

MST3588XB NANO

Industrial Mini PC Datasheet

Revision: 1.0

Date: April 15, 2025

Content

1 Introduction.....	3
2 Features	3
3 Applications	3
4 Block Diagram	4
5 General Specifications	5
6 Absolute Maximum Ratings	6
7 Accessories.....	6
8 Physical Dimensions.....	7
9 Interface Description.....	8
10 Revision History	9

1 Introduction

The MST3588XB NANO is a high performance industrial Mini PC. It is equipped with octa-core Rockchip processors that deliver exceptional computing power, 2D/3D graphics processing, and full HD video encoding/decoding. Moreover, a wide range of connectivity options allows for easy integration with various peripherals and devices, making it ideal for diverse industrial applications such as industrial control, automation, robotics, drones, healthcare, etc.

2 Features

- Equipped with a dual-cluster processor of Rockchip RK3588, which consists of four ARM Cortex-A76 cores and four ARM Cortex-A55 cores
- Supports up to 32GB LPDDR4 and 256GB eMMC
- Supports HDMI, USB, RJ45, SIM Card, TF Card, Bluetooth, Wi-Fi, RS-232, RS-485, etc.
- Supports up to 3840 x 2160 4K resolution and dual-screen independent display
- Adopts 1.25/2.0mm pitch wire-to-board connectors

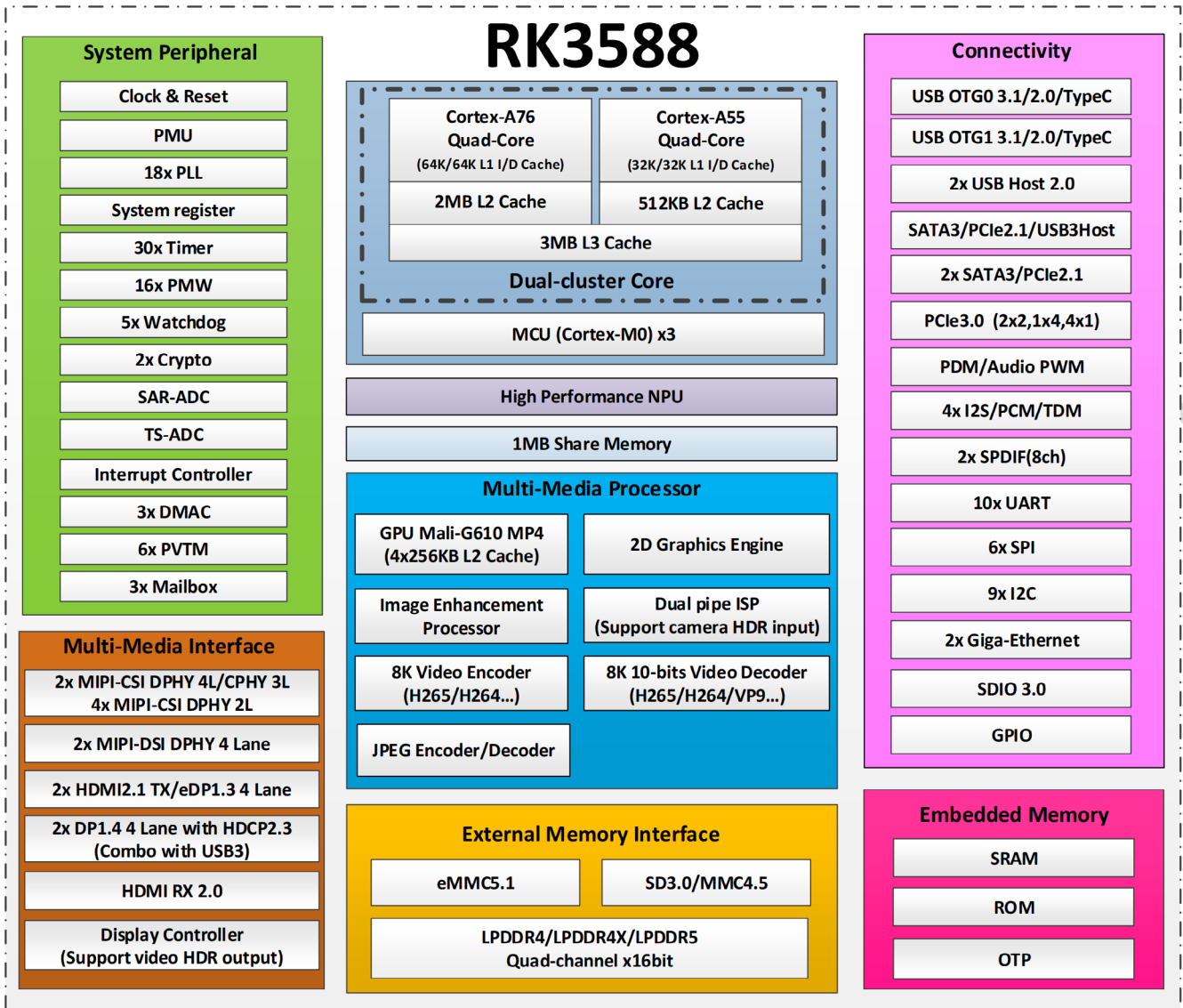
3 Applications

- Industrial Control
- Automation
- Drones
- Robotics
- Healthcare

4 Block Diagram

Below is the block diagram of RK3588.

<Figure 4-1 Block diagram of RK3588>



5 General Specifications

<Table 5-1 General Specifications>

Parameter	Specification
Architecture	ARM
Processor	ARM Quad-core Cortex-A76 + ARM Quad-core Cortex-A55 Rockchip RK3588; frequency up to 2.4GHz
OS	Android 12/ Ubuntu 20.04/Debian 11/Buildroot/NeoKylin
RAM	LPDDR4, 4GB (Up to 32GB)
Storage	eMMC, 32GB (Up to 256GB)
Power Input	DC 12V

<Table 5-2 I/O Port General Specifications>

I/O Port	Specification
Ethernet	1000M RJ45 x 1
USB	USB3.0 Type-A x 4
HDMI_OUT	4K x 1 (3840 x 2160); Supports dual-screen independent display
WIFI	802.11 b/g/n x 1 (Optional: 802.11 ac/ax)
BT	BT4.2 x 1
Serial Port	Composite serial port (RS232; RS485) x 1
Type-C	Download and debug
TF Card	Supported
SIM Card	Supported

6 Absolute Maximum Ratings

<Table 6-1 Absolute Maximum Ratings>

Parameter Name	Value	Remark
Input Voltage	DC 12V	N/A
Power Consumption	8.5W (Max.)	N/A
Operating Temperature	0°C ~ +70°C	Optional: -20°C ~ +70°C/ -40°C ~ +85°C
Storage Temperature	-20°C ~ +75°C	N/A
Transport Temperature	-20°C ~ +75°C	N/A
Relative Humidity	< 75%RH	N/A

