Revised Date: 2019/11/28

The following are the AX58100 EtherCAT Slave Controller (ESC) Slave Information Interface (SII) Area information for customers to modify the AX58100 EtherCAT Slave Information (ESI) file. Please refer to *Section 3.2 "Hardware Configuration EEPROM (HWCFGEE)" of AX58100 Datasheet* for details of AX58100 ESC Configuration Area definition.

ESC SII Field	Length (Bytes)	Default Value	Descriptions
ESC Configuration Area (EEPROM Byte Offset 0x0D - 0x00)	14	-	Refer to Table 4: AX58100 ESC Configuration Area Table or assigned by customers based on their exact applications
Vendor ID	4	0x00000B95	ASIX's Vendor ID assigned by ETG or assigned by customers based on their own ETG Vendor ID
Product Code	4	-	Refer to Table 2: AX58100 Product Code Field Definition Table, Table 3: AX58100 Recommended Product Code Table or assigned by customers based on their own Product Code
Revision Number	4	-	ASIX assigned revision number or assigned by customers based on their own requirements This field should be increased on the revised firmware or ESI file in Table 5.
Serial Number	4	0x00000000	Assigned an unique Serial Number for each device by vendor 0 if there is no serial number given

Table 1. AX58100 SII (Salve Information Interface) Area Table

The following is an example of AX58100 SPI Master ADC/DIO Demo Board ESI file.

```
<Eeprom>
    <ByteSize>2048</ByteSize>
    <ConfigData>040f0044102700f0000050000001</ConfigData>
</Eeprom>
```

ESC Configuration Area

```
<Vendor>
    <Id>#x00000b95</Id>
    <Name>ASIX Electronics Corporation</Name>
    <ImageData16x14>
```

Vendor ID

```
<Devices>
    <Device Physics="YY">
        <Type ProductCode="#x110100" RevisionNo="#x00000002">SPI Master ADC Converter Digital I/O : 8 Input/8 Output</Type>
        <Name>AX58100 SPI_ADC_DIO_8In_8Out</Name>
        <GroupType>ADC_DAC_DIO</GroupType>
        <Fmmu>Outputs</Fmmu>
        <Fmmu>Inputs</Fmmu>
        <Sm StartAddress="#xf03" ControlByte="#x44" Enable="1">Outputs</Sm>
        <Sm ControlByte="#x00000000" StartAddress="#x1002" Enable="1">Inputs</Sm>
```

Product Code

Revision Number

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Bit	Description
31:28	Reserved (0000b)
27:16	**Interface Mode** bit 27:25: Reserved bit 24: MII Interface (1: Enabled; 0: Disabled) bit 23: GPIO Interface (1: Enabled; 0: Disabled) bit 22: ABZ/Hall Encoder Interface (1: Enabled; 0: Disabled) bit 21: PWM/STEP Interface (1: Enabled; 0: Disabled) bit 20: SPI Master Interface (1: Enabled; 0: Disabled) bit 19: 8-bit Async. Local Bus PDI (1: Enabled; 0: Disabled) bit 18: 16-bit Async. Local Bus PDI (1: Enabled; 0: Disabled) bit 17: SPI Salve PDI (1: Enabled; 0: Disabled) bit 16: Digital I/O PDI (1: Enabled; 0: Disabled)
15:8	**Application Type** This field defines the application type. 00h: No specific/identified application (default) 01h: Multi-function application 02h: Digital I/O Control 03h: Motion/Motor Control 04h: Sensors Data Acquisition 05h: Communication Module 06h: PC Card 07h: 3-port EtherCAT Junction Slave others: Reserved
7:0	**Vendor Specific Configuration/Sub-Application Type** This field defines the vendor specific requirements or Sub-application type. 00h: No specific requirement (default) 10h: STM NUCLEO-F303RE Motor Control 11h: STM NUCLEO-F303RE Two-axes Position Control 20h: Nuvoton NuMicro® M487 EtherCAT to IO-Link Control others: Reserved

Table 2. AX58100 Product Code Field Definition Table

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Board Name	Product Code	Descriptions
AX58100 EVB (DIO)	0x00010200	Digital I/O : 16 Input/16 Output
AX58100 32 Digital Input	0x00010201	Digital I/O : 32 Input
AX58100 32 Digital Output	0x00010202	Digital I/O : 32 Output
AX58100 SPI Master ADC/DIO Demo Board	0x00110100	SPI Master ADC Converter Digital I/O : 8 Input/8 Output Multi-function (Sensor & DIO)
AX58100 Six-Step PWM BLDC Motor Control/SPI Slave MCU Demo Board	0x00620300	PWM/Hall Encoder SPI Slave PDI Motor Control
AX58100 Local Bus Demo Board	0x00040600	AX58100 + AX99100 EtherCAT Slave PCIe Card 16-bit Async. Local Bus PC Card
AX58100 Stepper Motor Control Demo Board	0x00610300	STEP/ABZ Digital I/O : 8 Input/8 Output Motor Control
AX58100 3-port EtherCAT Junction Slave Board	0x01000700	3-port EtherCAT Junction Slave
AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Motor Control Demo	0x00020310	SPI Slave PDI Motor Control [7:0] = 0x10 for STM NUCLEO-F303RE Motor Control Demo
AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Two-axes Position Control Demo	0x00020311	SPI Slave PDI Two-axes Position Control [7:0] = 0x11 for STM NUCLEO-F303RE Two-axes Position Control Demo
AX58100-EVB-SSPDI-1 Board + Nuvoton NuMicro® M487 EtherCAT to IO-Link Control Demo	0x00020520	SPI Slave PDI IO-Link Control [7:0] = 0x20 for Nuvoton NuMicro® M487 EtherCAT to IO-Link Control Demo

