

## **AX58200 BSP User Guide**

Revision 2.00  
May 5<sup>th</sup>, 2021

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## 1. Introduction

The AX58200 is a 2/3-port EtherCAT Slave Controller SoC equipped with Arm® Cortex® -M4F with DSP extension runs up to 192 MHz and EtherCAT Slave Controller (ESC) with two integrated Fast Ethernet PHYs which support 100Mbps full-duplex operation and HP Auto-MDIX. The AX58200 BSP (Board Support Package) provides ASIX EtherCAT related reference design resource additionally. Users can use this BSP to evaluate/develop their production that target on ASIX AX58200 evaluation board or hardware platform.

## 2. Directory Information

Directory	Description
Datasheet	AX58200 datasheet
Document	Reference user manual and revision history
Driver	NuMicro Nu-Link Driver for Keil
Hardware_Design	The related reference schematics, PCB, Layout, Application Design Note and BOM files
Library	CMSIS/NUVOTON driver headers and source files for user develop
SampleCode	Several samples or reference codes
Tools	Needed configuration tools for the flash or I/O
AX58200 BSP User Guide	Board Support Package user guide for AX58200

## 3. Datasheet

File Name	Description
AX58200 Datasheet	AX58200 in chip level description

## 4. Document

File Name	Description
AX58200 Product Brief	Product brief of AX58200
AX58200 ESI Design Note	ESI design note for AX58200
AX58200 Production Introduction	Production introduction of AX58200
AX58200 PinConfigure User Guide	User guide of AX58200 PinConfigure tool
AX58200 GpioAio User Guide	User guide of AX58200 Analog/Digital I/O reference design
AX58200 MotorControl User Guide	User guide of AX58200 MotorControl reference design
AX58200 SSC Tool Configuration Import User Guide	How to import the configuration file of ASIX AX58200 GPIO / AIO and MotorControl application to generate related source files
CMSIS	The Cortex Microcontroller Software Interface Standard

## 5. Driver

<b>File Name</b>	<b>Description</b>
Nu-Link Keil Driver	NuMicro Nu-Link Driver for Keil
Nu-Link IAR Driver	NuMicro Nu-Link Driver for IAR

## 6. Hardware\_Design

File Name	Description
BOM	The BOM files for AX58200 EVB/EXB boards
Layout	The Layout files for AX58200 EVB/EXB boards
Layout_Guide	AX58200 Application Design Note
Schematics	The reference schematics of AX58200 EVB/EXB boards

## 7. Library

Folder Name	Description
CMSIS	Cortex® Microcontroller Software Interface Standard (CMSIS) V4.5.0 definitions by ARM® Corp
Device	CMSIS compliant device header file
FWUpdate	Firmware update library binary and header files
SmartcardLib	Smartcard library binary and header file
StdDriver	All peripheral driver header and source files
UsbHostLib	USB host library source code

## 8. SampleCode

Folder Name	Description
Ethercat_GPIO_AIO_Reference_Design	EtherCAT reference code for Analog/Digital I/O application
Ethercat_MotorControl_Reference_Design	EtherCAT reference code for MotorControl application
Hard_Fault_Sample	Show hard fault information when hard fault happened
ISP	LDROM source code for FoE application
StdDriver	AX58200 related driver sources (Keil Only)

## 9. Tools

<b>File Name</b>	<b>Description</b>
AxTool-PinConfigure	Pin configuration tool for AX58200 The tool is used for configuring IO definition and generates related source code for multi-function registers
NuMicro_ICP_Programming_Tool	NUVOTON NuMicro ICP (In Circuit Programming) tool The tool is used for programming hardware configuration/firmware data to internal flash of NUVOTON microcontroller

## 10. Revision History

Revision	Date	Description
V1.00	2019/12/18	Preliminary release
V1.10	2020/01/03	<ol style="list-style-type: none"> <li>1. Updated AX58200 GpioAio UserGuide v100</li> <li>2. Updated AX58200 SSC Tool Configuration Import UserGuide v101</li> <li>3. Updated AX58200 Product Introduction v101</li> <li>4. Updated AX58200 BSP UserGuide v110</li> </ol>
V1.20	2020/03/27	<ol style="list-style-type: none"> <li>1. Updated AX58200 ESI Design Note v101</li> <li>2. Updated AX58200 GpioAio UserGuide v110</li> <li>3. Updated AX58200 SSC Tool Configuration Import UserGuide v102</li> <li>4. Updated Ethercat GPIO AIO Reference Design v120</li> <li>5. Added AX58200 MotorControl UserGuide v100</li> <li>6. Added ISP v100</li> <li>7. Added Ethercat MotorControl Reference Design v100</li> <li>8. Added StdDriver package</li> <li>9. Added AX58200-EXB-SMDB Schematic v010, PCB and Gerber files</li> </ol>
V1.30	2020/09/18	<ol style="list-style-type: none"> <li>1. Updated AX58200 Datasheet v100</li> <li>2. Updated AX58200 SSC Tool Configuration Import UserGuide v103</li> <li>3. Updated AX58200_TSB-1_SCHEMATIC_v200, PCB, Gerber and BOM files</li> <li>4. Updated Ethercat GPIO AIO Reference Design v130</li> <li>5. Updated import file in Ethercat MotorControl Reference Design</li> <li>6. Updated ISP v101</li> <li>7. Updated AX58200 Application DesignNote v110</li> </ol>
V2.00	2021/05/05	<ol style="list-style-type: none"> <li>1. Updated AX58200 GpioAio UserGuide v120</li> <li>2. Updated AX58200_TSB-1_SCHEMATIC_v300, PCB, Gerber and BOM files</li> <li>3. Updated Ethercat GPIO AIO Reference Design v140</li> <li>4. Updated Ethercat MotorControl Reference Design v110</li> <li>5. Updated AX58200_Brief_20200723</li> </ol>

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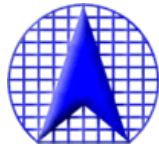
Designers must not rely on the absence or characteristics of any features or registers marked “reserved”, “undefined” or “NC”. ASIX reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. Always contact ASIX to get the latest document before starting a design of ASIX products.

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