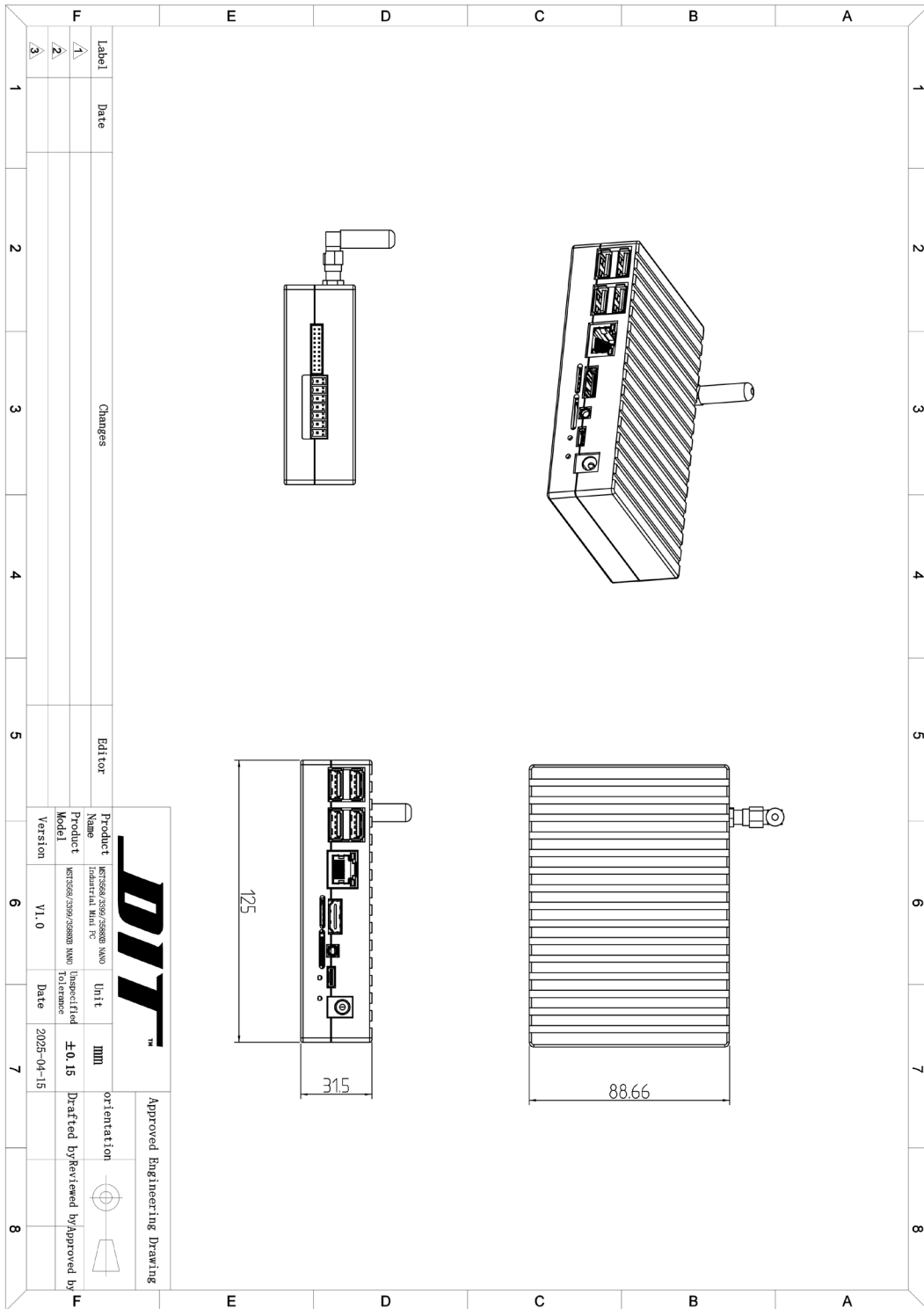
7 Accessories

<Table 7-1 Accessories>

Name	Type	Remark
Power Adapter	Included in the Package	N/A
Wi-Fi/BT Antenna	Optional	N/A

