文件编号 Document No.	ESP-07-2-007-03	文件名称 Document Name	产品/工艺变更通知 Product/Process Change Notice (PCN)
文件版本 Document Version	1.4	保存期限 Retention Period	5 年 5 years

ESP32 系列产品文档中删除霍尔传感器

Remove Hall Sensor from ESP32 Series of Documentation

PCN 编号 PCN No.	PCN20221202	提出日期 Issue Date of PCN	2022/12/27
变更日期 Proposed Date of Change	2023/1/27	预计变更后产品首次出货日期 Proposed Date of First Shipment After Change	NA，产品无变更 Product has no change.
PCN 类型 / PCN Category	☐客户需要批准/ Customer Approval Required ☑客户通知/ Customer Notification		

1. 影响产品名称/ Affected Product Name

ESP32 series

2. 变更原因/ Reason for Change

在 ESP32 系列产品文档中，霍尔传感器被列为芯片支持的外设之一。然而，ESP32 的霍尔传感器不能使用，因此需要在文档中将其删除。

In the documentation for ESP32 series of products, hall sensor is listed as one of the supported peripherals. However, the hall sensor on ESP32 does not work properly. Therefore, all references to hall sensor in ESP32 documentation need to be removed.

3. 变更描述/ Description of Change

在以下文档中移除霍尔传感器：

Remove references to hall sensor from the following documents:

- ESP32 技术规格书 / ESP32 Datasheet
- ESP32 勘误表 / ESP32 Errata
- ESP32 硬件设计指南 / ESP32 Hardware Design Guidelines
- ESP32 技术参考手册 / ESP32 TRM
- ESP32 模组规格书 / ESP32 module datasheets

4. 变更对比/ Change Comparison

请见附录 I：变更对比。

Please refer to Appendix I: Change comparison.

5. 变更影响/ Impact of Change

1) 品质和性能/ Quality & Performance: 无影响/ No impact

2) 交期/ Delivery: 无影响/ No impact

3) 生产料号/ Material Part Numbers (MPN): 无影响/ No impact

4) 认证/ Certification: 无影响/ No impact

5) 软件/IDF: 无影响/ No impact

6. 变更前后产品处理/ How to Deal with Products

NA，产品无变更。Product has no change.

7. 相关报告/ Related Report(s):

☑ Related ECN No. ECN-2022-046

Appendix I 变更对比/ Change Comparison

1. 文档变更信息 Documents Change Information

文档 Documents	变更前版本 Document Version Before Change	变更后版本 Document Version After Change
ESP32 Datasheet	v4.1	v4.2
ESP32 Series Errata	v2.5	v2.6
ESP32 Hardware Design Guidelines	v3.3	v3.4
ESP32 Technical Reference Manual	v4.8	v4.9
ESP32-WROVER-E & ESP32-WROVER-IE Datasheet	v1.7	v1.8
ESP32-WROVER-B & ESP32-WROVER-IB Datasheet	v1.9	v2.0
ESP32-WROOM-32E & ESP32-WROOM-32UE Datasheet	v1.5	v1.6
ESP32-SOLO-1 Datasheet	v2.0	v2.1
ESP32-WROOM-32SE Datasheet	v1.4	v1.5
ESP32-WROVER Datasheet	v2.6	v2.7
ESP32-PICO-D4 Datasheet	v2.0	v2.1
ESP32-WROOM-32D & ESP32-WROOM-32U Datasheet	v2.3	v2.4
ESP32-WROOM-32 Datasheet	v3.3	v3.4
ESP32-MINI-1 & ESP32-MINI1U Datasheet	v1.1	v1.2
ESP32-WROOM-DA Datasheet	v0.5	v0.6

2. 变更具体信息/ Detail Change Information

以 ESP32 系列芯片数据规格书为例，其中有 2 处提到霍尔传感器，相关内容将被删除：

Take ESP32 Series Datasheet as an example, two references of Hall Sensor will be removed:

1.4.3 高级外设接口

- 34 个 GPIO 口
- 12-bit SAR ADC，多达 18 个通道
- 2 个 8-bit D/A 转换器
- 10 个触摸传感器
- 4 个 SPI
- 2 个 I2S
- 2 个 I2C
- 3 个 UART
- 1 个 Host SD/eMMC/SDIO
- 1 个 Slave SDIO/SPI
- 带有专用 DMA 的以太网 MAC 接口，支持 IEEE 1588
- TWAI®，兼容 ISO 11898-1（CAN 规范 2.0）
- RMT (TX/RX)
- 电机 PWM
- LED PWM，多达 16 个通道
1. • 霍尔传感器

4.1.3 霍尔传感器

2

ESP32 集成的霍尔传感器是基于空穴 (N-carrier) 电阻设计的。当芯片置于电磁场中时，霍尔传感器会在电阻上横向产生一个小电压，这个小电压可由 ADC 直接测量。详细信息请参考 《*ESP32 技术参考手册*》中的片上传感器与模拟信号处理章节。

1.4.3 Advanced Peripheral Interfaces

- 34 × programmable GPIOs
- 12-bit SAR ADC up to 18 channels
- 2 × 8-bit DAC
- 10 × touch sensors
- 4 × SPI
- 2 × I2S
- 2 × I2C
- 3 × UART
- 1 host (SD/eMMC/SDIO)
- 1 slave (SDIO/SPI)
- Ethernet MAC interface with dedicated DMA and IEEE 1588 support
- TWAI®, compatible with ISO 11898-1 (CAN Specification 2.0)
- RMT (TX/RX)
- Motor PWM
- LED PWM up to 16 channels
1. • Hall sensor

4.1.3 Hall Sensor

2

ESP32 integrates a Hall sensor based on an N-carrier resistor. When the chip is in the magnetic field, the Hall sensor develops a small voltage laterally on the resistor, which can be directly measured by the ADC.

For more information, please refer to Chapter On-Chip Sensors and Analog Signal Processing in *ESP32 Technical Reference Manual*.

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客户响应要求
Customer Response Requirements

需客户批准的变更/ Change Requiring Customer Approval：

a) 客户须在乐鑫发出 PCN 后的 30 天内告知乐鑫已收到 PCN。如客户未在接收到 PCN 后的 30 天内告知已收到，则视为客户收到变更。
Customers are requested to acknowledge receipt of the PCN within 30 calendar days from the date of issue of the PCN. Customers would be considered as notified 30 calendar days after issue of the PCN if no acknowledgement is received.

b) 自发布 PCN 之日起 90 天内，客户没有任何其他反馈，则表示客户接受该 PCN。
The lack of any additional responses from customers within 90 calendar days from the date of issue of the PCN constitutes acceptance of the proposed changes.

客户通知/ Customer Notification：

a) 客户需在乐鑫发出 PCN 后 14 天内通知乐鑫收到该 PCN。 如客户未在接收到 PCN 14 日反馈乐鑫，则视为客户确认该 PCN。
Customers are requested to acknowledge receipt of the PCN within 14 calendar days from the date of issue of the PCN. Customers would be considered as having acknowledged the PCN if no response is received after 14 calendar days.

请反馈至 pcn@espressif.com。
Please send feedback to pcn@espressif.com.

客户批准/确认信息
Customer Approval/Acknowledgement and Remarks

客户公司全称： Customer's Company Name:			
PCN 评审结果/ PCN Review Result：	☐批准/确认 Accepted/Acknowledged ☐不批准/ Rejected ☐需要分析/ Further Analysis Required		
客户意见/Comment:			
公司代表人姓名 Representative's Name:		公司代表人职责 Representative's Job Title:	
公司代表人签名 Representative's Signature:		日期 Date:	