Table 3. AX58100 Recommended Product Code Table

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ESC Configuration Area	Value	Descriptions
AX58100 EVB (DIO)	040f0044102700ff000000000000	Digital I/O : 16 Input/16 Output
AX58100 32 Digital Input	040f004410270000000000000000	Digital I/O : 32 Input
AX58100 32 Digital Output	040f00441027ffff000000000000	Digital I/O : 32 Output
AX58100 SPI Master ADC/DIO Demo Board	040f0044102700f0000050000001	SPI Master ADC Converter Digital I/O : 8 Input/8 Output Multi-function (Sensor & DIO)
AX58100 Six-Step PWM BLDC Motor Control/SPI Slave MCU Demo Board	050603440a00000000001a00003c	PWM/Hall Encoder SPI Slave PDI Motor Control
AX58100 Local Bus Demo Board	080000000a000000000000000000	AX58100 + AX99100 EtherCAT Slave PCIe Card 16-bit Async. Local Bus PC Card
AX58100 Stepper Motor Control Demo Board	040f00441027f00000000000003c	STEP/ABZ Digital I/O : 8 Input/8 Output Motor Control
AX58100 3-port EtherCAT Junction Slave Board	000f00441027f0ff000000000000	3-port EtherCAT Junction Slave
AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Motor Control Demo	050603440a00000000001a000000	SPI Slave PDI Motor Control
AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Two-axes Position Control Demo	050e03440a00000000001a000000	SPI Slave PDI Two-axes Position Control
AX58100-EVB-SSPDI-1 Board + Nuvoton NuMicro® M487 EtherCAT to IO-Link Control Demo	050603440a00000000001a000000	SPI Slave PDI IO-Link Control

Table 4. AX58100 Recommended ESC Configuration Area (EEPROM Byte Offset 0x0D - 0x00) Table

Bit	Description
31:24	Reserved (00h)
23:20	The filed is reserved by AX58100 Expansion Board Reference Schematic 0h: No specific requirement (default) 1h: AX58100-EVB-SSPDI-1 2h: AX58100-EXB-SMDIO-1 3h: AX58100-EXB-SSPWM-1 others: Reserved
19:16	The filed is reserved by AX58100 Evaluation Board Reference Schematic 0h: No specific requirement (default) 1h: AX58100 EVB 2h: AX58100 Local Bus Demo Board others: Reserved
15:0	The filed is reserved by application firmware version information

Table 5. AX58100 Revision Number Field Definition Table

(*): AX58100 Revision Number Field Definition Table is starting from v105 for related applications.

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Revision History

Revision	Date	Description
0.10	2018/05/14	Preliminary release
1.00	2018/11/28	1. Modified some descriptions in Table 1. 2. Added an example of AX58100 SPI Master ADC/DIO Demo Board ESI file for Table 1. 3. Updated the default ESC Configuration Area values of AX58100 SPI Master ADC/DIO Demo Board and AX58100 Six-Step PWM BLDC Motor Control/SPI Slave MCU Demo Board in Table 4.
1.01	2018/12/27	1. Modified some descriptions in Table 2. 2. Added the ESI configuration for AX58100 Stepper Motor Control Demo Board in Table 3 & 4.
1.02	2019/02/13	1. Added “bit 24: MII Interface” and “07h: 3-port EtherCAT Junction Slave” definitions in Table 2. 2. Added “3-port EtherCAT Junction Slave” definitions in Table 3 & Table 4.
1.03	2019/02/21	1. Added “Digital I/O : 32 Input” & “Digital I/O : 32 Output” definitions in Table 3 & Table 4
1.04	2019/05/29	1. Added “AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Motor Control Demo” definitions in Table 3 & Table 4
1.05	2019/11/28	1. Added “AX58100-EVB-SSPDI-1 Board + STM NUCLEO-F303RE Two-axes Position Control Demo” definitions in Table 3 & Table 4 2. Added “AX58100-EVB-SSPDI-1 Board + Nuvoton NuMicro® M487 EtherCAT to IO-Link Control Demo” in Table 3 & Table 4 3. Added Table 5.

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