

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	1.3	保存期限 Retention Period	5 年 5 years

**引入 ZB25VQ32BTIG 作为 ESP8266 系列模组的备选 4 MB flash 物料**

**Introduction of ZB25VQ32BTIG as alternative 4 MB flash source for ESP8266 Series of Modules**

PCN 编号 PCN No.	PCN-2021-020	提出日期 Issue Date of PCN	2021/08/23
变更日期 Proposed Date of Change	2021/11/23	首次出货日期 Proposed Date of First Shipment	2021/11/23
PCN 类型 / PCN Category	<input checked="" type="checkbox"/> 客户需要批准/Customer Approval Required <input type="checkbox"/> 客户通知/Customer Notification		

**1. 影响产品名称/Affected Product Name**

ESP-WROOM-02(M1002H3200PH3Q0)  
 ESP-WROOM-02D(M1102H3200PH3Q0)  
 ESP-WROOM-02U(M1102H3200UH3Q0)

**2. 变更原因/Reason for Change**

为提高供应稳定性，乐鑫完成了合肥恒烁半导体有限公司（“ZB”）供应的料号为 ZB25VQ32BTIG 的 flash 的物料验证测试，因此决定引入该 flash 作为段落 1 列出模组产品的备选物料。

To ensure a robust and diversified module supply, Espressif has qualified flash Part Number:

ZB25VQ32BTIG provided by Zbit Semiconductor, Inc. (ZB) as the new alternative source for Espressif modules listed in Para 1.

**3. 变更描述/Description of Change**

引入料号为 ZB25VQ32BTIG 的 4 MB, -40°C ~ 85°C flash 作为段落 1 列出的乐鑫模组的备选 flash 物料。

Introducing the 4 MB, -40°C ~ 85°C flash, Part Number: ZB25VQ32BTIG as an alternative source for the Espressif modules listed in Para1.

**4. 变更对比/Change Comparison**

请见附录 I: 变更信息

Please refer to Appendix I: Change Information

**5. 变更影响/Impact of Change**

**1) 品质和性能/ Quality & Performance:**

料号为 ZB25VQ32BTIG 的 flash 已经完成物料验证测试，乐鑫确认该 flash 的品质和性能满足乐鑫的要求及该 flash Datasheet 中技术要求。

Flash Part Number: ZB25VQ32BTIG has completed qualification test. Espressif confirms it fully meets Espressif requirement and its Datasheet specification.

**2) 交期/Delivery:**

导入新 flash 可更好地保证段落 1 列出模组产品的交期。

The introduction of a new flash source for the modules will improve the robustness of supply.

3) 生产料号/Material Part Numbers (MPN):

对于段落 1 列出模组产品的 MPN 无影响, 客户可以使用原 MPN 进行下单。

There is no change to the MPN of the affected modules listed in Para 1. Customers can use the same MPN when placing orders.

6. 变更前后产品处理/How to Deal with Products

FIFO

7. 相关报告及验证/Report(s) or Qualification Attached:

Related ECN No.                      ECN-2021-028

Material Qualification Information

编号 No.	测试项目 Test Item	测试结果 Test Result
1	运行模式测试 Operation Mode Test	Pass
2	Deep Sleep 唤醒测试 Wake up from Deep Sleep Test	Pass, Deep-sleep current is around 0.020 mA
3	掉电测试 Powerdown Test	Pass
4	OTA 测试 OTA Test	Pass
5	高低温读写测试 High-Low Temp. Read/Write	Pass
6	高温批量读写测试 High Temp. Read/Write (Batch)	Pass

Environment Related

Information (RoHS / REACH /      ZB25VQ32BTIG compliant with RoHS & REACH  
HF etc.)

## Appendix I 变更信息/Change Information

Item	变更后 After Change
Flash Part Number	Add ZB25VQ32BTIG
Flash Package Type	SOP8 150mil
Product Name/MPN (No Changes)	See Module List in Para 1
Flash Operating Voltage	2.3V ~ 3.6V
	All of the affected modules should work at 3.0V ~ 3.6V, so flash can meet the requirements
Typical Power Supply Voltage (No Changes)	3.3V
Flash Capacity (No Changes)	4 MB
Flash Temperature Range (No Changes)	-40℃ ~ 85 ℃
Sector Erase Time (4KB) Typ./Max	30 / 400 ms
Block Erase Time (32KB) Typ./Max	0.12 / 0.8 s
Block Erase Time (64KB) Typ./Max	0.2 / 2.0 s
Chip Erase Time Typ./Max	12 / 50 s

**邮件订阅**
**Espressif Email Notifications**

乐鑫为注册用户提供电子邮件通知服务，用户可通过[乐鑫订阅系统](#)接收技术文档更新、新闻通讯、PCN 等邮件通知。

Espressif sends email notifications of technical documentation changes, along with newsletters, PCNs and other valuable information, to subscribed customers only. If you wish to stay updated on our products and services, please subscribe [here](#).

**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 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](mailto:pcn@espressif.com)。

Please send feedback to [pcn@espressif.com](mailto: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: