTURES	2
3. BOARD VIEW	3
3.1 DIMENSION	3
4. Specition	4
5. Module Pin Definition	5.6.7
6. Precautions for use	7

1. GENERAL DESCRIPTION

AIM-B2 is an AI module with 40TOS of arithmetic power, interfaced with a B2B connector for stability and reliability, paired with Kinara's latest Ara-2 Edge Ai processor, which delivers industry-leading performance and low latency at low power for both generative AI applications and traditional edge computing applications, such as smart retail, smart cities, factory automation, robotics and drones

Product Feature:

- (I) Support AI Frameworks:TensorFlow,Torchscript,,,PyTorch&ONNX.Caffe,Mxnet
- (II) Support llama2.0 and Yolov8
- (III) Processors(tested):NXP,Nvidia,Qualcomm,xilinx
- (IV) High Speed interface:4 lane PCIE Gen4
- (V) Gen AI and transformer model support
- (VI) Multi-chip support for scalable
- (VII) Stable Diffusion 1.4-10s(20 iteration)
- (VIII) Resnet50-2ms Latency

AI Applications:

Smart cities:Public safety,intelligent mobility,health monitoring,infrastructure&services

Industry4.0:manufacturing automation,robotic vision,safety&security

Smart retail:automated store,smart analytics,targeted advertising

Smart home:Lifestyle&entertainment,safty&security

Drones:sense,avoid and navigate

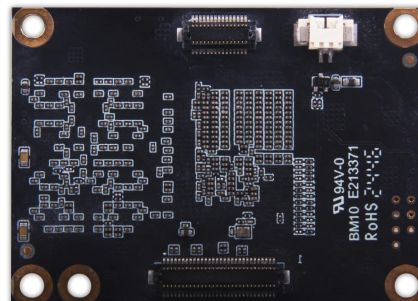
Facial Recognition

Object Localization and Detection

Semantic Segmentation

Pose Estimation

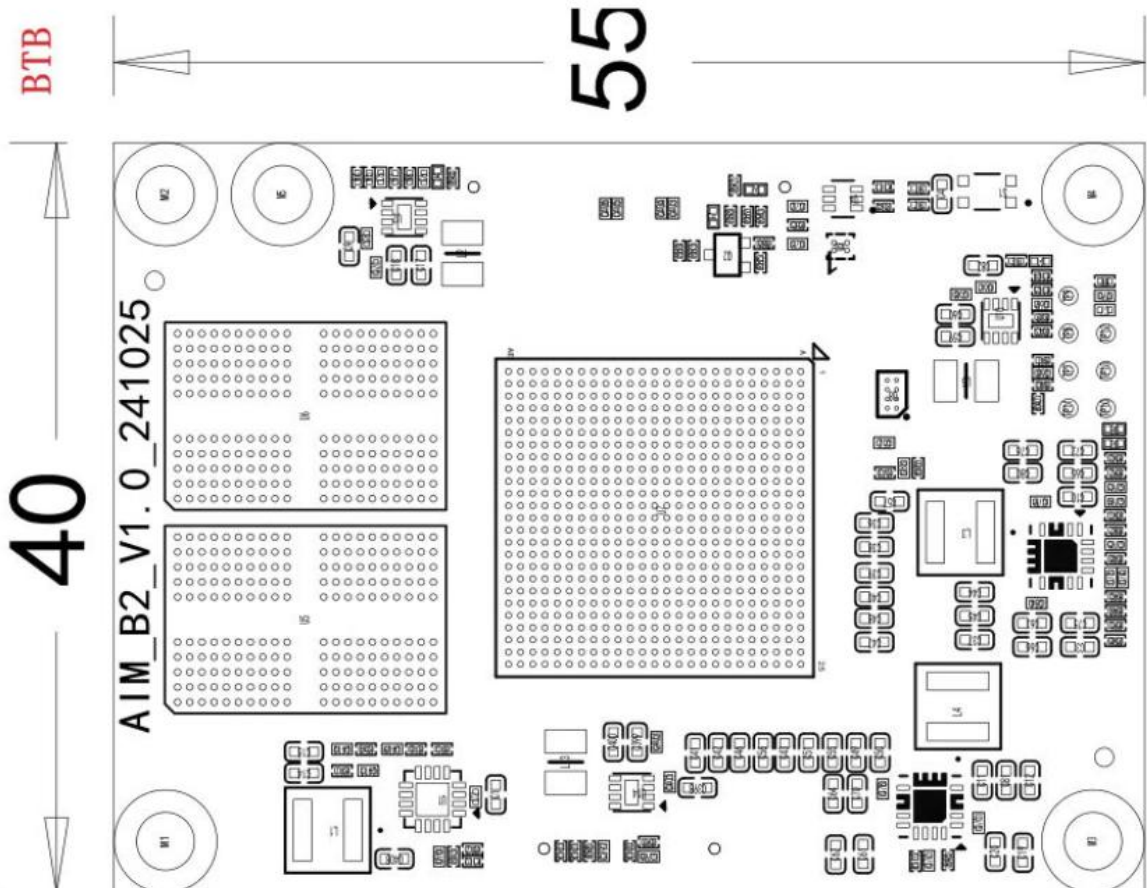
2. PRODUCT PICTURES



Below pictures are for reference only:

3. BOARD VIEW

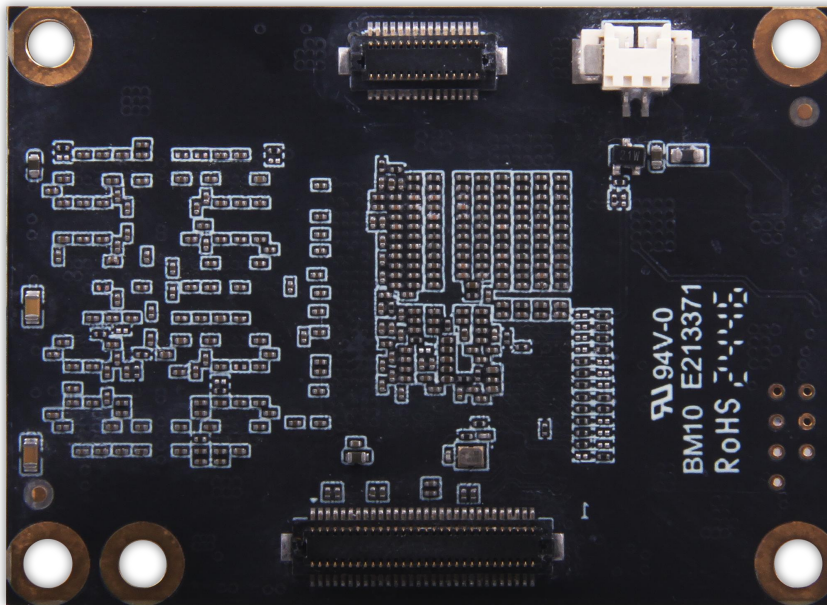
3.1 DIMENSION



4. specification

Chipset	Kinara Ara-2	
Market area	Global	
	Arithmetic power	40TOPS
Processor	NPU	Ara-2
	RAM	16GB(4GB/8GB Option)
	PCB Thickness	1.2mm
	Size	40*55mm
Host interface	Hardware interface	B2B
	High speed interface	4 Lane PCIE Gen4
Operrating Voltage/Power	DC Support	3.3V
	Thermal Design Power	12W
	Cooling	Heatsink
Environmental and Reliability	Operating temperature	0-50°
	Storage Temperature	-40-85°
	Operating Humidity	5%-90% Relative humidity
	Storage Humidity	5%-95% Relative humidity
System	OS Support	Linux&Windows

6. Module Pin Definition



B2B PCIe 64 Pin connector Pin Definition

PIN	Default function	PIN	Default function
1	GND1	2	GND2
3	GND3	4	UART-RST
5	P_TXN3	6	UART-CTS
7	P_TXP3	8	UART-TXD
9	GND9	10	UART-RXD
11	P_RXN3	12	GND12
13	P_RXP3	14	CC1
15	GND15	16	CC0
17	P_TXN2	18	GND18
19	P_TXP2	20	U_DM
21	GND21	22	U_DP
23	P_RXN2	24	GND18

25	P_RXP2	26	SS-TXN2
27	GND27	28	SS-TXP2
29	P_TXN1	30	GND30
31	P_TXP1	32	SS-RXN2
33	GND33	34	SS-RXP2
35	P_RXN1	36	GND36
37	P_RXP1	38	SS_TXN1
39	GND39	40	SS_TXP1
41	P_TXN0	42	GND42
43	P_TXP0	44	SS_RXN1
45	GND45	46	SS_RXP1
47	P_RXN0	48	GND48
49	P_RXP0	50	PECI_PERST
51	GND48	52	P_CLKREQ
53	P_REFCLKN	54	NC
55	P_REFCLKP	56	Ara-2 I2C SDA 1v8
57	GND37	58	Ara-2 I2C SCL 1v8
59	GND58	60	GND59
61	GND60	62	GND61
63	NC	64	NC

B2B PCIE 34 Pin connector Pin Definition

PIN	Default function	PIN	Default function
1	GND1	2	VCC2
3	GND3	4	VCC4
5	GND5	6	VCC6
7	GND7	8	VCC8
9	GND9	10	VCC10
11	GND11	12	VCC12
13	GND13	14	VCC14
15	GND15	16	VCC16
17	GND17	18	VCC18
19	GND19	20	VCC20
21	GND21	22	VCC22
23	GND23	24	VCC24
25	GND25	26	VCC28

27	GND27	28	VCC30
29	GND29	30	VCC32
31	GND31	32	GND32
33	NC	34	NC

7. Precautions for use

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: -40 ~ 85℃
3. Operation temperature: 0℃ ~ 50℃)
4. Do not squeeze、 distort or disassemble the board.
5. Keep the board away from static electricity .
6. Keep the board away from water and other liquid.
7. Clean the board with soft and clean dry cloth when it's dirty.