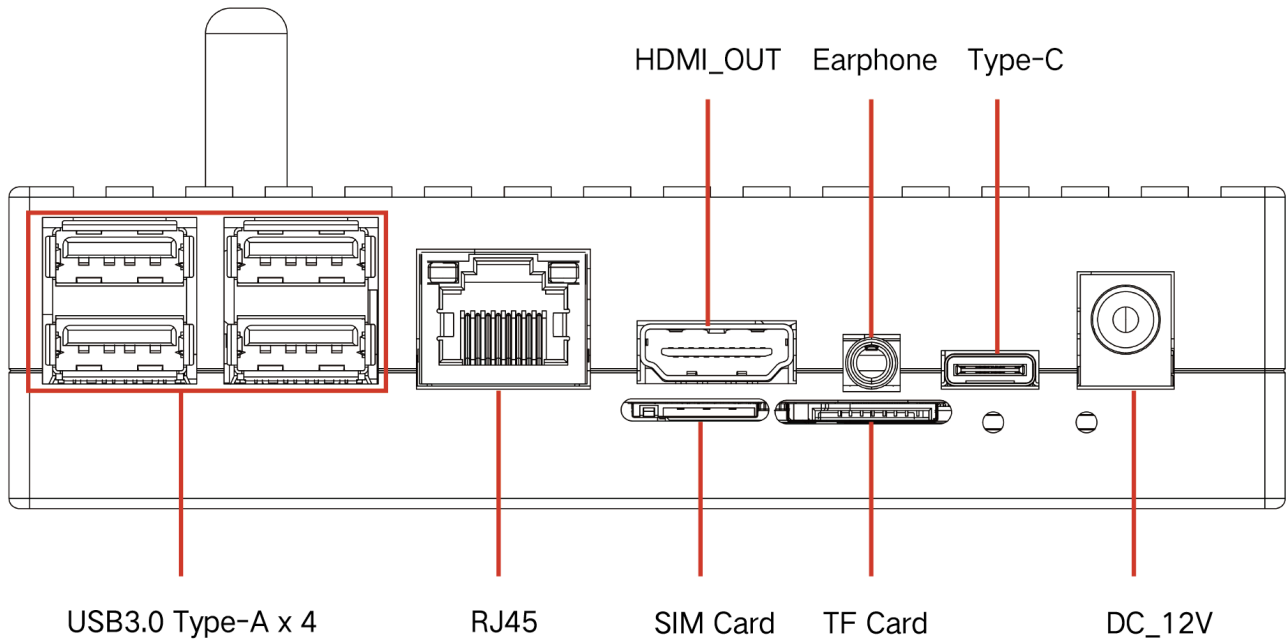
8 Physical Dimensions

<Figure 8-1 Physical Dimensions>

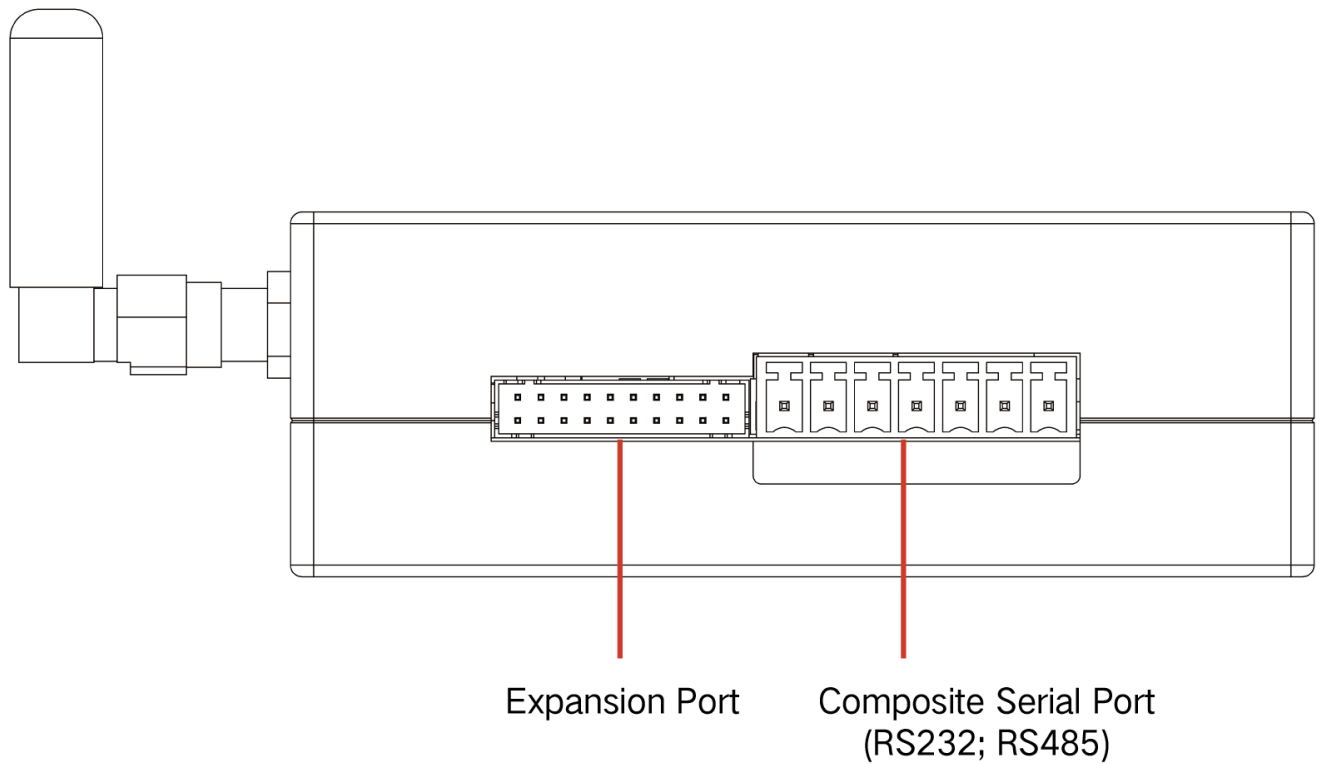


9 Interface Description

<Figure 9-1 Interface Description (Front)>



<Figure 9-2 Interface Description (Side)>



10 Revision History

<Table 10-1 Revision History>

Version	Date	Details
V1.0	April 15, 2025	Initial release

IMPORTANT NOTICE AND DISCLAIMER

This datasheet is copyrighted and all rights are reserved. Unauthorized copying, photocopying, translation or reproduction in whole or in part into any electronic or machine-readable form is prohibited without prior written consent from DIT.

DIT will not be liable for any direct, indirect, special, incidental or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

DIT reserves the right to make changes, corrections, enhancements, modifications, and improvements to this document at any time without notice.

DIT assumes no responsibility for any errors or omissions may appear in this document and makes no commitments to update the information contained herein.

©2024 Hunan Display Innovation Technology

Hotline: +86 400-677-0968

Email: marketing@ditlcm.com

Address: Room 1209-1216, Building B2, Desqin City Plaza, Yuhua District, Changsha