



文件编号 Document No.	ESP-07-2-007-04	文件名称 Document Name	工程变更通知 Engineering Change Notice (ECN)
文件版本 Document Version	1.6	保存期限 Archival Period	5 年 5 years

变更部分乐鑫通用 ESP8266、ESP32 系列模组的 PCB 板材使其符合无卤标准 Updating the PCB boards of ESP8266 and ESP32 series of modules for halogen-free compliance			
PCN 编号 PCN No.	PCN-2021-012	提出日期 Issue Date of PCN	2021/06/01
变更日期 Proposed Date of Change	2021/06/10	首次出货日期 Proposed Date of First Shipment	FIFO
PCN 类型 / PCN Category	<input type="checkbox"/> 客户需要批准/Customer Approval Required <input checked="" type="checkbox"/> 客户通知/Customer Notification		
<b>1. 影响产品名称/Affected Product Name</b>			
ESP8266 系列 ESP8266 Series	ESP32 系列 ESP32 Series	ESP32-S2 系列 ESP32-S2 Series	
ESP-WROOM-02D; ESP-WROOM-02U.	ESP32-WROVER-E; ESP32-WROVER-IE; ESP32-WROOM-32E; ESP32-WROOM-32UE; ESP32-DU1906; ESP32-DU1906-U.	ESP32-S2-WROOM; ESP32-S2-WROOM-I; ESP32-S2-WROVER; ESP32-S2-WROVER-I.	
<b>2. 变更原因/Reason for Change</b>			
<p>为响应客户对模组产品的环保需求，变更段落 1 中涉及模组的 PCB 板材使其符合无卤素标准。</p> <p>In response to customers' environmental requirements for module products, the PCB boards of the modules in Para 1 will be changed in order to comply with halogen free standard.</p>			
<b>3. 变更描述/Description of Change</b>			
<p>1) 模组背面丝印增加无卤 HF 标识; 'HF' marking is added on the bottom side of modules;</p> <p>2) 模组 PCB 版本号升级; PCB version of modules is upgraded in comparison with halogen modules.</p>			
<b>4. 变更对比/Change Comparison</b>			
<p>请见附录 I: 变更对比。</p> <p>Please refer to Appendix I: Change comparison.</p>			

**5. 变更影响/Impact of Change****1) 品质和性能/ Quality & Performance:**

变更后模组已经过乐鑫测试和验证，确认性能和品质符合乐鑫要求。

Changed modules have been tested and verified by Espressif and confirmed to have met the performance and quality requirement.

**2) 交期/Delivery:**

无

**3) 生产料号/Material Part Numbers (MPN):**

无

**4) 认证/Certification:**

PCB layout 未做变更，对认证无影响。

There is no change of PCB layout and no effect on certification.

**5) 其他/Others:**

无

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

FIFO





**7. 相关报告/Report(s) Attached:**

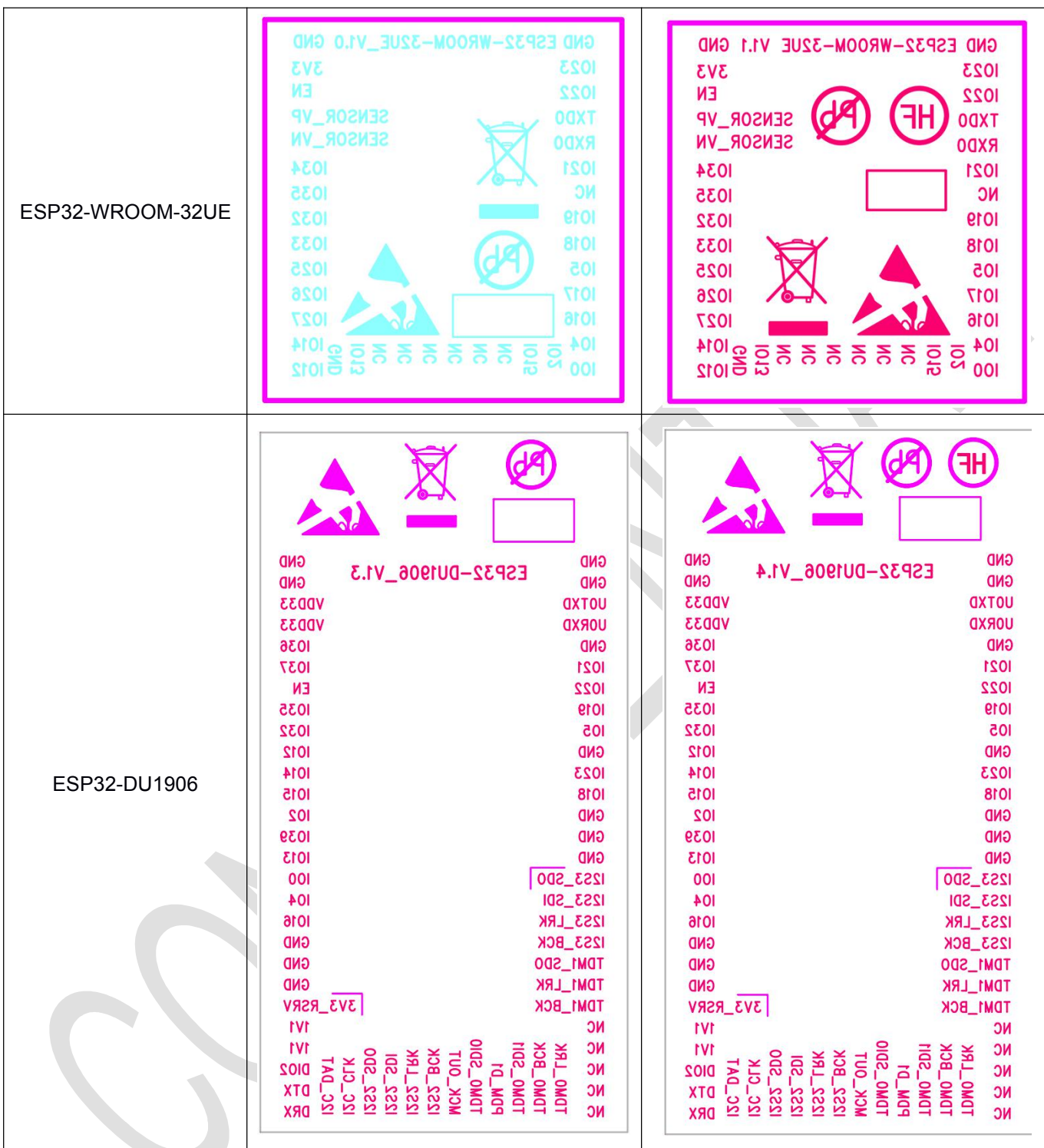
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|--|---|
| <input checked="" type="checkbox"/> Related ECN No.                              | ECN-2021-003  |
| <input checked="" type="checkbox"/> Performance Test                             | 射频性能测试通过。<br>Pass Espressif RF test.                  |
| <input checked="" type="checkbox"/> Reliability Test                             | 可靠性测试结果合格<br>Pass Espressif Reliability test.         |
| <input checked="" type="checkbox"/> Environment Related (RoHS / REACH / HF etc.) | 新的 PCB 环保符合资料<br>New PCB complies with RoHS/REACH/HF. |

## Appendix I 变更对比/Change Comparison

PCB 变更对比 / PCB change comparison:

模组 Module	变更前 Before Change	变更后 After Change
ESP-WROOM-02D	 <p>ESP-WROOM-02D_V1.3</p>	 <p>ESP-WROOM-02D_V1.4</p>
ESP-WROOM-02U	 <p>ESP-WROOM-02U_UFL</p>	 <p>ESP-WROOM-02U_V1.1</p>

<p>ESP32-WROVER-E&amp;IE</p>	 <table border="1"> <tbody> <tr><td>GND</td><td>ESP32-WROVER-E_V1.3</td><td>GND</td></tr> <tr><td>1023</td><td>3V3</td><td>1023</td></tr> <tr><td>1022</td><td>EN</td><td>1022</td></tr> <tr><td>TXD0</td><td>SENSOR_VP</td><td>TXD0</td></tr> <tr><td>RXD0</td><td>SENSOR_VN</td><td>RXD0</td></tr> <tr><td>1021</td><td>1024</td><td>1021</td></tr> <tr><td>NC</td><td>1022</td><td>NC</td></tr> <tr><td>1018</td><td>1023</td><td>1018</td></tr> <tr><td>1018</td><td>1023</td><td>1018</td></tr> <tr><td>102</td><td>1022</td><td>102</td></tr> <tr><td>NC</td><td>1028</td><td>NC</td></tr> <tr><td>NC</td><td>1027</td><td>NC</td></tr> <tr><td>104</td><td>1014</td><td>104</td></tr> <tr><td>100</td><td>1015</td><td>100</td></tr> <tr><td>102</td><td>GND</td><td>102</td></tr> <tr><td>1012</td><td>1013</td><td>1012</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> </tbody> </table>	GND	ESP32-WROVER-E_V1.3	GND	1023	3V3	1023	1022	EN	1022	TXD0	SENSOR_VP	TXD0	RXD0	SENSOR_VN	RXD0	1021	1024	1021	NC	1022	NC	1018	1023	1018	1018	1023	1018	102	1022	102	NC	1028	NC	NC	1027	NC	104	1014	104	100	1015	100	102	GND	102	1012	1013	1012	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	 <table border="1"> <tbody> <tr><td>GND</td><td>ESP32-WROVER-E_V1.3</td><td>GND</td></tr> <tr><td>1023</td><td>3V3</td><td>1023</td></tr> <tr><td>1022</td><td>EN</td><td>1022</td></tr> <tr><td>TXD0</td><td>SENSOR_VP</td><td>TXD0</td></tr> <tr><td>RXD0</td><td>SENSOR_VN</td><td>RXD0</td></tr> <tr><td>1021</td><td>1024</td><td>1021</td></tr> <tr><td>NC</td><td>1022</td><td>NC</td></tr> <tr><td>1018</td><td>1023</td><td>1018</td></tr> <tr><td>1018</td><td>1023</td><td>1018</td></tr> <tr><td>102</td><td>1022</td><td>102</td></tr> <tr><td>NC</td><td>1028</td><td>NC</td></tr> <tr><td>NC</td><td>1027</td><td>NC</td></tr> <tr><td>104</td><td>1014</td><td>104</td></tr> <tr><td>100</td><td>1015</td><td>100</td></tr> <tr><td>102</td><td>GND</td><td>102</td></tr> <tr><td>1012</td><td>1013</td><td>1012</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> <tr><td>NC</td><td>NC</td><td>NC</td></tr> </tbody> </table>	GND	ESP32-WROVER-E_V1.3	GND	1023	3V3	1023	1022	EN	1022	TXD0	SENSOR_VP	TXD0	RXD0	SENSOR_VN	RXD0	1021	1024	1021	NC	1022	NC	1018	1023	1018	1018	1023	1018	102	1022	102	NC	1028	NC	NC	1027	NC	104	1014	104	100	1015	100	102	GND	102	1012	1013	1012	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC									
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**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: